

FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6234

28-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

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This report is approved by

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Results reported relate only to the items tested.

90056110

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

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6234
Analytical Protocol(s)	1613B
No. Samples Submitted	9
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	26-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	0.2, 0.0
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

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

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

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.14.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

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

Data processing uses proprietary software.

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

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

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

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

Continuing Calibration meets requirements, except for the following: the reported percent deviation of CS 1,2,3,4,6,8,9-HpCDF is above SOP criteria. There is no method specified criteria for these standards and no adverse impact on results.

No re-extractions or dilutions were required.

B6234_005: the reported ion ratio of labeled standard ES 1,2,3,7,8,9-HxCDD is outside method criteria.

OPR1/OPR2_18872 meet accuracy and precision criteria, except for the following: RPD of 2,3,7,8-TCDF is >20%.

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

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

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

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

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

APPENDIX C: LAB IDENTIFIERS

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

SGS CERTIFICATIONS

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

Rev. 12-Oct-2021

Sample ID: 11215131-012122-S-BN-NC-S-36 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.40 g	Lab Sample ID	B6234_18872_DF_001	Date Extracted:	26-Jan-2022
Date Collected:	21-Jan-2022	% Solid:	79.7 %	QC Batch No:	18872	Date Analyzed:	27-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:29:22

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	535				ES 2378-TCDD	79.7	
12378-PeCDD	5.94				ES 12378-PeCDD	87.4	
123478-HxCDD	EMPC		3.06		ES 123478-HxCDD	84.5	
123678-HxCDD	10.4				ES 123678-HxCDD	96.4	
123789-HxCDD	5.63				ES 123789-HxCDD	87.2	
1234678-HpCDD	324				ES 1234678-HpCDD	86.9	
OCDD	9,320			E	ES OCDD	84.9	
2378-TCDF	1,490			E	ES 2378-TCDF	78.7	
12378-PeCDF	73.1				ES 12378-PeCDF	86.7	
23478-PeCDF	54.8				ES 23478-PeCDF	85.8	
123478-HxCDF	112				ES 123478-HxCDF	93.6	
123678-HxCDF	34.3				ES 123678-HxCDF	105	
234678-HxCDF	9.86				ES 234678-HxCDF	90.4	
123789-HxCDF	ND	0.386			ES 123789-HxCDF	81.1	
1234678-HpCDF	94				ES 1234678-HpCDF	119	
1234789-HpCDF	17.6				ES 1234789-HpCDF	81.3	
OCDF	450				ES OCDF	78.1	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	79	
Total TCDD	600		605		CS 12347-PeCDD	92	
Total PeCDD	15.3		19.3		CS 12346-PeCDF	88.1	
Total HxCDD	102		110		CS 123469-HxCDF	109	
Total HpCDD	730		730		CS 1234689-HpCDF	108	
Total TCDF	2,880		2,890	E			
Total PeCDF	230		231				
Total HxCDF	251		252				
Total HpCDF	221		221				
Total PCDD/Fs	**14,800**		**14,800**	E			
WHO-2005 TEQs							
TEQ: ND=0	733		733				
TEQ: ND=DL/2	733	0.584	733				
TEQ: ND=DL	733	1.17	733				

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Sample ID: 11215131-012122-S-BN-NC-S-36 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.40 g	Lab Sample ID:	B6234_18872_DF_001	Date Extracted:	26-Jan-2022
Date Collected:	21-Jan-2022	% Solid:	79.7 %	QC Batch No.:	18872	Date Analyzed:	27-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:29:22

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	4.69		12479/12468D	3.46		124679/124689D	44.5		1234679D	407	
1379D	1.15		12469D	2.78		123468D	[3.44]		1234678D	324	
1369D	(0.4)		12368D	[1.69]	J	123679/123689D	38.3				
1469D	[2.71]		12478D	2.13		123469D	3.35				
1247D...[4]	0.783		12379D	0.999	J	123478D	[3.06]				
1378D	1.57		12369D...[3]	[1.85]	J	123678D	10.4				
1268D	(0.4)		12346/12347D	(0.352)		123467D	[1.28]	J			
1478D	[1.23]		12378D	5.94		123789D	5.63		**Conc.**	730	
1279D	(0.4)		12367D	[0.43]	J				**EMPC**	730	
1234/1269D	[0.518]		12389D	(0.352)							
1236D	(0.4)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	7.67										
1239D	(0.4)								OCDD	9320	E
2378D	535										
1278D	49.9										
1267D	(0.4)										
1289D	(0.4)										
Conc.	600		**Conc.**	15.3		**Conc.**	102				
EMPC	605		**EMPC**	19.3		**EMPC**	110				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	733	733
TEQ: ND=DL/2	733	733
TEQ: ND=DL	733	733

	Conc.	EMPC
Total PCDD/Fs	14,800	14,800

Checkcode: 265-157-LZB

Report Created: 28-Jan-2022 09:49 Analyst: TF

Sample ID: 11215131-012122-S-BN-NC-S-36 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.40 g	Lab Sample ID:	B6234_18872_DF_001	Date Extracted:	26-Jan-2022
Date Collected:	21-Jan-2022	% Solid:	79.7 %	QC Batch No.:	18872	Date Analyzed:	27-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:29:22

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[0.667]		13468/12468F	15.9		123468F	8.94		1234678F	94	
1468F	3.16		13678F...[3]	3.11		124678/134678F	39.7		1234679F	3.69	
2468F	5.29		12368F...[3]	41.6		134679F	(0.317)		1234689F	106	
1346/1246F	(0.194)		14678F	(0.357)		124679F	[1.35]	J	1234789F	17.6	
1347F...[3]	19.2		13479F	(0.357)		124689F	33.8				
1348F	(0.194)		13469/12479F	[0.636]	J	123467F	1.8	J			
1248F...[3]	76		12346F	0.634	J	123478F	112				
1268F	25.6		23468/12469F	2.89		123678F	34.3				
1467F	3.95		12347F	1.77	J	123479F	(0.317)				
1478F	62		12348F	7.09		123469F	(0.317)				
1369/1237F	16.8		12378F	73.1		123679F	(0.317)				
2467F	[1.56]		12678/12367F	25.3		234678F	9.86		**Conc.**	221	
2368F	118		12379F	(0.357)		234678/123689F	0		**EMPC**	221	
1238F...[5]	(0.194)		12679F	(0.357)		123689F	(0.317)				
1278F	651		23467/12369F	1.42	J	123789F	(0.386)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.194)		23478F	54.8		123789/123489F	0				
1267F	37.9		23478/12489F	0		123489F	10.6		OCDF	450	
2346/1249F	4.99		12489F	(0.357)							
2347/1279F	17.4		12349F	(0.357)							
2348F	94		12389F	2.91							
2378F	1490	E									
2367/3467F	122										
1269F	23.6										
1239F	(0.194)										
1289F	112										
Conc.	2,880		**Conc.**	230		**Conc.**	251				
EMPC	2,890		**EMPC**	231		**EMPC**	252				

Checkcode: 265-157-LZB

Report Created: 28-Jan-2022 09:49 Analyst: TF

Sample ID: 11215131-012122-S-BN-NC-S-36 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6234_18872_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.40 g	QC Batch No.:	18872
Date Collected:	21-Jan-2022	Split:	-	Date Extracted:	26-Jan-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	27-Jan-2022 19:29
Lab Project No:	B6234	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	535		0.4	535	535	535
12378-PeCDD	5.94		0.352	2.97	5.94	5.94
123478-HxCDD	[3.06]		0.528	[0.306]	[0.306]	[0.306]
123678-HxCDD	10.4		0.459	1.04	1.04	1.04
123789-HxCDD	5.63		0.477	0.563	0.563	0.563
1234678-HpCDD	324		0.236	3.24	3.24	3.24
OCDD	9320	E	0.582	9.32	0.932	2.8
2378-TCDF	1490	E	0.194	149	149	149
12378-PeCDF	73.1		0.371	3.65	3.65	2.19
23478-PeCDF	54.8		0.342	27.4	27.4	16.4
123478-HxCDF	112		0.291	11.2	11.2	11.2
123678-HxCDF	34.3		0.253	3.43	3.43	3.43
234678-HxCDF	9.86		0.369	0.986	0.986	0.986
123789-HxCDF	(0.386)		0.386	(0.0386)	(0.0386)	(0.0386)
1234678-HpCDF	94		0.108	0.94	0.94	0.94
1234789-HpCDF	17.6		0.204	0.176	0.176	0.176
OCDF	450		0.86	0.45	0.045	0.135

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TEQ Summaries			
EMPC = 0, ND = 0	749	743	733
EMPC = 0, ND = DL / 2	749	743	733
EMPC = 0, ND = DL	749	743	733
EMPC = 0, < J-level = 0	749	743	733
EMPC = EMPC, ND = 0	749	743	733
EMPC = EMPC, ND = DL / 2	749	743	733
EMPC = EMPC, ND = DL	749	743	733
EMPC = EMPC, < J-level = 0	749	743	733

Checkcode: 265-157-LZB

Sample ID: 11215131-012222-S-BN-NC-S-34 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.53 g	Lab Sample ID	B6234_18872_DF_002	Date Extracted:	26-Jan-2022
Date Collected:	22-Jan-2022	% Solid:	77.2 %	QC Batch No:	18872	Date Analyzed:	27-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:15:39

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	2.61				ES 2378-TCDD	81.8	
12378-PeCDD	EMPC		0.514	J	ES 12378-PeCDD	92.6	
123478-HxCDD	1.7			J	ES 123478-HxCDD	86.3	
123678-HxCDD	EMPC		3.81		ES 123678-HxCDD	100	
123789-HxCDD	3.19				ES 123789-HxCDD	89.9	
1234678-HpCDD	160				ES 1234678-HpCDD	85.1	
OCDD	2,930				ES OCDD	80.5	
2378-TCDF	9.63				ES 2378-TCDF	78.1	
12378-PeCDF	1.07			J	ES 12378-PeCDF	87.2	
23478-PeCDF	EMPC		1.42	J	ES 23478-PeCDF	85	
123478-HxCDF	3.76				ES 123478-HxCDF	92.4	
123678-HxCDF	2.29				ES 123678-HxCDF	109	
234678-HxCDF	EMPC		1.45	J	ES 234678-HxCDF	91.4	
123789-HxCDF	ND	0.364			ES 123789-HxCDF	83.3	
1234678-HpCDF	24.1				ES 1234678-HpCDF	121	
1234789-HpCDF	4.07				ES 1234789-HpCDF	78.6	
OCDF	102				ES OCDF	73	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	79.5	
Total TCDD	4.49		5.23		CS 12347-PeCDD	97	
Total PeCDD	0.684		7.46		CS 12346-PeCDF	91.7	
Total HxCDD	67.7		72.5		CS 123469-HxCDF	113	
Total HpCDD	574		574		CS 1234689-HpCDF	117	
Total TCDF	19.1		22.1				
Total PeCDF	7.82		14.1				
Total HxCDF	32.7		34.2				
Total HpCDF	75.5		75.5				
Total PCDD/Fs	**3,820**		**3,840**				
WHO-2005 TEQs							
TEQ: ND=0	7.49		8.96				
TEQ: ND=DL/2	7.51	0.774	8.97				
TEQ: ND=DL	7.53	1.55	8.99				

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Sample ID: 11215131-012222-S-BN-NC-S-34 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.53 g	Lab Sample ID:	B6234_18872_DF_002	Date Extracted:	26-Jan-2022
Date Collected:	22-Jan-2022	% Solid:	77.2 %	QC Batch No.:	18872	Date Analyzed:	27-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:15:39

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[0.732]		12479/12468D	[2.02]		124679/124689D	36.9		1234679D	414	
1379D	(0.837)		12469D	[1.9]		123468D	2.81		1234678D	160	
1369D	(0.837)		12368D	[0.453]	J	123679/123689D	19.2				
1469D	1.88		12478D	0.684	J	123469D	3.96				
1247D...[4]	(0.837)		12379D	[0.731]	J	123478D	1.7	J			
1378D	(0.837)		12369D...[3]	[1.16]	J	123678D	[3.81]				
1268D	(0.837)		12346/12347D	(0.285)		123467D	[0.96]	J			
1478D	(0.837)		12378D	[0.514]	J	123789D	3.19		**Conc.**	574	
1279D	(0.837)		12367D	(0.285)					**EMPC**	574	
1234/1269D	(0.837)		12389D	(0.285)							
1236D	(0.837)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.837)										
1239D	(0.837)								OCDD	2930	
2378D	2.61										
1278D	(0.837)										
1267D	(0.837)										
1289D	(0.837)										
Conc.	4.49		**Conc.**	0.684		**Conc.**	67.7				
EMPC	5.23		**EMPC**	7.46		**EMPC**	72.5				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	7.49	8.96
TEQ: ND=DL/2	7.51	8.97
TEQ: ND=DL	7.53	8.99

	Conc.	EMPC
Total PCDD/Fs	3,820	3,840

Checkcode: 247-428-JSM

Report Created: 28-Jan-2022 09:49 Analyst: TF

Sample ID: 11215131-012222-S-BN-NC-S-34 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.53 g	Lab Sample ID:	B6234_18872_DF_002	Date Extracted:	26-Jan-2022
Date Collected:	22-Jan-2022	% Solid:	77.2 %	QC Batch No.:	18872	Date Analyzed:	27-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:15:39

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.523)		13468/12468F	[3.63]		123468F	3.39		1234678F	24.1	
1468F	(0.523)		13678F...[3]	[0.899]	J	124678/134678F	11.8		1234679F	(0.203)	
2468F	1.93		12368F...[3]	4.61		134679F	(0.29)		1234689F	47.4	
1346/1246F	(0.523)		14678F	(0.375)		124679F	(0.29)		1234789F	4.07	
1347F...[3]	[1.62]		13479F	(0.375)		124689F	9.95				
1348F	(0.523)		13469/12479F	(0.375)		123467F	0.754	J			
1248F...[3]	[1.4]		12346F	(0.375)		123478F	3.76				
1268F	(0.523)		23468/12469F	1.2	J	123678F	2.29				
1467F	(0.523)		12347F	(0.375)		123479F	(0.29)				
1478F	(0.523)		12348F	[0.379]	J	123469F	(0.29)				
1369/1237F	(0.523)		12378F	1.07	J	123679F	(0.29)				
2467F	(0.523)		12678/12367F	0.936	J	234678F	[1.45]	J	**Conc.**	75.5	
2368F	2.27		12379F	(0.375)		234678/123689F	0		**EMPC**	75.5	
1238F...[5]	(0.523)		12679F	(0.375)		123689F	(0.29)				
1278F	2.49		23467/12369F	(0.375)		123789F	(0.364)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.523)		23478F	[1.42]	J	123789/123489F	0				
1267F	0.624		23478/12489F	0		123489F	0.802	J	OCDF	102	
2346/1249F	(0.523)		12489F	(0.375)							
2347/1279F	(0.523)		12349F	(0.375)							
2348F	(0.523)		12389F	(0.375)							
2378F	9.63										
2367/3467F	2.17										
1269F	(0.523)										
1239F	(0.523)										
1289F	(0.523)										
Conc.	19.1		**Conc.**	7.82		**Conc.**	32.7				
EMPC	22.1		**EMPC**	14.1		**EMPC**	34.2				

Checkcode: 247-428-JSM

Report Created: 28-Jan-2022 09:49 Analyst: TF

Sample ID: 11215131-012222-S-BN-NC-S-34 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6234_18872_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.53 g	QC Batch No.:	18872
Date Collected:	22-Jan-2022	Split:	-	Date Extracted:	26-Jan-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	27-Jan-2022 20:15
Lab Project No:	B6234	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	2.61		0.837	2.61	2.61	2.61
12378-PeCDD	[0.514]	J	0.285	[0.257]	[0.514]	[0.514]
123478-HxCDD	1.7	J	0.409	0.17	0.17	0.17
123678-HxCDD	[3.81]		0.378	[0.381]	[0.381]	[0.381]
123789-HxCDD	3.19		0.439	0.319	0.319	0.319
1234678-HpCDD	160		0.504	1.6	1.6	1.6
OCDD	2930		0.977	2.93	0.293	0.88
2378-TCDF	9.63		0.523	0.963	0.963	0.963
12378-PeCDF	1.07	J	0.38	0.0534	0.0534	0.032
23478-PeCDF	[1.42]	J	0.369	[0.71]	[0.71]	[0.426]
123478-HxCDF	3.76		0.29	0.376	0.376	0.376
123678-HxCDF	2.29		0.227	0.229	0.229	0.229
234678-HxCDF	[1.45]	J	0.311	[0.145]	[0.145]	[0.145]
123789-HxCDF	(0.364)		0.364	(0.0364)	(0.0364)	(0.0364)
1234678-HpCDF	24.1		0.153	0.241	0.241	0.241
1234789-HpCDF	4.07		0.291	0.0407	0.0407	0.0407
OCDF	102		0.496	0.102	0.0102	0.0307

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TEQ Summaries			
EMPC = 0, ND = 0	9.64	6.9	7.49
EMPC = 0, ND = DL / 2	9.66	6.92	7.51
EMPC = 0, ND = DL	9.67	6.94	7.53
EMPC = 0, < J-level = 0	9.41	6.68	7.29
EMPC = EMPC, ND = 0	11.1	8.65	8.96
EMPC = EMPC, ND = DL / 2	11.1	8.67	8.97
EMPC = EMPC, ND = DL	11.2	8.69	8.99
EMPC = EMPC, < J-level = 0	9.79	7.06	7.67

Checkcode: 247-428-JSM

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Sample ID: 11215131-012222-S-BN-NC-S-35 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.11 g	Lab Sample ID	B6234_18872_DF_003	Date Extracted:	26-Jan-2022
Date Collected:	22-Jan-2022	% Solid:	79.8 %	QC Batch No:	18872	Date Analyzed:	27-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:01:58

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1.35				ES 2378-TCDD	75.2	
12378-PeCDD	ND	0.455			ES 12378-PeCDD	82.6	
123478-HxCDD	0.926			J	ES 123478-HxCDD	83.8	
123678-HxCDD	1.55			J	ES 123678-HxCDD	94.6	
123789-HxCDD	EMPC		1.7	J	ES 123789-HxCDD	77.8	
1234678-HpCDD	46.3				ES 1234678-HpCDD	73.2	
OCDD	949				ES OCDD	64.3	
2378-TCDF	3.7				ES 2378-TCDF	65.6	
12378-PeCDF	ND	0.68			ES 12378-PeCDF	79.6	
23478-PeCDF	ND	0.69			ES 23478-PeCDF	74.2	
123478-HxCDF	0.769			J	ES 123478-HxCDF	80	
123678-HxCDF	ND	0.304			ES 123678-HxCDF	96.9	
234678-HxCDF	ND	0.351			ES 234678-HxCDF	90.9	
123789-HxCDF	ND	0.417			ES 123789-HxCDF	74	
1234678-HpCDF	4.42				ES 1234678-HpCDF	100	
1234789-HpCDF	ND	0.478			ES 1234789-HpCDF	66.6	
OCDF	13.5				ES OCDF	60	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	77.6	
Total TCDD	4.42		5.34		CS 12347-PeCDD	96.2	
Total PeCDD	1		4.81		CS 12346-PeCDF	84	
Total HxCDD	33.4		35.8		CS 123469-HxCDF	109	
Total HpCDD	144		144		CS 1234689-HpCDF	108	
Total TCDF	10.6		12				
Total PeCDF	ND		0.81				
Total HxCDF	0.769		3.2				
Total HpCDF	7.51		7.51				
Total PCDD/Fs	**1,170**		**1,180**				
WHO-2005 TEQs							
TEQ: ND=0	2.84		3.01				
TEQ: ND=DL/2	3.24	0.86	3.41				
TEQ: ND=DL	3.64	1.72	3.81				

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Sample ID: 11215131-012222-S-BN-NC-S-35 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.11 g	Lab Sample ID:	B6234_18872_DF_003	Date Extracted:	26-Jan-2022
Date Collected:	22-Jan-2022	% Solid:	79.8 %	QC Batch No.:	18872	Date Analyzed:	27-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:01:58

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.666)		12479/12468D	1	J	124679/124689D	21.4		1234679D	98.2	
1379D	(0.666)		12469D	[2.17]		123468D	0.946	J	1234678D	46.3	
1369D	(0.666)		12368D	(0.455)		123679/123689D	8.56				
1469D	3.06		12478D	(0.455)		123469D	(0.561)				
1247D...[4]	(0.666)		12379D	(0.455)		123478D	0.926	J			
1378D	(0.666)		12369D...[3]	[1.65]	J	123678D	1.55	J			
1268D	(0.666)		12346/12347D	(0.455)		123467D	[0.706]	J			
1478D	(0.666)		12378D	(0.455)		123789D	[1.7]	J	**Conc.**	144	
1279D	(0.666)		12367D	(0.455)					**EMPC**	144	
1234/1269D	(0.666)		12389D	(0.455)							
1236D	(0.666)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	[0.918]										
1239D	(0.666)								OCDD	949	
2378D	1.35										
1278D	(0.666)										
1267D	(0.666)										
1289D	(0.666)										
Conc.	4.42		**Conc.**	1		**Conc.**	33.4				
EMPC	5.34		**EMPC**	4.81		**EMPC**	35.8				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	2.84	3.01
TEQ: ND=DL/2	3.24	3.41
TEQ: ND=DL	3.64	3.81

	Conc.	EMPC
Total PCDD/Fs	1,170	1,180

Checkcode: 153-184-NPZ

Report Created: 28-Jan-2022 09:49 Analyst: TF

Sample ID: 11215131-012222-S-BN-NC-S-35 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.11 g	Lab Sample ID:	B6234_18872_DF_003	Date Extracted:	26-Jan-2022
Date Collected:	22-Jan-2022	% Solid:	79.8 %	QC Batch No.:	18872	Date Analyzed:	27-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:01:58

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.485)		13468/12468F	[0.81]	J	123468F	[0.457]	J	1234678F	4.42	
1468F	(0.485)		13678F...[3]	(0.685)		124678/134678F	[1.43]	J	1234679F	(0.323)	
2468F	1.21		12368F...[3]	(0.685)		134679F	(0.346)		1234689F	3.09	
1346/1246F	(0.485)		14678F	(0.685)		124679F	(0.346)		1234789F	(0.478)	
1347F...[3]	[1.47]		13479F	(0.685)		124689F	[0.547]	J			
1348F	(0.485)		13469/12479F	(0.685)		123467F	(0.346)				
1248F...[3]	1.21		12346F	(0.685)		123478F	0.769	J			
1268F	(0.485)		23468/12469F	(0.685)		123678F	(0.304)				
1467F	(0.485)		12347F	(0.685)		123479F	(0.346)				
1478F	(0.485)		12348F	(0.685)		123469F	(0.346)				
1369/1237F	(0.485)		12378F	(0.68)		123679F	(0.346)				
2467F	(0.485)		12678/12367F	(0.685)		234678F	(0.351)		**Conc.**	7.51	
2368F	0.643		12379F	(0.685)		234678/123689F	0		**EMPC**	7.51	
1238F...[5]	0.936		12679F	(0.685)		123689F	(0.346)				
1278F	1.99		23467/12369F	(0.685)		123789F	(0.417)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.485)		23478F	(0.69)		123789/123489F	0				
1267F	(0.485)		23478/12489F	0		123489F	(0.346)		OCDF	13.5	
2346/1249F	(0.485)		12489F	(0.685)							
2347/1279F	(0.485)		12349F	(0.685)							
2348F	(0.485)		12389F	(0.685)							
2378F	3.7										
2367/3467F	0.882										
1269F	(0.485)										
1239F	(0.485)										
1289F	(0.485)										
Conc.	10.6		**Conc.**	0		**Conc.**	0.769				
EMPC	12		**EMPC**	0.81		**EMPC**	3.2				

Checkcode: 153-184-NPZ

Report Created: 28-Jan-2022 09:49 Analyst: TF

Sample ID: 11215131-012222-S-BN-NC-S-35 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6234_18872_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.11 g	QC Batch No.:	18872
Date Collected:	22-Jan-2022	Split:	-	Date Extracted:	26-Jan-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	27-Jan-2022 21:01
Lab Project No:	B6234	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1.35		0.666	1.35	1.35	1.35
12378-PeCDD	(0.455)		0.455	(0.227)	(0.455)	(0.455)
123478-HxCDD	0.926	J	0.567	0.0926	0.0926	0.0926
123678-HxCDD	1.55	J	0.498	0.155	0.155	0.155
123789-HxCDD	[1.7]	J	0.626	[0.17]	[0.17]	[0.17]
1234678-HpCDD	46.3		0.528	0.463	0.463	0.463
OCDD	949		1.29	0.949	0.0949	0.285
2378-TCDF	3.7		0.485	0.37	0.37	0.37
12378-PeCDF	(0.68)		0.68	(0.034)	(0.034)	(0.0204)
23478-PeCDF	(0.69)		0.69	(0.345)	(0.345)	(0.207)
123478-HxCDF	0.769	J	0.336	0.0769	0.0769	0.0769
123678-HxCDF	(0.304)		0.304	(0.0304)	(0.0304)	(0.0304)
234678-HxCDF	(0.351)		0.351	(0.0351)	(0.0351)	(0.0351)
123789-HxCDF	(0.417)		0.417	(0.0417)	(0.0417)	(0.0417)
1234678-HpCDF	4.42		0.234	0.0442	0.0442	0.0442
1234789-HpCDF	(0.478)		0.478	(0.00478)	(0.00478)	(0.00478)
OCDF	13.5		0.92	0.0135	0.00135	0.00406

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TEQ Summaries			
EMPC = 0, ND = 0	3.52	2.65	2.84
EMPC = 0, ND = DL / 2	3.88	3.12	3.24
EMPC = 0, ND = DL	4.24	3.6	3.64
EMPC = 0, < J-level = 0	3.19	2.33	2.52
EMPC = EMPC, ND = 0	3.69	2.82	3.01
EMPC = EMPC, ND = DL / 2	4.05	3.29	3.41
EMPC = EMPC, ND = DL	4.41	3.77	3.81
EMPC = EMPC, < J-level = 0	3.19	2.33	2.52

Checkcode: 153-184-NPZ

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Sample ID: 11215131-012222-S-BN-NC-S-33 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	11.82 g	Lab Sample ID	B6234_18872_DF_004	Date Extracted:	26-Jan-2022
Date Collected:	22-Jan-2022	% Solid:	73.0 %	QC Batch No:	18872	Date Analyzed:	27-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:48:16

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	5,570			E	ES 2378-TCDD	66.5	
12378-PeCDD	53.9				ES 12378-PeCDD	74.6	
123478-HxCDD	EMPC		2.21		ES 123478-HxCDD	71.8	
123678-HxCDD	13.2				ES 123678-HxCDD	77.9	
123789-HxCDD	EMPC		5.43		ES 123789-HxCDD	77.7	
1234678-HpCDD	452				ES 1234678-HpCDD	72.9	
OCDD	6,020				ES OCDD	68.9	
2378-TCDF	15,400			E	ES 2378-TCDF	70.4	
12378-PeCDF	483				ES 12378-PeCDF	75.1	
23478-PeCDF	401				ES 23478-PeCDF	75	
123478-HxCDF	733				ES 123478-HxCDF	77.1	
123678-HxCDF	191				ES 123678-HxCDF	84.9	
234678-HxCDF	43.9				ES 234678-HxCDF	68	
123789-HxCDF	ND	0.384			ES 123789-HxCDF	72.6	
1234678-HpCDF	257				ES 1234678-HpCDF	87.7	
1234789-HpCDF	84.3				ES 1234789-HpCDF	78.1	
OCDF	905				ES OCDF	71.5	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	59.4	
Total TCDD	6,250		6,260	E	CS 12347-PeCDD	78.5	
Total PeCDD	82.6		86.7		CS 12346-PeCDF	74.1	
Total HxCDD	113		121		CS 123469-HxCDF	85	
Total HpCDD	873		873		CS 1234689-HpCDF	89.2	
Total TCDF	29,700		29,700	E			
Total PeCDF	1,400		1,400				
Total HxCDF	1,170		1,170				
Total HpCDF	501		501				
Total PCDD/Fs	**47,000**		**47,100**	E			
WHO-2005 TEQs							
TEQ: ND=0	7400		7400				
TEQ: ND=DL/2	7400	0.703	7400				
TEQ: ND=DL	7400	1.41	7400				

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Sample ID: 11215131-012222-S-BN-NC-S-33 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	11.82 g	Lab Sample ID:	B6234_18872_DF_004	Date Extracted:	26-Jan-2022
Date Collected:	22-Jan-2022	% Solid:	73.0 %	QC Batch No.:	18872	Date Analyzed:	27-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:48:16

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	8.46		12479/12468D	6.11		124679/124689D	49.7		1234679D	421	
1379D	3.79		12469D	3.63		123468D	5.56		1234678D	452	
1369D	1.16		12368D	8.47		123679/123689D	41.1				
1469D	4.58		12478D	3.98		123469D	3.03				
1247D...[4]	10.1		12379D	[2.47]		123478D	[2.21]				
1378D	17.9		12369D...[3]	2.57		123678D	13.2				
1268D	(0.375)		12346/12347D	[1.6]	J	123467D	[1.26]	J			
1478D	15.5		12378D	53.9		123789D	[5.43]		**Conc.**	873	
1279D	(0.375)		12367D	2.45					**EMPC**	873	
1234/1269D	(0.375)		12389D	1.52	J						
1236D	(0.375)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	90.9										
1239D	(0.375)								OCDD	6020	
2378D	5570	E									
1278D	533										
1267D	(0.375)										
1289D	[9.24]										
Conc.	6,250		**Conc.**	82.6		**Conc.**	113				
EMPC	6,260		**EMPC**	86.7		**EMPC**	121				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	7,400	7,400
TEQ: ND=DL/2	7,400	7,400
TEQ: ND=DL	7,400	7,400

	Conc.	EMPC
Total PCDD/Fs	47,000	47,100

Checkcode: 156-115-PSR

Report Created: 28-Jan-2022 14:03 Analyst: TF

Sample ID: 11215131-012222-S-BN-NC-S-33 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	11.82 g	Lab Sample ID:	B6234_18872_DF_004	Date Extracted:	26-Jan-2022
Date Collected:	22-Jan-2022	% Solid:	73.0 %	QC Batch No.:	18872	Date Analyzed:	27-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:48:16

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[3.37]		13468/12468F	17.4		123468F	13.5		1234678F	257	
1468F	23		13678F...[3]	6.76		124678/134678F	78.1		1234679F	7.02	
2468F	16.5		12368F...[3]	228		134679F	(0.372)		1234689F	153	
1346/1246F	(0.201)		14678F	(0.736)		124679F	1.18	J	1234789F	84.3	
1347F...[3]	138		13479F	(0.736)		124689F	48.1				
1348F	(0.201)		13469/12479F	2.62		123467F	5.4				
1248F...[3]	561		12346F	[0.87]	J	123478F	733				
1268F	215		23468/12469F	11.5		123678F	191				
1467F	34.1		12347F	12.6		123479F	(0.372)				
1478F	532		12348F	52.6		123469F	(0.372)				
1369/1237F	165		12378F	483		123679F	(0.372)				
2467F	12.9		12678/12367F	155		234678F	43.9		**Conc.**	501	
2368F	365		12379F	(0.736)		234678/123689F	0		**EMPC**	501	
1238F...[5]	796		12679F	(0.736)		123689F	(0.372)				
1278F	7300	E	23467/12369F	8.55		123789F	(0.384)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.201)		23478F	401		123789/123489F	0				
1267F	364		23478/12489F	0		123489F	59.2		OCDF	905	
2346/1249F	41.1		12489F	(0.736)							
2347/1279F	183		12349F	(0.736)							
2348F	1030	E	12389F	23							
2378F	15400	E									
2367/3467F	1170	E									
1269F	215										
1239F	20.6										
1289F	1130	E									
Conc.	29,700		**Conc.**	1,400		**Conc.**	1,170				
EMPC	29,700		**EMPC**	1,400		**EMPC**	1,170				

Checkcode: 156-115-PSR

Report Created: 28-Jan-2022 14:03 Analyst: TF

Sample ID: 11215131-012222-S-BN-NC-S-33 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6234_18872_DF_004
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	11.82 g	QC Batch No.:	18872
Date Collected:	22-Jan-2022	Split:	-	Date Extracted:	26-Jan-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	27-Jan-2022 21:48
Lab Project No:	B6234	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	5570	E	0.375	5570	5570	5570
12378-PeCDD	53.9		0.47	27	53.9	53.9
123478-HxCDD	[2.21]		0.416	[0.221]	[0.221]	[0.221]
123678-HxCDD	13.2		0.439	1.32	1.32	1.32
123789-HxCDD	[5.43]		0.417	[0.543]	[0.543]	[0.543]
1234678-HpCDD	452		0.383	4.52	4.52	4.52
OCDD	6020		0.645	6.02	0.602	1.81
2378-TCDF	15400	E	0.201	1540	1540	1540
12378-PeCDF	483		0.703	24.1	24.1	14.5
23478-PeCDF	401		0.77	200	200	120
123478-HxCDF	733		0.335	73.3	73.3	73.3
123678-HxCDF	191		0.312	19.1	19.1	19.1
234678-HxCDF	43.9		0.488	4.39	4.39	4.39
123789-HxCDF	(0.384)		0.384	(0.0384)	(0.0384)	(0.0384)
1234678-HpCDF	257		0.282	2.57	2.57	2.57
1234789-HpCDF	84.3		0.431	0.843	0.843	0.843
OCDF	905		0.377	0.905	0.0905	0.272

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TEQ Summaries			
EMPC = 0, ND = 0	7470	7490	7400
EMPC = 0, ND = DL / 2	7470	7490	7400
EMPC = 0, ND = DL	7470	7490	7400
EMPC = 0, < J-level = 0	7470	7490	7400
EMPC = EMPC, ND = 0	7470	7490	7400
EMPC = EMPC, ND = DL / 2	7470	7490	7400
EMPC = EMPC, ND = DL	7470	7490	7400
EMPC = EMPC, < J-level = 0	7470	7490	7400

Sample ID: 11215131-012222-S-BN-NC-S-41 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.53 g	Lab Sample ID	B6234_18872_DF_005	Date Extracted:	26-Jan-2022
Date Collected:	22-Jan-2022	% Solid:	80.7 %	QC Batch No:	18872	Date Analyzed:	27-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:34:36

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	176				ES 2378-TCDD	55.7	
12378-PeCDD	2.57				ES 12378-PeCDD	64.9	
123478-HxCDD	EMPC		1.53	J	ES 123478-HxCDD	61.7	
123678-HxCDD	5.78				ES 123678-HxCDD	70.4	
123789-HxCDD	EMPC		3.61		ES 123789-HxCDD	56.6	EMPC
1234678-HpCDD	138				ES 1234678-HpCDD	62.5	
OCDD	2,110				ES OCDD	51.7	
2378-TCDF	470				ES 2378-TCDF	58.3	
12378-PeCDF	22.9				ES 12378-PeCDF	62.5	
23478-PeCDF	18.2				ES 23478-PeCDF	62.7	
123478-HxCDF	43.5				ES 123478-HxCDF	65.2	
123678-HxCDF	10.4				ES 123678-HxCDF	75.8	
234678-HxCDF	4.15				ES 234678-HxCDF	67.4	
123789-HxCDF	ND	0.507			ES 123789-HxCDF	64.7	
1234678-HpCDF	63.3				ES 1234678-HpCDF	73	
1234789-HpCDF	6.36				ES 1234789-HpCDF	64	
OCDF	137				ES OCDF	55	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	61.3	
Total TCDD	201		203		CS 12347-PeCDD	76.9	
Total PeCDD	18.2		19.4		CS 12346-PeCDF	71.7	
Total HxCDD	91.9		97		CS 123469-HxCDF	84.6	
Total HpCDD	354		354		CS 1234689-HpCDF	90.5	
Total TCDF	910		911				
Total PeCDF	69.4		71.2				
Total HxCDF	101		102				
Total HpCDF	136		136				
Total PCDD/Fs	**4,130**		**4,150**				
WHO-2005 TEQs							
TEQ: ND=0	241		241				
TEQ: ND=DL/2	241	0.782	241				
TEQ: ND=DL	241	1.56	241				

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Sample ID: 11215131-012222-S-BN-NC-S-41 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.53 g	Lab Sample ID:	B6234_18872_DF_005	Date Extracted:	26-Jan-2022
Date Collected:	22-Jan-2022	% Solid:	80.7 %	QC Batch No.:	18872	Date Analyzed:	27-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:34:36

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.567)		12479/12468D	2.62		124679/124689D	58.1		1234679D	216	
1379D	(0.567)		12469D	8.42		123468D	3.69		1234678D	138	
1369D	(0.567)		12368D	[1.23]	J	123679/123689D	20.3				
1469D	9.04		12478D	0.92	J	123469D	2.31				
1247D...[4]	(0.567)		12379D	0.728	J	123478D	[1.53]	J			
1378D	(0.567)		12369D...[3]	2.95		123678D	5.78				
1268D	(0.567)		12346/12347D	(0.4)		123467D	1.73	J			
1478D	(0.567)		12378D	2.57		123789D	[3.61]		**Conc.**	354	
1279D	(0.567)		12367D	(0.4)					**EMPC**	354	
1234/1269D	(0.567)		12389D	(0.4)							
1236D	(0.567)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	[2.15]										
1239D	(0.567)								OCDD	2110	
2378D	176										
1278D	16										
1267D	(0.567)										
1289D	(0.567)										
Conc.	201		**Conc.**	18.2		**Conc.**	91.9				
EMPC	203		**EMPC**	19.4		**EMPC**	97				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	241	241
TEQ: ND=DL/2	241	241
TEQ: ND=DL	241	241

	Conc.	EMPC
Total PCDD/Fs	4,130	4,150

Checkcode: 969-193-FDX

Report Created: 28-Jan-2022 09:50 Analyst: TF

Sample ID: 11215131-012222-S-BN-NC-S-41 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.53 g	Lab Sample ID:	B6234_18872_DF_005	Date Extracted:	26-Jan-2022
Date Collected:	22-Jan-2022	% Solid:	80.7 %	QC Batch No.:	18872	Date Analyzed:	27-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:34:36

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.415)		13468/12468F	4.12		123468F	4.13		1234678F	63.3	
1468F	[0.957]		13678F...[3]	[1.1]	J	124678/134678F	18.7		1234679F	2.09	
2468F	1.53		12368F...[3]	12.3		134679F	(0.43)		1234689F	64.5	
1346/1246F	(0.415)		14678F	(0.468)		124679F	(0.43)		1234789F	6.36	
1347F...[3]	7.01		13479F	(0.468)		124689F	17.3				
1348F	(0.415)		13469/12479F	(0.468)		123467F	[0.938]	J			
1248F...[3]	23.5		12346F	(0.468)		123478F	43.5				
1268F	8.04		23468/12469F	1.34	J	123678F	10.4				
1467F	1.03		12347F	0.766	J	123479F	(0.43)				
1478F	18.9		12348F	2.6		123469F	(0.43)				
1369/1237F	5.42		12378F	22.9		123679F	(0.43)				
2467F	(0.415)		12678/12367F	7.15		234678F	4.15		**Conc.**	136	
2368F	14		12379F	(0.468)		234678/123689F	0		**EMPC**	136	
1238F...[5]	24.9		12679F	(0.468)		123689F	(0.43)				
1278F	200		23467/12369F	(0.468)		123789F	(0.507)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.415)		23478F	18.2		123789/123489F	0				
1267F	13.2		23478/12489F	0		123489F	3.22		OCDF	137	
2346/1249F	(0.415)		12489F	(0.468)							
2347/1279F	6.84		12349F	(0.468)							
2348F	30.6		12389F	[0.742]	J						
2378F	470										
2367/3467F	43.1										
1269F	7.23										
1239F	(0.415)										
1289F	35.2										
Conc.	910		**Conc.**	69.4		**Conc.**	101				
EMPC	911		**EMPC**	71.2		**EMPC**	102				

Checkcode: 969-193-FDX

Report Created: 28-Jan-2022 09:50 Analyst: TF

Sample ID: 11215131-012222-S-BN-NC-S-41 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6234_18872_DF_005
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.53 g	QC Batch No.:	18872
Date Collected:	22-Jan-2022	Split:	-	Date Extracted:	26-Jan-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	27-Jan-2022 22:34
Lab Project No:	B6234	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	176		0.567	176	176	176
12378-PeCDD	2.57		0.4	1.29	2.57	2.57
123478-HxCDD	[1.53]	J	0.661	[0.153]	[0.153]	[0.153]
123678-HxCDD	5.78		0.657	0.578	0.578	0.578
123789-HxCDD	[3.61]		0.761	[0.361]	[0.361]	[0.361]
1234678-HpCDD	138		0.524	1.38	1.38	1.38
OCDD	2110		1.1	2.11	0.211	0.634
2378-TCDF	470		0.415	47	47	47
12378-PeCDF	22.9		0.449	1.15	1.15	0.688
23478-PeCDF	18.2		0.488	9.09	9.09	5.46
123478-HxCDF	43.5		0.415	4.35	4.35	4.35
123678-HxCDF	10.4		0.406	1.04	1.04	1.04
234678-HxCDF	4.15		0.409	0.415	0.415	0.415
123789-HxCDF	(0.507)		0.507	(0.0507)	(0.0507)	(0.0507)
1234678-HpCDF	63.3		0.343	0.633	0.633	0.633
1234789-HpCDF	6.36		0.534	0.0636	0.0636	0.0636
OCDF	137		0.916	0.137	0.0137	0.0412

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TEQ Summaries			
EMPC = 0, ND = 0	245	245	241
EMPC = 0, ND = DL / 2	245	245	241
EMPC = 0, ND = DL	245	245	241
EMPC = 0, < J-level = 0	245	245	241
EMPC = EMPC, ND = 0	246	245	241
EMPC = EMPC, ND = DL / 2	246	245	241
EMPC = EMPC, ND = DL	246	245	241
EMPC = EMPC, < J-level = 0	246	245	241

Checkcode: 969-193-FDX

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Sample ID: 11215131-012222-S-BN-NC-S-40 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	12.03 g	Lab Sample ID	B6234_18872_DF_006	Date Extracted:	26-Jan-2022
Date Collected:	22-Jan-2022	% Solid:	74.5 %	QC Batch No:	18872	Date Analyzed:	27-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:20:54

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1,020			E	ES 2378-TCDD	75.3	
12378-PeCDD	10.6				ES 12378-PeCDD	81.2	
123478-HxCDD	2.57				ES 123478-HxCDD	78.3	
123678-HxCDD	8.79				ES 123678-HxCDD	85.8	
123789-HxCDD	4.97				ES 123789-HxCDD	77.3	
1234678-HpCDD	288				ES 1234678-HpCDD	76.5	
OCDD	4,350				ES OCDD	67.4	
2378-TCDF	3,110			E	ES 2378-TCDF	76.8	
12378-PeCDF	119				ES 12378-PeCDF	84.4	
23478-PeCDF	96.5				ES 23478-PeCDF	86	
123478-HxCDF	195				ES 123478-HxCDF	84.2	
123678-HxCDF	51.8				ES 123678-HxCDF	93.3	
234678-HxCDF	14.4				ES 234678-HxCDF	82.6	
123789-HxCDF	ND	0.526			ES 123789-HxCDF	75.8	
1234678-HpCDF	122				ES 1234678-HpCDF	91	
1234789-HpCDF	25.5				ES 1234789-HpCDF	74.6	
OCDF	500				ES OCDF	66.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	73.5	
Total TCDD	1,140		1,160	E	CS 12347-PeCDD	89.7	
Total PeCDD	24.4		25.7		CS 12346-PeCDF	87.4	
Total HxCDD	92.6		92.6		CS 123469-HxCDF	99.3	
Total HpCDD	720		720		CS 1234689-HpCDF	102	
Total TCDF	6,110		6,110	E			
Total PeCDF	350		353				
Total HxCDF	355		355				
Total HpCDF	266		266				
Total PCDD/Fs	**13,900**		**13,900**	E			
WHO-2005 TEQs							
TEQ: ND=0	1410		1410				
TEQ: ND=DL/2	1410	0.577	1410				
TEQ: ND=DL	1410	1.15	1410				

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Sample ID: 11215131-012222-S-BN-NC-S-40 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	12.03 g	Lab Sample ID:	B6234_18872_DF_006	Date Extracted:	26-Jan-2022
Date Collected:	22-Jan-2022	% Solid:	74.5 %	QC Batch No.:	18872	Date Analyzed:	27-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:20:54

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	3.33		12479/12468D	4		124679/124689D	35.5		1234679D	432	
1379D	[1.04]		12469D	1.99	J	123468D	4.65		1234678D	288	
1369D	(0.347)		12368D	2.84		123679/123689D	30.8				
1469D	1.92		12478D	1.81	J	123469D	3.77				
1247D...[4]	[1.85]		12379D	1.47	J	123478D	2.57				
1378D	3.5		12369D...[3]	1.65	J	123678D	8.79				
1268D	(0.347)		12346/12347D	[0.59]	J	123467D	1.56	J			
1478D	2.89		12378D	10.6		123789D	4.97		**Conc.**	720	
1279D	(0.347)		12367D	[0.74]	J				**EMPC**	720	
1234/1269D	(0.347)		12389D	(0.371)							
1236D	(0.347)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	[18]										
1239D	(0.347)								OCDD	4350	
2378D	1020	E									
1278D	104										
1267D	[4.04]										
1289D	(0.347)										
Conc.	1,140		**Conc.**	24.4		**Conc.**	92.6				
EMPC	1,160		**EMPC**	25.7		**EMPC**	92.6				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	1,410	1,410
TEQ: ND=DL/2	1,410	1,410
TEQ: ND=DL	1,410	1,410

	Conc.	EMPC
Total PCDD/Fs	13,900	13,900

Checkcode: 800-269-SBH

Report Created: 28-Jan-2022 09:50 Analyst: TF

Sample ID: 11215131-012222-S-BN-NC-S-40 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	12.03 g	Lab Sample ID:	B6234_18872_DF_006	Date Extracted:	26-Jan-2022
Date Collected:	22-Jan-2022	% Solid:	74.5 %	QC Batch No.:	18872	Date Analyzed:	27-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:20:54

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.25		13468/12468F	10		123468F	8.86		1234678F	122	
1468F	5.72		13678F...[3]	3.59		124678/134678F	39		1234679F	4.25	
2468F	5.57		12368F...[3]	59.1		134679F	(0.441)		1234689F	114	
1346/1246F	(0.303)		14678F	(0.335)		124679F	[0.846]	J	1234789F	25.5	
1347F...[3]	43		13479F	(0.335)		124689F	27.3				
1348F	(0.303)		13469/12479F	0.929	J	123467F	2.69				
1248F...[3]	166		12346F	0.5	J	123478F	195				
1268F	55.7		23468/12469F	[3.39]		123678F	51.8				
1467F	7.38		12347F	2.38		123479F	(0.441)				
1478F	132		12348F	11.7		123469F	(0.441)				
1369/1237F	34.3		12378F	119		123679F	(0.441)				
2467F	4.81		12678/12367F	39.3		234678F	14.4		**Conc.**	266	
2368F	91		12379F	(0.335)		234678/123689F	0		**EMPC**	266	
1238F...[5]	156		12679F	(0.335)		123689F	(0.441)				
1278F	1370	E	23467/12369F	2.2		123789F	(0.526)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.303)		23478F	96.5		123789/123489F	0				
1267F	82.1		23478/12489F	0		123489F	16		OCDF	500	
2346/1249F	10.2		12489F	(0.335)							
2347/1279F	33.4		12349F	(0.335)							
2348F	254		12389F	4.37							
2378F	3110	E									
2367/3467F	266										
1269F	49.7										
1239F	(0.303)										
1289F	237										
Conc.	6,110		**Conc.**	350		**Conc.**	355				
EMPC	6,110		**EMPC**	353		**EMPC**	355				

Checkcode: 800-269-SBH

Report Created: 28-Jan-2022 09:50 Analyst: TF

Sample ID: 11215131-012222-S-BN-NC-S-40 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6234_18872_DF_006
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	12.03 g	QC Batch No.:	18872
Date Collected:	22-Jan-2022	Split:	-	Date Extracted:	26-Jan-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	27-Jan-2022 23:20
Lab Project No:	B6234	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1020	E	0.347	1020	1020	1020
12378-PeCDD	10.6		0.371	5.29	10.6	10.6
123478-HxCDD	2.57		0.369	0.257	0.257	0.257
123678-HxCDD	8.79		0.315	0.879	0.879	0.879
123789-HxCDD	4.97		0.344	0.497	0.497	0.497
1234678-HpCDD	288		0.336	2.88	2.88	2.88
OCDD	4350		0.83	4.35	0.435	1.31
2378-TCDF	3110	E	0.303	311	311	311
12378-PeCDF	119		0.329	5.95	5.95	3.57
23478-PeCDF	96.5		0.341	48.2	48.2	28.9
123478-HxCDF	195		0.412	19.5	19.5	19.5
123678-HxCDF	51.8		0.368	5.18	5.18	5.18
234678-HxCDF	14.4		0.489	1.44	1.44	1.44
123789-HxCDF	(0.526)		0.526	(0.0526)	(0.0526)	(0.0526)
1234678-HpCDF	122		0.249	1.22	1.22	1.22
1234789-HpCDF	25.5		0.412	0.255	0.255	0.255
OCDF	500		0.652	0.5	0.05	0.15

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TEQ Summaries			
EMPC = 0, ND = 0	1430	1430	1410
EMPC = 0, ND = DL / 2	1430	1430	1410
EMPC = 0, ND = DL	1430	1430	1410
EMPC = 0, < J-level = 0	1430	1430	1410
EMPC = EMPC, ND = 0	1430	1430	1410
EMPC = EMPC, ND = DL / 2	1430	1430	1410
EMPC = EMPC, ND = DL	1430	1430	1410
EMPC = EMPC, < J-level = 0	1430	1430	1410

Checkcode: 800-269-SBH

Sample ID: 11215131-012222-S-BN-NC-S-37 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.06 g	Lab Sample ID	B6234_18872_DF_007	Date Extracted:	26-Jan-2022
Date Collected:	22-Jan-2022	% Solid:	75.2 %	QC Batch No:	18872	Date Analyzed:	28-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:07:12

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1,390			E	ES 2378-TCDD	78.1	
12378-PeCDD	15.5				ES 12378-PeCDD	81.9	
123478-HxCDD	EMPC		2.79		ES 123478-HxCDD	77.4	
123678-HxCDD	10.2				ES 123678-HxCDD	87.5	
123789-HxCDD	5.53				ES 123789-HxCDD	77.5	
1234678-HpCDD	295				ES 1234678-HpCDD	77.3	
OCDD	4,520				ES OCDD	71.1	
2378-TCDF	3,980			E	ES 2378-TCDF	79.5	
12378-PeCDF	143				ES 12378-PeCDF	83	
23478-PeCDF	119				ES 23478-PeCDF	88.8	
123478-HxCDF	247				ES 123478-HxCDF	81.4	
123678-HxCDF	69.3				ES 123678-HxCDF	89.2	
234678-HxCDF	15.8				ES 234678-HxCDF	84.8	
123789-HxCDF	ND	0.518			ES 123789-HxCDF	74.2	
1234678-HpCDF	205				ES 1234678-HpCDF	92.9	
1234789-HpCDF	37.1				ES 1234789-HpCDF	72.3	
OCDF	2,360				ES OCDF	73.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	74.5	
Total TCDD	1,560		1,570	E	CS 12347-PeCDD	90	
Total PeCDD	36.7		38.3		CS 12346-PeCDF	86.7	
Total HxCDD	117		120		CS 123469-HxCDF	94.7	
Total HpCDD	817		817		CS 1234689-HpCDF	98.6	
Total TCDF	7,630		7,630	E			
Total PeCDF	433		436				
Total HxCDF	444		444				
Total HpCDF	379		379				
Total PCDD/Fs	**18,300**		**18,300**	E			
WHO-2005 TEQs							
TEQ: ND=0	1890		1890				
TEQ: ND=DL/2	1890	0.597	1890				
TEQ: ND=DL	1890	1.19	1890				

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Sample ID: 11215131-012222-S-BN-NC-S-37 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.06 g	Lab Sample ID:	B6234_18872_DF_007	Date Extracted:	26-Jan-2022
Date Collected:	22-Jan-2022	% Solid:	75.2 %	QC Batch No.:	18872	Date Analyzed:	28-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:07:12

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	3.49		12479/12468D	5.29		124679/124689D	50		1234679D	522	
1379D	[0.897]		12469D	4.12		123468D	6.83		1234678D	295	
1369D	(0.349)		12368D	3.46		123679/123689D	37.6				
1469D	[3.51]		12478D	2.63		123469D	4.94				
1247D...[4]	[2.31]		12379D	1.69	J	123478D	[2.79]				
1378D	[4.3]		12369D...[3]	3.14		123678D	10.2				
1268D	(0.349)		12346/12347D	0.922	J	123467D	2.38				
1478D	3.95		12378D	15.5		123789D	5.53		**Conc.**	817	
1279D	(0.349)		12367D	[1.03]	J				**EMPC**	817	
1234/1269D	1.59		12389D	[0.531]	J						
1236D	(0.349)								**Octa-Dioxin**	**Conc**	**Qualifiers**
1237/1238D	21.7									**(pg/g)**	
1239D	(0.349)								OCDD	4520	
2378D	1390	E									
1278D	128										
1267D	[4.9]										
1289D	2.19										
Conc.	1,560		**Conc.**	36.7		**Conc.**	117				
EMPC	1,570		**EMPC**	38.3		**EMPC**	120				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	1,890	1,890
TEQ: ND=DL/2	1,890	1,890
TEQ: ND=DL	1,890	1,890

	Conc.	EMPC
Total PCDD/Fs	18,300	18,300

Checkcode: 570-434-NCK

Report Created: 28-Jan-2022 09:50 Analyst: TF

Sample ID: 11215131-012222-S-BN-NC-S-37 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.06 g	Lab Sample ID:	B6234_18872_DF_007	Date Extracted:	26-Jan-2022
Date Collected:	22-Jan-2022	% Solid:	75.2 %	QC Batch No.:	18872	Date Analyzed:	28-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:07:12

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.39		13468/12468F	18.1		123468F	9.88		1234678F	205	
1468F	7.52		13678F...[3]	3.81		124678/134678F	43.1		1234679F	8.36	
2468F	7.99		12368F...[3]	71		134679F	(0.442)		1234689F	129	
1346/1246F	5.55		14678F	(0.405)		124679F	1.21	J	1234789F	37.1	
1347F...[3]	46		13479F	(0.405)		124689F	33				
1348F	13.6		13469/12479F	(0.405)		123467F	2.96				
1248F...[3]	186		12346F	(0.405)		123478F	247				
1268F	64.8		23468/12469F	6.19		123678F	69.3				
1467F	9.49		12347F	3.35		123479F	(0.442)				
1478F	158		12348F	15.6		123469F	2.45				
1369/1237F	42.2		12378F	143		123679F	(0.442)				
2467F	4.74		12678/12367F	46.9		234678F	15.8		**Conc.**	379	
2368F	297		12379F	(0.405)		234678/123689F	0		**EMPC**	379	
1238F...[5]	(0.253)		12679F	(0.405)		123689F	(0.442)				
1278F	1700	E	23467/12369F	[2.45]		123789F	(0.518)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.253)		23478F	119		123789/123489F	0				
1267F	99.9		23478/12489F	0		123489F	18.9		OCDF	2360	
2346/1249F	13.2		12489F	(0.405)							
2347/1279F	50.5		12349F	(0.405)							
2348F	273		12389F	6.06							
2378F	3980	E									
2367/3467F	321										
1269F	62.8										
1239F	5.22										
1289F	283										
Conc.	7,630		**Conc.**	433		**Conc.**	444				
EMPC	7,630		**EMPC**	436		**EMPC**	444				

Checkcode: 570-434-NCK

Report Created: 28-Jan-2022 09:50 Analyst: TF

Sample ID: 11215131-012222-S-BN-NC-S-37 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6234_18872_DF_007
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.06 g	QC Batch No.:	18872
Date Collected:	22-Jan-2022	Split:	-	Date Extracted:	26-Jan-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	28-Jan-2022 00:07
Lab Project No:	B6234	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1390	E	0.349	1390	1390	1390
12378-PeCDD	15.5		0.336	7.75	15.5	15.5
123478-HxCDD	[2.79]		0.584	[0.279]	[0.279]	[0.279]
123678-HxCDD	10.2		0.492	1.02	1.02	1.02
123789-HxCDD	5.53		0.545	0.553	0.553	0.553
1234678-HpCDD	295		0.394	2.95	2.95	2.95
OCDD	4520		0.542	4.52	0.452	1.36
2378-TCDF	3980	E	0.253	398	398	398
12378-PeCDF	143		0.418	7.14	7.14	4.28
23478-PeCDF	119		0.393	59.7	59.7	35.8
123478-HxCDF	247		0.398	24.7	24.7	24.7
123678-HxCDF	69.3		0.391	6.93	6.93	6.93
234678-HxCDF	15.8		0.483	1.58	1.58	1.58
123789-HxCDF	(0.518)		0.518	(0.0518)	(0.0518)	(0.0518)
1234678-HpCDF	205		0.262	2.05	2.05	2.05
1234789-HpCDF	37.1		0.463	0.371	0.371	0.371
OCDF	2360		0.545	2.36	0.236	0.708

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TEQ Summaries			
EMPC = 0, ND = 0	1910	1920	1890
EMPC = 0, ND = DL / 2	1910	1920	1890
EMPC = 0, ND = DL	1910	1920	1890
EMPC = 0, < J-level = 0	1910	1920	1890
EMPC = EMPC, ND = 0	1910	1920	1890
EMPC = EMPC, ND = DL / 2	1910	1920	1890
EMPC = EMPC, ND = DL	1910	1920	1890
EMPC = EMPC, < J-level = 0	1910	1920	1890

Sample ID: 11215131-012122-S-BN-NC-S-39 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.73 g	Lab Sample ID	B6234_18872_DF_008	Date Extracted:	26-Jan-2022
Date Collected:	21-Jan-2022	% Solid:	61.3 %	QC Batch No:	18872	Date Analyzed:	28-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:53:30

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	709				ES 2378-TCDD	85.7	
12378-PeCDD	8.1				ES 12378-PeCDD	88.3	
123478-HxCDD	2.06			J	ES 123478-HxCDD	83.5	
123678-HxCDD	7.64				ES 123678-HxCDD	93.7	
123789-HxCDD	3.9				ES 123789-HxCDD	82.7	
1234678-HpCDD	232				ES 1234678-HpCDD	80.7	
OCDD	3,530				ES OCDD	72.9	
2378-TCDF	1,980			E	ES 2378-TCDF	82.2	
12378-PeCDF	77				ES 12378-PeCDF	87.2	
23478-PeCDF	61.5				ES 23478-PeCDF	89.9	
123478-HxCDF	136				ES 123478-HxCDF	88.8	
123678-HxCDF	38				ES 123678-HxCDF	97.9	
234678-HxCDF	9.66				ES 234678-HxCDF	85.9	
123789-HxCDF	ND	0.508			ES 123789-HxCDF	83.1	
1234678-HpCDF	137				ES 1234678-HpCDF	102	
1234789-HpCDF	19.5				ES 1234789-HpCDF	79.9	
OCDF	1,500				ES OCDF	75.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	82.2	
Total TCDD	804		808		CS 12347-PeCDD	93.9	
Total PeCDD	25.3		27.1		CS 12346-PeCDF	91.6	
Total HxCDD	97.9		102		CS 123469-HxCDF	102	
Total HpCDD	550		550		CS 1234689-HpCDF	101	
Total TCDF	3,910		3,910	E			
Total PeCDF	240		240				
Total HxCDF	250		253				
Total HpCDF	236		236				
Total PCDD/Fs	**11,100**		**11,200**	E			
WHO-2005 TEQs							
TEQ: ND=0	962		962				
TEQ: ND=DL/2	962	0.565	962				
TEQ: ND=DL	962	1.13	962				

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Sample ID: 11215131-012122-S-BN-NC-S-39 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.73 g	Lab Sample ID:	B6234_18872_DF_008	Date Extracted:	26-Jan-2022
Date Collected:	21-Jan-2022	% Solid:	61.3 %	QC Batch No.:	18872	Date Analyzed:	28-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:53:30

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	3.62		12479/12468D	5.79		124679/124689D	49.3		1234679D	318	
1379D	1.07		12469D	3.18		123468D	[4.42]		1234678D	232	
1369D	(0.287)		12368D	2.91		123679/123689D	30.7				
1469D	2.38		12478D	[1.71]	J	123469D	2.83				
1247D...[4]	1.76		12379D	1.58	J	123478D	2.06	J			
1378D	2.66		12369D...[3]	2.38		123678D	7.64				
1268D	(0.287)		12346/12347D	0.702	J	123467D	1.46	J			
1478D	[2.01]		12378D	8.1		123789D	3.9		**Conc.**	550	
1279D	(0.287)		12367D	0.703	J				**EMPC**	550	
1234/1269D	0.961		12389D	(0.339)							
1236D	(0.287)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	11.7										
1239D	(0.287)								OCDD	3530	
2378D	709										
1278D	70.9										
1267D	(0.287)										
1289D	[1.3]										
Conc.	804		**Conc.**	25.3		**Conc.**	97.9				
EMPC	808		**EMPC**	27.1		**EMPC**	102				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	962	962
TEQ: ND=DL/2	962	962
TEQ: ND=DL	962	962

	Conc.	EMPC
Total PCDD/Fs	11,100	11,200

Checkcode: 563-363-WBR

Report Created: 28-Jan-2022 09:50 Analyst: TF

Sample ID: 11215131-012122-S-BN-NC-S-39 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.73 g	Lab Sample ID:	B6234_18872_DF_008	Date Extracted:	26-Jan-2022
Date Collected:	21-Jan-2022	% Solid:	61.3 %	QC Batch No.:	18872	Date Analyzed:	28-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:53:30

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.16		13468/12468F	10.8		123468F	6.86		1234678F	137	
1468F	4.13		13678F...[3]	2.78		124678/134678F	28.7		1234679F	5.41	
2468F	5.06		12368F...[3]	42.7		134679F	(0.46)		1234689F	73.4	
1346/1246F	(0.298)		14678F	(0.355)		124679F	[0.864]	J	1234789F	19.5	
1347F...[3]	27.9		13479F	(0.355)		124689F	21.1				
1348F	(0.298)		13469/12479F	(0.355)		123467F	[2.34]				
1248F...[3]	107		12346F	(0.355)		123478F	136				
1268F	35.8		23468/12469F	3.45		123678F	38				
1467F	5.29		12347F	2.3	J	123479F	(0.46)				
1478F	87.5		12348F	8.46		123469F	(0.46)				
1369/1237F	22.6		12378F	77		123679F	(0.46)				
2467F	3.01		12678/12367F	26.1		234678F	9.66		**Conc.**	236	
2368F	160		12379F	(0.355)		234678/123689F	0		**EMPC**	236	
1238F...[5]	(0.298)		12679F	(0.355)		123689F	(0.46)				
1278F	897		23467/12369F	1.67	J	123789F	(0.508)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.298)		23478F	61.5		123789/123489F	0				
1267F	51.5		23478/12489F	0		123489F	10.2		OCDF	1500	
2346/1249F	6.64		12489F	(0.355)							
2347/1279F	24.6		12349F	(0.355)							
2348F	132		12389F	3.19							
2378F	1980	E									
2367/3467F	165										
1269F	32.8										
1239F	(0.298)										
1289F	154										
Conc.	3,910		**Conc.**	240		**Conc.**	250				
EMPC	3,910		**EMPC**	240		**EMPC**	253				

Checkcode: 563-363-WBR

Report Created: 28-Jan-2022 09:50 Analyst: TF

Sample ID: 11215131-012122-S-BN-NC-S-39 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6234_18872_DF_008
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.73 g	QC Batch No.:	18872
Date Collected:	21-Jan-2022	Split:	-	Date Extracted:	26-Jan-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	28-Jan-2022 00:53
Lab Project No:	B6234	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	709		0.287	709	709	709
12378-PeCDD	8.1		0.339	4.05	8.1	8.1
123478-HxCDD	2.06	J	0.578	0.206	0.206	0.206
123678-HxCDD	7.64		0.511	0.764	0.764	0.764
123789-HxCDD	3.9		0.548	0.39	0.39	0.39
1234678-HpCDD	232		0.47	2.32	2.32	2.32
OCDD	3530		1.23	3.53	0.353	1.06
2378-TCDF	1980	E	0.298	198	198	198
12378-PeCDF	77		0.367	3.85	3.85	2.31
23478-PeCDF	61.5		0.343	30.7	30.7	18.4
123478-HxCDF	136		0.41	13.6	13.6	13.6
123678-HxCDF	38		0.411	3.8	3.8	3.8
234678-HxCDF	9.66		0.533	0.966	0.966	0.966
123789-HxCDF	(0.508)		0.508	(0.0508)	(0.0508)	(0.0508)
1234678-HpCDF	137		0.17	1.37	1.37	1.37
1234789-HpCDF	19.5		0.274	0.195	0.195	0.195
OCDF	1500		0.817	1.5	0.15	0.449

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TEQ Summaries			
EMPC = 0, ND = 0	975	974	962
EMPC = 0, ND = DL / 2	975	974	962
EMPC = 0, ND = DL	975	974	962
EMPC = 0, < J-level = 0	975	974	961
EMPC = EMPC, ND = 0	975	974	962
EMPC = EMPC, ND = DL / 2	975	974	962
EMPC = EMPC, ND = DL	975	974	962
EMPC = EMPC, < J-level = 0	975	974	961

Checkcode: 563-363-WBR

Sample ID: 11215131-012122-S-BN-NC-S-38 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	14.48 g	Lab Sample ID	B6234_18872_DF_009	Date Extracted:	26-Jan-2022
Date Collected:	21-Jan-2022	% Solid:	77.2 %	QC Batch No:	18872	Date Analyzed:	28-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:39:49

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	739			E	ES 2378-TCDD	60.4	
12378-PeCDD	9.89				ES 12378-PeCDD	65.1	
123478-HxCDD	3.45				ES 123478-HxCDD	64.8	
123678-HxCDD	15.3				ES 123678-HxCDD	68.1	
123789-HxCDD	7.62				ES 123789-HxCDD	65	
1234678-HpCDD	349				ES 1234678-HpCDD	64.3	
OCDD	4,710				ES OCDD	60.9	
2378-TCDF	2,060			E	ES 2378-TCDF	61.1	
12378-PeCDF	90.5				ES 12378-PeCDF	64.7	
23478-PeCDF	70.5				ES 23478-PeCDF	65.4	
123478-HxCDF	160				ES 123478-HxCDF	73.9	
123678-HxCDF	45.3				ES 123678-HxCDF	76.1	
234678-HxCDF	13.5				ES 234678-HxCDF	63.5	
123789-HxCDF	ND	0.389			ES 123789-HxCDF	67.1	
1234678-HpCDF	112				ES 1234678-HpCDF	72.9	
1234789-HpCDF	24.4				ES 1234789-HpCDF	62.4	
OCDF	303				ES OCDF	61.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	65	
Total TCDD	838		843	E	CS 12347-PeCDD	77.5	
Total PeCDD	39.8		44.5		CS 12346-PeCDF	73.5	
Total HxCDD	155		155		CS 123469-HxCDF	89.1	
Total HpCDD	814		814		CS 1234689-HpCDF	86	
Total TCDF	4,080		4,080	E			
Total PeCDF	292		293				
Total HxCDF	325		326				
Total HpCDF	258		258				
Total PCDD/Fs	**11,800**		**11,800**	E			
WHO-2005 TEQs							
TEQ: ND=0	1010		1010				
TEQ: ND=DL/2	1010	0.655	1010				
TEQ: ND=DL	1010	1.31	1010				

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Sample ID: 11215131-012122-S-BN-NC-S-38 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	14.48 g	Lab Sample ID:	B6234_18872_DF_009	Date Extracted:	26-Jan-2022
Date Collected:	21-Jan-2022	% Solid:	77.2 %	QC Batch No.:	18872	Date Analyzed:	28-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:39:49

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	5.01		12479/12468D	11.1		124679/124689D	63		1234679D	465	
1379D	2.38		12469D	[3.76]		123468D	8.92		1234678D	349	
1369D	[0.664]		12368D	4.63		123679/123689D	49.2				
1469D	[1.87]		12478D	3.82		123469D	4.44				
1247D...[4]	[1.67]		12379D	2.93		123478D	3.45				
1378D	2.9		12369D...[3]	4.95		123678D	15.3				
1268D	(0.432)		12346/12347D	1.35	J	123467D	2.59				
1478D	1.93		12378D	9.89		123789D	7.62		**Conc.**	814	
1279D	[0.683]		12367D	[0.931]	J				**EMPC**	814	
1234/1269D	1.08		12389D	1.17	J						
1236D	(0.432)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	13.2										
1239D	(0.432)								OCDD	4710	
2378D	739	E									
1278D	72.5										
1267D	(0.432)										
1289D	(0.432)										
Conc.	838		**Conc.**	39.8		**Conc.**	155				
EMPC	843		**EMPC**	44.5		**EMPC**	155				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	1,010	1,010
TEQ: ND=DL/2	1,010	1,010
TEQ: ND=DL	1,010	1,010

	Conc.	EMPC
Total PCDD/Fs	11,800	11,800

Checkcode: 772-361-NGN

Report Created: 28-Jan-2022 09:50 Analyst: TF

Sample ID: 11215131-012122-S-BN-NC-S-38 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	14.48 g	Lab Sample ID:	B6234_18872_DF_009	Date Extracted:	26-Jan-2022
Date Collected:	21-Jan-2022	% Solid:	77.2 %	QC Batch No.:	18872	Date Analyzed:	28-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:39:49

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.73		13468/12468F	14.3		123468F	10		1234678F	112	
1468F	5.5		13678F...[3]	5.94		124678/134678F	44.3		1234679F	4.67	
2468F	6.28		12368F...[3]	55.5		134679F	(0.354)		1234689F	116	
1346/1246F	(0.25)		14678F	(0.398)		124679F	[1.55]	J	1234789F	24.4	
1347F...[3]	32.5		13479F	(0.398)		124689F	32.9				
1348F	(0.25)		13469/12479F	(0.398)		123467F	4.17				
1248F...[3]	111		12346F	[0.801]	J	123478F	160				
1268F	37.4		23468/12469F	4.7		123678F	45.3				
1467F	5.74		12347F	3.55		123479F	(0.354)				
1478F	88.6		12348F	10.1		123469F	(0.354)				
1369/1237F	24.6		12378F	90.5		123679F	(0.354)				
2467F	3.67		12678/12367F	31		234678F	13.5		**Conc.**	258	
2368F	171		12379F	(0.398)		234678/123689F	0		**EMPC**	258	
1238F...[5]	(0.25)		12679F	(0.398)		123689F	(0.354)				
1278F	945	E	23467/12369F	2.54		123789F	(0.389)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.25)		23478F	70.5		123789/123489F	0				
1267F	54.9		23478/12489F	0		123489F	14.2		OCDF	303	
2346/1249F	7.64		12489F	(0.398)							
2347/1279F	25.8		12349F	(0.398)							
2348F	137		12389F	3.84							
2378F	2060	E									
2367/3467F	168										
1269F	32										
1239F	(0.25)										
1289F	157										
Conc.	4,080		**Conc.**	292		**Conc.**	325				
EMPC	4,080		**EMPC**	293		**EMPC**	326				

Checkcode: 772-361-NGN

Report Created: 28-Jan-2022 09:50 Analyst: TF

Sample ID: 11215131-012122-S-BN-NC-S-38 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6234_18872_DF_009
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	14.48 g	QC Batch No.:	18872
Date Collected:	21-Jan-2022	Split:	-	Date Extracted:	26-Jan-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	28-Jan-2022 01:39
Lab Project No:	B6234	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	739	E	0.432	739	739	739
12378-PeCDD	9.89		0.312	4.95	9.89	9.89
123478-HxCDD	3.45		0.839	0.345	0.345	0.345
123678-HxCDD	15.3		0.807	1.53	1.53	1.53
123789-HxCDD	7.62		0.921	0.762	0.762	0.762
1234678-HpCDD	349		0.594	3.49	3.49	3.49
OCDD	4710		1.14	4.71	0.471	1.41
2378-TCDF	2060	E	0.25	206	206	206
12378-PeCDF	90.5		0.414	4.53	4.53	2.72
23478-PeCDF	70.5		0.381	35.3	35.3	21.2
123478-HxCDF	160		0.31	16	16	16
123678-HxCDF	45.3		0.304	4.53	4.53	4.53
234678-HxCDF	13.5		0.439	1.35	1.35	1.35
123789-HxCDF	(0.389)		0.389	(0.0389)	(0.0389)	(0.0389)
1234678-HpCDF	112		0.284	1.12	1.12	1.12
1234789-HpCDF	24.4		0.433	0.244	0.244	0.244
OCDF	303		1.14	0.303	0.0303	0.0909

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TEQ Summaries			
EMPC = 0, ND = 0	1020	1020	1010
EMPC = 0, ND = DL / 2	1020	1020	1010
EMPC = 0, ND = DL	1020	1020	1010
EMPC = 0, < J-level = 0	1020	1020	1010
EMPC = EMPC, ND = 0	1020	1020	1010
EMPC = EMPC, ND = DL / 2	1020	1020	1010
EMPC = EMPC, ND = DL	1020	1020	1010
EMPC = EMPC, < J-level = 0	1020	1020	1010

Checkcode: 772-361-NGN

Sample ID: Method Blank B6234_18872

Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18872_DF_SDS	Date Extracted:	26-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18872	Date Analyzed:	27-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:43:04

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.419			ES 2378-TCDD	86.7	
12378-PeCDD	ND	0.361			ES 12378-PeCDD	94.5	
123478-HxCDD	ND	0.375			ES 123478-HxCDD	96.3	
123678-HxCDD	ND	0.319			ES 123678-HxCDD	113	
123789-HxCDD	ND	0.382			ES 123789-HxCDD	94	
1234678-HpCDD	ND	0.435			ES 1234678-HpCDD	82	
OCDD	EMPC		3.57	J	ES OCDD	67	
2378-TCDF	ND	0.28			ES 2378-TCDF	78.3	
12378-PeCDF	ND	0.261			ES 12378-PeCDF	86.8	
23478-PeCDF	ND	0.266			ES 23478-PeCDF	82	
123478-HxCDF	ND	0.303			ES 123478-HxCDF	82.8	
123678-HxCDF	ND	0.256			ES 123678-HxCDF	110	
234678-HxCDF	ND	0.326			ES 234678-HxCDF	100	
123789-HxCDF	ND	0.406			ES 123789-HxCDF	69.2	
1234678-HpCDF	ND	0.22			ES 1234678-HpCDF	120	
1234789-HpCDF	ND	0.58			ES 1234789-HpCDF	66.8	
OCDF	ND	1.01			ES OCDF	54.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	85.1	
Total TCDD	ND	0.419	ND		CS 12347-PeCDD	102	
Total PeCDD	ND	0.361	ND		CS 12346-PeCDF	85.6	
Total HxCDD	ND	0.357	ND		CS 123469-HxCDF	108	
Total HpCDD	ND	0.435	ND		CS 1234689-HpCDF	99.5	
Total TCDF	ND	0.28	ND				
Total PeCDF	ND	0.263	ND				
Total HxCDF	ND	0.311	ND				
Total HpCDF	ND	0.337	ND				
Total PCDD/Fs	**ND**		**3.57**				
WHO-2005 TEQs							
TEQ: ND=0	0		0.00107				
TEQ: ND=DL/2	0.572	0.573	0.573				
TEQ: ND=DL	1.14	1.15	1.15				

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Sample ID: Method Blank B6234_18872 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18872_DF_SDS	Date Extracted:	26-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18872	Date Analyzed:	27-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:43:04

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.419)		12479/12468D	(0.361)		124679/124689D	(0.357)		1234679D	(0.435)	
1379D	(0.419)		12469D	(0.361)		123468D	(0.357)		1234678D	(0.435)	
1369D	(0.419)		12368D	(0.361)		123679/123689D	(0.357)				
1469D	(0.419)		12478D	(0.361)		123469D	(0.357)				
1247D...[4]	(0.419)		12379D	(0.361)		123478D	(0.375)				
1378D	(0.419)		12369D...[3]	(0.361)		123678D	(0.319)				
1268D	(0.419)		12346/12347D	(0.361)		123467D	(0.357)				
1478D	(0.419)		12378D	(0.361)		123789D	(0.382)		**Conc.**	0	
1279D	(0.419)		12367D	(0.361)					**EMPC**	0	
1234/1269D	(0.419)		12389D	(0.361)							
1236D	(0.419)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.419)										
1239D	(0.419)								OCDD	[3.57]	J
2378D	(0.419)										
1278D	(0.419)										
1267D	(0.419)										
1289D	(0.419)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0.00107
TEQ: ND=DL/2	0.572	0.573
TEQ: ND=DL	1.14	1.15

	Conc.	EMPC
Total PCDD/Fs	0	3.57

Checkcode: 404-582-MHP

Report Created: 28-Jan-2022 09:49 Analyst: TF

Sample ID: Method Blank B6234_18872 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18872_DF_SDS	Date Extracted:	26-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18872	Date Analyzed:	27-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:43:04

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.28)		13468/12468F	(0.277)		123468F	(0.311)		1234678F	(0.22)	
1468F	(0.28)		13678F...[3]	(0.263)		124678/134678F	(0.311)		1234679F	(0.337)	
2468F	(0.28)		12368F...[3]	(0.263)		134679F	(0.311)		1234689F	(0.337)	
1346/1246F	(0.28)		14678F	(0.263)		124679F	(0.311)		1234789F	(0.58)	
1347F...[3]	(0.28)		13479F	(0.263)		124689F	(0.311)				
1348F	(0.28)		13469/12479F	(0.263)		123467F	(0.311)				
1248F...[3]	(0.28)		12346F	(0.263)		123478F	(0.303)				
1268F	(0.28)		23468/12469F	(0.263)		123678F	(0.256)				
1467F	(0.28)		12347F	(0.263)		123479F	(0.311)				
1478F	(0.28)		12348F	(0.263)		123469F	(0.311)				
1369/1237F	(0.28)		12378F	(0.261)		123679F	(0.311)				
2467F	(0.28)		12678/12367F	(0.263)		234678F	(0.326)		**Conc.**	0	
2368F	(0.28)		12379F	(0.263)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.28)		12679F	(0.263)		123689F	(0.311)				
1278F	(0.28)		23467/12369F	(0.263)		123789F	(0.406)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.28)		23478F	(0.266)		123789/123489F	0				
1267F	(0.28)		23478/12489F	0		123489F	(0.311)		OCDF	(1.01)	
2346/1249F	(0.28)		12489F	(0.263)							
2347/1279F	(0.28)		12349F	(0.263)							
2348F	(0.28)		12389F	(0.263)							
2378F	(0.28)										
2367/3467F	(0.28)										
1269F	(0.28)										
1239F	(0.28)										
1289F	(0.28)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 404-582-MHP

Report Created: 28-Jan-2022 09:49 Analyst: TF

Sample ID: Method Blank B6234_18872 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18872_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18872
Date Collected:	n/a	Split:	-	Date Extracted:	26-Jan-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	27-Jan-2022 18:43
Lab Project No:	B6234	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.419)		0.419	(0.419)	(0.419)	(0.419)
12378-PeCDD	(0.361)		0.361	(0.18)	(0.361)	(0.361)
123478-HxCDD	(0.375)		0.375	(0.0375)	(0.0375)	(0.0375)
123678-HxCDD	(0.319)		0.319	(0.0319)	(0.0319)	(0.0319)
123789-HxCDD	(0.382)		0.382	(0.0382)	(0.0382)	(0.0382)
1234678-HpCDD	(0.435)		0.435	(0.00435)	(0.00435)	(0.00435)
OCDD	[3.57]	J	2.8	[0.00357]	[0.000357]	[0.00107]
2378-TCDF	(0.28)		0.28	(0.028)	(0.028)	(0.028)
12378-PeCDF	(0.261)		0.261	(0.013)	(0.013)	(0.00782)
23478-PeCDF	(0.266)		0.266	(0.133)	(0.133)	(0.0797)
123478-HxCDF	(0.303)		0.303	(0.0303)	(0.0303)	(0.0303)
123678-HxCDF	(0.256)		0.256	(0.0256)	(0.0256)	(0.0256)
234678-HxCDF	(0.326)		0.326	(0.0326)	(0.0326)	(0.0326)
123789-HxCDF	(0.406)		0.406	(0.0406)	(0.0406)	(0.0406)
1234678-HpCDF	(0.22)		0.22	(0.0022)	(0.0022)	(0.0022)
1234789-HpCDF	(0.58)		0.58	(0.0058)	(0.0058)	(0.0058)
OCDF	(1.01)		1.01	(0.00101)	(0.000101)	(0.000304)

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TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.511	0.601	0.572
EMPC = 0, ND = DL	1.02	1.2	1.14
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0.00357	0.000357	0.00107
EMPC = EMPC, ND = DL / 2	0.515	0.602	0.573
EMPC = EMPC, ND = DL	1.03	1.2	1.15
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 404-582-MHP

Sample ID: 0_18872_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18872_DF	Date Extracted:	26-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18872	Date Analyzed:	27-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:24:11

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	12				ES 2378-TCDD	82.1	
12378-PeCDD	54.8				ES 12378-PeCDD	89.4	
123478-HxCDD	57.1				ES 123478-HxCDD	90	
123678-HxCDD	59.5				ES 123678-HxCDD	111	
123789-HxCDD	52.4				ES 123789-HxCDD	88.6	
1234678-HpCDD	57.1				ES 1234678-HpCDD	81.3	
OCDD	120				ES OCDD	62.1	
2378-TCDF	13.4				ES 2378-TCDF	64.5	
12378-PeCDF	55.4				ES 12378-PeCDF	76.5	
23478-PeCDF	58.9				ES 23478-PeCDF	70.3	
123478-HxCDF	57.2				ES 123478-HxCDF	74.6	
123678-HxCDF	58.2				ES 123678-HxCDF	104	
234678-HxCDF	61				ES 234678-HxCDF	93.5	
123789-HxCDF	50.7				ES 123789-HxCDF	65.5	
1234678-HpCDF	59.6				ES 1234678-HpCDF	114	
1234789-HpCDF	55				ES 1234789-HpCDF	62.6	
OCDF	108				ES OCDF	53.1	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	87.7	
Total TCDD	56.4		56.4		CS 12347-PeCDD	106	
Total PeCDD	81.2		81.2		CS 12346-PeCDF	91.8	
Total HxCDD	183		183		CS 123469-HxCDF	122	
Total HpCDD	70.8		70.8		CS 1234689-HpCDF	114	
Total TCDF	71.7		71.7				
Total PeCDF	220		220				
Total HxCDF	361		361				
Total HpCDF	115		115				
Total PCDD/Fs	**1,390**		**1,390**				
WHO-2005 TEQs							
TEQ: ND=0	129		129				
TEQ: ND=DL/2	129	0.48	129				
TEQ: ND=DL	129	0.96	129				

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Sample ID: 0_18872_OPR002 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6234	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18872_DF	Date Extracted:	26-Jan-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18872	Date Analyzed:	27-Jan-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:10:28

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.4				ES 2378-TCDD	82.4	
12378-PeCDD	48.6				ES 12378-PeCDD	95.9	
123478-HxCDD	51.9				ES 123478-HxCDD	97.4	
123678-HxCDD	55.5				ES 123678-HxCDD	117	
123789-HxCDD	50.6				ES 123789-HxCDD	98	
1234678-HpCDD	57.1				ES 1234678-HpCDD	79.8	
OCDD	102				ES OCDD	65.4	
2378-TCDF	10.8				ES 2378-TCDF	79.7	
12378-PeCDF	49.6				ES 12378-PeCDF	90.5	
23478-PeCDF	51.7				ES 23478-PeCDF	89.8	
123478-HxCDF	50.2				ES 123478-HxCDF	90.6	
123678-HxCDF	55.7				ES 123678-HxCDF	109	
234678-HxCDF	52.9				ES 234678-HxCDF	116	
123789-HxCDF	50.6				ES 123789-HxCDF	79.6	
1234678-HpCDF	50.8				ES 1234678-HpCDF	126	
1234789-HpCDF	52.3				ES 1234789-HpCDF	75.1	
OCDF	98.4				ES OCDF	59	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	79.4	
Total TCDD	43.3		52.4		CS 12347-PeCDD	104	
Total PeCDD	72.3		72.3		CS 12346-PeCDF	94.7	
Total HxCDD	171		171		CS 123469-HxCDF	118	
Total HpCDD	70.6		70.6		CS 1234689-HpCDF	114	
Total TCDF	58.3		61.4				
Total PeCDF	196		196				
Total HxCDF	331		331				
Total HpCDF	103		103				
Total PCDD/Fs	**1,250**		**1,260**				
WHO-2005 TEQs							
TEQ: ND=0	116		116				
TEQ: ND=DL/2	116	0.448	116				
TEQ: ND=DL	116	0.897	116				

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Sample DUP

Method 1613B

Sample ID: 0_18872_OPR001

Analyte	OPR1_18872_DF pg/uL	OPR2_18872_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	12	11.4	4.9%
1,2,3,7,8-PeCDD	54.8	48.6	12.0%
1,2,3,4,7,8-HxCDD	57.1	51.9	9.6%
1,2,3,6,7,8-HxCDD	59.5	55.5	6.9%
1,2,3,7,8,9-HxCDD	52.4	50.6	3.6%
1,2,3,4,6,7,8-HpCDD	57.1	57.1	0.0%
OCDD	120	102	16.0%
2,3,7,8-TCDF	13.4	10.8	22.1%
1,2,3,7,8-PeCDF	55.4	49.6	11.0%
2,3,4,7,8-PeCDF	58.9	51.7	13.0%
1,2,3,4,7,8-HxCDF	57.2	50.2	13.2%
1,2,3,6,7,8-HxCDF	58.2	55.7	4.3%
2,3,4,6,7,8-HxCDF	61	52.9	14.1%
1,2,3,7,8,9-HxCDF	50.7	50.6	0.3%
1,2,3,4,6,7,8-HpCDF	59.6	50.8	16.0%
1,2,3,4,7,8,9-HpCDF	55	52.3	5.0%
OCDF	108	98.4	9.3%
Totals			
Total TCDD	56.4	52.4	7.3%
Total PeCDD	81.2	72.3	11.6%
Total HxCDD	183	171	6.5%
Total HpCDD	70.8	70.6	0.4%
Total TCDF	71.7	61.4	15.5%
Total PeCDF	220	196	11.7%
Total HxCDF	361	331	8.7%
Total HpCDF	115	103	10.6%

Sample Receipt Notification

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

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*26-Jan-22 at 11:48*
AP Project name:	*B6234*
Requested TAT:	*3 business days*
Projected due date:	*28-Jan-22*
Matrix:	*Solid*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

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

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-012122-S-BN-NC-S-36	B6234_001	SO	1	4oz Clear Glass	21-Jan-22	14:20	0.2	1	4905 2704 4708
11215131-012222-S-BN-NC-S-34	B6234_002	SO	1	4oz Clear Glass	22-Jan-22	08:30	0.2	1	4905 2704 4708
11215131-012222-S-BN-NC-S-35	B6234_003	SO	1	4oz Clear Glass	22-Jan-22	08:40	0.2	1	4905 2704 4708
11215131-012222-S-BN-NC-S-33	B6234_004	SO	1	4oz Clear Glass	22-Jan-22	09:30	0.2	1	4905 2704 4708
11215131-012222-S-BN-NC-S-41	B6234_005	SO	1	4oz Clear Glass	22-Jan-22	09:40	0.2	1	4905 2704 4708
11215131-012222-S-BN-NC-S-40	B6234_006	SO	1	4oz Clear Glass	22-Jan-22	12:10	0.2	1	4905 2704 4708
11215131-012222-S-BN-NC-S-37	B6234_007	SO	1	4oz Clear Glass	22-Jan-22	12:20	0.2	1	4905 2704 4708
11215131-012122-S-BN-NC-S-39	B6234_008	SO	1	4oz Clear Glass	21-Jan-22	10:40	0	3	4905 2704 4720
11215131-012122-S-BN-NC-S-38	B6234_009	SO	1	4oz Clear Glass	21-Jan-22	11:00	0	3	4905 2704 4720

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact

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

Received by: Ashley Owens *Logged in by: Ashley Owens* *QC'ed by:* AK 26 Jan 22

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

SGS CHAIN OF CUSTODY

B6234 1/3

PROJECT INFO

PROJECT: 11215131-SJRWP - PCFSE

P.O. #:

QUOTE #: file

SITE REF: International Paper

TURN AROUND TIME:

REPORT LEVEL: ☐ Level I ☒ Level II ☒ Level IV

SPECIAL DELIVERABLES:

☐ DoD ☒ EDD/Version: GHD EQuIS 4-file

☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO

COMPANY: GHD Services Inc.

CONTACT: Meagan Willis

ADDRESS: 11451 Katy Fwy #400,Houston,

PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (☒ CHECK IF SAME)

COMPANY:

CONTACT:

ADDRESS:

PHONE: EMAIL:

PRESERVATIVE: NONE

ANALYSIS & METHOD: M1613B, ~~M6280A~~, ~~M1668A~~, ~~M1668C~~ (B), ~~HR-PAH~~, ~~M7699~~

SAMPLE ID / DESCRIPTION (BN)	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B	~~M6280A~~	~~M1668A~~	~~M1668C~~	~~HR-PAH~~	~~M7699~~	QC MS	QC MSD	QC DUP	QTY	REMARKS	SEE SSOW
11215131-012122-S-BN-NC-S-36	1-21-22	1420	C	S	4oz	X									1	RUSH	*
11215131-012122-S-BN-NC-0-37	↓	1420				X									1		
11215131-012122-S-BN-NC-0-38	↓	1440				X									1		
11215131-012222-S-BN-NC-S-34	1-22-22	0830				X									1	RUSH	*
11215131-012222-S-BN-NC-S-35		0840				X									1	RUSH	*
11215131-012222-S-BN-NC-0-36		0850				X									1		
11215131-012222-S-BN-NC-S-33		0930				X									1	RUSH	*
11215131-012222-S-BN-NC-S-41		0940				X									1	RUSH	*
11215131-012222-S-BN-NC-0-35		0950				X									1		
11215131-012222-S-BN-NC-B-10	↓	1000	↓	↓	↓	X						X	X		1		

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:
Breanna Nolan	1-22-22	1730	Meagan Willis
RELINQUISHED BY (2): Meagan Willis	1-24-22	0821	[signature] 1-24-22 08:21
RELINQUISHED BY (3):			

RECEIVED BY LABORATORY: Ashley Owens DATE: 1/26/22 TIME: 11:48

COOLER SEAL: ☒ INTACT ☐ BROKEN ☐ ABSENT

CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☒ ABSENT

CARRIER: FedEx TEMP: °C 0.2°

TRACKING #: 4905 2704 4708

*=Samples in this project.

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

SGS CHAIN OF CUSTODY

B60234 2 3

PROJECT INFO

PROJECT: 11215131-SJRWP - PCFSE

P.O. #:

QUOTE #: file

SITE REF: International Paper

TURN AROUND TIME:

REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV

SPECIAL DELIVERABLES:

☐ DoD ■ EDD/Version: GHD EQuIS 4-file

☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO

COMPANY: GHD Services Inc.

CONTACT: Meagan Willis

ADDRESS: 11451 Katy Fwy #400,Houston, T

PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (■ CHECK IF SAME)

COMPANY:

CONTACT:

ADDRESS:

PHONE: EMAIL:

PRESERVATIVE: None

ANALYSIS & METHOD: M1613B; M8290A; M1668A; M1668C; HRPAH; M4600

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	QC: MS	QC: MSD	QC: DUP	QTY	REMARKS
11215131-012222-S-BN-NC-S-40	1-22-22	1210	C	S	4oz				1	RUSH *
11215131-012222-S-BN-NC-S-37		1220							1	RUSH *
11215131-012222-S-BN-NC-0-41		1230							1	
11215131-012222-S-BN-NC-0-39		1240							1	
11215131-012222-BN-NC-B-12		1250							1	
11215131-012222-BN-D&P-14	↓	—	↓	↓	↓			X	1	

REMARKS: SEESaw

	DATE	TIME	RECEIVED BY
COLLECTED/RELINQUISHED BY (1): Breanna Nash	1-22-22	1730	Meagan Willis
RELINQUISHED BY (2): Meagan Willis	1-24-22	0521	RECEIVED BY:
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:

RECEIVED BY LABORATORY: DATE: TIME:

1/26/22 11:48

COOLER SEAL ☐ INTACT ☐ BROKEN ☐ ABSENT

CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT

CARRIER: FedEx TEMP: °C 0.2°

TRACKING #: 4905 2704 4708

*=Samples in this project.

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

Member of the SGS Group (SGS SA)

SGS CHAIN OF CUSTODY

B10234 3/3

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

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston, TX
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

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

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: none	ANALYSIS & METHOD: M1613B	M8290A	M1668A	M1668C (BN)	HR-PAH	M4600	QC: MS	MSD	DUP	QTY	REMARKS: SEE SSOW
11215131-012122-S-BN-NC-0-43	1-21-22	1030	C	S	4oz		X									1	
11215131-012122-S-BN-NC-S-39		1040					X									1	RUSH *
11215131-012122-S-BN-NC-0-42		1050					X									1	
11215131-012122-S-BN-NC-S-38		1100					X									1	RUSH *
11215131-012122-S-BN-NC-0-40		1110					X									1	
11215131-012122-S-BN-NC-B-11	↓	1120	↓	↓	↓		X									1	

	DATE:	TIME:	
COLLECTED/RELINQUISHED BY (1): Breanna Nash	1-21-22	1245	RECEIVED BY: Eddie Castro
RELINQUISHED BY (2): Eddie Castro	1-22-22	1350	RECEIVED BY:
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:

RECEIVED BY LABORATORY: DATE: TIME:
JAMES WILLIAMS 1/26/22 11:48
COOLER SEAL: ☑ INTACT ☐ BROKEN ☐ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☑ ABSENT
CARRIER: FedEx TEMP: °C 0.8 ; 0.0
TRACKING #:

* = Samples in this project.

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

Member of the SGS Group (SGS SA)

B62341/2

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

SHIP DATE: 24JAN22
ACTWGT: 45.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

1/26/2022
11:48
0.2° (T.B.)

56SC4/F289/05A2

FedEx Express

J191219082001uv

1 of 3

TRK# 0201 4905 2704 4708
MASTER

TUE - 25 JAN 10:30A
PRIORITY OVERNIGHT

28405
NC-US RDU

NL ILMA

Part # 156149-434 MTW EXP 07/22

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

SHIP DATE: 24JAN22
ACTWGT: 45.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

1/26/2022
11:48
0.8° (T.B.)

56SC4/F289/05A2

FedEx Express

J191219082001uv

2 of 3

MPS# 0263 4905 2704 4719
Mstr# 4905 2704 4708 0201

TUE -25 JAN 10:30A
PRIORITY OVERNIGHT

28405
NC-US RDU

NL ILMA

Part # 156149-434 MTW EXP 07/22

B60234 2/2

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

SHIP DATE: 24JAN22
ACTWGT: 45.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

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

1/26/2022
11:48
0.0°

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

SESC4/7285/0502

FedEx Express

J191219082001uv

3 of 3
MPS# 0263 4905 2704 4720
Mstr# 4905 2704 4708 0201

TUE - 25 JAN 10:30A
PRIORITY OVERNIGHT

NL ILMA

28405
NC-US RDU

Part # 156143-434 NTM EXP 07/22

Project Initiation Form

Project Number: B6234

Initiation Date: 26-Jan-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Solid

TAT: 3 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR & OPRD

10 g DWE extraction

Read and understood, initial and date: Prep Lab: JRH 1/26/22 KE 1/26/22 RDB 1/27/22 HRMS Lab:

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab:

PM Initials: akornegay Date: 26-Jan-2022

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

Extraction Type: (SDS) CLL — TALEX Carbon SPE

Solid

Final Volume: 20 µL

Batch# 18872 | Split: ~~1/2~~ ~~1/4~~ | Extract Initial/Date: KE 1/26/22 | Clean-up Initial/Date: RDB 1/27/22 | Transfer Init/Date: RDB 1/27/22

Lab Sample ID	Extraction Position	Extraction Weight/Volume g	Extraction Weight/Volume mL	(Td)	ASECS #	Observations
	Solvent: TOL					
B6234_18872_001	28	16.80				gray, clay-like
B6234_18872_002	29	17.53				gray/orange, clay-like
B6234_18872_003	30	16.44				gray, clay-like
B6234_18872_004	31	16.18				gray/orange, clay-like
B6234_18872_005	32	16.78				gray, clay-like
B6234_18872_006	33	16.15				brown, clay-like
B6234_18872_007	34	17.37				gray/orange, clay-like
B6234_18872_008	35	17.50				gray, clay-like
B6234_18872_009	36	18.75				gray, clay-like
MB1_18872	25	10.00				sodium sulfate
OPR1_18872	26	10.00				sodium sulfate
OPR2_18872	27	10.00				sodium sulfate

Supply IDs

Toluene	STL14-24
MeCHl	STL14-21
Florisil	SPLS-77
Hexane	STL14-22
Silica	SPLS-69
S Nitrate	N/A
Base Silica	SPLS-83
HydroMatrix	N/A
Tetradecane	SPLS-730
H_2SO_4	N/A
A Silica	SPLS-82
Sodium Sulfate	SPLS-80B

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	CL 28 Jan 22
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start:	1530
	Stop:	0900
HEX	Start:	
	Stop:	
DCM	Start:	
	Stop:	

CL 28 Jan 22

RDB 1/27/22

SGS

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

Solid

Batch# 18872

Inter-Department Communication Sheet

28 Jun 22

el

SGS

Wt. Volume Results

Batch #: 18872 **Comments:**

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6234_001	1.1	5.74	4.8	79.74%	79.74%			12.54	16.8	13.4
B6234_002	1.11	4.35	3.61	77.16%	77.16%			12.96	17.53	13.53
B6234_003	1.12	5.96	4.98	79.75%	79.75%			12.54	16.44	13.11
B6234_004	1.09	5.8	4.53	73.04%	73.04%			13.69	16.18	11.82
B6234_005	1.11	4.83	4.11	80.65%	80.65%			12.4	16.78	13.53
B6234_006	1.1	4.75	3.82	74.52%	74.52%		CL 28 Jan 22	13.42	16.15	12.03
B6234_007	1.1	4.73	3.83	75.21%	75.21%			13.3	17.37	13.06
B6234_008	1.1	4.54	3.21	61.34%	61.34%			16.3	17.5	10.73
B6234_009	1.11	4.75	3.92	77.20%	77.20%			12.95	18.75	14.48

reviewed CL 28 Jan 22

% Solid Determination WorkSheet

SGS

Batch: 18872

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt. 1430	1605	Comments
B6234_18872_001	1.10	5.74	4.80	4.80	
B6234_18872_002	1.11	4.35	3.62	3.61	
B6234_18872_003	1.12	5.96	4.98	4.99	
B6234_18872_004	1.09	5.80	4.53	4.53	
B6234_18872_005	1.11	4.83	4.11	4.11	
B6234_18872_006	1.10	4.75	3.82	3.82	
B6234_18872_007	1.10	4.73	3.84	3.83	
B6234_18872_008	1.10	4.54	3.22	3.21	
B6234_18872_009	1.11	4.75	3.92	3.92	

28 Jan 22

1/27/22

Date/Initials: 1/27/22

SGS

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

Batch # 18872

Lab Sample ID	Spiker Initials/Date: JRH 1/26/22 D/F Ax-A Amount: 20 µL Observer Initials	JRH 1/26/22 D/F Ax-B Amount: 20 µL Observer Initials	JRH 1/26/22 D/F ES Amount: 20 µL Observer Initials	RPB 1/27/22 D/F CS Amount: 20 µL Observer Initials	RPB 1/27/22 D/F JS Amount: 20 µL Observer Initials	Amount: Observer Initials	Amount: Observer Initials
B6234_18872_001	—	—	KE	KE	KE		
B6234_18872_002	—	—	KE	KE	KE		
B6234_18872_003	—	—	KE	KE	KE		
B6234_18872_004	—	—	KE	KE	KE		
B6234_18872_005	—	—	KE	KE	KE		
B6234_18872_006	—	—	KE	KE	KE		
B6234_18872_007	—	—	KE	KE	KE		
B6234_18872_008	—	—	KE	KE	KE		
B6234_18872_009	—	—	KE	KE	KE		
MB1_18872	—	—	KE	KE	KE		
OPR1_18872	KE	KE	KE	KE	KE		
OPR2_18872	KE	KE	KE	KE	KE		

RPB 1/27/22

Standard Information

	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS		
Pipette ID							
Spike ID	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS		
SIL #	26-2-8	25-187-2	26-2-9	25-338-1	25-309-1		
Concentration	10 pg/µL	10 pg/µL	100 pg/µL	100 pg/µL	100 pg/µL		
Expiration Date	7/9/28	6/27/22	8/2028	11/16/22	10/8/22		

RPB 1/27/22

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

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	220127C01	3	CS3_220127_DF_CA	1.00	SIL 25-347-1	DTF	656-112	27-Jan-2022	14:56:50
2	220127C02	11	OPR1_18872_DF	1.00	0_18872_OPR001	DTF	849-711	27-Jan-2022	16:24:11
3	220127C03	12	OPR2_18872_DF	1.00	0_18872_OPR002	DTF	122-983	27-Jan-2022	17:10:28
4	220127C04	2	SBS_220127_DF_CA	1.00	20-61-1	DTF	397-855	27-Jan-2022	17:56:46
5	220127C05	10	MB1_18872_DF_SDS	10.00	Method Blank	DTF	404-582	27-Jan-2022	18:43:04
6	220127C06	13	B6234_18872_DF_001	13.40	11215131-012122-S-BN-NC-S-36	DTF	265-157	27-Jan-2022	19:29:22
7	220127C07	14	B6234_18872_DF_002	13.53	11215131-012222-S-BN-NC-S-34	DTF	247-428	27-Jan-2022	20:15:39
8	220127C08	15	B6234_18872_DF_003	13.11	11215131-012222-S-BN-NC-S-35	DTF	153-184	27-Jan-2022	21:01:58
9	220127C09	16	B6234_18872_DF_004	11.82	11215131-012222-S-BN-NC-S-33	DTF	156-115	27-Jan-2022	21:48:16
10	220127C10	17	B6234_18872_DF_005	13.53	11215131-012222-S-BN-NC-S-41	DTF	969-193	27-Jan-2022	22:34:36
11	220127C11	18	B6234_18872_DF_006	12.03	11215131-012222-S-BN-NC-S-40	DTF	800-269	27-Jan-2022	23:20:54
12	220127C12	19	B6234_18872_DF_007	13.06	11215131-012222-S-BN-NC-S-37	DTF	570-434	28-Jan-2022	00:07:12
13	220127C13	20	B6234_18872_DF_008	10.73	11215131-012122-S-BN-NC-S-39	DTF	563-363	28-Jan-2022	00:53:30
14	220127C14	21	B6234_18872_DF_009	14.48	11215131-012122-S-BN-NC-S-38	DTF	772-361	28-Jan-2022	01:39:49

REVIEWED
Tyler_Fritz , 1/28/2022, 2:08:16 PM

APPROVED
Carla_Lyon , 1/28/2022, 2:53:01 PM

Lab ID: MB1_18872_DF_SDS **Acq'd:** 27 Jan 2022 18:43 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6234_18872 **UTP:** 28-Jan-2022 09:47:33 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 404-582-MHP

Datafile: 220127C05 **Report:** 28 Jan 2022 09:49 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	3431.154	0.419
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	2567.247	0.361
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2813.202	0.375
123678-HxCDD	NotFnd		1.0034	-		-	-	-	1.15	-	2813.202	0.319
123789-HxCDD	NotFnd		1.0109	-		-	-	-	1.05	-	2813.202	0.382
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	2531.484	0.435
OCDD	43.56	J EMPC	1.0002	1.0005	+0.8	1.16E+05	1.11	N	1.13	3.57	8030.913	2.8
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	2945.562	0.28
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2688.799	0.261
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2688.799	0.266
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2986.282	0.303
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2986.282	0.256
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.19	-	2986.282	0.326
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2986.282	0.406
1234678-HpCDF	NotFnd		1.0002	-		-	-	-	1.37	-	3139.998	0.22
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	3139.998	0.58
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	2752.376	1.01

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.62	1.0233	1.0235	+0.3	1.37E+07	0.77	Y	1.05	86.7
ES 12378-PeCDD	33.94	1.2121	1.2136	+3.1	1.25E+07	1.58	Y	0.88	94.5
ES 123478-HxCDD	37.84	0.9921	0.9921	0	1.29E+07	1.32	Y	0.97	96.3
ES 123678-HxCDD	37.96	0.9951	0.9951	0	1.47E+07	1.28	Y	0.94	113
ES 123789-HxCDD	38.25	1.0025	1.0028	+0.7	1.41E+07	1.23	Y	1.09	94
ES 1234678-HpCDD	40.88	1.0709	1.0717	+2.0	1.03E+07	1.08	Y	0.91	82
ES OCDD	43.54	1.1403	1.1416	+3.4	1.15E+07	0.94	Y	0.62	67
ES 2378-TCDF	27.77	1.0506	1.0513	+1.2	2.20E+07	0.83	Y	1.06	78.3
ES 12378-PeCDF	32.50	1.2281	1.2301	+3.9	2.09E+07	1.60	Y	0.91	86.8
ES 23478-PeCDF	33.61	1.2698	1.2720	+4.4	1.92E+07	1.51	Y	0.88	82
ES 123478-HxCDF	36.83	0.9657	0.9656	-0.2	1.37E+07	0.54	Y	1.20	82.8
ES 123678-HxCDF	36.98	0.9695	0.9695	0	2.05E+07	0.54	Y	1.35	110
ES 234678-HxCDF	37.66	0.9874	0.9874	0	1.71E+07	0.55	Y	1.24	100
ES 123789-HxCDF	38.60	1.0116	1.0120	+0.9	1.10E+07	0.53	Y	1.16	69.2
ES 1234678-HpCDF	39.94	1.0467	1.0472	+1.2	1.59E+07	0.48	Y	0.97	120
ES 1234789-HpCDF	41.34	1.0830	1.0838	+2.0	7.82E+06	0.47	Y	0.85	66.8
ES OCDF	43.73	1.1451	1.1465	+3.7	1.21E+07	0.91	Y	0.81	54.3

Lab ID: MB1_18872_DF_SDS | **Acq'd:** 27 Jan 2022 18:43 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6234_18872 | **UTP:** 28-Jan-2022 09:47:33 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 404-582-MHP

Datafile: 220127C05 | **Report:** 28 Jan 2022 09:49 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.96		-	-	-	1.51E+07	0.84	Y	-	-	
JS 1234-TCDF	26.42		-	-	-	2.65E+07	0.82	Y	-	-	
JS 123467-HxCDD	38.14		-	-	-	6.87E+06	1.18	Y	-	-	
CS 37Cl-2378-TCDD	28.64		1.0241	1.0243	+0.3	6.17E+06	n/a	-	1.20	85.1	
CS 12347-PeCDD	33.44		1.1943	1.1957	+2.8	1.16E+07	1.58	Y	0.75	102	
CS 12346-PeCDF	31.97		1.2083	1.2101	+3.5	1.93E+07	1.62	Y	0.85	85.6	
CS 123469-HxCDF	37.29		0.9778	0.9777	-0.2	1.66E+07	0.53	Y	1.12	108	
CS 1234689-HpCDF	40.35		1.0571	1.0578	+1.7	1.21E+07	0.44	Y	0.89	99.5	
~~SS 37Cl-2378-TCDD~~	~~28.64~~		~~1.0241~~	~~1.0243~~	~~+0.3~~	~~6.17E+06~~	~~n/a~~		~~1.15~~	~~98.3~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.44~~		~~1.1943~~	~~1.1957~~	~~+2.8~~	~~1.16E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~100~~	CL 28Jan22
~~SS 12346-PeCDF~~	~~31.97~~		~~1.2083~~	~~1.2101~~	~~+3.5~~	~~1.93E+07~~	~~1.62~~	~~Y~~	~~0.94~~	~~98.5~~	
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9777~~	~~-0.2~~	~~1.66E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~97.8~~	
~~SS 1234689-HpCDF~~	~~40.35~~		~~1.0571~~	~~1.0578~~	~~+1.7~~	~~1.21E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~82.9~~	

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	3.57
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	3.57

Lab ID: MB1_18872_DF_SDS **Acq'd: 27 Jan 2022 18:43 DTF** **Wt/Vol: 10.00 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6234_18872 **UTP: 28-Jan-2022 09:47:33 DTF** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 404-582-MHP**

Datafile: 220127C05 **Report: 28 Jan 2022 09:49 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8755						1.18		3431.154	0.419
1379-TCDD	NotFnd		0.8876						1.18		3431.154	0.419
1369-TCDD	NotFnd		0.9023						1.18		3431.154	0.419
1469-TCDD	NotFnd		0.9291						1.18		3431.154	0.419
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		3431.154	0.419
1378-TCDD	NotFnd		0.9440						1.18		3431.154	0.419
1268-TCDD	NotFnd		0.9506						1.18		3431.154	0.419
1478-TCDD	NotFnd		0.9591						1.18		3431.154	0.419
1279-TCDD	NotFnd		0.9649						1.18		3431.154	0.419
1234/1269-TCDD	NotFnd		0.9771						1.18		3431.154	0.419
1236-TCDD	NotFnd		0.9820						1.18		3431.154	0.419
1237/1238-TCDD	NotFnd		0.9908						1.18		3431.154	0.419
1239-TCDD	NotFnd		0.9954						1.18		3431.154	0.419
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**3431.154**	**0.419**
1278-TCDD	NotFnd		1.0121						1.18		3431.154	0.419
1267-TCDD	NotFnd		1.0167						1.18		3431.154	0.419
1289-TCDD	NotFnd		1.0341						1.18		3431.154	0.419
12479/12468-PeCDD	NotFnd		0.9273						1.04		2567.247	0.361
12469-PeCDD	NotFnd		0.9430						1.04		2567.247	0.361
12368-PeCDD	NotFnd		0.9592						1.04		2567.247	0.361
12478-PeCDD	NotFnd		0.9647						1.04		2567.247	0.361
12379-PeCDD	NotFnd		0.9676						1.04		2567.247	0.361
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		2567.247	0.361
12346/12347-PeCDD	NotFnd		0.9860						1.04		2567.247	0.361
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**2567.247**	**0.361**
12367-PeCDD	NotFnd		1.0034						1.04		2567.247	0.361
12389-PeCDD	NotFnd		1.0134						1.04		2567.247	0.361
124679/124689-HxCDD	NotFnd		0.9545						1.10		2813.202	0.357
123468-HxCDD	NotFnd		0.9715						1.10		2813.202	0.357
123679/123689-HxCDD	NotFnd		0.9793						1.10		2813.202	0.357
123469-HxCDD	NotFnd		0.9829						1.10		2813.202	0.357
123478-HxCDD	NotFnd		**1.0004**						1.09		**2813.202**	**0.375**
123678-HxCDD	NotFnd		**1.0034**						1.15		**2813.202**	**0.319**
123467-HxCDD	NotFnd		1.0082						1.10		2813.202	0.357
123789-HxCDD	NotFnd		**1.0109**						1.05		**2813.202**	**0.382**

Lab ID: MB1_18872_DF_SDS | **Acq'd:** 27 Jan 2022 18:43 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6234_18872 | **UTP:** 28-Jan-2022 09:47:33 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 404-582-MHP

Datafile: 220127C05 | **Report:** 28 Jan 2022 09:49 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

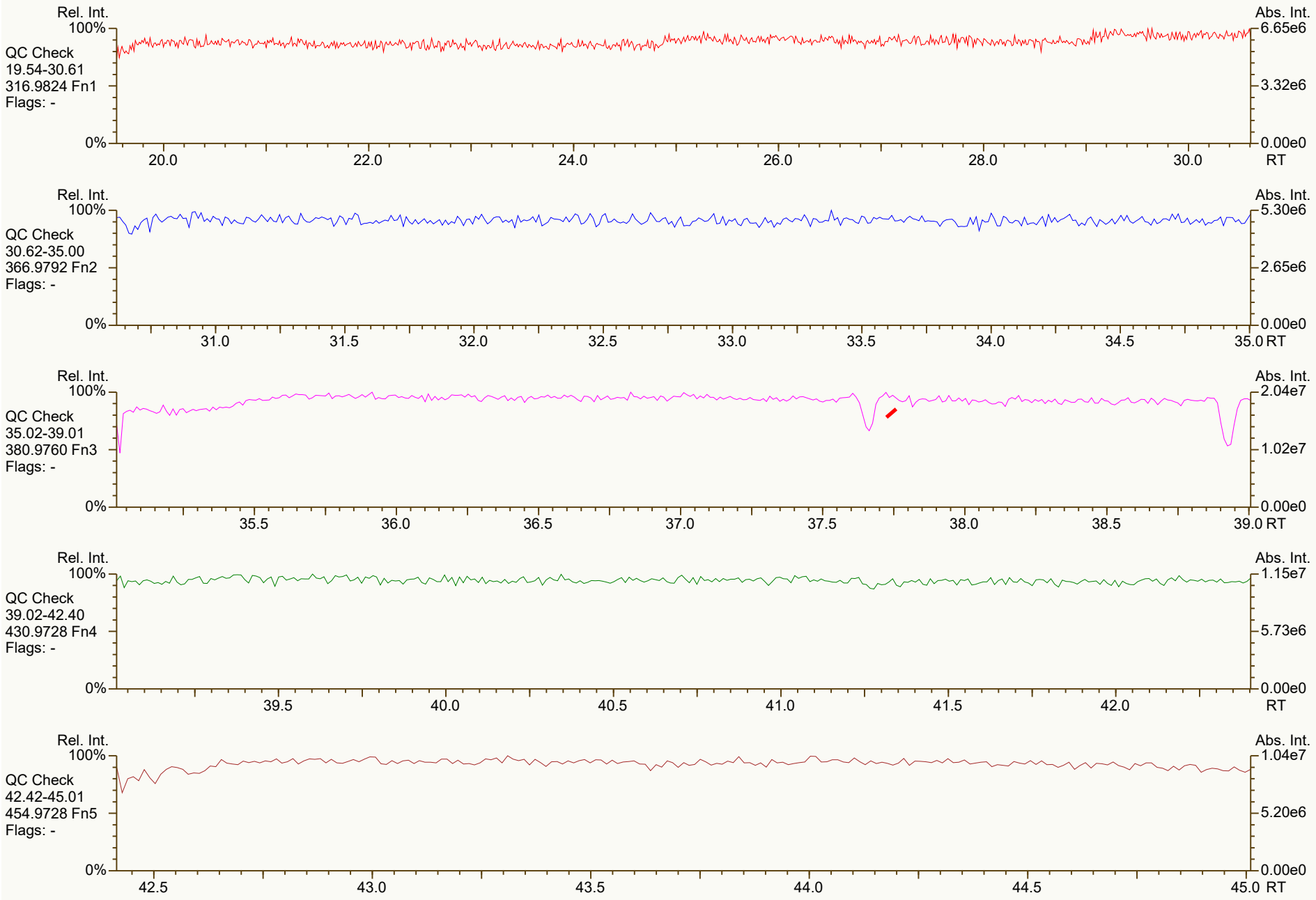
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9838						1.06		2531.484	0.435
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**2531.484**	**0.435**
OCDD	**43.56**	**J EMPC**	**1.0002**	**1.0005**	**+0.8**	**1.16E+05**	**1.11**	**N**	**1.13**	**3.57**	**8030.913**	**2.8**
OCDD-a	NotFnd		1.0002						0.07		3780.942	20.6
1368-TCDF	NotFnd		0.8282						1.08		2945.562	0.28
1468-TCDF	NotFnd		0.8485						1.08		2945.562	0.28
2468-TCDF	NotFnd		0.8709						1.08		2945.562	0.28
1346/1246-TCDF	NotFnd		0.8829						1.08		2945.562	0.28
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		2945.562	0.28
1348-TCDF	NotFnd		0.8980						1.08		2945.562	0.28
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		2945.562	0.28
1268-TCDF	NotFnd		0.9158						1.08		2945.562	0.28
1467-TCDF	NotFnd		0.9206						1.08		2945.562	0.28
1478-TCDF	NotFnd		0.9266						1.08		2945.562	0.28
1369/1237-TCDF	NotFnd		0.9397						1.08		2945.562	0.28
2467-TCDF	NotFnd		0.9440						1.08		2945.562	0.28
2368-TCDF	NotFnd		0.9497						1.08		2945.562	0.28
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		2945.562	0.28
1278-TCDF	NotFnd		0.9690						1.08		2945.562	0.28
1349-TCDF	NotFnd		0.9730						1.08		2945.562	0.28
1267-TCDF	NotFnd		0.9787						1.08		2945.562	0.28
2346/1249-TCDF	NotFnd		0.9850						1.08		2945.562	0.28
2347/1279-TCDF	NotFnd		0.9929						1.08		2945.562	0.28
2348-TCDF	NotFnd		0.9970						1.08		2945.562	0.28
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**2945.562**	**0.28**
2367/3467-TCDF	NotFnd		1.0136						1.08		2945.562	0.28
1269-TCDF	NotFnd		1.0221						1.08		2945.562	0.28
1239-TCDF	NotFnd		1.0319						1.08		2945.562	0.28
1289-TCDF	NotFnd		1.0740						1.08		2945.562	0.28
13468/12468-PeCDF	NotFnd		0.9145						1.02		2830.719	0.277
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		2688.799	0.263
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		2688.799	0.263
14678-PeCDF	NotFnd		0.9695						1.02		2688.799	0.263
13479-PeCDF	NotFnd		0.9724						1.02		2688.799	0.263
13469/12479-PeCDF	NotFnd		0.9801						1.02		2688.799	0.263
12346-PeCDF	NotFnd		0.9842						1.02		2688.799	0.263

Lab ID: MB1_18872_DF_SDS | **Acq'd:** 27 Jan 2022 18:43 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6234_18872 | **UTP:** 28-Jan-2022 09:47:33 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 404-582-MHP

Datafile: 220127C05 | **Report:** 28 Jan 2022 09:49 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

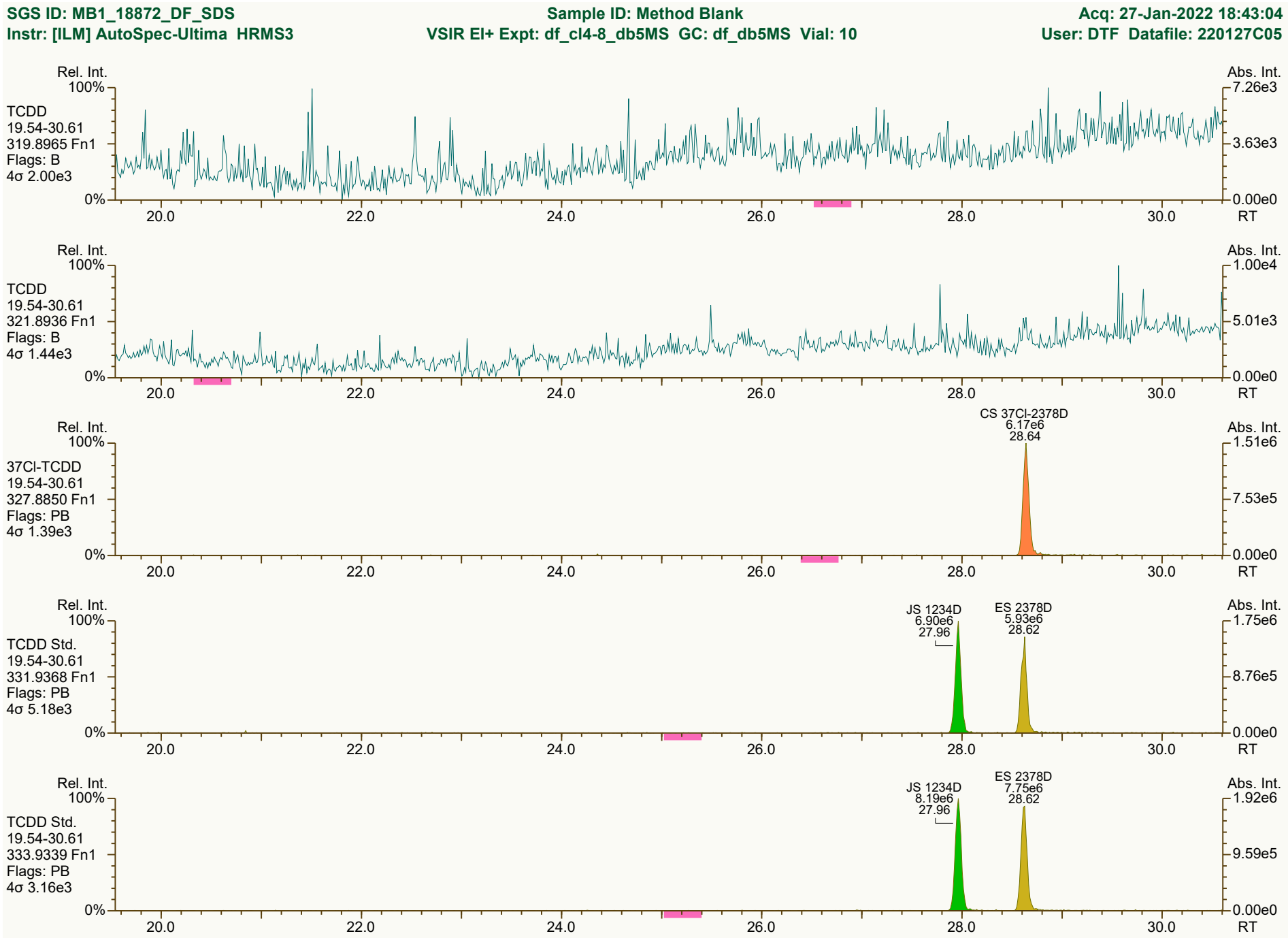
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		2688.799	0.263
12347-PeCDF	NotFnd		0.9895						1.02		2688.799	0.263
12348-PeCDF	NotFnd		0.9941						1.02		2688.799	0.263
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2688.799**	**0.261**
12678/12367-PeCDF	NotFnd		1.0090						1.02		2688.799	0.263
12379-PeCDF	NotFnd		1.0142						1.02		2688.799	0.263
12679-PeCDF	NotFnd		0.9931						1.02		2688.799	0.263
23467/12369-PeCDF	NotFnd		0.9966						1.02		2688.799	0.263
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2688.799**	**0.266**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2688.799	0.263
12349-PeCDF	NotFnd		1.0101						1.02		2688.799	0.263
12389-PeCDF	NotFnd		1.0322						1.02		2688.799	0.263
123468-HxCDF	NotFnd		0.9627						1.19		2986.282	0.311
124678/134678-HxCDF	NotFnd		0.9684						1.19		2986.282	0.311
134679-HxCDF	NotFnd		0.9747						1.19		2986.282	0.311
124679-HxCDF	NotFnd		0.9802						1.19		2986.282	0.311
124689-HxCDF	NotFnd		0.9858						1.19		2986.282	0.311
123467-HxCDF	NotFnd		0.9972						1.19		2986.282	0.311
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2986.282**	**0.303**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2986.282**	**0.256**
123479-HxCDF	NotFnd		1.0051						1.19		2986.282	0.311
123469-HxCDF	NotFnd		1.0091						1.19		2986.282	0.311
123679-HxCDF	NotFnd		0.9943						1.19		2986.282	0.311
234678-HxCDF	**NotFnd**		**1.0004**						**1.19**		**2986.282**	**0.326**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2986.282	0.311
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2986.282**	**0.406**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		2986.282	0.311
1234678-HpCDF	**NotFnd**		**1.0002**						**1.37**		**3139.998**	**0.22**
1234679-HpCDF	NotFnd		1.0067						1.34		3139.998	0.337
1234689-HpCDF	NotFnd		1.0101						1.34		3139.998	0.337
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**3139.998**	**0.58**
OCDF	**NotFnd**		**1.0002**						**1.07**		**2752.376**	**1.01**
OCDF-a	NotFnd		1.0002						0.07		3178.226	18.9


Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
6.65e6
3.32e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
5.30e6
2.65e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
2.04e7
1.02e7
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.15e7
5.73e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.04e7
5.20e6
0.00e0

SGS ID: MB1_18872_DF_SDS
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: Method Blank
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 10

Acq: 27-Jan-2022 18:43:04
User: DTF Datafile: 220127C05



Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\MB1_18872_DF_SDS.utp_res, saved 28-Jan-2022 09:47 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4964, 0093, 2849 scc: 404-582

Peak annotation: Areas, Centroids
PKD: 28-Jan-2022 08:32 Printed: 28-Jan-2022 09:54 Page 2 of 12


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PB
4σ 1.10e3
0%
Abs. Int.
7.91e3
3.95e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PB
4σ 1.46e3
0%
Abs. Int.
5.30e3
2.65e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PBM
4σ 1.61e3
0%
CS 12347D
7.09e6
33.44
ES 12378D
7.68e6*
33.94
Abs. Int.
2.11e6
1.05e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PBM
4σ 2.17e3
0%
CS 12347D
4.48e6
33.43
ES 12378D
4.86e6*
33.94
Abs. Int.
1.38e6
6.89e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.30e6
2.65e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: B
4σ 1.24e3
0%
Abs. Int.
7.20e3
3.60e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PB
4σ 1.57e3
0%
Abs. Int.
7.69e3
3.84e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 1.89e3
0%
ES 123678D
8.24e6
37.96
ES 123478D
7.32e6*
37.84
ES 123789D
7.78e6*
38.25
JS 123467D
3.72e6*
38.14
Abs. Int.
2.16e6
1.08e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.24e3
0%
ES 123678D
6.46e6
37.96
ES 123478D
5.56e6*
37.84
ES 123789D
6.33e6*
38.25
JS 123467D
3.15e6*
38.14
Abs. Int.
1.70e6
8.52e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.04e7
1.02e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: B
4σ 1.37e3
0%
Abs. Int.
5.40e3
2.70e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: B
4σ 1.16e3
0%
Abs. Int.
6.14e3
3.07e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
5.35e6
40.88
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 1.89e3
0%
Abs. Int.
1.43e6
7.15e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
4.94e6
40.87
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 3.00e3
0%
Abs. Int.
1.41e6
7.05e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.15e7
5.73e6
0.00e0
39.5
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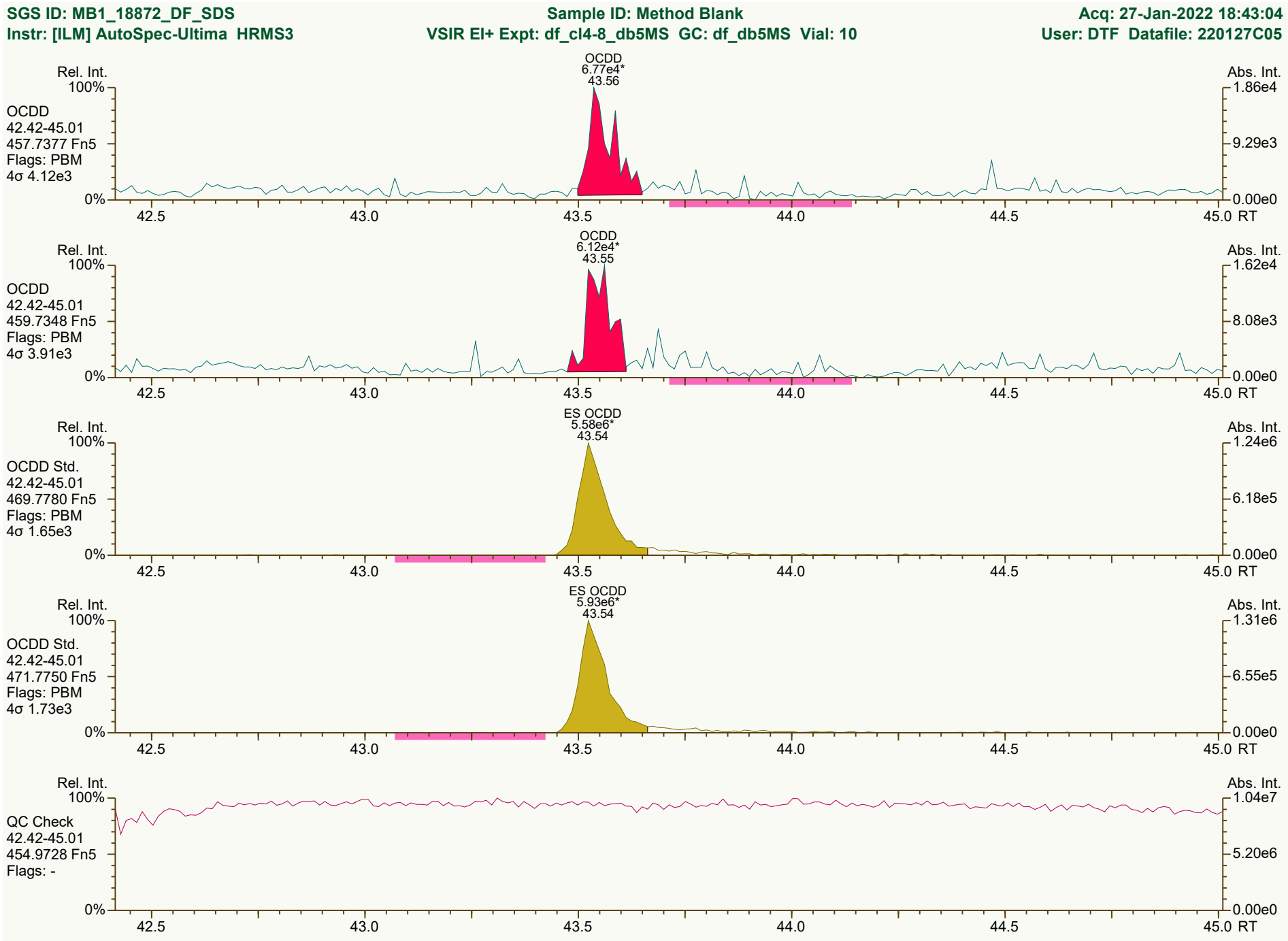
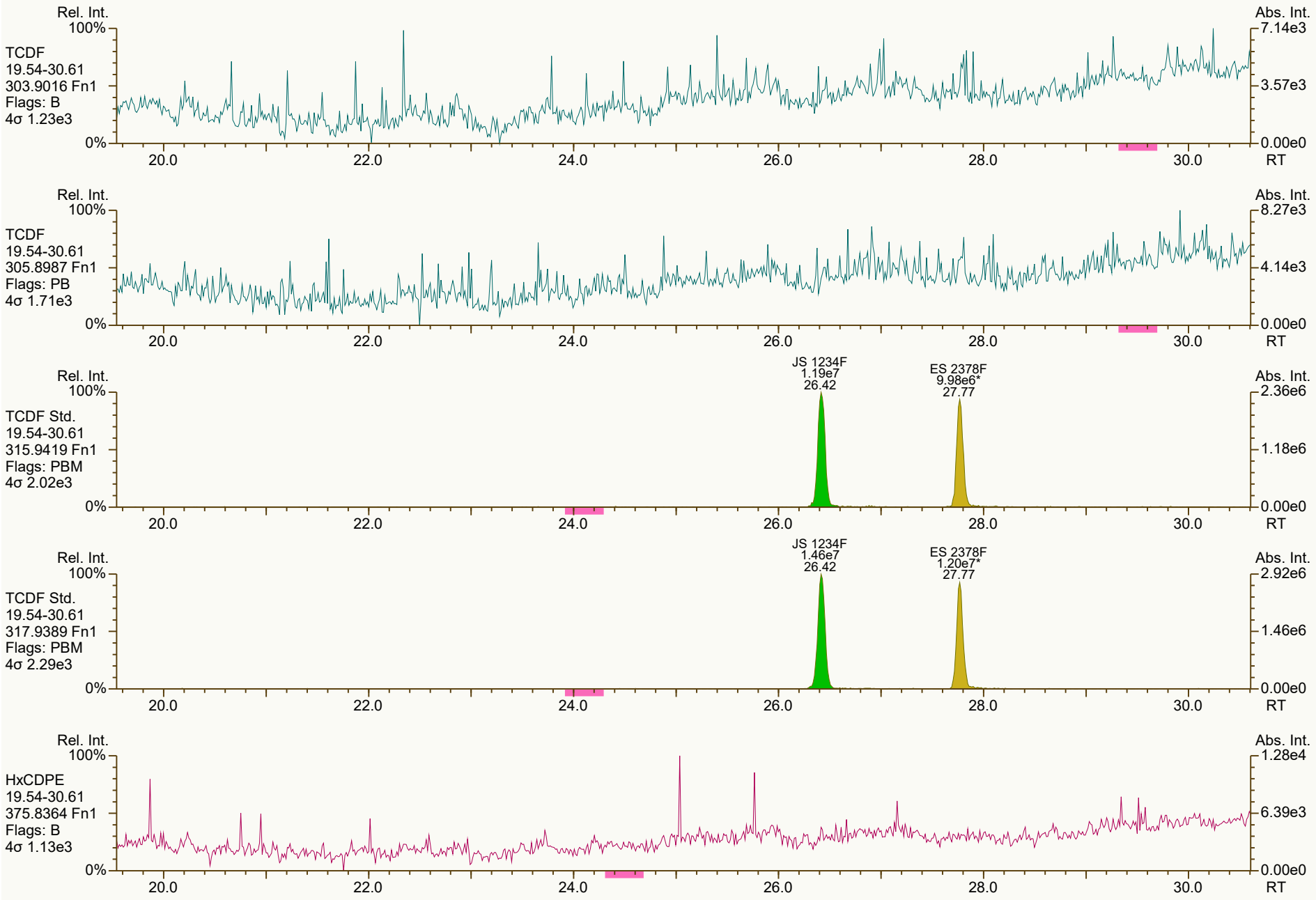
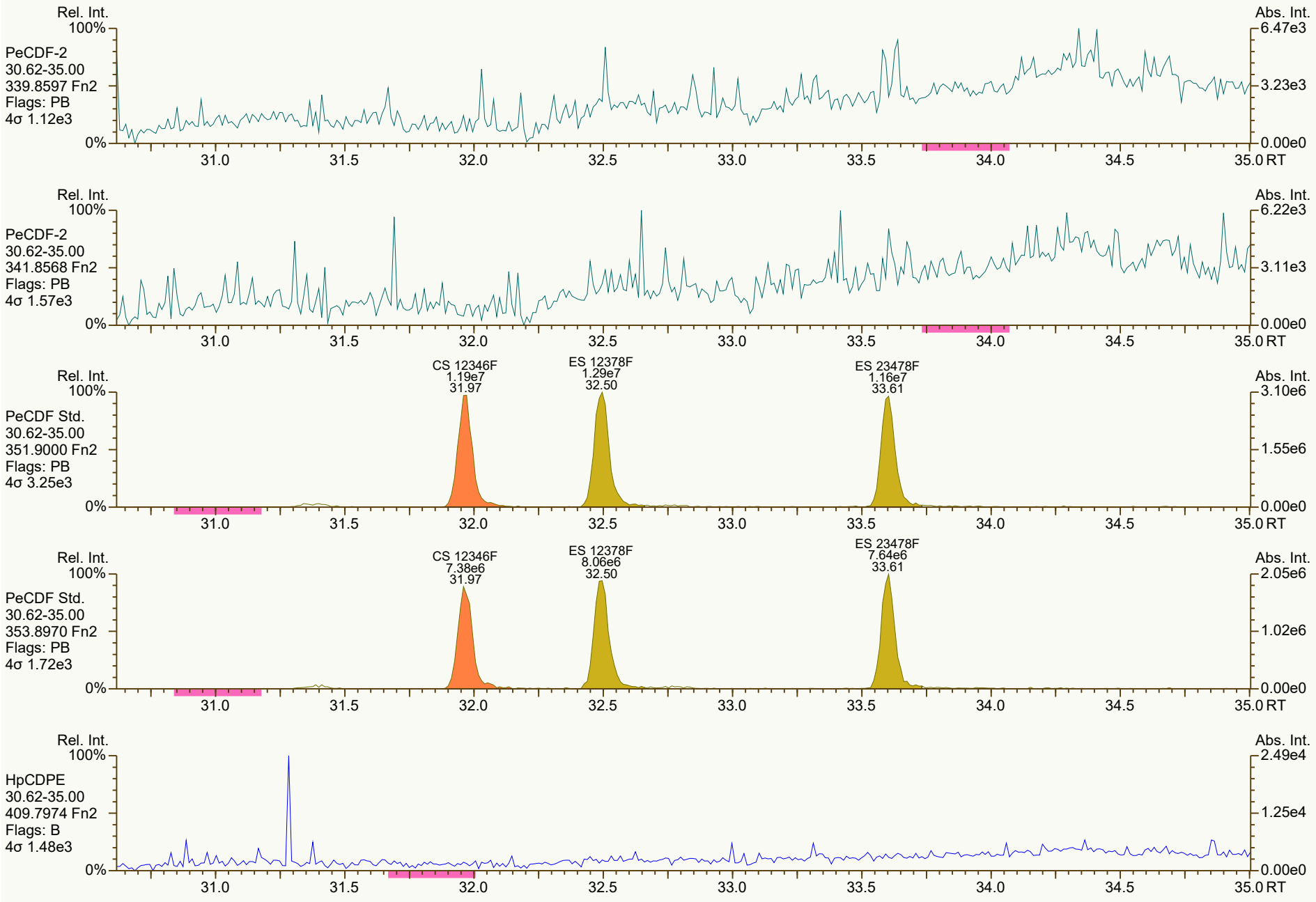
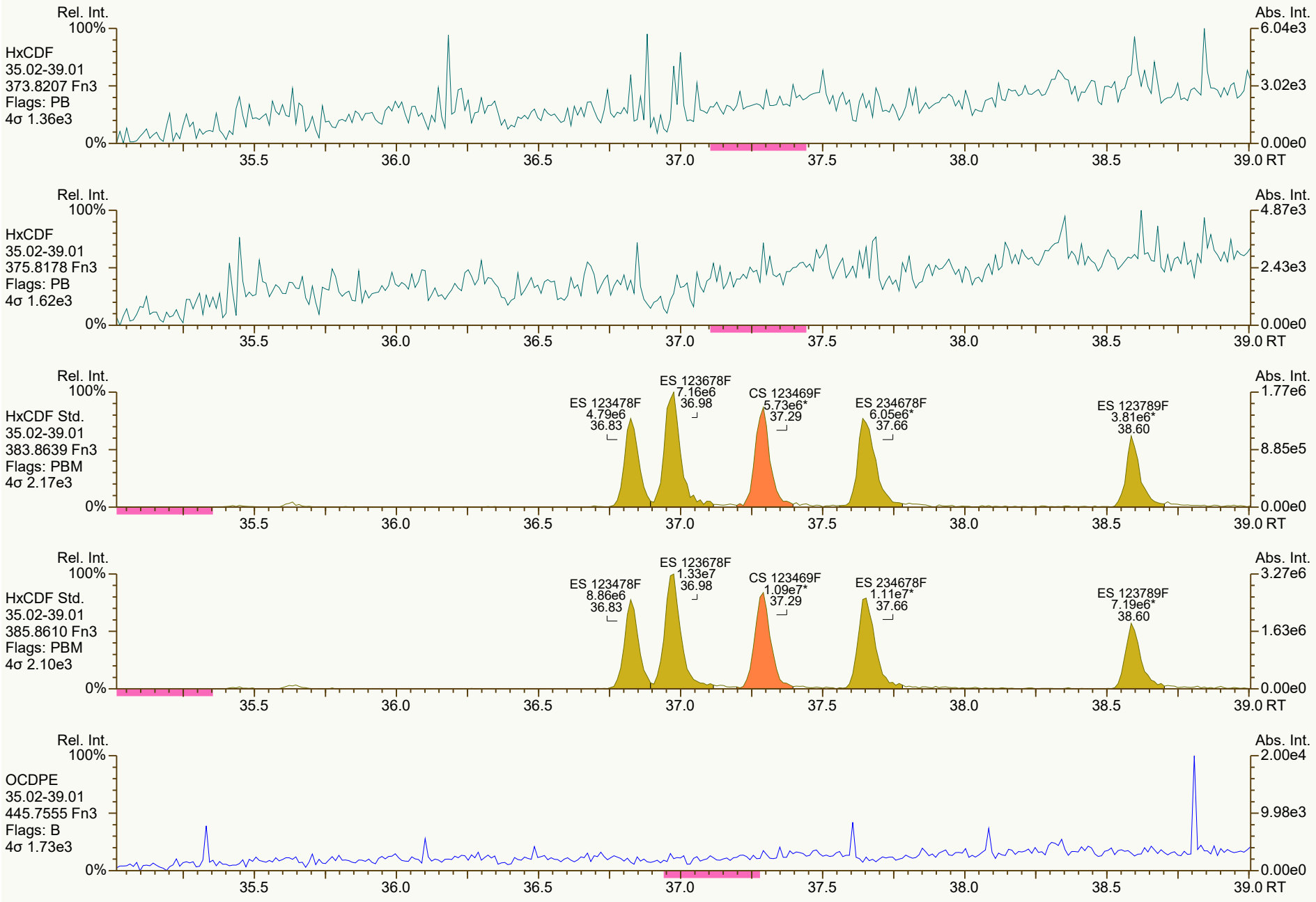
40.5
41.0
41.5
42.0
RT

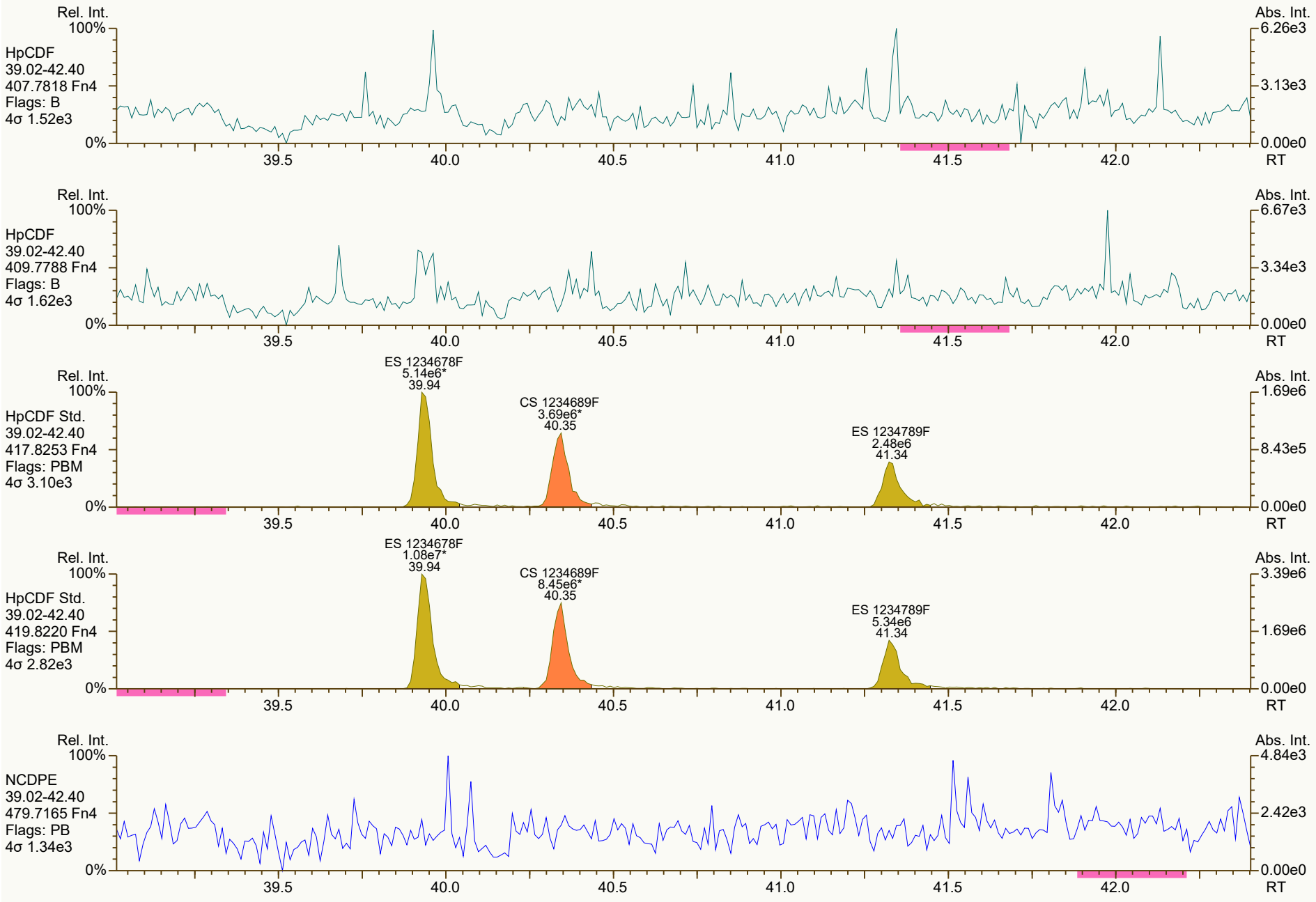

SGS ID: MB1_18872_DF_SDS
Sample ID: Method Blank
Acq: 27-Jan-2022 18:43:04
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 10
User: DTF Datafile: 220127C05
OCDD
6.77e4*
43.56
Rel. Int.
Abs. Int.
OCDD
42.42-45.01
457.7377 Fn5
Flags: PBM
4σ 4.12e3
OCDD
6.12e4*
43.55
OCDD
42.42-45.01
459.7348 Fn5
Flags: PBM
4σ 3.91e3
ES OCDD
5.58e6*
43.54
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 1.65e3
ES OCDD
5.93e6*
43.54
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 1.73e3
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: B
4σ 1.23e3
0%
Abs. Int.
7.14e3
3.57e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PB
4σ 1.71e3
0%
Abs. Int.
8.27e3
4.14e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PBM
4σ 2.02e3
0%
JS 1234F
1.19e7
26.42
ES 2378F
9.98e6*
27.77
Abs. Int.
2.36e6
1.18e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PBM
4σ 2.29e3
0%
JS 1234F
1.46e7
26.42
ES 2378F
1.20e7*
27.77
Abs. Int.
2.92e6
1.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.13e3
0%
Abs. Int.
1.28e4
6.39e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PB
4σ 1.03e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.24e4
6.21e3
0.00e0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 1.80e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
6.65e6
3.32e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PB
4σ 1.12e3
0%
Abs. Int.
6.47e3
3.23e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: PB
4σ 1.57e3
0%
Abs. Int.
6.22e3
3.11e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PB
4σ 3.25e3
0%
CS 12346F
1.19e7
31.97
ES 12378F
1.29e7
32.50
ES 23478F
1.16e7
33.61
Abs. Int.
3.10e6
1.55e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PB
4σ 1.72e3
0%
CS 12346F
7.38e6
31.97
ES 12378F
8.06e6
32.50
ES 23478F
7.64e6
33.61
Abs. Int.
2.05e6
1.02e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.49e4
1.25e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PB
4σ 1.36e3
0%
Abs. Int.
6.04e3
3.02e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PB
4σ 1.62e3
0%
Abs. Int.
4.87e3
2.43e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 2.17e3
0%
ES 123478F
4.79e6
36.83
ES 123678F
7.16e6
36.98
CS 123469F
5.73e6*
37.29
ES 234678F
6.05e6*
37.66
ES 123789F
3.81e6*
38.60
Abs. Int.
1.77e6
8.85e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 2.10e3
0%
ES 123478F
8.86e6
36.83
ES 123678F
1.33e7
36.98
CS 123469F
1.09e7*
37.29
ES 234678F
1.11e7*
37.66
ES 123789F
7.19e6*
38.60
Abs. Int.
3.27e6
1.63e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.73e3
0%
Abs. Int.
2.00e4
9.98e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: B
4σ 1.52e3
0%
Abs. Int.
6.26e3
3.13e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: B
4σ 1.62e3
0%
Abs. Int.
6.67e3
3.34e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 3.10e3
0%
ES 1234678F
5.14e6*
39.94
CS 1234689F
3.69e6*
40.35
ES 1234789F
2.48e6
41.34
Abs. Int.
1.69e6
8.43e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 2.82e3
0%
ES 1234678F
1.08e7*
39.94
CS 1234689F
8.45e6*
40.35
ES 1234789F
5.34e6
41.34
Abs. Int.
3.39e6
1.69e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: PB
4σ 1.34e3
0%
Abs. Int.
4.84e3
2.42e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PB
4σ 1.45e3
0%
Abs. Int.
5.75e3
2.87e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PB
4σ 1.30e3
0%
Abs. Int.
7.93e3
3.97e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
5.74e6*
43.73
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 2.83e3
0%
Abs. Int.
1.21e6
6.03e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
6.33e6*
43.72
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 2.45e3
0%
Abs. Int.
1.35e6
6.76e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.48e3
0%
Abs. Int.
4.34e3
2.17e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6234_18872_DF_001 **Acq'd:** 27 Jan 2022 19:29 DTF **Wt/Vol:** 13.40 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-S-36 **UTP:** 28-Jan-2022 09:47:33 DTF **J-level:** 0.373 pg/g **Split:** 1 **Checkcode:** 265-157-LZB

Datafile: 220127C06 **Report:** 28 Jan 2022 09:49 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.64		1.0008	1.0008	0	6.84E+07	0.80	Y	1.18	535	4646.585	0.4
12378-PeCDD	33.95		1.0006	1.0005	-0.2	6.13E+05	1.61	Y	1.04	5.94	3694.751	0.352
123478-HxCDD	37.84	EMPC	1.0004	1.0004	0	2.79E+05	1.44	N	1.09	3.06	5621.634	0.528
123678-HxCDD	37.96		1.0034	1.0035	+0.2	1.11E+06	1.11	Y	1.15	10.4	5621.634	0.459
123789-HxCDD	38.25		1.0109	1.0111	+0.5	5.72E+05	1.24	Y	1.05	5.63	5621.634	0.477
1234678-HpCDD	40.88		1.0003	1.0004	+0.2	2.77E+07	1.04	Y	1.06	324	2357.524	0.236
OCDD	43.55	E	1.0002	1.0003	+0.3	5.67E+08	0.91	Y	1.13	9,320	3373.901	0.582
2378-TCDF	27.79	E	1.0008	1.0008	0	2.76E+08	0.79	Y	1.08	1,490	3353.045	0.194
12378-PeCDF	32.51		1.0005	1.0005	0	1.22E+07	1.54	Y	1.02	73.1	5966.577	0.371
23478-PeCDF	33.62		1.0005	1.0007	+0.4	8.70E+06	1.51	Y	1.02	54.8	5966.577	0.342
123478-HxCDF	36.84		1.0004	1.0005	+0.2	1.62E+07	1.24	Y	1.27	112	4803.341	0.291
123678-HxCDF	36.98		1.0004	1.0005	+0.2	5.71E+06	1.26	Y	1.15	34.3	4803.341	0.253
234678-HxCDF	37.67		1.0004	1.0004	0	1.34E+06	1.15	Y	1.19	9.86	4803.341	0.369
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4803.341	0.386
1234678-HpCDF	39.95		1.0002	1.0003	+0.2	1.51E+07	1.03	Y	1.37	94	2354.579	0.108
1234789-HpCDF	41.34		1.0003	1.0003	0	1.62E+06	0.94	Y	1.31	17.6	2354.579	0.204
OCDF	43.73		1.0002	1.0003	+0.3	3.10E+07	0.87	Y	1.07	450	5578.672	0.86

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.62		1.0233	1.0235	+0.3	1.61E+07	0.81	Y	1.05	79.7
ES 12378-PeCDD	33.93		1.2121	1.2136	+3.1	1.49E+07	1.58	Y	0.88	87.4
ES 123478-HxCDD	37.83		0.9921	0.9920	-0.2	1.25E+07	1.24	Y	0.97	84.5
ES 123678-HxCDD	37.95		0.9951	0.9951	0	1.38E+07	1.28	Y	0.94	96.4
ES 123789-HxCDD	38.23		1.0025	1.0027	+0.5	1.45E+07	1.28	Y	1.09	87.2
ES 1234678-HpCDD	40.87		1.0709	1.0717	+2.0	1.21E+07	1.02	Y	0.91	86.9
ES OCDD	43.54		1.1403	1.1417	+3.7	1.61E+07	0.90	Y	0.62	84.9
ES 2378-TCDF	27.77		1.0506	1.0512	+1.0	2.56E+07	0.80	Y	1.06	78.7
ES 12378-PeCDF	32.49		1.2281	1.2300	+3.7	2.42E+07	1.57	Y	0.91	86.7
ES 23478-PeCDF	33.60		1.2698	1.2718	+4.0	2.33E+07	1.58	Y	0.88	85.8
ES 123478-HxCDF	36.82		0.9657	0.9657	0	1.71E+07	0.53	Y	1.20	93.6
ES 123678-HxCDF	36.97		0.9695	0.9694	-0.2	2.15E+07	0.54	Y	1.35	105
ES 234678-HxCDF	37.65		0.9874	0.9874	0	1.71E+07	0.52	Y	1.24	90.4
ES 123789-HxCDF	38.59		1.0116	1.0120	+0.9	1.42E+07	0.53	Y	1.16	81.1
ES 1234678-HpCDF	39.94		1.0467	1.0473	+1.4	1.75E+07	0.46	Y	0.97	119
ES 1234789-HpCDF	41.33		1.0830	1.0838	+2.0	1.05E+07	0.47	Y	0.85	81.3
ES OCDF	43.71		1.1451	1.1464	+3.4	1.92E+07	0.91	Y	0.81	78.1

Lab ID: B6234_18872_DF_001 **Acq'd:** 27 Jan 2022 19:29 DTF **Wt/Vol:** 13.40 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-S-36 **UTP:** 28-Jan-2022 09:47:33 DTF **J-level:** 0.373 pg/g **Split:** 1 **Checkcode:** 265-157-LZB

Datafile: 220127C06 **Report:** 28 Jan 2022 09:49 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.96		-	-	-	1.93E+07	0.80	Y	-	-	
JS 1234-TCDF	26.42		-	-	-	3.07E+07	0.80	Y	-	-	
JS 123467-HxCDD	38.13		-	-	-	7.60E+06	1.24	Y	-	-	
CS 37Cl-2378-TCDD	28.64		1.0241	1.0243	+0.3	7.35E+06	n/a	-	1.20	79	
CS 12347-PeCDD	33.43		1.1943	1.1956	+2.6	1.34E+07	1.59	Y	0.75	92	
CS 12346-PeCDF	31.96		1.2083	1.2100	+3.3	2.30E+07	1.59	Y	0.85	88.1	
CS 123469-HxCDF	37.29		0.9778	0.9778	0	1.85E+07	0.53	Y	1.12	109	
CS 1234689-HpCDF	40.34		1.0571	1.0578	+1.7	1.46E+07	0.49	Y	0.89	108	
~~SS 37Cl-2378-TCDD~~	~~28.64~~		~~1.0241~~	~~1.0243~~	~~+0.3~~	~~7.35E+06~~	~~n/a~~		~~1.15~~	~~99.3~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.43~~		~~1.1943~~	~~1.1956~~	~~+2.6~~	~~1.34E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~105~~	CL 28Jan22
~~SS 12346-PeCDF~~	~~31.96~~		~~1.2083~~	~~1.2100~~	~~+3.3~~	~~2.30E+07~~	~~1.59~~	~~Y~~	~~0.94~~	~~101~~	
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9778~~	~~0~~	~~1.85E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~104~~	
~~SS 1234689-HpCDF~~	~~40.34~~		~~1.0571~~	~~1.0578~~	~~+1.7~~	~~1.46E+07~~	~~0.49~~	~~Y~~	~~0.92~~	~~90.9~~	

Totals	Conc	EMPC
Total TCDD	600	605
Total PeCDD	15.3	19.3
Total HxCDD	102	110
Total HpCDD	730	730
Total Tetra-Octa Dioxins	10800	10800
Total TCDF	2,880	2890
Total PeCDF	230	231
Total HxCDF	251	252
Total HpCDF	221	221
Total Tetra-Octa Furans	4,040	4040
Total Tetra-Octa Dioxins & Furans	14800	14800

Lab ID: B6234_18872_DF_001 **Acq'd: 27 Jan 2022 19:29 DTF** **Wt/Vol: 13.40 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012122-S-BN-NC-S-36 **UTP: 28-Jan-2022 09:47:33 DTF** **J-level: 0.373 pg/g** **Split: 1** **Checkcode: 265-157-LZB**

Datafile: 220127C06 **Report: 28 Jan 2022 09:49 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.03		0.8755	0.8745	-1.5	6.00E+05	0.83	Y	1.18	4.69	4646.585	0.4
1379-TCDD	25.38		0.8876	0.8868	-1.2	1.47E+05	0.81	Y	1.18	1.15	4646.585	0.4
1369-TCDD	NotFnd		0.9023						1.18		4646.585	0.4
1469-TCDD	26.57	EMPC	0.9291	0.9284	-1.1	3.47E+05	0.95	N	1.18	2.71	4646.585	0.4
1247/1246/1248/1249-TCDD	26.80		0.9373	0.9365	-1.3	1.00E+05	0.70	Y	1.18	0.783	4646.585	0.4
1378-TCDD	27.00		0.9440	0.9434	-1.0	2.00E+05	0.78	Y	1.18	1.57	4646.585	0.4
1268-TCDD	NotFnd		0.9506						1.18		4646.585	0.4
1478-TCDD	27.45	EMPC	0.9591	0.9590	-0.2	1.57E+05	1.01	N	1.18	1.23	4646.585	0.4
1279-TCDD	NotFnd		0.9649						1.18		4646.585	0.4
1234/1269-TCDD	27.96	EMPC	0.9771	0.9768	-0.5	6.63E+04	1.07	N	1.18	0.518	4646.585	0.4
1236-TCDD	NotFnd		0.9820						1.18		4646.585	0.4
1237/1238-TCDD	28.35		0.9908	0.9906	-0.3	9.82E+05	0.75	Y	1.18	7.67	4646.585	0.4
1239-TCDD	NotFnd		0.9954						1.18		4646.585	0.4
2378-TCDD	**28.64**		**1.0008**	1.0008	**0**	6.84E+07	0.80	Y	**1.18**	**535**	**4646.585**	**0.4**
1278-TCDD	28.96		1.0121	1.0120	-0.2	6.38E+06	0.81	Y	1.18	49.9	4646.585	0.4
1267-TCDD	NotFnd		1.0167						1.18		4646.585	0.4
1289-TCDD	NotFnd		1.0341						1.18		4646.585	0.4
12479/12468-PeCDD	31.45		0.9273	0.9269	-0.8	3.57E+05	1.42	Y	1.04	3.46	3694.751	0.352
12469-PeCDD	31.98		0.9430	0.9425	-1.0	2.87E+05	1.66	Y	1.04	2.78	3694.751	0.352
12368-PeCDD	32.53	J EMPC	0.9592	0.9588	-0.8	1.75E+05	1.00	N	1.04	1.69	3694.751	0.352
12478-PeCDD	32.72		0.9647	0.9643	-0.8	2.19E+05	1.59	Y	1.04	2.13	3694.751	0.352
12379-PeCDD	32.82	J	0.9676	0.9673	-0.6	1.03E+05	1.34	Y	1.04	0.999	3694.751	0.352
12369/12467/12489-PeCDD	33.08	J EMPC	0.9752	0.9750	-0.4	1.91E+05	1.93	N	1.04	1.85	3694.751	0.352
12346/12347-PeCDD	NotFnd		0.9860						1.04		3694.751	0.352
12378-PeCDD	33.95		**1.0006**	**1.0005**	**-0.2**	**6.13E+05**	**1.61**	**Y**	**1.04**	**5.94**	**3694.751**	**0.352**
12367-PeCDD	34.03	J EMPC	1.0034	1.0027	-1.4	4.43E+04	3.11	N	1.04	0.43	3694.751	0.352
12389-PeCDD	NotFnd		1.0134						1.04		3694.751	0.352
124679/124689-HxCDD	36.10		0.9545	0.9543	-0.4	4.44E+06	1.30	Y	1.10	44.5	5621.634	0.486
123468-HxCDD	36.75	EMPC	0.9715	0.9715	0	3.43E+05	1.43	N	1.10	3.44	5621.634	0.486
123679/123689-HxCDD	37.05		0.9793	0.9795	+0.4	3.82E+06	1.26	Y	1.10	38.3	5621.634	0.486
123469-HxCDD	37.18		0.9829	0.9830	+0.2	3.34E+05	1.37	Y	1.10	3.35	5621.634	0.486
123478-HxCDD	37.84	EMPC	**1.0004**	**1.0004**	**0**	**2.79E+05**	**1.44**	**N**	1.09	**3.06**	**5621.634**	**0.528**
123678-HxCDD	37.96		**1.0034**	**1.0035**	**+0.2**	**1.11E+06**	**1.11**	**Y**	1.15	**10.4**	**5621.634**	**0.459**
123467-HxCDD	38.14	J EMPC	1.0082	1.0082	0	1.28E+05	1.71	N	1.10	1.28	5621.634	0.486
123789-HxCDD	38.25		**1.0109**	**1.0111**	**+0.5**	**5.72E+05**	**1.24**	**Y**	1.05	**5.63**	**5621.634**	**0.477**

Lab ID: B6234_18872_DF_001 | Acq'd: 27 Jan 2022 19:29 DTF | Wt/Vol: 13.40 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-S-36 | UTP: 28-Jan-2022 09:47:33 DTF | J-level: 0.373 pg/g | Split: 1 | Checkcode: 265-157-LZB

Datafile: 220127C06 | Report: 28 Jan 2022 09:49 TF | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

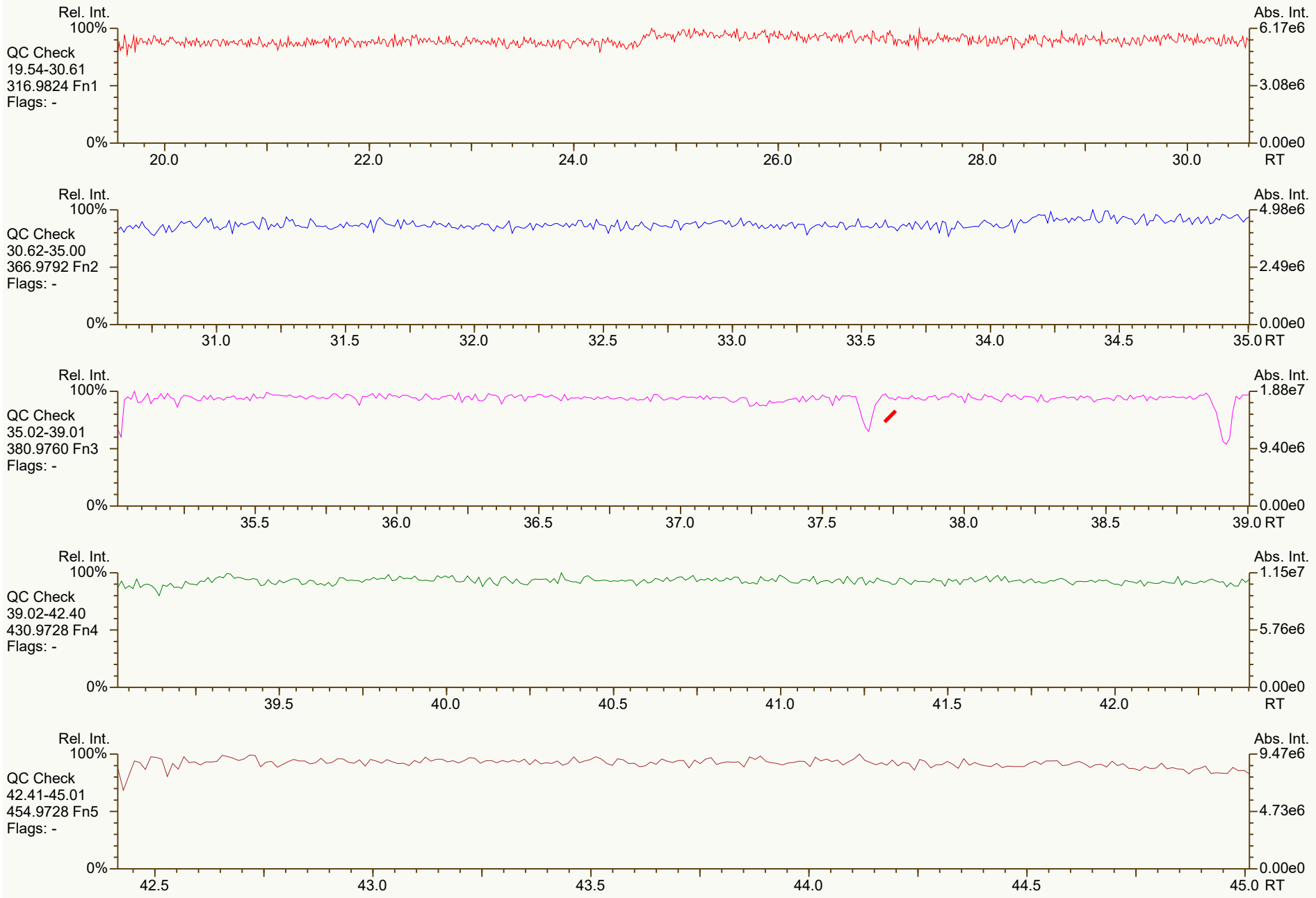
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.20		0.9838	0.9837	-0.2	3.48E+07	1.08	Y	1.06	407	2357.524	0.236
1234678-HpCDD	**40.88**		**1.0003**	**1.0004**	**+0.2**	**2.77E+07**	**1.04**	**Y**	**1.06**	**324**	**2357.524**	**0.236**
OCDD	**43.55**	**E**	**1.0002**	**1.0003**	**+0.3**	**5.67E+08**	**0.91**	**Y**	**1.13**	**9,320**	**3373.901**	**0.582**
OCDD-a	43.55	E	1.0002	1.0003	+0.3	3.49E+07	2.45	Y	0.07	8,990	4441.522	12
1368-TCDF	22.95	EMPC	0.8282	0.8264	-2.5	1.23E+05	0.62	N	1.08	0.667	3353.045	0.194
1468-TCDF	23.52		0.8485	0.8471	-2.0	5.84E+05	0.78	Y	1.08	3.16	3353.045	0.194
2468-TCDF	24.15		0.8709	0.8695	-2.0	9.78E+05	0.75	Y	1.08	5.29	3353.045	0.194
1346/1246-TCDF	NotFnd		0.8829						1.08		3353.045	0.194
1347/1378/1247-TCDF	24.66		0.8884	0.8880	-0.6	3.55E+06	0.80	Y	1.08	19.2	3353.045	0.194
1348-TCDF	NotFnd		0.8980						1.08		3353.045	0.194
1248/1367/1379-TCDF	25.00		0.9026	0.9003	-3.4	1.41E+07	0.80	Y	1.08	76	3353.045	0.194
1268-TCDF	25.41		0.9158	0.9152	-0.9	4.73E+06	0.77	Y	1.08	25.6	3353.045	0.194
1467-TCDF	25.55		0.9206	0.9199	-1.1	7.30E+05	0.78	Y	1.08	3.95	3353.045	0.194
1478-TCDF	25.71		0.9266	0.9260	-0.9	1.15E+07	0.78	Y	1.08	62	3353.045	0.194
1369/1237-TCDF	26.09		0.9397	0.9396	-0.2	3.10E+06	0.85	Y	1.08	16.8	3353.045	0.194
2467-TCDF	26.21	EMPC	0.9440	0.9438	-0.3	2.89E+05	0.97	N	1.08	1.56	3353.045	0.194
2368-TCDF	26.41		0.9497	0.9509	+1.9	2.18E+07	0.81	Y	1.08	118	3353.045	0.194
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		3353.045	0.194
1278-TCDF	26.90		0.9690	0.9687	-0.5	1.21E+08	0.81	Y	1.08	651	3353.045	0.194
1349-TCDF	NotFnd		0.9730						1.08		3353.045	0.194
1267-TCDF	27.17		0.9787	0.9784	-0.5	7.02E+06	0.77	Y	1.08	37.9	3353.045	0.194
2346/1249-TCDF	27.36		0.9850	0.9851	+0.2	9.23E+05	0.71	Y	1.08	4.99	3353.045	0.194
2347/1279-TCDF	27.56		0.9929	0.9925	-0.7	3.21E+06	0.81	Y	1.08	17.4	3353.045	0.194
2348-TCDF	27.67		0.9970	0.9964	-1.0	1.74E+07	0.79	Y	1.08	94	3353.045	0.194
2378-TCDF	**27.79**	E	**1.0008**	**1.0008**	**0**	**2.76E+08**	**0.79**	**Y**	**1.08**	**1,490**	**3353.045**	**0.194**
2367/3467-TCDF	28.14		1.0136	1.0133	-0.5	2.26E+07	0.79	Y	1.08	122	3353.045	0.194
1269-TCDF	28.39		1.0221	1.0223	+0.3	4.37E+06	0.78	Y	1.08	23.6	3353.045	0.194
1239-TCDF	NotFnd		1.0319						1.08		3353.045	0.194
1289-TCDF	29.79		1.0740	1.0726	-2.5	2.08E+07	0.83	Y	1.08	112	3353.045	0.194
13468/12468-PeCDF	29.72		0.9145	0.9145	0	2.59E+06	1.52	Y	1.02	15.9	3435.54	0.205
13678/13467/12467-PeCDF	31.26		0.9619	0.9619	0	5.06E+05	1.57	Y	1.02	3.11	5966.577	0.357
12368/13478/12478-PeCDF	31.42		0.9665	0.9669	+0.8	6.76E+06	1.54	Y	1.02	41.6	5966.577	0.357
14678-PeCDF	NotFnd		0.9695						1.02		5966.577	0.357
13479-PeCDF	NotFnd		0.9724						1.02		5966.577	0.357
13469/12479-PeCDF	31.82	J EMPC	0.9801	0.9791	-1.9	1.03E+05	1.79	N	1.02	0.636	5966.577	0.357
12346-PeCDF	31.98	J	0.9842	0.9843	+0.2	1.03E+05	1.51	Y	1.02	0.634	5966.577	0.357

Lab ID: B6234_18872_DF_001 **Acq'd: 27 Jan 2022 19:29 DTF** **Wt/Vol: 13.40 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012122-S-BN-NC-S-36 **UTP: 28-Jan-2022 09:47:33 DTF** **J-level: 0.373 pg/g** **Split: 1** **Checkcode: 265-157-LZB**

Datafile: 220127C06 **Report: 28 Jan 2022 09:49 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.06		0.9868	0.9867	-0.2	4.70E+05	1.51	Y	1.02	2.89	5966.577	0.357
12347-PeCDF	32.14	J	0.9895	0.9891	-0.8	2.87E+05	1.59	Y	1.02	1.77	5966.577	0.357
12348-PeCDF	32.30		0.9941	0.9939	-0.4	1.15E+06	1.70	Y	1.02	7.09	5966.577	0.357
12378-PeCDF	**32.51**		**1.0005**	**1.0005**	**0**	**1.22E+07**	**1.54**	**Y**	**1.02**	**73.1**	**5966.577**	**0.371**
12678/12367-PeCDF	32.80		1.0090	1.0094	+0.8	4.11E+06	1.60	Y	1.02	25.3	5966.577	0.357
12379-PeCDF	NotFnd		1.0142						1.02		5966.577	0.357
12679-PeCDF	NotFnd		0.9931						1.02		5966.577	0.357
23467/12369-PeCDF	33.48	J	0.9966	0.9964	-0.4	2.31E+05	1.55	Y	1.02	1.42	5966.577	0.357
23478-PeCDF	**33.62**		**1.0005**	**1.0007**	**+0.4**	**8.70E+06**	**1.51**	**Y**	**1.02**	**54.8**	**5966.577**	**0.342**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5966.577	0.357
12349-PeCDF	NotFnd		1.0101						1.02		5966.577	0.357
12389-PeCDF	34.68		1.0322	1.0323	+0.2	4.74E+05	1.45	Y	1.02	2.91	5966.577	0.357
123468-HxCDF	35.46		0.9627	0.9629	+0.4	1.25E+06	1.09	Y	1.19	8.94	4803.341	0.317
124678/134678-HxCDF	35.65		0.9684	0.9682	-0.4	5.54E+06	1.23	Y	1.19	39.7	4803.341	0.317
134679-HxCDF	NotFnd		0.9747						1.19		4803.341	0.317
124679-HxCDF	36.08	J EMPC	0.9802	0.9797	-1.1	1.89E+05	1.46	N	1.19	1.35	4803.341	0.317
124689-HxCDF	36.30		0.9858	0.9858	0	4.72E+06	1.24	Y	1.19	33.8	4803.341	0.317
123467-HxCDF	36.71	J	0.9972	0.9970	-0.4	2.52E+05	1.23	Y	1.19	1.8	4803.341	0.317
123478-HxCDF	**36.84**		**1.0004**	**1.0005**	**+0.2**	**1.62E+07**	**1.24**	**Y**	**1.27**	**112**	**4803.341**	**0.291**
123678-HxCDF	**36.98**		**1.0004**	**1.0005**	**+0.2**	**5.71E+06**	**1.26**	**Y**	**1.15**	**34.3**	**4803.341**	**0.253**
123479-HxCDF	NotFnd		1.0051						1.19		4803.341	0.317
123469-HxCDF	NotFnd		1.0091						1.19		4803.341	0.317
123679-HxCDF	NotFnd		0.9943						1.19		4803.341	0.317
234678-HxCDF	**37.67**		**1.0004**	**1.0004**	**0**	**1.34E+06**	**1.15**	**Y**	**1.19**	**9.86**	**4803.341**	**0.369**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4803.341	0.317
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4803.341**	**0.386**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.63		1.0007	1.0010	+0.7	1.48E+06	1.25	Y	1.19	10.6	4803.341	0.317
1234678-HpCDF	**39.95**		**1.0002**	**1.0003**	**+0.2**	**1.51E+07**	**1.03**	**Y**	**1.37**	**94**	**2354.579**	**0.108**
1234679-HpCDF	40.20		1.0067	1.0065	-0.5	4.63E+05	1.13	Y	1.34	3.69	2354.579	0.144
1234689-HpCDF	40.35		1.0101	1.0103	+0.5	1.33E+07	0.97	Y	1.34	106	2354.579	0.144
1234789-HpCDF	**41.34**		**1.0003**	**1.0003**	**0**	**1.62E+06**	**0.94**	**Y**	**1.31**	**17.6**	**2354.579**	**0.204**
OCDF	**43.73**		**1.0002**	**1.0003**	**+0.3**	**3.10E+07**	**0.87**	**Y**	**1.07**	**450**	**5578.672**	**0.86**
OCDF-a	43.72		1.0002	1.0001	-0.3	1.78E+06	2.44	Y	0.07	417	4569.771	11.4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19.54-30.61
316.9824 Fn1
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3.08e6
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20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.98e6
2.49e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.88e7
9.40e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.15e7
5.76e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
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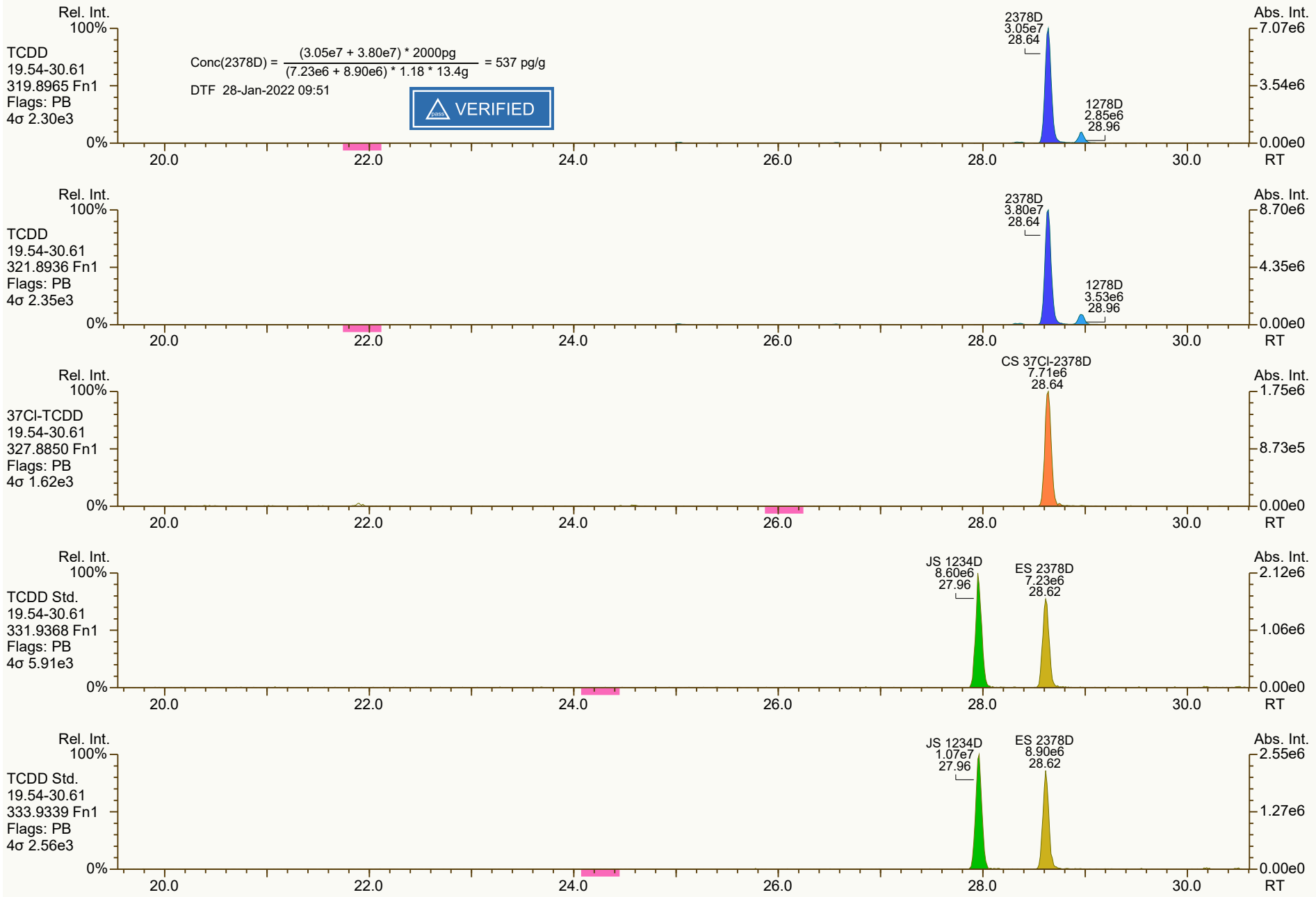
4.73e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PB
4σ 2.30e3
0%
Conc(2378D) = (3.05e7 + 3.80e7) * 2000pg / (7.23e6 + 8.90e6) * 1.18 * 13.4g = 537 pg/g
DTF 28-Jan-2022 09:51
VERIFIED
2378D
3.05e7
28.64
1278D
2.85e6
28.96
Abs. Int.
7.07e6
3.54e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PB
4σ 2.35e3
0%
2378D
3.80e7
28.64
1278D
3.53e6
28.96
Abs. Int.
8.70e6
4.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.62e3
0%
CS 37Cl-2378D
7.71e6
28.64
Abs. Int.
1.75e6
8.73e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 5.91e3
0%
JS 1234D
8.60e6
27.96
ES 2378D
7.23e6
28.62
Abs. Int.
2.12e6
1.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 2.56e3
0%
JS 1234D
1.07e7
27.96
ES 2378D
8.90e6
28.62
Abs. Int.
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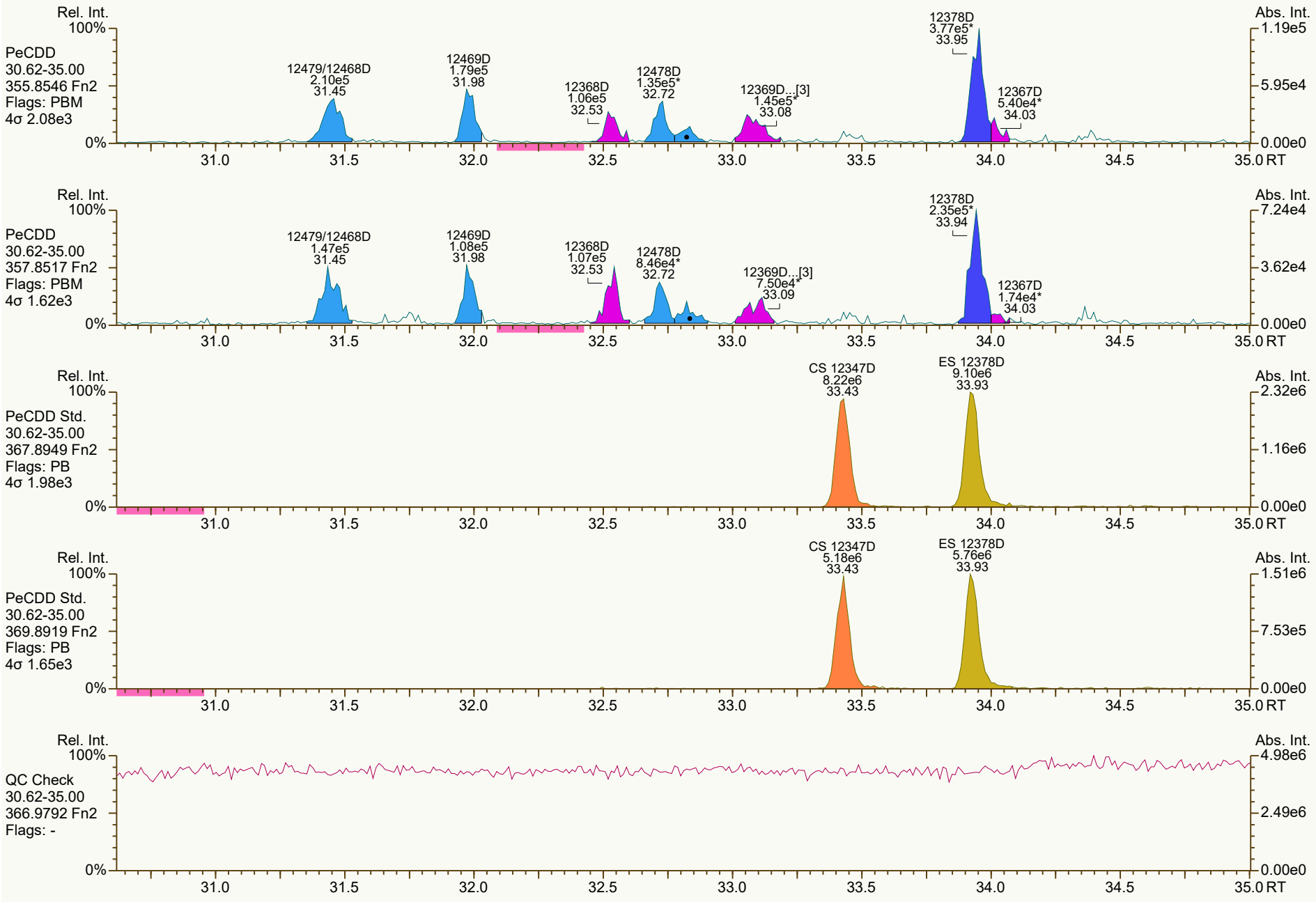
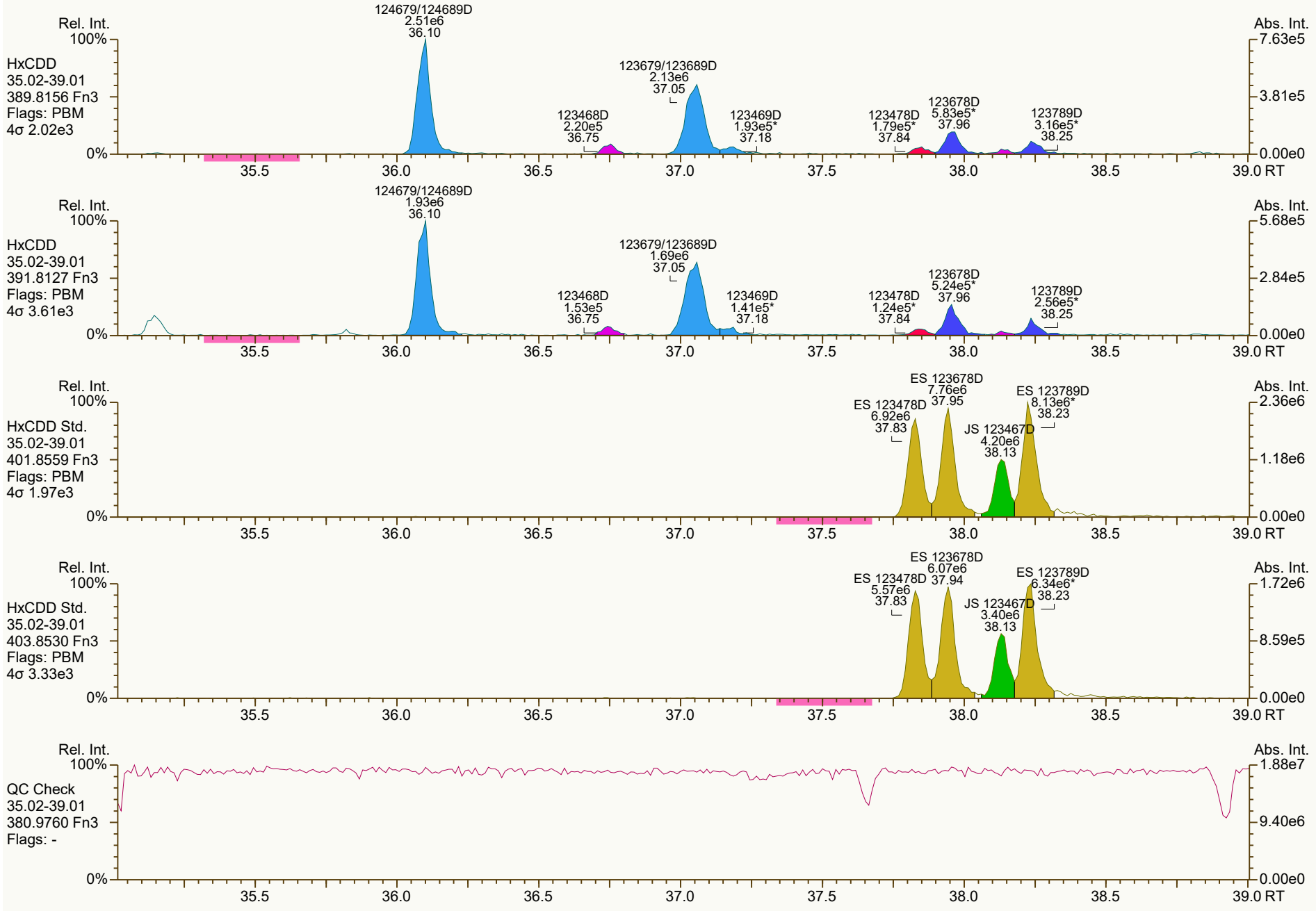
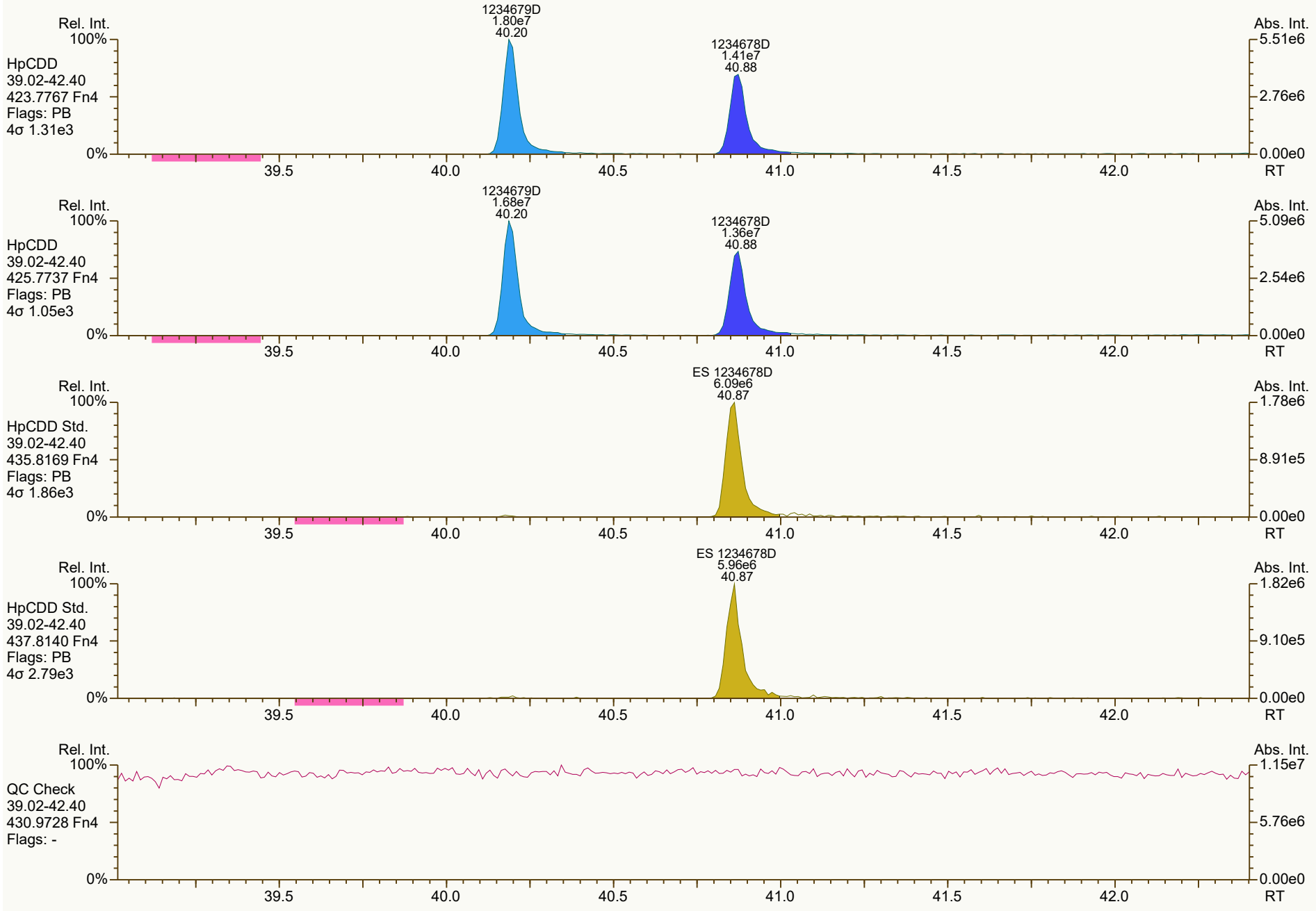
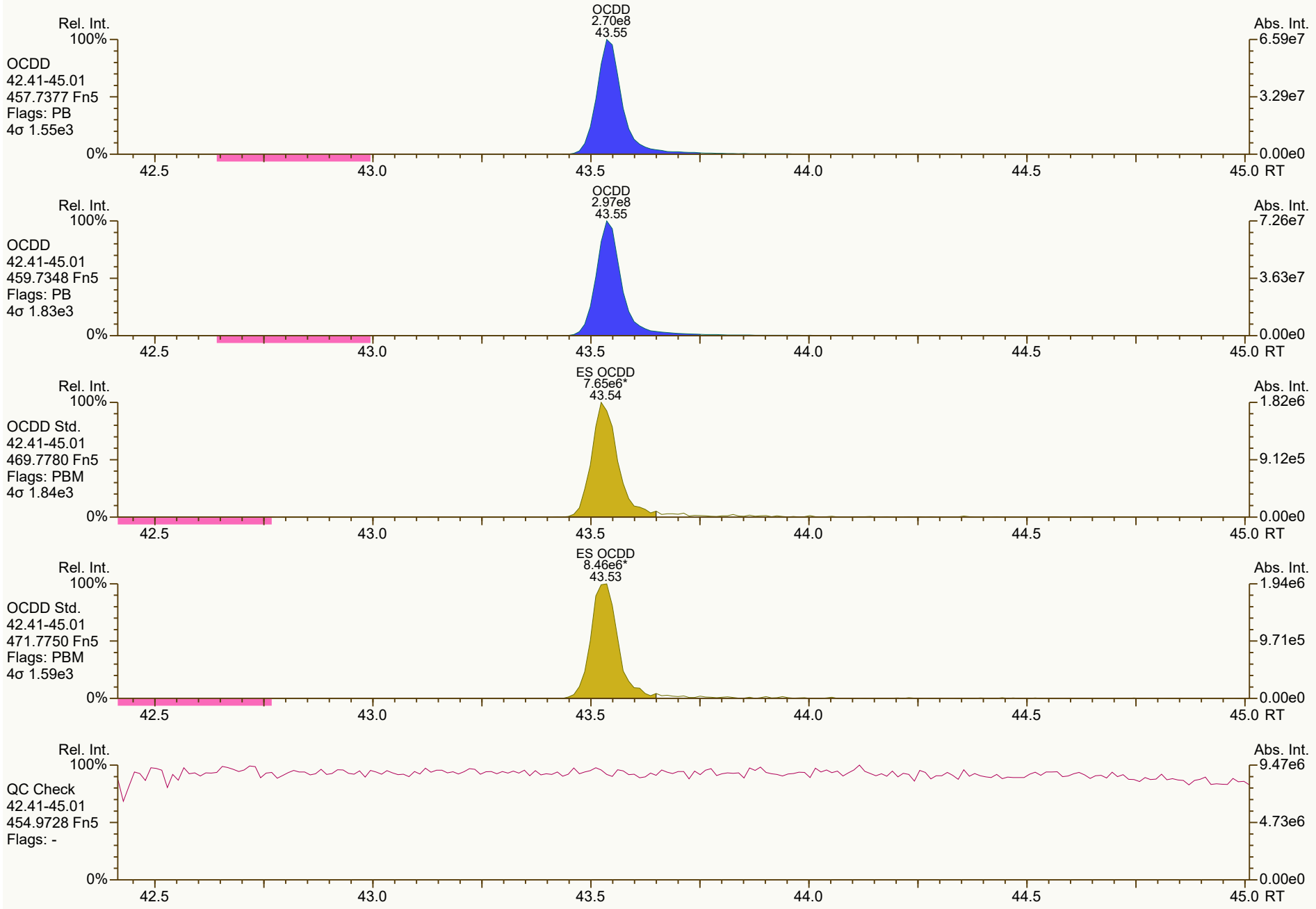
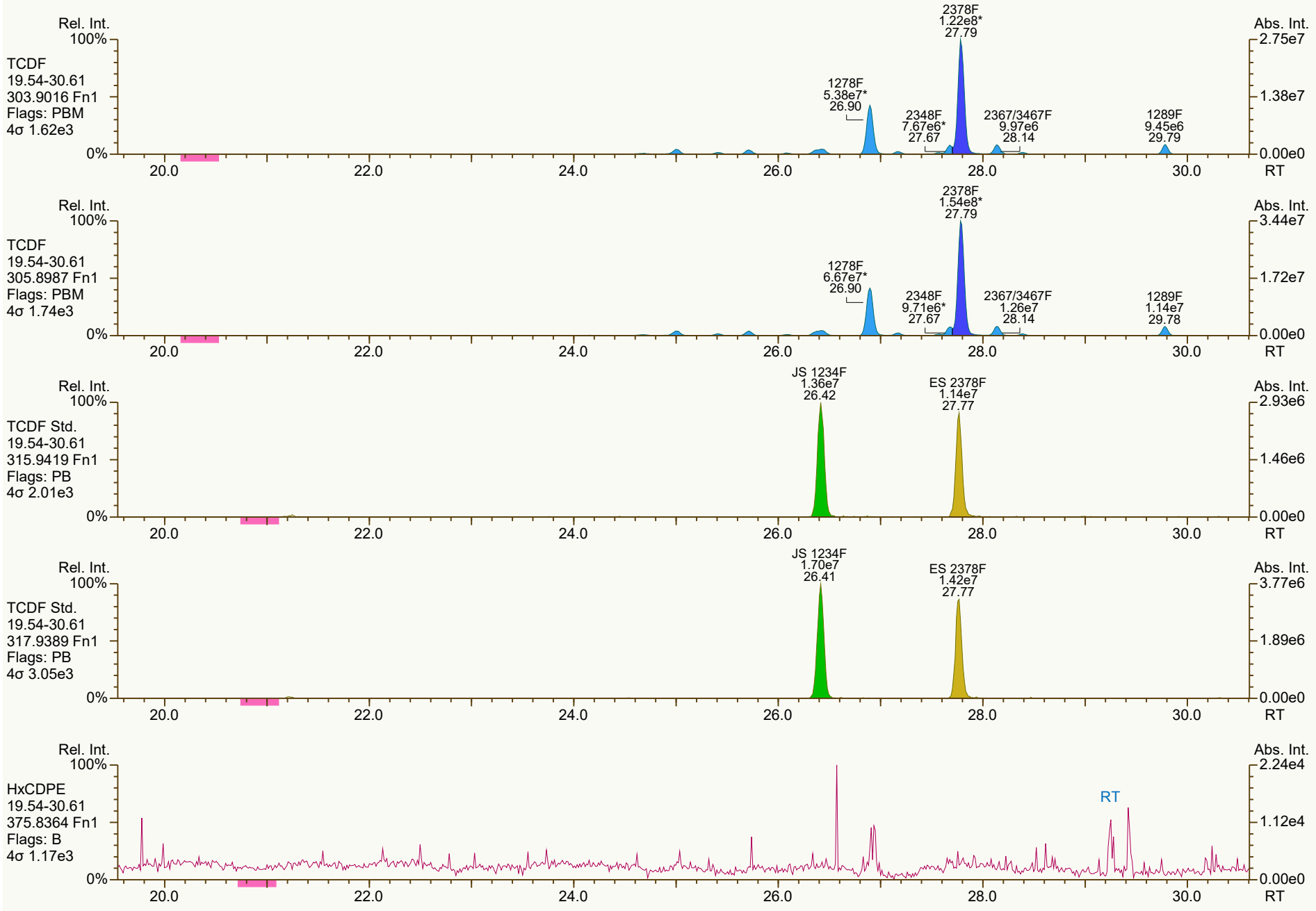
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PBM
4σ 2.08e3
12479/12468D
2.10e5
31.45
12469D
1.79e5
31.98
12368D
1.06e5
32.53
12478D
1.35e5*
32.72
12369D...[3]
1.45e5*
33.08
12378D
3.77e5*
33.95
12367D
5.40e4*
34.03
Abs. Int.
1.19e5
5.95e4
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PBM
4σ 1.62e3
12479/12468D
1.47e5
31.45
12469D
1.08e5
31.98
12368D
1.07e5
32.53
12478D
8.46e4*
32.72
12369D...[3]
7.50e4*
33.09
12378D
2.35e5*
33.94
12367D
1.74e4*
34.03
Abs. Int.
7.24e4
3.62e4
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 1.98e3
CS 12347D
8.22e6
33.43
ES 12378D
9.10e6
33.93
Abs. Int.
2.32e6
1.16e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
4σ 1.65e3
CS 12347D
5.18e6
33.43
ES 12378D
5.76e6
33.93
Abs. Int.
1.51e6
7.53e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
Abs. Int.
4.98e6
2.49e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 2.02e3
124679/124689D
2.51e6
36.10
123468D
2.20e5
36.75
123679/123689D
2.13e6
37.05
123469D
1.93e5*
37.18
123478D
1.79e5*
37.84
123678D
5.83e5*
37.96
123789D
3.16e5*
38.25
Abs. Int.
7.63e5
3.81e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 3.61e3
124679/124689D
1.93e6
36.10
123468D
1.53e5
36.75
123679/123689D
1.69e6
37.05
123469D
1.41e5*
37.18
123478D
1.24e5*
37.84
123678D
5.24e5*
37.96
123789D
2.56e5*
38.25
Abs. Int.
5.68e5
2.84e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 1.97e3
ES 123678D
7.76e6
37.95
ES 123478D
6.92e6
37.83
JS 123467D
4.20e6
38.13
ES 123789D
8.13e6*
38.23
Abs. Int.
2.36e6
1.18e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 3.33e3
ES 123678D
6.07e6
37.94
ES 123478D
5.57e6
37.83
JS 123467D
3.40e6
38.13
ES 123789D
6.34e6*
38.23
Abs. Int.
1.72e6
8.59e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
Abs. Int.
1.88e7
9.40e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 1.31e3
1234679D
1.80e7
40.20
1234678D
1.41e7
40.88
Abs. Int.
5.51e6
2.76e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 1.05e3
1234679D
1.68e7
40.20
1234678D
1.36e7
40.88
Abs. Int.
5.09e6
2.54e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 1.86e3
ES 1234678D
6.09e6
40.87
Abs. Int.
1.78e6
8.91e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 2.79e3
ES 1234678D
5.96e6
40.87
Abs. Int.
1.82e6
9.10e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.15e7
5.76e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 1.55e3
0%
OCDD
2.70e8
43.55
Abs. Int.
6.59e7
3.29e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 1.83e3
0%
OCDD
2.97e8
43.55
Abs. Int.
7.26e7
3.63e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.84e3
0%
ES OCDD
7.65e6*
43.54
Abs. Int.
1.82e6
9.12e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.59e3
0%
ES OCDD
8.46e6*
43.53
Abs. Int.
1.94e6
9.71e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.47e6
4.73e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 1.62e3
0%
2378F
1.22e8*
27.79
1278F
5.38e7*
26.90
2348F
7.67e6*
27.67
2367/3467F
9.97e6
28.14
1289F
9.45e6
29.79
Abs. Int.
2.75e7
1.38e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 1.74e3
0%
2378F
1.54e8*
27.79
1278F
6.67e7*
26.90
2348F
9.71e6*
27.67
2367/3467F
1.26e7
28.14
1289F
1.14e7
29.78
Abs. Int.
3.44e7
1.72e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 2.01e3
0%
JS 1234F
1.36e7
26.42
ES 2378F
1.14e7
27.77
Abs. Int.
2.93e6
1.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 3.05e3
0%
JS 1234F
1.70e7
26.41
ES 2378F
1.42e7
27.77
Abs. Int.
3.77e6
1.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.17e3
0%
RT
Abs. Int.
2.24e4
1.12e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: B6234_18872_DF_001 | Sample ID: 11215131-012122-S-BN-NC-S-36 | Acq: 27-Jan-2022 19:29:22

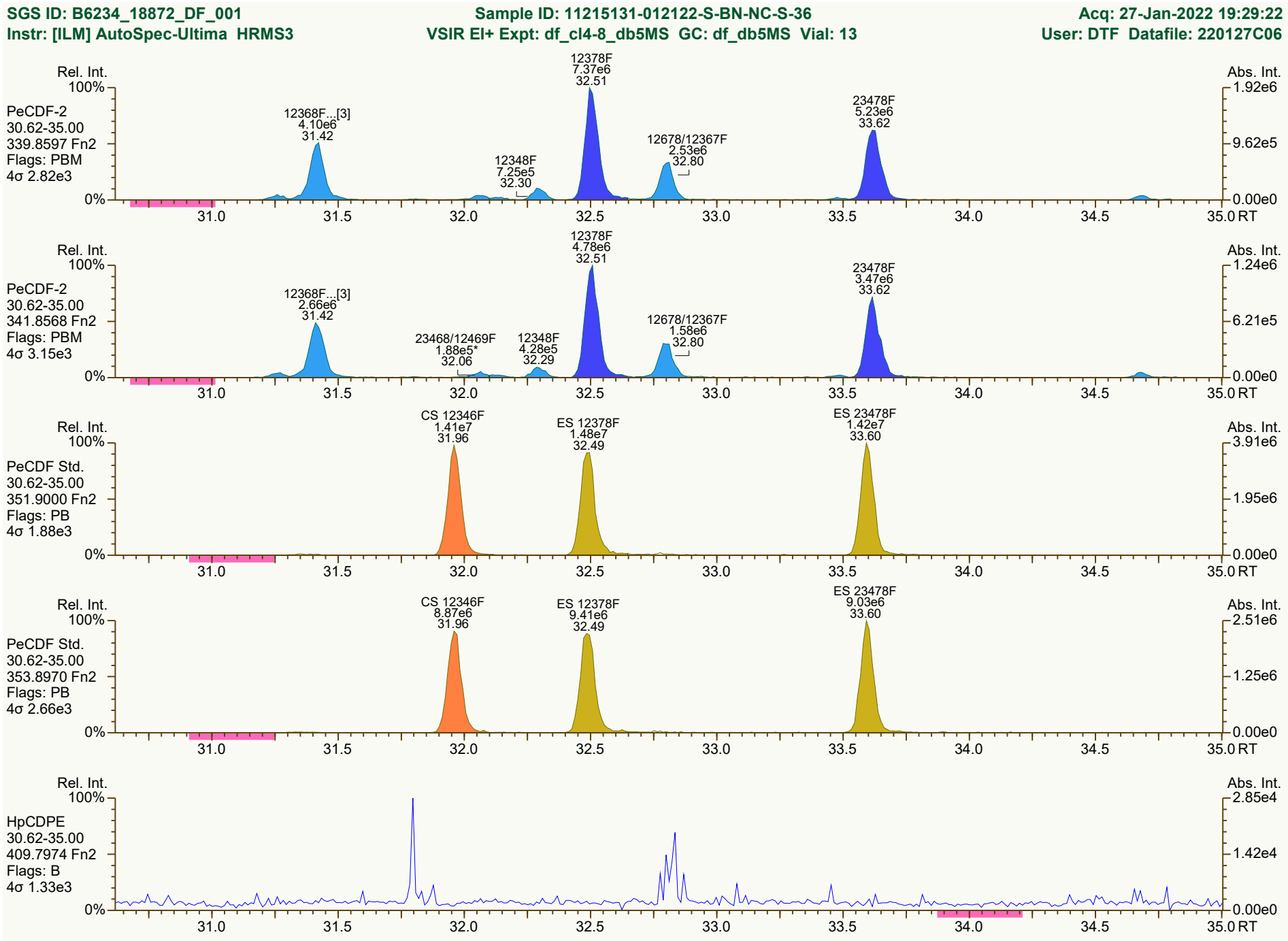
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 13 | User: DTF Datafile: 220127C06



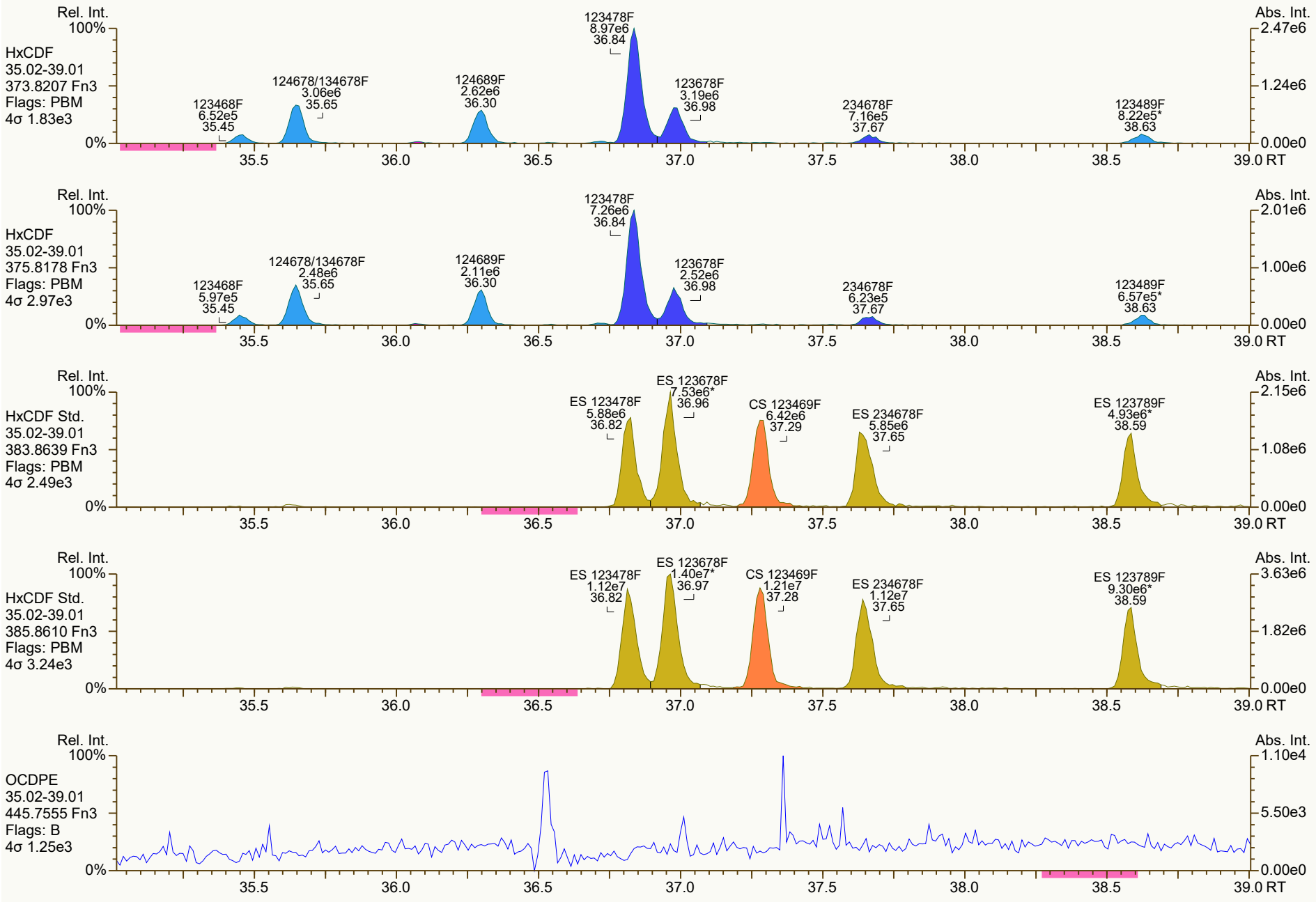
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_001.utp_res, saved 28-Jan-2022 09:51 (DTF) | *Peak annotation: Areas, Centroids*

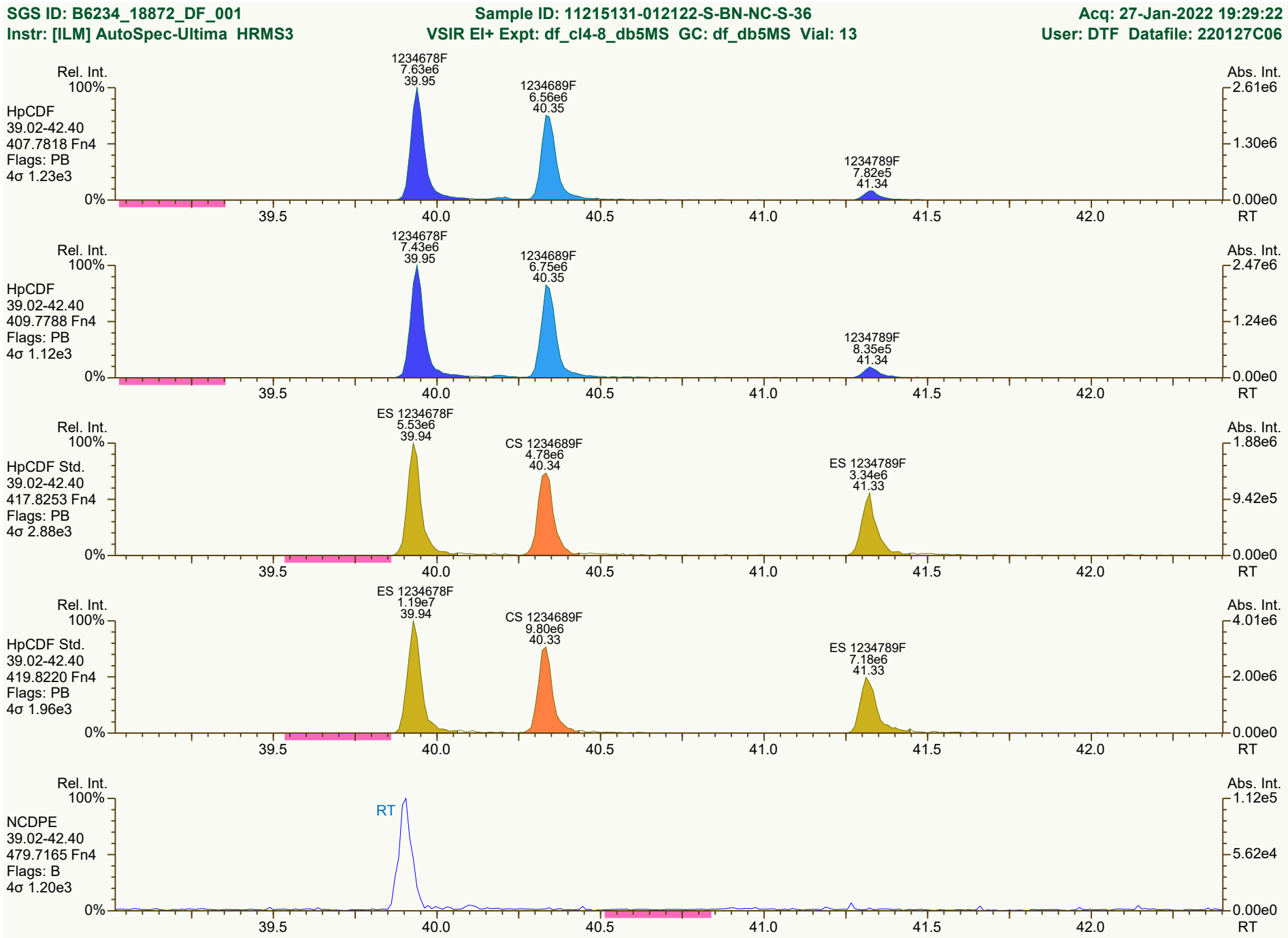
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0021 scc: 265-157 | *PKD: 28-Jan-2022 08:33 Printed: 28-Jan-2022 09:55 Page 8 of 12*

SGS ID: B6234_18872_DF_001 | Sample ID: 11215131-012122-S-BN-NC-S-36 | Acq: 27-Jan-2022 19:29:22
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 13 | User: DTF Datafile: 220127C06



Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_001.utp_res, saved 28-Jan-2022 09:51 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7698, 0351, 2599 scc: 265-157 | Revised: 28-Jan-2022 08:36 (DTF) Printed: 28-Jan-2022 09:55 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 1.83e3
123468F 6.52e5 35.45
124678/134678F 3.06e6 35.65
124689F 2.62e6 36.30
123478F 8.97e6 36.84
123678F 3.19e6 36.98
234678F 7.16e5 37.67
123489F 8.22e5* 38.63
Abs. Int.
2.47e6
1.24e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 2.97e3
123468F 5.97e5 35.45
124678/134678F 2.48e6 35.65
124689F 2.11e6 36.30
123478F 7.26e6 36.84
123678F 2.52e6 36.98
234678F 6.23e5 37.67
123489F 6.57e5* 38.63
2.01e6
1.00e6
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 2.49e3
ES 123478F 5.88e6 36.82
ES 123678F 7.53e6* 36.96
CS 123469F 6.42e6 37.29
ES 234678F 5.85e6 37.65
ES 123789F 4.93e6* 38.59
2.15e6
1.08e6
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 3.24e3
ES 123478F 1.12e7 36.82
ES 123678F 1.40e7* 36.97
CS 123469F 1.21e7 37.28
ES 234678F 1.12e7 37.65
ES 123789F 9.30e6* 38.59
3.63e6
1.82e6
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.25e3
1.10e4
5.50e3



Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_001.utp_res, saved 28-Jan-2022 09:51 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5857, 6381, 4177 scc: 265-157
PKD: 28-Jan-2022 08:33 Printed: 28-Jan-2022 09:55 Page 11 of 12


OCDF
1.44e7*
43.73
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 2.92e3
0%
Abs. Int.
3.24e6
1.62e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.65e7*
43.73
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 2.66e3
3.60e6
1.80e6
ES OCDF
9.12e6*
43.71
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 1.98e3
2.15e6
1.07e6
ES OCDF
1.00e7*
43.71
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 1.64e3
2.29e6
1.14e6
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.43e3
8.49e3
4.24e3

Lab ID: B6234_18872_DF_002 **Acq'd:** 27 Jan 2022 20:15 DTF **Wt/Vol:** 13.53 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-S-34 **UTP:** 28-Jan-2022 09:47:34 DTF **J-level:** 0.37 pg/g **Split:** 1 **Checkcode:** 247-428-JSM

Datafile: 220127C07 **Report:** 28 Jan 2022 09:49 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.64		1.0008	1.0009	+0.2	3.55E+05	0.80	Y	1.18	2.61	10144.157	0.837
12378-PeCDD	33.94	J EMPC	1.0006	1.0000	-1.2	5.83E+04	0.96	N	1.04	0.514	3435.579	0.285
123478-HxCDD	37.84	J	1.0004	1.0003	-0.2	1.68E+05	1.39	Y	1.09	1.7	4795.656	0.409
123678-HxCDD	37.96	EMPC	1.0034	1.0034	0	4.46E+05	1.61	N	1.15	3.81	4795.656	0.378
123789-HxCDD	38.24		1.0109	1.0109	0	3.53E+05	1.17	Y	1.05	3.19	4795.656	0.439
1234678-HpCDD	40.88		1.0003	1.0003	0	1.42E+07	1.05	Y	1.06	160	4831.243	0.504
OCDD	43.55		1.0002	1.0002	0	1.79E+08	0.90	Y	1.13	2,930	5323.94	0.977
2378-TCDF	27.79		1.0008	1.0008	0	1.88E+06	0.78	Y	1.08	9.63	8997.277	0.523
12378-PeCDF	32.51	J	1.0005	1.0004	-0.2	1.90E+05	1.44	Y	1.02	1.07	6930.258	0.38
23478-PeCDF	33.63	J EMPC	1.0005	1.0008	+0.6	2.38E+05	1.29	N	1.02	1.42	6930.258	0.369
123478-HxCDF	36.84		1.0004	1.0004	0	5.70E+05	1.23	Y	1.27	3.76	4703.048	0.29
123678-HxCDF	36.98		1.0004	1.0003	-0.2	4.18E+05	1.21	Y	1.15	2.29	4703.048	0.227
234678-HxCDF	37.67	J EMPC	1.0004	1.0003	-0.2	2.11E+05	1.60	N	1.19	1.45	4703.048	0.311
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4703.048	0.364
1234678-HpCDF	39.95		1.0002	1.0002	0	4.16E+06	1.00	Y	1.37	24.1	3473.445	0.153
1234789-HpCDF	41.35		1.0003	1.0004	+0.2	3.84E+05	1.15	Y	1.31	4.07	3473.445	0.291
OCDF	43.73		1.0002	1.0002	0	6.97E+06	0.84	Y	1.07	102	3215.998	0.496

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.62	1.0233	1.0237	+0.7	1.70E+07	0.82	Y	1.05	81.8
ES 12378-PeCDD	33.94	1.2121	1.2137	+3.3	1.62E+07	1.63	Y	0.88	92.6
ES 123478-HxCDD	37.83	0.9921	0.9920	-0.2	1.34E+07	1.34	Y	0.97	86.3
ES 123678-HxCDD	37.95	0.9951	0.9951	0	1.51E+07	1.30	Y	0.94	100
ES 123789-HxCDD	38.24	1.0025	1.0027	+0.5	1.56E+07	1.22	Y	1.09	89.9
ES 1234678-HpCDD	40.87	1.0709	1.0717	+2.0	1.24E+07	1.06	Y	0.91	85.1
ES OCDD	43.54	1.1403	1.1416	+3.4	1.60E+07	0.97	Y	0.62	80.5
ES 2378-TCDF	27.77	1.0506	1.0513	+1.2	2.68E+07	0.80	Y	1.06	78.1
ES 12378-PeCDF	32.49	1.2281	1.2301	+3.9	2.57E+07	1.52	Y	0.91	87.2
ES 23478-PeCDF	33.60	1.2698	1.2719	+4.2	2.43E+07	1.55	Y	0.88	85
ES 123478-HxCDF	36.83	0.9657	0.9657	0	1.76E+07	0.53	Y	1.20	92.4
ES 123678-HxCDF	36.97	0.9695	0.9695	0	2.34E+07	0.54	Y	1.35	109
ES 234678-HxCDF	37.66	0.9874	0.9874	0	1.81E+07	0.54	Y	1.24	91.4
ES 123789-HxCDF	38.60	1.0116	1.0121	+1.2	1.53E+07	0.50	Y	1.16	83.3
ES 1234678-HpCDF	39.94	1.0467	1.0473	+1.4	1.86E+07	0.45	Y	0.97	121
ES 1234789-HpCDF	41.33	1.0830	1.0837	+1.7	1.07E+07	0.45	Y	0.85	78.6
ES OCDF	43.72	1.1451	1.1463	+3.1	1.88E+07	0.91	Y	0.81	73

Lab ID: B6234_18872_DF_002 **Acq'd:** 27 Jan 2022 20:15 DTF **Wt/Vol:** 13.53 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-S-34 **UTP:** 28-Jan-2022 09:47:34 DTF **J-level:** 0.37 pg/g **Split:** 1 **Checkcode:** 247-428-JSM

Datafile: 220127C07 **Report:** 28 Jan 2022 09:49 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.96		-	-	-	1.99E+07	0.80	Y	-	-	
JS 1234-TCDF	26.42		-	-	-	3.24E+07	0.81	Y	-	-	
JS 123467-HxCDD	38.14		-	-	-	7.96E+06	1.28	Y	-	-	
CS 37Cl-2378-TCDD	28.64		1.0241	1.0244	+0.5	7.58E+06	n/a	-	1.20	79.5	
CS 12347-PeCDD	33.43		1.1943	1.1957	+2.8	1.45E+07	1.62	Y	0.75	97	
CS 12346-PeCDF	31.96		1.2083	1.2100	+3.3	2.53E+07	1.60	Y	0.85	91.7	
CS 123469-HxCDF	37.29		0.9778	0.9777	-0.2	2.02E+07	0.54	Y	1.12	113	
CS 1234689-HpCDF	40.34		1.0571	1.0578	+1.7	1.66E+07	0.45	Y	0.89	117	
~~SS 37Cl-2378-TCDD~~	~~28.64~~		~~1.0241~~	~~1.0244~~	~~+0.5~~	~~7.58E+06~~	~~n/a~~		~~1.15~~	~~97.3~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.43~~		~~1.1943~~	~~1.1957~~	~~+2.8~~	~~1.45E+07~~	~~1.62~~	~~Y~~	~~0.86~~	~~105~~	CL 28Jan22
~~SS 12346-PeCDF~~	~~31.96~~		~~1.2083~~	~~1.2100~~	~~+3.3~~	~~2.53E+07~~	~~1.60~~	~~Y~~	~~0.94~~	~~105~~	
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9777~~	~~-0.2~~	~~2.02E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~104~~	
~~SS 1234689-HpCDF~~	~~40.34~~		~~1.0571~~	~~1.0578~~	~~+1.7~~	~~1.66E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~97.1~~	

Totals	Conc	EMPC
Total TCDD	4.49	5.23
Total PeCDD	0.684	7.46
Total HxCDD	67.7	72.5
Total HpCDD	574	574
Total Tetra-Octa Dioxins	3580	3590
Total TCDF	19.1	22.1
Total PeCDF	7.82	14.1
Total HxCDF	32.7	34.2
Total HpCDF	75.5	75.5
Total Tetra-Octa Furans	237	248
Total Tetra-Octa Dioxins & Furans	3820	3840

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.779	0.80
Response	3.60E+05	3.55E+05

Lab ID: B6234_18872_DF_002 **Acq'd: 27 Jan 2022 20:15 DTF** **Wt/Vol: 13.53 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012222-S-BN-NC-S-34 **UTP: 28-Jan-2022 09:47:34 DTF** **J-level: 0.37 pg/g** **Split: 1** **Checkcode: 247-428-JSM**

Datafile: 220127C07 **Report: 28 Jan 2022 09:49 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.02	EMPC	0.8755	0.8743	-1.8	9.96E+04	0.90	N	1.18	0.732	10144.157	0.837
1379-TCDD	NotFnd		0.8876						1.18		10144.157	0.837
1369-TCDD	NotFnd		0.9023						1.18		10144.157	0.837
1469-TCDD	26.57		0.9291	0.9284	-1.1	2.56E+05	0.81	Y	1.18	1.88	10144.157	0.837
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		10144.157	0.837
1378-TCDD	NotFnd		0.9440						1.18		10144.157	0.837
1268-TCDD	NotFnd		0.9506						1.18		10144.157	0.837
1478-TCDD	NotFnd		0.9591						1.18		10144.157	0.837
1279-TCDD	NotFnd		0.9649						1.18		10144.157	0.837
1234/1269-TCDD	NotFnd		0.9771						1.18		10144.157	0.837
1236-TCDD	NotFnd		0.9820						1.18		10144.157	0.837
1237/1238-TCDD	NotFnd		0.9908						1.18		10144.157	0.837
1239-TCDD	NotFnd		0.9954						1.18		10144.157	0.837
2378-TCDD	**28.64**		**1.0008**	1.0009	**+0.2**	3.55E+05	0.80	Y	**1.18**	**2.61**	**10144.157**	**0.837**
1278-TCDD	NotFnd		1.0121						1.18		10144.157	0.837
1267-TCDD	NotFnd		1.0167						1.18		10144.157	0.837
1289-TCDD	NotFnd		1.0341						1.18		10144.157	0.837
12479/12468-PeCDD	31.45	EMPC	0.9273	0.9266	-1.3	2.28E+05	2.01	N	1.04	2.02	3435.579	0.285
12469-PeCDD	31.98	EMPC	0.9430	0.9424	-1.2	2.16E+05	1.12	N	1.04	1.9	3435.579	0.285
12368-PeCDD	32.53	J EMPC	0.9592	0.9585	-1.4	5.13E+04	1.05	N	1.04	0.453	3435.579	0.285
12478-PeCDD	32.73	J	0.9647	0.9644	-0.6	7.75E+04	1.36	Y	1.04	0.684	3435.579	0.285
12379-PeCDD	32.83	J EMPC	0.9676	0.9674	-0.4	8.29E+04	1.85	N	1.04	0.731	3435.579	0.285
12369/12467/12489-PeCDD	33.09	J EMPC	0.9752	0.9752	0	1.32E+05	1.20	N	1.04	1.16	3435.579	0.285
12346/12347-PeCDD	NotFnd		0.9860						1.04		3435.579	0.285
12378-PeCDD	33.94	J EMPC	**1.0006**	**1.0000**	**-1.2**	**5.83E+04**	**0.96**	**N**	**1.04**	**0.514**	**3435.579**	**0.285**
12367-PeCDD	NotFnd		1.0034						1.04		3435.579	0.285
12389-PeCDD	NotFnd		1.0134						1.04		3435.579	0.285
124679/124689-HxCDD	36.10		0.9545	0.9542	-0.6	4.01E+06	1.30	Y	1.10	36.9	4795.656	0.408
123468-HxCDD	36.75		0.9715	0.9715	0	3.06E+05	1.23	Y	1.10	2.81	4795.656	0.408
123679/123689-HxCDD	37.05		0.9793	0.9794	+0.2	2.08E+06	1.37	Y	1.10	19.2	4795.656	0.408
123469-HxCDD	37.18		0.9829	0.9829	0	4.31E+05	1.21	Y	1.10	3.96	4795.656	0.408
123478-HxCDD	37.84	J	**1.0004**	**1.0003**	**-0.2**	**1.68E+05**	**1.39**	**Y**	1.09	**1.7**	**4795.656**	**0.409**
123678-HxCDD	37.96	EMPC	**1.0034**	**1.0034**	**0**	**4.46E+05**	**1.61**	**N**	1.15	**3.81**	**4795.656**	**0.378**
123467-HxCDD	38.14	J EMPC	1.0082	1.0082	0	1.04E+05	1.03	N	1.10	0.96	4795.656	0.408
123789-HxCDD	38.24		**1.0109**	**1.0109**	**0**	**3.53E+05**	**1.17**	**Y**	1.05	**3.19**	**4795.656**	**0.439**

Lab ID: B6234_18872_DF_002 **Acq'd:** 27 Jan 2022 20:15 DTF **Wt/Vol:** 13.53 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-S-34 **UTP:** 28-Jan-2022 09:47:34 DTF **J-level:** 0.37 pg/g **Split:** 1 **Checkcode:** 247-428-JSM

Datafile: 220127C07 **Report:** 28 Jan 2022 09:49 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

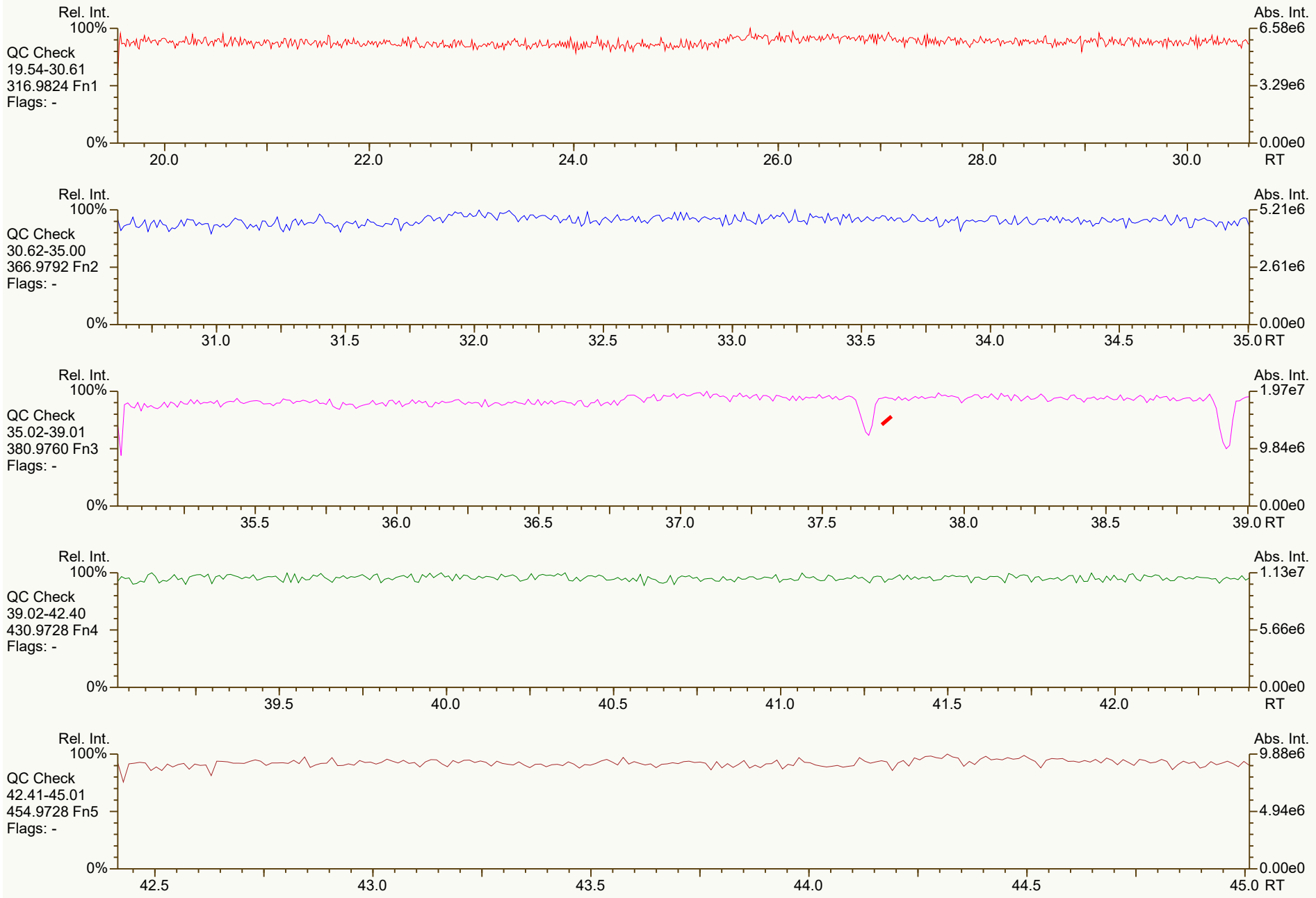
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.20		0.9838	0.9837	-0.2	3.67E+07	1.06	Y	1.06	414	4831.243	0.504
1234678-HpCDD	**40.88**		**1.0003**	**1.0003**	**0**	**1.42E+07**	**1.05**	**Y**	**1.06**	**160**	**4831.243**	**0.504**
OCDD	**43.55**		**1.0002**	**1.0002**	**0**	**1.79E+08**	**0.90**	**Y**	**1.13**	**2,930**	**5323.94**	**0.977**
OCDD-a	43.54		1.0002	1.0002	0	1.12E+07	2.49	Y	0.07	2,880	3594.485	10.3
1368-TCDF	NotFnd		0.8282						1.08		8997.277	0.523
1468-TCDF	NotFnd		0.8485						1.08		8997.277	0.523
2468-TCDF	24.15		0.8709	0.8696	-1.9	3.79E+05	0.85	Y	1.08	1.93	8997.277	0.523
1346/1246-TCDF	NotFnd		0.8829						1.08		8997.277	0.523
1347/1378/1247-TCDF	24.63	EMPC	0.8884	0.8869	-2.2	3.18E+05	0.99	N	1.08	1.62	8997.277	0.523
1348-TCDF	NotFnd		0.8980						1.08		8997.277	0.523
1248/1367/1379-TCDF	25.01	EMPC	0.9026	0.9007	-2.9	2.74E+05	0.92	N	1.08	1.4	8997.277	0.523
1268-TCDF	NotFnd		0.9158						1.08		8997.277	0.523
1467-TCDF	NotFnd		0.9206						1.08		8997.277	0.523
1478-TCDF	NotFnd		0.9266						1.08		8997.277	0.523
1369/1237-TCDF	NotFnd		0.9397						1.08		8997.277	0.523
2467-TCDF	NotFnd		0.9440						1.08		8997.277	0.523
2368-TCDF	26.40		0.9497	0.9506	+1.4	4.45E+05	0.73	Y	1.08	2.27	8997.277	0.523
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		8997.277	0.523
1278-TCDF	26.90		0.9690	0.9687	-0.5	4.88E+05	0.86	Y	1.08	2.49	8997.277	0.523
1349-TCDF	NotFnd		0.9730						1.08		8997.277	0.523
1267-TCDF	27.17		0.9787	0.9783	-0.7	1.22E+05	0.87	Y	1.08	0.624	8997.277	0.523
2346/1249-TCDF	NotFnd		0.9850						1.08		8997.277	0.523
2347/1279-TCDF	NotFnd		0.9929						1.08		8997.277	0.523
2348-TCDF	NotFnd		0.9970						1.08		8997.277	0.523
2378-TCDF	**27.79**		**1.0008**	**1.0008**	**0**	**1.88E+06**	**0.78**	**Y**	**1.08**	**9.63**	**8997.277**	**0.523**
2367/3467-TCDF	28.14		1.0136	1.0132	-0.7	4.25E+05	0.78	Y	1.08	2.17	8997.277	0.523
1269-TCDF	NotFnd		1.0221						1.08		8997.277	0.523
1239-TCDF	NotFnd		1.0319						1.08		8997.277	0.523
1289-TCDF	NotFnd		1.0740						1.08		8997.277	0.523
13468/12468-PeCDF	29.71	EMPC	0.9145	0.9145	0	6.28E+05	1.92	N	1.02	3.63	3364.12	0.182
13678/13467/12467-PeCDF	31.25	J EMPC	0.9619	0.9618	-0.2	1.56E+05	2.16	N	1.02	0.899	6930.258	0.375
12368/13478/12478-PeCDF	31.42		0.9665	0.9668	+0.6	7.99E+05	1.62	Y	1.02	4.61	6930.258	0.375
14678-PeCDF	NotFnd		0.9695						1.02		6930.258	0.375
13479-PeCDF	NotFnd		0.9724						1.02		6930.258	0.375
13469/12479-PeCDF	NotFnd		0.9801						1.02		6930.258	0.375
12346-PeCDF	NotFnd		0.9842						1.02		6930.258	0.375

Lab ID: B6234_18872_DF_002 **Acq'd: 27 Jan 2022 20:15 DTF** **Wt/Vol: 13.53 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012222-S-BN-NC-S-34 **UTP: 28-Jan-2022 09:47:34 DTF** **J-level: 0.37 pg/g** **Split: 1** **Checkcode: 247-428-JSM**

Datafile: 220127C07 **Report: 28 Jan 2022 09:49 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.08	J	0.9868	0.9872	+0.8	2.08E+05	1.70	Y	1.02	1.2	6930.258	0.375
12347-PeCDF	NotFnd		0.9895						1.02		6930.258	0.375
12348-PeCDF	32.29	J EMPC	0.9941	0.9938	-0.6	6.56E+04	1.12	N	1.02	0.379	6930.258	0.375
12378-PeCDF	**32.51**	J	**1.0005**	**1.0004**	**-0.2**	**1.90E+05**	**1.44**	**Y**	**1.02**	**1.07**	**6930.258**	**0.38**
12678/12367-PeCDF	32.79	J	1.0090	1.0092	+0.4	1.62E+05	1.72	Y	1.02	0.936	6930.258	0.375
12379-PeCDF	NotFnd		1.0142						1.02		6930.258	0.375
12679-PeCDF	NotFnd		0.9931						1.02		6930.258	0.375
23467/12369-PeCDF	NotFnd		0.9966						1.02		6930.258	0.375
23478-PeCDF	**33.63**	J EMPC	**1.0005**	**1.0008**	**+0.6**	**2.38E+05**	**1.29**	**N**	**1.02**	**1.42**	**6930.258**	**0.369**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6930.258	0.375
12349-PeCDF	NotFnd		1.0101						1.02		6930.258	0.375
12389-PeCDF	NotFnd		1.0322						1.02		6930.258	0.375
123468-HxCDF	35.45		0.9627	0.9628	+0.2	5.10E+05	1.22	Y	1.19	3.39	4703.048	0.29
124678/134678-HxCDF	35.65		0.9684	0.9681	-0.6	1.77E+06	1.20	Y	1.19	11.8	4703.048	0.29
134679-HxCDF	NotFnd		0.9747						1.19		4703.048	0.29
124679-HxCDF	NotFnd		0.9802						1.19		4703.048	0.29
124689-HxCDF	36.30		0.9858	0.9858	0	1.49E+06	1.28	Y	1.19	9.95	4703.048	0.29
123467-HxCDF	36.72	J	0.9972	0.9972	0	1.13E+05	1.31	Y	1.19	0.754	4703.048	0.29
123478-HxCDF	**36.84**		**1.0004**	**1.0004**	**0**	**5.70E+05**	**1.23**	**Y**	**1.27**	**3.76**	**4703.048**	**0.29**
123678-HxCDF	**36.98**		**1.0004**	**1.0003**	**-0.2**	**4.18E+05**	**1.21**	**Y**	**1.15**	**2.29**	**4703.048**	**0.227**
123479-HxCDF	NotFnd		1.0051						1.19		4703.048	0.29
123469-HxCDF	NotFnd		1.0091						1.19		4703.048	0.29
123679-HxCDF	NotFnd		0.9943						1.19		4703.048	0.29
234678-HxCDF	**37.67**	J EMPC	**1.0004**	**1.0003**	**-0.2**	**2.11E+05**	**1.60**	**N**	**1.19**	**1.45**	**4703.048**	**0.311**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4703.048	0.29
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4703.048**	**0.364**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.62	J	1.0007	1.0007	0	1.21E+05	1.31	Y	1.19	0.802	4703.048	0.29
1234678-HpCDF	**39.95**		**1.0002**	**1.0002**	**0**	**4.16E+06**	**1.00**	**Y**	**1.37**	**24.1**	**3473.445**	**0.153**
1234679-HpCDF	NotFnd		1.0067						1.34		3473.445	0.203
1234689-HpCDF	40.35		1.0101	1.0103	+0.5	6.27E+06	1.04	Y	1.34	47.4	3473.445	0.203
1234789-HpCDF	**41.35**		**1.0003**	**1.0004**	**+0.2**	**3.84E+05**	**1.15**	**Y**	**1.31**	**4.07**	**3473.445**	**0.291**
OCDF	**43.73**		**1.0002**	**1.0002**	**0**	**6.97E+06**	**0.84**	**Y**	**1.07**	**102**	**3215.998**	**0.496**
OCDF-a	43.72		1.0002	1.0001	-0.3	3.28E+05	2.58	Y	0.07	77.9	3219.205	8.01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316.9824 Fn1
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24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
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2.61e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.97e7
9.84e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.13e7
5.66e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
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0.00e0
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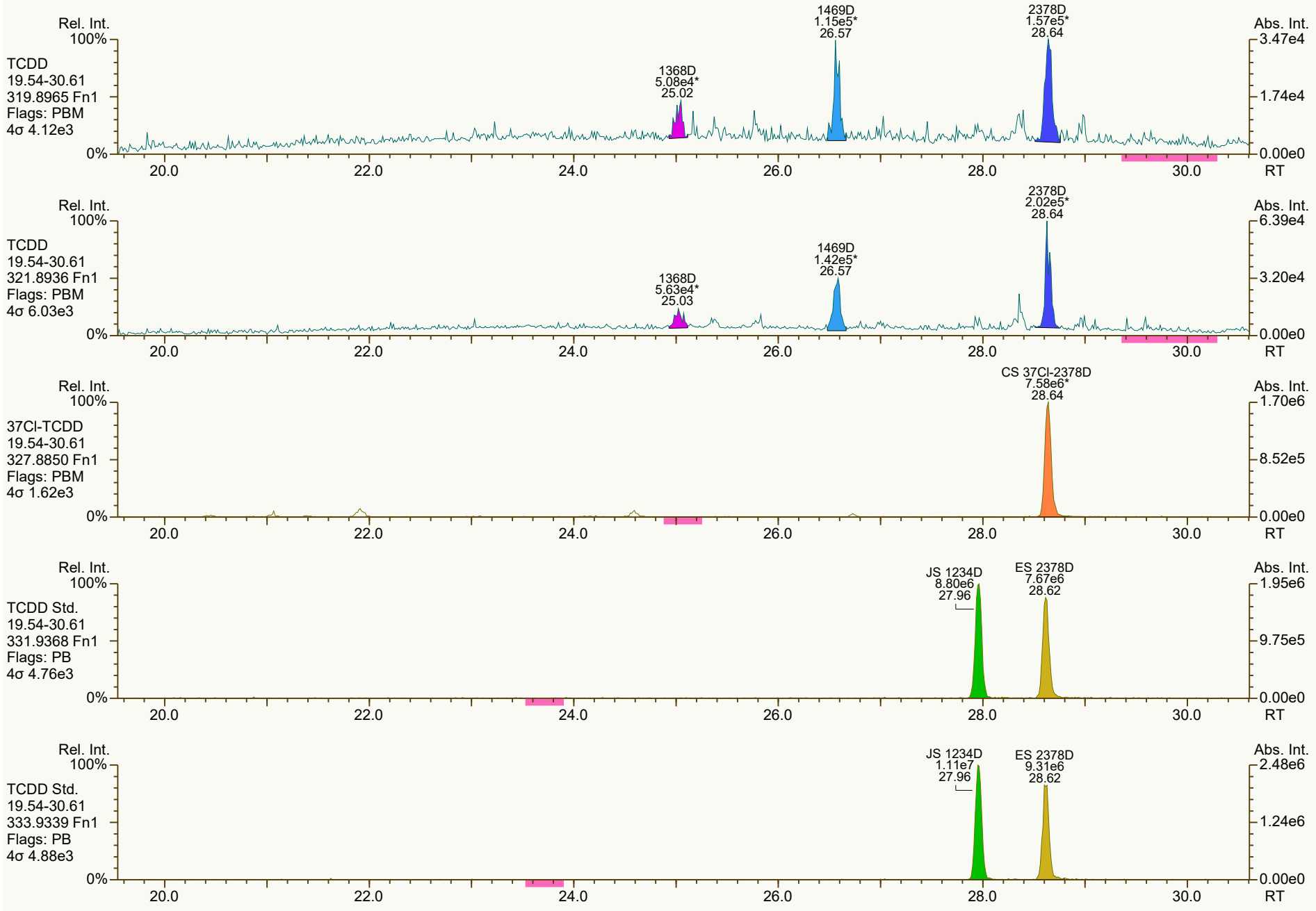
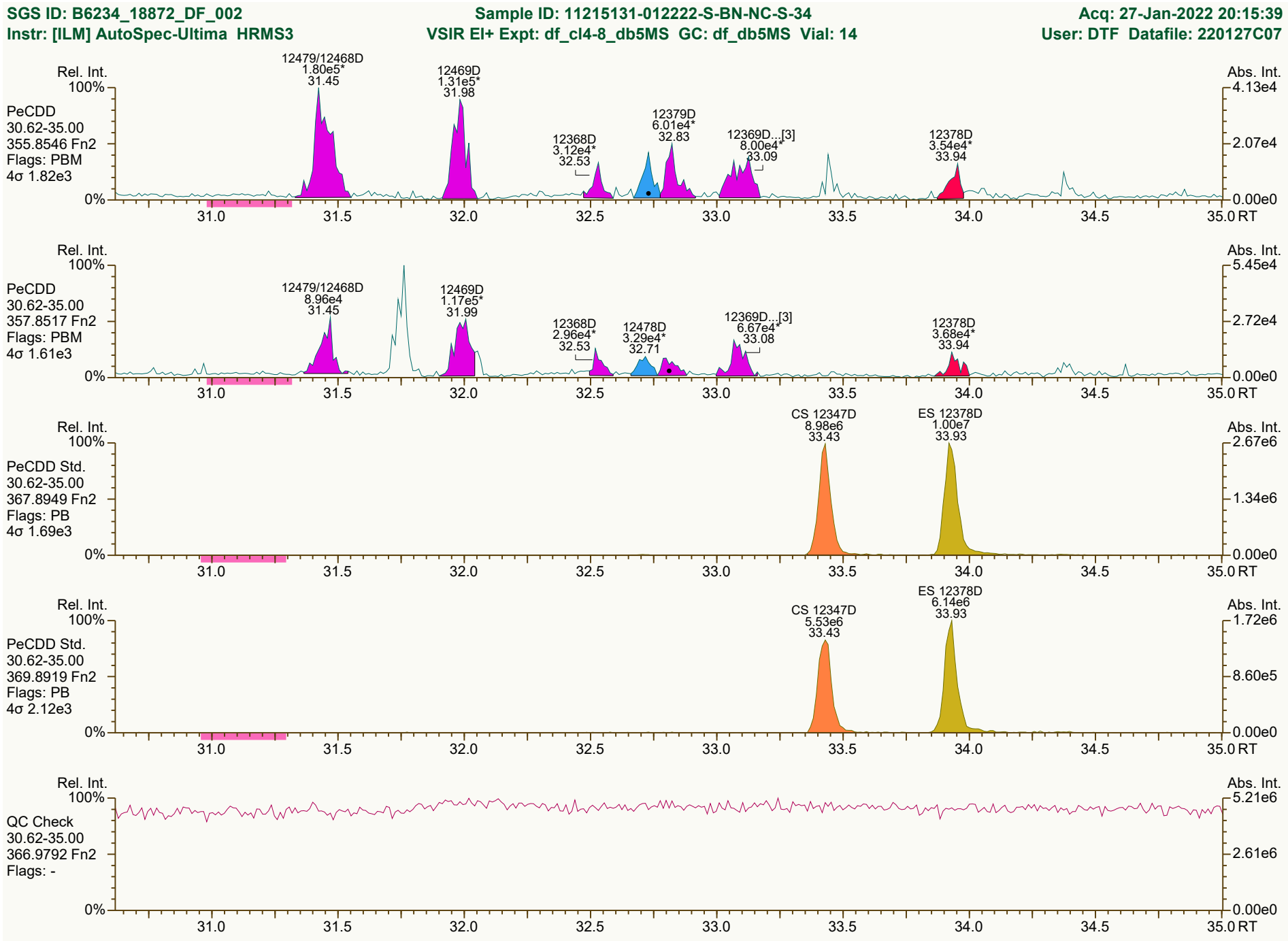
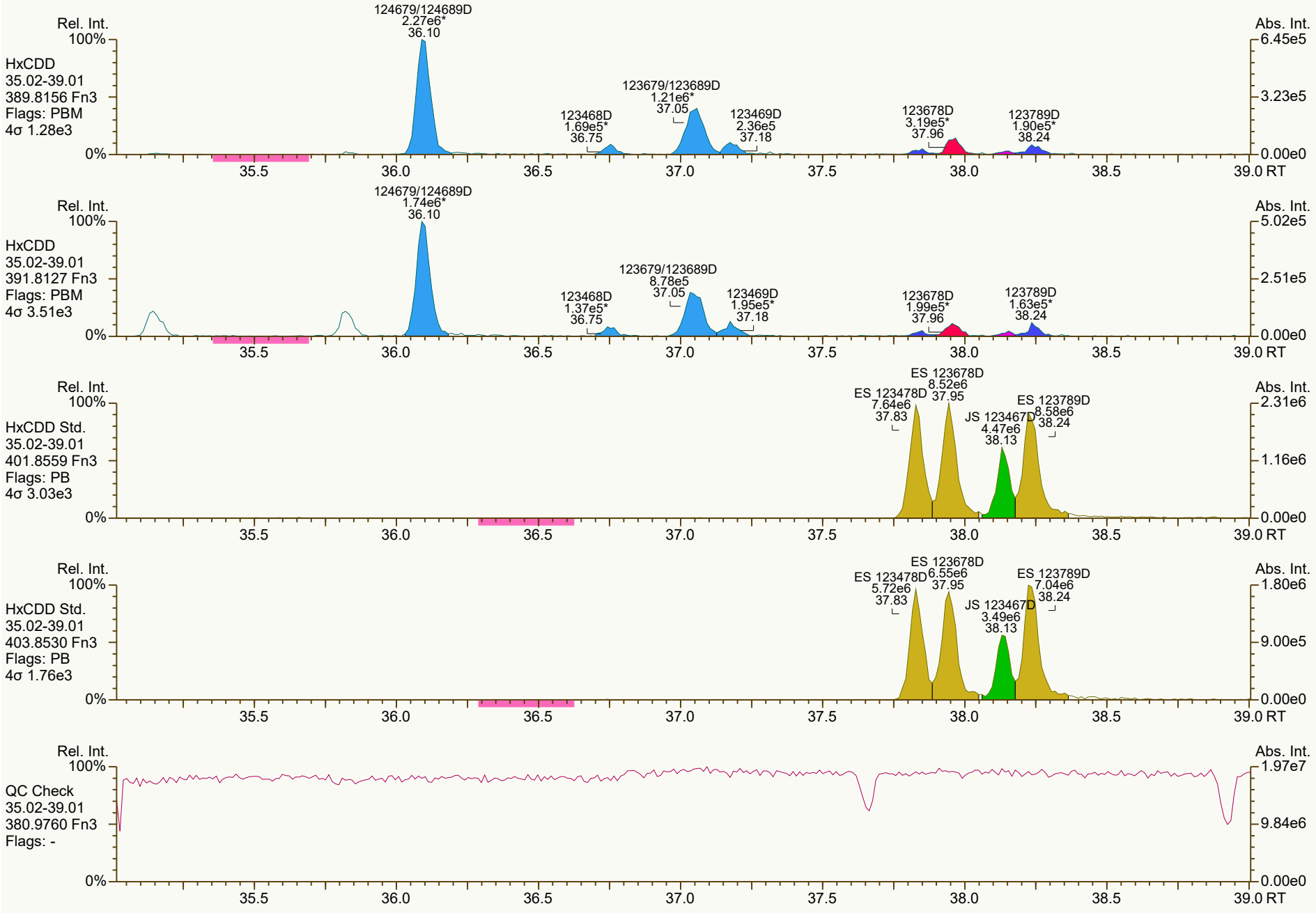
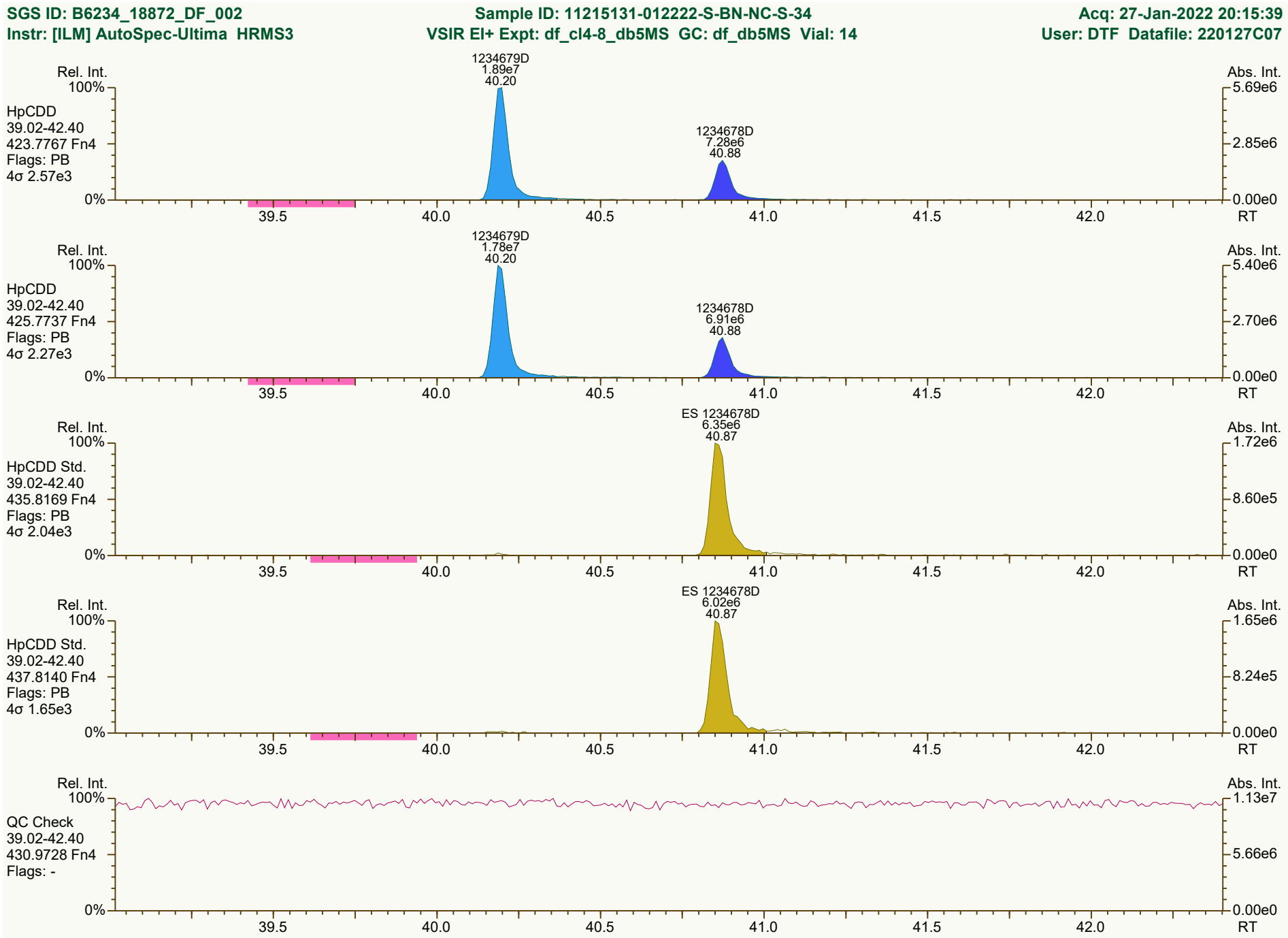
44.0
44.5
45.0 RT

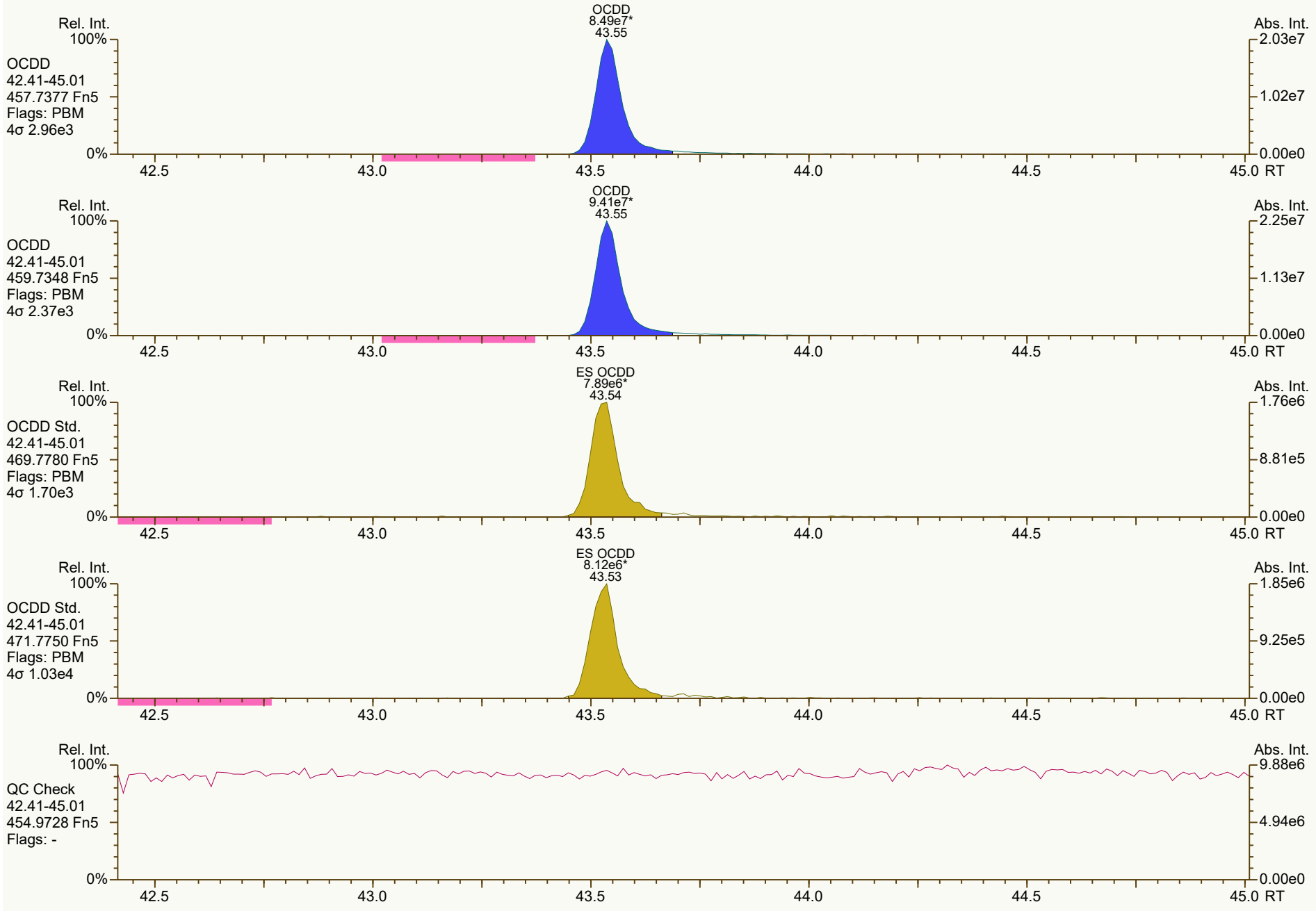

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 4.12e3
0%
1368D
5.08e4*
25.02
1469D
1.15e5*
26.57
2378D
1.57e5*
28.64
Abs. Int.
3.47e4
1.74e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 6.03e3
0%
1368D
5.63e4*
25.03
1469D
1.42e5*
26.57
2378D
2.02e5*
28.64
Abs. Int.
6.39e4
3.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PBM
4σ 1.62e3
0%
CS 37Cl-2378D
7.58e6*
28.64
Abs. Int.
1.70e6
8.52e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 4.76e3
0%
JS 1234D
8.80e6
27.96
ES 2378D
7.67e6
28.62
Abs. Int.
1.95e6
9.75e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 4.88e3
0%
JS 1234D
1.11e7
27.96
ES 2378D
9.31e6
28.62
Abs. Int.
2.48e6
1.24e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT



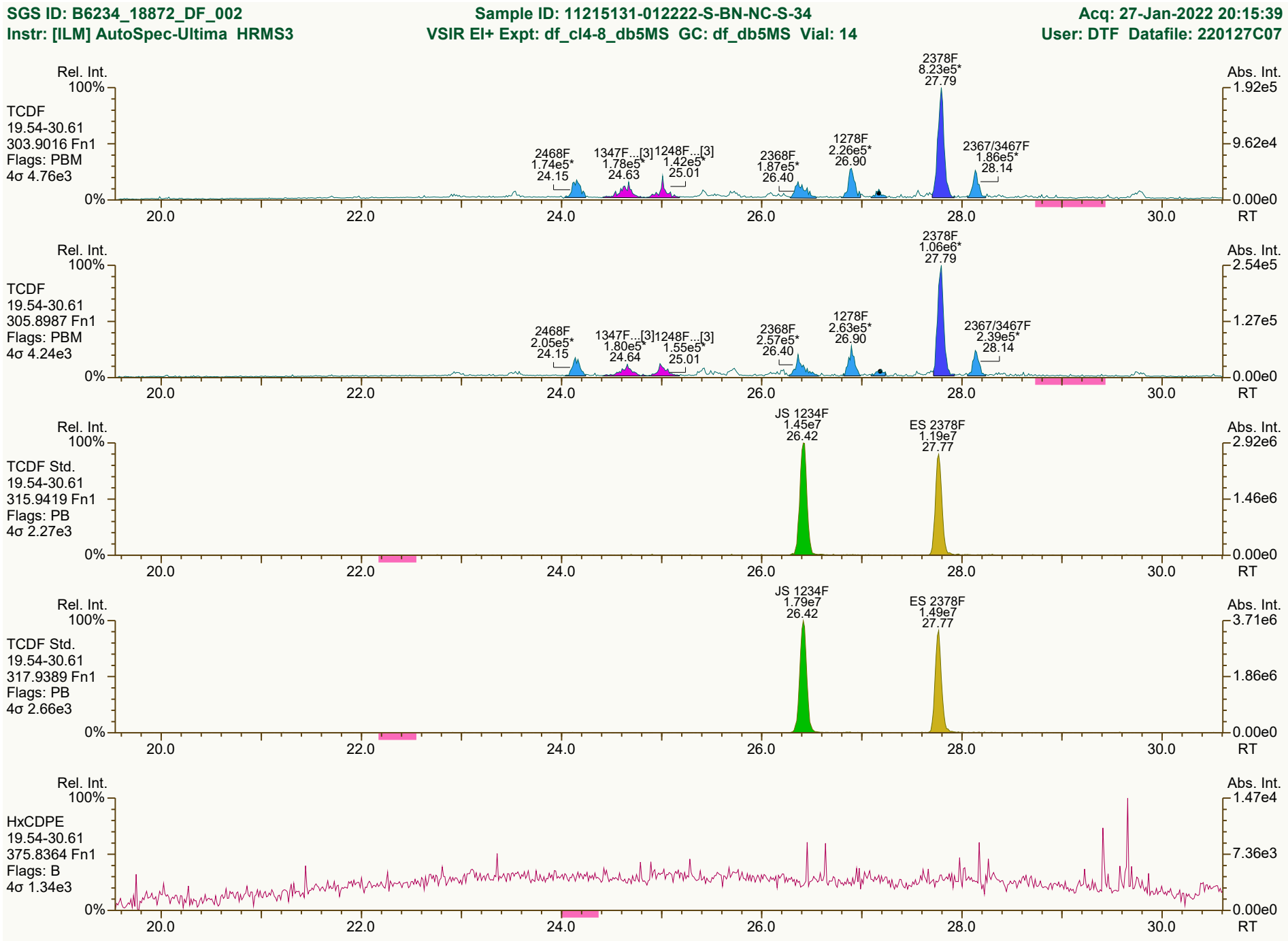
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_002.utp_res, saved 28-Jan-2022 09:47 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8946, 2885 scc: 247-428
Revised: 28-Jan-2022 08:38 (DTF) Printed: 28-Jan-2022 09:55 Page 3 of 12


Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.28e3
124679/124689D
2.27e6*
36.10
123468D
1.69e5*
36.75
123679/123689D
1.21e6*
37.05
123469D
2.36e5
37.18
123678D
3.19e5*
37.96
123789D
1.90e5*
38.24
Abs. Int.
6.45e5
3.23e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 3.51e3
124679/124689D
1.74e6*
36.10
123468D
1.37e5*
36.75
123679/123689D
8.78e5
37.05
123469D
1.95e5*
37.18
123678D
1.99e5*
37.96
123789D
1.63e5*
38.24
Abs. Int.
5.02e5
2.51e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PB
4σ 3.03e3
ES 123678D
8.52e6
37.95
ES 123478D
7.64e6
37.83
JS 123467D
4.47e6
38.13
ES 123789D
8.58e6
38.24
Abs. Int.
2.31e6
1.16e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PB
4σ 1.76e3
ES 123678D
6.55e6
37.95
ES 123478D
5.72e6
37.83
JS 123467D
3.49e6
38.13
ES 123789D
7.04e6
38.24
Abs. Int.
1.80e6
9.00e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
Abs. Int.
1.97e7
9.84e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

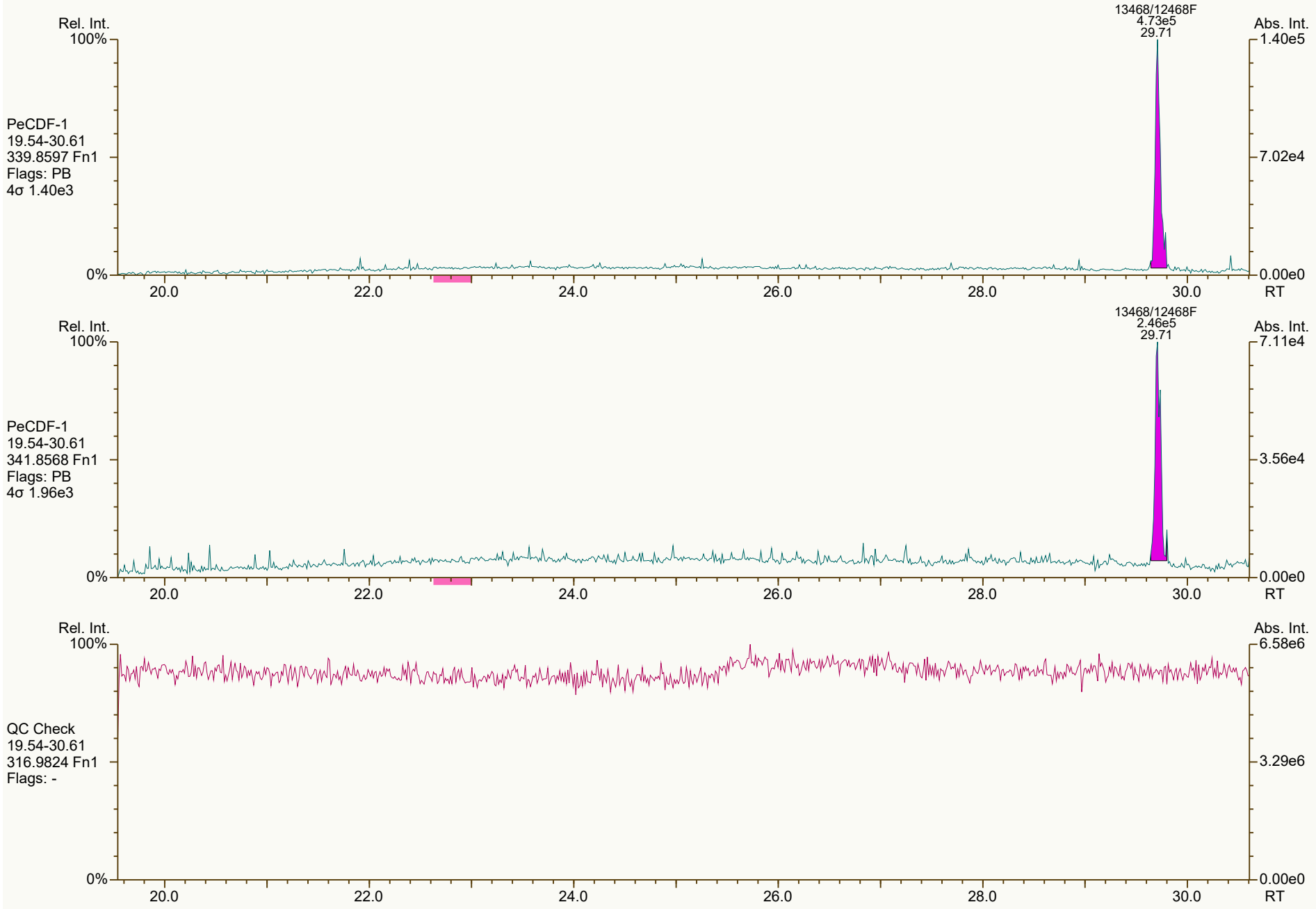

SGS ID: B6234_18872_DF_002
Sample ID: 11215131-012222-S-BN-NC-S-34
Acq: 27-Jan-2022 20:15:39
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 14
User: DTF Datafile: 220127C07
Rel. Int.
Abs. Int.
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 2.57e3
1234679D
1.89e7
40.20
1234678D
7.28e6
40.88
5.69e6
2.85e6
0.00e0
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 2.27e3
1234679D
1.78e7
40.20
1234678D
6.91e6
40.88
5.40e6
2.70e6
0.00e0
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 2.04e3
ES 1234678D
6.35e6
40.87
1.72e6
8.60e5
0.00e0
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 1.65e3
ES 1234678D
6.02e6
40.87
1.65e6
8.24e5
0.00e0
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
1.13e7
5.66e6
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_002.utp_res, saved 28-Jan-2022 09:47 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1590, 2579 scc: 247-428
PKD: 28-Jan-2022 08:36 Printed: 28-Jan-2022 09:55 Page 5 of 12


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 2.96e3
0%
OCDD
8.49e7*
43.55
Abs. Int.
2.03e7
1.02e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 2.37e3
0%
OCDD
9.41e7*
43.55
Abs. Int.
2.25e7
1.13e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.70e3
0%
ES OCDD
7.89e6*
43.54
Abs. Int.
1.76e6
8.81e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.03e4
0%
ES OCDD
8.12e6*
43.53
Abs. Int.
1.85e6
9.25e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.88e6
4.94e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

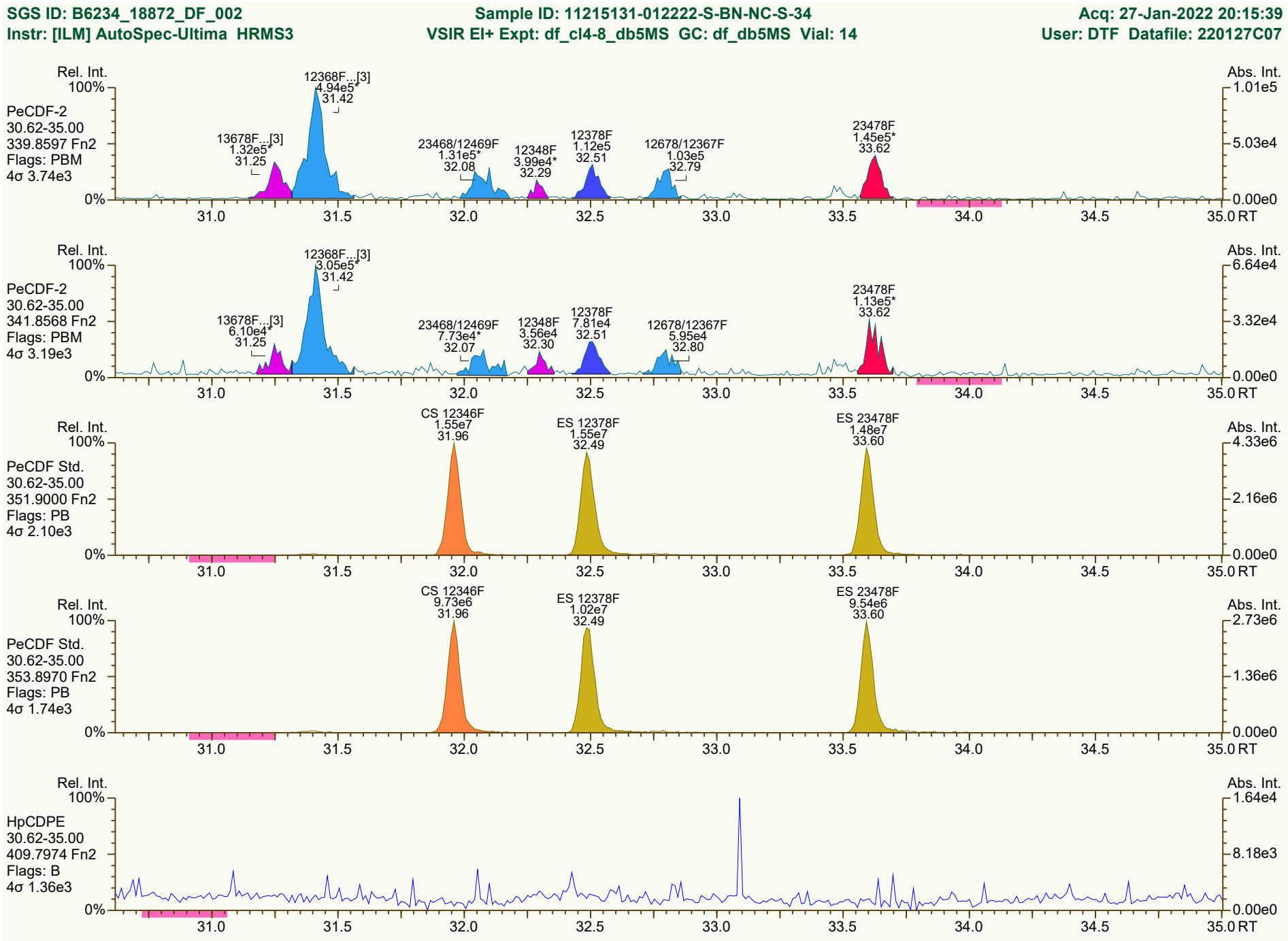
SGS ID: B6234_18872_DF_002 | Sample ID: 11215131-012222-S-BN-NC-S-34 | Acq: 27-Jan-2022 20:15:39
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 14 | User: DTF Datafile: 220127C07

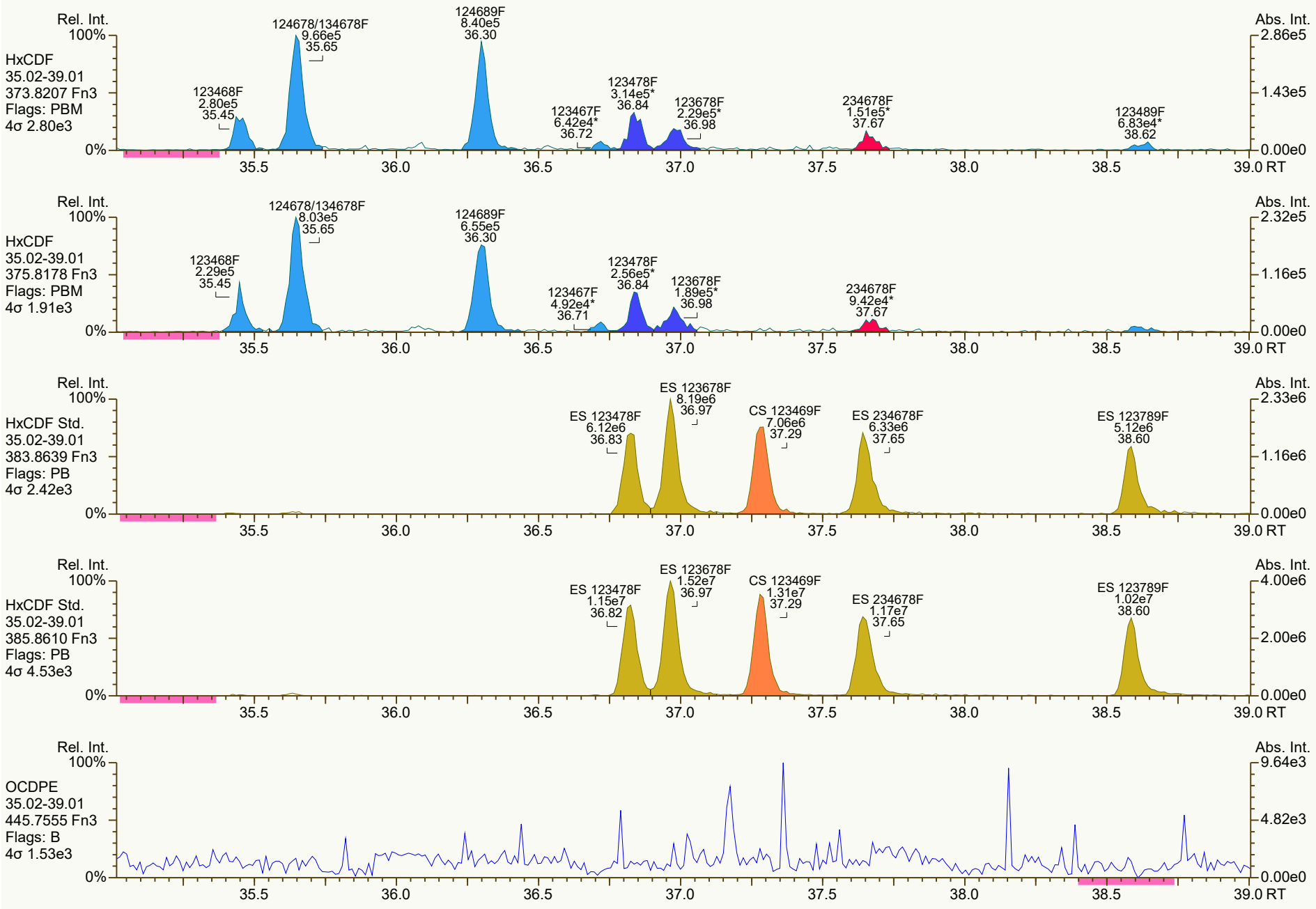


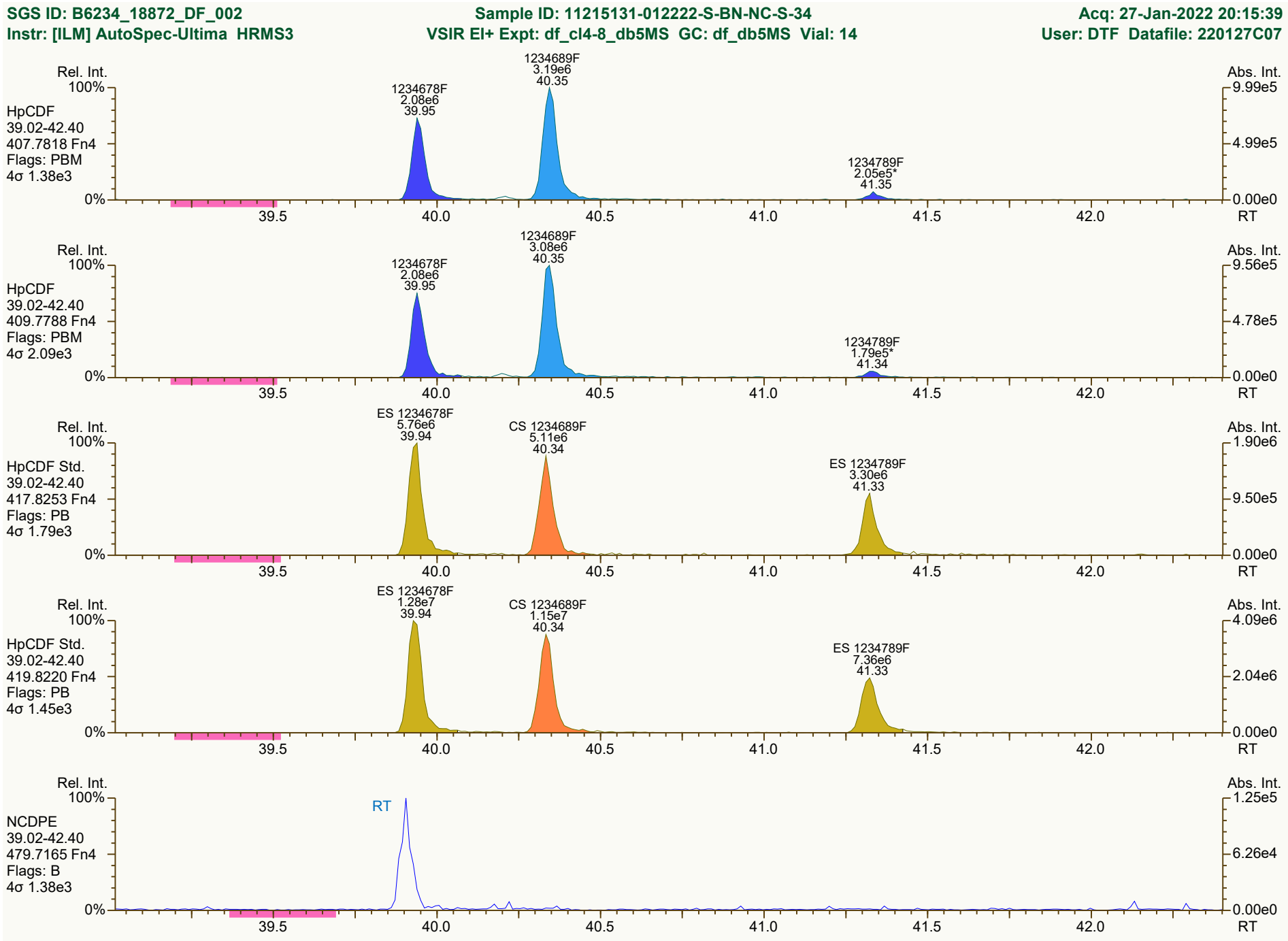
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_002.utp_res, saved 28-Jan-2022 09:47 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4700, 5041, 7771 scc: 247-428 | PKD: 28-Jan-2022 08:42 Printed: 28-Jan-2022 09:55 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PB
4σ 1.40e3
13468/12468F
4.73e5
29.71
Abs. Int.
1.40e5
7.02e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: PB
4σ 1.96e3
13468/12468F
2.46e5
29.71
Abs. Int.
7.11e4
3.56e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
Abs. Int.
6.58e6
3.29e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

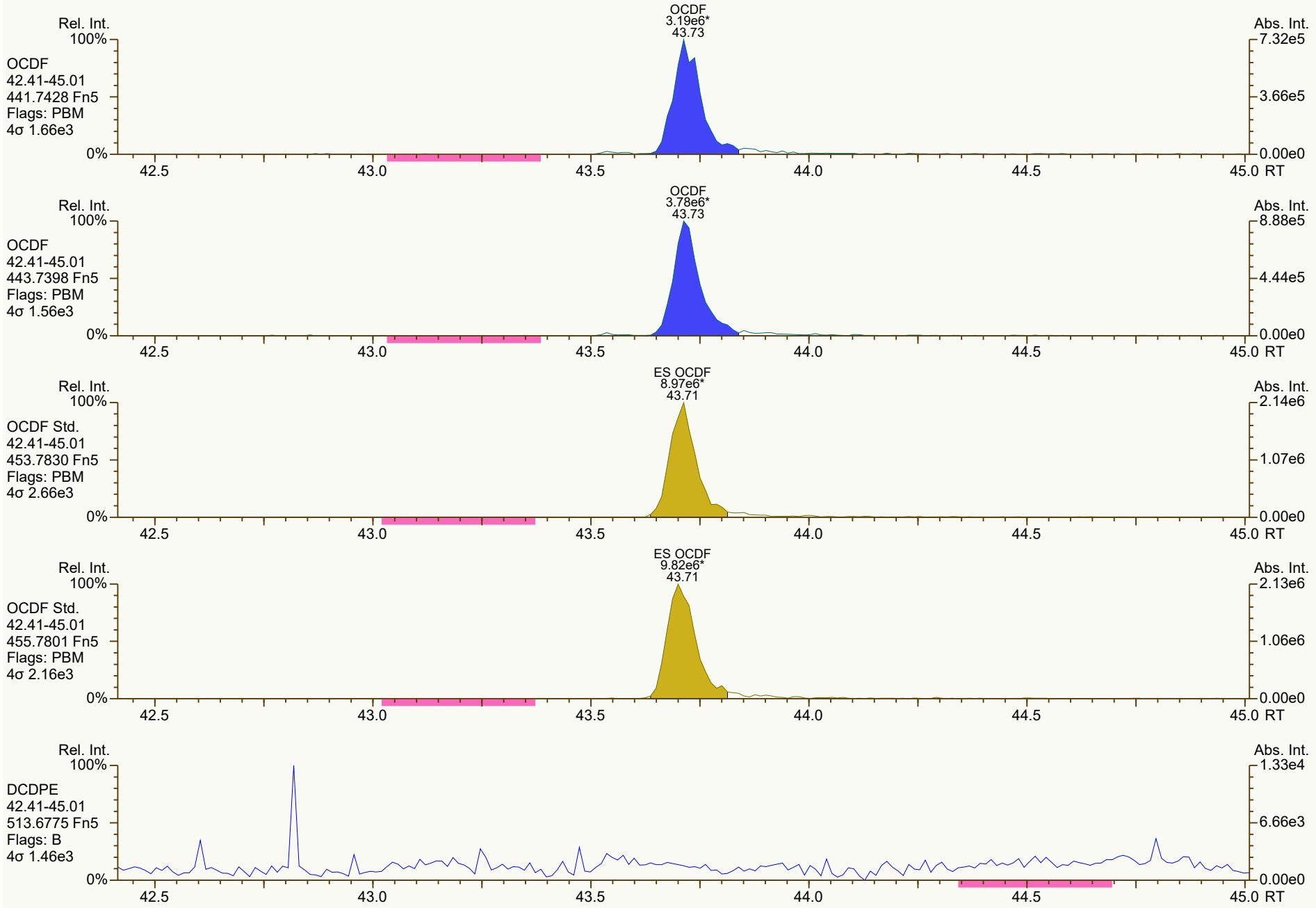
SGS ID: B6234_18872_DF_002 Sample ID: 11215131-012222-S-BN-NC-S-34 Acq: 27-Jan-2022 20:15:39
Instr: [ILM] AutoSpec-Ultima HRMS3 VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 14 User: DTF Datafile: 220127C07




Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 2.80e3
123468F 2.80e5 35.45
124678/134678F 9.66e5 35.65
124689F 8.40e5 36.30
123467F 6.42e4* 36.72
123478F 3.14e5* 36.84
123678F 2.29e5* 36.98
234678F 1.51e5* 37.67
123489F 6.83e4* 38.62
Abs. Int.
2.86e5
1.43e5
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 1.91e3
123468F 2.29e5 35.45
124678/134678F 8.03e5 35.65
124689F 6.55e5 36.30
123467F 4.92e4* 36.71
123478F 2.56e5* 36.84
123678F 1.89e5* 36.98
234678F 9.42e4* 37.67
Abs. Int.
2.32e5
1.16e5
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PB
4σ 2.42e3
ES 123478F 6.12e6 36.83
ES 123678F 8.19e6 36.97
CS 123469F 7.06e6 37.29
ES 234678F 6.33e6 37.65
ES 123789F 5.12e6 38.60
Abs. Int.
2.33e6
1.16e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PB
4σ 4.53e3
ES 123478F 1.15e7 36.82
ES 123678F 1.52e7 36.97
CS 123469F 1.31e7 37.29
ES 234678F 1.17e7 37.65
ES 123789F 1.02e7 38.60
Abs. Int.
4.00e6
2.00e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.53e3
Abs. Int.
9.64e3
4.82e3
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT



Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_002.utp_res, saved 28-Jan-2022 09:47 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8905, 4950, 8961 scc: 247-428
Revised: 28-Jan-2022 08:42 (DTF) Printed: 28-Jan-2022 09:55 Page 11 of 12


OCDF
3.19e6*
43.73
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 1.66e3
0%
Abs. Int.
7.32e5
3.66e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.78e6*
43.73
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 1.56e3
0%
Abs. Int.
8.88e5
4.44e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
8.97e6*
43.71
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 2.66e3
0%
Abs. Int.
2.14e6
1.07e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
9.82e6*
43.71
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 2.16e3
0%
Abs. Int.
2.13e6
1.06e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.46e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6234_18872_DF_003 **Acq'd:** 27 Jan 2022 21:01 DTF **Wt/Vol:** 13.11 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-S-35 **UTP:** 28-Jan-2022 09:47:35 DTF **J-level:** 0.381 pg/g **Split:** 1 **Checkcode:** 153-184-NPZ

Datafile: 220127C08 **Report:** 28 Jan 2022 09:49 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.64		1.0008	1.0006	-0.3	1.22E+05	0.81	Y	1.18	1.35	5952.007	0.666
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	3542.411	0.455
123478-HxCDD	37.86	J	1.0004	1.0004	0	6.65E+04	1.19	Y	1.09	0.926	4539.782	0.567
123678-HxCDD	37.97	J	1.0034	1.0033	-0.2	1.28E+05	1.21	Y	1.15	1.55	4539.782	0.498
123789-HxCDD	38.25	J EMPC	1.0109	1.0109	0	1.22E+05	0.89	N	1.05	1.7	4539.782	0.626
1234678-HpCDD	40.89		1.0003	1.0004	+0.2	2.65E+06	1.12	Y	1.06	46.3	3747.561	0.528
OCDD	43.56		1.0002	1.0003	+0.3	3.47E+07	0.91	Y	1.13	949	4336.491	1.29
2378-TCDF	27.80		1.0008	1.0007	-0.2	4.55E+05	0.74	Y	1.08	3.7	5356.806	0.485
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	8446.038	0.68
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	8446.038	0.69
123478-HxCDF	36.85	J	1.0004	1.0006	+0.4	7.58E+04	1.06	Y	1.27	0.769	3599.432	0.336
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3599.432	0.304
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.19	-	3599.432	0.351
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3599.432	0.417
1234678-HpCDF	39.95		1.0002	1.0002	0	4.76E+05	1.05	Y	1.37	4.42	3355.466	0.234
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	3355.466	0.478
OCDF	43.74		1.0002	1.0003	+0.3	5.69E+05	1.02	Y	1.07	13.5	3483.895	0.92

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.62	1.0233	1.0235	+0.3	1.16E+07	0.81	Y	1.05	75.2
ES 12378-PeCDD	33.94	1.2121	1.2135	+2.9	1.08E+07	1.61	Y	0.88	82.6
ES 123478-HxCDD	37.84	0.9921	0.9922	+0.2	1.01E+07	1.33	Y	0.97	83.8
ES 123678-HxCDD	37.96	0.9951	0.9952	+0.2	1.10E+07	1.26	Y	0.94	94.6
ES 123789-HxCDD	38.24	1.0025	1.0027	+0.5	1.05E+07	1.25	Y	1.09	77.8
ES 1234678-HpCDD	40.88	1.0709	1.0718	+2.2	8.25E+06	1.01	Y	0.91	73.2
ES OCDD	43.55	1.1403	1.1418	+3.9	9.91E+06	0.92	Y	0.62	64.3
ES 2378-TCDF	27.78	1.0506	1.0512	+1.0	1.74E+07	0.79	Y	1.06	65.6
ES 12378-PeCDF	32.50	1.2281	1.2299	+3.5	1.81E+07	1.51	Y	0.91	79.6
ES 23478-PeCDF	33.61	1.2698	1.2719	+4.2	1.64E+07	1.60	Y	0.88	74.2
ES 123478-HxCDF	36.83	0.9657	0.9657	0	1.18E+07	0.55	Y	1.20	80
ES 123678-HxCDF	36.98	0.9695	0.9695	0	1.62E+07	0.52	Y	1.35	96.9
ES 234678-HxCDF	37.66	0.9874	0.9875	+0.2	1.39E+07	0.53	Y	1.24	90.9
ES 123789-HxCDF	38.60	1.0116	1.0122	+1.4	1.06E+07	0.52	Y	1.16	74
ES 1234678-HpCDF	39.95	1.0467	1.0474	+1.7	1.20E+07	0.48	Y	0.97	100
ES 1234789-HpCDF	41.34	1.0830	1.0840	+2.5	7.00E+06	0.46	Y	0.85	66.6
ES OCDF	43.73	1.1451	1.1466	+3.9	1.20E+07	0.92	Y	0.81	60

Lab ID: B6234_18872_DF_003 **Acq'd:** 27 Jan 2022 21:01 DTF **Wt/Vol:** 13.11 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-S-35 **UTP:** 28-Jan-2022 09:47:35 DTF **J-level:** 0.381 pg/g **Split:** 1 **Checkcode:** 153-184-NPZ

Datafile: 220127C08 **Report:** 28 Jan 2022 09:49 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.97		-	-	-	1.48E+07	0.84	Y	-	-	
JS 1234-TCDF	26.42		-	-	-	2.50E+07	0.78	Y	-	-	
JS 123467-HxCDD	38.14		-	-	-	6.17E+06	1.12	Y	-	-	
CS 37Cl-2378-TCDD	28.65		1.0241	1.0244	+0.5	5.52E+06	n/a	-	1.20	77.6	
CS 12347-PeCDD	33.44		1.1943	1.1956	+2.6	1.07E+07	1.65	Y	0.75	96.2	
CS 12346-PeCDF	31.97		1.2083	1.2099	+3.1	1.79E+07	1.57	Y	0.85	84	
CS 123469-HxCDF	37.30		0.9778	0.9779	+0.2	1.50E+07	0.52	Y	1.12	109	
CS 1234689-HpCDF	40.35		1.0571	1.0578	+1.7	1.18E+07	0.48	Y	0.89	108	
~~SS 37Cl-2378-TCDD~~	~~28.65~~		~~1.0241~~	~~1.0244~~	~~+0.5~~	~~5.52E+06~~	~~n/a~~		~~1.15~~	~~103~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.44~~		~~1.1943~~	~~1.1956~~	~~+2.6~~	~~1.07E+07~~	~~1.65~~	~~Y~~	~~0.86~~	~~116~~	CL 28Jan22
~~SS 12346-PeCDF~~	~~31.97~~		~~1.2083~~	~~1.2099~~	~~+3.1~~	~~1.79E+07~~	~~1.57~~	~~Y~~	~~0.94~~	~~105~~	
~~SS 123469-HxCDF~~	~~37.30~~		~~0.9778~~	~~0.9779~~	~~+0.2~~	~~1.50E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~112~~	
~~SS 1234689-HpCDF~~	~~40.35~~		~~1.0571~~	~~1.0578~~	~~+1.7~~	~~1.18E+07~~	~~0.48~~	~~Y~~	~~0.92~~	~~108~~	

Totals	Conc	EMPC
Total TCDD	4.42	5.34
Total PeCDD	1	4.81
Total HxCDD	33.4	35.8
Total HpCDD	144	144
Total Tetra-Octa Dioxins	1130	1140
Total TCDF	10.6	12
Total PeCDF	0	0.81
Total HxCDF	0.769	3.2
Total HpCDF	7.51	7.51
Total Tetra-Octa Furans	32.4	37.1
Total Tetra-Octa Dioxins & Furans	1170	1180

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.774	0.81
Response	1.26E+05	1.22E+05

Lab ID: B6234_18872_DF_003 **Acq'd: 27 Jan 2022 21:01 DTF** **Wt/Vol: 13.11 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012222-S-BN-NC-S-35 **UTP: 28-Jan-2022 09:47:35 DTF** **J-level: 0.381 pg/g** **Split: 1** **Checkcode: 153-184-NPZ**

Datafile: 220127C08 **Report: 28 Jan 2022 09:49 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8755						1.18		5952.007	0.666
1379-TCDD	NotFnd		0.8876						1.18		5952.007	0.666
1369-TCDD	NotFnd		0.9023						1.18		5952.007	0.666
1469-TCDD	26.58		0.9291	0.9285	-1.0	2.77E+05	0.82	Y	1.18	3.06	5952.007	0.666
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		5952.007	0.666
1378-TCDD	NotFnd		0.9440						1.18		5952.007	0.666
1268-TCDD	NotFnd		0.9506						1.18		5952.007	0.666
1478-TCDD	NotFnd		0.9591						1.18		5952.007	0.666
1279-TCDD	NotFnd		0.9649						1.18		5952.007	0.666
1234/1269-TCDD	NotFnd		0.9771						1.18		5952.007	0.666
1236-TCDD	NotFnd		0.9820						1.18		5952.007	0.666
1237/1238-TCDD	28.33	EMPC	0.9908	0.9898	-1.7	8.30E+04	0.93	N	1.18	0.918	5952.007	0.666
1239-TCDD	NotFnd		0.9954						1.18		5952.007	0.666
2378-TCDD	**28.64**		**1.0008**	1.0006	**-0.3**	1.22E+05	0.81	Y	**1.18**	**1.35**	**5952.007**	**0.666**
1278-TCDD	NotFnd		1.0121						1.18		5952.007	0.666
1267-TCDD	NotFnd		1.0167						1.18		5952.007	0.666
1289-TCDD	NotFnd		1.0341						1.18		5952.007	0.666
12479/12468-PeCDD	31.46	J	0.9273	0.9269	-0.8	7.33E+04	1.39	Y	1.04	1	3542.411	0.455
12469-PeCDD	31.99	EMPC	0.9430	0.9425	-1.0	1.58E+05	1.93	N	1.04	2.17	3542.411	0.455
12368-PeCDD	NotFnd		0.9592						1.04		3542.411	0.455
12478-PeCDD	NotFnd		0.9647						1.04		3542.411	0.455
12379-PeCDD	NotFnd		0.9676						1.04		3542.411	0.455
12369/12467/12489-PeCDD	33.09	J EMPC	0.9752	0.9751	-0.2	1.20E+05	1.32	N	1.04	1.65	3542.411	0.455
12346/12347-PeCDD	NotFnd		0.9860						1.04		3542.411	0.455
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**3542.411**	**0.455**
12367-PeCDD	NotFnd		1.0034						1.04		3542.411	0.455
12389-PeCDD	NotFnd		1.0134						1.04		3542.411	0.455
124679/124689-HxCDD	36.10		0.9545	0.9541	-0.9	1.62E+06	1.26	Y	1.10	21.4	4539.782	0.561
123468-HxCDD	36.75	J	0.9715	0.9713	-0.4	7.15E+04	1.24	Y	1.10	0.946	4539.782	0.561
123679/123689-HxCDD	37.06		0.9793	0.9793	0	6.47E+05	1.36	Y	1.10	8.56	4539.782	0.561
123469-HxCDD	NotFnd		0.9829						1.10		4539.782	0.561
123478-HxCDD	37.86	J	**1.0004**	**1.0004**	**0**	**6.65E+04**	**1.19**	**Y**	1.09	**0.926**	**4539.782**	**0.567**
123678-HxCDD	37.97	J	**1.0034**	**1.0033**	**-0.2**	**1.28E+05**	**1.21**	**Y**	1.15	**1.55**	**4539.782**	**0.498**
123467-HxCDD	38.14	J EMPC	1.0082	1.0080	-0.5	5.33E+04	0.92	N	1.10	0.706	4539.782	0.561
123789-HxCDD	38.25	J EMPC	**1.0109**	**1.0109**	**0**	**1.22E+05**	**0.89**	**N**	1.05	**1.7**	**4539.782**	**0.626**

Lab ID: B6234_18872_DF_003 **Acq'd: 27 Jan 2022 21:01 DTF** **Wt/Vol: 13.11 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012222-S-BN-NC-S-35 **UTP: 28-Jan-2022 09:47:35 DTF** **J-level: 0.381 pg/g** **Split: 1** **Checkcode: 153-184-NPZ**

Datafile: 220127C08 **Report: 28 Jan 2022 09:49 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

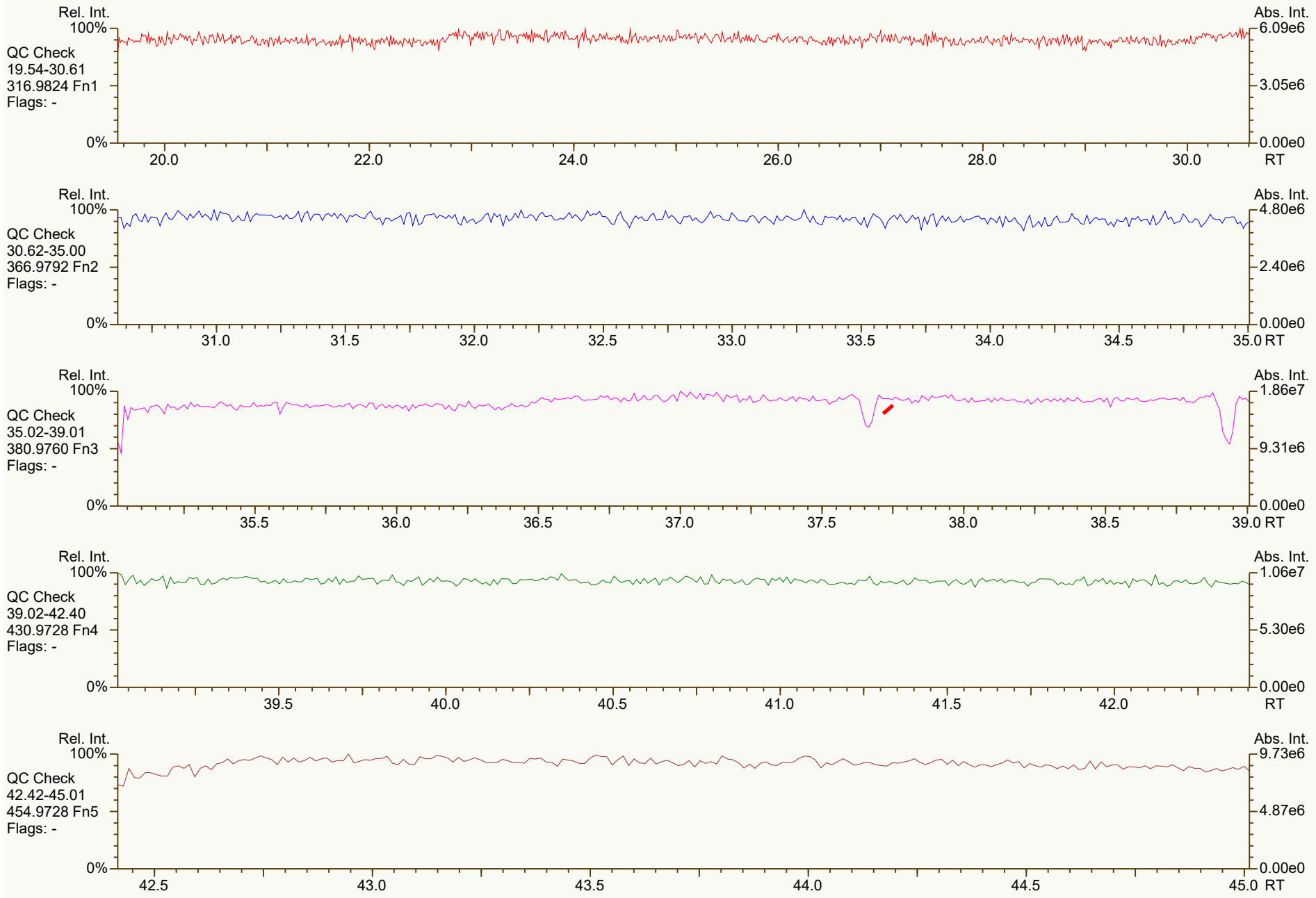
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.21		0.9838	0.9837	-0.2	5.63E+06	1.03	Y	1.06	98.2	3747.561	0.528
1234678-HpCDD	**40.89**		**1.0003**	**1.0004**	**+0.2**	**2.65E+06**	**1.12**	**Y**	**1.06**	**46.3**	**3747.561**	**0.528**
OCDD	**43.56**		**1.0002**	**1.0003**	**+0.3**	**3.47E+07**	**0.91**	**Y**	**1.13**	**949**	**4336.491**	**1.29**
OCDD-a	43.56		1.0002	1.0002	0	2.11E+06	2.52	Y	0.07	904	3320.403	15.4
1368-TCDF	NotFnd		0.8282						1.08		5356.806	0.485
1468-TCDF	NotFnd		0.8485						1.08		5356.806	0.485
2468-TCDF	24.14		0.8709	0.8692	-2.5	1.49E+05	0.68	Y	1.08	1.21	5356.806	0.485
1346/1246-TCDF	NotFnd		0.8829						1.08		5356.806	0.485
1347/1378/1247-TCDF	24.64	EMPC	0.8884	0.8871	-1.9	1.80E+05	0.90	N	1.08	1.47	5356.806	0.485
1348-TCDF	NotFnd		0.8980						1.08		5356.806	0.485
1248/1367/1379-TCDF	25.03		0.9026	0.9012	-2.1	1.48E+05	0.71	Y	1.08	1.21	5356.806	0.485
1268-TCDF	NotFnd		0.9158						1.08		5356.806	0.485
1467-TCDF	NotFnd		0.9206						1.08		5356.806	0.485
1478-TCDF	NotFnd		0.9266						1.08		5356.806	0.485
1369/1237-TCDF	NotFnd		0.9397						1.08		5356.806	0.485
2467-TCDF	NotFnd		0.9440						1.08		5356.806	0.485
2368-TCDF	26.37		0.9497	0.9494	-0.5	7.91E+04	0.71	Y	1.08	0.643	5356.806	0.485
1238/1234/1678/1469/1236-TCDF	26.45		0.9528	0.9524	-0.6	1.15E+05	0.79	Y	1.08	0.936	5356.806	0.485
1278-TCDF	26.90		0.9690	0.9686	-0.6	2.45E+05	0.66	Y	1.08	1.99	5356.806	0.485
1349-TCDF	NotFnd		0.9730						1.08		5356.806	0.485
1267-TCDF	NotFnd		0.9787						1.08		5356.806	0.485
2346/1249-TCDF	NotFnd		0.9850						1.08		5356.806	0.485
2347/1279-TCDF	NotFnd		0.9929						1.08		5356.806	0.485
2348-TCDF	NotFnd		0.9970						1.08		5356.806	0.485
2378-TCDF	**27.80**		**1.0008**	**1.0007**	**-0.2**	**4.55E+05**	**0.74**	**Y**	**1.08**	**3.7**	**5356.806**	**0.485**
2367/3467-TCDF	28.15		1.0136	1.0134	-0.3	1.08E+05	0.72	Y	1.08	0.882	5356.806	0.485
1269-TCDF	NotFnd		1.0221						1.08		5356.806	0.485
1239-TCDF	NotFnd		1.0319						1.08		5356.806	0.485
1289-TCDF	NotFnd		1.0740						1.08		5356.806	0.485
13468/12468-PeCDF	29.73	J EMPC	0.9145	0.9148	+0.5	9.36E+04	0.91	N	1.02	0.81	3534.797	0.287
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		8446.038	0.685
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		8446.038	0.685
14678-PeCDF	NotFnd		0.9695						1.02		8446.038	0.685
13479-PeCDF	NotFnd		0.9724						1.02		8446.038	0.685
13469/12479-PeCDF	NotFnd		0.9801						1.02		8446.038	0.685
12346-PeCDF	NotFnd		0.9842						1.02		8446.038	0.685

Lab ID: B6234_18872_DF_003 **Acq'd: 27 Jan 2022 21:01 DTF** **Wt/Vol: 13.11 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012222-S-BN-NC-S-35 **UTP: 28-Jan-2022 09:47:35 DTF** **J-level: 0.381 pg/g** **Split: 1** **Checkcode: 153-184-NPZ**

Datafile: 220127C08 **Report: 28 Jan 2022 09:49 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		8446.038	0.685
12347-PeCDF	NotFnd		0.9895						1.02		8446.038	0.685
12348-PeCDF	NotFnd		0.9941						1.02		8446.038	0.685
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**8446.038**	**0.68**
12678/12367-PeCDF	NotFnd		1.0090						1.02		8446.038	0.685
12379-PeCDF	NotFnd		1.0142						1.02		8446.038	0.685
12679-PeCDF	NotFnd		0.9931						1.02		8446.038	0.685
23467/12369-PeCDF	NotFnd		0.9966						1.02		8446.038	0.685
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**8446.038**	**0.69**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		8446.038	0.685
12349-PeCDF	NotFnd		1.0101						1.02		8446.038	0.685
12389-PeCDF	NotFnd		1.0322						1.02		8446.038	0.685
123468-HxCDF	35.46	J EMPC	0.9627	0.9627	0	4.70E+04	0.84	N	1.19	0.457	3599.432	0.346
124678/134678-HxCDF	35.66	J EMPC	0.9684	0.9682	-0.4	1.46E+05	1.01	N	1.19	1.43	3599.432	0.346
134679-HxCDF	NotFnd		0.9747						1.19		3599.432	0.346
124679-HxCDF	NotFnd		0.9802						1.19		3599.432	0.346
124689-HxCDF	36.31	J EMPC	0.9858	0.9859	+0.2	5.62E+04	1.52	N	1.19	0.547	3599.432	0.346
123467-HxCDF	NotFnd		0.9972						1.19		3599.432	0.346
123478-HxCDF	**36.85**	J	**1.0004**	**1.0006**	**+0.4**	**7.58E+04**	**1.06**	**Y**	**1.27**	**0.769**	**3599.432**	**0.336**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3599.432**	**0.304**
123479-HxCDF	NotFnd		1.0051						1.19		3599.432	0.346
123469-HxCDF	NotFnd		1.0091						1.19		3599.432	0.346
123679-HxCDF	NotFnd		0.9943						1.19		3599.432	0.346
234678-HxCDF	**NotFnd**		**1.0004**						**1.19**		**3599.432**	**0.351**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3599.432	0.346
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3599.432**	**0.417**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		3599.432	0.346
1234678-HpCDF	**39.95**		**1.0002**	**1.0002**	**0**	**4.76E+05**	**1.05**	**Y**	**1.37**	**4.42**	**3355.466**	**0.234**
1234679-HpCDF	NotFnd		1.0067						1.34		3355.466	0.323
1234689-HpCDF	40.35		1.0101	1.0102	+0.2	2.57E+05	0.93	Y	1.34	3.09	3355.466	0.323
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**3355.466**	**0.478**
OCDF	**43.74**		**1.0002**	**1.0003**	**+0.3**	**5.69E+05**	**1.02**	**Y**	**1.07**	**13.5**	**3483.895**	**0.92**
OCDF-a	NotFnd		1.0002						0.07		3912.901	16.7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QC Check
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380.9760 Fn3
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38.5
39.0
QC Check
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430.9728 Fn4
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42.42-45.01
454.9728 Fn5
Flags: -
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4.87e6
42.5
43.0
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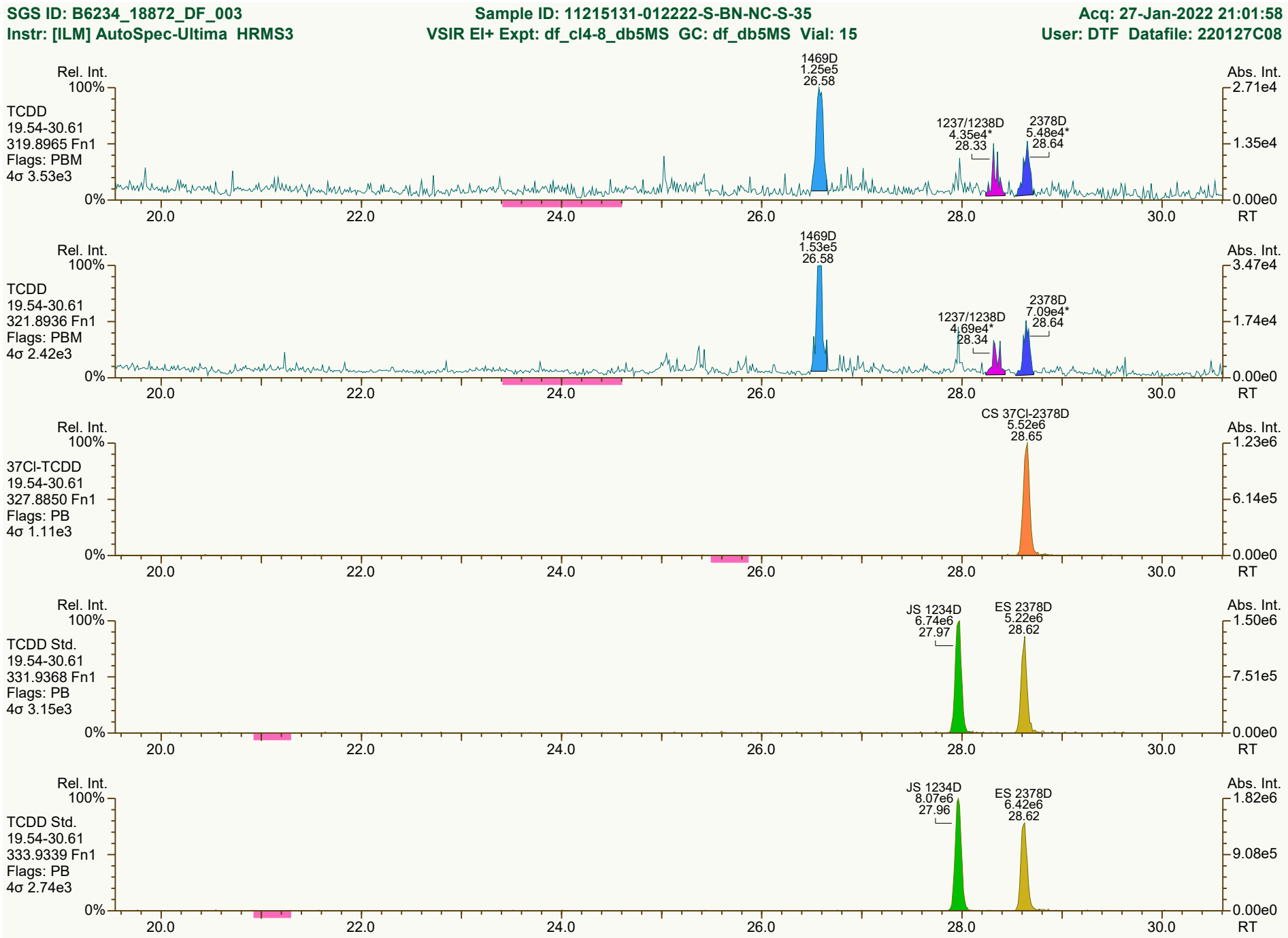
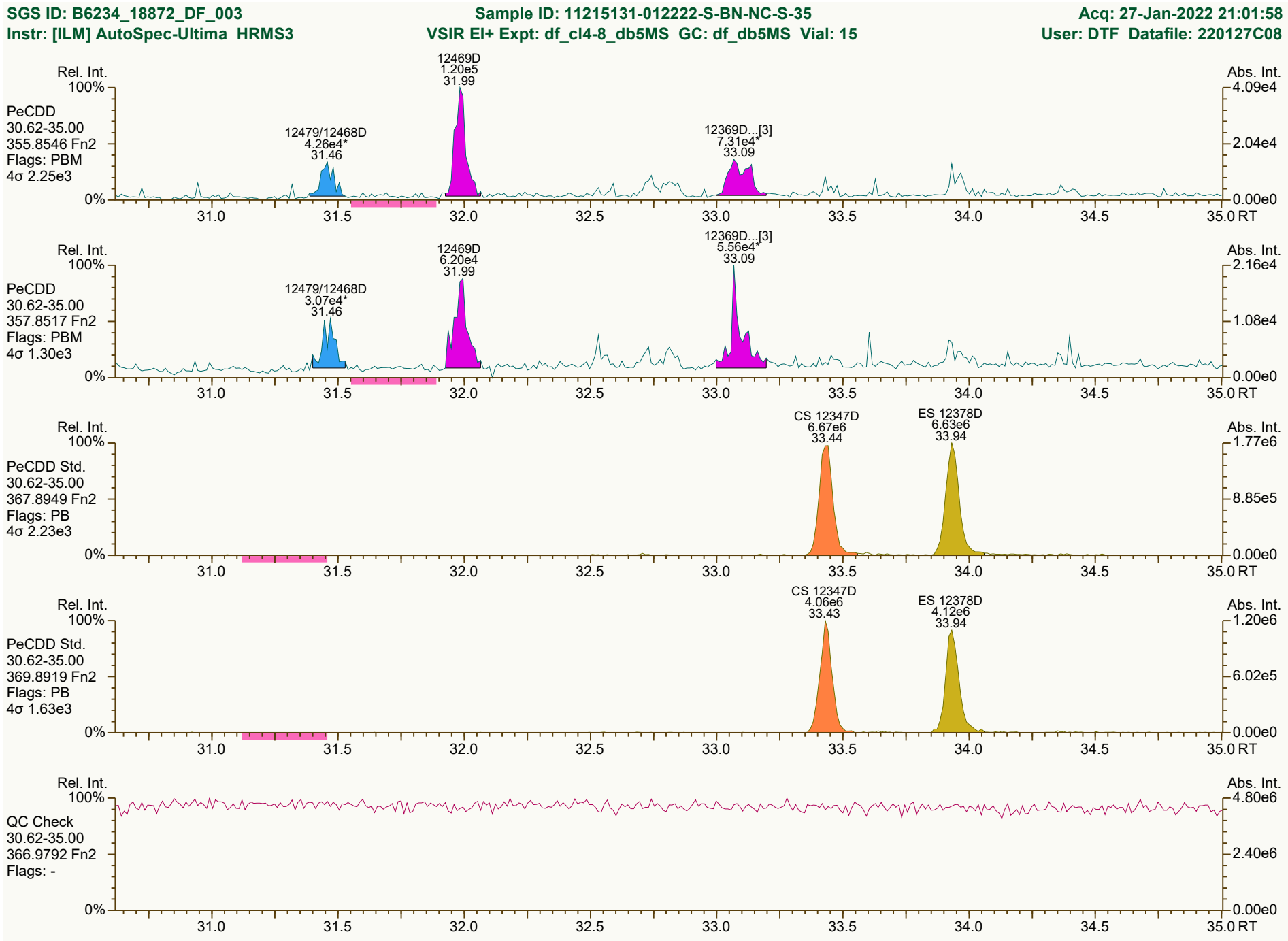
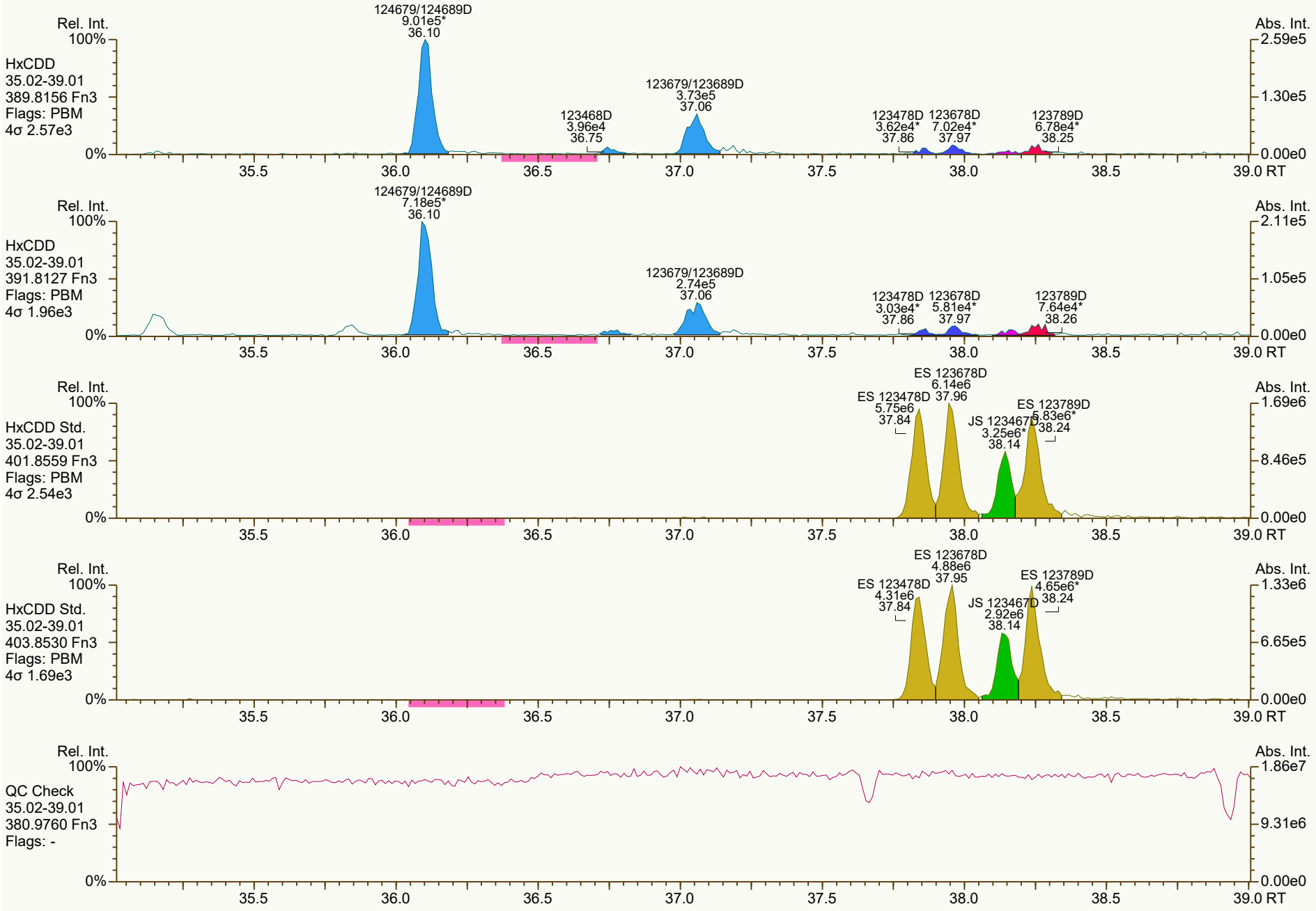
SGS ID: B6234_18872_DF_003 | Sample ID: 11215131-012222-S-BN-NC-S-35 | Acq: 27-Jan-2022 21:01:58
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15 | User: DTF Datafile: 220127C08

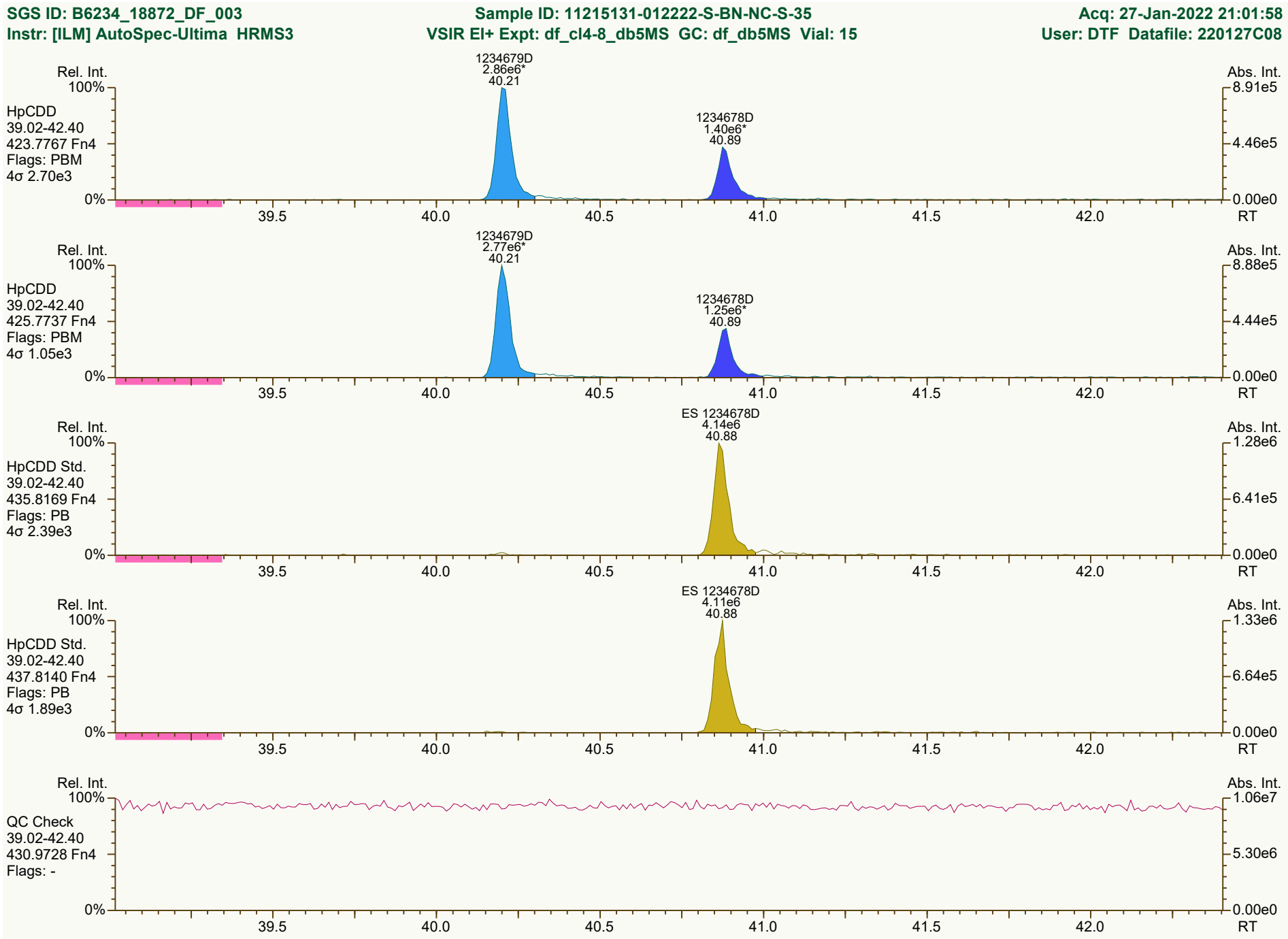


Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_003.utp_res, saved 28-Jan-2022 09:47 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0768, 7472, 0180 scc: 153-184 | Revised: 28-Jan-2022 08:43 (DTF) Printed: 28-Jan-2022 09:55 Page 2 of 12

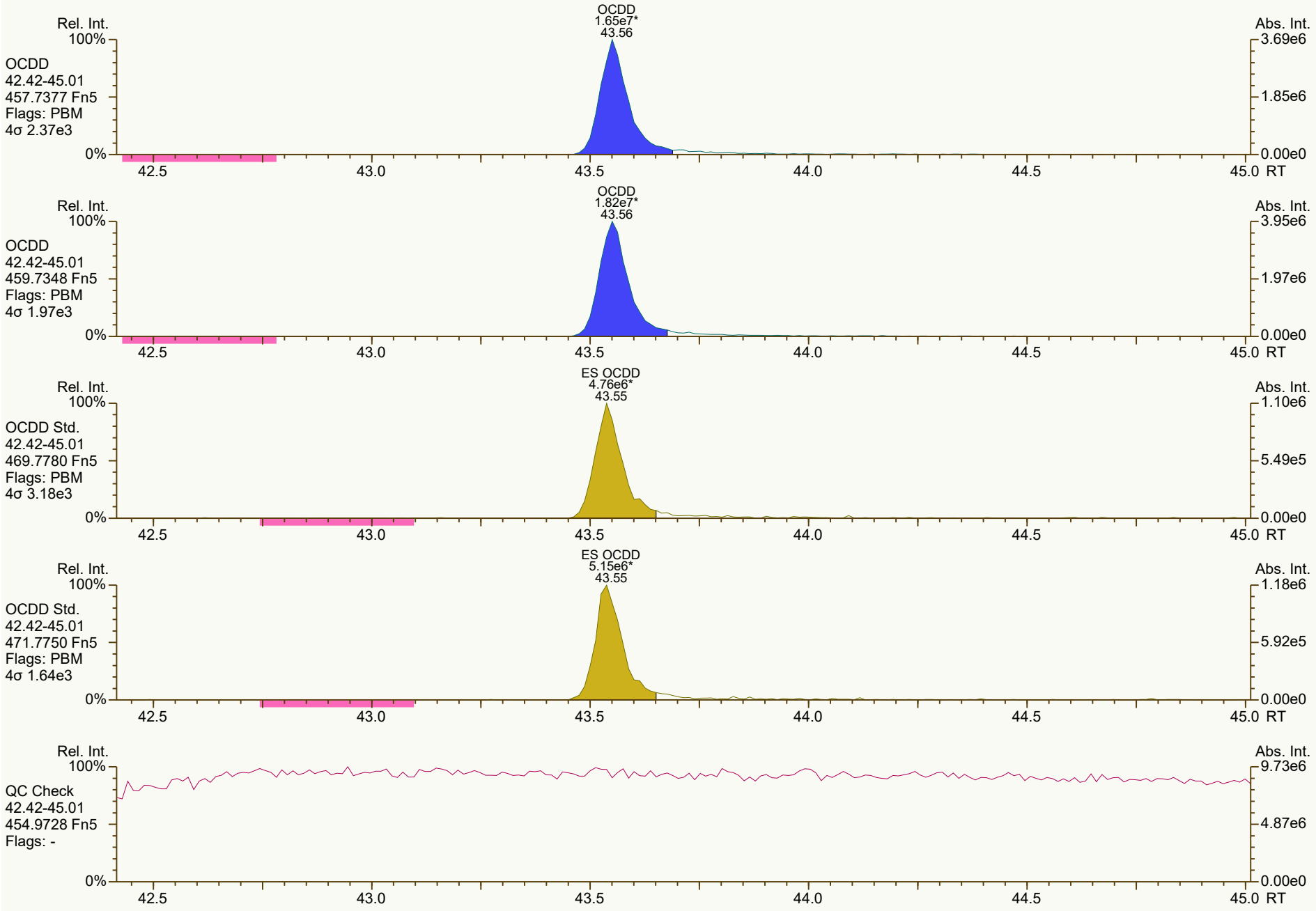

SGS ID: B6234_18872_DF_003
Sample ID: 11215131-012222-S-BN-NC-S-35
Acq: 27-Jan-2022 21:01:58
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15
User: DTF Datafile: 220127C08
Rel. Int.
Abs. Int.
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12469D
1.20e5
31.99
12479/12468D
4.26e4*
31.46
12369D...[3]
7.31e4*
33.09
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PBM
4σ 1.30e3
12469D
6.20e4
31.99
12479/12468D
3.07e4*
31.46
12369D...[3]
5.56e4*
33.09
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 2.23e3
CS 12347D
6.67e6
33.44
ES 12378D
6.63e6
33.94
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
4σ 1.63e3
CS 12347D
4.06e6
33.43
ES 12378D
4.12e6
33.94
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
RT
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_003.utp_res, saved 28-Jan-2022 09:47 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3280, 1107 scc: 153-184
Revised: 28-Jan-2022 08:43 (DTF) Printed: 28-Jan-2022 09:55 Page 3 of 12

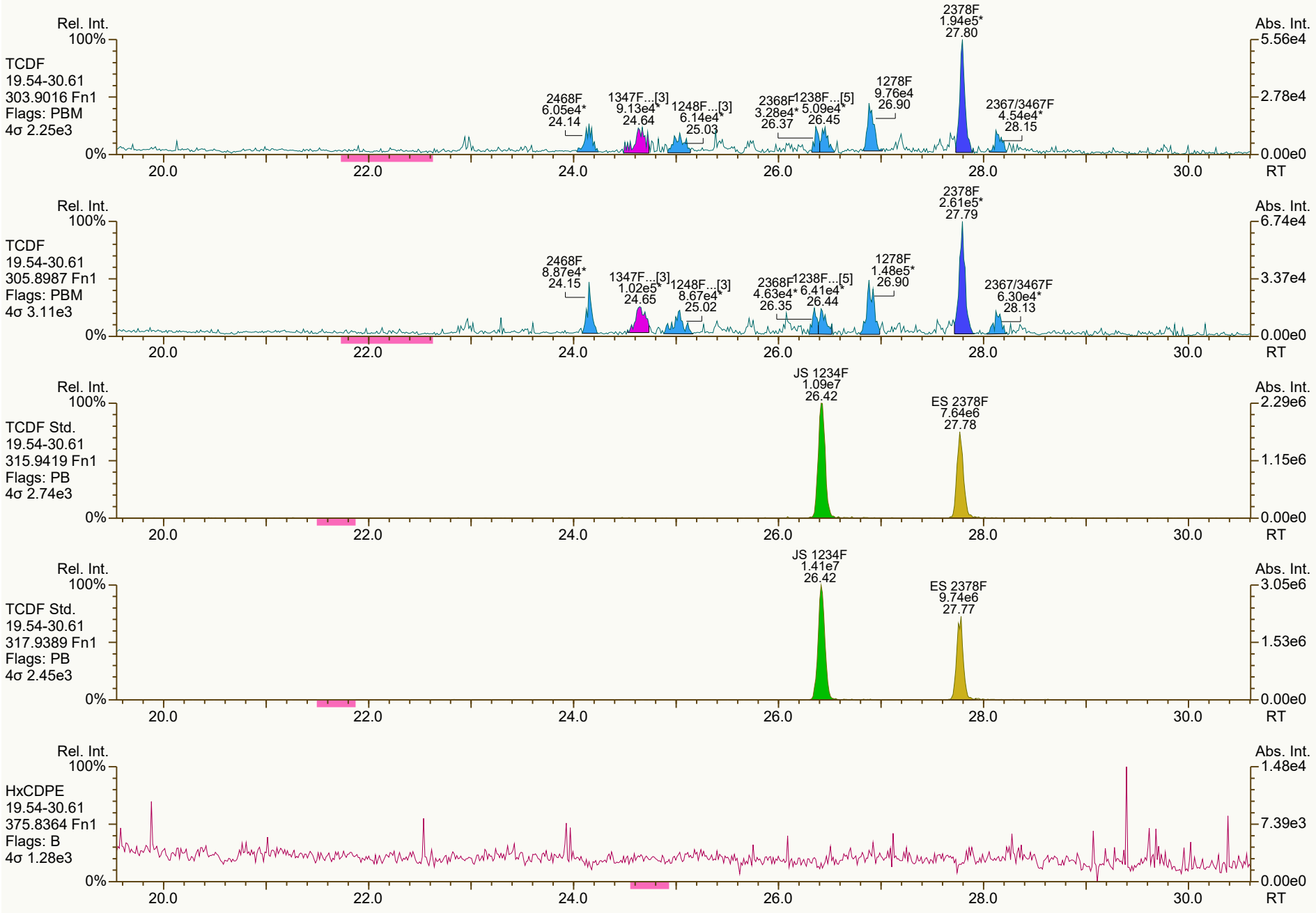

Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 2.57e3
124679/124689D
9.01e5*
36.10
123468D
3.96e4
36.75
123679/123689D
3.73e5
37.06
123478D
3.62e4*
37.86
123678D
7.02e4*
37.97
123789D
6.78e4*
38.25
0%
Abs. Int.
2.59e5
1.30e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 1.96e3
124679/124689D
7.18e5*
36.10
123679/123689D
2.74e5
37.06
123478D
3.03e4*
37.86
123678D
5.81e4*
37.97
123789D
7.64e4*
38.26
0%
Abs. Int.
2.11e5
1.05e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 2.54e3
ES 123678D
6.14e6
37.96
ES 123478D
5.75e6
37.84
ES 123789D
5.83e6*
38.24
JS 123467D
3.25e6*
38.14
0%
Abs. Int.
1.69e6
8.46e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 1.69e3
ES 123678D
4.88e6
37.95
ES 123478D
4.31e6
37.84
ES 123789D
4.65e6*
38.24
JS 123467D
2.92e6
38.14
0%
Abs. Int.
1.33e6
6.65e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.86e7
9.31e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

SGS ID: B6234_18872_DF_003 | Sample ID: 11215131-012222-S-BN-NC-S-35 | Acq: 27-Jan-2022 21:01:58
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15 | User: DTF Datafile: 220127C08

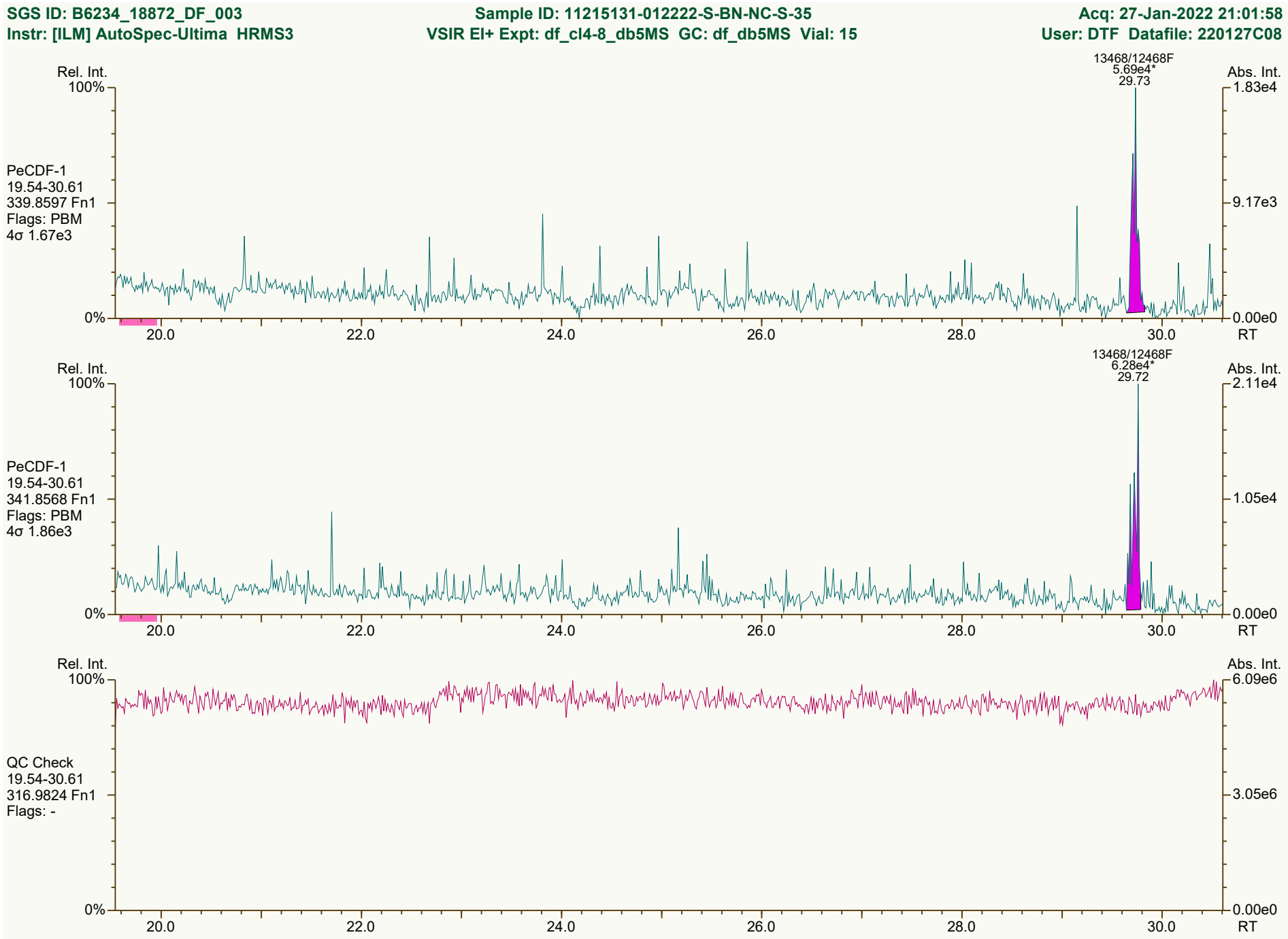


Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_003.utp_res, saved 28-Jan-2022 09:47 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3694, 9789 scc: 153-184 | PKD: 28-Jan-2022 08:46 Printed: 28-Jan-2022 09:55 Page 5 of 12

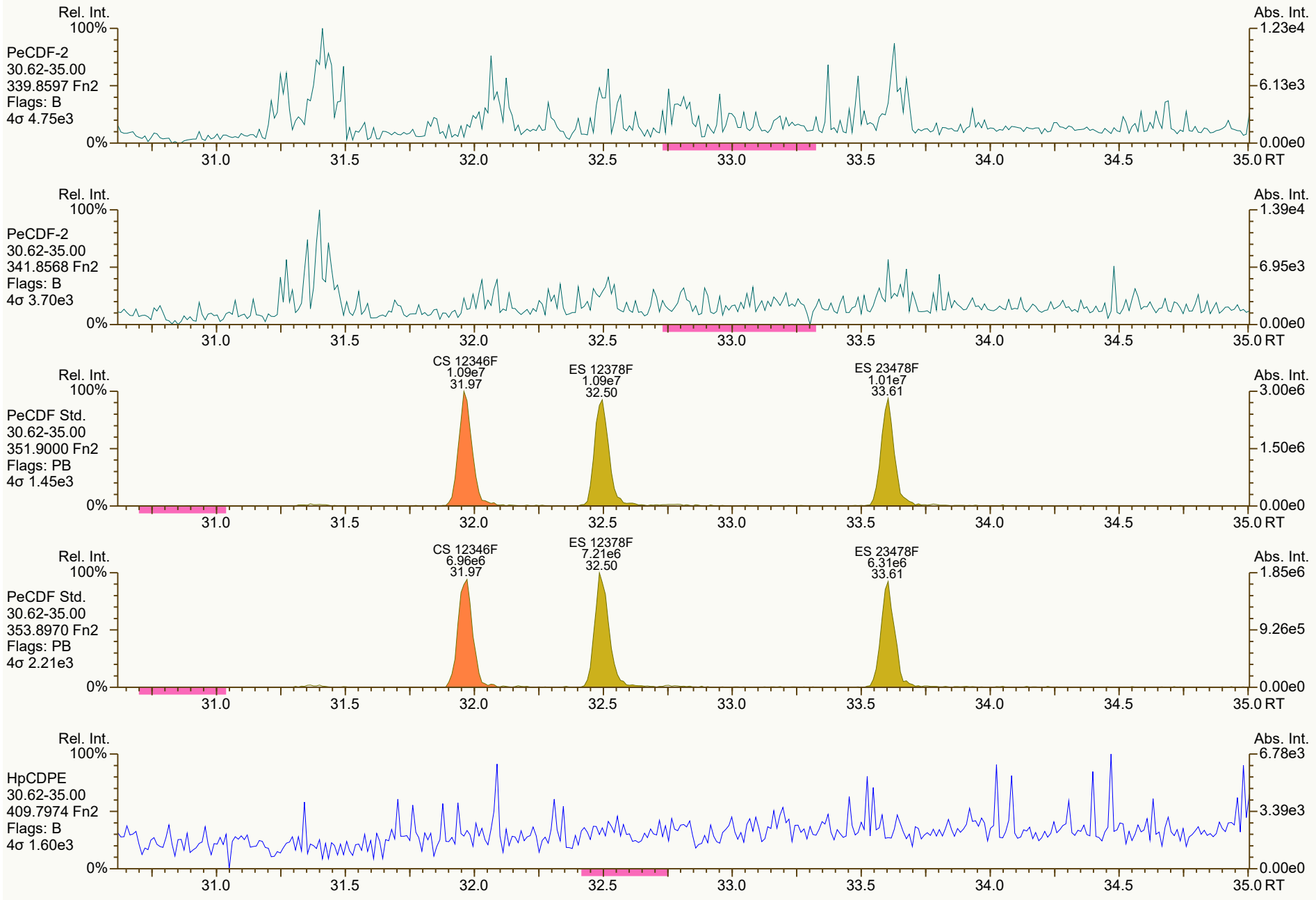

OCDD
1.65e7*
43.56
Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PBM
4σ 2.37e3
0%
Abs. Int.
3.69e6
1.85e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.82e7*
43.56
OCDD
42.42-45.01
459.7348 Fn5
Flags: PBM
4σ 1.97e3
3.95e6
1.97e6
ES OCDD
4.76e6*
43.55
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 3.18e3
1.10e6
5.49e5
ES OCDD
5.15e6*
43.55
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 1.64e3
1.18e6
5.92e5
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
9.73e6
4.87e6

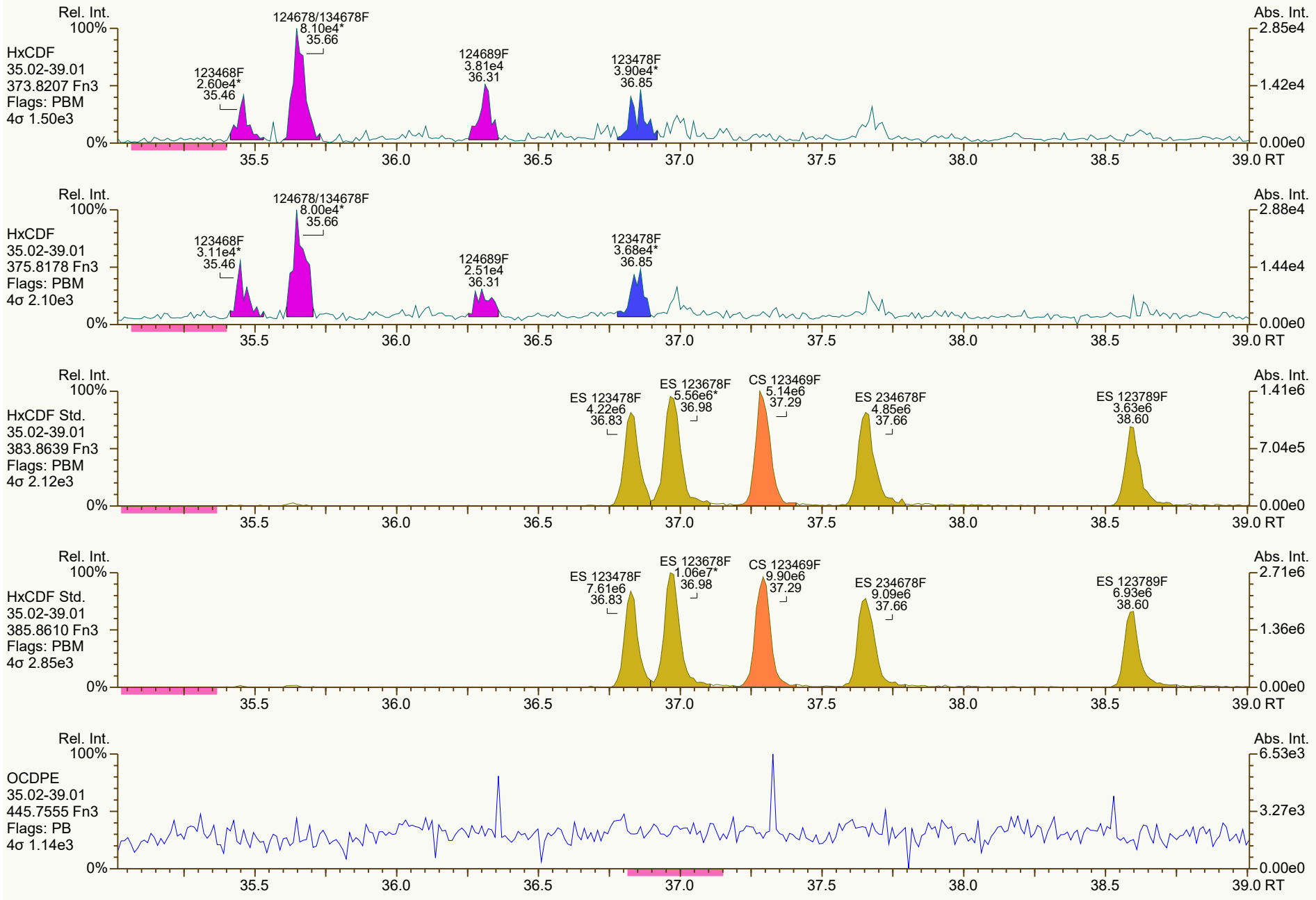

Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 2.25e3
0%
2468F 6.05e4* 24.14
1347F...[3] 9.13e4* 24.64
1248F...[3] 6.14e4* 25.03
2368F 3.28e4* 26.37
1238F...[5] 5.09e4* 26.45
1278F 9.76e4 26.90
2378F 1.94e5* 27.80
2367/3467F 4.54e4* 28.15
Abs. Int.
5.56e4
2.78e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 3.11e3
0%
2468F 8.87e4* 24.15
1347F...[3] 1.02e5* 24.65
1248F...[3] 8.67e4* 25.02
2368F 4.63e4* 26.35
1238F...[5] 6.41e4* 26.44
1278F 1.48e5* 26.90
2378F 2.61e5* 27.79
2367/3467F 6.30e4* 28.13
Abs. Int.
6.74e4
3.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 2.74e3
0%
JS 1234F 1.09e7 26.42
ES 2378F 7.64e6 27.78
Abs. Int.
2.29e6
1.15e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 2.45e3
0%
JS 1234F 1.41e7 26.42
ES 2378F 9.74e6 27.77
Abs. Int.
3.05e6
1.53e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.28e3
0%
Abs. Int.
1.48e4
7.39e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

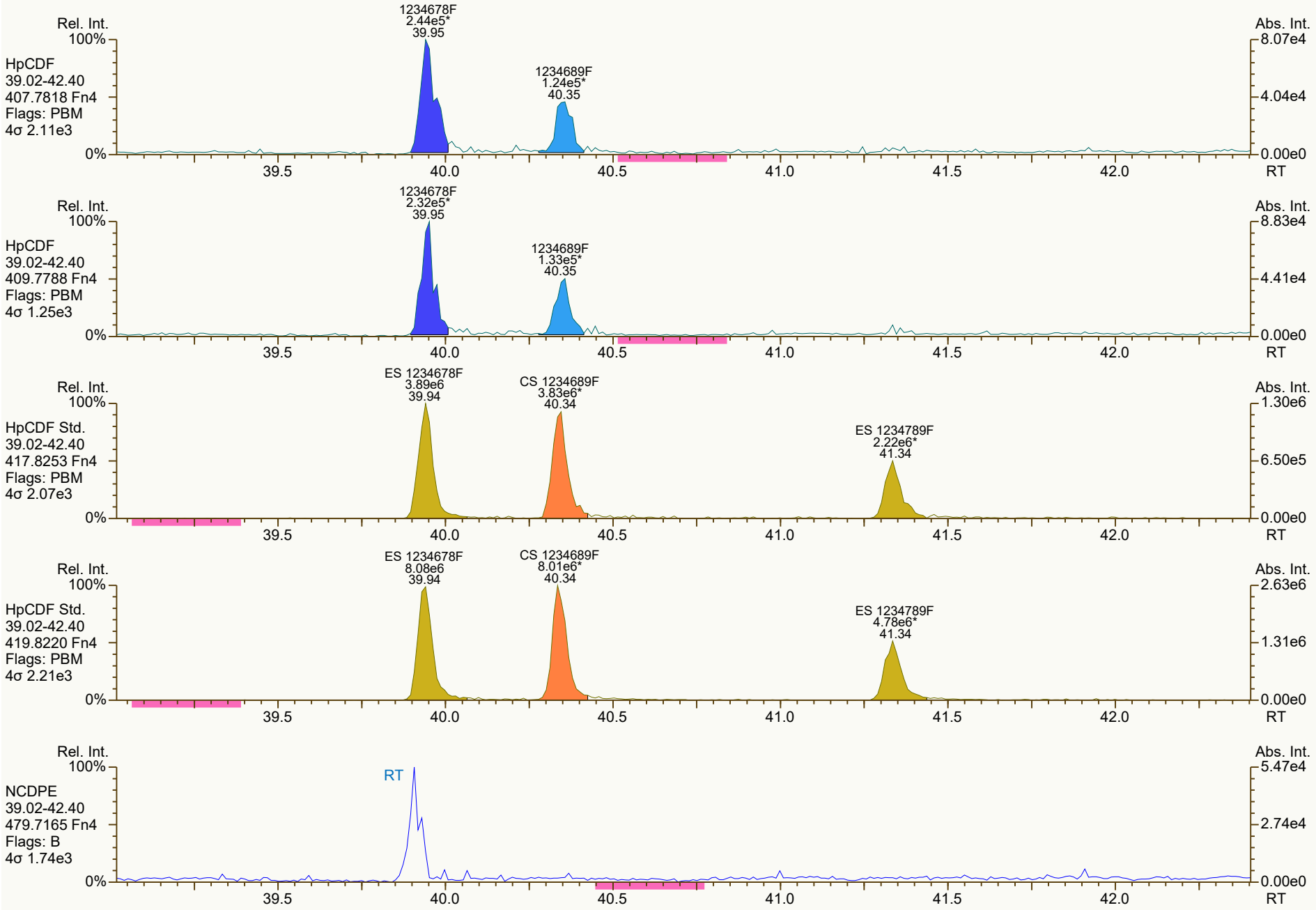
SGS ID: B6234_18872_DF_003 | Sample ID: 11215131-012222-S-BN-NC-S-35 | Acq: 27-Jan-2022 21:01:58
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 15 | User: DTF Datafile: 220127C08

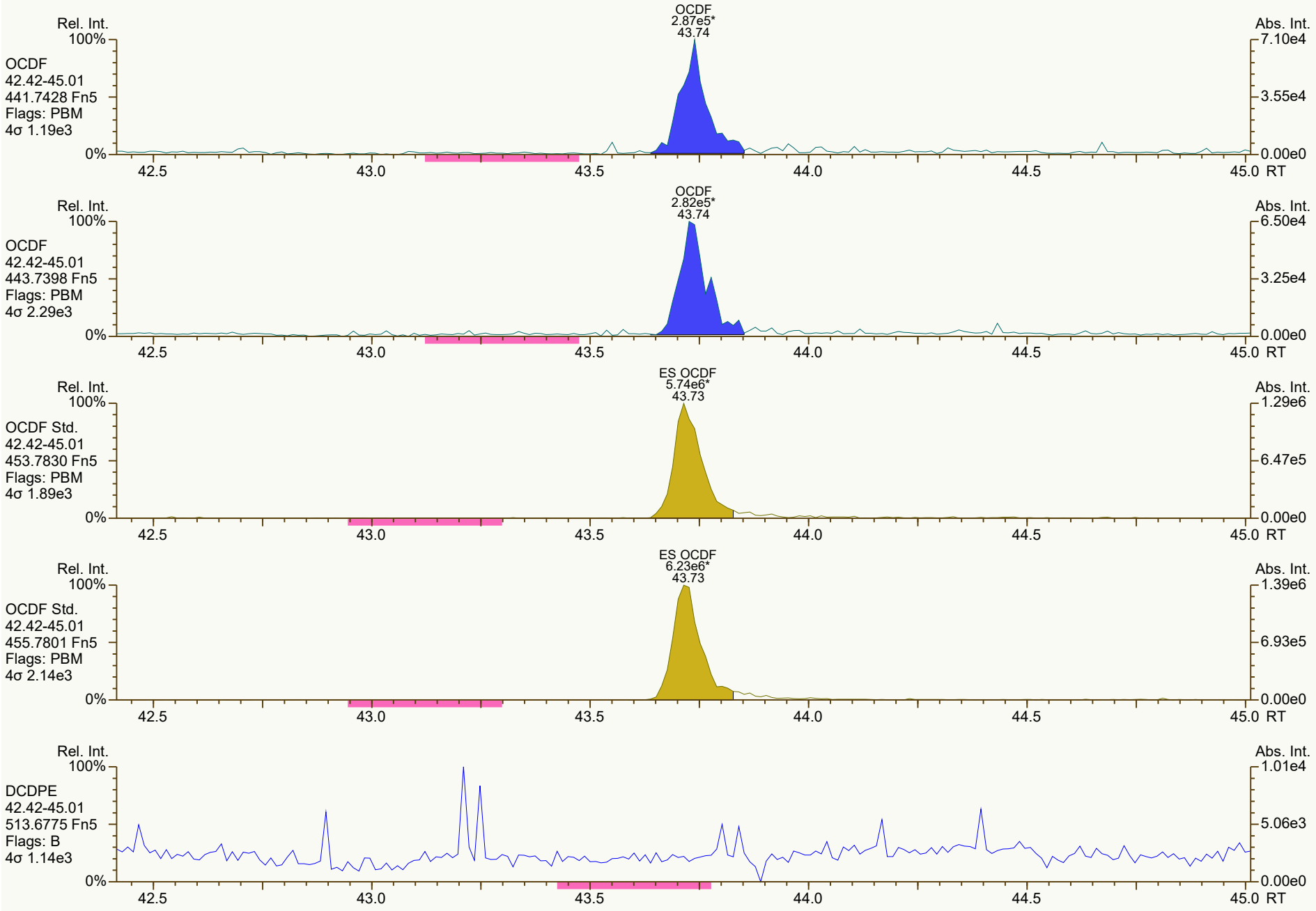


Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_003.utp_res, saved 28-Jan-2022 09:47 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7323 scc: 153-184 *Revised: 28-Jan-2022 08:45 (DTF) Printed: 28-Jan-2022 09:55 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: B
4σ 4.75e3
0%
Abs. Int.
1.23e4
6.13e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: B
4σ 3.70e3
0%
Abs. Int.
1.39e4
6.95e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PB
4σ 1.45e3
0%
CS 12346F
1.09e7
31.97
ES 12378F
1.09e7
32.50
ES 23478F
1.01e7
33.61
Abs. Int.
3.00e6
1.50e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PB
4σ 2.21e3
0%
CS 12346F
6.96e6
31.97
ES 12378F
7.21e6
32.50
ES 23478F
6.31e6
33.61
Abs. Int.
1.85e6
9.26e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.60e3
0%
Abs. Int.
6.78e3
3.39e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 1.50e3
123468F
2.60e4*
35.46
124678/134678F
8.10e4*
35.66
124689F
3.81e4
36.31
123478F
3.90e4*
36.85
0%
Abs. Int.
2.85e4
1.42e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 2.10e3
123468F
3.11e4*
35.46
124678/134678F
8.00e4*
35.66
124689F
2.51e4
36.31
123478F
3.68e4*
36.85
0%
Abs. Int.
2.88e4
1.44e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 2.12e3
ES 123478F
4.22e6
36.83
ES 123678F
5.56e6*
36.98
CS 123469F
5.14e6
37.29
ES 234678F
4.85e6
37.66
ES 123789F
3.63e6
38.60
0%
Abs. Int.
1.41e6
7.04e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 2.85e3
ES 123478F
7.61e6
36.83
ES 123678F
1.06e7*
36.98
CS 123469F
9.90e6
37.29
ES 234678F
9.09e6
37.66
ES 123789F
6.93e6
38.60
0%
Abs. Int.
2.71e6
1.36e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.14e3
0%
Abs. Int.
6.53e3
3.27e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 2.11e3
1234678F
2.44e5*
39.95
1234689F
1.24e5*
40.35
Abs. Int.
8.07e4
4.04e4
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 1.25e3
1234678F
2.32e5*
39.95
1234689F
1.33e5*
40.35
Abs. Int.
8.83e4
4.41e4
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 2.07e3
ES 1234678F
3.89e6
39.94
CS 1234689F
3.83e6*
40.34
ES 1234789F
2.22e6*
41.34
Abs. Int.
1.30e6
6.50e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 2.21e3
ES 1234678F
8.08e6
39.94
CS 1234689F
8.01e6*
40.34
ES 1234789F
4.78e6*
41.34
Abs. Int.
2.63e6
1.31e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.74e3
RT
Abs. Int.
5.47e4
2.74e4
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
2.87e5*
43.74
Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PBM
4σ 1.19e3
0%
Abs. Int.
7.10e4
3.55e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.82e5*
43.74
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PBM
4σ 2.29e3
0%
Abs. Int.
6.50e4
3.25e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
5.74e6*
43.73
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
1.29e6
6.47e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
6.23e6*
43.73
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 2.14e3
0%
Abs. Int.
1.39e6
6.93e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.14e3
0%
Abs. Int.
1.01e4
5.06e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6234_18872_DF_004 **Acq'd:** 27 Jan 2022 21:48 DTF **Wt/Vol:** 11.82 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-S-33 **UTP:** 28-Jan-2022 14:03:21 DTF **J-level:** 0.423 pg/g **Split:** 1 **Checkcode:** 156-115-PSR

Datafile: 220127C09 **Report:** 28 Jan 2022 14:03 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.66	E	1.0008	1.0008	0	6.82E+08	0.80	Y	1.18	5,570	4446.835	0.375
12378-PeCDD	33.96		1.0006	1.0005	-0.2	5.45E+06	1.63	Y	1.04	53.9	5021.177	0.47
123478-HxCDD	37.85	EMPC	1.0004	1.0005	+0.2	2.12E+05	1.64	N	1.09	2.21	5080.135	0.416
123678-HxCDD	37.96		1.0034	1.0035	+0.2	1.41E+06	1.27	Y	1.15	13.2	5080.135	0.439
123789-HxCDD	38.26	EMPC	1.0109	1.0112	+0.7	6.09E+05	1.43	N	1.05	5.43	5080.135	0.417
1234678-HpCDD	40.88		1.0003	1.0004	+0.2	4.02E+07	1.03	Y	1.06	452	3992.718	0.383
OCDD	43.54		1.0002	1.0002	0	3.68E+08	0.90	Y	1.13	6,020	3834.532	0.645
2378-TCDF	27.81	E	1.0008	1.0007	-0.2	2.88E+09	0.80	Y	1.08	15,400	3266.666	0.201
12378-PeCDF	32.53		1.0005	1.0005	0	7.87E+07	1.55	Y	1.02	483	11980.168	0.703
23478-PeCDF	33.65		1.0005	1.0007	+0.4	6.29E+07	1.55	Y	1.02	401	11980.168	0.77
123478-HxCDF	36.85		1.0004	1.0005	+0.2	1.09E+08	1.25	Y	1.27	733	5725.347	0.335
123678-HxCDF	36.99		1.0004	1.0004	0	3.19E+07	1.26	Y	1.15	191	5725.347	0.312
234678-HxCDF	37.68		1.0004	1.0004	0	5.55E+06	1.26	Y	1.19	43.9	5725.347	0.488
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	5725.347	0.384
1234678-HpCDF	39.95		1.0002	1.0003	+0.2	3.78E+07	1.04	Y	1.37	257	5539.28	0.282
1234789-HpCDF	41.34		1.0003	1.0003	0	9.23E+06	1.02	Y	1.31	84.3	5539.28	0.431
OCDF	43.73		1.0002	1.0004	+0.5	7.07E+07	0.87	Y	1.07	905	2711.146	0.377

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.64	1.0233	1.0230	-0.5	1.75E+07	0.82	Y	1.05	66.5
ES 12378-PeCDD	33.95	1.2121	1.2127	+1.2	1.65E+07	1.50	Y	0.88	74.6
ES 123478-HxCDD	37.83	0.9921	0.9921	0	1.49E+07	1.24	Y	0.97	71.8
ES 123678-HxCDD	37.95	0.9951	0.9951	0	1.57E+07	1.26	Y	0.94	77.9
ES 123789-HxCDD	38.24	1.0025	1.0027	+0.5	1.81E+07	1.26	Y	1.09	77.7
ES 1234678-HpCDD	40.86	1.0709	1.0715	+1.5	1.42E+07	1.09	Y	0.91	72.9
ES OCDD	43.53	1.1403	1.1414	+2.9	1.83E+07	0.93	Y	0.62	68.9
ES 2378-TCDF	27.79	1.0506	1.0512	+1.0	2.93E+07	0.82	Y	1.06	70.4
ES 12378-PeCDF	32.52	1.2281	1.2298	+3.3	2.69E+07	1.54	Y	0.91	75.1
ES 23478-PeCDF	33.62	1.2698	1.2717	+3.8	2.61E+07	1.62	Y	0.88	75
ES 123478-HxCDF	36.83	0.9657	0.9658	+0.2	1.97E+07	0.55	Y	1.20	77.1
ES 123678-HxCDF	36.98	0.9695	0.9696	+0.2	2.45E+07	0.54	Y	1.35	84.9
ES 234678-HxCDF	37.66	0.9874	0.9875	+0.2	1.80E+07	0.55	Y	1.24	68
ES 123789-HxCDF	38.59	1.0116	1.0118	+0.5	1.79E+07	0.53	Y	1.16	72.6
ES 1234678-HpCDF	39.94	1.0467	1.0472	+1.2	1.81E+07	0.48	Y	0.97	87.7
ES 1234789-HpCDF	41.32	1.0830	1.0836	+1.5	1.42E+07	0.45	Y	0.85	78.1
ES OCDF	43.71	1.1451	1.1462	+2.9	2.46E+07	0.89	Y	0.81	71.5

Lab ID: B6234_18872_DF_004 **Acq'd:** 27 Jan 2022 21:48 DTF **Wt/Vol:** 11.82 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-S-33 **UTP:** 28-Jan-2022 14:03:21 DTF **J-level:** 0.423 pg/g **Split:** 1 **Checkcode:** 156-115-PSR

Datafile: 220127C09 **Report:** 28 Jan 2022 14:03 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.99		-	-	-	2.51E+07	0.82	Y	-	-	
JS 1234-TCDF	26.44		-	-	-	3.94E+07	0.78	Y	-	-	
JS 123467-HxCDD	38.14		-	-	-	1.07E+07	1.24	Y	-	-	
CS 37Cl-2378-TCDD	28.66		1.0241	1.0238	-0.5	7.18E+06	n/a	-	1.20	59.4	
CS 12347-PeCDD	33.45		1.1943	1.1949	+1.2	1.49E+07	1.58	Y	0.75	78.5	
CS 12346-PeCDF	31.99		1.2083	1.2100	+3.3	2.48E+07	1.52	Y	0.85	74.1	
CS 123469-HxCDF	37.29		0.9778	0.9779	+0.2	2.03E+07	0.52	Y	1.12	85	
CS 1234689-HpCDF	40.34		1.0571	1.0577	+1.5	1.69E+07	0.48	Y	0.89	89.2	
~~SS 37Cl-2378-TCDD~~	~~28.66~~		~~1.0241~~	~~1.0238~~	~~-0.5~~	~~7.18E+06~~	~~n/a~~		~~1.15~~	~~89.5~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.45~~		~~1.1943~~	~~1.1949~~	~~+1.2~~	~~1.49E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~105~~	CL 28Jan22
~~SS 12346-PeCDF~~	~~31.99~~		~~1.2083~~	~~1.2100~~	~~+3.3~~	~~2.48E+07~~	~~1.52~~	~~Y~~	~~0.94~~	~~98.4~~	
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9779~~	~~+0.2~~	~~2.03E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~99.9~~	
~~SS 1234689-HpCDF~~	~~40.34~~		~~1.0571~~	~~1.0577~~	~~+1.5~~	~~1.69E+07~~	~~0.48~~	~~Y~~	~~0.92~~	~~101~~	

Totals	Conc	EMPC
Total TCDD	6250	6260
Total PeCDD	82.6	86.7
Total HxCDD	113	121
Total HpCDD	873	873
Total Tetra-Octa Dioxins	13300	13400
Total TCDF	29,700	29700
Total PeCDF	1,400	1400
Total HxCDF	1,170	1170
Total HpCDF	501	501
Total Tetra-Octa Furans	33,700	33700
Total Tetra-Octa Dioxins & Furans	47000	47100

Lab ID: B6234_18872_DF_004 **Acq'd: 27 Jan 2022 21:48 DTF** **Wt/Vol: 11.82 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012222-S-BN-NC-S-33 **UTP: 28-Jan-2022 14:03:21 DTF** **J-level: 0.423 pg/g** **Split: 1** **Checkcode: 156-115-PSR**

Datafile: 220127C09 **Report: 28 Jan 2022 14:03 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.06		0.8755	0.8752	-0.5	1.04E+06	0.82	Y	1.18	8.46	4446.835	0.375
1379-TCDD	25.40		0.8876	0.8870	-0.9	4.63E+05	0.83	Y	1.18	3.79	4446.835	0.375
1369-TCDD	25.85		0.9023	0.9027	+0.6	1.41E+05	0.86	Y	1.18	1.16	4446.835	0.375
1469-TCDD	26.59		0.9291	0.9286	-0.8	5.60E+05	0.82	Y	1.18	4.58	4446.835	0.375
1247/1246/1248/1249-TCDD	26.82		0.9373	0.9365	-1.3	1.23E+06	0.88	Y	1.18	10.1	4446.835	0.375
1378-TCDD	27.01		0.9440	0.9433	-1.1	2.20E+06	0.86	Y	1.18	17.9	4446.835	0.375
1268-TCDD	NotFnd		0.9506						1.18		4446.835	0.375
1478-TCDD	27.47		0.9591	0.9591	0	1.90E+06	0.84	Y	1.18	15.5	4446.835	0.375
1279-TCDD	NotFnd		0.9649						1.18		4446.835	0.375
1234/1269-TCDD	NotFnd		0.9771						1.18		4446.835	0.375
1236-TCDD	NotFnd		0.9820						1.18		4446.835	0.375
1237/1238-TCDD	28.37		0.9908	0.9907	-0.2	1.11E+07	0.83	Y	1.18	90.9	4446.835	0.375
1239-TCDD	NotFnd		0.9954						1.18		4446.835	0.375
2378-TCDD	**28.66**	E	**1.0008**	1.0008	**0**	6.82E+08	0.80	Y	**1.18**	**5,570**	**4446.835**	**0.375**
1278-TCDD	28.99		1.0121	1.0123	+0.3	6.53E+07	0.80	Y	1.18	533	4446.835	0.375
1267-TCDD	NotFnd		1.0167						1.18		4446.835	0.375
1289-TCDD	29.64	EMPC	1.0341	1.0350	+1.6	1.13E+06	0.92	N	1.18	9.24	4446.835	0.375
12479/12468-PeCDD	31.48		0.9273	0.9275	+0.4	6.17E+05	1.72	Y	1.04	6.11	5021.177	0.47
12469-PeCDD	32.01		0.9430	0.9430	0	3.66E+05	1.50	Y	1.04	3.63	5021.177	0.47
12368-PeCDD	32.55		0.9592	0.9590	-0.4	8.56E+05	1.48	Y	1.04	8.47	5021.177	0.47
12478-PeCDD	32.75		0.9647	0.9648	+0.2	4.02E+05	1.63	Y	1.04	3.98	5021.177	0.47
12379-PeCDD	32.85	EMPC	0.9676	0.9678	+0.4	2.50E+05	1.25	N	1.04	2.47	5021.177	0.47
12369/12467/12489-PeCDD	33.10		0.9752	0.9752	0	2.60E+05	1.51	Y	1.04	2.57	5021.177	0.47
12346/12347-PeCDD	33.47	J EMPC	0.9860	0.9860	0	1.62E+05	1.81	N	1.04	1.6	5021.177	0.47
12378-PeCDD	33.96		**1.0006**	**1.0005**	**-0.2**	**5.45E+06**	**1.63**	**Y**	**1.04**	**53.9**	**5021.177**	**0.47**
12367-PeCDD	34.06		1.0034	1.0033	-0.2	2.47E+05	1.38	Y	1.04	2.45	5021.177	0.47
12389-PeCDD	34.39	J	1.0134	1.0132	-0.4	1.53E+05	1.52	Y	1.04	1.52	5021.177	0.47
124679/124689-HxCDD	36.11		0.9545	0.9545	0	5.22E+06	1.29	Y	1.10	49.7	5080.135	0.423
123468-HxCDD	36.76		0.9715	0.9717	+0.4	5.84E+05	1.11	Y	1.10	5.56	5080.135	0.423
123679/123689-HxCDD	37.06		0.9793	0.9795	+0.4	4.31E+06	1.28	Y	1.10	41.1	5080.135	0.423
123469-HxCDD	37.17		0.9829	0.9826	-0.7	3.19E+05	1.42	Y	1.10	3.03	5080.135	0.423
123478-HxCDD	37.85	EMPC	**1.0004**	**1.0005**	**+0.2**	**2.12E+05**	**1.64**	**N**	1.09	**2.21**	**5080.135**	**0.416**
123678-HxCDD	37.96		**1.0034**	**1.0035**	**+0.2**	**1.41E+06**	**1.27**	**Y**	1.15	**13.2**	**5080.135**	**0.439**
123467-HxCDD	38.15	J EMPC	1.0082	1.0083	+0.2	1.32E+05	1.79	N	1.10	1.26	5080.135	0.423
123789-HxCDD	38.26	EMPC	**1.0109**	**1.0112**	**+0.7**	**6.09E+05**	**1.43**	**N**	1.05	**5.43**	**5080.135**	**0.417**

Lab ID: B6234_18872_DF_004 **Acq'd:** 27 Jan 2022 21:48 DTF **Wt/Vol:** 11.82 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-S-33 **UTP:** 28-Jan-2022 14:03:21 DTF **J-level:** 0.423 pg/g **Split:** 1 **Checkcode:** 156-115-PSR

Datafile: 220127C09 **Report:** 28 Jan 2022 14:03 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

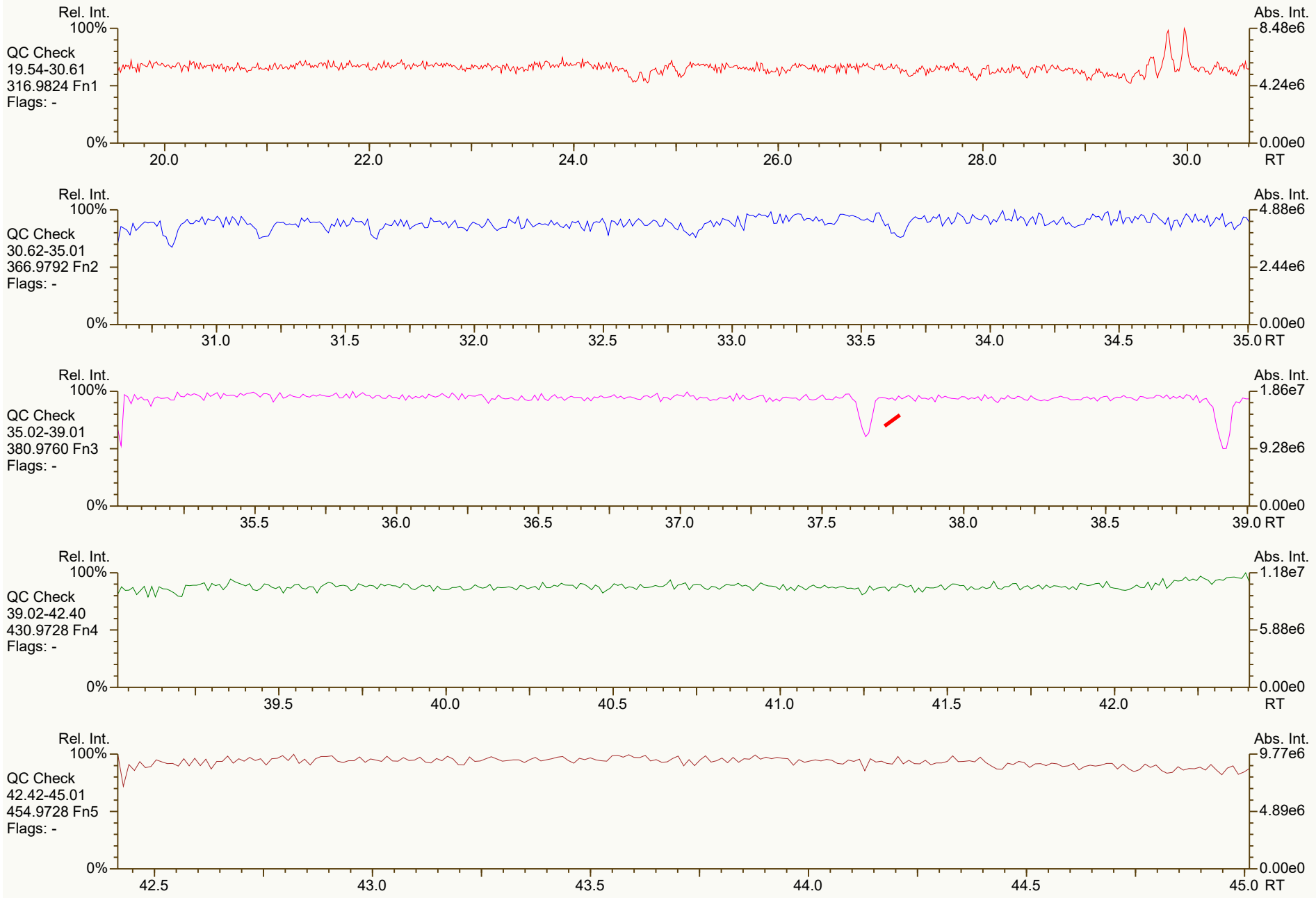
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.20		0.9838	0.9838	0	3.75E+07	1.05	Y	1.06	421	3992.718	0.383
1234678-HpCDD	**40.88**		**1.0003**	**1.0004**	**+0.2**	**4.02E+07**	**1.03**	**Y**	**1.06**	**452**	**3992.718**	**0.383**
OCDD	**43.54**		**1.0002**	**1.0002**	**0**	**3.68E+08**	**0.90**	**Y**	**1.13**	**6,020**	**3834.532**	**0.645**
OCDD-a	43.54		1.0002	1.0003	+0.3	2.31E+07	2.57	Y	0.07	5,910	5684.125	14.9
1368-TCDF	22.97	EMPC	0.8282	0.8264	-2.5	6.30E+05	0.92	N	1.08	3.37	3266.666	0.201
1468-TCDF	23.56		0.8485	0.8476	-1.3	4.31E+06	0.85	Y	1.08	23	3266.666	0.201
2468-TCDF	24.19		0.8709	0.8702	-1.0	3.08E+06	0.84	Y	1.08	16.5	3266.666	0.201
1346/1246-TCDF	NotFnd		0.8829						1.08		3266.666	0.201
1347/1378/1247-TCDF	24.72		0.8884	0.8893	+1.3	2.58E+07	0.80	Y	1.08	138	3266.666	0.201
1348-TCDF	NotFnd		0.8980						1.08		3266.666	0.201
1248/1367/1379-TCDF	25.04		0.9026	0.9010	-2.4	1.05E+08	0.81	Y	1.08	561	3266.666	0.201
1268-TCDF	25.44		0.9158	0.9154	-0.6	4.01E+07	0.80	Y	1.08	215	3266.666	0.201
1467-TCDF	25.57		0.9206	0.9201	-0.8	6.37E+06	0.79	Y	1.08	34.1	3266.666	0.201
1478-TCDF	25.74		0.9266	0.9262	-0.6	9.95E+07	0.79	Y	1.08	532	3266.666	0.201
1369/1237-TCDF	26.12		0.9397	0.9399	+0.3	3.08E+07	0.81	Y	1.08	165	3266.666	0.201
2467-TCDF	26.23		0.9440	0.9439	-0.2	2.41E+06	0.86	Y	1.08	12.9	3266.666	0.201
2368-TCDF	26.37		0.9497	0.9489	-1.3	6.83E+07	0.79	Y	1.08	365	3266.666	0.201
1238/1234/1678/1469/1236-TCDF	26.45		0.9528	0.9517	-1.7	1.49E+08	0.81	Y	1.08	796	3266.666	0.201
1278-TCDF	26.92	E	0.9690	0.9684	-1.0	1.37E+09	0.79	Y	1.08	7,300	3266.666	0.201
1349-TCDF	NotFnd		0.9730						1.08		3266.666	0.201
1267-TCDF	27.19		0.9787	0.9782	-0.8	6.80E+07	0.80	Y	1.08	364	3266.666	0.201
2346/1249-TCDF	27.39		0.9850	0.9854	+0.7	7.68E+06	0.79	Y	1.08	41.1	3266.666	0.201
2347/1279-TCDF	27.59		0.9929	0.9925	-0.7	3.43E+07	0.80	Y	1.08	183	3266.666	0.201
2348-TCDF	27.69	E	0.9970	0.9964	-1.0	1.93E+08	0.79	Y	1.08	1,030	3266.666	0.201
2378-TCDF	**27.81**	E	**1.0008**	**1.0007**	**-0.2**	**2.88E+09**	**0.80**	**Y**	**1.08**	**15,400**	**3266.666**	**0.201**
2367/3467-TCDF	28.16	E	1.0136	1.0133	-0.5	2.19E+08	0.79	Y	1.08	1,170	3266.666	0.201
1269-TCDF	28.41		1.0221	1.0223	+0.3	4.03E+07	0.80	Y	1.08	215	3266.666	0.201
1239-TCDF	28.67		1.0319	1.0314	-0.9	3.85E+06	0.80	Y	1.08	20.6	3266.666	0.201
1289-TCDF	29.82	E	1.0740	1.0730	-1.8	2.12E+08	0.80	Y	1.08	1,130	3266.666	0.201
13468/12468-PeCDF	29.75		0.9145	0.9151	+1.1	2.78E+06	1.67	Y	1.02	17.4	2971.521	0.182
13678/13467/12467-PeCDF	31.29		0.9619	0.9622	+0.6	1.08E+06	1.61	Y	1.02	6.76	11980.168	0.736
12368/13478/12478-PeCDF	31.45		0.9665	0.9672	+1.3	3.64E+07	1.57	Y	1.02	228	11980.168	0.736
14678-PeCDF	NotFnd		0.9695						1.02		11980.168	0.736
13479-PeCDF	NotFnd		0.9724						1.02		11980.168	0.736
13469/12479-PeCDF	31.82		0.9801	0.9786	-2.9	4.19E+05	1.62	Y	1.02	2.62	11980.168	0.736
12346-PeCDF	32.00	J EMPC	0.9842	0.9840	-0.4	1.39E+05	1.10	N	1.02	0.87	11980.168	0.736

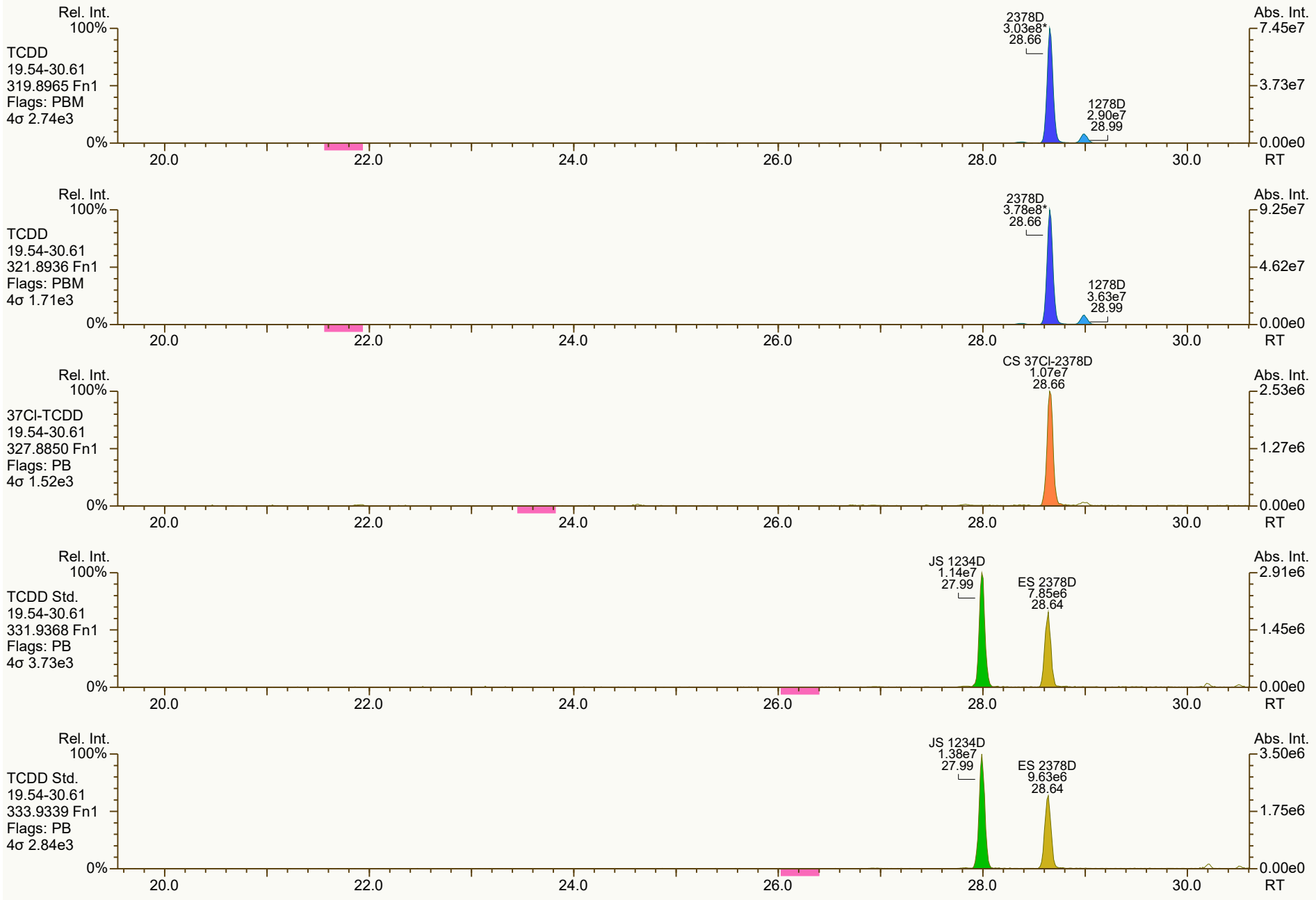
Lab ID: B6234_18872_DF_004 **Acq'd: 27 Jan 2022 21:48 DTF** **Wt/Vol: 11.82 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

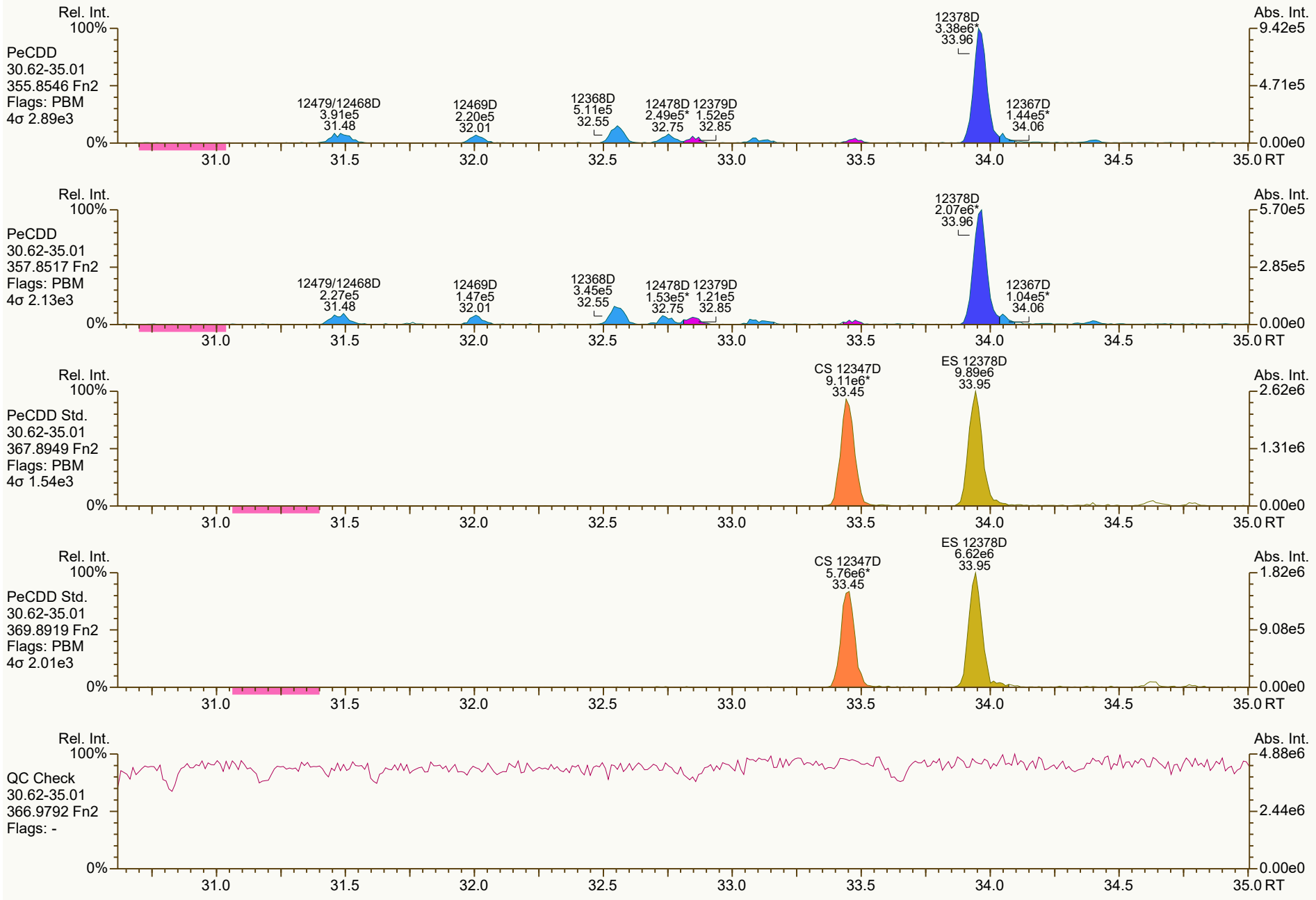
Client ID: 11215131-012222-S-BN-NC-S-33 **UTP: 28-Jan-2022 14:03:21 DTF** **J-level: 0.423 pg/g** **Split: 1** **Checkcode: 156-115-PSR**

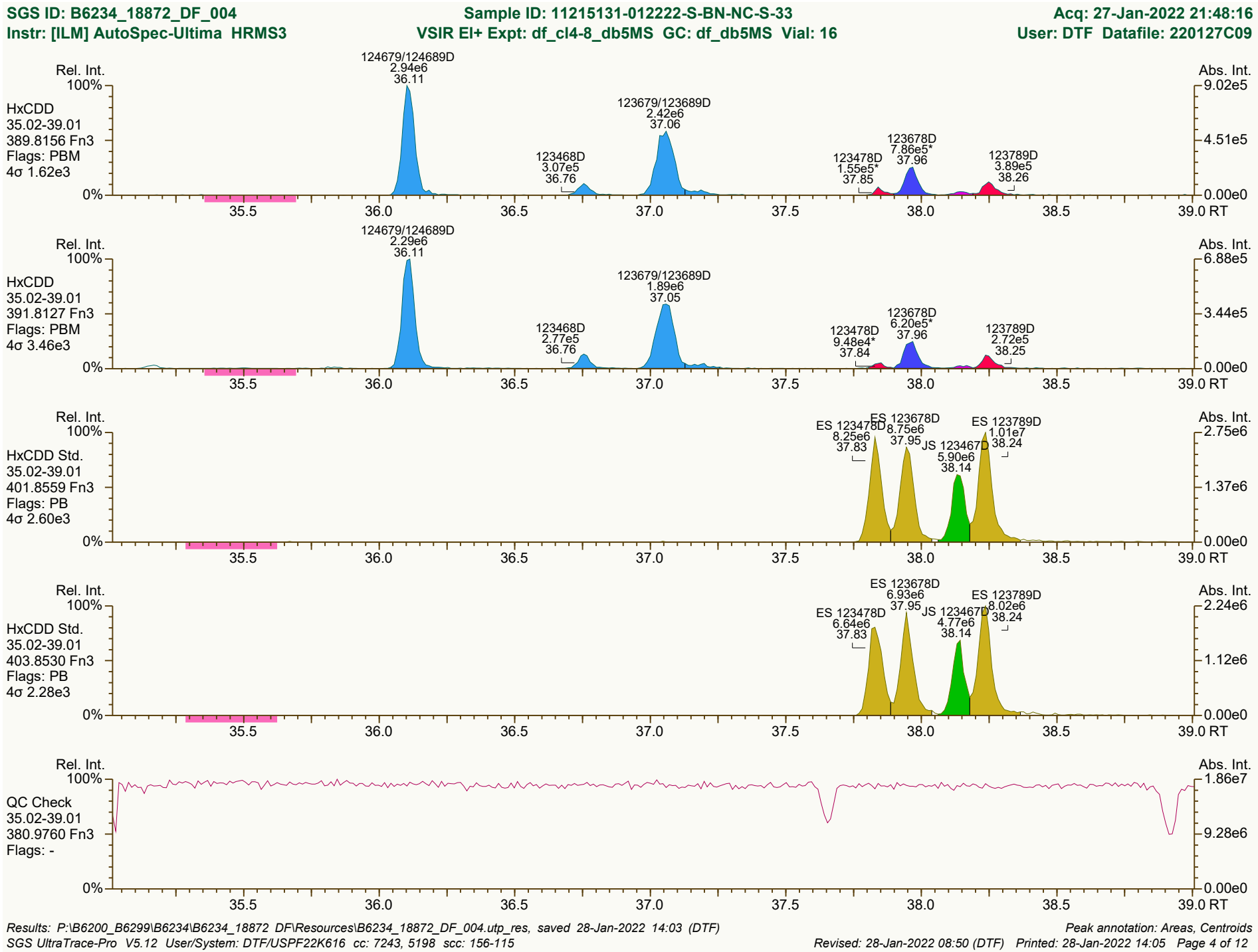
Datafile: 220127C09 **Report: 28 Jan 2022 14:03 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.08		0.9868	0.9867	-0.2	1.84E+06	1.60	Y	1.02	11.5	11980.168	0.736
12347-PeCDF	32.16		0.9895	0.9892	-0.6	2.01E+06	1.65	Y	1.02	12.6	11980.168	0.736
12348-PeCDF	32.32		0.9941	0.9941	0	8.42E+06	1.58	Y	1.02	52.6	11980.168	0.736
12378-PeCDF	**32.53**		**1.0005**	**1.0005**	**0**	**7.87E+07**	**1.55**	**Y**	**1.02**	**483**	**11980.168**	**0.703**
12678/12367-PeCDF	32.82		1.0090	1.0094	+0.8	2.48E+07	1.54	Y	1.02	155	11980.168	0.736
12379-PeCDF	NotFnd		1.0142						1.02		11980.168	0.736
12679-PeCDF	NotFnd		0.9931						1.02		11980.168	0.736
23467/12369-PeCDF	33.50		0.9966	0.9964	-0.4	1.37E+06	1.44	Y	1.02	8.55	11980.168	0.736
23478-PeCDF	**33.65**		**1.0005**	**1.0007**	**+0.4**	**6.29E+07**	**1.55**	**Y**	**1.02**	**401**	**11980.168**	**0.77**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		11980.168	0.736
12349-PeCDF	NotFnd		1.0101						1.02		11980.168	0.736
12389-PeCDF	34.70		1.0322	1.0319	-0.6	3.68E+06	1.58	Y	1.02	23	11980.168	0.736
123468-HxCDF	35.47		0.9627	0.9631	+0.9	1.91E+06	1.35	Y	1.19	13.5	5725.347	0.372
124678/134678-HxCDF	35.67		0.9684	0.9684	0	1.10E+07	1.20	Y	1.19	78.1	5725.347	0.372
134679-HxCDF	NotFnd		0.9747						1.19		5725.347	0.372
124679-HxCDF	36.09	J	0.9802	0.9798	-0.9	1.66E+05	1.32	Y	1.19	1.18	5725.347	0.372
124689-HxCDF	36.31		0.9858	0.9859	+0.2	6.80E+06	1.27	Y	1.19	48.1	5725.347	0.372
123467-HxCDF	36.73		0.9972	0.9972	0	7.63E+05	1.07	Y	1.19	5.4	5725.347	0.372
123478-HxCDF	**36.85**		**1.0004**	**1.0005**	**+0.2**	**1.09E+08**	**1.25**	**Y**	**1.27**	**733**	**5725.347**	**0.335**
123678-HxCDF	**36.99**		**1.0004**	**1.0004**	**0**	**3.19E+07**	**1.26**	**Y**	**1.15**	**191**	**5725.347**	**0.312**
123479-HxCDF	NotFnd		1.0051						1.19		5725.347	0.372
123469-HxCDF	NotFnd		1.0091						1.19		5725.347	0.372
123679-HxCDF	NotFnd		0.9943						1.19		5725.347	0.372
234678-HxCDF	**37.68**		**1.0004**	**1.0004**	**0**	**5.55E+06**	**1.26**	**Y**	**1.19**	**43.9**	**5725.347**	**0.488**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		5725.347	0.372
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**5725.347**	**0.384**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.63		1.0007	1.0011	+0.9	8.36E+06	1.26	Y	1.19	59.2	5725.347	0.372
1234678-HpCDF	**39.95**		**1.0002**	**1.0003**	**+0.2**	**3.78E+07**	**1.04**	**Y**	**1.37**	**257**	**5539.28**	**0.282**
1234679-HpCDF	40.20		1.0067	1.0066	-0.2	8.97E+05	1.06	Y	1.34	7.02	5539.28	0.347
1234689-HpCDF	40.35		1.0101	1.0104	+0.7	1.95E+07	1.04	Y	1.34	153	5539.28	0.347
1234789-HpCDF	**41.34**		**1.0003**	**1.0003**	**0**	**9.23E+06**	**1.02**	**Y**	**1.31**	**84.3**	**5539.28**	**0.431**
OCDF	**43.73**		**1.0002**	**1.0004**	**+0.5**	**7.07E+07**	**0.87**	**Y**	**1.07**	**905**	**2711.146**	**0.377**
OCDF-a	43.73		1.0002	1.0003	+0.3	4.48E+06	2.54	Y	0.07	927	4587.172	10.3

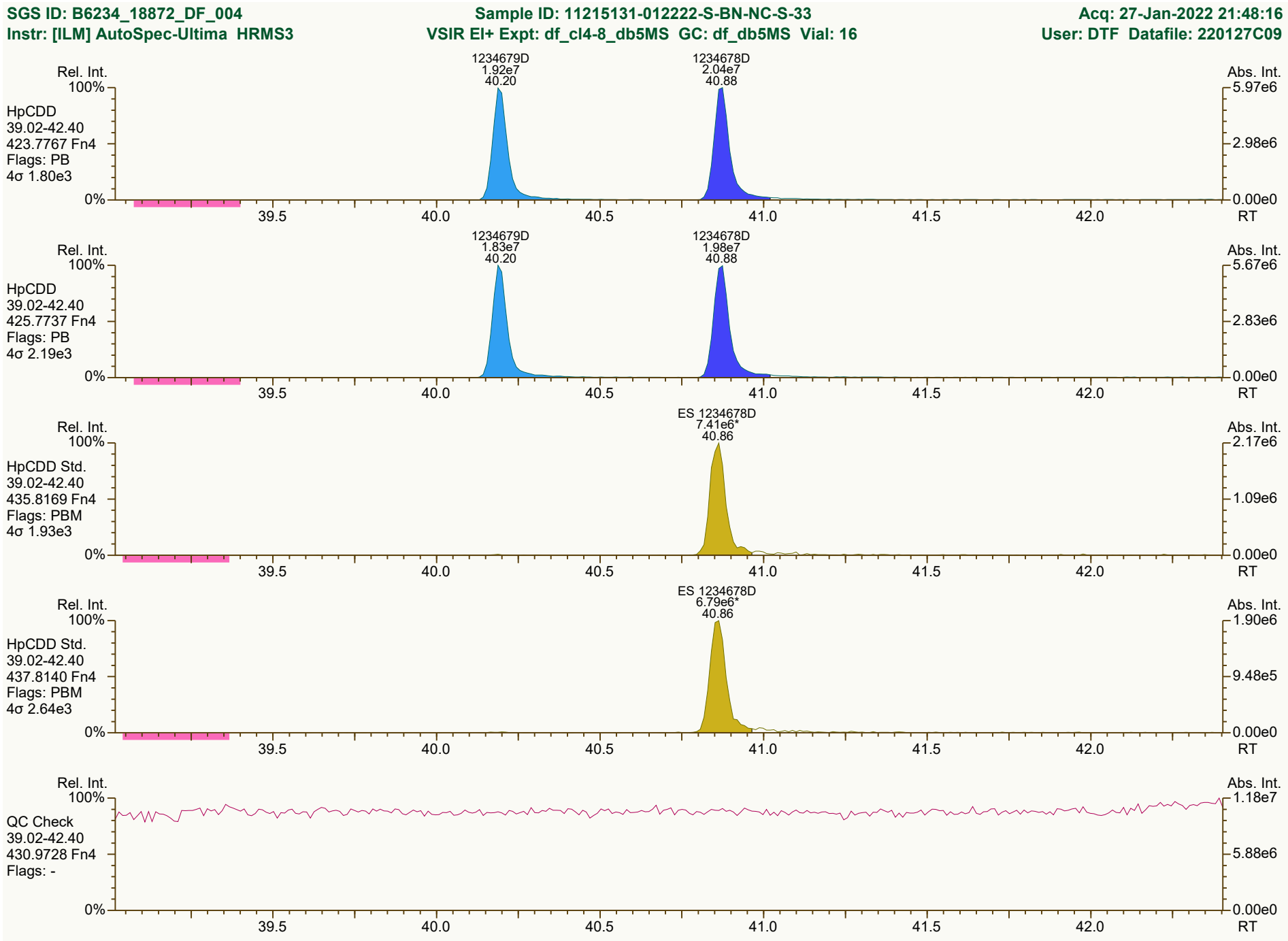

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
Abs. Int.
8.48e6
4.24e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.88e6
2.44e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.86e7
9.28e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.18e7
5.88e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.77e6
4.89e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

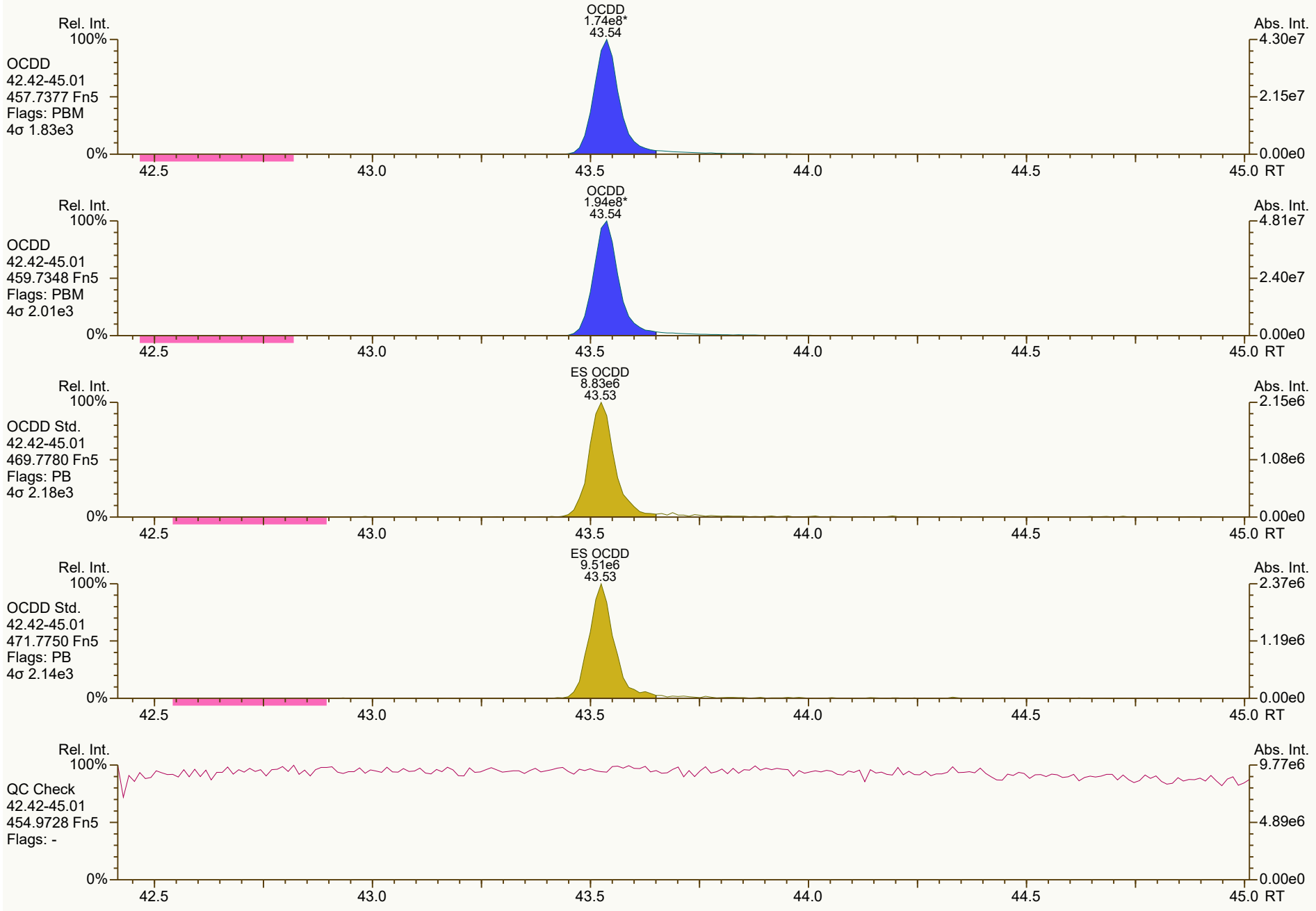

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 2.74e3
0%
2378D
3.03e8*
28.66
1278D
2.90e7
28.99
Abs. Int.
7.45e7
3.73e7
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 1.71e3
0%
2378D
3.78e8*
28.66
1278D
3.63e7
28.99
Abs. Int.
9.25e7
4.62e7
0.00e0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.52e3
0%
CS 37Cl-2378D
1.07e7
28.66
Abs. Int.
2.53e6
1.27e6
0.00e0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 3.73e3
0%
JS 1234D
1.14e7
27.99
ES 2378D
7.85e6
28.64
Abs. Int.
2.91e6
1.45e6
0.00e0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 2.84e3
0%
JS 1234D
1.38e7
27.99
ES 2378D
9.63e6
28.64
Abs. Int.
3.50e6
1.75e6
0.00e0
RT


Rel. Int.
100%
PeCDD
30.62-35.01
355.8546 Fn2
Flags: PBM
4σ 2.89e3
0%
12479/12468D
3.91e5
31.48
12469D
2.20e5
32.01
12368D
5.11e5
32.55
12478D
2.49e5*
32.75
12379D
1.52e5
32.85
12378D
3.38e6*
33.96
12367D
1.44e5*
34.06
Abs. Int.
9.42e5
4.71e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.01
357.8517 Fn2
Flags: PBM
4σ 2.13e3
0%
12479/12468D
2.27e5
31.48
12469D
1.47e5
32.01
12368D
3.45e5
32.55
12478D
1.53e5*
32.75
12379D
1.21e5
32.85
12378D
2.07e6*
33.96
12367D
1.04e5*
34.06
Abs. Int.
5.70e5
2.85e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
367.8949 Fn2
Flags: PBM
4σ 1.54e3
0%
CS 12347D
9.11e6*
33.45
ES 12378D
9.89e6
33.95
Abs. Int.
2.62e6
1.31e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
369.8919 Fn2
Flags: PBM
4σ 2.01e3
0%
CS 12347D
5.76e6*
33.45
ES 12378D
6.62e6
33.95
Abs. Int.
1.82e6
9.08e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.88e6
2.44e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


SGS ID: B6234_18872_DF_004
Sample ID: 11215131-012222-S-BN-NC-S-33
Acq: 27-Jan-2022 21:48:16
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 16
User: DTF Datafile: 220127C09
Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.62e3
124679/124689D
2.94e6
36.11
123679/123689D
2.42e6
37.06
123468D
3.07e5
36.76
123678D
7.86e5*
37.96
123478D
1.55e5*
37.85
123789D
3.89e5
38.26
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 3.46e3
124679/124689D
2.29e6
36.11
123679/123689D
1.89e6
37.05
123468D
2.77e5
36.76
123678D
6.20e5*
37.96
123478D
9.48e4*
37.84
123789D
2.72e5
38.25
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PB
4σ 2.60e3
ES 123478D
8.25e6
37.83
ES 123678D
8.75e6
37.95
JS 123467D
5.90e6
38.14
ES 123789D
1.01e7
38.24
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PB
4σ 2.28e3
ES 123678D
6.93e6
37.95
ES 123478D
6.64e6
37.83
JS 123467D
4.77e6
38.14
ES 123789D
8.02e6
38.24
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
100%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_004.utp_res, saved 28-Jan-2022 14:03 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7243, 5198 scc: 156-115
Revised: 28-Jan-2022 08:50 (DTF) Printed: 28-Jan-2022 14:05 Page 4 of 12

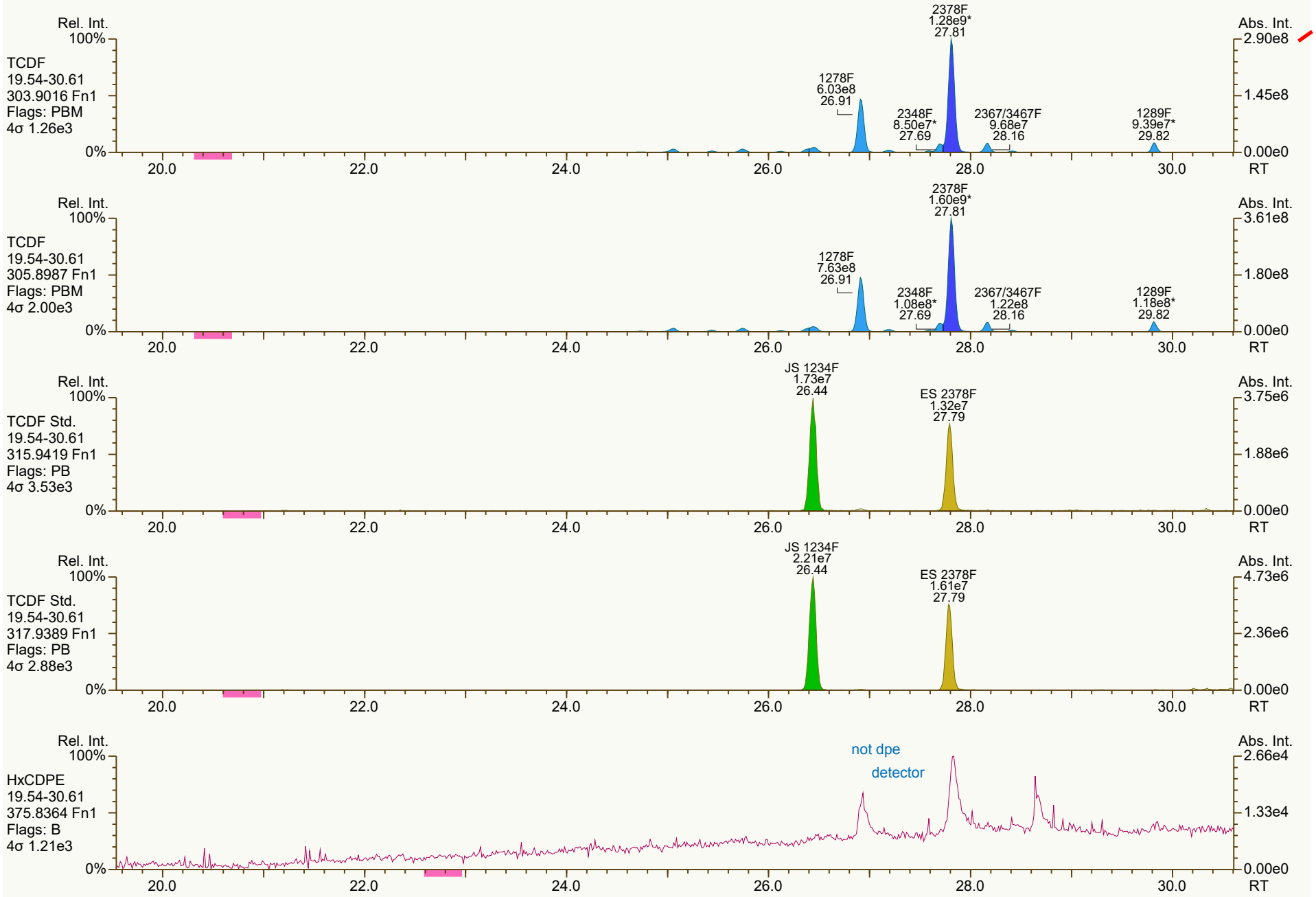
SGS ID: B6234_18872_DF_004 Sample ID: 11215131-012222-S-BN-NC-S-33 Acq: 27-Jan-2022 21:48:16
Instr: [ILM] AutoSpec-Ultima HRMS3 VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 16 User: DTF Datafile: 220127C09




OCDD
1.74e8*
43.54
Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
4.30e7
2.15e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.94e8*
43.54
OCDD
42.42-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
4.81e7
2.40e7
ES OCDD
8.83e6
43.53
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PB
4σ 2.18e3
2.15e6
1.08e6
ES OCDD
9.51e6
43.53
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PB
4σ 2.14e3
2.37e6
1.19e6
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
9.77e6
4.89e6

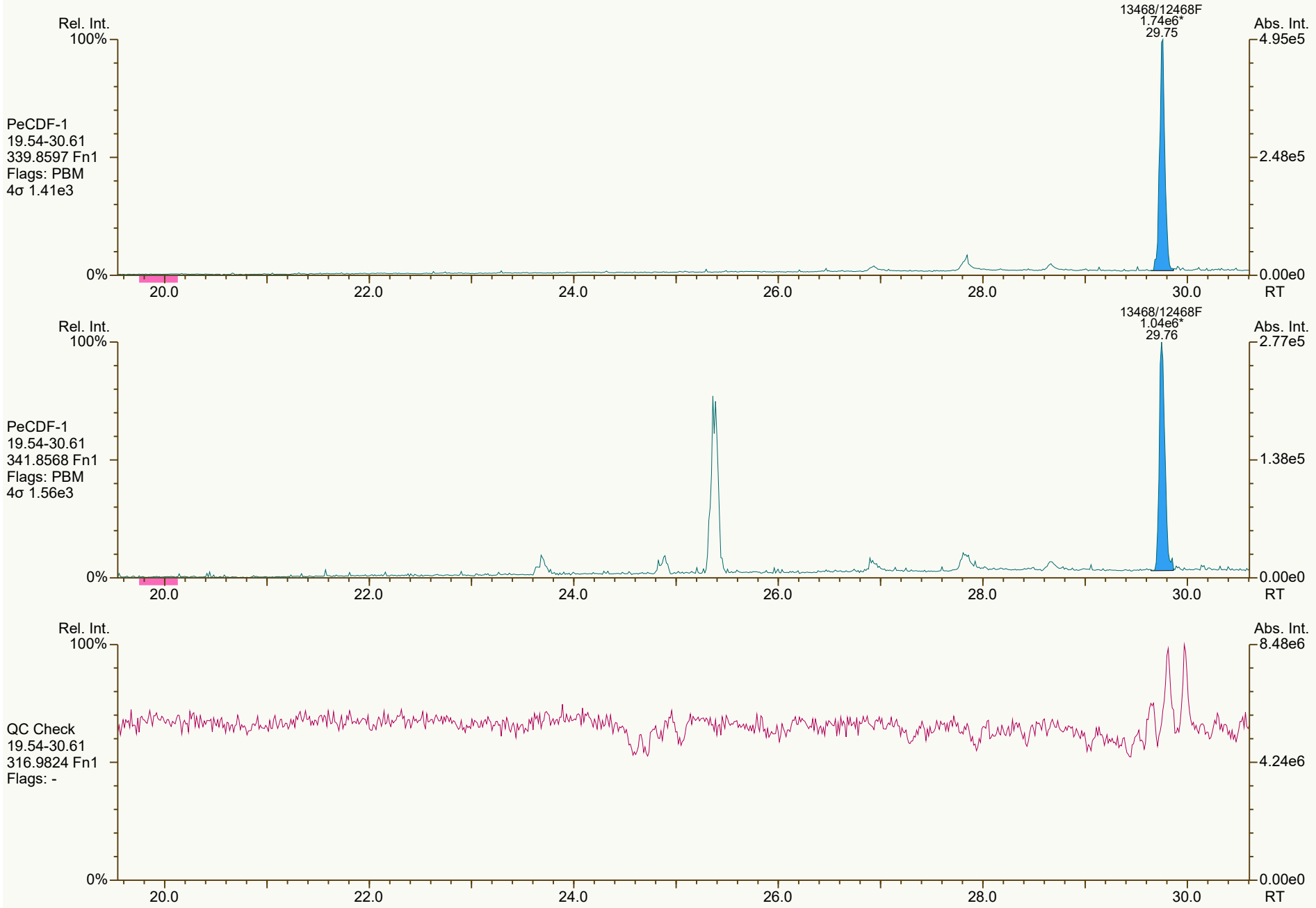
SGS ID: B6234_18872_DF_004 | Sample ID: 11215131-012222-S-BN-NC-S-33 | Acq: 27-Jan-2022 21:48:16

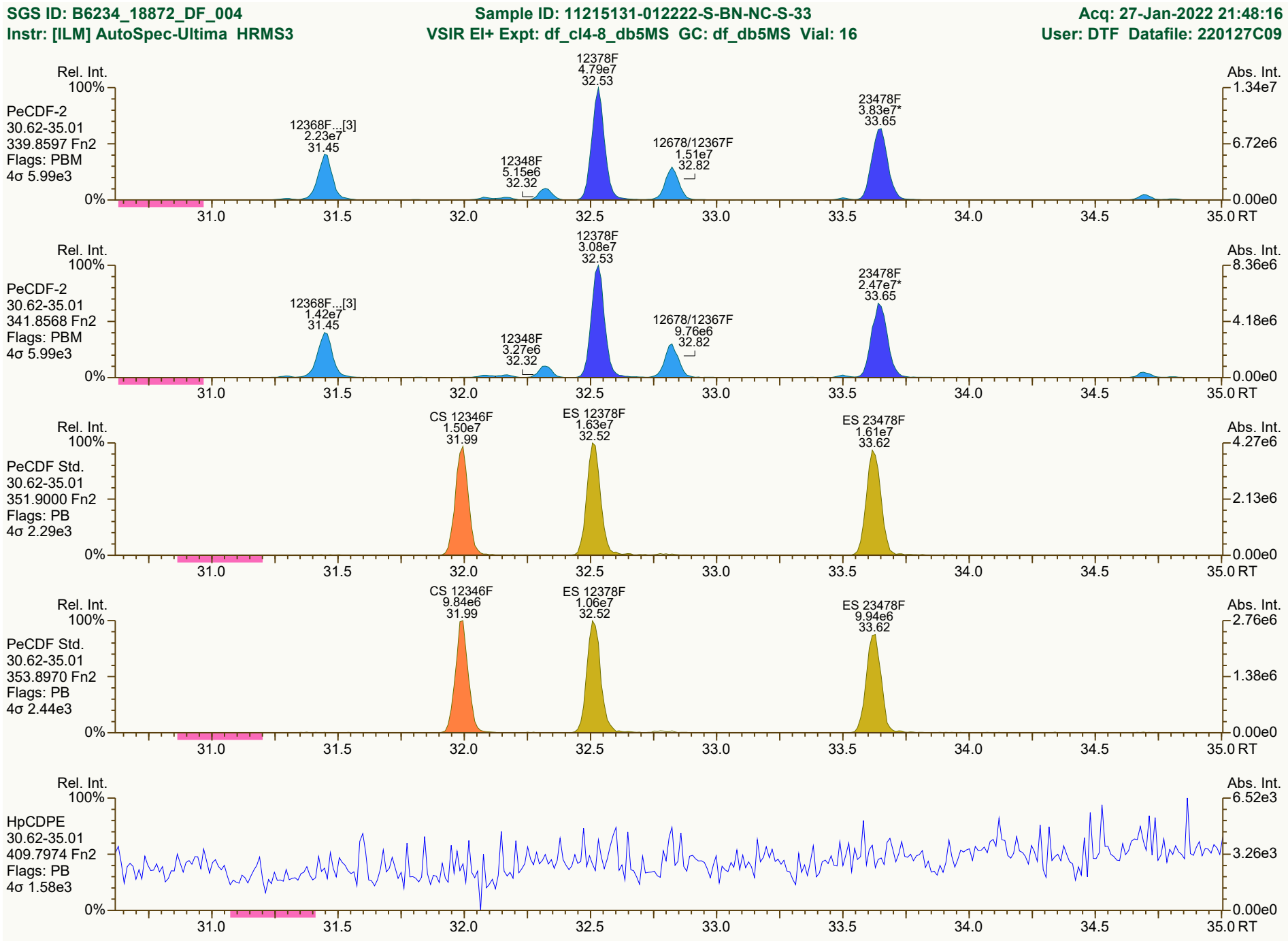
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 16 | User: DTF Datafile: 220127C09



Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_004.utp_res, saved 28-Jan-2022 14:03 (DTF) *Peak annotation: Areas, Centroids*

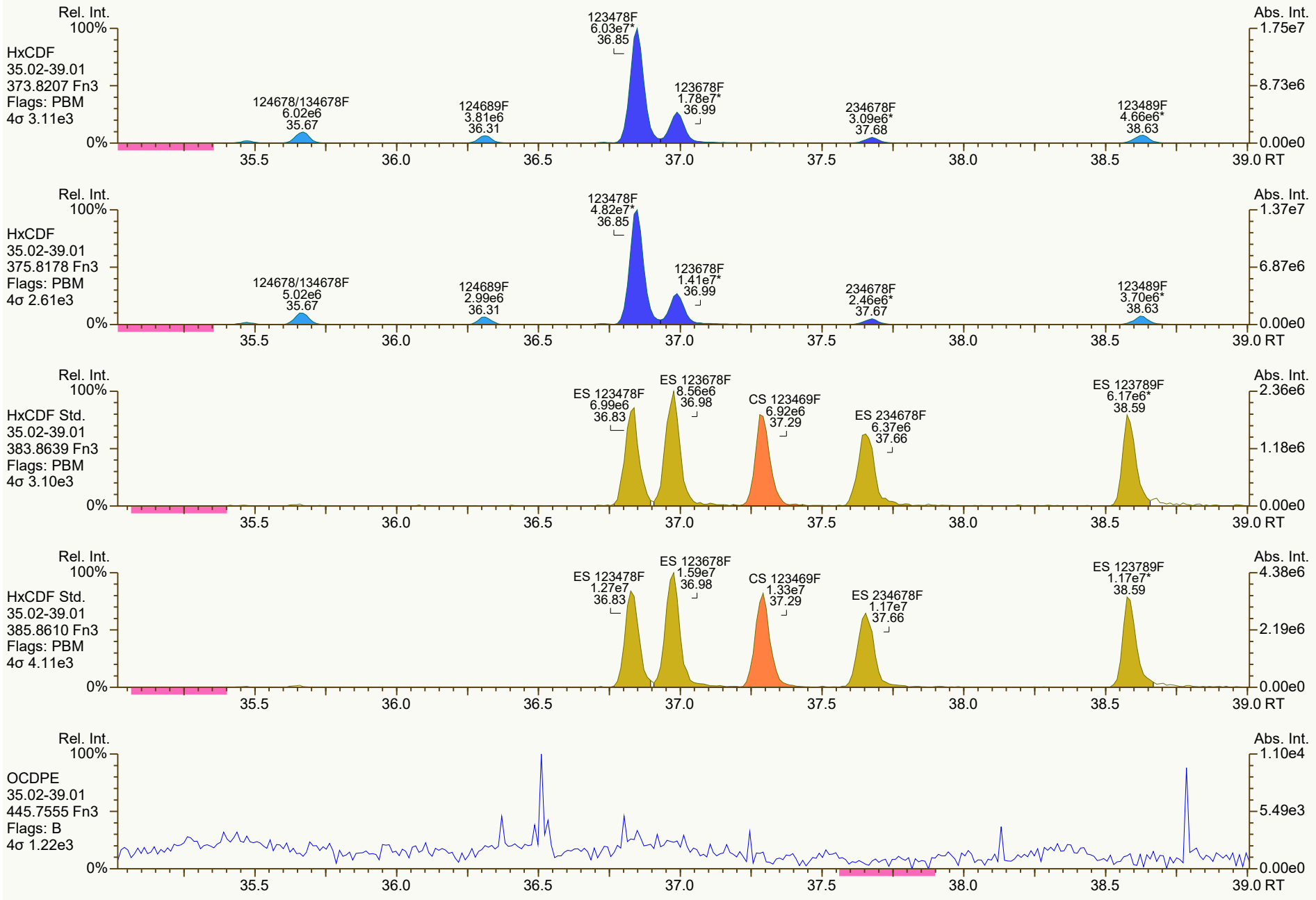
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5141, 5898, 2037 scc: 156-115 *Revised: 28-Jan-2022 08:51 (DTF) Printed: 28-Jan-2022 14:05 Page 7 of 12*

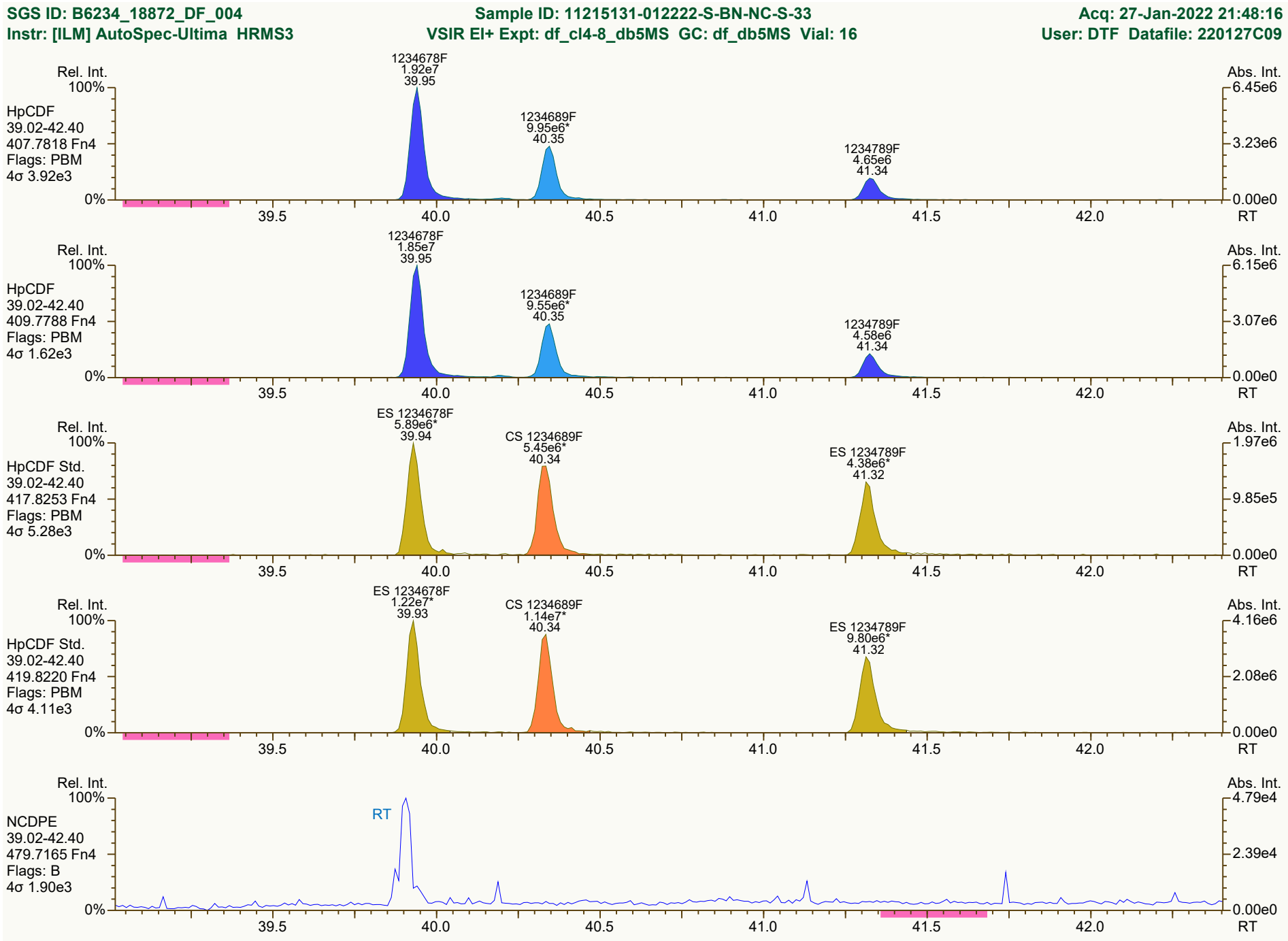

Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PBM
4σ 1.41e3
13468/12468F
1.74e6*
29.75
Abs. Int.
4.95e5
2.48e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: PBM
4σ 1.56e3
13468/12468F
1.04e6*
29.76
2.77e5
1.38e5
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
8.48e6
4.24e6

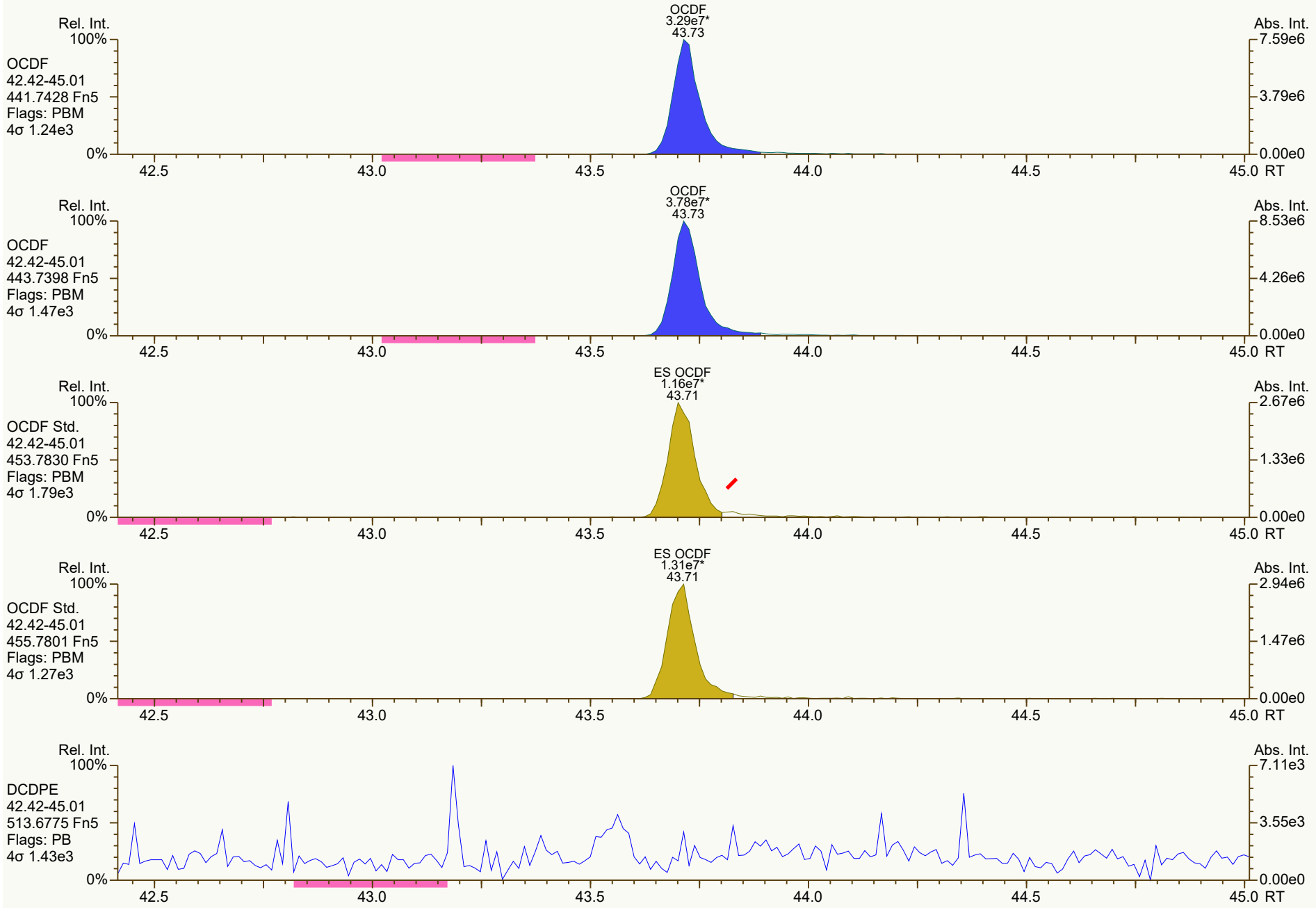


Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_004.utp_res, saved 28-Jan-2022 14:03 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6087, 6421, 7444 scc: 156-115 *Revised: 28-Jan-2022 08:51 (DTF) Printed: 28-Jan-2022 14:05 Page 9 of 12*


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 3.11e3
0%
124678/134678F
6.02e6
35.67
124689F
3.81e6
36.31
123478F
6.03e7*
36.85
123678F
1.78e7*
36.99
234678F
3.09e6*
37.68
123489F
4.66e6*
38.63
Abs. Int.
1.75e7
8.73e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 2.61e3
124678/134678F
5.02e6
35.67
124689F
2.99e6
36.31
123478F
4.82e7*
36.85
123678F
1.41e7*
36.99
234678F
2.46e6*
37.67
123489F
3.70e6*
38.63
1.37e7
6.87e6
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 3.10e3
ES 123478F
6.99e6
36.83
ES 123678F
8.56e6
36.98
CS 123469F
6.92e6
37.29
ES 234678F
6.37e6
37.66
ES 123789F
6.17e6*
38.59
2.36e6
1.18e6
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 4.11e3
ES 123478F
1.27e7
36.83
ES 123678F
1.59e7
36.98
CS 123469F
1.33e7
37.29
ES 234678F
1.17e7
37.66
ES 123789F
1.17e7*
38.59
4.38e6
2.19e6
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.22e3
1.10e4
5.49e3


SGS ID: B6234_18872_DF_004
Sample ID: 11215131-012222-S-BN-NC-S-33
Acq: 27-Jan-2022 21:48:16
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 16
User: DTF Datafile: 220127C09
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 3.92e3
1234678F
1.92e7
39.95
1234689F
9.95e6*
40.35
1234789F
4.65e6
41.34
6.45e6
3.23e6
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 1.62e3
1234678F
1.85e7
39.95
1234689F
9.55e6*
40.35
1234789F
4.58e6
41.34
6.15e6
3.07e6
0.00e0
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 5.28e3
ES 1234678F
5.89e6*
39.94
CS 1234689F
5.45e6*
40.34
ES 1234789F
4.38e6*
41.32
1.97e6
9.85e5
0.00e0
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 4.11e3
ES 1234678F
1.22e7*
39.93
CS 1234689F
1.14e7*
40.34
ES 1234789F
9.80e6*
41.32
4.16e6
2.08e6
0.00e0
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.90e3
RT
4.79e4
2.39e4
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_004.utp_res, saved 28-Jan-2022 14:03 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5759, 3449, 2000 scc: 156-115
Revised: 28-Jan-2022 08:51 (DTF) Printed: 28-Jan-2022 14:05 Page 11 of 12


OCDF
3.29e7*
43.73
Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PBM
4σ 1.24e3
0%
Abs. Int.
7.59e6
3.79e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.78e7*
43.73
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PBM
4σ 1.47e3
0%
Abs. Int.
8.53e6
4.26e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.16e7*
43.71
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
2.67e6
1.33e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.31e7*
43.71
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 1.27e3
0%
Abs. Int.
2.94e6
1.47e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: PB
4σ 1.43e3
0%
Abs. Int.
7.11e3
3.55e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6234_18872_DF_005 **Acq'd:** 27 Jan 2022 22:34 DTF **Wt/Vol:** 13.53 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-S-41 **UTP:** 28-Jan-2022 09:47:36 DTF **J-level:** 0.37 pg/g **Split:** 1 **Checkcode:** 969-193-FDX

Datafile: 220127C10 **Report:** 28 Jan 2022 09:50 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.64		1.0008	1.0008	0	1.44E+07	0.82	Y	1.18	176	4519.379	0.567
12378-PeCDD	33.94		1.0006	1.0005	-0.2	1.80E+05	1.58	Y	1.04	2.57	3118.795	0.4
123478-HxCDD	37.85	J EMPC	1.0004	1.0004	0	1.00E+05	1.54	N	1.09	1.53	5416.609	0.661
123678-HxCDD	37.97		1.0034	1.0035	+0.2	4.43E+05	1.40	Y	1.15	5.78	5416.609	0.657
123789-HxCDD	38.25	EMPC	1.0109	1.0112	+0.7	2.35E+05	1.44	N	1.05	3.61	5416.609	0.761
1234678-HpCDD	40.88		1.0003	1.0003	0	8.37E+06	1.04	Y	1.06	138	3759.798	0.524
OCDD	43.55		1.0002	1.0004	+0.5	7.72E+07	0.90	Y	1.13	2,110	3811.235	1.1
2378-TCDF	27.79		1.0008	1.0007	-0.2	5.92E+07	0.80	Y	1.08	470	4873.299	0.415
12378-PeCDF	32.51		1.0005	1.0005	0	2.53E+06	1.65	Y	1.02	22.9	5500.378	0.449
23478-PeCDF	33.62		1.0005	1.0007	+0.4	1.94E+06	1.50	Y	1.02	18.2	5500.378	0.488
123478-HxCDF	36.84		1.0004	1.0005	+0.2	4.34E+06	1.25	Y	1.27	43.5	4706.248	0.415
123678-HxCDF	36.99		1.0004	1.0005	+0.2	1.23E+06	1.20	Y	1.15	10.4	4706.248	0.406
234678-HxCDF	37.67		1.0004	1.0005	+0.2	4.14E+05	1.39	Y	1.19	4.15	4706.248	0.409
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4706.248	0.507
1234678-HpCDF	39.95		1.0002	1.0003	+0.2	6.15E+06	1.02	Y	1.37	63.3	4703.744	0.343
1234789-HpCDF	41.34		1.0003	1.0002	-0.2	4.55E+05	1.19	Y	1.31	6.36	4703.744	0.534
OCDF	43.73		1.0002	1.0002	0	6.57E+06	0.90	Y	1.07	137	3814.593	0.916

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.62	1.0233	1.0235	+0.3	1.02E+07	0.79	Y	1.05	55.7
ES 12378-PeCDD	33.93	1.2121	1.2135	+2.8	9.98E+06	1.66	Y	0.88	64.9
ES 123478-HxCDD	37.83	0.9921	0.9921	0	8.90E+06	1.29	Y	0.97	61.7
ES 123678-HxCDD	37.95	0.9951	0.9951	0	9.86E+06	1.36	Y	0.94	70.4
ES 123789-HxCDD	38.24	1.0025	1.0027	+0.5	9.17E+06	1.45	N	1.09	56.6
ES 1234678-HpCDD	40.87	1.0709	1.0717	+2.0	8.47E+06	1.08	Y	0.91	62.5
ES OCDD	43.54	1.1403	1.1417	+3.7	9.58E+06	0.88	Y	0.62	51.7
ES 2378-TCDF	27.77	1.0506	1.0511	+0.8	1.73E+07	0.78	Y	1.06	58.3
ES 12378-PeCDF	32.49	1.2281	1.2298	+3.3	1.59E+07	1.53	Y	0.91	62.5
ES 23478-PeCDF	33.60	1.2698	1.2718	+4.0	1.55E+07	1.59	Y	0.88	62.7
ES 123478-HxCDF	36.82	0.9657	0.9656	-0.2	1.16E+07	0.56	Y	1.20	65.2
ES 123678-HxCDF	36.97	0.9695	0.9695	0	1.52E+07	0.53	Y	1.35	75.8
ES 234678-HxCDF	37.65	0.9874	0.9874	0	1.24E+07	0.57	Y	1.24	67.4
ES 123789-HxCDF	38.59	1.0116	1.0120	+0.9	1.11E+07	0.54	Y	1.16	64.7
ES 1234678-HpCDF	39.94	1.0467	1.0473	+1.4	1.05E+07	0.44	Y	0.97	73
ES 1234789-HpCDF	41.33	1.0830	1.0839	+2.2	8.09E+06	0.44	Y	0.85	64
ES OCDF	43.72	1.1451	1.1464	+3.4	1.32E+07	0.86	Y	0.81	55

Lab ID: B6234_18872_DF_005 **Acq'd:** 27 Jan 2022 22:34 DTF **Wt/Vol:** 13.53 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-S-41 **UTP:** 28-Jan-2022 09:47:36 DTF **J-level:** 0.37 pg/g **Split:** 1 **Checkcode:** 969-193-FDX

Datafile: 220127C10 **Report:** 28 Jan 2022 09:50 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.96		-	-	-	1.75E+07	0.83	Y	-	-	
JS 1234-TCDF	26.42		-	-	-	2.79E+07	0.82	Y	-	-	
JS 123467-HxCDD	38.13		-	-	-	7.42E+06	1.15	Y	-	-	
CS 37Cl-2378-TCDD	28.64		1.0241	1.0244	+0.5	5.15E+06	n/a	-	1.20	61.3	
CS 12347-PeCDD	33.43		1.1943	1.1956	+2.6	1.01E+07	1.58	Y	0.75	76.9	
CS 12346-PeCDF	31.96		1.2083	1.2098	+2.9	1.70E+07	1.61	Y	0.85	71.7	
CS 123469-HxCDF	37.29		0.9778	0.9779	+0.2	1.40E+07	0.52	Y	1.12	84.6	
CS 1234689-HpCDF	40.34		1.0571	1.0578	+1.7	1.19E+07	0.46	Y	0.89	90.5	
~~SS 37Cl-2378-TCDD~~	~~28.64~~		~~1.0241~~	~~1.0244~~	~~+0.5~~	~~5.15E+06~~	~~n/a~~		~~1.15~~	~~110~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.43~~		~~1.1943~~	~~1.1956~~	~~+2.6~~	~~1.01E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~110~~	CL 28Jan22
~~SS 12346-PeCDF~~	~~31.96~~		~~1.2083~~	~~1.2098~~	~~+2.9~~	~~1.70E+07~~	~~1.61~~	~~Y~~	~~0.94~~	~~115~~	
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9779~~	~~+0.2~~	~~1.40E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~112~~	
~~SS 1234689-HpCDF~~	~~40.34~~		~~1.0571~~	~~1.0578~~	~~+1.7~~	~~1.19E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~124~~	

Totals	Conc	EMPC
Total TCDD	201	203
Total PeCDD	18.2	19.4
Total HxCDD	91.9	97
Total HpCDD	354	354
Total Tetra-Octa Dioxins	2780	2790
Total TCDF	910	911
Total PeCDF	69.4	71.2
Total HxCDF	101	102
Total HpCDF	136	136
Total Tetra-Octa Furans	1,350	1360
Total Tetra-Octa Dioxins & Furans	4130	4150

Lab ID: B6234_18872_DF_005 **Acq'd: 27 Jan 2022 22:34 DTF** **Wt/Vol: 13.53 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012222-S-BN-NC-S-41 **UTP: 28-Jan-2022 09:47:36 DTF** **J-level: 0.37 pg/g** **Split: 1** **Checkcode: 969-193-FDX**

Datafile: 220127C10 **Report: 28 Jan 2022 09:50 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8755						1.18		4519.379	0.567
1379-TCDD	NotFnd		0.8876						1.18		4519.379	0.567
1369-TCDD	NotFnd		0.9023						1.18		4519.379	0.567
1469-TCDD	26.57		0.9291	0.9286	-0.8	7.38E+05	0.85	Y	1.18	9.04	4519.379	0.567
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		4519.379	0.567
1378-TCDD	NotFnd		0.9440						1.18		4519.379	0.567
1268-TCDD	NotFnd		0.9506						1.18		4519.379	0.567
1478-TCDD	NotFnd		0.9591						1.18		4519.379	0.567
1279-TCDD	NotFnd		0.9649						1.18		4519.379	0.567
1234/1269-TCDD	NotFnd		0.9771						1.18		4519.379	0.567
1236-TCDD	NotFnd		0.9820						1.18		4519.379	0.567
1237/1238-TCDD	28.35	EMPC	0.9908	0.9905	-0.5	1.75E+05	1.04	N	1.18	2.15	4519.379	0.567
1239-TCDD	NotFnd		0.9954						1.18		4519.379	0.567
2378-TCDD	**28.64**		**1.0008**	1.0008	**0**	1.44E+07	0.82	Y	**1.18**	**176**	**4519.379**	**0.567**
1278-TCDD	28.96		1.0121	1.0121	0	1.31E+06	0.78	Y	1.18	16	4519.379	0.567
1267-TCDD	NotFnd		1.0167						1.18		4519.379	0.567
1289-TCDD	NotFnd		1.0341						1.18		4519.379	0.567
12479/12468-PeCDD	31.45		0.9273	0.9269	-0.8	1.83E+05	1.51	Y	1.04	2.62	3118.795	0.4
12469-PeCDD	31.98		0.9430	0.9426	-0.8	5.89E+05	1.41	Y	1.04	8.42	3118.795	0.4
12368-PeCDD	32.53	J EMPC	0.9592	0.9588	-0.8	8.59E+04	1.81	N	1.04	1.23	3118.795	0.4
12478-PeCDD	32.72	J	0.9647	0.9643	-0.8	6.43E+04	1.73	Y	1.04	0.92	3118.795	0.4
12379-PeCDD	32.83	J	0.9676	0.9677	+0.2	5.09E+04	1.58	Y	1.04	0.728	3118.795	0.4
12369/12467/12489-PeCDD	33.09		0.9752	0.9753	+0.2	2.06E+05	1.41	Y	1.04	2.95	3118.795	0.4
12346/12347-PeCDD	NotFnd		0.9860						1.04		3118.795	0.4
12378-PeCDD	33.94		**1.0006**	**1.0005**	**-0.2**	**1.80E+05**	**1.58**	**Y**	**1.04**	**2.57**	**3118.795**	**0.4**
12367-PeCDD	NotFnd		1.0034						1.04		3118.795	0.4
12389-PeCDD	NotFnd		1.0134						1.04		3118.795	0.4
124679/124689-HxCDD	36.10		0.9545	0.9542	-0.6	4.01E+06	1.26	Y	1.10	58.1	5416.609	0.692
123468-HxCDD	36.75		0.9715	0.9715	0	2.55E+05	1.22	Y	1.10	3.69	5416.609	0.692
123679/123689-HxCDD	37.05		0.9793	0.9794	+0.2	1.40E+06	1.27	Y	1.10	20.3	5416.609	0.692
123469-HxCDD	37.20		0.9829	0.9832	+0.7	1.59E+05	1.09	Y	1.10	2.31	5416.609	0.692
123478-HxCDD	37.85	J EMPC	**1.0004**	**1.0004**	**0**	**1.00E+05**	**1.54**	**N**	1.09	**1.53**	**5416.609**	**0.661**
123678-HxCDD	37.97		**1.0034**	**1.0035**	**+0.2**	**4.43E+05**	**1.40**	**Y**	1.15	**5.78**	**5416.609**	**0.657**
123467-HxCDD	38.14	J	1.0082	1.0082	0	1.19E+05	1.16	Y	1.10	1.73	5416.609	0.692
123789-HxCDD	38.25	EMPC	**1.0109**	**1.0112**	**+0.7**	**2.35E+05**	**1.44**	**N**	1.05	**3.61**	**5416.609**	**0.761**

Lab ID: B6234_18872_DF_005 **Acq'd: 27 Jan 2022 22:34 DTF** **Wt/Vol: 13.53 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012222-S-BN-NC-S-41 **UTP: 28-Jan-2022 09:47:36 DTF** **J-level: 0.37 pg/g** **Split: 1** **Checkcode: 969-193-FDX**

Datafile: 220127C10 **Report: 28 Jan 2022 09:50 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

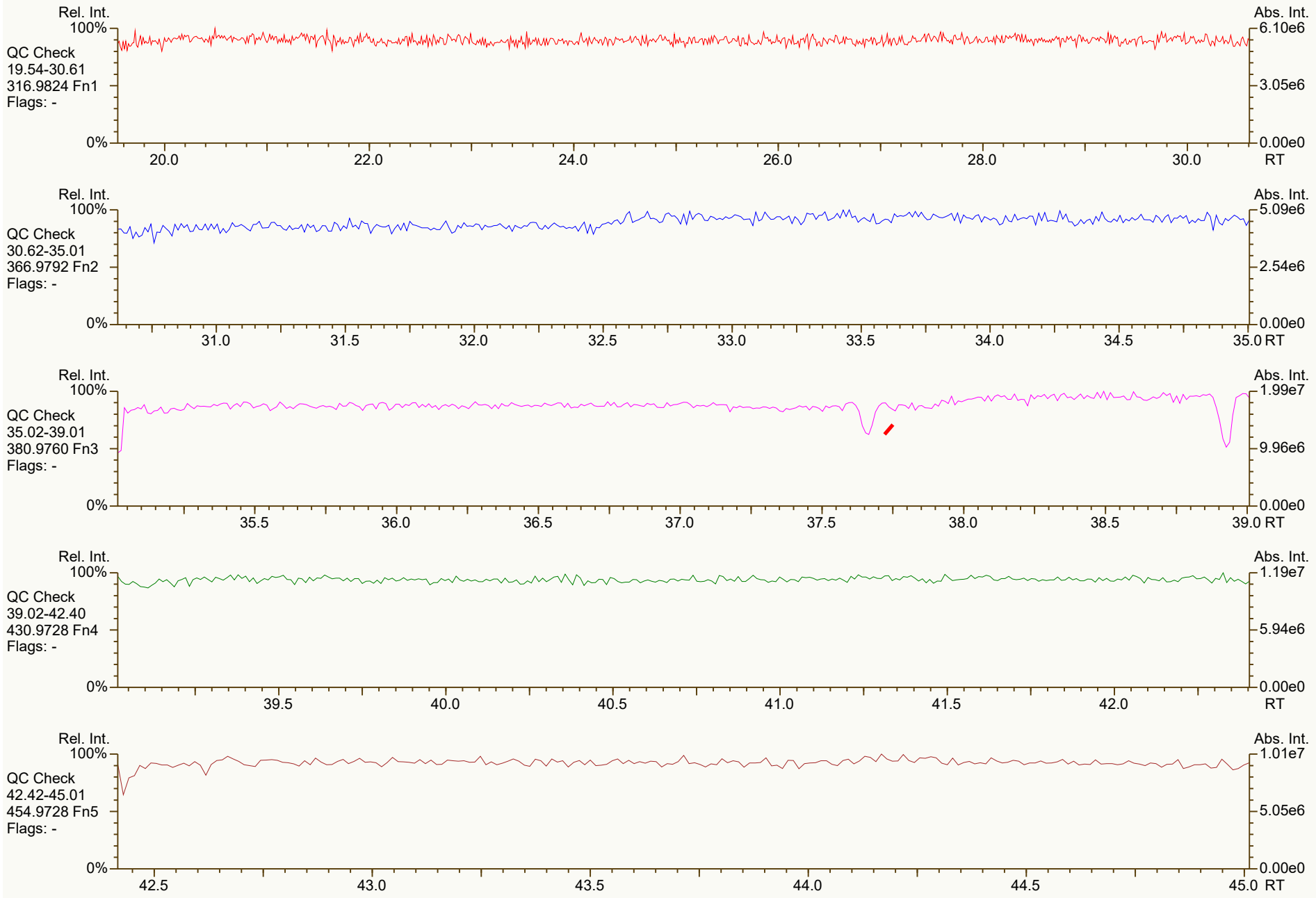
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.20		0.9838	0.9837	-0.2	1.31E+07	1.03	Y	1.06	216	3759.798	0.524
1234678-HpCDD	**40.88**		**1.0003**	**1.0003**	**0**	**8.37E+06**	**1.04**	**Y**	**1.06**	**138**	**3759.798**	**0.524**
OCDD	**43.55**		**1.0002**	**1.0004**	**+0.5**	**7.72E+07**	**0.90**	**Y**	**1.13**	**2,110**	**3811.235**	**1.1**
OCDD-a	43.55		1.0002	1.0003	+0.3	5.18E+06	2.61	Y	0.07	2,220	3773.885	17
1368-TCDF	NotFnd		0.8282						1.08		4873.299	0.415
1468-TCDF	23.53	EMPC	0.8485	0.8472	-1.8	1.21E+05	1.02	N	1.08	0.957	4873.299	0.415
2468-TCDF	24.15		0.8709	0.8697	-1.7	1.93E+05	0.68	Y	1.08	1.53	4873.299	0.415
1346/1246-TCDF	NotFnd		0.8829						1.08		4873.299	0.415
1347/1378/1247-TCDF	24.66		0.8884	0.8880	-0.6	8.83E+05	0.87	Y	1.08	7.01	4873.299	0.415
1348-TCDF	NotFnd		0.8980						1.08		4873.299	0.415
1248/1367/1379-TCDF	25.00		0.9026	0.9003	-3.4	2.97E+06	0.83	Y	1.08	23.5	4873.299	0.415
1268-TCDF	25.42		0.9158	0.9153	-0.8	1.01E+06	0.79	Y	1.08	8.04	4873.299	0.415
1467-TCDF	25.54		0.9206	0.9199	-1.1	1.30E+05	0.87	Y	1.08	1.03	4873.299	0.415
1478-TCDF	25.71		0.9266	0.9259	-1.1	2.38E+06	0.83	Y	1.08	18.9	4873.299	0.415
1369/1237-TCDF	26.09		0.9397	0.9397	0	6.83E+05	0.70	Y	1.08	5.42	4873.299	0.415
2467-TCDF	NotFnd		0.9440						1.08		4873.299	0.415
2368-TCDF	26.36		0.9497	0.9492	-0.8	1.77E+06	0.80	Y	1.08	14	4873.299	0.415
1238/1234/1678/1469/1236-TCDF	26.44		0.9528	0.9520	-1.3	3.14E+06	0.79	Y	1.08	24.9	4873.299	0.415
1278-TCDF	26.90		0.9690	0.9687	-0.5	2.52E+07	0.80	Y	1.08	200	4873.299	0.415
1349-TCDF	NotFnd		0.9730						1.08		4873.299	0.415
1267-TCDF	27.17		0.9787	0.9785	-0.3	1.67E+06	0.81	Y	1.08	13.2	4873.299	0.415
2346/1249-TCDF	NotFnd		0.9850						1.08		4873.299	0.415
2347/1279-TCDF	27.57		0.9929	0.9928	-0.2	8.61E+05	0.78	Y	1.08	6.84	4873.299	0.415
2348-TCDF	27.67		0.9970	0.9965	-0.8	3.86E+06	0.77	Y	1.08	30.6	4873.299	0.415
2378-TCDF	**27.79**		**1.0008**	**1.0007**	**-0.2**	**5.92E+07**	**0.80**	**Y**	**1.08**	**470**	**4873.299**	**0.415**
2367/3467-TCDF	28.14		1.0136	1.0133	-0.5	5.43E+06	0.79	Y	1.08	43.1	4873.299	0.415
1269-TCDF	28.38		1.0221	1.0221	0	9.11E+05	0.76	Y	1.08	7.23	4873.299	0.415
1239-TCDF	NotFnd		1.0319						1.08		4873.299	0.415
1289-TCDF	29.78		1.0740	1.0725	-2.7	4.44E+06	0.81	Y	1.08	35.2	4873.299	0.415
13468/12468-PeCDF	29.71		0.9145	0.9145	0	4.47E+05	1.54	Y	1.02	4.12	3317.346	0.282
13678/13467/12467-PeCDF	31.25	J EMPC	0.9619	0.9619	0	1.20E+05	1.82	N	1.02	1.1	5500.378	0.468
12368/13478/12478-PeCDF	31.41		0.9665	0.9669	+0.8	1.33E+06	1.63	Y	1.02	12.3	5500.378	0.468
14678-PeCDF	NotFnd		0.9695						1.02		5500.378	0.468
13479-PeCDF	NotFnd		0.9724						1.02		5500.378	0.468
13469/12479-PeCDF	NotFnd		0.9801						1.02		5500.378	0.468
12346-PeCDF	NotFnd		0.9842						1.02		5500.378	0.468

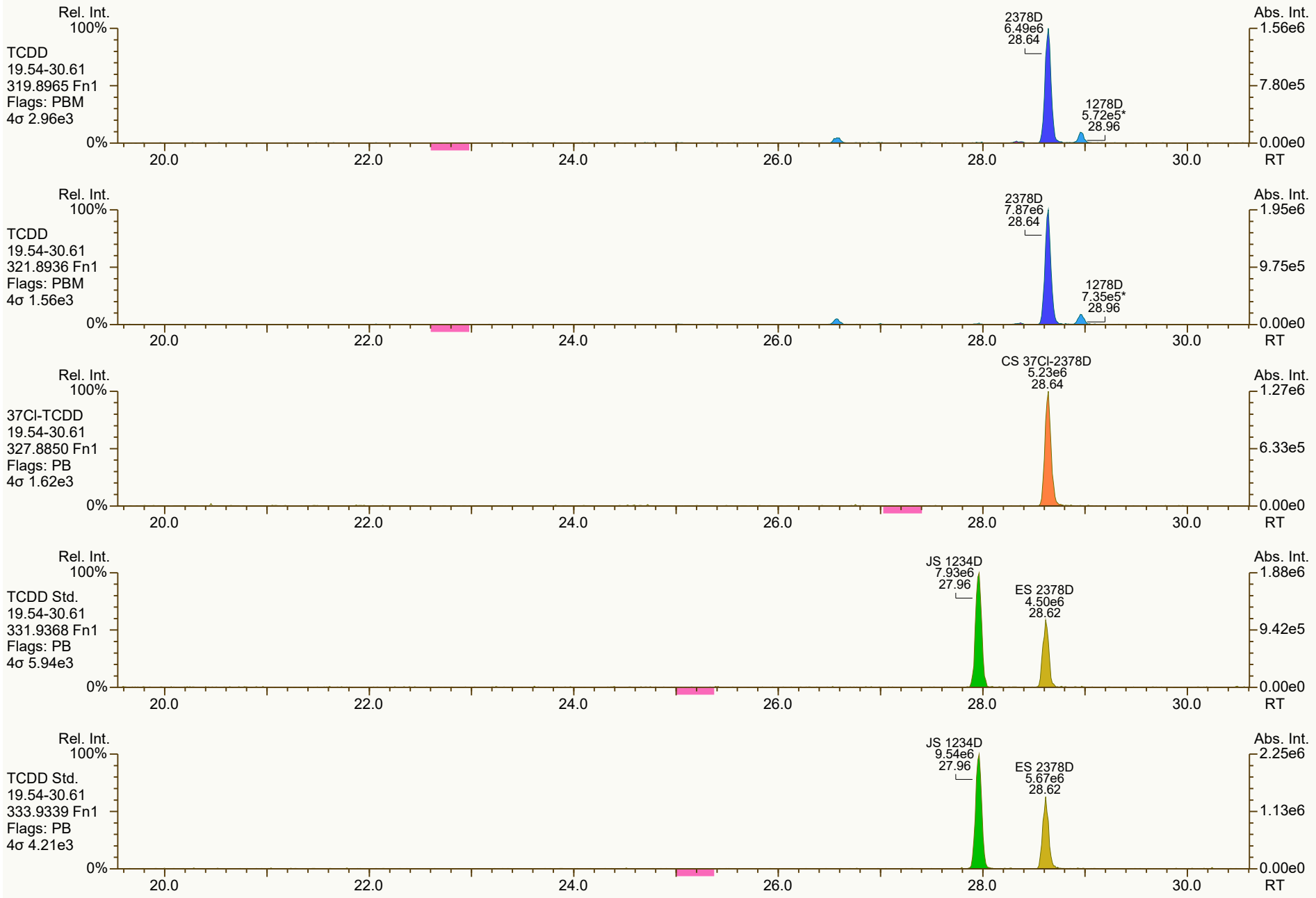
Lab ID: B6234_18872_DF_005 **Acq'd: 27 Jan 2022 22:34 DTF** **Wt/Vol: 13.53 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

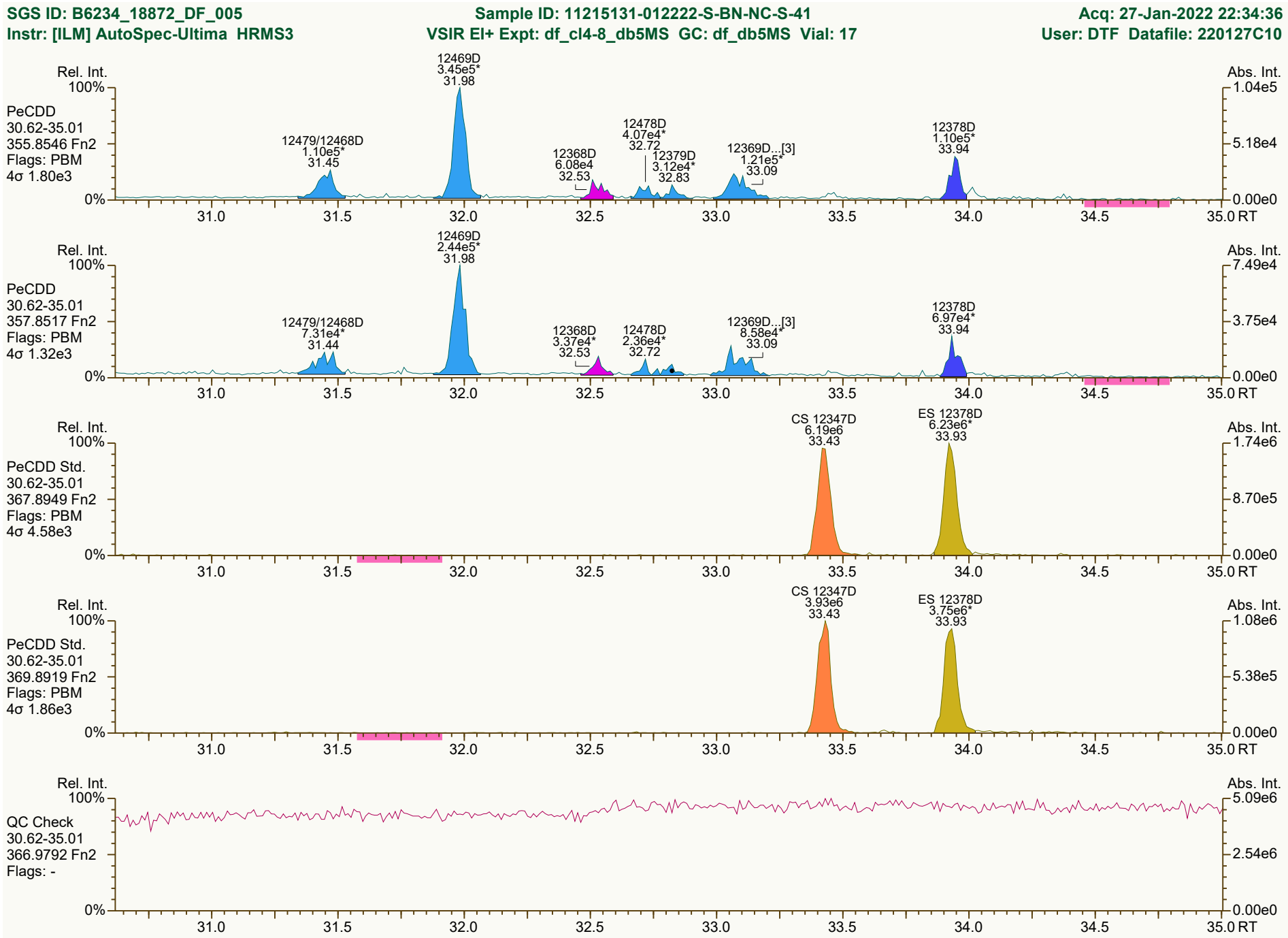
Client ID: 11215131-012222-S-BN-NC-S-41 **UTP: 28-Jan-2022 09:47:36 DTF** **J-level: 0.37 pg/g** **Split: 1** **Checkcode: 969-193-FDX**

Datafile: 220127C10 **Report: 28 Jan 2022 09:50 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

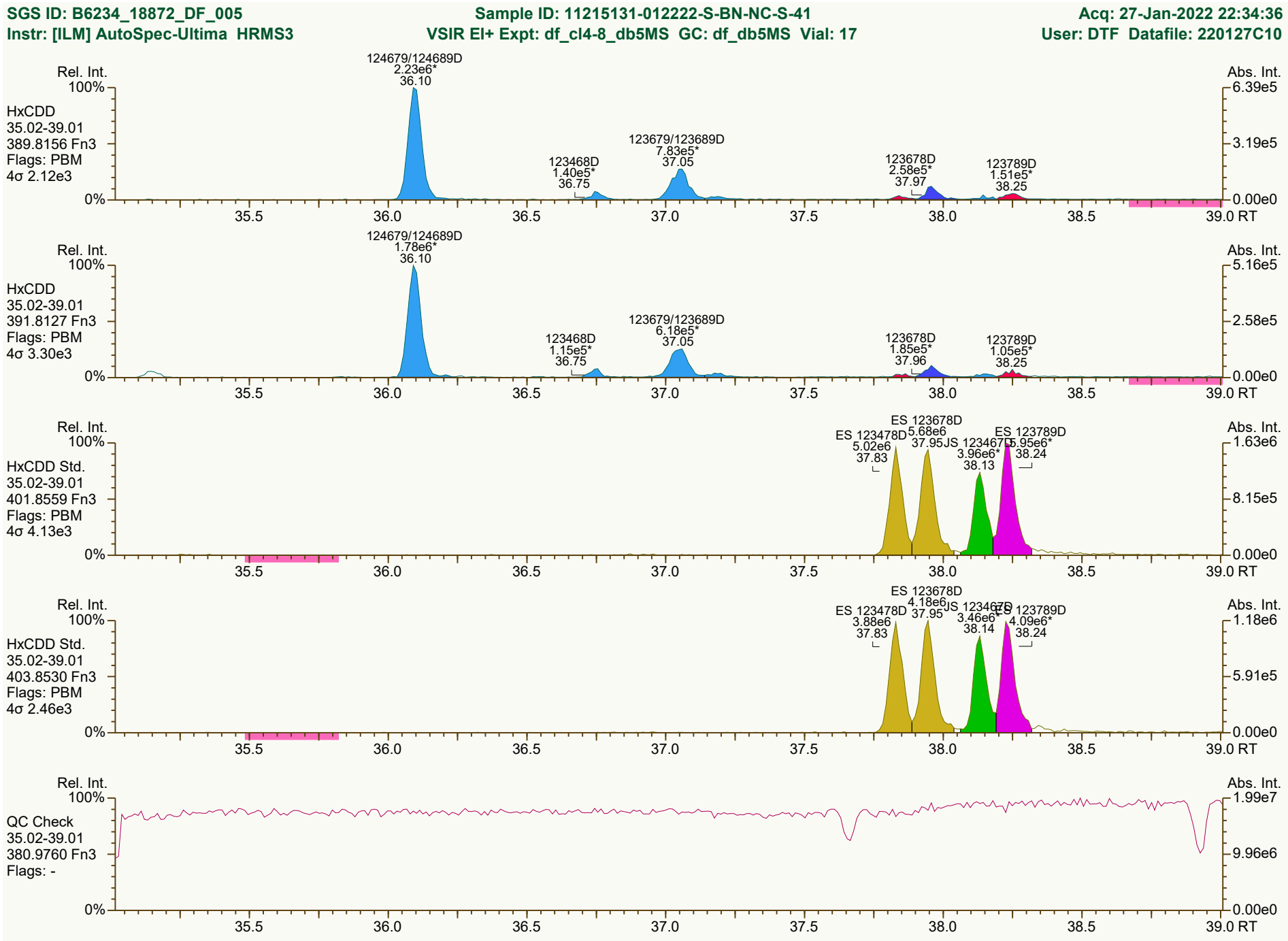
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.06	J	0.9868	0.9867	-0.2	1.45E+05	1.76	Y	1.02	1.34	5500.378	0.468
12347-PeCDF	32.15	J	0.9895	0.9894	-0.2	8.31E+04	1.72	Y	1.02	0.766	5500.378	0.468
12348-PeCDF	32.30		0.9941	0.9940	-0.2	2.82E+05	1.41	Y	1.02	2.6	5500.378	0.468
12378-PeCDF	**32.51**		**1.0005**	**1.0005**	**0**	**2.53E+06**	**1.65**	**Y**	**1.02**	**22.9**	**5500.378**	**0.449**
12678/12367-PeCDF	32.80		1.0090	1.0096	+1.2	7.76E+05	1.63	Y	1.02	7.15	5500.378	0.468
12379-PeCDF	NotFnd		1.0142						1.02		5500.378	0.468
12679-PeCDF	NotFnd		0.9931						1.02		5500.378	0.468
23467/12369-PeCDF	NotFnd		0.9966						1.02		5500.378	0.468
23478-PeCDF	**33.62**		**1.0005**	**1.0007**	**+0.4**	**1.94E+06**	**1.50**	**Y**	**1.02**	**18.2**	**5500.378**	**0.488**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5500.378	0.468
12349-PeCDF	NotFnd		1.0101						1.02		5500.378	0.468
12389-PeCDF	34.68	J EMPC	1.0322	1.0322	0	8.05E+04	1.22	N	1.02	0.742	5500.378	0.468
123468-HxCDF	35.45		0.9627	0.9627	0	4.19E+05	1.18	Y	1.19	4.13	4706.248	0.43
124678/134678-HxCDF	35.65		0.9684	0.9681	-0.6	1.90E+06	1.35	Y	1.19	18.7	4706.248	0.43
134679-HxCDF	NotFnd		0.9747						1.19		4706.248	0.43
124679-HxCDF	NotFnd		0.9802						1.19		4706.248	0.43
124689-HxCDF	36.30		0.9858	0.9857	-0.2	1.76E+06	1.37	Y	1.19	17.3	4706.248	0.43
123467-HxCDF	36.72	J EMPC	0.9972	0.9971	-0.2	9.52E+04	1.91	N	1.19	0.938	4706.248	0.43
123478-HxCDF	**36.84**		**1.0004**	**1.0005**	**+0.2**	**4.34E+06**	**1.25**	**Y**	**1.27**	**43.5**	**4706.248**	**0.415**
123678-HxCDF	**36.99**		**1.0004**	**1.0005**	**+0.2**	**1.23E+06**	**1.20**	**Y**	**1.15**	**10.4**	**4706.248**	**0.406**
123479-HxCDF	NotFnd		1.0051						1.19		4706.248	0.43
123469-HxCDF	NotFnd		1.0091						1.19		4706.248	0.43
123679-HxCDF	NotFnd		0.9943						1.19		4706.248	0.43
234678-HxCDF	**37.67**		**1.0004**	**1.0005**	**+0.2**	**4.14E+05**	**1.39**	**Y**	**1.19**	**4.15**	**4706.248**	**0.409**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4706.248	0.43
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4706.248**	**0.507**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.63		1.0007	1.0010	+0.7	3.27E+05	1.18	Y	1.19	3.22	4706.248	0.43
1234678-HpCDF	**39.95**		**1.0002**	**1.0003**	**+0.2**	**6.15E+06**	**1.02**	**Y**	**1.37**	**63.3**	**4703.744**	**0.343**
1234679-HpCDF	40.21		1.0067	1.0068	+0.2	1.76E+05	1.14	Y	1.34	2.09	4703.744	0.425
1234689-HpCDF	40.35		1.0101	1.0103	+0.5	5.43E+06	1.07	Y	1.34	64.5	4703.744	0.425
1234789-HpCDF	**41.34**		**1.0003**	**1.0002**	**-0.2**	**4.55E+05**	**1.19**	**Y**	**1.31**	**6.36**	**4703.744**	**0.534**
OCDF	**43.73**		**1.0002**	**1.0002**	**0**	**6.57E+06**	**0.90**	**Y**	**1.07**	**137**	**3814.593**	**0.916**
OCDF-a	43.72		1.0002	1.0001	-0.3	4.06E+05	2.52	Y	0.07	137	2842.032	11


Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
Abs. Int.
6.10e6
3.05e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.09e6
2.54e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.99e7
9.96e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.19e7
5.94e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.01e7
5.05e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

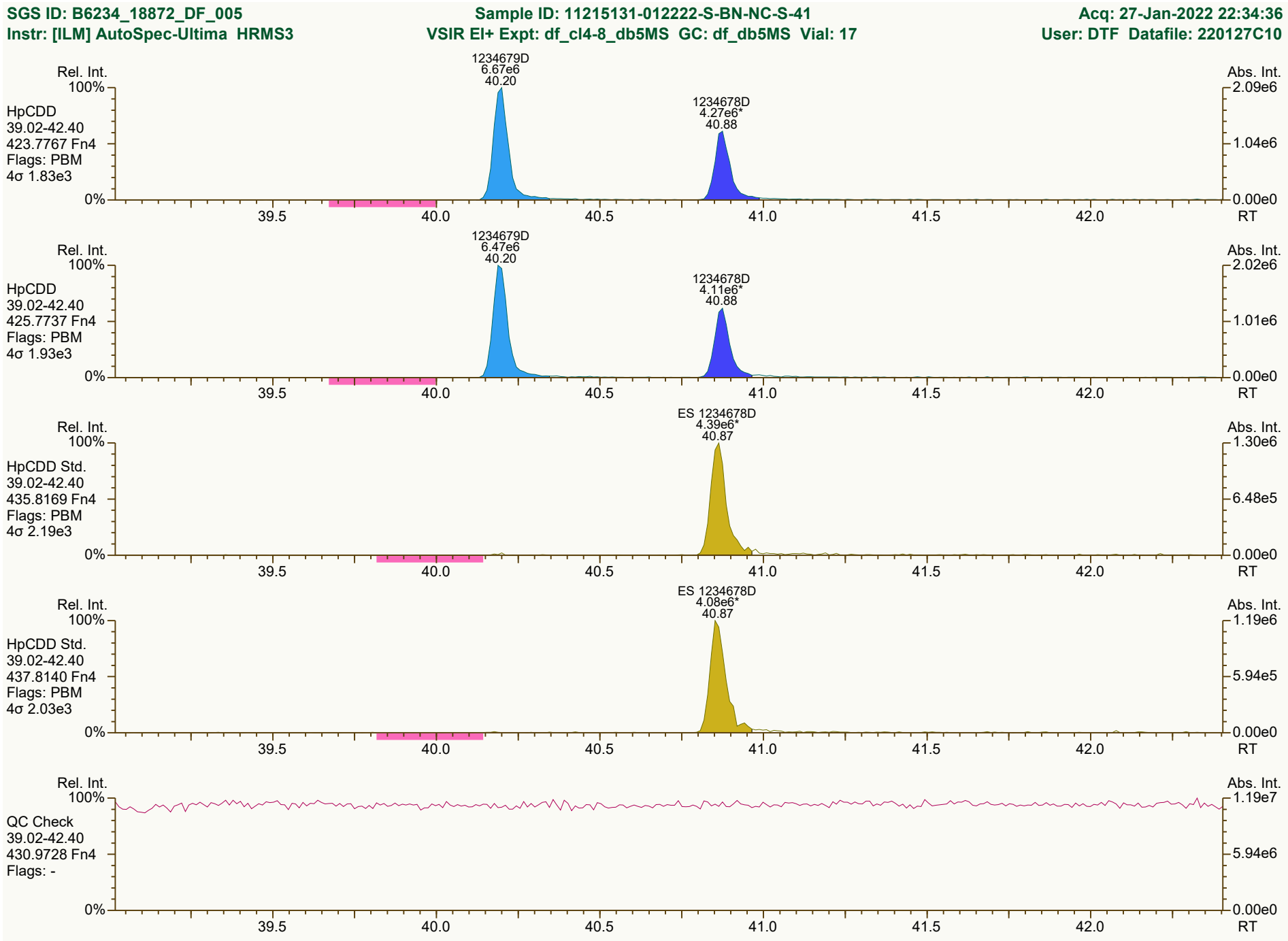

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 2.96e3
0%
2378D
6.49e6
28.64
1278D
5.72e5*
28.96
Abs. Int.
1.56e6
7.80e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 1.56e3
0%
2378D
7.87e6
28.64
1278D
7.35e5*
28.96
Abs. Int.
1.95e6
9.75e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.62e3
0%
CS 37Cl-2378D
5.23e6
28.64
Abs. Int.
1.27e6
6.33e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 5.94e3
0%
JS 1234D
7.93e6
27.96
ES 2378D
4.50e6
28.62
Abs. Int.
1.88e6
9.42e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 4.21e3
0%
JS 1234D
9.54e6
27.96
ES 2378D
5.67e6
28.62
Abs. Int.
2.25e6
1.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

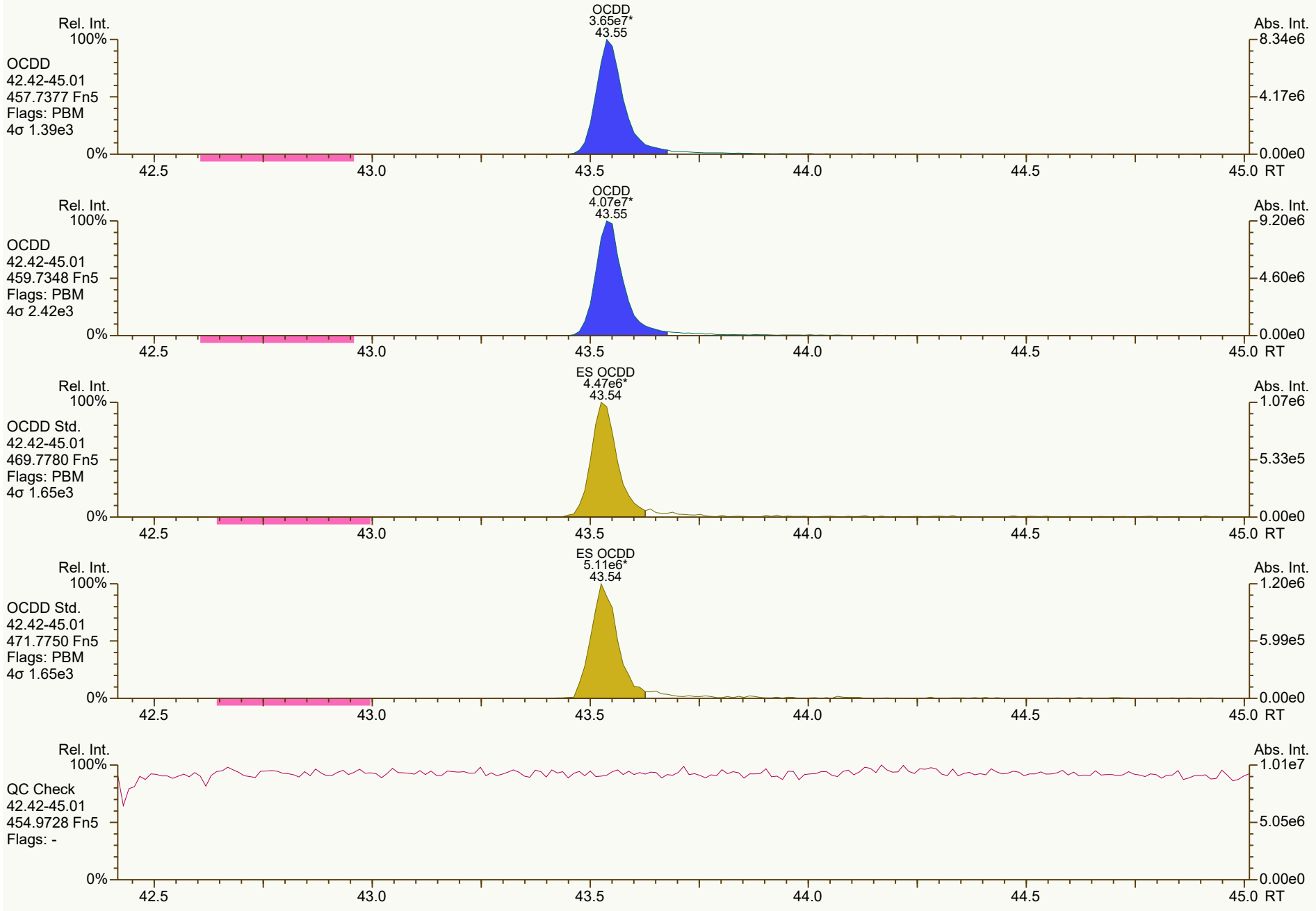

SGS ID: B6234_18872_DF_005
Sample ID: 11215131-012222-S-BN-NC-S-41
Acq: 27-Jan-2022 22:34:36
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 17
User: DTF Datafile: 220127C10
Rel. Int.
Abs. Int.
PeCDD
30.62-35.01
355.8546 Fn2
Flags: PBM
4σ 1.80e3
12469D
3.45e5*
31.98
12479/12468D
1.10e5*
31.45
12368D
6.08e4
32.53
12478D
4.07e4*
32.72
12379D
3.12e4*
32.83
12369D...[3]
1.21e5*
33.09
12378D
1.10e5*
33.94
PeCDD
30.62-35.01
357.8517 Fn2
Flags: PBM
4σ 1.32e3
12469D
2.44e5*
31.98
12479/12468D
7.31e4*
31.44
12368D
3.37e4*
32.53
12478D
2.36e4*
32.72
12369D...[3]
8.58e4*
33.09
12378D
6.97e4*
33.94
PeCDD Std.
30.62-35.01
367.8949 Fn2
Flags: PBM
4σ 4.58e3
CS 12347D
6.19e6
33.43
ES 12378D
6.23e6*
33.93
PeCDD Std.
30.62-35.01
369.8919 Fn2
Flags: PBM
4σ 1.86e3
CS 12347D
3.93e6
33.43
ES 12378D
3.75e6*
33.93
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

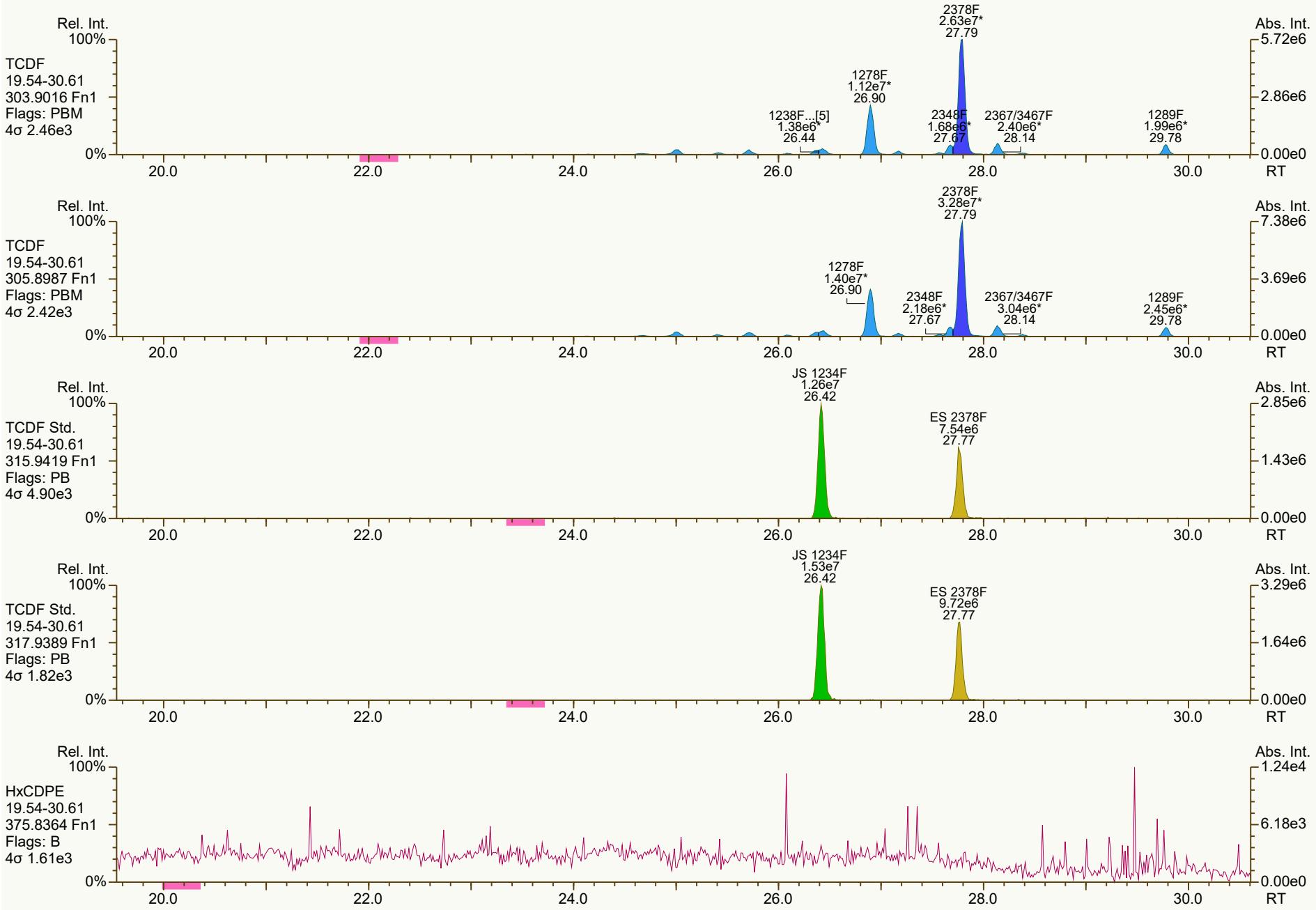
SGS ID: B6234_18872_DF_005 | Sample ID: 11215131-012222-S-BN-NC-S-41 | Acq: 27-Jan-2022 22:34:36
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 17 | User: DTF Datafile: 220127C10



Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_005.utp_res, saved 28-Jan-2022 09:47 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2560, 5556 scc: 969-193 | Revised: 28-Jan-2022 08:58 (DTF) Printed: 28-Jan-2022 09:56 Page 4 of 12


SGS ID: B6234_18872_DF_005
Sample ID: 11215131-012222-S-BN-NC-S-41
Acq: 27-Jan-2022 22:34:36
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 17
User: DTF Datafile: 220127C10
Rel. Int.
Abs. Int.
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 1.83e3
1234679D
6.67e6
40.20
1234678D
4.27e6*
40.88
2.09e6
1.04e6
0.00e0
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 1.93e3
1234679D
6.47e6
40.20
1234678D
4.11e6*
40.88
2.02e6
1.01e6
0.00e0
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 2.19e3
ES 1234678D
4.39e6*
40.87
1.30e6
6.48e5
0.00e0
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 2.03e3
ES 1234678D
4.08e6*
40.87
1.19e6
5.94e5
0.00e0
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
1.19e7
5.94e6
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_005.utp_res, saved 28-Jan-2022 09:47 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6069, 2459 scc: 969-193
Revised: 28-Jan-2022 08:58 (DTF) Printed: 28-Jan-2022 09:56 Page 5 of 12


OCDD
3.65e7*
43.55
Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PBM
4σ 1.39e3
0%
Abs. Int.
8.34e6
4.17e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.07e7*
43.55
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PBM
4σ 2.42e3
0%
Abs. Int.
9.20e6
4.60e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
4.47e6*
43.54
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 1.65e3
0%
Abs. Int.
1.07e6
5.33e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
5.11e6*
43.54
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 1.65e3
0%
Abs. Int.
1.20e6
5.99e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.01e7
5.05e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 2.46e3
0%
2378F
2.63e7*
27.79
1278F
1.12e7*
26.90
1238F...[5]
1.38e6*
26.44
2348F
1.68e6*
27.67
2367/3467F
2.40e6*
28.14
1289F
1.99e6*
29.78
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 2.42e3
0%
2378F
3.28e7*
27.79
1278F
1.40e7*
26.90
2348F
2.18e6*
27.67
2367/3467F
3.04e6*
28.14
1289F
2.45e6*
29.78
Abs. Int.
7.38e6
3.69e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 4.90e3
0%
JS 1234F
1.26e7
26.42
ES 2378F
7.54e6
27.77
Abs. Int.
2.85e6
1.43e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 1.82e3
0%
JS 1234F
1.53e7
26.42
ES 2378F
9.72e6
27.77
Abs. Int.
3.29e6
1.64e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.61e3
0%
Abs. Int.
1.24e4
6.18e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

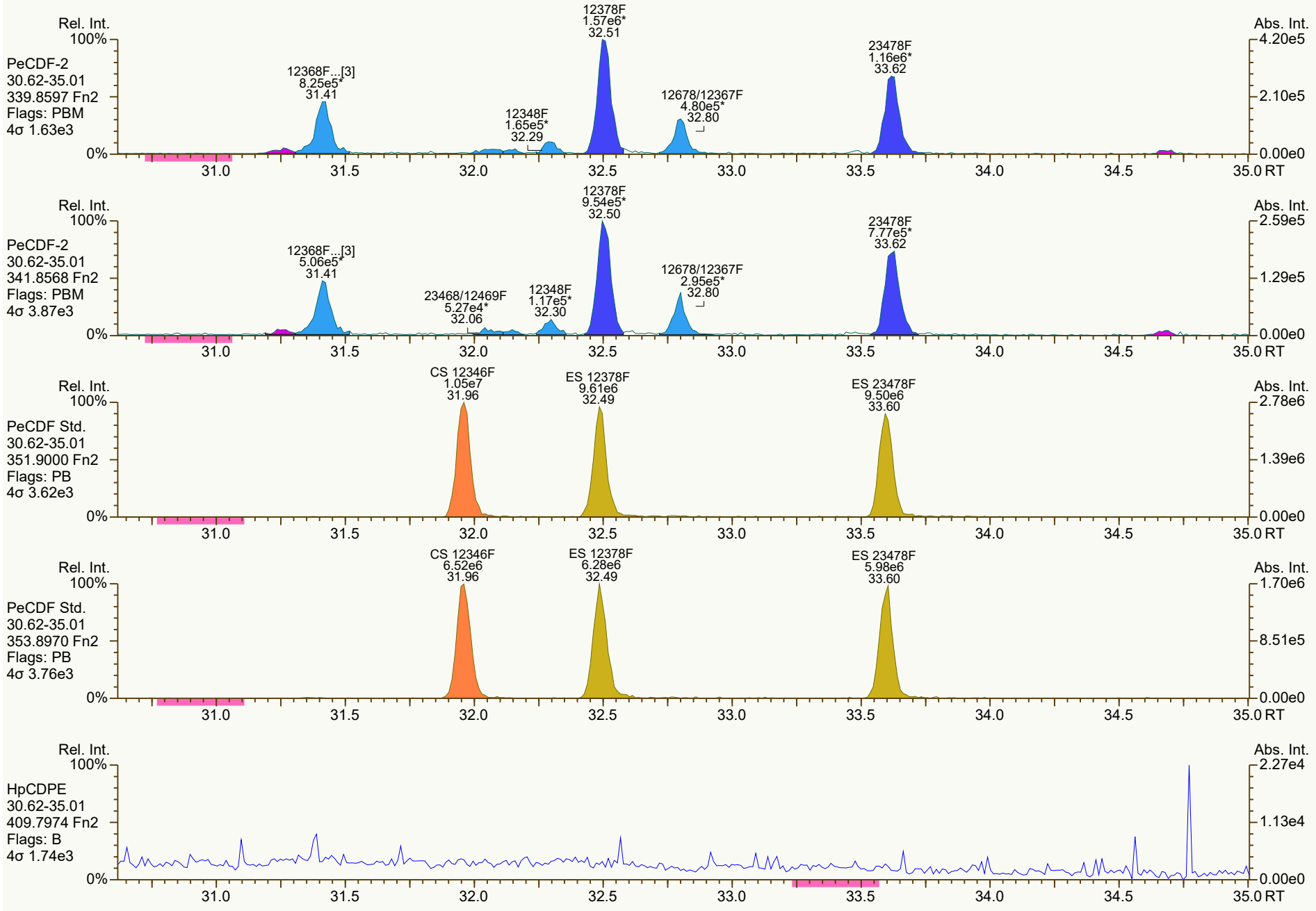
SGS ID: B6234_18872_DF_005 | Sample ID: 11215131-012222-S-BN-NC-S-41 | Acq: 27-Jan-2022 22:34:36

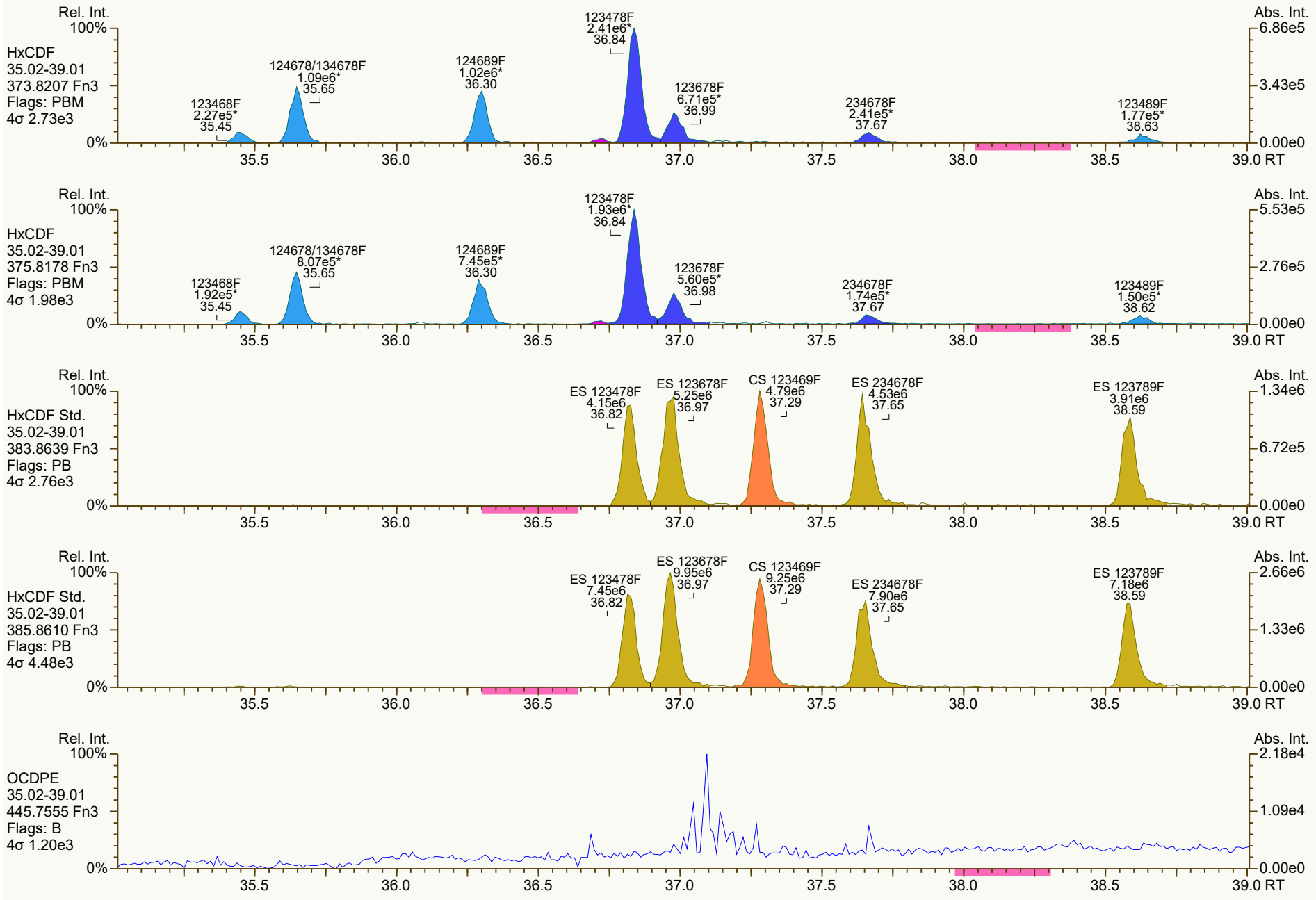
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 17 | User: DTF Datafile: 220127C10

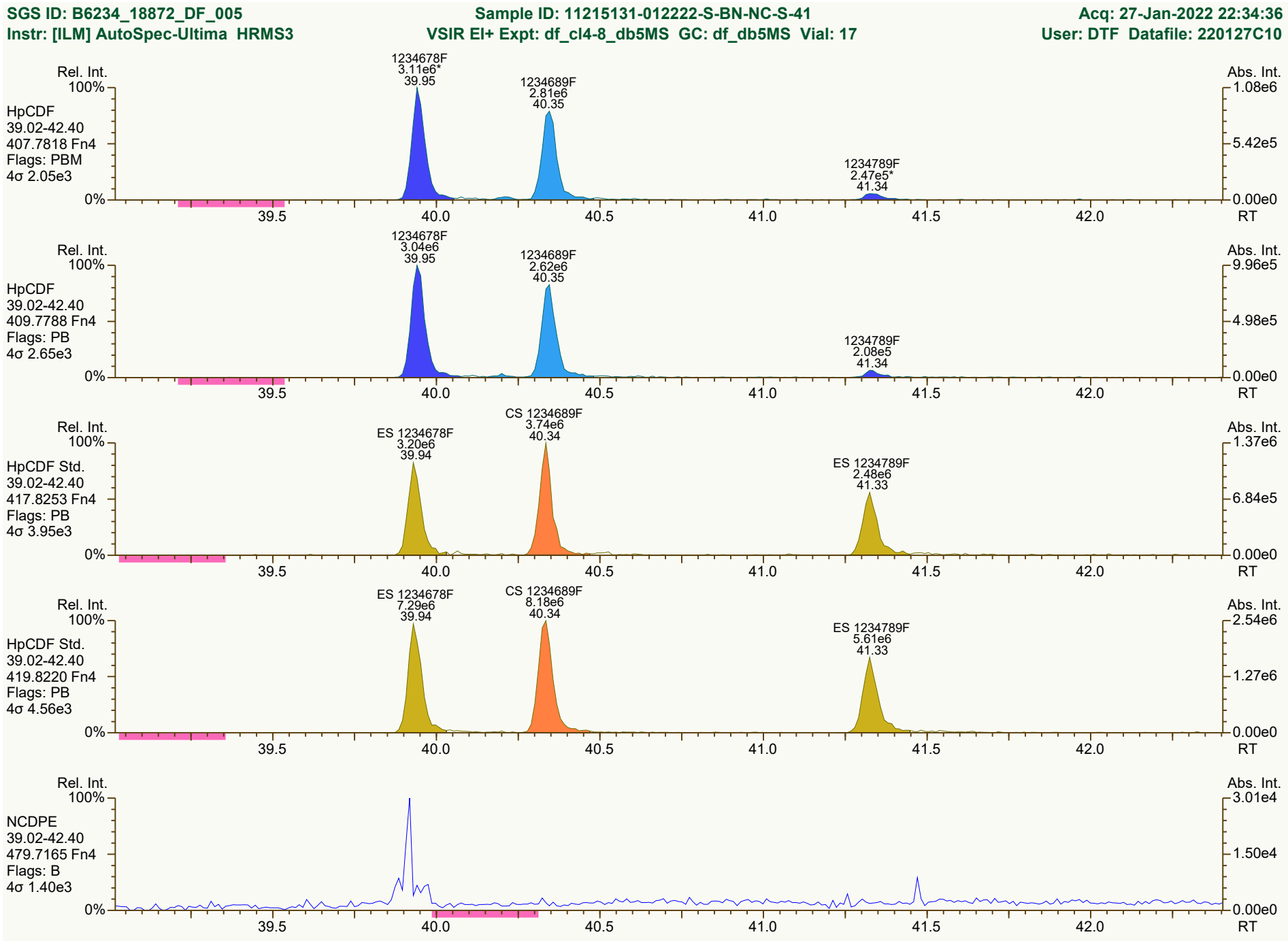


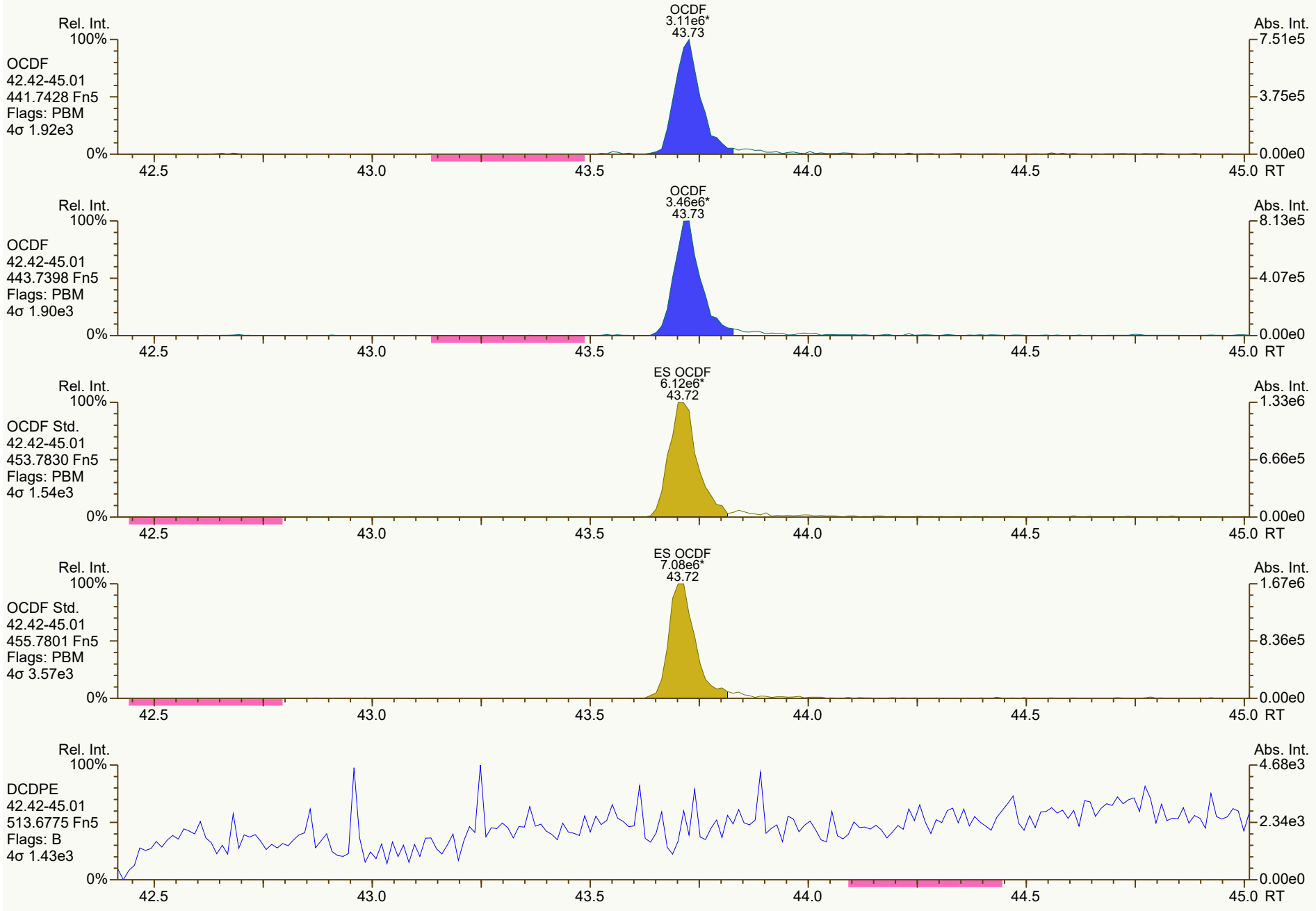
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_005.utp_res, saved 28-Jan-2022 09:47 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0578 scc: 969-193 | *Revised: 28-Jan-2022 08:59 (DTF) Printed: 28-Jan-2022 09:56 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: PBM
4σ 1.63e3
12368F...[3]
8.25e5*
31.41
12348F
1.65e5*
32.29
12378F
1.57e6*
32.51
12678/12367F
4.80e5*
32.80
23478F
1.16e6*
33.62
Abs. Int.
4.20e5
2.10e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: PBM
4σ 3.87e3
12368F...[3]
5.06e5*
31.41
23468/12469F
5.27e4*
32.06
12348F
1.17e5*
32.30
12378F
9.54e5*
32.50
12678/12367F
2.95e5*
32.80
23478F
7.77e5*
33.62
Abs. Int.
2.59e5
1.29e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: PB
4σ 3.62e3
CS 12346F
1.05e7
31.96
ES 12378F
9.61e6
32.49
ES 23478F
9.50e6
33.60
Abs. Int.
2.78e6
1.39e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: PB
4σ 3.76e3
CS 12346F
6.52e6
31.96
ES 12378F
6.28e6
32.49
ES 23478F
5.98e6
33.60
Abs. Int.
1.70e6
8.51e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: B
4σ 1.74e3
Abs. Int.
2.27e4
1.13e4
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 2.73e3
123468F 2.27e5* 35.45
124678/134678F 1.09e6* 35.65
124689F 1.02e6* 36.30
123478F 2.41e6* 36.84
123678F 6.71e5* 36.99
234678F 2.41e5* 37.67
123489F 1.77e5* 38.63
Abs. Int.
6.86e5
3.43e5
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 1.98e3
123468F 1.92e5* 35.45
124678/134678F 8.07e5* 35.65
124689F 7.45e5* 36.30
123478F 1.93e6* 36.84
123678F 5.60e5* 36.98
234678F 1.74e5* 37.67
123489F 1.50e5* 38.62
Abs. Int.
5.53e5
2.76e5
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PB
4σ 2.76e3
ES 123478F 4.15e6 36.82
ES 123678F 5.25e6 36.97
CS 123469F 4.79e6 37.29
ES 234678F 4.53e6 37.65
ES 123789F 3.91e6 38.59
Abs. Int.
1.34e6
6.72e5
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PB
4σ 4.48e3
ES 123478F 7.45e6 36.82
ES 123678F 9.95e6 36.97
CS 123469F 9.25e6 37.29
ES 234678F 7.90e6 37.65
ES 123789F 7.18e6 38.59
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.20e3
Abs. Int.
2.18e4
1.09e4
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT


SGS ID: B6234_18872_DF_005
Sample ID: 11215131-012222-S-BN-NC-S-41
Acq: 27-Jan-2022 22:34:36
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 17
User: DTF Datafile: 220127C10
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 2.05e3
1234678F
3.11e6*
39.95
1234689F
2.81e6
40.35
1234789F
2.47e5*
41.34
1.08e6
5.42e5
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 2.65e3
1234678F
3.04e6
39.95
1234689F
2.62e6
40.35
1234789F
2.08e5
41.34
9.96e5
4.98e5
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PB
4σ 3.95e3
ES 1234678F
3.20e6
39.94
CS 1234689F
3.74e6
40.34
ES 1234789F
2.48e6
41.33
1.37e6
6.84e5
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PB
4σ 4.56e3
ES 1234678F
7.29e6
39.94
CS 1234689F
8.18e6
40.34
ES 1234789F
5.61e6
41.33
2.54e6
1.27e6
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.40e3
3.01e4
1.50e4
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_005.utp_res, saved 28-Jan-2022 09:47 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3955, 8618, 5853 scc: 969-193
Revised: 28-Jan-2022 09:01 (DTF) Printed: 28-Jan-2022 09:56 Page 11 of 12


OCDF
3.11e6*
43.73
Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PBM
4σ 1.92e3
0%
Abs. Int.
7.51e5
3.75e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.46e6*
43.73
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
8.13e5
4.07e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
6.12e6*
43.72
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 1.54e3
0%
Abs. Int.
1.33e6
6.66e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
7.08e6*
43.72
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 3.57e3
0%
Abs. Int.
1.67e6
8.36e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.43e3
0%
Abs. Int.
4.68e3
2.34e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6234_18872_DF_006 **Acq'd:** 27 Jan 2022 23:20 DTF **Wt/Vol:** 12.03 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-S-40 **UTP:** 28-Jan-2022 09:47:36 DTF **J-level:** 0.416 pg/g **Split:** 1 **Checkcode:** 800-269-SBH

Datafile: 220127C11 **Report:** 28 Jan 2022 09:50 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.65	E	1.0008	1.0008	0	1.18E+08	0.81	Y	1.18	1,020	3807.459	0.347
12378-PeCDD	33.96		1.0006	1.0005	-0.2	9.68E+05	1.59	Y	1.04	10.6	3656.146	0.371
123478-HxCDD	37.85		1.0004	1.0003	-0.2	2.18E+05	1.20	Y	1.09	2.57	3462.864	0.369
123678-HxCDD	37.97		1.0034	1.0034	0	8.36E+05	1.11	Y	1.15	8.79	3462.864	0.315
123789-HxCDD	38.25		1.0109	1.0109	0	4.50E+05	1.20	Y	1.05	4.97	3462.864	0.344
1234678-HpCDD	40.89		1.0003	1.0004	+0.2	2.18E+07	1.08	Y	1.06	288	3193.037	0.336
OCDD	43.56		1.0002	1.0003	+0.3	2.11E+08	0.91	Y	1.13	4,350	3648.878	0.83
2378-TCDF	27.80	E	1.0008	1.0007	-0.2	5.18E+08	0.80	Y	1.08	3,110	4729.017	0.303
12378-PeCDF	32.52		1.0005	1.0005	0	1.78E+07	1.55	Y	1.02	119	5638.67	0.329
23478-PeCDF	33.63		1.0005	1.0007	+0.4	1.42E+07	1.56	Y	1.02	96.5	5638.67	0.341
123478-HxCDF	36.85		1.0004	1.0005	+0.2	2.55E+07	1.27	Y	1.27	195	6133.247	0.412
123678-HxCDF	36.99		1.0004	1.0004	0	7.70E+06	1.31	Y	1.15	51.8	6133.247	0.368
234678-HxCDF	37.68		1.0004	1.0005	+0.2	1.80E+06	1.32	Y	1.19	14.4	6133.247	0.489
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	6133.247	0.526
1234678-HpCDF	39.96		1.0002	1.0003	+0.2	1.50E+07	1.06	Y	1.37	122	4243.921	0.249
1234789-HpCDF	41.35		1.0003	1.0002	-0.2	2.17E+06	1.09	Y	1.31	25.5	4243.921	0.412
OCDF	43.74		1.0002	1.0003	+0.3	2.96E+07	0.87	Y	1.07	500	3745.245	0.652

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.63	1.0233	1.0234	+0.2	1.62E+07	0.83	Y	1.05	75.3
ES 12378-PeCDD	33.94	1.2121	1.2132	+2.2	1.47E+07	1.51	Y	0.88	81.2
ES 123478-HxCDD	37.84	0.9921	0.9921	0	1.29E+07	1.27	Y	0.97	78.3
ES 123678-HxCDD	37.95	0.9951	0.9951	0	1.38E+07	1.21	Y	0.94	85.8
ES 123789-HxCDD	38.24	1.0025	1.0026	+0.2	1.44E+07	1.24	Y	1.09	77.3
ES 1234678-HpCDD	40.88	1.0709	1.0717	+2.0	1.19E+07	1.05	Y	0.91	76.5
ES OCDD	43.55	1.1403	1.1416	+3.4	1.43E+07	0.89	Y	0.62	67.4
ES 2378-TCDF	27.78	1.0506	1.0512	+1.0	2.56E+07	0.79	Y	1.06	76.8
ES 12378-PeCDF	32.50	1.2281	1.2298	+3.3	2.42E+07	1.57	Y	0.91	84.4
ES 23478-PeCDF	33.61	1.2698	1.2717	+3.8	2.39E+07	1.56	Y	0.88	86
ES 123478-HxCDF	36.83	0.9657	0.9656	-0.2	1.72E+07	0.54	Y	1.20	84.2
ES 123678-HxCDF	36.98	0.9695	0.9695	0	2.15E+07	0.54	Y	1.35	93.3
ES 234678-HxCDF	37.66	0.9874	0.9874	0	1.75E+07	0.52	Y	1.24	82.6
ES 123789-HxCDF	38.60	1.0116	1.0119	+0.7	1.49E+07	0.52	Y	1.16	75.8
ES 1234678-HpCDF	39.95	1.0467	1.0473	+1.4	1.50E+07	0.45	Y	0.97	91
ES 1234789-HpCDF	41.34	1.0830	1.0837	+1.7	1.08E+07	0.44	Y	0.85	74.6
ES OCDF	43.73	1.1451	1.1465	+3.7	1.84E+07	0.91	Y	0.81	66.9

Lab ID: B6234_18872_DF_006 **Acq'd:** 27 Jan 2022 23:20 DTF **Wt/Vol:** 12.03 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-S-40 **UTP:** 28-Jan-2022 09:47:36 DTF **J-level:** 0.416 pg/g **Split:** 1 **Checkcode:** 800-269-SBH

Datafile: 220127C11 **Report:** 28 Jan 2022 09:50 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.98		-	-	-	2.06E+07	0.81	Y	-	-	
JS 1234-TCDF	26.43		-	-	-	3.15E+07	0.80	Y	-	-	
JS 123467-HxCDD	38.14		-	-	-	8.50E+06	1.28	Y	-	-	
CS 37Cl-2378-TCDD	28.65		1.0241	1.0242	+0.2	7.27E+06	n/a	-	1.20	73.5	
CS 12347-PeCDD	33.44		1.1943	1.1953	+2.0	1.39E+07	1.53	Y	0.75	89.7	
CS 12346-PeCDF	31.98		1.2083	1.2098	+2.9	2.34E+07	1.56	Y	0.85	87.4	
CS 123469-HxCDF	37.29		0.9778	0.9778	0	1.89E+07	0.56	Y	1.12	99.3	
CS 1234689-HpCDF	40.35		1.0571	1.0578	+1.7	1.54E+07	0.47	Y	0.89	102	
~~SS 37Cl-2378-TCDD~~	~~28.65~~		~~1.0241~~	~~1.0242~~	~~+0.2~~	~~7.27E+06~~	~~n/a~~		~~1.15~~	~~97.9~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.44~~		~~1.1943~~	~~1.1953~~	~~+2.0~~	~~1.39E+07~~	~~1.53~~	~~Y~~	~~0.86~~	~~110~~	CL 28Jan22
~~SS 12346-PeCDF~~	~~31.98~~		~~1.2083~~	~~1.2098~~	~~+2.9~~	~~2.34E+07~~	~~1.56~~	~~Y~~	~~0.94~~	~~103~~	
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9778~~	~~0~~	~~1.89E+07~~	~~0.56~~	~~Y~~	~~0.83~~	~~106~~	
~~SS 1234689-HpCDF~~	~~40.35~~		~~1.0571~~	~~1.0578~~	~~+1.7~~	~~1.54E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~112~~	

Totals	Conc	EMPC
Total TCDD	1140	1160
Total PeCDD	24.4	25.7
Total HxCDD	92.6	92.6
Total HpCDD	720	720
Total Tetra-Octa Dioxins	6330	6360
Total TCDF	6,110	6110
Total PeCDF	350	353
Total HxCDF	355	355
Total HpCDF	266	266
Total Tetra-Octa Furans	7,580	7580
Total Tetra-Octa Dioxins & Furans	13900	13900

Lab ID: B6234_18872_DF_006 **Acq'd: 27 Jan 2022 23:20 DTF** **Wt/Vol: 12.03 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012222-S-BN-NC-S-40 **UTP: 28-Jan-2022 09:47:36 DTF** **J-level: 0.416 pg/g** **Split: 1** **Checkcode: 800-269-SBH**

Datafile: 220127C11 **Report: 28 Jan 2022 09:50 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.04		0.8755	0.8745	-1.5	3.84E+05	0.72	Y	1.18	3.33	3807.459	0.347
1379-TCDD	25.39	EMPC	0.8876	0.8868	-1.2	1.20E+05	0.99	N	1.18	1.04	3807.459	0.347
1369-TCDD	NotFnd		0.9023						1.18		3807.459	0.347
1469-TCDD	26.58		0.9291	0.9284	-1.1	2.22E+05	0.79	Y	1.18	1.92	3807.459	0.347
1247/1246/1248/1249-TCDD	26.81	EMPC	0.9373	0.9364	-1.4	2.14E+05	0.93	N	1.18	1.85	3807.459	0.347
1378-TCDD	27.01		0.9440	0.9434	-1.0	4.05E+05	0.76	Y	1.18	3.5	3807.459	0.347
1268-TCDD	NotFnd		0.9506						1.18		3807.459	0.347
1478-TCDD	27.47		0.9591	0.9593	+0.3	3.34E+05	0.83	Y	1.18	2.89	3807.459	0.347
1279-TCDD	NotFnd		0.9649						1.18		3807.459	0.347
1234/1269-TCDD	NotFnd		0.9771						1.18		3807.459	0.347
1236-TCDD	NotFnd		0.9820						1.18		3807.459	0.347
1237/1238-TCDD	28.36	EMPC	0.9908	0.9906	-0.3	2.07E+06	0.91	N	1.18	18	3807.459	0.347
1239-TCDD	NotFnd		0.9954						1.18		3807.459	0.347
2378-TCDD	**28.65**	E	**1.0008**	1.0008	**0**	1.18E+08	0.81	Y	**1.18**	**1,020**	**3807.459**	**0.347**
1278-TCDD	28.98		1.0121	1.0121	0	1.20E+07	0.80	Y	1.18	104	3807.459	0.347
1267-TCDD	29.12	EMPC	1.0167	1.0171	+0.7	4.66E+05	0.93	N	1.18	4.04	3807.459	0.347
1289-TCDD	NotFnd		1.0341						1.18		3807.459	0.347
12479/12468-PeCDD	31.46		0.9273	0.9271	-0.4	3.67E+05	1.73	Y	1.04	4	3656.146	0.371
12469-PeCDD	32.00	J	0.9430	0.9427	-0.6	1.83E+05	1.38	Y	1.04	1.99	3656.146	0.371
12368-PeCDD	32.55		0.9592	0.9589	-0.6	2.60E+05	1.73	Y	1.04	2.84	3656.146	0.371
12478-PeCDD	32.74	J	0.9647	0.9645	-0.4	1.66E+05	1.60	Y	1.04	1.81	3656.146	0.371
12379-PeCDD	32.84	J	0.9676	0.9676	0	1.35E+05	1.53	Y	1.04	1.47	3656.146	0.371
12369/12467/12489-PeCDD	33.10	J	0.9752	0.9753	+0.2	1.51E+05	1.34	Y	1.04	1.65	3656.146	0.371
12346/12347-PeCDD	33.46	J EMPC	0.9860	0.9859	-0.2	5.40E+04	1.93	N	1.04	0.59	3656.146	0.371
12378-PeCDD	33.96		**1.0006**	**1.0005**	**-0.2**	**9.68E+05**	**1.59**	**Y**	**1.04**	**10.6**	**3656.146**	**0.371**
12367-PeCDD	34.04	J EMPC	1.0034	1.0028	-1.2	6.77E+04	1.86	N	1.04	0.74	3656.146	0.371
12389-PeCDD	NotFnd		1.0134						1.04		3656.146	0.371
124679/124689-HxCDD	36.11		0.9545	0.9542	-0.6	3.20E+06	1.35	Y	1.10	35.5	3462.864	0.341
123468-HxCDD	36.75		0.9715	0.9713	-0.4	4.19E+05	1.11	Y	1.10	4.65	3462.864	0.341
123679/123689-HxCDD	37.06		0.9793	0.9794	+0.2	2.78E+06	1.23	Y	1.10	30.8	3462.864	0.341
123469-HxCDD	37.19		0.9829	0.9828	-0.2	3.40E+05	1.07	Y	1.10	3.77	3462.864	0.341
123478-HxCDD	37.85		**1.0004**	**1.0003**	**-0.2**	**2.18E+05**	**1.20**	**Y**	1.09	**2.57**	**3462.864**	**0.369**
123678-HxCDD	37.97		**1.0034**	**1.0034**	**0**	**8.36E+05**	**1.11**	**Y**	1.15	**8.79**	**3462.864**	**0.315**
123467-HxCDD	38.15	J	1.0082	1.0081	-0.2	1.41E+05	1.24	Y	1.10	1.56	3462.864	0.341
123789-HxCDD	38.25		**1.0109**	**1.0109**	**0**	**4.50E+05**	**1.20**	**Y**	1.05	**4.97**	**3462.864**	**0.344**

Lab ID: B6234_18872_DF_006 **Acq'd:** 27 Jan 2022 23:20 DTF **Wt/Vol:** 12.03 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-S-40 **UTP:** 28-Jan-2022 09:47:36 DTF **J-level:** 0.416 pg/g **Split:** 1 **Checkcode:** 800-269-SBH

Datafile: 220127C11 **Report:** 28 Jan 2022 09:50 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

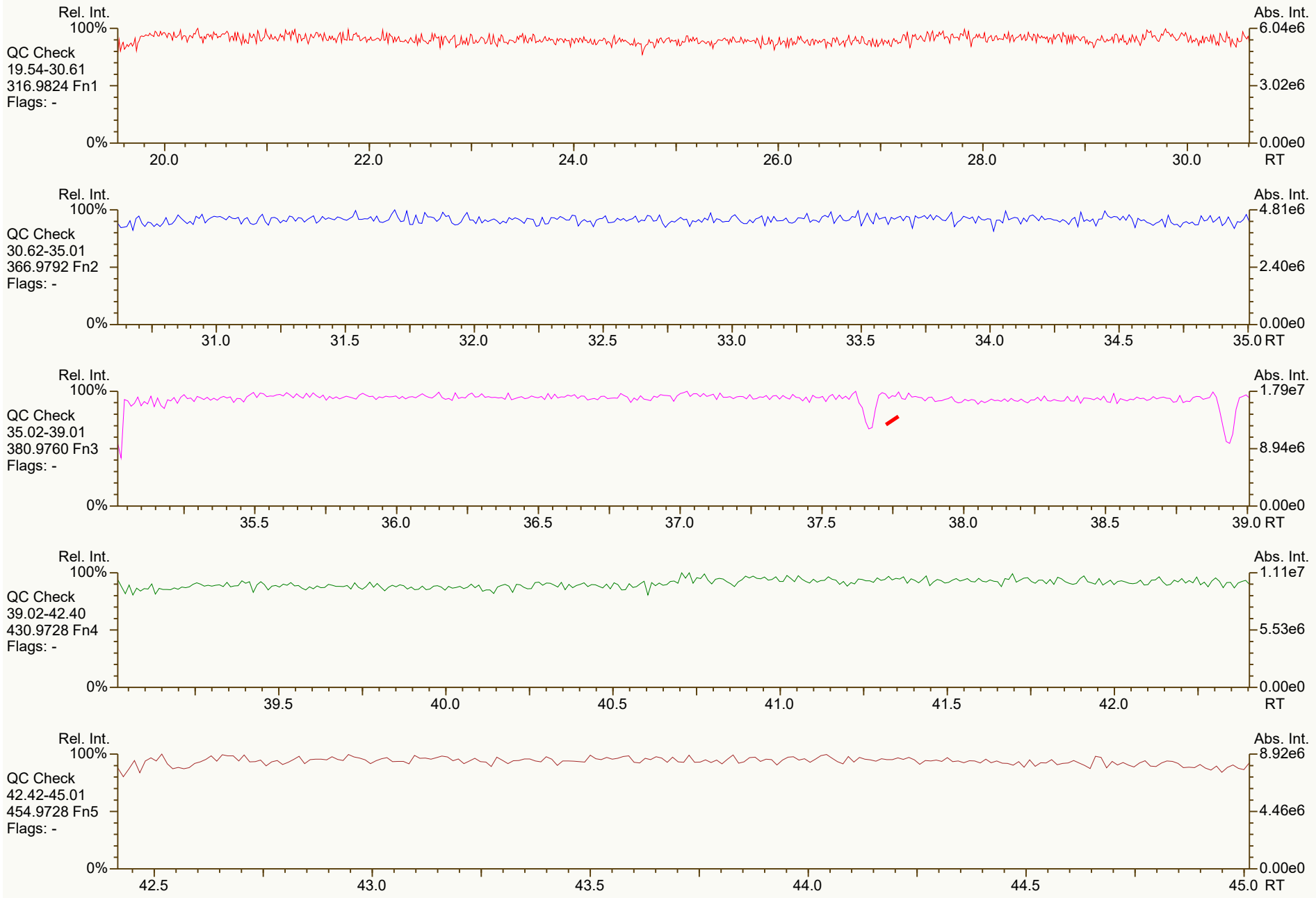
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.21		0.9838	0.9837	-0.2	3.27E+07	1.04	Y	1.06	432	3193.037	0.336
1234678-HpCDD	**40.89**		**1.0003**	**1.0004**	**+0.2**	**2.18E+07**	**1.08**	**Y**	**1.06**	**288**	**3193.037**	**0.336**
OCDD	**43.56**		**1.0002**	**1.0003**	**+0.3**	**2.11E+08**	**0.91**	**Y**	**1.13**	**4,350**	**3648.878**	**0.83**
OCDD-a	43.55		1.0002	1.0002	0	1.33E+07	2.48	Y	0.07	4,270	5157.077	18.3
1368-TCDF	22.98		0.8282	0.8269	-1.8	2.09E+05	0.84	Y	1.08	1.25	4729.017	0.303
1468-TCDF	23.54		0.8485	0.8474	-1.6	9.52E+05	0.82	Y	1.08	5.72	4729.017	0.303
2468-TCDF	24.17		0.8709	0.8698	-1.6	9.27E+05	0.78	Y	1.08	5.57	4729.017	0.303
1346/1246-TCDF	NotFnd		0.8829						1.08		4729.017	0.303
1347/1378/1247-TCDF	24.68		0.8884	0.8884	0	7.16E+06	0.79	Y	1.08	43	4729.017	0.303
1348-TCDF	NotFnd		0.8980						1.08		4729.017	0.303
1248/1367/1379-TCDF	25.02		0.9026	0.9004	-3.3	2.76E+07	0.81	Y	1.08	166	4729.017	0.303
1268-TCDF	25.43		0.9158	0.9152	-0.9	9.27E+06	0.81	Y	1.08	55.7	4729.017	0.303
1467-TCDF	25.56		0.9206	0.9200	-0.9	1.23E+06	0.75	Y	1.08	7.38	4729.017	0.303
1478-TCDF	25.73		0.9266	0.9260	-0.9	2.19E+07	0.81	Y	1.08	132	4729.017	0.303
1369/1237-TCDF	26.10		0.9397	0.9395	-0.3	5.70E+06	0.79	Y	1.08	34.3	4729.017	0.303
2467-TCDF	26.22		0.9440	0.9437	-0.5	8.00E+05	0.76	Y	1.08	4.81	4729.017	0.303
2368-TCDF	26.37		0.9497	0.9492	-0.8	1.51E+07	0.81	Y	1.08	91	4729.017	0.303
1238/1234/1678/1469/1236-TCDF	26.45		0.9528	0.9519	-1.4	2.59E+07	0.81	Y	1.08	156	4729.017	0.303
1278-TCDF	26.91	E	0.9690	0.9686	-0.6	2.27E+08	0.80	Y	1.08	1,370	4729.017	0.303
1349-TCDF	NotFnd		0.9730						1.08		4729.017	0.303
1267-TCDF	27.19		0.9787	0.9785	-0.3	1.37E+07	0.80	Y	1.08	82.1	4729.017	0.303
2346/1249-TCDF	27.38		0.9850	0.9854	+0.7	1.70E+06	0.82	Y	1.08	10.2	4729.017	0.303
2347/1279-TCDF	27.57		0.9929	0.9923	-1.0	5.55E+06	0.76	Y	1.08	33.4	4729.017	0.303
2348-TCDF	27.69		0.9970	0.9965	-0.8	4.23E+07	0.79	Y	1.08	254	4729.017	0.303
2378-TCDF	**27.80**	E	**1.0008**	**1.0007**	**-0.2**	**5.18E+08**	**0.80**	**Y**	**1.08**	**3,110**	**4729.017**	**0.303**
2367/3467-TCDF	28.15		1.0136	1.0133	-0.5	4.42E+07	0.79	Y	1.08	266	4729.017	0.303
1269-TCDF	28.40		1.0221	1.0222	+0.2	8.27E+06	0.84	Y	1.08	49.7	4729.017	0.303
1239-TCDF	NotFnd		1.0319						1.08		4729.017	0.303
1289-TCDF	29.80		1.0740	1.0725	-2.7	3.95E+07	0.80	Y	1.08	237	4729.017	0.303
13468/12468-PeCDF	29.73		0.9145	0.9147	+0.4	1.48E+06	1.69	Y	1.02	10	2732.981	0.162
13678/13467/12467-PeCDF	31.27		0.9619	0.9621	+0.4	5.31E+05	1.54	Y	1.02	3.59	5638.67	0.335
12368/13478/12478-PeCDF	31.43		0.9665	0.9670	+0.9	8.75E+06	1.53	Y	1.02	59.1	5638.67	0.335
14678-PeCDF	NotFnd		0.9695						1.02		5638.67	0.335
13479-PeCDF	NotFnd		0.9724						1.02		5638.67	0.335
13469/12479-PeCDF	31.82	J	0.9801	0.9789	-2.3	1.38E+05	1.51	Y	1.02	0.929	5638.67	0.335
12346-PeCDF	31.99	J	0.9842	0.9843	+0.2	7.40E+04	1.44	Y	1.02	0.5	5638.67	0.335

Lab ID: B6234_18872_DF_006 **Acq'd: 27 Jan 2022 23:20 DTF** **Wt/Vol: 12.03 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012222-S-BN-NC-S-40 **UTP: 28-Jan-2022 09:47:36 DTF** **J-level: 0.416 pg/g** **Split: 1** **Checkcode: 800-269-SBH**

Datafile: 220127C11 **Report: 28 Jan 2022 09:50 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.08	EMPC	0.9868	0.9869	+0.2	5.02E+05	1.85	N	1.02	3.39	5638.67	0.335
12347-PeCDF	32.16		0.9895	0.9893	-0.4	3.53E+05	1.61	Y	1.02	2.38	5638.67	0.335
12348-PeCDF	32.31		0.9941	0.9940	-0.2	1.74E+06	1.52	Y	1.02	11.7	5638.67	0.335
12378-PeCDF	**32.52**		**1.0005**	**1.0005**	**0**	**1.78E+07**	**1.55**	**Y**	**1.02**	**119**	**5638.67**	**0.329**
12678/12367-PeCDF	32.81		1.0090	1.0094	+0.8	5.82E+06	1.53	Y	1.02	39.3	5638.67	0.335
12379-PeCDF	NotFnd		1.0142						1.02		5638.67	0.335
12679-PeCDF	NotFnd		0.9931						1.02		5638.67	0.335
23467/12369-PeCDF	33.49		0.9966	0.9966	0	3.26E+05	1.60	Y	1.02	2.2	5638.67	0.335
23478-PeCDF	**33.63**		**1.0005**	**1.0007**	**+0.4**	**1.42E+07**	**1.56**	**Y**	**1.02**	**96.5**	**5638.67**	**0.341**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5638.67	0.335
12349-PeCDF	NotFnd		1.0101						1.02		5638.67	0.335
12389-PeCDF	34.69		1.0322	1.0323	+0.2	6.47E+05	1.56	Y	1.02	4.37	5638.67	0.335
123468-HxCDF	35.46		0.9627	0.9629	+0.4	1.13E+06	1.25	Y	1.19	8.86	6133.247	0.441
124678/134678-HxCDF	35.66		0.9684	0.9682	-0.4	4.97E+06	1.33	Y	1.19	39	6133.247	0.441
134679-HxCDF	NotFnd		0.9747						1.19		6133.247	0.441
124679-HxCDF	36.08	J EMPC	0.9802	0.9797	-1.1	1.08E+05	1.52	N	1.19	0.846	6133.247	0.441
124689-HxCDF	36.31		0.9858	0.9858	0	3.47E+06	1.23	Y	1.19	27.3	6133.247	0.441
123467-HxCDF	36.73		0.9972	0.9972	0	3.42E+05	1.37	Y	1.19	2.69	6133.247	0.441
123478-HxCDF	**36.85**		**1.0004**	**1.0005**	**+0.2**	**2.55E+07**	**1.27**	**Y**	**1.27**	**195**	**6133.247**	**0.412**
123678-HxCDF	**36.99**		**1.0004**	**1.0004**	**0**	**7.70E+06**	**1.31**	**Y**	**1.15**	**51.8**	**6133.247**	**0.368**
123479-HxCDF	NotFnd		1.0051						1.19		6133.247	0.441
123469-HxCDF	NotFnd		1.0091						1.19		6133.247	0.441
123679-HxCDF	NotFnd		0.9943						1.19		6133.247	0.441
234678-HxCDF	**37.68**		**1.0004**	**1.0005**	**+0.2**	**1.80E+06**	**1.32**	**Y**	**1.19**	**14.4**	**6133.247**	**0.489**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6133.247	0.441
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**6133.247**	**0.526**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.64		1.0007	1.0010	+0.7	2.04E+06	1.32	Y	1.19	16	6133.247	0.441
1234678-HpCDF	**39.96**		**1.0002**	**1.0003**	**+0.2**	**1.50E+07**	**1.06**	**Y**	**1.37**	**122**	**4243.921**	**0.249**
1234679-HpCDF	40.21		1.0067	1.0067	0	4.41E+05	1.04	Y	1.34	4.25	4243.921	0.317
1234689-HpCDF	40.36		1.0101	1.0103	+0.5	1.19E+07	1.05	Y	1.34	114	4243.921	0.317
1234789-HpCDF	**41.35**		**1.0003**	**1.0002**	**-0.2**	**2.17E+06**	**1.09**	**Y**	**1.31**	**25.5**	**4243.921**	**0.412**
OCDF	**43.74**		**1.0002**	**1.0003**	**+0.3**	**2.96E+07**	**0.87**	**Y**	**1.07**	**500**	**3745.245**	**0.652**
OCDF-a	43.74		1.0002	1.0003	+0.3	1.94E+06	2.28	Y	0.07	530	4005.317	11.3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316.9824 Fn1
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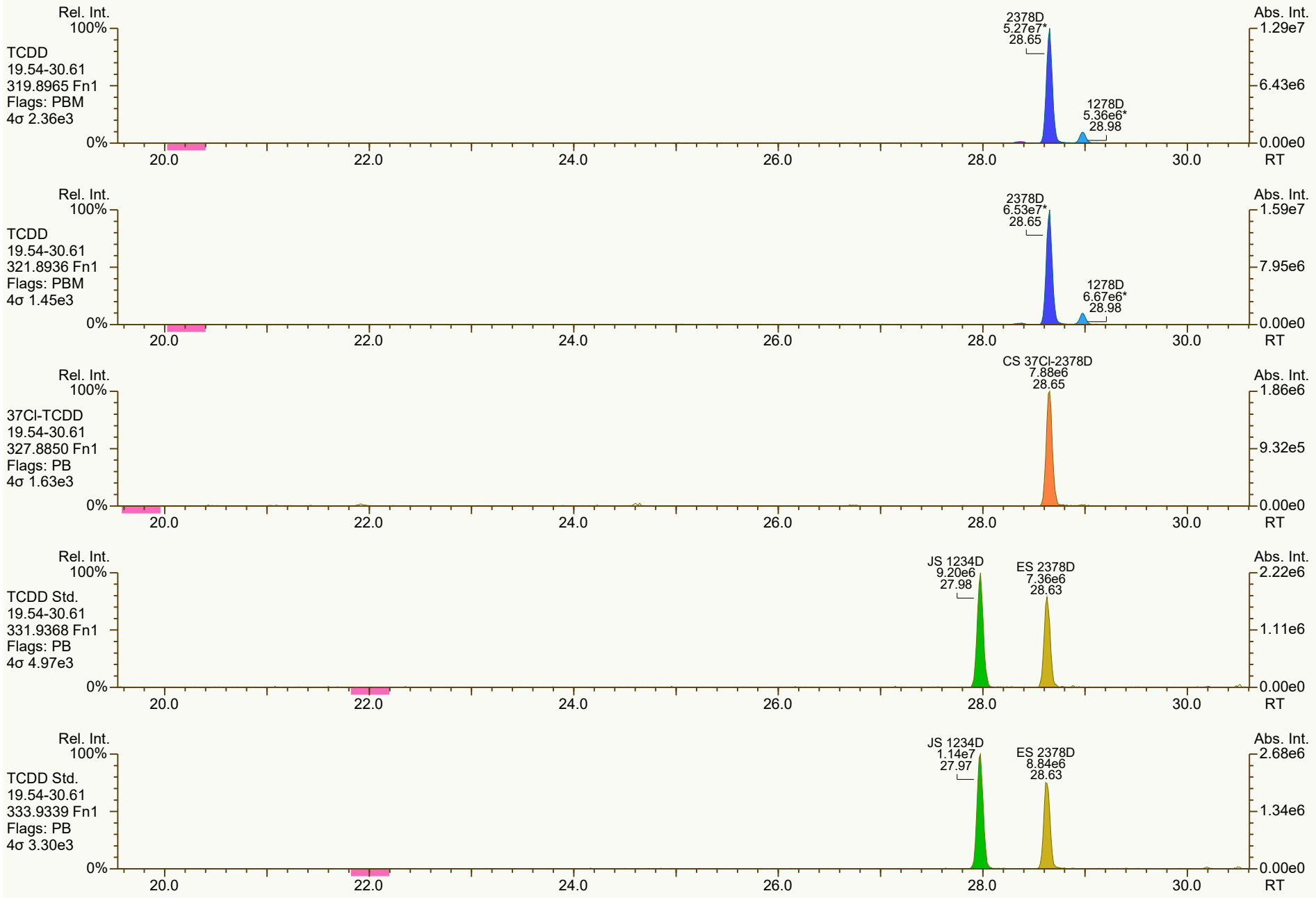
3.02e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.81e6
2.40e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.79e7
8.94e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.11e7
5.53e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
8.92e6
4.46e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 2.36e3
0%
2378D
5.27e7*
28.65
1278D
5.36e6*
28.98
Abs. Int.
1.29e7
6.43e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 1.45e3
0%
2378D
6.53e7*
28.65
1278D
6.67e6*
28.98
Abs. Int.
1.59e7
7.95e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.63e3
0%
CS 37Cl-2378D
7.88e6
28.65
Abs. Int.
1.86e6
9.32e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 4.97e3
0%
JS 1234D
9.20e6
27.98
ES 2378D
7.36e6
28.63
Abs. Int.
2.22e6
1.11e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 3.30e3
0%
JS 1234D
1.14e7
27.97
ES 2378D
8.84e6
28.63
Abs. Int.
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1.34e6
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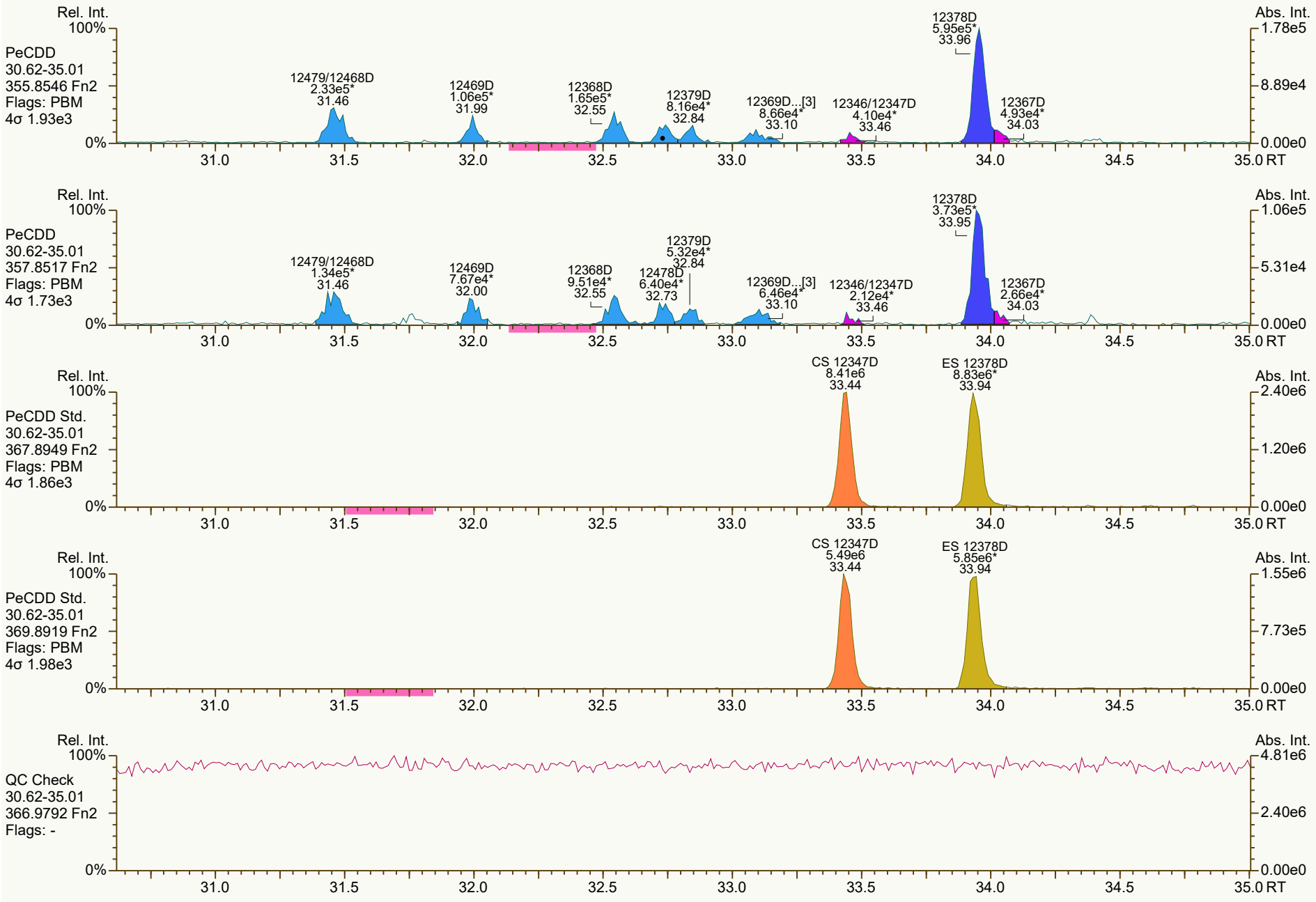
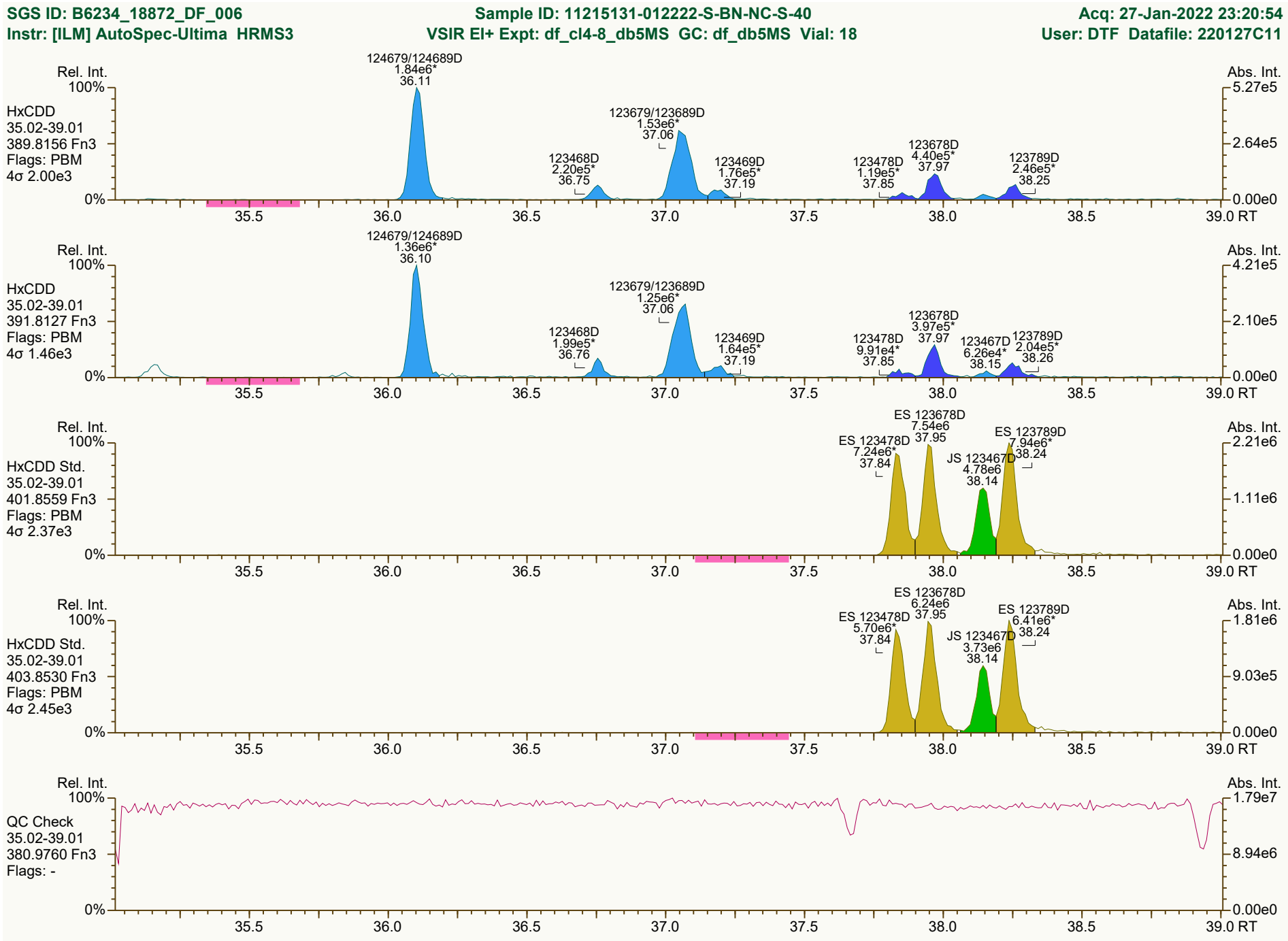
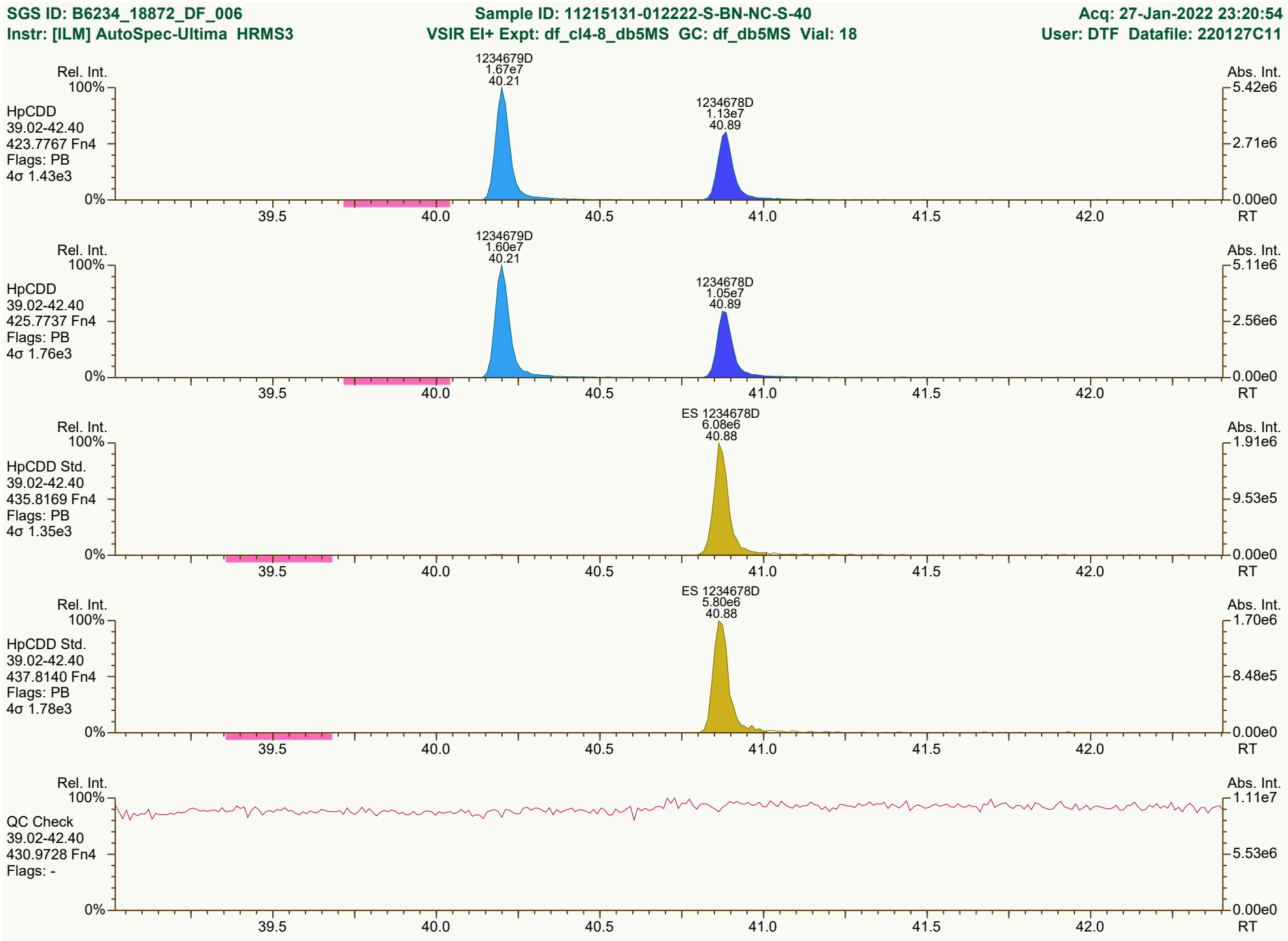
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.01
355.8546 Fn2
Flags: PBM
4σ 1.93e3
0%
12479/12468D
2.33e5*
31.46
12469D
1.06e5*
31.99
12368D
1.65e5*
32.55
12379D
8.16e4*
32.84
12369D...[3]
8.66e4*
33.10
12346/12347D
4.10e4*
33.46
12378D
5.95e5*
33.96
12367D
4.93e4*
34.03
Abs. Int.
1.78e5
8.89e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.01
357.8517 Fn2
Flags: PBM
4σ 1.73e3
0%
12479/12468D
1.34e5*
31.46
12469D
7.67e4*
32.00
12368D
9.51e4*
32.55
12379D
5.32e4*
32.84
12478D
6.40e4*
32.73
12369D...[3]
6.46e4*
33.10
12346/12347D
2.12e4*
33.46
12378D
3.73e5*
33.95
12367D
2.66e4*
34.03
Abs. Int.
1.06e5
5.31e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
367.8949 Fn2
Flags: PBM
4σ 1.86e3
0%
CS 12347D
8.41e6
33.44
ES 12378D
8.83e6*
33.94
Abs. Int.
2.40e6
1.20e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
369.8919 Fn2
Flags: PBM
4σ 1.98e3
0%
CS 12347D
5.49e6
33.44
ES 12378D
5.85e6*
33.94
Abs. Int.
1.55e6
7.73e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.81e6
2.40e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

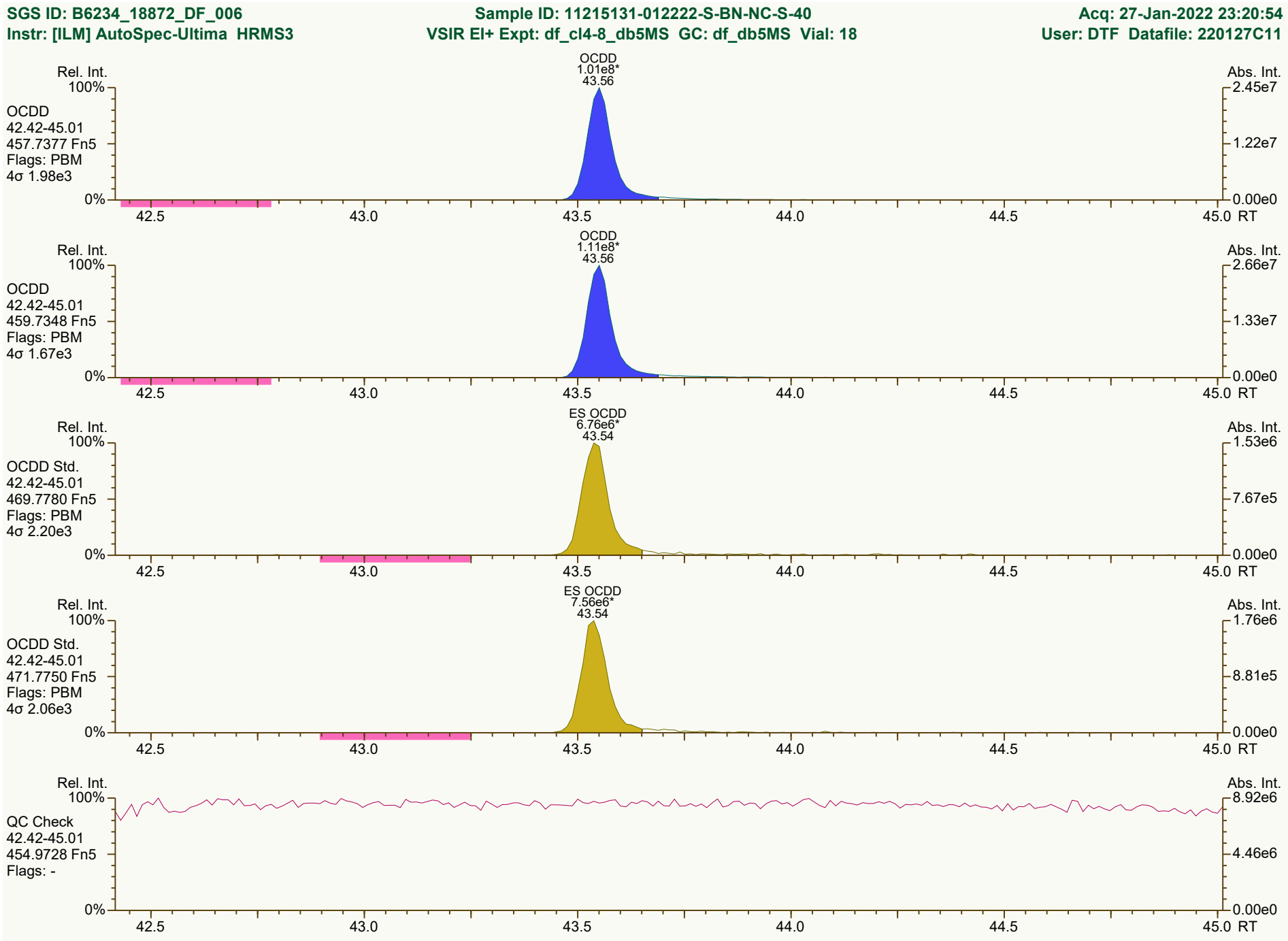

SGS ID: B6234_18872_DF_006
Sample ID: 11215131-012222-S-BN-NC-S-40
Acq: 27-Jan-2022 23:20:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 18
User: DTF Datafile: 220127C11
Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 2.00e3
124679/124689D
1.84e6*
36.11
123679/123689D
1.53e6*
37.06
123468D
2.20e5*
36.75
123469D
1.76e5*
37.19
123478D
1.19e5*
37.85
123678D
4.40e5*
37.97
123789D
2.46e5*
38.25
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 1.46e3
124679/124689D
1.36e6*
36.10
123679/123689D
1.25e6*
37.06
123468D
1.99e5*
36.76
123469D
1.64e5*
37.19
123478D
9.91e4*
37.85
123678D
3.97e5*
37.97
123467D
6.26e4*
38.15
123789D
2.04e5*
38.26
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 2.37e3
ES 123678D
7.54e6
37.95
ES 123478D
7.24e6*
37.84
JS 123467D
4.78e6
38.14
ES 123789D
7.94e6*
38.24
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.45e3
ES 123678D
6.24e6
37.95
ES 123478D
5.70e6*
37.84
JS 123467D
3.73e6
38.14
ES 123789D
6.41e6*
38.24
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
5.27e5
2.64e5
0.00e0
4.21e5
2.10e5
2.21e6
1.11e6
1.81e6
9.03e5
1.79e7
8.94e6
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_006.utp_res, saved 28-Jan-2022 09:47 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0124, 0295 scc: 800-269
Revised: 28-Jan-2022 09:04 (DTF) Printed: 28-Jan-2022 09:56 Page 4 of 12

SGS ID: B6234_18872_DF_006 | Sample ID: 11215131-012222-S-BN-NC-S-40 | Acq: 27-Jan-2022 23:20:54
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 18 | User: DTF Datafile: 220127C11



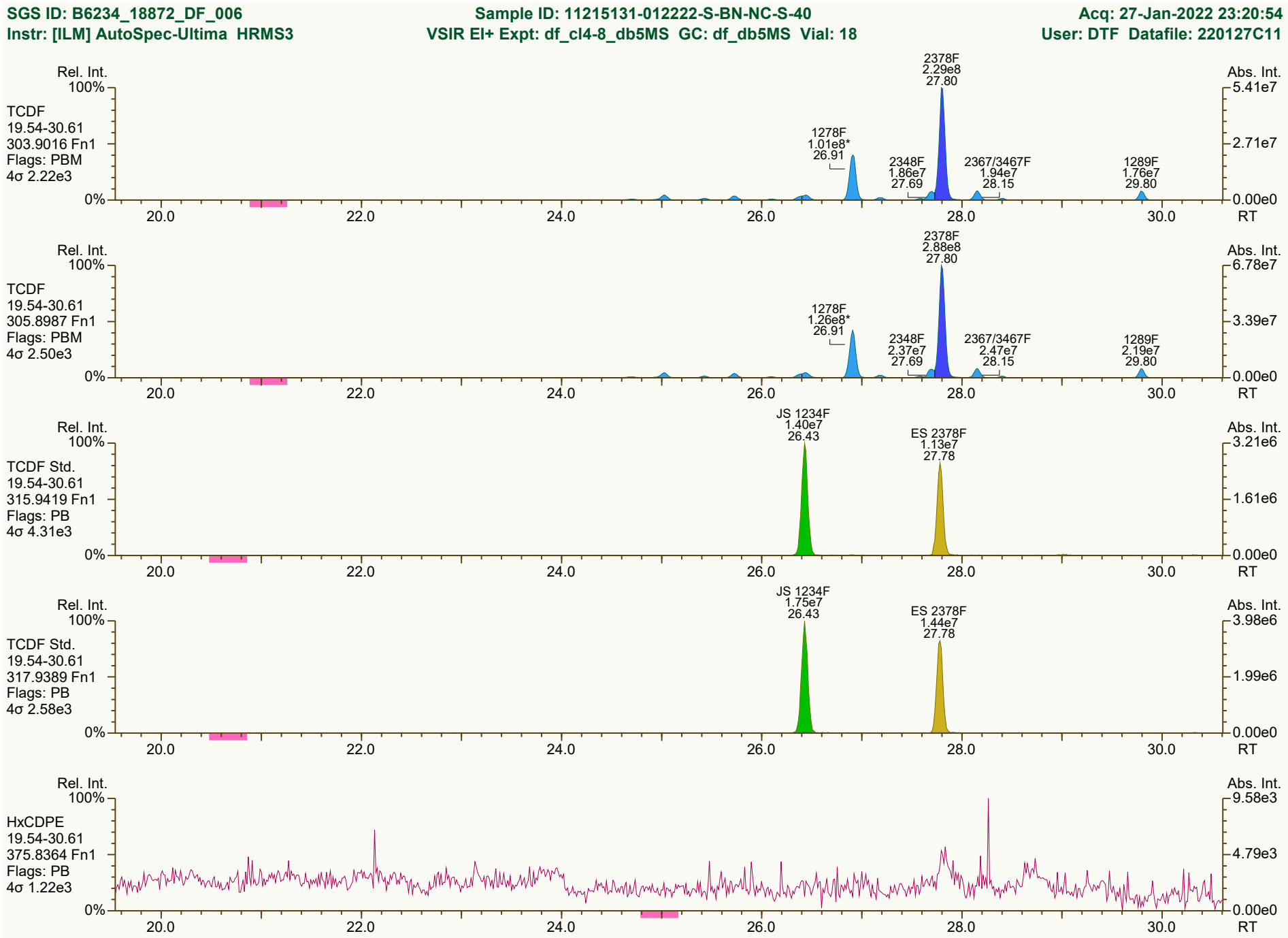
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_006.utp_res, saved 28-Jan-2022 09:47 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4158, 1044 scc: 800-269 | Revised: 28-Jan-2022 09:02 (DTF) Printed: 28-Jan-2022 09:56 Page 5 of 12

SGS ID: B6234_18872_DF_006 | Sample ID: 11215131-012222-S-BN-NC-S-40 | Acq: 27-Jan-2022 23:20:54
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 18 | User: DTF Datafile: 220127C11

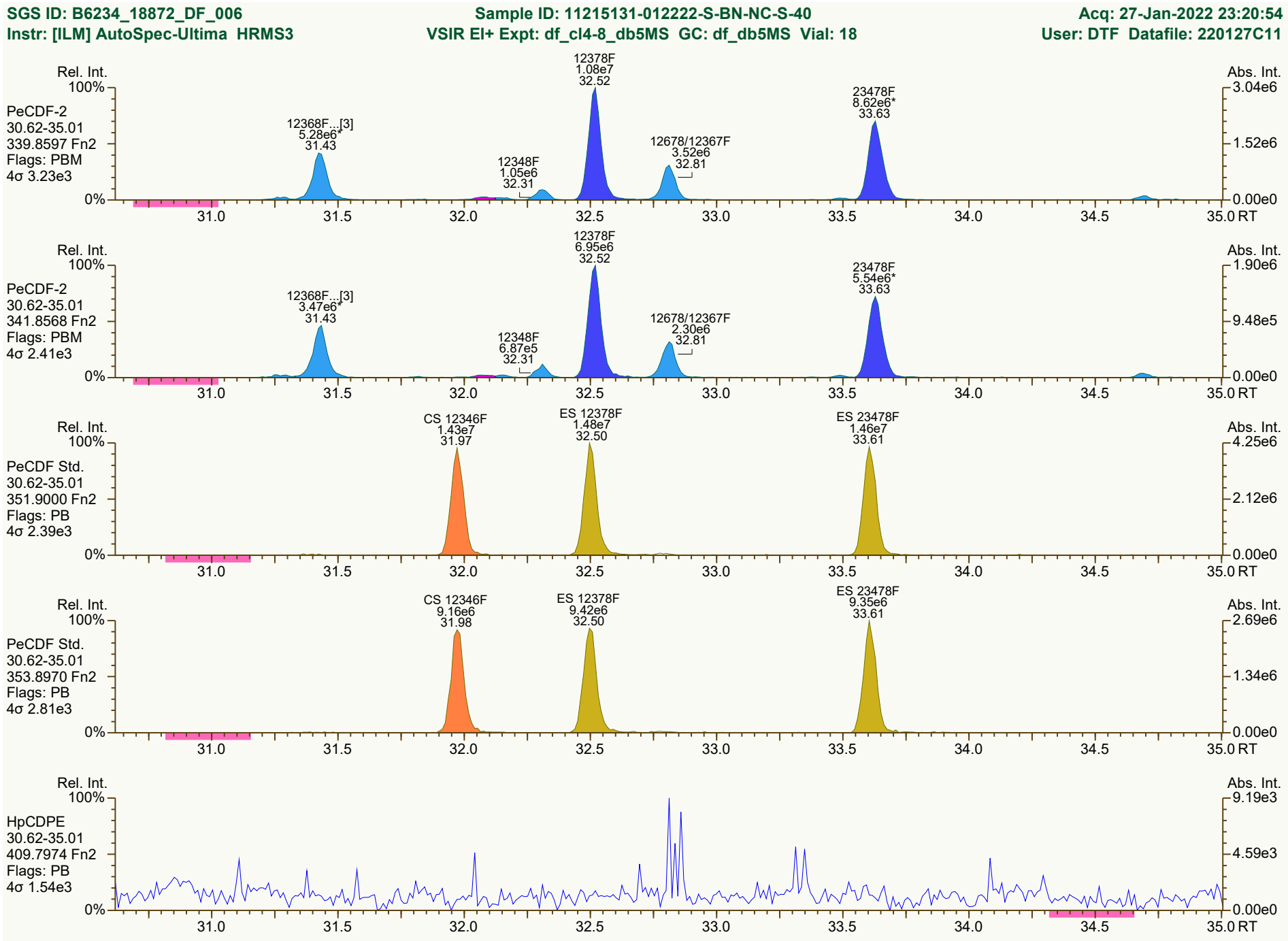


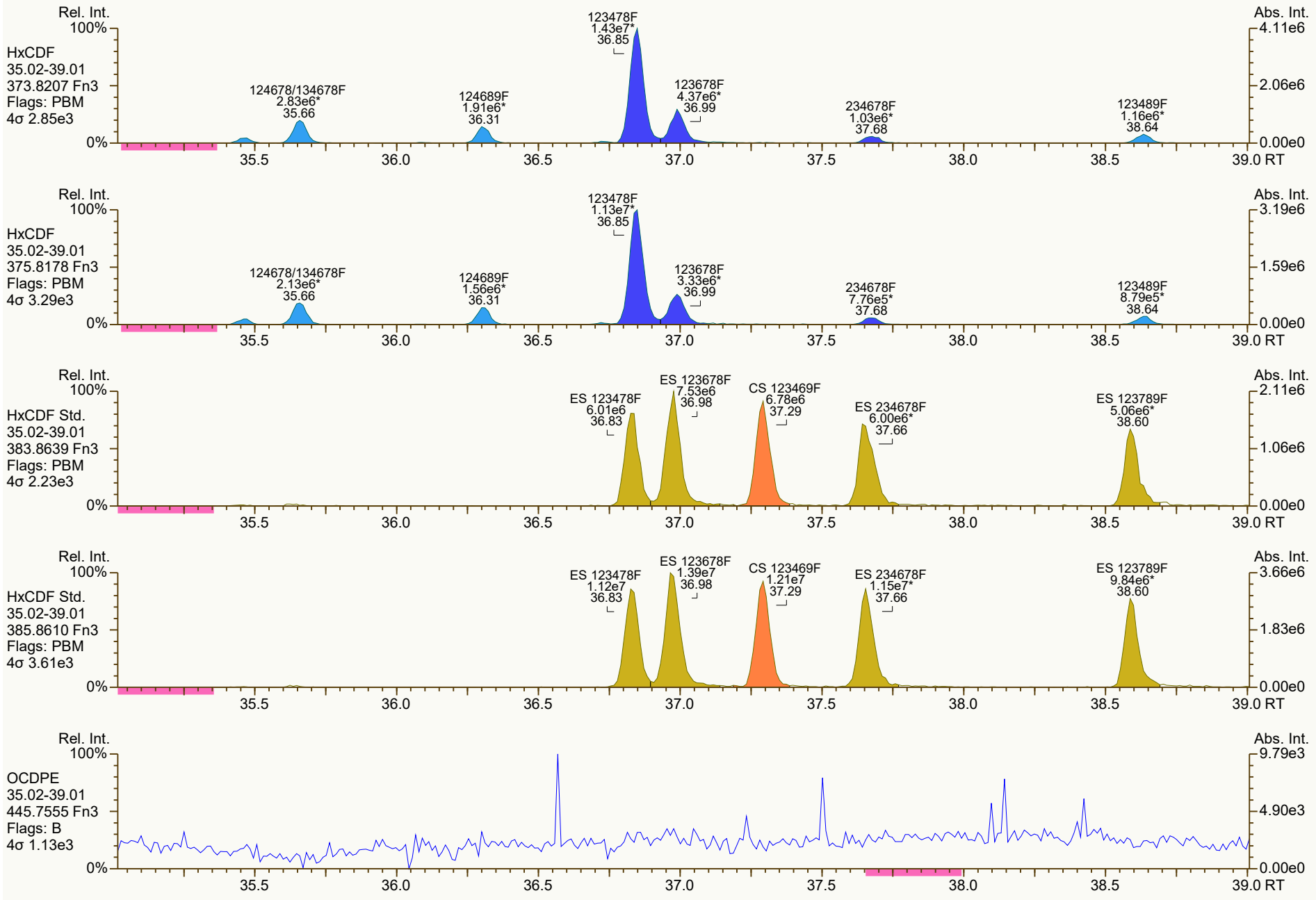
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_006.utp_res, saved 28-Jan-2022 09:47 (DTF) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7915, 1889 scc: 800-269 | *Revised: 28-Jan-2022 09:04 (DTF) Printed: 28-Jan-2022 09:56 Page 6 of 12*

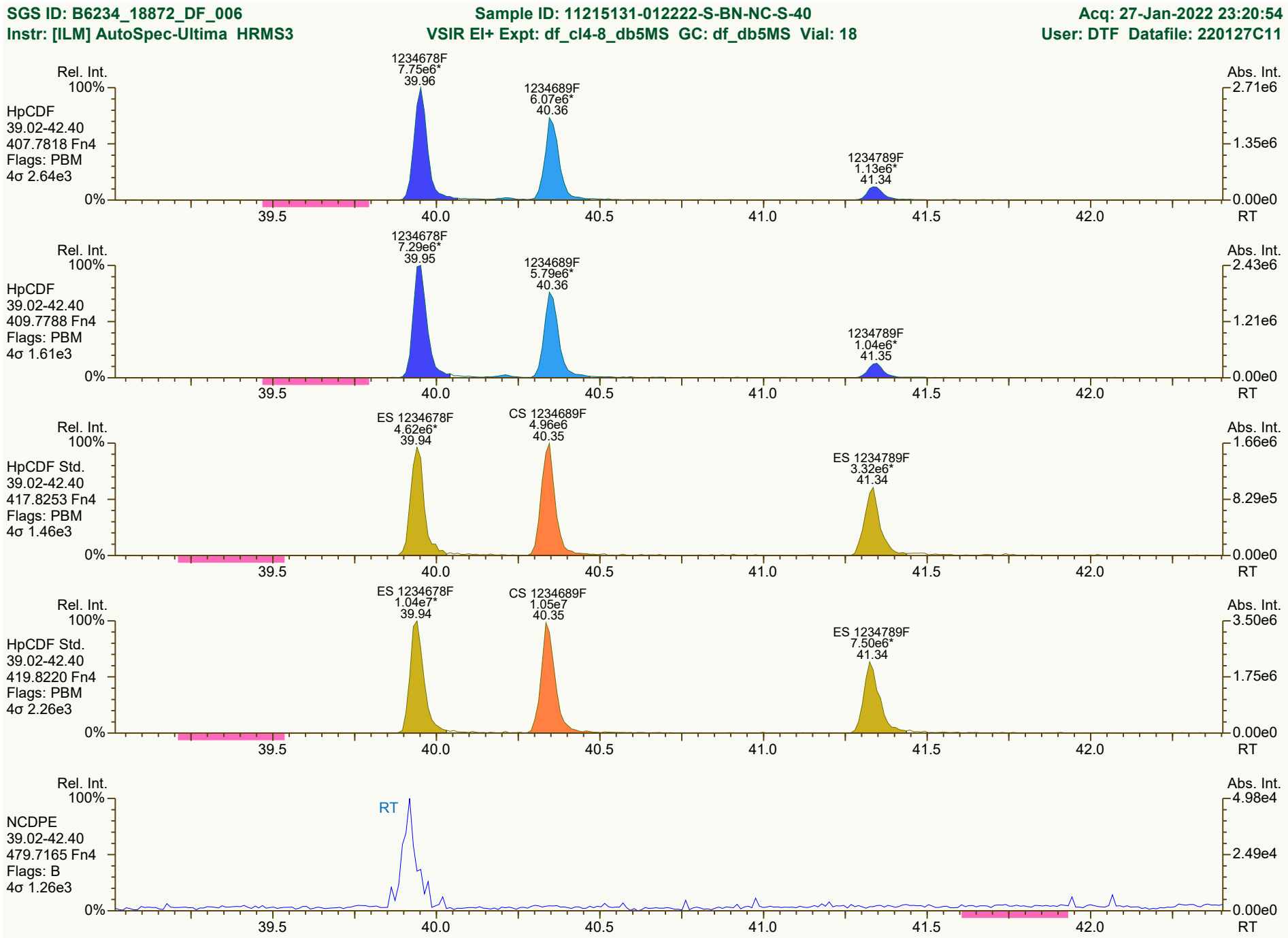
SGS ID: B6234_18872_DF_006 Sample ID: 11215131-012222-S-BN-NC-S-40 Acq: 27-Jan-2022 23:20:54
Instr: [ILM] AutoSpec-Ultima HRMS3 VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 18 User: DTF Datafile: 220127C11

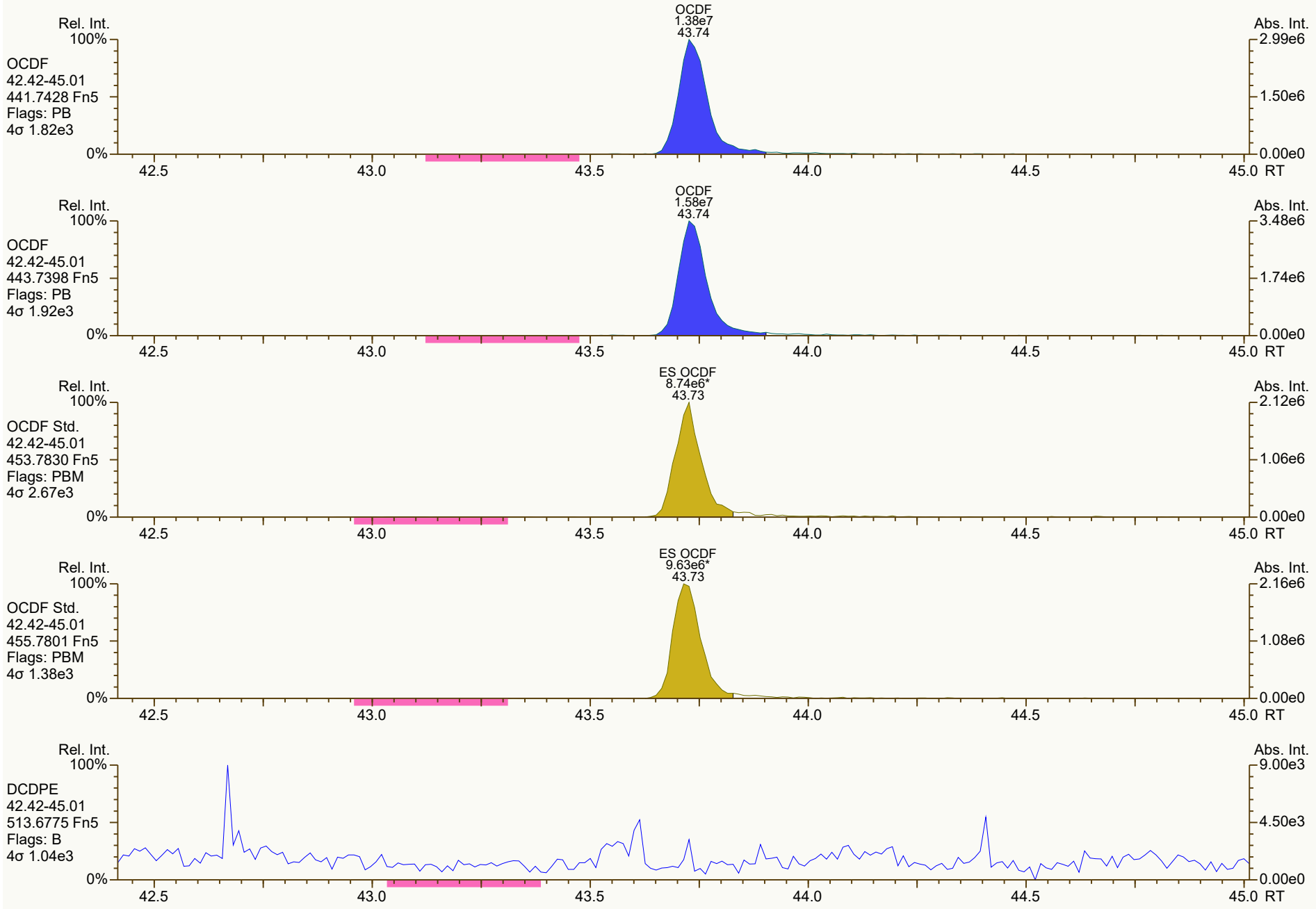



Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PB
4σ 1.21e3
13468/12468F
9.32e5
29.73
Abs. Int.
2.64e5
1.32e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: PB
4σ 1.52e3
13468/12468F
5.51e5
29.73
Abs. Int.
1.63e5
8.13e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
Abs. Int.
6.04e6
3.02e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6234_18872_DF_006
Sample ID: 11215131-012222-S-BN-NC-S-40
Acq: 27-Jan-2022 23:20:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 18
User: DTF Datafile: 220127C11
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: PBM
4σ 3.23e3
12368F...[3]
5.28e6*
31.43
12348F
1.05e6
32.31
12378F
1.08e7
32.52
12678/12367F
3.52e6
32.81
23478F
8.62e6*
33.63
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: PBM
4σ 2.41e3
12368F...[3]
3.47e6*
31.43
12348F
6.87e5
32.31
12378F
6.95e6
32.52
12678/12367F
2.30e6
32.81
23478F
5.54e6*
33.63
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: PB
4σ 2.39e3
CS 12346F
1.43e7
31.97
ES 12378F
1.48e7
32.50
ES 23478F
1.46e7
33.61
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: PB
4σ 2.81e3
CS 12346F
9.16e6
31.98
ES 12378F
9.42e6
32.50
ES 23478F
9.35e6
33.61
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: PB
4σ 1.54e3
Rel. Int.
Abs. Int.
RT
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_006.utp_res, saved 28-Jan-2022 09:47 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8120, 6439, 6210 scc: 800-269
PKD: 28-Jan-2022 09:06 Printed: 28-Jan-2022 09:56 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 2.85e3
0%
124678/134678F
2.83e6*
35.66
124689F
1.91e6*
36.31
123478F
1.43e7*
36.85
123678F
4.37e6*
36.99
234678F
1.03e6*
37.68
123489F
1.16e6*
38.64
Abs. Int.
4.11e6
2.06e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 3.29e3
0%
124678/134678F
2.13e6*
35.66
124689F
1.56e6*
36.31
123478F
1.13e7*
36.85
123678F
3.33e6*
36.99
234678F
7.76e5*
37.68
123489F
8.79e5*
38.64
Abs. Int.
3.19e6
1.59e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 2.23e3
0%
ES 123478F
6.01e6
36.83
ES 123678F
7.53e6
36.98
CS 123469F
6.78e6
37.29
ES 234678F
6.00e6*
37.66
ES 123789F
5.06e6*
38.60
Abs. Int.
2.11e6
1.06e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 3.61e3
0%
ES 123478F
1.12e7
36.83
ES 123678F
1.39e7
36.98
CS 123469F
1.21e7
37.29
ES 234678F
1.15e7*
37.66
ES 123789F
9.84e6*
38.60
Abs. Int.
3.66e6
1.83e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.13e3
0%
Abs. Int.
9.79e3
4.90e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: B6234_18872_DF_006
Sample ID: 11215131-012222-S-BN-NC-S-40
Acq: 27-Jan-2022 23:20:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 18
User: DTF Datafile: 220127C11
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 2.64e3
1234678F
7.75e6*
39.96
1234689F
6.07e6*
40.36
1234789F
1.13e6*
41.34
2.71e6
1.35e6
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 1.61e3
1234678F
7.29e6*
39.95
1234689F
5.79e6*
40.36
1234789F
1.04e6*
41.35
2.43e6
1.21e6
0.00e0
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 1.46e3
ES 1234678F
4.62e6*
39.94
CS 1234689F
4.96e6
40.35
ES 1234789F
3.32e6*
41.34
1.66e6
8.29e5
0.00e0
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 2.26e3
ES 1234678F
1.04e7*
39.94
CS 1234689F
1.05e7
40.35
ES 1234789F
7.50e6*
41.34
3.50e6
1.75e6
0.00e0
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.26e3
RT
4.98e4
2.49e4
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_006.utp_res, saved 28-Jan-2022 09:47 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4235, 4713, 8281 scc: 800-269
Revised: 28-Jan-2022 09:06 (DTF) Printed: 28-Jan-2022 09:56 Page 11 of 12


OCDF
1.38e7
43.74
Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PB
4σ 1.82e3
0%
Abs. Int.
2.99e6
1.50e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.58e7
43.74
OCDF
42.42-45.01
443.7398 Fn5
Flags: PB
4σ 1.92e3
3.48e6
1.74e6
ES OCDF
8.74e6*
43.73
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 2.67e3
2.12e6
1.06e6
ES OCDF
9.63e6*
43.73
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 1.38e3
2.16e6
1.08e6
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.04e3
9.00e3
4.50e3

Lab ID: B6234_18872_DF_007 **Acq'd:** 28 Jan 2022 00:07 DTF **Wt/Vol:** 13.06 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-S-37 **UTP:** 28-Jan-2022 09:47:37 DTF **J-level:** 0.383 pg/g **Split:** 1 **Checkcode:** 570-434-NCK

Datafile: 220127C12 **Report:** 28 Jan 2022 09:50 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.64	E	1.0008	1.0008	0	1.69E+08	0.80	Y	1.18	1,390	4141.955	0.349
12378-PeCDD	33.95		1.0006	1.0005	-0.2	1.44E+06	1.58	Y	1.04	15.5	3576.065	0.336
123478-HxCDD	37.84	EMPC	1.0004	1.0003	-0.2	2.55E+05	1.52	N	1.09	2.79	6043.248	0.584
123678-HxCDD	37.96		1.0034	1.0034	0	1.08E+06	1.16	Y	1.15	10.2	6043.248	0.492
123789-HxCDD	38.24		1.0109	1.0109	0	5.47E+05	1.09	Y	1.05	5.53	6043.248	0.545
1234678-HpCDD	40.88		1.0003	1.0004	+0.2	2.46E+07	1.03	Y	1.06	295	4028.704	0.394
OCDD	43.54		1.0002	1.0003	+0.3	2.53E+08	0.91	Y	1.13	4,520	3036.2427	0.542
2378-TCDF	27.79	E	1.0008	1.0008	0	7.11E+08	0.80	Y	1.08	3,980	4033.727	0.253
12378-PeCDF	32.51		1.0005	1.0005	0	2.17E+07	1.54	Y	1.02	143	6920.438	0.418
23478-PeCDF	33.62		1.0005	1.0007	+0.4	1.88E+07	1.55	Y	1.02	119	6920.438	0.393
123478-HxCDF	36.84		1.0004	1.0005	+0.2	3.43E+07	1.25	Y	1.27	247	6345.2	0.398
123678-HxCDF	36.99		1.0004	1.0006	+0.4	1.08E+07	1.27	Y	1.15	69.3	6345.2	0.391
234678-HxCDF	37.66		1.0004	1.0004	0	2.21E+06	1.33	Y	1.19	15.8	6345.2	0.483
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	6345.2	0.518
1234678-HpCDF	39.94		1.0002	1.0003	+0.2	2.81E+07	1.01	Y	1.37	205	5019.11	0.262
1234789-HpCDF	41.34		1.0003	1.0004	+0.2	3.34E+06	1.06	Y	1.31	37.1	5019.11	0.463
OCDF	43.73		1.0002	1.0004	+0.5	1.68E+08	0.89	Y	1.07	2,360	3751.007	0.545

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.62	1.0233	1.0234	+0.2	1.56E+07	0.78	Y	1.05	78.1
ES 12378-PeCDD	33.93	1.2121	1.2133	+2.4	1.38E+07	1.69	Y	0.88	81.9
ES 123478-HxCDD	37.83	0.9921	0.9921	0	1.29E+07	1.29	Y	0.97	77.4
ES 123678-HxCDD	37.94	0.9951	0.9951	0	1.41E+07	1.32	Y	0.94	87.5
ES 123789-HxCDD	38.23	1.0025	1.0026	+0.2	1.45E+07	1.25	Y	1.09	77.5
ES 1234678-HpCDD	40.86	1.0709	1.0717	+2.0	1.21E+07	1.02	Y	0.91	77.3
ES OCDD	43.53	1.1403	1.1416	+3.4	1.52E+07	0.87	Y	0.62	71.1
ES 2378-TCDF	27.77	1.0506	1.0512	+1.0	2.53E+07	0.80	Y	1.06	79.5
ES 12378-PeCDF	32.49	1.2281	1.2298	+3.3	2.27E+07	1.49	Y	0.91	83
ES 23478-PeCDF	33.60	1.2698	1.2718	+4.0	2.36E+07	1.56	Y	0.88	88.8
ES 123478-HxCDF	36.82	0.9657	0.9657	0	1.67E+07	0.54	Y	1.20	81.4
ES 123678-HxCDF	36.97	0.9695	0.9695	0	2.06E+07	0.53	Y	1.35	89.2
ES 234678-HxCDF	37.65	0.9874	0.9874	0	1.80E+07	0.57	Y	1.24	84.8
ES 123789-HxCDF	38.58	1.0116	1.0119	+0.7	1.47E+07	0.54	Y	1.16	74.2
ES 1234678-HpCDF	39.93	1.0467	1.0473	+1.4	1.54E+07	0.45	Y	0.97	92.9
ES 1234789-HpCDF	41.32	1.0830	1.0838	+2.0	1.05E+07	0.42	Y	0.85	72.3
ES OCDF	43.71	1.1451	1.1465	+3.7	2.03E+07	0.89	Y	0.81	73.6

Lab ID: B6234_18872_DF_007 **Acq'd:** 28 Jan 2022 00:07 DTF **Wt/Vol:** 13.06 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-S-37 **UTP:** 28-Jan-2022 09:47:37 DTF **J-level:** 0.383 pg/g **Split:** 1 **Checkcode:** 570-434-NCK

Datafile: 220127C12 **Report:** 28 Jan 2022 09:50 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.97		-	-	-	1.91E+07	0.82	Y	-	-	
JS 1234-TCDF	26.42		-	-	-	3.01E+07	0.83	Y	-	-	
JS 123467-HxCDD	38.13		-	-	-	8.55E+06	1.17	Y	-	-	
CS 37Cl-2378-TCDD	28.64		1.0241	1.0242	+0.2	6.86E+06	n/a	-	1.20	74.5	
CS 12347-PeCDD	33.43		1.1943	1.1954	+2.2	1.30E+07	1.62	Y	0.75	90	
CS 12346-PeCDF	31.97		1.2083	1.2099	+3.1	2.22E+07	1.52	Y	0.85	86.7	
CS 123469-HxCDF	37.28		0.9778	0.9778	0	1.81E+07	0.53	Y	1.12	94.7	
CS 1234689-HpCDF	40.33		1.0571	1.0577	+1.5	1.50E+07	0.46	Y	0.89	98.6	
~~SS 37Cl-2378-TCDD~~	~~28.64~~		~~1.0241~~	~~1.0242~~	~~+0.2~~	~~6.86E+06~~	~~n/a~~		~~1.15~~	~~95.6~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.43~~		~~1.1943~~	~~1.1954~~	~~+2.2~~	~~1.30E+07~~	~~1.62~~	~~Y~~	~~0.86~~	~~110~~	CL 28Jan22
~~SS 12346-PeCDF~~	~~31.97~~		~~1.2083~~	~~1.2099~~	~~+3.1~~	~~2.22E+07~~	~~1.52~~	~~Y~~	~~0.94~~	~~104~~	
~~SS 123469-HxCDF~~	~~37.28~~		~~0.9778~~	~~0.9778~~	~~0~~	~~1.81E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~106~~	
~~SS 1234689-HpCDF~~	~~40.33~~		~~1.0571~~	~~1.0577~~	~~+1.5~~	~~1.50E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~106~~	

Totals	Conc	EMPC
Total TCDD	1560	1570
Total PeCDD	36.7	38.3
Total HxCDD	117	120
Total HpCDD	817	817
Total Tetra-Octa Dioxins	7050	7070
Total TCDF	7,630	7630
Total PeCDF	433	436
Total HxCDF	444	444
Total HpCDF	379	379
Total Tetra-Octa Furans	11,200	11200
Total Tetra-Octa Dioxins & Furans	18300	18300

Lab ID: B6234_18872_DF_007 **Acq'd: 28 Jan 2022 00:07 DTF** **Wt/Vol: 13.06 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012222-S-BN-NC-S-37 **UTP: 28-Jan-2022 09:47:37 DTF** **J-level: 0.383 pg/g** **Split: 1** **Checkcode: 570-434-NCK**

Datafile: 220127C12 **Report: 28 Jan 2022 09:50 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.03		0.8755	0.8747	-1.2	4.23E+05	0.82	Y	1.18	3.49	4141.955	0.349
1379-TCDD	25.38	EMPC	0.8876	0.8867	-1.4	1.08E+05	0.59	N	1.18	0.897	4141.955	0.349
1369-TCDD	NotFnd		0.9023						1.18		4141.955	0.349
1469-TCDD	26.58	EMPC	0.9291	0.9286	-0.8	4.25E+05	0.91	N	1.18	3.51	4141.955	0.349
1247/1246/1248/1249-TCDD	26.81	EMPC	0.9373	0.9366	-1.1	2.79E+05	0.94	N	1.18	2.31	4141.955	0.349
1378-TCDD	27.00	EMPC	0.9440	0.9434	-1.0	5.20E+05	0.89	N	1.18	4.3	4141.955	0.349
1268-TCDD	NotFnd		0.9506						1.18		4141.955	0.349
1478-TCDD	27.44		0.9591	0.9589	-0.3	4.78E+05	0.84	Y	1.18	3.95	4141.955	0.349
1279-TCDD	NotFnd		0.9649						1.18		4141.955	0.349
1234/1269-TCDD	27.96		0.9771	0.9767	-0.7	1.92E+05	0.83	Y	1.18	1.59	4141.955	0.349
1236-TCDD	NotFnd		0.9820						1.18		4141.955	0.349
1237/1238-TCDD	28.35		0.9908	0.9907	-0.2	2.63E+06	0.80	Y	1.18	21.7	4141.955	0.349
1239-TCDD	NotFnd		0.9954						1.18		4141.955	0.349
2378-TCDD	**28.64**	E	**1.0008**	1.0008	**0**	1.69E+08	0.80	Y	**1.18**	**1,390**	**4141.955**	**0.349**
1278-TCDD	28.97		1.0121	1.0121	0	1.55E+07	0.83	Y	1.18	128	4141.955	0.349
1267-TCDD	29.10	EMPC	1.0167	1.0169	+0.3	5.92E+05	0.92	N	1.18	4.9	4141.955	0.349
1289-TCDD	29.61		1.0341	1.0347	+1.1	2.65E+05	0.83	Y	1.18	2.19	4141.955	0.349
12479/12468-PeCDD	31.45		0.9273	0.9270	-0.6	4.94E+05	1.46	Y	1.04	5.29	3576.065	0.336
12469-PeCDD	31.98		0.9430	0.9427	-0.6	3.84E+05	1.42	Y	1.04	4.12	3576.065	0.336
12368-PeCDD	32.54		0.9592	0.9591	-0.2	3.23E+05	1.37	Y	1.04	3.46	3576.065	0.336
12478-PeCDD	32.72		0.9647	0.9644	-0.6	2.45E+05	1.48	Y	1.04	2.63	3576.065	0.336
12379-PeCDD	32.82	J	0.9676	0.9673	-0.6	1.58E+05	1.78	Y	1.04	1.69	3576.065	0.336
12369/12467/12489-PeCDD	33.09		0.9752	0.9752	0	2.93E+05	1.58	Y	1.04	3.14	3576.065	0.336
12346/12347-PeCDD	33.46	J	0.9860	0.9860	0	8.60E+04	1.75	Y	1.04	0.922	3576.065	0.336
12378-PeCDD	33.95		**1.0006**	**1.0005**	**-0.2**	**1.44E+06**	**1.58**	**Y**	**1.04**	**15.5**	**3576.065**	**0.336**
12367-PeCDD	34.04	J EMPC	1.0034	1.0032	-0.4	9.60E+04	1.08	N	1.04	1.03	3576.065	0.336
12389-PeCDD	34.38	J EMPC	1.0134	1.0133	-0.2	4.96E+04	2.42	N	1.04	0.531	3576.065	0.336
124679/124689-HxCDD	36.10		0.9545	0.9542	-0.6	4.94E+06	1.29	Y	1.10	50	6043.248	0.538
123468-HxCDD	36.75		0.9715	0.9714	-0.2	6.75E+05	1.18	Y	1.10	6.83	6043.248	0.538
123679/123689-HxCDD	37.05		0.9793	0.9794	+0.2	3.71E+06	1.21	Y	1.10	37.6	6043.248	0.538
123469-HxCDD	37.18		0.9829	0.9828	-0.2	4.88E+05	1.35	Y	1.10	4.94	6043.248	0.538
123478-HxCDD	37.84	EMPC	**1.0004**	**1.0003**	**-0.2**	**2.55E+05**	**1.52**	**N**	1.09	**2.79**	**6043.248**	**0.584**
123678-HxCDD	37.96		**1.0034**	**1.0034**	**0**	**1.08E+06**	**1.16**	**Y**	1.15	**10.2**	**6043.248**	**0.492**
123467-HxCDD	38.14		1.0082	1.0083	+0.2	2.35E+05	1.30	Y	1.10	2.38	6043.248	0.538
123789-HxCDD	38.24		**1.0109**	**1.0109**	**0**	**5.47E+05**	**1.09**	**Y**	1.05	**5.53**	**6043.248**	**0.545**

Lab ID: B6234_18872_DF_007 **Acq'd:** 28 Jan 2022 00:07 DTF **Wt/Vol:** 13.06 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-S-37 **UTP:** 28-Jan-2022 09:47:37 DTF **J-level:** 0.383 pg/g **Split:** 1 **Checkcode:** 570-434-NCK

Datafile: 220127C12 **Report:** 28 Jan 2022 09:50 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

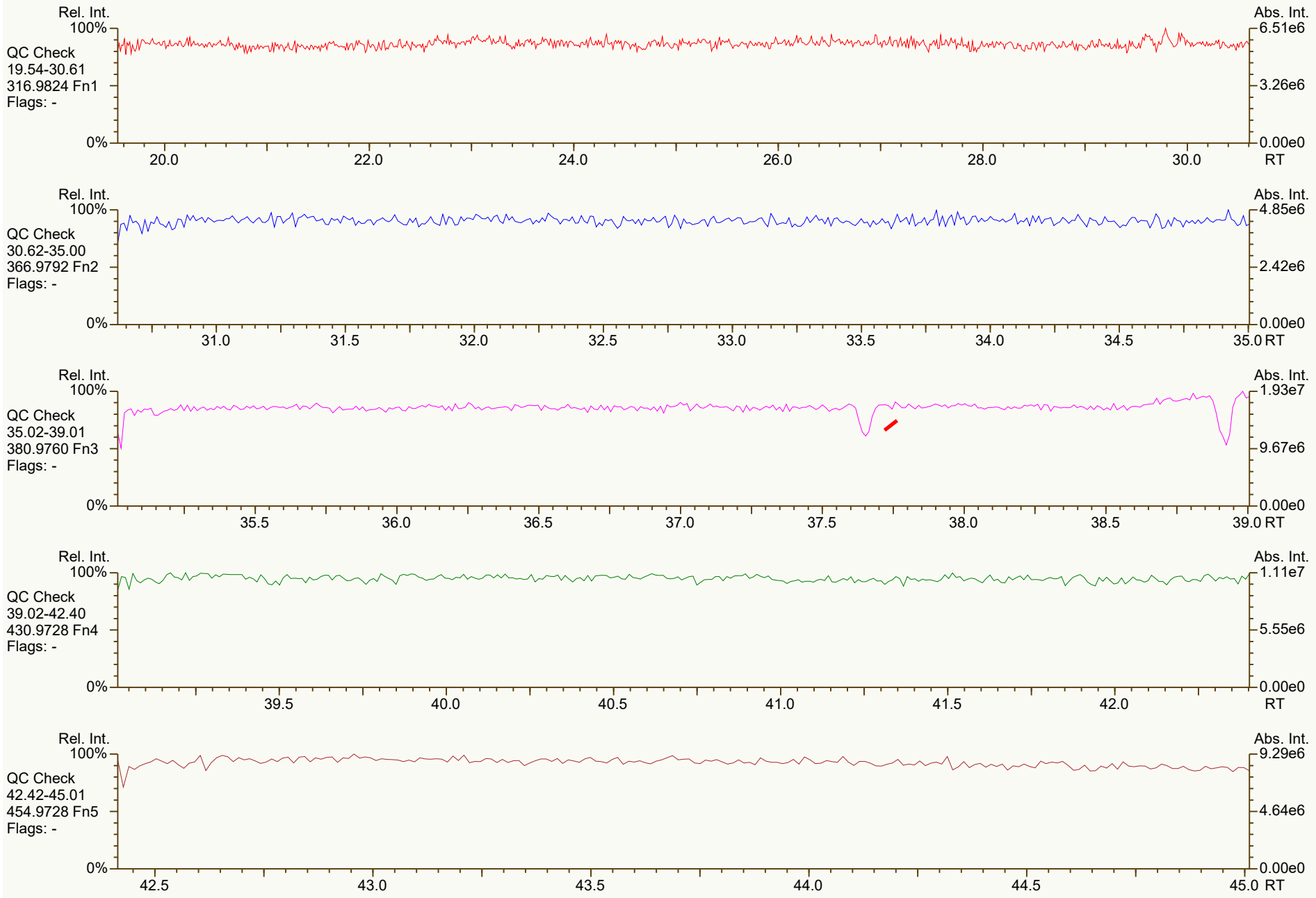
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.20		0.9838	0.9837	-0.2	4.36E+07	1.02	Y	1.06	522	4028.704	0.394
1234678-HpCDD	**40.88**		**1.0003**	**1.0004**	**+0.2**	**2.46E+07**	**1.03**	**Y**	**1.06**	**295**	**4028.704**	**0.394**
OCDD	**43.54**		**1.0002**	**1.0003**	**+0.3**	**2.53E+08**	**0.91**	**Y**	**1.13**	**4,520**	**3036.2427**	**0.542**
OCDD-a	43.54		1.0002	1.0002	0	1.57E+07	2.50	Y	0.07	4,390	4712.538	13.2
1368-TCDF	22.96		0.8282	0.8267	-2.1	2.48E+05	0.84	Y	1.08	1.39	4033.727	0.253
1468-TCDF	23.53		0.8485	0.8474	-1.6	1.34E+06	0.75	Y	1.08	7.52	4033.727	0.253
2468-TCDF	24.15		0.8709	0.8697	-1.7	1.43E+06	0.76	Y	1.08	7.99	4033.727	0.253
1346/1246-TCDF	24.57		0.8829	0.8845	+2.4	9.92E+05	0.83	Y	1.08	5.55	4033.727	0.253
1347/1378/1247-TCDF	24.69		0.8884	0.8890	+0.9	8.22E+06	0.82	Y	1.08	46	4033.727	0.253
1348-TCDF	24.92		0.8980	0.8972	-1.2	2.43E+06	0.76	Y	1.08	13.6	4033.727	0.253
1248/1367/1379-TCDF	25.01		0.9026	0.9007	-2.9	3.32E+07	0.79	Y	1.08	186	4033.727	0.253
1268-TCDF	25.42		0.9158	0.9152	-0.9	1.16E+07	0.83	Y	1.08	64.8	4033.727	0.253
1467-TCDF	25.55		0.9206	0.9200	-0.9	1.69E+06	0.79	Y	1.08	9.49	4033.727	0.253
1478-TCDF	25.72		0.9266	0.9260	-0.9	2.83E+07	0.78	Y	1.08	158	4033.727	0.253
1369/1237-TCDF	26.09		0.9397	0.9395	-0.3	7.53E+06	0.82	Y	1.08	42.2	4033.727	0.253
2467-TCDF	26.20		0.9440	0.9434	-0.9	8.46E+05	0.76	Y	1.08	4.74	4033.727	0.253
2368-TCDF	26.41		0.9497	0.9509	+1.9	5.29E+07	0.79	Y	1.08	297	4033.727	0.253
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		4033.727	0.253
1278-TCDF	26.90	E	0.9690	0.9686	-0.6	3.03E+08	0.80	Y	1.08	1,700	4033.727	0.253
1349-TCDF	NotFnd		0.9730						1.08		4033.727	0.253
1267-TCDF	27.17		0.9787	0.9784	-0.5	1.78E+07	0.82	Y	1.08	99.9	4033.727	0.253
2346/1249-TCDF	27.36		0.9850	0.9850	0	2.35E+06	0.80	Y	1.08	13.2	4033.727	0.253
2347/1279-TCDF	27.57		0.9929	0.9926	-0.5	9.01E+06	0.85	Y	1.08	50.5	4033.727	0.253
2348-TCDF	27.68		0.9970	0.9966	-0.7	4.87E+07	0.78	Y	1.08	273	4033.727	0.253
2378-TCDF	**27.79**	E	**1.0008**	**1.0008**	**0**	**7.11E+08**	**0.80**	**Y**	**1.08**	**3,980**	**4033.727**	**0.253**
2367/3467-TCDF	28.14		1.0136	1.0133	-0.5	5.74E+07	0.81	Y	1.08	321	4033.727	0.253
1269-TCDF	28.39		1.0221	1.0222	+0.2	1.12E+07	0.80	Y	1.08	62.8	4033.727	0.253
1239-TCDF	28.65		1.0319	1.0315	-0.7	9.32E+05	0.74	Y	1.08	5.22	4033.727	0.253
1289-TCDF	29.79		1.0740	1.0726	-2.5	5.05E+07	0.79	Y	1.08	283	4033.727	0.253
13468/12468-PeCDF	29.72		0.9145	0.9147	+0.4	2.80E+06	1.43	Y	1.02	18.1	3381.573	0.198
13678/13467/12467-PeCDF	31.26		0.9619	0.9620	+0.2	5.89E+05	1.54	Y	1.02	3.81	6920.438	0.405
12368/13478/12478-PeCDF	31.42		0.9665	0.9670	+0.9	1.10E+07	1.63	Y	1.02	71	6920.438	0.405
14678-PeCDF	NotFnd		0.9695						1.02		6920.438	0.405
13479-PeCDF	NotFnd		0.9724						1.02		6920.438	0.405
13469/12479-PeCDF	NotFnd		0.9801						1.02		6920.438	0.405
12346-PeCDF	NotFnd		0.9842						1.02		6920.438	0.405

Lab ID: B6234_18872_DF_007 **Acq'd: 28 Jan 2022 00:07 DTF** **Wt/Vol: 13.06 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012222-S-BN-NC-S-37 **UTP: 28-Jan-2022 09:47:37 DTF** **J-level: 0.383 pg/g** **Split: 1** **Checkcode: 570-434-NCK**

Datafile: 220127C12 **Report: 28 Jan 2022 09:50 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.06		0.9868	0.9867	-0.2	9.57E+05	1.48	Y	1.02	6.19	6920.438	0.405
12347-PeCDF	32.15		0.9895	0.9893	-0.4	5.17E+05	1.58	Y	1.02	3.35	6920.438	0.405
12348-PeCDF	32.30		0.9941	0.9940	-0.2	2.41E+06	1.59	Y	1.02	15.6	6920.438	0.405
12378-PeCDF	**32.51**		**1.0005**	**1.0005**	**0**	**2.17E+07**	**1.54**	**Y**	**1.02**	**143**	**6920.438**	**0.418**
12678/12367-PeCDF	32.80		1.0090	1.0095	+1.0	7.25E+06	1.58	Y	1.02	46.9	6920.438	0.405
12379-PeCDF	NotFnd		1.0142						1.02		6920.438	0.405
12679-PeCDF	NotFnd		0.9931						1.02		6920.438	0.405
23467/12369-PeCDF	33.48	EMPC	0.9966	0.9965	-0.2	3.78E+05	2.02	N	1.02	2.45	6920.438	0.405
23478-PeCDF	**33.62**		**1.0005**	**1.0007**	**+0.4**	**1.88E+07**	**1.55**	**Y**	**1.02**	**119**	**6920.438**	**0.393**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6920.438	0.405
12349-PeCDF	NotFnd		1.0101						1.02		6920.438	0.405
12389-PeCDF	34.68		1.0322	1.0322	0	9.37E+05	1.51	Y	1.02	6.06	6920.438	0.405
123468-HxCDF	35.45		0.9627	0.9629	+0.4	1.35E+06	1.32	Y	1.19	9.88	6345.2	0.442
124678/134678-HxCDF	35.65		0.9684	0.9682	-0.4	5.88E+06	1.32	Y	1.19	43.1	6345.2	0.442
134679-HxCDF	NotFnd		0.9747						1.19		6345.2	0.442
124679-HxCDF	36.08	J	0.9802	0.9798	-0.9	1.65E+05	1.34	Y	1.19	1.21	6345.2	0.442
124689-HxCDF	36.30		0.9858	0.9858	0	4.50E+06	1.27	Y	1.19	33	6345.2	0.442
123467-HxCDF	36.71		0.9972	0.9971	-0.2	4.03E+05	1.09	Y	1.19	2.96	6345.2	0.442
123478-HxCDF	**36.84**		**1.0004**	**1.0005**	**+0.2**	**3.43E+07**	**1.25**	**Y**	**1.27**	**247**	**6345.2**	**0.398**
123678-HxCDF	**36.99**		**1.0004**	**1.0006**	**+0.4**	**1.08E+07**	**1.27**	**Y**	**1.15**	**69.3**	**6345.2**	**0.391**
123479-HxCDF	NotFnd		1.0051						1.19		6345.2	0.442
123469-HxCDF	37.30		1.0091	1.0090	-0.2	3.35E+05	1.33	Y	1.19	2.45	6345.2	0.442
123679-HxCDF	NotFnd		0.9943						1.19		6345.2	0.442
234678-HxCDF	**37.66**		**1.0004**	**1.0004**	**0**	**2.21E+06**	**1.33**	**Y**	**1.19**	**15.8**	**6345.2**	**0.483**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6345.2	0.442
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**6345.2**	**0.518**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.62		1.0007	1.0011	+0.9	2.57E+06	1.24	Y	1.19	18.9	6345.2	0.442
1234678-HpCDF	**39.94**		**1.0002**	**1.0003**	**+0.2**	**2.81E+07**	**1.01**	**Y**	**1.37**	**205**	**5019.11**	**0.262**
1234679-HpCDF	40.20		1.0067	1.0067	0	9.47E+05	0.90	Y	1.34	8.36	5019.11	0.343
1234689-HpCDF	40.34		1.0101	1.0103	+0.5	1.46E+07	1.01	Y	1.34	129	5019.11	0.343
1234789-HpCDF	**41.34**		**1.0003**	**1.0004**	**+0.2**	**3.34E+06**	**1.06**	**Y**	**1.31**	**37.1**	**5019.11**	**0.463**
OCDF	**43.73**		**1.0002**	**1.0004**	**+0.5**	**1.68E+08**	**0.89**	**Y**	**1.07**	**2,360**	**3751.007**	**0.545**
OCDF-a	43.73		1.0002	1.0003	+0.3	1.02E+07	2.43	Y	0.07	2,310	3615.312	8.49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100%
QC Check
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316.9824 Fn1
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20.0
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24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
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2.42e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
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Flags: -
0%
Abs. Int.
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9.67e6
0.00e0
35.5
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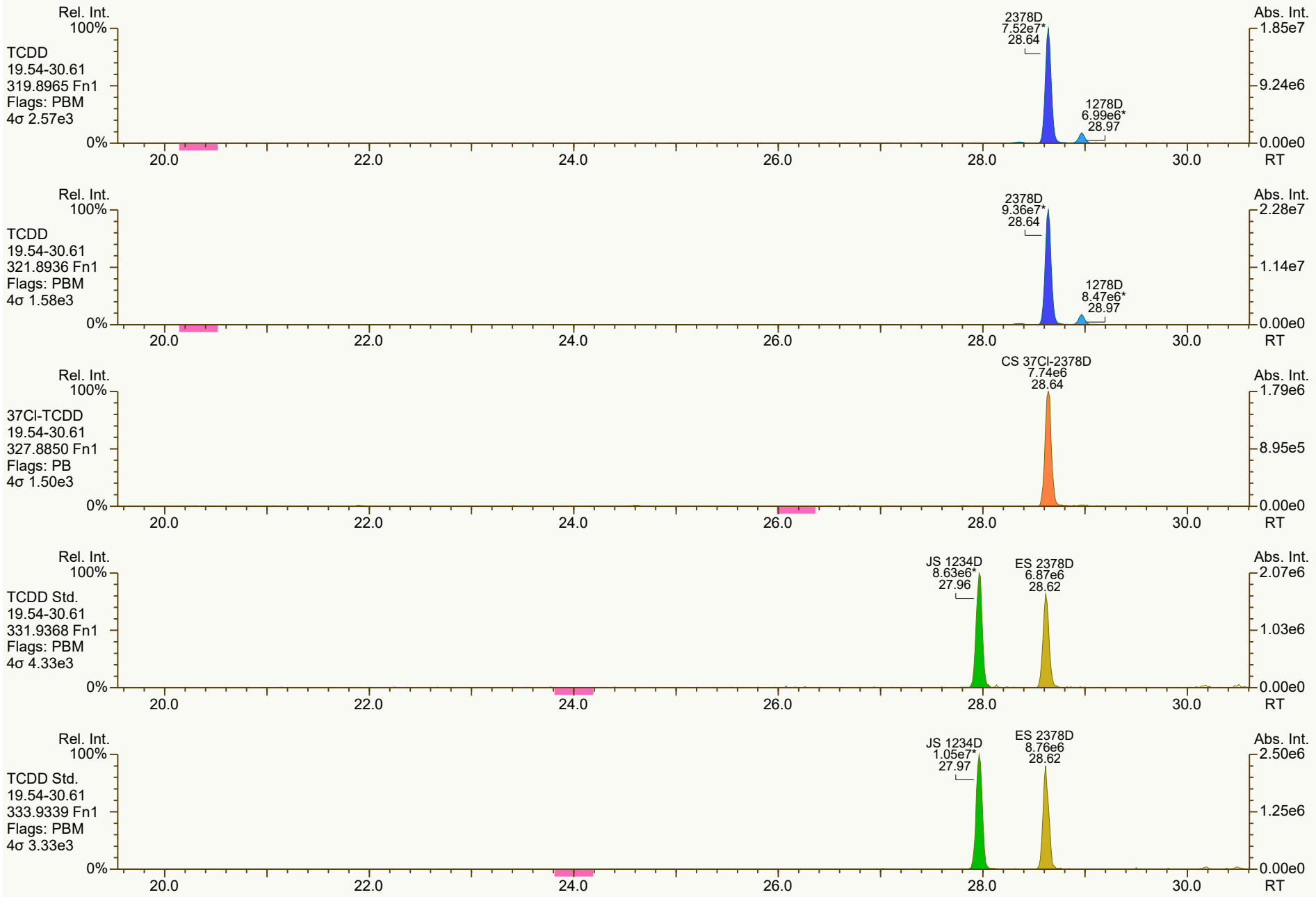
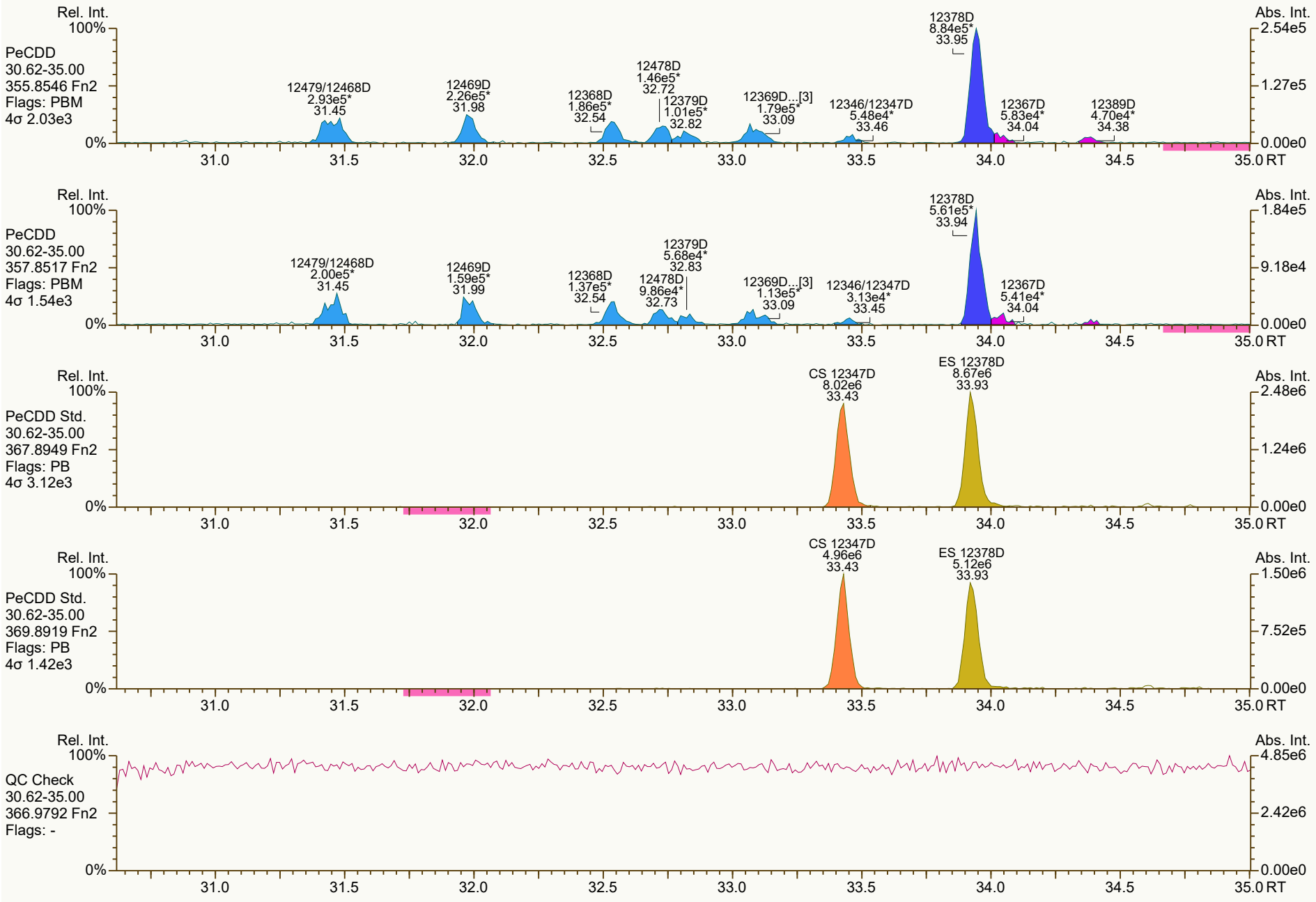
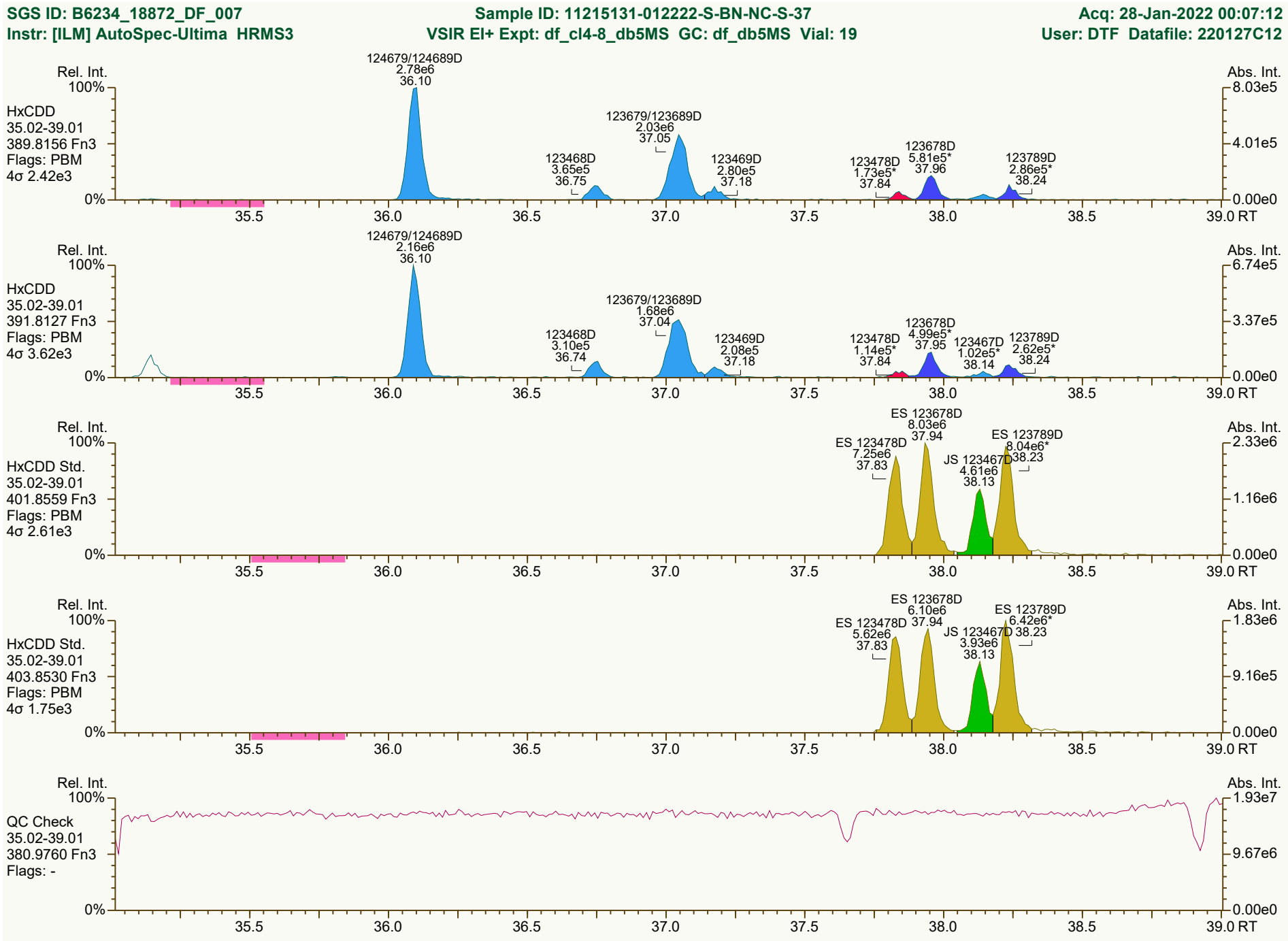
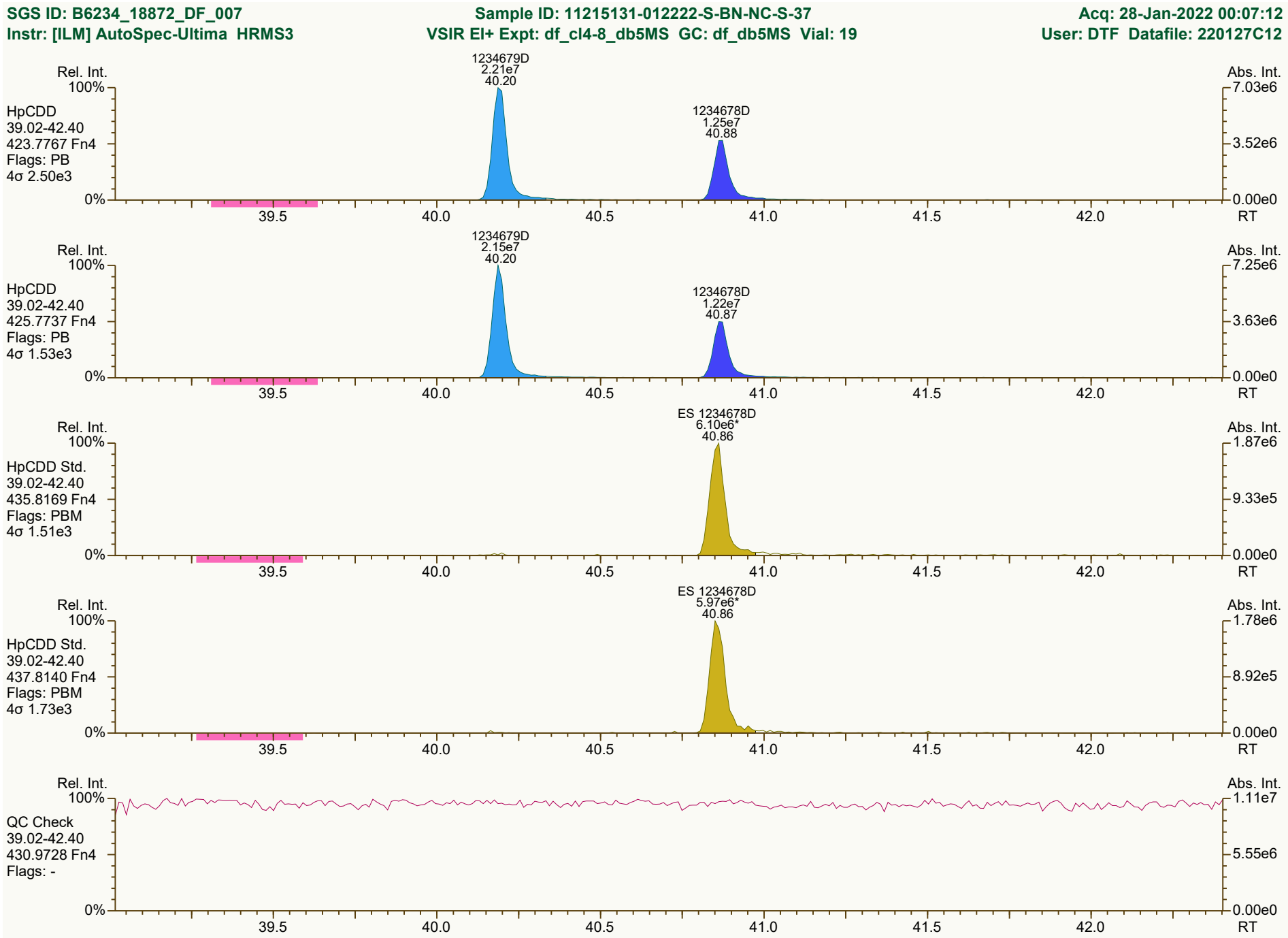
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.11e7
5.55e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.29e6
4.64e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 2.57e3
0%
2378D
7.52e7*
28.64
1278D
6.99e6*
28.97
Abs. Int.
1.85e7
9.24e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 1.58e3
0%
2378D
9.36e7*
28.64
1278D
8.47e6*
28.97
Abs. Int.
2.28e7
1.14e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.50e3
0%
CS 37Cl-2378D
7.74e6
28.64
Abs. Int.
1.79e6
8.95e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PBM
4σ 4.33e3
0%
JS 1234D
8.63e6*
27.96
ES 2378D
6.87e6
28.62
Abs. Int.
2.07e6
1.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PBM
4σ 3.33e3
0%
JS 1234D
1.05e7*
27.97
ES 2378D
8.76e6
28.62
Abs. Int.
2.50e6
1.25e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

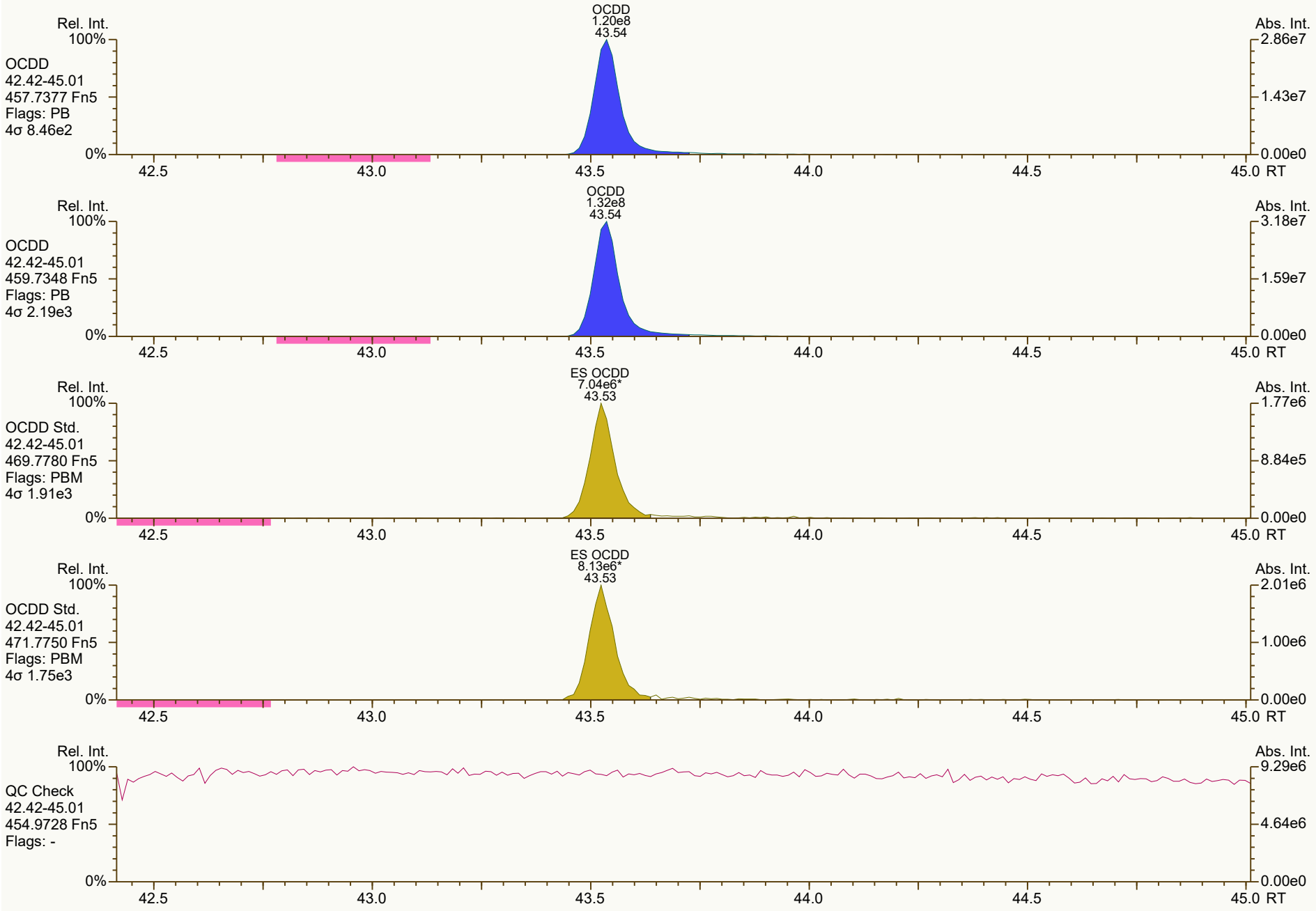

Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PBM
4σ 2.03e3
12479/12468D
2.93e5*
31.45
12469D
2.26e5*
31.98
12368D
1.86e5*
32.54
12478D
1.46e5*
32.72
12379D
1.01e5*
32.82
12369D...[3]
1.79e5*
33.09
12346/12347D
5.48e4*
33.46
12378D
8.84e5*
33.95
12367D
5.83e4*
34.04
12389D
4.70e4*
34.38
Abs. Int.
2.54e5
1.27e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PBM
4σ 1.54e3
12479/12468D
2.00e5*
31.45
12469D
1.59e5*
31.99
12368D
1.37e5*
32.54
12379D
5.68e4*
32.83
12478D
9.86e4*
32.73
12369D...[3]
1.13e5*
33.09
12346/12347D
3.13e4*
33.45
12378D
5.61e5*
33.94
12367D
5.41e4*
34.04
Abs. Int.
1.84e5
9.18e4
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 3.12e3
CS 12347D
8.02e6
33.43
ES 12378D
8.67e6
33.93
Abs. Int.
2.48e6
1.24e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
4σ 1.42e3
CS 12347D
4.96e6
33.43
ES 12378D
5.12e6
33.93
Abs. Int.
1.50e6
7.52e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
Abs. Int.
4.85e6
2.42e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

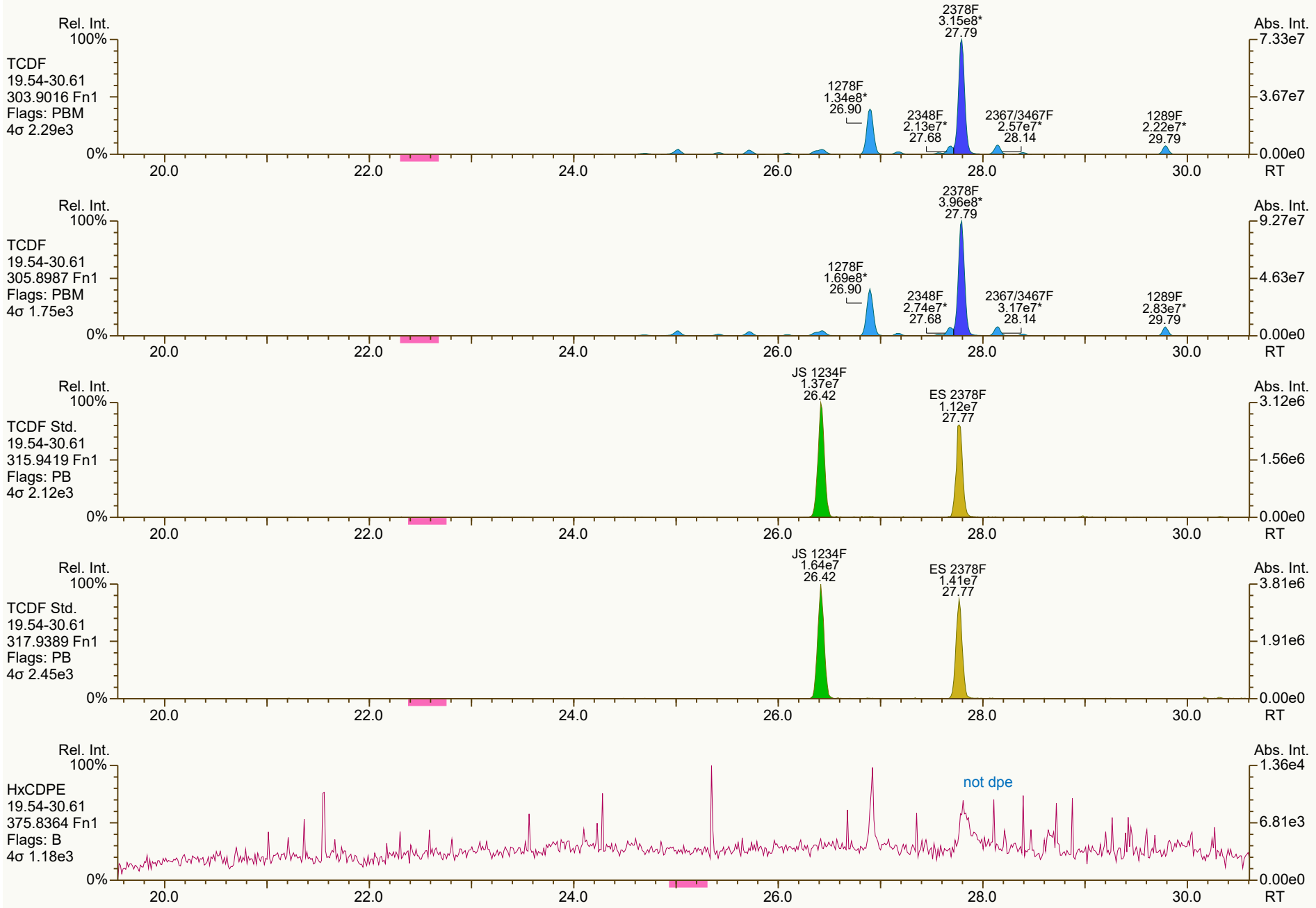

SGS ID: B6234_18872_DF_007
Sample ID: 11215131-012222-S-BN-NC-S-37
Acq: 28-Jan-2022 00:07:12
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 19
User: DTF Datafile: 220127C12
Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 2.42e3
124679/124689D
2.78e6
36.10
123679/123689D
2.03e6
37.05
123468D
3.65e5
36.75
123469D
2.80e5
37.18
123478D
1.73e5*
37.84
123678D
5.81e5*
37.96
123789D
2.86e5*
38.24
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 3.62e3
124679/124689D
2.16e6
36.10
123679/123689D
1.68e6
37.04
123468D
3.10e5
36.74
123469D
2.08e5
37.18
123478D
1.14e5*
37.84
123678D
4.99e5*
37.95
123467D
1.02e5*
38.14
123789D
2.62e5*
38.24
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 2.61e3
ES 123678D
8.03e6
37.94
ES 123478D
7.25e6
37.83
JS 123467D
4.61e6
38.13
ES 123789D
8.04e6*
38.23
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 1.75e3
ES 123678D
6.10e6
37.94
ES 123478D
5.62e6
37.83
JS 123467D
3.93e6
38.13
ES 123789D
6.42e6*
38.23
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
8.03e5
4.01e5
0.00e0
6.74e5
3.37e5
2.33e6
1.16e6
1.83e6
9.16e5
1.93e7
9.67e6
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_007.utp_res, saved 28-Jan-2022 09:47 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4483, 0869 scc: 570-434
Revised: 28-Jan-2022 09:10 (DTF) Printed: 28-Jan-2022 09:56 Page 4 of 12

SGS ID: B6234_18872_DF_007 | Sample ID: 11215131-012222-S-BN-NC-S-37 | Acq: 28-Jan-2022 00:07:12
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 19 | User: DTF Datafile: 220127C12



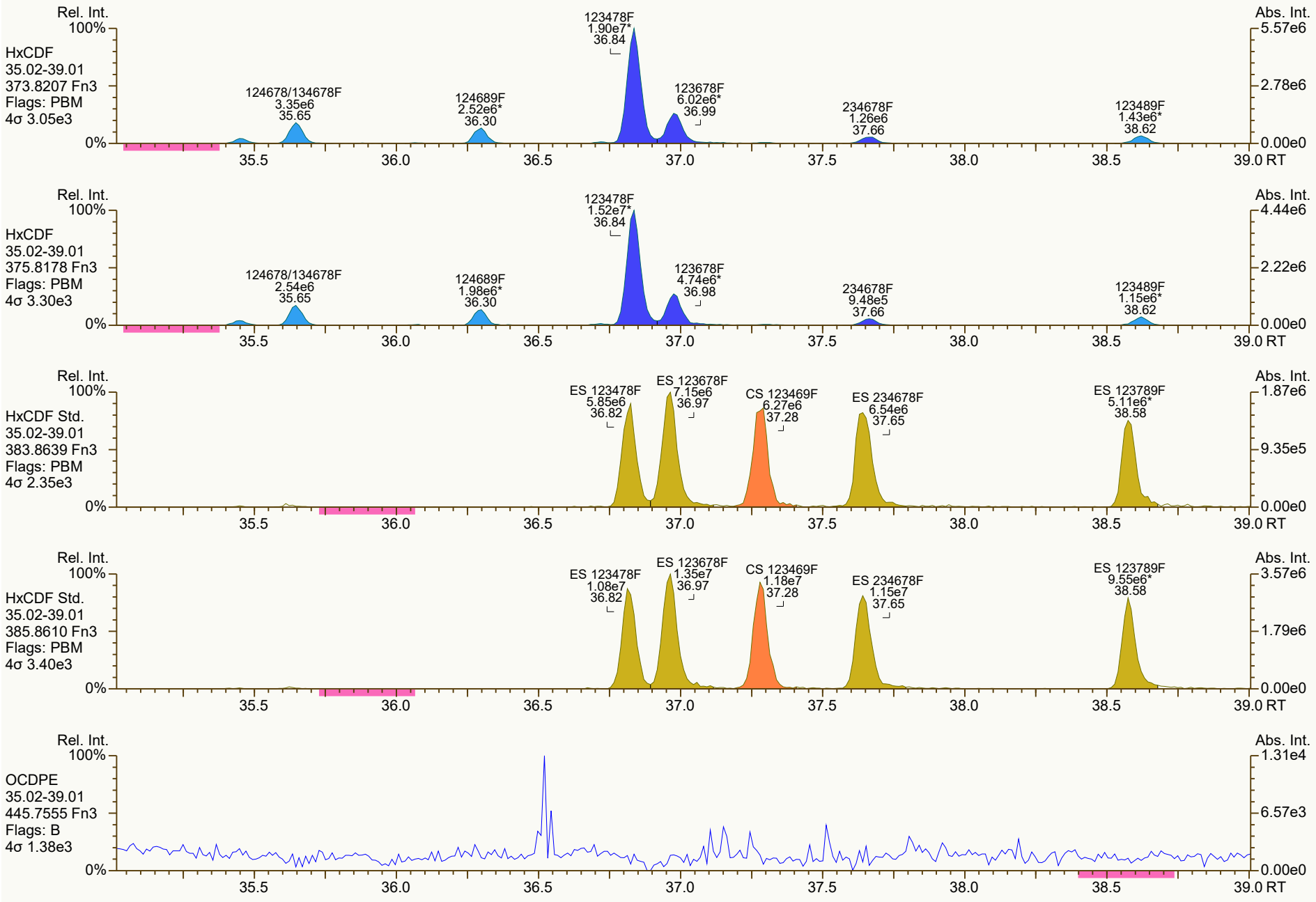
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_007.utp_res, saved 28-Jan-2022 09:47 (DTF) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2956, 6978 scc: 570-434 | *Revised: 28-Jan-2022 09:07 (DTF) Printed: 28-Jan-2022 09:56 Page 5 of 12*

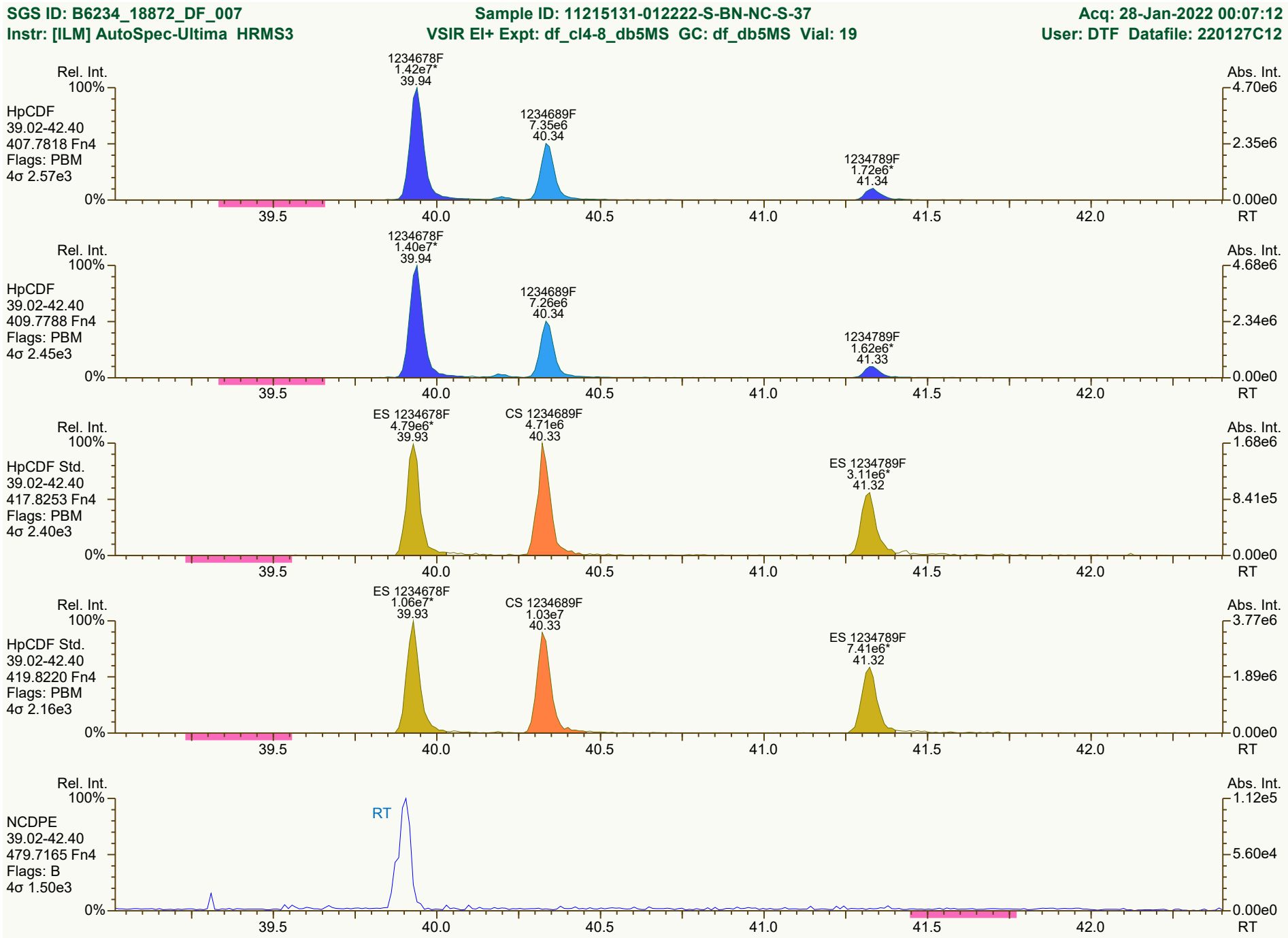

OCDD
1.20e8
43.54
Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 8.46e2
0%
Abs. Int.
2.86e7
1.43e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.32e8
43.54
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: PB
4σ 2.19e3
0%
Abs. Int.
3.18e7
1.59e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
7.04e6*
43.53
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 1.91e3
0%
Abs. Int.
1.77e6
8.84e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
8.13e6*
43.53
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 1.75e3
0%
Abs. Int.
2.01e6
1.00e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.29e6
4.64e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

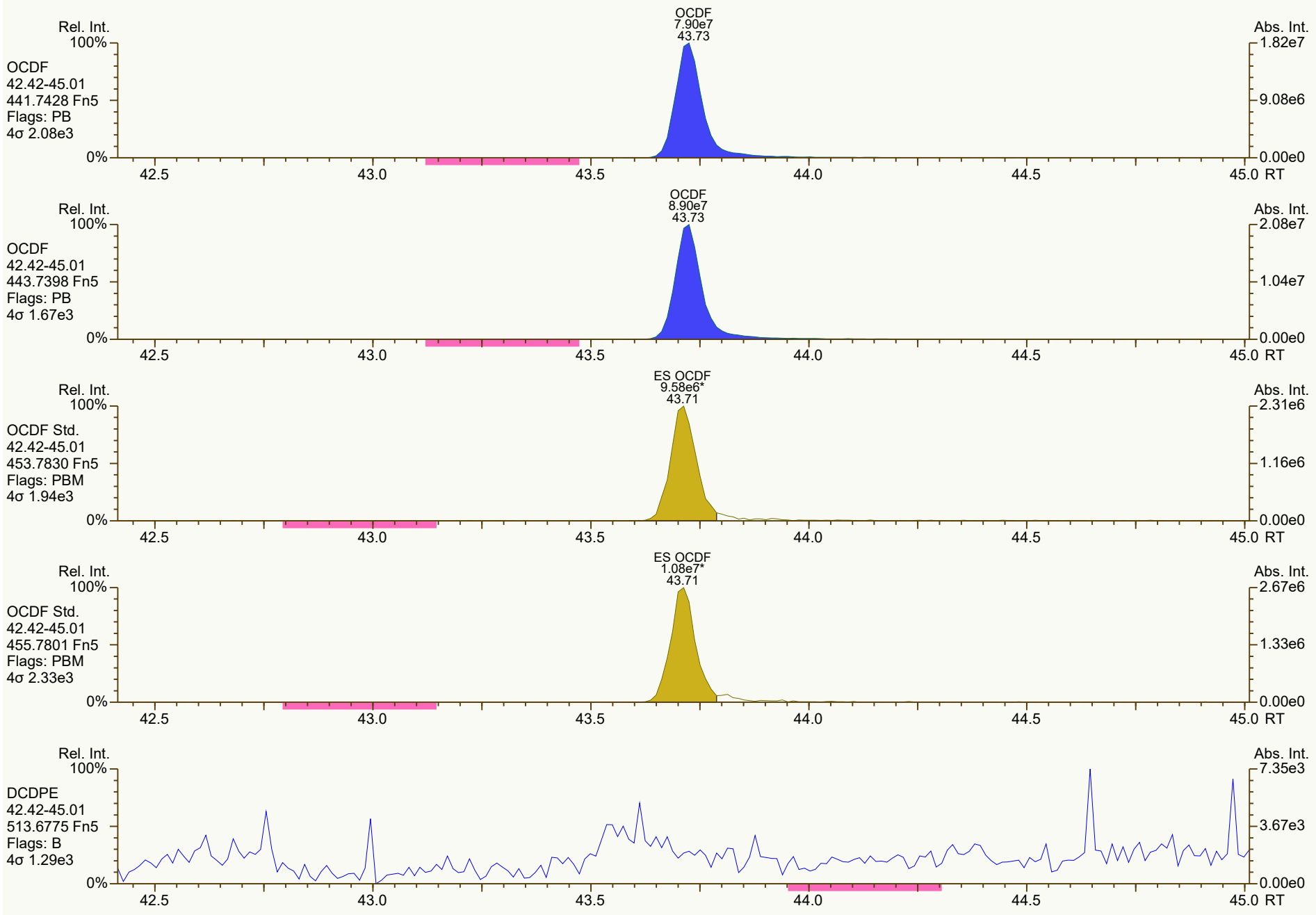

Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 2.29e3
0%
2378F
3.15e8*
27.79
1278F
1.34e8*
26.90
2348F
2.13e7*
27.68
2367/3467F
2.57e7*
28.14
1289F
2.22e7*
29.79
Abs. Int.
7.33e7
3.67e7
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 1.75e3
0%
2378F
3.96e8*
27.79
1278F
1.69e8*
26.90
2348F
2.74e7*
27.68
2367/3467F
3.17e7*
28.14
1289F
2.83e7*
29.79
Abs. Int.
9.27e7
4.63e7
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 2.12e3
0%
JS 1234F
1.37e7
26.42
ES 2378F
1.12e7
27.77
Abs. Int.
3.12e6
1.56e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 2.45e3
0%
JS 1234F
1.64e7
26.42
ES 2378F
1.41e7
27.77
Abs. Int.
3.81e6
1.91e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.18e3
0%
not dpe
Abs. Int.
1.36e4
6.81e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0


Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PBM
4σ 1.60e3
13468/12468F
1.65e6*
29.72
Abs. Int.
3.85e5
1.92e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: PBM
4σ 1.78e3
13468/12468F
1.15e6*
29.72
Abs. Int.
3.04e5
1.52e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
Abs. Int.
6.51e6
3.26e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PBM
4σ 4.10e3
12368F...[3]
6.79e6*
31.42
12348F
1.48e6*
32.30
12378F
1.32e7*
32.51
12678/12367F
4.44e6*
32.80
23478F
1.14e7*
33.62
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: PBM
4σ 2.82e3
12368F...[3]
4.17e6*
31.42
12348F
9.31e5*
32.30
12378F
8.55e6*
32.51
12678/12367F
2.81e6*
32.80
23478F
7.37e6*
33.62
Abs. Int.
2.25e6
1.12e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PB
4σ 1.89e3
CS 12346F
1.34e7
31.97
ES 12378F
1.36e7
32.49
ES 23478F
1.44e7
33.60
Abs. Int.
4.03e6
2.01e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PB
4σ 2.63e3
CS 12346F
8.80e6
31.96
ES 12378F
9.13e6
32.49
ES 23478F
9.22e6
33.60
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.84e3
Abs. Int.
1.15e4
5.73e3
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 3.05e3
0%
123478F
1.90e7*
36.84
124678/134678F
3.35e6
35.65
124689F
2.52e6*
36.30
123678F
6.02e6*
36.99
234678F
1.26e6
37.66
123489F
1.43e6*
38.62
Abs. Int.
5.57e6
2.78e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 3.30e3
123478F
1.52e7*
36.84
124678/134678F
2.54e6
35.65
124689F
1.98e6*
36.30
123678F
4.74e6*
36.98
234678F
9.48e5
37.66
123489F
1.15e6*
38.62
4.44e6
2.22e6
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 2.35e3
ES 123478F
5.85e6
36.82
ES 123678F
7.15e6
36.97
CS 123469F
6.27e6
37.28
ES 234678F
6.54e6
37.65
ES 123789F
5.11e6*
38.58
1.87e6
9.35e5
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 3.40e3
ES 123478F
1.08e7
36.82
ES 123678F
1.35e7
36.97
CS 123469F
1.18e7
37.28
ES 234678F
1.15e7
37.65
ES 123789F
9.55e6*
38.58
3.57e6
1.79e6
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.38e3
1.31e4
6.57e3


SGS ID: B6234_18872_DF_007
Sample ID: 11215131-012222-S-BN-NC-S-37
Acq: 28-Jan-2022 00:07:12
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 19
User: DTF Datafile: 220127C12
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 2.57e3
1234678F
1.42e7*
39.94
1234689F
7.35e6
40.34
1234789F
1.72e6*
41.34
4.70e6
2.35e6
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 2.45e3
1234678F
1.40e7*
39.94
1234689F
7.26e6
40.34
1234789F
1.62e6*
41.33
4.68e6
2.34e6
0.00e0
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 2.40e3
ES 1234678F
4.79e6*
39.93
CS 1234689F
4.71e6
40.33
ES 1234789F
3.11e6*
41.32
1.68e6
8.41e5
0.00e0
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 2.16e3
ES 1234678F
1.06e7*
39.93
CS 1234689F
1.03e7
40.33
ES 1234789F
7.41e6*
41.32
3.77e6
1.89e6
0.00e0
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.50e3
RT
1.12e5
5.60e4
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_007.utp_res, saved 28-Jan-2022 09:47 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2173, 0256, 1289 scc: 570-434
Revised: 28-Jan-2022 09:24 (DTF) Printed: 28-Jan-2022 09:57 Page 11 of 12


OCDF
7.90e7
43.73
Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
1.82e7
9.08e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
8.90e7
43.73
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PB
4σ 1.67e3
0%
Abs. Int.
2.08e7
1.04e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
9.58e6*
43.71
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 1.94e3
0%
Abs. Int.
2.31e6
1.16e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.08e7*
43.71
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 2.33e3
0%
Abs. Int.
2.67e6
1.33e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.29e3
0%
Abs. Int.
7.35e3
3.67e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6234_18872_DF_008 **Acq'd:** 28 Jan 2022 00:53 DTF **Wt/Vol:** 10.73 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-S-39 **UTP:** 28-Jan-2022 09:47:37 DTF **J-level:** 0.466 pg/g **Split:** 1 **Checkcode:** 563-363-WBR

Datafile: 220127C13 **Report:** 28 Jan 2022 09:50 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.65		1.0008	1.0008	0	9.52E+07	0.80	Y	1.18	709	3864.288	0.287
12378-PeCDD	33.95		1.0006	1.0006	0	8.24E+05	1.69	Y	1.04	8.1	3601.153	0.339
123478-HxCDD	37.84	J	1.0004	1.0003	-0.2	1.92E+05	1.18	Y	1.09	2.06	6145.074	0.578
123678-HxCDD	37.96		1.0034	1.0034	0	8.16E+05	1.39	Y	1.15	7.64	6145.074	0.511
123789-HxCDD	38.25		1.0109	1.0109	0	3.88E+05	1.38	Y	1.05	3.9	6145.074	0.548
1234678-HpCDD	40.88		1.0003	1.0003	0	1.91E+07	1.04	Y	1.06	232	4737.827	0.47
OCDD	43.55		1.0002	1.0003	+0.3	1.90E+08	0.91	Y	1.13	3,530	6082.578	1.23
2378-TCDF	27.80	E	1.0008	1.0008	0	3.77E+08	0.80	Y	1.08	1,980	5081.294	0.298
12378-PeCDF	32.52		1.0005	1.0006	+0.2	1.27E+07	1.56	Y	1.02	77	6341.423	0.367
23478-PeCDF	33.63		1.0005	1.0007	+0.4	1.01E+07	1.55	Y	1.02	61.5	6341.423	0.343
123478-HxCDF	36.84		1.0004	1.0005	+0.2	1.93E+07	1.22	Y	1.27	136	6955.367	0.41
123678-HxCDF	36.99		1.0004	1.0004	0	6.10E+06	1.31	Y	1.15	38	6955.367	0.411
234678-HxCDF	37.67		1.0004	1.0004	0	1.29E+06	1.22	Y	1.19	9.66	6955.367	0.533
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	6955.367	0.508
1234678-HpCDF	39.95		1.0002	1.0003	+0.2	1.95E+07	1.02	Y	1.37	137	3178.241	0.17
1234789-HpCDF	41.34		1.0003	1.0003	0	1.82E+06	0.97	Y	1.31	19.5	3178.241	0.274
OCDF	43.74		1.0002	1.0003	+0.3	1.03E+08	0.88	Y	1.07	1,500	5040.181	0.817

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.63	1.0233	1.0234	+0.2	2.11E+07	0.78	Y	1.05	85.7
ES 12378-PeCDD	33.94	1.2121	1.2132	+2.2	1.83E+07	1.46	Y	0.88	88.3
ES 123478-HxCDD	37.83	0.9921	0.9921	0	1.59E+07	1.35	Y	0.97	83.5
ES 123678-HxCDD	37.95	0.9951	0.9951	0	1.74E+07	1.19	Y	0.94	93.7
ES 123789-HxCDD	38.24	1.0025	1.0026	+0.2	1.77E+07	1.29	Y	1.09	82.7
ES 1234678-HpCDD	40.87	1.0709	1.0717	+2.0	1.45E+07	1.07	Y	0.91	80.7
ES OCDD	43.53	1.1403	1.1415	+3.1	1.78E+07	0.93	Y	0.62	72.9
ES 2378-TCDF	27.78	1.0506	1.0511	+0.8	3.28E+07	0.83	Y	1.06	82.2
ES 12378-PeCDF	32.50	1.2281	1.2297	+3.1	2.99E+07	1.55	Y	0.91	87.2
ES 23478-PeCDF	33.60	1.2698	1.2716	+3.6	2.99E+07	1.58	Y	0.88	89.9
ES 123478-HxCDF	36.83	0.9657	0.9657	0	2.09E+07	0.53	Y	1.20	88.8
ES 123678-HxCDF	36.97	0.9695	0.9695	0	2.60E+07	0.51	Y	1.35	97.9
ES 234678-HxCDF	37.66	0.9874	0.9874	0	2.09E+07	0.54	Y	1.24	85.9
ES 123789-HxCDF	38.59	1.0116	1.0120	+0.9	1.88E+07	0.54	Y	1.16	83.1
ES 1234678-HpCDF	39.94	1.0467	1.0473	+1.4	1.93E+07	0.44	Y	0.97	102
ES 1234789-HpCDF	41.33	1.0830	1.0838	+2.0	1.33E+07	0.45	Y	0.85	79.9
ES OCDF	43.73	1.1451	1.1466	+3.9	2.40E+07	0.94	Y	0.81	75.7

Lab ID: B6234_18872_DF_008 **Acq'd:** 28 Jan 2022 00:53 DTF **Wt/Vol:** 10.73 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-S-39 **UTP:** 28-Jan-2022 09:47:37 DTF **J-level:** 0.466 pg/g **Split:** 1 **Checkcode:** 563-363-WBR

Datafile: 220127C13 **Report:** 28 Jan 2022 09:50 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.97		-	-	-	2.36E+07	0.88	Y	-	-	
JS 1234-TCDF	26.43		-	-	-	3.77E+07	0.78	Y	-	-	
JS 123467-HxCDD	38.13		-	-	-	9.80E+06	1.30	Y	-	-	
CS 37Cl-2378-TCDD	28.65		1.0241	1.0242	+0.2	9.32E+06	n/a	-	1.20	82.2	
CS 12347-PeCDD	33.43		1.1943	1.1953	+2.0	1.67E+07	1.57	Y	0.75	93.9	
CS 12346-PeCDF	31.97		1.2083	1.2098	+2.9	2.94E+07	1.63	Y	0.85	91.6	
CS 123469-HxCDF	37.29		0.9778	0.9778	0	2.23E+07	0.54	Y	1.12	102	
CS 1234689-HpCDF	40.34		1.0571	1.0579	+1.9	1.75E+07	0.46	Y	0.89	101	
~~SS 37Cl-2378-TCDD~~	~~28.65~~		~~1.0241~~	~~1.0242~~	~~+0.2~~	~~9.32E+06~~	~~n/a~~		~~1.15~~	~~96.~~2	Not used in this project.
~~SS 12347-PeCDD~~	~~33.43~~		~~1.1943~~	~~1.1953~~	~~+2.0~~	~~1.67E+07~~	~~1.57~~	~~Y~~	~~0.86~~	~~106~~	CL 28Jan22
~~SS 12346-PeCDF~~	~~31.97~~		~~1.2083~~	~~1.2098~~	~~+2.9~~	~~2.94E+07~~	~~1.63~~	~~Y~~	~~0.94~~	~~105~~	
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9778~~	~~0~~	~~2.23E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~104~~	
~~SS 1234689-HpCDF~~	~~40.34~~		~~1.0571~~	~~1.0579~~	~~+1.9~~	~~1.75E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~98.~~7	

Totals	Conc	EMPC
Total TCDD	804	808
Total PeCDD	25.3	27.1
Total HxCDD	97.9	102
Total HpCDD	550	550
Total Tetra-Octa Dioxins	5010	5020
Total TCDF	3,910	3910
Total PeCDF	240	240
Total HxCDF	250	253
Total HpCDF	236	236
Total Tetra-Octa Furans	6,130	6130
Total Tetra-Octa Dioxins & Furans	11100	11200

Lab ID: B6234_18872_DF_008 **Acq'd: 28 Jan 2022 00:53 DTF** **Wt/Vol: 10.73 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012122-S-BN-NC-S-39 **UTP: 28-Jan-2022 09:47:37 DTF** **J-level: 0.466 pg/g** **Split: 1** **Checkcode: 563-363-WBR**

Datafile: 220127C13 **Report: 28 Jan 2022 09:50 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.04		0.8755	0.8748	-1.1	4.86E+05	0.87	Y	1.18	3.62	3864.288	0.287
1379-TCDD	25.39		0.8876	0.8869	-1.1	1.44E+05	0.71	Y	1.18	1.07	3864.288	0.287
1369-TCDD	NotFnd		0.9023						1.18		3864.288	0.287
1469-TCDD	26.58		0.9291	0.9286	-0.8	3.20E+05	0.75	Y	1.18	2.38	3864.288	0.287
1247/1246/1248/1249-TCDD	26.81		0.9373	0.9367	-1.0	2.37E+05	0.77	Y	1.18	1.76	3864.288	0.287
1378-TCDD	27.00		0.9440	0.9433	-1.1	3.57E+05	0.77	Y	1.18	2.66	3864.288	0.287
1268-TCDD	NotFnd		0.9506						1.18		3864.288	0.287
1478-TCDD	27.46	EMPC	0.9591	0.9592	+0.2	2.69E+05	0.95	N	1.18	2.01	3864.288	0.287
1279-TCDD	NotFnd		0.9649						1.18		3864.288	0.287
1234/1269-TCDD	27.96		0.9771	0.9768	-0.5	1.29E+05	0.78	Y	1.18	0.961	3864.288	0.287
1236-TCDD	NotFnd		0.9820						1.18		3864.288	0.287
1237/1238-TCDD	28.36		0.9908	0.9906	-0.3	1.58E+06	0.84	Y	1.18	11.7	3864.288	0.287
1239-TCDD	NotFnd		0.9954						1.18		3864.288	0.287
2378-TCDD	**28.65**		**1.0008**	1.0008	**0**	9.52E+07	0.80	Y	**1.18**	**709**	**3864.288**	**0.287**
1278-TCDD	28.97		1.0121	1.0121	0	9.51E+06	0.79	Y	1.18	70.9	3864.288	0.287
1267-TCDD	NotFnd		1.0167						1.18		3864.288	0.287
1289-TCDD	29.61	EMPC	1.0341	1.0343	+0.4	1.74E+05	0.99	N	1.18	1.3	3864.288	0.287
12479/12468-PeCDD	31.46		0.9273	0.9270	-0.6	5.89E+05	1.60	Y	1.04	5.79	3601.153	0.339
12469-PeCDD	31.99		0.9430	0.9426	-0.8	3.24E+05	1.63	Y	1.04	3.18	3601.153	0.339
12368-PeCDD	32.54		0.9592	0.9590	-0.4	2.96E+05	1.69	Y	1.04	2.91	3601.153	0.339
12478-PeCDD	32.73	J EMPC	0.9647	0.9645	-0.4	1.74E+05	1.23	N	1.04	1.71	3601.153	0.339
12379-PeCDD	32.83	J	0.9676	0.9674	-0.4	1.61E+05	1.50	Y	1.04	1.58	3601.153	0.339
12369/12467/12489-PeCDD	33.09		0.9752	0.9751	-0.2	2.42E+05	1.72	Y	1.04	2.38	3601.153	0.339
12346/12347-PeCDD	33.45	J	0.9860	0.9858	-0.4	7.14E+04	1.73	Y	1.04	0.702	3601.153	0.339
12378-PeCDD	33.95		**1.0006**	**1.0006**	**0**	**8.24E+05**	**1.69**	**Y**	**1.04**	**8.1**	**3601.153**	**0.339**
12367-PeCDD	34.04	J	1.0034	1.0032	-0.4	7.15E+04	1.73	Y	1.04	0.703	3601.153	0.339
12389-PeCDD	NotFnd		1.0134						1.04		3601.153	0.339
124679/124689-HxCDD	36.10		0.9545	0.9542	-0.6	4.92E+06	1.23	Y	1.10	49.3	6145.074	0.544
123468-HxCDD	36.75	EMPC	0.9715	0.9714	-0.2	4.41E+05	1.48	N	1.10	4.42	6145.074	0.544
123679/123689-HxCDD	37.05		0.9793	0.9793	0	3.07E+06	1.25	Y	1.10	30.7	6145.074	0.544
123469-HxCDD	37.19		0.9829	0.9829	0	2.82E+05	1.40	Y	1.10	2.83	6145.074	0.544
123478-HxCDD	37.84	J	**1.0004**	**1.0003**	**-0.2**	**1.92E+05**	**1.18**	**Y**	1.09	**2.06**	**6145.074**	**0.578**
123678-HxCDD	37.96		**1.0034**	**1.0034**	**0**	**8.16E+05**	**1.39**	**Y**	1.15	**7.64**	**6145.074**	**0.511**
123467-HxCDD	38.15	J	1.0082	1.0083	+0.2	1.46E+05	1.39	Y	1.10	1.46	6145.074	0.544
123789-HxCDD	38.25		**1.0109**	**1.0109**	**0**	**3.88E+05**	**1.38**	**Y**	1.05	**3.9**	**6145.074**	**0.548**

Lab ID: B6234_18872_DF_008 **Acq'd:** 28 Jan 2022 00:53 DTF **Wt/Vol:** 10.73 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-S-39 **UTP:** 28-Jan-2022 09:47:37 DTF **J-level:** 0.466 pg/g **Split:** 1 **Checkcode:** 563-363-WBR

Datafile: 220127C13 **Report:** 28 Jan 2022 09:50 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

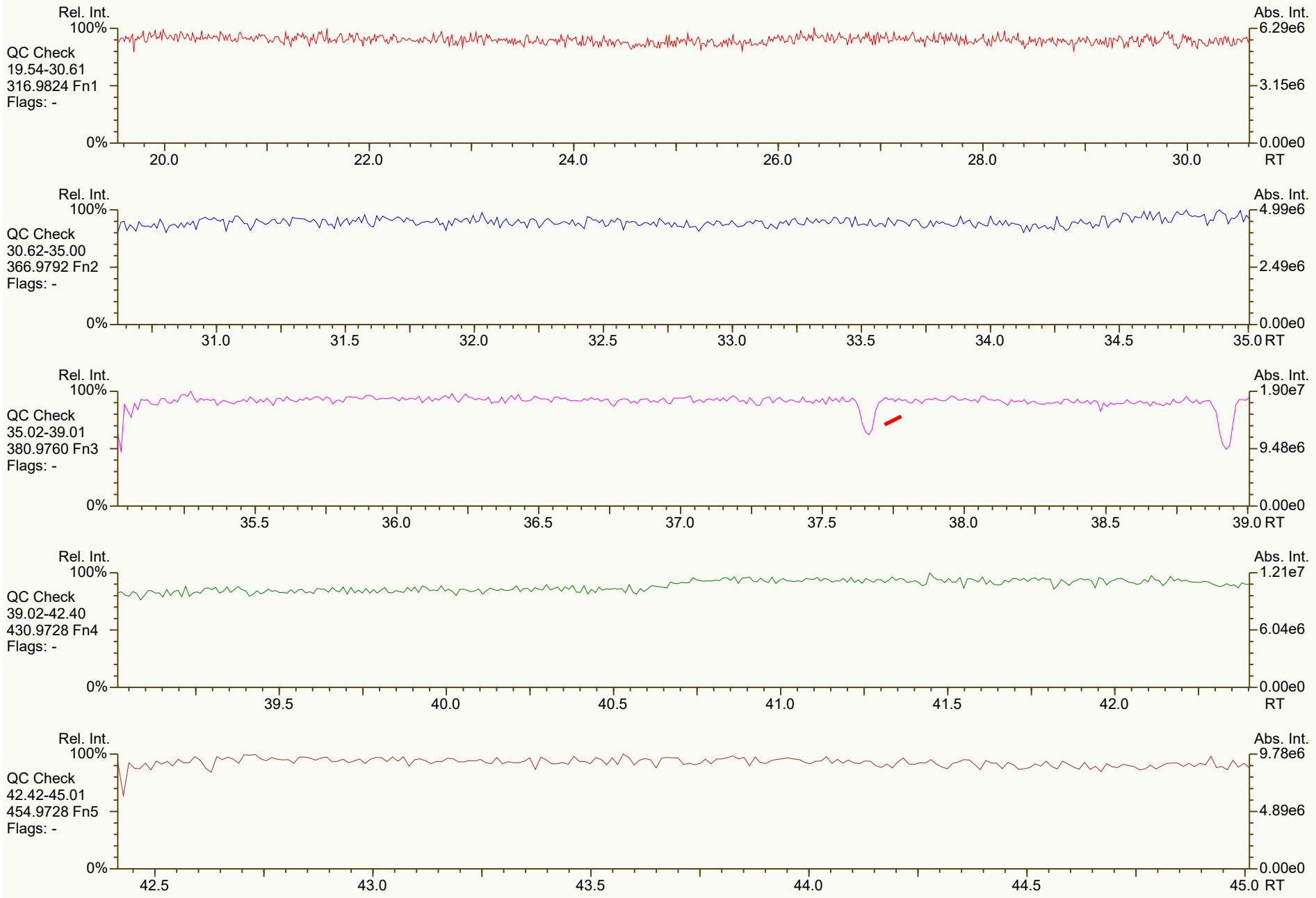
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.20		0.9838	0.9837	-0.2	2.62E+07	1.05	Y	1.06	318	4737.827	0.47
1234678-HpCDD	**40.88**		**1.0003**	**1.0003**	**0**	**1.91E+07**	**1.04**	**Y**	**1.06**	**232**	**4737.827**	**0.47**
OCDD	**43.55**		**1.0002**	**1.0003**	**+0.3**	**1.90E+08**	**0.91**	**Y**	**1.13**	**3,530**	**6082.578**	**1.23**
OCDD-a	43.54		1.0002	1.0001	-0.3	1.09E+07	2.50	Y	0.07	3,180	5156.064	16.3
1368-TCDF	22.97		0.8282	0.8268	-1.9	2.20E+05	0.76	Y	1.08	1.16	5081.294	0.298
1468-TCDF	23.54		0.8485	0.8473	-1.7	7.84E+05	0.83	Y	1.08	4.13	5081.294	0.298
2468-TCDF	24.16		0.8709	0.8698	-1.6	9.62E+05	0.79	Y	1.08	5.06	5081.294	0.298
1346/1246-TCDF	NotFnd		0.8829						1.08		5081.294	0.298
1347/1378/1247-TCDF	24.68		0.8884	0.8883	-0.1	5.30E+06	0.78	Y	1.08	27.9	5081.294	0.298
1348-TCDF	NotFnd		0.8980						1.08		5081.294	0.298
1248/1367/1379-TCDF	25.01		0.9026	0.9005	-3.2	2.03E+07	0.79	Y	1.08	107	5081.294	0.298
1268-TCDF	25.43		0.9158	0.9153	-0.8	6.80E+06	0.79	Y	1.08	35.8	5081.294	0.298
1467-TCDF	25.56		0.9206	0.9201	-0.8	1.01E+06	0.85	Y	1.08	5.29	5081.294	0.298
1478-TCDF	25.73		0.9266	0.9261	-0.8	1.66E+07	0.80	Y	1.08	87.5	5081.294	0.298
1369/1237-TCDF	26.10		0.9397	0.9397	0	4.30E+06	0.81	Y	1.08	22.6	5081.294	0.298
2467-TCDF	26.21		0.9440	0.9437	-0.5	5.72E+05	0.80	Y	1.08	3.01	5081.294	0.298
2368-TCDF	26.42		0.9497	0.9510	+2.1	3.05E+07	0.82	Y	1.08	160	5081.294	0.298
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		5081.294	0.298
1278-TCDF	26.91		0.9690	0.9686	-0.6	1.71E+08	0.80	Y	1.08	897	5081.294	0.298
1349-TCDF	NotFnd		0.9730						1.08		5081.294	0.298
1267-TCDF	27.18		0.9787	0.9784	-0.5	9.78E+06	0.82	Y	1.08	51.5	5081.294	0.298
2346/1249-TCDF	27.37		0.9850	0.9854	+0.7	1.26E+06	0.86	Y	1.08	6.64	5081.294	0.298
2347/1279-TCDF	27.57		0.9929	0.9926	-0.5	4.68E+06	0.78	Y	1.08	24.6	5081.294	0.298
2348-TCDF	27.68		0.9970	0.9966	-0.7	2.50E+07	0.79	Y	1.08	132	5081.294	0.298
2378-TCDF	**27.80**	E	**1.0008**	**1.0008**	**0**	**3.77E+08**	**0.80**	**Y**	**1.08**	**1,980**	**5081.294**	**0.298**
2367/3467-TCDF	28.15		1.0136	1.0133	-0.5	3.13E+07	0.82	Y	1.08	165	5081.294	0.298
1269-TCDF	28.40		1.0221	1.0224	+0.5	6.23E+06	0.82	Y	1.08	32.8	5081.294	0.298
1239-TCDF	NotFnd		1.0319						1.08		5081.294	0.298
1289-TCDF	29.79		1.0740	1.0726	-2.5	2.92E+07	0.80	Y	1.08	154	5081.294	0.298
13468/12468-PeCDF	29.72		0.9145	0.9147	+0.4	1.77E+06	1.51	Y	1.02	10.8	3426.751	0.192
13678/13467/12467-PeCDF	31.26		0.9619	0.9620	+0.2	4.57E+05	1.58	Y	1.02	2.78	6341.423	0.355
12368/13478/12478-PeCDF	31.43		0.9665	0.9670	+0.9	7.01E+06	1.57	Y	1.02	42.7	6341.423	0.355
14678-PeCDF	NotFnd		0.9695						1.02		6341.423	0.355
13479-PeCDF	NotFnd		0.9724						1.02		6341.423	0.355
13469/12479-PeCDF	NotFnd		0.9801						1.02		6341.423	0.355
12346-PeCDF	NotFnd		0.9842						1.02		6341.423	0.355

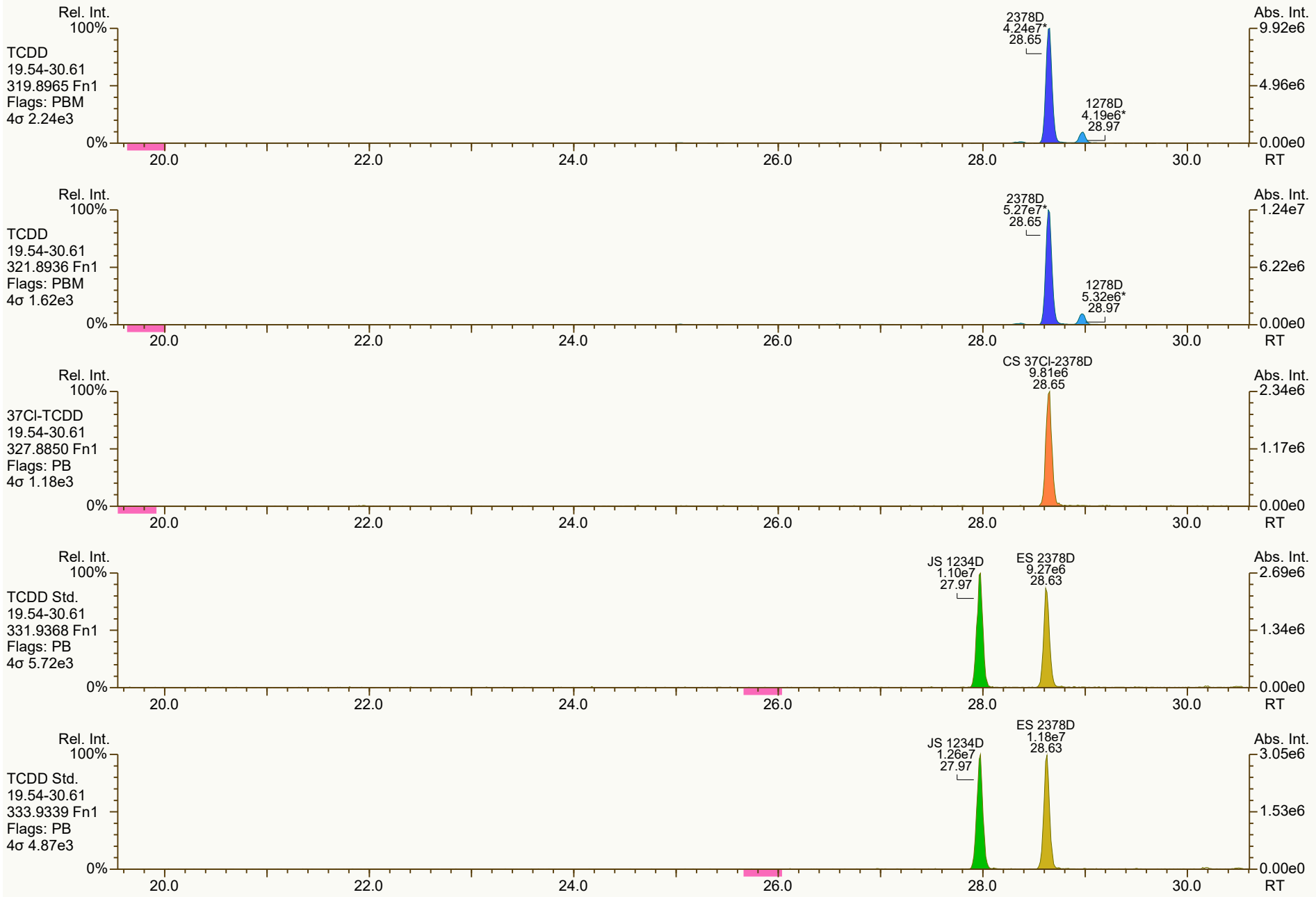
Lab ID: B6234_18872_DF_008 **Acq'd: 28 Jan 2022 00:53 DTF** **Wt/Vol: 10.73 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

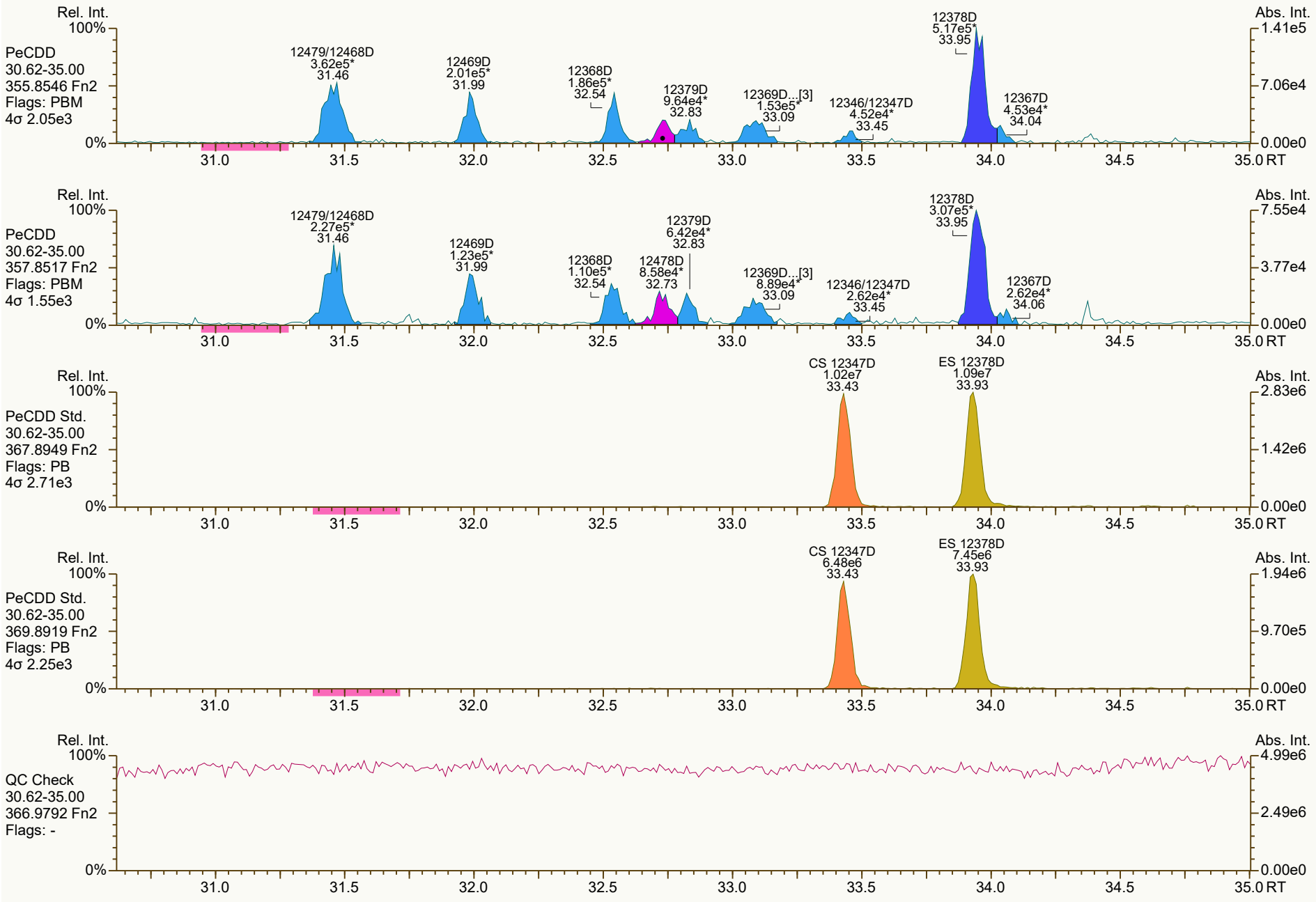
Client ID: 11215131-012122-S-BN-NC-S-39 **UTP: 28-Jan-2022 09:47:37 DTF** **J-level: 0.466 pg/g** **Split: 1** **Checkcode: 563-363-WBR**

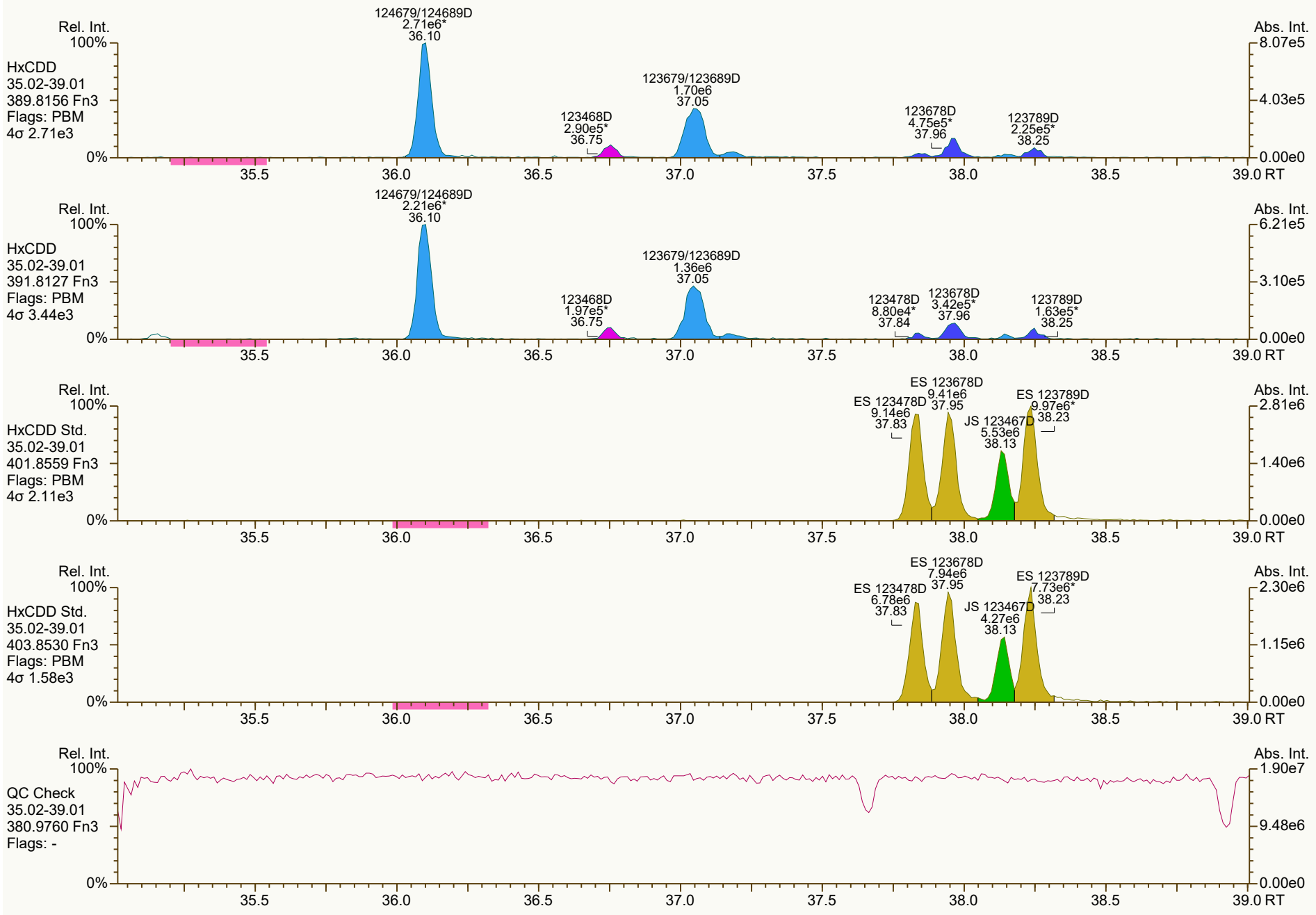
Datafile: 220127C13 **Report: 28 Jan 2022 09:50 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

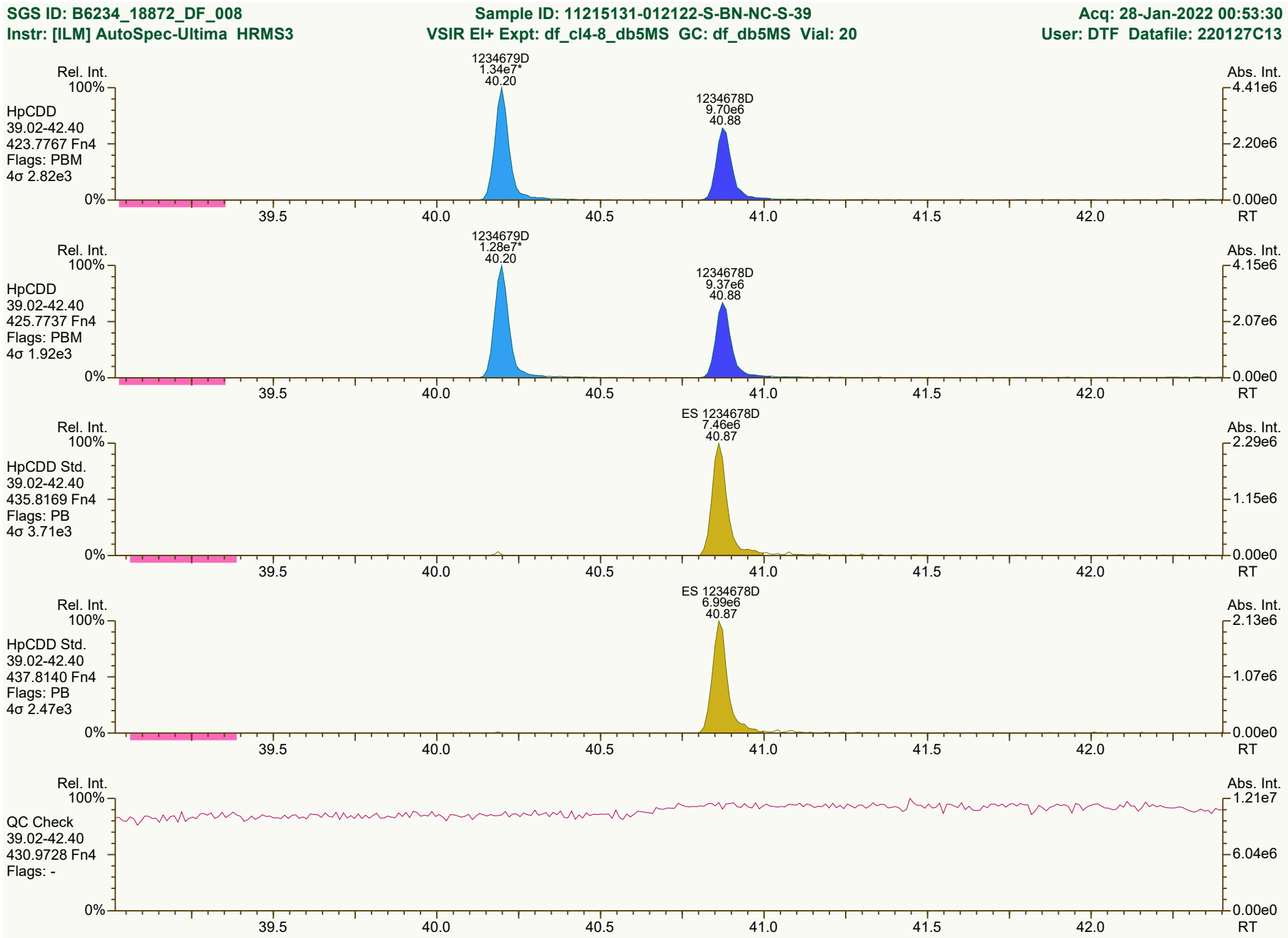
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.07		0.9868	0.9868	0	5.67E+05	1.63	Y	1.02	3.45	6341.423	0.355
12347-PeCDF	32.14	J	0.9895	0.9891	-0.8	3.77E+05	1.44	Y	1.02	2.3	6341.423	0.355
12348-PeCDF	32.30		0.9941	0.9940	-0.2	1.39E+06	1.62	Y	1.02	8.46	6341.423	0.355
12378-PeCDF	**32.52**		**1.0005**	**1.0006**	**+0.2**	**1.27E+07**	**1.56**	**Y**	**1.02**	**77**	**6341.423**	**0.367**
12678/12367-PeCDF	32.81		1.0090	1.0095	+1.0	4.29E+06	1.56	Y	1.02	26.1	6341.423	0.355
12379-PeCDF	NotFnd		1.0142						1.02		6341.423	0.355
12679-PeCDF	NotFnd		0.9931						1.02		6341.423	0.355
23467/12369-PeCDF	33.49	J	0.9966	0.9966	0	2.74E+05	1.59	Y	1.02	1.67	6341.423	0.355
23478-PeCDF	**33.63**		**1.0005**	**1.0007**	**+0.4**	**1.01E+07**	**1.55**	**Y**	**1.02**	**61.5**	**6341.423**	**0.343**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6341.423	0.355
12349-PeCDF	NotFnd		1.0101						1.02		6341.423	0.355
12389-PeCDF	34.69		1.0322	1.0323	+0.2	5.23E+05	1.55	Y	1.02	3.19	6341.423	0.355
123468-HxCDF	35.46		0.9627	0.9629	+0.4	9.51E+05	1.21	Y	1.19	6.86	6955.367	0.46
124678/134678-HxCDF	35.66		0.9684	0.9682	-0.4	3.98E+06	1.28	Y	1.19	28.7	6955.367	0.46
134679-HxCDF	NotFnd		0.9747						1.19		6955.367	0.46
124679-HxCDF	36.08	J EMPC	0.9802	0.9797	-1.1	1.20E+05	0.85	N	1.19	0.864	6955.367	0.46
124689-HxCDF	36.30		0.9858	0.9858	0	2.92E+06	1.22	Y	1.19	21.1	6955.367	0.46
123467-HxCDF	36.72	EMPC	0.9972	0.9970	-0.4	3.24E+05	1.43	N	1.19	2.34	6955.367	0.46
123478-HxCDF	**36.84**		**1.0004**	**1.0005**	**+0.2**	**1.93E+07**	**1.22**	**Y**	**1.27**	**136**	**6955.367**	**0.41**
123678-HxCDF	**36.99**		**1.0004**	**1.0004**	**0**	**6.10E+06**	**1.31**	**Y**	**1.15**	**38**	**6955.367**	**0.411**
123479-HxCDF	NotFnd		1.0051						1.19		6955.367	0.46
123469-HxCDF	NotFnd		1.0091						1.19		6955.367	0.46
123679-HxCDF	NotFnd		0.9943						1.19		6955.367	0.46
234678-HxCDF	**37.67**		**1.0004**	**1.0004**	**0**	**1.29E+06**	**1.22**	**Y**	**1.19**	**9.66**	**6955.367**	**0.533**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6955.367	0.46
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**6955.367**	**0.508**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.63		1.0007	1.0010	+0.7	1.41E+06	1.16	Y	1.19	10.2	6955.367	0.46
1234678-HpCDF	**39.95**		**1.0002**	**1.0003**	**+0.2**	**1.95E+07**	**1.02**	**Y**	**1.37**	**137**	**3178.241**	**0.17**
1234679-HpCDF	40.20		1.0067	1.0066	-0.2	6.34E+05	1.12	Y	1.34	5.41	3178.241	0.213
1234689-HpCDF	40.35		1.0101	1.0103	+0.5	8.61E+06	0.99	Y	1.34	73.4	3178.241	0.213
1234789-HpCDF	**41.34**		**1.0003**	**1.0003**	**0**	**1.82E+06**	**0.97**	**Y**	**1.31**	**19.5**	**3178.241**	**0.274**
OCDF	**43.74**		**1.0002**	**1.0003**	**+0.3**	**1.03E+08**	**0.88**	**Y**	**1.07**	**1,500**	**5040.181**	**0.817**
OCDF-a	43.73		1.0002	1.0002	0	7.00E+06	2.31	Y	0.07	1,640	3388.474	8.87

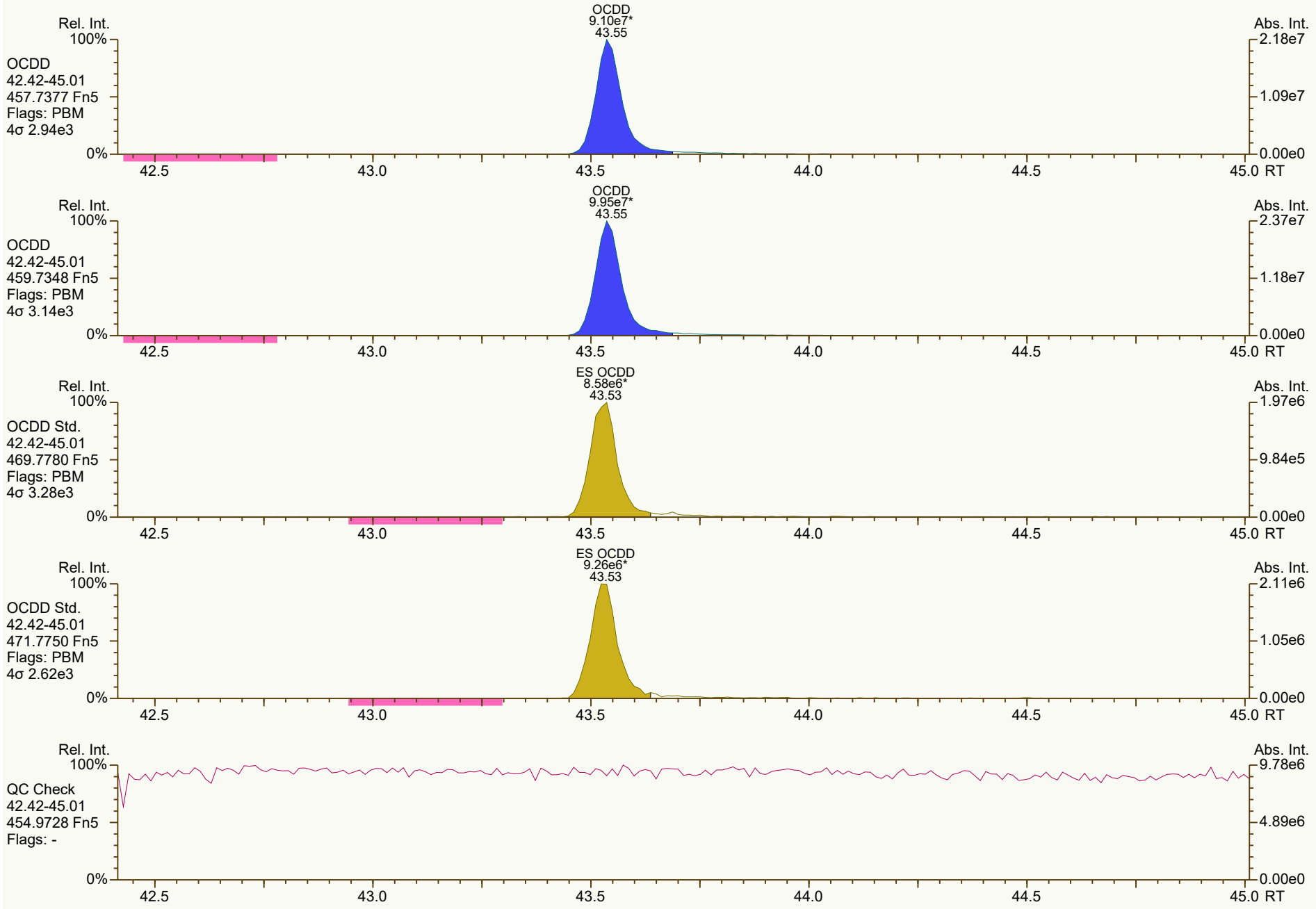

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
Abs. Int.
6.29e6
3.15e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.99e6
2.49e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.90e7
9.48e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.21e7
6.04e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.78e6
4.89e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

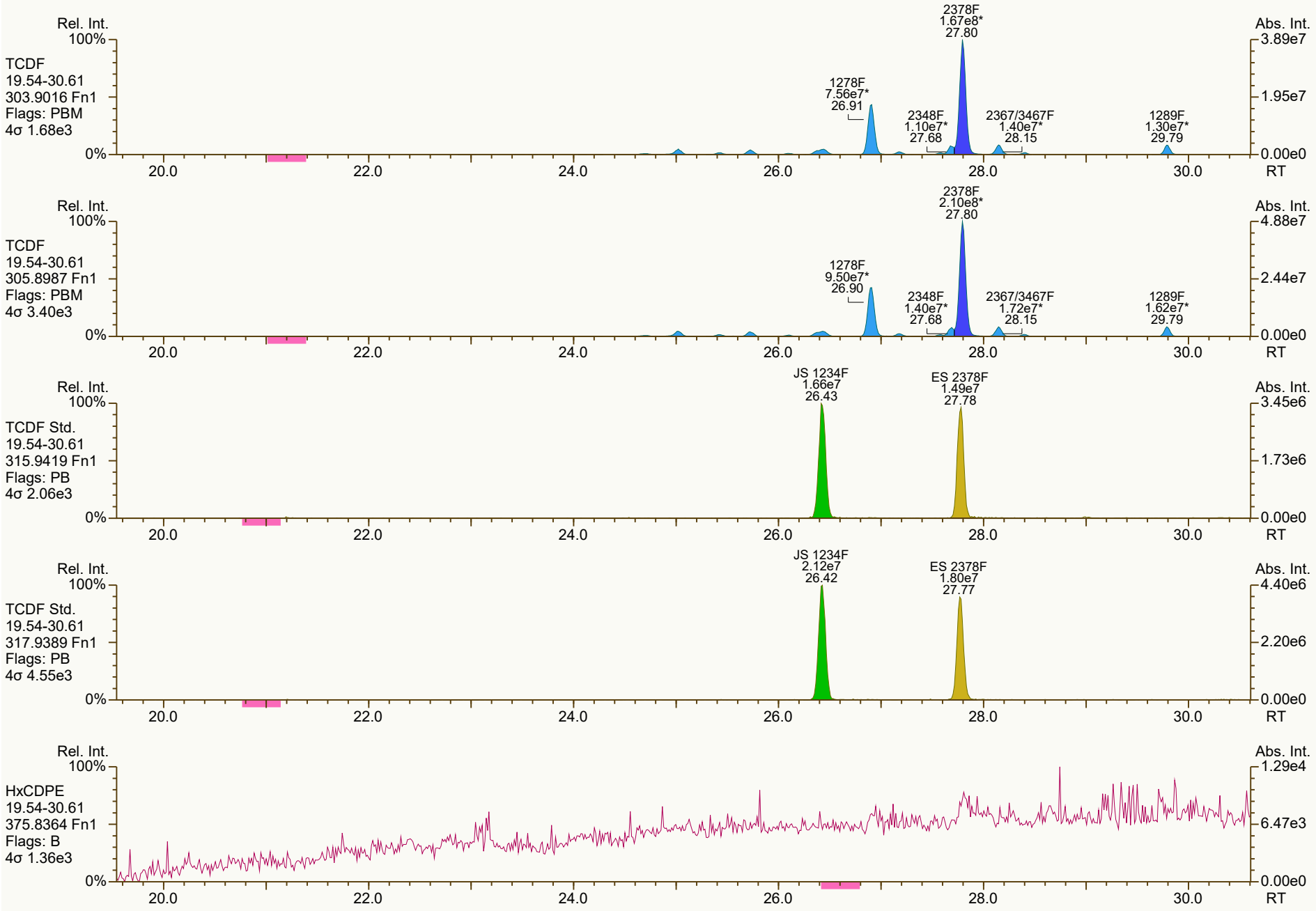

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 2.24e3
0%
2378D
4.24e7*
28.65
1278D
4.19e6*
28.97
Abs. Int.
9.92e6
4.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 1.62e3
0%
2378D
5.27e7*
28.65
1278D
5.32e6*
28.97
Abs. Int.
1.24e7
6.22e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.18e3
0%
CS 37Cl-2378D
9.81e6
28.65
Abs. Int.
2.34e6
1.17e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 5.72e3
0%
JS 1234D
1.10e7
27.97
ES 2378D
9.27e6
28.63
Abs. Int.
2.69e6
1.34e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 4.87e3
0%
JS 1234D
1.26e7
27.97
ES 2378D
1.18e7
28.63
Abs. Int.
3.05e6
1.53e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PBM
4σ 2.05e3
0%
12479/12468D
3.62e5*
31.46
12469D
2.01e5*
31.99
12368D
1.86e5*
32.54
12379D
9.64e4*
32.83
12369D...[3]
1.53e5*
33.09
12346/12347D
4.52e4*
33.45
12378D
5.17e5*
33.95
12367D
4.53e4*
34.04
Abs. Int.
1.41e5
7.06e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PBM
4σ 1.55e3
0%
12479/12468D
2.27e5*
31.46
12469D
1.23e5*
31.99
12368D
1.10e5*
32.54
12478D
8.58e4*
32.73
12379D
6.42e4*
32.83
12369D...[3]
8.89e4*
33.09
12346/12347D
2.62e4*
33.45
12378D
3.07e5*
33.95
12367D
2.62e4*
34.06
Abs. Int.
7.55e4
3.77e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 2.71e3
0%
CS 12347D
1.02e7
33.43
ES 12378D
1.09e7
33.93
Abs. Int.
2.83e6
1.42e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
4σ 2.25e3
0%
CS 12347D
6.48e6
33.43
ES 12378D
7.45e6
33.93
Abs. Int.
1.94e6
9.70e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.99e6
2.49e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

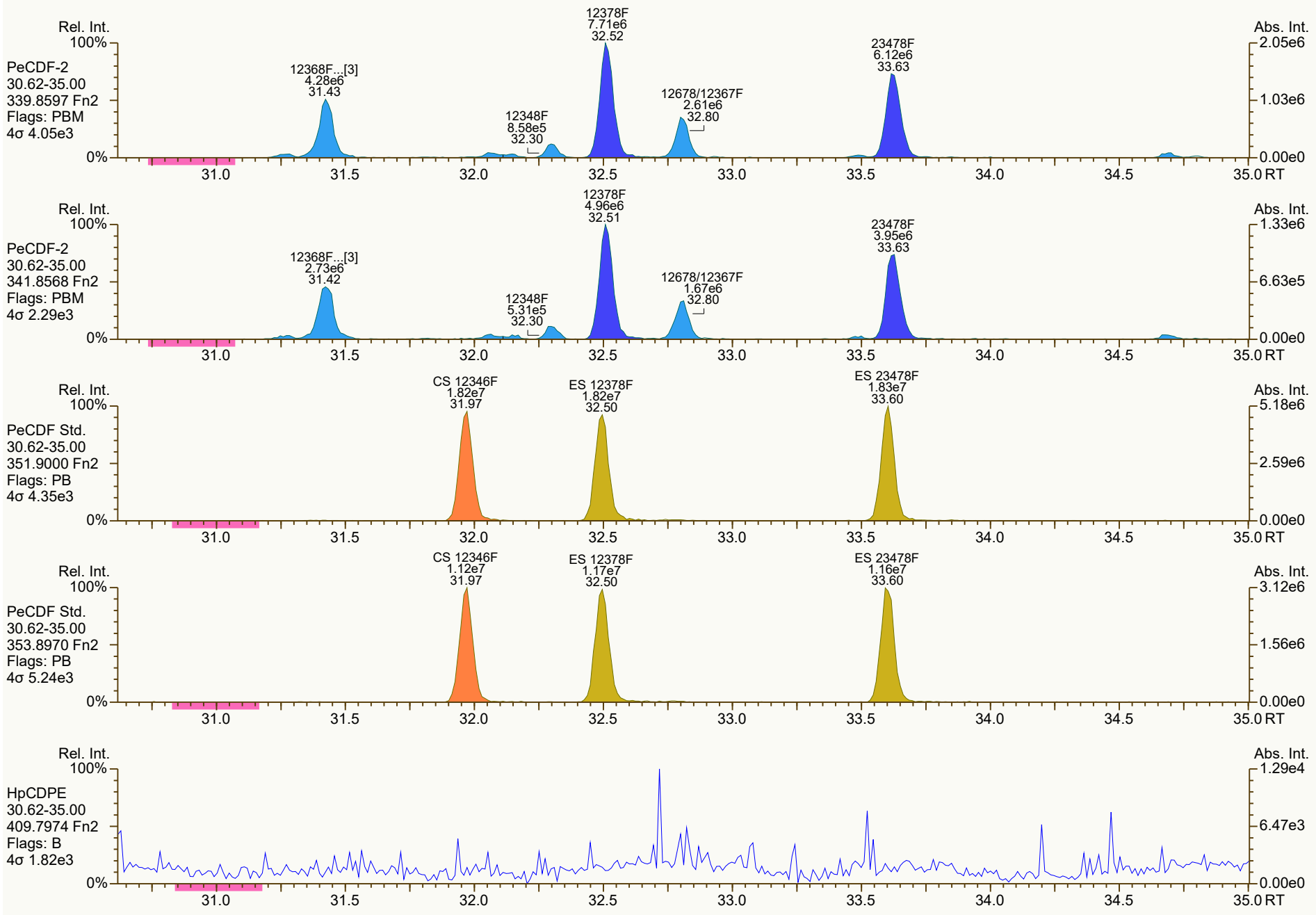

Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 2.71e3
124679/124689D
2.71e6*
36.10
123679/123689D
1.70e6
37.05
123468D
2.90e5*
36.75
123678D
4.75e5*
37.96
123789D
2.25e5*
38.25
Abs. Int.
8.07e5
4.03e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 3.44e3
124679/124689D
2.21e6*
36.10
123679/123689D
1.36e6
37.05
123468D
1.97e5*
36.75
123478D
8.80e4*
37.84
123678D
3.42e5*
37.96
123789D
1.63e5*
38.25
Abs. Int.
6.21e5
3.10e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 2.11e3
ES 123678D
9.41e6
37.95
ES 123478D
9.14e6
37.83
JS 123467D
5.53e6
38.13
ES 123789D
9.97e6*
38.23
Abs. Int.
2.81e6
1.40e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 1.58e3
ES 123678D
7.94e6
37.95
ES 123478D
6.78e6
37.83
JS 123467D
4.27e6
38.13
ES 123789D
7.73e6*
38.23
Abs. Int.
2.30e6
1.15e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
Abs. Int.
1.90e7
9.48e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

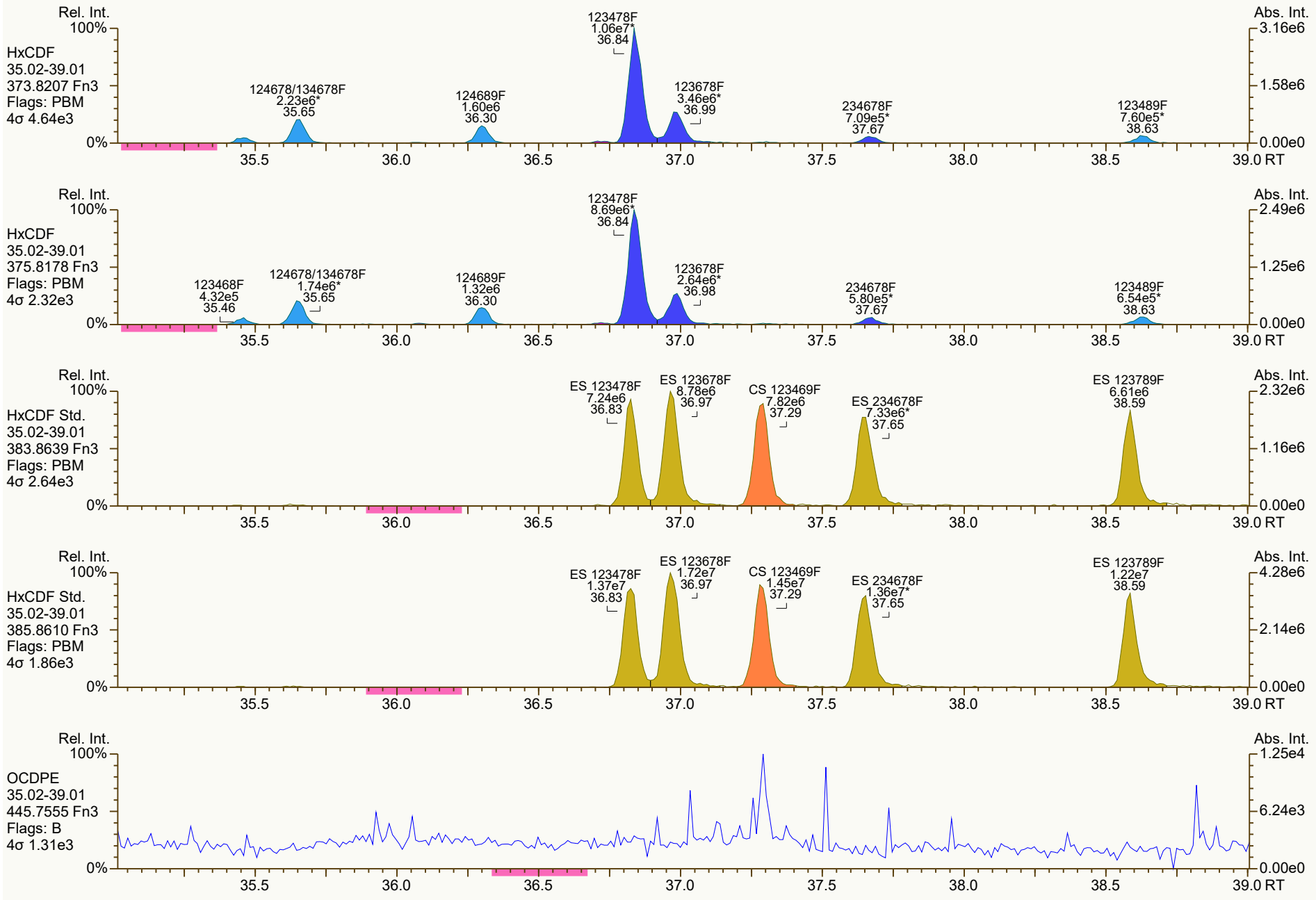

SGS ID: B6234_18872_DF_008
Sample ID: 11215131-012122-S-BN-NC-S-39
Acq: 28-Jan-2022 00:53:30
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 20
User: DTF Datafile: 220127C13
Rel. Int.
Abs. Int.
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PBM
4σ 2.82e3
1234679D
1.34e7*
40.20
1234678D
9.70e6
40.88
4.41e6
2.20e6
0.00e0
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PBM
4σ 1.92e3
1234679D
1.28e7*
40.20
1234678D
9.37e6
40.88
4.15e6
2.07e6
0.00e0
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 3.71e3
ES 1234678D
7.46e6
40.87
2.29e6
1.15e6
0.00e0
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 2.47e3
ES 1234678D
6.99e6
40.87
2.13e6
1.07e6
0.00e0
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
1.21e7
6.04e6
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_008.utp_res, saved 28-Jan-2022 09:47 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8633, 9093 scc: 563-363
Revised: 28-Jan-2022 09:32 (DTF) Printed: 28-Jan-2022 09:57 Page 5 of 12

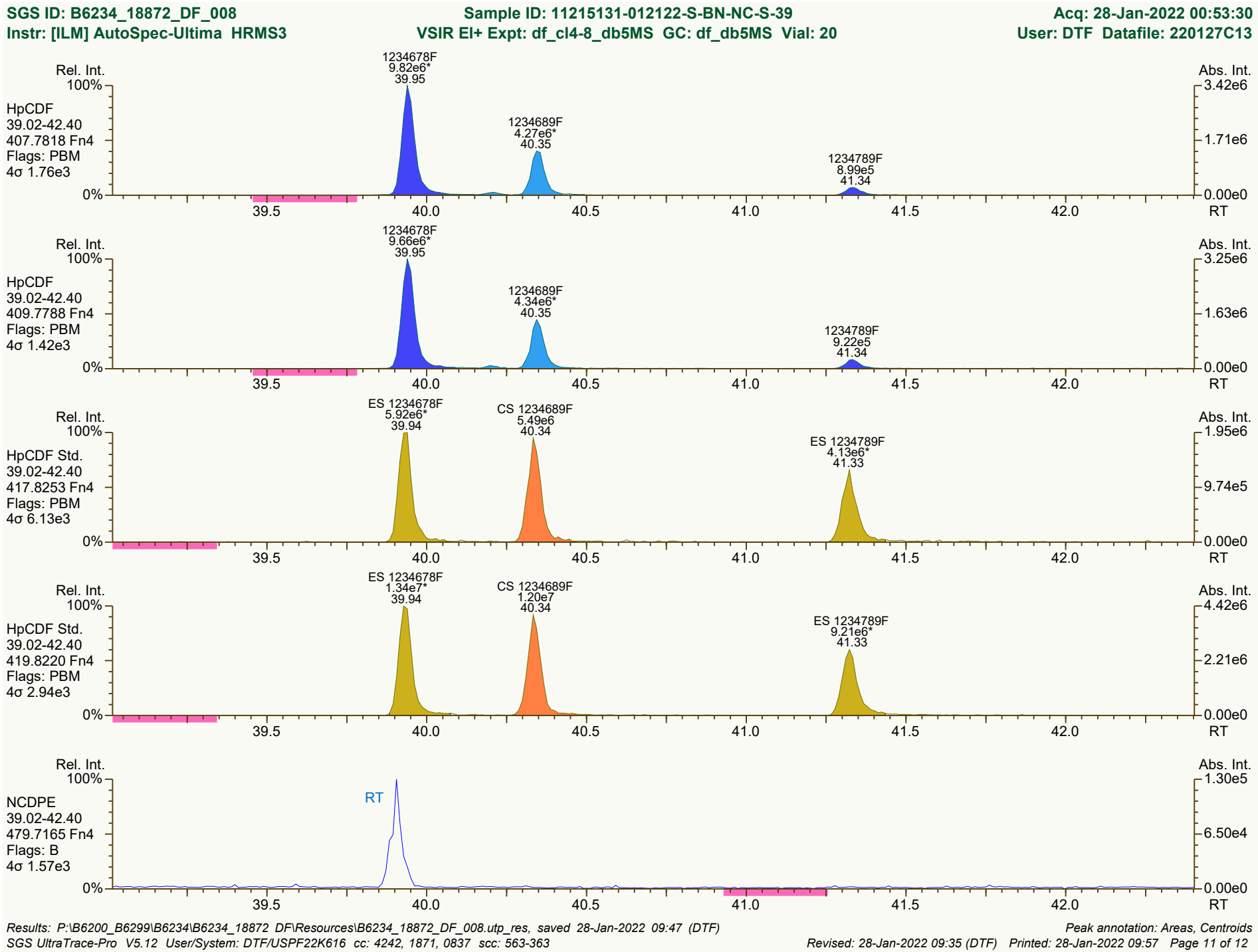

OCDD
9.10e7*
43.55
Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PBM
4σ 2.94e3
0%
Abs. Int.
2.18e7
1.09e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
9.95e7*
43.55
OCDD
42.42-45.01
459.7348 Fn5
Flags: PBM
4σ 3.14e3
2.37e7
1.18e7
ES OCDD
8.58e6*
43.53
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PBM
4σ 3.28e3
1.97e6
9.84e5
ES OCDD
9.26e6*
43.53
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
2.11e6
1.05e6
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
9.78e6
4.89e6

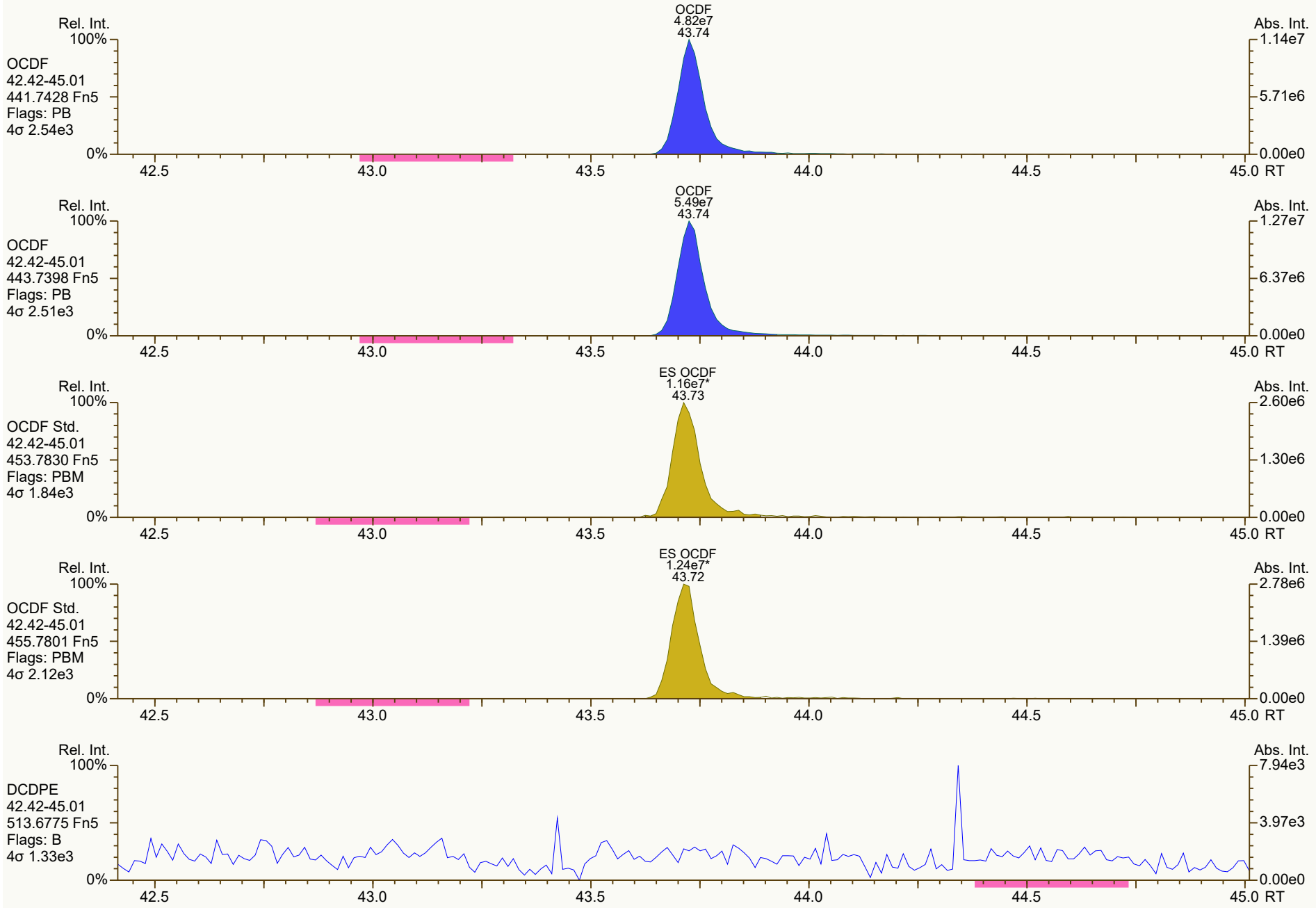

Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 1.68e3
0%
2378F
1.67e8*
27.80
1278F
7.56e7*
26.91
2348F
1.10e7*
27.68
2367/3467F
1.40e7*
28.15
1289F
1.30e7*
29.79
Abs. Int.
3.89e7
1.95e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 3.40e3
0%
2378F
2.10e8*
27.80
1278F
9.50e7*
26.90
2348F
1.40e7*
27.68
2367/3467F
1.72e7*
28.15
1289F
1.62e7*
29.79
Abs. Int.
4.88e7
2.44e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 2.06e3
0%
JS 1234F
1.66e7
26.43
ES 2378F
1.49e7
27.78
Abs. Int.
3.45e6
1.73e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 4.55e3
0%
JS 1234F
2.12e7
26.42
ES 2378F
1.80e7
27.77
Abs. Int.
4.40e6
2.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.36e3
0%
Abs. Int.
1.29e4
6.47e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


13468/12468F
1.07e6*
29.72
Rel. Int.
100%
Abs. Int.
2.91e5
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PBM
4σ 1.48e3
1.45e5
0%
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
13468/12468F
7.07e5*
29.73
Rel. Int.
100%
Abs. Int.
1.69e5
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: PBM
4σ 1.95e3
8.43e4
0%
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
Abs. Int.
6.29e6
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
3.15e6
0%
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PBM
4σ 4.05e3
12368F...[3]
4.28e6
31.43
12348F
8.58e5
32.30
12378F
7.71e6
32.52
12678/12367F
2.61e6
32.80
23478F
6.12e6
33.63
Abs. Int.
2.05e6
1.03e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: PBM
4σ 2.29e3
12368F...[3]
2.73e6
31.42
12348F
5.31e5
32.30
12378F
4.96e6
32.51
12678/12367F
1.67e6
32.80
23478F
3.95e6
33.63
Abs. Int.
1.33e6
6.63e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PB
4σ 4.35e3
CS 12346F
1.82e7
31.97
ES 12378F
1.82e7
32.50
ES 23478F
1.83e7
33.60
Abs. Int.
5.18e6
2.59e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PB
4σ 5.24e3
CS 12346F
1.12e7
31.97
ES 12378F
1.17e7
32.50
ES 23478F
1.16e7
33.60
Abs. Int.
3.12e6
1.56e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.82e3
Abs. Int.
1.29e4
6.47e3
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 4.64e3
0%
124678/134678F
2.23e6*
35.65
124689F
1.60e6
36.30
123478F
1.06e7*
36.84
123678F
3.46e6*
36.99
234678F
7.09e5*
37.67
123489F
7.60e5*
38.63
Abs. Int.
3.16e6
1.58e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 2.32e3
0%
123468F
4.32e5
35.46
124678/134678F
1.74e6*
35.65
124689F
1.32e6
36.30
123478F
8.69e6*
36.84
123678F
2.64e6*
36.98
234678F
5.80e5*
37.67
123489F
6.54e5*
38.63
Abs. Int.
2.49e6
1.25e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 2.64e3
0%
ES 123478F
7.24e6
36.83
ES 123678F
8.78e6
36.97
CS 123469F
7.82e6
37.29
ES 234678F
7.33e6*
37.65
ES 123789F
6.61e6
38.59
Abs. Int.
2.32e6
1.16e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 1.86e3
0%
ES 123478F
1.37e7
36.83
ES 123678F
1.72e7
36.97
CS 123469F
1.45e7
37.29
ES 234678F
1.36e7*
37.65
ES 123789F
1.22e7
38.59
Abs. Int.
4.28e6
2.14e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.31e3
0%
Abs. Int.
1.25e4
6.24e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: B6234_18872_DF_008
Sample ID: 11215131-012122-S-BN-NC-S-39
Acq: 28-Jan-2022 00:53:30
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 20
User: DTF Datafile: 220127C13
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 1.76e3
1234678F
9.82e6*
39.95
1234689F
4.27e6*
40.35
1234789F
8.99e5
41.34
3.42e6
1.71e6
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 1.42e3
1234678F
9.66e6*
39.95
1234689F
4.34e6*
40.35
1234789F
9.22e5
41.34
3.25e6
1.63e6
0.00e0
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 6.13e3
ES 1234678F
5.92e6*
39.94
CS 1234689F
5.49e6
40.34
ES 1234789F
4.13e6*
41.33
1.95e6
9.74e5
0.00e0
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 2.94e3
ES 1234678F
1.34e7*
39.94
CS 1234689F
1.20e7
40.34
ES 1234789F
9.21e6*
41.33
4.42e6
2.21e6
0.00e0
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.57e3
RT
1.30e5
6.50e4
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_008.utp_res, saved 28-Jan-2022 09:47 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4242, 1871, 0837 scc: 563-363
Revised: 28-Jan-2022 09:35 (DTF) Printed: 28-Jan-2022 09:57 Page 11 of 12


OCDF
4.82e7
43.74
Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PB
4σ 2.54e3
0%
Abs. Int.
1.14e7
5.71e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
5.49e7
43.74
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
1.27e7
6.37e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.16e7*
43.73
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PBM
4σ 1.84e3
0%
Abs. Int.
2.60e6
1.30e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.24e7*
43.72
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PBM
4σ 2.12e3
0%
Abs. Int.
2.78e6
1.39e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.33e3
0%
Abs. Int.
7.94e3
3.97e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6234_18872_DF_009 **Acq'd:** 28 Jan 2022 01:39 DTF **Wt/Vol:** 14.48 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-S-38 **UTP:** 28-Jan-2022 09:47:38 DTF **J-level:** 0.345 pg/g **Split:** 1 **Checkcode:** 772-361-NGN

Datafile: 220127C14 **Report:** 28 Jan 2022 09:50 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.65	E	1.0008	1.0008	0	7.93E+07	0.80	Y	1.18	739	4631.863	0.432
12378-PeCDD	33.96		1.0006	1.0005	-0.2	8.41E+05	1.50	Y	1.04	9.89	3002.612	0.312
123478-HxCDD	37.86		1.0004	1.0004	0	2.55E+05	1.24	Y	1.09	3.45	7458.864	0.839
123678-HxCDD	37.97		1.0034	1.0035	+0.2	1.22E+06	1.29	Y	1.15	15.3	7458.864	0.807
123789-HxCDD	38.26		1.0109	1.0110	+0.2	6.10E+05	1.23	Y	1.05	7.62	7458.864	0.921
1234678-HpCDD	40.90		1.0003	1.0004	+0.2	2.34E+07	1.05	Y	1.06	349	4407.513	0.594
OCDD	43.56		1.0002	1.0004	+0.5	2.18E+08	0.90	Y	1.13	4,710	4766.889	1.14
2378-TCDF	27.80	E	1.0008	1.0007	-0.2	3.21E+08	0.81	Y	1.08	2,060	3634.653	0.25
12378-PeCDF	32.52		1.0005	1.0006	+0.2	1.22E+07	1.63	Y	1.02	90.5	5862.323	0.414
23478-PeCDF	33.63		1.0005	1.0006	+0.2	9.25E+06	1.50	Y	1.02	70.5	5862.323	0.381
123478-HxCDF	36.85		1.0004	1.0004	0	1.95E+07	1.25	Y	1.27	160	4368.389	0.31
123678-HxCDF	36.99		1.0004	1.0005	+0.2	5.79E+06	1.22	Y	1.15	45.3	4368.389	0.304
234678-HxCDF	37.68		1.0004	1.0005	+0.2	1.37E+06	1.25	Y	1.19	13.5	4368.389	0.439
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4368.389	0.389
1234678-HpCDF	39.96		1.0002	1.0003	+0.2	1.17E+07	1.02	Y	1.37	112	4120.351	0.284
1234789-HpCDF	41.35		1.0003	1.0002	-0.2	1.83E+06	0.96	Y	1.31	24.4	4120.351	0.433
OCDF	43.75		1.0002	1.0003	+0.3	1.74E+07	0.91	Y	1.07	303	5741.47	1.14

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.63	1.0233	1.0234	+0.2	1.25E+07	0.76	Y	1.05	60.4
ES 12378-PeCDD	33.94	1.2121	1.2133	+2.4	1.13E+07	1.53	Y	0.88	65.1
ES 123478-HxCDD	37.84	0.9921	0.9921	0	9.38E+06	1.31	Y	0.97	64.8
ES 123678-HxCDD	37.96	0.9951	0.9951	0	9.57E+06	1.30	Y	0.94	68.1
ES 123789-HxCDD	38.25	1.0025	1.0027	+0.5	1.06E+07	1.22	Y	1.09	65
ES 1234678-HpCDD	40.88	1.0709	1.0718	+2.2	8.73E+06	1.08	Y	0.91	64.3
ES OCDD	43.55	1.1403	1.1418	+3.9	1.13E+07	0.91	Y	0.62	60.9
ES 2378-TCDF	27.78	1.0506	1.0511	+0.8	1.99E+07	0.75	Y	1.06	61.1
ES 12378-PeCDF	32.50	1.2281	1.2297	+3.1	1.81E+07	1.56	Y	0.91	64.7
ES 23478-PeCDF	33.61	1.2698	1.2716	+3.6	1.78E+07	1.60	Y	0.88	65.4
ES 123478-HxCDF	36.84	0.9657	0.9657	0	1.32E+07	0.55	Y	1.20	73.9
ES 123678-HxCDF	36.98	0.9695	0.9694	-0.2	1.53E+07	0.54	Y	1.35	76.1
ES 234678-HxCDF	37.66	0.9874	0.9874	0	1.17E+07	0.54	Y	1.24	63.5
ES 123789-HxCDF	38.60	1.0116	1.0120	+0.9	1.15E+07	0.55	Y	1.16	67.1
ES 1234678-HpCDF	39.95	1.0467	1.0473	+1.4	1.05E+07	0.49	Y	0.97	72.9
ES 1234789-HpCDF	41.34	1.0830	1.0838	+2.0	7.91E+06	0.44	Y	0.85	62.4
ES OCDF	43.74	1.1451	1.1466	+3.9	1.48E+07	0.93	Y	0.81	61.6

Lab ID: B6234_18872_DF_009 **Acq'd:** 28 Jan 2022 01:39 DTF **Wt/Vol:** 14.48 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-S-38 **UTP:** 28-Jan-2022 09:47:38 DTF **J-level:** 0.345 pg/g **Split:** 1 **Checkcode:** 772-361-NGN

Datafile: 220127C14 **Report:** 28 Jan 2022 09:50 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.97		-	-	-	1.98E+07	0.79	Y	-	-	
JS 1234-TCDF	26.43		-	-	-	3.08E+07	0.81	Y	-	-	
JS 123467-HxCDD	38.14		-	-	-	7.44E+06	1.28	Y	-	-	
CS 37Cl-2378-TCDD	28.65		1.0241	1.0242	+0.2	6.19E+06	n/a	-	1.20	65	
CS 12347-PeCDD	33.44		1.1943	1.1954	+2.2	1.16E+07	1.63	Y	0.75	77.5	
CS 12346-PeCDF	31.97		1.2083	1.2097	+2.7	1.92E+07	1.55	Y	0.85	73.5	
CS 123469-HxCDF	37.29		0.9778	0.9777	-0.2	1.48E+07	0.51	Y	1.12	89.1	
CS 1234689-HpCDF	40.35		1.0571	1.0579	+1.9	1.14E+07	0.45	Y	0.89	86	
~~SS 37Cl-2378-TCDD~~	~~28.65~~		~~1.0241~~	~~1.0242~~	~~+0.2~~	~~6.19E+06~~	~~n/a~~		~~1.15~~	~~108~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.44~~		~~1.1943~~	~~1.1954~~	~~+2.2~~	~~1.16E+07~~	~~1.63~~	~~Y~~	~~0.86~~	~~119~~	CL 28Jan22
~~SS 12346-PeCDF~~	~~31.97~~		~~1.2083~~	~~1.2097~~	~~+2.7~~	~~1.92E+07~~	~~1.55~~	~~Y~~	~~0.94~~	~~113~~	
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9777~~	~~-0.2~~	~~1.48E+07~~	~~0.51~~	~~Y~~	~~0.83~~	~~117~~	
~~SS 1234689-HpCDF~~	~~40.35~~		~~1.0571~~	~~1.0579~~	~~+1.9~~	~~1.14E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~118~~	

Totals	Conc	EMPC
Total TCDD	838	843
Total PeCDD	39.8	44.5
Total HxCDD	155	155
Total HpCDD	814	814
Total Tetra-Octa Dioxins	6560	6570
Total TCDF	4,080	4080
Total PeCDF	292	293
Total HxCDF	325	326
Total HpCDF	258	258
Total Tetra-Octa Furans	5,250	5260
Total Tetra-Octa Dioxins & Furans	11800	11800

Lab ID: B6234_18872_DF_009 **Acq'd:** 28 Jan 2022 01:39 DTF **Wt/Vol:** 14.48 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-S-38 **UTP:** 28-Jan-2022 09:47:38 DTF **J-level:** 0.345 pg/g **Split:** 1 **Checkcode:** 772-361-NGN

Datafile: 220127C14 **Report:** 28 Jan 2022 09:50 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.04		0.8755	0.8747	-1.2	5.38E+05	0.84	Y	1.18	5.01	4631.863	0.432
1379-TCDD	25.39		0.8876	0.8870	-0.9	2.55E+05	0.70	Y	1.18	2.38	4631.863	0.432
1369-TCDD	25.81	EMPC	0.9023	0.9017	-0.9	7.12E+04	0.98	N	1.18	0.664	4631.863	0.432
1469-TCDD	26.59	EMPC	0.9291	0.9286	-0.8	2.01E+05	0.95	N	1.18	1.87	4631.863	0.432
1247/1246/1248/1249-TCDD	26.82	EMPC	0.9373	0.9367	-1.0	1.79E+05	1.03	N	1.18	1.67	4631.863	0.432
1378-TCDD	27.02		0.9440	0.9436	-0.6	3.11E+05	0.78	Y	1.18	2.9	4631.863	0.432
1268-TCDD	NotFnd		0.9506						1.18		4631.863	0.432
1478-TCDD	27.45		0.9591	0.9590	-0.2	2.07E+05	0.80	Y	1.18	1.93	4631.863	0.432
1279-TCDD	27.62	EMPC	0.9649	0.9649	0	7.32E+04	1.11	N	1.18	0.683	4631.863	0.432
1234/1269-TCDD	27.97		0.9771	0.9771	0	1.16E+05	0.86	Y	1.18	1.08	4631.863	0.432
1236-TCDD	NotFnd		0.9820						1.18		4631.863	0.432
1237/1238-TCDD	28.36		0.9908	0.9906	-0.3	1.41E+06	0.78	Y	1.18	13.2	4631.863	0.432
1239-TCDD	NotFnd		0.9954						1.18		4631.863	0.432
2378-TCDD	**28.65**	E	**1.0008**	1.0008	**0**	7.93E+07	0.80	Y	**1.18**	**739**	**4631.863**	**0.432**
1278-TCDD	28.97		1.0121	1.0121	0	7.78E+06	0.81	Y	1.18	72.5	4631.863	0.432
1267-TCDD	NotFnd		1.0167						1.18		4631.863	0.432
1289-TCDD	NotFnd		1.0341						1.18		4631.863	0.432
12479/12468-PeCDD	31.46		0.9273	0.9269	-0.8	9.41E+05	1.55	Y	1.04	11.1	3002.612	0.312
12469-PeCDD	32.00	EMPC	0.9430	0.9427	-0.6	3.19E+05	1.19	N	1.04	3.76	3002.612	0.312
12368-PeCDD	32.54		0.9592	0.9589	-0.6	3.94E+05	1.49	Y	1.04	4.63	3002.612	0.312
12478-PeCDD	32.73		0.9647	0.9644	-0.6	3.24E+05	1.50	Y	1.04	3.82	3002.612	0.312
12379-PeCDD	32.84		0.9676	0.9676	0	2.49E+05	1.36	Y	1.04	2.93	3002.612	0.312
12369/12467/12489-PeCDD	33.09		0.9752	0.9750	-0.4	4.21E+05	1.35	Y	1.04	4.95	3002.612	0.312
12346/12347-PeCDD	33.45	J	0.9860	0.9857	-0.6	1.14E+05	1.40	Y	1.04	1.35	3002.612	0.312
12378-PeCDD	33.96		**1.0006**	**1.0005**	**-0.2**	**8.41E+05**	**1.50**	**Y**	**1.04**	**9.89**	**3002.612**	**0.312**
12367-PeCDD	34.05	J EMPC	1.0034	1.0034	0	7.91E+04	2.17	N	1.04	0.931	3002.612	0.312
12389-PeCDD	34.40	J	1.0134	1.0134	0	9.94E+04	1.50	Y	1.04	1.17	3002.612	0.312
124679/124689-HxCDD	36.11		0.9545	0.9542	-0.6	4.91E+06	1.24	Y	1.10	63	7458.864	0.855
123468-HxCDD	36.76		0.9715	0.9714	-0.2	6.95E+05	1.15	Y	1.10	8.92	7458.864	0.855
123679/123689-HxCDD	37.06		0.9793	0.9794	+0.2	3.84E+06	1.23	Y	1.10	49.2	7458.864	0.855
123469-HxCDD	37.20		0.9829	0.9831	+0.4	3.46E+05	1.20	Y	1.10	4.44	7458.864	0.855
123478-HxCDD	37.86		**1.0004**	**1.0004**	**0**	**2.55E+05**	**1.24**	**Y**	1.09	**3.45**	**7458.864**	**0.839**
123678-HxCDD	37.97		**1.0034**	**1.0035**	**+0.2**	**1.22E+06**	**1.29**	**Y**	1.15	**15.3**	**7458.864**	**0.807**
123467-HxCDD	38.15		1.0082	1.0083	+0.2	2.02E+05	1.40	Y	1.10	2.59	7458.864	0.855
123789-HxCDD	38.26		**1.0109**	**1.0110**	**+0.2**	**6.10E+05**	**1.23**	**Y**	1.05	**7.62**	**7458.864**	**0.921**

Lab ID: B6234_18872_DF_009 **Acq'd:** 28 Jan 2022 01:39 DTF **Wt/Vol:** 14.48 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-S-38 **UTP:** 28-Jan-2022 09:47:38 DTF **J-level:** 0.345 pg/g **Split:** 1 **Checkcode:** 772-361-NGN

Datafile: 220127C14 **Report:** 28 Jan 2022 09:50 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

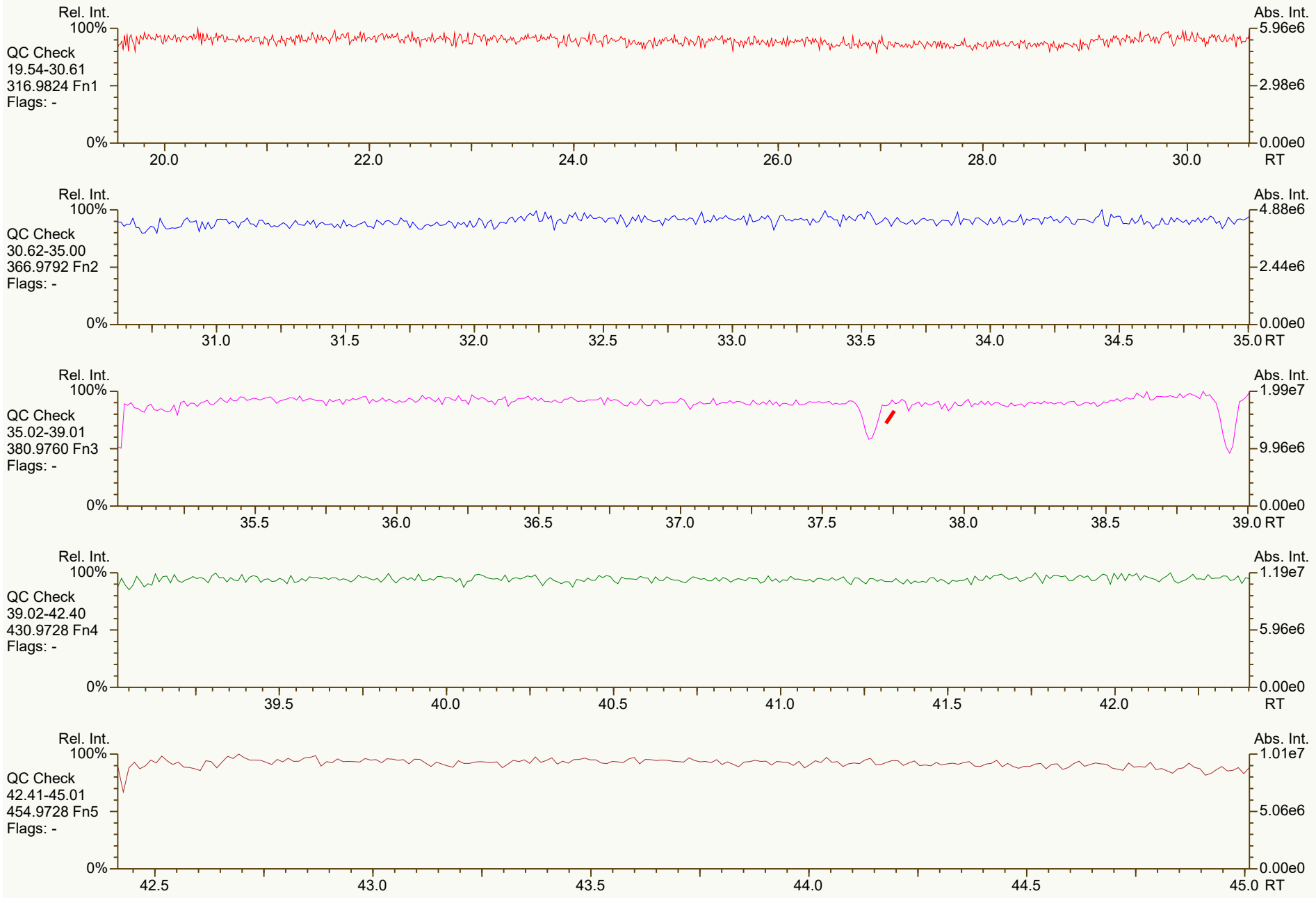
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.22		0.9838	0.9837	-0.2	3.12E+07	1.05	Y	1.06	465	4407.513	0.594
1234678-HpCDD	**40.90**		**1.0003**	**1.0004**	**+0.2**	**2.34E+07**	**1.05**	**Y**	**1.06**	**349**	**4407.513**	**0.594**
OCDD	**43.56**		**1.0002**	**1.0004**	**+0.5**	**2.18E+08**	**0.90**	**Y**	**1.13**	**4,710**	**4766.889**	**1.14**
OCDD-a	43.56		1.0002	1.0003	+0.3	1.38E+07	2.44	Y	0.07	4,690	4007.662	15
1368-TCDF	22.96		0.8282	0.8264	-2.5	2.70E+05	0.68	Y	1.08	1.73	3634.653	0.25
1468-TCDF	23.54		0.8485	0.8473	-1.7	8.56E+05	0.78	Y	1.08	5.5	3634.653	0.25
2468-TCDF	24.16		0.8709	0.8697	-1.7	9.77E+05	0.74	Y	1.08	6.28	3634.653	0.25
1346/1246-TCDF	NotFnd		0.8829						1.08		3634.653	0.25
1347/1378/1247-TCDF	24.67		0.8884	0.8882	-0.3	5.06E+06	0.80	Y	1.08	32.5	3634.653	0.25
1348-TCDF	NotFnd		0.8980						1.08		3634.653	0.25
1248/1367/1379-TCDF	25.01		0.9026	0.9004	-3.3	1.73E+07	0.80	Y	1.08	111	3634.653	0.25
1268-TCDF	25.43		0.9158	0.9153	-0.8	5.82E+06	0.80	Y	1.08	37.4	3634.653	0.25
1467-TCDF	25.56		0.9206	0.9201	-0.8	8.93E+05	0.70	Y	1.08	5.74	3634.653	0.25
1478-TCDF	25.73		0.9266	0.9260	-0.9	1.38E+07	0.80	Y	1.08	88.6	3634.653	0.25
1369/1237-TCDF	26.10		0.9397	0.9396	-0.2	3.84E+06	0.78	Y	1.08	24.6	3634.653	0.25
2467-TCDF	26.22		0.9440	0.9438	-0.3	5.72E+05	0.79	Y	1.08	3.67	3634.653	0.25
2368-TCDF	26.42		0.9497	0.9510	+2.1	2.66E+07	0.78	Y	1.08	171	3634.653	0.25
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		3634.653	0.25
1278-TCDF	26.91	E	0.9690	0.9686	-0.6	1.47E+08	0.79	Y	1.08	945	3634.653	0.25
1349-TCDF	NotFnd		0.9730						1.08		3634.653	0.25
1267-TCDF	27.18		0.9787	0.9784	-0.5	8.54E+06	0.82	Y	1.08	54.9	3634.653	0.25
2346/1249-TCDF	27.37		0.9850	0.9852	+0.3	1.19E+06	0.74	Y	1.08	7.64	3634.653	0.25
2347/1279-TCDF	27.58		0.9929	0.9926	-0.5	4.02E+06	0.79	Y	1.08	25.8	3634.653	0.25
2348-TCDF	27.68		0.9970	0.9964	-1.0	2.13E+07	0.80	Y	1.08	137	3634.653	0.25
2378-TCDF	**27.80**	E	**1.0008**	**1.0007**	**-0.2**	**3.21E+08**	**0.81**	**Y**	**1.08**	**2,060**	**3634.653**	**0.25**
2367/3467-TCDF	28.15		1.0136	1.0132	-0.7	2.61E+07	0.79	Y	1.08	168	3634.653	0.25
1269-TCDF	28.40		1.0221	1.0221	0	4.98E+06	0.79	Y	1.08	32	3634.653	0.25
1239-TCDF	NotFnd		1.0319						1.08		3634.653	0.25
1289-TCDF	29.79		1.0740	1.0725	-2.7	2.45E+07	0.81	Y	1.08	157	3634.653	0.25
13468/12468-PeCDF	29.73		0.9145	0.9146	+0.2	1.90E+06	1.54	Y	1.02	14.3	3387.788	0.23
13678/13467/12467-PeCDF	31.27		0.9619	0.9620	+0.2	7.88E+05	1.59	Y	1.02	5.94	5862.323	0.398
12368/13478/12478-PeCDF	31.43		0.9665	0.9670	+0.9	7.37E+06	1.60	Y	1.02	55.5	5862.323	0.398
14678-PeCDF	NotFnd		0.9695						1.02		5862.323	0.398
13479-PeCDF	NotFnd		0.9724						1.02		5862.323	0.398
13469/12479-PeCDF	NotFnd		0.9801						1.02		5862.323	0.398
12346-PeCDF	31.98	J EMPC	0.9842	0.9841	-0.2	1.06E+05	2.11	N	1.02	0.801	5862.323	0.398

Lab ID: B6234_18872_DF_009 **Acq'd: 28 Jan 2022 01:39 DTF** **Wt/Vol: 14.48 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012122-S-BN-NC-S-38 **UTP: 28-Jan-2022 09:47:38 DTF** **J-level: 0.345 pg/g** **Split: 1** **Checkcode: 772-361-NGN**

Datafile: 220127C14 **Report: 28 Jan 2022 09:50 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	32.07		0.9868	0.9868	0	6.24E+05	1.60	Y	1.02	4.7	5862.323	0.398
12347-PeCDF	32.15		0.9895	0.9892	-0.6	4.71E+05	1.48	Y	1.02	3.55	5862.323	0.398
12348-PeCDF	32.30		0.9941	0.9940	-0.2	1.34E+06	1.70	Y	1.02	10.1	5862.323	0.398
12378-PeCDF	**32.52**		**1.0005**	**1.0006**	**+0.2**	**1.22E+07**	**1.63**	**Y**	**1.02**	**90.5**	**5862.323**	**0.414**
12678/12367-PeCDF	32.81		1.0090	1.0094	+0.8	4.11E+06	1.57	Y	1.02	31	5862.323	0.398
12379-PeCDF	NotFnd		1.0142						1.02		5862.323	0.398
12679-PeCDF	NotFnd		0.9931						1.02		5862.323	0.398
23467/12369-PeCDF	33.49		0.9966	0.9964	-0.4	3.37E+05	1.55	Y	1.02	2.54	5862.323	0.398
23478-PeCDF	**33.63**		**1.0005**	**1.0006**	**+0.2**	**9.25E+06**	**1.50**	**Y**	**1.02**	**70.5**	**5862.323**	**0.381**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5862.323	0.398
12349-PeCDF	NotFnd		1.0101						1.02		5862.323	0.398
12389-PeCDF	34.69		1.0322	1.0323	+0.2	5.10E+05	1.61	Y	1.02	3.84	5862.323	0.398
123468-HxCDF	35.46		0.9627	0.9628	+0.2	1.12E+06	1.18	Y	1.19	10	4368.389	0.354
124678/134678-HxCDF	35.66		0.9684	0.9681	-0.6	4.96E+06	1.22	Y	1.19	44.3	4368.389	0.354
134679-HxCDF	NotFnd		0.9747						1.19		4368.389	0.354
124679-HxCDF	36.09	J EMPC	0.9802	0.9797	-1.1	1.73E+05	1.48	N	1.19	1.55	4368.389	0.354
124689-HxCDF	36.31		0.9858	0.9857	-0.2	3.68E+06	1.21	Y	1.19	32.9	4368.389	0.354
123467-HxCDF	36.73		0.9972	0.9970	-0.4	4.66E+05	1.12	Y	1.19	4.17	4368.389	0.354
123478-HxCDF	**36.85**		**1.0004**	**1.0004**	**0**	**1.95E+07**	**1.25**	**Y**	**1.27**	**160**	**4368.389**	**0.31**
123678-HxCDF	**36.99**		**1.0004**	**1.0005**	**+0.2**	**5.79E+06**	**1.22**	**Y**	**1.15**	**45.3**	**4368.389**	**0.304**
123479-HxCDF	NotFnd		1.0051						1.19		4368.389	0.354
123469-HxCDF	NotFnd		1.0091						1.19		4368.389	0.354
123679-HxCDF	NotFnd		0.9943						1.19		4368.389	0.354
234678-HxCDF	**37.68**		**1.0004**	**1.0005**	**+0.2**	**1.37E+06**	**1.25**	**Y**	**1.19**	**13.5**	**4368.389**	**0.439**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4368.389	0.354
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4368.389**	**0.389**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.64		1.0007	1.0009	+0.5	1.59E+06	1.32	Y	1.19	14.2	4368.389	0.354
1234678-HpCDF	**39.96**		**1.0002**	**1.0003**	**+0.2**	**1.17E+07**	**1.02**	**Y**	**1.37**	**112**	**4120.351**	**0.284**
1234679-HpCDF	40.22		1.0067	1.0067	0	4.16E+05	1.05	Y	1.34	4.67	4120.351	0.347
1234689-HpCDF	40.36		1.0101	1.0104	+0.7	1.04E+07	1.05	Y	1.34	116	4120.351	0.347
1234789-HpCDF	**41.35**		**1.0003**	**1.0002**	**-0.2**	**1.83E+06**	**0.96**	**Y**	**1.31**	**24.4**	**4120.351**	**0.433**
OCDF	**43.75**		**1.0002**	**1.0003**	**+0.3**	**1.74E+07**	**0.91**	**Y**	**1.07**	**303**	**5741.47**	**1.14**
OCDF-a	43.74		1.0002	1.0001	-0.3	1.22E+06	2.50	Y	0.07	341	4535.454	14.5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100%
QC Check
19.54-30.61
316.9824 Fn1
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0%
Abs. Int.
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2.98e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.88e6
2.44e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.99e7
9.96e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.19e7
5.96e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
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5.06e6
0.00e0
42.5
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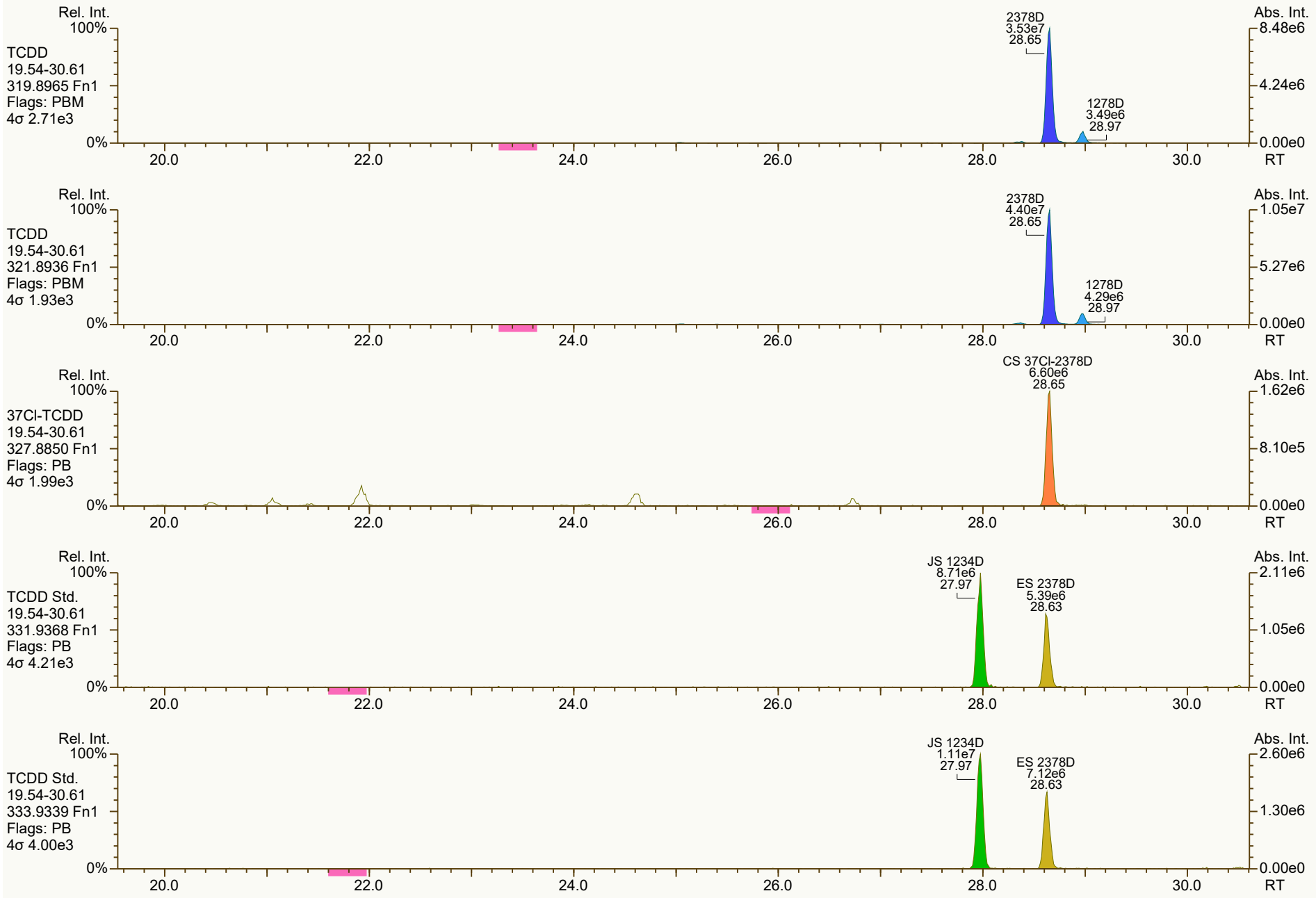
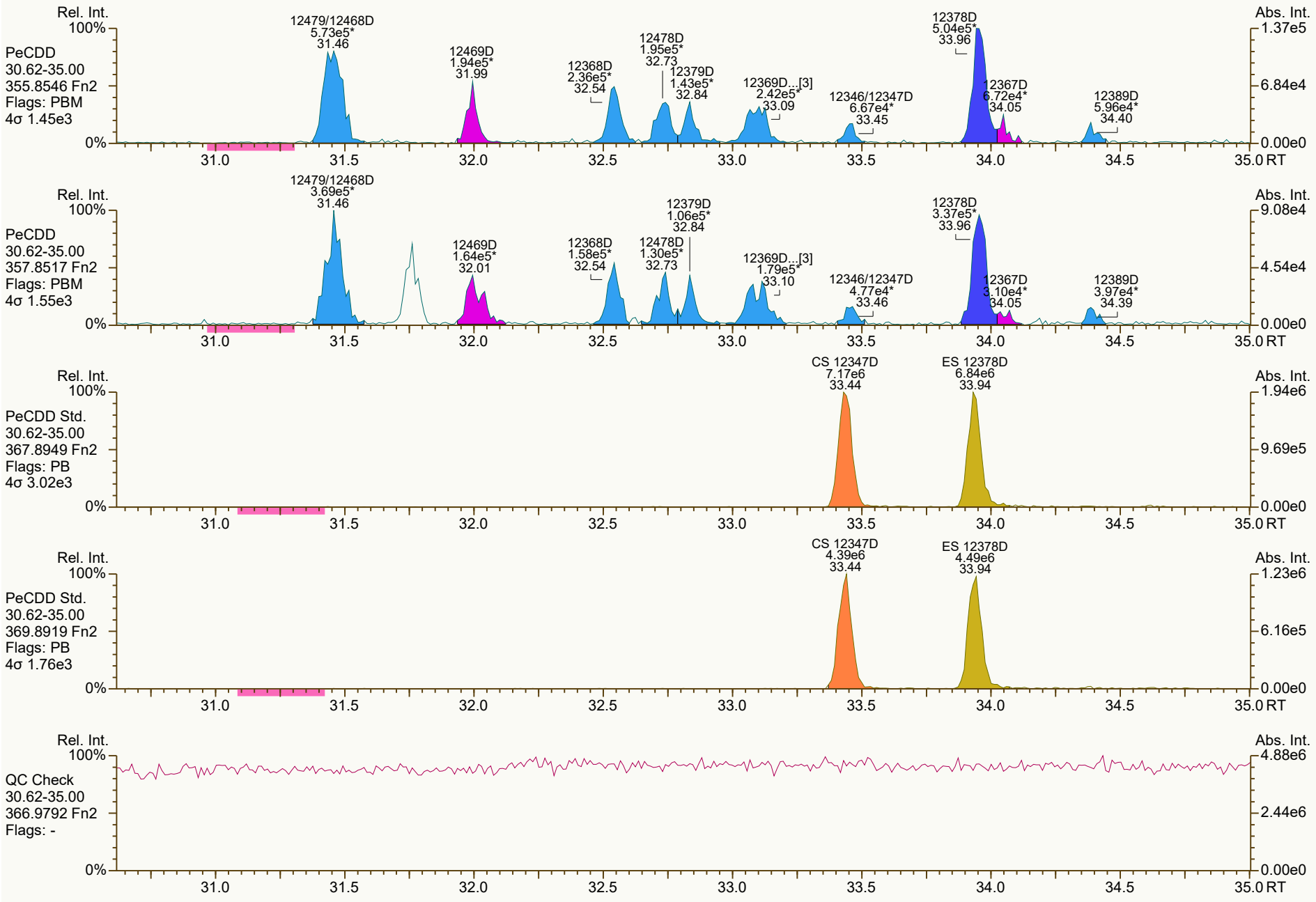
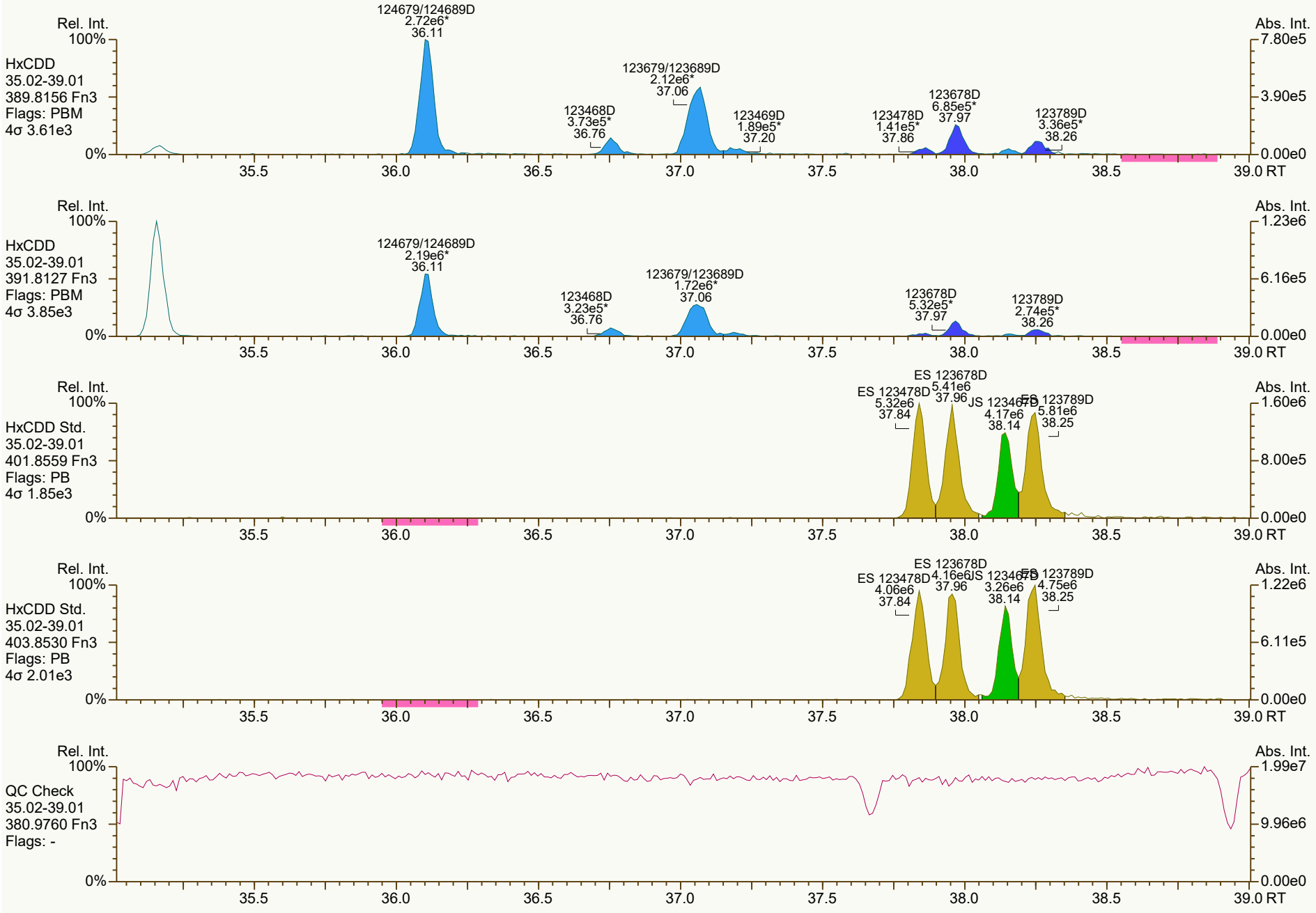
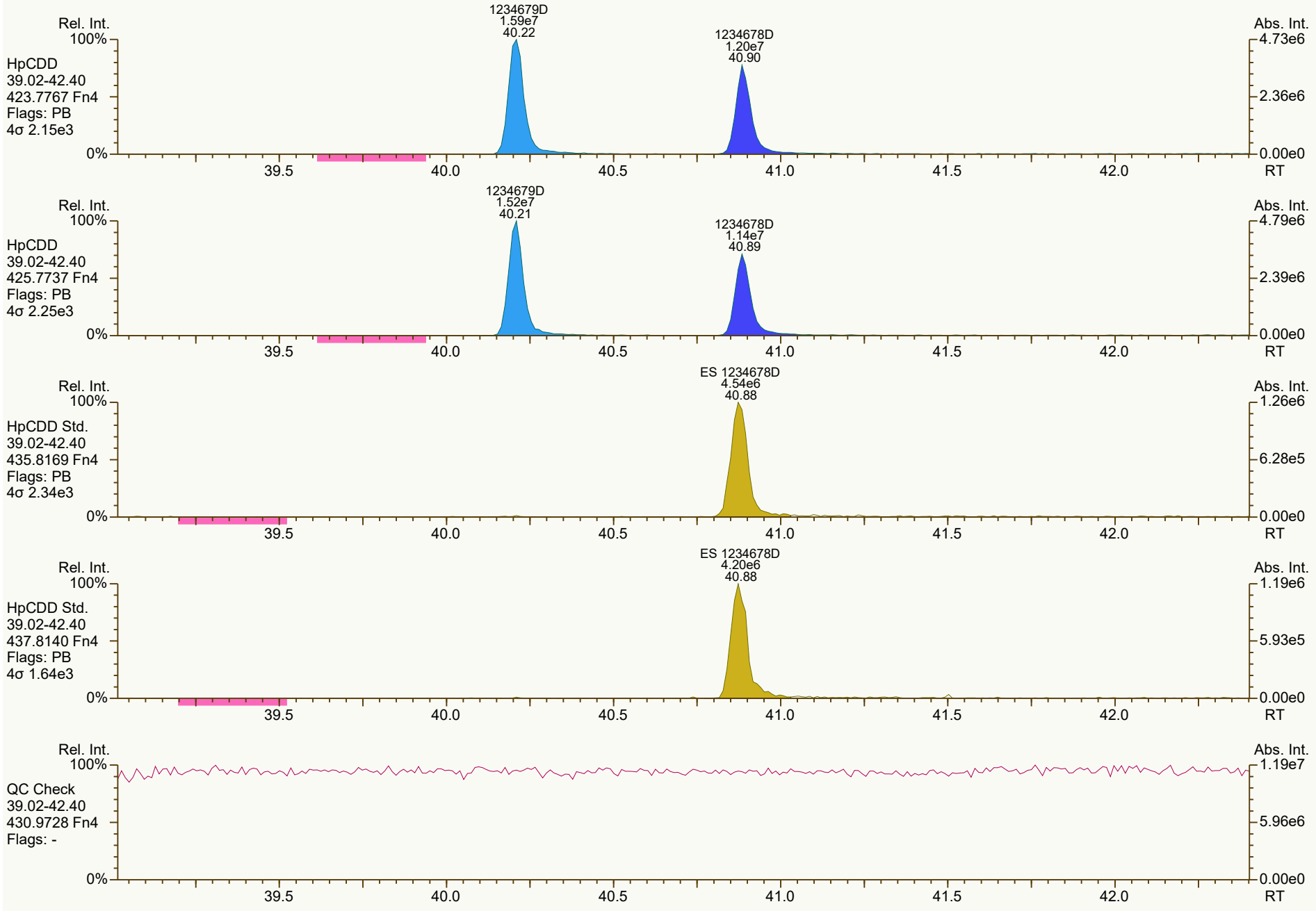
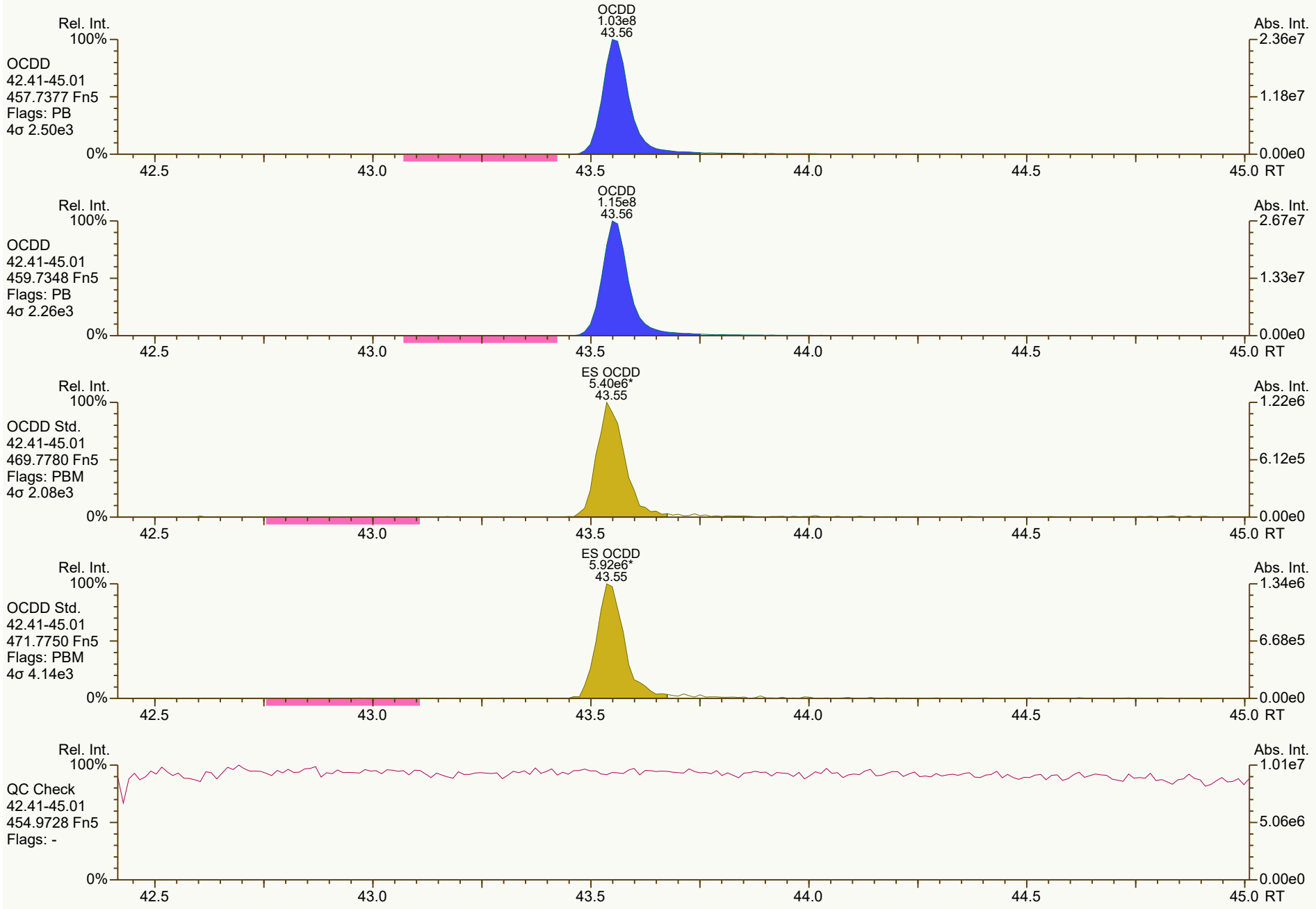
44.0
44.5
45.0 RT

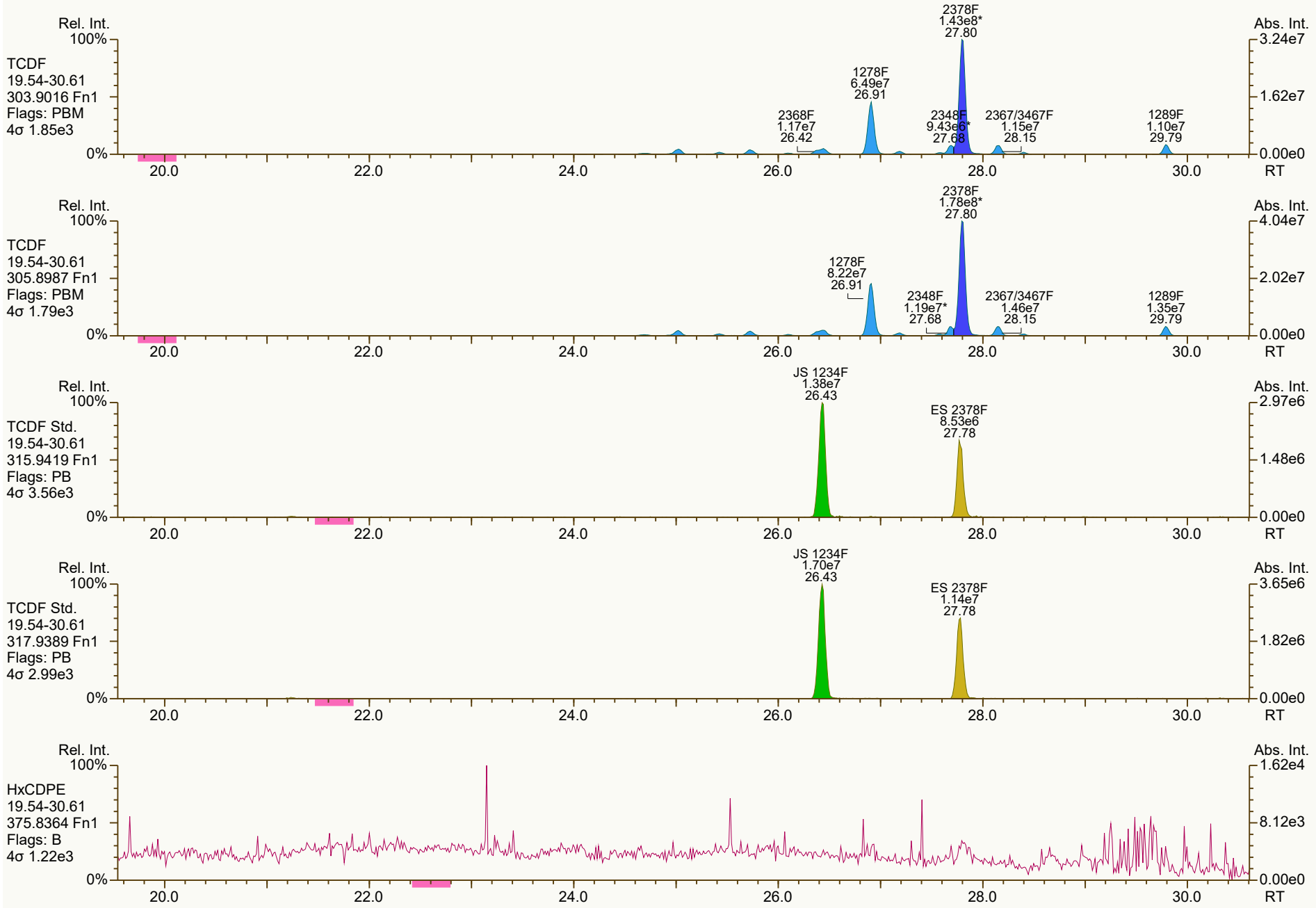

Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 2.71e3
0%
2378D
3.53e7
28.65
1278D
3.49e6
28.97
Abs. Int.
8.48e6
4.24e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 1.93e3
0%
2378D
4.40e7
28.65
1278D
4.29e6
28.97
Abs. Int.
1.05e7
5.27e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.99e3
0%
CS 37Cl-2378D
6.60e6
28.65
Abs. Int.
1.62e6
8.10e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 4.21e3
0%
JS 1234D
8.71e6
27.97
ES 2378D
5.39e6
28.63
Abs. Int.
2.11e6
1.05e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 4.00e3
0%
JS 1234D
1.11e7
27.97
ES 2378D
7.12e6
28.63
Abs. Int.
2.60e6
1.30e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.00
355.8546 Fn2
Flags: PBM
4σ 1.45e3
12479/12468D
5.73e5*
31.46
12469D
1.94e5*
31.99
12368D
2.36e5*
32.54
12478D
1.95e5*
32.73
12379D
1.43e5*
32.84
12369D...[3]
2.42e5*
33.09
12346/12347D
6.67e4*
33.45
12378D
5.04e5*
33.96
12367D
6.72e4*
34.05
12389D
5.96e4*
34.40
Abs. Int.
1.37e5
6.84e4
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.00
357.8517 Fn2
Flags: PBM
4σ 1.55e3
12479/12468D
3.69e5*
31.46
12469D
1.64e5*
32.01
12368D
1.58e5*
32.54
12379D
1.06e5*
32.84
12478D
1.30e5*
32.73
12369D...[3]
1.79e5*
33.10
12346/12347D
4.77e4*
33.46
12378D
3.37e5*
33.96
12367D
3.10e4*
34.05
12389D
3.97e4*
34.39
Abs. Int.
9.08e4
4.54e4
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
367.8949 Fn2
Flags: PB
4σ 3.02e3
CS 12347D
7.17e6
33.44
ES 12378D
6.84e6
33.94
Abs. Int.
1.94e6
9.69e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.00
369.8919 Fn2
Flags: PB
4σ 1.76e3
CS 12347D
4.39e6
33.44
ES 12378D
4.49e6
33.94
Abs. Int.
1.23e6
6.16e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

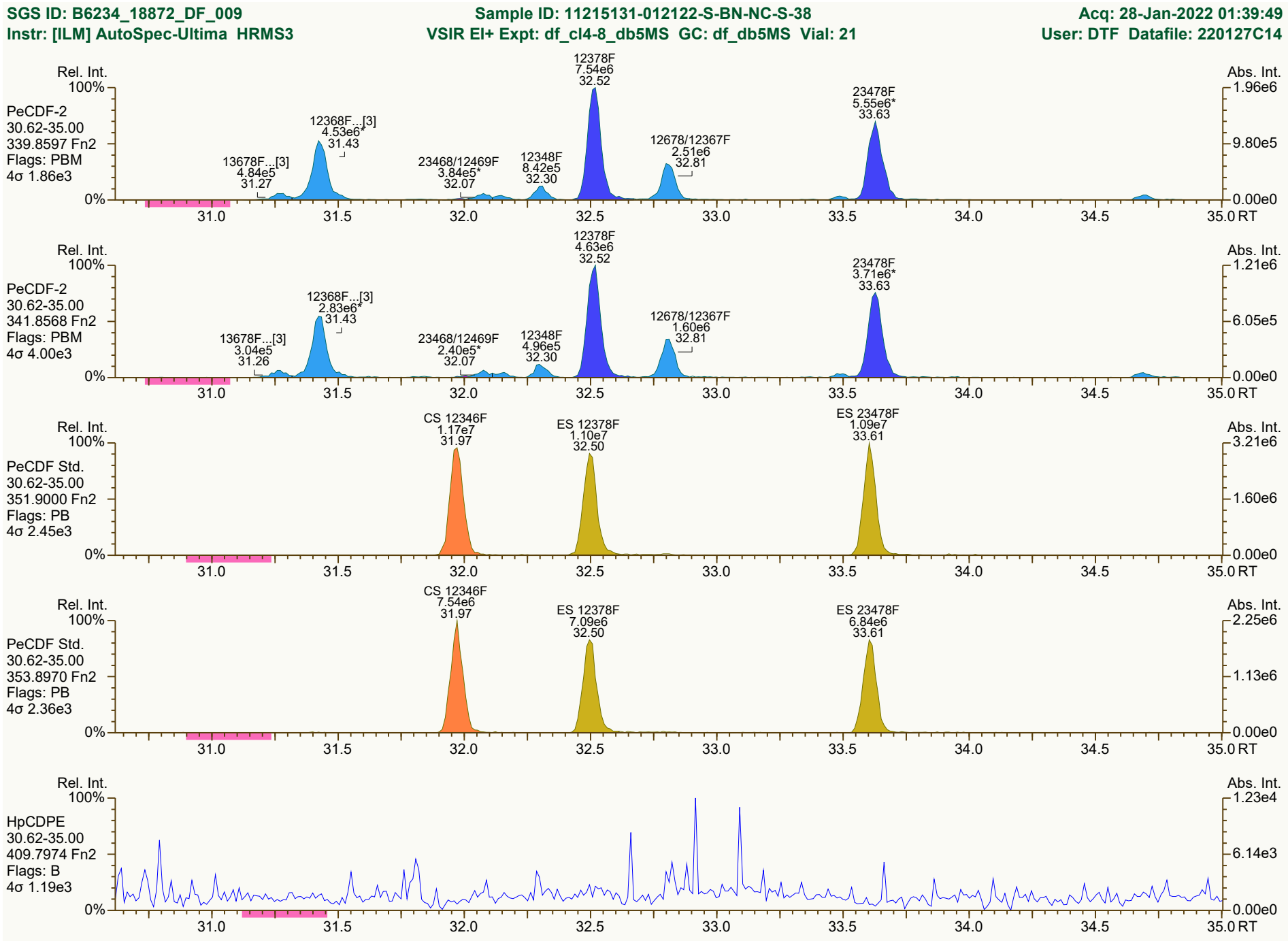

Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 3.61e3
0%
124679/124689D
2.72e6*
36.11
123468D
3.73e5*
36.76
123679/123689D
2.12e6*
37.06
123469D
1.89e5*
37.20
123478D
1.41e5*
37.86
123678D
6.85e5*
37.97
123789D
3.36e5*
38.26
Abs. Int.
7.80e5
3.90e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 3.85e3
0%
124679/124689D
2.19e6*
36.11
123468D
3.23e5*
36.76
123679/123689D
1.72e6*
37.06
123678D
5.32e5*
37.97
123789D
2.74e5*
38.26
Abs. Int.
1.23e6
6.16e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PB
4σ 1.85e3
0%
ES 123678D
5.41e6
37.96
ES 123478D
5.32e6
37.84
JS 123467D
4.17e6
38.14
ES 123789D
5.81e6
38.25
Abs. Int.
1.60e6
8.00e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PB
4σ 2.01e3
0%
ES 123678D
4.16e6
37.96
ES 123478D
4.06e6
37.84
JS 123467D
3.26e6
38.14
ES 123789D
4.75e6
38.25
Abs. Int.
1.22e6
6.11e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.99e7
9.96e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

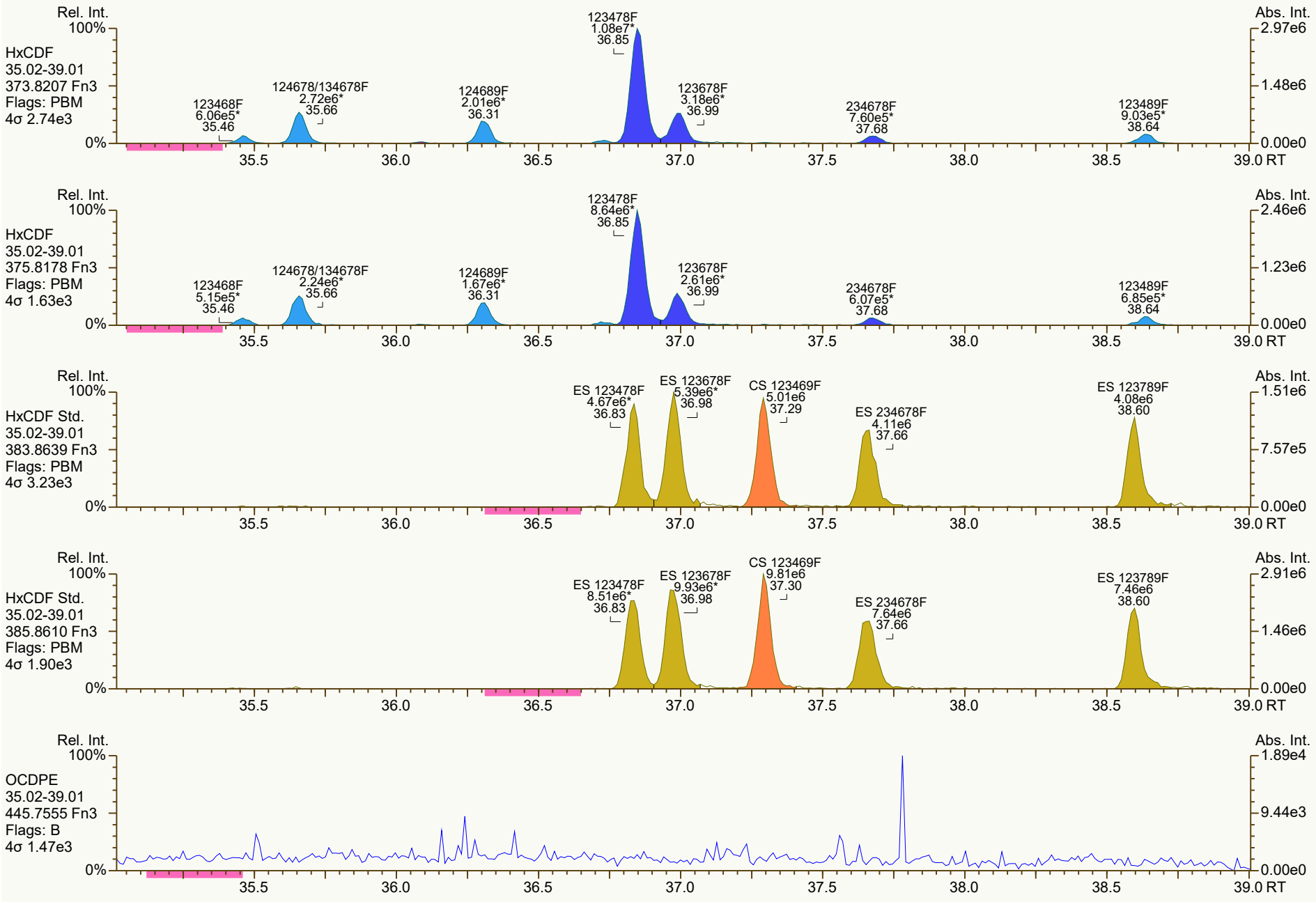

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 2.15e3
1234679D
1.59e7
40.22
1234678D
1.20e7
40.90
Abs. Int.
4.73e6
2.36e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 2.25e3
1234679D
1.52e7
40.21
1234678D
1.14e7
40.89
Abs. Int.
4.79e6
2.39e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 2.34e3
ES 1234678D
4.54e6
40.88
Abs. Int.
1.26e6
6.28e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 1.64e3
ES 1234678D
4.20e6
40.88
Abs. Int.
1.19e6
5.93e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.19e7
5.96e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

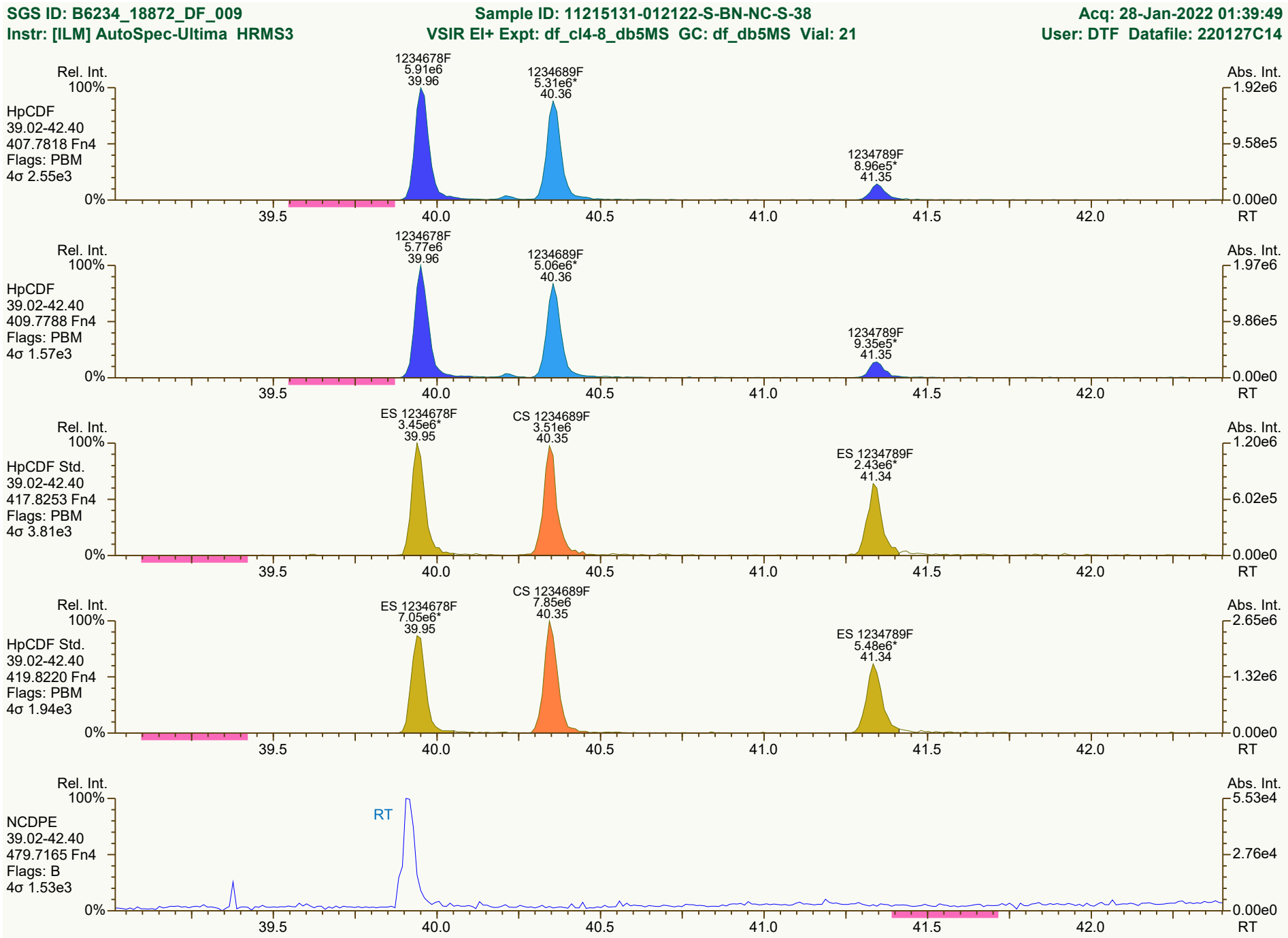

OCDD
1.03e8
43.56
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 2.50e3
0%
Abs. Int.
2.36e7
1.18e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.15e8
43.56
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 2.26e3
2.67e7
1.33e7
ES OCDD
5.40e6*
43.55
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 2.08e3
1.22e6
6.12e5
ES OCDD
5.92e6*
43.55
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 4.14e3
1.34e6
6.68e5
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.01e7
5.06e6


Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 1.85e3
0%
2368F
1.17e7
26.42
1278F
6.49e7
26.91
2348F
9.43e6*
27.68
2378F
1.43e8*
27.80
2367/3467F
1.15e7
28.15
1289F
1.10e7
29.79
Abs. Int.
3.24e7
1.62e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 1.79e3
0%
1278F
8.22e7
26.91
2348F
1.19e7*
27.68
2378F
1.78e8*
27.80
2367/3467F
1.46e7
28.15
1289F
1.35e7
29.79
Abs. Int.
4.04e7
2.02e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 3.56e3
0%
JS 1234F
1.38e7
26.43
ES 2378F
8.53e6
27.78
Abs. Int.
2.97e6
1.48e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 2.99e3
0%
JS 1234F
1.70e7
26.43
ES 2378F
1.14e7
27.78
Abs. Int.
3.65e6
1.82e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.22e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PBM
4σ 1.65e3
13468/12468F
1.15e6*
29.73
Abs. Int.
3.05e5
1.53e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: PBM
4σ 1.74e3
13468/12468F
7.50e5*
29.73
1.70e5
8.51e4
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
5.96e6
2.98e6


SGS ID: B6234_18872_DF_009
Sample ID: 11215131-012122-S-BN-NC-S-38
Acq: 28-Jan-2022 01:39:49
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 21
User: DTF Datafile: 220127C14
Rel. Int.
Abs. Int.
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PBM
4σ 1.86e3
13678F...[3] 4.84e5 31.27
12368F...[3] 4.53e6* 31.43
23468/12469F 3.84e5* 32.07
12348F 8.42e5 32.30
12378F 7.54e6 32.52
12678/12367F 2.51e6 32.81
23478F 5.55e6* 33.63
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: PBM
4σ 4.00e3
13678F...[3] 3.04e5 31.26
12368F...[3] 2.83e6* 31.43
23468/12469F 2.40e5* 32.07
12348F 4.96e5 32.30
12378F 4.63e6 32.52
12678/12367F 1.60e6 32.81
23478F 3.71e6* 33.63
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PB
4σ 2.45e3
CS 12346F 1.17e7 31.97
ES 12378F 1.10e7 32.50
ES 23478F 1.09e7 33.61
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PB
4σ 2.36e3
CS 12346F 7.54e6 31.97
ES 12378F 7.09e6 32.50
ES 23478F 6.84e6 33.61
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.19e3
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
1.96e6
9.80e5
0.00e0
1.21e6
6.05e5
3.21e6
1.60e6
2.25e6
1.13e6
1.23e4
6.14e3


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PBM
4σ 2.74e3
123468F 6.06e5* 35.46
124678/134678F 2.72e6* 35.66
124689F 2.01e6* 36.31
123478F 1.08e7* 36.85
123678F 3.18e6* 36.99
234678F 7.60e5* 37.68
123489F 9.03e5* 38.64
Abs. Int.
2.97e6
1.48e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PBM
4σ 1.63e3
123468F 5.15e5* 35.46
124678/134678F 2.24e6* 35.66
124689F 1.67e6* 36.31
123478F 8.64e6* 36.85
123678F 2.61e6* 36.99
234678F 6.07e5* 37.68
123489F 6.85e5* 38.64
2.46e6
1.23e6
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 3.23e3
ES 123478F 4.67e6* 36.83
ES 123678F 5.39e6* 36.98
CS 123469F 5.01e6 37.29
ES 234678F 4.11e6 37.66
ES 123789F 4.08e6 38.60
1.51e6
7.57e5
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 1.90e3
ES 123478F 8.51e6* 36.83
ES 123678F 9.93e6* 36.98
CS 123469F 9.81e6 37.30
ES 234678F 7.64e6 37.66
ES 123789F 7.46e6 38.60
2.91e6
1.46e6
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.47e3
1.89e4
9.44e3


SGS ID: B6234_18872_DF_009
Sample ID: 11215131-012122-S-BN-NC-S-38
Acq: 28-Jan-2022 01:39:49
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 21
User: DTF Datafile: 220127C14
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PBM
4σ 2.55e3
1234678F
5.91e6
39.96
1234689F
5.31e6*
40.36
1234789F
8.96e5*
41.35
1.92e6
9.58e5
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PBM
4σ 1.57e3
1234678F
5.77e6
39.96
1234689F
5.06e6*
40.36
1234789F
9.35e5*
41.35
1.97e6
9.86e5
0.00e0
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 3.81e3
ES 1234678F
3.45e6*
39.95
CS 1234689F
3.51e6
40.35
ES 1234789F
2.43e6*
41.34
1.20e6
6.02e5
0.00e0
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 1.94e3
ES 1234678F
7.05e6*
39.95
CS 1234689F
7.85e6
40.35
ES 1234789F
5.48e6*
41.34
2.65e6
1.32e6
0.00e0
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.53e3
RT
5.53e4
2.76e4
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\B6234_18872_DF_009.utp_res, saved 28-Jan-2022 09:47 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7272, 0612, 0107 scc: 772-361
Revised: 28-Jan-2022 09:47 (DTF) Printed: 28-Jan-2022 09:57 Page 11 of 12


OCDF
8.29e6*
43.75
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 3.50e3
0%
Abs. Int.
1.92e6
9.59e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
9.13e6*
43.74
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 2.25e3
0%
Abs. Int.
2.06e6
1.03e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
7.13e6*
43.73
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 1.74e3
0%
Abs. Int.
1.57e6
7.84e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
7.69e6*
43.73
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 2.09e3
0%
Abs. Int.
1.75e6
8.74e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.44e3
0%
Abs. Int.
5.34e3
2.67e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

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

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	220127C01	3	CS3_220127_DF_CA	1.00	SIL 25-347-1	DTF	656-112	27-Jan-2022	14:56:50
2	220127C02	11	OPR1_18872_DF	1.00	0_18872_OPR001	DTF	849-711	27-Jan-2022	16:24:11
3	220127C03	12	OPR2_18872_DF	1.00	0_18872_OPR002	DTF	122-983	27-Jan-2022	17:10:28
4	220127C04	2	SBS_220127_DF_CA	1.00	20-61-1	DTF	397-855	27-Jan-2022	17:56:46
5	220127C05	10	MB1_18872_DF_SDS	10.00	Method Blank	DTF	404-582	27-Jan-2022	18:43:04
6	220127C06	13	B6234_18872_DF_001	13.40	11215131-012122-S-BN-NC-S-36	DTF	265-157	27-Jan-2022	19:29:22
7	220127C07	14	B6234_18872_DF_002	13.53	11215131-012222-S-BN-NC-S-34	DTF	247-428	27-Jan-2022	20:15:39
8	220127C08	15	B6234_18872_DF_003	13.11	11215131-012222-S-BN-NC-S-35	DTF	153-184	27-Jan-2022	21:01:58
9	220127C09	16	B6234_18872_DF_004	11.82	11215131-012222-S-BN-NC-S-33	DTF	156-115	27-Jan-2022	21:48:16
10	220127C10	17	B6234_18872_DF_005	13.53	11215131-012222-S-BN-NC-S-41	DTF	969-193	27-Jan-2022	22:34:36
11	220127C11	18	B6234_18872_DF_006	12.03	11215131-012222-S-BN-NC-S-40	DTF	800-269	27-Jan-2022	23:20:54
12	220127C12	19	B6234_18872_DF_007	13.06	11215131-012222-S-BN-NC-S-37	DTF	570-434	28-Jan-2022	00:07:12
13	220127C13	20	B6234_18872_DF_008	10.73	11215131-012122-S-BN-NC-S-39	DTF	563-363	28-Jan-2022	00:53:30
14	220127C14	21	B6234_18872_DF_009	14.48	11215131-012122-S-BN-NC-S-38	DTF	772-361	28-Jan-2022	01:39:49

REVIEWED
Tyler_Fritz , 1/28/2022, 2:08:16 PM

APPROVED
Carla_Lyon , 1/28/2022, 2:58:32 PM

Dioxin/Furan QC Summary	Acq'd: 27 Jan 2022 14:56 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220127_DF_CA	UTP: 28-Jan-2022 09:47:31 DTF	Checkcode: 656-112-FTJ
Sample ID: SIL 25-347-1	Report: 28 Jan 2022 09:48 TF	Datafile: 220127C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.64	2.38E+06	0.81	Y	1.18	1.27	7%
12378-PeCDD	33.94	8.78E+06	1.59	Y	1.04	1.06	3%
123478-HxCDD	37.84	7.72E+06	1.28	Y	1.09	1.12	3%
123678-HxCDD	37.96	8.61E+06	1.24	Y	1.15	1.17	2%
123789-HxCDD	38.25	8.34E+06	1.27	Y	1.05	1.08	3%
1234678-HpCDD	40.88	6.91E+06	1.11	Y	1.06	1.14	7%
OCDD	43.54	8.73E+06	0.86	Y	1.13	1.18	4%
2378-TCDF	27.78	3.66E+06	0.78	Y	1.08	1.13	5%
12378-PeCDF	32.50	1.41E+07	1.59	Y	1.02	1.04	1%
23478-PeCDF	33.61	1.44E+07	1.60	Y	1.02	1.07	5%
123478-HxCDF	36.83	1.31E+07	1.28	Y	1.27	1.30	3%
123678-HxCDF	36.98	1.42E+07	1.28	Y	1.15	1.19	3%
234678-HxCDF	37.67	1.31E+07	1.28	Y	1.19	1.28	8%
123789-HxCDF	38.60	1.05E+07	1.29	Y	1.16	1.24	6%
1234678-HpCDF	39.94	1.13E+07	1.02	Y	1.37	1.40	2%
1234789-HpCDF	41.34	8.58E+06	1.07	Y	1.31	1.39	7%
OCDF	43.72	1.20E+07	0.91	Y	1.07	1.06	-1%
ES 2378-TCDD	28.61	1.87E+07	0.81	Y	1.05	0.97	-7%
ES 12378-PeCDD	33.926	1.65E+07	1.52	Y	0.88	0.86	-3%
ES 123478-HxCDD	37.827	1.38E+07	1.33	Y	0.97	0.98	1%
ES 123678-HxCDD	37.943	1.48E+07	1.23	Y	0.94	1.05	11%
ES 123789-HxCDD	38.233	1.55E+07	1.15	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.861	1.22E+07	1.16	Y	0.91	0.87	-5%
ES OCDD	43.531	1.48E+07	0.86	Y	0.62	0.53	-15%
ES 2378-TCDF	27.764	3.23E+07	0.80	Y	1.06	1.00	-5%
ES 12378-PeCDF	32.484	2.72E+07	1.60	Y	0.91	0.85	-7%
ES 23478-PeCDF	33.592	2.69E+07	1.58	Y	0.88	0.84	-5%
ES 123478-HxCDF	36.816	2.01E+07	0.55	Y	1.20	1.43	19%
ES 123678-HxCDF	36.96	2.40E+07	0.55	Y	1.35	1.71	26%
ES 234678-HxCDF	37.645	2.05E+07	0.56	Y	1.24	1.46	17%
ES 123789-HxCDF	38.587	1.71E+07	0.55	Y	1.16	1.22	5%
ES 1234678-HpCDF	39.928	1.61E+07	0.44	Y	0.97	1.14	18%
ES 1234789-HpCDF	41.326	1.23E+07	0.45	Y	0.85	0.88	3%
ES OCDF	43.713	2.26E+07	0.90	Y	0.81	0.80	0%

Dioxin/Furan QC Summary	Acq'd: 27 Jan 2022 14:56 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220127_DF_CA	UTP: 28-Jan-2022 09:47:31 DTF	Checkcode: 656-112-FTJ
Sample ID: SIL 25-347-1	Report: 28 Jan 2022 09:48 TF	Datafile: 220127C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.95	1.93E+07	0.82	Y	-	-	-
JS 1234-TCDF	26.41	3.21E+07	0.82	Y	-	-	-
JS 123467-HxCDD	38.13	7.02E+06	1.33	Y	-	-	-
CS 37Cl-2378-TCDD	28.63	2.48E+06	n/a	-	1.20	1.29	7%
CS 12347-PeCDD	33.42	1.54E+07	1.60	Y	0.75	0.80	6%
CS 12346-PeCDF	31.96	2.59E+07	1.57	Y	0.85	0.81	-5%
CS 123469-HxCDF	37.28	2.04E+07	0.53	Y	1.12	1.46	30% ok 1613B
CS 1234689-HpCDF	40.33	1.65E+07	0.46	Y	0.89	1.18	32% *
~~SS 37Cl-2378-TCDD~~	~~28.63~~	~~2.48E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.32~~	~~16%~~
~~SS 12347-PeCDD~~	~~33.42~~	~~1.54E+07~~	~~1.60~~	~~Y~~	~~0.86~~	~~0.93~~	~~8%~~
~~SS 12346-PeCDF~~	~~31.96~~	~~2.59E+07~~	~~1.57~~	~~Y~~	~~0.94~~	~~0.95~~	~~1%~~
~~SS 123469-HxCDF~~	~~37.28~~	~~2.04E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~0.85~~	~~3%~~
~~SS 1234689-HpCDF~~	~~40.33~~	~~1.65E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~1.03~~	~~12%~~
Not used in this project.						* No criteria specified in M1613B	
CL 28Jan22						CL 28Jan22	
~~OCDD-a~~	~~43.52~~	~~2.44E+05~~	~~2.73~~	~~Y~~	~~0.07~~	~~0.03~~	~~-54%~~
~~OCDF-a~~	~~0.00~~	~~0.00E+00~~	~~0.00~~	~~0~~	~~0.07~~	~~0.00~~	~~-100%~~

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

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220127C01 Analysis Date: 27-JAN-2022 14:56:50

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.81	0.65 - 0.89	Y	10.7	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.59	1.32 - 1.78	Y	51.4	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	51.3	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	50.8	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	51.4	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.11	0.88 - 1.20	Y	53.6	43 - 58	Y
OCDD	M+2/M+4	0.86	0.76 - 1.02	Y	104	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.78	0.65 - 0.89	Y	10.5	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32 - 1.78	Y	50.6	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.60	1.32 - 1.78	Y	52.3	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.28	1.05 - 1.43	Y	51.3	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.28	1.05 - 1.43	Y	51.5	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.28	1.05 - 1.43	Y	54.1	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.29	1.05 - 1.43	Y	53.1	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.02	0.88 - 1.20	Y	51.2	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.07	0.88 - 1.20	Y	53.3	43 - 58	Y
OCDF	M+2/M+4	0.91	0.76 - 1.02	Y	98.8	63 - 159	Y

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

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

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

Processed: 28 Jan 2022 09:48 Analyst: TF

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

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

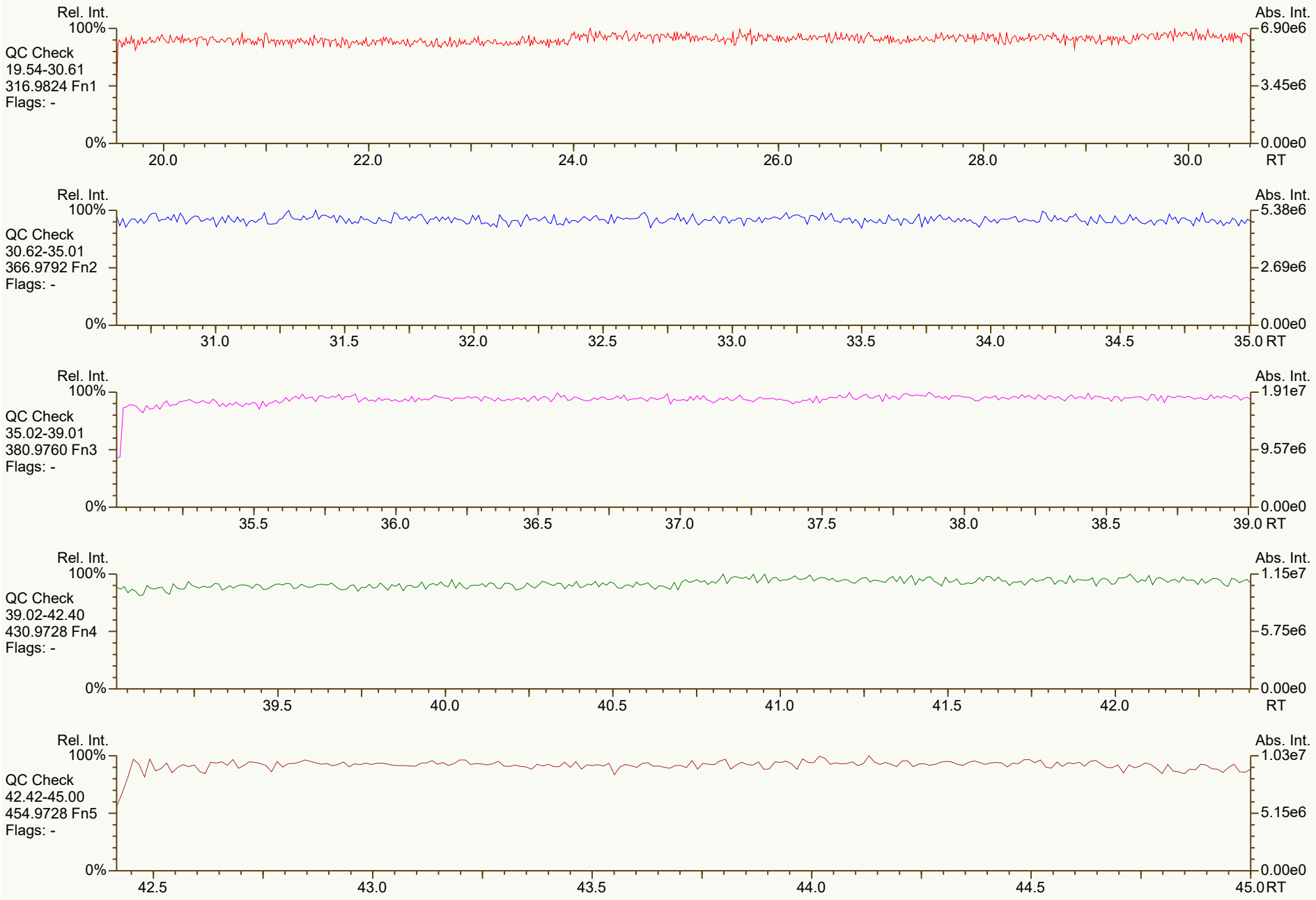
Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220127C01 Analysis Date: 27-JAN-2022 14:56:50

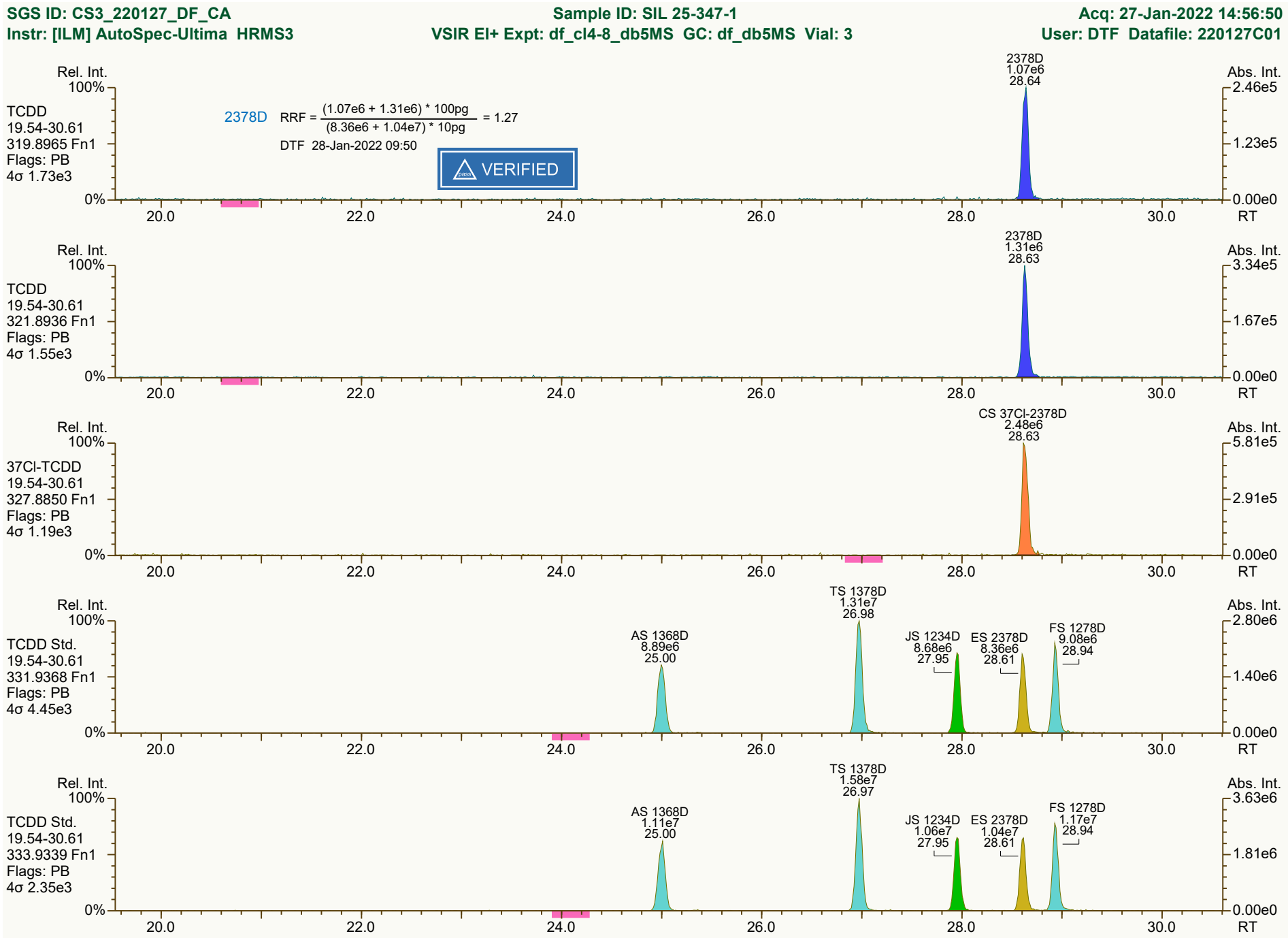
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.81	0.65	-	0.89	Y	92.9	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.52	1.32	-	1.78	Y	97.4	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.33	1.05	-	1.43	Y	101	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.23	1.05	-	1.43	Y	111	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.15	1.05	-	1.43	Y	101	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.16	0.88	-	1.20	Y	94.9	72	-	138	Y
13C-OCDD	M+2/M+4	0.86	0.76	-	1.02	Y	169	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65	-	0.89	Y	94.9	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.60	1.32	-	1.78	Y	93.2	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	95	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	119	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	126	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.56	0.43	-	0.59	Y	117	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	105	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37	-	0.51	Y	118	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	103	77	-	129	Y
13C-OCDF	M+2/M+4	0.90	0.76	-	1.02	Y	199	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						10.7	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.60	1.32	-	1.78	Y	106	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.57	1.32	-	1.78	Y	94.7	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	130	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.46	0.37	-	0.51	Y	132 *	70	-	130	N

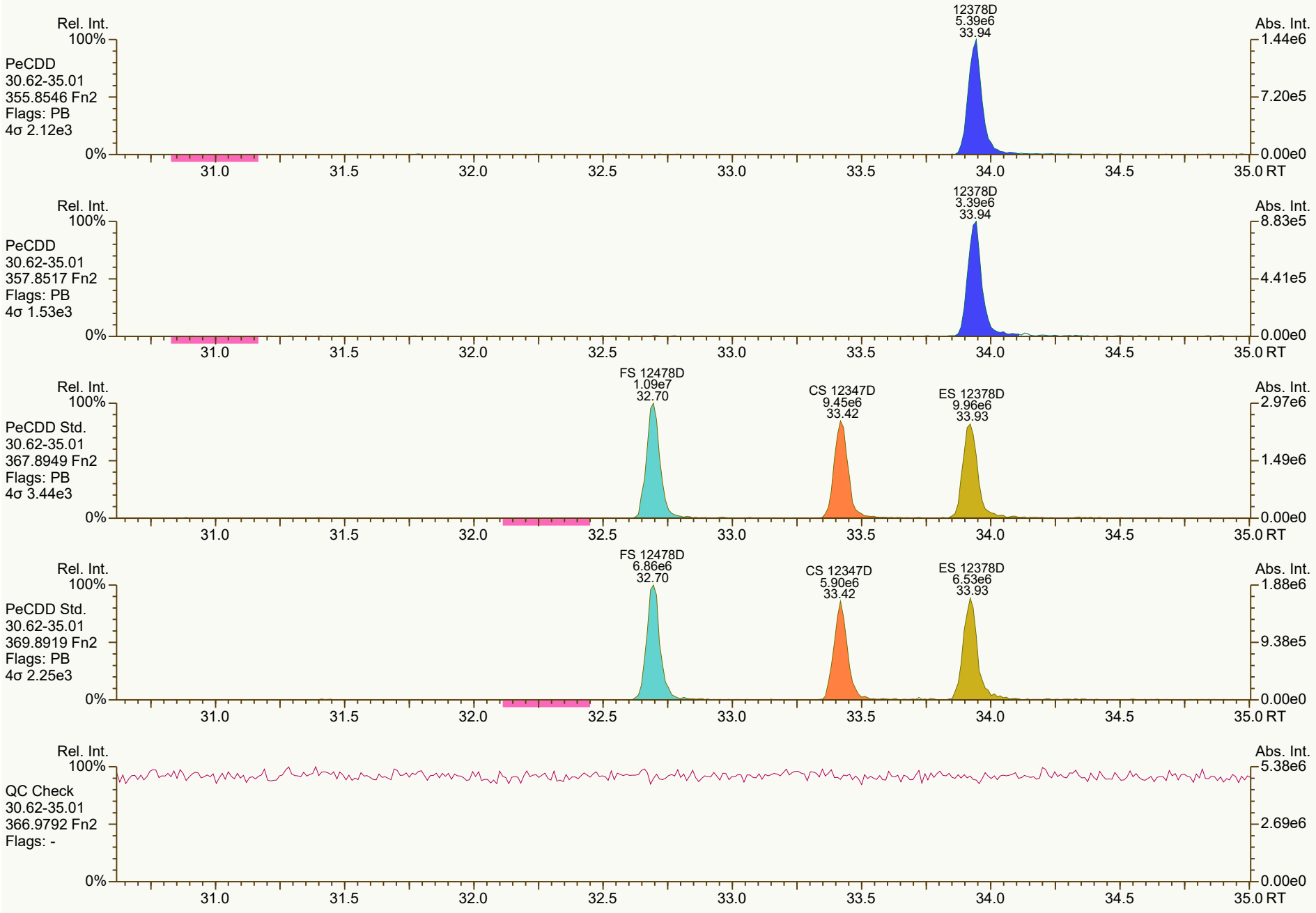
* No criteria specified in M1613B
CL 28Jan22

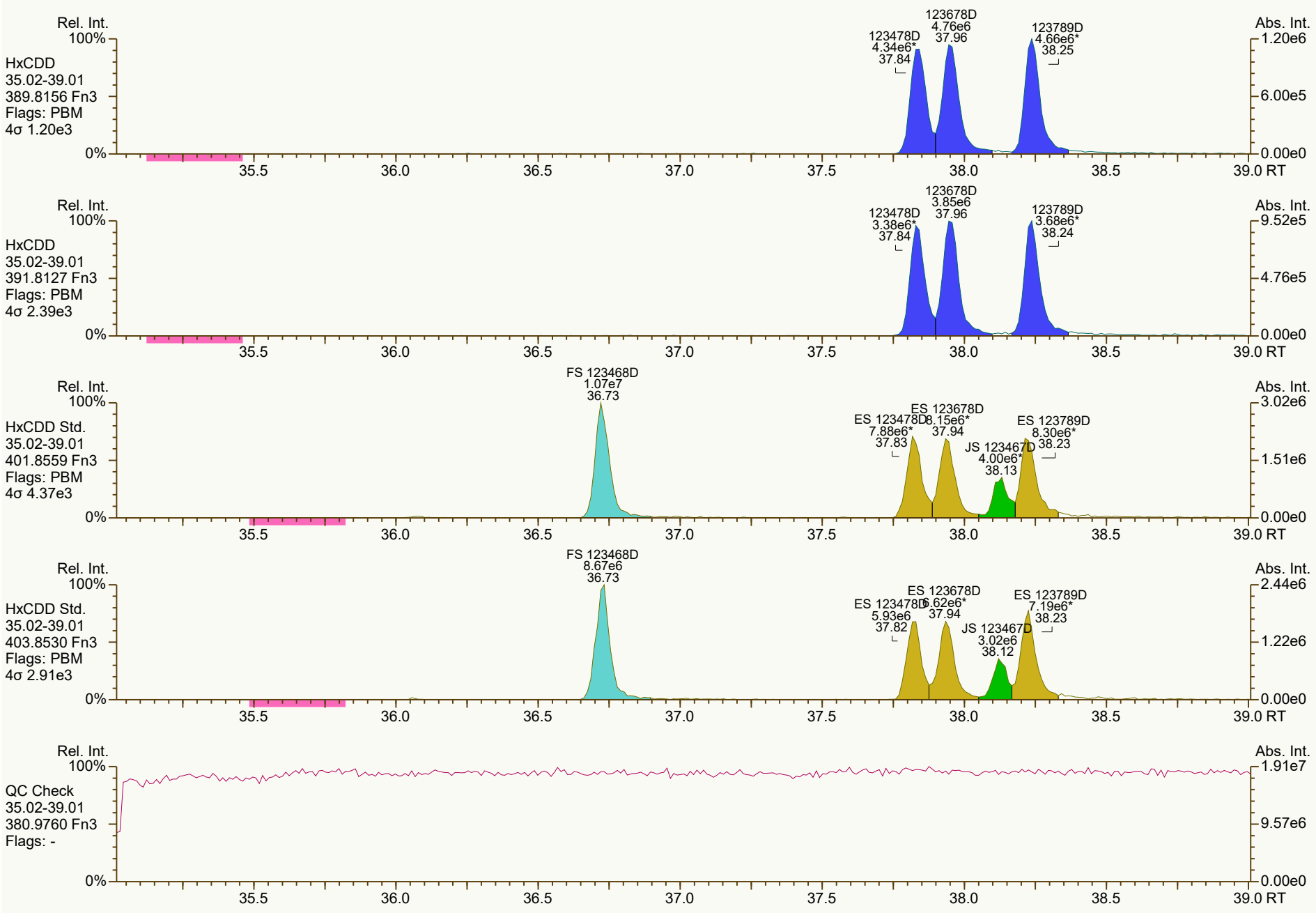
Processed: 28 Jan 2022 09:48 Analyst: TF

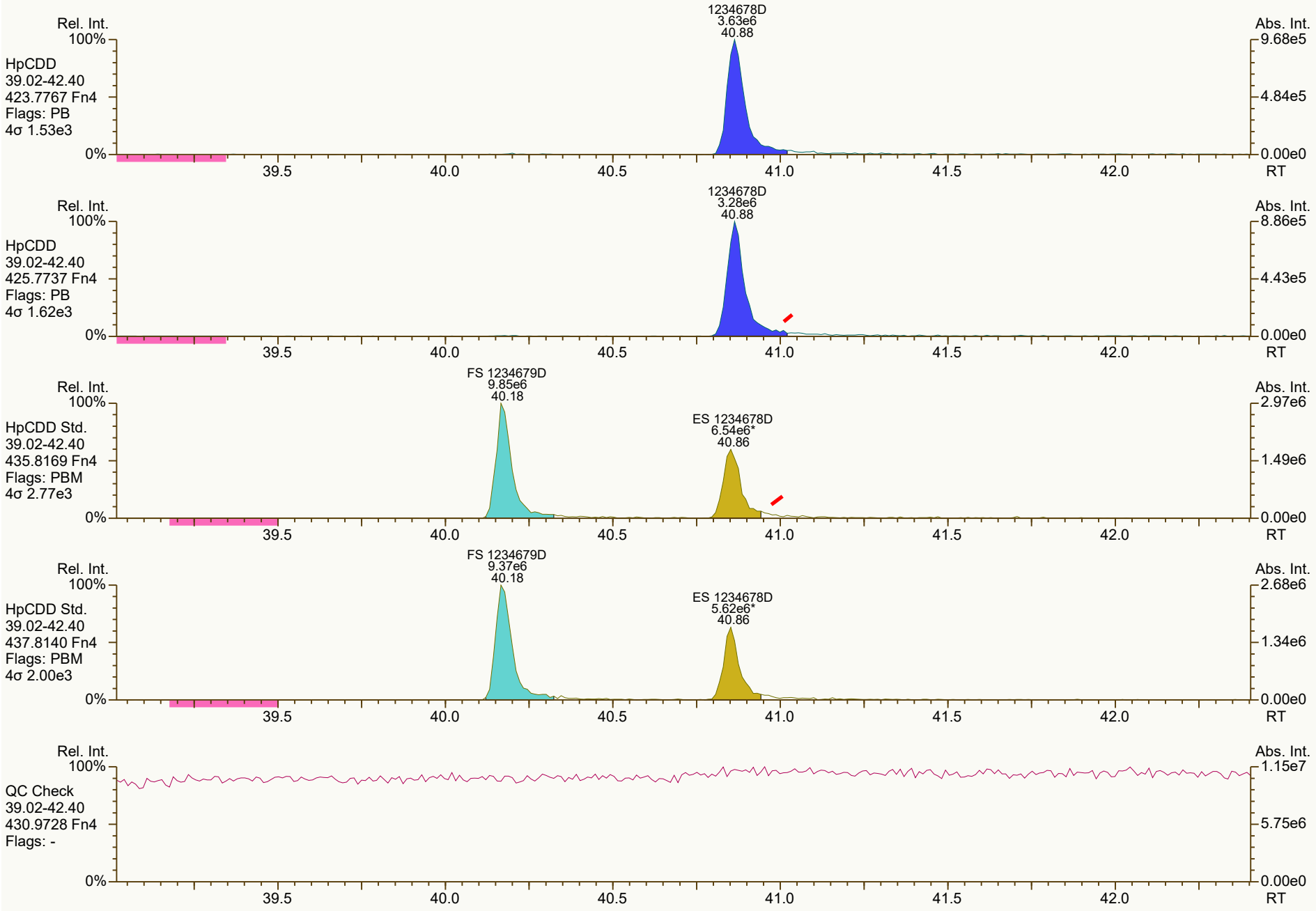

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
6.90e6
3.45e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
5.38e6
2.69e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
1.91e7
9.57e6
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.15e7
5.75e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.03e7
5.15e6
0.00e0

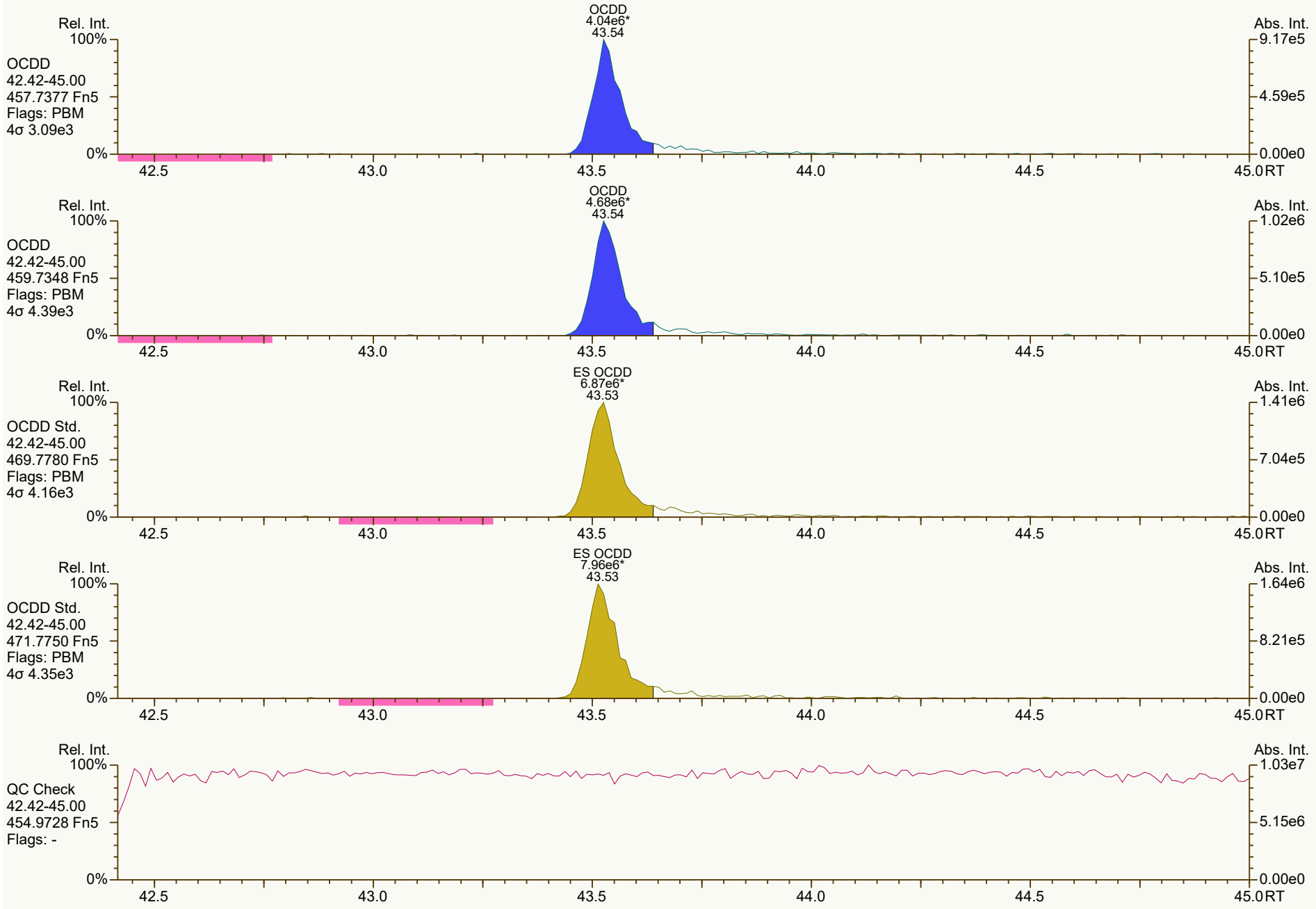
SGS ID: CS3_220127_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3
Sample ID: SIL 25-347-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
Acq: 27-Jan-2022 14:56:50
User: DTF Datafile: 220127C01




Rel. Int.
100%
PeCDD
30.62-35.01
355.8546 Fn2
Flags: PB
4σ 2.12e3
12378D
5.39e6
33.94
Abs. Int.
1.44e6
7.20e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.01
357.8517 Fn2
Flags: PB
4σ 1.53e3
12378D
3.39e6
33.94
Abs. Int.
8.83e5
4.41e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
367.8949 Fn2
Flags: PB
4σ 3.44e3
FS 12478D
1.09e7
32.70
CS 12347D
9.45e6
33.42
ES 12378D
9.96e6
33.93
Abs. Int.
2.97e6
1.49e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
369.8919 Fn2
Flags: PB
4σ 2.25e3
FS 12478D
6.86e6
32.70
CS 12347D
5.90e6
33.42
ES 12378D
6.53e6
33.93
Abs. Int.
1.88e6
9.38e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
Abs. Int.
5.38e6
2.69e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

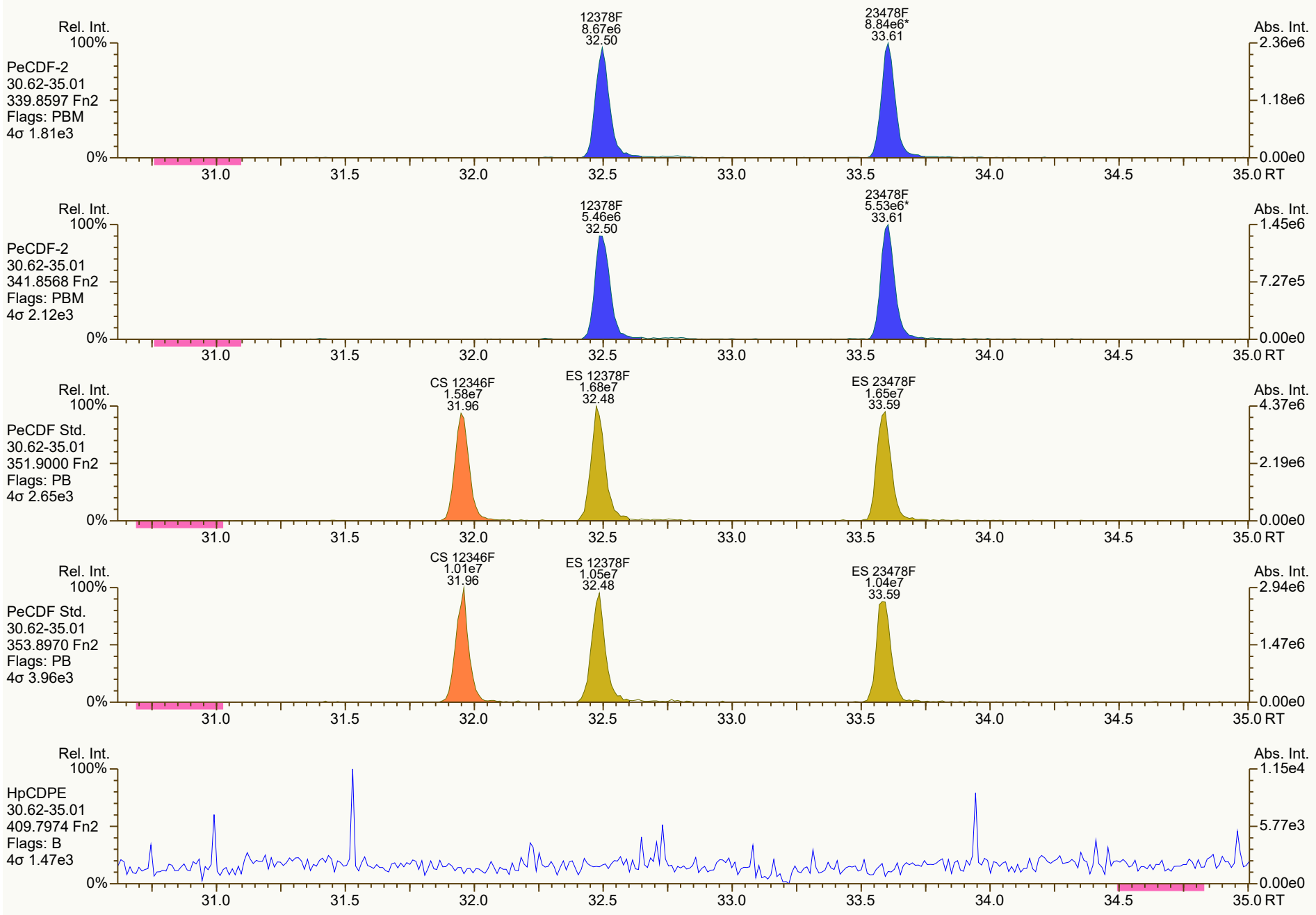

Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.20e3
0%
123478D
4.34e6*
37.84
123678D
4.76e6
37.96
123789D
4.66e6*
38.25
Abs. Int.
1.20e6
6.00e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 2.39e3
0%
123478D
3.38e6*
37.84
123678D
3.85e6
37.96
123789D
3.68e6*
38.24
Abs. Int.
9.52e5
4.76e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 4.37e3
0%
FS 123468D
1.07e7
36.73
ES 123478D
7.88e6*
37.83
ES 123678D
8.15e6*
37.94
JS 123467D
4.00e6*
38.13
ES 123789D
8.30e6*
38.23
Abs. Int.
3.02e6
1.51e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 2.91e3
0%
FS 123468D
8.67e6
36.73
ES 123478D
5.93e6
37.82
ES 123678D
6.62e6*
37.94
JS 123467D
3.02e6
38.12
ES 123789D
7.19e6*
38.23
Abs. Int.
2.44e6
1.22e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.91e7
9.57e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

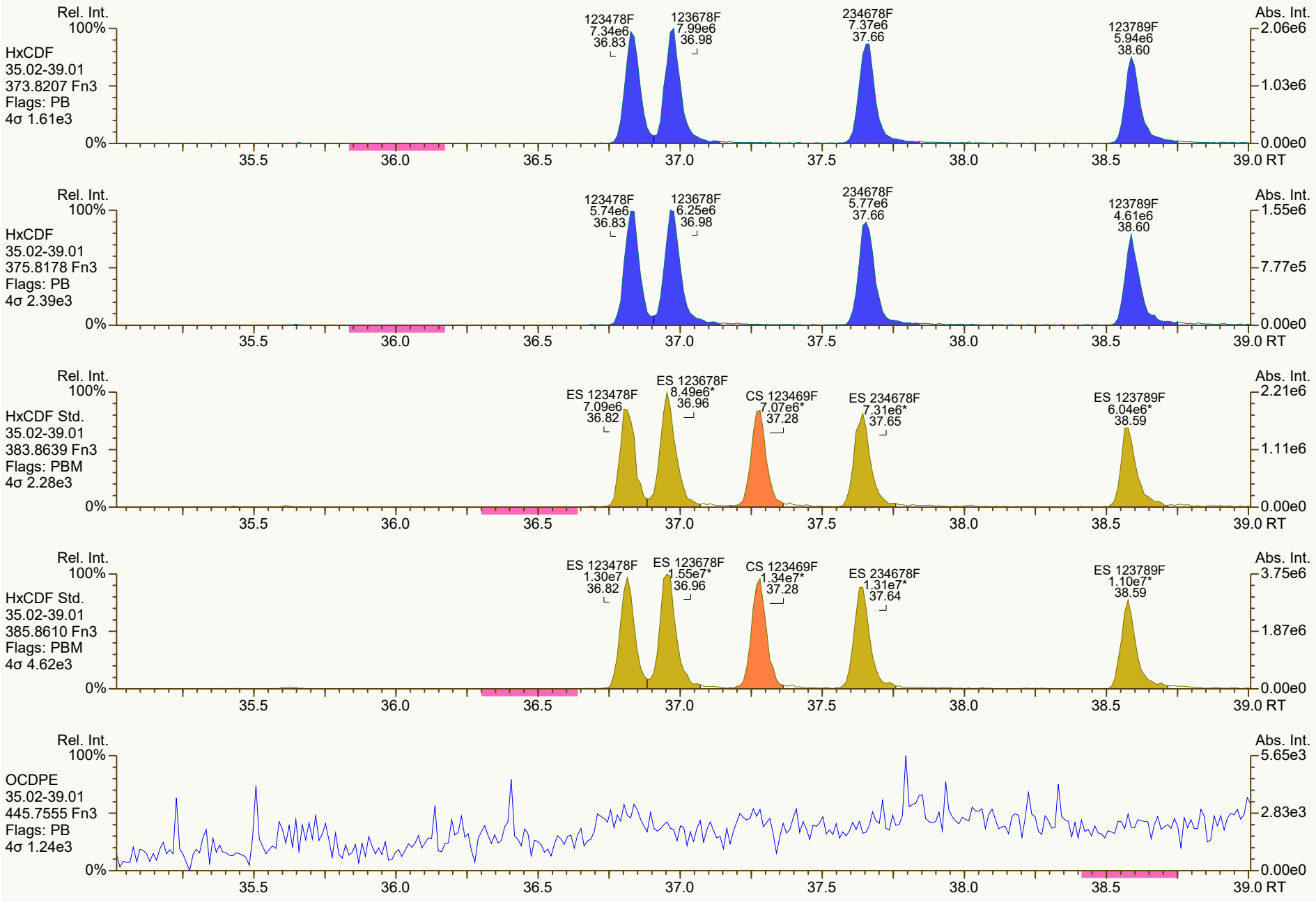

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 1.53e3
1234678D
3.63e6
40.88
Abs. Int.
9.68e5
4.84e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 1.62e3
1234678D
3.28e6
40.88
Abs. Int.
8.86e5
4.43e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PBM
4σ 2.77e3
FS 1234679D
9.85e6
40.18
ES 1234678D
6.54e6*
40.86
Abs. Int.
2.97e6
1.49e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PBM
4σ 2.00e3
FS 1234679D
9.37e6
40.18
ES 1234678D
5.62e6*
40.86
Abs. Int.
2.68e6
1.34e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.15e7
5.75e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

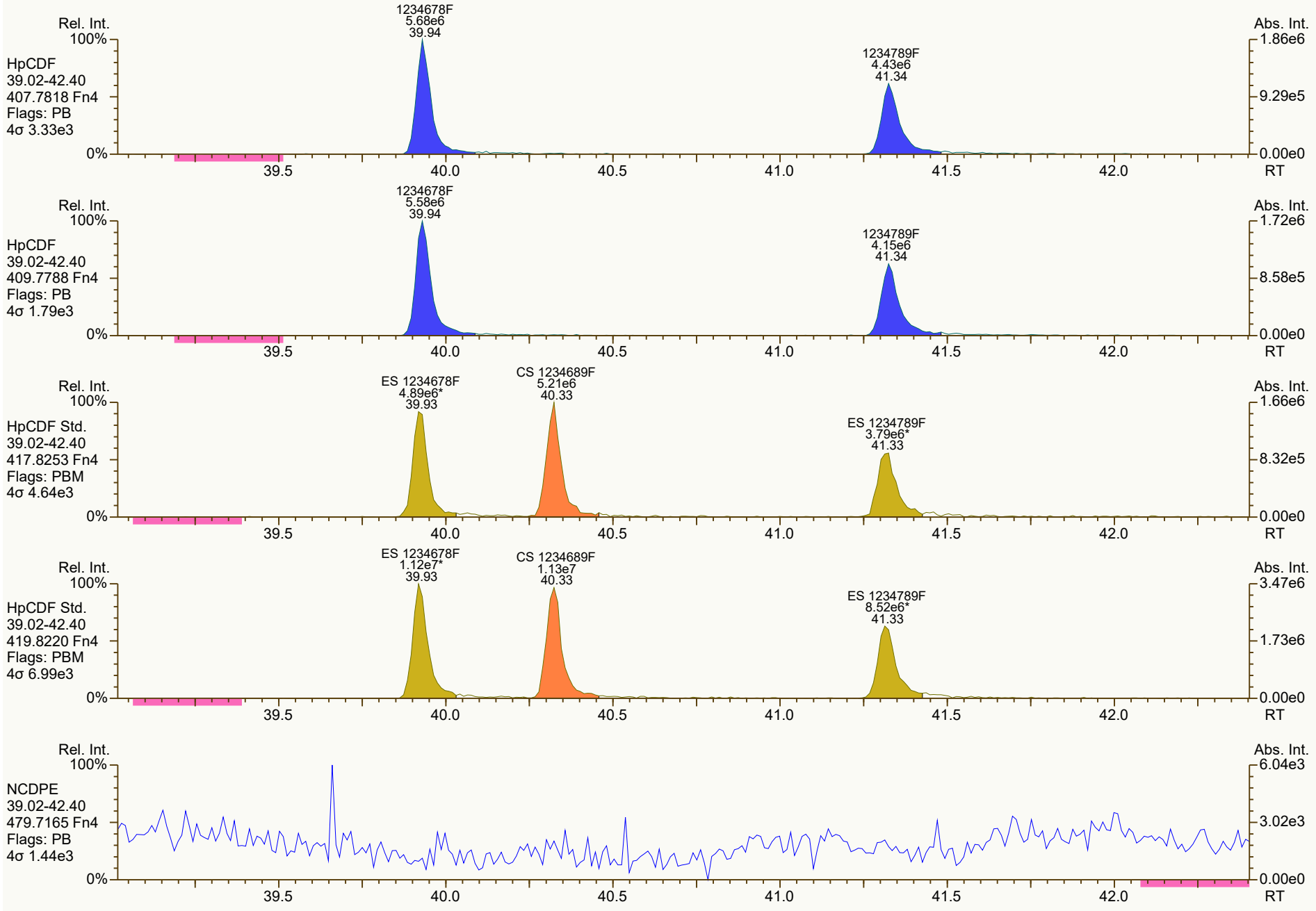

OCDD
4.04e6*
43.54
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 3.09e3
0%
Abs. Int.
9.17e5
4.59e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.68e6*
43.54
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 4.39e3
1.02e6
5.10e5
ES OCDD
6.87e6*
43.53
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 4.16e3
1.41e6
7.04e5
ES OCDD
7.96e6*
43.53
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 4.35e3
1.64e6
8.21e5
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
1.03e7
5.15e6

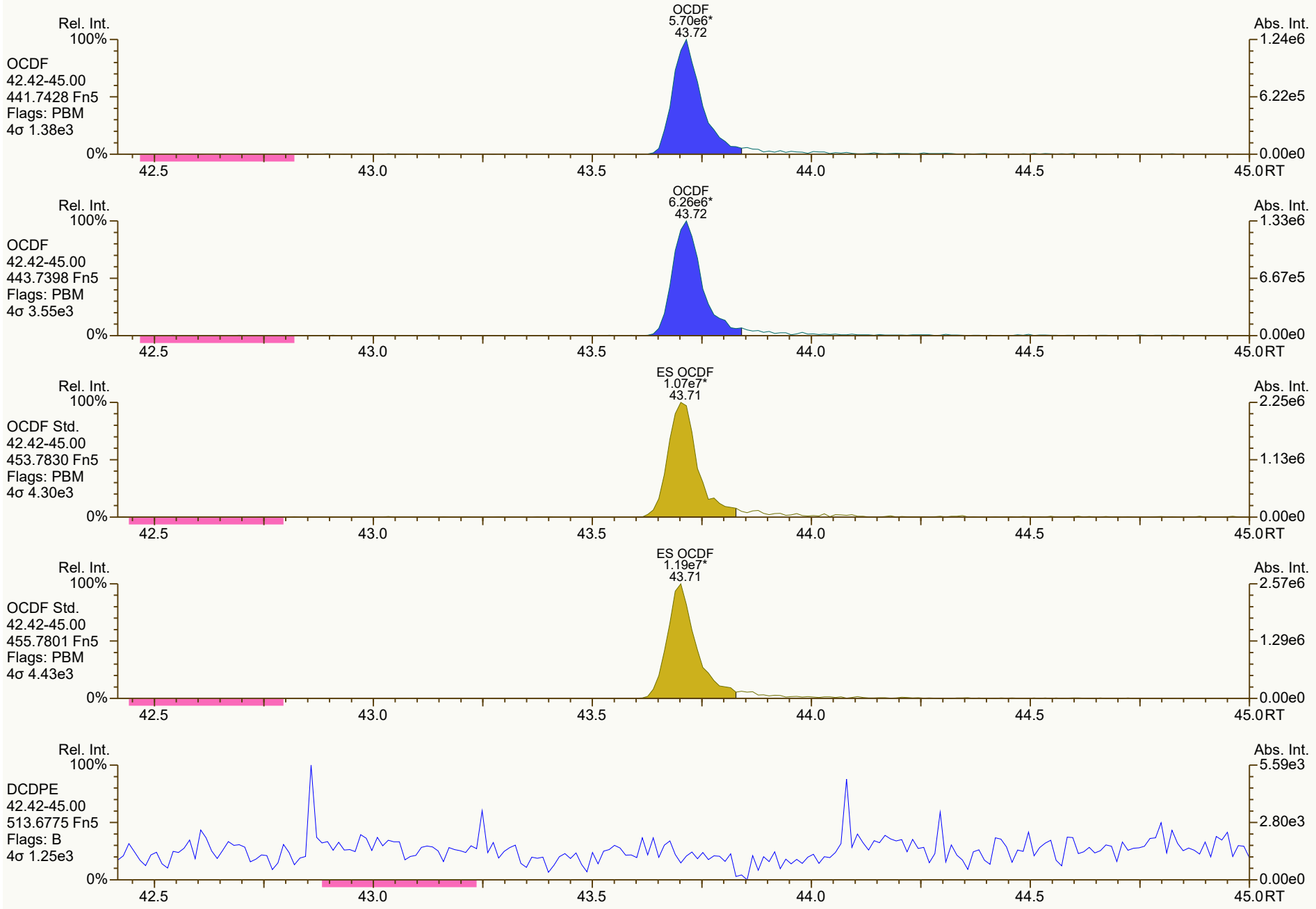

Rel. Int.
100%
TCDF
19.54-30.61
303.9016 Fn1
Flags: PB
4σ 2.02e3
0%
2378F
1.61e6
27.78
Abs. Int.
3.65e5
1.82e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.61
305.8987 Fn1
Flags: PB
4σ 1.65e3
0%
2378F
2.05e6
27.78
Abs. Int.
4.71e5
2.35e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 3.61e3
0%
AS 1368F
1.66e7
22.93
JS 1234F
1.45e7
26.41
ES 2378F
1.44e7
27.76
Abs. Int.
3.53e6
1.76e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 2.45e3
0%
AS 1368F
2.03e7
22.92
JS 1234F
1.76e7
26.41
ES 2378F
1.79e7
27.76
Abs. Int.
3.96e6
1.98e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.23e3
0%
Abs. Int.
1.20e4
6.00e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

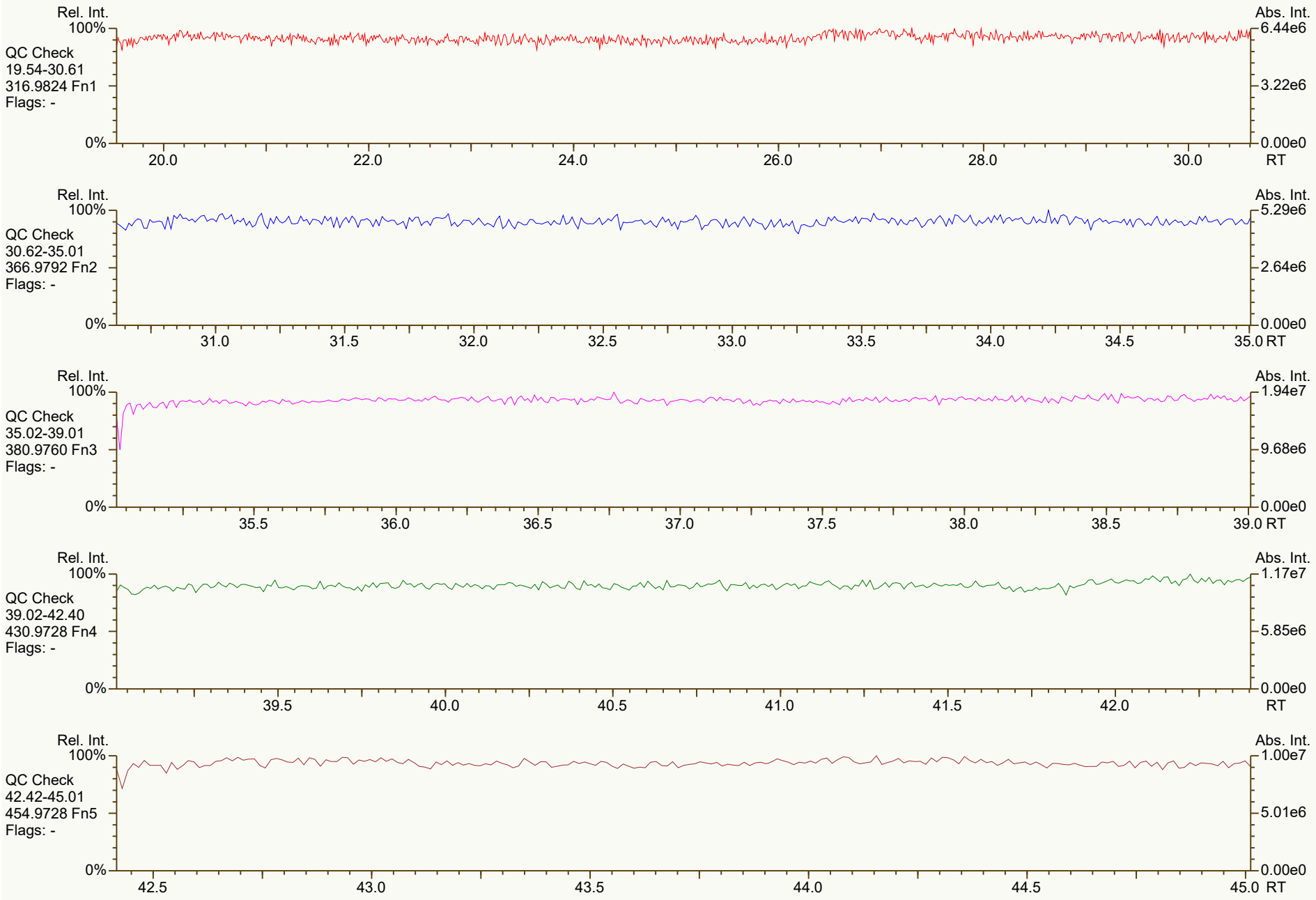

Rel. Int.
100%
0%
Abs. Int.
9.03e3
4.51e3
0.00e0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PB
4σ 1.39e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
7.86e3
3.93e3
0.00e0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 1.75e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
6.90e6
3.45e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: PBM
4σ 1.81e3
12378F
8.67e6
32.50
23478F
8.84e6*
33.61
Abs. Int.
2.36e6
1.18e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: PBM
4σ 2.12e3
12378F
5.46e6
32.50
23478F
5.53e6*
33.61
Abs. Int.
1.45e6
7.27e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: PB
4σ 2.65e3
CS 12346F
1.58e7
31.96
ES 12378F
1.68e7
32.48
ES 23478F
1.65e7
33.59
Abs. Int.
4.37e6
2.19e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: PB
4σ 3.96e3
CS 12346F
1.01e7
31.96
ES 12378F
1.05e7
32.48
ES 23478F
1.04e7
33.59
Abs. Int.
2.94e6
1.47e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: B
4σ 1.47e3
Abs. Int.
1.15e4
5.77e3
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PB
4σ 1.61e3
123478F
7.34e6
36.83
123678F
7.99e6
36.98
234678F
7.37e6
37.66
123789F
5.94e6
38.60
Abs. Int.
2.06e6
1.03e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: PB
4σ 2.39e3
123478F
5.74e6
36.83
123678F
6.25e6
36.98
234678F
5.77e6
37.66
123789F
4.61e6
38.60
Abs. Int.
1.55e6
7.77e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: PBM
4σ 2.28e3
ES 123478F
7.09e6
36.82
ES 123678F
8.49e6*
36.96
CS 123469F
7.07e6*
37.28
ES 234678F
7.31e6*
37.65
ES 123789F
6.04e6*
38.59
Abs. Int.
2.21e6
1.11e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: PBM
4σ 4.62e3
ES 123478F
1.30e7
36.82
ES 123678F
1.55e7*
36.96
CS 123469F
1.34e7*
37.28
ES 234678F
1.31e7*
37.64
ES 123789F
1.10e7*
38.59
Abs. Int.
3.75e6
1.87e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: PB
4σ 1.24e3
Abs. Int.
5.65e3
2.83e3
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PB
4σ 3.33e3
1234678F
5.68e6
39.94
1234789F
4.43e6
41.34
Abs. Int.
1.86e6
9.29e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 1.79e3
1234678F
5.58e6
39.94
1234789F
4.15e6
41.34
Abs. Int.
1.72e6
8.58e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 4.64e3
ES 1234678F
4.89e6*
39.93
CS 1234689F
5.21e6
40.33
ES 1234789F
3.79e6*
41.33
Abs. Int.
1.66e6
8.32e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 6.99e3
ES 1234678F
1.12e7*
39.93
CS 1234689F
1.13e7
40.33
ES 1234789F
8.52e6*
41.33
Abs. Int.
3.47e6
1.73e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: PB
4σ 1.44e3
Abs. Int.
6.04e3
3.02e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
5.70e6*
43.72
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PBM
4σ 1.38e3
0%
Abs. Int.
1.24e6
6.22e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT
OCDF
6.26e6*
43.72
OCDF
42.42-45.00
443.7398 Fn5
Flags: PBM
4σ 3.55e3
1.33e6
6.67e5
ES OCDF
1.07e7*
43.71
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 4.30e3
2.25e6
1.13e6
ES OCDF
1.19e7*
43.71
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 4.43e3
2.57e6
1.29e6
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.25e3
5.59e3
2.80e3


Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
6.44e6
3.22e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
5.29e6
2.64e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
1.94e7
9.68e6
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.17e7
5.85e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.00e7
5.01e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: B
4σ 2.10e3
0%
Abs. Int.
8.19e3
4.10e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: B
4σ 1.41e3
0%
Abs. Int.
8.04e3
4.02e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: B
4σ 1.33e3
0%
Abs. Int.
1.13e4
5.63e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: B
4σ 4.36e3
0%
Abs. Int.
2.62e4
1.31e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: B
4σ 3.31e3
0%
Abs. Int.
1.84e4
9.20e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.62-35.01
355.8546 Fn2
Flags: PB
4σ 1.06e3
0%
Abs. Int.
4.61e3
2.30e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.62-35.01
357.8517 Fn2
Flags: PB
4σ 1.03e3
0%
Abs. Int.
4.01e3
2.00e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
367.8949 Fn2
Flags: B
4σ 1.90e3
0%
Abs. Int.
1.20e4
5.99e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.62-35.01
369.8919 Fn2
Flags: B
4σ 1.44e3
0%
Abs. Int.
1.23e4
6.16e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.62-35.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.29e6
2.64e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PB
4σ 1.64e3
0%
Abs. Int.
4.48e3
2.24e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PB
4σ 1.76e3
0%
Abs. Int.
5.35e3
2.68e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: B
4σ 1.70e3
0%
Abs. Int.
2.43e4
1.21e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: B
4σ 1.47e3
0%
Abs. Int.
1.15e4
5.75e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.94e7
9.68e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

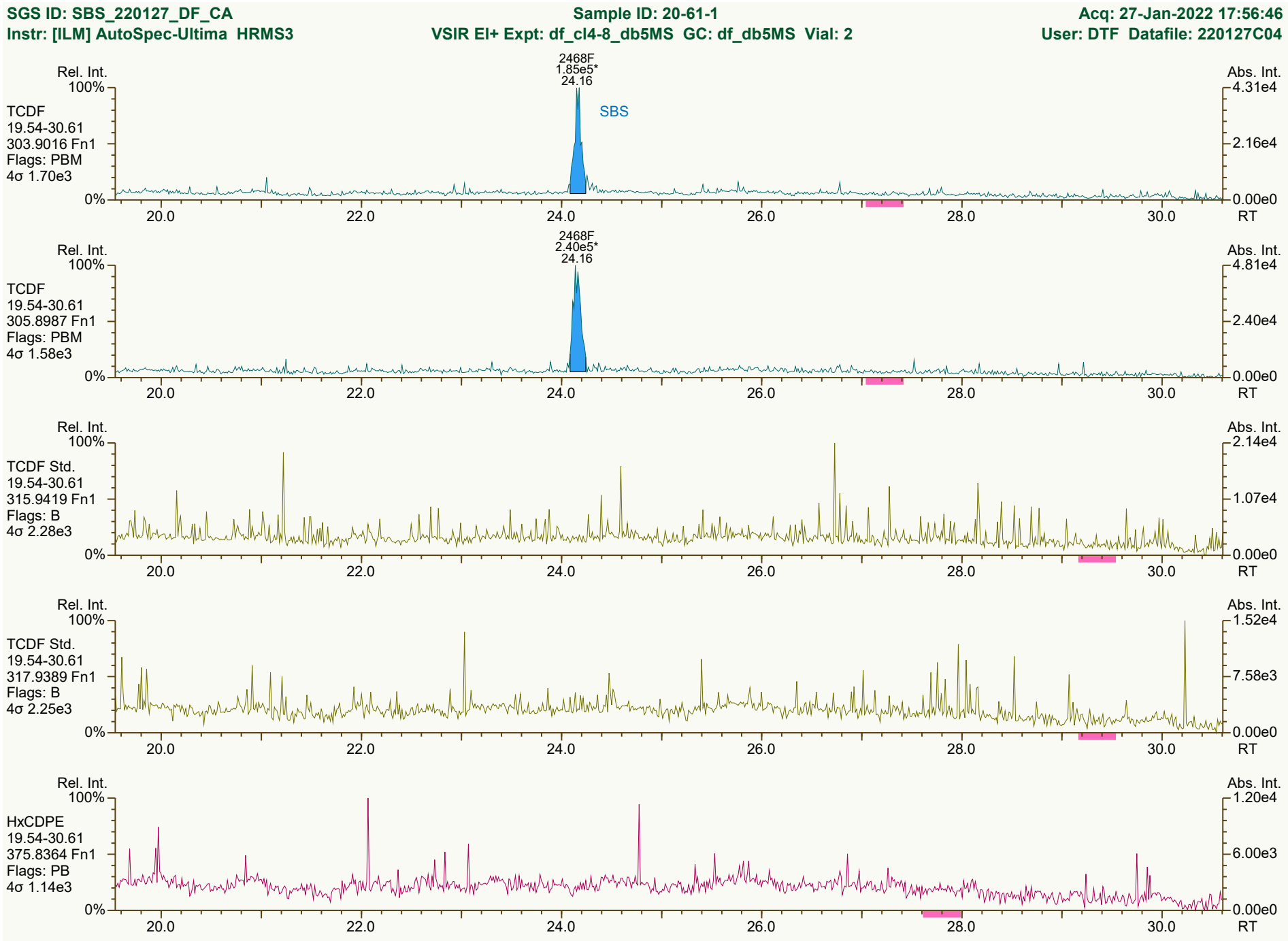

Rel. Int.
100%
HpCDD
39.02-42.40
423.7767 Fn4
Flags: B
4σ 1.09e3
0%
Abs. Int.
3.83e3
1.92e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.02-42.40
425.7737 Fn4
Flags: B
4σ 1.09e3
0%
Abs. Int.
6.13e3
3.07e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: B
4σ 1.81e3
0%
Abs. Int.
1.27e4
6.34e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: B
4σ 1.80e3
0%
Abs. Int.
1.30e4
6.48e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 1.51e3
0%
Abs. Int.
1.02e4
5.11e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.01
459.7348 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
7.78e3
3.89e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: B
4σ 1.29e3
0%
Abs. Int.
1.71e4
8.57e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.41e3
4.71e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.00e7
5.01e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: SBS_220127_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 20-61-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2

Acq: 27-Jan-2022 17:56:46
User: DTF Datafile: 220127C04



Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\SBS_220127_DF_CA.utp_res, saved 28-Jan-2022 08:29 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9857, 2124, 7361 scc: 397-855

Peak annotation: Areas, Centroids
Revised: 28-Jan-2022 08:29 (DTF) Printed: 28-Jan-2022 09:54 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.83e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: B
4σ 1.80e3
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: B
4σ 1.41e3
1.82e4
9.12e3
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
6.44e6
3.22e6


Rel. Int.
100%
PeCDF-2
30.62-35.01
339.8597 Fn2
Flags: B
4σ 1.33e3
0%
Abs. Int.
6.66e3
3.33e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.01
341.8568 Fn2
Flags: PB
4σ 2.17e3
0%
Abs. Int.
6.47e3
3.24e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
351.9000 Fn2
Flags: B
4σ 1.49e3
0%
Abs. Int.
9.91e3
4.96e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.01
353.8970 Fn2
Flags: B
4σ 1.45e3
0%
Abs. Int.
1.04e4
5.19e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.01
409.7974 Fn2
Flags: B
4σ 1.43e3
0%
Abs. Int.
1.67e4
8.33e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.01
373.8207 Fn3
Flags: PB
4σ 1.85e3
0%
Abs. Int.
6.83e3
3.41e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
35.02-39.01
375.8178 Fn3
Flags: B
4σ 1.20e3
0%
Abs. Int.
8.44e3
4.22e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
383.8639 Fn3
Flags: B
4σ 1.61e3
0%
Abs. Int.
1.32e4
6.61e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.01
385.8610 Fn3
Flags: B
4σ 3.34e3
0%
Abs. Int.
2.85e4
1.42e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
35.02-39.01
445.7555 Fn3
Flags: B
4σ 1.48e3
0%
Abs. Int.
9.77e3
4.89e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

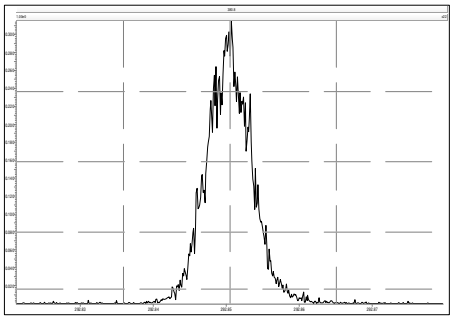

Rel. Int.
100%
HpCDF
39.02-42.40
407.7818 Fn4
Flags: B
4σ 1.42e3
0%
Abs. Int.
5.49e3
2.75e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 1.43e3
0%
Abs. Int.
5.76e3
2.88e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: B
4σ 2.02e3
0%
Abs. Int.
1.20e4
5.99e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: B
4σ 1.73e3
0%
Abs. Int.
1.15e4
5.74e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.02-42.40
479.7165 Fn4
Flags: PB
4σ 1.36e3
0%
Abs. Int.
8.84e3
4.42e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PB
4σ 1.53e3
0%
Abs. Int.
4.73e3
2.36e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: B
4σ 1.53e3
0%
Abs. Int.
1.78e4
8.89e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: B
4σ 1.48e3
0%
Abs. Int.
6.12e3
3.06e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: B
4σ 2.00e3
0%
Abs. Int.
9.05e3
4.53e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: B
4σ 1.22e3
0%
Abs. Int.
8.45e3
4.23e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

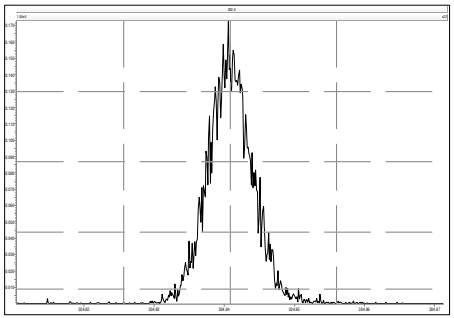
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Thursday, January 27, 2022 14:53:47 Eastern Standard Time

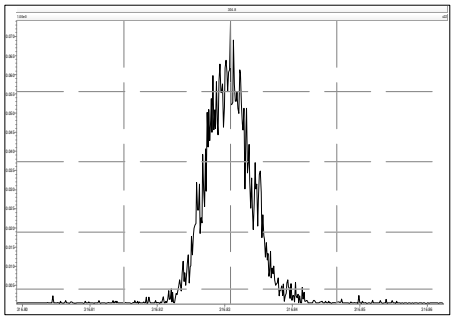
M 292.9824 R 19843



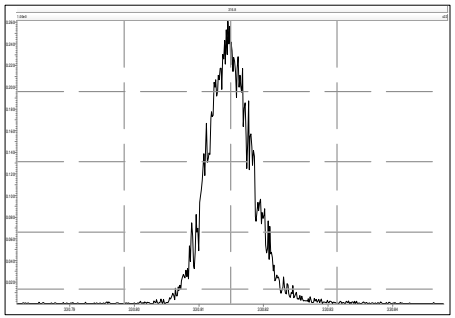
M 304.9824 R 20500



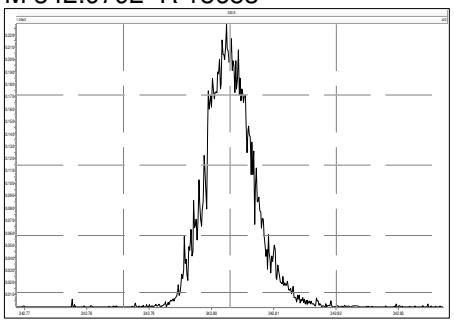
M 316.9824 R 21012



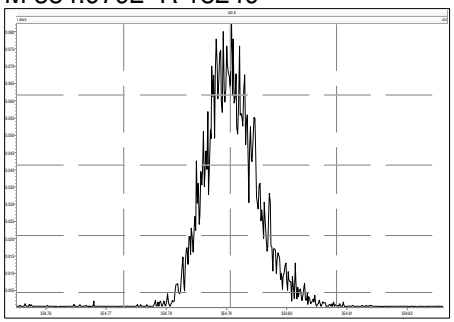
M 330.9792 R 20661



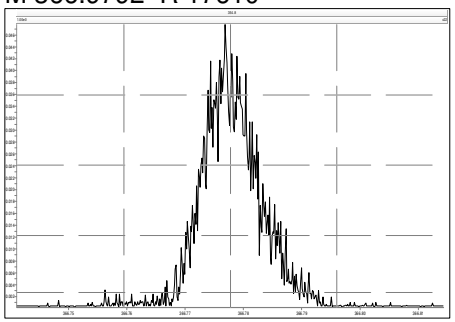
M 342.9792 R 18653



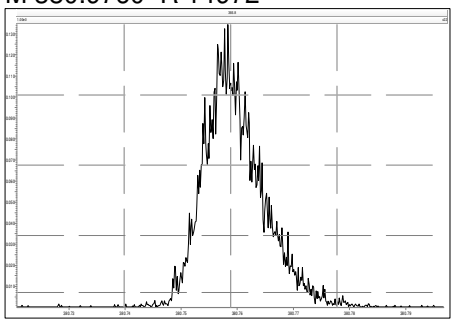
M 354.9792 R 18249



M 366.9792 R 17610



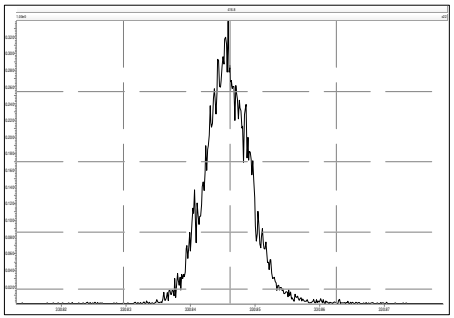
M 380.9760 R 14972



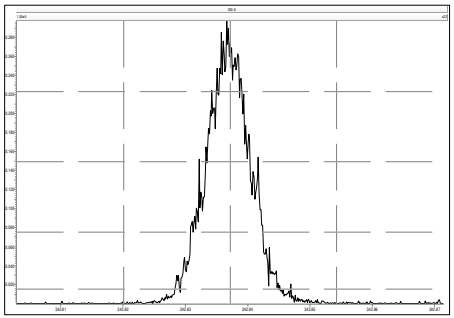
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Thursday, January 27, 2022 14:54:03 Eastern Standard Time

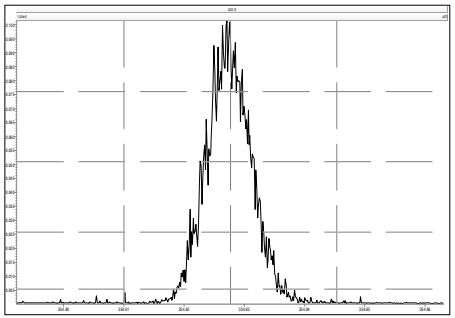
M 330.9792 R 19843



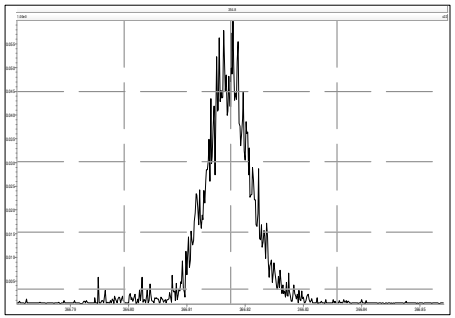
M 342.9792 R 21365



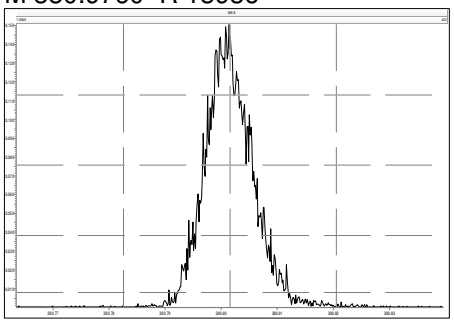
M 354.9792 R 20486



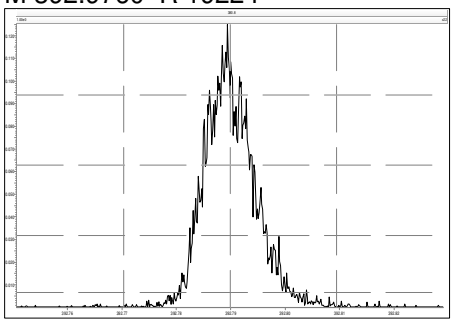
M 366.9792 R 21367



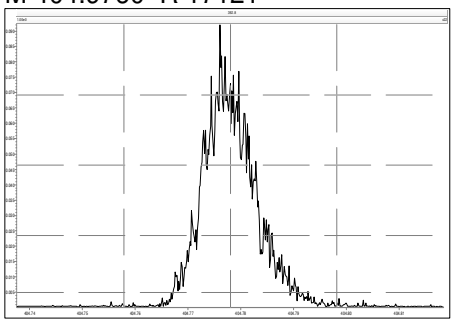
M 380.9760 R 18936



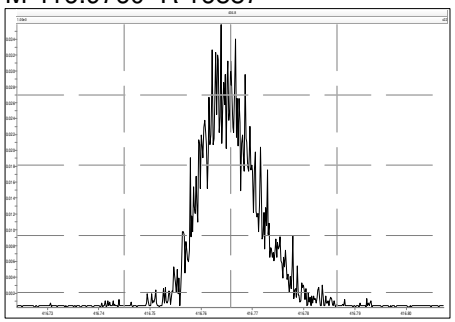
M 392.9760 R 19224



M 404.9760 R 17121



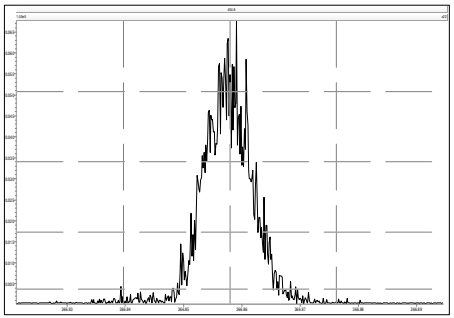
M 416.9760 R 16887



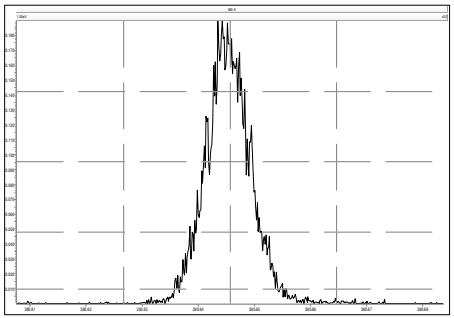
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Thursday, January 27, 2022 14:54:20 Eastern Standard Time

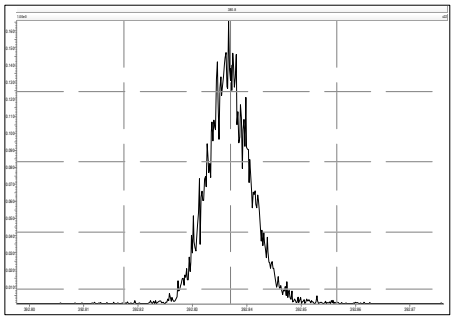
M 366.9792 R 21553



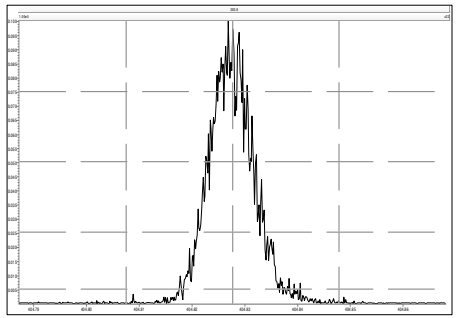
M 380.9760 R 21738



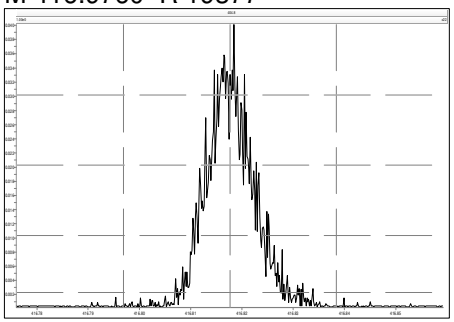
M 392.9760 R 20829



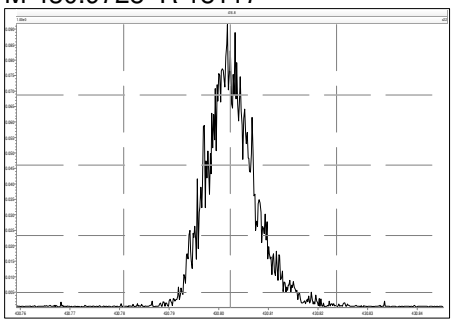
M 404.9760 R 21368



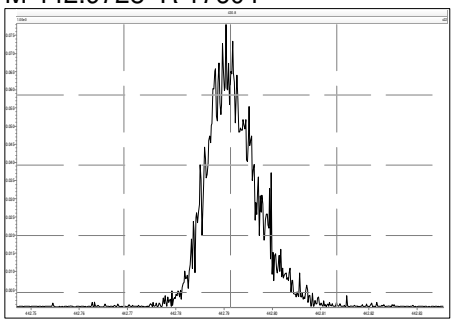
M 416.9760 R 19377



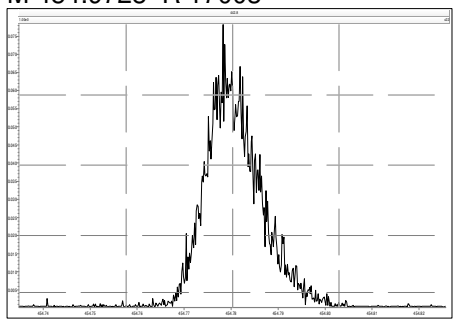
M 430.9728 R 18117



M 442.9728 R 17604



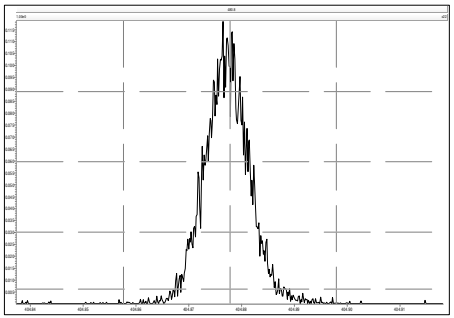
M 454.9728 R 17003



File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Thursday, January 27, 2022 14:54:35 Eastern Standard Time

M 404.9760 R 22525



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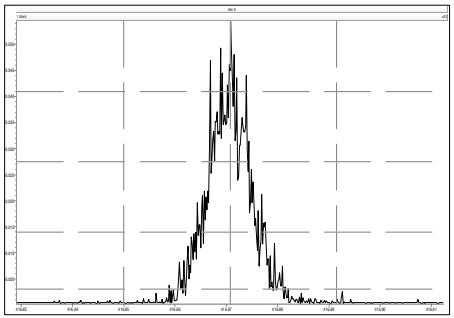

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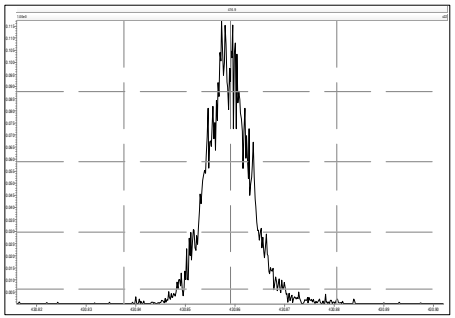

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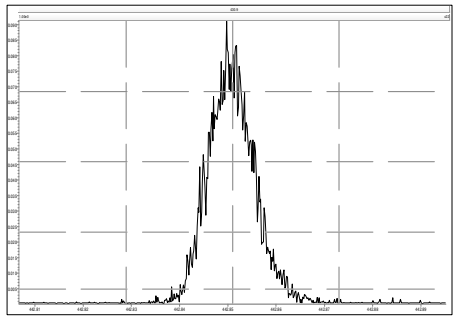

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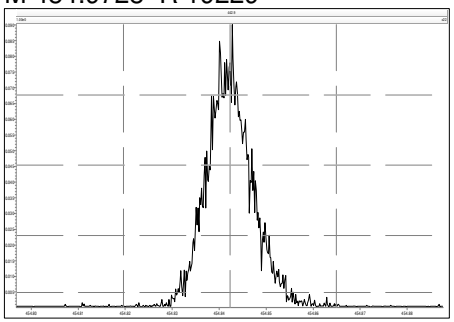

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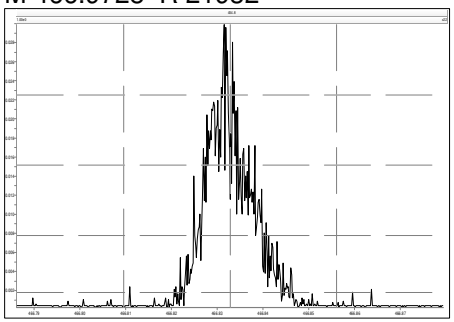
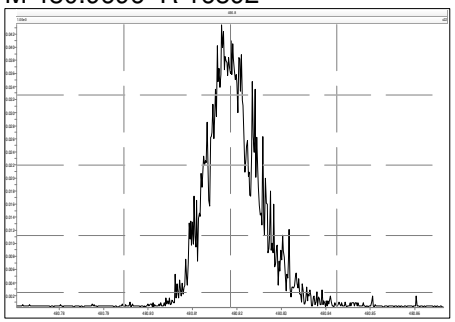


M 480.9696 R 16892



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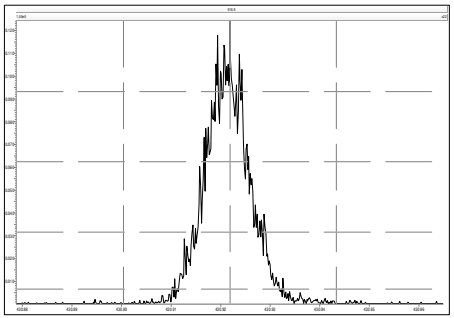

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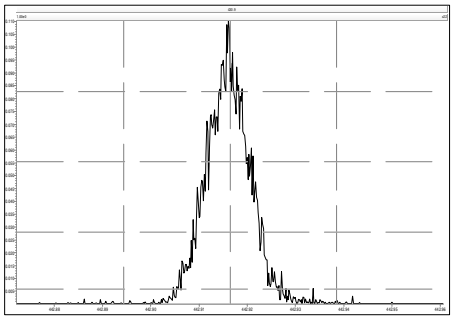

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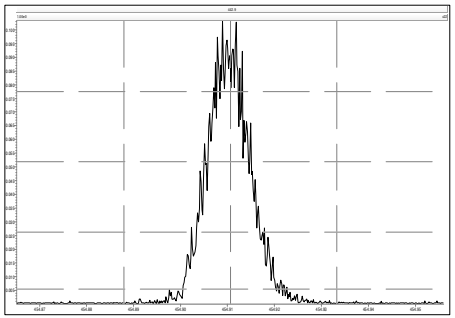

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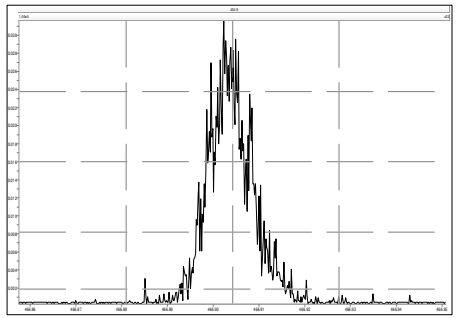

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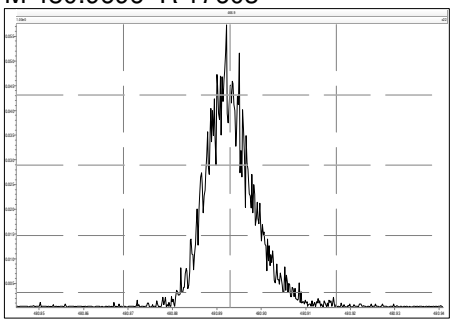

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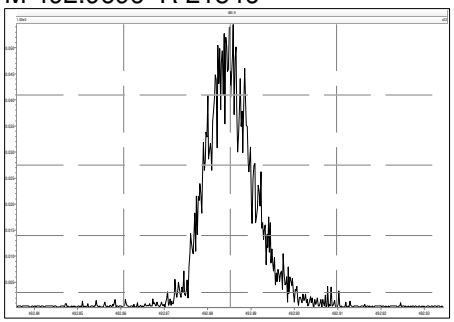

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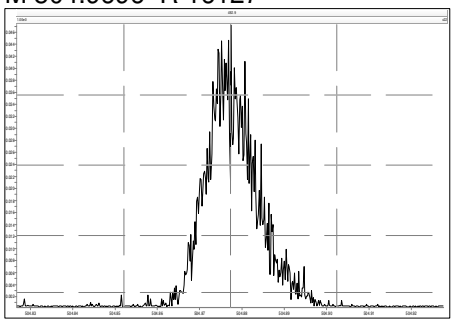

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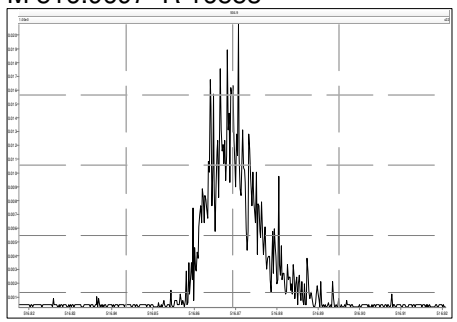

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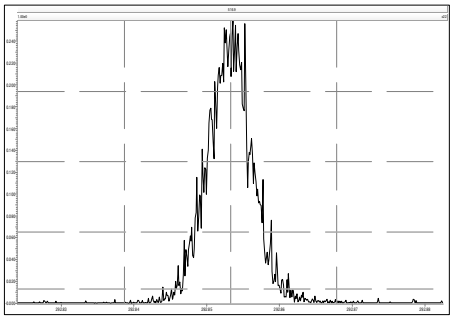
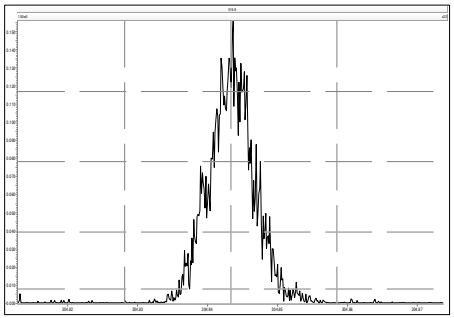


M 304.9824 R 21115



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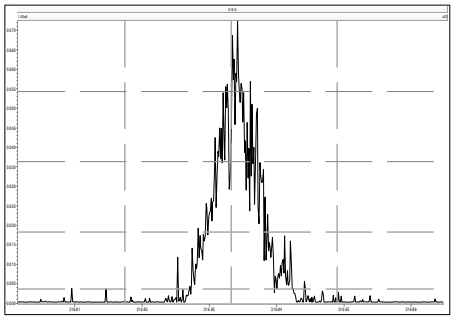

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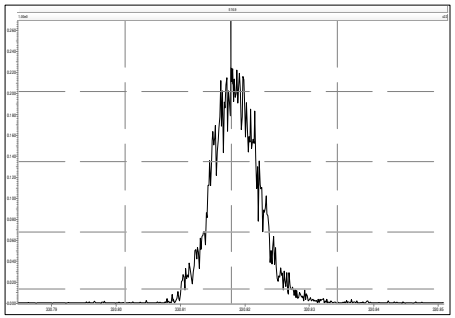

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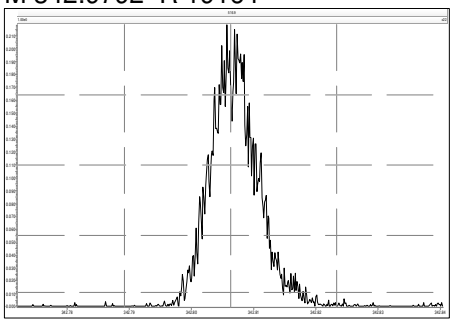

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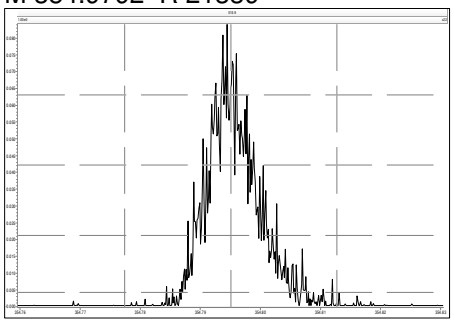

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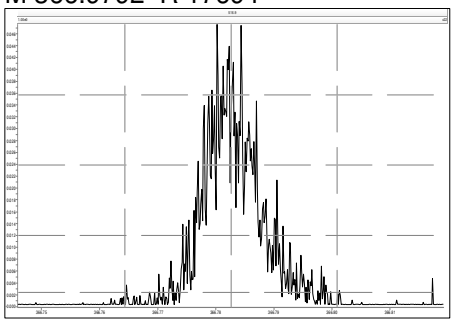

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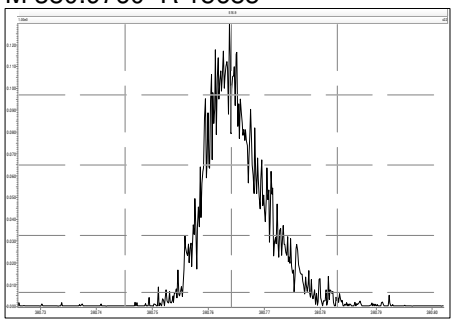

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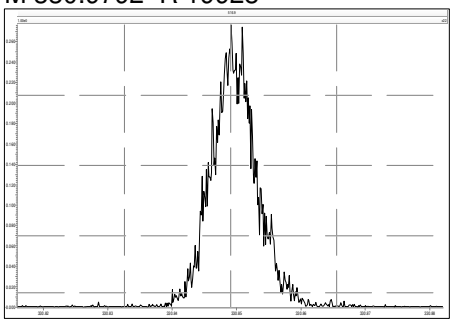

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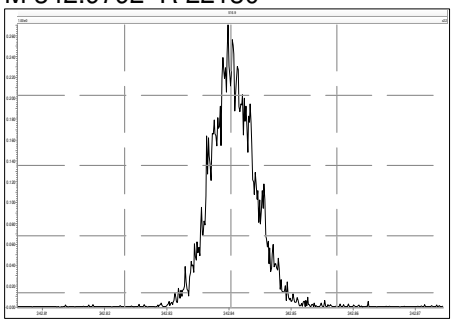

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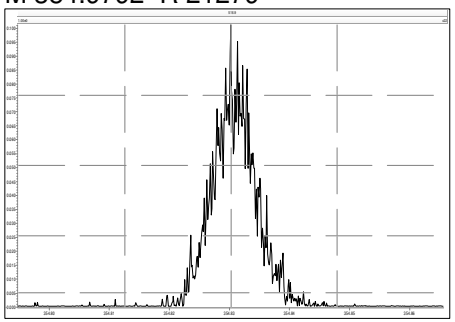

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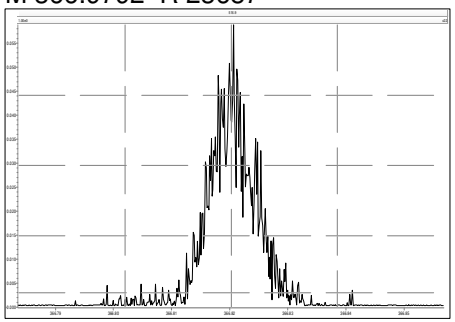

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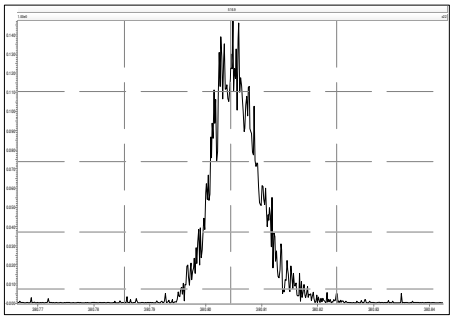

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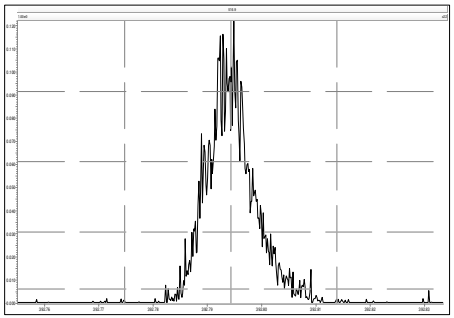

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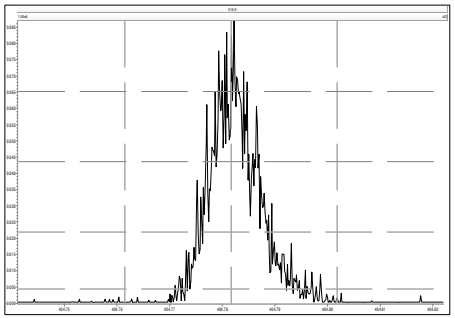

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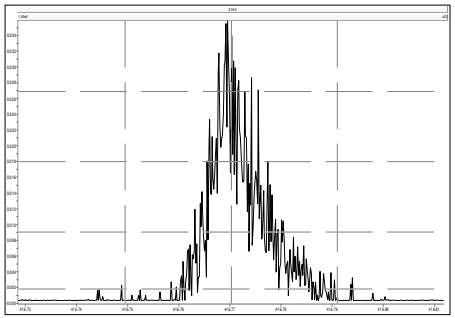

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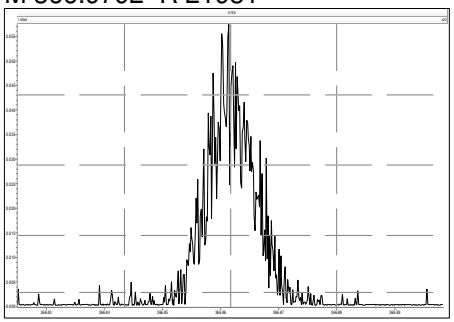

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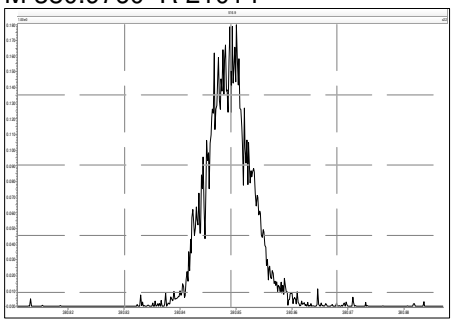

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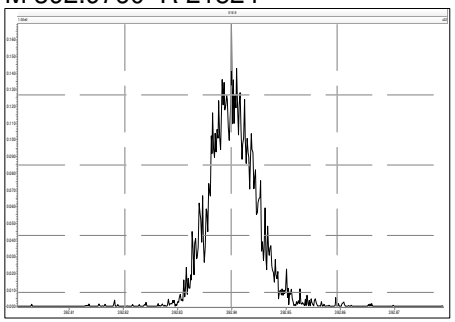

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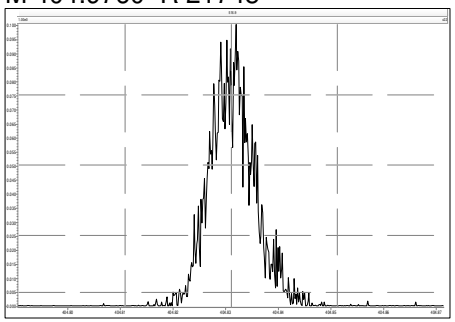

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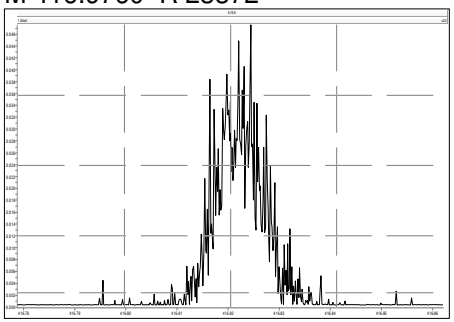

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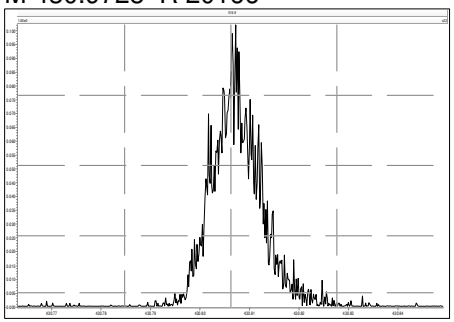

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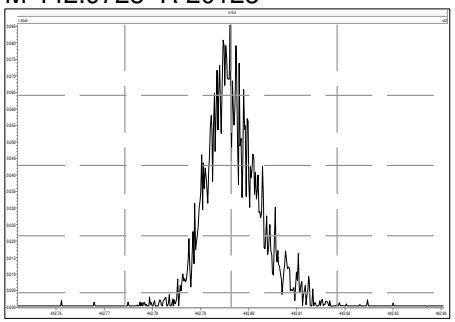

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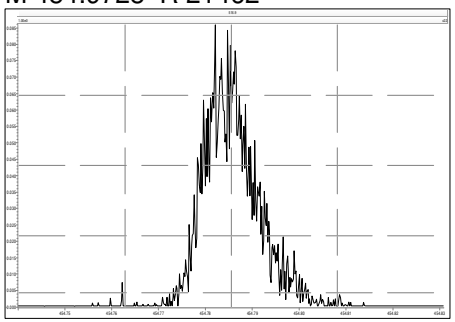

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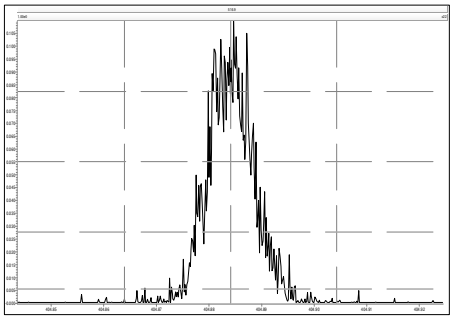

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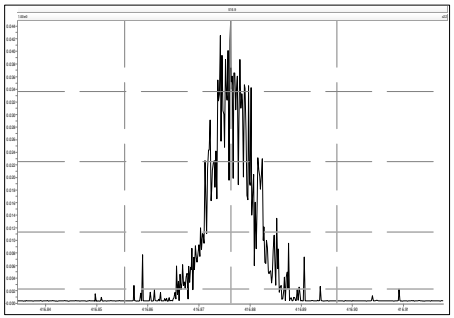

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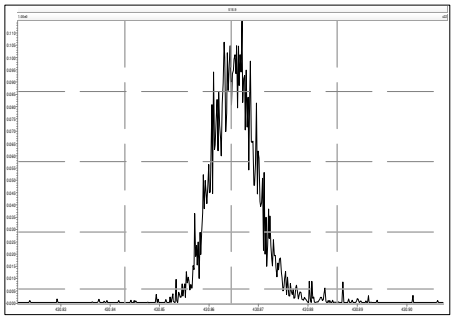

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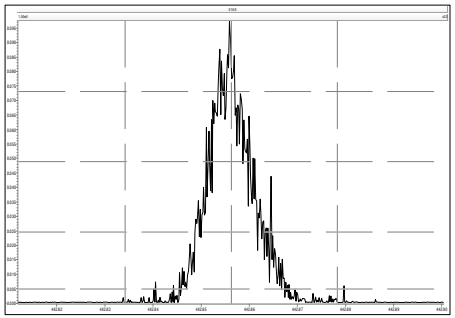

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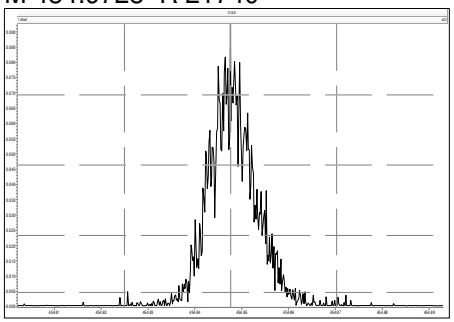

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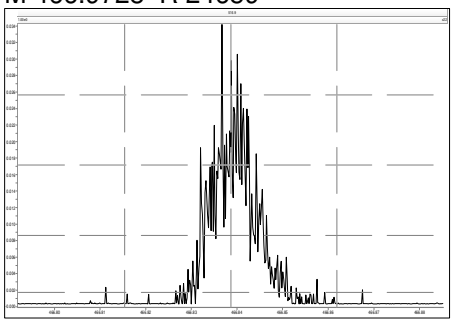

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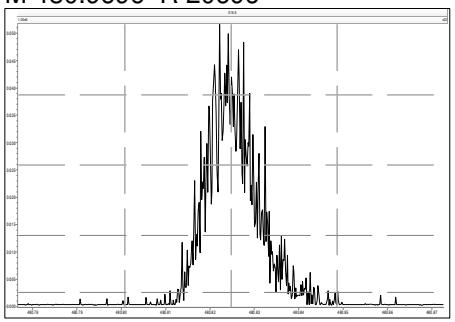

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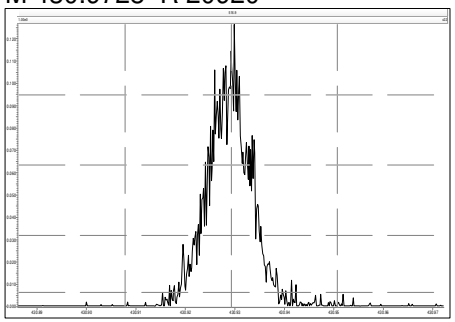

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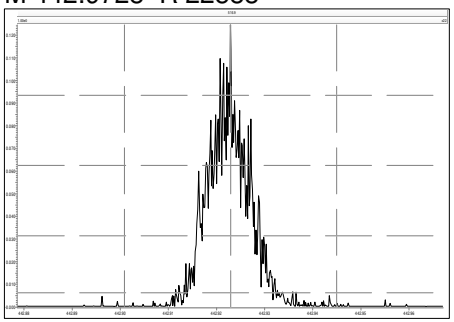

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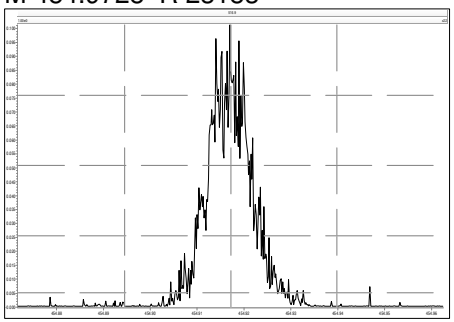

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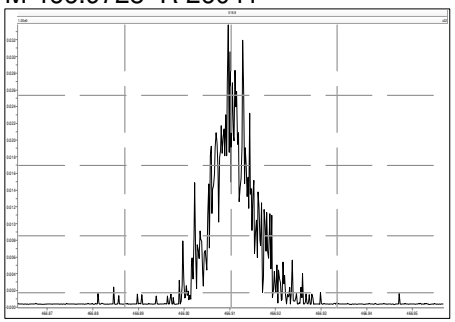

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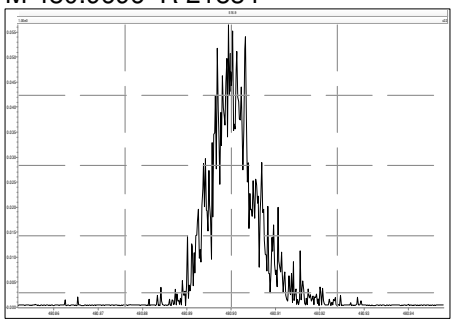

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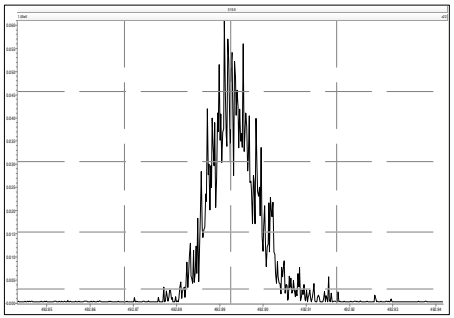

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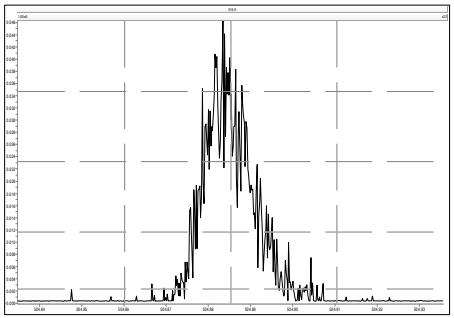

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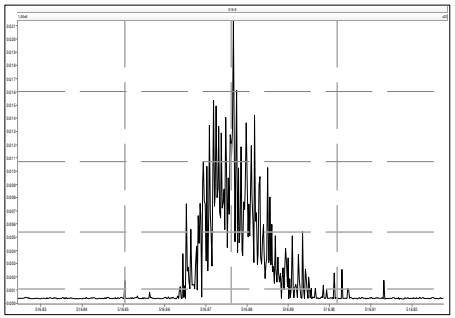


Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34 ✓	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98 ✓
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84 ✓	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86 ✓	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07 ✓	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10 ✓	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28 ✓	1.33

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

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
Tyler_Fritz , 11/11/2021, 4:44:03 PM

APPROVED
Amy_Boehm , 11/11/2021, 5:28:50 PM

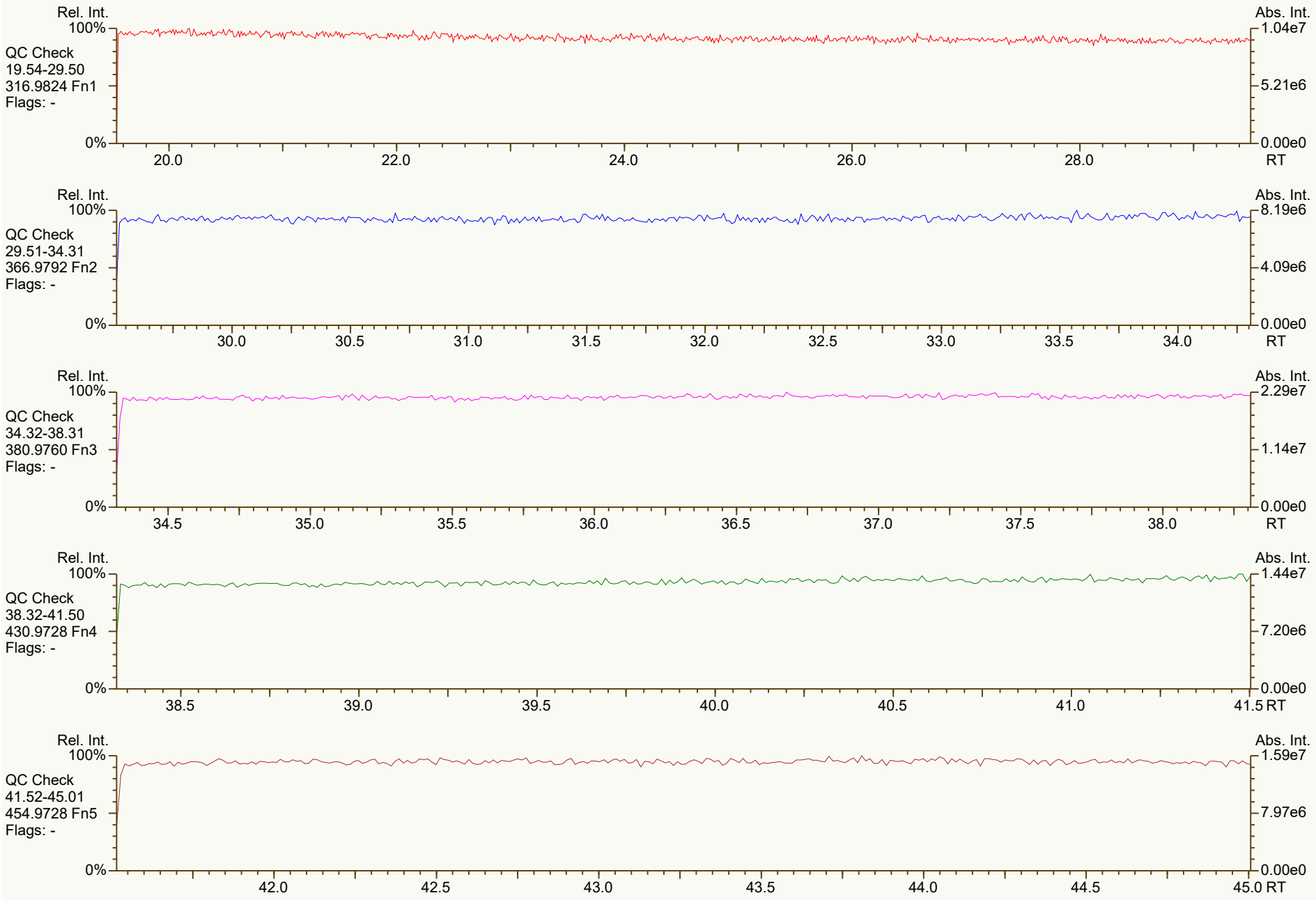
Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD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

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

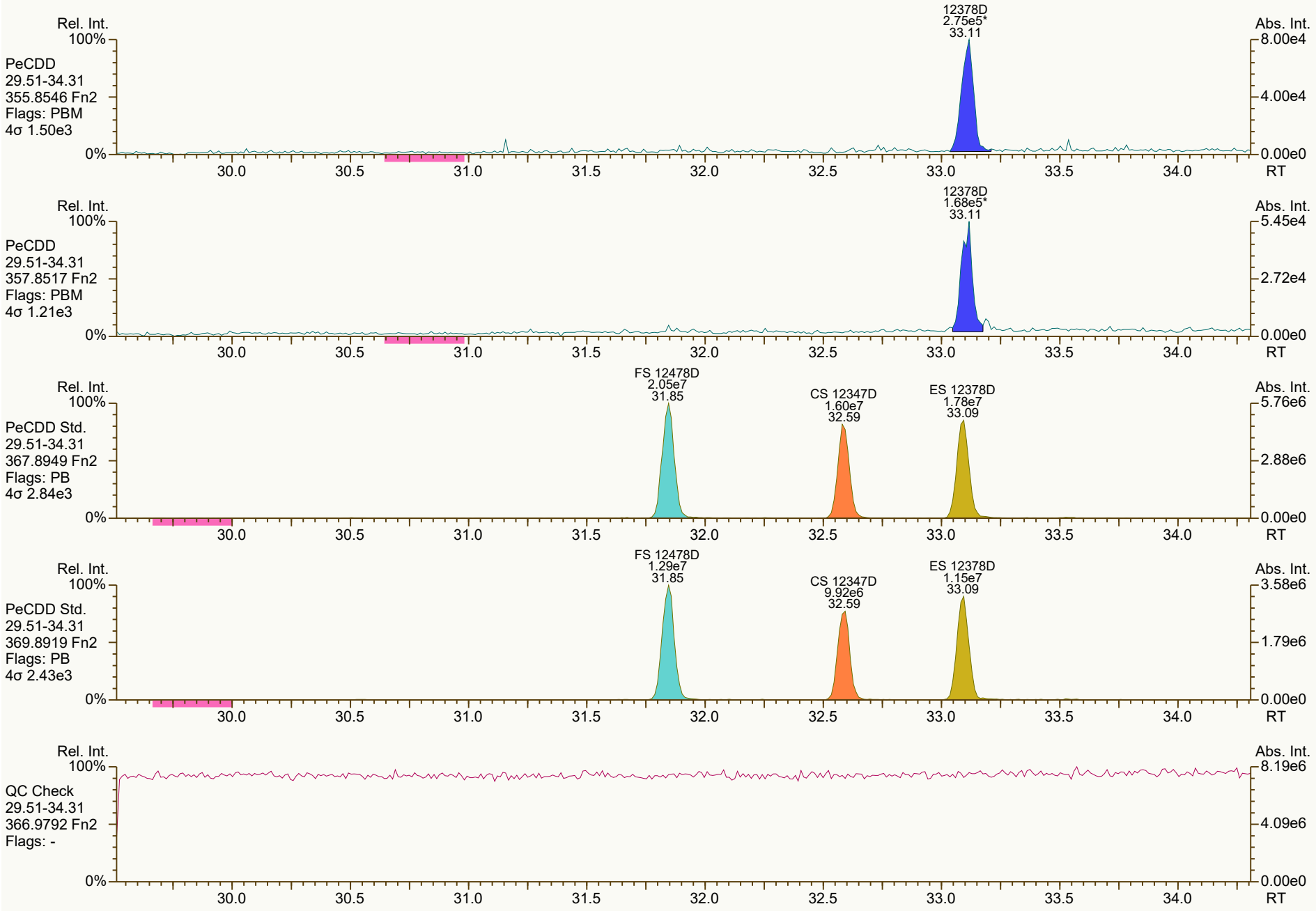
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

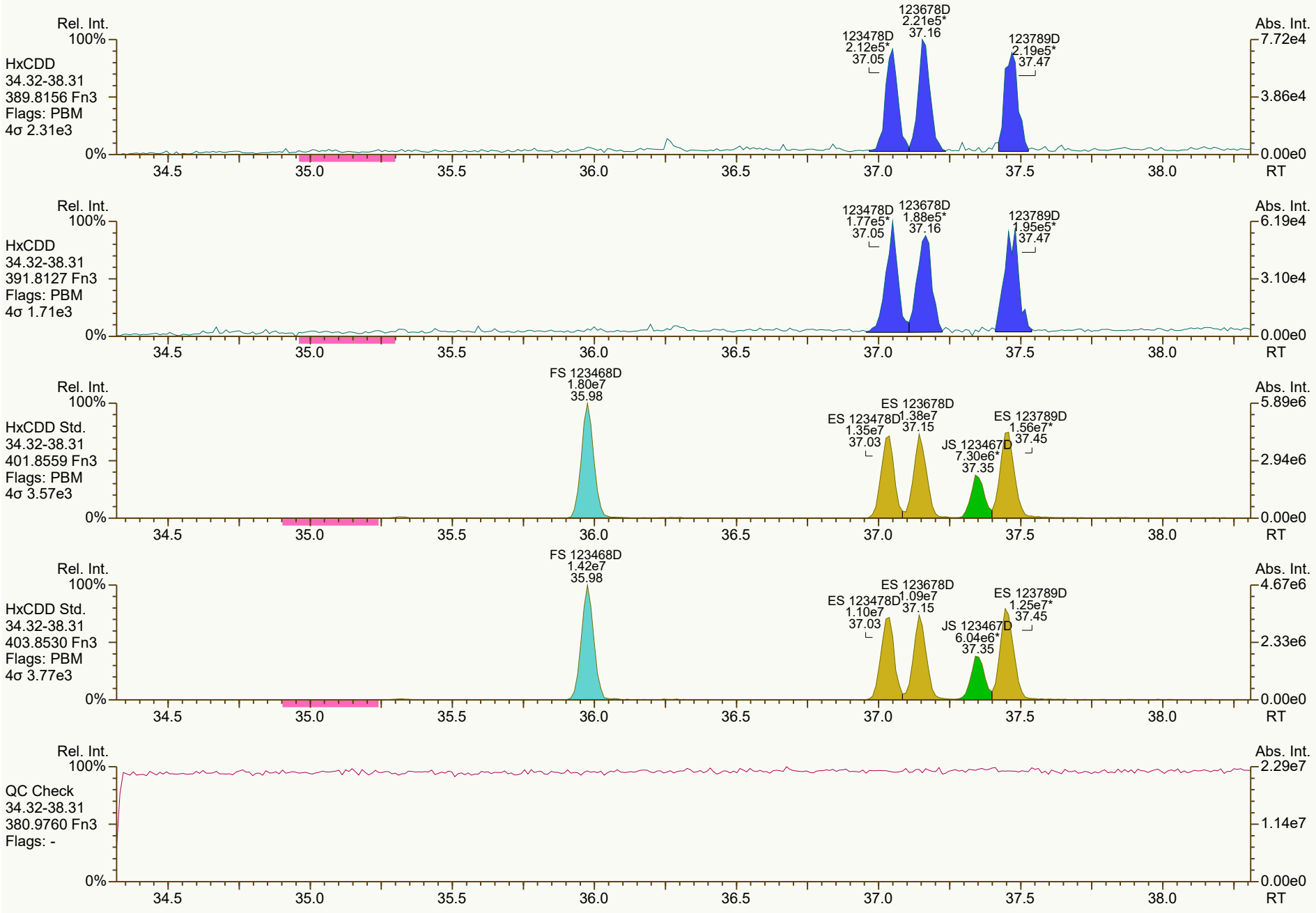
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

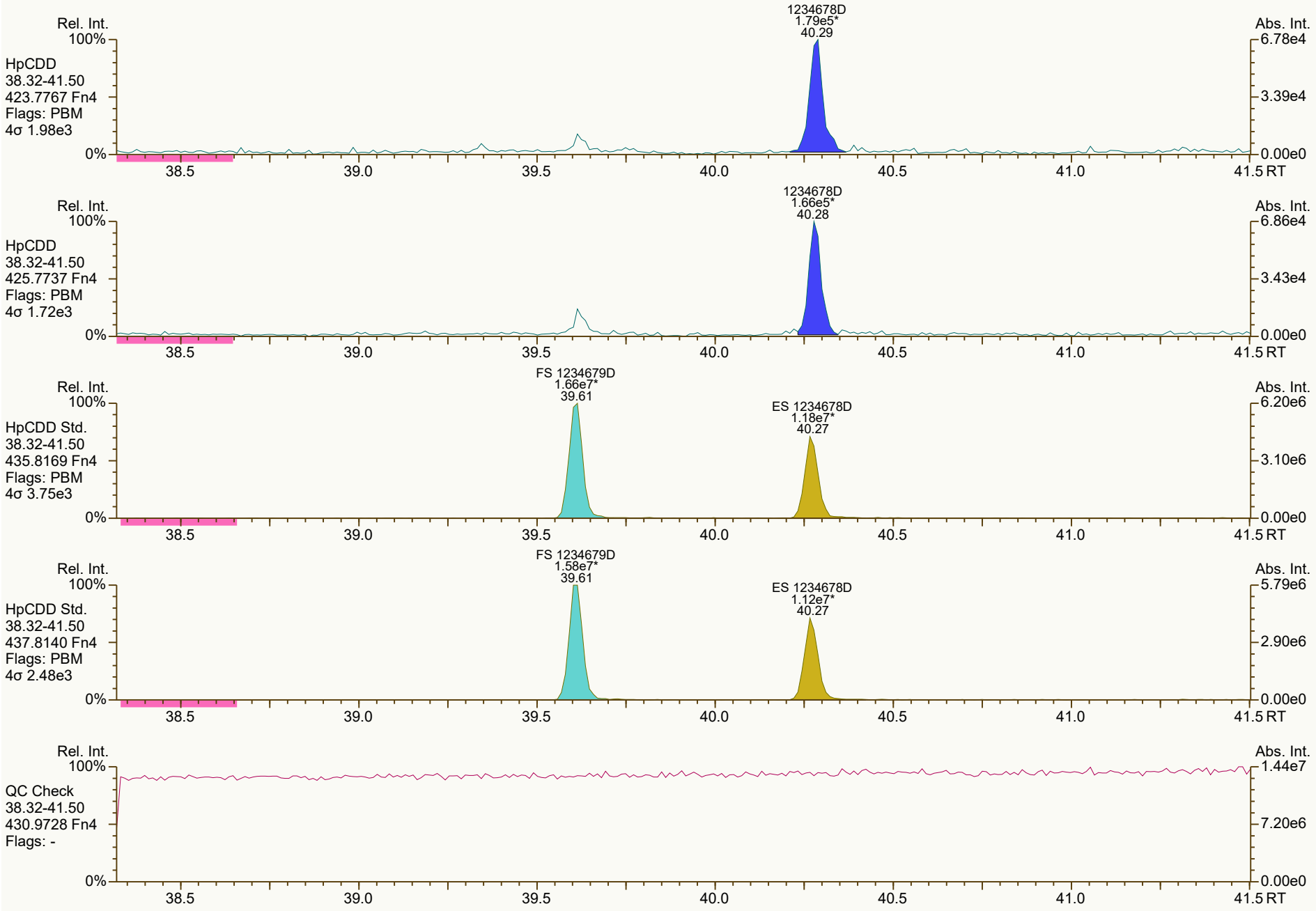
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%

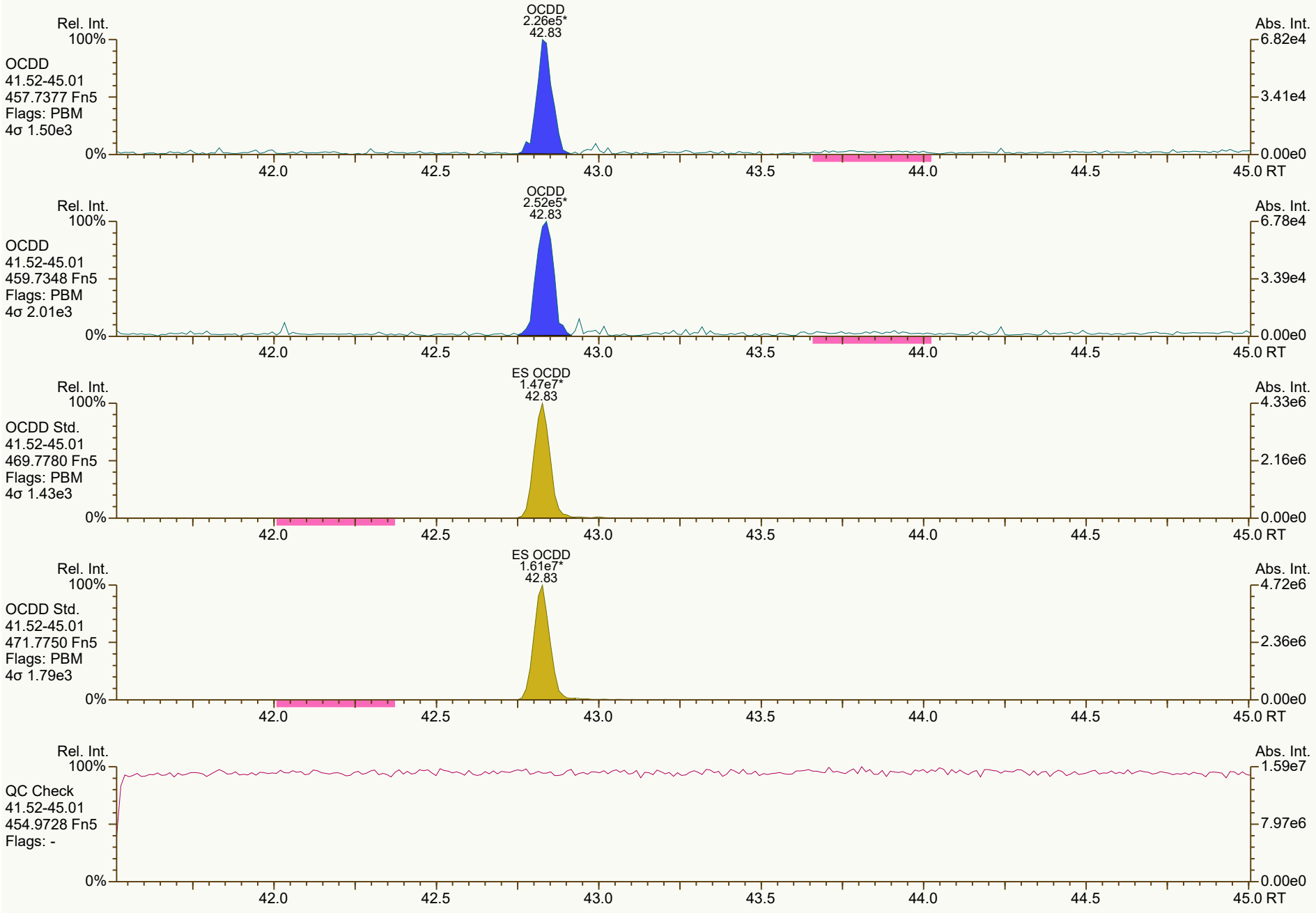

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.04e7
5.21e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.19e6
4.09e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.29e7
1.14e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.44e7
7.20e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.97e6
0.00e0

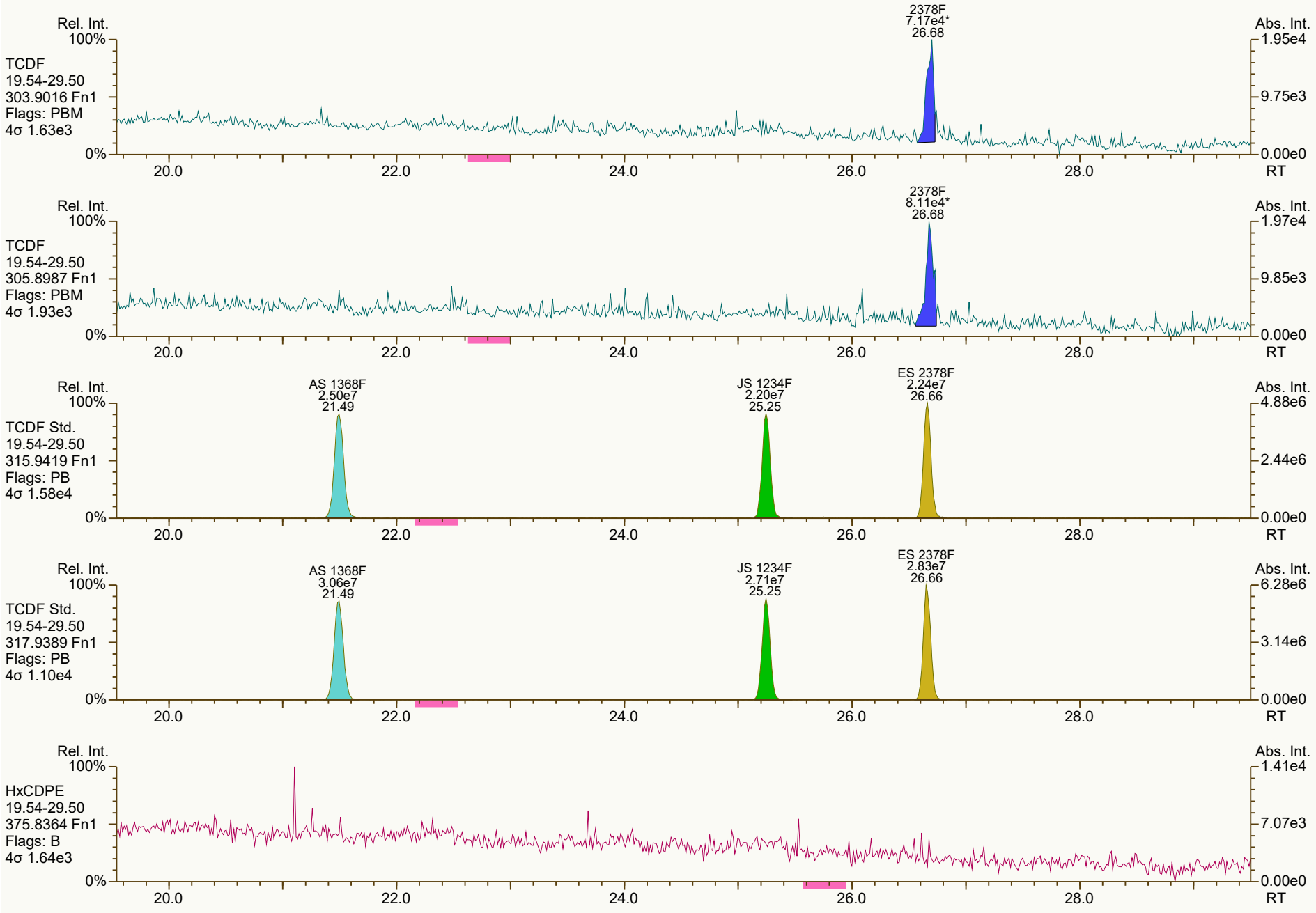

SGS ID: CS0_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3
Sample ID: 25-6-3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
Acq: 10-Nov-2021 11:02:13
User: DTF Datafile: 211110C04
Rel. Int.
100%
0%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
Abs. Int.
1.67e4
8.35e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
2.13e4
1.06e4
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3504, 1483, 2998 scc: 245-007
Revised: 11-Nov-2021 16:18 (DTF) Printed: 11-Nov-2021 16:32 Page 2 of 12


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
Abs. Int.
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
123478D 2.12e5* 37.05
123678D 2.21e5* 37.16
123789D 2.19e5* 37.47
7.72e4
3.86e4
0.00e0
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
123478D 1.77e5* 37.05
123678D 1.88e5* 37.16
123789D 1.95e5* 37.47
6.19e4
3.10e4
0.00e0
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
FS 123468D 1.80e7 35.98
ES 123478D 1.35e7 37.03
ES 123678D 1.38e7 37.15
JS 123467D 7.30e6* 37.35
ES 123789D 1.56e7* 37.45
5.89e6
2.94e6
0.00e0
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
FS 123468D 1.42e7 35.98
ES 123478D 1.10e7 37.03
ES 123678D 1.09e7 37.15
JS 123467D 6.04e6* 37.35
ES 123789D 1.25e7* 37.45
4.67e6
2.33e6
0.00e0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.29e7
1.14e7
0.00e0
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

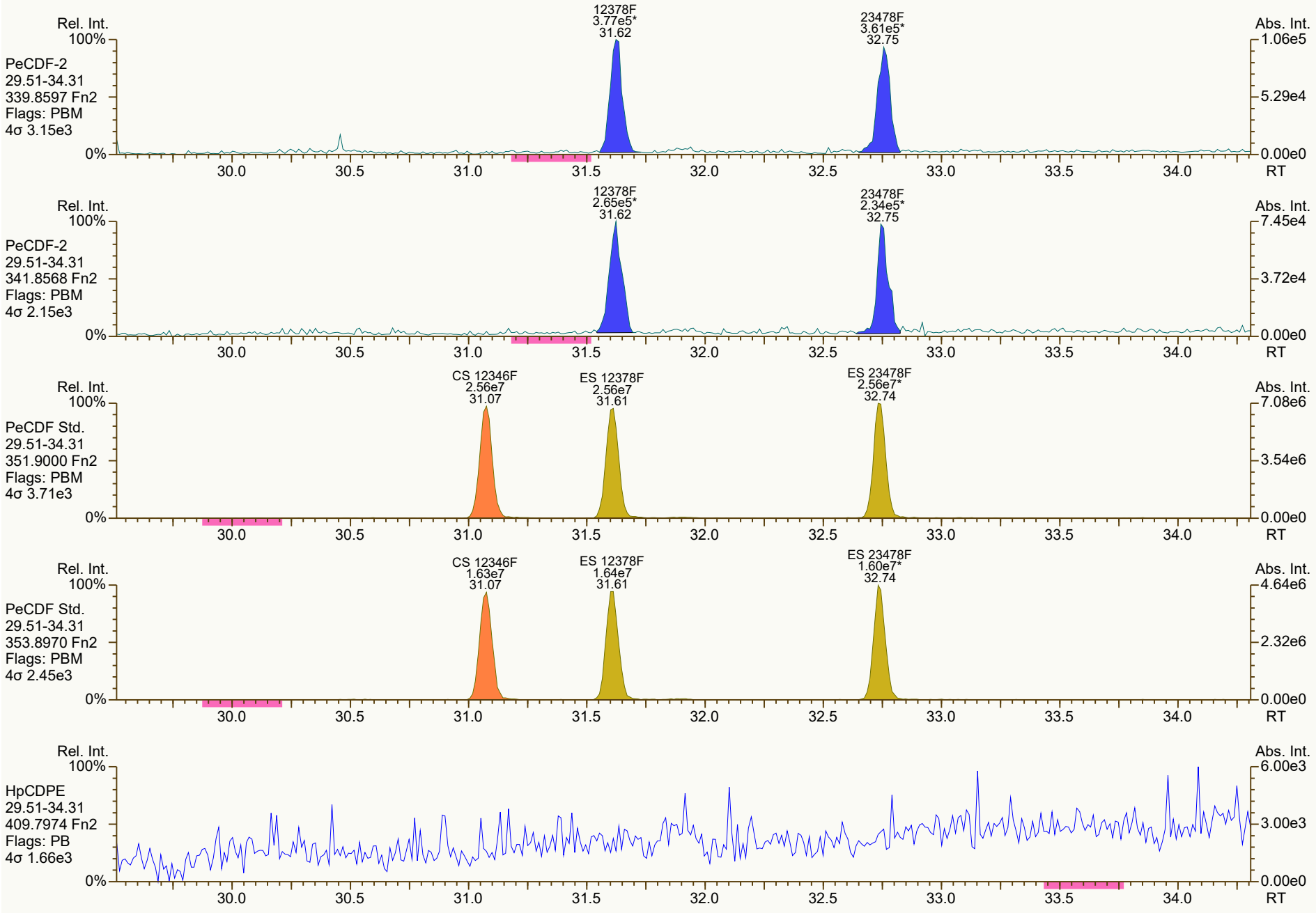

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

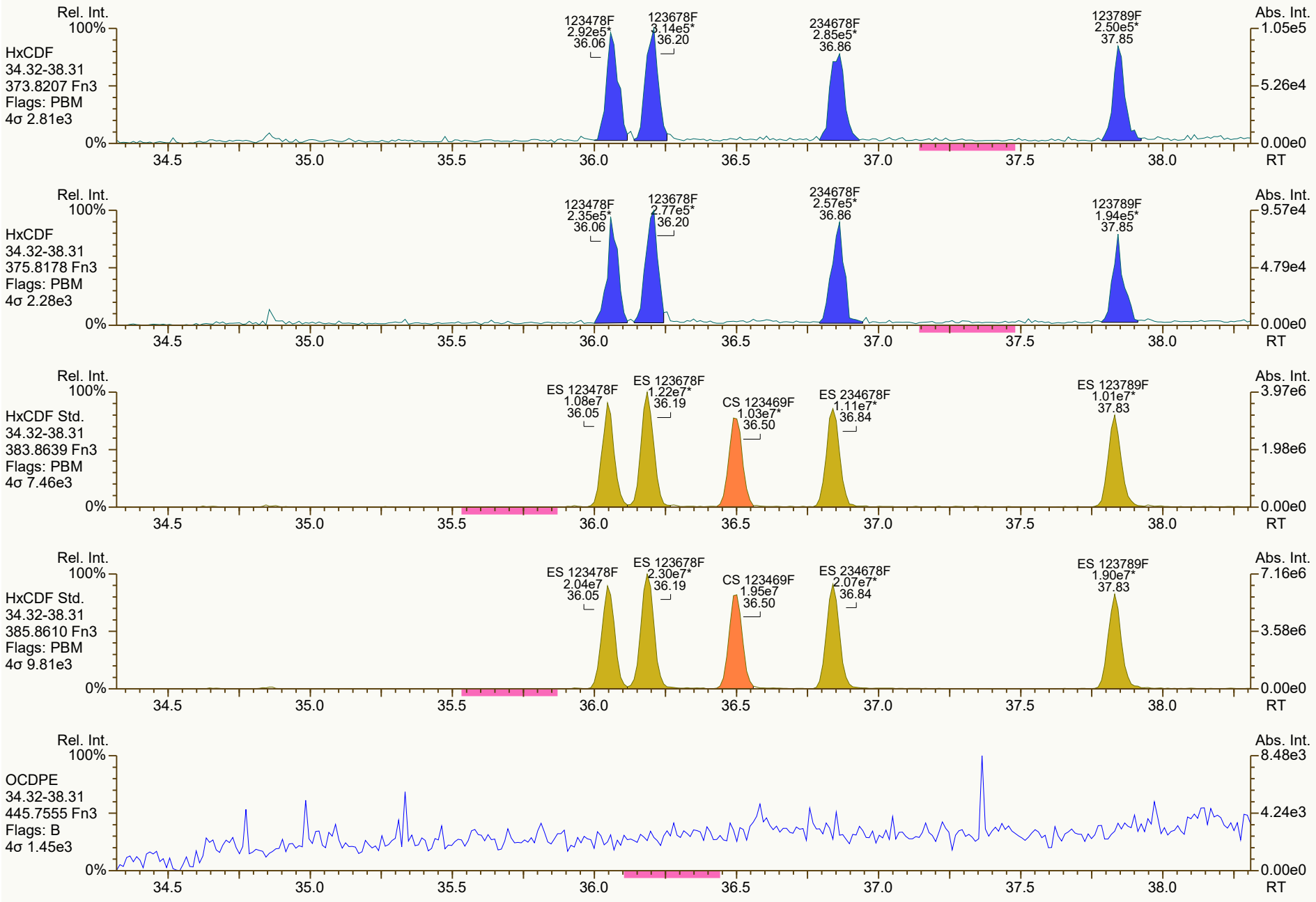

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
Abs. Int.
1.41e4
7.07e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT

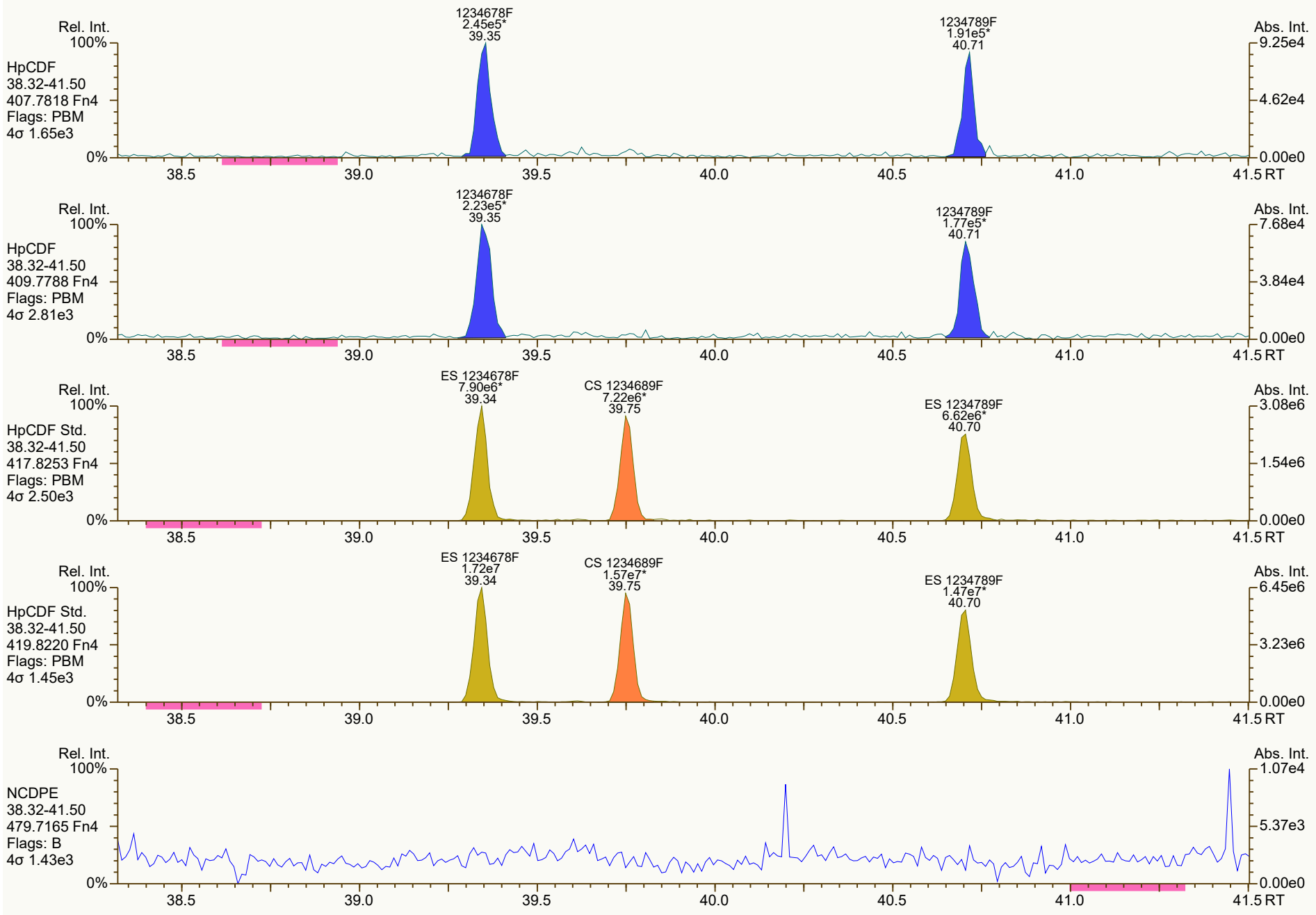
SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6412 scc: 245-007
PKD: 10-Nov-2021 13:30 Printed: 11-Nov-2021 16:32 Page 8 of 12


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

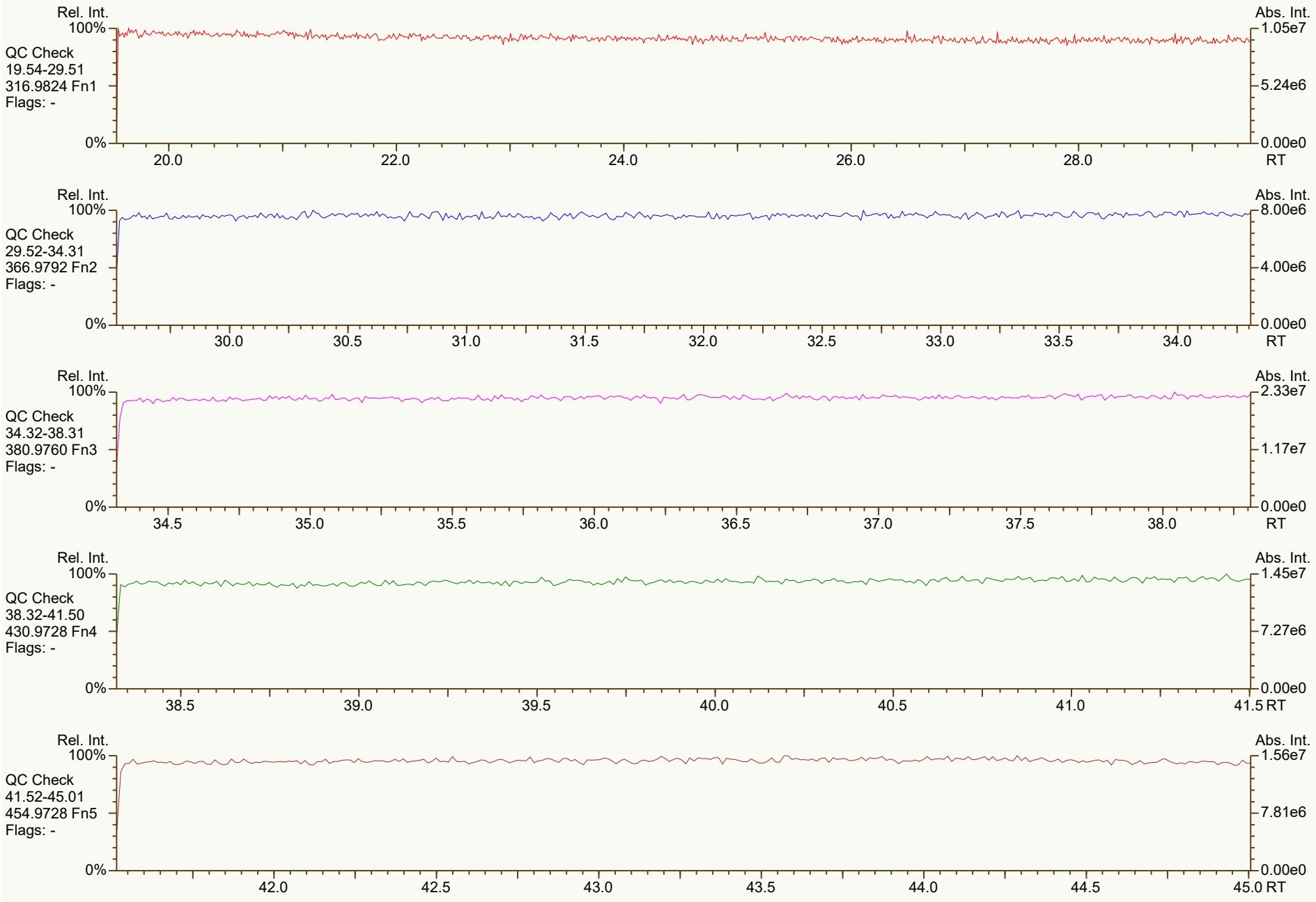

Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
Abs. Int.
8.48e3
4.24e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

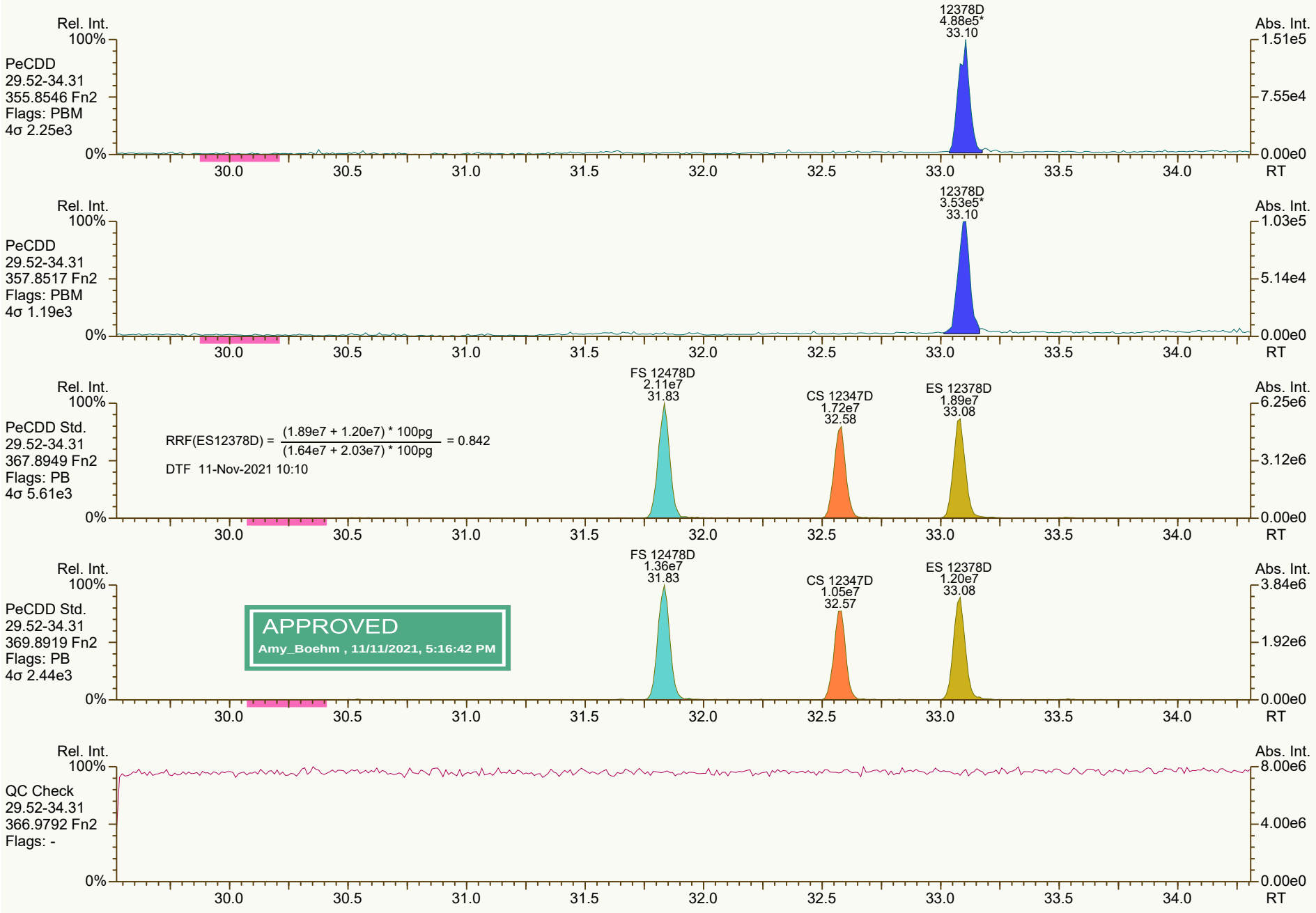

OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

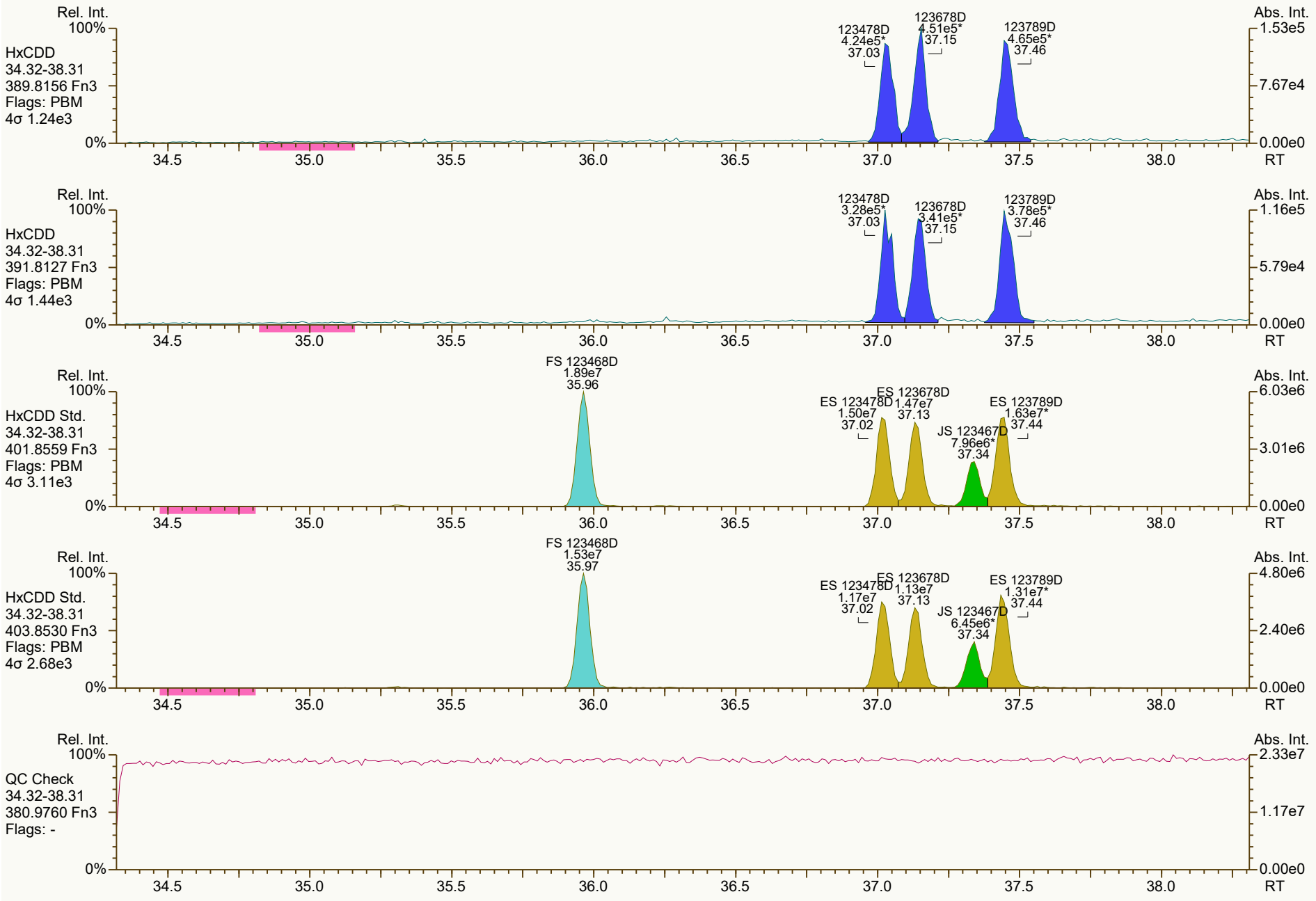
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

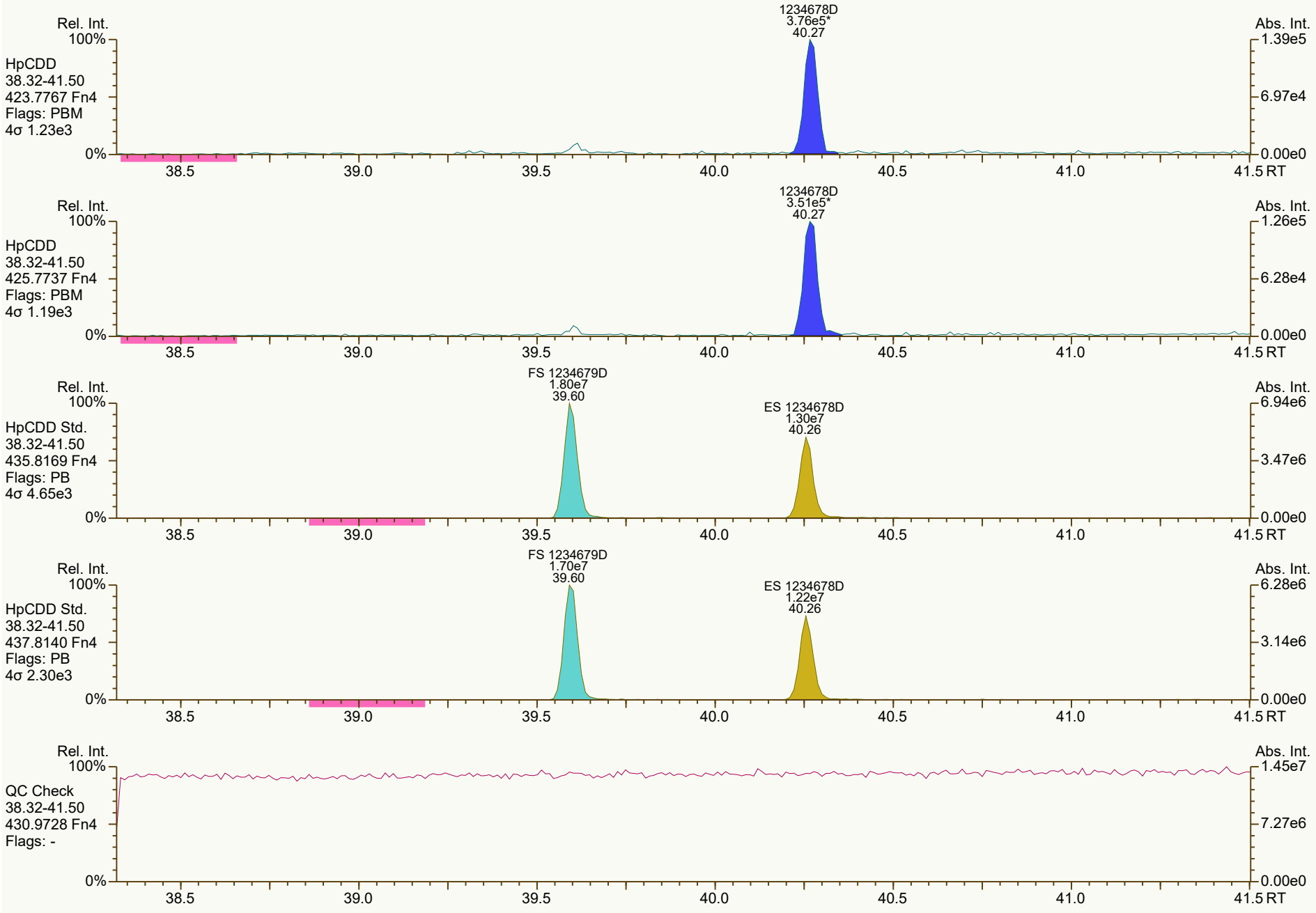
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

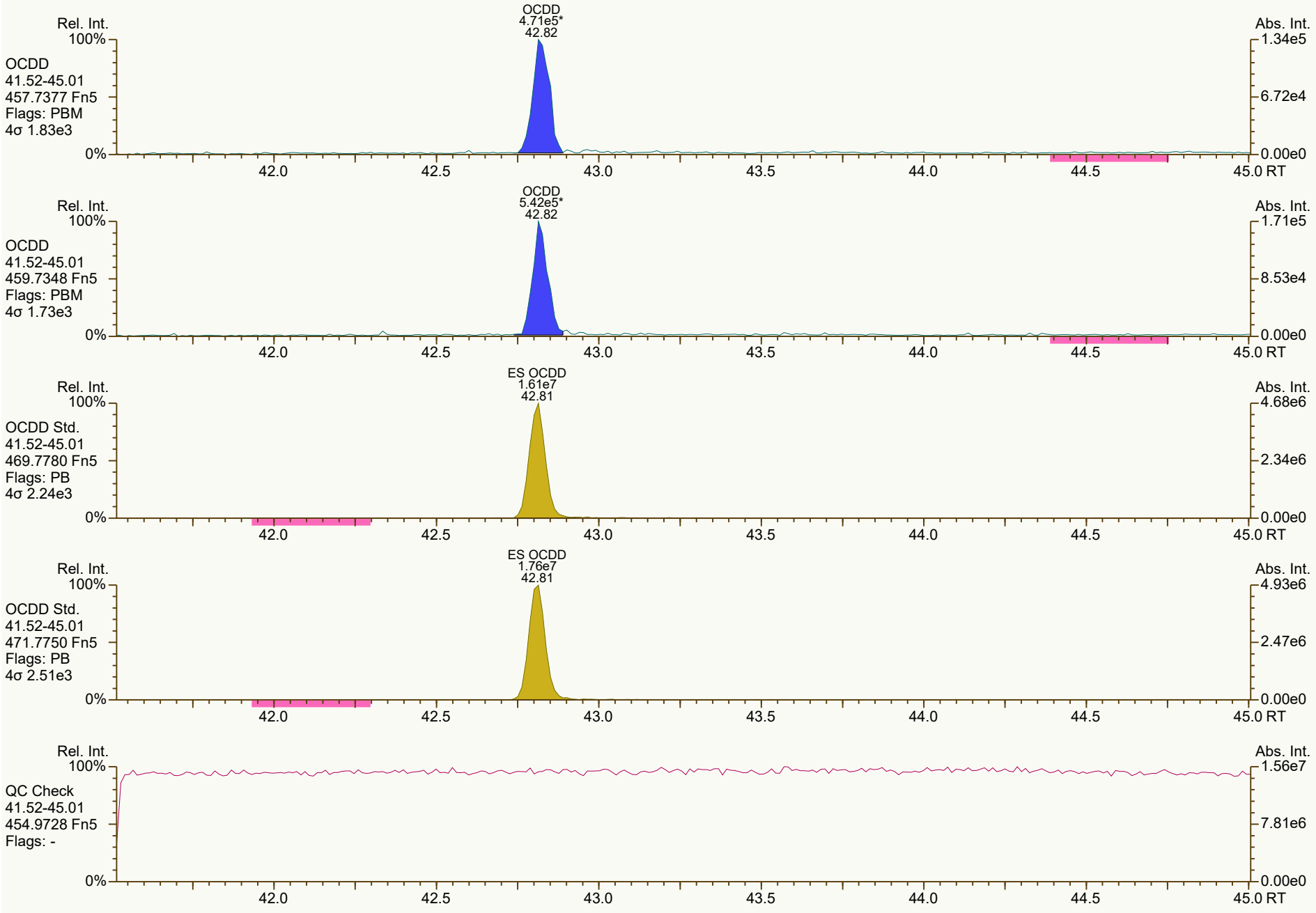

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.05e7
5.24e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.00e6
4.00e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.27e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.56e7
7.81e6
0.00e0

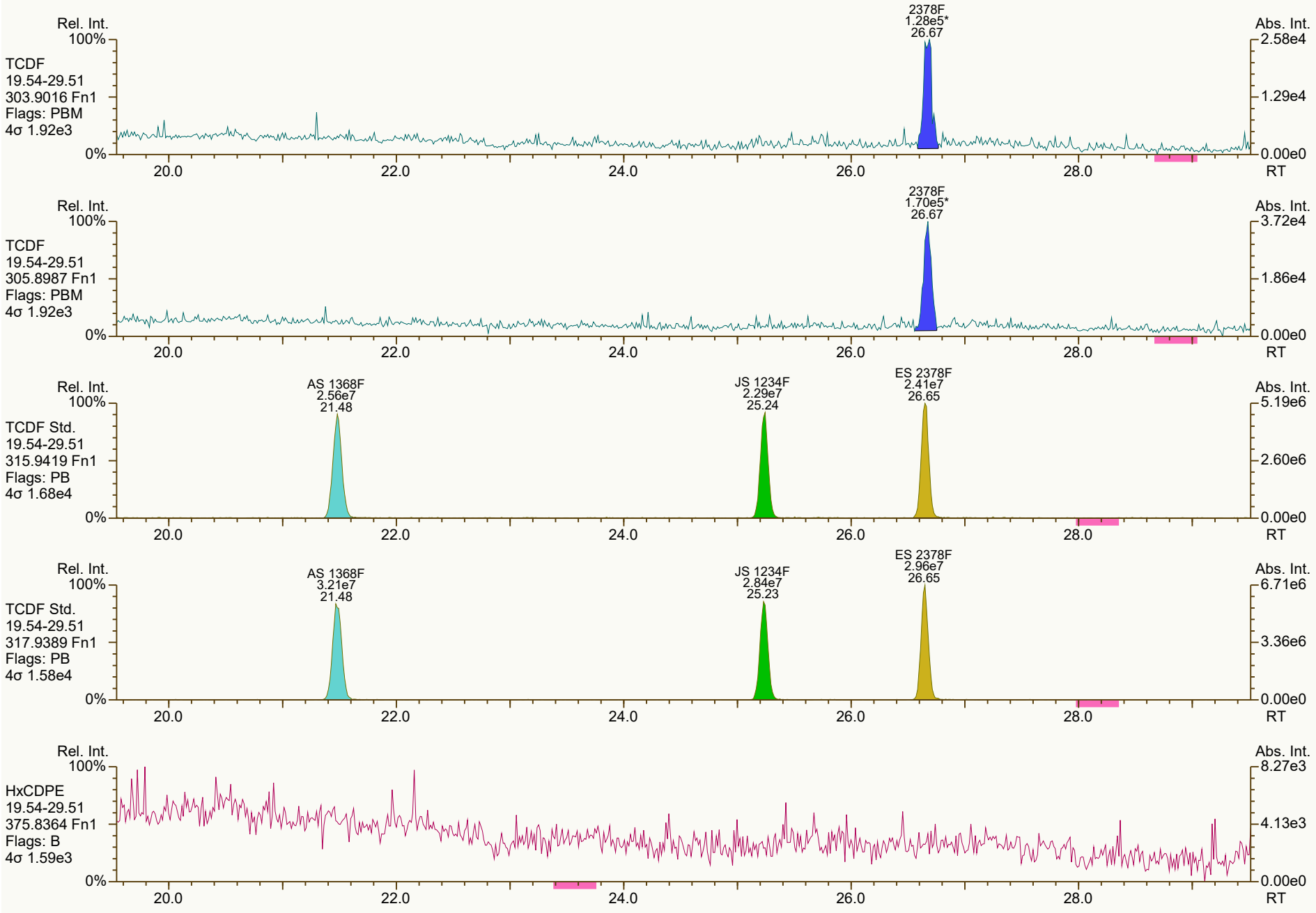

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
2378D
1.27e5*
27.58
2.99e4
1.49e4
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
CS 37Cl-2378D
2.01e5*
27.59
5.18e4
2.59e4
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
4.92e6
2.46e6
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
6.21e6
3.10e6

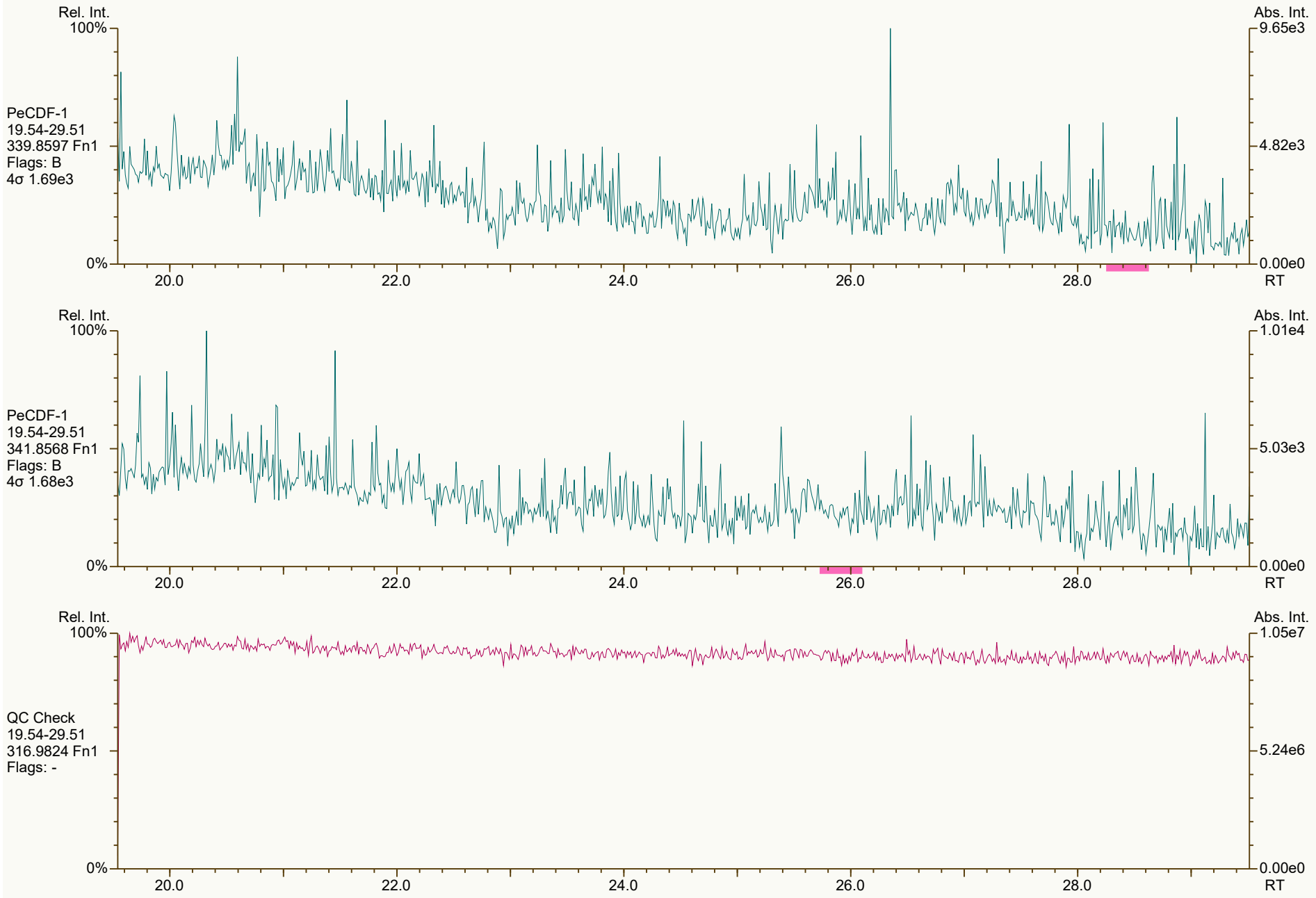

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123478D
1.50e7
37.02
ES 123678D
1.47e7
37.13
JS 123467D
7.96e6*
37.34
ES 123789D
1.63e7*
37.44
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123478D
1.17e7
37.02
ES 123678D
1.13e7
37.13
JS 123467D
6.45e6*
37.34
ES 123789D
1.31e7*
37.44
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

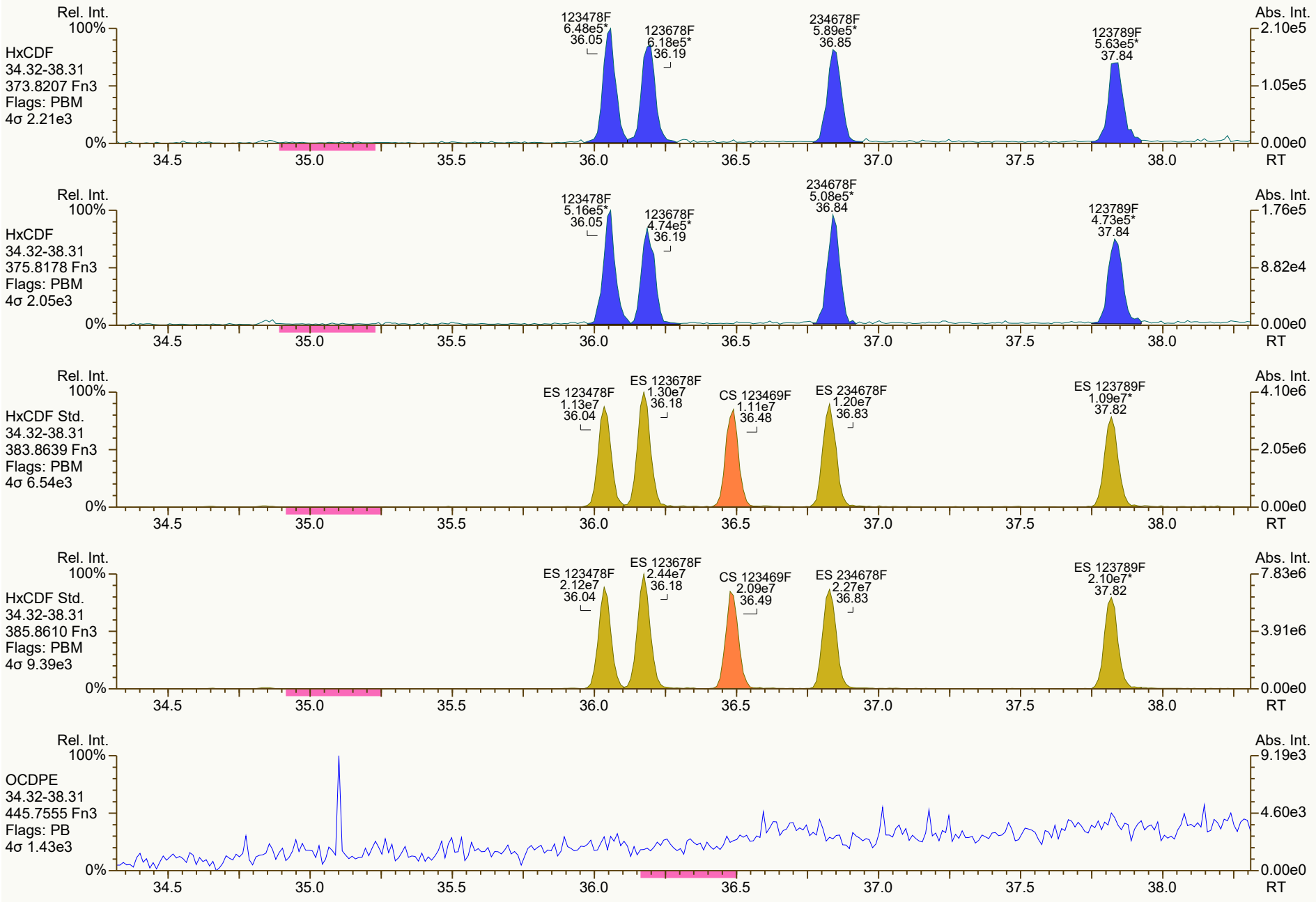

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT

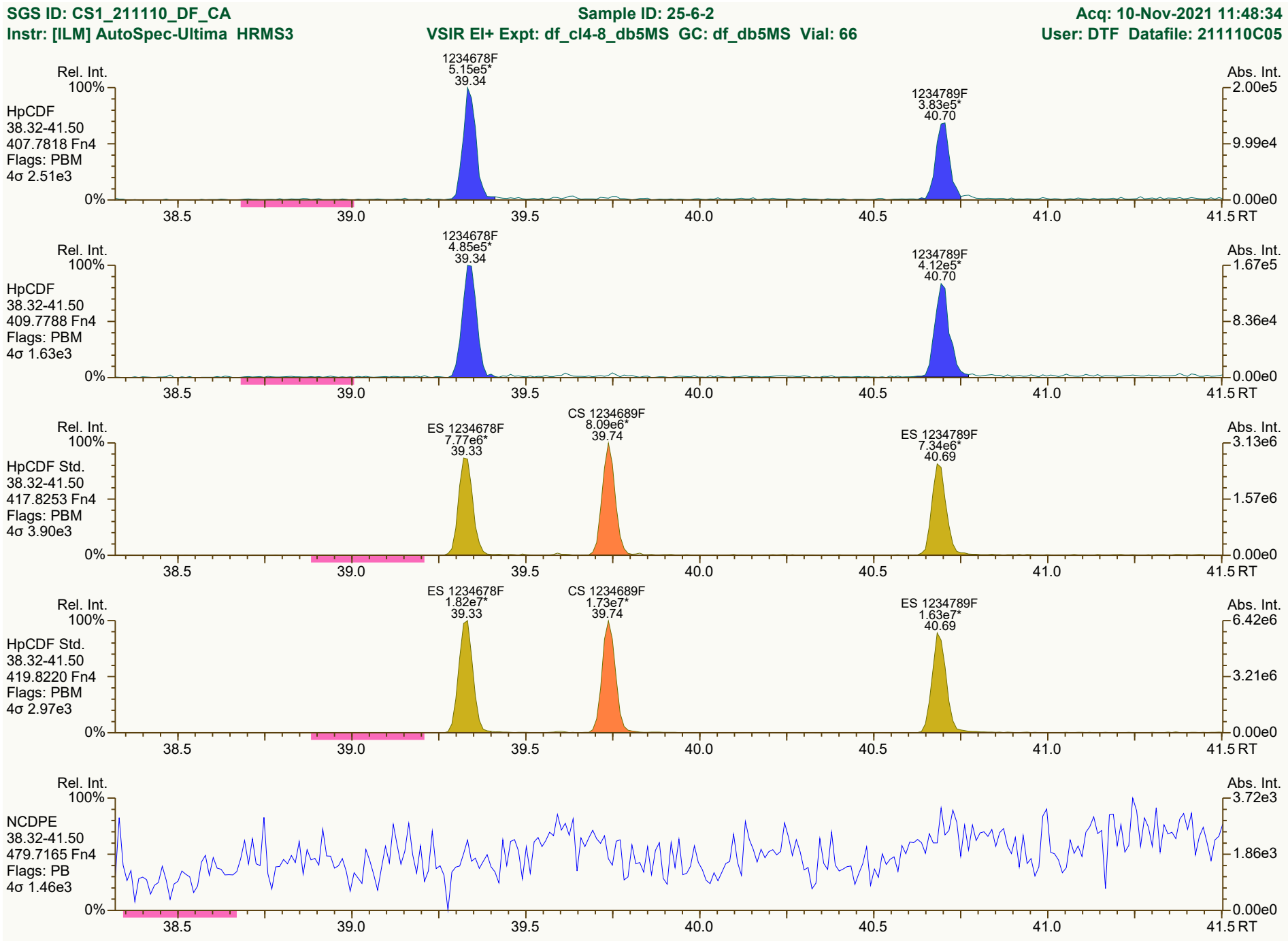

Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
Abs. Int.
1.40e5
7.02e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
Abs. Int.
7.54e6
3.77e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
Abs. Int.
4.85e6
2.42e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
Abs. Int.
1.10e4
5.51e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
0%
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
0%
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
Abs. Int.
1.76e5
8.82e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
0%
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
Abs. Int.
4.10e6
2.05e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
0%
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
Abs. Int.
7.83e6
3.91e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
0%
Abs. Int.
9.19e3
4.60e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

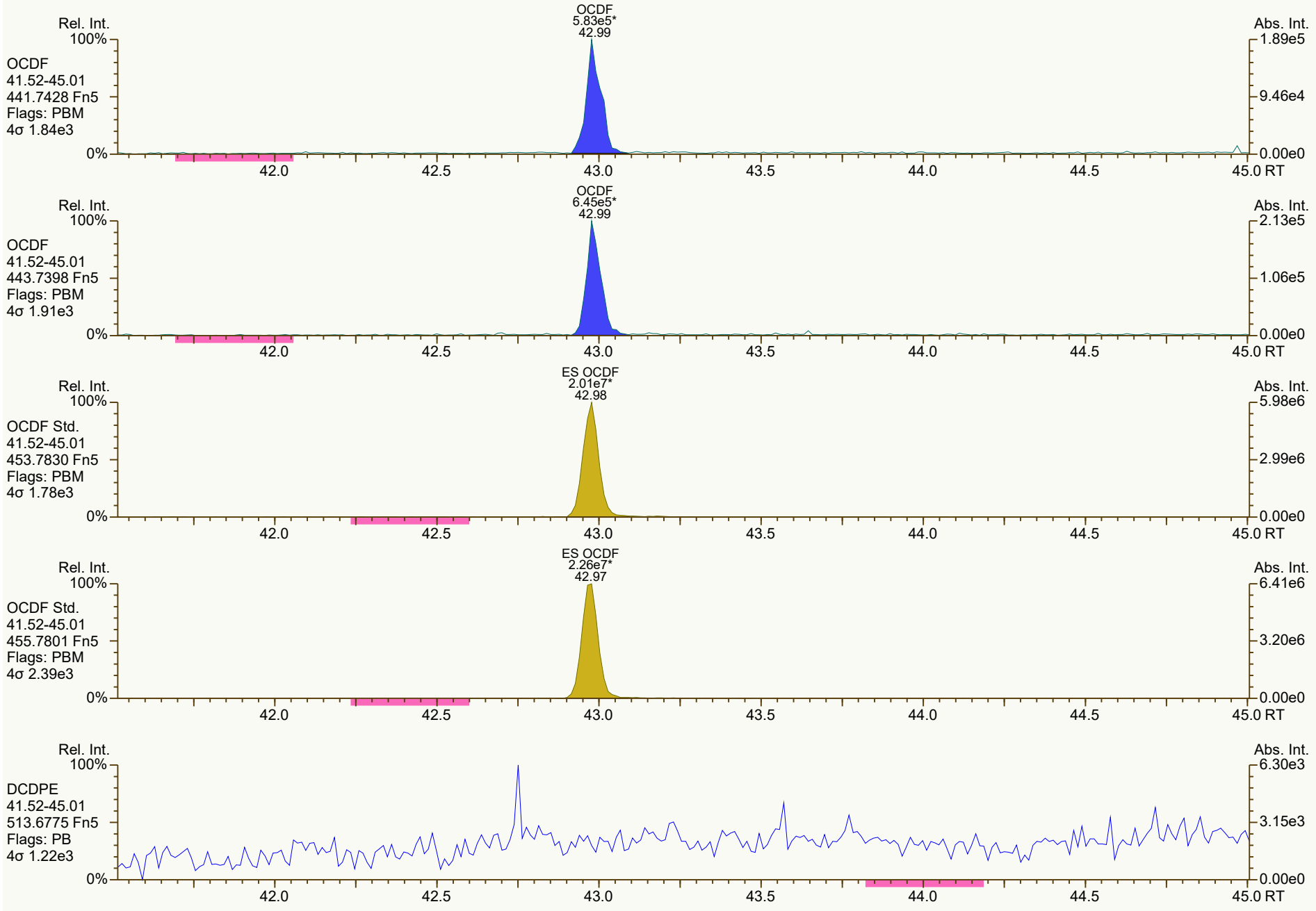
SGS ID: CS1_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 25-6-2
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66

Acq: 10-Nov-2021 11:48:34
User: DTF Datafile: 211110C05



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3913, 8502, 2889 scc: 419-111
Revised: 10-Nov-2021 13:39 (DTF) Printed: 11-Nov-2021 10:40 Page 11 of 12

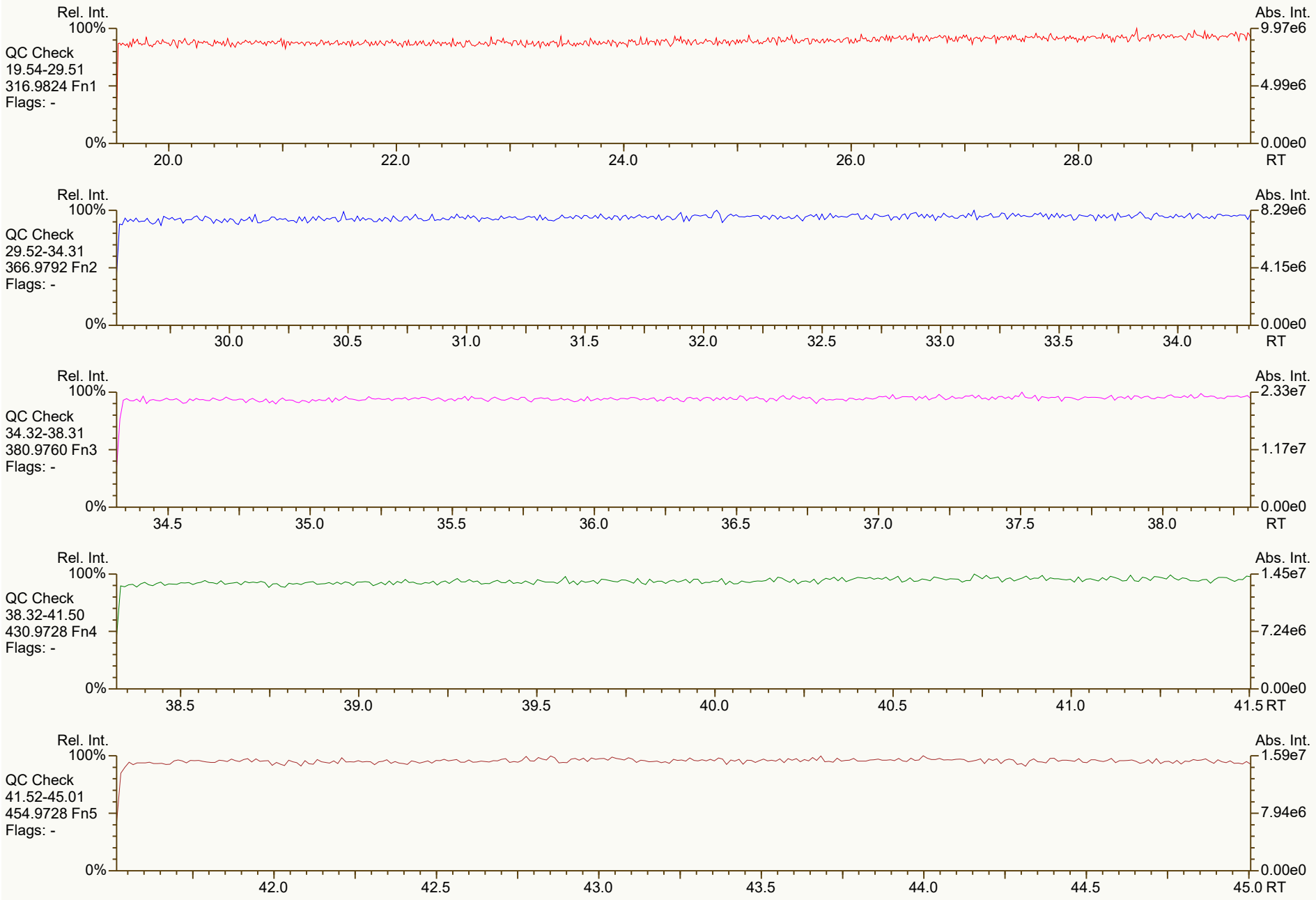

OCDF
5.83e5*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
6.45e5*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.26e7*
42.97
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

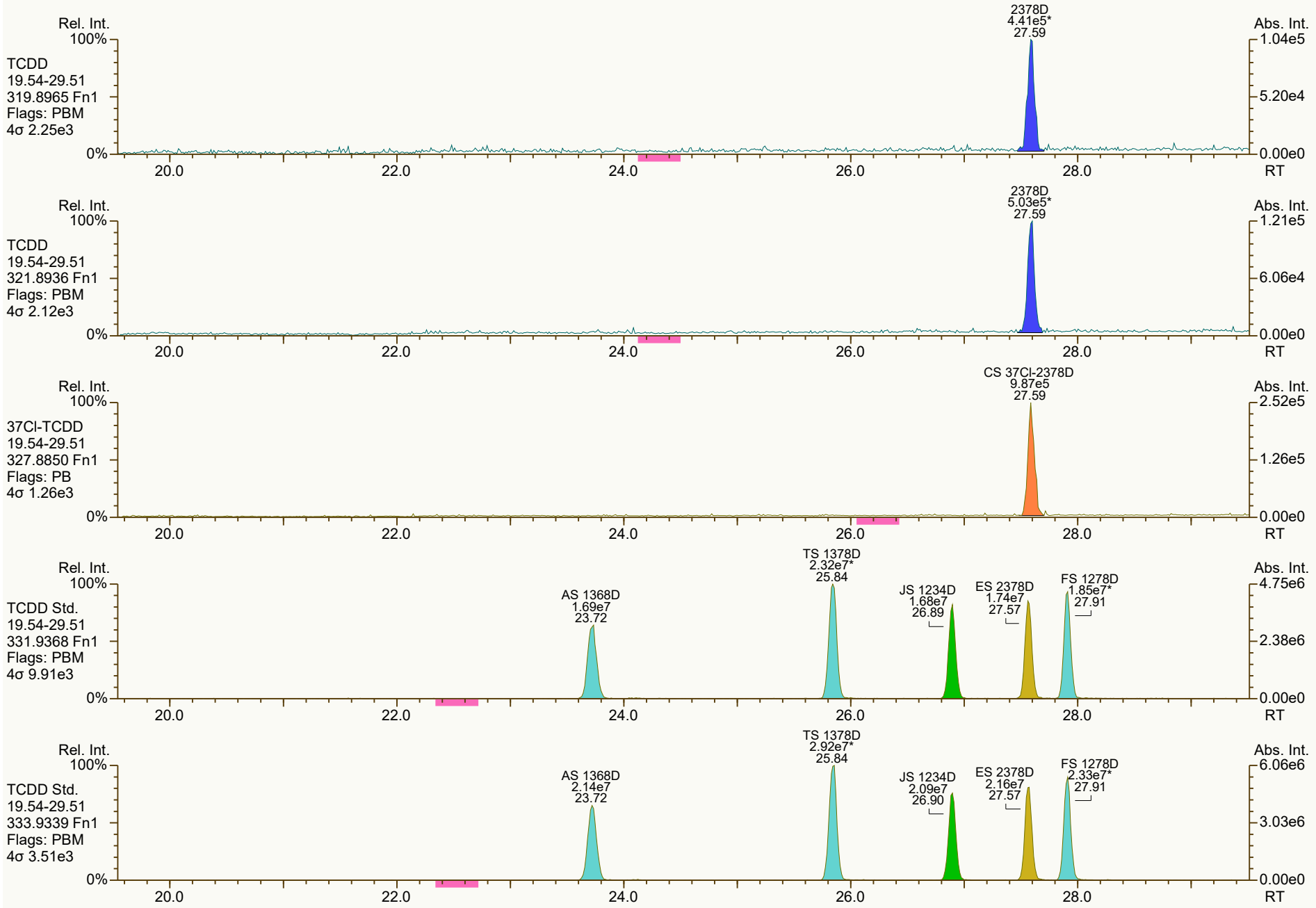
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

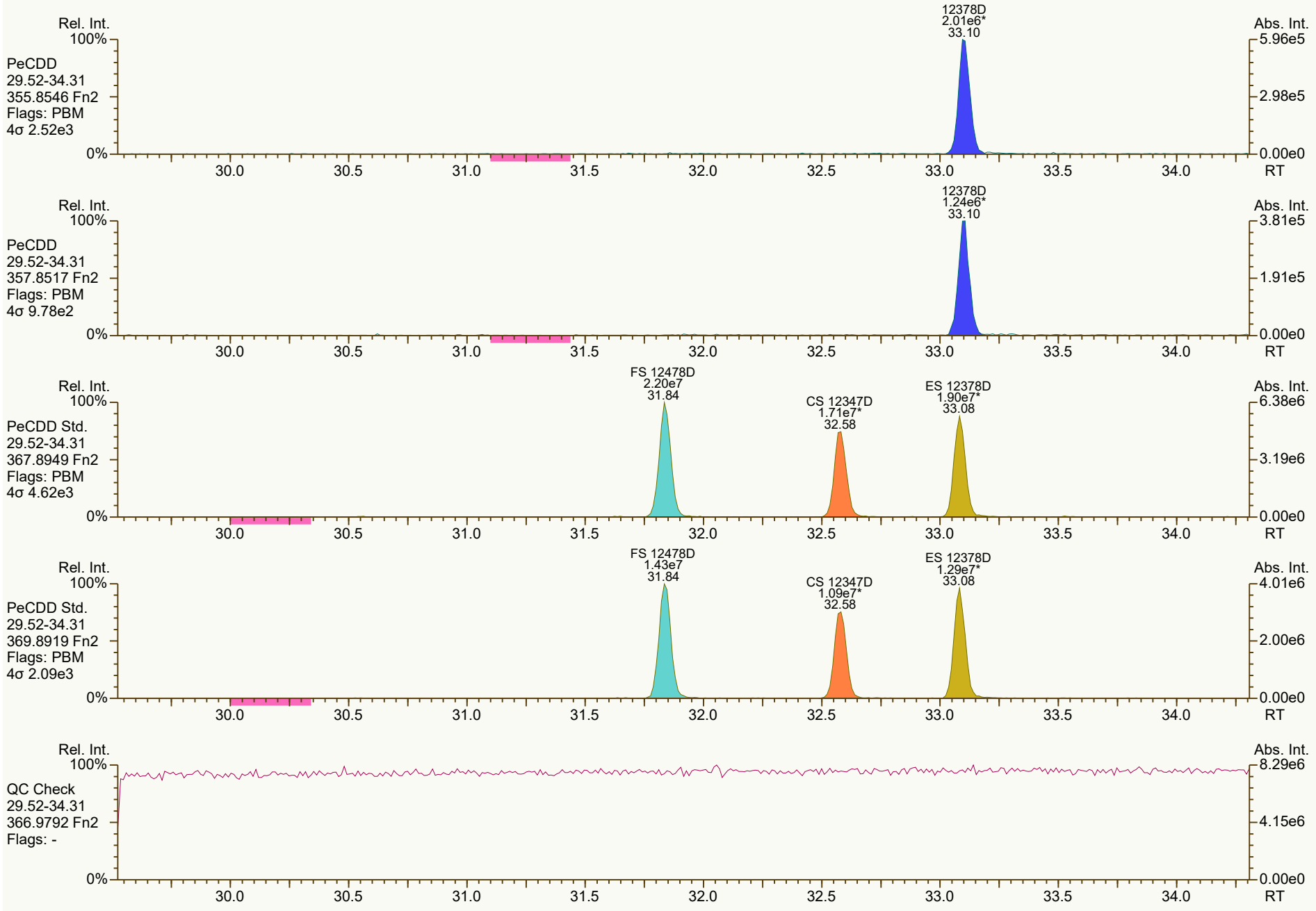
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

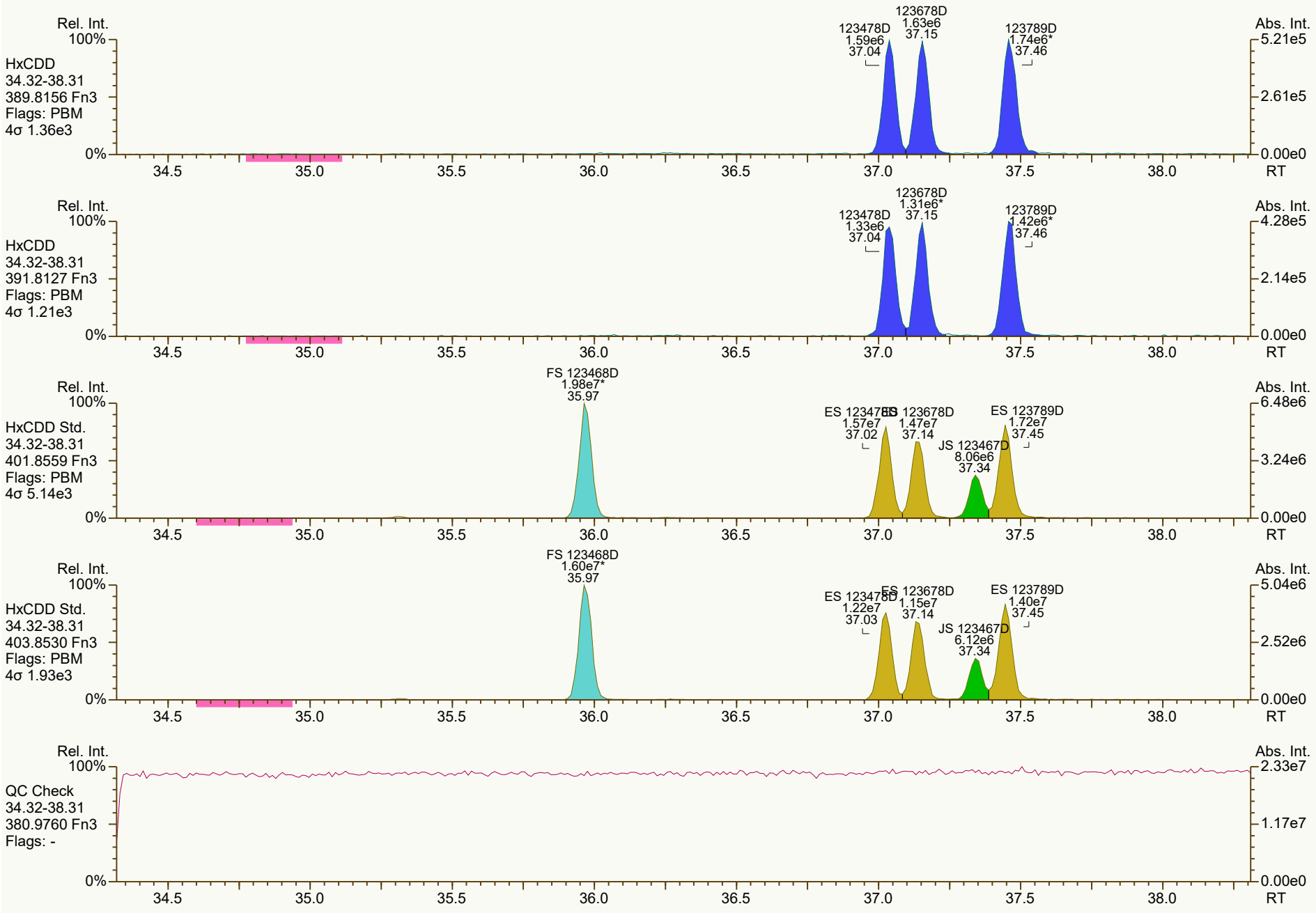
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

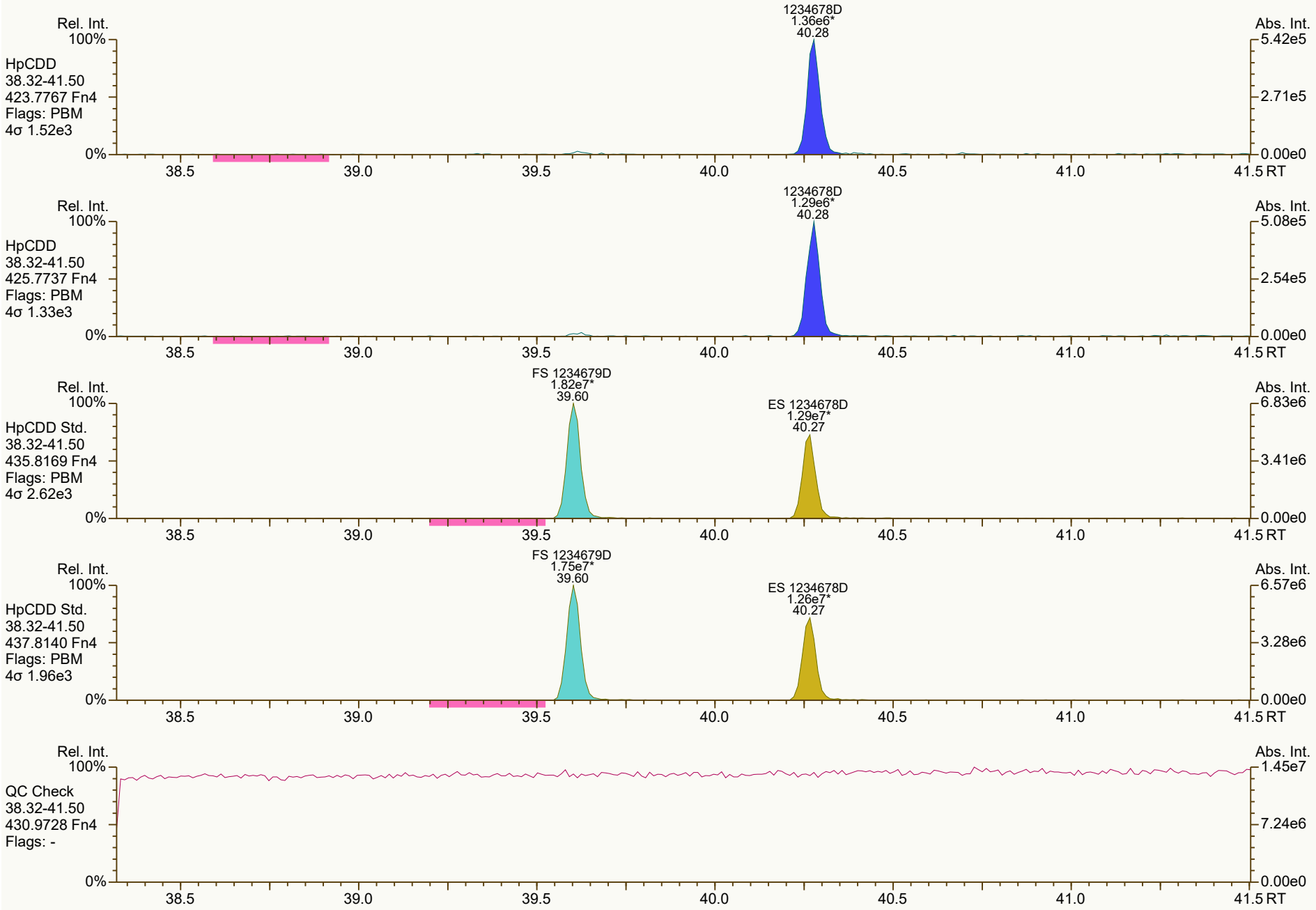
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

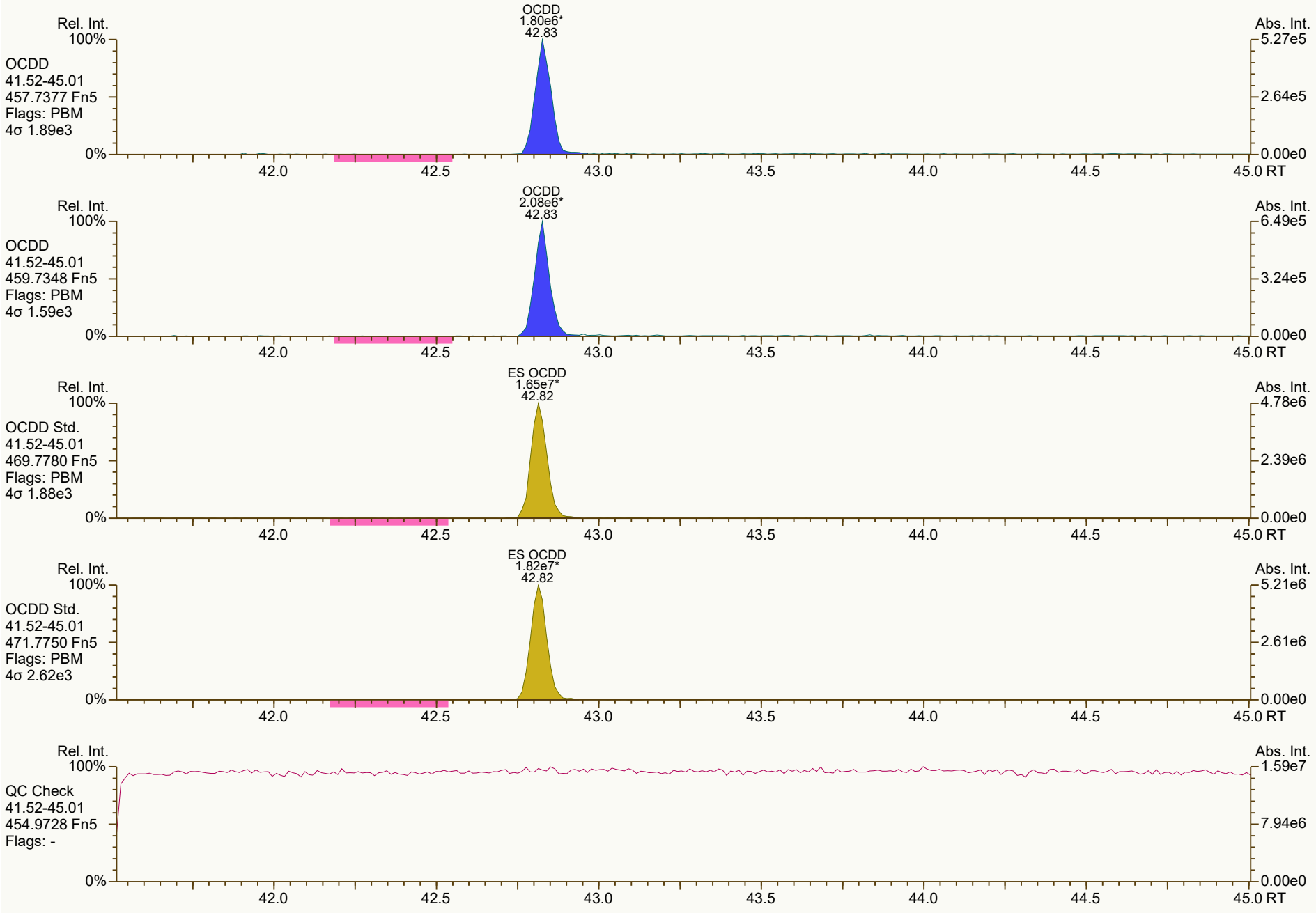

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
4.28e5
2.14e5
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
6.48e6
3.24e6
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
5.04e6
2.52e6
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.33e7
1.17e7

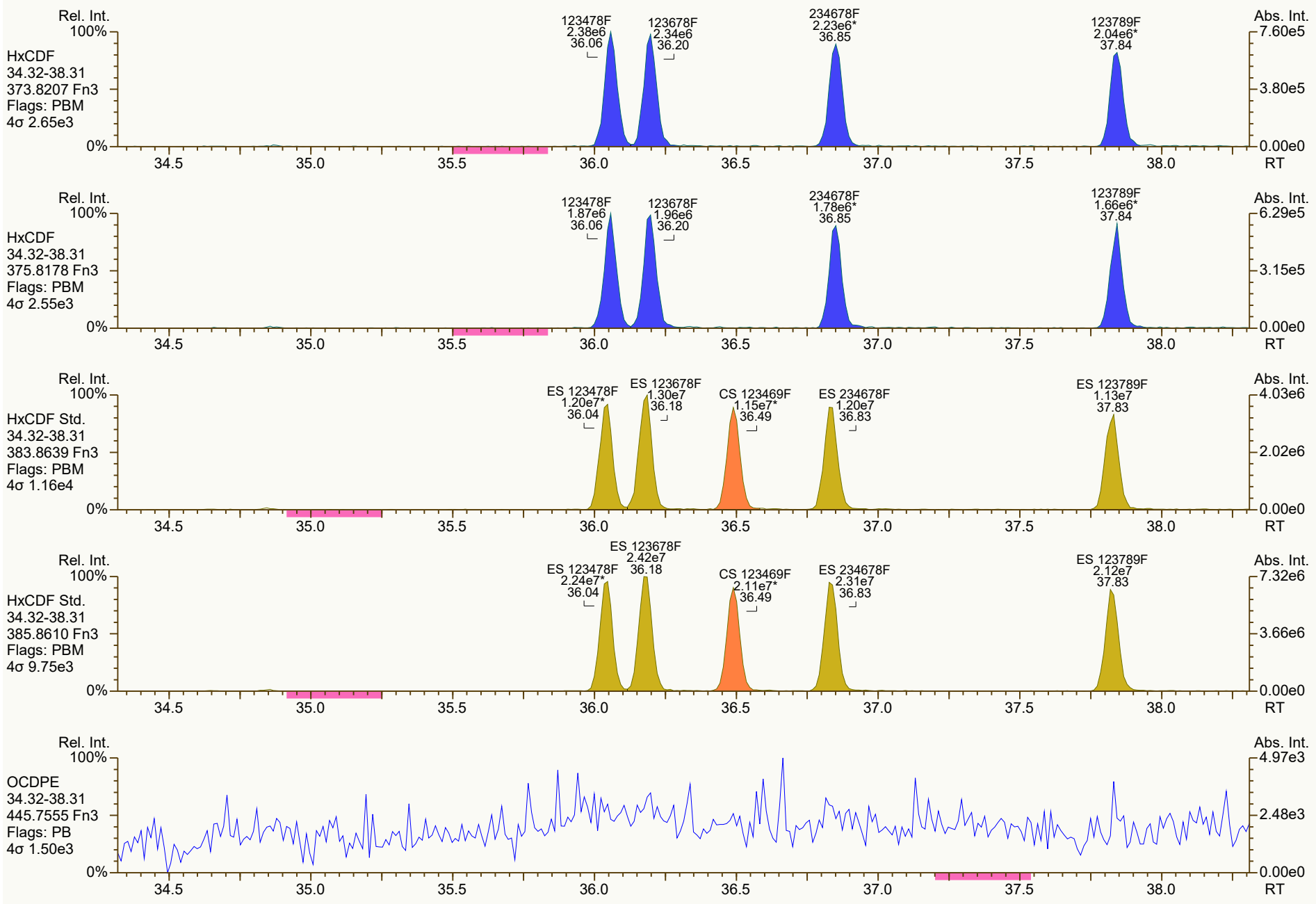

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

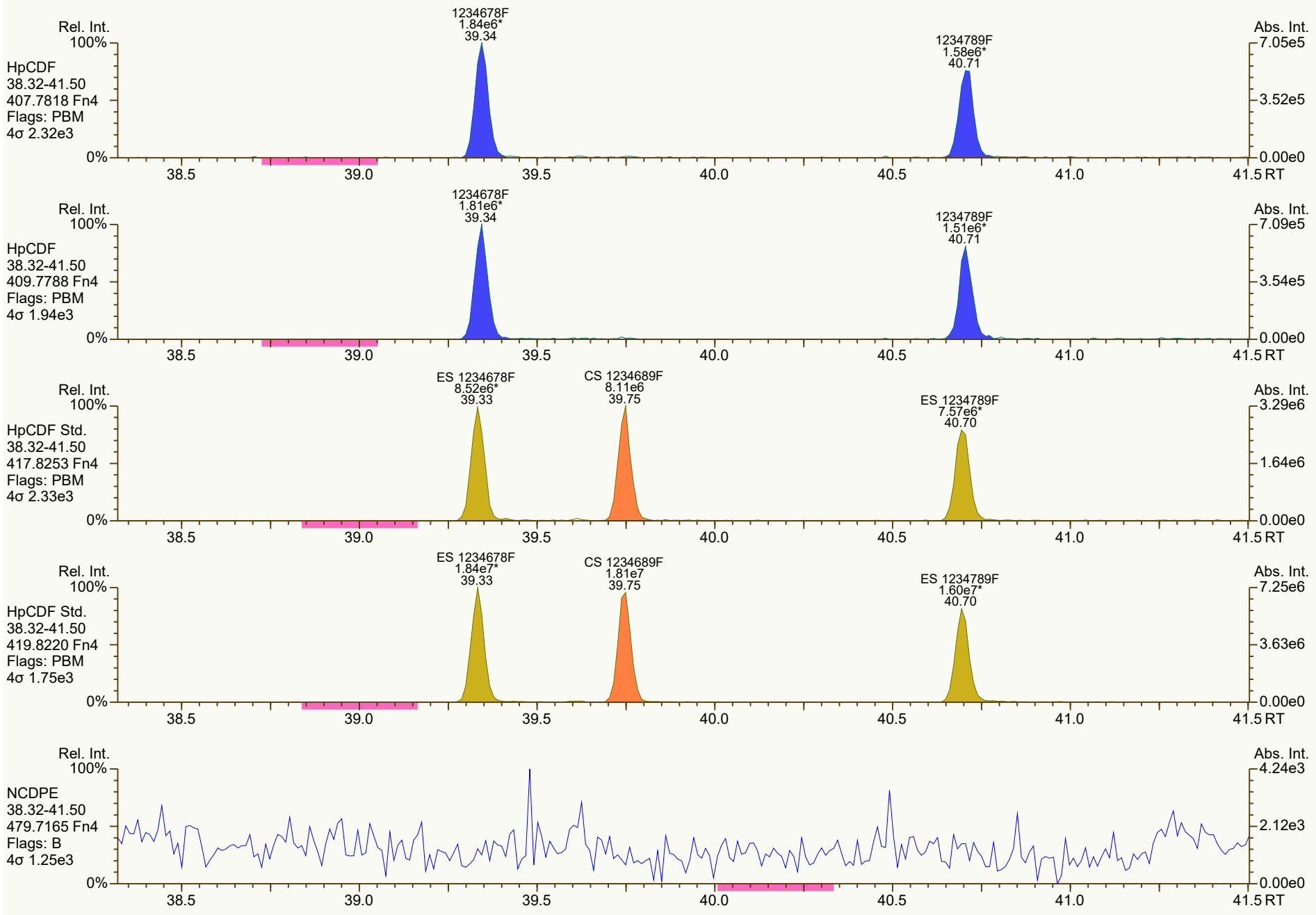

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
6.49e5
3.24e5
ES OCDD
1.65e7*
42.82
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
4.78e6
2.39e6
ES OCDD
1.82e7*
42.82
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
5.21e6
2.61e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.59e7
7.94e6

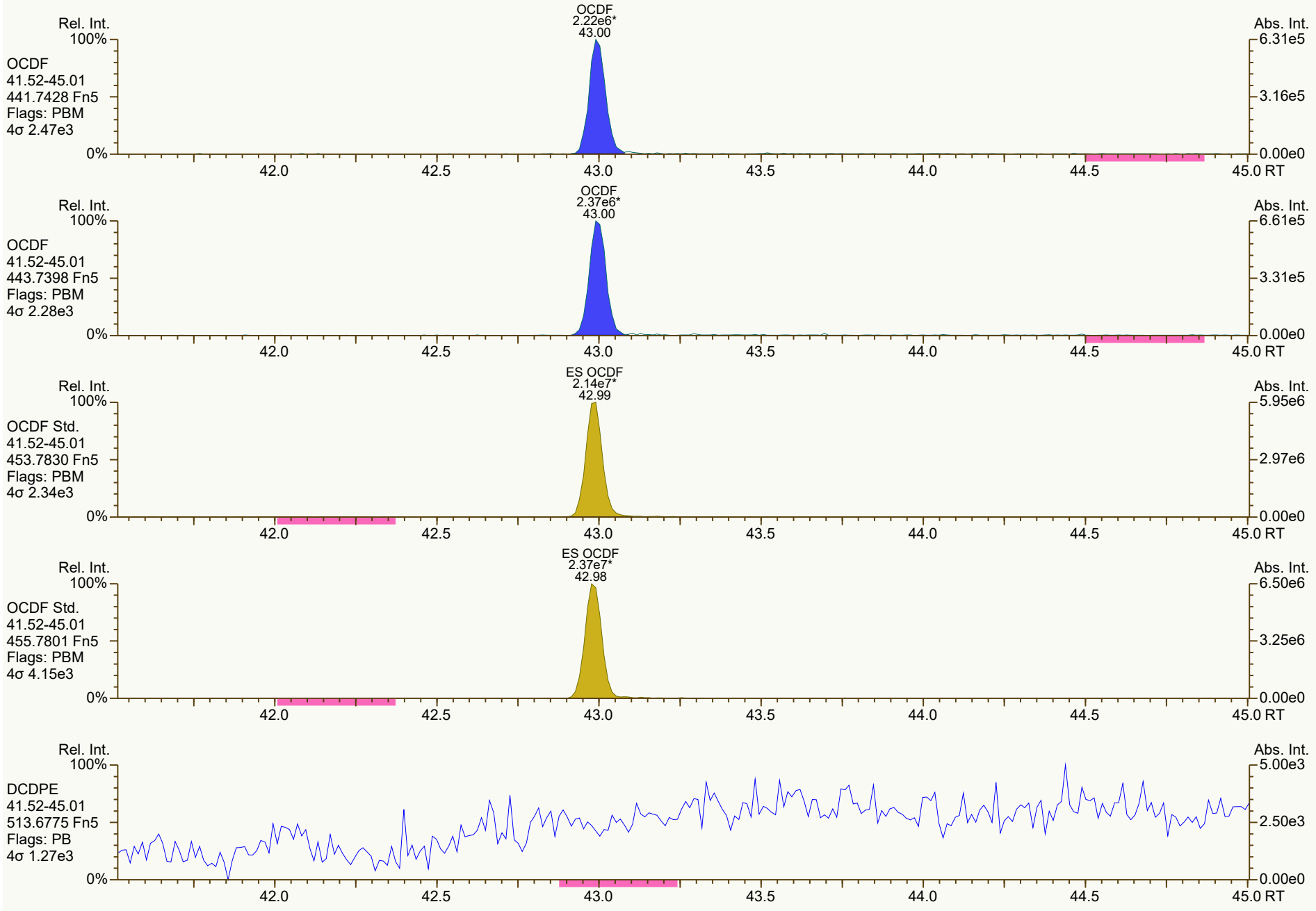

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
Abs. Int.
8.34e3
4.17e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
Abs. Int.
5.27e5
2.63e5
0.00e0
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
0%
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
Abs. Int.
8.01e6
4.01e6
0.00e0
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
0%
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
Abs. Int.
5.19e6
2.59e6
0.00e0
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
6.67e3
3.33e3
0.00e0


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
6.29e5
3.15e5
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
4.03e6
2.02e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
ES 123478F
2.24e7*
36.04
ES 123678F
2.42e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
7.32e6
3.66e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
4.97e3
2.48e3

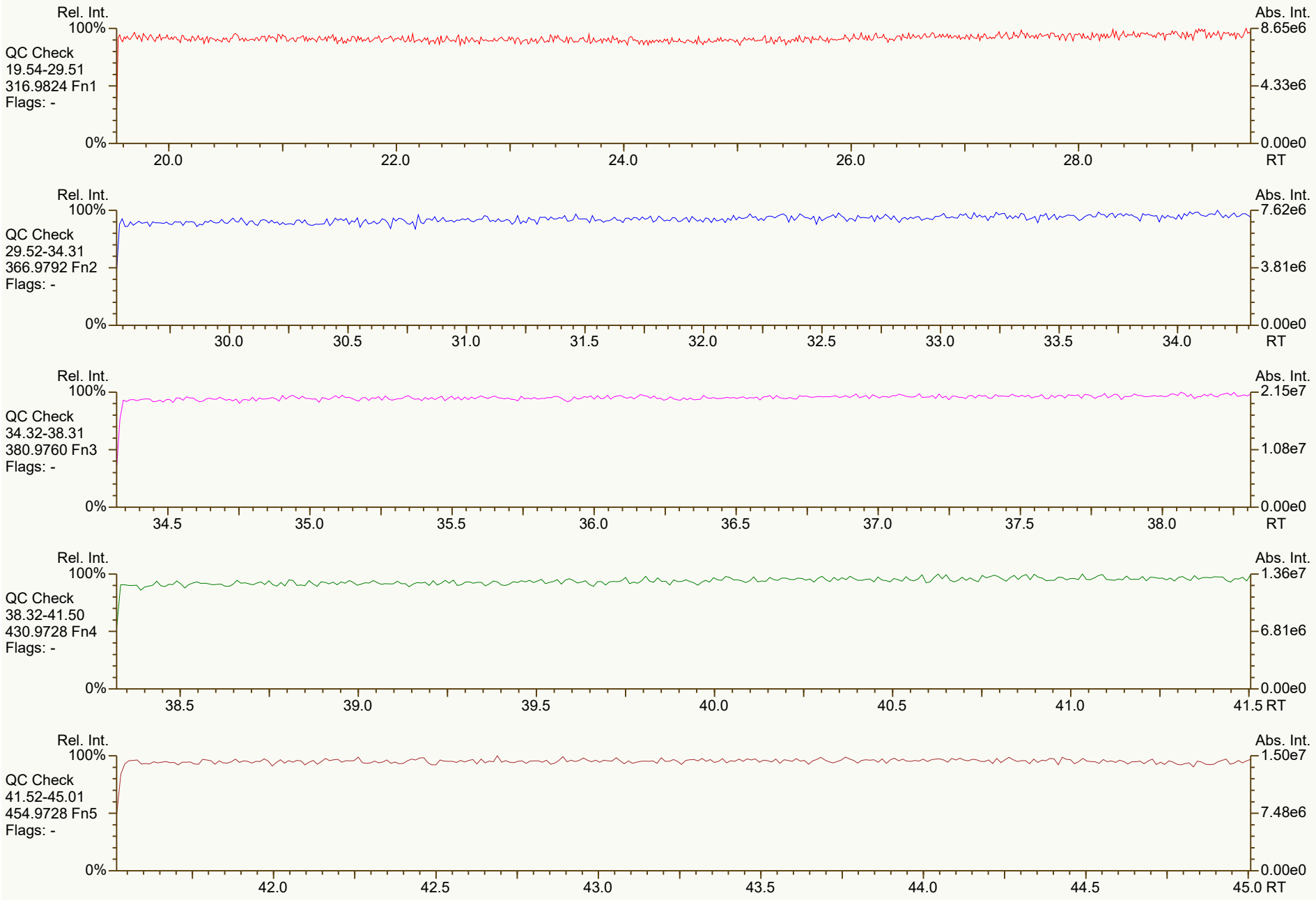

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
0%
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
0%
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
0%
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
0%
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
0%
Abs. Int.
4.24e3
2.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
2.22e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
0%
Abs. Int.
6.31e5
3.16e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.37e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
0%
Abs. Int.
6.61e5
3.31e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.14e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
5.95e6
2.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.37e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
0%
Abs. Int.
6.50e6
3.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

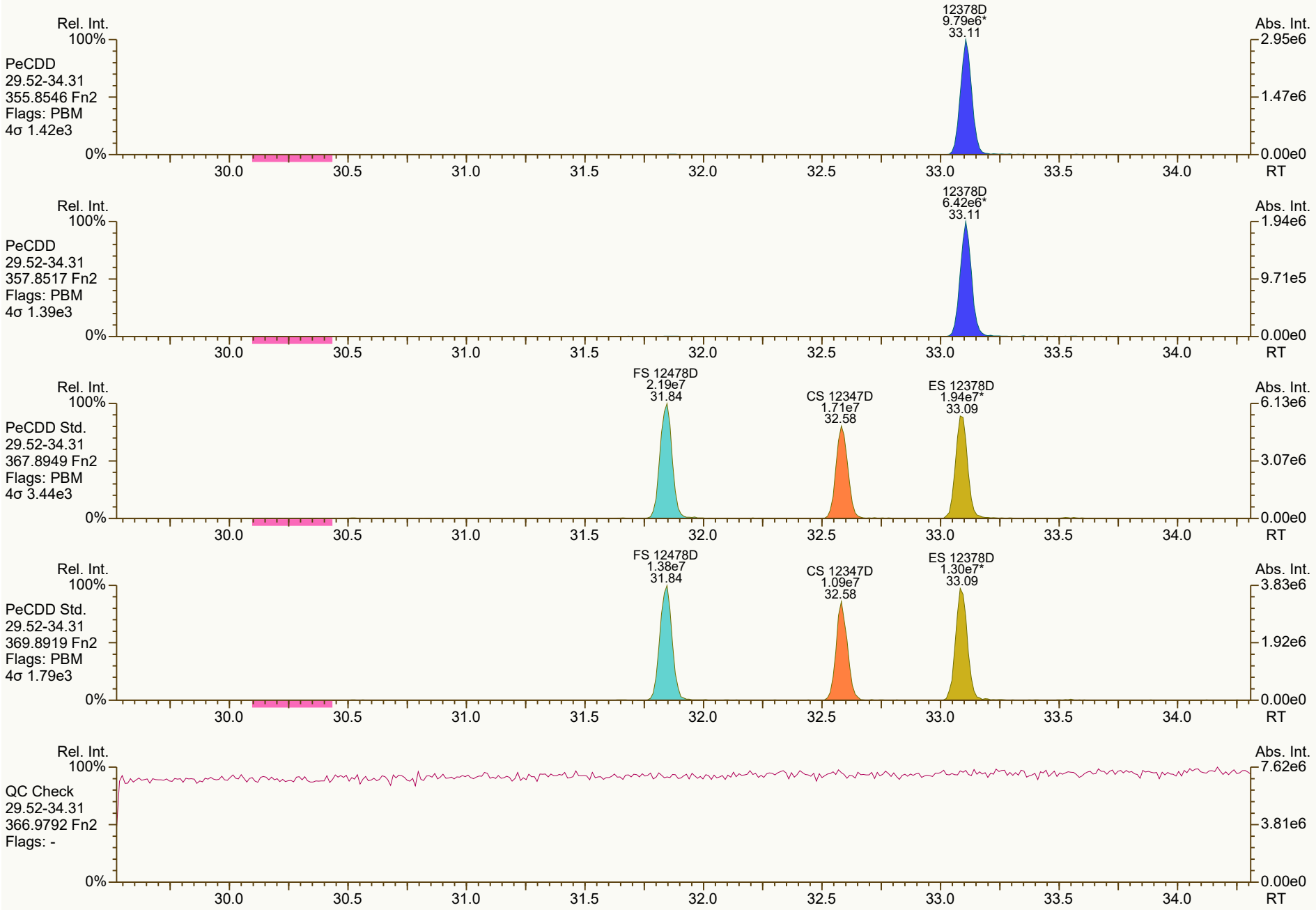
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

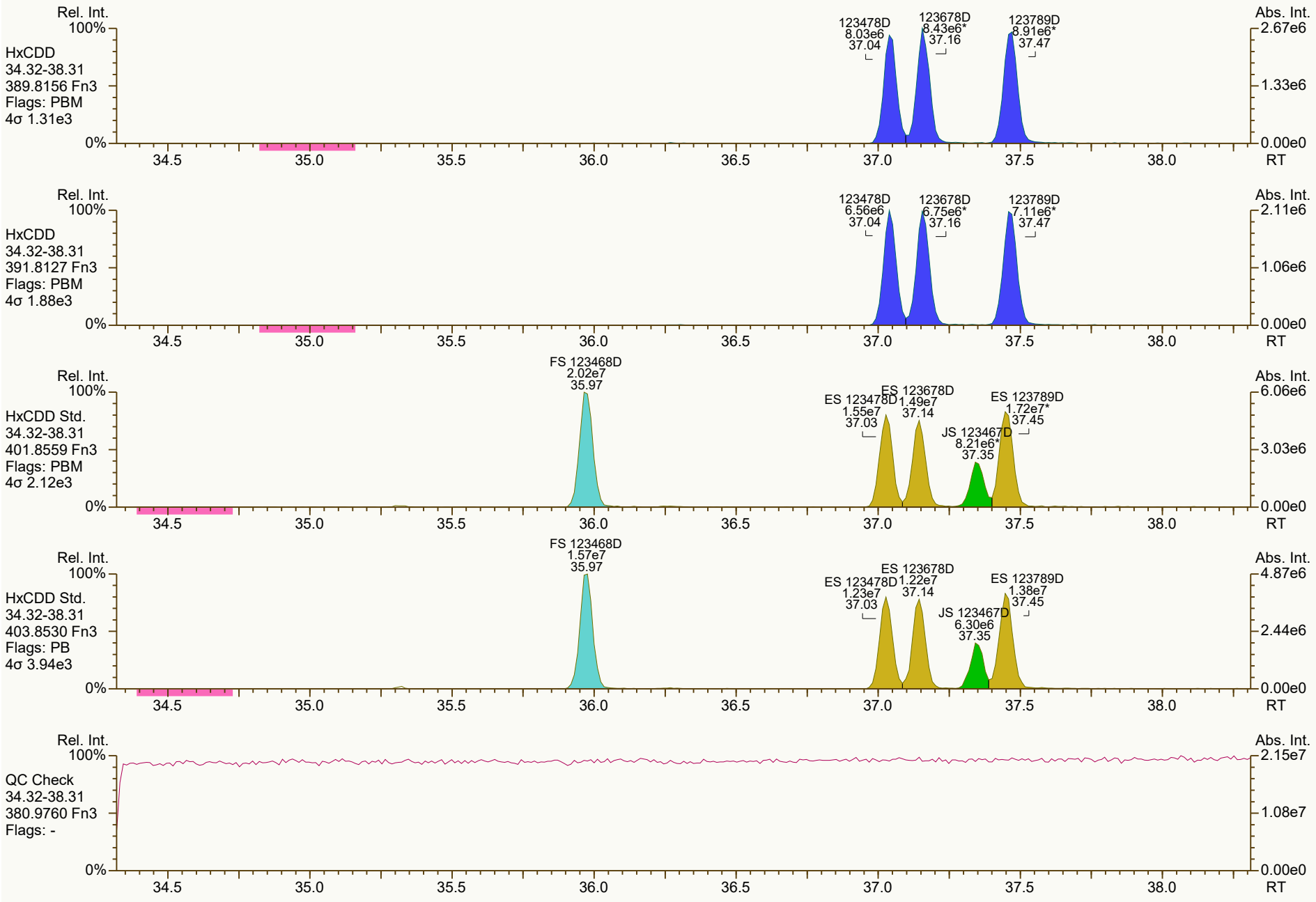
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

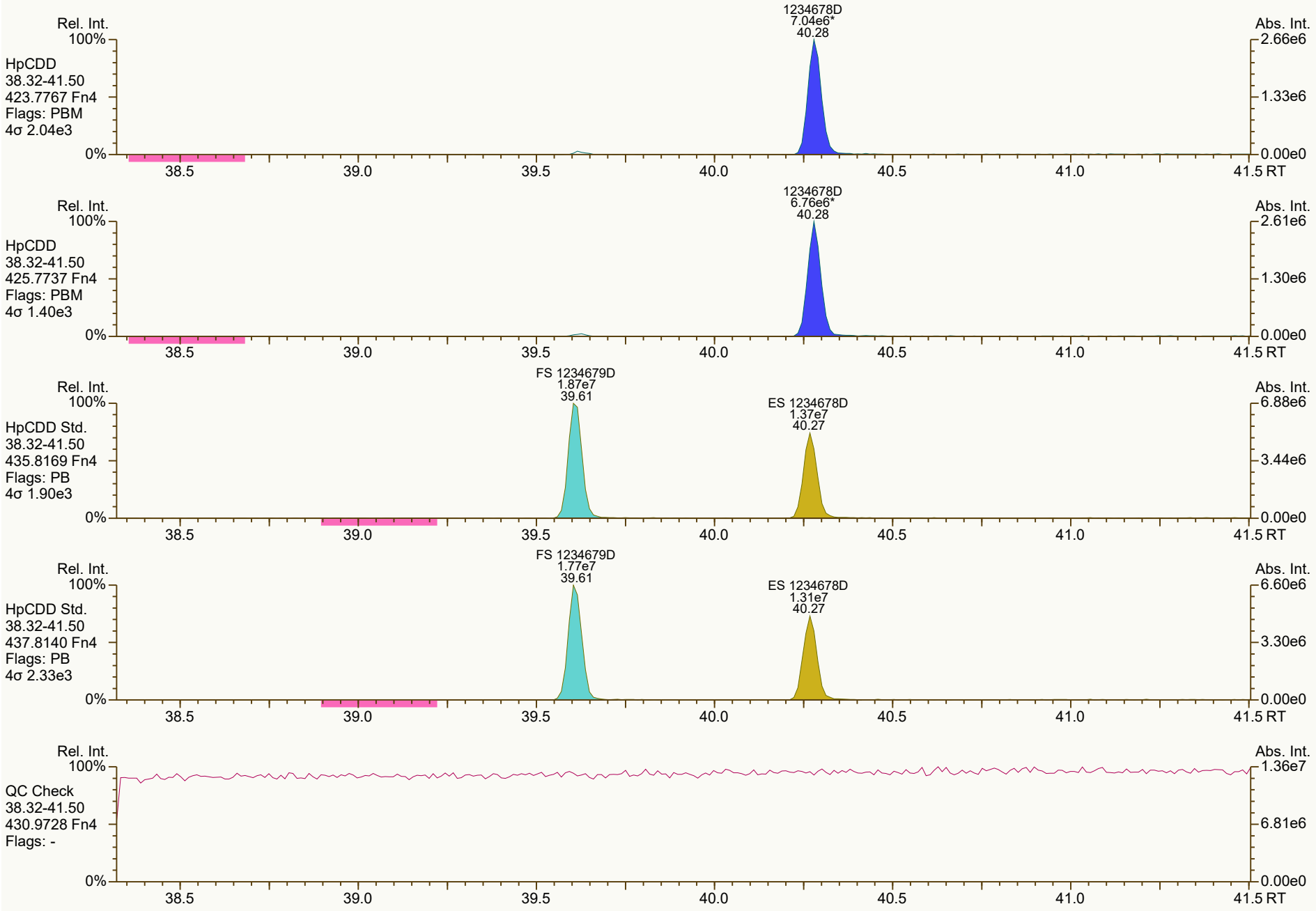
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%


Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
0%
Abs. Int.
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
2378D
1.99e6
27.60
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
2378D
2.55e6
27.60
5.98e5
2.99e5
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
1.03e6
5.16e5
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
4.80e6
2.40e6
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
6.06e6
3.03e6


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
0%
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
0%
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
0%
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
0%
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.62e6
3.81e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
0%
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
0%
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
0%
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
0%
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.15e7
1.08e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
9.25e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.02e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.70e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.86e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
0%
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
2378F
2.58e6
26.68
5.81e5
2.91e5
0.00e0
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
2378F
3.32e6
26.68
7.66e5
3.83e5
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
5.45e6
2.73e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
6.76e6
3.38e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
6.84e3
3.42e3
20.0
22.0
24.0
26.0
28.0
RT

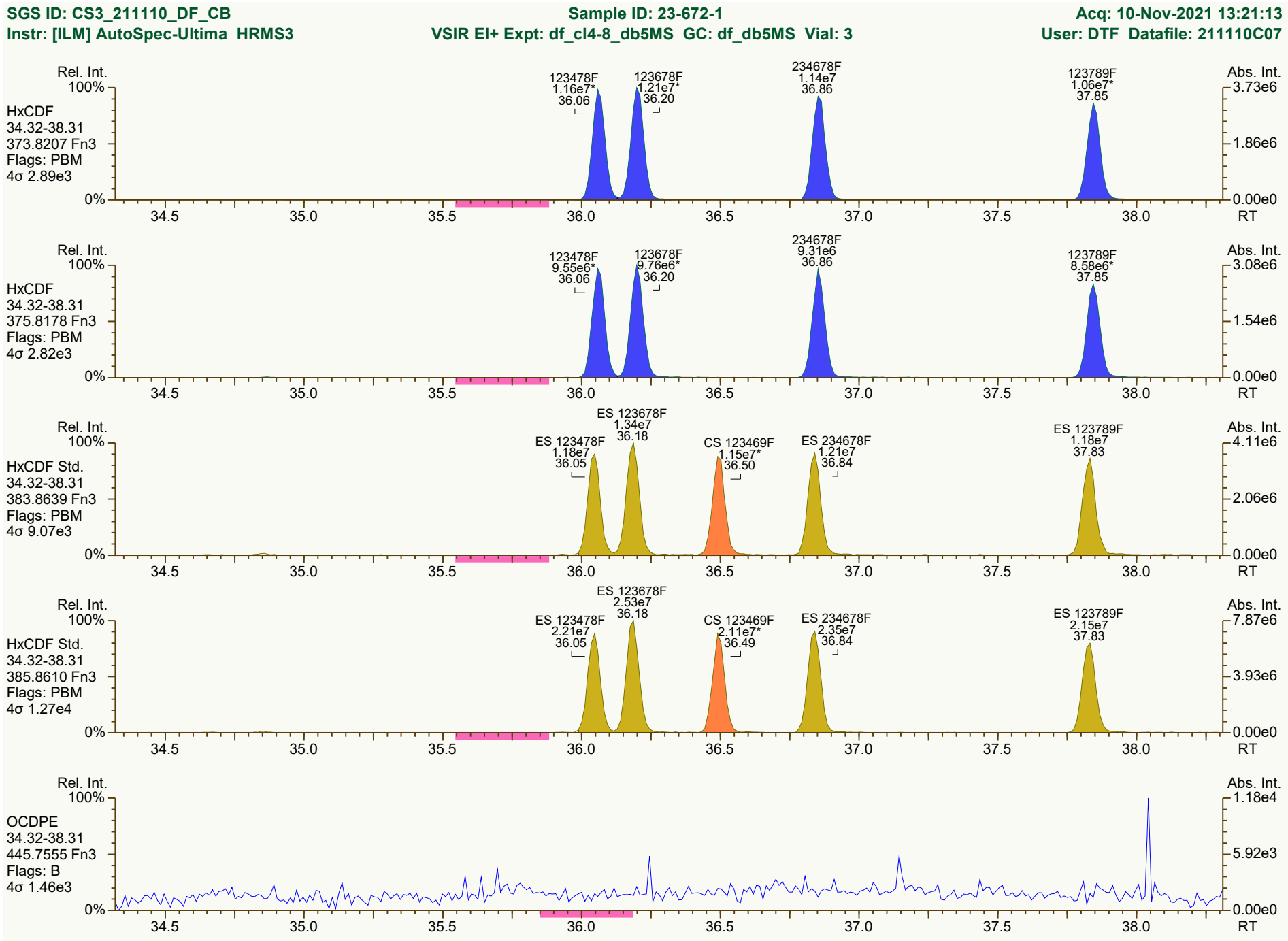

Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
Abs. Int.
3.85e6
1.93e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
Abs. Int.
2.59e6
1.29e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
Abs. Int.
7.61e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
Abs. Int.
5.00e6
2.50e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
Abs. Int.
1.17e4
5.86e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

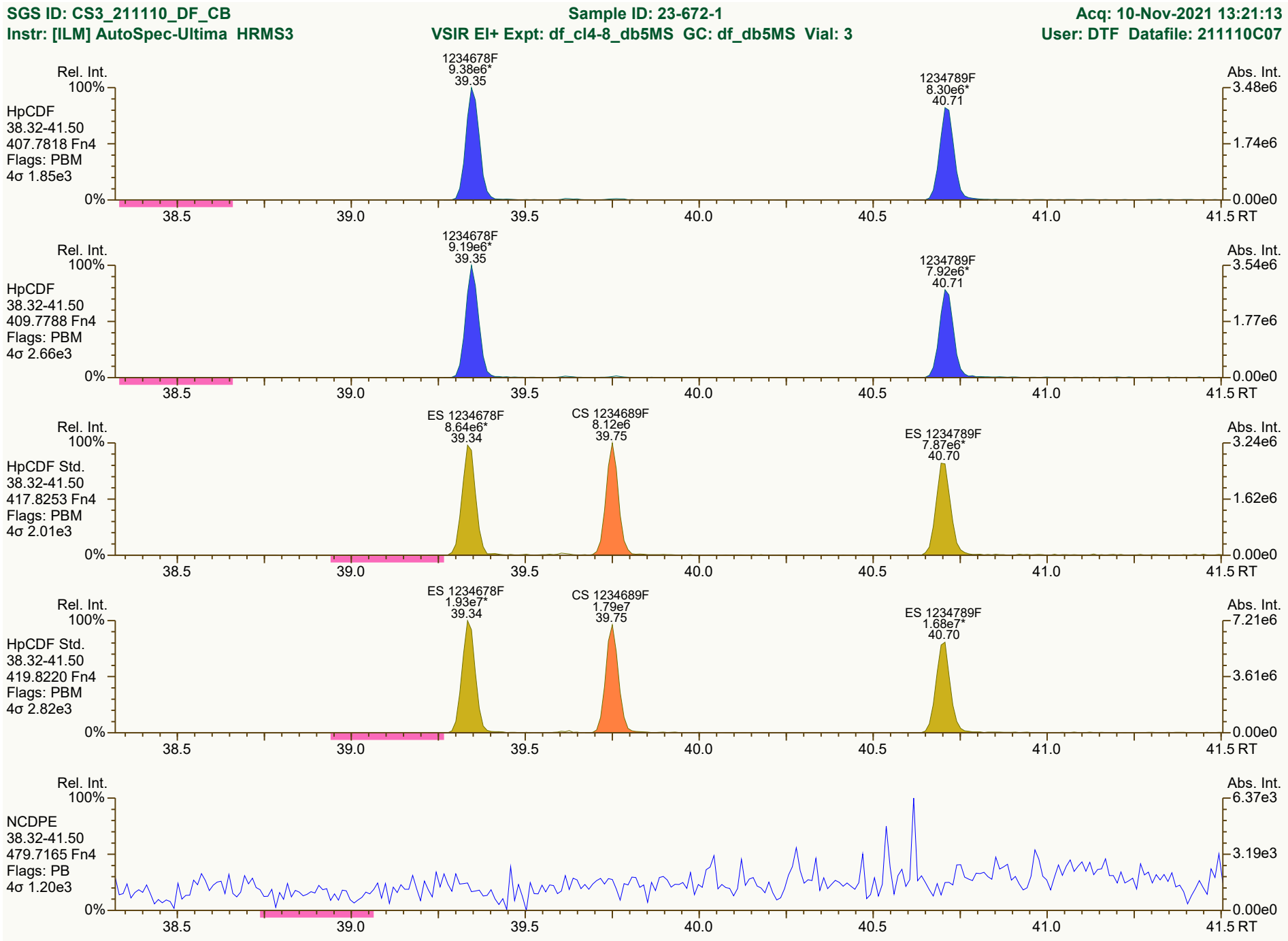
SGS ID: CS3_211110_DF_CB
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 23-672-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3

Acq: 10-Nov-2021 13:21:13
User: DTF Datafile: 211110C07



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0985, 9027, 6556 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 10 of 12

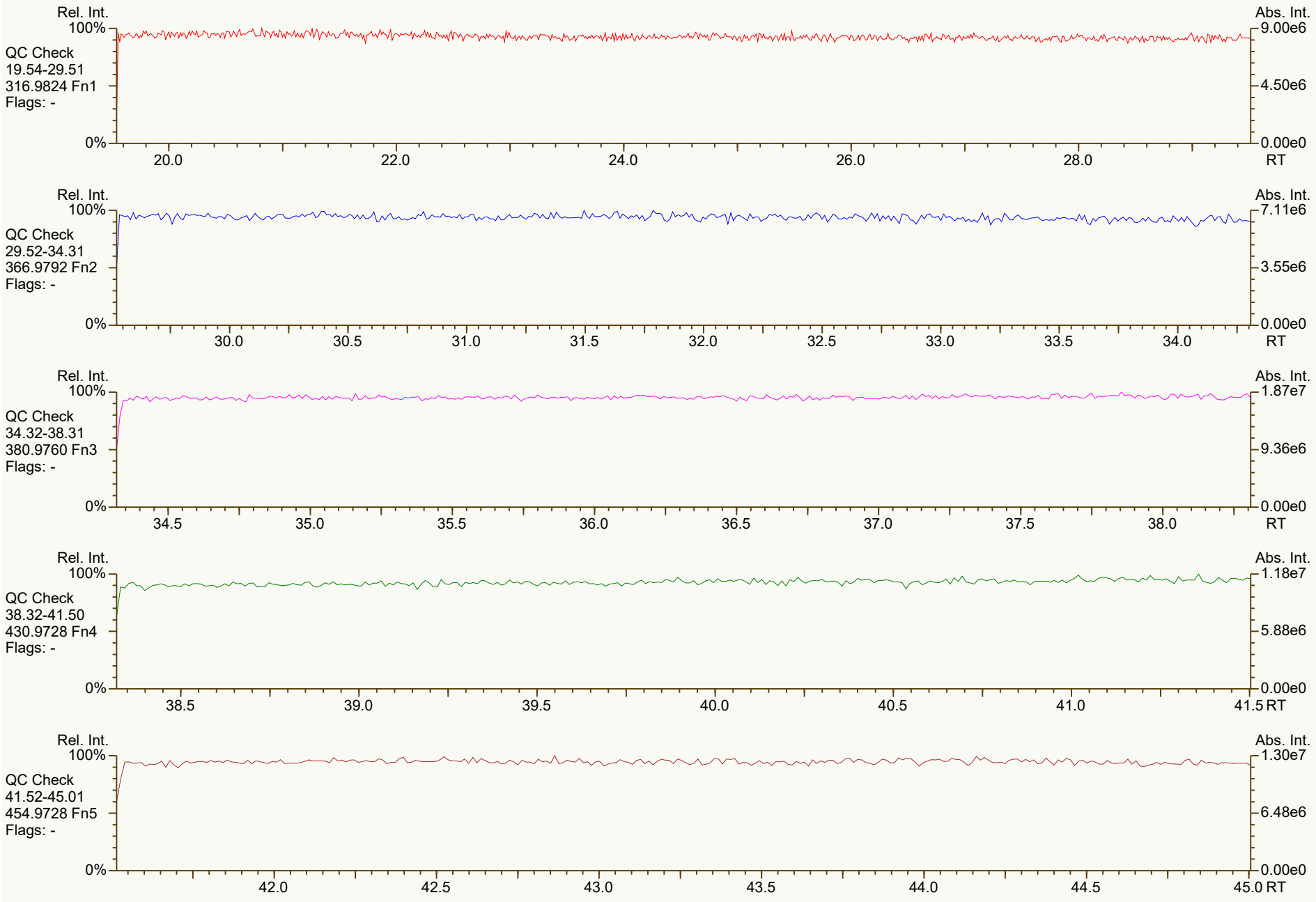

SGS ID: CS3_211110_DF_CB
Instr: [ILM] AutoSpec-Ultima HRMS3
Sample ID: 23-672-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
Acq: 10-Nov-2021 13:21:13
User: DTF Datafile: 211110C07
Rel. Int.
100%
0%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
Abs. Int.
3.48e6
1.74e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
3.54e6
1.77e6
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
3.24e6
1.62e6
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
7.21e6
3.61e6
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
6.37e3
3.19e3
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0218, 5563, 1287 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

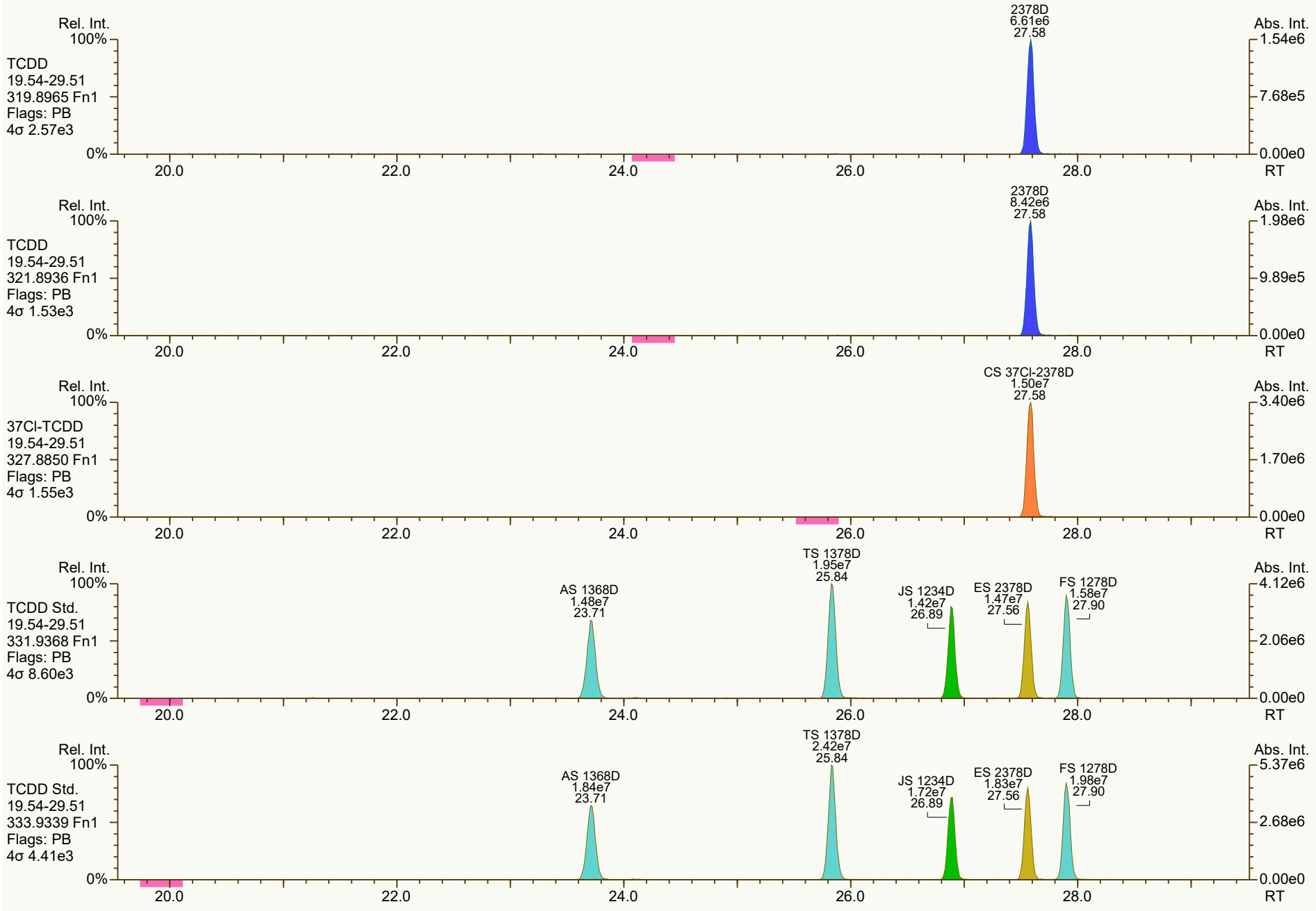

OCDF
1.15e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
3.25e6
1.62e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
0%
Abs. Int.
3.53e6
1.76e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.21e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
0%
Abs. Int.
6.08e6
3.04e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.39e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
0%
Abs. Int.
6.65e6
3.32e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
0%
Abs. Int.
4.82e3
2.41e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

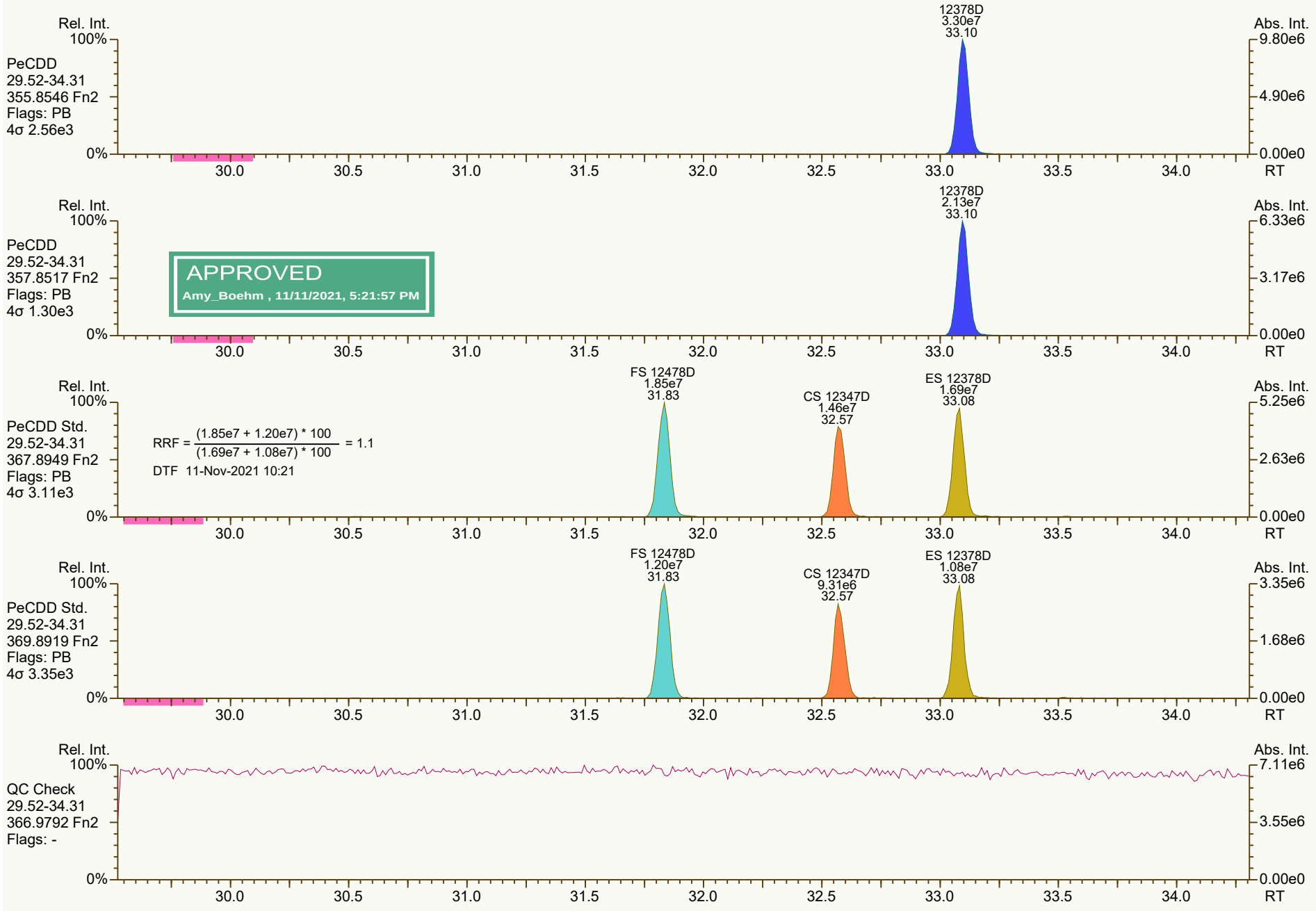
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

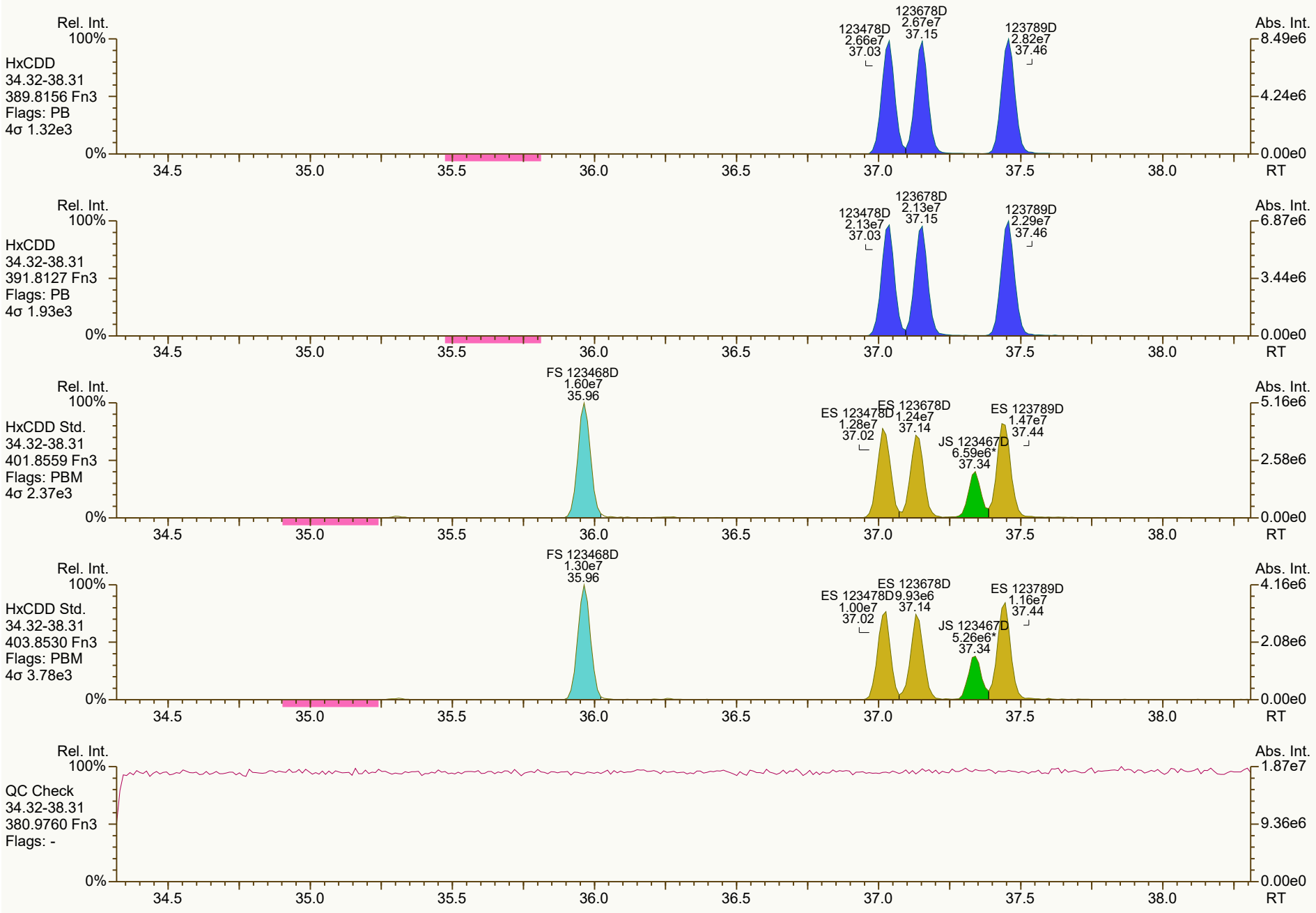
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

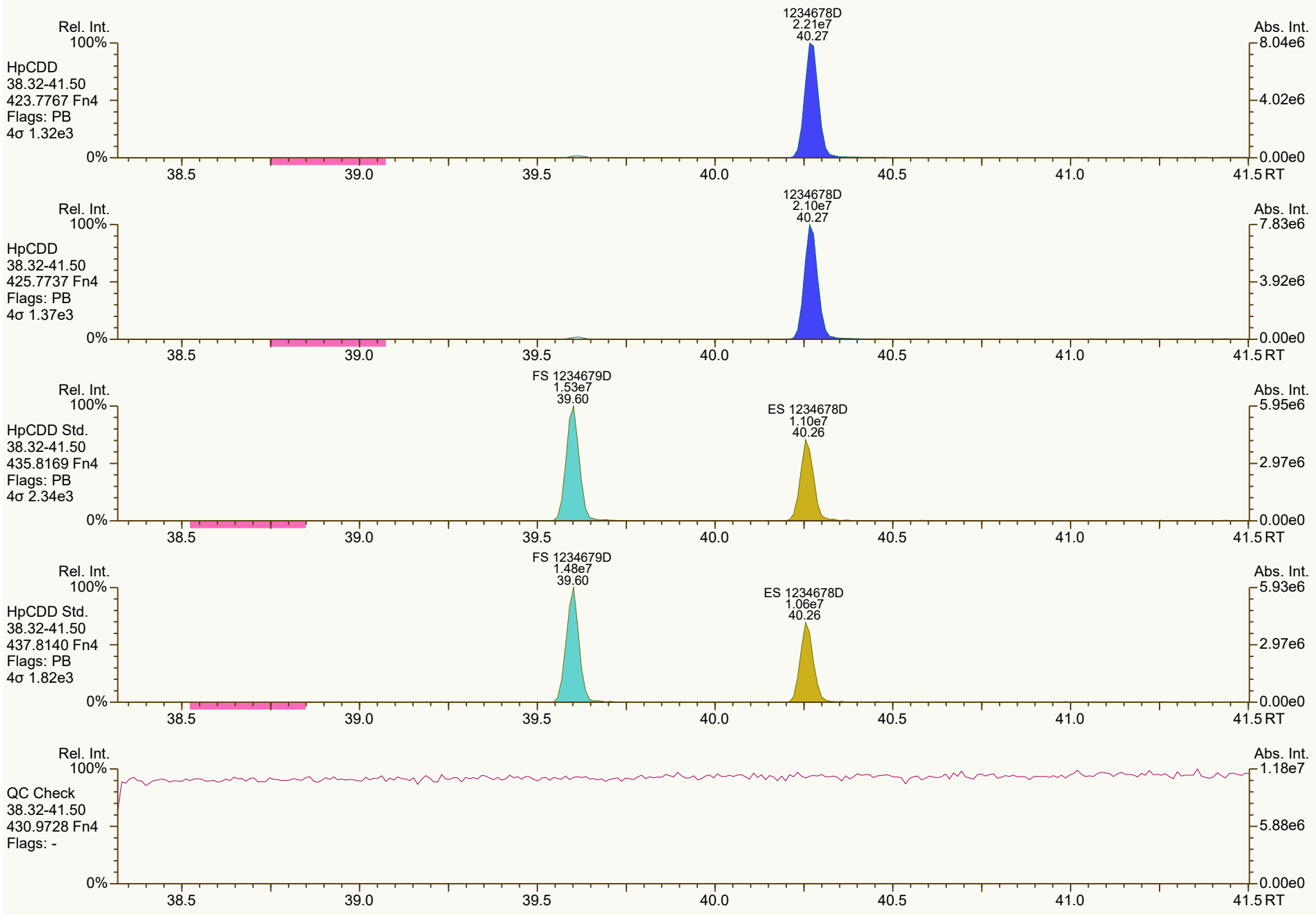
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:07 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS4_211110_DF_CA		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 855-576-PGM	
Sample ID: 25-5-4		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C08	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

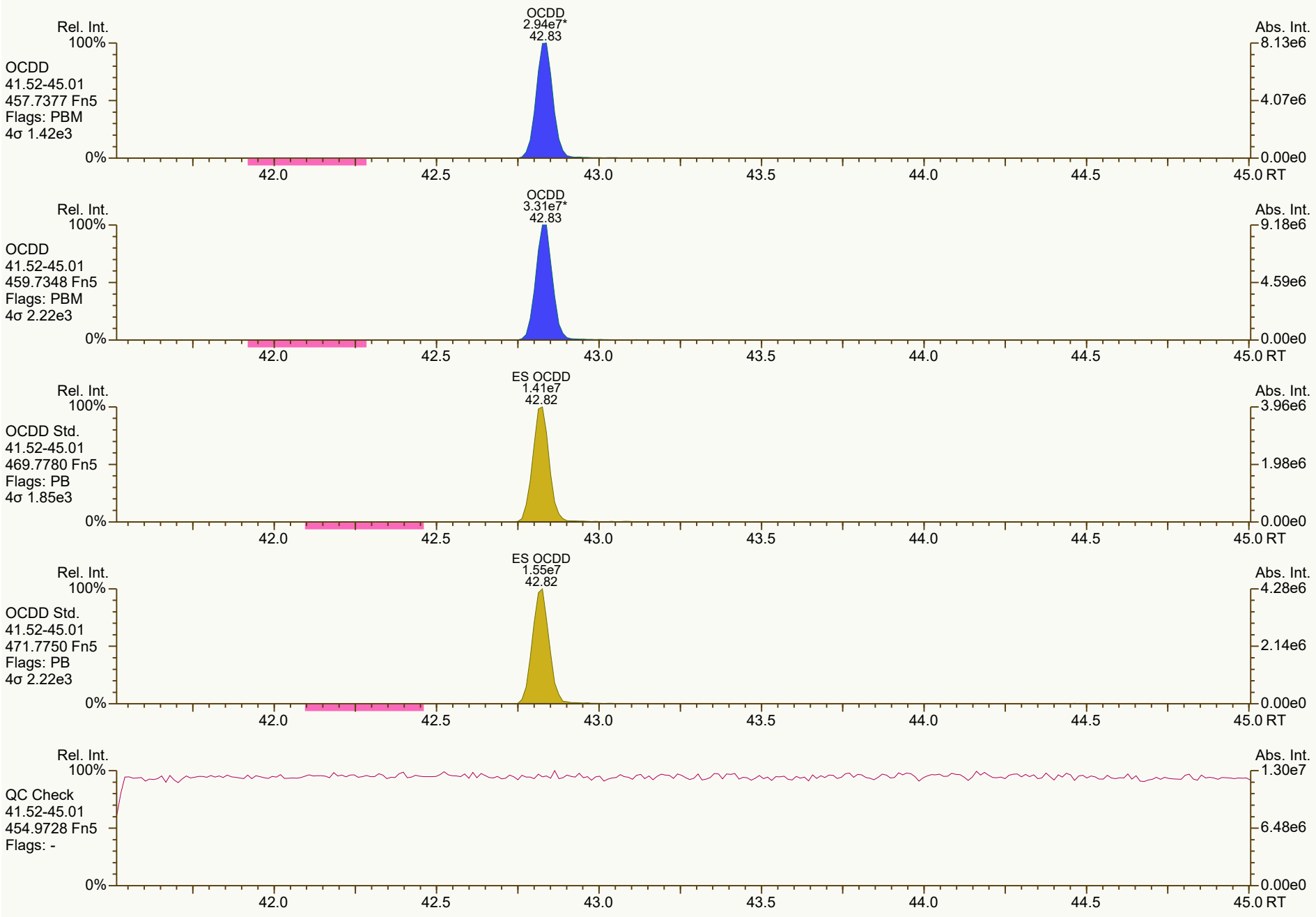

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
9.00e6
4.50e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
7.11e6
3.55e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
1.87e7
9.36e6
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.18e7
5.88e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.30e7
6.48e6
0.00e0
RT


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
12378D
2.13e7
33.10
6.33e6
3.17e6
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
5.25e6
2.63e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
3.35e6
1.68e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
7.11e6
3.55e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

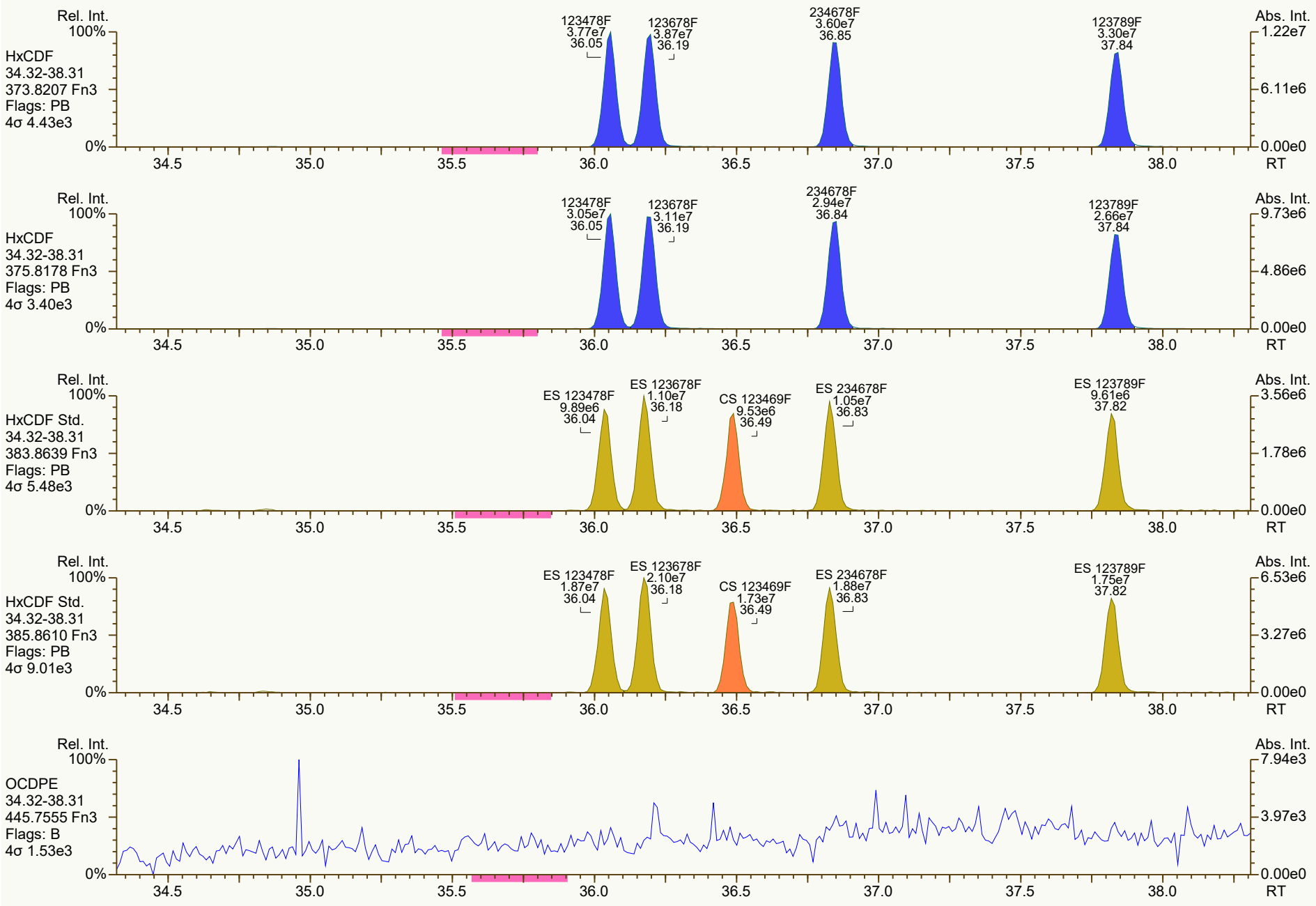

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

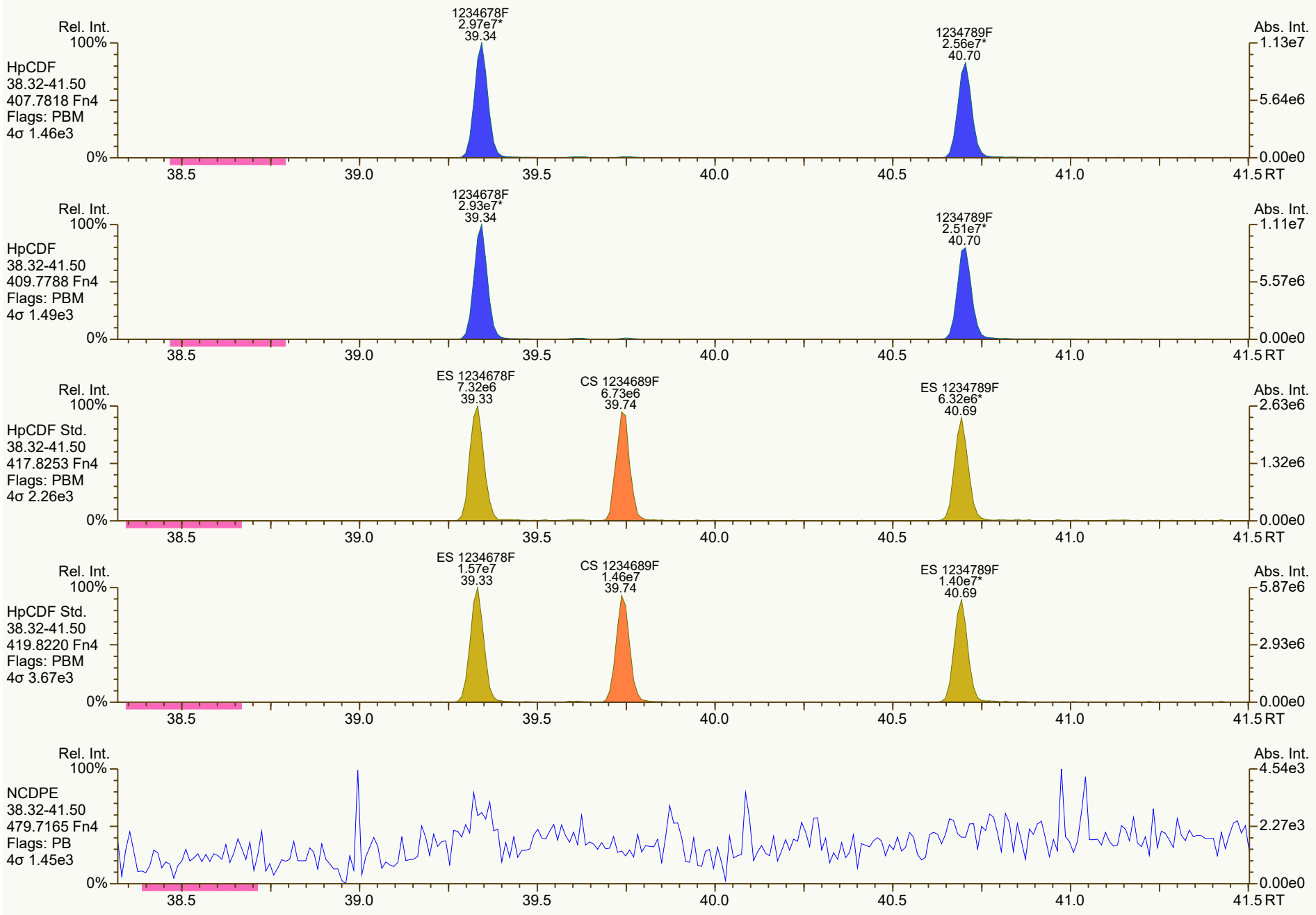

OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

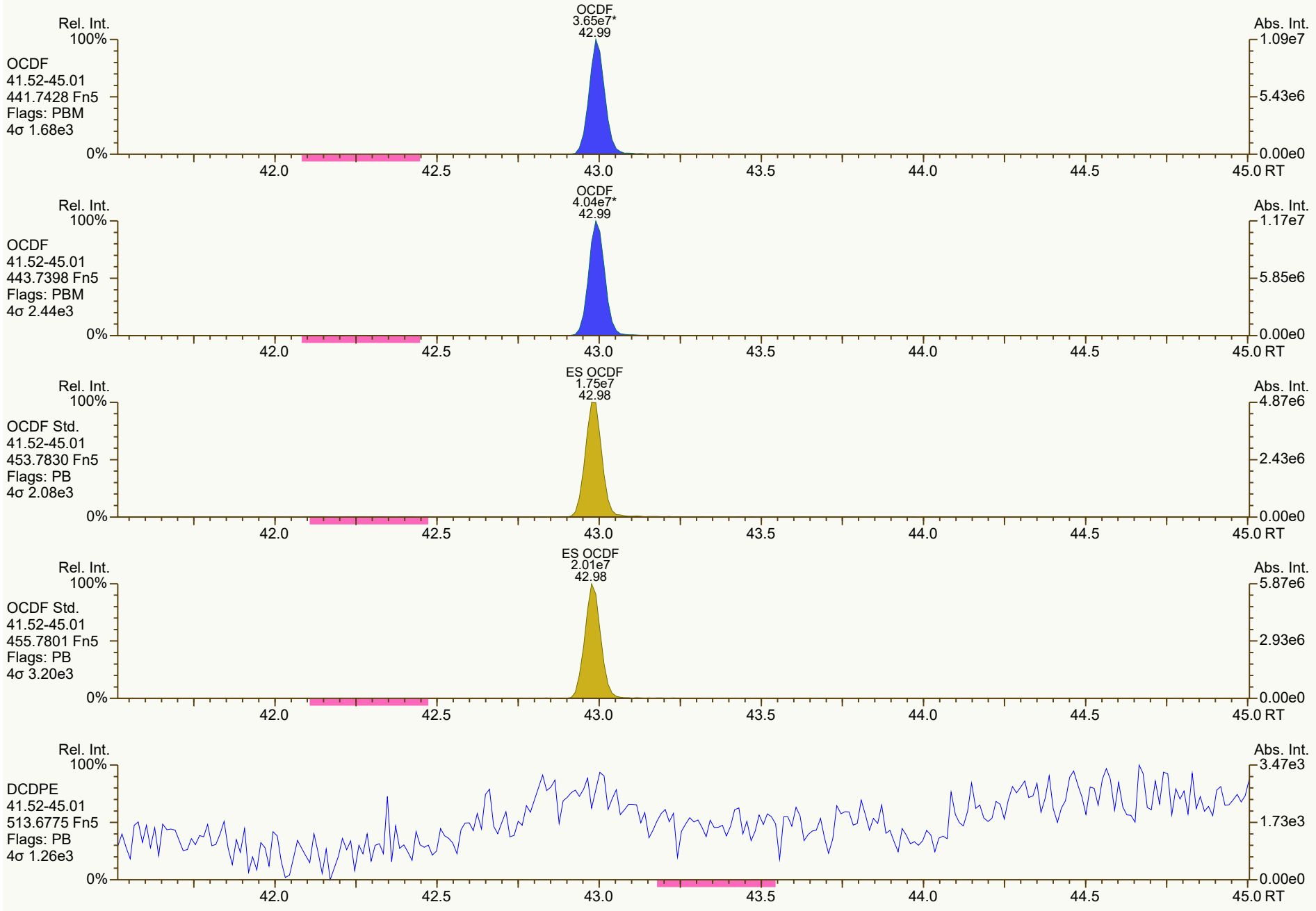

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.94e3
4.47e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.00e6
4.50e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
Abs. Int.
7.51e3
3.76e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
0%
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
Abs. Int.
1.13e7
5.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
0%
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
Abs. Int.
1.11e7
5.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
0%
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
Abs. Int.
2.63e6
1.32e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
0%
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
Abs. Int.
5.87e6
2.93e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
0%
Abs. Int.
4.54e3
2.27e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

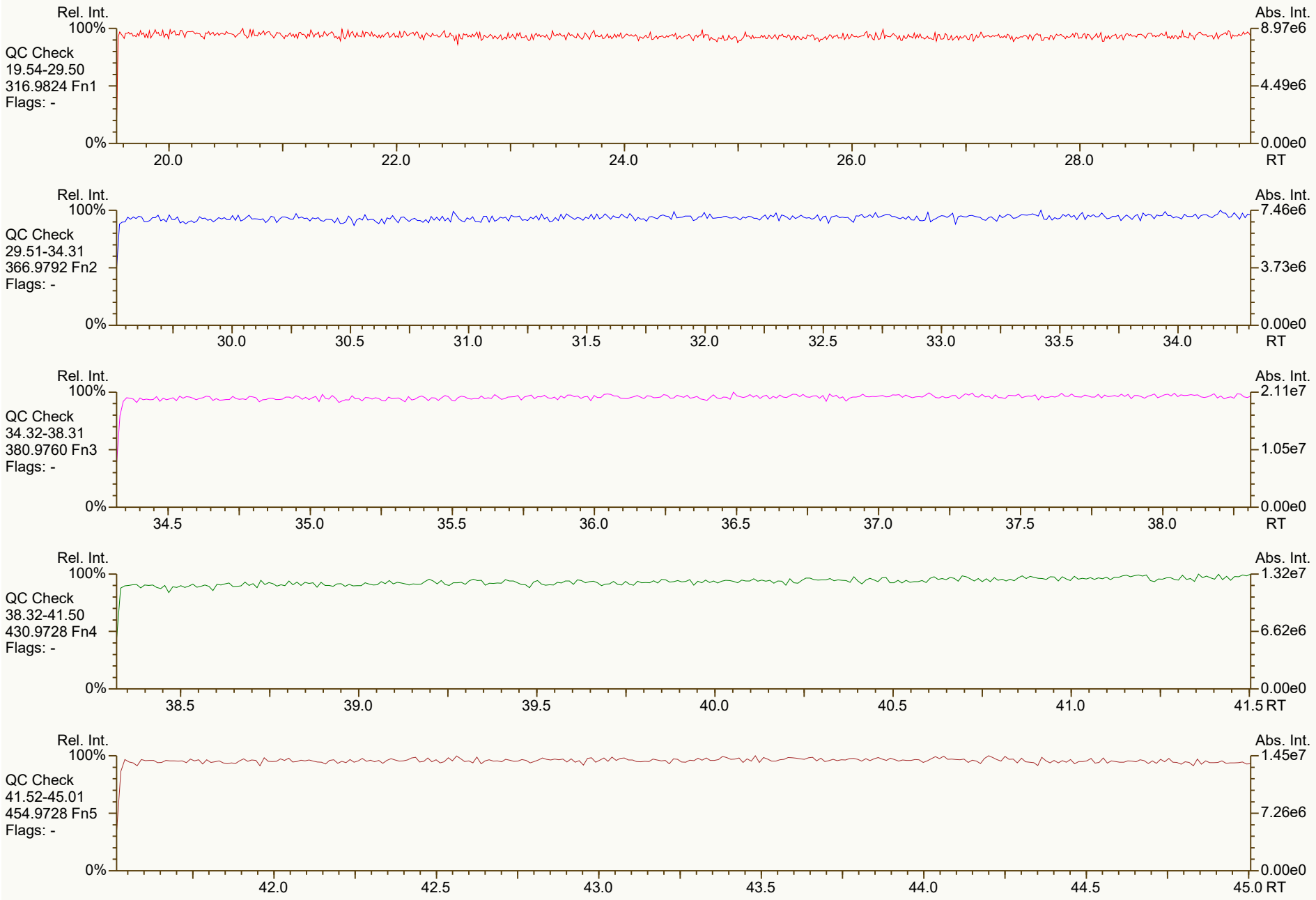

OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

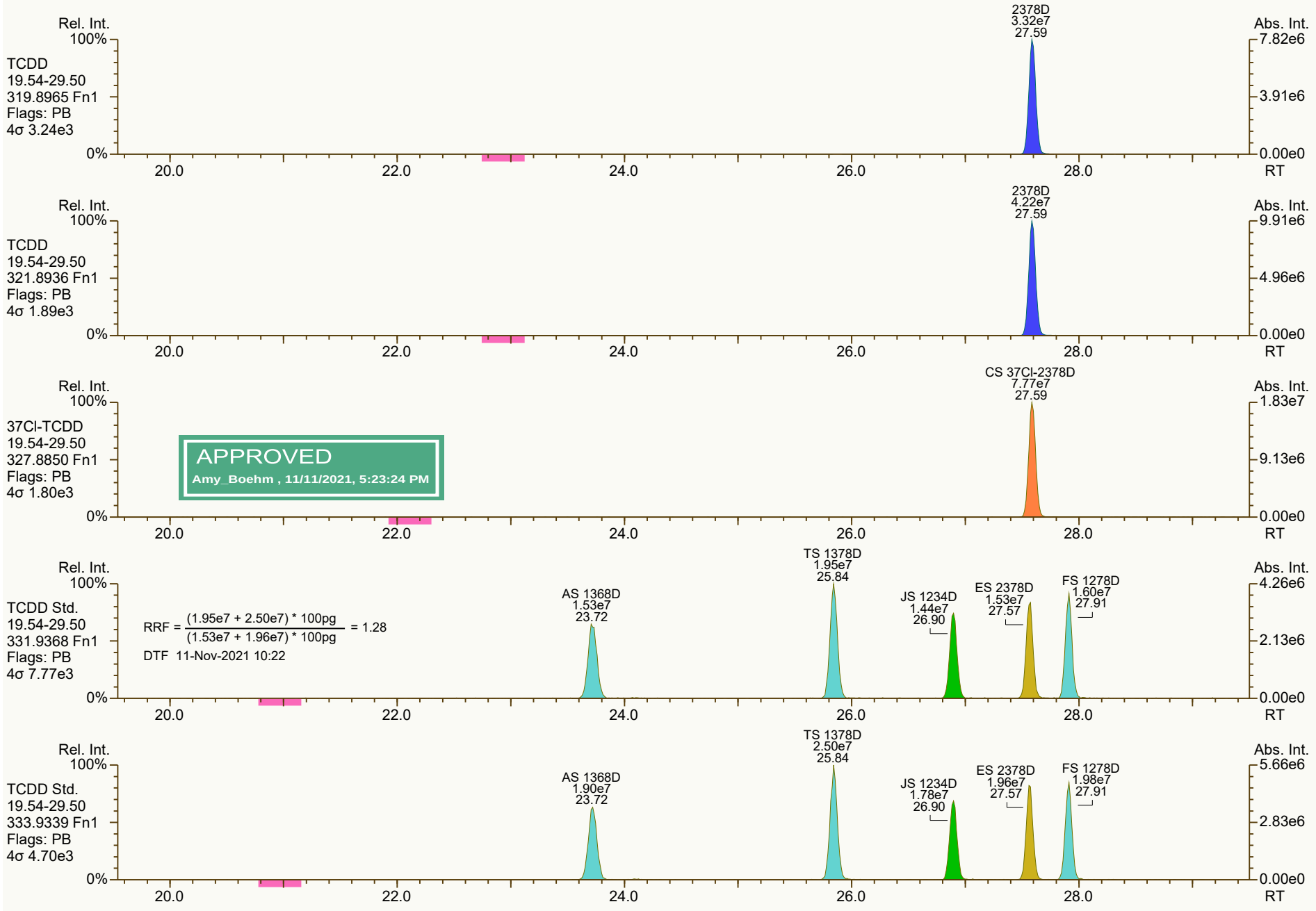
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

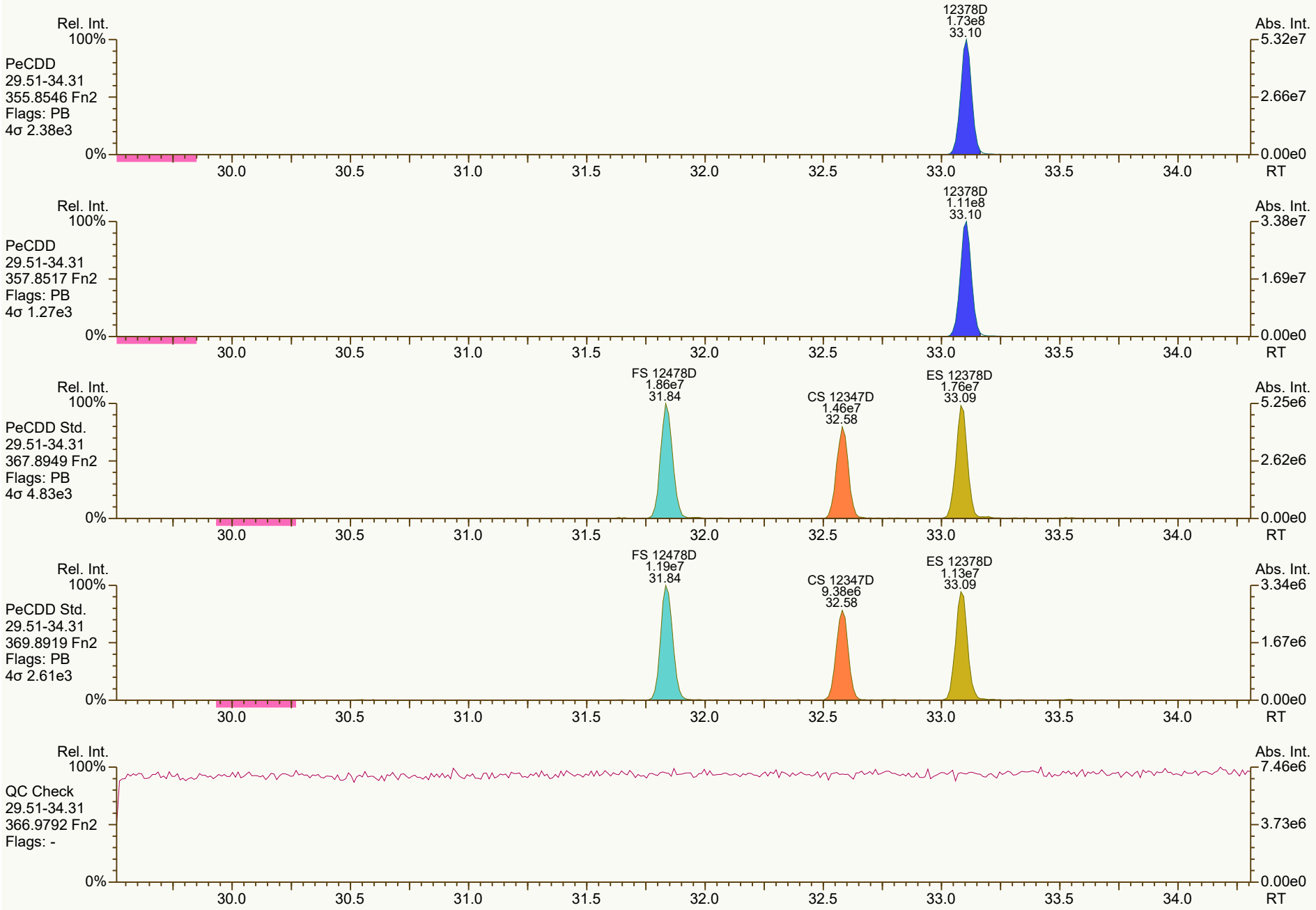
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

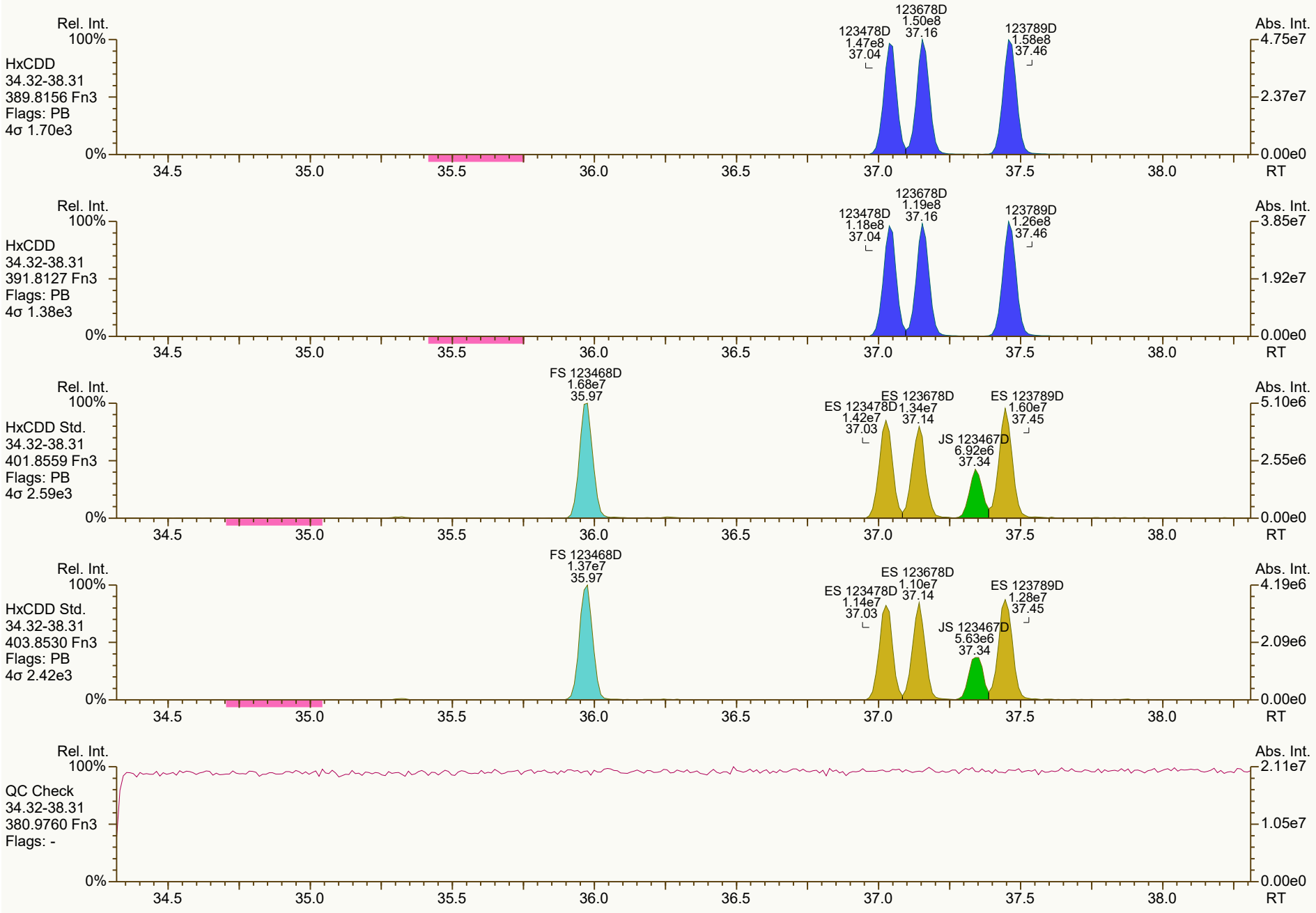
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

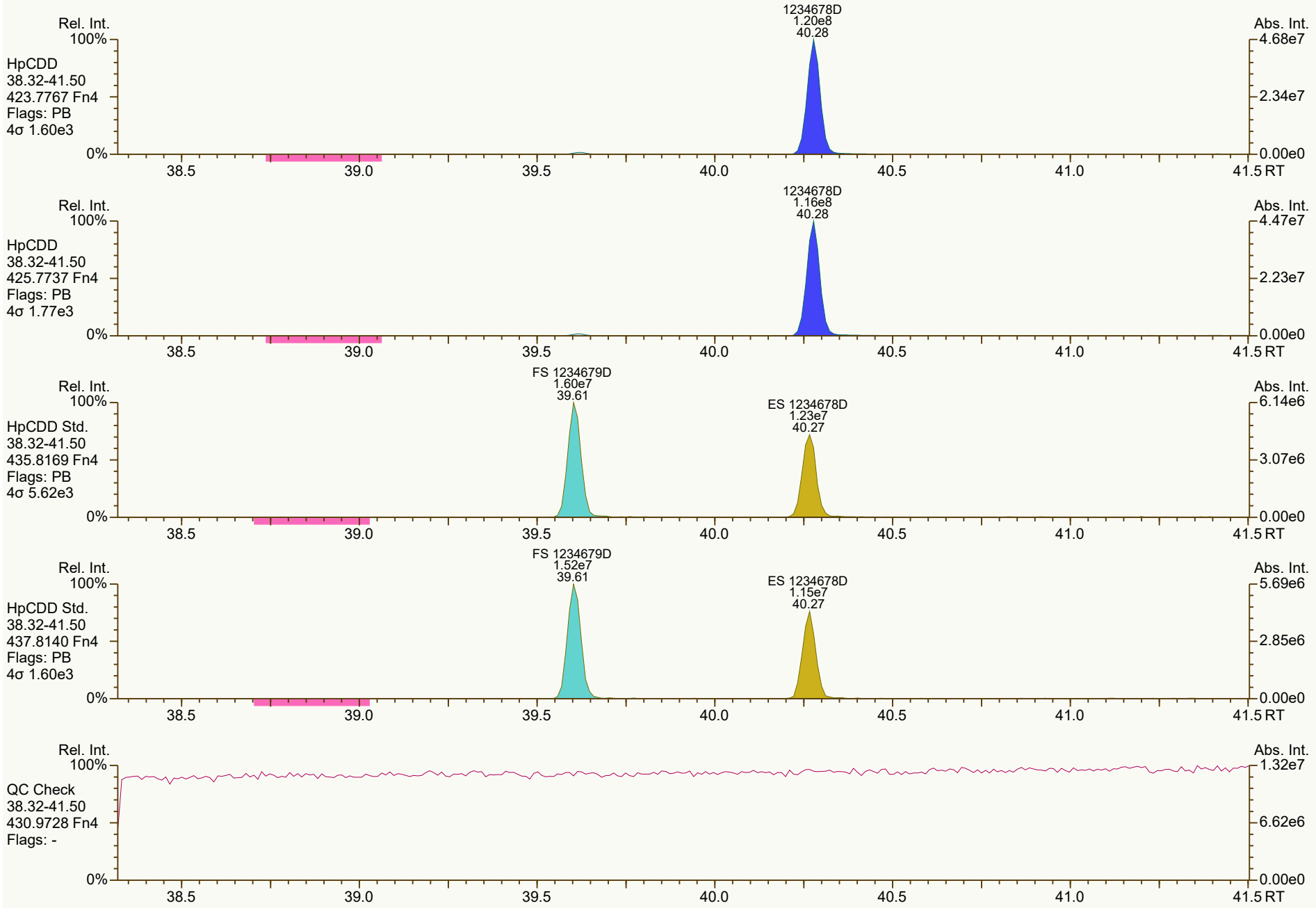
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

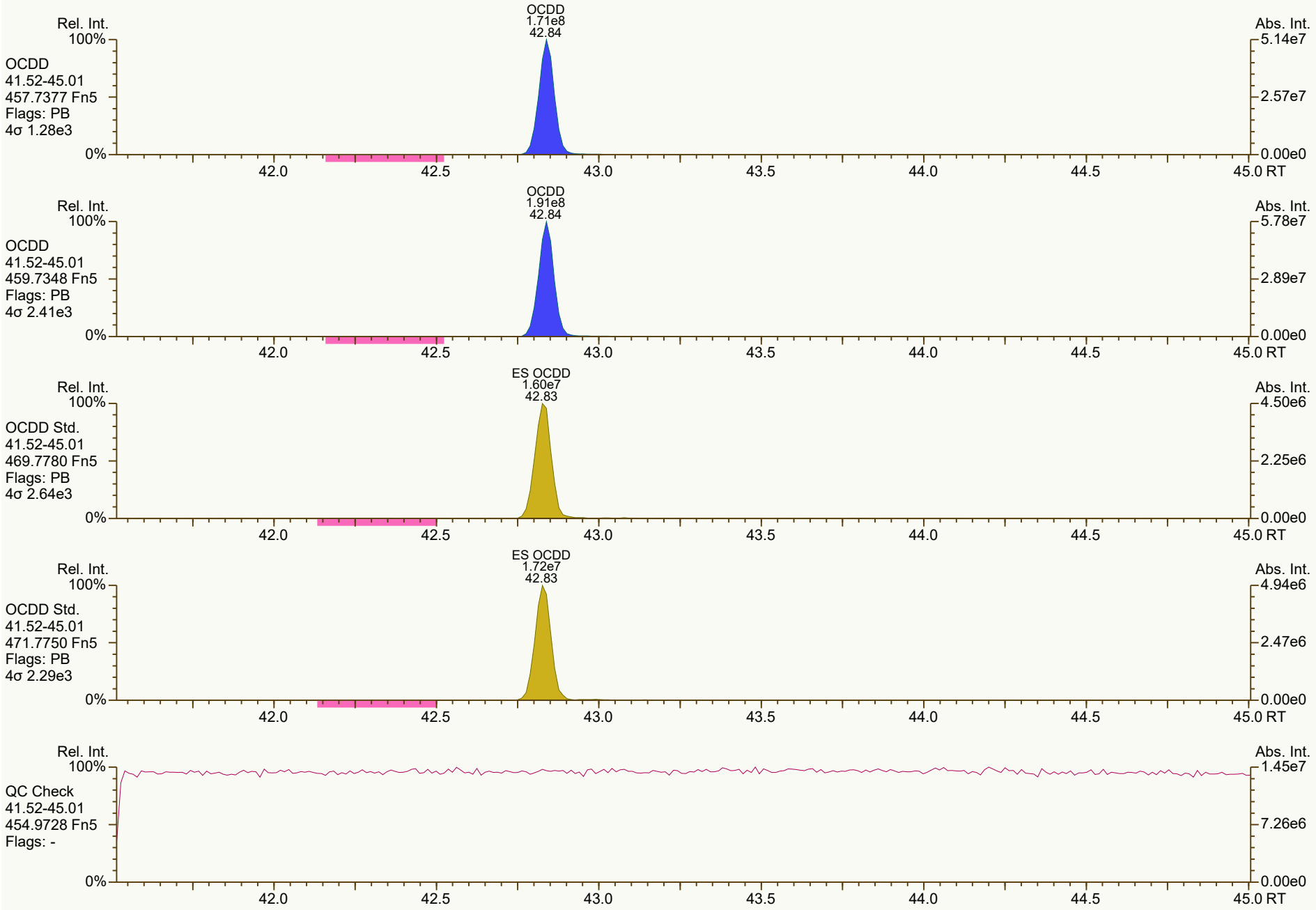

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.97e6
4.49e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.46e6
3.73e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.11e7
1.05e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.32e7
6.62e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.45e7
7.26e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
0%
2378D
4.22e7
27.59
Abs. Int.
9.91e6
4.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
Abs. Int.
1.83e7
9.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
0%
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
Abs. Int.
4.26e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
0%
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
Abs. Int.
5.66e6
2.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.46e6
3.73e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

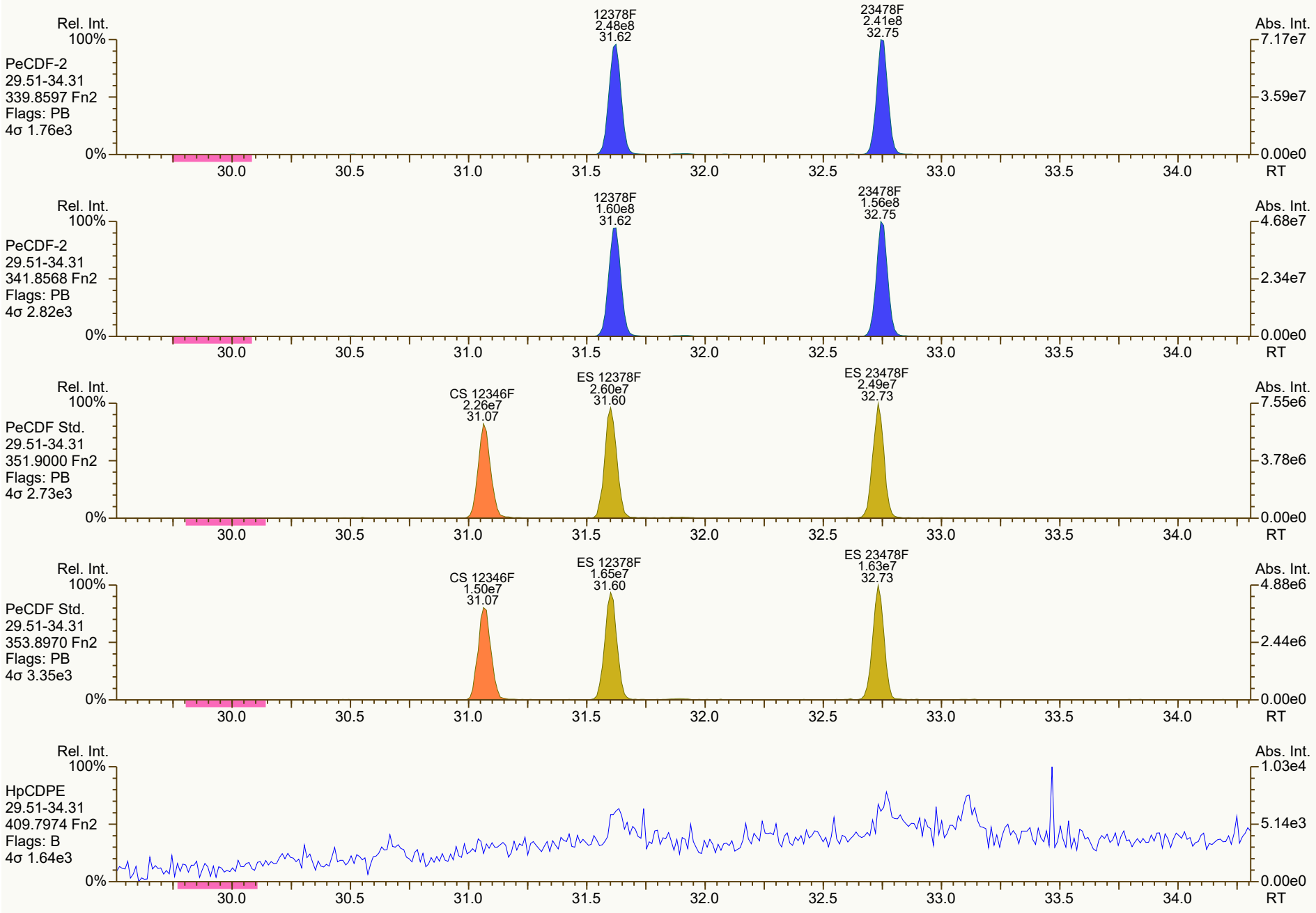

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123678D
1.50e8
37.16
123478D
1.47e8
37.04
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123678D
1.19e8
37.16
123478D
1.18e8
37.04
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123678D
1.34e7
37.14
ES 123478D
1.42e7
37.03
ES 123789D
1.60e7
37.45
JS 123467D
6.92e6
37.34
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123678D
1.10e7
37.14
ES 123478D
1.14e7
37.03
ES 123789D
1.28e7
37.45
JS 123467D
5.63e6
37.34
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

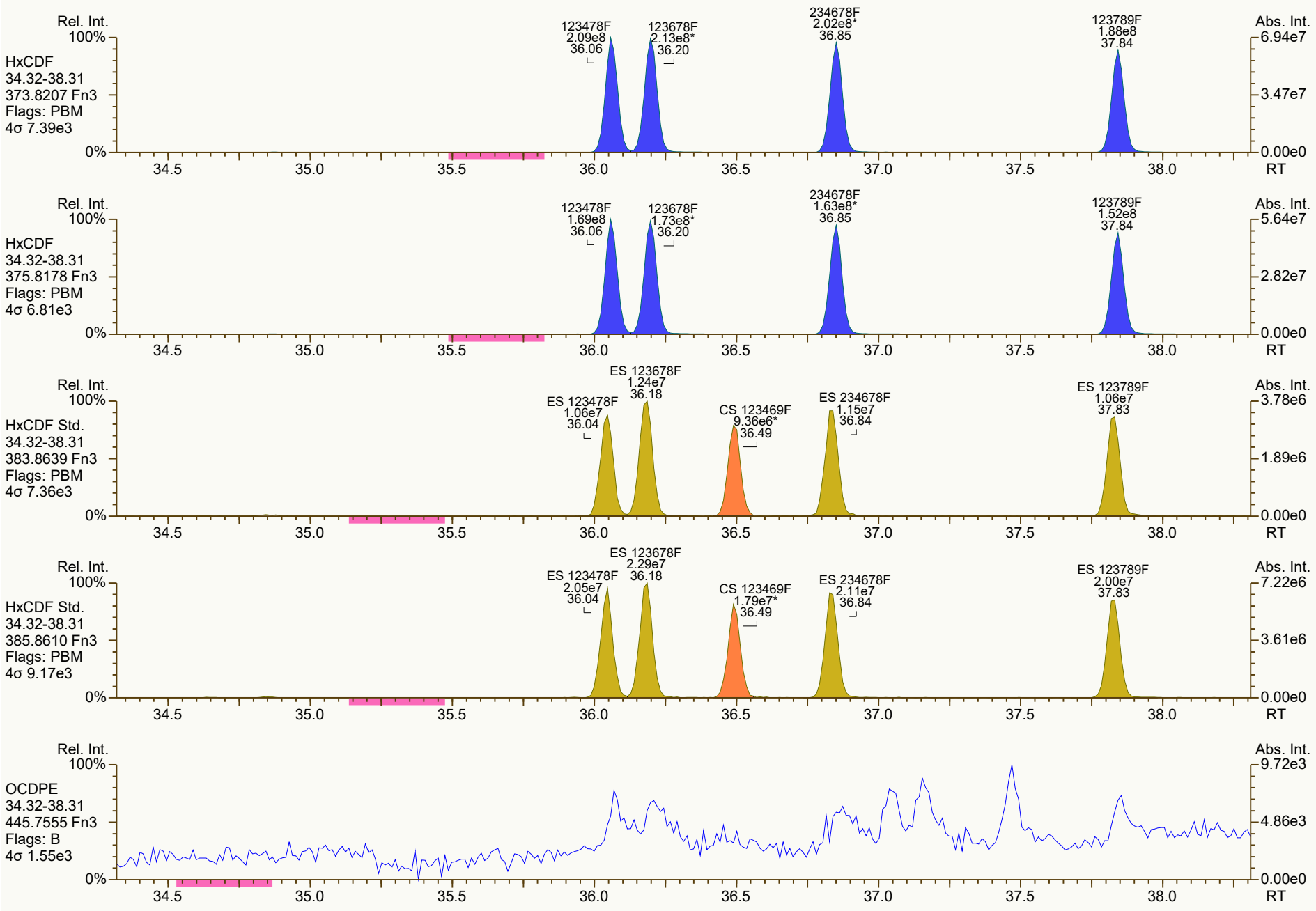

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

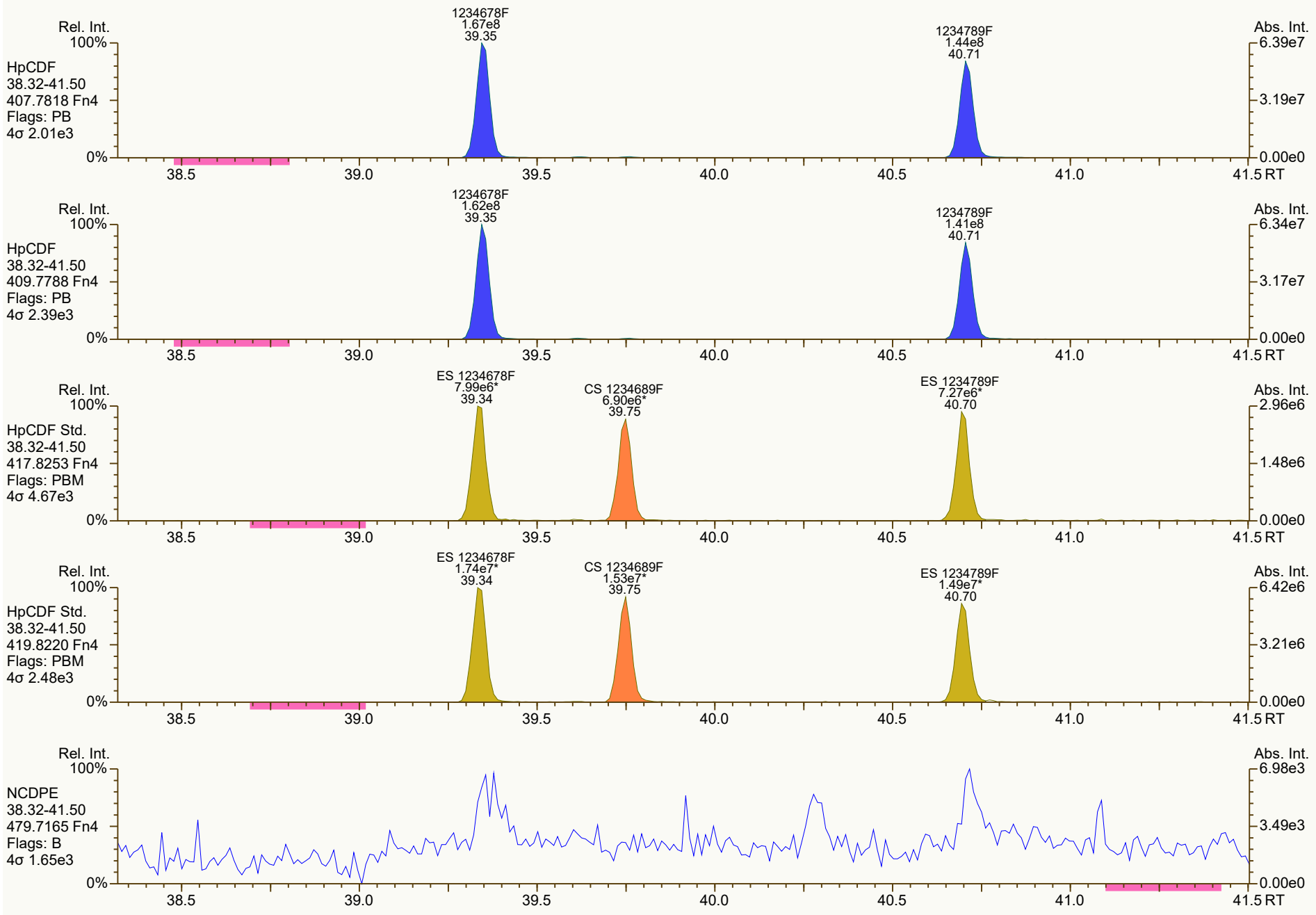

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
OCDD
1.71e8
42.84
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
0%
OCDD
1.91e8
42.84
Abs. Int.
5.78e7
2.89e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
0%
ES OCDD
1.60e7
42.83
Abs. Int.
4.50e6
2.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
0%
ES OCDD
1.72e7
42.83
Abs. Int.
4.94e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.45e7
7.26e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

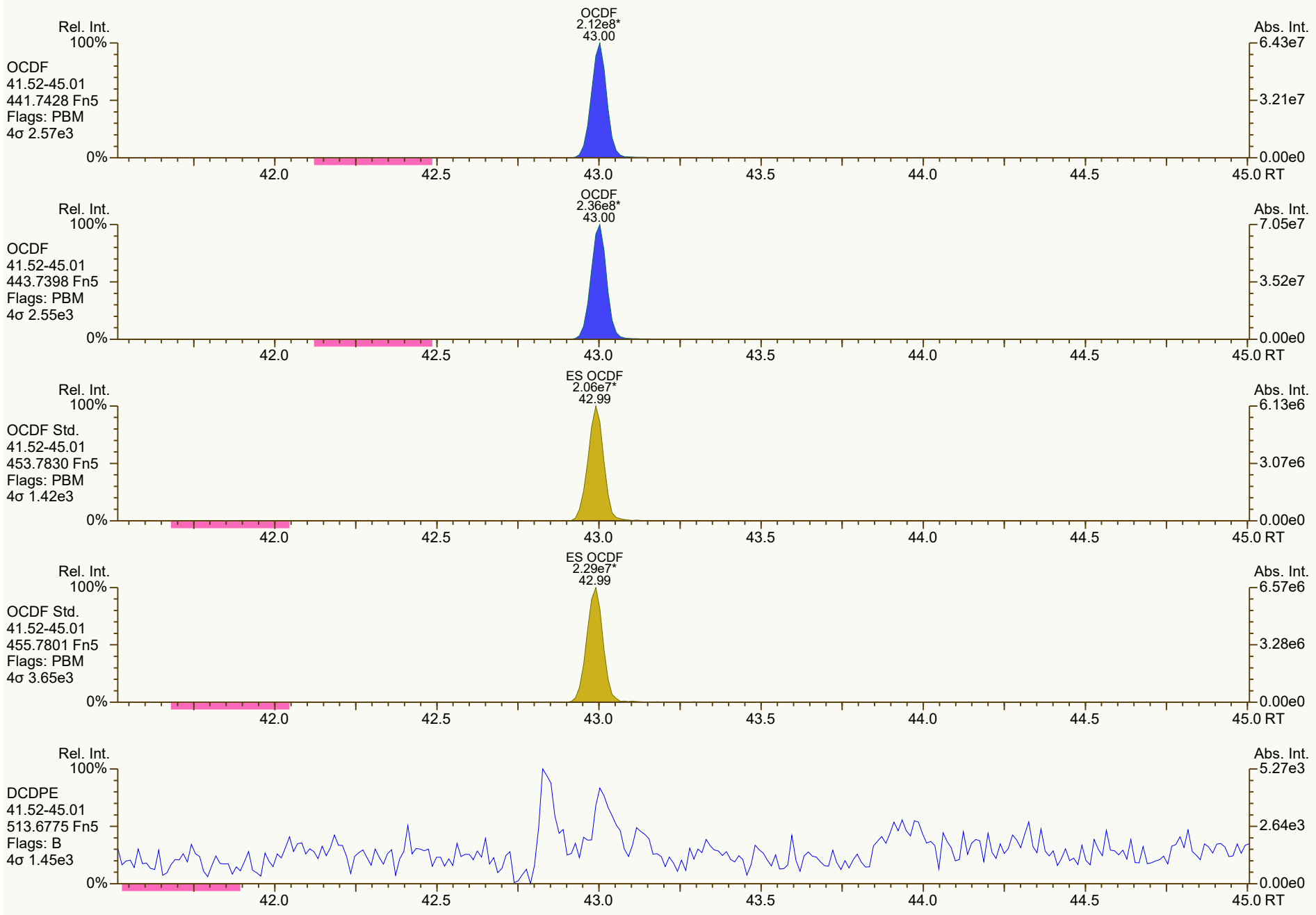

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
0%
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
0%
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
0%
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
0%
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.03e4
5.14e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
0%
123478F
2.09e8
36.06
123678F
2.13e8*
36.20
234678F
2.02e8*
36.85
123789F
1.88e8
37.84
Abs. Int.
6.94e7
3.47e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
0%
123478F
1.69e8
36.06
123678F
1.73e8*
36.20
234678F
1.63e8*
36.85
123789F
1.52e8
37.84
Abs. Int.
5.64e7
2.82e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
0%
ES 123478F
1.06e7
36.04
ES 123678F
1.24e7
36.18
CS 123469F
9.36e6*
36.49
ES 234678F
1.15e7
36.84
ES 123789F
1.06e7
37.83
Abs. Int.
3.78e6
1.89e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
0%
ES 123478F
2.05e7
36.04
ES 123678F
2.29e7
36.18
CS 123469F
1.79e7*
36.49
ES 234678F
2.11e7
36.84
ES 123789F
2.00e7
37.83
Abs. Int.
7.22e6
3.61e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
0%
Abs. Int.
9.72e3
4.86e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
0%
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

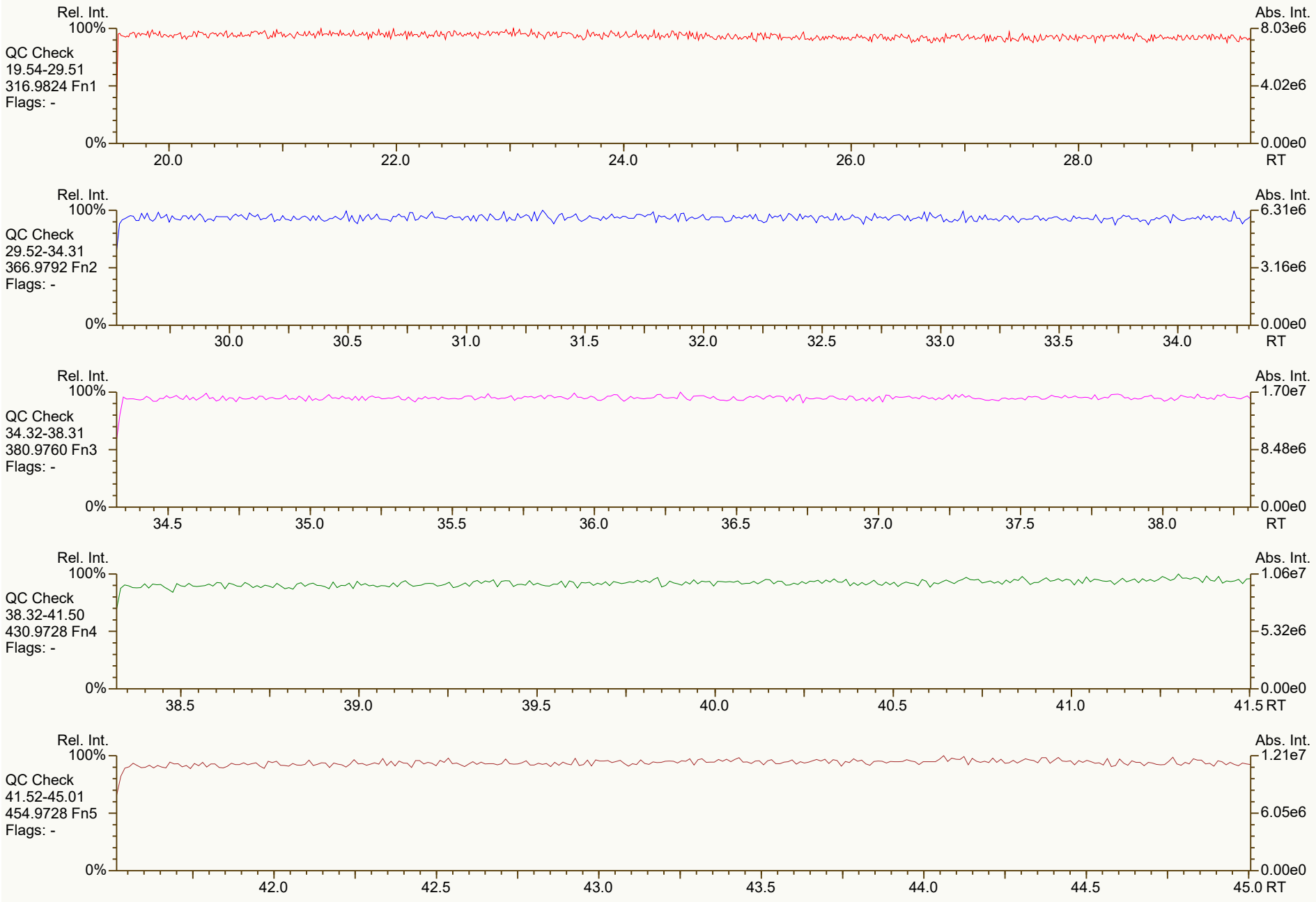

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

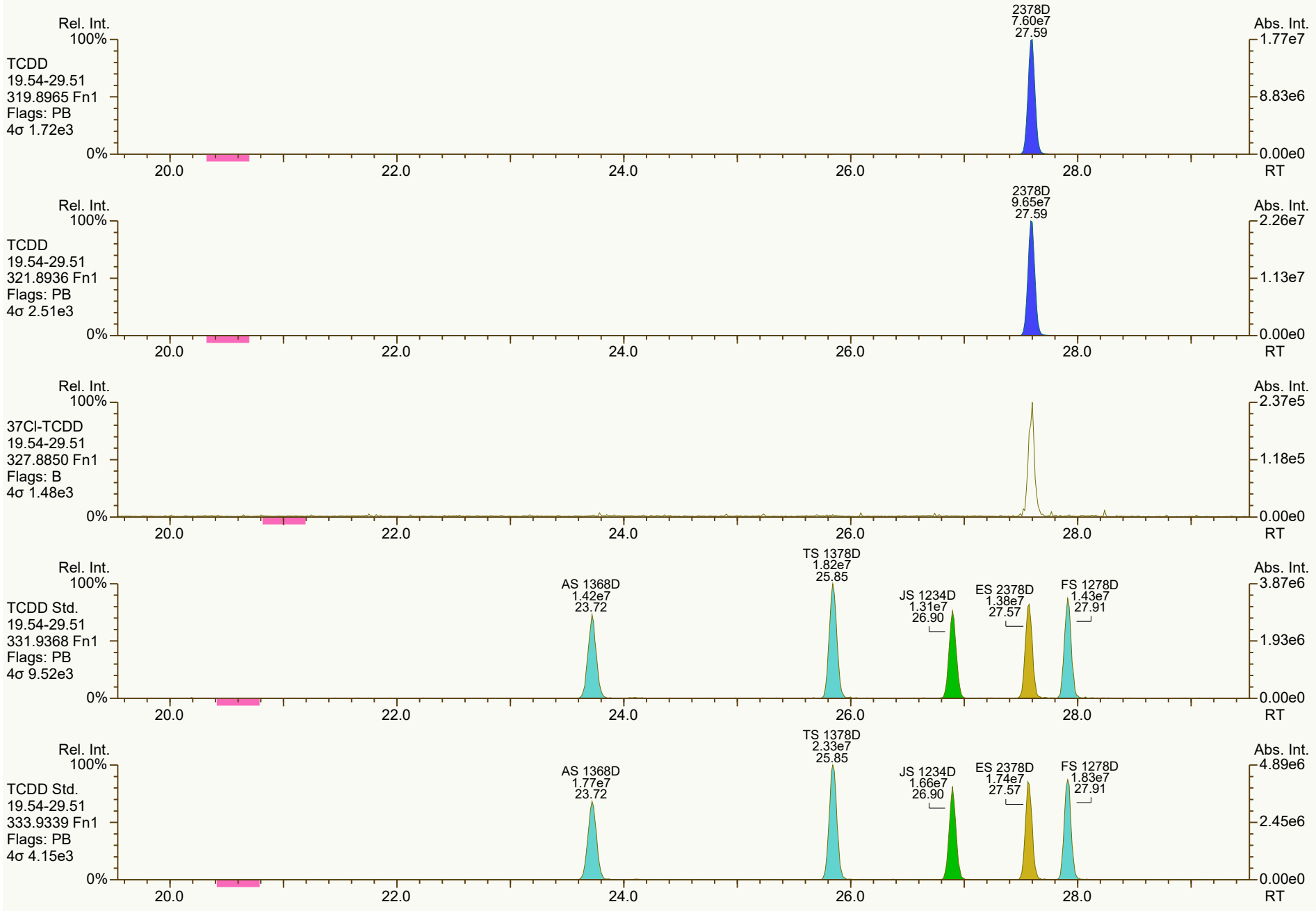
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

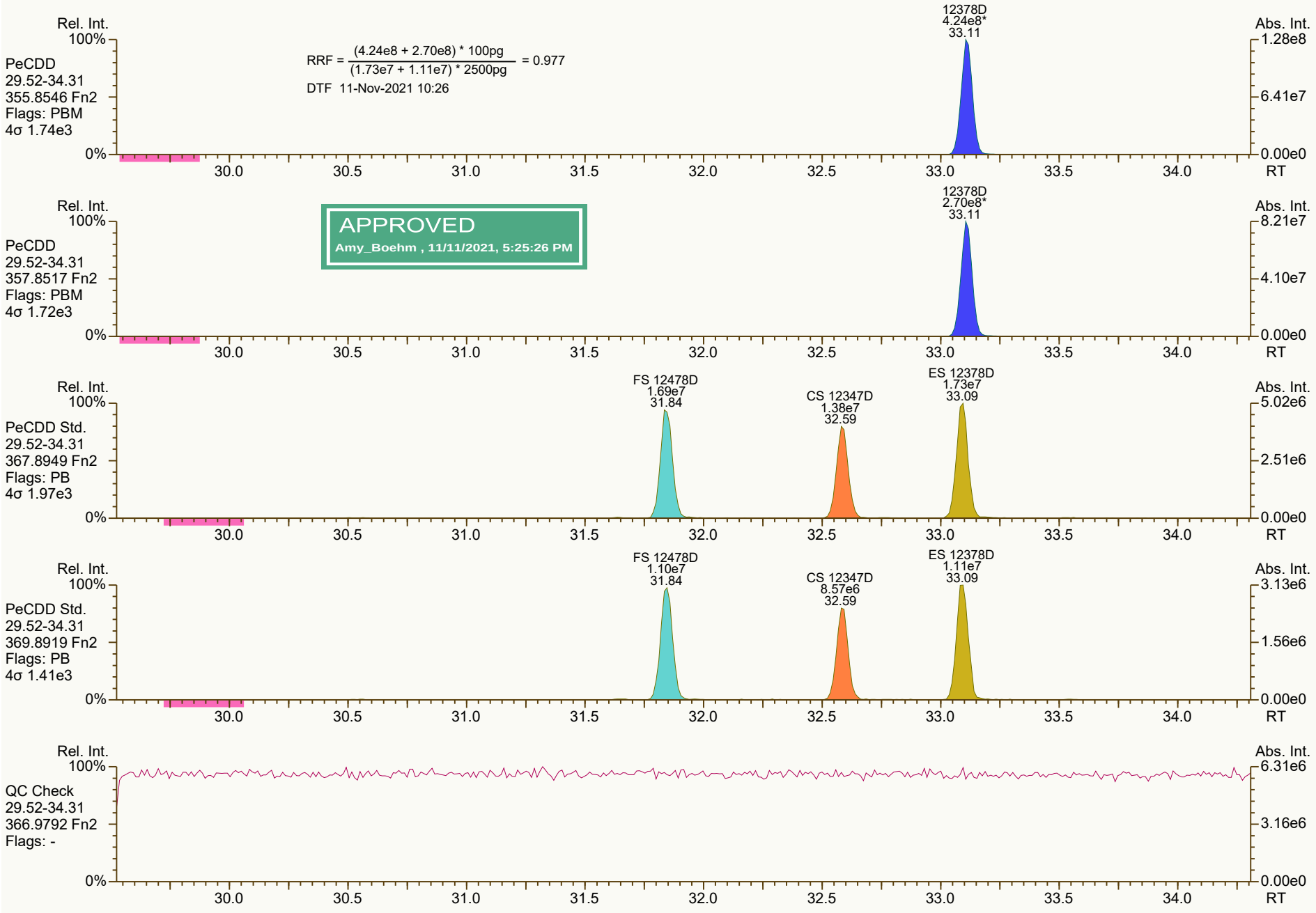
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

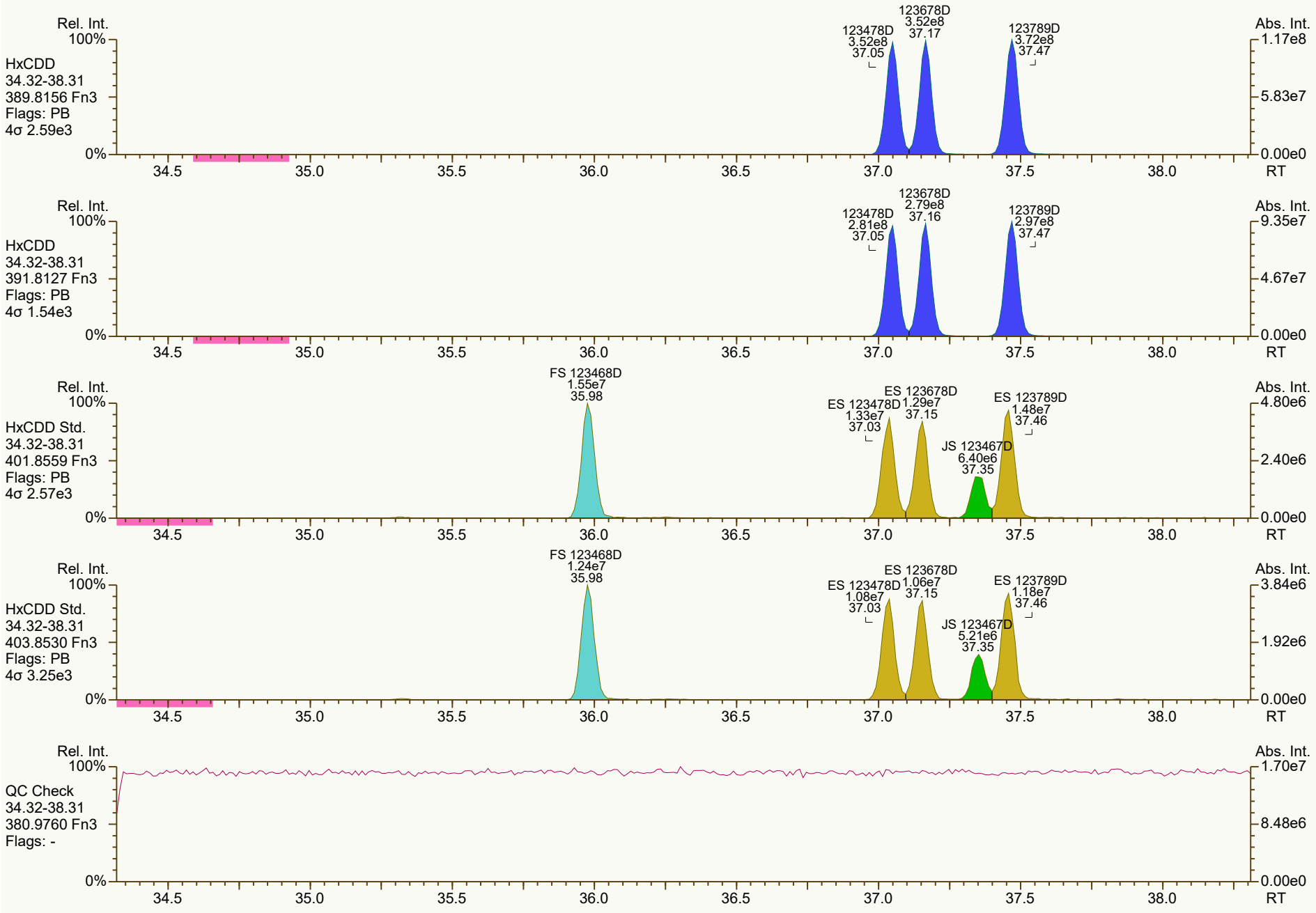
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

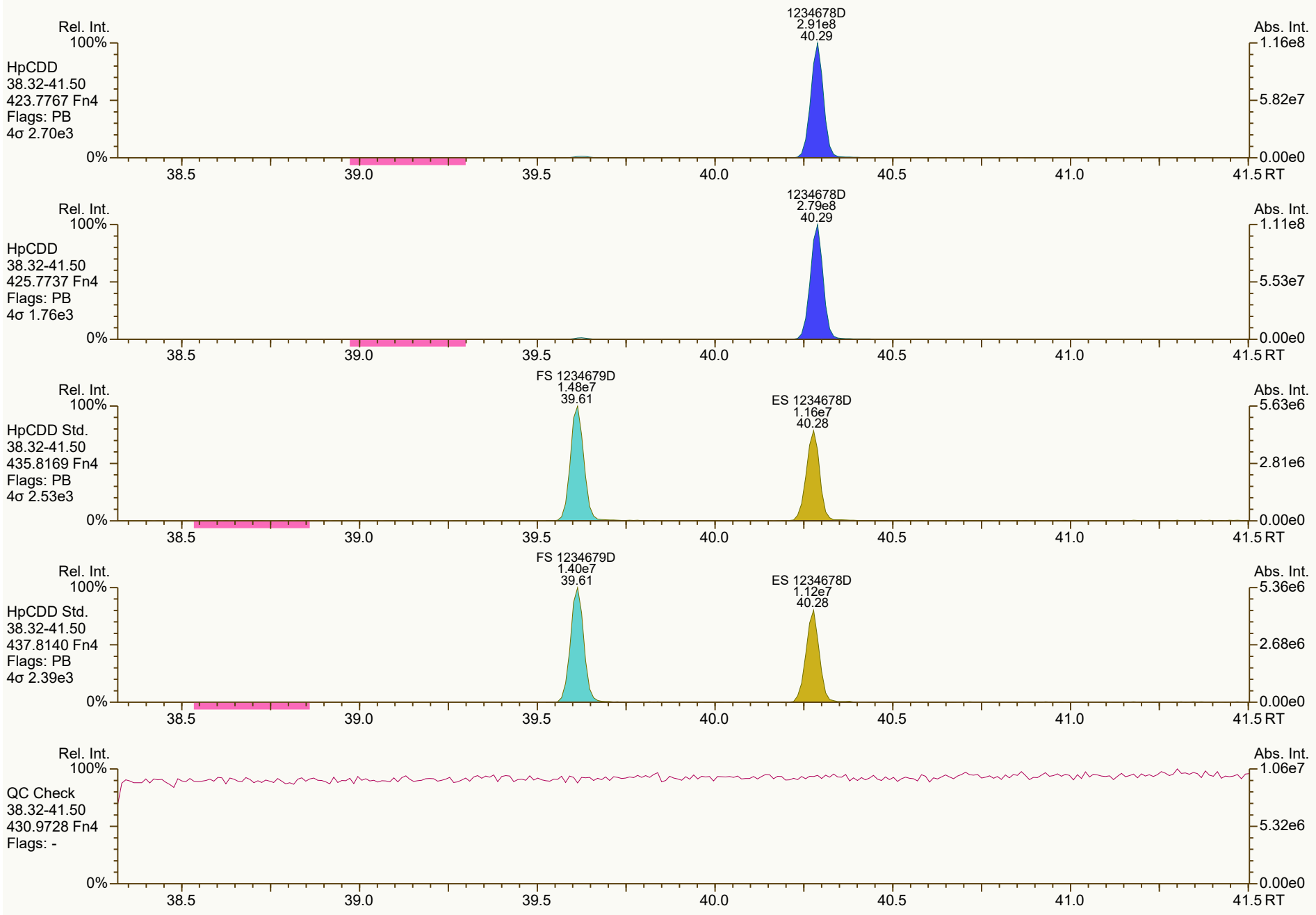
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

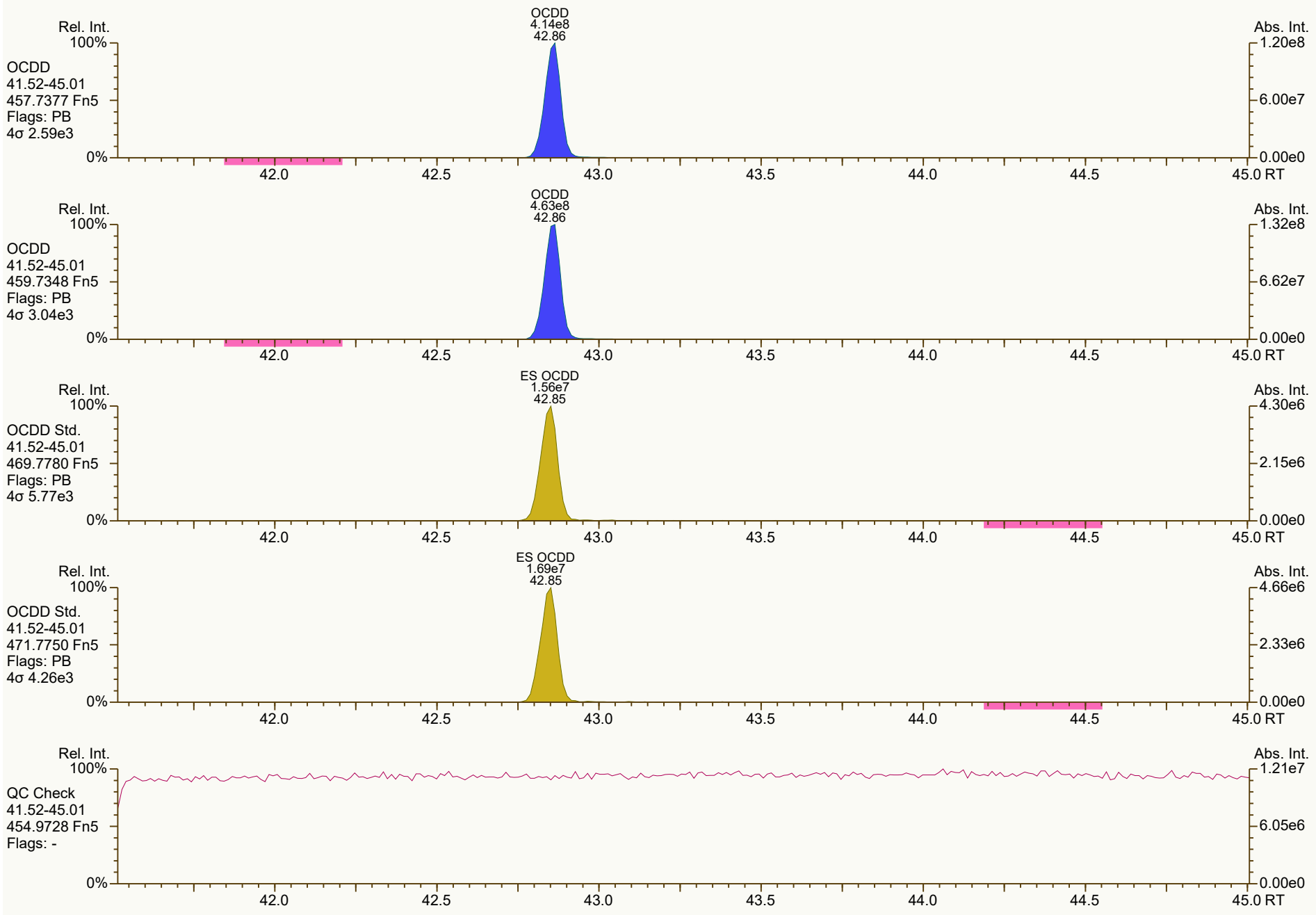

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
0%
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
0%
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.31e6
3.16e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

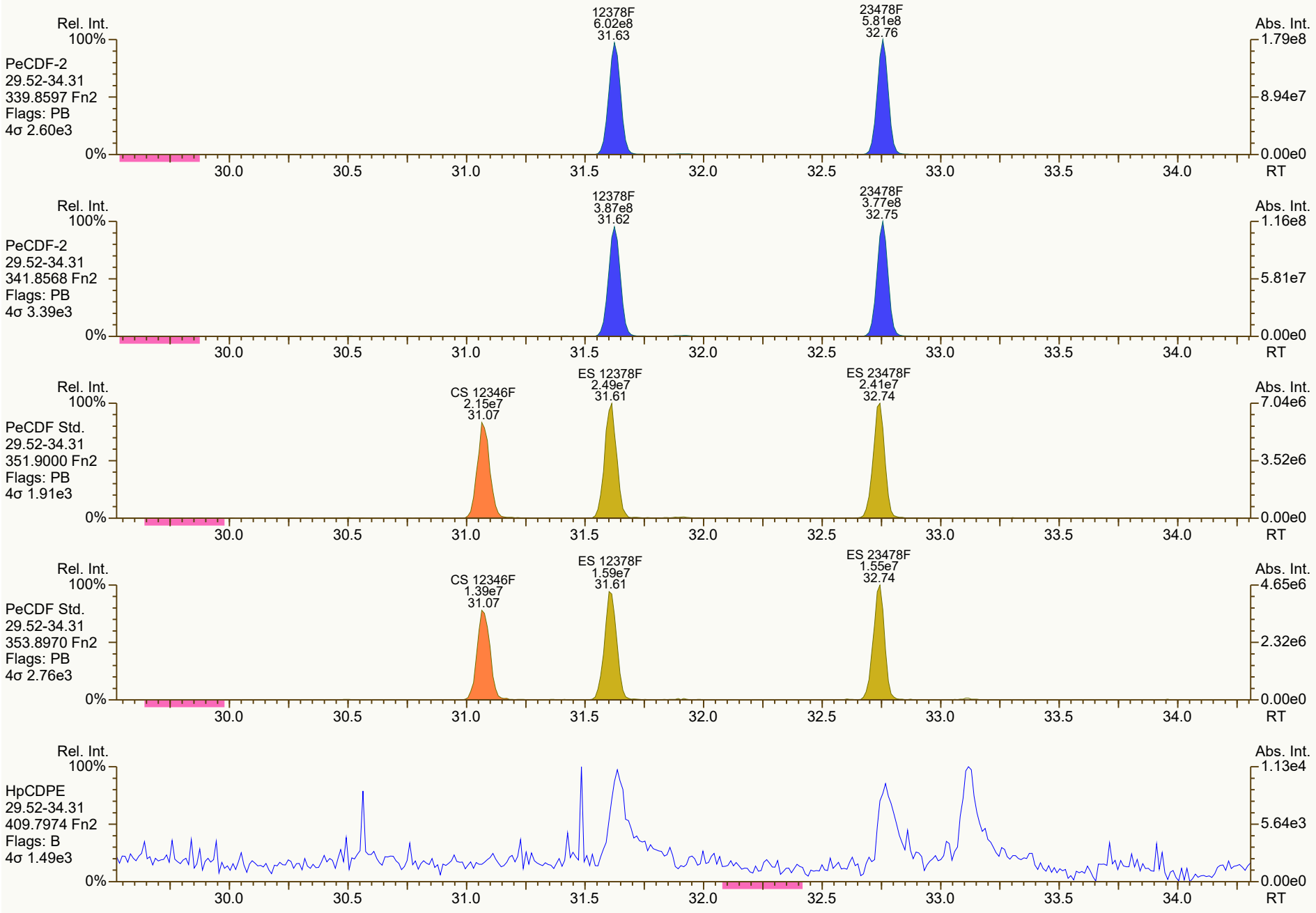

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
0%
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
0%
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
0%
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
0%
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.70e7
8.48e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

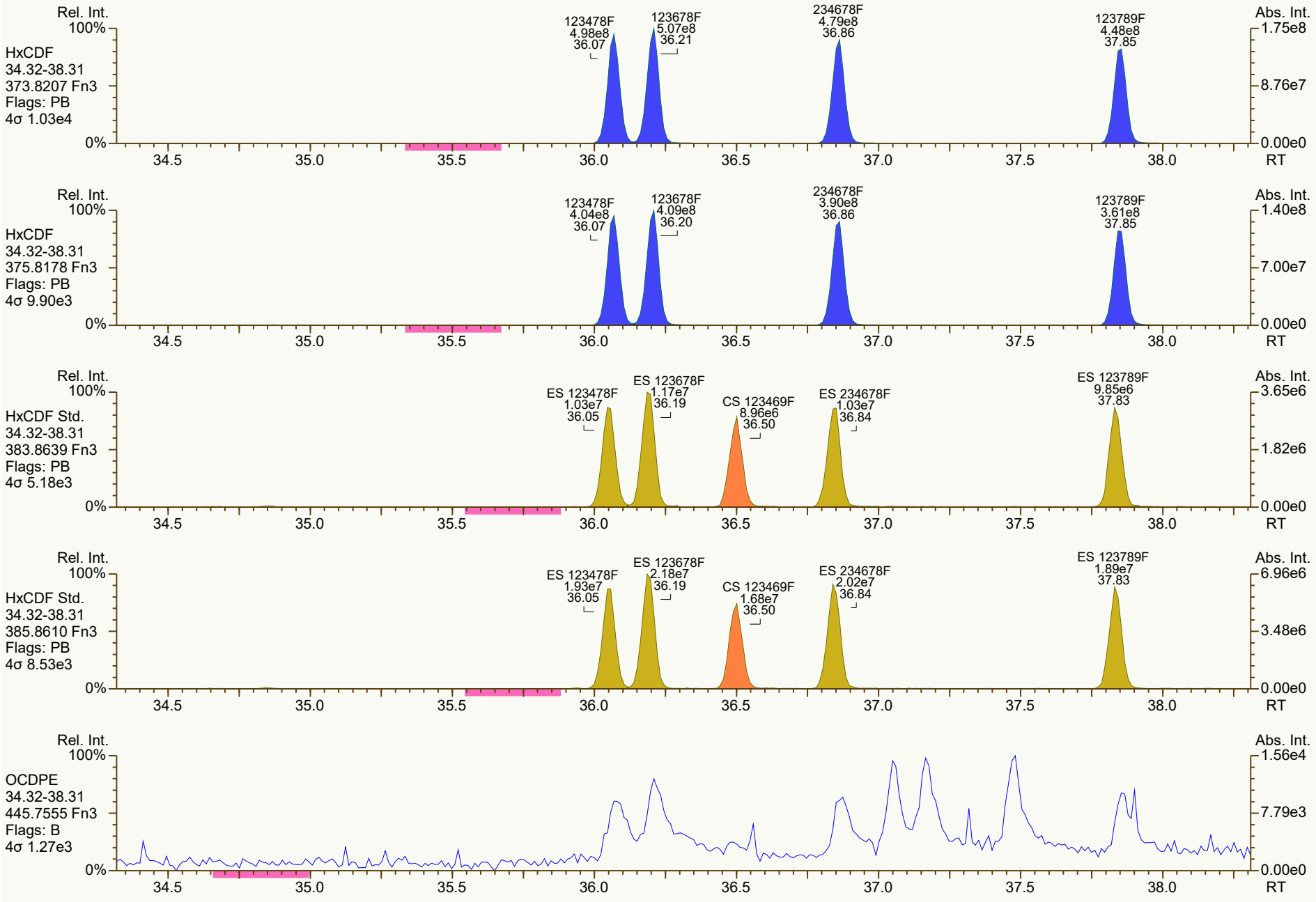

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

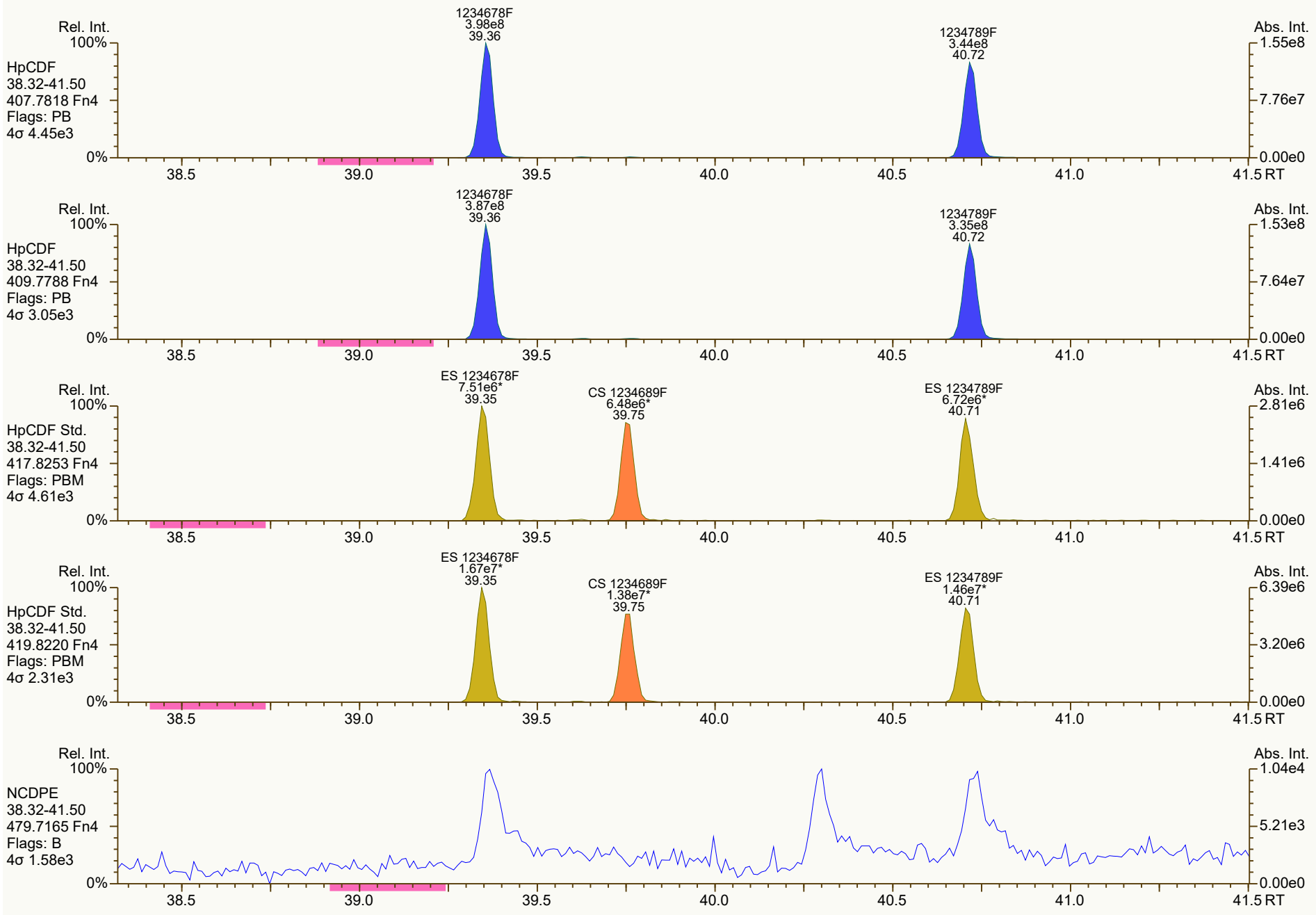

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
OCDD
4.14e8
42.86
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
OCDD
4.63e8
42.86
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
ES OCDD
1.56e7
42.85
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
ES OCDD
1.69e7
42.85
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

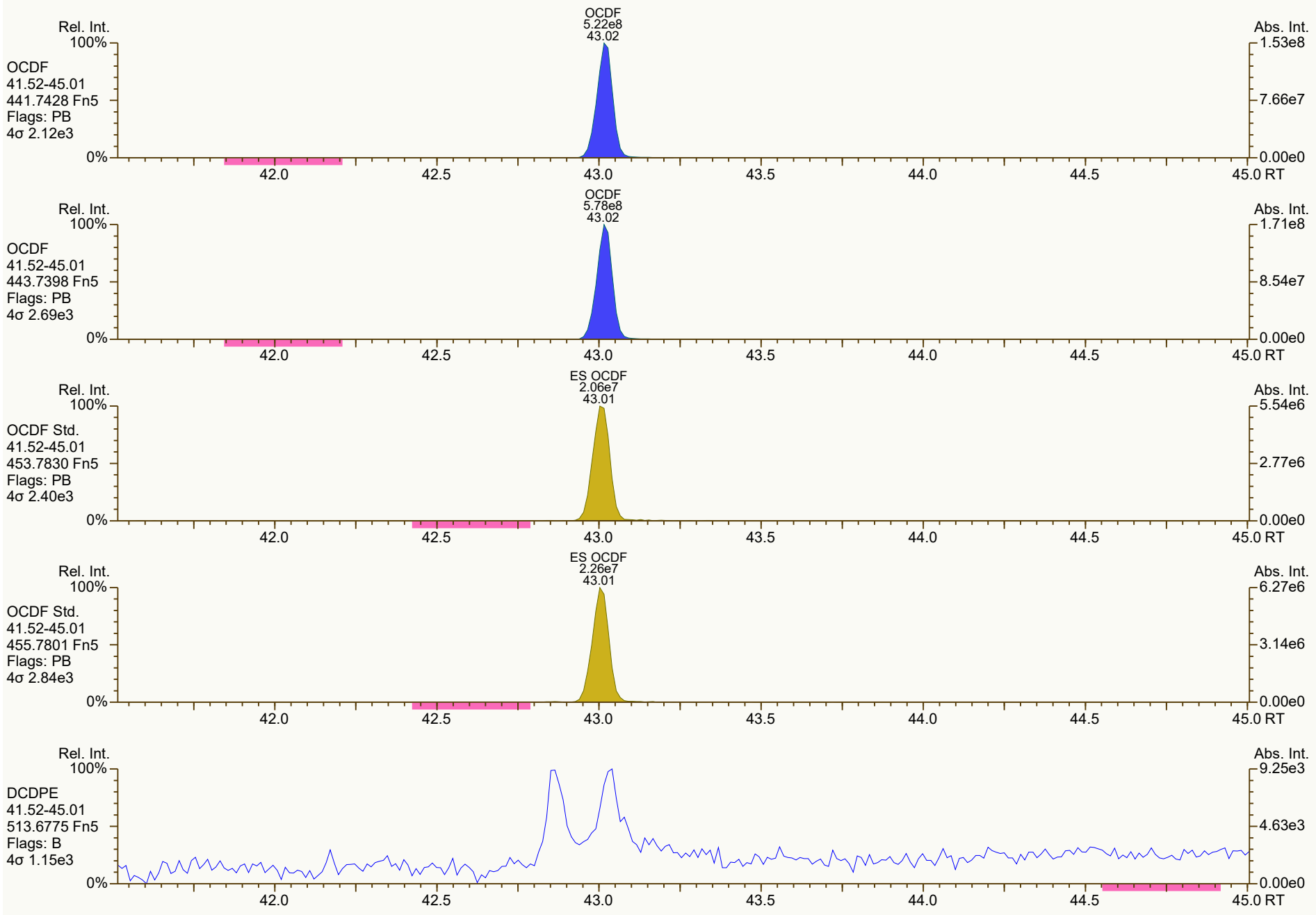

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

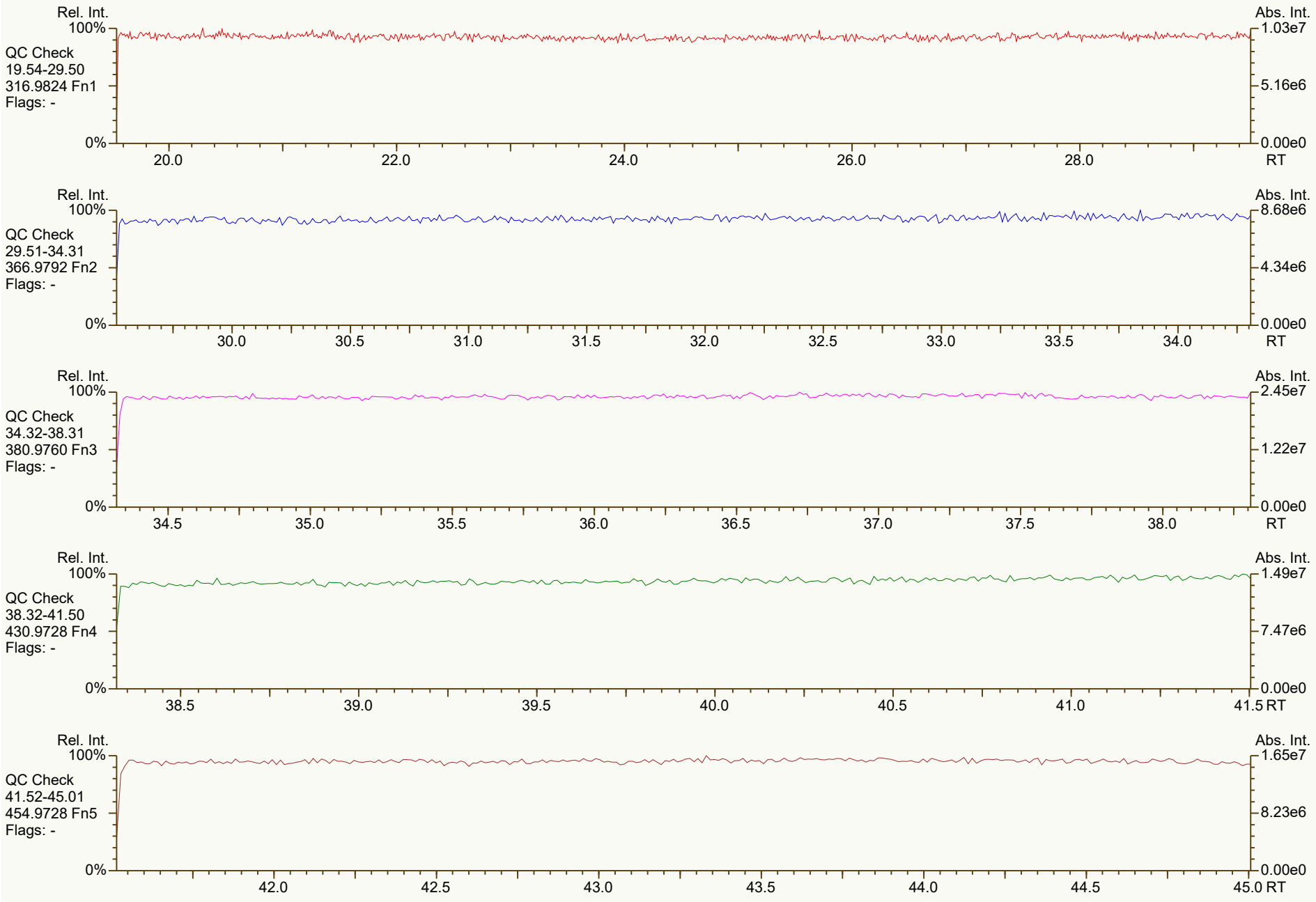

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
Abs. Int.
1.13e4
5.64e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

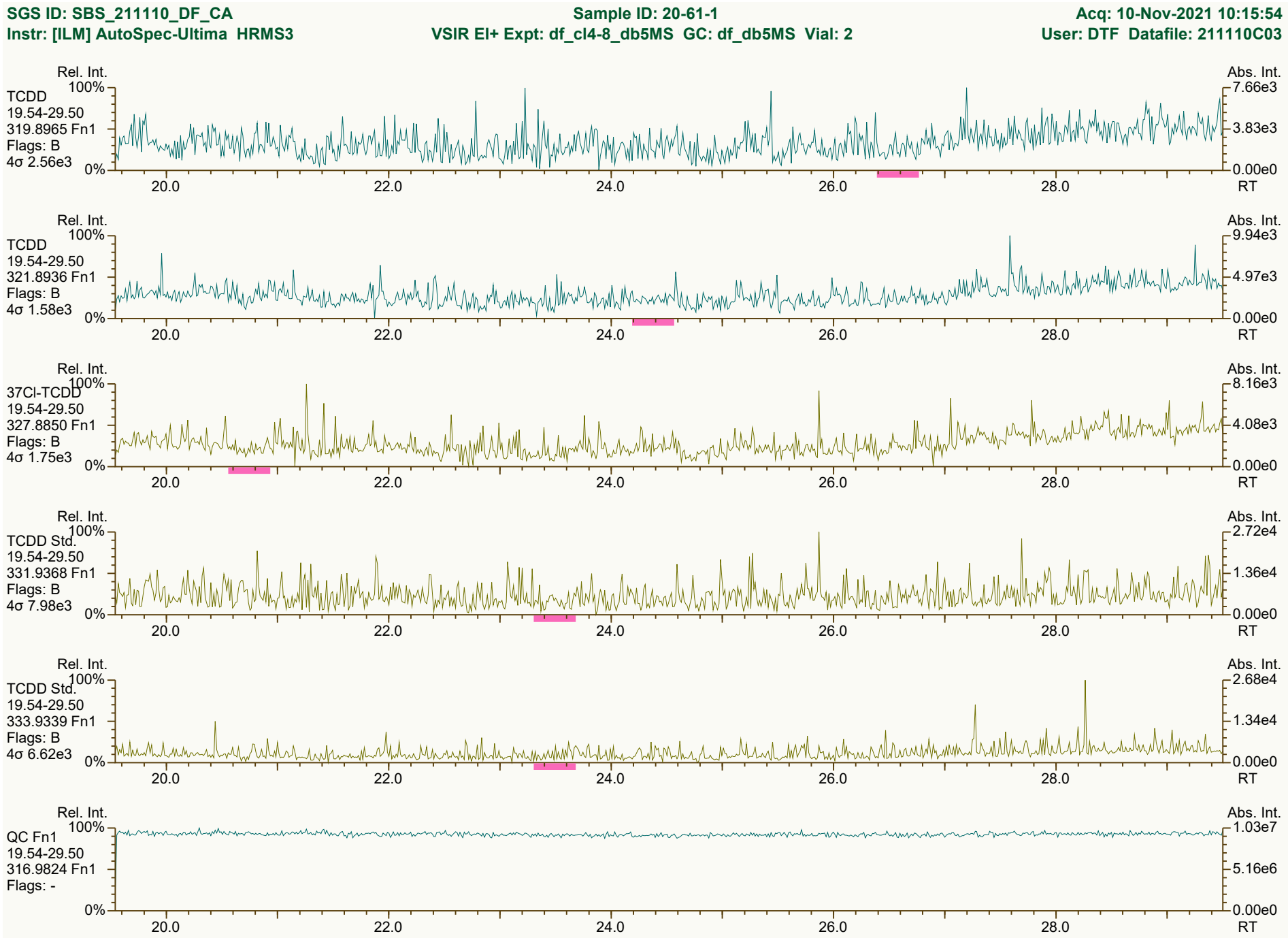

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.65e7
8.23e6
0.00e0

SGS ID: SBS_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

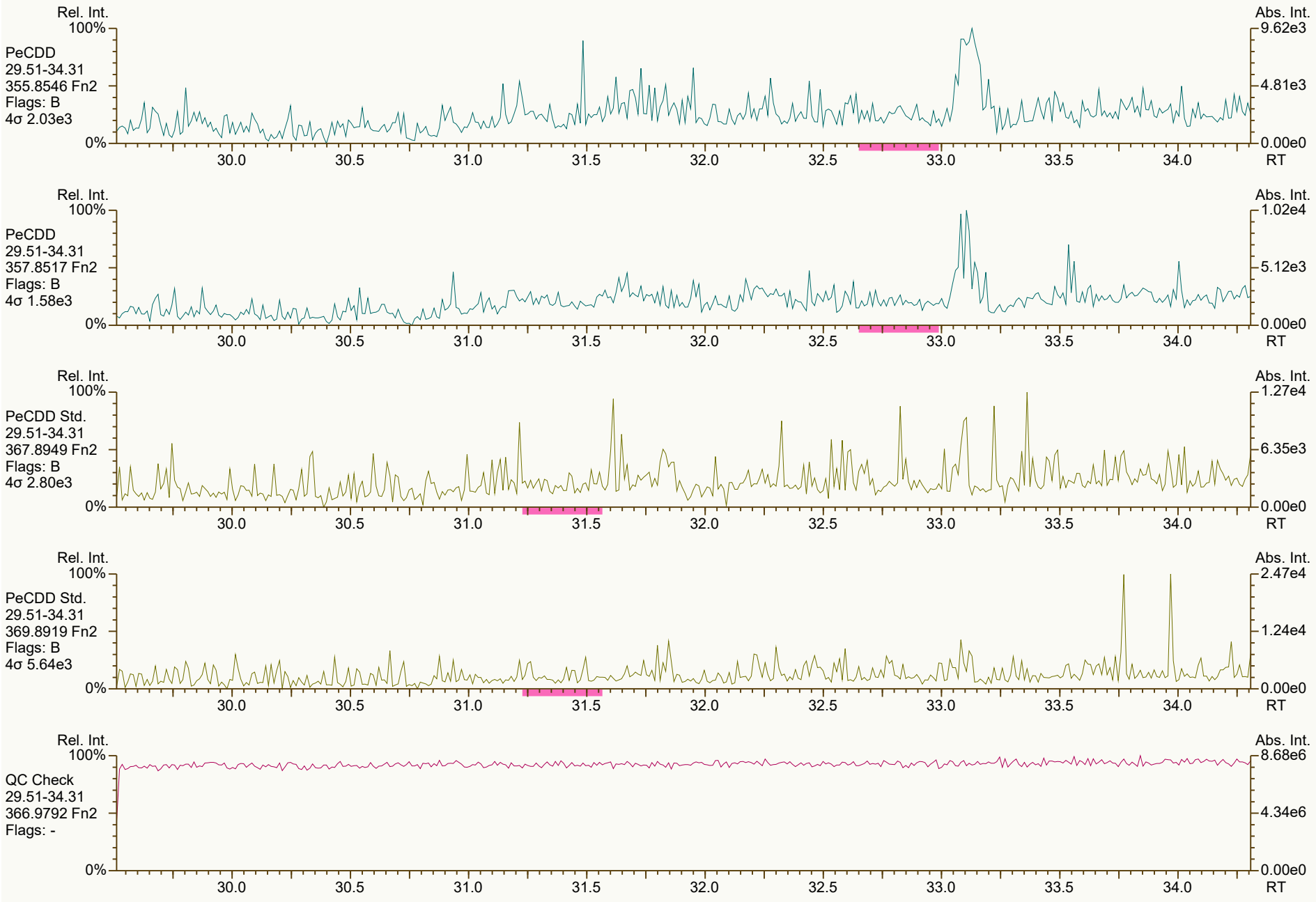
Sample ID: 20-61-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2

Acq: 10-Nov-2021 10:15:54
User: DTF Datafile: 211110C03



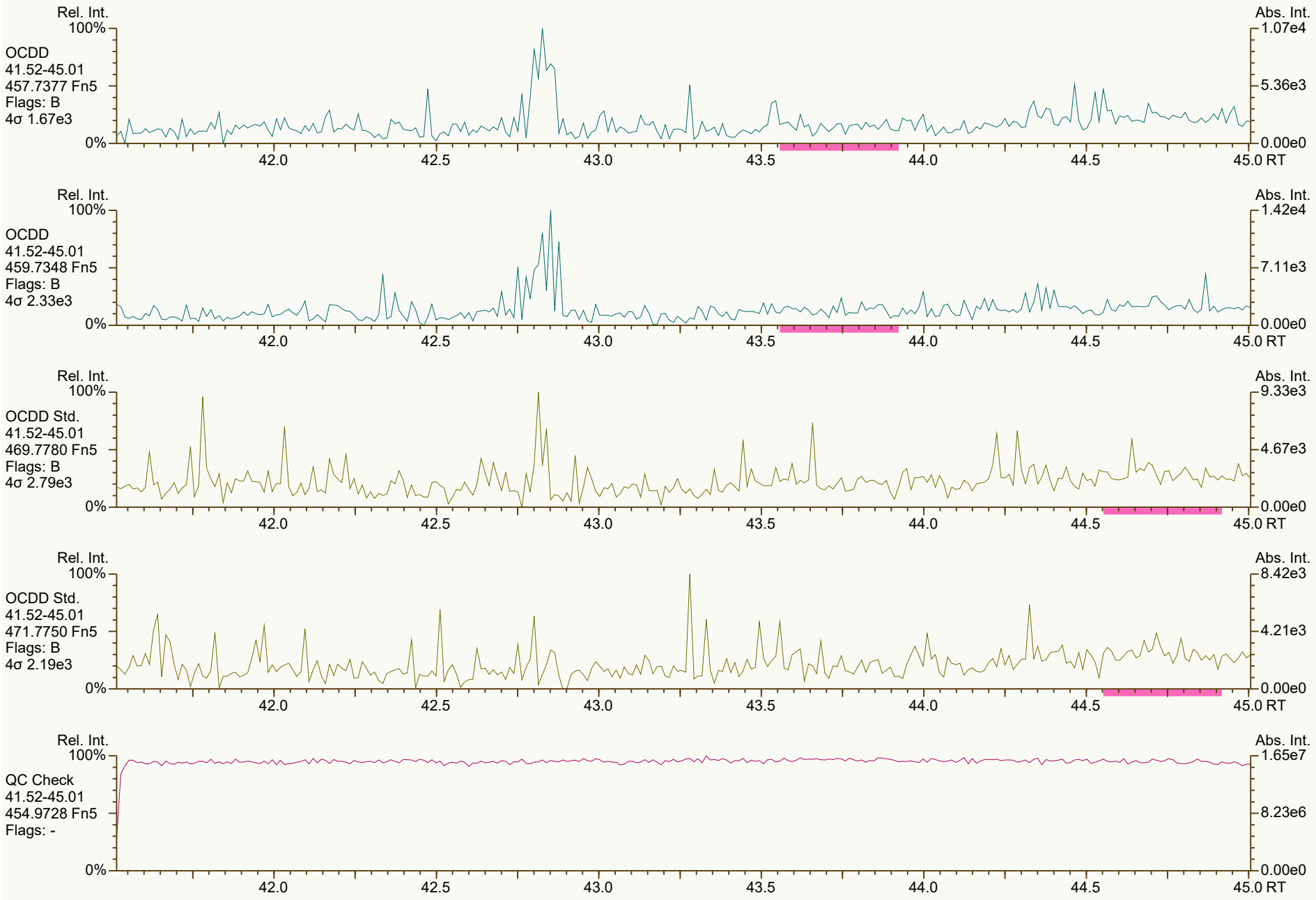
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647
PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

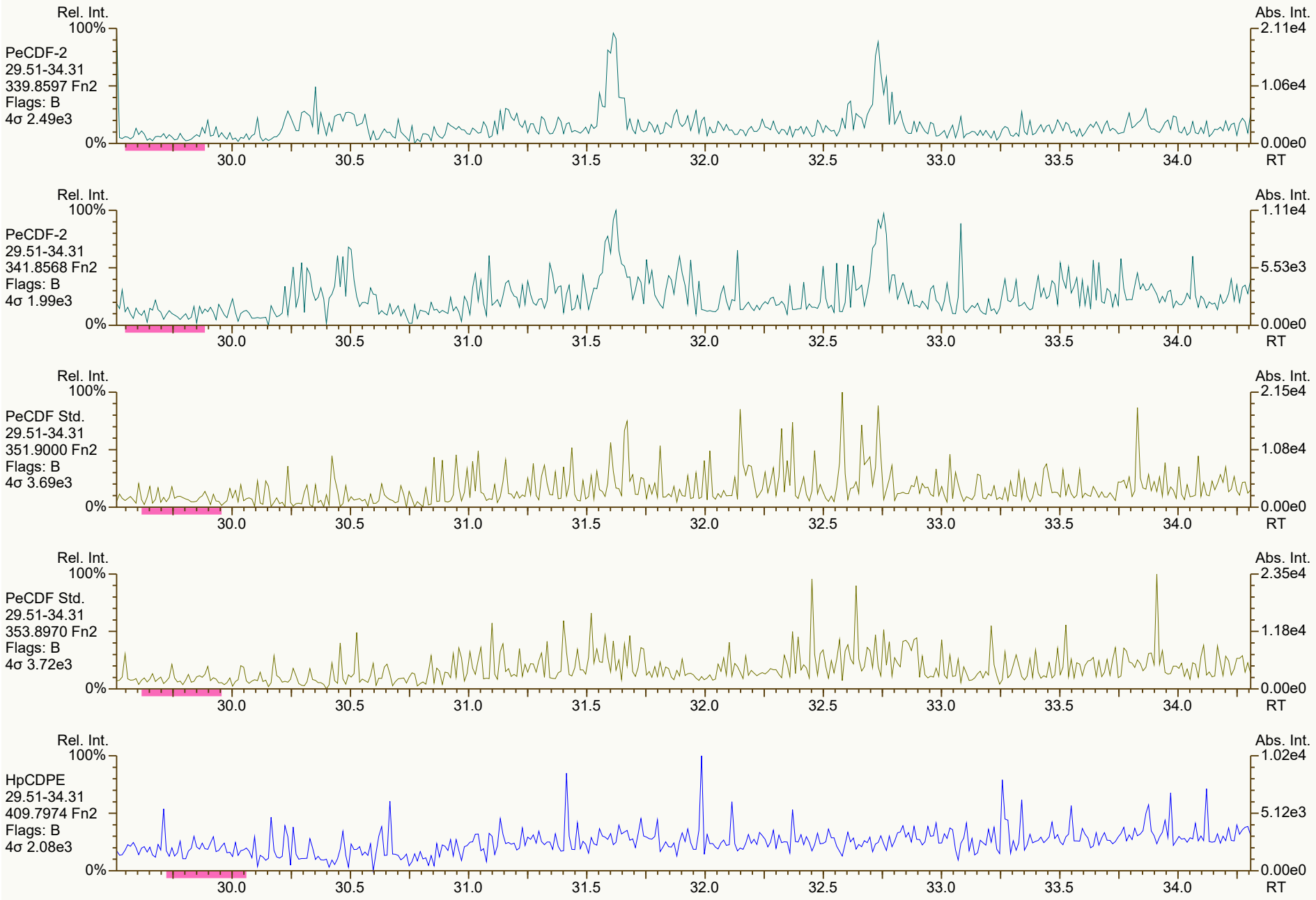

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

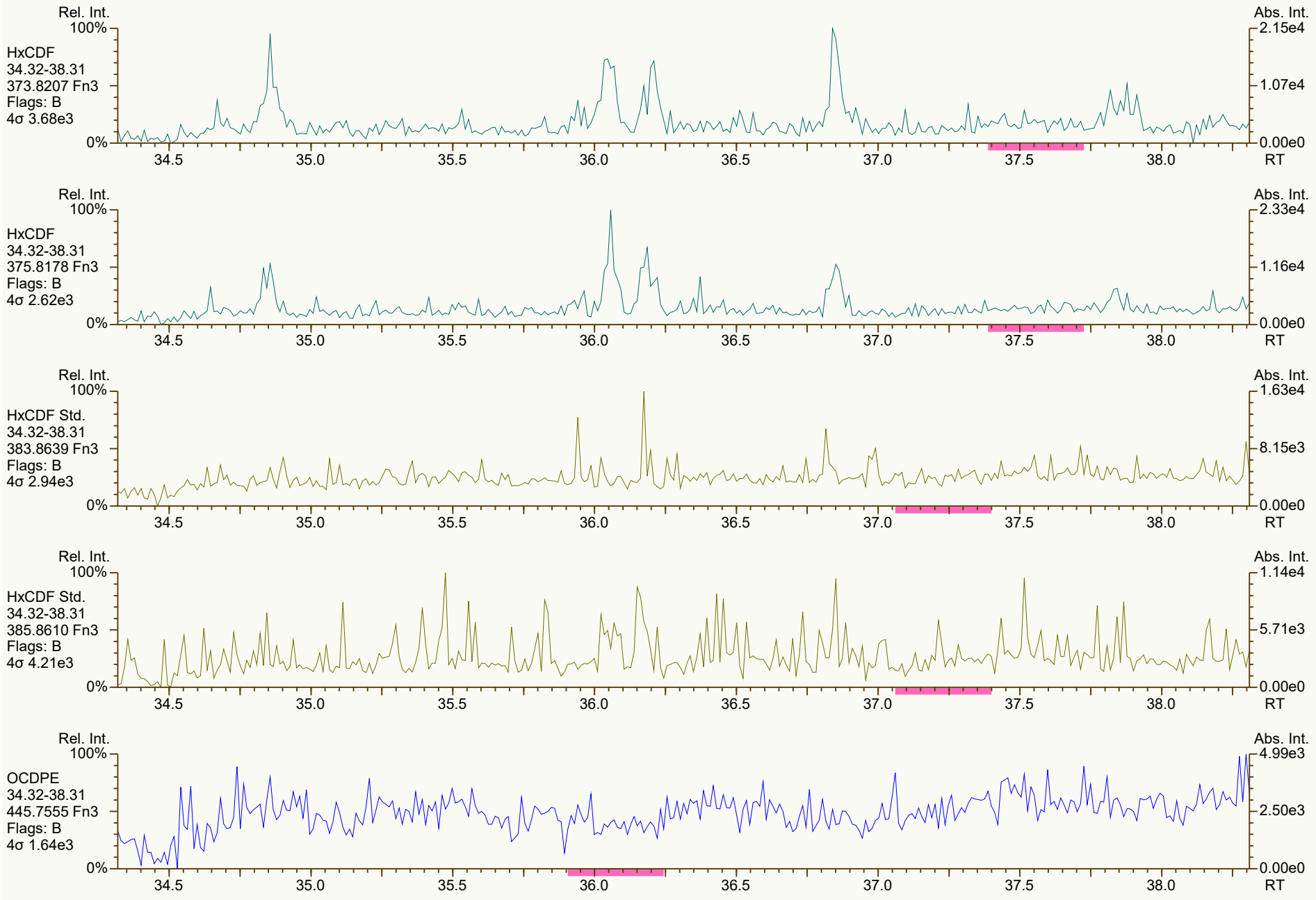

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
Abs. Int.
7.07e4
3.53e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
Abs. Int.
1.06e5
5.32e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
Abs. Int.
5.11e4
2.56e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
Abs. Int.
2.83e4
1.42e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
Abs. Int.
9.47e3
4.73e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

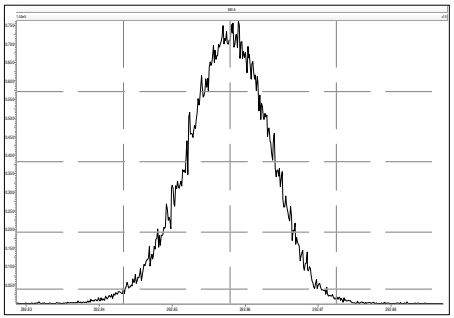

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

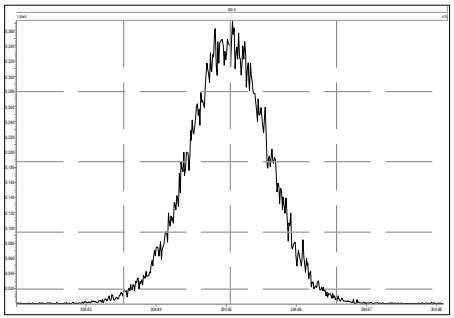
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

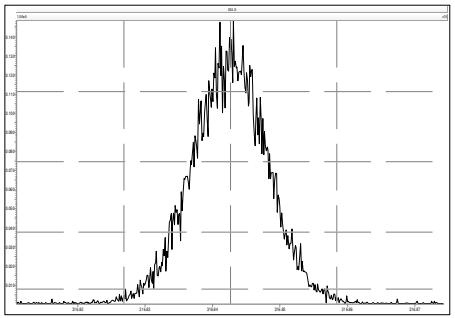
M 292.9824 R 10731



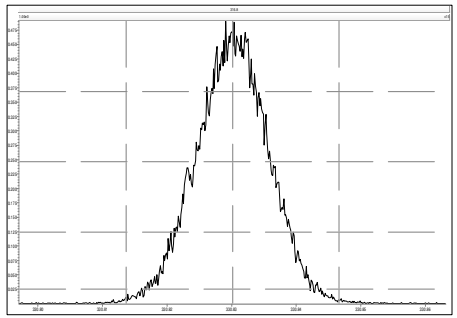
M 304.9824 R 11311



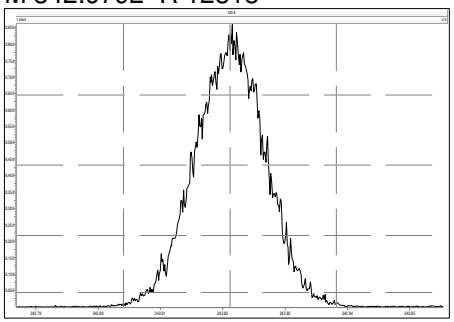
M 316.9824 R 12373



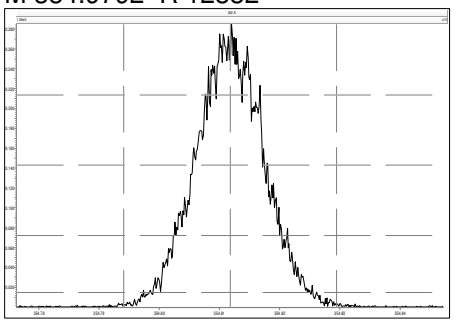
M 330.9792 R 12887



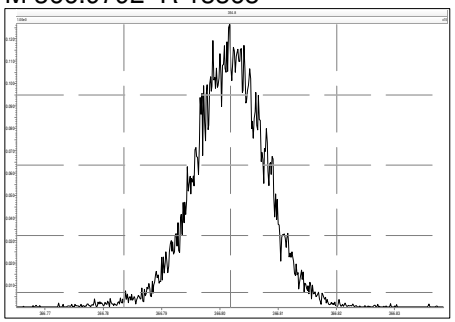
M 342.9792 R 12818



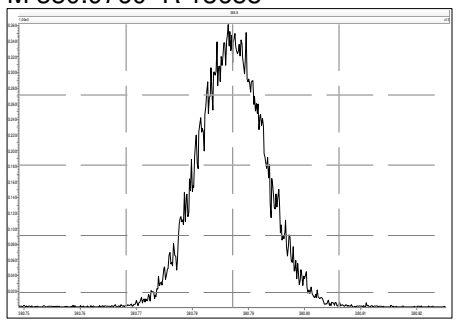
M 354.9792 R 12882



M 366.9792 R 13368



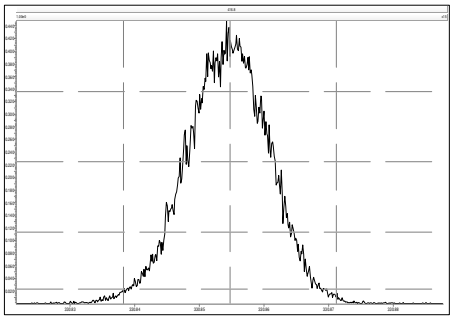
M 380.9760 R 13658



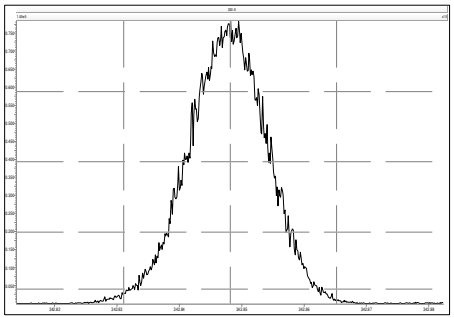
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

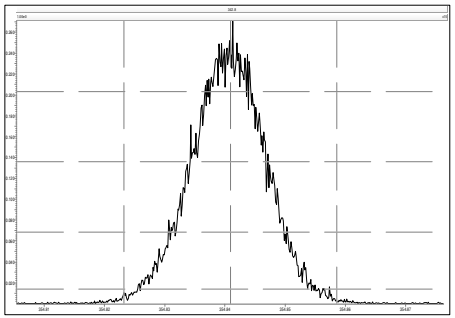
M 330.9792 R 11112



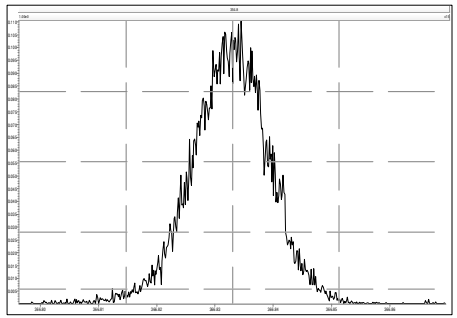
M 342.9792 R 11909



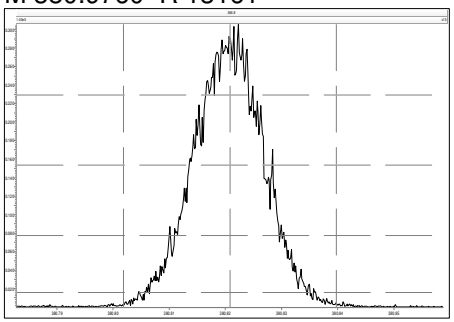
M 354.9792 R 11684



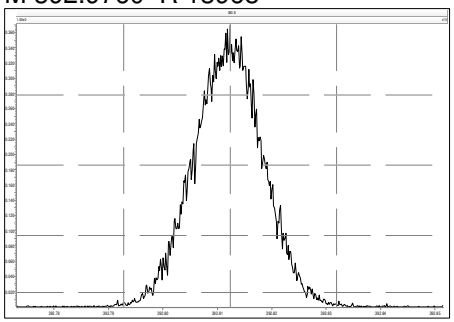
M 366.9792 R 11962



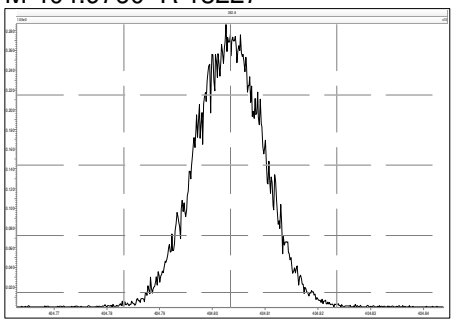
M 380.9760 R 13161



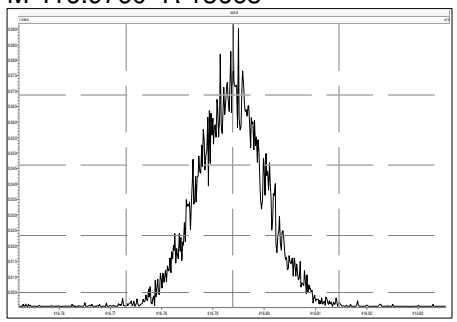
M 392.9760 R 13968



M 404.9760 R 13227



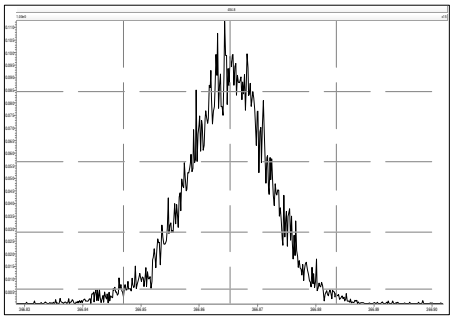
M 416.9760 R 13663



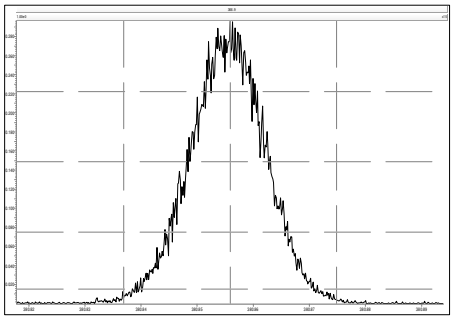
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

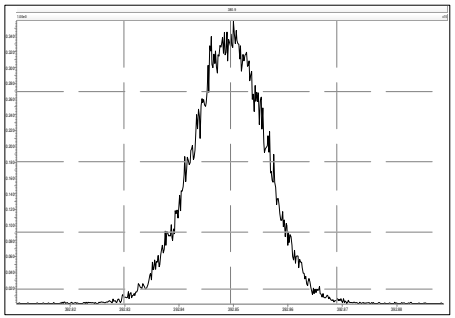
M 366.9792 R 10680



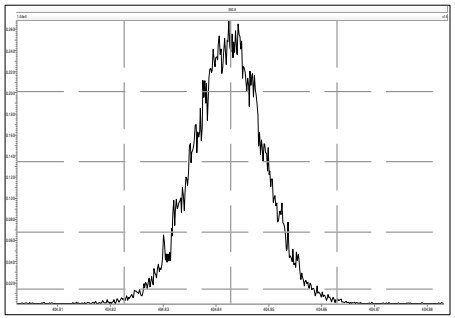
M 380.9760 R 12315



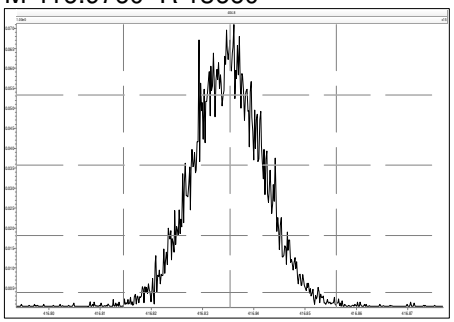
M 392.9760 R 12197



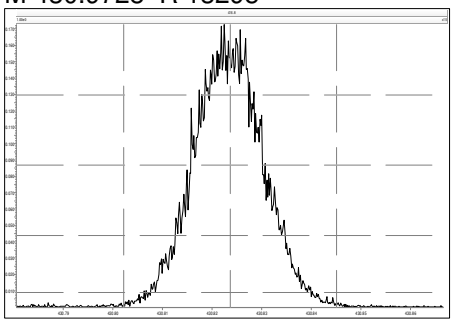
M 404.9760 R 12433



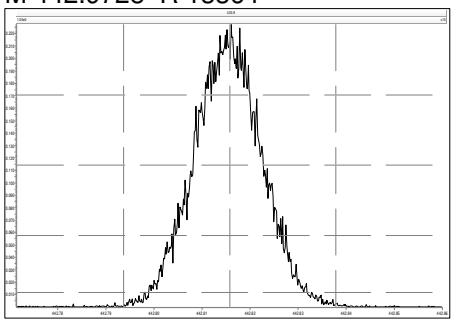
M 416.9760 R 13660



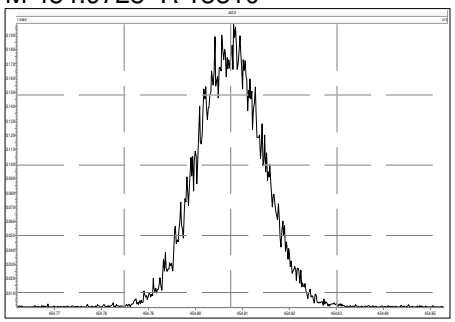
M 430.9728 R 13295



M 442.9728 R 13364



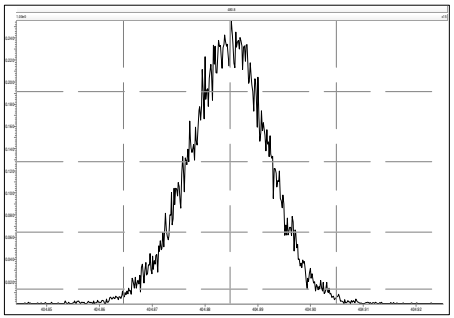
M 454.9728 R 13810



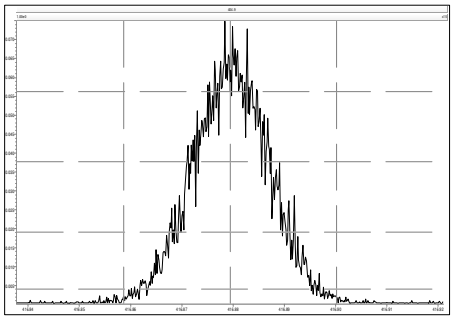
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

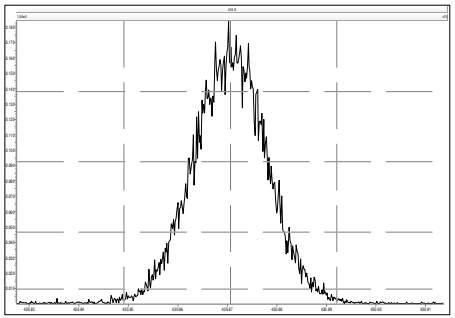
M 404.9760 R 11679



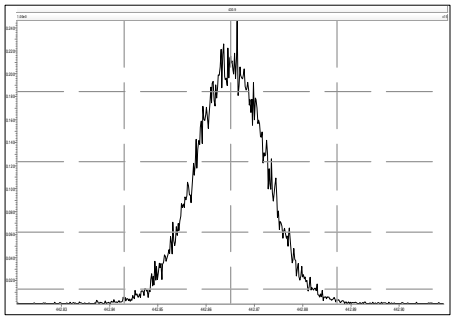
M 416.9760 R 12886



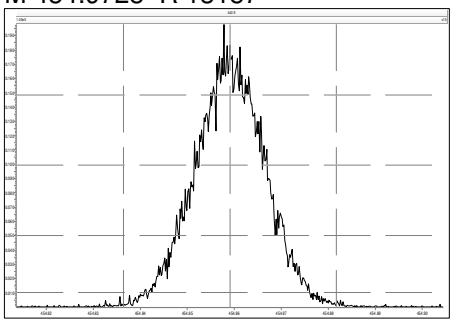
M 430.9728 R 12253



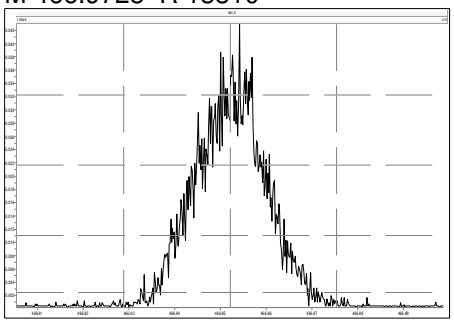
M 442.9728 R 12756



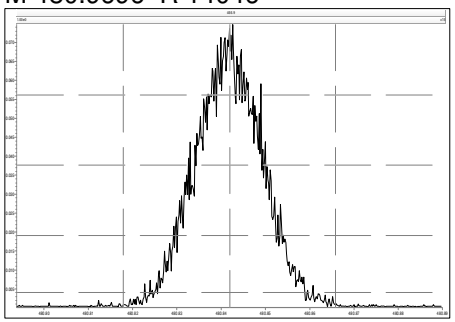
M 454.9728 R 13157



M 466.9728 R 13810



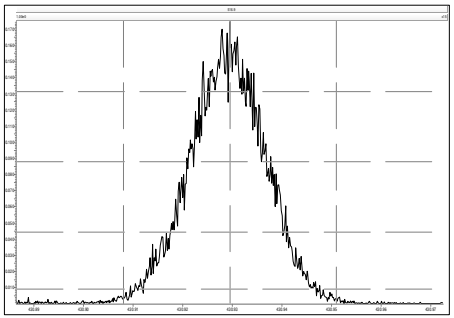
M 480.9696 R 14046



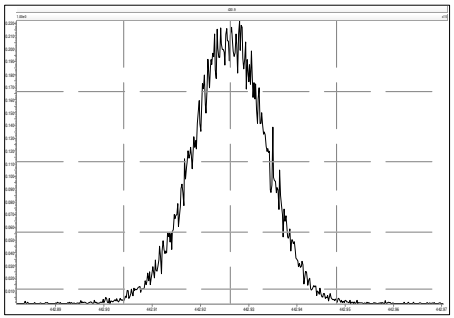
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

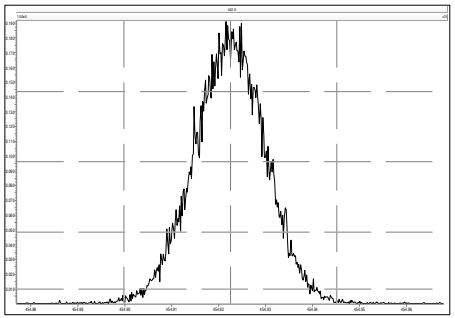
M 430.9728 R 11574



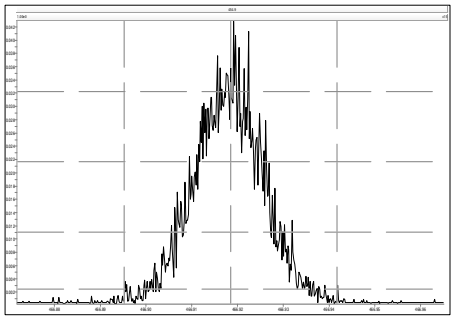
M 442.9728 R 12198



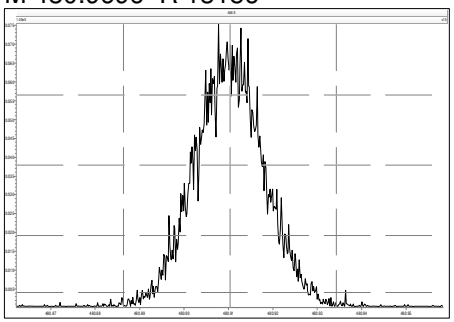
M 454.9728 R 12950



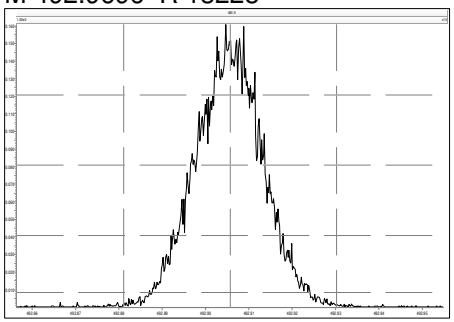
M 466.9728 R 13088



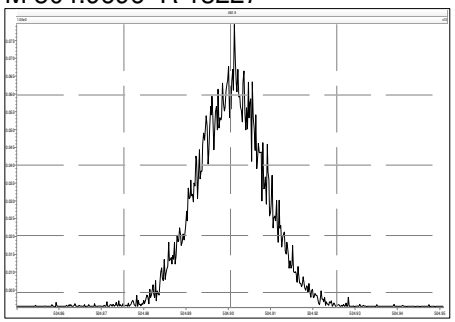
M 480.9696 R 13156



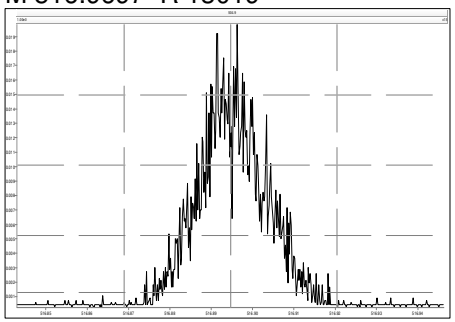
M 492.9696 R 13228



M 504.9696 R 13227



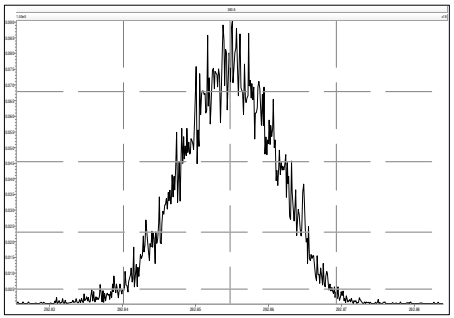
M 516.9697 R 13019



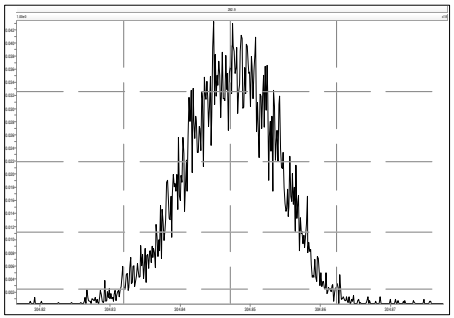
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

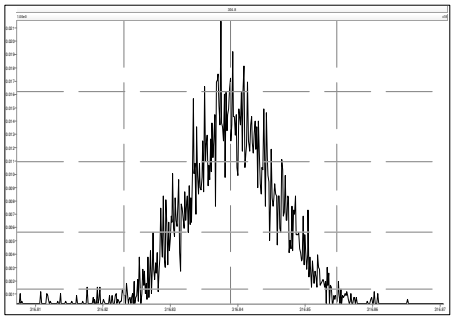
M 292.9824 R 10122



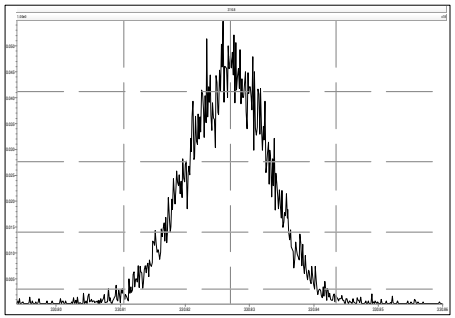
M 304.9824 R 10329



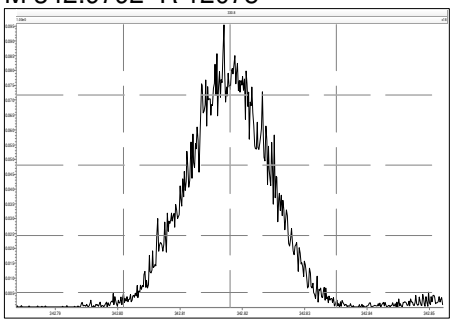
M 316.9824 R 11964



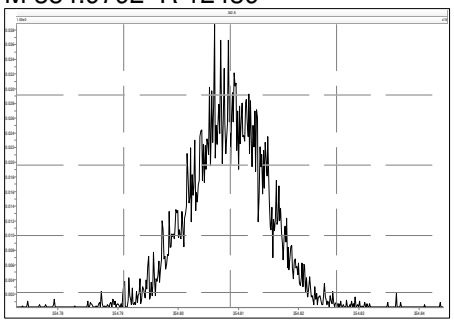
M 330.9792 R 11062



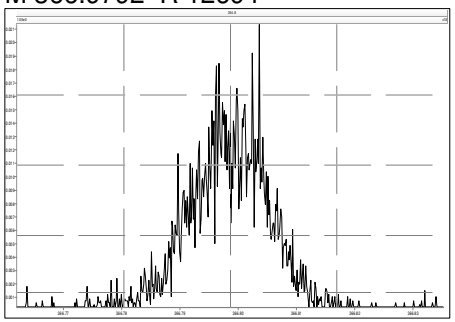
M 342.9792 R 12075



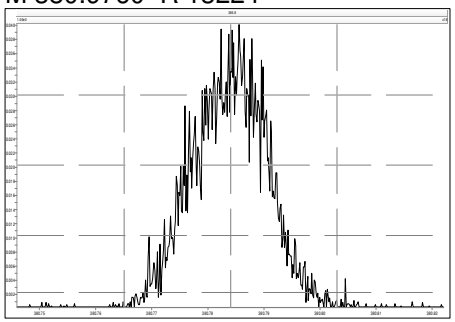
M 354.9792 R 12439



M 366.9792 R 12694



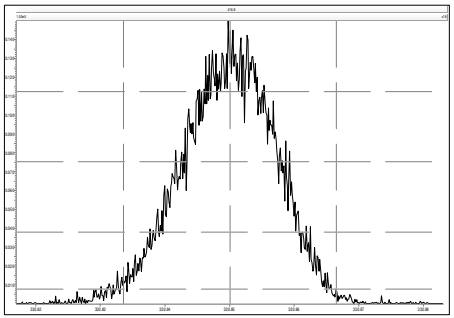
M 380.9760 R 13224



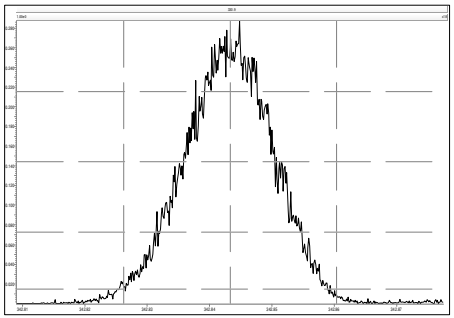
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

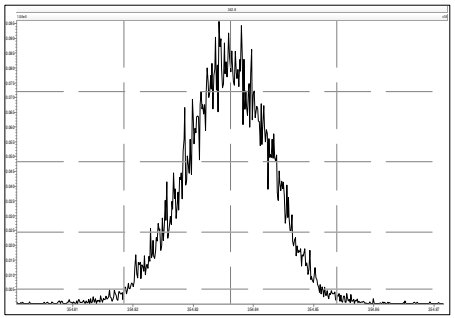
M 330.9792 R 10730



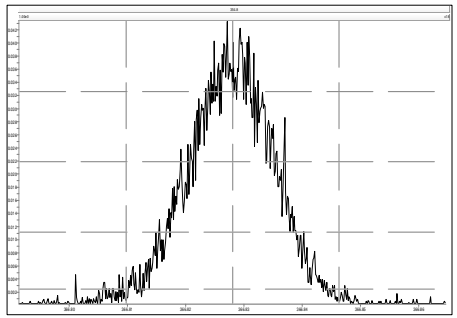
M 342.9792 R 10039



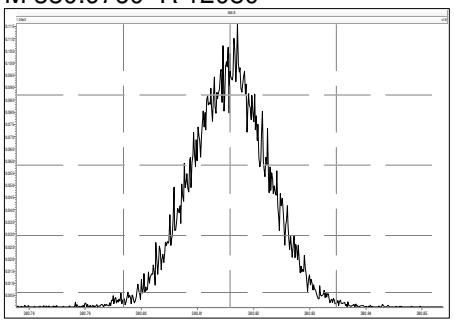
M 354.9792 R 11108



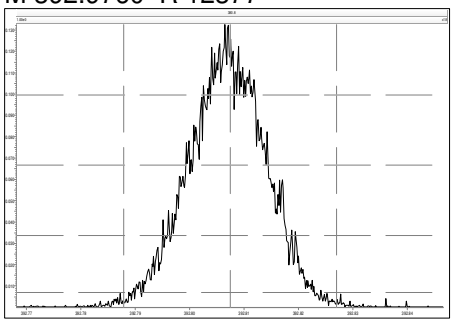
M 366.9792 R 11520



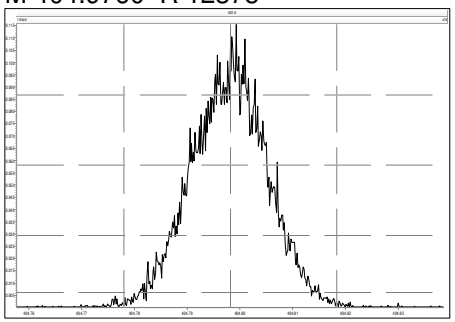
M 380.9760 R 12080



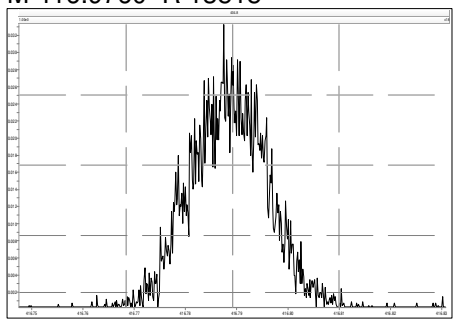
M 392.9760 R 12377



M 404.9760 R 12375



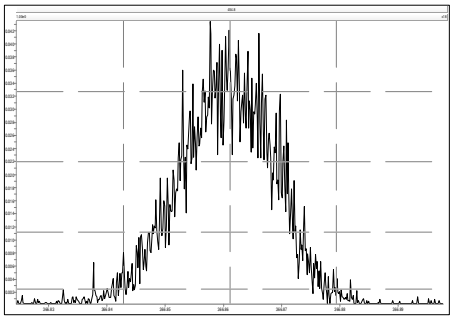
M 416.9760 R 13515



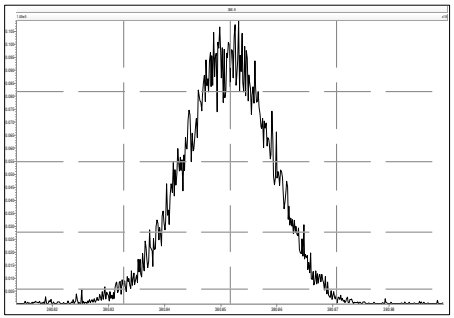
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

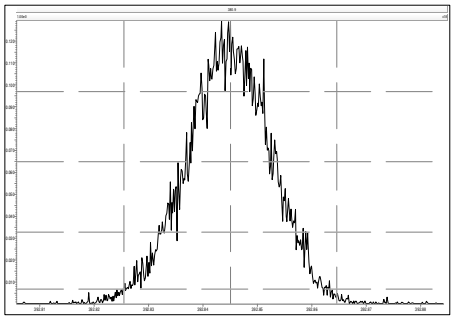
M 366.9792 R 10866



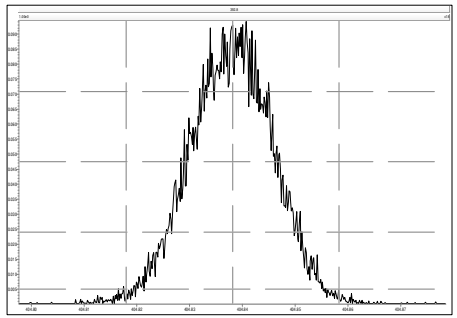
M 380.9760 R 10416



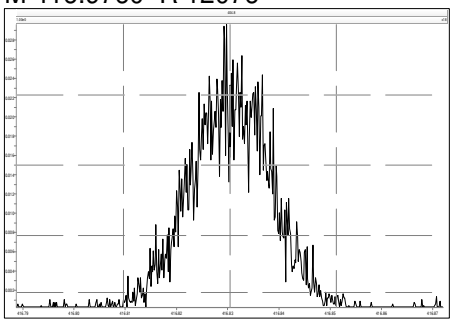
M 392.9760 R 10640



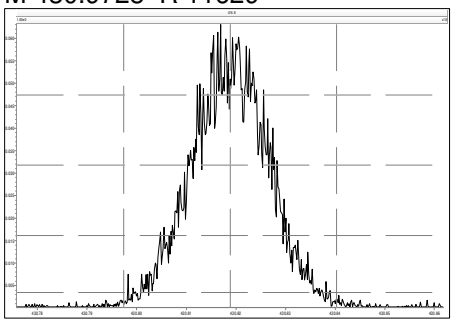
M 404.9760 R 11957



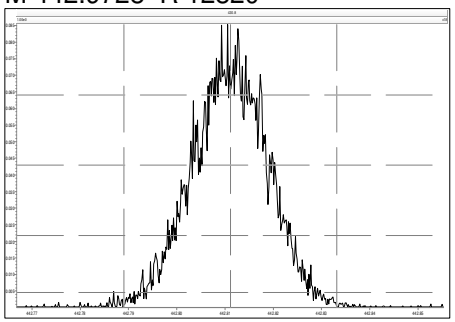
M 416.9760 R 12076



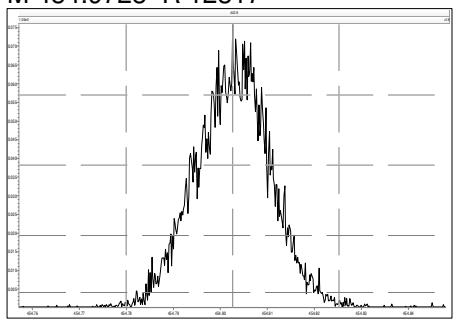
M 430.9728 R 11629



M 442.9728 R 12820



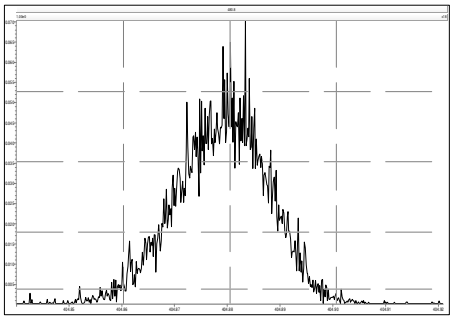
M 454.9728 R 12317



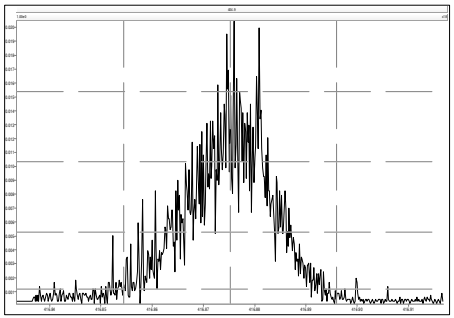
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

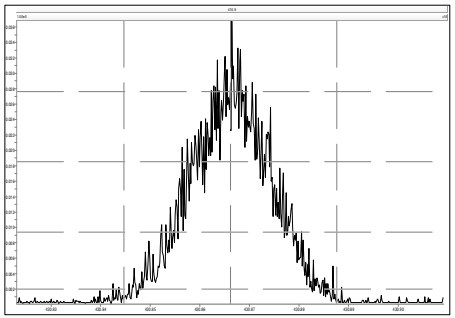
M 404.9760 R 10505



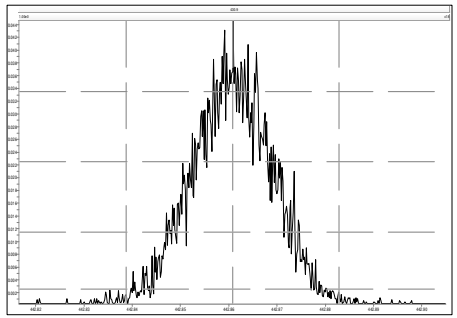
M 416.9760 R 12500



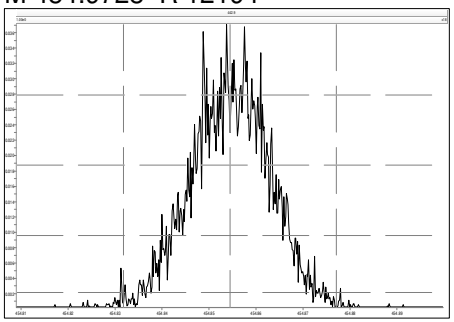
M 430.9728 R 11362



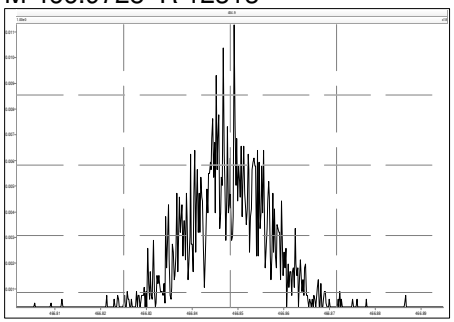
M 442.9728 R 12756



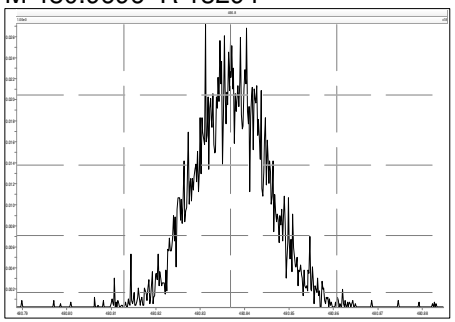
M 454.9728 R 12194



M 466.9728 R 12313



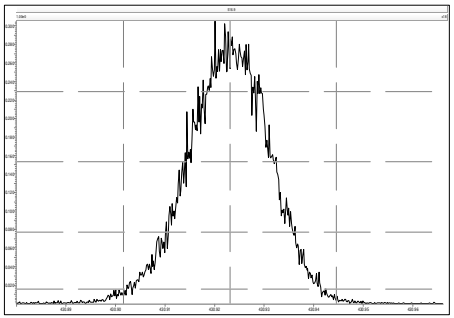
M 480.9696 R 13294



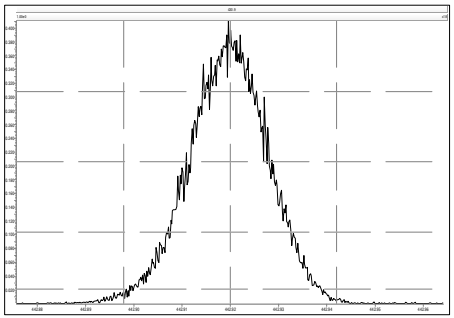
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

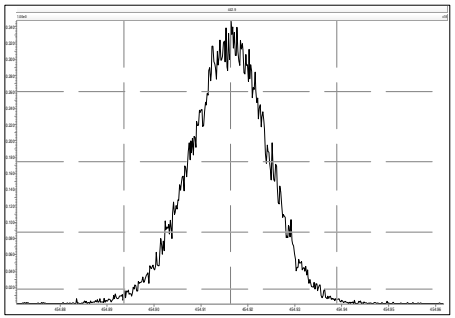
M 430.9728 R 11312



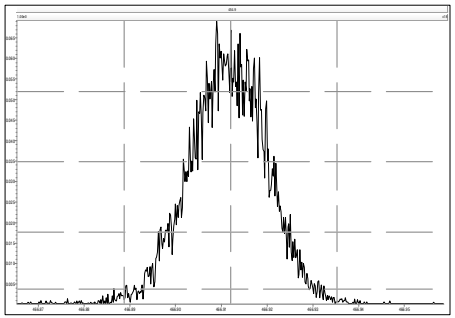
M 442.9728 R 11110



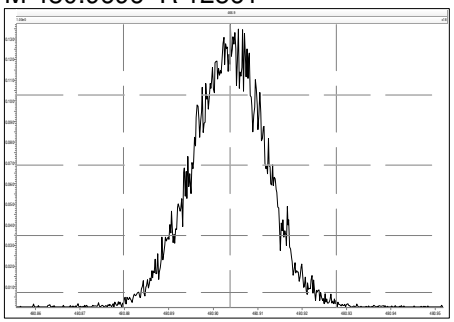
M 454.9728 R 11906



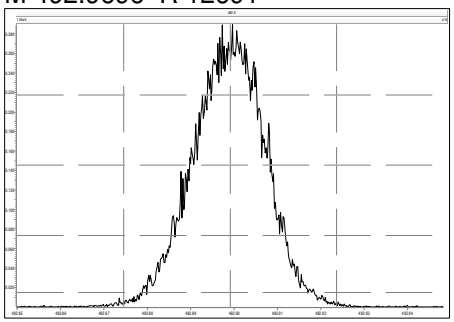
M 466.9728 R 12562



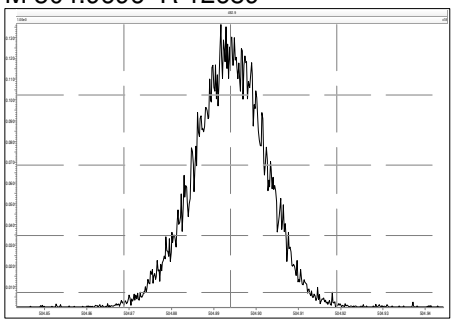
M 480.9696 R 12561



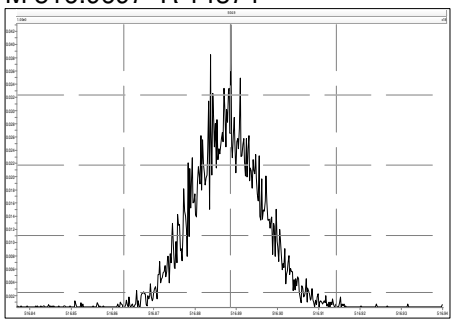
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



APPROVED
Carla_Lyon , 1/28/2022, 11:55:50 AM

Lab ID: OPR1_18872_DF **Acq'd:** 27 Jan 2022 16:24 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18872_OPR001 **UTP:** 28-Jan-2022 09:47:32 DTF **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 849-711-GGS

Datafile: 220127C02 **Report:** 28 Jan 2022 09:48 TF **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.65		1.0008	1.0006	-0.3	1.90E+06	0.78	Y	1.18	12	3700.716	0.26
12378-PeCDD	33.96		1.0006	1.0005	-0.2	6.97E+06	1.60	Y	1.04	54.8	3878.285	0.326
123478-HxCDD	37.86		1.0004	1.0004	0	7.34E+06	1.25	Y	1.09	57.1	3458.078	0.256
123678-HxCDD	37.97		1.0034	1.0034	0	9.63E+06	1.25	Y	1.15	59.5	3458.078	0.213
123789-HxCDD	38.26		1.0109	1.0111	+0.5	7.17E+06	1.28	Y	1.05	52.4	3458.078	0.253
1234678-HpCDD	40.90		1.0003	1.0003	0	6.06E+06	1.06	Y	1.06	57.1	2549.863	0.228
OCDD	43.56		1.0002	1.0002	0	7.05E+06	0.88	Y	1.13	120	3964.762	0.808
2378-TCDF	27.80		1.0008	1.0007	-0.2	2.86E+06	0.80	Y	1.08	13.4	3998.984	0.217
12378-PeCDF	32.52		1.0005	1.0005	0	1.14E+07	1.59	Y	1.02	55.4	6358.125	0.317
23478-PeCDF	33.63		1.0005	1.0005	0	1.08E+07	1.57	Y	1.02	58.9	6358.125	0.348
123478-HxCDF	36.85		1.0004	1.0005	+0.2	8.78E+06	1.24	Y	1.27	57.2	6243.115	0.377
123678-HxCDF	37.00		1.0004	1.0004	0	1.27E+07	1.25	Y	1.15	58.2	6243.115	0.306
234678-HxCDF	37.69		1.0004	1.0006	+0.5	1.14E+07	1.25	Y	1.19	61	6243.115	0.362
123789-HxCDF	38.61		1.0004	1.0002	-0.5	6.03E+06	1.29	Y	1.16	50.7	6243.115	0.531
1234678-HpCDF	39.96		1.0002	1.0004	+0.5	1.21E+07	1.03	Y	1.37	59.6	4074.794	0.167
1234789-HpCDF	41.36		1.0003	1.0002	-0.2	5.17E+06	1.07	Y	1.31	55	4074.794	0.398
OCDF	43.74		1.0002	1.0001	-0.3	6.69E+06	0.91	Y	1.07	108	3838.343	0.785

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.63	1.0233	1.0237	+0.7	1.34E+07	0.84	Y	1.05	82.1
ES 12378-PeCDD	33.94	1.2121	1.2135	+2.9	1.23E+07	1.59	Y	0.88	89.4
ES 123478-HxCDD	37.84	0.9921	0.9921	0	1.18E+07	1.28	Y	0.97	90
ES 123678-HxCDD	37.96	0.9951	0.9951	0	1.41E+07	1.21	Y	0.94	111
ES 123789-HxCDD	38.25	1.0025	1.0027	+0.5	1.30E+07	1.23	Y	1.09	88.6
ES 1234678-HpCDD	40.88	1.0709	1.0719	+2.5	1.00E+07	1.09	Y	0.91	81.3
ES OCDD	43.55	1.1403	1.1418	+3.9	1.05E+07	0.93	Y	0.62	62.1
ES 2378-TCDF	27.78	1.0506	1.0512	+1.0	1.97E+07	0.80	Y	1.06	64.5
ES 12378-PeCDF	32.50	1.2281	1.2299	+3.5	2.01E+07	1.60	Y	0.91	76.5
ES 23478-PeCDF	33.61	1.2698	1.2717	+3.8	1.79E+07	1.54	Y	0.88	70.3
ES 123478-HxCDF	36.83	0.9657	0.9656	-0.2	1.21E+07	0.52	Y	1.20	74.6
ES 123678-HxCDF	36.98	0.9695	0.9696	+0.2	1.89E+07	0.58	Y	1.35	104
ES 234678-HxCDF	37.66	0.9874	0.9875	+0.2	1.57E+07	0.56	Y	1.24	93.5
ES 123789-HxCDF	38.60	1.0116	1.0121	+1.2	1.02E+07	0.57	Y	1.16	65.5
ES 1234678-HpCDF	39.95	1.0467	1.0473	+1.4	1.49E+07	0.45	Y	0.97	114
ES 1234789-HpCDF	41.35	1.0830	1.0841	+2.7	7.20E+06	0.44	Y	0.85	62.6
ES OCDF	43.74	1.1451	1.1467	+4.2	1.16E+07	0.90	Y	0.81	53.1

Lab ID: OPR1_18872_DF | Acq'd: 27 Jan 2022 16:24 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18872_OPR001 | UTP: 28-Jan-2022 09:47:32 DTF | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 849-711-GGS

Datafile: 220127C02 | Report: 28 Jan 2022 09:48 TF | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.97		-	-	-	1.56E+07	0.88	Y	-	-	
JS 1234-TCDF	26.43		-	-	-	2.89E+07	0.80	Y	-	-	
JS 123467-HxCDD	38.14		-	-	-	6.75E+06	1.25	Y	-	-	
CS 37Cl-2378-TCDD	28.65		1.0241	1.0244	+0.5	6.58E+06	n/a	-	1.20	87.7	
CS 12347-PeCDD	33.44		1.1943	1.1956	+2.6	1.25E+07	1.56	Y	0.75	106	
CS 12346-PeCDF	31.98		1.2083	1.2099	+3.1	2.25E+07	1.52	Y	0.85	91.8	
CS 123469-HxCDF	37.30		0.9778	0.9778	0	1.84E+07	0.53	Y	1.12	122	
CS 1234689-HpCDF	40.35		1.0571	1.0578	+1.7	1.37E+07	0.45	Y	0.89	114	
~~SS 37Cl-2378-TCDD~~	~~28.65~~		~~1.0241~~	~~1.0244~~	~~+0.5~~	~~6.58E+06~~	~~n/a~~		~~1.15~~	~~107~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.44~~		~~1.1943~~	~~1.1956~~	~~+2.6~~	~~1.25E+07~~	~~1.56~~	~~Y~~	~~0.86~~	~~119~~	CL 28Jan22
~~SS 12346-PeCDF~~	~~31.98~~		~~1.2083~~	~~1.2099~~	~~+3.1~~	~~2.25E+07~~	~~1.52~~	~~Y~~	~~0.94~~	~~120~~	
~~SS 123469-HxCDF~~	~~37.30~~		~~0.9778~~	~~0.9778~~	~~0~~	~~1.84E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~117~~	
~~SS 1234689-HpCDF~~	~~40.35~~		~~1.0571~~	~~1.0578~~	~~+1.7~~	~~1.37E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~100~~	

Totals	Conc	EMPC
Total TCDD	56.4	56.4
Total PeCDD	81.2	81.2
Total HxCDD	183	183
Total HpCDD	70.8	70.8
Total Tetra-Octa Dioxins	511	511
Total TCDF	71.7	71.7
Total PeCDF	220	220
Total HxCDF	361	361
Total HpCDF	115	115
Total Tetra-Octa Furans	876	876
Total Tetra-Octa Dioxins & Furans	1390	1390

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.78	0.78
Response	1.91E+06	1.90E+06

Lab ID: OPR1_18872_DF | **Acq'd: 27 Jan 2022 16:24 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18872_OPR001 | **UTP: 28-Jan-2022 09:47:32 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 849-711-GGS**

Datafile: 220127C02 | **Report: 28 Jan 2022 09:48 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.04		0.8755	0.8747	-1.2	2.61E+06	0.83	Y	1.18	16.4	3700.716	0.26
1379-TCDD	NotFnd		0.8876						1.18		3700.716	0.26
1369-TCDD	NotFnd		0.9023						1.18		3700.716	0.26
1469-TCDD	NotFnd		0.9291						1.18		3700.716	0.26
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		3700.716	0.26
1378-TCDD	NotFnd		0.9440						1.18		3700.716	0.26
1268-TCDD	NotFnd		0.9506						1.18		3700.716	0.26
1478-TCDD	NotFnd		0.9591						1.18		3700.716	0.26
1279-TCDD	NotFnd		0.9649						1.18		3700.716	0.26
1234/1269-TCDD	NotFnd		0.9771						1.18		3700.716	0.26
1236-TCDD	NotFnd		0.9820						1.18		3700.716	0.26
1237/1238-TCDD	NotFnd		0.9908						1.18		3700.716	0.26
1239-TCDD	28.49		0.9954	0.9951	-0.5	1.80E+06	0.83	Y	1.18	11.3	3700.716	0.26
2378-TCDD	**28.65**		**1.0008**	1.0006	**-0.3**	1.90E+06	0.78	Y	**1.18**	**12**	**3700.716**	**0.26**
1278-TCDD	NotFnd		1.0121						1.18		3700.716	0.26
1267-TCDD	NotFnd		1.0167						1.18		3700.716	0.26
1289-TCDD	29.62		1.0341	1.0344	+0.5	2.64E+06	0.86	Y	1.18	16.6	3700.716	0.26
12479/12468-PeCDD	31.46		0.9273	0.9270	-0.6	1.64E+06	1.64	Y	1.04	12.9	3878.285	0.326
12469-PeCDD	NotFnd		0.9430						1.04		3878.285	0.326
12368-PeCDD	NotFnd		0.9592						1.04		3878.285	0.326
12478-PeCDD	NotFnd		0.9647						1.04		3878.285	0.326
12379-PeCDD	NotFnd		0.9676						1.04		3878.285	0.326
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		3878.285	0.326
12346/12347-PeCDD	NotFnd		0.9860						1.04		3878.285	0.326
12378-PeCDD	33.96		**1.0006**	**1.0005**	**-0.2**	**6.97E+06**	**1.60**	**Y**	**1.04**	**54.8**	**3878.285**	**0.326**
12367-PeCDD	NotFnd		1.0034						1.04		3878.285	0.326
12389-PeCDD	34.40		1.0134	1.0134	0	1.72E+06	1.48	Y	1.04	13.5	3878.285	0.326
124679/124689-HxCDD	36.11		0.9545	0.9542	-0.6	1.93E+06	1.31	Y	1.10	13.5	3458.078	0.239
123468-HxCDD	NotFnd		0.9715						1.10		3458.078	0.239
123679/123689-HxCDD	NotFnd		0.9793						1.10		3458.078	0.239
123469-HxCDD	NotFnd		0.9829						1.10		3458.078	0.239
123478-HxCDD	37.86		**1.0004**	**1.0004**	**0**	**7.34E+06**	**1.25**	**Y**	1.09	**57.1**	**3458.078**	**0.256**
123678-HxCDD	37.97		**1.0034**	**1.0034**	**0**	**9.63E+06**	**1.25**	**Y**	1.15	**59.5**	**3458.078**	**0.213**
123467-HxCDD	NotFnd		1.0082						1.10		3458.078	0.239
123789-HxCDD	38.26		**1.0109**	**1.0111**	**+0.5**	**7.17E+06**	**1.28**	**Y**	1.05	**52.4**	**3458.078**	**0.253**

Lab ID: OPR1_18872_DF | **Acq'd: 27 Jan 2022 16:24 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18872_OPR001 | **UTP: 28-Jan-2022 09:47:32 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 849-711-GGS**

Datafile: 220127C02 | **Report: 28 Jan 2022 09:48 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.21		0.9838	0.9837	-0.2	1.46E+06	1.07	Y	1.06	13.8	2549.863	0.228
1234678-HpCDD	**40.90**		**1.0003**	**1.0003**	**0**	**6.06E+06**	**1.06**	**Y**	**1.06**	**57.1**	**2549.863**	**0.228**
OCDD	**43.56**		**1.0002**	**1.0002**	**0**	**7.05E+06**	**0.88**	**Y**	**1.13**	**120**	**3964.762**	**0.808**
OCDD-a	NotFnd		1.0002						0.07		4273.595	13.6
1368-TCDF	22.97		0.8282	0.8270	-1.7	4.03E+06	0.80	Y	1.08	19	3998.984	0.217
1468-TCDF	NotFnd		0.8485						1.08		3998.984	0.217
2468-TCDF	24.16		0.8709	0.8697	-1.7	1.03E+06	0.82	Y	1.08	4.82	3998.984	0.217
1346/1246-TCDF	NotFnd		0.8829						1.08		3998.984	0.217
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		3998.984	0.217
1348-TCDF	NotFnd		0.8980						1.08		3998.984	0.217
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		3998.984	0.217
1268-TCDF	NotFnd		0.9158						1.08		3998.984	0.217
1467-TCDF	NotFnd		0.9206						1.08		3998.984	0.217
1478-TCDF	NotFnd		0.9266						1.08		3998.984	0.217
1369/1237-TCDF	NotFnd		0.9397						1.08		3998.984	0.217
2467-TCDF	NotFnd		0.9440						1.08		3998.984	0.217
2368-TCDF	NotFnd		0.9497						1.08		3998.984	0.217
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		3998.984	0.217
1278-TCDF	NotFnd		0.9690						1.08		3998.984	0.217
1349-TCDF	NotFnd		0.9730						1.08		3998.984	0.217
1267-TCDF	NotFnd		0.9787						1.08		3998.984	0.217
2346/1249-TCDF	NotFnd		0.9850						1.08		3998.984	0.217
2347/1279-TCDF	NotFnd		0.9929						1.08		3998.984	0.217
2348-TCDF	27.69		0.9970	0.9967	-0.5	3.49E+06	0.75	Y	1.08	16.4	3998.984	0.217
2378-TCDF	**27.80**		**1.0008**	**1.0007**	**-0.2**	**2.86E+06**	**0.80**	**Y**	**1.08**	**13.4**	**3998.984**	**0.217**
2367/3467-TCDF	NotFnd		1.0136						1.08		3998.984	0.217
1269-TCDF	NotFnd		1.0221						1.08		3998.984	0.217
1239-TCDF	NotFnd		1.0319						1.08		3998.984	0.217
1289-TCDF	29.79		1.0740	1.0723	-3.0	3.84E+06	0.76	Y	1.08	18	3998.984	0.217
13468/12468-PeCDF	29.70		0.9145	0.9136	-1.6	1.86E+07	1.50	Y	1.02	95.8	3085.052	0.161
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		6358.125	0.331
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		6358.125	0.331
14678-PeCDF	NotFnd		0.9695						1.02		6358.125	0.331
13479-PeCDF	NotFnd		0.9724						1.02		6358.125	0.331
13469/12479-PeCDF	NotFnd		0.9801						1.02		6358.125	0.331
12346-PeCDF	NotFnd		0.9842						1.02		6358.125	0.331

Lab ID: OPR1_18872_DF | **Acq'd:** 27 Jan 2022 16:24 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18872_OPR001 | **UTP:** 28-Jan-2022 09:47:32 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 849-711-GGS

Datafile: 220127C02 | **Report:** 28 Jan 2022 09:48 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		6358.125	0.331
12347-PeCDF	NotFnd		0.9895						1.02		6358.125	0.331
12348-PeCDF	NotFnd		0.9941						1.02		6358.125	0.331
12378-PeCDF	**32.52**		**1.0005**	**1.0005**	**0**	**1.14E+07**	**1.59**	**Y**	**1.02**	**55.4**	**6358.125**	**0.317**
12678/12367-PeCDF	NotFnd		1.0090						1.02		6358.125	0.331
12379-PeCDF	NotFnd		1.0142						1.02		6358.125	0.331
12679-PeCDF	NotFnd		0.9931						1.02		6358.125	0.331
23467/12369-PeCDF	NotFnd		0.9966						1.02		6358.125	0.331
23478-PeCDF	**33.63**		**1.0005**	**1.0005**	**0**	**1.08E+07**	**1.57**	**Y**	**1.02**	**58.9**	**6358.125**	**0.348**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6358.125	0.331
12349-PeCDF	NotFnd		1.0101						1.02		6358.125	0.331
12389-PeCDF	34.70		1.0322	1.0324	+0.4	2.02E+06	1.55	Y	1.02	10.4	6358.125	0.331
123468-HxCDF	35.47		0.9627	0.9629	+0.4	2.28E+07	1.29	Y	1.19	134	6243.115	0.376
124678/134678-HxCDF	NotFnd		0.9684						1.19		6243.115	0.376
134679-HxCDF	NotFnd		0.9747						1.19		6243.115	0.376
124679-HxCDF	NotFnd		0.9802						1.19		6243.115	0.376
124689-HxCDF	NotFnd		0.9858						1.19		6243.115	0.376
123467-HxCDF	NotFnd		0.9972						1.19		6243.115	0.376
123478-HxCDF	**36.85**		**1.0004**	**1.0005**	**+0.2**	**8.78E+06**	**1.24**	**Y**	**1.27**	**57.2**	**6243.115**	**0.377**
123678-HxCDF	**37.00**		**1.0004**	**1.0004**	**0**	**1.27E+07**	**1.25**	**Y**	**1.15**	**58.2**	**6243.115**	**0.306**
123479-HxCDF	NotFnd		1.0051						1.19		6243.115	0.376
123469-HxCDF	NotFnd		1.0091						1.19		6243.115	0.376
123679-HxCDF	NotFnd		0.9943						1.19		6243.115	0.376
234678-HxCDF	**37.69**		**1.0004**	**1.0006**	**+0.5**	**1.14E+07**	**1.25**	**Y**	**1.19**	**61**	**6243.115**	**0.362**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6243.115	0.376
123789-HxCDF	**38.61**		**1.0004**	**1.0002**	**-0.5**	**6.03E+06**	**1.29**	**Y**	**1.16**	**50.7**	**6243.115**	**0.531**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		6243.115	0.376
1234678-HpCDF	**39.96**		**1.0002**	**1.0004**	**+0.5**	**1.21E+07**	**1.03**	**Y**	**1.37**	**59.6**	**4074.794**	**0.167**
1234679-HpCDF	NotFnd		1.0067						1.34		4074.794	0.242
1234689-HpCDF	NotFnd		1.0101						1.34		4074.794	0.242
1234789-HpCDF	**41.36**		**1.0003**	**1.0002**	**-0.2**	**5.17E+06**	**1.07**	**Y**	**1.31**	**55**	**4074.794**	**0.398**
OCDF	**43.74**		**1.0002**	**1.0001**	**-0.3**	**6.69E+06**	**0.91**	**Y**	**1.07**	**108**	**3838.343**	**0.785**
~~OCDF a~~ NR - CL 28Jan22	~~43.73~~	~~**EMPC**~~	~~1.0002~~	~~0.9999~~	~~-0.8~~	~~3.34E+05~~	~~2.06~~	~~N~~	~~0.07~~	~~86.8~~	~~3945.208~~	~~13~~

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220127C02	Analysis Date:	27-JAN-2022 16:24:11
Lab ID:	OPR1_18872_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	12	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	54.8	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	57.1	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	59.5	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	52.4	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	57.1	35	-	70	Y
OCDD	100	120	78	-	144	Y
2,3,7,8-TCDF	10	13.4	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	55.4	40	-	67	Y
2,3,4,7,8-PeCDF	50	58.9	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	57.2	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	58.2	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	61	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	50.7	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	59.6	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	55	39	-	69	Y
OCDF	100	108	63	-	170	Y

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

Processed: 28 Jan 2022 09:48 Analyst: TF

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220127C02	Analysis Date:	27-JAN-2022 16:24:11
Lab ID:	OPR1_18872_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	82.1	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	89.4	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	90	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	111	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	88.6	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	81.3	26	-	166	Y
13C-OCDD	200	124	26	-	397	Y
13C-2,3,7,8-TCDF	100	64.5	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	76.5	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	70.3	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	74.6	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	104	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	93.5	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	65.5	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	114	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	62.6	20	-	186	Y
13C-OCDF	200	106	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	35.1	12.4	-	76.4	Y

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

Processed: 28 Jan 2022 09:48 Analyst: TF

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220127C02	Analysis Date:	27-JAN-2022 16:24:11
Lab ID:	OPR1_18872_DF		

Window Defining Standards Results

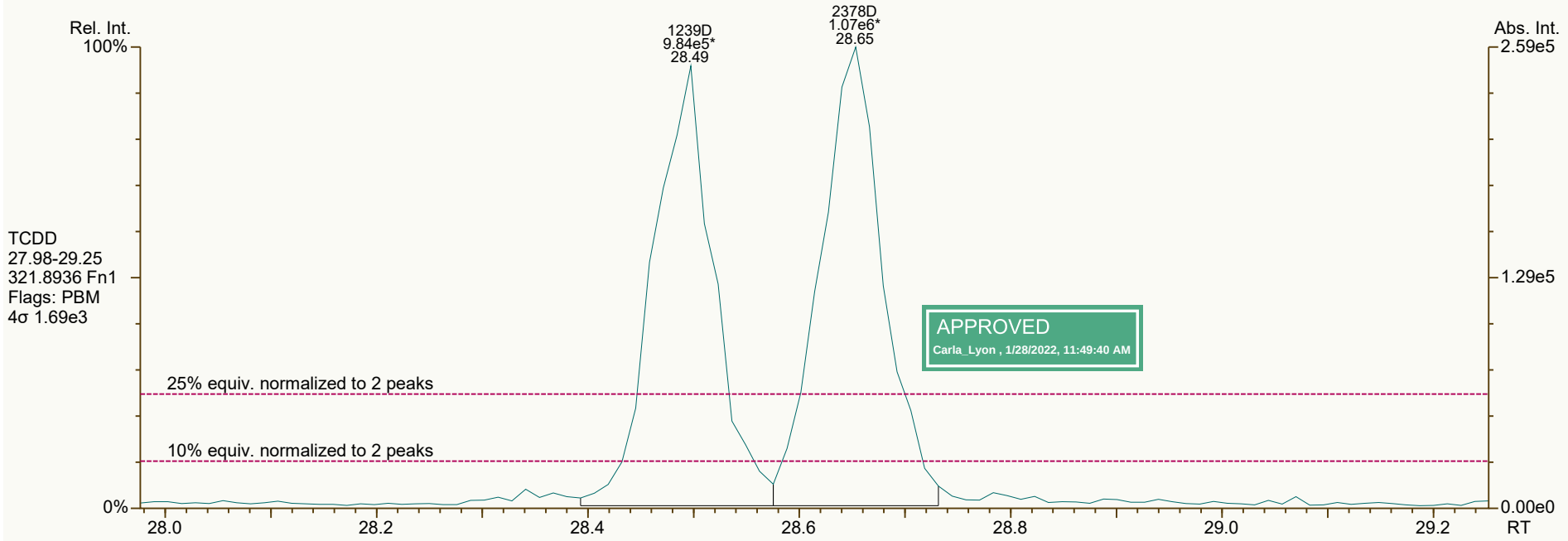
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	25.04	1289-TCDD	29.62
12479/12468-PeCDD	31.46	12389-PeCDD	34.40
124679/124689-HxCDD	36.11	123789-HxCDD	38.26
1234679-HpCDD	40.21	1234678-HpCDD	40.90
1368-TCDF	22.97	1289-TCDF	29.79
13468/12468-PeCDF	29.70	12389-PeCDF	34.70
123468-HxCDF	35.47	123789-HxCDF	38.61
1234678-HpCDF	39.96	1234789-HpCDF	41.36

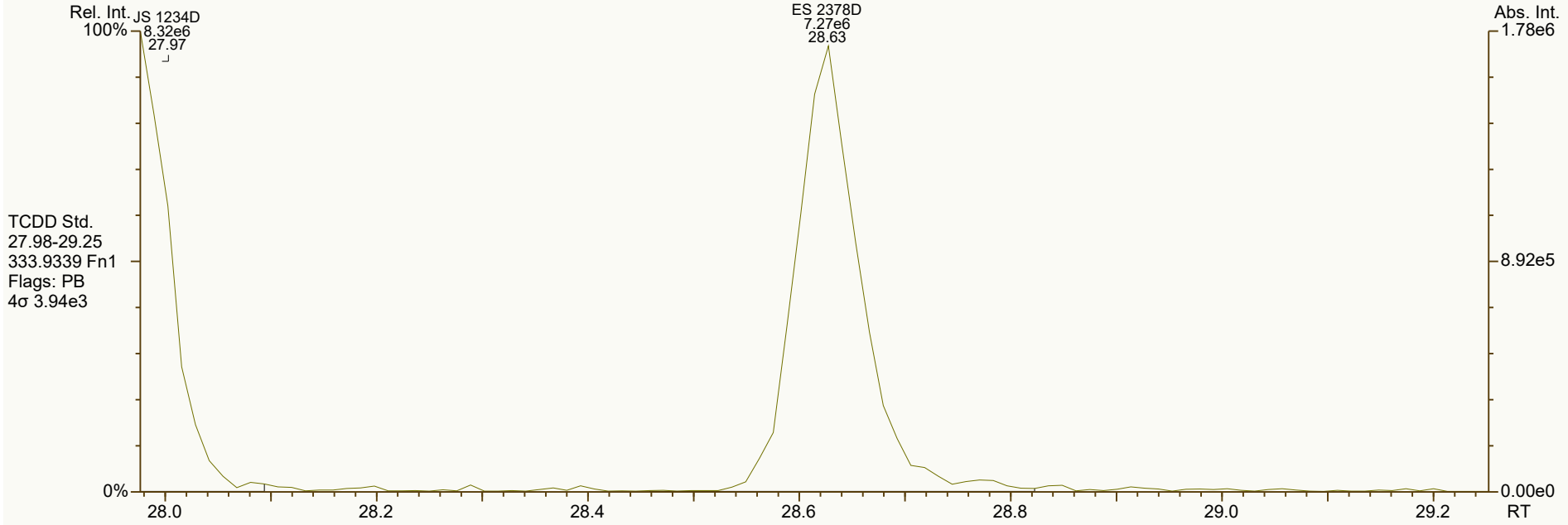
Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.49	2378-TCDD	28.65
2348-TCDF	27.69	2378-TCDF	27.80

Processed: 28 Jan 2022 09:48 Analyst: TF

SGS ID: OPR1_18872_DF
Sample ID: 0_18872_OPR001
Acq: 27-Jan-2022 16:24:11
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11
User: DTF Datafile: 220127C02





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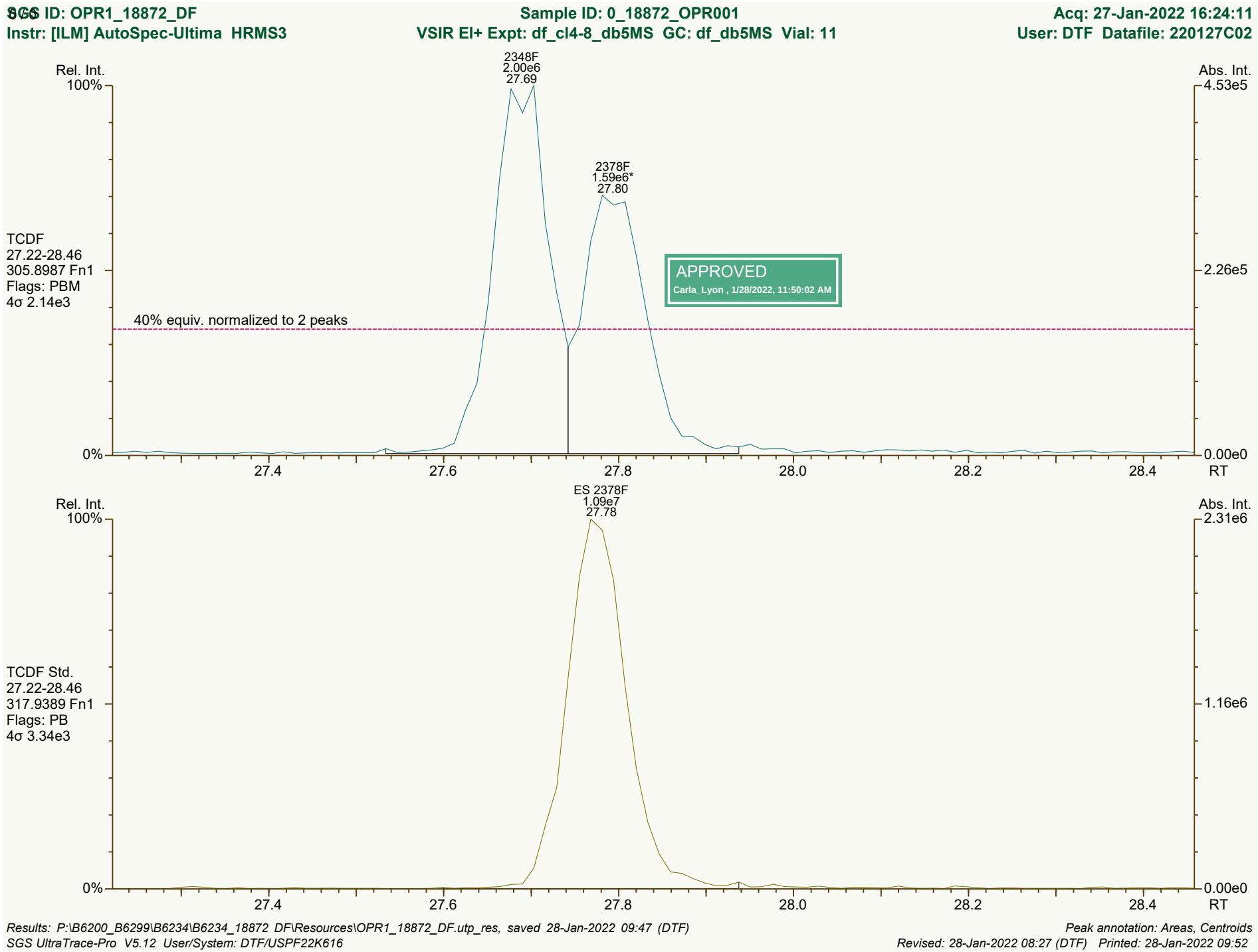
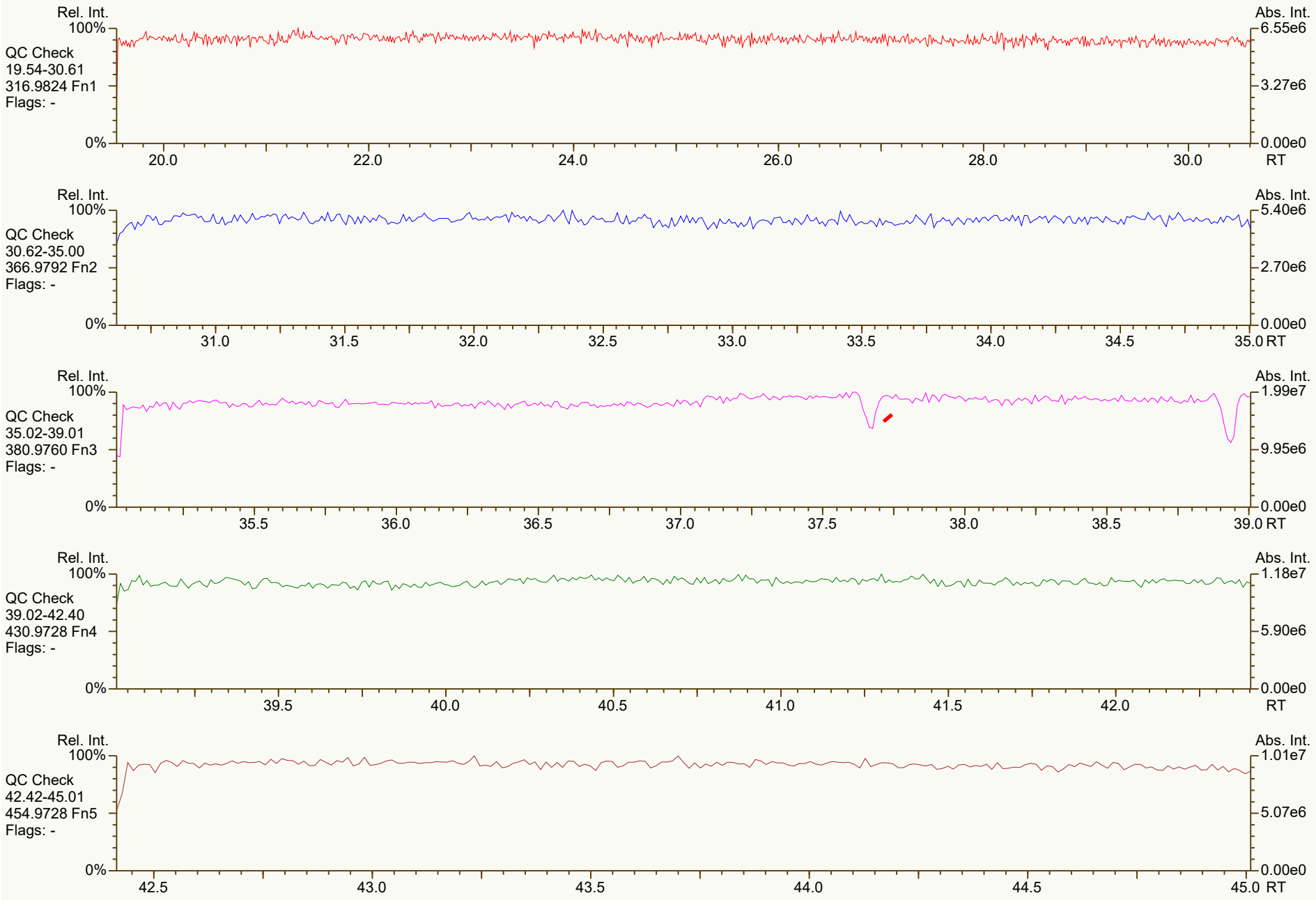
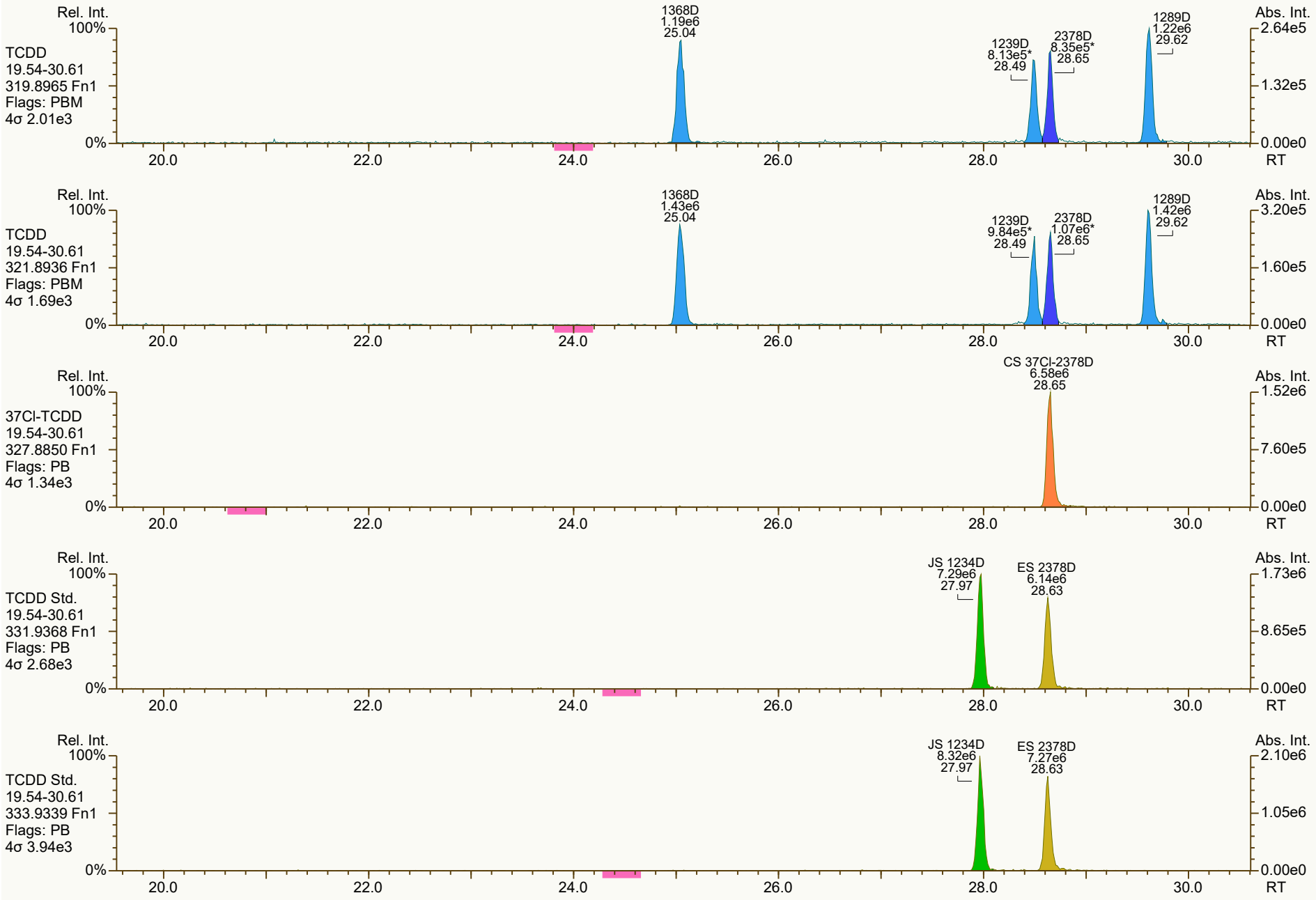
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 28-Jan-2022 08:26 (DTF) Printed: 28-Jan-2022 09:52


SGS ID: OPR1_18872_DF
Sample ID: 0_18872_OPR001
Acq: 27-Jan-2022 16:24:11
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11
User: DTF Datafile: 220127C02
Rel. Int.
100%
0%
Abs. Int.
4.53e5
2.26e5
0.00e0
RT
27.4
27.6
27.8
28.0
28.2
28.4
2348F
2.00e6
27.69
2378F
1.59e6*
27.80
TCDF
27.22-28.46
305.8987 Fn1
Flags: PBM
4σ 2.14e3
40% equiv. normalized to 2 peaks
APPROVED
Carla_Lyon , 1/28/2022, 11:50:02 AM
ES 2378F
1.09e7
27.78
TCDF Std.
27.22-28.46
317.9389 Fn1
Flags: PB
4σ 3.34e3
2.31e6
1.16e6
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\OPR1_18872_DF.utp_res, saved 28-Jan-2022 09:47 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 28-Jan-2022 08:27 (DTF) Printed: 28-Jan-2022 09:52

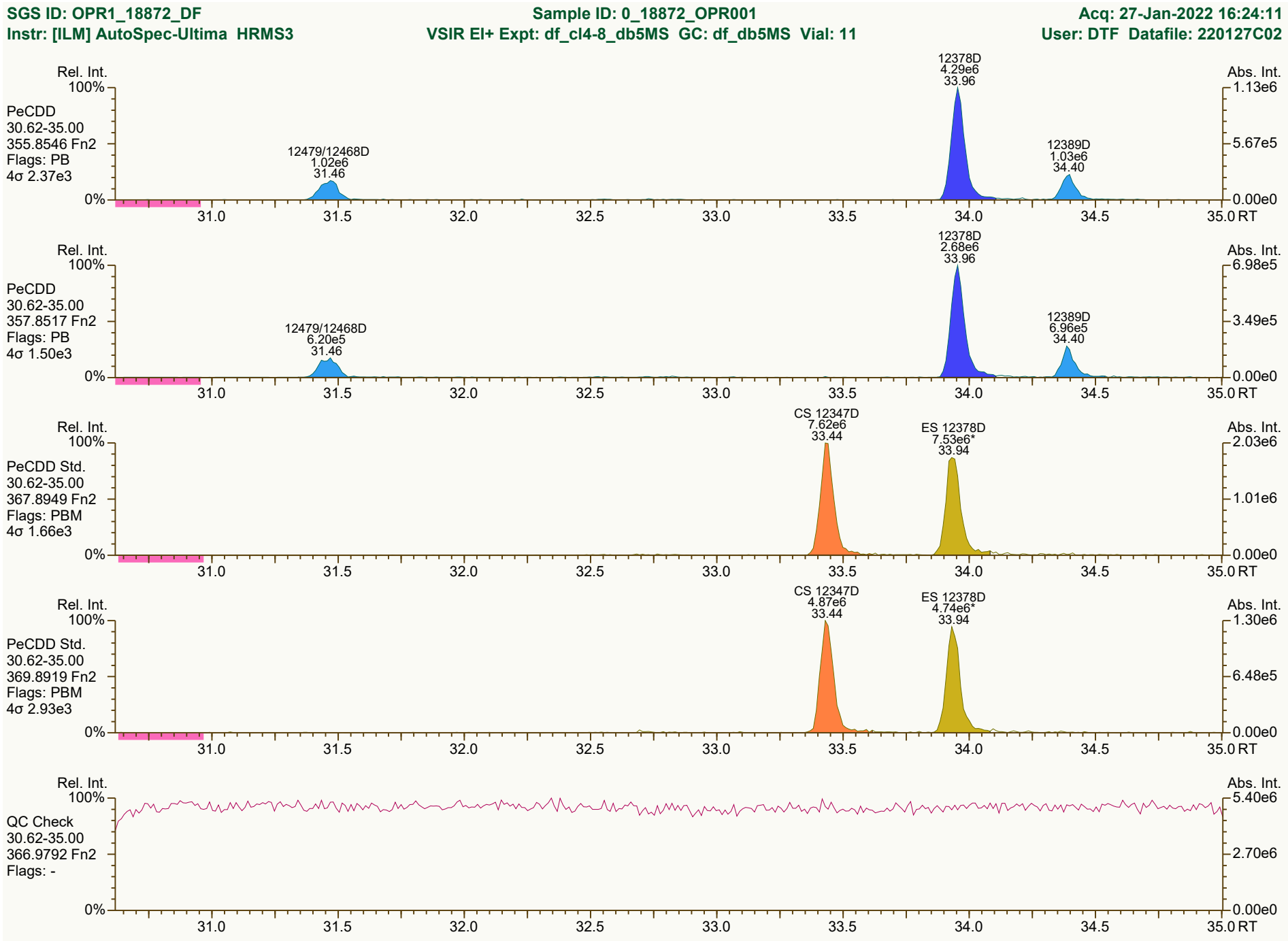

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
6.55e6
3.27e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
5.40e6
2.70e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
1.99e7
9.95e6
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.18e7
5.90e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.01e7
5.07e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 2.01e3
0%
1368D
1.19e6
25.04
1239D
8.13e5*
28.49
2378D
8.35e5*
28.65
1289D
1.22e6
29.62
Abs. Int.
2.64e5
1.32e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 1.69e3
0%
1368D
1.43e6
25.04
1239D
9.84e5*
28.49
2378D
1.07e6*
28.65
1289D
1.42e6
29.62
Abs. Int.
3.20e5
1.60e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.34e3
0%
CS 37Cl-2378D
6.58e6
28.65
Abs. Int.
1.52e6
7.60e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 2.68e3
0%
JS 1234D
7.29e6
27.97
ES 2378D
6.14e6
28.63
Abs. Int.
1.73e6
8.65e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 3.94e3
0%
JS 1234D
8.32e6
27.97
ES 2378D
7.27e6
28.63
Abs. Int.
2.10e6
1.05e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: OPR1_18872_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

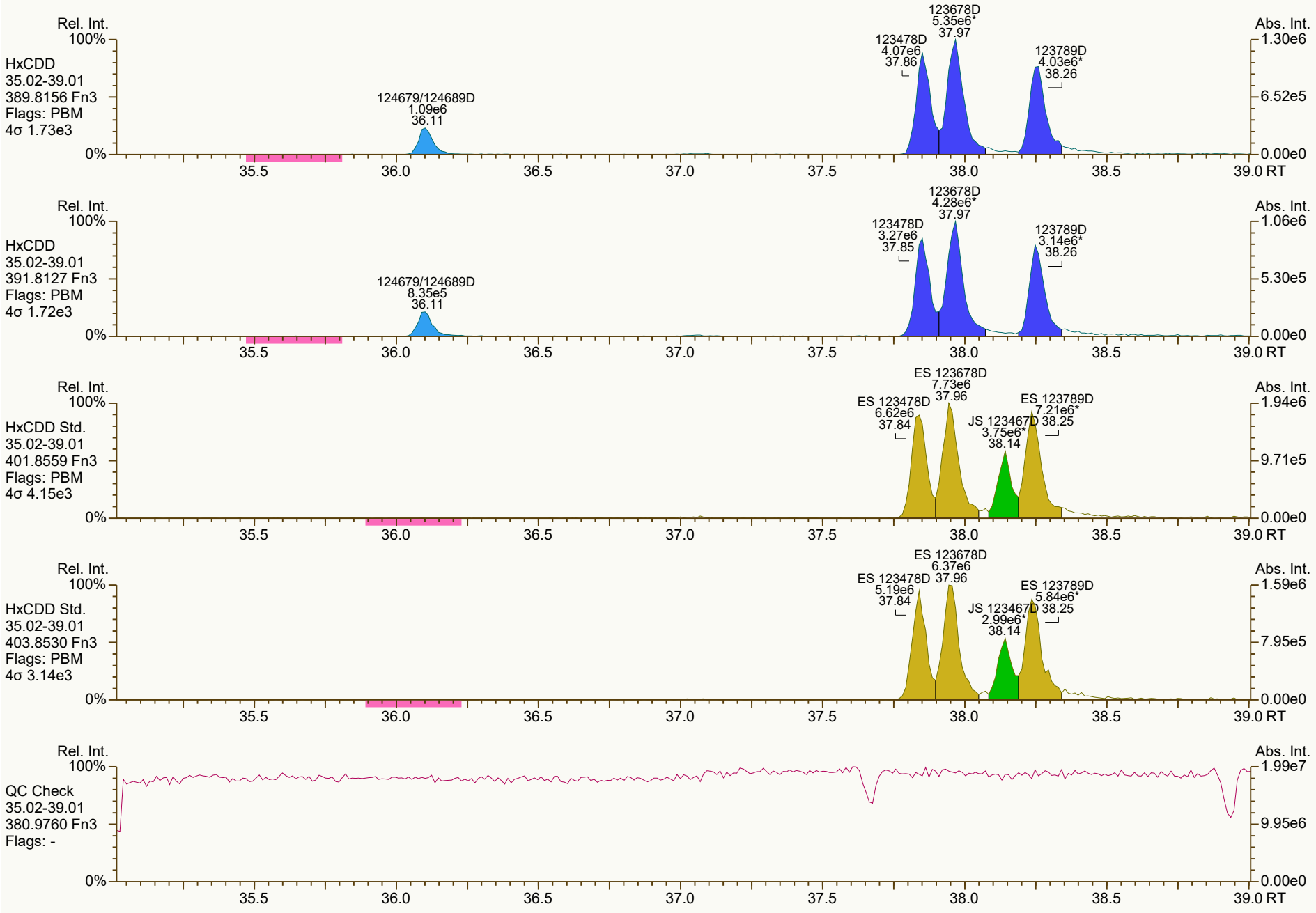
Sample ID: 0_18872_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11

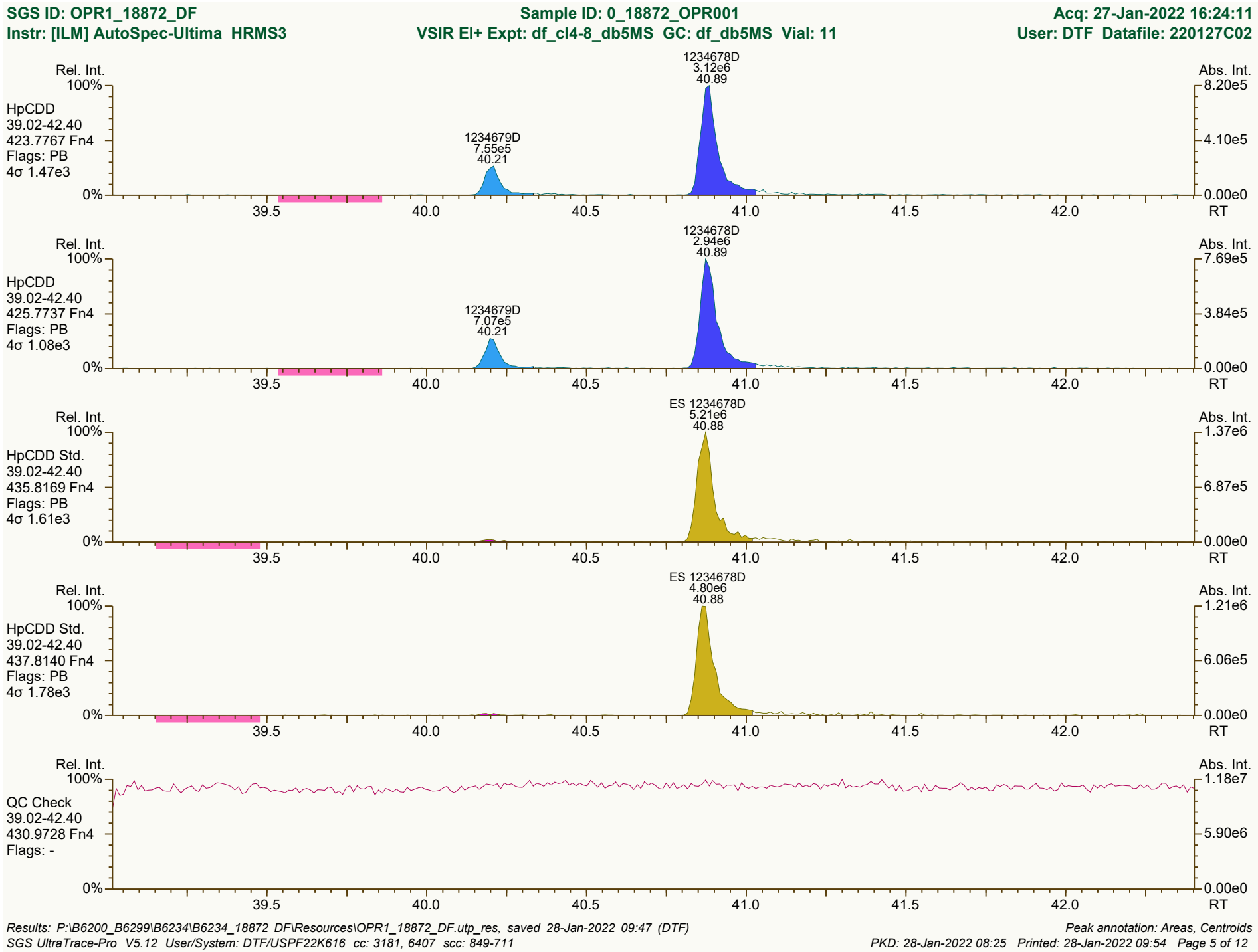
Acq: 27-Jan-2022 16:24:11
User: DTF Datafile: 220127C02



Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\OPR1_18872_DF.utp_res, saved 28-Jan-2022 09:47 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7507, 8909 scc: 849-711

Peak annotation: Areas, Centroids
PKD: 28-Jan-2022 08:27 Printed: 28-Jan-2022 09:54 Page 3 of 12


Rel. Int.
100%
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PBM
4σ 1.73e3
0%
124679/124689D
1.09e6
36.11
123478D
4.07e6
37.86
123678D
5.35e6*
37.97
123789D
4.03e6*
38.26
Abs. Int.
1.30e6
6.52e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PBM
4σ 1.72e3
0%
124679/124689D
8.35e5
36.11
123478D
3.27e6
37.85
123678D
4.28e6*
37.97
123789D
3.14e6*
38.26
Abs. Int.
1.06e6
5.30e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 4.15e3
0%
ES 123478D
6.62e6
37.84
ES 123678D
7.73e6
37.96
JS 123467D
3.75e6*
38.14
ES 123789D
7.21e6*
38.25
Abs. Int.
1.94e6
9.71e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 3.14e3
0%
ES 123478D
5.19e6
37.84
ES 123678D
6.37e6
37.96
JS 123467D
2.99e6*
38.14
ES 123789D
5.84e6*
38.25
Abs. Int.
1.59e6
7.95e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.99e7
9.95e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT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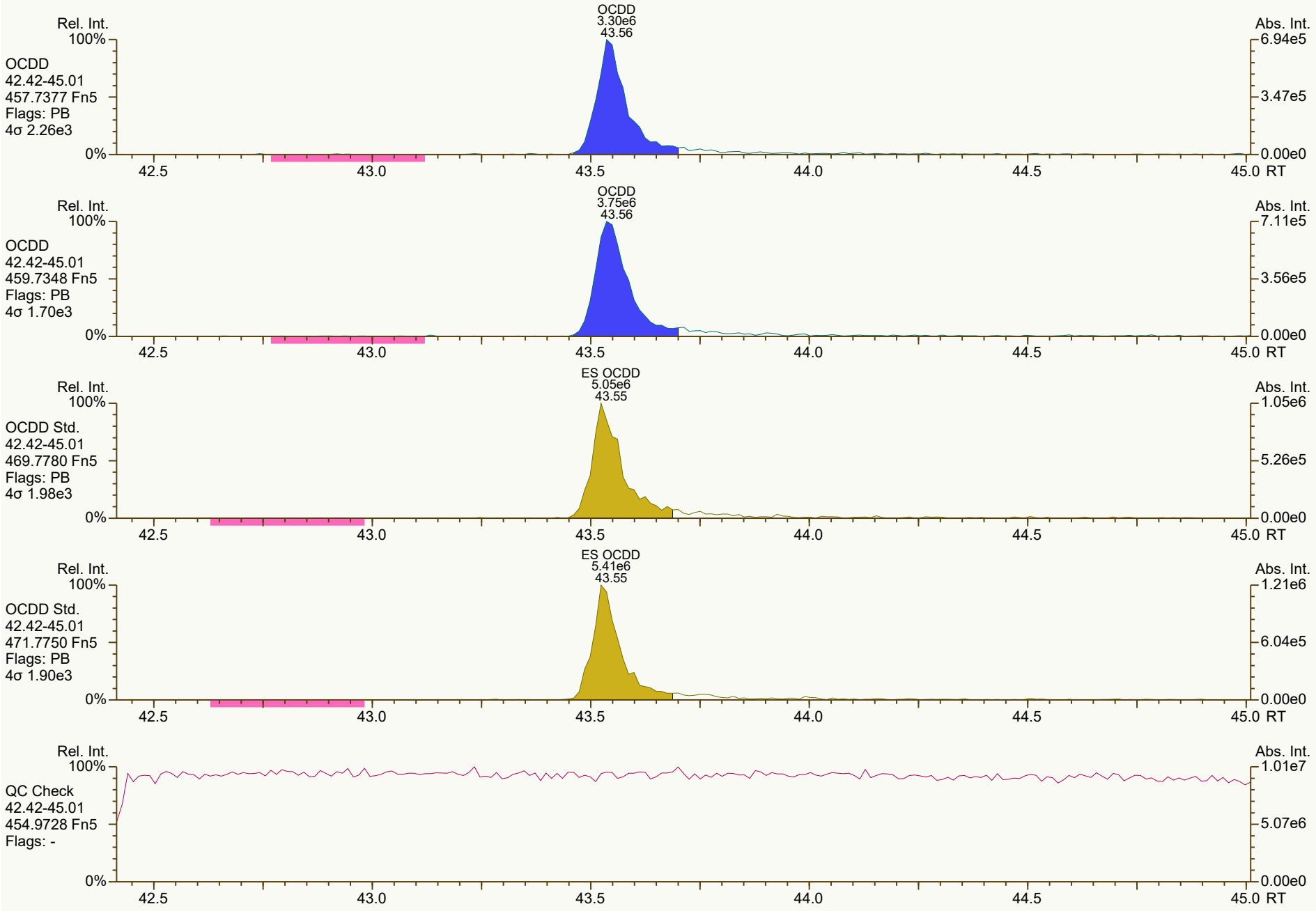
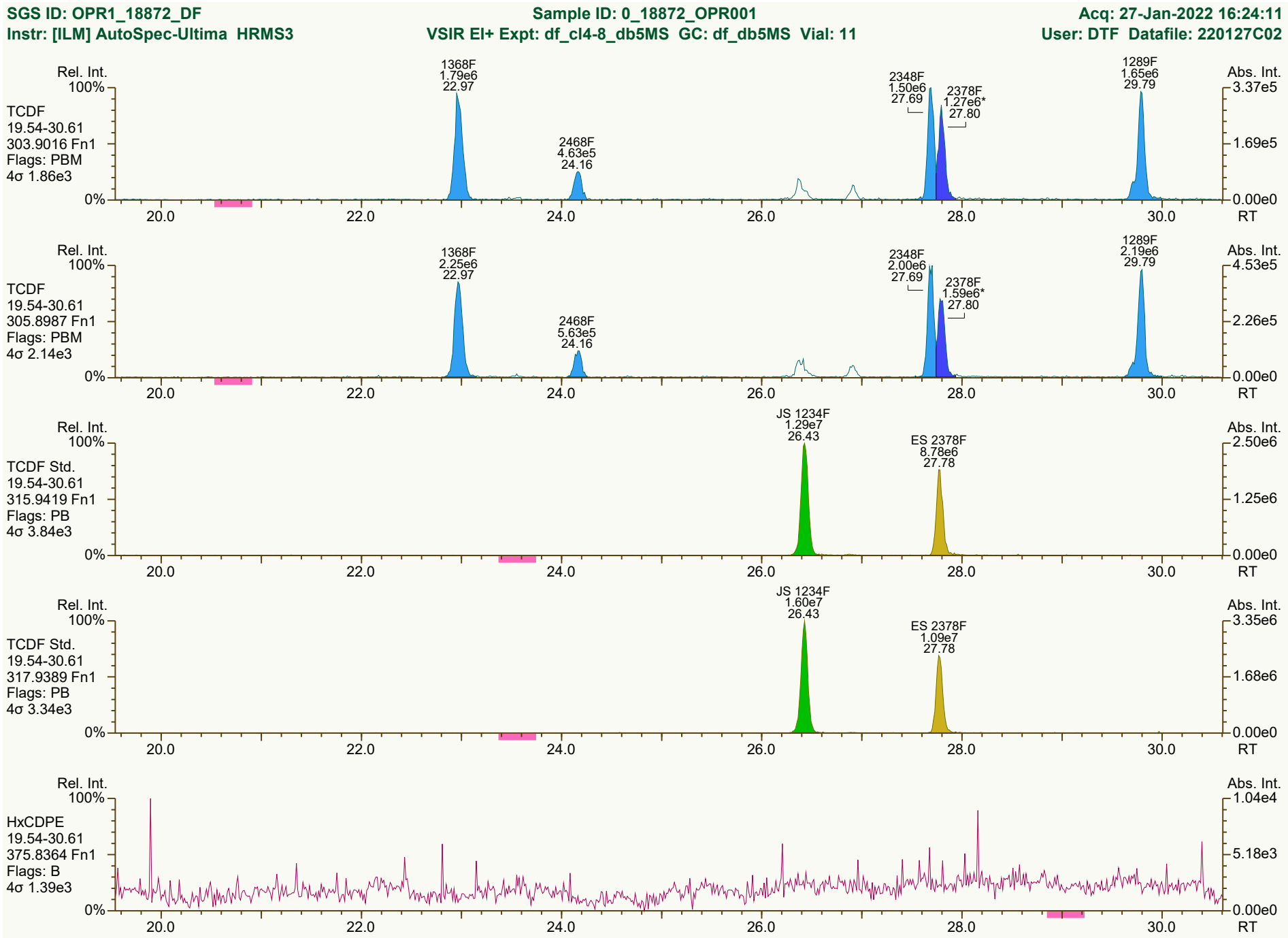
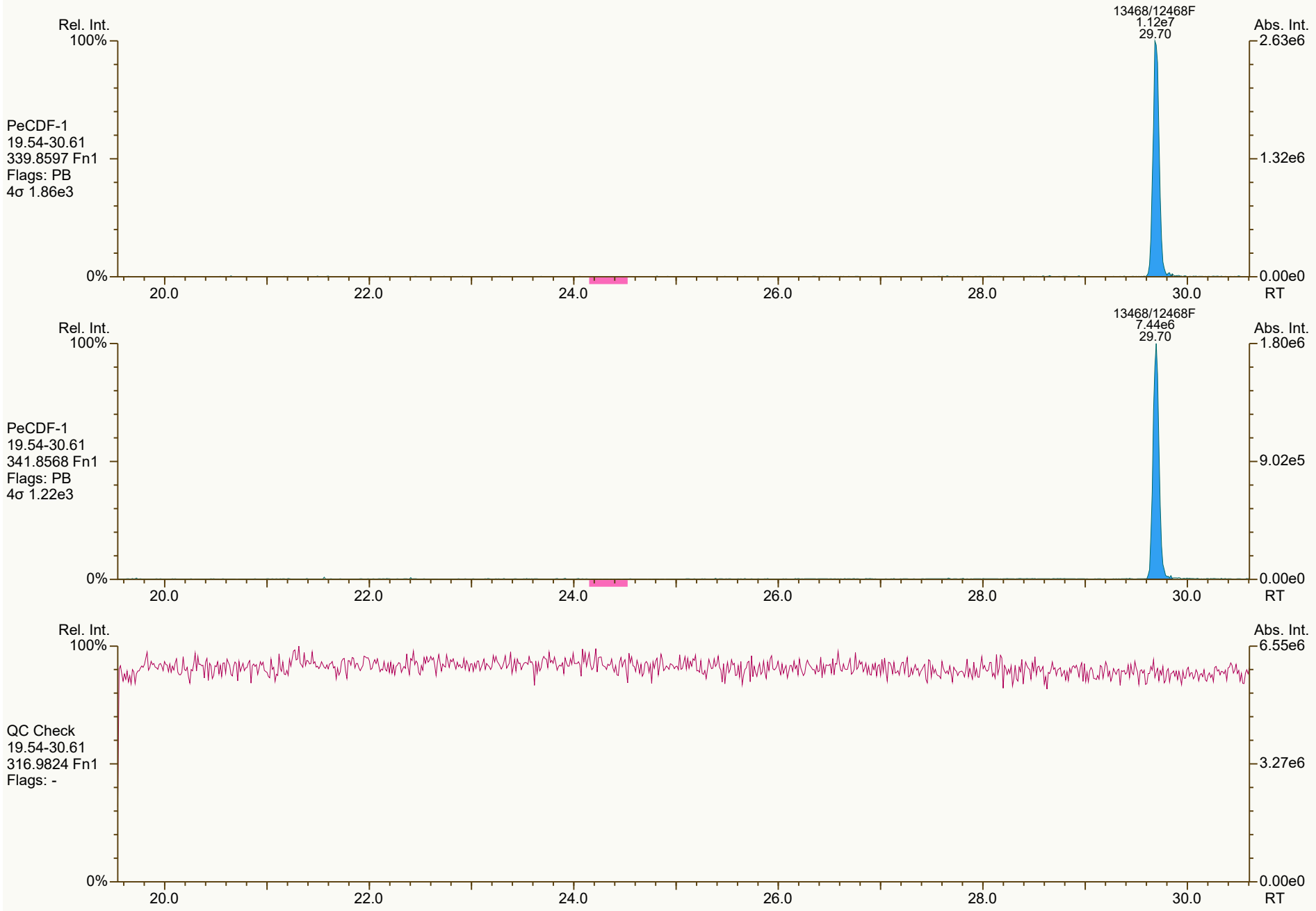
Sample ID: 0_18872_OPR001
Acq: 27-Jan-2022 16:24:11
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11
User: DTF Datafile: 220127C02
Rel. Int.
Abs. Int.
HpCDD
39.02-42.40
423.7767 Fn4
Flags: PB
4σ 1.47e3
1234678D
3.12e6
40.89
1234679D
7.55e5
40.21
8.20e5
4.10e5
0.00e0
HpCDD
39.02-42.40
425.7737 Fn4
Flags: PB
4σ 1.08e3
1234678D
2.94e6
40.89
1234679D
7.07e5
40.21
7.69e5
3.84e5
0.00e0
HpCDD Std.
39.02-42.40
435.8169 Fn4
Flags: PB
4σ 1.61e3
ES 1234678D
5.21e6
40.88
1.37e6
6.87e5
0.00e0
HpCDD Std.
39.02-42.40
437.8140 Fn4
Flags: PB
4σ 1.78e3
ES 1234678D
4.80e6
40.88
1.21e6
6.06e5
0.00e0
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
1.18e7
5.90e6
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\OPR1_18872_DF.utp_res, saved 28-Jan-2022 09:47 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3181, 6407 scc: 849-711
PKD: 28-Jan-2022 08:25 Printed: 28-Jan-2022 09:54 Page 5 of 12

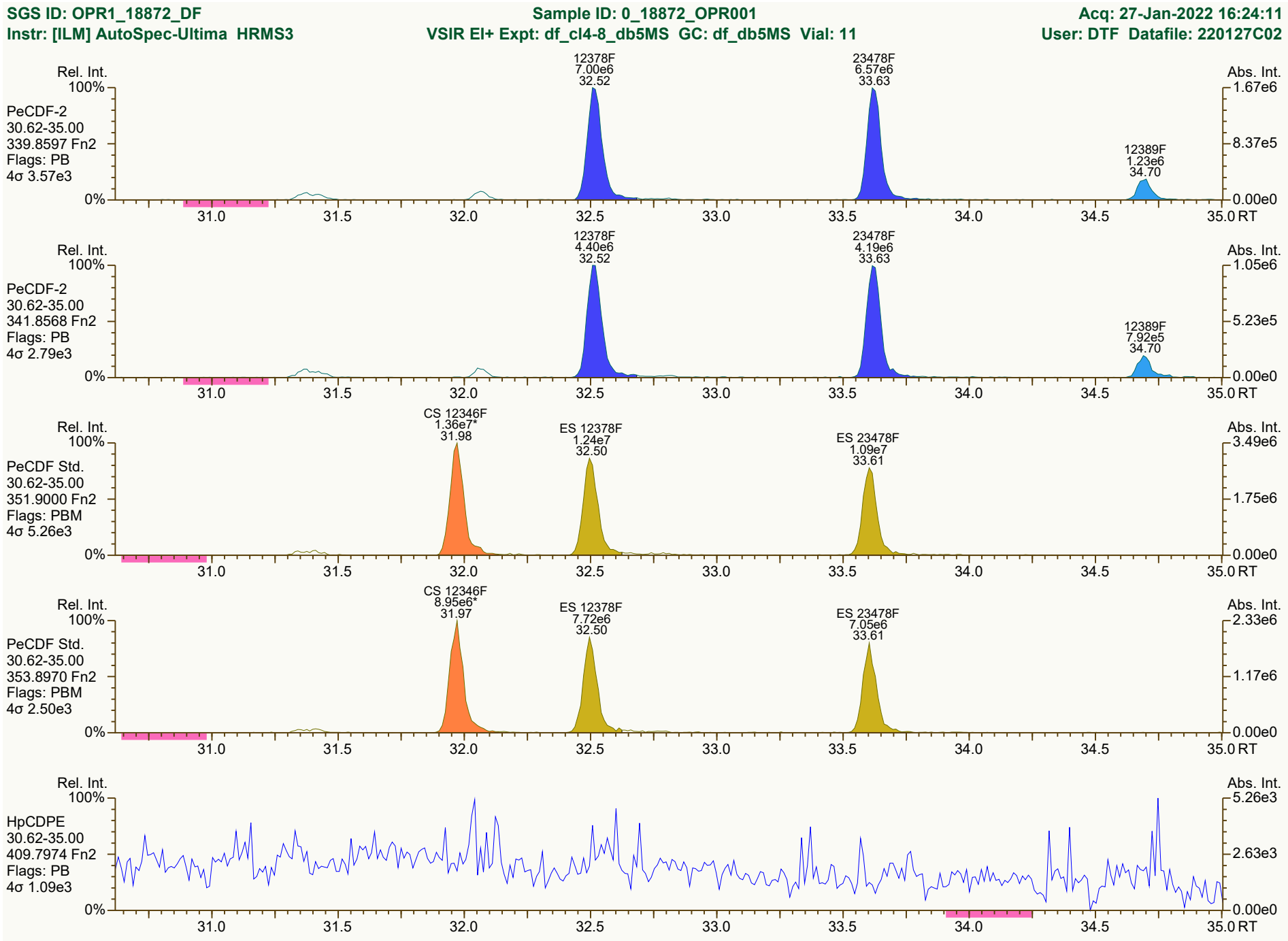

OCDD
3.30e6
43.56
Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PB
4σ 2.26e3
0%
Abs. Int.
6.94e5
3.47e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.75e6
43.56
OCDD
42.42-45.01
459.7348 Fn5
Flags: PB
4σ 1.70e3
7.11e5
3.56e5
ES OCDD
5.05e6
43.55
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PB
4σ 1.98e3
1.05e6
5.26e5
ES OCDD
5.41e6
43.55
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PB
4σ 1.90e3
1.21e6
6.04e5
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
1.01e7
5.07e6


SGS ID: OPR1_18872_DF
Sample ID: 0_18872_OPR001
Acq: 27-Jan-2022 16:24:11
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11
User: DTF Datafile: 220127C02
Rel. Int.
Abs. Int.
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 1.86e3
1368F 1.79e6 22.97
2468F 4.63e5 24.16
2348F 1.50e6 27.69
2378F 1.27e6* 27.80
1289F 1.65e6 29.79
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 2.14e3
1368F 2.25e6 22.97
2468F 5.63e5 24.16
2348F 2.00e6 27.69
2378F 1.59e6* 27.80
1289F 2.19e6 29.79
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 3.84e3
JS 1234F 1.29e7 26.43
ES 2378F 8.78e6 27.78
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 3.34e3
JS 1234F 1.60e7 26.43
ES 2378F 1.09e7 27.78
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.39e3
RT
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\OPR1_18872_DF.utp_res, saved 28-Jan-2022 09:47 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0027, 4949, 1976 scc: 849-711
Revised: 28-Jan-2022 08:27 (DTF) Printed: 28-Jan-2022 09:54 Page 7 of 12

SGS ID: OPR1_18872_DF
Sample ID: 0_18872_OPR001
Acq: 27-Jan-2022 16:24:11
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11
User: DTF Datafile: 220127C02



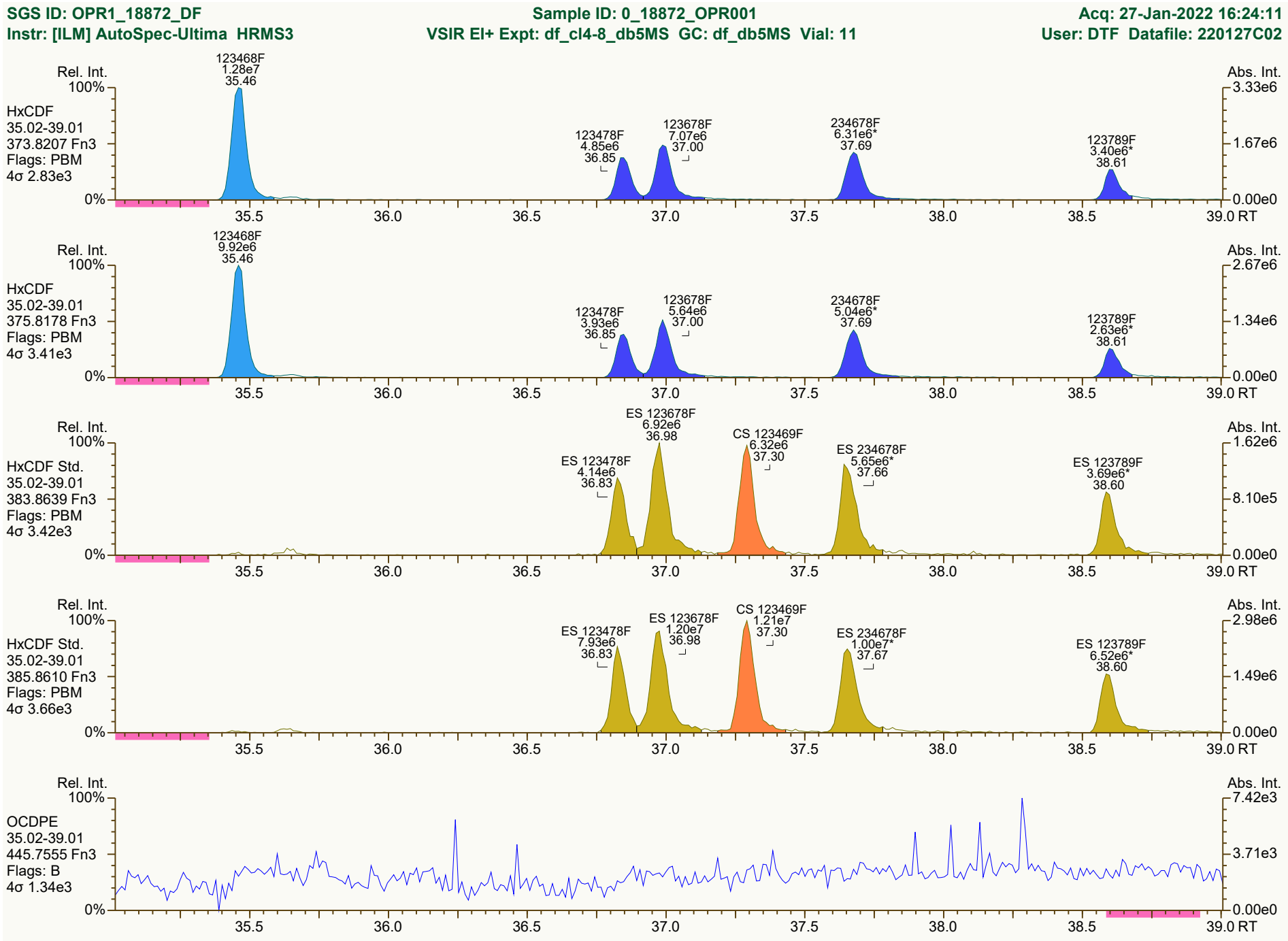
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\OPR1_18872_DF.utp_res, saved 28-Jan-2022 09:47 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8620 scc: 849-711
PKD: 28-Jan-2022 08:25 Printed: 28-Jan-2022 09:54 Page 8 of 12


SGS ID: OPR1_18872_DF
Sample ID: 0_18872_OPR001
Acq: 27-Jan-2022 16:24:11
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11
User: DTF Datafile: 220127C02
Rel. Int.
Abs. Int.
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PB
4σ 3.57e3
12378F
7.00e6
32.52
23478F
6.57e6
33.63
12389F
1.23e6
34.70
1.67e6
8.37e5
0.00e0
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: PB
4σ 2.79e3
12378F
4.40e6
32.52
23478F
4.19e6
33.63
12389F
7.92e5
34.70
1.05e6
5.23e5
0.00e0
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PBM
4σ 5.26e3
CS 12346F
1.36e7*
31.98
ES 12378F
1.24e7
32.50
ES 23478F
1.09e7
33.61
3.49e6
1.75e6
0.00e0
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PBM
4σ 2.50e3
CS 12346F
8.95e6*
31.97
ES 12378F
7.72e6
32.50
ES 23478F
7.05e6
33.61
2.33e6
1.17e6
0.00e0
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: PB
4σ 1.09e3
5.26e3
2.63e3
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\OPR1_18872_DF.utp_res, saved 28-Jan-2022 09:47 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0412, 2150, 1444 scc: 849-711
PKD: 28-Jan-2022 08:27 Printed: 28-Jan-2022 09:54 Page 9 of 12

SGS ID: OPR1_18872_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

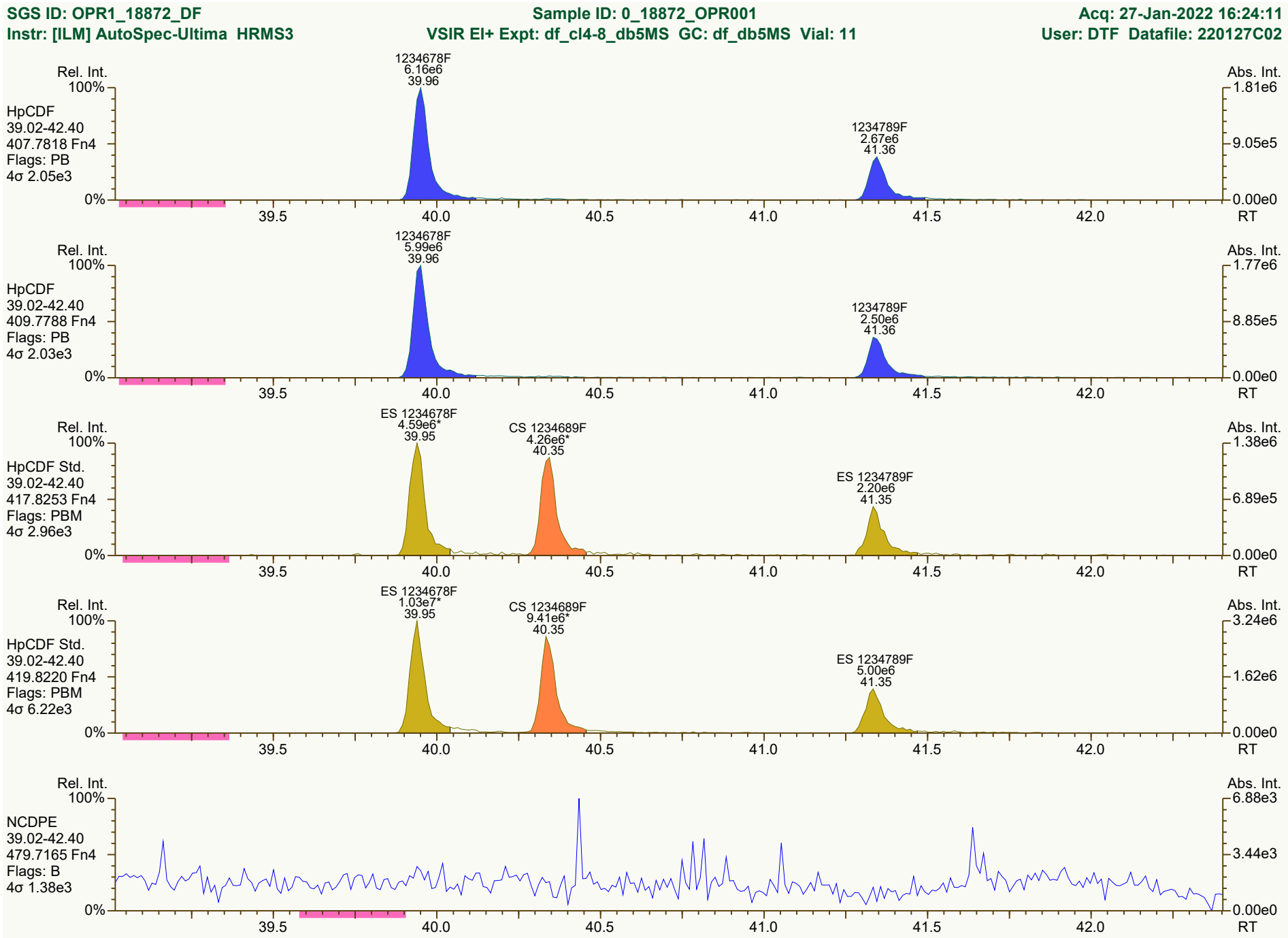
Sample ID: 0_18872_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11

Acq: 27-Jan-2022 16:24:11
User: DTF Datafile: 220127C02



Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\OPR1_18872_DF.utp_res, saved 28-Jan-2022 09:47 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2045, 9003, 0248 scc: 849-711

Peak annotation: Areas, Centroids
Revised: 28-Jan-2022 08:27 (DTF) Printed: 28-Jan-2022 09:54 Page 10 of 12


SGS ID: OPR1_18872_DF
Sample ID: 0_18872_OPR001
Acq: 27-Jan-2022 16:24:11
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11
User: DTF Datafile: 220127C02
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PB
4σ 2.05e3
1234678F
6.16e6
39.96
1234789F
2.67e6
41.36
1.81e6
9.05e5
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 2.03e3
1234678F
5.99e6
39.96
1234789F
2.50e6
41.36
1.77e6
8.85e5
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PBM
4σ 2.96e3
ES 1234678F
4.59e6*
39.95
CS 1234689F
4.26e6*
40.35
ES 1234789F
2.20e6
41.35
1.38e6
6.89e5
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PBM
4σ 6.22e3
ES 1234678F
1.03e7*
39.95
CS 1234689F
9.41e6*
40.35
ES 1234789F
5.00e6
41.35
3.24e6
1.62e6
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.38e3
6.88e3
3.44e3
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\OPR1_18872_DF.utp_res, saved 28-Jan-2022 09:47 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5221, 3293, 2866 scc: 849-711
Revised: 28-Jan-2022 08:26 (DTF) Printed: 28-Jan-2022 09:54 Page 11 of 12


Rel. Int.
100%
OCDF
42.42-45.01
441.7428 Fn5
Flags: PBM
4σ 2.64e3
0%
OCDF
3.18e6*
43.74
Abs. Int.
6.64e5
3.32e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.01
443.7398 Fn5
Flags: PBM
4σ 1.20e3
0%
OCDF
3.51e6*
43.74
Abs. Int.
7.75e5
3.87e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
453.7830 Fn5
Flags: PB
4σ 2.55e3
0%
ES OCDF
5.49e6
43.74
Abs. Int.
1.08e6
5.42e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.01
455.7801 Fn5
Flags: PB
4σ 2.13e3
0%
ES OCDF
6.09e6
43.73
Abs. Int.
1.26e6
6.29e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.01
513.6775 Fn5
Flags: PB
4σ 1.40e3
0%
Abs. Int.
4.28e3
2.14e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: OPR2_18872_DF **Acq'd: 27 Jan 2022 17:10 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18872_OPR002 **UTP: 28-Jan-2022 09:47:32 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 122-983-QKS**

Datafile: 220127C03 **Report: 28 Jan 2022 09:48 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.64		1.0008	1.0008	0	1.50E+06	0.84	Y	1.18	11.4	3711.415	0.304
12378-PeCDD	33.95		1.0006	1.0005	-0.2	5.49E+06	1.51	Y	1.04	48.6	3155.295	0.268
123478-HxCDD	37.85		1.0004	1.0004	0	5.86E+06	1.31	Y	1.09	51.9	3090.465	0.247
123678-HxCDD	37.97		1.0034	1.0036	+0.5	7.71E+06	1.29	Y	1.15	55.5	3090.465	0.239
123789-HxCDD	38.26		1.0109	1.0112	+0.7	6.20E+06	1.32	Y	1.05	50.6	3090.465	0.275
1234678-HpCDD	40.89		1.0003	1.0004	+0.2	4.82E+06	1.03	Y	1.06	57.1	2760.302	0.277
OCDD	43.56		1.0002	1.0002	0	5.13E+06	0.96	Y	1.13	102	4104.948	0.993
2378-TCDF	27.79		1.0008	1.0008	0	2.11E+06	0.81	Y	1.08	10.8	3593.63	0.217
12378-PeCDF	32.51		1.0005	1.0006	+0.2	9.00E+06	1.61	Y	1.02	49.6	6283.89	0.328
23478-PeCDF	33.62		1.0005	1.0005	0	8.98E+06	1.57	Y	1.02	51.7	6283.89	0.351
123478-HxCDF	36.84		1.0004	1.0005	+0.2	7.58E+06	1.21	Y	1.27	50.2	4332.785	0.246
123678-HxCDF	36.99		1.0004	1.0005	+0.2	1.04E+07	1.25	Y	1.15	55.7	4332.785	0.226
234678-HxCDF	37.67		1.0004	1.0005	+0.2	9.90E+06	1.24	Y	1.19	52.9	4332.785	0.238
123789-HxCDF	38.61		1.0004	1.0004	0	5.93E+06	1.28	Y	1.16	50.6	4332.785	0.324
1234678-HpCDF	39.95		1.0002	1.0003	+0.2	9.29E+06	1.06	Y	1.37	50.8	3578.678	0.164
1234789-HpCDF	41.35		1.0003	1.0003	0	4.78E+06	1.07	Y	1.31	52.3	3578.678	0.365
OCDF	43.75		1.0002	1.0003	+0.3	5.50E+06	0.82	Y	1.07	98.4	2998.145	0.687

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.62	1.0233	1.0237	+0.7	1.11E+07	0.81	Y	1.05	82.4
ES 12378-PeCDD	33.93	1.2121	1.2138	+3.5	1.09E+07	1.59	Y	0.88	95.9
ES 123478-HxCDD	37.83	0.9921	0.9922	+0.2	1.04E+07	1.30	Y	0.97	97.4
ES 123678-HxCDD	37.95	0.9951	0.9953	+0.5	1.21E+07	1.16	Y	0.94	117
ES 123789-HxCDD	38.24	1.0025	1.0028	+0.7	1.17E+07	1.32	Y	1.09	98
ES 1234678-HpCDD	40.87	1.0709	1.0720	+2.7	7.97E+06	1.10	Y	0.91	79.8
ES OCDD	43.55	1.1403	1.1421	+4.7	8.94E+06	0.89	Y	0.62	65.4
ES 2378-TCDF	27.77	1.0506	1.0512	+1.0	1.81E+07	0.82	Y	1.06	79.7
ES 12378-PeCDF	32.49	1.2281	1.2301	+3.9	1.77E+07	1.55	Y	0.91	90.5
ES 23478-PeCDF	33.60	1.2698	1.2720	+4.4	1.70E+07	1.55	Y	0.88	89.8
ES 123478-HxCDF	36.82	0.9657	0.9658	+0.2	1.19E+07	0.54	Y	1.20	90.6
ES 123678-HxCDF	36.97	0.9695	0.9696	+0.2	1.62E+07	0.55	Y	1.35	109
ES 234678-HxCDF	37.66	0.9874	0.9876	+0.5	1.57E+07	0.50	Y	1.24	116
ES 123789-HxCDF	38.59	1.0116	1.0122	+1.4	1.01E+07	0.52	Y	1.16	79.6
ES 1234678-HpCDF	39.94	1.0467	1.0476	+2.2	1.34E+07	0.45	Y	0.97	126
ES 1234789-HpCDF	41.34	1.0830	1.0842	+3.0	7.00E+06	0.48	Y	0.85	75.1
ES OCDF	43.73	1.1451	1.1470	+5.0	1.04E+07	0.89	Y	0.81	59

Lab ID: OPR2_18872_DF | Acq'd: 27 Jan 2022 17:10 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18872_OPR002 | UTP: 28-Jan-2022 09:47:32 DTF | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 122-983-QKS

Datafile: 220127C03 | Report: 28 Jan 2022 09:48 TF | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.96		-	-	-	1.29E+07	0.83	Y	-	-	
JS 1234-TCDF	26.42		-	-	-	2.15E+07	0.78	Y	-	-	
JS 123467-HxCDD	38.13		-	-	-	5.47E+06	1.21	Y	-	-	
CS 37Cl-2378-TCDD	28.64		1.0241	1.0245	+0.7	4.94E+06	n/a	-	1.20	79.4	
CS 12347-PeCDD	33.43		1.1943	1.1958	+3.0	1.01E+07	1.52	Y	0.75	104	
CS 12346-PeCDF	31.96		1.2083	1.2101	+3.5	1.73E+07	1.66	Y	0.85	94.7	
CS 123469-HxCDF	37.29		0.9778	0.9779	+0.2	1.44E+07	0.54	Y	1.12	118	
CS 1234689-HpCDF	40.34		1.0571	1.0580	+2.2	1.11E+07	0.46	Y	0.89	114	
~~SS 37Cl-2378-TCDD~~	~~28.64~~		~~1.0241~~	~~1.0245~~	~~+0.7~~	~~4.94E+06~~	~~n/a~~		~~1.15~~	~~96.6~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.43~~		~~1.1943~~	~~1.1958~~	~~+3.0~~	~~1.01E+07~~	~~1.52~~	~~Y~~	~~0.86~~	~~100~~	CL 28Jan22
~~SS 12346-PeCDF~~	~~31.96~~		~~1.2083~~	~~1.2101~~	~~+3.5~~	~~1.73E+07~~	~~1.66~~	~~Y~~	~~0.94~~	~~104~~	
~~SS 123469-HxCDF~~	~~37.29~~		~~0.9778~~	~~0.9779~~	~~+0.2~~	~~1.44E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~108~~	
~~SS 1234689-HpCDF~~	~~40.34~~		~~1.0571~~	~~1.0580~~	~~+2.2~~	~~1.11E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~90.4~~	

Totals	Conc	EMPC
Total TCDD	43.3	52.4
Total PeCDD	72.3	72.3
Total HxCDD	171	171
Total HpCDD	70.6	70.6
Total Tetra-Octa Dioxins	459	468
Total TCDF	58.3	61.4
Total PeCDF	196	196
Total HxCDF	331	331
Total HpCDF	103	103
Total Tetra-Octa Furans	787	790
Total Tetra-Octa Dioxins & Furans	1250	1260

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.835	0.84
Response	1.51E+06	1.50E+06

Lab ID: OPR2_18872_DF | **Acq'd: 27 Jan 2022 17:10 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18872_OPR002 | **UTP: 28-Jan-2022 09:47:32 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 122-983-QKS**

Datafile: 220127C03 | **Report: 28 Jan 2022 09:48 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	25.03		0.8755	0.8745	-1.5	2.02E+06	0.86	Y	1.18	15.3	3711.415	0.304
1379-TCDD	NotFnd		0.8876						1.18		3711.415	0.304
1369-TCDD	NotFnd		0.9023						1.18		3711.415	0.304
1469-TCDD	NotFnd		0.9291						1.18		3711.415	0.304
1247/1246/1248/1249-TCDD	NotFnd		0.9373						1.18		3711.415	0.304
1378-TCDD	NotFnd		0.9440						1.18		3711.415	0.304
1268-TCDD	NotFnd		0.9506						1.18		3711.415	0.304
1478-TCDD	NotFnd		0.9591						1.18		3711.415	0.304
1279-TCDD	NotFnd		0.9649						1.18		3711.415	0.304
1234/1269-TCDD	NotFnd		0.9771						1.18		3711.415	0.304
1236-TCDD	NotFnd		0.9820						1.18		3711.415	0.304
1237/1238-TCDD	NotFnd		0.9908						1.18		3711.415	0.304
1239-TCDD	28.48	EMPC	0.9954	0.9952	-0.3	1.20E+06	0.91	N	1.18	9.09	3711.415	0.304
2378-TCDD	**28.64**		**1.0008**	1.0008	**0**	1.50E+06	0.84	Y	**1.18**	**11.4**	**3711.415**	**0.304**
1278-TCDD	NotFnd		1.0121						1.18		3711.415	0.304
1267-TCDD	NotFnd		1.0167						1.18		3711.415	0.304
1289-TCDD	29.61		1.0341	1.0344	+0.5	2.19E+06	0.80	Y	1.18	16.6	3711.415	0.304
12479/12468-PeCDD	31.46		0.9273	0.9270	-0.6	1.26E+06	1.41	Y	1.04	11.1	3155.295	0.268
12469-PeCDD	NotFnd		0.9430						1.04		3155.295	0.268
12368-PeCDD	NotFnd		0.9592						1.04		3155.295	0.268
12478-PeCDD	NotFnd		0.9647						1.04		3155.295	0.268
12379-PeCDD	NotFnd		0.9676						1.04		3155.295	0.268
12369/12467/12489-PeCDD	NotFnd		0.9752						1.04		3155.295	0.268
12346/12347-PeCDD	NotFnd		0.9860						1.04		3155.295	0.268
12378-PeCDD	33.95		**1.0006**	**1.0005**	**-0.2**	**5.49E+06**	**1.51**	**Y**	**1.04**	**48.6**	**3155.295**	**0.268**
12367-PeCDD	NotFnd		1.0034						1.04		3155.295	0.268
12389-PeCDD	34.39		1.0134	1.0135	+0.2	1.42E+06	1.52	Y	1.04	12.6	3155.295	0.268
124679/124689-HxCDD	36.10		0.9545	0.9543	-0.4	1.63E+06	1.21	Y	1.10	13	3090.465	0.253
123468-HxCDD	NotFnd		0.9715						1.10		3090.465	0.253
123679/123689-HxCDD	NotFnd		0.9793						1.10		3090.465	0.253
123469-HxCDD	NotFnd		0.9829						1.10		3090.465	0.253
123478-HxCDD	37.85		**1.0004**	**1.0004**	**0**	**5.86E+06**	**1.31**	**Y**	1.09	**51.9**	**3090.465**	**0.247**
123678-HxCDD	37.97		**1.0034**	**1.0036**	**+0.5**	**7.71E+06**	**1.29**	**Y**	1.15	**55.5**	**3090.465**	**0.239**
123467-HxCDD	NotFnd		1.0082						1.10		3090.465	0.253
123789-HxCDD	38.26		**1.0109**	**1.0112**	**+0.7**	**6.20E+06**	**1.32**	**Y**	1.05	**50.6**	**3090.465**	**0.275**

Lab ID: OPR2_18872_DF | **Acq'd:** 27 Jan 2022 17:10 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18872_OPR002 | **UTP:** 28-Jan-2022 09:47:32 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 122-983-QKS

Datafile: 220127C03 | **Report:** 28 Jan 2022 09:48 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.20		0.9838	0.9837	-0.2	1.14E+06	1.18	Y	1.06	13.5	2760.302	0.277
1234678-HpCDD	**40.89**		**1.0003**	**1.0004**	**+0.2**	**4.82E+06**	**1.03**	**Y**	**1.06**	**57.1**	**2760.302**	**0.277**
OCDD	**43.56**		**1.0002**	**1.0002**	**0**	**5.13E+06**	**0.96**	**Y**	**1.13**	**102**	**4104.948**	**0.993**
~~OCDD-a~~ NR - CL 28Jan22	~~43.57~~	**~~EMPC~~**	~~1.0002~~	~~1.0006~~	~~+1.0~~	~~1.32E+05~~	~~2.99~~	~~N~~	~~0.07~~	~~41.1~~	~~3504.603~~	~~13.3~~
1368-TCDF	22.95		0.8282	0.8266	-2.2	2.95E+06	0.83	Y	1.08	15	3593.63	0.217
1468-TCDF	NotFnd		0.8485						1.08		3593.63	0.217
2468-TCDF	24.15	EMPC	0.8709	0.8695	-2.0	6.06E+05	0.89	N	1.08	3.09	3593.63	0.217
1346/1246-TCDF	NotFnd		0.8829						1.08		3593.63	0.217
1347/1378/1247-TCDF	NotFnd		0.8884						1.08		3593.63	0.217
1348-TCDF	NotFnd		0.8980						1.08		3593.63	0.217
1248/1367/1379-TCDF	NotFnd		0.9026						1.08		3593.63	0.217
1268-TCDF	NotFnd		0.9158						1.08		3593.63	0.217
1467-TCDF	NotFnd		0.9206						1.08		3593.63	0.217
1478-TCDF	NotFnd		0.9266						1.08		3593.63	0.217
1369/1237-TCDF	NotFnd		0.9397						1.08		3593.63	0.217
2467-TCDF	NotFnd		0.9440						1.08		3593.63	0.217
2368-TCDF	NotFnd		0.9497						1.08		3593.63	0.217
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9528						1.08		3593.63	0.217
1278-TCDF	NotFnd		0.9690						1.08		3593.63	0.217
1349-TCDF	NotFnd		0.9730						1.08		3593.63	0.217
1267-TCDF	NotFnd		0.9787						1.08		3593.63	0.217
2346/1249-TCDF	NotFnd		0.9850						1.08		3593.63	0.217
2347/1279-TCDF	NotFnd		0.9929						1.08		3593.63	0.217
2348-TCDF	27.68		0.9970	0.9968	-0.3	2.92E+06	0.84	Y	1.08	14.9	3593.63	0.217
2378-TCDF	**27.79**		**1.0008**	**1.0008**	**0**	**2.11E+06**	**0.81**	**Y**	**1.08**	**10.8**	**3593.63**	**0.217**
2367/3467-TCDF	NotFnd		1.0136						1.08		3593.63	0.217
1269-TCDF	NotFnd		1.0221						1.08		3593.63	0.217
1239-TCDF	NotFnd		1.0319						1.08		3593.63	0.217
1289-TCDF	29.77		1.0740	1.0722	-3.2	3.44E+06	0.79	Y	1.08	17.5	3593.63	0.217
13468/12468-PeCDF	29.69		0.9145	0.9136	-1.6	1.50E+07	1.60	Y	1.02	84.2	3291.139	0.178
13678/13467/12467-PeCDF	NotFnd		0.9619						1.02		6283.89	0.34
12368/13478/12478-PeCDF	NotFnd		0.9665						1.02		6283.89	0.34
14678-PeCDF	NotFnd		0.9695						1.02		6283.89	0.34
13479-PeCDF	NotFnd		0.9724						1.02		6283.89	0.34
13469/12479-PeCDF	NotFnd		0.9801						1.02		6283.89	0.34
12346-PeCDF	NotFnd		0.9842						1.02		6283.89	0.34

Lab ID: OPR2_18872_DF | **Acq'd:** 27 Jan 2022 17:10 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18872_OPR002 | **UTP:** 28-Jan-2022 09:47:32 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 122-983-QKS

Datafile: 220127C03 | **Report:** 28 Jan 2022 09:48 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		6283.89	0.34
12347-PeCDF	NotFnd		0.9895						1.02		6283.89	0.34
12348-PeCDF	NotFnd		0.9941						1.02		6283.89	0.34
12378-PeCDF	**32.51**		**1.0005**	**1.0006**	**+0.2**	**9.00E+06**	**1.61**	**Y**	**1.02**	**49.6**	**6283.89**	**0.328**
12678/12367-PeCDF	NotFnd		1.0090						1.02		6283.89	0.34
12379-PeCDF	NotFnd		1.0142						1.02		6283.89	0.34
12679-PeCDF	NotFnd		0.9931						1.02		6283.89	0.34
23467/12369-PeCDF	NotFnd		0.9966						1.02		6283.89	0.34
23478-PeCDF	**33.62**		**1.0005**	**1.0005**	**0**	**8.98E+06**	**1.57**	**Y**	**1.02**	**51.7**	**6283.89**	**0.351**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6283.89	0.34
12349-PeCDF	NotFnd		1.0101						1.02		6283.89	0.34
12389-PeCDF	34.69		1.0322	1.0325	+0.6	1.87E+06	1.49	Y	1.02	10.5	6283.89	0.34
123468-HxCDF	35.46		0.9627	0.9628	+0.2	1.95E+07	1.28	Y	1.19	122	4332.785	0.252
124678/134678-HxCDF	NotFnd		0.9684						1.19		4332.785	0.252
134679-HxCDF	NotFnd		0.9747						1.19		4332.785	0.252
124679-HxCDF	NotFnd		0.9802						1.19		4332.785	0.252
124689-HxCDF	NotFnd		0.9858						1.19		4332.785	0.252
123467-HxCDF	NotFnd		0.9972						1.19		4332.785	0.252
123478-HxCDF	**36.84**		**1.0004**	**1.0005**	**+0.2**	**7.58E+06**	**1.21**	**Y**	**1.27**	**50.2**	**4332.785**	**0.246**
123678-HxCDF	**36.99**		**1.0004**	**1.0005**	**+0.2**	**1.04E+07**	**1.25**	**Y**	**1.15**	**55.7**	**4332.785**	**0.226**
123479-HxCDF	NotFnd		1.0051						1.19		4332.785	0.252
123469-HxCDF	NotFnd		1.0091						1.19		4332.785	0.252
123679-HxCDF	NotFnd		0.9943						1.19		4332.785	0.252
234678-HxCDF	**37.67**		**1.0004**	**1.0005**	**+0.2**	**9.90E+06**	**1.24**	**Y**	**1.19**	**52.9**	**4332.785**	**0.238**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4332.785	0.252
123789-HxCDF	**38.61**		**1.0004**	**1.0004**	**0**	**5.93E+06**	**1.28**	**Y**	**1.16**	**50.6**	**4332.785**	**0.324**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		4332.785	0.252
1234678-HpCDF	**39.95**		**1.0002**	**1.0003**	**+0.2**	**9.29E+06**	**1.06**	**Y**	**1.37**	**50.8**	**3578.678**	**0.164**
1234679-HpCDF	NotFnd		1.0067						1.34		3578.678	0.233
1234689-HpCDF	NotFnd		1.0101						1.34		3578.678	0.233
1234789-HpCDF	**41.35**		**1.0003**	**1.0003**	**0**	**4.78E+06**	**1.07**	**Y**	**1.31**	**52.3**	**3578.678**	**0.365**
OCDF	**43.75**		**1.0002**	**1.0003**	**+0.3**	**5.50E+06**	**0.82**	**Y**	**1.07**	**98.4**	**2998.145**	**0.687**
~~OCDF a~~ NR - CL 28Jan22	~~43.71~~	**~~EMPC~~**	~~1.0002~~	~~0.9995~~	~~-1.8~~	~~1.98E+05~~	~~2.97~~	~~N~~	~~0.07~~	~~57.2~~	~~3047.195~~	~~14.2~~

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220127C03	Analysis Date:	27-JAN-2022 17:10:28
Lab ID:	OPR2_18872_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.4	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	48.6	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	51.9	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	55.5	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	50.6	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	57.1	35	-	70	Y
OCDD	100	102	78	-	144	Y
2,3,7,8-TCDF	10	10.8	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	49.6	40	-	67	Y
2,3,4,7,8-PeCDF	50	51.7	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	50.2	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	55.7	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	52.9	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	50.6	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	50.8	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	52.3	39	-	69	Y
OCDF	100	98.4	63	-	170	Y

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

Processed: 28 Jan 2022 09:48 Analyst: TF

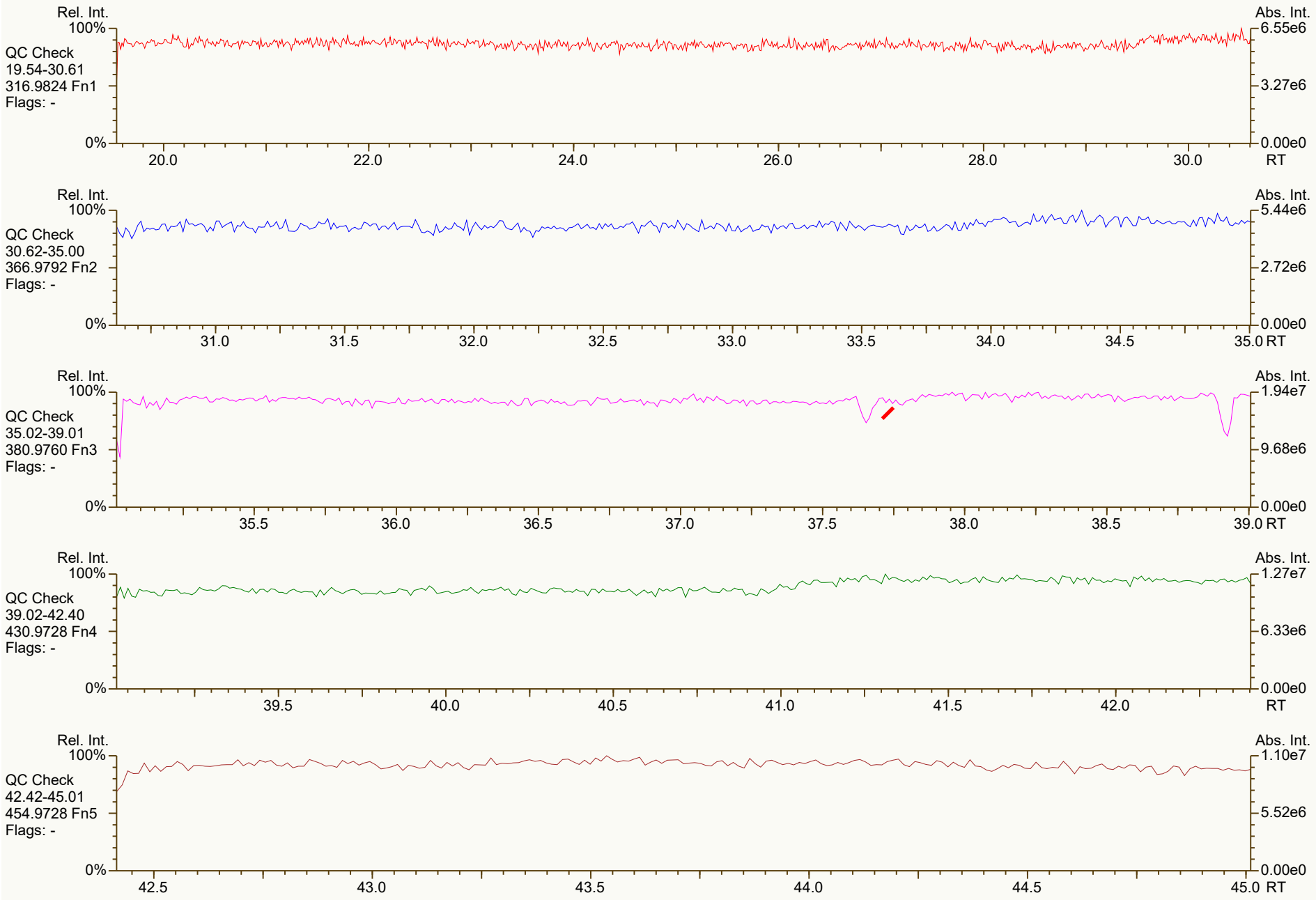
METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

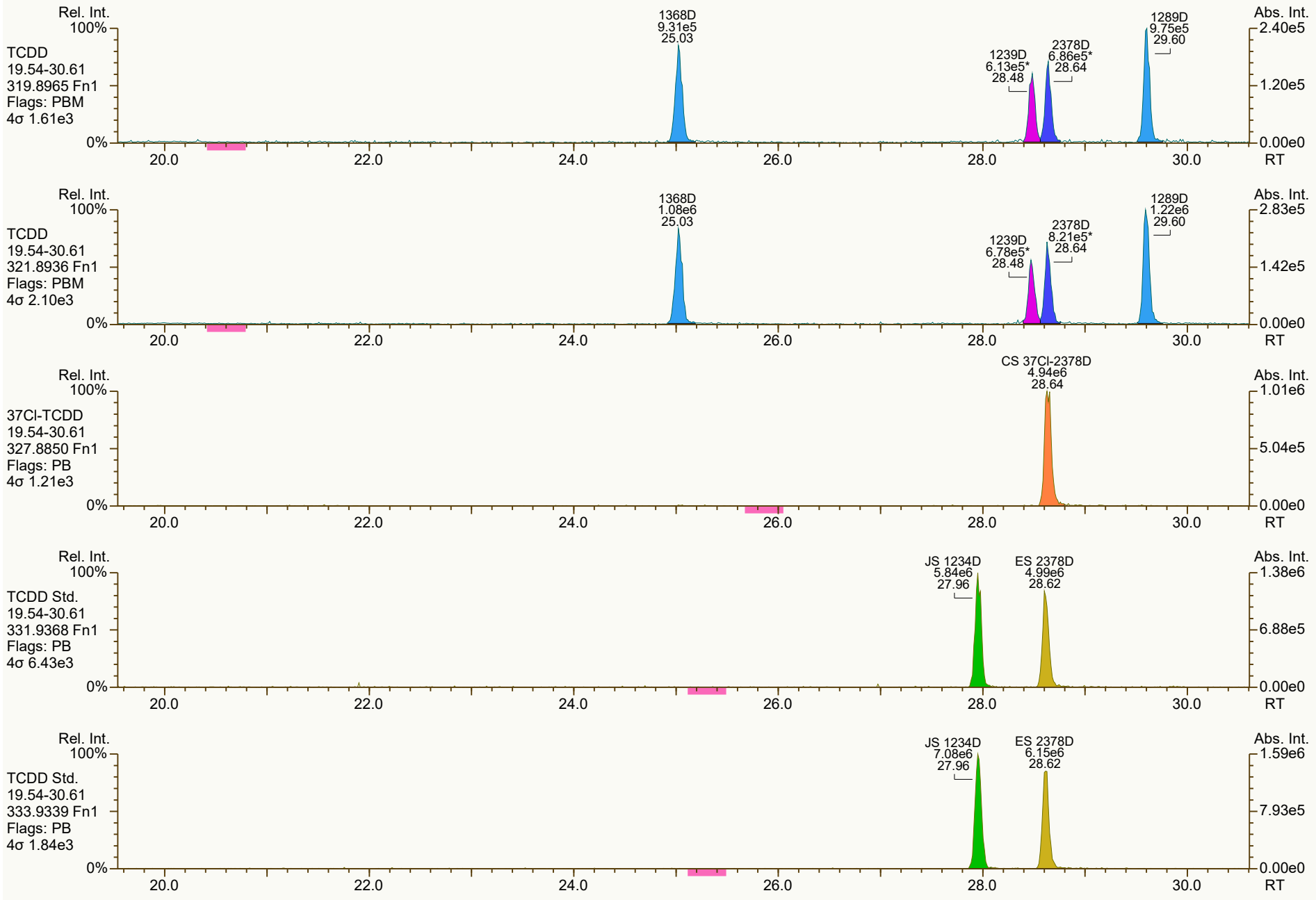
Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220127C03	Analysis Date:	27-JAN-2022 17:10:28
Lab ID:	OPR2_18872_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	82.4	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	95.9	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	97.4	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	117	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	98	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	79.8	26	-	166	Y
13C-OCDD	200	131	26	-	397	Y
13C-2,3,7,8-TCDF	100	79.7	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	90.5	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	89.8	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	90.6	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	109	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	116	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	79.6	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	126	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	75.1	20	-	186	Y
13C-OCDF	200	118	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	31.8	12.4	-	76.4	Y

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

Processed: 28 Jan 2022 09:48 Analyst: TF

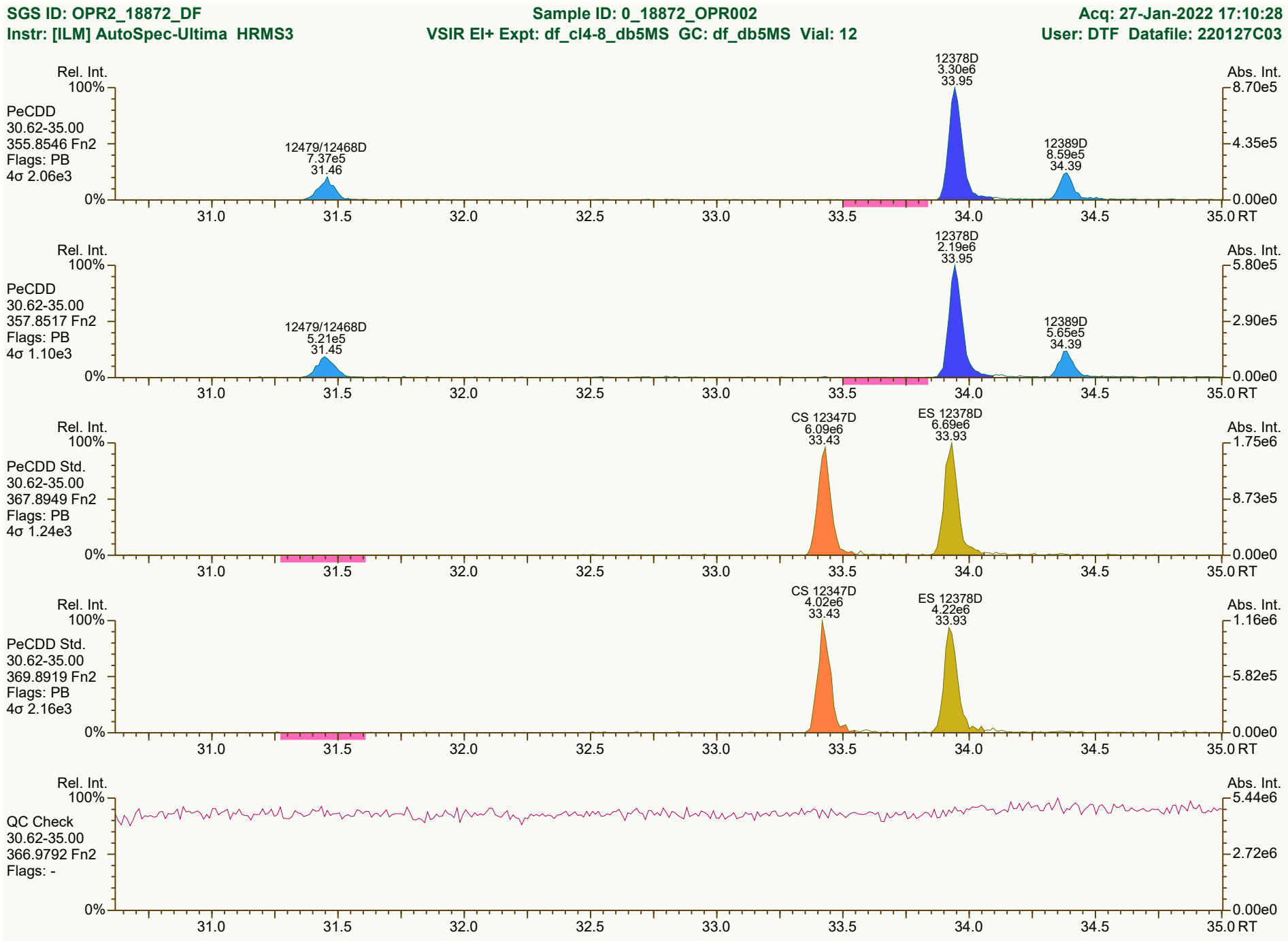

Rel. Int.
100%
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
6.55e6
3.27e6
0.00e0
Rel. Int.
100%
QC Check
30.62-35.00
366.9792 Fn2
Flags: -
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Abs. Int.
5.44e6
2.72e6
0.00e0
Rel. Int.
100%
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Abs. Int.
1.94e7
9.68e6
0.00e0
Rel. Int.
100%
QC Check
39.02-42.40
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.27e7
6.33e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.10e7
5.52e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.61
319.8965 Fn1
Flags: PBM
4σ 1.61e3
1368D
9.31e5
25.03
1239D
6.13e5*
28.48
2378D
6.86e5*
28.64
1289D
9.75e5
29.60
Abs. Int.
2.40e5
1.20e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.61
321.8936 Fn1
Flags: PBM
4σ 2.10e3
1368D
1.08e6
25.03
1239D
6.78e5*
28.48
2378D
8.21e5*
28.64
1289D
1.22e6
29.60
Abs. Int.
2.83e5
1.42e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.61
327.8850 Fn1
Flags: PB
4σ 1.21e3
CS 37Cl-2378D
4.94e6
28.64
Abs. Int.
1.01e6
5.04e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
331.9368 Fn1
Flags: PB
4σ 6.43e3
JS 1234D
5.84e6
27.96
ES 2378D
4.99e6
28.62
Abs. Int.
1.38e6
6.88e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.61
333.9339 Fn1
Flags: PB
4σ 1.84e3
JS 1234D
7.08e6
27.96
ES 2378D
6.15e6
28.62
Abs. Int.
1.59e6
7.93e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: OPR2_18872_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

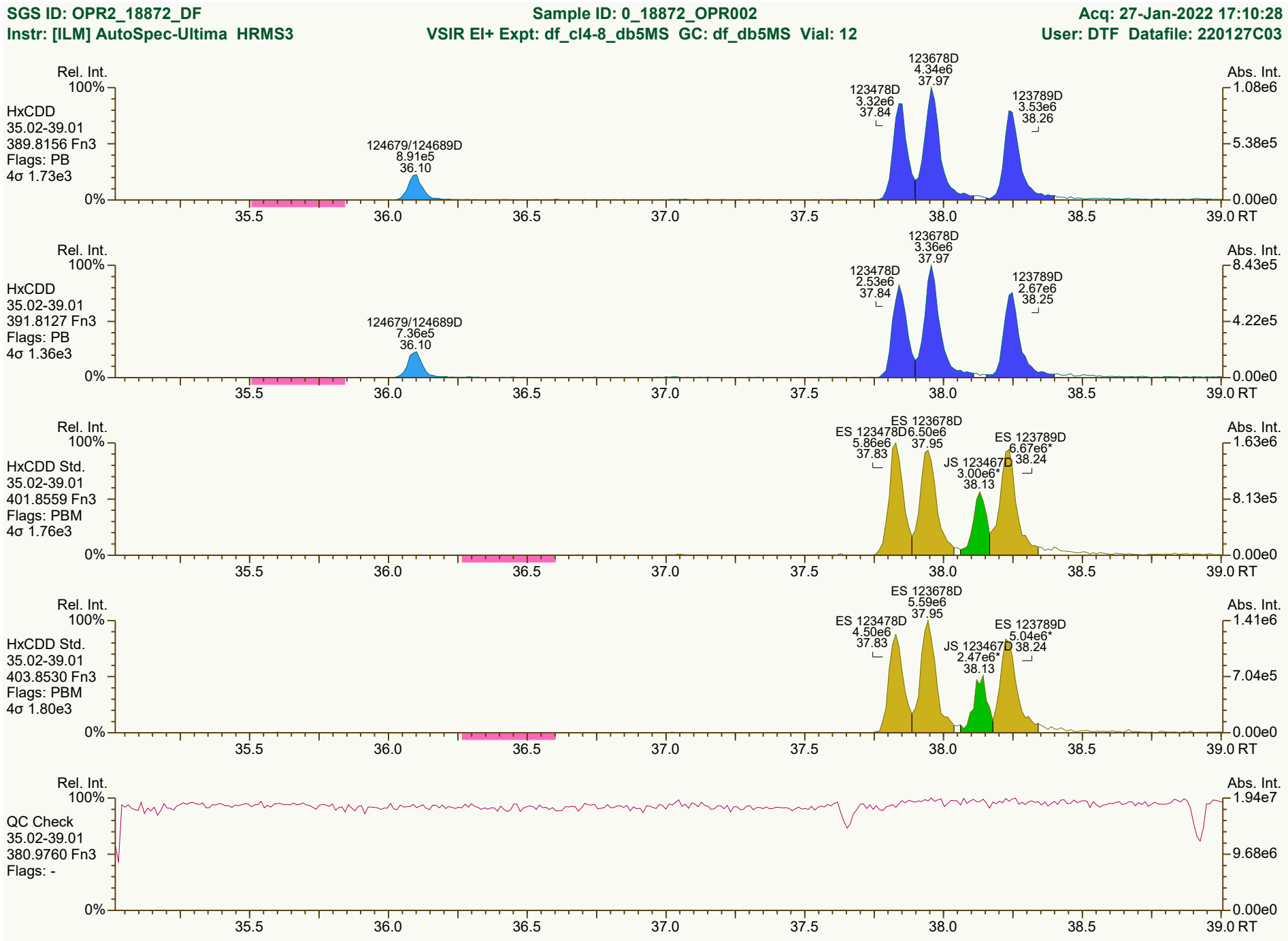
Sample ID: 0_18872_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 12

Acq: 27-Jan-2022 17:10:28
User: DTF Datafile: 220127C03



Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\OPR2_18872_DF.utp_res, saved 28-Jan-2022 09:47 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5300, 6198 scc: 122-983

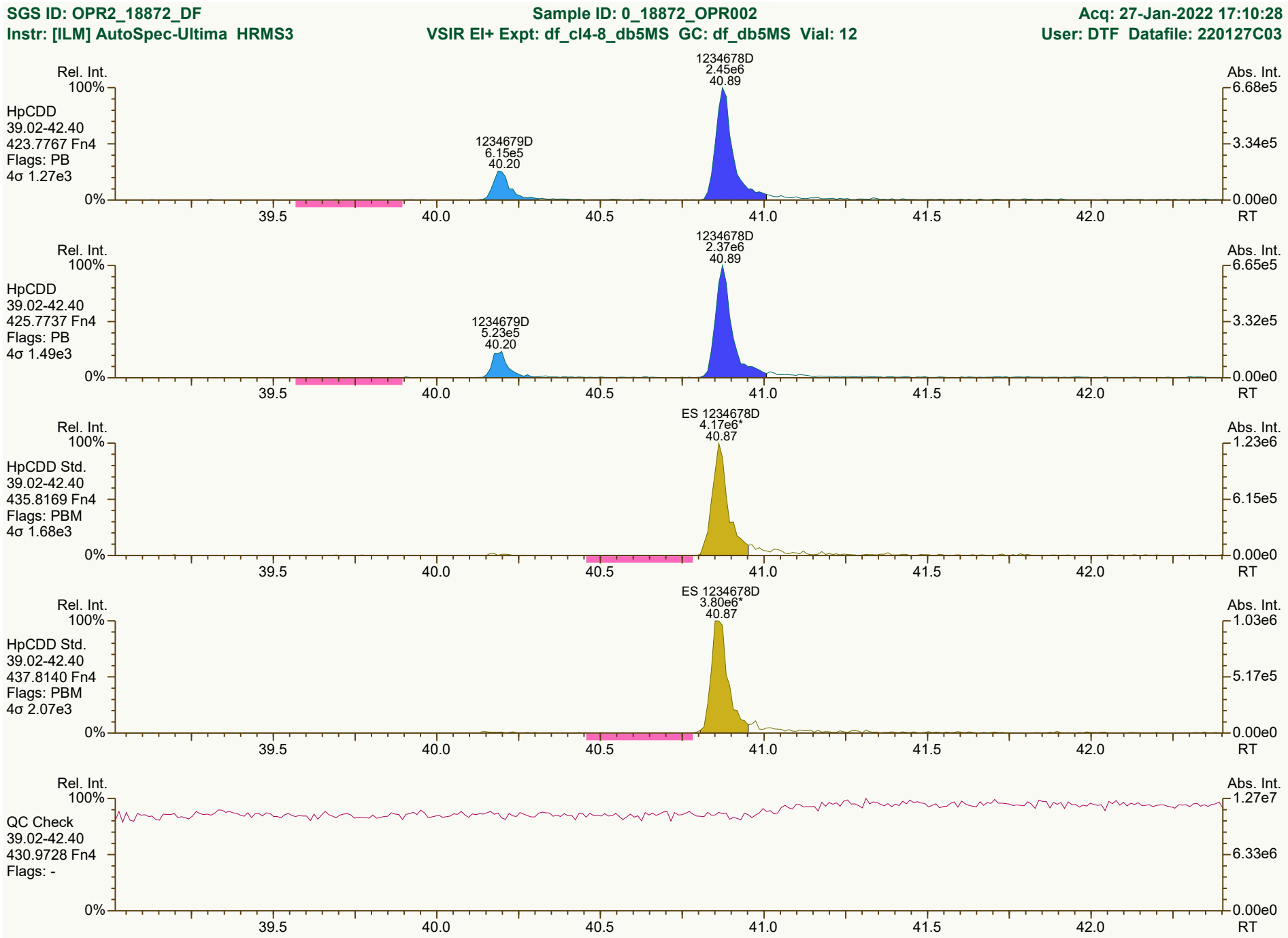
Peak annotation: Areas, Centroids
PKD: 28-Jan-2022 08:27 Printed: 28-Jan-2022 09:54 Page 3 of 12


SGS ID: OPR2_18872_DF
Sample ID: 0_18872_OPR002
Acq: 27-Jan-2022 17:10:28
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 12
User: DTF Datafile: 220127C03
Rel. Int.
Abs. Int.
HxCDD
35.02-39.01
389.8156 Fn3
Flags: PB
4σ 1.73e3
123678D
4.34e6
37.97
123478D
3.32e6
37.84
123789D
3.53e6
38.26
124679/124689D
8.91e5
36.10
1.08e6
5.38e5
0.00e0
HxCDD
35.02-39.01
391.8127 Fn3
Flags: PB
4σ 1.36e3
123678D
3.36e6
37.97
123478D
2.53e6
37.84
123789D
2.67e6
38.25
124679/124689D
7.36e5
36.10
8.43e5
4.22e5
0.00e0
HxCDD Std.
35.02-39.01
401.8559 Fn3
Flags: PBM
4σ 1.76e3
ES 123678D
6.50e6
37.95
ES 123478D
5.86e6
37.83
ES 123789D
6.67e6*
38.24
JS 123467D
3.00e6*
38.13
1.63e6
8.13e5
0.00e0
HxCDD Std.
35.02-39.01
403.8530 Fn3
Flags: PBM
4σ 1.80e3
ES 123678D
5.59e6
37.95
ES 123478D
4.50e6
37.83
ES 123789D
5.04e6*
38.24
JS 123467D
2.47e6*
38.13
1.41e6
7.04e5
0.00e0
QC Check
35.02-39.01
380.9760 Fn3
Flags: -
1.94e7
9.68e6
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\OPR2_18872_DF.utp_res, saved 28-Jan-2022 09:47 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1077, 8080 scc: 122-983
Revised: 28-Jan-2022 08:28 (DTF) Printed: 28-Jan-2022 09:54 Page 4 of 12

SGS ID: OPR2_18872_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

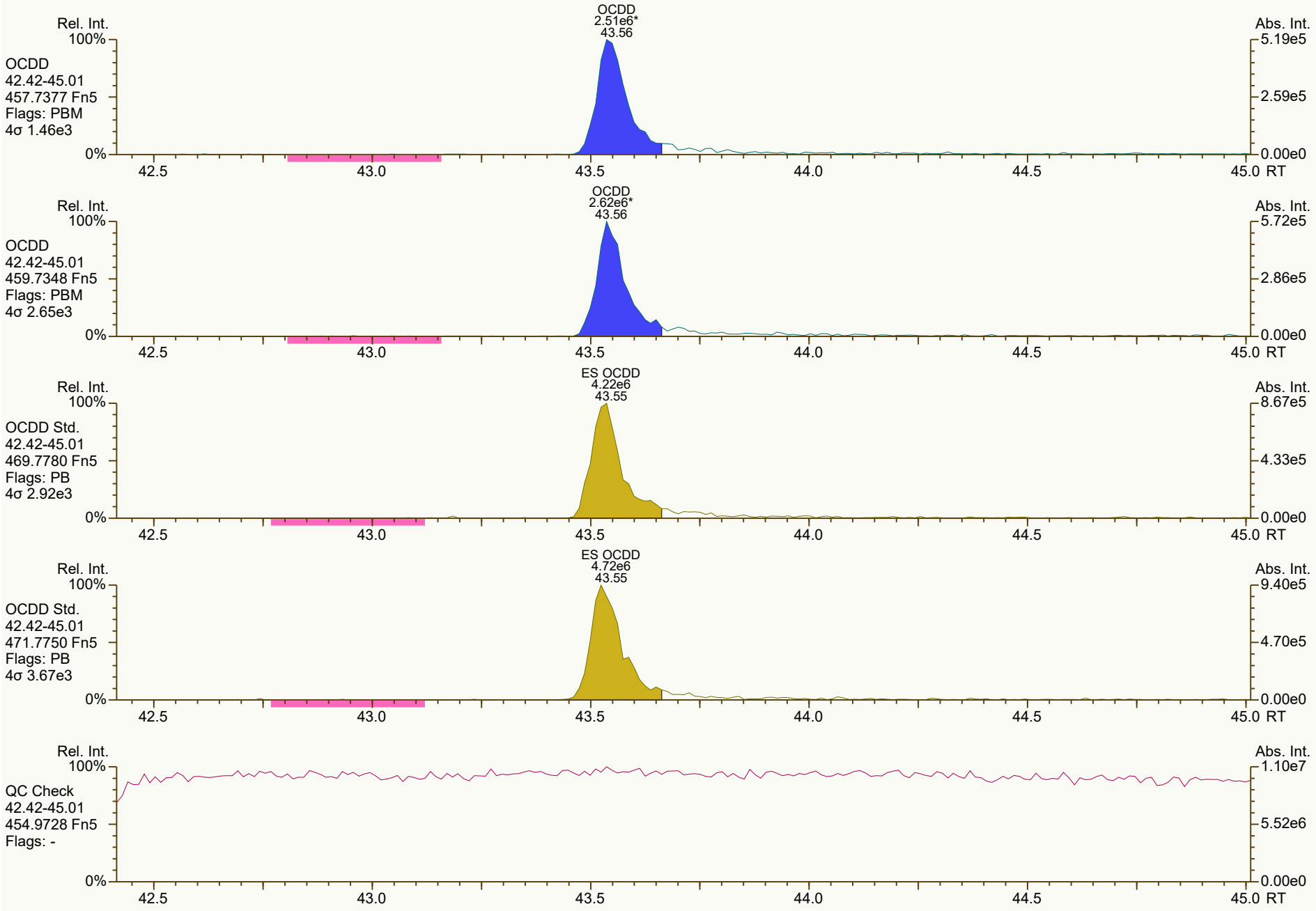
Sample ID: 0_18872_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 12

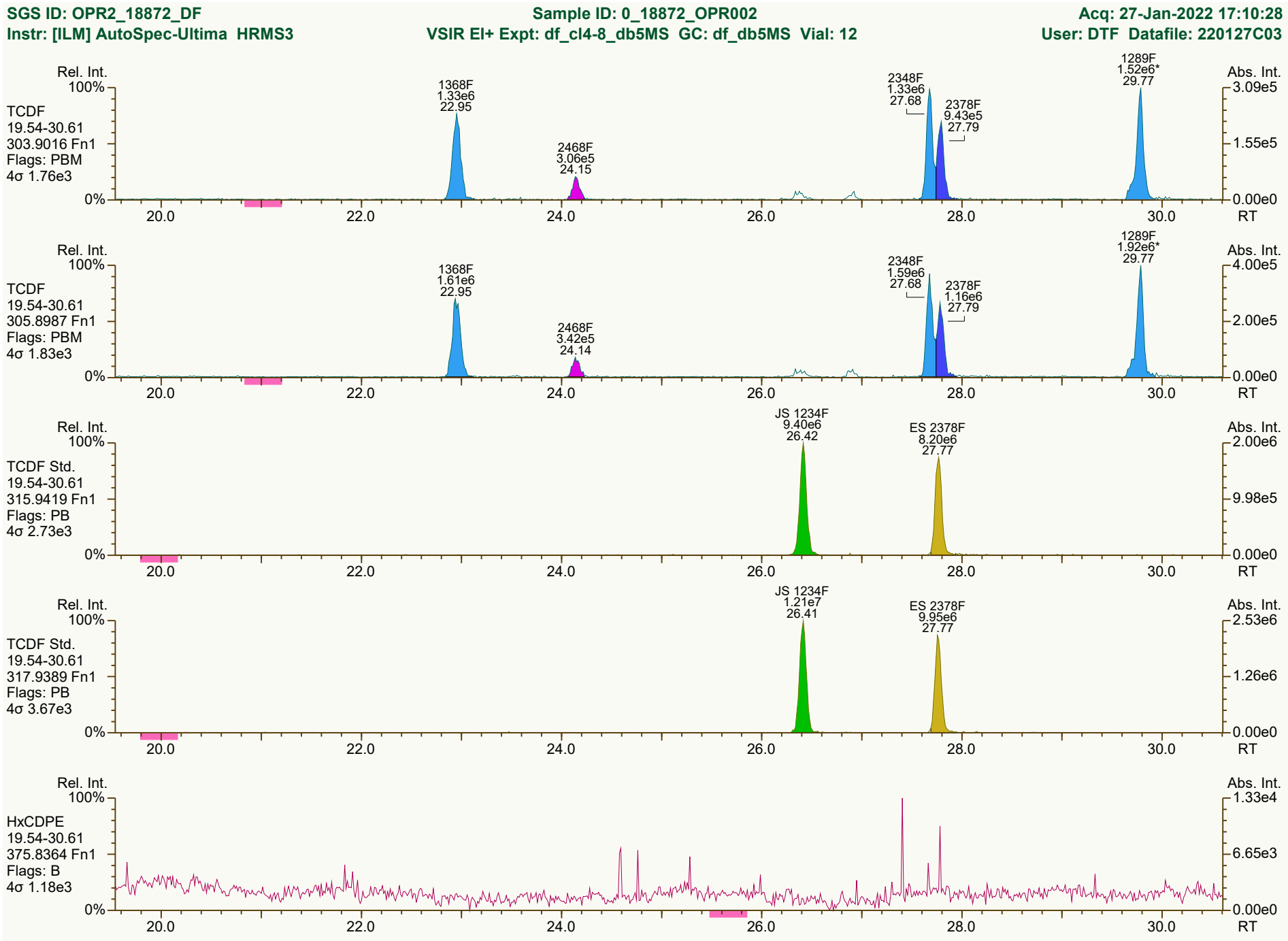
Acq: 27-Jan-2022 17:10:28
User: DTF Datafile: 220127C03



Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\OPR2_18872_DF.utp_res, saved 28-Jan-2022 09:47 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0488, 5128 scc: 122-983

Peak annotation: Areas, Centroids
Revised: 28-Jan-2022 08:28 (DTF) Printed: 28-Jan-2022 09:54 Page 5 of 12


OCDD
2.51e6*
43.56
Rel. Int.
100%
OCDD
42.42-45.01
457.7377 Fn5
Flags: PBM
4σ 1.46e3
0%
Abs. Int.
5.19e5
2.59e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.62e6*
43.56
OCDD
42.42-45.01
459.7348 Fn5
Flags: PBM
4σ 2.65e3
5.72e5
2.86e5
ES OCDD
4.22e6
43.55
OCDD Std.
42.42-45.01
469.7780 Fn5
Flags: PB
4σ 2.92e3
8.67e5
4.33e5
ES OCDD
4.72e6
43.55
OCDD Std.
42.42-45.01
471.7750 Fn5
Flags: PB
4σ 3.67e3
9.40e5
4.70e5
QC Check
42.42-45.01
454.9728 Fn5
Flags: -
1.10e7
5.52e6


SGS ID: OPR2_18872_DF
Sample ID: 0_18872_OPR002
Acq: 27-Jan-2022 17:10:28
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 12
User: DTF Datafile: 220127C03
Rel. Int.
Abs. Int.
TCDF
19.54-30.61
303.9016 Fn1
Flags: PBM
4σ 1.76e3
1368F 1.33e6 22.95
2468F 3.06e5 24.15
2348F 1.33e6 27.68
2378F 9.43e5 27.79
1289F 1.52e6* 29.77
TCDF
19.54-30.61
305.8987 Fn1
Flags: PBM
4σ 1.83e3
1368F 1.61e6 22.95
2468F 3.42e5 24.14
2348F 1.59e6 27.68
2378F 1.16e6 27.79
1289F 1.92e6* 29.77
TCDF Std.
19.54-30.61
315.9419 Fn1
Flags: PB
4σ 2.73e3
JS 1234F 9.40e6 26.42
ES 2378F 8.20e6 27.77
TCDF Std.
19.54-30.61
317.9389 Fn1
Flags: PB
4σ 3.67e3
JS 1234F 1.21e7 26.41
ES 2378F 9.95e6 27.77
HxCDPE
19.54-30.61
375.8364 Fn1
Flags: B
4σ 1.18e3
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\OPR2_18872_DF.utp_res, saved 28-Jan-2022 09:47 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1869, 4918, 1559 scc: 122-983
PKD: 28-Jan-2022 08:29 Printed: 28-Jan-2022 09:54 Page 7 of 12

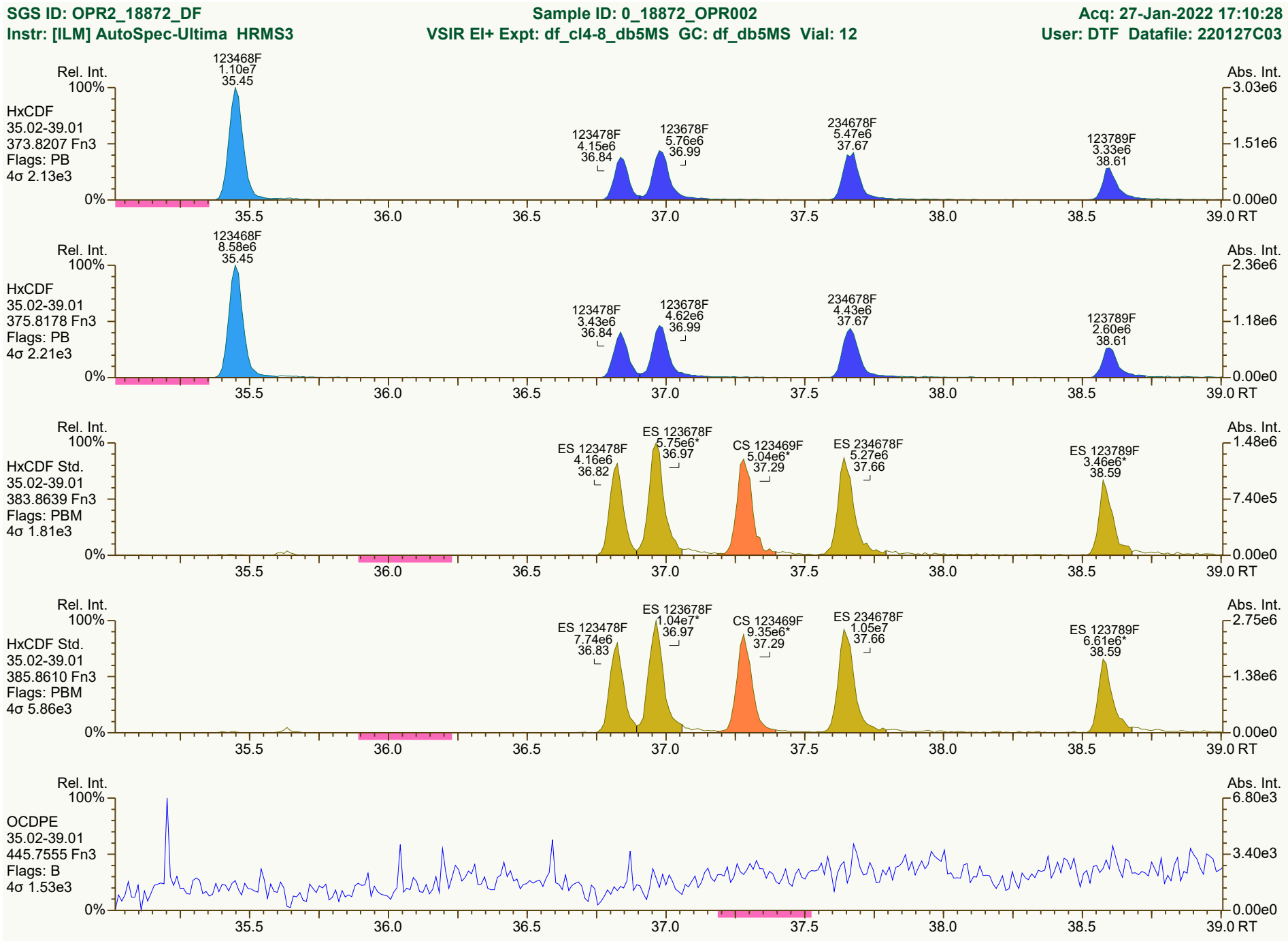

13468/12468F
9.19e6
29.69
Rel. Int.
100%
0%
Abs. Int.
2.35e6
1.18e6
0.00e0
PeCDF-1
19.54-30.61
339.8597 Fn1
Flags: PB
4σ 1.49e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
13468/12468F
5.76e6
29.68
Rel. Int.
100%
0%
Abs. Int.
1.33e6
6.66e5
0.00e0
PeCDF-1
19.54-30.61
341.8568 Fn1
Flags: PB
4σ 1.80e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
6.55e6
3.27e6
0.00e0
QC Check
19.54-30.61
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.62-35.00
339.8597 Fn2
Flags: PBM
4σ 2.71e3
12378F
5.55e6*
32.51
23478F
5.48e6
33.62
12389F
1.12e6
34.69
Abs. Int.
1.46e6
7.32e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.62-35.00
341.8568 Fn2
Flags: PBM
4σ 3.57e3
12378F
3.45e6*
32.51
23478F
3.50e6
33.61
12389F
7.49e5
34.69
Abs. Int.
9.27e5
4.63e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
351.9000 Fn2
Flags: PBM
4σ 2.97e3
CS 12346F
1.08e7*
31.96
ES 12378F
1.08e7
32.49
ES 23478F
1.04e7
33.60
Abs. Int.
2.83e6
1.42e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.62-35.00
353.8970 Fn2
Flags: PBM
4σ 1.75e3
CS 12346F
6.52e6*
31.96
ES 12378F
6.96e6
32.50
ES 23478F
6.67e6
33.60
Abs. Int.
1.87e6
9.37e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.62-35.00
409.7974 Fn2
Flags: B
4σ 1.43e3
Abs. Int.
6.74e3
3.37e3
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

SGS ID: OPR2_18872_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

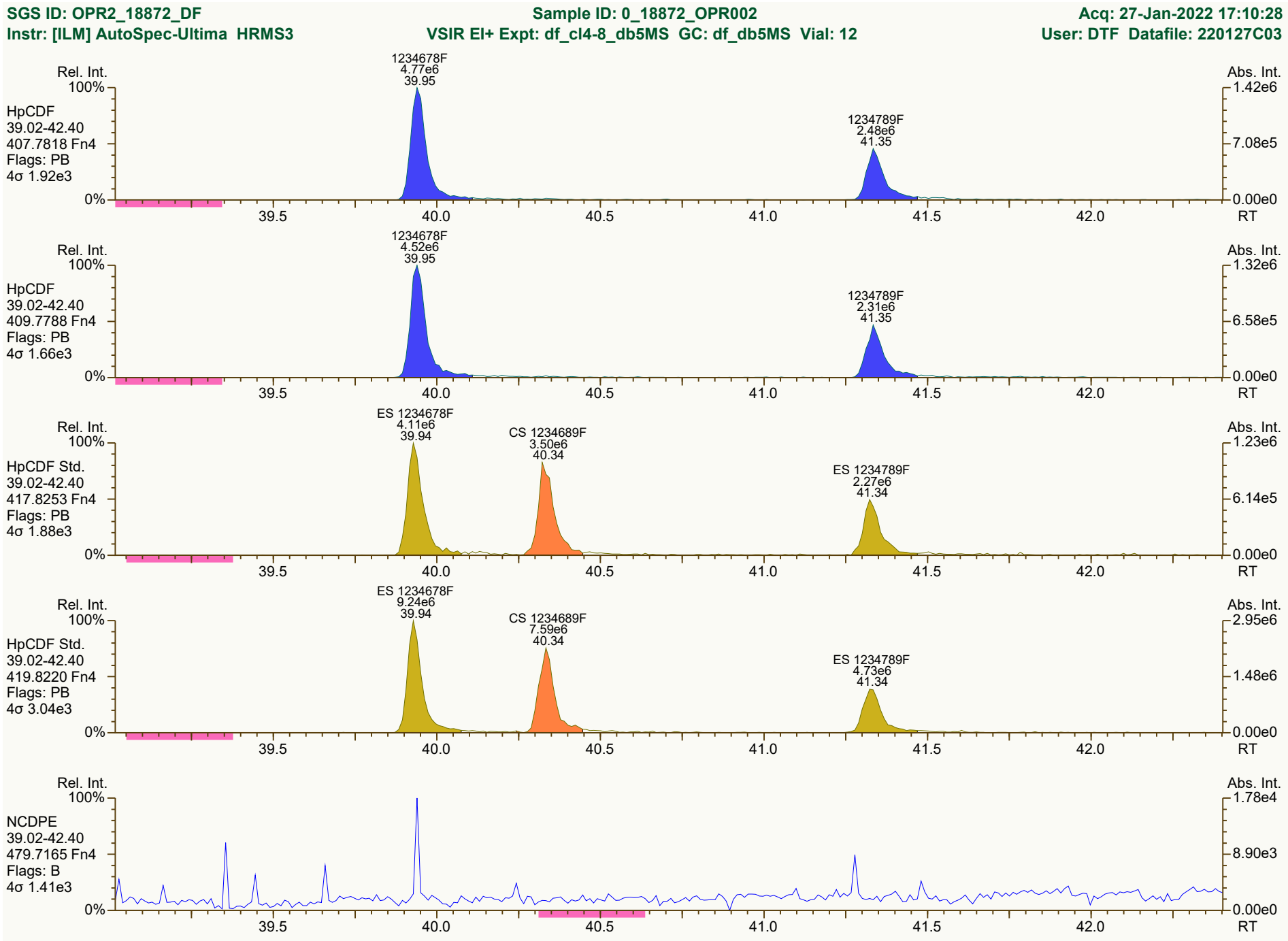
Sample ID: 0_18872_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 12

Acq: 27-Jan-2022 17:10:28
User: DTF Datafile: 220127C03



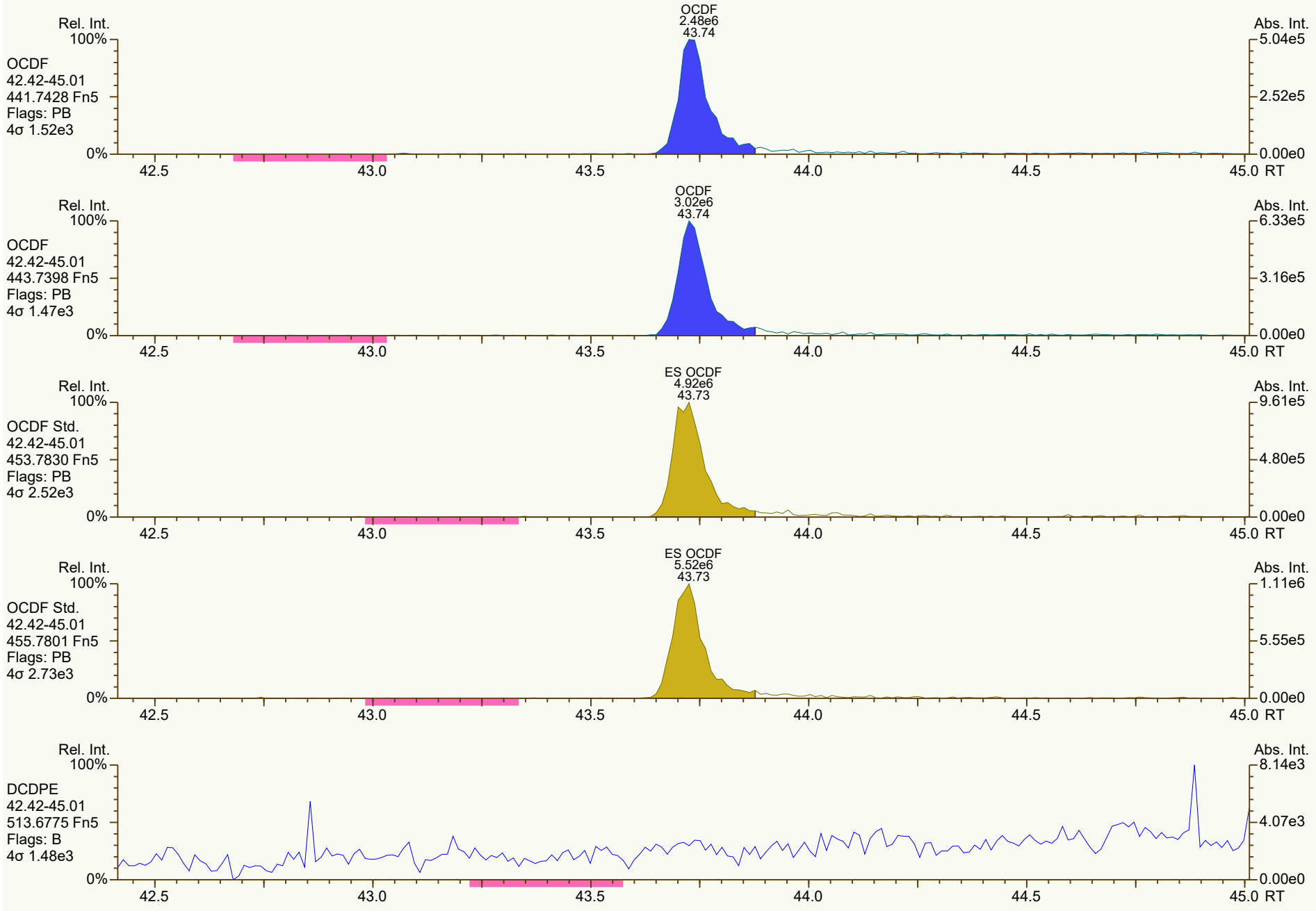
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\OPR2_18872_DF.utp_res, saved 28-Jan-2022 09:47 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4783, 8283, 1359 scc: 122-983

Peak annotation: Areas, Centroids
Revised: 28-Jan-2022 08:28 (DTF) Printed: 28-Jan-2022 09:54 Page 10 of 12


SGS ID: OPR2_18872_DF
Sample ID: 0_18872_OPR002
Acq: 27-Jan-2022 17:10:28
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 12
User: DTF Datafile: 220127C03
Rel. Int.
Abs. Int.
HpCDF
39.02-42.40
407.7818 Fn4
Flags: PB
4σ 1.92e3
1234678F
4.77e6
39.95
1234789F
2.48e6
41.35
1.42e6
7.08e5
0.00e0
HpCDF
39.02-42.40
409.7788 Fn4
Flags: PB
4σ 1.66e3
1234678F
4.52e6
39.95
1234789F
2.31e6
41.35
1.32e6
6.58e5
HpCDF Std.
39.02-42.40
417.8253 Fn4
Flags: PB
4σ 1.88e3
ES 1234678F
4.11e6
39.94
CS 1234689F
3.50e6
40.34
ES 1234789F
2.27e6
41.34
1.23e6
6.14e5
HpCDF Std.
39.02-42.40
419.8220 Fn4
Flags: PB
4σ 3.04e3
ES 1234678F
9.24e6
39.94
CS 1234689F
7.59e6
40.34
ES 1234789F
4.73e6
41.34
2.95e6
1.48e6
NCDPE
39.02-42.40
479.7165 Fn4
Flags: B
4σ 1.41e3
1.78e4
8.90e3
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\OPR2_18872_DF.utp_res, saved 28-Jan-2022 09:47 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5151, 1841, 5324 scc: 122-983
PKD: 28-Jan-2022 08:27 Printed: 28-Jan-2022 09:54 Page 11 of 12

SGS ID: OPR2_18872_DF | Sample ID: 0_18872_OPR002 | Acq: 27-Jan-2022 17:10:28

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 12 | User: DTF Datafile: 220127C03



Results: P:\B6200_B6299\B6234\B6234_18872 DF\Resources\OPR2_18872_DF.utp_res, saved 28-Jan-2022 09:47 (DTF)

Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8333, 8512, 1062 scc: 122-983

PKD: 28-Jan-2022 08:27 Printed: 28-Jan-2022 09:54 Page 12 of 12



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6235

14-Feb-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

Meagan Willis

11451 Katy Fwy #400
Houston, TX 77079
Phone: 713-907-3710
Email: Meagan.Willis@ghd.com

This report is approved by

Tamara Burkamper

tamara.burkamper@sgs.com

Senior Project Manager

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

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6235
Analytical Protocol(s)	1613B
No. Samples Submitted	13
Additional QC Sample(s)	MS/MSD
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	1
Date Received	26-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	0.2, 0.0
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

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

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

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996 and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.14.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was a client designated MS/MSD analyzed for precision.

Data processing uses proprietary software.

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

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

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

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

Continuing Calibrations meet requirements, except for CS3_220210_DF_CC: the reported percent deviation of CS 1,2,3,4,6,8,9-HpCDF is above SOP criteria. There is no method specified criteria for this standard and no adverse impact on results.

No re-extractions or dilutions were required.

B6235_004, B6235_010: the reported concentration of 2,3,4,7,8-PeCDF is qualified as Poorly Resolved (PR); peak shapes indicate a small contribution from 1,2,3,4,8,9-PeCDF, however, the retention time (RT) is not affected. There is no impact on totals, although a slight increase in TEQ.

OPR1_18875 meets accuracy.

MS/MSD set does not meet criteria for several compounds due to the high concentrations in the parent sample.

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

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

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

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

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

APPENDIX C: LAB IDENTIFIERS

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

SGS CERTIFICATIONS

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

Rev. 12-Oct-2021

Sample ID: 11215131-012122-S-BN-NC-O-37 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID	B6235_18875_DF_001	Date Extracted:	03-Feb-2022
Date Collected:	21-Jan-2022	% Solid:	76.9 %	QC Batch No:	18875	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:27:46

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1,060			E	ES 2378-TCDD	71.9	
12378-PeCDD	13.5				ES 12378-PeCDD	77.7	
123478-HxCDD	3.51				ES 123478-HxCDD	77.2	
123678-HxCDD	20.9				ES 123678-HxCDD	79.8	
123789-HxCDD	8.37				ES 123789-HxCDD	77.8	
1234678-HpCDD	625				ES 1234678-HpCDD	76.2	
OCDD	13,900			E	ES OCDD	86.1	
2378-TCDF	2,910			E	ES 2378-TCDF	71.4	
12378-PeCDF	117				ES 12378-PeCDF	75.6	
23478-PeCDF	87.7				ES 23478-PeCDF	74.2	
123478-HxCDF	198				ES 123478-HxCDF	80.8	
123678-HxCDF	55.9				ES 123678-HxCDF	82	
234678-HxCDF	14.5				ES 234678-HxCDF	83.1	
123789-HxCDF	ND	0.268			ES 123789-HxCDF	76.9	
1234678-HpCDF	141				ES 1234678-HpCDF	80.3	
1234789-HpCDF	29.3				ES 1234789-HpCDF	78.3	
OCDF	253				ES OCDF	83.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	68.9	
Total TCDD	1,180		1,190		CS 12347-PeCDD	78.2	
Total PeCDD	28.2		38		CS 12346-PeCDF	74.3	
Total HxCDD	164		169		CS 123469-HxCDF	85.5	
Total HpCDD	1,270		1,270		CS 1234689-HpCDF	87.9	
Total TCDF	5,720		5,720				
Total PeCDF	380		380				
Total HxCDF	411		411				
Total HpCDF	367		367				
Total PCDD/Fs	**23,600**		**23,600**				
WHO-2005 TEQs							
TEQ: ND=0	1440		1440				
TEQ: ND=DL/2	1440	0.485	1440				
TEQ: ND=DL	1440	0.97	1440				

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

Sample ID: 11215131-012122-S-BN-NC-O-37 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID:	B6235_18875_DF_001	Date Extracted:	03-Feb-2022
Date Collected:	21-Jan-2022	% Solid:	76.9 %	QC Batch No.:	18875	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:27:46

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	10.2		12479/12468D	6.04		124679/124689D	52.4		1234679D	641	
1379D	3.13		12469D	[2.65]		123468D	8.18		1234678D	625	
1369D	0.676		12368D	3.91		123679/123689D	70.9				
1469D	1.66		12478D	[3.88]		123469D	[2.8]				
1247D...[4]	2.57		12379D	[1.69]	J	123478D	3.51				
1378D	4.68		12369D...[3]	2.97		123678D	20.9				
1268D	[0.547]		12346/12347D	[1.5]	J	123467D	[2.09]	J			
1478D	2.89		12378D	13.5		123789D	8.37		**Conc.**	1,270	
1279D	(0.29)		12367D	0.876	J				**EMPC**	1,270	
1234/1269D	[1.24]		12389D	0.916	J						
1236D	(0.29)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	17.1										
1239D	(0.29)								OCDD	13900	E
2378D	1060	E									
1278D	78.4										
1267D	(0.29)										
1289D	2.16										
Conc.	1,180		**Conc.**	28.2		**Conc.**	164				
EMPC	1,190		**EMPC**	38		**EMPC**	169				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	1,440	1,440
TEQ: ND=DL/2	1,440	1,440
TEQ: ND=DL	1,440	1,440

	Conc.	EMPC
Total PCDD/Fs	23,600	23,600

Checkcode: 889-891-FTW

Report Created: 11-Feb-2022 16:28 Analyst: TF

Sample ID: 11215131-012122-S-BN-NC-O-37 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID:	B6235_18875_DF_001	Date Extracted:	03-Feb-2022
Date Collected:	21-Jan-2022	% Solid:	76.9 %	QC Batch No.:	18875	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:27:46

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.44		13468/12468F	25.3		123468F	11.3		1234678F	141	
1468F	5.88		13678F...[3]	6.1		124678/134678F	54.2		1234679F	3.64	
2468F	8.74		12368F...[3]	65		134679F	(0.247)		1234689F	193	
1346/1246F	(0.17)		14678F	(0.211)		124679F	1.81	J	1234789F	29.3	
1347F...[3]	37.5		13479F	(0.211)		124689F	56.3				
1348F	(0.17)		13469/12479F	2.56		123467F	3.53				
1248F...[3]	152		12346F	1.07	J	123478F	198				
1268F	49.9		23468/12469F	6.81		123678F	55.9				
1467F	7.7		12347F	2.93		123479F	(0.247)				
1478F	125		12348F	11.4		123469F	(0.247)				
1369/1237F	32.4		12378F	117		123679F	(0.247)				
2467F	4.79		12678/12367F	45.3		234678F	14.5		**Conc.**	367	
2368F	91.9		12379F	(0.211)		234678/123689F	0		**EMPC**	367	
1238F...[5]	144		12679F	(0.211)		123689F	(0.247)				
1278F	1330	E	23467/12369F	3.09		123789F	(0.268)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.17)		23478F	87.7		123789/123489F	0				
1267F	77.3		23478/12489F	0		123489F	15.2		OCDF	253	
2346/1249F	9.87		12489F	(0.211)							
2347/1279F	37.7		12349F	(0.211)							
2348F	203		12389F	5.71							
2378F	2910	E									
2367/3467F	232										
1269F	45.9										
1239F	(0.17)										
1289F	213										
Conc.	5,720		**Conc.**	380		**Conc.**	411				
EMPC	5,720		**EMPC**	380		**EMPC**	411				

Checkcode: 889-891-FTW

Report Created: 11-Feb-2022 16:28 Analyst: TF

Sample ID: 11215131-012122-S-BN-NC-O-37 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6235_18875_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	QC Batch No.:	18875
Date Collected:	21-Jan-2022	Split:	-	Date Extracted:	03-Feb-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	10-Feb-2022 22:27
Lab Project No:	B6235	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1060	E	0.29	1060	1060	1060
12378-PeCDD	13.5		0.279	6.76	13.5	13.5
123478-HxCDD	3.51		0.727	0.351	0.351	0.351
123678-HxCDD	20.9		0.64	2.09	2.09	2.09
123789-HxCDD	8.37		0.647	0.837	0.837	0.837
1234678-HpCDD	625		0.606	6.25	6.25	6.25
OCDD	13900	E	1.43	13.9	1.39	4.16
2378-TCDF	2910	E	0.17	291	291	291
12378-PeCDF	117		0.206	5.85	5.85	3.51
23478-PeCDF	87.7		0.216	43.9	43.9	26.3
123478-HxCDF	198		0.236	19.8	19.8	19.8
123678-HxCDF	55.9		0.232	5.59	5.59	5.59
234678-HxCDF	14.5		0.255	1.45	1.45	1.45
123789-HxCDF	(0.268)		0.268	(0.0268)	(0.0268)	(0.0268)
1234678-HpCDF	141		0.223	1.41	1.41	1.41
1234789-HpCDF	29.3		0.308	0.293	0.293	0.293
OCDF	253		0.91	0.253	0.0253	0.076

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TEQ Summaries			
EMPC = 0, ND = 0	1460	1450	1440
EMPC = 0, ND = DL / 2	1460	1450	1440
EMPC = 0, ND = DL	1460	1450	1440
EMPC = 0, < J-level = 0	1460	1450	1440
EMPC = EMPC, ND = 0	1460	1450	1440
EMPC = EMPC, ND = DL / 2	1460	1450	1440
EMPC = EMPC, ND = DL	1460	1450	1440
EMPC = EMPC, < J-level = 0	1460	1450	1440

Checkcode: 889-891-FTW

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Sample ID: 11215131-012122-S-BN-NC-O-38 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.20 g	Lab Sample ID	B6235_18875_DF_002	Date Extracted:	03-Feb-2022
Date Collected:	21-Jan-2022	% Solid:	81.5 %	QC Batch No:	18875	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:14:05

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1,740			E	ES 2378-TCDD	89.2	
12378-PeCDD	17.6				ES 12378-PeCDD	93.5	
123478-HxCDD	EMPC		1.09	J	ES 123478-HxCDD	89.4	
123678-HxCDD	4.41				ES 123678-HxCDD	95	
123789-HxCDD	2.26			J	ES 123789-HxCDD	88.8	
1234678-HpCDD	163				ES 1234678-HpCDD	87.4	
OCDD	4,050				ES OCDD	90.3	
2378-TCDF	4,770			E	ES 2378-TCDF	90.6	
12378-PeCDF	178				ES 12378-PeCDF	92.8	
23478-PeCDF	137				ES 23478-PeCDF	95.3	
123478-HxCDF	300				ES 123478-HxCDF	90.8	
123678-HxCDF	75.2				ES 123678-HxCDF	97.1	
234678-HxCDF	15.3				ES 234678-HxCDF	106	
123789-HxCDF	ND	0.245			ES 123789-HxCDF	87.1	
1234678-HpCDF	81.7				ES 1234678-HpCDF	102	
1234789-HpCDF	34.1				ES 1234789-HpCDF	87.9	
OCDF	88.1				ES OCDF	84.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	88.2	
Total TCDD	1,920		1,930		CS 12347-PeCDD	104	
Total PeCDD	23.2		32.5		CS 12346-PeCDF	98.3	
Total HxCDD	60.9		62		CS 123469-HxCDF	108	
Total HpCDD	357		357		CS 1234689-HpCDF	105	
Total TCDF	9,170		9,170				
Total PeCDF	499		499				
Total HxCDF	467		468				
Total HpCDF	166		166				
Total PCDD/Fs	**16,800**		**16,800**				
WHO-2005 TEQs							
TEQ: ND=0	2320		2320				
TEQ: ND=DL/2	2320	0.466	2320				
TEQ: ND=DL	2320	0.932	2320				

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Sample ID: 11215131-012122-S-BN-NC-O-38 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.20 g	Lab Sample ID:	B6235_18875_DF_002	Date Extracted:	03-Feb-2022
Date Collected:	21-Jan-2022	% Solid:	81.5 %	QC Batch No.:	18875	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:14:05

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[3.03]		12479/12468D	3.18		124679/124689D	33.2		1234679D	194	
1379D	1.69		12469D	[3.12]		123468D	2.59		1234678D	163	
1369D	[0.472]	J	12368D	[2.53]		123679/123689D	16.1				
1469D	5.92		12478D	1.7	J	123469D	1.36	J			
1247D...[4]	2.69		12379D	[1.09]	J	123478D	[1.09]	J			
1378D	5.12		12369D...[3]	[1.3]	J	123678D	4.41				
1268D	0.524		12346/12347D	0.688	J	123467D	0.926	J			
1478D	5.05		12378D	17.6		123789D	2.26	J	**Conc.**	357	
1279D	(0.316)		12367D	[0.695]	J				**EMPC**	357	
1234/1269D	[0.996]		12389D	[0.58]	J						
1236D	(0.316)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	26										
1239D	(0.316)								OCDD	4050	
2378D	1740	E									
1278D	130										
1267D	4.95										
1289D	[3.11]										
Conc.	1,920		**Conc.**	23.2		**Conc.**	60.9				
EMPC	1,930		**EMPC**	32.5		**EMPC**	62				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	2,320	2,320
TEQ: ND=DL/2	2,320	2,320
TEQ: ND=DL	2,320	2,320

	Conc.	EMPC
Total PCDD/Fs	16,800	16,800

Checkcode: 165-566-YHK

Report Created: 11-Feb-2022 16:28 Analyst: TF

Sample ID: 11215131-012122-S-BN-NC-O-38 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received: 26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.20 g	Lab Sample ID:	B6235_18875_DF_002	Date Extracted: 03-Feb-2022
Date Collected:	21-Jan-2022	% Solid:	81.5 %	QC Batch No.:	18875	Date Analyzed: 10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed: 23:14:05

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.36		13468/12468F	6.07		123468F	4.55		1234678F	81.7	
1468F	7.38		13678F...[3]	3.09		124678/134678F	29.2		1234679F	1.41	J
2468F	5.48		12368F...[3]	82.2		134679F	(0.225)		1234689F	48.8	
1346/1246F	(0.149)		14678F	(0.274)		124679F	[0.268]	J	1234789F	34.1	
1347F...[3]	56.6		13479F	(0.274)		124689F	17.6				
1348F	(0.149)		13469/12479F	(0.274)		123467F	2.09	J			
1248F...[3]	238		12346F	(0.274)		123478F	300				
1268F	77.1		23468/12469F	4.81		123678F	75.2				
1467F	10.1		12347F	3.98		123479F	(0.225)				
1478F	191		12348F	16.7		123469F	(0.225)				
1369/1237F	48.9		12378F	178		123679F	(0.225)				
2467F	6		12678/12367F	56.1		234678F	15.3		**Conc.**	166	
2368F	113		12379F	(0.274)		234678/123689F	0		**EMPC**	166	
1238F...[5]	255		12679F	(0.274)		123689F	(0.225)				
1278F	2090	E	23467/12369F	3.26		123789F	(0.245)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.149)		23478F	137		123789/123489F	0				
1267F	116		23478/12489F	0		123489F	23.9		OCDF	88.1	
2346/1249F	15		12489F	(0.274)							
2347/1279F	57.9		12349F	(0.274)							
2348F	328		12389F	7.48							
2378F	4770	E									
2367/3467F	377										
1269F	68.3										
1239F	6.39										
1289F	330										
Conc.	9,170		**Conc.**	499		**Conc.**	467				
EMPC	9,170		**EMPC**	499		**EMPC**	468				

Checkcode: 165-566-YHK

Report Created: 11-Feb-2022 16:28 Analyst: TF

Sample ID: 11215131-012122-S-BN-NC-O-38 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6235_18875_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.20 g	QC Batch No.:	18875
Date Collected:	21-Jan-2022	Split:	-	Date Extracted:	03-Feb-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	10-Feb-2022 23:14
Lab Project No:	B6235	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1740	E	0.316	1740	1740	1740
12378-PeCDD	17.6		0.302	8.82	17.6	17.6
123478-HxCDD	[1.09]	J	0.379	[0.109]	[0.109]	[0.109]
123678-HxCDD	4.41		0.337	0.441	0.441	0.441
123789-HxCDD	2.26	J	0.337	0.226	0.226	0.226
1234678-HpCDD	163		0.605	1.63	1.63	1.63
OCDD	4050		1.55	4.05	0.405	1.22
2378-TCDF	4770	E	0.149	477	477	477
12378-PeCDF	178		0.284	8.91	8.91	5.35
23478-PeCDF	137		0.264	68.5	68.5	41.1
123478-HxCDF	300		0.244	30	30	30
123678-HxCDF	75.2		0.22	7.52	7.52	7.52
234678-HxCDF	15.3		0.2	1.53	1.53	1.53
123789-HxCDF	(0.245)		0.245	(0.0245)	(0.0245)	(0.0245)
1234678-HpCDF	81.7		0.316	0.817	0.817	0.817
1234789-HpCDF	34.1		0.541	0.341	0.341	0.341
OCDF	88.1		0.519	0.0881	0.00881	0.0264

TEQ Summaries			
EMPC = 0, ND = 0	2350	2350	2320
EMPC = 0, ND = DL / 2	2350	2350	2320
EMPC = 0, ND = DL	2350	2350	2320
EMPC = 0, < J-level = 0	2350	2350	2320
EMPC = EMPC, ND = 0	2350	2350	2320
EMPC = EMPC, ND = DL / 2	2350	2350	2320
EMPC = EMPC, ND = DL	2350	2350	2320
EMPC = EMPC, < J-level = 0	2350	2350	2320

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Checkcode: 165-566-YHK

Sample ID: 11215131-012222-S-BN-NC-O-36 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.10 g	Lab Sample ID	B6235_18875_DF_003	Date Extracted:	03-Feb-2022
Date Collected:	22-Jan-2022	% Solid:	81.9 %	QC Batch No:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:00:25

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	219				ES 2378-TCDD	89.4	
12378-PeCDD	EMPC		2.41	J	ES 12378-PeCDD	92	
123478-HxCDD	0.938			J	ES 123478-HxCDD	90.3	
123678-HxCDD	2.45			J	ES 123678-HxCDD	99.9	
123789-HxCDD	1.98			J	ES 123789-HxCDD	91.8	
1234678-HpCDD	82.7				ES 1234678-HpCDD	91	
OCDD	3,730				ES OCDD	96.4	
2378-TCDF	606				ES 2378-TCDF	84.9	
12378-PeCDF	29.5				ES 12378-PeCDF	89.1	
23478-PeCDF	20.5				ES 23478-PeCDF	90.1	
123478-HxCDF	44.3				ES 123478-HxCDF	90.6	
123678-HxCDF	13.1				ES 123678-HxCDF	95	
234678-HxCDF	3.16				ES 234678-HxCDF	107	
123789-HxCDF	ND	0.229			ES 123789-HxCDF	89.4	
1234678-HpCDF	19.5				ES 1234678-HpCDF	107	
1234789-HpCDF	5.53				ES 1234789-HpCDF	86.7	
OCDF	31.2				ES OCDF	91.5	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	92.3	
Total TCDD	243		247		CS 12347-PeCDD	104	
Total PeCDD	4.04		7.04		CS 12346-PeCDF	96.3	
Total HxCDD	27.8		28.2		CS 123469-HxCDF	109	
Total HpCDD	192		192		CS 1234689-HpCDF	109	
Total TCDF	1,210		1,210				
Total PeCDF	83.1		84.3				
Total HxCDF	81		81.8				
Total HpCDF	44.2		44.2				
Total PCDD/Fs	**5,650**		**5,660**				
WHO-2005 TEQs							
TEQ: ND=0	296		298				
TEQ: ND=DL/2	296	0.304	298				
TEQ: ND=DL	296	0.607	298				

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Sample ID: 11215131-012222-S-BN-NC-O-36 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.10 g	Lab Sample ID:	B6235_18875_DF_003	Date Extracted:	03-Feb-2022
Date Collected:	22-Jan-2022	% Solid:	81.9 %	QC Batch No.:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:00:25

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	1.1		12479/12468D	1.23	J	124679/124689D	11.2		1234679D	109	
1379D	0.236	J	12469D	1.04	J	123468D	1.3	J	1234678D	82.7	
1369D	(0.21)		12368D	[0.595]	J	123679/123689D	9.09				
1469D	0.719		12478D	0.632	J	123469D	0.819	J			
1247D...[4]	(0.21)		12379D	0.39	J	123478D	0.938	J			
1378D	0.7		12369D...[3]	0.753	J	123678D	2.45	J			
1268D	(0.21)		12346/12347D	(0.196)		123467D	[0.389]	J			
1478D	0.614		12378D	[2.41]	J	123789D	1.98	J	**Conc.**	192	
1279D	(0.21)		12367D	(0.196)					**EMPC**	192	
1234/1269D	(0.21)		12389D	(0.196)							
1236D	(0.21)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	[3.13]										
1239D	(0.21)								OCDD	3730	
2378D	219										
1278D	21										
1267D	(0.21)										
1289D	(0.21)										
Conc.	243		**Conc.**	4.04		**Conc.**	27.8				
EMPC	247		**EMPC**	7.04		**EMPC**	28.2				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	296	298
TEQ: ND=DL/2	296	298
TEQ: ND=DL	296	298

	Conc.	EMPC
Total PCDD/Fs	5,650	5,660

Checkcode: 623-032-BJZ

Report Created: 11-Feb-2022 16:28 Analyst: TF

Sample ID: 11215131-012222-S-BN-NC-O-36 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.10 g	Lab Sample ID:	B6235_18875_DF_003	Date Extracted:	03-Feb-2022
Date Collected:	22-Jan-2022	% Solid:	81.9 %	QC Batch No.:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:00:25

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.141)		13468/12468F	3.41		123468F	1.77	J	1234678F	19.5	
1468F	[1.01]		13678F...[3]	0.933	J	124678/134678F	8.94		1234679F	0.623	J
2468F	[1.21]		12368F...[3]	14.2		134679F	(0.203)		1234689F	18.6	
1346/1246F	(0.141)		14678F	(0.158)		124679F	(0.203)		1234789F	5.53	
1347F...[3]	7.84		13479F	(0.158)		124689F	5.77				
1348F	(0.141)		13469/12479F	(0.158)		123467F	[0.839]	J			
1248F...[3]	33.3		12346F	(0.158)		123478F	44.3				
1268F	10.8		23468/12469F	1.24	J	123678F	13.1				
1467F	[1.26]		12347F	[0.538]	J	123479F	(0.203)				
1478F	25.6		12348F	2.67		123469F	(0.203)				
1369/1237F	6.59		12378F	29.5		123679F	(0.203)				
2467F	1.21		12678/12367F	9.69		234678F	3.16		**Conc.**	44.2	
2368F	24		12379F	(0.158)		234678/123689F	0		**EMPC**	44.2	
1238F...[5]	27		12679F	(0.158)		123689F	(0.203)				
1278F	280		23467/12369F	[0.657]	J	123789F	(0.229)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.141)		23478F	20.5		123789/123489F	0			**(pg/g)**	
1267F	15.7		23478/12489F	0		123489F	4		OCDF	31.2	
2346/1249F	2.04		12489F	(0.158)							
2347/1279F	8.7		12349F	(0.158)							
2348F	48.1		12389F	0.91	J						
2378F	606										
2367/3467F	51.3										
1269F	9.55										
1239F	(0.141)										
1289F	49.9										
Conc.	1,210		**Conc.**	83.1		**Conc.**	81				
EMPC	1,210		**EMPC**	84.3		**EMPC**	81.8				

Checkcode: 623-032-BJZ

Report Created: 11-Feb-2022 16:28 Analyst: TF

Sample ID: 11215131-012222-S-BN-NC-O-36 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6235_18875_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.10 g	QC Batch No.:	18875
Date Collected:	22-Jan-2022	Split:	-	Date Extracted:	03-Feb-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	11-Feb-2022 00:00
Lab Project No:	B6235	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	219		0.21	219	219	219
12378-PeCDD	[2.41]	J	0.196	[1.21]	[2.41]	[2.41]
123478-HxCDD	0.938	J	0.161	0.0938	0.0938	0.0938
123678-HxCDD	2.45	J	0.145	0.245	0.245	0.245
123789-HxCDD	1.98	J	0.147	0.198	0.198	0.198
1234678-HpCDD	82.7		0.383	0.827	0.827	0.827
OCDD	3730		0.818	3.73	0.373	1.12
2378-TCDF	606		0.141	60.6	60.6	60.6
12378-PeCDF	29.5		0.158	1.47	1.47	0.884
23478-PeCDF	20.5		0.157	10.3	10.3	6.16
123478-HxCDF	44.3		0.21	4.43	4.43	4.43
123678-HxCDF	13.1		0.199	1.31	1.31	1.31
234678-HxCDF	3.16		0.182	0.316	0.316	0.316
123789-HxCDF	(0.229)		0.229	(0.0229)	(0.0229)	(0.0229)
1234678-HpCDF	19.5		0.131	0.195	0.195	0.195
1234789-HpCDF	5.53		0.236	0.0553	0.0553	0.0553
OCDF	31.2		0.242	0.0312	0.00312	0.00935

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TEQ Summaries			
EMPC = 0, ND = 0	303	299	296
EMPC = 0, ND = DL / 2	303	300	296
EMPC = 0, ND = DL	303	300	296
EMPC = 0, < J-level = 0	302	299	295
EMPC = EMPC, ND = 0	304	302	298
EMPC = EMPC, ND = DL / 2	304	302	298
EMPC = EMPC, ND = DL	304	302	298
EMPC = EMPC, < J-level = 0	302	299	295

Checkcode: 623-032-BJZ

Sample ID: 11215131-012222-S-BN-NC-O-35 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID	B6235_18875_DF_004	Date Extracted:	03-Feb-2022
Date Collected:	22-Jan-2022	% Solid:	77.9 %	QC Batch No:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:46:45

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	366				ES 2378-TCDD	93.2	
12378-PeCDD	4.5				ES 12378-PeCDD	97.1	
123478-HxCDD	EMPC		1.14	J	ES 123478-HxCDD	95	
123678-HxCDD	3.9				ES 123678-HxCDD	99.6	
123789-HxCDD	2.61				ES 123789-HxCDD	95.5	
1234678-HpCDD	99.9				ES 1234678-HpCDD	92.5	
OCDD	1,380				ES OCDD	92.9	
2378-TCDF	1,020			E	ES 2378-TCDF	92.2	
12378-PeCDF	40.3				ES 12378-PeCDF	93.5	
23478-PeCDF	31			PR	ES 23478-PeCDF	97.2	
123478-HxCDF	62.3				ES 123478-HxCDF	96.8	
123678-HxCDF	15				ES 123678-HxCDF	100	
234678-HxCDF	3.76				ES 234678-HxCDF	108	
123789-HxCDF	ND	0.151			ES 123789-HxCDF	93.8	
1234678-HpCDF	33.2				ES 1234678-HpCDF	102	
1234789-HpCDF	8.32				ES 1234789-HpCDF	96.1	
OCDF	92				ES OCDF	96.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	92.1	
Total TCDD	414		416		CS 12347-PeCDD	105	
Total PeCDD	7.22		13.7		CS 12346-PeCDF	95.2	
Total HxCDD	46.7		48.7		CS 123469-HxCDF	107	
Total HpCDD	242		242		CS 1234689-HpCDF	109	
Total TCDF	2,010		2,010				
Total PeCDF	114		116				
Total HxCDF	109		109				
Total HpCDF	76.8		76.8				
Total PCDD/Fs	**4,490**		**4,510**				
WHO-2005 TEQs							
TEQ: ND=0	494		494				
TEQ: ND=DL/2	494	0.414	494				
TEQ: ND=DL	494	0.829	494				

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Sample ID: 11215131-012222-S-BN-NC-O-35 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6235_18875_DF_004	Date Extracted:	03-Feb-2022
Date Collected:	22-Jan-2022	% Solid:	77.9 %	QC Batch No.:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:46:45

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	0.965		12479/12468D	1.71	J	124679/124689D	23		1234679D	142	
1379D	0.617		12469D	[3.17]		123468D	1.86	J	1234678D	99.9	
1369D	(0.233)		12368D	1.01	J	123679/123689D	14				
1469D	3.26		12478D	[0.936]	J	123469D	1.4	J			
1247D...[4]	[0.717]		12379D	[0.524]	J	123478D	[1.14]	J			
1378D	1.24		12369D...[3]	[1.54]	J	123678D	3.9				
1268D	(0.233)		12346/12347D	[0.335]	J	123467D	[0.862]	J			
1478D	[1.03]		12378D	4.5		123789D	2.61		**Conc.**	242	
1279D	(0.233)		12367D	(0.302)					**EMPC**	242	
1234/1269D	1.02		12389D	(0.302)							
1236D	(0.233)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	6.1										
1239D	(0.233)								OCDD	1380	
2378D	366										
1278D	34.8										
1267D	(0.233)										
1289D	(0.233)										
Conc.	414		**Conc.**	7.22		**Conc.**	46.7				
EMPC	416		**EMPC**	13.7		**EMPC**	48.7				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	494	494
TEQ: ND=DL/2	494	494
TEQ: ND=DL	494	494

	Conc.	EMPC
Total PCDD/Fs	4,490	4,510

Checkcode: 553-811-RWY

Report Created: 11-Feb-2022 16:29 Analyst: TF

Sample ID: 11215131-012222-S-BN-NC-O-35 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6235_18875_DF_004	Date Extracted:	03-Feb-2022
Date Collected:	22-Jan-2022	% Solid:	77.9 %	QC Batch No.:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:46:45

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[0.553]		13468/12468F	3.2		123468F	2.27	J	1234678F	33.2	
1468F	1.75		13678F...[3]	[1.2]	J	124678/134678F	10.8		1234679F	(1.46)	
2468F	1.98		12368F...[3]	19		134679F	(0.136)		1234689F	35.3	
1346/1246F	(0.124)		14678F	(0.171)		124679F	(0.136)		1234789F	8.32	
1347F...[3]	13.5		13479F	(0.171)		124689F	8.85				
1348F	(0.124)		13469/12479F	(0.171)		123467F	0.866	J			
1248F...[3]	53.1		12346F	(0.171)		123478F	62.3				
1268F	17.9		23468/12469F	1.32	J	123678F	15				
1467F	1.9		12347F	[0.897]	J	123479F	(0.136)				
1478F	42.5		12348F	3.98		123469F	(0.136)				
1369/1237F	11.7		12378F	40.3		123679F	(0.136)				
2467F	1.46		12678/12367F	12.3		234678F	3.76		**Conc.**	76.8	
2368F	27.1		12379F	(0.171)		234678/123689F	0		**EMPC**	76.8	
1238F...[5]	58.3		12679F	(0.171)		123689F	(0.136)				
1278F	455		23467/12369F	0.865	J	123789F	(0.151)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.124)		23478F	31	PR	123789/123489F	0			**(pg/g)**	
1267F	27.1		23478/12489F	0		123489F	4.96		OCDF	92	
2346/1249F	3.5		12489F	(0.171)							
2347/1279F	11.9		12349F	(0.171)							
2348F	76.5		12389F	1.58	J						
2378F	1020	E									
2367/3467F	88.5										
1269F	16.2										
1239F	(0.124)										
1289F	78.9										
Conc.	2,010		**Conc.**	114		**Conc.**	109				
EMPC	2,010		**EMPC**	116		**EMPC**	109				

Checkcode: 553-811-RWY

Report Created: 11-Feb-2022 16:29 Analyst: TF

Sample ID: 11215131-012222-S-BN-NC-O-35 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6235_18875_DF_004
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	QC Batch No.:	18875
Date Collected:	22-Jan-2022	Split:	-	Date Extracted:	03-Feb-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	11-Feb-2022 00:46
Lab Project No:	B6235	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	366		0.233	366	366	366
12378-PeCDD	4.5		0.302	2.25	4.5	4.5
123478-HxCDD	[1.14]	J	0.477	[0.114]	[0.114]	[0.114]
123678-HxCDD	3.9		0.43	0.39	0.39	0.39
123789-HxCDD	2.61		0.434	0.261	0.261	0.261
1234678-HpCDD	99.9		0.487	0.999	0.999	0.999
OCDD	1380		1.19	1.38	0.138	0.414
2378-TCDF	1020	E	0.124	102	102	102
12378-PeCDF	40.3		0.169	2.01	2.01	1.21
23478-PeCDF	31	PR	0.173	15.5	15.5	9.31
123478-HxCDF	62.3		0.131	6.23	6.23	6.23
123678-HxCDF	15		0.137	1.5	1.5	1.5
234678-HxCDF	3.76		0.128	0.376	0.376	0.376
123789-HxCDF	(0.151)		0.151	(0.0151)	(0.0151)	(0.0151)
1234678-HpCDF	33.2		1.19	0.332	0.332	0.332
1234789-HpCDF	8.32		1.79	0.0832	0.0832	0.0832
OCDF	92		0.529	0.092	0.0092	0.0276

TEQ Summaries			
EMPC = 0, ND = 0	500	501	494
EMPC = 0, ND = DL / 2	500	501	494
EMPC = 0, ND = DL	500	501	494
EMPC = 0, < J-level = 0	500	501	494
EMPC = EMPC, ND = 0	500	501	494
EMPC = EMPC, ND = DL / 2	500	501	494
EMPC = EMPC, ND = DL	500	501	494
EMPC = EMPC, < J-level = 0	500	501	494

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Checkcode: 553-811-RWY

Sample ID: 11215131-012222-S-BN-NC-B-10 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID	B6235_18875_DF_005	Date Extracted:	03-Feb-2022
Date Collected:	22-Jan-2022	% Solid:	74.7 %	QC Batch No:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:33:05

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	185				ES 2378-TCDD	89.7	
12378-PeCDD	3.39				ES 12378-PeCDD	96.2	
123478-HxCDD	EMPC		1.68	J	ES 123478-HxCDD	89.2	
123678-HxCDD	7.33				ES 123678-HxCDD	92.7	
123789-HxCDD	5.12				ES 123789-HxCDD	89.5	
1234678-HpCDD	156				ES 1234678-HpCDD	90.3	
OCDD	2,450				ES OCDD	91.6	
2378-TCDF	556				ES 2378-TCDF	90.1	
12378-PeCDF	13.9				ES 12378-PeCDF	93.4	
23478-PeCDF	15.1				ES 23478-PeCDF	93	
123478-HxCDF	25.5				ES 123478-HxCDF	92.8	
123678-HxCDF	6.94				ES 123678-HxCDF	96	
234678-HxCDF	EMPC		3.3		ES 234678-HxCDF	96.1	
123789-HxCDF	ND	0.413			ES 123789-HxCDF	88.1	
1234678-HpCDF	108				ES 1234678-HpCDF	101	
1234789-HpCDF	11				ES 1234789-HpCDF	85.5	
OCDF	3,120				ES OCDF	99.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	88.3	
Total TCDD	228		230		CS 12347-PeCDD	103	
Total PeCDD	30.2		31.4		CS 12346-PeCDF	97.7	
Total HxCDD	134		135		CS 123469-HxCDF	102	
Total HpCDD	392		392		CS 1234689-HpCDF	108	
Total TCDF	1,050		1,050				
Total PeCDF	82.1		83.7				
Total HxCDF	82.9		89.2				
Total HpCDF	198		198				
Total PCDD/Fs	**7,760**		**7,770**				
WHO-2005 TEQs							
TEQ: ND=0	258		258				
TEQ: ND=DL/2	258	0.515	258				
TEQ: ND=DL	258	1.03	258				

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Sample ID: 11215131-012222-S-BN-NC-B-10 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID:	B6235_18875_DF_005	Date Extracted:	03-Feb-2022
Date Collected:	22-Jan-2022	% Solid:	74.7 %	QC Batch No.:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:33:05

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	3.83		12479/12468D	6.19		124679/124689D	83.5		1234679D	236	
1379D	(0.237)		12469D	11.8		123468D	4.97		1234678D	156	
1369D	0.699		12368D	2.43	J	123679/123689D	28.6				
1469D	12.3		12478D	1.83	J	123469D	2.25	J			
1247D...[4]	1.71		12379D	[1.25]	J	123478D	[1.68]	J			
1378D	1.37		12369D...[3]	4.5		123678D	7.33				
1268D	(0.237)		12346/12347D	(0.326)		123467D	1.81	J			
1478D	0.709		12378D	3.39		123789D	5.12		**Conc.**	392	
1279D	[0.345]	J	12367D	(0.326)					**EMPC**	392	
1234/1269D	1.95		12389D	(0.326)							
1236D	(0.237)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	3.22										
1239D	(0.237)								OCDD	2450	
2378D	185										
1278D	18										
1267D	(0.237)										
1289D	[1.03]										
Conc.	228		**Conc.**	30.2		**Conc.**	134				
EMPC	230		**EMPC**	31.4		**EMPC**	135				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	258	258
TEQ: ND=DL/2	258	258
TEQ: ND=DL	258	258

	Conc.	EMPC
Total PCDD/Fs	7,760	7,770

Checkcode: 399-303-MFD

Report Created: 11-Feb-2022 16:29 Analyst: TF

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Sample ID: 11215131-012222-S-BN-NC-B-10 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID:	B6235_18875_DF_005	Date Extracted:	03-Feb-2022
Date Collected:	22-Jan-2022	% Solid:	74.7 %	QC Batch No.:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:33:05

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[0.522]		13468/12468F	16.5		123468F	5.93		1234678F	108	
1468F	2.97		13678F...[3]	2.29	J	124678/134678F	19.8		1234679F	6.71	
2468F	5.9		12368F...[3]	16.6		134679F	(0.387)		1234689F	71.7	
1346/1246F	(0.123)		14678F	(0.351)		124679F	[1.15]	J	1234789F	11	
1347F...[3]	9.98		13479F	(0.351)		124689F	20.5				
1348F	(0.123)		13469/12479F	1.19	J	123467F	[1.84]	J			
1248F...[3]	31		12346F	0.453	J	123478F	25.5				
1268F	12.1		23468/12469F	3.84		123678F	6.94				
1467F	1.91		12347F	[0.655]	J	123479F	(0.387)				
1478F	26.9		12348F	2.91		123469F	1.67	J			
1369/1237F	7.05		12378F	13.9		123679F	(0.387)				
2467F	[1.07]		12678/12367F	8.36		234678F	[3.3]		**Conc.**	198	
2368F	21.3		12379F	(0.351)		234678/123689F	0		**EMPC**	198	
1238F...[5]	22.2		12679F	(0.351)		123689F	(0.387)				
1278F	213		23467/12369F	0.857	J	123789F	(0.413)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.123)		23478F	15.1		123789/123489F	0				
1267F	13.5		23478/12489F	0		123489F	2.63		OCDF	3120	
2346/1249F	(0.123)		12489F	(0.351)							
2347/1279F	5.94		12349F	(0.351)							
2348F	30.1		12389F	[0.997]	J						
2378F	556										
2367/3467F	48										
1269F	8.47										
1239F	(0.123)										
1289F	35.7										
Conc.	1,050		**Conc.**	82.1		**Conc.**	82.9				
EMPC	1,050		**EMPC**	83.7		**EMPC**	89.2				

Checkcode: 399-303-MFD

Report Created: 11-Feb-2022 16:29 Analyst: TF

Sample ID: 11215131-012222-S-BN-NC-B-10 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6235_18875_DF_005
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	QC Batch No.:	18875
Date Collected:	22-Jan-2022	Split:	-	Date Extracted:	03-Feb-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	11-Feb-2022 01:33
Lab Project No:	B6235	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	185		0.237	185	185	185
12378-PeCDD	3.39		0.326	1.7	3.39	3.39
123478-HxCDD	[1.68]	J	0.581	[0.168]	[0.168]	[0.168]
123678-HxCDD	7.33		0.547	0.733	0.733	0.733
123789-HxCDD	5.12		0.53	0.512	0.512	0.512
1234678-HpCDD	156		1.1	1.56	1.56	1.56
OCDD	2450		0.946	2.45	0.245	0.734
2378-TCDF	556		0.123	55.6	55.6	55.6
12378-PeCDF	13.9		0.348	0.693	0.693	0.416
23478-PeCDF	15.1		0.354	7.57	7.57	4.54
123478-HxCDF	25.5		0.373	2.55	2.55	2.55
123678-HxCDF	6.94		0.369	0.694	0.694	0.694
234678-HxCDF	[3.3]		0.399	[0.33]	[0.33]	[0.33]
123789-HxCDF	(0.413)		0.413	(0.0413)	(0.0413)	(0.0413)
1234678-HpCDF	108		0.26	1.08	1.08	1.08
1234789-HpCDF	11		0.371	0.11	0.11	0.11
OCDF	3120		0.649	3.12	0.312	0.935

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TEQ Summaries			
EMPC = 0, ND = 0	263	260	258
EMPC = 0, ND = DL / 2	263	260	258
EMPC = 0, ND = DL	263	260	258
EMPC = 0, < J-level = 0	263	260	258
EMPC = EMPC, ND = 0	264	260	258
EMPC = EMPC, ND = DL / 2	264	260	258
EMPC = EMPC, ND = DL	264	260	258
EMPC = EMPC, < J-level = 0	263	260	258

Checkcode: 399-303-MFD

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Sample ID: 11215131-012222-S-BN-NC-B-10-MS

Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.02 g	Lab Sample ID	B6235_18875_DF_005MS	Date Extracted:	03-Feb-2022
Date Collected:	22-Jan-2022	% Solid:	74.7 %	QC Batch No:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:19:26

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	255				ES 2378-TCDD	89.4	
12378-PeCDD	101				ES 12378-PeCDD	97.1	
123478-HxCDD	110				ES 123478-HxCDD	87.6	
123678-HxCDD	115				ES 123678-HxCDD	92	
123789-HxCDD	107				ES 123789-HxCDD	88.4	
1234678-HpCDD	287				ES 1234678-HpCDD	90.4	
OCDD	3,150				ES OCDD	99.8	
2378-TCDF	714				ES 2378-TCDF	86.4	
12378-PeCDF	117				ES 12378-PeCDF	90.3	
23478-PeCDF	123				ES 23478-PeCDF	92.5	
123478-HxCDF	127				ES 123478-HxCDF	91.8	
123678-HxCDF	109				ES 123678-HxCDF	93	
234678-HxCDF	104				ES 234678-HxCDF	93	
123789-HxCDF	101				ES 123789-HxCDF	91.9	
1234678-HpCDF	225				ES 1234678-HpCDF	99.4	
1234789-HpCDF	112				ES 1234789-HpCDF	92.5	
OCDF	4,150				ES OCDF	104	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	90.6	
Total TCDD	390		391		CS 12347-PeCDD	101	
Total PeCDD	183		185		CS 12346-PeCDF	92	
Total HxCDD	492		492		CS 123469-HxCDF	98.8	
Total HpCDD	580		580		CS 1234689-HpCDF	104	
Total TCDF	1,430		1,440				
Total PeCDF	500		501				
Total HxCDF	755		755				
Total HpCDF	433		433				
Total PCDD/Fs	**12,100**		**12,100**				
WHO-2005 TEQs							
TEQ: ND=0	554		554				
TEQ: ND=DL/2	554	0.515	554				
TEQ: ND=DL	554	1.03	554				

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Sample ID: 11215131-012222-S-BN-NC-B-10-MSD — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	B6235_18875_DF_005MSD	Date Extracted:	03-Feb-2022
Date Collected:	22-Jan-2022	% Solid:	74.7 %	QC Batch No:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:05:47

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	265				ES 2378-TCDD	93.1	
12378-PeCDD	103				ES 12378-PeCDD	99.8	
123478-HxCDD	111				ES 123478-HxCDD	88	
123678-HxCDD	117				ES 123678-HxCDD	95.6	
123789-HxCDD	106				ES 123789-HxCDD	91.1	
1234678-HpCDD	280				ES 1234678-HpCDD	91.6	
OCDD	3,130				ES OCDD	96.8	
2378-TCDF	730				ES 2378-TCDF	88.4	
12378-PeCDF	120				ES 12378-PeCDF	92.3	
23478-PeCDF	127				ES 23478-PeCDF	92.1	
123478-HxCDF	137				ES 123478-HxCDF	93.5	
123678-HxCDF	110				ES 123678-HxCDF	97.7	
234678-HxCDF	107				ES 234678-HxCDF	99	
123789-HxCDF	102				ES 123789-HxCDF	92.6	
1234678-HpCDF	218				ES 1234678-HpCDF	98.6	
1234789-HpCDF	112				ES 1234789-HpCDF	93	
OCDF	3,890				ES OCDF	103	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	94	
Total TCDD	395		398		CS 12347-PeCDD	105	
Total PeCDD	186		186		CS 12346-PeCDF	94.2	
Total HxCDD	492		492		CS 123469-HxCDF	103	
Total HpCDD	562		562		CS 1234689-HpCDF	103	
Total TCDF	1,470		1,470				
Total PeCDF	507		507				
Total HxCDF	755		755				
Total HpCDF	421		421				
Total PCDD/Fs	**11,800**		**11,800**				
WHO-2005 TEQs							
TEQ: ND=0	571		571				
TEQ: ND=DL/2	571	0.552	571				
TEQ: ND=DL	571	1.1	571				

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MS/MSD Comparison

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Method 1613B

Sample ID: 11215131-012222-S-BN-NC-B-10

Analyte	Native Conc.	MS Spike	MS Conc.	MS Rec.	MSD Spike	MSD Conc.	MSD Rec.	RPD
	(pg/g)	(pg/g)	(pg/g)	%	(pg/g)	(pg/g)	%	
2,3,7,8-TCDD	185	20	255	354	20	265	404	13%
1,2,3,7,8-PeCDD	3.39	99.8	101	97.4	100	103	100	3%
1,2,3,4,7,8-HxCDD	1.68	99.8	110	109	100	111	109	0%
1,2,3,6,7,8-HxCDD	7.33	99.8	115	108	100	117	110	2%
1,2,3,7,8,9-HxCDD	5.12	99.8	107	102	100	106	101	1%
1,2,3,4,6,7,8-HpCDD	156	99.8	287	131	100	280	124	5%
OCDD	2450	200	3150	352	200	3130	344	2%
2,3,7,8-TCDF	556	20	714	789	20	730	867	9%
1,2,3,7,8-PeCDF	13.9	99.8	117	104	100	120	107	3%
2,3,4,7,8-PeCDF	15.1	99.8	123	108	100	127	112	4%
1,2,3,4,7,8-HxCDF	25.5	99.8	127	101	100	137	112	10%
1,2,3,6,7,8-HxCDF	6.94	99.8	109	102	100	110	103	1%
2,3,4,6,7,8-HxCDF	3.3	99.8	104	101	100	107	103	2%
1,2,3,7,8,9-HxCDF	0	99.8	101	101	100	102	102	1%
1,2,3,4,6,7,8-HpCDF	108	99.8	225	117	100	218	110	6%
1,2,3,4,7,8,9-HpCDF	11	99.8	112	102	100	112	102	0%
OCDF	3120	200	4150	520	200	3890	385	30%

* % Recovery limits for MS and MSD: 70-130% of expected value, if native < RL
* RPD limit for MS vs. MSD recoveries: +/- 20%, if native < RL

Sample ID: 11215131-012222-S-BN-NC-O-41 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	B6235_18875_DF_006	Date Extracted:	03-Feb-2022
Date Collected:	22-Jan-2022	% Solid:	78.3 %	QC Batch No:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:52:07

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1,330			E	ES 2378-TCDD	70.5	
12378-PeCDD	14.5				ES 12378-PeCDD	76.8	
123478-HxCDD	3.2				ES 123478-HxCDD	71.3	
123678-HxCDD	13.6				ES 123678-HxCDD	76.1	
123789-HxCDD	7.01				ES 123789-HxCDD	72.6	
1234678-HpCDD	368				ES 1234678-HpCDD	73.8	
OCDD	4,830				ES OCDD	73.3	
2378-TCDF	3,610			E	ES 2378-TCDF	70.2	
12378-PeCDF	212				ES 12378-PeCDF	71.4	
23478-PeCDF	153				ES 23478-PeCDF	73	
123478-HxCDF	260				ES 123478-HxCDF	75.3	
123678-HxCDF	70.8				ES 123678-HxCDF	75.6	
234678-HxCDF	18.6				ES 234678-HxCDF	81.3	
123789-HxCDF	ND	0.436			ES 123789-HxCDF	72.9	
1234678-HpCDF	138				ES 1234678-HpCDF	77.2	
1234789-HpCDF	34.6				ES 1234789-HpCDF	75.7	
OCDF	1,090				ES OCDF	77.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	79.1	
Total TCDD	1,480		1,480		CS 12347-PeCDD	87.4	
Total PeCDD	31.5		36.3		CS 12346-PeCDF	81.7	
Total HxCDD	132		134		CS 123469-HxCDF	89.4	
Total HpCDD	862		862		CS 1234689-HpCDF	91.8	
Total TCDF	7,030		7,030				
Total PeCDF	605		606				
Total HxCDF	470		470				
Total HpCDF	325		325				
Total PCDD/Fs	**16,900**		**16,900**				
WHO-2005 TEQs							
TEQ: ND=0	1800		1800				
TEQ: ND=DL/2	1800	0.563	1800				
TEQ: ND=DL	1800	1.13	1800				

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Sample ID: 11215131-012222-S-BN-NC-O-41 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	B6235_18875_DF_006	Date Extracted:	03-Feb-2022
Date Collected:	22-Jan-2022	% Solid:	78.3 %	QC Batch No.:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:52:07

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	3.94		12479/12468D	5.85		124679/124689D	54.3		1234679D	494	
1379D	1.41		12469D	[3.47]		123468D	6.34		1234678D	368	
1369D	(0.286)		12368D	3.45		123679/123689D	43.1				
1469D	2.95		12478D	2.72		123469D	4.09				
1247D...[4]	2.39		12379D	1.44	J	123478D	3.2				
1378D	4.34		12369D...[3]	2.64		123678D	13.6				
1268D	(0.286)		12346/12347D	[0.773]	J	123467D	[2.11]	J			
1478D	3.44		12378D	14.5		123789D	7.01		**Conc.**	862	
1279D	(0.286)		12367D	[0.643]	J				**EMPC**	862	
1234/1269D	[0.772]		12389D	0.864	J						
1236D	(0.286)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	22.2										
1239D	(0.286)								OCDD	4830	
2378D	1330	E									
1278D	108										
1267D	(0.286)										
1289D	2.25										
Conc.	1,480		**Conc.**	31.5		**Conc.**	132				
EMPC	1,480		**EMPC**	36.3		**EMPC**	134				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	1,800	1,800
TEQ: ND=DL/2	1,800	1,800
TEQ: ND=DL	1,800	1,800

	Conc.	EMPC
Total PCDD/Fs	16,900	16,900

Checkcode: 849-031-DWD

Report Created: 11-Feb-2022 16:29 Analyst: TF

Sample ID: 11215131-012222-S-BN-NC-O-41 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	B6235_18875_DF_006	Date Extracted:	03-Feb-2022
Date Collected:	22-Jan-2022	% Solid:	78.3 %	QC Batch No.:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:52:07

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.68		13468/12468F	18.6		123468F	9.6		1234678F	138	
1468F	7.7		13678F...[3]	5.54		124678/134678F	44.8		1234679F	5.42	
2468F	8.07		12368F...[3]	105		134679F	(0.388)		1234689F	148	
1346/1246F	(0.288)		14678F	(0.309)		124679F	1.42	J	1234789F	34.6	
1347F...[3]	47.4		13479F	(0.309)		124689F	37				
1348F	(0.288)		13469/12479F	(0.309)		123467F	3.76				
1248F...[3]	185		12346F	[0.785]	J	123478F	260				
1268F	63.9		23468/12469F	5.6		123678F	70.8				
1467F	7.66		12347F	4.48		123479F	(0.388)				
1478F	150		12348F	20.6		123469F	(0.388)				
1369/1237F	40.5		12378F	212		123679F	(0.388)				
2467F	5.65		12678/12367F	68.2		234678F	18.6		**Conc.**	325	
2368F	91.9		12379F	(0.309)		234678/123689F	0		**EMPC**	325	
1238F...[5]	201		12679F	[0.603]	J	123689F	(0.388)				
1278F	1590	E	23467/12369F	3.24		123789F	(0.436)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.288)		23478F	153		123789/123489F	0			**(pg/g)**	
1267F	93.1		23478/12489F	0		123489F	24.1		OCDF	1090	
2346/1249F	11.6		12489F	(0.309)							
2347/1279F	47.5		12349F	(0.309)							
2348F	249		12389F	8.51							
2378F	3610	E									
2367/3467F	308										
1269F	55.8										
1239F	(0.288)										
1289F	266										
Conc.	7,030		**Conc.**	605		**Conc.**	470				
EMPC	7,030		**EMPC**	606		**EMPC**	470				

Checkcode: 849-031-DWD

Report Created: 11-Feb-2022 16:29 Analyst: TF

Sample ID: 11215131-012222-S-BN-NC-O-41 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6235_18875_DF_006
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18875
Date Collected:	22-Jan-2022	Split:	-	Date Extracted:	03-Feb-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	11-Feb-2022 03:52
Lab Project No:	B6235	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1330	E	0.286	1330	1330	1330
12378-PeCDD	14.5		0.306	7.25	14.5	14.5
123478-HxCDD	3.2		0.847	0.32	0.32	0.32
123678-HxCDD	13.6		0.741	1.36	1.36	1.36
123789-HxCDD	7.01		0.725	0.701	0.701	0.701
1234678-HpCDD	368		0.679	3.68	3.68	3.68
OCDD	4830		1.27	4.83	0.483	1.45
2378-TCDF	3610	E	0.288	361	361	361
12378-PeCDF	212		0.32	10.6	10.6	6.36
23478-PeCDF	153		0.298	76.5	76.5	45.9
123478-HxCDF	260		0.36	26	26	26
123678-HxCDF	70.8		0.388	7.08	7.08	7.08
234678-HxCDF	18.6		0.376	1.86	1.86	1.86
123789-HxCDF	(0.436)		0.436	(0.0436)	(0.0436)	(0.0436)
1234678-HpCDF	138		0.471	1.38	1.38	1.38
1234789-HpCDF	34.6		0.641	0.346	0.346	0.346
OCDF	1090		0.55	1.09	0.109	0.328

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TEQ Summaries			
EMPC = 0, ND = 0	1830	1830	1800
EMPC = 0, ND = DL / 2	1830	1830	1800
EMPC = 0, ND = DL	1830	1830	1800
EMPC = 0, < J-level = 0	1830	1830	1800
EMPC = EMPC, ND = 0	1830	1830	1800
EMPC = EMPC, ND = DL / 2	1830	1830	1800
EMPC = EMPC, ND = DL	1830	1830	1800
EMPC = EMPC, < J-level = 0	1830	1830	1800

Checkcode: 849-031-DWD

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Sample ID: 11215131-012222-S-BN-NC-O-39 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.22 g	Lab Sample ID	B6235_18875_DF_007	Date Extracted:	03-Feb-2022
Date Collected:	22-Jan-2022	% Solid:	80.6 %	QC Batch No:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:46:14

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	78.9				ES 2378-TCDD	87.3	
12378-PeCDD	EMPC		3.48		ES 12378-PeCDD	89.7	
123478-HxCDD	2.86				ES 123478-HxCDD	91.4	
123678-HxCDD	9.6				ES 123678-HxCDD	95	
123789-HxCDD	5.9				ES 123789-HxCDD	88.5	
1234678-HpCDD	277				ES 1234678-HpCDD	89.6	
OCDD	5,680				ES OCDD	101	
2378-TCDF	229				ES 2378-TCDF	83.1	
12378-PeCDF	20.8				ES 12378-PeCDF	87.9	
23478-PeCDF	12.5				ES 23478-PeCDF	88.5	
123478-HxCDF	27.3				ES 123478-HxCDF	94	
123678-HxCDF	6.78				ES 123678-HxCDF	97.1	
234678-HxCDF	4.35				ES 234678-HxCDF	104	
123789-HxCDF	ND	0.288			ES 123789-HxCDF	91.5	
1234678-HpCDF	52.4				ES 1234678-HpCDF	100	
1234789-HpCDF	7.74				ES 1234789-HpCDF	90.4	
OCDF	206				ES OCDF	97.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	88.1	
Total TCDD	93.3		96.4		CS 12347-PeCDD	100	
Total PeCDD	10.8		20.4		CS 12346-PeCDF	94.5	
Total HxCDD	112		112		CS 123469-HxCDF	108	
Total HpCDD	797		797		CS 1234689-HpCDF	110	
Total TCDF	410		411				
Total PeCDF	79.6		80.7				
Total HxCDF	96.5		99.1				
Total HpCDF	169		169				
Total PCDD/Fs	**7,650**		**7,670**				
WHO-2005 TEQs							
TEQ: ND=0	117		120				
TEQ: ND=DL/2	117	0.358	120				
TEQ: ND=DL	117	0.715	120				

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Sample ID: 11215131-012222-S-BN-NC-O-39 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.22 g	Lab Sample ID:	B6235_18875_DF_007	Date Extracted:	03-Feb-2022
Date Collected:	22-Jan-2022	% Solid:	80.6 %	QC Batch No.:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:46:14

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	2.31		12479/12468D	4.12		124679/124689D	43.6		1234679D	520	
1379D	1.03		12469D	[3.53]		123468D	6.67		1234678D	277	
1369D	(0.2)		12368D	1.65	J	123679/123689D	35.6				
1469D	2.61		12478D	2.15	J	123469D	6.17				
1247D...[4]	(0.2)		12379D	1.37	J	123478D	2.86				
1378D	1.03		12369D...[3]	[2.24]	J	123678D	9.6				
1268D	(0.2)		12346/12347D	0.832	J	123467D	2.05	J			
1478D	(0.2)		12378D	[3.48]		123789D	5.9		**Conc.**	797	
1279D	(0.2)		12367D	[0.374]	J				**EMPC**	797	
1234/1269D	[0.672]		12389D	0.684	J						
1236D	(0.2)								**Octa-Dioxin**	**Conc**	**Qualifiers**
1237/1238D	[2.44]									**(pg/g)**	
1239D	(0.2)								OCDD	5680	
2378D	78.9										
1278D	7.44										
1267D	(0.2)										
1289D	(0.2)										
Conc.	93.3		**Conc.**	10.8		**Conc.**	112				
EMPC	96.4		**EMPC**	20.4		**EMPC**	112				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	117	120
TEQ: ND=DL/2	117	120
TEQ: ND=DL	117	120

	Conc.	EMPC
Total PCDD/Fs	7,650	7,670

Checkcode: 288-405-ZMT

Report Created: 11-Feb-2022 16:29 Analyst: TF

Sample ID: 11215131-012222-S-BN-NC-O-39 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.22 g	Lab Sample ID:	B6235_18875_DF_007	Date Extracted:	03-Feb-2022
Date Collected:	22-Jan-2022	% Solid:	80.6 %	QC Batch No.:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:46:14

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.24		13468/12468F	9.79		123468F	6.55		1234678F	52.4	
1468F	1.8		13678F...[3]	5.46		124678/134678F	22.5		1234679F	2.17	J
2468F	2.99		12368F...[3]	14.1		134679F	(0.248)		1234689F	107	
1346/1246F	1.74		14678F	(0.194)		124679F	1.02	J	1234789F	7.74	
1347F...[3]	7.9		13479F	(0.194)		124689F	24.7				
1348F	[0.98]		13469/12479F	0.765	J	123467F	[2.62]				
1248F...[3]	7.81		12346F	1.32	J	123478F	27.3				
1268F	5.24		23468/12469F	3.68		123678F	6.78				
1467F	1.11		12347F	[1.13]	J	123479F	(0.248)				
1478F	7.13		12348F	1.77	J	123469F	0.64	J			
1369/1237F	4.32		12378F	20.8		123679F	(0.248)				
2467F	1.9		12678/12367F	5.79		234678F	4.35		**Conc.**	169	
2368F	14		12379F	(0.194)		234678/123689F	0		**EMPC**	169	
1238F...[5]	6.37		12679F	(0.194)		123689F	(0.248)				
1278F	47.3		23467/12369F	2.88		123789F	(0.288)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.134)		23478F	12.5		123789/123489F	0			**(pg/g)**	
1267F	7.2		23478/12489F	0		123489F	2.63		OCDF	206	
2346/1249F	2.29		12489F	(0.194)							
2347/1279F	4.13		12349F	(0.194)							
2348F	7.9		12389F	0.75	J						
2378F	229										
2367/3467F	36.5										
1269F	2.92										
1239F	(0.134)										
1289F	9.9										
Conc.	410		**Conc.**	79.6		**Conc.**	96.5				
EMPC	411		**EMPC**	80.7		**EMPC**	99.1				

Checkcode: 288-405-ZMT

Report Created: 11-Feb-2022 16:29 Analyst: TF

Sample ID: 11215131-012222-S-BN-NC-O-39 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6235_18875_DF_007
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.22 g	QC Batch No.:	18875
Date Collected:	22-Jan-2022	Split:	-	Date Extracted:	03-Feb-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	11-Feb-2022 08:46
Lab Project No:	B6235	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	78.9		0.2	78.9	78.9	78.9
12378-PeCDD	[3.48]		0.19	[1.74]	[3.48]	[3.48]
123478-HxCDD	2.86		0.477	0.286	0.286	0.286
123678-HxCDD	9.6		0.44	0.96	0.96	0.96
123789-HxCDD	5.9		0.426	0.59	0.59	0.59
1234678-HpCDD	277		0.484	2.77	2.77	2.77
OCDD	5680		0.836	5.68	0.568	1.7
2378-TCDF	229		0.134	22.9	22.9	22.9
12378-PeCDF	20.8		0.191	1.04	1.04	0.624
23478-PeCDF	12.5		0.196	6.25	6.25	3.75
123478-HxCDF	27.3		0.241	2.73	2.73	2.73
123678-HxCDF	6.78		0.234	0.678	0.678	0.678
234678-HxCDF	4.35		0.239	0.435	0.435	0.435
123789-HxCDF	(0.288)		0.288	(0.0288)	(0.0288)	(0.0288)
1234678-HpCDF	52.4		0.289	0.524	0.524	0.524
1234789-HpCDF	7.74		0.446	0.0774	0.0774	0.0774
OCDF	206		0.428	0.206	0.0206	0.0618

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TEQ Summaries			
EMPC = 0, ND = 0	124	119	117
EMPC = 0, ND = DL / 2	124	119	117
EMPC = 0, ND = DL	124	119	117
EMPC = 0, < J-level = 0	124	119	117
EMPC = EMPC, ND = 0	126	122	120
EMPC = EMPC, ND = DL / 2	126	122	120
EMPC = EMPC, ND = DL	126	122	120
EMPC = EMPC, < J-level = 0	126	122	120

Checkcode: 288-405-ZMT

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Sample ID: 11215131-012222-S-BN-NC-B-12 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.01 g	Lab Sample ID	B6235_18875_DF_008	Date Extracted:	03-Feb-2022
Date Collected:	22-Jan-2022	% Solid:	79.1 %	QC Batch No:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	9:32:35

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1,240			E	ES 2378-TCDD	86.9	
12378-PeCDD	12.7				ES 12378-PeCDD	90.7	
123478-HxCDD	EMPC		1.1	J	ES 123478-HxCDD	88.1	
123678-HxCDD	5.65				ES 123678-HxCDD	96.6	
123789-HxCDD	2.97				ES 123789-HxCDD	91.3	
1234678-HpCDD	180				ES 1234678-HpCDD	90.8	
OCDD	2,690				ES OCDD	94.6	
2378-TCDF	3,340			E	ES 2378-TCDF	85	
12378-PeCDF	116				ES 12378-PeCDF	89	
23478-PeCDF	92.1				ES 23478-PeCDF	92.9	
123478-HxCDF	174				ES 123478-HxCDF	96.2	
123678-HxCDF	45.1				ES 123678-HxCDF	99.2	
234678-HxCDF	10.2				ES 234678-HxCDF	109	
123789-HxCDF	ND	0.29			ES 123789-HxCDF	91.4	
1234678-HpCDF	91.2				ES 1234678-HpCDF	97.4	
1234789-HpCDF	20.8				ES 1234789-HpCDF	96.3	
OCDF	944				ES OCDF	97.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	94.5	
Total TCDD	1,370		1,370		CS 12347-PeCDD	104	
Total PeCDD	23.6		26.7		CS 12346-PeCDF	97.7	
Total HxCDD	62.4		66.7		CS 123469-HxCDF	113	
Total HpCDD	387		387		CS 1234689-HpCDF	109	
Total TCDF	6,540		6,540				
Total PeCDF	332		332				
Total HxCDF	286		286				
Total HpCDF	182		182				
Total PCDD/Fs	**12,800**		**12,800**				
WHO-2005 TEQs							
TEQ: ND=0	1640		1640				
TEQ: ND=DL/2	1640	0.423	1640				
TEQ: ND=DL	1640	0.846	1640				

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Sample ID: 11215131-012222-S-BN-NC-B-12 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.01 g	Lab Sample ID:	B6235_18875_DF_008	Date Extracted:	03-Feb-2022
Date Collected:	22-Jan-2022	% Solid:	79.1 %	QC Batch No.:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	9:32:35

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	2.73		12479/12468D	[2.5]		124679/124689D	33.8		1234679D	207	
1379D	1.13		12469D	3.27		123468D	[2.09]	J	1234678D	180	
1369D	(0.268)		12368D	2.52		123679/123689D	19				
1469D	4.38		12478D	1.69	J	123469D	[1.14]	J			
1247D...[4]	2.25		12379D	0.961	J	123478D	[1.1]	J			
1378D	3.89		12369D...[3]	1.86	J	123678D	5.65				
1268D	(0.268)		12346/12347D	0.586	J	123467D	0.954	J			
1478D	3.27		12378D	12.7		123789D	2.97		**Conc.**	387	
1279D	[0.263]	J	12367D	[0.546]	J				**EMPC**	387	
1234/1269D	0.9		12389D	(0.256)							
1236D	(0.268)								**Octa-Dioxin**	**Conc**	**Qualifiers**
1237/1238D	19.4									**(pg/g)**	
1239D	(0.268)								OCDD	2690	
2378D	1240	E									
1278D	90.4										
1267D	(0.268)										
1289D	1.91										
Conc.	1,370		**Conc.**	23.6		**Conc.**	62.4				
EMPC	1,370		**EMPC**	26.7		**EMPC**	66.7				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	1,640	1,640
TEQ: ND=DL/2	1,640	1,640
TEQ: ND=DL	1,640	1,640

	Conc.	EMPC
Total PCDD/Fs	12,800	12,800

Checkcode: 608-475-ZTP

Report Created: 11-Feb-2022 16:29 Analyst: TF

Sample ID: 11215131-012222-S-BN-NC-B-12 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.01 g	Lab Sample ID:	B6235_18875_DF_008	Date Extracted:	03-Feb-2022
Date Collected:	22-Jan-2022	% Solid:	79.1 %	QC Batch No.:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	9:32:35

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	0.893		13468/12468F	8.15		123468F	4.28		1234678F	91.2	
1468F	5.8		13678F...[3]	1.54	J	124678/134678F	21.4		1234679F	2.98	
2468F	5.08		12368F...[3]	53.8		134679F	(0.253)		1234689F	66.9	
1346/1246F	(0.154)		14678F	(0.229)		124679F	(0.253)		1234789F	20.8	
1347F...[3]	40.6		13479F	(0.229)		124689F	15.6				
1348F	(0.154)		13469/12479F	(0.229)		123467F	1.37	J			
1248F...[3]	171		12346F	(0.229)		123478F	174				
1268F	56.3		23468/12469F	3.45		123678F	45.1				
1467F	8.03		12347F	2.54		123479F	(0.253)				
1478F	142		12348F	11.5		123469F	(0.253)				
1369/1237F	36.9		12378F	116		123679F	(0.253)				
2467F	4.85		12678/12367F	36.6		234678F	10.2		**Conc.**	182	
2368F	274		12379F	(0.229)		234678/123689F	0		**EMPC**	182	
1238F...[5]	(0.154)		12679F	(0.229)		123689F	(0.253)				
1278F	1500	E	23467/12369F	1.78	J	123789F	(0.29)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.154)		23478F	92.1		123789/123489F	0			(pg/g)	
1267F	85.3		23478/12489F	0		123489F	14.3		OCDF	944	
2346/1249F	11.2		12489F	(0.229)							
2347/1279F	41.9		12349F	(0.229)							
2348F	230		12389F	4.66							
2378F	3340	E									
2367/3467F	276										
1269F	51.2										
1239F	(0.154)										
1289F	254										
Conc.	6,540		**Conc.**	332		**Conc.**	286				
EMPC	6,540		**EMPC**	332		**EMPC**	286				

Checkcode: 608-475-ZTP

Report Created: 11-Feb-2022 16:29 Analyst: TF

Sample ID: 11215131-012222-S-BN-NC-B-12 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6235_18875_DF_008
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.01 g	QC Batch No.:	18875
Date Collected:	22-Jan-2022	Split:	-	Date Extracted:	03-Feb-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	11-Feb-2022 09:32
Lab Project No:	B6235	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1240	E	0.268	1240	1240	1240
12378-PeCDD	12.7		0.256	6.36	12.7	12.7
123478-HxCDD	[1.1]	J	0.42	[0.11]	[0.11]	[0.11]
123678-HxCDD	5.65		0.371	0.565	0.565	0.565
123789-HxCDD	2.97		0.365	0.297	0.297	0.297
1234678-HpCDD	180		0.609	1.8	1.8	1.8
OCDD	2690		1.11	2.69	0.269	0.807
2378-TCDF	3340	E	0.154	334	334	334
12378-PeCDF	116		0.23	5.8	5.8	3.48
23478-PeCDF	92.1		0.228	46.1	46.1	27.6
123478-HxCDF	174		0.252	17.4	17.4	17.4
123678-HxCDF	45.1		0.239	4.51	4.51	4.51
234678-HxCDF	10.2		0.238	1.02	1.02	1.02
123789-HxCDF	(0.29)		0.29	(0.029)	(0.029)	(0.029)
1234678-HpCDF	91.2		0.272	0.912	0.912	0.912
1234789-HpCDF	20.8		0.376	0.208	0.208	0.208
OCDF	944		0.548	0.944	0.0944	0.283

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TEQ Summaries			
EMPC = 0, ND = 0	1660	1660	1640
EMPC = 0, ND = DL / 2	1660	1660	1640
EMPC = 0, ND = DL	1660	1660	1640
EMPC = 0, < J-level = 0	1660	1660	1640
EMPC = EMPC, ND = 0	1660	1660	1640
EMPC = EMPC, ND = DL / 2	1660	1660	1640
EMPC = EMPC, ND = DL	1660	1660	1640
EMPC = EMPC, < J-level = 0	1660	1660	1640

Checkcode: 608-475-ZTP

SGS North America - DF v0.99

Sample ID: 11215131-012222-S-BN-DUP-14 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.03 g	Lab Sample ID	B6235_18875_DF_009	Date Extracted:	03-Feb-2022
Date Collected:	22-Jan-2022	% Solid:	74.0 %	QC Batch No:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	10:18:54

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	229				ES 2378-TCDD	89.9	
12378-PeCDD	EMPC		3.41		ES 12378-PeCDD	94.4	
123478-HxCDD	2.12			J	ES 123478-HxCDD	90.3	
123678-HxCDD	8.4				ES 123678-HxCDD	94.8	
123789-HxCDD	5.25				ES 123789-HxCDD	92.5	
1234678-HpCDD	178				ES 1234678-HpCDD	91	
OCDD	2,730				ES OCDD	95.8	
2378-TCDF	699				ES 2378-TCDF	86.8	
12378-PeCDF	36.2				ES 12378-PeCDF	93.4	
23478-PeCDF	28.4				ES 23478-PeCDF	91.3	
123478-HxCDF	41.1				ES 123478-HxCDF	94.2	
123678-HxCDF	11.1				ES 123678-HxCDF	95.6	
234678-HxCDF	5.27				ES 234678-HxCDF	96.8	
123789-HxCDF	ND	0.402			ES 123789-HxCDF	89.7	
1234678-HpCDF	111				ES 1234678-HpCDF	99.1	
1234789-HpCDF	11.5				ES 1234789-HpCDF	92.8	
OCDF	3,690				ES OCDF	101	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	90.2	
Total TCDD	281		282		CS 12347-PeCDD	98.4	
Total PeCDD	31.3		35.8		CS 12346-PeCDF	93.8	
Total HxCDD	143		143		CS 123469-HxCDF	102	
Total HpCDD	444		444		CS 1234689-HpCDF	103	
Total TCDF	1,360		1,360				
Total PeCDF	143		146				
Total HxCDF	123		123				
Total HpCDF	213		213				
Total PCDD/Fs	**9,150**		**9,160**				
WHO-2005 TEQs							
TEQ: ND=0	321		324				
TEQ: ND=DL/2	321	0.543	324				
TEQ: ND=DL	321	1.09	324				

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Sample ID: 11215131-012222-S-BN-DUP-14 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.03 g	Lab Sample ID:	B6235_18875_DF_009	Date Extracted:	03-Feb-2022
Date Collected:	22-Jan-2022	% Solid:	74.0 %	QC Batch No.:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	10:18:54

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	4.24		12479/12468D	6.39		124679/124689D	87.2		1234679D	266	
1379D	[1.24]		12469D	12.7		123468D	5.46		1234678D	178	
1369D	0.941		12368D	2.69		123679/123689D	30.1				
1469D	13.5		12478D	2.2	J	123469D	2.24	J			
1247D...[4]	2.14		12379D	1.52	J	123478D	2.12	J			
1378D	1.5		12369D...[3]	5.21		123678D	8.4				
1268D	(0.266)		12346/12347D	0.493	J	123467D	1.82	J			
1478D	1.14		12378D	[3.41]		123789D	5.25		**Conc.**	444	
1279D	(0.266)		12367D	[0.504]	J				**EMPC**	444	
1234/1269D	2.37		12389D	[0.624]	J						
1236D	(0.266)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	4.13										
1239D	(0.266)								OCDD	2730	
2378D	229										
1278D	21.5										
1267D	(0.266)										
1289D	(0.266)										
Conc.	281		**Conc.**	31.3		**Conc.**	143				
EMPC	282		**EMPC**	35.8		**EMPC**	143				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	321	324
TEQ: ND=DL/2	321	324
TEQ: ND=DL	321	324

	Conc.	EMPC
Total PCDD/Fs	9,150	9,160

Checkcode: 182-005-SBM

Report Created: 11-Feb-2022 16:29 Analyst: TF

Sample ID: 11215131-012222-S-BN-DUP-14 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.03 g	Lab Sample ID:	B6235_18875_DF_009	Date Extracted:	03-Feb-2022
Date Collected:	22-Jan-2022	% Solid:	74.0 %	QC Batch No.:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	10:18:54

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.02		13468/12468F	18.4		123468F	7.38		1234678F	111	
1468F	3.62		13678F...[3]	2.41	J	124678/134678F	24.5		1234679F	7.28	
2468F	7.15		12368F...[3]	27.2		134679F	(0.345)		1234689F	82.7	
1346/1246F	(0.166)		14678F	(0.336)		124679F	1.45	J	1234789F	11.5	
1347F...[3]	12.6		13479F	(0.336)		124689F	23.3				
1348F	(0.166)		13469/12479F	[1.74]	J	123467F	2.3	J			
1248F...[3]	41.1		12346F	[0.474]	J	123478F	41.1				
1268F	16.1		23468/12469F	4.3		123678F	11.1				
1467F	[2.52]		12347F	1.09	J	123479F	(0.345)				
1478F	34.7		12348F	5.06		123469F	1.96	J			
1369/1237F	9.01		12378F	36.2		123679F	(0.345)				
2467F	1.94		12678/12367F	17.9		234678F	5.27		**Conc.**	213	
2368F	26.3		12379F	(0.336)		234678/123689F	0		**EMPC**	213	
1238F...[5]	30.6		12679F	(0.336)		123689F	(0.345)				
1278F	287		23467/12369F	[1.12]	J	123789F	(0.402)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.166)		23478F	28.4		123789/123489F	0				
1267F	17.6		23478/12489F	0		123489F	4.61		OCDF	3690	
2346/1249F	2.52		12489F	(0.336)							
2347/1279F	8.51		12349F	(0.336)							
2348F	44.2		12389F	2.11	J						
2378F	699										
2367/3467F	61.5										
1269F	11.1										
1239F	(0.166)										
1289F	46.3										
Conc.	1,360		**Conc.**	143		**Conc.**	123				
EMPC	1,360		**EMPC**	146		**EMPC**	123				

Checkcode: 182-005-SBM

Report Created: 11-Feb-2022 16:29 Analyst: TF

Sample ID: 11215131-012222-S-BN-DUP-14 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6235_18875_DF_009
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.03 g	QC Batch No.:	18875
Date Collected:	22-Jan-2022	Split:	-	Date Extracted:	03-Feb-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	11-Feb-2022 10:18
Lab Project No:	B6235	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	229		0.266	229	229	229
12378-PeCDD	[3.41]		0.343	[1.71]	[3.41]	[3.41]
123478-HxCDD	2.12	J	0.672	0.212	0.212	0.212
123678-HxCDD	8.4		0.657	0.84	0.84	0.84
123789-HxCDD	5.25		0.577	0.525	0.525	0.525
1234678-HpCDD	178		1.24	1.78	1.78	1.78
OCDD	2730		1.21	2.73	0.273	0.818
2378-TCDF	699		0.166	69.9	69.9	69.9
12378-PeCDF	36.2		0.34	1.81	1.81	1.09
23478-PeCDF	28.4		0.331	14.2	14.2	8.52
123478-HxCDF	41.1		0.316	4.11	4.11	4.11
123678-HxCDF	11.1		0.339	1.11	1.11	1.11
234678-HxCDF	5.27		0.335	0.527	0.527	0.527
123789-HxCDF	(0.402)		0.402	(0.0402)	(0.0402)	(0.0402)
1234678-HpCDF	111		0.292	1.11	1.11	1.11
1234789-HpCDF	11.5		0.435	0.115	0.115	0.115
OCDF	3690		0.695	3.69	0.369	1.11

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TEQ Summaries			
EMPC = 0, ND = 0	332	326	321
EMPC = 0, ND = DL / 2	332	326	321
EMPC = 0, ND = DL	332	326	321
EMPC = 0, < J-level = 0	332	326	321
EMPC = EMPC, ND = 0	333	329	324
EMPC = EMPC, ND = DL / 2	333	329	324
EMPC = EMPC, ND = DL	334	329	324
EMPC = EMPC, < J-level = 0	333	329	324

Checkcode: 182-005-SBM

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Sample ID: 11215131-012122-S-BN-NC-O-43 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.07 g	Lab Sample ID	B6235_18875_DF_010	Date Extracted:	03-Feb-2022
Date Collected:	21-Jan-2022	% Solid:	58.4 %	QC Batch No:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:05:14

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	395				ES 2378-TCDD	89	
12378-PeCDD	4.72				ES 12378-PeCDD	98.2	
123478-HxCDD	1.69			J	ES 123478-HxCDD	86.7	
123678-HxCDD	6.07				ES 123678-HxCDD	90.6	
123789-HxCDD	3.96				ES 123789-HxCDD	83.8	
1234678-HpCDD	184				ES 1234678-HpCDD	89.1	
OCDD	2,520				ES OCDD	95.3	
2378-TCDF	1,110			E	ES 2378-TCDF	86.7	
12378-PeCDF	38.8				ES 12378-PeCDF	92.1	
23478-PeCDF	32.7			PR	ES 23478-PeCDF	93.1	
123478-HxCDF	58.3				ES 123478-HxCDF	87.6	
123678-HxCDF	16.8				ES 123678-HxCDF	90.9	
234678-HxCDF	5.09				ES 234678-HxCDF	100	
123789-HxCDF	ND	0.256			ES 123789-HxCDF	85.1	
1234678-HpCDF	81.8				ES 1234678-HpCDF	95.8	
1234789-HpCDF	10.2				ES 1234789-HpCDF	89.2	
OCDF	1,180				ES OCDF	94.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	90.9	
Total TCDD	445		449		CS 12347-PeCDD	103	
Total PeCDD	17.3		19.9		CS 12346-PeCDF	98.4	
Total HxCDD	81.1		81.1		CS 123469-HxCDF	98	
Total HpCDD	422		422		CS 1234689-HpCDF	101	
Total TCDF	2,230		2,240				
Total PeCDF	124		129				
Total HxCDF	124		125				
Total HpCDF	150		150				
Total PCDD/Fs	**7,300**		**7,310**				
WHO-2005 TEQs							
TEQ: ND=0	535		535				
TEQ: ND=DL/2	535	0.478	535				
TEQ: ND=DL	535	0.955	535				

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Sample ID: 11215131-012122-S-BN-NC-O-43 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.07 g	Lab Sample ID:	B6235_18875_DF_010	Date Extracted:	03-Feb-2022
Date Collected:	21-Jan-2022	% Solid:	58.4 %	QC Batch No.:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:05:14

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	2.23		12479/12468D	5.18		124679/124689D	36.6		1234679D	237	
1379D	[0.89]		12469D	3.51		123468D	3.91		1234678D	184	
1369D	0.78		12368D	1.68	J	123679/123689D	25.3				
1469D	[1.6]		12478D	[1.39]	J	123469D	2.36	J			
1247D...[4]	[0.902]		12379D	[0.769]	J	123478D	1.69	J			
1378D	1.4		12369D...[3]	2.21	J	123678D	6.07				
1268D	(0.226)		12346/12347D	(0.374)		123467D	1.2	J			
1478D	1.24		12378D	4.72		123789D	3.96		**Conc.**	422	
1279D	(0.226)		12367D	[0.443]	J				**EMPC**	422	
1234/1269D	[0.359]	J	12389D	(0.374)							
1236D	(0.226)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	6.67										
1239D	(0.226)								OCDD	2520	
2378D	395										
1278D	36.7										
1267D	(0.226)										
1289D	0.773										
Conc.	445		**Conc.**	17.3		**Conc.**	81.1				
EMPC	449		**EMPC**	19.9		**EMPC**	81.1				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	535	535
TEQ: ND=DL/2	535	535
TEQ: ND=DL	535	535

	Conc.	EMPC
Total PCDD/Fs	7,300	7,310

Checkcode: 374-144-SRL

Report Created: 11-Feb-2022 16:29 Analyst: TF

Sample ID: 11215131-012122-S-BN-NC-O-43 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.07 g	Lab Sample ID:	B6235_18875_DF_010	Date Extracted:	03-Feb-2022
Date Collected:	21-Jan-2022	% Solid:	58.4 %	QC Batch No.:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:05:14

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	0.721		13468/12468F	8.53		123468F	4.68		1234678F	81.8	
1468F	2.56		13678F...[3]	[1.68]	J	124678/134678F	18		1234679F	3.27	
2468F	3.31		12368F...[3]	23.1		134679F	(0.236)		1234689F	54.5	
1346/1246F	(0.16)		14678F	(0.305)		124679F	0.636	J	1234789F	10.2	
1347F...[3]	15.6		13479F	(0.305)		124689F	15				
1348F	(0.16)		13469/12479F	(0.305)		123467F	[1.36]	J			
1248F...[3]	63.3		12346F	(0.305)		123478F	58.3				
1268F	21.6		23468/12469F	[3.23]		123678F	16.8				
1467F	3.11		12347F	(0.305)		123479F	(0.236)				
1478F	52.7		12348F	4.63		123469F	0.717	J			
1369/1237F	13.5		12378F	38.8		123679F	(0.236)				
2467F	1.59		12678/12367F	13.4		234678F	5.09		**Conc.**	150	
2368F	38.3		12379F	(0.305)		234678/123689F	0		**EMPC**	150	
1238F...[5]	57.3		12679F	(0.305)		123689F	(0.236)				
1278F	513		23467/12369F	0.909	J	123789F	(0.256)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.16)		23478F	32.7	PR	123789/123489F	0				
1267F	29.6		23478/12489F	0		123489F	4.84		OCDF	1180	
2346/1249F	3.74		12489F	(0.305)							
2347/1279F	15.2		12349F	(0.305)							
2348F	83.5		12389F	2.03	J						
2378F	1110	E									
2367/3467F	96.3										
1269F	18.3										
1239F	[1.72]										
1289F	90.4										
Conc.	2,230		**Conc.**	124		**Conc.**	124				
EMPC	2,240		**EMPC**	129		**EMPC**	125				

Checkcode: 374-144-SRL

Report Created: 11-Feb-2022 16:29 Analyst: TF

Sample ID: 11215131-012122-S-BN-NC-O-43 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6235_18875_DF_010
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.07 g	QC Batch No.:	18875
Date Collected:	21-Jan-2022	Split:	-	Date Extracted:	03-Feb-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	11-Feb-2022 11:05
Lab Project No:	B6235	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	395		0.226	395	395	395
12378-PeCDD	4.72		0.374	2.36	4.72	4.72
123478-HxCDD	1.69	J	0.447	0.169	0.169	0.169
123678-HxCDD	6.07		0.401	0.607	0.607	0.607
123789-HxCDD	3.96		0.42	0.396	0.396	0.396
1234678-HpCDD	184		0.711	1.84	1.84	1.84
OCDD	2520		1.14	2.52	0.252	0.757
2378-TCDF	1110	E	0.16	111	111	111
12378-PeCDF	38.8		0.309	1.94	1.94	1.16
23478-PeCDF	32.7	PR	0.301	16.4	16.4	9.81
123478-HxCDF	58.3		0.24	5.83	5.83	5.83
123678-HxCDF	16.8		0.221	1.68	1.68	1.68
234678-HxCDF	5.09		0.234	0.509	0.509	0.509
123789-HxCDF	(0.256)		0.256	(0.0256)	(0.0256)	(0.0256)
1234678-HpCDF	81.8		0.389	0.818	0.818	0.818
1234789-HpCDF	10.2		0.593	0.102	0.102	0.102
OCDF	1180		0.665	1.18	0.118	0.353

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TEQ Summaries			
EMPC = 0, ND = 0	543	542	535
EMPC = 0, ND = DL / 2	543	542	535
EMPC = 0, ND = DL	543	542	535
EMPC = 0, < J-level = 0	542	541	535
EMPC = EMPC, ND = 0	543	542	535
EMPC = EMPC, ND = DL / 2	543	542	535
EMPC = EMPC, ND = DL	543	542	535
EMPC = EMPC, < J-level = 0	542	541	535

Checkcode: 374-144-SRL

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Sample ID: 11215131-012122-S-BN-NC-O-42 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.09 g	Lab Sample ID	B6235_18875_DF_011	Date Extracted:	03-Feb-2022
Date Collected:	21-Jan-2022	% Solid:	72.5 %	QC Batch No:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:51:34

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	239				ES 2378-TCDD	71.2	
12378-PeCDD	3.25				ES 12378-PeCDD	73	
123478-HxCDD	1.91			J	ES 123478-HxCDD	72.9	
123678-HxCDD	6.56				ES 123678-HxCDD	78.9	
123789-HxCDD	EMPC		3.23		ES 123789-HxCDD	70.7	
1234678-HpCDD	209				ES 1234678-HpCDD	71.5	
OCDD	2,350				ES OCDD	74.8	
2378-TCDF	644				ES 2378-TCDF	69.1	
12378-PeCDF	23.8				ES 12378-PeCDF	75.5	
23478-PeCDF	20.6				ES 23478-PeCDF	73.4	
123478-HxCDF	41.8				ES 123478-HxCDF	73.4	
123678-HxCDF	11.2				ES 123678-HxCDF	75.4	
234678-HxCDF	3.87				ES 234678-HxCDF	81.8	
123789-HxCDF	ND	0.469			ES 123789-HxCDF	72.5	
1234678-HpCDF	55.3				ES 1234678-HpCDF	74.5	
1234789-HpCDF	9.52				ES 1234789-HpCDF	73.5	
OCDF	533				ES OCDF	77.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	76.3	
Total TCDD	277		279		CS 12347-PeCDD	86	
Total PeCDD	17.2		20.9		CS 12346-PeCDF	78.9	
Total HxCDD	72.9		77.7		CS 123469-HxCDF	83.2	
Total HpCDD	431		431		CS 1234689-HpCDF	88	
Total TCDF	1,300		1,310				
Total PeCDF	79.5		87.5				
Total HxCDF	84.6		92.5				
Total HpCDF	117		119				
Total PCDD/Fs	**5,260**		**5,290**				
WHO-2005 TEQs							
TEQ: ND=0	324		324				
TEQ: ND=DL/2	324	0.707	324				
TEQ: ND=DL	324	1.41	324				

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Sample ID: 11215131-012122-S-BN-NC-O-42 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.09 g	Lab Sample ID:	B6235_18875_DF_011	Date Extracted:	03-Feb-2022
Date Collected:	21-Jan-2022	% Solid:	72.5 %	QC Batch No.:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:51:34

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	4.08		12479/12468D	5.23		124679/124689D	32		1234679D	222	
1379D	1.83		12469D	[2.81]		123468D	4.69		1234678D	209	
1369D	[0.601]		12368D	2.9		123679/123689D	26.4				
1469D	1.99		12478D	1.6	J	123469D	[1.66]	J			
1247D...[4]	[0.836]		12379D	1.71	J	123478D	1.91	J			
1378D	1.36		12369D...[3]	2.48		123678D	6.56				
1268D	(0.442)		12346/12347D	[0.92]	J	123467D	1.29	J			
1478D	(0.442)		12378D	3.25		123789D	[3.23]		**Conc.**	431	
1279D	(0.442)		12367D	(0.475)					**EMPC**	431	
1234/1269D	[0.821]		12389D	(0.475)							
1236D	(0.442)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	4.39										
1239D	(0.442)								OCDD	2350	
2378D	239										
1278D	23.5										
1267D	(0.442)										
1289D	(0.442)										
Conc.	277		**Conc.**	17.2		**Conc.**	72.9				
EMPC	279		**EMPC**	20.9		**EMPC**	77.7				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	324	324
TEQ: ND=DL/2	324	324
TEQ: ND=DL	324	324

	Conc.	EMPC
Total PCDD/Fs	5,260	5,290

Checkcode: 396-800-XGK

Report Created: 11-Feb-2022 16:29 Analyst: TF

Sample ID: 11215131-012122-S-BN-NC-O-42 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.09 g	Lab Sample ID:	B6235_18875_DF_011	Date Extracted:	03-Feb-2022
Date Collected:	21-Jan-2022	% Solid:	72.5 %	QC Batch No.:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:51:34

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	0.769		13468/12468F	5.93		123468F	[2.85]		1234678F	55.3	
1468F	2.03		13678F...[3]	[2.17]	J	124678/134678F	13.6		1234679F	[2.18]	J
2468F	2.72		12368F...[3]	17.1		134679F	(0.423)		1234689F	51.9	
1346/1246F	(0.289)		14678F	(0.304)		124679F	[0.495]	J	1234789F	9.52	
1347F...[3]	11.2		13479F	(0.304)		124689F	14.1				
1348F	(0.289)		13469/12479F	(0.304)		123467F	[1.52]	J			
1248F...[3]	37.7		12346F	(0.304)		123478F	41.8				
1268F	13.4		23468/12469F	[1.72]	J	123678F	11.2				
1467F	[1.98]		12347F	1.38	J	123479F	(0.423)				
1478F	30		12348F	[3.1]		123469F	(0.423)				
1369/1237F	8.58		12378F	23.8		123679F	(0.423)				
2467F	[0.787]		12678/12367F	9.54		234678F	3.87		**Conc.**	117	
2368F	57.2		12379F	(0.304)		234678/123689F	0		**EMPC**	119	
1238F...[5]	(0.289)		12679F	(0.304)		123689F	(0.423)				
1278F	295		23467/12369F	1.18	J	123789F	(0.469)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.289)		23478F	20.6		123789/123489F	0				
1267F	17.8		23478/12489F	0		123489F	[3.1]		OCDF	533	
2346/1249F	2.56		12489F	(0.304)							
2347/1279F	9.4		12349F	(0.304)							
2348F	50.5		12389F	[1.06]	J						
2378F	644										
2367/3467F	58.4										
1269F	11										
1239F	(0.289)										
1289F	52.3										
Conc.	1,300		**Conc.**	79.5		**Conc.**	84.6				
EMPC	1,310		**EMPC**	87.5		**EMPC**	92.5				

Checkcode: 396-800-XGK

Report Created: 11-Feb-2022 16:29 Analyst: TF

Sample ID: 11215131-012122-S-BN-NC-O-42 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6235_18875_DF_011
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.09 g	QC Batch No.:	18875
Date Collected:	21-Jan-2022	Split:	-	Date Extracted:	03-Feb-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	11-Feb-2022 11:51
Lab Project No:	B6235	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	239		0.442	239	239	239
12378-PeCDD	3.25		0.475	1.62	3.25	3.25
123478-HxCDD	1.91	J	0.648	0.191	0.191	0.191
123678-HxCDD	6.56		0.556	0.656	0.656	0.656
123789-HxCDD	[3.23]		0.58	[0.323]	[0.323]	[0.323]
1234678-HpCDD	209		0.77	2.09	2.09	2.09
OCDD	2350		1.4	2.35	0.235	0.704
2378-TCDF	644		0.289	64.4	64.4	64.4
12378-PeCDF	23.8		0.308	1.19	1.19	0.713
23478-PeCDF	20.6		0.3	10.3	10.3	6.17
123478-HxCDF	41.8		0.4	4.18	4.18	4.18
123678-HxCDF	11.2		0.434	1.12	1.12	1.12
234678-HxCDF	3.87		0.398	0.387	0.387	0.387
123789-HxCDF	(0.469)		0.469	(0.0469)	(0.0469)	(0.0469)
1234678-HpCDF	55.3		0.49	0.553	0.553	0.553
1234789-HpCDF	9.52		0.658	0.0952	0.0952	0.0952
OCDF	533		0.829	0.533	0.0533	0.16

TEQ Summaries			
EMPC = 0, ND = 0	329	328	324
EMPC = 0, ND = DL / 2	329	328	324
EMPC = 0, ND = DL	329	328	324
EMPC = 0, < J-level = 0	329	328	324
EMPC = EMPC, ND = 0	329	328	324
EMPC = EMPC, ND = DL / 2	329	328	324
EMPC = EMPC, ND = DL	329	328	324
EMPC = EMPC, < J-level = 0	329	328	324

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Checkcode: 396-800-XGK

Sample ID: 11215131-012122-S-BN-NC-O-40 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID	B6235_18875_DF_012	Date Extracted:	03-Feb-2022
Date Collected:	21-Jan-2022	% Solid:	75.0 %	QC Batch No:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:37:56

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	15.7				ES 2378-TCDD	87.8	
12378-PeCDD	EMPC		1.23	J	ES 12378-PeCDD	96.3	
123478-HxCDD	1.65			J	ES 123478-HxCDD	84.5	
123678-HxCDD	5.37				ES 123678-HxCDD	93.4	
123789-HxCDD	3.55				ES 123789-HxCDD	89.1	
1234678-HpCDD	155				ES 1234678-HpCDD	87.6	
OCDD	2,420				ES OCDD	91.8	
2378-TCDF	41.1				ES 2378-TCDF	82	
12378-PeCDF	3.37				ES 12378-PeCDF	88.3	
23478-PeCDF	3.39				ES 23478-PeCDF	83.9	
123478-HxCDF	6.23				ES 123478-HxCDF	90.4	
123678-HxCDF	2.65				ES 123678-HxCDF	96.4	
234678-HxCDF	2.3			J	ES 234678-HxCDF	104	
123789-HxCDF	ND	0.256			ES 123789-HxCDF	86.8	
1234678-HpCDF	27.8				ES 1234678-HpCDF	99.6	
1234789-HpCDF	3.65				ES 1234789-HpCDF	86.9	
OCDF	100				ES OCDF	90.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	95.7	
Total TCDD	22.8		25.6		CS 12347-PeCDD	107	
Total PeCDD	7.75		14.4		CS 12346-PeCDF	96.3	
Total HxCDD	63.9		65.7		CS 123469-HxCDF	106	
Total HpCDD	376		376		CS 1234689-HpCDF	108	
Total TCDF	75		85.2				
Total PeCDF	22.3		28.2				
Total HxCDF	41		42.1				
Total HpCDF	76.2		76.2				
Total PCDD/Fs	**3,200**		**3,230**				
WHO-2005 TEQs							
TEQ: ND=0	25.8		27				
TEQ: ND=DL/2	25.8	0.466	27				
TEQ: ND=DL	25.8	0.932	27				

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Sample ID: 11215131-012122-S-BN-NC-O-40 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID:	B6235_18875_DF_012	Date Extracted:	03-Feb-2022
Date Collected:	21-Jan-2022	% Solid:	75.0 %	QC Batch No.:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:37:56

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[1.7]		12479/12468D	3.63		124679/124689D	28.1		1234679D	221	
1379D	1.04		12469D	[2.65]		123468D	3.37		1234678D	155	
1369D	(0.29)		12368D	1.41	J	123679/123689D	20.4				
1469D	2.36		12478D	[1.05]	J	123469D	[1.84]	J			
1247D...[4]	[0.52]		12379D	[0.782]	J	123478D	1.65	J			
1378D	0.688		12369D...[3]	1.97	J	123678D	5.37				
1268D	(0.29)		12346/12347D	0.737	J	123467D	1.38	J			
1478D	(0.29)		12378D	[1.23]	J	123789D	3.55		**Conc.**	376	
1279D	(0.29)		12367D	[0.31]	J				**EMPC**	376	
1234/1269D	[0.5]		12389D	[0.595]	J						
1236D	(0.29)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	1.49										
1239D	(0.29)								OCDD	2420	
2378D	15.7										
1278D	1.54										
1267D	(0.29)										
1289D	(0.29)										
Conc.	22.8		**Conc.**	7.75		**Conc.**	63.9				
EMPC	25.6		**EMPC**	14.4		**EMPC**	65.7				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	25.8	27
TEQ: ND=DL/2	25.8	27
TEQ: ND=DL	25.8	27

	Conc.	EMPC
Total PCDD/Fs	3,200	3,230

Checkcode: 580-880-FNM

Report Created: 11-Feb-2022 16:29 Analyst: TF

Sample ID: 11215131-012122-S-BN-NC-O-40 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID:	B6235_18875_DF_012	Date Extracted:	03-Feb-2022
Date Collected:	21-Jan-2022	% Solid:	75.0 %	QC Batch No.:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:37:56

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[0.901]		13468/12468F	[5.53]		123468F	3.91		1234678F	27.8	
1468F	[0.953]		13678F...[3]	1.94	J	124678/134678F	12.8		1234679F	1.23	J
2468F	1.99		12368F...[3]	7.02		134679F	(0.22)		1234689F	43.5	
1346/1246F	(0.222)		14678F	(0.232)		124679F	0.601	J	1234789F	3.65	
1347F...[3]	3.93		13479F	(0.232)		124689F	11.6				
1348F	(0.222)		13469/12479F	(0.232)		123467F	[1.14]	J			
1248F...[3]	[2.87]		12346F	[0.362]	J	123478F	6.23				
1268F	1.68		23468/12469F	2.29	J	123678F	2.65				
1467F	0.716		12347F	(0.232)		123479F	(0.22)				
1478F	2.16		12348F	0.76	J	123469F	(0.22)				
1369/1237F	0.995		12378F	3.37		123679F	(0.22)				
2467F	0.728		12678/12367F	2.43	J	234678F	2.3	J	**Conc.**	76.2	
2368F	3.3		12379F	(0.232)		234678/123689F	0		**EMPC**	76.2	
1238F...[5]	[1.64]		12679F	(0.232)		123689F	(0.22)				
1278F	9.07		23467/12369F	1.1	J	123789F	(0.256)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.222)		23478F	3.39		123789/123489F	0			**(pg/g)**	
1267F	1.75		23478/12489F	0		123489F	0.873	J	OCDF	100	
2346/1249F	(0.222)		12489F	(0.232)							
2347/1279F	0.88		12349F	(0.232)							
2348F	[1.96]		12389F	(0.232)							
2378F	41.1										
2367/3467F	6.79										
1269F	[0.348]	J									
1239F	(0.222)										
1289F	[1.5]										
Conc.	75		**Conc.**	22.3		**Conc.**	41				
EMPC	85.2		**EMPC**	28.2		**EMPC**	42.1				

Checkcode: 580-880-FNM

Report Created: 11-Feb-2022 16:29 Analyst: TF

Sample ID: 11215131-012122-S-BN-NC-O-40 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6235_18875_DF_012
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	QC Batch No.:	18875
Date Collected:	21-Jan-2022	Split:	-	Date Extracted:	03-Feb-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	11-Feb-2022 12:37
Lab Project No:	B6235	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	15.7		0.29	15.7	15.7	15.7
12378-PeCDD	[1.23]	J	0.323	[0.617]	[1.23]	[1.23]
123478-HxCDD	1.65	J	0.413	0.165	0.165	0.165
123678-HxCDD	5.37		0.377	0.537	0.537	0.537
123789-HxCDD	3.55		0.389	0.355	0.355	0.355
1234678-HpCDD	155		0.59	1.55	1.55	1.55
OCDD	2420		1.13	2.42	0.242	0.725
2378-TCDF	41.1		0.222	4.11	4.11	4.11
12378-PeCDF	3.37		0.225	0.168	0.168	0.101
23478-PeCDF	3.39		0.239	1.69	1.69	1.02
123478-HxCDF	6.23		0.222	0.623	0.623	0.623
123678-HxCDF	2.65		0.213	0.265	0.265	0.265
234678-HxCDF	2.3	J	0.198	0.23	0.23	0.23
123789-HxCDF	(0.256)		0.256	(0.0256)	(0.0256)	(0.0256)
1234678-HpCDF	27.8		0.207	0.278	0.278	0.278
1234789-HpCDF	3.65		0.333	0.0365	0.0365	0.0365
OCDF	100		0.452	0.1	0.01	0.0301

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TEQ Summaries			
EMPC = 0, ND = 0	28.3	26	25.8
EMPC = 0, ND = DL / 2	28.3	26	25.8
EMPC = 0, ND = DL	28.3	26	25.8
EMPC = 0, < J-level = 0	27.9	25.6	25.4
EMPC = EMPC, ND = 0	28.9	27.2	27
EMPC = EMPC, ND = DL / 2	28.9	27.2	27
EMPC = EMPC, ND = DL	28.9	27.3	27
EMPC = EMPC, < J-level = 0	27.9	25.6	25.4

Checkcode: 580-880-FNM

SGS North America - DF v0.99

Sample ID: 11215131-012122-S-BN-NC-B-11 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.01 g	Lab Sample ID	B6235_18875_DF_013	Date Extracted:	03-Feb-2022
Date Collected:	21-Jan-2022	% Solid:	76.8 %	QC Batch No:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:24:16

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	2,480			E	ES 2378-TCDD	90.1	
12378-PeCDD	24.8				ES 12378-PeCDD	97.9	
123478-HxCDD	EMPC		0.804	J	ES 123478-HxCDD	88.4	
123678-HxCDD	4.94				ES 123678-HxCDD	93.3	
123789-HxCDD	2.68				ES 123789-HxCDD	87	
1234678-HpCDD	188				ES 1234678-HpCDD	86.6	
OCDD	2,500				ES OCDD	93	
2378-TCDF	6,890			E	ES 2378-TCDF	85.1	
12378-PeCDF	284				ES 12378-PeCDF	94.6	
23478-PeCDF	217				ES 23478-PeCDF	92.1	
123478-HxCDF	468				ES 123478-HxCDF	90.4	
123678-HxCDF	119				ES 123678-HxCDF	95.8	
234678-HxCDF	26.2				ES 234678-HxCDF	102	
123789-HxCDF	ND	0.26			ES 123789-HxCDF	85.8	
1234678-HpCDF	151				ES 1234678-HpCDF	106	
1234789-HpCDF	57				ES 1234789-HpCDF	85.3	
OCDF	287				ES OCDF	86.5	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	93.9	
Total TCDD	2,710		2,720		CS 12347-PeCDD	107	
Total PeCDD	38.5		43		CS 12346-PeCDF	99.3	
Total HxCDD	72.9		74.2		CS 123469-HxCDF	107	
Total HpCDD	392		392		CS 1234689-HpCDF	107	
Total TCDF	13,400		13,400				
Total PeCDF	794		794				
Total HxCDF	727		727				
Total HpCDF	268		268				
Total PCDD/Fs	**21,200**		**21,200**				
WHO-2005 TEQs							
TEQ: ND=0	3340		3340				
TEQ: ND=DL/2	3340	0.459	3340				
TEQ: ND=DL	3340	0.917	3340				

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Sample ID: 11215131-012122-S-BN-NC-B-11 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.01 g	Lab Sample ID:	B6235_18875_DF_013	Date Extracted:	03-Feb-2022
Date Collected:	21-Jan-2022	% Solid:	76.8 %	QC Batch No.:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:24:16

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	4.75		12479/12468D	4.02		124679/124689D	41.8		1234679D	204	
1379D	1.95		12469D	[3.41]		123468D	2.21	J	1234678D	188	
1369D	[0.421]	J	12368D	4.04		123679/123689D	20.3				
1469D	8.14		12478D	1.69	J	123469D	0.938	J			
1247D...[4]	3.92		12379D	1.62	J	123478D	[0.804]	J			
1378D	7.53		12369D...[3]	1.22	J	123678D	4.94				
1268D	0.698		12346/12347D	[0.498]	J	123467D	[0.503]	J			
1478D	6.51		12378D	24.8		123789D	2.68		**Conc.**	392	
1279D	(0.255)		12367D	1.08	J				**EMPC**	392	
1234/1269D	1.22		12389D	[0.566]	J						
1236D	0.461	J							**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	37.5										
1239D	(0.255)								OCDD	2500	
2378D	2480	E									
1278D	148										
1267D	7.35										
1289D	[2.58]										
Conc.	2,710		**Conc.**	38.5		**Conc.**	72.9				
EMPC	2,720		**EMPC**	43		**EMPC**	74.2				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	3,340	3,340
TEQ: ND=DL/2	3,340	3,340
TEQ: ND=DL	3,340	3,340

	Conc.	EMPC
Total PCDD/Fs	21,200	21,200

Checkcode: 472-723-FMV

Report Created: 11-Feb-2022 16:30 Analyst: TF

Sample ID: 11215131-012122-S-BN-NC-B-11 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.01 g	Lab Sample ID:	B6235_18875_DF_013	Date Extracted:	03-Feb-2022
Date Collected:	21-Jan-2022	% Solid:	76.8 %	QC Batch No.:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:24:16

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.88		13468/12468F	8.39		123468F	6.97		1234678F	151	
1468F	11.4		13678F...[3]	4.06		124678/134678F	45.4		1234679F	(0.25)	
2468F	7.52		12368F...[3]	134		134679F	(0.231)		1234689F	60.2	
1346/1246F	(0.149)		14678F	(0.379)		124679F	0.479	J	1234789F	57	
1347F...[3]	80.7		13479F	(0.379)		124689F	20.8				
1348F	(0.149)		13469/12479F	0.779	J	123467F	2.74				
1248F...[3]	354		12346F	0.679	J	123478F	468				
1268F	115		23468/12469F	5.2		123678F	119				
1467F	15		12347F	5.02		123479F	(0.231)				
1478F	287		12348F	26.6		123469F	(0.231)				
1369/1237F	73.7		12378F	284		123679F	(0.231)				
2467F	8.82		12678/12367F	92.1		234678F	26.2		**Conc.**	268	
2368F	229		12379F	(0.379)		234678/123689F	0		**EMPC**	268	
1238F...[5]	316		12679F	0.649	J	123689F	(0.231)				
1278F	3120	E	23467/12369F	3.85		123789F	(0.26)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.149)		23478F	217		123789/123489F	0				
1267F	170		23478/12489F	0		123489F	37.2		OCDF	287	
2346/1249F	20.8		12489F	(0.379)							
2347/1279F	86		12349F	(0.379)							
2348F	485		12389F	11.8							
2378F	6890	E									
2367/3467F	545										
1269F	100										
1239F	8.64										
1289F	489										
Conc.	13,400		**Conc.**	794		**Conc.**	727				
EMPC	13,400		**EMPC**	794		**EMPC**	727				

Checkcode: 472-723-FMV

Report Created: 11-Feb-2022 16:30 Analyst: TF

Sample ID: 11215131-012122-S-BN-NC-B-11 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6235_18875_DF_013
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.01 g	QC Batch No.:	18875
Date Collected:	21-Jan-2022	Split:	-	Date Extracted:	03-Feb-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	11-Feb-2022 13:24
Lab Project No:	B6235	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	2480	E	0.255	2480	2480	2480
12378-PeCDD	24.8		0.309	12.4	24.8	24.8
123478-HxCDD	[0.804]	J	0.371	[0.0804]	[0.0804]	[0.0804]
123678-HxCDD	4.94		0.333	0.494	0.494	0.494
123789-HxCDD	2.68		0.335	0.268	0.268	0.268
1234678-HpCDD	188		0.645	1.88	1.88	1.88
OCDD	2500		1.05	2.5	0.25	0.75
2378-TCDF	6890	E	0.149	689	689	689
12378-PeCDF	284		0.368	14.2	14.2	8.52
23478-PeCDF	217		0.391	109	109	65.2
123478-HxCDF	468		0.244	46.8	46.8	46.8
123678-HxCDF	119		0.207	11.9	11.9	11.9
234678-HxCDF	26.2		0.223	2.62	2.62	2.62
123789-HxCDF	(0.26)		0.26	(0.026)	(0.026)	(0.026)
1234678-HpCDF	151		0.192	1.51	1.51	1.51
1234789-HpCDF	57		0.332	0.57	0.57	0.57
OCDF	287		0.477	0.287	0.0287	0.086

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TEQ Summaries			
EMPC = 0, ND = 0	3380	3390	3340
EMPC = 0, ND = DL / 2	3380	3390	3340
EMPC = 0, ND = DL	3380	3390	3340
EMPC = 0, < J-level = 0	3380	3390	3340
EMPC = EMPC, ND = 0	3380	3390	3340
EMPC = EMPC, ND = DL / 2	3380	3390	3340
EMPC = EMPC, ND = DL	3380	3390	3340
EMPC = EMPC, < J-level = 0	3380	3390	3340

Checkcode: 472-723-FMV

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Sample ID: Method Blank B6235_18875 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18875_DF_SDS	Date Extracted:	03-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	7:59:54

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.182			ES 2378-TCDD	87.6	
12378-PeCDD	ND	0.167			ES 12378-PeCDD	92.3	
123478-HxCDD	ND	0.144			ES 123478-HxCDD	89.9	
123678-HxCDD	ND	0.124			ES 123678-HxCDD	99	
123789-HxCDD	ND	0.131			ES 123789-HxCDD	88.6	
1234678-HpCDD	ND	0.157			ES 1234678-HpCDD	88.1	
OCDD	ND	0.544			ES OCDD	89	
2378-TCDF	ND	0.128			ES 2378-TCDF	82.4	
12378-PeCDF	ND	0.124			ES 12378-PeCDF	91	
23478-PeCDF	ND	0.128			ES 23478-PeCDF	88.5	
123478-HxCDF	ND	0.124			ES 123478-HxCDF	85.6	
123678-HxCDF	ND	0.121			ES 123678-HxCDF	95.7	
234678-HxCDF	ND	0.11			ES 234678-HxCDF	103	
123789-HxCDF	ND	0.146			ES 123789-HxCDF	81.7	
1234678-HpCDF	ND	0.131			ES 1234678-HpCDF	104	
1234789-HpCDF	ND	0.236			ES 1234789-HpCDF	81.7	
OCDF	ND	0.283			ES OCDF	82.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	92.9	
Total TCDD	ND	0.182	ND		CS 12347-PeCDD	108	
Total PeCDD	ND	0.167	ND		CS 12346-PeCDF	101	
Total HxCDD	ND	0.133	ND		CS 123469-HxCDF	108	
Total HpCDD	ND	0.157	ND		CS 1234689-HpCDF	106	
Total TCDF	ND	0.128	ND				
Total PeCDF	ND	0.126	ND				
Total HxCDF	ND	0.123	ND				
Total HpCDF	ND	0.174	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	0.249	0.249	0.249				
TEQ: ND=DL	0.499	0.499	0.499				

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Sample ID: Method Blank B6235_18875 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18875_DF_SDS	Date Extracted:	03-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	7:59:54

Tetra-Dioxins	Conc. (pg/g)	Qualifiers
1368D	(0.182)	
1379D	(0.182)	
1369D	(0.182)	
1469D	(0.182)	
1247D...[4]	(0.182)	
1378D	(0.182)	
1268D	(0.182)	
1478D	(0.182)	
1279D	(0.182)	
1234/1269D	(0.182)	
1236D	(0.182)	
1237/1238D	(0.182)	
1239D	(0.182)	
2378D	(0.182)	
1278D	(0.182)	
1267D	(0.182)	
1289D	(0.182)	
Conc.	0	
EMPC	0	

Penta-Dioxins	Conc. (pg/g)	Qualifiers
12479/12468D	(0.167)	
12469D	(0.167)	
12368D	(0.167)	
12478D	(0.167)	
12379D	(0.167)	
12369D...[3]	(0.167)	
12346/12347D	(0.167)	
12378D	(0.167)	
12367D	(0.167)	
12389D	(0.167)	
Conc.	0	
EMPC	0	

Hexa-Dioxins	Conc (pg/g)	Qualifiers
124679/124689D	(0.133)	
123468D	(0.133)	
123679/123689D	(0.133)	
123469D	(0.133)	
123478D	(0.144)	
123678D	(0.124)	
123467D	(0.133)	
123789D	(0.131)	
Conc.	0	
EMPC	0	

Hepta-Dioxins	Conc (pg/g)	Qualifiers
1234679D	(0.157)	
1234678D	(0.157)	
Conc.	0	
EMPC	0	

Octa-Dioxin	Conc (pg/g)	Qualifiers
OCDD	(0.544)	

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	0.249	0.249
TEQ: ND=DL	0.499	0.499

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 285-664-TSK

Report Created: 11-Feb-2022 16:28 Analyst: TF

Sample ID: Method Blank B6235_18875 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18875_DF_SDS	Date Extracted:	03-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	7:59:54

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.128)		13468/12468F	(0.119)		123468F	(0.123)		1234678F	(0.131)	
1468F	(0.128)		13678F...[3]	(0.126)		124678/134678F	(0.123)		1234679F	(0.174)	
2468F	(0.128)		12368F...[3]	(0.126)		134679F	(0.123)		1234689F	(0.174)	
1346/1246F	(0.128)		14678F	(0.126)		124679F	(0.123)		1234789F	(0.236)	
1347F...[3]	(0.128)		13479F	(0.126)		124689F	(0.123)				
1348F	(0.128)		13469/12479F	(0.126)		123467F	(0.123)				
1248F...[3]	(0.128)		12346F	(0.126)		123478F	(0.124)				
1268F	(0.128)		23468/12469F	(0.126)		123678F	(0.121)				
1467F	(0.128)		12347F	(0.126)		123479F	(0.123)				
1478F	(0.128)		12348F	(0.126)		123469F	(0.123)				
1369/1237F	(0.128)		12378F	(0.124)		123679F	(0.123)				
2467F	(0.128)		12678/12367F	(0.126)		234678F	(0.11)		**Conc.**	0	
2368F	(0.128)		12379F	(0.126)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.128)		12679F	(0.126)		123689F	(0.123)				
1278F	(0.128)		23467/12369F	(0.126)		123789F	(0.146)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.128)		23478F	(0.128)		123789/123489F	0				
1267F	(0.128)		23478/12489F	0		123489F	(0.123)		OCDF	(0.283)	
2346/1249F	(0.128)		12489F	(0.126)							
2347/1279F	(0.128)		12349F	(0.126)							
2348F	(0.128)		12389F	(0.126)							
2378F	(0.128)										
2367/3467F	(0.128)										
1269F	(0.128)										
1239F	(0.128)										
1289F	(0.128)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 285-664-TSK

Report Created: 11-Feb-2022 16:28 Analyst: TF

Sample ID: Method Blank B6235_18875 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18875_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18875
Date Collected:	n/a	Split:	-	Date Extracted:	03-Feb-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	11-Feb-2022 07:59
Lab Project No:	B6235	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.182)		0.182	(0.182)	(0.182)	(0.182)
12378-PeCDD	(0.167)		0.167	(0.0833)	(0.167)	(0.167)
123478-HxCDD	(0.144)		0.144	(0.0144)	(0.0144)	(0.0144)
123678-HxCDD	(0.124)		0.124	(0.0124)	(0.0124)	(0.0124)
123789-HxCDD	(0.131)		0.131	(0.0131)	(0.0131)	(0.0131)
1234678-HpCDD	(0.157)		0.157	(0.00157)	(0.00157)	(0.00157)
OCDD	(0.544)		0.544	(0.000544)	(0.0000544)	(0.000163)
2378-TCDF	(0.128)		0.128	(0.0128)	(0.0128)	(0.0128)
12378-PeCDF	(0.124)		0.124	(0.00621)	(0.00621)	(0.00372)
23478-PeCDF	(0.128)		0.128	(0.0641)	(0.0641)	(0.0385)
123478-HxCDF	(0.124)		0.124	(0.0124)	(0.0124)	(0.0124)
123678-HxCDF	(0.121)		0.121	(0.0121)	(0.0121)	(0.0121)
234678-HxCDF	(0.11)		0.11	(0.011)	(0.011)	(0.011)
123789-HxCDF	(0.146)		0.146	(0.0146)	(0.0146)	(0.0146)
1234678-HpCDF	(0.131)		0.131	(0.00131)	(0.00131)	(0.00131)
1234789-HpCDF	(0.236)		0.236	(0.00236)	(0.00236)	(0.00236)
OCDF	(0.283)		0.283	(0.000283)	(0.0000283)	(0.0000849)

TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.222	0.263	0.249
EMPC = 0, ND = DL	0.444	0.527	0.499
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.222	0.263	0.249
EMPC = EMPC, ND = DL	0.444	0.527	0.499
EMPC = EMPC, < J-level = 0	0	0	0

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

Checkcode: 285-664-TSK

Sample ID: 0_18875_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6235	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18875_DF	Date Extracted:	03-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18875	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	6:27:14

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	12				ES 2378-TCDD	90.2	
12378-PeCDD	51				ES 12378-PeCDD	98.6	
123478-HxCDD	55.4				ES 123478-HxCDD	90.7	
123678-HxCDD	56.3				ES 123678-HxCDD	95.7	
123789-HxCDD	53.7				ES 123789-HxCDD	88.2	
1234678-HpCDD	54.3				ES 1234678-HpCDD	85.2	
OCDD	118				ES OCDD	79.3	
2378-TCDF	11.7				ES 2378-TCDF	86	
12378-PeCDF	52.6				ES 12378-PeCDF	93.3	
23478-PeCDF	56				ES 23478-PeCDF	91.5	
123478-HxCDF	53.7				ES 123478-HxCDF	82.1	
123678-HxCDF	55				ES 123678-HxCDF	89.6	
234678-HxCDF	52.4				ES 234678-HxCDF	103	
123789-HxCDF	50.7				ES 123789-HxCDF	82.1	
1234678-HpCDF	54.4				ES 1234678-HpCDF	97.1	
1234789-HpCDF	52.3				ES 1234789-HpCDF	79.9	
OCDF	110				ES OCDF	76.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	94.6	
Total TCDD	55.4		55.4		CS 12347-PeCDD	110	
Total PeCDD	75.9		75.9		CS 12346-PeCDF	99.5	
Total HxCDD	179		179		CS 123469-HxCDF	101	
Total HpCDD	67.3		67.3		CS 1234689-HpCDF	102	
Total TCDF	66		66.1				
Total PeCDF	212		212				
Total HxCDF	331		331				
Total HpCDF	107		107				
Total PCDD/Fs	**1,320**		**1,320**				
WHO-2005 TEQs							
TEQ: ND=0	122		122				
TEQ: ND=DL/2	122	0.194	122				
TEQ: ND=DL	122	0.388	122				

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

Sample Receipt Notification

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

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*26-Jan-22 at 11:48*
AP Project name:	*B6235*
Requested TAT:	*10 business days*
Projected due date:	*9-Feb-22*
Matrix:	*Solid*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

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

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-012122-S-BN-NC-O-37	B6235_001	SO	1	4oz Amber	21-Jan-22	14:30	0.2	1	4905 2704 4708
11215131-012122-S-BN-NC-O-38	B6235_002	SO	1	4oz Amber	21-Jan-22	14:40	0.2	1	4905 2704 4708
11215131-012222-S-BN-NC-O-36	B6235_003	SO	1	4oz Amber	22-Jan-22	08:50	0.2	1	4905 2704 4708
11215131-012222-S-BN-NC-O-35	B6235_004	SO	1	4oz Amber	22-Jan-22	09:50	0.2	1	4905 2704 4708
11215131-012222-S-BN-NC-B-10	B6235_005	SO **MS/MSD**	1	4oz Amber	22-Jan-22	10:00	0.2	1	4905 2704 4708
11215131-012222-S-BN-NC-O-41	B6235_006	SO	1	4oz Amber	22-Jan-22	12:30	0.2	1	4905 2704 4708
11215131-012222-S-BN-NC-O-39	B6235_007	SO	1	4oz Amber	22-Jan-22	12:40	0.2	1	4905 2704 4708
11215131-012222-S-BN-NC-B-12	B6235_008	SO	1	4oz Amber	22-Jan-22	12:50	0.2	1	4905 2704 4708
11215131-012222-S-BN-DUP-14	B6235_009	SO	1	4oz Amber	22-Jan-22	00:00	0.2	1	4905 2704 4708
11215131-012122-S-BN-NC-O-43	B6235_010	SO	1	4oz Amber	21-Jan-22	10:30	0	3	4905 2704 4720
11215131-012122-S-BN-NC-O-42	B6235_011	SO	1	4oz Amber	21-Jan-22	10:50	0	3	4905 2704 4720
11215131-012122-S-BN-NC-O-40	B6235_012	SO	1	4oz Amber	21-Jan-22	11:10	0	3	4905 2704 4720
11215131-012122-S-BN-NC-B-11	B6235_013	SO	1	4oz Amber	21-Jan-22	11:20	0	3	4905 2704 4720

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact. Logged samples 008 & 009 per sample labels.

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

Received by: Ashley Owens *Logged in by: Ashley Owens* *QC'ed by:* AK 26 Jan 22

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

SGS CHAIN OF CUSTODY

B6235 1/3

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

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

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

SAMPLE ID / DESCRIPTION (BN)	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: NONE	ANALYSIS & METHOD: M1613B	M6290A	M1668A	M1668C	HR-PAH	M1699	QC: MS	MSD	DUP	QTY	REMARKS: SEE SSOW
11215131-012122-S-BN-NC-S-36	1-21-22	1420	C	S	4oz		X									1	RUSH
11215131-012122-S-BN-NC-0-37	↓	1430					X									1	*
11215131-012122-S-BN-NC-0-38	↓	1440					X									1	*
11215131-012222-S-BN-NC-S-34	1-22-22	0830					X									1	RUSH
11215131-012222-S-BN-NC-S-35		0840					X									1	RUSH
11215131-012222-S-BN-NC-0-36		0850					X									1	*
11215131-012222-S-BN-NC-S-33		0930					X									1	RUSH
11215131-012222-S-BN-NC-S-41		0940					X									1	RUSH
11215131-012222-S-BN-NC-D-35		0950					X									1	*
11215131-012222-S-BN-NC-B-10	↓	1000	▽	↓	▽		X						X	X		1	*

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:
Brianna Nosh	1-22-22	1730	Meagan Willis
RELINQUISHED BY (2):	DATE:	TIME:	RECEIVED BY:
Meagan Willis	1-24-22	0821	1-24-22 08:21
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:

RECEIVED BY LABORATORY: DATE: TIME:
4/21/22 11:48
COOLER SEAL: ☑ INTACT ☐ BROKEN ☐ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☑ ABSENT
CARRIER: FedEx TEMP: °C 0.2°
TRACKING #: 4905 2704 4708

* = samples in this project.

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

SGS CHAIN OF CUSTODY

BU235 2 3

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

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

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

PRESERVATIVE: None

ANALYSIS & METHOD: M1613B, M8290A, M1668A, M1668C, HR-PAH, M4699

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	QC: MS	QC: MSD	QC: DUP	QTY	REMARKS	SEE SOW
11215131-012222-S-BN-NC-S-40	1-22-22	1210	C	S	4oz				1	RUSH	
11215131-012222-S-BN-NC-S-37		1220							1	RUSH	
11215131-012222-S-BN-NC-0-41		1230							1		*
11215131-012222-S-BN-NC-0-39		1240							1		*
11215131-012222-BN-NC-B-12		1250							1		*
11215131-012222-BN-DUP-14	↓	—	↓	↓	↓			X	1		*

COLLECTED/RELINQUISHED BY (1): Breanna Nash	DATE: 1-22-22	TIME: 1730	RECEIVED BY: Meagan Willis	RECEIVED BY LABORATORY: [illegible]	DATE: 1/24/22 TIME: 11:48
RELINQUISHED BY (2): Meagan Willis	DATE: 1-24-22	TIME: 0531	RECEIVED BY:	COOLER SEAL: ☐ INTACT ☐ BROKEN ☐ ABSENT	
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:	CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT	
				CARRIER: FedEx	TEMP: °C 0.2°
				TRACKING #: 4905 2704 4708	

*=samples in this project.

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Member of the SGS Group (SGS SA)

SGS CHAIN OF CUSTODY

B6235 3/3

PROJECT INFO

PROJECT: 11215131-SJRWP - PCFSE

P.O. #:

QUOTE #: file

SITE REF: International Paper

TURN AROUND TIME:

REPORT LEVEL: ☐ Level I ☒ Level II ☒ Level IV

SPECIAL DELIVERABLES:

☐ DoD ☒ EDD/Version: GHD EQuIS 4-file

☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO

COMPANY: GHD Services Inc.

CONTACT: Meagan Willis

ADDRESS: 11451 Katy Fwy #400,Houston, T

PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (☒ CHECK IF SAME)

COMPANY:

CONTACT:

ADDRESS:

PHONE: EMAIL:

PRESERVATIVE: NONE

ANALYSIS & METHOD: M1613B, ~~M8290A~~, ~~M1668A~~, ~~M1668C~~ (BN), ~~HR-PAH~~, ~~M1699~~

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B	~~M8290A~~	~~M1668A~~	~~M1668C~~ (BN)	~~HR-PAH~~	~~M1699~~	QC MS	QC MSD	QC DUP	QTY	REMARKS	SEE SSOW
11215131-012122-S-BN-NC-0-43	1-21-22	1030	C	S	4oz	X									1		*
11215131-012122-S-BN-NC-S-39	↓	1040	↓	↓	↓	X									1	RUSH	
11215131-012122-S-BN-NC-0-42	↓	1050	↓	↓	↓	X									1		*
11215131-012122-S-BN-NC-S-38	↓	1100	↓	↓	↓	X									1	RUSH	
11215131-012122-S-BN-NC-0-40	↓	1110	↓	↓	↓	X									1		*
11215131-012122-S-BN-NC-B-11	↓	1120	↓	↓	↓	X									1		*

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:
Breanna Nobl	1-21-22	1275	Eddie Castro
RELINQUISHED BY (2): Eddie Castro	1-21-22	1350	RECEIVED BY:
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:

RECEIVED BY LABORATORY:	DATE:	TIME:
Nancy Owens	1/26/22	11:48

COOLER SEAL: ☒ INTACT ☐ BROKEN ☐ ABSENT

CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☒ ABSENT

CARRIER: FedEx TEMP: °C 0.8° & 0.0°

TRACKING #:

*= Samples in this project.

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

Member of the SGS Group (SGS SA)

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

SHIP DATE: 24JAN22
ACTWGT: 45.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

1/26/2022
11:48
0.2° (T.B.)

FedEx Express

1 of 3

TRK# 0201 4905 2704 4708

MASTER

NL ILMA

TUE - 25 JAN 10:30A
PRIORITY OVERNIGHT

28405
NC-US RDU

Part # 156148-434 MTW EXP 07/22

B6235 1/2

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

SHIP DATE: 24JAN22
ACTWGT: 45.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

1/26/2022
11:48
0.8° (T.B.)

FedEx Express

2 of 3

MPS# 0263 4905 2704 4719
Mstr# 4905 2704 4708

0201

NL ILMA

TUE - 25 JAN 10:30A
PRIORITY OVERNIGHT

28405
NC-US RDU

Part # 156148-434 MTW EXP 07/22

B6235 2/2

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

SHIP DATE: 24JAN22
ACTWGT: 45.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

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

1/26/2022
11:48
0.0°

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

56SC4/F289/05A2

FedEx Express

E

J191219082001uv

3 of 3

MPS# 0263 **4905 2704 4720**

Mstr# 4905 2704 4708 [0201]

TUE - 25 JAN 10:30A
PRIORITY OVERNIGHT

NL ILMA

28405
NC-US **RDU**

Part # 156148-434 MTW EXP 07/22

SGS

Project Initiation Form

Project Number:	B6235	Initiation Date:	26-Jan-22
Client Name:	GHD Services Inc.	Sample Matrix:	Solid
Analysis Method:	1613 PCDD/F	TAT:	10 days
		Project Manager:	Tamara

Special Instructions

M1613B w/OPR

10 g DWE extraction

Sample 005 is MS/MSD

Read and understood. initial and date: Prep Lab: VE 2/1/22 RAB 3/7/22 HRMS Lab:

Reporting Instructions

M1613B

Full Report

Sample 005 is MS/MSD summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood. initial and date: HRMS Lab:

PM Initials: akornegay Date: 26-Jan-2022

SGS

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

Batch# 18875 | Split: ~~1/3~~ ~~2/3~~ | Extract Initial/Date: DE 2/3/22 | Clean-up Initial/Date: [illegible] 2/7/22 | Transfer Init/Date: [illegible] 2/8/22

Lab Sample ID	Extraction Position (Solvent: TOL)	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B6235_18875_001	14	13.25				brown, clay-like
B6235_18875_002	15	12.52				brown, clay-like
B6235_18875_003	16	12.33				brown/tan, clay-like
B6235_18875_004	17	12.98				brown, clay-like
B6235_18875_005	18	13.64				gray, clay-like, oil smell
B6235_18875_005MS	19	13.41				see 005
B6235_18875_005MSD	20	13.39				see 005
B6235_18875_006	21	~~12.83~~ ~~12.82~~ 12.77 (DE 2/3/22)				brown, clay-like
B6235_18875_007	22	12.68				brown, clay-like
B6235_18875_008	23	12.66		TB 2/14/22		gray, clay-like
B6235_18875_009	24	13.56				gray, clay-like
B6235_18875_010	25	17.25				light brown, clay-like
B6235_18875_011	26	13.91				gray/orange, clay-like
B6235_18875_012	27	13.52				brown, clay-like
B6235_18875_013	28	13.03				gray, clay-like
MB1_18875	12	10.00				sodium sulfate
OPR1_18875	13	10.00				sodium sulfate

Supply IDs

Toluene	STL14-24
MeCHL	STL14-17
Florisil	SPLS-77
Hexane	STL14-22
Silica	SPLS-69
S Nitrate	N/A
Base Silica	SPLS-86
HydroMatrix	N/A
Tetradecane	SPLS-73D
H_2SO_4	N/A
A Silica	SPLS-82
Sodium Sulfate	SPLS-80D

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	TB 2/14/22
Carbon Column Date/Initial:	
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start: 1530 Stop: 0900
HEX	Start: Stop:
DCM	Start: TB 2/14/22 Stop:

DE 2/3/22

DE 2/7/22

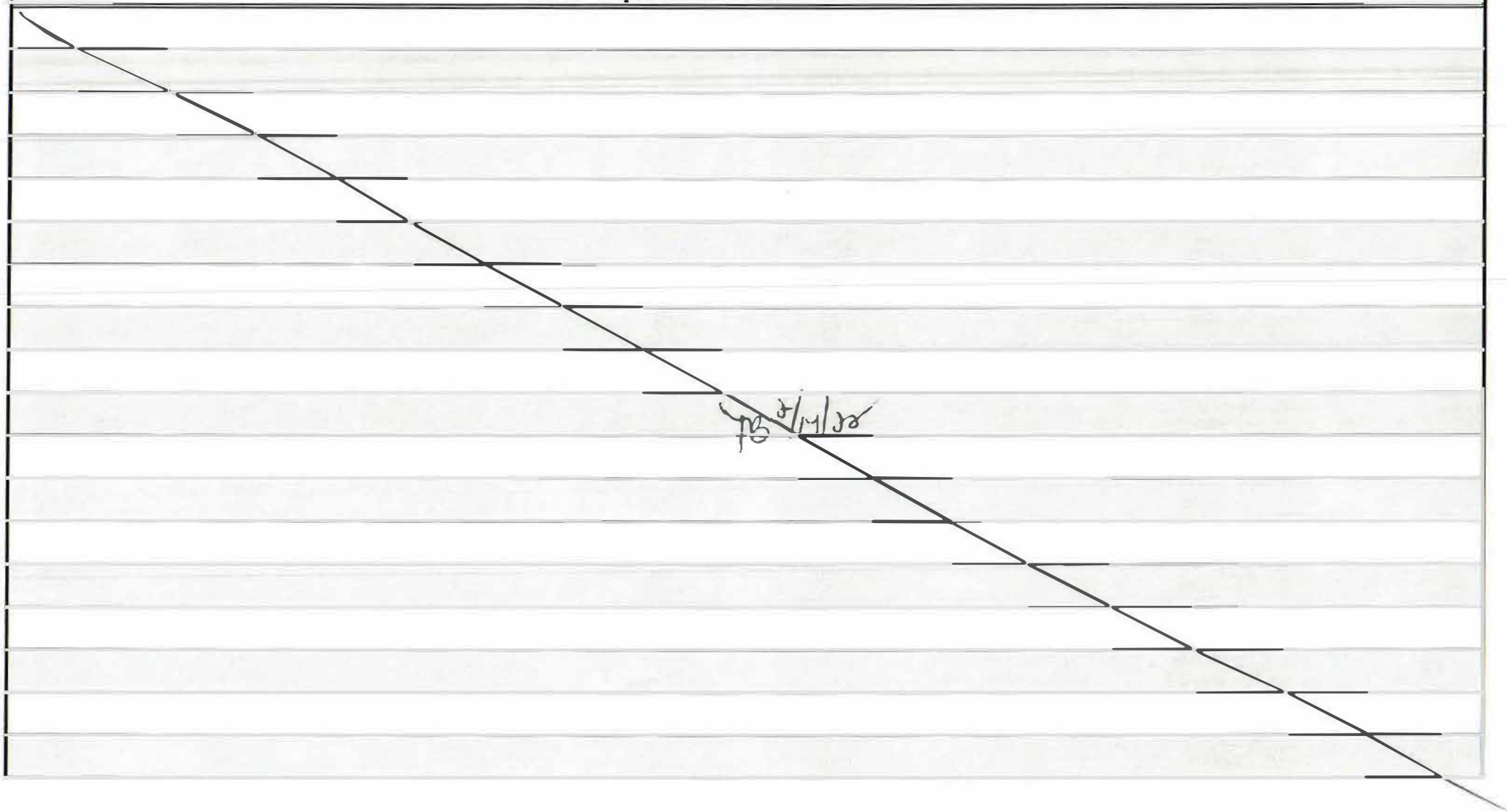
SGS

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

Solid

Batch# 18875

Inter-Department Communication Sheet



SGS

Wt. Volume Results

Batch #: 18875

Comments:

AK 2/14/22

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample+ Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio(if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6235_001	2.35	6.73	5.72	76.94%	76.94%			13	13.25	10.19
B6235_002	2.34	6.33	5.59	81.45%	81.45%			12.28	12.52	10.2
B6235_003	2.33	5.92	5.27	81.89%	81.89%			12.21	12.33	10.1
B6235_004	2.33	5.91	5.12	77.93%	77.93%			12.83	12.98	10.12
B6235_005	2.35	6.54	5.48	74.70%	74.70%			13.39	13.64	10.19
B6235_005MS	2.35	6.54	5.48	74.70%	74.70%			13.39	13.41	10.02
B6235_005MSD	2.35	6.54	5.48	74.70%	74.70%			13.39	13.39	10
B6235_006	2.37	6.1	5.29	78.28%	78.28%			12.77	12.77	10
B6235_007	2.36	6.54	5.73	80.62%	80.62%			12.4	12.68	10.22
B6235_008	2.36	6.9	5.95	79.07%	79.07%			12.65	12.66	10.01
B6235_009	2.36	6.55	5.46	73.99%	73.99%			13.52	13.56	10.03
B6235_010	2.37	6.79	4.95	58.37%	58.37%			17.13	17.25	10.07
B6235_011	2.39	6.83	5.61	72.52%	72.52%			13.79	13.91	10.09
B6235_012	2.34	6.78	5.67	75.00%	75.00%			13.33	13.52	10.14
B6235_013	2.36	6.29	5.38	76.84%	76.84%			13.01	13.03	10.01

RB 2/14/22

% Solid Determination WorkSheet

SGS

Batch: 18875

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	10g DI:E	Comments
B6235_18875_001	2.35	6.73	5.72/5.72	13.00	
B6235_18875_002	2.34	6.33	5.59/5.59	12.28	
B6235_18875_003	2.33	5.92	5.27/5.27	12.21	
B6235_18875_004	2.33	5.91	5.12/5.12	12.83	
B6235_18875_005	2.35	6.54	5.48/5.48	13.39	
B6235_18875_005MS	—	—	—	—	
B6235_18875_005MSD	—	—	—	—	
B6235_18875_006	2.37	6.10	5.29/5.29	12.77	
B6235_18875_007	2.36	6.54	5.73/5.73	12.40	
B6235_18875_008	2.36	6.90	5.95/5.95	12.65	
B6235_18875_009	2.36	6.55	5.47/5.46	13.52	
B6235_18875_010	2.37	6.79	4.95/4.95	17.13	
B6235_18875_011	2.39	6.83	5.61/5.61	13.79	
B6235_18875_012	2.34	6.78	5.67/5.67	13.33	
B6235_18875_013	2.36	6.29	5.38/5.38	13.01	
Date/Initials: BF 2/1/22					

2/9/22

SGS

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

Batch # 18875

Spiker Initials/Date: 2/3/22 | 2/3/22 | 2/3/22 | 2/7/22 | 2/7/22

Lab Sample ID	D/F Ax-A Amount: 20µL Observer Initials	D/F Ax-B Amount: 20µL Observer Initials	D/F ES Amount: 20µL Observer Initials	D/F CS Amount: 20µL Observer Initials	D/F JS Amount: 20µL Observer Initials	Amount: Observer Initials	Amount: Observer Initials
B6235_18875_001	—	—	KE	KE	KE		
B6235_18875_002	—	—	KE	KE	KE		
B6235_18875_003	—	—	KE	KE	KE		
B6235_18875_004	—	—	KE	KE	KE		
B6235_18875_005	—	—	KE	KE	KE		
B6235_18875_005MS	KE	KE	KE	KE	KE		
B6235_18875_005MSD	KE	KE	KE	KE	KE		
B6235_18875_006	—	—	KE	KE	KE		
B6235_18875_007	—	—	KE	KE	KE		
B6235_18875_008	—	—	KE	KE	KE		
B6235_18875_009	—	—	KE	KE	KE		
B6235_18875_010	—	—	KE	KE	KE		
B6235_18875_011	—	—	KE	KE	KE		
B6235_18875_012	—	—	KE	KE	KE		
B6235_18875_013	—	—	KE	KE	KE		
MBI_18875	—	—	KE	KE	KE		
OPR1_18875	KE	KE	KE	KE	KE		

2/9/22

Standard Information

Pipette ID	—					4/9/22
Spike ID	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS	
SIL#	26-2-8	25-187-2	26-2-9	25-338-1	25-384-1	
Concentration	100pg/µL	100pg/µL	100 pg/µL	100 PG/µL	100 PG/µL	
Expiration Date	7/9/28	1/22/22	8/20/28	11/16/22	1/28/23	

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

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
9	220210C09	3	CS3_220210_DF_CB	1.00	25-347-1	DTF	521-082	10-Feb-2022	16:17:06
10	220210C10	37	OPR1_18917_DF	1.00	0_18917_OPR001 **CPSM only**	DTF	456-279	10-Feb-2022	17:03:25
12	220210C12	2	SBS_220210_DF_CB	1.00	30-61-1	DTF	737-611	10-Feb-2022	18:36:07
13	220210C17	45	B6235_18875_DF_001	10.19	11215131-012122-S-BN-NC-O-37	DTF	889-891	10-Feb-2022	22:27:46
14	220210C18	46	B6235_18875_DF_002	10.20	11215131-012122-S-BN-NC-O-38	DTF	165-566	10-Feb-2022	23:14:05
15	220210C19	47	B6235_18875_DF_003	10.10	11215131-012222-S-BN-NC-O-36	DTF	623-032	11-Feb-2022	00:00:25
16	220210C20	48	B6235_18875_DF_004	10.12	11215131-012222-S-BN-NC-O-35	DTF	553-811	11-Feb-2022	00:46:45
17	220210C21	49	B6235_18875_DF_005	10.19	11215131-012222-S-BN-NC-B-10	DTF	399-303	11-Feb-2022	01:33:05
18	220210C22	50	B6235_18875_DF_005MS	10.02	11215131-012222-S-BN-NC-B-10-MS	DTF	125-447	11-Feb-2022	02:19:26
19	220210C23	51	B6235_18875_DF_005MSD	10.00	11215131-012222-S-BN-NC-B-10-MSD	DTF	192-121	11-Feb-2022	03:05:47
20	220210C24	52	B6235_18875_DF_006	10.00	11215131-012222-S-BN-NC-O-41	DTF	849-031	11-Feb-2022	03:52:07
26	220210C26	3	CS3_220210_DF_CC	1.00	25-347-1	DTF	693-263	11-Feb-2022	05:40:55
27	220210C27	44	OPR1_18875_DF	1.00	0_18875_OPR001	DTF	982-417	11-Feb-2022	06:27:14
28	220210C28	2	SBS_220210_DF_CD	1.00	30-61-1	DTF	438-871	11-Feb-2022	07:13:35
29	220210C29	43	MB1_18875_DF_SDS	10.00	Method Blank	DTF	285-664	11-Feb-2022	07:59:54
30	220210C30	53	B6235_18875_DF_007	10.22	11215131-012222-S-BN-NC-O-39	DTF	288-405	11-Feb-2022	08:46:14
31	220210C31	54	B6235_18875_DF_008	10.01	11215131-012222-S-BN-NC-B-12	DTF	608-475	11-Feb-2022	09:32:35
32	220210C32	55	B6235_18875_DF_009	10.03	11215131-012222-S-BN-DUP-14	DTF	182-005	11-Feb-2022	10:18:54
33	220210C33	56	B6235_18875_DF_010	10.07	11215131-012122-S-BN-NC-O-43	DTF	374-144	11-Feb-2022	11:05:14
34	220210C34	57	B6235_18875_DF_011	10.09	11215131-012122-S-BN-NC-O-42	DTF	396-800	11-Feb-2022	11:51:34
35	220210C35	58	B6235_18875_DF_012	10.14	11215131-012122-S-BN-NC-O-40	DTF	580-880	11-Feb-2022	12:37:56
36	220210C36	59	B6235_18875_DF_013	10.01	11215131-012122-S-BN-NC-B-11	DTF	472-723	11-Feb-2022	13:24:16

Lab ID: MB1_18875_DF_SDS | **Acq'd:** 11 Feb 2022 07:59 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6235_18875 | **UTP:** 11-Feb-2022 16:26:45 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 285-664-TSK

Datafile: 220210C29 | **Report:** 11 Feb 2022 16:28 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	3125.295	0.182
12378-PeCDD	NotFnd		1.0005	-		-	-	-	1.04	-	2500.8552	0.167
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2235.071	0.144
123678-HxCDD	NotFnd		1.0035	-		-	-	-	1.15	-	2235.071	0.124
123789-HxCDD	NotFnd		1.0113	-		-	-	-	1.05	-	2235.071	0.131
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	2415.188	0.157
OCDD	NotFnd		1.0002	-		-	-	-	1.13	-	4210.864	0.544
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	2837.791	0.128
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2883.88	0.124
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2883.88	0.128
123478-HxCDF	NotFnd		1.0005	-		-	-	-	1.27	-	2900.74	0.124
123678-HxCDF	NotFnd		1.0005	-		-	-	-	1.15	-	2900.74	0.121
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2900.74	0.11
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2900.74	0.146
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	3645.411	0.131
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	3645.411	0.236
OCDF	NotFnd		1.0003	-		-	-	-	1.07	-	2718.149	0.283

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.45	1.0238	1.0238	0	3.01E+07	0.81	Y	1.05	87.6
ES 12378-PeCDD	33.80	1.2160	1.2162	+0.4	2.67E+07	1.55	Y	0.88	92.3
ES 123478-HxCDD	37.72	0.9919	0.9919	0	2.59E+07	1.30	Y	0.97	89.9
ES 123678-HxCDD	37.83	0.9950	0.9950	0	2.76E+07	1.26	Y	0.94	99
ES 123789-HxCDD	38.13	1.0027	1.0027	0	2.86E+07	1.29	Y	1.09	88.6
ES 1234678-HpCDD	40.81	1.0730	1.0732	+0.5	2.38E+07	1.09	Y	0.91	88.1
ES OCDD	43.49	1.1437	1.1439	+0.5	3.29E+07	0.91	Y	0.62	89
ES 2378-TCDF	27.59	1.0520	1.0520	0	4.45E+07	0.78	Y	1.06	82.4
ES 12378-PeCDF	32.35	1.2330	1.2333	+0.6	4.23E+07	1.57	Y	0.91	91
ES 23478-PeCDF	33.46	1.2754	1.2758	+0.8	3.99E+07	1.58	Y	0.88	88.5
ES 123478-HxCDF	36.71	0.9653	0.9653	0	3.04E+07	0.52	Y	1.20	85.6
ES 123678-HxCDF	36.85	0.9691	0.9691	0	3.83E+07	0.54	Y	1.35	95.7
ES 234678-HxCDF	37.53	0.9870	0.9870	0	3.79E+07	0.52	Y	1.24	103
ES 123789-HxCDF	38.49	1.0121	1.0121	0	2.79E+07	0.54	Y	1.16	81.7
ES 1234678-HpCDF	39.87	1.0484	1.0485	+0.2	2.99E+07	0.47	Y	0.97	104
ES 1234789-HpCDF	41.27	1.0851	1.0853	+0.5	2.06E+07	0.45	Y	0.85	81.7
ES OCDF	43.67	1.1483	1.1486	+0.8	3.95E+07	0.92	Y	0.81	82.6

Lab ID: MB1_18875_DF_SDS | **Acq'd:** 11 Feb 2022 07:59 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6235_18875 | **UTP:** 11-Feb-2022 16:26:45 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 285-664-TSK

Datafile: 220210C29 | **Report:** 11 Feb 2022 16:28 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.79		-	-	-	3.29E+07	0.81	Y	-	-
JS 1234-TCDF	26.23		-	-	-	5.10E+07	0.78	Y	-	-
JS 123467-HxCDD	38.02		-	-	-	1.48E+07	1.32	Y	-	-
CS 37Cl-2378-TCDD	28.47		1.0245	1.0246	+0.2	1.47E+07	n/a	-	1.20	92.9
CS 12347-PeCDD	33.29		1.1979	1.1981	+0.4	2.68E+07	1.62	Y	0.75	108
CS 12346-PeCDF	31.82		1.2128	1.2131	+0.6	4.37E+07	1.55	Y	0.85	101
CS 123469-HxCDF	37.16		0.9774	0.9774	0	3.56E+07	0.56	Y	1.12	108
CS 1234689-HpCDF	40.27		1.0589	1.0591	+0.5	2.79E+07	0.47	Y	0.89	106
SS 37Cl-2378-TCDD	28.47		1.0245	1.0246	+0.2	1.47E+07	n/a	-	1.15	106
SS 12347-PeCDD	33.29		1.1979	1.1981	+0.4	2.68E+07	1.62	Y	0.86	117
SS 12346-PeCDF	31.82		1.2128	1.2131	+0.6	4.37E+07	1.55	Y	0.94	110
SS 123469-HxCDF	37.16		0.9774	0.9774	0	3.56E+07	0.56	Y	0.83	112
SS 1234689-HpCDF	40.27		1.0589	1.0591	+0.5	2.79E+07	0.47	Y	0.92	102

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

Lab ID: MB1_18875_DF_SDS | **Acq'd:** 11 Feb 2022 07:59 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6235_18875 | **UTP:** 11-Feb-2022 16:26:45 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 285-664-TSK

Datafile: 220210C29 | **Report:** 11 Feb 2022 16:28 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8737						1.18		3125.295	0.182
1379-TCDD	NotFnd		0.8860						1.18		3125.295	0.182
1369-TCDD	NotFnd		0.9009						1.18		3125.295	0.182
1469-TCDD	NotFnd		0.9281						1.18		3125.295	0.182
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3125.295	0.182
1378-TCDD	NotFnd		0.9432						1.18		3125.295	0.182
1268-TCDD	NotFnd		0.9500						1.18		3125.295	0.182
1478-TCDD	NotFnd		0.9586						1.18		3125.295	0.182
1279-TCDD	NotFnd		0.9645						1.18		3125.295	0.182
1234/1269-TCDD	NotFnd		0.9770						1.18		3125.295	0.182
1236-TCDD	NotFnd		0.9817						1.18		3125.295	0.182
1237/1238-TCDD	NotFnd		0.9905						1.18		3125.295	0.182
1239-TCDD	NotFnd		0.9952						1.18		3125.295	0.182
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**3125.295**	**0.182**
1278-TCDD	NotFnd		1.0121						1.18		3125.295	0.182
1267-TCDD	NotFnd		1.0167						1.18		3125.295	0.182
1289-TCDD	NotFnd		1.0345						1.18		3125.295	0.182
12479/12468-PeCDD	NotFnd		0.9267						1.04		2500.8552	0.167
12469-PeCDD	NotFnd		0.9425						1.04		2500.8552	0.167
12368-PeCDD	NotFnd		0.9588						1.04		2500.8552	0.167
12478-PeCDD	NotFnd		0.9643						1.04		2500.8552	0.167
12379-PeCDD	NotFnd		0.9673						1.04		2500.8552	0.167
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		2500.8552	0.167
12346/12347-PeCDD	NotFnd		0.9858						1.04		2500.8552	0.167
12378-PeCDD	NotFnd		**1.0005**						**1.04**		**2500.8552**	**0.167**
12367-PeCDD	NotFnd		1.0033						1.04		2500.8552	0.167
12389-PeCDD	NotFnd		1.0134						1.04		2500.8552	0.167
124679/124689-HxCDD	NotFnd		0.9542						1.10		2235.071	0.133
123468-HxCDD	NotFnd		0.9715						1.10		2235.071	0.133
123679/123689-HxCDD	NotFnd		0.9793						1.10		2235.071	0.133
123469-HxCDD	NotFnd		0.9828						1.10		2235.071	0.133
123478-HxCDD	NotFnd		**1.0004**						1.09		**2235.071**	**0.144**
123678-HxCDD	NotFnd		**1.0035**						1.15		**2235.071**	**0.124**
123467-HxCDD	NotFnd		1.0085						1.10		2235.071	0.133
123789-HxCDD	NotFnd		**1.0113**						1.05		**2235.071**	**0.131**

Lab ID: MB1_18875_DF_SDS | **Acq'd:** 11 Feb 2022 07:59 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6235_18875 | **UTP:** 11-Feb-2022 16:26:45 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 285-664-TSK

Datafile: 220210C29 | **Report:** 11 Feb 2022 16:28 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

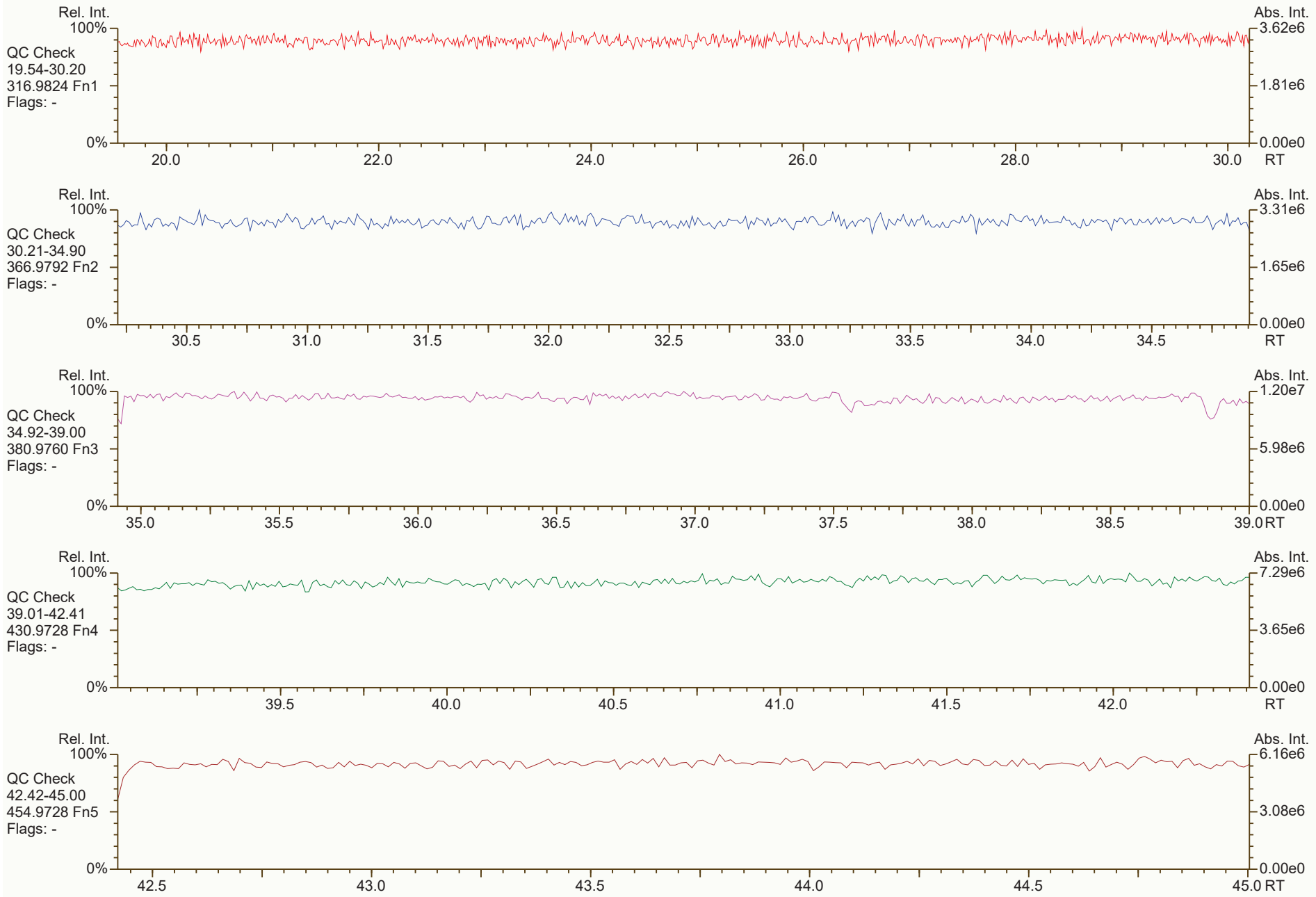
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9837						1.06		2415.188	0.157
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**2415.188**	**0.157**
OCDD	**NotFnd**		**1.0002**						**1.13**		**4210.864**	**0.544**
OCDD-a	NotFnd		1.0001						0.07		3176.855	6.42
1368-TCDF	NotFnd		0.8251						1.08		2837.791	0.128
1468-TCDF	NotFnd		0.8458						1.08		2837.791	0.128
2468-TCDF	NotFnd		0.8686						1.08		2837.791	0.128
1346/1246-TCDF	NotFnd		0.8814						1.08		2837.791	0.128
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2837.791	0.128
1348-TCDF	NotFnd		0.8962						1.08		2837.791	0.128
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2837.791	0.128
1268-TCDF	NotFnd		0.9145						1.08		2837.791	0.128
1467-TCDF	NotFnd		0.9193						1.08		2837.791	0.128
1478-TCDF	NotFnd		0.9254						1.08		2837.791	0.128
1369/1237-TCDF	NotFnd		0.9387						1.08		2837.791	0.128
2467-TCDF	NotFnd		0.9433						1.08		2837.791	0.128
2368-TCDF	NotFnd		0.9489						1.08		2837.791	0.128
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2837.791	0.128
1278-TCDF	NotFnd		0.9683						1.08		2837.791	0.128
1349-TCDF	NotFnd		0.9722						1.08		2837.791	0.128
1267-TCDF	NotFnd		0.9783						1.08		2837.791	0.128
2346/1249-TCDF	NotFnd		0.9850						1.08		2837.791	0.128
2347/1279-TCDF	NotFnd		0.9926						1.08		2837.791	0.128
2348-TCDF	NotFnd		0.9967						1.08		2837.791	0.128
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**2837.791**	**0.128**
2367/3467-TCDF	NotFnd		1.0137						1.08		2837.791	0.128
1269-TCDF	NotFnd		1.0223						1.08		2837.791	0.128
1239-TCDF	NotFnd		1.0321						1.08		2837.791	0.128
1289-TCDF	NotFnd		1.0722						1.08		2837.791	0.128
13468/12468-PeCDF	NotFnd		0.9139						1.02		2730.152	0.119
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		2883.88	0.126
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		2883.88	0.126
14678-PeCDF	NotFnd		0.9692						1.02		2883.88	0.126
13479-PeCDF	NotFnd		0.9723						1.02		2883.88	0.126
13469/12479-PeCDF	NotFnd		0.9797						1.02		2883.88	0.126
12346-PeCDF	NotFnd		0.9840						1.02		2883.88	0.126

Lab ID: MB1_18875_DF_SDS | **Acq'd:** 11 Feb 2022 07:59 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6235_18875 | **UTP:** 11-Feb-2022 16:26:45 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 285-664-TSK

Datafile: 220210C29 | **Report:** 11 Feb 2022 16:28 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		2883.88	0.126
12347-PeCDF	NotFnd		0.9894						1.02		2883.88	0.126
12348-PeCDF	NotFnd		0.9940						1.02		2883.88	0.126
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2883.88**	**0.124**
12678/12367-PeCDF	NotFnd		1.0089						1.02		2883.88	0.126
12379-PeCDF	NotFnd		1.0142						1.02		2883.88	0.126
12679-PeCDF	NotFnd		0.9929						1.02		2883.88	0.126
23467/12369-PeCDF	NotFnd		0.9967						1.02		2883.88	0.126
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2883.88**	**0.128**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2883.88	0.126
12349-PeCDF	NotFnd		1.0100						1.02		2883.88	0.126
12389-PeCDF	NotFnd		1.0324						1.02		2883.88	0.126
123468-HxCDF	NotFnd		0.9627						1.19		2900.74	0.123
124678/134678-HxCDF	NotFnd		0.9682						1.19		2900.74	0.123
134679-HxCDF	NotFnd		0.9744						1.19		2900.74	0.123
124679-HxCDF	NotFnd		0.9798						1.19		2900.74	0.123
124689-HxCDF	NotFnd		0.9858						1.19		2900.74	0.123
123467-HxCDF	NotFnd		0.9972						1.19		2900.74	0.123
123478-HxCDF	**NotFnd**		**1.0005**						**1.27**		**2900.74**	**0.124**
123678-HxCDF	**NotFnd**		**1.0005**						**1.15**		**2900.74**	**0.121**
123479-HxCDF	NotFnd		1.0049						1.19		2900.74	0.123
123469-HxCDF	NotFnd		1.0090						1.19		2900.74	0.123
123679-HxCDF	NotFnd		0.9942						1.19		2900.74	0.123
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2900.74**	**0.11**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2900.74	0.123
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2900.74**	**0.146**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		2900.74	0.123
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**3645.411**	**0.131**
1234679-HpCDF	NotFnd		1.0068						1.34		3645.411	0.174
1234689-HpCDF	NotFnd		1.0103						1.34		3645.411	0.174
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**3645.411**	**0.236**
OCDF	**NotFnd**		**1.0003**						**1.07**		**2718.149**	**0.283**
OCDF-a	NotFnd		1.0002						0.07		3732.287	6.27


Rel. Int.
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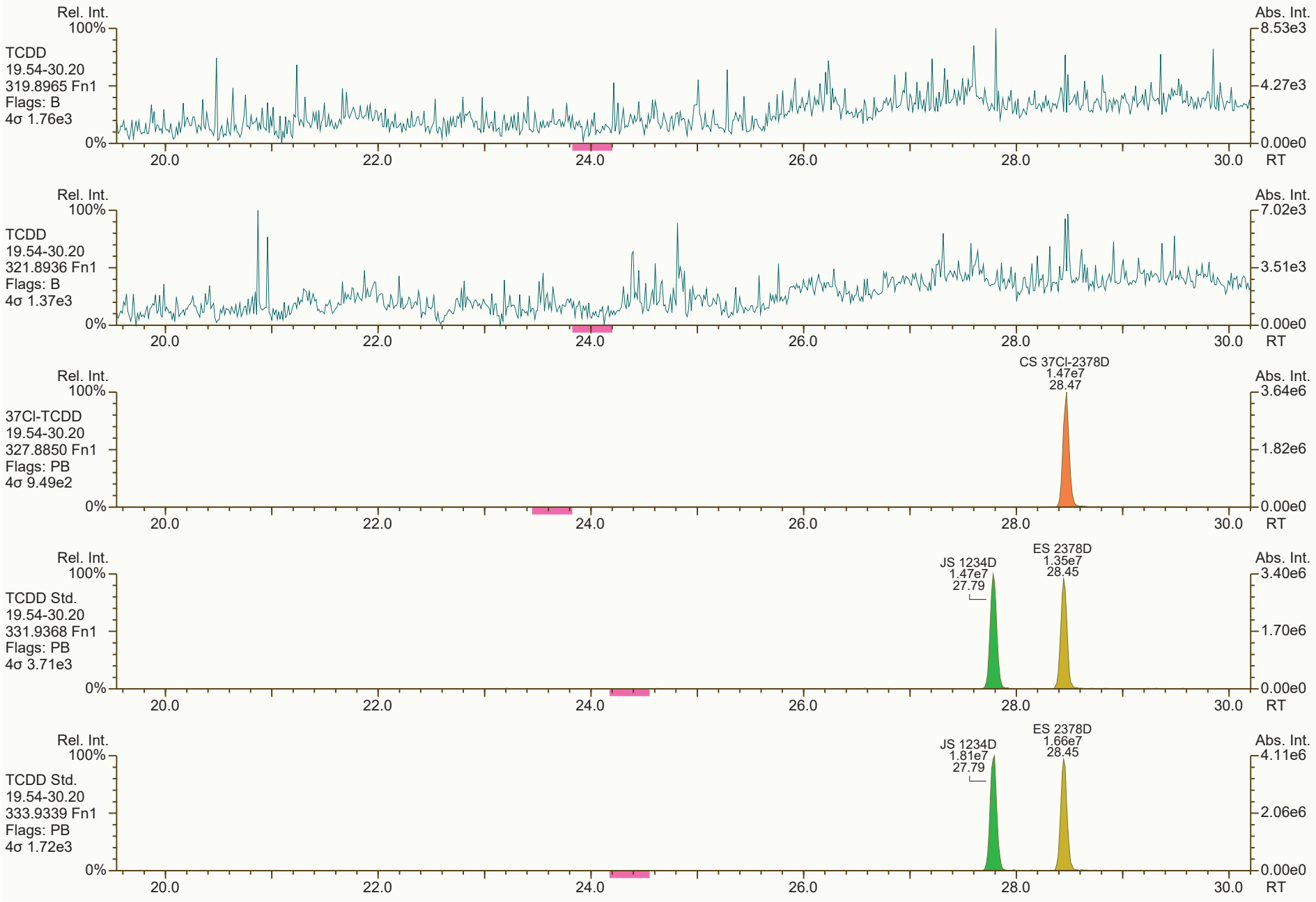
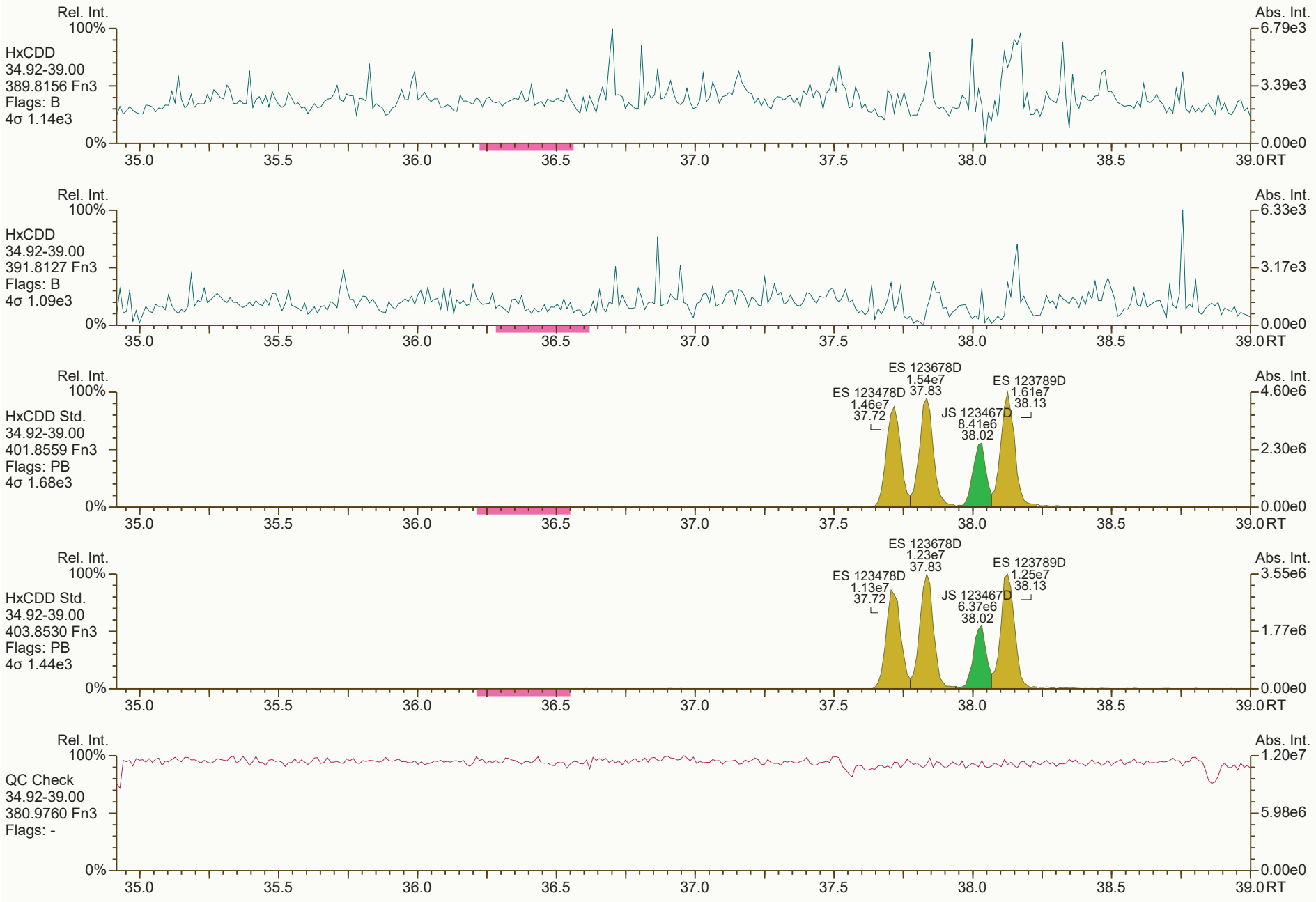
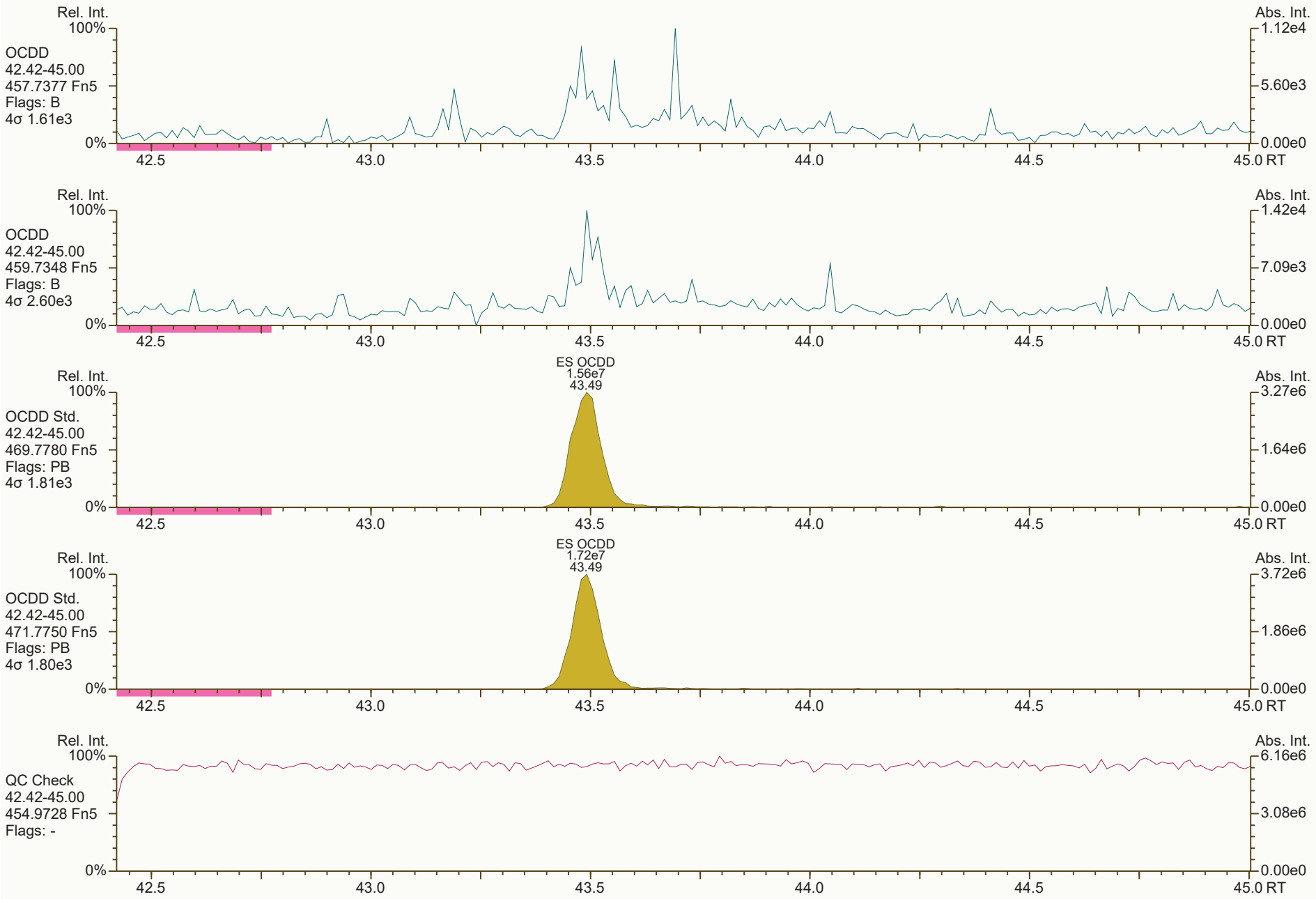
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.62e6
1.81e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.31e6
1.65e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.20e7
5.98e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
7.29e6
3.65e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
6.16e6
3.08e6
0.00e0

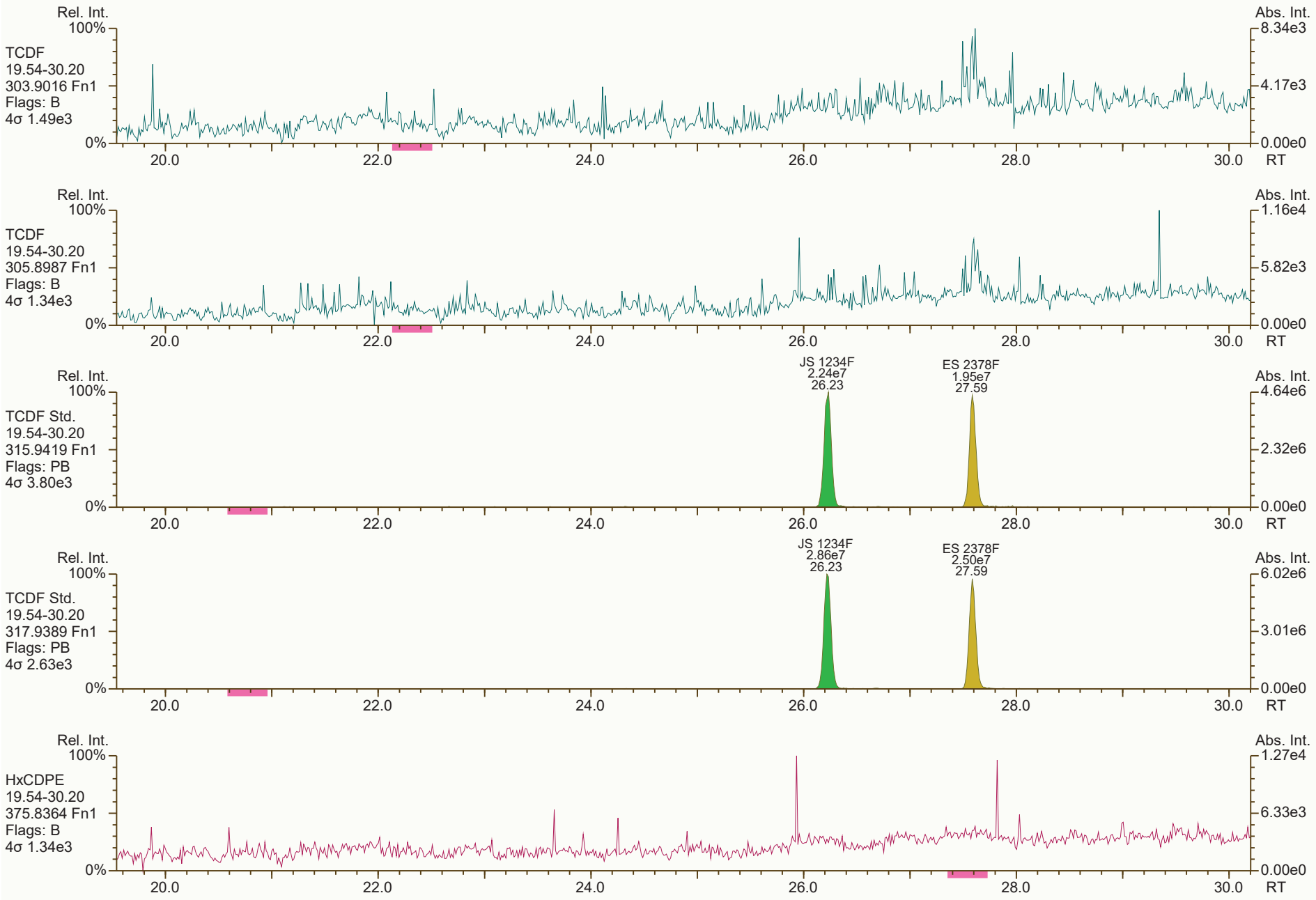

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 1.76e3
0%
Abs. Int.
8.53e3
4.27e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.37e3
0%
Abs. Int.
7.02e3
3.51e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 9.49e2
0%
CS 37Cl-2378D
1.47e7
28.47
Abs. Int.
3.64e6
1.82e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 3.71e3
0%
JS 1234D
1.47e7
27.79
ES 2378D
1.35e7
28.45
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 1.72e3
0%
JS 1234D
1.81e7
27.79
ES 2378D
1.66e7
28.45
Abs. Int.
4.11e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PB
4σ 1.55e3
0%
Abs. Int.
5.04e3
2.52e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 9.54e2
0%
Abs. Int.
1.13e4
5.67e3
0.00e0
RT
CS 12347D
1.66e7
33.29
ES 12378D
1.62e7
33.79
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 2.13e3
0%
Abs. Int.
4.75e6
2.37e6
0.00e0
RT
CS 12347D
1.02e7
33.29
ES 12378D
1.04e7
33.79
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.33e3
0%
Abs. Int.
3.03e6
1.52e6
0.00e0
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.31e6
1.65e6
0.00e0
RT

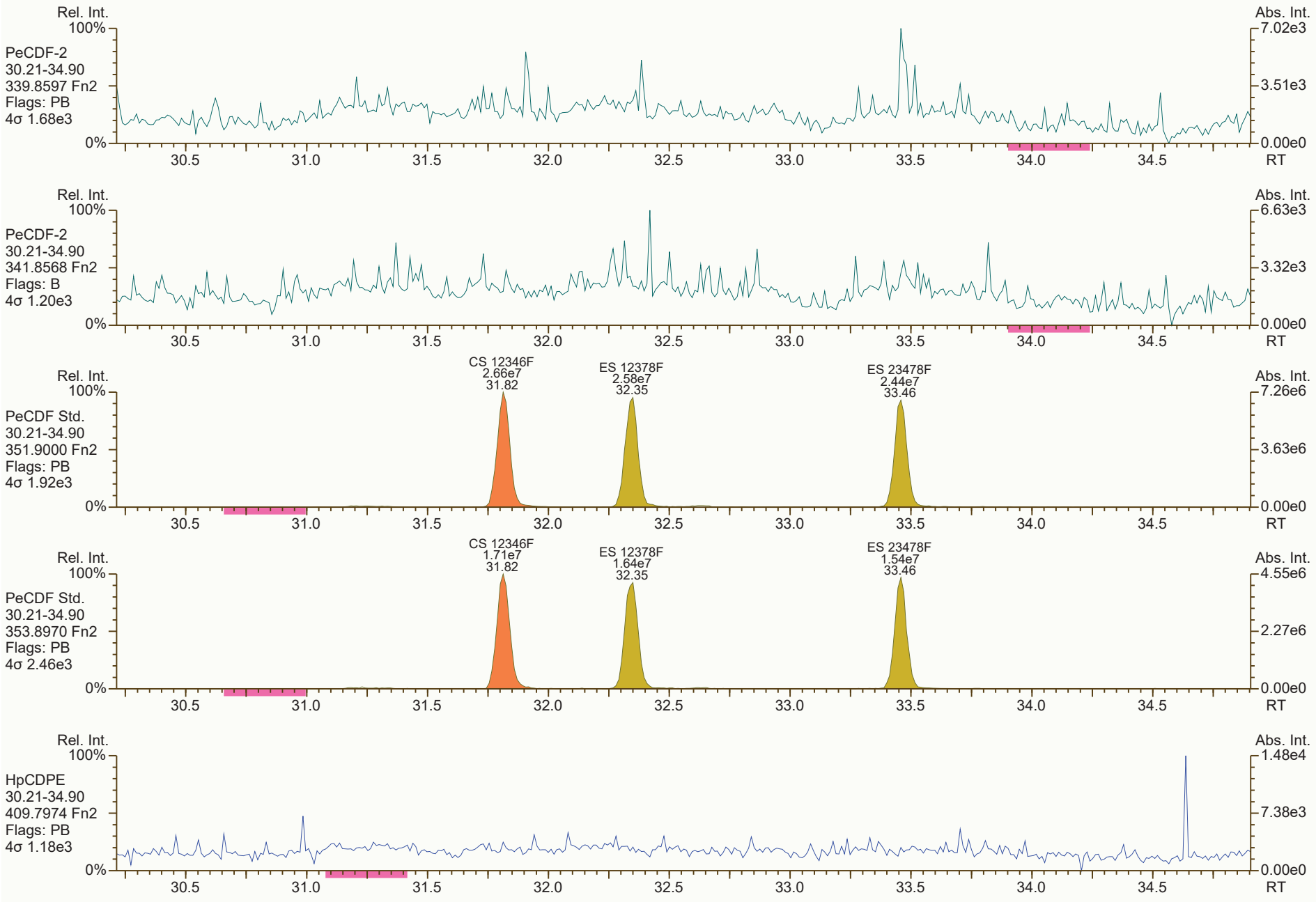

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: B
4σ 1.14e3
0%
Abs. Int.
6.79e3
3.39e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: B
4σ 1.09e3
0%
Abs. Int.
6.33e3
3.17e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 1.68e3
0%
ES 123678D
1.54e7
37.83
ES 123478D
1.46e7
37.72
JS 123467D
8.41e6
38.02
ES 123789D
1.61e7
38.13
Abs. Int.
4.60e6
2.30e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 1.44e3
0%
ES 123678D
1.23e7
37.83
ES 123478D
1.13e7
37.72
JS 123467D
6.37e6
38.02
ES 123789D
1.25e7
38.13
Abs. Int.
3.55e6
1.77e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.20e7
5.98e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

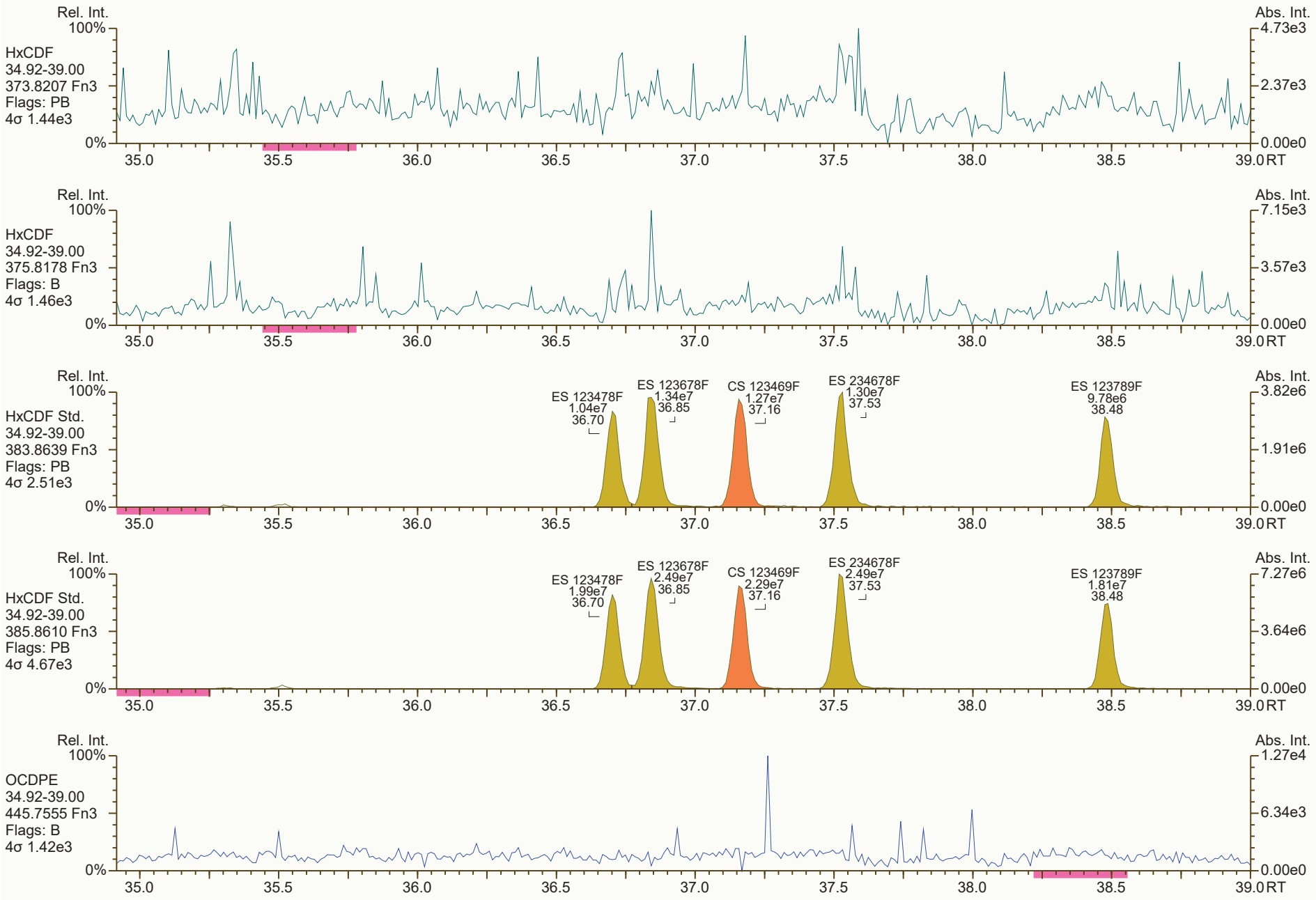

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.80e3
3.40e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: B
4σ 1.19e3
0%
Abs. Int.
6.04e3
3.02e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
1.24e7
40.81
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.41e3
0%
Abs. Int.
3.79e6
1.89e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
1.14e7
40.80
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.73e3
0%
Abs. Int.
3.60e6
1.80e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.29e6
3.65e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: B
4σ 1.61e3
0%
Abs. Int.
1.12e4
5.60e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: B
4σ 2.60e3
0%
Abs. Int.
1.42e4
7.09e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.56e7
43.49
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 1.81e3
0%
Abs. Int.
3.27e6
1.64e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.72e7
43.49
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 1.80e3
0%
Abs. Int.
3.72e6
1.86e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.16e6
3.08e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

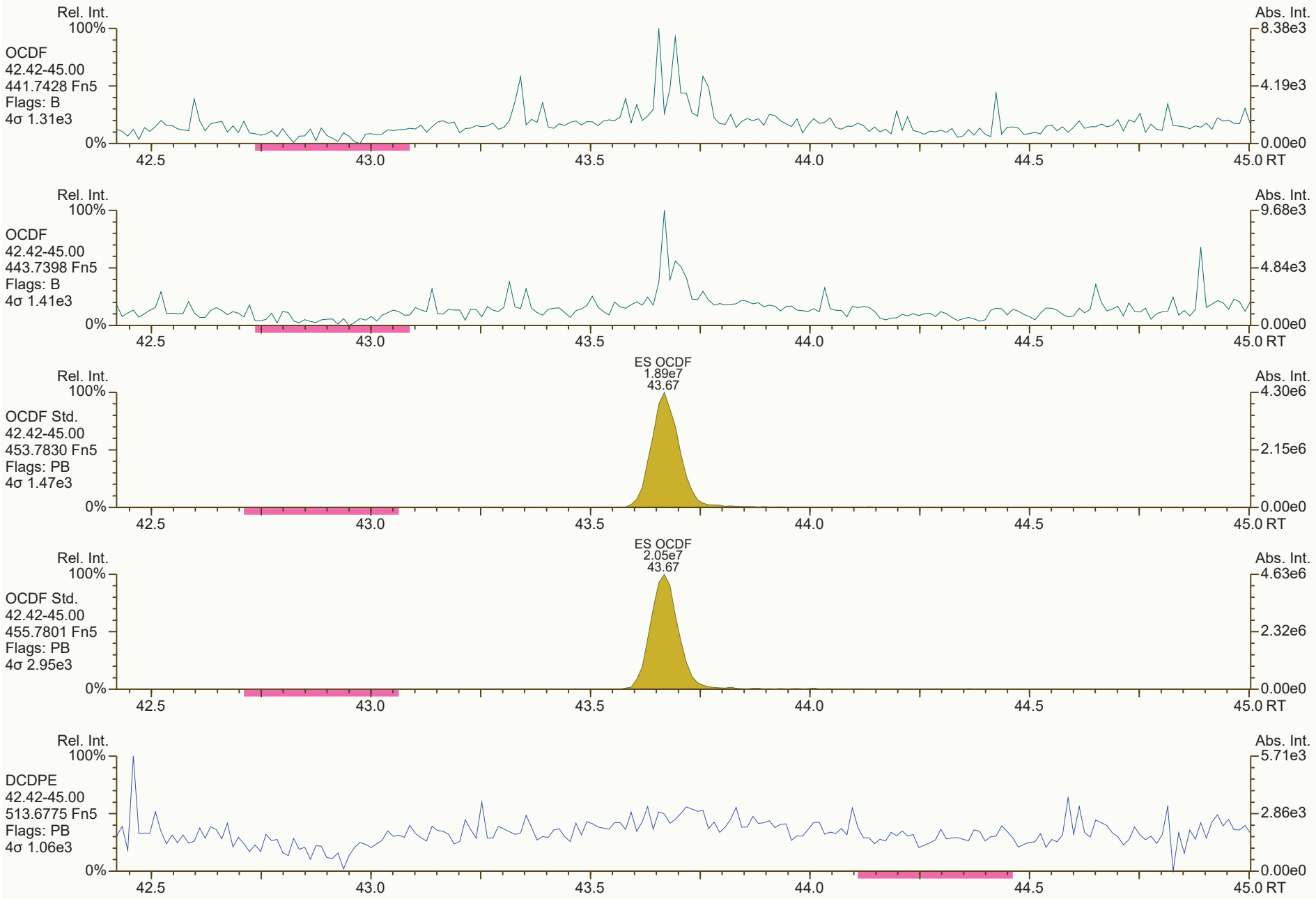

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: B
4σ 1.49e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 1.34e3
0%
Abs. Int.
1.16e4
5.82e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 3.80e3
0%
JS 1234F
2.24e7
26.23
ES 2378F
1.95e7
27.59
Abs. Int.
4.64e6
2.32e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.63e3
0%
JS 1234F
2.86e7
26.23
ES 2378F
2.50e7
27.59
Abs. Int.
6.02e6
3.01e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.34e3
0%
Abs. Int.
1.27e4
6.33e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
2.26e4
1.13e4
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.24e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.99e4
9.97e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.49e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.62e6
1.81e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PB
4σ 1.68e3
0%
Abs. Int.
7.02e3
3.51e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: B
4σ 1.20e3
0%
Abs. Int.
6.63e3
3.32e3
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 1.92e3
0%
CS 12346F
2.66e7
31.82
ES 12378F
2.58e7
32.35
ES 23478F
2.44e7
33.46
Abs. Int.
7.26e6
3.63e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 2.46e3
0%
CS 12346F
1.71e7
31.82
ES 12378F
1.64e7
32.35
ES 23478F
1.54e7
33.46
Abs. Int.
4.55e6
2.27e6
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: PB
4σ 1.18e3
0%
Abs. Int.
1.48e4
7.38e3
0.00e0
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PB
4σ 1.44e3
0%
Abs. Int.
4.73e3
2.37e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: B
4σ 1.46e3
0%
Abs. Int.
7.15e3
3.57e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 2.51e3
0%
ES 123478F
1.04e7
36.70
ES 123678F
1.34e7
36.85
CS 123469F
1.27e7
37.16
ES 234678F
1.30e7
37.53
ES 123789F
9.78e6
38.48
Abs. Int.
3.82e6
1.91e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 4.67e3
0%
ES 123478F
1.99e7
36.70
ES 123678F
2.49e7
36.85
CS 123469F
2.29e7
37.16
ES 234678F
2.49e7
37.53
ES 123789F
1.81e7
38.48
Abs. Int.
7.27e6
3.64e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.42e3
0%
Abs. Int.
1.27e4
6.34e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: B
4σ 1.62e3
0%
Abs. Int.
8.15e3
4.08e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: B
4σ 2.02e3
0%
Abs. Int.
6.81e3
3.41e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 2.49e3
0%
ES 1234678F
9.58e6
39.87
CS 1234689F
8.91e6
40.27
ES 1234789F
6.39e6
41.27
Abs. Int.
3.25e6
1.62e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 2.03e3
0%
ES 1234678F
2.03e7
39.87
CS 1234689F
1.90e7
40.27
ES 1234789F
1.42e7
41.27
Abs. Int.
7.30e6
3.65e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.28e3
0%
Abs. Int.
1.56e4
7.78e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: B
4σ 1.31e3
0%
Abs. Int.
8.38e3
4.19e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: B
4σ 1.41e3
0%
Abs. Int.
9.68e3
4.84e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.89e7
43.67
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.47e3
0%
Abs. Int.
4.30e6
2.15e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.05e7
43.67
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 2.95e3
0%
Abs. Int.
4.63e6
2.32e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.06e3
0%
Abs. Int.
5.71e3
2.86e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6235_18875_DF_001 **Acq'd:** 10 Feb 2022 22:27 DTF **Wt/Vol:** 10.19 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-O-37 **UTP:** 11-Feb-2022 16:26:35 DTF **J-level:** 0.49 pg/g **Split:** 1 **Checkcode:** 889-891-FTW

Datafile: 220210C17 **Report:** 11 Feb 2022 16:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.48	E	1.0008	1.0008	0	1.83E+08	0.80	Y	1.18	1,060	4610.243	0.29
12378-PeCDD	33.82		1.0005	1.0006	+0.2	1.86E+06	1.35	Y	1.04	13.5	4382.588	0.279
123478-HxCDD	37.73		1.0004	1.0004	0	4.51E+05	1.37	Y	1.09	3.51	10503.208	0.727
123678-HxCDD	37.85		1.0035	1.0035	0	2.83E+06	1.22	Y	1.15	20.9	10503.208	0.64
123789-HxCDD	38.14		1.0113	1.0112	-0.2	1.17E+06	1.26	Y	1.05	8.37	10503.208	0.647
1234678-HpCDD	40.82		1.0003	1.0003	0	7.22E+07	1.04	Y	1.06	625	9194.641	0.606
OCDD	43.52	E	1.0002	1.0003	+0.3	1.32E+09	0.91	Y	1.13	13,900	11142.971	1.43
2378-TCDF	27.63	E	1.0008	1.0008	0	7.06E+08	0.78	Y	1.08	2,910	3881.668	0.17
12378-PeCDF	32.37		1.0005	1.0006	+0.2	2.46E+07	1.55	Y	1.02	117	4941.862	0.206
23478-PeCDF	33.49		1.0005	1.0007	+0.4	1.74E+07	1.55	Y	1.02	87.7	4941.862	0.216
123478-HxCDF	36.72		1.0005	1.0005	0	3.83E+07	1.24	Y	1.27	198	5428.073	0.236
123678-HxCDF	36.87		1.0005	1.0005	0	1.12E+07	1.20	Y	1.15	55.9	5428.073	0.232
234678-HxCDF	37.54		1.0005	1.0004	-0.2	2.79E+06	1.23	Y	1.19	14.5	5428.073	0.255
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	5428.073	0.268
1234678-HpCDF	39.88		1.0003	1.0003	0	2.35E+07	1.02	Y	1.37	141	5089.844	0.223
1234789-HpCDF	41.27		1.0003	1.0003	0	4.00E+06	1.02	Y	1.31	29.3	5089.844	0.308
OCDF	43.69		1.0003	1.0003	0	2.87E+07	0.88	Y	1.07	253	8906.3	0.91

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46	1.0238	1.0236	-0.3	2.86E+07	0.78	Y	1.05	71.9
ES 12378-PeCDD	33.80	1.2160	1.2156	-0.8	2.60E+07	1.55	Y	0.88	77.7
ES 123478-HxCDD	37.71	0.9919	0.9919	0	2.31E+07	1.27	Y	0.97	77.2
ES 123678-HxCDD	37.83	0.9950	0.9950	0	2.32E+07	1.26	Y	0.94	79.8
ES 123789-HxCDD	38.13	1.0027	1.0027	0	2.61E+07	1.26	Y	1.09	77.8
ES 1234678-HpCDD	40.80	1.0730	1.0731	+0.2	2.14E+07	1.06	Y	0.91	76.2
ES OCDD	43.50	1.1437	1.1441	+1.0	3.31E+07	0.89	Y	0.62	86.1
ES 2378-TCDF	27.61	1.0520	1.0519	-0.2	4.41E+07	0.83	Y	1.06	71.4
ES 12378-PeCDF	32.36	1.2330	1.2330	0	4.02E+07	1.59	Y	0.91	75.6
ES 23478-PeCDF	33.47	1.2754	1.2753	-0.2	3.82E+07	1.53	Y	0.88	74.2
ES 123478-HxCDF	36.71	0.9653	0.9654	+0.2	2.98E+07	0.54	Y	1.20	80.8
ES 123678-HxCDF	36.85	0.9691	0.9691	0	3.41E+07	0.53	Y	1.35	82
ES 234678-HxCDF	37.53	0.9870	0.9870	0	3.18E+07	0.54	Y	1.24	83.1
ES 123789-HxCDF	38.48	1.0121	1.0121	0	2.73E+07	0.55	Y	1.16	76.9
ES 1234678-HpCDF	39.86	1.0484	1.0484	0	2.39E+07	0.45	Y	0.97	80.3
ES 1234789-HpCDF	41.26	1.0851	1.0852	+0.2	2.05E+07	0.46	Y	0.85	78.3
ES OCDF	43.68	1.1483	1.1488	+1.3	4.15E+07	0.94	Y	0.81	83.6

Lab ID: B6235_18875_DF_001 **Acq'd:** 10 Feb 2022 22:27 DTF **Wt/Vol:** 10.19 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-O-37 **UTP:** 11-Feb-2022 16:26:35 DTF **J-level:** 0.49 pg/g **Split:** 1 **Checkcode:** 889-891-FTW

Datafile: 220210C17 **Report:** 11 Feb 2022 16:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.81		-	-	-	3.80E+07	0.81	Y	-	-
JS 1234-TCDF	26.24		-	-	-	5.84E+07	0.82	Y	-	-
JS 123467-HxCDD	38.02		-	-	-	1.54E+07	1.29	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0245	1.0244	-0.2	1.26E+07	n/a	-	1.20	68.9
CS 12347-PeCDD	33.30		1.1979	1.1976	-0.6	2.24E+07	1.59	Y	0.75	78.2
CS 12346-PeCDF	31.83		1.2128	1.2128	0	3.69E+07	1.62	Y	0.85	74.3
CS 123469-HxCDF	37.17		0.9774	0.9774	0	2.94E+07	0.55	Y	1.12	85.5
CS 1234689-HpCDF	40.27		1.0589	1.0591	+0.5	2.40E+07	0.47	Y	0.89	87.9
SS 37Cl-2378-TCDD	28.48		1.0245	1.0244	-0.2	1.26E+07	n/a	-	1.15	96
SS 12347-PeCDD	33.30		1.1979	1.1976	-0.6	2.24E+07	1.59	Y	0.86	100
SS 12346-PeCDF	31.83		1.2128	1.2128	0	3.69E+07	1.62	Y	0.94	98.1
SS 123469-HxCDF	37.17		0.9774	0.9774	0	2.94E+07	0.55	Y	0.83	104
SS 1234689-HpCDF	40.27		1.0589	1.0591	+0.5	2.40E+07	0.47	Y	0.92	109

Totals	Conc	EMPC
Total TCDD	1180	1190
Total PeCDD	28.2	38
Total HxCDD	164	169
Total HpCDD	1270	1270
Total Tetra-Octa Dioxins	16500	16500
Total TCDF	5,720	5720
Total PeCDF	380	380
Total HxCDF	411	411
Total HpCDF	367	367
Total Tetra-Octa Furans	7,130	7130
Total Tetra-Octa Dioxins & Furans	23600	23600

Lab ID: B6235_18875_DF_001 **Acq'd:** 10 Feb 2022 22:27 DTF **Wt/Vol:** 10.19 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-O-37 **UTP:** 11-Feb-2022 16:26:35 DTF **J-level:** 0.49 pg/g **Split:** 1 **Checkcode:** 889-891-FTW

Datafile: 220210C17 **Report:** 11 Feb 2022 16:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.84		0.8737	0.8729	-1.2	1.76E+06	0.79	Y	1.18	10.2	4610.243	0.29
1379-TCDD	25.20		0.8860	0.8853	-1.1	5.40E+05	0.74	Y	1.18	3.13	4610.243	0.29
1369-TCDD	25.62		0.9009	0.9002	-1.1	1.17E+05	0.76	Y	1.18	0.676	4610.243	0.29
1469-TCDD	26.40		0.9281	0.9275	-1.0	2.87E+05	0.86	Y	1.18	1.66	4610.243	0.29
1247/1246/1248/1249-TCDD	26.63		0.9362	0.9358	-0.6	4.44E+05	0.73	Y	1.18	2.57	4610.243	0.29
1378-TCDD	26.83		0.9432	0.9428	-0.6	8.07E+05	0.80	Y	1.18	4.68	4610.243	0.29
1268-TCDD	27.04	EMPC	0.9500	0.9501	+0.2	9.44E+04	0.98	N	1.18	0.547	4610.243	0.29
1478-TCDD	27.28		0.9586	0.9584	-0.3	4.99E+05	0.87	Y	1.18	2.89	4610.243	0.29
1279-TCDD	NotFnd		0.9645						1.18		4610.243	0.29
1234/1269-TCDD	27.79	EMPC	0.9770	0.9766	-0.7	2.13E+05	0.93	N	1.18	1.24	4610.243	0.29
1236-TCDD	NotFnd		0.9817						1.18		4610.243	0.29
1237/1238-TCDD	28.19		0.9905	0.9905	0	2.95E+06	0.82	Y	1.18	17.1	4610.243	0.29
1239-TCDD	NotFnd		0.9952						1.18		4610.243	0.29
2378-TCDD	**28.48**	E	**1.0008**	1.0008	**0**	1.83E+08	0.80	Y	**1.18**	**1,060**	**4610.243**	**0.29**
1278-TCDD	28.80		1.0121	1.0121	0	1.35E+07	0.80	Y	1.18	78.4	4610.243	0.29
1267-TCDD	NotFnd		1.0167						1.18		4610.243	0.29
1289-TCDD	29.45		1.0345	1.0349	+0.7	3.72E+05	0.74	Y	1.18	2.16	4610.243	0.29
12479/12468-PeCDD	31.32		0.9267	0.9265	-0.4	8.29E+05	1.60	Y	1.04	6.04	4382.588	0.279
12469-PeCDD	31.85	EMPC	0.9425	0.9424	-0.2	3.64E+05	0.79	N	1.04	2.65	4382.588	0.279
12368-PeCDD	32.41		0.9588	0.9588	0	5.36E+05	1.60	Y	1.04	3.91	4382.588	0.279
12478-PeCDD	32.60	EMPC	0.9643	0.9644	+0.2	5.32E+05	1.10	N	1.04	3.88	4382.588	0.279
12379-PeCDD	32.70	J EMPC	0.9673	0.9674	+0.2	2.32E+05	1.80	N	1.04	1.69	4382.588	0.279
12369/12467/12489-PeCDD	32.96		0.9750	0.9752	+0.4	4.08E+05	1.73	Y	1.04	2.97	4382.588	0.279
12346/12347-PeCDD	33.32	J EMPC	0.9858	0.9859	+0.2	2.05E+05	1.26	N	1.04	1.5	4382.588	0.279
12378-PeCDD	33.82		**1.0005**	**1.0006**	**+0.2**	**1.86E+06**	**1.35**	**Y**	**1.04**	**13.5**	**4382.588**	**0.279**
12367-PeCDD	33.92	J	1.0033	1.0034	+0.2	1.20E+05	1.58	Y	1.04	0.876	4382.588	0.279
12389-PeCDD	34.25	J	1.0134	1.0134	0	1.26E+05	1.42	Y	1.04	0.916	4382.588	0.279
124679/124689-HxCDD	35.98		0.9542	0.9541	-0.2	7.06E+06	1.24	Y	1.10	52.4	10503.208	0.669
123468-HxCDD	36.64		0.9715	0.9714	-0.2	1.10E+06	1.36	Y	1.10	8.18	10503.208	0.669
123679/123689-HxCDD	36.93		0.9793	0.9793	0	9.55E+06	1.28	Y	1.10	70.9	10503.208	0.669
123469-HxCDD	37.07	EMPC	0.9828	0.9828	0	3.77E+05	1.52	N	1.10	2.8	10503.208	0.669
123478-HxCDD	37.73		**1.0004**	**1.0004**	**0**	**4.51E+05**	**1.37**	**Y**	1.09	**3.51**	**10503.208**	**0.727**
123678-HxCDD	37.85		**1.0035**	**1.0035**	**0**	**2.83E+06**	**1.22**	**Y**	1.15	**20.9**	**10503.208**	**0.64**
123467-HxCDD	38.04	J EMPC	1.0085	1.0087	+0.5	2.82E+05	1.03	N	1.10	2.09	10503.208	0.669
123789-HxCDD	38.14		**1.0113**	**1.0112**	**-0.2**	**1.17E+06**	**1.26**	**Y**	1.05	**8.37**	**10503.208**	**0.647**

Lab ID: B6235_18875_DF_001 | Acq'd: 10 Feb 2022 22:27 DTF | Wt/Vol: 10.19 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-O-37 | UTP: 11-Feb-2022 16:26:35 DTF | J-level: 0.49 pg/g | Split: 1 | Checkcode: 889-891-FTW

Datafile: 220210C17 | Report: 11 Feb 2022 16:28 TF | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

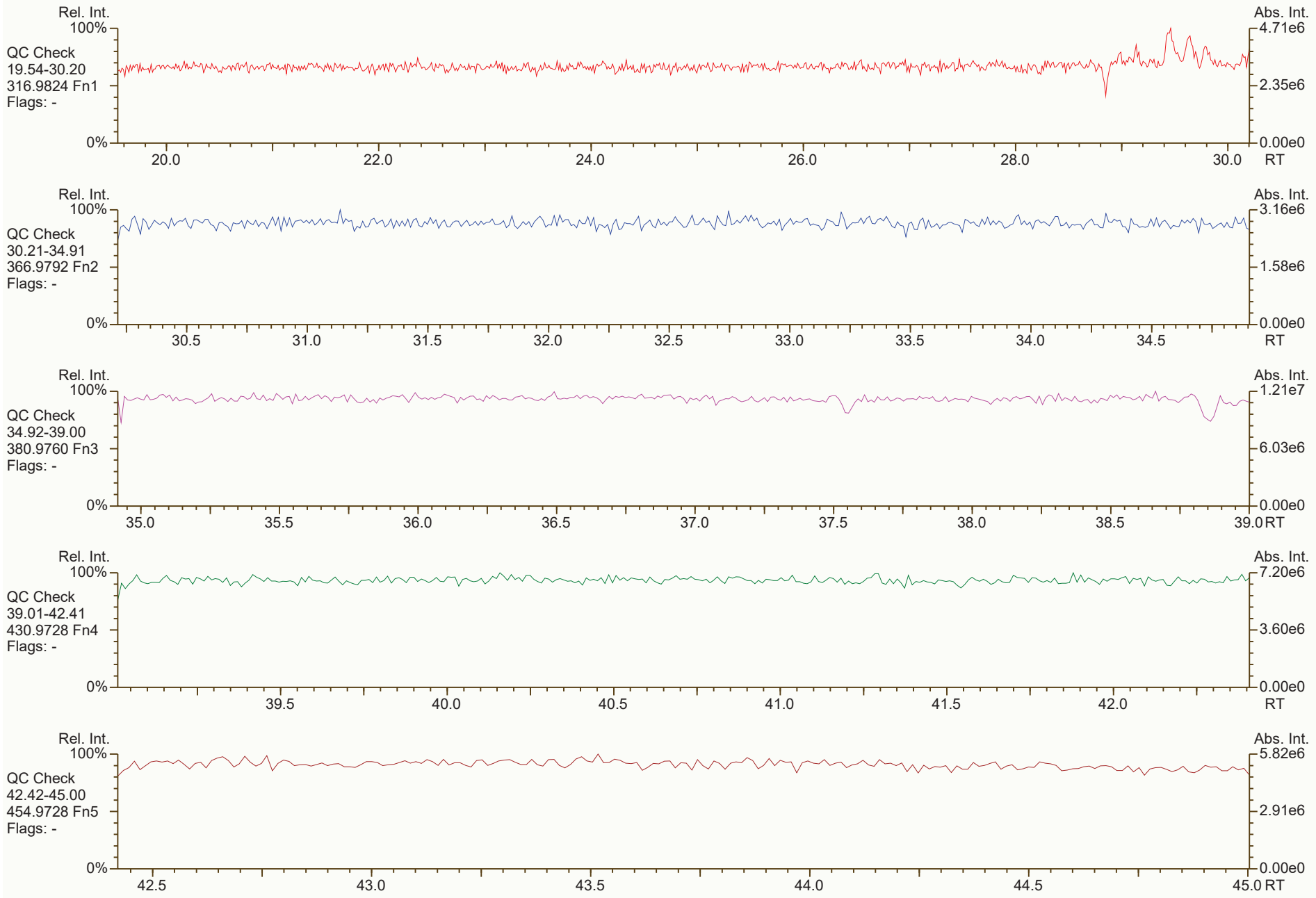
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.14		0.9837	0.9837	0	7.41E+07	1.04	Y	1.06	641	9194.641	0.606
1234678-HpCDD	**40.82**		**1.0003**	**1.0003**	**0**	**7.22E+07**	**1.04**	**Y**	**1.06**	**625**	**9194.641**	**0.606**
OCDD	**43.52**	**E**	**1.0002**	**1.0003**	**+0.3**	**1.32E+09**	**0.91**	**Y**	**1.13**	**13,900**	**11142.971**	**1.43**
OCDD-a	43.51	**E**	1.0001	1.0002	+0.3	7.76E+07	2.46	Y	0.07	12,800	5796.567	11.6
1368-TCDF	22.74		0.8251	0.8239	-1.6	3.50E+05	0.82	Y	1.08	1.44	3881.668	0.17
1468-TCDF	23.32		0.8458	0.8447	-1.5	1.43E+06	0.81	Y	1.08	5.88	3881.668	0.17
2468-TCDF	23.95		0.8686	0.8676	-1.4	2.12E+06	0.78	Y	1.08	8.74	3881.668	0.17
1346/1246-TCDF	NotFnd		0.8814						1.08		3881.668	0.17
1347/1378/1247-TCDF	24.47		0.8867	0.8864	-0.4	9.11E+06	0.77	Y	1.08	37.5	3881.668	0.17
1348-TCDF	NotFnd		0.8962						1.08		3881.668	0.17
1248/1367/1379-TCDF	24.81		0.9009	0.8989	-3.0	3.69E+07	0.79	Y	1.08	152	3881.668	0.17
1268-TCDF	25.23		0.9145	0.9139	-0.9	1.21E+07	0.79	Y	1.08	49.9	3881.668	0.17
1467-TCDF	25.36		0.9193	0.9188	-0.8	1.87E+06	0.81	Y	1.08	7.7	3881.668	0.17
1478-TCDF	25.53		0.9254	0.9249	-0.8	3.03E+07	0.80	Y	1.08	125	3881.668	0.17
1369/1237-TCDF	25.91		0.9387	0.9386	-0.2	7.87E+06	0.81	Y	1.08	32.4	3881.668	0.17
2467-TCDF	26.03		0.9433	0.9427	-0.9	1.16E+06	0.82	Y	1.08	4.79	3881.668	0.17
2368-TCDF	26.19		0.9489	0.9486	-0.5	2.23E+07	0.77	Y	1.08	91.9	3881.668	0.17
1238/1234/1678/1469/1236-TCDF	26.26		0.9523	0.9513	-1.6	3.49E+07	0.79	Y	1.08	144	3881.668	0.17
1278-TCDF	26.73	E	0.9683	0.9681	-0.3	3.22E+08	0.78	Y	1.08	1,330	3881.668	0.17
1349-TCDF	NotFnd		0.9722						1.08		3881.668	0.17
1267-TCDF	27.00		0.9783	0.9781	-0.3	1.88E+07	0.79	Y	1.08	77.3	3881.668	0.17
2346/1249-TCDF	27.20		0.9850	0.9854	+0.7	2.40E+06	0.77	Y	1.08	9.87	3881.668	0.17
2347/1279-TCDF	27.40		0.9926	0.9926	0	9.15E+06	0.81	Y	1.08	37.7	3881.668	0.17
2348-TCDF	27.51		0.9967	0.9966	-0.2	4.93E+07	0.78	Y	1.08	203	3881.668	0.17
2378-TCDF	**27.63**	E	**1.0008**	**1.0008**	**0**	**7.06E+08**	**0.78**	**Y**	**1.08**	**2,910**	**3881.668**	**0.17**
2367/3467-TCDF	27.98		1.0137	1.0136	-0.2	5.62E+07	0.79	Y	1.08	232	3881.668	0.17
1269-TCDF	28.23		1.0223	1.0226	+0.5	1.11E+07	0.77	Y	1.08	45.9	3881.668	0.17
1239-TCDF	NotFnd		1.0321						1.08		3881.668	0.17
1289-TCDF	29.63		1.0722	1.0734	+2.1	5.17E+07	0.78	Y	1.08	213	3881.668	0.17
13468/12468-PeCDF	29.58		0.9139	0.9140	+0.2	5.16E+06	1.63	Y	1.02	25.3	3187.302	0.136
13678/13467/12467-PeCDF	31.12		0.9613	0.9618	+0.9	1.25E+06	1.59	Y	1.02	6.1	4941.862	0.211
12368/13478/12478-PeCDF	31.28		0.9662	0.9667	+0.9	1.33E+07	1.56	Y	1.02	65	4941.862	0.211
14678-PeCDF	NotFnd		0.9692						1.02		4941.862	0.211
13479-PeCDF	NotFnd		0.9723						1.02		4941.862	0.211
13469/12479-PeCDF	31.65		0.9797	0.9783	-2.7	5.23E+05	1.35	Y	1.02	2.56	4941.862	0.211
12346-PeCDF	31.84	J	0.9840	0.9840	0	2.18E+05	1.65	Y	1.02	1.07	4941.862	0.211

Lab ID: B6235_18875_DF_001 **Acq'd:** 10 Feb 2022 22:27 DTF **Wt/Vol:** 10.19 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-O-37 **UTP:** 11-Feb-2022 16:26:35 DTF **J-level:** 0.49 pg/g **Split:** 1 **Checkcode:** 889-891-FTW

Datafile: 220210C17 **Report:** 11 Feb 2022 16:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.93		0.9868	0.9868	0	1.39E+06	1.59	Y	1.02	6.81	4941.862	0.211
12347-PeCDF	32.01		0.9894	0.9892	-0.4	5.99E+05	1.67	Y	1.02	2.93	4941.862	0.211
12348-PeCDF	32.16		0.9940	0.9940	0	2.33E+06	1.48	Y	1.02	11.4	4941.862	0.211
12378-PeCDF	**32.37**		**1.0005**	**1.0006**	**+0.2**	**2.46E+07**	**1.55**	**Y**	**1.02**	**117**	**4941.862**	**0.206**
12678/12367-PeCDF	32.67		1.0089	1.0097	+1.6	9.25E+06	1.54	Y	1.02	45.3	4941.862	0.211
12379-PeCDF	NotFnd		1.0142						1.02		4941.862	0.211
12679-PeCDF	NotFnd		0.9929						1.02		4941.862	0.211
23467/12369-PeCDF	33.35		0.9967	0.9966	-0.2	6.32E+05	1.63	Y	1.02	3.09	4941.862	0.211
23478-PeCDF	**33.49**		**1.0005**	**1.0007**	**+0.4**	**1.74E+07**	**1.55**	**Y**	**1.02**	**87.7**	**4941.862**	**0.216**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4941.862	0.211
12349-PeCDF	NotFnd		1.0100						1.02		4941.862	0.211
12389-PeCDF	34.56		1.0324	1.0326	+0.4	1.17E+06	1.41	Y	1.02	5.71	4941.862	0.211
123468-HxCDF	35.34		0.9627	0.9626	-0.2	2.11E+06	1.25	Y	1.19	11.3	5428.073	0.247
124678/134678-HxCDF	35.53		0.9682	0.9680	-0.4	1.01E+07	1.20	Y	1.19	54.2	5428.073	0.247
134679-HxCDF	NotFnd		0.9744						1.19		5428.073	0.247
124679-HxCDF	35.96	J	0.9798	0.9796	-0.4	3.39E+05	1.25	Y	1.19	1.81	5428.073	0.247
124689-HxCDF	36.18		0.9858	0.9857	-0.2	1.05E+07	1.16	Y	1.19	56.3	5428.073	0.247
123467-HxCDF	36.60		0.9972	0.9971	-0.2	6.60E+05	1.10	Y	1.19	3.53	5428.073	0.247
123478-HxCDF	**36.72**		**1.0005**	**1.0005**	**0**	**3.83E+07**	**1.24**	**Y**	**1.27**	**198**	**5428.073**	**0.236**
123678-HxCDF	**36.87**		**1.0005**	**1.0005**	**0**	**1.12E+07**	**1.20**	**Y**	**1.15**	**55.9**	**5428.073**	**0.232**
123479-HxCDF	NotFnd		1.0049						1.19		5428.073	0.247
123469-HxCDF	NotFnd		1.0090						1.19		5428.073	0.247
123679-HxCDF	NotFnd		0.9942						1.19		5428.073	0.247
234678-HxCDF	**37.54**		**1.0005**	**1.0004**	**-0.2**	**2.79E+06**	**1.23**	**Y**	**1.19**	**14.5**	**5428.073**	**0.255**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		5428.073	0.247
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**5428.073**	**0.268**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.53		1.0009	1.0011	+0.5	2.84E+06	1.20	Y	1.19	15.2	5428.073	0.247
1234678-HpCDF	**39.88**		**1.0003**	**1.0003**	**0**	**2.35E+07**	**1.02**	**Y**	**1.37**	**141**	**5089.844**	**0.223**
1234679-HpCDF	40.14		1.0068	1.0069	+0.2	5.51E+05	0.93	Y	1.34	3.64	5089.844	0.262
1234689-HpCDF	40.28		1.0103	1.0105	+0.5	2.93E+07	1.03	Y	1.34	193	5089.844	0.262
1234789-HpCDF	**41.27**		**1.0003**	**1.0003**	**0**	**4.00E+06**	**1.02**	**Y**	**1.31**	**29.3**	**5089.844**	**0.308**
OCDF	**43.69**		**1.0003**	**1.0003**	**0**	**2.87E+07**	**0.88**	**Y**	**1.07**	**253**	**8906.3**	**0.91**
OCDF-a	43.69		1.0002	1.0002	0	1.85E+06	2.86	Y	0.07	264	3060.505	5.05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316.9824 Fn1
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28.0
30.0
RT
Abs. Int.
4.71e6
2.35e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.16e6
1.58e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.21e7
6.03e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
7.20e6
3.60e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
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43.5
44.0
44.5
45.0
RT
Abs. Int.
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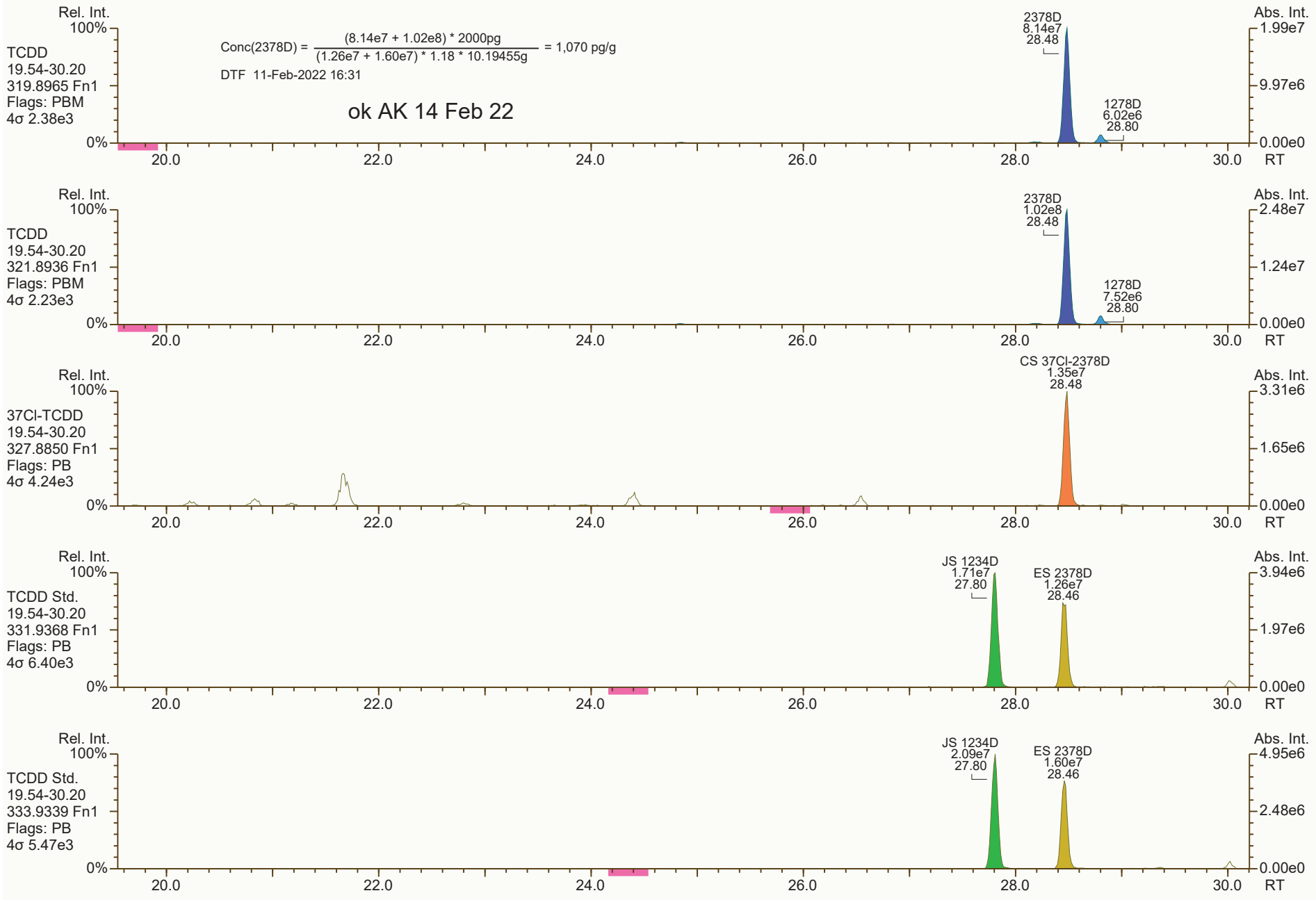
2.91e6
0.00e0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19.54-30.20
319.8965 Fn1
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0%
Conc(2378D) = (8.14e7 + 1.02e8) * 2000pg / (1.26e7 + 1.60e7) * 1.18 * 10.19455g = 1,070 pg/g
DTF 11-Feb-2022 16:31
ok AK 14 Feb 22
2378D
8.14e7
28.48
1278D
6.02e6
28.80
Abs. Int.
1.99e7
9.97e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.23e3
0%
2378D
1.02e8
28.48
1278D
7.52e6
28.80
Abs. Int.
2.48e7
1.24e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 4.24e3
0%
CS 37Cl-2378D
1.35e7
28.48
Abs. Int.
3.31e6
1.65e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.40e3
0%
JS 1234D
1.71e7
27.80
ES 2378D
1.26e7
28.46
Abs. Int.
3.94e6
1.97e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 5.47e3
0%
JS 1234D
2.09e7
27.80
ES 2378D
1.60e7
28.46
Abs. Int.
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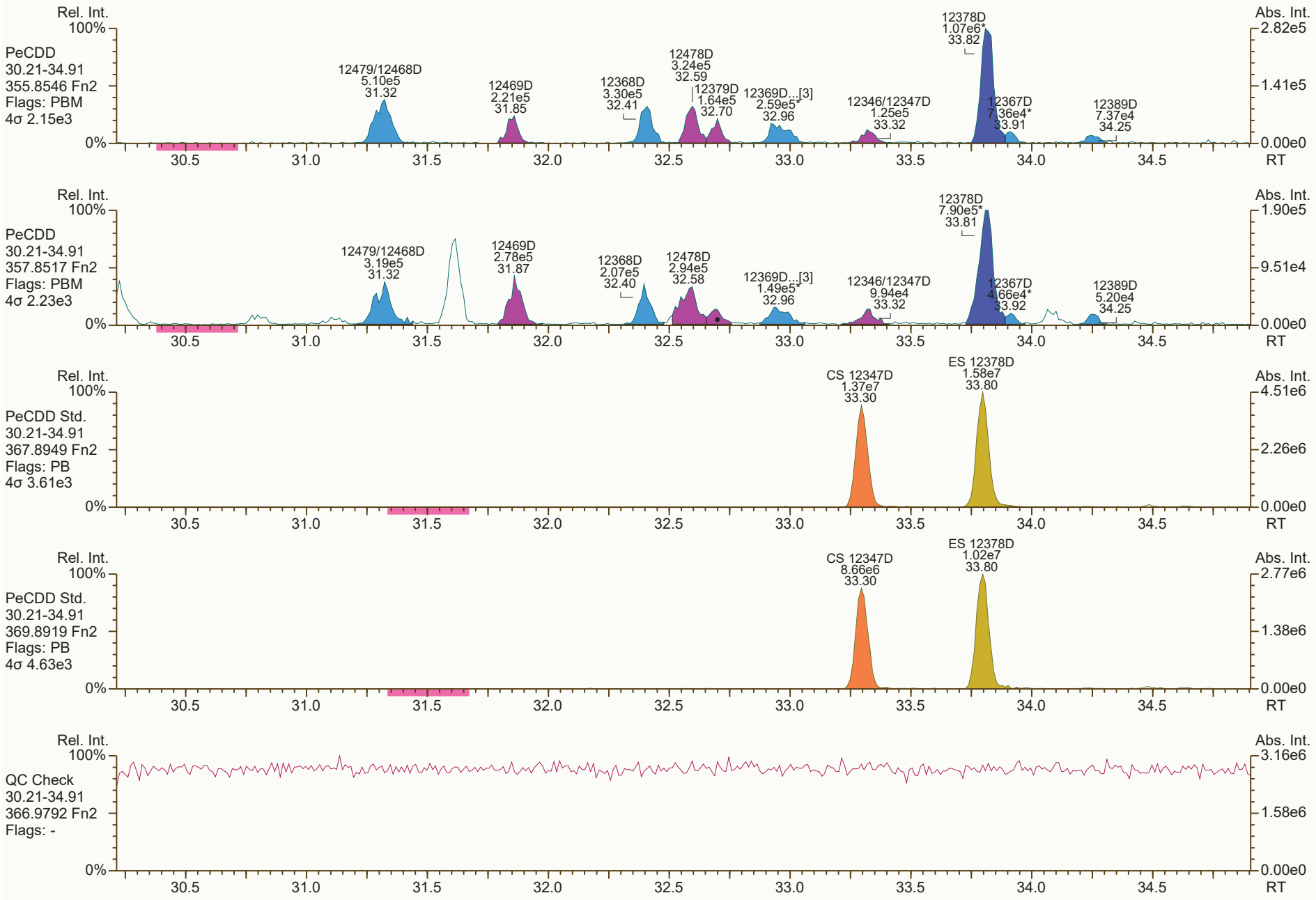
2.48e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT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100%
PeCDD
30.21-34.91
355.8546 Fn2
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12479/12468D
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31.32
12469D
2.21e5
31.85
12368D
3.30e5
32.41
12478D
3.24e5
32.59
12379D
1.64e5
32.70
12369D...[3]
2.59e5*
32.96
12346/12347D
1.25e5
33.32
12378D
1.07e6*
33.82
12367D
7.36e4*
33.91
12389D
7.37e4
34.25
Abs. Int.
2.82e5
1.41e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PBM
4σ 2.23e3
12479/12468D
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31.32
12469D
2.78e5
31.87
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2.07e5
32.40
12478D
2.94e5
32.58
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1.49e5*
32.96
12346/12347D
9.94e4
33.32
12378D
7.90e5*
33.81
12367D
4.66e4*
33.92
12389D
5.20e4
34.25
Abs. Int.
1.90e5
9.51e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 3.61e3
CS 12347D
1.37e7
33.30
ES 12378D
1.58e7
33.80
Abs. Int.
4.51e6
2.26e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 4.63e3
CS 12347D
8.66e6
33.30
ES 12378D
1.02e7
33.80
Abs. Int.
2.77e6
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0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
Abs. Int.
3.16e6
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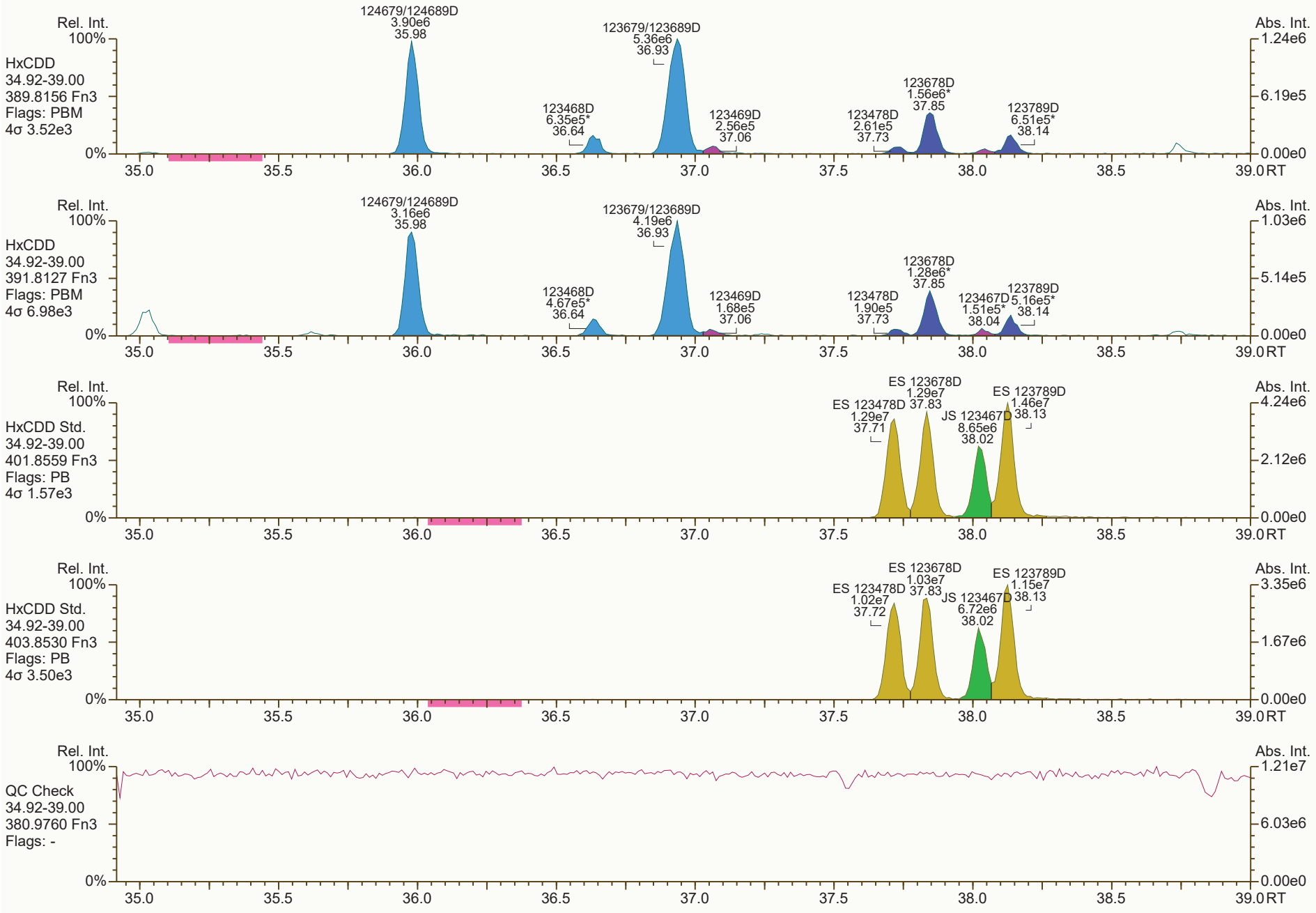
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HxCDD
34.92-39.00
389.8156 Fn3
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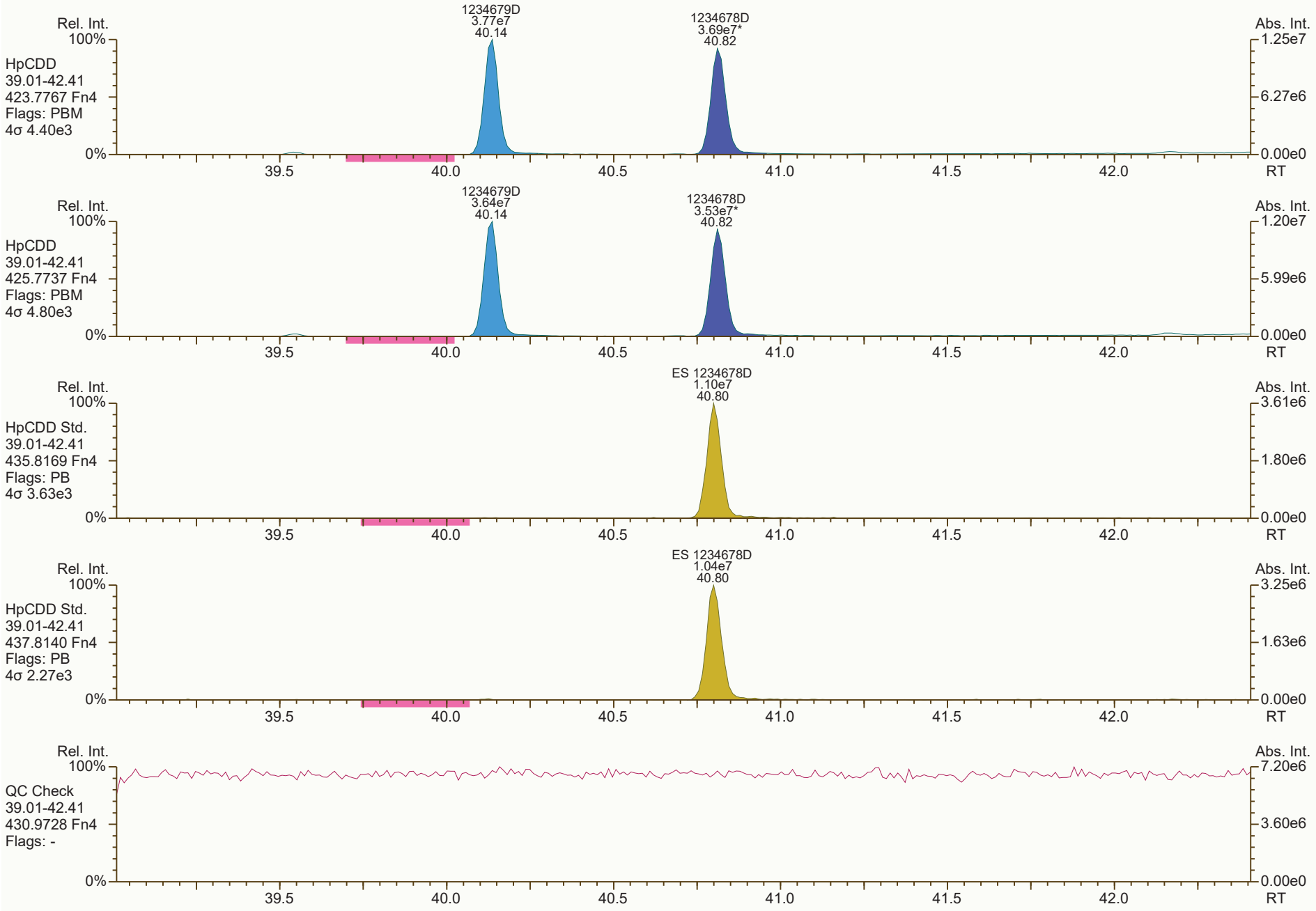
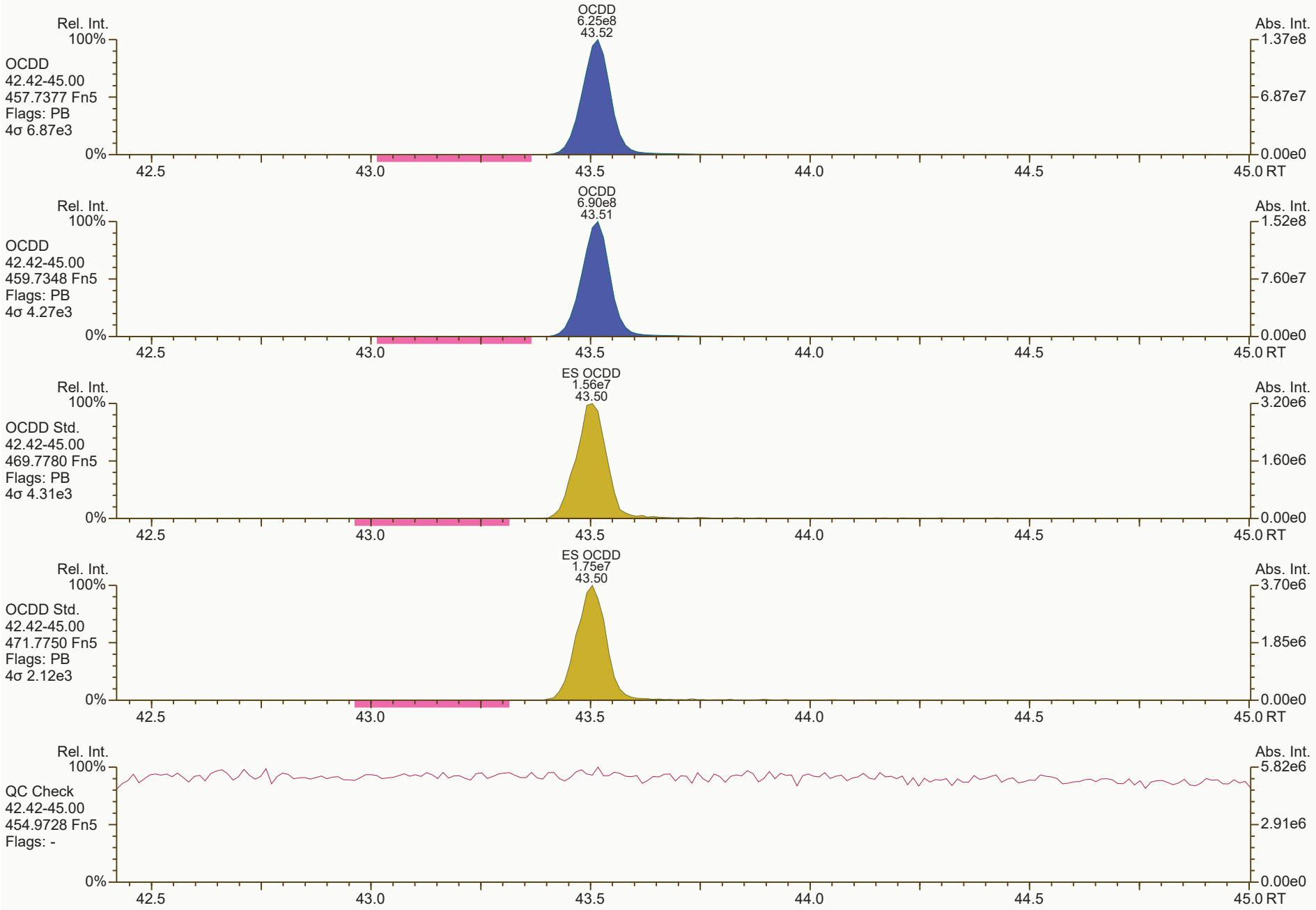
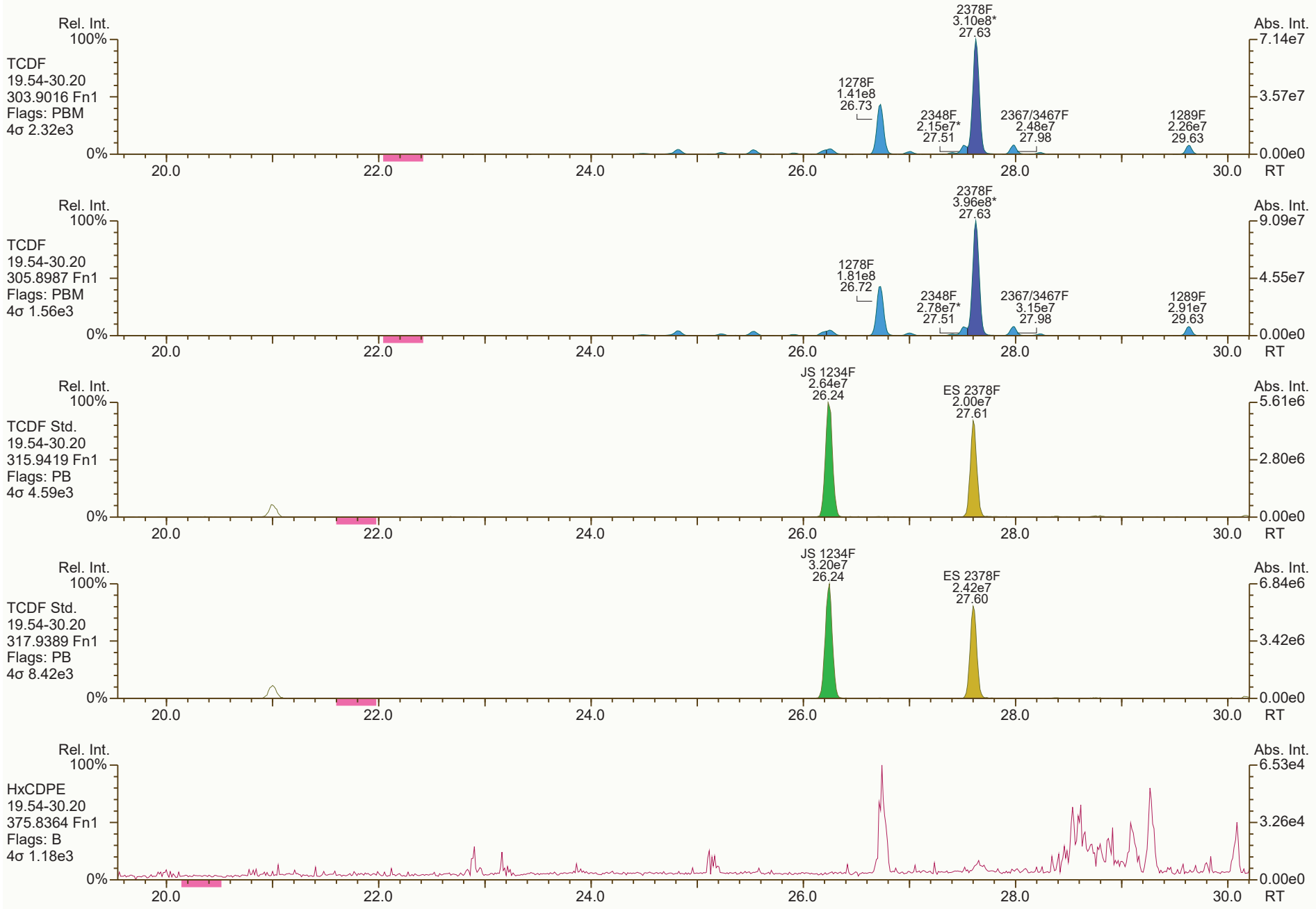
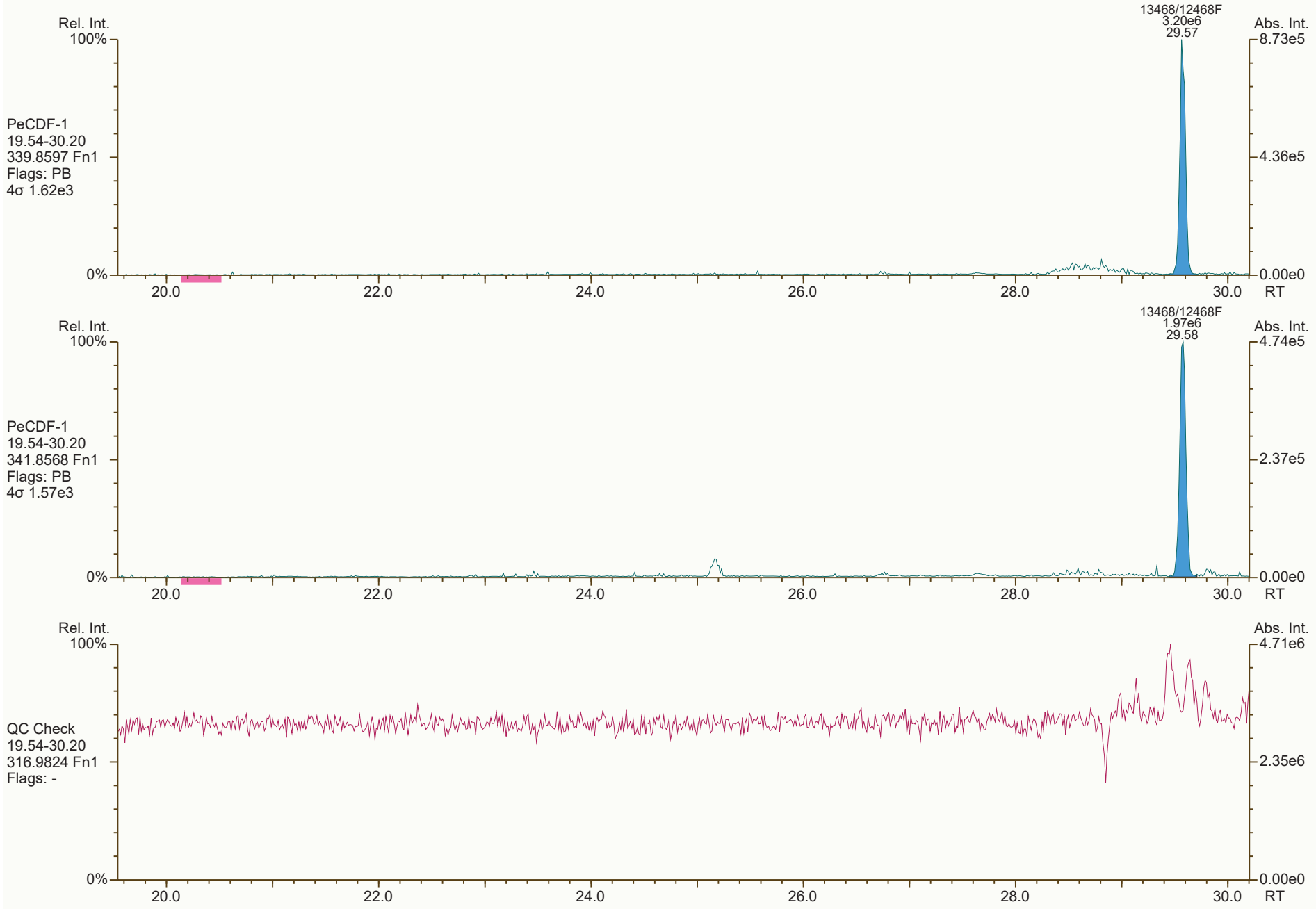
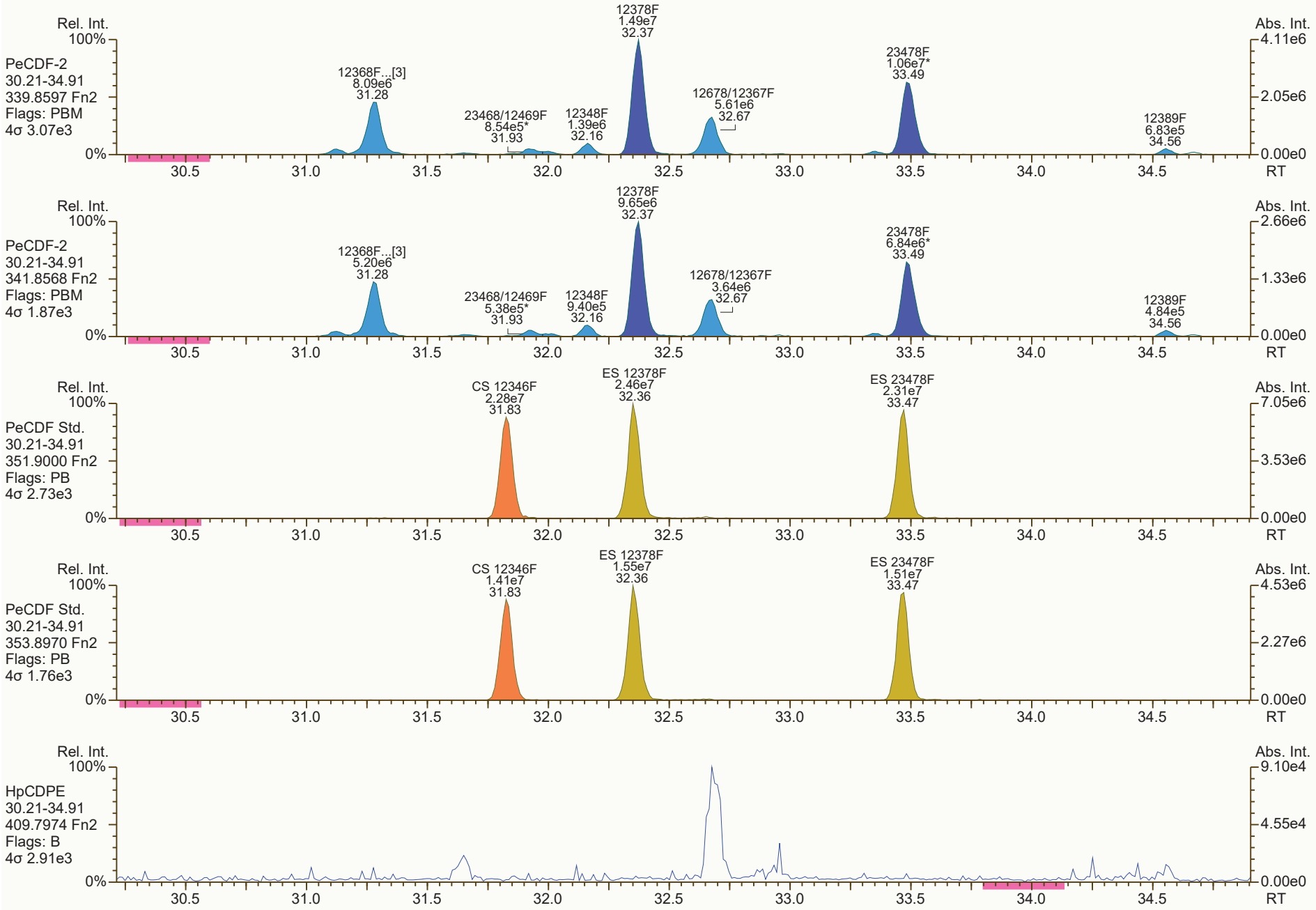
0%
124679/124689D
3.90e6
35.98
123679/123689D
5.36e6
36.93
123468D
6.35e5*
36.64
123469D
2.56e5
37.06
123478D
2.61e5
37.73
123678D
1.56e6*
37.85
123789D
6.51e5*
38.14
Abs. Int.
1.24e6
6.19e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 6.98e3
0%
124679/124689D
3.16e6
35.98
123679/123689D
4.19e6
36.93
123468D
4.67e5*
36.64
123469D
1.68e5
37.06
123478D
1.90e5
37.73
123678D
1.28e6*
37.85
123467D
1.51e5*
38.04
123789D
5.16e5*
38.14
Abs. Int.
1.03e6
5.14e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 1.57e3
0%
ES 123678D
1.29e7
37.83
ES 123478D
1.29e7
37.71
JS 123467D
8.65e6
38.02
ES 123789D
1.46e7
38.13
Abs. Int.
4.24e6
2.12e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 3.50e3
0%
ES 123678D
1.03e7
37.83
ES 123478D
1.02e7
37.72
JS 123467D
6.72e6
38.02
ES 123789D
1.15e7
38.13
Abs. Int.
3.35e6
1.67e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.21e7
6.03e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

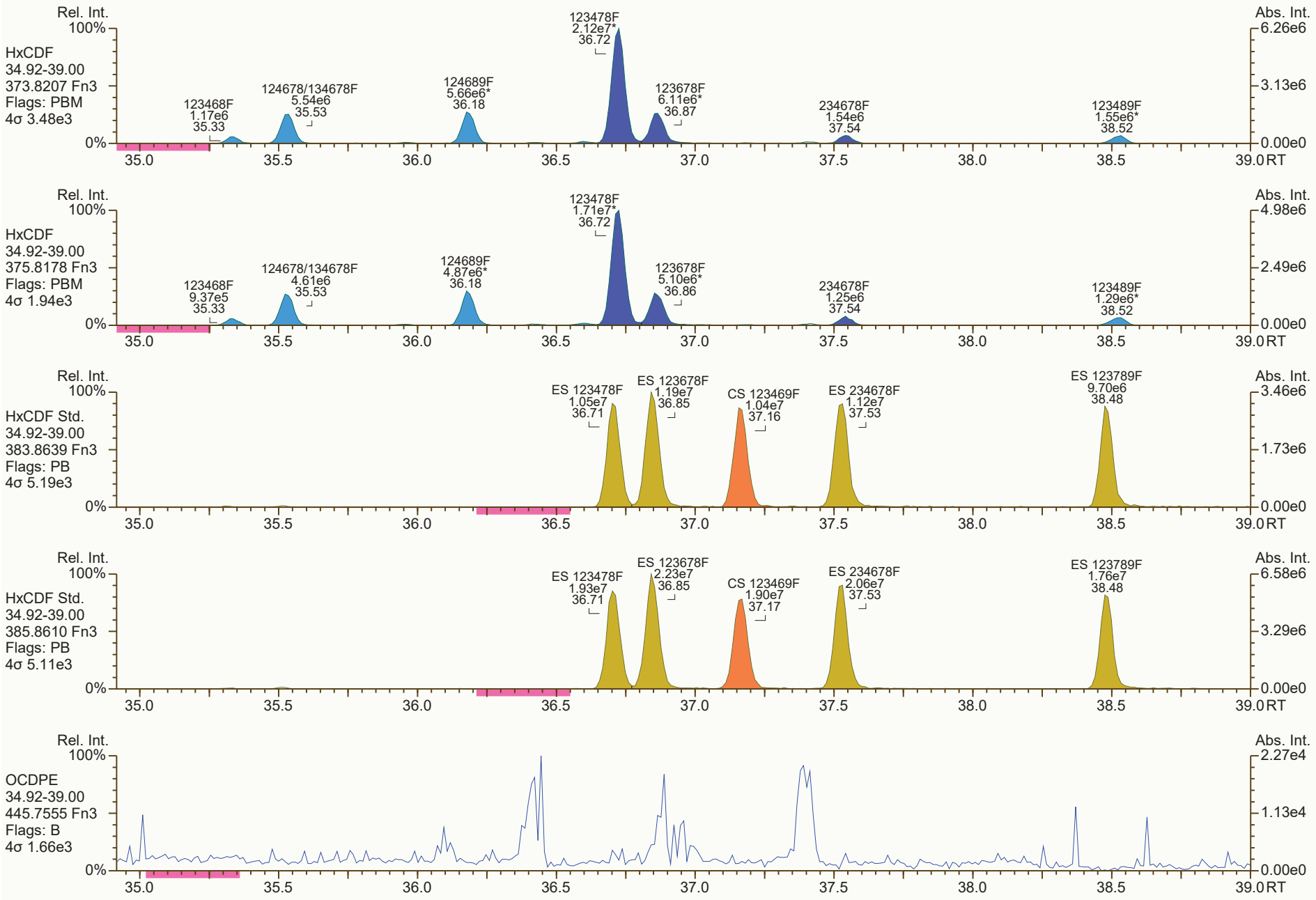

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 4.40e3
0%
1234679D
3.77e7
40.14
1234678D
3.69e7*
40.82
Abs. Int.
1.25e7
6.27e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 4.80e3
0%
1234679D
3.64e7
40.14
1234678D
3.53e7*
40.82
Abs. Int.
1.20e7
5.99e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 3.63e3
0%
ES 1234678D
1.10e7
40.80
Abs. Int.
3.61e6
1.80e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 2.27e3
0%
ES 1234678D
1.04e7
40.80
Abs. Int.
3.25e6
1.63e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.20e6
3.60e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

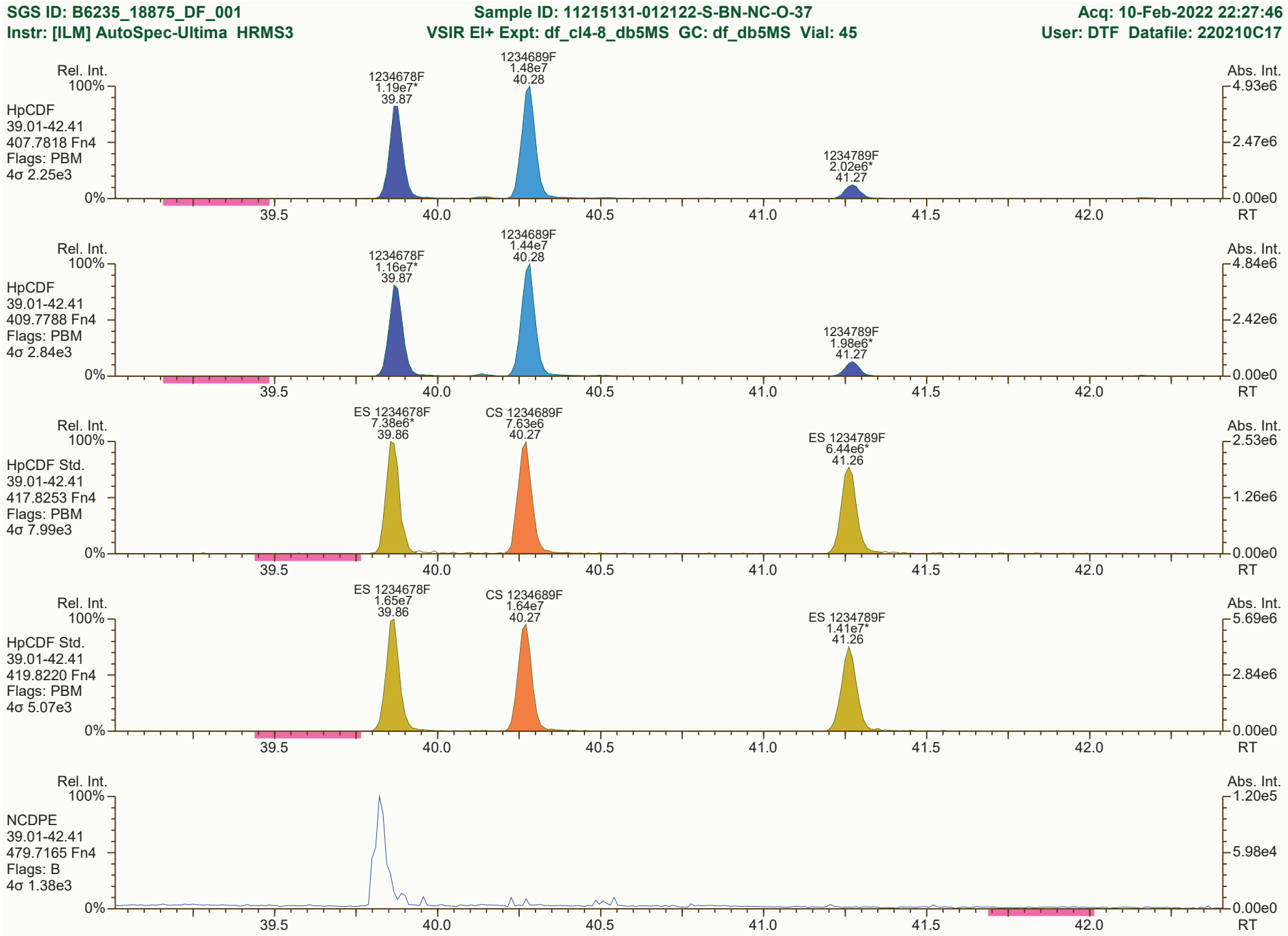

OCDD
6.25e8
43.52
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 6.87e3
0%
Abs. Int.
1.37e8
6.87e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
6.90e8
43.51
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 4.27e3
1.52e8
7.60e7
ES OCDD
1.56e7
43.50
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 4.31e3
3.20e6
1.60e6
ES OCDD
1.75e7
43.50
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 2.12e3
3.70e6
1.85e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
5.82e6
2.91e6


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 2.32e3
0%
2378F
3.10e8*
27.63
1278F
1.41e8
26.73
2348F
2.15e7*
27.51
2367/3467F
2.48e7
27.98
1289F
2.26e7
29.63
Abs. Int.
7.14e7
3.57e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.56e3
0%
2378F
3.96e8*
27.63
1278F
1.81e8
26.72
2348F
2.78e7*
27.51
2367/3467F
3.15e7
27.98
1289F
2.91e7
29.63
Abs. Int.
9.09e7
4.55e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 4.59e3
0%
JS 1234F
2.64e7
26.24
ES 2378F
2.00e7
27.61
Abs. Int.
5.61e6
2.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 8.42e3
0%
JS 1234F
3.20e7
26.24
ES 2378F
2.42e7
27.60
Abs. Int.
6.84e6
3.42e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.18e3
0%
Abs. Int.
6.53e4
3.26e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

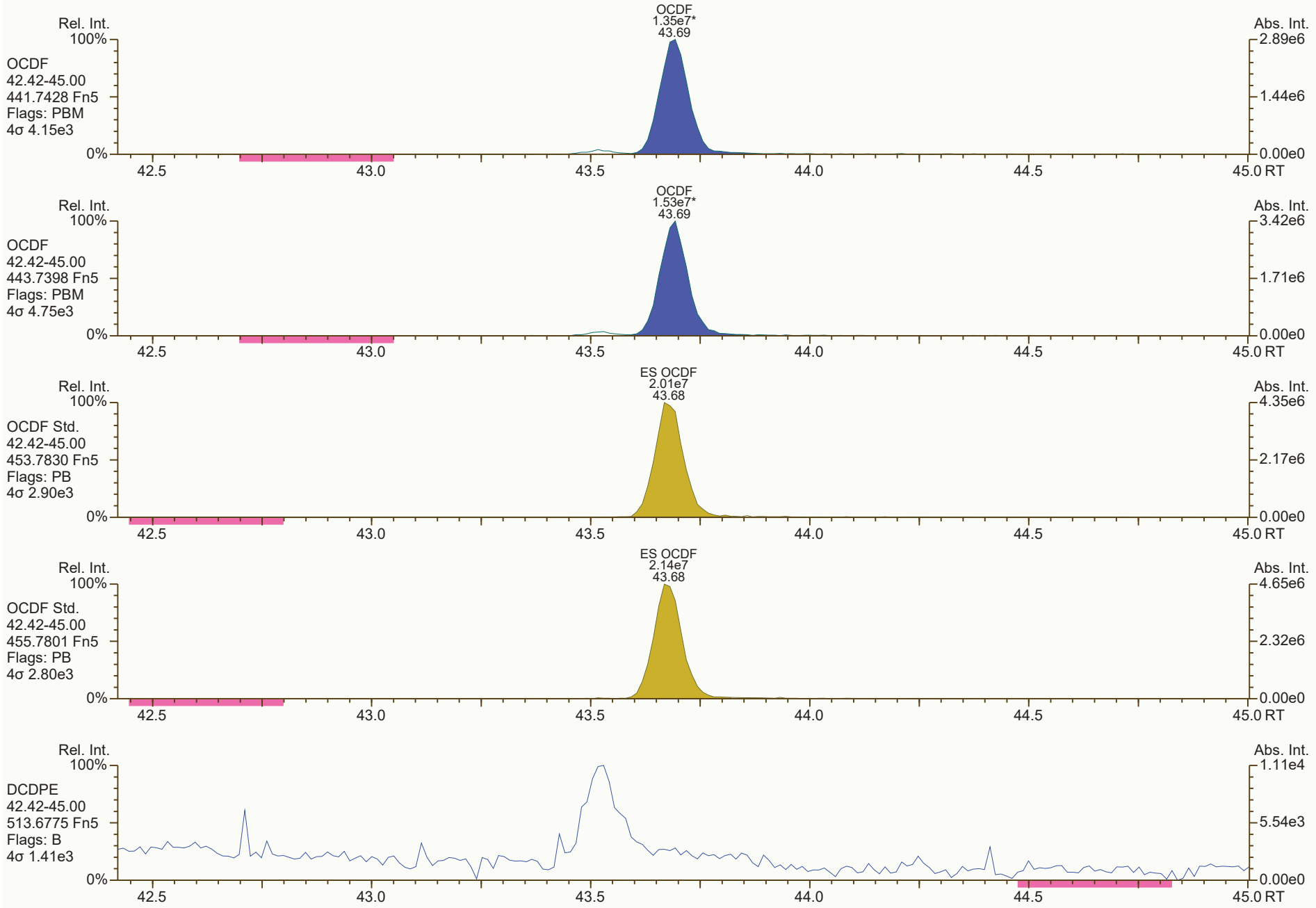

Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.62e3
13468/12468F
3.20e6
29.57
Abs. Int.
8.73e5
4.36e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.57e3
13468/12468F
1.97e6
29.58
Abs. Int.
4.74e5
2.37e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
4.71e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PBM
4σ 3.07e3
0%
12368F...[3]
8.09e6
31.28
23468/12469F
8.54e5*
31.93
12348F
1.39e6
32.16
12378F
1.49e7
32.37
12678/12367F
5.61e6
32.67
23478F
1.06e7*
33.49
12389F
6.83e5
34.56
Abs. Int.
4.11e6
2.05e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PBM
4σ 1.87e3
0%
12368F...[3]
5.20e6
31.28
23468/12469F
5.38e5*
31.93
12348F
9.40e5
32.16
12378F
9.65e6
32.37
12678/12367F
3.64e6
32.67
23478F
6.84e6*
33.49
12389F
4.84e5
34.56
Abs. Int.
2.66e6
1.33e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 2.73e3
0%
CS 12346F
2.28e7
31.83
ES 12378F
2.46e7
32.36
ES 23478F
2.31e7
33.47
Abs. Int.
7.05e6
3.53e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 1.76e3
0%
CS 12346F
1.41e7
31.83
ES 12378F
1.55e7
32.36
ES 23478F
1.51e7
33.47
Abs. Int.
4.53e6
2.27e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 2.91e3
0%
Abs. Int.
9.10e4
4.55e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 3.48e3
123468F 1.17e6 35.33
124678/134678F 5.54e6 35.53
124689F 5.66e6* 36.18
123478F 2.12e7* 36.72
123678F 6.11e6* 36.87
234678F 1.54e6 37.54
123489F 1.55e6* 38.52
Abs. Int.
6.26e6
3.13e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 1.94e3
123468F 9.37e5 35.33
124678/134678F 4.61e6 35.53
124689F 4.87e6* 36.18
123478F 1.71e7* 36.72
123678F 5.10e6* 36.86
234678F 1.25e6 37.54
123489F 1.29e6* 38.52
4.98e6
2.49e6
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 5.19e3
ES 123478F 1.05e7 36.71
ES 123678F 1.19e7 36.85
CS 123469F 1.04e7 37.16
ES 234678F 1.12e7 37.53
ES 123789F 9.70e6 38.48
3.46e6
1.73e6
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 5.11e3
ES 123478F 1.93e7 36.71
ES 123678F 2.23e7 36.85
CS 123469F 1.90e7 37.17
ES 234678F 2.06e7 37.53
ES 123789F 1.76e7 38.48
6.58e6
3.29e6
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.66e3
2.27e4
1.13e4



Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_001.utp_res, saved 11-Feb-2022 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7709, 9801, 4132 scc: 889-891
PKD: 11-Feb-2022 11:20 Printed: 11-Feb-2022 16:35 Page 11 of 12


OCDF
1.35e7*
43.69
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PBM
4σ 4.15e3
0%
Abs. Int.
2.89e6
1.44e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.53e7*
43.69
OCDF
42.42-45.00
443.7398 Fn5
Flags: PBM
4σ 4.75e3
3.42e6
1.71e6
ES OCDF
2.01e7
43.68
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 2.90e3
4.35e6
2.17e6
ES OCDF
2.14e7
43.68
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 2.80e3
4.65e6
2.32e6
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.41e3
1.11e4
5.54e3

Lab ID: B6235_18875_DF_002 **Acq'd:** 10 Feb 2022 23:14 DTF **Wt/Vol:** 10.20 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-O-38 **UTP:** 11-Feb-2022 16:26:36 DTF **J-level:** 0.49 pg/g **Split:** 1 **Checkcode:** 165-566-YHK

Datafile: 220210C18 **Report:** 11 Feb 2022 16:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.48	E	1.0008	1.0008	0	2.86E+08	0.80	Y	1.18	1,740	4985.201	0.316
12378-PeCDD	33.82		1.0005	1.0005	0	2.23E+06	1.50	Y	1.04	17.6	4332.992	0.302
123478-HxCDD	37.74	J EMPC	1.0004	1.0004	0	1.29E+05	1.56	N	1.09	1.09	5103.852	0.379
123678-HxCDD	37.86		1.0035	1.0035	0	5.70E+05	1.20	Y	1.15	4.41	5103.852	0.337
123789-HxCDD	38.15	J	1.0113	1.0112	-0.2	2.88E+05	1.23	Y	1.05	2.26	5103.852	0.337
1234678-HpCDD	40.83		1.0003	1.0003	0	1.73E+07	1.05	Y	1.06	163	8418.077	0.605
OCDD	43.52		1.0002	1.0003	+0.3	3.23E+08	0.91	Y	1.13	4,050	10630.785	1.55
2378-TCDF	27.63	E	1.0008	1.0008	0	1.15E+09	0.78	Y	1.08	4,770	3352.332	0.149
12378-PeCDF	32.38		1.0005	1.0005	0	3.59E+07	1.52	Y	1.02	178	6006.036	0.284
23478-PeCDF	33.49		1.0005	1.0007	+0.4	2.73E+07	1.55	Y	1.02	137	6006.036	0.264
123478-HxCDF	36.73		1.0005	1.0005	0	5.20E+07	1.24	Y	1.27	300	4803.806	0.244
123678-HxCDF	36.87		1.0005	1.0005	0	1.43E+07	1.24	Y	1.15	75.2	4803.806	0.22
234678-HxCDF	37.55		1.0005	1.0003	-0.5	3.00E+06	1.20	Y	1.19	15.3	4803.806	0.2
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4803.806	0.245
1234678-HpCDF	39.89		1.0003	1.0003	0	1.39E+07	1.02	Y	1.37	81.7	7576.666	0.316
1234789-HpCDF	41.29		1.0003	1.0002	-0.2	4.19E+06	1.09	Y	1.31	34.1	7576.666	0.541
OCDF	43.70		1.0003	1.0002	-0.3	8.10E+06	0.87	Y	1.07	88.1	4094.562	0.519

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46	1.0238	1.0236	-0.3	2.72E+07	0.82	Y	1.05	89.2
ES 12378-PeCDD	33.80	1.2160	1.2157	-0.6	2.40E+07	1.58	Y	0.88	93.5
ES 123478-HxCDD	37.72	0.9919	0.9919	0	2.14E+07	1.27	Y	0.97	89.4
ES 123678-HxCDD	37.84	0.9950	0.9950	0	2.21E+07	1.26	Y	0.94	95
ES 123789-HxCDD	38.13	1.0027	1.0027	0	2.39E+07	1.25	Y	1.09	88.8
ES 1234678-HpCDD	40.81	1.0730	1.0731	+0.2	1.96E+07	1.08	Y	0.91	87.4
ES OCDD	43.51	1.1437	1.1440	+0.8	2.77E+07	0.91	Y	0.62	90.3
ES 2378-TCDF	27.61	1.0520	1.0521	+0.2	4.38E+07	0.83	Y	1.06	90.6
ES 12378-PeCDF	32.36	1.2330	1.2331	+0.2	3.85E+07	1.61	Y	0.91	92.8
ES 23478-PeCDF	33.47	1.2754	1.2755	+0.2	3.84E+07	1.54	Y	0.88	95.3
ES 123478-HxCDF	36.71	0.9653	0.9653	0	2.68E+07	0.53	Y	1.20	90.8
ES 123678-HxCDF	36.85	0.9691	0.9690	-0.2	3.23E+07	0.54	Y	1.35	97.1
ES 234678-HxCDF	37.54	0.9870	0.9870	0	3.23E+07	0.56	Y	1.24	106
ES 123789-HxCDF	38.49	1.0121	1.0121	0	2.48E+07	0.53	Y	1.16	87.1
ES 1234678-HpCDF	39.88	1.0484	1.0485	+0.2	2.44E+07	0.46	Y	0.97	102
ES 1234789-HpCDF	41.28	1.0851	1.0854	+0.7	1.84E+07	0.46	Y	0.85	87.9
ES OCDF	43.69	1.1483	1.1489	+1.6	3.36E+07	0.91	Y	0.81	84.6

Lab ID: B6235_18875_DF_002 **Acq'd:** 10 Feb 2022 23:14 DTF **Wt/Vol:** 10.20 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-O-38 **UTP:** 11-Feb-2022 16:26:36 DTF **J-level:** 0.49 pg/g **Split:** 1 **Checkcode:** 165-566-YHK

Datafile: 220210C18 **Report:** 11 Feb 2022 16:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.81		-	-	-	2.91E+07	0.83	Y	-	-
JS 1234-TCDF	26.24		-	-	-	4.56E+07	0.78	Y	-	-
JS 123467-HxCDD	38.03		-	-	-	1.23E+07	1.33	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0245	1.0244	-0.2	1.24E+07	n/a	-	1.20	88.2
CS 12347-PeCDD	33.30		1.1979	1.1977	-0.4	2.28E+07	1.65	Y	0.75	104
CS 12346-PeCDF	31.83		1.2128	1.2130	+0.4	3.81E+07	1.51	Y	0.85	98.3
CS 123469-HxCDF	37.17		0.9774	0.9774	0	2.97E+07	0.53	Y	1.12	108
CS 1234689-HpCDF	40.28		1.0589	1.0591	+0.5	2.29E+07	0.45	Y	0.89	105
SS 37Cl-2378-TCDD	28.48		1.0245	1.0244	-0.2	1.24E+07	n/a	-	1.15	99.1
SS 12347-PeCDD	33.30		1.1979	1.1977	-0.4	2.28E+07	1.65	Y	0.86	111
SS 12346-PeCDF	31.83		1.2128	1.2130	+0.4	3.81E+07	1.51	Y	0.94	106
SS 123469-HxCDF	37.17		0.9774	0.9774	0	2.97E+07	0.53	Y	0.83	111
SS 1234689-HpCDF	40.28		1.0589	1.0591	+0.5	2.29E+07	0.45	Y	0.92	102

Totals	Conc	EMPC
Total TCDD	1920	1930
Total PeCDD	23.2	32.5
Total HxCDD	60.9	62
Total HpCDD	357	357
Total Tetra-Octa Dioxins	6420	6430
Total TCDF	9,170	9170
Total PeCDF	499	499
Total HxCDF	467	468
Total HpCDF	166	166
Total Tetra-Octa Furans	10,400	10400
Total Tetra-Octa Dioxins & Furans	16800	16800

Lab ID: B6235_18875_DF_002 | Acq'd: 10 Feb 2022 23:14 DTF | Wt/Vol: 10.20 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-O-38 | UTP: 11-Feb-2022 16:26:36 DTF | J-level: 0.49 pg/g | Split: 1 | Checkcode: 165-566-YHK

Datafile: 220210C18 | Report: 11 Feb 2022 16:28 TF | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.84	EMPC	0.8737	0.8728	-1.3	4.99E+05	0.64	N	1.18	3.03	4985.201	0.316
1379-TCDD	25.20		0.8860	0.8853	-1.1	2.78E+05	0.67	Y	1.18	1.69	4985.201	0.316
1369-TCDD	25.62	J EMPC	0.9009	0.9002	-1.1	7.75E+04	1.05	N	1.18	0.472	4985.201	0.316
1469-TCDD	26.40		0.9281	0.9276	-0.8	9.73E+05	0.82	Y	1.18	5.92	4985.201	0.316
1247/1246/1248/1249-TCDD	26.63		0.9362	0.9357	-0.8	4.42E+05	0.82	Y	1.18	2.69	4985.201	0.316
1378-TCDD	26.83		0.9432	0.9427	-0.8	8.41E+05	0.78	Y	1.18	5.12	4985.201	0.316
1268-TCDD	27.03		0.9500	0.9498	-0.3	8.60E+04	0.81	Y	1.18	0.524	4985.201	0.316
1478-TCDD	27.28		0.9586	0.9586	0	8.29E+05	0.84	Y	1.18	5.05	4985.201	0.316
1279-TCDD	NotFnd		0.9645						1.18		4985.201	0.316
1234/1269-TCDD	27.80	EMPC	0.9770	0.9767	-0.5	1.64E+05	0.92	N	1.18	0.996	4985.201	0.316
1236-TCDD	NotFnd		0.9817						1.18		4985.201	0.316
1237/1238-TCDD	28.19		0.9905	0.9904	-0.2	4.28E+06	0.83	Y	1.18	26	4985.201	0.316
1239-TCDD	NotFnd		0.9952						1.18		4985.201	0.316
2378-TCDD	**28.48**	E	**1.0008**	1.0008	**0**	2.86E+08	0.80	Y	**1.18**	**1,740**	**4985.201**	**0.316**
1278-TCDD	28.81		1.0121	1.0121	0	2.14E+07	0.79	Y	1.18	130	4985.201	0.316
1267-TCDD	28.96		1.0167	1.0175	+1.4	8.12E+05	0.84	Y	1.18	4.95	4985.201	0.316
1289-TCDD	29.44	EMPC	1.0345	1.0343	-0.4	5.10E+05	0.95	N	1.18	3.11	4985.201	0.316
12479/12468-PeCDD	31.32		0.9267	0.9265	-0.4	4.02E+05	1.51	Y	1.04	3.18	4332.992	0.302
12469-PeCDD	31.86	EMPC	0.9425	0.9424	-0.2	3.95E+05	1.22	N	1.04	3.12	4332.992	0.302
12368-PeCDD	32.40	EMPC	0.9588	0.9586	-0.4	3.20E+05	1.26	N	1.04	2.53	4332.992	0.302
12478-PeCDD	32.60	J	0.9643	0.9644	+0.2	2.16E+05	1.77	Y	1.04	1.7	4332.992	0.302
12379-PeCDD	32.70	J EMPC	0.9673	0.9673	0	1.38E+05	1.79	N	1.04	1.09	4332.992	0.302
12369/12467/12489-PeCDD	32.95	J EMPC	0.9750	0.9749	-0.2	1.65E+05	1.79	N	1.04	1.3	4332.992	0.302
12346/12347-PeCDD	33.32	J	0.9858	0.9857	-0.2	8.72E+04	1.68	Y	1.04	0.688	4332.992	0.302
12378-PeCDD	33.82		**1.0005**	**1.0005**	**0**	**2.23E+06**	**1.50**	**Y**	**1.04**	**17.6**	**4332.992**	**0.302**
12367-PeCDD	33.91	J EMPC	1.0033	1.0032	-0.2	8.80E+04	1.23	N	1.04	0.695	4332.992	0.302
12389-PeCDD	34.25	J EMPC	1.0134	1.0133	-0.2	7.34E+04	1.93	N	1.04	0.58	4332.992	0.302
124679/124689-HxCDD	35.99		0.9542	0.9540	-0.4	4.16E+06	1.24	Y	1.10	33.2	5103.852	0.35
123468-HxCDD	36.64		0.9715	0.9713	-0.4	3.25E+05	1.29	Y	1.10	2.59	5103.852	0.35
123679/123689-HxCDD	36.94		0.9793	0.9791	-0.4	2.02E+06	1.21	Y	1.10	16.1	5103.852	0.35
123469-HxCDD	37.06	J	0.9828	0.9825	-0.7	1.71E+05	1.12	Y	1.10	1.36	5103.852	0.35
123478-HxCDD	37.74	J EMPC	**1.0004**	**1.0004**	**0**	**1.29E+05**	**1.56**	**N**	1.09	**1.09**	**5103.852**	**0.379**
123678-HxCDD	37.86		**1.0035**	**1.0035**	**0**	**5.70E+05**	**1.20**	**Y**	1.15	**4.41**	**5103.852**	**0.337**
123467-HxCDD	38.05	J	1.0085	1.0086	+0.2	1.16E+05	1.39	Y	1.10	0.926	5103.852	0.35
123789-HxCDD	38.15	J	**1.0113**	**1.0112**	**-0.2**	**2.88E+05**	**1.23**	**Y**	1.05	**2.26**	**5103.852**	**0.337**

Lab ID: B6235_18875_DF_002 **Acq'd:** 10 Feb 2022 23:14 DTF **Wt/Vol:** 10.20 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-O-38 **UTP:** 11-Feb-2022 16:26:36 DTF **J-level:** 0.49 pg/g **Split:** 1 **Checkcode:** 165-566-YHK

Datafile: 220210C18 **Report:** 11 Feb 2022 16:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.15		0.9837	0.9837	0	2.06E+07	1.02	Y	1.06	194	8418.077	0.605
1234678-HpCDD	**40.83**		**1.0003**	**1.0003**	**0**	**1.73E+07**	**1.05**	**Y**	**1.06**	**163**	**8418.077**	**0.605**
OCDD	**43.52**		**1.0002**	**1.0003**	**+0.3**	**3.23E+08**	**0.91**	**Y**	**1.13**	**4,050**	**10630.785**	**1.55**
OCDD-a	43.52		1.0001	1.0002	+0.3	2.02E+07	2.43	Y	0.07	3,970	4244.32	9.66
1368-TCDF	22.74		0.8251	0.8238	-1.8	3.28E+05	0.85	Y	1.08	1.36	3352.332	0.149
1468-TCDF	23.32		0.8458	0.8447	-1.5	1.78E+06	0.77	Y	1.08	7.38	3352.332	0.149
2468-TCDF	23.96		0.8686	0.8677	-1.3	1.32E+06	0.77	Y	1.08	5.48	3352.332	0.149
1346/1246-TCDF	NotFnd		0.8814						1.08		3352.332	0.149
1347/1378/1247-TCDF	24.48		0.8867	0.8867	0	1.36E+07	0.80	Y	1.08	56.6	3352.332	0.149
1348-TCDF	NotFnd		0.8962						1.08		3352.332	0.149
1248/1367/1379-TCDF	24.81		0.9009	0.8988	-3.1	5.72E+07	0.79	Y	1.08	238	3352.332	0.149
1268-TCDF	25.23		0.9145	0.9139	-0.9	1.86E+07	0.76	Y	1.08	77.1	3352.332	0.149
1467-TCDF	25.36		0.9193	0.9186	-1.1	2.43E+06	0.79	Y	1.08	10.1	3352.332	0.149
1478-TCDF	25.53		0.9254	0.9248	-0.9	4.59E+07	0.80	Y	1.08	191	3352.332	0.149
1369/1237-TCDF	25.91		0.9387	0.9384	-0.5	1.18E+07	0.80	Y	1.08	48.9	3352.332	0.149
2467-TCDF	26.03		0.9433	0.9428	-0.8	1.45E+06	0.84	Y	1.08	6	3352.332	0.149
2368-TCDF	26.18		0.9489	0.9482	-1.1	2.72E+07	0.78	Y	1.08	113	3352.332	0.149
1238/1234/1678/1469/1236-TCDF	26.26		0.9523	0.9510	-2.0	6.13E+07	0.80	Y	1.08	255	3352.332	0.149
1278-TCDF	26.73	E	0.9683	0.9680	-0.5	5.03E+08	0.78	Y	1.08	2,090	3352.332	0.149
1349-TCDF	NotFnd		0.9722						1.08		3352.332	0.149
1267-TCDF	27.00		0.9783	0.9780	-0.5	2.80E+07	0.78	Y	1.08	116	3352.332	0.149
2346/1249-TCDF	27.20		0.9850	0.9852	+0.3	3.60E+06	0.75	Y	1.08	15	3352.332	0.149
2347/1279-TCDF	27.40		0.9926	0.9926	0	1.39E+07	0.78	Y	1.08	57.9	3352.332	0.149
2348-TCDF	27.51		0.9967	0.9965	-0.3	7.90E+07	0.78	Y	1.08	328	3352.332	0.149
2378-TCDF	**27.63**	E	**1.0008**	**1.0008**	**0**	**1.15E+09**	**0.78**	**Y**	**1.08**	**4,770**	**3352.332**	**0.149**
2367/3467-TCDF	27.98		1.0137	1.0135	-0.3	9.08E+07	0.78	Y	1.08	377	3352.332	0.149
1269-TCDF	28.23		1.0223	1.0225	+0.3	1.64E+07	0.81	Y	1.08	68.3	3352.332	0.149
1239-TCDF	28.48		1.0321	1.0317	-0.7	1.54E+06	0.70	Y	1.08	6.39	3352.332	0.149
1289-TCDF	29.64		1.0722	1.0734	+2.1	7.94E+07	0.78	Y	1.08	330	3352.332	0.149
13468/12468-PeCDF	29.58		0.9139	0.9140	+0.2	1.22E+06	1.53	Y	1.02	6.07	3240.62	0.148
13678/13467/12467-PeCDF	31.12		0.9613	0.9618	+0.9	6.19E+05	1.57	Y	1.02	3.09	6006.036	0.274
12368/13478/12478-PeCDF	31.28		0.9662	0.9668	+1.1	1.65E+07	1.57	Y	1.02	82.2	6006.036	0.274
14678-PeCDF	NotFnd		0.9692						1.02		6006.036	0.274
13479-PeCDF	NotFnd		0.9723						1.02		6006.036	0.274
13469/12479-PeCDF	NotFnd		0.9797						1.02		6006.036	0.274
12346-PeCDF	NotFnd		0.9840						1.02		6006.036	0.274

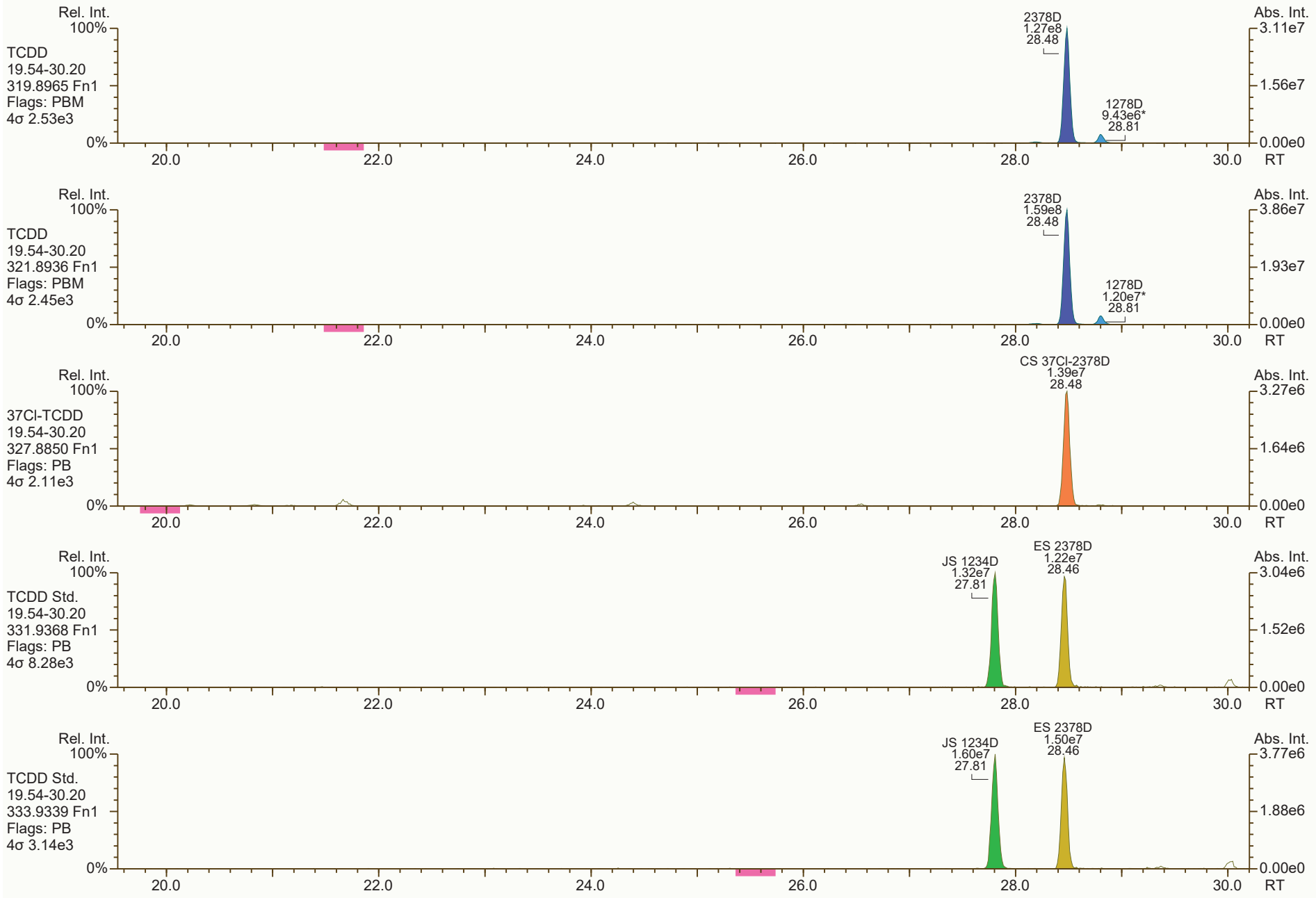
Lab ID: B6235_18875_DF_002 **Acq'd:** 10 Feb 2022 23:14 DTF **Wt/Vol:** 10.20 g **ICAL:** HRMS3_DF_10272021 10NOV2021

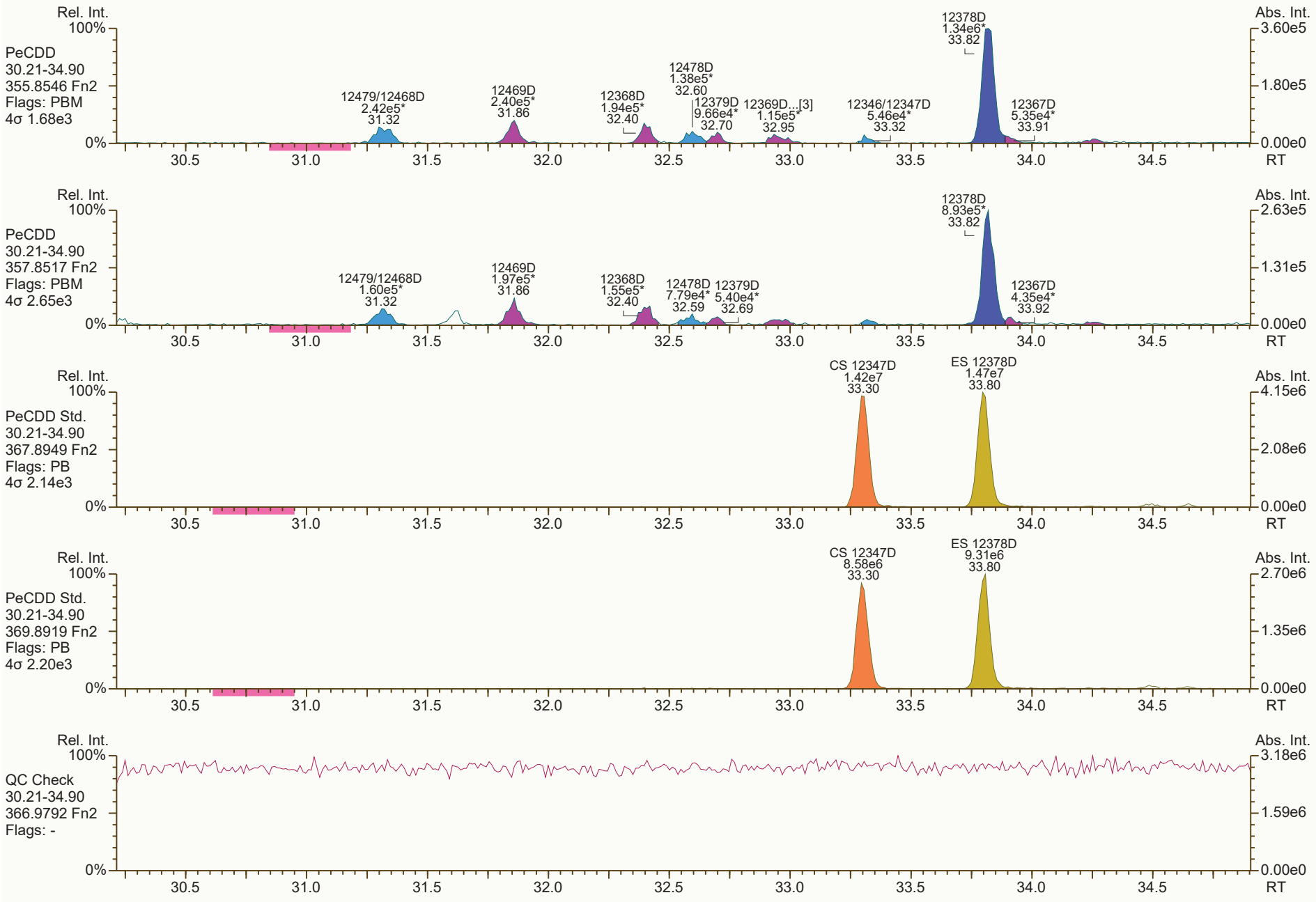
Client ID: 11215131-012122-S-BN-NC-O-38 **UTP:** 11-Feb-2022 16:26:36 DTF **J-level:** 0.49 pg/g **Split:** 1 **Checkcode:** 165-566-YHK

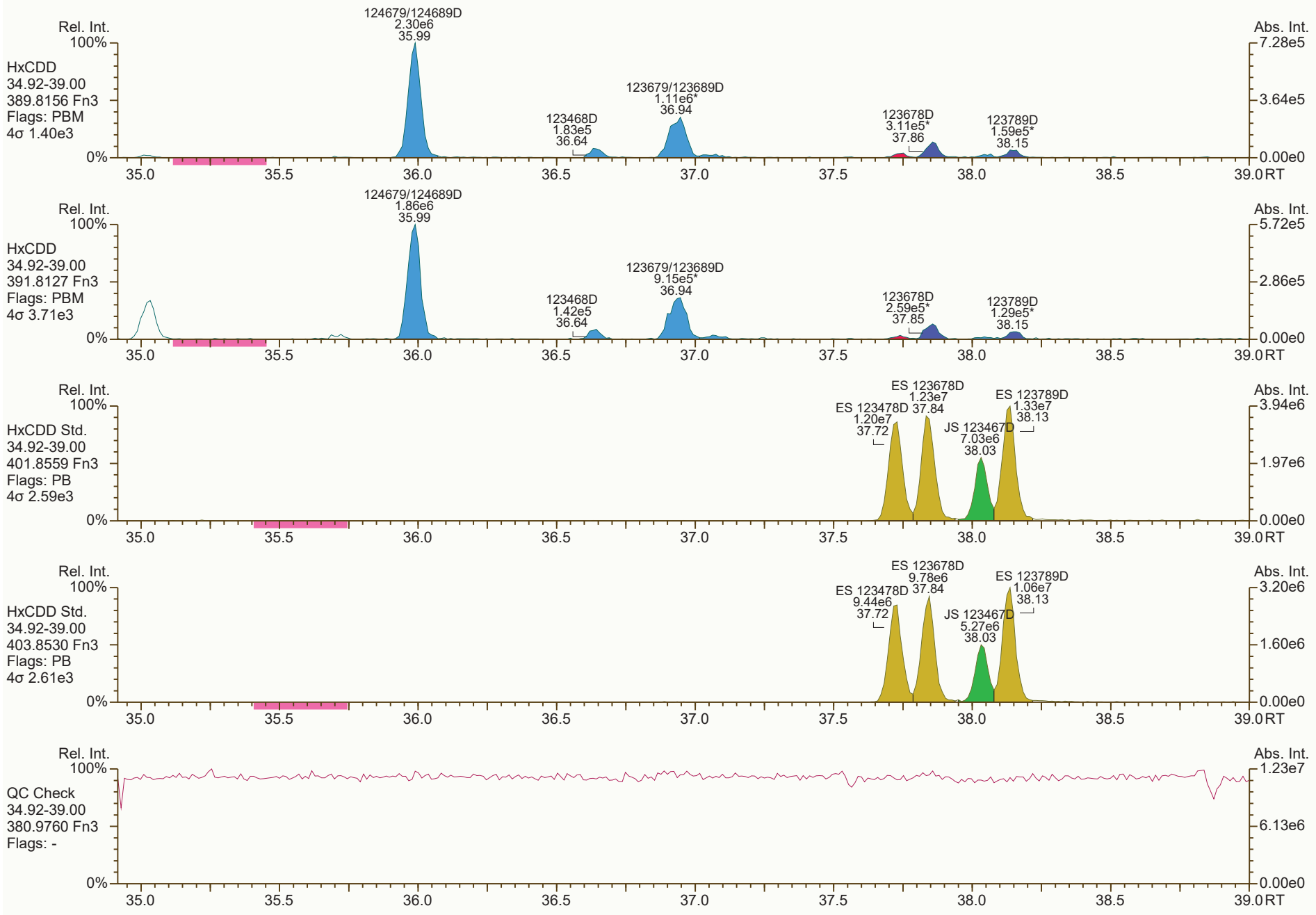
Datafile: 220210C18 **Report:** 11 Feb 2022 16:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.92		0.9868	0.9863	-1.0	9.64E+05	1.63	Y	1.02	4.81	6006.036	0.274
12347-PeCDF	32.00		0.9894	0.9891	-0.6	7.97E+05	1.56	Y	1.02	3.98	6006.036	0.274
12348-PeCDF	32.17		0.9940	0.9940	0	3.34E+06	1.54	Y	1.02	16.7	6006.036	0.274
12378-PeCDF	**32.38**		**1.0005**	**1.0005**	**0**	**3.59E+07**	**1.52**	**Y**	**1.02**	**178**	**6006.036**	**0.284**
12678/12367-PeCDF	32.67		1.0089	1.0096	+1.4	1.12E+07	1.54	Y	1.02	56.1	6006.036	0.274
12379-PeCDF	NotFnd		1.0142						1.02		6006.036	0.274
12679-PeCDF	NotFnd		0.9929						1.02		6006.036	0.274
23467/12369-PeCDF	33.36		0.9967	0.9966	-0.2	6.53E+05	1.53	Y	1.02	3.26	6006.036	0.274
23478-PeCDF	**33.49**		**1.0005**	**1.0007**	**+0.4**	**2.73E+07**	**1.55**	**Y**	**1.02**	**137**	**6006.036**	**0.264**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6006.036	0.274
12349-PeCDF	NotFnd		1.0100						1.02		6006.036	0.274
12389-PeCDF	34.56		1.0324	1.0324	0	1.50E+06	1.56	Y	1.02	7.48	6006.036	0.274
123468-HxCDF	35.34		0.9627	0.9625	-0.4	8.05E+05	1.25	Y	1.19	4.55	4803.806	0.225
124678/134678-HxCDF	35.54		0.9682	0.9680	-0.4	5.17E+06	1.24	Y	1.19	29.2	4803.806	0.225
134679-HxCDF	NotFnd		0.9744						1.19		4803.806	0.225
124679-HxCDF	35.97	J EMPC	0.9798	0.9798	0	4.74E+04	1.49	N	1.19	0.268	4803.806	0.225
124689-HxCDF	36.19		0.9858	0.9858	0	3.11E+06	1.24	Y	1.19	17.6	4803.806	0.225
123467-HxCDF	36.61	J	0.9972	0.9972	0	3.69E+05	1.20	Y	1.19	2.09	4803.806	0.225
123478-HxCDF	**36.73**		**1.0005**	**1.0005**	**0**	**5.20E+07**	**1.24**	**Y**	**1.27**	**300**	**4803.806**	**0.244**
123678-HxCDF	**36.87**		**1.0005**	**1.0005**	**0**	**1.43E+07**	**1.24**	**Y**	**1.15**	**75.2**	**4803.806**	**0.22**
123479-HxCDF	NotFnd		1.0049						1.19		4803.806	0.225
123469-HxCDF	NotFnd		1.0090						1.19		4803.806	0.225
123679-HxCDF	NotFnd		0.9942						1.19		4803.806	0.225
234678-HxCDF	**37.55**		**1.0005**	**1.0003**	**-0.5**	**3.00E+06**	**1.20**	**Y**	**1.19**	**15.3**	**4803.806**	**0.2**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4803.806	0.225
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4803.806**	**0.245**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.53		1.0009	1.0011	+0.5	4.23E+06	1.24	Y	1.19	23.9	4803.806	0.225
1234678-HpCDF	**39.89**		**1.0003**	**1.0003**	**0**	**1.39E+07**	**1.02**	**Y**	**1.37**	**81.7**	**7576.666**	**0.316**
1234679-HpCDF	40.15	**J**	1.0068	1.0069	+0.2	2.06E+05	1.13	Y	1.34	1.41	7576.666	0.412
1234689-HpCDF	40.29		1.0103	1.0104	+0.2	7.14E+06	1.00	Y	1.34	48.8	7576.666	0.412
1234789-HpCDF	**41.29**		**1.0003**	**1.0002**	**-0.2**	**4.19E+06**	**1.09**	**Y**	**1.31**	**34.1**	**7576.666**	**0.541**
OCDF	**43.70**		**1.0003**	**1.0002**	**-0.3**	**8.10E+06**	**0.87**	**Y**	**1.07**	**88.1**	**4094.562**	**0.519**
OCDF-a	43.70		1.0002	1.0001	-0.3	5.22E+05	2.14	Y	0.07	91.7	4887.146	10

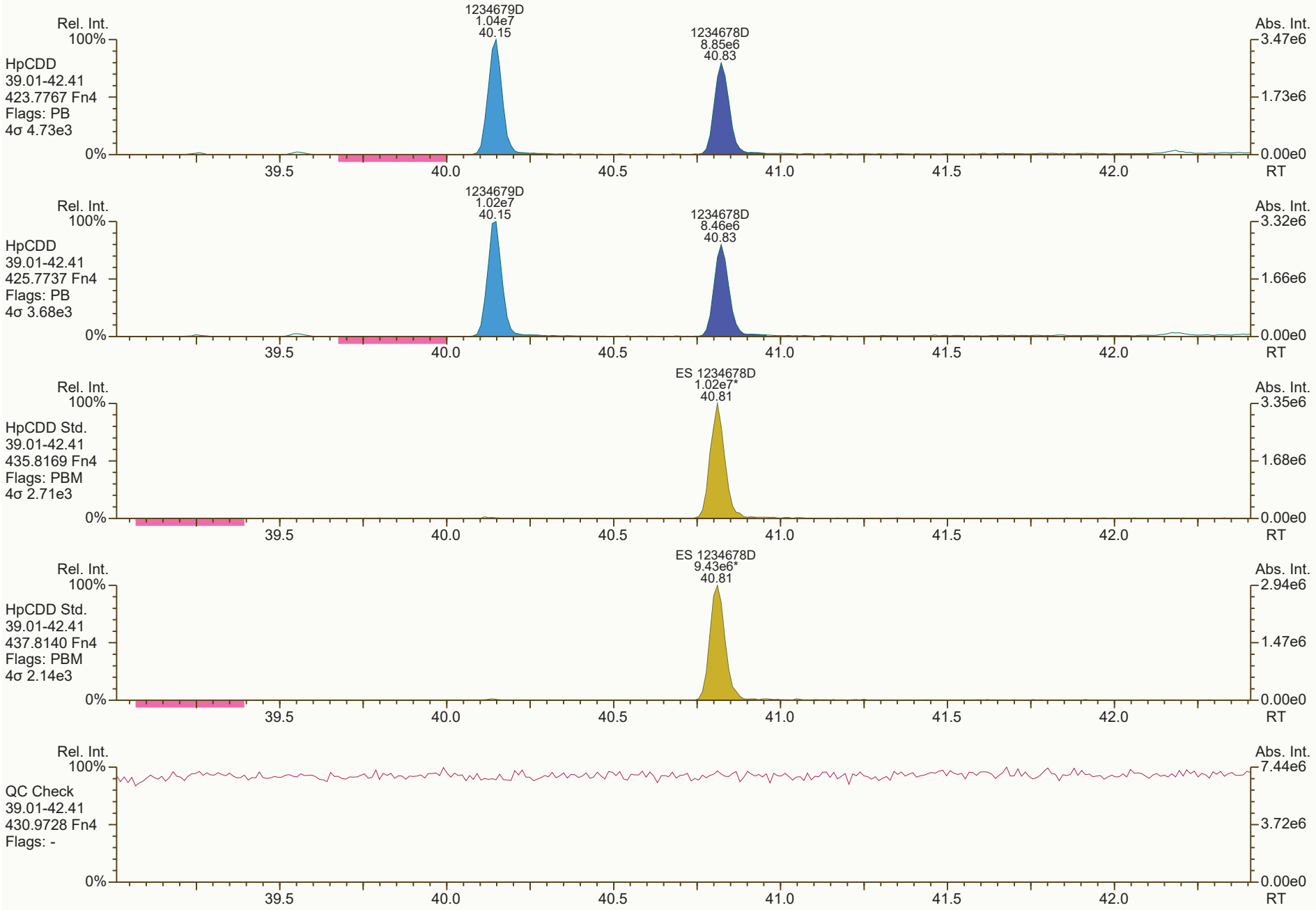

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
5.07e6
2.54e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.18e6
1.59e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.23e7
6.13e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.44e6
3.72e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.28e6
3.14e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT

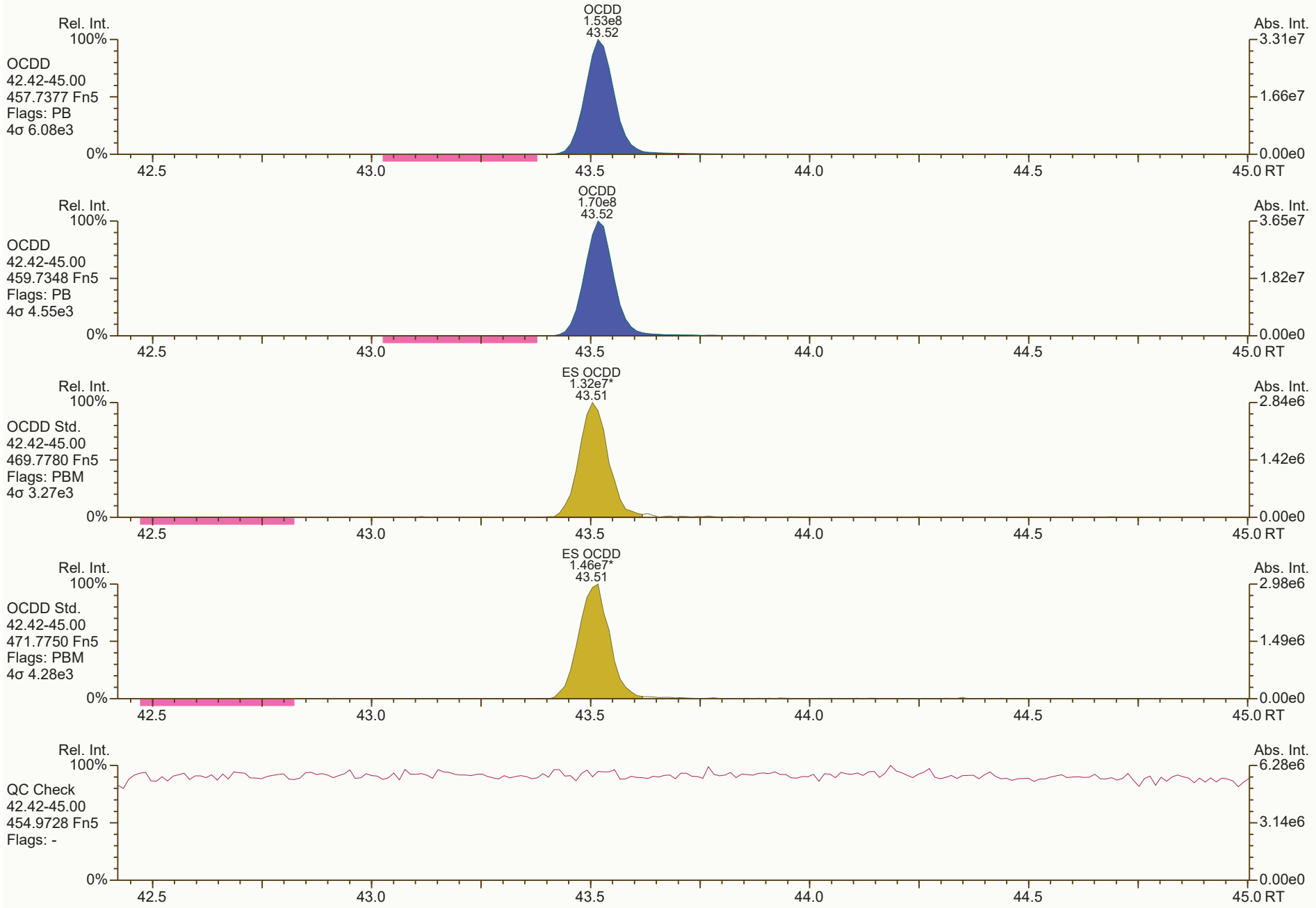

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.53e3
0%
2378D
1.27e8
28.48
1278D
9.43e6*
28.81
Abs. Int.
3.11e7
1.56e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.45e3
0%
2378D
1.59e8
28.48
1278D
1.20e7*
28.81
Abs. Int.
3.86e7
1.93e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.11e3
0%
CS 37Cl-2378D
1.39e7
28.48
Abs. Int.
3.27e6
1.64e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 8.28e3
0%
JS 1234D
1.32e7
27.81
ES 2378D
1.22e7
28.46
Abs. Int.
3.04e6
1.52e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.14e3
0%
JS 1234D
1.60e7
27.81
ES 2378D
1.50e7
28.46
Abs. Int.
3.77e6
1.88e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

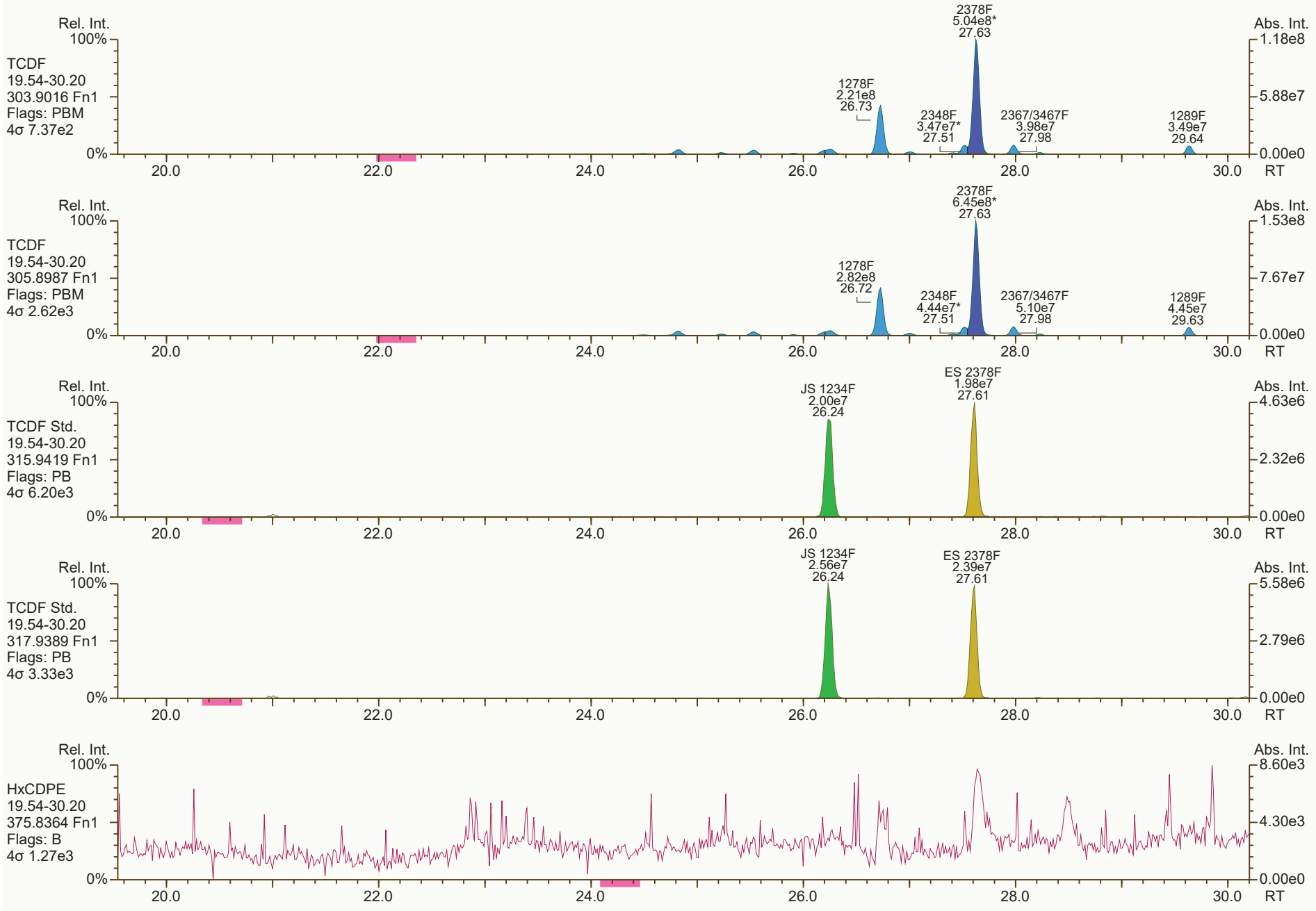

Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PBM
4σ 1.68e3
0%
12479/12468D
2.42e5*
31.32
12469D
2.40e5*
31.86
12368D
1.94e5*
32.40
12478D
1.38e5*
32.60
12379D
9.66e4*
32.70
12369D...[3]
1.15e5*
32.95
12346/12347D
5.46e4*
33.32
12378D
1.34e6*
33.82
12367D
5.35e4*
33.91
Abs. Int.
3.60e5
1.80e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PBM
4σ 2.65e3
0%
12479/12468D
1.60e5*
31.32
12469D
1.97e5*
31.86
12368D
1.55e5*
32.40
12478D
7.79e4*
32.59
12379D
5.40e4*
32.69
12378D
8.93e5*
33.82
12367D
4.35e4*
33.92
Abs. Int.
2.63e5
1.31e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 2.14e3
0%
CS 12347D
1.42e7
33.30
ES 12378D
1.47e7
33.80
Abs. Int.
4.15e6
2.08e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 2.20e3
0%
CS 12347D
8.58e6
33.30
ES 12378D
9.31e6
33.80
Abs. Int.
2.70e6
1.35e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.18e6
1.59e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT



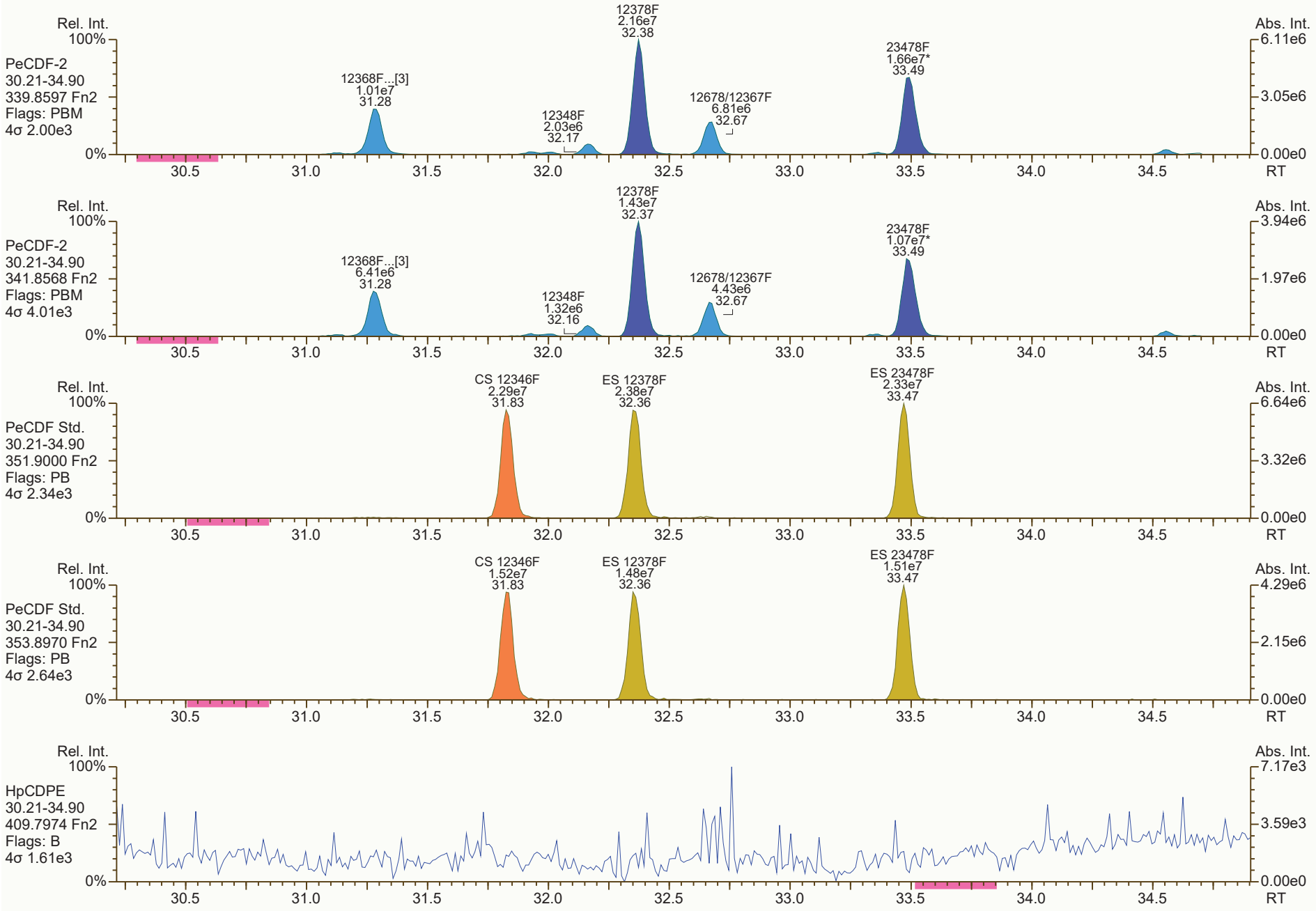
Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_002.utp_res, saved 11-Feb-2022 16:26 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4262, 5868 scc: 165-566 *Revised: 11-Feb-2022 11:22 (DTF) Printed: 11-Feb-2022 16:35 Page 4 of 12*

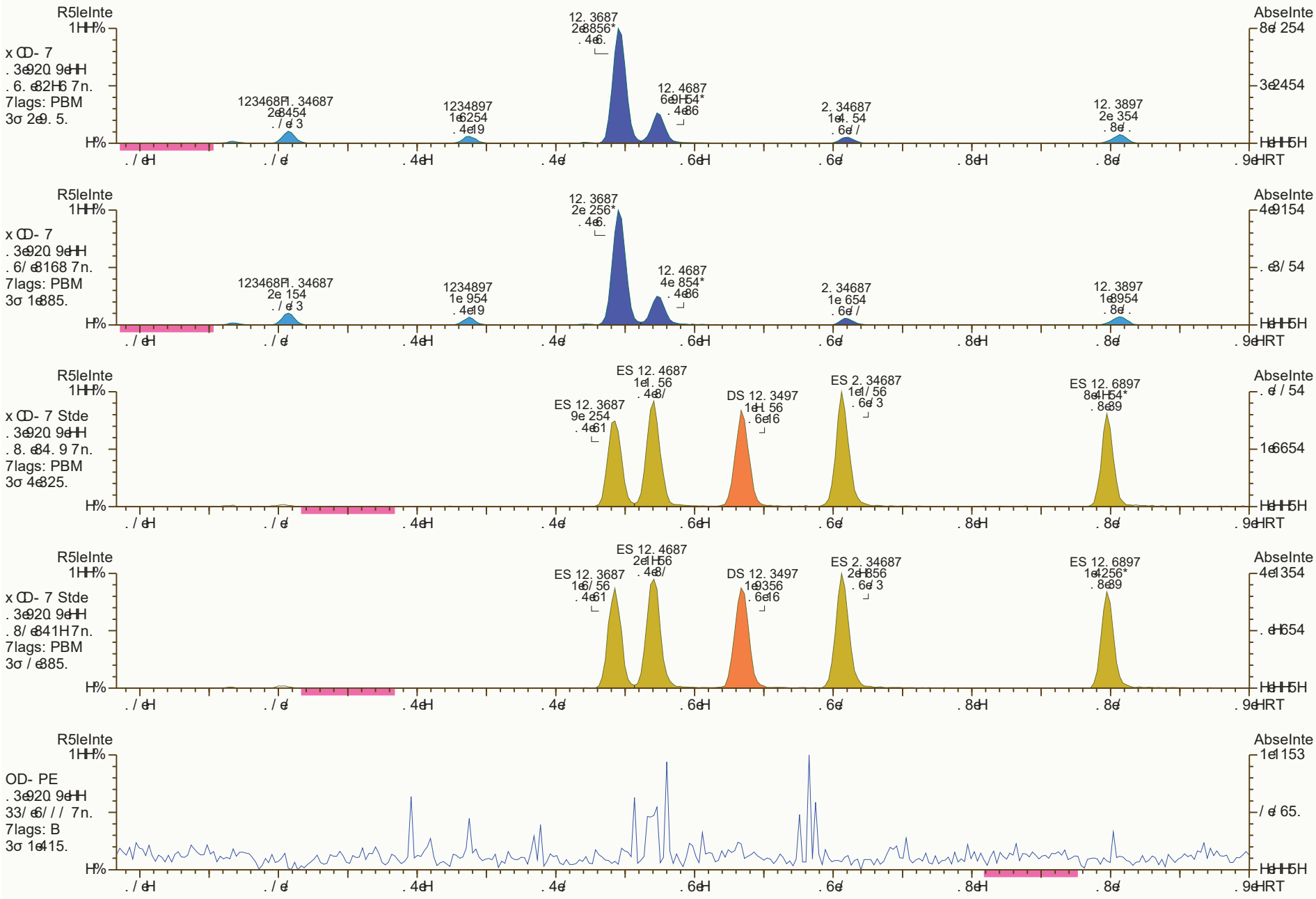

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 4.73e3
1234679D
1.04e7
40.15
1234678D
8.85e6
40.83
Abs. Int.
3.47e6
1.73e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 3.68e3
1234679D
1.02e7
40.15
1234678D
8.46e6
40.83
Abs. Int.
3.32e6
1.66e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 2.71e3
ES 1234678D
1.02e7*
40.81
Abs. Int.
3.35e6
1.68e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 2.14e3
ES 1234678D
9.43e6*
40.81
Abs. Int.
2.94e6
1.47e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
7.44e6
3.72e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

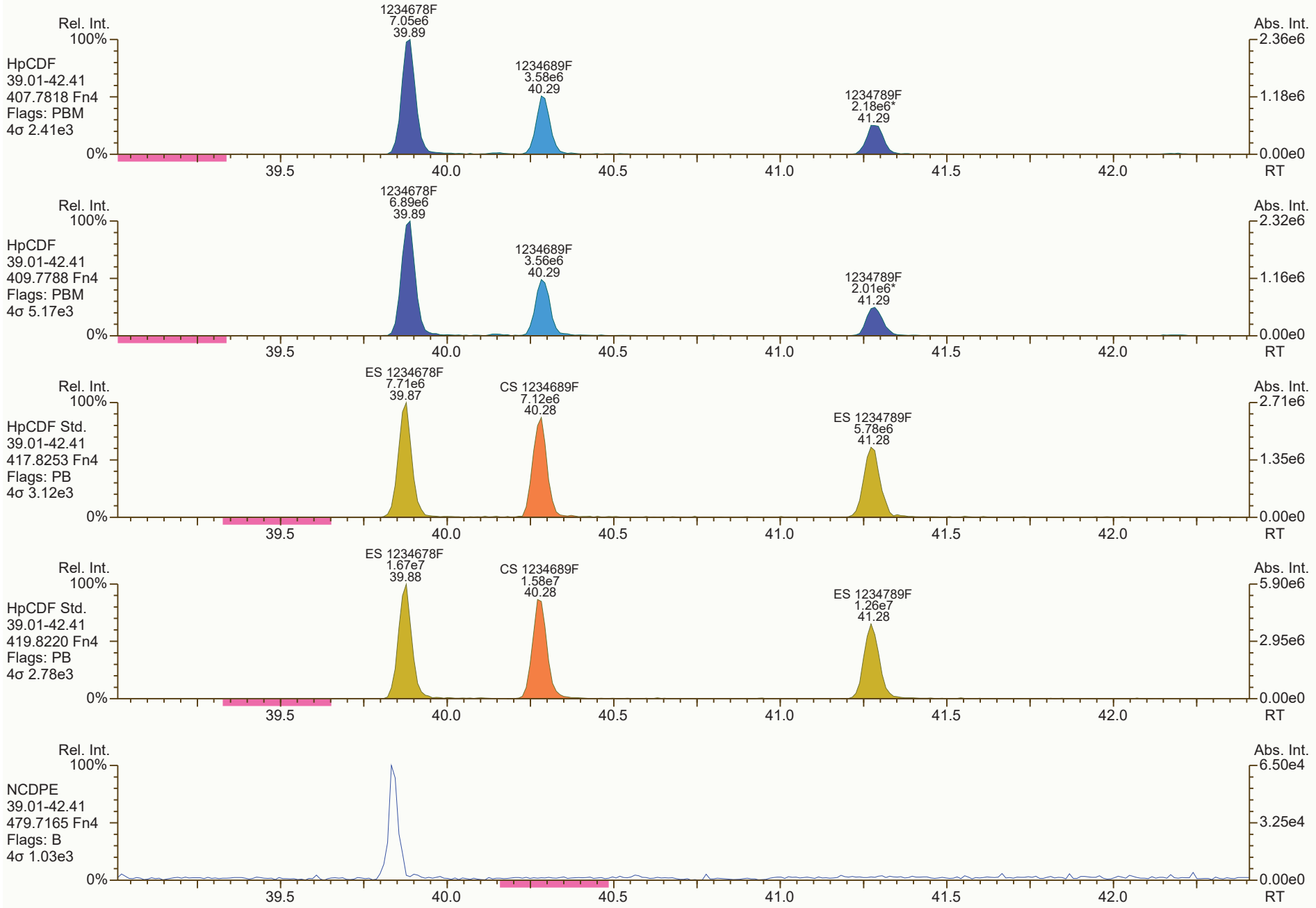

OCDD
1.53e8
43.52
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 6.08e3
0%
Abs. Int.
3.31e7
1.66e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.70e8
43.52
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 4.55e3
3.65e7
1.82e7
ES OCDD
1.32e7*
43.51
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 3.27e3
2.84e6
1.42e6
ES OCDD
1.46e7*
43.51
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 4.28e3
2.98e6
1.49e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
6.28e6
3.14e6


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 7.37e2
0%
2378F
5.04e8*
27.63
1278F
2.21e8
26.73
2348F
3.47e7*
27.51
2367/3467F
3.98e7
27.98
1289F
3.49e7
29.64
Abs. Int.
1.18e8
5.88e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.62e3
0%
2378F
6.45e8*
27.63
1278F
2.82e8
26.72
2348F
4.44e7*
27.51
2367/3467F
5.10e7
27.98
1289F
4.45e7
29.63
Abs. Int.
1.53e8
7.67e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 6.20e3
0%
JS 1234F
2.00e7
26.24
ES 2378F
1.98e7
27.61
Abs. Int.
4.63e6
2.32e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.33e3
0%
JS 1234F
2.56e7
26.24
ES 2378F
2.39e7
27.61
Abs. Int.
5.58e6
2.79e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.27e3
0%
Abs. Int.
8.60e3
4.30e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.57e3
13468/12468F
7.35e5
29.58
Abs. Int.
1.90e5
9.51e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.67e3
13468/12468F
4.81e5
29.57
Abs. Int.
1.15e5
5.73e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
5.07e6
2.54e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 2.00e3
0%
12368F...[3]
1.01e7
31.28
12348F
2.03e6
32.17
12378F
2.16e7
32.38
12678/12367F
6.81e6
32.67
23478F
1.66e7*
33.49
Abs. Int.
6.11e6
3.05e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 4.01e3
0%
12368F...[3]
6.41e6
31.28
12348F
1.32e6
32.16
12378F
1.43e7
32.37
12678/12367F
4.43e6
32.67
23478F
1.07e7*
33.49
Abs. Int.
3.94e6
1.97e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 2.34e3
0%
CS 12346F
2.29e7
31.83
ES 12378F
2.38e7
32.36
ES 23478F
2.33e7
33.47
Abs. Int.
6.64e6
3.32e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 2.64e3
0%
CS 12346F
1.52e7
31.83
ES 12378F
1.48e7
32.36
ES 23478F
1.51e7
33.47
Abs. Int.
4.29e6
2.15e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.61e3
0%
Abs. Int.
7.17e3
3.59e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


R5leInte
AbseInte
x CD- 7
7lags: PBM
12. 3687
12. 4687
2. 34687
12. 3897
x CD- 7
7lags: PBM
12. 3687
12. 4687
2. 34687
12. 3897
x CD- 7 Stde
7lags: PBM
ES 12. 4687
ES 12. 3687
DS 12. 3497
ES 2. 34687
ES 12. 6897
x CD- 7 Stde
7lags: PBM
ES 12. 4687
ES 12. 3687
DS 12. 3497
ES 2. 34687
ES 12. 6897
OD- PE
7lags: B
HRT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 2.41e3
1234678F
7.05e6
39.89
1234689F
3.58e6
40.29
1234789F
2.18e6*
41.29
Abs. Int.
2.36e6
1.18e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 5.17e3
1234678F
6.89e6
39.89
1234689F
3.56e6
40.29
1234789F
2.01e6*
41.29
Abs. Int.
2.32e6
1.16e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 3.12e3
ES 1234678F
7.71e6
39.87
CS 1234689F
7.12e6
40.28
ES 1234789F
5.78e6
41.28
Abs. Int.
2.71e6
1.35e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 2.78e3
ES 1234678F
1.67e7
39.88
CS 1234689F
1.58e7
40.28
ES 1234789F
1.26e7
41.28
Abs. Int.
5.90e6
2.95e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.03e3
Abs. Int.
6.50e4
3.25e4
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
OCDF
3.77e6*
43.70
Abs. Int.
8.29e5
4.15e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PBM
4σ 2.42e3
0%
OCDF
4.33e6*
43.70
Abs. Int.
9.64e5
4.82e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 3.36e3
0%
ES OCDF
1.60e7
43.69
Abs. Int.
3.44e6
1.72e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 1.95e3
0%
ES OCDF
1.76e7
43.69
Abs. Int.
3.80e6
1.90e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.74e3
0%
Abs. Int.
1.24e4
6.21e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6235_18875_DF_003 **Acq'd:** 11 Feb 2022 00:00 DTF **Wt/Vol:** 10.10 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-O-36 **UTP:** 11-Feb-2022 16:26:37 DTF **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 623-032-BJZ

Datafile: 220210C19 **Report:** 11 Feb 2022 16:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.48		1.0008	1.0008	0	4.36E+07	0.80	Y	1.18	219	4055.225	0.21
12378-PeCDD	33.82	J EMPC	1.0005	1.0005	0	3.64E+05	1.16	N	1.04	2.41	3120.888	0.196
123478-HxCDD	37.75	J	1.0004	1.0005	+0.2	1.41E+05	1.30	Y	1.09	0.938	2801.782	0.161
123678-HxCDD	37.86	J	1.0035	1.0035	0	4.17E+05	1.06	Y	1.15	2.45	2801.782	0.145
123789-HxCDD	38.15	J	1.0113	1.0113	0	3.27E+05	1.33	Y	1.05	1.98	2801.782	0.147
1234678-HpCDD	40.83		1.0003	1.0003	0	1.15E+07	1.04	Y	1.06	82.7	6475.862	0.383
OCDD	43.53		1.0002	1.0003	+0.3	3.98E+08	0.91	Y	1.13	3,730	7102.933	0.818
2378-TCDF	27.63		1.0008	1.0008	0	1.71E+08	0.78	Y	1.08	606	3691.24	0.141
12378-PeCDF	32.38		1.0005	1.0006	+0.2	7.11E+06	1.59	Y	1.02	29.5	4258.034	0.158
23478-PeCDF	33.50		1.0005	1.0007	+0.4	4.84E+06	1.53	Y	1.02	20.5	4258.034	0.157
123478-HxCDF	36.73		1.0005	1.0005	0	9.63E+06	1.21	Y	1.27	44.3	5418.797	0.21
123678-HxCDF	36.88		1.0005	1.0006	+0.2	3.04E+06	1.25	Y	1.15	13.1	5418.797	0.199
234678-HxCDF	37.56		1.0005	1.0005	0	7.90E+05	1.23	Y	1.19	3.16	5418.797	0.182
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	5418.797	0.229
1234678-HpCDF	39.89		1.0003	1.0003	0	4.36E+06	1.01	Y	1.37	19.5	4043.311	0.131
1234789-HpCDF	41.29		1.0003	1.0002	-0.2	8.41E+05	1.00	Y	1.31	5.53	4043.311	0.236
OCDF	43.71		1.0003	1.0002	-0.3	3.89E+06	0.89	Y	1.07	31.2	2600.926	0.242

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46	1.0238	1.0237	-0.2	3.33E+07	0.80	Y	1.05	89.4
ES 12378-PeCDD	33.81	1.2160	1.2160	0	2.88E+07	1.62	Y	0.88	92
ES 123478-HxCDD	37.73	0.9919	0.9919	0	2.74E+07	1.30	Y	0.97	90.3
ES 123678-HxCDD	37.85	0.9950	0.9950	0	2.94E+07	1.27	Y	0.94	99.9
ES 123789-HxCDD	38.14	1.0027	1.0027	0	3.12E+07	1.25	Y	1.09	91.8
ES 1234678-HpCDD	40.82	1.0730	1.0732	+0.5	2.59E+07	1.04	Y	0.91	91
ES OCDD	43.51	1.1437	1.1440	+0.8	3.75E+07	0.90	Y	0.62	96.4
ES 2378-TCDF	27.61	1.0520	1.0520	0	5.18E+07	0.81	Y	1.06	84.9
ES 12378-PeCDF	32.36	1.2330	1.2331	+0.2	4.67E+07	1.62	Y	0.91	89.1
ES 23478-PeCDF	33.47	1.2754	1.2755	+0.2	4.58E+07	1.60	Y	0.88	90.1
ES 123478-HxCDF	36.72	0.9653	0.9653	0	3.39E+07	0.53	Y	1.20	90.6
ES 123678-HxCDF	36.86	0.9691	0.9691	0	4.00E+07	0.53	Y	1.35	95
ES 234678-HxCDF	37.54	0.9870	0.9870	0	4.16E+07	0.54	Y	1.24	107
ES 123789-HxCDF	38.50	1.0121	1.0121	0	3.22E+07	0.54	Y	1.16	89.4
ES 1234678-HpCDF	39.88	1.0484	1.0485	+0.2	3.23E+07	0.48	Y	0.97	107
ES 1234789-HpCDF	41.28	1.0851	1.0853	+0.5	2.30E+07	0.48	Y	0.85	86.7
ES OCDF	43.70	1.1483	1.1488	+1.3	4.61E+07	0.94	Y	0.81	91.5

Lab ID: B6235_18875_DF_003 **Acq'd:** 11 Feb 2022 00:00 DTF **Wt/Vol:** 10.10 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-O-36 **UTP:** 11-Feb-2022 16:26:37 DTF **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 623-032-BJZ

Datafile: 220210C19 **Report:** 11 Feb 2022 16:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.80		-	-	-	3.56E+07	0.79	Y	-	-
JS 1234-TCDF	26.24		-	-	-	5.76E+07	0.79	Y	-	-
JS 123467-HxCDD	38.04		-	-	-	1.56E+07	1.25	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0245	1.0245	0	1.58E+07	n/a	-	1.20	92.3
CS 12347-PeCDD	33.30		1.1979	1.1979	0	2.79E+07	1.59	Y	0.75	104
CS 12346-PeCDF	31.83		1.2128	1.2129	+0.2	4.72E+07	1.61	Y	0.85	96.3
CS 123469-HxCDF	37.18		0.9774	0.9774	0	3.80E+07	0.54	Y	1.12	109
CS 1234689-HpCDF	40.29		1.0589	1.0592	+0.7	3.02E+07	0.45	Y	0.89	109
SS 37Cl-2378-TCDD	28.48		1.0245	1.0245	0	1.58E+07	n/a	-	1.15	103
SS 12347-PeCDD	33.30		1.1979	1.1979	0	2.79E+07	1.59	Y	0.86	113
SS 12346-PeCDF	31.83		1.2128	1.2129	+0.2	4.72E+07	1.61	Y	0.94	108
SS 123469-HxCDF	37.18		0.9774	0.9774	0	3.80E+07	0.54	Y	0.83	115
SS 1234689-HpCDF	40.29		1.0589	1.0592	+0.7	3.02E+07	0.45	Y	0.92	102

Totals	Conc	EMPC
Total TCDD	243	247
Total PeCDD	4.04	7.04
Total HxCDD	27.8	28.2
Total HpCDD	192	192
Total Tetra-Octa Dioxins	4200	4210
Total TCDF	1,210	1210
Total PeCDF	83.1	84.3
Total HxCDF	81	81.8
Total HpCDF	44.2	44.2
Total Tetra-Octa Furans	1,450	1450
Total Tetra-Octa Dioxins & Furans	5650	5660

Lab ID: B6235_18875_DF_003 **Acq'd: 11 Feb 2022 00:00 DTF** **Wt/Vol: 10.10 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012222-S-BN-NC-O-36 **UTP: 11-Feb-2022 16:26:37 DTF** **J-level: 0.495 pg/g** **Split: 1** **Checkcode: 623-032-BJZ**

Datafile: 220210C19 **Report: 11 Feb 2022 16:28 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.84		0.8737	0.8727	-1.5	2.19E+05	0.70	Y	1.18	1.1	4055.225	0.21
1379-TCDD	25.19	J	0.8860	0.8850	-1.5	4.69E+04	0.79	Y	1.18	0.236	4055.225	0.21
1369-TCDD	NotFnd		0.9009						1.18		4055.225	0.21
1469-TCDD	26.40		0.9281	0.9276	-0.8	1.43E+05	0.79	Y	1.18	0.719	4055.225	0.21
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		4055.225	0.21
1378-TCDD	26.84		0.9432	0.9430	-0.3	1.39E+05	0.76	Y	1.18	0.7	4055.225	0.21
1268-TCDD	NotFnd		0.9500						1.18		4055.225	0.21
1478-TCDD	27.29		0.9586	0.9587	+0.2	1.22E+05	0.87	Y	1.18	0.614	4055.225	0.21
1279-TCDD	NotFnd		0.9645						1.18		4055.225	0.21
1234/1269-TCDD	NotFnd		0.9770						1.18		4055.225	0.21
1236-TCDD	NotFnd		0.9817						1.18		4055.225	0.21
1237/1238-TCDD	28.19	EMPC	0.9905	0.9904	-0.2	6.23E+05	0.94	N	1.18	3.13	4055.225	0.21
1239-TCDD	NotFnd		0.9952						1.18		4055.225	0.21
2378-TCDD	**28.48**		**1.0008**	1.0008	**0**	4.36E+07	0.80	Y	**1.18**	**219**	**4055.225**	**0.21**
1278-TCDD	28.81		1.0121	1.0122	+0.2	4.17E+06	0.79	Y	1.18	21	4055.225	0.21
1267-TCDD	NotFnd		1.0167						1.18		4055.225	0.21
1289-TCDD	NotFnd		1.0345						1.18		4055.225	0.21
12479/12468-PeCDD	31.32	J	0.9267	0.9264	-0.6	1.85E+05	1.66	Y	1.04	1.23	3120.888	0.196
12469-PeCDD	31.85	J	0.9425	0.9422	-0.6	1.56E+05	1.51	Y	1.04	1.04	3120.888	0.196
12368-PeCDD	32.41	J EMPC	0.9588	0.9588	0	8.97E+04	1.29	N	1.04	0.595	3120.888	0.196
12478-PeCDD	32.60	J	0.9643	0.9642	-0.2	9.52E+04	1.35	Y	1.04	0.632	3120.888	0.196
12379-PeCDD	32.69	J	0.9673	0.9670	-0.6	5.88E+04	1.56	Y	1.04	0.39	3120.888	0.196
12369/12467/12489-PeCDD	32.96	J	0.9750	0.9748	-0.4	1.13E+05	1.55	Y	1.04	0.753	3120.888	0.196
12346/12347-PeCDD	NotFnd		0.9858						1.04		3120.888	0.196
12378-PeCDD	33.82	J EMPC	**1.0005**	**1.0005**	**0**	**3.64E+05**	**1.16**	**N**	**1.04**	**2.41**	**3120.888**	**0.196**
12367-PeCDD	NotFnd		1.0033						1.04		3120.888	0.196
12389-PeCDD	NotFnd		1.0134						1.04		3120.888	0.196
124679/124689-HxCDD	35.99		0.9542	0.9540	-0.4	1.82E+06	1.40	Y	1.10	11.2	2801.782	0.15
123468-HxCDD	36.65	J	0.9715	0.9714	-0.2	2.11E+05	1.16	Y	1.10	1.3	2801.782	0.15
123679/123689-HxCDD	36.94		0.9793	0.9792	-0.2	1.47E+06	1.28	Y	1.10	9.09	2801.782	0.15
123469-HxCDD	37.07	J	0.9828	0.9826	-0.4	1.33E+05	1.08	Y	1.10	0.819	2801.782	0.15
123478-HxCDD	37.75	J	**1.0004**	**1.0005**	**+0.2**	**1.41E+05**	**1.30**	**Y**	1.09	**0.938**	**2801.782**	**0.161**
123678-HxCDD	37.86	J	**1.0035**	**1.0035**	**0**	**4.17E+05**	**1.06**	**Y**	1.15	**2.45**	**2801.782**	**0.145**
123467-HxCDD	38.05	J EMPC	1.0085	1.0084	-0.2	6.31E+04	0.92	N	1.10	0.389	2801.782	0.15
123789-HxCDD	38.15	J	**1.0113**	**1.0113**	**0**	**3.27E+05**	**1.33**	**Y**	1.05	**1.98**	**2801.782**	**0.147**

Lab ID: B6235_18875_DF_003 **Acq'd:** 11 Feb 2022 00:00 DTF **Wt/Vol:** 10.10 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-O-36 **UTP:** 11-Feb-2022 16:26:37 DTF **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 623-032-BJZ

Datafile: 220210C19 **Report:** 11 Feb 2022 16:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.15		0.9837	0.9836	-0.2	1.51E+07	1.02	Y	1.06	109	6475.862	0.383
1234678-HpCDD	**40.83**		**1.0003**	**1.0003**	**0**	**1.15E+07**	**1.04**	**Y**	**1.06**	**82.7**	**6475.862**	**0.383**
OCDD	**43.53**		**1.0002**	**1.0003**	**+0.3**	**3.98E+08**	**0.91**	**Y**	**1.13**	**3,730**	**7102.933**	**0.818**
OCDD-a	43.52		1.0001	1.0002	+0.3	2.45E+07	2.43	Y	0.07	3,600	3326.549	5.99
1368-TCDF	NotFnd		0.8251						1.08		3691.24	0.141
1468-TCDF	23.31	EMPC	0.8458	0.8445	-1.8	2.85E+05	0.60	N	1.08	1.01	3691.24	0.141
2468-TCDF	23.95	EMPC	0.8686	0.8674	-1.7	3.40E+05	0.95	N	1.08	1.21	3691.24	0.141
1346/1246-TCDF	NotFnd		0.8814						1.08		3691.24	0.141
1347/1378/1247-TCDF	24.46		0.8867	0.8861	-0.9	2.21E+06	0.79	Y	1.08	7.84	3691.24	0.141
1348-TCDF	NotFnd		0.8962						1.08		3691.24	0.141
1248/1367/1379-TCDF	24.81		0.9009	0.8987	-3.3	9.38E+06	0.79	Y	1.08	33.3	3691.24	0.141
1268-TCDF	25.23		0.9145	0.9140	-0.8	3.05E+06	0.75	Y	1.08	10.8	3691.24	0.141
1467-TCDF	25.37	EMPC	0.9193	0.9189	-0.6	3.54E+05	0.91	N	1.08	1.26	3691.24	0.141
1478-TCDF	25.53		0.9254	0.9249	-0.8	7.21E+06	0.79	Y	1.08	25.6	3691.24	0.141
1369/1237-TCDF	25.91		0.9387	0.9385	-0.3	1.86E+06	0.82	Y	1.08	6.59	3691.24	0.141
2467-TCDF	26.02		0.9433	0.9426	-1.1	3.43E+05	0.73	Y	1.08	1.21	3691.24	0.141
2368-TCDF	26.20		0.9489	0.9489	0	6.78E+06	0.77	Y	1.08	24	3691.24	0.141
1238/1234/1678/1469/1236-TCDF	26.27		0.9523	0.9516	-1.1	7.61E+06	0.78	Y	1.08	27	3691.24	0.141
1278-TCDF	26.73		0.9683	0.9682	-0.2	7.90E+07	0.79	Y	1.08	280	3691.24	0.141
1349-TCDF	NotFnd		0.9722						1.08		3691.24	0.141
1267-TCDF	27.00		0.9783	0.9782	-0.2	4.43E+06	0.79	Y	1.08	15.7	3691.24	0.141
2346/1249-TCDF	27.20		0.9850	0.9853	+0.5	5.74E+05	0.78	Y	1.08	2.04	3691.24	0.141
2347/1279-TCDF	27.40		0.9926	0.9925	-0.2	2.45E+06	0.77	Y	1.08	8.7	3691.24	0.141
2348-TCDF	27.51		0.9967	0.9966	-0.2	1.36E+07	0.78	Y	1.08	48.1	3691.24	0.141
2378-TCDF	**27.63**		**1.0008**	**1.0008**	**0**	**1.71E+08**	**0.78**	**Y**	**1.08**	**606**	**3691.24**	**0.141**
2367/3467-TCDF	27.98		1.0137	1.0135	-0.3	1.45E+07	0.79	Y	1.08	51.3	3691.24	0.141
1269-TCDF	28.23		1.0223	1.0226	+0.5	2.69E+06	0.85	Y	1.08	9.55	3691.24	0.141
1239-TCDF	NotFnd		1.0321						1.08		3691.24	0.141
1289-TCDF	29.63		1.0722	1.0735	+2.3	1.41E+07	0.78	Y	1.08	49.9	3691.24	0.141
13468/12468-PeCDF	29.58		0.9139	0.9140	+0.2	8.14E+05	1.51	Y	1.02	3.41	2797.208	0.103
13678/13467/12467-PeCDF	31.12	J	0.9613	0.9618	+0.9	2.23E+05	1.46	Y	1.02	0.933	4258.034	0.158
12368/13478/12478-PeCDF	31.28		0.9662	0.9667	+0.9	3.39E+06	1.52	Y	1.02	14.2	4258.034	0.158
14678-PeCDF	NotFnd		0.9692						1.02		4258.034	0.158
13479-PeCDF	NotFnd		0.9723						1.02		4258.034	0.158
13469/12479-PeCDF	NotFnd		0.9797						1.02		4258.034	0.158
12346-PeCDF	NotFnd		0.9840						1.02		4258.034	0.158

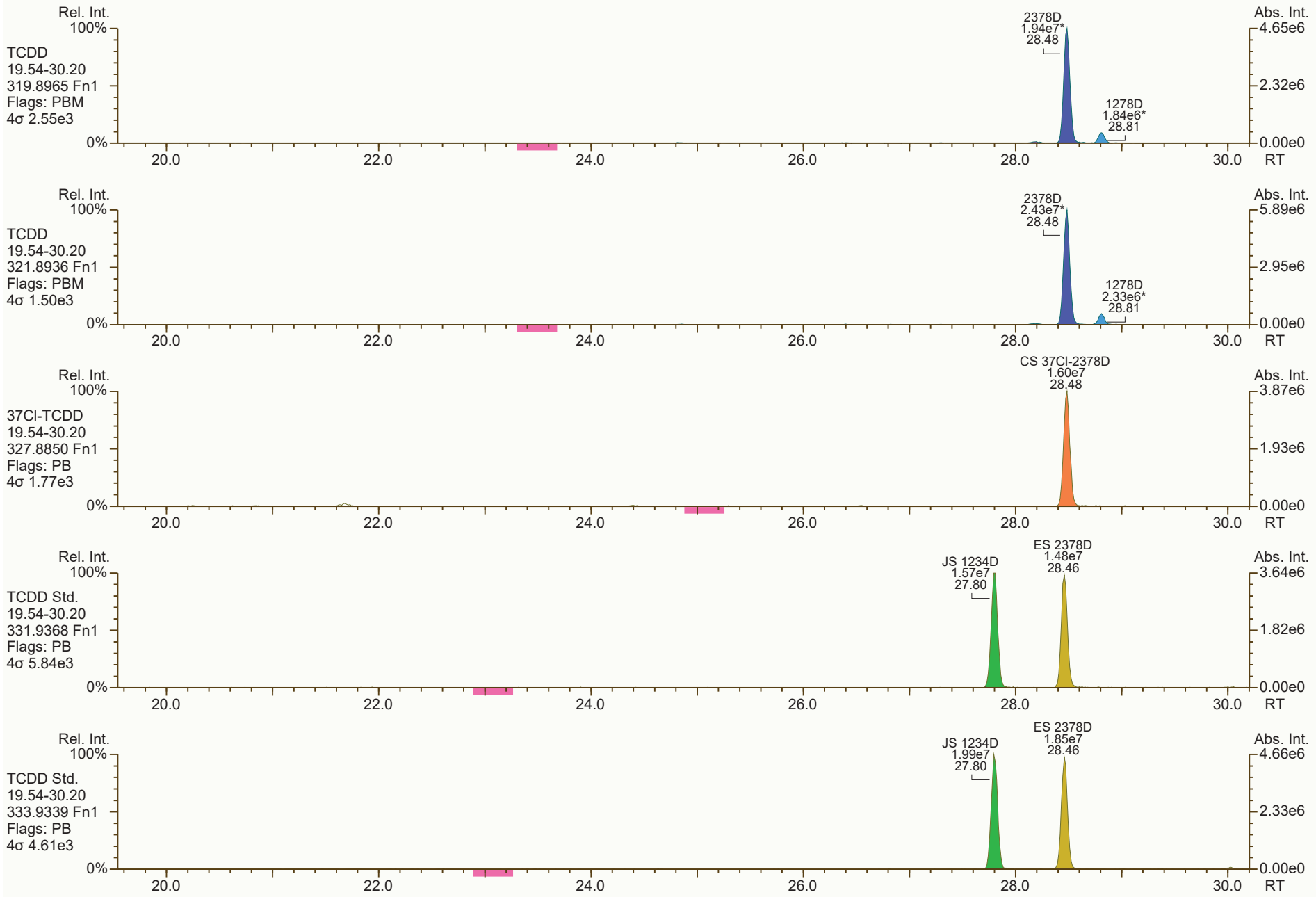
Lab ID: B6235_18875_DF_003 **Acq'd: 11 Feb 2022 00:00 DTF** **Wt/Vol: 10.10 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

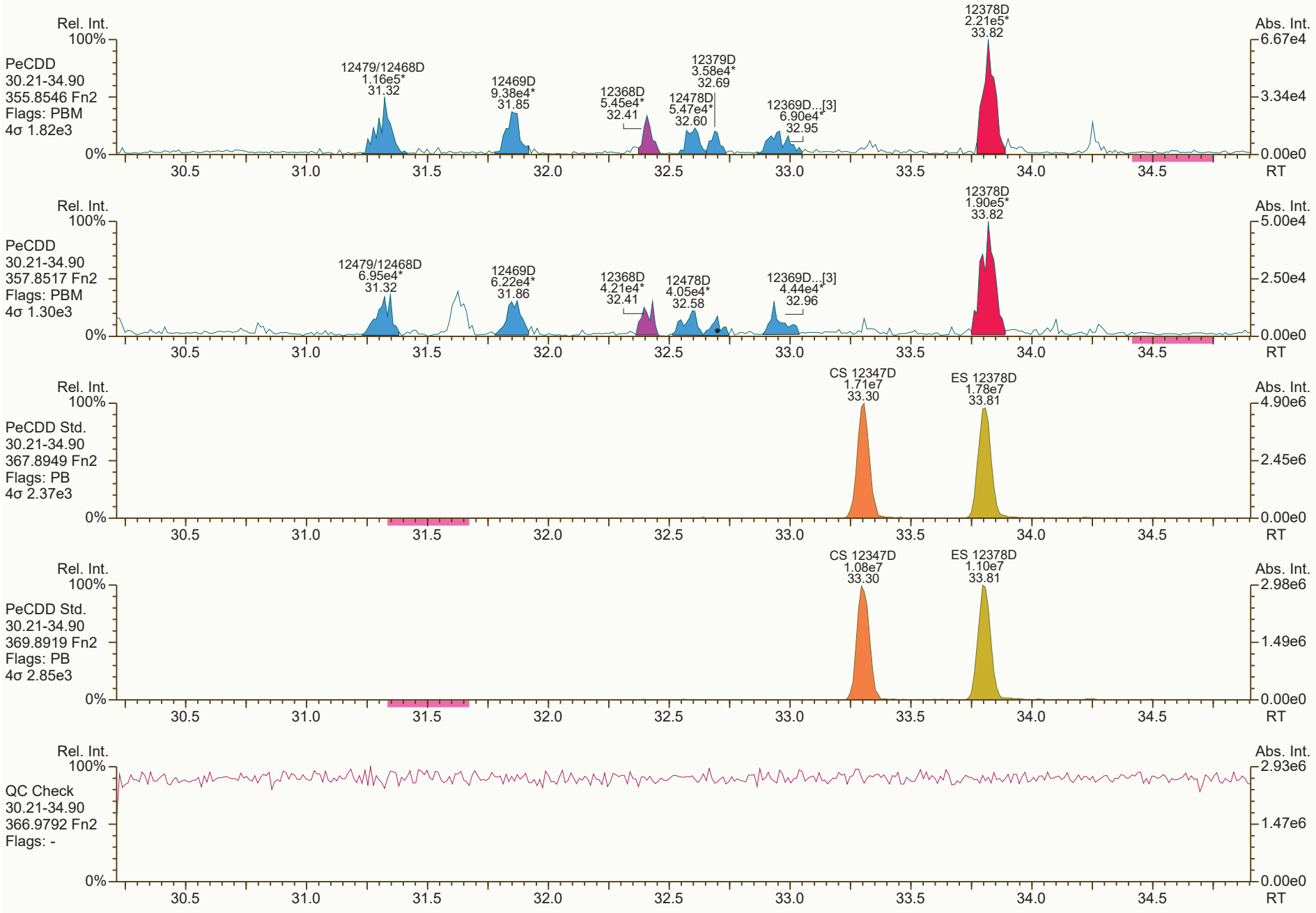
Client ID: 11215131-012222-S-BN-NC-O-36 **UTP: 11-Feb-2022 16:26:37 DTF** **J-level: 0.495 pg/g** **Split: 1** **Checkcode: 623-032-BJZ**

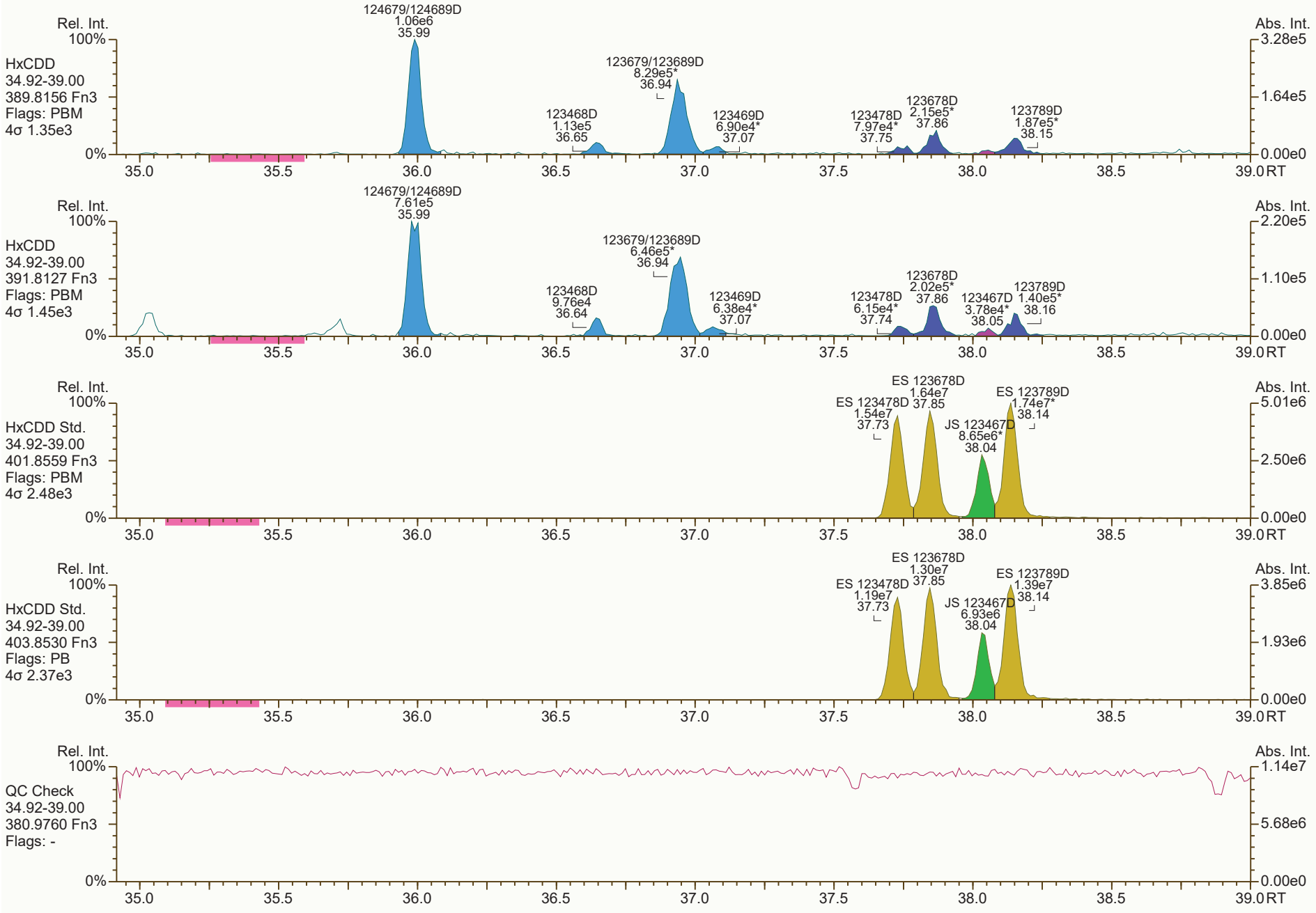
Datafile: 220210C19 **Report: 11 Feb 2022 16:28 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

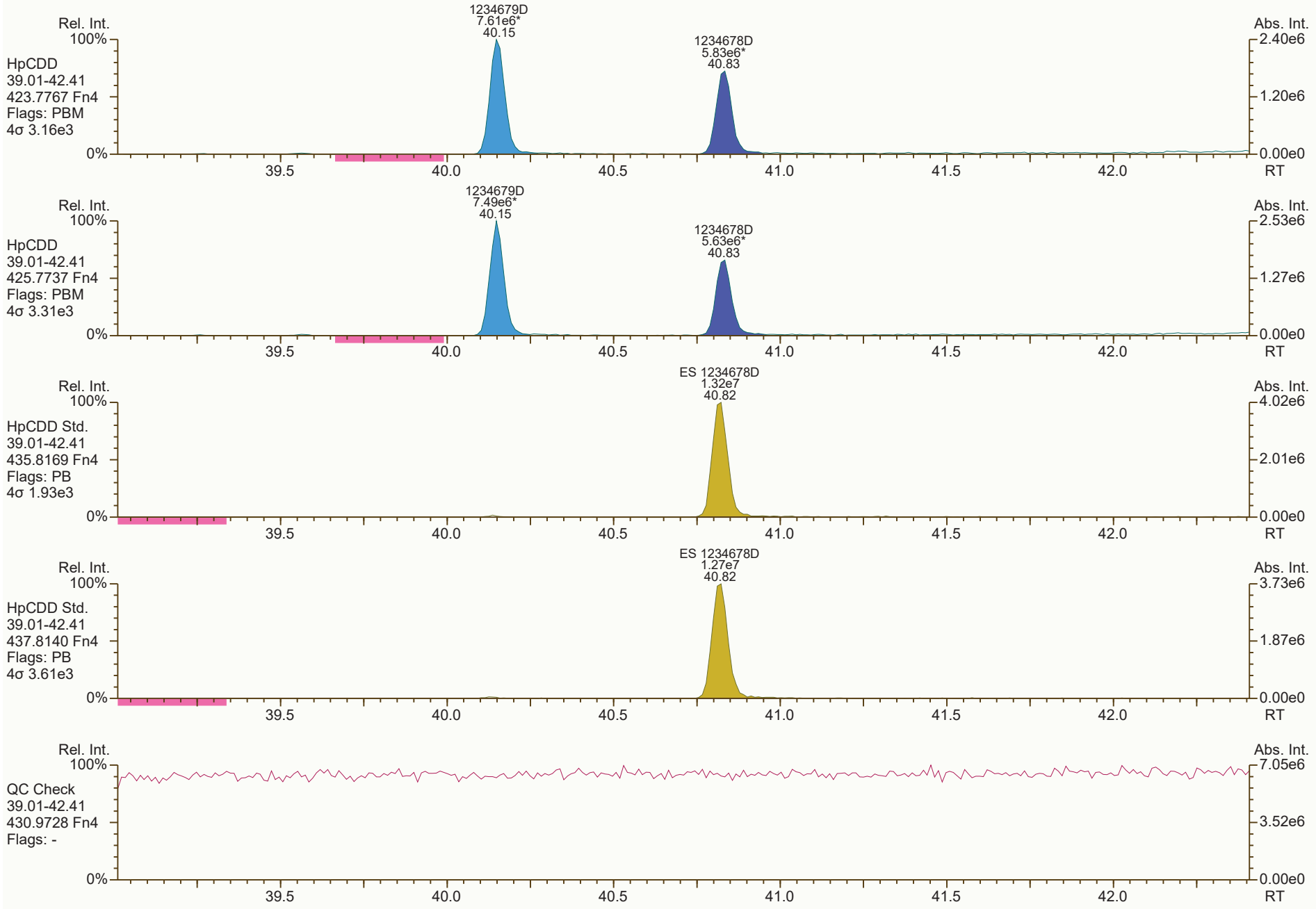
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.92	J	0.9868	0.9865	-0.6	2.96E+05	1.45	Y	1.02	1.24	4258.034	0.158
12347-PeCDF	32.00	J EMPC	0.9894	0.9890	-0.8	1.28E+05	1.90	N	1.02	0.538	4258.034	0.158
12348-PeCDF	32.17		0.9940	0.9941	+0.2	6.37E+05	1.46	Y	1.02	2.67	4258.034	0.158
12378-PeCDF	**32.38**		**1.0005**	**1.0006**	**+0.2**	**7.11E+06**	**1.59**	**Y**	**1.02**	**29.5**	**4258.034**	**0.158**
12678/12367-PeCDF	32.67		1.0089	1.0097	+1.6	2.31E+06	1.57	Y	1.02	9.69	4258.034	0.158
12379-PeCDF	NotFnd		1.0142						1.02		4258.034	0.158
12679-PeCDF	NotFnd		0.9929						1.02		4258.034	0.158
23467/12369-PeCDF	33.36	J EMPC	0.9967	0.9965	-0.4	1.57E+05	2.01	N	1.02	0.657	4258.034	0.158
23478-PeCDF	**33.50**		**1.0005**	**1.0007**	**+0.4**	**4.84E+06**	**1.53**	**Y**	**1.02**	**20.5**	**4258.034**	**0.157**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4258.034	0.158
12349-PeCDF	NotFnd		1.0100						1.02		4258.034	0.158
12389-PeCDF	34.57	J	1.0324	1.0326	+0.4	2.17E+05	1.77	Y	1.02	0.91	4258.034	0.158
123468-HxCDF	35.34	J	0.9627	0.9626	-0.2	3.95E+05	1.32	Y	1.19	1.77	5418.797	0.203
124678/134678-HxCDF	35.54		0.9682	0.9680	-0.4	1.99E+06	1.26	Y	1.19	8.94	5418.797	0.203
134679-HxCDF	NotFnd		0.9744						1.19		5418.797	0.203
124679-HxCDF	NotFnd		0.9798						1.19		5418.797	0.203
124689-HxCDF	36.19		0.9858	0.9858	0	1.28E+06	1.15	Y	1.19	5.77	5418.797	0.203
123467-HxCDF	36.61	J EMPC	0.9972	0.9972	0	1.87E+05	1.54	N	1.19	0.839	5418.797	0.203
123478-HxCDF	**36.73**		**1.0005**	**1.0005**	**0**	**9.63E+06**	**1.21**	**Y**	**1.27**	**44.3**	**5418.797**	**0.21**
123678-HxCDF	**36.88**		**1.0005**	**1.0006**	**+0.2**	**3.04E+06**	**1.25**	**Y**	**1.15**	**13.1**	**5418.797**	**0.199**
123479-HxCDF	NotFnd		1.0049						1.19		5418.797	0.203
123469-HxCDF	NotFnd		1.0090						1.19		5418.797	0.203
123679-HxCDF	NotFnd		0.9942						1.19		5418.797	0.203
234678-HxCDF	**37.56**		**1.0005**	**1.0005**	**0**	**7.90E+05**	**1.23**	**Y**	**1.19**	**3.16**	**5418.797**	**0.182**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		5418.797	0.203
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**5418.797**	**0.229**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.54		1.0009	1.0010	+0.2	8.90E+05	1.15	Y	1.19	4	5418.797	0.203
1234678-HpCDF	**39.89**		**1.0003**	**1.0003**	**0**	**4.36E+06**	**1.01**	**Y**	**1.37**	**19.5**	**4043.311**	**0.131**
1234679-HpCDF	40.15	**J**	1.0068	1.0068	0	1.17E+05	1.15	Y	1.34	0.623	4043.311	0.174
1234689-HpCDF	40.30		1.0103	1.0104	+0.2	3.48E+06	0.97	Y	1.34	18.6	4043.311	0.174
1234789-HpCDF	**41.29**		**1.0003**	**1.0002**	**-0.2**	**8.41E+05**	**1.00**	**Y**	**1.31**	**5.53**	**4043.311**	**0.236**
OCDF	**43.71**		**1.0003**	**1.0002**	**-0.3**	**3.89E+06**	**0.89**	**Y**	**1.07**	**31.2**	**2600.926**	**0.242**
OCDF-a	43.72	**EMPC**	1.0002	1.0005	+0.8	1.07E+05	4.82	N	0.07	13.9	2743.284	4.12

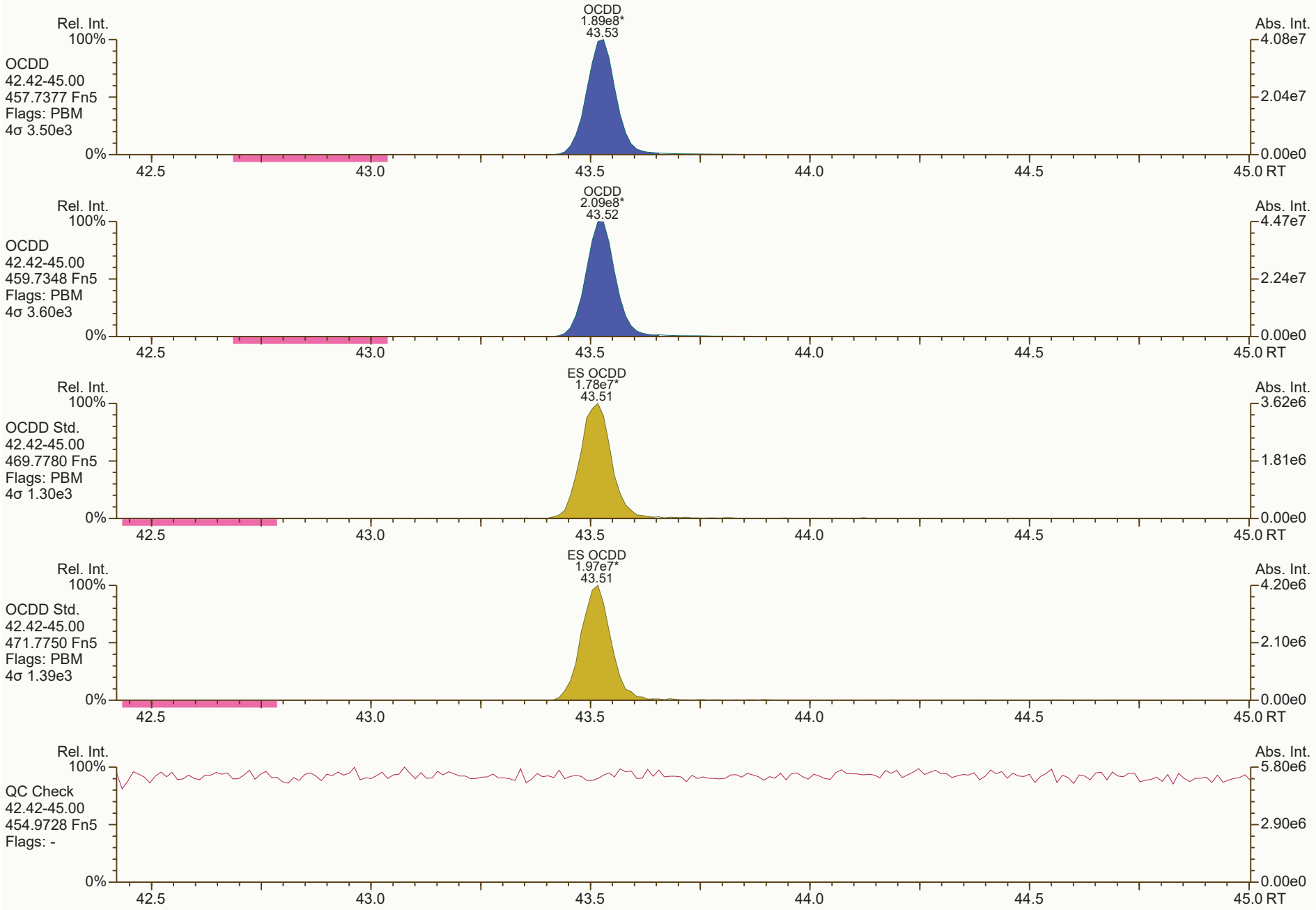

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.56e6
1.78e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
2.93e6
1.47e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.14e7
5.68e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
7.05e6
3.52e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.80e6
2.90e6
0.00e0

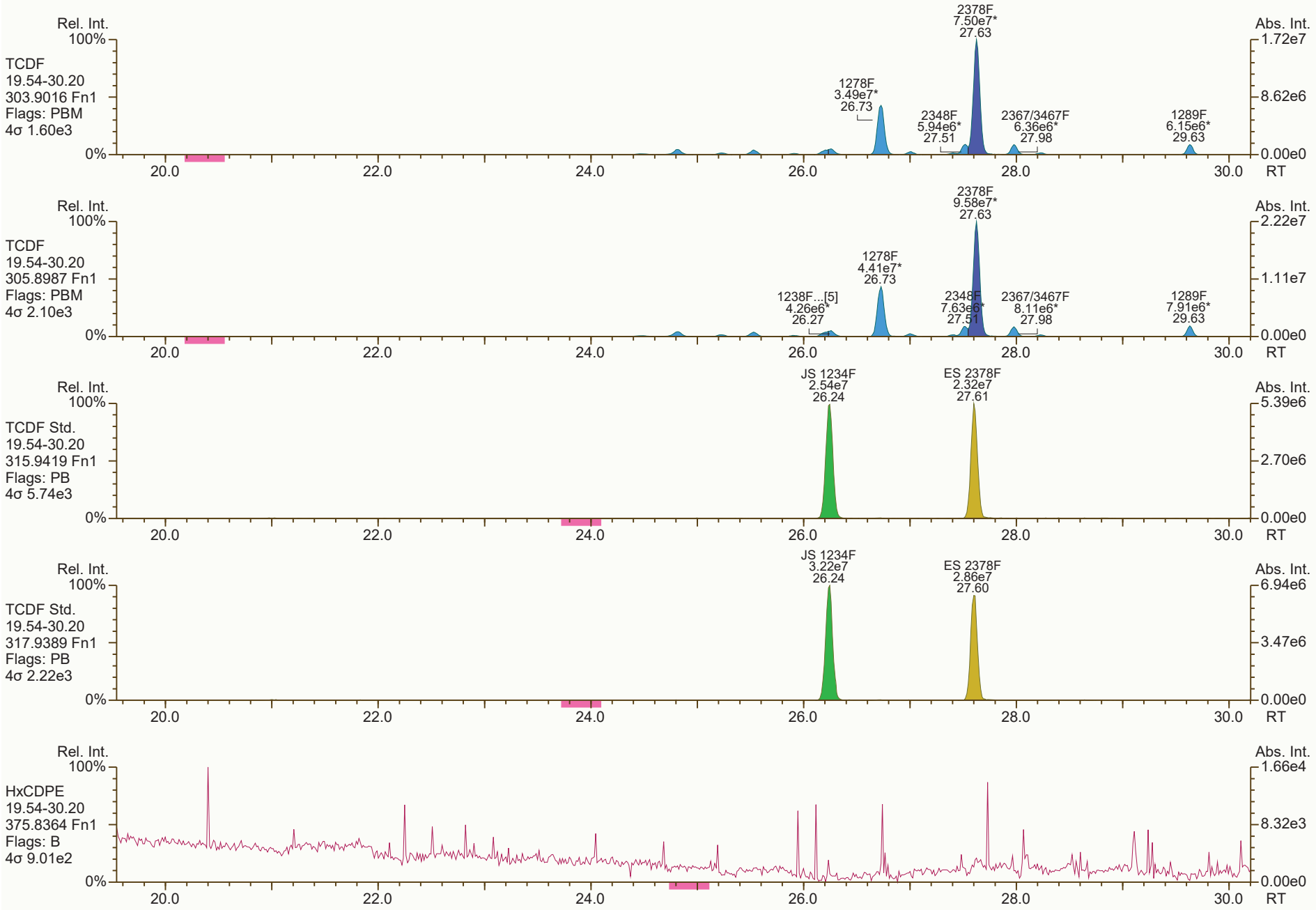

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.55e3
0%
2378D
1.94e7*
28.48
1278D
1.84e6*
28.81
Abs. Int.
4.65e6
2.32e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.50e3
0%
2378D
2.43e7*
28.48
1278D
2.33e6*
28.81
Abs. Int.
5.89e6
2.95e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.77e3
0%
CS 37Cl-2378D
1.60e7
28.48
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.84e3
0%
JS 1234D
1.57e7
27.80
ES 2378D
1.48e7
28.46
Abs. Int.
3.64e6
1.82e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.61e3
0%
JS 1234D
1.99e7
27.80
ES 2378D
1.85e7
28.46
Abs. Int.
4.66e6
2.33e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PBM
4σ 1.82e3
12479/12468D
1.16e5*
31.32
12469D
9.38e4*
31.85
12368D
5.45e4*
32.41
12379D
3.58e4*
32.69
12478D
5.47e4*
32.60
12369D...[3]
6.90e4*
32.95
12378D
2.21e5*
33.82
Abs. Int.
6.67e4
3.34e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PBM
4σ 1.30e3
12479/12468D
6.95e4*
31.32
12469D
6.22e4*
31.86
12368D
4.21e4*
32.41
12478D
4.05e4*
32.58
12369D...[3]
4.44e4*
32.96
12378D
1.90e5*
33.82
Abs. Int.
5.00e4
2.50e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 2.37e3
CS 12347D
1.71e7
33.30
ES 12378D
1.78e7
33.81
Abs. Int.
4.90e6
2.45e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 2.85e3
CS 12347D
1.08e7
33.30
ES 12378D
1.10e7
33.81
Abs. Int.
2.98e6
1.49e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
Abs. Int.
2.93e6
1.47e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

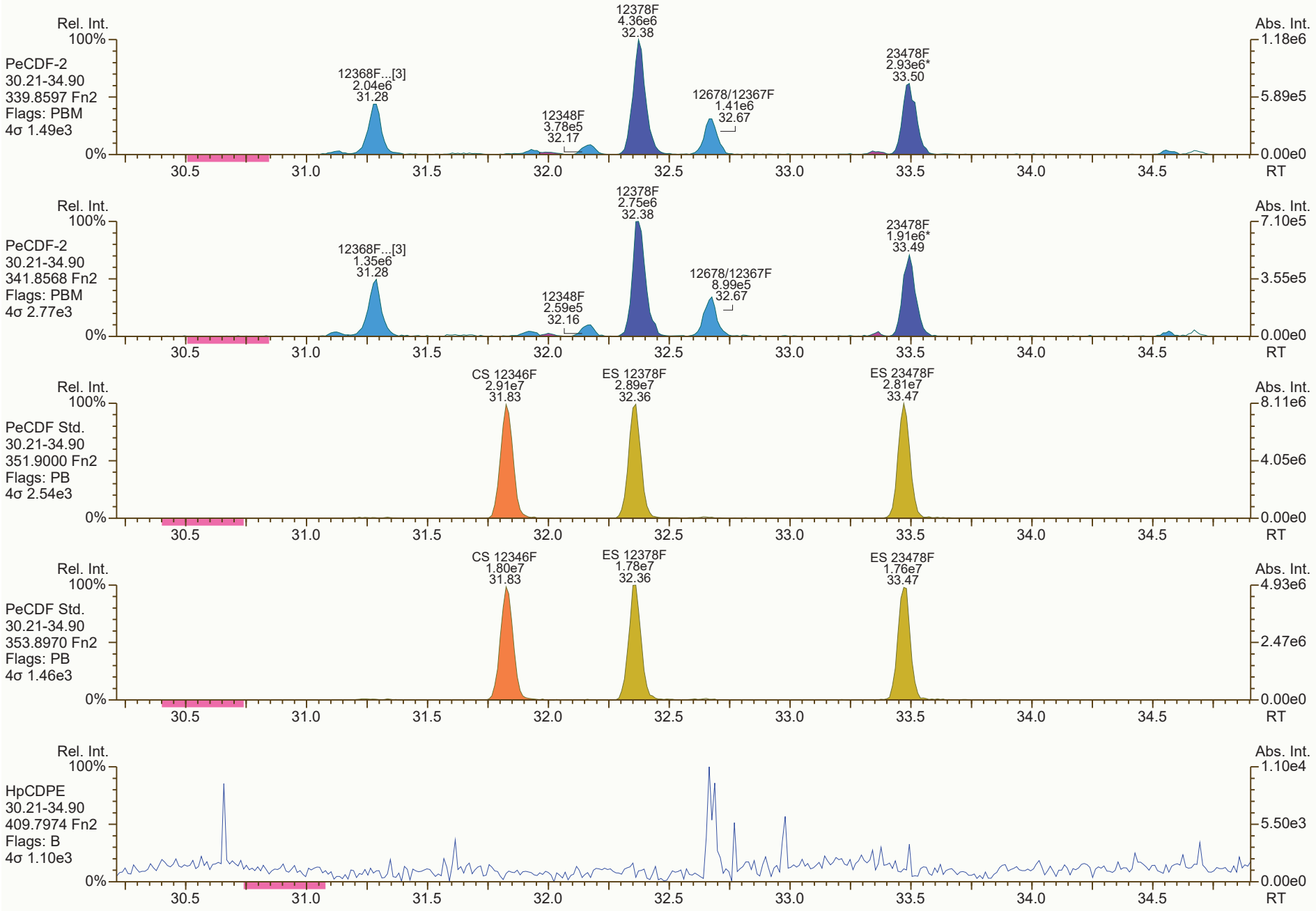

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 1.35e3
124679/124689D
1.06e6
35.99
123679/123689D
8.29e5*
36.94
123468D
1.13e5
36.65
123469D
6.90e4*
37.07
123478D
7.97e4*
37.75
123678D
2.15e5*
37.86
123789D
1.87e5*
38.15
0%
Abs. Int.
3.28e5
1.64e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 1.45e3
124679/124689D
7.61e5
35.99
123679/123689D
6.46e5*
36.94
123468D
9.76e4
36.64
123469D
6.38e4*
37.07
123478D
6.15e4*
37.74
123678D
2.02e5*
37.86
123467D
3.78e4*
38.05
123789D
1.40e5*
38.16
0%
Abs. Int.
2.20e5
1.10e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 2.48e3
ES 123678D
1.64e7
37.85
ES 123478D
1.54e7
37.73
ES 123789D
1.74e7*
38.14
JS 123467D
8.65e6*
38.04
0%
Abs. Int.
5.01e6
2.50e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 2.37e3
ES 123678D
1.30e7
37.85
ES 123478D
1.19e7
37.73
ES 123789D
1.39e7
38.14
JS 123467D
6.93e6
38.04
0%
Abs. Int.
3.85e6
1.93e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.14e7
5.68e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

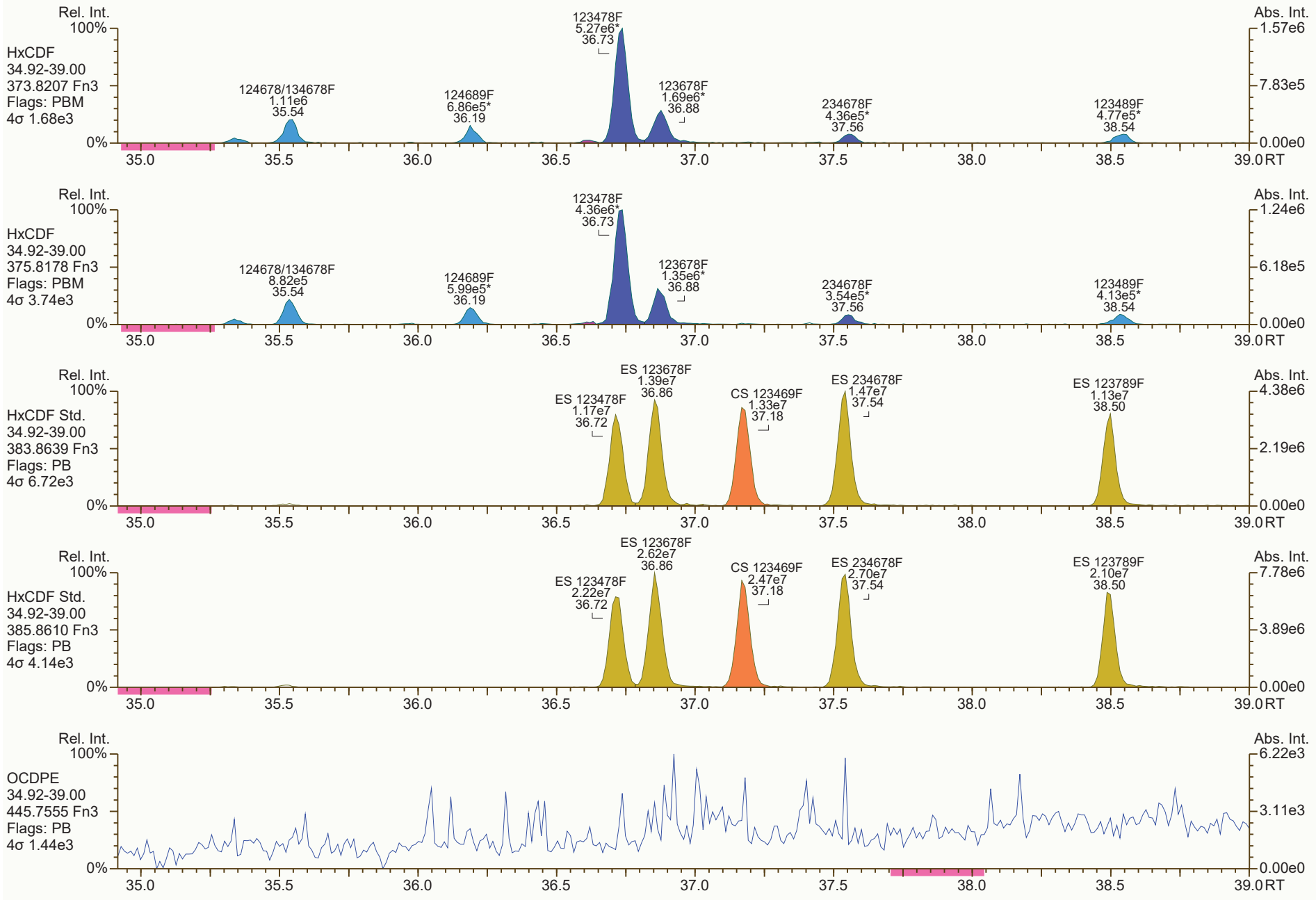

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 3.16e3
0%
1234679D
7.61e6*
40.15
1234678D
5.83e6*
40.83
Abs. Int.
2.40e6
1.20e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 3.31e3
0%
1234679D
7.49e6*
40.15
1234678D
5.63e6*
40.83
Abs. Int.
2.53e6
1.27e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.93e3
0%
ES 1234678D
1.32e7
40.82
Abs. Int.
4.02e6
2.01e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 3.61e3
0%
ES 1234678D
1.27e7
40.82
Abs. Int.
3.73e6
1.87e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.05e6
3.52e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

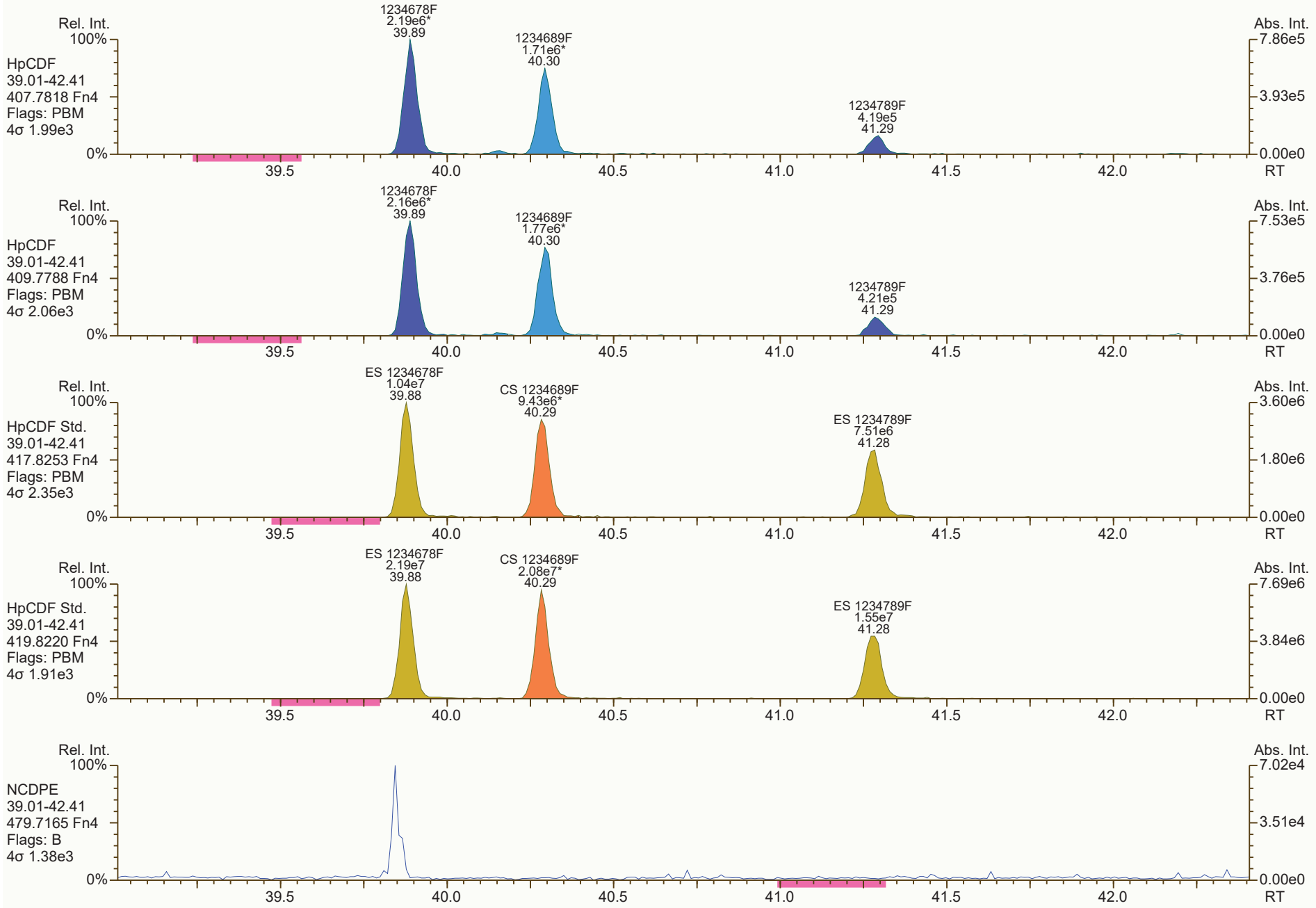

OCDD
1.89e8*
43.53
Rel. Int.
Abs. Int.
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 3.50e3
OCDD
2.09e8*
43.52
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 3.60e3
ES OCDD
1.78e7*
43.51
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 1.30e3
ES OCDD
1.97e7*
43.51
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 1.39e3
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT

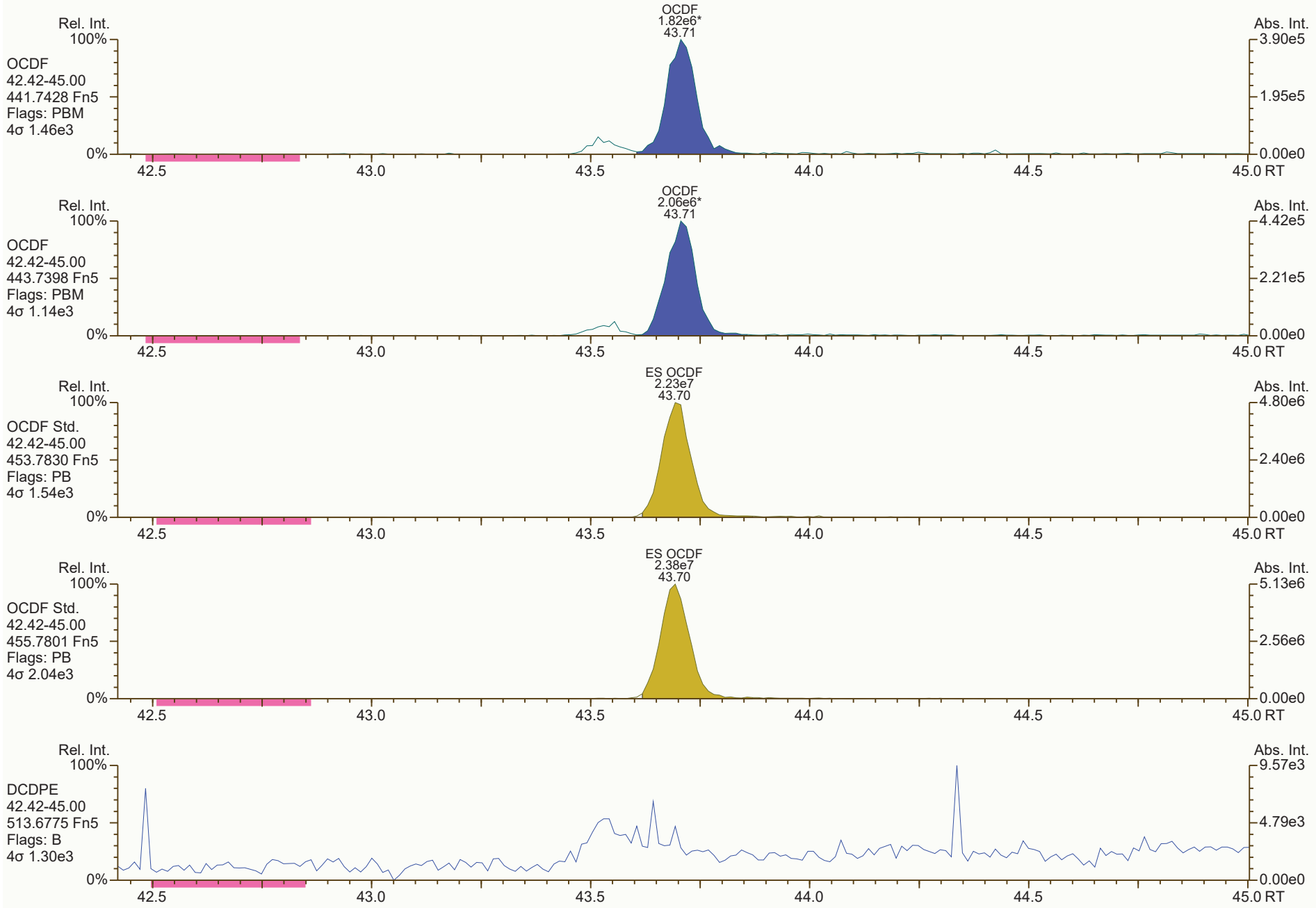

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.60e3
0%
2378F
7.50e7*
27.63
1278F
3.49e7*
26.73
2348F
5.94e6*
27.51
2367/3467F
6.36e6*
27.98
1289F
6.15e6*
29.63
Abs. Int.
1.72e7
8.62e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.10e3
0%
2378F
9.58e7*
27.63
1278F
4.41e7*
26.73
1238F...[5]
4.26e6*
26.27
2348F
7.63e6*
27.51
2367/3467F
8.11e6*
27.98
1289F
7.91e6*
29.63
Abs. Int.
2.22e7
1.11e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 5.74e3
0%
JS 1234F
2.54e7
26.24
ES 2378F
2.32e7
27.61
Abs. Int.
5.39e6
2.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.22e3
0%
JS 1234F
3.22e7
26.24
ES 2378F
2.86e7
27.60
Abs. Int.
6.94e6
3.47e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 9.01e2
0%
Abs. Int.
1.66e4
8.32e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.63e3
13468/12468F
4.90e5*
29.58
Abs. Int.
1.32e5
6.62e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.17e3
13468/12468F
3.24e5*
29.57
Abs. Int.
7.93e4
3.96e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
3.56e6
1.78e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 1.49e3
0%
12368F...[3]
2.04e6
31.28
12348F
3.78e5
32.17
12378F
4.36e6
32.38
12678/12367F
1.41e6
32.67
23478F
2.93e6*
33.50
Abs. Int.
1.18e6
5.89e5
0.00e0
RT
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 2.77e3
12368F...[3]
1.35e6
31.28
12348F
2.59e5
32.16
12378F
2.75e6
32.38
12678/12367F
8.99e5
32.67
23478F
1.91e6*
33.49
7.10e5
3.55e5
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 2.54e3
CS 12346F
2.91e7
31.83
ES 12378F
2.89e7
32.36
ES 23478F
2.81e7
33.47
8.11e6
4.05e6
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 1.46e3
CS 12346F
1.80e7
31.83
ES 12378F
1.78e7
32.36
ES 23478F
1.76e7
33.47
4.93e6
2.47e6
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.10e3
1.10e4
5.50e3
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 1.68e3
124678/134678F
1.11e6
35.54
124689F
6.86e5*
36.19
123478F
5.27e6*
36.73
123678F
1.69e6*
36.88
234678F
4.36e5*
37.56
123489F
4.77e5*
38.54
0%
Abs. Int.
1.57e6
7.83e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 3.74e3
124678/134678F
8.82e5
35.54
124689F
5.99e5*
36.19
123478F
4.36e6*
36.73
123678F
1.35e6*
36.88
234678F
3.54e5*
37.56
123489F
4.13e5*
38.54
0%
Abs. Int.
1.24e6
6.18e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 6.72e3
ES 123478F
1.17e7
36.72
ES 123678F
1.39e7
36.86
CS 123469F
1.33e7
37.18
ES 234678F
1.47e7
37.54
ES 123789F
1.13e7
38.50
0%
Abs. Int.
4.38e6
2.19e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 4.14e3
ES 123478F
2.22e7
36.72
ES 123678F
2.62e7
36.86
CS 123469F
2.47e7
37.18
ES 234678F
2.70e7
37.54
ES 123789F
2.10e7
38.50
0%
Abs. Int.
7.78e6
3.89e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.44e3
0%
Abs. Int.
6.22e3
3.11e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 1.99e3
1234678F
2.19e6*
39.89
1234689F
1.71e6*
40.30
1234789F
4.19e5
41.29
Abs. Int.
7.86e5
3.93e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 2.06e3
1234678F
2.16e6*
39.89
1234689F
1.77e6*
40.30
1234789F
4.21e5
41.29
Abs. Int.
7.53e5
3.76e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 2.35e3
ES 1234678F
1.04e7
39.88
CS 1234689F
9.43e6*
40.29
ES 1234789F
7.51e6
41.28
Abs. Int.
3.60e6
1.80e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 1.91e3
ES 1234678F
2.19e7
39.88
CS 1234689F
2.08e7*
40.29
ES 1234789F
1.55e7
41.28
Abs. Int.
7.69e6
3.84e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.38e3
Abs. Int.
7.02e4
3.51e4
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
1.82e6*
43.71
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PBM
4σ 1.46e3
0%
Abs. Int.
3.90e5
1.95e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.06e6*
43.71
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PBM
4σ 1.14e3
0%
Abs. Int.
4.42e5
2.21e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.23e7
43.70
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.54e3
0%
Abs. Int.
4.80e6
2.40e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.38e7
43.70
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 2.04e3
0%
Abs. Int.
5.13e6
2.56e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.30e3
0%
Abs. Int.
9.57e3
4.79e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6235_18875_DF_004 **Acq'd:** 11 Feb 2022 00:46 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-O-35 **UTP:** 11-Feb-2022 16:26:38 DTF **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 553-811-RWY

Datafile: 220210C20 **Report:** 11 Feb 2022 16:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.47		1.0008	1.0008	0	6.35E+07	0.80	Y	1.18	366	3919.771	0.233
12378-PeCDD	33.81		1.0005	1.0006	+0.2	5.99E+05	1.44	Y	1.04	4.5	4723.763	0.302
123478-HxCDD	37.73	J EMPC	1.0004	1.0004	0	1.49E+05	1.55	N	1.09	1.14	7068.075	0.477
123678-HxCDD	37.85		1.0035	1.0036	+0.2	5.46E+05	1.30	Y	1.15	3.9	7068.075	0.43
123789-HxCDD	38.14		1.0113	1.0113	0	3.69E+05	1.26	Y	1.05	2.61	7068.075	0.434
1234678-HpCDD	40.82		1.0003	1.0003	0	1.16E+07	1.07	Y	1.06	99.9	6502.996	0.487
OCDD	43.51		1.0002	1.0003	+0.3	1.17E+08	0.90	Y	1.13	1,380	8551.513	1.19
2378-TCDF	27.61	E	1.0008	1.0008	0	2.61E+08	0.78	Y	1.08	1,020	2938.592	0.124
12378-PeCDF	32.37		1.0005	1.0006	+0.2	8.51E+06	1.49	Y	1.02	40.3	4171.191	0.169
23478-PeCDF	33.48	PR	1.0005	1.0007	+0.4	6.57E+06	1.54	Y	1.02	31	4171.191	0.173
123478-HxCDF	36.72		1.0005	1.0005	0	1.19E+07	1.23	Y	1.27	62.3	3083.362	0.131
123678-HxCDF	36.87		1.0005	1.0004	-0.2	3.04E+06	1.17	Y	1.15	15	3083.362	0.137
234678-HxCDF	37.55		1.0005	1.0004	-0.2	7.79E+05	1.28	Y	1.19	3.76	3083.362	0.128
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3083.362	0.151
1234678-HpCDF	39.88		1.0003	1.0002	-0.2	5.83E+06	1.03	Y	1.37	33.2	28014.701	1.19
1234789-HpCDF	41.28		1.0003	1.0002	-0.2	1.15E+06	1.06	Y	1.31	8.32	28014.701	1.79
OCDF	43.69		1.0003	1.0002	-0.3	9.98E+06	0.91	Y	1.07	92	4774.029	0.529

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.45	1.0238	1.0238	0	2.90E+07	0.81	Y	1.05	93.2
ES 12378-PeCDD	33.79	1.2160	1.2161	+0.2	2.54E+07	1.57	Y	0.88	97.1
ES 123478-HxCDD	37.72	0.9919	0.9918	-0.2	2.37E+07	1.27	Y	0.97	95
ES 123678-HxCDD	37.84	0.9950	0.9949	-0.2	2.41E+07	1.26	Y	0.94	99.6
ES 123789-HxCDD	38.13	1.0027	1.0027	0	2.67E+07	1.28	Y	1.09	95.5
ES 1234678-HpCDD	40.81	1.0730	1.0732	+0.5	2.16E+07	1.08	Y	0.91	92.5
ES OCDD	43.49	1.1437	1.1437	0	2.97E+07	0.91	Y	0.62	92.9
ES 2378-TCDF	27.59	1.0520	1.0520	0	4.67E+07	0.79	Y	1.06	92.2
ES 12378-PeCDF	32.35	1.2330	1.2333	+0.6	4.08E+07	1.61	Y	0.91	93.5
ES 23478-PeCDF	33.46	1.2754	1.2758	+0.8	4.11E+07	1.58	Y	0.88	97.2
ES 123478-HxCDF	36.71	0.9653	0.9652	-0.2	2.98E+07	0.53	Y	1.20	96.8
ES 123678-HxCDF	36.85	0.9691	0.9690	-0.2	3.47E+07	0.53	Y	1.35	100
ES 234678-HxCDF	37.53	0.9870	0.9869	-0.2	3.45E+07	0.52	Y	1.24	108
ES 123789-HxCDF	38.49	1.0121	1.0121	0	2.78E+07	0.52	Y	1.16	93.8
ES 1234678-HpCDF	39.87	1.0484	1.0485	+0.2	2.54E+07	0.46	Y	0.97	102
ES 1234789-HpCDF	41.27	1.0851	1.0852	+0.2	2.10E+07	0.45	Y	0.85	96.1
ES OCDF	43.68	1.1483	1.1485	+0.5	4.00E+07	0.90	Y	0.81	96.6

Lab ID: B6235_18875_DF_004 **Acq'd:** 11 Feb 2022 00:46 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-O-35 **UTP:** 11-Feb-2022 16:26:38 DTF **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 553-811-RWY

Datafile: 220210C20 **Report:** 11 Feb 2022 16:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.79		-	-	-	2.97E+07	0.80	Y	-	-
JS 1234-TCDF	26.23		-	-	-	4.79E+07	0.80	Y	-	-
JS 123467-HxCDD	38.03		-	-	-	1.28E+07	1.33	Y	-	-
CS 37Cl-2378-TCDD	28.47		1.0245	1.0246	+0.2	1.32E+07	n/a	-	1.20	92.1
CS 12347-PeCDD	33.29		1.1979	1.1980	+0.2	2.34E+07	1.58	Y	0.75	105
CS 12346-PeCDF	31.82		1.2128	1.2131	+0.6	3.88E+07	1.62	Y	0.85	95.2
CS 123469-HxCDF	37.16		0.9774	0.9773	-0.2	3.08E+07	0.52	Y	1.12	107
CS 1234689-HpCDF	40.28		1.0589	1.0591	+0.5	2.47E+07	0.47	Y	0.89	109
SS 37Cl-2378-TCDD	28.47		1.0245	1.0246	+0.2	1.32E+07	n/a	-	1.15	99.1
SS 12347-PeCDD	33.29		1.1979	1.1980	+0.2	2.34E+07	1.58	Y	0.86	108
SS 12346-PeCDF	31.82		1.2128	1.2131	+0.6	3.88E+07	1.62	Y	0.94	102
SS 123469-HxCDF	37.16		0.9774	0.9773	-0.2	3.08E+07	0.52	Y	0.83	107
SS 1234689-HpCDF	40.28		1.0589	1.0591	+0.5	2.47E+07	0.47	Y	0.92	106

Totals	Conc	EMPC
Total TCDD	414	416
Total PeCDD	7.22	13.7
Total HxCDD	46.7	48.7
Total HpCDD	242	242
Total Tetra-Octa Dioxins	2090	2100
Total TCDF	2,010	2010
Total PeCDF	114	116
Total HxCDF	109	109
Total HpCDF	76.8	76.8
Total Tetra-Octa Furans	2,400	2410
Total Tetra-Octa Dioxins & Furans	4490	4510

Lab ID: B6235_18875_DF_004 **Acq'd: 11 Feb 2022 00:46 DTF** **Wt/Vol: 10.12 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012222-S-BN-NC-O-35 **UTP: 11-Feb-2022 16:26:38 DTF** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 553-811-RWY**

Datafile: 220210C20 **Report: 11 Feb 2022 16:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.82		0.8737	0.8726	-1.6	1.67E+05	0.80	Y	1.18	0.965	3919.771	0.233
1379-TCDD	25.19		0.8860	0.8853	-1.1	1.07E+05	0.72	Y	1.18	0.617	3919.771	0.233
1369-TCDD	NotFnd		0.9009						1.18		3919.771	0.233
1469-TCDD	26.39		0.9281	0.9275	-0.9	5.65E+05	0.74	Y	1.18	3.26	3919.771	0.233
1247/1246/1248/1249-TCDD	26.62	EMPC	0.9362	0.9359	-0.5	1.24E+05	0.99	N	1.18	0.717	3919.771	0.233
1378-TCDD	26.82		0.9432	0.9428	-0.6	2.15E+05	0.88	Y	1.18	1.24	3919.771	0.233
1268-TCDD	NotFnd		0.9500						1.18		3919.771	0.233
1478-TCDD	27.27	EMPC	0.9586	0.9586	0	1.79E+05	0.99	N	1.18	1.03	3919.771	0.233
1279-TCDD	NotFnd		0.9645						1.18		3919.771	0.233
1234/1269-TCDD	27.78		0.9770	0.9764	-1.0	1.77E+05	0.79	Y	1.18	1.02	3919.771	0.233
1236-TCDD	NotFnd		0.9817						1.18		3919.771	0.233
1237/1238-TCDD	28.18		0.9905	0.9905	0	1.06E+06	0.77	Y	1.18	6.1	3919.771	0.233
1239-TCDD	NotFnd		0.9952						1.18		3919.771	0.233
2378-TCDD	**28.47**		**1.0008**	1.0008	**0**	6.35E+07	0.80	Y	**1.18**	**366**	**3919.771**	**0.233**
1278-TCDD	28.80		1.0121	1.0122	+0.2	6.04E+06	0.82	Y	1.18	34.8	3919.771	0.233
1267-TCDD	NotFnd		1.0167						1.18		3919.771	0.233
1289-TCDD	NotFnd		1.0345						1.18		3919.771	0.233
12479/12468-PeCDD	31.31	J	0.9267	0.9265	-0.4	2.28E+05	1.58	Y	1.04	1.71	4723.763	0.302
12469-PeCDD	31.84	EMPC	0.9425	0.9423	-0.4	4.22E+05	1.24	N	1.04	3.17	4723.763	0.302
12368-PeCDD	32.39	J	0.9588	0.9585	-0.6	1.34E+05	1.78	Y	1.04	1.01	4723.763	0.302
12478-PeCDD	32.58	J EMPC	0.9643	0.9641	-0.4	1.24E+05	0.97	N	1.04	0.936	4723.763	0.302
12379-PeCDD	32.69	J EMPC	0.9673	0.9674	+0.2	6.98E+04	1.91	N	1.04	0.524	4723.763	0.302
12369/12467/12489-PeCDD	32.96	J EMPC	0.9750	0.9752	+0.4	2.05E+05	1.01	N	1.04	1.54	4723.763	0.302
12346/12347-PeCDD	33.32	J EMPC	0.9858	0.9860	+0.4	4.46E+04	1.19	N	1.04	0.335	4723.763	0.302
12378-PeCDD	33.81		**1.0005**	**1.0006**	**+0.2**	**5.99E+05**	**1.44**	**Y**	**1.04**	**4.5**	**4723.763**	**0.302**
12367-PeCDD	NotFnd		1.0033						1.04		4723.763	0.302
12389-PeCDD	NotFnd		1.0134						1.04		4723.763	0.302
124679/124689-HxCDD	35.98		0.9542	0.9540	-0.4	3.16E+06	1.27	Y	1.10	23	7068.075	0.446
123468-HxCDD	36.64	J	0.9715	0.9715	0	2.56E+05	1.15	Y	1.10	1.86	7068.075	0.446
123679/123689-HxCDD	36.93		0.9793	0.9792	-0.2	1.92E+06	1.28	Y	1.10	14	7068.075	0.446
123469-HxCDD	37.06	J	0.9828	0.9827	-0.2	1.93E+05	1.14	Y	1.10	1.4	7068.075	0.446
123478-HxCDD	37.73	J EMPC	**1.0004**	**1.0004**	**0**	**1.49E+05**	**1.55**	**N**	1.09	**1.14**	**7068.075**	**0.477**
123678-HxCDD	37.85		**1.0035**	**1.0036**	**+0.2**	**5.46E+05**	**1.30**	**Y**	1.15	**3.9**	**7068.075**	**0.43**
123467-HxCDD	38.04	J EMPC	1.0085	1.0086	+0.2	1.19E+05	0.84	N	1.10	0.862	7068.075	0.446
123789-HxCDD	38.14		**1.0113**	**1.0113**	**0**	**3.69E+05**	**1.26**	**Y**	1.05	**2.61**	**7068.075**	**0.434**

Lab ID: B6235_18875_DF_004 **Acq'd:** 11 Feb 2022 00:46 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-O-35 **UTP:** 11-Feb-2022 16:26:38 DTF **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 553-811-RWY

Datafile: 220210C20 **Report:** 11 Feb 2022 16:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.14		0.9837	0.9836	-0.2	1.65E+07	1.04	Y	1.06	142	6502.996	0.487
1234678-HpCDD	**40.82**		**1.0003**	**1.0003**	**0**	**1.16E+07**	**1.07**	**Y**	**1.06**	**99.9**	**6502.996**	**0.487**
OCDD	**43.51**		**1.0002**	**1.0003**	**+0.3**	**1.17E+08**	**0.90**	**Y**	**1.13**	**1,380**	**8551.513**	**1.19**
OCDD-a	43.50		1.0001	1.0002	+0.3	7.57E+06	2.47	Y	0.07	1,400	4944.214	10.7
1368-TCDF	22.72	EMPC	0.8251	0.8234	-2.3	1.41E+05	0.94	N	1.08	0.553	2938.592	0.124
1468-TCDF	23.30		0.8458	0.8443	-2.1	4.46E+05	0.76	Y	1.08	1.75	2938.592	0.124
2468-TCDF	23.93		0.8686	0.8673	-1.9	5.04E+05	0.78	Y	1.08	1.98	2938.592	0.124
1346/1246-TCDF	NotFnd		0.8814						1.08		2938.592	0.124
1347/1378/1247-TCDF	24.45		0.8867	0.8862	-0.7	3.44E+06	0.81	Y	1.08	13.5	2938.592	0.124
1348-TCDF	NotFnd		0.8962						1.08		2938.592	0.124
1248/1367/1379-TCDF	24.79		0.9009	0.8985	-3.6	1.35E+07	0.77	Y	1.08	53.1	2938.592	0.124
1268-TCDF	25.22		0.9145	0.9139	-0.9	4.56E+06	0.80	Y	1.08	17.9	2938.592	0.124
1467-TCDF	25.36		0.9193	0.9189	-0.6	4.84E+05	0.80	Y	1.08	1.9	2938.592	0.124
1478-TCDF	25.52		0.9254	0.9248	-0.9	1.08E+07	0.77	Y	1.08	42.5	2938.592	0.124
1369/1237-TCDF	25.90		0.9387	0.9385	-0.3	2.98E+06	0.81	Y	1.08	11.7	2938.592	0.124
2467-TCDF	26.02		0.9433	0.9431	-0.3	3.72E+05	0.78	Y	1.08	1.46	2938.592	0.124
2368-TCDF	26.17		0.9489	0.9483	-0.9	6.91E+06	0.78	Y	1.08	27.1	2938.592	0.124
1238/1234/1678/1469/1236-TCDF	26.24		0.9523	0.9511	-1.9	1.49E+07	0.81	Y	1.08	58.3	2938.592	0.124
1278-TCDF	26.71		0.9683	0.9681	-0.3	1.16E+08	0.79	Y	1.08	455	2938.592	0.124
1349-TCDF	NotFnd		0.9722						1.08		2938.592	0.124
1267-TCDF	26.99		0.9783	0.9781	-0.3	6.90E+06	0.81	Y	1.08	27.1	2938.592	0.124
2346/1249-TCDF	27.18		0.9850	0.9850	0	8.92E+05	0.79	Y	1.08	3.5	2938.592	0.124
2347/1279-TCDF	27.38		0.9926	0.9924	-0.3	3.04E+06	0.79	Y	1.08	11.9	2938.592	0.124
2348-TCDF	27.50		0.9967	0.9965	-0.3	1.95E+07	0.79	Y	1.08	76.5	2938.592	0.124
2378-TCDF	**27.61**	E	**1.0008**	**1.0008**	**0**	**2.61E+08**	**0.78**	**Y**	**1.08**	**1,020**	**2938.592**	**0.124**
2367/3467-TCDF	27.97		1.0137	1.0135	-0.3	2.26E+07	0.79	Y	1.08	88.5	2938.592	0.124
1269-TCDF	28.21		1.0223	1.0226	+0.5	4.13E+06	0.76	Y	1.08	16.2	2938.592	0.124
1239-TCDF	NotFnd		1.0321						1.08		2938.592	0.124
1289-TCDF	29.62		1.0722	1.0736	+2.5	2.01E+07	0.80	Y	1.08	78.9	2938.592	0.124
13468/12468-PeCDF	29.56		0.9139	0.9138	-0.2	6.77E+05	1.77	Y	1.02	3.2	2977.066	0.122
13678/13467/12467-PeCDF	31.10	J EMPC	0.9613	0.9615	+0.4	2.53E+05	1.82	N	1.02	1.2	4171.191	0.171
12368/13478/12478-PeCDF	31.27		0.9662	0.9667	+0.9	4.03E+06	1.53	Y	1.02	19	4171.191	0.171
14678-PeCDF	NotFnd		0.9692						1.02		4171.191	0.171
13479-PeCDF	NotFnd		0.9723						1.02		4171.191	0.171
13469/12479-PeCDF	NotFnd		0.9797						1.02		4171.191	0.171
12346-PeCDF	NotFnd		0.9840						1.02		4171.191	0.171

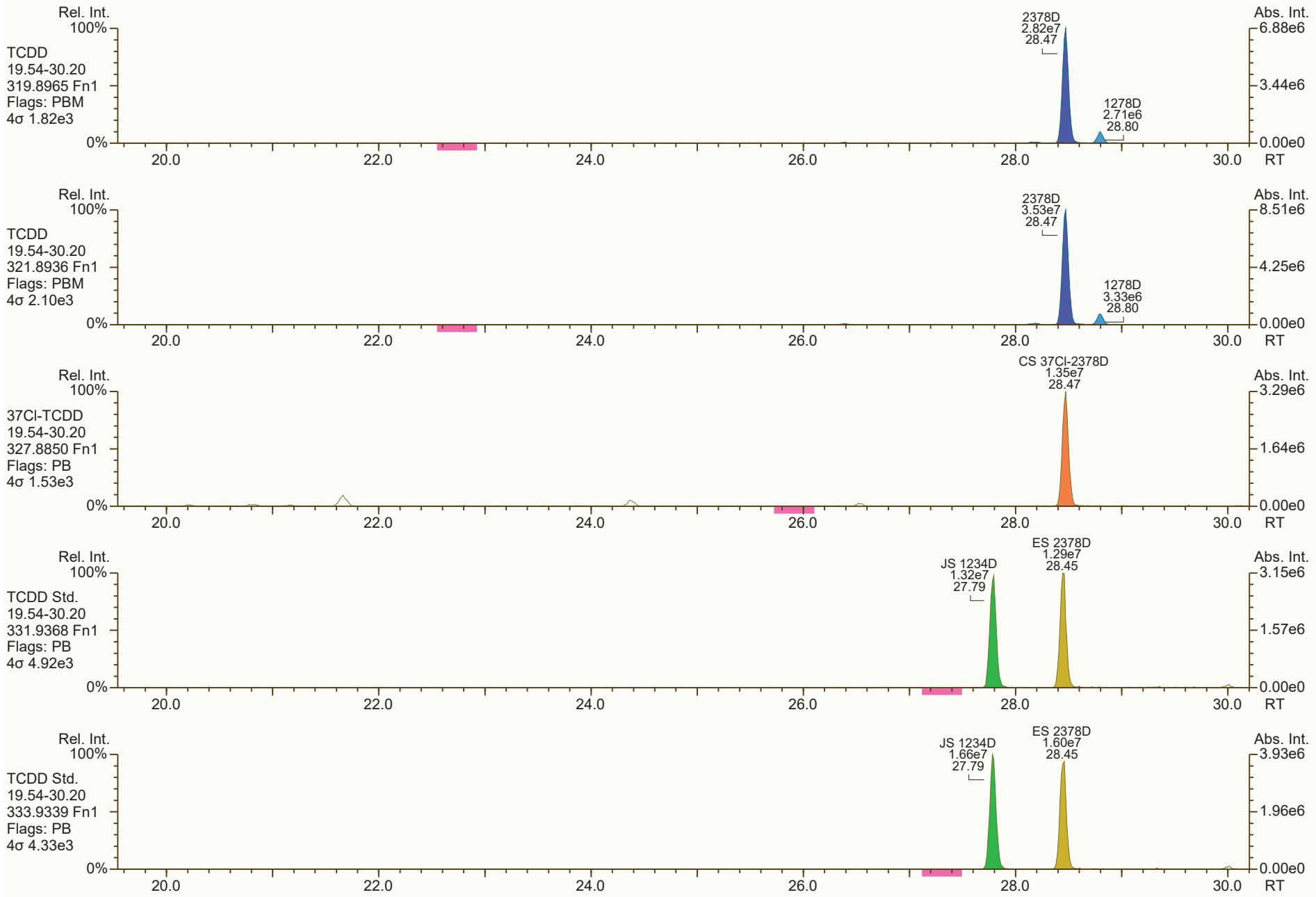
Lab ID: B6235_18875_DF_004 **Acq'd:** 11 Feb 2022 00:46 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

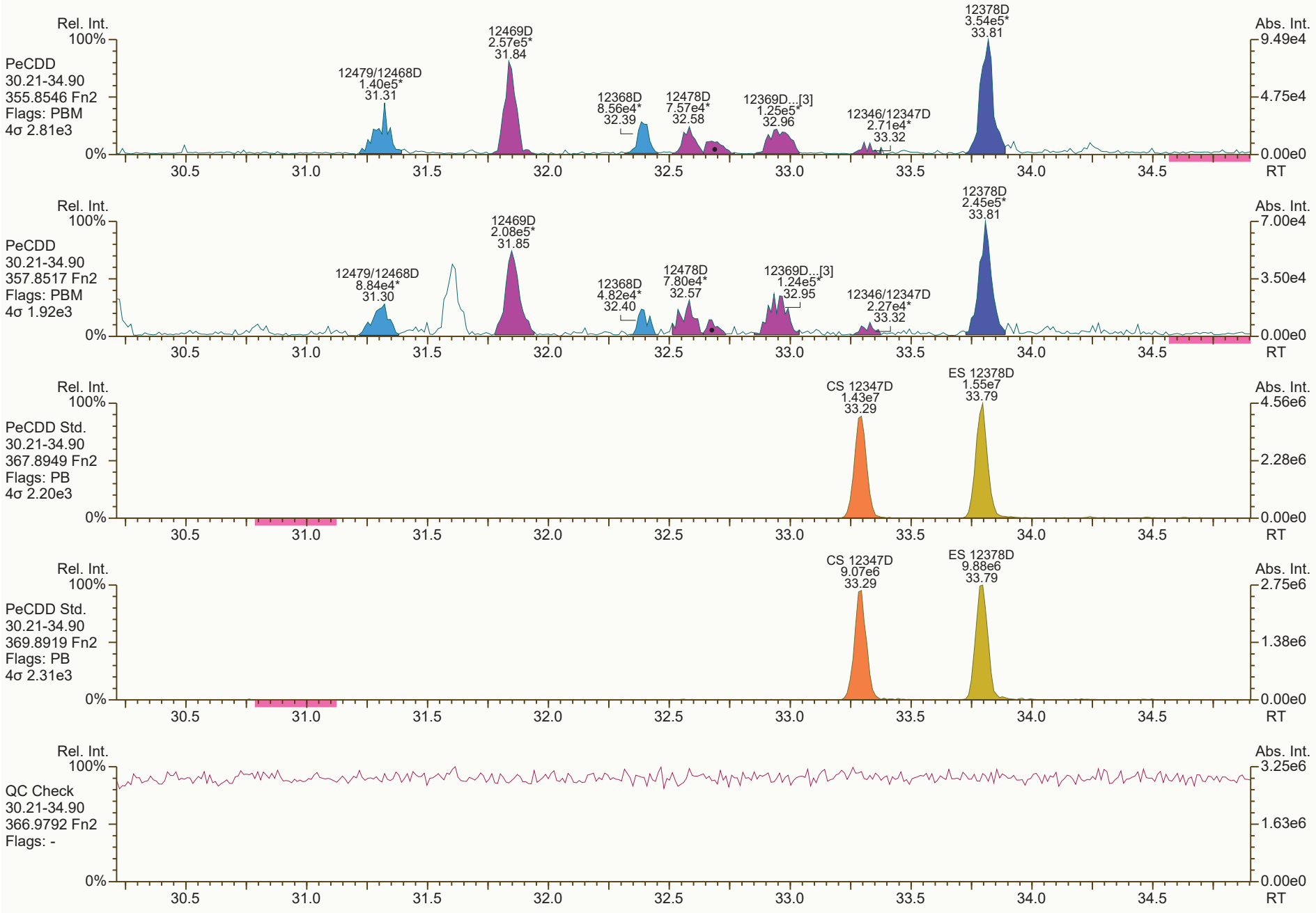
Client ID: 11215131-012222-S-BN-NC-O-35 **UTP:** 11-Feb-2022 16:26:38 DTF **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 553-811-RWY

Datafile: 220210C20 **Report:** 11 Feb 2022 16:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.91	J	0.9868	0.9865	-0.6	2.78E+05	1.37	Y	1.02	1.32	4171.191	0.171
12347-PeCDF	31.99	J EMPC	0.9894	0.9890	-0.8	1.90E+05	1.84	N	1.02	0.897	4171.191	0.171
12348-PeCDF	32.15		0.9940	0.9940	0	8.42E+05	1.65	Y	1.02	3.98	4171.191	0.171
12378-PeCDF	**32.37**		**1.0005**	**1.0006**	**+0.2**	**8.51E+06**	**1.49**	**Y**	**1.02**	**40.3**	**4171.191**	**0.169**
12678/12367-PeCDF	32.66		1.0089	1.0096	+1.4	2.59E+06	1.50	Y	1.02	12.3	4171.191	0.171
12379-PeCDF	NotFnd		1.0142						1.02		4171.191	0.171
12679-PeCDF	NotFnd		0.9929						1.02		4171.191	0.171
23467/12369-PeCDF	33.35	J	0.9967	0.9966	-0.2	1.83E+05	1.38	Y	1.02	0.865	4171.191	0.171
23478-PeCDF	**33.48**		**1.0005**	**1.0007**	**+0.4**	**6.57E+06**	**1.54**	**Y**	**1.02**	**31**	**4171.191**	**0.173**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4171.191	0.171
12349-PeCDF	NotFnd		1.0100						1.02		4171.191	0.171
12389-PeCDF	34.55	J	1.0324	1.0325	+0.2	3.35E+05	1.66	Y	1.02	1.58	4171.191	0.171
123468-HxCDF	35.33	J	0.9627	0.9625	-0.4	4.34E+05	1.29	Y	1.19	2.27	3083.362	0.136
124678/134678-HxCDF	35.53		0.9682	0.9679	-0.6	2.07E+06	1.22	Y	1.19	10.8	3083.362	0.136
134679-HxCDF	NotFnd		0.9744						1.19		3083.362	0.136
124679-HxCDF	NotFnd		0.9798						1.19		3083.362	0.136
124689-HxCDF	36.18		0.9858	0.9857	-0.2	1.69E+06	1.24	Y	1.19	8.85	3083.362	0.136
123467-HxCDF	36.60	J	0.9972	0.9970	-0.4	1.66E+05	1.31	Y	1.19	0.866	3083.362	0.136
123478-HxCDF	**36.72**		**1.0005**	**1.0005**	**0**	**1.19E+07**	**1.23**	**Y**	**1.27**	**62.3**	**3083.362**	**0.131**
123678-HxCDF	**36.87**		**1.0005**	**1.0004**	**-0.2**	**3.04E+06**	**1.17**	**Y**	**1.15**	**15**	**3083.362**	**0.137**
123479-HxCDF	NotFnd		1.0049						1.19		3083.362	0.136
123469-HxCDF	NotFnd		1.0090						1.19		3083.362	0.136
123679-HxCDF	NotFnd		0.9942						1.19		3083.362	0.136
234678-HxCDF	**37.55**		**1.0005**	**1.0004**	**-0.2**	**7.79E+05**	**1.28**	**Y**	**1.19**	**3.76**	**3083.362**	**0.128**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3083.362	0.136
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3083.362**	**0.151**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.53		1.0009	1.0011	+0.5	9.48E+05	1.13	Y	1.19	4.96	3083.362	0.136
1234678-HpCDF	**39.88**		**1.0003**	**1.0002**	**-0.2**	**5.83E+06**	**1.03**	**Y**	**1.37**	**33.2**	**28014.701**	**1.19**
1234679-HpCDF	NotFnd		1.0068						1.34		28014.701	1.46
1234689-HpCDF	40.29		1.0103	1.0104	+0.2	5.53E+06	1.09	Y	1.34	35.3	28014.701	1.46
1234789-HpCDF	**41.28**		**1.0003**	**1.0002**	**-0.2**	**1.15E+06**	**1.06**	**Y**	**1.31**	**8.32**	**28014.701**	**1.79**
OCDF	**43.69**		**1.0003**	**1.0002**	**-0.3**	**9.98E+06**	**0.91**	**Y**	**1.07**	**92**	**4774.029**	**0.529**
OCDF-a	43.68		1.0002	1.0001	-0.3	6.17E+05	2.72	Y	0.07	91.8	3562.753	6.37


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.71e6
1.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.25e6
1.63e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.26e7
6.28e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.67e6
3.83e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.37e6
3.19e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.82e3
0%
2378D
2.82e7
28.47
1278D
2.71e6
28.80
Abs. Int.
6.88e6
3.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.10e3
0%
2378D
3.53e7
28.47
1278D
3.33e6
28.80
Abs. Int.
8.51e6
4.25e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.53e3
0%
CS 37Cl-2378D
1.35e7
28.47
Abs. Int.
3.29e6
1.64e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.92e3
0%
JS 1234D
1.32e7
27.79
ES 2378D
1.29e7
28.45
Abs. Int.
3.15e6
1.57e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.33e3
0%
JS 1234D
1.66e7
27.79
ES 2378D
1.60e7
28.45
Abs. Int.
3.93e6
1.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PBM
4σ 2.81e3
12479/12468D
1.40e5*
31.31
12469D
2.57e5*
31.84
12368D
8.56e4*
32.39
12478D
7.57e4*
32.58
12369D...[3]
1.25e5*
32.96
12346/12347D
2.71e4*
33.32
12378D
3.54e5*
33.81
Abs. Int.
9.49e4
4.75e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PBM
4σ 1.92e3
12479/12468D
8.84e4*
31.30
12469D
2.08e5*
31.85
12368D
4.82e4*
32.40
12478D
7.80e4*
32.57
12369D...[3]
1.24e5*
32.95
12346/12347D
2.27e4*
33.32
12378D
2.45e5*
33.81
Abs. Int.
7.00e4
3.50e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 2.20e3
CS 12347D
1.43e7
33.29
ES 12378D
1.55e7
33.79
Abs. Int.
4.56e6
2.28e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 2.31e3
CS 12347D
9.07e6
33.29
ES 12378D
9.88e6
33.79
Abs. Int.
2.75e6
1.38e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
Abs. Int.
3.25e6
1.63e6
0.00e0
0%
30.5
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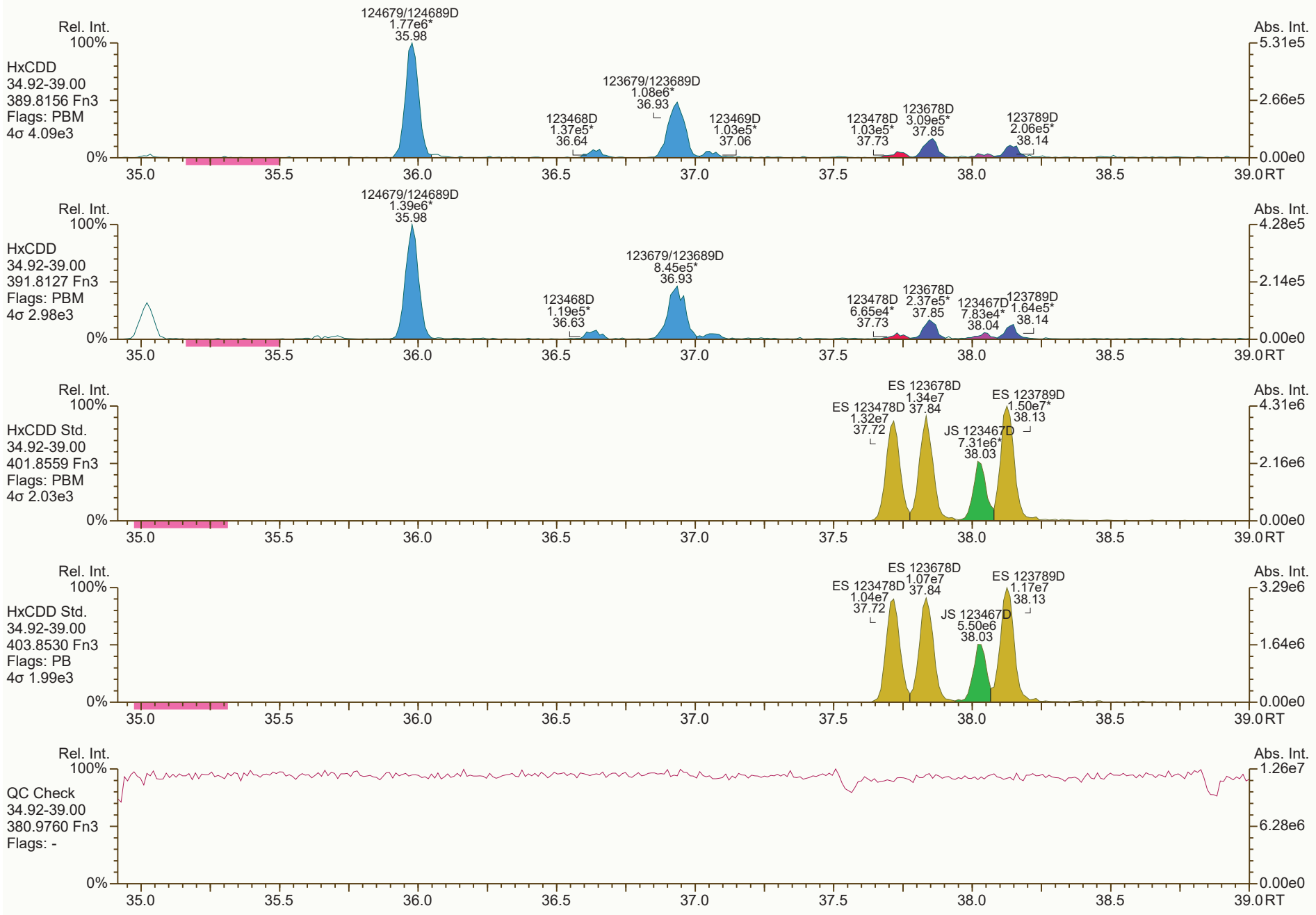
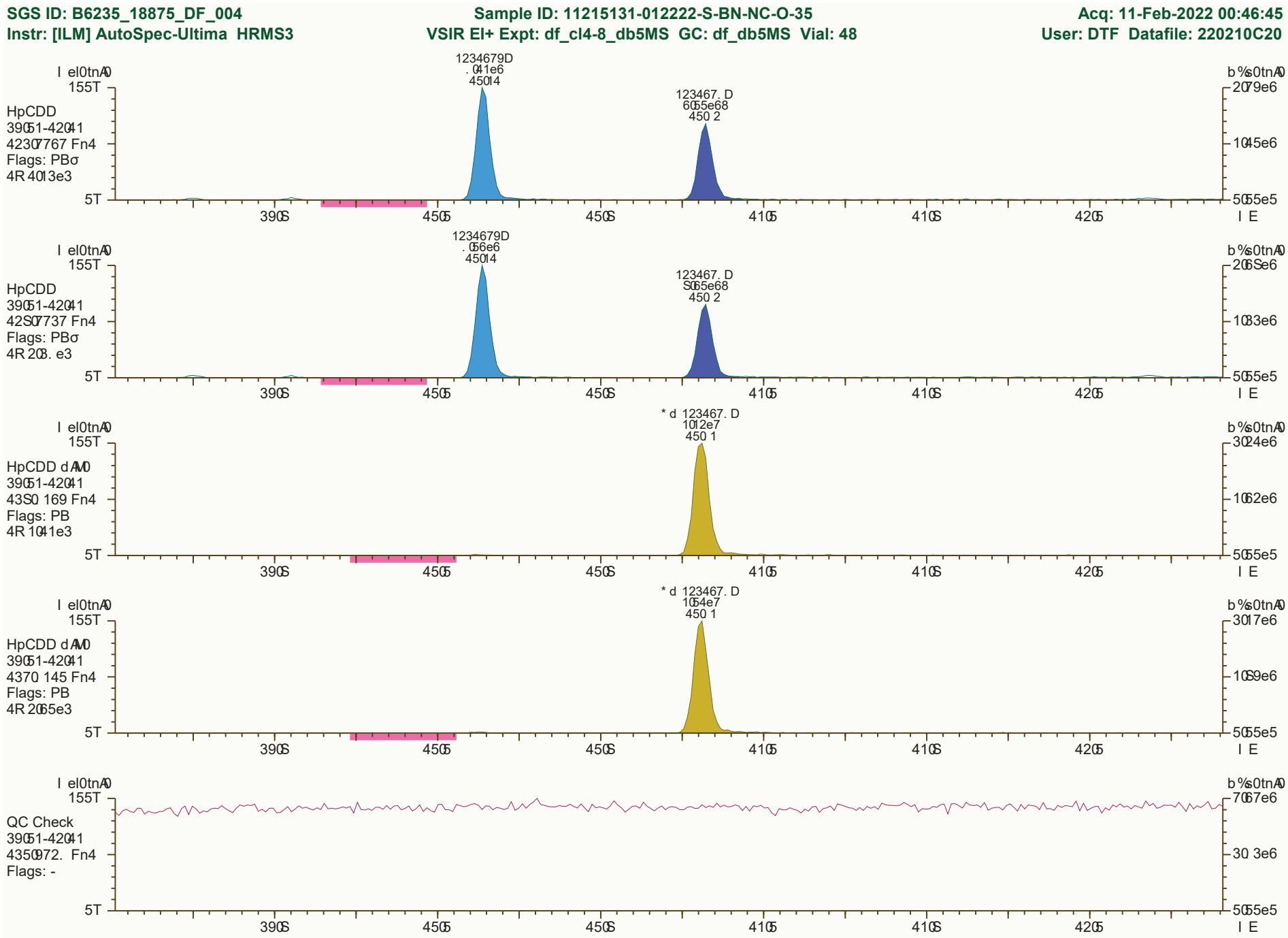
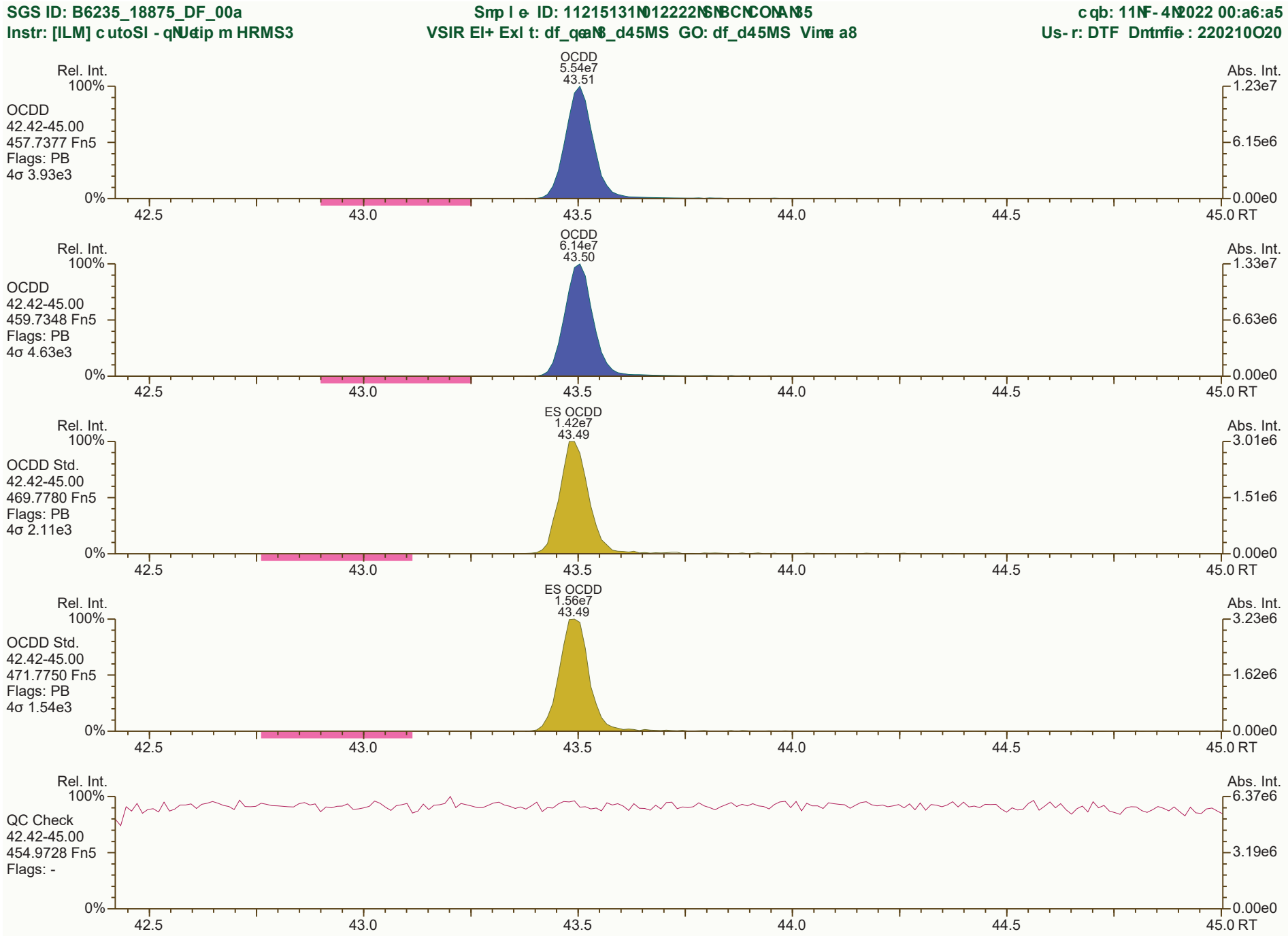
33.5
34.0
34.5
RT

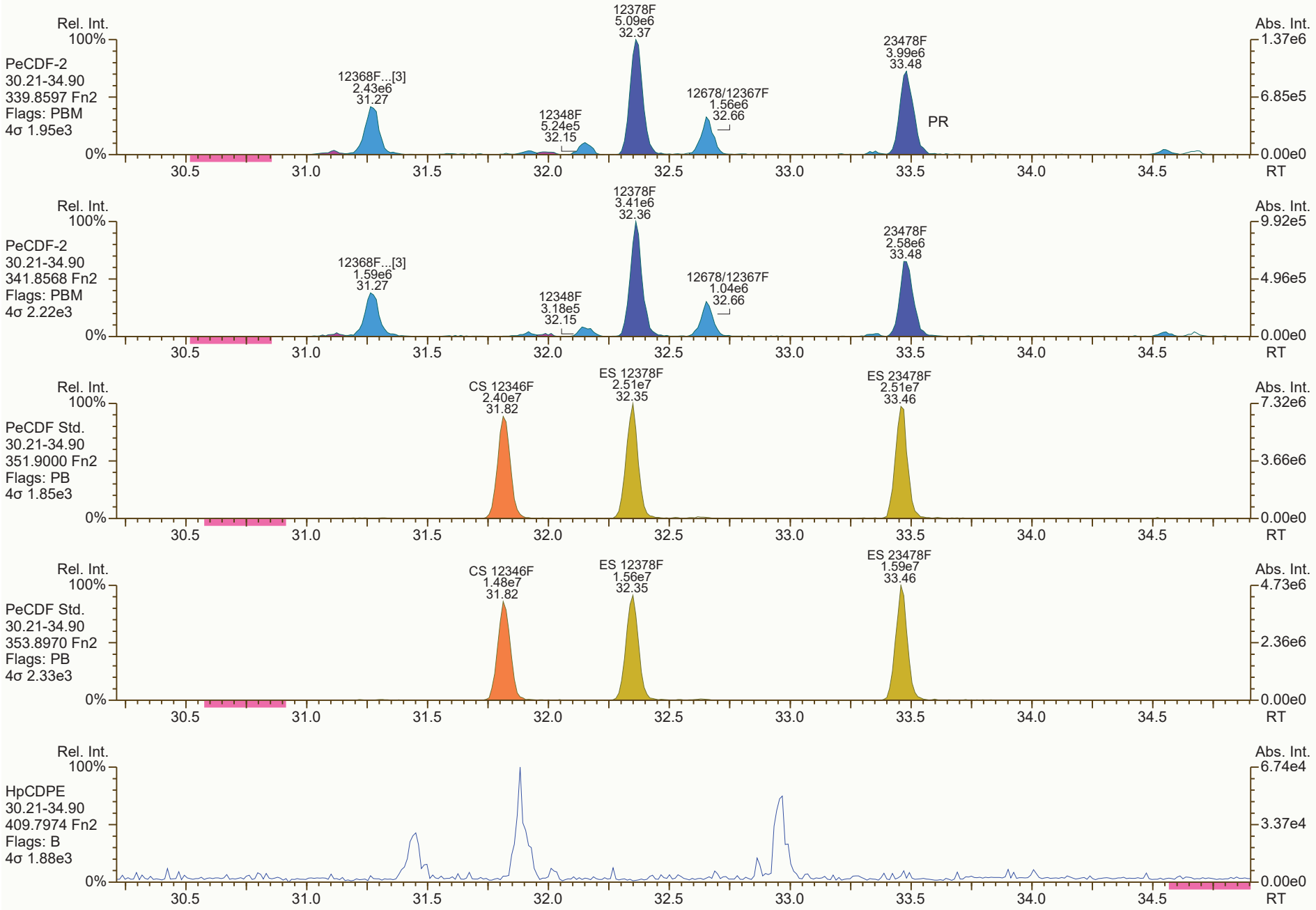

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 4.09e3
124679/124689D
1.77e6*
35.98
123679/123689D
1.08e6*
36.93
123468D
1.37e5*
36.64
123469D
1.03e5*
37.06
123478D
1.03e5*
37.73
123678D
3.09e5*
37.85
123789D
2.06e5*
38.14
Abs. Int.
5.31e5
2.66e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 2.98e3
124679/124689D
1.39e6*
35.98
123679/123689D
8.45e5*
36.93
123468D
1.19e5*
36.63
123478D
6.65e4*
37.73
123678D
2.37e5*
37.85
123467D
7.83e4*
38.04
123789D
1.64e5*
38.14
Abs. Int.
4.28e5
2.14e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 2.03e3
ES 123678D
1.34e7
37.84
ES 123478D
1.32e7
37.72
JS 123467D
7.31e6*
38.03
ES 123789D
1.50e7*
38.13
Abs. Int.
4.31e6
2.16e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 1.99e3
ES 123678D
1.07e7
37.84
ES 123478D
1.04e7
37.72
JS 123467D
5.50e6
38.03
ES 123789D
1.17e7
38.13
Abs. Int.
3.29e6
1.64e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
Abs. Int.
1.26e7
6.28e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

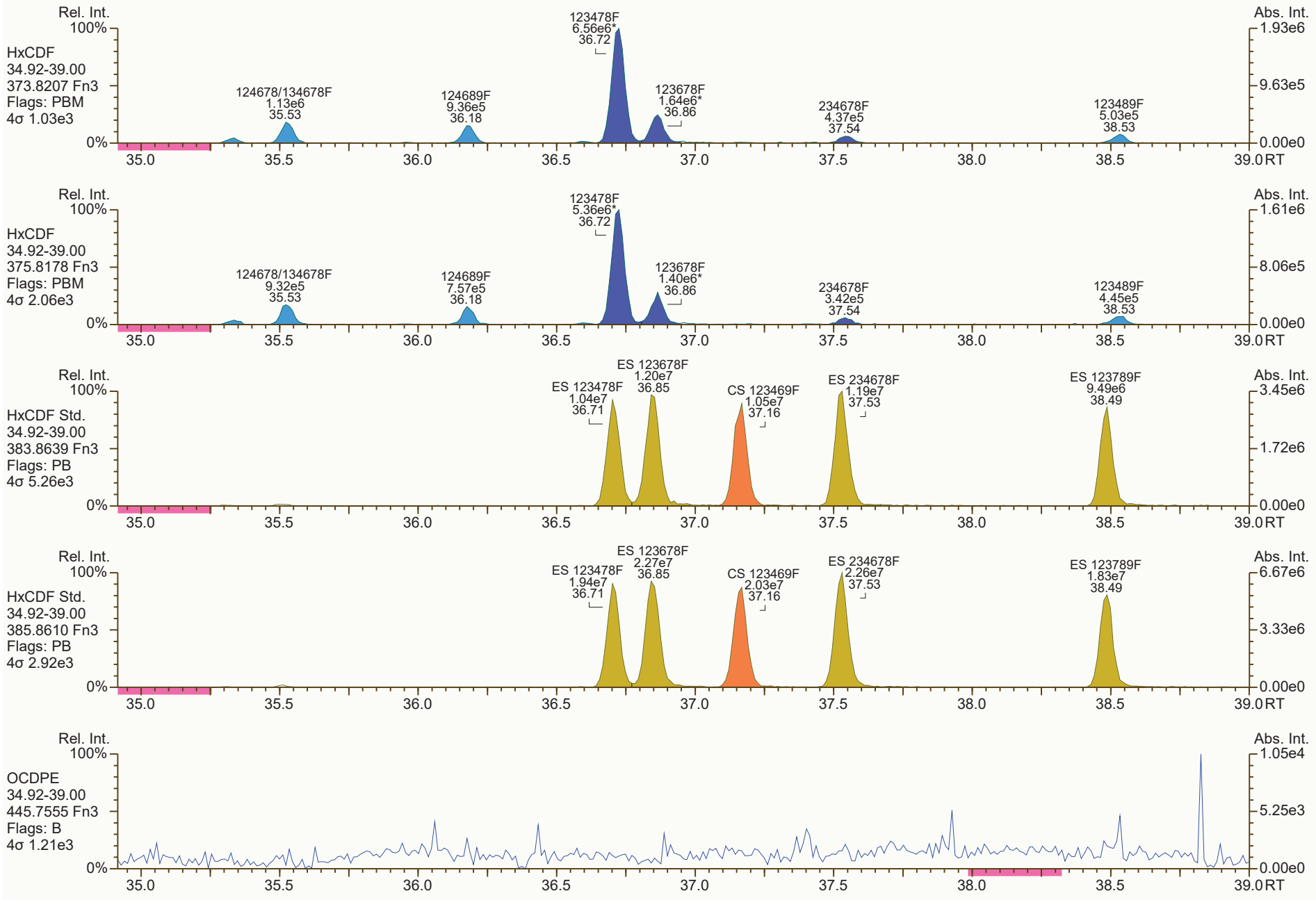

SGS ID: B6235_18875_DF_004
Instr: [ILM] AutoSpec-Ultima HRMS3
Sample ID: 11215131-012222-S-BN-NC-O-35
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 48
Acq: 11-Feb-2022 00:46:45
User: DTF Datafile: 220210C20
HpCDD
Flags: PB
QC Check
Flags: -
Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_00.put, _resa svde- 11bFe(b2022 16:26 TD) Fk
Pevn vi i otvtAoi : CrevsaSei troAs
GUG Vltrv) rvcebPro / 5p12 VseryGnsteK : D) FyVGPF224616 cc: 835. a1596 scc: 553b811
RedAse- : 11bFe(b2022 11:31 TD) Fk PrAte- : 11bFe(b2022 16:36 Pvge 5 of 12

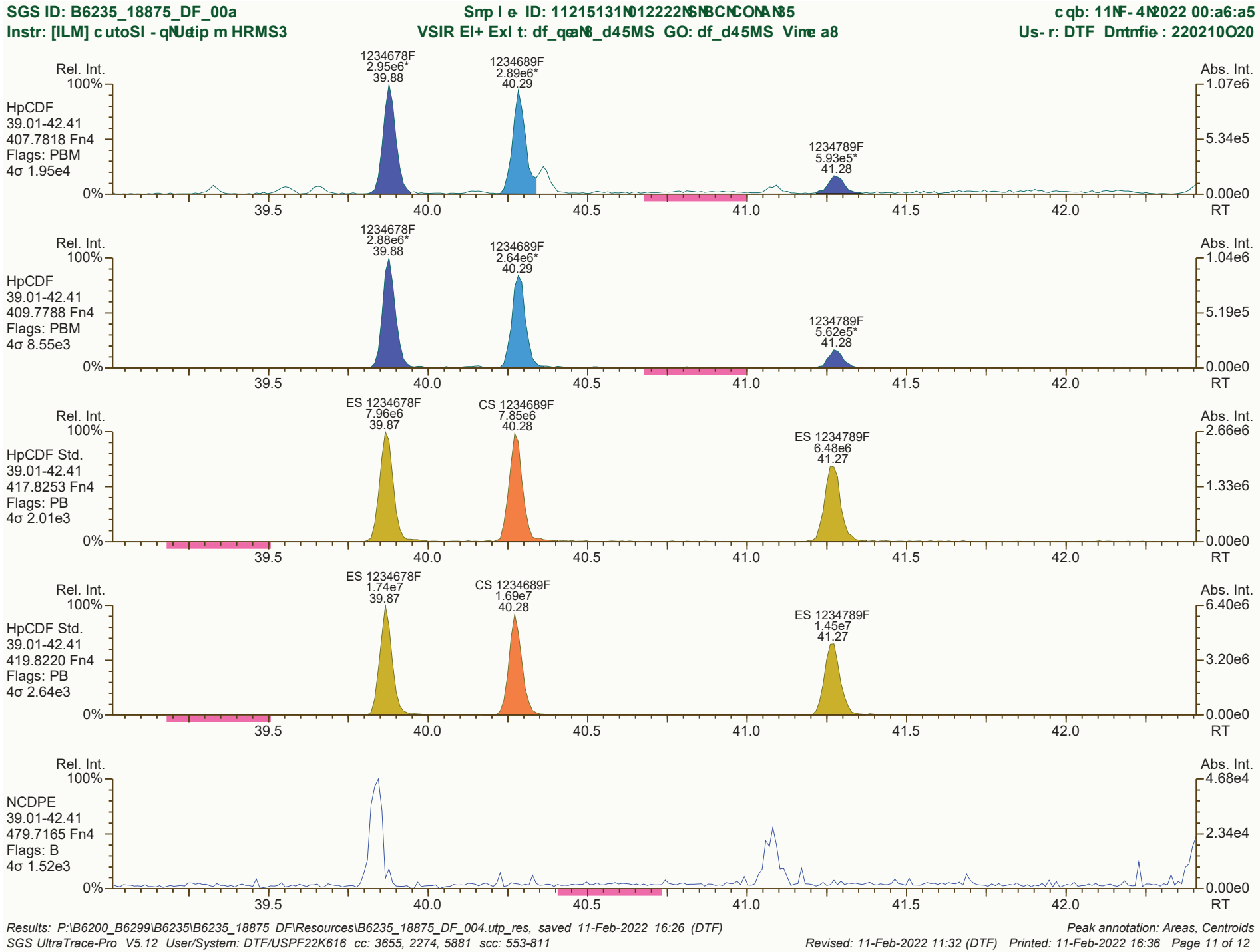

SGS ID: B6235_18875_DF_00a
Instr: [ILM] c utoSI - qNUctip m HRMS3
Smp l e- ID: 11215131N012222NSNBCNCONAN35
VSIR El+ Exl t: df_qeaN8_d45MS GO: df_d45MS Vime a8
cqb: 11NF- 4N2022 00:a6:a5
Us- r: DTF Dntmfie- : 220210O20
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 3.93e3
0%
OCDD
5.54e7
43.51
Abs. Int.
1.23e7
6.15e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 4.63e3
0%
OCDD
6.14e7
43.50
Abs. Int.
1.33e7
6.63e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 2.11e3
0%
ES OCDD
1.42e7
43.49
Abs. Int.
3.01e6
1.51e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 1.54e3
0%
ES OCDD
1.56e7
43.49
Abs. Int.
3.23e6
1.62e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.37e6
3.19e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_004.utp_res, saved 11-Feb-2022 16:26 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7046, 4990 scc: 553-811
PKD: 11-Feb-2022 11:29 Printed: 11-Feb-2022 16:36 Page 6 of 12


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.62e3
0%
2378F
1.14e8*
27.61
1278F
5.13e7
26.71
2348F
8.61e6*
27.50
2367/3467F
9.95e6
27.97
1289F
8.95e6
29.62
Abs. Int.
2.70e7
1.35e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.32e3
0%
2378F
1.47e8*
27.61
1278F
6.49e7
26.71
2348F
1.09e7*
27.50
2367/3467F
1.26e7
27.96
1289F
1.12e7
29.62
Abs. Int.
3.44e7
1.72e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 4.14e3
0%
JS 1234F
2.13e7
26.23
ES 2378F
2.07e7
27.59
Abs. Int.
4.82e6
2.41e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.41e3
0%
JS 1234F
2.66e7
26.23
ES 2378F
2.61e7
27.59
Abs. Int.
5.82e6
2.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.22e3
0%
Abs. Int.
1.76e4
8.80e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.10e3
13468/12468F
4.33e5*
29.56
Abs. Int.
1.13e5
5.66e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.88e3
13468/12468F
2.44e5*
29.56
Abs. Int.
5.16e4
2.58e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
3.71e6
1.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 1.95e3
12368F...[3]
2.43e6
31.27
12348F
5.24e5
32.15
12378F
5.09e6
32.37
12678/12367F
1.56e6
32.66
23478F
3.99e6
33.48
PR
Abs. Int.
1.37e6
6.85e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 2.22e3
12368F...[3]
1.59e6
31.27
12348F
3.18e5
32.15
12378F
3.41e6
32.36
12678/12367F
1.04e6
32.66
23478F
2.58e6
33.48
Abs. Int.
9.92e5
4.96e5
0.00e0
0%
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 1.85e3
CS 12346F
2.40e7
31.82
ES 12378F
2.51e7
32.35
ES 23478F
2.51e7
33.46
Abs. Int.
7.32e6
3.66e6
0.00e0
0%
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 2.33e3
CS 12346F
1.48e7
31.82
ES 12378F
1.56e7
32.35
ES 23478F
1.59e7
33.46
Abs. Int.
4.73e6
2.36e6
0.00e0
0%
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.88e3
Abs. Int.
6.74e4
3.37e4
0.00e0
0%
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 1.03e3
124678/134678F
1.13e6
35.53
124689F
9.36e5
36.18
123478F
6.56e6*
36.72
123678F
1.64e6*
36.86
234678F
4.37e5
37.54
123489F
5.03e5
38.53
Abs. Int.
1.93e6
9.63e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 2.06e3
124678/134678F
9.32e5
35.53
124689F
7.57e5
36.18
123478F
5.36e6*
36.72
123678F
1.40e6*
36.86
234678F
3.42e5
37.54
123489F
4.45e5
38.53
1.61e6
8.06e5
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 5.26e3
ES 123478F
1.04e7
36.71
ES 123678F
1.20e7
36.85
CS 123469F
1.05e7
37.16
ES 234678F
1.19e7
37.53
ES 123789F
9.49e6
38.49
3.45e6
1.72e6
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 2.92e3
ES 123478F
1.94e7
36.71
ES 123678F
2.27e7
36.85
CS 123469F
2.03e7
37.16
ES 234678F
2.26e7
37.53
ES 123789F
1.83e7
38.49
6.67e6
3.33e6
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.21e3
1.05e4
5.25e3


SGS ID: B6235_18875_DF_00a
Instr: [ILM] c utoSI - qNUctip m HRMS3
Smp l e- ID: 11215131N012222NSNBCNCONAN35
VSIR El+ Exl t: df_qeaN8_d45MS GO: df_d45MS Vime a8
cqb: 11NF- 4N2022 00:a6:a5
Us- r: DTF Dntmfie- : 220210O20
Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 1.95e4
1234678F
2.95e6*
39.88
1234689F
2.89e6*
40.29
1234789F
5.93e5*
41.28
Abs. Int.
1.07e6
5.34e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 8.55e3
1234678F
2.88e6*
39.88
1234689F
2.64e6*
40.29
1234789F
5.62e5*
41.28
Abs. Int.
1.04e6
5.19e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 2.01e3
ES 1234678F
7.96e6
39.87
CS 1234689F
7.85e6
40.28
ES 1234789F
6.48e6
41.27
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 2.64e3
ES 1234678F
1.74e7
39.87
CS 1234689F
1.69e7
40.28
ES 1234789F
1.45e7
41.27
Abs. Int.
6.40e6
3.20e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.52e3
Abs. Int.
4.68e4
2.34e4
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_004.utp_res, saved 11-Feb-2022 16:26 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3655, 2274, 5881 scc: 553-811
Revised: 11-Feb-2022 11:32 (DTF) Printed: 11-Feb-2022 16:36 Page 11 of 12


OCDF
4.75e6*
43.68
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PBM
4σ 1.82e3
0%
Abs. Int.
1.11e6
5.56e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
5.23e6*
43.68
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PBM
4σ 2.95e3
0%
Abs. Int.
1.28e6
6.41e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.89e7
43.68
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 3.12e3
0%
Abs. Int.
3.94e6
1.97e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.11e7
43.67
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 2.83e3
0%
Abs. Int.
4.51e6
2.26e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
5.29e3
2.64e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6235_18875_DF_005 **Acq'd:** 11 Feb 2022 01:33 DTF **Wt/Vol:** 10.19 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-B-10 **UTP:** 11-Feb-2022 16:26:39 DTF **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 399-303-MFD

Datafile: 220210C21 **Report:** 11 Feb 2022 16:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.49		1.0008	1.0008	0	3.38E+07	0.80	Y	1.18	185	4449.691	0.237
12378-PeCDD	33.83		1.0005	1.0005	0	4.90E+05	1.49	Y	1.04	3.39	5506.698	0.326
123478-HxCDD	37.75	J EMPC	1.0004	1.0004	0	2.25E+05	1.57	N	1.09	1.68	9126.659	0.581
123678-HxCDD	37.86		1.0035	1.0035	0	1.05E+06	1.24	Y	1.15	7.33	9126.659	0.547
123789-HxCDD	38.16		1.0113	1.0113	0	7.44E+05	1.27	Y	1.05	5.12	9126.659	0.53
1234678-HpCDD	40.83		1.0003	1.0003	0	1.93E+07	1.02	Y	1.06	156	17406.227	1.1
OCDD	43.53		1.0002	1.0003	+0.3	2.24E+08	0.90	Y	1.13	2,450	7320.352	0.946
2378-TCDF	27.63		1.0008	1.0008	0	1.44E+08	0.79	Y	1.08	556	3073.656	0.123
12378-PeCDF	32.38		1.0005	1.0005	0	3.04E+06	1.56	Y	1.02	13.9	8179.966	0.348
23478-PeCDF	33.51		1.0005	1.0008	+0.6	3.19E+06	1.47	Y	1.02	15.1	8179.966	0.354
123478-HxCDF	36.74		1.0005	1.0005	0	5.12E+06	1.18	Y	1.27	25.5	8847.313	0.373
123678-HxCDF	36.88		1.0005	1.0004	-0.2	1.47E+06	1.18	Y	1.15	6.94	8847.313	0.369
234678-HxCDF	37.56	EMPC	1.0005	1.0004	-0.2	6.64E+05	1.04	N	1.19	3.3	8847.313	0.399
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	8847.313	0.413
1234678-HpCDF	39.89		1.0003	1.0002	-0.2	2.05E+07	1.04	Y	1.37	108	6498.972	0.26
1234789-HpCDF	41.29		1.0003	1.0003	0	1.49E+06	1.12	Y	1.31	11	6498.972	0.371
OCDF	43.70		1.0003	1.0003	0	3.80E+08	0.89	Y	1.07	3,120	6522.225	0.649

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.47	1.0238	1.0238	0	3.03E+07	0.81	Y	1.05	89.7
ES 12378-PeCDD	33.81	1.2160	1.2158	-0.4	2.74E+07	1.58	Y	0.88	96.2
ES 123478-HxCDD	37.73	0.9919	0.9919	0	2.42E+07	1.23	Y	0.97	89.2
ES 123678-HxCDD	37.85	0.9950	0.9950	0	2.44E+07	1.29	Y	0.94	92.7
ES 123789-HxCDD	38.14	1.0027	1.0027	0	2.72E+07	1.25	Y	1.09	89.5
ES 1234678-HpCDD	40.82	1.0730	1.0730	0	2.30E+07	1.09	Y	0.91	90.3
ES OCDD	43.51	1.1437	1.1438	+0.3	3.19E+07	0.95	Y	0.62	91.6
ES 2378-TCDF	27.61	1.0520	1.0519	-0.2	4.72E+07	0.81	Y	1.06	90.1
ES 12378-PeCDF	32.37	1.2330	1.2330	0	4.20E+07	1.53	Y	0.91	93.4
ES 23478-PeCDF	33.48	1.2754	1.2754	0	4.06E+07	1.54	Y	0.88	93
ES 123478-HxCDF	36.72	0.9653	0.9653	0	3.10E+07	0.55	Y	1.20	92.8
ES 123678-HxCDF	36.86	0.9691	0.9690	-0.2	3.62E+07	0.53	Y	1.35	96
ES 234678-HxCDF	37.54	0.9870	0.9869	-0.2	3.33E+07	0.52	Y	1.24	96.1
ES 123789-HxCDF	38.50	1.0121	1.0120	-0.2	2.84E+07	0.52	Y	1.16	88.1
ES 1234678-HpCDF	39.88	1.0484	1.0484	0	2.71E+07	0.46	Y	0.97	101
ES 1234789-HpCDF	41.28	1.0851	1.0851	0	2.03E+07	0.45	Y	0.85	85.5
ES OCDF	43.69	1.1483	1.1485	+0.5	4.47E+07	0.92	Y	0.81	99.2

Lab ID: B6235_18875_DF_005 **Acq'd:** 11 Feb 2022 01:33 DTF **Wt/Vol:** 10.19 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-B-10 **UTP:** 11-Feb-2022 16:26:39 DTF **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 399-303-MFD

Datafile: 220210C21 **Report:** 11 Feb 2022 16:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.81		-	-	-	3.24E+07	0.82	Y	-	-
JS 1234-TCDF	26.25		-	-	-	4.94E+07	0.80	Y	-	-
JS 123467-HxCDD	38.04		-	-	-	1.39E+07	1.25	Y	-	-
CS 37Cl-2378-TCDD	28.49		1.0245	1.0246	+0.2	1.37E+07	n/a	-	1.20	88.3
CS 12347-PeCDD	33.31		1.1979	1.1978	-0.2	2.51E+07	1.55	Y	0.75	103
CS 12346-PeCDF	31.84		1.2128	1.2129	+0.2	4.11E+07	1.57	Y	0.85	97.7
CS 123469-HxCDF	37.18		0.9774	0.9774	0	3.18E+07	0.52	Y	1.12	102
CS 1234689-HpCDF	40.29		1.0589	1.0590	+0.2	2.67E+07	0.45	Y	0.89	108
SS 37Cl-2378-TCDD	28.49		1.0245	1.0246	+0.2	1.37E+07	n/a	-	1.15	98.7
SS 12347-PeCDD	33.31		1.1979	1.1978	-0.2	2.51E+07	1.55	Y	0.86	107
SS 12346-PeCDF	31.84		1.2128	1.2129	+0.2	4.11E+07	1.57	Y	0.94	104
SS 123469-HxCDF	37.18		0.9774	0.9774	0	3.18E+07	0.52	Y	0.83	106
SS 1234689-HpCDF	40.29		1.0589	1.0590	+0.2	2.67E+07	0.45	Y	0.92	107

Totals	Conc	EMPC
Total TCDD	228	230
Total PeCDD	30.2	31.4
Total HxCDD	134	135
Total HpCDD	392	392
Total Tetra-Octa Dioxins	3230	3230
Total TCDF	1,050	1050
Total PeCDF	82.1	83.7
Total HxCDF	82.9	89.2
Total HpCDF	198	198
Total Tetra-Octa Furans	4,530	4540
Total Tetra-Octa Dioxins & Furans	7760	7770

Lab ID: B6235_18875_DF_005 **Acq'd: 11 Feb 2022 01:33 DTF** **Wt/Vol: 10.19 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012222-S-BN-NC-B-10 **UTP: 11-Feb-2022 16:26:39 DTF** **J-level: 0.491 pg/g** **Split: 1** **Checkcode: 399-303-MFD**

Datafile: 220210C21 **Report: 11 Feb 2022 16:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.85		0.8737	0.8726	-1.6	7.01E+05	0.88	Y	1.18	3.83	4449.691	0.237
1379-TCDD	NotFnd		0.8860						1.18		4449.691	0.237
1369-TCDD	25.62		0.9009	0.8998	-1.7	1.28E+05	0.71	Y	1.18	0.699	4449.691	0.237
1469-TCDD	26.41		0.9281	0.9275	-1.0	2.25E+06	0.77	Y	1.18	12.3	4449.691	0.237
1247/1246/1248/1249-TCDD	26.65		0.9362	0.9360	-0.3	3.13E+05	0.72	Y	1.18	1.71	4449.691	0.237
1378-TCDD	26.84		0.9432	0.9426	-1.0	2.52E+05	0.76	Y	1.18	1.37	4449.691	0.237
1268-TCDD	NotFnd		0.9500						1.18		4449.691	0.237
1478-TCDD	27.29		0.9586	0.9583	-0.5	1.30E+05	0.74	Y	1.18	0.709	4449.691	0.237
1279-TCDD	27.44	J EMPC	0.9645	0.9637	-1.3	6.33E+04	0.62	N	1.18	0.345	4449.691	0.237
1234/1269-TCDD	27.80		0.9770	0.9762	-1.3	3.57E+05	0.79	Y	1.18	1.95	4449.691	0.237
1236-TCDD	NotFnd		0.9817						1.18		4449.691	0.237
1237/1238-TCDD	28.20		0.9905	0.9905	0	5.89E+05	0.78	Y	1.18	3.22	4449.691	0.237
1239-TCDD	NotFnd		0.9952						1.18		4449.691	0.237
2378-TCDD	**28.49**		**1.0008**	1.0008	**0**	3.38E+07	0.80	Y	**1.18**	**185**	**4449.691**	**0.237**
1278-TCDD	28.82		1.0121	1.0121	0	3.29E+06	0.80	Y	1.18	18	4449.691	0.237
1267-TCDD	NotFnd		1.0167						1.18		4449.691	0.237
1289-TCDD	29.45	EMPC	1.0345	1.0343	-0.4	1.88E+05	1.03	N	1.18	1.03	4449.691	0.237
12479/12468-PeCDD	31.33		0.9267	0.9265	-0.4	8.94E+05	1.64	Y	1.04	6.19	5506.698	0.326
12469-PeCDD	31.86		0.9425	0.9423	-0.4	1.71E+06	1.50	Y	1.04	11.8	5506.698	0.326
12368-PeCDD	32.41	J	0.9588	0.9586	-0.4	3.51E+05	1.40	Y	1.04	2.43	5506.698	0.326
12478-PeCDD	32.60	J	0.9643	0.9642	-0.2	2.64E+05	1.73	Y	1.04	1.83	5506.698	0.326
12379-PeCDD	32.70	J EMPC	0.9673	0.9672	-0.2	1.80E+05	1.80	N	1.04	1.25	5506.698	0.326
12369/12467/12489-PeCDD	32.97		0.9750	0.9751	+0.2	6.50E+05	1.36	Y	1.04	4.5	5506.698	0.326
12346/12347-PeCDD	NotFnd		0.9858						1.04		5506.698	0.326
12378-PeCDD	33.83		**1.0005**	**1.0005**	**0**	**4.90E+05**	**1.49**	**Y**	**1.04**	**3.39**	**5506.698**	**0.326**
12367-PeCDD	NotFnd		1.0033						1.04		5506.698	0.326
12389-PeCDD	NotFnd		1.0134						1.04		5506.698	0.326
124679/124689-HxCDD	36.00		0.9542	0.9541	-0.2	1.18E+07	1.26	Y	1.10	83.5	9126.659	0.551
123468-HxCDD	36.65		0.9715	0.9713	-0.4	7.01E+05	1.40	Y	1.10	4.97	9126.659	0.551
123679/123689-HxCDD	36.95		0.9793	0.9792	-0.2	4.03E+06	1.25	Y	1.10	28.6	9126.659	0.551
123469-HxCDD	37.08	J	0.9828	0.9827	-0.2	3.17E+05	1.09	Y	1.10	2.25	9126.659	0.551
123478-HxCDD	37.75	J EMPC	**1.0004**	**1.0004**	**0**	**2.25E+05**	**1.57**	**N**	1.09	**1.68**	**9126.659**	**0.581**
123678-HxCDD	37.86		**1.0035**	**1.0035**	**0**	**1.05E+06**	**1.24**	**Y**	1.15	**7.33**	**9126.659**	**0.547**
123467-HxCDD	38.06	J	1.0085	1.0086	+0.2	2.55E+05	1.22	Y	1.10	1.81	9126.659	0.551
123789-HxCDD	38.16		**1.0113**	**1.0113**	**0**	**7.44E+05**	**1.27**	**Y**	1.05	**5.12**	**9126.659**	**0.53**

Lab ID: B6235_18875_DF_005 **Acq'd: 11 Feb 2022 01:33 DTF** **Wt/Vol: 10.19 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012222-S-BN-NC-B-10 **UTP: 11-Feb-2022 16:26:39 DTF** **J-level: 0.491 pg/g** **Split: 1** **Checkcode: 399-303-MFD**

Datafile: 220210C21 **Report: 11 Feb 2022 16:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.15		0.9837	0.9837	0	2.93E+07	1.04	Y	1.06	236	17406.227	1.1
1234678-HpCDD	**40.83**		**1.0003**	**1.0003**	**0**	**1.93E+07**	**1.02**	**Y**	**1.06**	**156**	**17406.227**	**1.1**
OCDD	**43.53**		**1.0002**	**1.0003**	**+0.3**	**2.24E+08**	**0.90**	**Y**	**1.13**	**2,450**	**7320.352**	**0.946**
OCDD-a	43.52		1.0001	1.0003	+0.5	1.45E+07	2.50	Y	0.07	2,470	4898.955	9.9
1368-TCDF	22.74	EMPC	0.8251	0.8236	-2.0	1.35E+05	0.48	N	1.08	0.522	3073.656	0.123
1468-TCDF	23.32		0.8458	0.8443	-2.1	7.69E+05	0.72	Y	1.08	2.97	3073.656	0.123
2468-TCDF	23.95		0.8686	0.8674	-1.7	1.53E+06	0.76	Y	1.08	5.9	3073.656	0.123
1346/1246-TCDF	NotFnd		0.8814						1.08		3073.656	0.123
1347/1378/1247-TCDF	24.46		0.8867	0.8859	-1.2	2.59E+06	0.79	Y	1.08	9.98	3073.656	0.123
1348-TCDF	NotFnd		0.8962						1.08		3073.656	0.123
1248/1367/1379-TCDF	24.82		0.9009	0.8987	-3.3	8.03E+06	0.79	Y	1.08	31	3073.656	0.123
1268-TCDF	25.23		0.9145	0.9138	-1.1	3.15E+06	0.81	Y	1.08	12.1	3073.656	0.123
1467-TCDF	25.37		0.9193	0.9189	-0.6	4.95E+05	0.70	Y	1.08	1.91	3073.656	0.123
1478-TCDF	25.54		0.9254	0.9249	-0.8	6.96E+06	0.78	Y	1.08	26.9	3073.656	0.123
1369/1237-TCDF	25.92		0.9387	0.9387	0	1.83E+06	0.79	Y	1.08	7.05	3073.656	0.123
2467-TCDF	26.05	EMPC	0.9433	0.9432	-0.2	2.76E+05	0.93	N	1.08	1.07	3073.656	0.123
2368-TCDF	26.20		0.9489	0.9487	-0.3	5.51E+06	0.79	Y	1.08	21.3	3073.656	0.123
1238/1234/1678/1469/1236-TCDF	26.27		0.9523	0.9515	-1.3	5.76E+06	0.78	Y	1.08	22.2	3073.656	0.123
1278-TCDF	26.74		0.9683	0.9682	-0.2	5.53E+07	0.79	Y	1.08	213	3073.656	0.123
1349-TCDF	NotFnd		0.9722						1.08		3073.656	0.123
1267-TCDF	27.01		0.9783	0.9782	-0.2	3.50E+06	0.83	Y	1.08	13.5	3073.656	0.123
2346/1249-TCDF	NotFnd		0.9850						1.08		3073.656	0.123
2347/1279-TCDF	27.41		0.9926	0.9925	-0.2	1.54E+06	0.80	Y	1.08	5.94	3073.656	0.123
2348-TCDF	27.51		0.9967	0.9964	-0.5	7.79E+06	0.78	Y	1.08	30.1	3073.656	0.123
2378-TCDF	**27.63**		**1.0008**	**1.0008**	**0**	**1.44E+08**	**0.79**	**Y**	**1.08**	**556**	**3073.656**	**0.123**
2367/3467-TCDF	27.99		1.0137	1.0135	-0.3	1.24E+07	0.78	Y	1.08	48	3073.656	0.123
1269-TCDF	28.24		1.0223	1.0227	+0.7	2.20E+06	0.86	Y	1.08	8.47	3073.656	0.123
1239-TCDF	NotFnd		1.0321						1.08		3073.656	0.123
1289-TCDF	29.64		1.0722	1.0734	+2.1	9.25E+06	0.81	Y	1.08	35.7	3073.656	0.123
13468/12468-PeCDF	29.58		0.9139	0.9140	+0.2	3.56E+06	1.58	Y	1.02	16.5	3050.055	0.131
13678/13467/12467-PeCDF	31.13	J	0.9613	0.9617	+0.7	4.92E+05	1.54	Y	1.02	2.29	8179.966	0.351
12368/13478/12478-PeCDF	31.29		0.9662	0.9668	+1.1	3.57E+06	1.43	Y	1.02	16.6	8179.966	0.351
14678-PeCDF	NotFnd		0.9692						1.02		8179.966	0.351
13479-PeCDF	NotFnd		0.9723						1.02		8179.966	0.351
13469/12479-PeCDF	31.67	J	0.9797	0.9786	-2.1	2.55E+05	1.69	Y	1.02	1.19	8179.966	0.351
12346-PeCDF	31.84	J	0.9840	0.9838	-0.4	9.74E+04	1.47	Y	1.02	0.453	8179.966	0.351

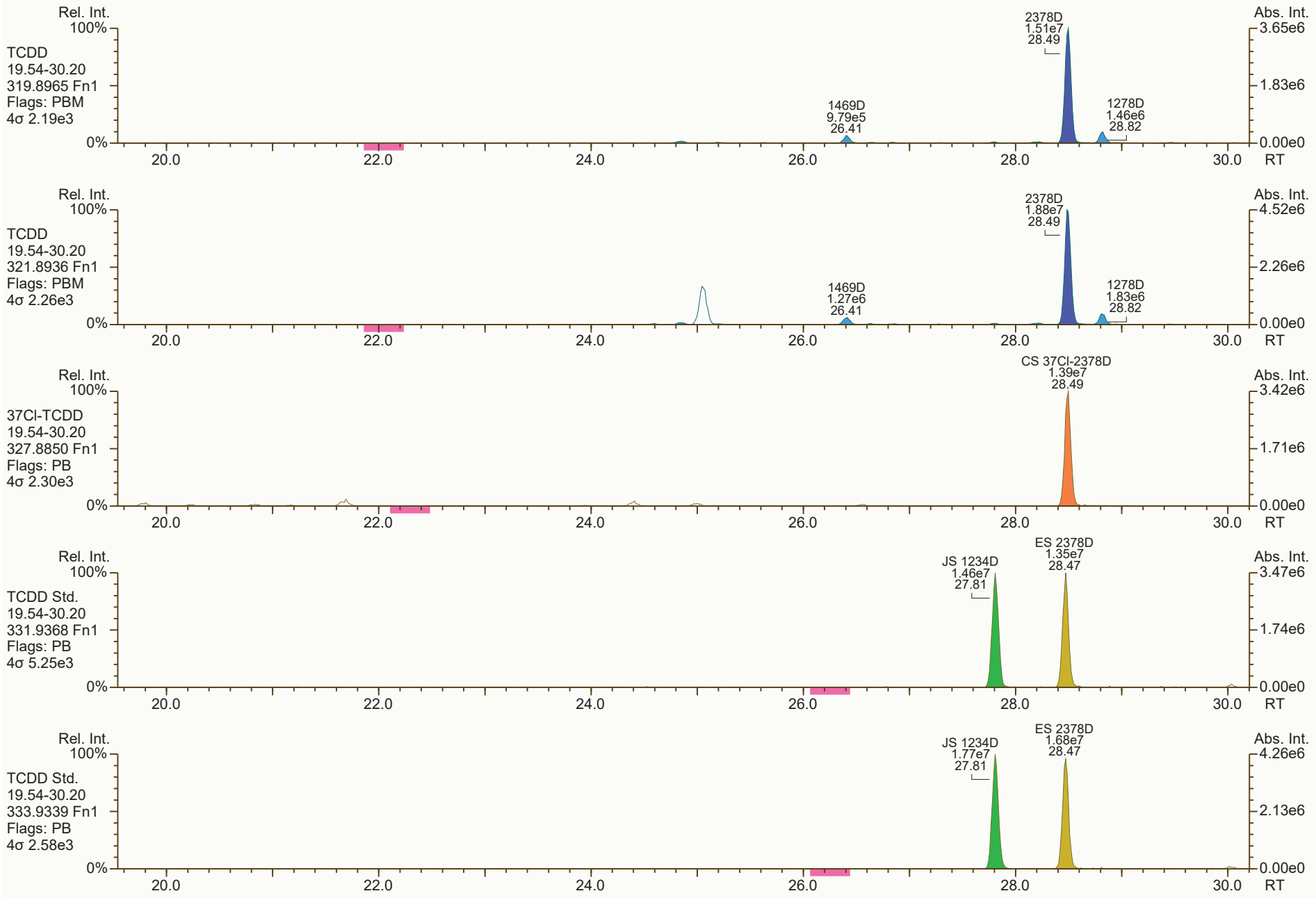
Lab ID: B6235_18875_DF_005 **Acq'd: 11 Feb 2022 01:33 DTF** **Wt/Vol: 10.19 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

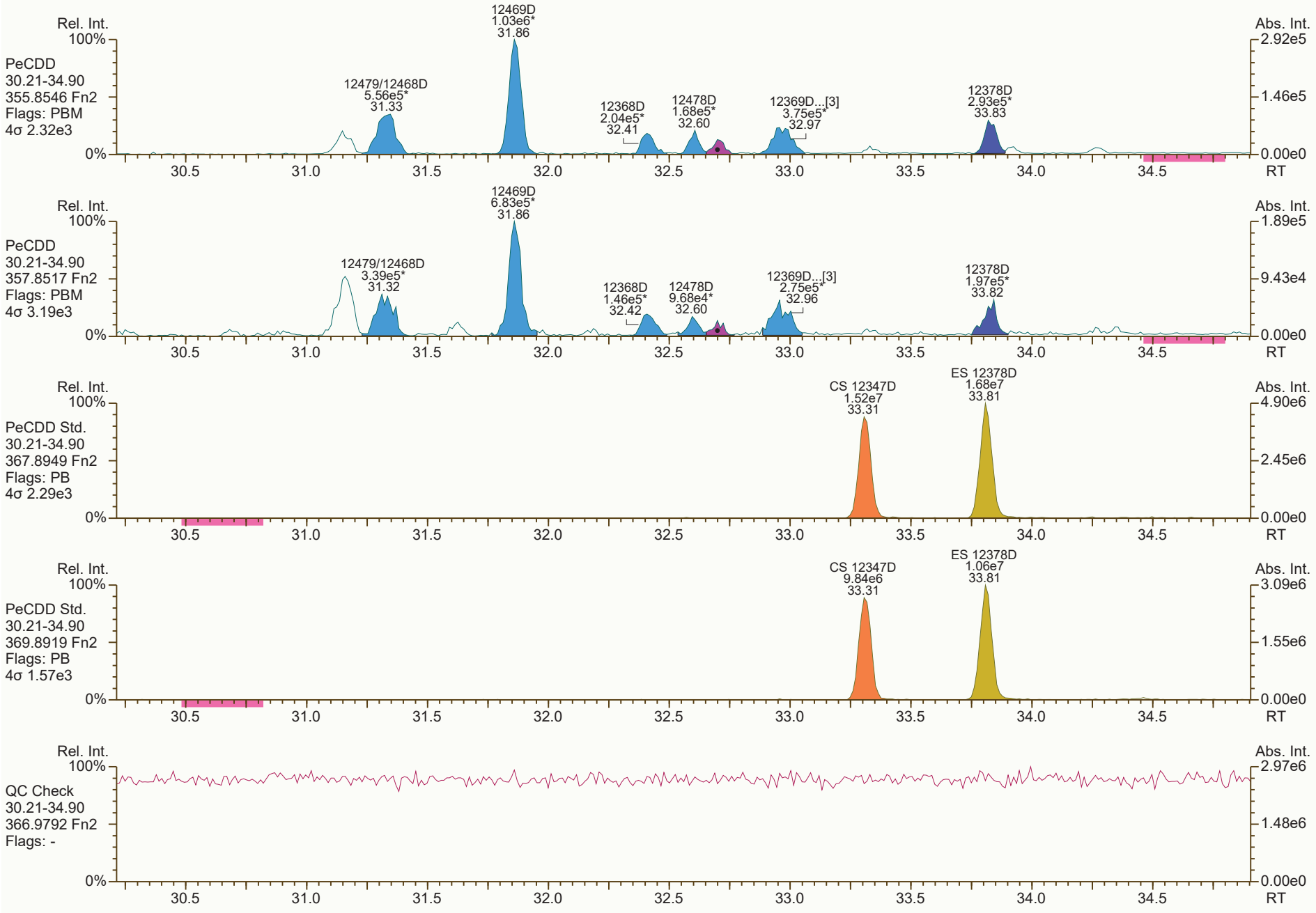
Client ID: 11215131-012222-S-BN-NC-B-10 **UTP: 11-Feb-2022 16:26:39 DTF** **J-level: 0.491 pg/g** **Split: 1** **Checkcode: 399-303-MFD**

Datafile: 220210C21 **Report: 11 Feb 2022 16:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

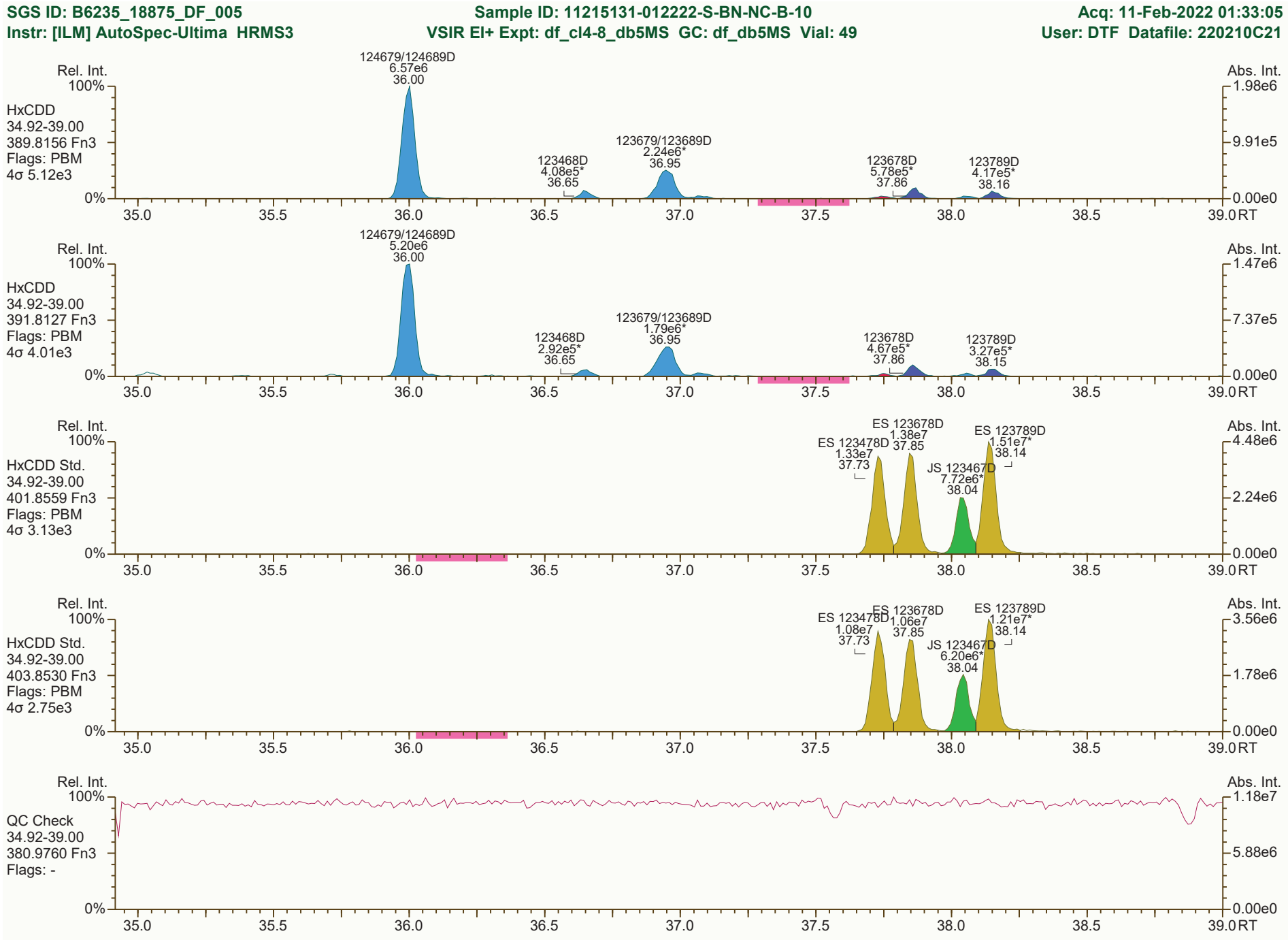
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.94		0.9868	0.9869	+0.2	8.25E+05	1.64	Y	1.02	3.84	8179.966	0.351
12347-PeCDF	32.02	J EMPC	0.9894	0.9893	-0.2	1.41E+05	1.23	N	1.02	0.655	8179.966	0.351
12348-PeCDF	32.18		0.9940	0.9941	+0.2	6.26E+05	1.34	Y	1.02	2.91	8179.966	0.351
12378-PeCDF	**32.38**		**1.0005**	**1.0005**	**0**	**3.04E+06**	**1.56**	**Y**	**1.02**	**13.9**	**8179.966**	**0.348**
12678/12367-PeCDF	32.69		1.0089	1.0099	+2.0	1.80E+06	1.58	Y	1.02	8.36	8179.966	0.351
12379-PeCDF	NotFnd		1.0142						1.02		8179.966	0.351
12679-PeCDF	NotFnd		0.9929						1.02		8179.966	0.351
23467/12369-PeCDF	33.36	J	0.9967	0.9965	-0.4	1.84E+05	1.57	Y	1.02	0.857	8179.966	0.351
23478-PeCDF	**33.51**		**1.0005**	**1.0008**	**+0.6**	**3.19E+06**	**1.47**	**Y**	**1.02**	**15.1**	**8179.966**	**0.354**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		8179.966	0.351
12349-PeCDF	NotFnd		1.0100						1.02		8179.966	0.351
12389-PeCDF	34.57	J EMPC	1.0324	1.0326	+0.4	2.14E+05	1.86	N	1.02	0.997	8179.966	0.351
123468-HxCDF	35.35		0.9627	0.9626	-0.2	1.16E+06	1.14	Y	1.19	5.93	8847.313	0.387
124678/134678-HxCDF	35.55		0.9682	0.9680	-0.4	3.88E+06	1.21	Y	1.19	19.8	8847.313	0.387
134679-HxCDF	NotFnd		0.9744						1.19		8847.313	0.387
124679-HxCDF	35.98	J EMPC	0.9798	0.9797	-0.2	2.25E+05	0.92	N	1.19	1.15	8847.313	0.387
124689-HxCDF	36.20		0.9858	0.9857	-0.2	4.01E+06	1.24	Y	1.19	20.5	8847.313	0.387
123467-HxCDF	36.62	J EMPC	0.9972	0.9972	0	3.60E+05	1.44	N	1.19	1.84	8847.313	0.387
123478-HxCDF	**36.74**		**1.0005**	**1.0005**	**0**	**5.12E+06**	**1.18**	**Y**	**1.27**	**25.5**	**8847.313**	**0.373**
123678-HxCDF	**36.88**		**1.0005**	**1.0004**	**-0.2**	**1.47E+06**	**1.18**	**Y**	**1.15**	**6.94**	**8847.313**	**0.369**
123479-HxCDF	NotFnd		1.0049						1.19		8847.313	0.387
123469-HxCDF	37.20	J	1.0090	1.0091	+0.2	3.27E+05	1.23	Y	1.19	1.67	8847.313	0.387
123679-HxCDF	NotFnd		0.9942						1.19		8847.313	0.387
234678-HxCDF	**37.56**	EMPC	**1.0005**	**1.0004**	**-0.2**	**6.64E+05**	**1.04**	**N**	**1.19**	**3.3**	**8847.313**	**0.399**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		8847.313	0.387
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**8847.313**	**0.413**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.54		1.0009	1.0011	+0.5	5.16E+05	1.17	Y	1.19	2.63	8847.313	0.387
1234678-HpCDF	**39.89**		**1.0003**	**1.0002**	**-0.2**	**2.05E+07**	**1.04**	**Y**	**1.37**	**108**	**6498.972**	**0.26**
1234679-HpCDF	40.15		1.0068	1.0068	0	1.08E+06	1.02	Y	1.34	6.71	6498.972	0.307
1234689-HpCDF	40.30		1.0103	1.0104	+0.2	1.16E+07	1.01	Y	1.34	71.7	6498.972	0.307
1234789-HpCDF	**41.29**		**1.0003**	**1.0003**	**0**	**1.49E+06**	**1.12**	**Y**	**1.31**	**11**	**6498.972**	**0.371**
OCDF	**43.70**		**1.0003**	**1.0003**	**0**	**3.80E+08**	**0.89**	**Y**	**1.07**	**3,120**	**6522.225**	**0.649**
OCDF-a	43.70		1.0002	1.0002	0	2.44E+07	2.40	Y	0.07	3,230	7055.077	11.3


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.54e6
1.77e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
2.97e6
1.48e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.18e7
5.88e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
7.43e6
3.71e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.87e6
2.94e6
0.00e0

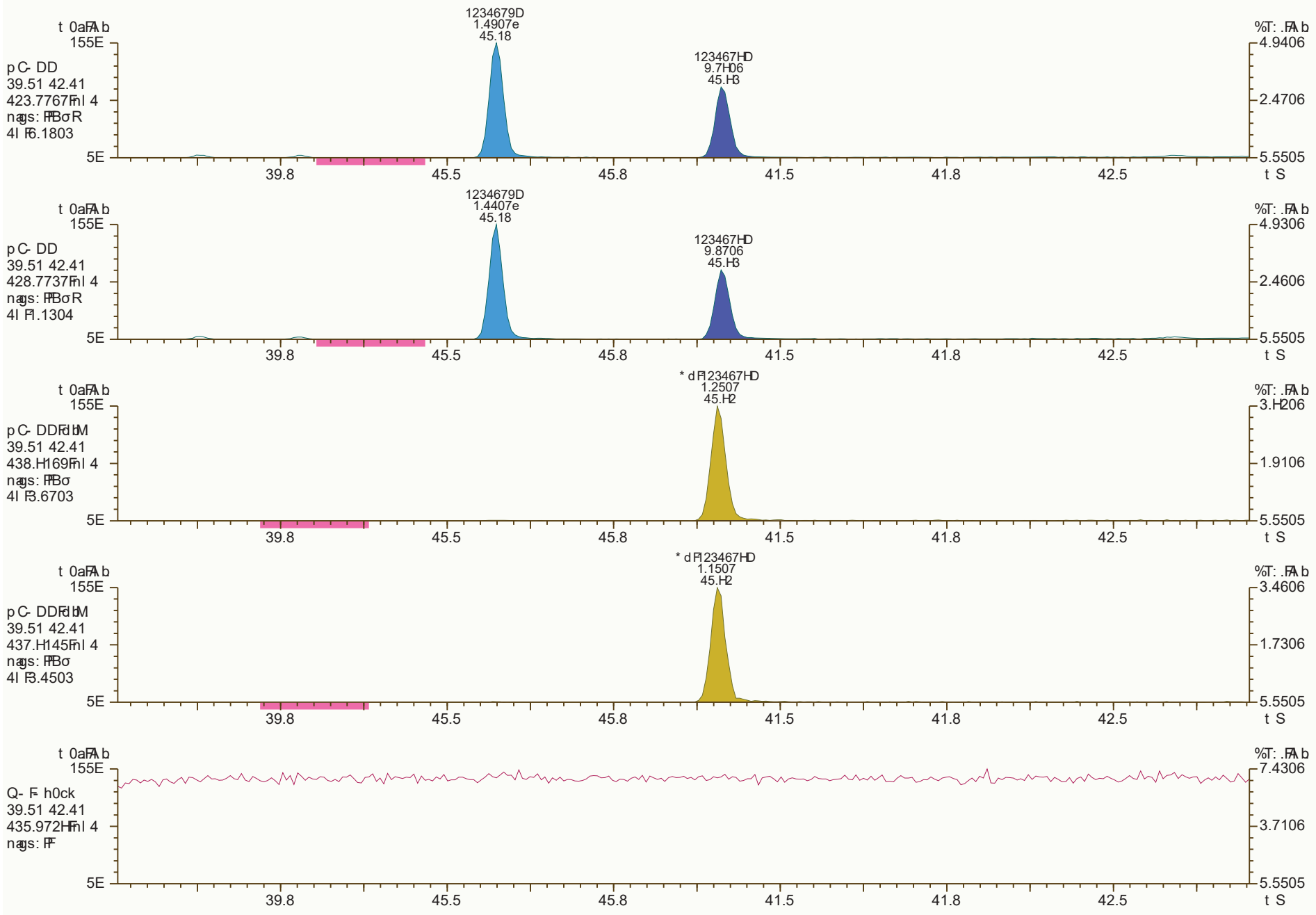

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.19e3
0%
2378D
1.51e7
28.49
1469D
9.79e5
26.41
1278D
1.46e6
28.82
Abs. Int.
3.65e6
1.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.26e3
0%
2378D
1.88e7
28.49
1469D
1.27e6
26.41
1278D
1.83e6
28.82
Abs. Int.
4.52e6
2.26e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.30e3
0%
CS 37Cl-2378D
1.39e7
28.49
Abs. Int.
3.42e6
1.71e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.25e3
0%
JS 1234D
1.46e7
27.81
ES 2378D
1.35e7
28.47
Abs. Int.
3.47e6
1.74e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.58e3
0%
JS 1234D
1.77e7
27.81
ES 2378D
1.68e7
28.47
Abs. Int.
4.26e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

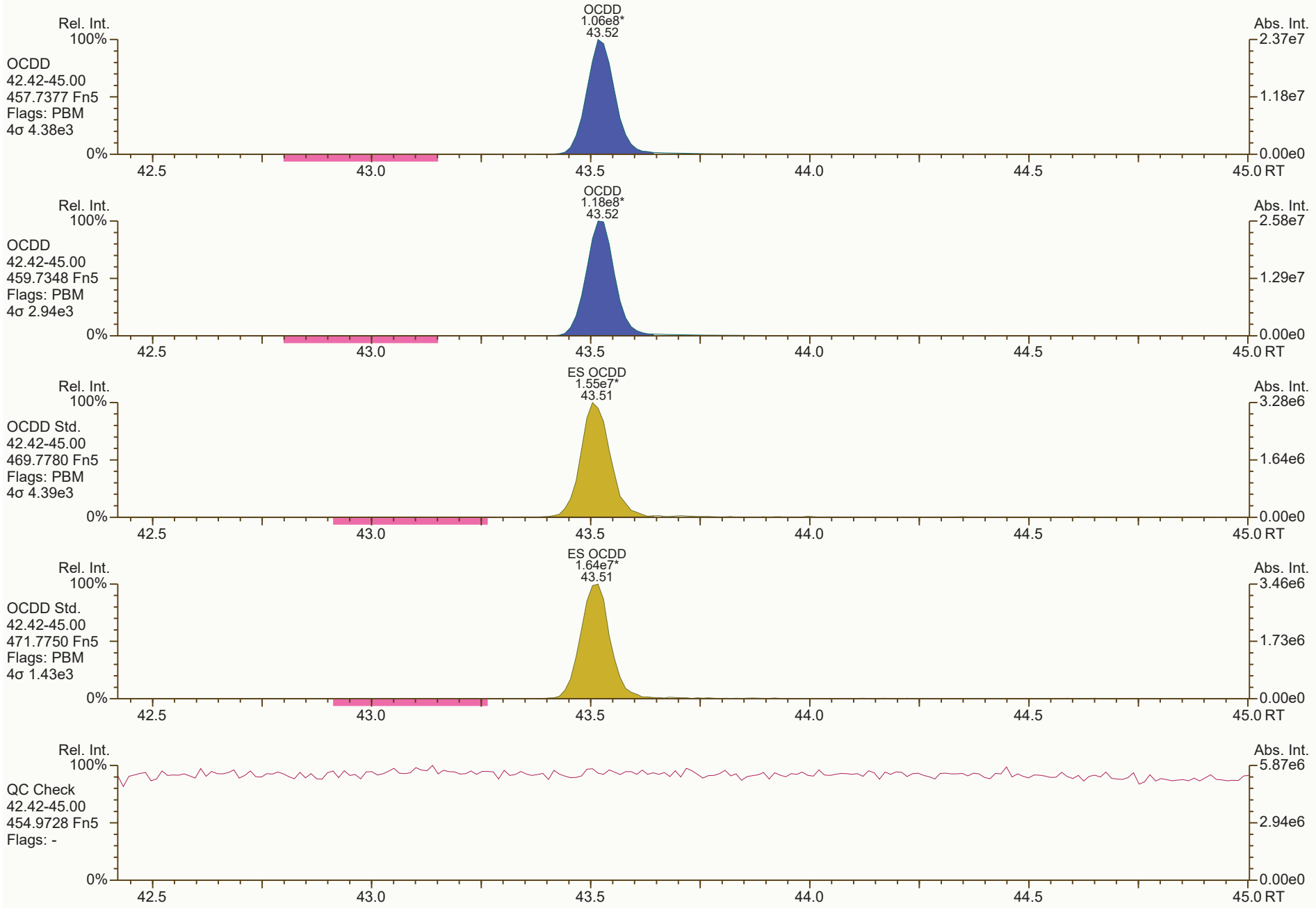

Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PBM
4σ 2.32e3
12479/12468D
5.56e5*
31.33
12469D
1.03e6*
31.86
12368D
2.04e5*
32.41
12478D
1.68e5*
32.60
12369D...[3]
3.75e5*
32.97
12378D
2.93e5*
33.83
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
2.92e5
1.46e5
0.00e0
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PBM
4σ 3.19e3
12479/12468D
3.39e5*
31.32
12469D
6.83e5*
31.86
12368D
1.46e5*
32.42
12478D
9.68e4*
32.60
12369D...[3]
2.75e5*
32.96
12378D
1.97e5*
33.82
0%
Abs. Int.
1.89e5
9.43e4
0.00e0
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 2.29e3
CS 12347D
1.52e7
33.31
ES 12378D
1.68e7
33.81
0%
Abs. Int.
4.90e6
2.45e6
0.00e0
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.57e3
CS 12347D
9.84e6
33.31
ES 12378D
1.06e7
33.81
0%
Abs. Int.
3.09e6
1.55e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.97e6
1.48e6
0.00e0

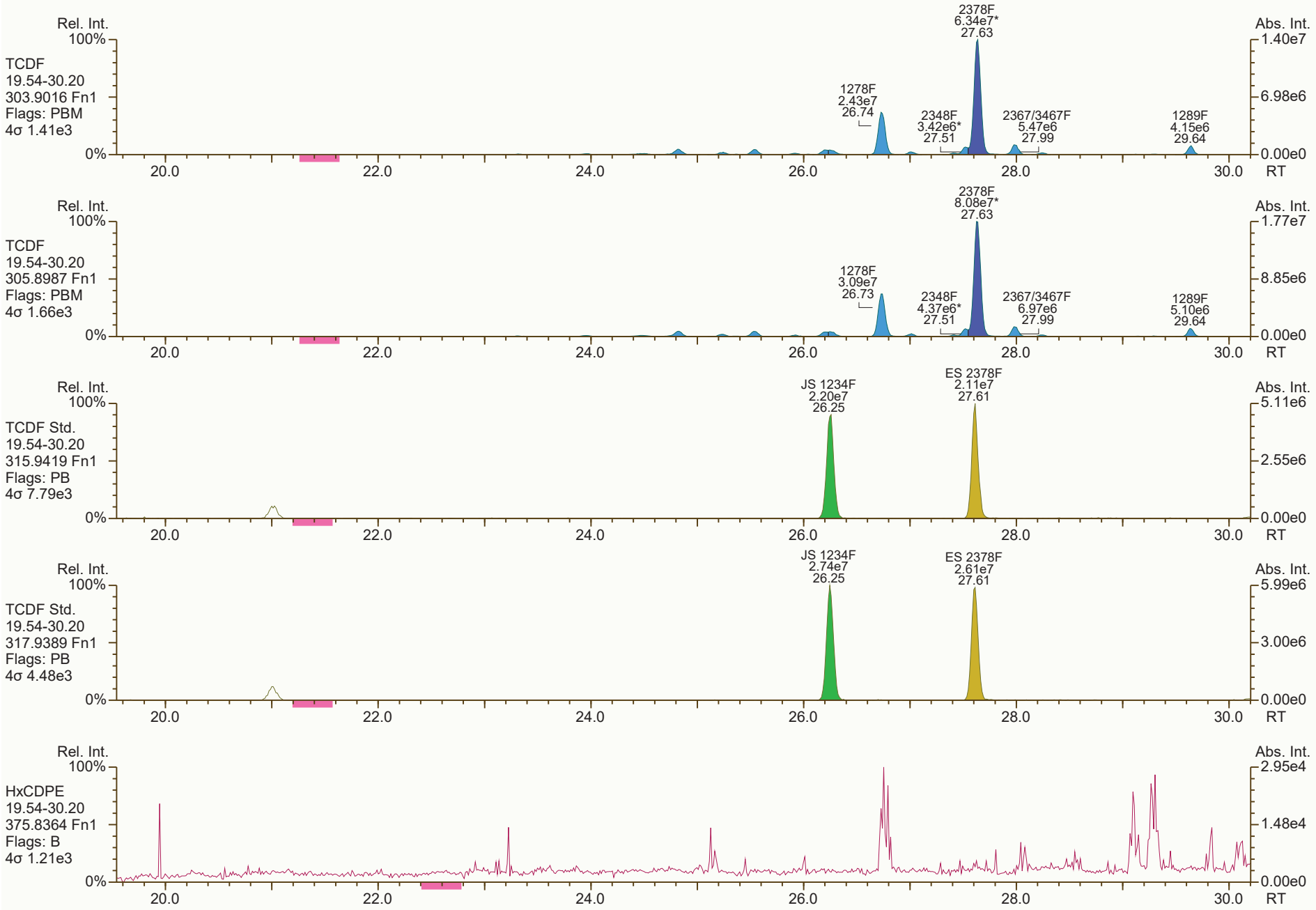
SGS ID: B6235_18875_DF_005 | Sample ID: 11215131-012222-S-BN-NC-B-10 | Acq: 11-Feb-2022 01:33:05
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 49 | User: DTF Datafile: 220210C21



Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_005.utp_res, saved 11-Feb-2022 16:26 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6659, 4579 scc: 399-303 | Revised: 11-Feb-2022 11:34 (DTF) Printed: 11-Feb-2022 16:36 Page 4 of 12


1234679D
1.4907e
45.18
123467HD
9.7H06
45.H3
1234679D
1.4407e
45.18
123467HD
9.8706
45.H3
* dF123467HD
1.2507
45.H2
* dF123467HD
1.1507
45.H2
39.8
45.5
45.8
41.5
41.8
42.5
t S


OCDD
1.06e8*
43.52
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 4.38e3
0%
Abs. Int.
2.37e7
1.18e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.18e8*
43.52
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 2.94e3
0%
Abs. Int.
2.58e7
1.29e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7*
43.51
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 4.39e3
0%
Abs. Int.
3.28e6
1.64e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.64e7*
43.51
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
3.46e6
1.73e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.87e6
2.94e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.41e3
0%
2378F
6.34e7*
27.63
1278F
2.43e7
26.74
2348F
3.42e6*
27.51
2367/3467F
5.47e6
27.99
1289F
4.15e6
29.64
Abs. Int.
1.40e7
6.98e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.66e3
0%
2378F
8.08e7*
27.63
1278F
3.09e7
26.73
2348F
4.37e6*
27.51
2367/3467F
6.97e6
27.99
1289F
5.10e6
29.64
Abs. Int.
1.77e7
8.85e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 7.79e3
0%
JS 1234F
2.20e7
26.25
ES 2378F
2.11e7
27.61
Abs. Int.
5.11e6
2.55e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.48e3
0%
JS 1234F
2.74e7
26.25
ES 2378F
2.61e7
27.61
Abs. Int.
5.99e6
3.00e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.21e3
0%
Abs. Int.
2.95e4
1.48e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

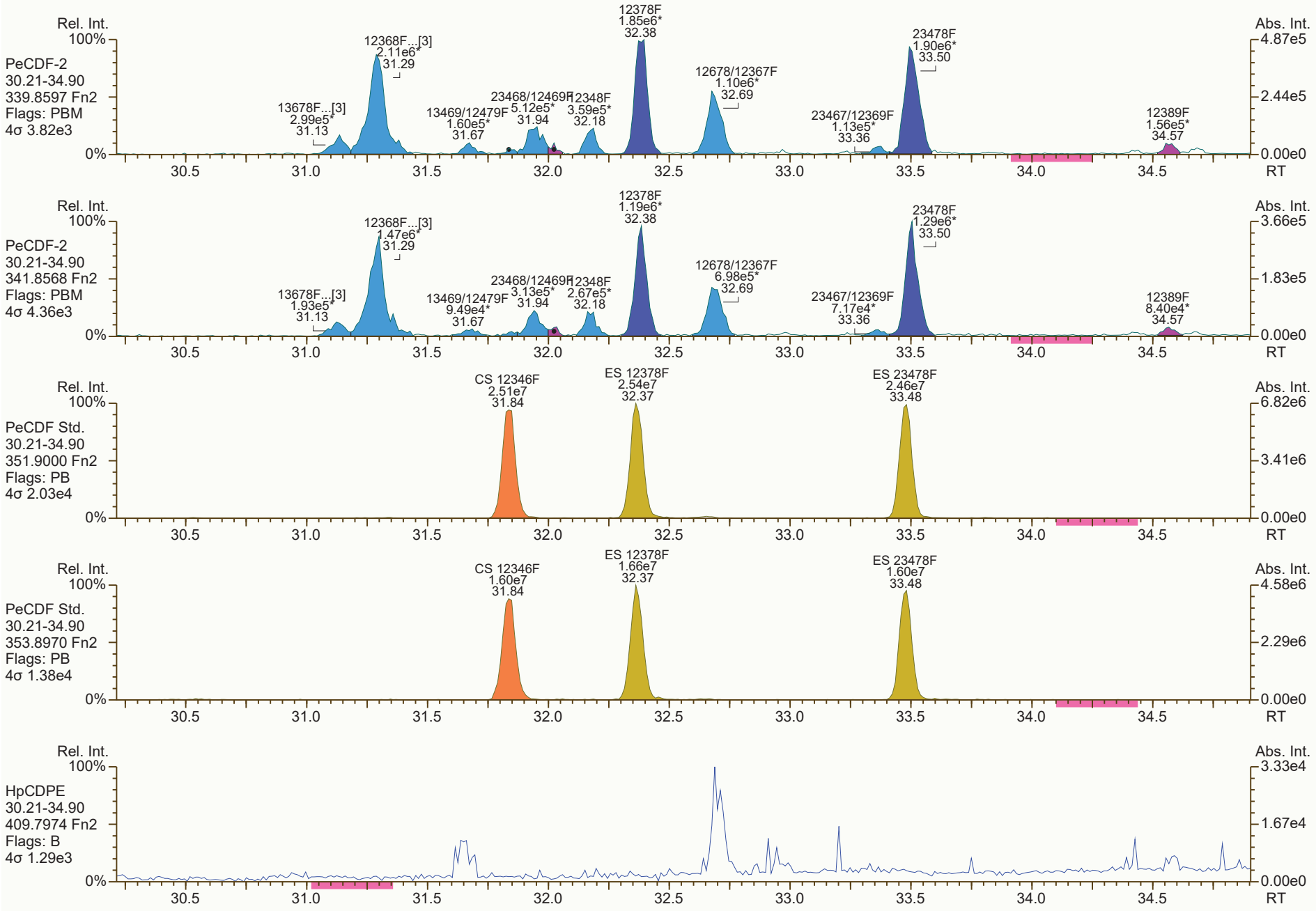
SGS ID: B6235_18875_DF_005 | Sample ID: 11215131-012222-S-BN-NC-B-10 | Acq: 11-Feb-2022 01:33:05

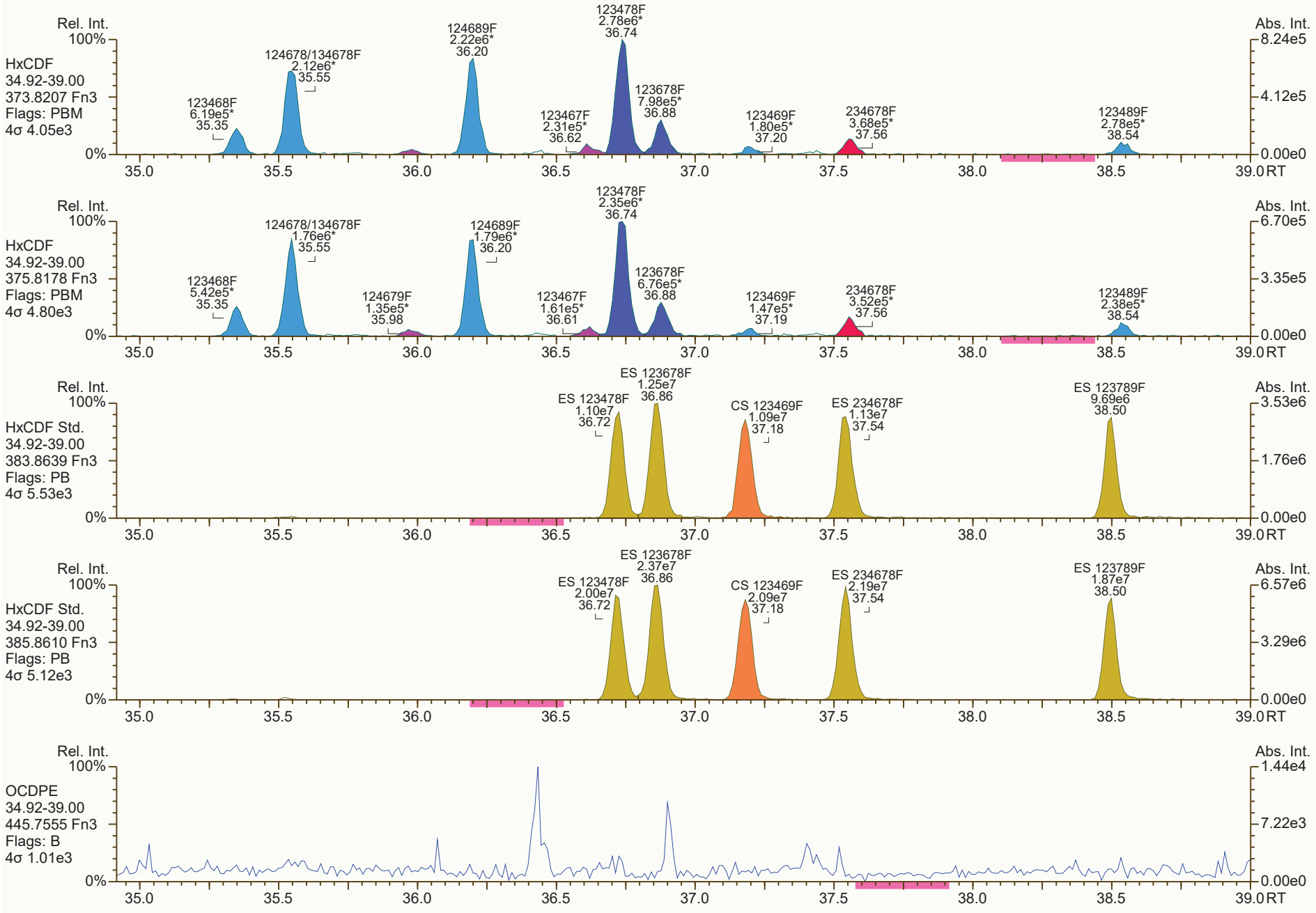
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 49 | User: DTF Datafile: 220210C21

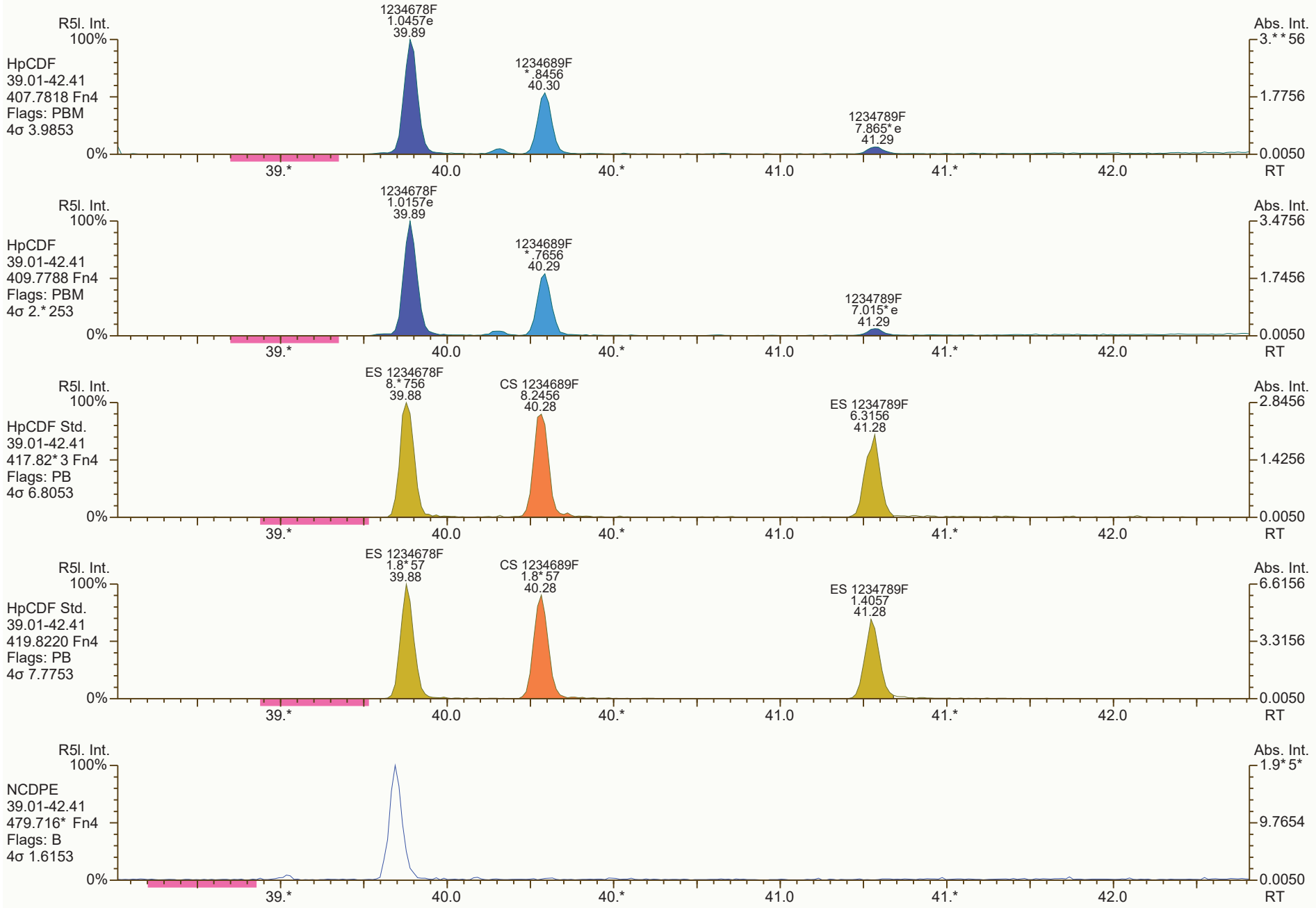


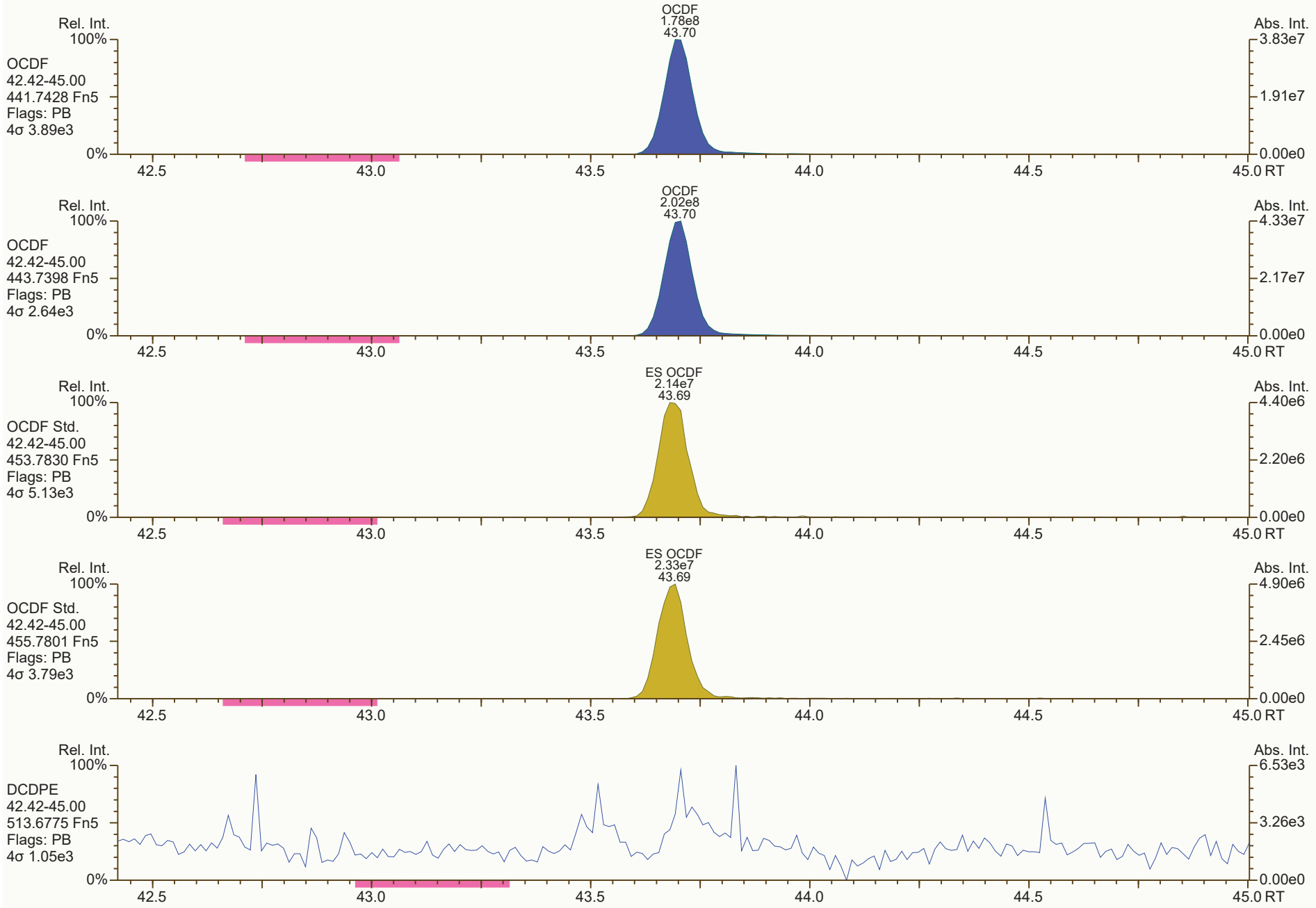
Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_005.utp_res, saved 11-Feb-2022 16:26 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7875 scc: 399-303 | *PKD: 11-Feb-2022 11:33 Printed: 11-Feb-2022 16:36 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 3.82e3
0%
12368F...[3] 2.11e6* 31.29
13678F...[3] 2.99e5* 31.13
13469/12479F 1.60e5* 31.67
23468/12469F 5.12e5* 31.94
12348F 3.59e5* 32.18
12378F 1.85e6* 32.38
12678/12367F 1.10e6* 32.69
23467/12369F 1.13e5* 33.36
23478F 1.90e6* 33.50
12389F 1.56e5* 34.57
Abs. Int.
4.87e5
2.44e5
0.00e0
RT
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 4.36e3
0%
12368F...[3] 1.47e6* 31.29
13678F...[3] 1.93e5* 31.13
13469/12479F 9.49e4* 31.67
23468/12469F 3.13e5* 31.94
12348F 2.67e5* 32.18
12378F 1.19e6* 32.38
12678/12367F 6.98e5* 32.69
23467/12369F 7.17e4* 33.36
23478F 1.29e6* 33.50
12389F 8.40e4* 34.57
Abs. Int.
3.66e5
1.83e5
0.00e0
RT
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 2.03e4
0%
CS 12346F 2.51e7 31.84
ES 12378F 2.54e7 32.37
ES 23478F 2.46e7 33.48
Abs. Int.
6.82e6
3.41e6
0.00e0
RT
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 1.38e4
0%
CS 12346F 1.60e7 31.84
ES 12378F 1.66e7 32.37
ES 23478F 1.60e7 33.48
Abs. Int.
4.58e6
2.29e6
0.00e0
RT
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.29e3
0%
Abs. Int.
3.33e4
1.67e4
0.00e0
RT
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 4.05e3
123468F 6.19e5* 35.35
124678/134678F 2.12e6* 35.55
124689F 2.22e6* 36.20
123467F 2.31e5* 36.62
123478F 2.78e6* 36.74
123678F 7.98e5* 36.88
123469F 1.80e5* 37.20
234678F 3.68e5* 37.56
123489F 2.78e5* 38.54
Abs. Int.
8.24e5
4.12e5
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 4.80e3
123468F 5.42e5* 35.35
124678/134678F 1.76e6* 35.55
124679F 1.35e5* 35.98
124689F 1.79e6* 36.20
123467F 1.61e5* 36.61
123478F 2.35e6* 36.74
123678F 6.76e5* 36.88
123469F 1.47e5* 37.19
234678F 3.52e5* 37.56
123489F 2.38e5* 38.54
Abs. Int.
6.70e5
3.35e5
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 5.53e3
ES 123478F 1.10e7 36.72
ES 123678F 1.25e7 36.86
CS 123469F 1.09e7 37.18
ES 234678F 1.13e7 37.54
ES 123789F 9.69e6 38.50
Abs. Int.
3.53e6
1.76e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 5.12e3
ES 123478F 2.00e7 36.72
ES 123678F 2.37e7 36.86
CS 123469F 2.09e7 37.18
ES 234678F 2.19e7 37.54
ES 123789F 1.87e7 38.50
Abs. Int.
6.57e6
3.29e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.01e3
Abs. Int.
1.44e4
7.22e3
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT


R5I. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 3.9853
1234678F
1.0457e
39.89
1234689F
*.8456
40.30
1234789F
7.865*e
41.29
Abs. Int.
3.**56
1.7756
0.0050
0%
39.*
40.0
40.*
41.0
41.*
42.0
RT
R5I. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 2.*253
1234678F
1.0157e
39.89
1234689F
*.7656
40.29
1234789F
7.015*e
41.29
Abs. Int.
3.4756
1.7456
0.0050
0%
39.*
40.0
40.*
41.0
41.*
42.0
RT
R5I. Int.
100%
HpCDF Std.
39.01-42.41
417.82*3 Fn4
Flags: PB
4σ 6.8053
ES 1234678F
8.*756
39.88
CS 1234689F
8.2456
40.28
ES 1234789F
6.3156
41.28
Abs. Int.
2.8456
1.4256
0.0050
0%
39.*
40.0
40.*
41.0
41.*
42.0
RT
R5I. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 7.7753
ES 1234678F
1.8*57
39.88
CS 1234689F
1.8*57
40.28
ES 1234789F
1.4057
41.28
Abs. Int.
6.6156
3.3156
0.0050
0%
39.*
40.0
40.*
41.0
41.*
42.0
RT
R5I. Int.
100%
NCDPE
39.01-42.41
479.716* Fn4
Flags: B
4σ 1.6153
Abs. Int.
1.9*5*
9.7654
0.0050
0%
39.*
40.0
40.*
41.0
41.*
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 3.89e3
0%
OCDF
1.78e8
43.70
Abs. Int.
3.83e7
1.91e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 2.64e3
0%
OCDF
2.02e8
43.70
Abs. Int.
4.33e7
2.17e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 5.13e3
0%
ES OCDF
2.14e7
43.69
Abs. Int.
4.40e6
2.20e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 3.79e3
0%
ES OCDF
2.33e7
43.69
Abs. Int.
4.90e6
2.45e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.05e3
0%
Abs. Int.
6.53e3
3.26e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6235_18875_DF_005MS | **Acq'd:** 11 Feb 2022 02:19 DTF | **Wt/Vol:** 10.02 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-B-10-MS | **UTP:** 11-Feb-2022 16:26:40 DTF | **J-level:** 0.499 pg/g | **Split:** 1 | **Checkcode:** 125-447-BXS

Datafile: 220210C22 | **Report:** 11 Feb 2022 16:29 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.50		1.0008	1.0008	0	5.84E+07	0.80	Y	1.18	255	3900.783	0.178
12378-PeCDD	33.83		1.0005	1.0005	0	1.84E+07	1.53	Y	1.04	101	7643.493	0.366
123478-HxCDD	37.75		1.0004	1.0004	0	1.88E+07	1.25	Y	1.09	110	12716.607	0.632
123678-HxCDD	37.87		1.0035	1.0036	+0.2	2.11E+07	1.25	Y	1.15	115	12716.607	0.638
123789-HxCDD	38.16		1.0113	1.0113	0	2.00E+07	1.27	Y	1.05	107	12716.607	0.582
1234678-HpCDD	40.84		1.0003	1.0003	0	4.62E+07	1.04	Y	1.06	287	20635.171	1.04
OCDD	43.52		1.0002	1.0003	+0.3	4.06E+08	0.90	Y	1.13	3,150	11537.645	1.07
2378-TCDF	27.64		1.0008	1.0008	0	2.30E+08	0.79	Y	1.08	714	5600.943	0.181
12378-PeCDF	32.39		1.0005	1.0005	0	3.23E+07	1.54	Y	1.02	117	9630.809	0.331
23478-PeCDF	33.50		1.0005	1.0005	0	3.35E+07	1.52	Y	1.02	123	9630.809	0.311
123478-HxCDF	36.74		1.0005	1.0005	0	3.25E+07	1.24	Y	1.27	127	11765.733	0.389
123678-HxCDF	36.88		1.0005	1.0004	-0.2	2.90E+07	1.23	Y	1.15	109	11765.733	0.396
234678-HxCDF	37.56		1.0005	1.0004	-0.2	2.63E+07	1.23	Y	1.19	104	11765.733	0.397
123789-HxCDF	38.52		1.0004	1.0005	+0.2	2.29E+07	1.24	Y	1.16	101	11765.733	0.428
1234678-HpCDF	39.89		1.0003	1.0002	-0.2	5.44E+07	1.02	Y	1.37	225	10011.331	0.297
1234789-HpCDF	41.29		1.0003	1.0003	0	2.13E+07	1.07	Y	1.31	112	10011.331	0.439
OCDF	43.71		1.0003	1.0003	0	6.87E+08	0.89	Y	1.07	4,150	8648.866	0.597

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.47	1.0238	1.0238	0	3.85E+07	0.80	Y	1.05	89.4
ES 12378-PeCDD	33.81	1.2160	1.2158	-0.4	3.52E+07	1.55	Y	0.88	97.1
ES 123478-HxCDD	37.73	0.9919	0.9918	-0.2	3.13E+07	1.24	Y	0.97	87.6
ES 123678-HxCDD	37.85	0.9950	0.9949	-0.2	3.19E+07	1.23	Y	0.94	92
ES 123789-HxCDD	38.14	1.0027	1.0026	-0.2	3.54E+07	1.26	Y	1.09	88.4
ES 1234678-HpCDD	40.82	1.0730	1.0730	0	3.03E+07	1.08	Y	0.91	90.4
ES OCDD	43.51	1.1437	1.1437	0	4.57E+07	0.92	Y	0.62	99.8
ES 2378-TCDF	27.62	1.0520	1.0519	-0.2	5.97E+07	0.81	Y	1.06	86.4
ES 12378-PeCDF	32.37	1.2330	1.2330	0	5.36E+07	1.62	Y	0.91	90.3
ES 23478-PeCDF	33.48	1.2754	1.2754	0	5.32E+07	1.54	Y	0.88	92.5
ES 123478-HxCDF	36.72	0.9653	0.9653	0	4.04E+07	0.53	Y	1.20	91.8
ES 123678-HxCDF	36.87	0.9691	0.9691	0	4.62E+07	0.54	Y	1.35	93
ES 234678-HxCDF	37.55	0.9870	0.9869	-0.2	4.24E+07	0.52	Y	1.24	93
ES 123789-HxCDF	38.50	1.0121	1.0120	-0.2	3.89E+07	0.52	Y	1.16	91.9
ES 1234678-HpCDF	39.88	1.0484	1.0484	0	3.53E+07	0.46	Y	0.97	99.4
ES 1234789-HpCDF	41.28	1.0851	1.0851	0	2.89E+07	0.46	Y	0.85	92.5
ES OCDF	43.70	1.1483	1.1486	+0.8	6.16E+07	0.89	Y	0.81	104

Lab ID: B6235_18875_DF_005MS | **Acq'd:** 11 Feb 2022 02:19 DTF | **Wt/Vol:** 10.02 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-B-10-MS | **UTP:** 11-Feb-2022 16:26:40 DTF | **J-level:** 0.499 pg/g | **Split:** 1 | **Checkcode:** 125-447-BXS

Datafile: 220210C22 | **Report:** 11 Feb 2022 16:29 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.81		-	-	-	4.12E+07	0.80	Y	-	-
JS 1234-TCDF	26.25		-	-	-	6.52E+07	0.81	Y	-	-
JS 123467-HxCDD	38.04		-	-	-	1.83E+07	1.25	Y	-	-
CS 37Cl-2378-TCDD	28.50		1.0245	1.0246	+0.2	1.80E+07	n/a	-	1.20	90.6
CS 12347-PeCDD	33.31		1.1979	1.1978	-0.2	3.13E+07	1.60	Y	0.75	101
CS 12346-PeCDF	31.84		1.2128	1.2128	0	5.10E+07	1.56	Y	0.85	92
CS 123469-HxCDF	37.18		0.9774	0.9773	-0.2	4.05E+07	0.53	Y	1.12	98.8
CS 1234689-HpCDF	40.29		1.0589	1.0590	+0.2	3.37E+07	0.45	Y	0.89	104
SS 37Cl-2378-TCDD	28.50		1.0245	1.0246	+0.2	1.80E+07	n/a	-	1.15	102
SS 12347-PeCDD	33.31		1.1979	1.1978	-0.2	3.13E+07	1.60	Y	0.86	104
SS 12346-PeCDF	31.84		1.2128	1.2128	0	5.10E+07	1.56	Y	0.94	102
SS 123469-HxCDF	37.18		0.9774	0.9773	-0.2	4.05E+07	0.53	Y	0.83	106
SS 1234689-HpCDF	40.29		1.0589	1.0590	+0.2	3.37E+07	0.45	Y	0.92	104

Totals	Conc	EMPC
Total TCDD	390	391
Total PeCDD	183	185
Total HxCDD	492	492
Total HpCDD	580	580
Total Tetra-Octa Dioxins	4790	4800
Total TCDF	1,430	1440
Total PeCDF	500	501
Total HxCDF	755	755
Total HpCDF	433	433
Total Tetra-Octa Furans	7,280	7280
Total Tetra-Octa Dioxins & Furans	12100	12100

Lab ID: B6235_18875_DF_005MS | **Acq'd: 11 Feb 2022 02:19 DTF** | **Wt/Vol: 10.02 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012222-S-BN-NC-B-10-MS | **UTP: 11-Feb-2022 16:26:40 DTF** | **J-level: 0.499 pg/g** | **Split: 1** | **Checkcode: 125-447-BXS**

Datafile: 220210C22 | **Report: 11 Feb 2022 16:29 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.85		0.8737	0.8728	-1.3	7.97E+06	0.78	Y	1.18	34.9	3900.783	0.178
1379-TCDD	NotFnd		0.8860						1.18		3900.783	0.178
1369-TCDD	25.63		0.9009	0.9003	-0.9	1.97E+05	0.87	Y	1.18	0.864	3900.783	0.178
1469-TCDD	26.41		0.9281	0.9277	-0.6	3.18E+06	0.78	Y	1.18	13.9	3900.783	0.178
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3900.783	0.178
1378-TCDD	26.85	EMPC	0.9432	0.9429	-0.5	3.02E+05	0.95	N	1.18	1.32	3900.783	0.178
1268-TCDD	NotFnd		0.9500						1.18		3900.783	0.178
1478-TCDD	27.29		0.9586	0.9585	-0.2	2.03E+05	0.77	Y	1.18	0.888	3900.783	0.178
1279-TCDD	27.46		0.9645	0.9644	-0.2	1.68E+05	0.73	Y	1.18	0.733	3900.783	0.178
1234/1269-TCDD	27.80		0.9770	0.9765	-0.8	4.91E+05	0.81	Y	1.18	2.15	3900.783	0.178
1236-TCDD	27.95	J EMPC	0.9817	0.9815	-0.3	4.77E+04	0.90	N	1.18	0.208	3900.783	0.178
1237/1238-TCDD	28.20		0.9905	0.9903	-0.3	8.79E+05	0.77	Y	1.18	3.84	3900.783	0.178
1239-TCDD	28.34		0.9952	0.9952	0	5.10E+06	0.81	Y	1.18	22.3	3900.783	0.178
2378-TCDD	**28.50**		**1.0008**	1.0008	**0**	5.84E+07	0.80	Y	**1.18**	**255**	**3900.783**	**0.178**
1278-TCDD	28.82		1.0121	1.0121	0	5.08E+06	0.79	Y	1.18	22.2	3900.783	0.178
1267-TCDD	NotFnd		1.0167						1.18		3900.783	0.178
1289-TCDD	29.46		1.0345	1.0348	+0.5	7.42E+06	0.77	Y	1.18	32.5	3900.783	0.178
12479/12468-PeCDD	31.33		0.9267	0.9266	-0.2	5.64E+06	1.52	Y	1.04	30.9	7643.493	0.366
12469-PeCDD	31.87		0.9425	0.9424	-0.2	2.41E+06	1.50	Y	1.04	13.2	7643.493	0.366
12368-PeCDD	32.42		0.9588	0.9587	-0.2	5.17E+05	1.52	Y	1.04	2.83	7643.493	0.366
12478-PeCDD	32.60	J	0.9643	0.9642	-0.2	3.18E+05	1.46	Y	1.04	1.74	7643.493	0.366
12379-PeCDD	32.71	J EMPC	0.9673	0.9673	0	2.27E+05	1.81	N	1.04	1.24	7643.493	0.366
12369/12467/12489-PeCDD	32.97		0.9750	0.9751	+0.2	9.06E+05	1.52	Y	1.04	4.96	7643.493	0.366
12346/12347-PeCDD	33.33	J EMPC	0.9858	0.9858	0	1.05E+05	2.19	N	1.04	0.576	7643.493	0.366
12378-PeCDD	33.83		**1.0005**	**1.0005**	**0**	**1.84E+07**	**1.53**	**Y**	**1.04**	**101**	**7643.493**	**0.366**
12367-PeCDD	33.93	J	1.0033	1.0036	+0.6	2.34E+05	1.68	Y	1.04	1.28	7643.493	0.366
12389-PeCDD	34.27		1.0134	1.0136	+0.4	4.98E+06	1.50	Y	1.04	27.3	7643.493	0.366
124679/124689-HxCDD	36.00		0.9542	0.9541	-0.2	2.08E+07	1.28	Y	1.10	116	12716.607	0.616
123468-HxCDD	36.65		0.9715	0.9714	-0.2	1.01E+06	1.28	Y	1.10	5.62	12716.607	0.616
123679/123689-HxCDD	36.95		0.9793	0.9793	0	5.91E+06	1.22	Y	1.10	32.8	12716.607	0.616
123469-HxCDD	37.08	J	0.9828	0.9827	-0.2	4.38E+05	1.25	Y	1.10	2.43	12716.607	0.616
123478-HxCDD	37.75		**1.0004**	**1.0004**	**0**	**1.88E+07**	**1.25**	**Y**	1.09	**110**	**12716.607**	**0.632**
123678-HxCDD	37.87		**1.0035**	**1.0036**	**+0.2**	**2.11E+07**	**1.25**	**Y**	1.15	**115**	**12716.607**	**0.638**
123467-HxCDD	38.05		1.0085	1.0085	0	5.76E+05	1.10	Y	1.10	3.2	12716.607	0.616
123789-HxCDD	38.16		**1.0113**	**1.0113**	**0**	**2.00E+07**	**1.27**	**Y**	1.05	**107**	**12716.607**	**0.582**

Lab ID: B6235_18875_DF_005MS | **Acq'd: 11 Feb 2022 02:19 DTF** | **Wt/Vol: 10.02 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012222-S-BN-NC-B-10-MS | **UTP: 11-Feb-2022 16:26:40 DTF** | **J-level: 0.499 pg/g** | **Split: 1** | **Checkcode: 125-447-BXS**

Datafile: 220210C22 | **Report: 11 Feb 2022 16:29 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.15		0.9837	0.9836	-0.2	4.71E+07	1.05	Y	1.06	293	20635.171	1.04
1234678-HpCDD	**40.84**		**1.0003**	**1.0003**	**0**	**4.62E+07**	**1.04**	**Y**	**1.06**	**287**	**20635.171**	**1.04**
OCDD	**43.52**		**1.0002**	**1.0003**	**+0.3**	**4.06E+08**	**0.90**	**Y**	**1.13**	**3,150**	**11537.645**	**1.07**
OCDD-a	43.52		1.0001	1.0002	+0.3	2.48E+07	2.50	Y	0.07	3,010	9068.76	13.1
1368-TCDF	22.75		0.8251	0.8237	-1.9	1.02E+07	0.79	Y	1.08	31.7	5600.943	0.181
1468-TCDF	23.32		0.8458	0.8445	-1.8	1.14E+06	0.77	Y	1.08	3.54	5600.943	0.181
2468-TCDF	23.96		0.8686	0.8677	-1.3	4.58E+06	0.78	Y	1.08	14.2	5600.943	0.181
1346/1246-TCDF	NotFnd		0.8814						1.08		5600.943	0.181
1347/1378/1247-TCDF	24.47		0.8867	0.8861	-0.9	3.80E+06	0.77	Y	1.08	11.8	5600.943	0.181
1348-TCDF	NotFnd		0.8962						1.08		5600.943	0.181
1248/1367/1379-TCDF	24.82		0.9009	0.8987	-3.3	1.27E+07	0.80	Y	1.08	39.3	5600.943	0.181
1268-TCDF	25.24		0.9145	0.9140	-0.8	4.85E+06	0.79	Y	1.08	15.1	5600.943	0.181
1467-TCDF	25.38	EMPC	0.9193	0.9189	-0.6	7.81E+05	0.92	N	1.08	2.42	5600.943	0.181
1478-TCDF	25.54		0.9254	0.9249	-0.8	1.05E+07	0.79	Y	1.08	32.4	5600.943	0.181
1369/1237-TCDF	25.92		0.9387	0.9386	-0.2	2.83E+06	0.80	Y	1.08	8.79	5600.943	0.181
2467-TCDF	26.03	EMPC	0.9433	0.9426	-1.1	5.19E+05	0.62	N	1.08	1.61	5600.943	0.181
2368-TCDF	26.20		0.9489	0.9486	-0.5	8.38E+06	0.77	Y	1.08	26	5600.943	0.181
1238/1234/1678/1469/1236-TCDF	26.28		0.9523	0.9515	-1.3	9.32E+06	0.81	Y	1.08	28.9	5600.943	0.181
1278-TCDF	26.74		0.9683	0.9682	-0.2	8.54E+07	0.79	Y	1.08	265	5600.943	0.181
1349-TCDF	NotFnd		0.9722						1.08		5600.943	0.181
1267-TCDF	27.01		0.9783	0.9781	-0.3	5.33E+06	0.79	Y	1.08	16.5	5600.943	0.181
2346/1249-TCDF	27.21		0.9850	0.9854	+0.7	7.44E+05	0.70	Y	1.08	2.31	5600.943	0.181
2347/1279-TCDF	27.41		0.9926	0.9927	+0.2	2.79E+06	0.81	Y	1.08	8.66	5600.943	0.181
2348-TCDF	27.52		0.9967	0.9967	0	2.25E+07	0.76	Y	1.08	69.7	5600.943	0.181
2378-TCDF	**27.64**		**1.0008**	**1.0008**	**0**	**2.30E+08**	**0.79**	**Y**	**1.08**	**714**	**5600.943**	**0.181**
2367/3467-TCDF	27.99		1.0137	1.0135	-0.3	1.92E+07	0.78	Y	1.08	59.4	5600.943	0.181
1269-TCDF	28.24		1.0223	1.0227	+0.7	3.39E+06	0.77	Y	1.08	10.5	5600.943	0.181
1239-TCDF	NotFnd		1.0321						1.08		5600.943	0.181
1289-TCDF	29.64		1.0722	1.0733	+2.0	2.46E+07	0.78	Y	1.08	76.2	5600.943	0.181
13468/12468-PeCDF	29.56		0.9139	0.9132	-1.2	5.22E+07	1.56	Y	1.02	191	3959.467	0.132
13678/13467/12467-PeCDF	31.13		0.9613	0.9616	+0.6	7.11E+05	1.38	Y	1.02	2.6	9630.809	0.321
12368/13478/12478-PeCDF	31.28		0.9662	0.9665	+0.6	6.14E+06	1.52	Y	1.02	22.4	9630.809	0.321
14678-PeCDF	NotFnd		0.9692						1.02		9630.809	0.321
13479-PeCDF	NotFnd		0.9723						1.02		9630.809	0.321
13469/12479-PeCDF	31.68	J EMPC	0.9797	0.9788	-1.7	2.61E+05	1.30	N	1.02	0.955	9630.809	0.321
12346-PeCDF	31.85	J	0.9840	0.9841	+0.2	1.79E+05	1.36	Y	1.02	0.653	9630.809	0.321

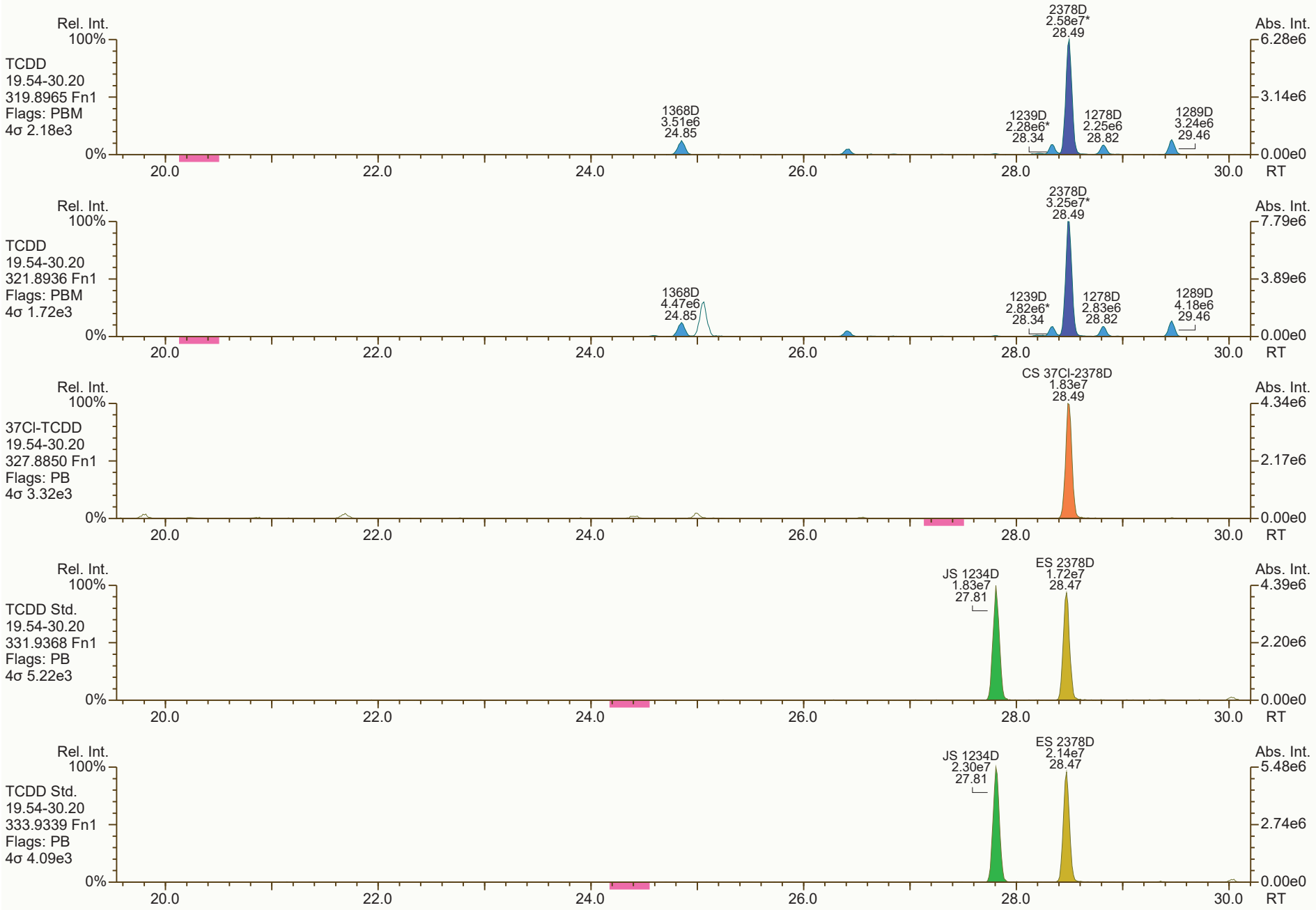
Lab ID: B6235_18875_DF_005MS **Acq'd: 11 Feb 2022 02:19 DTF** **Wt/Vol: 10.02 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

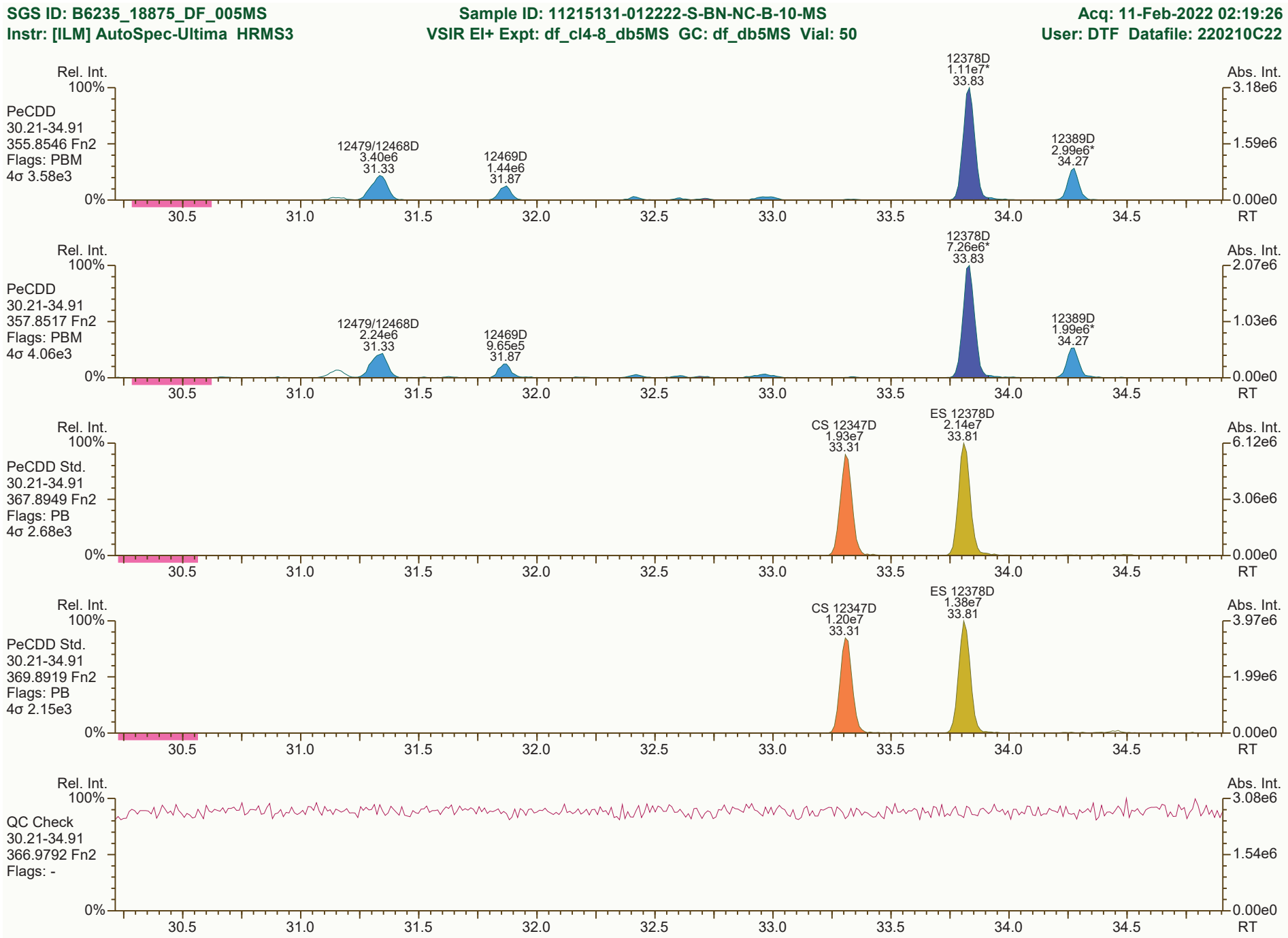
Client ID: 11215131-012222-S-BN-NC-B-10-MS **UTP: 11-Feb-2022 16:26:40 DTF** **J-level: 0.499 pg/g** **Split: 1** **Checkcode: 125-447-BXS**

Datafile: 220210C22 **Report: 11 Feb 2022 16:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

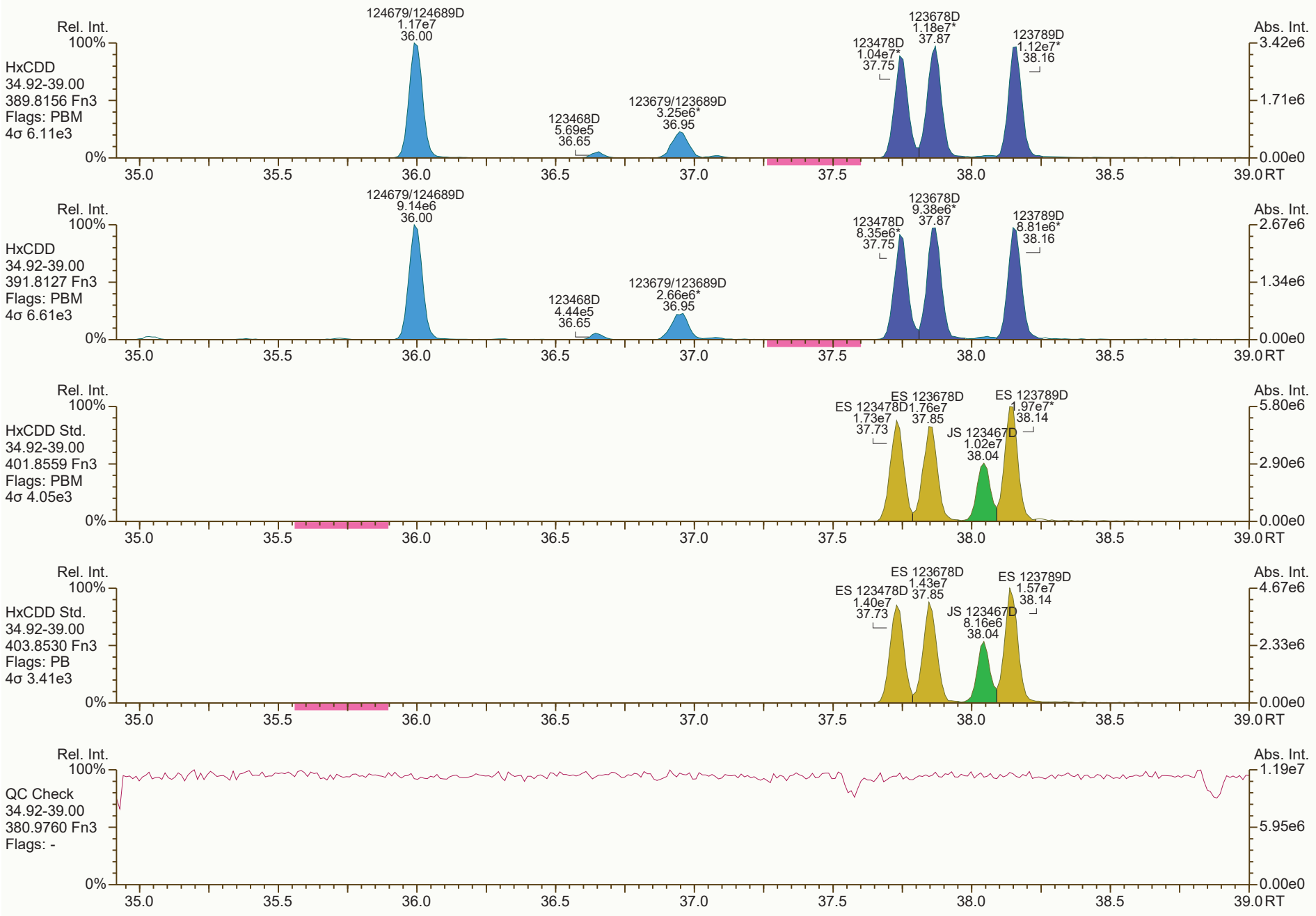
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.96		0.9868	0.9872	+0.8	1.49E+06	1.50	Y	1.02	5.45	9630.809	0.321
12347-PeCDF	NotFnd		0.9894						1.02		9630.809	0.321
12348-PeCDF	32.18		0.9940	0.9941	+0.2	9.74E+05	1.43	Y	1.02	3.56	9630.809	0.321
12378-PeCDF	**32.39**		**1.0005**	**1.0005**	**0**	**3.23E+07**	**1.54**	**Y**	**1.02**	**117**	**9630.809**	**0.331**
12678/12367-PeCDF	32.68		1.0089	1.0097	+1.6	2.59E+06	1.61	Y	1.02	9.48	9630.809	0.321
12379-PeCDF	NotFnd		1.0142						1.02		9630.809	0.321
12679-PeCDF	NotFnd		0.9929						1.02		9630.809	0.321
23467/12369-PeCDF	33.36	J	0.9967	0.9964	-0.6	2.85E+05	1.70	Y	1.02	1.04	9630.809	0.321
23478-PeCDF	**33.50**		**1.0005**	**1.0005**	**0**	**3.35E+07**	**1.52**	**Y**	**1.02**	**123**	**9630.809**	**0.311**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		9630.809	0.321
12349-PeCDF	NotFnd		1.0100						1.02		9630.809	0.321
12389-PeCDF	34.57		1.0324	1.0325	+0.2	6.54E+06	1.51	Y	1.02	23.9	9630.809	0.321
123468-HxCDF	35.35		0.9627	0.9626	-0.2	6.48E+07	1.24	Y	1.19	258	11765.733	0.401
124678/134678-HxCDF	35.55		0.9682	0.9680	-0.4	6.50E+06	1.23	Y	1.19	25.9	11765.733	0.401
134679-HxCDF	NotFnd		0.9744						1.19		11765.733	0.401
124679-HxCDF	35.97	J	0.9798	0.9796	-0.4	4.45E+05	1.40	Y	1.19	1.77	11765.733	0.401
124689-HxCDF	36.20		0.9858	0.9858	0	5.99E+06	1.26	Y	1.19	23.9	11765.733	0.401
123467-HxCDF	36.61	J	0.9972	0.9970	-0.4	5.39E+05	1.42	Y	1.19	2.15	11765.733	0.401
123478-HxCDF	**36.74**		**1.0005**	**1.0005**	**0**	**3.25E+07**	**1.24**	**Y**	**1.27**	**127**	**11765.733**	**0.389**
123678-HxCDF	**36.88**		**1.0005**	**1.0004**	**-0.2**	**2.90E+07**	**1.23**	**Y**	**1.15**	**109**	**11765.733**	**0.396**
123479-HxCDF	NotFnd		1.0049						1.19		11765.733	0.401
123469-HxCDF	37.19	J	1.0090	1.0088	-0.4	6.22E+05	1.12	Y	1.19	2.48	11765.733	0.401
123679-HxCDF	NotFnd		0.9942						1.19		11765.733	0.401
234678-HxCDF	**37.56**		**1.0005**	**1.0004**	**-0.2**	**2.63E+07**	**1.23**	**Y**	**1.19**	**104**	**11765.733**	**0.397**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		11765.733	0.401
123789-HxCDF	**38.52**		**1.0004**	**1.0005**	**+0.2**	**2.29E+07**	**1.24**	**Y**	**1.16**	**101**	**11765.733**	**0.428**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		11765.733	0.401
1234678-HpCDF	**39.89**		**1.0003**	**1.0002**	**-0.2**	**5.44E+07**	**1.02**	**Y**	**1.37**	**225**	**10011.331**	**0.297**
1234679-HpCDF	40.15		1.0068	1.0068	0	1.87E+06	1.01	Y	1.34	8.68	10011.331	0.36
1234689-HpCDF	40.30		1.0103	1.0104	+0.2	1.87E+07	1.03	Y	1.34	87.1	10011.331	0.36
1234789-HpCDF	**41.29**		**1.0003**	**1.0003**	**0**	**2.13E+07**	**1.07**	**Y**	**1.31**	**112**	**10011.331**	**0.439**
OCDF	**43.71**		**1.0003**	**1.0003**	**0**	**6.87E+08**	**0.89**	**Y**	**1.07**	**4,150**	**8648.866**	**0.597**
OCDF-a	43.71		1.0002	1.0002	0	4.27E+07	2.51	Y	0.07	4,170	3535.99	3.94

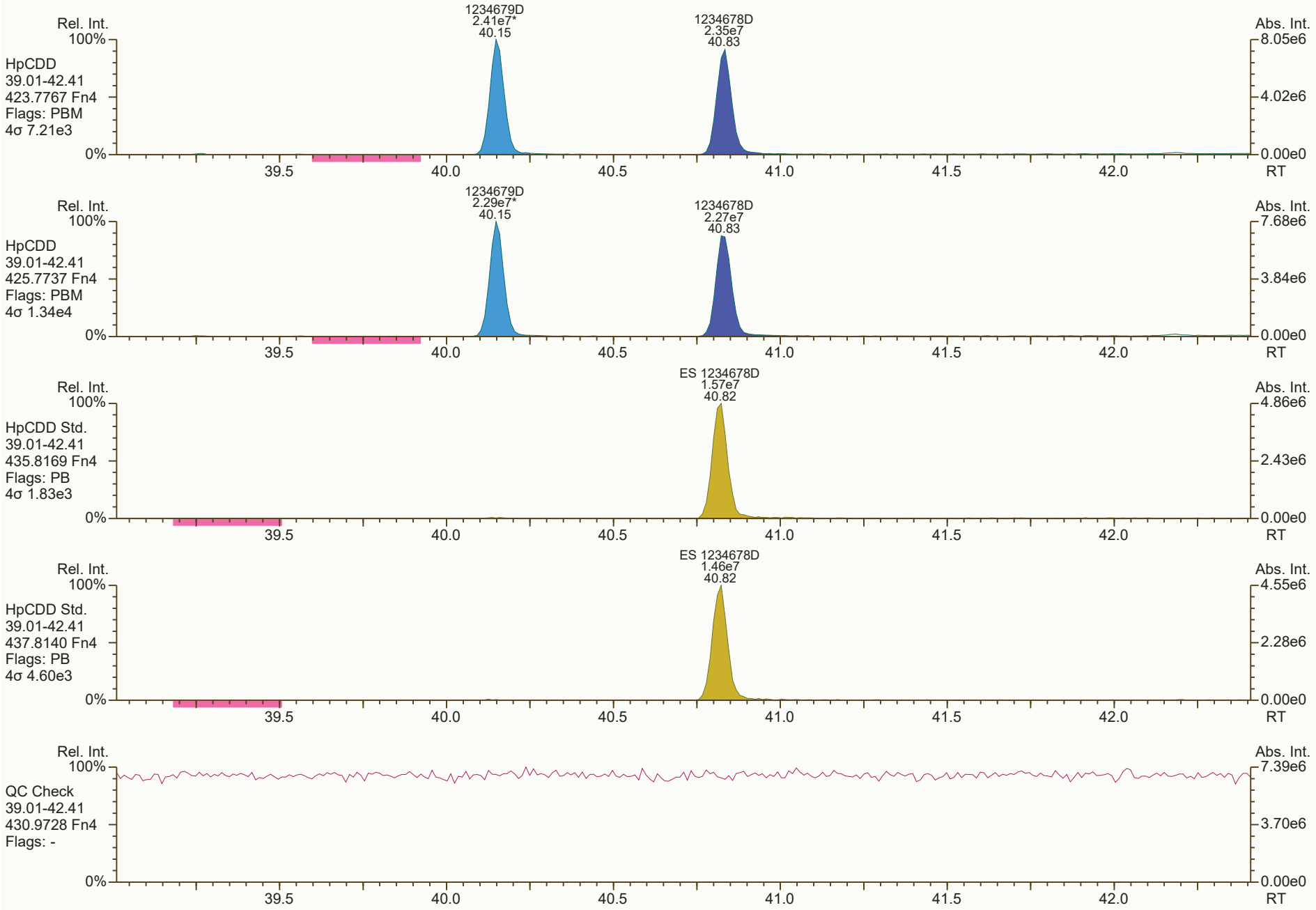

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.84e6
1.92e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.08e6
1.54e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.19e7
5.95e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.39e6
3.70e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.95e6
2.98e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT

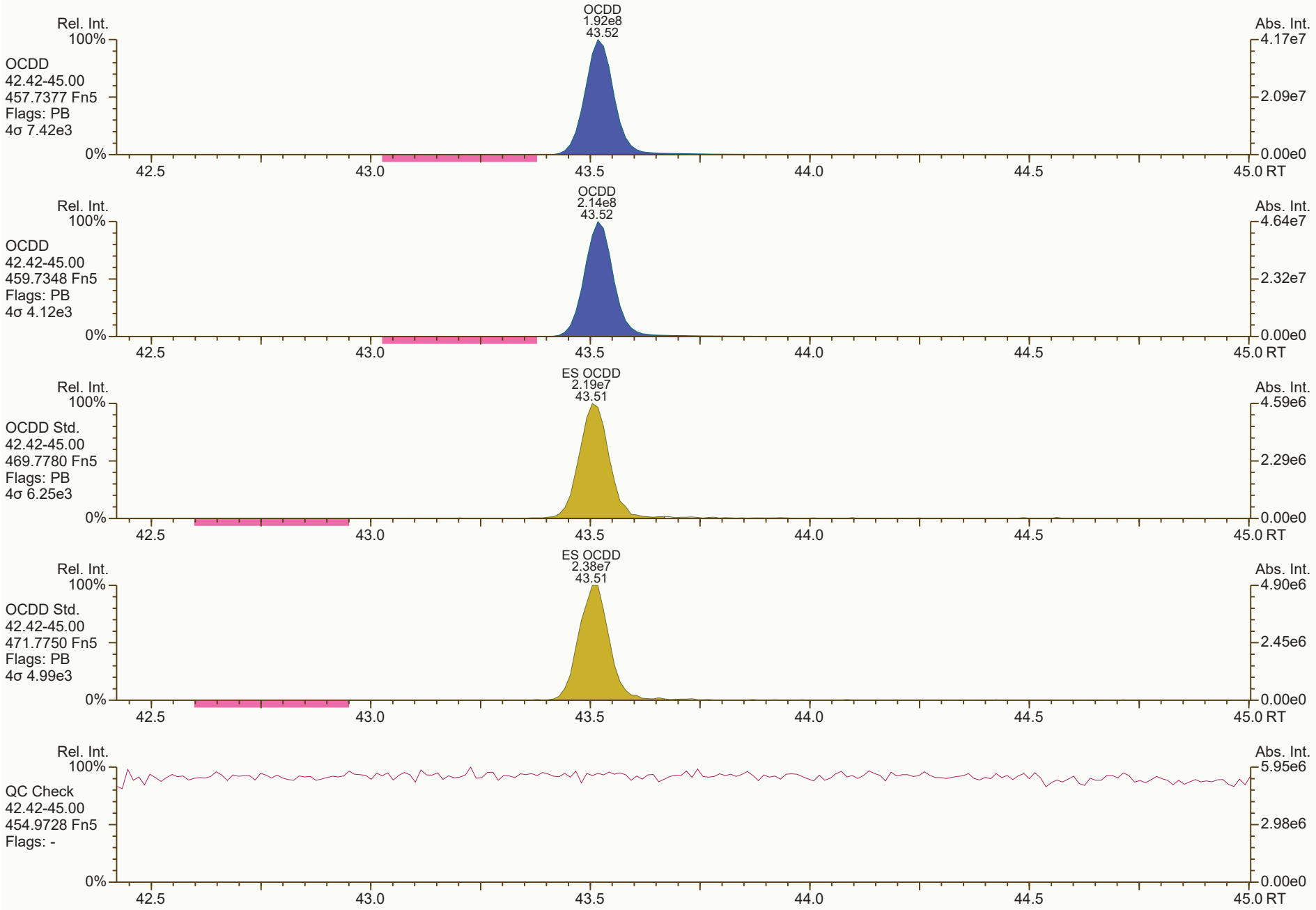

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.18e3
0%
2378D
2.58e7*
28.49
1368D
3.51e6
24.85
1239D
2.28e6*
28.34
1278D
2.25e6
28.82
1289D
3.24e6
29.46
Abs. Int.
6.28e6
3.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.72e3
0%
2378D
3.25e7*
28.49
1368D
4.47e6
24.85
1239D
2.82e6*
28.34
1278D
2.83e6
28.82
1289D
4.18e6
29.46
Abs. Int.
7.79e6
3.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 3.32e3
0%
CS 37Cl-2378D
1.83e7
28.49
Abs. Int.
4.34e6
2.17e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.22e3
0%
JS 1234D
1.83e7
27.81
ES 2378D
1.72e7
28.47
Abs. Int.
4.39e6
2.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.09e3
0%
JS 1234D
2.30e7
27.81
ES 2378D
2.14e7
28.47
Abs. Int.
5.48e6
2.74e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

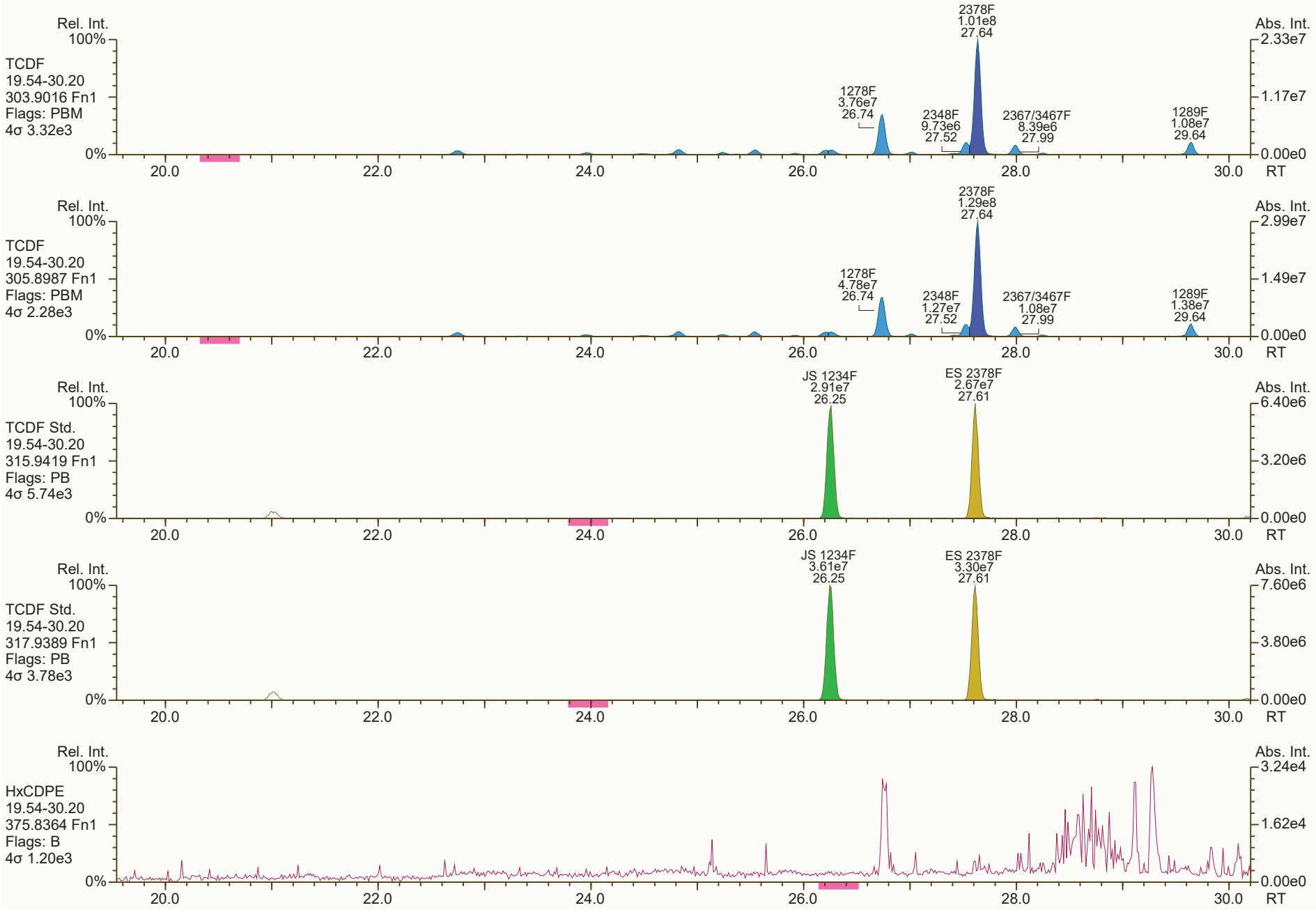


Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_005MS.utp_res, saved 11-Feb-2022 16:26 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8616, 8067 scc: 125-447
Revised: 11-Feb-2022 11:42 (DTF) Printed: 11-Feb-2022 16:36 Page 3 of 12


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 6.11e3
0%
124679/124689D
1.17e7
36.00
123468D
5.69e5
36.65
123679/123689D
3.25e6*
36.95
123478D
1.04e7*
37.75
123678D
1.18e7*
37.87
123789D
1.12e7*
38.16
Abs. Int.
3.42e6
1.71e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 6.61e3
0%
124679/124689D
9.14e6
36.00
123468D
4.44e5
36.65
123679/123689D
2.66e6*
36.95
123478D
8.35e6*
37.75
123678D
9.38e6*
37.87
123789D
8.81e6*
38.16
Abs. Int.
2.67e6
1.34e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 4.05e3
0%
ES 123478D
1.73e7
37.73
ES 123678D
1.76e7
37.85
JS 123467D
1.02e7
38.04
ES 123789D
1.97e7*
38.14
Abs. Int.
5.80e6
2.90e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 3.41e3
0%
ES 123478D
1.40e7
37.73
ES 123678D
1.43e7
37.85
JS 123467D
8.16e6
38.04
ES 123789D
1.57e7
38.14
Abs. Int.
4.67e6
2.33e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.19e7
5.95e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 7.21e3
1234679D
2.41e7*
40.15
1234678D
2.35e7
40.83
Abs. Int.
8.05e6
4.02e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 1.34e4
1234679D
2.29e7*
40.15
1234678D
2.27e7
40.83
Abs. Int.
7.68e6
3.84e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.83e3
ES 1234678D
1.57e7
40.82
Abs. Int.
4.86e6
2.43e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 4.60e3
ES 1234678D
1.46e7
40.82
Abs. Int.
4.55e6
2.28e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
7.39e6
3.70e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

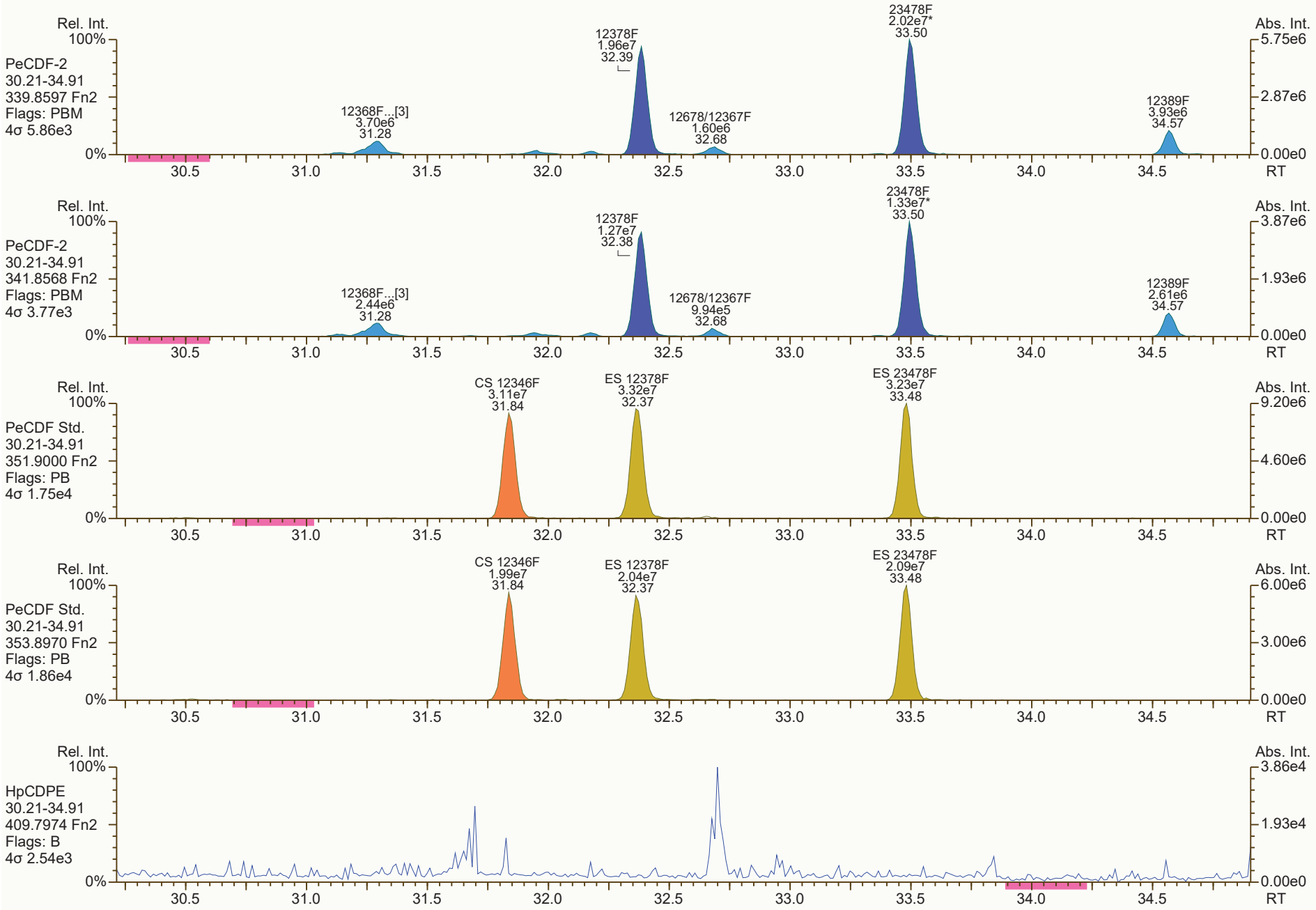

Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 7.42e3
0%
OCDD
1.92e8
43.52
Abs. Int.
4.17e7
2.09e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 4.12e3
0%
OCDD
2.14e8
43.52
Abs. Int.
4.64e7
2.32e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 6.25e3
0%
ES OCDD
2.19e7
43.51
Abs. Int.
4.59e6
2.29e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 4.99e3
0%
ES OCDD
2.38e7
43.51
Abs. Int.
4.90e6
2.45e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.95e6
2.98e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

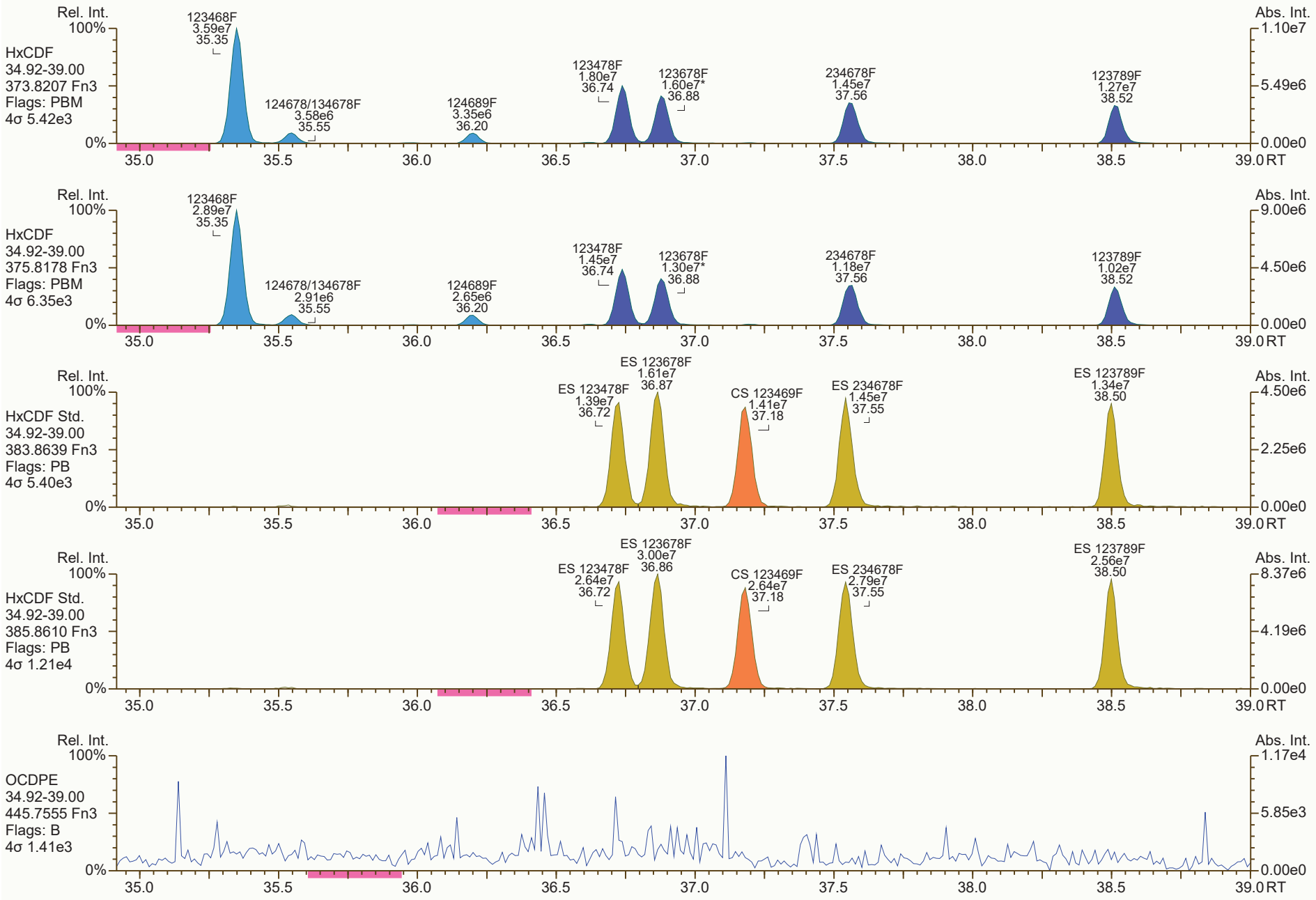

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 3.32e3
0%
2378F
1.01e8
27.64
1278F
3.76e7
26.74
2348F
9.73e6
27.52
2367/3467F
8.39e6
27.99
1289F
1.08e7
29.64
Abs. Int.
2.33e7
1.17e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.28e3
0%
2378F
1.29e8
27.64
1278F
4.78e7
26.74
2348F
1.27e7
27.52
2367/3467F
1.08e7
27.99
1289F
1.38e7
29.64
Abs. Int.
2.99e7
1.49e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 5.74e3
0%
JS 1234F
2.91e7
26.25
ES 2378F
2.67e7
27.61
Abs. Int.
6.40e6
3.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.78e3
0%
JS 1234F
3.61e7
26.25
ES 2378F
3.30e7
27.61
Abs. Int.
7.60e6
3.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.20e3
0%
Abs. Int.
3.24e4
1.62e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

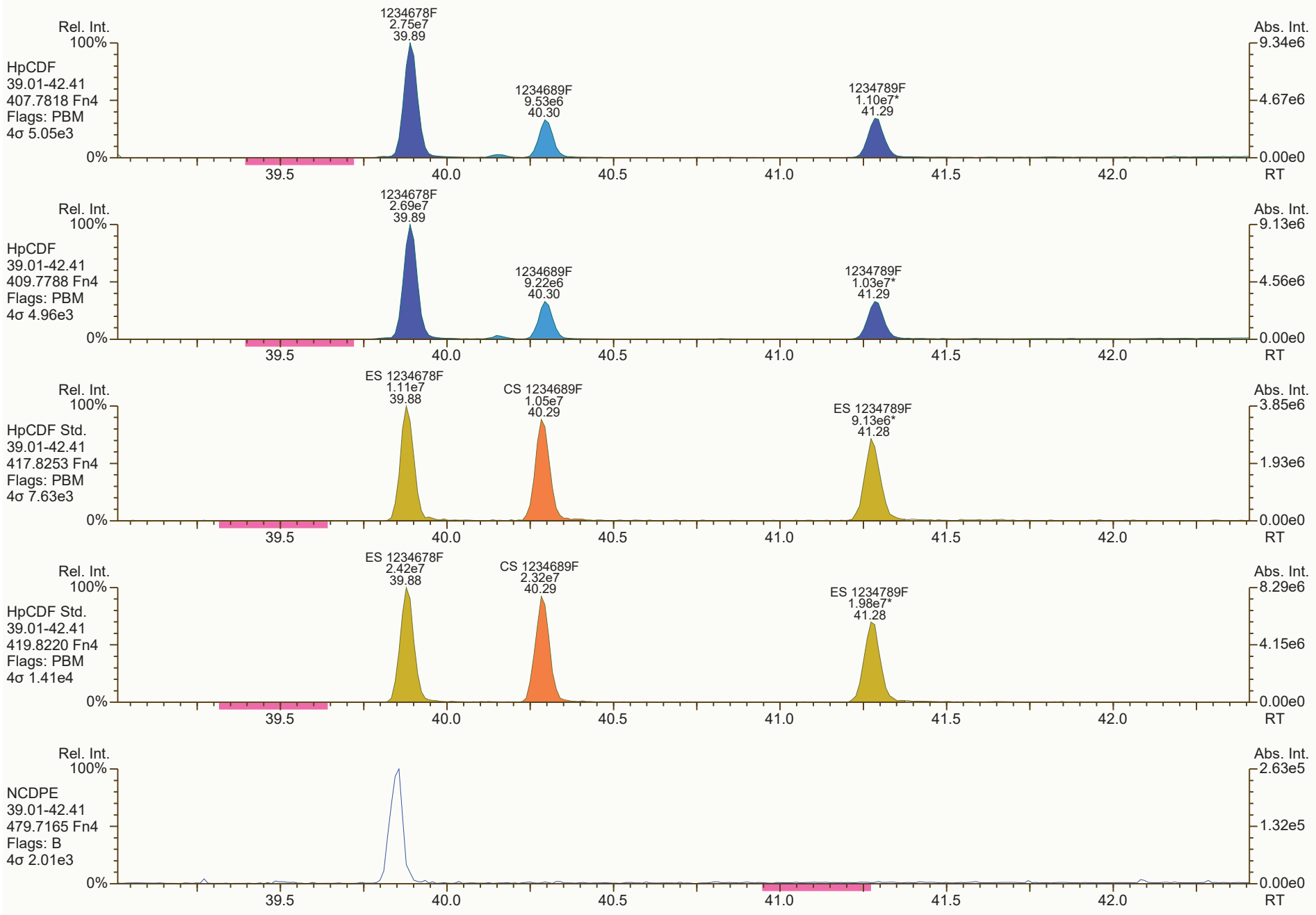
SGS ID: B6235_18875_DF_005MS
Sample ID: 11215131-012222-S-BN-NC-B-10-MS
Acq: 11-Feb-2022 02:19:26
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 50
User: DTF Datafile: 220210C22

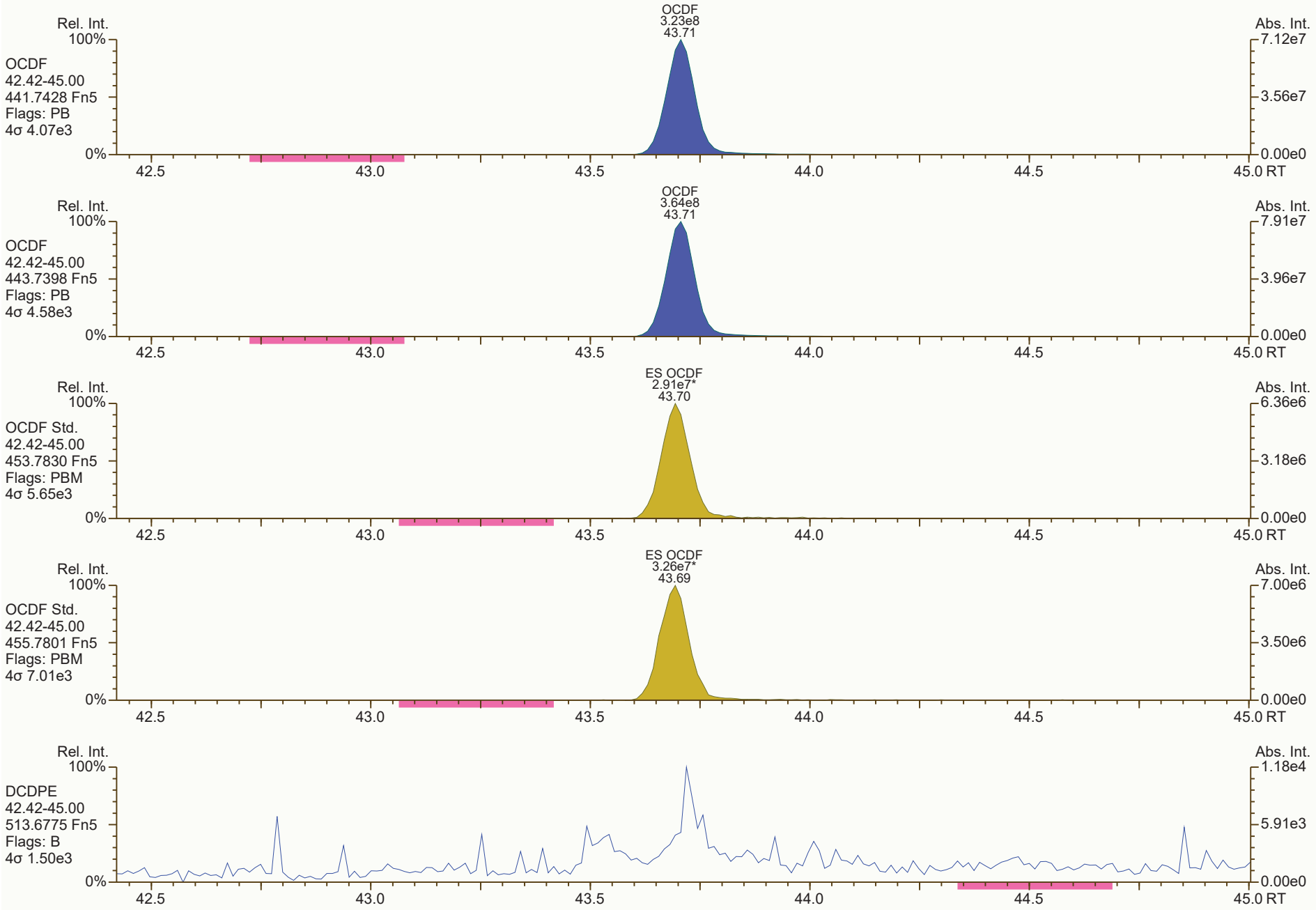


Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_005MS.utp_res, saved 11-Feb-2022 16:26 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8490 scc: 125-447
PKD: 11-Feb-2022 11:40 Printed: 11-Feb-2022 16:36 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PBM
4σ 5.86e3
12368F...[3]
3.70e6
31.28
12378F
1.96e7
32.39
12678/12367F
1.60e6
32.68
23478F
2.02e7*
33.50
12389F
3.93e6
34.57
Abs. Int.
5.75e6
2.87e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PBM
4σ 3.77e3
12368F...[3]
2.44e6
31.28
12378F
1.27e7
32.38
12678/12367F
9.94e5
32.68
23478F
1.33e7*
33.50
12389F
2.61e6
34.57
Abs. Int.
3.87e6
1.93e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 1.75e4
CS 12346F
3.11e7
31.84
ES 12378F
3.32e7
32.37
ES 23478F
3.23e7
33.48
Abs. Int.
9.20e6
4.60e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 1.86e4
CS 12346F
1.99e7
31.84
ES 12378F
2.04e7
32.37
ES 23478F
2.09e7
33.48
Abs. Int.
6.00e6
3.00e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 2.54e3
Abs. Int.
3.86e4
1.93e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 5.42e3
123468F
3.59e7
35.35
124678/134678F
3.58e6
35.55
124689F
3.35e6
36.20
123478F
1.80e7
36.74
123678F
1.60e7*
36.88
234678F
1.45e7
37.56
123789F
1.27e7
38.52
Abs. Int.
1.10e7
5.49e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 6.35e3
123468F
2.89e7
35.35
124678/134678F
2.91e6
35.55
124689F
2.65e6
36.20
123478F
1.45e7
36.74
123678F
1.30e7*
36.88
234678F
1.18e7
37.56
123789F
1.02e7
38.52
Abs. Int.
9.00e6
4.50e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 5.40e3
ES 123678F
1.61e7
36.87
ES 123478F
1.39e7
36.72
CS 123469F
1.41e7
37.18
ES 234678F
1.45e7
37.55
ES 123789F
1.34e7
38.50
Abs. Int.
4.50e6
2.25e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 1.21e4
ES 123678F
3.00e7
36.86
ES 123478F
2.64e7
36.72
CS 123469F
2.64e7
37.18
ES 234678F
2.79e7
37.55
ES 123789F
2.56e7
38.50
Abs. Int.
8.37e6
4.19e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.41e3
Abs. Int.
1.17e4
5.85e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 5.05e3
1234678F
2.75e7
39.89
1234689F
9.53e6
40.30
1234789F
1.10e7*
41.29
Abs. Int.
9.34e6
4.67e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 4.96e3
1234678F
2.69e7
39.89
1234689F
9.22e6
40.30
1234789F
1.03e7*
41.29
Abs. Int.
9.13e6
4.56e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 7.63e3
ES 1234678F
1.11e7
39.88
CS 1234689F
1.05e7
40.29
ES 1234789F
9.13e6*
41.28
Abs. Int.
3.85e6
1.93e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 1.41e4
ES 1234678F
2.42e7
39.88
CS 1234689F
2.32e7
40.29
ES 1234789F
1.98e7*
41.28
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 2.01e3
Abs. Int.
2.63e5
1.32e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 4.07e3
0%
OCDF
3.23e8
43.71
Abs. Int.
7.12e7
3.56e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 4.58e3
0%
OCDF
3.64e8
43.71
Abs. Int.
7.91e7
3.96e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 5.65e3
0%
ES OCDF
2.91e7*
43.70
Abs. Int.
6.36e6
3.18e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 7.01e3
0%
ES OCDF
3.26e7*
43.69
Abs. Int.
7.00e6
3.50e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.50e3
0%
Abs. Int.
1.18e4
5.91e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6235_18875_DF_005MSD | **Acq'd:** 11 Feb 2022 03:05 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-B-10-MSD | **UTP:** 11-Feb-2022 16:26:41 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 192-121-LXX

Datafile: 220210C23 | **Report:** 11 Feb 2022 16:29 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.48		1.0008	1.0008	0	5.13E+07	0.80	Y	1.18	265	3944.449	0.21
12378-PeCDD	33.82		1.0005	1.0006	+0.2	1.58E+07	1.53	Y	1.04	103	4452.661	0.259
123478-HxCDD	37.74		1.0004	1.0004	0	1.55E+07	1.25	Y	1.09	111	12684.814	0.79
123678-HxCDD	37.86		1.0035	1.0036	+0.2	1.81E+07	1.23	Y	1.15	117	12684.814	0.704
123789-HxCDD	38.15		1.0113	1.0113	0	1.66E+07	1.25	Y	1.05	106	12684.814	0.708
1234678-HpCDD	40.83		1.0003	1.0003	0	3.71E+07	1.04	Y	1.06	280	13960.287	0.87
OCDD	43.53		1.0002	1.0003	+0.3	3.20E+08	0.90	Y	1.13	3,130	10938.26	1.22
2378-TCDF	27.62		1.0008	1.0008	0	1.98E+08	0.79	Y	1.08	730	3853.412	0.158
12378-PeCDF	32.38		1.0005	1.0005	0	2.78E+07	1.52	Y	1.02	120	9151.487	0.352
23478-PeCDF	33.49		1.0005	1.0005	0	2.82E+07	1.51	Y	1.02	127	9151.487	0.378
123478-HxCDF	36.73		1.0005	1.0004	-0.2	2.93E+07	1.23	Y	1.27	137	16218.728	0.621
123678-HxCDF	36.87		1.0005	1.0005	0	2.51E+07	1.22	Y	1.15	110	16218.728	0.608
234678-HxCDF	37.56		1.0005	1.0005	0	2.33E+07	1.24	Y	1.19	107	16218.728	0.648
123789-HxCDF	38.51		1.0004	1.0005	+0.2	1.91E+07	1.23	Y	1.16	102	16218.728	0.722
1234678-HpCDF	39.89		1.0003	1.0003	0	4.28E+07	1.02	Y	1.37	218	6820.14	0.244
1234789-HpCDF	41.29		1.0003	1.0002	-0.2	1.75E+07	1.05	Y	1.31	112	6820.14	0.357
OCDF	43.71		1.0003	1.0003	0	5.17E+08	0.88	Y	1.07	3,890	9001.981	0.816

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46	1.0238	1.0238	0	3.26E+07	0.87	Y	1.05	93.1
ES 12378-PeCDD	33.80	1.2160	1.2159	-0.2	2.95E+07	1.58	Y	0.88	99.8
ES 123478-HxCDD	37.73	0.9919	0.9918	-0.2	2.56E+07	1.25	Y	0.97	88
ES 123678-HxCDD	37.85	0.9950	0.9950	0	2.70E+07	1.26	Y	0.94	95.6
ES 123789-HxCDD	38.14	1.0027	1.0026	-0.2	2.98E+07	1.30	Y	1.09	91.1
ES 1234678-HpCDD	40.82	1.0730	1.0732	+0.5	2.50E+07	1.04	Y	0.91	91.6
ES OCDD	43.51	1.1437	1.1440	+0.8	3.62E+07	0.89	Y	0.62	96.8
ES 2378-TCDF	27.60	1.0520	1.0520	0	5.02E+07	0.78	Y	1.06	88.4
ES 12378-PeCDF	32.36	1.2330	1.2333	+0.6	4.50E+07	1.55	Y	0.91	92.3
ES 23478-PeCDF	33.47	1.2754	1.2757	+0.6	4.36E+07	1.59	Y	0.88	92.1
ES 123478-HxCDF	36.72	0.9653	0.9653	0	3.36E+07	0.54	Y	1.20	93.5
ES 123678-HxCDF	36.86	0.9691	0.9690	-0.2	3.96E+07	0.54	Y	1.35	97.7
ES 234678-HxCDF	37.54	0.9870	0.9869	-0.2	3.69E+07	0.53	Y	1.24	99
ES 123789-HxCDF	38.49	1.0121	1.0120	-0.2	3.21E+07	0.54	Y	1.16	92.6
ES 1234678-HpCDF	39.88	1.0484	1.0484	0	2.86E+07	0.47	Y	0.97	98.6
ES 1234789-HpCDF	41.28	1.0851	1.0852	+0.2	2.37E+07	0.46	Y	0.85	93
ES OCDF	43.70	1.1483	1.1489	+1.6	4.97E+07	0.89	Y	0.81	103

Lab ID: B6235_18875_DF_005MSD | **Acq'd:** 11 Feb 2022 03:05 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-B-10-MSD | **UTP:** 11-Feb-2022 16:26:41 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 192-121-LXX

Datafile: 220210C23 | **Report:** 11 Feb 2022 16:29 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.80		-	-	-	3.36E+07	0.82	Y	-	-
JS 1234-TCDF	26.24		-	-	-	5.36E+07	0.78	Y	-	-
JS 123467-HxCDD	38.04		-	-	-	1.50E+07	1.24	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0245	1.0246	+0.2	1.52E+07	n/a	-	1.20	94
CS 12347-PeCDD	33.30		1.1979	1.1979	0	2.64E+07	1.55	Y	0.75	105
CS 12346-PeCDF	31.83		1.2128	1.2131	+0.6	4.29E+07	1.58	Y	0.85	94.2
CS 123469-HxCDF	37.17		0.9774	0.9773	-0.2	3.43E+07	0.53	Y	1.12	103
CS 1234689-HpCDF	40.29		1.0589	1.0592	+0.7	2.74E+07	0.45	Y	0.89	103
SS 37Cl-2378-TCDD	28.48		1.0245	1.0246	+0.2	1.52E+07	n/a	-	1.15	101
SS 12347-PeCDD	33.30		1.1979	1.1979	0	2.64E+07	1.55	Y	0.86	105
SS 12346-PeCDF	31.83		1.2128	1.2131	+0.6	4.29E+07	1.58	Y	0.94	102
SS 123469-HxCDF	37.17		0.9774	0.9773	-0.2	3.43E+07	0.53	Y	0.83	105
SS 1234689-HpCDF	40.29		1.0589	1.0592	+0.7	2.74E+07	0.45	Y	0.92	104

Totals	Conc	EMPC
Total TCDD	395	398
Total PeCDD	186	186
Total HxCDD	492	492
Total HpCDD	562	562
Total Tetra-Octa Dioxins	4770	4770
Total TCDF	1,470	1470
Total PeCDF	507	507
Total HxCDF	755	755
Total HpCDF	421	421
Total Tetra-Octa Furans	7,040	7040
Total Tetra-Octa Dioxins & Furans	11800	11800

Lab ID: B6235_18875_DF_005MSD | **Acq'd: 11 Feb 2022 03:05 DTF** | **Wt/Vol: 10.00 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012222-S-BN-NC-B-10-MSD | **UTP: 11-Feb-2022 16:26:41 DTF** | **J-level: 0.5 pg/g** | **Split: 1** | **Checkcode: 192-121-LXX**

Datafile: 220210C23 | **Report: 11 Feb 2022 16:29 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.84		0.8737	0.8726	-1.6	6.72E+06	0.79	Y	1.18	34.8	3944.449	0.21
1379-TCDD	NotFnd		0.8860						1.18		3944.449	0.21
1369-TCDD	25.63		0.9009	0.9004	-0.8	1.24E+05	0.67	Y	1.18	0.643	3944.449	0.21
1469-TCDD	26.40		0.9281	0.9276	-0.8	2.82E+06	0.78	Y	1.18	14.6	3944.449	0.21
1247/1246/1248/1249-TCDD	26.64		0.9362	0.9359	-0.5	2.99E+05	0.81	Y	1.18	1.55	3944.449	0.21
1378-TCDD	26.83		0.9432	0.9428	-0.6	1.71E+05	0.82	Y	1.18	0.885	3944.449	0.21
1268-TCDD	NotFnd		0.9500						1.18		3944.449	0.21
1478-TCDD	27.28		0.9586	0.9585	-0.2	1.32E+05	0.83	Y	1.18	0.683	3944.449	0.21
1279-TCDD	NotFnd		0.9645						1.18		3944.449	0.21
1234/1269-TCDD	27.80		0.9770	0.9767	-0.5	3.19E+05	0.74	Y	1.18	1.65	3944.449	0.21
1236-TCDD	NotFnd		0.9817						1.18		3944.449	0.21
1237/1238-TCDD	28.19	EMPC	0.9905	0.9904	-0.2	6.86E+05	0.92	N	1.18	3.54	3944.449	0.21
1239-TCDD	28.33		0.9952	0.9953	+0.2	4.12E+06	0.79	Y	1.18	21.3	3944.449	0.21
2378-TCDD	**28.48**		**1.0008**	1.0008	**0**	5.13E+07	0.80	Y	**1.18**	**265**	**3944.449**	**0.21**
1278-TCDD	28.81		1.0121	1.0122	+0.2	4.37E+06	0.82	Y	1.18	22.6	3944.449	0.21
1267-TCDD	NotFnd		1.0167						1.18		3944.449	0.21
1289-TCDD	29.45		1.0345	1.0348	+0.5	5.92E+06	0.80	Y	1.18	30.6	3944.449	0.21
12479/12468-PeCDD	31.32		0.9267	0.9266	-0.2	4.59E+06	1.53	Y	1.04	30.1	4452.661	0.259
12469-PeCDD	31.85		0.9425	0.9423	-0.4	2.07E+06	1.44	Y	1.04	13.5	4452.661	0.259
12368-PeCDD	32.41		0.9588	0.9587	-0.2	4.24E+05	1.50	Y	1.04	2.78	4452.661	0.259
12478-PeCDD	32.59	J	0.9643	0.9642	-0.2	3.37E+05	1.43	Y	1.04	2.21	4452.661	0.259
12379-PeCDD	32.70	J	0.9673	0.9672	-0.2	2.00E+05	1.67	Y	1.04	1.31	4452.661	0.259
12369/12467/12489-PeCDD	32.96		0.9750	0.9750	0	7.57E+05	1.43	Y	1.04	4.96	4452.661	0.259
12346/12347-PeCDD	33.32	J	0.9858	0.9858	0	1.03E+05	1.42	Y	1.04	0.676	4452.661	0.259
12378-PeCDD	33.82		**1.0005**	**1.0006**	**+0.2**	**1.58E+07**	**1.53**	**Y**	**1.04**	**103**	**4452.661**	**0.259**
12367-PeCDD	NotFnd		1.0033						1.04		4452.661	0.259
12389-PeCDD	34.26		1.0134	1.0136	+0.4	4.09E+06	1.64	Y	1.04	26.8	4452.661	0.259
124679/124689-HxCDD	35.99		0.9542	0.9540	-0.4	1.73E+07	1.26	Y	1.10	115	12684.814	0.731
123468-HxCDD	36.64		0.9715	0.9713	-0.4	8.26E+05	1.22	Y	1.10	5.49	12684.814	0.731
123679/123689-HxCDD	36.94		0.9793	0.9792	-0.2	4.78E+06	1.23	Y	1.10	31.8	12684.814	0.731
123469-HxCDD	37.07	J	0.9828	0.9825	-0.7	3.62E+05	1.19	Y	1.10	2.4	12684.814	0.731
123478-HxCDD	37.74		**1.0004**	**1.0004**	**0**	**1.55E+07**	**1.25**	**Y**	1.09	**111**	**12684.814**	**0.79**
123678-HxCDD	37.86		**1.0035**	**1.0036**	**+0.2**	**1.81E+07**	**1.23**	**Y**	1.15	**117**	**12684.814**	**0.704**
123467-HxCDD	38.04		1.0085	1.0083	-0.5	4.87E+05	1.16	Y	1.10	3.23	12684.814	0.731
123789-HxCDD	38.15		**1.0113**	**1.0113**	**0**	**1.66E+07**	**1.25**	**Y**	1.05	**106**	**12684.814**	**0.708**

Lab ID: B6235_18875_DF_005MSD | **Acq'd:** 11 Feb 2022 03:05 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-B-10-MSD | **UTP:** 11-Feb-2022 16:26:41 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 192-121-LXX

Datafile: 220210C23 | **Report:** 11 Feb 2022 16:29 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.15		0.9837	0.9836	-0.2	3.75E+07	1.05	Y	1.06	282	13960.287	0.87
1234678-HpCDD	**40.83**		**1.0003**	**1.0003**	**0**	**3.71E+07**	**1.04**	**Y**	**1.06**	**280**	**13960.287**	**0.87**
OCDD	**43.53**		**1.0002**	**1.0003**	**+0.3**	**3.20E+08**	**0.90**	**Y**	**1.13**	**3,130**	**10938.26**	**1.22**
OCDD-a	43.52		1.0001	1.0002	+0.3	2.00E+07	2.44	Y	0.07	3,070	7133.302	12.5
1368-TCDF	22.73		0.8251	0.8235	-2.2	8.51E+06	0.79	Y	1.08	31.5	3853.412	0.158
1468-TCDF	23.31	EMPC	0.8458	0.8445	-1.8	8.38E+05	0.90	N	1.08	3.1	3853.412	0.158
2468-TCDF	23.94		0.8686	0.8674	-1.7	3.59E+06	0.81	Y	1.08	13.3	3853.412	0.158
1346/1246-TCDF	24.34		0.8814	0.8817	+0.4	5.08E+05	0.85	Y	1.08	1.88	3853.412	0.158
1347/1378/1247-TCDF	24.47		0.8867	0.8866	-0.1	2.66E+06	0.85	Y	1.08	9.84	3853.412	0.158
1348-TCDF	NotFnd		0.8962						1.08		3853.412	0.158
1248/1367/1379-TCDF	24.80		0.9009	0.8986	-3.4	1.08E+07	0.80	Y	1.08	39.8	3853.412	0.158
1268-TCDF	25.23		0.9145	0.9139	-0.9	4.06E+06	0.78	Y	1.08	15	3853.412	0.158
1467-TCDF	25.36		0.9193	0.9187	-0.9	6.29E+05	0.71	Y	1.08	2.32	3853.412	0.158
1478-TCDF	25.53		0.9254	0.9249	-0.8	9.01E+06	0.79	Y	1.08	33.3	3853.412	0.158
1369/1237-TCDF	25.91		0.9387	0.9385	-0.3	2.31E+06	0.85	Y	1.08	8.53	3853.412	0.158
2467-TCDF	26.02		0.9433	0.9426	-1.1	4.77E+05	0.86	Y	1.08	1.76	3853.412	0.158
2368-TCDF	26.19		0.9489	0.9486	-0.5	6.97E+06	0.78	Y	1.08	25.8	3853.412	0.158
1238/1234/1678/1469/1236-TCDF	26.26		0.9523	0.9513	-1.6	8.06E+06	0.80	Y	1.08	29.8	3853.412	0.158
1278-TCDF	26.73		0.9683	0.9682	-0.2	7.69E+07	0.80	Y	1.08	284	3853.412	0.158
1349-TCDF	NotFnd		0.9722						1.08		3853.412	0.158
1267-TCDF	27.00		0.9783	0.9781	-0.3	4.69E+06	0.81	Y	1.08	17.3	3853.412	0.158
2346/1249-TCDF	27.19	EMPC	0.9850	0.9850	0	5.65E+05	0.89	N	1.08	2.09	3853.412	0.158
2347/1279-TCDF	27.40		0.9926	0.9927	+0.2	2.36E+06	0.78	Y	1.08	8.72	3853.412	0.158
2348-TCDF	27.51		0.9967	0.9967	0	1.89E+07	0.77	Y	1.08	69.7	3853.412	0.158
2378-TCDF	**27.62**		**1.0008**	**1.0008**	**0**	**1.98E+08**	**0.79**	**Y**	**1.08**	**730**	**3853.412**	**0.158**
2367/3467-TCDF	27.98		1.0137	1.0136	-0.2	1.60E+07	0.80	Y	1.08	59.2	3853.412	0.158
1269-TCDF	28.23		1.0223	1.0227	+0.7	2.95E+06	0.76	Y	1.08	10.9	3853.412	0.158
1239-TCDF	NotFnd		1.0321						1.08		3853.412	0.158
1289-TCDF	29.63		1.0722	1.0734	+2.1	2.07E+07	0.80	Y	1.08	76.6	3853.412	0.158
13468/12468-PeCDF	29.55		0.9139	0.9131	-1.4	4.26E+07	1.57	Y	1.02	188	3555.018	0.142
13678/13467/12467-PeCDF	31.11	J	0.9613	0.9615	+0.4	4.88E+05	1.41	Y	1.02	2.16	9151.487	0.365
12368/13478/12478-PeCDF	31.27		0.9662	0.9665	+0.6	5.18E+06	1.49	Y	1.02	22.9	9151.487	0.365
14678-PeCDF	NotFnd		0.9692						1.02		9151.487	0.365
13479-PeCDF	NotFnd		0.9723						1.02		9151.487	0.365
13469/12479-PeCDF	31.66	J	0.9797	0.9785	-2.3	2.36E+05	1.65	Y	1.02	1.04	9151.487	0.365
12346-PeCDF	31.83	J	0.9840	0.9837	-0.6	1.12E+05	1.71	Y	1.02	0.496	9151.487	0.365

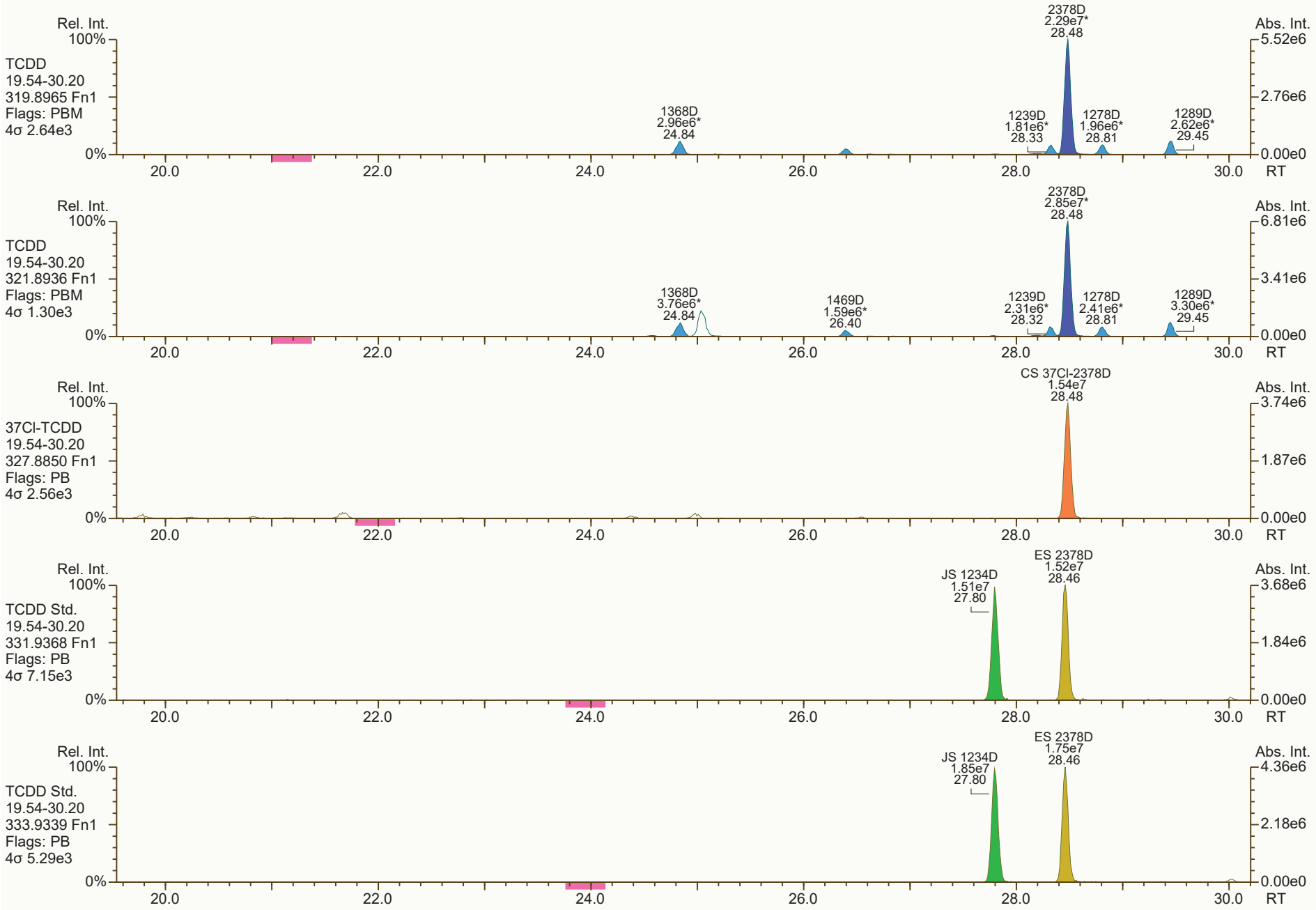
Lab ID: B6235_18875_DF_005MSD | **Acq'd:** 11 Feb 2022 03:05 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

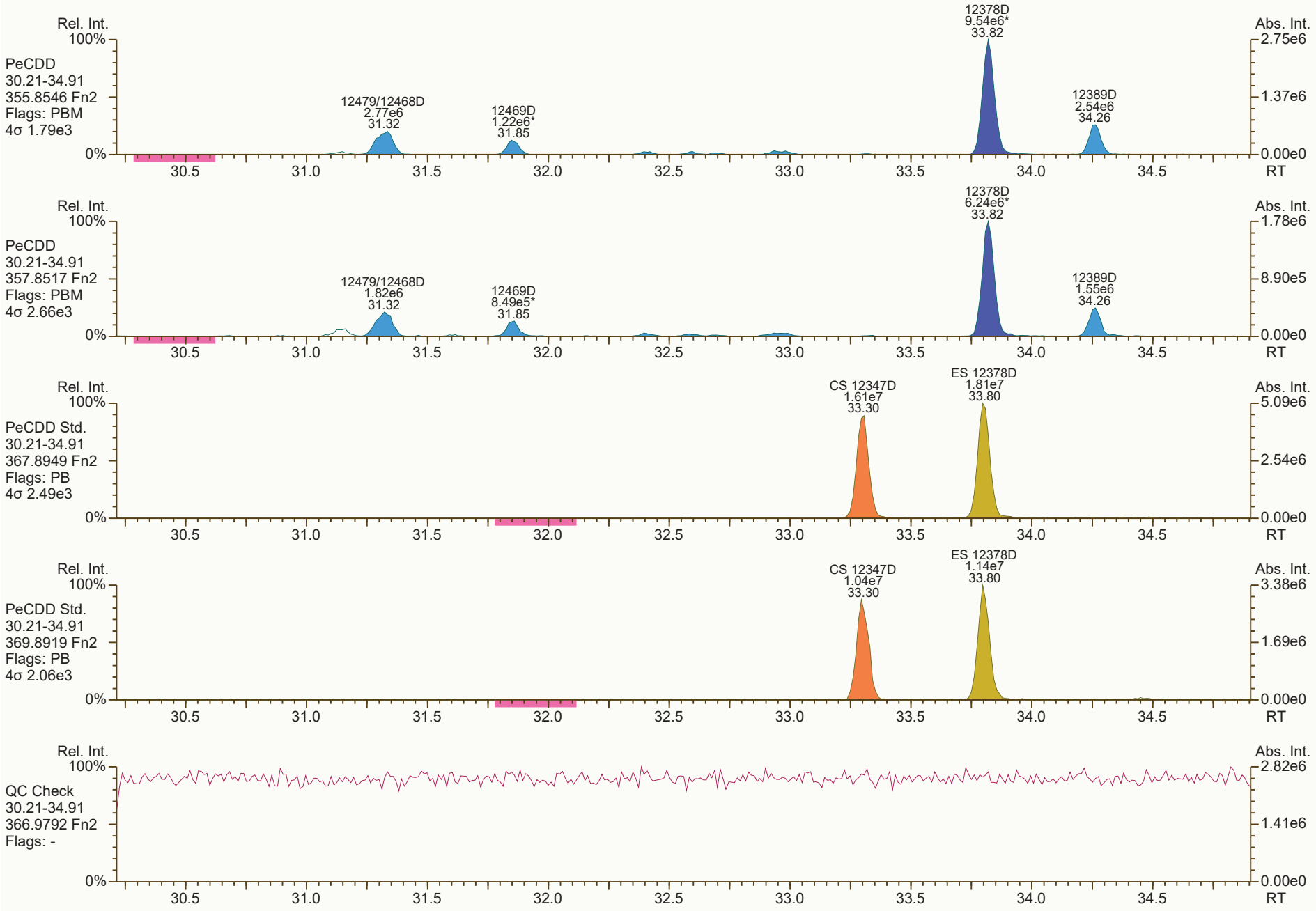
Client ID: 11215131-012222-S-BN-NC-B-10-MSD | **UTP:** 11-Feb-2022 16:26:41 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 192-121-LXX

Datafile: 220210C23 | **Report:** 11 Feb 2022 16:29 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.93		0.9868	0.9867	-0.2	9.56E+05	1.49	Y	1.02	4.22	9151.487	0.365
12347-PeCDF	32.01	J	0.9894	0.9891	-0.6	2.91E+05	1.52	Y	1.02	1.28	9151.487	0.365
12348-PeCDF	32.16		0.9940	0.9940	0	7.81E+05	1.64	Y	1.02	3.45	9151.487	0.365
12378-PeCDF	**32.38**		**1.0005**	**1.0005**	**0**	**2.78E+07**	**1.52**	**Y**	**1.02**	**120**	**9151.487**	**0.352**
12678/12367-PeCDF	32.67		1.0089	1.0097	+1.6	2.68E+06	1.52	Y	1.02	11.8	9151.487	0.365
12379-PeCDF	NotFnd		1.0142						1.02		9151.487	0.365
12679-PeCDF	NotFnd		0.9929						1.02		9151.487	0.365
23467/12369-PeCDF	33.36	J	0.9967	0.9966	-0.2	2.62E+05	1.48	Y	1.02	1.16	9151.487	0.365
23478-PeCDF	**33.49**		**1.0005**	**1.0005**	**0**	**2.82E+07**	**1.51**	**Y**	**1.02**	**127**	**9151.487**	**0.378**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		9151.487	0.365
12349-PeCDF	NotFnd		1.0100						1.02		9151.487	0.365
12389-PeCDF	34.56		1.0324	1.0326	+0.4	5.34E+06	1.53	Y	1.02	23.6	9151.487	0.365
123468-HxCDF	35.34		0.9627	0.9626	-0.2	5.26E+07	1.24	Y	1.19	248	16218.728	0.646
124678/134678-HxCDF	35.54		0.9682	0.9679	-0.6	5.02E+06	1.27	Y	1.19	23.7	16218.728	0.646
134679-HxCDF	NotFnd		0.9744						1.19		16218.728	0.646
124679-HxCDF	35.97	J	0.9798	0.9797	-0.2	3.71E+05	1.27	Y	1.19	1.75	16218.728	0.646
124689-HxCDF	36.19		0.9858	0.9858	0	4.73E+06	1.23	Y	1.19	22.3	16218.728	0.646
123467-HxCDF	36.61	J	0.9972	0.9971	-0.2	5.26E+05	1.27	Y	1.19	2.48	16218.728	0.646
123478-HxCDF	**36.73**		**1.0005**	**1.0004**	**-0.2**	**2.93E+07**	**1.23**	**Y**	**1.27**	**137**	**16218.728**	**0.621**
123678-HxCDF	**36.87**		**1.0005**	**1.0005**	**0**	**2.51E+07**	**1.22**	**Y**	**1.15**	**110**	**16218.728**	**0.608**
123479-HxCDF	NotFnd		1.0049						1.19		16218.728	0.646
123469-HxCDF	NotFnd		1.0090						1.19		16218.728	0.646
123679-HxCDF	NotFnd		0.9942						1.19		16218.728	0.646
234678-HxCDF	**37.56**		**1.0005**	**1.0005**	**0**	**2.33E+07**	**1.24**	**Y**	**1.19**	**107**	**16218.728**	**0.648**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		16218.728	0.646
123789-HxCDF	**38.51**		**1.0004**	**1.0005**	**+0.2**	**1.91E+07**	**1.23**	**Y**	**1.16**	**102**	**16218.728**	**0.722**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		16218.728	0.646
1234678-HpCDF	**39.89**		**1.0003**	**1.0003**	**0**	**4.28E+07**	**1.02**	**Y**	**1.37**	**218**	**6820.14**	**0.244**
1234679-HpCDF	40.15		1.0068	1.0068	0	1.50E+06	1.02	Y	1.34	8.57	6820.14	0.294
1234689-HpCDF	40.29		1.0103	1.0105	+0.5	1.44E+07	1.03	Y	1.34	81.9	6820.14	0.294
1234789-HpCDF	**41.29**		**1.0003**	**1.0002**	**-0.2**	**1.75E+07**	**1.05**	**Y**	**1.31**	**112**	**6820.14**	**0.357**
OCDF	**43.71**		**1.0003**	**1.0003**	**0**	**5.17E+08**	**0.88**	**Y**	**1.07**	**3,890**	**9001.981**	**0.816**
OCDF-a	43.71		1.0002	1.0002	0	3.31E+07	2.41	Y	0.07	4,010	4514.323	6.6


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.64e6
1.82e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
2.82e6
1.41e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.14e7
5.68e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
6.88e6
3.44e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.56e6
2.78e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.64e3
0%
2378D
2.29e7*
28.48
1368D
2.96e6*
24.84
1239D
1.81e6*
28.33
1278D
1.96e6*
28.81
1289D
2.62e6*
29.45
Abs. Int.
5.52e6
2.76e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.30e3
0%
2378D
2.85e7*
28.48
1368D
3.76e6*
24.84
1469D
1.59e6*
26.40
1239D
2.31e6*
28.32
1278D
2.41e6*
28.81
1289D
3.30e6*
29.45
Abs. Int.
6.81e6
3.41e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.56e3
0%
CS 37Cl-2378D
1.54e7
28.48
Abs. Int.
3.74e6
1.87e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 7.15e3
0%
JS 1234D
1.51e7
27.80
ES 2378D
1.52e7
28.46
Abs. Int.
3.68e6
1.84e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 5.29e3
0%
JS 1234D
1.85e7
27.80
ES 2378D
1.75e7
28.46
Abs. Int.
4.36e6
2.18e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PBM
4σ 1.79e3
12479/12468D
2.77e6
31.32
12469D
1.22e6*
31.85
12378D
9.54e6*
33.82
12389D
2.54e6
34.26
Abs. Int.
2.75e6
1.37e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PBM
4σ 2.66e3
12479/12468D
1.82e6
31.32
12469D
8.49e5*
31.85
12378D
6.24e6*
33.82
12389D
1.55e6
34.26
Abs. Int.
1.78e6
8.90e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 2.49e3
CS 12347D
1.61e7
33.30
ES 12378D
1.81e7
33.80
Abs. Int.
5.09e6
2.54e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 2.06e3
CS 12347D
1.04e7
33.30
ES 12378D
1.14e7
33.80
Abs. Int.
3.38e6
1.69e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
Abs. Int.
2.82e6
1.41e6
0.00e0
0%
30.5
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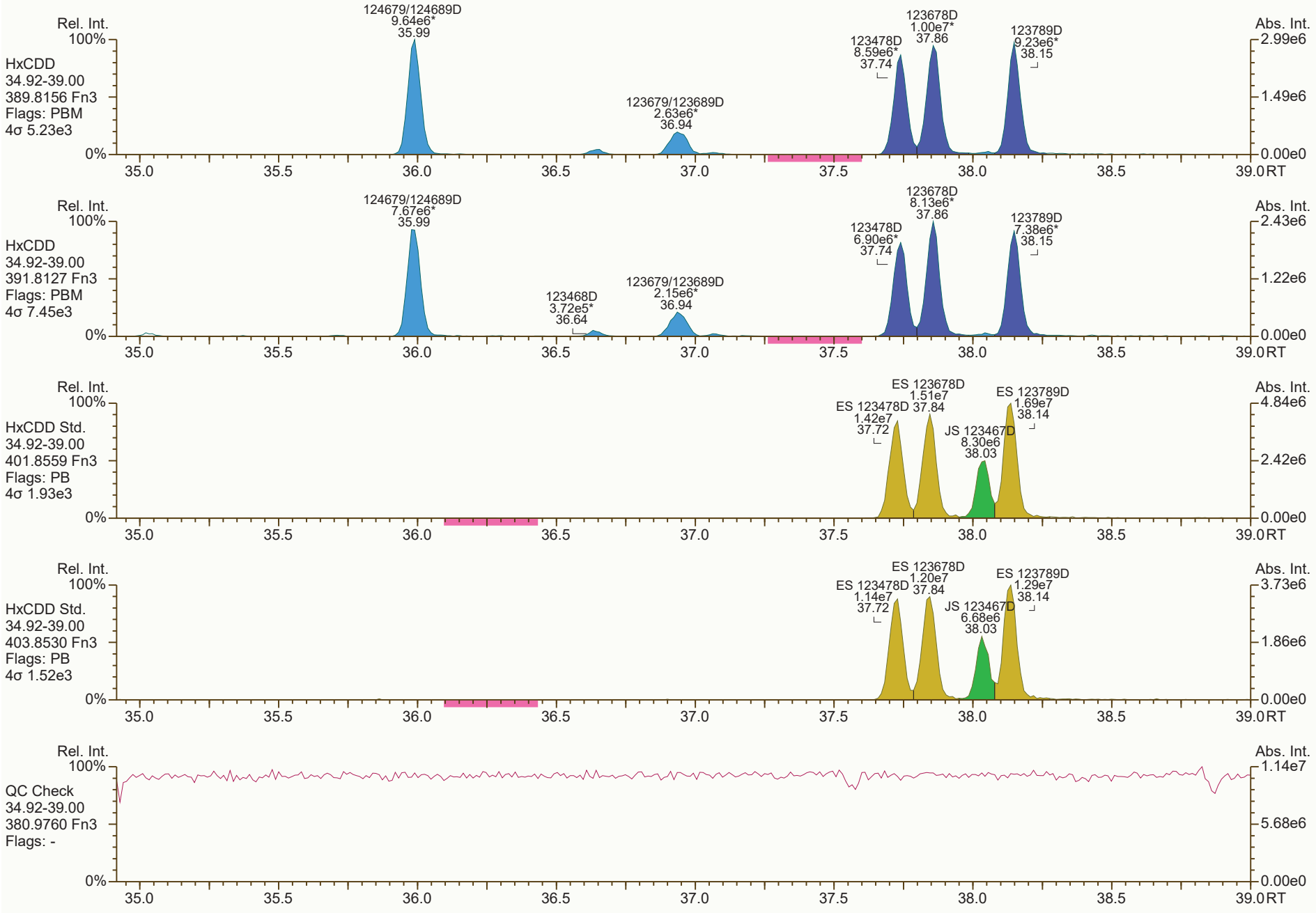
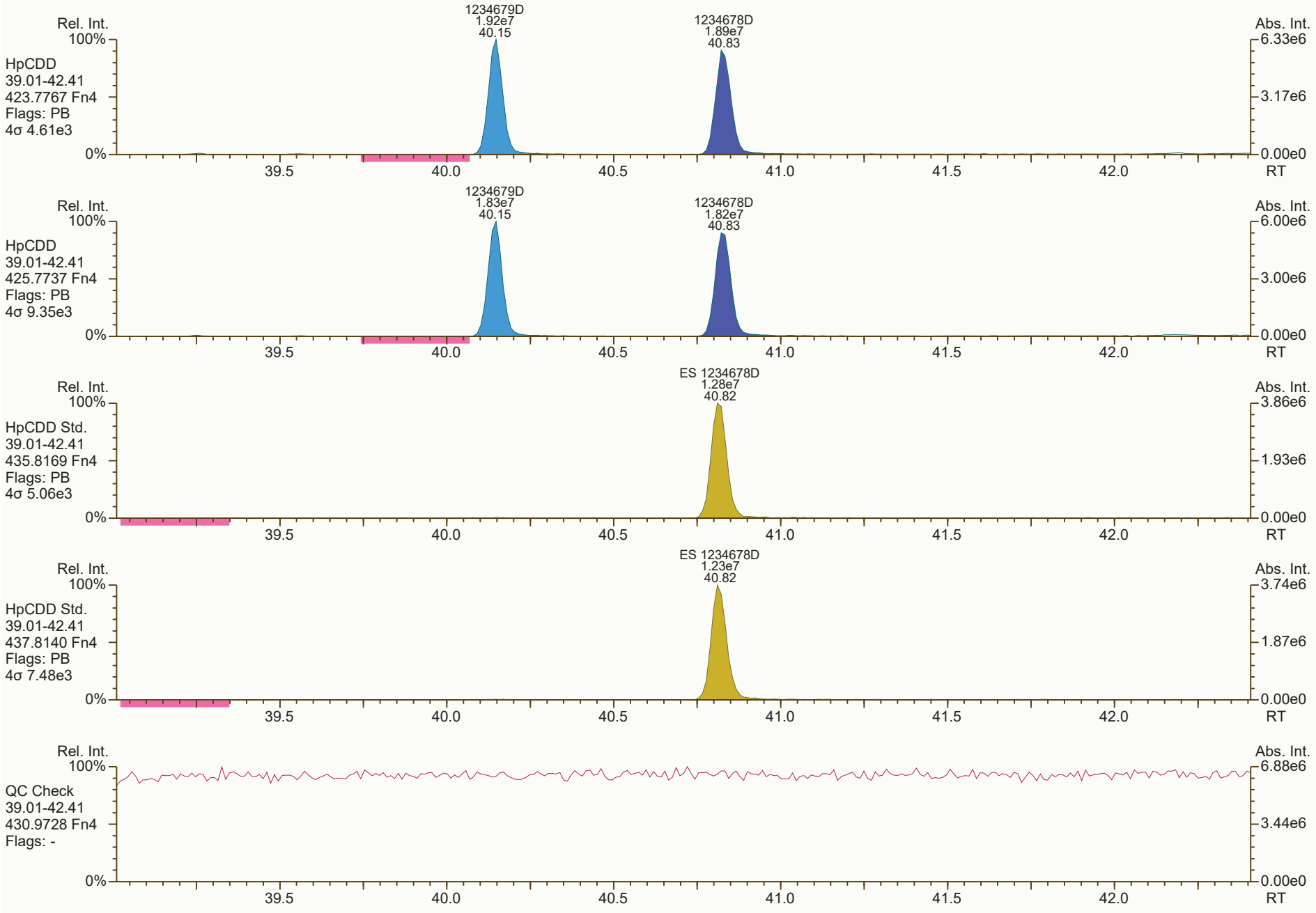
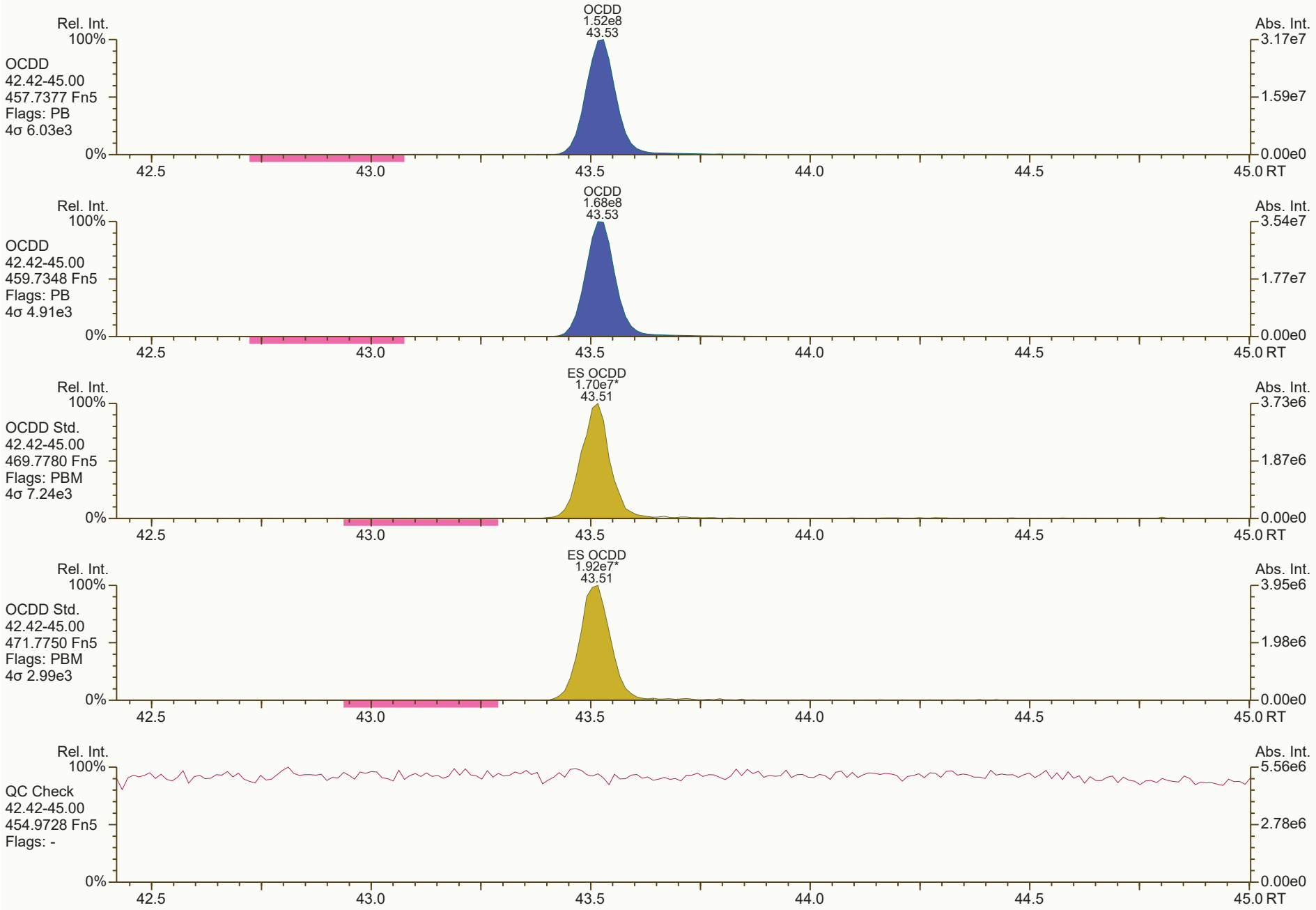
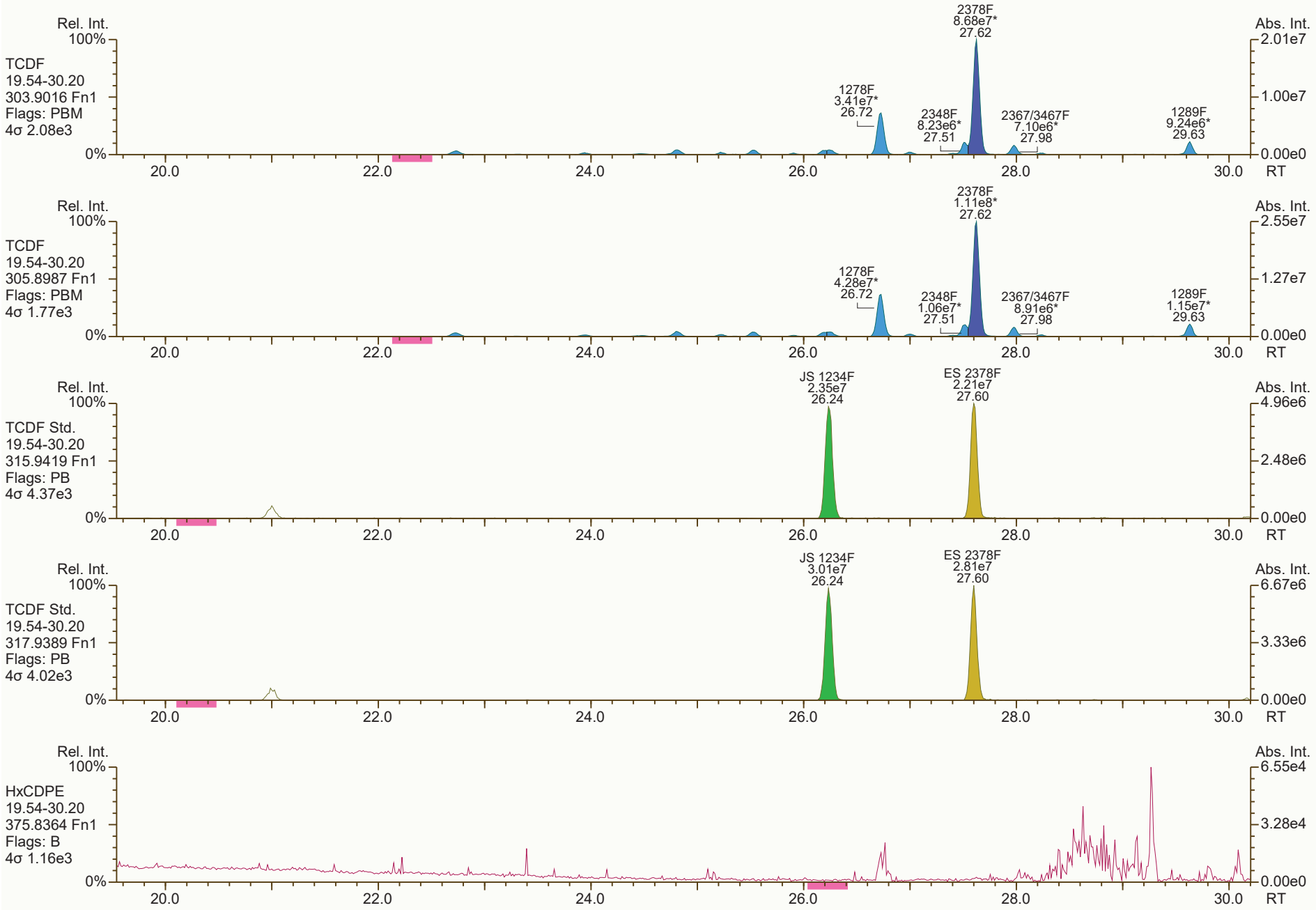
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 5.23e3
124679/124689D
9.64e6*
35.99
123679/123689D
2.63e6*
36.94
123478D
8.59e6*
37.74
123678D
1.00e7*
37.86
123789D
9.23e6*
38.15
Abs. Int.
2.99e6
1.49e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 7.45e3
124679/124689D
7.67e6*
35.99
123468D
3.72e5*
36.64
123679/123689D
2.15e6*
36.94
123478D
6.90e6*
37.74
123678D
8.13e6*
37.86
123789D
7.38e6*
38.15
Abs. Int.
2.43e6
1.22e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 1.93e3
ES 123478D
1.42e7
37.72
ES 123678D
1.51e7
37.84
JS 123467D
8.30e6
38.03
ES 123789D
1.69e7
38.14
Abs. Int.
4.84e6
2.42e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 1.52e3
ES 123478D
1.14e7
37.72
ES 123678D
1.20e7
37.84
JS 123467D
6.68e6
38.03
ES 123789D
1.29e7
38.14
Abs. Int.
3.73e6
1.86e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
Abs. Int.
1.14e7
5.68e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 4.61e3
1234679D
1.92e7
40.15
1234678D
1.89e7
40.83
Abs. Int.
6.33e6
3.17e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 9.35e3
1234679D
1.83e7
40.15
1234678D
1.82e7
40.83
Abs. Int.
6.00e6
3.00e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 5.06e3
ES 1234678D
1.28e7
40.82
Abs. Int.
3.86e6
1.93e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 7.48e3
ES 1234678D
1.23e7
40.82
Abs. Int.
3.74e6
1.87e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
1.52e8
43.53
Rel. Int.
Abs. Int.
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 6.03e3
OCDD
1.68e8
43.53
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 4.91e3
ES OCDD
1.70e7*
43.51
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 7.24e3
ES OCDD
1.92e7*
43.51
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 2.99e3
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 2.08e3
0%
2378F
8.68e7*
27.62
1278F
3.41e7*
26.72
2348F
8.23e6*
27.51
2367/3467F
7.10e6*
27.98
1289F
9.24e6*
29.63
Abs. Int.
2.01e7
1.00e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.77e3
0%
2378F
1.11e8*
27.62
1278F
4.28e7*
26.72
2348F
1.06e7*
27.51
2367/3467F
8.91e6*
27.98
1289F
1.15e7*
29.63
Abs. Int.
2.55e7
1.27e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 4.37e3
0%
JS 1234F
2.35e7
26.24
ES 2378F
2.21e7
27.60
Abs. Int.
4.96e6
2.48e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.02e3
0%
JS 1234F
3.01e7
26.24
ES 2378F
2.81e7
27.60
Abs. Int.
6.67e6
3.33e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.16e3
0%
Abs. Int.
6.55e4
3.28e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: B6235_18875_DF_005MSD
Instr: [ILM] AutoSpec-Ultima HRMS3

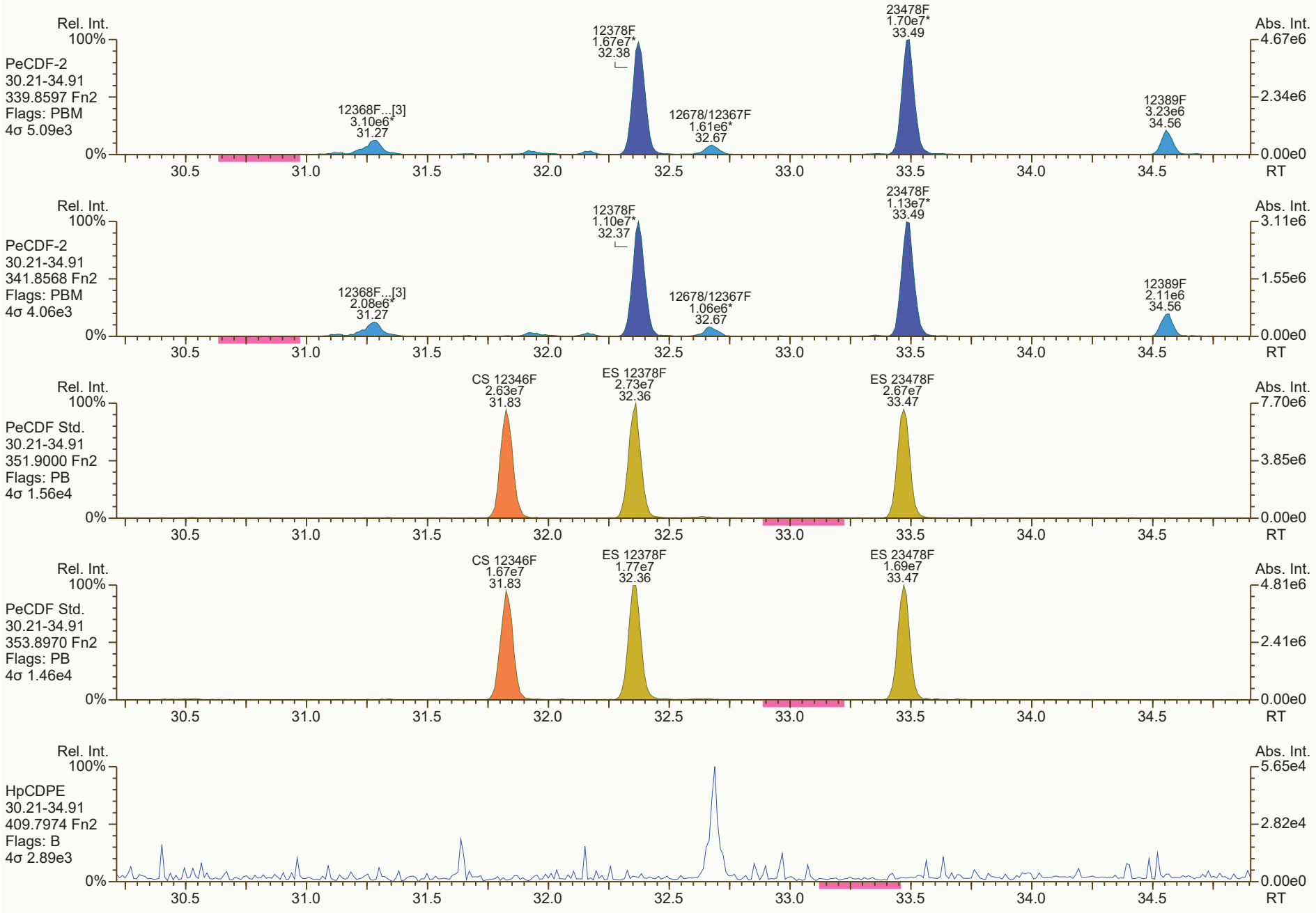
Sample ID: 11215131-012222-S-BN-NC-B-10-MSD
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 51

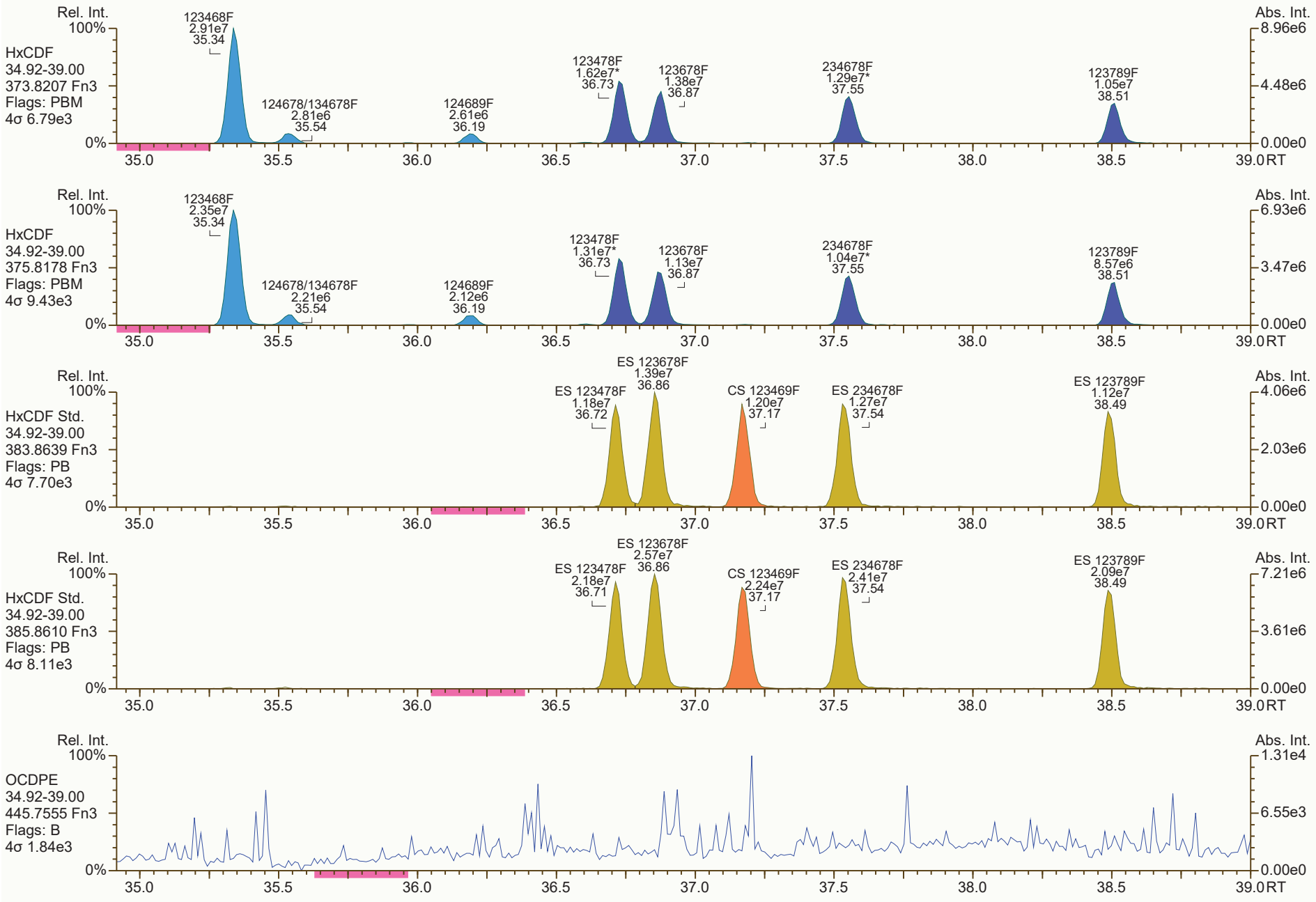
Acq: 11-Feb-2022 03:05:47
User: DTF Datafile: 220210C23

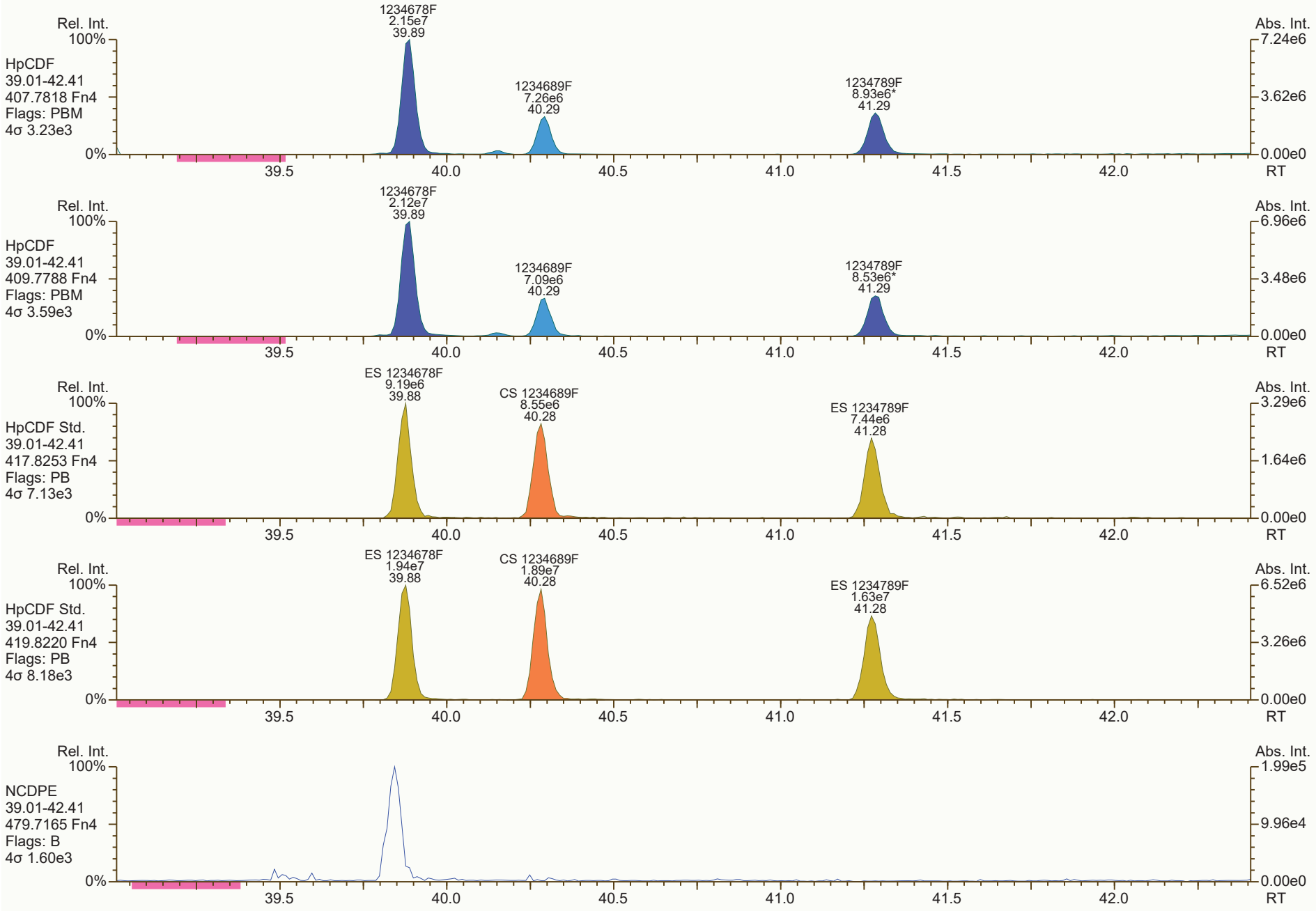


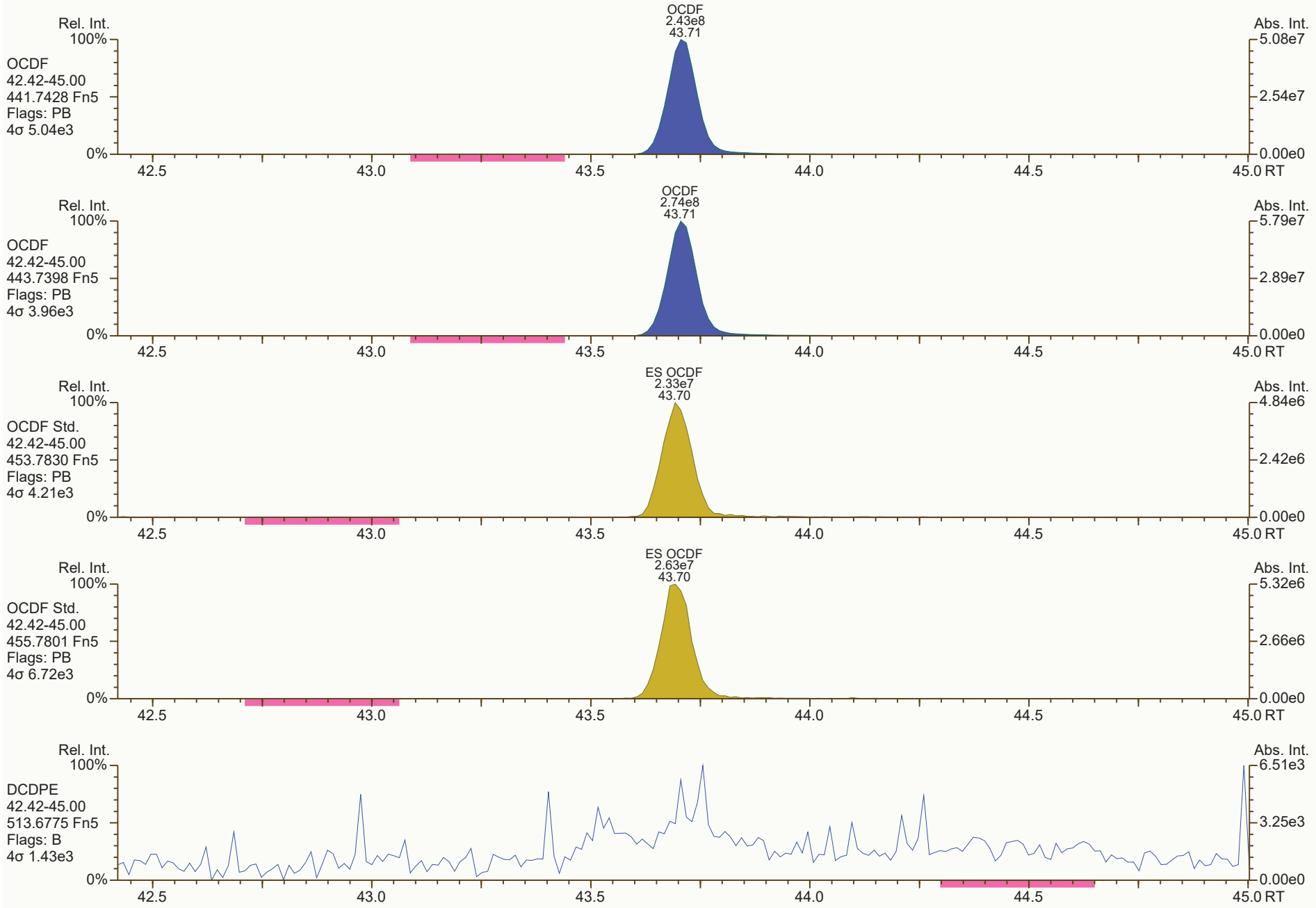
Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_005MSD.utp_res, saved 11-Feb-2022 16:26 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8604 scc: 192-121

Peak annotation: Areas, Centroids
PKD: 11-Feb-2022 11:45 Printed: 11-Feb-2022 16:37 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PBM
4σ 5.09e3
12368F...[3]
3.10e6*
31.27
12378F
1.67e7*
32.38
12678/12367F
1.61e6*
32.67
23478F
1.70e7*
33.49
12389F
3.23e6
34.56
Abs. Int.
4.67e6
2.34e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PBM
4σ 4.06e3
12368F...[3]
2.08e6*
31.27
12378F
1.10e7*
32.37
12678/12367F
1.06e6*
32.67
23478F
1.13e7*
33.49
12389F
2.11e6
34.56
Abs. Int.
3.11e6
1.55e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 1.56e4
CS 12346F
2.63e7
31.83
ES 12378F
2.73e7
32.36
ES 23478F
2.67e7
33.47
Abs. Int.
7.70e6
3.85e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 1.46e4
CS 12346F
1.67e7
31.83
ES 12378F
1.77e7
32.36
ES 23478F
1.69e7
33.47
Abs. Int.
4.81e6
2.41e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 2.89e3
Abs. Int.
5.65e4
2.82e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
0%
Abs. Int.
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 6.79e3
123468F
2.91e7
35.34
124678/134678F
2.81e6
35.54
124689F
2.61e6
36.19
123478F
1.62e7*
36.73
123678F
1.38e7
36.87
234678F
1.29e7*
37.55
123789F
1.05e7
38.51
8.96e6
4.48e6
0.00e0
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 9.43e3
123468F
2.35e7
35.34
124678/134678F
2.21e6
35.54
124689F
2.12e6
36.19
123478F
1.31e7*
36.73
123678F
1.13e7
36.87
234678F
1.04e7*
37.55
123789F
8.57e6
38.51
6.93e6
3.47e6
0.00e0
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 7.70e3
ES 123678F
1.39e7
36.86
ES 123478F
1.18e7
36.72
CS 123469F
1.20e7
37.17
ES 234678F
1.27e7
37.54
ES 123789F
1.12e7
38.49
4.06e6
2.03e6
0.00e0
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 8.11e3
ES 123678F
2.57e7
36.86
ES 123478F
2.18e7
36.71
CS 123469F
2.24e7
37.17
ES 234678F
2.41e7
37.54
ES 123789F
2.09e7
38.49
7.21e6
3.61e6
0.00e0
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.84e3
1.31e4
6.55e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 3.23e3
1234678F
2.15e7
39.89
1234689F
7.26e6
40.29
1234789F
8.93e6*
41.29
Abs. Int.
7.24e6
3.62e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 3.59e3
1234678F
2.12e7
39.89
1234689F
7.09e6
40.29
1234789F
8.53e6*
41.29
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 7.13e3
ES 1234678F
9.19e6
39.88
CS 1234689F
8.55e6
40.28
ES 1234789F
7.44e6
41.28
Abs. Int.
3.29e6
1.64e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 8.18e3
ES 1234678F
1.94e7
39.88
CS 1234689F
1.89e7
40.28
ES 1234789F
1.63e7
41.28
Abs. Int.
6.52e6
3.26e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.60e3
Abs. Int.
1.99e5
9.96e4
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
2.43e8
43.71
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 5.04e3
0%
Abs. Int.
5.08e7
2.54e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.74e8
43.71
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 3.96e3
0%
Abs. Int.
5.79e7
2.89e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.33e7
43.70
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 4.21e3
0%
Abs. Int.
4.84e6
2.42e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.63e7
43.70
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 6.72e3
0%
Abs. Int.
5.32e6
2.66e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.43e3
0%
Abs. Int.
6.51e3
3.25e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6235_18875_DF_006 **Acq'd:** 11 Feb 2022 03:52 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-O-41 **UTP:** 11-Feb-2022 16:26:42 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 849-031-DWD

Datafile: 220210C24 **Report:** 11 Feb 2022 16:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.48	E	1.0008	1.0008	0	1.95E+08	0.79	Y	1.18	1,330	3973.011	0.286
12378-PeCDD	33.82		1.0005	1.0006	+0.2	1.71E+06	1.55	Y	1.04	14.5	4242.391	0.306
123478-HxCDD	37.74		1.0004	1.0004	0	3.47E+05	1.12	Y	1.09	3.2	10448.499	0.847
123678-HxCDD	37.86		1.0035	1.0035	0	1.61E+06	1.21	Y	1.15	13.6	10448.499	0.741
123789-HxCDD	38.15		1.0113	1.0113	0	8.36E+05	1.19	Y	1.05	7.01	10448.499	0.725
1234678-HpCDD	40.83		1.0003	1.0003	0	3.77E+07	1.03	Y	1.06	368	8957.836	0.679
OCDD	43.53		1.0002	1.0003	+0.3	3.58E+08	0.91	Y	1.13	4,830	8336.276	1.27
2378-TCDF	27.63	E	1.0008	1.0007	-0.2	7.61E+08	0.78	Y	1.08	3,610	5322.623	0.288
12378-PeCDF	32.38		1.0005	1.0005	0	3.72E+07	1.54	Y	1.02	212	6036.408	0.32
23478-PeCDF	33.50		1.0005	1.0007	+0.4	2.65E+07	1.54	Y	1.02	153	6036.408	0.298
123478-HxCDF	36.73		1.0005	1.0005	0	4.29E+07	1.22	Y	1.27	260	7548.918	0.36
123678-HxCDF	36.87		1.0005	1.0005	0	1.20E+07	1.28	Y	1.15	70.8	7548.918	0.388
234678-HxCDF	37.55		1.0005	1.0004	-0.2	3.21E+06	1.29	Y	1.19	18.6	7548.918	0.376
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	7548.918	0.436
1234678-HpCDF	39.89		1.0003	1.0002	-0.2	2.02E+07	1.00	Y	1.37	138	9650.817	0.471
1234789-HpCDF	41.28		1.0003	1.0002	-0.2	4.19E+06	1.04	Y	1.31	34.6	9650.817	0.641
OCDF	43.70		1.0003	1.0003	0	1.05E+08	0.90	Y	1.07	1,090	4845.549	0.55

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46	1.0238	1.0236	-0.3	2.49E+07	0.82	Y	1.05	70.5
ES 12378-PeCDD	33.80	1.2160	1.2157	-0.6	2.28E+07	1.62	Y	0.88	76.8
ES 123478-HxCDD	37.72	0.9919	0.9919	0	1.99E+07	1.27	Y	0.97	71.3
ES 123678-HxCDD	37.84	0.9950	0.9950	0	2.06E+07	1.26	Y	0.94	76.1
ES 123789-HxCDD	38.13	1.0027	1.0027	0	2.28E+07	1.31	Y	1.09	72.6
ES 1234678-HpCDD	40.81	1.0730	1.0731	+0.2	1.94E+07	1.02	Y	0.91	73.8
ES OCDD	43.51	1.1437	1.1441	+1.0	2.63E+07	0.91	Y	0.62	73.3
ES 2378-TCDF	27.61	1.0520	1.0520	0	3.91E+07	0.78	Y	1.06	70.2
ES 12378-PeCDF	32.36	1.2330	1.2330	0	3.42E+07	1.57	Y	0.91	71.4
ES 23478-PeCDF	33.47	1.2754	1.2754	0	3.39E+07	1.58	Y	0.88	73
ES 123478-HxCDF	36.71	0.9653	0.9653	0	2.60E+07	0.55	Y	1.20	75.3
ES 123678-HxCDF	36.85	0.9691	0.9690	-0.2	2.94E+07	0.54	Y	1.35	75.6
ES 234678-HxCDF	37.54	0.9870	0.9870	0	2.90E+07	0.53	Y	1.24	81.3
ES 123789-HxCDF	38.49	1.0121	1.0120	-0.2	2.42E+07	0.52	Y	1.16	72.9
ES 1234678-HpCDF	39.88	1.0484	1.0485	+0.2	2.15E+07	0.46	Y	0.97	77.2
ES 1234789-HpCDF	41.27	1.0851	1.0852	+0.2	1.85E+07	0.48	Y	0.85	75.7
ES OCDF	43.69	1.1483	1.1486	+0.8	3.60E+07	0.93	Y	0.81	77.6

Lab ID: B6235_18875_DF_006 **Acq'd:** 11 Feb 2022 03:52 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-O-41 **UTP:** 11-Feb-2022 16:26:42 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 849-031-DWD

Datafile: 220210C24 **Report:** 11 Feb 2022 16:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.81		-	-	-	3.37E+07	0.82	Y	-	-
JS 1234-TCDF	26.24		-	-	-	5.26E+07	0.80	Y	-	-
JS 123467-HxCDD	38.03		-	-	-	1.44E+07	1.23	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0245	1.0244	-0.2	1.28E+07	n/a	-	1.20	79.1
CS 12347-PeCDD	33.30		1.1979	1.1977	-0.4	2.22E+07	1.58	Y	0.75	87.4
CS 12346-PeCDF	31.83		1.2128	1.2129	+0.2	3.66E+07	1.58	Y	0.85	81.7
CS 123469-HxCDF	37.17		0.9774	0.9774	0	2.87E+07	0.53	Y	1.12	89.4
CS 1234689-HpCDF	40.28		1.0589	1.0591	+0.5	2.34E+07	0.47	Y	0.89	91.8
SS 37Cl-2378-TCDD	28.48		1.0245	1.0244	-0.2	1.28E+07	n/a	-	1.15	112
SS 12347-PeCDD	33.30		1.1979	1.1977	-0.4	2.22E+07	1.58	Y	0.86	114
SS 12346-PeCDF	31.83		1.2128	1.2129	+0.2	3.66E+07	1.58	Y	0.94	114
SS 123469-HxCDF	37.17		0.9774	0.9774	0	2.87E+07	0.53	Y	0.83	118
SS 1234689-HpCDF	40.28		1.0589	1.0591	+0.5	2.34E+07	0.47	Y	0.92	119

Totals	Conc	EMPC
Total TCDD	1480	1480
Total PeCDD	31.5	36.3
Total HxCDD	132	134
Total HpCDD	862	862
Total Tetra-Octa Dioxins	7330	7340
Total TCDF	7,030	7030
Total PeCDF	605	606
Total HxCDF	470	470
Total HpCDF	325	325
Total Tetra-Octa Furans	9,530	9530
Total Tetra-Octa Dioxins & Furans	16900	16900

Lab ID: B6235_18875_DF_006 **Acq'd:** 11 Feb 2022 03:52 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-O-41 **UTP:** 11-Feb-2022 16:26:42 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 849-031-DWD

Datafile: 220210C24 **Report:** 11 Feb 2022 16:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.84		0.8737	0.8729	-1.2	5.80E+05	0.80	Y	1.18	3.94	3973.011	0.286
1379-TCDD	25.20		0.8860	0.8854	-0.9	2.07E+05	0.78	Y	1.18	1.41	3973.011	0.286
1369-TCDD	NotFnd		0.9009						1.18		3973.011	0.286
1469-TCDD	26.40		0.9281	0.9277	-0.6	4.35E+05	0.67	Y	1.18	2.95	3973.011	0.286
1247/1246/1248/1249-TCDD	26.63		0.9362	0.9357	-0.8	3.52E+05	0.80	Y	1.18	2.39	3973.011	0.286
1378-TCDD	26.83		0.9432	0.9428	-0.6	6.40E+05	0.83	Y	1.18	4.34	3973.011	0.286
1268-TCDD	NotFnd		0.9500						1.18		3973.011	0.286
1478-TCDD	27.29		0.9586	0.9587	+0.2	5.07E+05	0.80	Y	1.18	3.44	3973.011	0.286
1279-TCDD	NotFnd		0.9645						1.18		3973.011	0.286
1234/1269-TCDD	27.79	EMPC	0.9770	0.9763	-1.2	1.14E+05	0.92	N	1.18	0.772	3973.011	0.286
1236-TCDD	NotFnd		0.9817						1.18		3973.011	0.286
1237/1238-TCDD	28.19		0.9905	0.9905	0	3.27E+06	0.85	Y	1.18	22.2	3973.011	0.286
1239-TCDD	NotFnd		0.9952						1.18		3973.011	0.286
2378-TCDD	**28.48**	E	**1.0008**	1.0008	**0**	1.95E+08	0.79	Y	**1.18**	**1,330**	**3673.011**	**0.289**
1278-TCDD	28.81		1.0121	1.0121	0	1.59E+07	0.77	Y	1.18	108	3973.011	0.286
1267-TCDD	NotFnd		1.0167						1.18		3973.011	0.286
1289-TCDD	29.45		1.0345	1.0347	+0.4	3.32E+05	0.77	Y	1.18	2.25	3973.011	0.286
12479/12468-PeCDD	31.31		0.9267	0.9264	-0.6	6.91E+05	1.69	Y	1.04	5.85	4242.391	0.306
12469-PeCDD	31.85	EMPC	0.9425	0.9422	-0.6	4.10E+05	1.19	N	1.04	3.47	4242.391	0.306
12368-PeCDD	32.40		0.9588	0.9586	-0.4	4.07E+05	1.45	Y	1.04	3.45	4242.391	0.306
12478-PeCDD	32.60		0.9643	0.9643	0	3.21E+05	1.63	Y	1.04	2.72	4242.391	0.306
12379-PeCDD	32.70	J	0.9673	0.9673	0	1.70E+05	1.38	Y	1.04	1.44	4242.391	0.306
12369/12467/12489-PeCDD	32.96		0.9750	0.9749	-0.2	3.11E+05	1.54	Y	1.04	2.64	4242.391	0.306
12346/12347-PeCDD	33.32	J EMPC	0.9858	0.9858	0	9.12E+04	2.14	N	1.04	0.773	4242.391	0.306
12378-PeCDD	33.82		**1.0005**	**1.0009**	**+0.2**	**1.71E+09**	**1.55**	**Y**	**1.04**	**14.5**	**4242.361**	**0.309**
12367-PeCDD	33.92	J EMPC	1.0033	1.0034	+0.2	7.59E+04	0.97	N	1.04	0.643	4242.391	0.306
12389-PeCDD	34.26	J	1.0134	1.0136	+0.4	1.02E+05	1.47	Y	1.04	0.864	4242.391	0.306
124679/124689-HxCDD	35.99		0.9542	0.9540	-0.4	6.28E+06	1.27	Y	1.10	54.3	10448.499	0.768
123468-HxCDD	36.64		0.9715	0.9713	-0.4	7.33E+05	1.29	Y	1.10	6.34	10448.499	0.768
123679/123689-HxCDD	36.94		0.9793	0.9792	-0.2	4.98E+06	1.26	Y	1.10	43.1	10448.499	0.768
123469-HxCDD	37.07		0.9828	0.9827	-0.2	4.72E+05	1.23	Y	1.10	4.09	10448.499	0.768
123478-HxCDD	37.74		**1.0004**	**1.0004**	**0**	**3.47E+05**	**1.12**	**Y**	1.09	**3.2**	**10448.466**	**0.847**
123978-HxCDD	37.86		**1.0035**	**1.0035**	**0**	**1.91E+09**	**1.21**	**Y**	1.15	**13.9**	**10448.466**	**0.741**
123467-HxCDD	38.04	J EMPC	1.0085	1.0085	0	2.44E+05	1.66	N	1.10	2.11	10448.499	0.768
123786-HxCDD	38.15		**1.0113**	**1.0113**	**0**	**8.39E+05**	**1.16**	**Y**	1.05	**7.01**	**10448.466**	**0.725**

Lab ID: B6235_18875_DF_006 **Acq'd:** 11 Feb 2022 03:52 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-O-41 **UTP:** 11-Feb-2022 16:26:42 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 849-031-DWD

Datafile: 220210C24 **Report:** 11 Feb 2022 16:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.15		0.9837	0.9837	0	5.06E+07	1.03	Y	1.06	494	8957.836	0.679
1234978-HpCDD	**40.83**		**1.0003**	**1.0003**	**0**	**3.77E+07**	**1.03**	**Y**	**1.09**	**398**	**8657.839**	**0.976**
OCDD	**43.53**		**1.0002**	**1.0003**	**+0.3**	**3.58E+08**	**0.61**	**Y**	**1.13**	**4,830**	**8339.279**	**1.27**
OCDD-a	43.52		1.0001	1.0002	+0.3	2.28E+07	2.49	Y	0.07	4,820	7323.145	17.5
1368-TCDF	22.75		0.8251	0.8239	-1.6	3.55E+05	0.83	Y	1.08	1.68	5322.623	0.288
1468-TCDF	23.32		0.8458	0.8447	-1.5	1.63E+06	0.74	Y	1.08	7.7	5322.623	0.288
2468-TCDF	23.95		0.8686	0.8674	-1.7	1.70E+06	0.73	Y	1.08	8.07	5322.623	0.288
1346/1246-TCDF	NotFnd		0.8814						1.08		5322.623	0.288
1347/1378/1247-TCDF	24.48		0.8867	0.8866	-0.1	1.00E+07	0.78	Y	1.08	47.4	5322.623	0.288
1348-TCDF	NotFnd		0.8962						1.08		5322.623	0.288
1248/1367/1379-TCDF	24.82		0.9009	0.8988	-3.1	3.91E+07	0.79	Y	1.08	185	5322.623	0.288
1268-TCDF	25.23		0.9145	0.9139	-0.9	1.35E+07	0.79	Y	1.08	63.9	5322.623	0.288
1467-TCDF	25.37		0.9193	0.9190	-0.5	1.62E+06	0.80	Y	1.08	7.66	5322.623	0.288
1478-TCDF	25.53		0.9254	0.9249	-0.8	3.17E+07	0.79	Y	1.08	150	5322.623	0.288
1369/1237-TCDF	25.91		0.9387	0.9385	-0.3	8.55E+06	0.78	Y	1.08	40.5	5322.623	0.288
2467-TCDF	26.02		0.9433	0.9426	-1.1	1.19E+06	0.78	Y	1.08	5.65	5322.623	0.288
2368-TCDF	26.18		0.9489	0.9482	-1.1	1.94E+07	0.78	Y	1.08	91.9	5322.623	0.288
1238/1234/1678/1469/1236-TCDF	26.26		0.9523	0.9510	-2.0	4.25E+07	0.80	Y	1.08	201	5322.623	0.288
1278-TCDF	26.73	E	0.9683	0.9680	-0.5	3.35E+08	0.78	Y	1.08	1,590	5322.623	0.288
1349-TCDF	NotFnd		0.9722						1.08		5322.623	0.288
1267-TCDF	27.00		0.9783	0.9780	-0.5	1.96E+07	0.78	Y	1.08	93.1	5322.623	0.288
2346/1249-TCDF	27.20		0.9850	0.9852	+0.3	2.44E+06	0.79	Y	1.08	11.6	5322.623	0.288
2347/1279-TCDF	27.40		0.9926	0.9925	-0.2	1.00E+07	0.75	Y	1.08	47.5	5322.623	0.288
2348-TCDF	27.51		0.9967	0.9965	-0.3	5.25E+07	0.78	Y	1.08	249	5322.623	0.288
2378-TCDF	**27.93**	E	**1.0008**	**1.0007**	**-0.2**	**7.91E+08**	**0.78**	**Y**	**1.08**	**3,910**	**5322.923**	**0.288**
2367/3467-TCDF	27.98		1.0137	1.0135	-0.3	6.50E+07	0.78	Y	1.08	308	5322.623	0.288
1269-TCDF	28.23		1.0223	1.0225	+0.3	1.18E+07	0.81	Y	1.08	55.8	5322.623	0.288
1239-TCDF	NotFnd		1.0321						1.08		5322.623	0.288
1289-TCDF	29.64		1.0722	1.0734	+2.1	5.61E+07	0.79	Y	1.08	266	5322.623	0.288
13468/12468-PeCDF	29.58		0.9139	0.9140	+0.2	3.24E+06	1.50	Y	1.02	18.6	3434.439	0.176
13678/13467/12467-PeCDF	31.12		0.9613	0.9618	+0.9	9.65E+05	1.45	Y	1.02	5.54	6036.408	0.309
12368/13478/12478-PeCDF	31.28		0.9662	0.9667	+0.9	1.83E+07	1.54	Y	1.02	105	6036.408	0.309
14678-PeCDF	NotFnd		0.9692						1.02		6036.408	0.309
13479-PeCDF	NotFnd		0.9723						1.02		6036.408	0.309
13469/12479-PeCDF	NotFnd		0.9797						1.02		6036.408	0.309
12346-PeCDF	31.85	J EMPC	0.9840	0.9841	+0.2	1.37E+05	1.26	N	1.02	0.785	6036.408	0.309

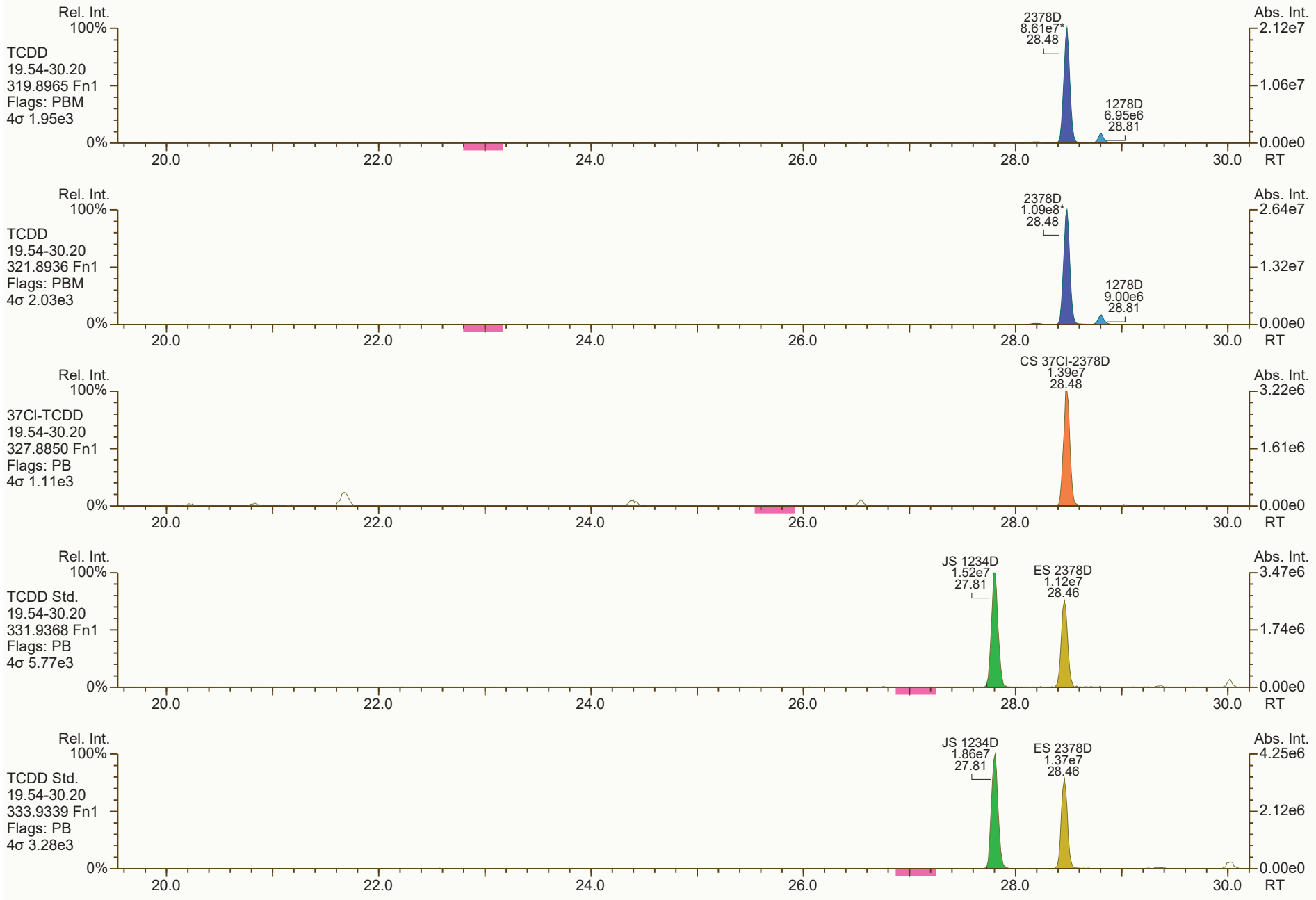
Lab ID: B6235_18875_DF_006 | **Acq'd: 11 Feb 2022 03:52 DTF** | **Wt/Vol: 10.00 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

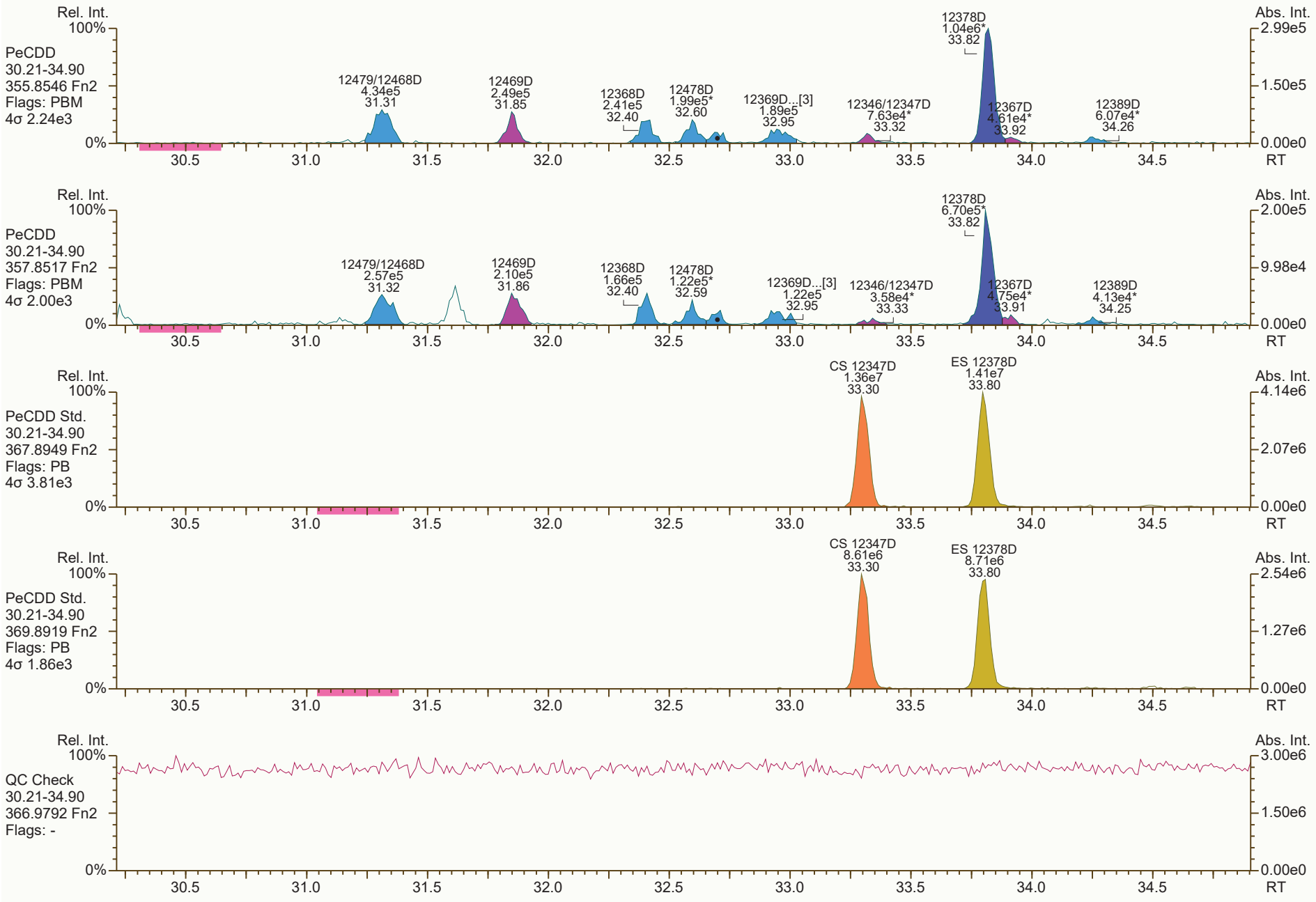
Client ID: 11215131-012222-S-BN-NC-O-41 | **UTP: 11-Feb-2022 16:26:42 DTF** | **J-level: 0.5 pg/g** | **Split: 1** | **Checkcode: 849-031-DWD**

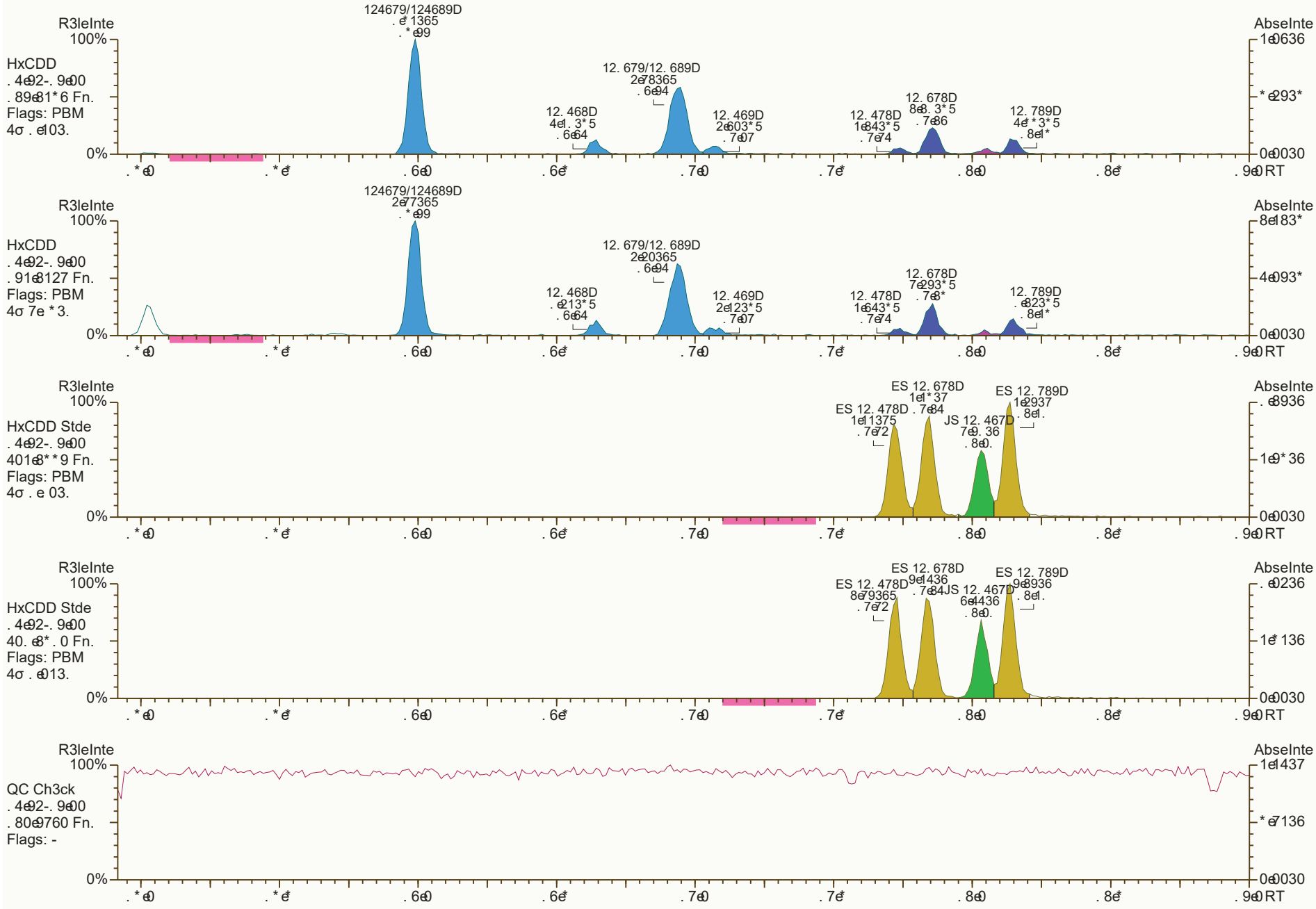
Datafile: 220210C24 | **Report: 11 Feb 2022 16:29 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.93		0.9868	0.9867	-0.2	9.74E+05	1.48	Y	1.02	5.6	6036.408	0.309
12347-PeCDF	32.00		0.9894	0.9890	-0.8	7.81E+05	1.41	Y	1.02	4.48	6036.408	0.309
12348-PeCDF	32.16		0.9940	0.9940	0	3.59E+06	1.56	Y	1.02	20.6	6036.408	0.309
12378-PeCDF	**32.38**		**1.0005**	**1.0005**	**0**	**3.72E+07**	**1.54**	**Y**	**1.02**	**212**	**9039.408**	**0.32**
12678/12367-PeCDF	32.67		1.0089	1.0097	+1.6	1.19E+07	1.57	Y	1.02	68.2	6036.408	0.309
12379-PeCDF	NotFnd		1.0142						1.02		6036.408	0.309
12679-PeCDF	33.23	J EMPC	0.9929	0.9927	-0.4	1.05E+05	1.81	N	1.02	0.603	6036.408	0.309
23467/12369-PeCDF	33.36		0.9967	0.9966	-0.2	5.64E+05	1.46	Y	1.02	3.24	6036.408	0.309
23478-PeCDF	**33.50**		**1.0005**	**1.0007**	**+0.4**	**2.95E+07**	**1.54**	**Y**	**1.02**	**153**	**9039.408**	**0.268**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6036.408	0.309
12349-PeCDF	NotFnd		1.0100						1.02		6036.408	0.309
12389-PeCDF	34.56		1.0324	1.0324	0	1.48E+06	1.47	Y	1.02	8.51	6036.408	0.309
123468-HxCDF	35.34		0.9627	0.9627	0	1.56E+06	1.15	Y	1.19	9.6	7548.918	0.388
124678/134678-HxCDF	35.54		0.9682	0.9680	-0.4	7.26E+06	1.26	Y	1.19	44.8	7548.918	0.388
134679-HxCDF	NotFnd		0.9744						1.19		7548.918	0.388
124679-HxCDF	35.97	J	0.9798	0.9797	-0.2	2.30E+05	1.17	Y	1.19	1.42	7548.918	0.388
124689-HxCDF	36.19		0.9858	0.9858	0	5.99E+06	1.24	Y	1.19	37	7548.918	0.388
123467-HxCDF	36.61		0.9972	0.9972	0	6.09E+05	1.27	Y	1.19	3.76	7548.918	0.388
123478-HxCDF	**39.73**		**1.0005**	**1.0005**	**0**	**4.26E+07**	**1.22**	**Y**	**1.27**	**290**	**7548.618**	**0.39**
123978-HxCDF	**39.87**		**1.0005**	**1.0005**	**0**	**1.20E+07**	**1.28**	**Y**	**1.15**	**70.8**	**7548.618**	**0.388**
123479-HxCDF	NotFnd		1.0049						1.19		7548.918	0.388
123469-HxCDF	NotFnd		1.0090						1.19		7548.918	0.388
123679-HxCDF	NotFnd		0.9942						1.19		7548.918	0.388
234978-HxCDF	**37.55**		**1.0005**	**1.0004**	**-0.2**	**3.21E+09**	**1.26**	**Y**	**1.16**	**18.9**	**7548.618**	**0.379**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		7548.918	0.388
123786-HxCDF	**NotFnd**		**1.0004**						**1.19**		**7548.618**	**0.439**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.53		1.0009	1.0011	+0.5	3.90E+06	1.25	Y	1.19	24.1	7548.918	0.388
1234978-HpCDF	**36.86**		**1.0003**	**1.0002**	**-0.2**	**2.02E+07**	**1.00**	**Y**	**1.37**	**138**	**6950.817**	**0.471**
1234679-HpCDF	40.15		1.0068	1.0067	-0.2	7.25E+05	1.04	Y	1.34	5.42	9650.817	0.549
1234689-HpCDF	40.29		1.0103	1.0103	0	1.98E+07	1.04	Y	1.34	148	9650.817	0.549
1234786-HpCDF	**41.28**		**1.0003**	**1.0002**	**-0.2**	**4.16E+09**	**1.04**	**Y**	**1.31**	**34.9**	**6950.817**	**0.941**
OCDF	**43.70**		**1.0003**	**1.0003**	**0**	**1.05E+08**	**0.60**	**Y**	**1.07**	**1,060**	**4845.546**	**0.55**
OCDF-a	43.69		1.0002	1.0002	0	6.49E+06	2.63	Y	0.07	1,090	4350.403	7.97

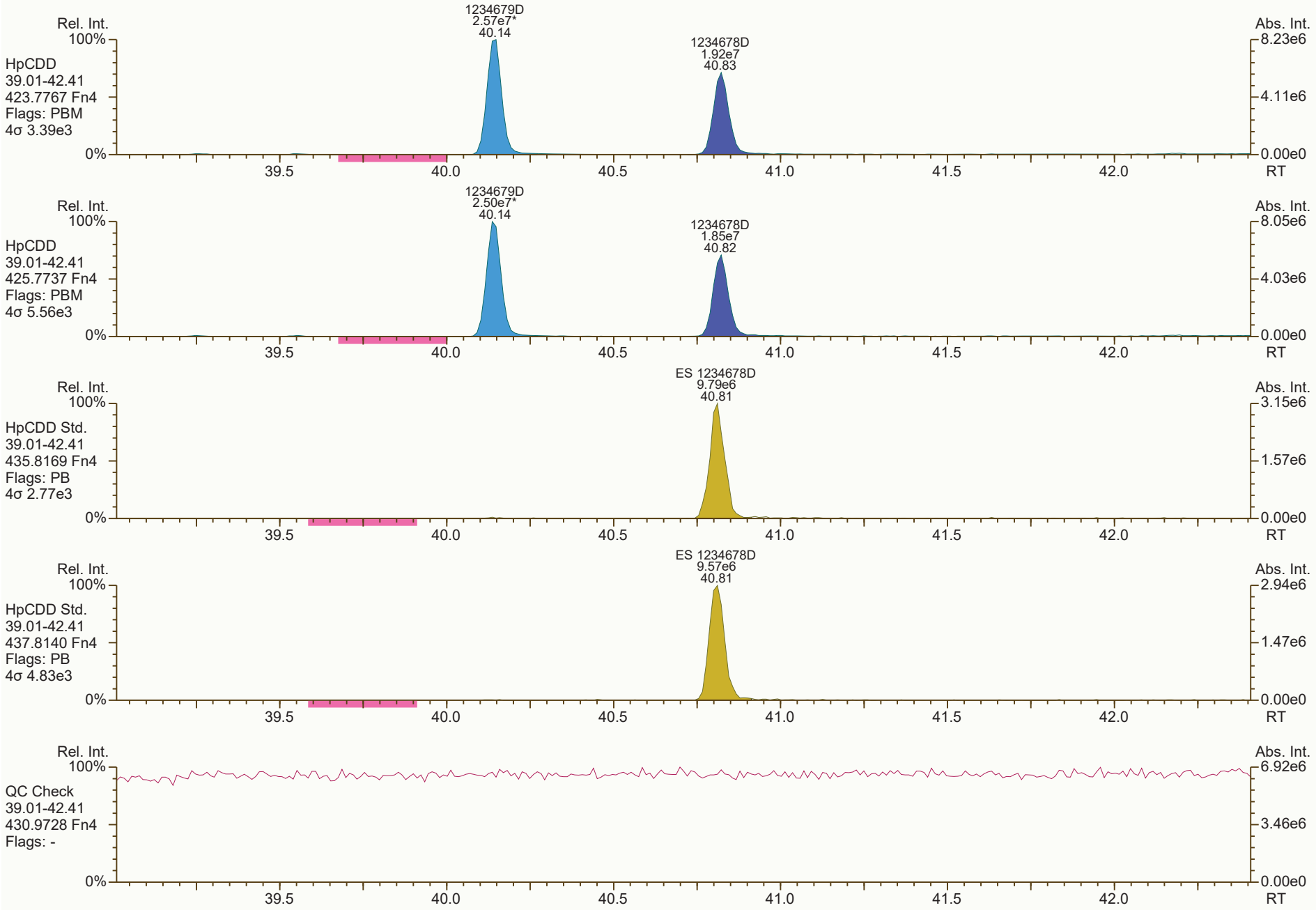

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.53e6
2.26e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.00e6
1.50e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.14e7
5.71e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
6.92e6
3.46e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.74e6
2.87e6
0.00e0

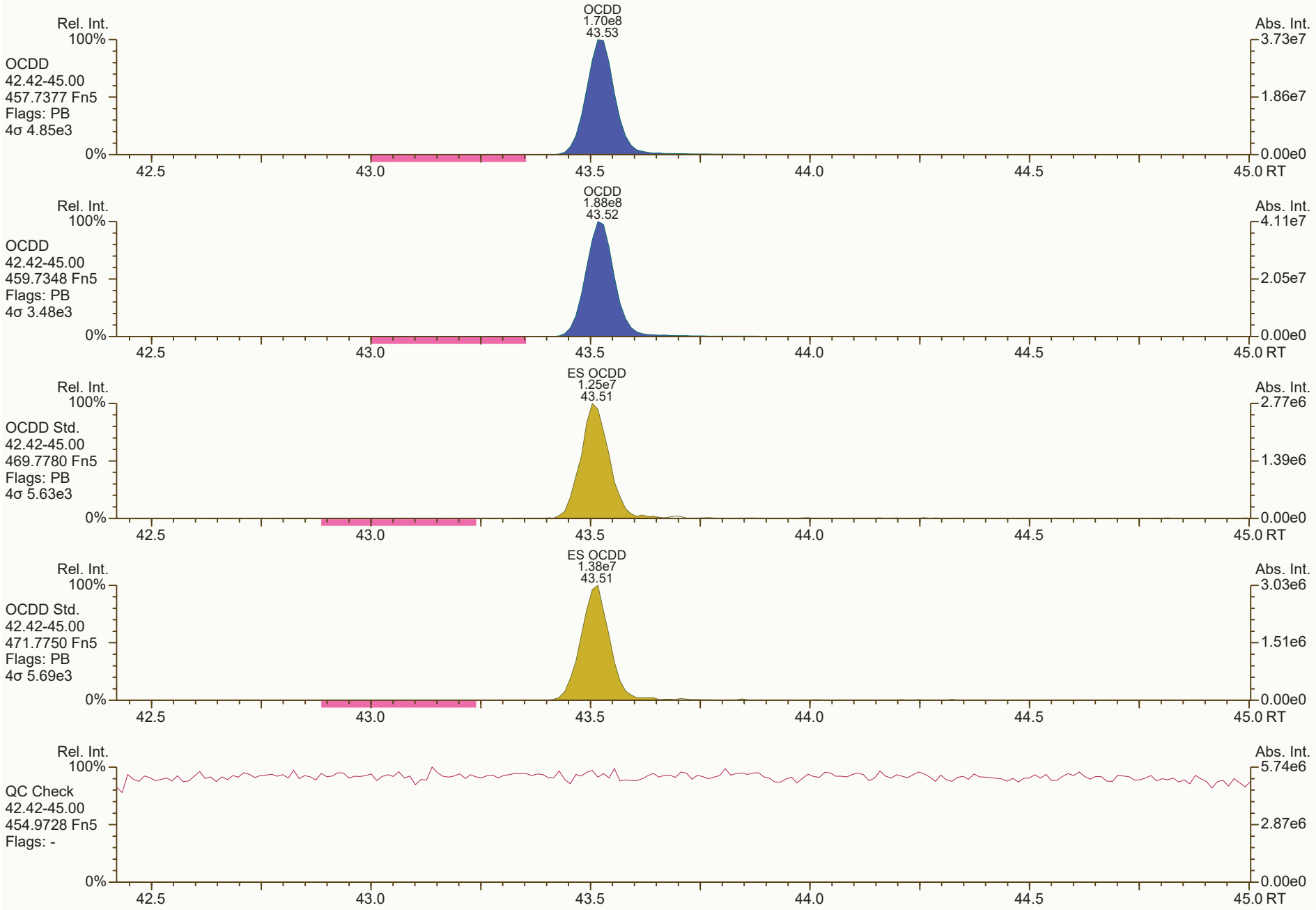

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.95e3
0%
2378D
8.61e7*
28.48
1278D
6.95e6
28.81
Abs. Int.
2.12e7
1.06e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.03e3
0%
2378D
1.09e8*
28.48
1278D
9.00e6
28.81
Abs. Int.
2.64e7
1.32e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.11e3
0%
CS 37Cl-2378D
1.39e7
28.48
Abs. Int.
3.22e6
1.61e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.77e3
0%
JS 1234D
1.52e7
27.81
ES 2378D
1.12e7
28.46
Abs. Int.
3.47e6
1.74e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.28e3
0%
JS 1234D
1.86e7
27.81
ES 2378D
1.37e7
28.46
Abs. Int.
4.25e6
2.12e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

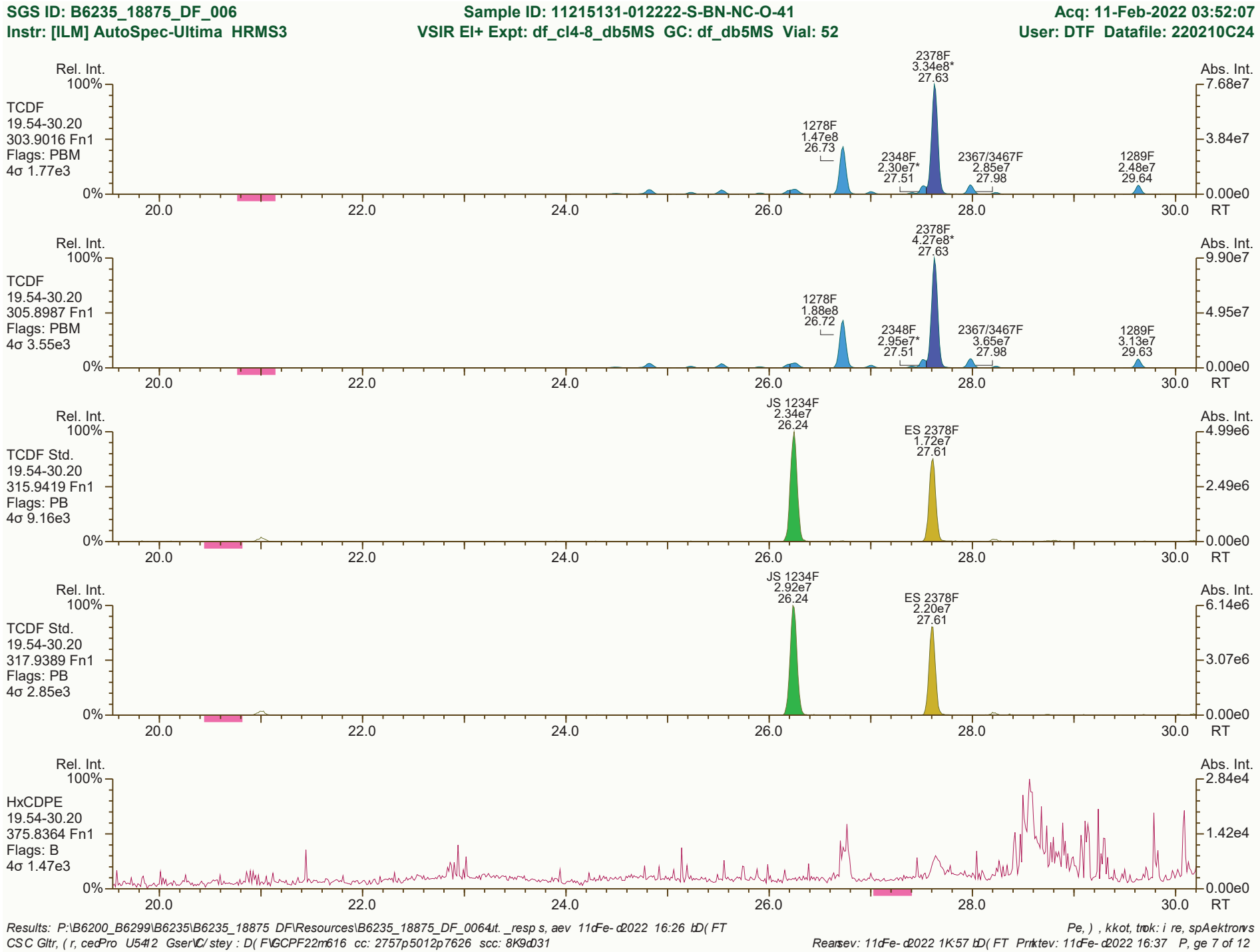

Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PBM
4σ 2.24e3
12479/12468D
4.34e5
31.31
12469D
2.49e5
31.85
12368D
2.41e5
32.40
12478D
1.99e5*
32.60
12369D...[3]
1.89e5
32.95
12346/12347D
7.63e4*
33.32
12378D
1.04e6*
33.82
12367D
4.61e4*
33.92
12389D
6.07e4*
34.26
Abs. Int.
2.99e5
1.50e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PBM
4σ 2.00e3
12479/12468D
2.57e5
31.32
12469D
2.10e5
31.86
12368D
1.66e5
32.40
12478D
1.22e5*
32.59
12369D...[3]
1.22e5
32.95
12346/12347D
3.58e4*
33.33
12378D
6.70e5*
33.82
12367D
4.75e4*
33.91
12389D
4.13e4*
34.25
Abs. Int.
2.00e5
9.98e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 3.81e3
CS 12347D
1.36e7
33.30
ES 12378D
1.41e7
33.80
Abs. Int.
4.14e6
2.07e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.86e3
CS 12347D
8.61e6
33.30
ES 12378D
8.71e6
33.80
Abs. Int.
2.54e6
1.27e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
Abs. Int.
3.00e6
1.50e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT



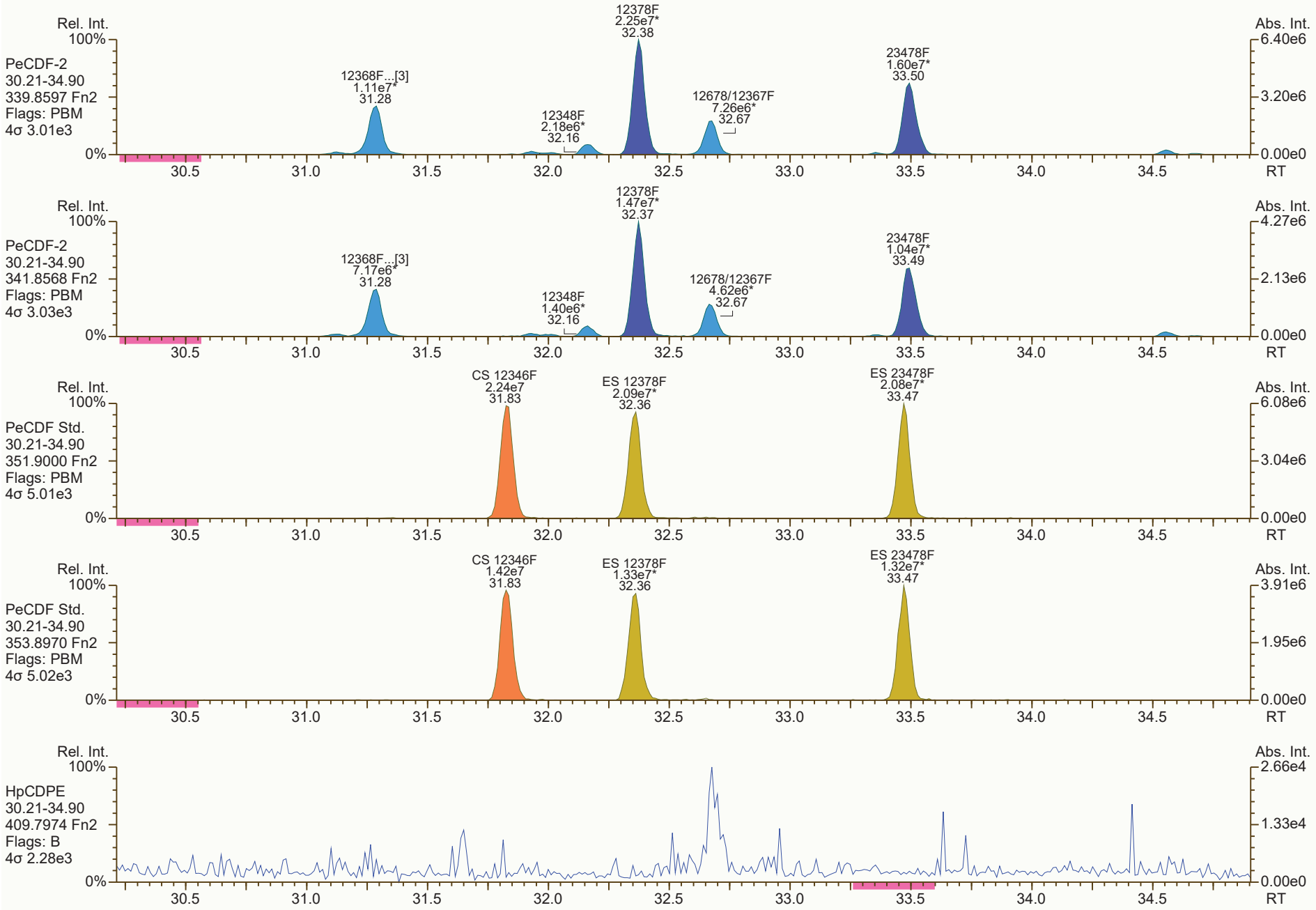
Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_006.utp_res, saved 11-Feb-2022 16:26 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0592, 6714 scc: 849-031 *Revised: 11-Feb-2022 14:57 (DTF) Printed: 11-Feb-2022 16:37 Page 4 of 12*

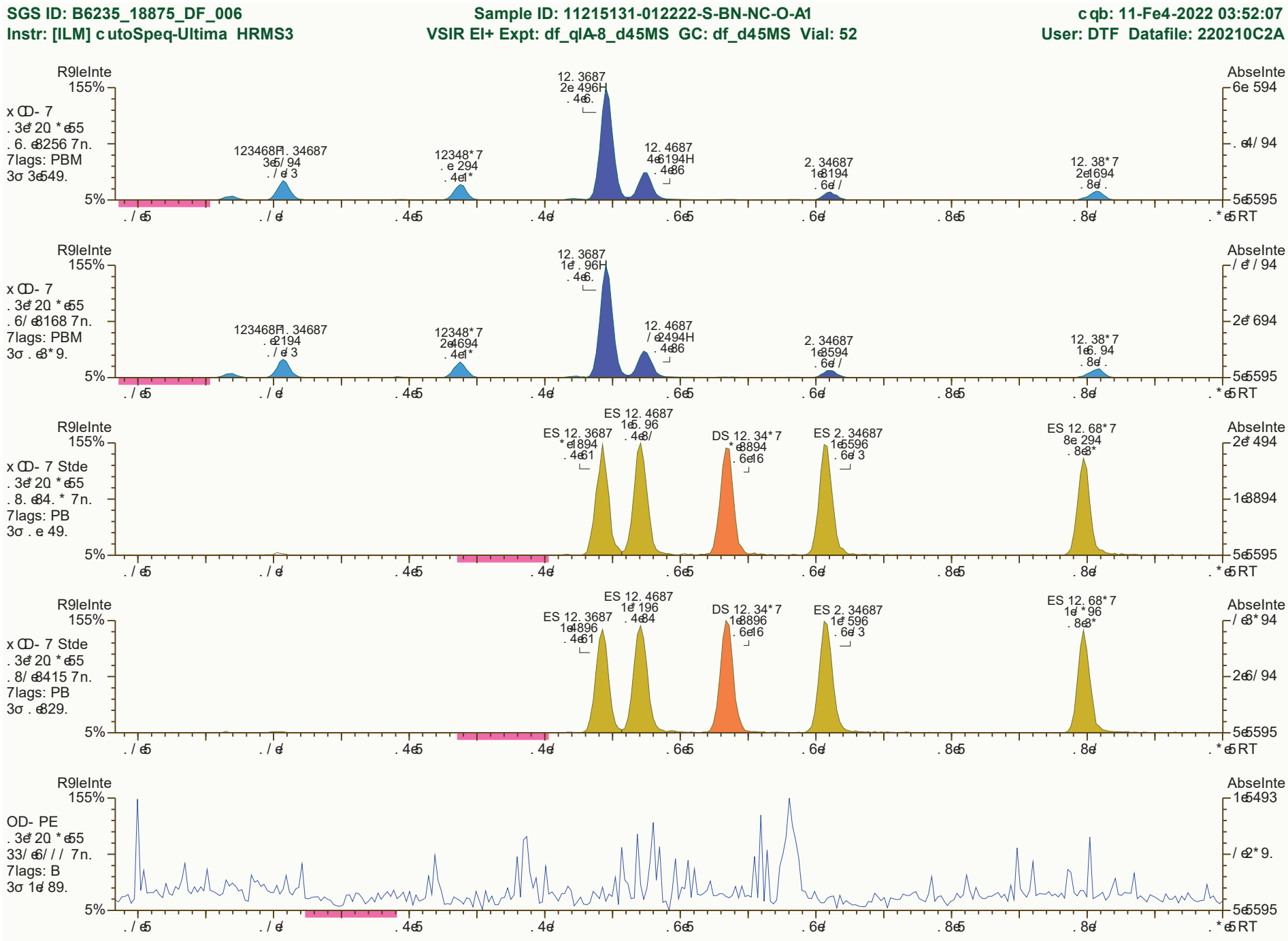

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 3.39e3
1234679D
2.57e7*
40.14
1234678D
1.92e7
40.83
Abs. Int.
8.23e6
4.11e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 5.56e3
1234679D
2.50e7*
40.14
1234678D
1.85e7
40.82
Abs. Int.
8.05e6
4.03e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.77e3
ES 1234678D
9.79e6
40.81
Abs. Int.
3.15e6
1.57e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 4.83e3
ES 1234678D
9.57e6
40.81
Abs. Int.
2.94e6
1.47e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
6.92e6
3.46e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

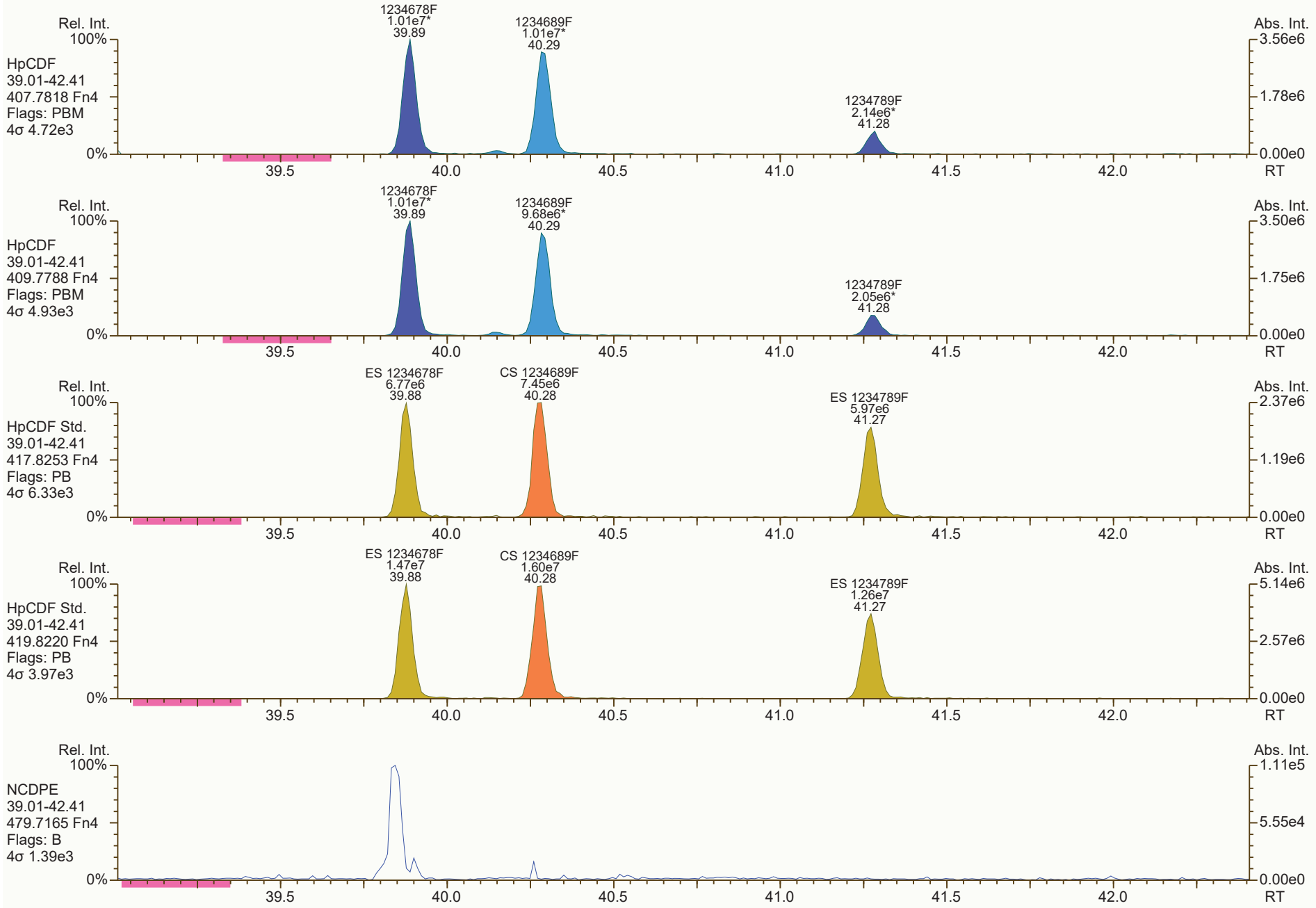

Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 4.85e3
0%
OCDD
1.70e8
43.53
Abs. Int.
3.73e7
1.86e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 3.48e3
0%
OCDD
1.88e8
43.52
Abs. Int.
4.11e7
2.05e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 5.63e3
0%
ES OCDD
1.25e7
43.51
Abs. Int.
2.77e6
1.39e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 5.69e3
0%
ES OCDD
1.38e7
43.51
Abs. Int.
3.03e6
1.51e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.74e6
2.87e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

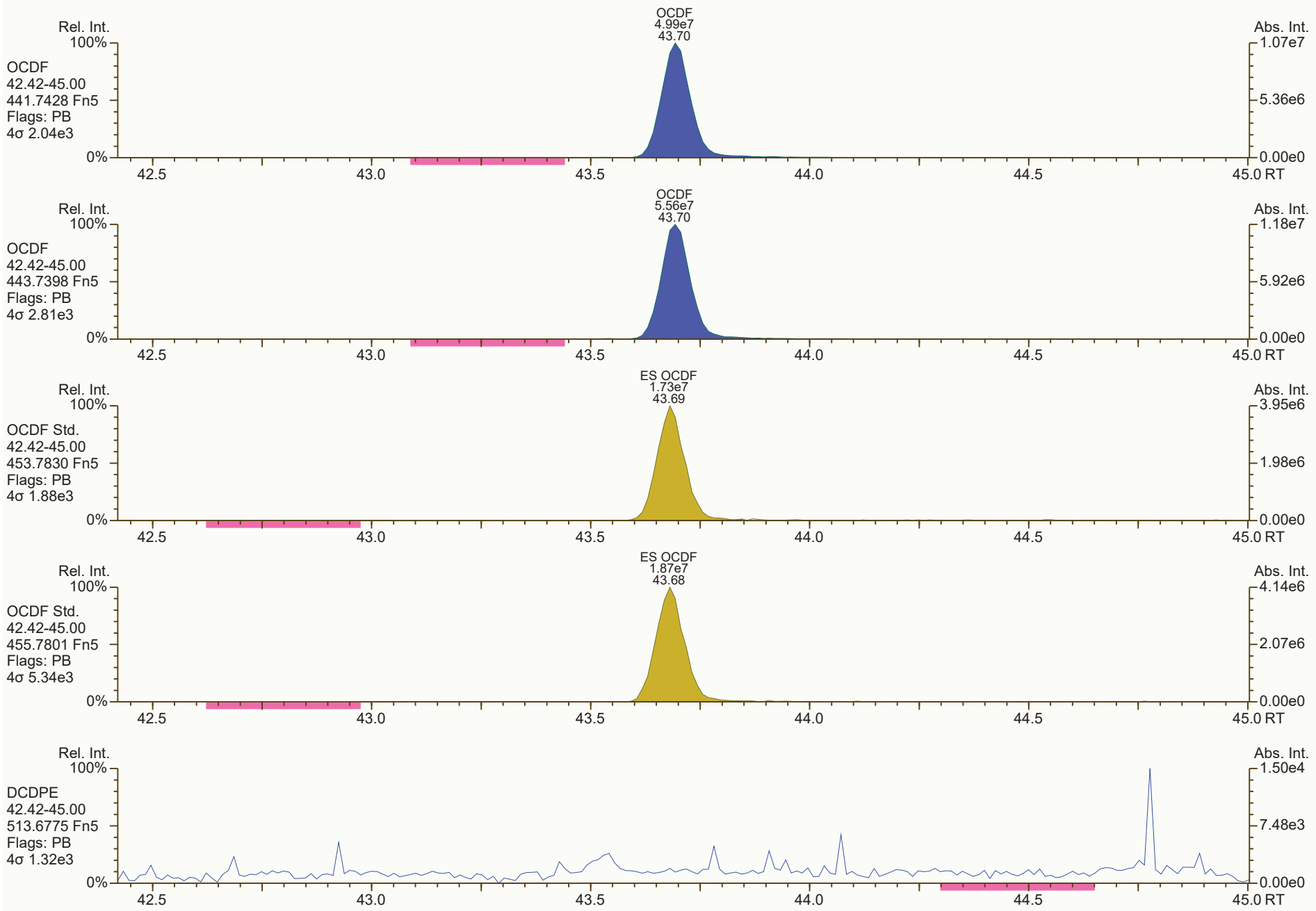

SGS ID: B6235_18875_DF_006
Instr: [ILM] AutoSpec-Ultima HRMS3
Sample ID: 11215131-012222-S-BN-NC-O-41
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 52
Acq: 11-Feb-2022 03:52:07
User: DTF Datafile: 220210C24
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.77e3
2378F
3.34e8*
27.63
1278F
1.47e8
26.73
2348F
2.30e7*
27.51
2367/3467F
2.85e7
27.98
1289F
2.48e7
29.64
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 3.55e3
2378F
4.27e8*
27.63
1278F
1.88e8
26.72
2348F
2.95e7*
27.51
2367/3467F
3.65e7
27.98
1289F
3.13e7
29.63
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 9.16e3
JS 1234F
2.34e7
26.24
ES 2378F
1.72e7
27.61
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.85e3
JS 1234F
2.92e7
26.24
ES 2378F
2.20e7
27.61
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.47e3
RT
Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_0064ut. _resp s, aev 11dFe-d2022 16:26 bD(FT
CSC Gltr, (r, cedPro U54l2 GserVC/ stey : D(F\GCPF22m616 cc: 2757p5012p7626 scc: 8K9d031
Pe,) , kkot, trok: i re, spAektronvs
Reansev: 11dFe-d2022 1K:57 bD(FT Prnktev: 11dFe-d2022 16:37 P, ge 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 2.22e3
13468/12468F
1.94e6
29.58
Abs. Int.
5.03e5
2.51e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.21e3
13468/12468F
1.29e6
29.58
Abs. Int.
3.62e5
1.81e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
4.53e6
2.26e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 3.01e3
0%
12368F...[3]
1.11e7*
31.28
12348F
2.18e6*
32.16
12378F
2.25e7*
32.38
12678/12367F
7.26e6*
32.67
23478F
1.60e7*
33.50
Abs. Int.
6.40e6
3.20e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 3.03e3
0%
12368F...[3]
7.17e6*
31.28
12348F
1.40e6*
32.16
12378F
1.47e7*
32.37
12678/12367F
4.62e6*
32.67
23478F
1.04e7*
33.49
Abs. Int.
4.27e6
2.13e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PBM
4σ 5.01e3
0%
CS 12346F
2.24e7
31.83
ES 12378F
2.09e7*
32.36
ES 23478F
2.08e7*
33.47
Abs. Int.
6.08e6
3.04e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PBM
4σ 5.02e3
0%
CS 12346F
1.42e7
31.83
ES 12378F
1.33e7*
32.36
ES 23478F
1.32e7*
33.47
Abs. Int.
3.91e6
1.95e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 2.28e3
0%
Abs. Int.
2.66e4
1.33e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


SGS ID: B6235_18875_DF_006
Instr: [ILM] cutoSpeq-Ultima HRMS3
Sample ID: 11215131-012222-S-BN-NC-O-A1
VSIR EI+ Expt: df_qIA-8_d45MS GC: df_d45MS Vial: 52
cqb: 11-Fe4-2022 03:52:07
User: DTF Datafile: 220210C2A
R9leInte
AbseInte
155%
5%
RT
OD- PE
Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_0064ut. _resp s, aev 11cFe-d2022 16:26 bD(FT
CSC Gltr, (r, cedPro U5412 GserVC/stey : D(FVGCPF22m616 cc: 0K88p1816p973K scc: 8K9d031
Pe,) , kkot, trok: i re, spAektronvs
Reansev: 11cFe-d2022 1K:59 bD(FT Prnktev: 11cFe-d2022 16:37 P, ge 10 of 12


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 4.72e3
1234678F
1.01e7*
39.89
1234689F
1.01e7*
40.29
1234789F
2.14e6*
41.28
Abs. Int.
3.56e6
1.78e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 4.93e3
1234678F
1.01e7*
39.89
1234689F
9.68e6*
40.29
1234789F
2.05e6*
41.28
Abs. Int.
3.50e6
1.75e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 6.33e3
ES 1234678F
6.77e6
39.88
CS 1234689F
7.45e6
40.28
ES 1234789F
5.97e6
41.27
Abs. Int.
2.37e6
1.19e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 3.97e3
ES 1234678F
1.47e7
39.88
CS 1234689F
1.60e7
40.28
ES 1234789F
1.26e7
41.27
Abs. Int.
5.14e6
2.57e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.39e3
Abs. Int.
1.11e5
5.55e4
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
4.99e7
43.70
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 2.04e3
0%
Abs. Int.
1.07e7
5.36e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
5.56e7
43.70
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 2.81e3
0%
Abs. Int.
1.18e7
5.92e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.73e7
43.69
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.88e3
0%
Abs. Int.
3.95e6
1.98e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.87e7
43.68
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 5.34e3
0%
Abs. Int.
4.14e6
2.07e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.32e3
0%
Abs. Int.
1.50e4
7.48e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6235_18875_DF_007 **Acq'd:** 11 Feb 2022 08:46 DTF **Wt/Vol:** 10.22 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-O-39 **UTP:** 11-Feb-2022 16:26:46 DTF **J-level:** 0.489 pg/g **Split:** 1 **Checkcode:** 288-405-ZMT

Datafile: 220210C30 **Report:** 11 Feb 2022 16:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.48		1.0008	1.0008	0	1.61E+07	0.80	Y	1.18	78.9	3865.755	0.2
12378-PeCDD	33.83	EMPC	1.0005	1.0008	+0.6	5.38E+05	1.17	N	1.04	3.48	3396.567	0.19
123478-HxCDD	37.74		1.0004	1.0004	0	4.15E+05	1.16	Y	1.09	2.86	7984.411	0.477
123678-HxCDD	37.86		1.0035	1.0035	0	1.48E+06	1.16	Y	1.15	9.6	7984.411	0.44
123789-HxCDD	38.15		1.0113	1.0112	-0.2	8.97E+05	1.19	Y	1.05	5.9	7984.411	0.426
1234678-HpCDD	40.83		1.0003	1.0004	+0.2	3.61E+07	1.04	Y	1.06	277	7920.729	0.484
OCDD	43.51		1.0002	1.0003	+0.3	6.05E+08	0.90	Y	1.13	5,680	7746.081	0.836
2378-TCDF	27.62		1.0008	1.0008	0	6.30E+07	0.80	Y	1.08	229	3228.615	0.134
12378-PeCDF	32.38		1.0005	1.0007	+0.4	4.94E+06	1.61	Y	1.02	20.8	4993.751	0.191
23478-PeCDF	33.49		1.0005	1.0007	+0.4	2.89E+06	1.52	Y	1.02	12.5	4993.751	0.196
123478-HxCDF	36.73		1.0005	1.0004	-0.2	5.87E+06	1.28	Y	1.27	27.3	6366.581	0.241
123678-HxCDF	36.87		1.0005	1.0005	0	1.54E+06	1.23	Y	1.15	6.78	6366.581	0.234
234678-HxCDF	37.56		1.0005	1.0004	-0.2	1.00E+06	1.36	Y	1.19	4.35	6366.581	0.239
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	6366.581	0.288
1234678-HpCDF	39.89		1.0003	1.0003	0	1.04E+07	1.03	Y	1.37	52.4	8346.233	0.289
1234789-HpCDF	41.28		1.0003	1.0003	0	1.17E+06	1.03	Y	1.31	7.74	8346.233	0.446
OCDF	43.69		1.0003	1.0003	0	2.62E+07	0.88	Y	1.07	206	4587.413	0.428

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46	1.0238	1.0238	0	3.38E+07	0.83	Y	1.05	87.3
ES 12378-PeCDD	33.80	1.2160	1.2161	+0.2	2.92E+07	1.56	Y	0.88	89.7
ES 123478-HxCDD	37.73	0.9919	0.9919	0	2.61E+07	1.28	Y	0.97	91.4
ES 123678-HxCDD	37.84	0.9950	0.9949	-0.2	2.63E+07	1.27	Y	0.94	95
ES 123789-HxCDD	38.14	1.0027	1.0026	-0.2	2.84E+07	1.35	Y	1.09	88.5
ES 1234678-HpCDD	40.81	1.0730	1.0730	0	2.40E+07	1.11	Y	0.91	89.6
ES OCDD	43.50	1.1437	1.1437	0	3.70E+07	0.90	Y	0.62	101
ES 2378-TCDF	27.60	1.0520	1.0519	-0.2	5.00E+07	0.81	Y	1.06	83.1
ES 12378-PeCDF	32.36	1.2330	1.2333	+0.6	4.54E+07	1.60	Y	0.91	87.9
ES 23478-PeCDF	33.47	1.2754	1.2757	+0.6	4.43E+07	1.58	Y	0.88	88.5
ES 123478-HxCDF	36.71	0.9653	0.9653	0	3.31E+07	0.54	Y	1.20	94
ES 123678-HxCDF	36.86	0.9691	0.9690	-0.2	3.86E+07	0.54	Y	1.35	97.1
ES 234678-HxCDF	37.54	0.9870	0.9870	0	3.81E+07	0.57	Y	1.24	104
ES 123789-HxCDF	38.49	1.0121	1.0121	0	3.10E+07	0.55	Y	1.16	91.5
ES 1234678-HpCDF	39.88	1.0484	1.0484	0	2.85E+07	0.47	Y	0.97	100
ES 1234789-HpCDF	41.27	1.0851	1.0851	0	2.26E+07	0.46	Y	0.85	90.4
ES OCDF	43.68	1.1483	1.1485	+0.5	4.64E+07	0.91	Y	0.81	97.8

Lab ID: B6235_18875_DF_007 **Acq'd:** 11 Feb 2022 08:46 DTF **Wt/Vol:** 10.22 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-O-39 **UTP:** 11-Feb-2022 16:26:46 DTF **J-level:** 0.489 pg/g **Split:** 1 **Checkcode:** 288-405-ZMT

Datafile: 220210C30 **Report:** 11 Feb 2022 16:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.79		-	-	-	3.70E+07	0.78	Y	-	-
JS 1234-TCDF	26.23		-	-	-	5.67E+07	0.81	Y	-	-
JS 123467-HxCDD	38.04		-	-	-	1.47E+07	1.26	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0245	1.0246	+0.2	1.57E+07	n/a	-	1.20	88.1
CS 12347-PeCDD	33.30		1.1979	1.1981	+0.4	2.79E+07	1.59	Y	0.75	100
CS 12346-PeCDF	31.82		1.2128	1.2131	+0.6	4.56E+07	1.62	Y	0.85	94.5
CS 123469-HxCDF	37.17		0.9774	0.9773	-0.2	3.55E+07	0.54	Y	1.12	108
CS 1234689-HpCDF	40.28		1.0589	1.0591	+0.5	2.86E+07	0.46	Y	0.89	110
SS 37Cl-2378-TCDD	28.48		1.0245	1.0246	+0.2	1.57E+07	n/a	-	1.15	101
SS 12347-PeCDD	33.30		1.1979	1.1981	+0.4	2.79E+07	1.59	Y	0.86	112
SS 12346-PeCDF	31.82		1.2128	1.2131	+0.6	4.56E+07	1.62	Y	0.94	107
SS 123469-HxCDF	37.17		0.9774	0.9773	-0.2	3.55E+07	0.54	Y	0.83	111
SS 1234689-HpCDF	40.28		1.0589	1.0591	+0.5	2.86E+07	0.46	Y	0.92	109

Totals	Conc	EMPC
Total TCDD	93.3	96.4
Total PeCDD	10.8	20.4
Total HxCDD	112	112
Total HpCDD	797	797
Total Tetra-Octa Dioxins	6690	6700
Total TCDF	410	411
Total PeCDF	79.6	80.7
Total HxCDF	96.5	99.1
Total HpCDF	169	169
Total Tetra-Octa Furans	962	967
Total Tetra-Octa Dioxins & Furans	7650	7670

Lab ID: B6235_18875_DF_007 **Acq'd: 11 Feb 2022 08:46 DTF** **Wt/Vol: 10.22 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012222-S-BN-NC-O-39 **UTP: 11-Feb-2022 16:26:46 DTF** **J-level: 0.489 pg/g** **Split: 1** **Checkcode: 288-405-ZMT**

Datafile: 220210C30 **Report: 11 Feb 2022 16:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.83		0.8737	0.8726	-1.6	4.72E+05	0.82	Y	1.18	2.31	3865.755	0.2
1379-TCDD	25.18		0.8860	0.8849	-1.7	2.10E+05	0.69	Y	1.18	1.03	3865.755	0.2
1369-TCDD	NotFnd		0.9009						1.18		3865.755	0.2
1469-TCDD	26.39		0.9281	0.9275	-1.0	5.33E+05	0.80	Y	1.18	2.61	3865.755	0.2
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3865.755	0.2
1378-TCDD	26.83		0.9432	0.9428	-0.6	2.10E+05	0.76	Y	1.18	1.03	3865.755	0.2
1268-TCDD	NotFnd		0.9500						1.18		3865.755	0.2
1478-TCDD	NotFnd		0.9586						1.18		3865.755	0.2
1279-TCDD	NotFnd		0.9645						1.18		3865.755	0.2
1234/1269-TCDD	27.79	EMPC	0.9770	0.9765	-0.8	1.37E+05	0.93	N	1.18	0.672	3865.755	0.2
1236-TCDD	NotFnd		0.9817						1.18		3865.755	0.2
1237/1238-TCDD	28.19	EMPC	0.9905	0.9908	+0.5	4.99E+05	0.91	N	1.18	2.44	3865.755	0.2
1239-TCDD	NotFnd		0.9952						1.18		3865.755	0.2
2378-TCDD	**28.48**		**1.0008**	1.0008	**0**	1.61E+07	0.80	Y	**1.18**	**78.9**	**3865.755**	**0.2**
1278-TCDD	28.80		1.0121	1.0121	0	1.52E+06	0.76	Y	1.18	7.44	3865.755	0.2
1267-TCDD	NotFnd		1.0167						1.18		3865.755	0.2
1289-TCDD	NotFnd		1.0345						1.18		3865.755	0.2
12479/12468-PeCDD	31.31		0.9267	0.9265	-0.4	6.36E+05	1.71	Y	1.04	4.12	3396.567	0.19
12469-PeCDD	31.85	EMPC	0.9425	0.9423	-0.4	5.46E+05	1.14	N	1.04	3.53	3396.567	0.19
12368-PeCDD	32.40	J	0.9588	0.9587	-0.2	2.55E+05	1.50	Y	1.04	1.65	3396.567	0.19
12478-PeCDD	32.59	J	0.9643	0.9643	0	3.32E+05	1.44	Y	1.04	2.15	3396.567	0.19
12379-PeCDD	32.69	J	0.9673	0.9672	-0.2	2.11E+05	1.51	Y	1.04	1.37	3396.567	0.19
12369/12467/12489-PeCDD	32.96	J EMPC	0.9750	0.9750	0	3.46E+05	1.85	N	1.04	2.24	3396.567	0.19
12346/12347-PeCDD	33.32	J	0.9858	0.9859	+0.2	1.29E+05	1.43	Y	1.04	0.832	3396.567	0.19
12378-PeCDD	33.83	EMPC	**1.0005**	**1.0008**	**+0.6**	**5.38E+05**	**1.17**	**N**	**1.04**	**3.48**	**3396.567**	**0.19**
12367-PeCDD	33.93	J EMPC	1.0033	1.0037	+0.8	5.78E+04	1.28	N	1.04	0.374	3396.567	0.19
12389-PeCDD	34.26	J	1.0134	1.0136	+0.4	1.06E+05	1.77	Y	1.04	0.684	3396.567	0.19
124679/124689-HxCDD	35.99		0.9542	0.9540	-0.4	6.57E+06	1.23	Y	1.10	43.6	7984.411	0.447
123468-HxCDD	36.64		0.9715	0.9713	-0.4	1.01E+06	1.28	Y	1.10	6.67	7984.411	0.447
123679/123689-HxCDD	36.94		0.9793	0.9792	-0.2	5.37E+06	1.26	Y	1.10	35.6	7984.411	0.447
123469-HxCDD	37.07		0.9828	0.9826	-0.4	9.30E+05	1.28	Y	1.10	6.17	7984.411	0.447
123478-HxCDD	37.74		**1.0004**	**1.0004**	**0**	**4.15E+05**	**1.16**	**Y**	1.09	**2.86**	**7984.411**	**0.477**
123678-HxCDD	37.86		**1.0035**	**1.0035**	**0**	**1.48E+06**	**1.16**	**Y**	1.15	**9.6**	**7984.411**	**0.44**
123467-HxCDD	38.05	J	1.0085	1.0086	+0.2	3.08E+05	1.39	Y	1.10	2.05	7984.411	0.447
123789-HxCDD	38.15		**1.0113**	**1.0112**	**-0.2**	**8.97E+05**	**1.19**	**Y**	1.05	**5.9**	**7984.411**	**0.426**

Lab ID: B6235_18875_DF_007 **Acq'd:** 11 Feb 2022 08:46 DTF **Wt/Vol:** 10.22 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-O-39 **UTP:** 11-Feb-2022 16:26:46 DTF **J-level:** 0.489 pg/g **Split:** 1 **Checkcode:** 288-405-ZMT

Datafile: 220210C30 **Report:** 11 Feb 2022 16:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

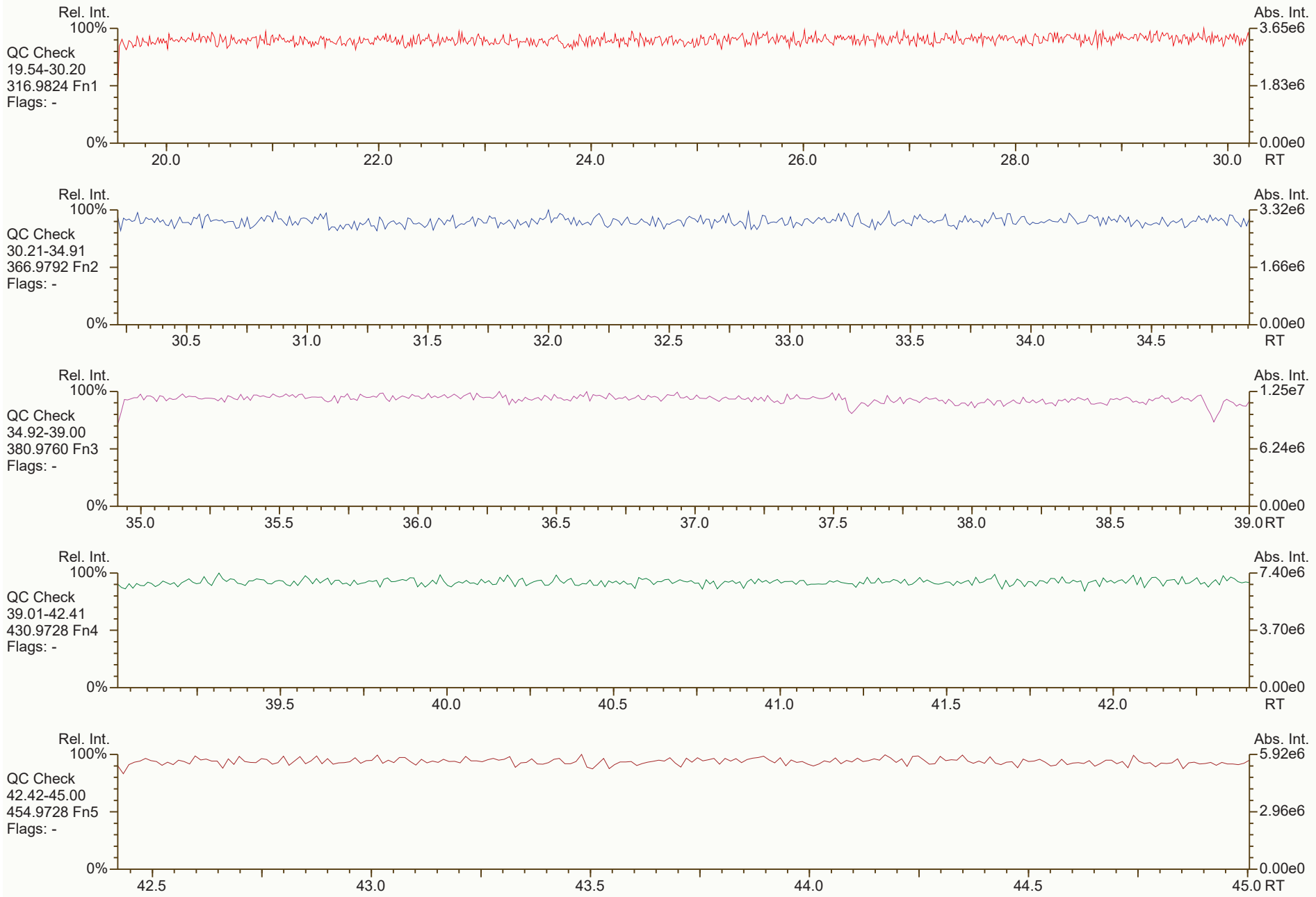
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.15		0.9837	0.9836	-0.2	6.77E+07	1.03	Y	1.06	520	7920.729	0.484
1234678-HpCDD	**40.83**		**1.0003**	**1.0004**	**+0.2**	**3.61E+07**	**1.04**	**Y**	**1.06**	**277**	**7920.729**	**0.484**
OCDD	**43.51**		**1.0002**	**1.0003**	**+0.3**	**6.05E+08**	**0.90**	**Y**	**1.13**	**5,680**	**7746.081**	**0.836**
OCDD-a	43.51		1.0001	1.0002	+0.3	3.79E+07	2.42	Y	0.07	5,560	5047.041	8.52
1368-TCDF	22.72		0.8251	0.8233	-2.5	3.42E+05	0.72	Y	1.08	1.24	3228.615	0.134
1468-TCDF	23.30		0.8458	0.8443	-2.1	4.97E+05	0.85	Y	1.08	1.8	3228.615	0.134
2468-TCDF	23.94		0.8686	0.8675	-1.6	8.24E+05	0.84	Y	1.08	2.99	3228.615	0.134
1346/1246-TCDF	24.30		0.8814	0.8807	-1.0	4.78E+05	0.79	Y	1.08	1.74	3228.615	0.134
1347/1378/1247-TCDF	24.46		0.8867	0.8862	-0.7	2.18E+06	0.75	Y	1.08	7.9	3228.615	0.134
1348-TCDF	24.71	EMPC	0.8962	0.8953	-1.3	2.70E+05	0.91	N	1.08	0.98	3228.615	0.134
1248/1367/1379-TCDF	24.81		0.9009	0.8991	-2.7	2.15E+06	0.79	Y	1.08	7.81	3228.615	0.134
1268-TCDF	25.23		0.9145	0.9142	-0.5	1.44E+06	0.81	Y	1.08	5.24	3228.615	0.134
1467-TCDF	25.36		0.9193	0.9189	-0.6	3.06E+05	0.79	Y	1.08	1.11	3228.615	0.134
1478-TCDF	25.52		0.9254	0.9249	-0.8	1.96E+06	0.77	Y	1.08	7.13	3228.615	0.134
1369/1237-TCDF	25.90		0.9387	0.9386	-0.2	1.19E+06	0.83	Y	1.08	4.32	3228.615	0.134
2467-TCDF	26.02		0.9433	0.9429	-0.6	5.22E+05	0.88	Y	1.08	1.9	3228.615	0.134
2368-TCDF	26.19		0.9489	0.9490	+0.2	3.85E+06	0.75	Y	1.08	14	3228.615	0.134
1238/1234/1678/1469/1236-TCDF	26.28		0.9523	0.9524	+0.2	1.76E+06	0.80	Y	1.08	6.37	3228.615	0.134
1278-TCDF	26.72		0.9683	0.9683	0	1.30E+07	0.79	Y	1.08	47.3	3228.615	0.134
1349-TCDF	NotFnd		0.9722						1.08		3228.615	0.134
1267-TCDF	27.00		0.9783	0.9782	-0.2	1.98E+06	0.79	Y	1.08	7.2	3228.615	0.134
2346/1249-TCDF	27.18		0.9850	0.9850	0	6.31E+05	0.72	Y	1.08	2.29	3228.615	0.134
2347/1279-TCDF	27.39		0.9926	0.9926	0	1.14E+06	0.87	Y	1.08	4.13	3228.615	0.134
2348-TCDF	27.50		0.9967	0.9966	-0.2	2.18E+06	0.78	Y	1.08	7.9	3228.615	0.134
2378-TCDF	**27.62**		**1.0008**	**1.0008**	**0**	**6.30E+07**	**0.80**	**Y**	**1.08**	**229**	**3228.615**	**0.134**
2367/3467-TCDF	27.97		1.0137	1.0136	-0.2	1.01E+07	0.77	Y	1.08	36.5	3228.615	0.134
1269-TCDF	28.21		1.0223	1.0223	0	8.05E+05	0.75	Y	1.08	2.92	3228.615	0.134
1239-TCDF	NotFnd		1.0321						1.08		3228.615	0.134
1289-TCDF	29.62		1.0722	1.0734	+2.1	2.73E+06	0.79	Y	1.08	9.9	3228.615	0.134
13468/12468-PeCDF	29.56		0.9139	0.9137	-0.4	2.29E+06	1.66	Y	1.02	9.79	2958.591	0.115
13678/13467/12467-PeCDF	31.11		0.9613	0.9616	+0.6	1.28E+06	1.54	Y	1.02	5.46	4993.751	0.194
12368/13478/12478-PeCDF	31.28		0.9662	0.9666	+0.8	3.30E+06	1.62	Y	1.02	14.1	4993.751	0.194
14678-PeCDF	NotFnd		0.9692						1.02		4993.751	0.194
13479-PeCDF	NotFnd		0.9723						1.02		4993.751	0.194
13469/12479-PeCDF	31.69	J	0.9797	0.9794	-0.6	1.79E+05	1.59	Y	1.02	0.765	4993.751	0.194
12346-PeCDF	31.84	J	0.9840	0.9841	+0.2	3.10E+05	1.54	Y	1.02	1.32	4993.751	0.194

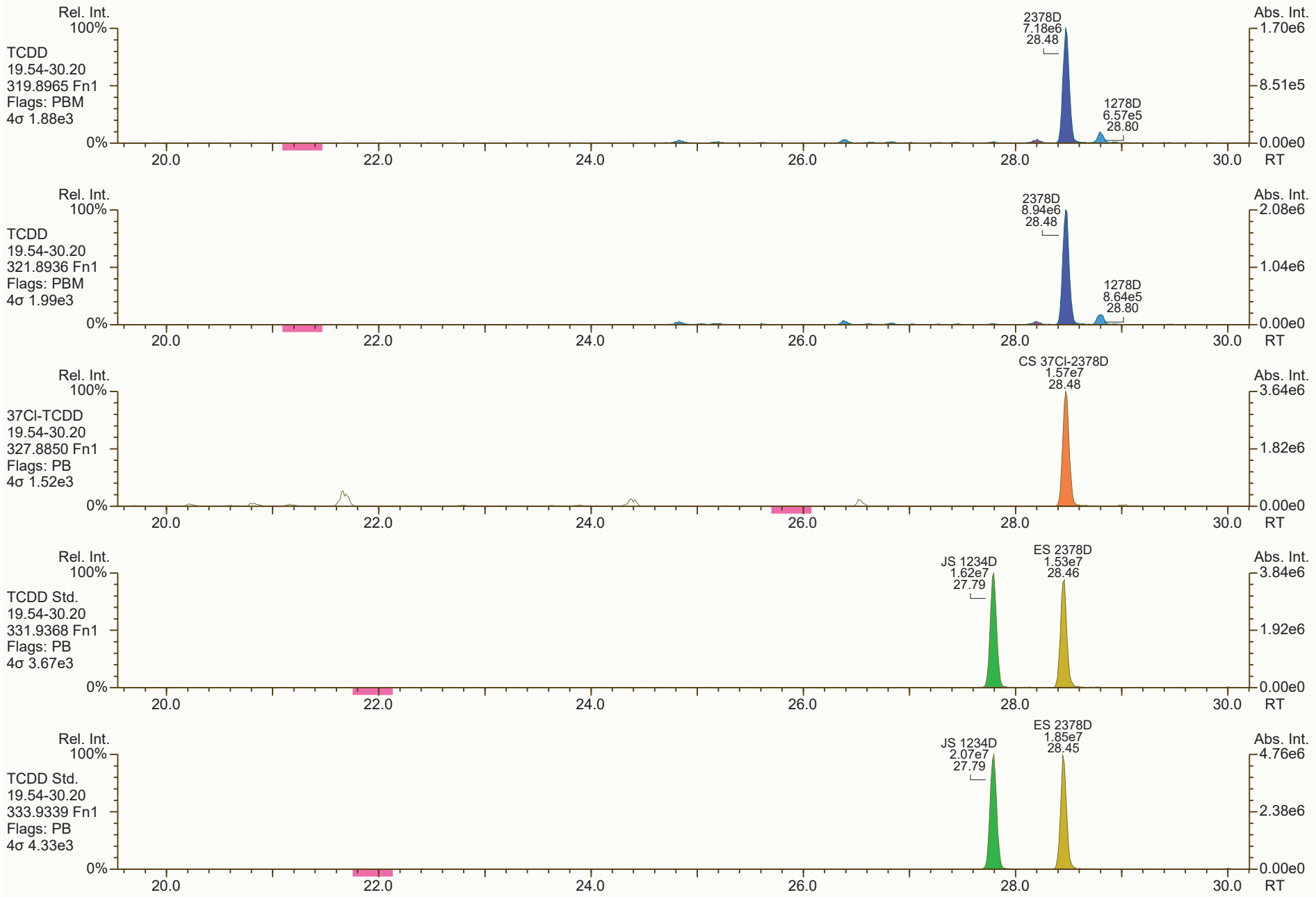
Lab ID: B6235_18875_DF_007 | **Acq'd: 11 Feb 2022 08:46 DTF** | **Wt/Vol: 10.22 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

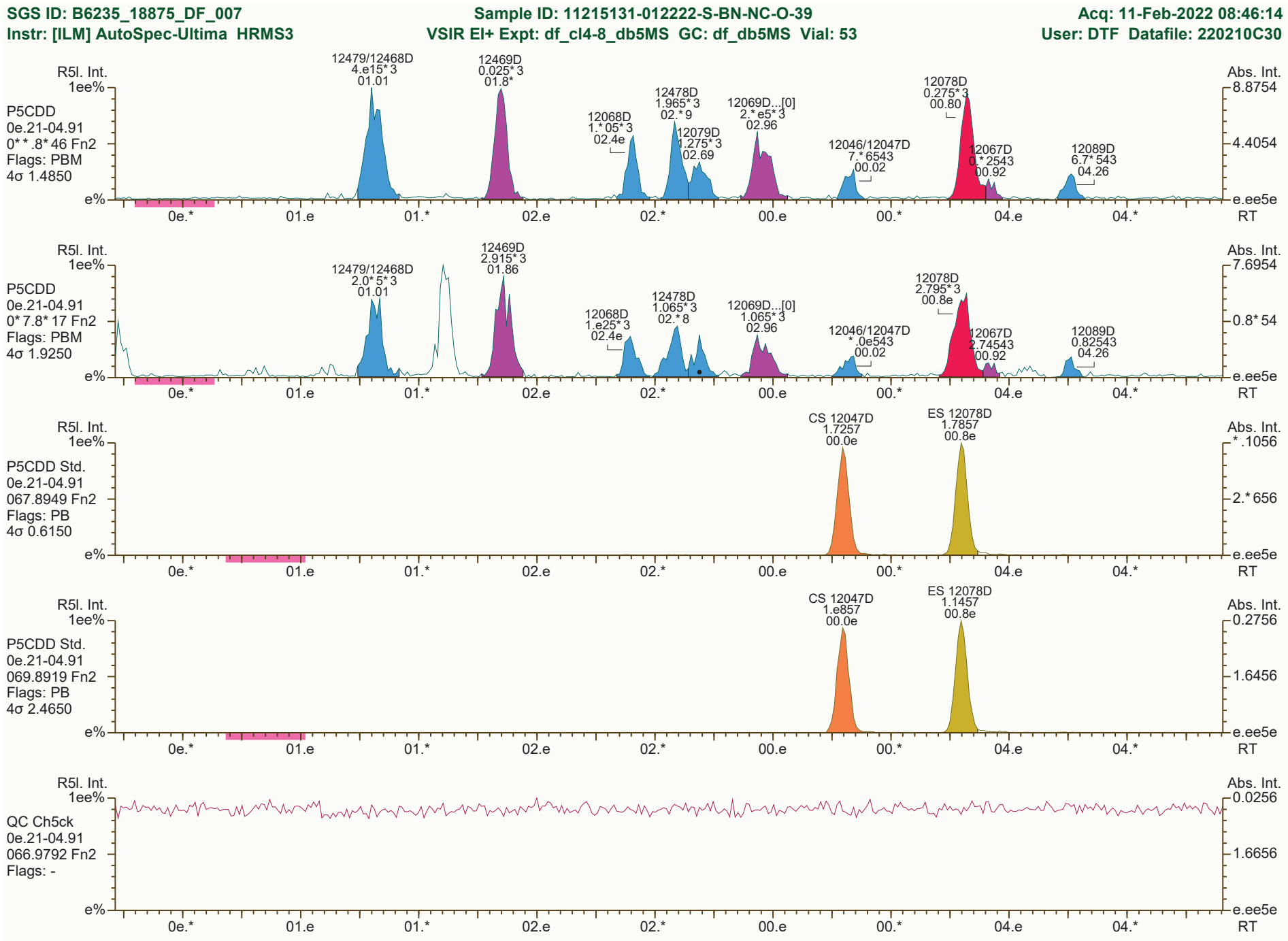
Client ID: 11215131-012222-S-BN-NC-O-39 | **UTP: 11-Feb-2022 16:26:46 DTF** | **J-level: 0.489 pg/g** | **Split: 1** | **Checkcode: 288-405-ZMT**

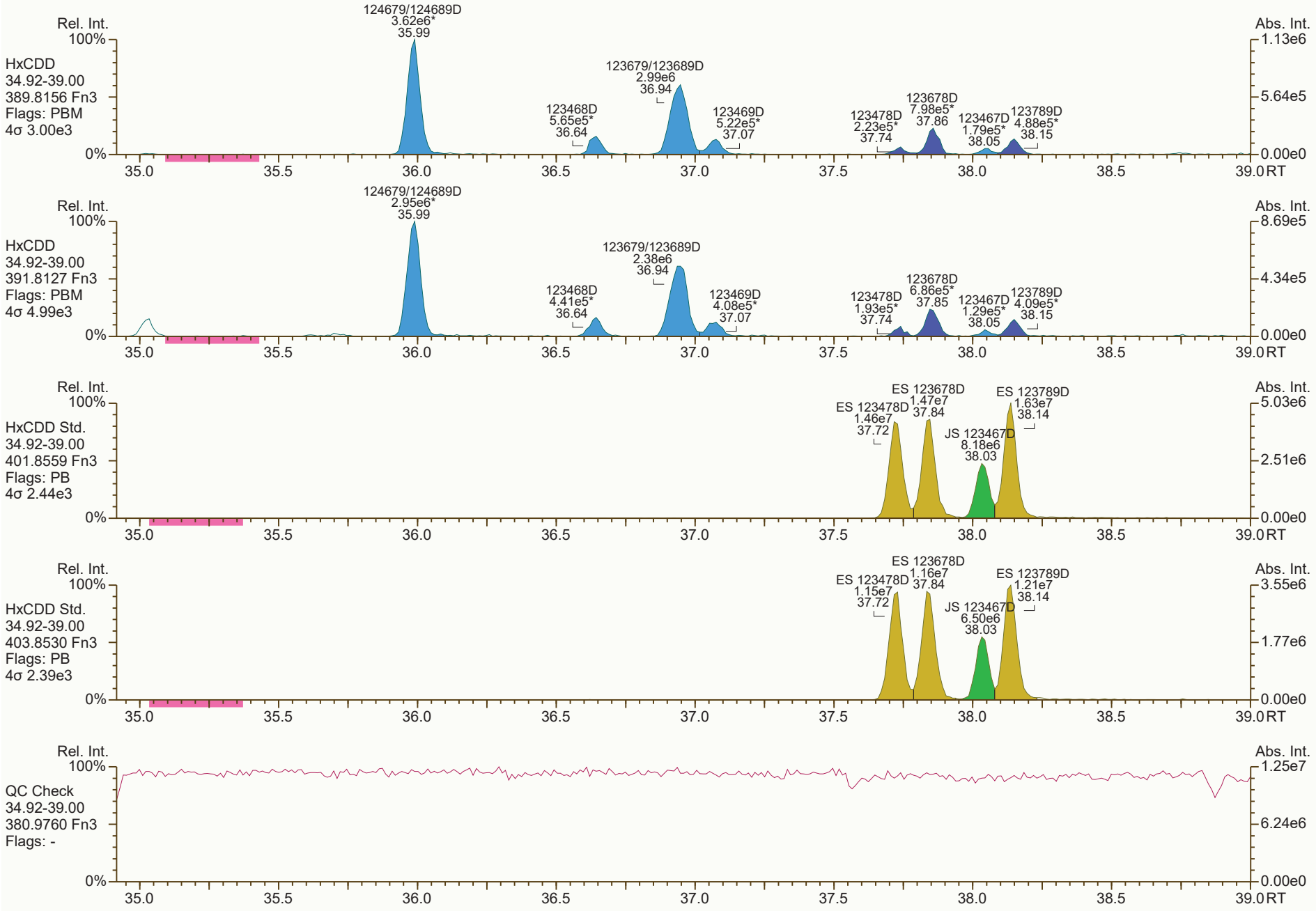
Datafile: 220210C30 | **Report: 11 Feb 2022 16:29 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

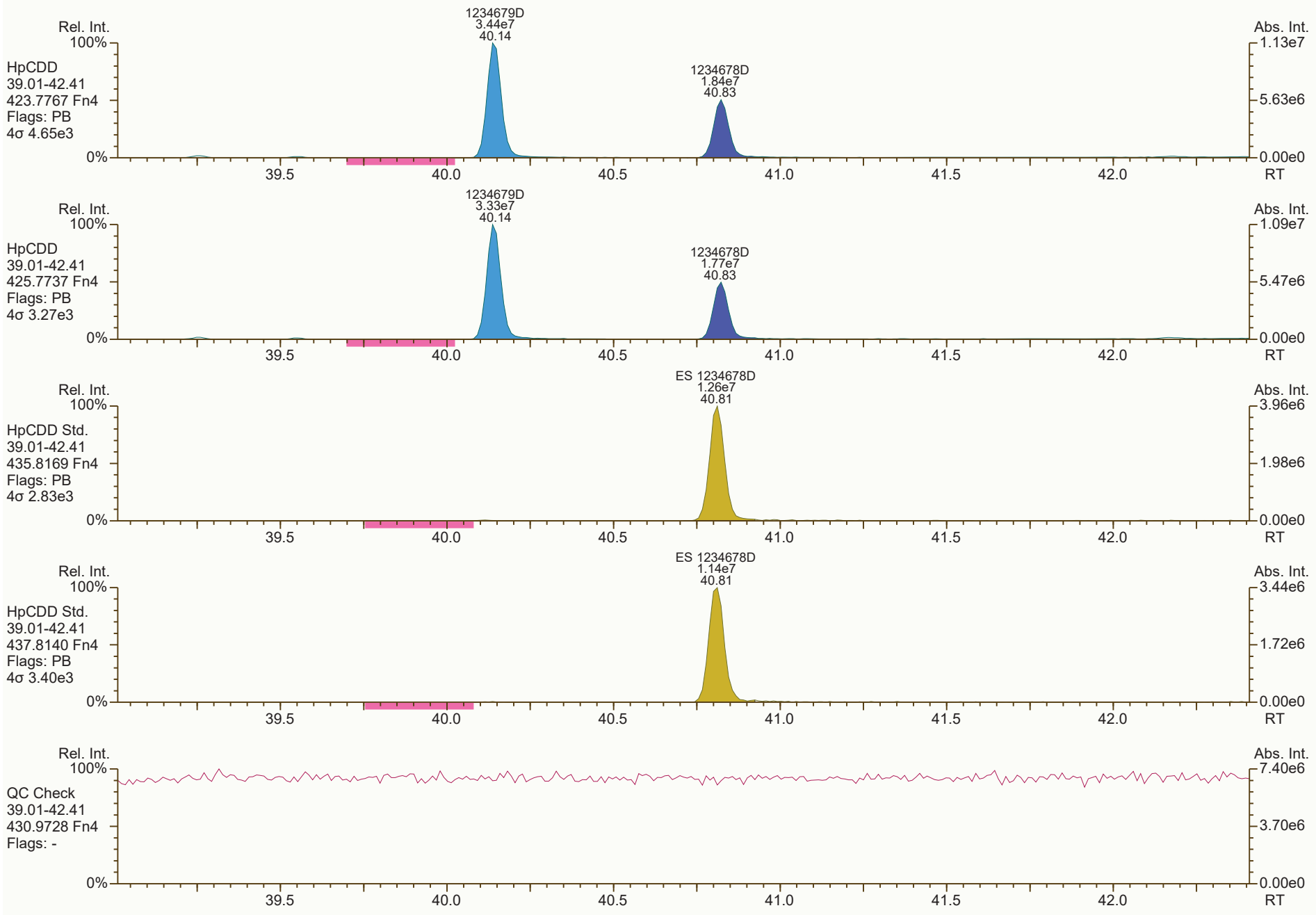
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.92		0.9868	0.9867	-0.2	8.63E+05	1.52	Y	1.02	3.68	4993.751	0.194
12347-PeCDF	32.00	J EMPC	0.9894	0.9891	-0.6	2.64E+05	1.26	N	1.02	1.13	4993.751	0.194
12348-PeCDF	32.16	J	0.9940	0.9939	-0.2	4.16E+05	1.68	Y	1.02	1.77	4993.751	0.194
12378-PeCDF	**32.38**		**1.0005**	**1.0007**	**+0.4**	**4.94E+06**	**1.61**	**Y**	**1.02**	**20.8**	**4993.751**	**0.191**
12678/12367-PeCDF	32.66		1.0089	1.0094	+1.0	1.36E+06	1.63	Y	1.02	5.79	4993.751	0.194
12379-PeCDF	NotFnd		1.0142						1.02		4993.751	0.194
12679-PeCDF	NotFnd		0.9929						1.02		4993.751	0.194
23467/12369-PeCDF	33.35		0.9967	0.9966	-0.2	6.75E+05	1.37	Y	1.02	2.88	4993.751	0.194
23478-PeCDF	**33.49**		**1.0005**	**1.0007**	**+0.4**	**2.89E+06**	**1.52**	**Y**	**1.02**	**12.5**	**4993.751**	**0.196**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4993.751	0.194
12349-PeCDF	NotFnd		1.0100						1.02		4993.751	0.194
12389-PeCDF	34.56	J	1.0324	1.0327	+0.6	1.76E+05	1.54	Y	1.02	0.75	4993.751	0.194
123468-HxCDF	35.34		0.9627	0.9626	-0.2	1.41E+06	1.35	Y	1.19	6.55	6366.581	0.248
124678/134678-HxCDF	35.54		0.9682	0.9679	-0.6	4.84E+06	1.23	Y	1.19	22.5	6366.581	0.248
134679-HxCDF	NotFnd		0.9744						1.19		6366.581	0.248
124679-HxCDF	35.97	J	0.9798	0.9797	-0.2	2.20E+05	1.08	Y	1.19	1.02	6366.581	0.248
124689-HxCDF	36.19		0.9858	0.9857	-0.2	5.30E+06	1.25	Y	1.19	24.7	6366.581	0.248
123467-HxCDF	36.61	EMPC	0.9972	0.9971	-0.2	5.62E+05	1.44	N	1.19	2.62	6366.581	0.248
123478-HxCDF	**36.73**		**1.0005**	**1.0004**	**-0.2**	**5.87E+06**	**1.28**	**Y**	**1.27**	**27.3**	**6366.581**	**0.241**
123678-HxCDF	**36.87**		**1.0005**	**1.0005**	**0**	**1.54E+06**	**1.23**	**Y**	**1.15**	**6.78**	**6366.581**	**0.234**
123479-HxCDF	NotFnd		1.0049						1.19		6366.581	0.248
123469-HxCDF	37.19	J	1.0090	1.0089	-0.2	1.37E+05	1.13	Y	1.19	0.64	6366.581	0.248
123679-HxCDF	NotFnd		0.9942						1.19		6366.581	0.248
234678-HxCDF	**37.56**		**1.0005**	**1.0004**	**-0.2**	**1.00E+06**	**1.36**	**Y**	**1.19**	**4.35**	**6366.581**	**0.239**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6366.581	0.248
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**6366.581**	**0.288**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.53		1.0009	1.0009	0	5.65E+05	1.37	Y	1.19	2.63	6366.581	0.248
1234678-HpCDF	**39.89**		**1.0003**	**1.0003**	**0**	**1.04E+07**	**1.03**	**Y**	**1.37**	**52.4**	**8346.233**	**0.289**
1234679-HpCDF	40.15	**J**	1.0068	1.0068	0	3.80E+05	0.96	Y	1.34	2.17	8346.233	0.358
1234689-HpCDF	40.29		1.0103	1.0104	+0.2	1.87E+07	1.03	Y	1.34	107	8346.233	0.358
1234789-HpCDF	**41.28**		**1.0003**	**1.0003**	**0**	**1.17E+06**	**1.03**	**Y**	**1.31**	**7.74**	**8346.233**	**0.446**
OCDF	**43.69**		**1.0003**	**1.0003**	**0**	**2.62E+07**	**0.88**	**Y**	**1.07**	**206**	**4587.413**	**0.428**
OCDF-a	43.69		1.0002	1.0002	0	1.74E+06	2.27	Y	0.07	220	3316.183	4.99

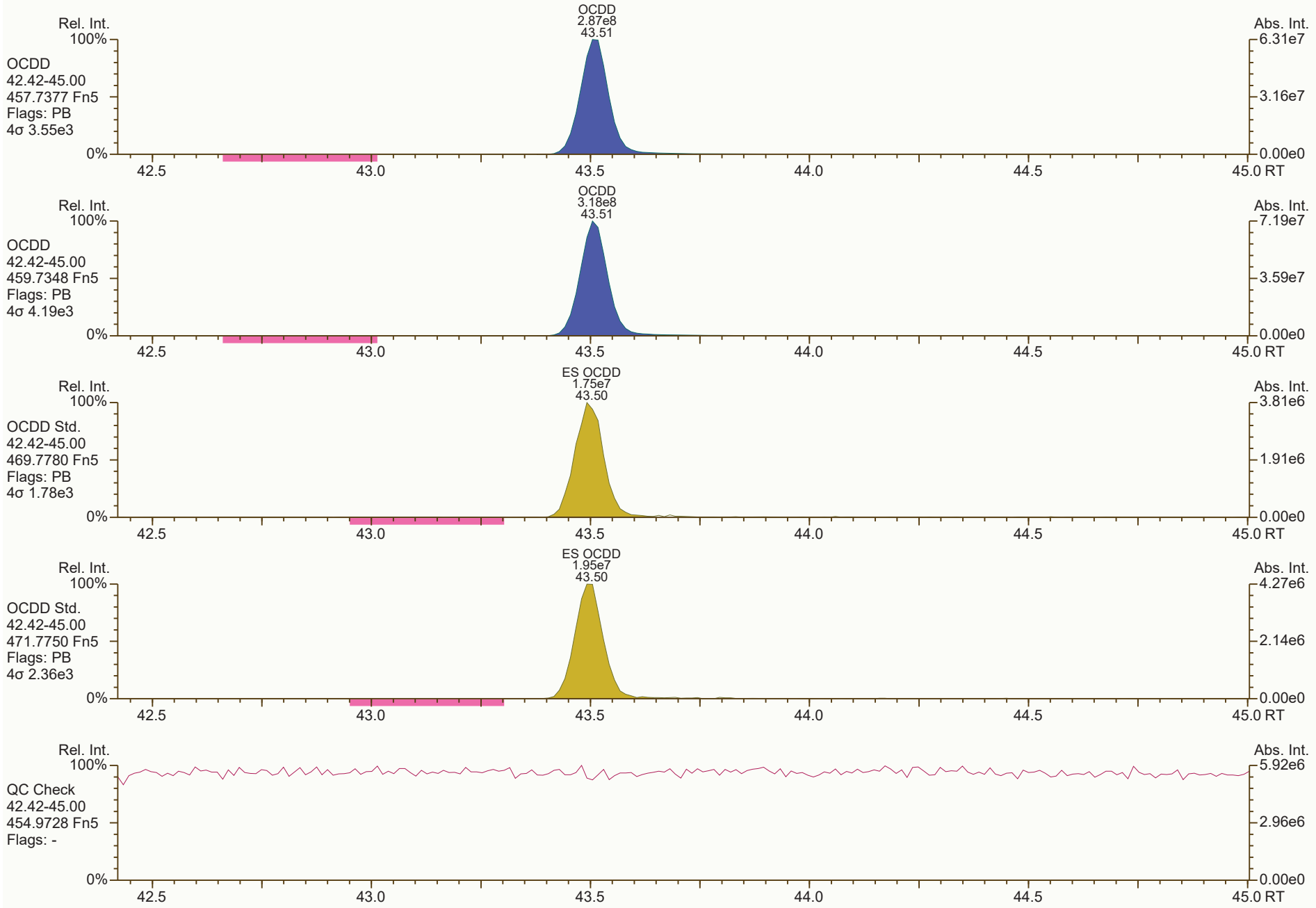

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.65e6
1.83e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.32e6
1.66e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.25e7
6.24e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
7.40e6
3.70e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.92e6
2.96e6
0.00e0

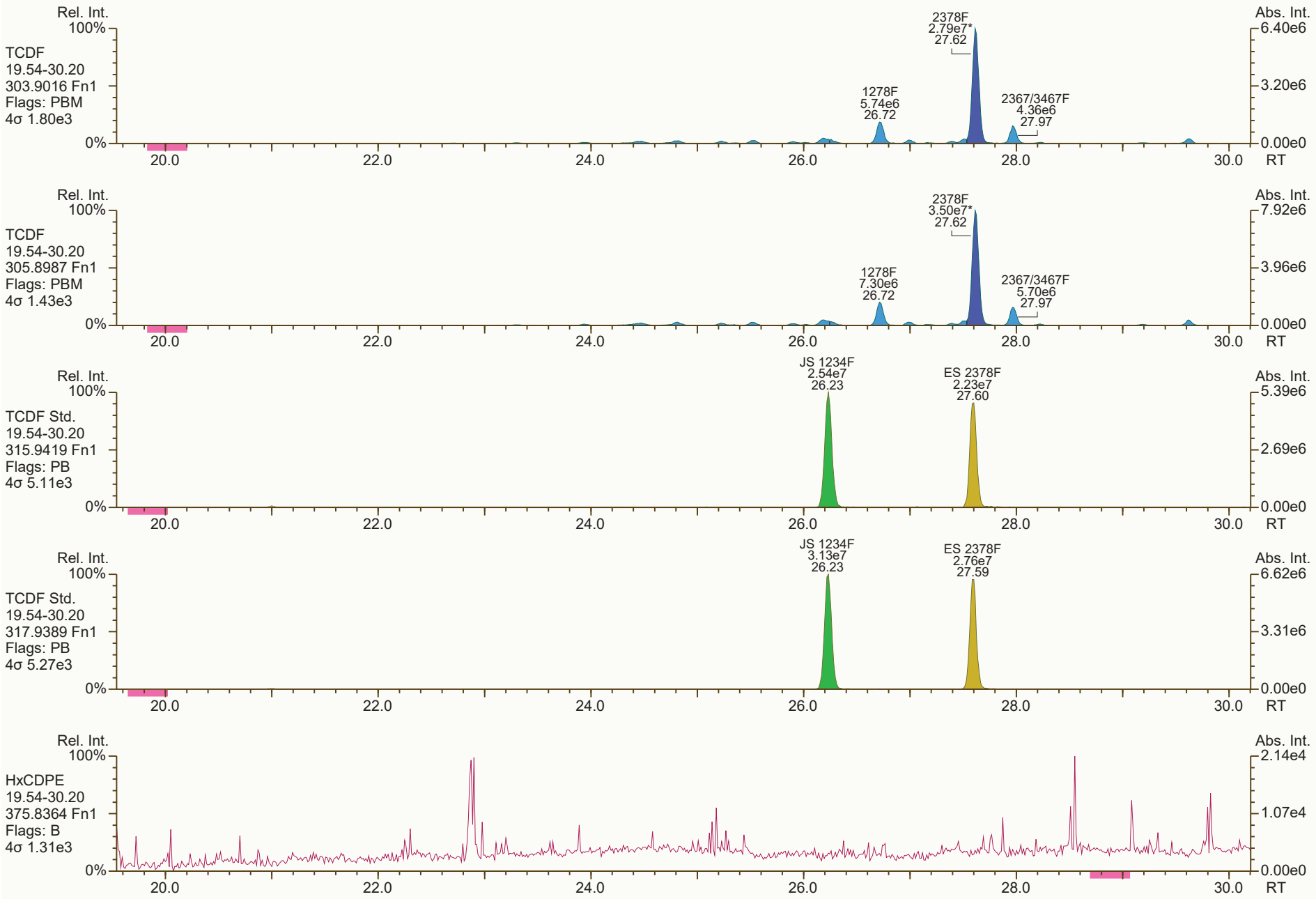

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.88e3
0%
2378D
7.18e6
28.48
1278D
6.57e5
28.80
Abs. Int.
1.70e6
8.51e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.99e3
0%
2378D
8.94e6
28.48
1278D
8.64e5
28.80
Abs. Int.
2.08e6
1.04e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.52e3
0%
CS 37Cl-2378D
1.57e7
28.48
Abs. Int.
3.64e6
1.82e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 3.67e3
0%
JS 1234D
1.62e7
27.79
ES 2378D
1.53e7
28.46
Abs. Int.
3.84e6
1.92e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.33e3
0%
JS 1234D
2.07e7
27.79
ES 2378D
1.85e7
28.45
Abs. Int.
4.76e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

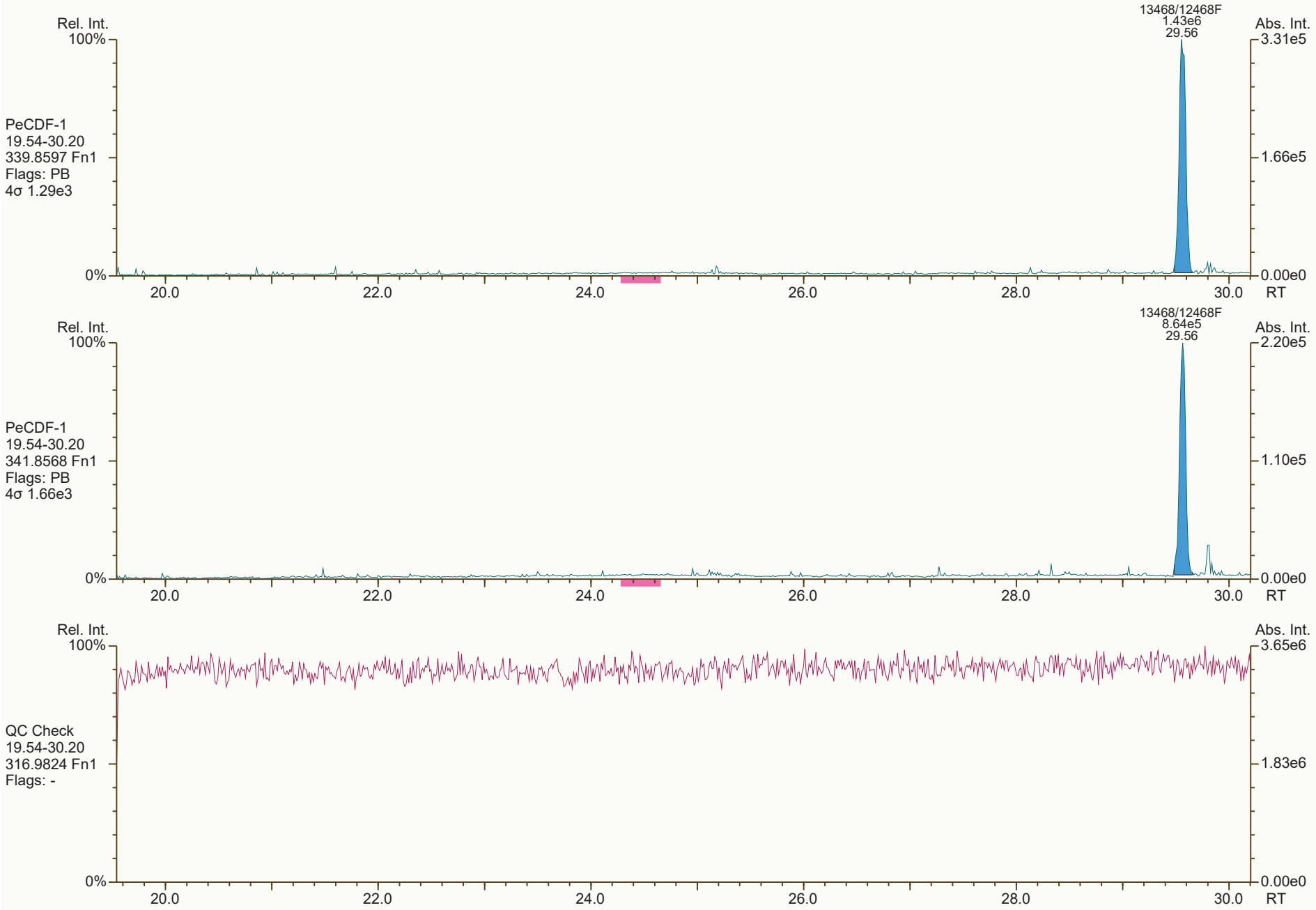

SGS ID: B6235_18875_DF_007
Sample ID: 11215131-012222-S-BN-NC-O-39
Acq: 11-Feb-2022 08:46:14
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 53
User: DTF Datafile: 220210C30
R5I. Int.
Abs. Int.
P5CDD
0e.21-04.91
Flags: PBM
12479/12468D
12469D
12068D
12478D
12079D
12069D...[0]
12046/12047D
12078D
12067D
12089D
P5CDD Std.
CS 12047D
ES 12078D
QC Ch5ck
Flags: -
RT
Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_007.utp_res, saved 11-Feb-2022 16:26 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3526, 9094 scc: 288-405
Revised: 11-Feb-2022 15:03 (DTF) Printed: 11-Feb-2022 16:38 Page 3 of 12

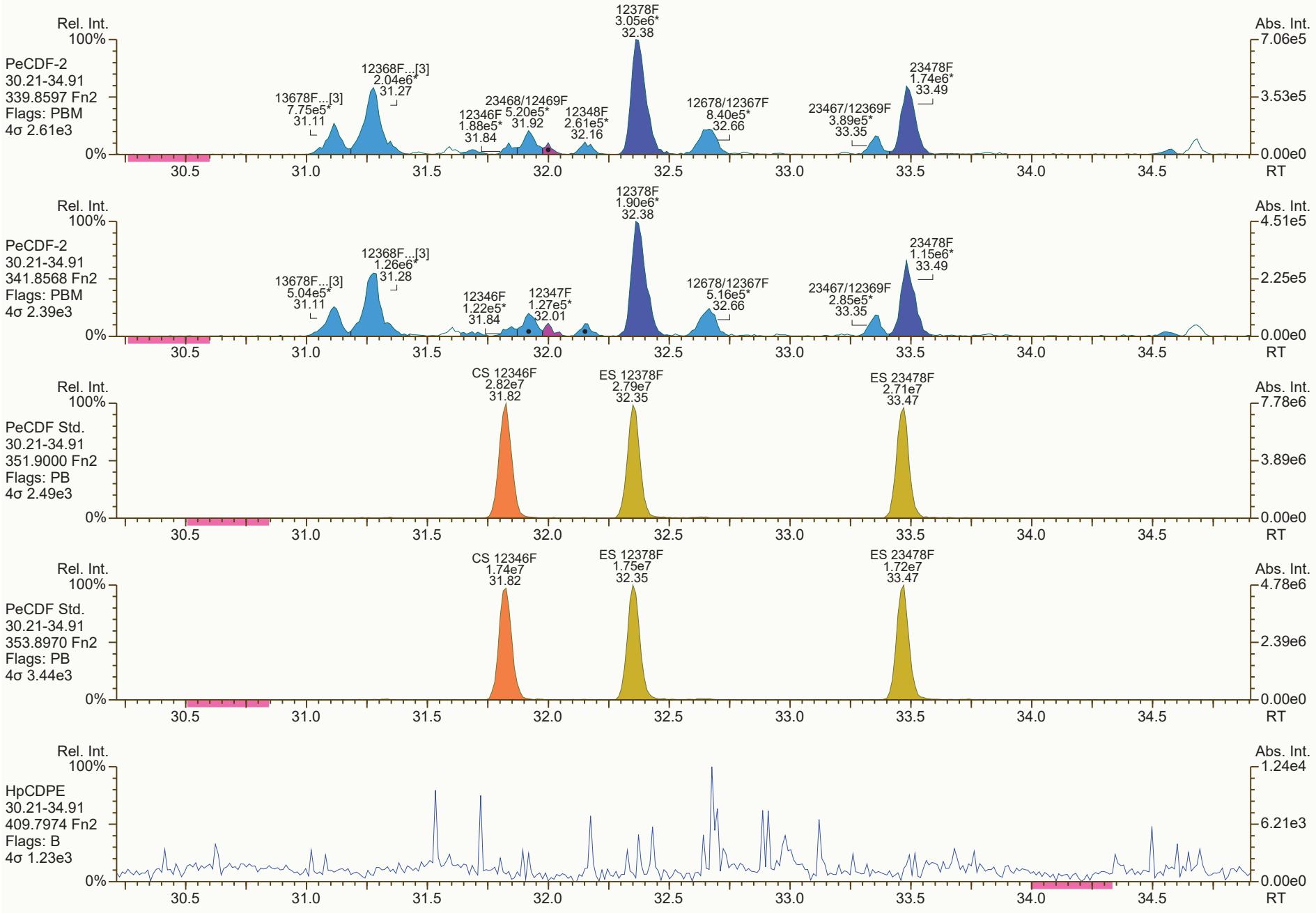

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 3.00e3
0%
124679/124689D
3.62e6*
35.99
123679/123689D
2.99e6
36.94
123468D
5.65e5*
36.64
123469D
5.22e5*
37.07
123478D
2.23e5*
37.74
123678D
7.98e5*
37.86
123467D
1.79e5*
38.05
123789D
4.88e5*
38.15
Abs. Int.
1.13e6
5.64e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 4.99e3
0%
124679/124689D
2.95e6*
35.99
123679/123689D
2.38e6
36.94
123468D
4.41e5*
36.64
123469D
4.08e5*
37.07
123478D
1.93e5*
37.74
123678D
6.86e5*
37.85
123467D
1.29e5*
38.05
123789D
4.09e5*
38.15
Abs. Int.
8.69e5
4.34e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 2.44e3
0%
ES 123678D
1.47e7
37.84
ES 123478D
1.46e7
37.72
ES 123789D
1.63e7
38.14
JS 123467D
8.18e6
38.03
Abs. Int.
5.03e6
2.51e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 2.39e3
0%
ES 123678D
1.16e7
37.84
ES 123478D
1.15e7
37.72
ES 123789D
1.21e7
38.14
JS 123467D
6.50e6
38.03
Abs. Int.
3.55e6
1.77e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.25e7
6.24e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

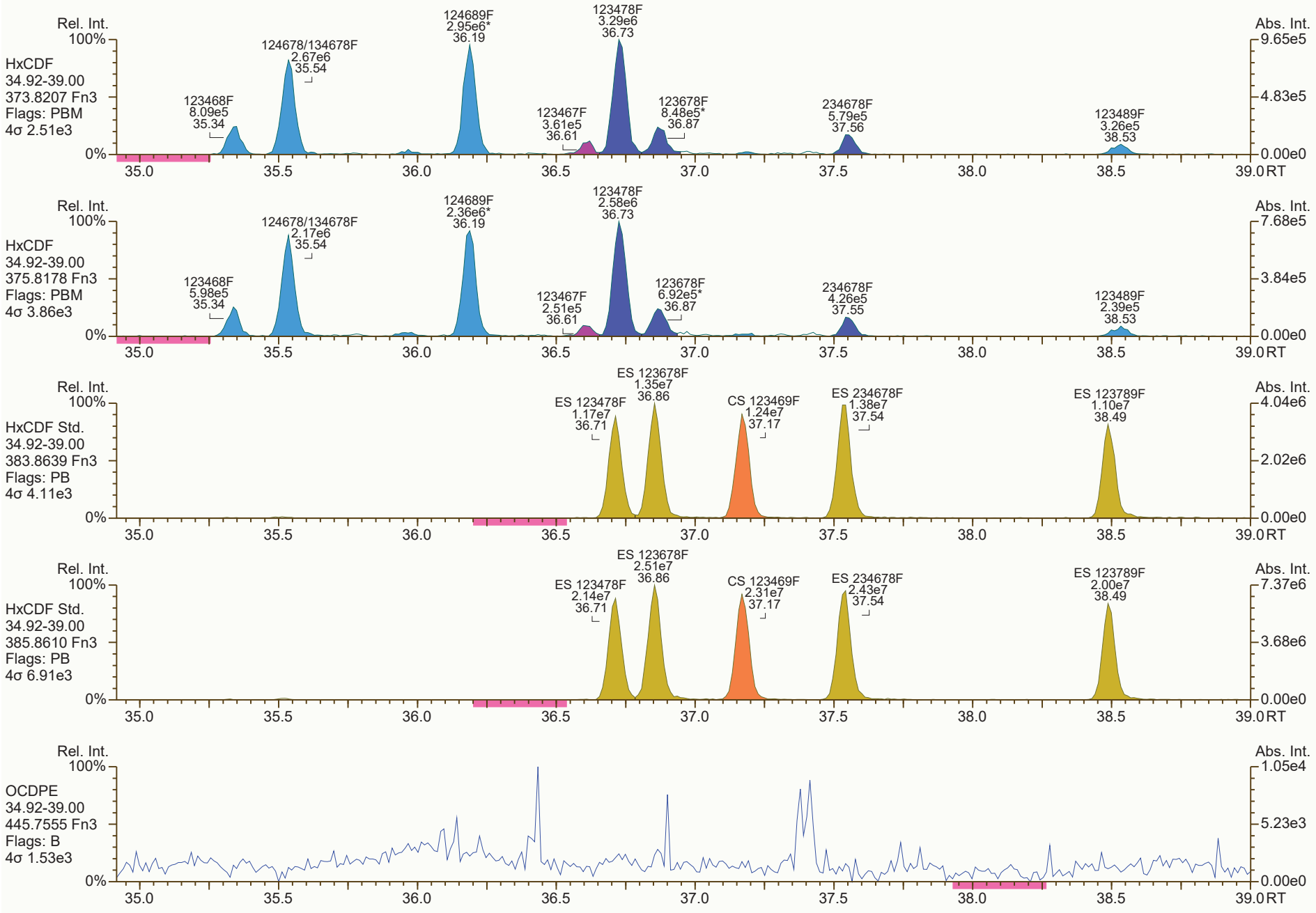

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 4.65e3
1234679D
3.44e7
40.14
1234678D
1.84e7
40.83
Abs. Int.
1.13e7
5.63e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 3.27e3
1234679D
3.33e7
40.14
1234678D
1.77e7
40.83
Abs. Int.
1.09e7
5.47e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.83e3
ES 1234678D
1.26e7
40.81
Abs. Int.
3.96e6
1.98e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 3.40e3
ES 1234678D
1.14e7
40.81
Abs. Int.
3.44e6
1.72e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
7.40e6
3.70e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

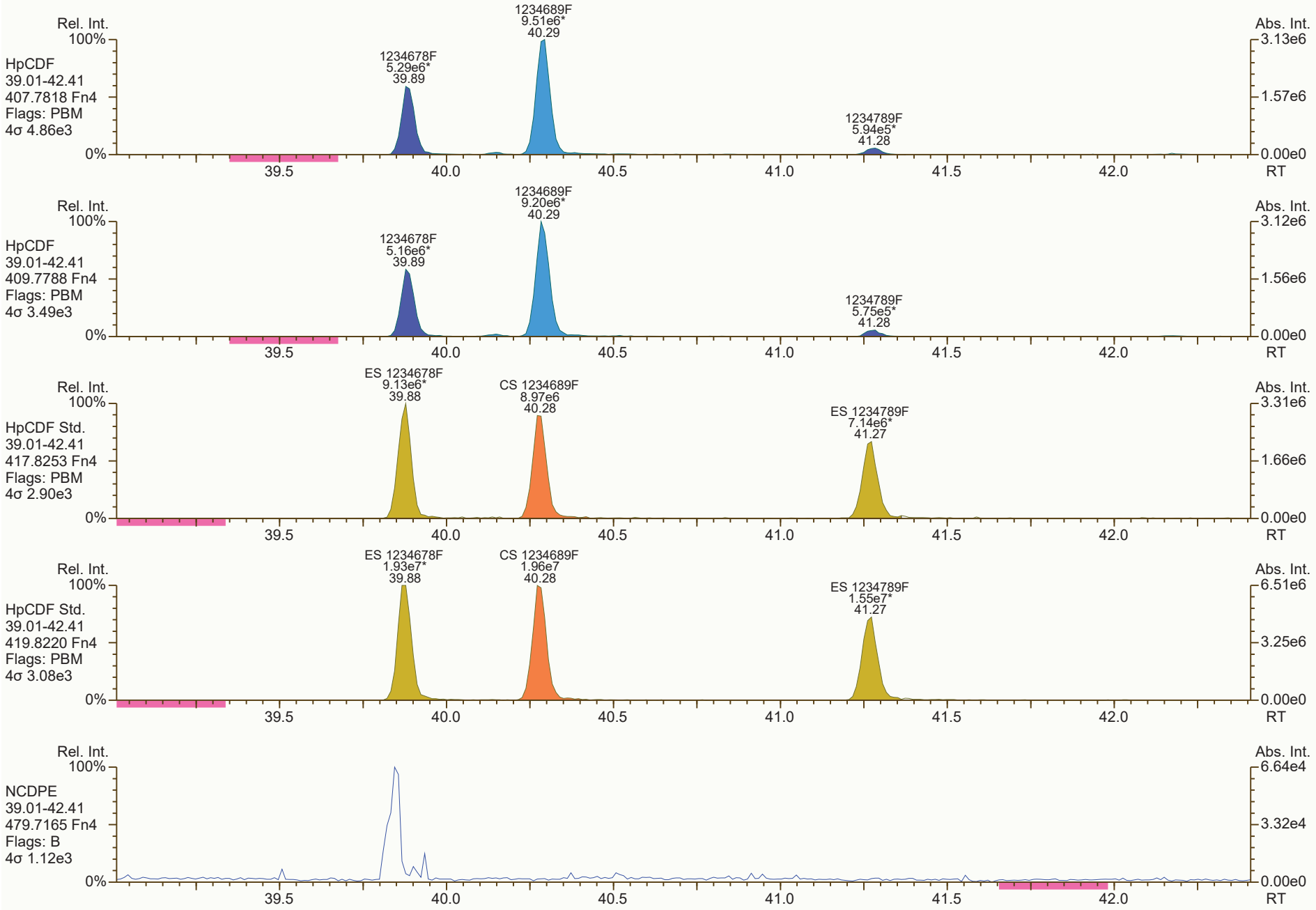

OCDD
2.87e8
43.51
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 3.55e3
0%
Abs. Int.
6.31e7
3.16e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.18e8
43.51
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 4.19e3
7.19e7
3.59e7
ES OCDD
1.75e7
43.50
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 1.78e3
3.81e6
1.91e6
ES OCDD
1.95e7
43.50
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 2.36e3
4.27e6
2.14e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
5.92e6
2.96e6

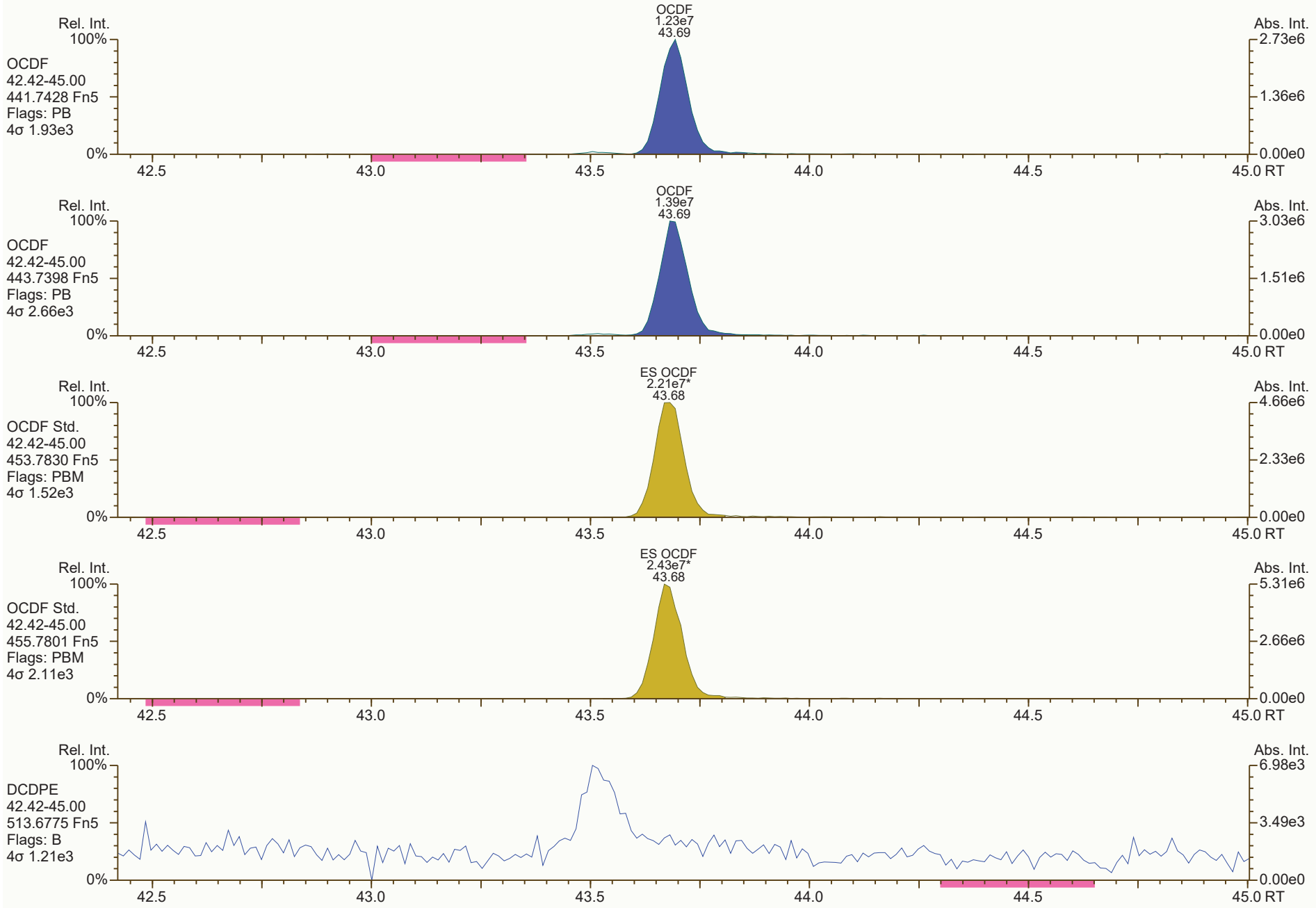

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.80e3
0%
2378F
2.79e7*
27.62
1278F
5.74e6
26.72
2367/3467F
4.36e6
27.97
Abs. Int.
6.40e6
3.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.43e3
0%
2378F
3.50e7*
27.62
1278F
7.30e6
26.72
2367/3467F
5.70e6
27.97
Abs. Int.
7.92e6
3.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 5.11e3
0%
JS 1234F
2.54e7
26.23
ES 2378F
2.23e7
27.60
Abs. Int.
5.39e6
2.69e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 5.27e3
0%
JS 1234F
3.13e7
26.23
ES 2378F
2.76e7
27.59
Abs. Int.
6.62e6
3.31e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.31e3
0%
Abs. Int.
2.14e4
1.07e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
3.31e5
1.66e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
13468/12468F
1.43e6
29.56
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.29e3
13468/12468F
8.64e5
29.56
2.20e5
1.10e5
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.66e3
3.65e6
1.83e6
QC Check
19.54-30.20
316.9824 Fn1
Flags: -


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PBM
4σ 2.61e3
13678F...[3] 7.75e5* 31.11
12368F...[3] 2.04e6* 31.27
12346F 1.88e5* 31.84
23468/12469F 5.20e5* 31.92
12348F 2.61e5* 32.16
12378F 3.05e6* 32.38
12678/12367F 8.40e5* 32.66
23467/12369F 3.89e5* 33.35
23478F 1.74e6* 33.49
Abs. Int.
7.06e5
3.53e5
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PBM
4σ 2.39e3
13678F...[3] 5.04e5* 31.11
12368F...[3] 1.26e6* 31.28
12346F 1.22e5* 31.84
12347F 1.27e5* 32.01
12378F 1.90e6* 32.38
12678/12367F 5.16e5* 32.66
23467/12369F 2.85e5* 33.35
23478F 1.15e6* 33.49
Abs. Int.
4.51e5
2.25e5
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 2.49e3
CS 12346F 2.82e7 31.82
ES 12378F 2.79e7 32.35
ES 23478F 2.71e7 33.47
Abs. Int.
7.78e6
3.89e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 3.44e3
CS 12346F 1.74e7 31.82
ES 12378F 1.75e7 32.35
ES 23478F 1.72e7 33.47
Abs. Int.
4.78e6
2.39e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.23e3
Abs. Int.
1.24e4
6.21e3
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT


Rel. Int.
Abs. Int.
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 2.51e3
123468F 8.09e5 35.34
124678/134678F 2.67e6 35.54
124689F 2.95e6* 36.19
123467F 3.61e5 36.61
123478F 3.29e6 36.73
123678F 8.48e5* 36.87
234678F 5.79e5 37.56
123489F 3.26e5 38.53
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 3.86e3
123468F 5.98e5 35.34
124678/134678F 2.17e6 35.54
124689F 2.36e6* 36.19
123467F 2.51e5 36.61
123478F 2.58e6 36.73
123678F 6.92e5* 36.87
234678F 4.26e5 37.55
123489F 2.39e5 38.53
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 4.11e3
ES 123478F 1.17e7 36.71
ES 123678F 1.35e7 36.86
CS 123469F 1.24e7 37.17
ES 234678F 1.38e7 37.54
ES 123789F 1.10e7 38.49
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 6.91e3
ES 123478F 2.14e7 36.71
ES 123678F 2.51e7 36.86
CS 123469F 2.31e7 37.17
ES 234678F 2.43e7 37.54
ES 123789F 2.00e7 38.49
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.53e3
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
9.65e5
4.83e5
0.00e0
7.68e5
3.84e5
4.04e6
2.02e6
7.37e6
3.68e6
1.05e4
5.23e3


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 4.86e3
1234678F
5.29e6*
39.89
1234689F
9.51e6*
40.29
1234789F
5.94e5*
41.28
Abs. Int.
3.13e6
1.57e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 3.49e3
1234678F
5.16e6*
39.89
1234689F
9.20e6*
40.29
1234789F
5.75e5*
41.28
Abs. Int.
3.12e6
1.56e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 2.90e3
ES 1234678F
9.13e6*
39.88
CS 1234689F
8.97e6
40.28
ES 1234789F
7.14e6*
41.27
Abs. Int.
3.31e6
1.66e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 3.08e3
ES 1234678F
1.93e7*
39.88
CS 1234689F
1.96e7
40.28
ES 1234789F
1.55e7*
41.27
Abs. Int.
6.51e6
3.25e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.12e3
Abs. Int.
6.64e4
3.32e4
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
1.23e7
43.69
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.93e3
0%
Abs. Int.
2.73e6
1.36e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.39e7
43.69
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 2.66e3
0%
Abs. Int.
3.03e6
1.51e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.21e7*
43.68
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 1.52e3
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.43e7*
43.68
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 2.11e3
0%
Abs. Int.
5.31e6
2.66e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.21e3
0%
Abs. Int.
6.98e3
3.49e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6235_18875_DF_008 **Acq'd:** 11 Feb 2022 09:32 DTF **Wt/Vol:** 10.01 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-B-12 **UTP:** 11-Feb-2022 16:26:47 DTF **J-level:** 0.499 pg/g **Split:** 1 **Checkcode:** 608-475-ZTP

Datafile: 220210C31 **Report:** 11 Feb 2022 16:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.49	E	1.0008	1.0008	0	2.05E+08	0.79	Y	1.18	1,240	4170.023	0.268
12378-PeCDD	33.83		1.0005	1.0005	0	1.62E+06	1.64	Y	1.04	12.7	3728.41	0.256
123478-HxCDD	37.75	J EMPC	1.0004	1.0005	+0.2	1.22E+05	1.02	N	1.09	1.1	5270.477	0.42
123678-HxCDD	37.87		1.0035	1.0035	0	7.03E+05	1.18	Y	1.15	5.65	5270.477	0.371
123789-HxCDD	38.16		1.0113	1.0113	0	3.68E+05	1.06	Y	1.05	2.97	5270.477	0.365
1234678-HpCDD	40.84		1.0003	1.0004	+0.2	1.88E+07	1.03	Y	1.06	180	8188.509	0.609
OCDD	43.54		1.0002	1.0003	+0.3	2.13E+08	0.90	Y	1.13	2,690	7742.708	1.11
2378-TCDF	27.63	E	1.0008	1.0008	0	7.66E+08	0.79	Y	1.08	3,340	3187.27	0.154
12378-PeCDF	32.38		1.0005	1.0005	0	2.27E+07	1.54	Y	1.02	116	5002.119	0.23
23478-PeCDF	33.50		1.0005	1.0007	+0.4	1.82E+07	1.58	Y	1.02	92.1	5002.119	0.228
123478-HxCDF	36.74		1.0005	1.0005	0	3.02E+07	1.23	Y	1.27	174	5163.302	0.252
123678-HxCDF	36.88		1.0005	1.0004	-0.2	8.29E+06	1.23	Y	1.15	45.1	5163.302	0.239
234678-HxCDF	37.56		1.0005	1.0004	-0.2	1.94E+06	1.21	Y	1.19	10.2	5163.302	0.238
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	5163.302	0.29
1234678-HpCDF	39.90		1.0003	1.0003	0	1.40E+07	1.08	Y	1.37	91.2	5636.594	0.272
1234789-HpCDF	41.29		1.0003	1.0002	-0.2	2.65E+06	1.01	Y	1.31	20.8	5636.594	0.376
OCDF	43.71		1.0003	1.0003	0	9.52E+07	0.89	Y	1.07	944	4674.547	0.548

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.47	1.0238	1.0236	-0.3	2.79E+07	0.84	Y	1.05	86.9
ES 12378-PeCDD	33.81	1.2160	1.2158	-0.4	2.45E+07	1.60	Y	0.88	90.7
ES 123478-HxCDD	37.73	0.9919	0.9918	-0.2	2.04E+07	1.27	Y	0.97	88.1
ES 123678-HxCDD	37.85	0.9950	0.9949	-0.2	2.17E+07	1.23	Y	0.94	96.6
ES 123789-HxCDD	38.14	1.0027	1.0027	0	2.37E+07	1.24	Y	1.09	91.3
ES 1234678-HpCDD	40.82	1.0730	1.0730	0	1.97E+07	1.06	Y	0.91	90.8
ES OCDD	43.53	1.1437	1.1441	+1.0	2.81E+07	0.93	Y	0.62	94.6
ES 2378-TCDF	27.61	1.0520	1.0521	+0.2	4.24E+07	0.78	Y	1.06	85
ES 12378-PeCDF	32.37	1.2330	1.2332	+0.4	3.81E+07	1.56	Y	0.91	89
ES 23478-PeCDF	33.48	1.2754	1.2756	+0.4	3.86E+07	1.55	Y	0.88	92.9
ES 123478-HxCDF	36.72	0.9653	0.9652	-0.2	2.74E+07	0.53	Y	1.20	96.2
ES 123678-HxCDF	36.86	0.9691	0.9690	-0.2	3.18E+07	0.55	Y	1.35	99.2
ES 234678-HxCDF	37.55	0.9870	0.9869	-0.2	3.21E+07	0.52	Y	1.24	109
ES 123789-HxCDF	38.50	1.0121	1.0120	-0.2	2.51E+07	0.56	Y	1.16	91.4
ES 1234678-HpCDF	39.89	1.0484	1.0485	+0.2	2.24E+07	0.44	Y	0.97	97.4
ES 1234789-HpCDF	41.28	1.0851	1.0852	+0.2	1.95E+07	0.47	Y	0.85	96.3
ES OCDF	43.70	1.1483	1.1486	+0.8	3.76E+07	0.91	Y	0.81	97.9

Lab ID: B6235_18875_DF_008 **Acq'd:** 11 Feb 2022 09:32 DTF **Wt/Vol:** 10.01 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-B-12 **UTP:** 11-Feb-2022 16:26:47 DTF **J-level:** 0.499 pg/g **Split:** 1 **Checkcode:** 608-475-ZTP

Datafile: 220210C31 **Report:** 11 Feb 2022 16:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.81		-	-	-	3.07E+07	0.79	Y	-	-
JS 1234-TCDF	26.25		-	-	-	4.71E+07	0.81	Y	-	-
JS 123467-HxCDD	38.04		-	-	-	1.19E+07	1.21	Y	-	-
CS 37Cl-2378-TCDD	28.49		1.0245	1.0244	-0.2	1.40E+07	n/a	-	1.20	94.5
CS 12347-PeCDD	33.31		1.1979	1.1978	-0.2	2.42E+07	1.59	Y	0.75	104
CS 12346-PeCDF	31.84		1.2128	1.2130	+0.4	3.92E+07	1.61	Y	0.85	97.7
CS 123469-HxCDF	37.18		0.9774	0.9773	-0.2	3.00E+07	0.55	Y	1.12	113
CS 1234689-HpCDF	40.29		1.0589	1.0591	+0.5	2.30E+07	0.48	Y	0.89	109
SS 37Cl-2378-TCDD	28.49		1.0245	1.0244	-0.2	1.40E+07	n/a	-	1.15	109
SS 12347-PeCDD	33.31		1.1979	1.1978	-0.2	2.42E+07	1.59	Y	0.86	115
SS 12346-PeCDF	31.84		1.2128	1.2130	+0.4	3.92E+07	1.61	Y	0.94	110
SS 123469-HxCDF	37.18		0.9774	0.9773	-0.2	3.00E+07	0.55	Y	0.83	114
SS 1234689-HpCDF	40.29		1.0589	1.0591	+0.5	2.30E+07	0.48	Y	0.92	112

Totals	Conc	EMPC
Total TCDD	1370	1370
Total PeCDD	23.6	26.7
Total HxCDD	62.4	66.7
Total HpCDD	387	387
Total Tetra-Octa Dioxins	4530	4540
Total TCDF	6,540	6540
Total PeCDF	332	332
Total HxCDF	286	286
Total HpCDF	182	182
Total Tetra-Octa Furans	8,280	8280
Total Tetra-Octa Dioxins & Furans	12800	12800

Lab ID: B6235_18875_DF_008 **Acq'd:** 11 Feb 2022 09:32 DTF **Wt/Vol:** 10.01 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-B-12 **UTP:** 11-Feb-2022 16:26:47 DTF **J-level:** 0.499 pg/g **Split:** 1 **Checkcode:** 608-475-ZTP

Datafile: 220210C31 **Report:** 11 Feb 2022 16:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.85		0.8737	0.8728	-1.3	4.51E+05	0.81	Y	1.18	2.73	4170.023	0.268
1379-TCDD	25.21		0.8860	0.8855	-0.8	1.88E+05	0.75	Y	1.18	1.13	4170.023	0.268
1369-TCDD	NotFnd		0.9009						1.18		4170.023	0.268
1469-TCDD	26.41		0.9281	0.9278	-0.5	7.25E+05	0.83	Y	1.18	4.38	4170.023	0.268
1247/1246/1248/1249-TCDD	26.64		0.9362	0.9357	-0.8	3.73E+05	0.82	Y	1.18	2.25	4170.023	0.268
1378-TCDD	26.83		0.9432	0.9426	-1.0	6.45E+05	0.81	Y	1.18	3.89	4170.023	0.268
1268-TCDD	NotFnd		0.9500						1.18		4170.023	0.268
1478-TCDD	27.29		0.9586	0.9585	-0.2	5.42E+05	0.79	Y	1.18	3.27	4170.023	0.268
1279-TCDD	27.47	J EMPC	0.9645	0.9648	+0.5	4.36E+04	0.98	N	1.18	0.263	4170.023	0.268
1234/1269-TCDD	27.81		0.9770	0.9771	+0.2	1.49E+05	0.81	Y	1.18	0.9	4170.023	0.268
1236-TCDD	NotFnd		0.9817						1.18		4170.023	0.268
1237/1238-TCDD	28.20		0.9905	0.9905	0	3.21E+06	0.83	Y	1.18	19.4	4170.023	0.268
1239-TCDD	NotFnd		0.9952						1.18		4170.023	0.268
2378-TCDD	**28.49**	E	**1.0008**	1.0008	**0**	2.05E+08	0.79	Y	**1.18**	**1,240**	**4170.023**	**0.268**
1278-TCDD	28.81		1.0121	1.0121	0	1.50E+07	0.79	Y	1.18	90.4	4170.023	0.268
1267-TCDD	NotFnd		1.0167						1.18		4170.023	0.268
1289-TCDD	29.45		1.0345	1.0347	+0.4	3.17E+05	0.83	Y	1.18	1.91	4170.023	0.268
12479/12468-PeCDD	31.32	EMPC	0.9267	0.9263	-0.8	3.18E+05	1.85	N	1.04	2.5	3728.41	0.256
12469-PeCDD	31.86		0.9425	0.9423	-0.4	4.15E+05	1.41	Y	1.04	3.27	3728.41	0.256
12368-PeCDD	32.41		0.9588	0.9586	-0.4	3.21E+05	1.49	Y	1.04	2.52	3728.41	0.256
12478-PeCDD	32.61	J	0.9643	0.9643	0	2.14E+05	1.59	Y	1.04	1.69	3728.41	0.256
12379-PeCDD	32.71	J	0.9673	0.9673	0	1.22E+05	1.64	Y	1.04	0.961	3728.41	0.256
12369/12467/12489-PeCDD	32.97	J	0.9750	0.9750	0	2.37E+05	1.55	Y	1.04	1.86	3728.41	0.256
12346/12347-PeCDD	33.33	J	0.9858	0.9856	-0.4	7.45E+04	1.42	Y	1.04	0.586	3728.41	0.256
12378-PeCDD	33.83		**1.0005**	**1.0005**	**0**	**1.62E+06**	**1.64**	**Y**	**1.04**	**12.7**	**3728.41**	**0.256**
12367-PeCDD	33.93	J EMPC	1.0033	1.0035	+0.4	6.95E+04	1.03	N	1.04	0.546	3728.41	0.256
12389-PeCDD	NotFnd		1.0134						1.04		3728.41	0.256
124679/124689-HxCDD	36.00		0.9542	0.9541	-0.2	4.05E+06	1.31	Y	1.10	33.8	5270.477	0.384
123468-HxCDD	36.65	J EMPC	0.9715	0.9714	-0.2	2.51E+05	1.49	N	1.10	2.09	5270.477	0.384
123679/123689-HxCDD	36.95		0.9793	0.9792	-0.2	2.28E+06	1.23	Y	1.10	19	5270.477	0.384
123469-HxCDD	37.08	J EMPC	0.9828	0.9827	-0.2	1.37E+05	1.58	N	1.10	1.14	5270.477	0.384
123478-HxCDD	37.75	J EMPC	**1.0004**	**1.0005**	**+0.2**	**1.22E+05**	**1.02**	**N**	1.09	**1.1**	**5270.477**	**0.42**
123678-HxCDD	37.87		**1.0035**	**1.0035**	**0**	**7.03E+05**	**1.18**	**Y**	1.15	**5.65**	**5270.477**	**0.371**
123467-HxCDD	38.06	J	1.0085	1.0086	+0.2	1.14E+05	1.08	Y	1.10	0.954	5270.477	0.384
123789-HxCDD	38.16		**1.0113**	**1.0113**	**0**	**3.68E+05**	**1.06**	**Y**	1.05	**2.97**	**5270.477**	**0.365**

Lab ID: B6235_18875_DF_008 **Acq'd:** 11 Feb 2022 09:32 DTF **Wt/Vol:** 10.01 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-NC-B-12 **UTP:** 11-Feb-2022 16:26:47 DTF **J-level:** 0.499 pg/g **Split:** 1 **Checkcode:** 608-475-ZTP

Datafile: 220210C31 **Report:** 11 Feb 2022 16:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16		0.9837	0.9837	0	2.16E+07	1.07	Y	1.06	207	8188.509	0.609
1234678-HpCDD	**40.84**		**1.0003**	**1.0004**	**+0.2**	**1.88E+07**	**1.03**	**Y**	**1.06**	**180**	**8188.509**	**0.609**
OCDD	**43.54**		**1.0002**	**1.0003**	**+0.3**	**2.13E+08**	**0.90**	**Y**	**1.13**	**2,690**	**7742.708**	**1.11**
OCDD-a	43.54		1.0001	1.0002	+0.3	1.34E+07	2.50	Y	0.07	2,640	6376.494	14.3
1368-TCDF	22.74		0.8251	0.8237	-1.9	2.04E+05	0.74	Y	1.08	0.893	3187.27	0.154
1468-TCDF	23.32		0.8458	0.8445	-1.8	1.33E+06	0.77	Y	1.08	5.8	3187.27	0.154
2468-TCDF	23.96		0.8686	0.8677	-1.3	1.16E+06	0.83	Y	1.08	5.08	3187.27	0.154
1346/1246-TCDF	NotFnd		0.8814						1.08		3187.27	0.154
1347/1378/1247-TCDF	24.48		0.8867	0.8866	-0.1	9.30E+06	0.78	Y	1.08	40.6	3187.27	0.154
1348-TCDF	NotFnd		0.8962						1.08		3187.27	0.154
1248/1367/1379-TCDF	24.82		0.9009	0.8988	-3.1	3.91E+07	0.80	Y	1.08	171	3187.27	0.154
1268-TCDF	25.23		0.9145	0.9138	-1.1	1.29E+07	0.78	Y	1.08	56.3	3187.27	0.154
1467-TCDF	25.37		0.9193	0.9187	-0.9	1.84E+06	0.74	Y	1.08	8.03	3187.27	0.154
1478-TCDF	25.54		0.9254	0.9248	-0.9	3.26E+07	0.79	Y	1.08	142	3187.27	0.154
1369/1237-TCDF	25.91		0.9387	0.9385	-0.3	8.46E+06	0.80	Y	1.08	36.9	3187.27	0.154
2467-TCDF	26.03		0.9433	0.9425	-1.2	1.11E+06	0.88	Y	1.08	4.85	3187.27	0.154
2368-TCDF	26.24		0.9489	0.9501	+1.9	6.28E+07	0.78	Y	1.08	274	3187.27	0.154
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		3187.27	0.154
1278-TCDF	26.73	E	0.9683	0.9681	-0.3	3.43E+08	0.78	Y	1.08	1,500	3187.27	0.154
1349-TCDF	NotFnd		0.9722						1.08		3187.27	0.154
1267-TCDF	27.01		0.9783	0.9780	-0.5	1.95E+07	0.78	Y	1.08	85.3	3187.27	0.154
2346/1249-TCDF	27.20		0.9850	0.9851	+0.2	2.57E+06	0.79	Y	1.08	11.2	3187.27	0.154
2347/1279-TCDF	27.41		0.9926	0.9925	-0.2	9.59E+06	0.79	Y	1.08	41.9	3187.27	0.154
2348-TCDF	27.52		0.9967	0.9965	-0.3	5.26E+07	0.78	Y	1.08	230	3187.27	0.154
2378-TCDF	**27.63**	E	**1.0008**	**1.0008**	**0**	**7.66E+08**	**0.79**	**Y**	**1.08**	**3,340**	**3187.27**	**0.154**
2367/3467-TCDF	27.99		1.0137	1.0135	-0.3	6.32E+07	0.79	Y	1.08	276	3187.27	0.154
1269-TCDF	28.24		1.0223	1.0226	+0.5	1.17E+07	0.79	Y	1.08	51.2	3187.27	0.154
1239-TCDF	NotFnd		1.0321						1.08		3187.27	0.154
1289-TCDF	29.64		1.0722	1.0735	+2.3	5.81E+07	0.79	Y	1.08	254	3187.27	0.154
13468/12468-PeCDF	29.58		0.9139	0.9140	+0.2	1.60E+06	1.51	Y	1.02	8.15	2561.42	0.117
13678/13467/12467-PeCDF	31.13	J	0.9613	0.9617	+0.7	3.03E+05	1.56	Y	1.02	1.54	5002.119	0.229
12368/13478/12478-PeCDF	31.29		0.9662	0.9668	+1.1	1.06E+07	1.52	Y	1.02	53.8	5002.119	0.229
14678-PeCDF	NotFnd		0.9692						1.02		5002.119	0.229
13479-PeCDF	NotFnd		0.9723						1.02		5002.119	0.229
13469/12479-PeCDF	NotFnd		0.9797						1.02		5002.119	0.229
12346-PeCDF	NotFnd		0.9840						1.02		5002.119	0.229

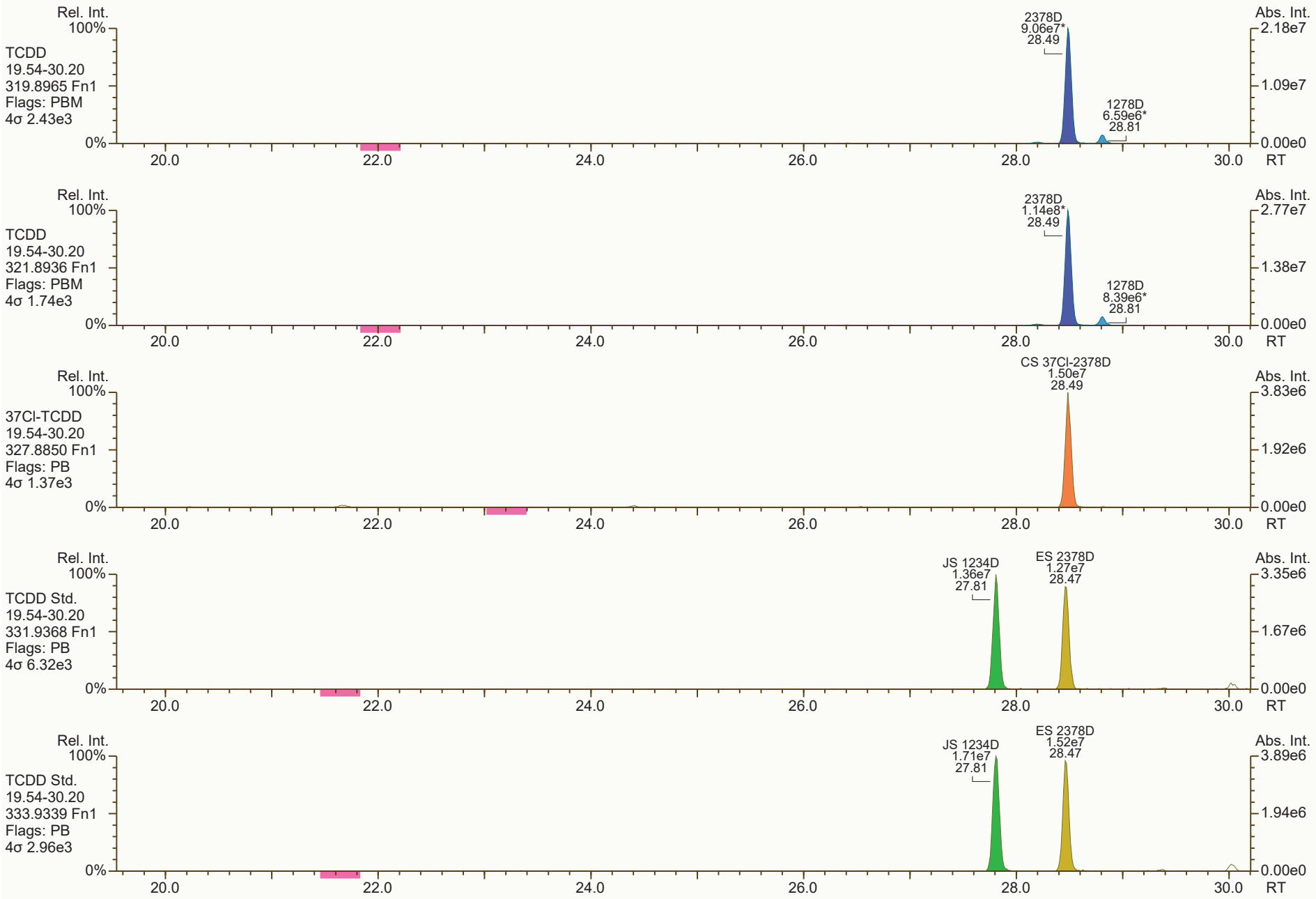
Lab ID: B6235_18875_DF_008 **Acq'd: 11 Feb 2022 09:32 DTF** **Wt/Vol: 10.01 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

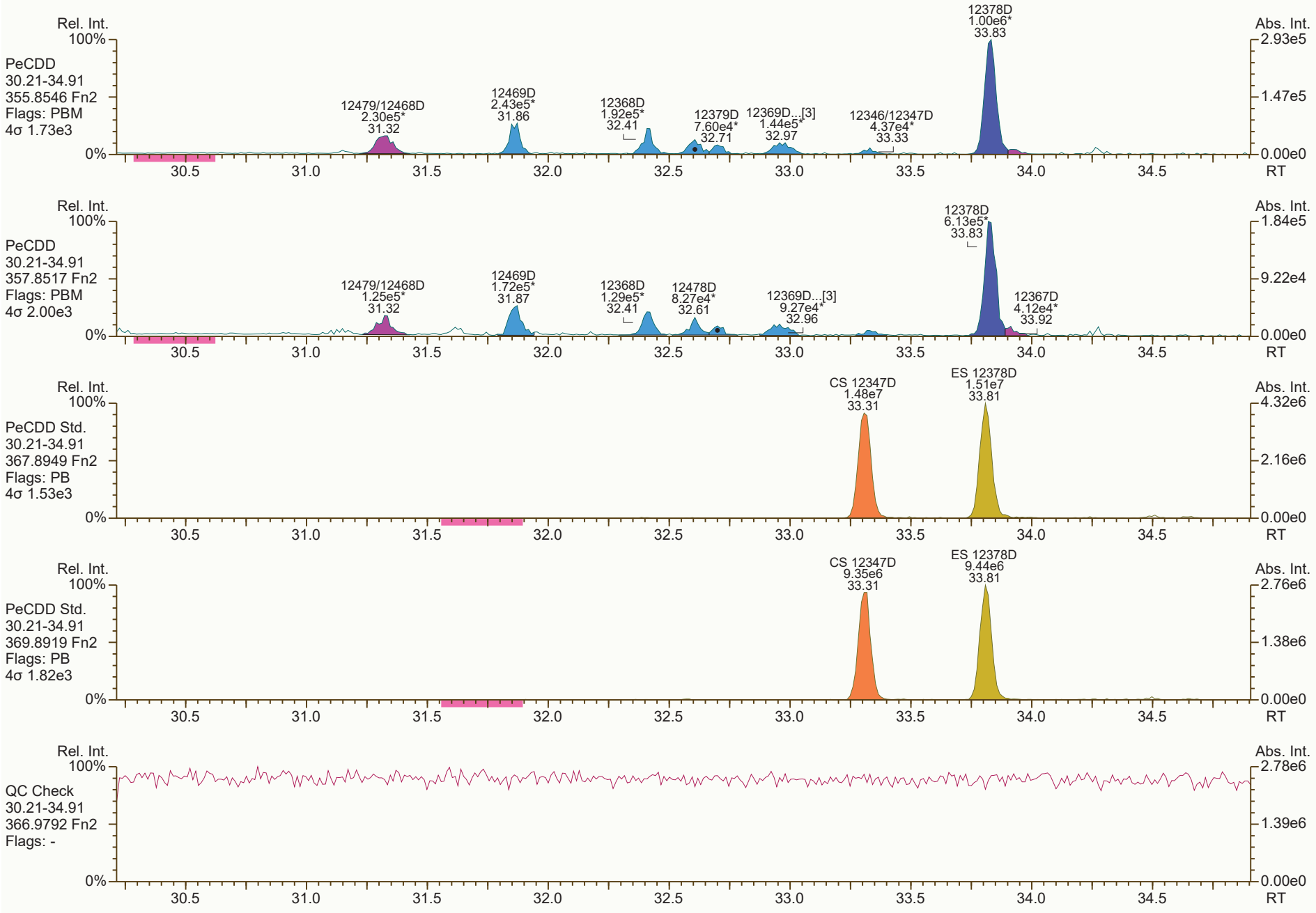
Client ID: 11215131-012222-S-BN-NC-B-12 **UTP: 11-Feb-2022 16:26:47 DTF** **J-level: 0.499 pg/g** **Split: 1** **Checkcode: 608-475-ZTP**

Datafile: 220210C31 **Report: 11 Feb 2022 16:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.94		0.9868	0.9867	-0.2	6.78E+05	1.49	Y	1.02	3.45	5002.119	0.229
12347-PeCDF	32.01		0.9894	0.9891	-0.6	4.98E+05	1.68	Y	1.02	2.54	5002.119	0.229
12348-PeCDF	32.17		0.9940	0.9940	0	2.26E+06	1.54	Y	1.02	11.5	5002.119	0.229
12378-PeCDF	**32.38**		**1.0005**	**1.0005**	**0**	**2.27E+07**	**1.54**	**Y**	**1.02**	**116**	**5002.119**	**0.23**
12678/12367-PeCDF	32.68		1.0089	1.0096	+1.4	7.19E+06	1.54	Y	1.02	36.6	5002.119	0.229
12379-PeCDF	NotFnd		1.0142						1.02		5002.119	0.229
12679-PeCDF	NotFnd		0.9929						1.02		5002.119	0.229
23467/12369-PeCDF	33.36	J	0.9967	0.9965	-0.4	3.50E+05	1.50	Y	1.02	1.78	5002.119	0.229
23478-PeCDF	**33.50**		**1.0005**	**1.0007**	**+0.4**	**1.82E+07**	**1.58**	**Y**	**1.02**	**92.1**	**5002.119**	**0.228**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5002.119	0.229
12349-PeCDF	NotFnd		1.0100						1.02		5002.119	0.229
12389-PeCDF	34.57		1.0324	1.0325	+0.2	9.15E+05	1.66	Y	1.02	4.66	5002.119	0.229
123468-HxCDF	35.35		0.9627	0.9626	-0.2	7.45E+05	1.10	Y	1.19	4.28	5163.302	0.253
124678/134678-HxCDF	35.55		0.9682	0.9680	-0.4	3.71E+06	1.24	Y	1.19	21.4	5163.302	0.253
134679-HxCDF	NotFnd		0.9744						1.19		5163.302	0.253
124679-HxCDF	NotFnd		0.9798						1.19		5163.302	0.253
124689-HxCDF	36.20		0.9858	0.9857	-0.2	2.71E+06	1.20	Y	1.19	15.6	5163.302	0.253
123467-HxCDF	36.62	J	0.9972	0.9972	0	2.39E+05	1.33	Y	1.19	1.37	5163.302	0.253
123478-HxCDF	**36.74**		**1.0005**	**1.0005**	**0**	**3.02E+07**	**1.23**	**Y**	**1.27**	**174**	**5163.302**	**0.252**
123678-HxCDF	**36.88**		**1.0005**	**1.0004**	**-0.2**	**8.29E+06**	**1.23**	**Y**	**1.15**	**45.1**	**5163.302**	**0.239**
123479-HxCDF	NotFnd		1.0049						1.19		5163.302	0.253
123469-HxCDF	NotFnd		1.0090						1.19		5163.302	0.253
123679-HxCDF	NotFnd		0.9942						1.19		5163.302	0.253
234678-HxCDF	**37.56**		**1.0005**	**1.0004**	**-0.2**	**1.94E+06**	**1.21**	**Y**	**1.19**	**10.2**	**5163.302**	**0.238**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		5163.302	0.253
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**5163.302**	**0.29**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.54		1.0009	1.0011	+0.5	2.48E+06	1.26	Y	1.19	14.3	5163.302	0.253
1234678-HpCDF	**39.90**		**1.0003**	**1.0003**	**0**	**1.40E+07**	**1.08**	**Y**	**1.37**	**91.2**	**5636.594**	**0.272**
1234679-HpCDF	40.16		1.0068	1.0067	-0.2	4.18E+05	1.01	Y	1.34	2.98	5636.594	0.32
1234689-HpCDF	40.30		1.0103	1.0103	0	9.39E+06	1.01	Y	1.34	66.9	5636.594	0.32
1234789-HpCDF	**41.29**		**1.0003**	**1.0002**	**-0.2**	**2.65E+06**	**1.01**	**Y**	**1.31**	**20.8**	**5636.594**	**0.376**
OCDF	**43.71**		**1.0003**	**1.0003**	**0**	**9.52E+07**	**0.89**	**Y**	**1.07**	**944**	**4674.547**	**0.548**
OCDF-a	43.71		1.0002	1.0003	+0.3	6.40E+06	2.38	Y	0.07	1,020	3357.077	6.36


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.34e6
2.17e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
2.78e6
1.39e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.06e7
5.31e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
6.23e6
3.12e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.20e6
2.60e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.43e3
0%
2378D
9.06e7*
28.49
1278D
6.59e6*
28.81
Abs. Int.
2.18e7
1.09e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.74e3
0%
2378D
1.14e8*
28.49
1278D
8.39e6*
28.81
Abs. Int.
2.77e7
1.38e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.37e3
0%
CS 37Cl-2378D
1.50e7
28.49
Abs. Int.
3.83e6
1.92e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.32e3
0%
JS 1234D
1.36e7
27.81
ES 2378D
1.27e7
28.47
Abs. Int.
3.35e6
1.67e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.96e3
0%
JS 1234D
1.71e7
27.81
ES 2378D
1.52e7
28.47
Abs. Int.
3.89e6
1.94e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PBM
4σ 1.73e3
0%
12479/12468D
2.30e5*
31.32
12469D
2.43e5*
31.86
12368D
1.92e5*
32.41
12379D
7.60e4*
32.71
12369D...[3]
1.44e5*
32.97
12346/12347D
4.37e4*
33.33
12378D
1.00e6*
33.83
Abs. Int.
2.93e5
1.47e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PBM
4σ 2.00e3
0%
12479/12468D
1.25e5*
31.32
12469D
1.72e5*
31.87
12368D
1.29e5*
32.41
12478D
8.27e4*
32.61
12369D...[3]
9.27e4*
32.96
12378D
6.13e5*
33.83
12367D
4.12e4*
33.92
Abs. Int.
1.84e5
9.22e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 1.53e3
0%
CS 12347D
1.48e7
33.31
ES 12378D
1.51e7
33.81
Abs. Int.
4.32e6
2.16e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 1.82e3
0%
CS 12347D
9.35e6
33.31
ES 12378D
9.44e6
33.81
Abs. Int.
2.76e6
1.38e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.78e6
1.39e6
0.00e0
30.5
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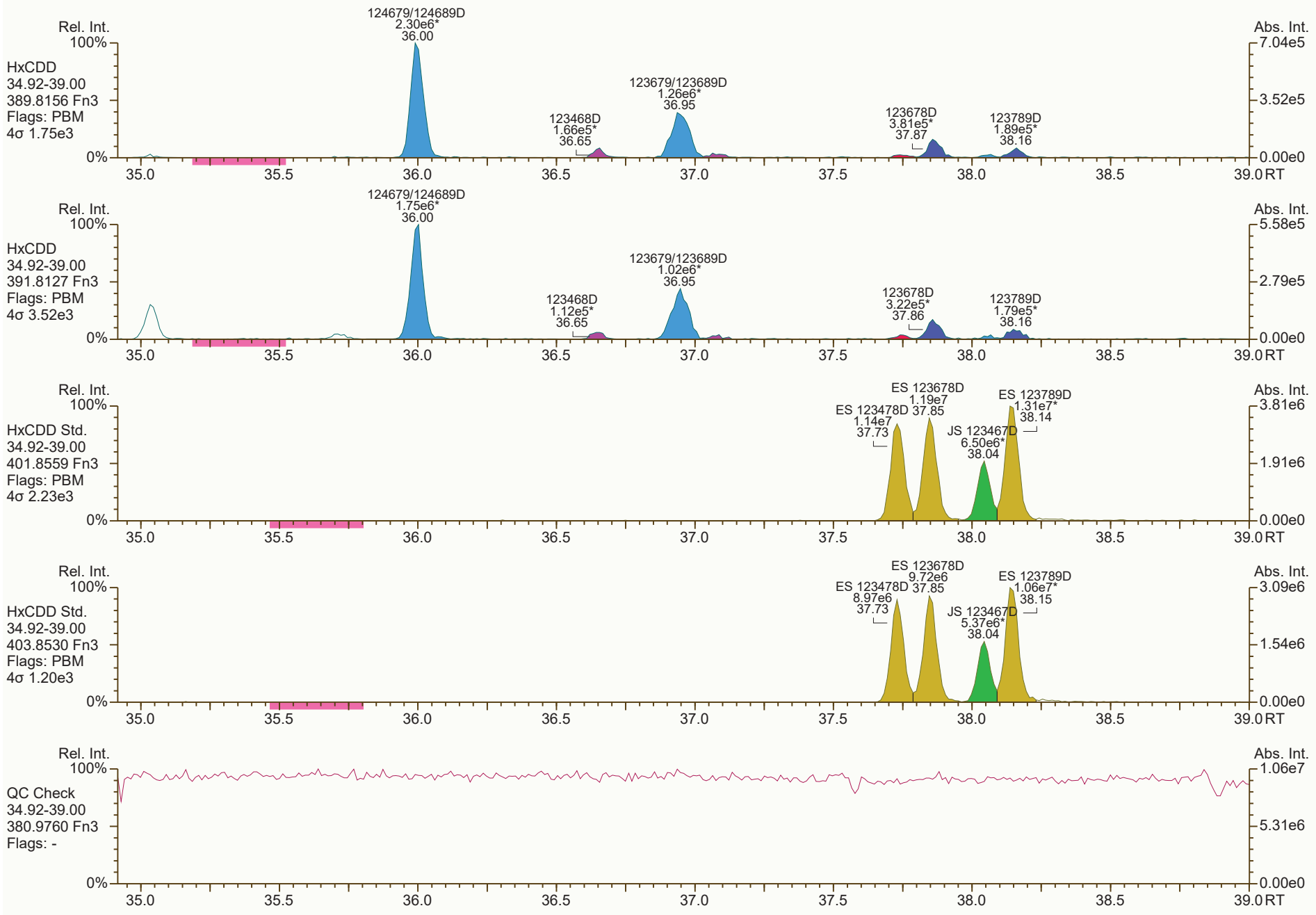
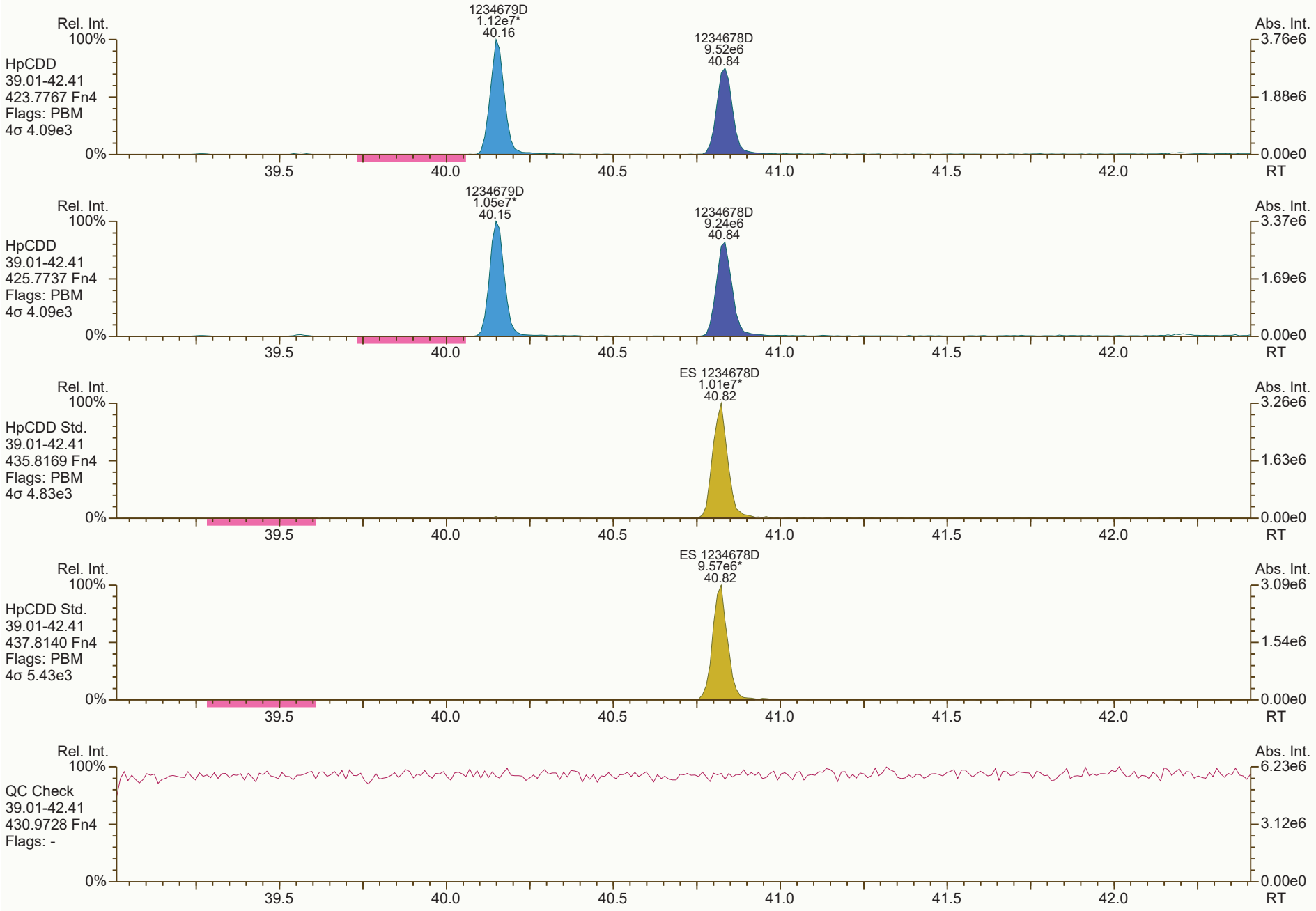
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 1.75e3
124679/124689D
2.30e6*
36.00
123679/123689D
1.26e6*
36.95
123468D
1.66e5*
36.65
123678D
3.81e5*
37.87
123789D
1.89e5*
38.16
Abs. Int.
7.04e5
3.52e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 3.52e3
124679/124689D
1.75e6*
36.00
123679/123689D
1.02e6*
36.95
123468D
1.12e5*
36.65
123678D
3.22e5*
37.86
123789D
1.79e5*
38.16
Abs. Int.
5.58e5
2.79e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 2.23e3
ES 123678D
1.19e7
37.85
ES 123478D
1.14e7
37.73
ES 123789D
1.31e7*
38.14
JS 123467D
6.50e6*
38.04
Abs. Int.
3.81e6
1.91e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 1.20e3
ES 123678D
9.72e6
37.85
ES 123478D
8.97e6
37.73
ES 123789D
1.06e7*
38.15
JS 123467D
5.37e6*
38.04
Abs. Int.
3.09e6
1.54e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
Abs. Int.
1.06e7
5.31e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT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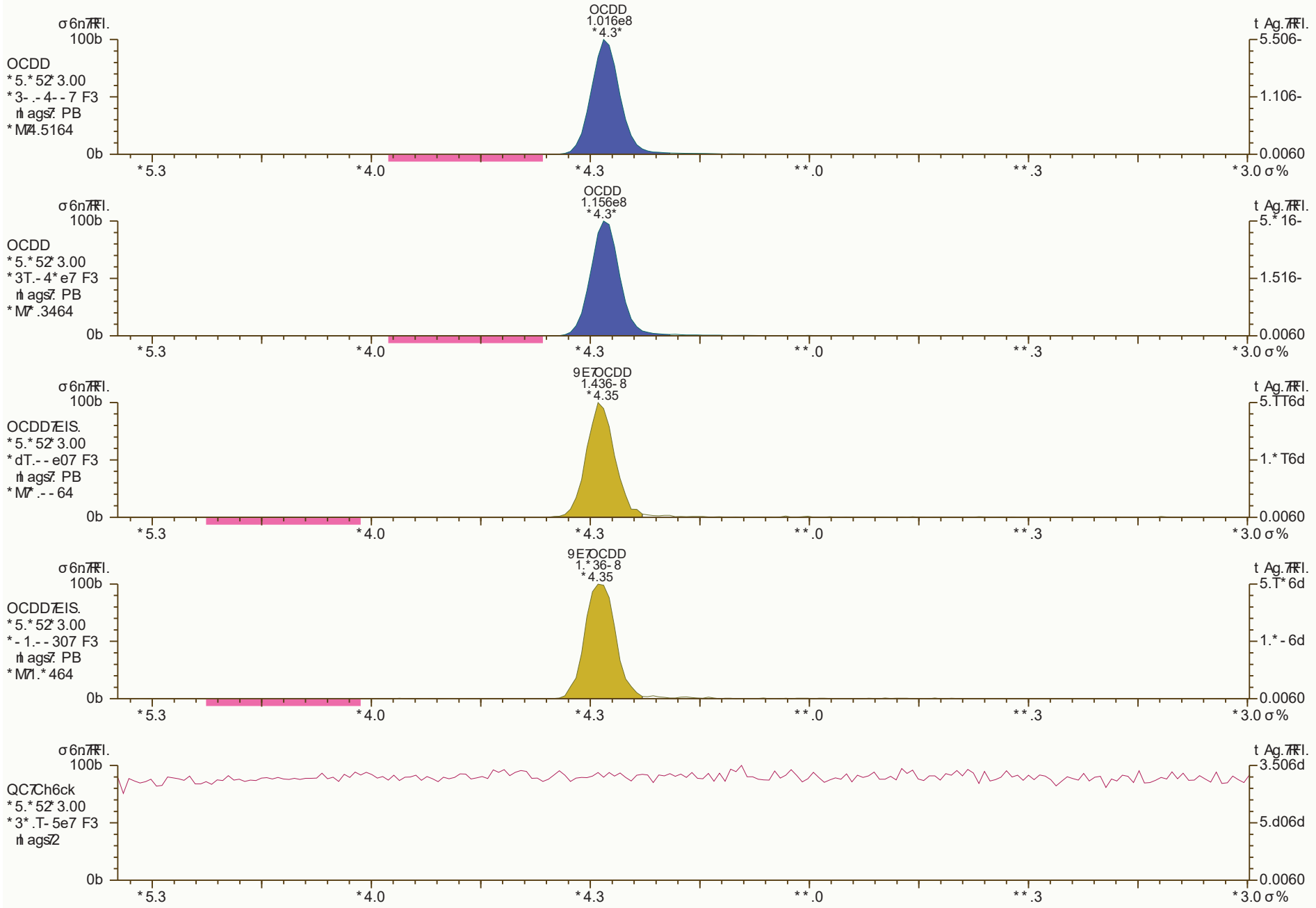
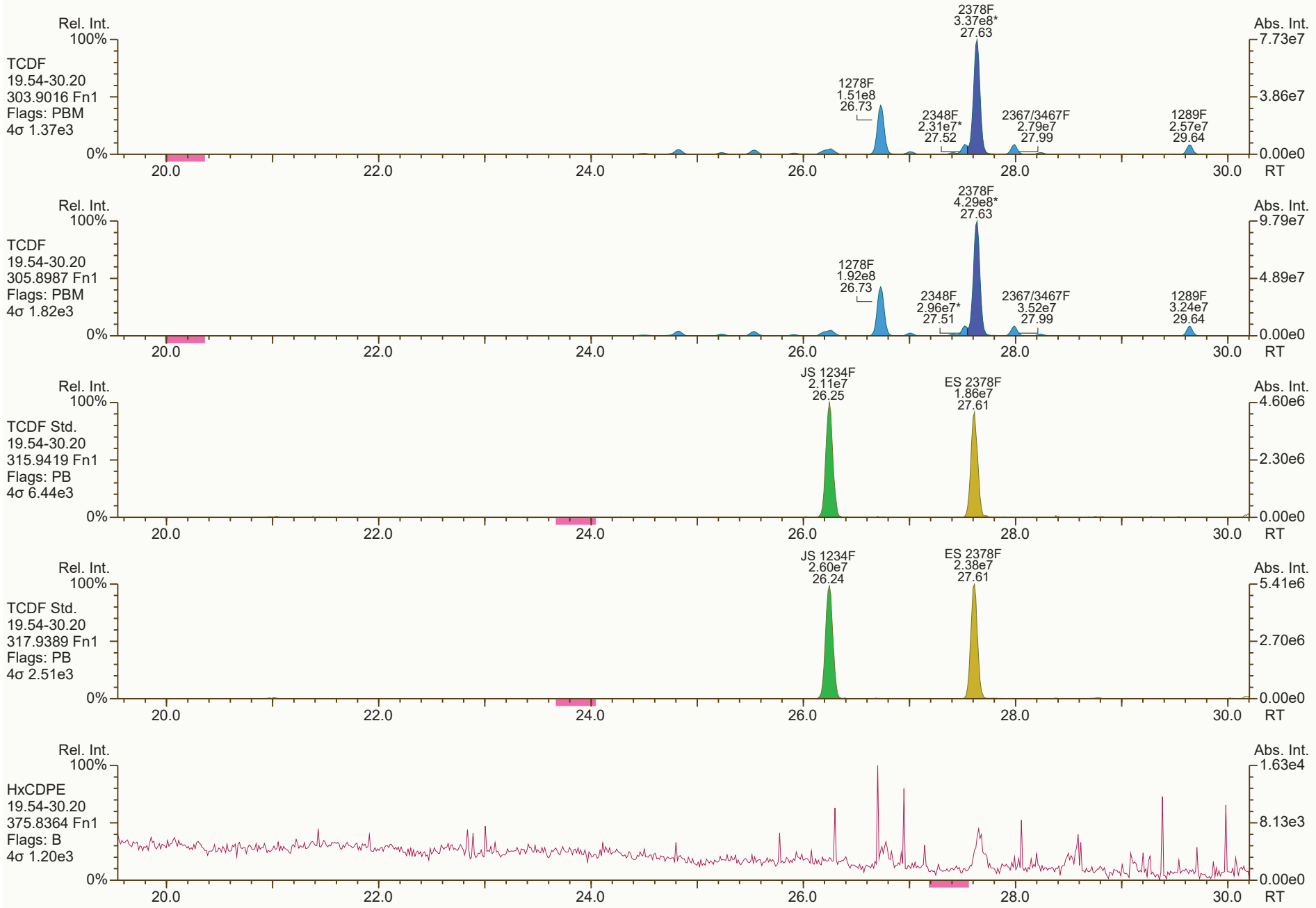
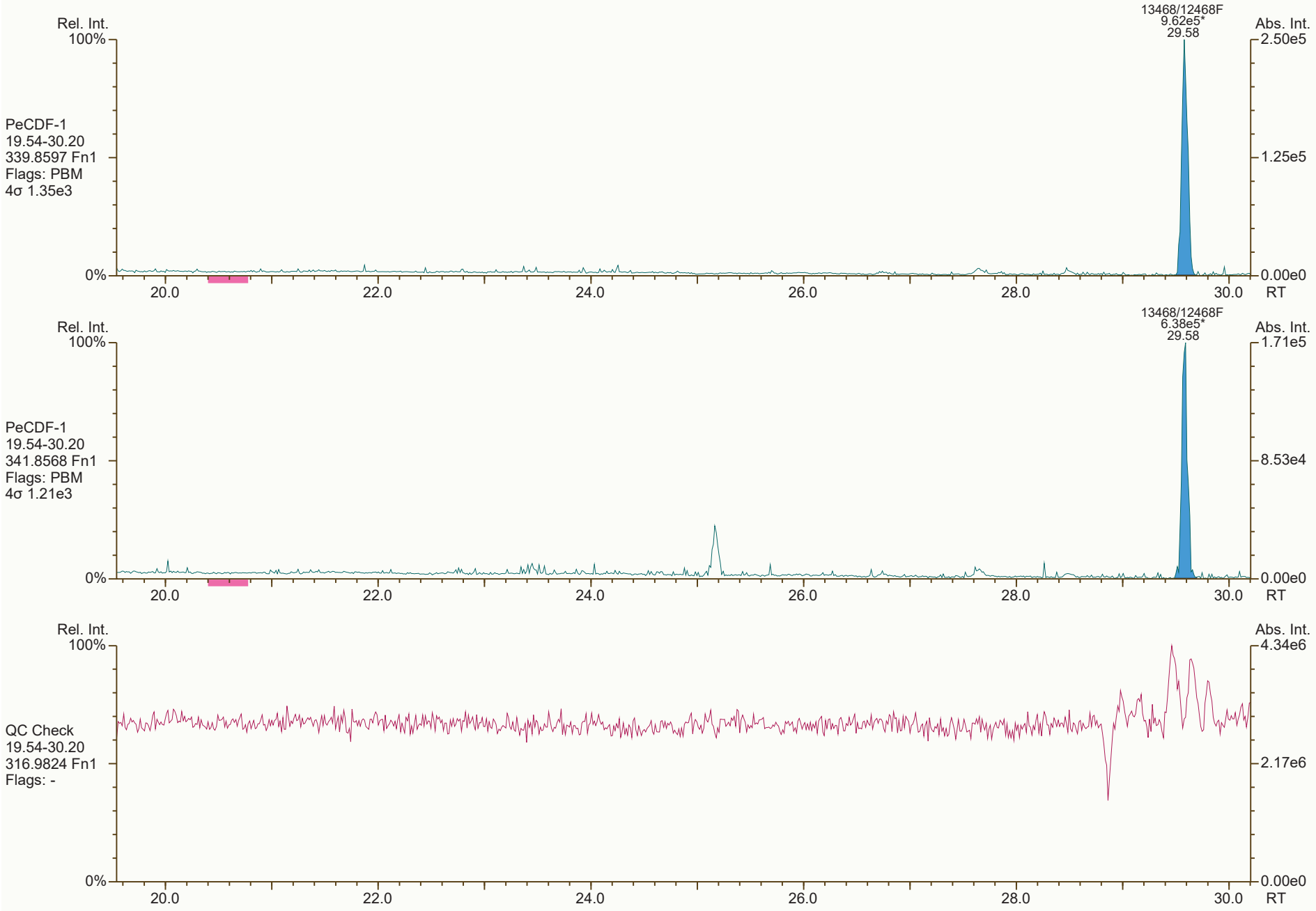
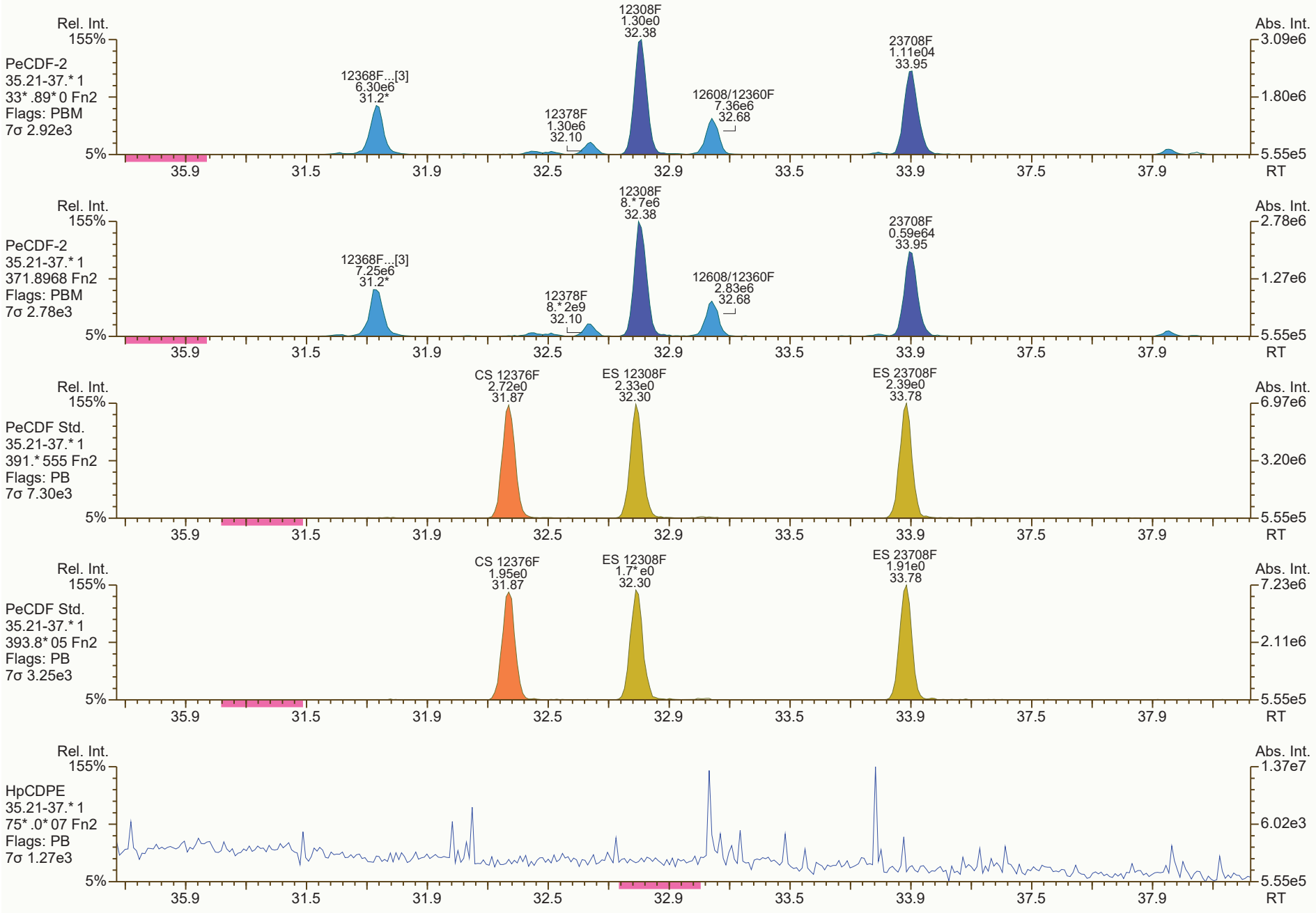
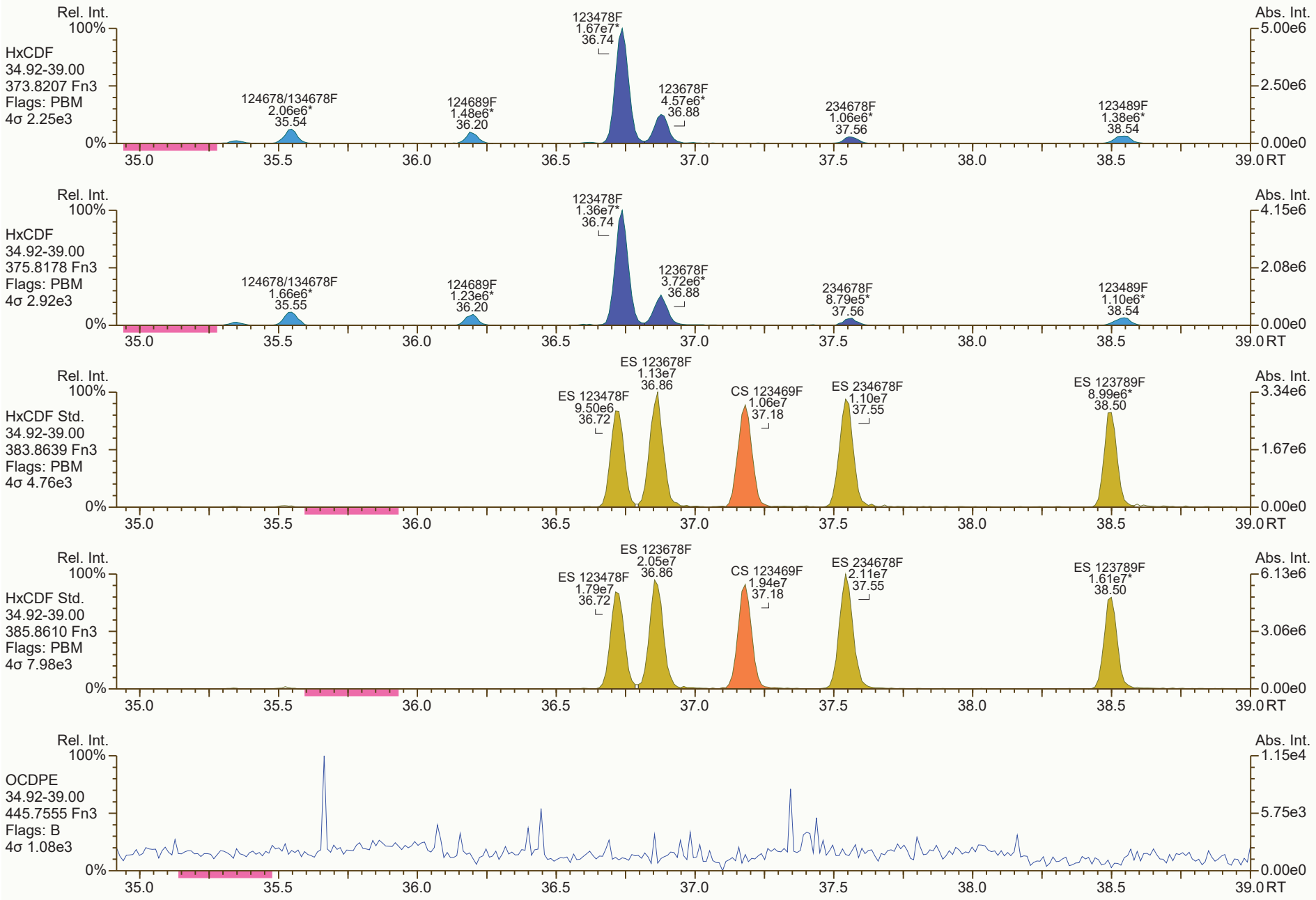
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 4.09e3
1234679D
1.12e7*
40.16
1234678D
9.52e6
40.84
Abs. Int.
3.76e6
1.88e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 4.09e3
1234679D
1.05e7*
40.15
1234678D
9.24e6
40.84
Abs. Int.
3.37e6
1.69e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 4.83e3
ES 1234678D
1.01e7*
40.82
Abs. Int.
3.26e6
1.63e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 5.43e3
ES 1234678D
9.57e6*
40.82
Abs. Int.
3.09e6
1.54e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
6.23e6
3.12e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

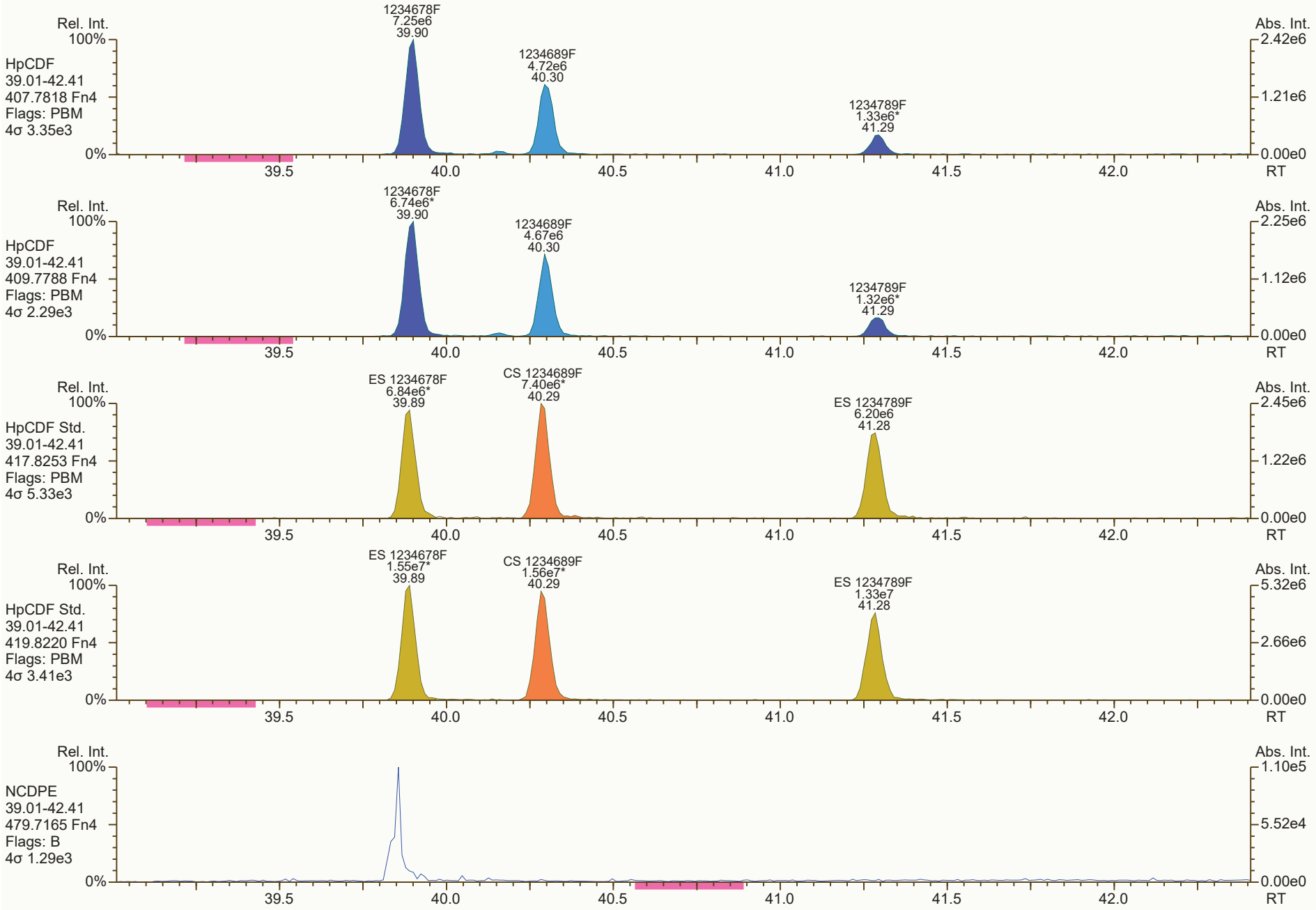

OCDD
1.016e8
4.3
OCDD
*5.*52*3.00
*3-.-4--7 F3
*M74.5164
OCDD
1.156e8
4.3
OCDD
*5.*52*3.00
*3T.-4*e7 F3
M7.3464
9E7OCDD
1.436-8
*4.35
OCDD7EIS.
*5.*52*3.00
*dT.--e07 F3
M7.--64
9E7OCDD
1.*36-8
*4.35
OCDD7EIS.
*5.*52*3.00
*-1.--307 F3
*M71.*464
QC7Ch6ck
*5.*52*3.00
3.T-5e7 F3
*5.3
*4.0
*4.3
**.0
**.3
*3.0

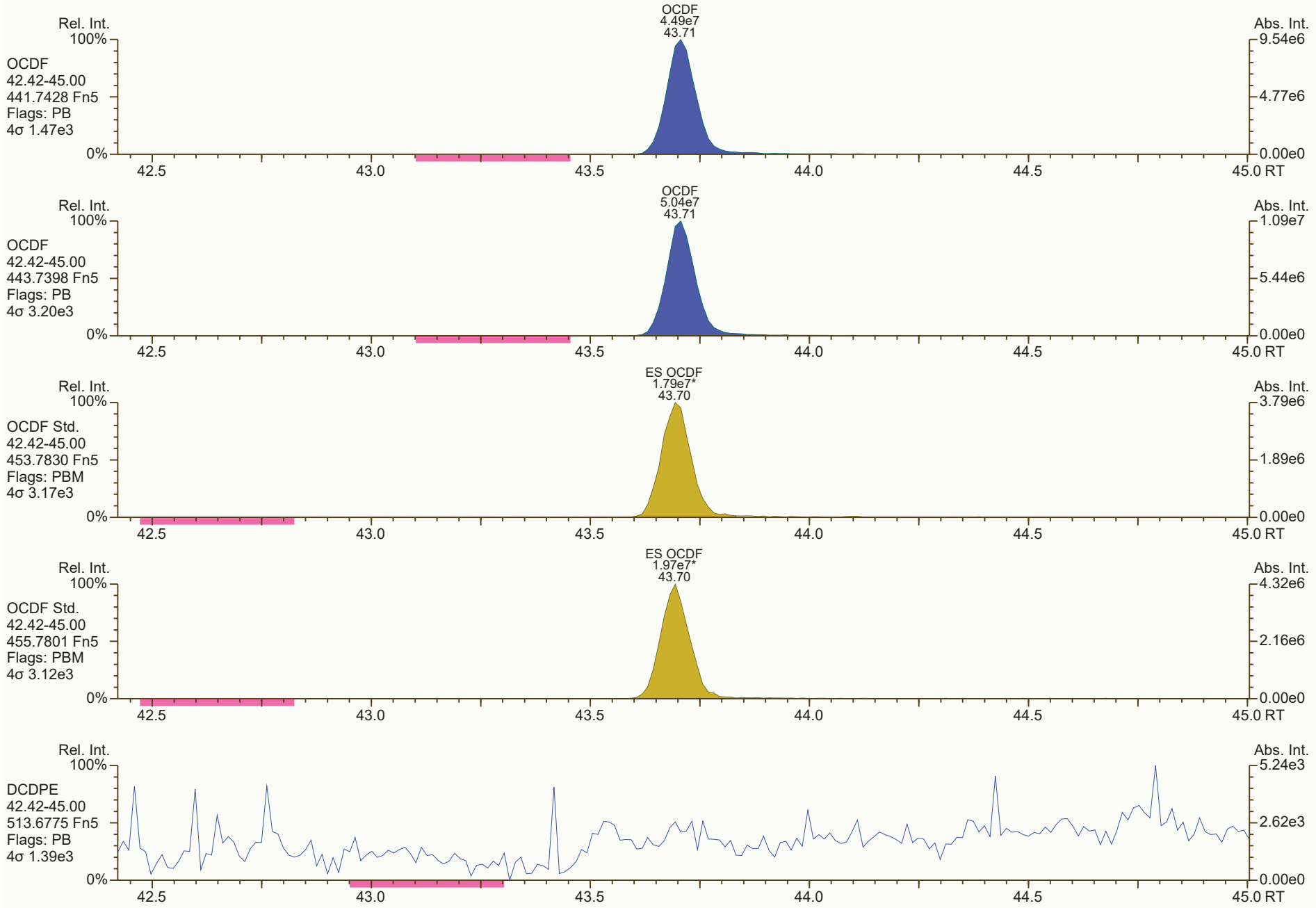

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.37e3
0%
2378F
3.37e8*
27.63
1278F
1.51e8
26.73
2348F
2.31e7*
27.52
2367/3467F
2.79e7
27.99
1289F
2.57e7
29.64
Abs. Int.
7.73e7
3.86e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.82e3
0%
2378F
4.29e8*
27.63
1278F
1.92e8
26.73
2348F
2.96e7*
27.51
2367/3467F
3.52e7
27.99
1289F
3.24e7
29.64
Abs. Int.
9.79e7
4.89e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 6.44e3
0%
JS 1234F
2.11e7
26.25
ES 2378F
1.86e7
27.61
Abs. Int.
4.60e6
2.30e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.51e3
0%
JS 1234F
2.60e7
26.24
ES 2378F
2.38e7
27.61
Abs. Int.
5.41e6
2.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.20e3
0%
Abs. Int.
1.63e4
8.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.35e3
13468/12468F
9.62e5*
29.58
Abs. Int.
2.50e5
1.25e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.21e3
13468/12468F
6.38e5*
29.58
Abs. Int.
1.71e5
8.53e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
4.34e6
2.17e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
155%
PeCDF-2
35.21-37.* 1
33* .89* 0 Fn2
Flags: PBM
7σ 2.92e3
12368F...[3]
6.30e6
31.2*
12378F
1.30e6
32.10
12308F
1.30e0
32.38
12608/12360F
7.36e6
32.68
23708F
1.11e04
33.95
Abs. Int.
3.09e6
1.80e6
5.55e5
5%
35.9
31.5
31.9
32.5
32.9
33.5
33.9
37.5
37.9
RT
Rel. Int.
155%
PeCDF-2
35.21-37.* 1
371.8968 Fn2
Flags: PBM
7σ 2.78e3
12368F...[3]
7.25e6
31.2*
12378F
8.* 2e9
32.10
12308F
8.* 7e6
32.38
12608/12360F
2.83e6
32.68
23708F
0.59e64
33.95
Abs. Int.
2.78e6
1.27e6
5.55e5
5%
35.9
31.5
31.9
32.5
32.9
33.5
33.9
37.5
37.9
RT
Rel. Int.
155%
PeCDF Std.
35.21-37.* 1
391.* 555 Fn2
Flags: PB
7σ 7.30e3
CS 12376F
2.72e0
31.87
ES 12308F
2.33e0
32.30
ES 23708F
2.39e0
33.78
Abs. Int.
6.97e6
3.20e6
5.55e5
5%
35.9
31.5
31.9
32.5
32.9
33.5
33.9
37.5
37.9
RT
Rel. Int.
155%
PeCDF Std.
35.21-37.* 1
393.8* 05 Fn2
Flags: PB
7σ 3.25e3
CS 12376F
1.95e0
31.87
ES 12308F
1.7* e0
32.30
ES 23708F
1.91e0
33.78
Abs. Int.
7.23e6
2.11e6
5.55e5
5%
35.9
31.5
31.9
32.5
32.9
33.5
33.9
37.5
37.9
RT
Rel. Int.
155%
HpCDPE
35.21-37.* 1
75* .0* 07 Fn2
Flags: PB
7σ 1.27e3
Abs. Int.
1.37e7
6.02e3
5.55e5
5%
35.9
31.5
31.9
32.5
32.9
33.5
33.9
37.5
37.9
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 2.25e3
123478F
1.67e7*
36.74
124678/134678F
2.06e6*
35.54
124689F
1.48e6*
36.20
123678F
4.57e6*
36.88
234678F
1.06e6*
37.56
123489F
1.38e6*
38.54
Abs. Int.
5.00e6
2.50e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 2.92e3
123478F
1.36e7*
36.74
124678/134678F
1.66e6*
35.55
124689F
1.23e6*
36.20
123678F
3.72e6*
36.88
234678F
8.79e5*
37.56
123489F
1.10e6*
38.54
Abs. Int.
4.15e6
2.08e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 4.76e3
ES 123678F
1.13e7
36.86
ES 123478F
9.50e6
36.72
CS 123469F
1.06e7
37.18
ES 234678F
1.10e7
37.55
ES 123789F
8.99e6*
38.50
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 7.98e3
ES 123678F
2.05e7
36.86
ES 123478F
1.79e7
36.72
CS 123469F
1.94e7
37.18
ES 234678F
2.11e7
37.55
ES 123789F
1.61e7*
38.50
Abs. Int.
6.13e6
3.06e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.08e3
Abs. Int.
1.15e4
5.75e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 3.35e3
1234678F
7.25e6
39.90
1234689F
4.72e6
40.30
1234789F
1.33e6*
41.29
Abs. Int.
2.42e6
1.21e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 2.29e3
1234678F
6.74e6*
39.90
1234689F
4.67e6
40.30
1234789F
1.32e6*
41.29
Abs. Int.
2.25e6
1.12e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 5.33e3
ES 1234678F
6.84e6*
39.89
CS 1234689F
7.40e6*
40.29
ES 1234789F
6.20e6
41.28
Abs. Int.
2.45e6
1.22e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 3.41e3
ES 1234678F
1.55e7*
39.89
CS 1234689F
1.56e7*
40.29
ES 1234789F
1.33e7
41.28
Abs. Int.
5.32e6
2.66e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.29e3
Abs. Int.
1.10e5
5.52e4
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
4.49e7
43.71
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.47e3
0%
Abs. Int.
9.54e6
4.77e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
5.04e7
43.71
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
1.09e7
5.44e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.79e7*
43.70
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 3.17e3
0%
Abs. Int.
3.79e6
1.89e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.97e7*
43.70
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 3.12e3
0%
Abs. Int.
4.32e6
2.16e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.39e3
0%
Abs. Int.
5.24e3
2.62e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6235_18875_DF_009 **Acq'd:** 11 Feb 2022 10:18 DTF **Wt/Vol:** 10.03 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-DUP-14 **UTP:** 11-Feb-2022 16:26:48 DTF **J-level:** 0.498 pg/g **Split:** 1 **Checkcode:** 182-005-SBM

Datafile: 220210C32 **Report:** 11 Feb 2022 16:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.49		1.0008	1.0008	0	4.10E+07	0.79	Y	1.18	229	4454.327	0.266
12378-PeCDD	33.82	EMPC	1.0005	1.0005	0	4.72E+05	1.13	N	1.04	3.41	5343.817	0.343
123478-HxCDD	37.73	J	1.0004	1.0003	-0.2	2.76E+05	1.35	Y	1.09	2.12	10062.56	0.672
123678-HxCDD	37.86		1.0035	1.0035	0	1.18E+06	1.29	Y	1.15	8.4	10062.56	0.657
123789-HxCDD	38.15		1.0113	1.0112	-0.2	7.56E+05	1.26	Y	1.05	5.25	10062.56	0.577
1234678-HpCDD	40.83		1.0003	1.0003	0	2.13E+07	1.04	Y	1.06	178	18491.132	1.24
OCDD	43.52		1.0002	1.0003	+0.3	2.50E+08	0.90	Y	1.13	2,730	9329.844	1.21
2378-TCDF	27.63		1.0008	1.0008	0	1.70E+08	0.78	Y	1.08	699	3589.475	0.166
12378-PeCDF	32.38		1.0005	1.0005	0	7.73E+06	1.56	Y	1.02	36.2	7816.501	0.34
23478-PeCDF	33.50		1.0005	1.0008	+0.6	5.72E+06	1.57	Y	1.02	28.4	7816.501	0.331
123478-HxCDF	36.73		1.0005	1.0005	0	8.04E+06	1.22	Y	1.27	41.1	7805.097	0.316
123678-HxCDF	36.87		1.0005	1.0004	-0.2	2.24E+06	1.24	Y	1.15	11.1	7805.097	0.339
234678-HxCDF	37.55		1.0005	1.0004	-0.2	1.02E+06	1.31	Y	1.19	5.27	7805.097	0.335
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	7805.097	0.402
1234678-HpCDF	39.89		1.0003	1.0003	0	1.99E+07	1.02	Y	1.37	111	7125.89	0.292
1234789-HpCDF	41.28		1.0003	1.0003	0	1.62E+06	1.04	Y	1.31	11.5	7125.89	0.435
OCDF	43.70		1.0003	1.0003	0	4.41E+08	0.89	Y	1.07	3,690	7151.406	0.695

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46	1.0238	1.0238	0	3.01E+07	0.82	Y	1.05	89.9
ES 12378-PeCDD	33.81	1.2160	1.2160	0	2.66E+07	1.63	Y	0.88	94.4
ES 123478-HxCDD	37.72	0.9919	0.9918	-0.2	2.38E+07	1.23	Y	0.97	90.3
ES 123678-HxCDD	37.84	0.9950	0.9949	-0.2	2.43E+07	1.28	Y	0.94	94.8
ES 123789-HxCDD	38.14	1.0027	1.0027	0	2.74E+07	1.23	Y	1.09	92.5
ES 1234678-HpCDD	40.81	1.0730	1.0731	+0.2	2.25E+07	1.08	Y	0.91	91
ES OCDD	43.50	1.1437	1.1438	+0.3	3.24E+07	0.92	Y	0.62	95.8
ES 2378-TCDF	27.61	1.0520	1.0520	0	4.49E+07	0.81	Y	1.06	86.8
ES 12378-PeCDF	32.36	1.2330	1.2332	+0.4	4.16E+07	1.59	Y	0.91	93.4
ES 23478-PeCDF	33.47	1.2754	1.2756	+0.4	3.94E+07	1.57	Y	0.88	91.3
ES 123478-HxCDF	36.71	0.9653	0.9653	0	3.07E+07	0.56	Y	1.20	94.2
ES 123678-HxCDF	36.86	0.9691	0.9690	-0.2	3.51E+07	0.53	Y	1.35	95.6
ES 234678-HxCDF	37.54	0.9870	0.9870	0	3.26E+07	0.54	Y	1.24	96.8
ES 123789-HxCDF	38.49	1.0121	1.0120	-0.2	2.81E+07	0.57	Y	1.16	89.7
ES 1234678-HpCDF	39.88	1.0484	1.0484	0	2.60E+07	0.46	Y	0.97	99.1
ES 1234789-HpCDF	41.27	1.0851	1.0851	0	2.15E+07	0.45	Y	0.85	92.8
ES OCDF	43.69	1.1483	1.1487	+1.0	4.45E+07	0.90	Y	0.81	101

Lab ID: B6235_18875_DF_009 **Acq'd:** 11 Feb 2022 10:18 DTF **Wt/Vol:** 10.03 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-DUP-14 **UTP:** 11-Feb-2022 16:26:48 DTF **J-level:** 0.498 pg/g **Split:** 1 **Checkcode:** 182-005-SBM

Datafile: 220210C32 **Report:** 11 Feb 2022 16:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.80		-	-	-	3.21E+07	0.84	Y	-	-
JS 1234-TCDF	26.24		-	-	-	4.89E+07	0.80	Y	-	-
JS 123467-HxCDD	38.03		-	-	-	1.36E+07	1.23	Y	-	-
CS 37Cl-2378-TCDD	28.49		1.0245	1.0246	+0.2	1.39E+07	n/a	-	1.20	90.2
CS 12347-PeCDD	33.31		1.1979	1.1979	0	2.38E+07	1.62	Y	0.75	98.4
CS 12346-PeCDF	31.83		1.2128	1.2130	+0.4	3.90E+07	1.56	Y	0.85	93.8
CS 123469-HxCDF	37.17		0.9774	0.9773	-0.2	3.10E+07	0.53	Y	1.12	102
CS 1234689-HpCDF	40.28		1.0589	1.0591	+0.5	2.48E+07	0.48	Y	0.89	103
SS 37Cl-2378-TCDD	28.49		1.0245	1.0246	+0.2	1.39E+07	n/a	-	1.15	101
SS 12347-PeCDD	33.31		1.1979	1.1979	0	2.38E+07	1.62	Y	0.86	104
SS 12346-PeCDF	31.83		1.2128	1.2130	+0.4	3.90E+07	1.56	Y	0.94	100
SS 123469-HxCDF	37.17		0.9774	0.9773	-0.2	3.10E+07	0.53	Y	0.83	107
SS 1234689-HpCDF	40.28		1.0589	1.0591	+0.5	2.48E+07	0.48	Y	0.92	104

Totals	Conc	EMPC
Total TCDD	281	282
Total PeCDD	31.3	35.8
Total HxCDD	143	143
Total HpCDD	444	444
Total Tetra-Octa Dioxins	3620	3630
Total TCDF	1,360	1360
Total PeCDF	143	146
Total HxCDF	123	123
Total HpCDF	213	213
Total Tetra-Octa Furans	5,530	5530
Total Tetra-Octa Dioxins & Furans	9150	9160

Lab ID: B6235_18875_DF_009 **Acq'd: 11 Feb 2022 10:18 DTF** **Wt/Vol: 10.03 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012222-S-BN-DUP-14 **UTP: 11-Feb-2022 16:26:48 DTF** **J-level: 0.498 pg/g** **Split: 1** **Checkcode: 182-005-SBM**

Datafile: 220210C32 **Report: 11 Feb 2022 16:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.84		0.8737	0.8725	-1.8	7.58E+05	0.83	Y	1.18	4.24	4454.327	0.266
1379-TCDD	25.21	EMPC	0.8860	0.8855	-0.8	2.22E+05	0.52	N	1.18	1.24	4454.327	0.266
1369-TCDD	25.61		0.9009	0.8998	-1.7	1.68E+05	0.83	Y	1.18	0.941	4454.327	0.266
1469-TCDD	26.40		0.9281	0.9275	-1.0	2.42E+06	0.75	Y	1.18	13.5	4454.327	0.266
1247/1246/1248/1249-TCDD	26.64		0.9362	0.9361	-0.2	3.82E+05	0.87	Y	1.18	2.14	4454.327	0.266
1378-TCDD	26.84		0.9432	0.9429	-0.5	2.68E+05	0.74	Y	1.18	1.5	4454.327	0.266
1268-TCDD	NotFnd		0.9500						1.18		4454.327	0.266
1478-TCDD	27.28		0.9586	0.9583	-0.5	2.03E+05	0.69	Y	1.18	1.14	4454.327	0.266
1279-TCDD	NotFnd		0.9645						1.18		4454.327	0.266
1234/1269-TCDD	27.79		0.9770	0.9762	-1.3	4.24E+05	0.74	Y	1.18	2.37	4454.327	0.266
1236-TCDD	NotFnd		0.9817						1.18		4454.327	0.266
1237/1238-TCDD	28.19		0.9905	0.9903	-0.3	7.39E+05	0.81	Y	1.18	4.13	4454.327	0.266
1239-TCDD	NotFnd		0.9952						1.18		4454.327	0.266
2378-TCDD	**28.41**		**0.6668**	1.0008	**6**	4.10E+07	0.79	Y	**0.08**	**221**	**4494.327**	**6.2PP**
1278-TCDD	28.81		1.0121	1.0122	+0.2	3.85E+06	0.81	Y	1.18	21.5	4454.327	0.266
1267-TCDD	NotFnd		1.0167						1.18		4454.327	0.266
1289-TCDD	NotFnd		1.0345						1.18		4454.327	0.266
12479/12468-PeCDD	31.32		0.9267	0.9265	-0.4	8.84E+05	1.65	Y	1.04	6.39	5343.817	0.343
12469-PeCDD	31.86		0.9425	0.9423	-0.4	1.76E+06	1.52	Y	1.04	12.7	5343.817	0.343
12368-PeCDD	32.41		0.9588	0.9586	-0.4	3.72E+05	1.46	Y	1.04	2.69	5343.817	0.343
12478-PeCDD	32.60	J	0.9643	0.9643	0	3.04E+05	1.37	Y	1.04	2.2	5343.817	0.343
12379-PeCDD	32.70	J	0.9673	0.9672	-0.2	2.10E+05	1.35	Y	1.04	1.52	5343.817	0.343
12369/12467/12489-PeCDD	32.96		0.9750	0.9751	+0.2	7.21E+05	1.40	Y	1.04	5.21	5343.817	0.343
12346/12347-PeCDD	33.33	J	0.9858	0.9859	+0.2	6.82E+04	1.49	Y	1.04	0.493	5343.817	0.343
02378-e5CDD	33.82	EMPC	**0.6669**	**0.6669**	**6**	**4.72+E69**	**0.03**	**Y**	**0.64**	**3.40**	**9343.807**	**6.343**
12367-PeCDD	33.91	J EMPC	1.0033	1.0032	-0.2	6.97E+04	1.16	N	1.04	0.504	5343.817	0.343
12389-PeCDD	34.27	J EMPC	1.0134	1.0136	+0.4	8.63E+04	2.14	N	1.04	0.624	5343.817	0.343
124679/124689-HxCDD	35.99		0.9542	0.9541	-0.2	1.21E+07	1.27	Y	1.10	87.2	10062.56	0.633
123468-HxCDD	36.65		0.9715	0.9715	0	7.56E+05	1.20	Y	1.10	5.46	10062.56	0.633
123679/123689-HxCDD	36.94		0.9793	0.9793	0	4.17E+06	1.24	Y	1.10	30.1	10062.56	0.633
123469-HxCDD	37.06	J	0.9828	0.9826	-0.4	3.09E+05	1.23	Y	1.10	2.24	10062.56	0.633
023478-HxCDD	37.73	J	**0.6664**	**0.6663**	**-6.2**	**2.7P+E69**	**0.39**	**N**	1.09	**2.02**	**066P2.9P**	**6.P72**
023P78-HxCDD	37.86		**0.6639**	**0.6639**	**6**	**0.08+E6P**	**0.21**	**N**	1.15	**8.4**	**066P2.9P**	**6.P97**
123467-HxCDD	38.04	J	1.0085	1.0085	0	2.52E+05	1.23	Y	1.10	1.82	10062.56	0.633
023781-HxCDD	38.15		**0.6003**	**0.6002**	**-6.2**	**7.9P+E69**	**0.2P**	**N**	1.05	**9.29**	**066P2.9P**	**6.977**

Lab ID: B6235_18875_DF_009 **Acq'd:** 11 Feb 2022 10:18 DTF **Wt/Vol:** 10.03 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-DUP-14 **UTP:** 11-Feb-2022 16:26:48 DTF **J-level:** 0.498 pg/g **Split:** 1 **Checkcode:** 182-005-SBM

Datafile: 220210C32 **Report:** 11 Feb 2022 16:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

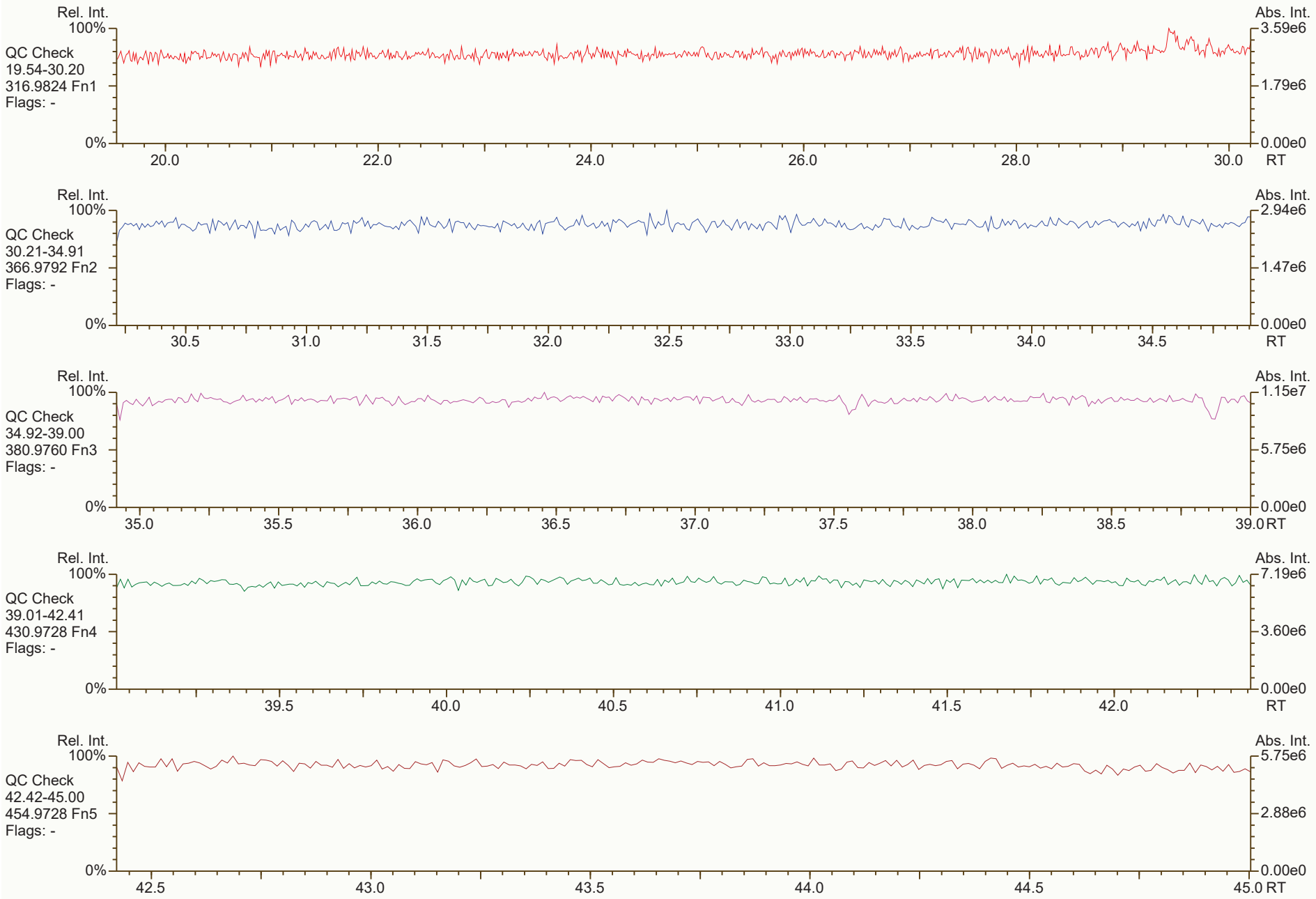
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.15		0.9837	0.9836	-0.2	3.19E+07	1.05	Y	1.06	266	18491.132	1.24
0234P78-HpCDD	**46.83**		**0.6663**	**0.6663**	**6**	**2.03+E67**	**0.64**	**N**	**0.6P**	**078**	**08410.032**	**0.24**
OCDD	**43.92**		**0.6662**	**0.6663**	**E6.3**	**2.96+E68**	**6.16**	**N**	**0.03**	**2,736**	**1321.844**	**0.20**
OCDD-a	43.51		1.0001	1.0002	+0.3	1.61E+07	2.55	Y	0.07	2,750	9769.311	19.8
1368-TCDF	22.74		0.8251	0.8236	-2.0	2.48E+05	0.83	Y	1.08	1.02	3589.475	0.166
1468-TCDF	23.31		0.8458	0.8445	-1.8	8.80E+05	0.79	Y	1.08	3.62	3589.475	0.166
2468-TCDF	23.94		0.8686	0.8673	-1.9	1.74E+06	0.85	Y	1.08	7.15	3589.475	0.166
1346/1246-TCDF	NotFnd		0.8814						1.08		3589.475	0.166
1347/1378/1247-TCDF	24.46		0.8867	0.8859	-1.2	3.06E+06	0.86	Y	1.08	12.6	3589.475	0.166
1348-TCDF	NotFnd		0.8962						1.08		3589.475	0.166
1248/1367/1379-TCDF	24.81		0.9009	0.8987	-3.3	9.99E+06	0.81	Y	1.08	41.1	3589.475	0.166
1268-TCDF	25.23		0.9145	0.9138	-1.1	3.91E+06	0.79	Y	1.08	16.1	3589.475	0.166
1467-TCDF	25.36	EMPC	0.9193	0.9188	-0.8	6.12E+05	0.92	N	1.08	2.52	3589.475	0.166
1478-TCDF	25.53		0.9254	0.9249	-0.8	8.45E+06	0.80	Y	1.08	34.7	3589.475	0.166
1369/1237-TCDF	25.91		0.9387	0.9385	-0.3	2.19E+06	0.80	Y	1.08	9.01	3589.475	0.166
2467-TCDF	26.02		0.9433	0.9424	-1.4	4.72E+05	0.87	Y	1.08	1.94	3589.475	0.166
2368-TCDF	26.19		0.9489	0.9485	-0.6	6.39E+06	0.78	Y	1.08	26.3	3589.475	0.166
1238/1234/1678/1469/1236-TCDF	26.26		0.9523	0.9513	-1.6	7.45E+06	0.83	Y	1.08	30.6	3589.475	0.166
1278-TCDF	26.73		0.9683	0.9682	-0.2	6.98E+07	0.79	Y	1.08	287	3589.475	0.166
1349-TCDF	NotFnd		0.9722						1.08		3589.475	0.166
1267-TCDF	27.00		0.9783	0.9781	-0.3	4.28E+06	0.79	Y	1.08	17.6	3589.475	0.166
2346/1249-TCDF	27.21		0.9850	0.9856	+1.0	6.13E+05	0.85	Y	1.08	2.52	3589.475	0.166
2347/1279-TCDF	27.40		0.9926	0.9926	0	2.07E+06	0.75	Y	1.08	8.51	3589.475	0.166
2348-TCDF	27.51		0.9967	0.9966	-0.2	1.08E+07	0.79	Y	1.08	44.2	3589.475	0.166
2378-TCDF	**27.P3**		**0.6668**	**0.6668**	**6**	**0.76+E68**	**6.78**	**N**	**0.68**	**P11**	**3981.479**	**6.0PP**
2367/3467-TCDF	27.98		1.0137	1.0136	-0.2	1.50E+07	0.78	Y	1.08	61.5	3589.475	0.166
1269-TCDF	28.23		1.0223	1.0226	+0.5	2.70E+06	0.80	Y	1.08	11.1	3589.475	0.166
1239-TCDF	NotFnd		1.0321						1.08		3589.475	0.166
1289-TCDF	29.63		1.0722	1.0735	+2.3	1.13E+07	0.79	Y	1.08	46.3	3589.475	0.166
13468/12468-PeCDF	29.58		0.9139	0.9140	+0.2	3.81E+06	1.57	Y	1.02	18.4	3468.171	0.149
13678/13467/12467-PeCDF	31.12	J	0.9613	0.9617	+0.7	5.00E+05	1.60	Y	1.02	2.41	7816.501	0.336
12368/13478/12478-PeCDF	31.28		0.9662	0.9667	+0.9	5.65E+06	1.54	Y	1.02	27.2	7816.501	0.336
14678-PeCDF	NotFnd		0.9692						1.02		7816.501	0.336
13479-PeCDF	NotFnd		0.9723						1.02		7816.501	0.336
13469/12479-PeCDF	31.66	J EMPC	0.9797	0.9783	-2.7	3.61E+05	1.86	N	1.02	1.74	7816.501	0.336
12346-PeCDF	31.83	J EMPC	0.9840	0.9836	-0.8	9.85E+04	1.18	N	1.02	0.474	7816.501	0.336

Lab ID: B6235_18875_DF_009 **Acq'd: 11 Feb 2022 10:18 DTF** **Wt/Vol: 10.03 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012222-S-BN-DUP-14 **UTP: 11-Feb-2022 16:26:48 DTF** **J-level: 0.498 pg/g** **Split: 1** **Checkcode: 182-005-SBM**

Datafile: 220210C32 **Report: 11 Feb 2022 16:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.94		0.9868	0.9869	+0.2	8.92E+05	1.50	Y	1.02	4.3	7816.501	0.336
12347-PeCDF	32.01	J	0.9894	0.9892	-0.4	2.26E+05	1.49	Y	1.02	1.09	7816.501	0.336
12348-PeCDF	32.17		0.9940	0.9940	0	1.05E+06	1.45	Y	1.02	5.06	7816.501	0.336
02378-e5CDF	**32.38**		**0.6669**	**0.6669**	**6**	**7.73+E6P**	**0.9P**	**N**	**0.62**	**3P.2**	**780P.960**	**6.34**
12678/12367-PeCDF	32.68		1.0089	1.0099	+2.0	3.72E+06	1.56	Y	1.02	17.9	7816.501	0.336
12379-PeCDF	NotFnd		1.0142						1.02		7816.501	0.336
12679-PeCDF	NotFnd		0.9929						1.02		7816.501	0.336
23467/12369-PeCDF	33.36	J EMPC	0.9967	0.9968	+0.2	2.33E+05	2.01	N	1.02	1.12	7816.501	0.336
23478-e5CDF	**33.96**		**0.6669**	**0.6668**	**E6.P**	**9.72+E6P**	**0.97**	**N**	**0.62**	**28.4**	**780P.960**	**6.330**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7816.501	0.336
12349-PeCDF	NotFnd		1.0100						1.02		7816.501	0.336
12389-PeCDF	34.57	J	1.0324	1.0327	+0.6	4.38E+05	1.36	Y	1.02	2.11	7816.501	0.336
123468-HxCDF	35.34		0.9627	0.9627	0	1.40E+06	1.17	Y	1.19	7.38	7805.097	0.345
124678/134678-HxCDF	35.54		0.9682	0.9680	-0.4	4.64E+06	1.23	Y	1.19	24.5	7805.097	0.345
134679-HxCDF	NotFnd		0.9744						1.19		7805.097	0.345
124679-HxCDF	35.97	J	0.9798	0.9797	-0.2	2.76E+05	1.30	Y	1.19	1.45	7805.097	0.345
124689-HxCDF	36.19		0.9858	0.9858	0	4.41E+06	1.26	Y	1.19	23.3	7805.097	0.345
123467-HxCDF	36.61	J	0.9972	0.9972	0	4.36E+05	1.41	Y	1.19	2.3	7805.097	0.345
023478-HxCDF	**3P.73**		**0.6669**	**0.6669**	**6**	**8.64+E6P**	**0.22**	**N**	**0.27**	**40.0**	**7869.617**	**6.30P**
023P78-HxCDF	**3P.87**		**0.6669**	**0.6664**	**-6.2**	**2.24+E6P**	**0.24**	**N**	**0.09**	**00.0**	**7869.617**	**6.331**
123479-HxCDF	NotFnd		1.0049						1.19		7805.097	0.345
123469-HxCDF	37.19	J	1.0090	1.0090	0	3.70E+05	1.25	Y	1.19	1.96	7805.097	0.345
123679-HxCDF	NotFnd		0.9942						1.19		7805.097	0.345
234P78-HxCDF	**37.99**		**0.6669**	**0.6664**	**-6.2**	**0.62+E6P**	**0.30**	**N**	**0.01**	**9.27**	**7869.617**	**6.339**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		7805.097	0.345
023781-HxCDF	**YotFnd**		**0.6664**						**0.0P**		**7869.617**	**6.462**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.53		1.0009	1.0011	+0.5	8.73E+05	1.20	Y	1.19	4.61	7805.097	0.345
0234P78-HpCDF	**31.81**		**0.6663**	**0.6663**	**6**	**0.11+E67**	**0.62**	**N**	**0.37**	**000**	**7029.81**	**6.212**
1234679-HpCDF	40.15		1.0068	1.0068	0	1.16E+06	1.11	Y	1.34	7.28	7125.89	0.355
1234689-HpCDF	40.29		1.0103	1.0104	+0.2	1.32E+07	1.00	Y	1.34	82.7	7125.89	0.355
0234781-HpCDF	**40.28**		**0.6663**	**0.6663**	**6**	**0.P2+E6P**	**0.64**	**N**	**0.30**	**00.9**	**7029.81**	**6.439**
OCDF	**43.76**		**0.6663**	**0.6663**	**6**	**4.40+E68**	**6.81**	**N**	**0.67**	**3,P16**	**7090.46P**	**6.P19**
OCDF-a	43.70		1.0002	1.0003	+0.3	2.82E+07	2.48	Y	0.07	3,800	4598.714	7.21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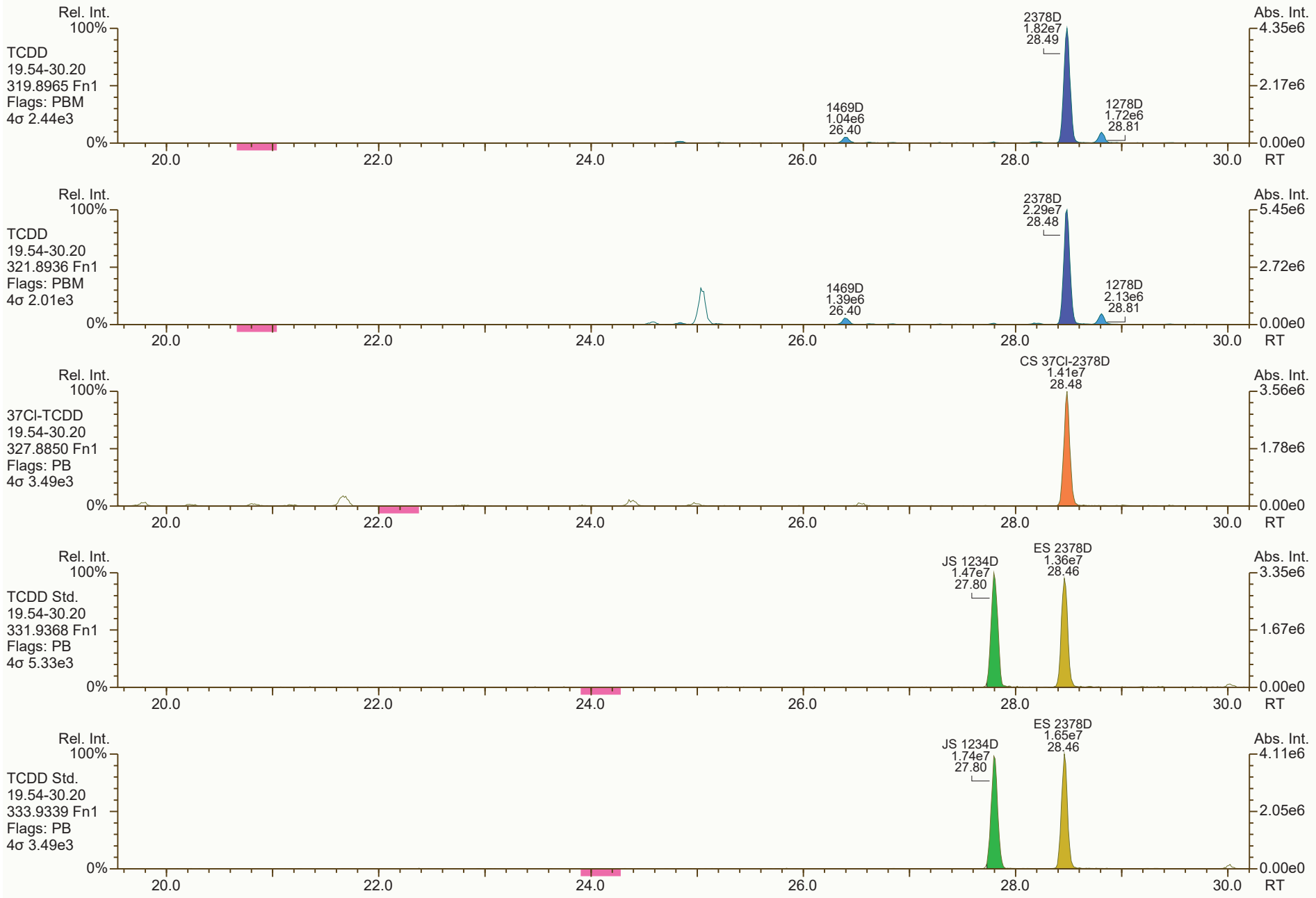
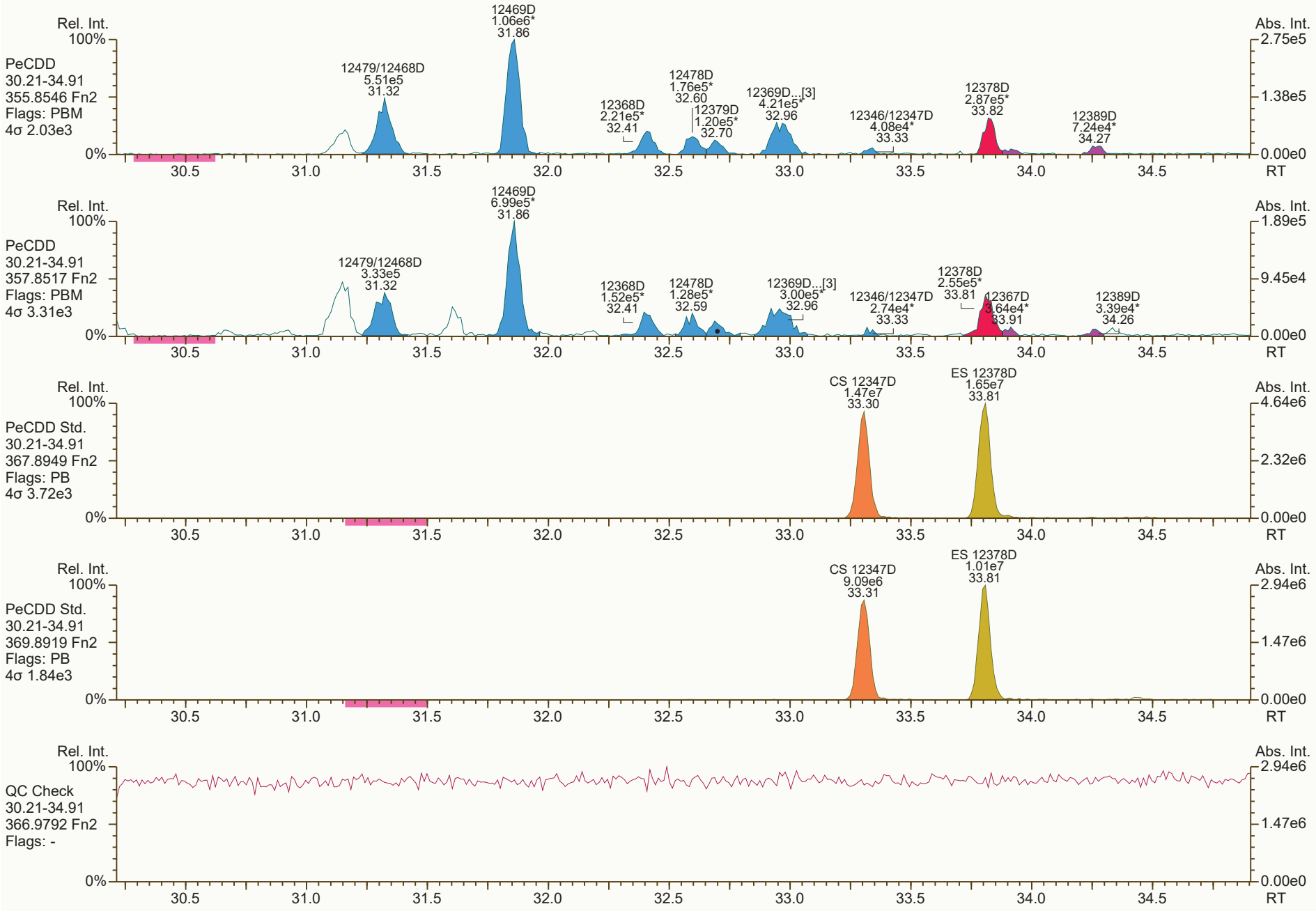
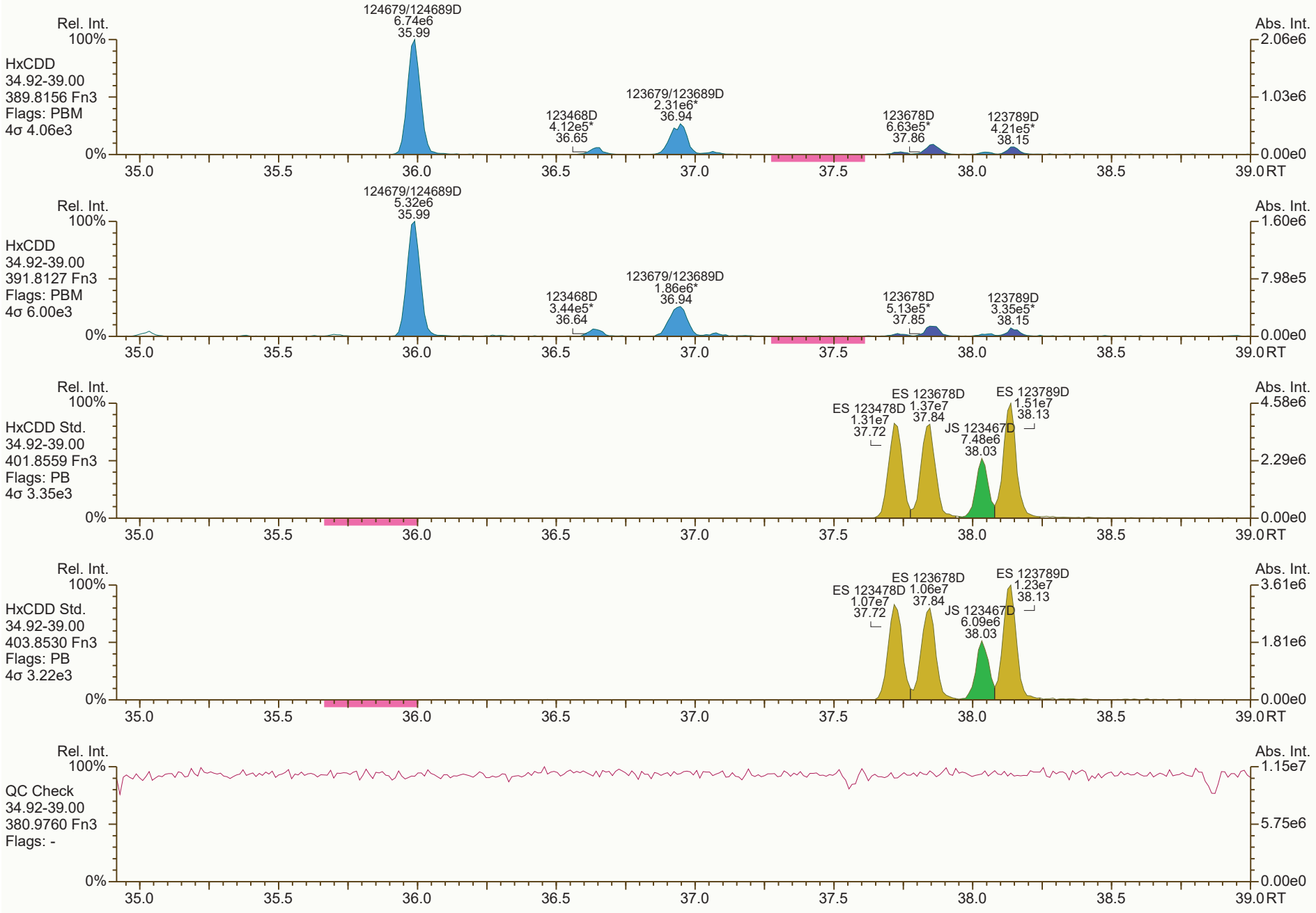
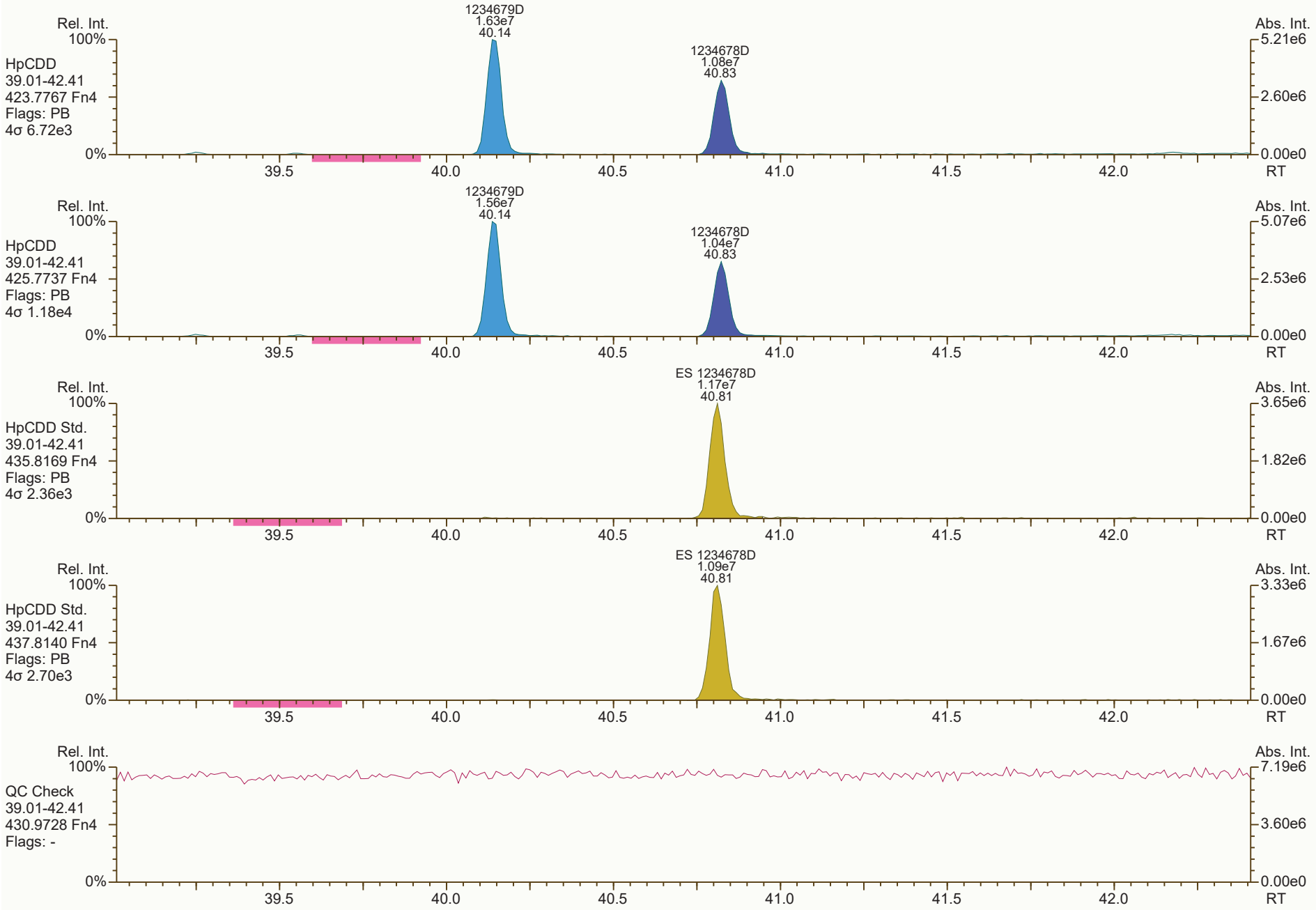
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.59e6
1.79e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
2.94e6
1.47e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.15e7
5.75e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
7.19e6
3.60e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.75e6
2.88e6
0.00e0

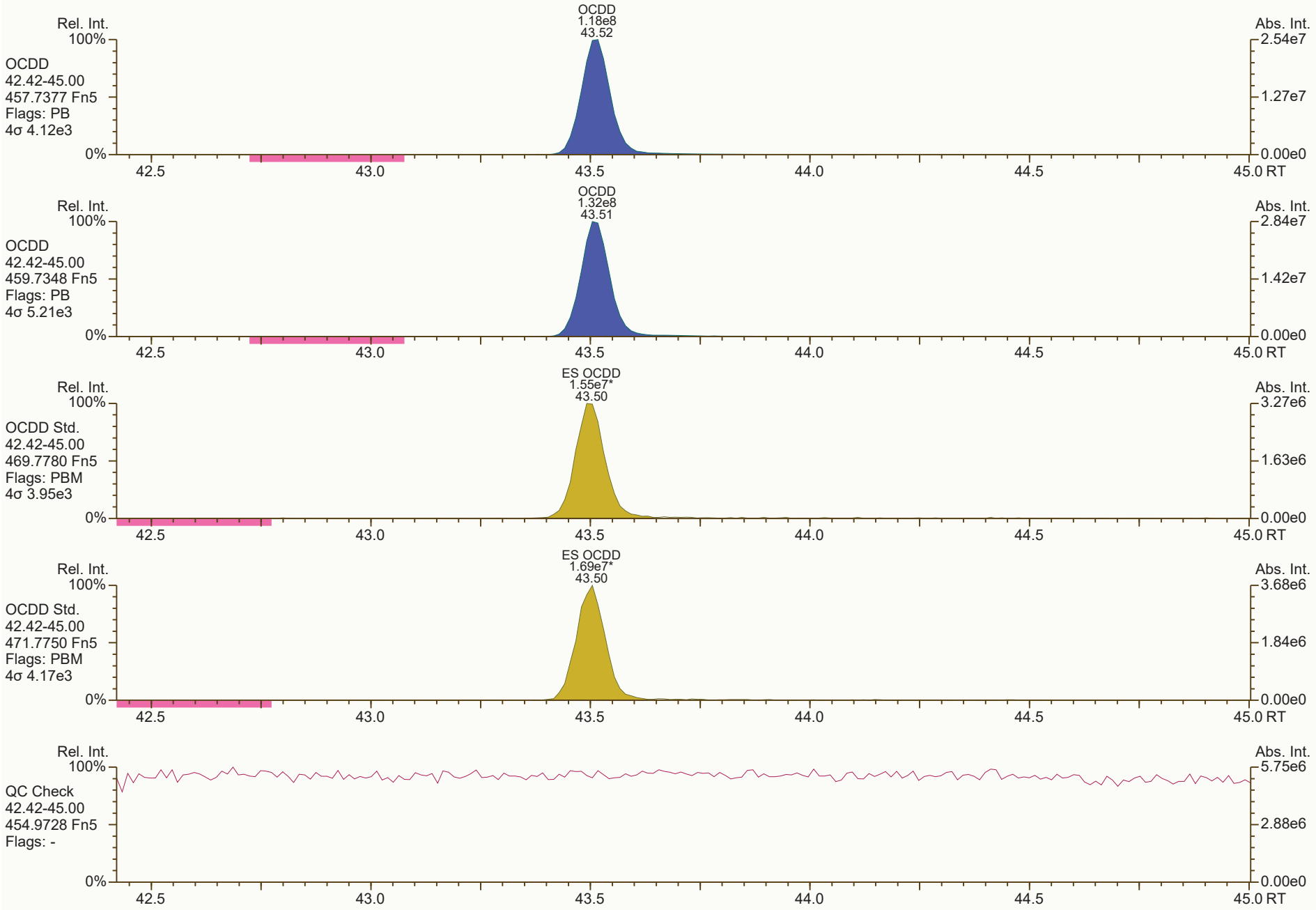


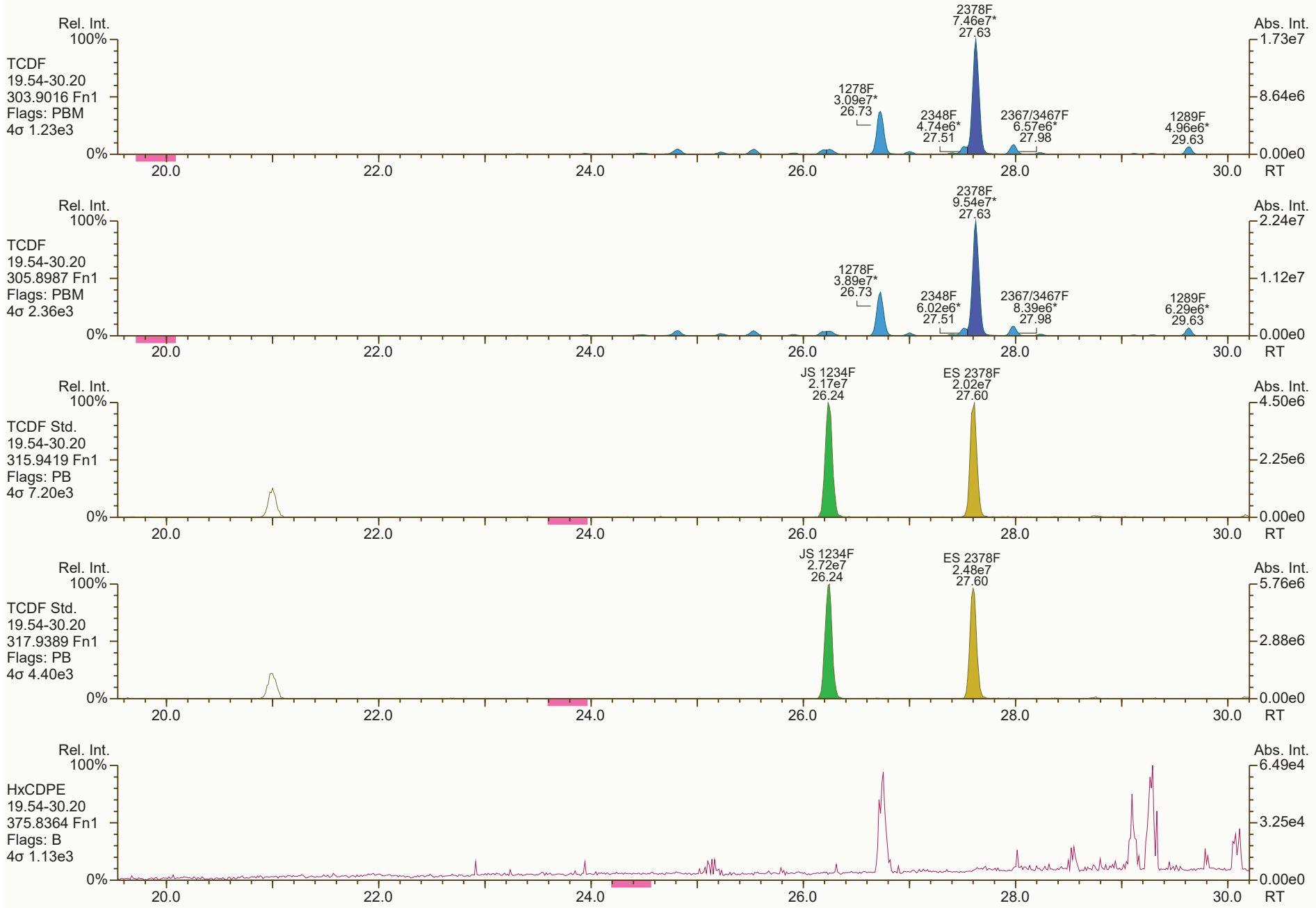
Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_009.utp_res, saved 11-Feb-2022 16:26 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2253, 4539, 4917 scc: 182-005 *Revised: 11-Feb-2022 15:38 (DTF) Printed: 11-Feb-2022 16:39 Page 2 of 12*


Rel. Int.
100%
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PBM
4σ 2.03e3
12479/12468D
5.51e5
31.32
12469D
1.06e6*
31.86
12368D
2.21e5*
32.41
12478D
1.76e5*
32.60
12379D
1.20e5*
32.70
12369D...[3]
4.21e5*
32.96
12346/12347D
4.08e4*
33.33
12378D
2.87e5*
33.82
12389D
7.24e4*
34.27
Abs. Int.
2.75e5
1.38e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PBM
4σ 3.31e3
12479/12468D
3.33e5
31.32
12469D
6.99e5*
31.86
12368D
1.52e5*
32.41
12478D
1.28e5*
32.59
12369D...[3]
3.00e5*
32.96
12346/12347D
2.74e4*
33.33
12378D
2.55e5*
33.81
12367D
3.64e4*
33.91
12389D
3.39e4*
34.26
Abs. Int.
1.89e5
9.45e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 3.72e3
CS 12347D
1.47e7
33.30
ES 12378D
1.65e7
33.81
Abs. Int.
4.64e6
2.32e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 1.84e3
CS 12347D
9.09e6
33.31
ES 12378D
1.01e7
33.81
Abs. Int.
2.94e6
1.47e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
Abs. Int.
2.94e6
1.47e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 4.06e3
0%
124679/124689D
6.74e6
35.99
123468D
4.12e5*
36.65
123679/123689D
2.31e6*
36.94
123678D
6.63e5*
37.86
123789D
4.21e5*
38.15
Abs. Int.
2.06e6
1.03e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 6.00e3
0%
124679/124689D
5.32e6
35.99
123468D
3.44e5*
36.64
123679/123689D
1.86e6*
36.94
123678D
5.13e5*
37.85
123789D
3.35e5*
38.15
Abs. Int.
1.60e6
7.98e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 3.35e3
0%
ES 123478D
1.31e7
37.72
ES 123678D
1.37e7
37.84
JS 123467D
7.48e6
38.03
ES 123789D
1.51e7
38.13
Abs. Int.
4.58e6
2.29e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 3.22e3
0%
ES 123478D
1.07e7
37.72
ES 123678D
1.06e7
37.84
JS 123467D
6.09e6
38.03
ES 123789D
1.23e7
38.13
Abs. Int.
3.61e6
1.81e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.15e7
5.75e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

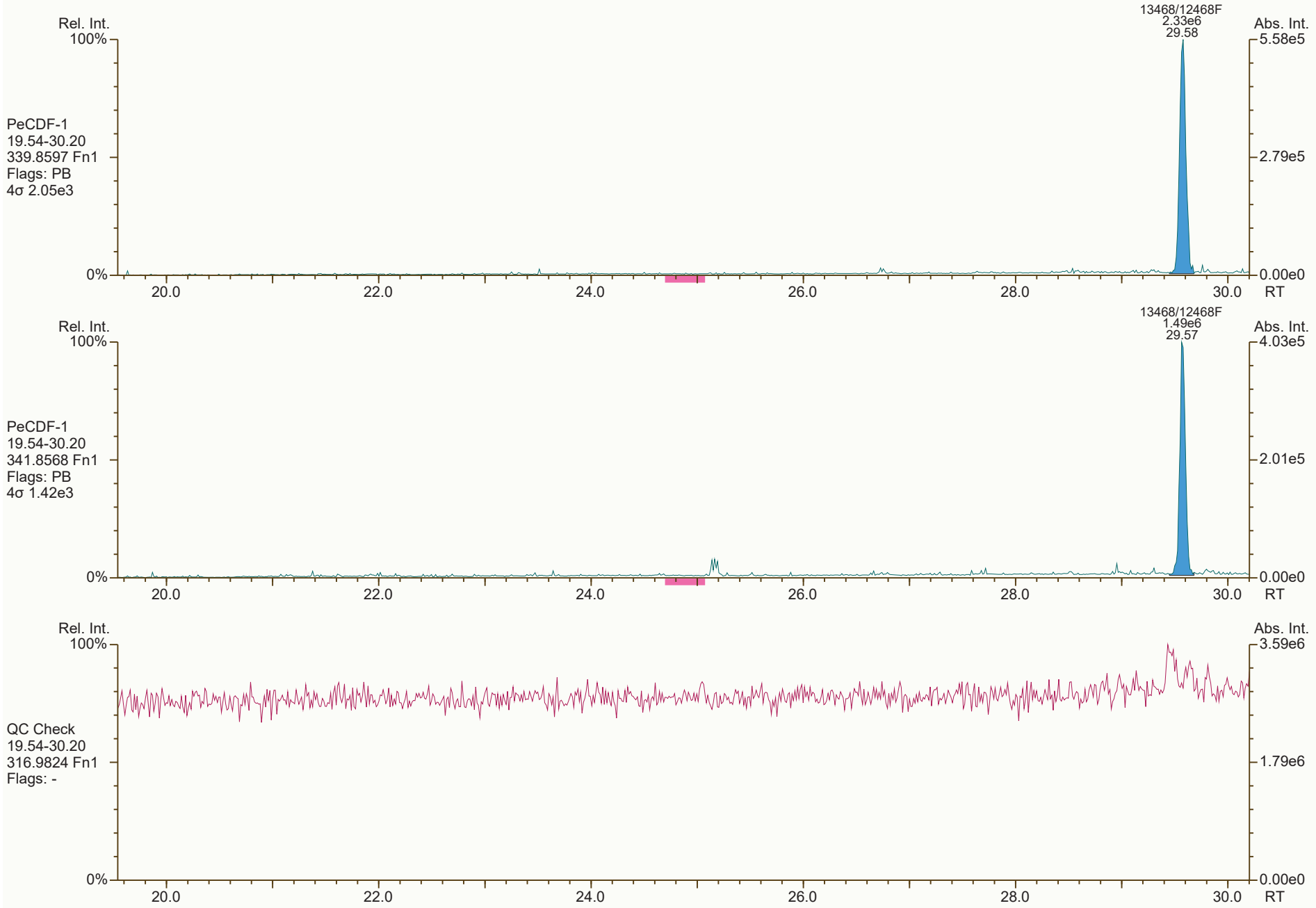

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 6.72e3
1234679D
1.63e7
40.14
1234678D
1.08e7
40.83
Abs. Int.
5.21e6
2.60e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.18e4
1234679D
1.56e7
40.14
1234678D
1.04e7
40.83
Abs. Int.
5.07e6
2.53e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.36e3
ES 1234678D
1.17e7
40.81
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 2.70e3
ES 1234678D
1.09e7
40.81
Abs. Int.
3.33e6
1.67e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
7.19e6
3.60e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
1.18e8
43.52
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 4.12e3
0%
Abs. Int.
2.54e7
1.27e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.32e8
43.51
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 5.21e3
2.84e7
1.42e7
ES OCDD
1.55e7*
43.50
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 3.95e3
3.27e6
1.63e6
ES OCDD
1.69e7*
43.50
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 4.17e3
3.68e6
1.84e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
5.75e6
2.88e6


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.23e3
0%
2378F
7.46e7*
27.63
1278F
3.09e7*
26.73
2348F
4.74e6*
27.51
2367/3467F
6.57e6*
27.98
1289F
4.96e6*
29.63
Abs. Int.
1.73e7
8.64e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.36e3
0%
2378F
9.54e7*
27.63
1278F
3.89e7*
26.73
2348F
6.02e6*
27.51
2367/3467F
8.39e6*
27.98
1289F
6.29e6*
29.63
Abs. Int.
2.24e7
1.12e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 7.20e3
0%
JS 1234F
2.17e7
26.24
ES 2378F
2.02e7
27.60
Abs. Int.
4.50e6
2.25e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.40e3
0%
JS 1234F
2.72e7
26.24
ES 2378F
2.48e7
27.60
Abs. Int.
5.76e6
2.88e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.13e3
0%
Abs. Int.
6.49e4
3.25e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

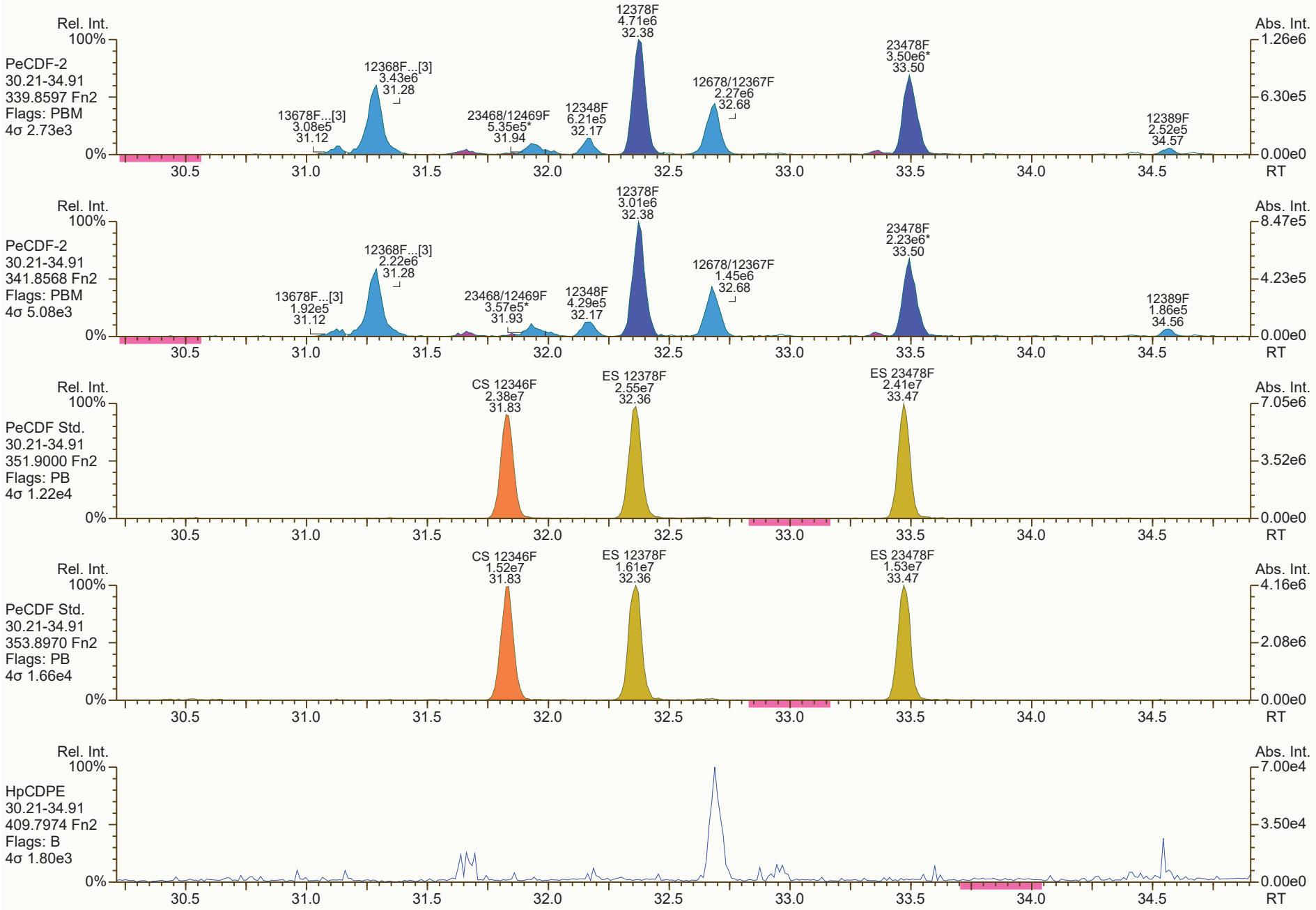
SGS ID: B6235_18875_DF_009 | Sample ID: 11215131-012222-S-BN-DUP-14 | Acq: 11-Feb-2022 10:18:54

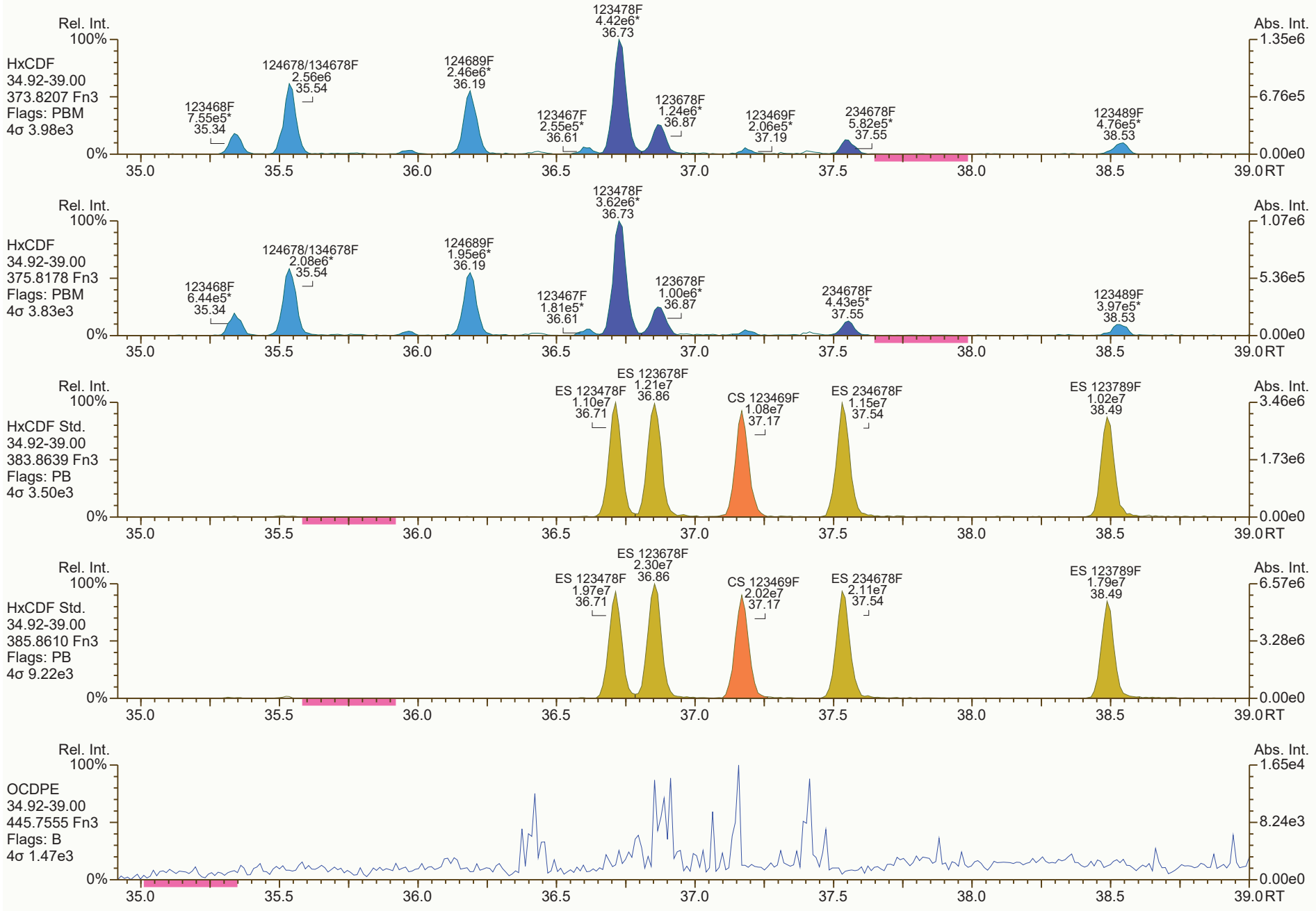
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 55 | User: DTF Datafile: 220210C32

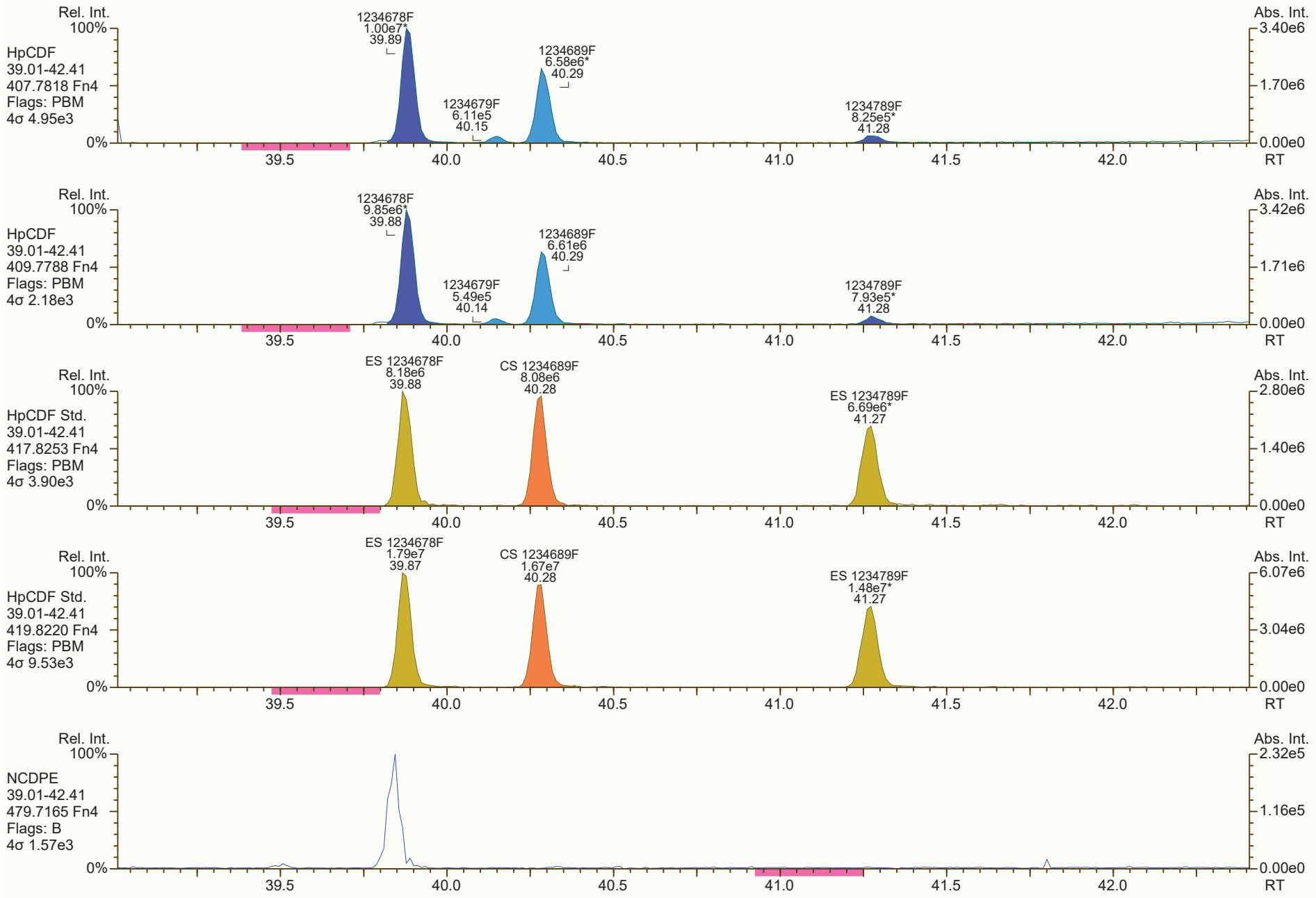


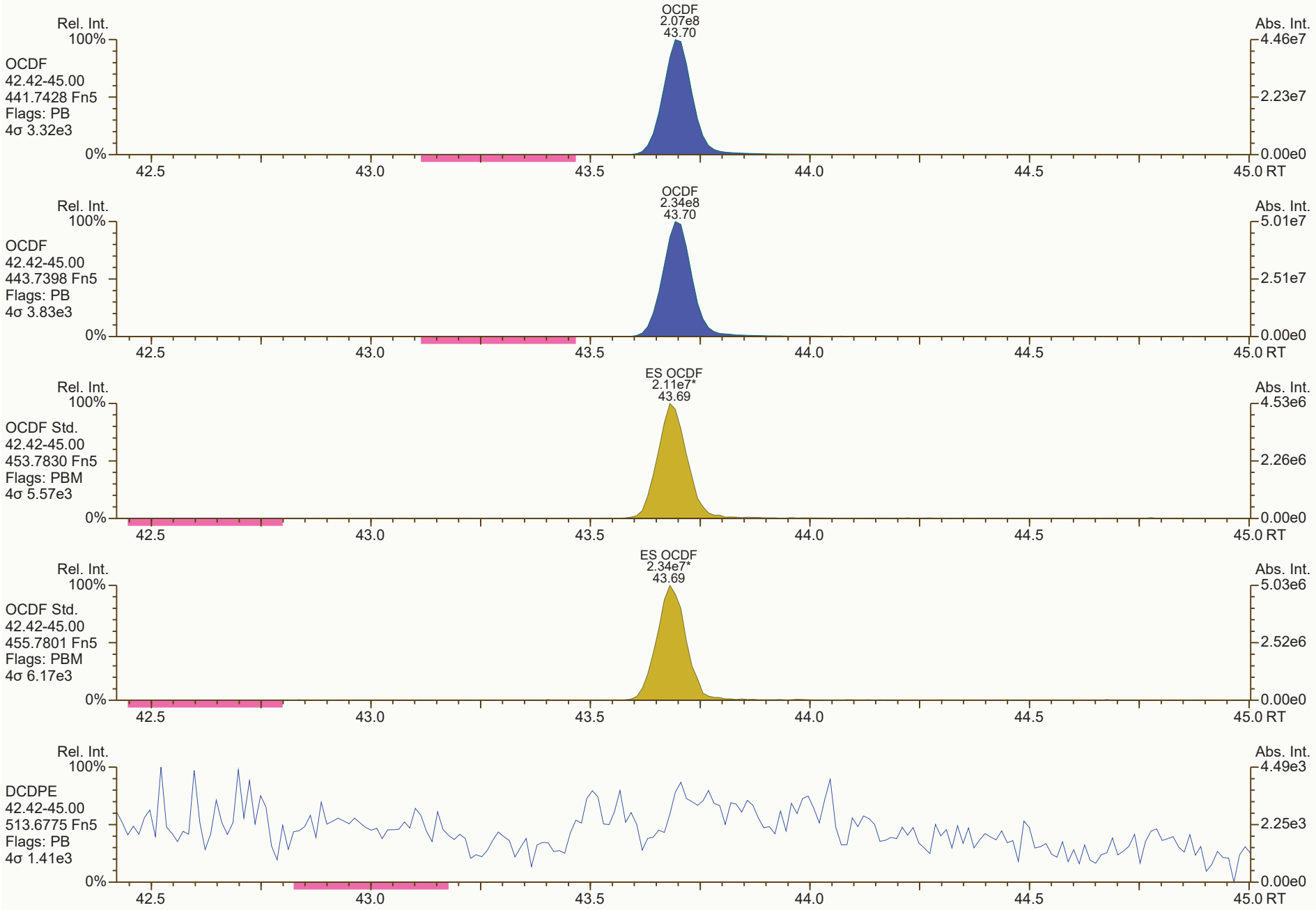
Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_009.utp_res, saved 11-Feb-2022 16:26 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3783 scc: 182-005 *PKD: 11-Feb-2022 15:37 Printed: 11-Feb-2022 16:39 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PBM
4σ 2.73e3
0%
12368F...[3]
3.43e6
31.28
13678F...[3]
3.08e5
31.12
23468/12469F
5.35e5*
31.94
12348F
6.21e5
32.17
12378F
4.71e6
32.38
12678/12367F
2.27e6
32.68
23478F
3.50e6*
33.50
12389F
2.52e5
34.57
Abs. Int.
1.26e6
6.30e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PBM
4σ 5.08e3
0%
12368F...[3]
2.22e6
31.28
13678F...[3]
1.92e5
31.12
23468/12469F
3.57e5*
31.93
12348F
4.29e5
32.17
12378F
3.01e6
32.38
12678/12367F
1.45e6
32.68
23478F
2.23e6*
33.50
12389F
1.86e5
34.56
Abs. Int.
8.47e5
4.23e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 1.22e4
0%
CS 12346F
2.38e7
31.83
ES 12378F
2.55e7
32.36
ES 23478F
2.41e7
33.47
Abs. Int.
7.05e6
3.52e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 1.66e4
0%
CS 12346F
1.52e7
31.83
ES 12378F
1.61e7
32.36
ES 23478F
1.53e7
33.47
Abs. Int.
4.16e6
2.08e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.80e3
0%
Abs. Int.
7.00e4
3.50e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 3.98e3
123468F 7.55e5* 35.34
124678/134678F 2.56e6 35.54
124689F 2.46e6* 36.19
123467F 2.55e5* 36.61
123478F 4.42e6* 36.73
123678F 1.24e6* 36.87
123469F 2.06e5* 37.19
234678F 5.82e5* 37.55
123489F 4.76e5* 38.53
Abs. Int.
1.35e6
6.76e5
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 3.83e3
123468F 6.44e5* 35.34
124678/134678F 2.08e6* 35.54
124689F 1.95e6* 36.19
123467F 1.81e5* 36.61
123478F 3.62e6* 36.73
123678F 1.00e6* 36.87
234678F 4.43e5* 37.55
123489F 3.97e5* 38.53
Abs. Int.
1.07e6
5.36e5
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 3.50e3
ES 123478F 1.10e7 36.71
ES 123678F 1.21e7 36.86
CS 123469F 1.08e7 37.17
ES 234678F 1.15e7 37.54
ES 123789F 1.02e7 38.49
Abs. Int.
3.46e6
1.73e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 9.22e3
ES 123478F 1.97e7 36.71
ES 123678F 2.30e7 36.86
CS 123469F 2.02e7 37.17
ES 234678F 2.11e7 37.54
ES 123789F 1.79e7 38.49
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.47e3
Abs. Int.
1.65e4
8.24e3
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 4.95e3
1234678F
1.00e7*
39.89
1234689F
6.58e6*
40.29
1234679F
6.11e5
40.15
1234789F
8.25e5*
41.28
Abs. Int.
3.40e6
1.70e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 2.18e3
1234678F
9.85e6*
39.88
1234689F
6.61e6
40.29
1234679F
5.49e5
40.14
1234789F
7.93e5*
41.28
Abs. Int.
3.42e6
1.71e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 3.90e3
ES 1234678F
8.18e6
39.88
CS 1234689F
8.08e6
40.28
ES 1234789F
6.69e6*
41.27
Abs. Int.
2.80e6
1.40e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 9.53e3
ES 1234678F
1.79e7
39.87
CS 1234689F
1.67e7
40.28
ES 1234789F
1.48e7*
41.27
Abs. Int.
6.07e6
3.04e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.57e3
Abs. Int.
2.32e5
1.16e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 3.32e3
0%
OCDF
2.07e8
43.70
Abs. Int.
4.46e7
2.23e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 3.83e3
0%
OCDF
2.34e8
43.70
Abs. Int.
5.01e7
2.51e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 5.57e3
0%
ES OCDF
2.11e7*
43.69
Abs. Int.
4.53e6
2.26e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 6.17e3
0%
ES OCDF
2.34e7*
43.69
Abs. Int.
5.03e6
2.52e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.41e3
0%
Abs. Int.
4.49e3
2.25e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6235_18875_DF_010 **Acq'd:** 11 Feb 2022 11:05 DTF **Wt/Vol:** 10.07 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-O-43 **UTP:** 11-Feb-2022 16:26:49 DTF **J-level:** 0.497 pg/g **Split:** 1 **Checkcode:** 374-144-SRL

Datafile: 220210C33 **Report:** 11 Feb 2022 16:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.49		1.0008	1.0008	0	6.46E+07	0.80	Y	1.18	395	3621.418	0.226
12378-PeCDD	33.82		1.0005	1.0005	0	6.26E+05	1.62	Y	1.04	4.72	5763.512	0.374
123478-HxCDD	37.74	J	1.0004	1.0004	0	2.10E+05	1.30	Y	1.09	1.69	6396.96	0.447
123678-HxCDD	37.86		1.0035	1.0036	+0.2	8.09E+05	1.32	Y	1.15	6.07	6396.96	0.401
123789-HxCDD	38.15		1.0113	1.0113	0	5.15E+05	1.20	Y	1.05	3.96	6396.96	0.42
1234678-HpCDD	40.84		1.0003	1.0003	0	2.16E+07	1.04	Y	1.06	184	10470.248	0.711
OCDD	43.54		1.0002	1.0003	+0.3	2.30E+08	0.90	Y	1.13	2,520	8400.511	1.14
2378-TCDF	27.63	E	1.0008	1.0007	-0.2	2.55E+08	0.78	Y	1.08	1,110	3504.113	0.16
12378-PeCDF	32.38		1.0005	1.0006	+0.2	7.71E+06	1.56	Y	1.02	38.8	6796.567	0.309
23478-PeCDF	33.50	PR	1.0005	1.0007	+0.4	6.35E+06	1.56	Y	1.02	32.7	6796.567	0.301
123478-HxCDF	36.74		1.0005	1.0005	0	1.06E+07	1.22	Y	1.27	58.3	5212.543	0.24
123678-HxCDF	36.88		1.0005	1.0006	+0.2	3.23E+06	1.20	Y	1.15	16.8	5212.543	0.221
234678-HxCDF	37.56		1.0005	1.0003	-0.5	1.02E+06	1.23	Y	1.19	5.09	5212.543	0.234
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	5212.543	0.256
1234678-HpCDF	39.89		1.0003	1.0002	-0.2	1.41E+07	1.05	Y	1.37	81.8	9158.882	0.389
1234789-HpCDF	41.29		1.0003	1.0002	-0.2	1.38E+06	0.96	Y	1.31	10.2	9158.882	0.593
OCDF	43.72		1.0003	1.0003	0	1.30E+08	0.90	Y	1.07	1,180	6397.505	0.665

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46	1.0238	1.0237	-0.2	2.74E+07	0.83	Y	1.05	89
ES 12378-PeCDD	33.81	1.2160	1.2159	-0.2	2.54E+07	1.59	Y	0.88	98.2
ES 123478-HxCDD	37.73	0.9919	0.9918	-0.2	2.27E+07	1.23	Y	0.97	86.7
ES 123678-HxCDD	37.85	0.9950	0.9949	-0.2	2.30E+07	1.25	Y	0.94	90.6
ES 123789-HxCDD	38.14	1.0027	1.0026	-0.2	2.47E+07	1.25	Y	1.09	83.8
ES 1234678-HpCDD	40.83	1.0730	1.0732	+0.5	2.19E+07	1.06	Y	0.91	89.1
ES OCDD	43.52	1.1437	1.1441	+1.0	3.21E+07	0.90	Y	0.62	95.3
ES 2378-TCDF	27.61	1.0520	1.0520	0	4.23E+07	0.81	Y	1.06	86.7
ES 12378-PeCDF	32.36	1.2330	1.2332	+0.4	3.86E+07	1.56	Y	0.91	92.1
ES 23478-PeCDF	33.47	1.2754	1.2756	+0.4	3.78E+07	1.60	Y	0.88	93.1
ES 123478-HxCDF	36.72	0.9653	0.9652	-0.2	2.83E+07	0.53	Y	1.20	87.6
ES 123678-HxCDF	36.86	0.9691	0.9689	-0.4	3.31E+07	0.52	Y	1.35	90.9
ES 234678-HxCDF	37.54	0.9870	0.9869	-0.2	3.35E+07	0.55	Y	1.24	100
ES 123789-HxCDF	38.50	1.0121	1.0120	-0.2	2.65E+07	0.55	Y	1.16	85.1
ES 1234678-HpCDF	39.88	1.0484	1.0484	0	2.50E+07	0.46	Y	0.97	95.8
ES 1234789-HpCDF	41.29	1.0851	1.0853	+0.5	2.05E+07	0.45	Y	0.85	89.2
ES OCDF	43.71	1.1483	1.1489	+1.6	4.11E+07	0.93	Y	0.81	94.3

Lab ID: B6235_18875_DF_010 **Acq'd:** 11 Feb 2022 11:05 DTF **Wt/Vol:** 10.07 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-O-43 **UTP:** 11-Feb-2022 16:26:49 DTF **J-level:** 0.497 pg/g **Split:** 1 **Checkcode:** 374-144-SRL

Datafile: 220210C33 **Report:** 11 Feb 2022 16:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.80		-	-	-	2.95E+07	0.83	Y	-	-
JS 1234-TCDF	26.24		-	-	-	4.60E+07	0.80	Y	-	-
JS 123467-HxCDD	38.04		-	-	-	1.35E+07	1.25	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0245	1.0245	0	1.29E+07	n/a	-	1.20	90.9
CS 12347-PeCDD	33.30		1.1979	1.1978	-0.2	2.28E+07	1.60	Y	0.75	103
CS 12346-PeCDF	31.83		1.2128	1.2130	+0.4	3.85E+07	1.60	Y	0.85	98.4
CS 123469-HxCDF	37.18		0.9774	0.9773	-0.2	2.95E+07	0.53	Y	1.12	98
CS 1234689-HpCDF	40.29		1.0589	1.0591	+0.5	2.41E+07	0.46	Y	0.89	101
SS 37Cl-2378-TCDD	28.48		1.0245	1.0245	0	1.29E+07	n/a	-	1.15	102
SS 12347-PeCDD	33.30		1.1979	1.1978	-0.2	2.28E+07	1.60	Y	0.86	105
SS 12346-PeCDF	31.83		1.2128	1.2130	+0.4	3.85E+07	1.60	Y	0.94	107
SS 123469-HxCDF	37.18		0.9774	0.9773	-0.2	2.95E+07	0.53	Y	0.83	108
SS 1234689-HpCDF	40.29		1.0589	1.0591	+0.5	2.41E+07	0.46	Y	0.92	105

Totals	Conc	EMPC
Total TCDD	445	449
Total PeCDD	17.3	19.9
Total HxCDD	81.1	81.1
Total HpCDD	422	422
Total Tetra-Octa Dioxins	3490	3490
Total TCDF	2,230	2240
Total PeCDF	124	129
Total HxCDF	124	125
Total HpCDF	150	150
Total Tetra-Octa Furans	3,810	3820
Total Tetra-Octa Dioxins & Furans	7300	7310

Lab ID: B6235_18875_DF_010 **Acq'd: 11 Feb 2022 11:05 DTF** **Wt/Vol: 10.07 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012122-S-BN-NC-O-43 **UTP: 11-Feb-2022 16:26:49 DTF** **J-level: 0.497 pg/g** **Split: 1** **Checkcode: 374-144-SRL**

Datafile: 220210C33 **Report: 11 Feb 2022 16:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.84		0.8737	0.8728	-1.3	3.65E+05	0.77	Y	1.18	2.23	3621.418	0.226
1379-TCDD	25.20	EMPC	0.8860	0.8853	-1.1	1.46E+05	0.44	N	1.18	0.89	3621.418	0.226
1369-TCDD	25.62		0.9009	0.9002	-1.1	1.28E+05	0.84	Y	1.18	0.78	3621.418	0.226
1469-TCDD	26.40	EMPC	0.9281	0.9274	-1.1	2.62E+05	0.97	N	1.18	1.6	3621.418	0.226
1247/1246/1248/1249-TCDD	26.64	EMPC	0.9362	0.9358	-0.6	1.48E+05	0.64	N	1.18	0.902	3621.418	0.226
1378-TCDD	26.83		0.9432	0.9427	-0.8	2.28E+05	0.69	Y	1.18	1.4	3621.418	0.226
1268-TCDD	NotFnd		0.9500						1.18		3621.418	0.226
1478-TCDD	27.28		0.9586	0.9585	-0.2	2.02E+05	0.71	Y	1.18	1.24	3621.418	0.226
1279-TCDD	NotFnd		0.9645						1.18		3621.418	0.226
1234/1269-TCDD	27.79	J EMPC	0.9770	0.9762	-1.3	5.88E+04	1.17	N	1.18	0.359	3621.418	0.226
1236-TCDD	NotFnd		0.9817						1.18		3621.418	0.226
1237/1238-TCDD	28.19		0.9905	0.9905	0	1.09E+06	0.84	Y	1.18	6.67	3621.418	0.226
1239-TCDD	NotFnd		0.9952						1.18		3621.418	0.226
2378-TCDD	**28.49**		**1.0008**	1.0008	**0**	6.46E+07	0.80	Y	**1.18**	**395**	**3621.418**	**0.226**
1278-TCDD	28.81		1.0121	1.0122	+0.2	6.00E+06	0.79	Y	1.18	36.7	3621.418	0.226
1267-TCDD	NotFnd		1.0167						1.18		3621.418	0.226
1289-TCDD	29.46		1.0345	1.0349	+0.7	1.26E+05	0.79	Y	1.18	0.773	3621.418	0.226
12479/12468-PeCDD	31.32		0.9267	0.9263	-0.8	6.88E+05	1.66	Y	1.04	5.18	5763.512	0.374
12469-PeCDD	31.86		0.9425	0.9423	-0.4	4.65E+05	1.34	Y	1.04	3.51	5763.512	0.374
12368-PeCDD	32.41	J	0.9588	0.9586	-0.4	2.23E+05	1.51	Y	1.04	1.68	5763.512	0.374
12478-PeCDD	32.60	J EMPC	0.9643	0.9644	+0.2	1.84E+05	1.31	N	1.04	1.39	5763.512	0.374
12379-PeCDD	32.70	J EMPC	0.9673	0.9673	0	1.02E+05	1.90	N	1.04	0.769	5763.512	0.374
12369/12467/12489-PeCDD	32.96	J	0.9750	0.9749	-0.2	2.94E+05	1.56	Y	1.04	2.21	5763.512	0.374
12346/12347-PeCDD	NotFnd		0.9858						1.04		5763.512	0.374
12378-PeCDD	33.82		**1.0005**	**1.0005**	**0**	**6.26E+05**	**1.62**	**Y**	**1.04**	**4.72**	**5763.512**	**0.374**
12367-PeCDD	33.92	J EMPC	1.0033	1.0035	+0.4	5.88E+04	1.13	N	1.04	0.443	5763.512	0.374
12389-PeCDD	NotFnd		1.0134						1.04		5763.512	0.374
124679/124689-HxCDD	35.99		0.9542	0.9540	-0.4	4.74E+06	1.22	Y	1.10	36.6	6396.96	0.422
123468-HxCDD	36.65		0.9715	0.9714	-0.2	5.06E+05	1.23	Y	1.10	3.91	6396.96	0.422
123679/123689-HxCDD	36.94		0.9793	0.9792	-0.2	3.28E+06	1.26	Y	1.10	25.3	6396.96	0.422
123469-HxCDD	37.08	J	0.9828	0.9828	0	3.05E+05	1.13	Y	1.10	2.36	6396.96	0.422
123478-HxCDD	37.74	J	**1.0004**	**1.0004**	**0**	**2.10E+05**	**1.30**	**Y**	1.09	**1.69**	**6396.96**	**0.447**
123678-HxCDD	37.86		**1.0035**	**1.0036**	**+0.2**	**8.09E+05**	**1.32**	**Y**	1.15	**6.07**	**6396.96**	**0.401**
123467-HxCDD	38.06	J	1.0085	1.0087	+0.5	1.55E+05	1.35	Y	1.10	1.2	6396.96	0.422
123789-HxCDD	38.15		**1.0113**	**1.0113**	**0**	**5.15E+05**	**1.20**	**Y**	1.05	**3.96**	**6396.96**	**0.42**

Lab ID: B6235_18875_DF_010 **Acq'd:** 11 Feb 2022 11:05 DTF **Wt/Vol:** 10.07 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-O-43 **UTP:** 11-Feb-2022 16:26:49 DTF **J-level:** 0.497 pg/g **Split:** 1 **Checkcode:** 374-144-SRL

Datafile: 220210C33 **Report:** 11 Feb 2022 16:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16		0.9837	0.9836	-0.2	2.78E+07	1.05	Y	1.06	237	10470.248	0.711
1234678-HpCDD	**40.84**		**1.0003**	**1.0003**	**0**	**2.16E+07**	**1.04**	**Y**	**1.06**	**184**	**10470.248**	**0.711**
OCDD	**43.54**		**1.0002**	**1.0003**	**+0.3**	**2.30E+08**	**0.90**	**Y**	**1.13**	**2,520**	**8400.511**	**1.14**
OCDD-a	43.53		1.0001	1.0002	+0.3	1.50E+07	2.45	Y	0.07	2,570	4756.225	10.1
1368-TCDF	22.72		0.8251	0.8229	-3.0	1.65E+05	0.80	Y	1.08	0.721	3504.113	0.16
1468-TCDF	23.31		0.8458	0.8444	-2.0	5.87E+05	0.77	Y	1.08	2.56	3504.113	0.16
2468-TCDF	23.95		0.8686	0.8675	-1.6	7.61E+05	0.73	Y	1.08	3.31	3504.113	0.16
1346/1246-TCDF	NotFnd		0.8814						1.08		3504.113	0.16
1347/1378/1247-TCDF	24.47		0.8867	0.8863	-0.6	3.59E+06	0.79	Y	1.08	15.6	3504.113	0.16
1348-TCDF	NotFnd		0.8962						1.08		3504.113	0.16
1248/1367/1379-TCDF	24.81		0.9009	0.8987	-3.3	1.45E+07	0.78	Y	1.08	63.3	3504.113	0.16
1268-TCDF	25.23		0.9145	0.9139	-0.9	4.95E+06	0.76	Y	1.08	21.6	3504.113	0.16
1467-TCDF	25.37		0.9193	0.9188	-0.8	7.13E+05	0.74	Y	1.08	3.11	3504.113	0.16
1478-TCDF	25.53		0.9254	0.9248	-0.9	1.21E+07	0.77	Y	1.08	52.7	3504.113	0.16
1369/1237-TCDF	25.91		0.9387	0.9387	0	3.10E+06	0.77	Y	1.08	13.5	3504.113	0.16
2467-TCDF	26.04		0.9433	0.9432	-0.2	3.66E+05	0.86	Y	1.08	1.59	3504.113	0.16
2368-TCDF	26.19		0.9489	0.9486	-0.5	8.78E+06	0.80	Y	1.08	38.3	3504.113	0.16
1238/1234/1678/1469/1236-TCDF	26.26		0.9523	0.9512	-1.7	1.31E+07	0.80	Y	1.08	57.3	3504.113	0.16
1278-TCDF	26.73		0.9683	0.9681	-0.3	1.18E+08	0.78	Y	1.08	513	3504.113	0.16
1349-TCDF	NotFnd		0.9722						1.08		3504.113	0.16
1267-TCDF	27.00		0.9783	0.9780	-0.5	6.80E+06	0.77	Y	1.08	29.6	3504.113	0.16
2346/1249-TCDF	27.20		0.9850	0.9851	+0.2	8.60E+05	0.86	Y	1.08	3.74	3504.113	0.16
2347/1279-TCDF	27.40		0.9926	0.9926	0	3.49E+06	0.79	Y	1.08	15.2	3504.113	0.16
2348-TCDF	27.51		0.9967	0.9965	-0.3	1.92E+07	0.78	Y	1.08	83.5	3504.113	0.16
2378-TCDF	**27.63**	E	**1.0008**	**1.0007**	**-0.2**	**2.55E+08**	**0.78**	**Y**	**1.08**	**1,110**	**3504.113**	**0.16**
2367/3467-TCDF	27.98		1.0137	1.0135	-0.3	2.21E+07	0.81	Y	1.08	96.3	3504.113	0.16
1269-TCDF	28.23		1.0223	1.0226	+0.5	4.19E+06	0.81	Y	1.08	18.3	3504.113	0.16
1239-TCDF	28.51	EMPC	1.0321	1.0326	+0.9	3.95E+05	0.97	N	1.08	1.72	3504.113	0.16
1289-TCDF	29.64		1.0722	1.0734	+2.1	2.08E+07	0.78	Y	1.08	90.4	3504.113	0.16
13468/12468-PeCDF	29.57		0.9139	0.9139	0	1.68E+06	1.70	Y	1.02	8.53	2721.565	0.122
13678/13467/12467-PeCDF	31.12	J EMPC	0.9613	0.9616	+0.6	3.30E+05	1.84	N	1.02	1.68	6796.567	0.305
12368/13478/12478-PeCDF	31.28		0.9662	0.9667	+0.9	4.54E+06	1.48	Y	1.02	23.1	6796.567	0.305
14678-PeCDF	NotFnd		0.9692						1.02		6796.567	0.305
13479-PeCDF	NotFnd		0.9723						1.02		6796.567	0.305
13469/12479-PeCDF	NotFnd		0.9797						1.02		6796.567	0.305
12346-PeCDF	NotFnd		0.9840						1.02		6796.567	0.305

Lab ID: B6235_18875_DF_010 | **Acq'd: 11 Feb 2022 11:05 DTF** | **Wt/Vol: 10.07 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012122-S-BN-NC-O-43 | **UTP: 11-Feb-2022 16:26:49 DTF** | **J-level: 0.497 pg/g** | **Split: 1** | **Checkcode: 374-144-SRL**

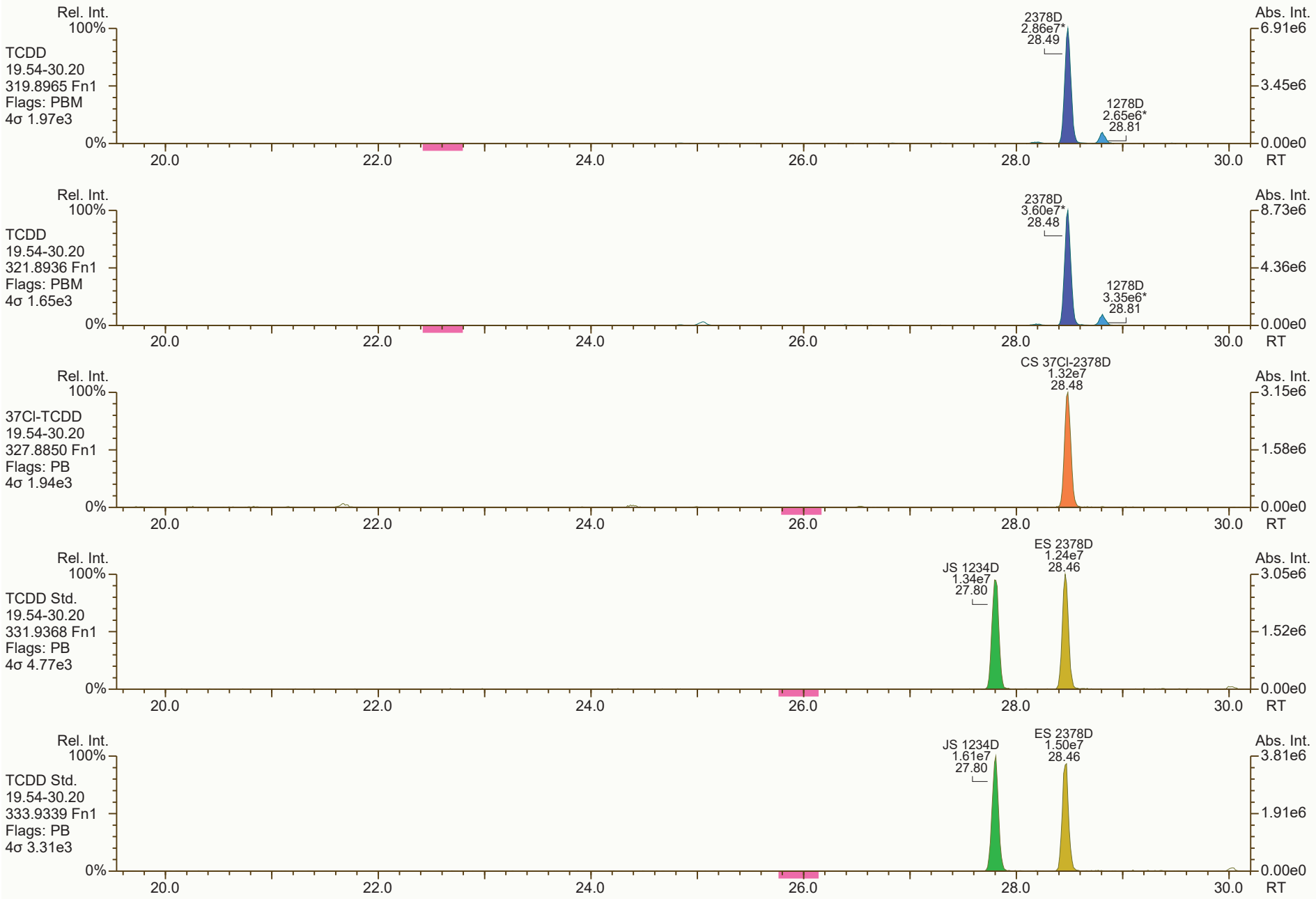
Datafile: 220210C33 | **Report: 11 Feb 2022 16:29 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.95	EMPC	0.9868	0.9873	+1.0	6.34E+05	2.00	N	1.02	3.23	6796.567	0.305
12347-PeCDF	NotFnd		0.9894						1.02		6796.567	0.305
12348-PeCDF	32.17		0.9940	0.9940	0	9.10E+05	1.75	Y	1.02	4.63	6796.567	0.305
12378-PeCDF	**32.38**		**1.0005**	**1.0006**	**+0.2**	**7.71E+06**	**1.56**	**Y**	**1.02**	**38.8**	**6796.567**	**0.309**
12678/12367-PeCDF	32.67		1.0089	1.0096	+1.4	2.63E+06	1.51	Y	1.02	13.4	6796.567	0.305
12379-PeCDF	NotFnd		1.0142						1.02		6796.567	0.305
12679-PeCDF	NotFnd		0.9929						1.02		6796.567	0.305
23467/12369-PeCDF	33.35	J	0.9967	0.9964	-0.6	1.79E+05	1.53	Y	1.02	0.909	6796.567	0.305
23478-PeCDF	**33.50**		**1.0005**	**1.0007**	**+0.4**	**6.35E+06**	**1.56**	**Y**	**1.02**	**32.7**	**6796.567**	**0.301**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6796.567	0.305
12349-PeCDF	NotFnd		1.0100						1.02		6796.567	0.305
12389-PeCDF	34.56	J	1.0324	1.0325	+0.2	3.99E+05	1.43	Y	1.02	2.03	6796.567	0.305
123468-HxCDF	35.34		0.9627	0.9626	-0.2	8.55E+05	1.19	Y	1.19	4.68	5212.543	0.236
124678/134678-HxCDF	35.54		0.9682	0.9680	-0.4	3.28E+06	1.24	Y	1.19	18	5212.543	0.236
134679-HxCDF	NotFnd		0.9744						1.19		5212.543	0.236
124679-HxCDF	35.97	J	0.9798	0.9797	-0.2	1.16E+05	1.24	Y	1.19	0.636	5212.543	0.236
124689-HxCDF	36.20		0.9858	0.9858	0	2.75E+06	1.19	Y	1.19	15	5212.543	0.236
123467-HxCDF	36.61	J EMPC	0.9972	0.9970	-0.4	2.48E+05	1.00	N	1.19	1.36	5212.543	0.236
123478-HxCDF	**36.74**		**1.0005**	**1.0005**	**0**	**1.06E+07**	**1.22**	**Y**	**1.27**	**58.3**	**5212.543**	**0.24**
123678-HxCDF	**36.88**		**1.0005**	**1.0006**	**+0.2**	**3.23E+06**	**1.20**	**Y**	**1.15**	**16.8**	**5212.543**	**0.221**
123479-HxCDF	NotFnd		1.0049						1.19		5212.543	0.236
123469-HxCDF	37.19	J	1.0090	1.0090	0	1.31E+05	1.39	Y	1.19	0.717	5212.543	0.236
123679-HxCDF	NotFnd		0.9942						1.19		5212.543	0.236
234678-HxCDF	**37.56**		**1.0005**	**1.0003**	**-0.5**	**1.02E+06**	**1.23**	**Y**	**1.19**	**5.09**	**5212.543**	**0.234**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		5212.543	0.236
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**5212.543**	**0.256**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.54		1.0009	1.0011	+0.5	8.84E+05	1.26	Y	1.19	4.84	5212.543	0.236
1234678-HpCDF	**39.89**		**1.0003**	**1.0002**	**-0.2**	**1.41E+07**	**1.05**	**Y**	**1.37**	**81.8**	**9158.882**	**0.389**
1234679-HpCDF	40.16		1.0068	1.0069	+0.2	5.01E+05	1.10	Y	1.34	3.27	9158.882	0.48
1234689-HpCDF	40.30		1.0103	1.0104	+0.2	8.35E+06	1.02	Y	1.34	54.5	9158.882	0.48
1234789-HpCDF	**41.29**		**1.0003**	**1.0002**	**-0.2**	**1.38E+06**	**0.96**	**Y**	**1.31**	**10.2**	**9158.882**	**0.593**
OCDF	**43.72**		**1.0003**	**1.0003**	**0**	**1.30E+08**	**0.90**	**Y**	**1.07**	**1,180**	**6397.505**	**0.665**
OCDF-a	43.72		1.0002	1.0003	+0.3	8.63E+06	2.36	Y	0.07	1,260	3973.366	6.67


Rel. Int.
100%
0%
Abs. Int.
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
3.31e6
1.66e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
2.58e6
1.29e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
0%
Abs. Int.
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
9.96e6
4.98e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
0%
Abs. Int.
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
5.91e6
2.96e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
0%
Abs. Int.
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
4.56e6
2.28e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT

SGS ID: B6235_18875_DF_010 | Sample ID: 11215131-012122-S-BN-NC-O-43 | Acq: 11-Feb-2022 11:05:14

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 56 | User: DTF Datafile: 220210C33

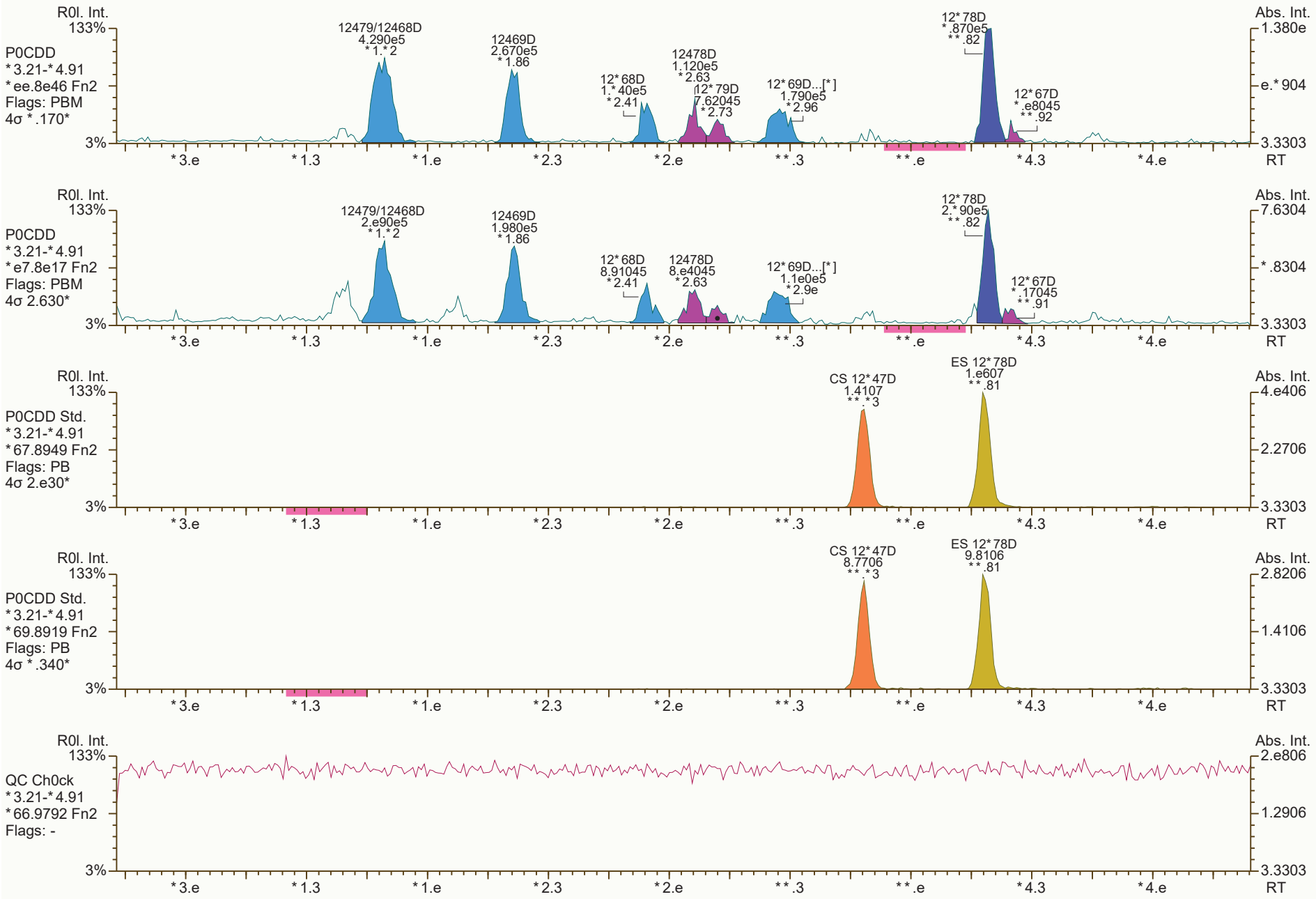


Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_0104it. _resp s, aev 11dFe-d2022 16:26 bD(FT

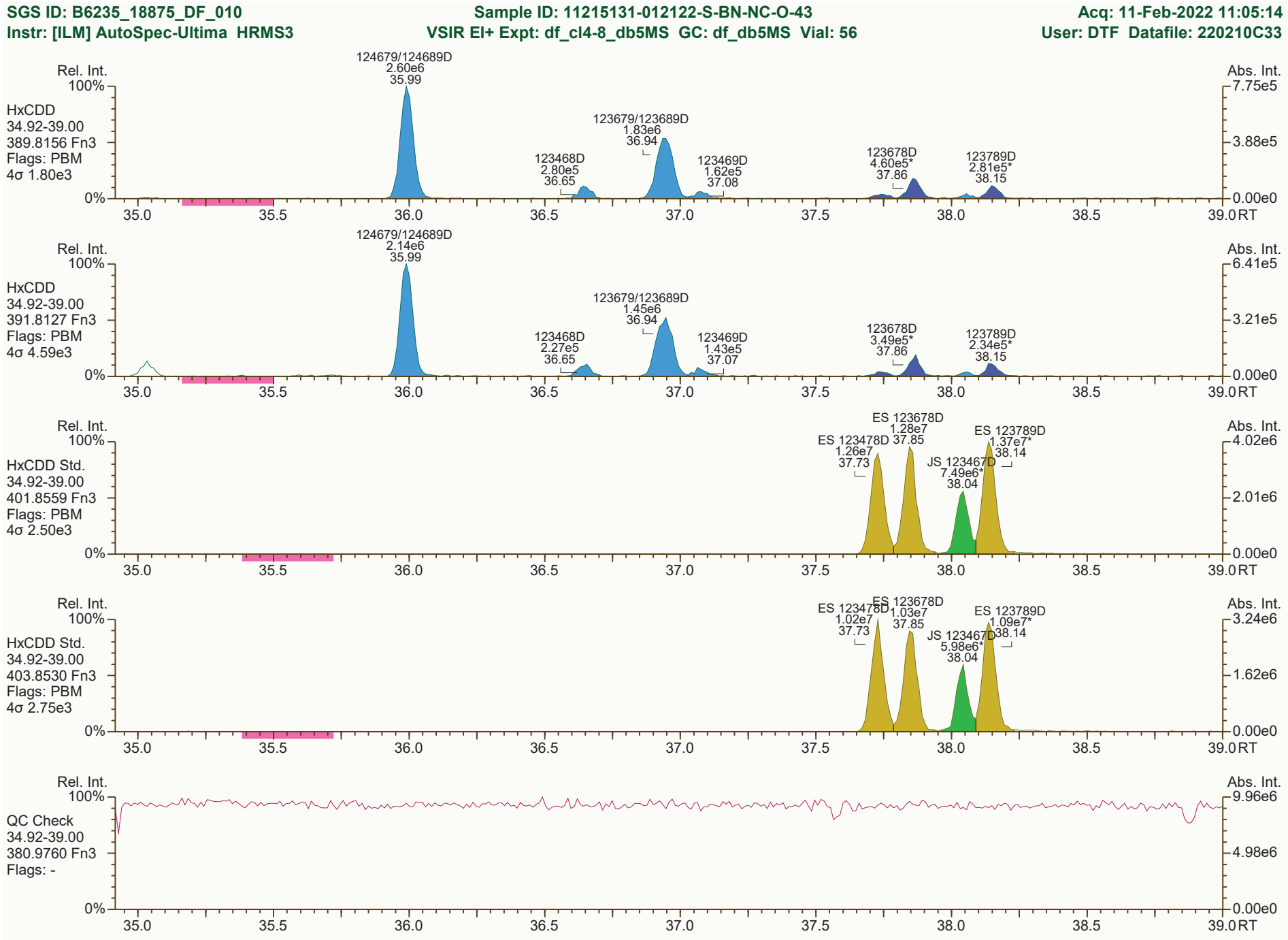
Pe,) , kkot, tnok: i re, spAektronvs

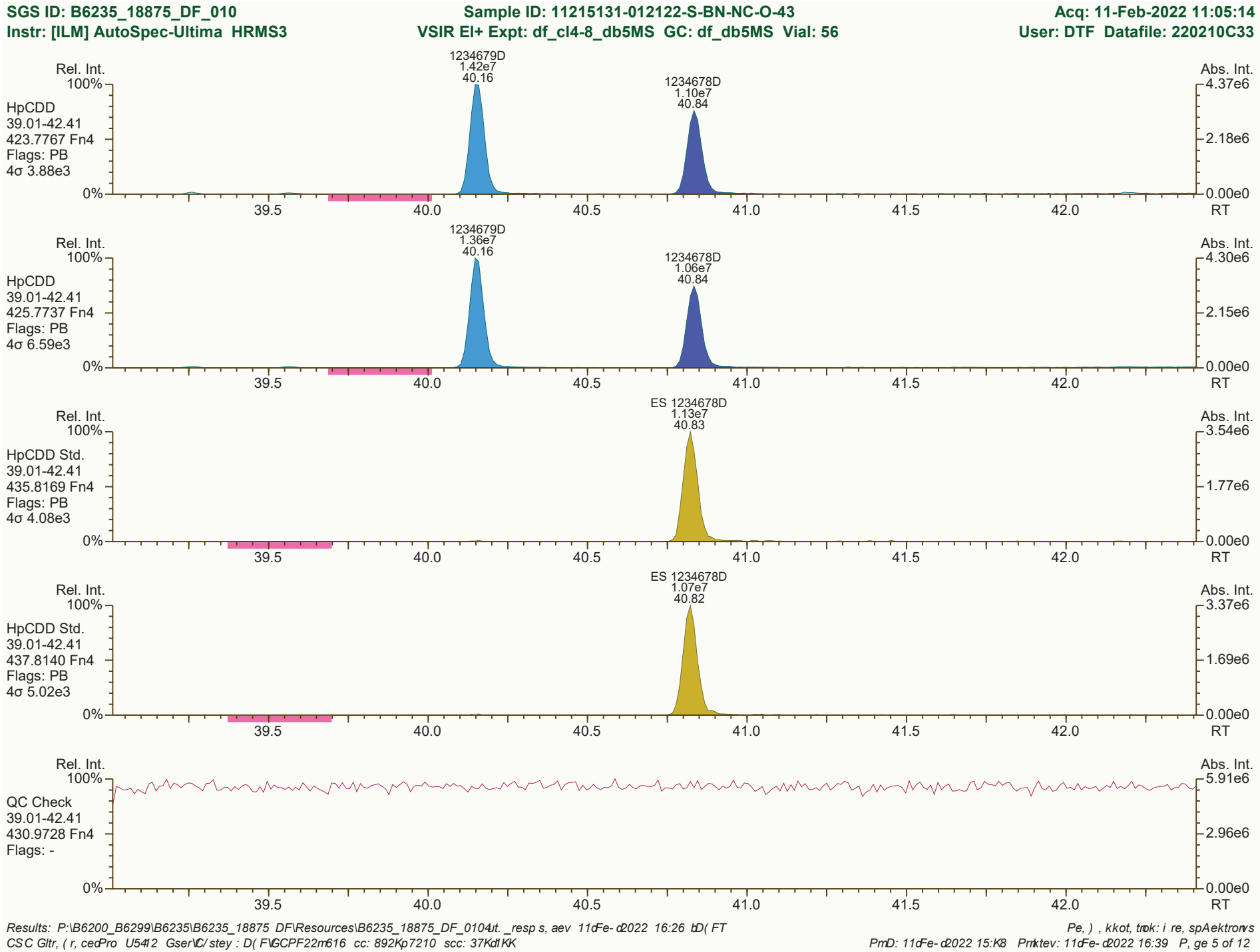
CSC Gltr, (r, cedPro U54f12 GserVC/ stey : D(FVGCPF22m616 cc: 6505p8003p061K scc: 37Kd1KK

PmD: 11dFe-d2022 15:K8 Pmktev: 11dFe-d2022 16:39 P, ge 2 of 12

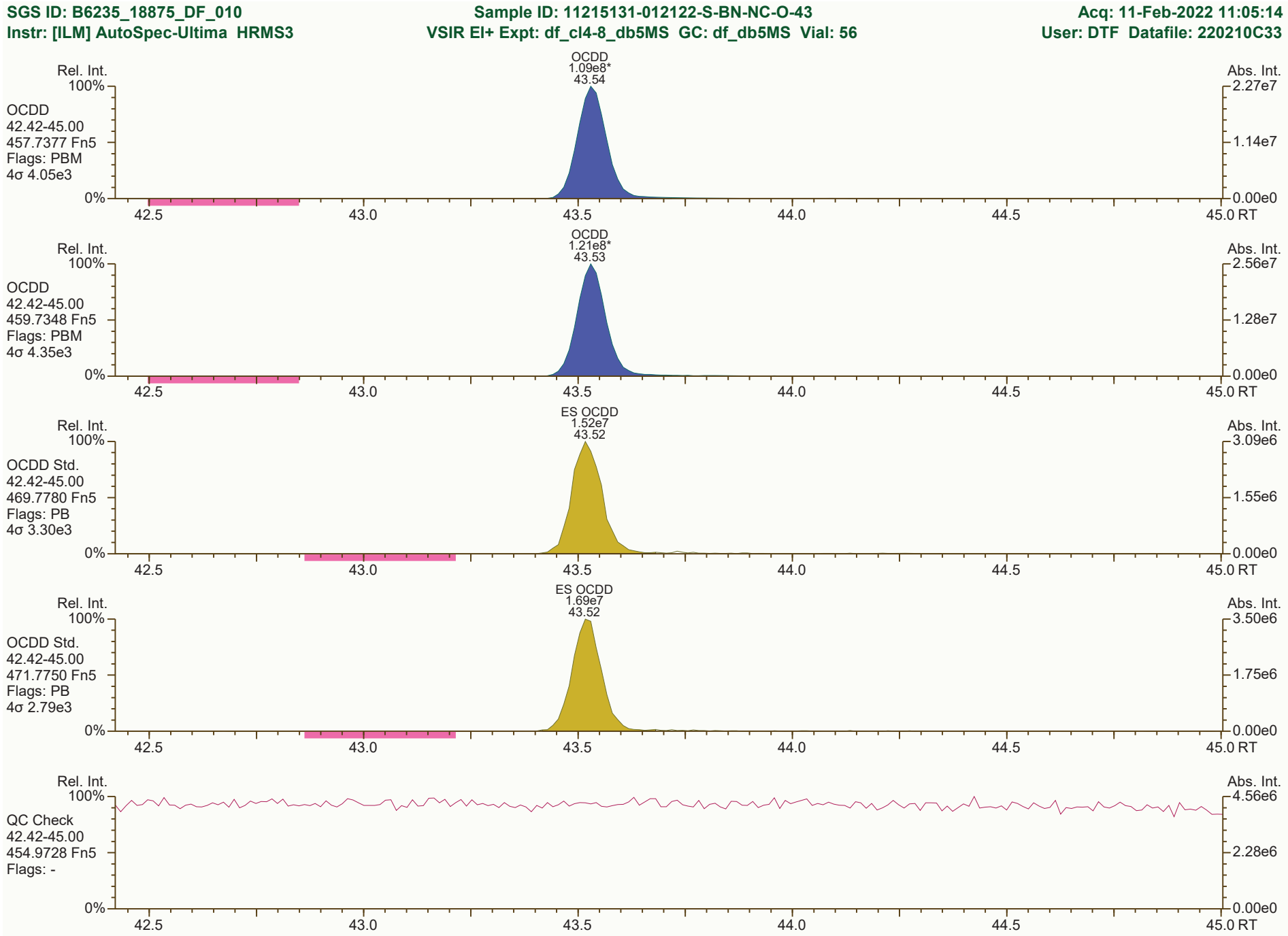


Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_0104it. _resp s, aev 11dFe-d2022 16:26 bD(FT Pe,) , kkot, tnok: i re, spAektronvs
CSC Gltr, (r, cedPro U54f2 GserVC/ stey : D(FVGCPF22m616 cc: 0708p9363 scc: 37Kd1KK Reansev: 11dFe-d2022 15:K5 bD(FT Prnktev: 11dFe-d2022 16:39 P, ge 3 of 12


SGS ID: B6235_18875_DF_010
Sample ID: 11215131-012122-S-BN-NC-O-43
Acq: 11-Feb-2022 11:05:14
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 56
User: DTF Datafile: 220210C33
Rel. Int.
Abs. Int.
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 1.80e3
124679/124689D
2.60e6
35.99
123679/123689D
1.83e6
36.94
123468D
2.80e5
36.65
123469D
1.62e5
37.08
123678D
4.60e5*
37.86
123789D
2.81e5*
38.15
7.75e5
3.88e5
0.00e0
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 4.59e3
124679/124689D
2.14e6
35.99
123679/123689D
1.45e6
36.94
123468D
2.27e5
36.65
123469D
1.43e5
37.07
123678D
3.49e5*
37.86
123789D
2.34e5*
38.15
6.41e5
3.21e5
0.00e0
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 2.50e3
ES 123678D
1.28e7
37.85
ES 123478D
1.26e7
37.73
ES 123789D
1.37e7*
38.14
JS 123467D
7.49e6*
38.04
4.02e6
2.01e6
0.00e0
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 2.75e3
ES 123678D
1.03e7
37.85
ES 123478D
1.02e7
37.73
ES 123789D
1.09e7*
38.14
JS 123467D
5.98e6*
38.04
3.24e6
1.62e6
0.00e0
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
9.96e6
4.98e6
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_010.utp_res, saved 11-Feb-2022 16:26 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8265, 1777 scc: 374-144
Revised: 11-Feb-2022 15:46 (DTF) Printed: 11-Feb-2022 16:39 Page 4 of 12

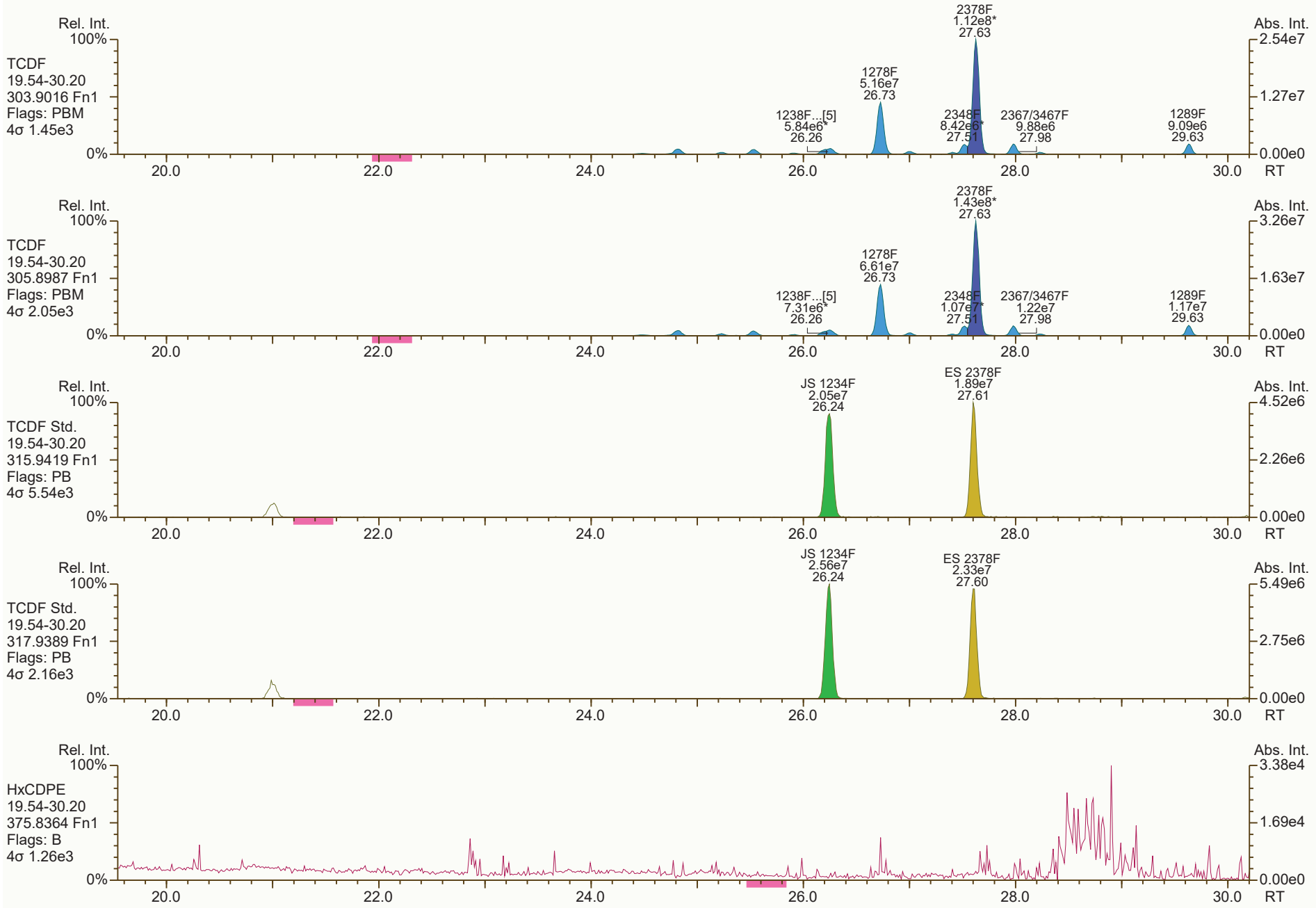

SGS ID: B6235_18875_DF_010
Sample ID: 11215131-012122-S-BN-NC-O-43
Acq: 11-Feb-2022 11:05:14
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 56
User: DTF Datafile: 220210C33
Rel. Int.
Abs. Int.
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 3.88e3
1234679D
1.42e7
40.16
1234678D
1.10e7
40.84
4.37e6
2.18e6
0.00e0
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 6.59e3
1234679D
1.36e7
40.16
1234678D
1.06e7
40.84
4.30e6
2.15e6
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 4.08e3
ES 1234678D
1.13e7
40.83
3.54e6
1.77e6
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 5.02e3
ES 1234678D
1.07e7
40.82
3.37e6
1.69e6
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
5.91e6
2.96e6
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

SGS ID: B6235_18875_DF_010 | Sample ID: 11215131-012122-S-BN-NC-O-43 | Acq: 11-Feb-2022 11:05:14
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 56 | User: DTF Datafile: 220210C33

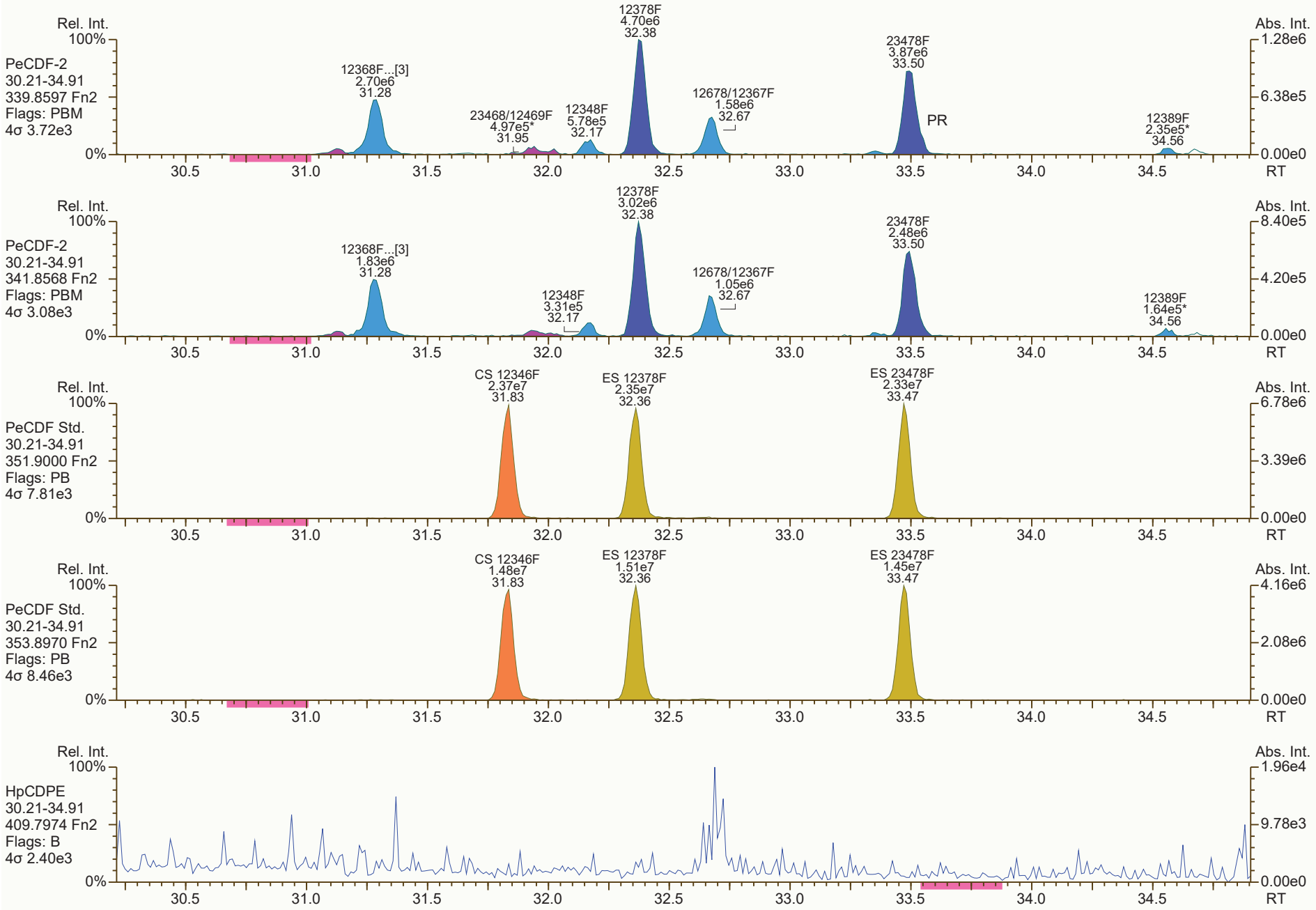


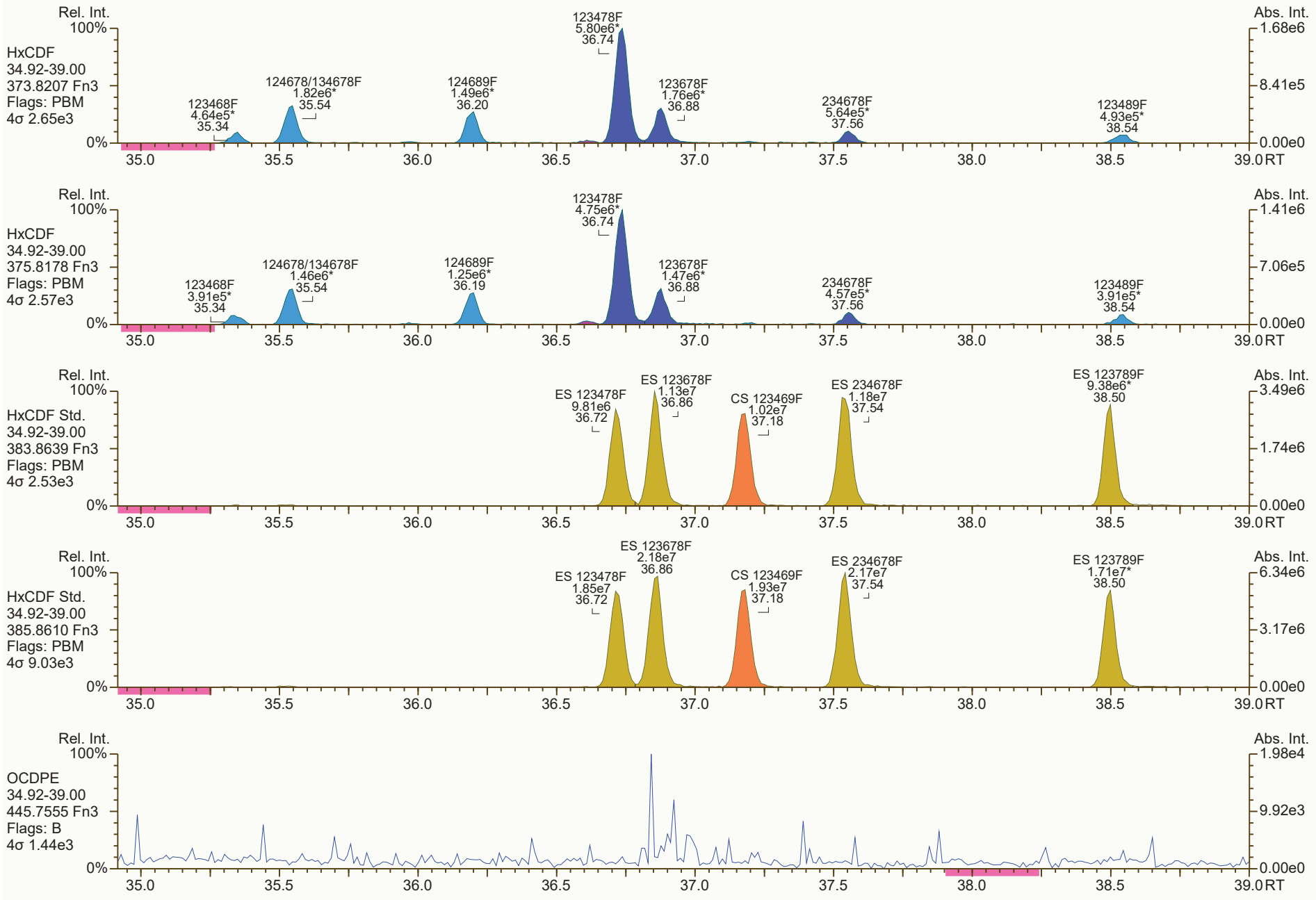
Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_0104ut. _resp s, aev 11cFe- d2022 16:26 bD(FT
CSC Gltr, (r, cedPro U54l2 Gser\C/ stey : D(F\GCPF22m616 cc: K2K7p9006 scc: 37Kd1KK

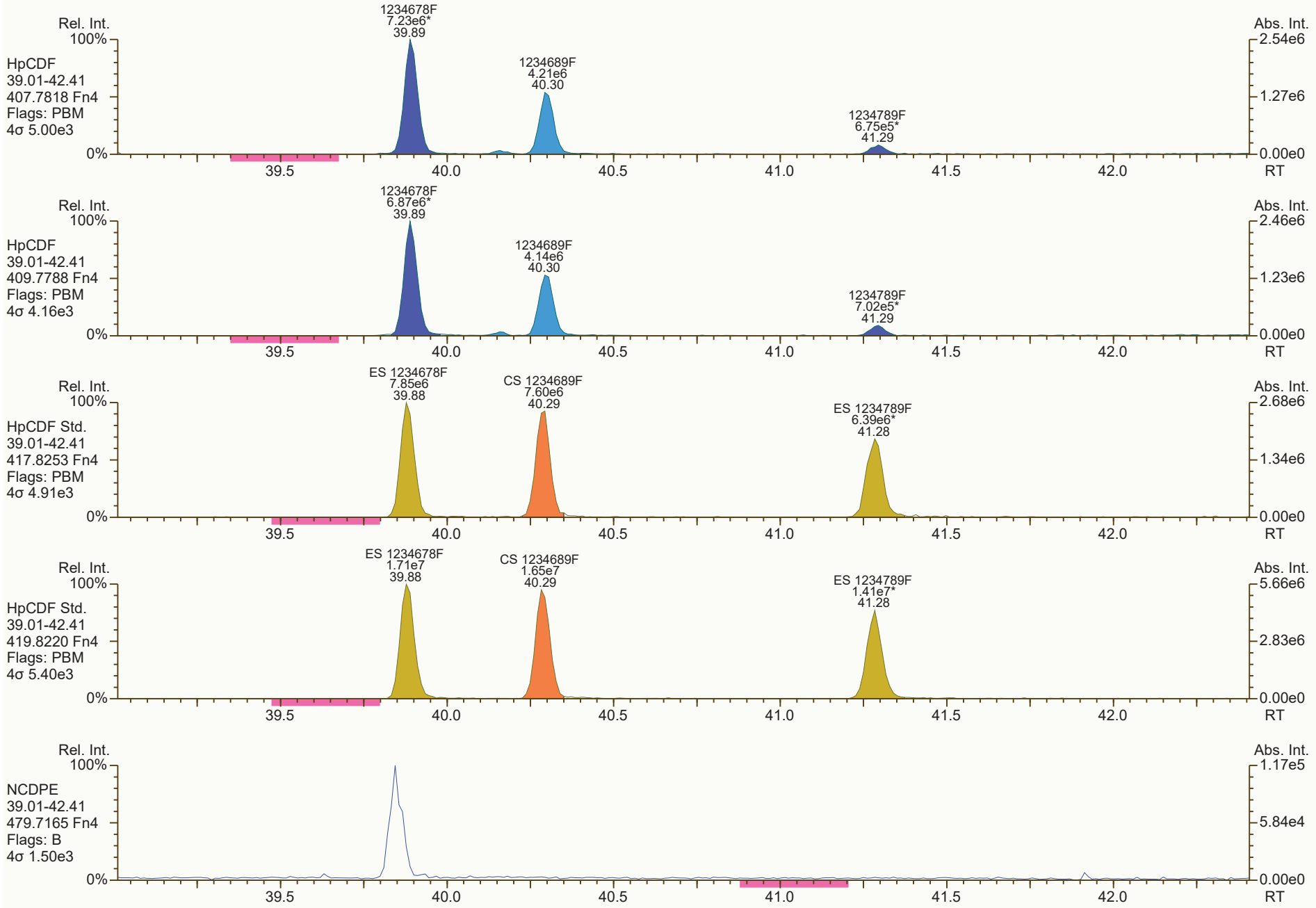
Pe,) , kkot, trok: i re, spAektronvs
Reansev: 11cFe- d2022 15:K6 bD(FT Prnktev: 11cFe- d2022 16:39 P, ge 6 of 12

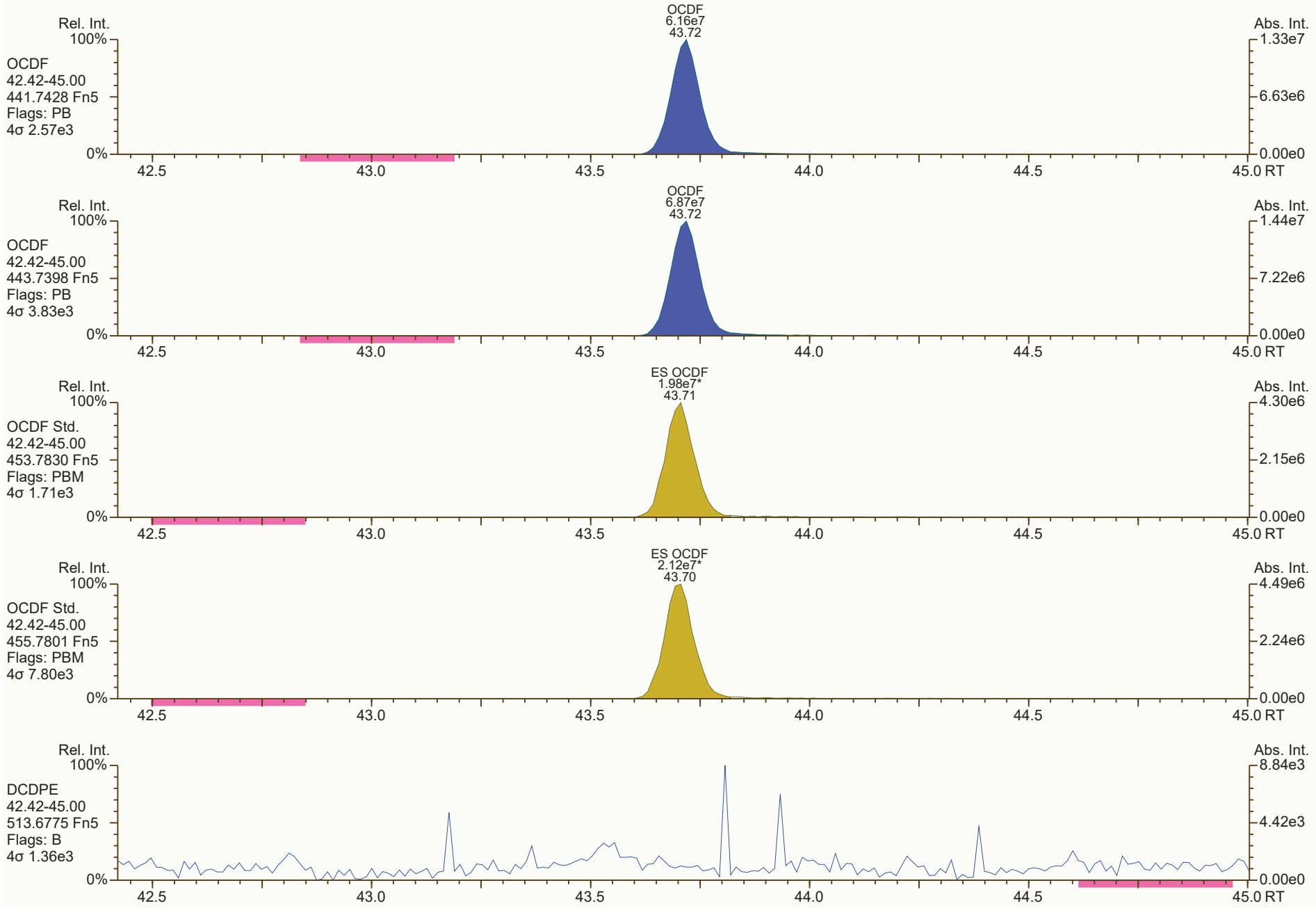

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.45e3
0%
2378F
1.12e8*
27.63
1278F
5.16e7
26.73
1238F...[5]
5.84e6*
26.26
2348F
8.42e6*
27.51
2367/3467F
9.88e6
27.98
1289F
9.09e6
29.63
Abs. Int.
2.54e7
1.27e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.05e3
0%
2378F
1.43e8*
27.63
1278F
6.61e7
26.73
1238F...[5]
7.31e6*
26.26
2348F
1.07e7*
27.51
2367/3467F
1.22e7
27.98
1289F
1.17e7
29.63
Abs. Int.
3.26e7
1.63e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 5.54e3
0%
JS 1234F
2.05e7
26.24
ES 2378F
1.89e7
27.61
Abs. Int.
4.52e6
2.26e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.16e3
0%
JS 1234F
2.56e7
26.24
ES 2378F
2.33e7
27.60
Abs. Int.
5.49e6
2.75e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.26e3
0%
Abs. Int.
3.38e4
1.69e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.04e3
13468/12468F
1.05e6*
29.57
Abs. Int.
2.72e5
1.36e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.68e3
13468/12468F
6.22e5*
29.58
Abs. Int.
1.36e5
6.80e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
3.31e6
1.66e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PBM
4σ 3.72e3
12368F...[3]
2.70e6
31.28
23468/12469F
4.97e5*
31.95
12348F
5.78e5
32.17
12378F
4.70e6
32.38
12678/12367F
1.58e6
32.67
23478F
3.87e6
33.50
PR
12389F
2.35e5*
34.56
Abs. Int.
1.28e6
6.38e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PBM
4σ 3.08e3
12368F...[3]
1.83e6
31.28
12348F
3.31e5
32.17
12378F
3.02e6
32.38
12678/12367F
1.05e6
32.67
23478F
2.48e6
33.50
12389F
1.64e5*
34.56
Abs. Int.
8.40e5
4.20e5
0.00e0
0%
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 7.81e3
CS 12346F
2.37e7
31.83
ES 12378F
2.35e7
32.36
ES 23478F
2.33e7
33.47
Abs. Int.
6.78e6
3.39e6
0.00e0
0%
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 8.46e3
CS 12346F
1.48e7
31.83
ES 12378F
1.51e7
32.36
ES 23478F
1.45e7
33.47
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 2.40e3
Abs. Int.
1.96e4
9.78e3
0.00e0
0%
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 2.65e3
123468F 4.64e5* 35.34
124678/134678F 1.82e6* 35.54
124689F 1.49e6* 36.20
123478F 5.80e6* 36.74
123678F 1.76e6* 36.88
234678F 5.64e5* 37.56
123489F 4.93e5* 38.54
Abs. Int.
1.68e6
8.41e5
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 2.57e3
123468F 3.91e5* 35.34
124678/134678F 1.46e6* 35.54
124689F 1.25e6* 36.19
123478F 4.75e6* 36.74
123678F 1.47e6* 36.88
234678F 4.57e5* 37.56
123489F 3.91e5* 38.54
1.41e6
7.06e5
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 2.53e3
ES 123478F 9.81e6 36.72
ES 123678F 1.13e7 36.86
CS 123469F 1.02e7 37.18
ES 234678F 1.18e7 37.54
ES 123789F 9.38e6* 38.50
3.49e6
1.74e6
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 9.03e3
ES 123478F 1.85e7 36.72
ES 123678F 2.18e7 36.86
CS 123469F 1.93e7 37.18
ES 234678F 2.17e7 37.54
ES 123789F 1.71e7* 38.50
6.34e6
3.17e6
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.44e3
1.98e4
9.92e3


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 5.00e3
1234678F
7.23e6*
39.89
1234689F
4.21e6
40.30
1234789F
6.75e5*
41.29
Abs. Int.
2.54e6
1.27e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 4.16e3
1234678F
6.87e6*
39.89
1234689F
4.14e6
40.30
1234789F
7.02e5*
41.29
Abs. Int.
2.46e6
1.23e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 4.91e3
ES 1234678F
7.85e6
39.88
CS 1234689F
7.60e6
40.29
ES 1234789F
6.39e6*
41.28
Abs. Int.
2.68e6
1.34e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 5.40e3
ES 1234678F
1.71e7
39.88
CS 1234689F
1.65e7
40.29
ES 1234789F
1.41e7*
41.28
Abs. Int.
5.66e6
2.83e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.50e3
Abs. Int.
1.17e5
5.84e4
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
6.16e7
43.72
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 2.57e3
0%
Abs. Int.
1.33e7
6.63e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
6.87e7
43.72
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 3.83e3
0%
Abs. Int.
1.44e7
7.22e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.98e7*
43.71
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 1.71e3
0%
Abs. Int.
4.30e6
2.15e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.12e7*
43.70
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 7.80e3
0%
Abs. Int.
4.49e6
2.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.36e3
0%
Abs. Int.
8.84e3
4.42e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6235_18875_DF_011 **Acq'd:** 11 Feb 2022 11:51 DTF **Wt/Vol:** 10.09 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-O-42 **UTP:** 11-Feb-2022 16:26:50 DTF **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 396-800-XGK

Datafile: 220210C34 **Report:** 11 Feb 2022 16:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.47		1.0008	1.0008	0	2.30E+07	0.81	Y	1.18	239	3955.24	0.442
12378-PeCDD	33.81		1.0005	1.0006	+0.2	2.36E+05	1.55	Y	1.04	3.25	3874.229	0.475
123478-HxCDD	37.73	J	1.0004	1.0003	-0.2	1.42E+05	1.29	Y	1.09	1.91	5580.274	0.648
123678-HxCDD	37.84		1.0035	1.0034	-0.2	5.39E+05	1.14	Y	1.15	6.56	5580.274	0.556
123789-HxCDD	38.14	EMPC	1.0113	1.0112	-0.2	2.51E+05	1.51	N	1.05	3.23	5580.274	0.58
1234678-HpCDD	40.82		1.0003	1.0003	0	1.39E+07	1.05	Y	1.06	209	6266.101	0.77
OCDD	43.51		1.0002	1.0003	+0.3	1.19E+08	0.90	Y	1.13	2,350	6061.625	1.4
2378-TCDF	27.61		1.0008	1.0008	0	8.58E+07	0.78	Y	1.08	644	3537.818	0.289
12378-PeCDF	32.36		1.0005	1.0005	0	2.82E+06	1.53	Y	1.02	23.8	3980.319	0.308
23478-PeCDF	33.48		1.0005	1.0006	+0.2	2.29E+06	1.53	Y	1.02	20.6	3980.319	0.3
123478-HxCDF	36.72		1.0005	1.0005	0	4.50E+06	1.22	Y	1.27	41.8	5416.457	0.4
123678-HxCDF	36.86		1.0005	1.0004	-0.2	1.27E+06	1.19	Y	1.15	11.2	5416.457	0.434
234678-HxCDF	37.54		1.0005	1.0004	-0.2	4.50E+05	1.14	Y	1.19	3.87	5416.457	0.398
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	5416.457	0.469
1234678-HpCDF	39.88		1.0003	1.0003	0	5.26E+06	1.01	Y	1.37	55.3	6367.942	0.49
1234789-HpCDF	41.28		1.0003	1.0002	-0.2	7.49E+05	1.06	Y	1.31	9.52	6367.942	0.658
OCDF	43.69		1.0003	1.0002	-0.3	3.46E+07	0.89	Y	1.07	533	4743.068	0.829

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.45	1.0238	1.0238	0	1.61E+07	0.80	Y	1.05	71.2
ES 12378-PeCDD	33.79	1.2160	1.2162	+0.4	1.39E+07	1.59	Y	0.88	73
ES 123478-HxCDD	37.71	0.9919	0.9918	-0.2	1.35E+07	1.25	Y	0.97	72.9
ES 123678-HxCDD	37.83	0.9950	0.9949	-0.2	1.42E+07	1.27	Y	0.94	78.9
ES 123789-HxCDD	38.13	1.0027	1.0027	0	1.47E+07	1.26	Y	1.09	70.7
ES 1234678-HpCDD	40.81	1.0730	1.0731	+0.2	1.24E+07	1.08	Y	0.91	71.5
ES OCDD	43.50	1.1437	1.1438	+0.3	1.78E+07	0.89	Y	0.62	74.8
ES 2378-TCDF	27.59	1.0520	1.0520	0	2.45E+07	0.79	Y	1.06	69.1
ES 12378-PeCDF	32.34	1.2330	1.2333	+0.6	2.30E+07	1.60	Y	0.91	75.5
ES 23478-PeCDF	33.46	1.2754	1.2758	+0.8	2.17E+07	1.61	Y	0.88	73.4
ES 123478-HxCDF	36.70	0.9653	0.9652	-0.2	1.68E+07	0.58	Y	1.20	73.4
ES 123678-HxCDF	36.85	0.9691	0.9689	-0.4	1.94E+07	0.54	Y	1.35	75.4
ES 234678-HxCDF	37.53	0.9870	0.9869	-0.2	1.94E+07	0.54	Y	1.24	81.8
ES 123789-HxCDF	38.48	1.0121	1.0120	-0.2	1.60E+07	0.51	Y	1.16	72.5
ES 1234678-HpCDF	39.87	1.0484	1.0485	+0.2	1.38E+07	0.45	Y	0.97	74.5
ES 1234789-HpCDF	41.27	1.0851	1.0853	+0.5	1.19E+07	0.48	Y	0.85	73.5
ES OCDF	43.68	1.1483	1.1486	+0.8	2.40E+07	0.88	Y	0.81	77.9

Lab ID: B6235_18875_DF_011 **Acq'd:** 11 Feb 2022 11:51 DTF **Wt/Vol:** 10.09 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-O-42 **UTP:** 11-Feb-2022 16:26:50 DTF **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 396-800-XGK

Datafile: 220210C34 **Report:** 11 Feb 2022 16:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.78		-	-	-	2.16E+07	0.81	Y	-	-
JS 1234-TCDF	26.23		-	-	-	3.35E+07	0.80	Y	-	-
JS 123467-HxCDD	38.03		-	-	-	9.53E+06	1.36	Y	-	-
CS 37Cl-2378-TCDD	28.47		1.0245	1.0246	+0.2	7.93E+06	n/a	-	1.20	76.3
CS 12347-PeCDD	33.29		1.1979	1.1981	+0.4	1.40E+07	1.62	Y	0.75	86
CS 12346-PeCDF	31.81		1.2128	1.2131	+0.6	2.25E+07	1.60	Y	0.85	78.9
CS 123469-HxCDF	37.16		0.9774	0.9773	-0.2	1.77E+07	0.54	Y	1.12	83.2
CS 1234689-HpCDF	40.27		1.0589	1.0591	+0.5	1.49E+07	0.46	Y	0.89	88
SS 37Cl-2378-TCDD	28.47		1.0245	1.0246	+0.2	7.93E+06	n/a	-	1.15	107
SS 12347-PeCDD	33.29		1.1979	1.1981	+0.4	1.40E+07	1.62	Y	0.86	118
SS 12346-PeCDF	31.81		1.2128	1.2131	+0.6	2.25E+07	1.60	Y	0.94	104
SS 123469-HxCDF	37.16		0.9774	0.9773	-0.2	1.77E+07	0.54	Y	0.83	110
SS 1234689-HpCDF	40.27		1.0589	1.0591	+0.5	1.49E+07	0.46	Y	0.92	118

Totals	Conc	EMPC
Total TCDD	277	279
Total PeCDD	17.2	20.9
Total HxCDD	72.9	77.7
Total HpCDD	431	431
Total Tetra-Octa Dioxins	3150	3160
Total TCDF	1,300	1310
Total PeCDF	79.5	87.5
Total HxCDF	84.6	92.5
Total HpCDF	117	119
Total Tetra-Octa Furans	2,120	2140
Total Tetra-Octa Dioxins & Furans	5260	5290

Lab ID: B6235_18875_DF_011 | Acq'd: 11 Feb 2022 11:51 DTF | Wt/Vol: 10.09 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-O-42 | UTP: 11-Feb-2022 16:26:50 DTF | J-level: 0.496 pg/g | Split: 1 | Checkcode: 396-800-XGK

Datafile: 220210C34 | Report: 11 Feb 2022 16:29 TF | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.82		0.8737	0.8725	-1.8	3.92E+05	0.84	Y	1.18	4.08	3955.24	0.442
1379-TCDD	25.18		0.8860	0.8853	-1.1	1.76E+05	0.80	Y	1.18	1.83	3955.24	0.442
1369-TCDD	25.60	EMPC	0.9009	0.9000	-1.4	5.79E+04	1.07	N	1.18	0.601	3955.24	0.442
1469-TCDD	26.38		0.9281	0.9275	-0.9	1.91E+05	0.68	Y	1.18	1.99	3955.24	0.442
1247/1246/1248/1249-TCDD	26.61	EMPC	0.9362	0.9356	-1.0	8.04E+04	0.90	N	1.18	0.836	3955.24	0.442
1378-TCDD	26.82		0.9432	0.9429	-0.5	1.31E+05	0.73	Y	1.18	1.36	3955.24	0.442
1268-TCDD	NotFnd		0.9500						1.18		3955.24	0.442
1478-TCDD	NotFnd		0.9586						1.18		3955.24	0.442
1279-TCDD	NotFnd		0.9645						1.18		3955.24	0.442
1234/1269-TCDD	27.78	EMPC	0.9770	0.9765	-0.8	7.90E+04	1.29	N	1.18	0.821	3955.24	0.442
1236-TCDD	NotFnd		0.9817						1.18		3955.24	0.442
1237/1238-TCDD	28.17		0.9905	0.9902	-0.5	4.22E+05	0.74	Y	1.18	4.39	3955.24	0.442
1239-TCDD	NotFnd		0.9952						1.18		3955.24	0.442
2378-TCDD	**28.47**		**1.0008**	1.0008	**0**	2.30E+07	0.81	Y	**1.18**	**239**	**3955.24**	**0.442**
1278-TCDD	28.79		1.0121	1.0122	+0.2	2.26E+06	0.75	Y	1.18	23.5	3955.24	0.442
1267-TCDD	NotFnd		1.0167						1.18		3955.24	0.442
1289-TCDD	NotFnd		1.0345						1.18		3955.24	0.442
12479/12468-PeCDD	31.30		0.9267	0.9262	-0.9	3.79E+05	1.75	Y	1.04	5.23	3874.229	0.475
12469-PeCDD	31.84	EMPC	0.9425	0.9422	-0.6	2.04E+05	1.27	N	1.04	2.81	3874.229	0.475
12368-PeCDD	32.39		0.9588	0.9585	-0.6	2.10E+05	1.73	Y	1.04	2.9	3874.229	0.475
12478-PeCDD	32.58	J	0.9643	0.9641	-0.4	1.16E+05	1.69	Y	1.04	1.6	3874.229	0.475
12379-PeCDD	32.68	J	0.9673	0.9670	-0.6	1.24E+05	1.32	Y	1.04	1.71	3874.229	0.475
12369/12467/12489-PeCDD	32.95		0.9750	0.9750	0	1.80E+05	1.70	Y	1.04	2.48	3874.229	0.475
12346/12347-PeCDD	33.31	J EMPC	0.9858	0.9858	0	6.67E+04	1.04	N	1.04	0.92	3874.229	0.475
12378-PeCDD	33.81		**1.0005**	**1.0006**	**+0.2**	**2.36E+05**	**1.55**	**Y**	**1.04**	**3.25**	**3874.229**	**0.475**
12367-PeCDD	NotFnd		1.0033						1.04		3874.229	0.475
12389-PeCDD	NotFnd		1.0134						1.04		3874.229	0.475
124679/124689-HxCDD	35.98		0.9542	0.9540	-0.4	2.50E+06	1.19	Y	1.10	32	5580.274	0.593
123468-HxCDD	36.63		0.9715	0.9713	-0.4	3.67E+05	1.25	Y	1.10	4.69	5580.274	0.593
123679/123689-HxCDD	36.93		0.9793	0.9792	-0.2	2.06E+06	1.18	Y	1.10	26.4	5580.274	0.593
123469-HxCDD	37.06	J EMPC	0.9828	0.9825	-0.7	1.30E+05	1.63	N	1.10	1.66	5580.274	0.593
123478-HxCDD	37.73	J	**1.0004**	**1.0003**	**-0.2**	**1.42E+05**	**1.29**	**Y**	1.09	**1.91**	**5580.274**	**0.648**
123678-HxCDD	37.84		**1.0035**	**1.0034**	**-0.2**	**5.39E+05**	**1.14**	**Y**	1.15	**6.56**	**5580.274**	**0.556**
123467-HxCDD	38.03	J	1.0085	1.0083	-0.5	1.01E+05	1.29	Y	1.10	1.29	5580.274	0.593
123789-HxCDD	38.14	EMPC	**1.0113**	**1.0112**	**-0.2**	**2.51E+05**	**1.51**	**N**	1.05	**3.23**	**5580.274**	**0.58**

Lab ID: B6235_18875_DF_011 **Acq'd:** 11 Feb 2022 11:51 DTF **Wt/Vol:** 10.09 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-O-42 **UTP:** 11-Feb-2022 16:26:50 DTF **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 396-800-XGK

Datafile: 220210C34 **Report:** 11 Feb 2022 16:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

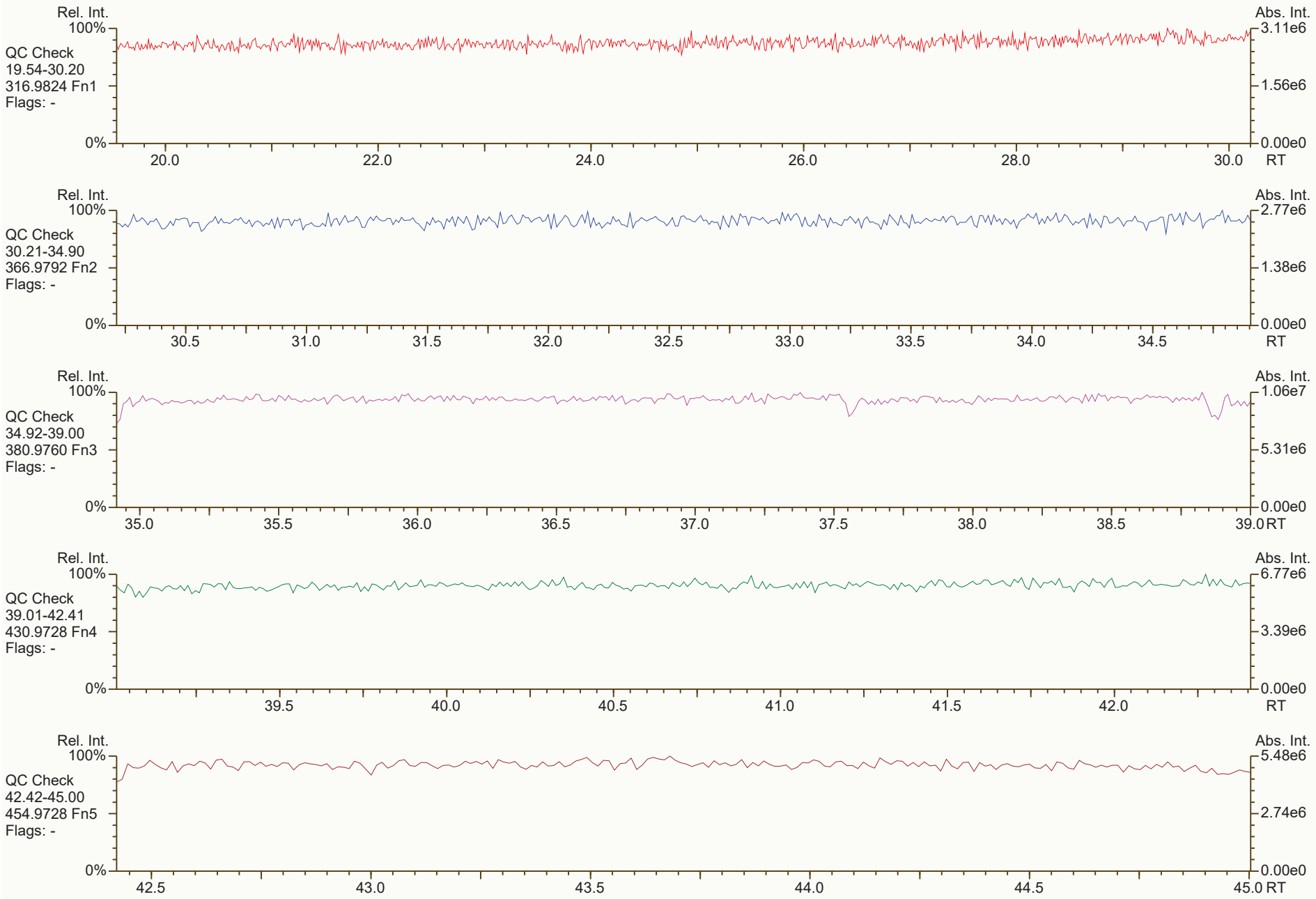
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.14		0.9837	0.9836	-0.2	1.48E+07	1.04	Y	1.06	222	6266.101	0.77
1234678-HpCDD	**40.82**		**1.0003**	**1.0003**	**0**	**1.39E+07**	**1.05**	**Y**	**1.06**	**209**	**6266.101**	**0.77**
OCDD	**43.51**		**1.0002**	**1.0003**	**+0.3**	**1.19E+08**	**0.90**	**Y**	**1.13**	**2,350**	**6061.625**	**1.4**
OCDD-a	43.51		1.0001	1.0002	+0.3	7.71E+06	2.52	Y	0.07	2,380	4022.878	14.5
1368-TCDF	22.72		0.8251	0.8236	-2.0	1.02E+05	0.68	Y	1.08	0.769	3537.818	0.289
1468-TCDF	23.30		0.8458	0.8444	-2.0	2.71E+05	0.77	Y	1.08	2.03	3537.818	0.289
2468-TCDF	23.93		0.8686	0.8674	-1.7	3.62E+05	0.86	Y	1.08	2.72	3537.818	0.289
1346/1246-TCDF	NotFnd		0.8814						1.08		3537.818	0.289
1347/1378/1247-TCDF	24.44		0.8867	0.8857	-1.5	1.49E+06	0.78	Y	1.08	11.2	3537.818	0.289
1348-TCDF	NotFnd		0.8962						1.08		3537.818	0.289
1248/1367/1379-TCDF	24.79		0.9009	0.8986	-3.4	5.02E+06	0.78	Y	1.08	37.7	3537.818	0.289
1268-TCDF	25.21		0.9145	0.9139	-0.9	1.79E+06	0.81	Y	1.08	13.4	3537.818	0.289
1467-TCDF	25.35	EMPC	0.9193	0.9189	-0.6	2.64E+05	0.91	N	1.08	1.98	3537.818	0.289
1478-TCDF	25.51		0.9254	0.9248	-0.9	4.00E+06	0.79	Y	1.08	30	3537.818	0.289
1369/1237-TCDF	25.90		0.9387	0.9386	-0.2	1.14E+06	0.82	Y	1.08	8.58	3537.818	0.289
2467-TCDF	26.02	EMPC	0.9433	0.9433	0	1.05E+05	1.03	N	1.08	0.787	3537.818	0.289
2368-TCDF	26.21		0.9489	0.9502	+2.0	7.62E+06	0.79	Y	1.08	57.2	3537.818	0.289
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		3537.818	0.289
1278-TCDF	26.71		0.9683	0.9682	-0.2	3.93E+07	0.78	Y	1.08	295	3537.818	0.289
1349-TCDF	NotFnd		0.9722						1.08		3537.818	0.289
1267-TCDF	26.98		0.9783	0.9781	-0.3	2.37E+06	0.76	Y	1.08	17.8	3537.818	0.289
2346/1249-TCDF	27.19		0.9850	0.9854	+0.7	3.41E+05	0.87	Y	1.08	2.56	3537.818	0.289
2347/1279-TCDF	27.39		0.9926	0.9927	+0.2	1.25E+06	0.75	Y	1.08	9.4	3537.818	0.289
2348-TCDF	27.50		0.9967	0.9967	0	6.73E+06	0.79	Y	1.08	50.5	3537.818	0.289
2378-TCDF	**27.61**		**1.0008**	**1.0008**	**0**	**8.58E+07**	**0.78**	**Y**	**1.08**	**644**	**3537.818**	**0.289**
2367/3467-TCDF	27.96		1.0137	1.0136	-0.2	7.78E+06	0.77	Y	1.08	58.4	3537.818	0.289
1269-TCDF	28.21		1.0223	1.0226	+0.5	1.47E+06	0.74	Y	1.08	11	3537.818	0.289
1239-TCDF	NotFnd		1.0321						1.08		3537.818	0.289
1289-TCDF	29.62		1.0722	1.0735	+2.3	6.98E+06	0.78	Y	1.08	52.3	3537.818	0.289
13468/12468-PeCDF	29.55		0.9139	0.9137	-0.4	6.83E+05	1.56	Y	1.02	5.93	3282.625	0.251
13678/13467/12467-PeCDF	31.10	J EMPC	0.9613	0.9615	+0.4	2.50E+05	1.26	N	1.02	2.17	3980.319	0.304
12368/13478/12478-PeCDF	31.27		0.9662	0.9667	+0.9	1.97E+06	1.48	Y	1.02	17.1	3980.319	0.304
14678-PeCDF	NotFnd		0.9692						1.02		3980.319	0.304
13479-PeCDF	NotFnd		0.9723						1.02		3980.319	0.304
13469/12479-PeCDF	NotFnd		0.9797						1.02		3980.319	0.304
12346-PeCDF	NotFnd		0.9840						1.02		3980.319	0.304

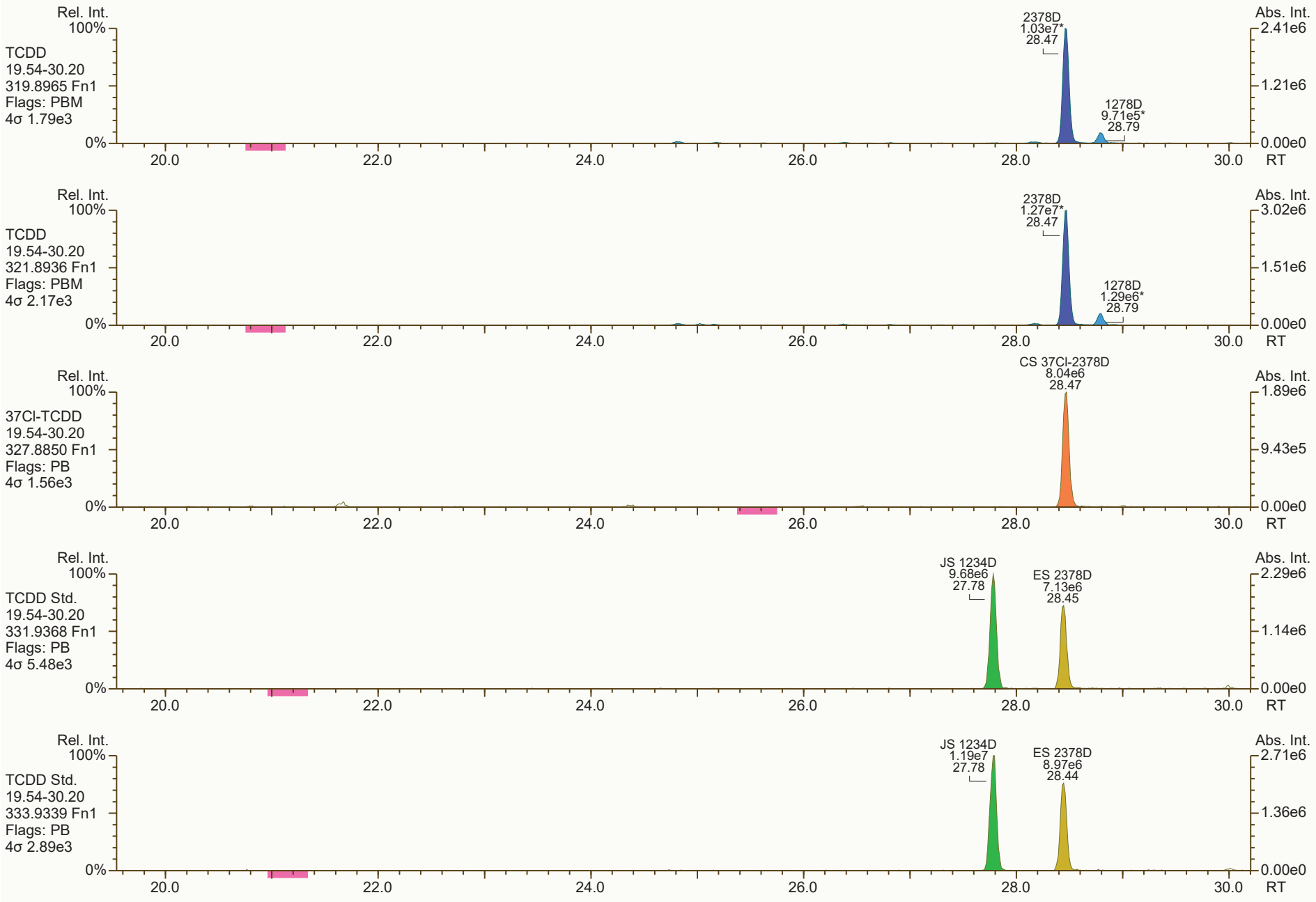
Lab ID: B6235_18875_DF_011 | **Acq'd: 11 Feb 2022 11:51 DTF** | **Wt/Vol: 10.09 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

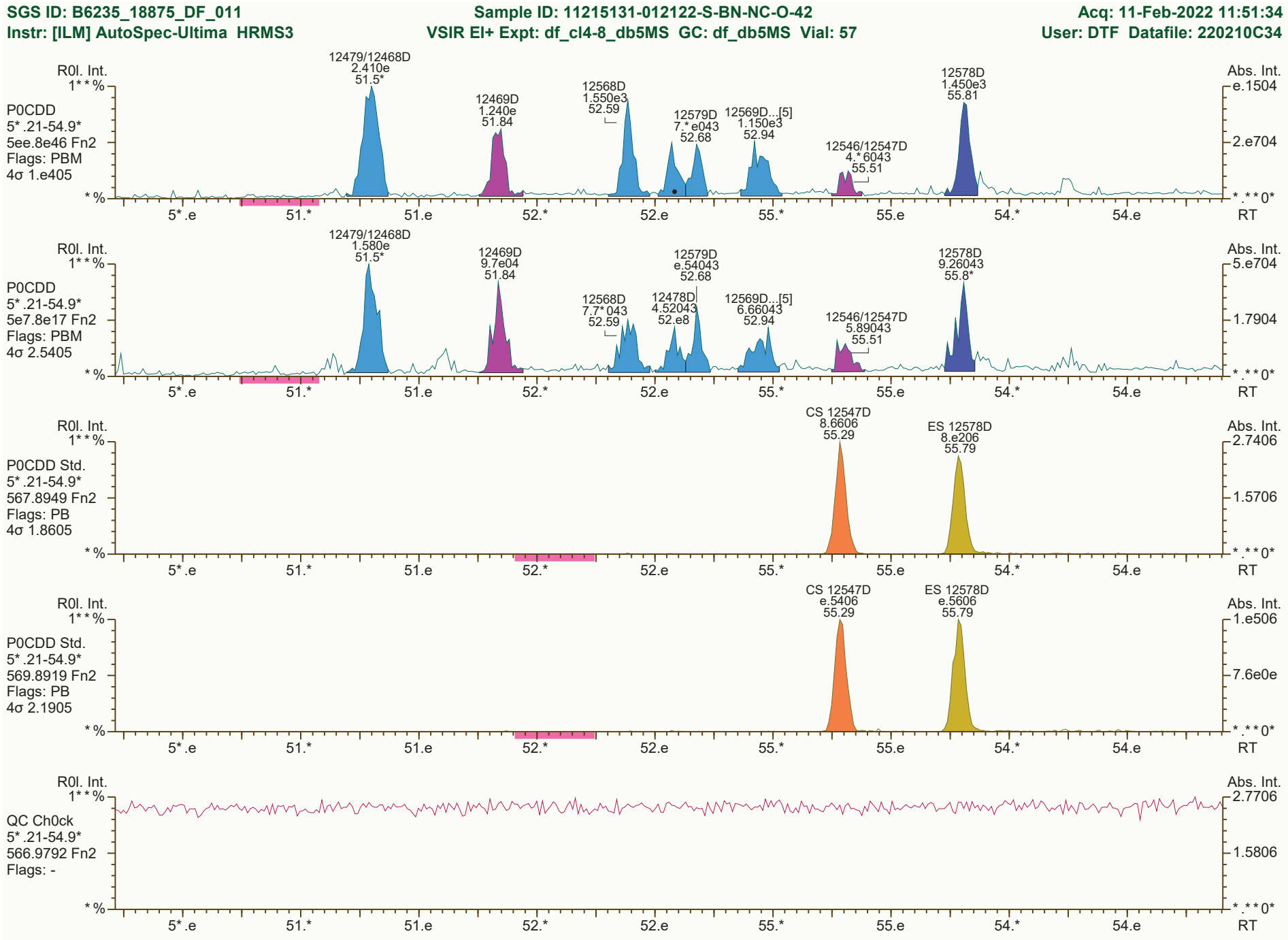
Client ID: 11215131-012122-S-BN-NC-O-42 | **UTP: 11-Feb-2022 16:26:50 DTF** | **J-level: 0.496 pg/g** | **Split: 1** | **Checkcode: 396-800-XGK**

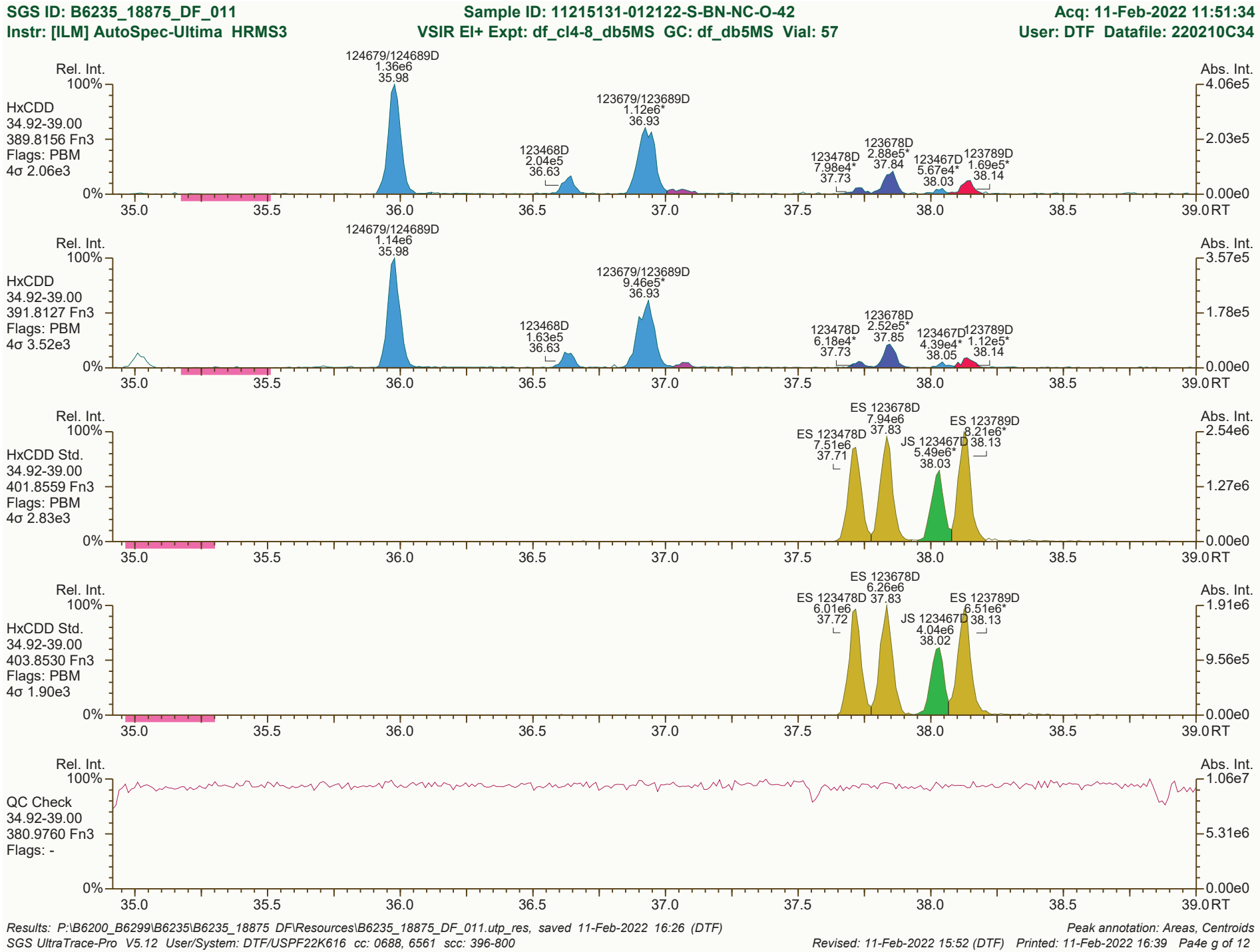
Datafile: 220210C34 | **Report: 11 Feb 2022 16:29 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

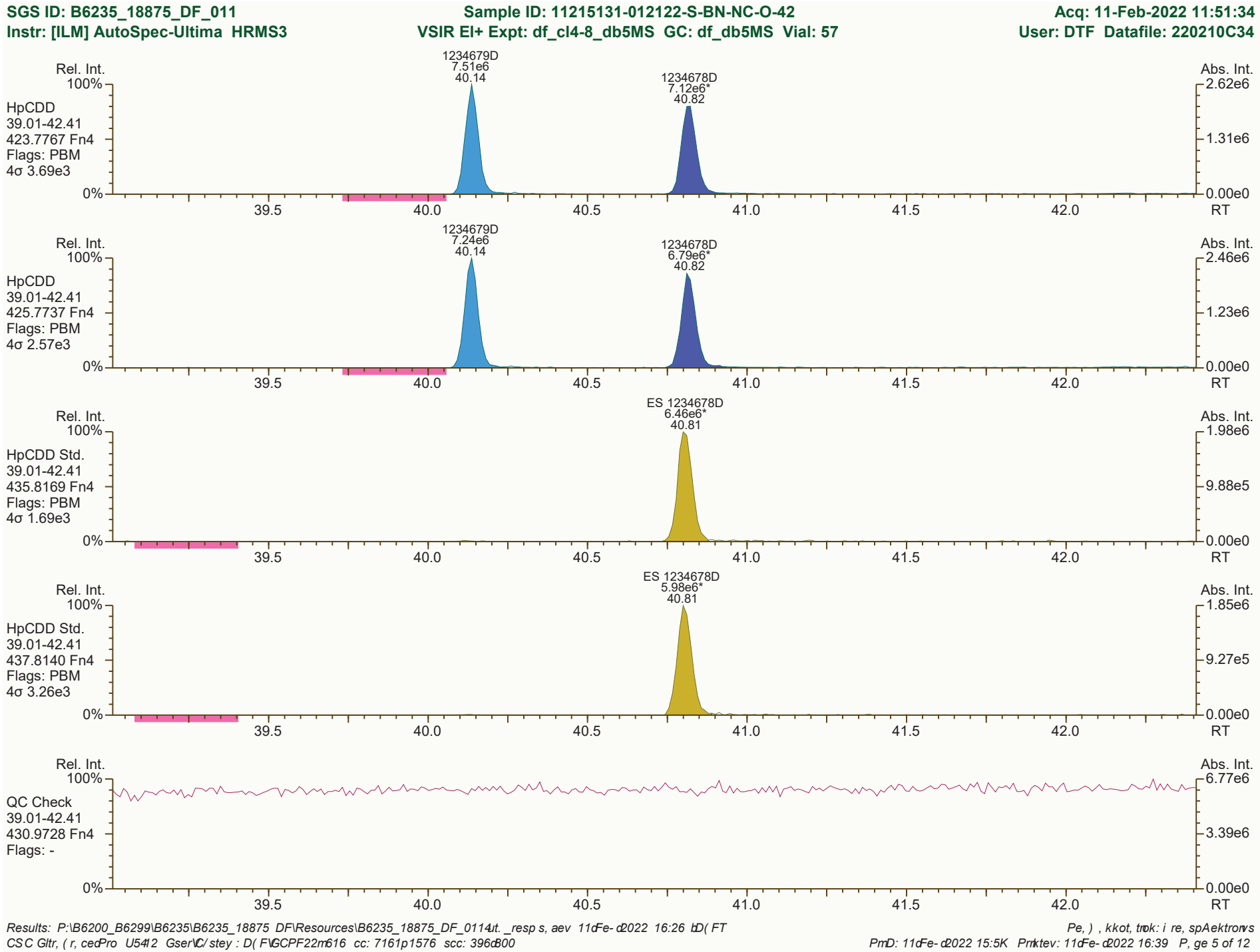
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.90	J EMPC	0.9868	0.9862	-1.1	1.98E+05	1.18	N	1.02	1.72	3980.319	0.304
12347-PeCDF	31.99	J	0.9894	0.9889	-1.0	1.59E+05	1.64	Y	1.02	1.38	3980.319	0.304
12348-PeCDF	32.15	EMPC	0.9940	0.9939	-0.2	3.57E+05	1.79	N	1.02	3.1	3980.319	0.304
12378-PeCDF	**32.36**		**1.0005**	**1.0005**	**0**	**2.82E+06**	**1.53**	**Y**	**1.02**	**23.8**	**3980.319**	**0.308**
12678/12367-PeCDF	32.65		1.0089	1.0095	+1.2	1.10E+06	1.55	Y	1.02	9.54	3980.319	0.304
12379-PeCDF	NotFnd		1.0142						1.02		3980.319	0.304
12679-PeCDF	NotFnd		0.9929						1.02		3980.319	0.304
23467/12369-PeCDF	33.34	J	0.9967	0.9964	-0.6	1.36E+05	1.49	Y	1.02	1.18	3980.319	0.304
23478-PeCDF	**33.48**		**1.0005**	**1.0006**	**+0.2**	**2.29E+06**	**1.53**	**Y**	**1.02**	**20.6**	**3980.319**	**0.3**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3980.319	0.304
12349-PeCDF	NotFnd		1.0100						1.02		3980.319	0.304
12389-PeCDF	34.55	J EMPC	1.0324	1.0326	+0.4	1.22E+05	1.16	N	1.02	1.06	3980.319	0.304
123468-HxCDF	35.33	EMPC	0.9627	0.9626	-0.2	3.07E+05	1.49	N	1.19	2.85	5416.457	0.423
124678/134678-HxCDF	35.53		0.9682	0.9680	-0.4	1.47E+06	1.18	Y	1.19	13.6	5416.457	0.423
134679-HxCDF	NotFnd		0.9744						1.19		5416.457	0.423
124679-HxCDF	35.96	J EMPC	0.9798	0.9799	+0.2	5.33E+04	1.01	N	1.19	0.495	5416.457	0.423
124689-HxCDF	36.18		0.9858	0.9858	0	1.52E+06	1.20	Y	1.19	14.1	5416.457	0.423
123467-HxCDF	36.60	J EMPC	0.9972	0.9973	+0.2	1.64E+05	1.50	N	1.19	1.52	5416.457	0.423
123478-HxCDF	**36.72**		**1.0005**	**1.0005**	**0**	**4.50E+06**	**1.22**	**Y**	**1.27**	**41.8**	**5416.457**	**0.4**
123678-HxCDF	**36.86**		**1.0005**	**1.0004**	**-0.2**	**1.27E+06**	**1.19**	**Y**	**1.15**	**11.2**	**5416.457**	**0.434**
123479-HxCDF	NotFnd		1.0049						1.19		5416.457	0.423
123469-HxCDF	NotFnd		1.0090						1.19		5416.457	0.423
123679-HxCDF	NotFnd		0.9942						1.19		5416.457	0.423
234678-HxCDF	**37.54**		**1.0005**	**1.0004**	**-0.2**	**4.50E+05**	**1.14**	**Y**	**1.19**	**3.87**	**5416.457**	**0.398**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		5416.457	0.423
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**5416.457**	**0.469**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.53	EMPC	1.0009	1.0011	+0.5	3.34E+05	1.47	N	1.19	3.1	5416.457	0.423
1234678-HpCDF	**39.88**		**1.0003**	**1.0003**	**0**	**5.26E+06**	**1.01**	**Y**	**1.37**	**55.3**	**6367.942**	**0.49**
1234679-HpCDF	40.14	**J EMPC**	1.0068	1.0067	-0.2	1.89E+05	1.28	N	1.34	2.18	6367.942	0.567
1234689-HpCDF	40.28		1.0103	1.0103	0	4.50E+06	1.00	Y	1.34	51.9	6367.942	0.567
1234789-HpCDF	**41.28**		**1.0003**	**1.0002**	**-0.2**	**7.49E+05**	**1.06**	**Y**	**1.31**	**9.52**	**6367.942**	**0.658**
OCDF	**43.69**		**1.0003**	**1.0002**	**-0.3**	**3.46E+07**	**0.89**	**Y**	**1.07**	**533**	**4743.068**	**0.829**
OCDF-a	43.68		1.0002	1.0002	0	2.35E+06	2.38	Y	0.07	584	3627.372	10.2

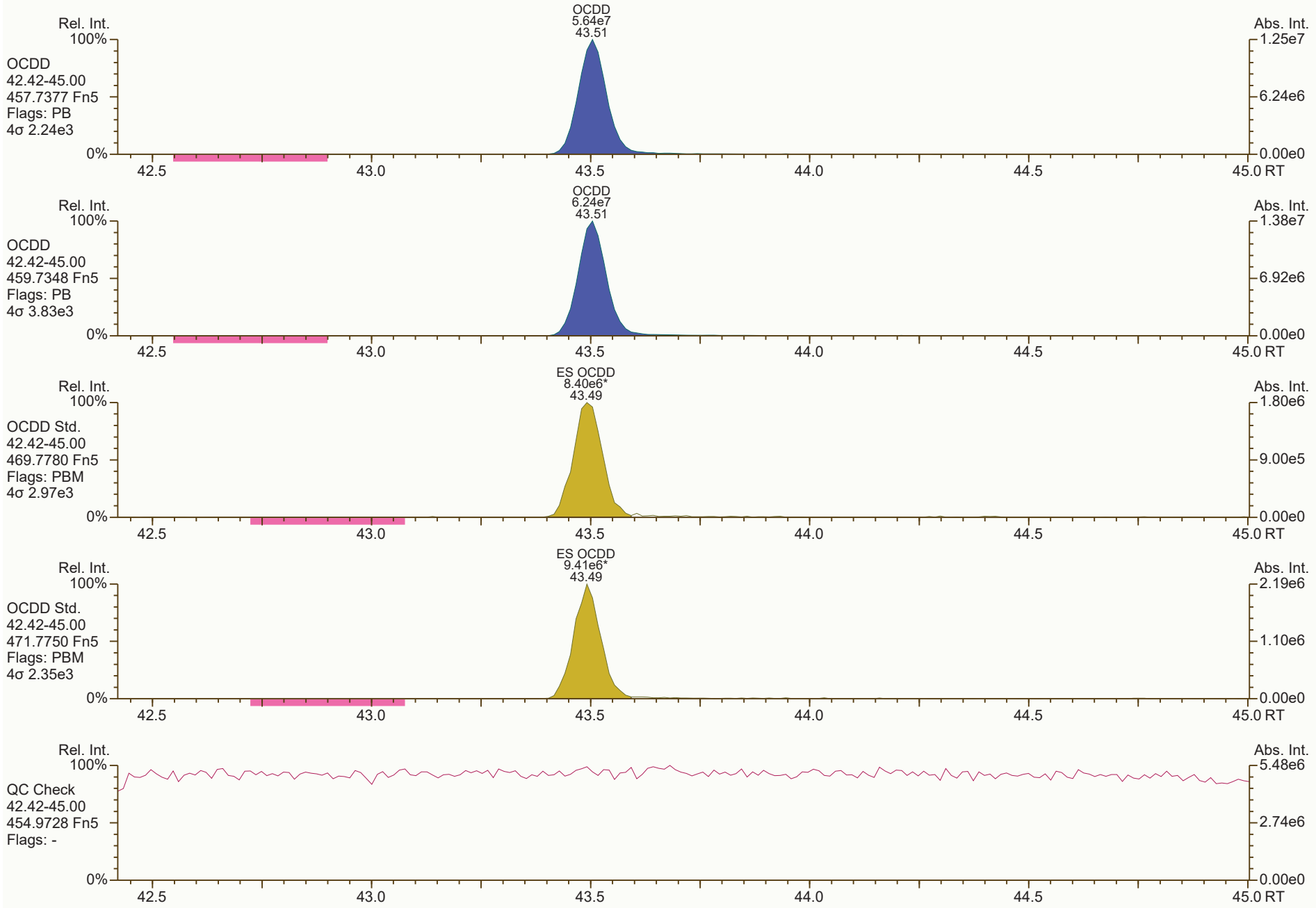

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.11e6
1.56e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
2.77e6
1.38e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.06e7
5.31e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
6.77e6
3.39e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.48e6
2.74e6
0.00e0

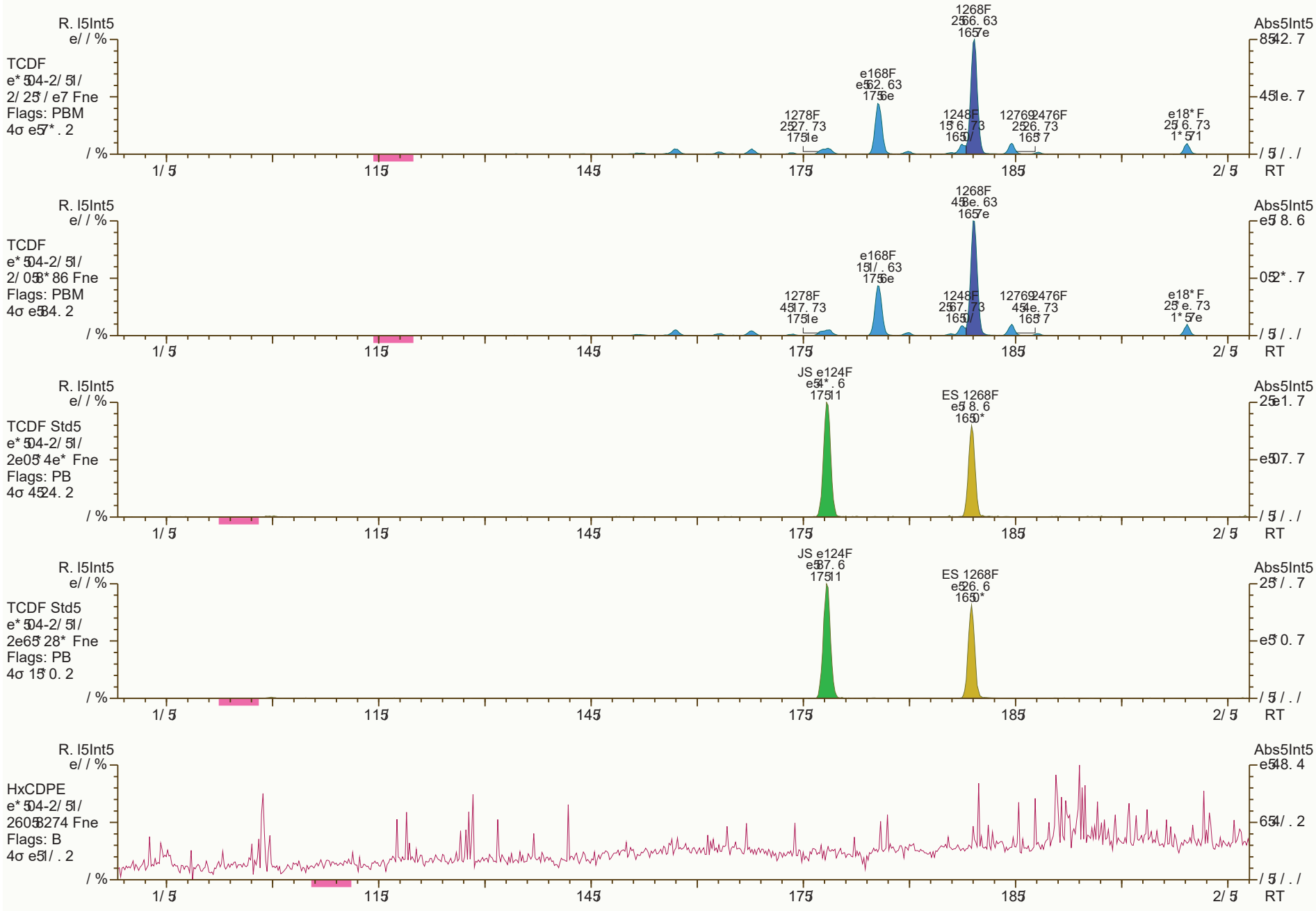

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.79e3
0%
2378D
1.03e7*
28.47
1278D
9.71e5*
28.79
Abs. Int.
2.41e6
1.21e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.17e3
0%
2378D
1.27e7*
28.47
1278D
1.29e6*
28.79
Abs. Int.
3.02e6
1.51e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.56e3
0%
CS 37Cl-2378D
8.04e6
28.47
Abs. Int.
1.89e6
9.43e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.48e3
0%
JS 1234D
9.68e6
27.78
ES 2378D
7.13e6
28.45
Abs. Int.
2.29e6
1.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.89e3
0%
JS 1234D
1.19e7
27.78
ES 2378D
8.97e6
28.44
Abs. Int.
2.71e6
1.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6235_18875_DF_011
Sample ID: 11215131-012122-S-BN-NC-O-42
Acq: 11-Feb-2022 11:51:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 57
User: DTF Datafile: 220210C34
R0l. Int.
Abs. Int.
P0CDD
5* .21-54.9*
5ee.8e46 Fn2
Flags: PBM
4σ 1.e405
12479/12468D
2.410e
51.5*
12469D
1.240e
51.84
12568D
1.550e3
52.59
12579D
7.*e043
52.68
12569D...[5]
1.150e3
52.94
12546/12547D
4.*6043
55.51
12578D
1.450e3
55.81
e.1504
2.e704
RT
P0CDD
5* .21-54.9*
5e7.8e17 Fn2
Flags: PBM
4σ 2.5405
12479/12468D
1.580e
51.5*
12469D
9.7e04
51.84
12568D
7.7*043
52.59
12579D
e.54043
52.68
12478D
4.52043
52.e8
12569D...[5]
6.66043
52.94
12546/12547D
5.89043
55.51
12578D
9.26043
55.8*
5.e704
1.7904
P0CDD Std.
5* .21-54.9*
567.8949 Fn2
Flags: PB
4σ 1.8605
CS 12547D
8.6606
55.29
ES 12578D
8.e206
55.79
2.7406
1.5706
P0CDD Std.
5* .21-54.9*
569.8919 Fn2
Flags: PB
4σ 2.1905
CS 12547D
e.5406
55.29
ES 12578D
e.5606
55.79
1.e506
7.6e0e
QC Ch0ck
5* .21-54.9*
566.9792 Fn2
Flags: -
2.7706
1.5806
5* .e
51.*
51.e
52.*
52.e
55.*
55.e
54.*
54.e
Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_0114it. _resp s, aev 11dFe- d2022 16:26 bD(FT
CSC Gltr, (r, cedPro U54f12 GserVC/ stey : D(FVGCPF22m616 cc: K1KKp5K99 scc: 396d800
Reansev: 11dFe- d2022 15:51 bD(FT Prnktev: 11dFe- d2022 16:39 P, ge 3 of 12


SGS ID: B6235_18875_DF_011
Sample ID: 11215131-012122-S-BN-NC-O-42
Acq: 11-Feb-2022 11:51:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 57
User: DTF Datafile: 220210C34
Rel. Int.
Abs. Int.
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 2.06e3
124679/124689D
1.36e6
35.98
123679/123689D
1.12e6*
36.93
123468D
2.04e5
36.63
123678D
2.88e5*
37.84
123478D
7.98e4*
37.73
123467D
5.67e4*
38.03
123789D
1.69e5*
38.14
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 3.52e3
124679/124689D
1.14e6
35.98
123679/123689D
9.46e5*
36.93
123468D
1.63e5
36.63
123678D
2.52e5*
37.85
123478D
6.18e4*
37.73
123467D
4.39e4*
38.05
123789D
1.12e5*
38.14
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 2.83e3
ES 123678D
7.94e6
37.83
ES 123478D
7.51e6
37.71
JS 123467D
5.49e6*
38.03
ES 123789D
8.21e6*
38.13
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 1.90e3
ES 123678D
6.26e6
37.83
ES 123478D
6.01e6
37.72
JS 123467D
4.04e6
38.02
ES 123789D
6.51e6*
38.13
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
RT
Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_011.utp_res, saved 11-Feb-2022 16:26 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0688, 6561 scc: 396-800
Revised: 11-Feb-2022 15:52 (DTF) Printed: 11-Feb-2022 16:39 Pa4e g of 12


SGS ID: B6235_18875_DF_011
Sample ID: 11215131-012122-S-BN-NC-O-42
Acq: 11-Feb-2022 11:51:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 57
User: DTF Datafile: 220210C34
Rel. Int.
Abs. Int.
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 3.69e3
1234679D
7.51e6
40.14
1234678D
7.12e6*
40.82
2.62e6
1.31e6
0.00e0
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 2.57e3
1234679D
7.24e6
40.14
1234678D
6.79e6*
40.82
2.46e6
1.23e6
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 1.69e3
ES 1234678D
6.46e6*
40.81
1.98e6
9.88e5
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 3.26e3
ES 1234678D
5.98e6*
40.81
1.85e6
9.27e5
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
6.77e6
3.39e6
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

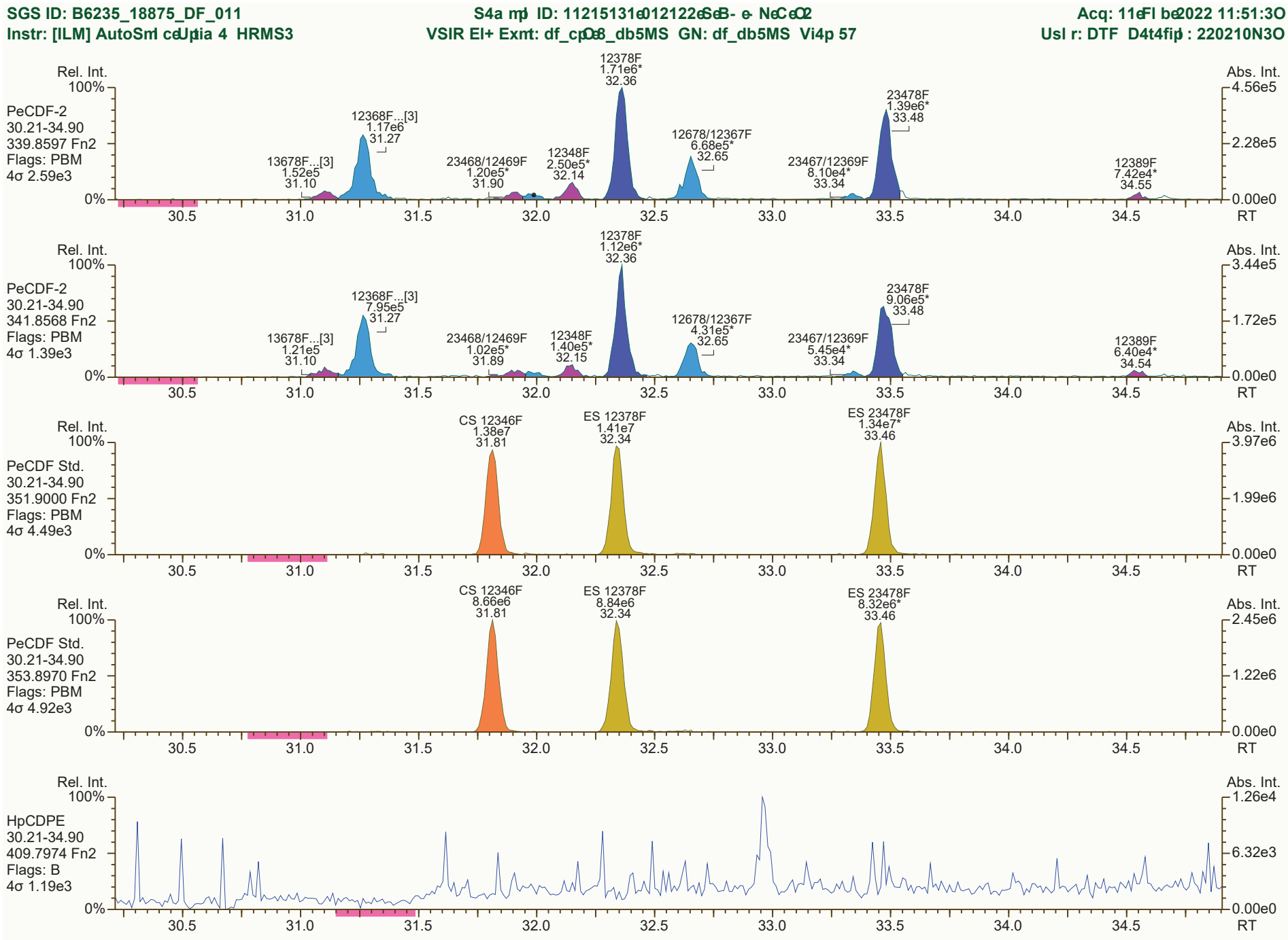

Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 2.24e3
0%
OCDD
5.64e7
43.51
Abs. Int.
1.25e7
6.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 3.83e3
0%
OCDD
6.24e7
43.51
Abs. Int.
1.38e7
6.92e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 2.97e3
0%
ES OCDD
8.40e6*
43.49
Abs. Int.
1.80e6
9.00e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 2.35e3
0%
ES OCDD
9.41e6*
43.49
Abs. Int.
2.19e6
1.10e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.48e6
2.74e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

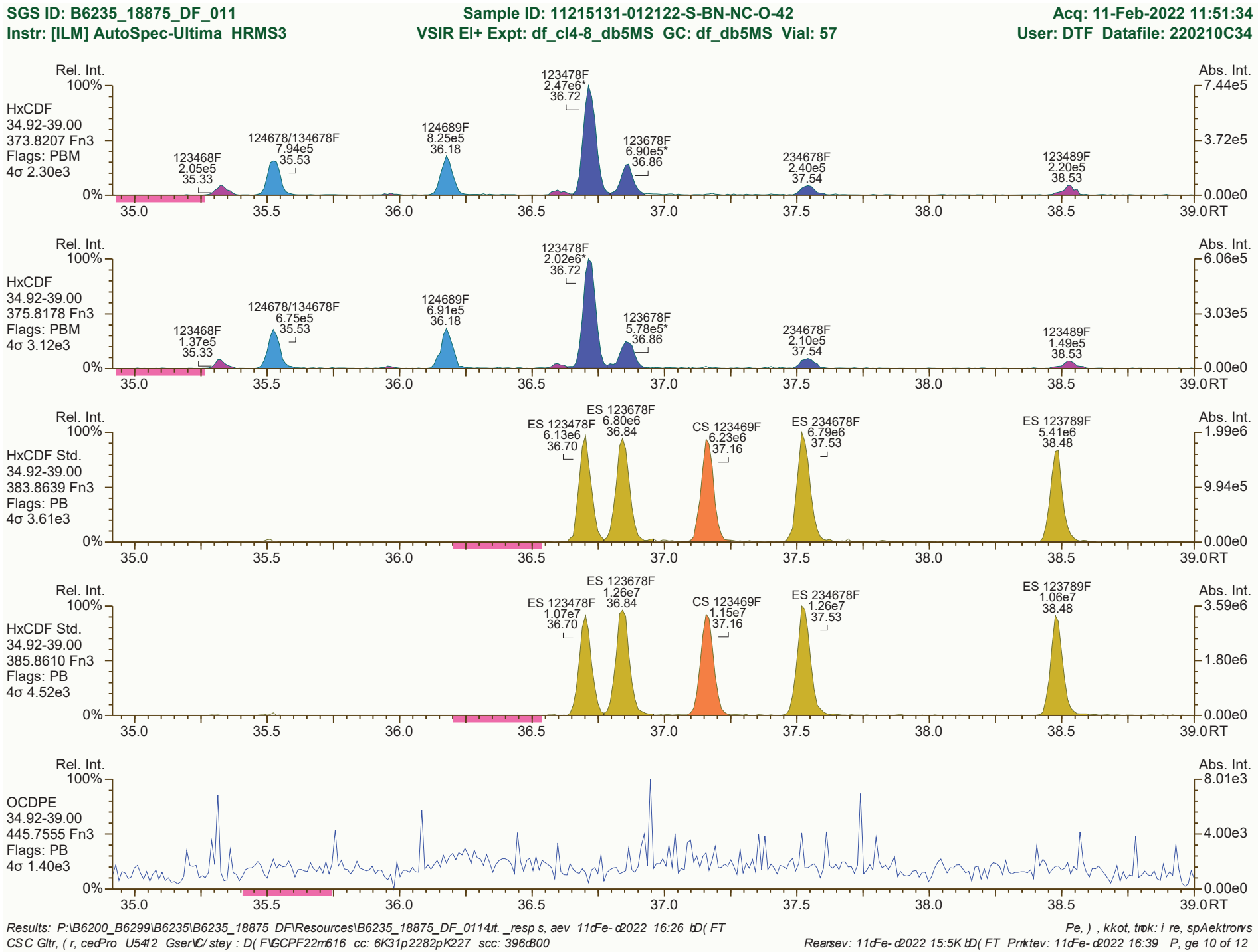

TCDF
TCDF Std5
TCDF Std5
HxCDPE
Flags: PBM
Flags: PB
Flags: B
1268F
e168F
1278F
1248F
12476F
e18*F
JS e124F
ES 1268F
RT

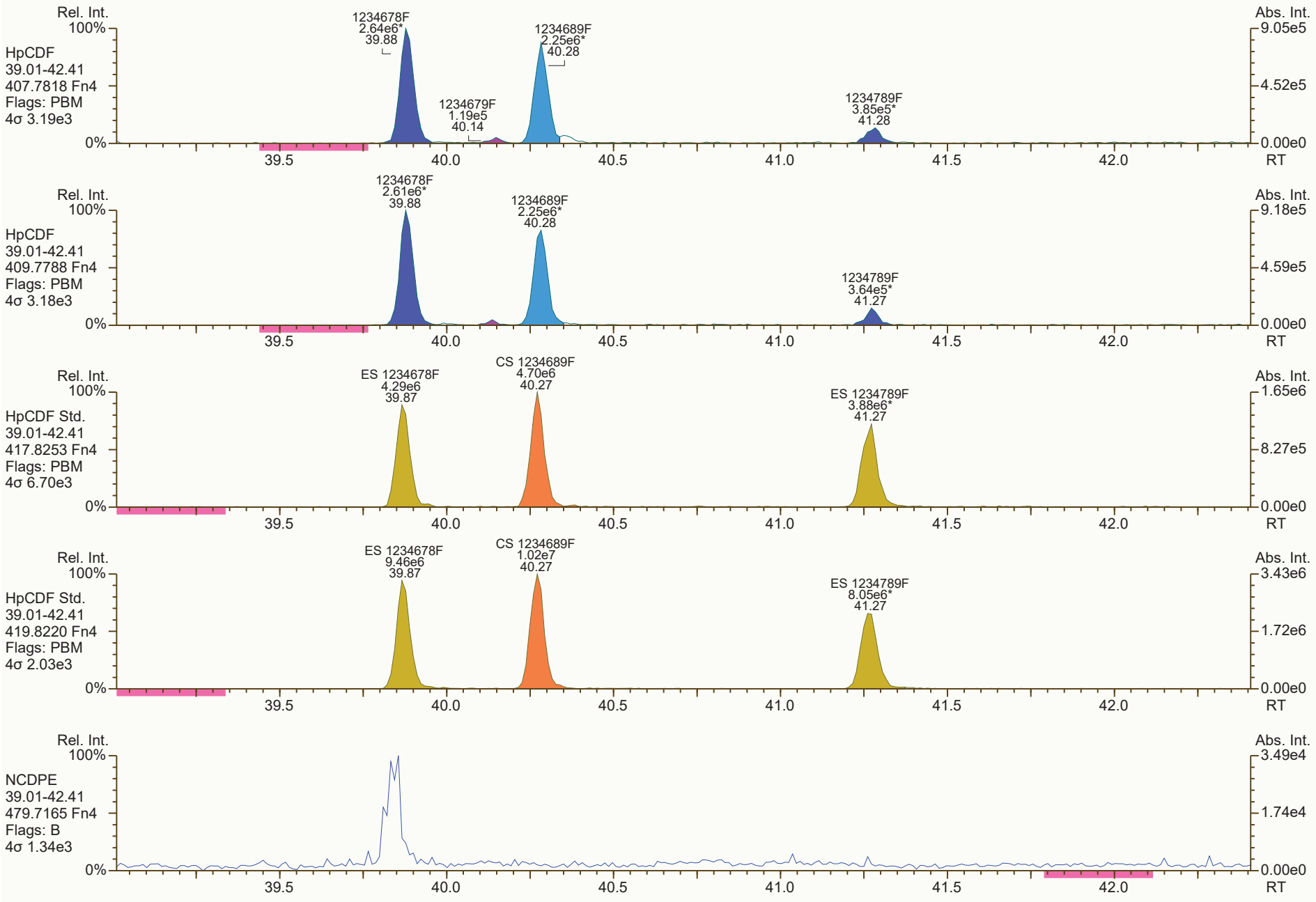
SGS ID: B6235_18875_DF_011 | Sample ID: 11215131-012122-S-BN-NC-O-42 | Acq: 11-Feb-2022 11:51:34
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 57 | User: DTF Datafile: 220210C34

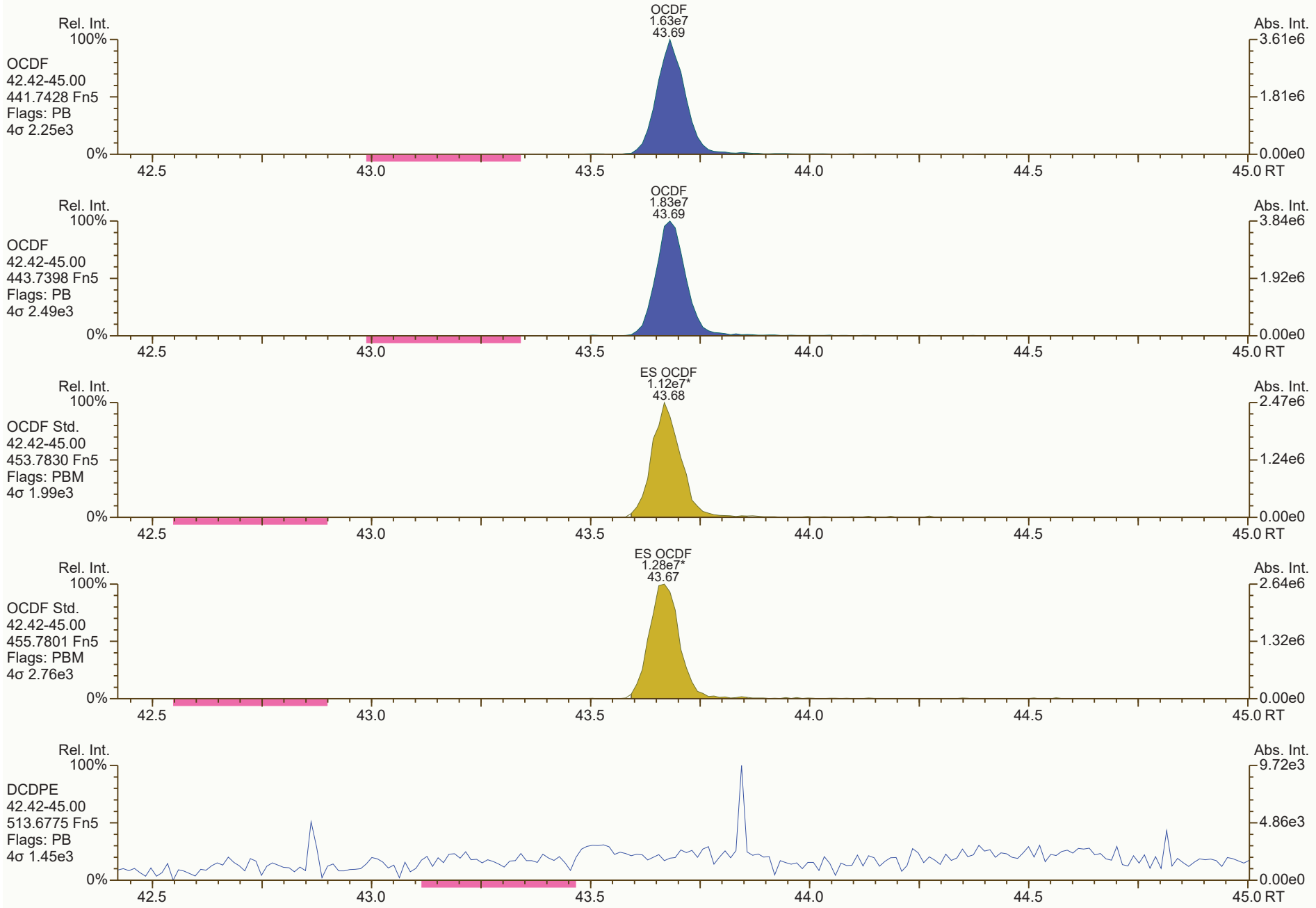


Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_011.utp_res, saved 11-Feb-2022 16:26 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0152 scc: 396-800
PKD: 11-Feb-2022 15:49 Printed: 11-Feb-2022 16:39 Page 8 of 12


SGS ID: B6235_18875_DF_011
Instr: [ILM] AutoSm cUptia 4 HRMS3
S4a mp ID: 11215131e012122eSeB- e- NeCeO2
VSIR El+ Exmt: df_cpOe8_db5MS GN: df_db5MS Vi4p 57
Acq: 11eFl be2022 11:51:3O
Usl r: DTF D4t4fip : 220210N3O
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 2.59e3
12368F...[3] 1.17e6 31.27
13678F...[3] 1.52e5 31.10
23468/12469F 1.20e5* 31.90
12348F 2.50e5* 32.14
12378F 1.71e6* 32.36
12678/12367F 6.68e5* 32.65
23467/12369F 8.10e4* 33.34
23478F 1.39e6* 33.48
12389F 7.42e4* 34.55
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 1.39e3
12368F...[3] 7.95e5 31.27
13678F...[3] 1.21e5 31.10
23468/12469F 1.02e5* 31.89
12348F 1.40e5* 32.15
12378F 1.12e6* 32.36
12678/12367F 4.31e5* 32.65
23467/12369F 5.45e4* 33.34
23478F 9.06e5* 33.48
12389F 6.40e4* 34.54
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PBM
4σ 4.49e3
CS 12346F 1.38e7 31.81
ES 12378F 1.41e7 32.34
ES 23478F 1.34e7* 33.46
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PBM
4σ 4.92e3
CS 12346F 8.66e6 31.81
ES 12378F 8.84e6 32.34
ES 23478F 8.32e6* 33.46
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.19e3
Rel. Int.
Abs. Int.
100%
0%
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
4.56e5
2.28e5
0.00e0
3.44e5
1.72e5
3.97e6
1.99e6
2.45e6
1.22e6
1.26e4
6.32e3
Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_0114ut. _resp s, aev 11dFe- d2022 16:26 bD(FT
CSC Gltr, (r, cedPro U54f12 GserVC/ stey : D(FVGCPF22m616 cc: 5500p82K1p53K8 scc: 396d800
Pe,) , kkot, tnok: i re, spAektronvs
Reansev: 11dFe- d2022 15:53 bD(FT Prnktev: 11dFe- d2022 16:39 P, ge 9 of 12


SGS ID: B6235_18875_DF_011
Sample ID: 11215131-012122-S-BN-NC-O-42
Acq: 11-Feb-2022 11:51:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 57
User: DTF Datafile: 220210C34
Rel. Int.
Abs. Int.
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 2.30e3
123468F 2.05e5 35.33
124678/134678F 7.94e5 35.53
124689F 8.25e5 36.18
123478F 2.47e6* 36.72
123678F 6.90e5* 36.86
234678F 2.40e5 37.54
123489F 2.20e5 38.53
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 3.12e3
123468F 1.37e5 35.33
124678/134678F 6.75e5 35.53
124689F 6.91e5 36.18
123478F 2.02e6* 36.72
123678F 5.78e5* 36.86
234678F 2.10e5 37.54
123489F 1.49e5 38.53
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 3.61e3
ES 123478F 6.13e6 36.70
ES 123678F 6.80e6 36.84
CS 123469F 6.23e6 37.16
ES 234678F 6.79e6 37.53
ES 123789F 5.41e6 38.48
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 4.52e3
ES 123478F 1.07e7 36.70
ES 123678F 1.26e7 36.84
CS 123469F 1.15e7 37.16
ES 234678F 1.26e7 37.53
ES 123789F 1.06e7 38.48
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.40e3
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
7.44e5
3.72e5
0.00e0
6.06e5
3.03e5
1.99e6
9.94e5
3.59e6
1.80e6
8.01e3
4.00e3


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 3.19e3
1234678F
2.64e6*
39.88
1234679F
1.19e5
40.14
1234689F
2.25e6*
40.28
1234789F
3.85e5*
41.28
Abs. Int.
9.05e5
4.52e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 3.18e3
1234678F
2.61e6*
39.88
1234689F
2.25e6*
40.28
1234789F
3.64e5*
41.27
Abs. Int.
9.18e5
4.59e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 6.70e3
ES 1234678F
4.29e6
39.87
CS 1234689F
4.70e6
40.27
ES 1234789F
3.88e6*
41.27
Abs. Int.
1.65e6
8.27e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 2.03e3
ES 1234678F
9.46e6
39.87
CS 1234689F
1.02e7
40.27
ES 1234789F
8.05e6*
41.27
Abs. Int.
3.43e6
1.72e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.34e3
Abs. Int.
3.49e4
1.74e4
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
1.63e7
43.69
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 2.25e3
0%
Abs. Int.
3.61e6
1.81e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.83e7
43.69
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 2.49e3
3.84e6
1.92e6
ES OCDF
1.12e7*
43.68
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 1.99e3
2.47e6
1.24e6
ES OCDF
1.28e7*
43.67
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 2.76e3
2.64e6
1.32e6
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.45e3
9.72e3
4.86e3

Lab ID: B6235_18875_DF_012 **Acq'd:** 11 Feb 2022 12:37 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-O-40 **UTP:** 11-Feb-2022 16:26:52 DTF **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 580-880-FNM

Datafile: 220210C35 **Report:** 11 Feb 2022 16:30 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.47		1.0008	1.0008	0	2.12E+06	0.81	Y	1.18	15.7	3742.703	0.29
12378-PeCDD	33.82	J EMPC	1.0005	1.0005	0	1.34E+05	0.70	N	1.04	1.23	3830.139	0.323
123478-HxCDD	37.74	J	1.0004	1.0004	0	1.61E+05	1.27	Y	1.09	1.65	4826.223	0.413
123678-HxCDD	37.85		1.0035	1.0036	+0.2	5.92E+05	1.22	Y	1.15	5.37	4826.223	0.377
123789-HxCDD	38.15		1.0113	1.0114	+0.2	3.94E+05	1.34	Y	1.05	3.55	4826.223	0.389
1234678-HpCDD	40.83		1.0003	1.0003	0	1.43E+07	1.07	Y	1.06	155	6735.93	0.59
OCDD	43.53		1.0002	1.0003	+0.3	1.70E+08	0.91	Y	1.13	2,420	6900.078	1.13
2378-TCDF	27.61		1.0008	1.0008	0	7.88E+06	0.78	Y	1.08	41.1	3798.763	0.222
12378-PeCDF	32.38		1.0005	1.0008	+0.6	5.68E+05	1.43	Y	1.02	3.37	4054.469	0.225
23478-PeCDF	33.49		1.0005	1.0008	+0.6	5.24E+05	1.67	Y	1.02	3.39	4054.469	0.239
123478-HxCDF	36.72		1.0005	1.0004	-0.2	9.34E+05	1.32	Y	1.27	6.23	3933.628	0.222
123678-HxCDF	36.87		1.0005	1.0004	-0.2	4.34E+05	1.08	Y	1.15	2.65	3933.628	0.213
234678-HxCDF	37.55	J	1.0005	1.0004	-0.2	3.86E+05	1.38	Y	1.19	2.3	3933.628	0.198
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3933.628	0.256
1234678-HpCDF	39.89		1.0003	1.0003	0	4.01E+06	1.02	Y	1.37	27.8	4084.529	0.207
1234789-HpCDF	41.28		1.0003	1.0003	0	3.85E+05	0.93	Y	1.31	3.65	4084.529	0.333
OCDF	43.70		1.0003	1.0002	-0.3	8.58E+06	0.88	Y	1.07	100	3311.716	0.452

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.45	1.0238	1.0239	+0.2	2.25E+07	0.79	Y	1.05	87.8
ES 12378-PeCDD	33.80	1.2160	1.2164	+0.8	2.07E+07	1.63	Y	0.88	96.3
ES 123478-HxCDD	37.72	0.9919	0.9918	-0.2	1.77E+07	1.25	Y	0.97	84.5
ES 123678-HxCDD	37.84	0.9950	0.9949	-0.2	1.89E+07	1.29	Y	0.94	93.4
ES 123789-HxCDD	38.14	1.0027	1.0027	0	2.09E+07	1.31	Y	1.09	89.1
ES 1234678-HpCDD	40.82	1.0730	1.0732	+0.5	1.72E+07	1.03	Y	0.91	87.6
ES OCDD	43.51	1.1437	1.1441	+1.0	2.46E+07	0.88	Y	0.62	91.8
ES 2378-TCDF	27.59	1.0520	1.0521	+0.2	3.51E+07	0.81	Y	1.06	82
ES 12378-PeCDF	32.35	1.2330	1.2335	+1.0	3.25E+07	1.57	Y	0.91	88.3
ES 23478-PeCDF	33.46	1.2754	1.2760	+1.2	2.99E+07	1.57	Y	0.88	83.9
ES 123478-HxCDF	36.71	0.9653	0.9652	-0.2	2.33E+07	0.53	Y	1.20	90.4
ES 123678-HxCDF	36.85	0.9691	0.9690	-0.2	2.80E+07	0.55	Y	1.35	96.4
ES 234678-HxCDF	37.54	0.9870	0.9870	0	2.79E+07	0.54	Y	1.24	104
ES 123789-HxCDF	38.49	1.0121	1.0120	-0.2	2.15E+07	0.53	Y	1.16	86.8
ES 1234678-HpCDF	39.88	1.0484	1.0486	+0.5	2.07E+07	0.47	Y	0.97	99.6
ES 1234789-HpCDF	41.27	1.0851	1.0852	+0.2	1.59E+07	0.47	Y	0.85	86.9
ES OCDF	43.69	1.1483	1.1487	+1.0	3.15E+07	0.92	Y	0.81	90.7

Lab ID: B6235_18875_DF_012 **Acq'd:** 11 Feb 2022 12:37 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-O-40 **UTP:** 11-Feb-2022 16:26:52 DTF **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 580-880-FNM

Datafile: 220210C35 **Report:** 11 Feb 2022 16:30 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.78		-	-	-	2.45E+07	0.80	Y	-	-
JS 1234-TCDF	26.23		-	-	-	4.04E+07	0.81	Y	-	-
JS 123467-HxCDD	38.03		-	-	-	1.07E+07	1.26	Y	-	-
CS 37Cl-2378-TCDD	28.47		1.0245	1.0247	+0.3	1.13E+07	n/a	-	1.20	95.7
CS 12347-PeCDD	33.29		1.1979	1.1983	+0.8	1.98E+07	1.57	Y	0.75	107
CS 12346-PeCDF	31.82		1.2128	1.2132	+0.8	3.31E+07	1.59	Y	0.85	96.3
CS 123469-HxCDF	37.17		0.9774	0.9773	-0.2	2.56E+07	0.54	Y	1.12	106
CS 1234689-HpCDF	40.28		1.0589	1.0591	+0.5	2.05E+07	0.46	Y	0.89	108
SS 37Cl-2378-TCDD	28.47		1.0245	1.0247	+0.3	1.13E+07	n/a	-	1.15	109
SS 12347-PeCDD	33.29		1.1979	1.1983	+0.8	1.98E+07	1.57	Y	0.86	111
SS 12346-PeCDF	31.82		1.2128	1.2132	+0.8	3.31E+07	1.59	Y	0.94	109
SS 123469-HxCDF	37.17		0.9774	0.9773	-0.2	2.56E+07	0.54	Y	0.83	110
SS 1234689-HpCDF	40.28		1.0589	1.0591	+0.5	2.05E+07	0.46	Y	0.92	108

Totals	Conc	EMPC
Total TCDD	22.8	25.6
Total PeCDD	7.75	14.4
Total HxCDD	63.9	65.7
Total HpCDD	376	376
Total Tetra-Octa Dioxins	2890	2900
Total TCDF	75	85.2
Total PeCDF	22.3	28.2
Total HxCDF	41	42.1
Total HpCDF	76.2	76.2
Total Tetra-Octa Furans	315	332
Total Tetra-Octa Dioxins & Furans	3200	3230

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.807	0.81
Response	2.13E+06	2.12E+06

Lab ID: B6235_18875_DF_012 | **Acq'd: 11 Feb 2022 12:37 DTF** | **Wt/Vol: 10.14 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012122-S-BN-NC-O-40 | **UTP: 11-Feb-2022 16:26:52 DTF** | **J-level: 0.493 pg/g** | **Split: 1** | **Checkcode: 580-880-FNM**

Datafile: 220210C35 | **Report: 11 Feb 2022 16:30 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.83	EMPC	0.8737	0.8726	-1.6	2.29E+05	0.94	N	1.18	1.7	3742.703	0.29
1379-TCDD	25.19		0.8860	0.8853	-1.1	1.40E+05	0.74	Y	1.18	1.04	3742.703	0.29
1369-TCDD	NotFnd		0.9009						1.18		3742.703	0.29
1469-TCDD	26.39		0.9281	0.9275	-0.9	3.18E+05	0.68	Y	1.18	2.36	3742.703	0.29
1247/1246/1248/1249-TCDD	26.62	EMPC	0.9362	0.9356	-1.0	7.02E+04	0.61	N	1.18	0.52	3742.703	0.29
1378-TCDD	26.82		0.9432	0.9429	-0.5	9.29E+04	0.81	Y	1.18	0.688	3742.703	0.29
1268-TCDD	NotFnd		0.9500						1.18		3742.703	0.29
1478-TCDD	NotFnd		0.9586						1.18		3742.703	0.29
1279-TCDD	NotFnd		0.9645						1.18		3742.703	0.29
1234/1269-TCDD	27.78	EMPC	0.9770	0.9764	-1.0	6.75E+04	0.48	N	1.18	0.5	3742.703	0.29
1236-TCDD	NotFnd		0.9817						1.18		3742.703	0.29
1237/1238-TCDD	28.19		0.9905	0.9909	+0.7	2.01E+05	0.81	Y	1.18	1.49	3742.703	0.29
1239-TCDD	NotFnd		0.9952						1.18		3742.703	0.29
2378-TCDD	**28.47**		**1.0008**	1.0008	**0**	2.12E+06	0.81	Y	**1.18**	**15.7**	**3742.703**	**0.29**
1278-TCDD	28.80		1.0121	1.0123	+0.3	2.08E+05	0.88	Y	1.18	1.54	3742.703	0.29
1267-TCDD	NotFnd		1.0167						1.18		3742.703	0.29
1289-TCDD	NotFnd		1.0345						1.18		3742.703	0.29
12479/12468-PeCDD	31.31		0.9267	0.9263	-0.8	3.96E+05	1.46	Y	1.04	3.63	3830.139	0.323
12469-PeCDD	31.84	EMPC	0.9425	0.9421	-0.8	2.89E+05	0.41	N	1.04	2.65	3830.139	0.323
12368-PeCDD	32.39	J	0.9588	0.9584	-0.8	1.53E+05	1.38	Y	1.04	1.41	3830.139	0.323
12478-PeCDD	32.59	J EMPC	0.9643	0.9642	-0.2	1.14E+05	0.74	N	1.04	1.05	3830.139	0.323
12379-PeCDD	32.69	J EMPC	0.9673	0.9671	-0.4	8.51E+04	1.98	N	1.04	0.782	3830.139	0.323
12369/12467/12489-PeCDD	32.95	J	0.9750	0.9750	0	2.14E+05	1.50	Y	1.04	1.97	3830.139	0.323
12346/12347-PeCDD	33.31	J	0.9858	0.9856	-0.4	8.02E+04	1.44	Y	1.04	0.737	3830.139	0.323
12378-PeCDD	33.82	J EMPC	**1.0005**	**1.0005**	**0**	**1.34E+05**	**0.70**	**N**	**1.04**	**1.23**	**3830.139**	**0.323**
12367-PeCDD	33.90	J EMPC	1.0033	1.0030	-0.6	3.37E+04	0.88	N	1.04	0.31	3830.139	0.323
12389-PeCDD	34.26	J EMPC	1.0134	1.0136	+0.4	6.48E+04	1.25	N	1.04	0.595	3830.139	0.323
124679/124689-HxCDD	35.99		0.9542	0.9540	-0.4	2.99E+06	1.27	Y	1.10	28.1	4826.223	0.391
123468-HxCDD	36.64		0.9715	0.9712	-0.7	3.59E+05	1.17	Y	1.10	3.37	4826.223	0.391
123679/123689-HxCDD	36.94		0.9793	0.9792	-0.2	2.18E+06	1.34	Y	1.10	20.4	4826.223	0.391
123469-HxCDD	37.07	J EMPC	0.9828	0.9826	-0.4	1.96E+05	1.53	N	1.10	1.84	4826.223	0.391
123478-HxCDD	37.74	J	**1.0004**	**1.0004**	**0**	**1.61E+05**	**1.27**	**Y**	1.09	**1.65**	**4826.223**	**0.413**
123678-HxCDD	37.85		**1.0035**	**1.0036**	**+0.2**	**5.92E+05**	**1.22**	**Y**	1.15	**5.37**	**4826.223**	**0.377**
123467-HxCDD	38.05	J	1.0085	1.0087	+0.5	1.47E+05	1.28	Y	1.10	1.38	4826.223	0.391
123789-HxCDD	38.15		**1.0113**	**1.0114**	**+0.2**	**3.94E+05**	**1.34**	**Y**	1.05	**3.55**	**4826.223**	**0.389**

Lab ID: B6235_18875_DF_012 | **Acq'd: 11 Feb 2022 12:37 DTF** | **Wt/Vol: 10.14 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012122-S-BN-NC-O-40 | **UTP: 11-Feb-2022 16:26:52 DTF** | **J-level: 0.493 pg/g** | **Split: 1** | **Checkcode: 580-880-FNM**

Datafile: 220210C35 | **Report: 11 Feb 2022 16:30 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

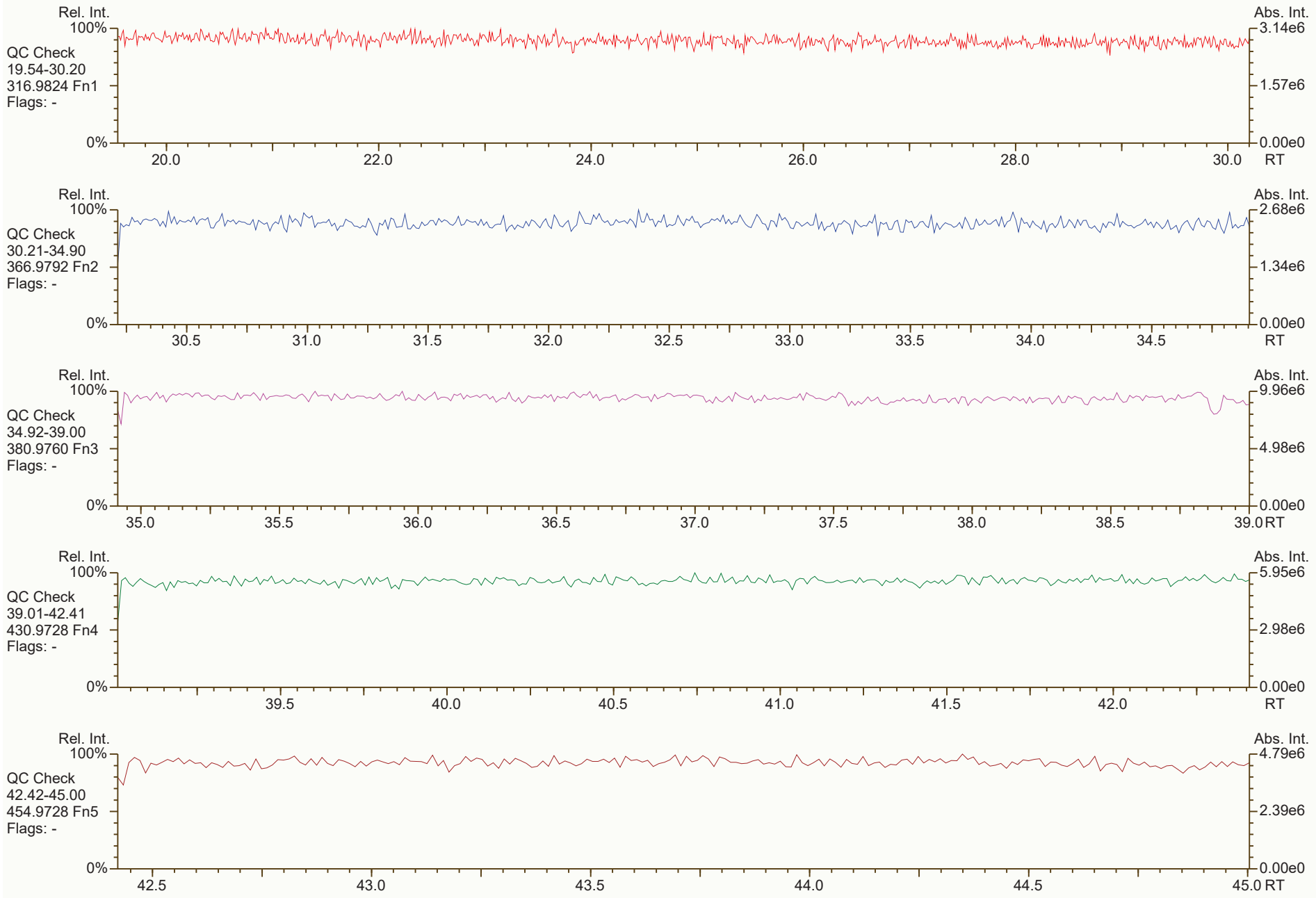
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.15		0.9837	0.9836	-0.2	2.04E+07	1.04	Y	1.06	221	6735.93	0.59
1234678-HpCDD	**40.83**		**1.0003**	**1.0003**	**0**	**1.43E+07**	**1.07**	**Y**	**1.06**	**155**	**6735.93**	**0.59**
OCDD	**43.53**		**1.0002**	**1.0003**	**+0.3**	**1.70E+08**	**0.91**	**Y**	**1.13**	**2,420**	**6900.078**	**1.13**
OCDD-a	43.52		1.0001	1.0003	+0.5	1.07E+07	2.40	Y	0.07	2,390	3742.224	9.58
1368-TCDF	22.73	EMPC	0.8251	0.8236	-2.0	1.73E+05	0.94	N	1.08	0.901	3798.763	0.222
1468-TCDF	23.29	EMPC	0.8458	0.8442	-2.2	1.83E+05	0.95	N	1.08	0.953	3798.763	0.222
2468-TCDF	23.93		0.8686	0.8672	-2.0	3.81E+05	0.70	Y	1.08	1.99	3798.763	0.222
1346/1246-TCDF	NotFnd		0.8814						1.08		3798.763	0.222
1347/1378/1247-TCDF	24.42		0.8867	0.8850	-2.5	7.54E+05	0.74	Y	1.08	3.93	3798.763	0.222
1348-TCDF	NotFnd		0.8962						1.08		3798.763	0.222
1248/1367/1379-TCDF	24.79	EMPC	0.9009	0.8986	-3.4	5.51E+05	0.89	N	1.08	2.87	3798.763	0.222
1268-TCDF	25.21		0.9145	0.9137	-1.2	3.22E+05	0.78	Y	1.08	1.68	3798.763	0.222
1467-TCDF	25.34		0.9193	0.9184	-1.4	1.37E+05	0.79	Y	1.08	0.716	3798.763	0.222
1478-TCDF	25.52		0.9254	0.9248	-0.9	4.14E+05	0.81	Y	1.08	2.16	3798.763	0.222
1369/1237-TCDF	25.89		0.9387	0.9384	-0.5	1.91E+05	0.69	Y	1.08	0.995	3798.763	0.222
2467-TCDF	26.01		0.9433	0.9428	-0.8	1.40E+05	0.85	Y	1.08	0.728	3798.763	0.222
2368-TCDF	26.17		0.9489	0.9486	-0.5	6.33E+05	0.81	Y	1.08	3.3	3798.763	0.222
1238/1234/1678/1469/1236-TCDF	26.26	EMPC	0.9523	0.9517	-0.9	3.15E+05	1.02	N	1.08	1.64	3798.763	0.222
1278-TCDF	26.72		0.9683	0.9683	0	1.74E+06	0.82	Y	1.08	9.07	3798.763	0.222
1349-TCDF	NotFnd		0.9722						1.08		3798.763	0.222
1267-TCDF	26.99		0.9783	0.9783	0	3.36E+05	0.87	Y	1.08	1.75	3798.763	0.222
2346/1249-TCDF	NotFnd		0.9850						1.08		3798.763	0.222
2347/1279-TCDF	27.38		0.9926	0.9923	-0.5	1.69E+05	0.80	Y	1.08	0.88	3798.763	0.222
2348-TCDF	27.49	EMPC	0.9967	0.9964	-0.5	3.76E+05	0.99	N	1.08	1.96	3798.763	0.222
2378-TCDF	**27.61**		**1.0008**	**1.0008**	**0**	**7.88E+06**	**0.78**	**Y**	**1.08**	**41.1**	**3798.763**	**0.222**
2367/3467-TCDF	27.97		1.0137	1.0136	-0.2	1.30E+06	0.81	Y	1.08	6.79	3798.763	0.222
1269-TCDF	28.21	J EMPC	1.0223	1.0224	+0.2	6.68E+04	0.97	N	1.08	0.348	3798.763	0.222
1239-TCDF	NotFnd		1.0321						1.08		3798.763	0.222
1289-TCDF	29.61	EMPC	1.0722	1.0731	+1.6	2.88E+05	0.94	N	1.08	1.5	3798.763	0.222
13468/12468-PeCDF	29.56	EMPC	0.9139	0.9138	-0.2	8.94E+05	1.22	N	1.02	5.53	3753.76	0.215
13678/13467/12467-PeCDF	31.11	J	0.9613	0.9616	+0.6	3.13E+05	1.42	Y	1.02	1.94	4054.469	0.232
12368/13478/12478-PeCDF	31.27		0.9662	0.9666	+0.8	1.13E+06	1.62	Y	1.02	7.02	4054.469	0.232
14678-PeCDF	NotFnd		0.9692						1.02		4054.469	0.232
13479-PeCDF	NotFnd		0.9723						1.02		4054.469	0.232
13469/12479-PeCDF	NotFnd		0.9797						1.02		4054.469	0.232
12346-PeCDF	31.83	J EMPC	0.9840	0.9840	0	5.85E+04	1.27	N	1.02	0.362	4054.469	0.232

Lab ID: B6235_18875_DF_012 | **Acq'd: 11 Feb 2022 12:37 DTF** | **Wt/Vol: 10.14 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012122-S-BN-NC-O-40 | **UTP: 11-Feb-2022 16:26:52 DTF** | **J-level: 0.493 pg/g** | **Split: 1** | **Checkcode: 580-880-FNM**

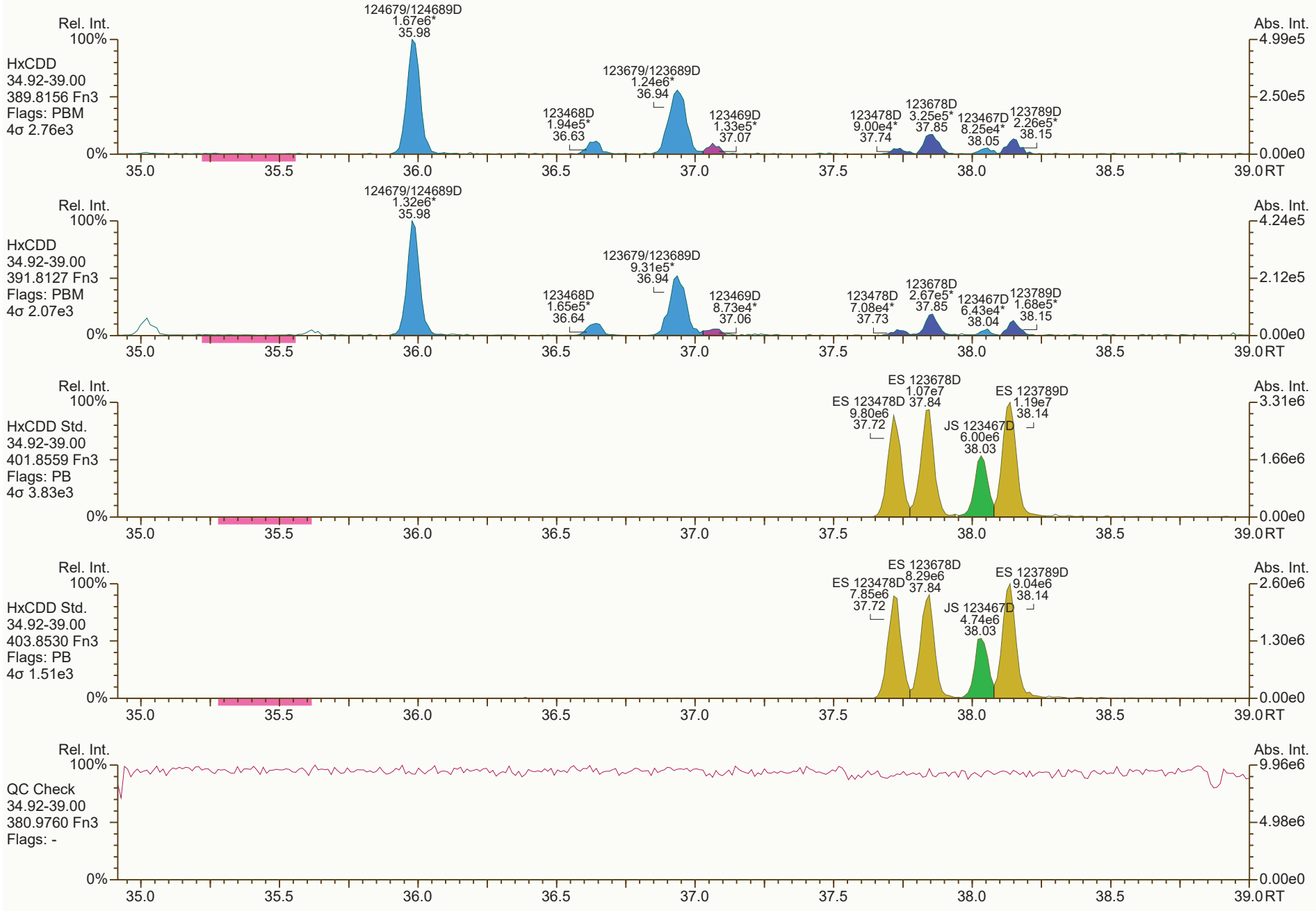
Datafile: 220210C35 | **Report: 11 Feb 2022 16:30 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

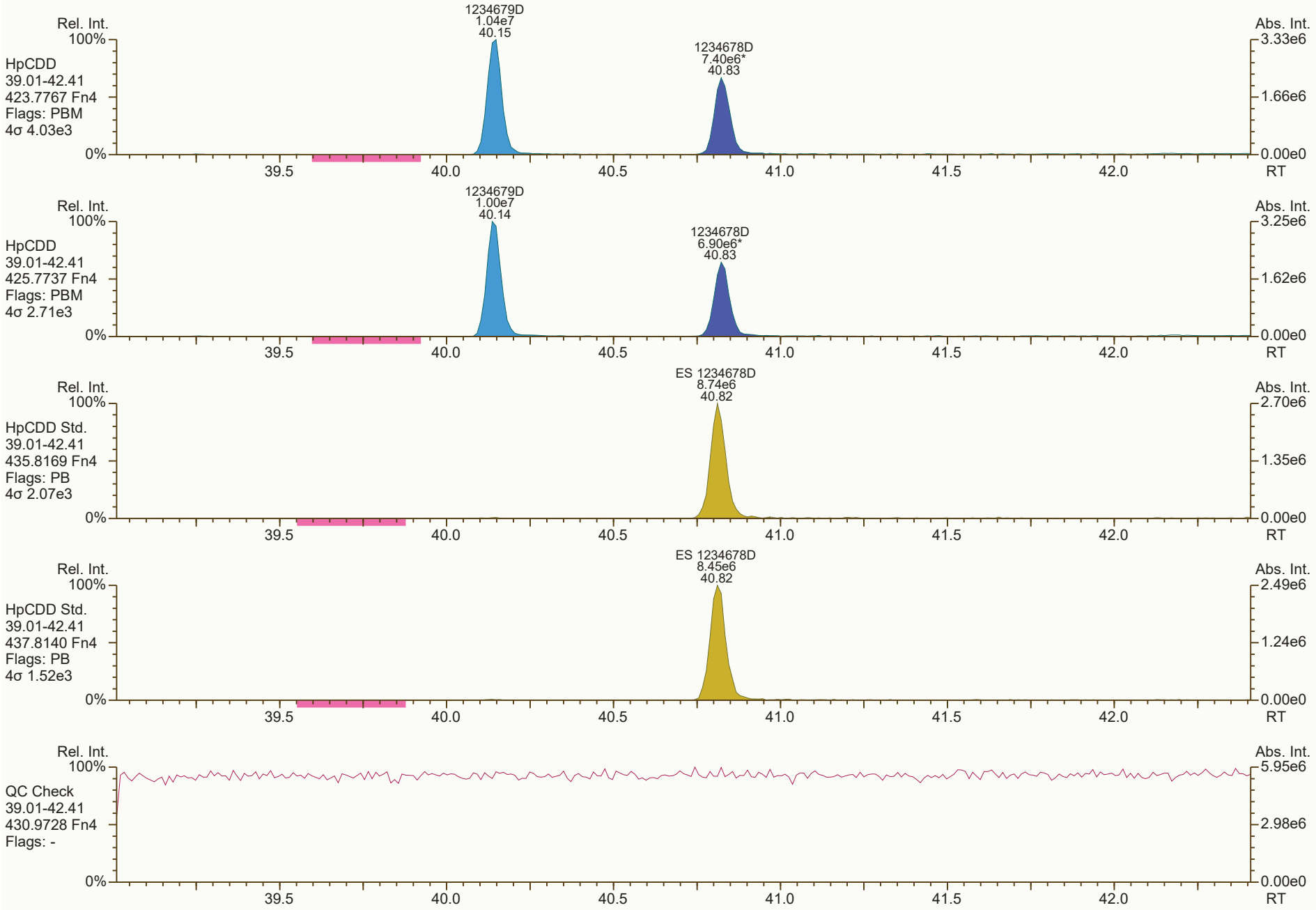
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.95	J	0.9868	0.9875	+1.3	3.71E+05	1.60	Y	1.02	2.29	4054.469	0.232
12347-PeCDF	NotFnd		0.9894						1.02		4054.469	0.232
12348-PeCDF	32.16	J	0.9940	0.9941	+0.2	1.23E+05	1.64	Y	1.02	0.76	4054.469	0.232
12378-PeCDF	**32.38**		**1.0005**	**1.0008**	**+0.6**	**5.68E+05**	**1.43**	**Y**	**1.02**	**3.37**	**4054.469**	**0.225**
12678/12367-PeCDF	32.66	J	1.0089	1.0098	+1.8	3.93E+05	1.65	Y	1.02	2.43	4054.469	0.232
12379-PeCDF	NotFnd		1.0142						1.02		4054.469	0.232
12679-PeCDF	NotFnd		0.9929						1.02		4054.469	0.232
23467/12369-PeCDF	33.35	J	0.9967	0.9967	0	1.77E+05	1.65	Y	1.02	1.1	4054.469	0.232
23478-PeCDF	**33.49**		**1.0005**	**1.0008**	**+0.6**	**5.24E+05**	**1.67**	**Y**	**1.02**	**3.39**	**4054.469**	**0.239**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4054.469	0.232
12349-PeCDF	NotFnd		1.0100						1.02		4054.469	0.232
12389-PeCDF	NotFnd		1.0324						1.02		4054.469	0.232
123468-HxCDF	35.34		0.9627	0.9626	-0.2	5.96E+05	1.29	Y	1.19	3.91	3933.628	0.22
124678/134678-HxCDF	35.53		0.9682	0.9680	-0.4	1.95E+06	1.32	Y	1.19	12.8	3933.628	0.22
134679-HxCDF	NotFnd		0.9744						1.19		3933.628	0.22
124679-HxCDF	35.96	J	0.9798	0.9797	-0.2	9.17E+04	1.27	Y	1.19	0.601	3933.628	0.22
124689-HxCDF	36.18		0.9858	0.9857	-0.2	1.77E+06	1.23	Y	1.19	11.6	3933.628	0.22
123467-HxCDF	36.60	J EMPC	0.9972	0.9970	-0.4	1.74E+05	1.04	N	1.19	1.14	3933.628	0.22
123478-HxCDF	**36.72**		**1.0005**	**1.0004**	**-0.2**	**9.34E+05**	**1.32**	**Y**	**1.27**	**6.23**	**3933.628**	**0.222**
123678-HxCDF	**36.87**		**1.0005**	**1.0004**	**-0.2**	**4.34E+05**	**1.08**	**Y**	**1.15**	**2.65**	**3933.628**	**0.213**
123479-HxCDF	NotFnd		1.0049						1.19		3933.628	0.22
123469-HxCDF	NotFnd		1.0090						1.19		3933.628	0.22
123679-HxCDF	NotFnd		0.9942						1.19		3933.628	0.22
234678-HxCDF	**37.55**	J	**1.0005**	**1.0004**	**-0.2**	**3.86E+05**	**1.38**	**Y**	**1.19**	**2.3**	**3933.628**	**0.198**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3933.628	0.22
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3933.628**	**0.256**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.53	J	1.0009	1.0009	0	1.33E+05	1.41	Y	1.19	0.873	3933.628	0.22
1234678-HpCDF	**39.89**		**1.0003**	**1.0003**	**0**	**4.01E+06**	**1.02**	**Y**	**1.37**	**27.8**	**4084.529**	**0.207**
1234679-HpCDF	40.14	**J**	1.0068	1.0066	-0.5	1.53E+05	0.92	Y	1.34	1.23	4084.529	0.261
1234689-HpCDF	40.29		1.0103	1.0104	+0.2	5.40E+06	1.03	Y	1.34	43.5	4084.529	0.261
1234789-HpCDF	**41.28**		**1.0003**	**1.0003**	**0**	**3.85E+05**	**0.93**	**Y**	**1.31**	**3.65**	**4084.529**	**0.333**
OCDF	**43.70**		**1.0003**	**1.0002**	**-0.3**	**8.58E+06**	**0.88**	**Y**	**1.07**	**100**	**3311.716**	**0.452**
OCDF-a	43.69	**EMPC**	1.0002	1.0001	-0.3	4.06E+05	2.98	N	0.07	76.6	3522.971	7.77


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.14e6
1.57e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
2.68e6
1.34e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
9.96e6
4.98e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
5.95e6
2.98e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
4.79e6
2.39e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.20e3
0%
2378D
9.51e5*
28.47
1368D
1.21e5*
24.82
1379D
5.93e4*
25.18
1469D
1.28e5*
26.39
1237/1238D
9.01e4*
28.19
1278D
9.73e4*
28.80
Abs. Int.
2.17e5
1.09e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.54e3
0%
2378D
1.18e6*
28.47
1368D
1.30e5*
24.82
1379D
8.04e4*
25.18
1469D
1.90e5*
26.39
1234/1269D
6.14e4*
27.77
1237/1238D
1.11e5*
28.19
1278D
1.10e5*
28.80
Abs. Int.
3.14e5
1.57e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.94e3
0%
CS 37Cl-2378D
1.13e7
28.47
Abs. Int.
2.53e6
1.26e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 3.15e3
0%
JS 1234D
1.09e7
27.78
ES 2378D
9.94e6
28.45
Abs. Int.
2.55e6
1.28e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.69e3
0%
JS 1234D
1.36e7
27.78
ES 2378D
1.25e7
28.45
Abs. Int.
3.29e6
1.65e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

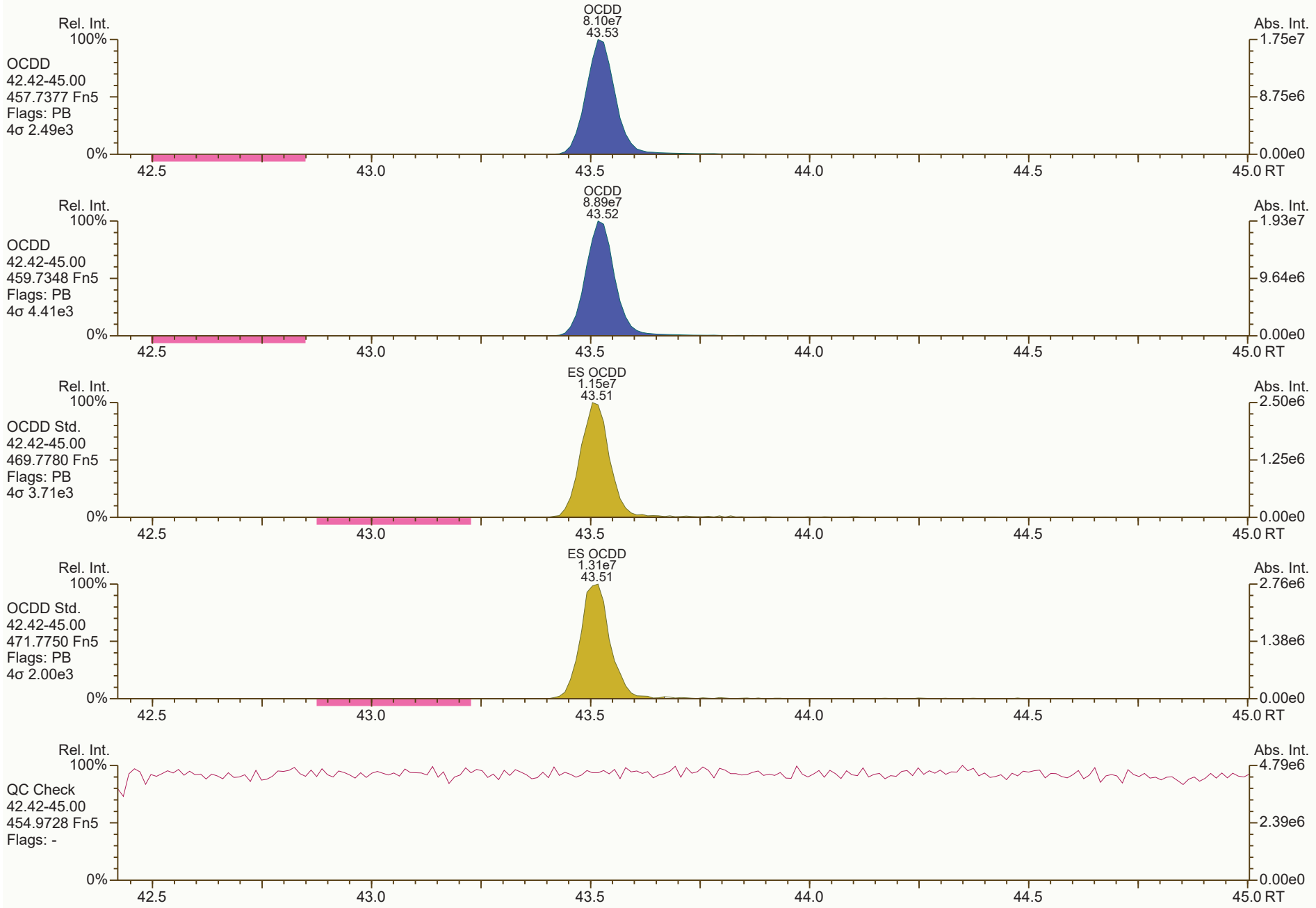

Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PBM
4σ 1.96e3
12479/12468D
2.35e5*
31.31
12469D
1.75e5*
31.84
12368D
8.90e4*
32.39
12379D
6.62e4*
32.69
12369D...[3]
1.29e5*
32.95
12346/12347D
4.74e4*
33.31
12378D
8.16e4*
33.82
12367D
2.05e4*
33.90
12389D
3.94e4*
34.26
Abs. Int.
5.37e4
2.69e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PBM
4σ 1.87e3
12479/12468D
1.61e5*
31.31
12469D
4.24e5*
31.87
12368D
6.43e4*
32.39
12369D...[3]
8.57e4*
32.95
12378D
1.17e5*
33.79
Abs. Int.
3.79e5
1.89e5
0.00e0
0%
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 1.91e3
CS 12347D
1.21e7
33.29
ES 12378D
1.29e7
33.80
Abs. Int.
3.50e6
1.75e6
0.00e0
0%
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.47e3
CS 12347D
7.72e6
33.29
ES 12378D
7.87e6
33.80
Abs. Int.
2.26e6
1.13e6
0.00e0
0%
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
Abs. Int.
2.68e6
1.34e6
0.00e0
0%
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 2.76e3
124679/124689D
1.67e6*
35.98
123679/123689D
1.24e6*
36.94
123468D
1.94e5*
36.63
123469D
1.33e5*
37.07
123478D
9.00e4*
37.74
123678D
3.25e5*
37.85
123467D
8.25e4*
38.05
123789D
2.26e5*
38.15
Abs. Int.
4.99e5
2.50e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 2.07e3
124679/124689D
1.32e6*
35.98
123679/123689D
9.31e5*
36.94
123468D
1.65e5*
36.64
123469D
8.73e4*
37.06
123478D
7.08e4*
37.73
123678D
2.67e5*
37.85
123467D
6.43e4*
38.04
123789D
1.68e5*
38.15
Abs. Int.
4.24e5
2.12e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 3.83e3
ES 123678D
1.07e7
37.84
ES 123478D
9.80e6
37.72
ES 123789D
1.19e7
38.14
JS 123467D
6.00e6
38.03
Abs. Int.
3.31e6
1.66e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 1.51e3
ES 123678D
8.29e6
37.84
ES 123478D
7.85e6
37.72
ES 123789D
9.04e6
38.14
JS 123467D
4.74e6
38.03
Abs. Int.
2.60e6
1.30e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
Abs. Int.
9.96e6
4.98e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 4.03e3
1234679D
1.04e7
40.15
1234678D
7.40e6*
40.83
Abs. Int.
3.33e6
1.66e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 2.71e3
1234679D
1.00e7
40.14
1234678D
6.90e6*
40.83
Abs. Int.
3.25e6
1.62e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.07e3
ES 1234678D
8.74e6
40.82
Abs. Int.
2.70e6
1.35e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.52e3
ES 1234678D
8.45e6
40.82
Abs. Int.
2.49e6
1.24e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
5.95e6
2.98e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

SGS ID: B6235_18875_DF_012 | Sample ID: 11215131-012122-S-BN-NC-O-40 | Acq: 11-Feb-2022 12:37:56

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 58 | User: DTF Datafile: 220210C35

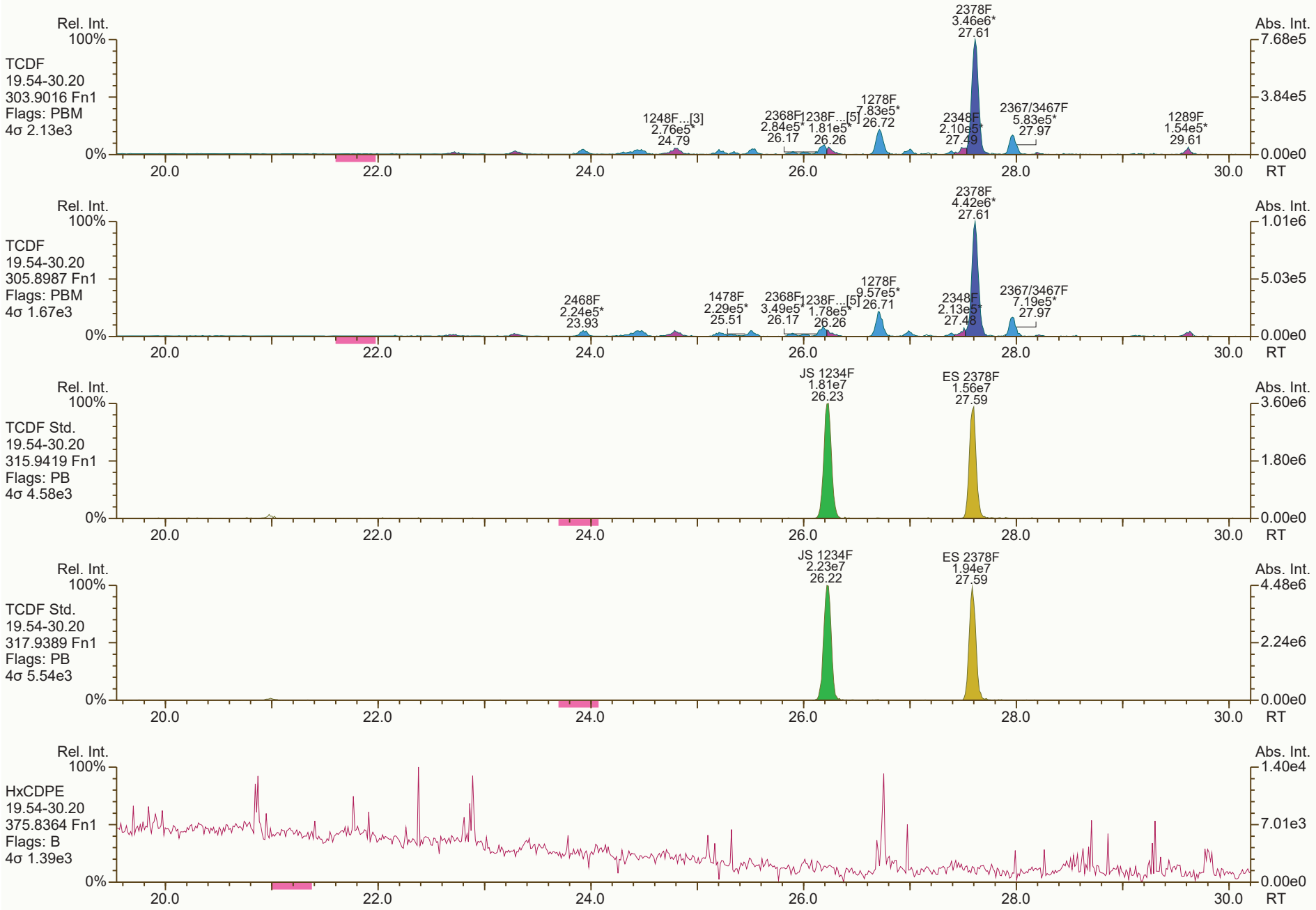


Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_0124ut. _resp s, aev 11dFe-d2022 16:26 bD(FT

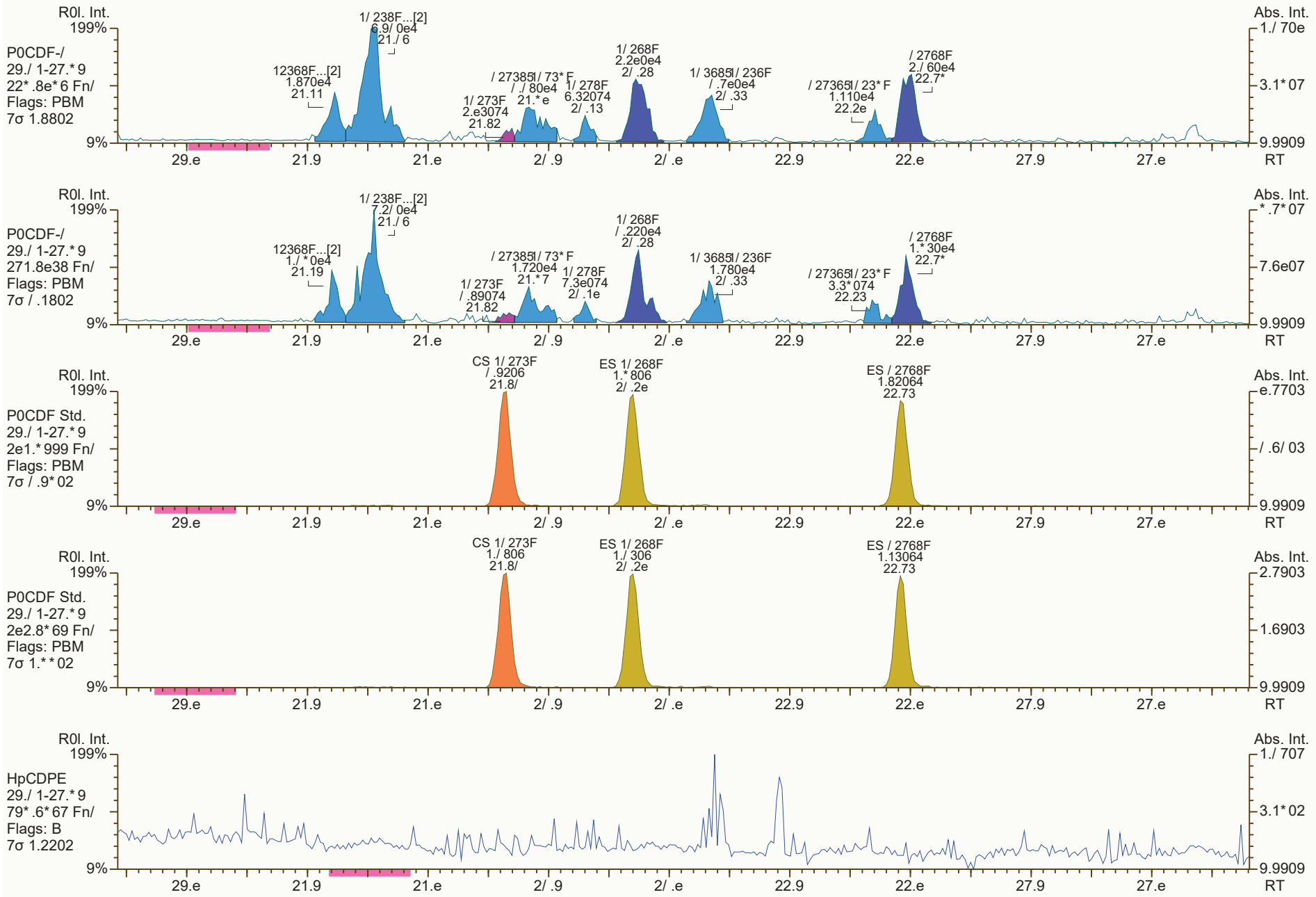
Pe,) , kkot, tnok: i re, spAektronvs

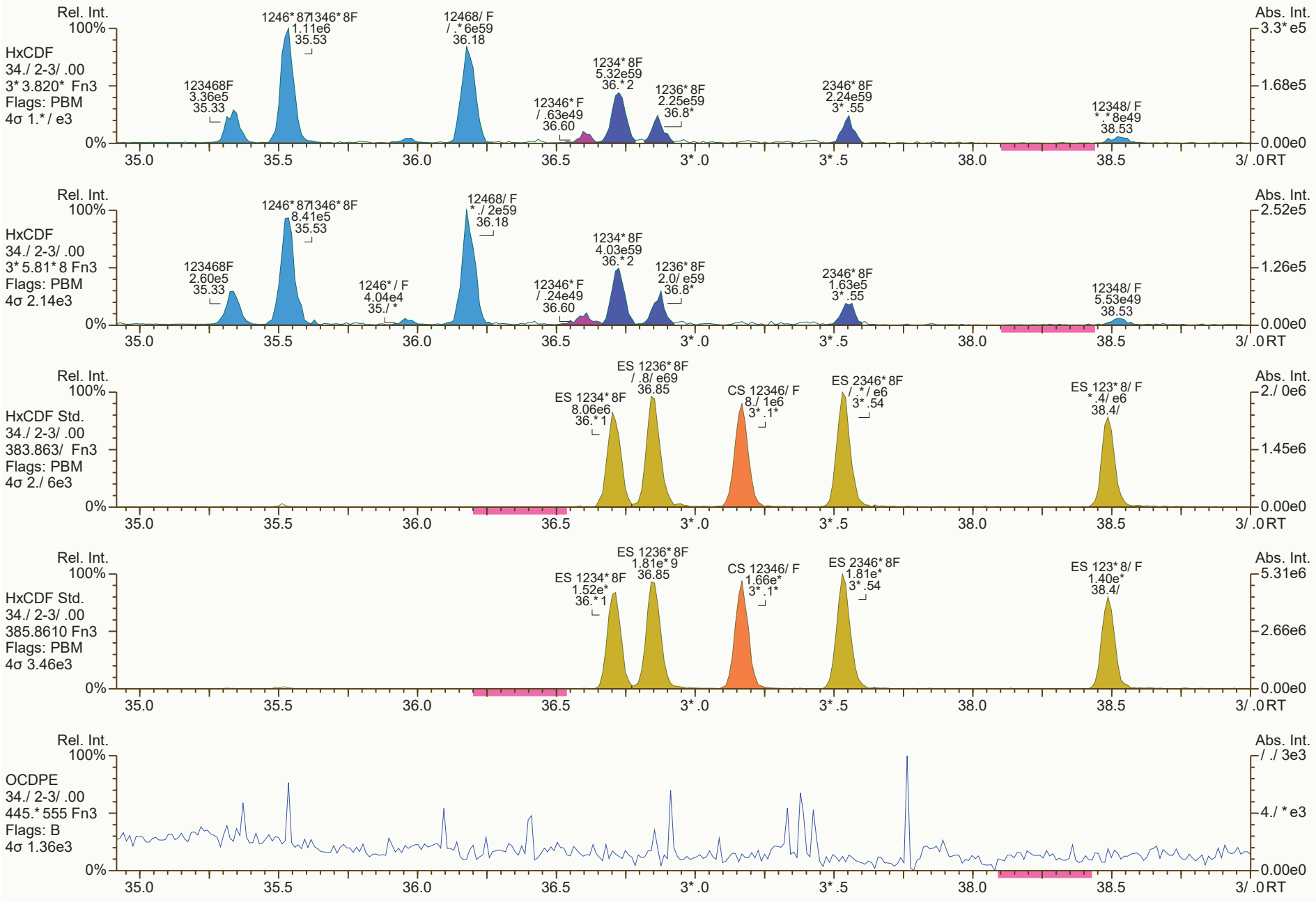
CSC Gltr, (r, cedPro U54f2 GserVC/ stey : D(FVGCPF22m616 cc: 3260p7855 scc: 580d880

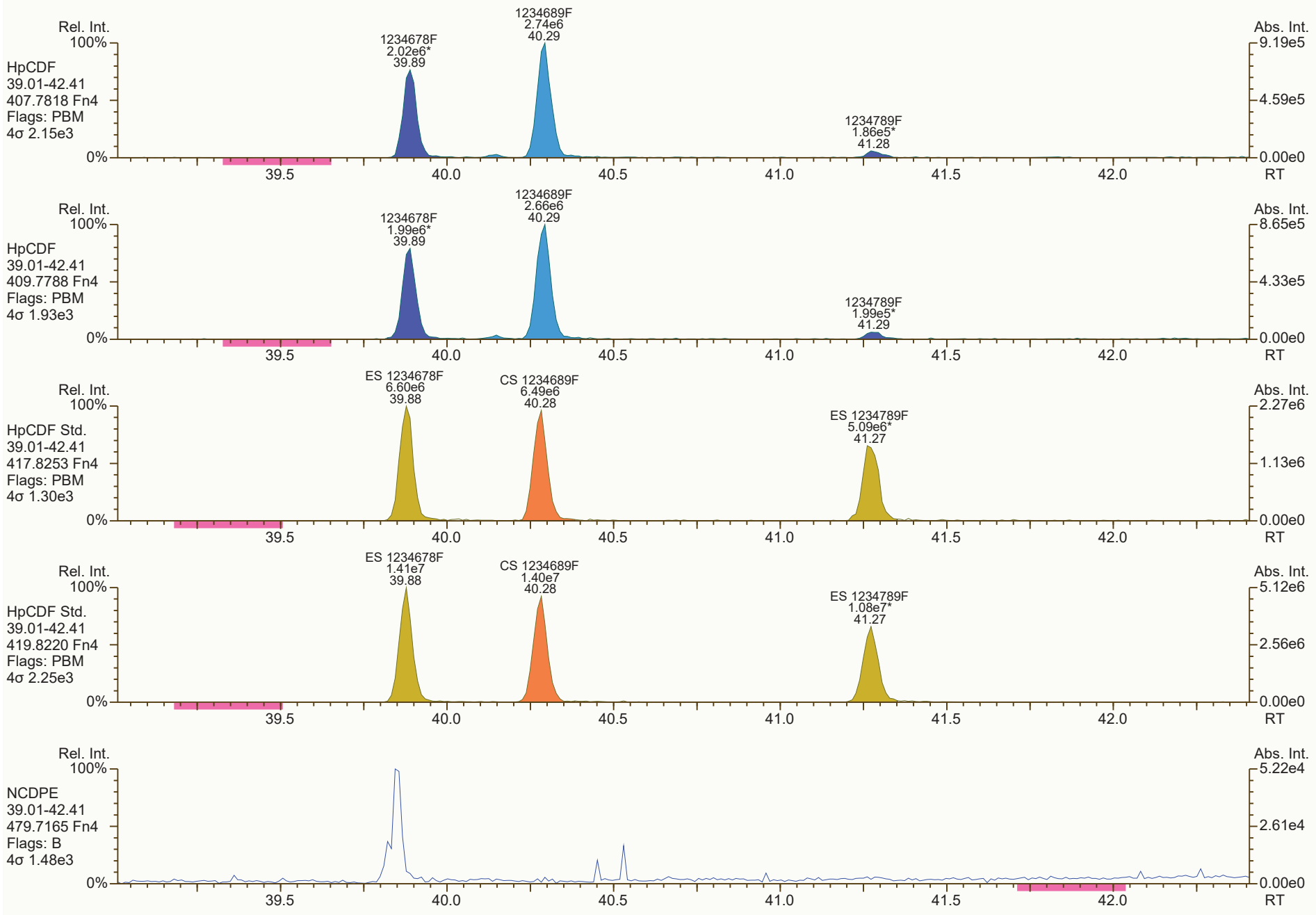
PmD: 11dFe-d2022 15:57 Pmktev: 11dFe-d2022 16:K0 P, ge 6 of 12

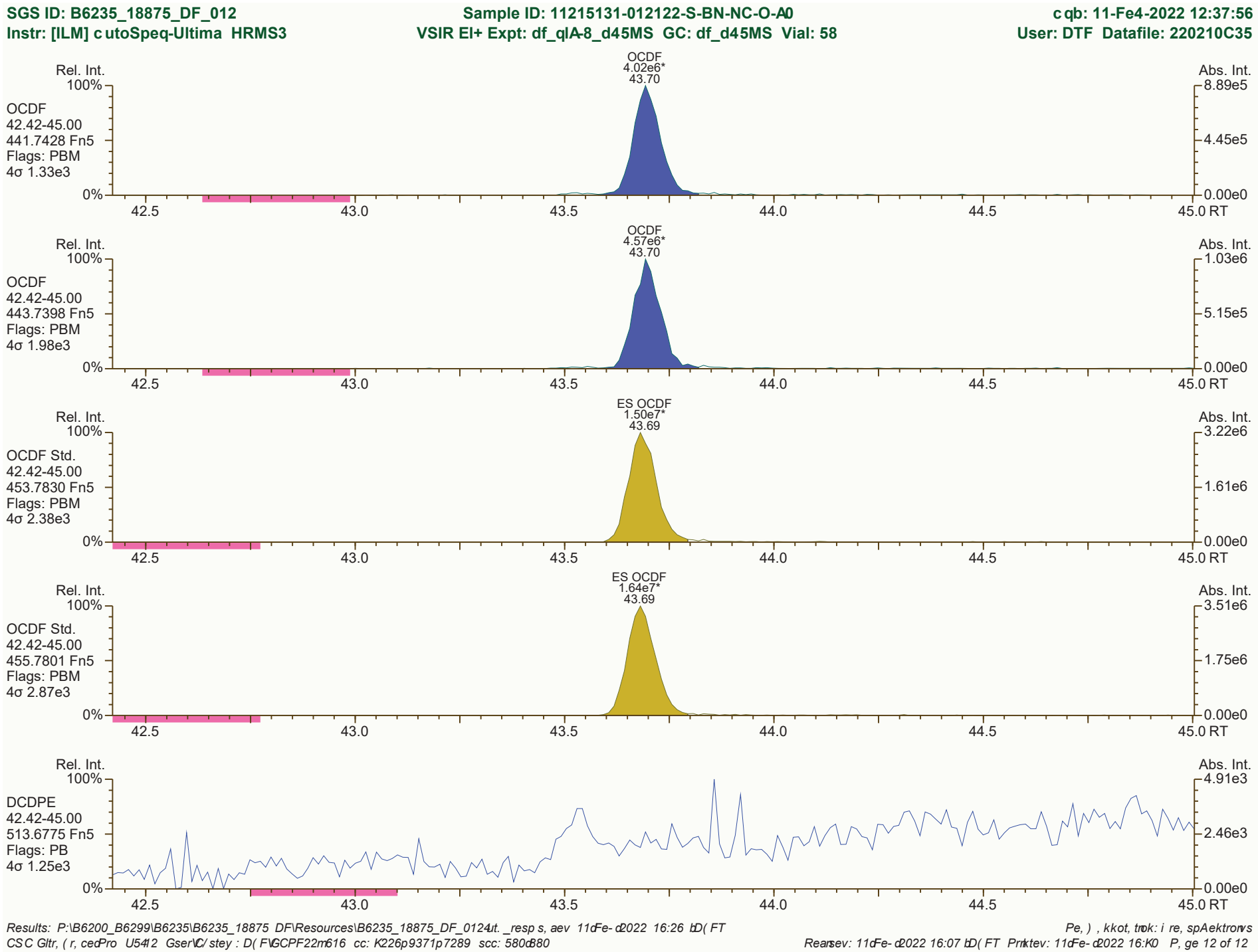

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 2.13e3
0%
2378F
3.46e6*
27.61
1248F...[3]
2.76e5*
24.79
2368F
2.84e5*
26.17
1238F...[5]
1.81e5*
26.26
1278F
7.83e5*
26.72
2348F
2.10e5*
27.49
2367/3467F
5.83e5*
27.97
1289F
1.54e5*
29.61
Abs. Int.
7.68e5
3.84e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.67e3
0%
2468F
2.24e5*
23.93
1478F
2.29e5*
25.51
2368F
3.49e5*
26.17
1238F...[5]
1.78e5*
26.26
1278F
9.57e5*
26.71
2378F
4.42e6*
27.61
2348F
2.13e5*
27.48
2367/3467F
7.19e5*
27.97
Abs. Int.
1.01e6
5.03e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 4.58e3
0%
JS 1234F
1.81e7
26.23
ES 2378F
1.56e7
27.59
Abs. Int.
3.60e6
1.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 5.54e3
0%
JS 1234F
2.23e7
26.22
ES 2378F
1.94e7
27.59
Abs. Int.
4.48e6
2.24e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.39e3
0%
Abs. Int.
1.40e4
7.01e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 2.14e3
13468/12468F
5.43e5*
29.56
Abs. Int.
1.35e5
6.74e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.61e3
13468/12468F
4.46e5*
29.55
Abs. Int.
1.30e5
6.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
3.14e6
1.57e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


R0l. Int.
199%
P0CDF-/
29./ 1-27.* 9
22* .8e* 6 Fn/
Flags: PBM
7σ 1.8802
9%
1/ 238F...[2]
6.9/ 0e4
21./ 6
12368F...[2]
1.870e4
21.11
1/ 273F
2.e3074
21.82
/ 27385l/ 73* F
/ ./ 80e4
21.* e
1/ 278F
6.32074
2/ .13
1/ 268F
2.2e0e4
2/ .28
1/ 3685l/ 236F
/ .7e0e4
2/ .33
/ 27365l/ 23* F
1.110e4
22.2e
/ 2768F
2./ 60e4
22.7*
Abs. Int.
1./ 70e
3.1* 07
9.9909
RT
29.e
21.9
21.e
2/ .9
2/ .e
22.9
22.e
27.9
27.e
R0l. Int.
199%
P0CDF-/
29./ 1-27.* 9
271.8e38 Fn/
Flags: PBM
7σ / .1802
9%
1/ 238F...[2]
7.2/ 0e4
21./ 6
12368F...[2]
1./ * 0e4
21.19
1/ 273F
/ .89074
21.82
/ 27385l/ 73* F
1.720e4
21.* 7
1/ 278F
7.3e074
2/ .1e
1/ 268F
/ .220e4
2/ .28
1/ 3685l/ 236F
1.780e4
2/ .33
/ 27365l/ 23* F
3.3* 074
22.23
/ 2768F
1.* 30e4
22.7*
Abs. Int.
* .7* 07
7.6e07
9.9909
RT
R0l. Int.
199%
P0CDF Std.
29./ 1-27.* 9
2e1.* 999 Fn/
Flags: PBM
7σ / .9* 02
9%
CS 1/ 273F
/ .9206
21.8/
ES 1/ 268F
1.* 806
2/ .2e
ES / 2768F
1.82064
22.73
Abs. Int.
e.7703
/ .6/ 03
9.9909
RT
R0l. Int.
199%
P0CDF Std.
29./ 1-27.* 9
2e2.8* 69 Fn/
Flags: PBM
7σ 1.* * 02
9%
CS 1/ 273F
1./ 806
21.8/
ES 1/ 268F
1./ 306
2/ .2e
ES / 2768F
1.13064
22.73
Abs. Int.
2.7903
1.6903
9.9909
RT
R0l. Int.
199%
HpCDPE
29./ 1-27.* 9
79* .6* 67 Fn/
Flags: B
7σ 1.2202
9%
Abs. Int.
1./ 707
3.1* 02
9.9909
RT


Rel. Int.
100%
HxCDF
34./ 2-3/ .00
3* 3.820* Fn3
Flags: PBM
4σ 1.*/ e3
123468F 3.36e5 35.33
1246* 87/1346* 8F 1.11e6 35.53
12468/ F /.* 6e59 36.18
12346* F / .63e49 36.60
1234* 8F 5.32e59 36.*2
1236* 8F 2.25e59 36.8*
2346* 8F 2.24e59 3*.55
12348/ F *.* 8e49 38.53
Abs. Int.
3.3* e5
1.68e5
0.00e0
0%
35.0 35.5 36.0 36.5 3*.0 3*.5 38.0 38.5 3/.0 RT
Rel. Int.
100%
HxCDF
34./ 2-3/ .00
3* 5.81* 8 Fn3
Flags: PBM
4σ 2.14e3
123468F 2.60e5 35.33
1246* 87/1346* 8F 8.41e5 35.53
1246*/ F 4.04e4 35./ *
12468/ F *./ 2e59 36.18
12346* F / .24e49 36.60
1234* 8F 4.03e59 36.*2
1236* 8F 2.0/ e59 36.8*
2346* 8F 1.63e5 3*.55
12348/ F 5.53e49 38.53
Abs. Int.
2.52e5
1.26e5
0.00e0
0%
35.0 35.5 36.0 36.5 3*.0 3*.5 38.0 38.5 3/.0 RT
Rel. Int.
100%
HxCDF Std.
34./ 2-3/ .00
383.863/ Fn3
Flags: PBM
4σ 2./ 6e3
ES 1234* 8F 8.06e6 36.*1
ES 1236* 8F /.8/ e69 36.85
CS 12346/ F 8./ 1e6 3*.1*
ES 2346* 8F /.*/ e6 3*.54
ES 123* 8/ F *.4/ e6 38.4/
Abs. Int.
2./ 0e6
1.45e6
0.00e0
0%
35.0 35.5 36.0 36.5 3*.0 3*.5 38.0 38.5 3/.0 RT
Rel. Int.
100%
HxCDF Std.
34./ 2-3/ .00
385.8610 Fn3
Flags: PBM
4σ 3.46e3
ES 1234* 8F 1.52e* 36.*1
ES 1236* 8F 1.81e*9 36.85
CS 12346/ F 1.66e* 3*.1*
ES 2346* 8F 1.81e* 3*.54
ES 123* 8/ F 1.40e* 38.4/
Abs. Int.
5.31e6
2.66e6
0.00e0
0%
35.0 35.5 36.0 36.5 3*.0 3*.5 38.0 38.5 3/.0 RT
Rel. Int.
100%
OCDPE
34./ 2-3/ .00
445.* 555 Fn3
Flags: B
4σ 1.36e3
Abs. Int.
/ ./ 3e3
4./ * e3
0.00e0
0%
35.0 35.5 36.0 36.5 3*.0 3*.5 38.0 38.5 3/.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 2.15e3
1234678F
2.02e6*
39.89
1234689F
2.74e6
40.29
1234789F
1.86e5*
41.28
Abs. Int.
9.19e5
4.59e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 1.93e3
1234678F
1.99e6*
39.89
1234689F
2.66e6
40.29
1234789F
1.99e5*
41.29
Abs. Int.
8.65e5
4.33e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 1.30e3
ES 1234678F
6.60e6
39.88
CS 1234689F
6.49e6
40.28
ES 1234789F
5.09e6*
41.27
Abs. Int.
2.27e6
1.13e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 2.25e3
ES 1234678F
1.41e7
39.88
CS 1234689F
1.40e7
40.28
ES 1234789F
1.08e7*
41.27
Abs. Int.
5.12e6
2.56e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.48e3
Abs. Int.
5.22e4
2.61e4
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


SGS ID: B6235_18875_DF_012
Sample ID: 11215131-012122-S-BN-NC-O-A0
cqb: 11-Fe4-2022 12:37:56
Instr: [ILM] cutoSpeq-Ultima HRMS3
VSIR EI+ Expt: df_qlA-8_d45MS GC: df_d45MS Vial: 58
User: DTF Datafile: 220210C35
Rel. Int.
Abs. Int.
OCDF
4.02e6*
43.70
OCDF
42.42-45.00
441.7428 Fn5
Flags: PBM
4σ 1.33e3
8.89e5
4.45e5
0.00e0
OCDF
4.57e6*
43.70
OCDF
42.42-45.00
443.7398 Fn5
Flags: PBM
4σ 1.98e3
1.03e6
5.15e5
ES OCDF
1.50e7*
43.69
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 2.38e3
3.22e6
1.61e6
ES OCDF
1.64e7*
43.69
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 2.87e3
3.51e6
1.75e6
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.25e3
4.91e3
2.46e3
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6235_18875_DF_013 **Acq'd:** 11 Feb 2022 13:24 DTF **Wt/Vol:** 10.01 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-B-11 **UTP:** 11-Feb-2022 16:26:53 DTF **J-level:** 0.499 pg/g **Split:** 1 **Checkcode:** 472-723-FMV

Datafile: 220210C36 **Report:** 11 Feb 2022 16:30 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.49	E	1.0008	1.0008	0	4.00E+08	0.79	Y	1.18	2,480	3834.213	0.255
12378-PeCDD	33.83		1.0005	1.0005	0	3.19E+06	1.52	Y	1.04	24.8	4543.01	0.309
123478-HxCDD	37.74	J EMPC	1.0004	1.0003	-0.2	9.75E+04	0.77	N	1.09	0.804	5114.127	0.371
123678-HxCDD	37.86		1.0035	1.0035	0	6.49E+05	1.13	Y	1.15	4.94	5114.127	0.333
123789-HxCDD	38.15		1.0113	1.0112	-0.2	3.46E+05	1.37	Y	1.05	2.68	5114.127	0.335
1234678-HpCDD	40.83		1.0003	1.0003	0	2.04E+07	1.05	Y	1.06	188	8418.734	0.645
OCDD	43.53		1.0002	1.0003	+0.3	2.12E+08	0.91	Y	1.13	2,500	7395.278	1.05
2378-TCDF	27.64	E	1.0008	1.0008	0	1.57E+09	0.78	Y	1.08	6,890	3007.383	0.149
12378-PeCDF	32.38		1.0005	1.0005	0	5.86E+07	1.51	Y	1.02	284	8322.198	0.368
23478-PeCDF	33.50		1.0005	1.0007	+0.4	4.21E+07	1.54	Y	1.02	217	8322.198	0.391
123478-HxCDF	36.73		1.0005	1.0005	0	8.36E+07	1.23	Y	1.27	468	5010.999	0.244
123678-HxCDF	36.88		1.0005	1.0005	0	2.31E+07	1.24	Y	1.15	119	5010.999	0.207
234678-HxCDF	37.56		1.0005	1.0004	-0.2	5.12E+06	1.23	Y	1.19	26.2	5010.999	0.223
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	5010.999	0.26
1234678-HpCDF	39.89		1.0003	1.0003	0	2.75E+07	1.03	Y	1.37	151	4964.511	0.192
1234789-HpCDF	41.29		1.0003	1.0003	0	7.02E+06	1.03	Y	1.31	57	4964.511	0.332
OCDF	43.70		1.0003	1.0002	-0.3	2.78E+07	0.89	Y	1.07	287	4060.753	0.477

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.47	1.0238	1.0235	-0.5	2.71E+07	0.81	Y	1.05	90.1
ES 12378-PeCDD	33.81	1.2160	1.2154	-1.2	2.48E+07	1.58	Y	0.88	97.9
ES 123478-HxCDD	37.73	0.9919	0.9918	-0.2	2.23E+07	1.26	Y	0.97	88.4
ES 123678-HxCDD	37.85	0.9950	0.9949	-0.2	2.28E+07	1.27	Y	0.94	93.3
ES 123789-HxCDD	38.14	1.0027	1.0027	0	2.46E+07	1.28	Y	1.09	87
ES 1234678-HpCDD	40.82	1.0730	1.0730	0	2.05E+07	1.07	Y	0.91	86.6
ES OCDD	43.52	1.1437	1.1440	+0.8	3.01E+07	0.92	Y	0.62	93
ES 2378-TCDF	27.62	1.0520	1.0521	+0.2	4.21E+07	0.79	Y	1.06	85.1
ES 12378-PeCDF	32.37	1.2330	1.2330	0	4.02E+07	1.57	Y	0.91	94.6
ES 23478-PeCDF	33.48	1.2754	1.2754	0	3.80E+07	1.62	Y	0.88	92.1
ES 123478-HxCDF	36.72	0.9653	0.9652	-0.2	2.81E+07	0.52	Y	1.20	90.4
ES 123678-HxCDF	36.86	0.9691	0.9689	-0.4	3.36E+07	0.54	Y	1.35	95.8
ES 234678-HxCDF	37.54	0.9870	0.9869	-0.2	3.29E+07	0.55	Y	1.24	102
ES 123789-HxCDF	38.50	1.0121	1.0120	-0.2	2.57E+07	0.51	Y	1.16	85.8
ES 1234678-HpCDF	39.88	1.0484	1.0484	0	2.66E+07	0.47	Y	0.97	106
ES 1234789-HpCDF	41.28	1.0851	1.0851	0	1.88E+07	0.47	Y	0.85	85.3
ES OCDF	43.69	1.1483	1.1486	+0.8	3.62E+07	0.91	Y	0.81	86.5

Lab ID: B6235_18875_DF_013 **Acq'd:** 11 Feb 2022 13:24 DTF **Wt/Vol:** 10.01 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-B-11 **UTP:** 11-Feb-2022 16:26:53 DTF **J-level:** 0.499 pg/g **Split:** 1 **Checkcode:** 472-723-FMV

Datafile: 220210C36 **Report:** 11 Feb 2022 16:30 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.82		-	-	-	2.88E+07	0.80	Y	-	-
JS 1234-TCDF	26.25		-	-	-	4.67E+07	0.79	Y	-	-
JS 123467-HxCDD	38.04		-	-	-	1.29E+07	1.34	Y	-	-
CS 37Cl-2378-TCDD	28.49		1.0245	1.0242	-0.5	1.30E+07	n/a	-	1.20	93.9
CS 12347-PeCDD	33.31		1.1979	1.1974	-1.0	2.31E+07	1.57	Y	0.75	107
CS 12346-PeCDF	31.84		1.2128	1.2129	+0.2	3.95E+07	1.54	Y	0.85	99.3
CS 123469-HxCDF	37.18		0.9774	0.9773	-0.2	3.09E+07	0.54	Y	1.12	107
CS 1234689-HpCDF	40.29		1.0589	1.0590	+0.2	2.45E+07	0.45	Y	0.89	107
SS 37Cl-2378-TCDD	28.49		1.0245	1.0242	-0.5	1.30E+07	n/a	-	1.15	104
SS 12347-PeCDD	33.31		1.1979	1.1974	-1.0	2.31E+07	1.57	Y	0.86	109
SS 12346-PeCDF	31.84		1.2128	1.2129	+0.2	3.95E+07	1.54	Y	0.94	105
SS 123469-HxCDF	37.18		0.9774	0.9773	-0.2	3.09E+07	0.54	Y	0.83	111
SS 1234689-HpCDF	40.29		1.0589	1.0590	+0.2	2.45E+07	0.45	Y	0.92	101

Totals	Conc	EMPC
Total TCDD	2710	2720
Total PeCDD	38.5	43
Total HxCDD	72.9	74.2
Total HpCDD	392	392
Total Tetra-Octa Dioxins	5720	5730
Total TCDF	13,400	13400
Total PeCDF	794	794
Total HxCDF	727	727
Total HpCDF	268	268
Total Tetra-Octa Furans	15,500	15500
Total Tetra-Octa Dioxins & Furans	21200	21200

Lab ID: B6235_18875_DF_013 **Acq'd: 11 Feb 2022 13:24 DTF** **Wt/Vol: 10.01 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012122-S-BN-NC-B-11 **UTP: 11-Feb-2022 16:26:53 DTF** **J-level: 0.499 pg/g** **Split: 1** **Checkcode: 472-723-FMV**

Datafile: 220210C36 **Report: 11 Feb 2022 16:30 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.86		0.8737	0.8730	-1.0	7.64E+05	0.76	Y	1.18	4.75	3834.213	0.255
1379-TCDD	25.21		0.8860	0.8854	-0.9	3.14E+05	0.76	Y	1.18	1.95	3834.213	0.255
1369-TCDD	25.62	J EMPC	0.9009	0.9001	-1.2	6.77E+04	1.21	N	1.18	0.421	3834.213	0.255
1469-TCDD	26.41		0.9281	0.9276	-0.8	1.31E+06	0.75	Y	1.18	8.14	3834.213	0.255
1247/1246/1248/1249-TCDD	26.64		0.9362	0.9357	-0.8	6.30E+05	0.83	Y	1.18	3.92	3834.213	0.255
1378-TCDD	26.84		0.9432	0.9427	-0.8	1.21E+06	0.80	Y	1.18	7.53	3834.213	0.255
1268-TCDD	27.03		0.9500	0.9493	-1.1	1.12E+05	0.79	Y	1.18	0.698	3834.213	0.255
1478-TCDD	27.29		0.9586	0.9586	0	1.05E+06	0.81	Y	1.18	6.51	3834.213	0.255
1279-TCDD	NotFnd		0.9645						1.18		3834.213	0.255
1234/1269-TCDD	27.82		0.9770	0.9771	+0.2	1.97E+05	0.88	Y	1.18	1.22	3834.213	0.255
1236-TCDD	27.97	J	0.9817	0.9824	+1.2	7.41E+04	0.83	Y	1.18	0.461	3834.213	0.255
1237/1238-TCDD	28.20		0.9905	0.9906	+0.2	6.04E+06	0.76	Y	1.18	37.5	3834.213	0.255
1239-TCDD	NotFnd		0.9952						1.18		3834.213	0.255
2378-TCDD	**28.49**	E	**1.0008**	1.0008	**0**	4.00E+08	0.79	Y	**1.18**	**25480**	**3834.213**	**0.266**
1278-TCDD	28.81		1.0121	1.0119	-0.3	2.37E+07	0.75	Y	1.18	148	3834.213	0.255
1267-TCDD	28.96		1.0167	1.0173	+1.0	1.18E+06	0.72	Y	1.18	7.35	3834.213	0.255
1289-TCDD	29.47	EMPC	1.0345	1.0350	+0.9	4.14E+05	0.97	N	1.18	2.58	3834.213	0.255
12479/12468-PeCDD	31.32		0.9267	0.9264	-0.6	5.17E+05	1.54	Y	1.04	4.02	4543.01	0.309
12469-PeCDD	31.86	EMPC	0.9425	0.9425	0	4.38E+05	1.26	N	1.04	3.41	4543.01	0.309
12368-PeCDD	32.41		0.9588	0.9586	-0.4	5.19E+05	1.46	Y	1.04	4.04	4543.01	0.309
12478-PeCDD	32.60	J	0.9643	0.9642	-0.2	2.17E+05	1.69	Y	1.04	1.69	4543.01	0.309
12379-PeCDD	32.70	J	0.9673	0.9673	0	2.08E+05	1.57	Y	1.04	1.62	4543.01	0.309
12369/12467/12489-PeCDD	32.96	J	0.9750	0.9750	0	1.57E+05	1.64	Y	1.04	1.22	4543.01	0.309
12346/12347-PeCDD	33.33	J EMPC	0.9858	0.9859	+0.2	6.39E+04	2.13	N	1.04	0.498	4543.01	0.309
12378-PeCDD	33.83		**1.0006**	**1.0006**	**0**	**3.19E+0Y**	**1.62**	**H**	**1.04**	**24.8**	**4643.01**	**0.309**
12367-PeCDD	33.92	J	1.0033	1.0034	+0.2	1.39E+05	1.46	Y	1.04	1.08	4543.01	0.309
12389-PeCDD	34.26	J EMPC	1.0134	1.0134	0	7.27E+04	1.29	N	1.04	0.566	4543.01	0.309
124679/124689-HxCDD	35.99		0.9542	0.9541	-0.2	5.33E+06	1.24	Y	1.10	41.8	5114.127	0.345
123468-HxCDD	36.65	J	0.9715	0.9713	-0.4	2.81E+05	1.24	Y	1.10	2.21	5114.127	0.345
123679/123689-HxCDD	36.94		0.9793	0.9792	-0.2	2.58E+06	1.32	Y	1.10	20.3	5114.127	0.345
123469-HxCDD	37.08	J	0.9828	0.9827	-0.2	1.19E+05	1.36	Y	1.10	0.938	5114.127	0.345
123478-xNCDD	37.74	J EMPC	**1.0004**	**1.0003**	**-0.2**	**9.76E+04**	**0.77**	**p**	1.09	**0.804**	**6114.127**	**0.371**
123Y78-xNCDD	37.86		**1.0036**	**1.0036**	**0**	**Y.49E+06**	**1.13**	**H**	1.15	**4.94**	**6114.127**	**0.333**
123467-HxCDD	38.05	J EMPC	1.0085	1.0087	+0.5	6.40E+04	1.88	N	1.10	0.503	5114.127	0.345
123789-xNCDD	38.15		**1.0113**	**1.0112**	**-0.2**	**3.4YE+06**	**1.37**	**H**	1.05	**2.Y8**	**6114.127**	**0.336**

Lab ID: B6235_18875_DF_013 **Acq'd:** 11 Feb 2022 13:24 DTF **Wt/Vol:** 10.01 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012122-S-BN-NC-B-11 **UTP:** 11-Feb-2022 16:26:53 DTF **J-level:** 0.499 pg/g **Split:** 1 **Checkcode:** 472-723-FMV

Datafile: 220210C36 **Report:** 11 Feb 2022 16:30 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

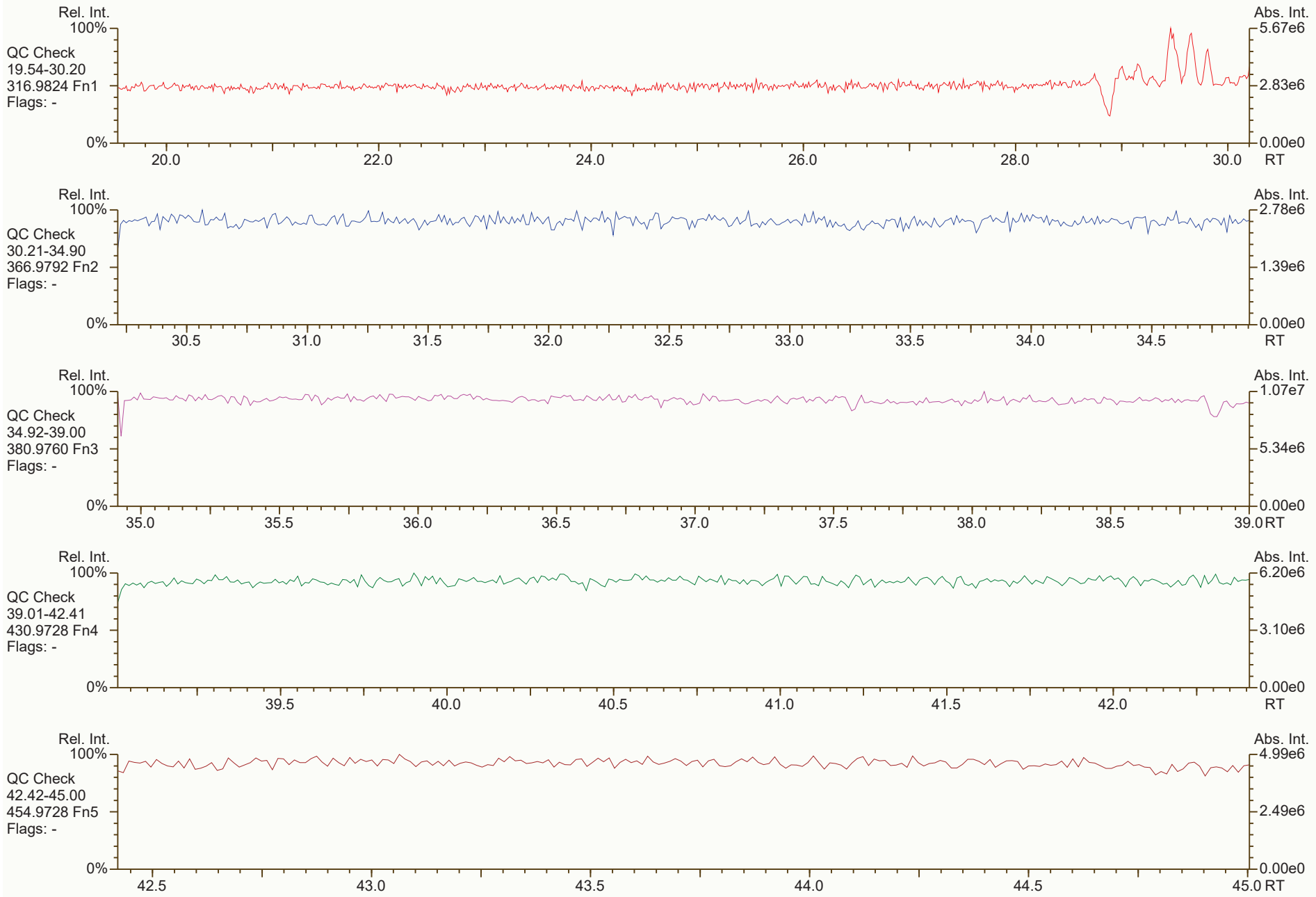
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.15		0.9837	0.9836	-0.2	2.22E+07	1.03	Y	1.06	204	8418.734	0.645
1234Y78-xOCDD	**40.83**		**1.0003**	**1.0003**	**0**	**2.04E+07**	**1.06**	**H**	**1.0Y**	**188**	**8418.734**	**0.Y46**
,CDD	**43.63**		**1.0002**	**1.0003**	**+0.3**	**2.12E+08**	**0.91**	**H**	**1.13**	**25600**	**7396.278**	**1.06**
OCDD-a	43.53		1.0001	1.0002	+0.3	1.33E+07	2.53	Y	0.07	2,460	4982.063	11
1368-TCDF	22.76		0.8251	0.8241	-1.4	4.29E+05	0.80	Y	1.08	1.88	3007.383	0.149
1468-TCDF	23.33		0.8458	0.8448	-1.4	2.60E+06	0.82	Y	1.08	11.4	3007.383	0.149
2468-TCDF	23.96		0.8686	0.8676	-1.4	1.71E+06	0.77	Y	1.08	7.52	3007.383	0.149
1346/1246-TCDF	NotFnd		0.8814						1.08		3007.383	0.149
1347/1378/1247-TCDF	24.50		0.8867	0.8870	+0.4	1.84E+07	0.80	Y	1.08	80.7	3007.383	0.149
1348-TCDF	NotFnd		0.8962						1.08		3007.383	0.149
1248/1367/1379-TCDF	24.83		0.9009	0.8990	-2.8	8.05E+07	0.78	Y	1.08	354	3007.383	0.149
1268-TCDF	25.24		0.9145	0.9139	-0.9	2.61E+07	0.78	Y	1.08	115	3007.383	0.149
1467-TCDF	25.38		0.9193	0.9188	-0.8	3.41E+06	0.79	Y	1.08	15	3007.383	0.149
1478-TCDF	25.54		0.9254	0.9248	-0.9	6.53E+07	0.78	Y	1.08	287	3007.383	0.149
1369/1237-TCDF	25.92		0.9387	0.9384	-0.5	1.68E+07	0.79	Y	1.08	73.7	3007.383	0.149
2467-TCDF	26.04		0.9433	0.9427	-0.9	2.01E+06	0.75	Y	1.08	8.82	3007.383	0.149
2368-TCDF	26.20		0.9489	0.9486	-0.5	5.22E+07	0.78	Y	1.08	229	3007.383	0.149
1238/1234/1678/1469/1236-TCDF	26.27		0.9523	0.9512	-1.7	7.20E+07	0.79	Y	1.08	316	3007.383	0.149
1278-TCDF	26.73	E	0.9683	0.9680	-0.5	7.09E+08	0.78	Y	1.08	3,120	3007.383	0.149
1349-TCDF	NotFnd		0.9722						1.08		3007.383	0.149
1267-TCDF	27.01		0.9783	0.9780	-0.5	3.87E+07	0.79	Y	1.08	170	3007.383	0.149
2346/1249-TCDF	27.21		0.9850	0.9852	+0.3	4.73E+06	0.78	Y	1.08	20.8	3007.383	0.149
2347/1279-TCDF	27.41		0.9926	0.9926	0	1.96E+07	0.79	Y	1.08	86	3007.383	0.149
2348-TCDF	27.52		0.9967	0.9966	-0.2	1.10E+08	0.78	Y	1.08	485	3007.383	0.149
2378-TCDF	**27.Y4**	E	**1.0008**	**1.0008**	**0**	**1.67E+09**	**0.78**	**H**	**1.08**	**Y5890**	**3007.383**	**0.149**
2367/3467-TCDF	27.99		1.0137	1.0136	-0.2	1.24E+08	0.79	Y	1.08	545	3007.383	0.149
1269-TCDF	28.24		1.0223	1.0226	+0.5	2.29E+07	0.80	Y	1.08	100	3007.383	0.149
1239-TCDF	28.50		1.0321	1.0318	-0.5	1.97E+06	0.82	Y	1.08	8.64	3007.383	0.149
1289-TCDF	29.65		1.0722	1.0734	+2.1	1.11E+08	0.79	Y	1.08	489	3007.383	0.149
13468/12468-PeCDF	29.59		0.9139	0.9142	+0.5	1.68E+06	1.50	Y	1.02	8.39	3239.042	0.148
13678/13467/12467-PeCDF	31.13		0.9613	0.9619	+1.1	8.12E+05	1.56	Y	1.02	4.06	8322.198	0.379
12368/13478/12478-PeCDF	31.29		0.9662	0.9668	+1.1	2.67E+07	1.53	Y	1.02	134	8322.198	0.379
14678-PeCDF	NotFnd		0.9692						1.02		8322.198	0.379
13479-PeCDF	NotFnd		0.9723						1.02		8322.198	0.379
13469/12479-PeCDF	31.65	J	0.9797	0.9780	-3.2	1.56E+05	1.49	Y	1.02	0.779	8322.198	0.379
12346-PeCDF	31.85	J	0.9840	0.9840	0	1.36E+05	1.54	Y	1.02	0.679	8322.198	0.379

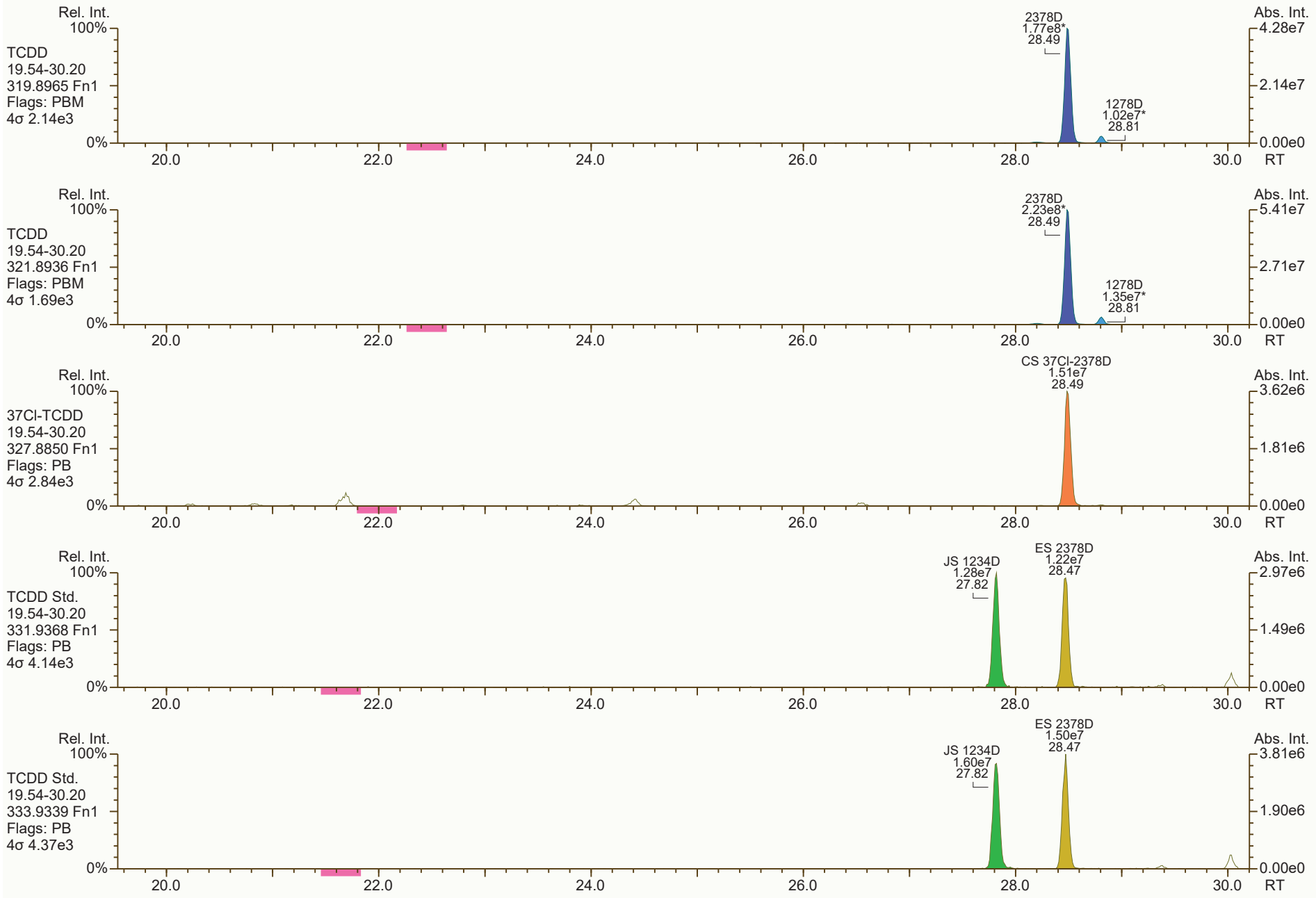
Lab ID: B6235_18875_DF_013 **Acq'd:** 11 Feb 2022 13:24 DTF **Wt/Vol:** 10.01 g **ICAL:** HRMS3_DF_10272021 10NOV2021

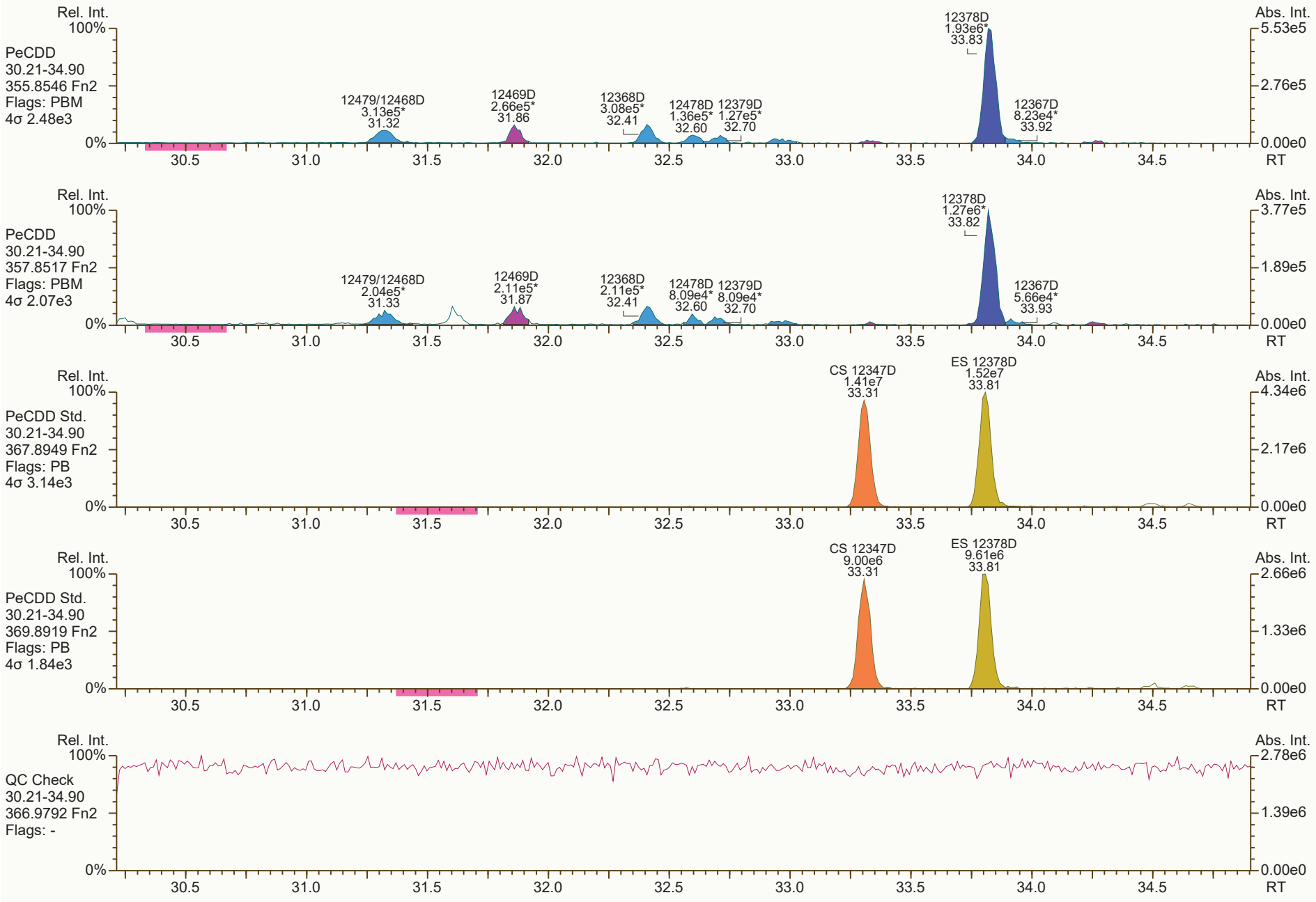
Client ID: 11215131-012122-S-BN-NC-B-11 **UTP:** 11-Feb-2022 16:26:53 DTF **J-level:** 0.499 pg/g **Split:** 1 **Checkcode:** 472-723-FMV

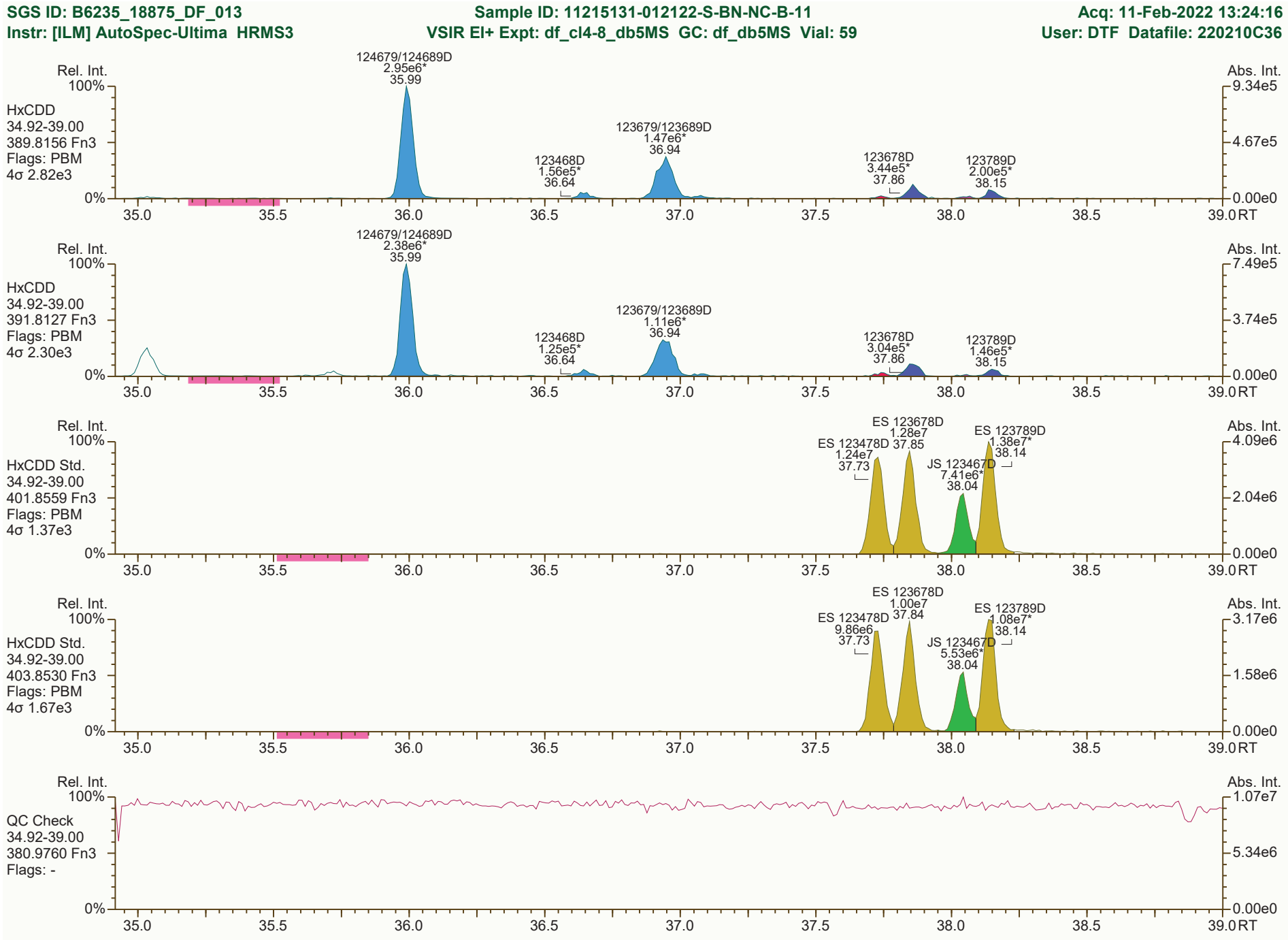
Datafile: 220210C36 **Report:** 11 Feb 2022 16:30 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.94		0.9868	0.9868	0	1.04E+06	1.58	Y	1.02	5.2	8322.198	0.379
12347-PeCDF	32.02		0.9894	0.9892	-0.4	1.01E+06	1.35	Y	1.02	5.02	8322.198	0.379
12348-PeCDF	32.17		0.9940	0.9940	0	5.31E+06	1.57	Y	1.02	26.6	8322.198	0.379
12378-PeCDF	**32.38**		**1.0006**	**1.0006**	**0**	**6.8YE+07**	**1.61**	**H**	**1.02**	**284**	**8322.198**	**0.3Y8**
12678/12367-PeCDF	32.68		1.0089	1.0096	+1.4	1.84E+07	1.55	Y	1.02	92.1	8322.198	0.379
12379-PeCDF	NotFnd		1.0142						1.02		8322.198	0.379
12679-PeCDF	33.23	J	0.9929	0.9925	-0.8	1.30E+05	1.71	Y	1.02	0.649	8322.198	0.379
23467/12369-PeCDF	33.36		0.9967	0.9965	-0.4	7.70E+05	1.47	Y	1.02	3.85	8322.198	0.379
23478-PeCDF	**33.60**		**1.0006**	**1.0007**	**+0.4**	**4.21E+07**	**1.64**	**H**	**1.02**	**217**	**8322.198**	**0.391**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		8322.198	0.379
12349-PeCDF	NotFnd		1.0100						1.02		8322.198	0.379
12389-PeCDF	34.56		1.0324	1.0324	0	2.35E+06	1.46	Y	1.02	11.8	8322.198	0.379
123468-HxCDF	35.35		0.9627	0.9627	0	1.25E+06	1.22	Y	1.19	6.97	5010.999	0.231
124678/134678-HxCDF	35.54		0.9682	0.9680	-0.4	8.14E+06	1.19	Y	1.19	45.4	5010.999	0.231
134679-HxCDF	NotFnd		0.9744						1.19		5010.999	0.231
124679-HxCDF	35.97	J	0.9798	0.9796	-0.4	8.60E+04	1.10	Y	1.19	0.479	5010.999	0.231
124689-HxCDF	36.19		0.9858	0.9858	0	3.74E+06	1.20	Y	1.19	20.8	5010.999	0.231
123467-HxCDF	36.61		0.9972	0.9972	0	4.92E+05	1.28	Y	1.19	2.74	5010.999	0.231
123478-xNCDF	**3Y.73**		**1.0006**	**1.0006**	**0**	**8.3YE+07**	**1.23**	**H**	**1.27**	**4Y8**	**6010.999**	**0.244**
123Y78-xNCDF	**3Y.88**		**1.0006**	**1.0006**	**0**	**2.31E+07**	**1.24**	**H**	**1.16**	**119**	**6010.999**	**0.207**
123479-HxCDF	NotFnd		1.0049						1.19		5010.999	0.231
123469-HxCDF	NotFnd		1.0090						1.19		5010.999	0.231
123679-HxCDF	NotFnd		0.9942						1.19		5010.999	0.231
234Y78-xNCDF	**37.6Y**		**1.0006**	**1.0004**	**-0.2**	**6.12E+0Y**	**1.23**	**H**	**1.19**	**2Y.2**	**6010.999**	**0.223**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		5010.999	0.231
123789-xNCDF	**potFnd**		**1.0004**						**1.1Y**		**6010.999**	**0.2Y**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.54		1.0009	1.0011	+0.5	6.68E+06	1.28	Y	1.19	37.2	5010.999	0.231
1234Y78-xOCDF	**39.89**		**1.0003**	**1.0003**	**0**	**2.76E+07**	**1.03**	**H**	**1.37**	**161**	**49Y4.611**	**0.192**
1234679-HpCDF	NotFnd		1.0068						1.34		4964.511	0.25
1234689-HpCDF	40.30		1.0103	1.0104	+0.2	9.15E+06	1.01	Y	1.34	60.2	4964.511	0.25
1234789-xOCDF	**41.29**		**1.0003**	**1.0003**	**0**	**7.02E+0Y**	**1.03**	**H**	**1.31**	**67**	**49Y4.611**	**0.332**
,CDF	**43.70**		**1.0003**	**1.0002**	**-0.3**	**2.78E+07**	**0.89**	**H**	**1.07**	**287**	**40Y0.763**	**0.477**
OCDF-a	43.70		1.0002	1.0002	0	1.74E+06	2.45	Y	0.07	289	3393.415	6.43

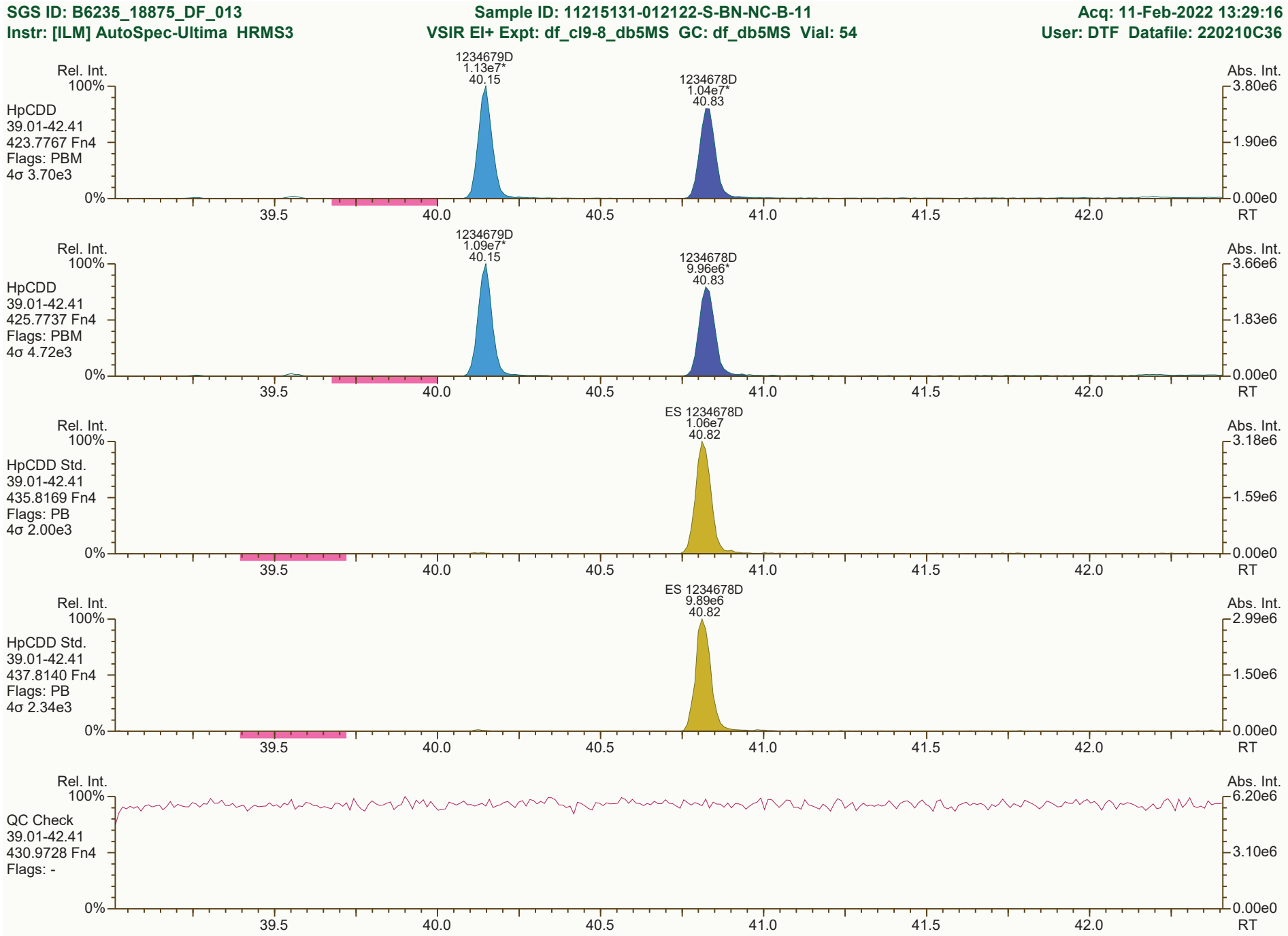

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
5.67e6
2.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.78e6
1.39e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.07e7
5.34e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
6.20e6
3.10e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.99e6
2.49e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.14e3
0%
2378D
1.77e8*
28.49
1278D
1.02e7*
28.81
Abs. Int.
4.28e7
2.14e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.69e3
0%
2378D
2.23e8*
28.49
1278D
1.35e7*
28.81
Abs. Int.
5.41e7
2.71e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.84e3
0%
CS 37Cl-2378D
1.51e7
28.49
Abs. Int.
3.62e6
1.81e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.14e3
0%
JS 1234D
1.28e7
27.82
ES 2378D
1.22e7
28.47
Abs. Int.
2.97e6
1.49e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.37e3
0%
JS 1234D
1.60e7
27.82
ES 2378D
1.50e7
28.47
Abs. Int.
3.81e6
1.90e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

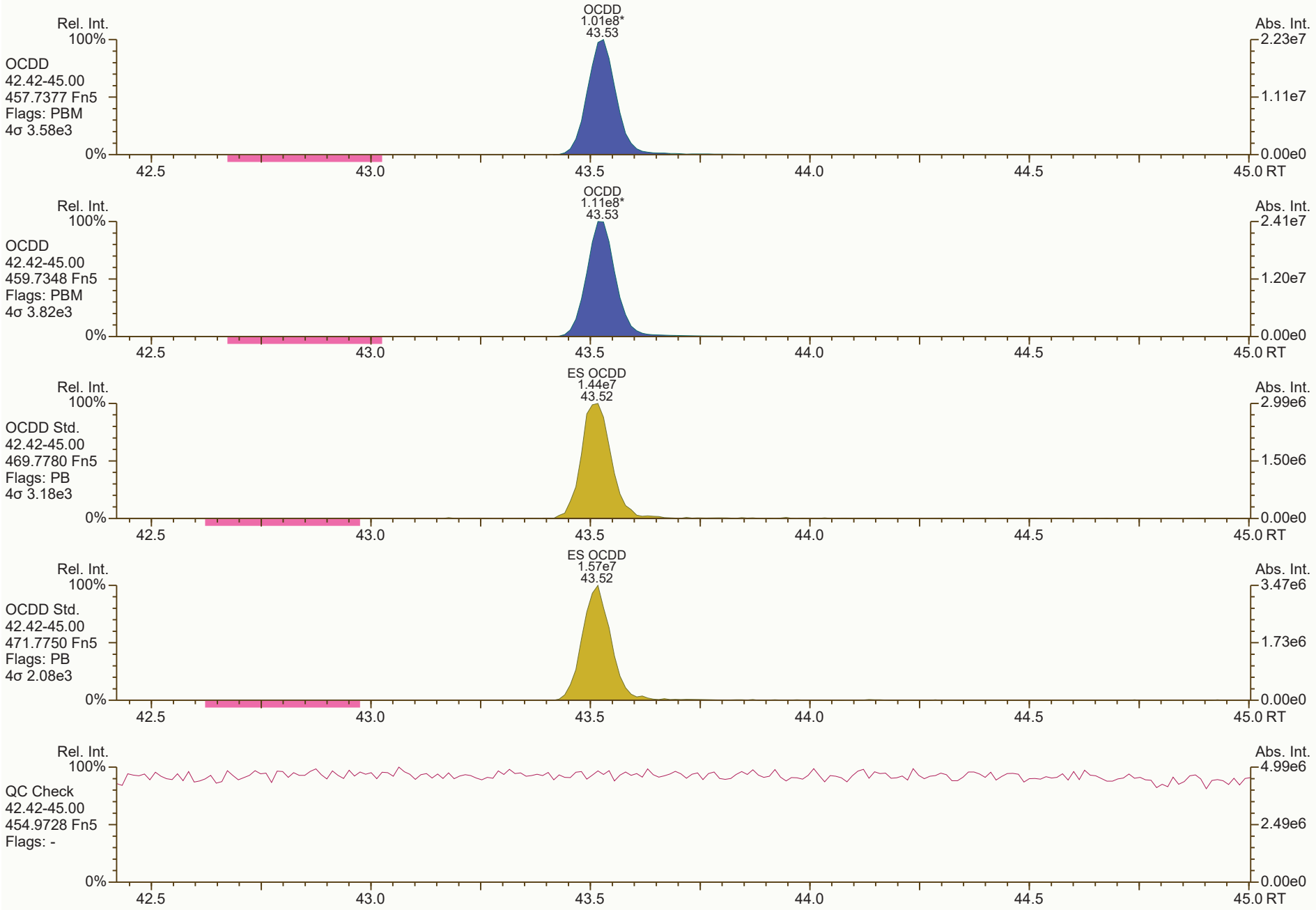

Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PBM
4σ 2.48e3
12479/12468D
3.13e5*
31.32
12469D
2.66e5*
31.86
12368D
3.08e5*
32.41
12478D
1.36e5*
32.60
12379D
1.27e5*
32.70
12378D
1.93e6*
33.83
12367D
8.23e4*
33.92
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
5.53e5
2.76e5
0.00e0
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PBM
4σ 2.07e3
12479/12468D
2.04e5*
31.33
12469D
2.11e5*
31.87
12368D
2.11e5*
32.41
12478D
8.09e4*
32.60
12379D
8.09e4*
32.70
12378D
1.27e6*
33.82
12367D
5.66e4*
33.93
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.77e5
1.89e5
0.00e0
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 3.14e3
CS 12347D
1.41e7
33.31
ES 12378D
1.52e7
33.81
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.34e6
2.17e6
0.00e0
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.84e3
CS 12347D
9.00e6
33.31
ES 12378D
9.61e6
33.81
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
2.66e6
1.33e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
2.78e6
1.39e6
0.00e0

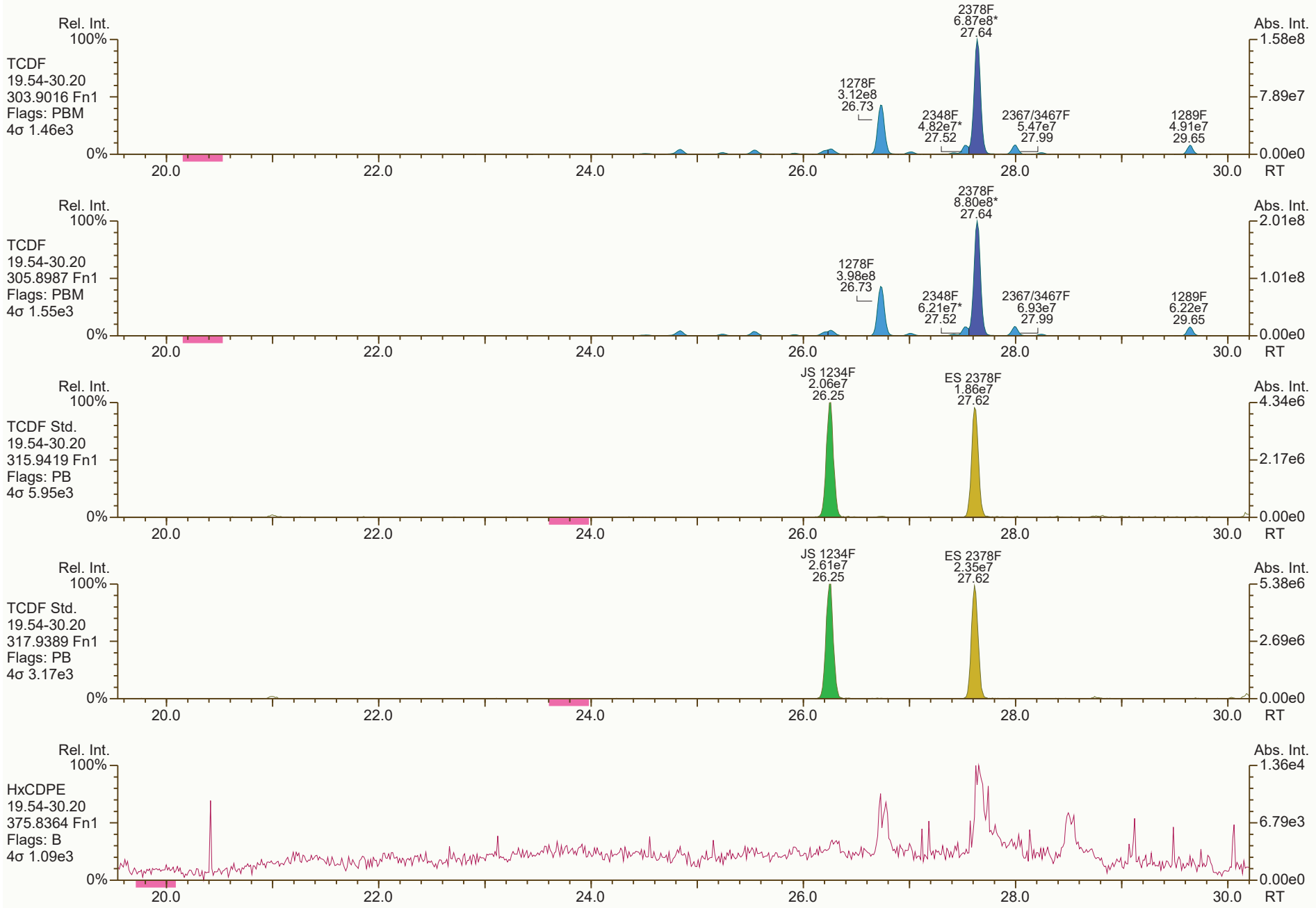

SGS ID: B6235_18875_DF_013
Sample ID: 11215131-012122-S-BN-NC-B-11
Acq: 11-Feb-2022 13:24:16
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 59
User: DTF Datafile: 220210C36
Rel. Int.
Abs. Int.
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 2.82e3
124679/124689D
2.95e6*
35.99
123679/123689D
1.47e6*
36.94
123468D
1.56e5*
36.64
123678D
3.44e5*
37.86
123789D
2.00e5*
38.15
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 2.30e3
124679/124689D
2.38e6*
35.99
123679/123689D
1.11e6*
36.94
123468D
1.25e5*
36.64
123678D
3.04e5*
37.86
123789D
1.46e5*
38.15
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 1.37e3
ES 123678D
1.28e7
37.85
ES 123478D
1.24e7
37.73
ES 123789D
1.38e7*
38.14
JS 123467D
7.41e6*
38.04
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 1.67e3
ES 123678D
1.00e7
37.84
ES 123478D
9.86e6
37.73
ES 123789D
1.08e7*
38.14
JS 123467D
5.53e6*
38.04
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
9.34e5
4.67e5
0.00e0
7.49e5
3.74e5
4.09e6
2.04e6
3.17e6
1.58e6
1.07e7
5.34e6
Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_013.utp_res, saved 11-Feb-2022 16:26 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6641, 3902 scc: 472-723
Revised: 11-Feb-2022 16:10 (DTF) Printed: 11-Feb-2022 16:40 Page 4 of 12

SGS ID: B6235_18875_DF_013 | Sample ID: 11215131-012122-S-BN-NC-B-11 | Acq: 11-Feb-2022 13:29:16
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl9-8_db5MS GC: df_db5MS Vial: 54 | User: DTF Datafile: 220210C36

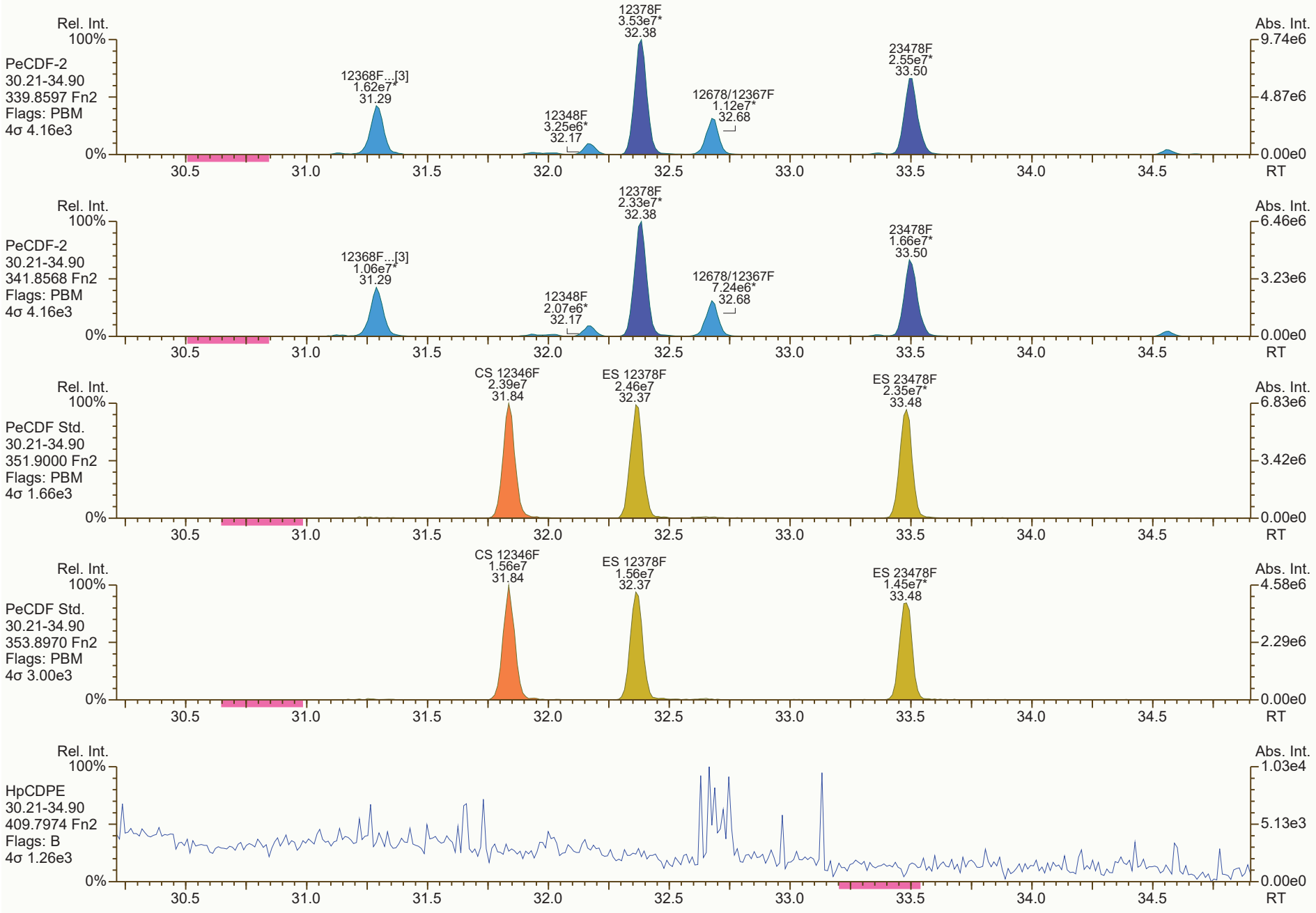


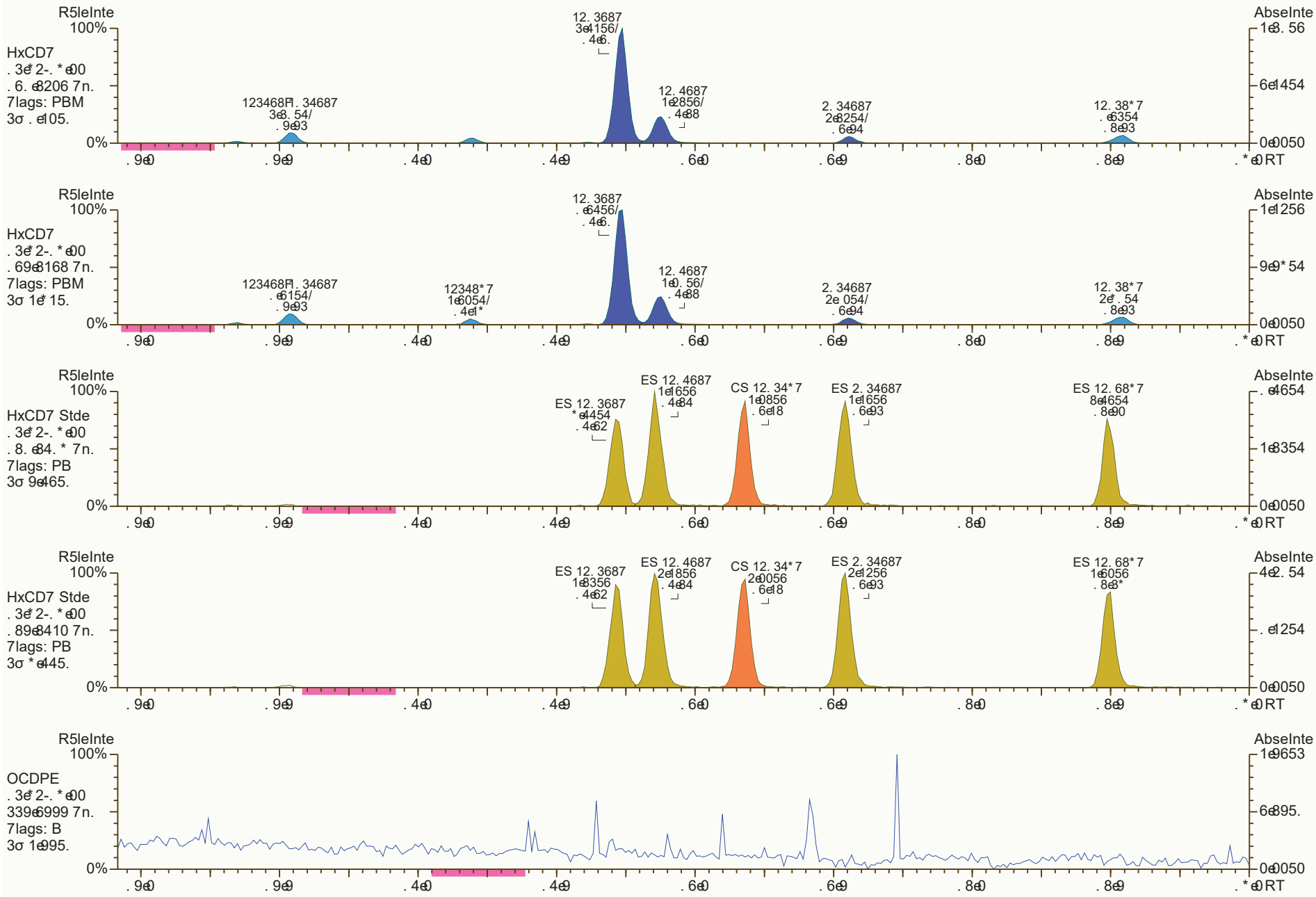
Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_013.utp_res, saved 11-Feb-2022 16:26 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8251, 1833 scc: 472-723 | Revised: 11-Feb-2022 16:13 (DTF) Printed: 11-Feb-2022 16:40 Page 5 of 12

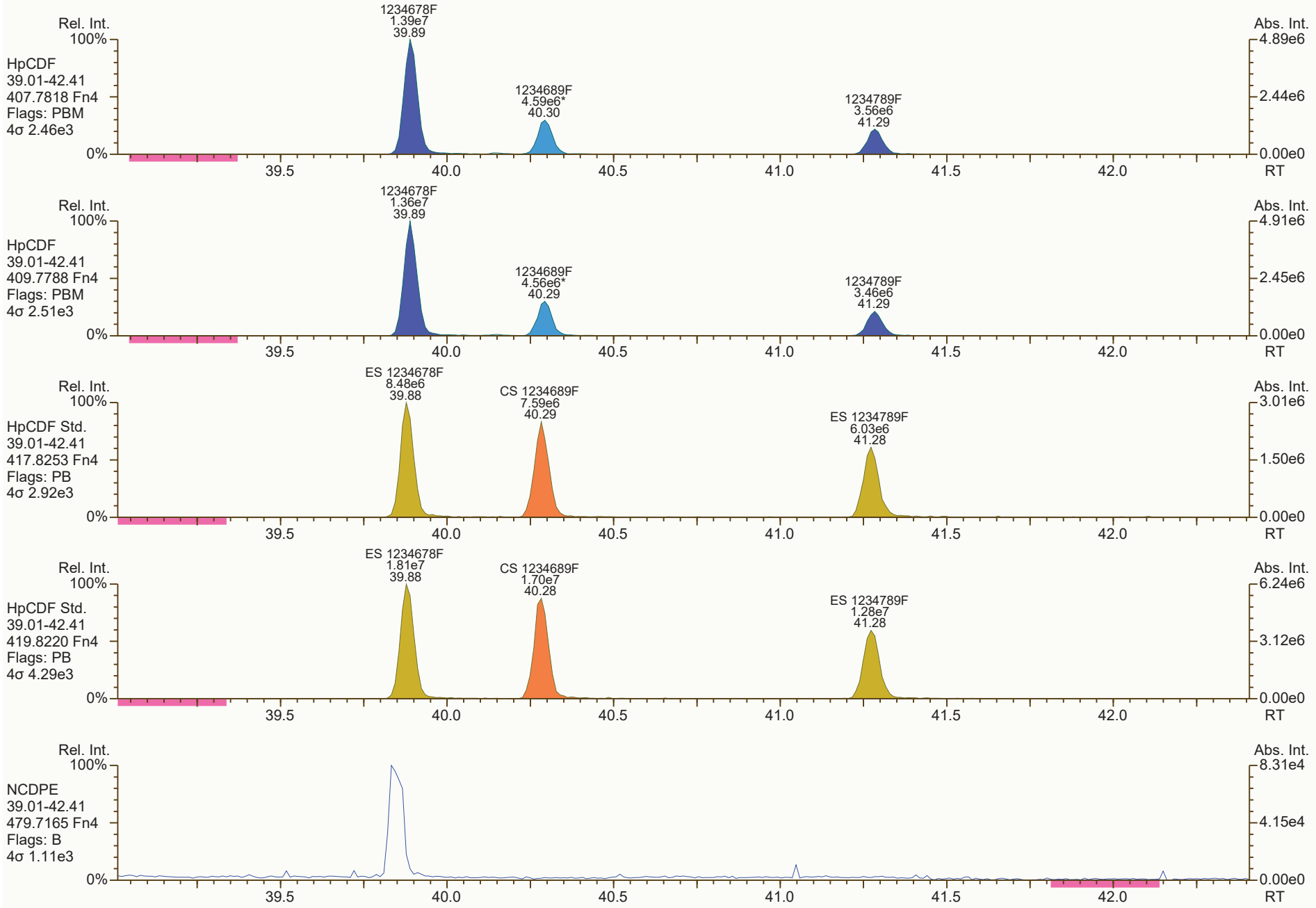

Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 3.58e3
0%
OCDD
1.01e8*
43.53
Abs. Int.
2.23e7
1.11e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 3.82e3
0%
OCDD
1.11e8*
43.53
Abs. Int.
2.41e7
1.20e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 3.18e3
0%
ES OCDD
1.44e7
43.52
Abs. Int.
2.99e6
1.50e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
ES OCDD
1.57e7
43.52
Abs. Int.
3.47e6
1.73e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.99e6
2.49e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.46e3
0%
2378F
6.87e8*
27.64
1278F
3.12e8
26.73
2348F
4.82e7*
27.52
2367/3467F
5.47e7
27.99
1289F
4.91e7
29.65
Abs. Int.
1.58e8
7.89e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.55e3
0%
2378F
8.80e8*
27.64
1278F
3.98e8
26.73
2348F
6.21e7*
27.52
2367/3467F
6.93e7
27.99
1289F
6.22e7
29.65
Abs. Int.
2.01e8
1.01e8
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 5.95e3
0%
JS 1234F
2.06e7
26.25
ES 2378F
1.86e7
27.62
Abs. Int.
4.34e6
2.17e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.17e3
0%
JS 1234F
2.61e7
26.25
ES 2378F
2.35e7
27.62
Abs. Int.
5.38e6
2.69e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.09e3
0%
Abs. Int.
1.36e4
6.79e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.87e3
13468/12468F
1.01e6
29.59
Abs. Int.
2.49e5
1.24e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.37e3
13468/12468F
6.73e5
29.59
Abs. Int.
1.50e5
7.52e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
5.67e6
2.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

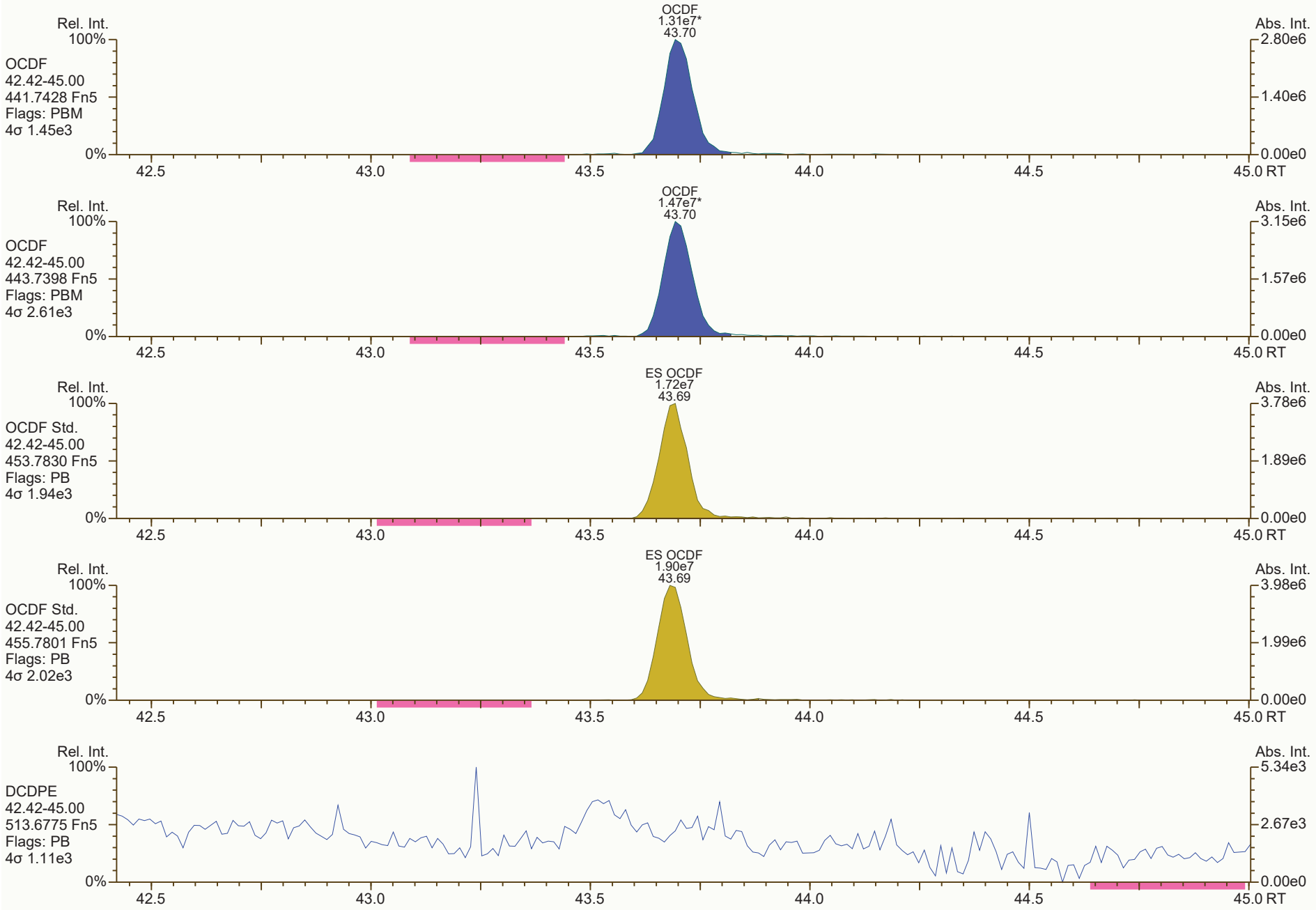

Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 4.16e3
0%
12368F...[3]
1.62e7*
31.29
12348F
3.25e6*
32.17
12378F
3.53e7*
32.38
12678/12367F
1.12e7*
32.68
23478F
2.55e7*
33.50
Abs. Int.
9.74e6
4.87e6
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 4.16e3
0%
12368F...[3]
1.06e7*
31.29
12348F
2.07e6*
32.17
12378F
2.33e7*
32.38
12678/12367F
7.24e6*
32.68
23478F
1.66e7*
33.50
Abs. Int.
6.46e6
3.23e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PBM
4σ 1.66e3
0%
CS 12346F
2.39e7
31.84
ES 12378F
2.46e7
32.37
ES 23478F
2.35e7*
33.48
Abs. Int.
6.83e6
3.42e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PBM
4σ 3.00e3
0%
CS 12346F
1.56e7
31.84
ES 12378F
1.56e7
32.37
ES 23478F
1.45e7*
33.48
Abs. Int.
4.58e6
2.29e6
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.26e3
0%
Abs. Int.
1.03e4
5.13e3
0.00e0
RT


R5leInte
AbseInte
HxCD7
HxCD7 Stde
OCDPE
7lags: PBM
7lags: PB
7lags: B
100%
0%
RT
12. 3687
12. 4687
2. 34687
12. 38*7
ES 12. 3687
ES 12. 4687
CS 12. 34*7
ES 2. 34687
ES 12. 68*7


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 2.46e3
1234678F
1.39e7
39.89
1234689F
4.59e6*
40.30
1234789F
3.56e6
41.29
Abs. Int.
4.89e6
2.44e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 2.51e3
1234678F
1.36e7
39.89
1234689F
4.56e6*
40.29
1234789F
3.46e6
41.29
Abs. Int.
4.91e6
2.45e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 2.92e3
ES 1234678F
8.48e6
39.88
CS 1234689F
7.59e6
40.29
ES 1234789F
6.03e6
41.28
Abs. Int.
3.01e6
1.50e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 4.29e3
ES 1234678F
1.81e7
39.88
CS 1234689F
1.70e7
40.28
ES 1234789F
1.28e7
41.28
Abs. Int.
6.24e6
3.12e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.11e3
Abs. Int.
8.31e4
4.15e4
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

SGS ID: B6235_18875_DF_013 | Sample ID: 11215131-012122-S-BN-NC-B-11 | Acq: 11-Feb-2022 13:24:16

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 59 | User: DTF Datafile: 220210C36



Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\B6235_18875_DF_013.utp_res, saved 11-Feb-2022 16:26 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2435, 8866, 0917 scc: 472-723 *Revised: 11-Feb-2022 16:18 (DTF) Printed: 11-Feb-2022 16:40 Page 12 of 12*

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

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
9	220210C09	3	CS3_220210_DF_CB	1.00	25-347-1	DTF	521-082	10-Feb-2022	16:17:06
10	220210C10	37	OPR1_18917_DF	1.00	0_18917_OPR001 **CPSM only**	DTF	456-279	10-Feb-2022	17:03:25
12	220210C12	2	SBS_220210_DF_CB	1.00	30-61-1	DTF	737-611	10-Feb-2022	18:36:07
13	220210C17	45	B6235_18875_DF_001	10.19	11215131-012122-S-BN-NC-O-37	DTF	889-891	10-Feb-2022	22:27:46
14	220210C18	46	B6235_18875_DF_002	10.20	11215131-012122-S-BN-NC-O-38	DTF	165-566	10-Feb-2022	23:14:05
15	220210C19	47	B6235_18875_DF_003	10.10	11215131-012222-S-BN-NC-O-36	DTF	623-032	11-Feb-2022	00:00:25
16	220210C20	48	B6235_18875_DF_004	10.12	11215131-012222-S-BN-NC-O-35	DTF	553-811	11-Feb-2022	00:46:45
17	220210C21	49	B6235_18875_DF_005	10.19	11215131-012222-S-BN-NC-B-10	DTF	399-303	11-Feb-2022	01:33:05
18	220210C22	50	B6235_18875_DF_005MS	10.02	11215131-012222-S-BN-NC-B-10-MS	DTF	125-447	11-Feb-2022	02:19:26
19	220210C23	51	B6235_18875_DF_005MSD	10.00	11215131-012222-S-BN-NC-B-10-MSD	DTF	192-121	11-Feb-2022	03:05:47
20	220210C24	52	B6235_18875_DF_006	10.00	11215131-012222-S-BN-NC-O-41	DTF	849-031	11-Feb-2022	03:52:07
26	220210C26	3	CS3_220210_DF_CC	1.00	25-347-1	DTF	693-263	11-Feb-2022	05:40:55
27	220210C27	44	OPR1_18875_DF	1.00	0_18875_OPR001	DTF	982-417	11-Feb-2022	06:27:14
28	220210C28	2	SBS_220210_DF_CD	1.00	30-61-1	DTF	438-871	11-Feb-2022	07:13:35
29	220210C29	43	MB1_18875_DF_SDS	10.00	Method Blank	DTF	285-664	11-Feb-2022	07:59:54
30	220210C30	53	B6235_18875_DF_007	10.22	11215131-012222-S-BN-NC-O-39	DTF	288-405	11-Feb-2022	08:46:14
31	220210C31	54	B6235_18875_DF_008	10.01	11215131-012222-S-BN-NC-B-12	DTF	608-475	11-Feb-2022	09:32:35
32	220210C32	55	B6235_18875_DF_009	10.03	11215131-012222-S-BN-DUP-14	DTF	182-005	11-Feb-2022	10:18:54
33	220210C33	56	B6235_18875_DF_010	10.07	11215131-012122-S-BN-NC-O-43	DTF	374-144	11-Feb-2022	11:05:14
34	220210C34	57	B6235_18875_DF_011	10.09	11215131-012122-S-BN-NC-O-42	DTF	396-800	11-Feb-2022	11:51:34
35	220210C35	58	B6235_18875_DF_012	10.14	11215131-012122-S-BN-NC-O-40	DTF	580-880	11-Feb-2022	12:37:56
36	220210C36	59	B6235_18875_DF_013	10.01	11215131-012122-S-BN-NC-B-11	DTF	472-723	11-Feb-2022	13:24:16

Dioxin/Furan QC Summary	Acq'd: 10 Feb 2022 16:17 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220210_DF_CB	UTP: 11-Feb-2022 16:26:34 DTF	Checkcode: 521-082-PFT
Sample ID: 25-347-1	Report: 11 Feb 2022 16:28 TF	Datafile: 220210C09

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.50	6.15E+05	0.75	Y	1.18	1.04	-12%
12378-PeCDD	33.83	2.45E+06	1.56	Y	1.04	1.05	1%
123478-HxCDD	37.74	2.13E+06	1.31	Y	1.09	1.07	-1%
123678-HxCDD	37.86	2.23E+06	1.28	Y	1.15	1.11	-4%
123789-HxCDD	38.15	2.36E+06	1.26	Y	1.05	1.09	4%
1234678-HpCDD	40.83	2.05E+06	1.01	Y	1.06	1.06	0%
OCDD	43.51	3.35E+06	0.91	Y	1.13	1.10	-3%
2378-TCDF	27.64	9.28E+05	0.80	Y	1.08	1.02	-5%
12378-PeCDF	32.39	3.80E+06	1.50	Y	1.02	1.01	-1%
23478-PeCDF	33.50	3.61E+06	1.59	Y	1.02	0.98	-4%
123478-HxCDF	36.73	3.22E+06	1.27	Y	1.27	1.23	-4%
123678-HxCDF	36.88	3.48E+06	1.24	Y	1.15	1.14	-1%
234678-HxCDF	37.56	3.17E+06	1.17	Y	1.19	1.11	-7%
123789-HxCDF	38.51	2.69E+06	1.24	Y	1.16	1.09	-6%
1234678-HpCDF	39.88	2.95E+06	1.06	Y	1.37	1.35	-2%
1234789-HpCDF	41.28	2.54E+06	1.05	Y	1.31	1.32	1%
OCDF	43.69	4.19E+06	0.89	Y	1.07	1.02	-5%
ES 2378-TCDD	28.47	5.90E+06	0.79	Y	1.05	1.05	1%
ES 12378-PeCDD	33.812	4.66E+06	1.65	Y	0.88	0.83	-5%
ES 123478-HxCDD	37.728	3.97E+06	1.18	Y	0.97	0.90	-7%
ES 123678-HxCDD	37.847	4.03E+06	1.14	Y	0.94	0.92	-3%
ES 123789-HxCDD	38.136	4.34E+06	1.35	Y	1.09	0.99	-10%
ES 1234678-HpCDD	40.811	3.89E+06	1.04	Y	0.91	0.88	-3%
ES OCDD	43.494	6.12E+06	0.95	Y	0.62	0.69	11%
ES 2378-TCDF	27.615	9.06E+06	0.78	Y	1.06	0.98	-7%
ES 12378-PeCDF	32.367	7.50E+06	1.54	Y	0.91	0.81	-10%
ES 23478-PeCDF	33.48	7.35E+06	1.63	Y	0.88	0.80	-9%
ES 123478-HxCDF	36.718	5.26E+06	0.51	Y	1.20	1.19	0%
ES 123678-HxCDF	36.859	6.10E+06	0.54	Y	1.35	1.38	2%
ES 234678-HxCDF	37.537	5.70E+06	0.49	Y	1.24	1.30	4%
ES 123789-HxCDF	38.494	4.95E+06	0.48	Y	1.16	1.12	-3%
ES 1234678-HpCDF	39.873	4.38E+06	0.42	Y	0.97	0.99	3%
ES 1234789-HpCDF	41.273	3.83E+06	0.43	Y	0.85	0.87	2%
ES OCDF	43.676	8.19E+06	0.88	Y	0.81	0.93	15%

Dioxin/Furan QC Summary	Acq'd: 10 Feb 2022 16:17 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220210_DF_CB	UTP: 11-Feb-2022 16:26:34 DTF	Checkcode: 521-082-PFT
Sample ID: 25-347-1	Report: 11 Feb 2022 16:28 TF	Datafile: 220210C09

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.81	5.61E+06	0.77	Y	-	-	-
JS 1234-TCDF	26.25	9.20E+06	0.77	Y	-	-	-
JS 123467-HxCDD	38.04	2.20E+06	1.40	Y	-	-	-
CS 37Cl-2378-TCDD	28.49	7.20E+05	n/a	-	1.20	1.28	7%
CS 12347-PeCDD	33.31	4.34E+06	1.61	Y	0.75	0.77	3%
CS 12346-PeCDF	31.84	7.16E+06	1.62	Y	0.85	0.78	-9%
CS 123469-HxCDF	37.18	5.80E+06	0.52	Y	1.12	1.32	18%
CS 1234689-HpCDF	40.28	4.39E+06	0.45	Y	0.89	1.00	12%
SS 37Cl-2378-TCDD	28.49	7.20E+05	n/a	-	1.15	1.22	6%
SS 12347-PeCDD	33.31	4.34E+06	1.61	Y	0.86	0.93	9%
SS 12346-PeCDF	31.84	7.16E+06	1.62	Y	0.94	0.96	2%
SS 123469-HxCDF	37.18	5.80E+06	0.52	Y	0.83	0.95	15%
SS 1234689-HpCDF	40.28	4.39E+06	0.45	Y	0.92	1.00	9%
OCDD-a	43.51	1.54E+05	1.74	N	0.07	0.05	-30%
OCDF-a	43.69	2.00E+05	2.40	Y	0.07	0.05	-26%

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

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220210C09 Analysis Date: 10-FEB-2022 16:17:06

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.75	0.65 - 0.89	Y	8.79	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.56	1.32 - 1.78	Y	50.7	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.31	1.05 - 1.43	Y	49.3	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	48.2	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05 - 1.43	Y	51.9	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.01	0.88 - 1.20	Y	49.8	43 - 58	Y
OCDD	M+2/M+4	0.91	0.76 - 1.02	Y	97.2	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.80	0.65 - 0.89	Y	9.49	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.50	1.32 - 1.78	Y	49.4	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32 - 1.78	Y	48.1	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.27	1.05 - 1.43	Y	48.2	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	49.5	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.17	1.05 - 1.43	Y	46.7	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	46.8	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.06	0.88 - 1.20	Y	49.1	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88 - 1.20	Y	50.7	43 - 58	Y
OCDF	M+2/M+4	0.89	0.76 - 1.02	Y	95.4	63 - 159	Y

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

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

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

Processed: 11 Feb 2022 16:28 Analyst: TF

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

Lab Name: SGS North America

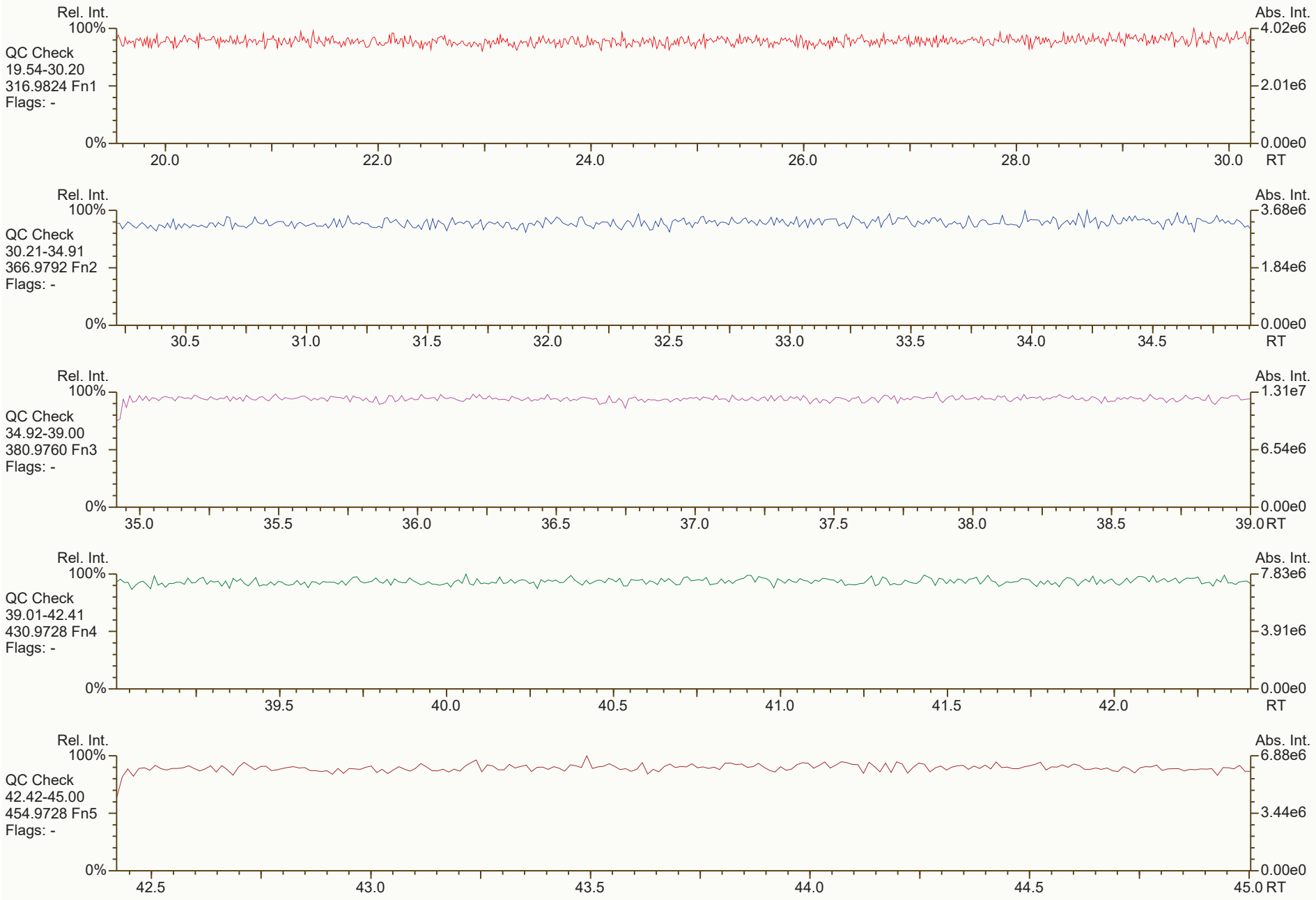
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

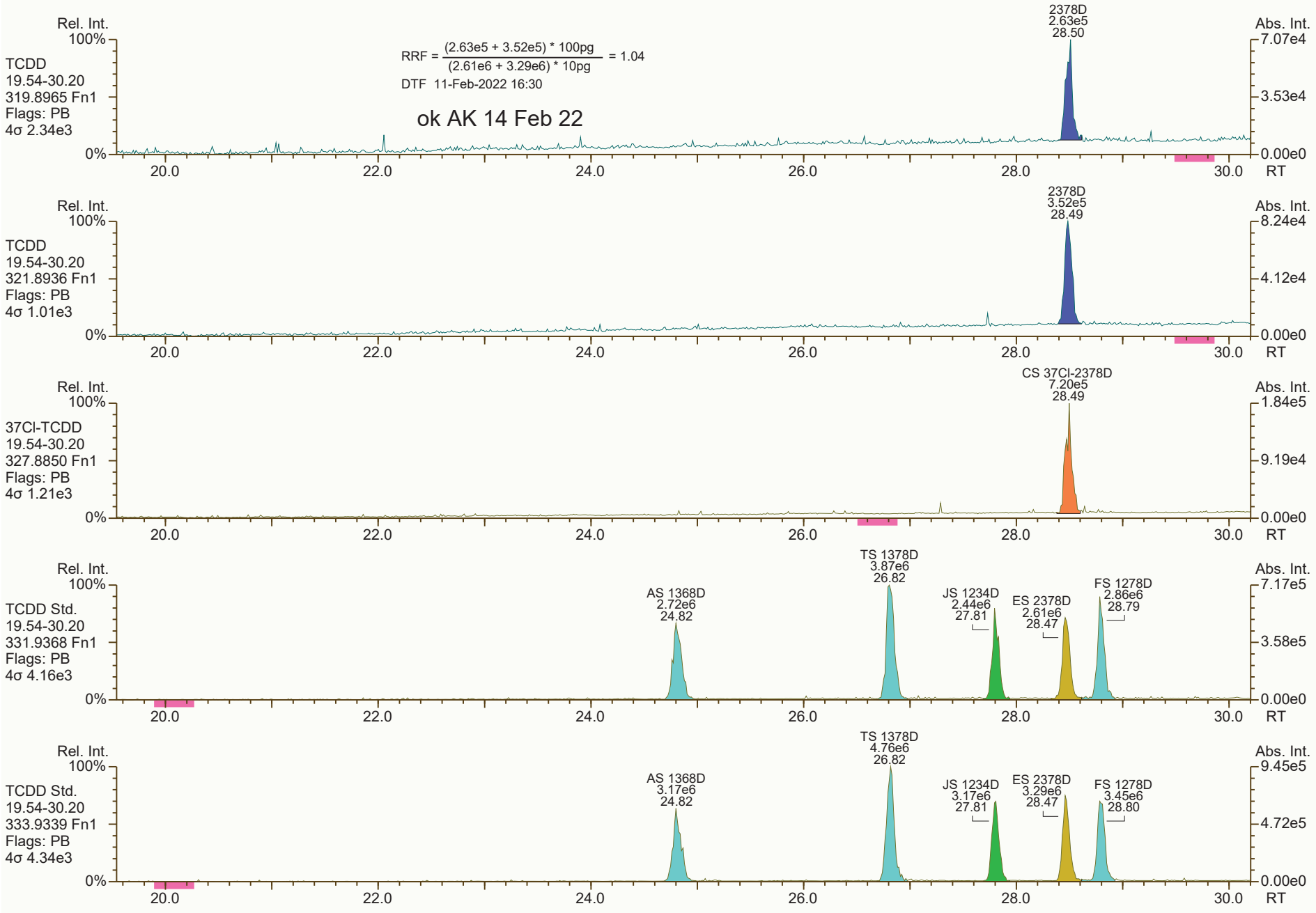
Instrument ID: HRMS3 GC Column ID: ZB-5ms

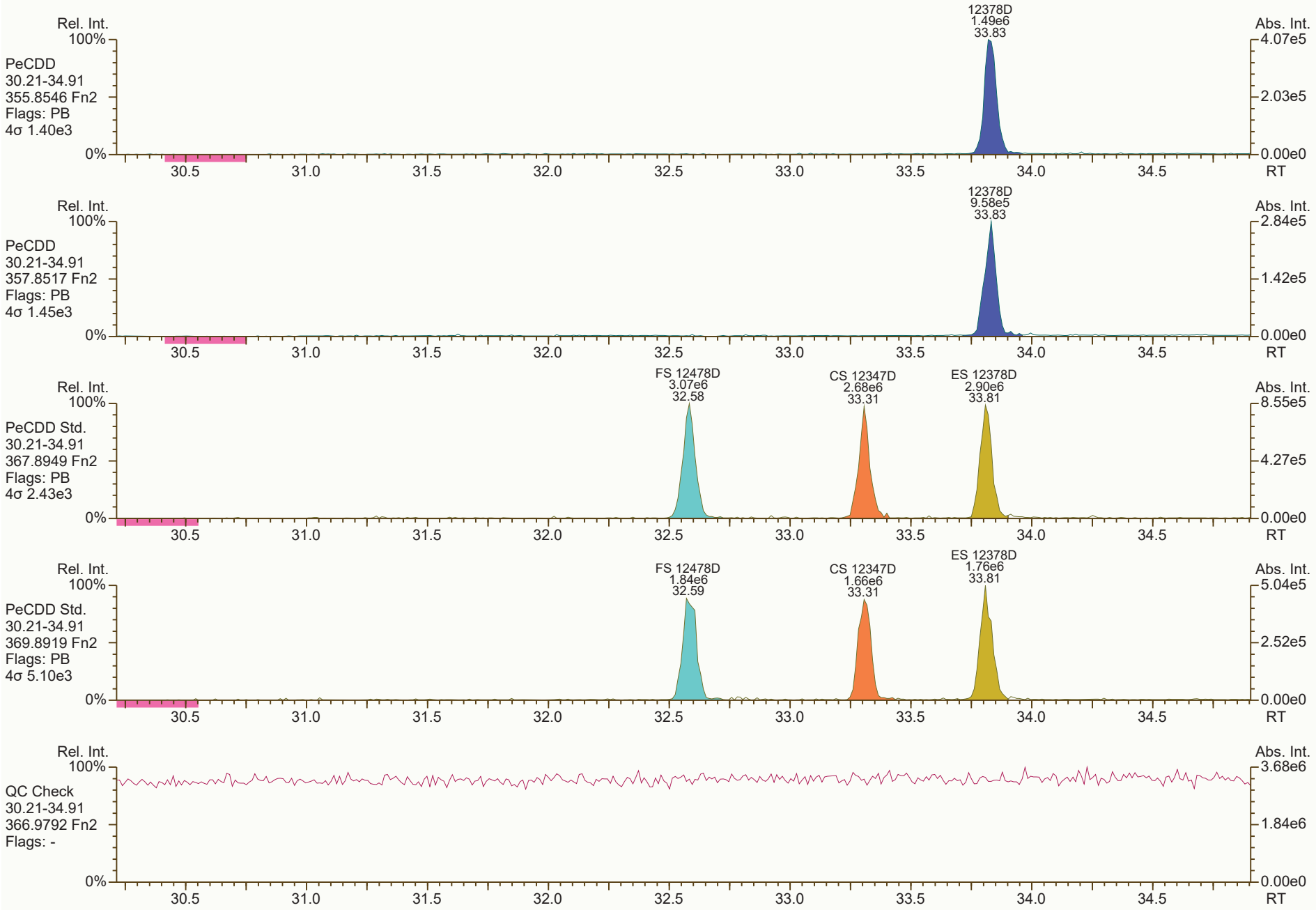
VER Data Filename: 220210C09 Analysis Date: 10-FEB-2022 16:17:06

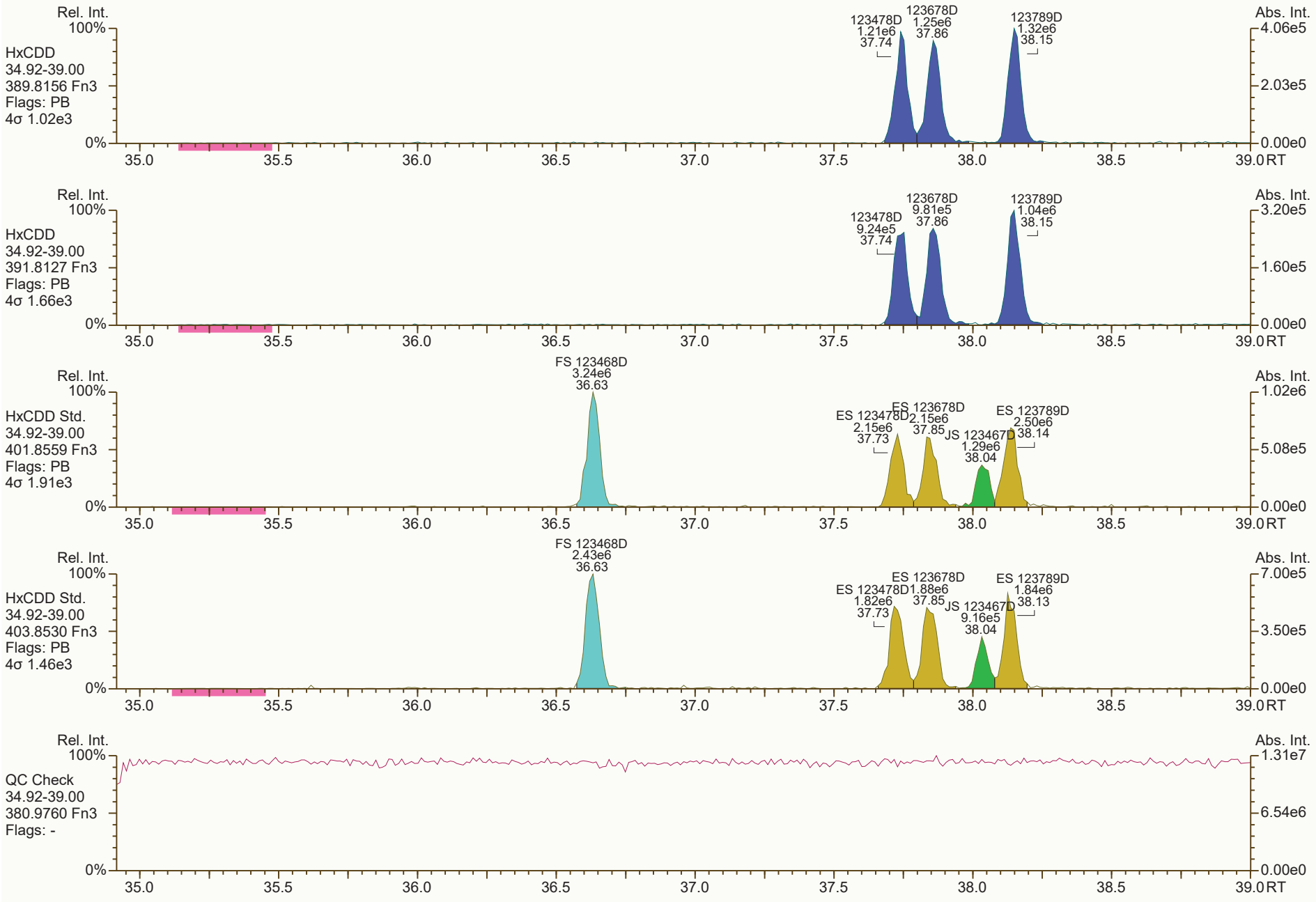
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65	-	0.89	Y	101	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.65	1.32	-	1.78	Y	94.5	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.18	1.05	-	1.43	Y	92.8	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.14	1.05	-	1.43	Y	96.9	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.35	1.05	-	1.43	Y	90.3	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88	-	1.20	Y	96.6	72	-	138	Y
13C-OCDD	M+2/M+4	0.95	0.76	-	1.02	Y	222	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.78	0.65	-	0.89	Y	92.9	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.54	1.32	-	1.78	Y	89.5	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.63	1.32	-	1.78	Y	90.5	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43	-	0.59	Y	99.6	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	102	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.49	0.43	-	0.59	Y	104	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.48	0.43	-	0.59	Y	97.2	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.42	0.37	-	0.51	Y	103	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.43	0.37	-	0.51	Y	102	77	-	129	Y
13C-OCDF	M+2/M+4	0.88	0.76	-	1.02	Y	230	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						10.7	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.61	1.32	-	1.78	Y	103	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.62	1.32	-	1.78	Y	91.5	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	118	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	112	70	-	130	Y

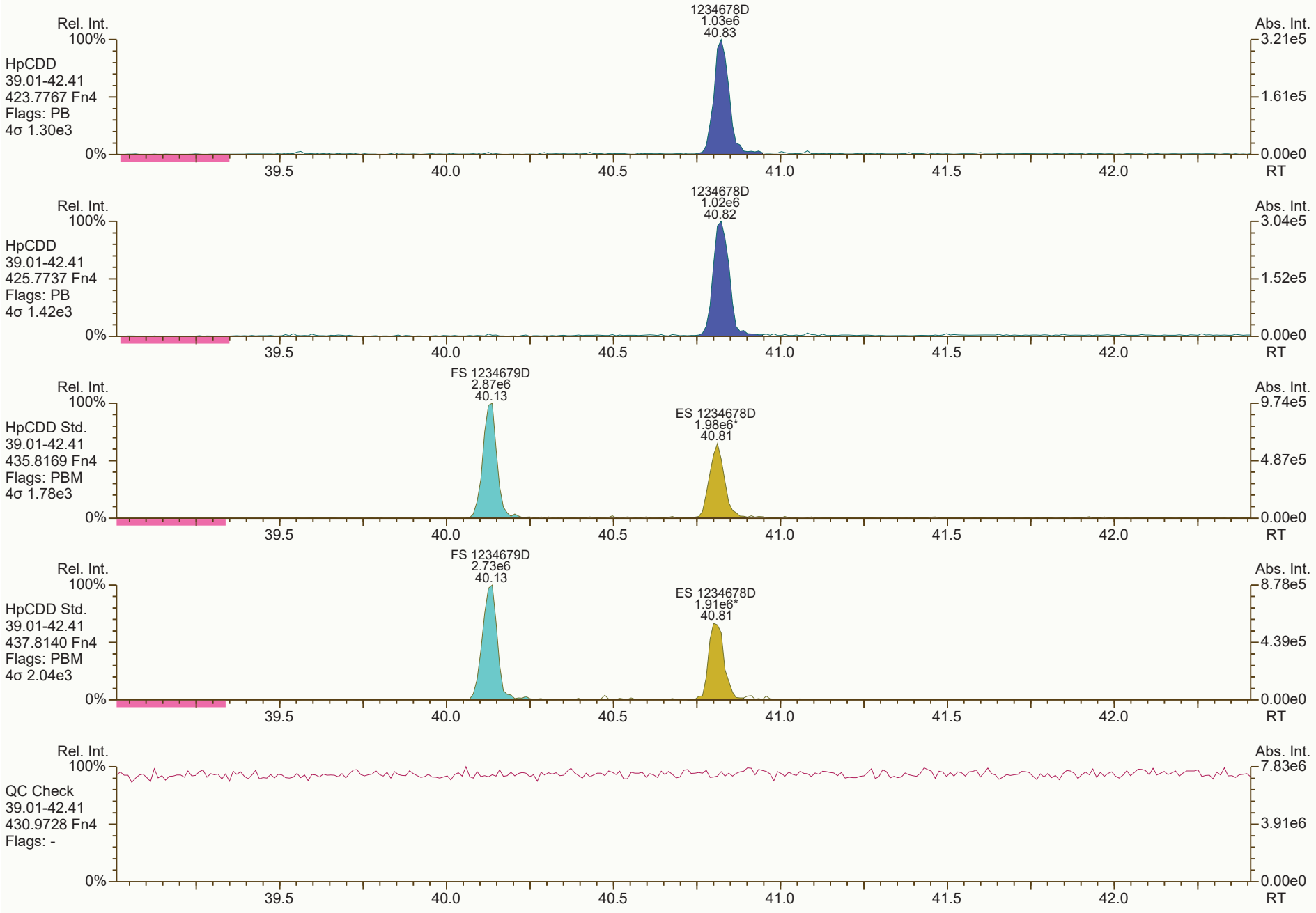
Processed: 11 Feb 2022 16:28 Analyst: TF

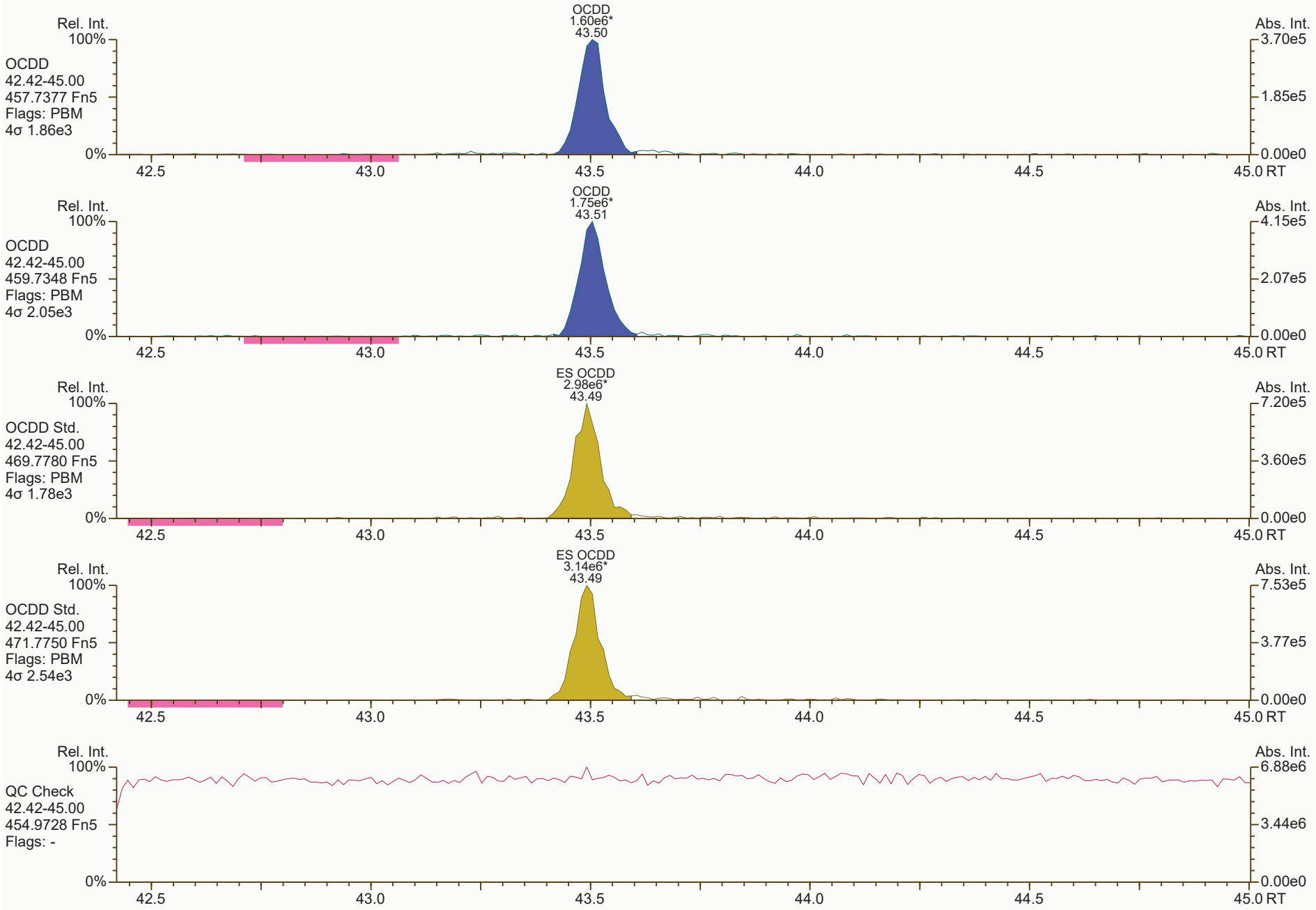

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.02e6
2.01e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.68e6
1.84e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.31e7
6.54e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
7.83e6
3.91e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
6.88e6
3.44e6
0.00e0

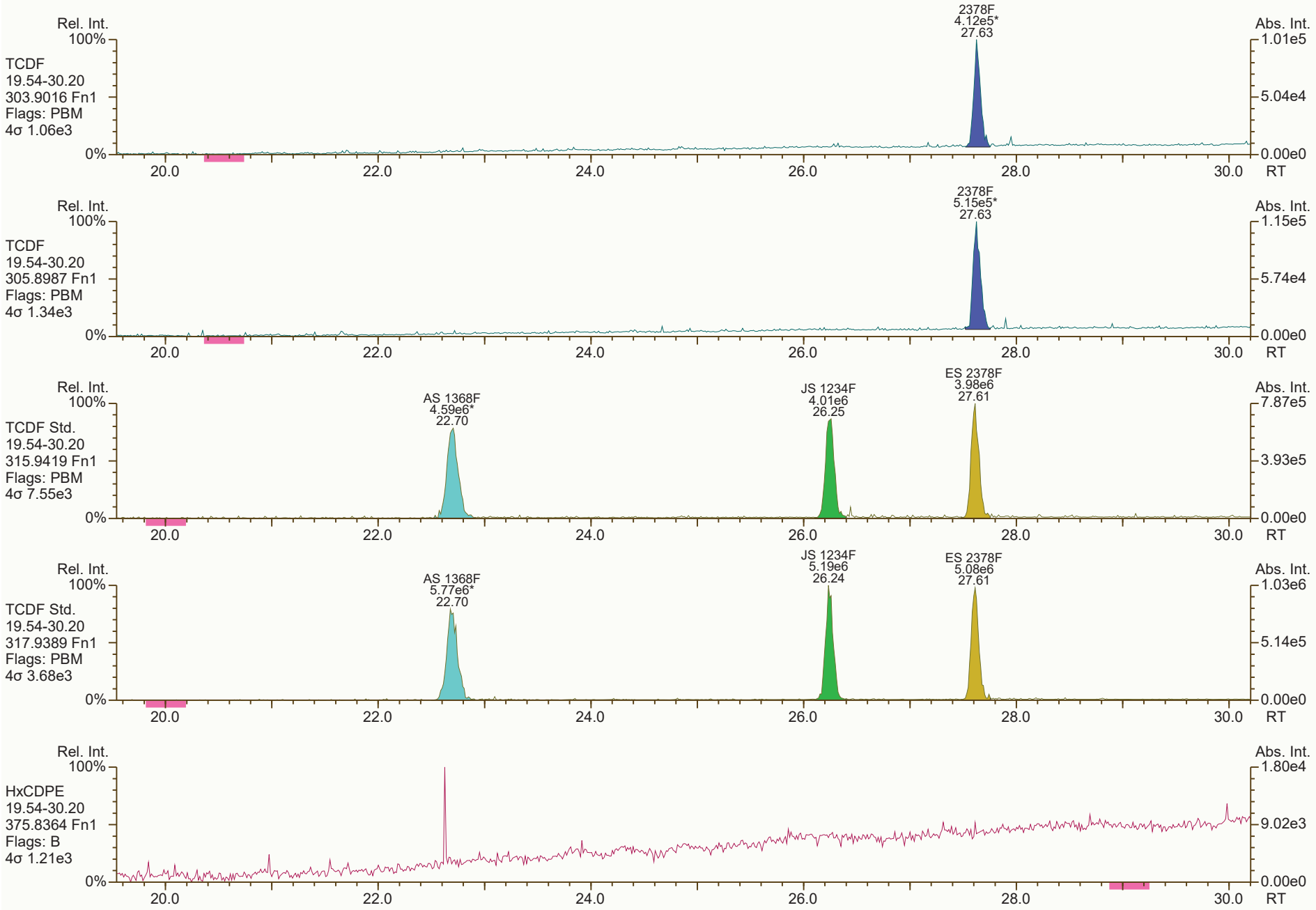

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.34e3
0%
RRF = (2.63e5 + 3.52e5) * 100pg / (2.61e6 + 3.29e6) * 10pg = 1.04
DTF 11-Feb-2022 16:30
ok AK 14 Feb 22
2378D
2.63e5
28.50
Abs. Int.
7.07e4
3.53e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.01e3
0%
2378D
3.52e5
28.49
Abs. Int.
8.24e4
4.12e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.21e3
0%
CS 37Cl-2378D
7.20e5
28.49
Abs. Int.
1.84e5
9.19e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.16e3
0%
AS 1368D
2.72e6
24.82
TS 1378D
3.87e6
26.82
JS 1234D
2.44e6
27.81
ES 2378D
2.61e6
28.47
FS 1278D
2.86e6
28.79
Abs. Int.
7.17e5
3.58e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.34e3
0%
AS 1368D
3.17e6
24.82
TS 1378D
4.76e6
26.82
JS 1234D
3.17e6
27.81
ES 2378D
3.29e6
28.47
FS 1278D
3.45e6
28.80
Abs. Int.
9.45e5
4.72e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PB
4σ 1.40e3
0%
12378D
1.49e6
33.83
Abs. Int.
4.07e5
2.03e5
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PB
4σ 1.45e3
0%
12378D
9.58e5
33.83
Abs. Int.
2.84e5
1.42e5
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 2.43e3
0%
FS 12478D
3.07e6
32.58
CS 12347D
2.68e6
33.31
ES 12378D
2.90e6
33.81
Abs. Int.
8.55e5
4.27e5
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 5.10e3
0%
FS 12478D
1.84e6
32.59
CS 12347D
1.66e6
33.31
ES 12378D
1.76e6
33.81
Abs. Int.
5.04e5
2.52e5
0.00e0
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.68e6
1.84e6
0.00e0
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 1.02e3
123478D 1.21e6 37.74
123678D 1.25e6 37.86
123789D 1.32e6 38.15
Abs. Int.
4.06e5
2.03e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 1.66e3
123478D 9.24e5 37.74
123678D 9.81e5 37.86
123789D 1.04e6 38.15
Abs. Int.
3.20e5
1.60e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 1.91e3
FS 123468D 3.24e6 36.63
ES 123478D 2.15e6 37.73
ES 123678D 2.15e6 37.85
JS 123467D 1.29e6 38.04
ES 123789D 2.50e6 38.14
Abs. Int.
1.02e6
5.08e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 1.46e3
FS 123468D 2.43e6 36.63
ES 123478D 1.82e6 37.73
ES 123678D 1.88e6 37.85
JS 123467D 9.16e5 38.04
ES 123789D 1.84e6 38.13
Abs. Int.
7.00e5
3.50e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
Abs. Int.
1.31e7
6.54e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

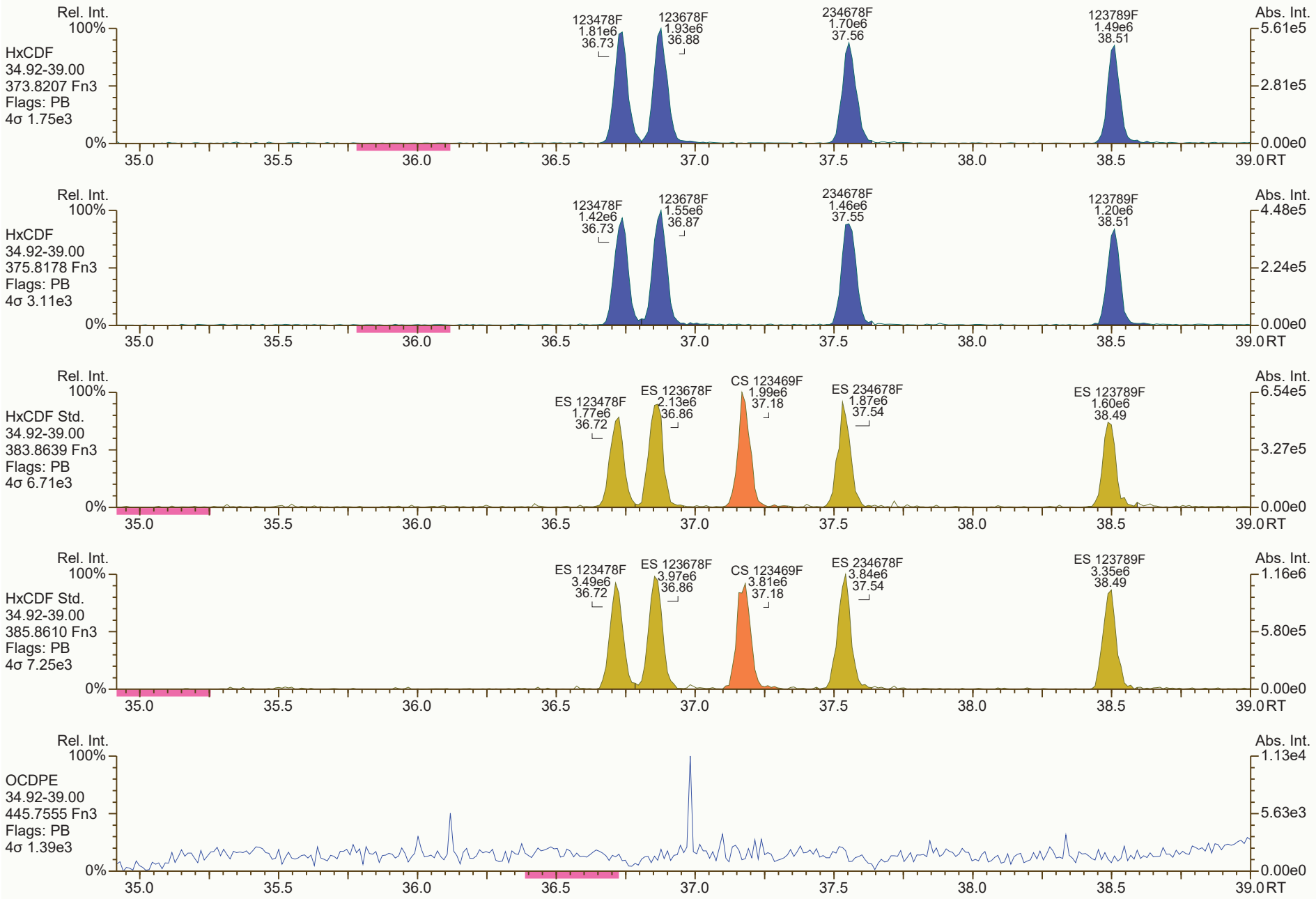

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 1.30e3
1234678D
1.03e6
40.83
Abs. Int.
3.21e5
1.61e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.42e3
1234678D
1.02e6
40.82
Abs. Int.
3.04e5
1.52e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 1.78e3
FS 1234679D
2.87e6
40.13
ES 1234678D
1.98e6*
40.81
Abs. Int.
9.74e5
4.87e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 2.04e3
FS 1234679D
2.73e6
40.13
ES 1234678D
1.91e6*
40.81
Abs. Int.
8.78e5
4.39e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
7.83e6
3.91e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

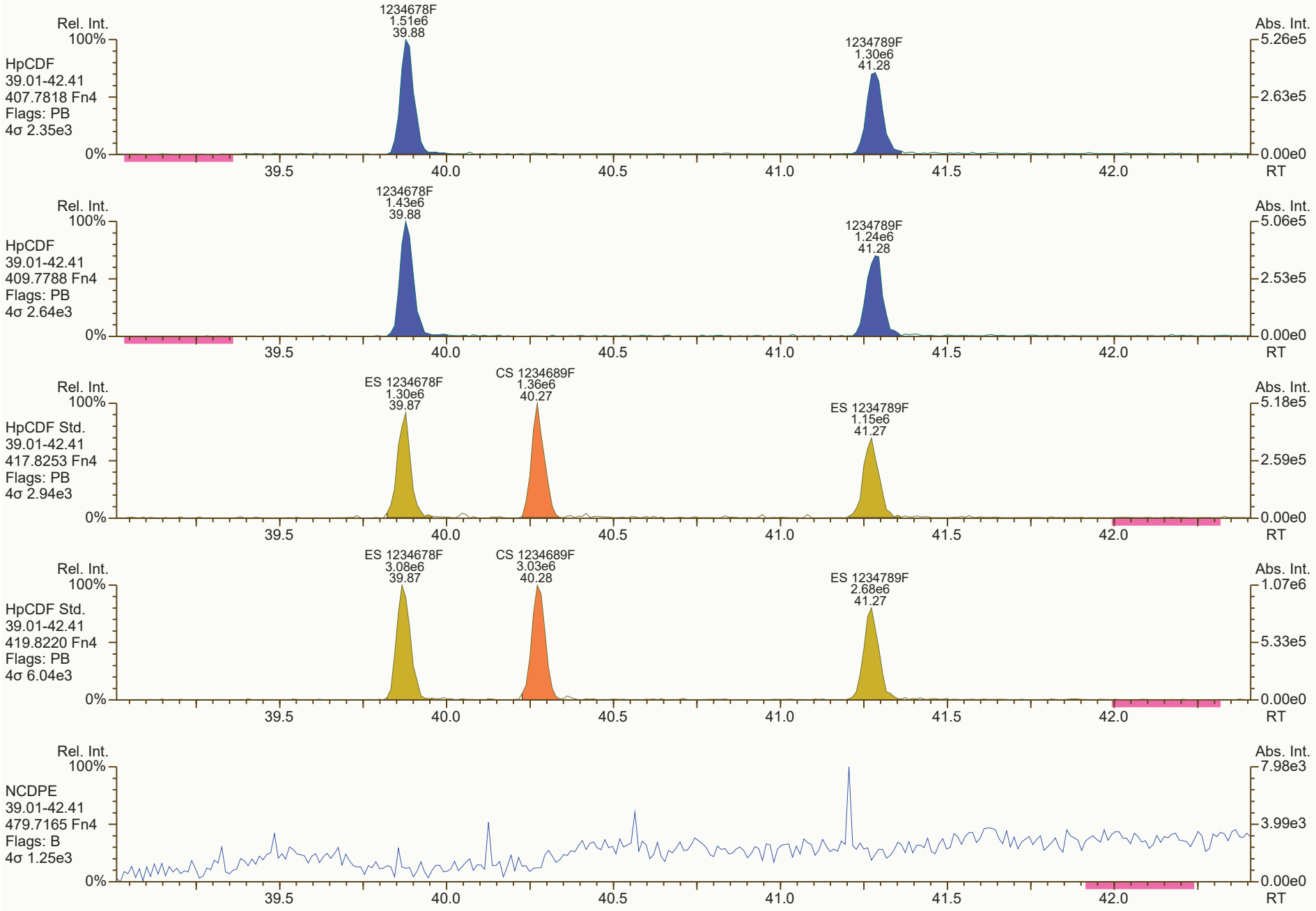

Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.86e3
0%
OCDD
1.60e6*
43.50
Abs. Int.
3.70e5
1.85e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 2.05e3
0%
OCDD
1.75e6*
43.51
Abs. Int.
4.15e5
2.07e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 1.78e3
0%
ES OCDD
2.98e6*
43.49
Abs. Int.
7.20e5
3.60e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 2.54e3
0%
ES OCDD
3.14e6*
43.49
Abs. Int.
7.53e5
3.77e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.88e6
3.44e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.06e3
0%
2378F
4.12e5*
27.63
Abs. Int.
1.01e5
5.04e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.34e3
0%
2378F
5.15e5*
27.63
Abs. Int.
1.15e5
5.74e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PBM
4σ 7.55e3
0%
AS 1368F
4.59e6*
22.70
JS 1234F
4.01e6
26.25
ES 2378F
3.98e6
27.61
Abs. Int.
7.87e5
3.93e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PBM
4σ 3.68e3
0%
AS 1368F
5.77e6*
22.70
JS 1234F
5.19e6
26.24
ES 2378F
5.08e6
27.61
Abs. Int.
1.03e6
5.14e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.21e3
0%
Abs. Int.
1.80e4
9.02e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.34e4
6.69e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.05e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.66e4
8.29e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.58e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.02e6
2.01e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PB
4σ 2.46e3
0%
12378F
2.28e6
32.38
23478F
2.21e6
33.50
Abs. Int.
6.43e5
3.22e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PB
4σ 1.81e3
0%
12378F
1.52e6
32.38
23478F
1.39e6
33.50
Abs. Int.
3.95e5
1.98e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PBM
4σ 4.24e3
0%
CS 12346F
4.42e6
31.84
ES 12378F
4.55e6*
32.37
ES 23478F
4.56e6
33.48
Abs. Int.
1.33e6
6.63e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PBM
4σ 4.63e3
0%
CS 12346F
2.74e6
31.84
ES 12378F
2.95e6*
32.37
ES 23478F
2.80e6
33.48
Abs. Int.
8.07e5
4.03e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.55e3
0%
Abs. Int.
7.12e3
3.56e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PB
4σ 1.75e3
123478F 1.81e6 36.73
123678F 1.93e6 36.88
234678F 1.70e6 37.56
123789F 1.49e6 38.51
Abs. Int.
5.61e5
2.81e5
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PB
4σ 3.11e3
123478F 1.42e6 36.73
123678F 1.55e6 36.87
234678F 1.46e6 37.55
123789F 1.20e6 38.51
Abs. Int.
4.48e5
2.24e5
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 6.71e3
ES 123478F 1.77e6 36.72
ES 123678F 2.13e6 36.86
CS 123469F 1.99e6 37.18
ES 234678F 1.87e6 37.54
ES 123789F 1.60e6 38.49
Abs. Int.
6.54e5
3.27e5
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 7.25e3
ES 123478F 3.49e6 36.72
ES 123678F 3.97e6 36.86
CS 123469F 3.81e6 37.18
ES 234678F 3.84e6 37.54
ES 123789F 3.35e6 38.49
Abs. Int.
1.16e6
5.80e5
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.39e3
Abs. Int.
1.13e4
5.63e3
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
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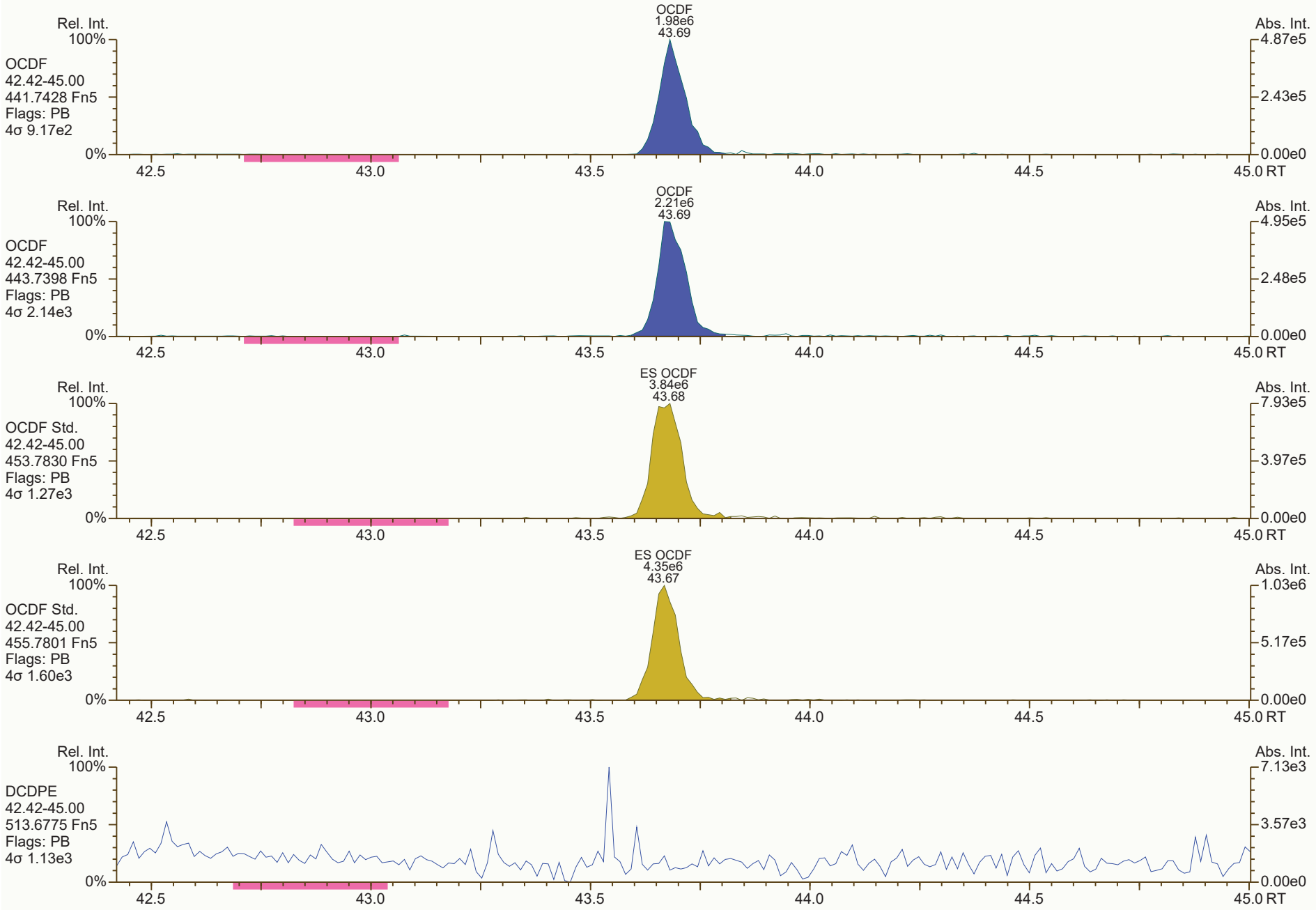
1234678F
1.51e6
39.88
1234789F
1.30e6
41.28
Abs. Int.
5.26e5
2.63e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 2.64e3
1234678F
1.43e6
39.88
1234789F
1.24e6
41.28
Abs. Int.
5.06e5
2.53e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 2.94e3
ES 1234678F
1.30e6
39.87
CS 1234689F
1.36e6
40.27
ES 1234789F
1.15e6
41.27
Abs. Int.
5.18e5
2.59e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 6.04e3
ES 1234678F
3.08e6
39.87
CS 1234689F
3.03e6
40.28
ES 1234789F
2.68e6
41.27
Abs. Int.
1.07e6
5.33e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.25e3
Abs. Int.
7.98e3
3.99e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
1.98e6
43.69
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 9.17e2
0%
Abs. Int.
4.87e5
2.43e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.21e6
43.69
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 2.14e3
0%
Abs. Int.
4.95e5
2.48e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
3.84e6
43.68
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
7.93e5
3.97e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
4.35e6
43.67
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 1.60e3
0%
Abs. Int.
1.03e6
5.17e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.13e3
0%
Abs. Int.
7.13e3
3.57e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary	Acq'd: 11 Feb 2022 05:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220210_DF_CC	UTP: 11-Feb-2022 16:26:43 DTF	Checkcode: 693-263-FCK
Sample ID: 25-347-1	Report: 11 Feb 2022 16:28 TF	Datafile: 220210C26

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.49	1.02E+06	0.84	Y	1.18	1.21	2%
12378-PeCDD	33.83	3.89E+06	1.51	Y	1.04	1.06	2%
123478-HxCDD	37.75	3.70E+06	1.23	Y	1.09	1.16	6%
123678-HxCDD	37.86	3.65E+06	1.25	Y	1.15	1.10	-4%
123789-HxCDD	38.15	3.89E+06	1.26	Y	1.05	1.08	3%
1234678-HpCDD	40.83	3.49E+06	1.07	Y	1.06	1.09	3%
OCDD	43.52	5.85E+06	0.92	Y	1.13	1.14	1%
2378-TCDF	27.63	1.57E+06	0.78	Y	1.08	1.13	5%
12378-PeCDF	32.39	5.95E+06	1.52	Y	1.02	1.02	-1%
23478-PeCDF	33.50	5.79E+06	1.54	Y	1.02	0.98	-4%
123478-HxCDF	36.74	5.47E+06	1.24	Y	1.27	1.23	-4%
123678-HxCDF	36.88	5.78E+06	1.25	Y	1.15	1.14	-1%
234678-HxCDF	37.56	5.40E+06	1.23	Y	1.19	1.14	-4%
123789-HxCDF	38.51	4.79E+06	1.25	Y	1.16	1.08	-8%
1234678-HpCDF	39.89	4.87E+06	1.04	Y	1.37	1.33	-3%
1234789-HpCDF	41.29	4.42E+06	1.10	Y	1.31	1.35	3%
OCDF	43.71	7.35E+06	0.92	Y	1.07	1.05	-2%
ES 2378-TCDD	28.47	8.41E+06	0.84	Y	1.05	0.95	-9%
ES 12378-PeCDD	33.814	7.35E+06	1.73	Y	0.88	0.83	-6%
ES 123478-HxCDD	37.73	6.41E+06	1.36	Y	0.97	0.96	-2%
ES 123678-HxCDD	37.849	6.64E+06	1.24	Y	0.94	0.99	5%
ES 123789-HxCDD	38.14	7.21E+06	1.26	Y	1.09	1.08	-2%
ES 1234678-HpCDD	40.816	6.40E+06	0.99	Y	0.91	0.95	5%
ES OCDD	43.509	1.03E+07	0.87	Y	0.62	0.77	23%
ES 2378-TCDF	27.614	1.39E+07	0.76	Y	1.06	0.99	-7%
ES 12378-PeCDF	32.368	1.17E+07	1.58	Y	0.91	0.83	-9%
ES 23478-PeCDF	33.48	1.19E+07	1.60	Y	0.88	0.84	-4%
ES 123478-HxCDF	36.723	8.92E+06	0.53	Y	1.20	1.33	11%
ES 123678-HxCDF	36.862	1.02E+07	0.53	Y	1.35	1.52	12%
ES 234678-HxCDF	37.545	9.48E+06	0.55	Y	1.24	1.41	14%
ES 123789-HxCDF	38.497	8.89E+06	0.50	Y	1.16	1.33	15%
ES 1234678-HpCDF	39.877	7.30E+06	0.44	Y	0.97	1.09	12%
ES 1234789-HpCDF	41.279	6.55E+06	0.42	Y	0.85	0.98	15%
ES OCDF	43.693	1.40E+07	0.95	Y	0.81	1.05	29%

Dioxin/Furan QC Summary	Acq'd: 11 Feb 2022 05:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220210_DF_CC	UTP: 11-Feb-2022 16:26:43 DTF	Checkcode: 693-263-FCK
Sample ID: 25-347-1	Report: 11 Feb 2022 16:28 TF	Datafile: 220210C26

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.81	8.87E+06	0.76	Y	-	-	-
JS 1234-TCDF	26.25	1.41E+07	0.82	Y	-	-	-
JS 123467-HxCDD	38.04	3.35E+06	1.31	Y	-	-	-
CS 37Cl-2378-TCDD	28.49	1.07E+06	n/a	-	1.20	1.21	1%
CS 12347-PeCDD	33.31	6.98E+06	1.62	Y	0.75	0.79	5%
CS 12346-PeCDF	31.84	1.20E+07	1.51	Y	0.85	0.85	0%
CS 123469-HxCDF	37.18	9.30E+06	0.52	Y	1.12	1.39	24%
CS 1234689-HpCDF	40.28	7.78E+06	0.48	Y	0.89	1.16	31%
SS 37Cl-2378-TCDD	28.49	1.07E+06	n/a	-	1.15	1.28	11%
SS 12347-PeCDD	33.31	6.98E+06	1.62	Y	0.86	0.95	11%
SS 12346-PeCDF	31.84	1.20E+07	1.51	Y	0.94	1.03	10%
SS 123469-HxCDF	37.18	9.30E+06	0.52	Y	0.83	0.91	10%
SS 1234689-HpCDF	40.28	7.78E+06	0.48	Y	0.92	1.06	16%
OCDD-a	43.52	3.11E+05	2.81	Y	0.07	0.06	-16%
OCDF-a	43.70	4.09E+05	2.47	Y	0.07	0.06	-12%

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

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220210C26 Analysis Date: 11-FEB-2022 05:40:55

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.84	0.65 - 0.89	Y	10.2	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.51	1.32 - 1.78	Y	51.1	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.23	1.05 - 1.43	Y	53.1	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	47.9	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05 - 1.43	Y	51.5	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88 - 1.20	Y	51.4	43 - 58	Y
OCDD	M+2/M+4	0.92	0.76 - 1.02	Y	101	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.78	0.65 - 0.89	Y	10.5	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.52	1.32 - 1.78	Y	49.6	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.54	1.32 - 1.78	Y	47.9	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	48.2	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	49.3	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	48	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	46.2	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88 - 1.20	Y	48.7	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.10	0.88 - 1.20	Y	51.6	43 - 58	Y
OCDF	M+2/M+4	0.92	0.76 - 1.02	Y	97.7	63 - 159	Y

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

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

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

Processed: 11 Feb 2022 16:28 Analyst: TF

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

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

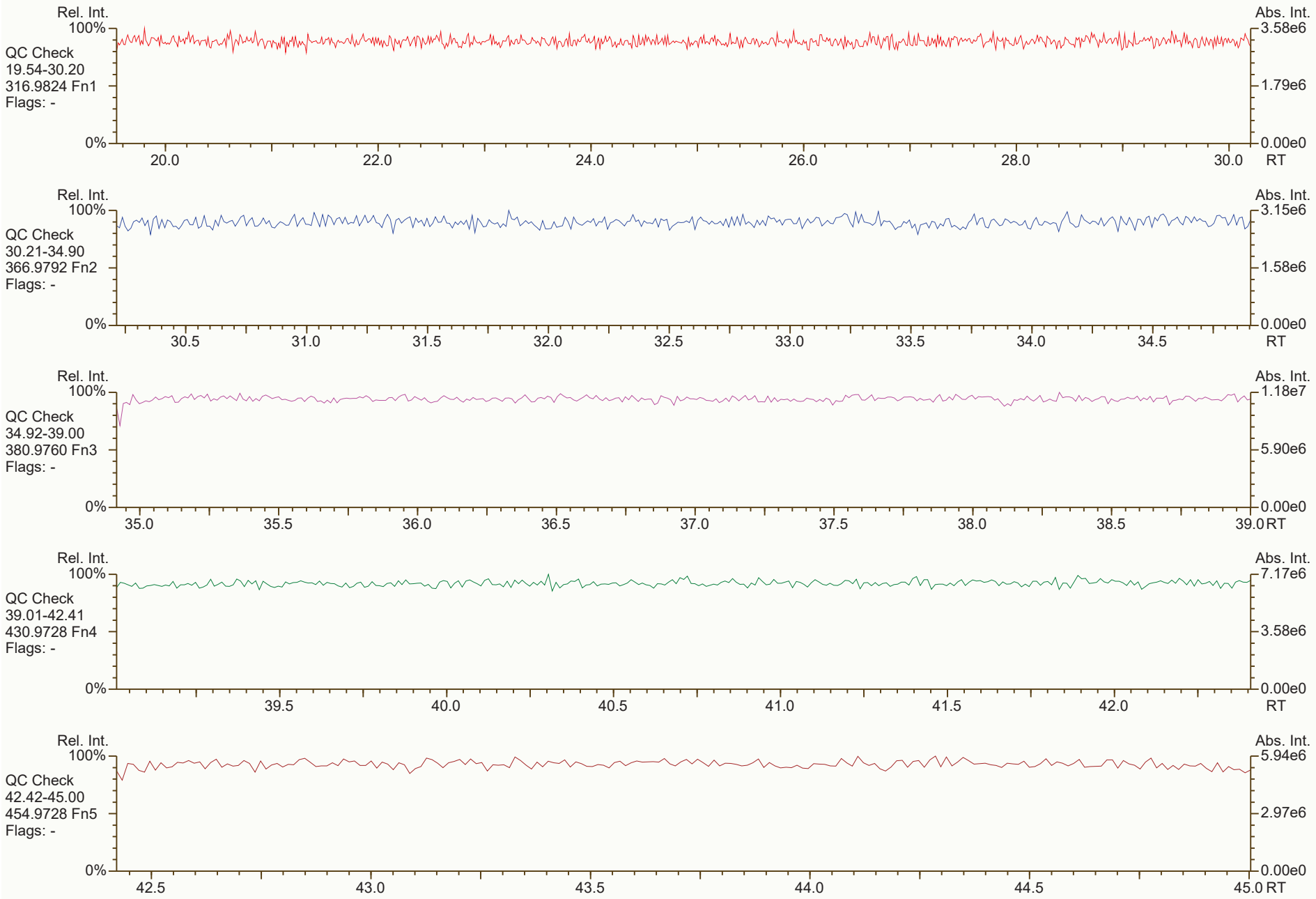
Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220210C26 Analysis Date: 11-FEB-2022 05:40:55

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.84	0.65	-	0.89	Y	90.7	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.73	1.32	-	1.78	Y	94.2	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.36	1.05	-	1.43	Y	98.2	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.24	1.05	-	1.43	Y	105	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05	-	1.43	Y	98.5	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	0.99	0.88	-	1.20	Y	105	72	-	138	Y
13C-OCDD	M+2/M+4	0.87	0.76	-	1.02	Y	246	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.76	0.65	-	0.89	Y	93.1	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	91.4	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.60	1.32	-	1.78	Y	95.6	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	111	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	112	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	114	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.50	0.43	-	0.59	Y	115	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37	-	0.51	Y	112	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.42	0.37	-	0.51	Y	115	77	-	129	Y
13C-OCDF	M+2/M+4	0.95	0.76	-	1.02	Y	259	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						10.1	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.62	1.32	-	1.78	Y	105	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.51	1.32	-	1.78	Y	100	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	124	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.48	0.37	-	0.51	Y	131	70	-	130	N

no method 1613B criteria
TB 2/14/2022

Processed: 11 Feb 2022 16:28 Analyst: TF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316.9824 Fn1
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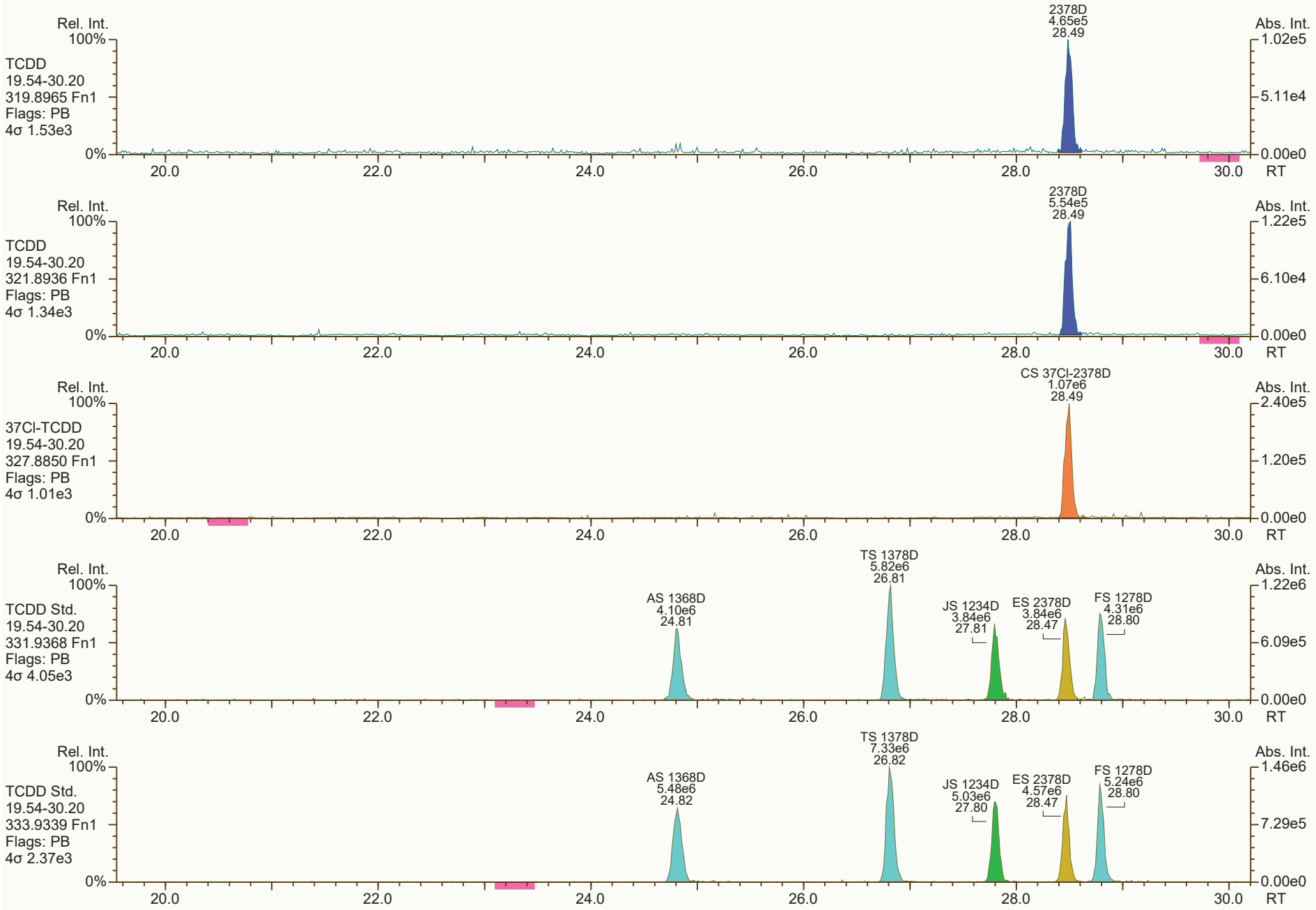
28.0
30.0
RT
Abs. Int.
3.58e6
1.79e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.15e6
1.58e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.18e7
5.90e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
7.17e6
3.58e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.94e6
2.97e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
4.65e5
28.49
Abs. Int.
1.02e5
5.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.34e3
0%
2378D
5.54e5
28.49
Abs. Int.
1.22e5
6.10e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.01e3
0%
CS 37Cl-2378D
1.07e6
28.49
Abs. Int.
2.40e5
1.20e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.05e3
0%
AS 1368D
4.10e6
24.81
TS 1378D
5.82e6
26.81
JS 1234D
3.84e6
27.81
ES 2378D
3.84e6
28.47
FS 1278D
4.31e6
28.80
Abs. Int.
1.22e6
6.09e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.37e3
0%
AS 1368D
5.48e6
24.82
TS 1378D
7.33e6
26.82
JS 1234D
5.03e6
27.80
ES 2378D
4.57e6
28.47
FS 1278D
5.24e6
28.80
Abs. Int.
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20.0
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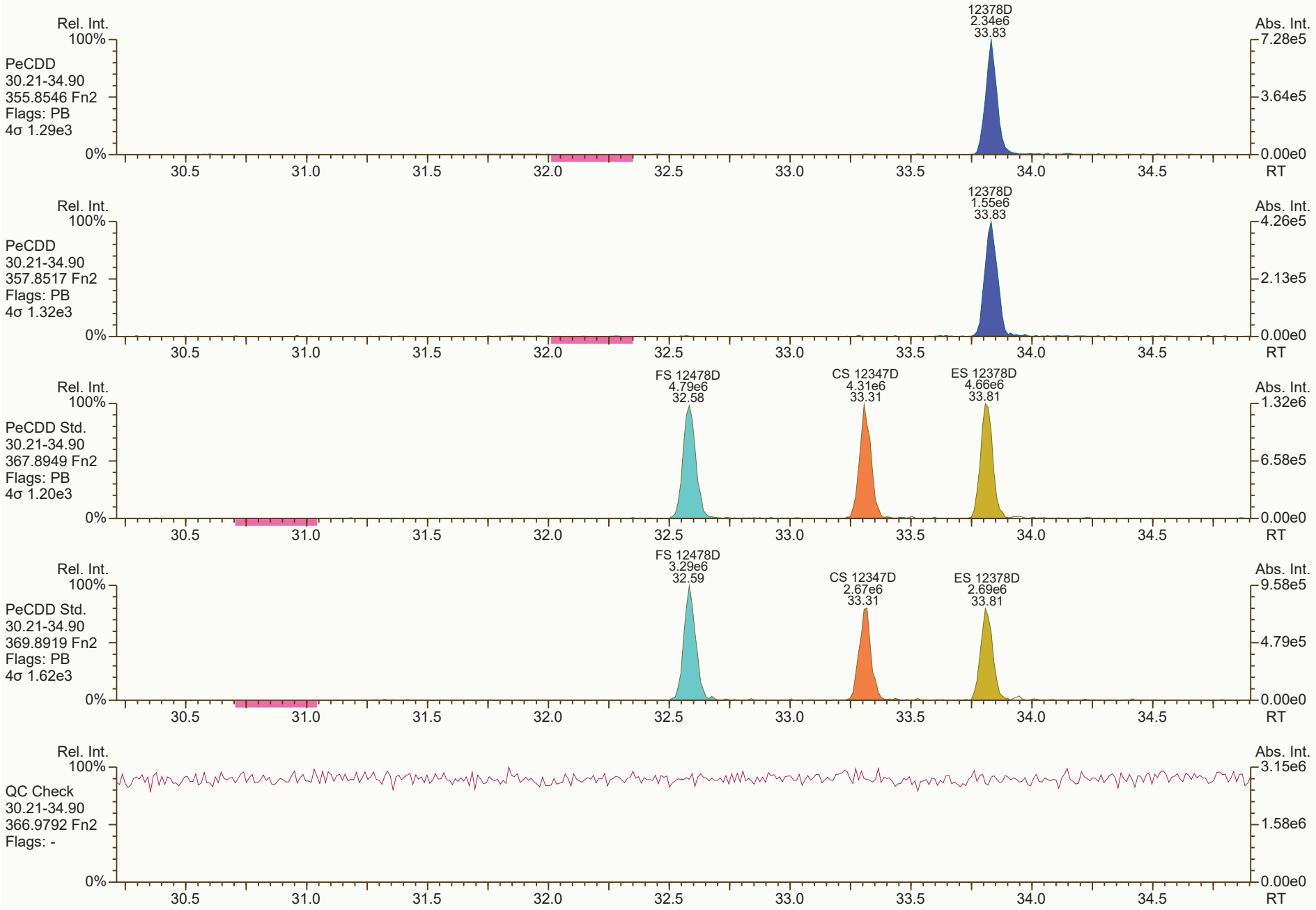
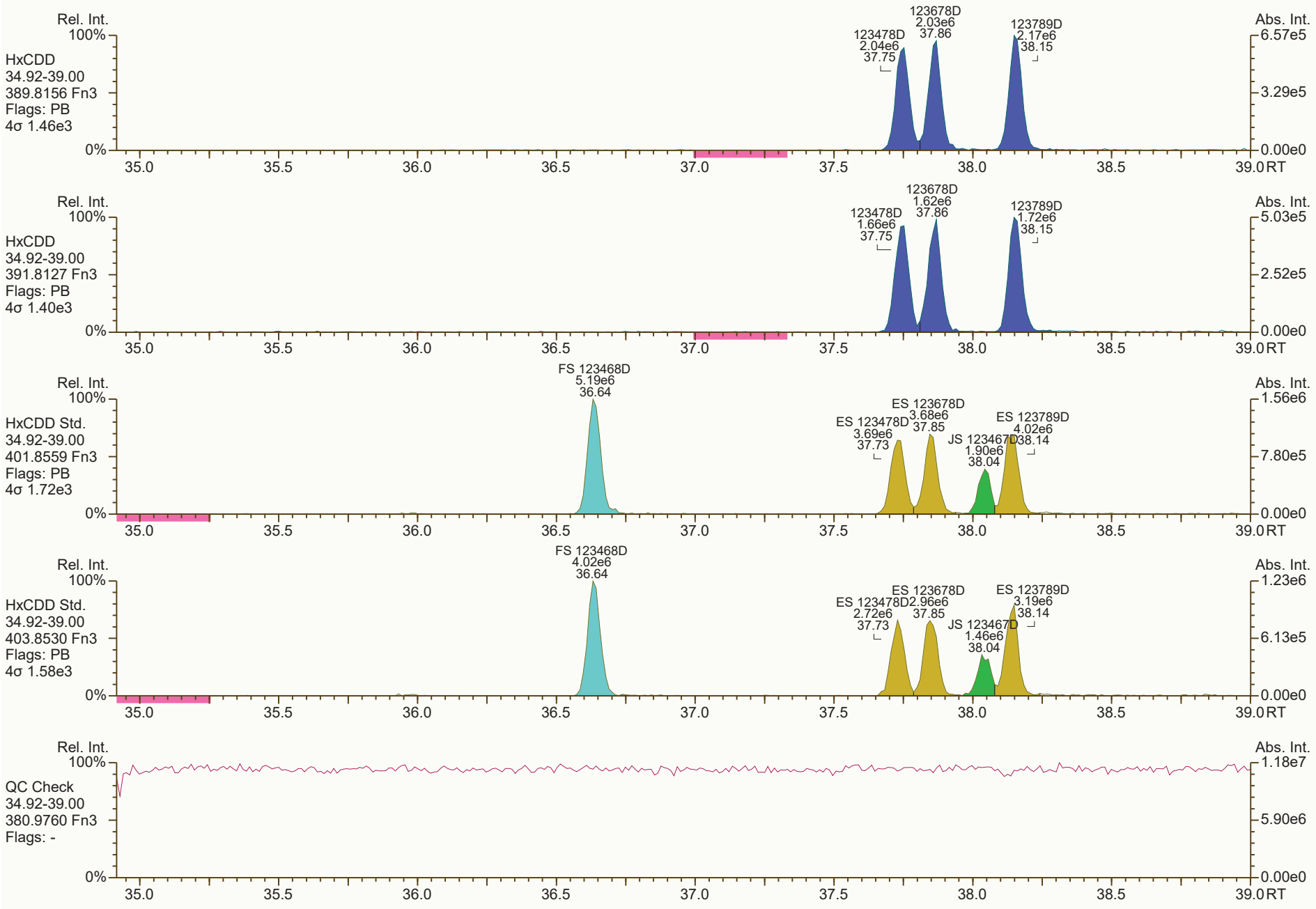
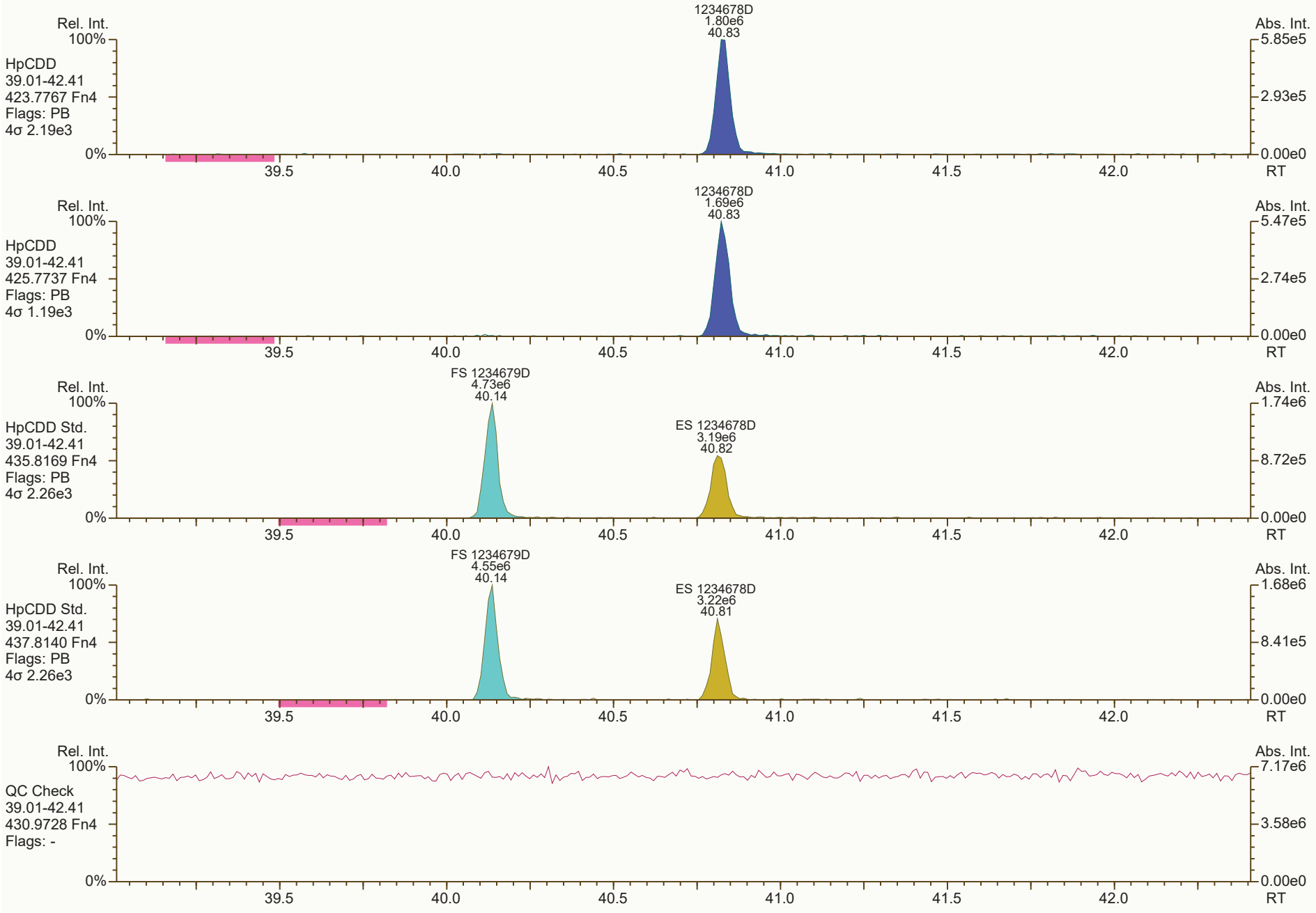
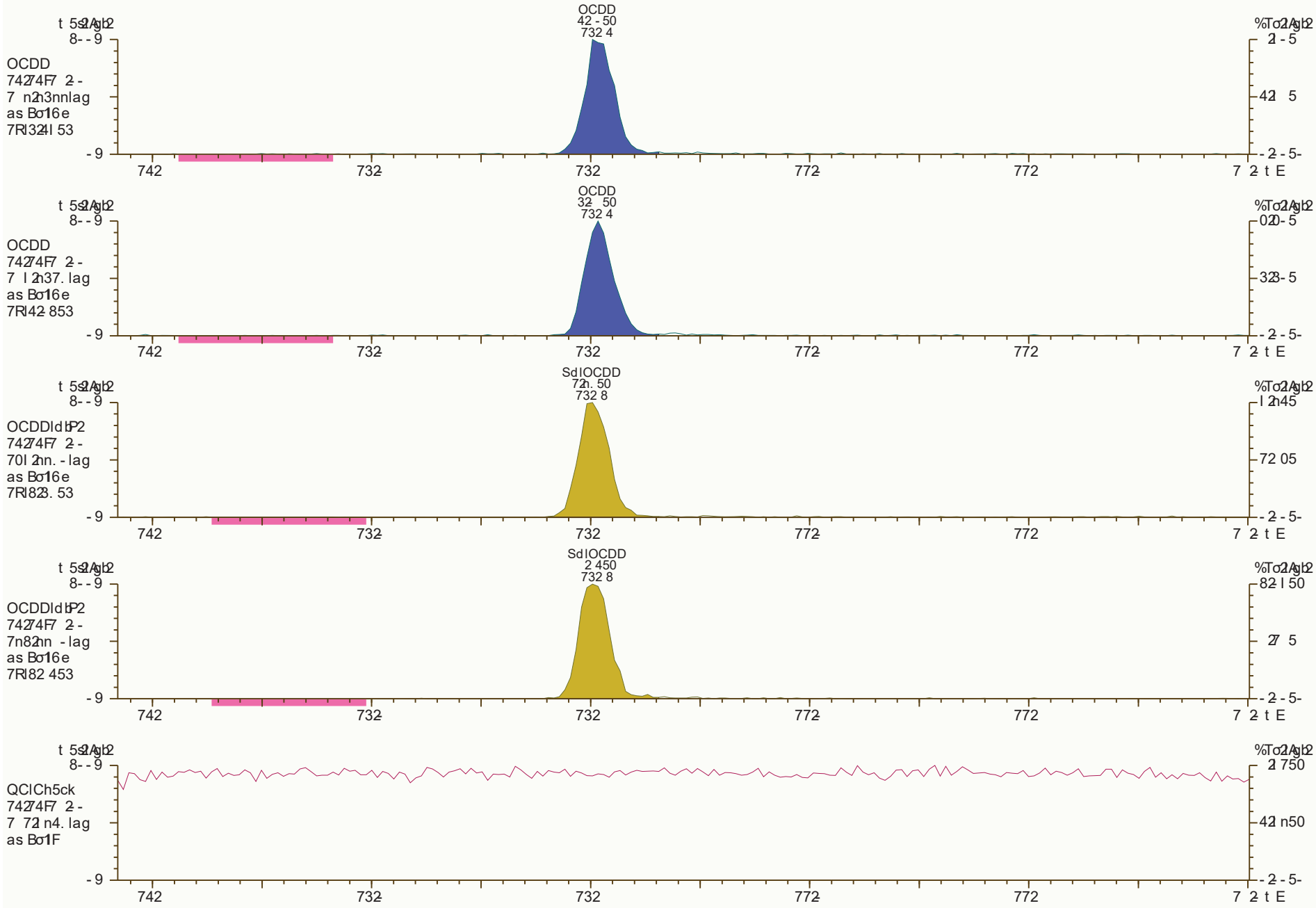
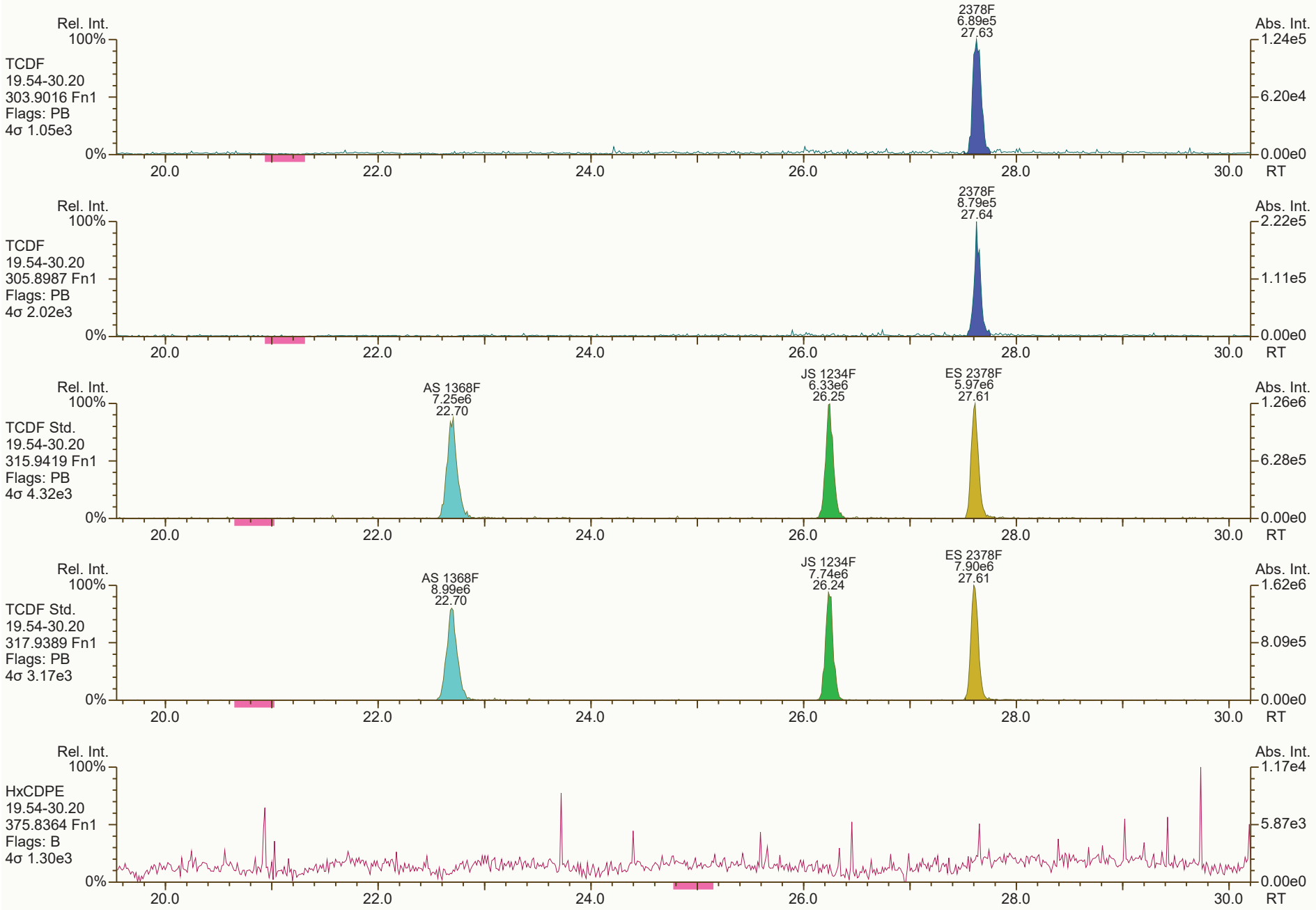
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PB
4σ 1.29e3
0%
12378D
2.34e6
33.83
Abs. Int.
7.28e5
3.64e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 1.32e3
0%
12378D
1.55e6
33.83
Abs. Int.
4.26e5
2.13e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 1.20e3
0%
FS 12478D
4.79e6
32.58
CS 12347D
4.31e6
33.31
ES 12378D
4.66e6
33.81
Abs. Int.
1.32e6
6.58e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.62e3
0%
FS 12478D
3.29e6
32.59
CS 12347D
2.67e6
33.31
ES 12378D
2.69e6
33.81
Abs. Int.
9.58e5
4.79e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.15e6
1.58e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

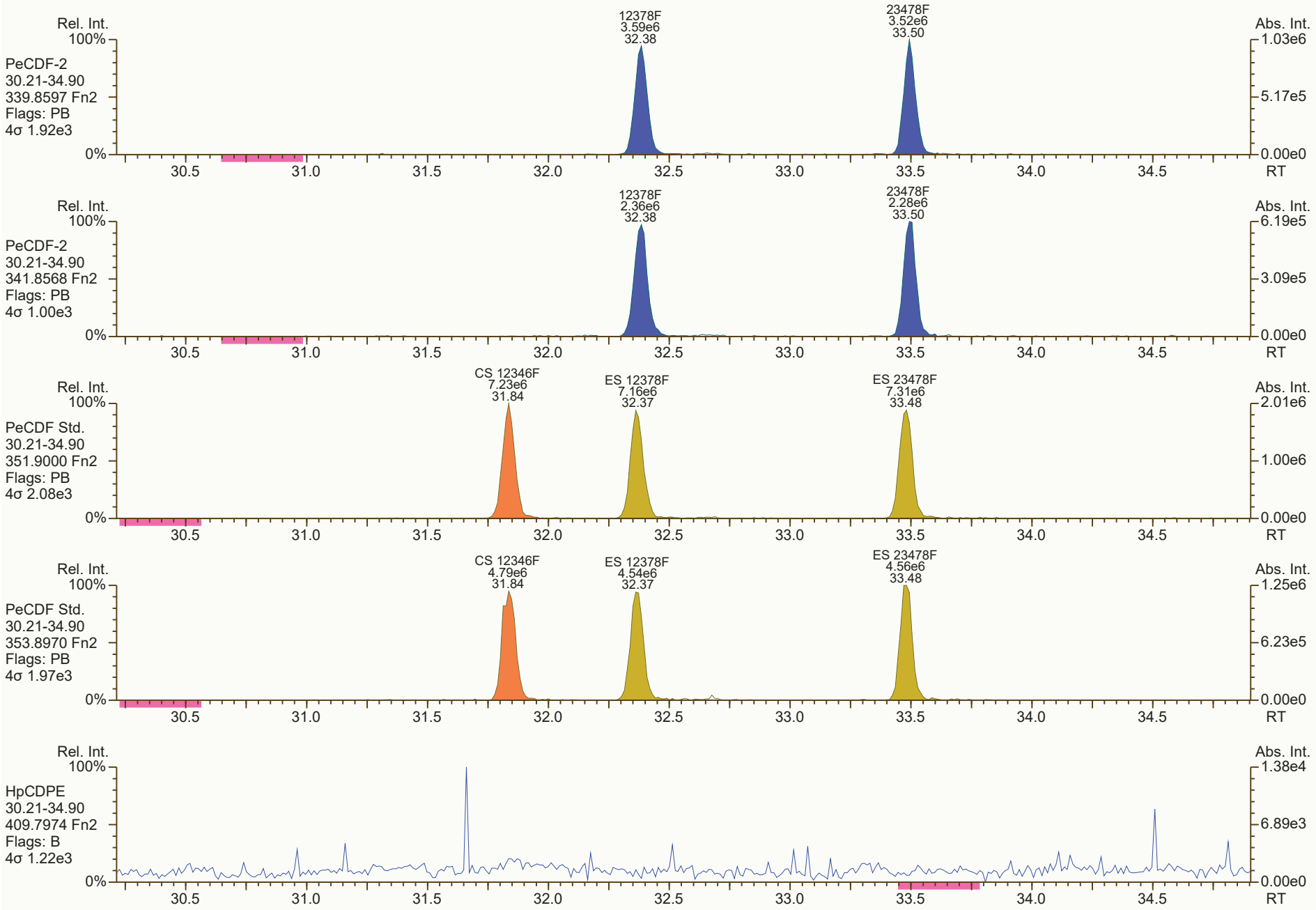

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 1.46e3
123678D
2.03e6
37.86
123478D
2.04e6
37.75
123789D
2.17e6
38.15
Abs. Int.
6.57e5
3.29e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 1.40e3
123678D
1.62e6
37.86
123478D
1.66e6
37.75
123789D
1.72e6
38.15
Abs. Int.
5.03e5
2.52e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 1.72e3
FS 123468D
5.19e6
36.64
ES 123678D
3.68e6
37.85
ES 123478D
3.69e6
37.73
ES 123789D
4.02e6
38.14
JS 123467D
1.90e6
38.04
Abs. Int.
1.56e6
7.80e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 1.58e3
FS 123468D
4.02e6
36.64
ES 123678D
2.96e6
37.85
ES 123478D
2.72e6
37.73
ES 123789D
3.19e6
38.14
JS 123467D
1.46e6
38.04
Abs. Int.
1.23e6
6.13e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
Abs. Int.
1.18e7
5.90e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

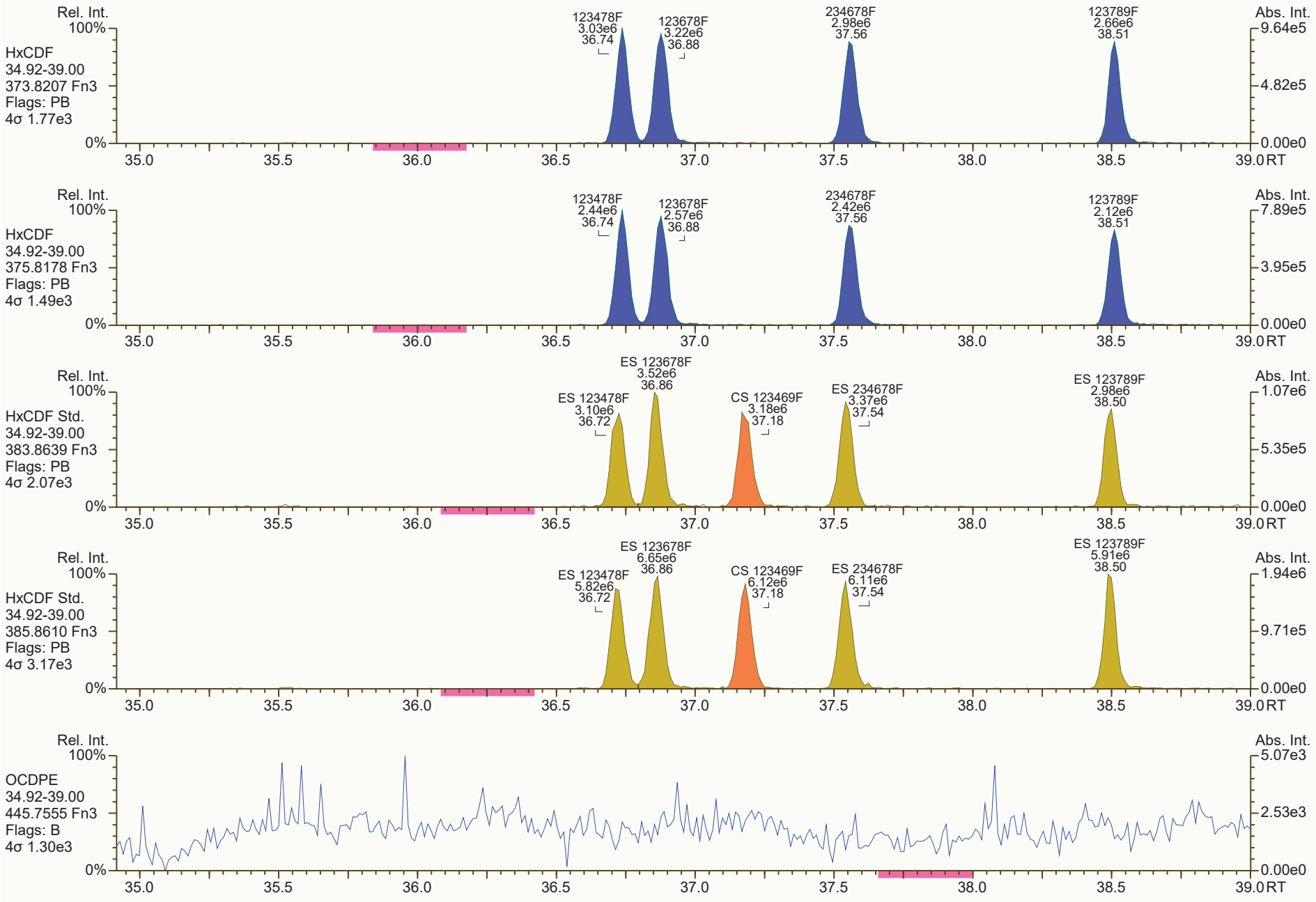

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 2.19e3
1234678D
1.80e6
40.83
Abs. Int.
5.85e5
2.93e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.19e3
1234678D
1.69e6
40.83
Abs. Int.
5.47e5
2.74e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.26e3
FS 1234679D
4.73e6
40.14
ES 1234678D
3.19e6
40.82
Abs. Int.
1.74e6
8.72e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 2.26e3
FS 1234679D
4.55e6
40.14
ES 1234678D
3.22e6
40.81
Abs. Int.
1.68e6
8.41e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
7.17e6
3.58e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

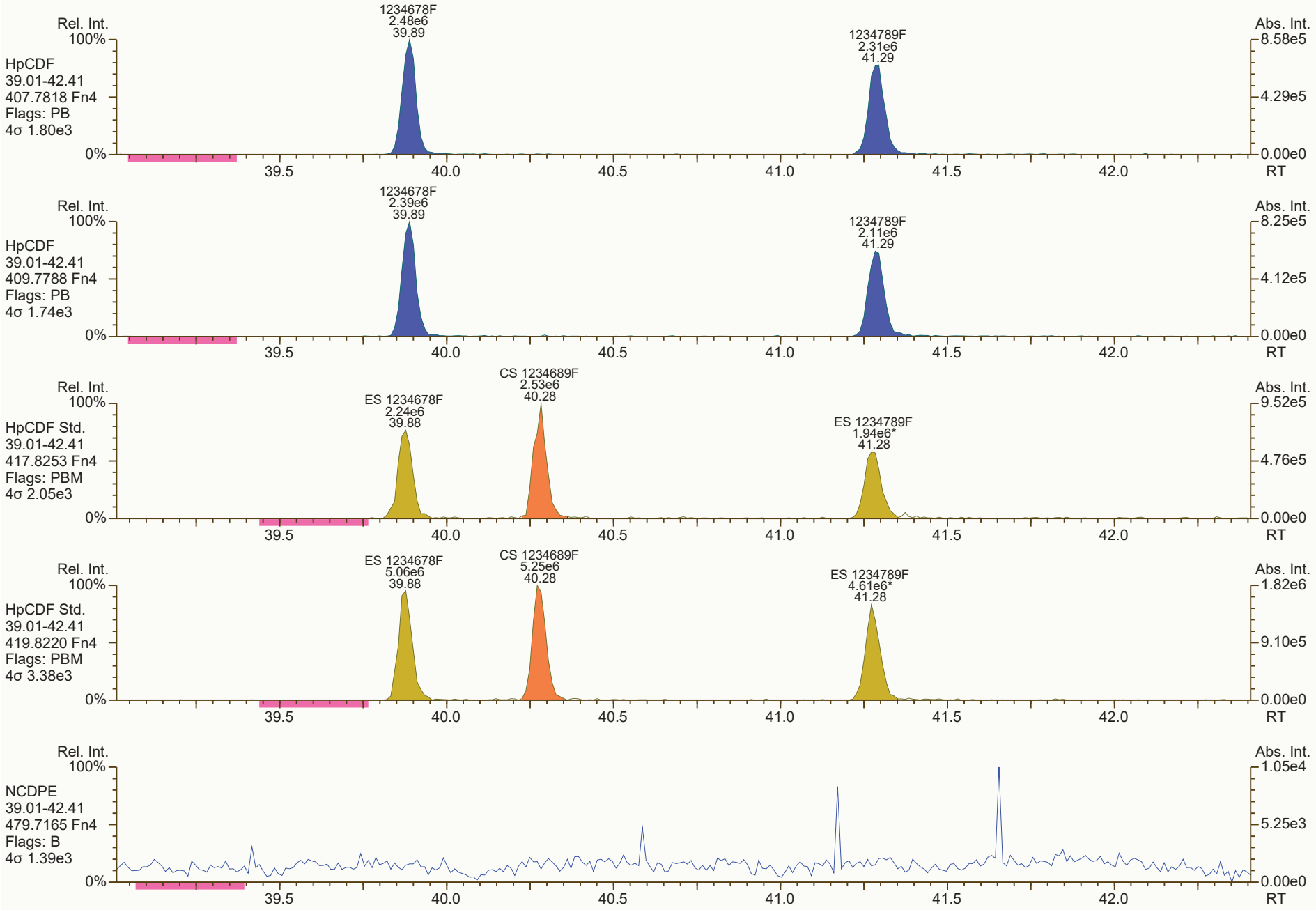

OCDD
42 - 50
732 4
OCDD
OCDD
32 50
732 4
SdIOCDD
732 8
SdIOCDD
2 450
732 8
742
732
732
772
772

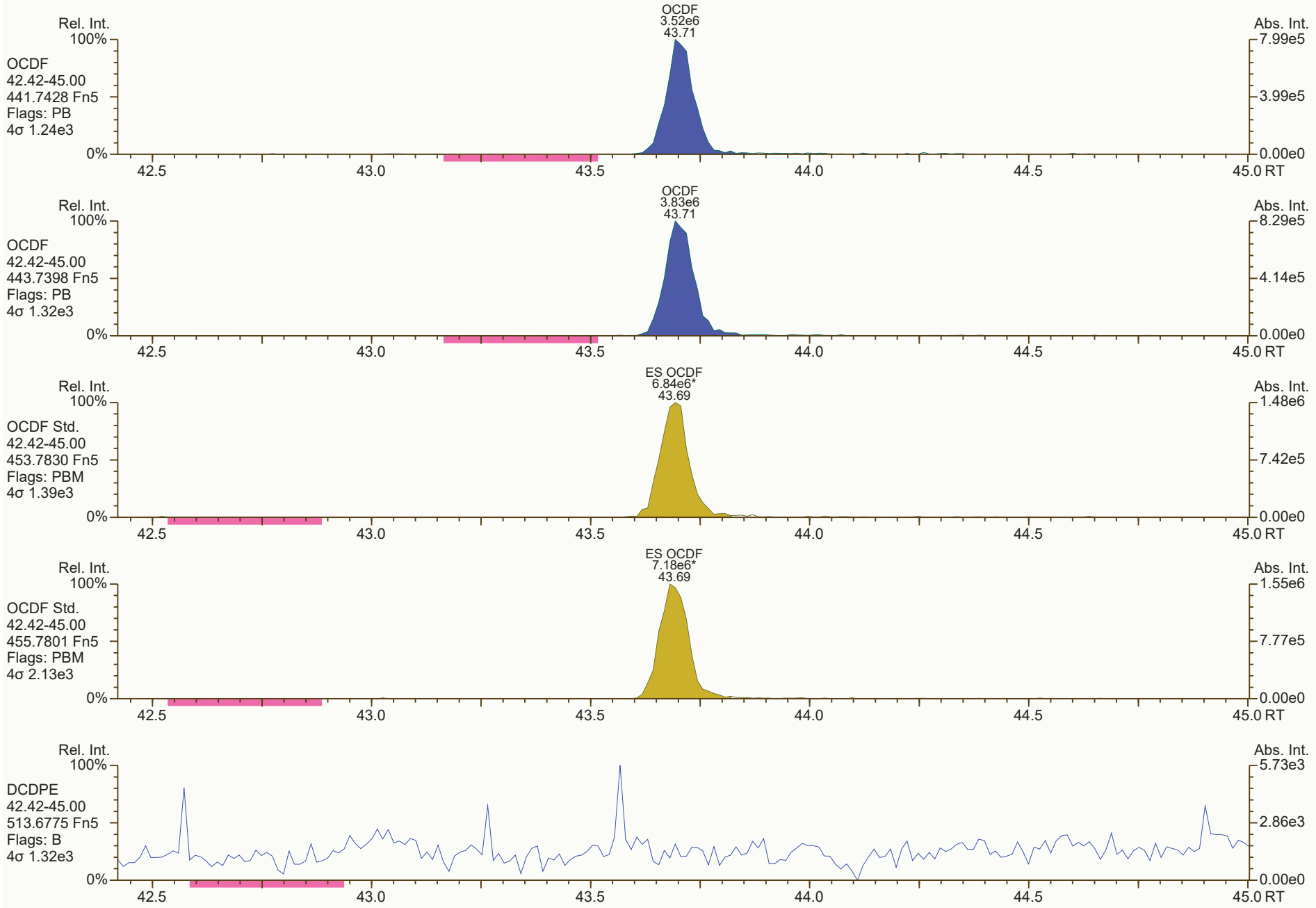

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.05e3
0%
2378F
6.89e5
27.63
Abs. Int.
1.24e5
6.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 2.02e3
0%
2378F
8.79e5
27.64
Abs. Int.
2.22e5
1.11e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 4.32e3
0%
AS 1368F
7.25e6
22.70
JS 1234F
6.33e6
26.25
ES 2378F
5.97e6
27.61
Abs. Int.
1.26e6
6.28e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.17e3
0%
AS 1368F
8.99e6
22.70
JS 1234F
7.74e6
26.24
ES 2378F
7.90e6
27.61
Abs. Int.
1.62e6
8.09e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.30e3
0%
Abs. Int.
1.17e4
5.87e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

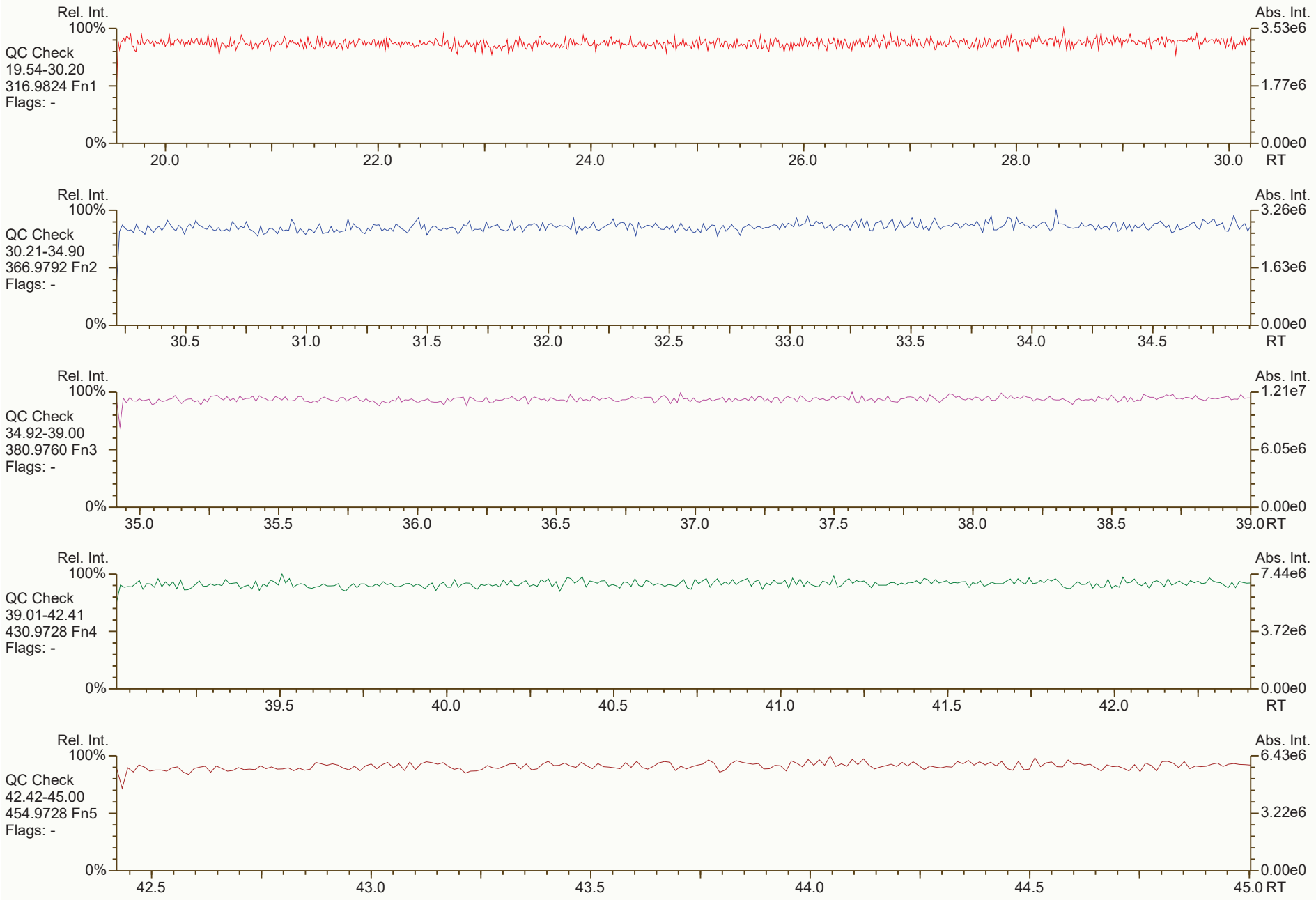

Rel. Int.
100%
0%
Abs. Int.
9.79e3
4.90e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 9.66e2
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.45e4
7.26e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.23e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.58e6
1.79e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PB
4σ 1.92e3
0%
12378F
3.59e6
32.38
23478F
3.52e6
33.50
Abs. Int.
1.03e6
5.17e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PB
4σ 1.00e3
0%
12378F
2.36e6
32.38
23478F
2.28e6
33.50
Abs. Int.
6.19e5
3.09e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 2.08e3
0%
CS 12346F
7.23e6
31.84
ES 12378F
7.16e6
32.37
ES 23478F
7.31e6
33.48
Abs. Int.
2.01e6
1.00e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 1.97e3
0%
CS 12346F
4.79e6
31.84
ES 12378F
4.54e6
32.37
ES 23478F
4.56e6
33.48
Abs. Int.
1.25e6
6.23e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.22e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PB
4σ 1.77e3
0%
123478F
3.03e6
36.74
123678F
3.22e6
36.88
234678F
2.98e6
37.56
123789F
2.66e6
38.51
Abs. Int.
9.64e5
4.82e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PB
4σ 1.49e3
0%
123478F
2.44e6
36.74
123678F
2.57e6
36.88
234678F
2.42e6
37.56
123789F
2.12e6
38.51
Abs. Int.
7.89e5
3.95e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 2.07e3
0%
ES 123678F
3.52e6
36.86
ES 123478F
3.10e6
36.72
CS 123469F
3.18e6
37.18
ES 234678F
3.37e6
37.54
ES 123789F
2.98e6
38.50
Abs. Int.
1.07e6
5.35e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 3.17e3
0%
ES 123678F
6.65e6
36.86
ES 123478F
5.82e6
36.72
CS 123469F
6.12e6
37.18
ES 234678F
6.11e6
37.54
ES 123789F
5.91e6
38.50
Abs. Int.
1.94e6
9.71e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.30e3
0%
Abs. Int.
5.07e3
2.53e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.80e3
1234678F
2.48e6
39.89
1234789F
2.31e6
41.29
Abs. Int.
8.58e5
4.29e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.74e3
1234678F
2.39e6
39.89
1234789F
2.11e6
41.29
Abs. Int.
8.25e5
4.12e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 2.05e3
ES 1234678F
2.24e6
39.88
CS 1234689F
2.53e6
40.28
ES 1234789F
1.94e6*
41.28
Abs. Int.
9.52e5
4.76e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 3.38e3
ES 1234678F
5.06e6
39.88
CS 1234689F
5.25e6
40.28
ES 1234789F
4.61e6*
41.28
Abs. Int.
1.82e6
9.10e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.39e3
Abs. Int.
1.05e4
5.25e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.24e3
OCDF
3.52e6
43.71
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.32e3
OCDF
3.83e6
43.71
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 1.39e3
ES OCDF
6.84e6*
43.69
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 2.13e3
ES OCDF
7.18e6*
43.69
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.32e3
Rel. Int.
Abs. Int.
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
7.99e5
3.99e5
0.00e0
8.29e5
4.14e5
1.48e6
7.42e5
1.55e6
7.77e5
5.73e3
2.86e3


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.53e6
1.77e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.26e6
1.63e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.21e7
6.05e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
7.44e6
3.72e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
6.43e6
3.22e6
0.00e0

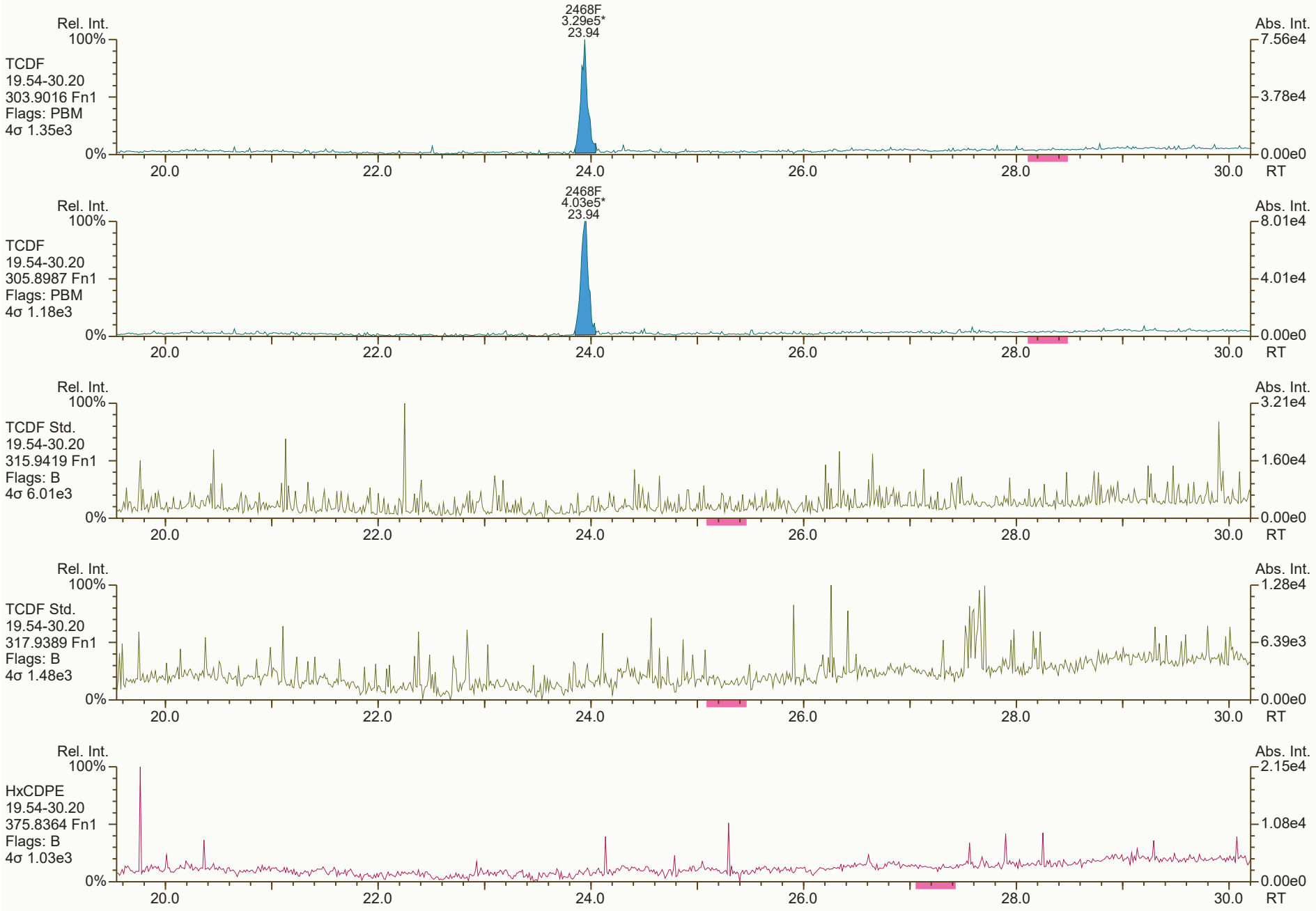

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 1.78e3
0%
Abs. Int.
8.58e3
4.29e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.44e3
0%
Abs. Int.
9.73e3
4.87e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: B
4σ 1.15e3
0%
Abs. Int.
8.94e3
4.47e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 5.33e3
0%
Abs. Int.
4.31e4
2.15e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 2.12e3
0%
Abs. Int.
1.55e4
7.75e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: B
4σ 1.43e3
0%
Abs. Int.
5.54e3
2.77e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: B
4σ 9.54e2
0%
Abs. Int.
9.26e3
4.63e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: B
4σ 1.68e3
0%
Abs. Int.
2.06e4
1.03e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.28e3
0%
Abs. Int.
1.23e4
6.16e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.26e6
1.63e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 1.36e3
0%
Abs. Int.
7.01e3
3.50e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 1.17e3
0%
Abs. Int.
6.84e3
3.42e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: B
4σ 1.40e3
0%
Abs. Int.
1.45e4
7.26e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: B
4σ 1.87e3
0%
Abs. Int.
1.27e4
6.34e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

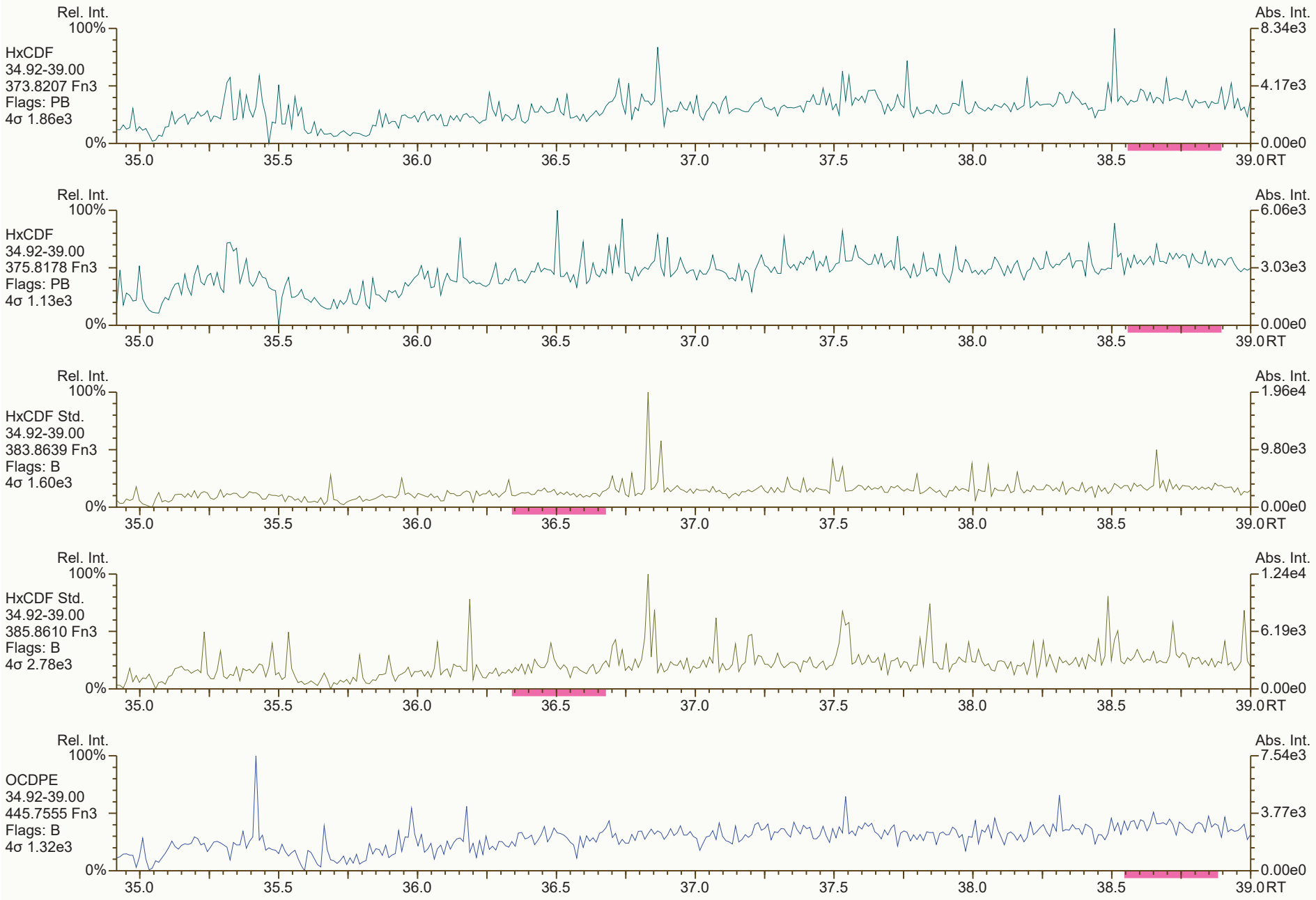

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.07e3
0%
Abs. Int.
6.32e3
3.16e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.45e3
0%
Abs. Int.
7.00e3
3.50e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: B
4σ 1.40e3
0%
Abs. Int.
1.38e4
6.92e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.97e3
0%
Abs. Int.
1.35e4
6.75e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.44e6
3.72e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: B
4σ 1.26e3
0%
Abs. Int.
5.78e3
2.89e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: B
4σ 1.22e3
0%
Abs. Int.
6.64e3
3.32e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: B
4σ 1.53e3
0%
Abs. Int.
1.00e4
5.02e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: B
4σ 1.51e3
0%
Abs. Int.
1.10e4
5.52e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.43e6
3.22e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


2468F
3.29e5*
23.94
Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.35e3
0%
Abs. Int.
7.56e4
3.78e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
2468F
4.03e5*
23.94
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.18e3
8.01e4
4.01e4
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 6.01e3
3.21e4
1.60e4
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 1.48e3
1.28e4
6.39e3
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.03e3
2.15e4
1.08e4

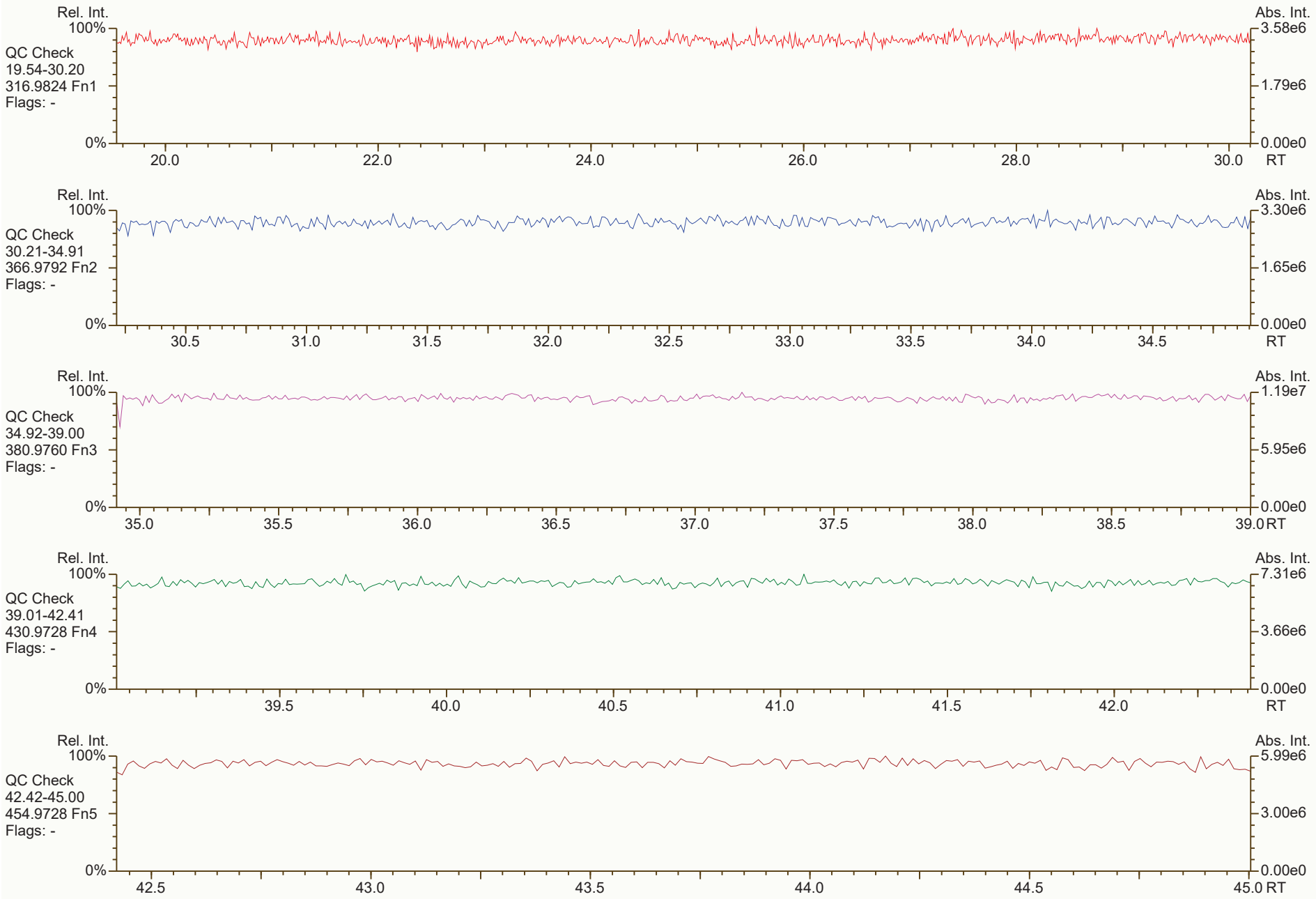

Rel. Int.
100%
0%
Abs. Int.
1.46e4
7.32e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.46e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.80e3
4.40e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.19e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.53e6
1.77e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PB
4σ 1.41e3
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PB
4σ 9.91e2
0%
Abs. Int.
6.64e3
3.32e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.81e4
9.04e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: B
4σ 1.41e3
0%
Abs. Int.
1.96e4
9.78e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: PB
4σ 1.02e3
0%
Abs. Int.
8.91e3
4.46e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PB
4σ 1.86e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PB
4σ 1.13e3
0%
Abs. Int.
6.06e3
3.03e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: B
4σ 1.60e3
0%
Abs. Int.
1.96e4
9.80e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: B
4σ 2.78e3
0%
Abs. Int.
1.24e4
6.19e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.32e3
0%
Abs. Int.
7.54e3
3.77e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.20e3
0%
Abs. Int.
7.38e3
3.69e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.04e3
0%
Abs. Int.
6.03e3
3.02e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: B
4σ 1.57e3
0%
Abs. Int.
1.15e4
5.73e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: B
4σ 1.51e3
0%
Abs. Int.
1.62e4
8.09e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.29e3
0%
Abs. Int.
4.94e3
2.47e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.33e3
0%
Abs. Int.
5.86e3
2.93e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 2.19e3
0%
Abs. Int.
4.41e3
2.20e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.86e3
0%
Abs. Int.
7.61e3
3.80e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: B
4σ 2.02e3
0%
Abs. Int.
8.64e3
4.32e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.30e3
0%
Abs. Int.
6.05e3
3.02e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.58e6
1.79e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.30e6
1.65e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.19e7
5.95e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
7.31e6
3.66e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.99e6
3.00e6
0.00e0

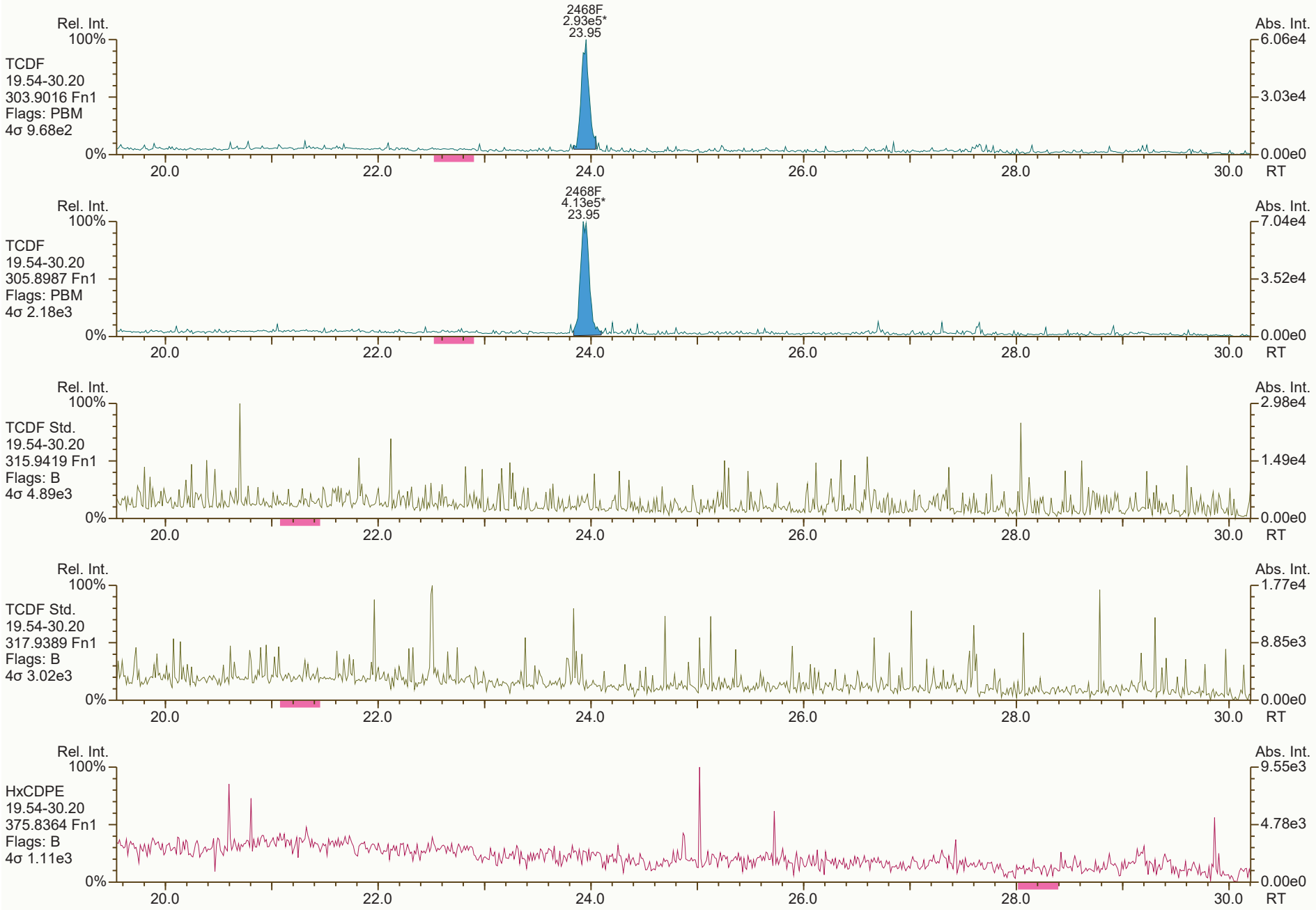

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 1.46e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.08e3
0%
Abs. Int.
7.57e3
3.78e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: B
4σ 1.10e3
0%
Abs. Int.
9.74e3
4.87e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 3.09e3
0%
Abs. Int.
2.04e4
1.02e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 2.77e3
0%
Abs. Int.
1.47e4
7.34e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PB
4σ 1.17e3
0%
Abs. Int.
4.29e3
2.14e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.91
357.8517 Fn2
Flags: B
4σ 1.63e3
0%
Abs. Int.
6.04e3
3.02e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: B
4σ 2.18e3
0%
Abs. Int.
1.80e4
8.98e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: B
4σ 2.60e3
0%
Abs. Int.
2.30e4
1.15e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.30e6
1.65e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

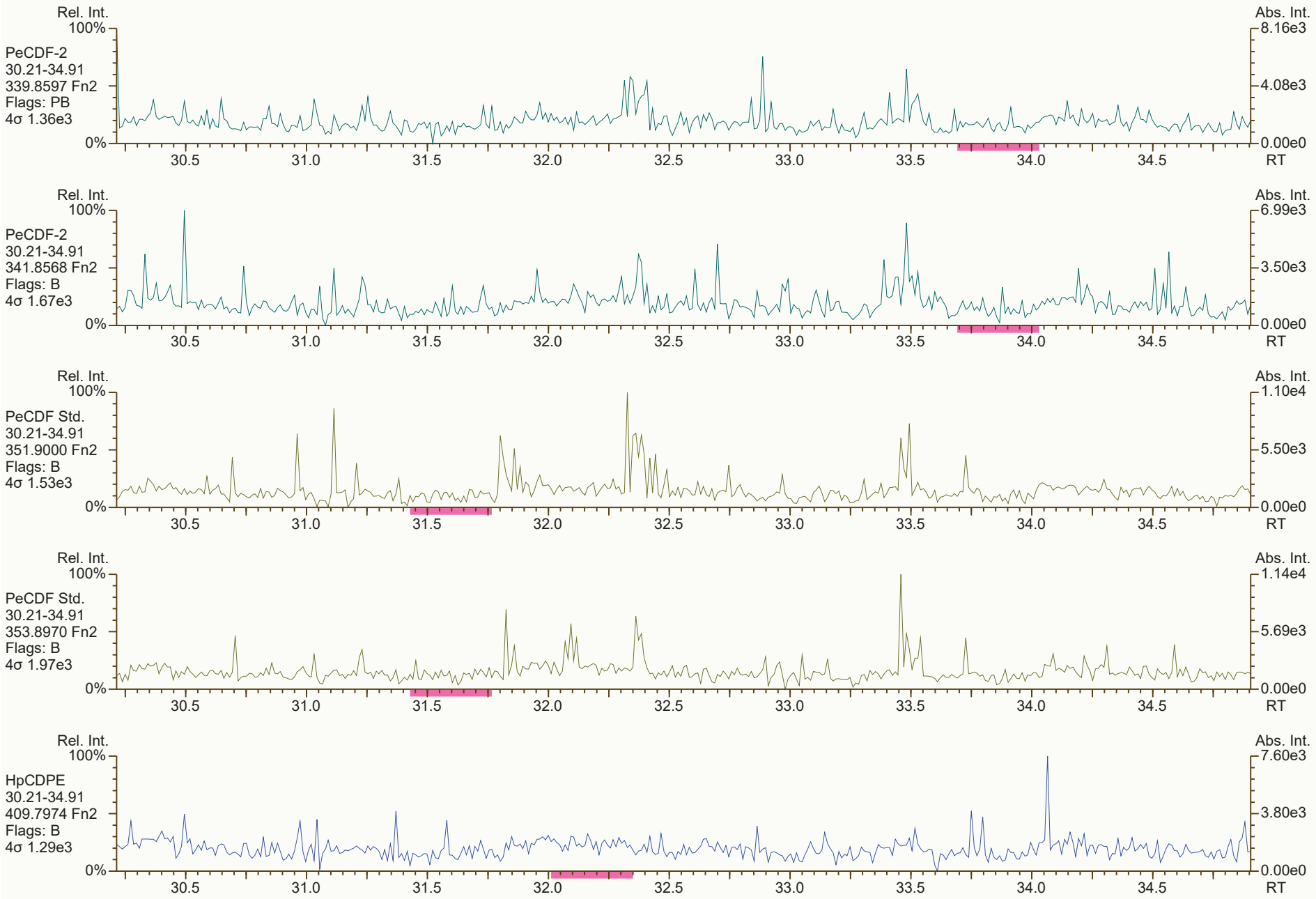

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 1.27e3
0%
Abs. Int.
4.56e3
2.28e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 1.11e3
0%
Abs. Int.
7.24e3
3.62e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: B
4σ 1.88e3
0%
Abs. Int.
1.23e4
6.17e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: B
4σ 1.78e3
0%
Abs. Int.
2.07e4
1.04e4
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.19e7
5.95e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

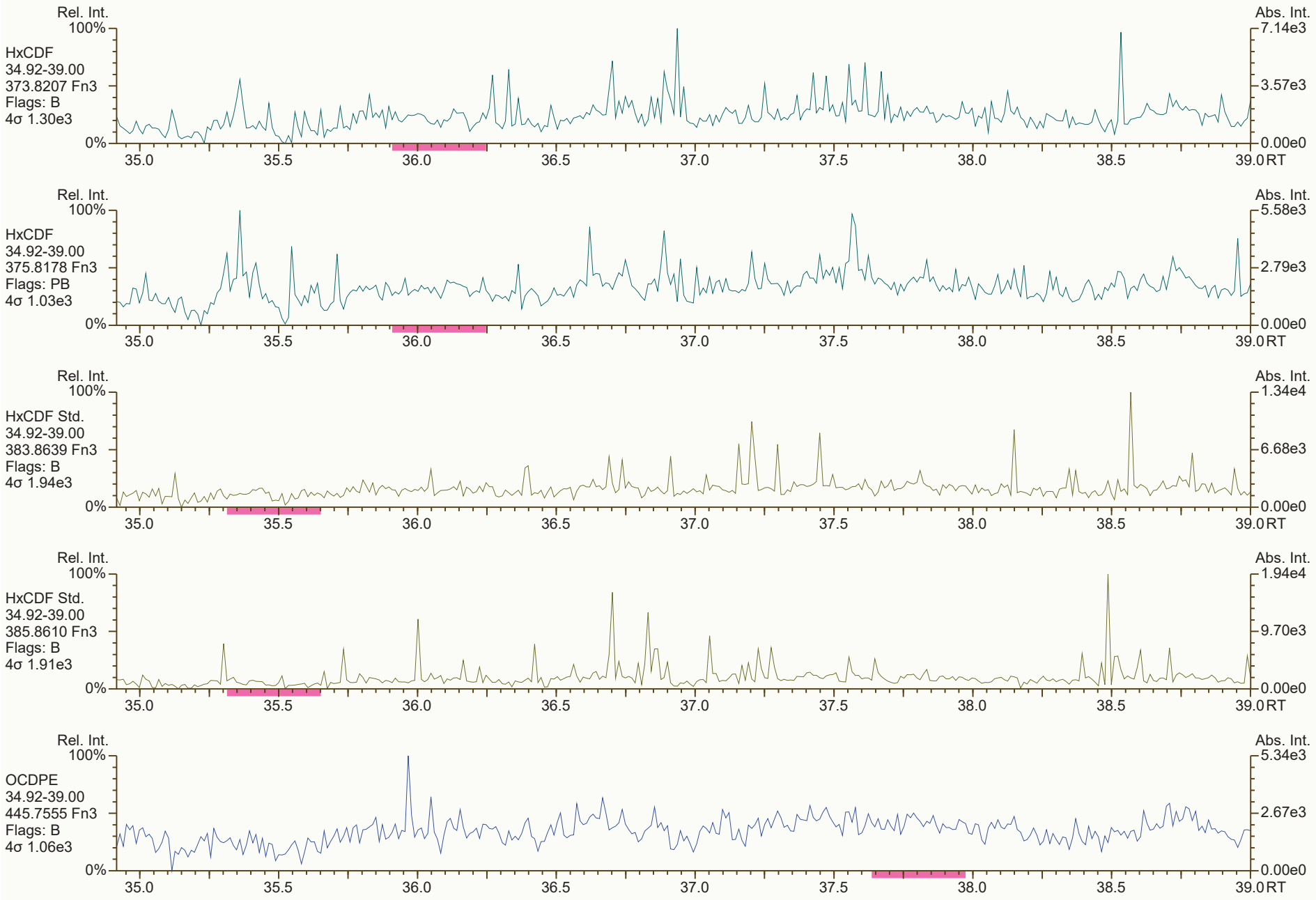

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.41e3
0%
Abs. Int.
3.84e3
1.92e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: B
4σ 1.27e3
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: B
4σ 1.50e3
0%
Abs. Int.
1.34e4
6.68e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: B
4σ 2.02e3
0%
Abs. Int.
1.04e4
5.19e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.31e6
3.66e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: B
4σ 1.41e3
0%
Abs. Int.
1.06e4
5.28e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: B
4σ 1.35e3
0%
Abs. Int.
1.35e4
6.74e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: B
4σ 2.22e3
0%
Abs. Int.
1.28e4
6.38e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: B
4σ 1.61e3
0%
Abs. Int.
9.36e3
4.68e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.99e6
3.00e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 9.68e2
0%
2468F
2.93e5*
23.95
Abs. Int.
6.06e4
3.03e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.18e3
0%
2468F
4.13e5*
23.95
Abs. Int.
7.04e4
3.52e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 4.89e3
0%
Abs. Int.
2.98e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 3.02e3
0%
Abs. Int.
1.77e4
8.85e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.11e3
0%
Abs. Int.
9.55e3
4.78e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.60e4
8.01e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.61e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.17e4
5.87e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.15e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.58e6
1.79e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PB
4σ 1.36e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: B
4σ 1.67e3
0%
Abs. Int.
6.99e3
3.50e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: B
4σ 1.53e3
0%
Abs. Int.
1.10e4
5.50e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: B
4σ 1.97e3
0%
Abs. Int.
1.14e4
5.69e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.29e3
0%
Abs. Int.
7.60e3
3.80e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

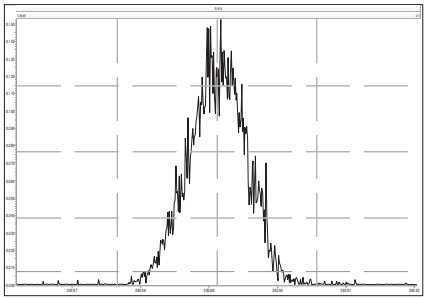

Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: B
4σ 1.30e3
0%
Abs. Int.
7.14e3
3.57e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PB
4σ 1.03e3
0%
Abs. Int.
5.58e3
2.79e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: B
4σ 1.94e3
0%
Abs. Int.
1.34e4
6.68e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: B
4σ 1.91e3
0%
Abs. Int.
1.94e4
9.70e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.06e3
0%
Abs. Int.
5.34e3
2.67e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: B
4σ 1.77e3
0%
Abs. Int.
8.54e3
4.27e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: B
4σ 1.51e3
0%
Abs. Int.
1.30e4
6.49e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: B
4σ 1.51e3
0%
Abs. Int.
1.12e4
5.59e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: B
4σ 1.69e3
0%
Abs. Int.
1.07e4
5.35e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.12e3
0%
Abs. Int.
6.67e3
3.33e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

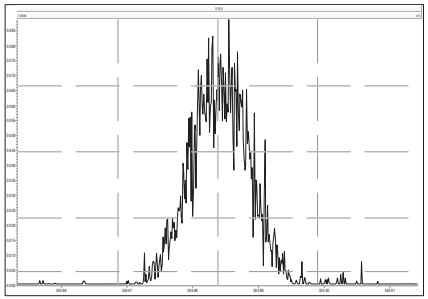

Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.32e3
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: B
4σ 8.61e2
0%
Abs. Int.
9.29e3
4.64e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: B
4σ 1.70e3
0%
Abs. Int.
1.11e4
5.54e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: B
4σ 1.63e3
0%
Abs. Int.
1.11e4
5.56e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.16e3
0%
Abs. Int.
5.62e3
2.81e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Printed: Thursday, February 10, 2022 15:45:02 Eastern Standard Time

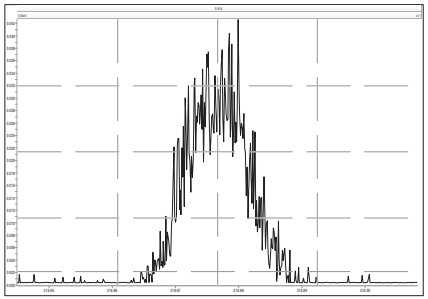
M 292.9824 R 15433



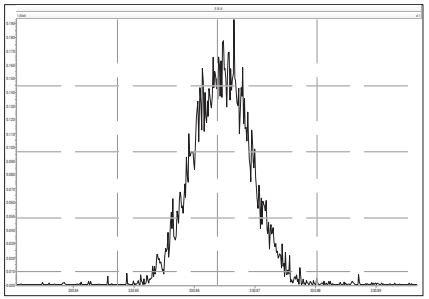
M 304.9824 R 15674



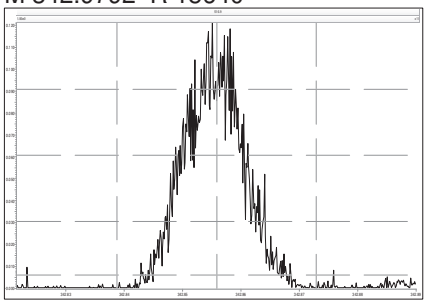
M 316.9824 R 17798



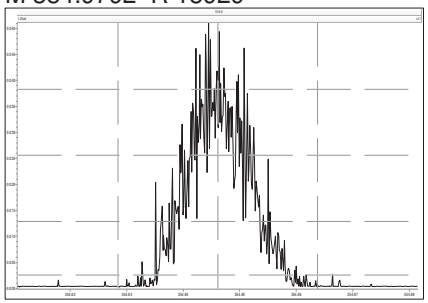
M 330.9792 R 15681



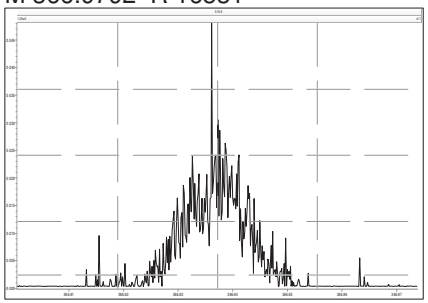
M 342.9792 R 15640



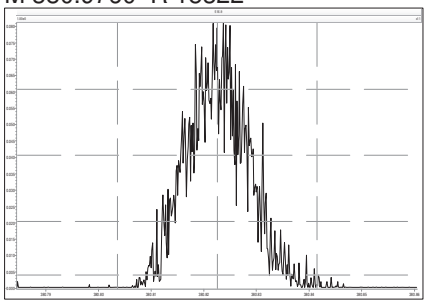
M 354.9792 R 15929



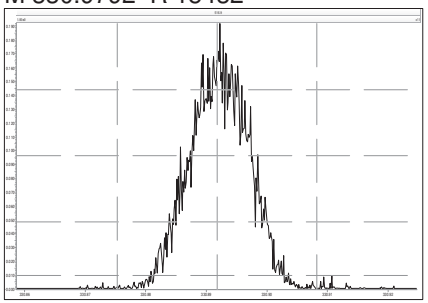
M 366.9792 R 16531



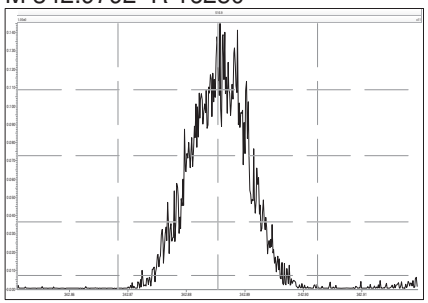
M 380.9760 R 15322



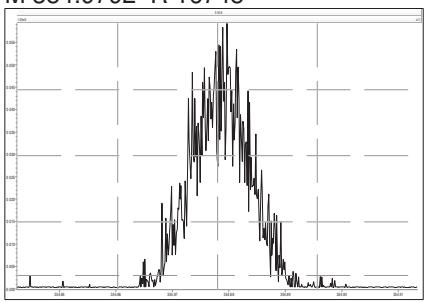
M 330.9792 R 15432



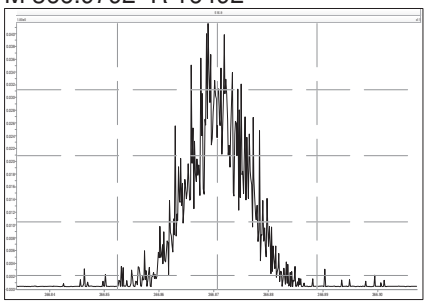
M 342.9792 R 16250



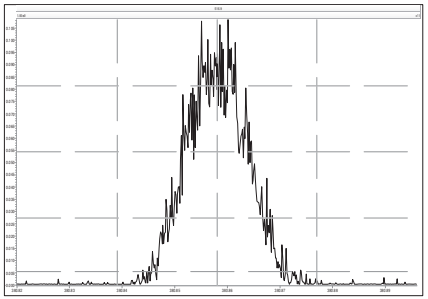
M 354.9792 R 16745



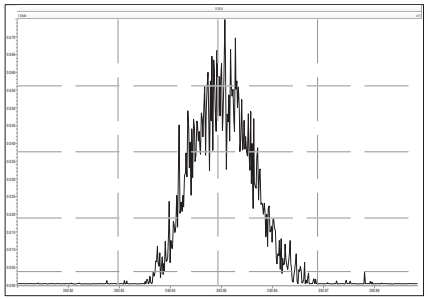
M 366.9792 R 16492



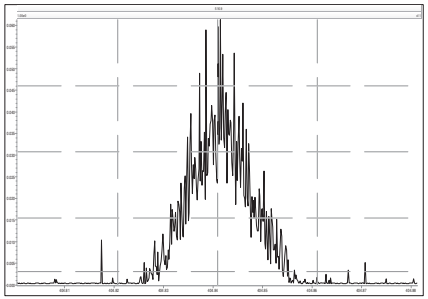
M 380.9760 R 15686



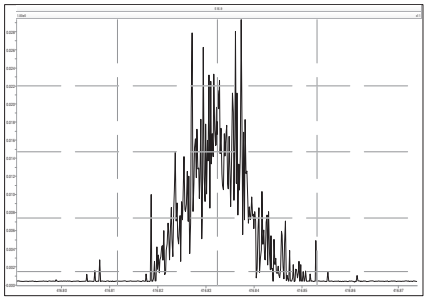
M 392.9760 R 15243



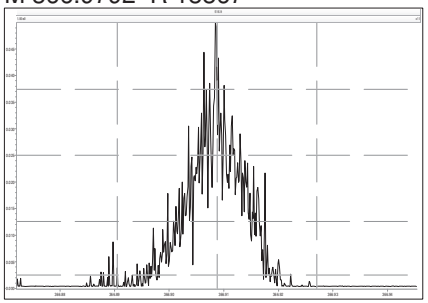
M 404.9760 R 15577



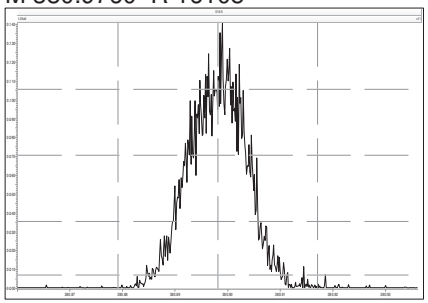
M 416.9760 R 17910



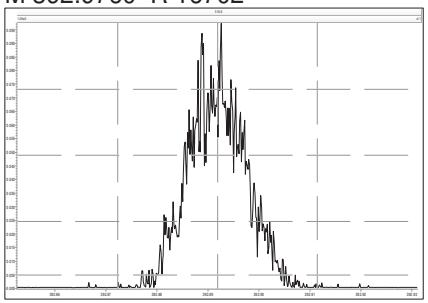
M 366.9792 R 18867



M 380.9760 R 16105



M 392.9760 R 16702



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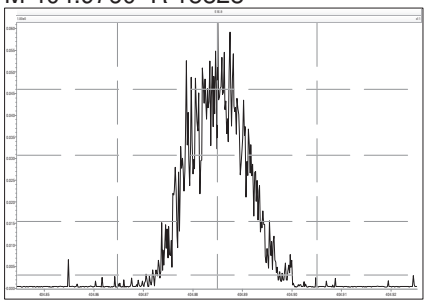

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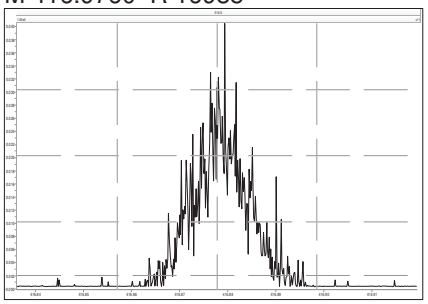

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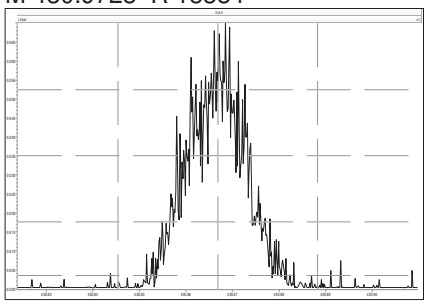

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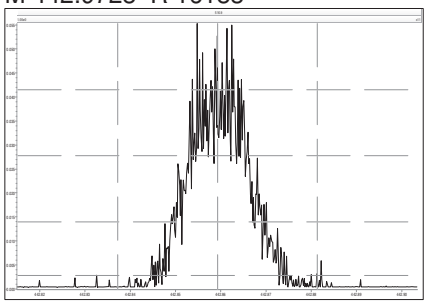

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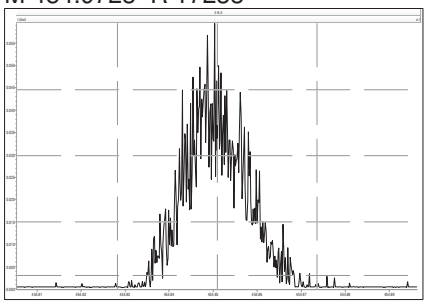

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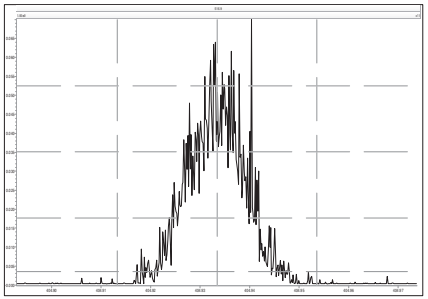

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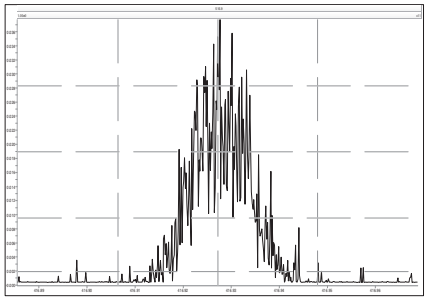

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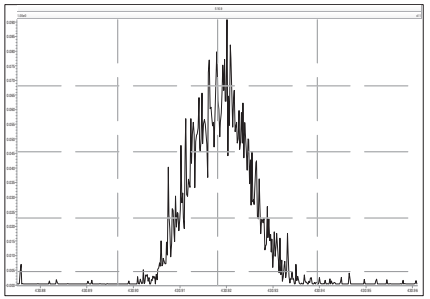

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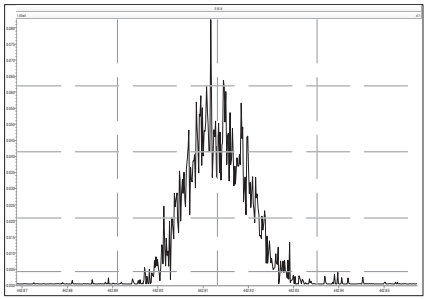

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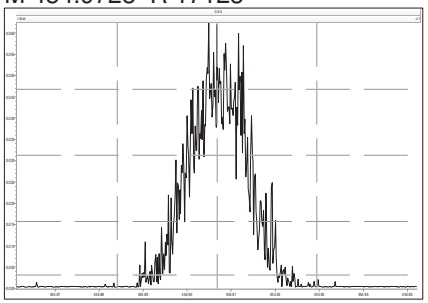

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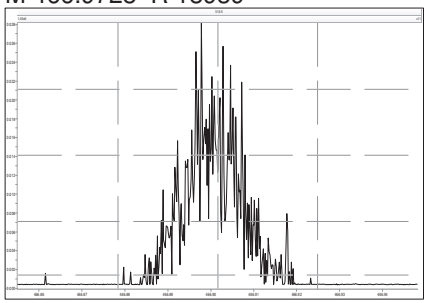

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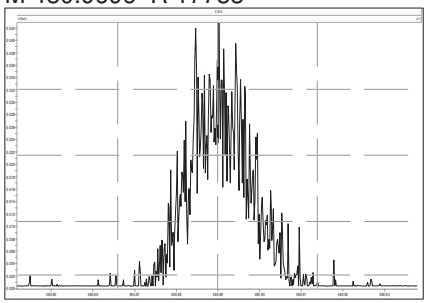

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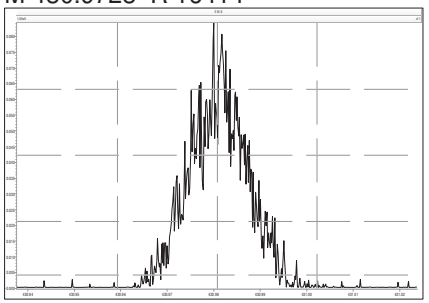

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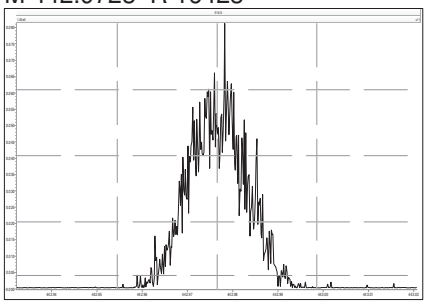

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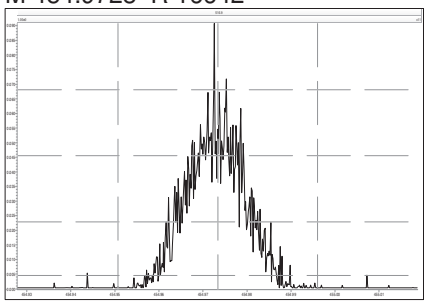

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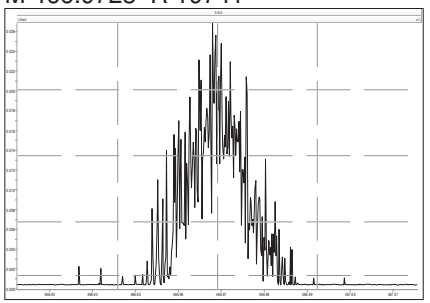

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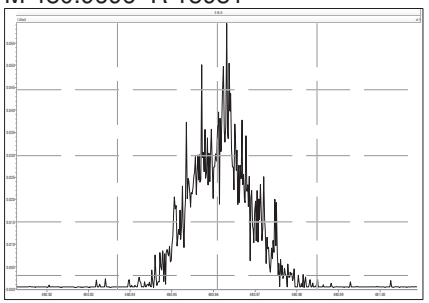

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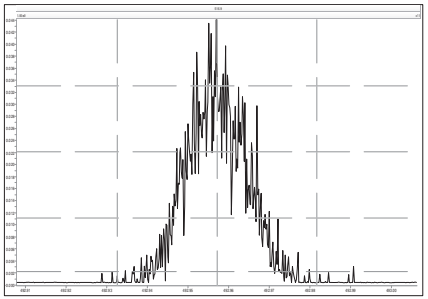

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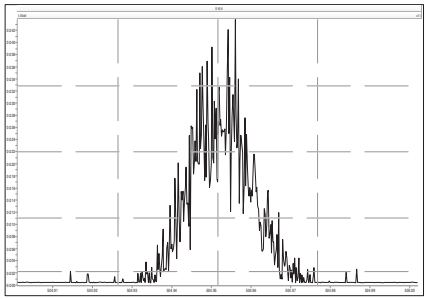

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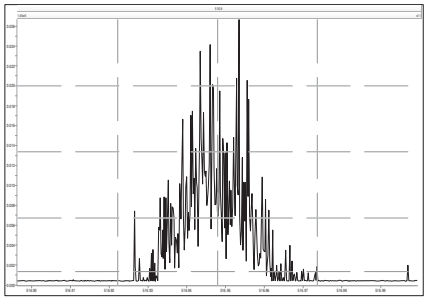

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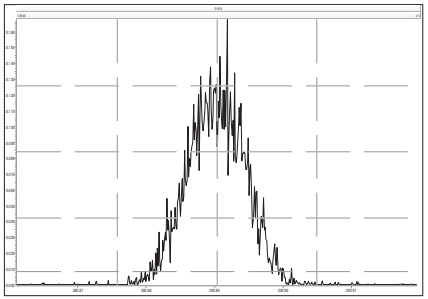

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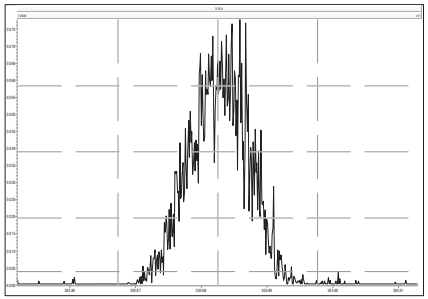

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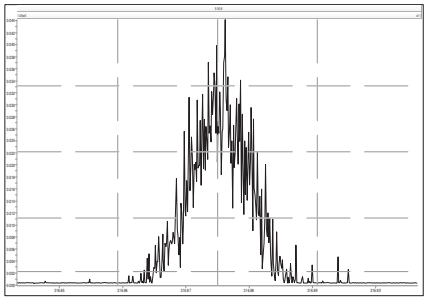

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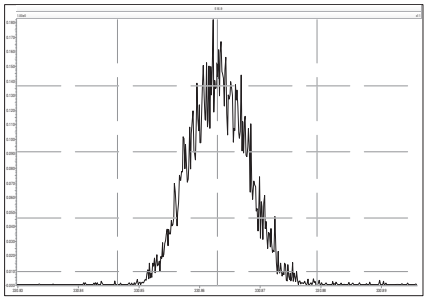

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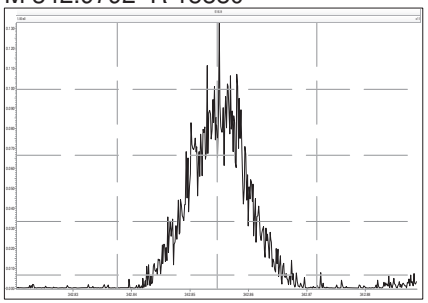

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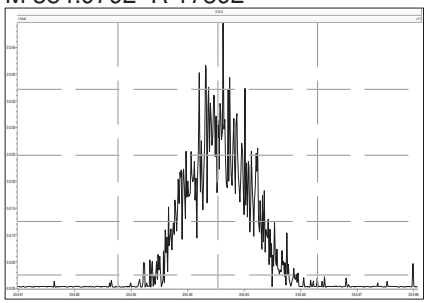

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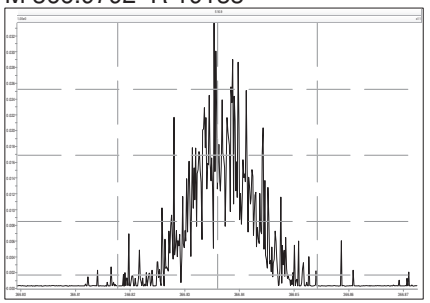

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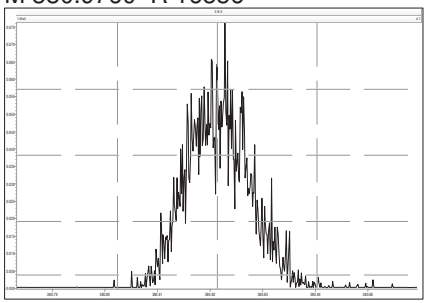

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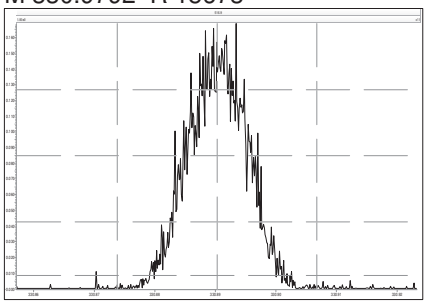

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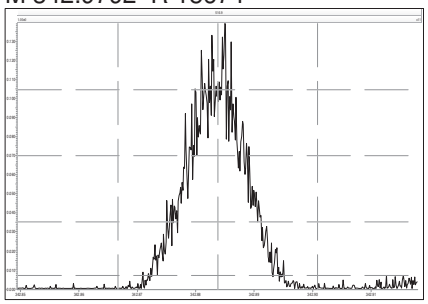

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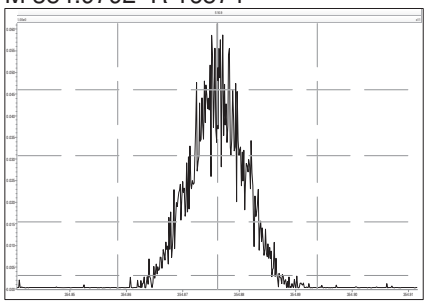

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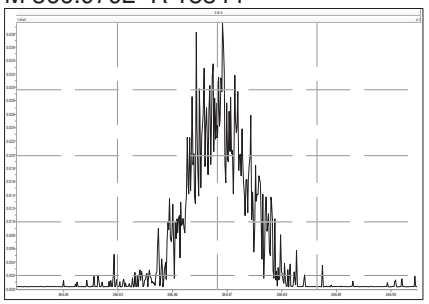

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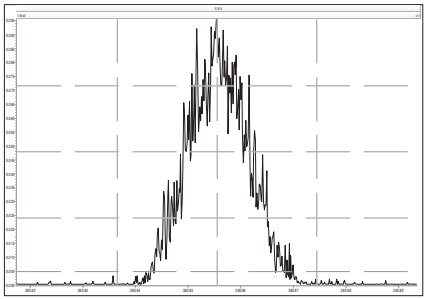

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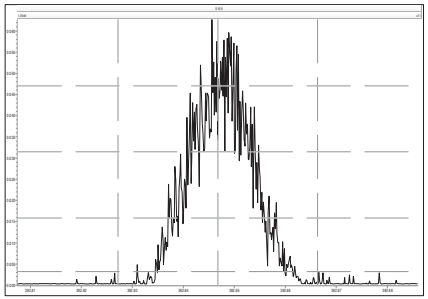

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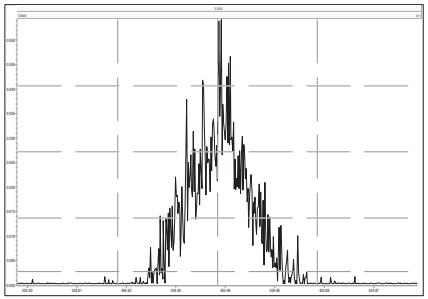

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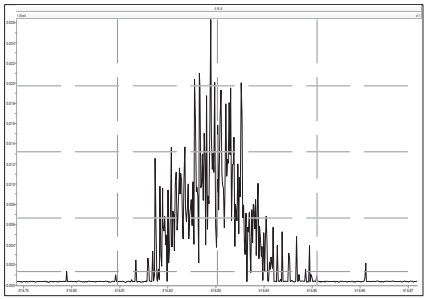

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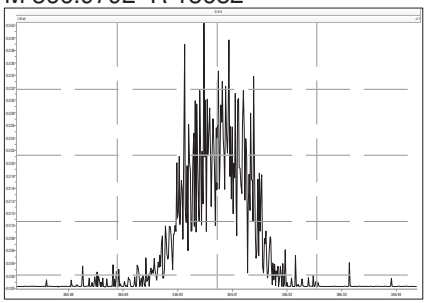

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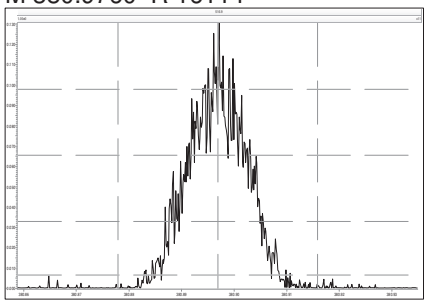

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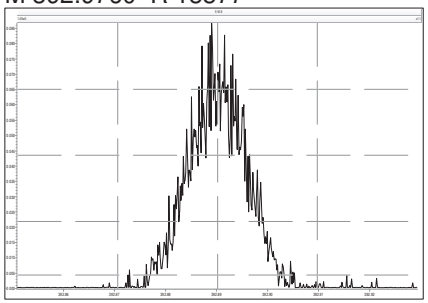

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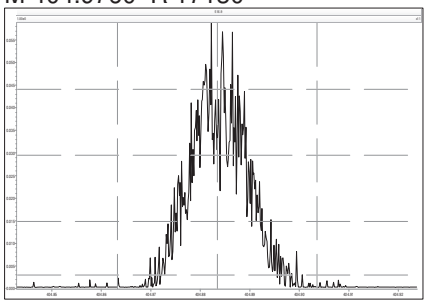

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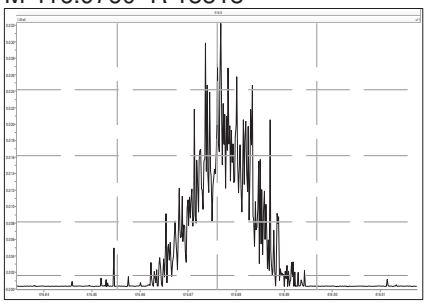

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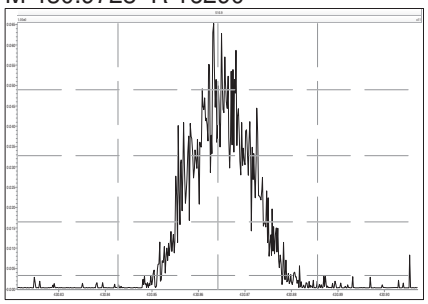

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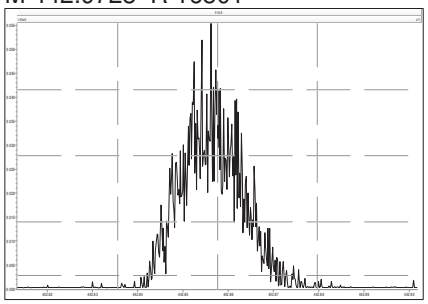

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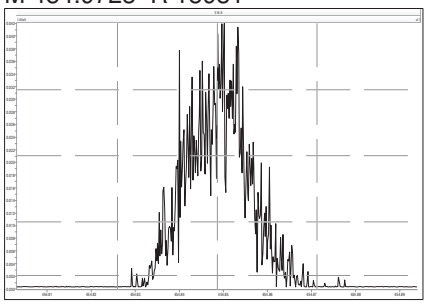

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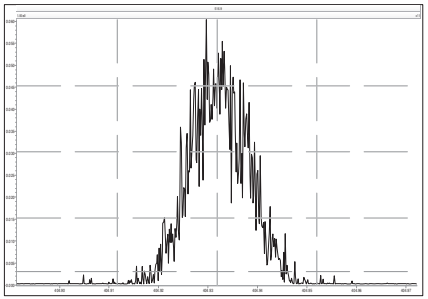

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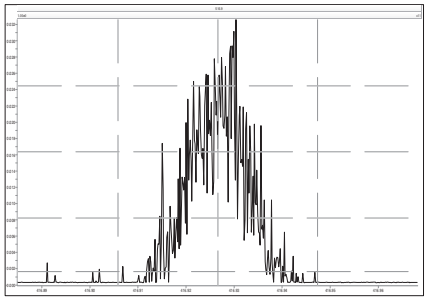

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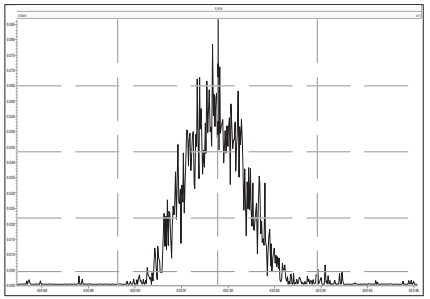

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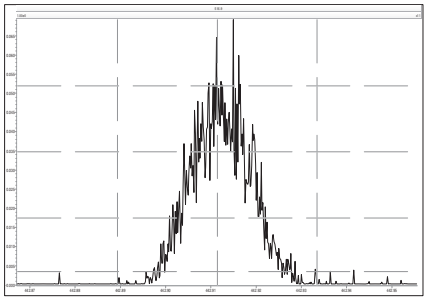

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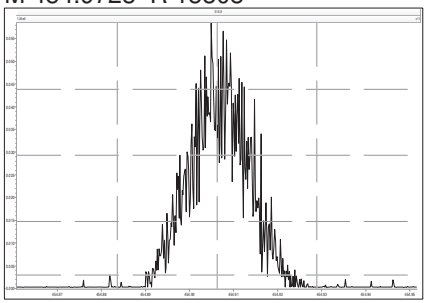

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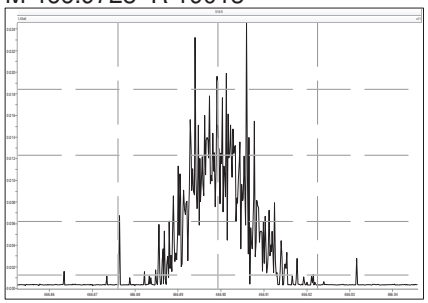

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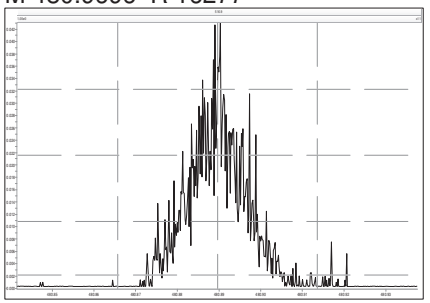

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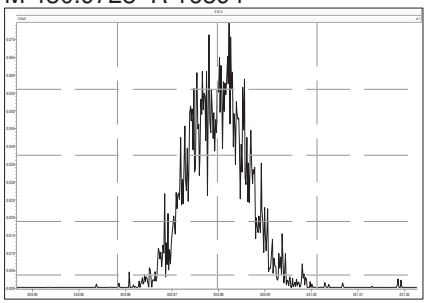

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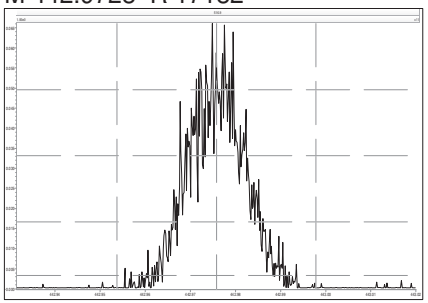

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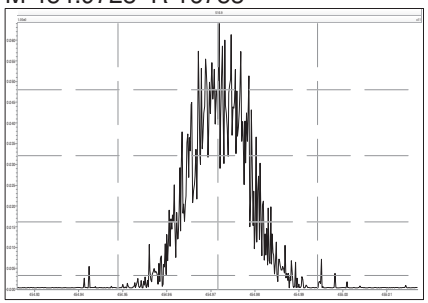

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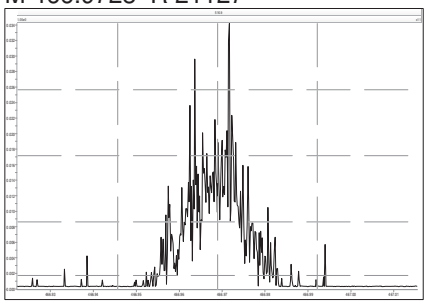

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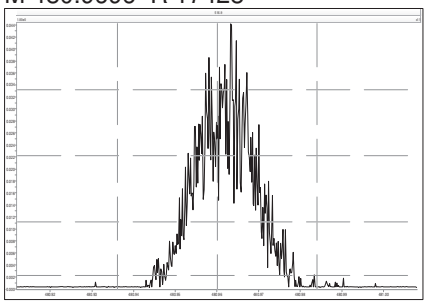

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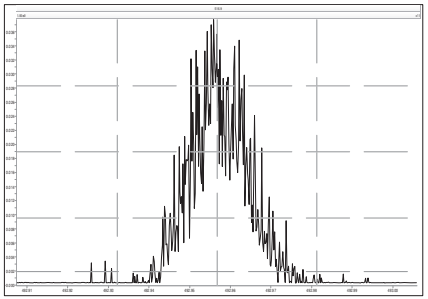

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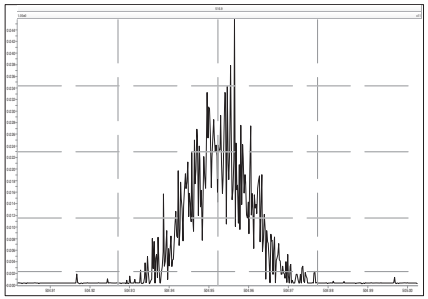

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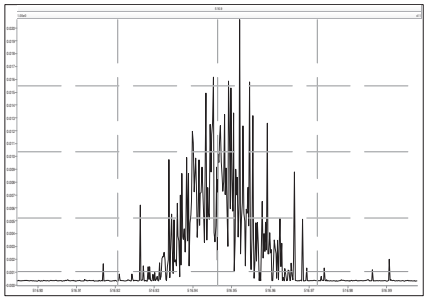

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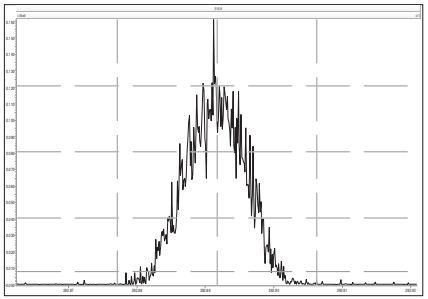

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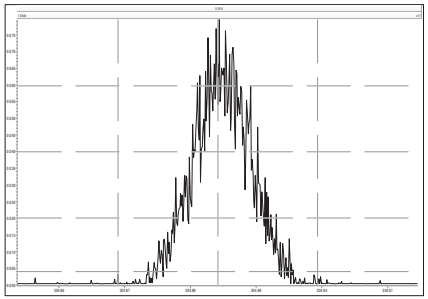

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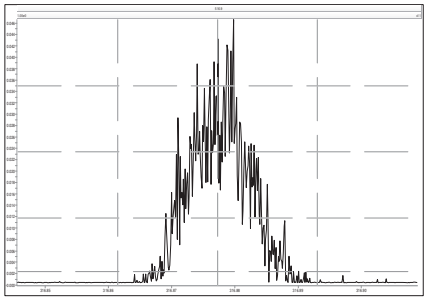

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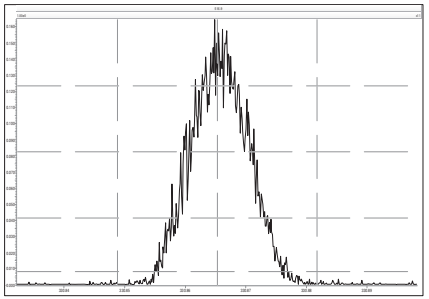

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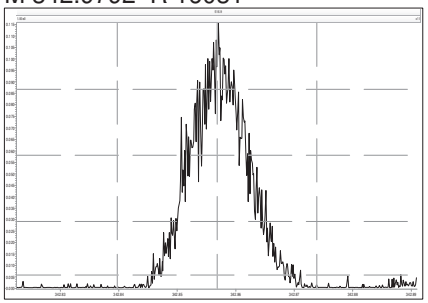

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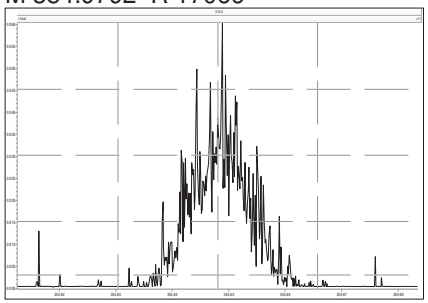

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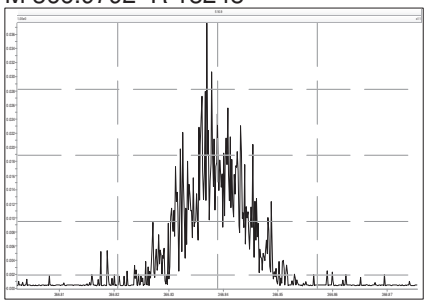

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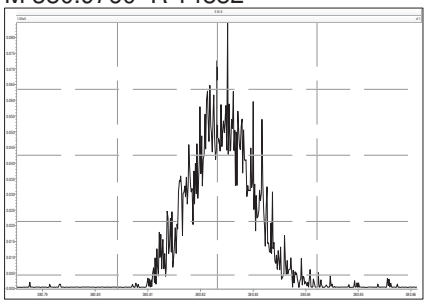

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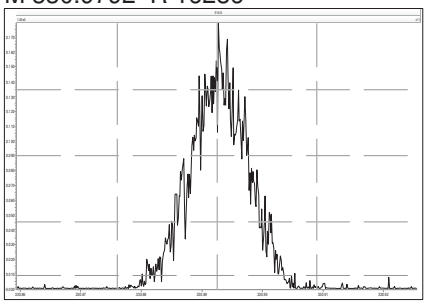

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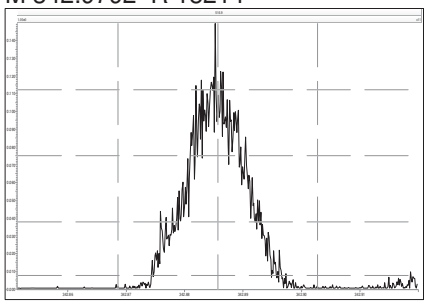

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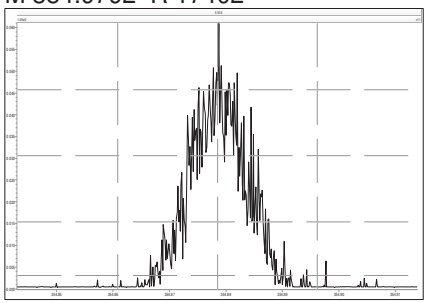

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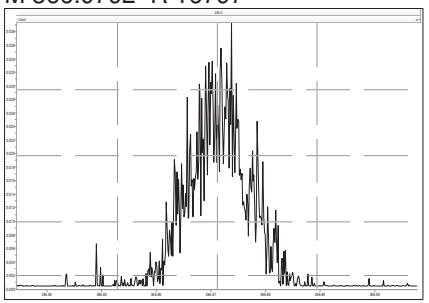

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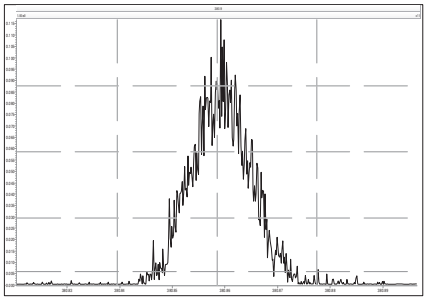

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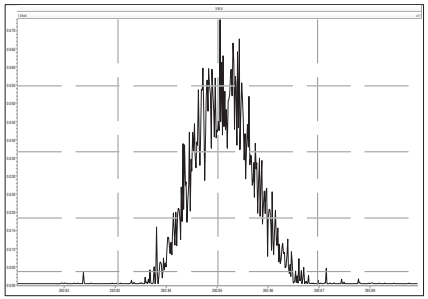

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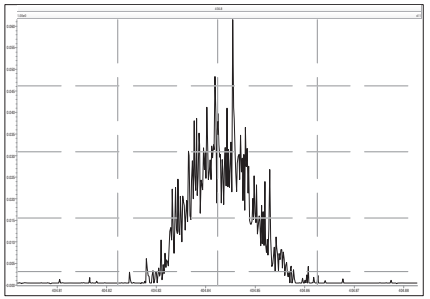

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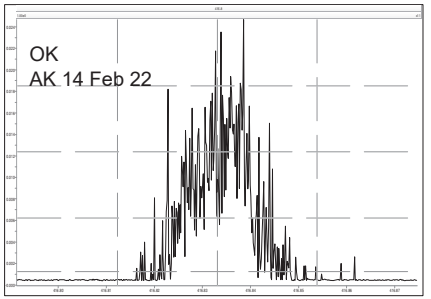

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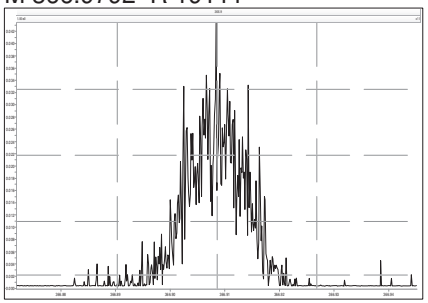

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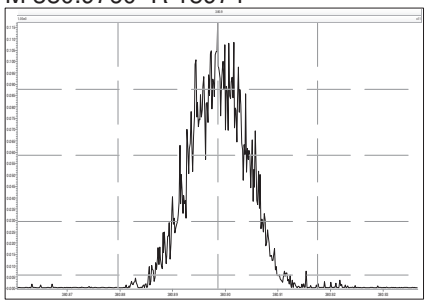

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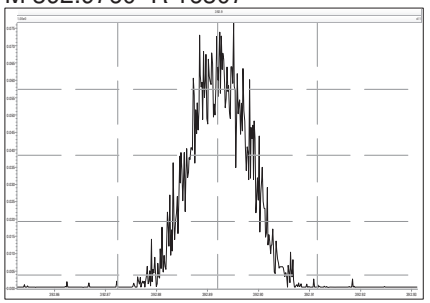

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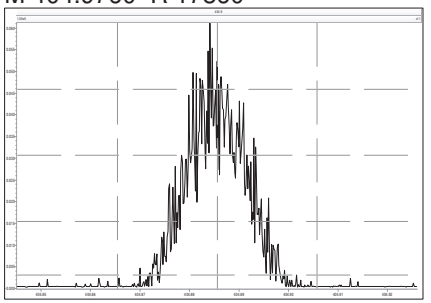

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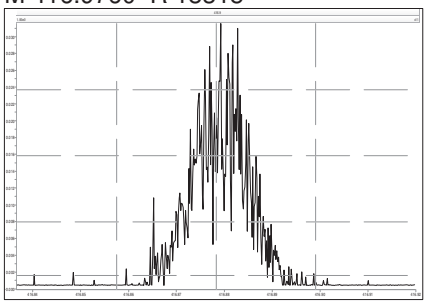

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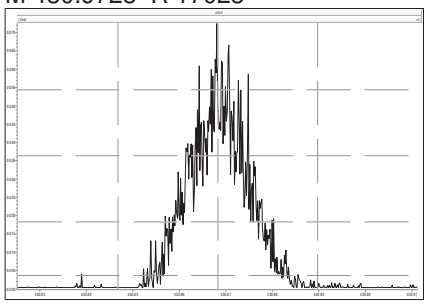

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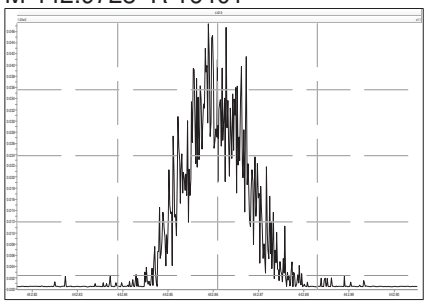

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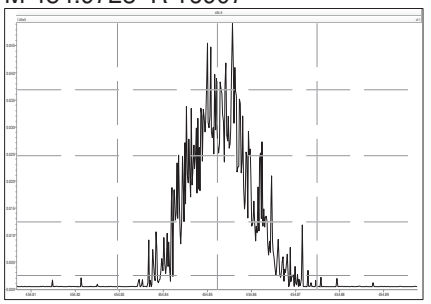

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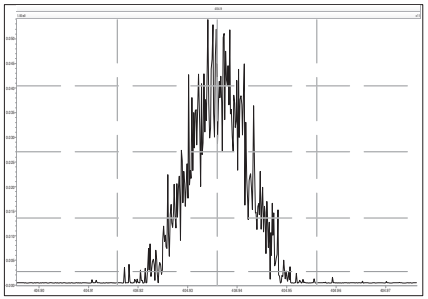

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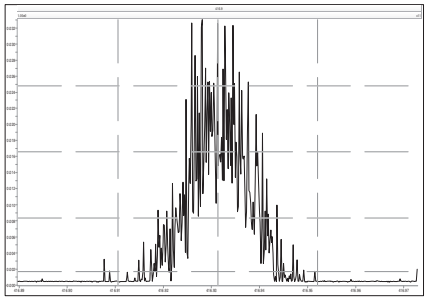

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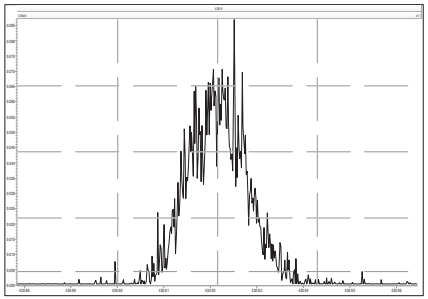

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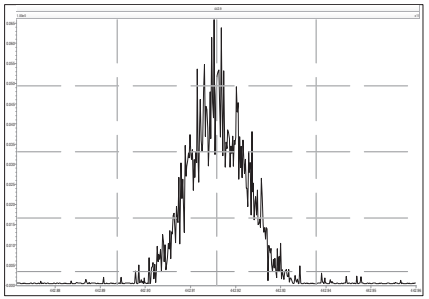

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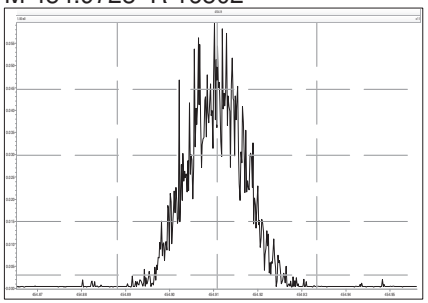

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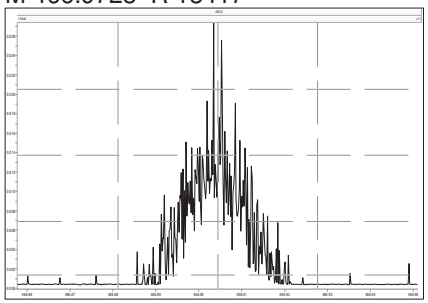

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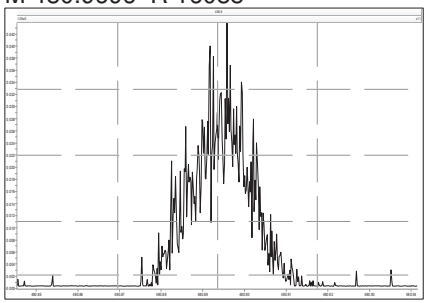

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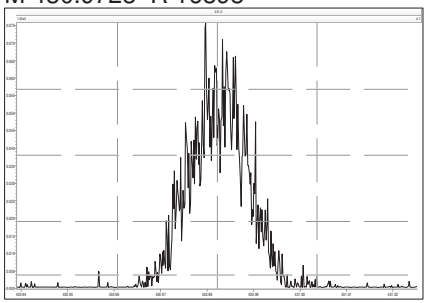

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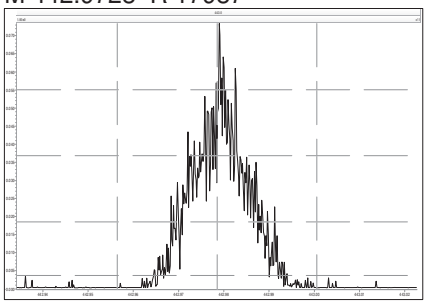

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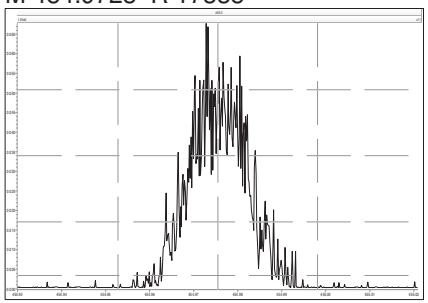

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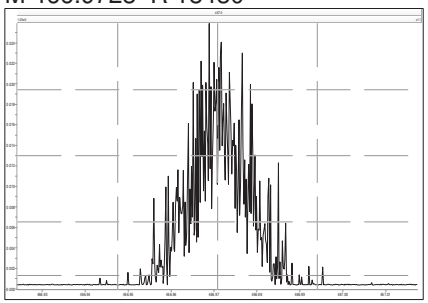

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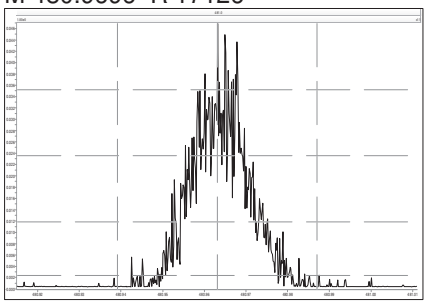

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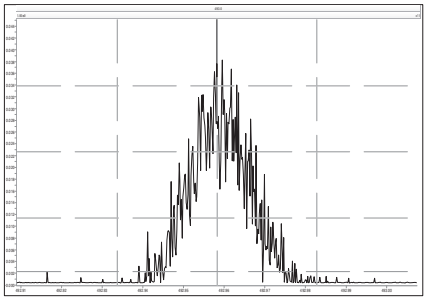

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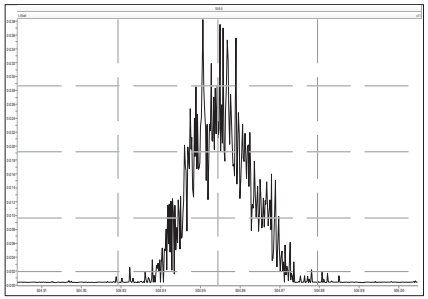

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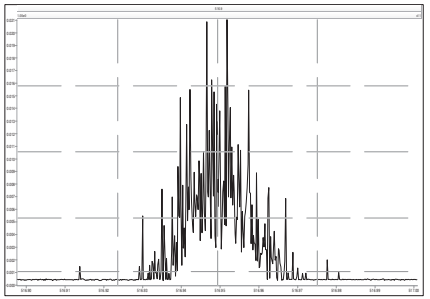


Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34 ✓	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98 ✓
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84 ✓	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28	1.33

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

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

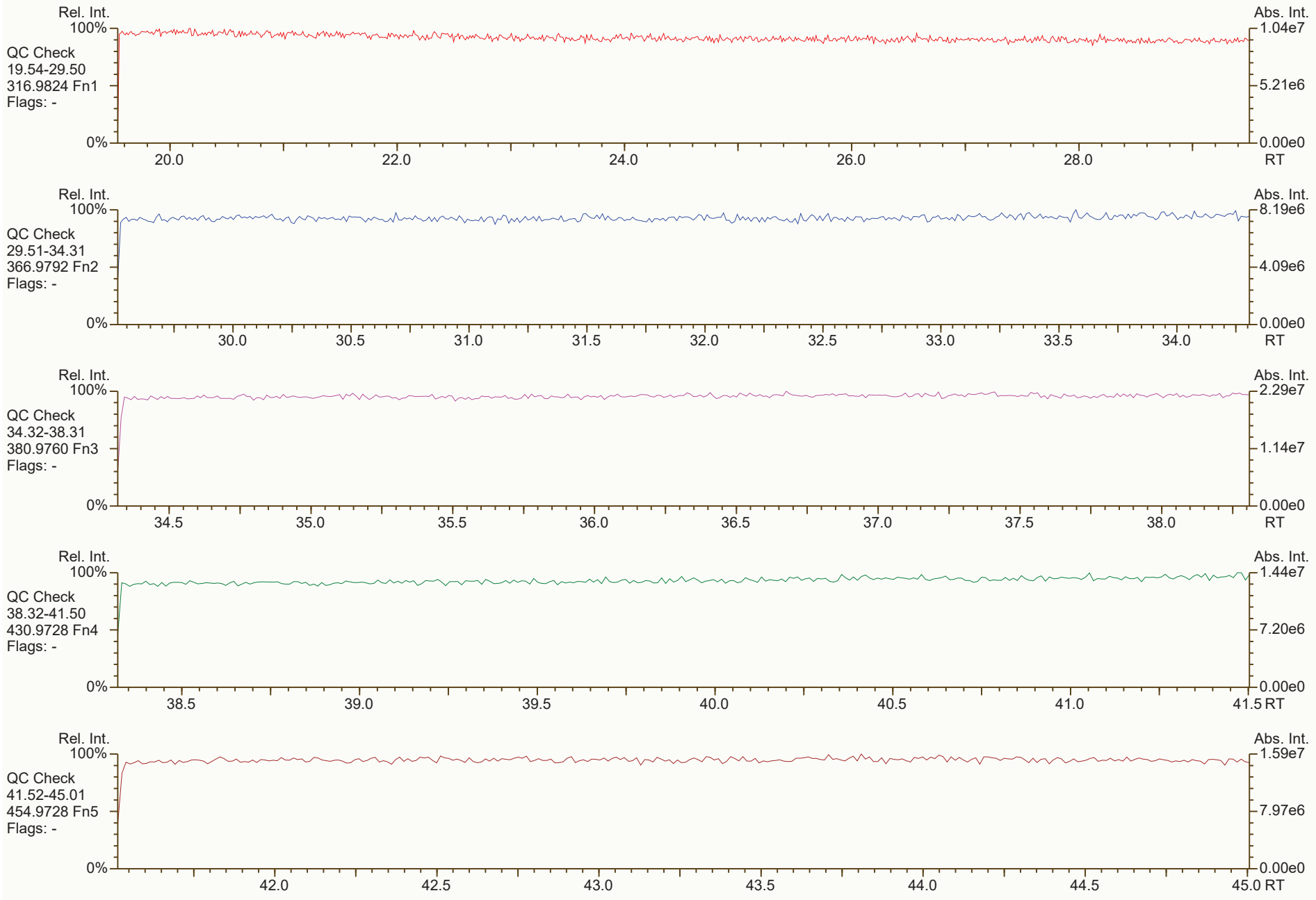
Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD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

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%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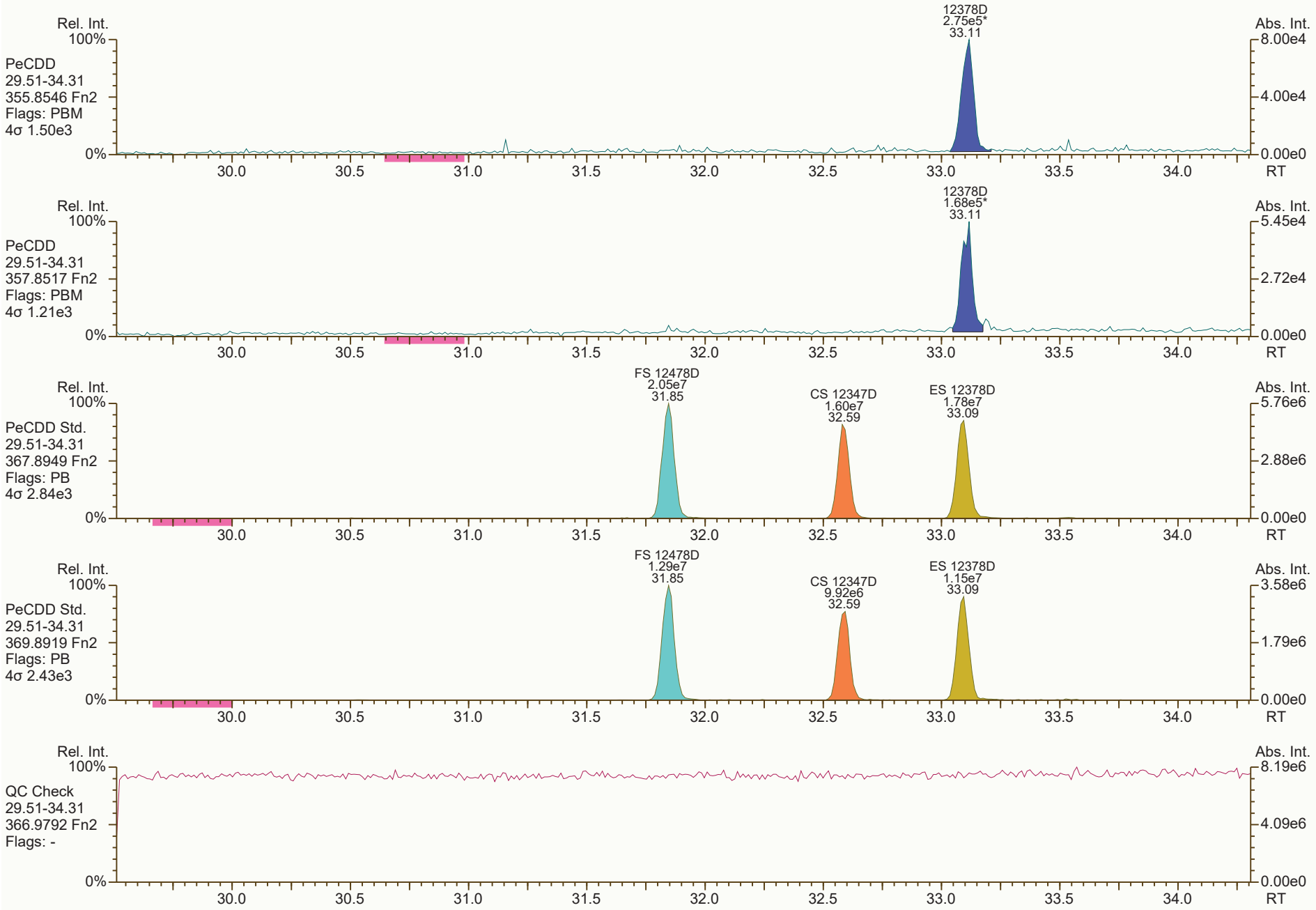
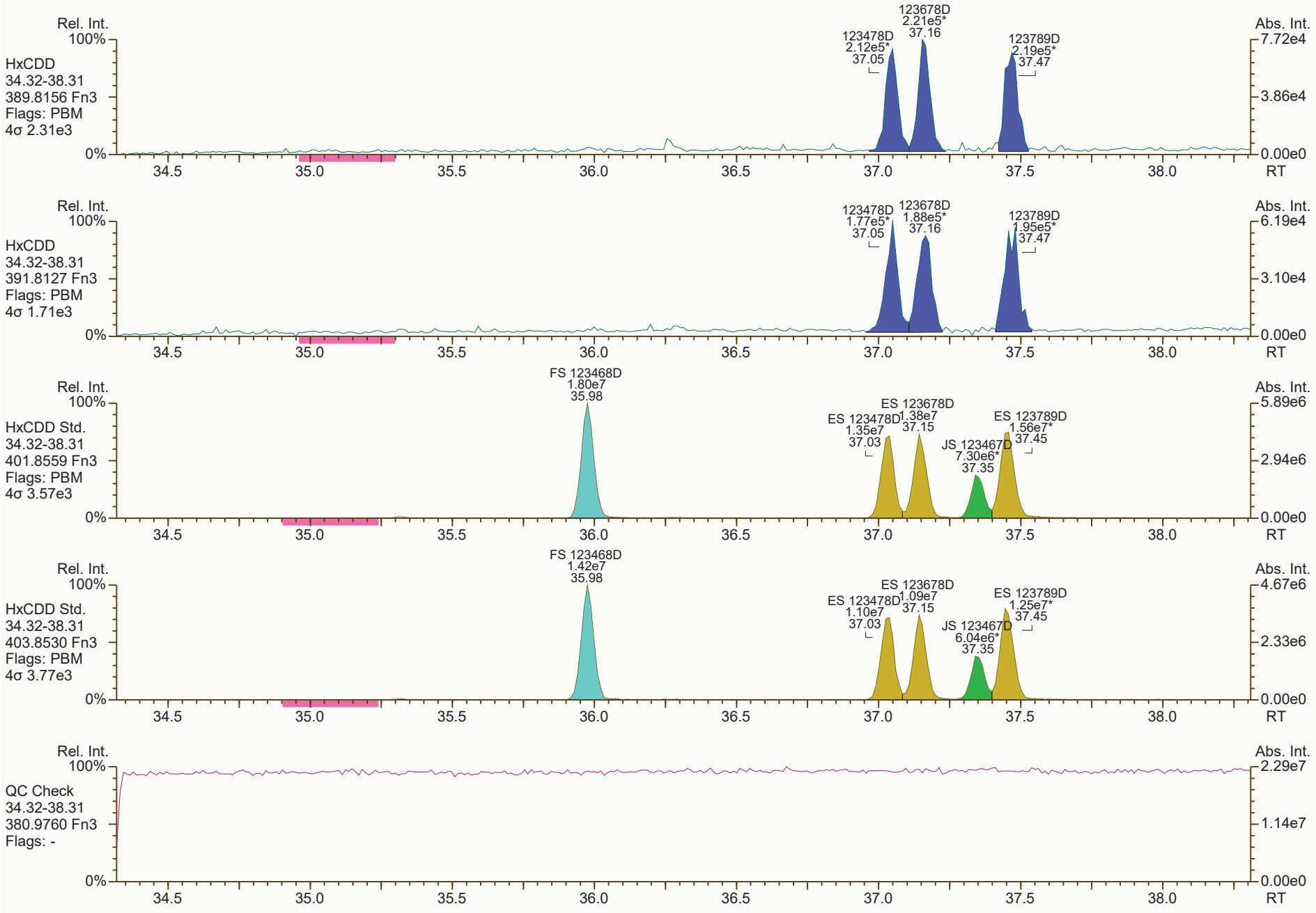
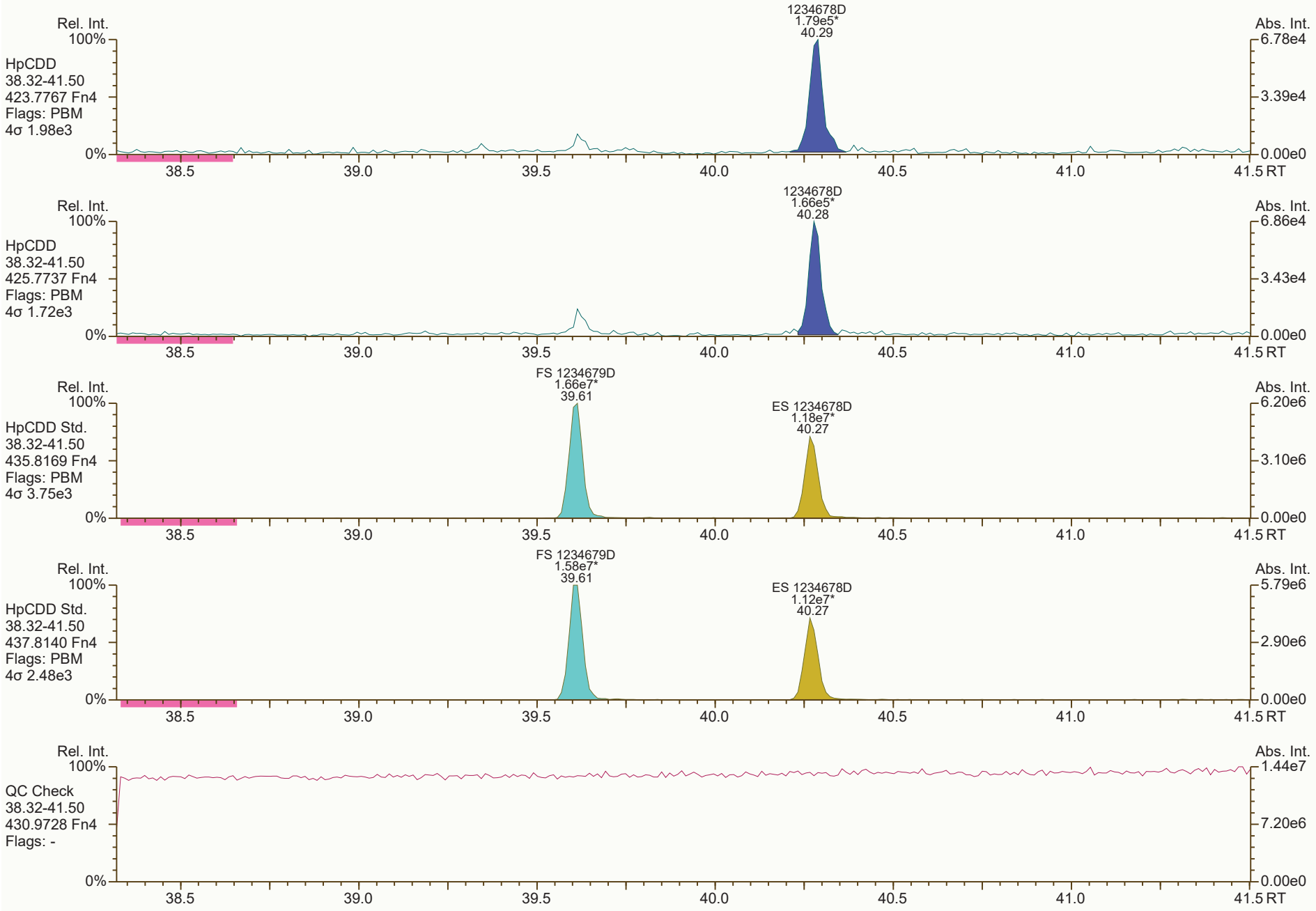
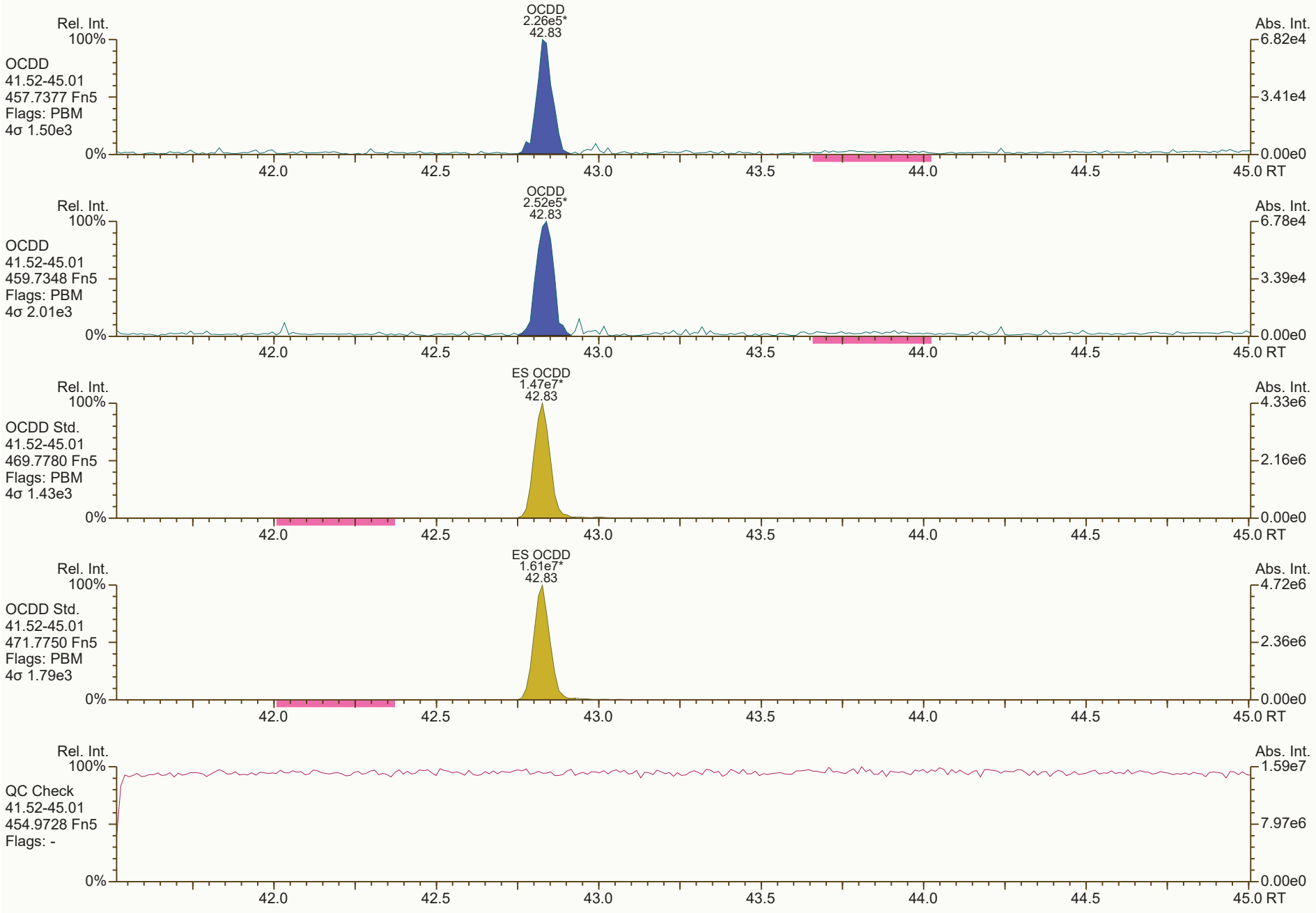
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.04e7
5.21e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.19e6
4.09e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.29e7
1.14e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.44e7
7.20e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.97e6
0.00e0

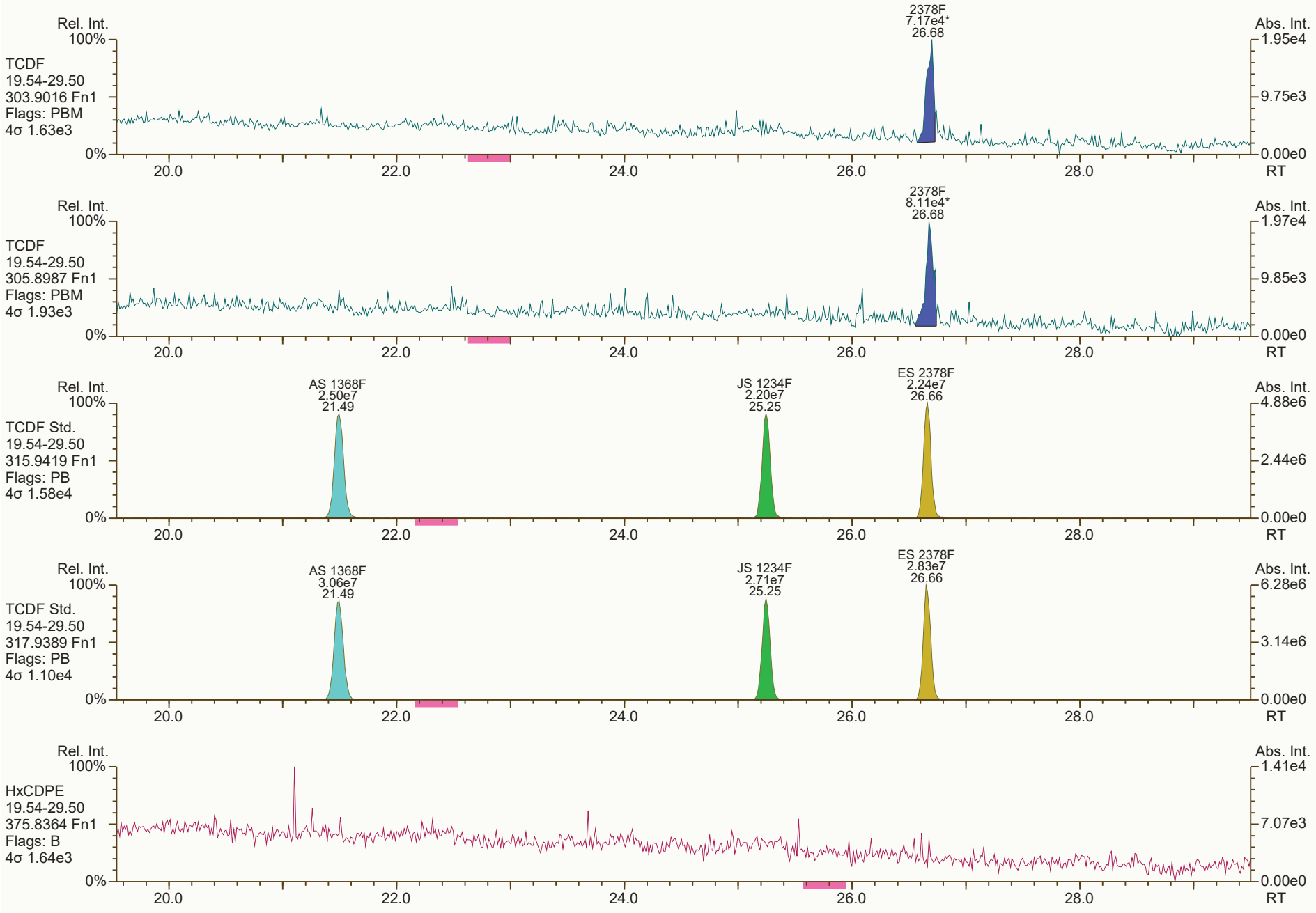

Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
0%
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
Abs. Int.
1.67e4
8.35e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
2.13e4
1.06e4
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

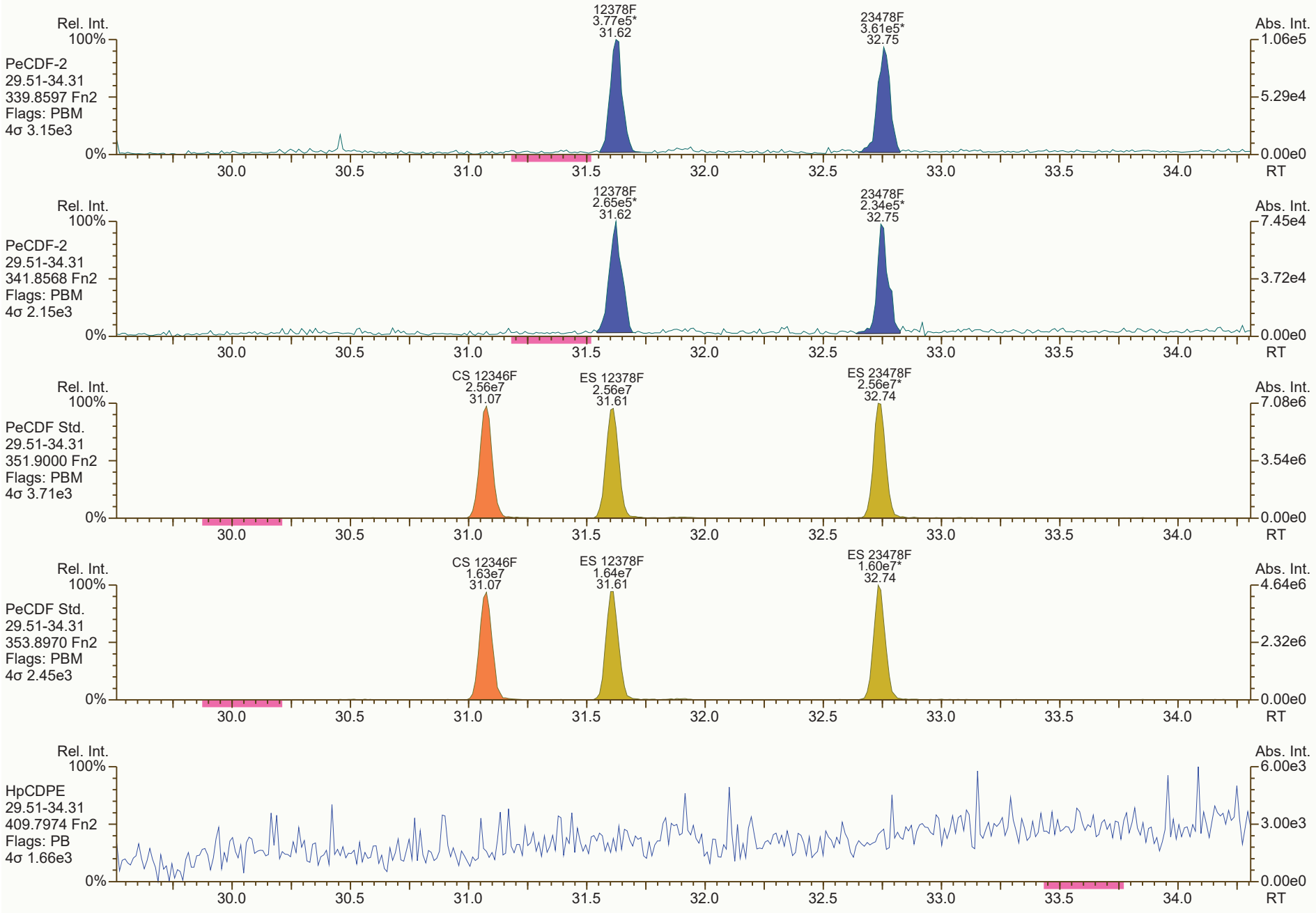

Rel. Int.
Abs. Int.
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
123478D 2.12e5* 37.05
123678D 2.21e5* 37.16
123789D 2.19e5* 37.47
7.72e4
3.86e4
0.00e0
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
123478D 1.77e5* 37.05
123678D 1.88e5* 37.16
123789D 1.95e5* 37.47
6.19e4
3.10e4
0.00e0
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
FS 123468D 1.80e7 35.98
ES 123478D 1.35e7 37.03
ES 123678D 1.38e7 37.15
JS 123467D 7.30e6* 37.35
ES 123789D 1.56e7* 37.45
5.89e6
2.94e6
0.00e0
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
FS 123468D 1.42e7 35.98
ES 123478D 1.10e7 37.03
ES 123678D 1.09e7 37.15
JS 123467D 6.04e6* 37.35
ES 123789D 1.25e7* 37.45
4.67e6
2.33e6
0.00e0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.29e7
1.14e7
0.00e0
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

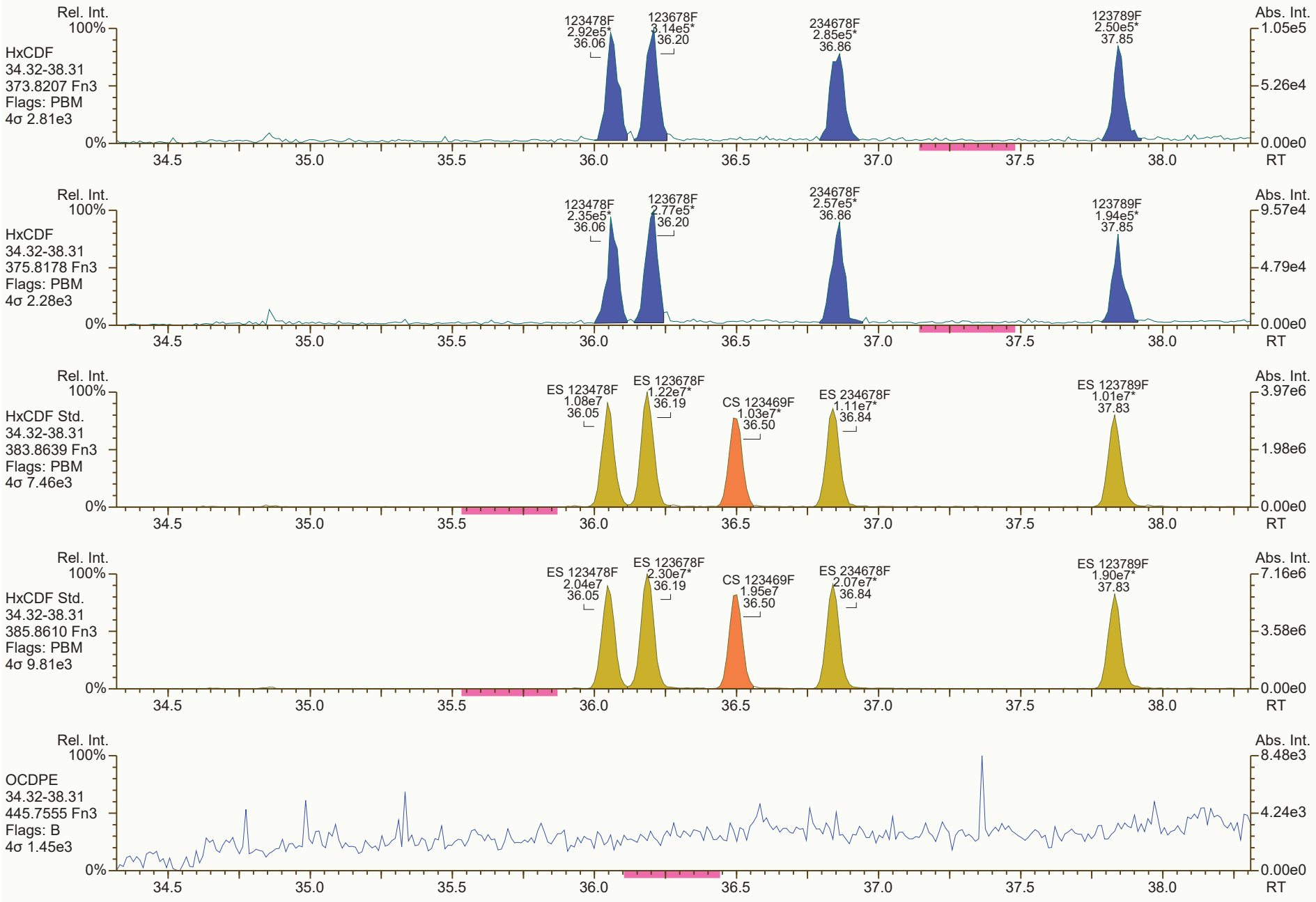

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

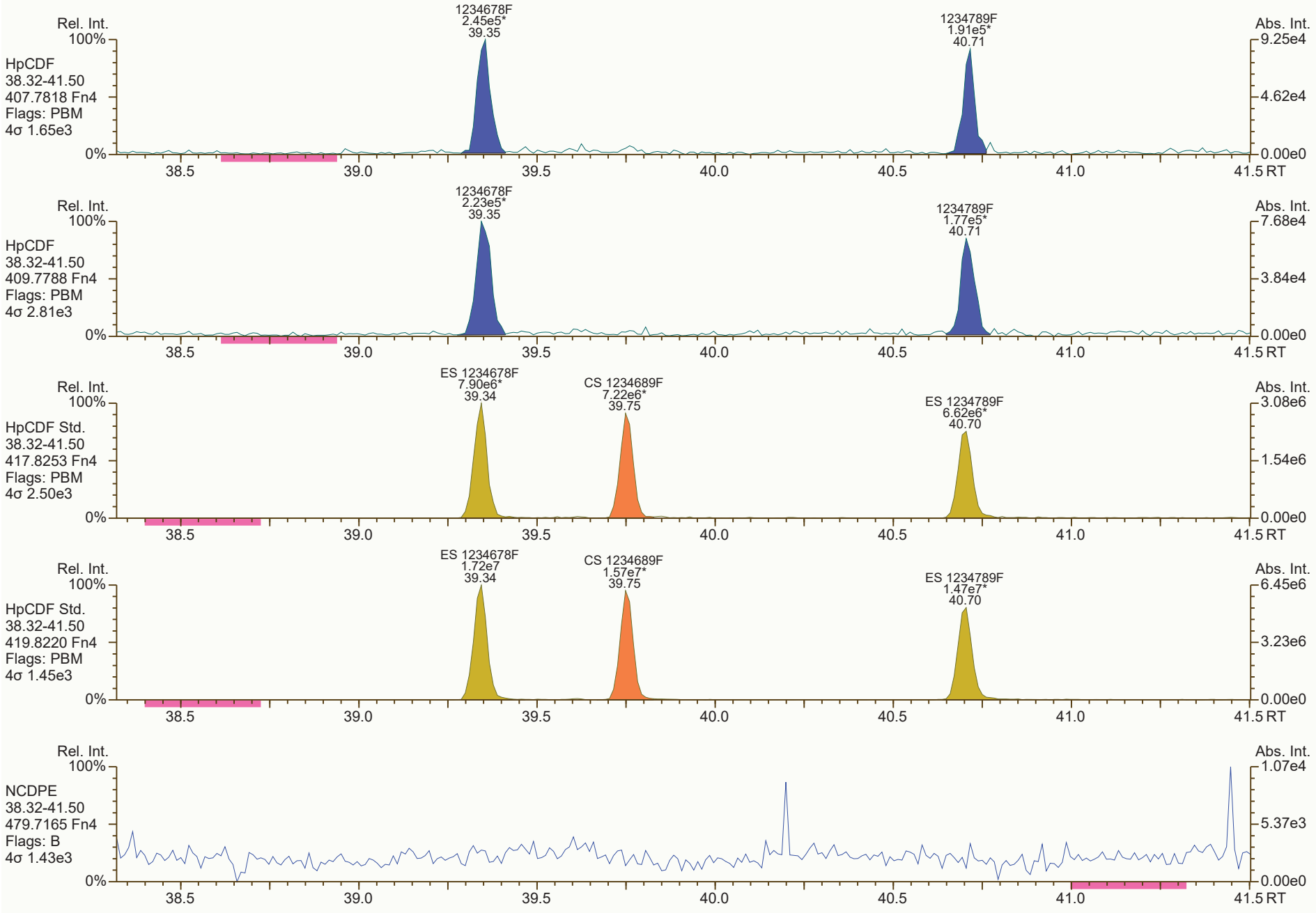

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
0%
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
0%
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
0%
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.41e4
7.07e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.25e4
6.27e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: PB
4σ 2.44e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.40e4
7.01e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 1.85e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.04e7
5.21e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
Abs. Int.
8.48e3
4.24e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

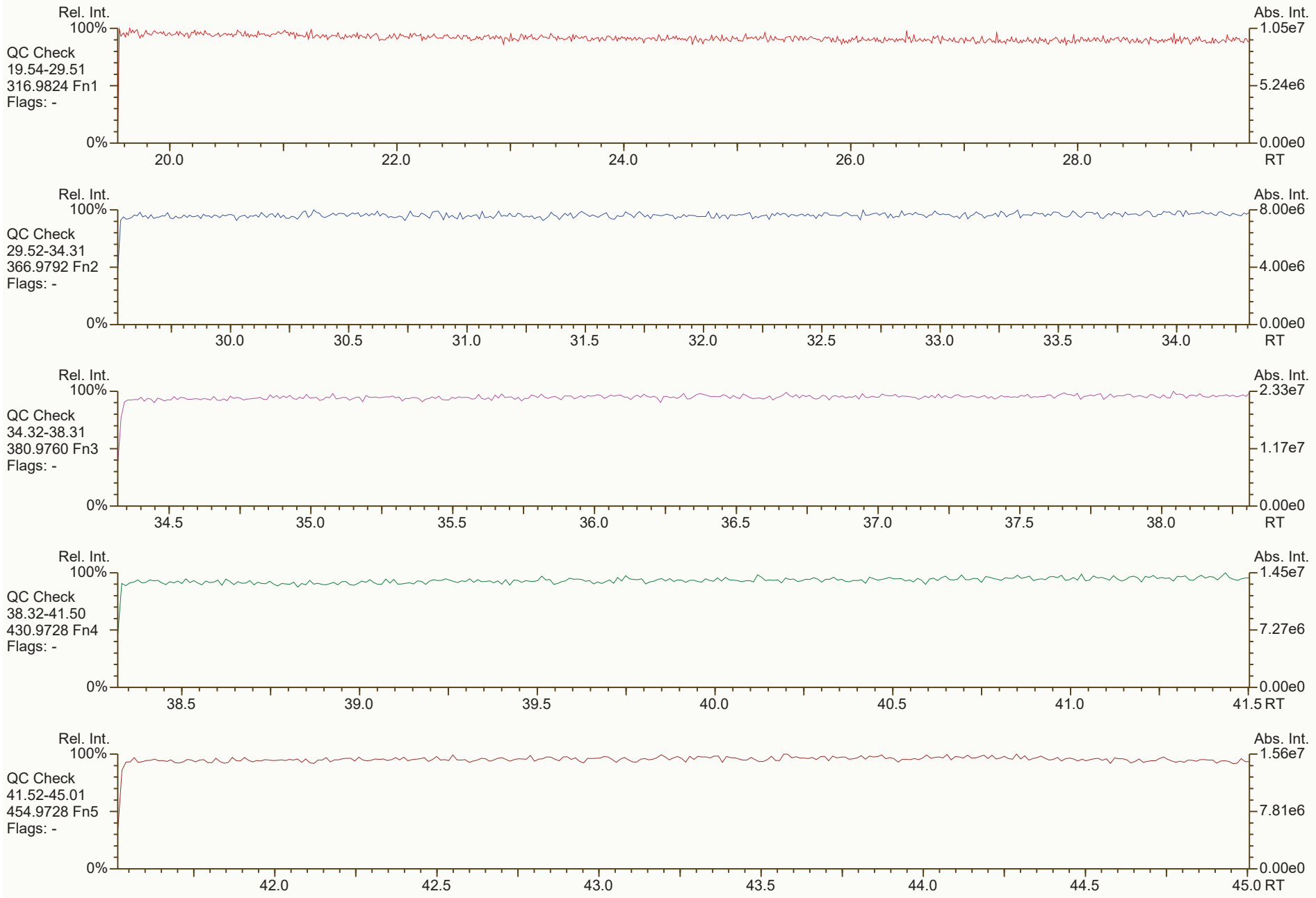

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
OCDF
2.83e5*
43.00
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
OCDF
3.12e5*
43.00
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
ES OCDF
1.88e7*
42.99
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
ES OCDF
2.08e7*
42.99
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:48 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 419-111-CRN
Sample ID: 25-6-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C05

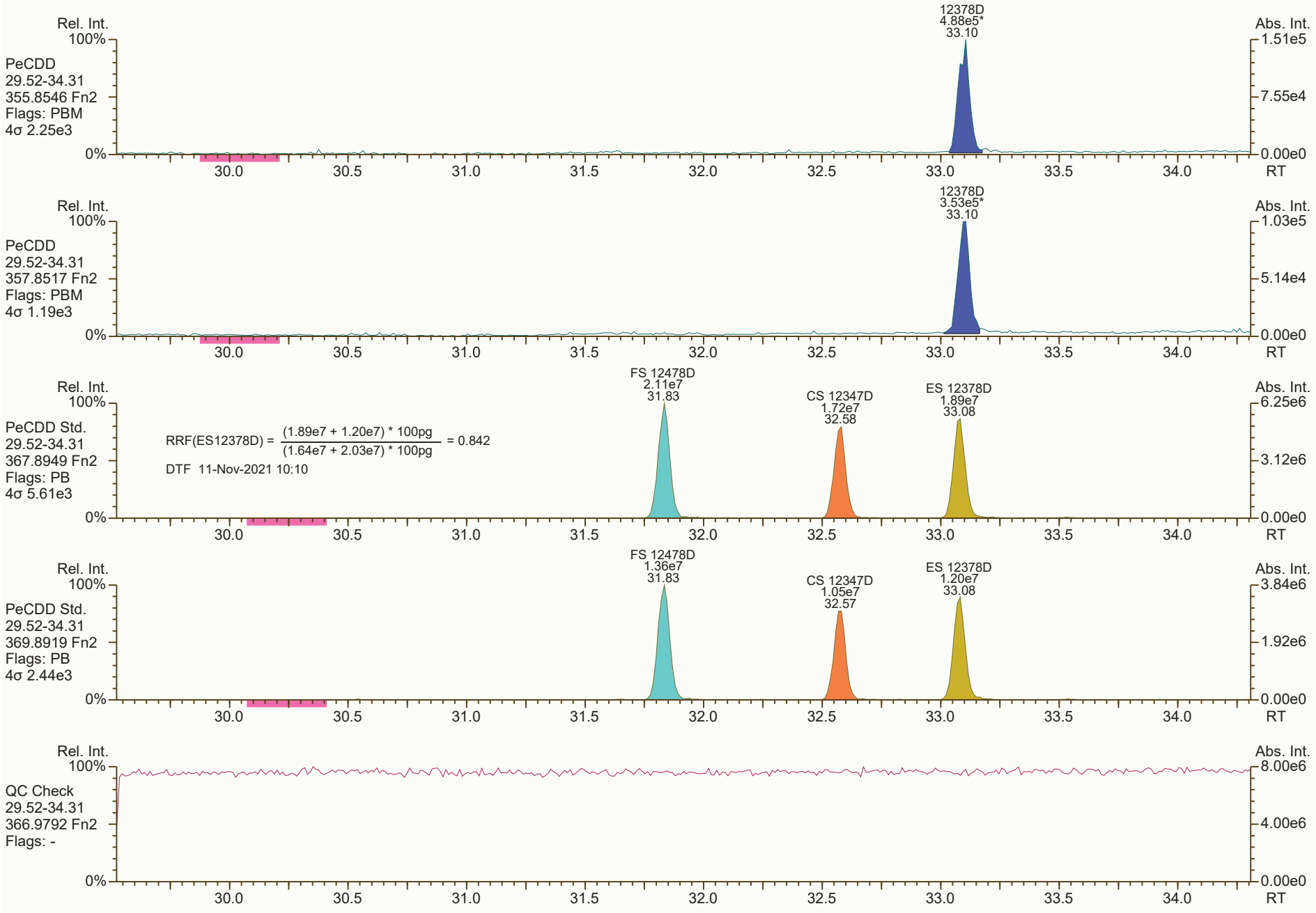
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

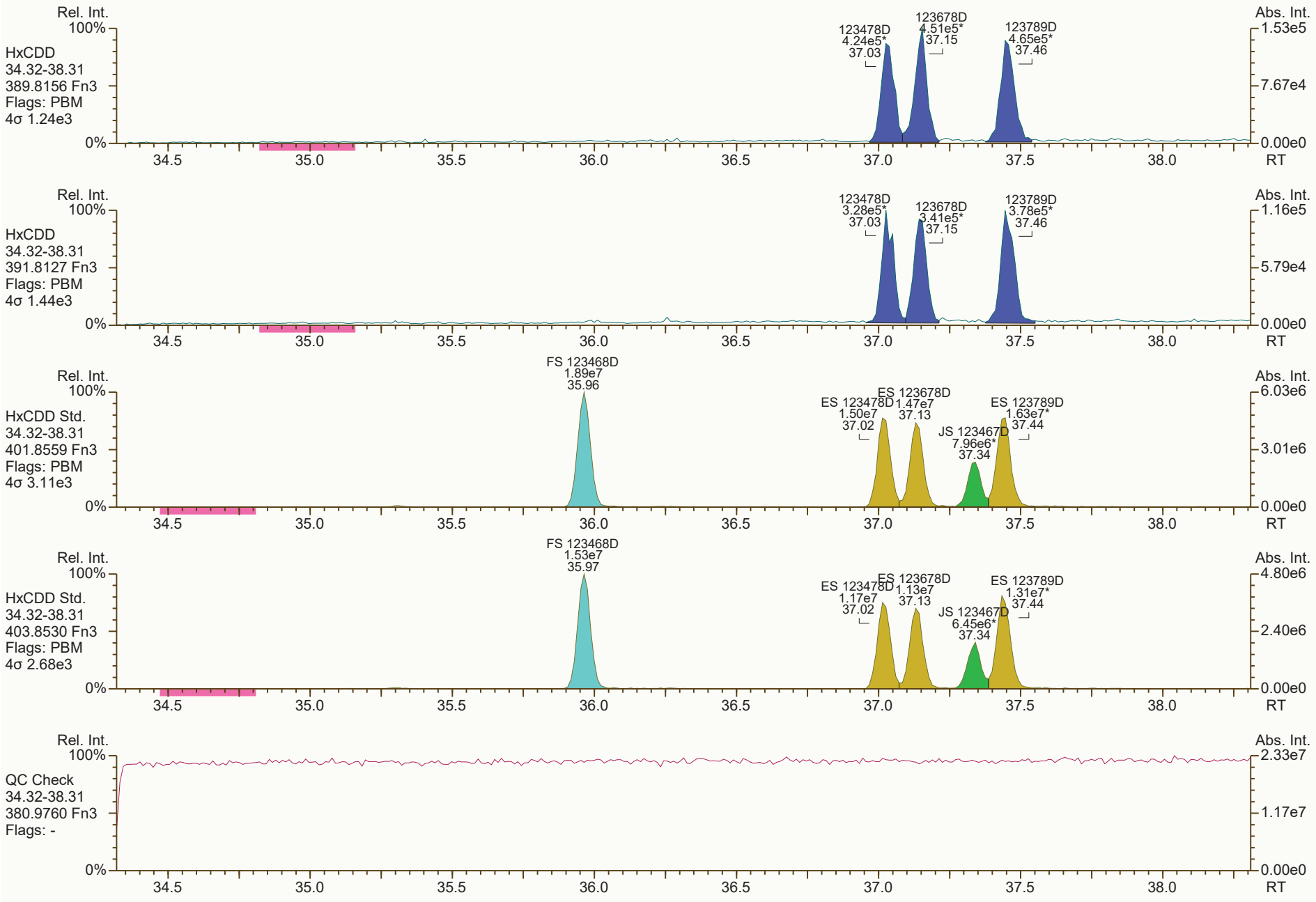
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:48 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 419-111-CRN
Sample ID: 25-6-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C05

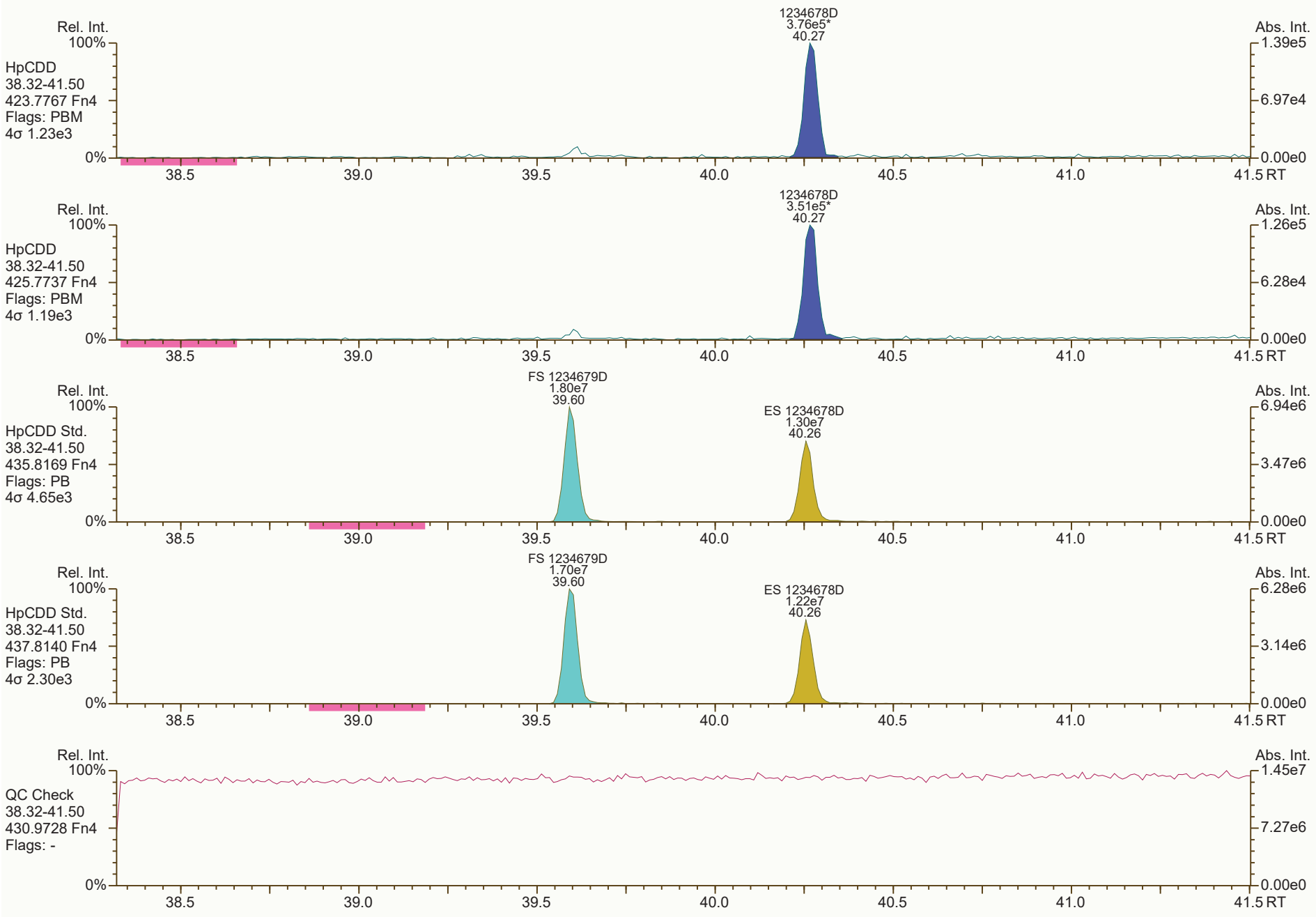
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

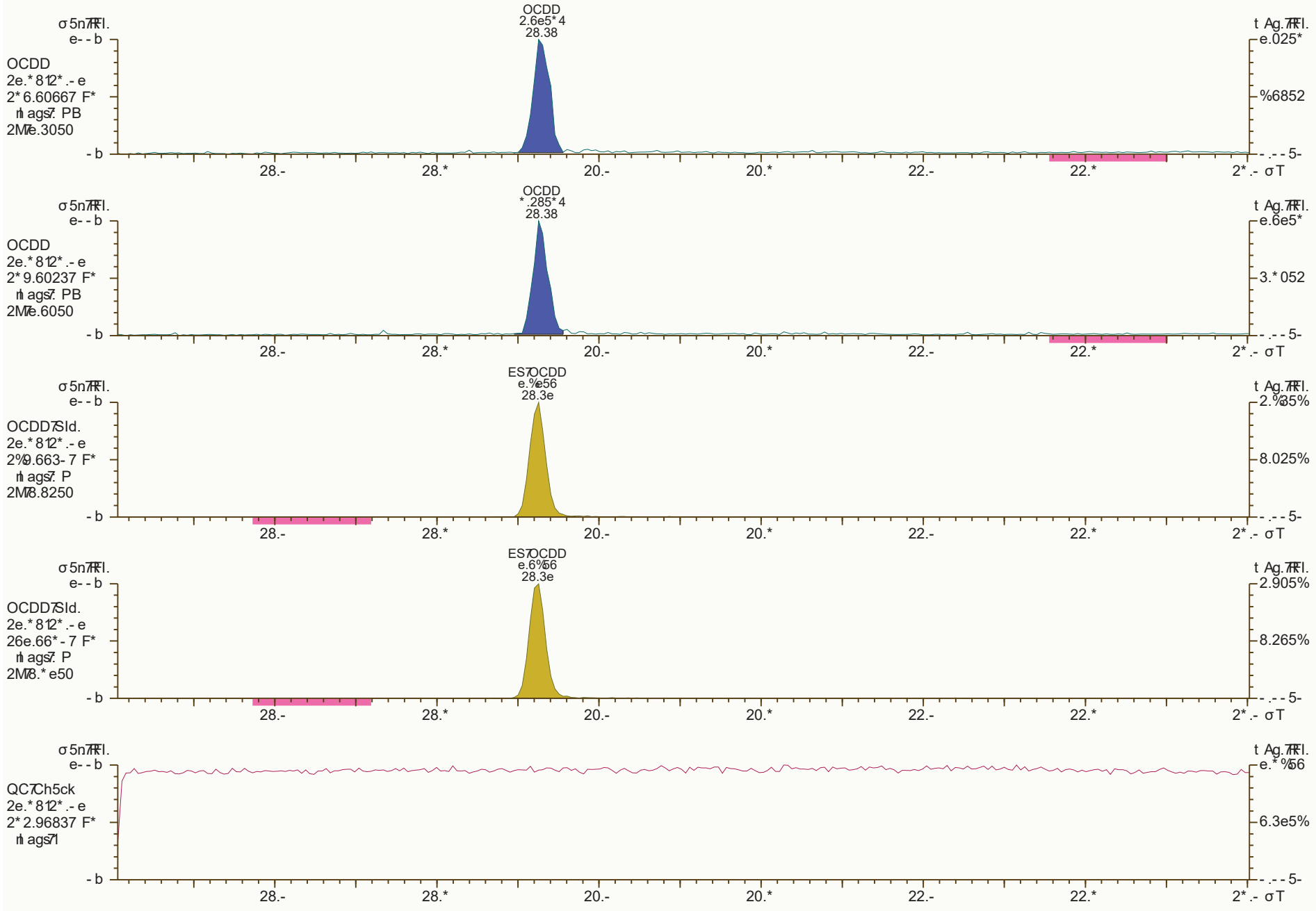

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.05e7
5.24e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.00e6
4.00e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.45e7
7.27e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.56e7
7.81e6
0.00e0

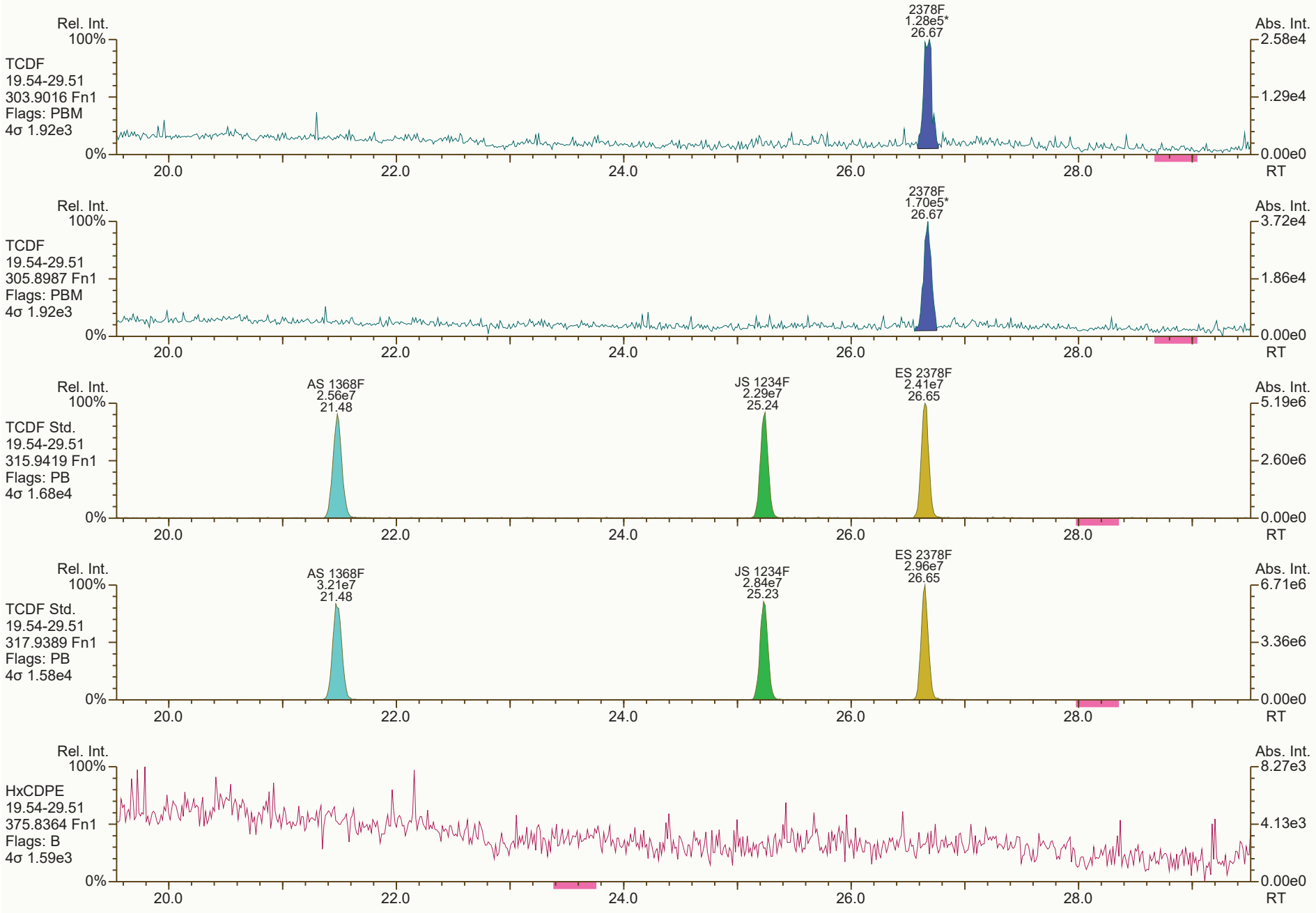

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

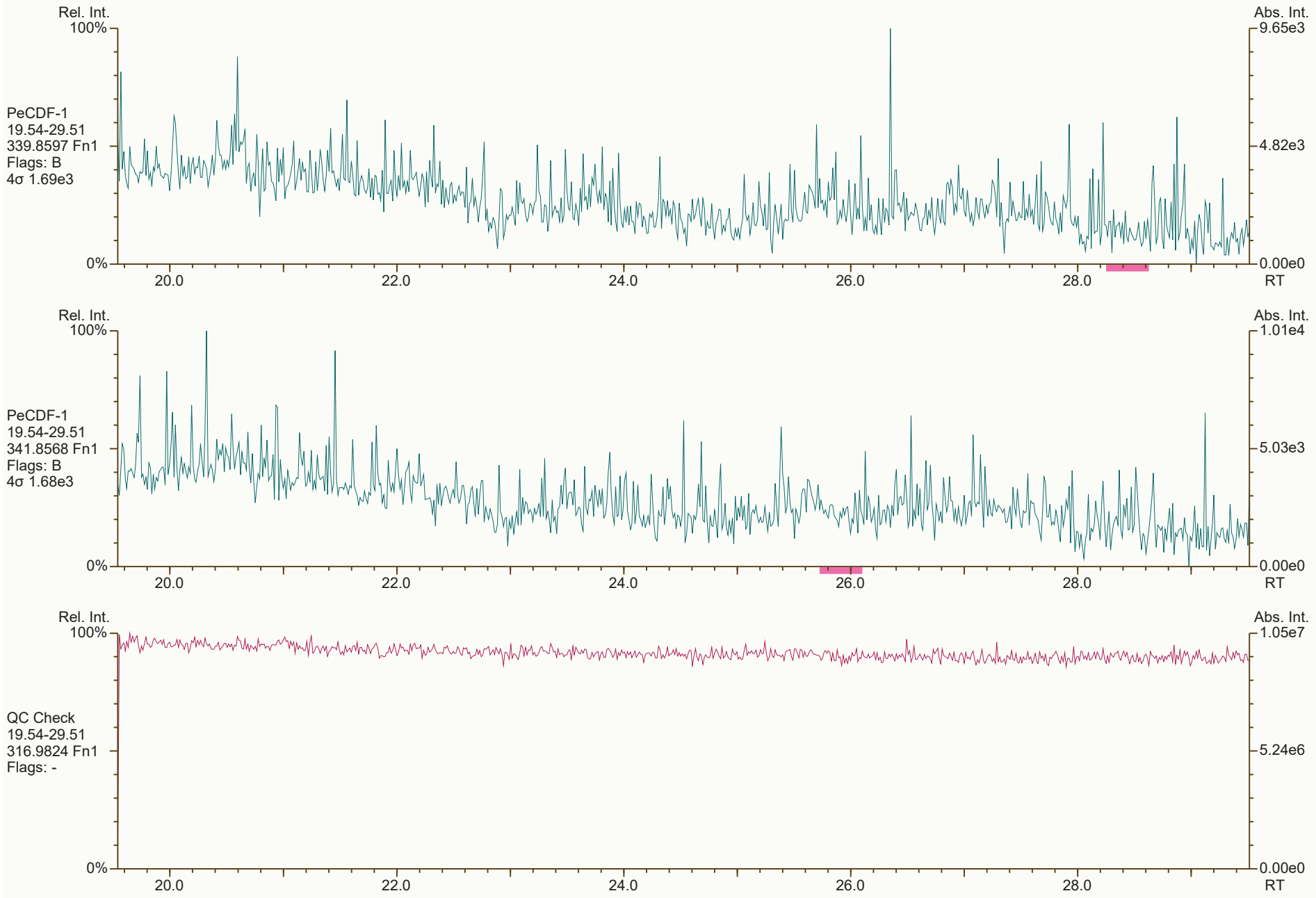

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
Abs. Int.
1.03e5
5.14e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
Abs. Int.
6.25e6
3.12e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.00e6
4.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

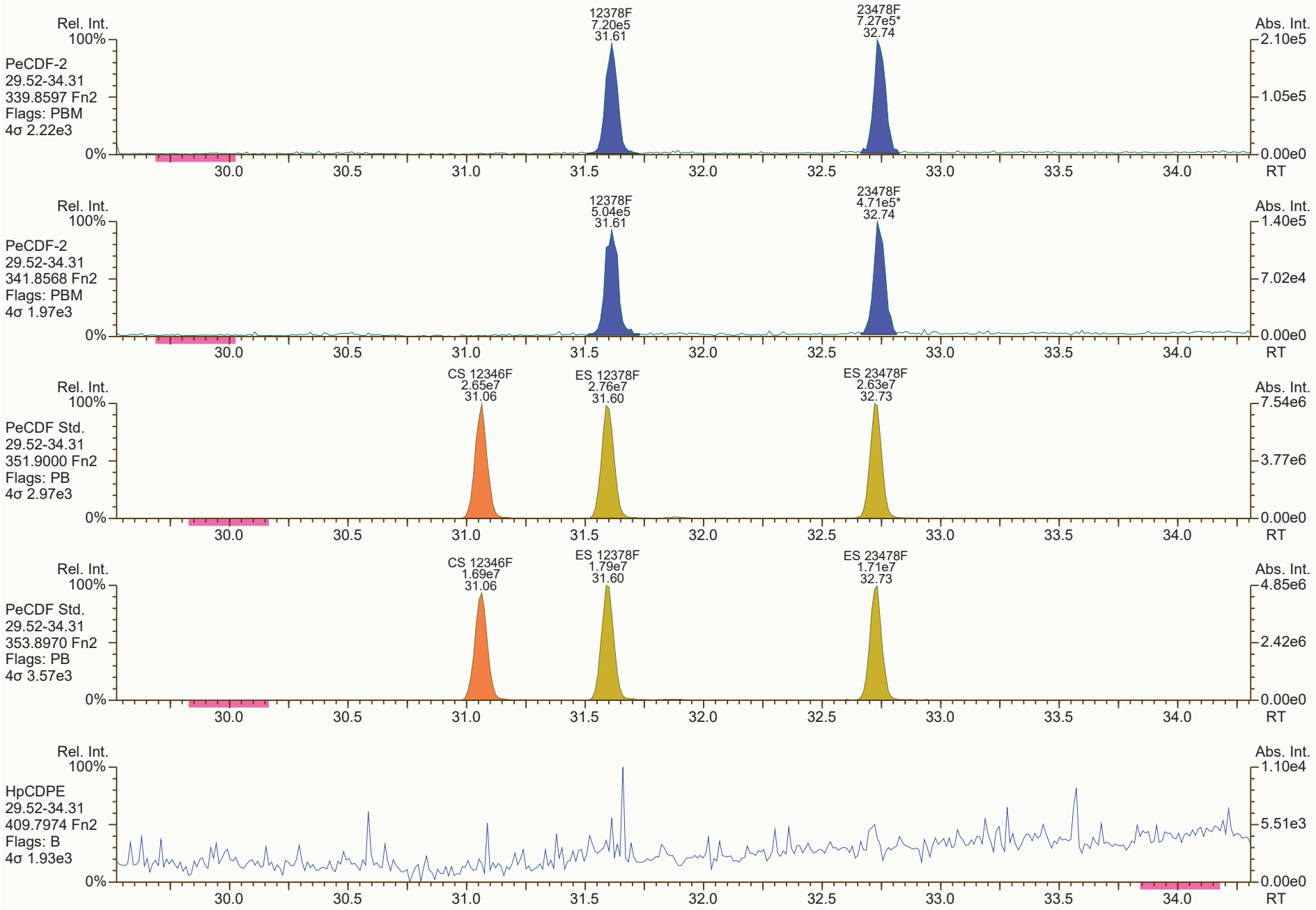

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123478D
1.50e7
37.02
ES 123678D
1.47e7
37.13
JS 123467D
7.96e6*
37.34
ES 123789D
1.63e7*
37.44
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123478D
1.17e7
37.02
ES 123678D
1.13e7
37.13
JS 123467D
6.45e6*
37.34
ES 123789D
1.31e7*
37.44
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

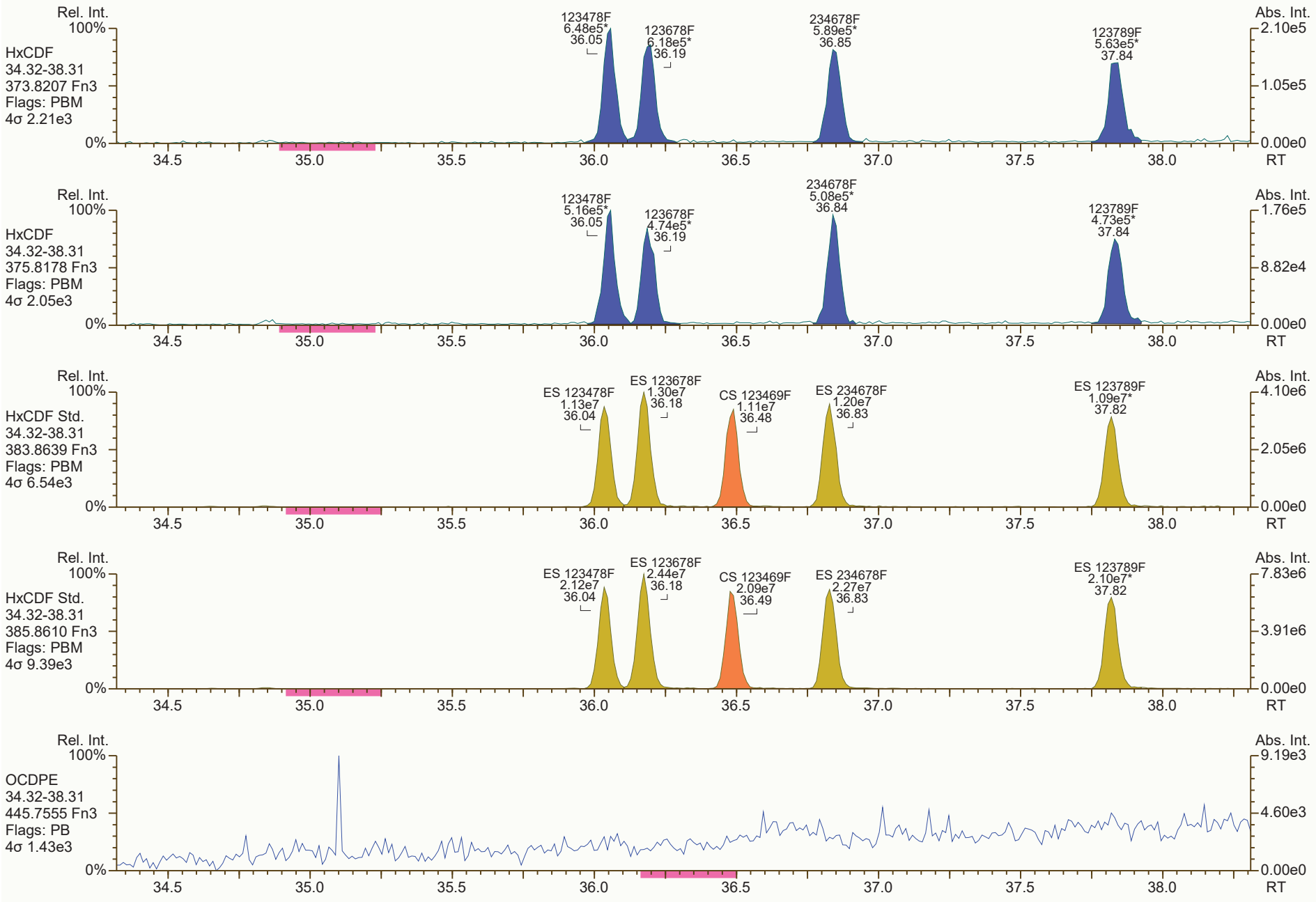

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

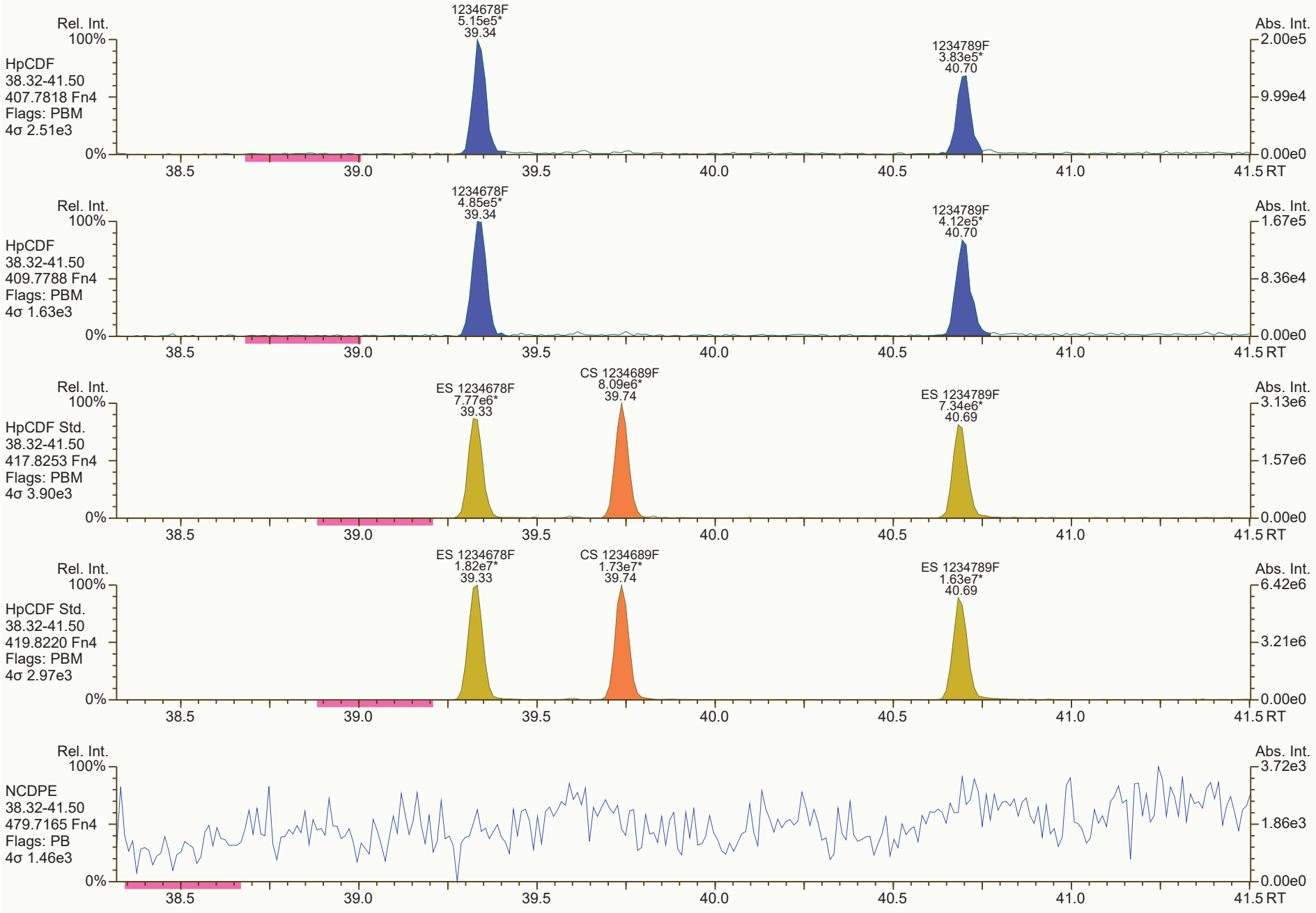

OCDD
2.6e5* 4
28.38
OCDD
2e.* 812* .- e
2* 6.60667 F*
OCDD
.285 4
28.38
OCDD
2e.* 812* .- e
2* 9.60237 F*
ES7OCDD
28.3e
OCDD7Sld.
2e.* 812* .- e
ES7OCDD
28.3e
OCDD7Sld.
2e.* 812* .- e
QC7Ch5ck
2e.* 812* .- e
2* 2.96837 F*
28.-
28.*
20.-
20.*
22.-
22.*

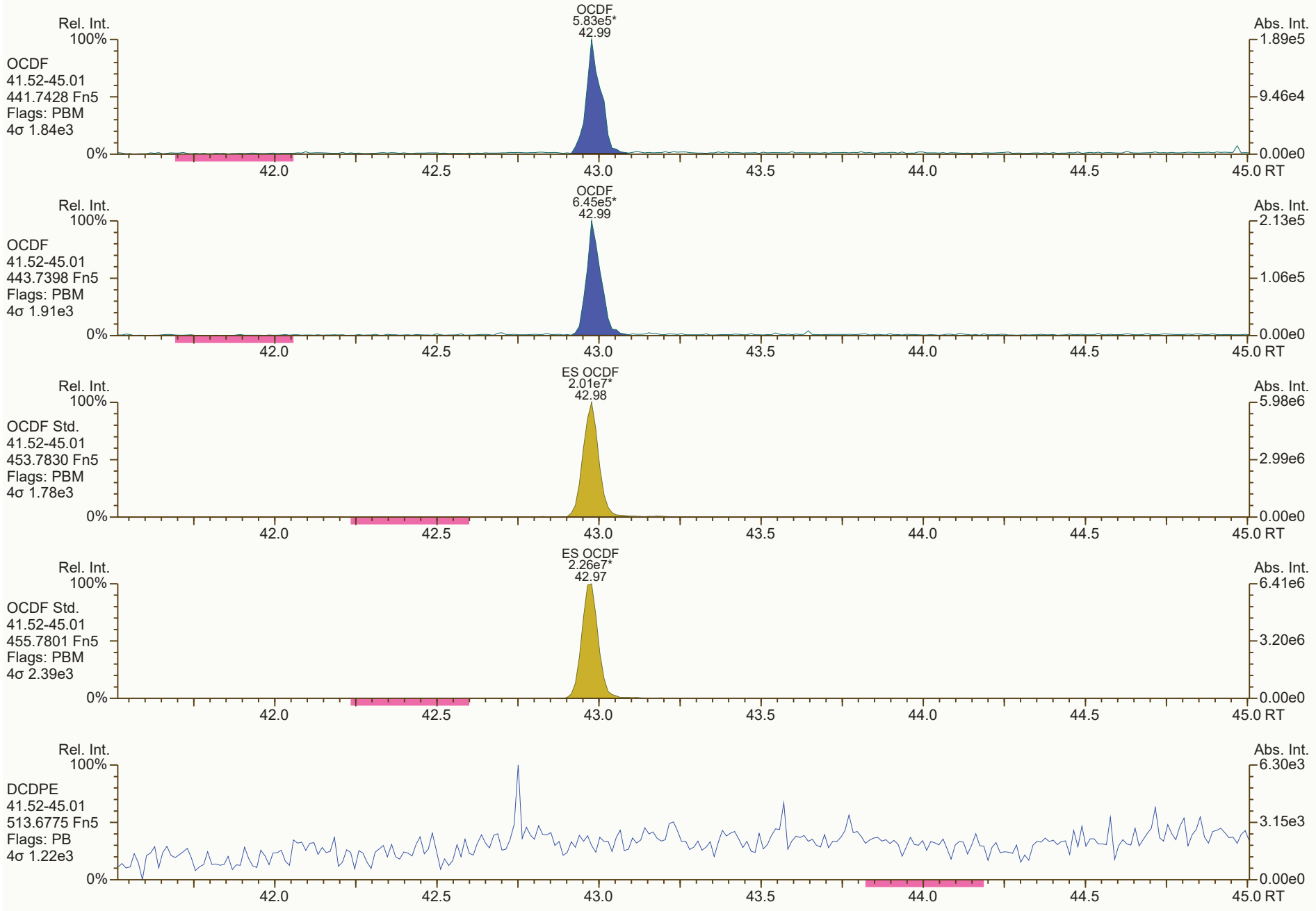

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
Abs. Int.
1.40e5
7.02e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
Abs. Int.
7.54e6
3.77e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
Abs. Int.
4.85e6
2.42e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
Abs. Int.
1.10e4
5.51e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
0%
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
0%
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
Abs. Int.
1.76e5
8.82e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
0%
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
Abs. Int.
4.10e6
2.05e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
0%
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
Abs. Int.
7.83e6
3.91e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
0%
Abs. Int.
9.19e3
4.60e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
Abs. Int.
2.00e5
9.99e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
Abs. Int.
1.67e5
8.36e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
Abs. Int.
3.13e6
1.57e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
Abs. Int.
6.42e6
3.21e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
Abs. Int.
3.72e3
1.86e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

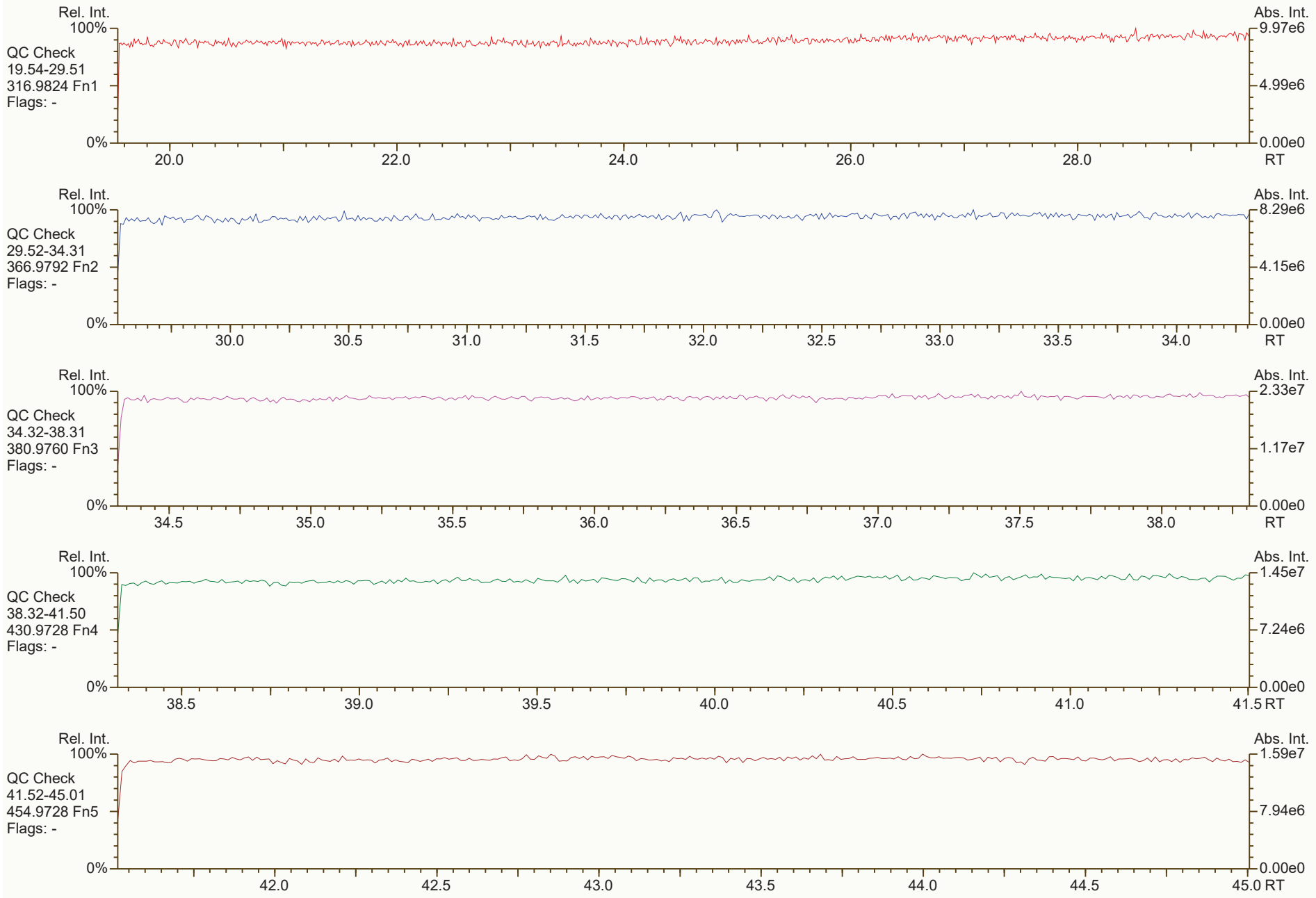

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
OCDF
5.83e5*
42.99
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
OCDF
6.45e5*
42.99
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
ES OCDF
2.01e7*
42.98
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
ES OCDF
2.26e7*
42.97
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

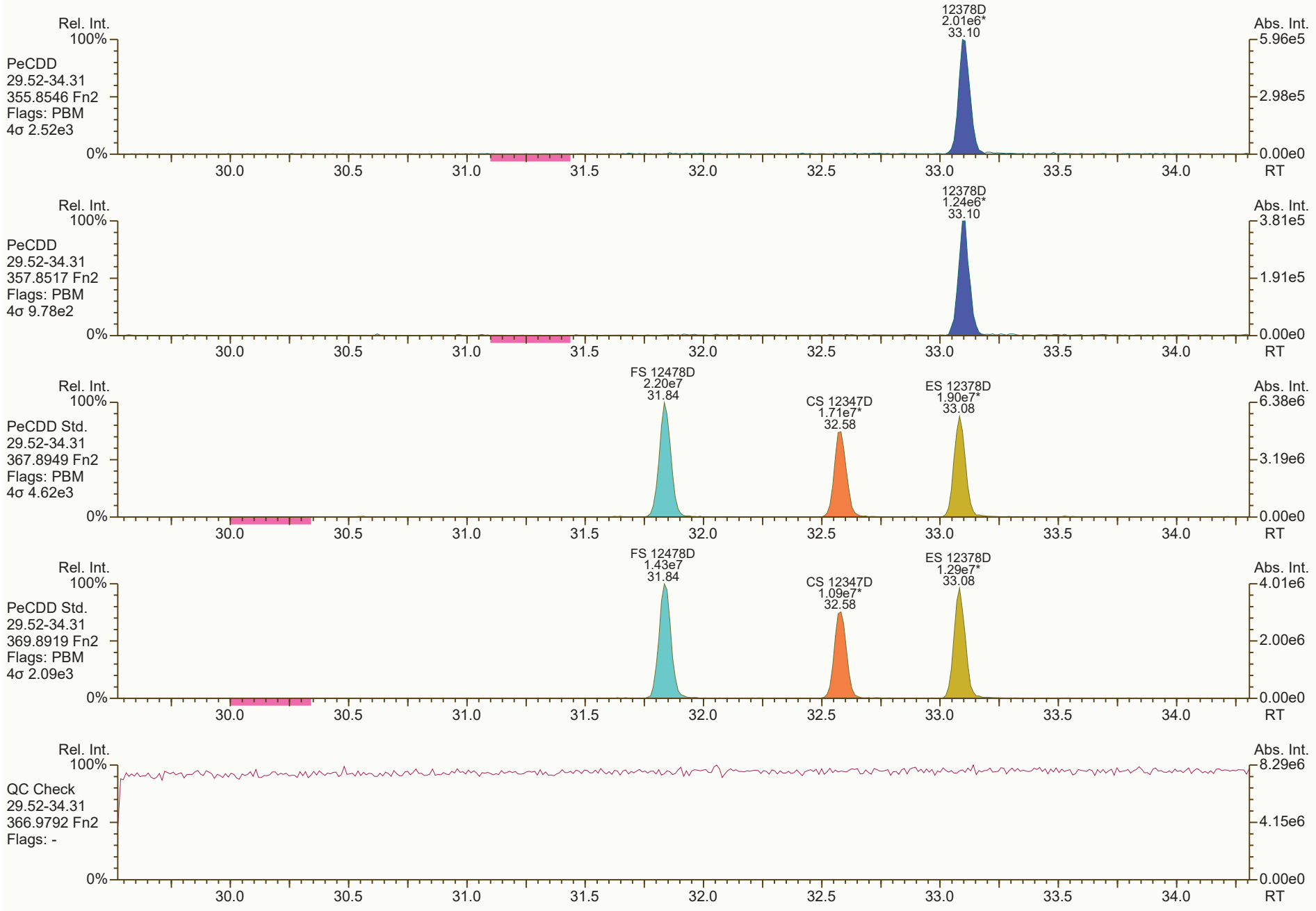
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

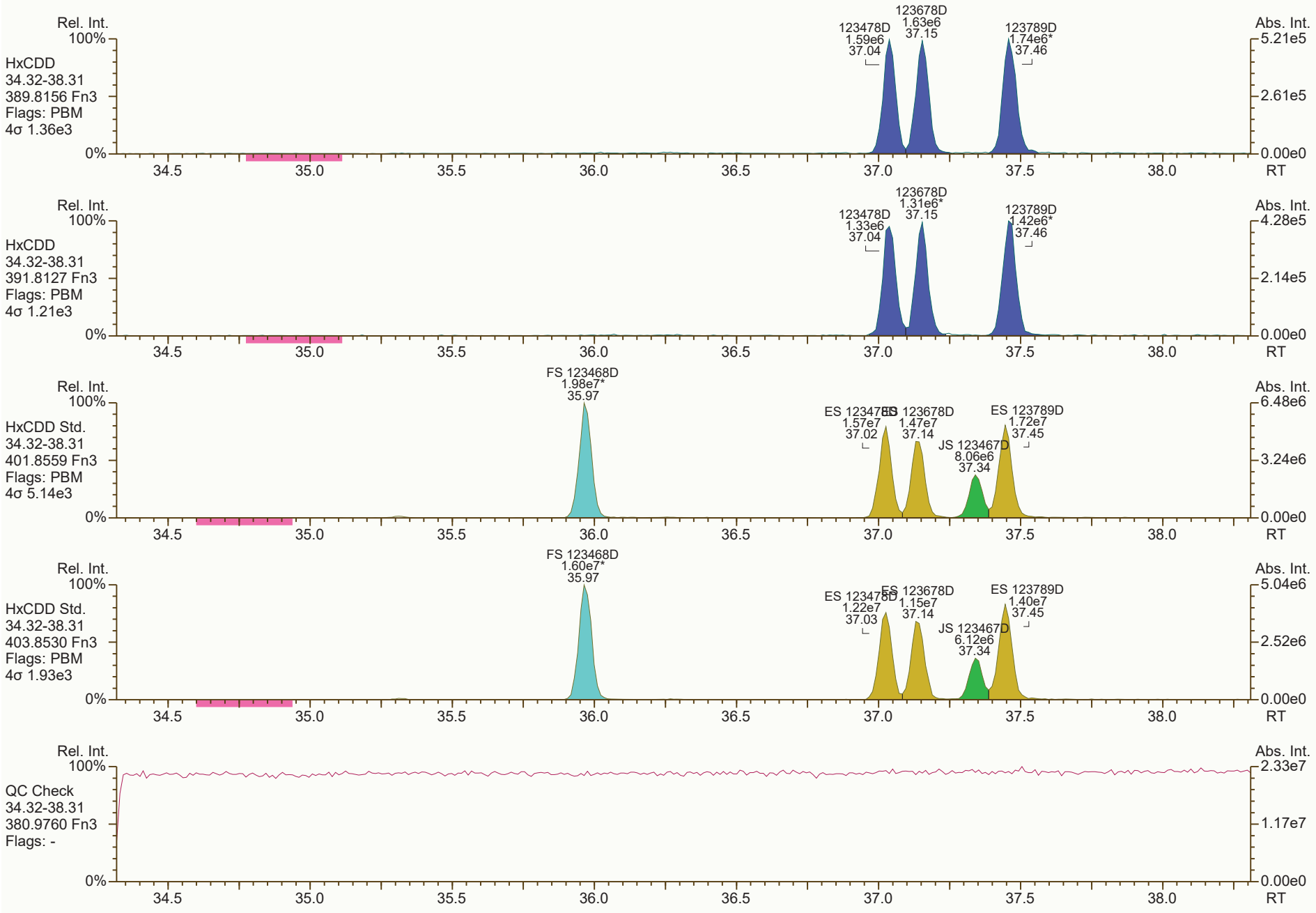
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

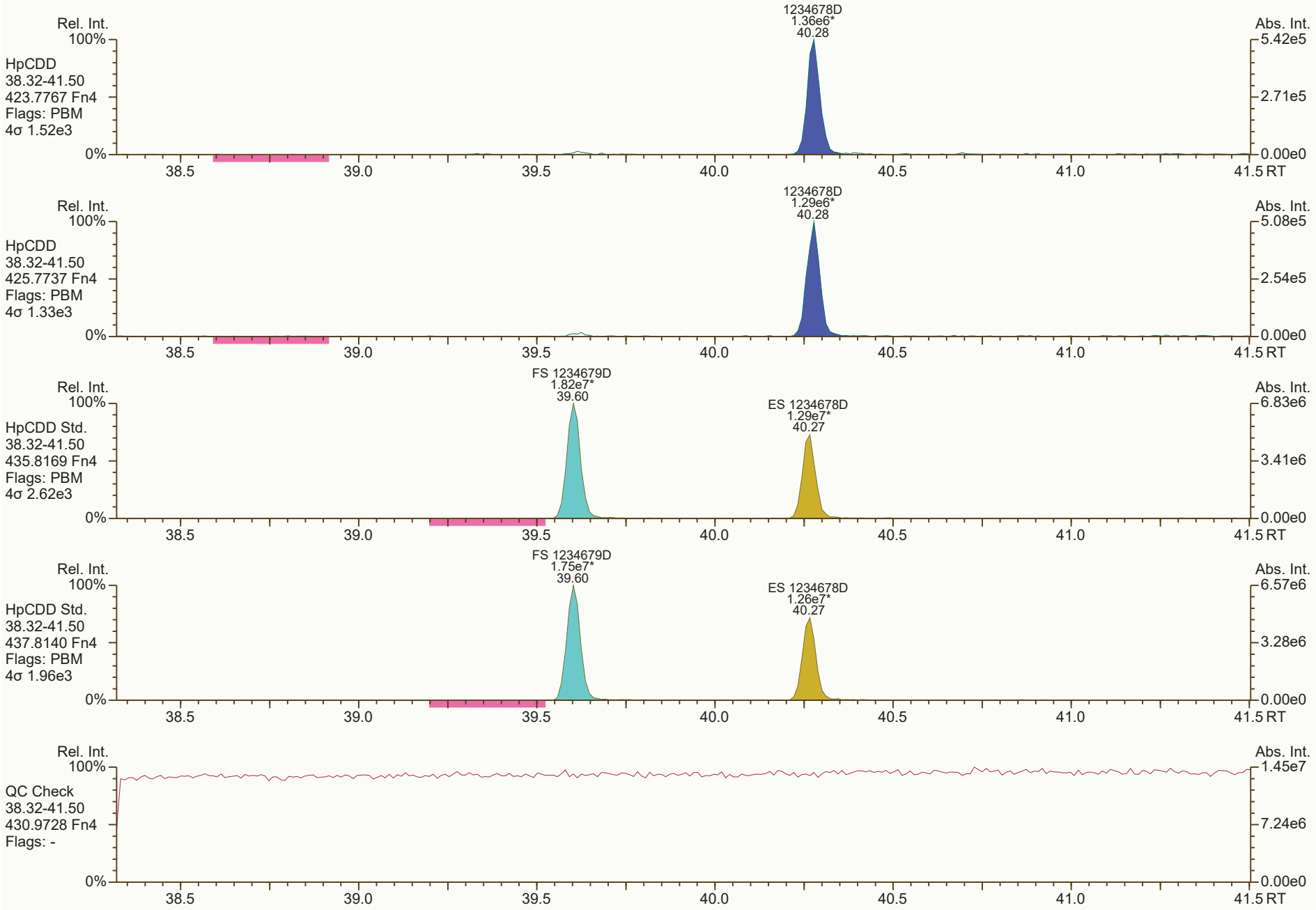
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

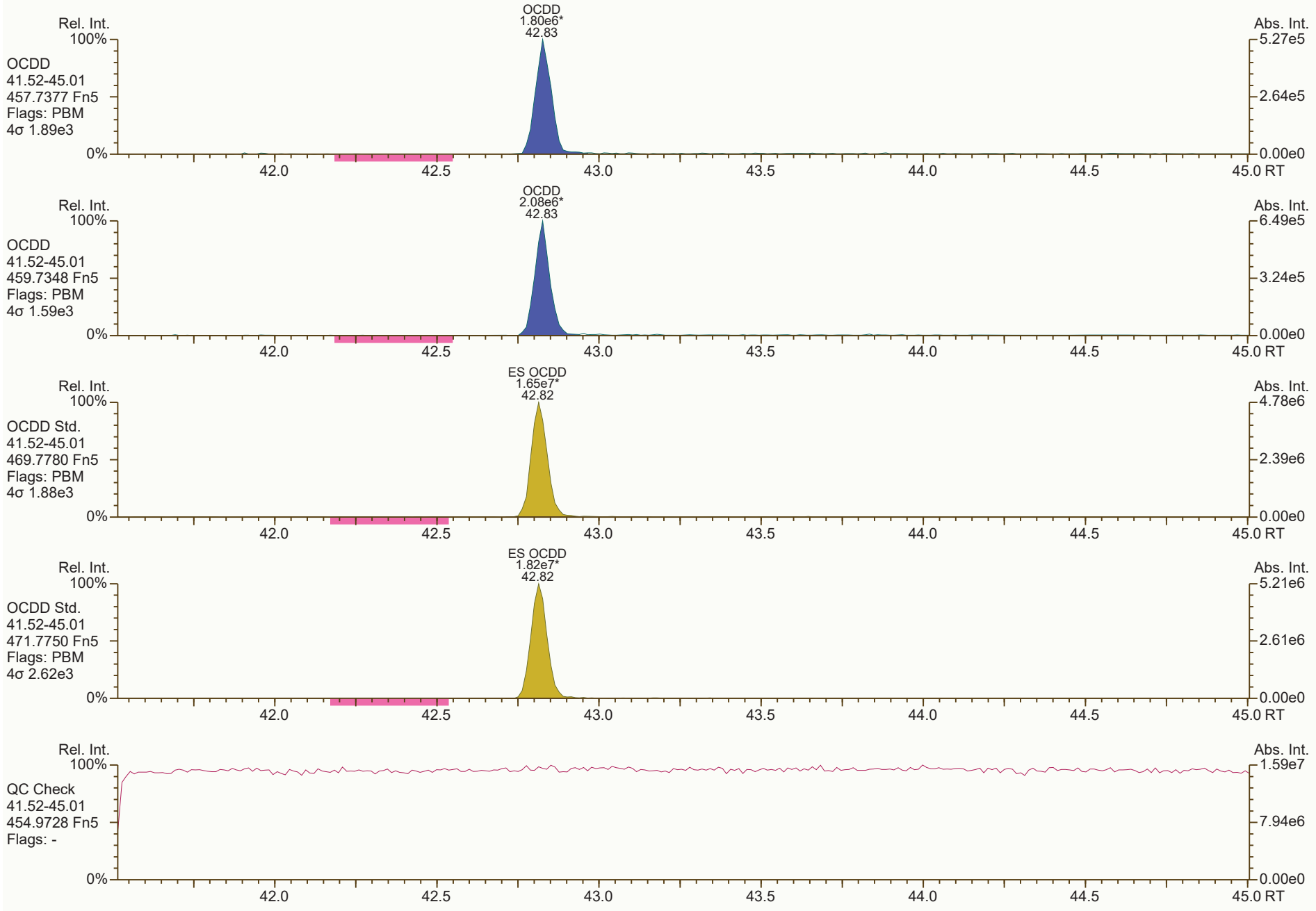

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.59e7
7.94e6
0.00e0

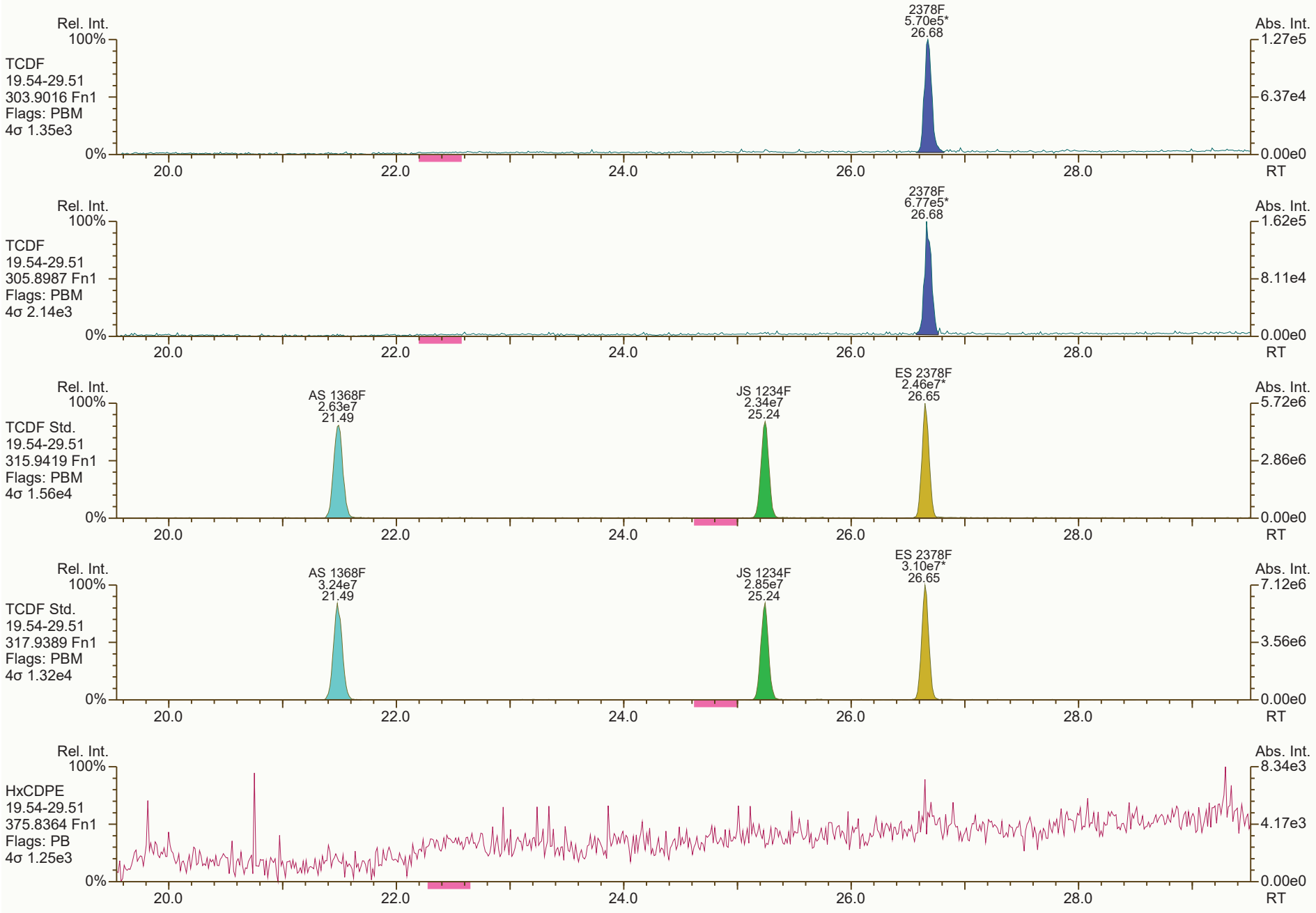

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
Abs. Int.
4.28e5
2.14e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
Abs. Int.
6.48e6
3.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
Abs. Int.
5.04e6
2.52e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

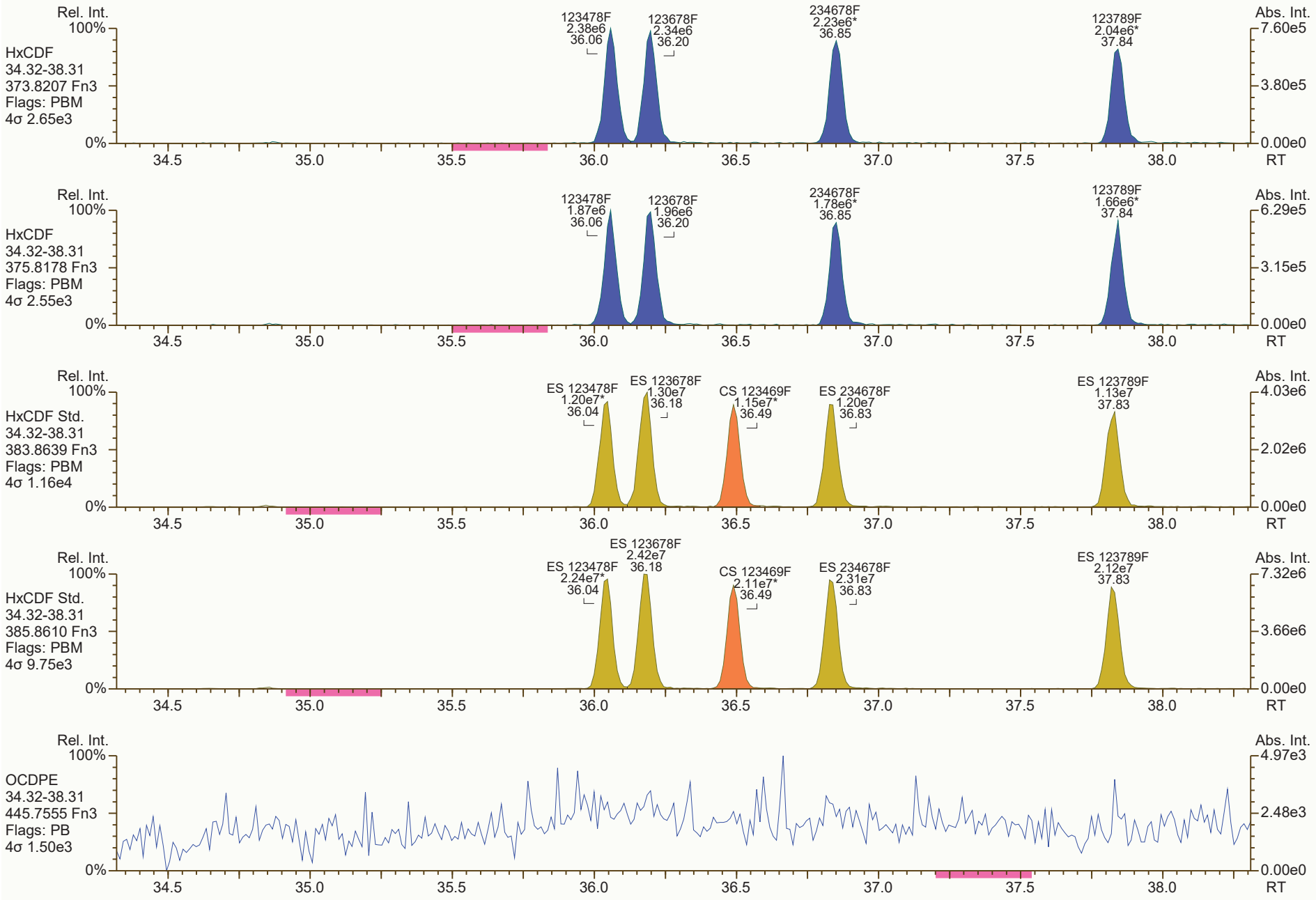

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

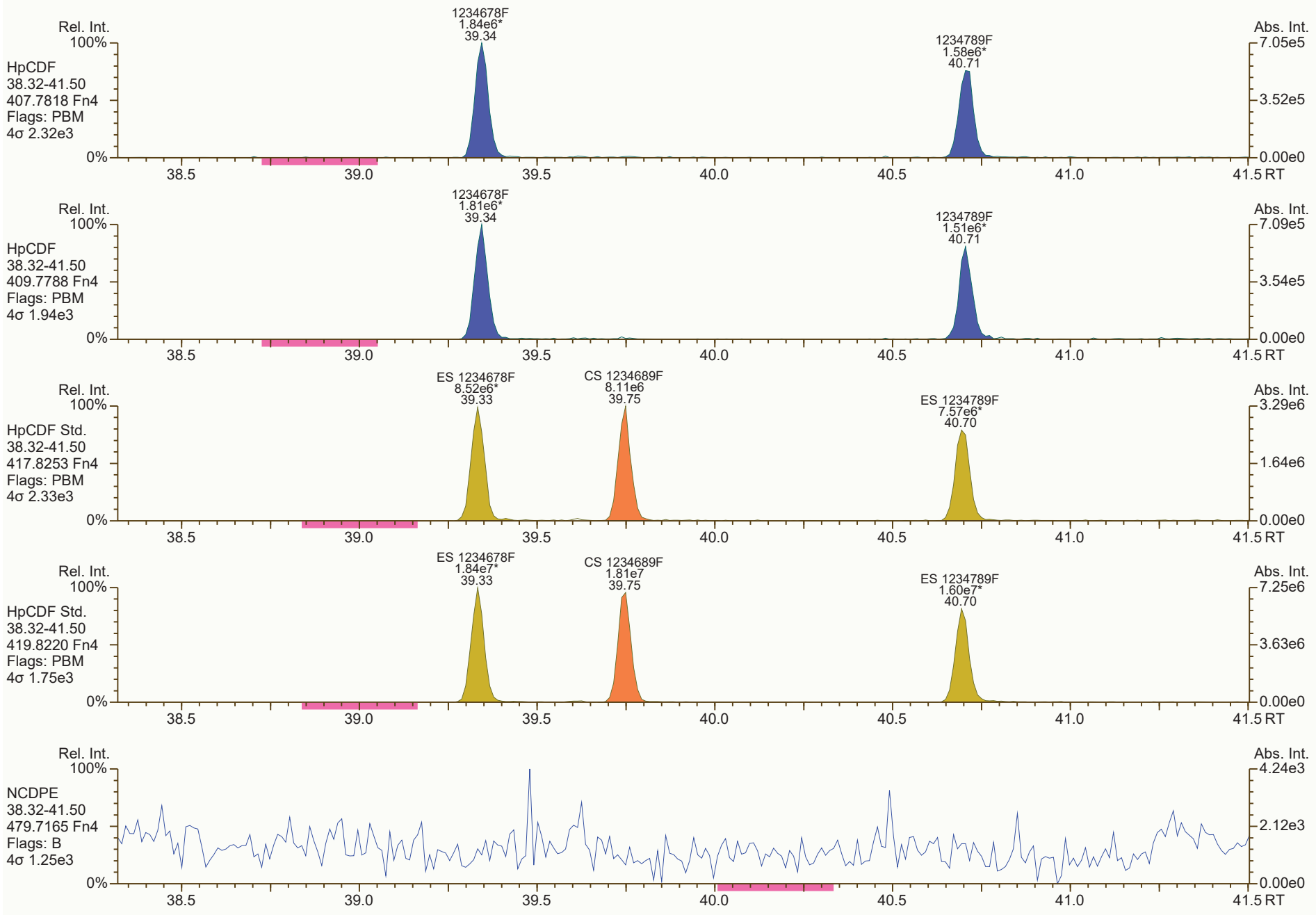

OCDD
1.80e6*
42.83
Rel. Int.
Abs. Int.
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
OCDD
2.08e6*
42.83
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
ES OCDD
1.65e7*
42.82
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
ES OCDD
1.82e7*
42.82
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

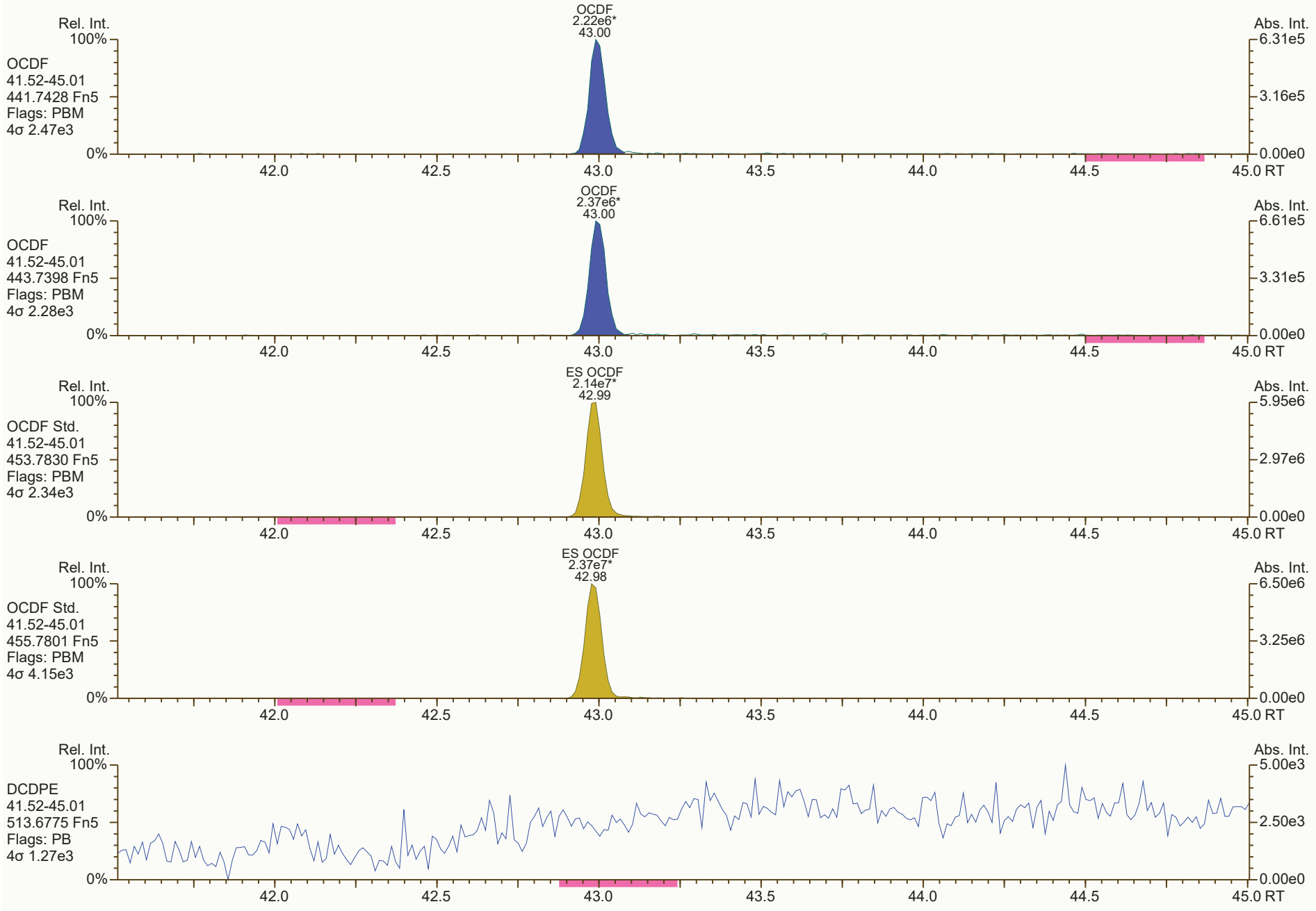

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
0%
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
0%
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
0%
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
0%
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
0%
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
Abs. Int.
5.27e5
2.63e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
0%
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
Abs. Int.
8.01e6
4.01e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
0%
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
Abs. Int.
5.19e6
2.59e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
6.67e3
3.33e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
Abs. Int.
6.29e5
3.15e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
Abs. Int.
4.03e6
2.02e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
ES 123678F
2.42e7
36.18
ES 123478F
2.24e7*
36.04
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
Abs. Int.
7.32e6
3.66e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
Abs. Int.
4.97e3
2.48e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
Abs. Int.
4.24e3
2.12e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

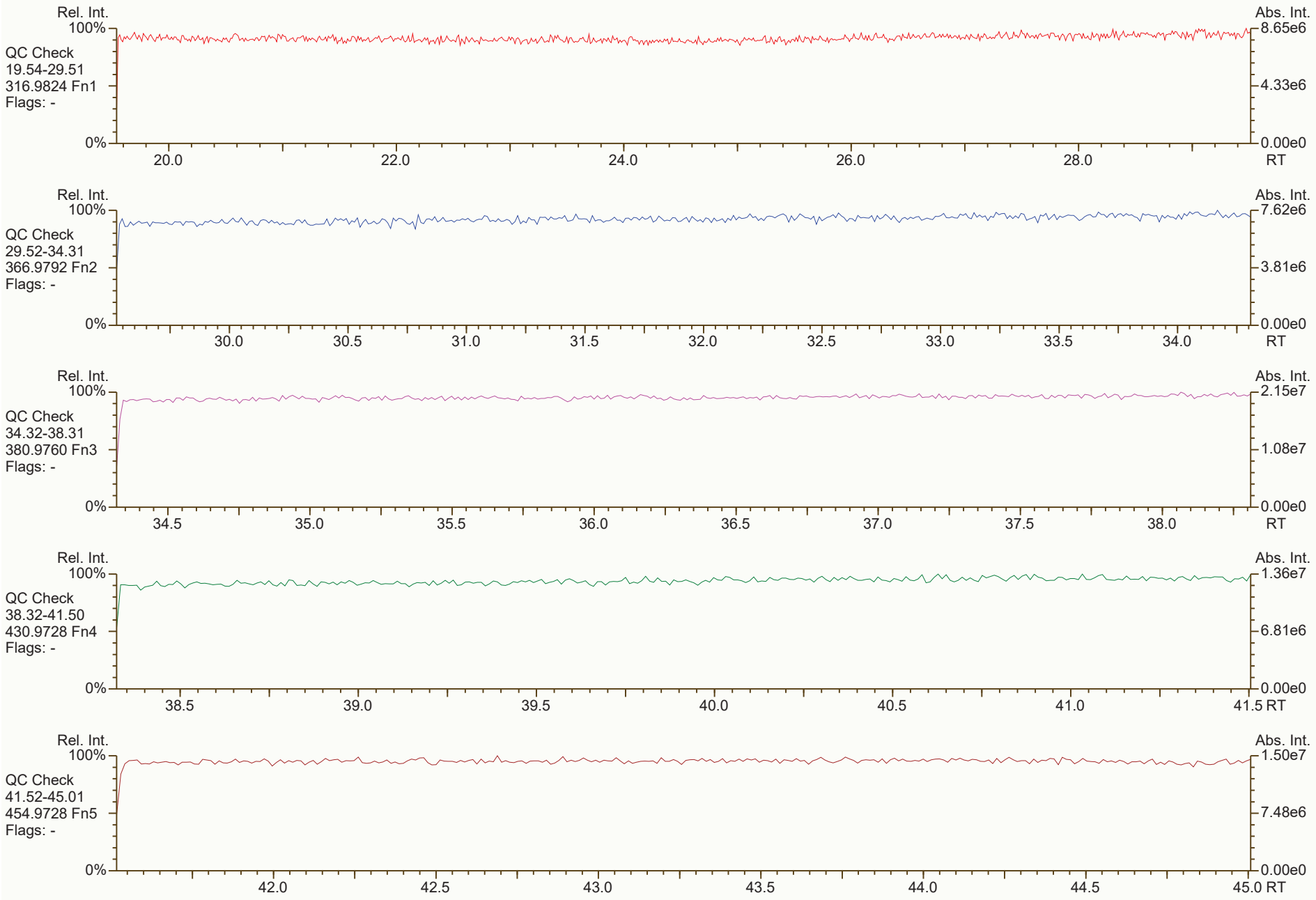

OCDF
2.22e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
0%
Abs. Int.
6.31e5
3.16e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.37e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
0%
Abs. Int.
6.61e5
3.31e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.14e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
5.95e6
2.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.37e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
0%
Abs. Int.
6.50e6
3.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

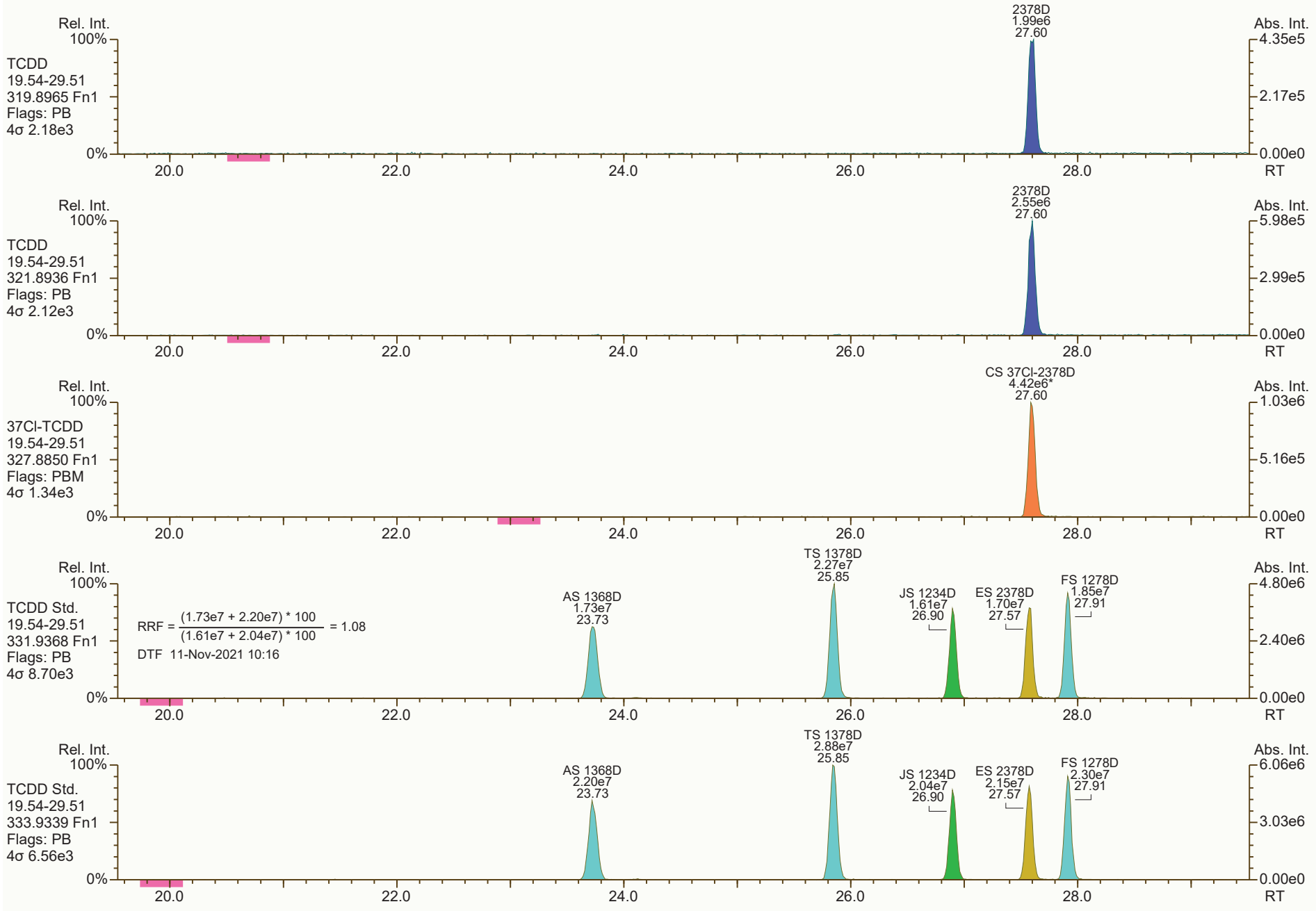
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

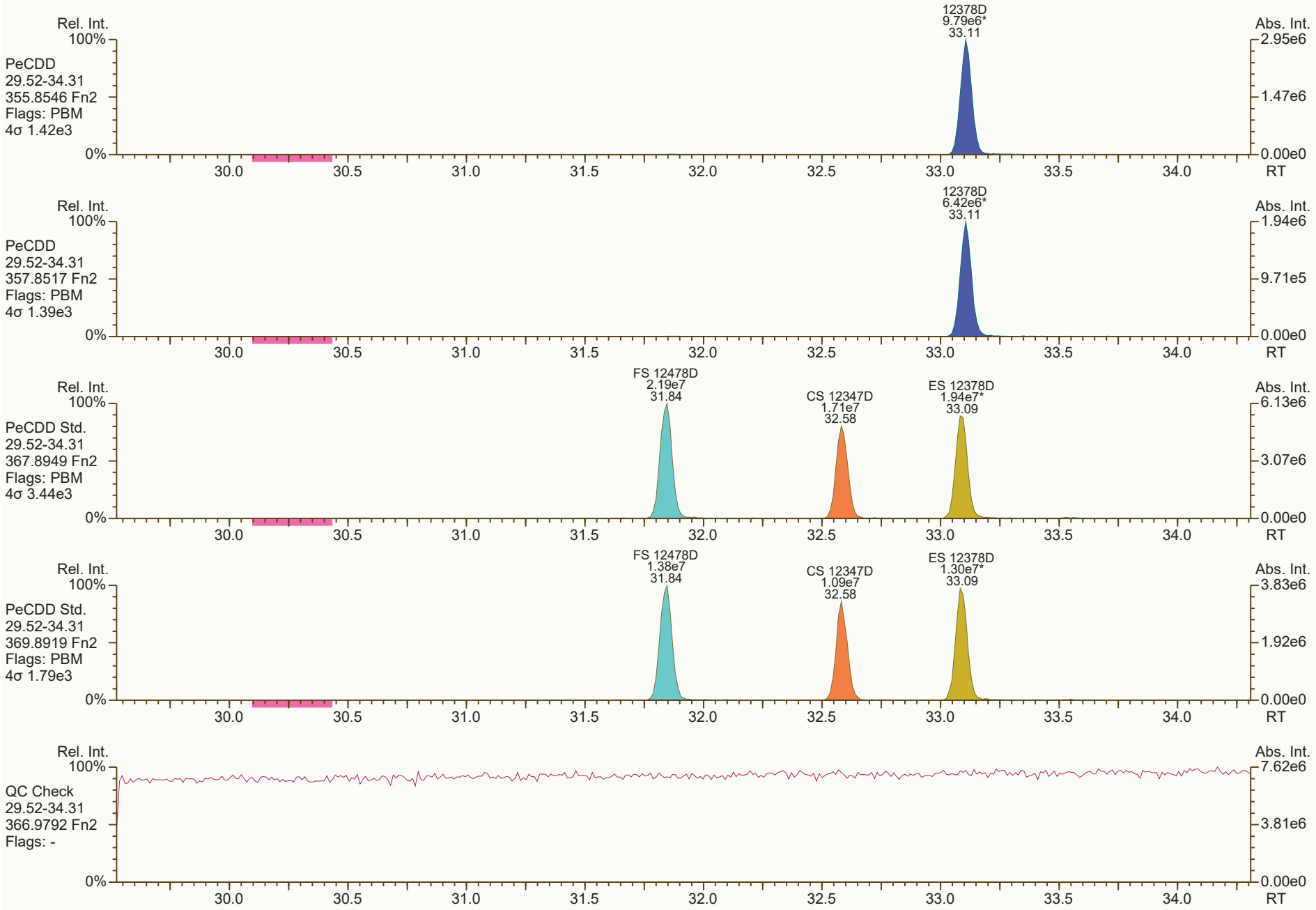
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

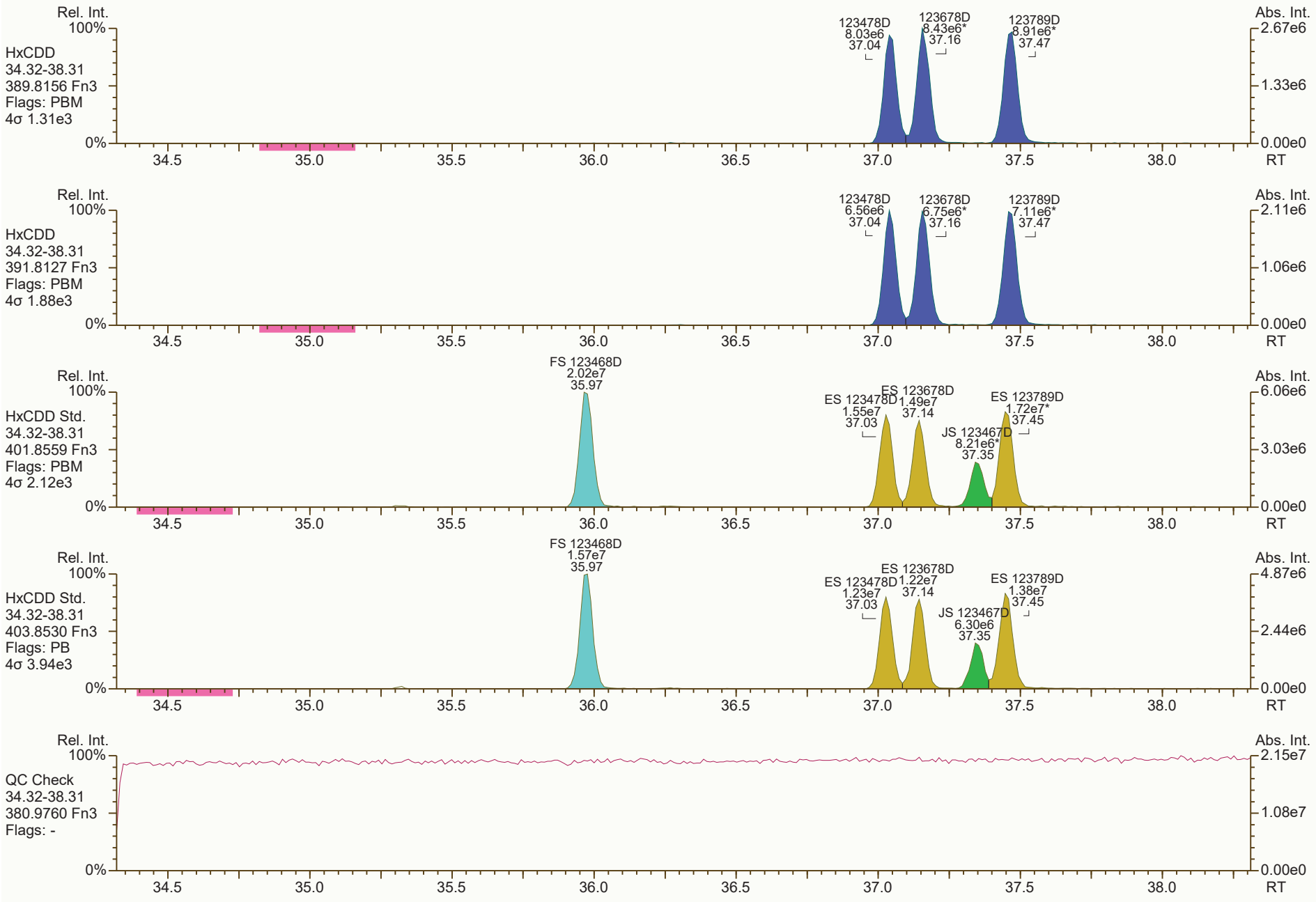
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

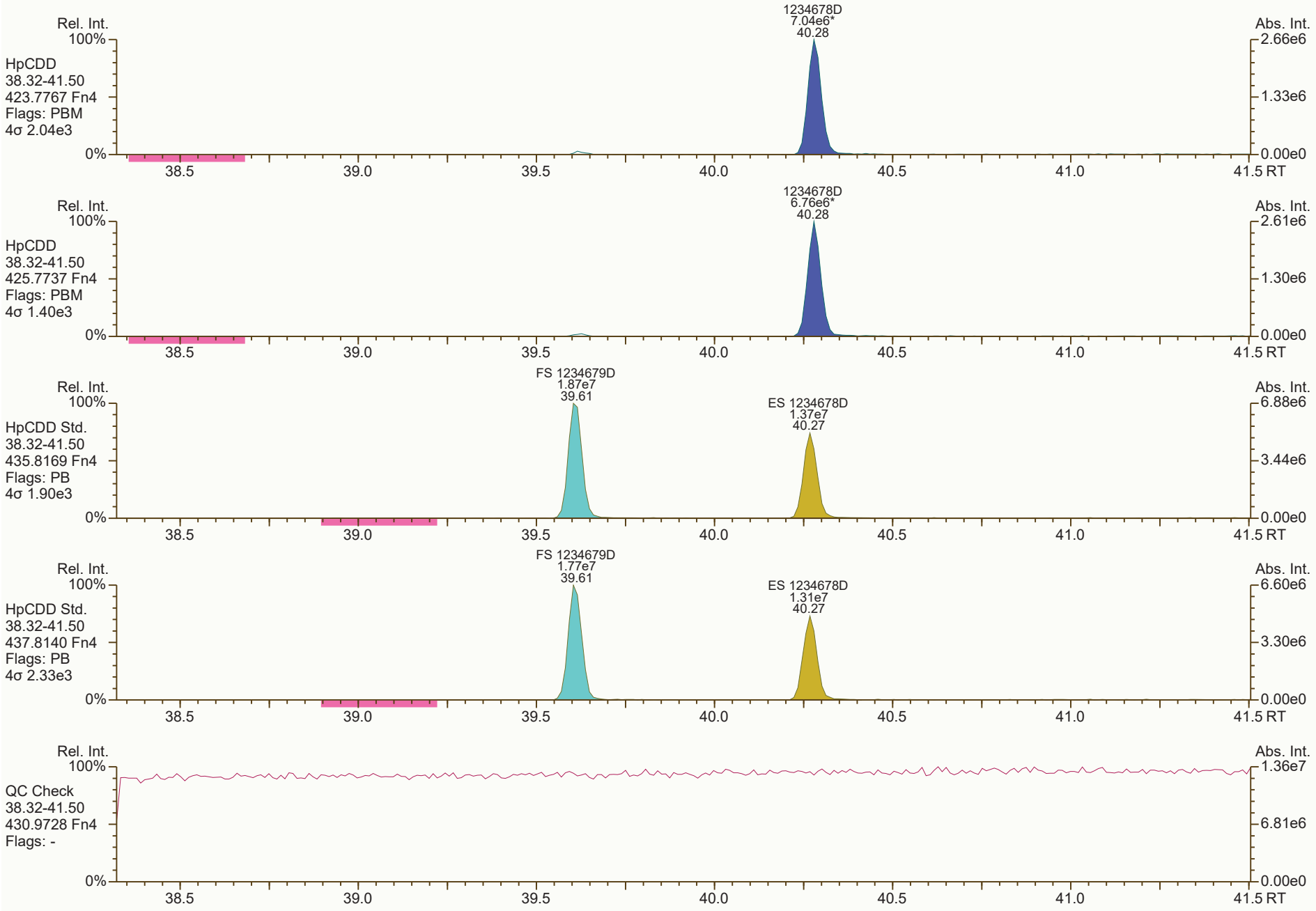
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%

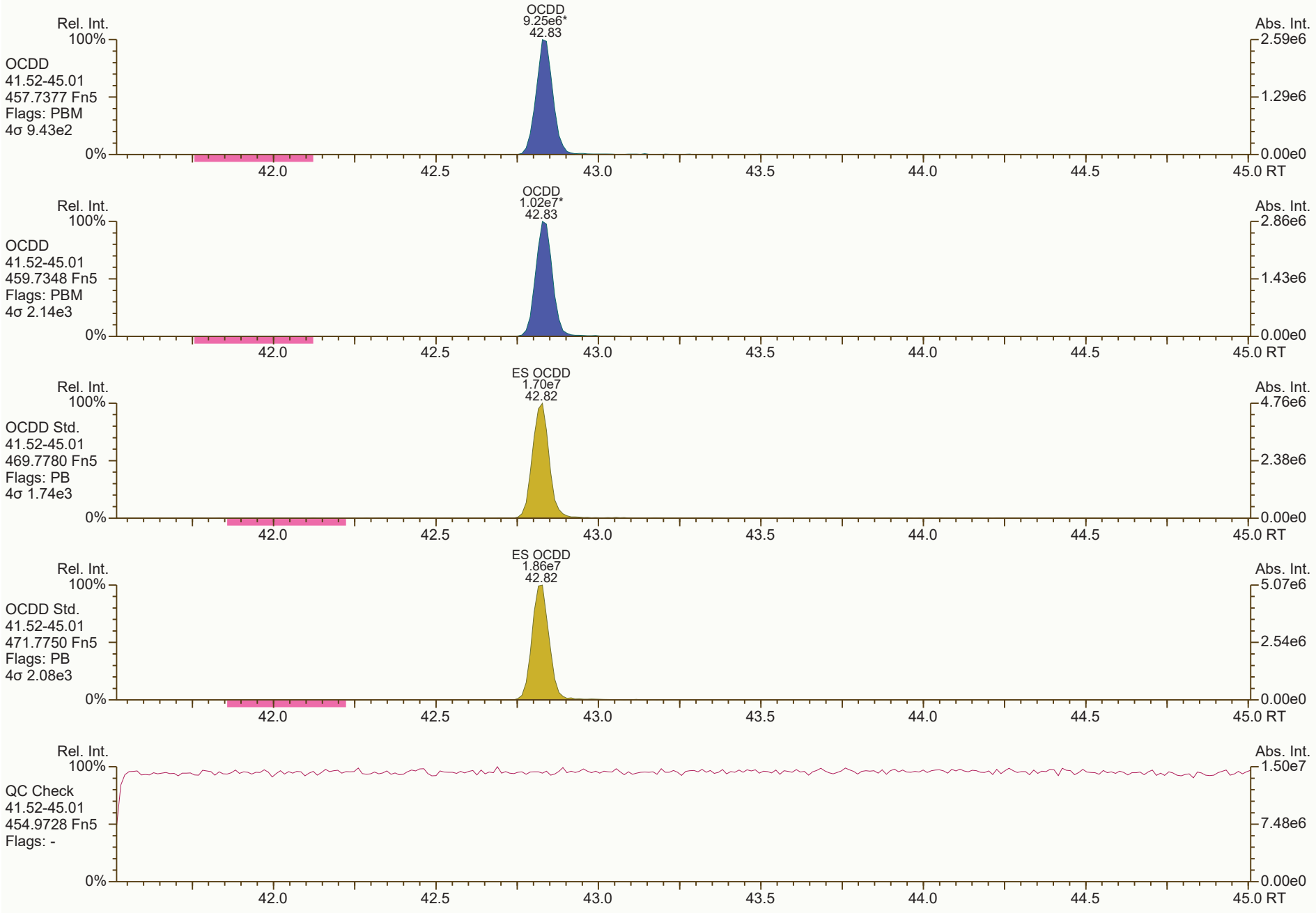

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
0%
2378D
1.99e6
27.60
Abs. Int.
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
0%
2378D
2.55e6
27.60
Abs. Int.
5.98e5
2.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
0%
CS 37Cl-2378D
4.42e6*
27.60
Abs. Int.
1.03e6
5.16e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
0%
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
Abs. Int.
4.80e6
2.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
0%
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.62e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

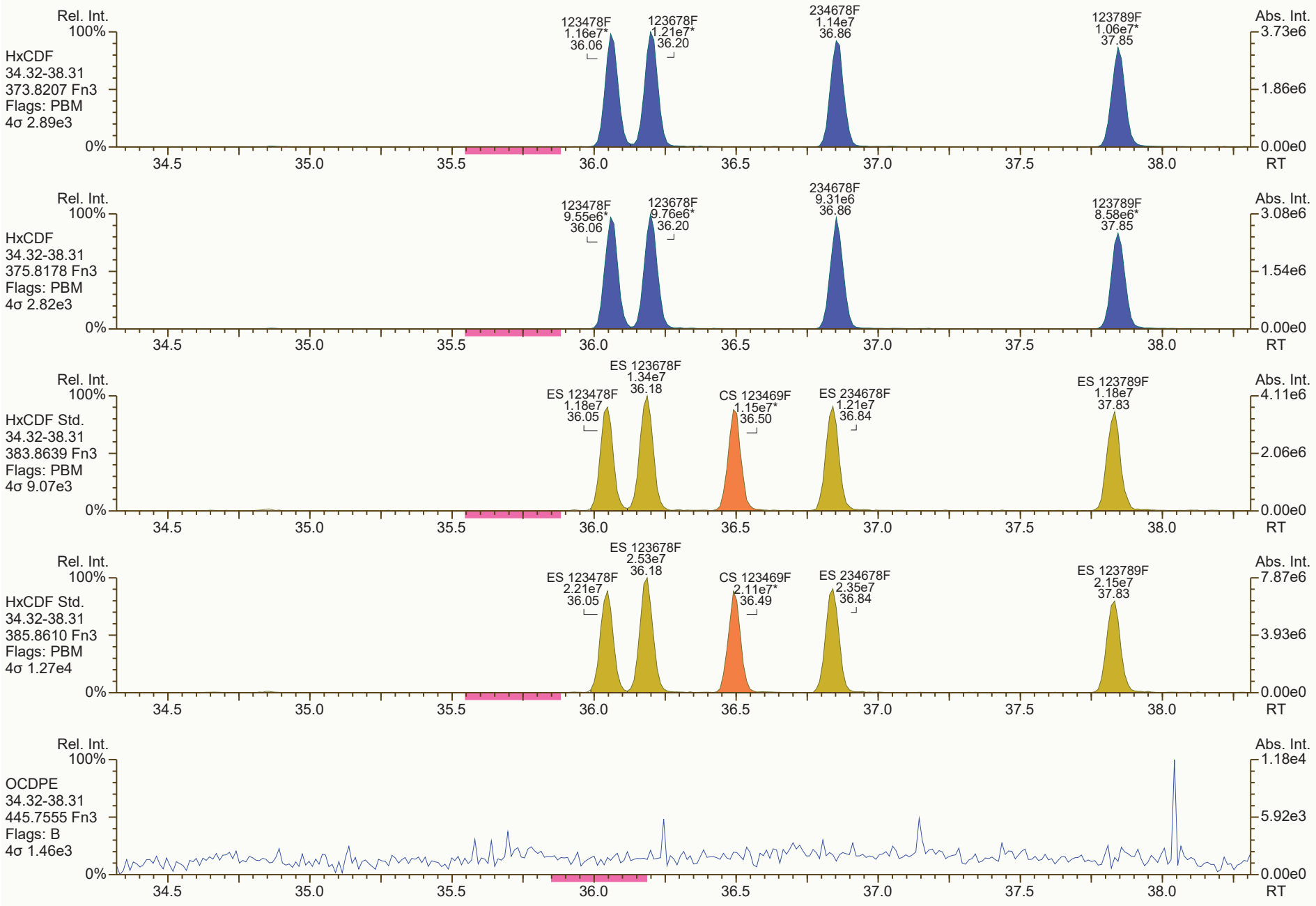

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

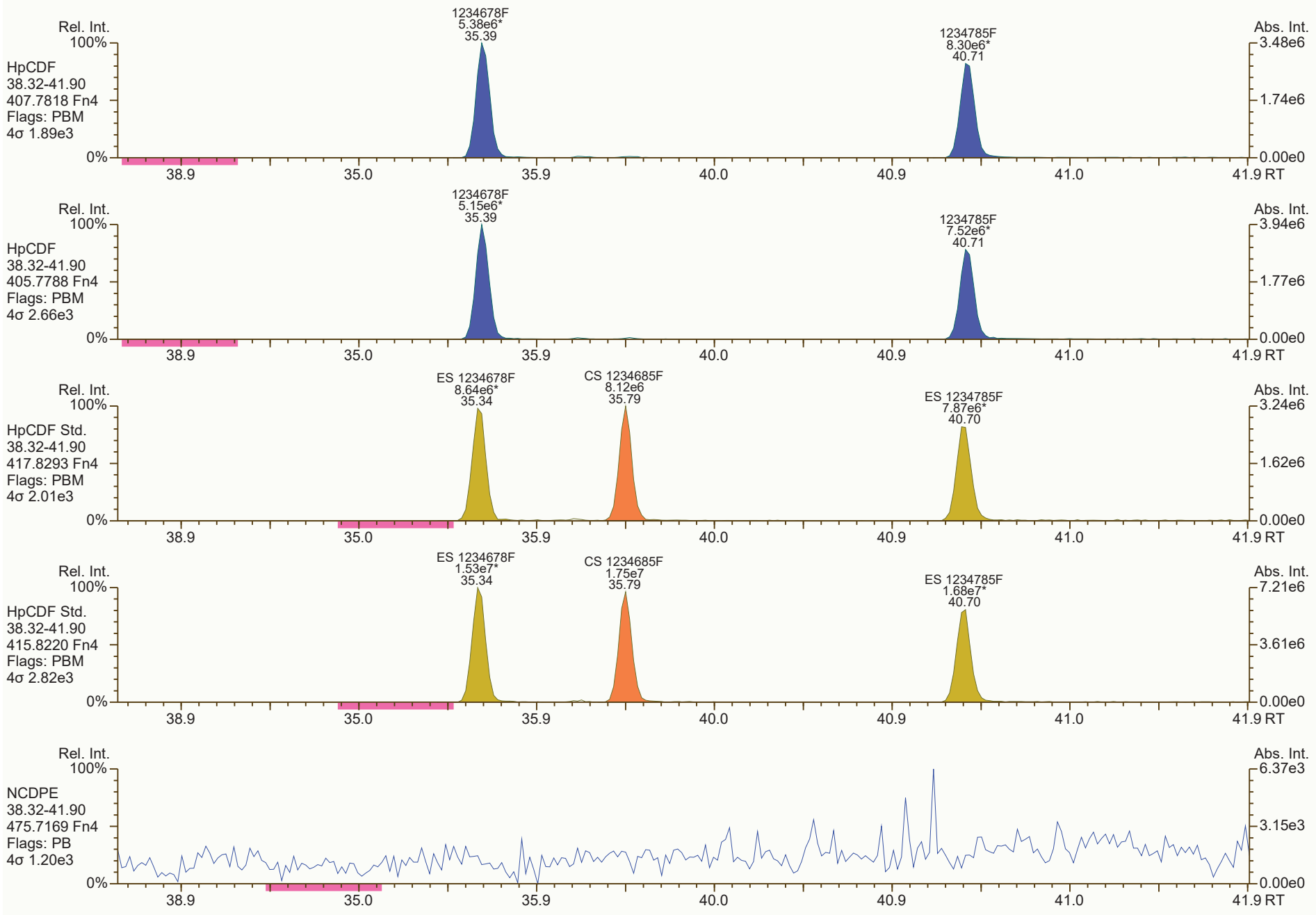

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
OCDD
9.25e6*
42.83
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
OCDD
1.02e7*
42.83
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
ES OCDD
1.70e7
42.82
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
ES OCDD
1.86e7
42.82
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

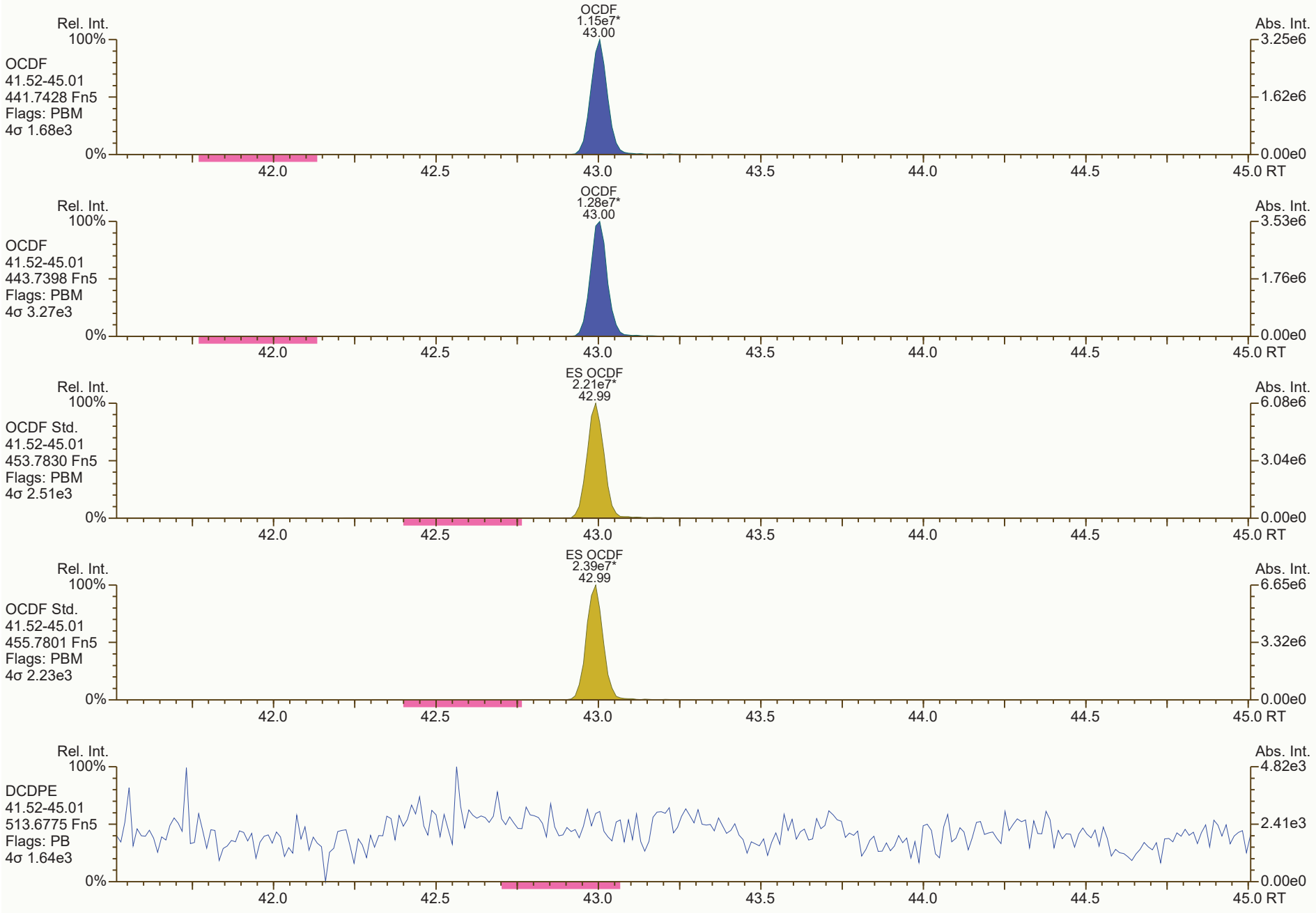

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
0%
2378F
2.58e6
26.68
Abs. Int.
5.81e5
2.91e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
0%
2378F
3.32e6
26.68
Abs. Int.
7.66e5
3.83e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
0%
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
Abs. Int.
5.45e6
2.73e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
0%
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
Abs. Int.
6.76e6
3.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
0%
Abs. Int.
6.84e3
3.42e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
Abs. Int.
3.85e6
1.93e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
Abs. Int.
2.59e6
1.29e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
Abs. Int.
7.61e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
Abs. Int.
5.00e6
2.50e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
Abs. Int.
1.17e4
5.86e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
0%
123478F
1.16e7*
36.06
123678F
1.21e7*
36.20
234678F
1.14e7
36.86
123789F
1.06e7*
37.85
Abs. Int.
3.73e6
1.86e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
123478F
9.55e6*
36.06
123678F
9.76e6*
36.20
234678F
9.31e6
36.86
123789F
8.58e6*
37.85
3.08e6
1.54e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
ES 123678F
1.34e7
36.18
ES 123478F
1.18e7
36.05
CS 123469F
1.15e7*
36.50
ES 234678F
1.21e7
36.84
ES 123789F
1.18e7
37.83
4.11e6
2.06e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
ES 123678F
2.53e7
36.18
ES 123478F
2.21e7
36.05
CS 123469F
2.11e7*
36.49
ES 234678F
2.35e7
36.84
ES 123789F
2.15e7
37.83
7.87e6
3.93e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
1.18e4
5.92e3


Rel. Int.
100%
HpCDF
38.32-41.90
407.7818 Fn4
Flags: PBM
4σ 1.89e3
0%
1234678F
5.38e6*
35.39
1234785F
8.30e6*
40.71
Abs. Int.
3.48e6
1.74e6
0.00e0
38.9
35.0
35.9
40.0
40.9
41.0
41.9 RT
Rel. Int.
100%
HpCDF
38.32-41.90
405.7788 Fn4
Flags: PBM
4σ 2.66e3
0%
1234678F
5.15e6*
35.39
1234785F
7.52e6*
40.71
Abs. Int.
3.94e6
1.77e6
0.00e0
38.9
35.0
35.9
40.0
40.9
41.0
41.9 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.90
417.8293 Fn4
Flags: PBM
4σ 2.01e3
0%
ES 1234678F
8.64e6*
35.34
CS 1234685F
8.12e6
35.79
ES 1234785F
7.87e6*
40.70
Abs. Int.
3.24e6
1.62e6
0.00e0
38.9
35.0
35.9
40.0
40.9
41.0
41.9 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.90
415.8220 Fn4
Flags: PBM
4σ 2.82e3
0%
ES 1234678F
1.53e7*
35.34
CS 1234685F
1.75e7
35.79
ES 1234785F
1.68e7*
40.70
Abs. Int.
7.21e6
3.61e6
0.00e0
38.9
35.0
35.9
40.0
40.9
41.0
41.9 RT
Rel. Int.
100%
NCDPE
38.32-41.90
475.7169 Fn4
Flags: PB
4σ 1.20e3
0%
Abs. Int.
6.37e3
3.15e3
0.00e0
38.9
35.0
35.9
40.0
40.9
41.0
41.9 RT

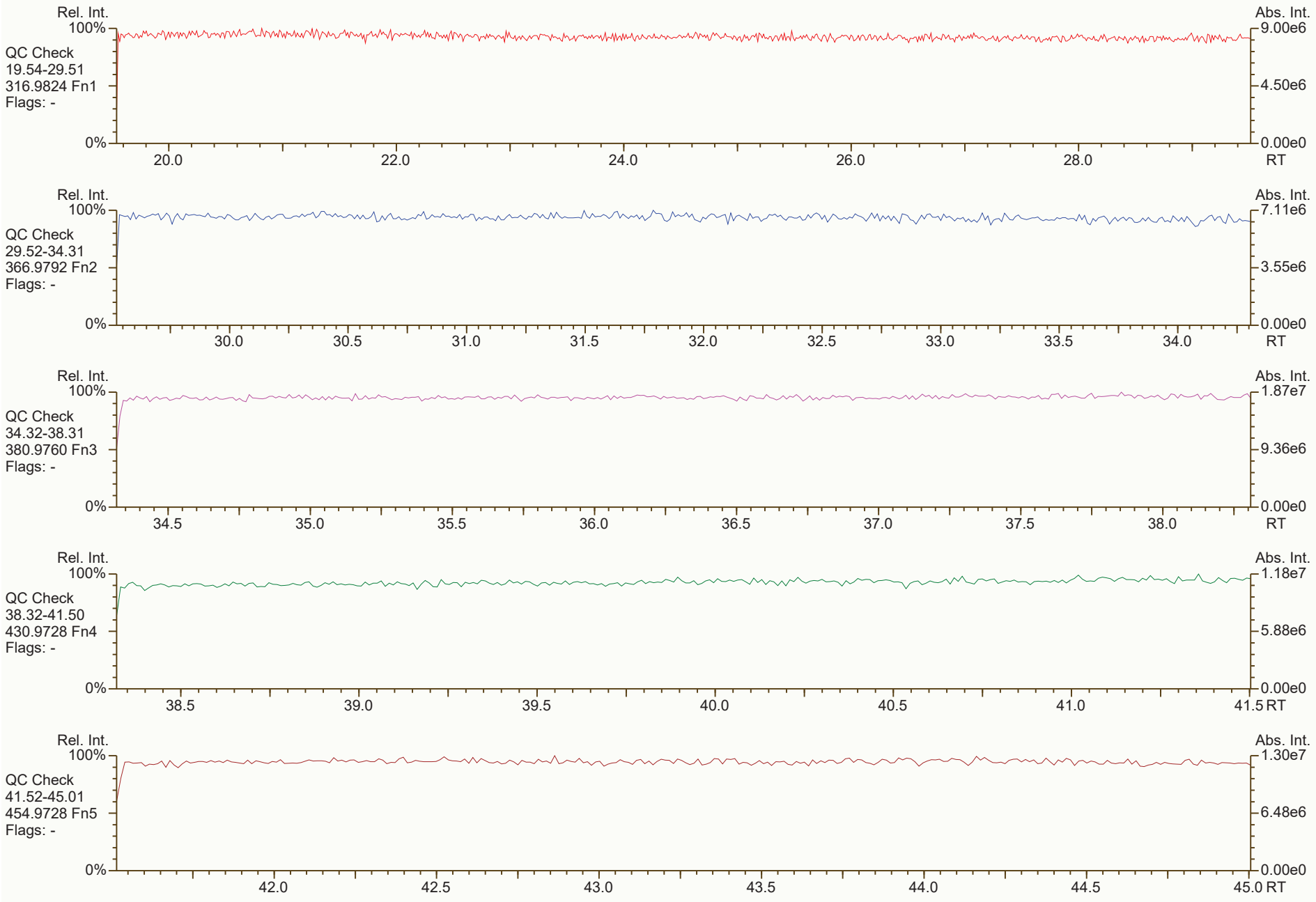

OCDF
1.15e7*
43.00
Rel. Int.
Abs. Int.
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
OCDF
1.28e7*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
ES OCDF
2.21e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
ES OCDF
2.39e7*
42.99
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

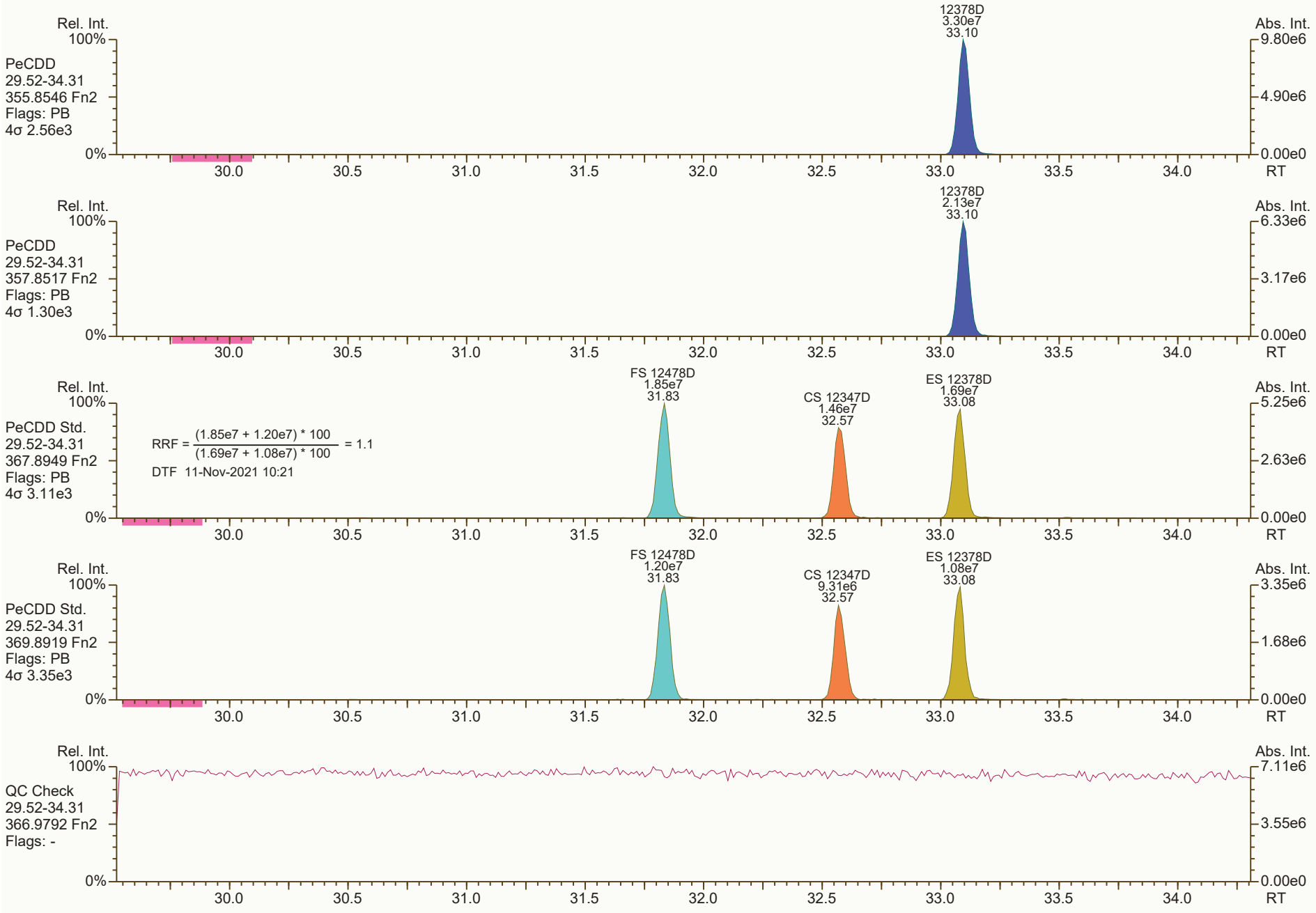
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

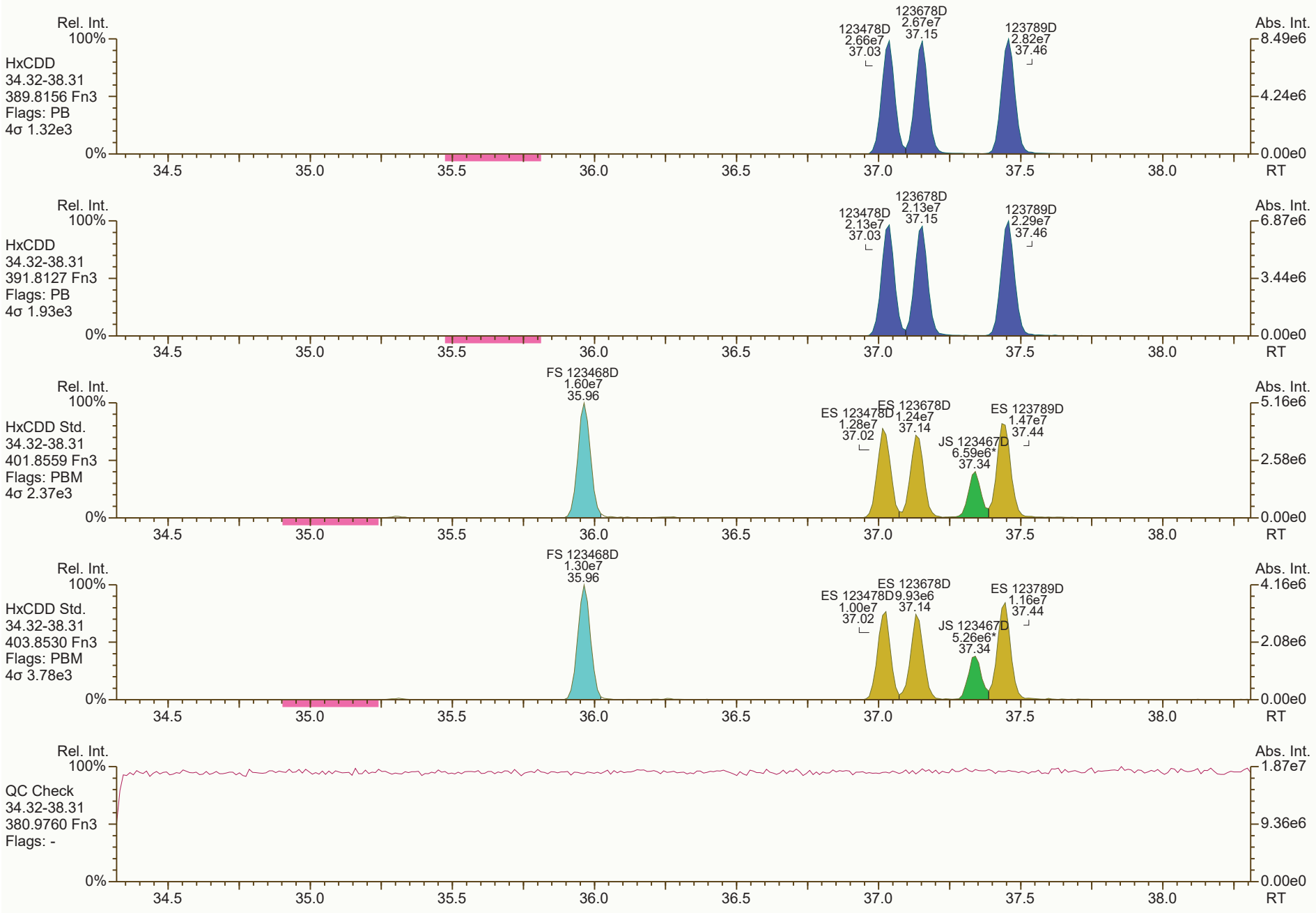
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

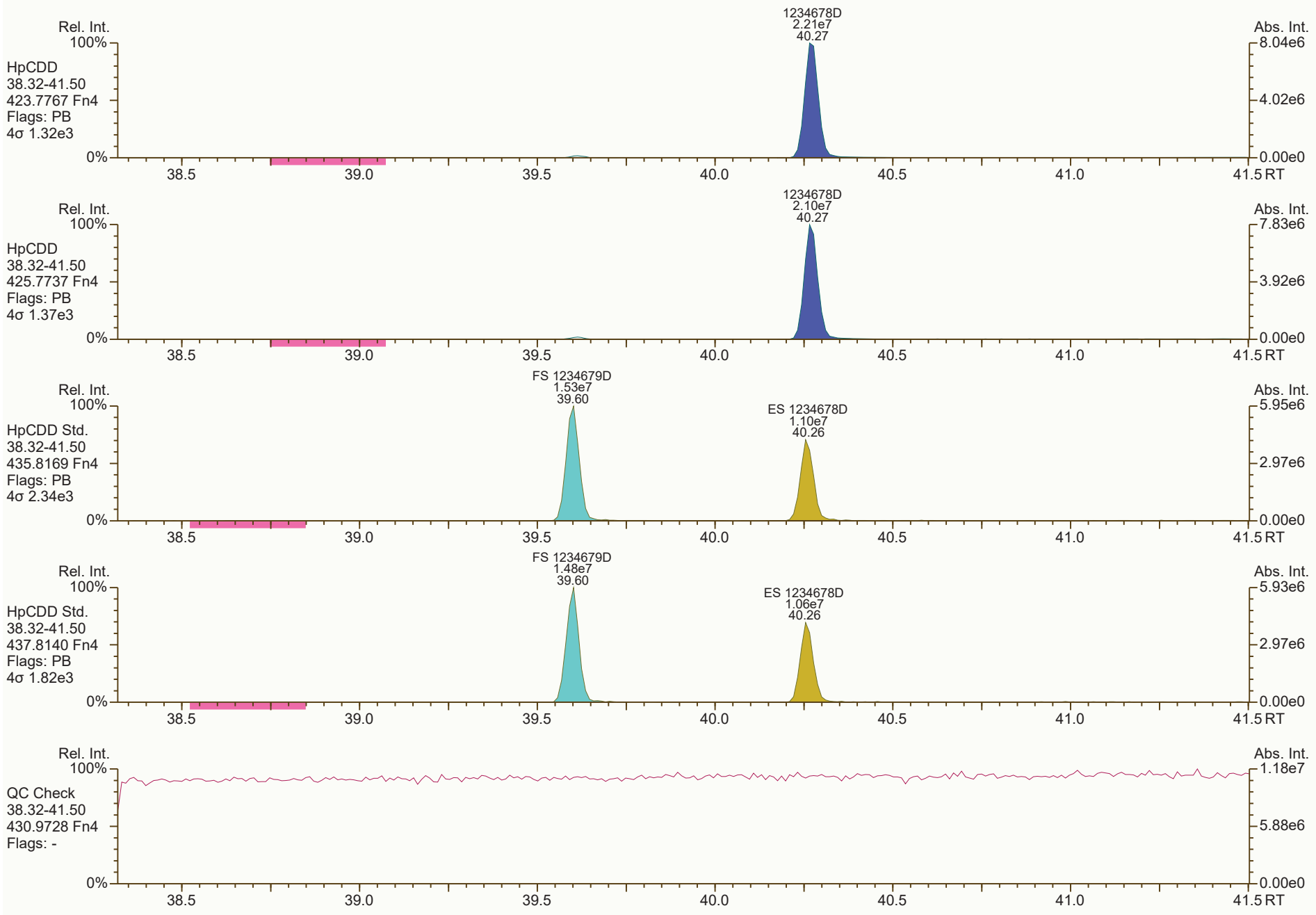
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

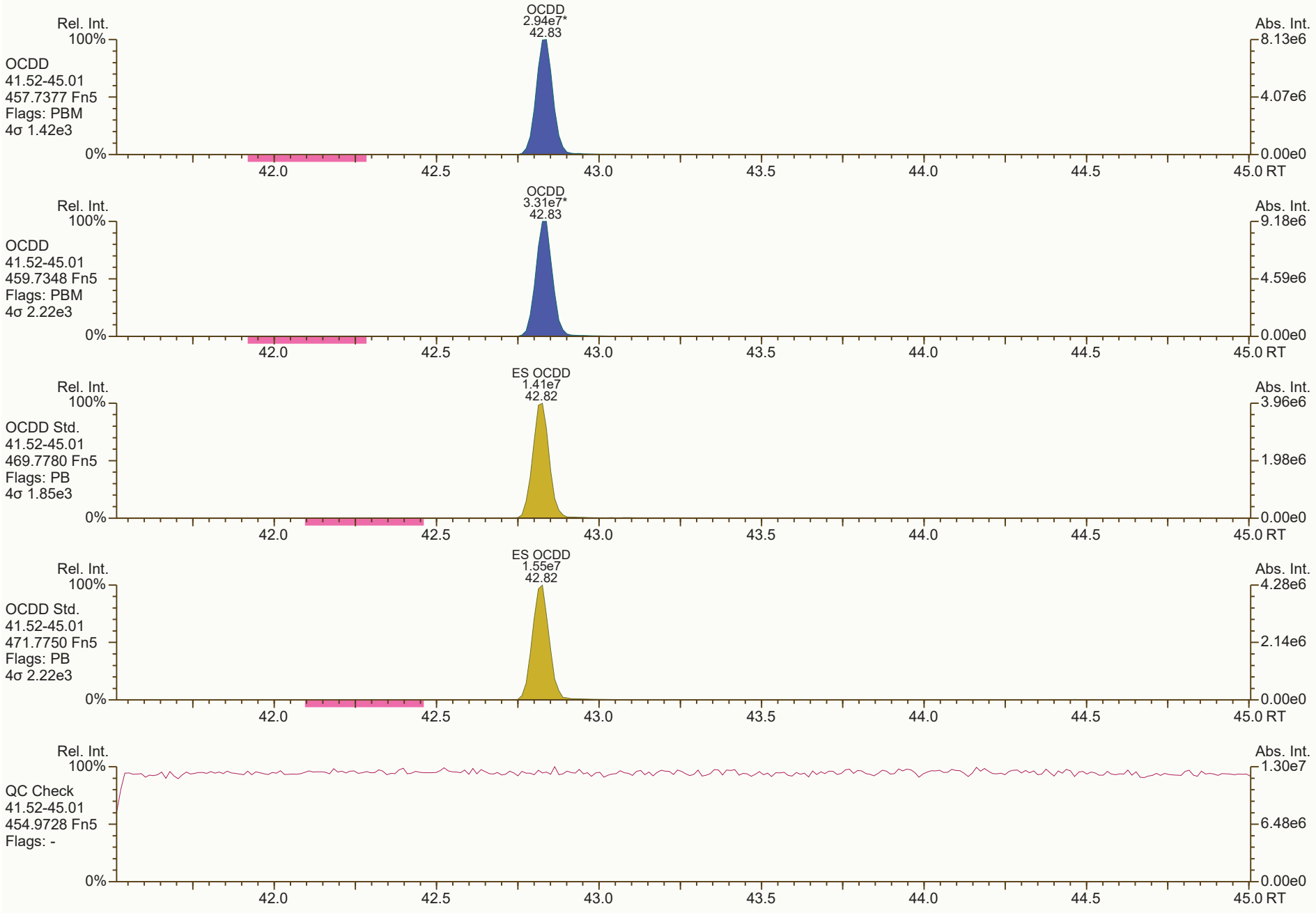

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
9.00e6
4.50e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
7.11e6
3.55e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
1.87e7
9.36e6
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.18e7
5.88e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.30e7
6.48e6
0.00e0
RT


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
0%
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
0%
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

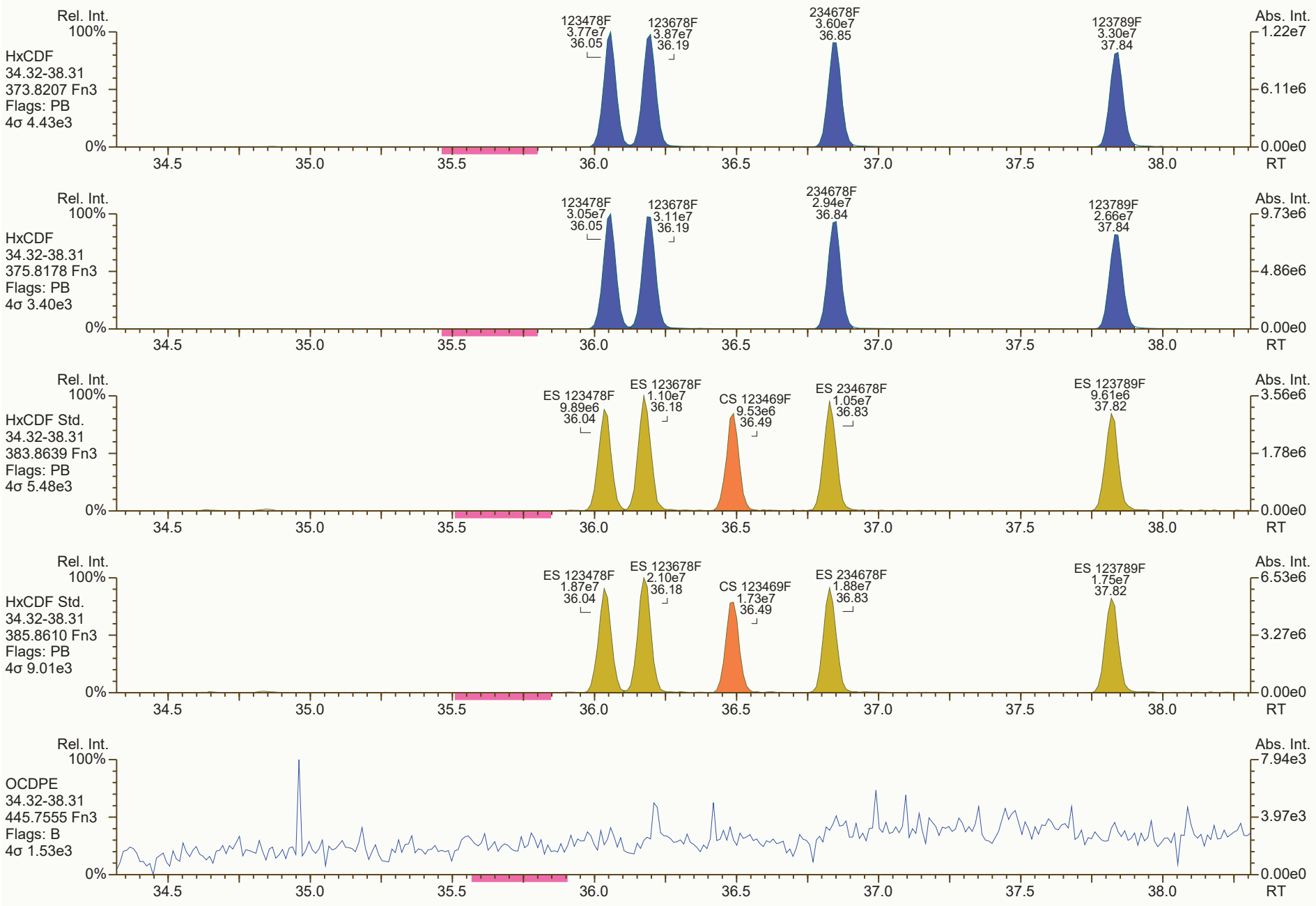

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

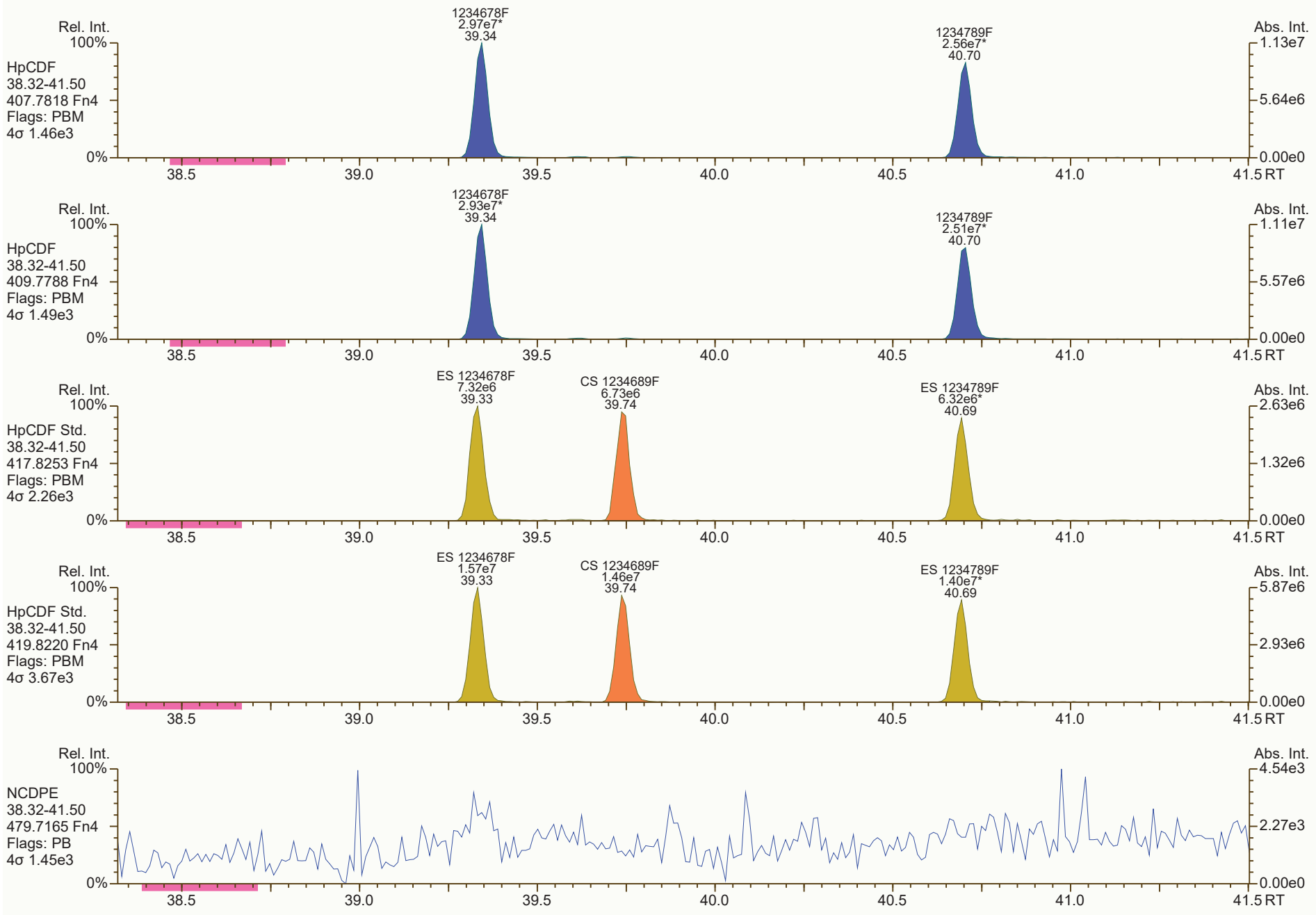

OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.94e3
4.47e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.00e6
4.50e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
Abs. Int.
7.51e3
3.76e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
0%
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
Abs. Int.
1.13e7
5.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
0%
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
Abs. Int.
1.11e7
5.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
0%
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
Abs. Int.
2.63e6
1.32e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
0%
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
Abs. Int.
5.87e6
2.93e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
0%
Abs. Int.
4.54e3
2.27e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

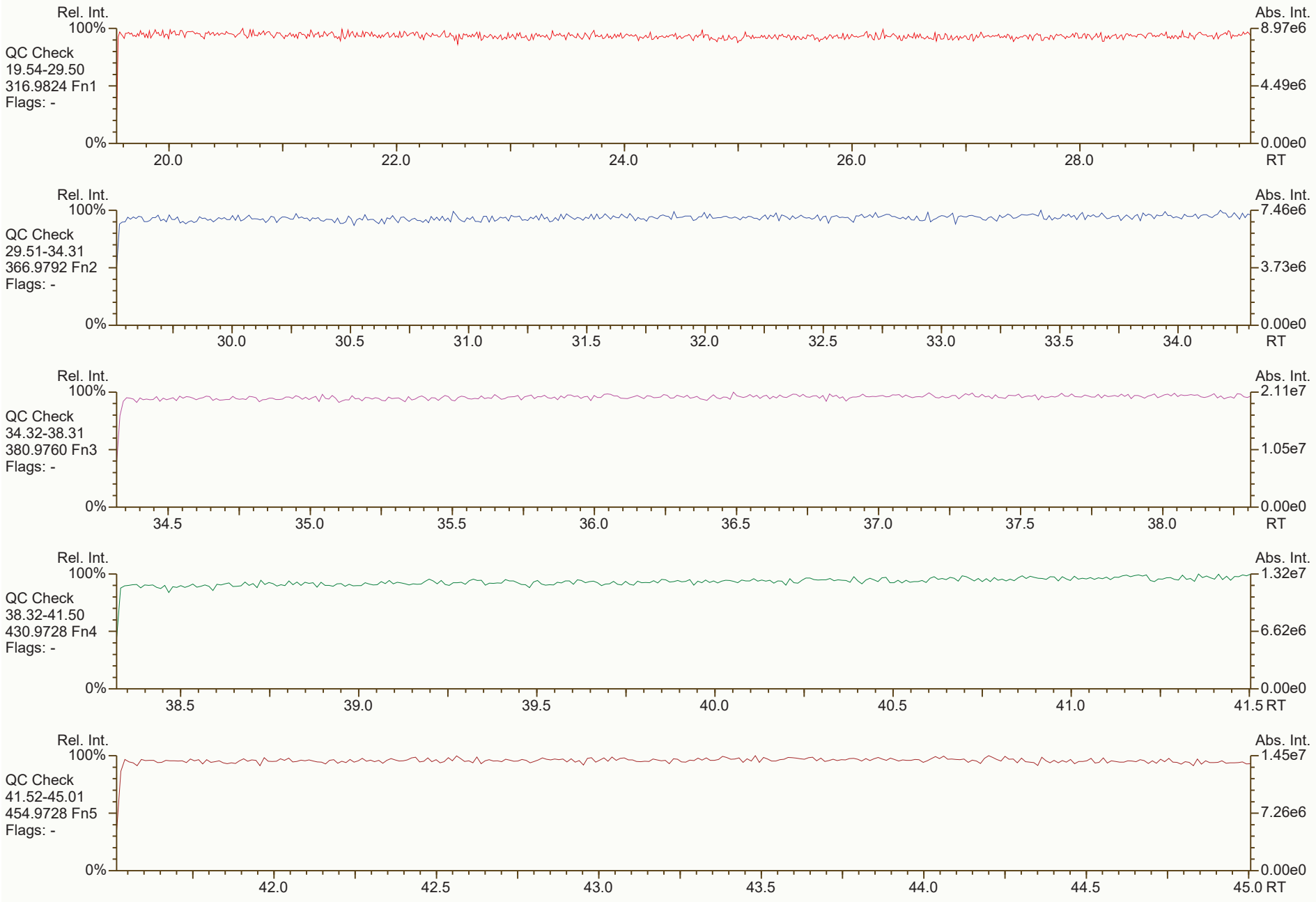

OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

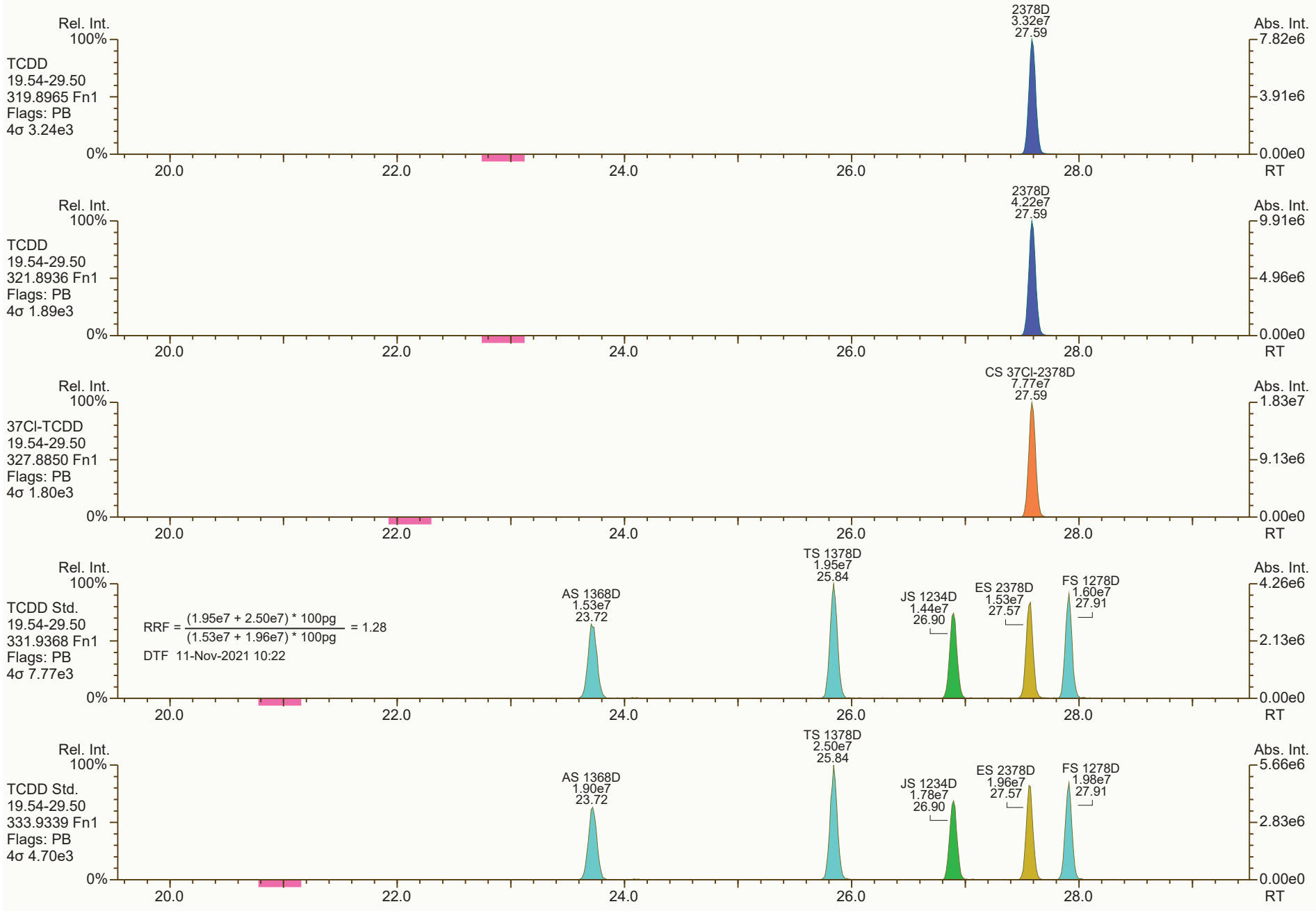
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

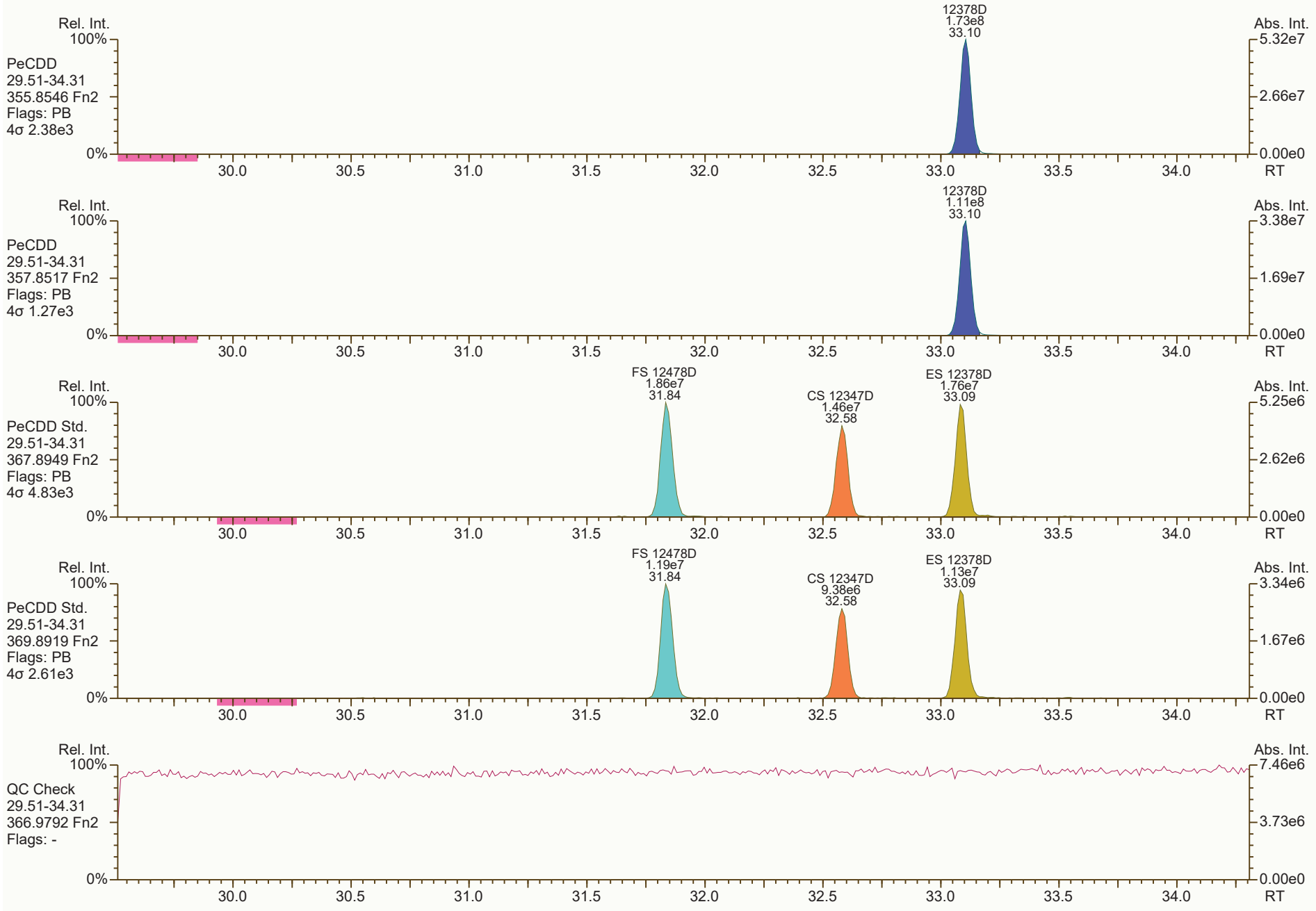
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

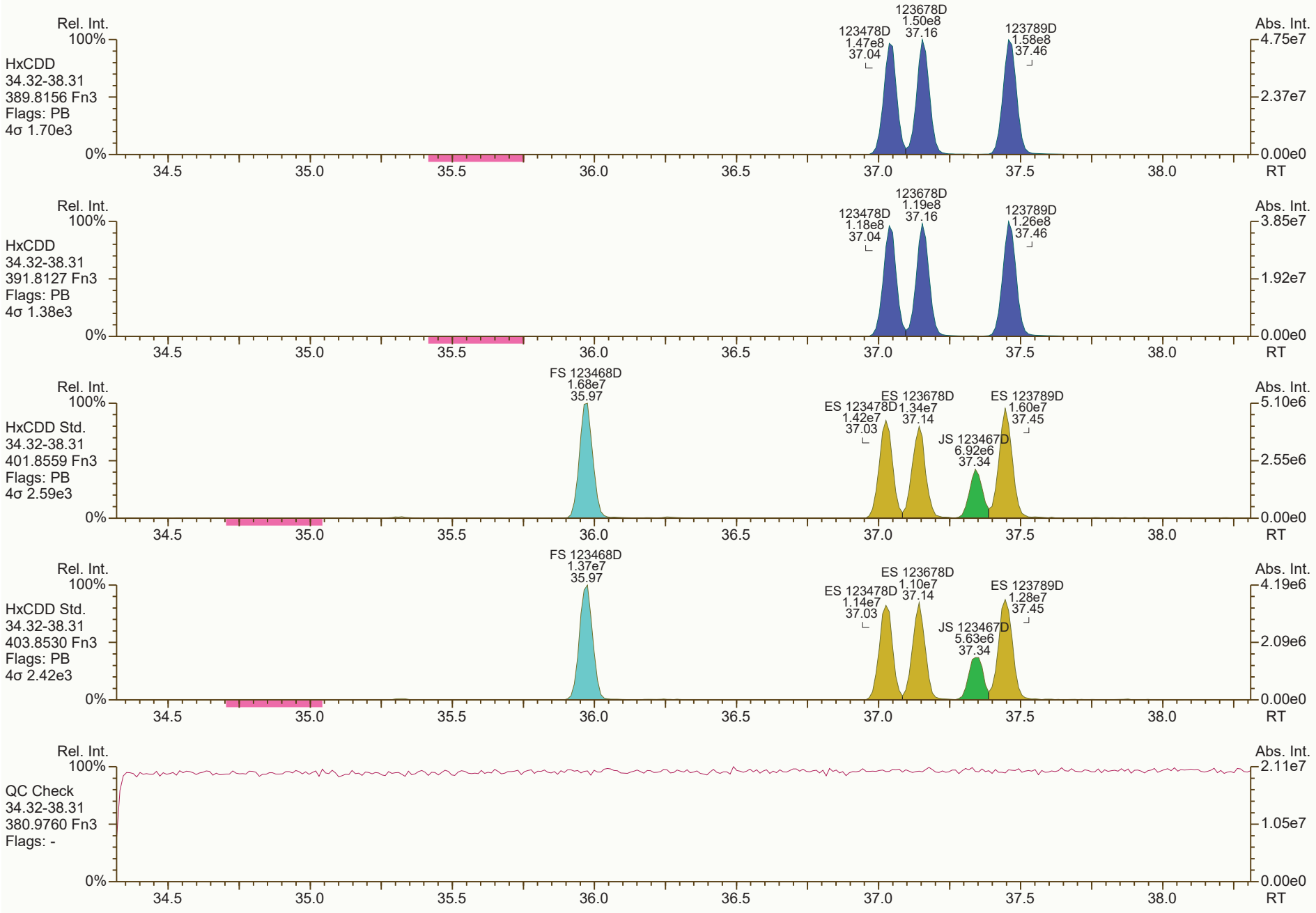
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

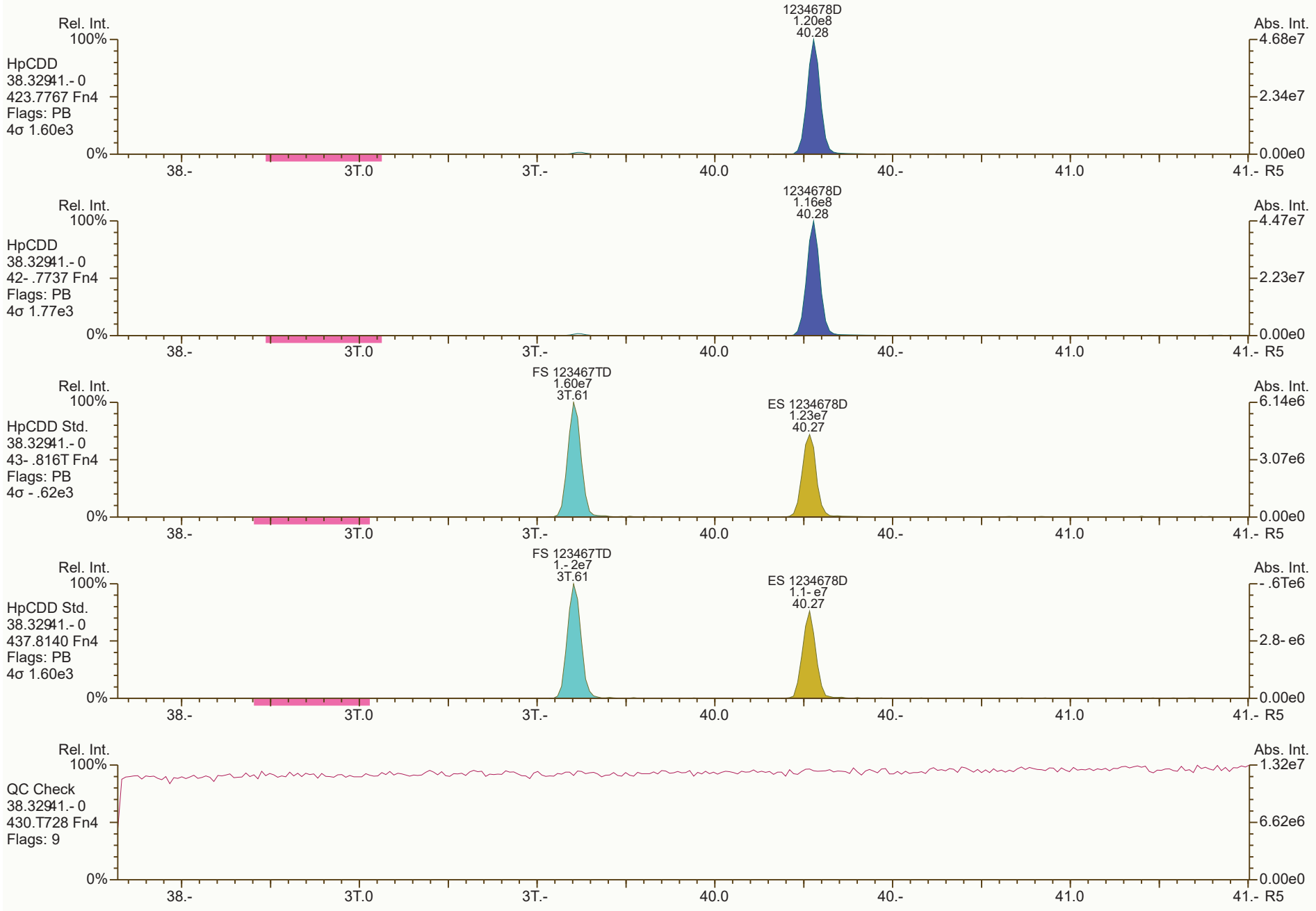
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

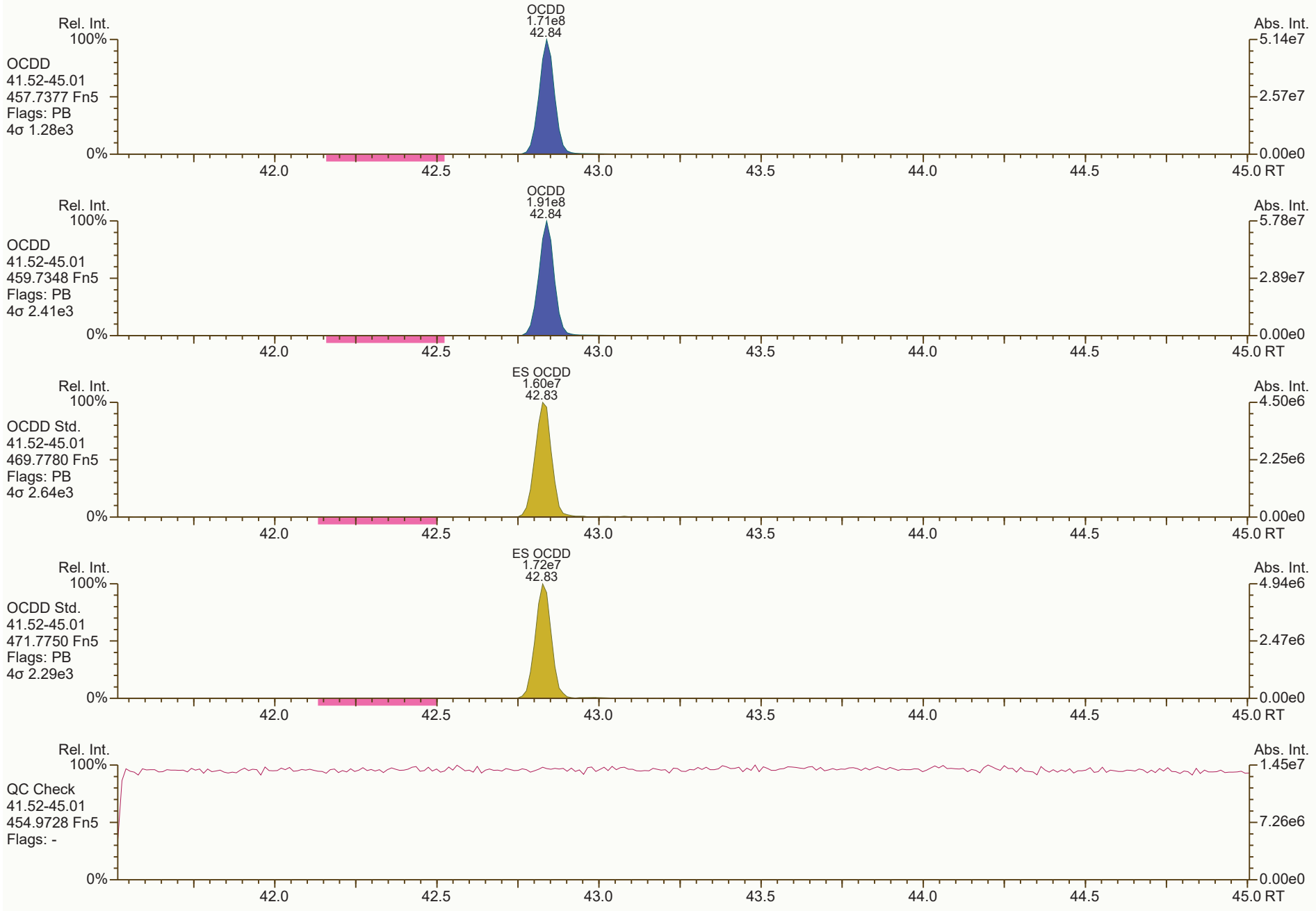

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
8.97e6
4.49e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
7.46e6
3.73e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
2.11e7
1.05e7
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.32e7
6.62e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.45e7
7.26e6
0.00e0
RT


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
0%
2378D
4.22e7
27.59
Abs. Int.
9.91e6
4.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
0%
CS 37Cl-2378D
7.77e7
27.59
Abs. Int.
1.83e7
9.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
0%
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
Abs. Int.
4.26e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
0%
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
Abs. Int.
5.66e6
2.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.46e6
3.73e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

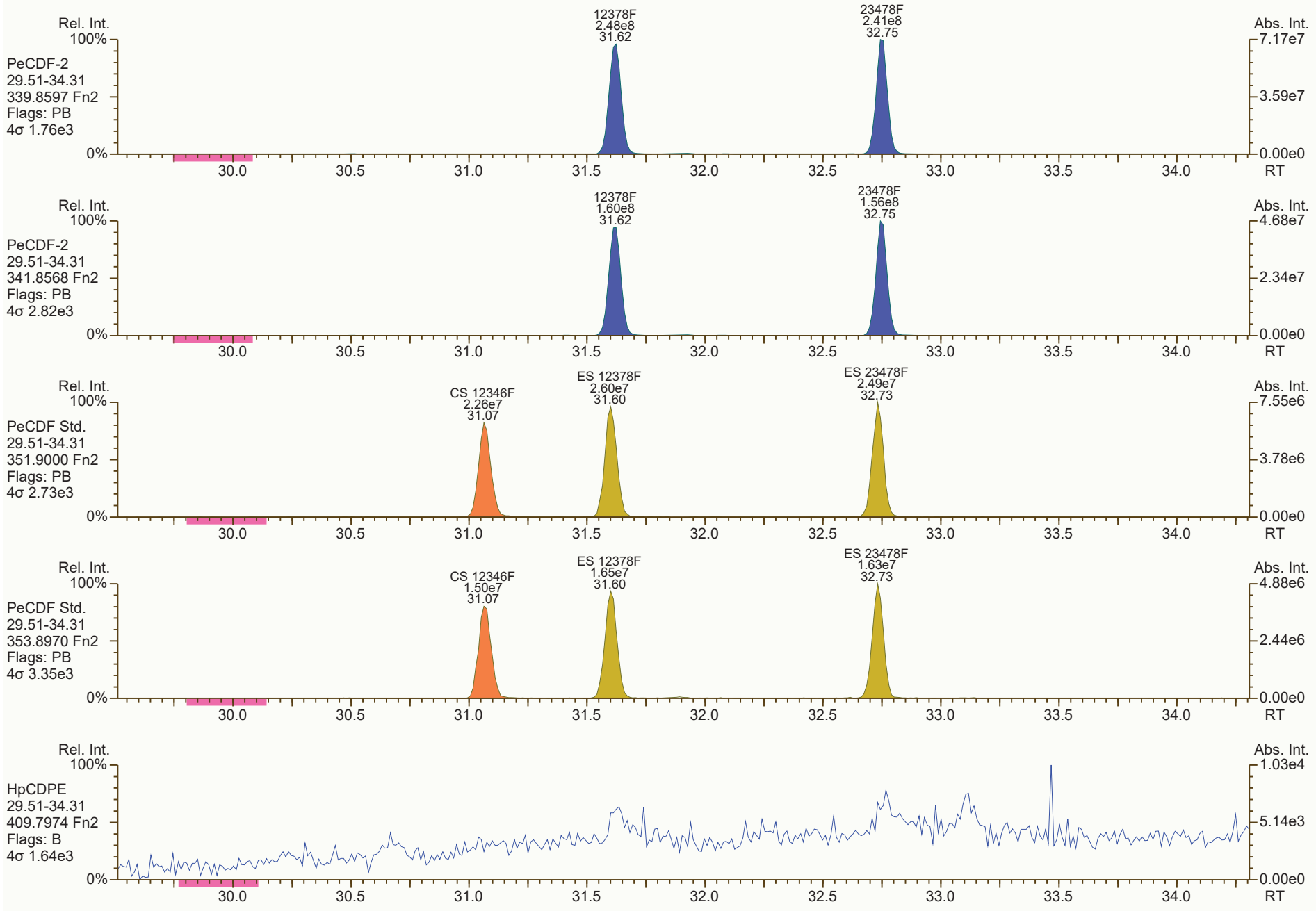

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

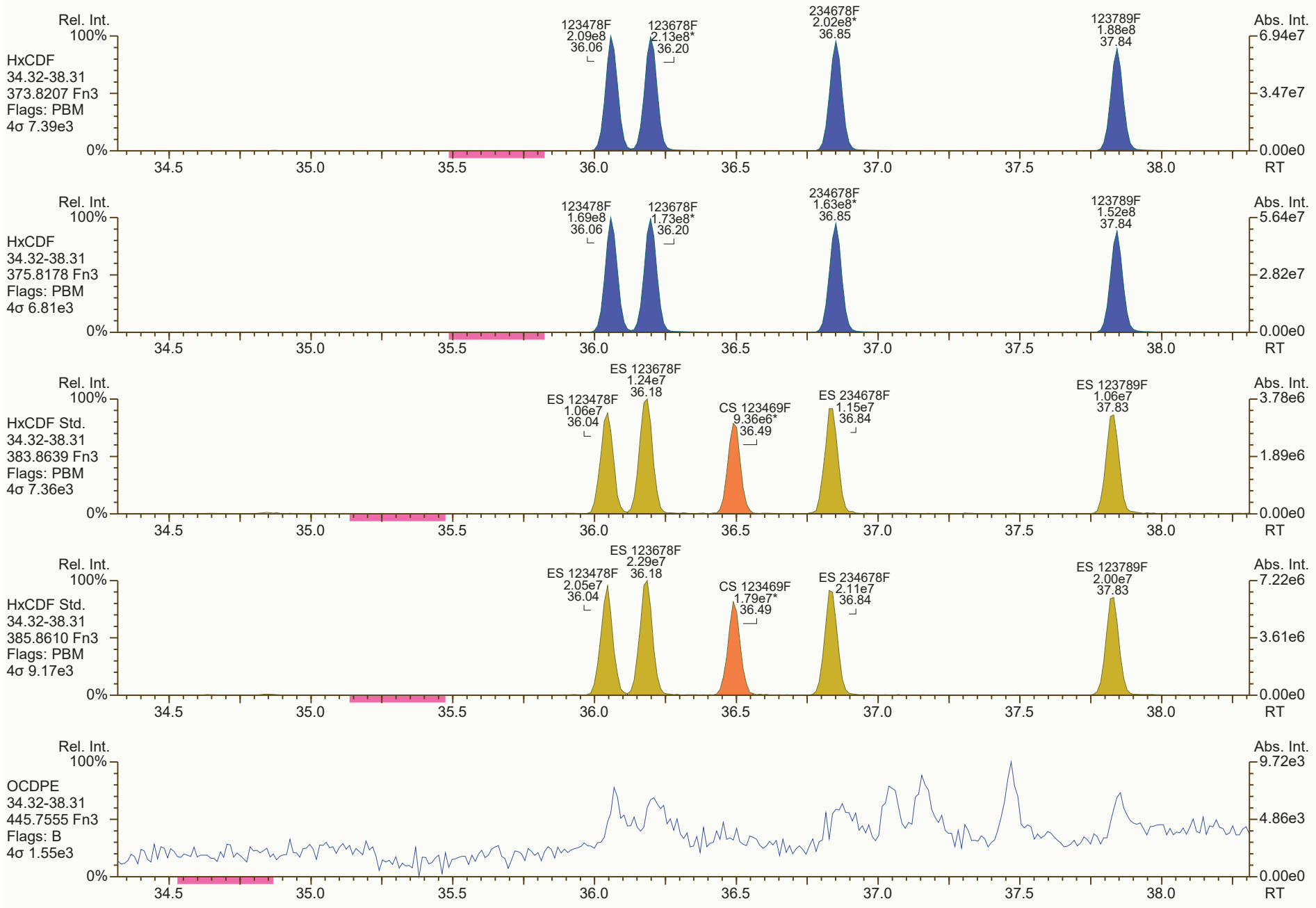

Rel. Int.
100%
HpCDD
38.32941.- 0
423.7767 Fn4
Flags: PB
4σ 1.60e3
0%
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
38.-
3T.0
3T.-
40.0
40.-
41.0
41.- R5
Rel. Int.
100%
HpCDD
38.32941.- 0
42- .7737 Fn4
Flags: PB
4σ 1.77e3
0%
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
38.-
3T.0
3T.-
40.0
40.-
41.0
41.- R5
Rel. Int.
100%
HpCDD Std.
38.32941.- 0
43- .816T Fn4
Flags: PB
4σ - .62e3
0%
FS 123467TD
1.60e7
3T.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
38.-
3T.0
3T.-
40.0
40.-
41.0
41.- R5
Rel. Int.
100%
HpCDD Std.
38.32941.- 0
437.8140 Fn4
Flags: PB
4σ 1.60e3
0%
FS 123467TD
1.- 2e7
3T.61
ES 1234678D
1.1- e7
40.27
Abs. Int.
- .6Te6
2.8- e6
0.00e0
38.-
3T.0
3T.-
40.0
40.-
41.0
41.- R5
Rel. Int.
100%
QC Check
38.32941.- 0
430.T728 Fn4
Flags: 9
0%
Abs. Int.
1.32e7
6.62e6
0.00e0
38.-
3T.0
3T.-
40.0
40.-
41.0
41.- R5

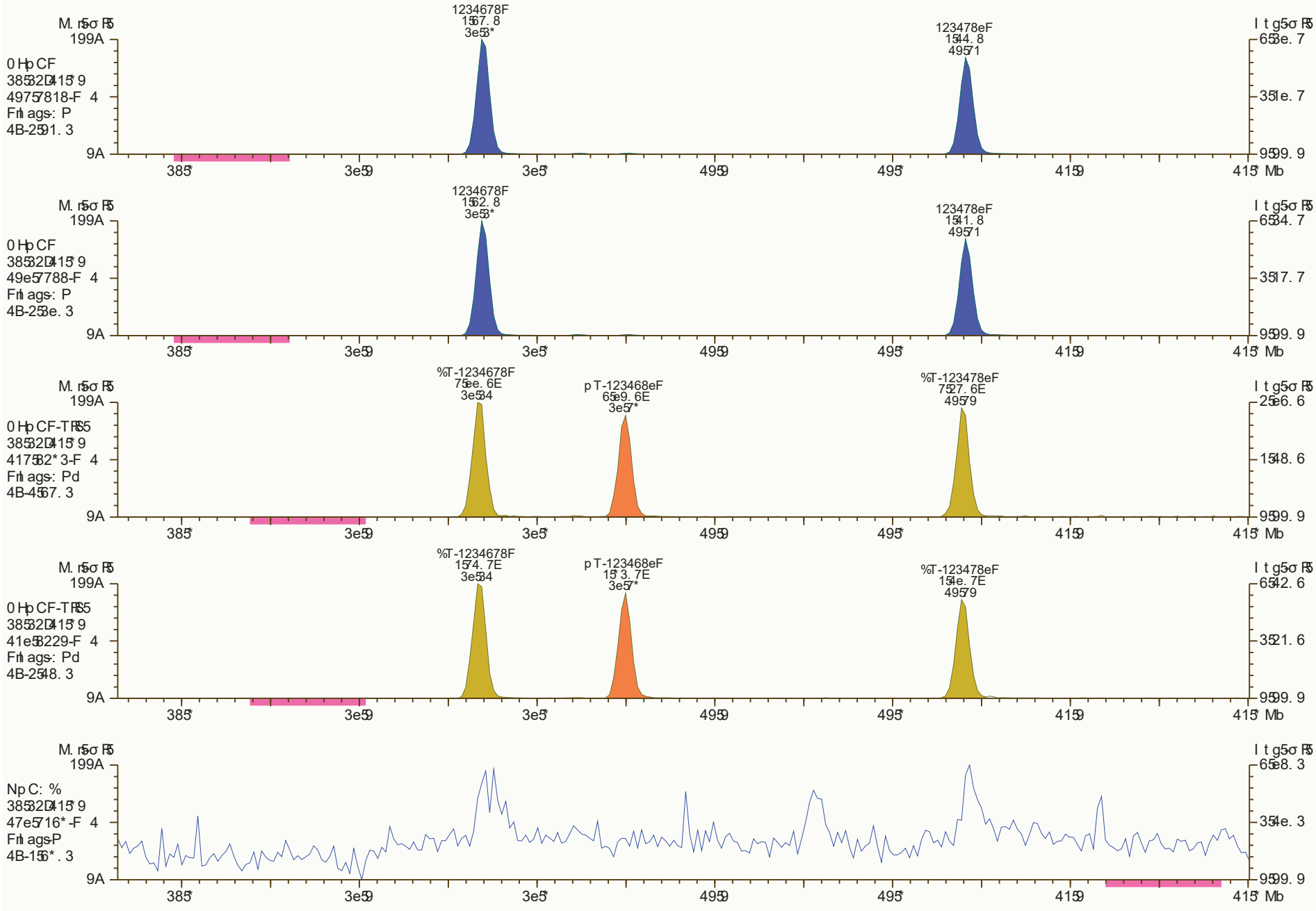

OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
Abs. Int.
1.03e4
5.14e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
123478F
2.09e8
36.06
123678F
2.13e8*
36.20
234678F
2.02e8*
36.85
123789F
1.88e8
37.84
Abs. Int.
6.94e7
3.47e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
123478F
1.69e8
36.06
123678F
1.73e8*
36.20
234678F
1.63e8*
36.85
123789F
1.52e8
37.84
Abs. Int.
5.64e7
2.82e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
ES 123678F
1.24e7
36.18
ES 123478F
1.06e7
36.04
CS 123469F
9.36e6*
36.49
ES 234678F
1.15e7
36.84
ES 123789F
1.06e7
37.83
Abs. Int.
3.78e6
1.89e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
ES 123678F
2.29e7
36.18
ES 123478F
2.05e7
36.04
CS 123469F
1.79e7*
36.49
ES 234678F
2.11e7
36.84
ES 123789F
2.00e7
37.83
Abs. Int.
7.22e6
3.61e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
Abs. Int.
9.72e3
4.86e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


1234678F
123478eF
%T-1234678F
pT-123468eF
%T-123478eF
385
3e59
3e5
495
415
Mb

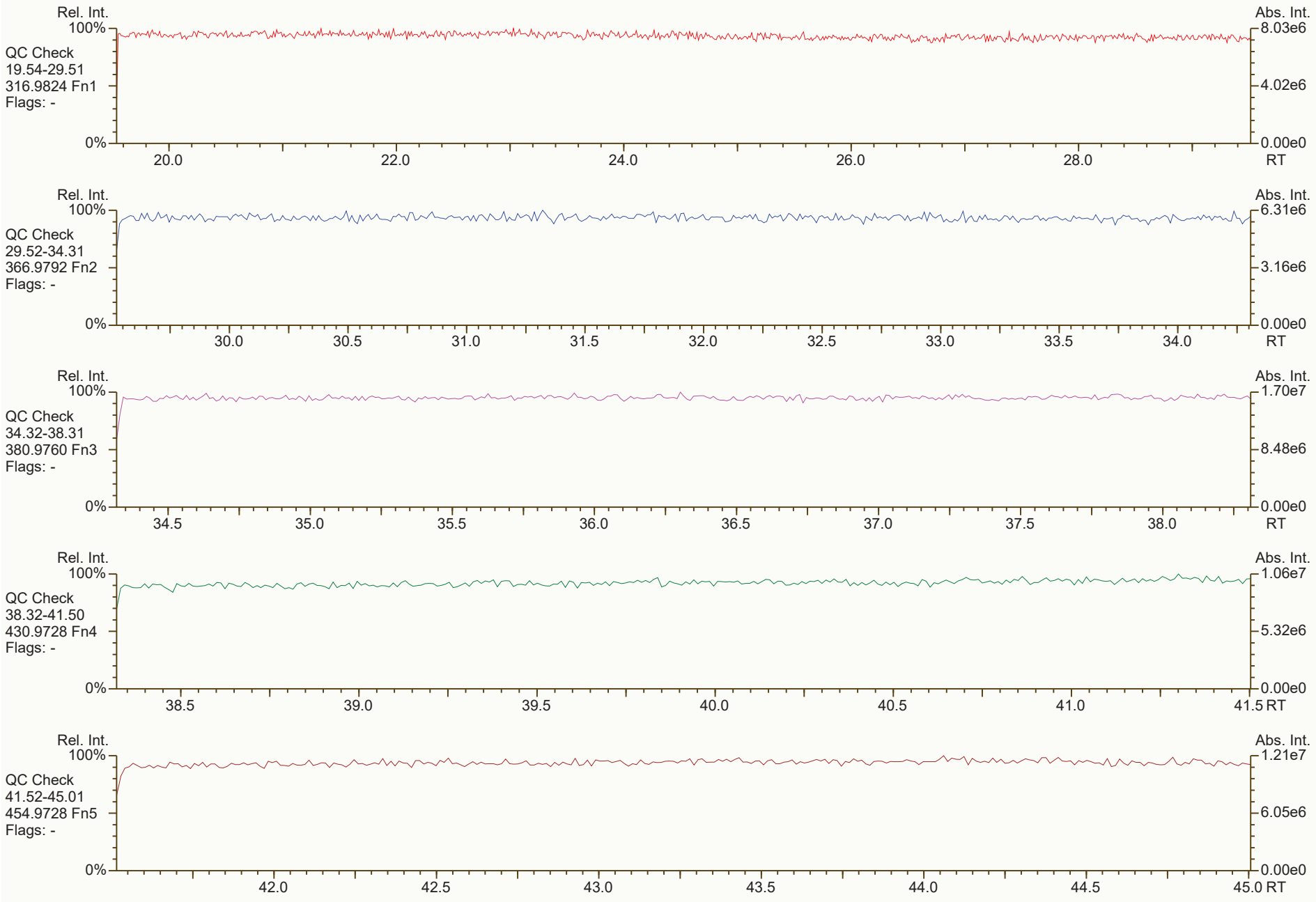

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

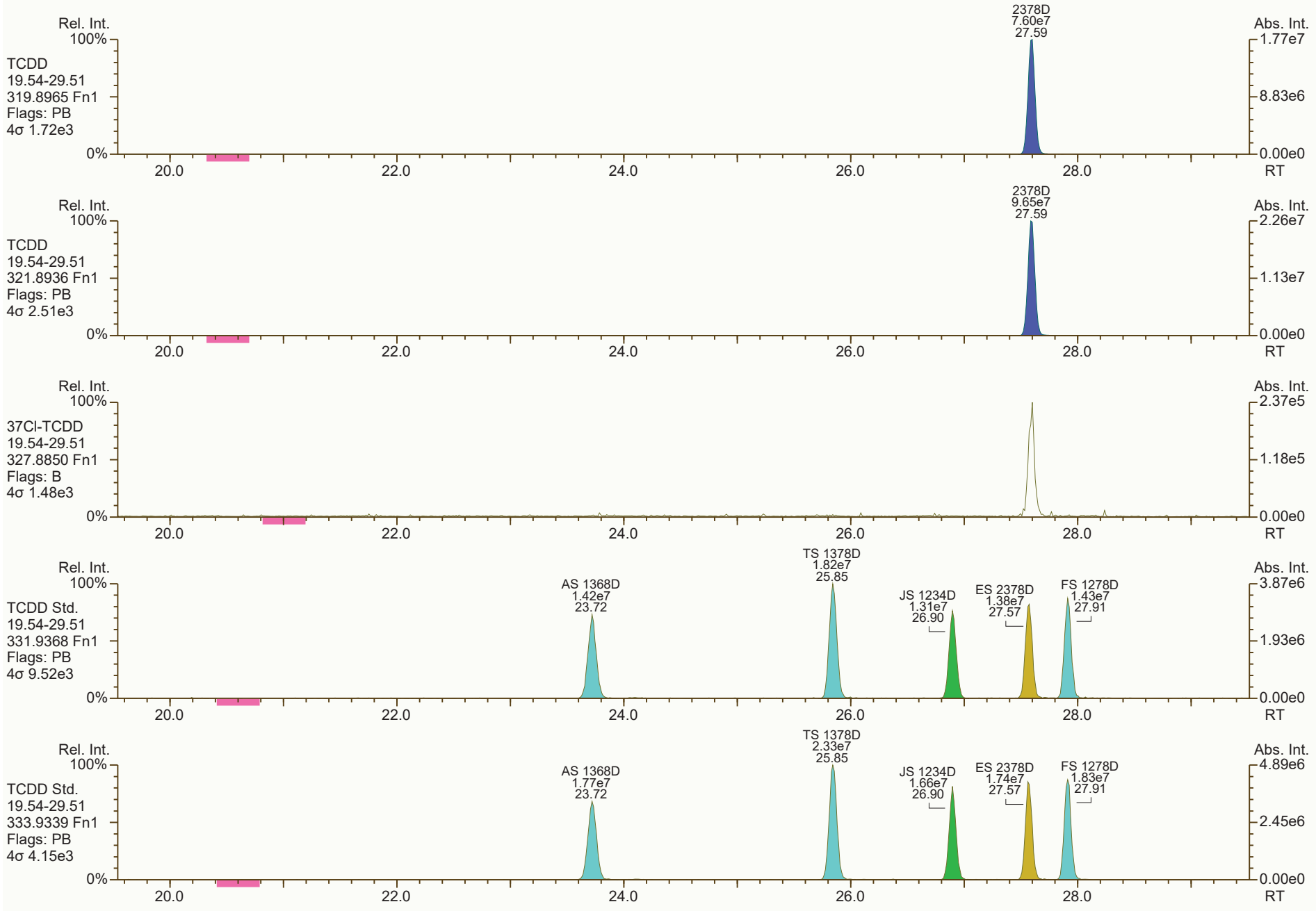
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

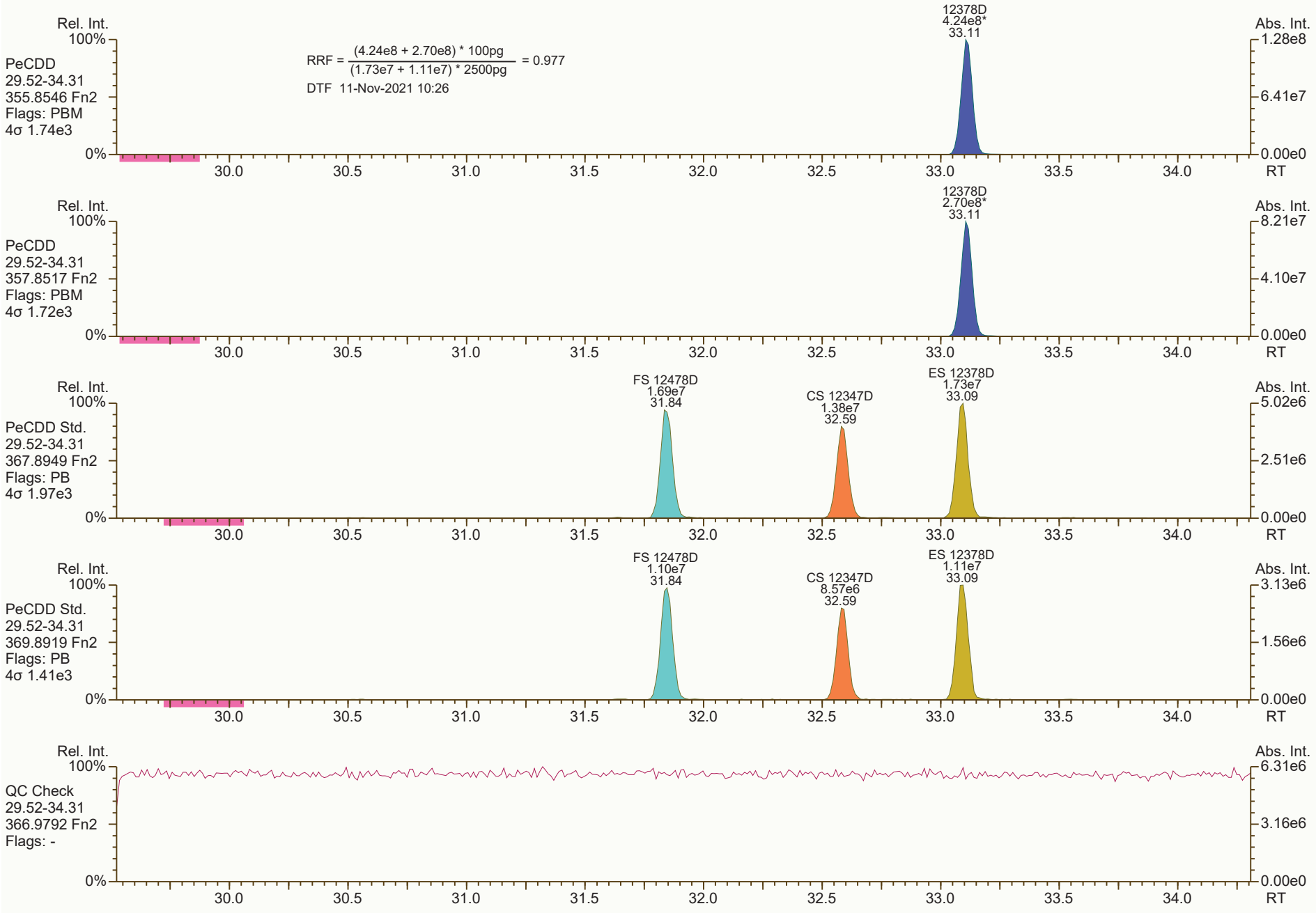
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

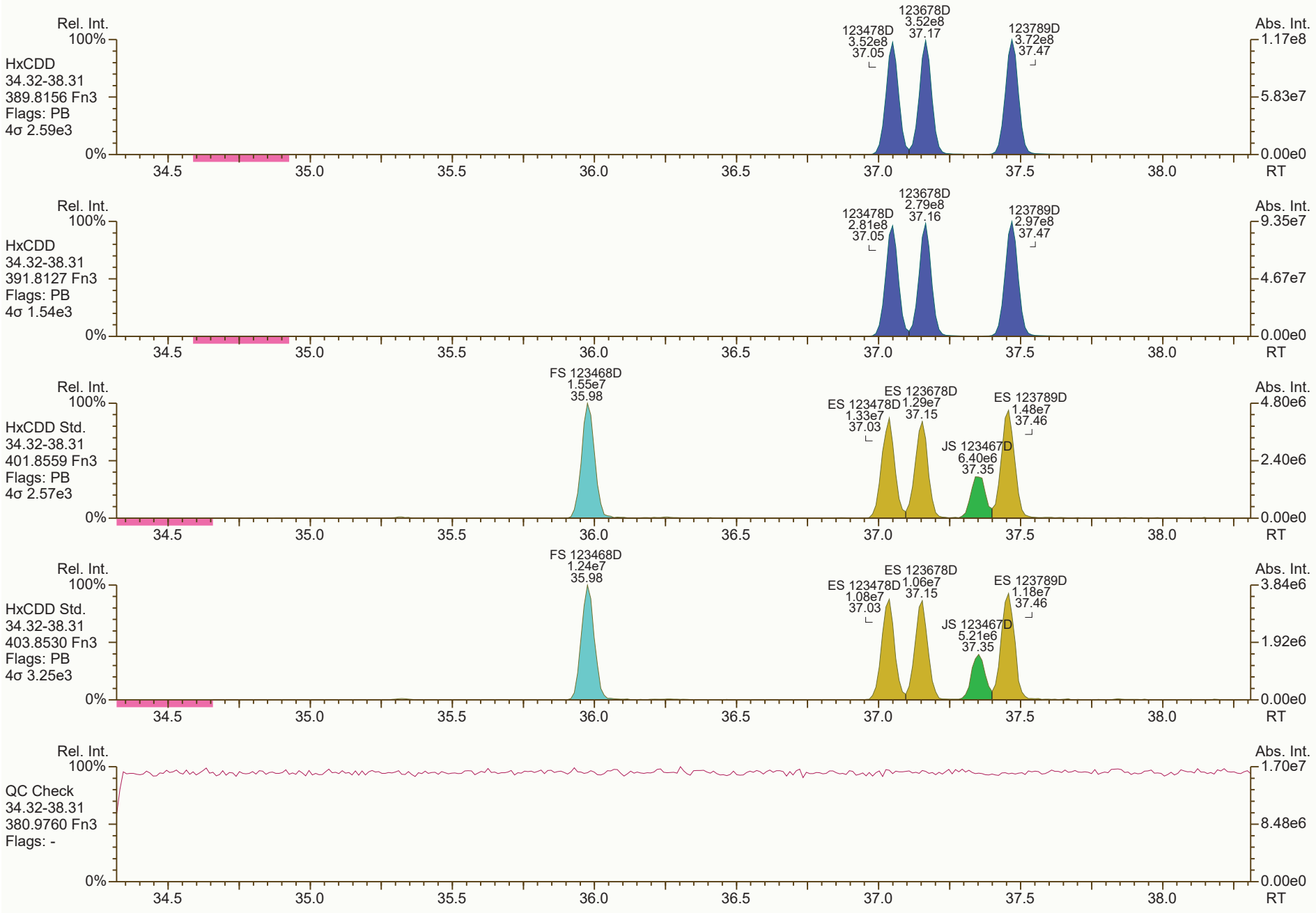
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

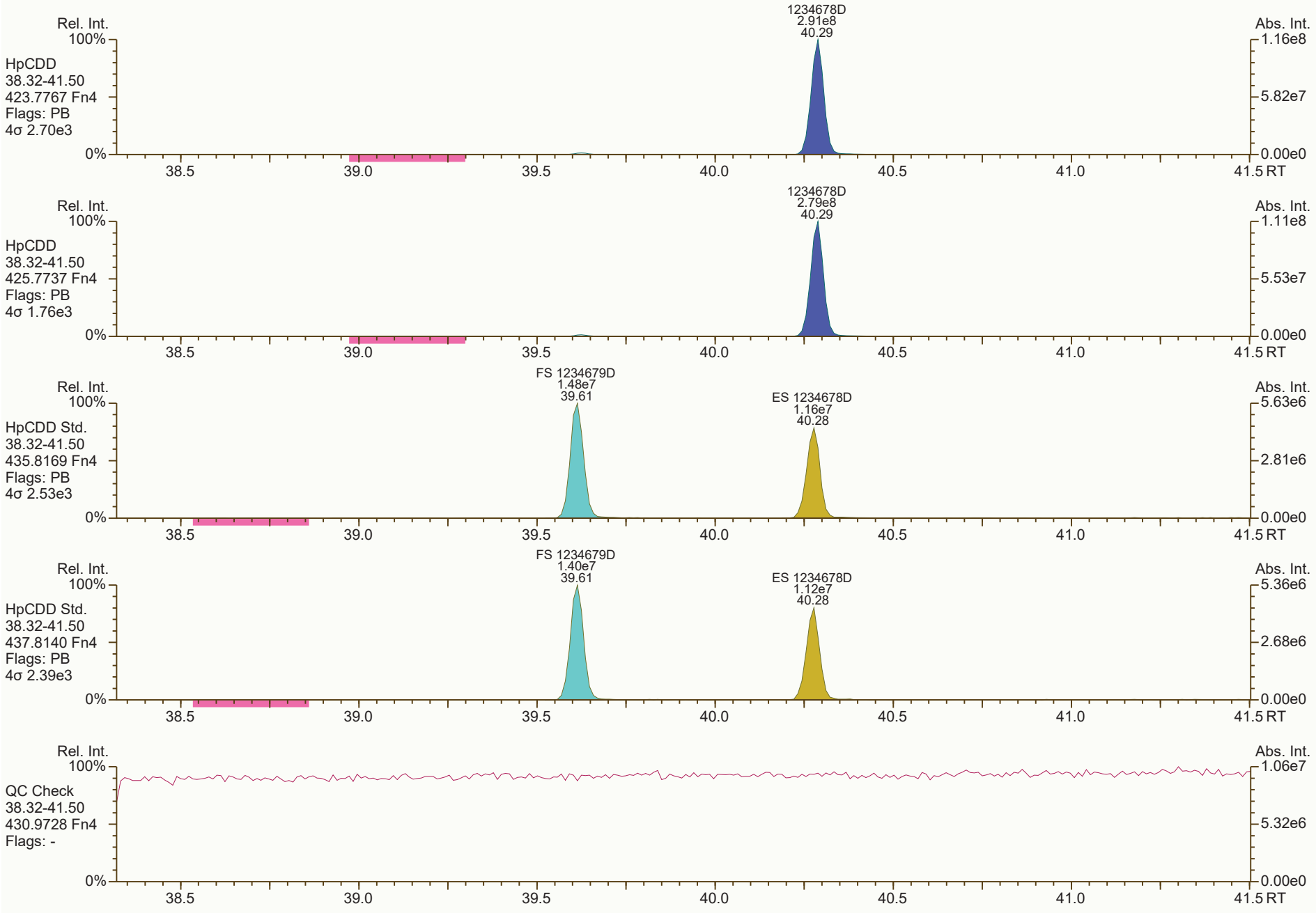
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

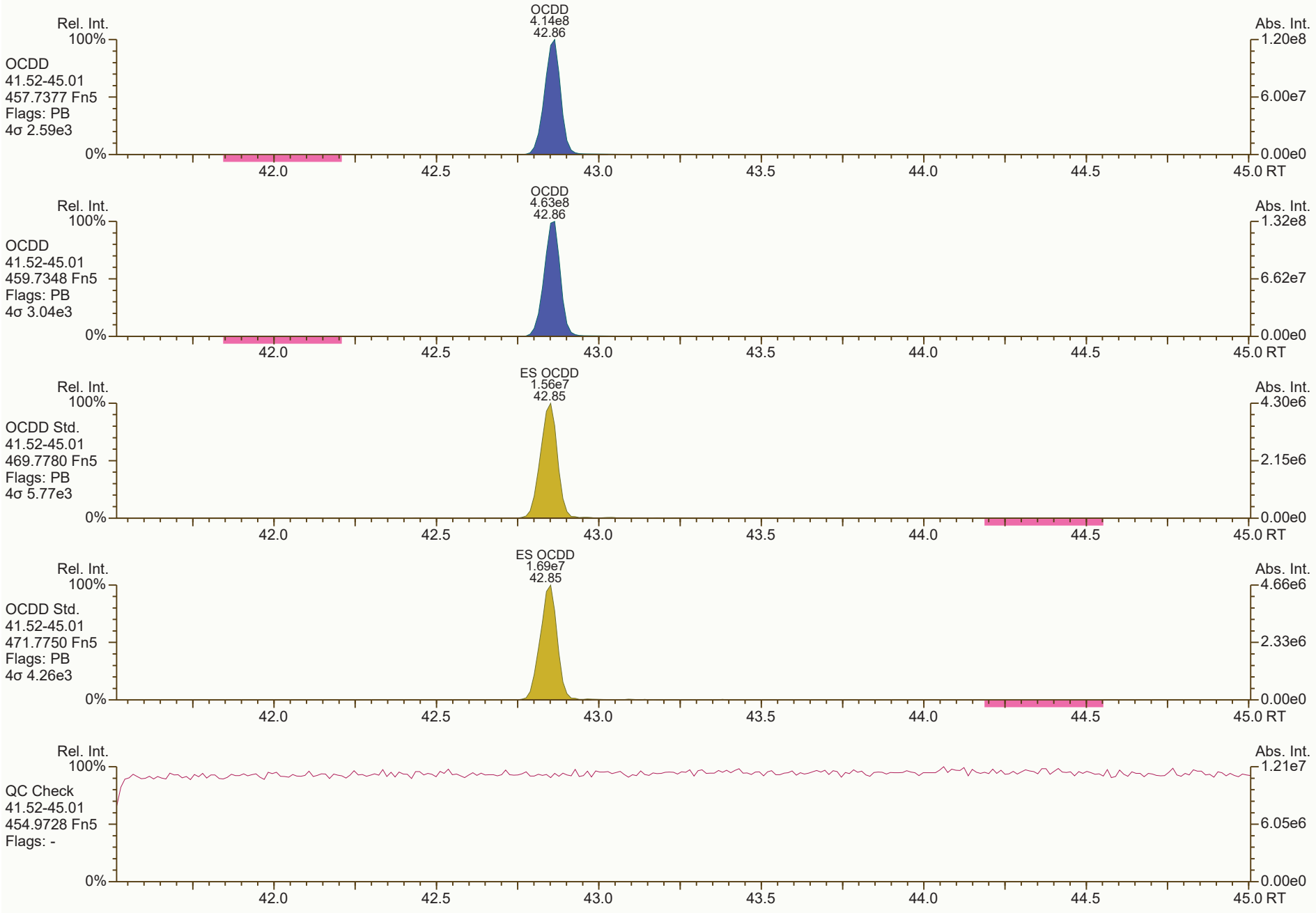

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
8.03e6
4.02e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
6.31e6
3.16e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
1.70e7
8.48e6
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.06e7
5.32e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.21e7
6.05e6
0.00e0
RT


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
12378D
2.70e8*
33.11
8.21e7
4.10e7
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
5.02e6
2.51e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
3.13e6
1.56e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
6.31e6
3.16e6

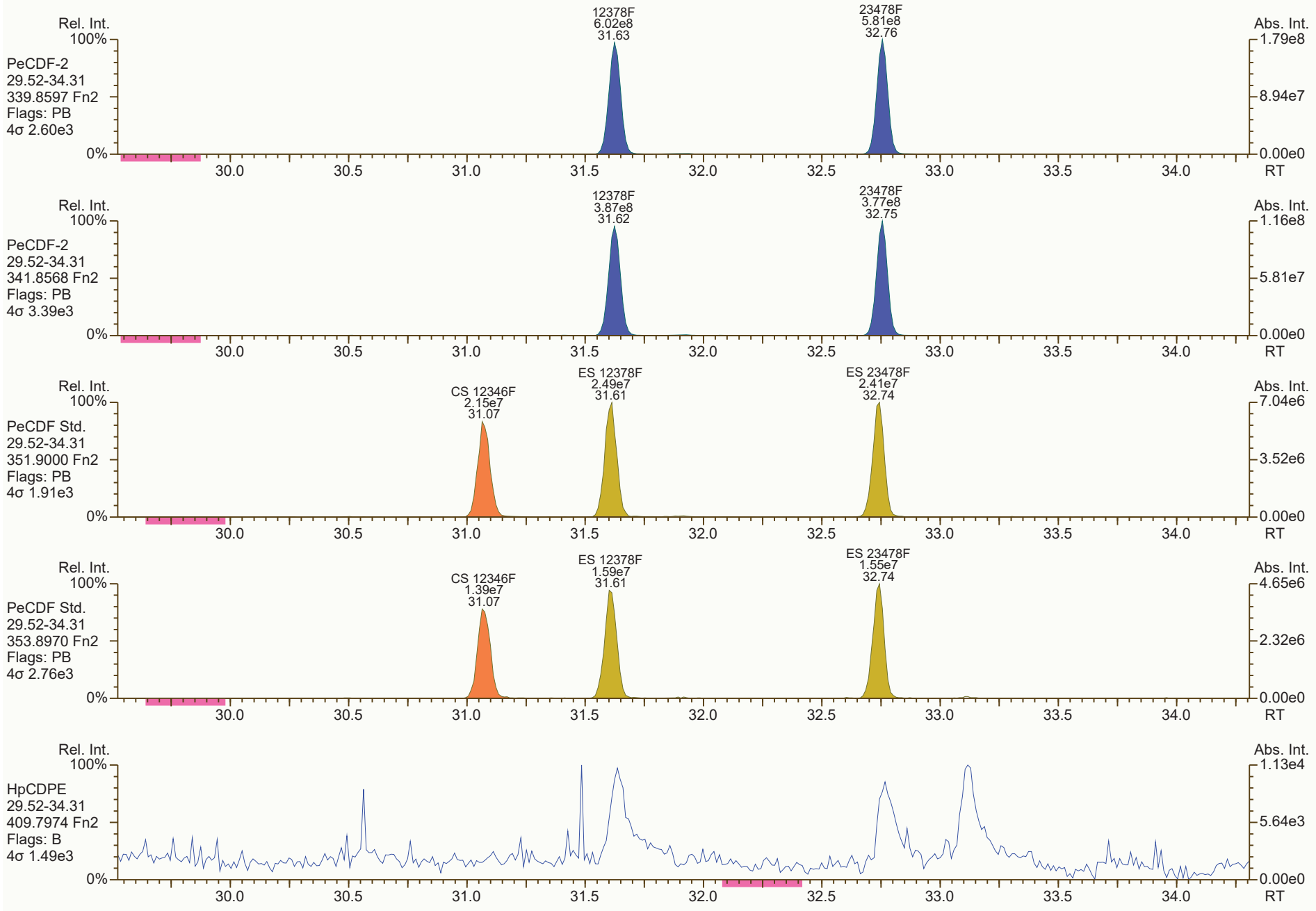

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.70e7
8.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

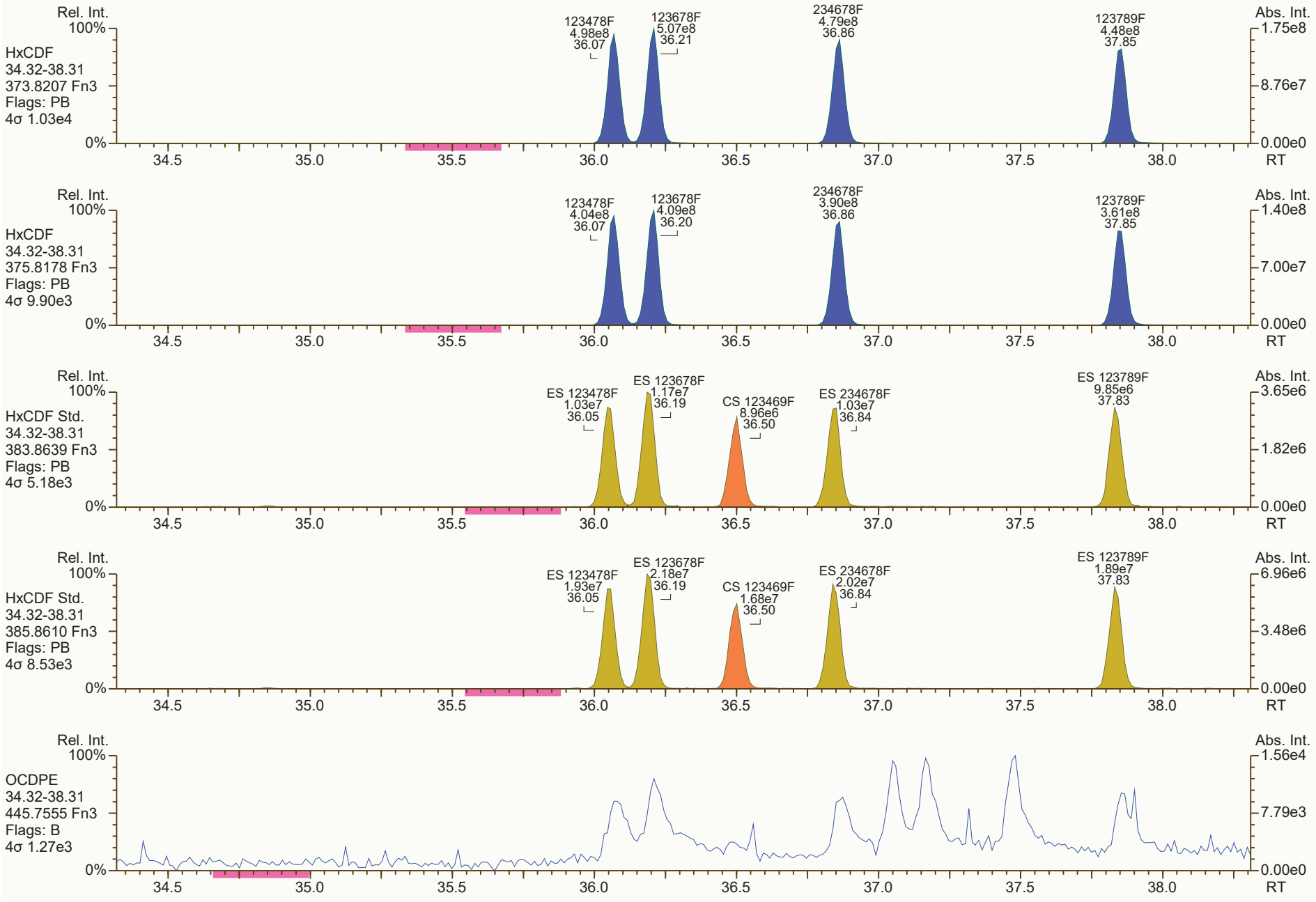

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

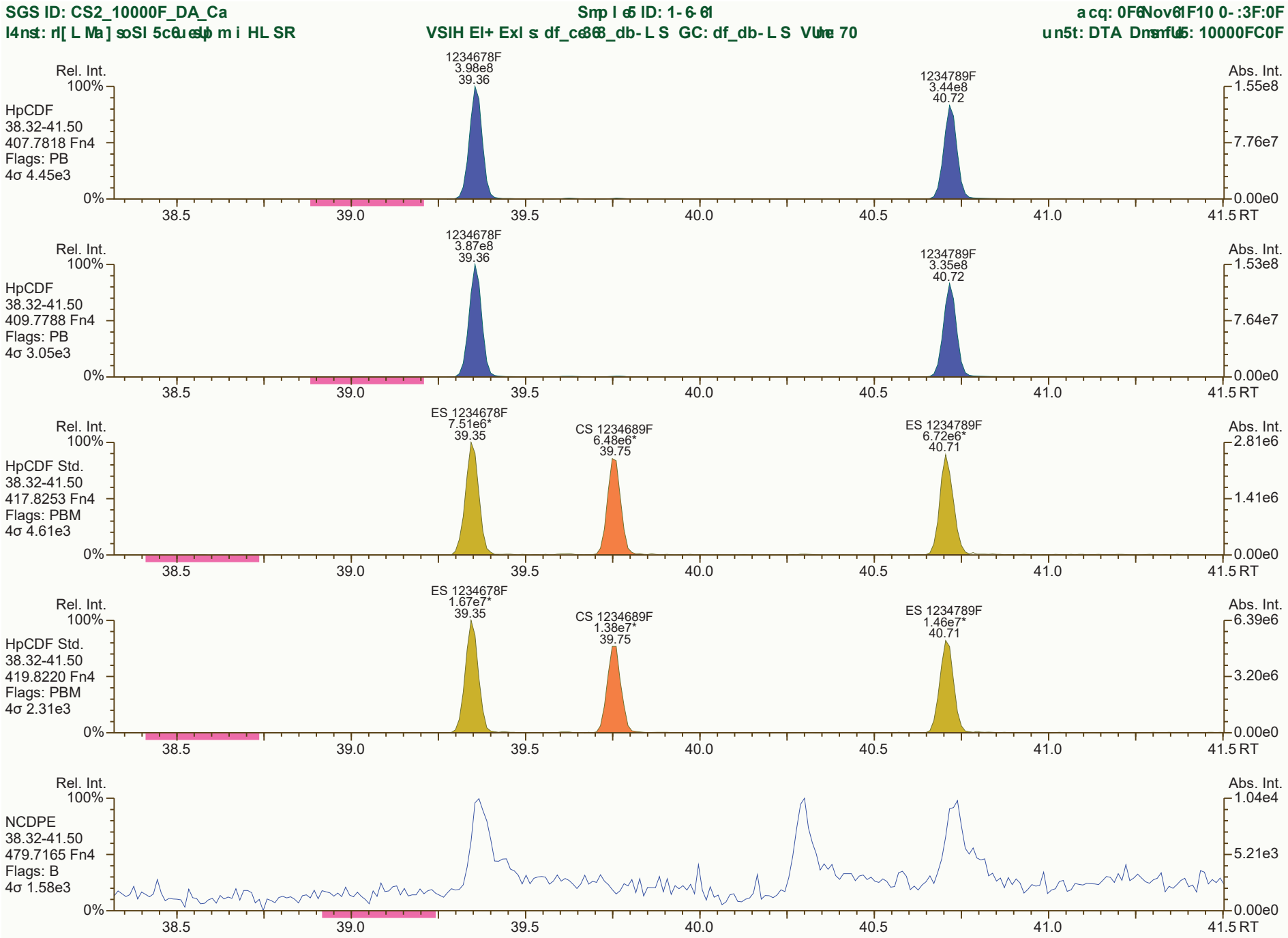

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
OCDD
4.14e8
42.86
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
OCDD
4.63e8
42.86
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
ES OCDD
1.56e7
42.85
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
ES OCDD
1.69e7
42.85
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

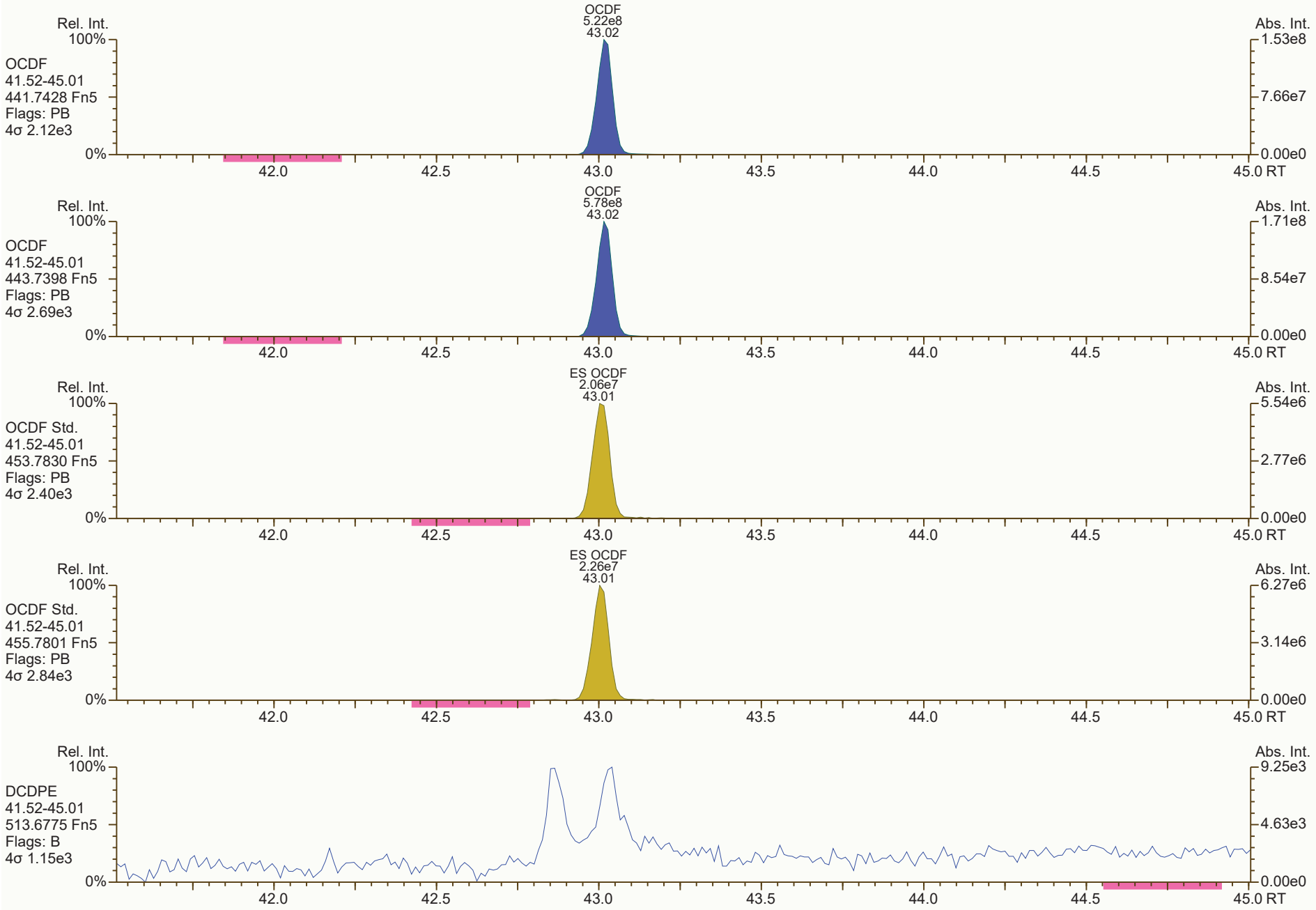

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

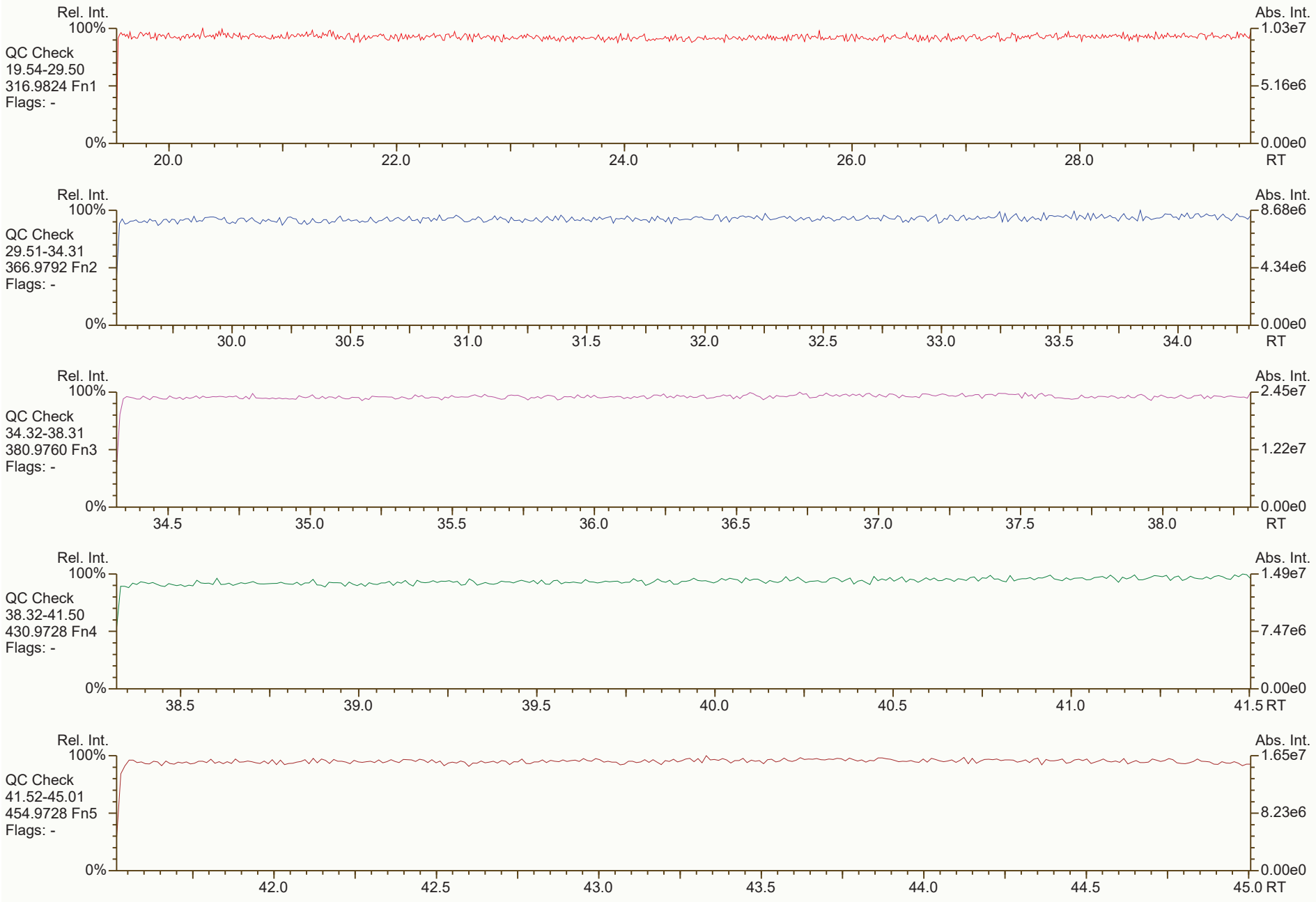

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
1.38e4
6.90e3
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
8.03e6
4.02e6


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
0%
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
0%
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
0%
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
0%
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
0%
Abs. Int.
1.13e4
5.64e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: CS2_10000F_DA_Ca
Smp l e5 ID: 1-6-61
acq: 0F6Nov61F10 0-:3F:0F
VSIH El+ Exl s: df_ce868_db-L S GC: df_db-L S Vuhe 70
un5t: DTA Dmsmfu5: 10000FC0F
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
1.55e8
7.76e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
1.53e8
7.64e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
2.81e6
1.41e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
6.39e6
3.20e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
1.04e4
5.21e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

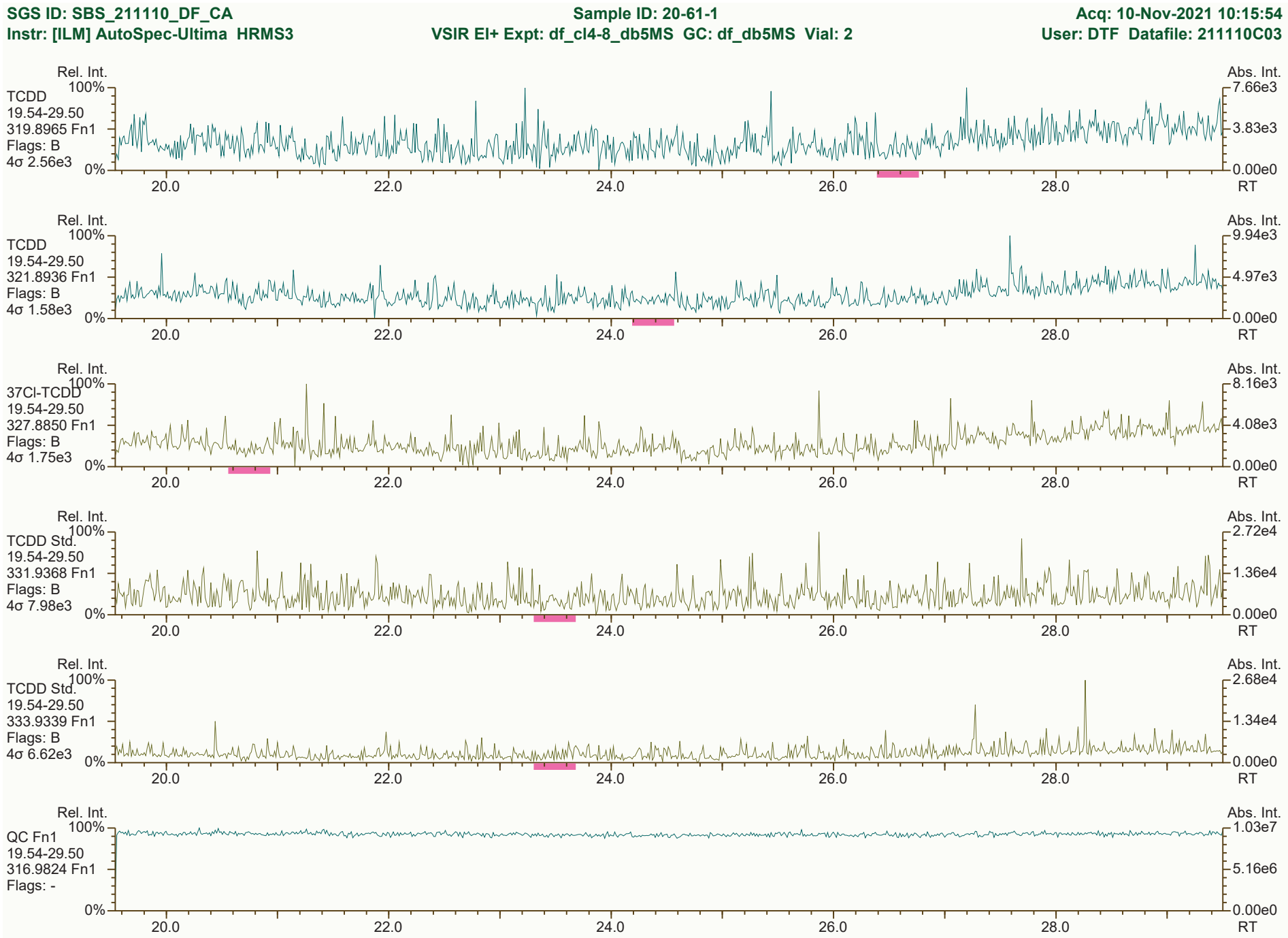

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.65e7
8.23e6
0.00e0

SGS ID: SBS_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 20-61-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2

Acq: 10-Nov-2021 10:15:54
User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647
PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

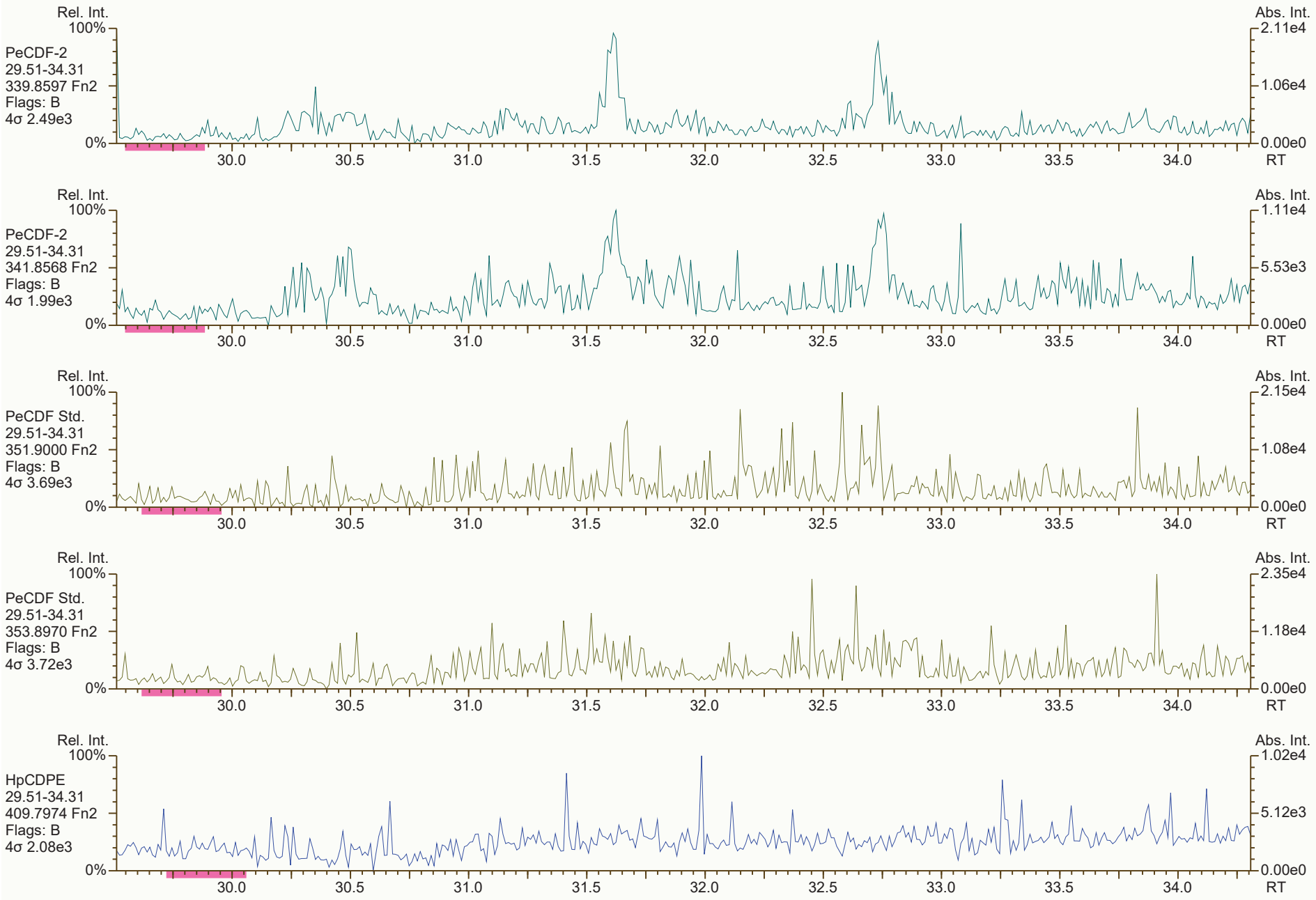

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

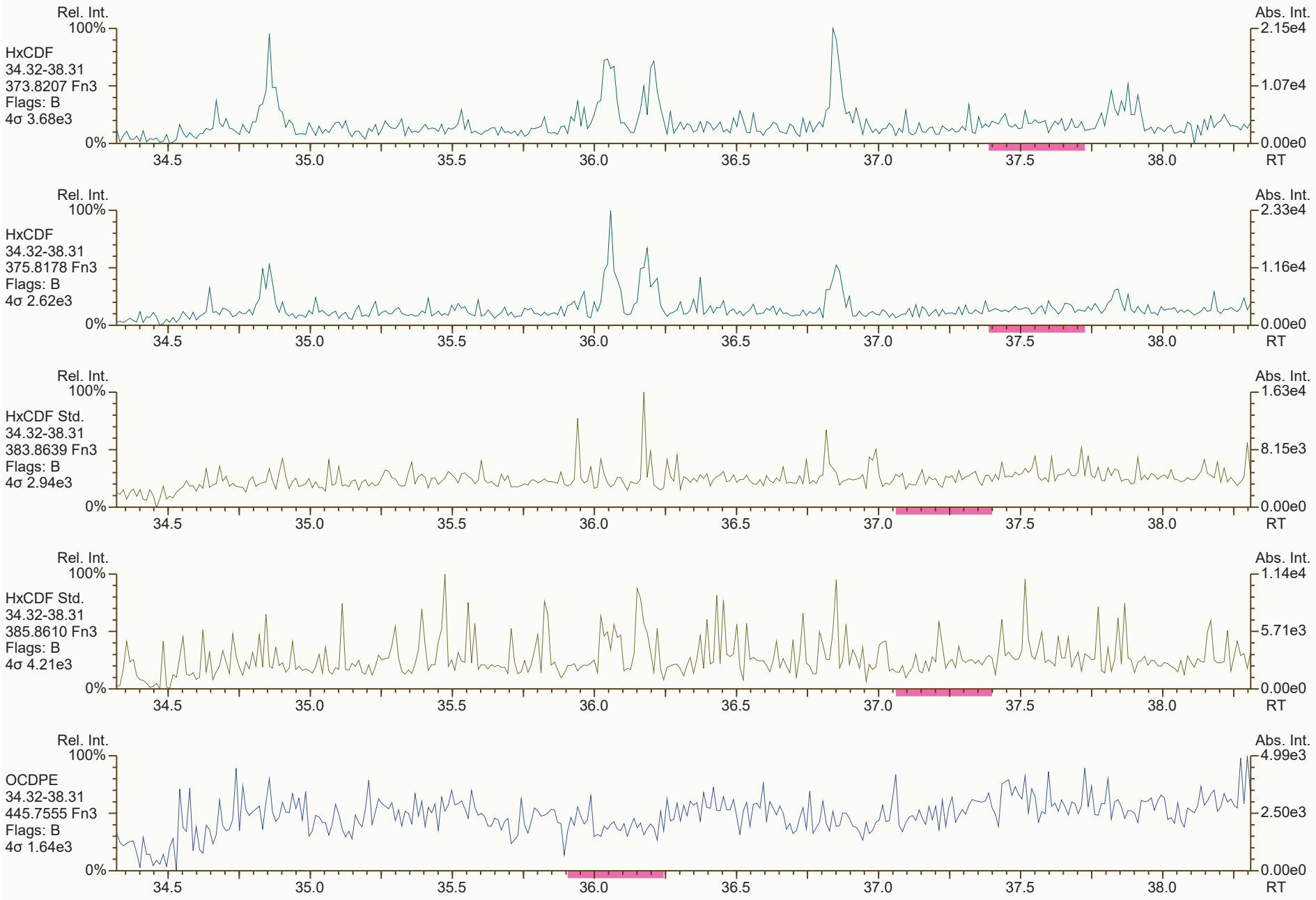

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
Abs. Int.
7.07e4
3.53e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
Abs. Int.
1.06e5
5.32e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
Abs. Int.
5.11e4
2.56e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
Abs. Int.
2.83e4
1.42e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
Abs. Int.
9.47e3
4.73e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

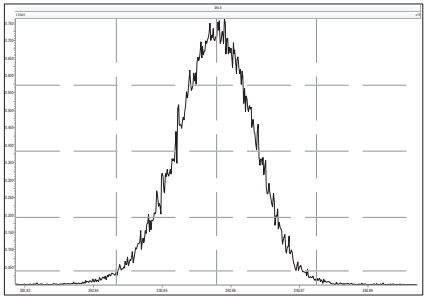

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

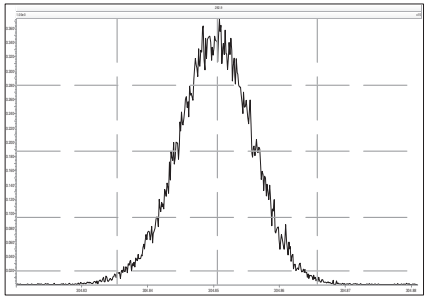
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

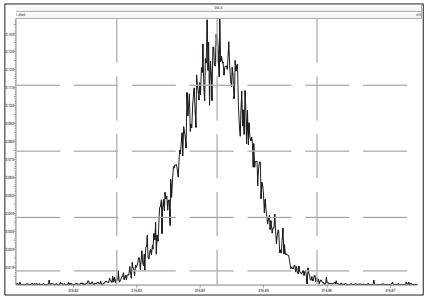
M 292.9824 R 10731



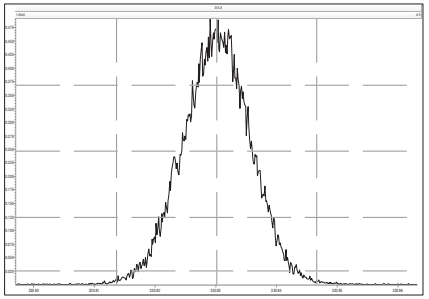
M 304.9824 R 11311



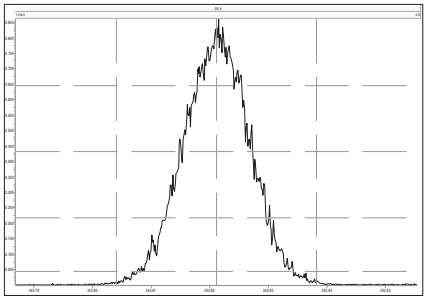
M 316.9824 R 12373



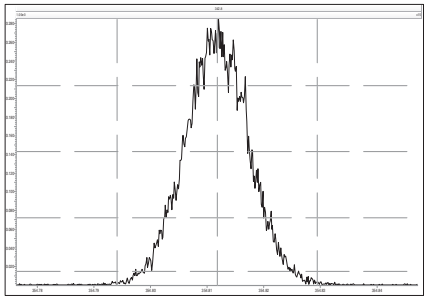
M 330.9792 R 12887



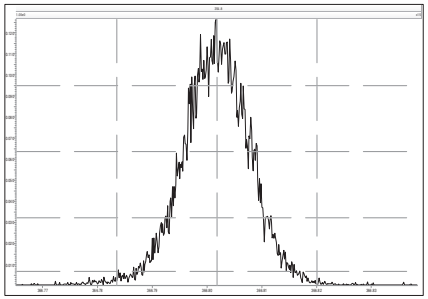
M 342.9792 R 12818



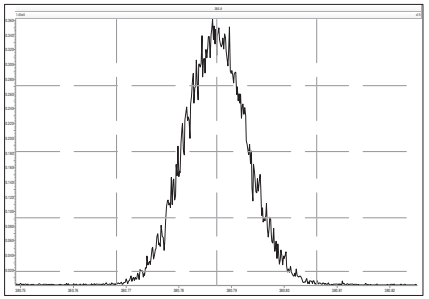
M 354.9792 R 12882



M 366.9792 R 13368



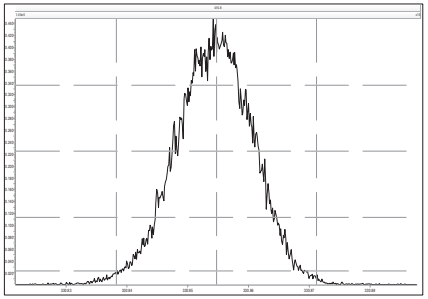
M 380.9760 R 13658



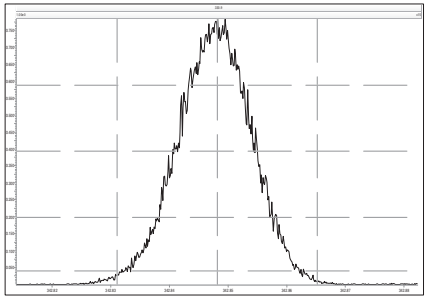
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

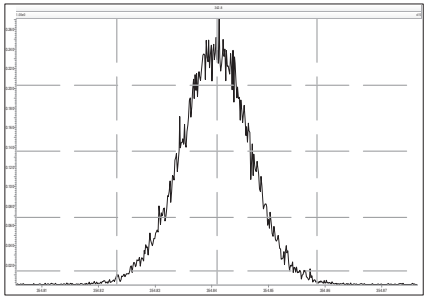
M 330.9792 R 11112



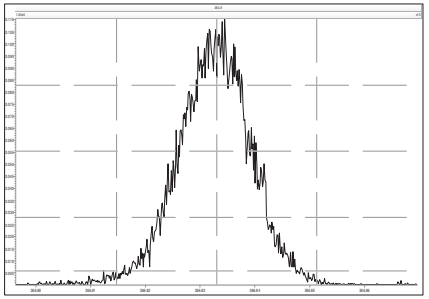
M 342.9792 R 11909



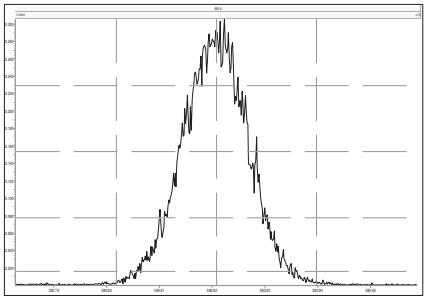
M 354.9792 R 11684



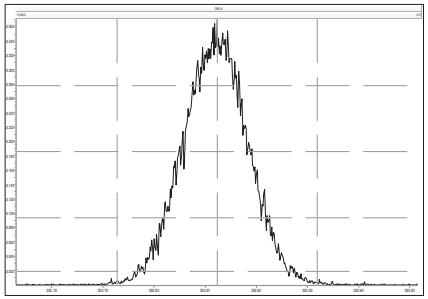
M 366.9792 R 11962



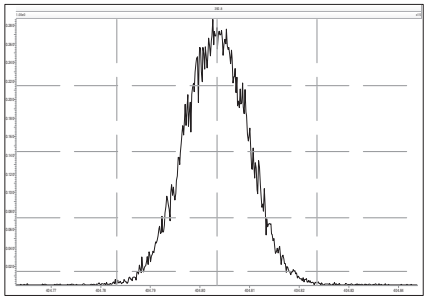
M 380.9760 R 13161



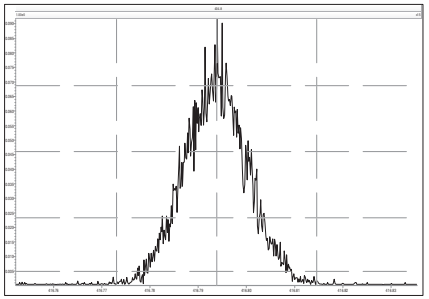
M 392.9760 R 13968



M 404.9760 R 13227



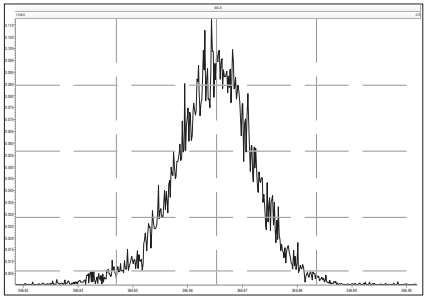
M 416.9760 R 13663



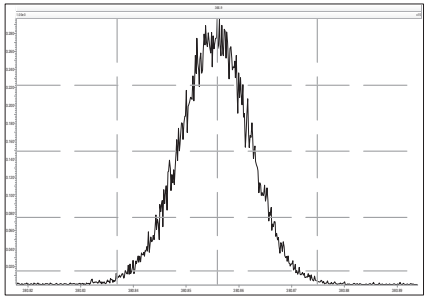
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

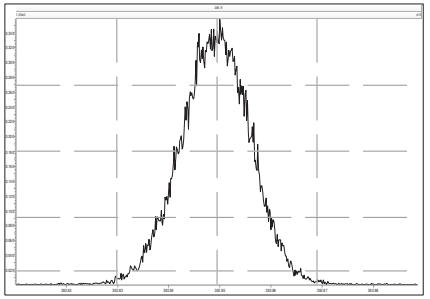
M 366.9792 R 10680



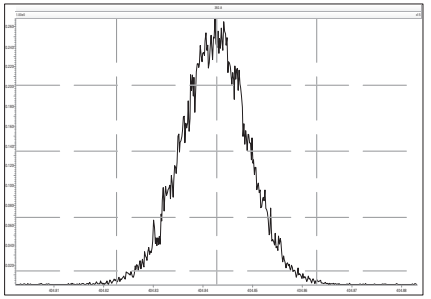
M 380.9760 R 12315



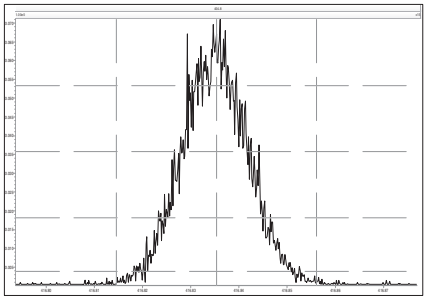
M 392.9760 R 12197



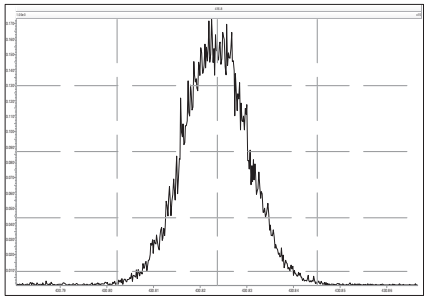
M 404.9760 R 12433



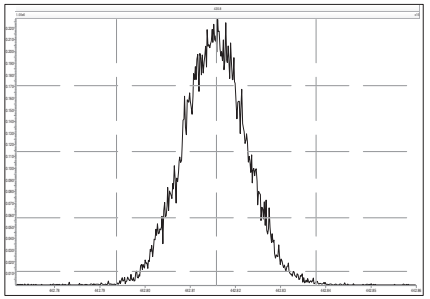
M 416.9760 R 13660



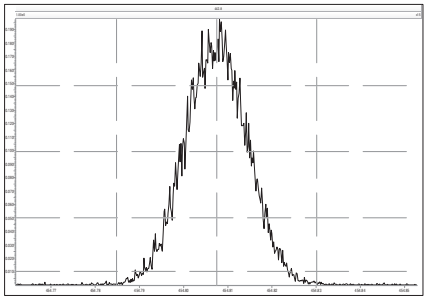
M 430.9728 R 13295



M 442.9728 R 13364



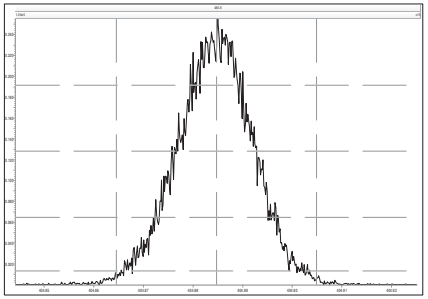
M 454.9728 R 13810



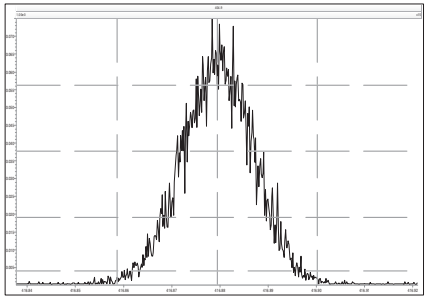
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

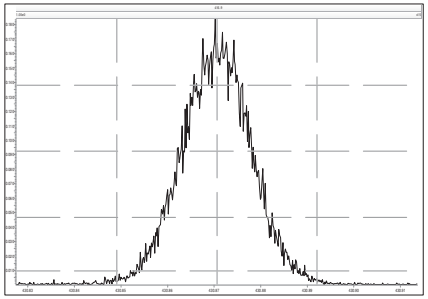
M 404.9760 R 11679



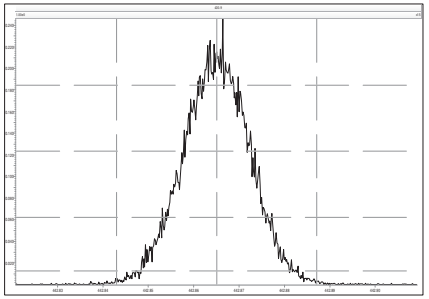
M 416.9760 R 12886



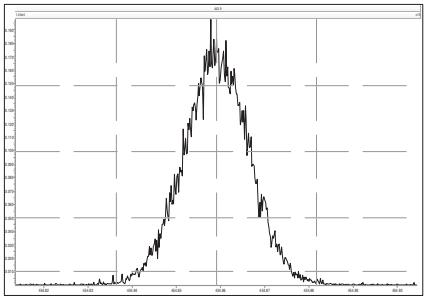
M 430.9728 R 12253



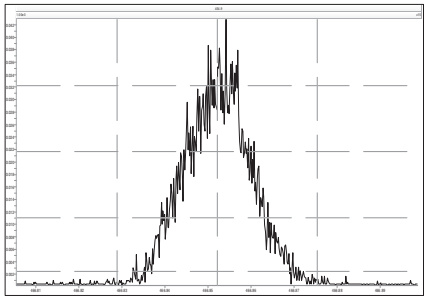
M 442.9728 R 12756



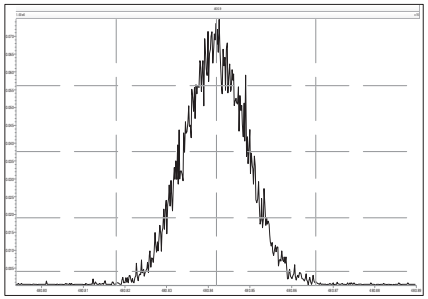
M 454.9728 R 13157



M 466.9728 R 13810



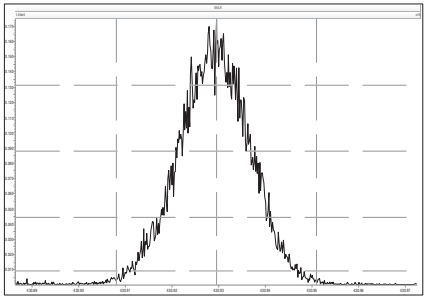
M 480.9696 R 14046



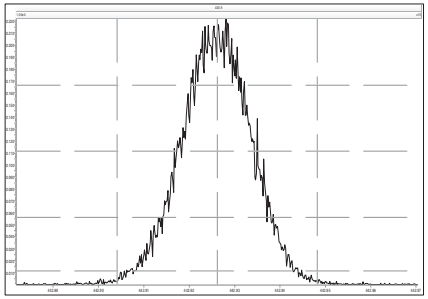
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

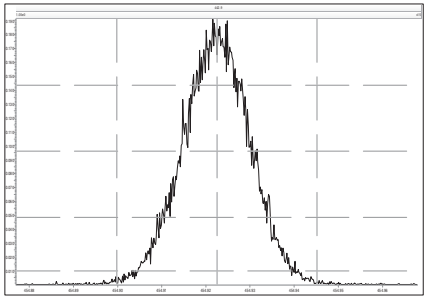
M 430.9728 R 11574



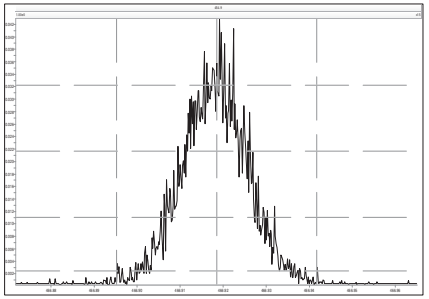
M 442.9728 R 12198



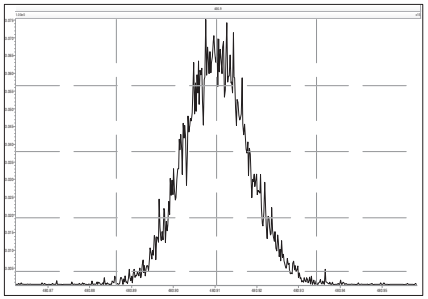
M 454.9728 R 12950



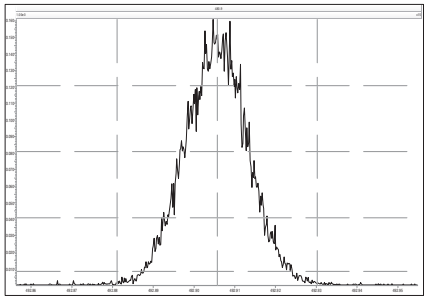
M 466.9728 R 13088



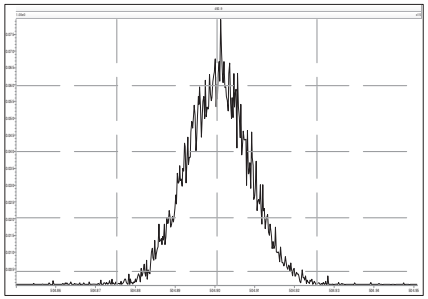
M 480.9696 R 13156



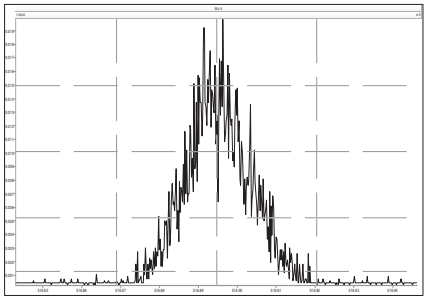
M 492.9696 R 13228



M 504.9696 R 13227



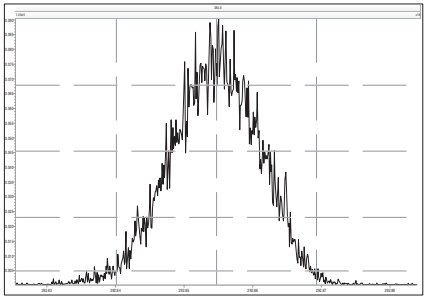
M 516.9697 R 13019



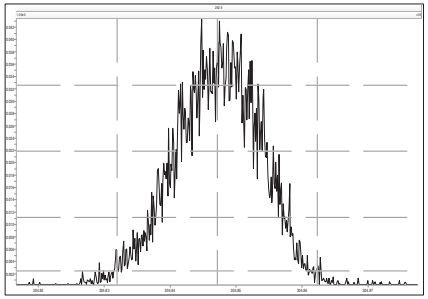
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

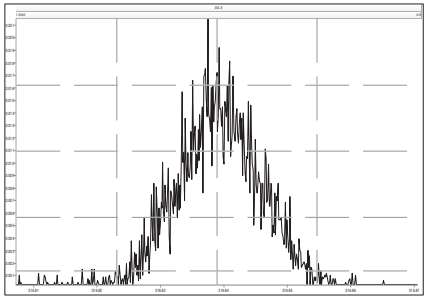
M 292.9824 R 10122



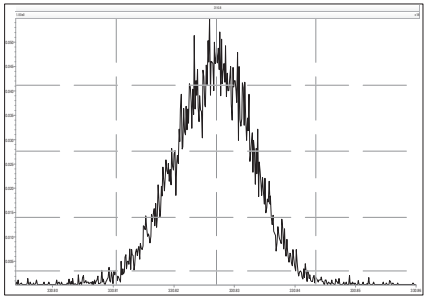
M 304.9824 R 10329



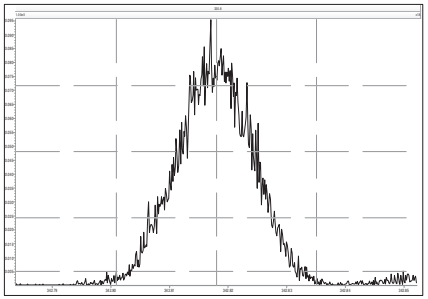
M 316.9824 R 11964



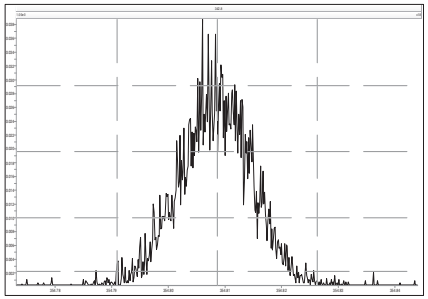
M 330.9792 R 11062



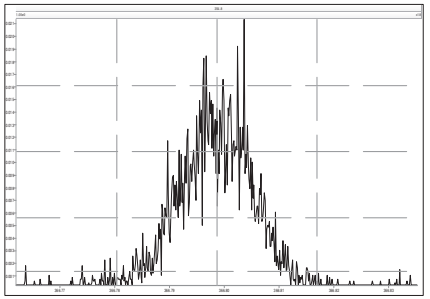
M 342.9792 R 12075



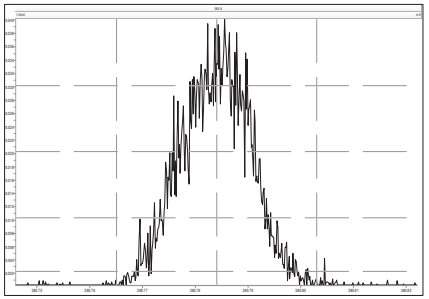
M 354.9792 R 12439



M 366.9792 R 12694



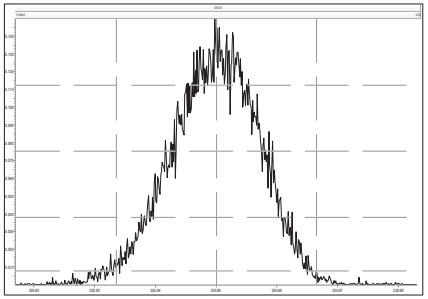
M 380.9760 R 13224



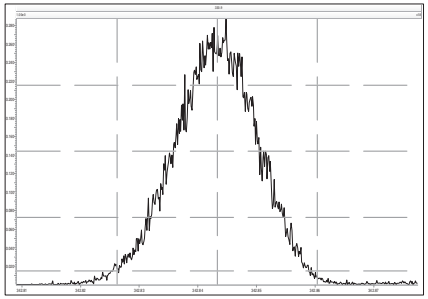
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

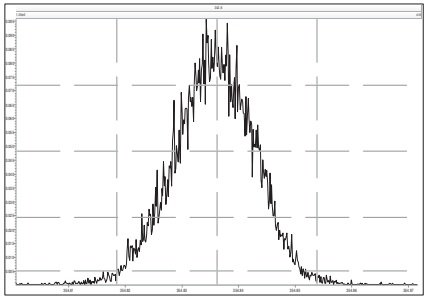
M 330.9792 R 10730



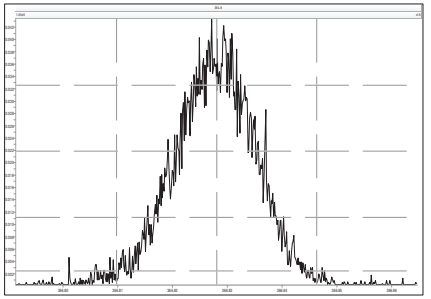
M 342.9792 R 10039



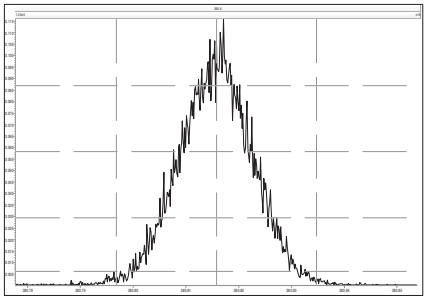
M 354.9792 R 11108



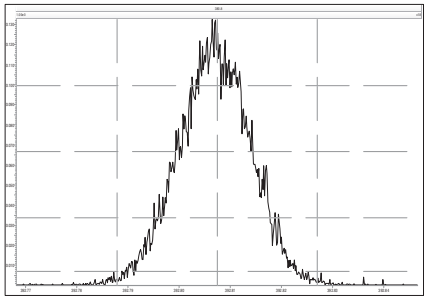
M 366.9792 R 11520



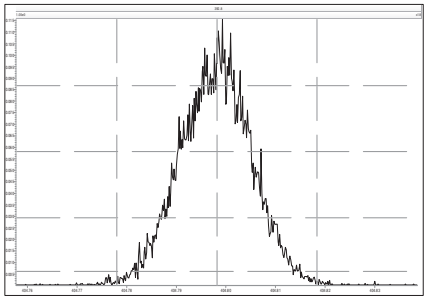
M 380.9760 R 12080



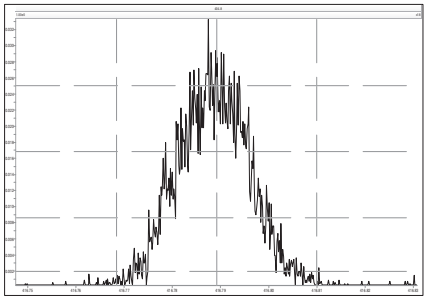
M 392.9760 R 12377



M 404.9760 R 12375



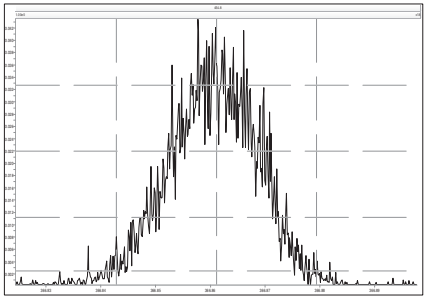
M 416.9760 R 13515



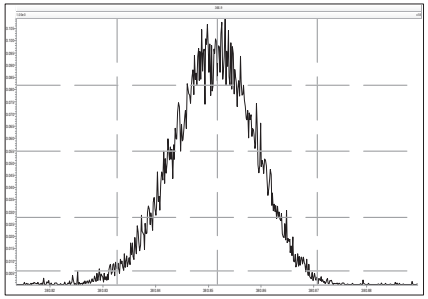
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

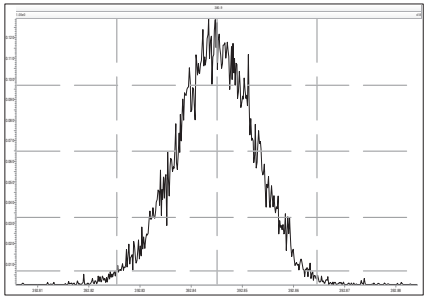
M 366.9792 R 10866



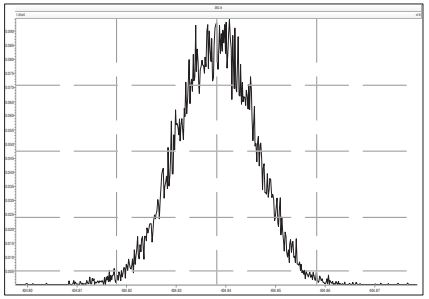
M 380.9760 R 10416



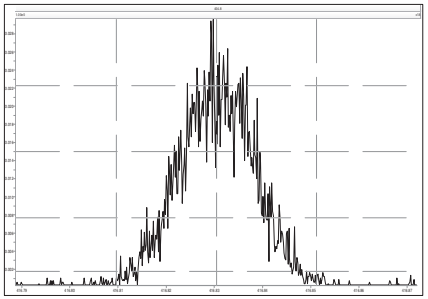
M 392.9760 R 10640



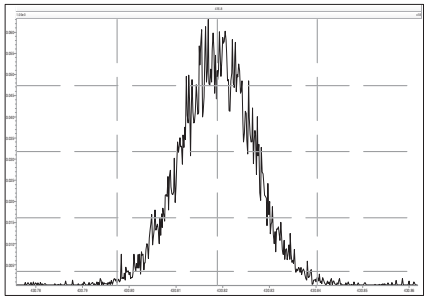
M 404.9760 R 11957



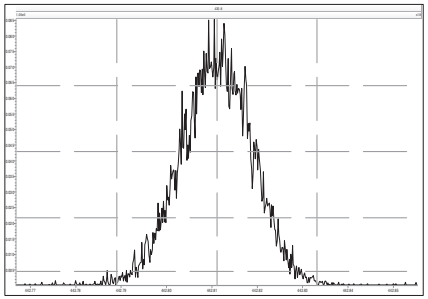
M 416.9760 R 12076



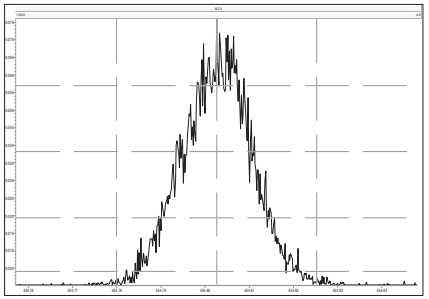
M 430.9728 R 11629



M 442.9728 R 12820



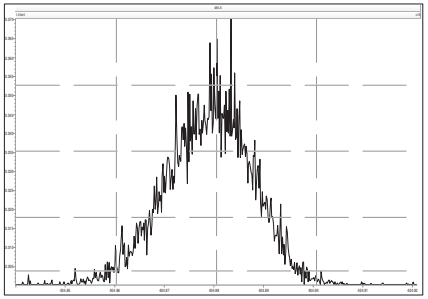
M 454.9728 R 12317



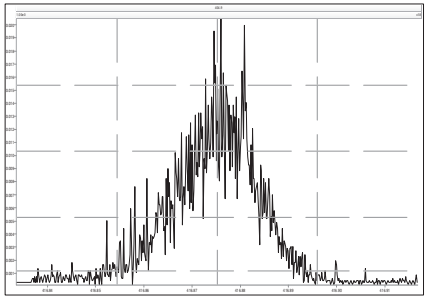
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

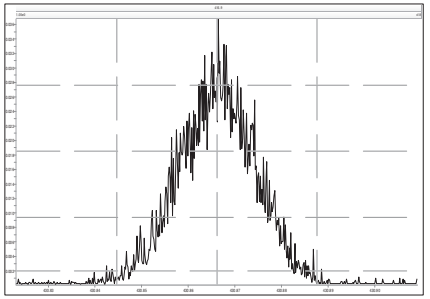
M 404.9760 R 10505



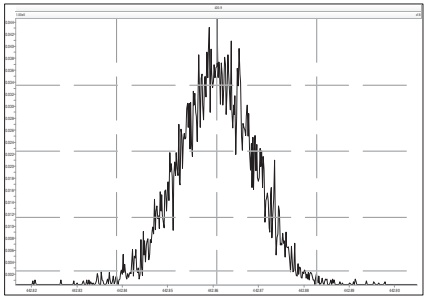
M 416.9760 R 12500



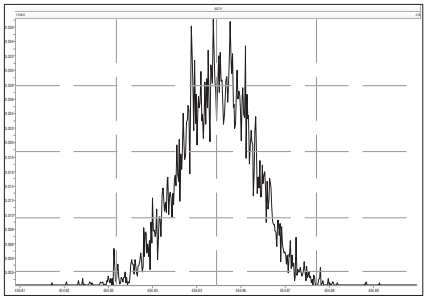
M 430.9728 R 11362



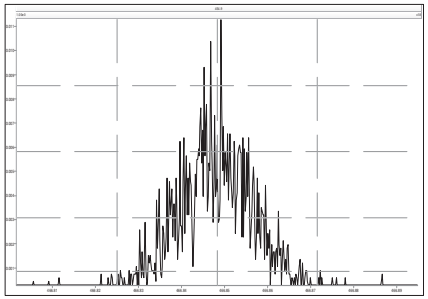
M 442.9728 R 12756



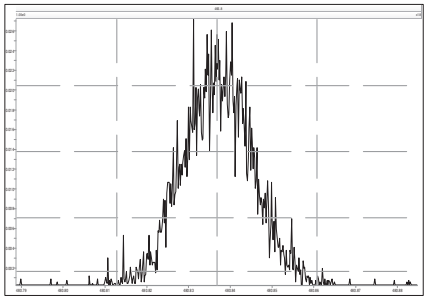
M 454.9728 R 12194



M 466.9728 R 12313



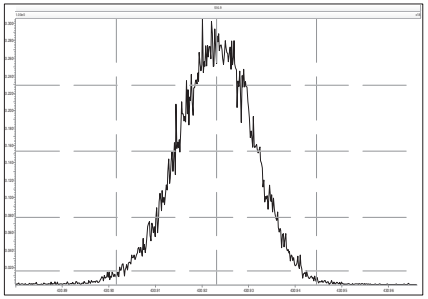
M 480.9696 R 13294



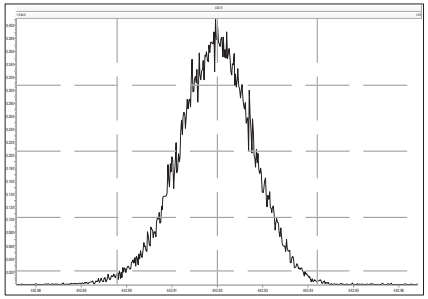
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

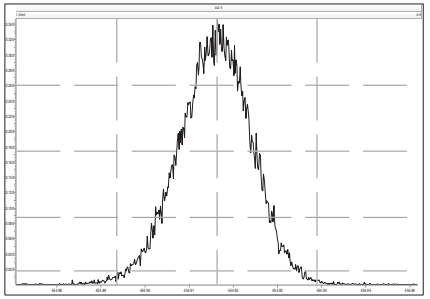
M 430.9728 R 11312



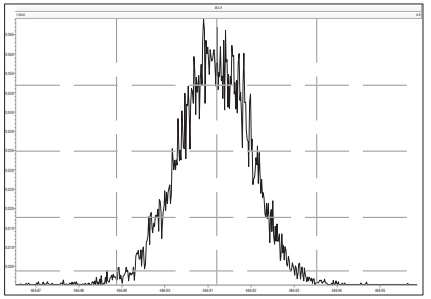
M 442.9728 R 11110



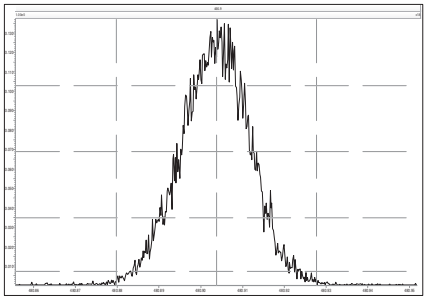
M 454.9728 R 11906



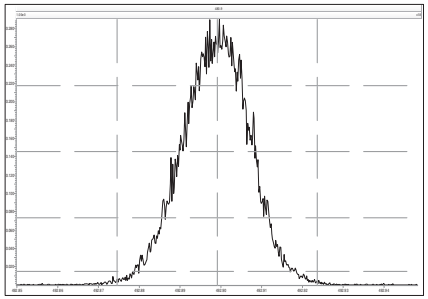
M 466.9728 R 12562



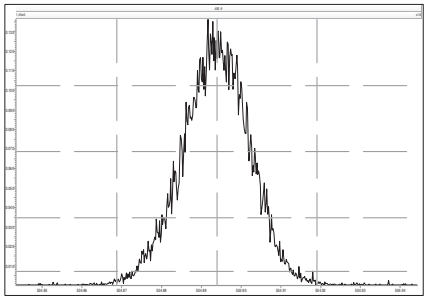
M 480.9696 R 12561



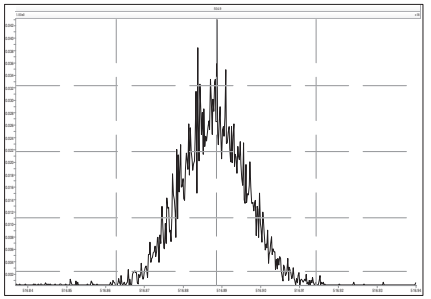
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



Lab ID: OPR1_18875_DF **Acq'd: 11 Feb 2022 06:27 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18875_OPR001 **UTP: 11-Feb-2022 16:26:44 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 982-417-MPS**

Datafile: 220210C27 **Report: 11 Feb 2022 16:28 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.48		1.0008	1.0008	0	3.99E+06	0.80	Y	1.18	12	4320.95	0.133
12378-PeCDD	33.82		1.0005	1.0005	0	1.36E+07	1.53	Y	1.04	51	2528.084	0.0839
123478-HxCDD	37.74		1.0004	1.0004	0	1.55E+07	1.28	Y	1.09	55.4	3175.76	0.102
123678-HxCDD	37.86		1.0035	1.0036	+0.2	1.70E+07	1.24	Y	1.15	56.3	3175.76	0.0932
123789-HxCDD	38.15		1.0113	1.0113	0	1.58E+07	1.23	Y	1.05	53.7	3175.76	0.0921
1234678-HpCDD	40.83		1.0003	1.0003	0	1.30E+07	1.03	Y	1.06	54.3	4058.29	0.136
OCDD	43.51		1.0002	1.0003	+0.3	1.91E+07	0.91	Y	1.13	118	5850.114	0.412
2378-TCDF	27.62		1.0008	1.0009	+0.2	5.44E+06	0.74	Y	1.08	11.7	3463.322	0.0879
12378-PeCDF	32.37		1.0005	1.0005	0	2.17E+07	1.51	Y	1.02	52.6	7173.327	0.16
23478-PeCDF	33.48		1.0005	1.0005	0	2.19E+07	1.51	Y	1.02	56	7173.327	0.157
123478-HxCDF	36.73		1.0005	1.0005	0	1.96E+07	1.24	Y	1.27	53.7	8676.2	0.21
123678-HxCDF	36.87		1.0005	1.0005	0	2.24E+07	1.24	Y	1.15	55	8676.2	0.187
234678-HxCDF	37.55		1.0005	1.0005	0	2.32E+07	1.21	Y	1.19	52.4	8676.2	0.163
123789-HxCDF	38.51		1.0004	1.0004	0	1.63E+07	1.24	Y	1.16	50.7	8676.2	0.223
1234678-HpCDF	39.89		1.0003	1.0003	0	2.04E+07	1.02	Y	1.37	54.4	3643.11	0.0676
1234789-HpCDF	41.29		1.0003	1.0003	0	1.35E+07	1.00	Y	1.31	52.3	3643.11	0.106
OCDF	43.70		1.0003	1.0003	0	2.12E+07	0.90	Y	1.07	110	2381.6744	0.144

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.45	1.0238	1.0238	0	2.80E+07	0.78	Y	1.05	90.2
ES 12378-PeCDD	33.80	1.2160	1.2163	+0.6	2.57E+07	1.60	Y	0.88	98.6
ES 123478-HxCDD	37.72	0.9919	0.9918	-0.2	2.57E+07	1.24	Y	0.97	90.7
ES 123678-HxCDD	37.84	0.9950	0.9950	0	2.63E+07	1.22	Y	0.94	95.7
ES 123789-HxCDD	38.14	1.0027	1.0026	-0.2	2.80E+07	1.22	Y	1.09	88.2
ES 1234678-HpCDD	40.82	1.0730	1.0731	+0.2	2.26E+07	1.04	Y	0.91	85.2
ES OCDD	43.50	1.1437	1.1437	0	2.88E+07	0.92	Y	0.62	79.3
ES 2378-TCDF	27.60	1.0520	1.0521	+0.2	4.32E+07	0.81	Y	1.06	86
ES 12378-PeCDF	32.35	1.2330	1.2334	+0.8	4.03E+07	1.65	Y	0.91	93.3
ES 23478-PeCDF	33.47	1.2754	1.2758	+0.8	3.83E+07	1.59	Y	0.88	91.5
ES 123478-HxCDF	36.71	0.9653	0.9652	-0.2	2.87E+07	0.54	Y	1.20	82.1
ES 123678-HxCDF	36.86	0.9691	0.9690	-0.2	3.53E+07	0.54	Y	1.35	89.6
ES 234678-HxCDF	37.54	0.9870	0.9869	-0.2	3.73E+07	0.54	Y	1.24	103
ES 123789-HxCDF	38.49	1.0121	1.0121	0	2.76E+07	0.55	Y	1.16	82.1
ES 1234678-HpCDF	39.87	1.0484	1.0484	0	2.74E+07	0.43	Y	0.97	97.1
ES 1234789-HpCDF	41.27	1.0851	1.0852	+0.2	1.98E+07	0.46	Y	0.85	79.9
ES OCDF	43.69	1.1483	1.1486	+0.8	3.61E+07	0.89	Y	0.81	76.7

Lab ID: OPR1_18875_DF | **Acq'd:** 11 Feb 2022 06:27 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18875_OPR001 | **UTP:** 11-Feb-2022 16:26:44 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 982-417-MPS

Datafile: 220210C27 | **Report:** 11 Feb 2022 16:28 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.79		-	-	-	2.97E+07	0.82	Y	-	-
JS 1234-TCDF	26.23		-	-	-	4.74E+07	0.81	Y	-	-
JS 123467-HxCDD	38.03		-	-	-	1.46E+07	1.24	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0245	1.0246	+0.2	1.35E+07	n/a	-	1.20	94.6
CS 12347-PeCDD	33.30		1.1979	1.1981	+0.4	2.46E+07	1.57	Y	0.75	110
CS 12346-PeCDF	31.82		1.2128	1.2132	+0.8	4.01E+07	1.58	Y	0.85	99.5
CS 123469-HxCDF	37.17		0.9774	0.9773	-0.2	3.30E+07	0.53	Y	1.12	101
CS 1234689-HpCDF	40.28		1.0589	1.0591	+0.5	2.63E+07	0.47	Y	0.89	102
SS 37Cl-2378-TCDD	28.48		1.0245	1.0246	+0.2	1.35E+07	n/a	-	1.15	105
SS 12347-PeCDD	33.30		1.1979	1.1981	+0.4	2.46E+07	1.57	Y	0.86	112
SS 12346-PeCDF	31.82		1.2128	1.2132	+0.8	4.01E+07	1.58	Y	0.94	106
SS 123469-HxCDF	37.17		0.9774	0.9773	-0.2	3.30E+07	0.53	Y	0.83	113
SS 1234689-HpCDF	40.28		1.0589	1.0591	+0.5	2.63E+07	0.47	Y	0.92	104

Totals	Conc	EMPC
Total TCDD	55.4	55.4
Total PeCDD	75.9	75.9
Total HxCDD	179	179
Total HpCDD	67.3	67.3
Total Tetra-Octa Dioxins	495	495
Total TCDF	66	66.1
Total PeCDF	212	212
Total HxCDF	331	331
Total HpCDF	107	107
Total Tetra-Octa Furans	826	826
Total Tetra-Octa Dioxins & Furans	1320	1320

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.796	0.80
Response	4.00E+06	3.99E+06

Lab ID: OPR1_18875_DF **Acq'd: 11 Feb 2022 06:27 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18875_OPR001 **UTP: 11-Feb-2022 16:26:44 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 982-417-MPS**

Datafile: 220210C27 **Report: 11 Feb 2022 16:28 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.83		0.8737	0.8726	-1.6	5.53E+06	0.78	Y	1.18	16.7	4320.95	0.133
1379-TCDD	NotFnd		0.8860						1.18		4320.95	0.133
1369-TCDD	NotFnd		0.9009						1.18		4320.95	0.133
1469-TCDD	NotFnd		0.9281						1.18		4320.95	0.133
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		4320.95	0.133
1378-TCDD	NotFnd		0.9432						1.18		4320.95	0.133
1268-TCDD	NotFnd		0.9500						1.18		4320.95	0.133
1478-TCDD	NotFnd		0.9586						1.18		4320.95	0.133
1279-TCDD	NotFnd		0.9645						1.18		4320.95	0.133
1234/1269-TCDD	NotFnd		0.9770						1.18		4320.95	0.133
1236-TCDD	NotFnd		0.9817						1.18		4320.95	0.133
1237/1238-TCDD	NotFnd		0.9905						1.18		4320.95	0.133
1239-TCDD	28.32		0.9952	0.9952	0	3.61E+06	0.84	Y	1.18	10.9	4320.95	0.133
2378-TCDD	**28.48**		**1.0008**	1.0008	**0**	3.99E+06	0.80	Y	**1.18**	**12**	**4320.95**	**0.133**
1278-TCDD	NotFnd		1.0121						1.18		4320.95	0.133
1267-TCDD	NotFnd		1.0167						1.18		4320.95	0.133
1289-TCDD	29.45		1.0345	1.0349	+0.7	5.25E+06	0.82	Y	1.18	15.8	4320.95	0.133
12479/12468-PeCDD	31.32		0.9267	0.9264	-0.6	3.15E+06	1.55	Y	1.04	11.8	2528.084	0.0839
12469-PeCDD	NotFnd		0.9425						1.04		2528.084	0.0839
12368-PeCDD	NotFnd		0.9588						1.04		2528.084	0.0839
12478-PeCDD	NotFnd		0.9643						1.04		2528.084	0.0839
12379-PeCDD	NotFnd		0.9673						1.04		2528.084	0.0839
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		2528.084	0.0839
12346/12347-PeCDD	NotFnd		0.9858						1.04		2528.084	0.0839
12378-PeCDD	33.82		**1.0005**	**1.0005**	**0**	**1.36E+07**	**1.53**	**Y**	**1.04**	**51**	**2528.084**	**0.0839**
12367-PeCDD	NotFnd		1.0033						1.04		2528.084	0.0839
12389-PeCDD	34.26		1.0134	1.0135	+0.2	3.49E+06	1.60	Y	1.04	13.1	2528.084	0.0839
124679/124689-HxCDD	35.99		0.9542	0.9540	-0.4	3.98E+06	1.34	Y	1.10	13.6	3175.76	0.0956
123468-HxCDD	NotFnd		0.9715						1.10		3175.76	0.0956
123679/123689-HxCDD	NotFnd		0.9793						1.10		3175.76	0.0956
123469-HxCDD	NotFnd		0.9828						1.10		3175.76	0.0956
123478-HxCDD	37.74		**1.0004**	**1.0004**	**0**	**1.55E+07**	**1.28**	**Y**	1.09	**55.4**	**3175.76**	**0.102**
123678-HxCDD	37.86		**1.0035**	**1.0036**	**+0.2**	**1.70E+07**	**1.24**	**Y**	1.15	**56.3**	**3175.76**	**0.0932**
123467-HxCDD	NotFnd		1.0085						1.10		3175.76	0.0956
123789-HxCDD	38.15		**1.0113**	**1.0113**	**0**	**1.58E+07**	**1.23**	**Y**	1.05	**53.7**	**3175.76**	**0.0921**

Lab ID: OPR1_18875_DF | **Acq'd: 11 Feb 2022 06:27 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18875_OPR001 | **UTP: 11-Feb-2022 16:26:44 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 982-417-MPS**

Datafile: 220210C27 | **Report: 11 Feb 2022 16:28 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.15		0.9837	0.9836	-0.2	3.13E+06	1.08	Y	1.06	13	4058.29	0.136
1234678-HpCDD	**40.83**		**1.0003**	**1.0003**	**0**	**1.30E+07**	**1.03**	**Y**	**1.06**	**54.3**	**4058.29**	**0.136**
OCDD	**43.51**		**1.0002**	**1.0003**	**+0.3**	**1.91E+07**	**0.91**	**Y**	**1.13**	**118**	**5850.114**	**0.412**
OCDD-a	43.51		1.0001	1.0002	+0.3	1.08E+06	2.31	Y	0.07	104	3674.819	4.05
1368-TCDF	22.72		0.8251	0.8234	-2.3	7.89E+06	0.79	Y	1.08	16.9	3463.322	0.0879
1468-TCDF	23.30	J EMPC	0.8458	0.8442	-2.2	6.59E+04	1.27	N	1.08	0.141	3463.322	0.0879
2468-TCDF	23.94		0.8686	0.8674	-1.7	1.92E+06	0.75	Y	1.08	4.13	3463.322	0.0879
1346/1246-TCDF	NotFnd		0.8814						1.08		3463.322	0.0879
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		3463.322	0.0879
1348-TCDF	NotFnd		0.8962						1.08		3463.322	0.0879
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		3463.322	0.0879
1268-TCDF	NotFnd		0.9145						1.08		3463.322	0.0879
1467-TCDF	NotFnd		0.9193						1.08		3463.322	0.0879
1478-TCDF	NotFnd		0.9254						1.08		3463.322	0.0879
1369/1237-TCDF	NotFnd		0.9387						1.08		3463.322	0.0879
2467-TCDF	NotFnd		0.9433						1.08		3463.322	0.0879
2368-TCDF	NotFnd		0.9489						1.08		3463.322	0.0879
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		3463.322	0.0879
1278-TCDF	NotFnd		0.9683						1.08		3463.322	0.0879
1349-TCDF	NotFnd		0.9722						1.08		3463.322	0.0879
1267-TCDF	NotFnd		0.9783						1.08		3463.322	0.0879
2346/1249-TCDF	NotFnd		0.9850						1.08		3463.322	0.0879
2347/1279-TCDF	NotFnd		0.9926						1.08		3463.322	0.0879
2348-TCDF	27.51		0.9967	0.9969	+0.3	7.33E+06	0.84	Y	1.08	15.7	3463.322	0.0879
2378-TCDF	**27.62**		**1.0008**	**1.0009**	**+0.2**	**5.44E+06**	**0.74**	**Y**	**1.08**	**11.7**	**3463.322**	**0.0879**
2367/3467-TCDF	NotFnd		1.0137						1.08		3463.322	0.0879
1269-TCDF	NotFnd		1.0223						1.08		3463.322	0.0879
1239-TCDF	NotFnd		1.0321						1.08		3463.322	0.0879
1289-TCDF	29.62		1.0722	1.0732	+1.8	8.15E+06	0.78	Y	1.08	17.5	3463.322	0.0879
13468/12468-PeCDF	29.54		0.9139	0.9129	-1.8	3.74E+07	1.60	Y	1.02	93	2851.806	0.063
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		7173.327	0.159
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		7173.327	0.159
14678-PeCDF	NotFnd		0.9692						1.02		7173.327	0.159
13479-PeCDF	NotFnd		0.9723						1.02		7173.327	0.159
13469/12479-PeCDF	NotFnd		0.9797						1.02		7173.327	0.159
12346-PeCDF	NotFnd		0.9840						1.02		7173.327	0.159

Lab ID: OPR1_18875_DF | **Acq'd: 11 Feb 2022 06:27 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18875_OPR001 | **UTP: 11-Feb-2022 16:26:44 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 982-417-MPS**

Datafile: 220210C27 | **Report: 11 Feb 2022 16:28 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		7173.327	0.159
12347-PeCDF	NotFnd		0.9894						1.02		7173.327	0.159
12348-PeCDF	NotFnd		0.9940						1.02		7173.327	0.159
12378-PeCDF	**32.37**		**1.0005**	**1.0005**	**0**	**2.17E+07**	**1.51**	**Y**	**1.02**	**52.6**	**7173.327**	**0.16**
12678/12367-PeCDF	NotFnd		1.0089						1.02		7173.327	0.159
12379-PeCDF	NotFnd		1.0142						1.02		7173.327	0.159
12679-PeCDF	NotFnd		0.9929						1.02		7173.327	0.159
23467/12369-PeCDF	NotFnd		0.9967						1.02		7173.327	0.159
23478-PeCDF	**33.48**		**1.0005**	**1.0005**	**0**	**2.19E+07**	**1.51**	**Y**	**1.02**	**56**	**7173.327**	**0.157**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7173.327	0.159
12349-PeCDF	NotFnd		1.0100						1.02		7173.327	0.159
12389-PeCDF	34.56		1.0324	1.0326	+0.4	4.38E+06	1.52	Y	1.02	10.9	7173.327	0.159
123468-HxCDF	35.34		0.9627	0.9626	-0.2	4.58E+07	1.23	Y	1.19	119	8676.2	0.193
124678/134678-HxCDF	NotFnd		0.9682						1.19		8676.2	0.193
134679-HxCDF	NotFnd		0.9744						1.19		8676.2	0.193
124679-HxCDF	NotFnd		0.9798						1.19		8676.2	0.193
124689-HxCDF	NotFnd		0.9858						1.19		8676.2	0.193
123467-HxCDF	NotFnd		0.9972						1.19		8676.2	0.193
123478-HxCDF	**36.73**		**1.0005**	**1.0005**	**0**	**1.96E+07**	**1.24**	**Y**	**1.27**	**53.7**	**8676.2**	**0.21**
123678-HxCDF	**36.87**		**1.0005**	**1.0005**	**0**	**2.24E+07**	**1.24**	**Y**	**1.15**	**55**	**8676.2**	**0.187**
123479-HxCDF	NotFnd		1.0049						1.19		8676.2	0.193
123469-HxCDF	NotFnd		1.0090						1.19		8676.2	0.193
123679-HxCDF	NotFnd		0.9942						1.19		8676.2	0.193
234678-HxCDF	**37.55**		**1.0005**	**1.0005**	**0**	**2.32E+07**	**1.21**	**Y**	**1.19**	**52.4**	**8676.2**	**0.163**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		8676.2	0.193
123789-HxCDF	**38.51**		**1.0004**	**1.0004**	**0**	**1.63E+07**	**1.24**	**Y**	**1.16**	**50.7**	**8676.2**	**0.223**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		8676.2	0.193
1234678-HpCDF	**39.89**		**1.0003**	**1.0003**	**0**	**2.04E+07**	**1.02**	**Y**	**1.37**	**54.4**	**3643.11**	**0.0676**
1234679-HpCDF	NotFnd		1.0068						1.34		3643.11	0.0836
1234689-HpCDF	NotFnd		1.0103						1.34		3643.11	0.0836
1234789-HpCDF	**41.29**		**1.0003**	**1.0003**	**0**	**1.35E+07**	**1.00**	**Y**	**1.31**	**52.3**	**3643.11**	**0.106**
OCDF	**43.70**		**1.0003**	**1.0003**	**0**	**2.12E+07**	**0.90**	**Y**	**1.07**	**110**	**2381.6744**	**0.144**
OCDF-a	43.70	**EMPC**	1.0002	1.0003	+0.3	1.10E+06	2.94	N	0.07	91.9	2991.702	2.91

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220210C27	Analysis Date:	11-FEB-2022 06:27:14
Lab ID:	OPR1_18875_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	12	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	51	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	55.4	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	56.3	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	53.7	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	54.3	35	-	70	Y
OCDD	100	118	78	-	144	Y
2,3,7,8-TCDF	10	11.7	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	52.6	40	-	67	Y
2,3,4,7,8-PeCDF	50	56	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	53.7	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	55	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	52.4	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	50.7	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	54.4	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	52.3	39	-	69	Y
OCDF	100	110	63	-	170	Y

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

Processed: 11 Feb 2022 16:28 Analyst: TF

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220210C27	Analysis Date:	11-FEB-2022 06:27:14
Lab ID:	OPR1_18875_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	90.2	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	98.6	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	90.7	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	95.7	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	88.2	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	85.2	26	-	166	Y
13C-OCDD	200	159	26	-	397	Y
13C-2,3,7,8-TCDF	100	86	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	93.3	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	91.5	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	82.1	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	89.6	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	103	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	82.1	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	97.1	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	79.9	20	-	186	Y
13C-OCDF	200	153	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	37.9	12.4	-	76.4	Y

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

Processed: 11 Feb 2022 16:28 Analyst: TF

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220210C27	Analysis Date:	11-FEB-2022 06:27:14
Lab ID:	OPR1_18875_DF		

Window Defining Standards Results

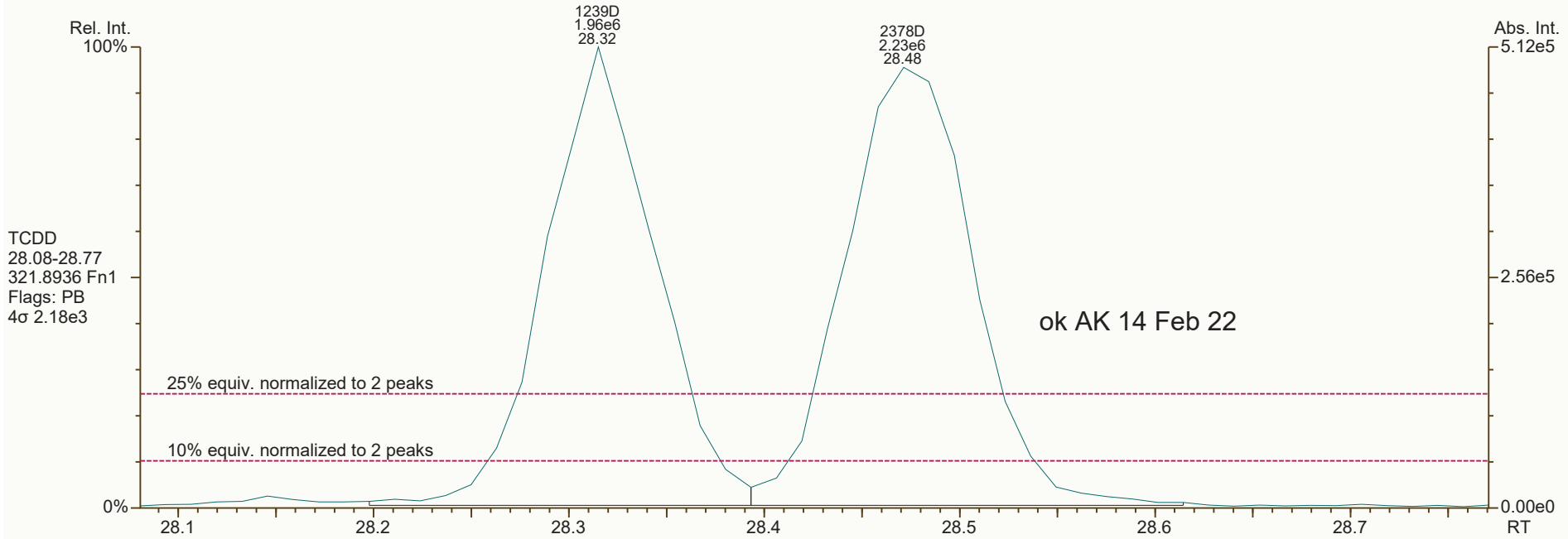
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.83	1289-TCDD	29.45
12479/12468-PeCDD	31.32	12389-PeCDD	34.26
124679/124689-HxCDD	35.99	123789-HxCDD	38.15
1234679-HpCDD	40.15	1234678-HpCDD	40.83
1368-TCDF	22.72	1289-TCDF	29.62
13468/12468-PeCDF	29.54	12389-PeCDF	34.56
123468-HxCDF	35.34	123789-HxCDF	38.51
1234678-HpCDF	39.89	1234789-HpCDF	41.29

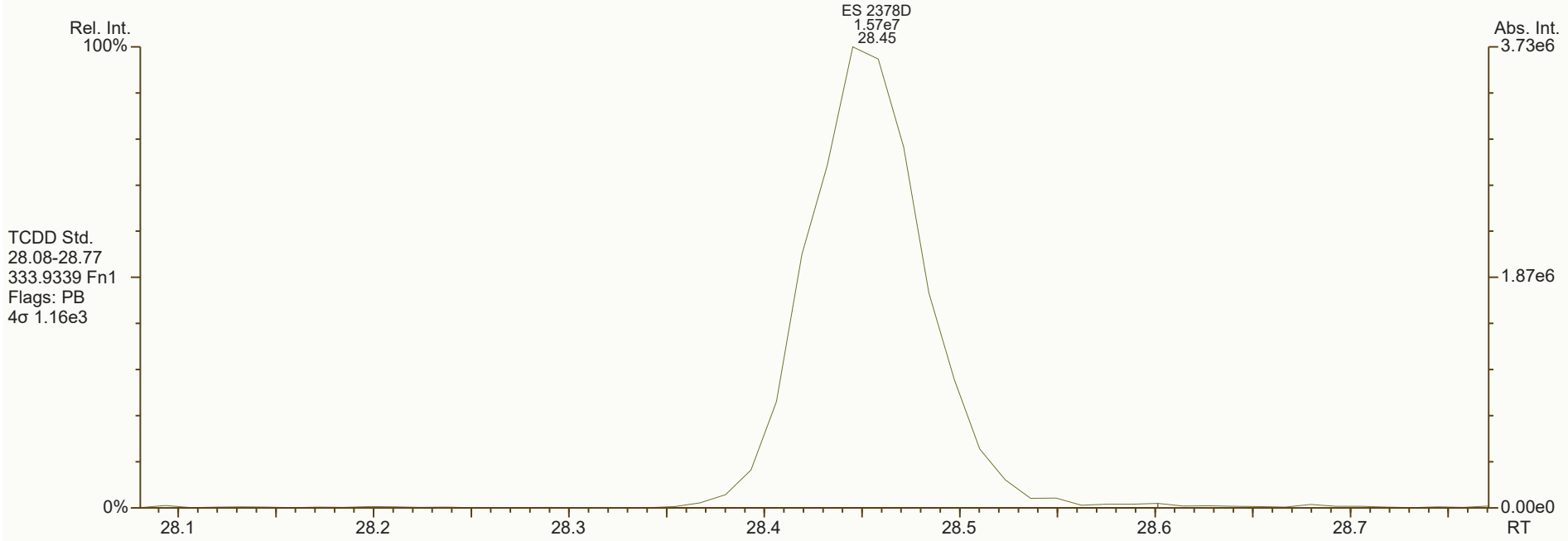
Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.32	2378-TCDD	28.48
2348-TCDF	27.51	2378-TCDF	27.62

Processed: 11 Feb 2022 16:28 Analyst: TF

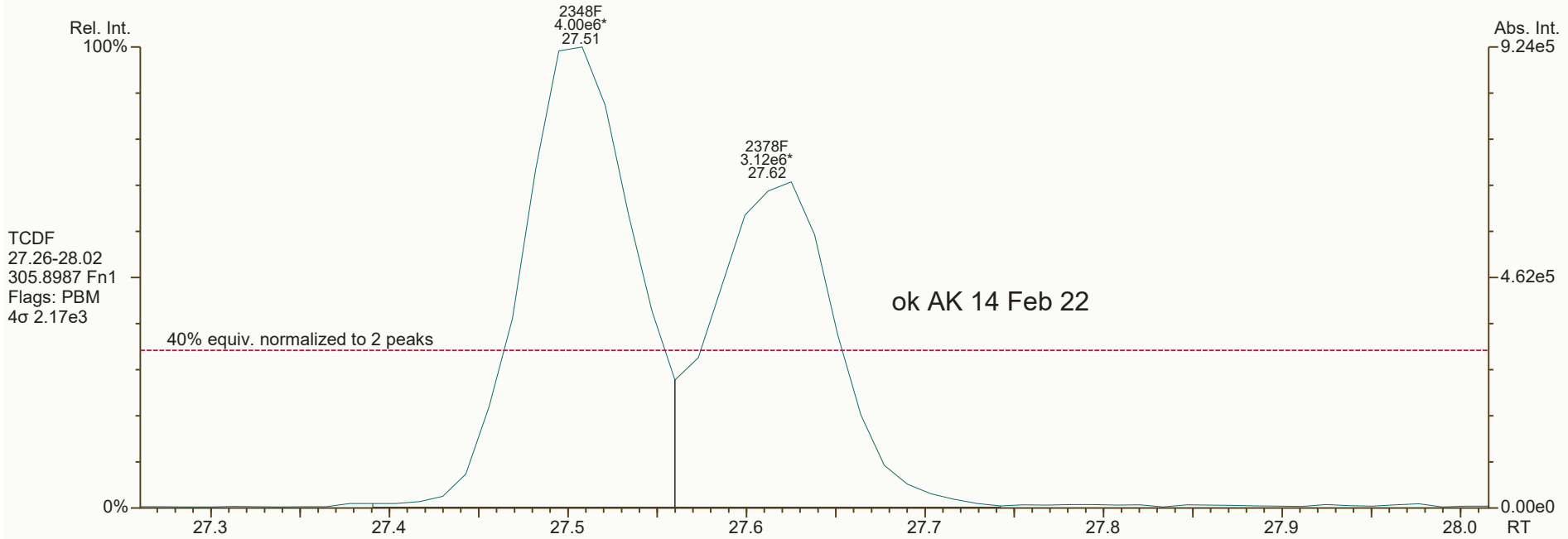
SGS ID: OPR1_18875_DF | Sample ID: 0_18875_OPR001 | Acq: 11-Feb-2022 06:27:14
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 44 | User: DTF Datafile: 220210C27

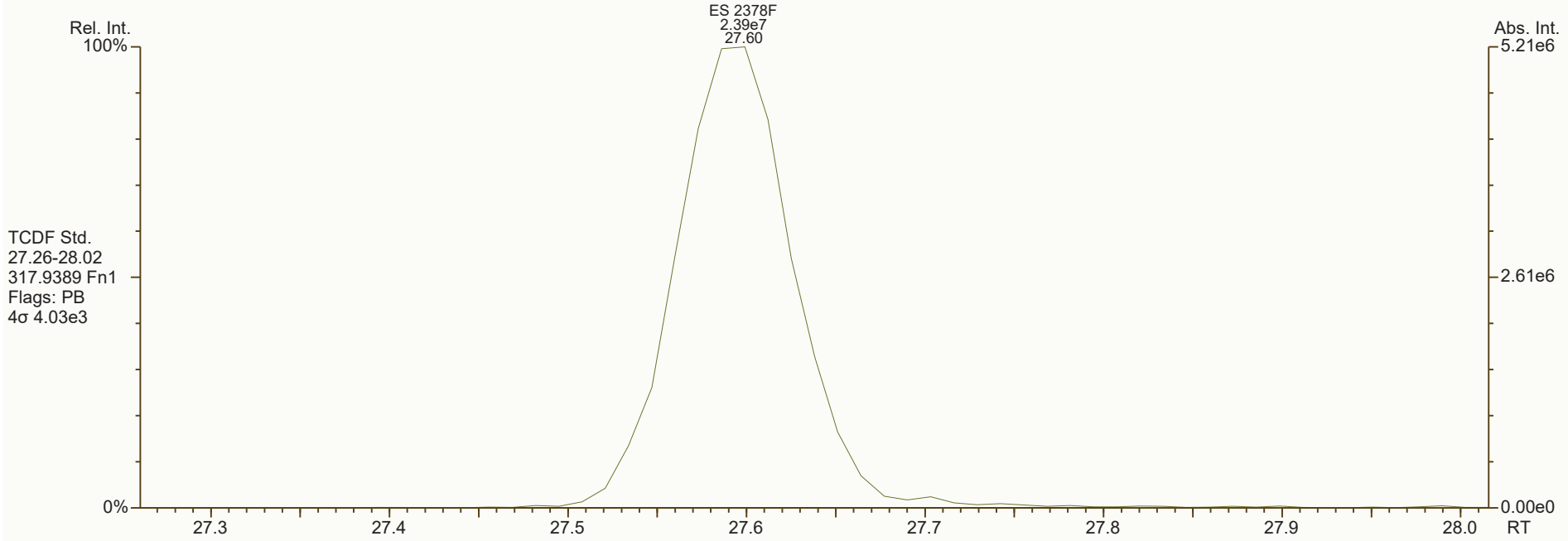




Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\OPR1_18875_DF.utp_res, saved 11-Feb-2022 16:26 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 11-Feb-2022 15:00 (DTF) Printed: 11-Feb-2022 16:31

SGS ID: OPR1_18875_DF
Sample ID: 0_18875_OPR001
Acq: 11-Feb-2022 06:27:14
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 44
User: DTF Datafile: 220210C27





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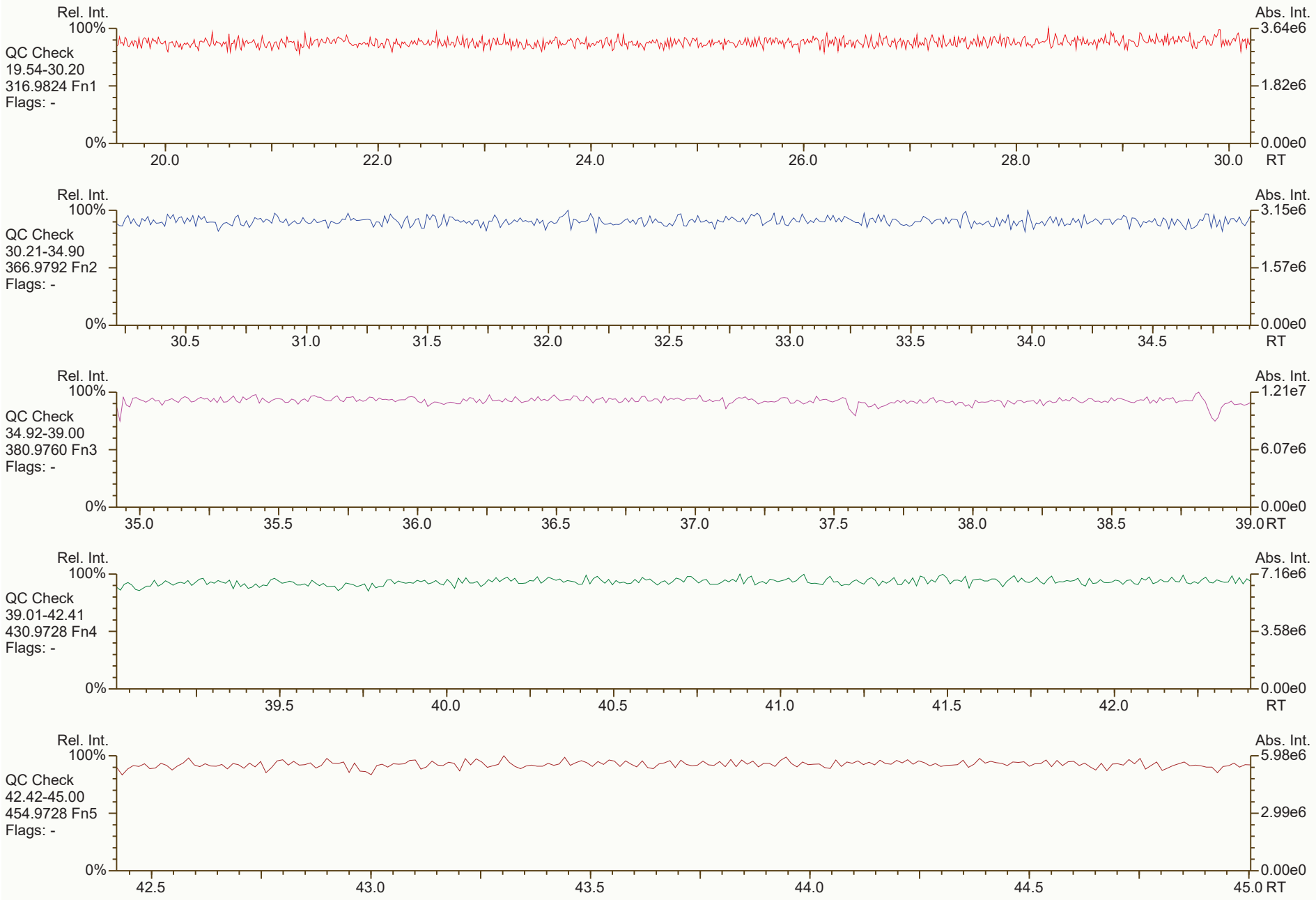
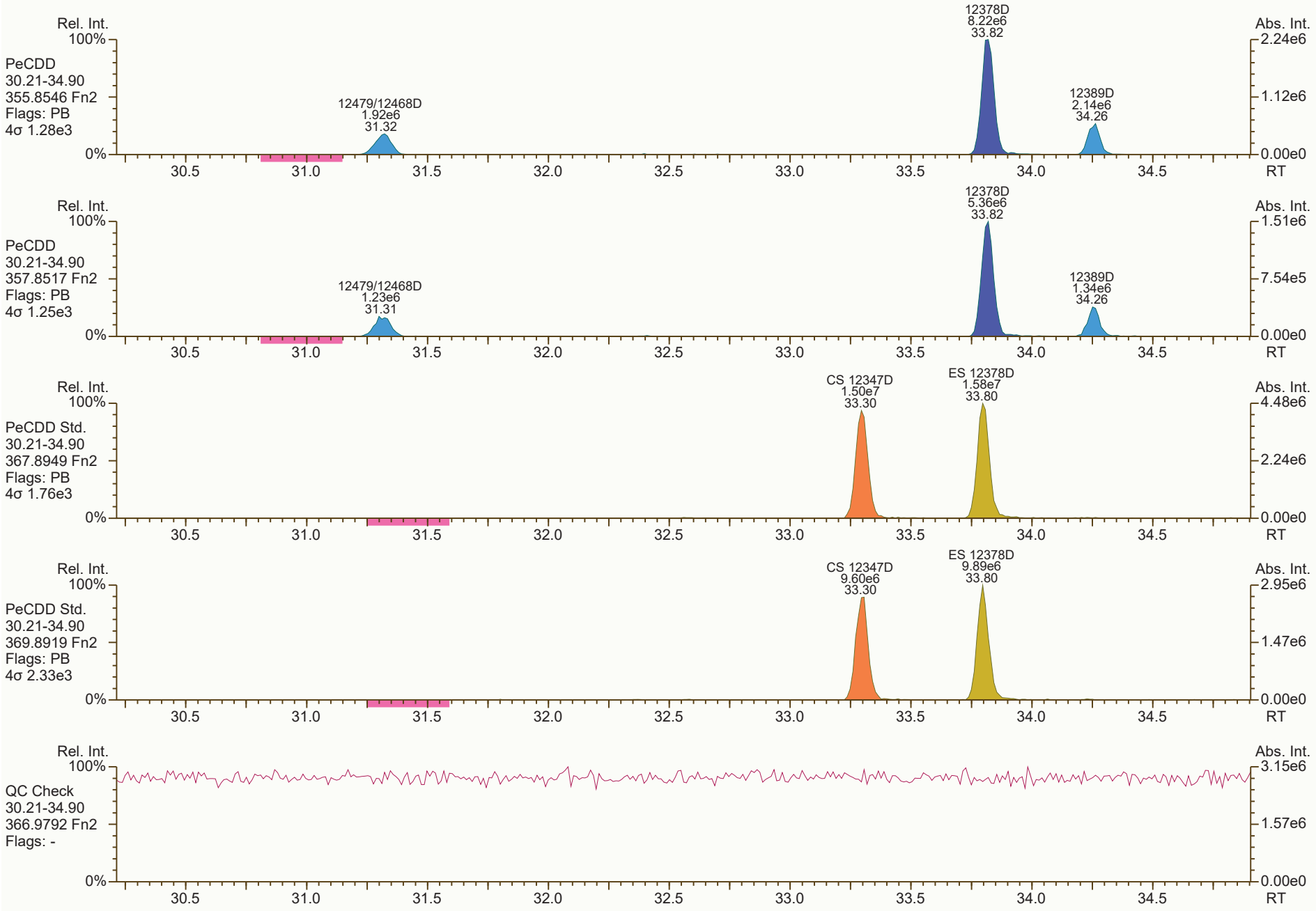
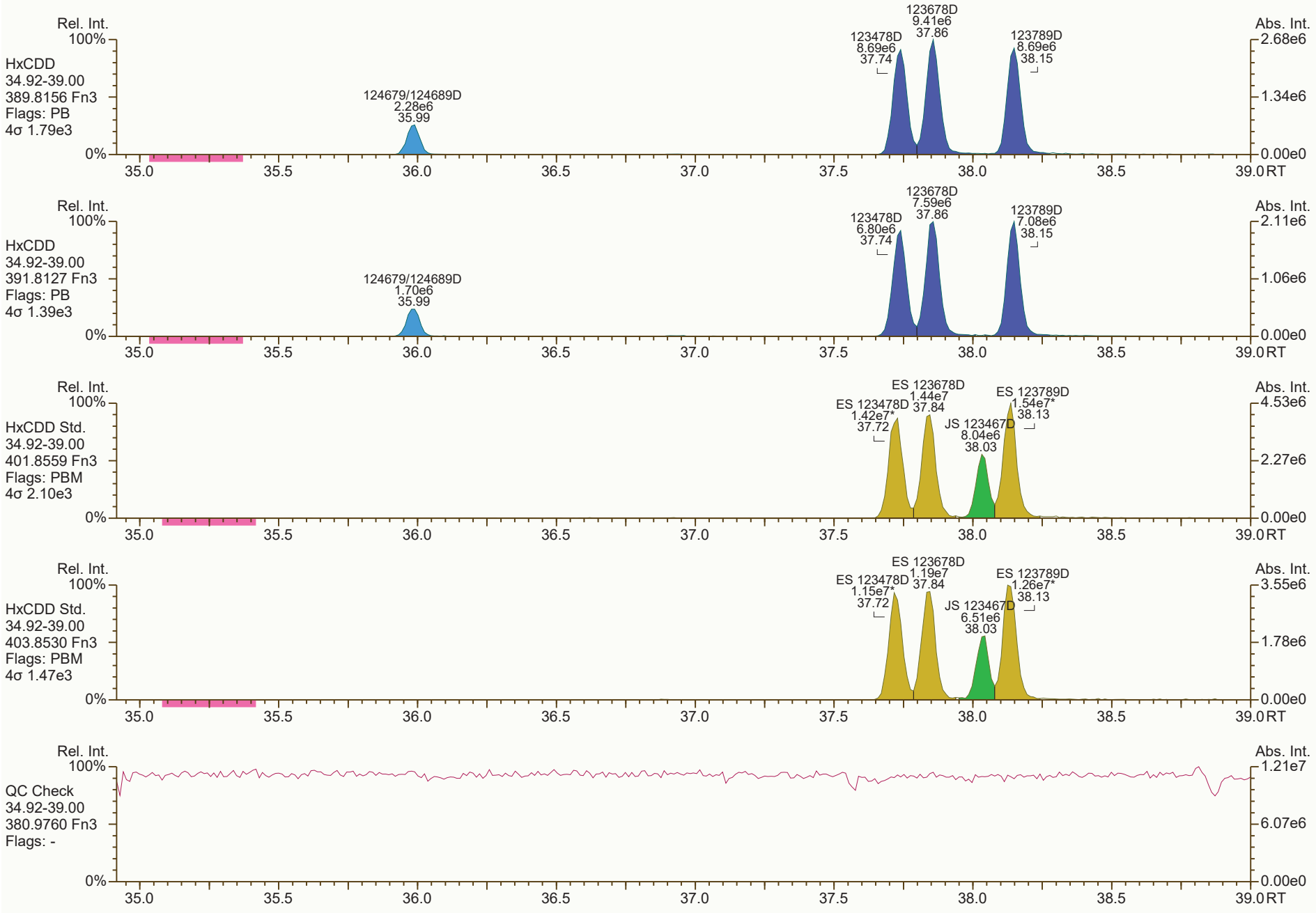
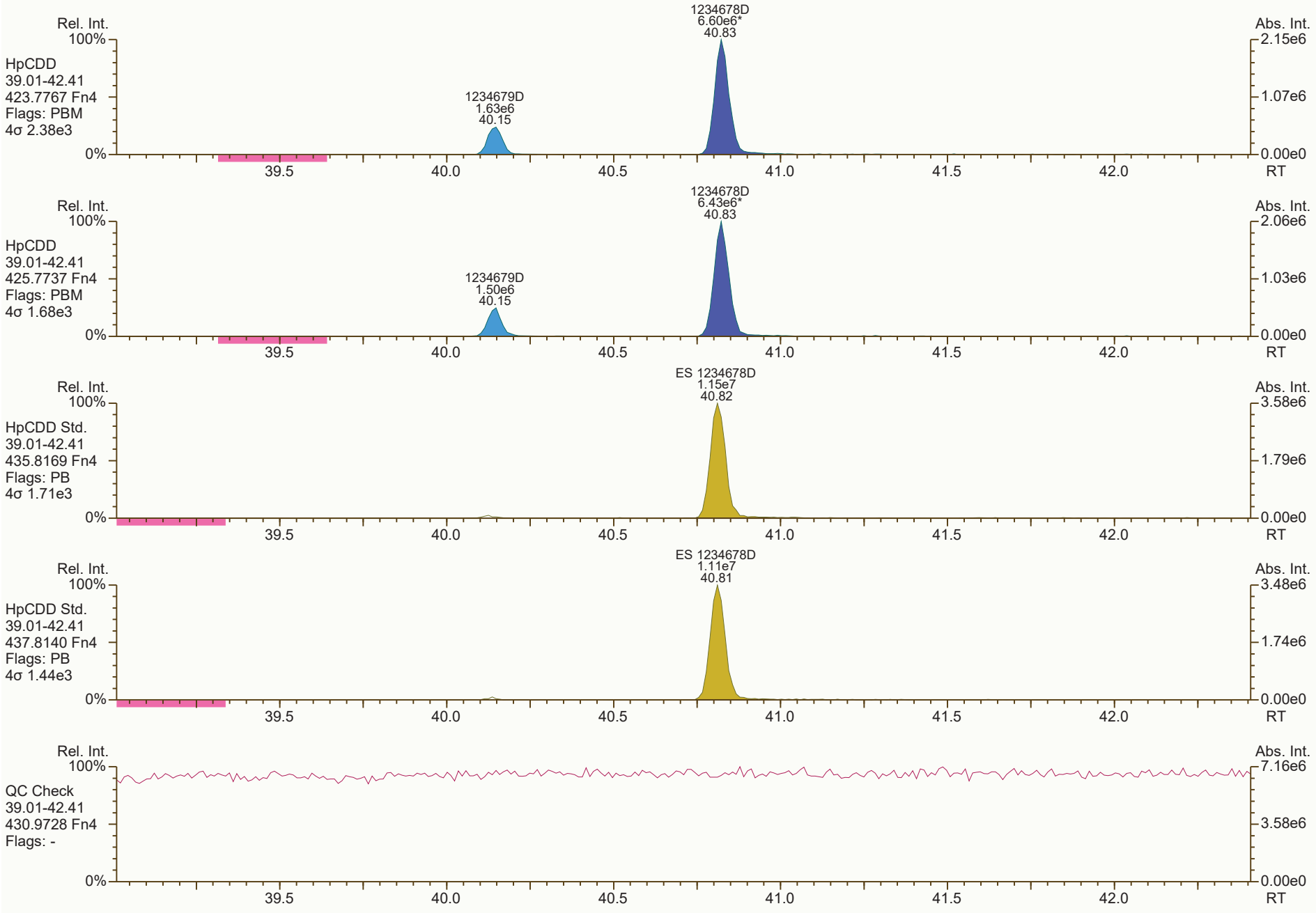
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 11-Feb-2022 15:00 (DTF) Printed: 11-Feb-2022 16:31

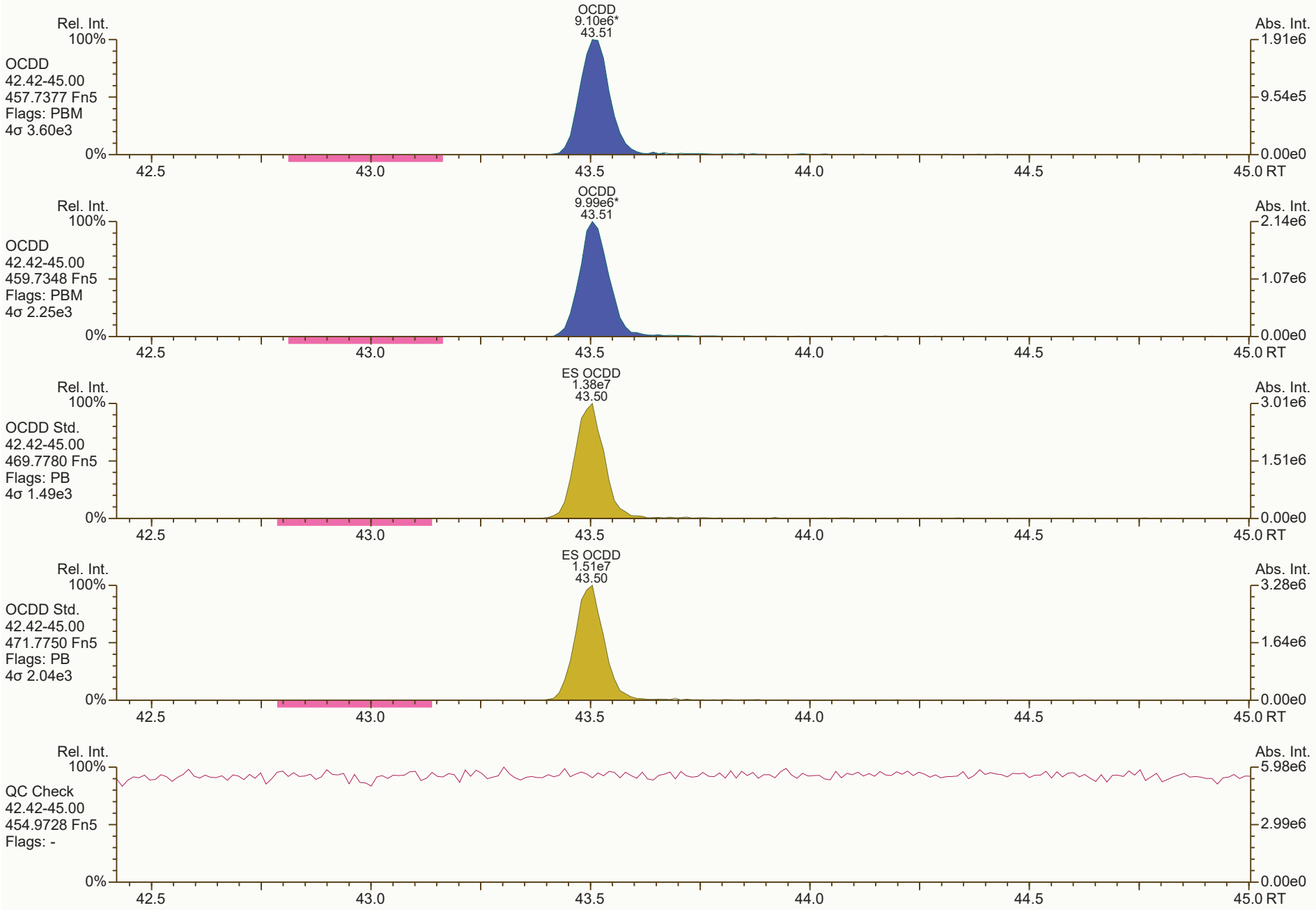

Rel. Int.
100%
0%
Abs. Int.
3.64e6
1.82e6
0.00e0
RT
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
3.15e6
1.57e6
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
1.21e7
6.07e6
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
7.16e6
3.58e6
39.5
40.0
40.5
41.0
41.5
42.0
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
5.98e6
2.99e6
42.5
43.0
43.5
44.0
44.5
45.0

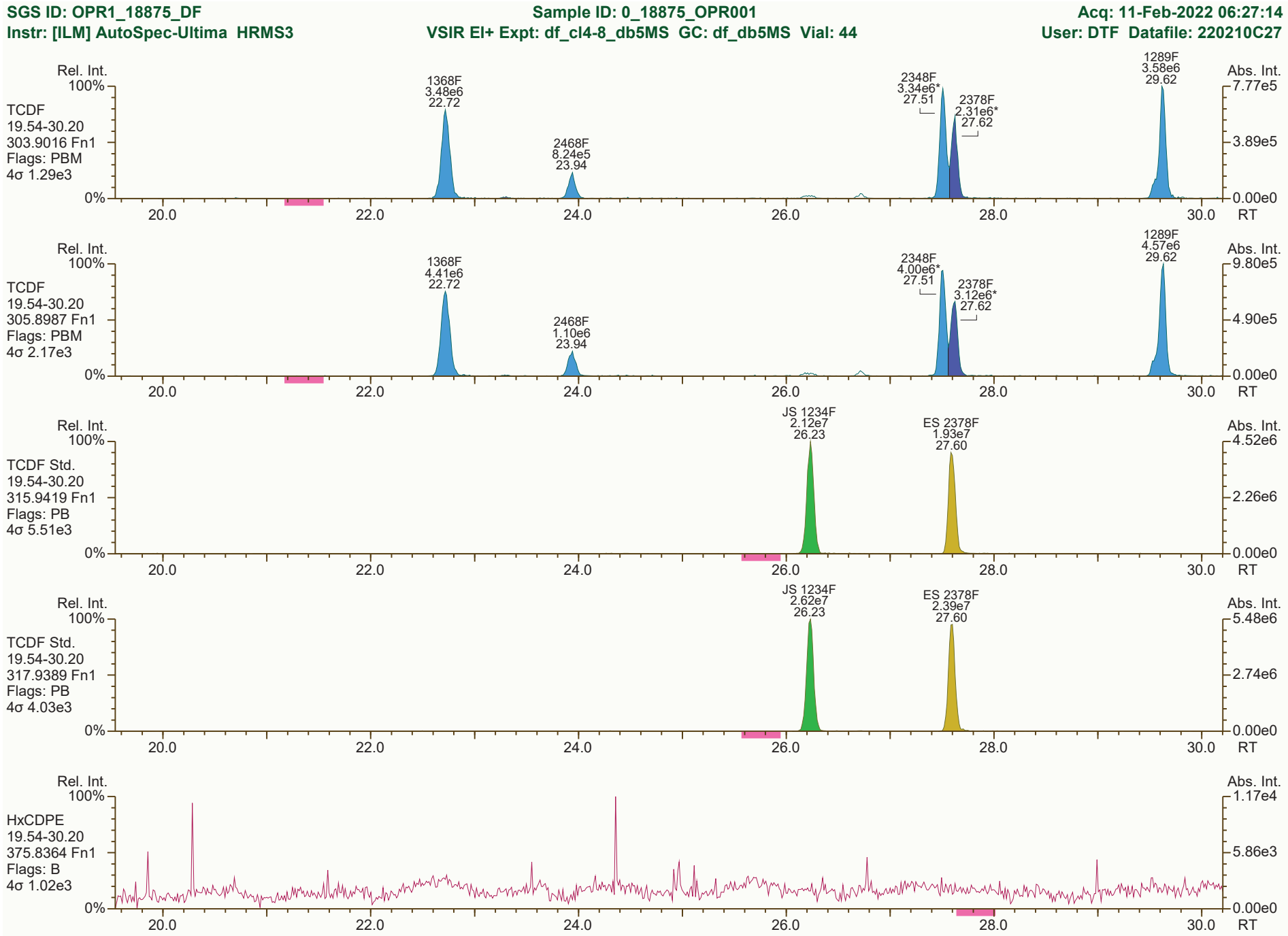

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.14e3
0%
1368D
2.42e6
24.83
1239D
1.64e6
28.32
2378D
1.77e6
28.48
1289D
2.36e6
29.45
Abs. Int.
5.76e5
2.88e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 2.18e3
0%
1368D
3.11e6
24.83
1239D
1.96e6
28.32
2378D
2.23e6
28.48
1289D
2.89e6
29.45
Abs. Int.
7.02e5
3.51e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.29e3
0%
CS 37Cl-2378D
1.35e7
28.48
Abs. Int.
3.19e6
1.59e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.14e3
0%
JS 1234D
1.34e7
27.79
ES 2378D
1.22e7
28.45
Abs. Int.
3.03e6
1.52e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 1.16e3
0%
JS 1234D
1.63e7
27.79
ES 2378D
1.57e7
28.45
Abs. Int.
3.77e6
1.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PB
4σ 1.28e3
12479/12468D
1.92e6
31.32
12378D
8.22e6
33.82
12389D
2.14e6
34.26
Abs. Int.
2.24e6
1.12e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 1.25e3
12479/12468D
1.23e6
31.31
12378D
5.36e6
33.82
12389D
1.34e6
34.26
Abs. Int.
1.51e6
7.54e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 1.76e3
CS 12347D
1.50e7
33.30
ES 12378D
1.58e7
33.80
Abs. Int.
4.48e6
2.24e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 2.33e3
CS 12347D
9.60e6
33.30
ES 12378D
9.89e6
33.80
Abs. Int.
2.95e6
1.47e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
Abs. Int.
3.15e6
1.57e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
Abs. Int.
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 1.79e3
124679/124689D
2.28e6
35.99
123478D
8.69e6
37.74
123678D
9.41e6
37.86
123789D
8.69e6
38.15
2.68e6
1.34e6
0.00e0
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 1.39e3
124679/124689D
1.70e6
35.99
123478D
6.80e6
37.74
123678D
7.59e6
37.86
123789D
7.08e6
38.15
2.11e6
1.06e6
0.00e0
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 2.10e3
ES 123478D
1.42e7*
37.72
ES 123678D
1.44e7
37.84
JS 123467D
8.04e6
38.03
ES 123789D
1.54e7*
38.13
4.53e6
2.27e6
0.00e0
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 1.47e3
ES 123478D
1.15e7*
37.72
ES 123678D
1.19e7
37.84
JS 123467D
6.51e6
38.03
ES 123789D
1.26e7*
38.13
3.55e6
1.78e6
0.00e0
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
1.21e7
6.07e6
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 2.38e3
1234678D
6.60e6*
40.83
1234679D
1.63e6
40.15
Abs. Int.
2.15e6
1.07e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 1.68e3
1234678D
6.43e6*
40.83
1234679D
1.50e6
40.15
Abs. Int.
2.06e6
1.03e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.71e3
ES 1234678D
1.15e7
40.82
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.44e3
ES 1234678D
1.11e7
40.81
Abs. Int.
3.48e6
1.74e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
7.16e6
3.58e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
9.10e6*
43.51
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 3.60e3
0%
Abs. Int.
1.91e6
9.54e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
9.99e6*
43.51
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 2.25e3
2.14e6
1.07e6
ES OCDD
1.38e7
43.50
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 1.49e3
3.01e6
1.51e6
ES OCDD
1.51e7
43.50
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 2.04e3
3.28e6
1.64e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
5.98e6
2.99e6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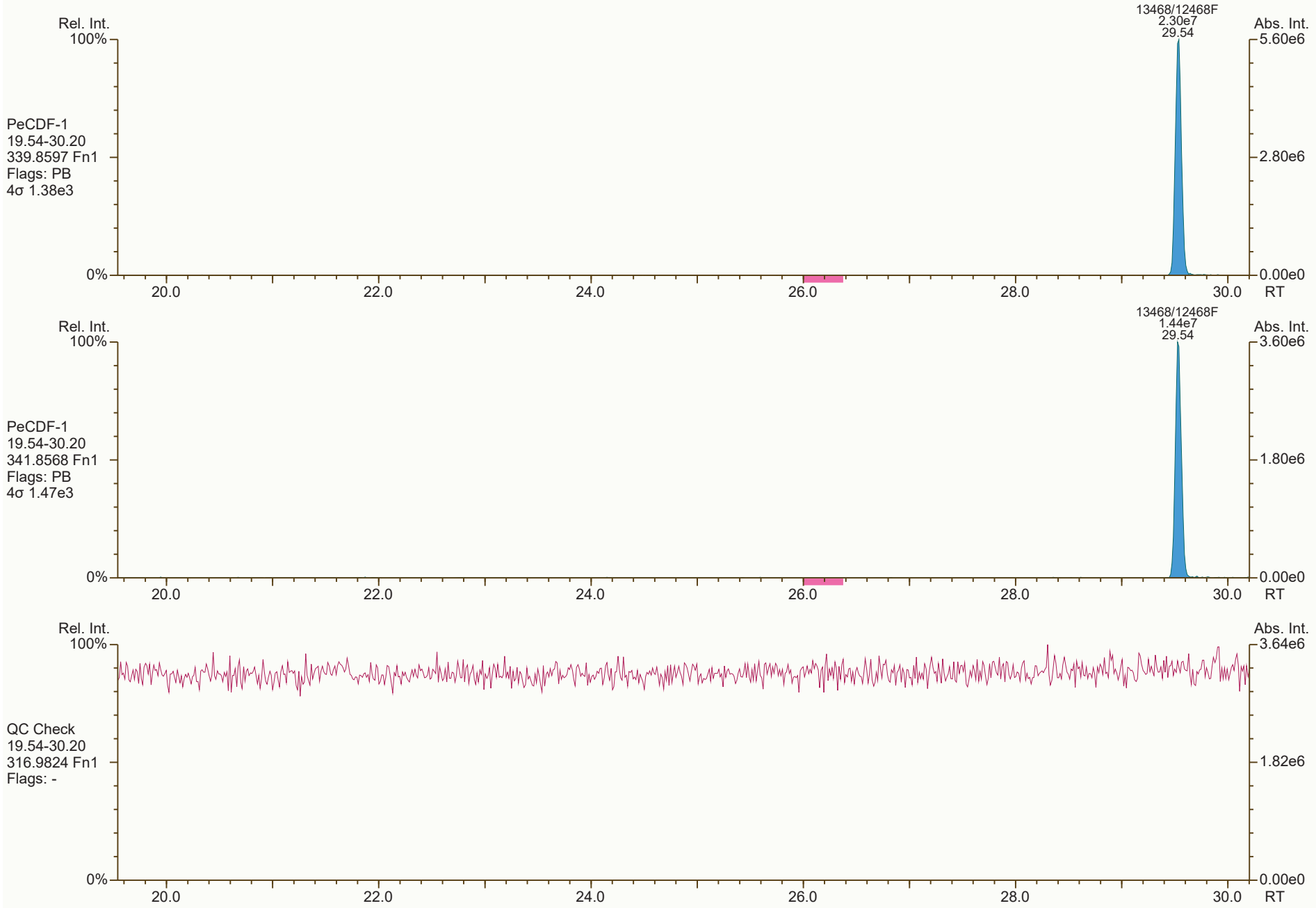
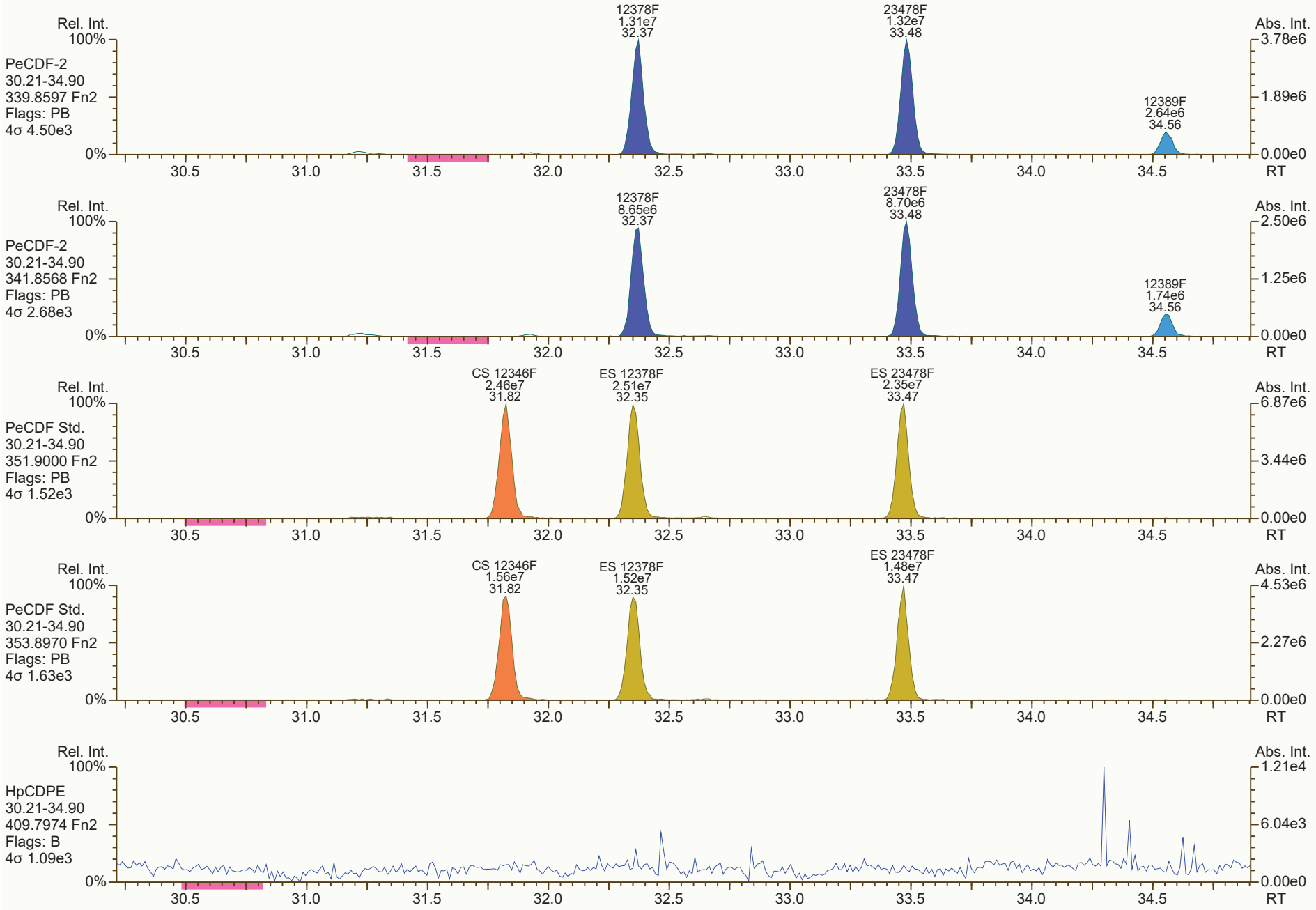
Sample ID: 0_18875_OPR001
Acq: 11-Feb-2022 06:27:14
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 44
User: DTF Datafile: 220210C27
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.29e3
1368F 3.48e6 22.72
2468F 8.24e5 23.94
2348F 3.34e6* 27.51
2378F 2.31e6* 27.62
1289F 3.58e6 29.62
7.77e5
3.89e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.17e3
1368F 4.41e6 22.72
2468F 1.10e6 23.94
2348F 4.00e6* 27.51
2378F 3.12e6* 27.62
1289F 4.57e6 29.62
9.80e5
4.90e5
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 5.51e3
JS 1234F 2.12e7 26.23
ES 2378F 1.93e7 27.60
4.52e6
2.26e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.03e3
JS 1234F 2.62e7 26.23
ES 2378F 2.39e7 27.60
5.48e6
2.74e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.02e3
1.17e4
5.86e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\OPR1_18875_DF.utp_res, saved 11-Feb-2022 16:26 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0277, 8821, 9537 scc: 982-417
Revised: 11-Feb-2022 15:00 (DTF) Printed: 11-Feb-2022 16:37 Page 7 of 12

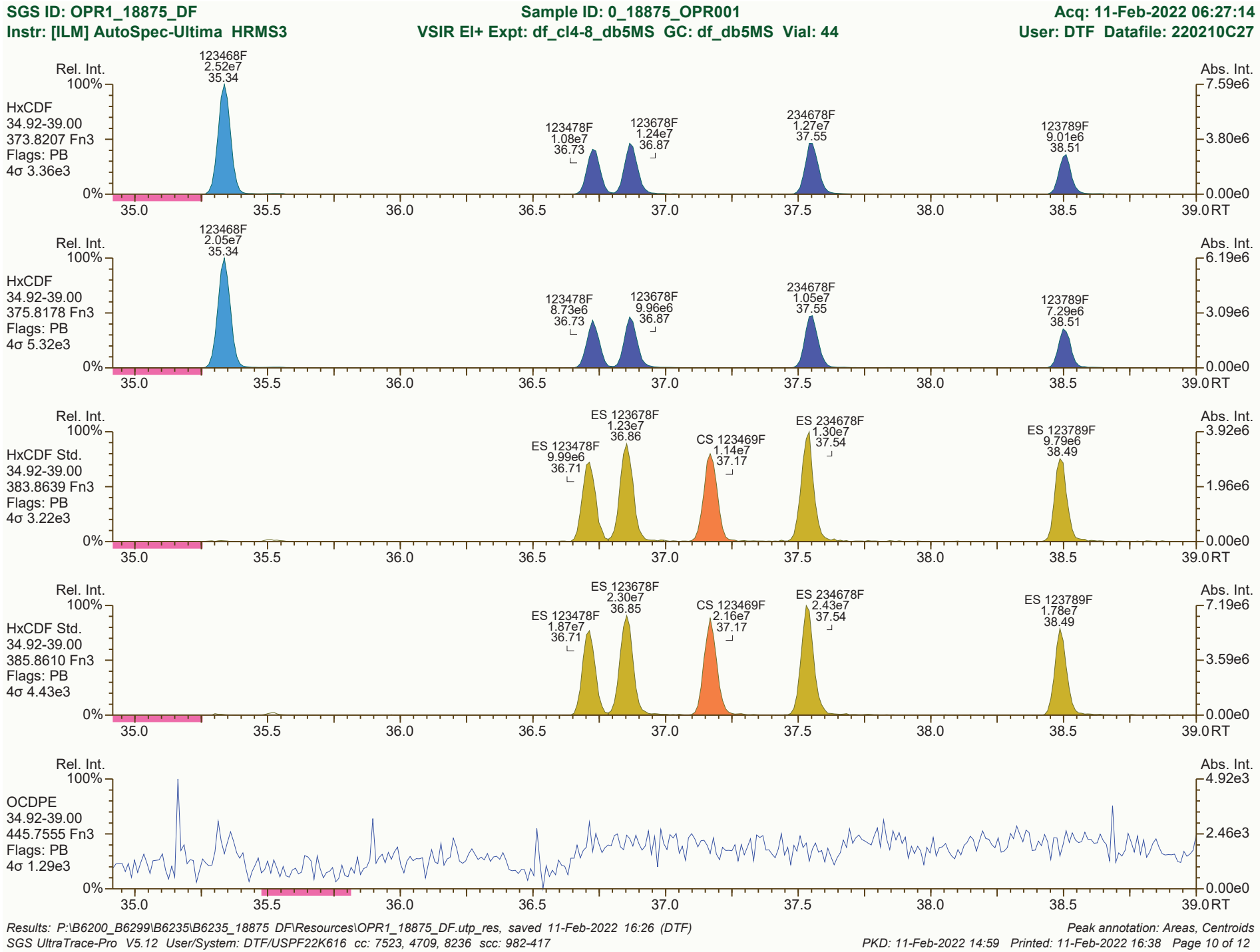

Rel. Int.
100%
0%
Abs. Int.
5.60e6
2.80e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
13468/12468F
2.30e7
29.54
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.38e3
13468/12468F
1.44e7
29.54
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.47e3
3.60e6
1.80e6
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
3.64e6
1.82e6


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PB
4σ 4.50e3
0%
12378F
1.31e7
32.37
23478F
1.32e7
33.48
12389F
2.64e6
34.56
Abs. Int.
3.78e6
1.89e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PB
4σ 2.68e3
0%
12378F
8.65e6
32.37
23478F
8.70e6
33.48
12389F
1.74e6
34.56
Abs. Int.
2.50e6
1.25e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 1.52e3
0%
CS 12346F
2.46e7
31.82
ES 12378F
2.51e7
32.35
ES 23478F
2.35e7
33.47
Abs. Int.
6.87e6
3.44e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 1.63e3
0%
CS 12346F
1.56e7
31.82
ES 12378F
1.52e7
32.35
ES 23478F
1.48e7
33.47
Abs. Int.
4.53e6
2.27e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.09e3
0%
Abs. Int.
1.21e4
6.04e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

SGS ID: OPR1_18875_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

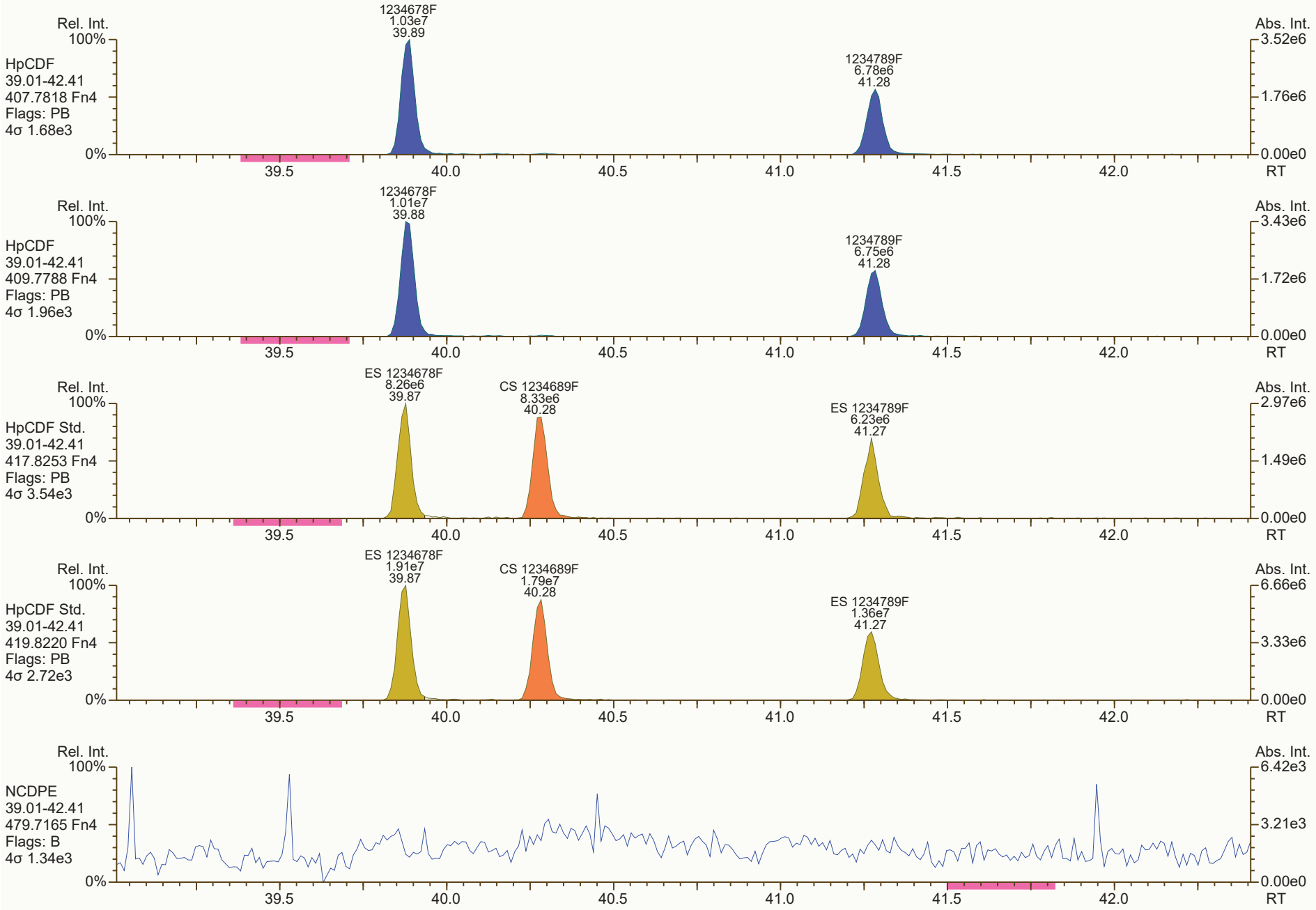
Sample ID: 0_18875_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 44

Acq: 11-Feb-2022 06:27:14
User: DTF Datafile: 220210C27



Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\OPR1_18875_DF.utp_res, saved 11-Feb-2022 16:26 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7523, 4709, 8236 scc: 982-417

Peak annotation: Areas, Centroids
PKD: 11-Feb-2022 14:59 Printed: 11-Feb-2022 16:38 Page 10 of 12


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.68e3
1234678F
1.03e7
39.89
1234789F
6.78e6
41.28
Abs. Int.
3.52e6
1.76e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.96e3
1234678F
1.01e7
39.88
1234789F
6.75e6
41.28
Abs. Int.
3.43e6
1.72e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 3.54e3
ES 1234678F
8.26e6
39.87
CS 1234689F
8.33e6
40.28
ES 1234789F
6.23e6
41.27
Abs. Int.
2.97e6
1.49e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 2.72e3
ES 1234678F
1.91e7
39.87
CS 1234689F
1.79e7
40.28
ES 1234789F
1.36e7
41.27
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.34e3
Abs. Int.
6.42e3
3.21e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
1.00e7
43.70
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 9.18e2
0%
Abs. Int.
2.15e6
1.08e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.12e7
43.70
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.46e3
2.35e6
1.18e6
ES OCDF
1.70e7
43.68
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 3.59e3
3.65e6
1.83e6
ES OCDF
1.90e7
43.68
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 1.50e3
4.02e6
2.01e6
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.18e3
5.40e3
2.70e3

CPSM only

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220210C10	Analysis Date:	10-FEB-2022 17:03:25
Lab ID:	OPR1_18917_DF		

Window Defining Standards Results

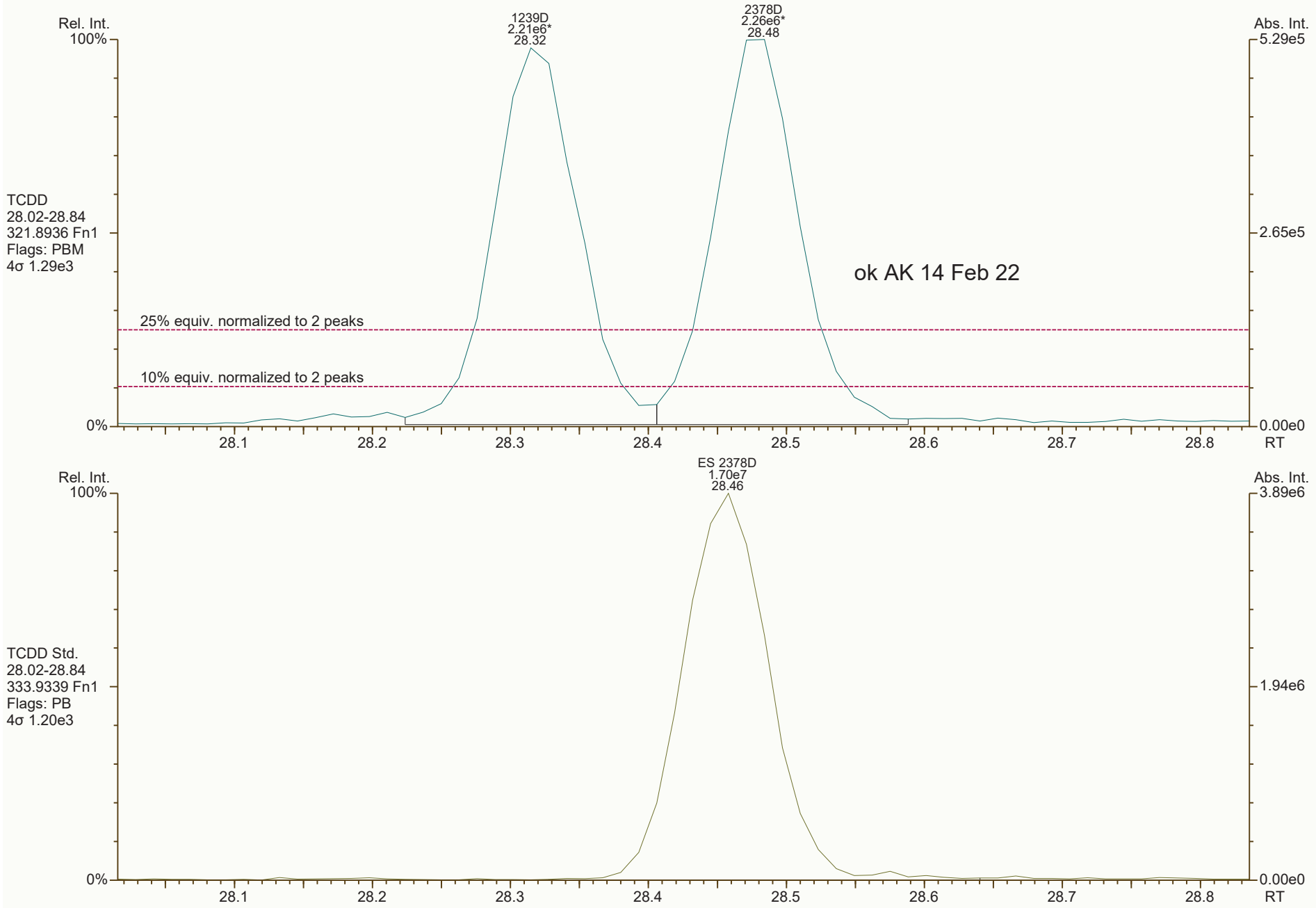
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.83	1289-TCDD	29.45
12479/12468-PeCDD	31.32	12389-PeCDD	34.27
124679/124689-HxCDD	35.99	123789-HxCDD	38.15
1234679-HpCDD	40.14	1234678-HpCDD	40.82
1368-TCDF	22.73	1289-TCDF	29.62
13468/12468-PeCDF	29.54	12389-PeCDF	34.57
123468-HxCDF	35.35	123789-HxCDF	38.51
1234678-HpCDF	39.89	1234789-HpCDF	41.28

Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.32	2378-TCDD	28.48
2348-TCDF	27.51	2378-TCDF	27.62

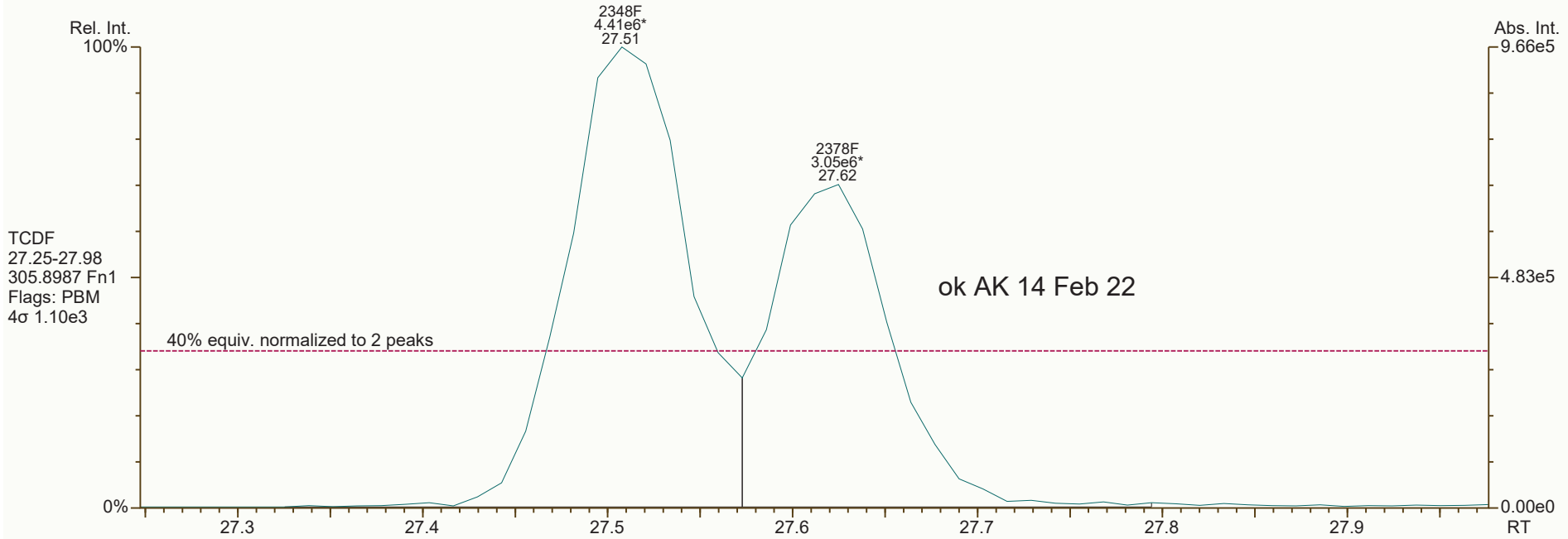
Processed: 11 Feb 2022 16:28 Analyst: TF

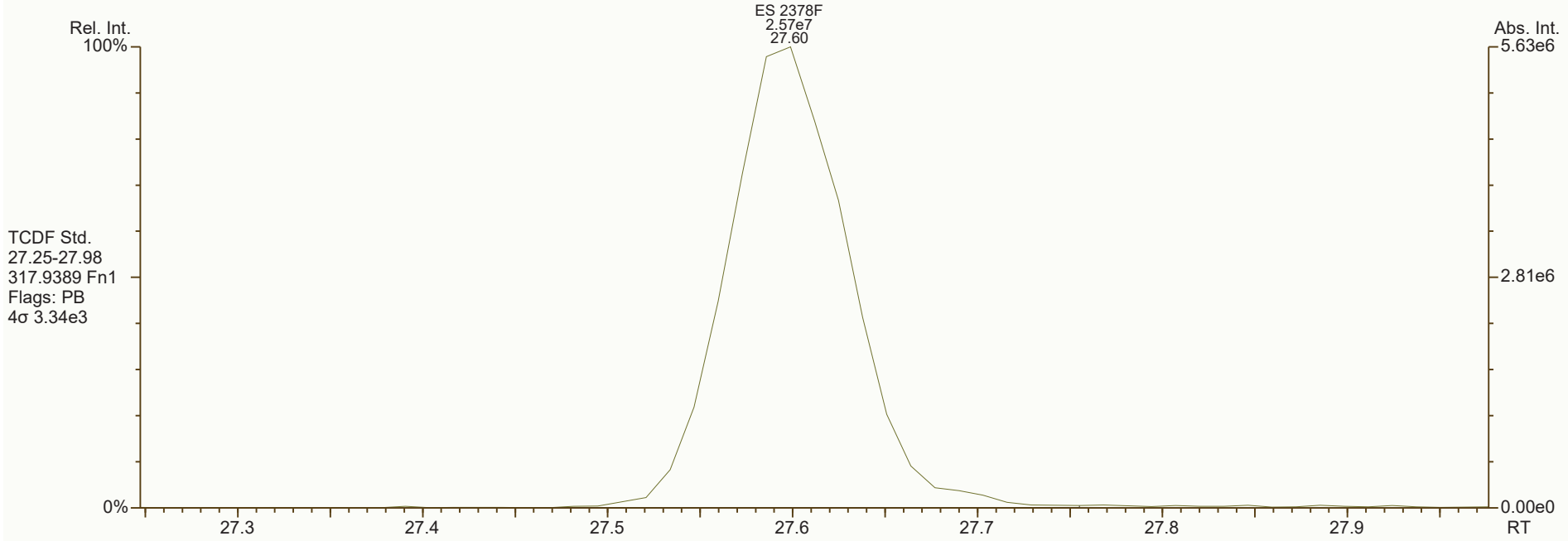
SGS ID: OPR1_18917_DF
Sample ID: 0_18917_OPR001
Acq: 10-Feb-2022 17:03:25
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37
User: DTF Datafile: 220210C10



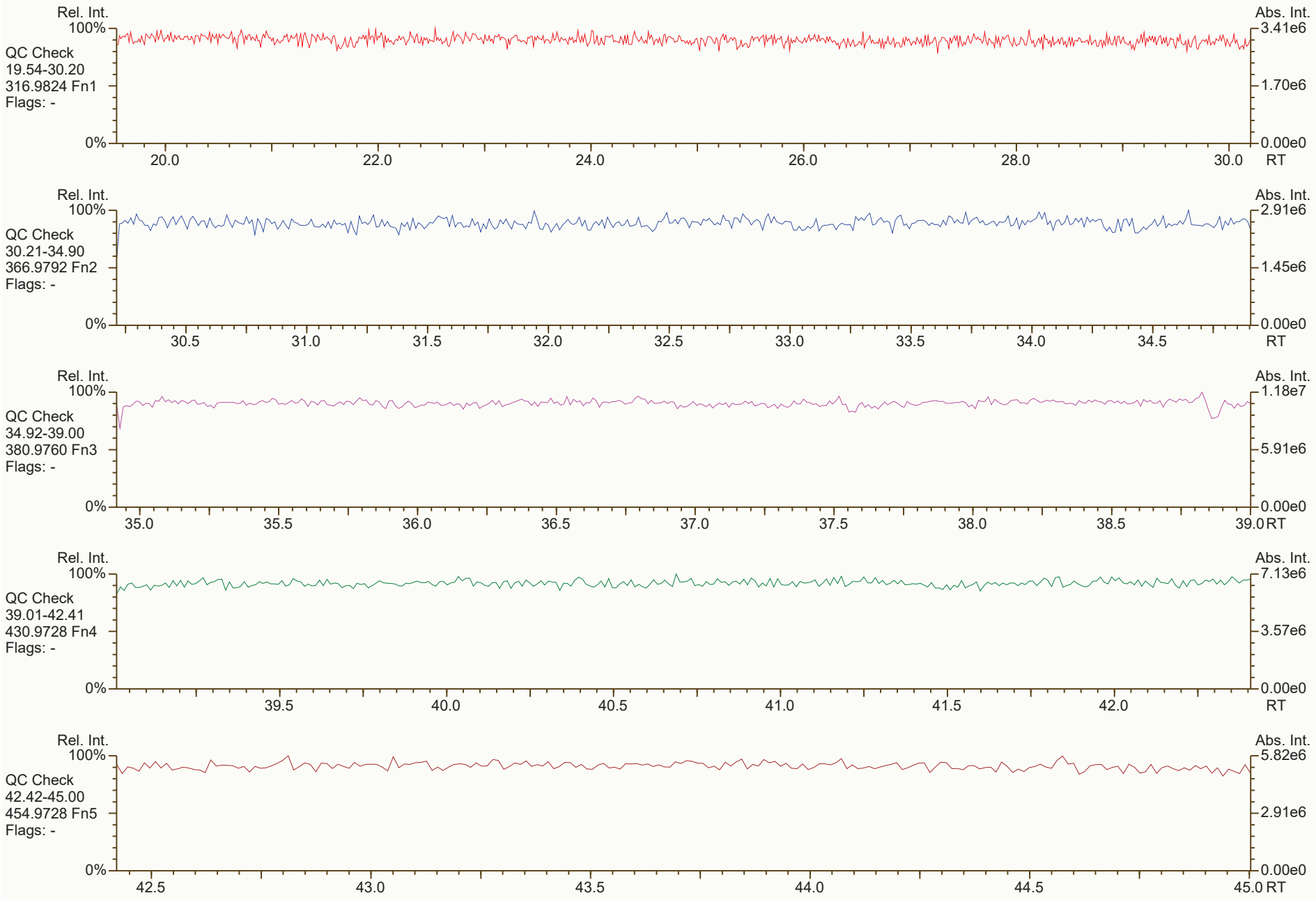
Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\OPR1_18917_DF.utp_res, saved 11-Feb-2022 16:26 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 11-Feb-2022 08:39 (DTF) Printed: 11-Feb-2022 16:31

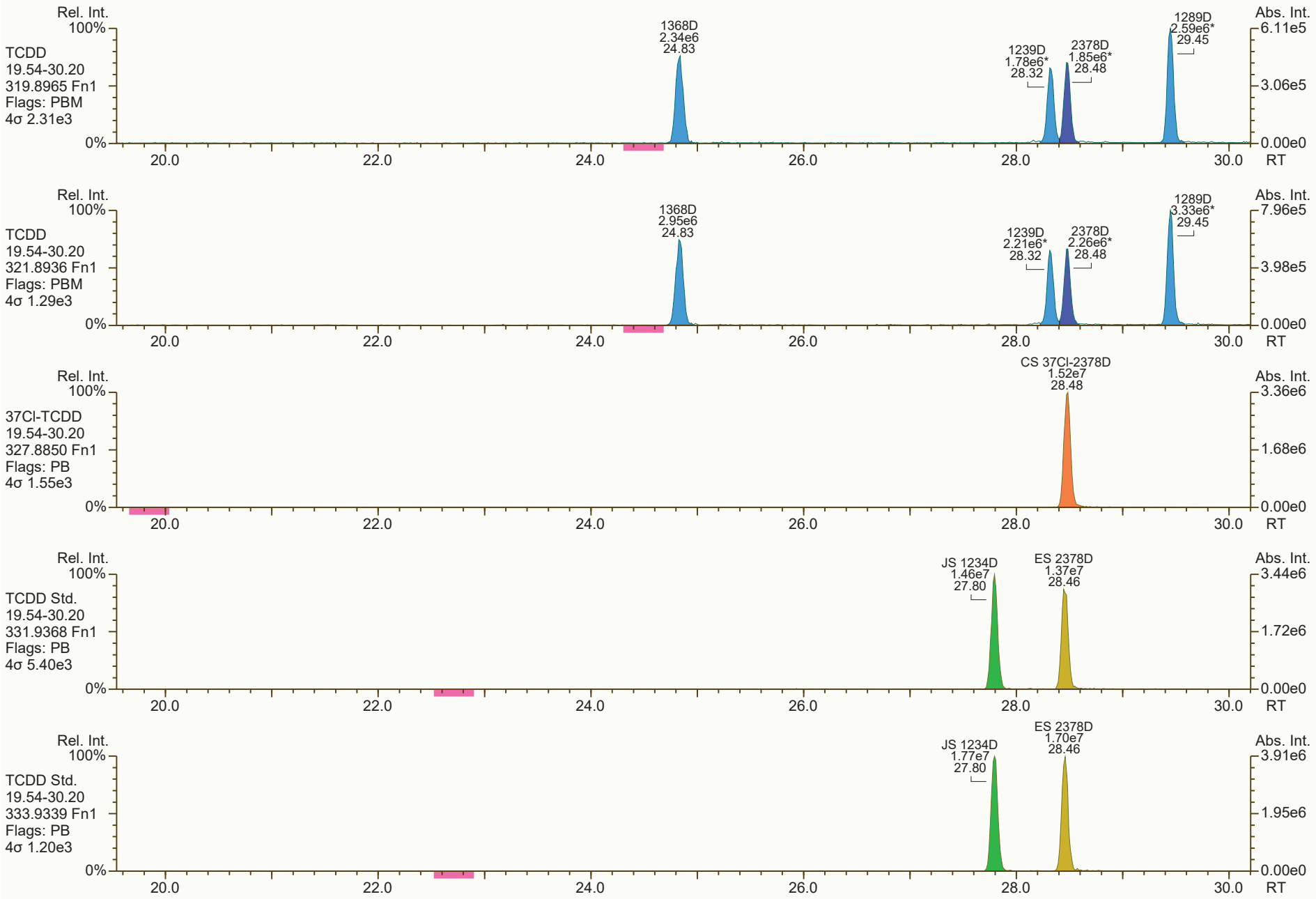
SGS ID: OPR1_18917_DF
Sample ID: 0_18917_OPR001
Acq: 10-Feb-2022 17:03:25
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37
User: DTF Datafile: 220210C10

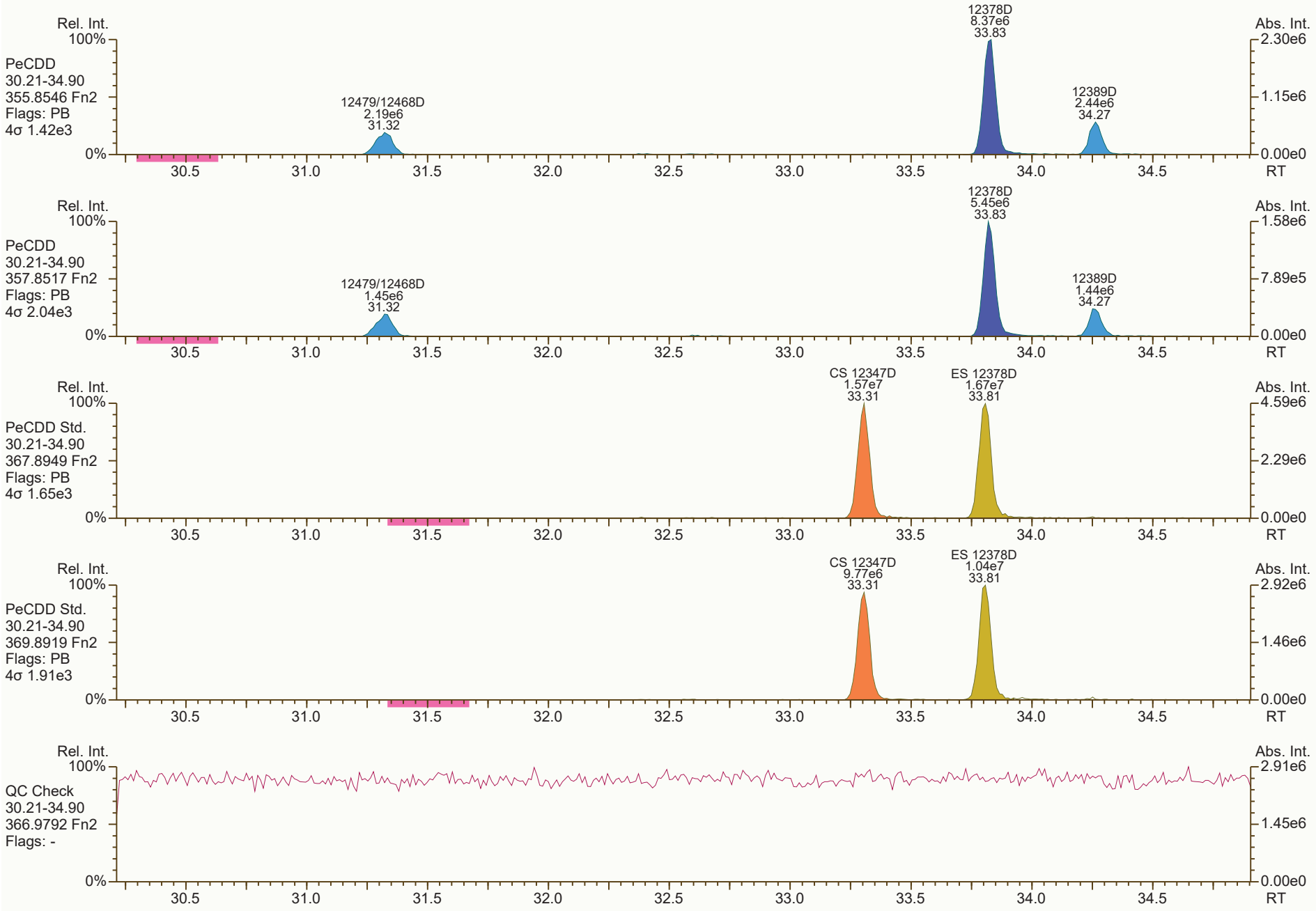


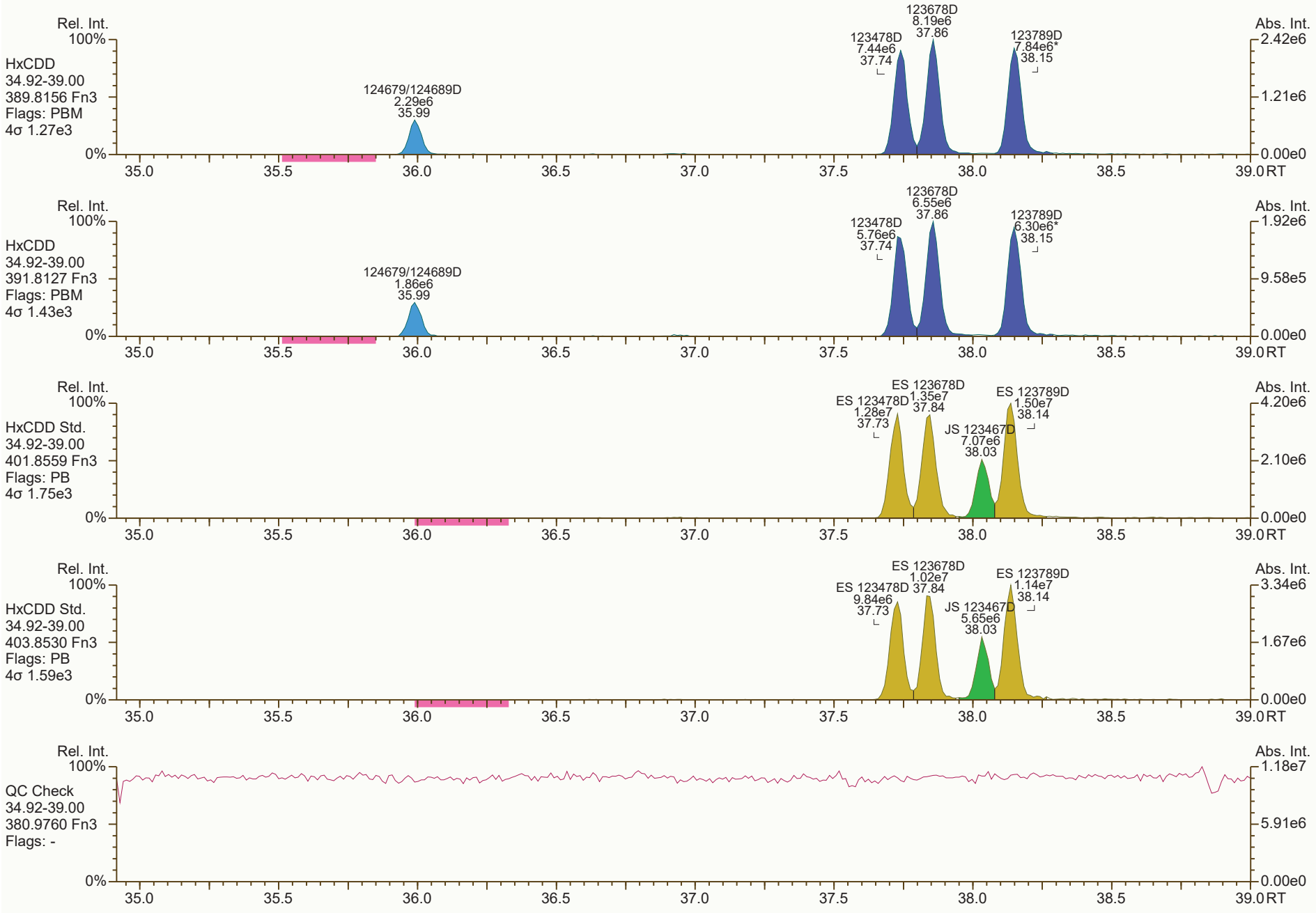


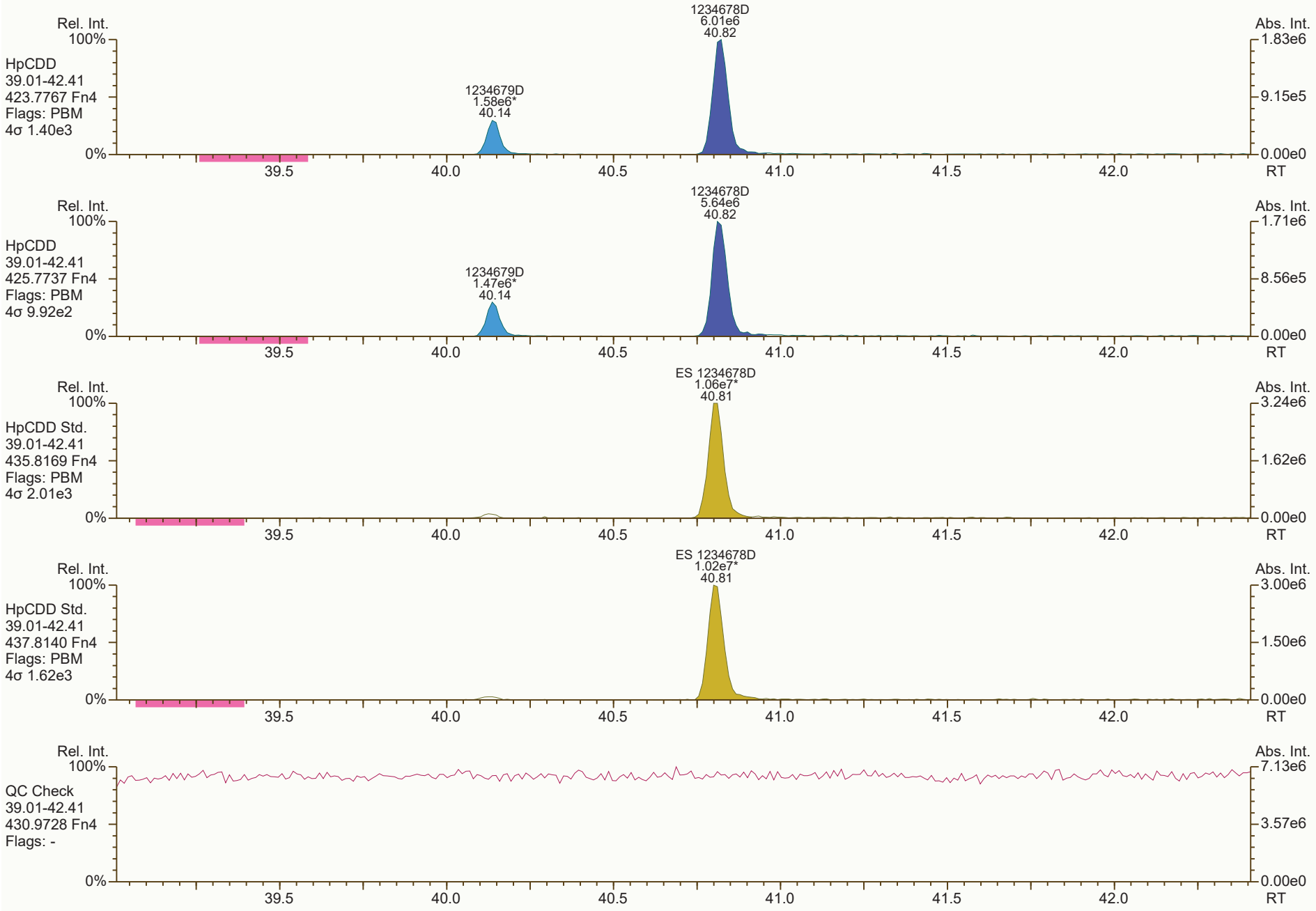
Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\OPR1_18917_DF.utp_res, saved 11-Feb-2022 16:26 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 11-Feb-2022 08:40 (DTF) Printed: 11-Feb-2022 16:31

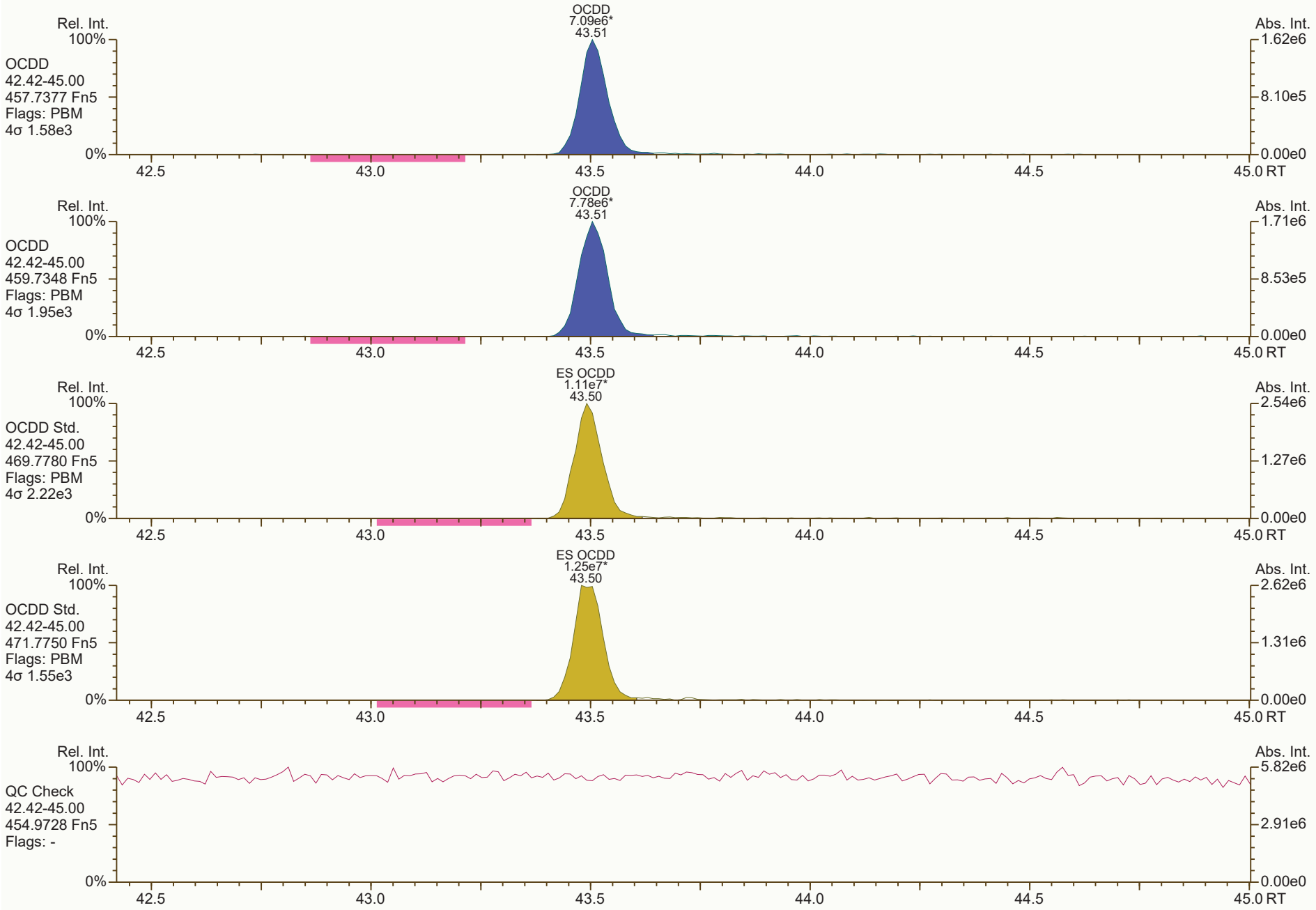

Rel. Int.
100%
0%
Abs. Int.
3.41e6
1.70e6
0.00e0
RT
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
2.91e6
1.45e6
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
1.18e7
5.91e6
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
7.13e6
3.57e6
39.5
40.0
40.5
41.0
41.5
42.0
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
5.82e6
2.91e6
42.5
43.0
43.5
44.0
44.5
45.0

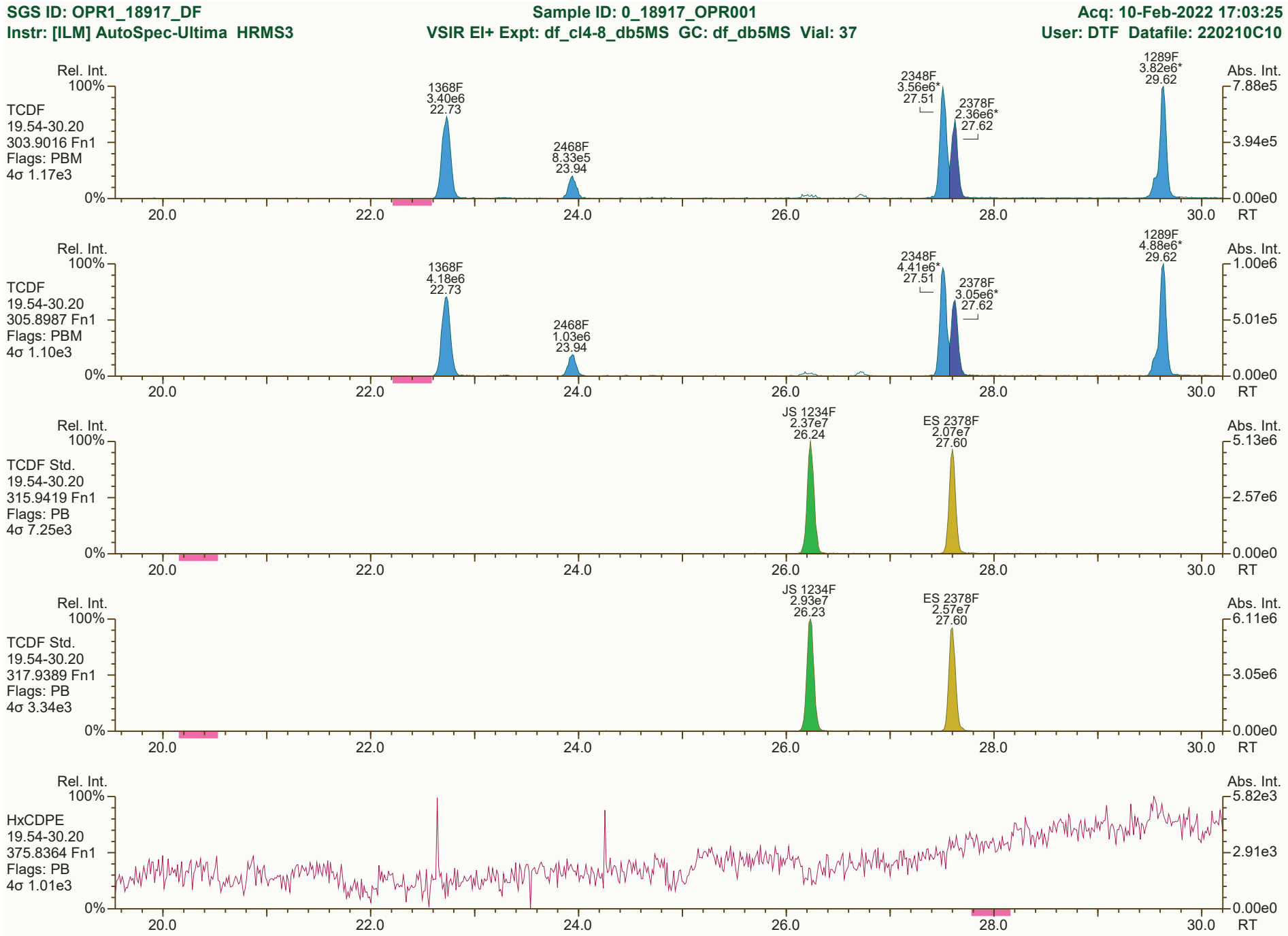

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.31e3
0%
1368D
2.34e6
24.83
1239D
1.78e6*
28.32
2378D
1.85e6*
28.48
1289D
2.59e6*
29.45
Abs. Int.
6.11e5
3.06e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.29e3
0%
1368D
2.95e6
24.83
1239D
2.21e6*
28.32
2378D
2.26e6*
28.48
1289D
3.33e6*
29.45
Abs. Int.
7.96e5
3.98e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.52e7
28.48
Abs. Int.
3.36e6
1.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.40e3
0%
JS 1234D
1.46e7
27.80
ES 2378D
1.37e7
28.46
Abs. Int.
3.44e6
1.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 1.20e3
0%
JS 1234D
1.77e7
27.80
ES 2378D
1.70e7
28.46
Abs. Int.
3.91e6
1.95e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PB
4σ 1.42e3
12479/12468D
2.19e6
31.32
12378D
8.37e6
33.83
12389D
2.44e6
34.27
Abs. Int.
2.30e6
1.15e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 2.04e3
12479/12468D
1.45e6
31.32
12378D
5.45e6
33.83
12389D
1.44e6
34.27
Abs. Int.
1.58e6
7.89e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 1.65e3
CS 12347D
1.57e7
33.31
ES 12378D
1.67e7
33.81
Abs. Int.
4.59e6
2.29e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.91e3
CS 12347D
9.77e6
33.31
ES 12378D
1.04e7
33.81
Abs. Int.
2.92e6
1.46e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
Abs. Int.
2.91e6
1.45e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 1.27e3
124679/124689D
2.29e6
35.99
123478D
7.44e6
37.74
123678D
8.19e6
37.86
123789D
7.84e6*
38.15
Abs. Int.
2.42e6
1.21e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 1.43e3
124679/124689D
1.86e6
35.99
123478D
5.76e6
37.74
123678D
6.55e6
37.86
123789D
6.30e6*
38.15
Abs. Int.
1.92e6
9.58e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 1.75e3
ES 123478D
1.28e7
37.73
ES 123678D
1.35e7
37.84
JS 123467D
7.07e6
38.03
ES 123789D
1.50e7
38.14
Abs. Int.
4.20e6
2.10e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 1.59e3
ES 123478D
9.84e6
37.73
ES 123678D
1.02e7
37.84
JS 123467D
5.65e6
38.03
ES 123789D
1.14e7
38.14
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
Abs. Int.
1.18e7
5.91e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.01e6
40.82
1234679D
1.58e6*
40.14
Abs. Int.
1.83e6
9.15e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 9.92e2
1234678D
5.64e6
40.82
1234679D
1.47e6*
40.14
Abs. Int.
1.71e6
8.56e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678D
1.06e7*
40.81
Abs. Int.
3.24e6
1.62e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 1.62e3
ES 1234678D
1.02e7*
40.81
Abs. Int.
3.00e6
1.50e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
7.13e6
3.57e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
7.09e6*
43.51
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.58e3
0%
Abs. Int.
1.62e6
8.10e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
7.78e6*
43.51
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 1.95e3
1.71e6
8.53e5
ES OCDD
1.11e7*
43.50
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 2.22e3
2.54e6
1.27e6
ES OCDD
1.25e7*
43.50
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 1.55e3
2.62e6
1.31e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
5.82e6
2.91e6

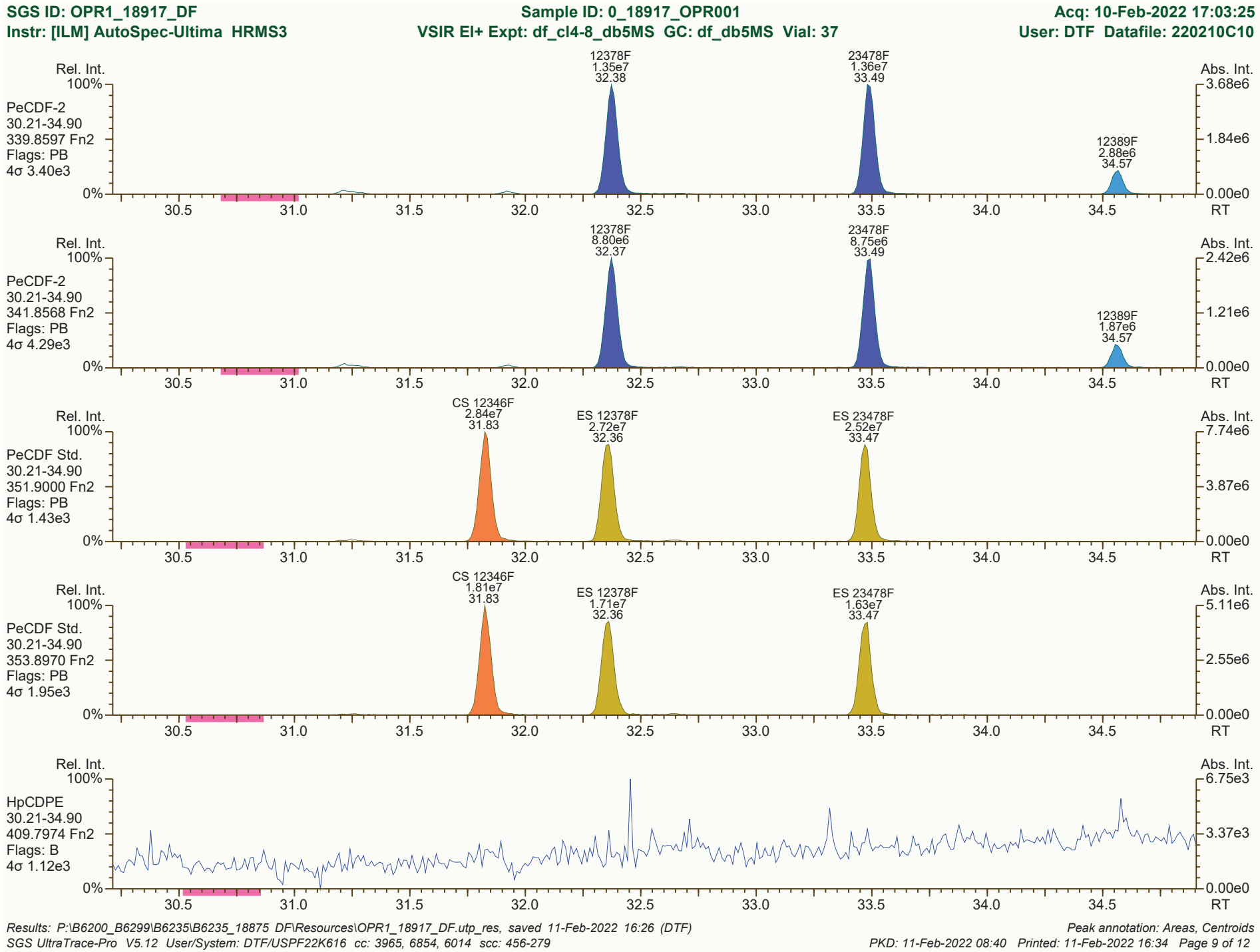

SGS ID: OPR1_18917_DF
Sample ID: 0_18917_OPR001
Acq: 10-Feb-2022 17:03:25
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37
User: DTF Datafile: 220210C10
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.17e3
1368F 3.40e6 22.73
2468F 8.33e5 23.94
2348F 3.56e6* 27.51
2378F 2.36e6* 27.62
1289F 3.82e6* 29.62
7.88e5
3.94e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.10e3
1368F 4.18e6 22.73
2468F 1.03e6 23.94
2348F 4.41e6* 27.51
2378F 3.05e6* 27.62
1289F 4.88e6* 29.62
1.00e6
5.01e5
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 7.25e3
JS 1234F 2.37e7 26.24
ES 2378F 2.07e7 27.60
5.13e6
2.57e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.34e3
JS 1234F 2.93e7 26.23
ES 2378F 2.57e7 27.60
6.11e6
3.05e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.01e3
5.82e3
2.91e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\OPR1_18917_DF.utp_res, saved 11-Feb-2022 16:26 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1449, 1824, 9604 scc: 456-279
Revised: 11-Feb-2022 08:40 (DTF) Printed: 11-Feb-2022 16:34 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.05e3
13468/12468F
2.28e7
29.54
Abs. Int.
5.80e6
2.90e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.13e3
13468/12468F
1.43e7
29.54
Abs. Int.
3.57e6
1.79e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
3.41e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: OPR1_18917_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18917_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37

Acq: 10-Feb-2022 17:03:25
User: DTF Datafile: 220210C10



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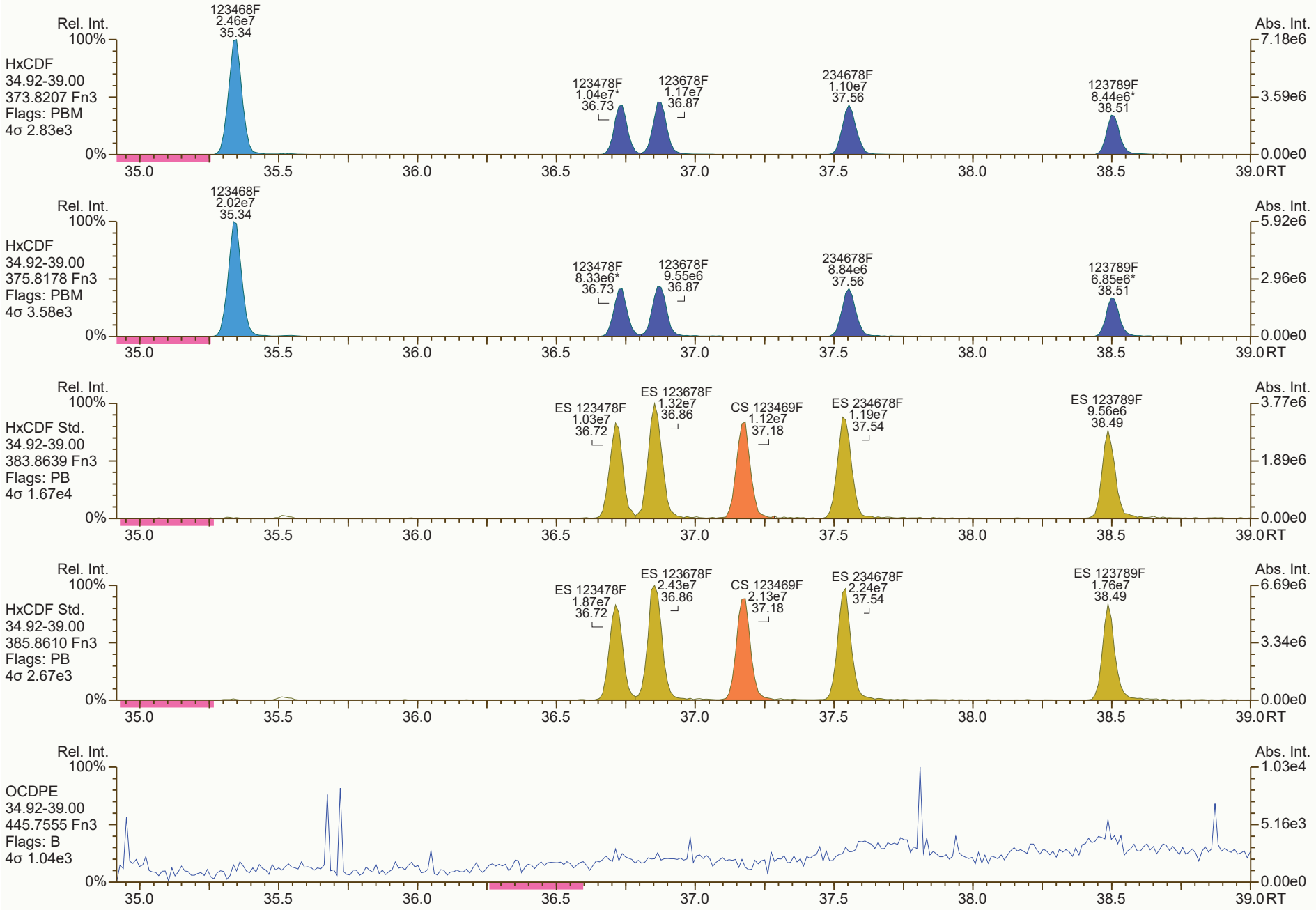
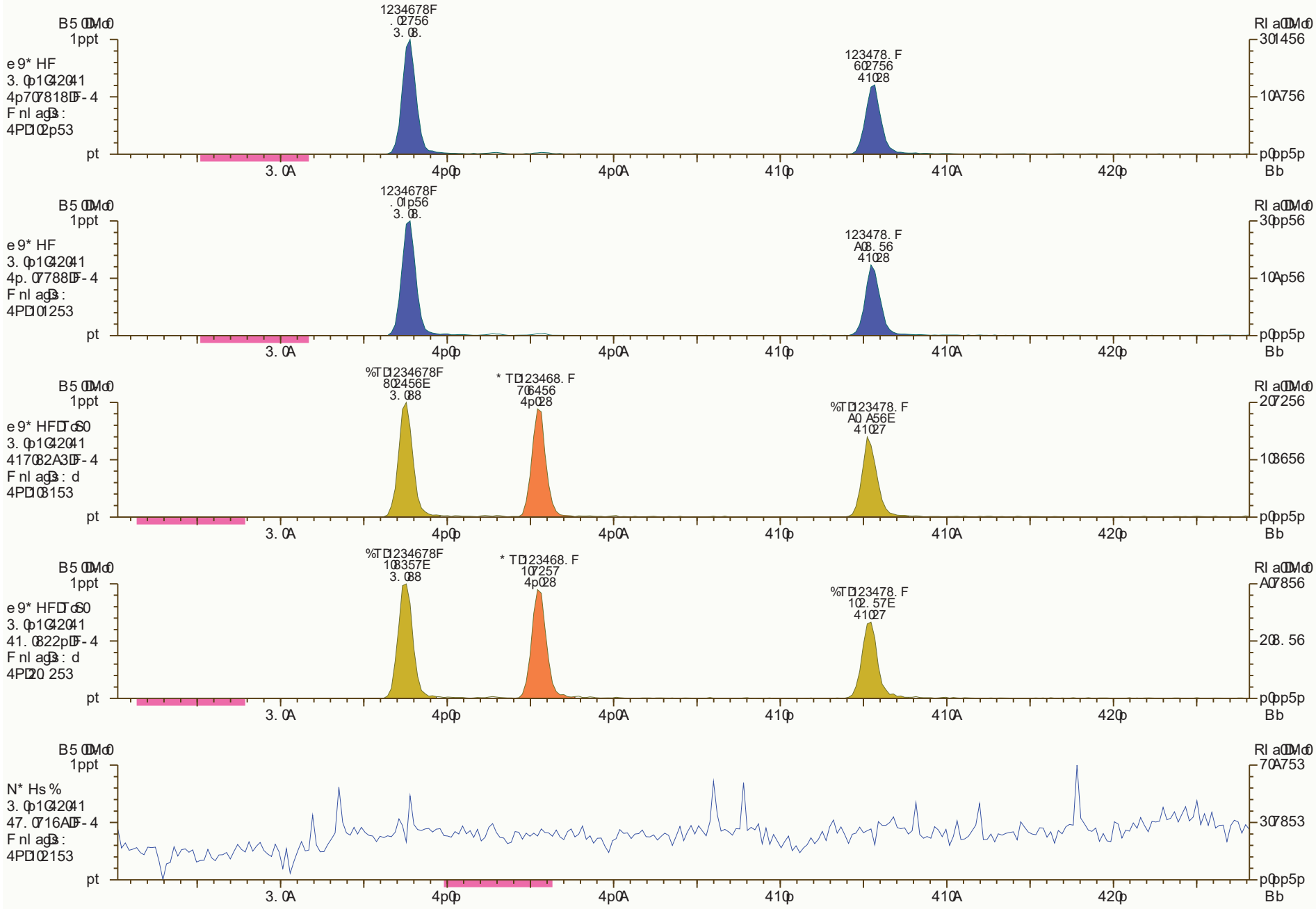
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3965, 6854, 6014 scc: 456-279

Peak annotation: Areas, Centroids
PKD: 11-Feb-2022 08:40 Printed: 11-Feb-2022 16:34 Page 9 of 12

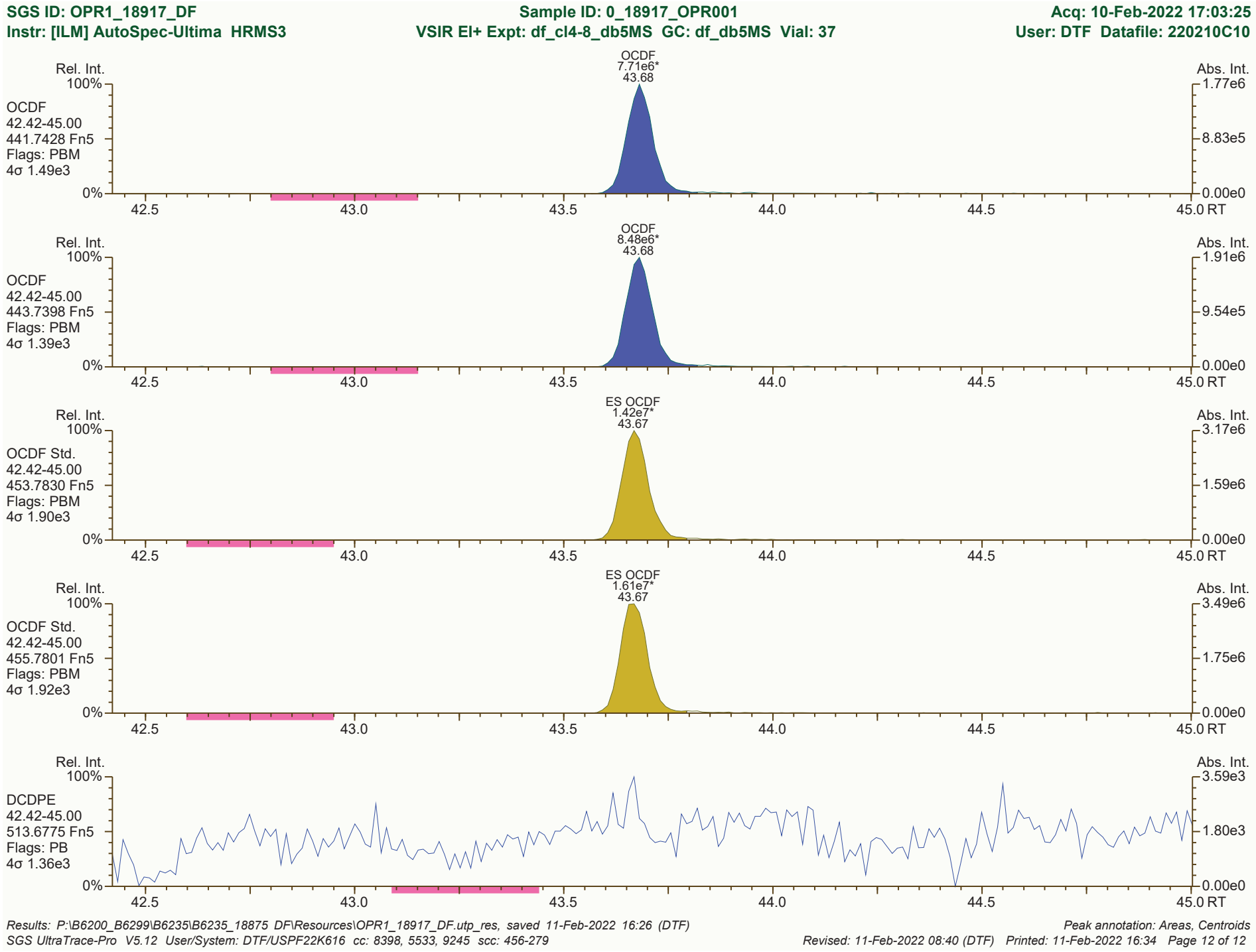

Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 2.83e3
123468F
2.46e7
35.34
123478F
1.04e7*
36.73
123678F
1.17e7
36.87
234678F
1.10e7
37.56
123789F
8.44e6*
38.51
Abs. Int.
7.18e6
3.59e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 3.58e3
123468F
2.02e7
35.34
123478F
8.33e6*
36.73
123678F
9.55e6
36.87
234678F
8.84e6
37.56
123789F
6.85e6*
38.51
Abs. Int.
5.92e6
2.96e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 1.67e4
ES 123478F
1.03e7
36.72
ES 123678F
1.32e7
36.86
CS 123469F
1.12e7
37.18
ES 234678F
1.19e7
37.54
ES 123789F
9.56e6
38.49
Abs. Int.
3.77e6
1.89e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 2.67e3
ES 123478F
1.87e7
36.72
ES 123678F
2.43e7
36.86
CS 123469F
2.13e7
37.18
ES 234678F
2.24e7
37.54
ES 123789F
1.76e7
38.49
Abs. Int.
6.69e6
3.34e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.04e3
Abs. Int.
1.03e4
5.16e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


1234678F
123478. F
1234678F
123478. F
%TD1234678F
* TD123468. F
%TD123478. F
%TD1234678F
* TD123468. F
%TD123478. F
3. 0A
4p0p
4p0A
410p
410A
420p

SGS ID: OPR1_18917_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18917_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37

Acq: 10-Feb-2022 17:03:25
User: DTF Datafile: 220210C10



Results: P:\B6200_B6299\B6235\B6235_18875 DF\Resources\OPR1_18917_DF.utp_res, saved 11-Feb-2022 16:26 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8398, 5533, 9245 scc: 456-279

Peak annotation: Areas, Centroids
Revised: 11-Feb-2022 08:40 (DTF) Printed: 11-Feb-2022 16:34 Page 12 of 12



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6234

28-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

Meagan Willis

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This report is approved by

Tamara Burkamper

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Senior Project Manager

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Results reported relate only to the items tested.

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

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6234
Analytical Protocol(s)	1613B
No. Samples Submitted	9
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	26-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	0.2, 0.0
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

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

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

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.14.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

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

Data processing uses proprietary software.

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

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

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

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

Continuing Calibration meets requirements, except for the following: the reported percent deviation of CS 1,2,3,4,6,8,9-HpCDF is above SOP criteria. There is no method specified criteria for these standards and no adverse impact on results.

No re-extractions or dilutions were required.

B6234_005: the reported ion ratio of labeled standard ES 1,2,3,7,8,9-HxCDD is outside method criteria.

OPR1/OPR2_18872 meet accuracy and precision criteria, except for the following: RPD of 2,3,7,8-TCDF is >20%.

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

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

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

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

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

APPENDIX C: LAB IDENTIFIERS

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

SGS CERTIFICATIONS

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

Rev. 12-Oct-2021

Sample ID: 11215131-012222-S-BN-RB-14 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6236	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.04 L	Lab Sample ID	B6236_18881_DF_001	Date Extracted:	31-Jan-2022
Date Collected:	22-Jan-2022	pH:	5	QC Batch No:	18881	Date Analyzed:	04-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:11:46

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	3.75			ES 2378-TCDD	87.2	
12378-PeCDD	ND	2.52			ES 12378-PeCDD	104	
123478-HxCDD	ND	2.91			ES 123478-HxCDD	102	
123678-HxCDD	ND	2.55			ES 123678-HxCDD	116	
123789-HxCDD	ND	2.99			ES 123789-HxCDD	92.3	
1234678-HpCDD	ND	2.78			ES 1234678-HpCDD	96.4	
OCDD	EMPC		9.44	J B	ES OCDD	93.8	
2378-TCDF	ND	1.96			ES 2378-TCDF	87.1	
12378-PeCDF	ND	2.31			ES 12378-PeCDF	95.4	
23478-PeCDF	ND	2.11			ES 23478-PeCDF	94.8	
123478-HxCDF	ND	1.68			ES 123478-HxCDF	89.9	
123678-HxCDF	ND	1.48			ES 123678-HxCDF	101	
234678-HxCDF	ND	1.24			ES 234678-HxCDF	137	V
123789-HxCDF	ND	1.72			ES 123789-HxCDF	94.2	
1234678-HpCDF	ND	1.78			ES 1234678-HpCDF	103	
1234789-HpCDF	ND	2.38			ES 1234789-HpCDF	94.5	
OCDF	ND	5.08			ES OCDF	97.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	95.7	
Total TCDD	ND	3.75	ND		CS 12347-PeCDD	116	
Total PeCDD	ND	2.52	ND		CS 12346-PeCDF	106	
Total HxCDD	ND	2.81	ND		CS 123469-HxCDF	118	
Total HpCDD	ND	2.78	ND		CS 1234689-HpCDF	129	
Total TCDF	ND	1.96	ND				
Total PeCDF	ND	2.21	ND				
Total HxCDF	ND	1.49	ND				
Total HpCDF	ND	2.05	ND				
Total PCDD/Fs	**ND**		**9.44**				
WHO-2005 TEQs							
TEQ: ND=0	0		0.00283				
TEQ: ND=DL/2	4.35	4.35	4.35				
TEQ: ND=DL	8.69	8.7	8.7				

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

Sample ID: 11215131-012222-S-BN-RB-14 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6236	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.04 L	Lab Sample ID:	B6236_18881_DF_001	Date Extracted:	31-Jan-2022
Date Collected:	22-Jan-2022	pH:	5	QC Batch No.:	18881	Date Analyzed:	04-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:11:46

Tetra-Dioxins	Conc. (pg/L)	Qualifiers	Penta-Dioxins	Conc. (pg/L)	Qualifiers	Hexa-Dioxins	Conc (pg/L)	Qualifiers	Hepta-Dioxins	Conc (pg/L)	Qualifiers
1368D	(3.75)		12479/12468D	(2.52)		124679/124689D	(2.81)		1234679D	(2.78)	
1379D	(3.75)		12469D	(2.52)		123468D	(2.81)		1234678D	(2.78)	
1369D	(3.75)		12368D	(2.52)		123679/123689D	(2.81)				
1469D	(3.75)		12478D	(2.52)		123469D	(2.81)				
1247D...[4]	(3.75)		12379D	(2.52)		123478D	(2.91)				
1378D	(3.75)		12369D...[3]	(2.52)		123678D	(2.55)				
1268D	(3.75)		12346/12347D	(2.52)		123467D	(2.81)				
1478D	(3.75)		12378D	(2.52)		123789D	(2.99)		**Conc.**	0	
1279D	(3.75)		12367D	(2.52)					**EMPC**	0	
1234/1269D	(3.75)		12389D	(2.52)							
1236D	(3.75)								**Octa-Dioxin**	**Conc (pg/L)**	**Qualifiers**
1237/1238D	(3.75)										
1239D	(3.75)								OCDD	[9.44]	J B
2378D	(3.75)										
1278D	(3.75)										
1267D	(3.75)										
1289D	(3.75)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

5500 Business Drive
Wilmington, NC 28405, USA
Tel: +1 910 794-1613
www.us.sgs.com

WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0.00283
TEQ: ND=DL/2	4.35	4.35
TEQ: ND=DL	8.69	8.7

	Conc.	EMPC
Total PCDD/Fs	0	9.44

Checkcode: 107-387-PGZ

Report Created: 07-Feb-2022 15:41 Analyst: TF

Sample ID: 11215131-012222-S-BN-RB-14 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6236	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.04 L	Lab Sample ID:	B6236_18881_DF_001	Date Extracted:	31-Jan-2022
Date Collected:	22-Jan-2022	pH:	5	QC Batch No.:	18881	Date Analyzed:	04-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:11:46

Tetra-Furans	Conc. (pg/L)	Qualifiers	Penta-Furans	Conc. (pg/L)	Qualifiers	Hexa-Furans	Conc (pg/L)	Qualifiers	Hepta-Furans	Conc (pg/L)	Qualifiers
1368F	(1.96)		13468/12468F	(1.7)		123468F	(1.49)		1234678F	(1.78)	
1468F	(1.96)		13678F...[3]	(2.21)		124678/134678F	(1.49)		1234679F	(2.05)	
2468F	(1.96)		12368F...[3]	(2.21)		134679F	(1.49)		1234689F	(2.05)	
1346/1246F	(1.96)		14678F	(2.21)		124679F	(1.49)		1234789F	(2.38)	
1347F...[3]	(1.96)		13479F	(2.21)		124689F	(1.49)				
1348F	(1.96)		13469/12479F	(2.21)		123467F	(1.49)				
1248F...[3]	(1.96)		12346F	(2.21)		123478F	(1.68)				
1268F	(1.96)		23468/12469F	(2.21)		123678F	(1.48)				
1467F	(1.96)		12347F	(2.21)		123479F	(1.49)				
1478F	(1.96)		12348F	(2.21)		123469F	(1.49)				
1369/1237F	(1.96)		12378F	(2.31)		123679F	(1.49)				
2467F	(1.96)		12678/12367F	(2.21)		234678F	(1.24)		**Conc.**	0	
2368F	(1.96)		12379F	(2.21)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(1.96)		12679F	(2.21)		123689F	(1.49)				
1278F	(1.96)		23467/12369F	(2.21)		123789F	(1.72)		**Octa-Furan**	**Conc (pg/L)**	**Qualifiers**
1349F	(1.96)		23478F	(2.11)		123789/123489F	0				
1267F	(1.96)		23478/12489F	0		123489F	(1.49)		OCDF	(5.08)	
2346/1249F	(1.96)		12489F	(2.21)							
2347/1279F	(1.96)		12349F	(2.21)							
2348F	(1.96)		12389F	(2.21)							
2378F	(1.96)										
2367/3467F	(1.96)										
1269F	(1.96)										
1239F	(1.96)										
1289F	(1.96)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 107-387-PGZ

Report Created: 07-Feb-2022 15:41 Analyst: TF

Sample ID: 11215131-012222-S-BN-RB-14 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Sample ID:	B6236_18881_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.04 L	QC Batch No.:	18881
Date Collected:	22-Jan-2022	Split:	-	Date Extracted:	31-Jan-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	04-Feb-2022 17:11
Lab Project No:	B6236	Units	pg/L		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(3.75)		3.75	(3.75)	(3.75)	(3.75)
12378-PeCDD	(2.52)		2.52	(1.26)	(2.52)	(2.52)
123478-HxCDD	(2.91)		2.91	(0.291)	(0.291)	(0.291)
123678-HxCDD	(2.55)		2.55	(0.255)	(0.255)	(0.255)
123789-HxCDD	(2.99)		2.99	(0.299)	(0.299)	(0.299)
1234678-HpCDD	(2.78)		2.78	(0.0278)	(0.0278)	(0.0278)
OCDD	[9.44]	J B	6.67	[0.00944]	[0.000944]	[0.00283]
2378-TCDF	(1.96)		1.96	(0.196)	(0.196)	(0.196)
12378-PeCDF	(2.31)		2.31	(0.116)	(0.116)	(0.0694)
23478-PeCDF	(2.11)		2.11	(1.06)	(1.06)	(0.633)
123478-HxCDF	(1.68)		1.68	(0.168)	(0.168)	(0.168)
123678-HxCDF	(1.48)		1.48	(0.148)	(0.148)	(0.148)
234678-HxCDF	(1.24)		1.24	(0.124)	(0.124)	(0.124)
123789-HxCDF	(1.72)		1.72	(0.172)	(0.172)	(0.172)
1234678-HpCDF	(1.78)		1.78	(0.0178)	(0.0178)	(0.0178)
1234789-HpCDF	(2.38)		2.38	(0.0238)	(0.0238)	(0.0238)
OCDF	(5.08)		5.08	(0.00508)	(0.000508)	(0.00152)

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TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	3.95	4.58	4.35
EMPC = 0, ND = DL	7.91	9.16	8.69
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0.00944	0.000944	0.00283
EMPC = EMPC, ND = DL / 2	3.96	4.58	4.35
EMPC = EMPC, ND = DL	7.92	9.16	8.7
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 107-387-PGZ

SGS North America - DF v0.99

Sample ID: Method Blank B6236_18881 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6236	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID	MB1_18881_DF_TLX	Date Extracted:	31-Jan-2022
Date Collected:	n/a	pH:	n/a	QC Batch No:	18881	Date Analyzed:	04-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:52:53

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	3.25			ES 2378-TCDD	86.6	
12378-PeCDD	ND	3.36			ES 12378-PeCDD	94.8	
123478-HxCDD	ND	2.99			ES 123478-HxCDD	94.8	
123678-HxCDD	ND	2.53			ES 123678-HxCDD	111	
123789-HxCDD	ND	3.1			ES 123789-HxCDD	88.1	
1234678-HpCDD	ND	3.29			ES 1234678-HpCDD	88.5	
OCDD	EMPC		14.1	J	ES OCDD	82.2	
2378-TCDF	ND	2.25			ES 2378-TCDF	83.2	
12378-PeCDF	ND	1.86			ES 12378-PeCDF	89.4	
23478-PeCDF	ND	1.71			ES 23478-PeCDF	95.7	
123478-HxCDF	ND	1.97			ES 123478-HxCDF	83.6	
123678-HxCDF	ND	2.17			ES 123678-HxCDF	90.7	
234678-HxCDF	ND	1.52			ES 234678-HxCDF	129	
123789-HxCDF	ND	2.45			ES 123789-HxCDF	86	
1234678-HpCDF	ND	1.83			ES 1234678-HpCDF	92.9	
1234789-HpCDF	ND	2.72			ES 1234789-HpCDF	89.6	
OCDF	ND	3.88			ES OCDF	90.1	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	94.2	
Total TCDD	ND	3.25	ND		CS 12347-PeCDD	121	
Total PeCDD	ND	3.36	ND		CS 12346-PeCDF	110	
Total HxCDD	ND	2.86	ND		CS 123469-HxCDF	119	
Total HpCDD	ND	3.29	ND		CS 1234689-HpCDF	121	
Total TCDF	ND	2.25	ND				
Total PeCDF	ND	1.78	ND				
Total HxCDF	ND	1.96	ND				
Total HpCDF	ND	2.24	ND				
Total PCDD/Fs	**ND**		**14.1**				
WHO-2005 TEQs							
TEQ: ND=0	0		0.00423				
TEQ: ND=DL/2	4.58	4.58	4.58				
TEQ: ND=DL	9.15	9.16	9.16				

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Sample ID: Method Blank B6236_18881 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6236	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID:	MB1_18881_DF_TLX	Date Extracted:	31-Jan-2022
Date Collected:	n/a	pH:	n/a	QC Batch No.:	18881	Date Analyzed:	04-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:52:53

Tetra-Dioxins	Conc. (pg/L)	Qualifiers
1368D	(3.25)	
1379D	(3.25)	
1369D	(3.25)	
1469D	(3.25)	
1247D...[4]	(3.25)	
1378D	(3.25)	
1268D	(3.25)	
1478D	(3.25)	
1279D	(3.25)	
1234/1269D	(3.25)	
1236D	(3.25)	
1237/1238D	(3.25)	
1239D	(3.25)	
2378D	(3.25)	
1278D	(3.25)	
1267D	(3.25)	
1289D	(3.25)	
Conc.	0	
EMPC	0	

Penta-Dioxins	Conc. (pg/L)	Qualifiers
12479/12468D	(3.36)	
12469D	(3.36)	
12368D	(3.36)	
12478D	(3.36)	
12379D	(3.36)	
12369D...[3]	(3.36)	
12346/12347D	(3.36)	
12378D	(3.36)	
12367D	(3.36)	
12389D	(3.36)	
Conc.	0	
EMPC	0	

Hexa-Dioxins	Conc (pg/L)	Qualifiers
124679/124689D	(2.86)	
123468D	(2.86)	
123679/123689D	(2.86)	
123469D	(2.86)	
123478D	(2.99)	
123678D	(2.53)	
123467D	(2.86)	
123789D	(3.1)	
Conc.	0	
EMPC	0	

Hepta-Dioxins	Conc (pg/L)	Qualifiers
1234679D	(3.29)	
1234678D	(3.29)	
Conc.	0	
EMPC	0	

Octa-Dioxin	Conc (pg/L)	Qualifiers
OCDD	[14.1]	J

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0.00423
TEQ: ND=DL/2	4.58	4.58
TEQ: ND=DL	9.15	9.16

	Conc.	EMPC
Total PCDD/Fs	0	14.1

Checkcode: 768-588-LXX

Report Created: 07-Feb-2022 15:41 Analyst: TF

Sample ID: Method Blank B6236_18881 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6236	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID:	MB1_18881_DF_TLX	Date Extracted:	31-Jan-2022
Date Collected:	n/a	pH:	n/a	QC Batch No.:	18881	Date Analyzed:	04-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:52:53

Tetra-Furans	Conc. (pg/L)	Qualifiers	Penta-Furans	Conc. (pg/L)	Qualifiers	Hexa-Furans	Conc (pg/L)	Qualifiers	Hepta-Furans	Conc (pg/L)	Qualifiers
1368F	(2.25)		13468/12468F	(1.58)		123468F	(1.96)		1234678F	(1.83)	
1468F	(2.25)		13678F...[3]	(1.78)		124678/134678F	(1.96)		1234679F	(2.24)	
2468F	(2.25)		12368F...[3]	(1.78)		134679F	(1.96)		1234689F	(2.24)	
1346/1246F	(2.25)		14678F	(1.78)		124679F	(1.96)		1234789F	(2.72)	
1347F...[3]	(2.25)		13479F	(1.78)		124689F	(1.96)				
1348F	(2.25)		13469/12479F	(1.78)		123467F	(1.96)				
1248F...[3]	(2.25)		12346F	(1.78)		123478F	(1.97)				
1268F	(2.25)		23468/12469F	(1.78)		123678F	(2.17)				
1467F	(2.25)		12347F	(1.78)		123479F	(1.96)				
1478F	(2.25)		12348F	(1.78)		123469F	(1.96)				
1369/1237F	(2.25)		12378F	(1.86)		123679F	(1.96)				
2467F	(2.25)		12678/12367F	(1.78)		234678F	(1.52)		**Conc.**	0	
2368F	(2.25)		12379F	(1.78)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(2.25)		12679F	(1.78)		123689F	(1.96)				
1278F	(2.25)		23467/12369F	(1.78)		123789F	(2.45)		**Octa-Furan**	**Conc (pg/L)**	**Qualifiers**
1349F	(2.25)		23478F	(1.71)		123789/123489F	0				
1267F	(2.25)		23478/12489F	0		123489F	(1.96)		OCDF	(3.88)	
2346/1249F	(2.25)		12489F	(1.78)							
2347/1279F	(2.25)		12349F	(1.78)							
2348F	(2.25)		12389F	(1.78)							
2378F	(2.25)										
2367/3467F	(2.25)										
1269F	(2.25)										
1239F	(2.25)										
1289F	(2.25)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 768-588-LXX

Report Created: 07-Feb-2022 15:41 Analyst: TF

Sample ID: Method Blank B6236_18881 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Sample ID:	MB1_18881_DF_TLX
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	QC Batch No.:	18881
Date Collected:	n/a	Split:	-	Date Extracted:	31-Jan-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	04-Feb-2022 14:52
Lab Project No:	B6236	Units	pg/L		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(3.25)		3.25	(3.25)	(3.25)	(3.25)
12378-PeCDD	(3.36)		3.36	(1.68)	(3.36)	(3.36)
123478-HxCDD	(2.99)		2.99	(0.299)	(0.299)	(0.299)
123678-HxCDD	(2.53)		2.53	(0.253)	(0.253)	(0.253)
123789-HxCDD	(3.1)		3.1	(0.31)	(0.31)	(0.31)
1234678-HpCDD	(3.29)		3.29	(0.0329)	(0.0329)	(0.0329)
OCDD	[14.1]	J	9.68	[0.0141]	[0.00141]	[0.00423]
2378-TCDF	(2.25)		2.25	(0.225)	(0.225)	(0.225)
12378-PeCDF	(1.86)		1.86	(0.0932)	(0.0932)	(0.0559)
23478-PeCDF	(1.71)		1.71	(0.853)	(0.853)	(0.512)
123478-HxCDF	(1.97)		1.97	(0.197)	(0.197)	(0.197)
123678-HxCDF	(2.17)		2.17	(0.217)	(0.217)	(0.217)
234678-HxCDF	(1.52)		1.52	(0.152)	(0.152)	(0.152)
123789-HxCDF	(2.45)		2.45	(0.245)	(0.245)	(0.245)
1234678-HpCDF	(1.83)		1.83	(0.0183)	(0.0183)	(0.0183)
1234789-HpCDF	(2.72)		2.72	(0.0272)	(0.0272)	(0.0272)
OCDF	(3.88)		3.88	(0.00388)	(0.000388)	(0.00116)

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TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	3.93	4.77	4.58
EMPC = 0, ND = DL	7.86	9.53	9.15
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0.0141	0.00141	0.00423
EMPC = EMPC, ND = DL / 2	3.94	4.77	4.58
EMPC = EMPC, ND = DL	7.87	9.53	9.16
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 768-588-LXX

SGS North America - DF v0.99

Sample ID: 0_18881_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6236	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18881_DF	Date Extracted:	31-Jan-2022
Date Collected:	n/a	pH:	n/a	QC Batch No:	18881	Date Analyzed:	04-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:01:21

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.2				ES 2378-TCDD	87.8	
12378-PeCDD	51				ES 12378-PeCDD	102	
123478-HxCDD	55.6				ES 123478-HxCDD	96.2	
123678-HxCDD	54.6				ES 123678-HxCDD	114	
123789-HxCDD	51.3				ES 123789-HxCDD	88.8	
1234678-HpCDD	54.5				ES 1234678-HpCDD	89.4	
OCDD	118				ES OCDD	80.9	
2378-TCDF	11.3				ES 2378-TCDF	83	
12378-PeCDF	53.1				ES 12378-PeCDF	92.6	
23478-PeCDF	57.5				ES 23478-PeCDF	96.5	
123478-HxCDF	56				ES 123478-HxCDF	80.9	
123678-HxCDF	55.5				ES 123678-HxCDF	92.6	
234678-HxCDF	53.4				ES 234678-HxCDF	128	
123789-HxCDF	53.8				ES 123789-HxCDF	86.6	
1234678-HpCDF	54.4				ES 1234678-HpCDF	96.8	
1234789-HpCDF	54				ES 1234789-HpCDF	91.5	
OCDF	108				ES OCDF	92.1	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	93.8	
Total TCDD	52.5		52.5		CS 12347-PeCDD	124	
Total PeCDD	75.6		75.6		CS 12346-PeCDF	105	
Total HxCDD	173		173		CS 123469-HxCDF	113	
Total HpCDD	66.6		66.6		CS 1234689-HpCDF	117	
Total TCDF	64.5		64.5				
Total PeCDF	209		209				
Total HxCDF	333		333				
Total HpCDF	108		108				
Total PCDD/Fs	**1,310**		**1,310**				
WHO-2005 TEQs							
TEQ: ND=0	122		122				
TEQ: ND=DL/2	122	0.22	122				
TEQ: ND=DL	122	0.44	122				

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Sample ID: 0_18881_OPR002 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6236	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18881_DF	Date Extracted:	31-Jan-2022
Date Collected:	n/a	pH:	n/a	QC Batch No:	18881	Date Analyzed:	04-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:47:41

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.2				ES 2378-TCDD	92.3	
12378-PeCDD	48				ES 12378-PeCDD	108	
123478-HxCDD	52.9				ES 123478-HxCDD	101	
123678-HxCDD	53.2				ES 123678-HxCDD	117	
123789-HxCDD	49				ES 123789-HxCDD	95.8	
1234678-HpCDD	53.2				ES 1234678-HpCDD	93.7	
OCDD	109				ES OCDD	88.2	
2378-TCDF	11.4				ES 2378-TCDF	89.3	
12378-PeCDF	51.4				ES 12378-PeCDF	102	
23478-PeCDF	54.7				ES 23478-PeCDF	108	
123478-HxCDF	52.8				ES 123478-HxCDF	89.2	
123678-HxCDF	52.7				ES 123678-HxCDF	101	
234678-HxCDF	51.4				ES 234678-HxCDF	129	
123789-HxCDF	51.6				ES 123789-HxCDF	92.2	
1234678-HpCDF	50.2				ES 1234678-HpCDF	103	
1234789-HpCDF	52.7				ES 1234789-HpCDF	97.5	
OCDF	106				ES OCDF	95.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	95.1	
Total TCDD	50.8		50.8		CS 12347-PeCDD	127	
Total PeCDD	71.9		71.9		CS 12346-PeCDF	114	
Total HxCDD	167		167		CS 123469-HxCDF	120	
Total HpCDD	65.5		65.5		CS 1234689-HpCDF	125	
Total TCDF	64.8		64.8				
Total PeCDF	202		202				
Total HxCDF	325		325				
Total HpCDF	103		103				
Total PCDD/Fs	**1,270**		**1,270**				
WHO-2005 TEQs							
TEQ: ND=0	116		116				
TEQ: ND=DL/2	116	0.231	116				
TEQ: ND=DL	116	0.461	116				

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

Sample DUP

Method 1613B

Sample ID: 0_18881_OPR001

Analyte	OPR1_18881_DF pg/uL	OPR2_18881_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	11.2	11.2	0.8%
1,2,3,7,8-PeCDD	51	48	6.0%
1,2,3,4,7,8-HxCDD	55.6	52.9	5.0%
1,2,3,6,7,8-HxCDD	54.6	53.2	2.7%
1,2,3,7,8,9-HxCDD	51.3	49	4.6%
1,2,3,4,6,7,8-HpCDD	54.5	53.2	2.5%
OCDD	118	109	7.2%
2,3,7,8-TCDF	11.3	11.4	0.6%
1,2,3,7,8-PeCDF	53.1	51.4	3.3%
2,3,4,7,8-PeCDF	57.5	54.7	5.1%
1,2,3,4,7,8-HxCDF	56	52.8	6.0%
1,2,3,6,7,8-HxCDF	55.5	52.7	5.2%
2,3,4,6,7,8-HxCDF	53.4	51.4	3.8%
1,2,3,7,8,9-HxCDF	53.8	51.6	4.1%
1,2,3,4,6,7,8-HpCDF	54.4	50.2	8.0%
1,2,3,4,7,8,9-HpCDF	54	52.7	2.5%
OCDF	108	106	1.2%
Totals			
Total TCDD	52.5	50.8	3.3%
Total PeCDD	75.6	71.9	5.0%
Total HxCDD	173	167	3.4%
Total HpCDD	66.6	65.5	1.7%
Total TCDF	64.5	64.8	0.5%
Total PeCDF	209	202	3.2%
Total HxCDF	333	325	2.6%
Total HpCDF	108	103	5.2%

Sample Receipt Notification

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

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*26-Jan-22 at 11:48*
AP Project name:	*B6236*
Requested TAT:	*10 business days*
Projected due date:	*9-Feb-22*
Matrix:	*Aqueous*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

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

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-012222-S-BN-RB-14	B6236_001	Rinse Blank	2	1-Liter Amber	22-Jan-22	14:00	0.2	1	4905 2704 4708

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact

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

Received by: Ashley Owens *Logged in by: Ashley Owens* *QC'ed by:* AK 27 Jan 22

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

SGS CHAIN OF CUSTODY

B6236

PROJECT INFO

PROJECT: 11215131-SJRWP - PCFSE

P.O. #:

QUOTE #: file

SITE REF: International Paper

TURN AROUND TIME:

REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV

SPECIAL DELIVERABLES:

☐ DoD ■ EDD/Version: GHD EQuIS 4-file

☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO

COMPANY: GHD Services Inc.

CONTACT: Meagan Willis

ADDRESS: 11451 Katy Fwy #400,Houston, T

PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (■ CHECK IF SAME)

COMPANY:

CONTACT:

ADDRESS:

PHONE: EMAIL:

PRESERVATIVE

None

ANALYSIS & METHOD

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B	~~M8290A~~	~~M1668A~~	~~M1668C~~	~~HR-PAH~~	~~M1699~~	QC MS	QC MSD	QC DUP	QTY	REMARKS
11215131-012222-S-BN-RB-14	1-22-22	1400		W	1L	X									2	SEESSOW RINSE BLANKS

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:
Breanna Noll	1-22-22	1730	Meagan Willis
RELINQUISHED BY (2): Meagan Willis	1-24-22	0821	
RELINQUISHED BY (3):			

RECEIVED BY LABORATORY:	DATE:	TIME:
Ashley Owens	1/26/22	11:48

COOLER SEAL: ☑ INTACT ☐ BROKEN ☐ ABSENT

CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☑ ABSENT

CARRIER: FedEx TEMP: °C 0.2°

TRACKING #: 4905 2704 4708

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

Member of the SGS Group (SGS SA)

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

SHIP DATE: 24JAN22
ACTWGT: 45.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

1/26/2022
11:48
0.2° (T.B.)

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

FedEx Express

1 of 3

TRK# 0201 4905 2704 4708

TUE - 25 JAN 10:30A
PRIORITY OVERNIGHT

MASTER

NL ILMA

28405
NC-US RDU

Part # 156148-434 MTW EXP 07/22

B6236 1/1

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

SHIP DATE: 24JAN22
ACTWGT: 45.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

1/26/2022
11:48
0.8° (T.B.)

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

FedEx Express

2 of 3

MPS# 0263 4905 2704 4719

Mstr# 4905 2704 4708 0201

TUE - 25 JAN 10:30A
PRIORITY OVERNIGHT

NL ILMA

28405
NC-US RDU

Part # 156148-434 MTW EXP 07/22

SGS

Project Initiation Form

Project Number: B6236

Initiation Date: 27-Jan-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Aqueous

TAT: 10 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR & OPRD

1L extraction

Read and understood, initial and date: Prep Lab: JRH 1/31/22 BPD 2/2/22 HRMS Lab:

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab:

PM Initials: akornegay Date: 27-Jan-2022

SGS

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

Batch# 18881 | Split: ~~1/2~~ ~~1/4~~ | Extract Initial/Date: JRH 1/31/22 | Clean-up Initial/Date: [illegible] 2/2/22 | Transfer Init/Date: [illegible] 2/8/22

Lab Sample ID	Extraction Position / Solvent: DCM	Extraction Weight/Volume g	mL	(Td)	ASECS #	pH	Cl⁻	Observations
B6236_18881_001	4	1043.4				5	0	clear, colorless
MB1_18881	1	1000.0				5	0	Distilled H2O
OPR1_18881	2	1000.0		TB 2/9/22		5	0	Distilled H2O
OPR2_18881	3	1000.0				5	0	Distilled H2O

TB 2/2/22

Supply IDs

Toluene	N/A
MeCHL	STL H-17
Florisil	SPLS-77
Hexane	STL H-22
Silica	SPLS-69
S Nitrate	N/A
Base Silica	N/A
HydroMatrix	N/A
Tetradecane	SPLS-730
H_2SO_4	N/A
A Silica	SPLS-82
Sodium Sulfate	SPLS-800

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	TB 2/9/22
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start:	
	Stop:	TB 2/9/22
HEX	Start:	
	Stop:	
DCM	Start:	1500
	Stop:	0845

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

[Aqueous]

Batch# 18881

Inter-Department Communication Sheet

2/9/22

SGS

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

Batch # 18881

Lab Sample ID	Spiker Initials/Date: JRH 1/31/22	JRH 1/31/22	JRH 1/31/22	2/2/22	2/2/22		
	DIF A+A	DIF A+B	DIF ES	DIF CS	DIF JS		
	Amount: 20 µL	Amount: 10 µL	Amount: 20 µL	Amount: 20 µL	Amount: 20 µL	Amount:	Amount:
	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials
B6236_18881_001	–	–	KE	KE	KE		
MB1_18881	–	–	KE	KE	KE		
OPR1_18881	KE	KE	KE	KE	KE		
OPR2_18881	KE	KE	KE	KE	KE		

2/2/22 KE

Standard Information

Pipette ID					
Spike ID	DIF A+A	DIF A+B	DIF ES	DIF CS	DIF JS
SIL #	20-2-8	25-157-2	20-2-9	25.338.1	25.384.1
Concentration	10 ng/mL	10 pg/µL	100 pg/µL	100 pg/µL	100 pg/µL
Expiration Date	7/9/25	6/22/22	8/2023	11/16/22	1/28/23

2/3/22 KE

REVIEWED
Tamara Burkamper , 2/9/2022, 1:39:23 PM

SGS Environmental Services — Run Log **Project: B6236_18881_DF**

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

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
2	220204C02	3	CS3_220204_DF_CB	1.00	25-347-1	DTF	913-732	04-Feb-2022	09:56:00
3	220204C03	37	OPR1_18881_DF	1.00	0_18881_OPR001	DTF	138-468	04-Feb-2022	11:01:21
4	220204C04	38	OPR2_18881_DF	1.00	0_18881_OPR002	DTF	407-345	04-Feb-2022	11:47:41
7	220204C07	2	SBS_220204_DF_CA	1.00	20-61-1	DTF	349-810	04-Feb-2022	14:06:36
8	220204C08	36	MB1_18881_DF_TLX	1.00	Method Blank	DTF	768-588	04-Feb-2022	14:52:53
9	220204C11	39	B6236_18881_DF_001	1.04	11215131-012222-S-BN-RB-14	DTF	107-387	04-Feb-2022	17:11:46

REVIEWED
Tyler_Fritz , 2/7/2022, 3:55:07 PM

Lab ID: MB1_18881_DF_TLX **Acq'd:** 04 Feb 2022 14:52 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6236_18881 **UTP:** 07-Feb-2022 15:32:56 DTF **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 768-588-LXX

Datafile: 220204C08 **Report:** 07 Feb 2022 15:41 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	3394.539	3.25
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	3117.215	3.36
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	3289.892	2.99
123678-HxCDD	NotFnd		1.0035	-		-	-	-	1.15	-	3289.892	2.53
123789-HxCDD	NotFnd		1.0112	-		-	-	-	1.05	-	3289.892	3.1
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	2981.695	3.29
OCDD	43.51	J EMPC	1.0004	1.0000	-1.0	7.48E+04	0.63	N	1.13	14.1	4994.007	9.68
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	3046.261	2.25
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2727.594	1.86
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2727.594	1.71
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	3084.883	1.97
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3084.883	2.17
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	3084.883	1.52
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3084.883	2.45
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2979.642	1.83
1234789-HpCDF	NotFnd		1.0002	-		-	-	-	1.31	-	2979.642	2.72
OCDF	NotFnd		1.0003	-		-	-	-	1.07	-	2478.115	3.88

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.51	1.0236	1.0238	+0.3	1.79E+07	0.78	Y	1.05	86.6
ES 12378-PeCDD	33.85	1.2144	1.2153	+1.8	1.65E+07	1.53	Y	0.88	94.8
ES 123478-HxCDD	37.76	0.9920	0.9920	0	1.69E+07	1.23	Y	0.97	94.8
ES 123678-HxCDD	37.88	0.9951	0.9951	0	1.93E+07	1.30	Y	0.94	111
ES 123789-HxCDD	38.17	1.0027	1.0028	+0.2	1.77E+07	1.27	Y	1.09	88.1
ES 1234678-HpCDD	40.83	1.0724	1.0726	+0.5	1.48E+07	1.04	Y	0.91	88.5
ES OCDD	43.51	1.1428	1.1429	+0.3	1.88E+07	0.92	Y	0.62	82.2
ES 2378-TCDF	27.66	1.0516	1.0518	+0.3	2.83E+07	0.79	Y	1.06	83.2
ES 12378-PeCDF	32.40	1.2312	1.2321	+1.7	2.61E+07	1.58	Y	0.91	89.4
ES 23478-PeCDF	33.51	1.2733	1.2744	+2.2	2.71E+07	1.58	Y	0.88	95.7
ES 123478-HxCDF	36.75	0.9655	0.9654	-0.2	1.84E+07	0.50	Y	1.20	83.6
ES 123678-HxCDF	36.89	0.9692	0.9692	0	2.25E+07	0.53	Y	1.35	90.7
ES 234678-HxCDF	37.58	0.9871	0.9872	+0.2	2.94E+07	0.53	Y	1.24	129
ES 123789-HxCDF	38.53	1.0121	1.0120	-0.2	1.82E+07	0.55	Y	1.16	86
ES 1234678-HpCDF	39.90	1.0479	1.0481	+0.5	1.65E+07	0.47	Y	0.97	92.9
ES 1234789-HpCDF	41.29	1.0845	1.0846	+0.2	1.40E+07	0.48	Y	0.85	89.6
ES OCDF	43.69	1.1477	1.1478	+0.3	2.67E+07	0.92	Y	0.81	90.1

Lab ID: MB1_18881_DF_TLX **Acq'd:** 04 Feb 2022 14:52 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6236_18881 **UTP:** 07-Feb-2022 15:32:56 DTF **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 768-588-LXX

Datafile: 220204C08 **Report:** 07 Feb 2022 15:41 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.85		-	-	-	1.97E+07	0.82	Y	-	-
JS 1234-TCDF	26.30		-	-	-	3.21E+07	0.79	Y	-	-
JS 123467-HxCDD	38.07		-	-	-	9.18E+06	1.22	Y	-	-
CS 37Cl-2378-TCDD	28.54		1.0244	1.0245	+0.2	8.94E+06	n/a	-	1.20	94.2
CS 12347-PeCDD	33.34		1.1964	1.1972	+1.6	1.81E+07	1.69	Y	0.75	121
CS 12346-PeCDF	31.87		1.2112	1.2120	+1.5	3.01E+07	1.52	Y	0.85	110
CS 123469-HxCDF	37.21		0.9775	0.9775	0	2.45E+07	0.55	Y	1.12	119
CS 1234689-HpCDF	40.30		1.0584	1.0587	+0.7	1.97E+07	0.45	Y	0.89	121
~~SS 37Cl-2378-TCDD~~	~~28.54~~		~~1.0244~~	~~1.0245~~	~~+0.2~~	~~8.94E+06~~	~~n/a~~		~~1.15~~	~~109~~
~~SS 12347-PeCDD~~	~~33.34~~		~~1.1964~~	~~1.1972~~	~~+1.6~~	~~1.81E+07~~	~~1.69~~	~~Y~~	~~0.86~~	~~120~~
~~SS 12346-PeCDF~~	~~31.87~~		~~1.2112~~	~~1.2120~~	~~+1.5~~	~~3.01E+07~~	~~1.52~~	~~Y~~	~~0.94~~	~~123~~
~~SS 123469-HxCDF~~	~~37.21~~	~~V~~	~~0.9775~~	~~0.9775~~	~~0~~	~~2.45E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~131~~
~~SS 1234689-HpCDF~~	~~40.30~~		~~1.0584~~	~~1.0587~~	~~+0.7~~	~~1.97E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~129~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	14.1
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	14.1

Lab ID: MB1_18881_DF_TLX **Acq'd: 04 Feb 2022 14:52 DTF** **Wt/Vol: 1.00 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6236_18881 **UTP: 07-Feb-2022 15:32:56 DTF** **J-level: 5 pg/L** **Split: 1** **Checkcode: 768-588-LXX**

Datafile: 220204C08 **Report: 07 Feb 2022 15:41 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8737						1.18		3394.539	3.25
1379-TCDD	NotFnd		0.8860						1.18		3394.539	3.25
1369-TCDD	NotFnd		0.9009						1.18		3394.539	3.25
1469-TCDD	NotFnd		0.9281						1.18		3394.539	3.25
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3394.539	3.25
1378-TCDD	NotFnd		0.9432						1.18		3394.539	3.25
1268-TCDD	NotFnd		0.9500						1.18		3394.539	3.25
1478-TCDD	NotFnd		0.9586						1.18		3394.539	3.25
1279-TCDD	NotFnd		0.9645						1.18		3394.539	3.25
1234/1269-TCDD	NotFnd		0.9770						1.18		3394.539	3.25
1236-TCDD	NotFnd		0.9817						1.18		3394.539	3.25
1237/1238-TCDD	NotFnd		0.9905						1.18		3394.539	3.25
1239-TCDD	NotFnd		0.9952						1.18		3394.539	3.25
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**3394.539**	**3.25**
1278-TCDD	NotFnd		1.0121						1.18		3394.539	3.25
1267-TCDD	NotFnd		1.0167						1.18		3394.539	3.25
1289-TCDD	NotFnd		1.0345						1.18		3394.539	3.25
12479/12468-PeCDD	NotFnd		0.9267						1.04		3117.215	3.36
12469-PeCDD	NotFnd		0.9425						1.04		3117.215	3.36
12368-PeCDD	NotFnd		0.9588						1.04		3117.215	3.36
12478-PeCDD	NotFnd		0.9643						1.04		3117.215	3.36
12379-PeCDD	NotFnd		0.9673						1.04		3117.215	3.36
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		3117.215	3.36
12346/12347-PeCDD	NotFnd		0.9858						1.04		3117.215	3.36
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**3117.215**	**3.36**
12367-PeCDD	NotFnd		1.0033						1.04		3117.215	3.36
12389-PeCDD	NotFnd		1.0134						1.04		3117.215	3.36
124679/124689-HxCDD	NotFnd		0.9542						1.10		3289.892	2.86
123468-HxCDD	NotFnd		0.9715						1.10		3289.892	2.86
123679/123689-HxCDD	NotFnd		0.9793						1.10		3289.892	2.86
123469-HxCDD	NotFnd		0.9828						1.10		3289.892	2.86
123478-HxCDD	NotFnd		**1.0004**						1.09		**3289.892**	**2.99**
123678-HxCDD	NotFnd		**1.0035**						1.15		**3289.892**	**2.53**
123467-HxCDD	NotFnd		1.0085						1.10		3289.892	2.86
123789-HxCDD	NotFnd		**1.0112**						1.05		**3289.892**	**3.1**

Lab ID: MB1_18881_DF_TLX **Acq'd: 04 Feb 2022 14:52 DTF** **Wt/Vol: 1.00 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6236_18881 **UTP: 07-Feb-2022 15:32:56 DTF** **J-level: 5 pg/L** **Split: 1** **Checkcode: 768-588-LXX**

Datafile: 220204C08 **Report: 07 Feb 2022 15:41 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

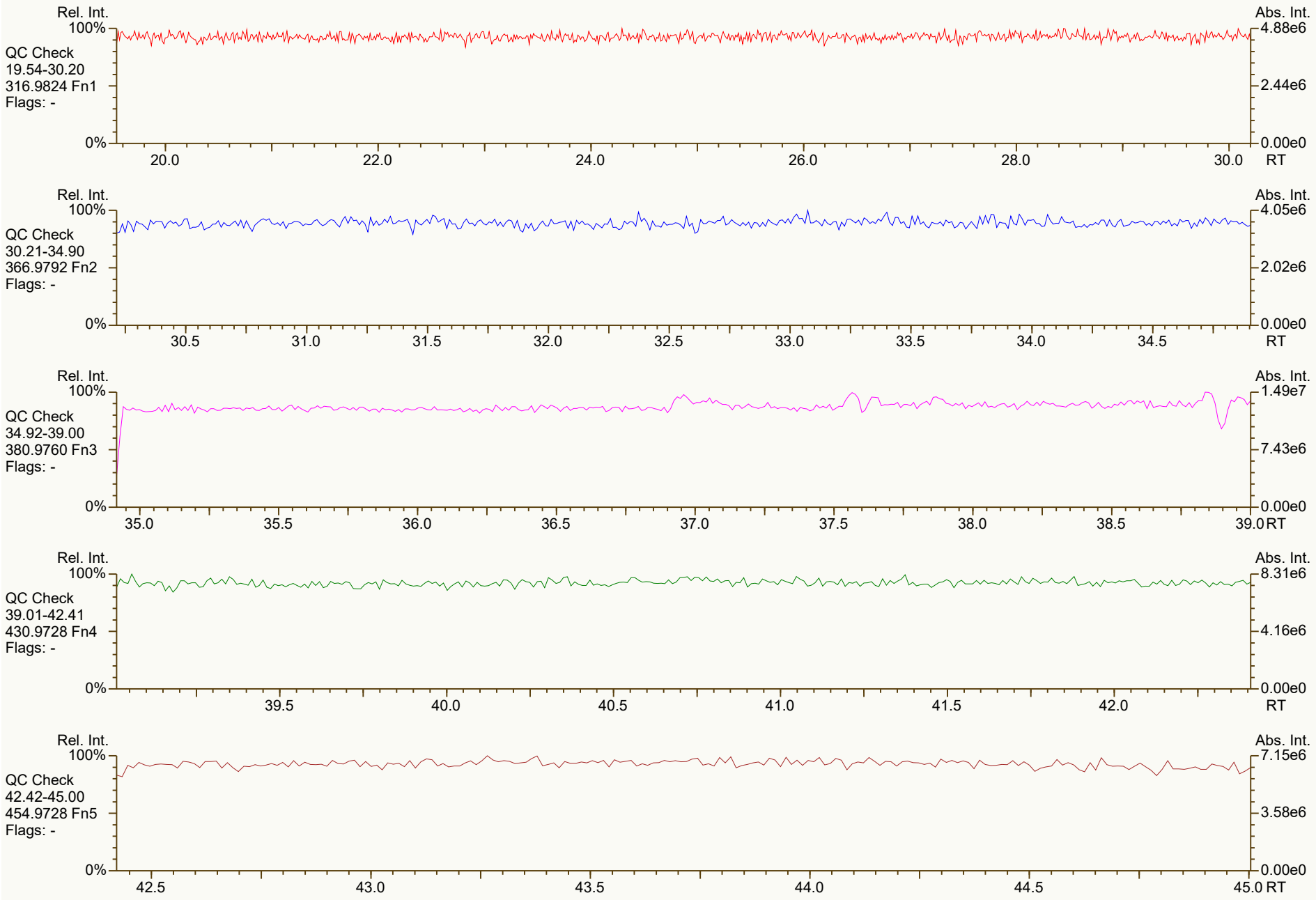
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9837						1.06		2981.695	3.29
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**2981.695**	**3.29**
OCDD	**43.51**	**J EMPC**	**1.0004**	**1.0000**	**-1.0**	**7.48E+04**	**0.63**	**N**	**1.13**	**14.1**	**4994.007**	**9.68**
OCDD-a	NotFnd		1.0003						0.07		3178.565	96.4
1368-TCDF	NotFnd		0.8251						1.08		3046.261	2.25
1468-TCDF	NotFnd		0.8458						1.08		3046.261	2.25
2468-TCDF	NotFnd		0.8686						1.08		3046.261	2.25
1346/1246-TCDF	NotFnd		0.8814						1.08		3046.261	2.25
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		3046.261	2.25
1348-TCDF	NotFnd		0.8962						1.08		3046.261	2.25
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		3046.261	2.25
1268-TCDF	NotFnd		0.9145						1.08		3046.261	2.25
1467-TCDF	NotFnd		0.9193						1.08		3046.261	2.25
1478-TCDF	NotFnd		0.9254						1.08		3046.261	2.25
1369/1237-TCDF	NotFnd		0.9387						1.08		3046.261	2.25
2467-TCDF	NotFnd		0.9433						1.08		3046.261	2.25
2368-TCDF	NotFnd		0.9489						1.08		3046.261	2.25
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		3046.261	2.25
1278-TCDF	NotFnd		0.9683						1.08		3046.261	2.25
1349-TCDF	NotFnd		0.9722						1.08		3046.261	2.25
1267-TCDF	NotFnd		0.9783						1.08		3046.261	2.25
2346/1249-TCDF	NotFnd		0.9850						1.08		3046.261	2.25
2347/1279-TCDF	NotFnd		0.9926						1.08		3046.261	2.25
2348-TCDF	NotFnd		0.9967						1.08		3046.261	2.25
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**3046.261**	**2.25**
2367/3467-TCDF	NotFnd		1.0137						1.08		3046.261	2.25
1269-TCDF	NotFnd		1.0223						1.08		3046.261	2.25
1239-TCDF	NotFnd		1.0321						1.08		3046.261	2.25
1289-TCDF	NotFnd		1.0722						1.08		3046.261	2.25
13468/12468-PeCDF	NotFnd		0.9139						1.02		2419.569	1.58
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		2727.594	1.78
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		2727.594	1.78
14678-PeCDF	NotFnd		0.9692						1.02		2727.594	1.78
13479-PeCDF	NotFnd		0.9723						1.02		2727.594	1.78
13469/12479-PeCDF	NotFnd		0.9797						1.02		2727.594	1.78
12346-PeCDF	NotFnd		0.9840						1.02		2727.594	1.78

Lab ID: MB1_18881_DF_TLX **Acq'd: 04 Feb 2022 14:52 DTF** **Wt/Vol: 1.00 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6236_18881 **UTP: 07-Feb-2022 15:32:56 DTF** **J-level: 5 pg/L Split: 1** **Checkcode: 768-588-LXX**

Datafile: 220204C08 **Report: 07 Feb 2022 15:41 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		2727.594	1.78
12347-PeCDF	NotFnd		0.9894						1.02		2727.594	1.78
12348-PeCDF	NotFnd		0.9940						1.02		2727.594	1.78
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2727.594**	**1.86**
12678/12367-PeCDF	NotFnd		1.0089						1.02		2727.594	1.78
12379-PeCDF	NotFnd		1.0142						1.02		2727.594	1.78
12679-PeCDF	NotFnd		0.9929						1.02		2727.594	1.78
23467/12369-PeCDF	NotFnd		0.9967						1.02		2727.594	1.78
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2727.594**	**1.71**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2727.594	1.78
12349-PeCDF	NotFnd		1.0100						1.02		2727.594	1.78
12389-PeCDF	NotFnd		1.0324						1.02		2727.594	1.78
123468-HxCDF	NotFnd		0.9627						1.19		3084.883	1.96
124678/134678-HxCDF	NotFnd		0.9682						1.19		3084.883	1.96
134679-HxCDF	NotFnd		0.9744						1.19		3084.883	1.96
124679-HxCDF	NotFnd		0.9798						1.19		3084.883	1.96
124689-HxCDF	NotFnd		0.9858						1.19		3084.883	1.96
123467-HxCDF	NotFnd		0.9972						1.19		3084.883	1.96
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**3084.883**	**1.97**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3084.883**	**2.17**
123479-HxCDF	NotFnd		1.0049						1.19		3084.883	1.96
123469-HxCDF	NotFnd		1.0090						1.19		3084.883	1.96
123679-HxCDF	NotFnd		0.9942						1.19		3084.883	1.96
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**3084.883**	**1.52**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3084.883	1.96
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3084.883**	**2.45**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		3084.883	1.96
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2979.642**	**1.83**
1234679-HpCDF	NotFnd		1.0068						1.34		2979.642	2.24
1234689-HpCDF	NotFnd		1.0103						1.34		2979.642	2.24
1234789-HpCDF	**NotFnd**		**1.0002**						**1.31**		**2979.642**	**2.72**
OCDF	**NotFnd**		**1.0003**						**1.07**		**2478.115**	**3.88**
OCDF-a	NotFnd		1.0002						0.07		3026.902	76.5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316.9824 Fn1
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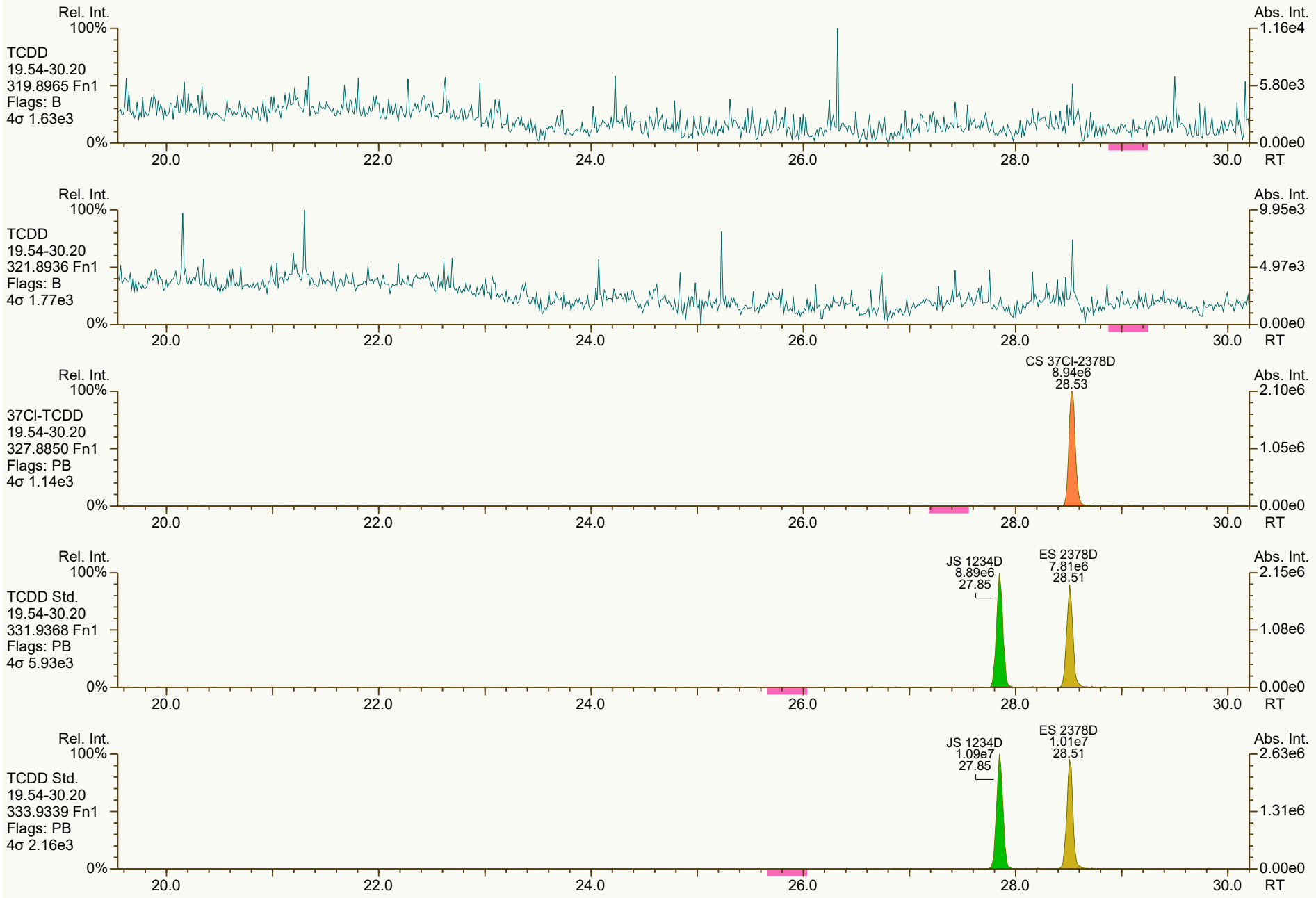
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.88e6
2.44e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.05e6
2.02e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.49e7
7.43e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
8.31e6
4.16e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
7.15e6
3.58e6
0.00e0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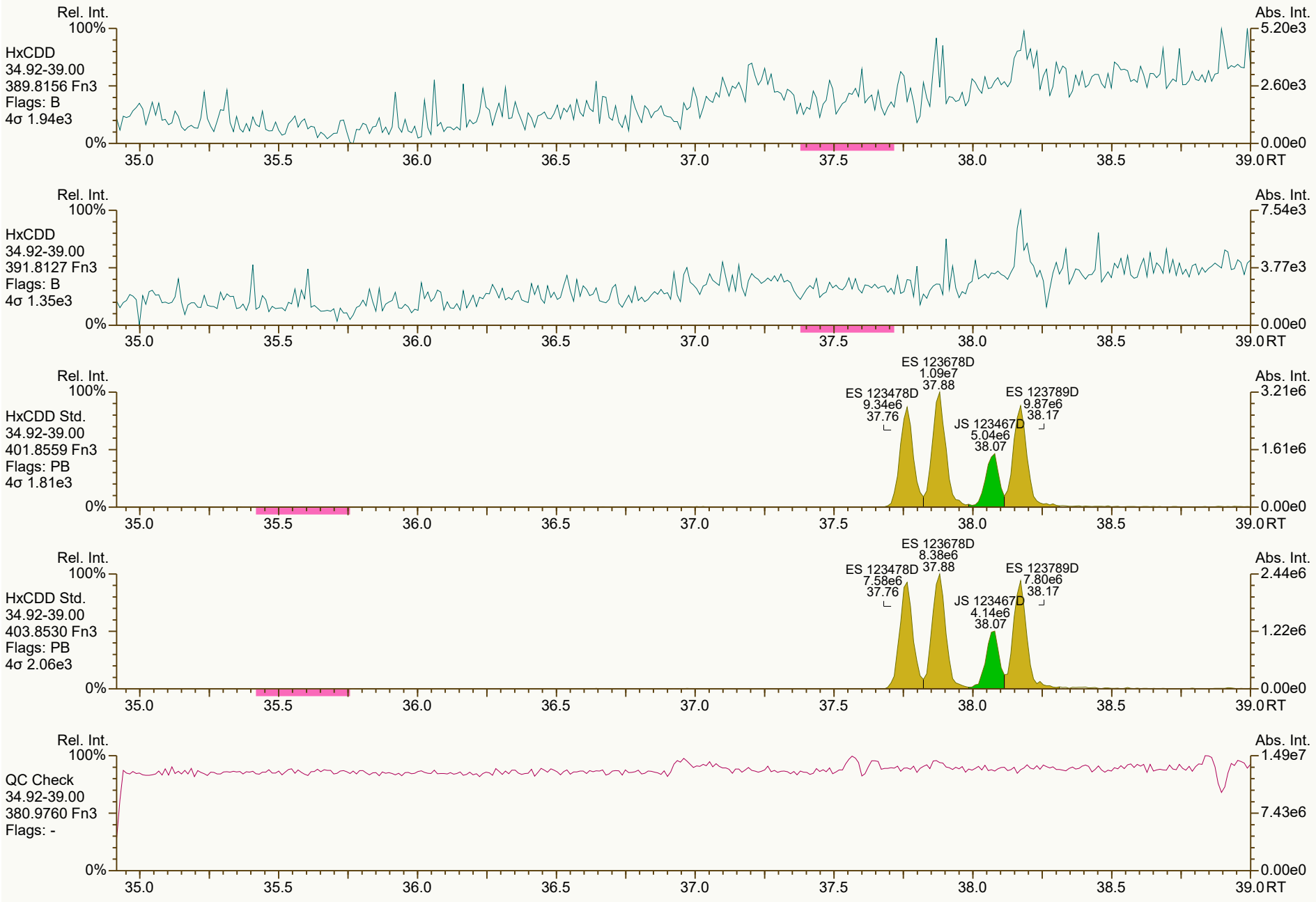
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 1.63e3
0%
Abs. Int.
1.16e4
5.80e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.77e3
0%
Abs. Int.
9.95e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.14e3
0%
CS 37Cl-2378D
8.94e6
28.53
Abs. Int.
2.10e6
1.05e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.93e3
0%
JS 1234D
8.89e6
27.85
ES 2378D
7.81e6
28.51
Abs. Int.
2.15e6
1.08e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.16e3
0%
JS 1234D
1.09e7
27.85
ES 2378D
1.01e7
28.51
Abs. Int.
2.63e6
1.31e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PB
4σ 1.82e3
0%
Abs. Int.
4.65e3
2.33e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: B
4σ 1.30e3
0%
Abs. Int.
4.91e3
2.46e3
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 2.58e3
0%
CS 12347D
1.13e7
33.34
ES 12378D
9.95e6
33.85
Abs. Int.
3.18e6
1.59e6
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.76e3
0%
CS 12347D
6.71e6
33.34
ES 12378D
6.51e6
33.85
Abs. Int.
2.05e6
1.02e6
0.00e0
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.05e6
2.02e6
0.00e0
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: B
4σ 1.94e3
0%
Abs. Int.
5.20e3
2.60e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: B
4σ 1.35e3
0%
Abs. Int.
7.54e3
3.77e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 1.81e3
0%
ES 123678D
1.09e7
37.88
ES 123478D
9.34e6
37.76
ES 123789D
9.87e6
38.17
JS 123467D
5.04e6
38.07
Abs. Int.
3.21e6
1.61e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 2.06e3
0%
ES 123678D
8.38e6
37.88
ES 123478D
7.58e6
37.76
ES 123789D
7.80e6
38.17
JS 123467D
4.14e6
38.07
Abs. Int.
2.44e6
1.22e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.49e7
7.43e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.28e3
0%
Abs. Int.
6.93e3
3.47e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: B
4σ 1.70e3
0%
Abs. Int.
9.90e3
4.95e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
7.56e6
40.83
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.37e3
0%
Abs. Int.
2.18e6
1.09e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
7.28e6
40.83
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.90e3
0%
Abs. Int.
2.12e6
1.06e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
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4.16e6
0.00e0
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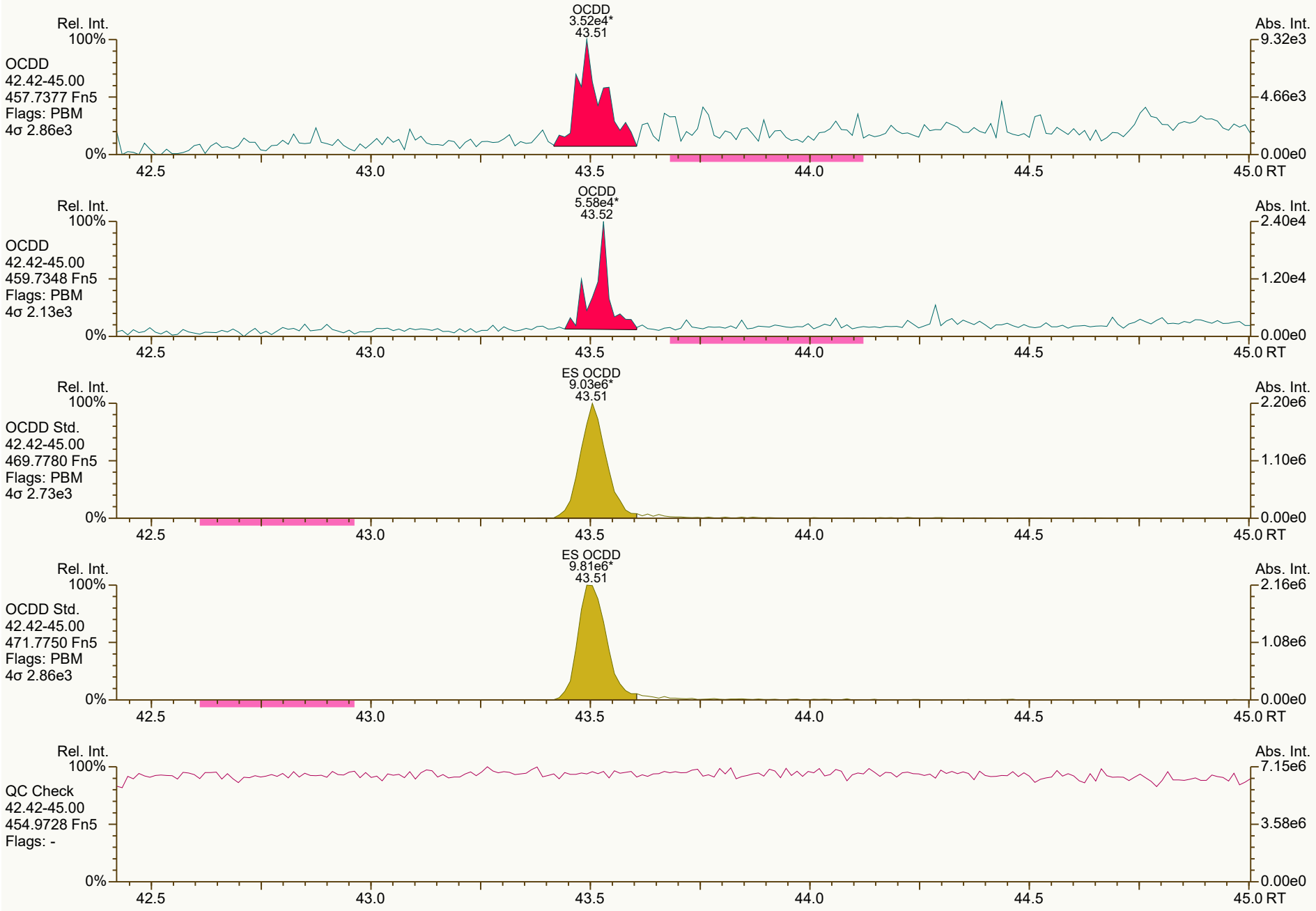
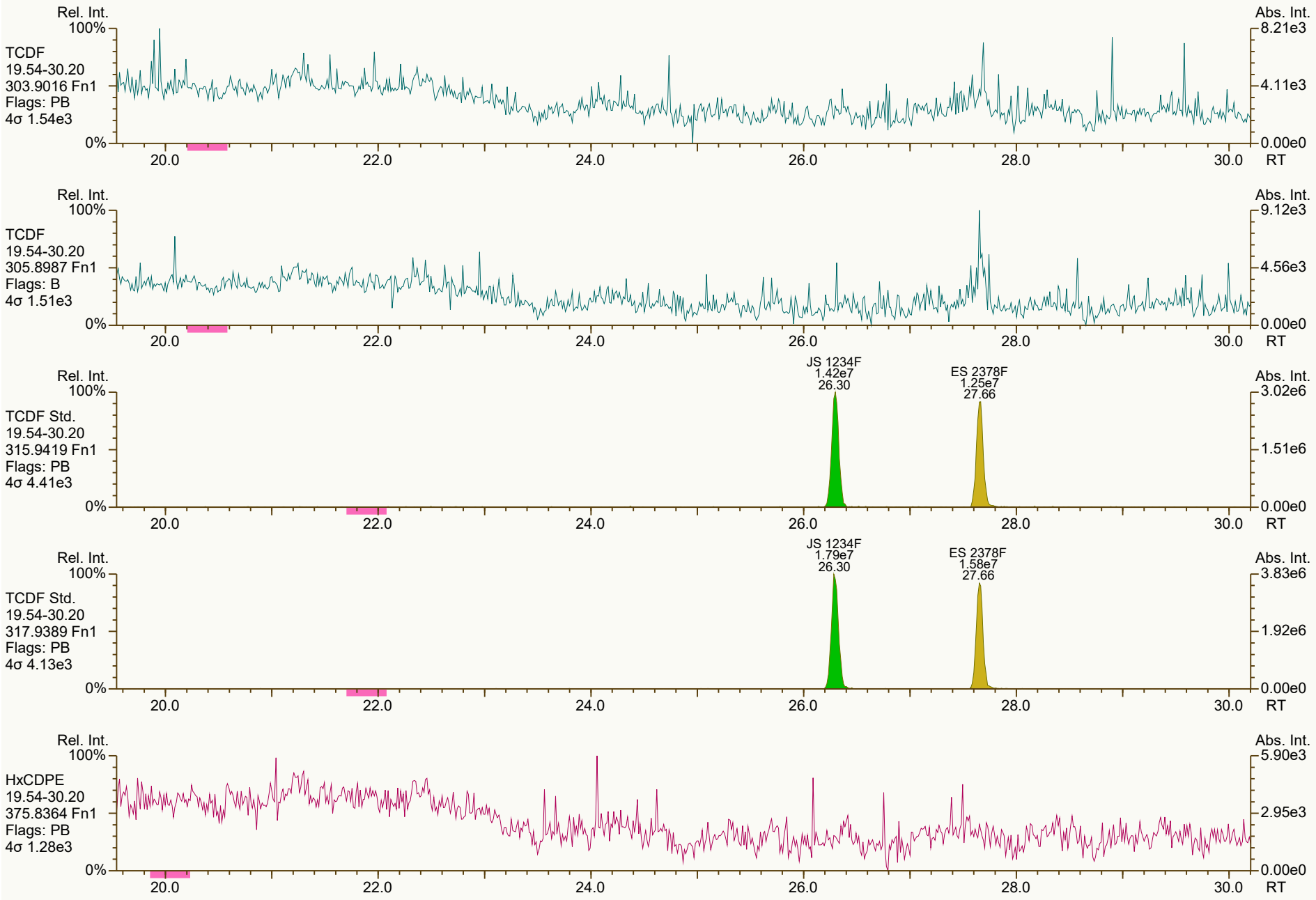
40.5
41.0
41.5
42.0
RT


OCDD
3.52e4*
43.51
Rel. Int.
Abs. Int.
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 2.86e3
OCDD
5.58e4*
43.52
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 2.13e3
ES OCDD
9.03e6*
43.51
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 2.73e3
ES OCDD
9.81e6*
43.51
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 2.86e3
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT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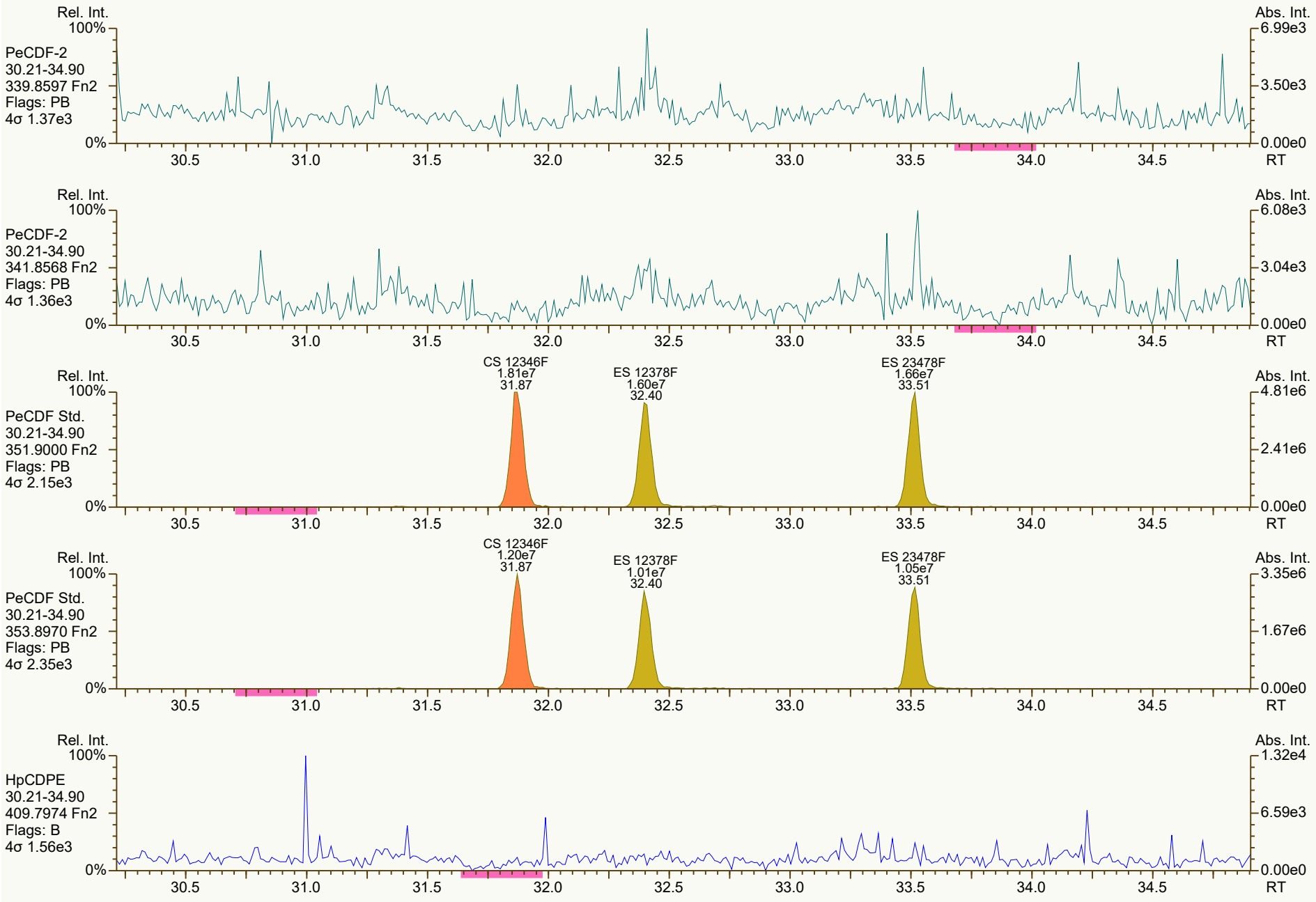
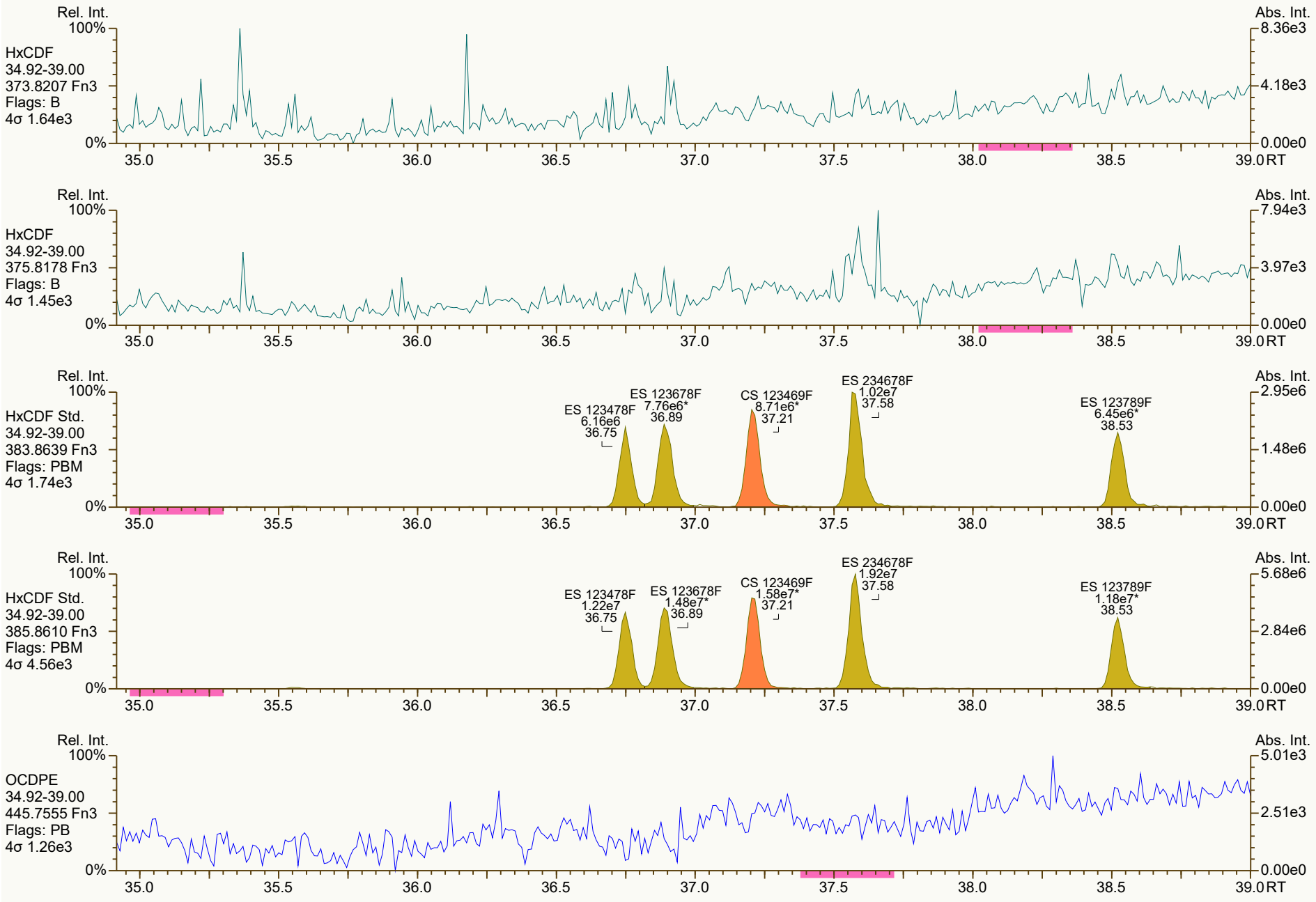
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.54e3
0%
Abs. Int.
8.21e3
4.11e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 1.51e3
0%
Abs. Int.
9.12e3
4.56e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 4.41e3
0%
JS 1234F
1.42e7
26.30
ES 2378F
1.25e7
27.66
Abs. Int.
3.02e6
1.51e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.13e3
0%
JS 1234F
1.79e7
26.30
ES 2378F
1.58e7
27.66
Abs. Int.
3.83e6
1.92e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.90e3
2.95e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.91e3
4.95e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.31e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.28e3
4.64e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.11e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.88e6
2.44e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PB
4σ 1.37e3
0%
Abs. Int.
6.99e3
3.50e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PB
4σ 1.36e3
0%
Abs. Int.
6.08e3
3.04e3
0.00e0
RT
CS 12346F
1.81e7
31.87
ES 12378F
1.60e7
32.40
ES 23478F
1.66e7
33.51
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 2.15e3
0%
Abs. Int.
4.81e6
2.41e6
0.00e0
RT
CS 12346F
1.20e7
31.87
ES 12378F
1.01e7
32.40
ES 23478F
1.05e7
33.51
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 2.35e3
0%
Abs. Int.
3.35e6
1.67e6
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.32e4
6.59e3
0.00e0
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
8.36e3
4.18e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
7.94e3
3.97e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 1.74e3
0%
ES 123478F
6.16e6
36.75
ES 123678F
7.76e6*
36.89
CS 123469F
8.71e6*
37.21
ES 234678F
1.02e7
37.58
ES 123789F
6.45e6*
38.53
Abs. Int.
2.95e6
1.48e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 4.56e3
0%
ES 123478F
1.22e7
36.75
ES 123678F
1.48e7*
36.89
CS 123469F
1.58e7*
37.21
ES 234678F
1.92e7
37.58
ES 123789F
1.18e7*
38.53
Abs. Int.
5.68e6
2.84e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.26e3
0%
Abs. Int.
5.01e3
2.51e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: B
4σ 1.44e3
0%
Abs. Int.
5.77e3
2.89e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: B
4σ 1.54e3
0%
Abs. Int.
7.20e3
3.60e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 1.57e3
0%
ES 1234678F
5.30e6
39.90
CS 1234689F
6.06e6
40.30
ES 1234789F
4.54e6
41.29
Abs. Int.
2.06e6
1.03e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 1.82e3
0%
ES 1234678F
1.12e7
39.90
CS 1234689F
1.36e7
40.30
ES 1234789F
9.48e6
41.29
Abs. Int.
4.59e6
2.29e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.24e3
0%
Abs. Int.
5.69e3
2.85e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: B
4σ 1.31e3
0%
Abs. Int.
7.35e3
3.68e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.17e3
0%
Abs. Int.
9.66e3
4.83e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.28e7*
43.69
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 1.56e3
0%
Abs. Int.
2.86e6
1.43e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.39e7*
43.69
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 1.80e3
0%
Abs. Int.
3.09e6
1.55e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.21e3
0%
Abs. Int.
6.47e3
3.24e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6236_18881_DF_001 **Acq'd:** 04 Feb 2022 17:11 DTF **Wt/Vol:** 1.04 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-RB-14 **UTP:** 07-Feb-2022 15:32:57 DTF **J-level:** 4.81 pg/L **Split:** 1 **Checkcode:** 107-387-PGZ

Datafile: 220204C11 **Report:** 07 Feb 2022 15:41 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	3365.554	3.75
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	2400.427	2.52
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2987.456	2.91
123678-HxCDD	NotFnd		1.0035	-		-	-	-	1.15	-	2987.456	2.55
123789-HxCDD	NotFnd		1.0112	-		-	-	-	1.05	-	2987.456	2.99
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	2730.213	2.78
OCDD	43.52	J B EMPC	1.0004	1.0002	-0.5	5.05E+04	0.55	N	1.13	9.44	3439.965	6.67
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	2691.951	1.96
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3181.385	2.31
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3181.385	2.11
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2260.3144	1.68
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2260.3144	1.48
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2260.3144	1.24
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2260.3144	1.72
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2505.0329	1.78
1234789-HpCDF	NotFnd		1.0002	-		-	-	-	1.31	-	2505.0329	2.38
OCDF	NotFnd		1.0003	-		-	-	-	1.07	-	3191.138	5.08

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.52		1.0236	1.0237	+0.2	1.62E+07	0.79	Y	1.05	87.2
ES 12378-PeCDD	33.85		1.2144	1.2153	+1.8	1.61E+07	1.50	Y	0.88	104
ES 123478-HxCDD	37.76		0.9920	0.9920	0	1.54E+07	1.24	Y	0.97	102
ES 123678-HxCDD	37.88		0.9951	0.9950	-0.2	1.71E+07	1.23	Y	0.94	116
ES 123789-HxCDD	38.17		1.0027	1.0027	0	1.57E+07	1.35	Y	1.09	92.3
ES 1234678-HpCDD	40.83		1.0724	1.0724	0	1.37E+07	1.09	Y	0.91	96.4
ES OCDD	43.51		1.1428	1.1431	+0.8	1.83E+07	0.94	Y	0.62	93.8
ES 2378-TCDF	27.66		1.0516	1.0517	+0.2	2.67E+07	0.83	Y	1.06	87.1
ES 12378-PeCDF	32.41		1.2312	1.2322	+1.9	2.52E+07	1.60	Y	0.91	95.4
ES 23478-PeCDF	33.52		1.2733	1.2744	+2.2	2.43E+07	1.61	Y	0.88	94.8
ES 123478-HxCDF	36.75		0.9655	0.9654	-0.2	1.68E+07	0.54	Y	1.20	89.9
ES 123678-HxCDF	36.90		0.9692	0.9692	0	2.13E+07	0.56	Y	1.35	101
ES 234678-HxCDF	37.58	V	0.9871	0.9871	0	2.66E+07	0.55	Y	1.24	137
ES 123789-HxCDF	38.52		1.0121	1.0119	-0.5	1.70E+07	0.54	Y	1.16	94.2
ES 1234678-HpCDF	39.90		1.0479	1.0480	+0.2	1.56E+07	0.47	Y	0.97	103
ES 1234789-HpCDF	41.29		1.0845	1.0846	+0.2	1.25E+07	0.46	Y	0.85	94.5
ES OCDF	43.69		1.1477	1.1477	0	2.45E+07	0.98	Y	0.81	97.4

Lab ID: B6236_18881_DF_001 **Acq'd:** 04 Feb 2022 17:11 DTF **Wt/Vol:** 1.04 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012222-S-BN-RB-14 **UTP:** 07-Feb-2022 15:32:57 DTF **J-level:** 4.81 pg/L **Split:** 1 **Checkcode:** 107-387-PGZ

Datafile: 220204C11 **Report:** 07 Feb 2022 15:41 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.85		-	-	-	1.77E+07	0.81	Y	-	-
JS 1234-TCDF	26.30		-	-	-	2.90E+07	0.81	Y	-	-
JS 123467-HxCDD	38.07		-	-	-	7.79E+06	1.25	Y	-	-
CS 37Cl-2378-TCDD	28.54		1.0244	1.0246	+0.3	8.16E+06	n/a	-	1.20	95.7
CS 12347-PeCDD	33.35		1.1964	1.1972	+1.6	1.55E+07	1.62	Y	0.75	116
CS 12346-PeCDF	31.88		1.2112	1.2120	+1.5	2.62E+07	1.59	Y	0.85	106
CS 123469-HxCDF	37.21		0.9775	0.9775	0	2.06E+07	0.55	Y	1.12	118
CS 1234689-HpCDF	40.30		1.0584	1.0585	+0.2	1.79E+07	0.46	Y	0.89	129
~~SS 37Cl-2378-TCDD~~	~~28.54~~		~~1.0244~~	~~1.0246~~	~~+0.3~~	~~8.16E+06~~	~~n/a~~		~~1.15~~	~~110~~
~~SS 12347-PeCDD~~	~~33.35~~		~~1.1964~~	~~1.1972~~	~~+1.6~~	~~1.55E+07~~	~~1.62~~	~~Y~~	~~0.86~~	~~112~~
~~SS 12346-PeCDF~~	~~31.88~~		~~1.2112~~	~~1.2120~~	~~+1.5~~	~~2.62E+07~~	~~1.59~~	~~Y~~	~~0.94~~	~~111~~
~~SS 123469-HxCDF~~	~~37.21~~		~~0.9775~~	~~0.9775~~	~~0~~	~~2.06E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~117~~
~~SS 1234689-HpCDF~~	~~40.30~~		~~1.0584~~	~~1.0585~~	~~+0.2~~	~~1.79E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~125~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	9.44
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	9.44

Lab ID: B6236_18881_DF_001 **Acq'd: 04 Feb 2022 17:11 DTF** **Wt/Vol: 1.04 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012222-S-BN-RB-14 **UTP: 07-Feb-2022 15:32:57 DTF** **J-level: 4.81 pg/L** **Split: 1** **Checkcode: 107-387-PGZ**

Datafile: 220204C11 **Report: 07 Feb 2022 15:41 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8737						1.18		3365.554	3.75
1379-TCDD	NotFnd		0.8860						1.18		3365.554	3.75
1369-TCDD	NotFnd		0.9009						1.18		3365.554	3.75
1469-TCDD	NotFnd		0.9281						1.18		3365.554	3.75
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3365.554	3.75
1378-TCDD	NotFnd		0.9432						1.18		3365.554	3.75
1268-TCDD	NotFnd		0.9500						1.18		3365.554	3.75
1478-TCDD	NotFnd		0.9586						1.18		3365.554	3.75
1279-TCDD	NotFnd		0.9645						1.18		3365.554	3.75
1234/1269-TCDD	NotFnd		0.9770						1.18		3365.554	3.75
1236-TCDD	NotFnd		0.9817						1.18		3365.554	3.75
1237/1238-TCDD	NotFnd		0.9905						1.18		3365.554	3.75
1239-TCDD	NotFnd		0.9952						1.18		3365.554	3.75
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**3365.554**	**3.75**
1278-TCDD	NotFnd		1.0121						1.18		3365.554	3.75
1267-TCDD	NotFnd		1.0167						1.18		3365.554	3.75
1289-TCDD	NotFnd		1.0345						1.18		3365.554	3.75
12479/12468-PeCDD	NotFnd		0.9267						1.04		2400.427	2.52
12469-PeCDD	NotFnd		0.9425						1.04		2400.427	2.52
12368-PeCDD	NotFnd		0.9588						1.04		2400.427	2.52
12478-PeCDD	NotFnd		0.9643						1.04		2400.427	2.52
12379-PeCDD	NotFnd		0.9673						1.04		2400.427	2.52
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		2400.427	2.52
12346/12347-PeCDD	NotFnd		0.9858						1.04		2400.427	2.52
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**2400.427**	**2.52**
12367-PeCDD	NotFnd		1.0033						1.04		2400.427	2.52
12389-PeCDD	NotFnd		1.0134						1.04		2400.427	2.52
124679/124689-HxCDD	NotFnd		0.9542						1.10		2987.456	2.81
123468-HxCDD	NotFnd		0.9715						1.10		2987.456	2.81
123679/123689-HxCDD	NotFnd		0.9793						1.10		2987.456	2.81
123469-HxCDD	NotFnd		0.9828						1.10		2987.456	2.81
123478-HxCDD	NotFnd		**1.0004**						1.09		**2987.456**	**2.91**
123678-HxCDD	NotFnd		**1.0035**						1.15		**2987.456**	**2.55**
123467-HxCDD	NotFnd		1.0085						1.10		2987.456	2.81
123789-HxCDD	NotFnd		**1.0112**						1.05		**2987.456**	**2.99**

Lab ID: B6236_18881_DF_001 | **Acq'd: 04 Feb 2022 17:11 DTF** | **Wt/Vol: 1.04 L** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012222-S-BN-RB-14 | **UTP: 07-Feb-2022 15:32:57 DTF** | **J-level: 4.81 pg/L** | **Split: 1** | **Checkcode: 107-387-PGZ**

Datafile: 220204C11 | **Report: 07 Feb 2022 15:41 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

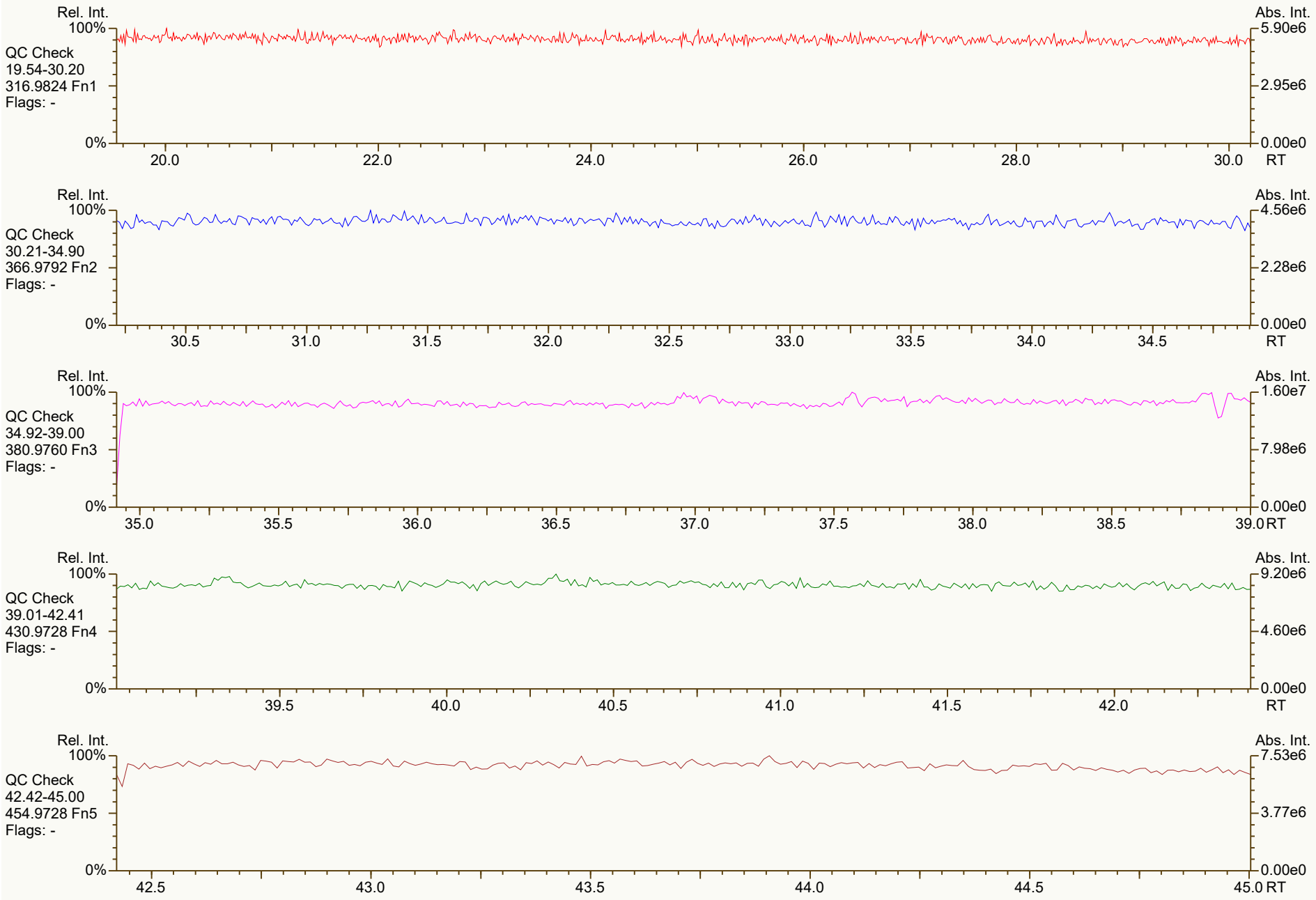
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9837						1.06		2730.213	2.78
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**2730.213**	**2.78**
OCDD	**43.52**	**J B EMPC**	**1.0004**	**1.0002**	**-0.5**	**5.05E+04**	**0.55**	**N**	**1.13**	**9.44**	**3439.965**	**6.67**
OCDD-a	NotFnd		1.0003						0.07		3301.709	100
1368-TCDF	NotFnd		0.8251						1.08		2691.951	1.96
1468-TCDF	NotFnd		0.8458						1.08		2691.951	1.96
2468-TCDF	NotFnd		0.8686						1.08		2691.951	1.96
1346/1246-TCDF	NotFnd		0.8814						1.08		2691.951	1.96
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2691.951	1.96
1348-TCDF	NotFnd		0.8962						1.08		2691.951	1.96
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2691.951	1.96
1268-TCDF	NotFnd		0.9145						1.08		2691.951	1.96
1467-TCDF	NotFnd		0.9193						1.08		2691.951	1.96
1478-TCDF	NotFnd		0.9254						1.08		2691.951	1.96
1369/1237-TCDF	NotFnd		0.9387						1.08		2691.951	1.96
2467-TCDF	NotFnd		0.9433						1.08		2691.951	1.96
2368-TCDF	NotFnd		0.9489						1.08		2691.951	1.96
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2691.951	1.96
1278-TCDF	NotFnd		0.9683						1.08		2691.951	1.96
1349-TCDF	NotFnd		0.9722						1.08		2691.951	1.96
1267-TCDF	NotFnd		0.9783						1.08		2691.951	1.96
2346/1249-TCDF	NotFnd		0.9850						1.08		2691.951	1.96
2347/1279-TCDF	NotFnd		0.9926						1.08		2691.951	1.96
2348-TCDF	NotFnd		0.9967						1.08		2691.951	1.96
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**2691.951**	**1.96**
2367/3467-TCDF	NotFnd		1.0137						1.08		2691.951	1.96
1269-TCDF	NotFnd		1.0223						1.08		2691.951	1.96
1239-TCDF	NotFnd		1.0321						1.08		2691.951	1.96
1289-TCDF	NotFnd		1.0722						1.08		2691.951	1.96
13468/12468-PeCDF	NotFnd		0.9139						1.02		2447.042	1.7
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		3181.385	2.21
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		3181.385	2.21
14678-PeCDF	NotFnd		0.9692						1.02		3181.385	2.21
13479-PeCDF	NotFnd		0.9723						1.02		3181.385	2.21
13469/12479-PeCDF	NotFnd		0.9797						1.02		3181.385	2.21
12346-PeCDF	NotFnd		0.9840						1.02		3181.385	2.21

Lab ID: B6236_18881_DF_001 **Acq'd: 04 Feb 2022 17:11 DTF** **Wt/Vol: 1.04 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012222-S-BN-RB-14 **UTP: 07-Feb-2022 15:32:57 DTF** **J-level: 4.81 pg/L** **Split: 1** **Checkcode: 107-387-PGZ**

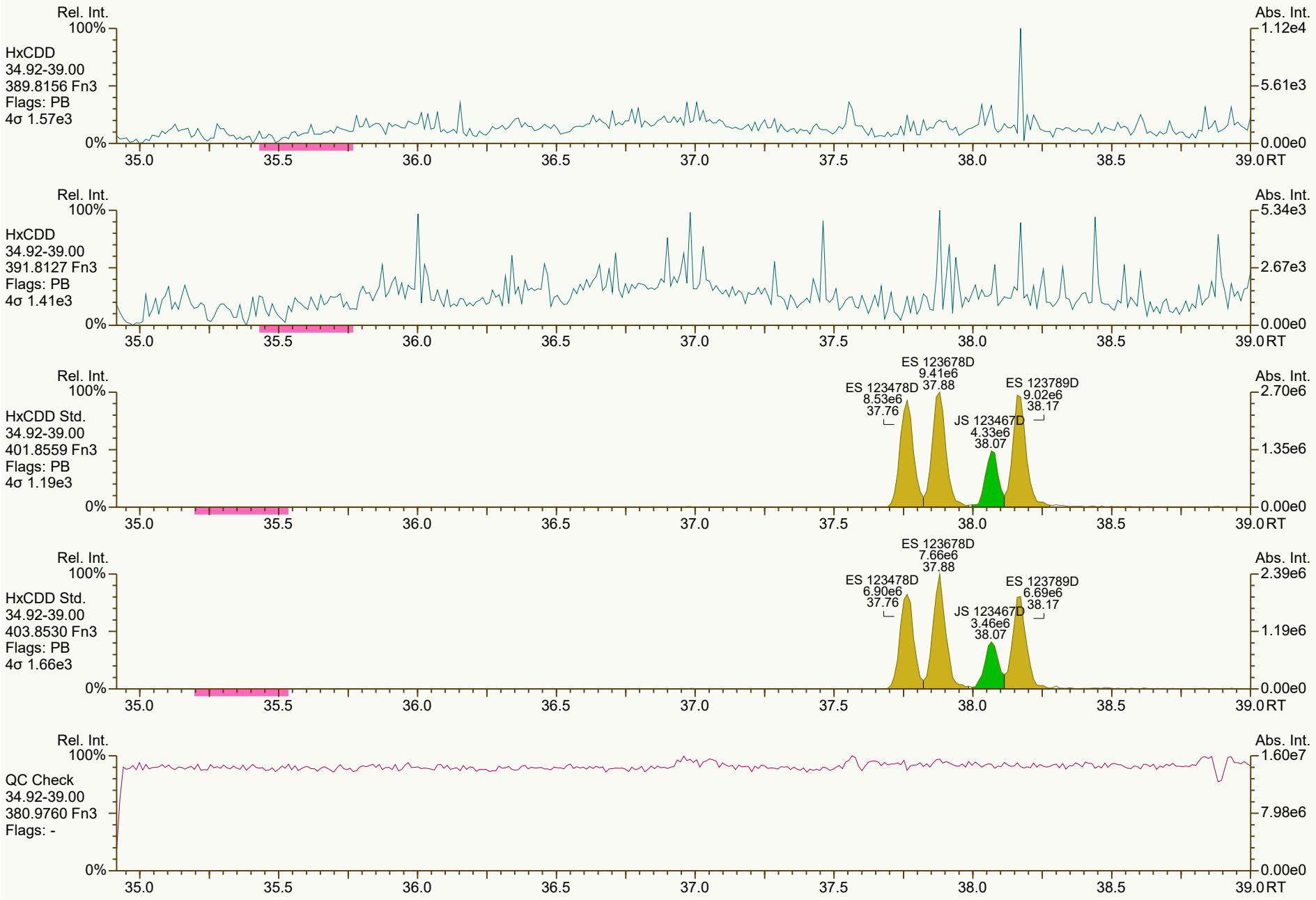
Datafile: 220204C11 **Report: 07 Feb 2022 15:41 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		3181.385	2.21
12347-PeCDF	NotFnd		0.9894						1.02		3181.385	2.21
12348-PeCDF	NotFnd		0.9940						1.02		3181.385	2.21
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3181.385**	**2.31**
12678/12367-PeCDF	NotFnd		1.0089						1.02		3181.385	2.21
12379-PeCDF	NotFnd		1.0142						1.02		3181.385	2.21
12679-PeCDF	NotFnd		0.9929						1.02		3181.385	2.21
23467/12369-PeCDF	NotFnd		0.9967						1.02		3181.385	2.21
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3181.385**	**2.11**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3181.385	2.21
12349-PeCDF	NotFnd		1.0100						1.02		3181.385	2.21
12389-PeCDF	NotFnd		1.0324						1.02		3181.385	2.21
123468-HxCDF	NotFnd		0.9627						1.19		2260.3144	1.49
124678/134678-HxCDF	NotFnd		0.9682						1.19		2260.3144	1.49
134679-HxCDF	NotFnd		0.9744						1.19		2260.3144	1.49
124679-HxCDF	NotFnd		0.9798						1.19		2260.3144	1.49
124689-HxCDF	NotFnd		0.9858						1.19		2260.3144	1.49
123467-HxCDF	NotFnd		0.9972						1.19		2260.3144	1.49
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2260.3144**	**1.68**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2260.3144**	**1.48**
123479-HxCDF	NotFnd		1.0049						1.19		2260.3144	1.49
123469-HxCDF	NotFnd		1.0090						1.19		2260.3144	1.49
123679-HxCDF	NotFnd		0.9942						1.19		2260.3144	1.49
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2260.3144**	**1.24**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2260.3144	1.49
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2260.3144**	**1.72**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		2260.3144	1.49
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2505.0329**	**1.78**
1234679-HpCDF	NotFnd		1.0068						1.34		2505.0329	2.05
1234689-HpCDF	NotFnd		1.0103						1.34		2505.0329	2.05
1234789-HpCDF	**NotFnd**		**1.0002**						**1.31**		**2505.0329**	**2.38**
OCDF	**NotFnd**		**1.0003**						**1.07**		**3191.138**	**5.08**
OCDF-a	NotFnd		1.0002						0.07		2944.789	75.6

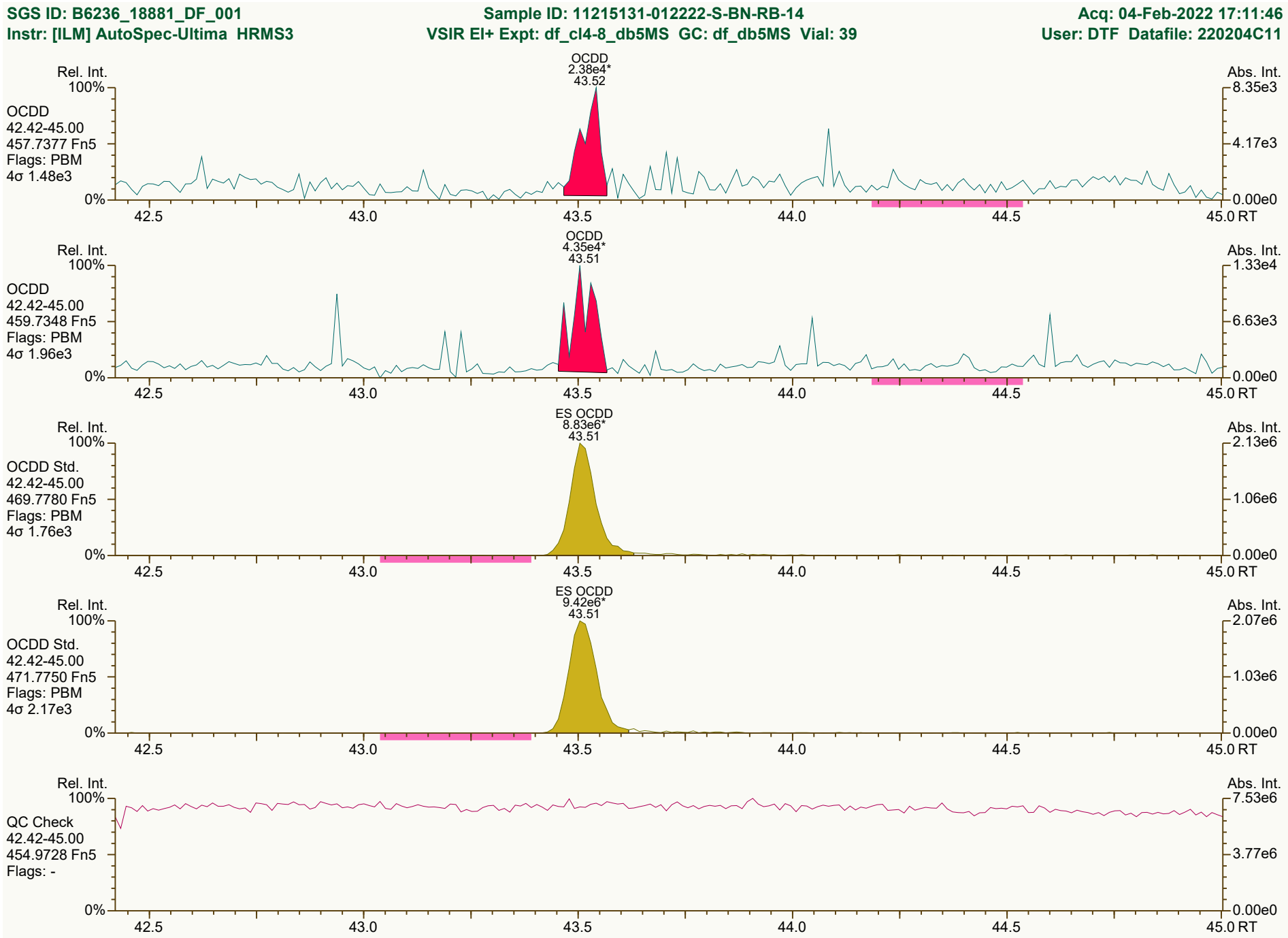

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
5.90e6
2.95e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.56e6
2.28e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.60e7
7.98e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
9.20e6
4.60e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
7.53e6
3.77e6
0.00e0

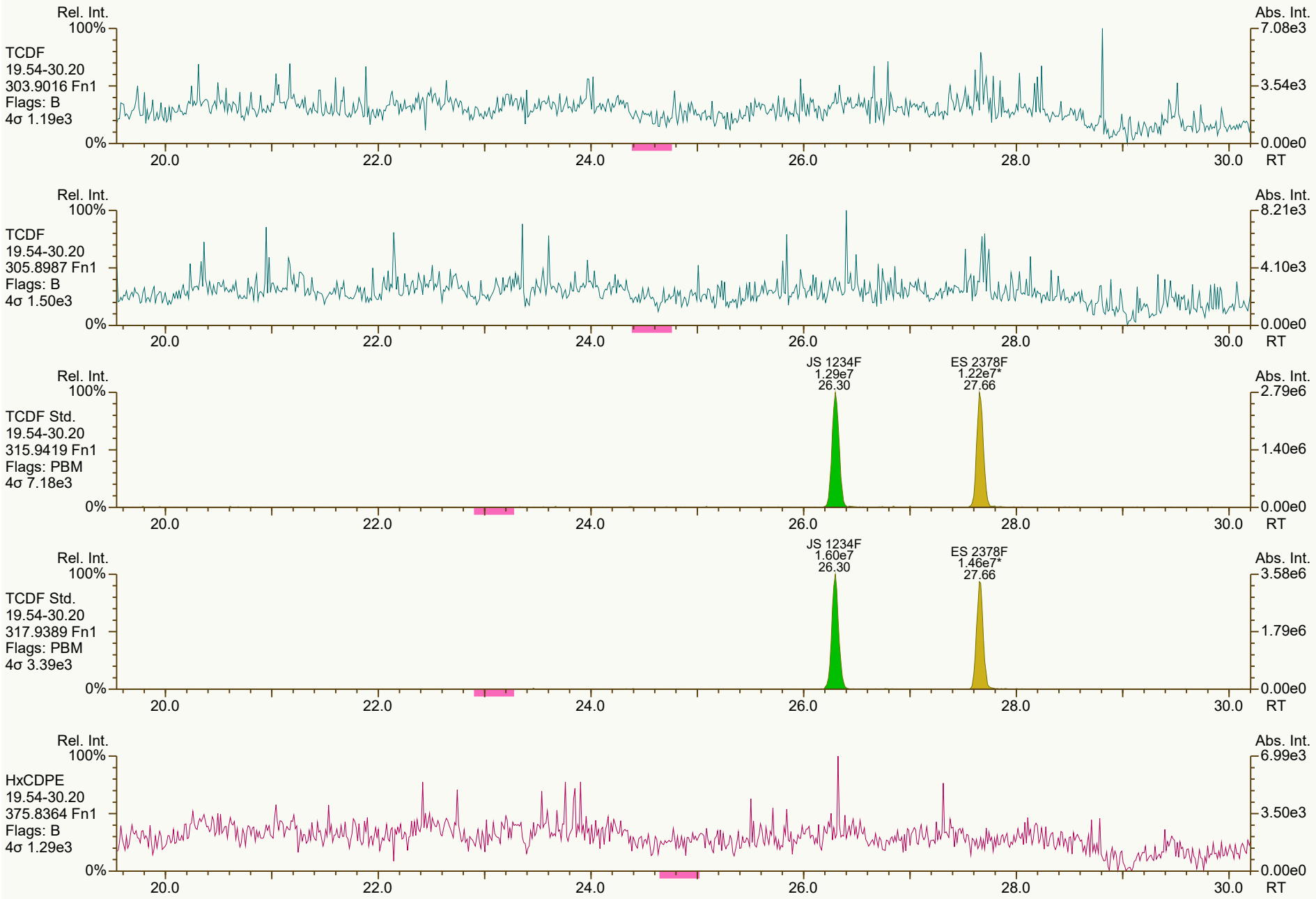

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.06e3
4.53e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.34e3
0%
Abs. Int.
7.72e3
3.86e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 9.73e2
0%
CS 37Cl-2378D
8.16e6
28.54
Abs. Int.
1.84e6
9.21e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.41e3
0%
JS 1234D
7.93e6
27.85
ES 2378D
7.14e6
28.52
Abs. Int.
1.84e6
9.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.69e3
0%
JS 1234D
9.79e6
27.85
ES 2378D
9.01e6
28.52
Abs. Int.
2.24e6
1.12e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: B
4σ 1.10e3
0%
Abs. Int.
1.12e4
5.58e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 1.30e3
0%
Abs. Int.
7.82e3
3.91e3
0.00e0
RT
CS 12347D
9.55e6
33.35
ES 12378D
9.68e6
33.85
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 1.70e3
0%
Abs. Int.
2.75e6
1.37e6
0.00e0
RT
CS 12347D
5.90e6
33.35
ES 12378D
6.45e6
33.85
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 2.25e3
0%
Abs. Int.
1.86e6
9.30e5
0.00e0
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.56e6
2.28e6
0.00e0
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 1.57e3
0%
Abs. Int.
1.12e4
5.61e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 1.41e3
0%
Abs. Int.
5.34e3
2.67e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 1.19e3
0%
ES 123678D
9.41e6
37.88
ES 123478D
8.53e6
37.76
ES 123789D
9.02e6
38.17
JS 123467D
4.33e6
38.07
Abs. Int.
2.70e6
1.35e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 1.66e3
0%
ES 123678D
7.66e6
37.88
ES 123478D
6.90e6
37.76
ES 123789D
6.69e6
38.17
JS 123467D
3.46e6
38.07
Abs. Int.
2.39e6
1.19e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.60e7
7.98e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.35e3
0%
Abs. Int.
5.47e3
2.74e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: B
4σ 1.38e3
0%
Abs. Int.
5.46e3
2.73e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
7.17e6
40.83
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.47e3
0%
Abs. Int.
2.33e6
1.17e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
6.56e6
40.83
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 3.29e3
0%
Abs. Int.
2.17e6
1.09e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
9.20e6
4.60e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


SGS ID: B6236_18881_DF_001
Sample ID: 11215131-012222-S-BN-RB-14
Acq: 04-Feb-2022 17:11:46
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 39
User: DTF Datafile: 220204C11
OCDD
2.38e4*
43.52
Rel. Int.
Abs. Int.
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.48e3
OCDD
4.35e4*
43.51
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 1.96e3
ES OCDD
8.83e6*
43.51
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 1.76e3
ES OCDD
9.42e6*
43.51
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 2.17e3
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6200_B6299\B6236\B6236_18881 DF\Resources\B6236_18881_DF_001.utp_res, saved 07-Feb-2022 15:48 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3056, 1499 scc: 107-387
Revised: 07-Feb-2022 15:30 (DTF) Printed: 07-Feb-2022 15:51 Page 6 of 12


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: B
4σ 1.19e3
0%
Abs. Int.
7.08e3
3.54e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 1.50e3
0%
Abs. Int.
8.21e3
4.10e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PBM
4σ 7.18e3
0%
JS 1234F
1.29e7
26.30
ES 2378F
1.22e7*
27.66
Abs. Int.
2.79e6
1.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PBM
4σ 3.39e3
0%
JS 1234F
1.60e7
26.30
ES 2378F
1.46e7*
27.66
Abs. Int.
3.58e6
1.79e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.29e3
0%
Abs. Int.
6.99e3
3.50e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

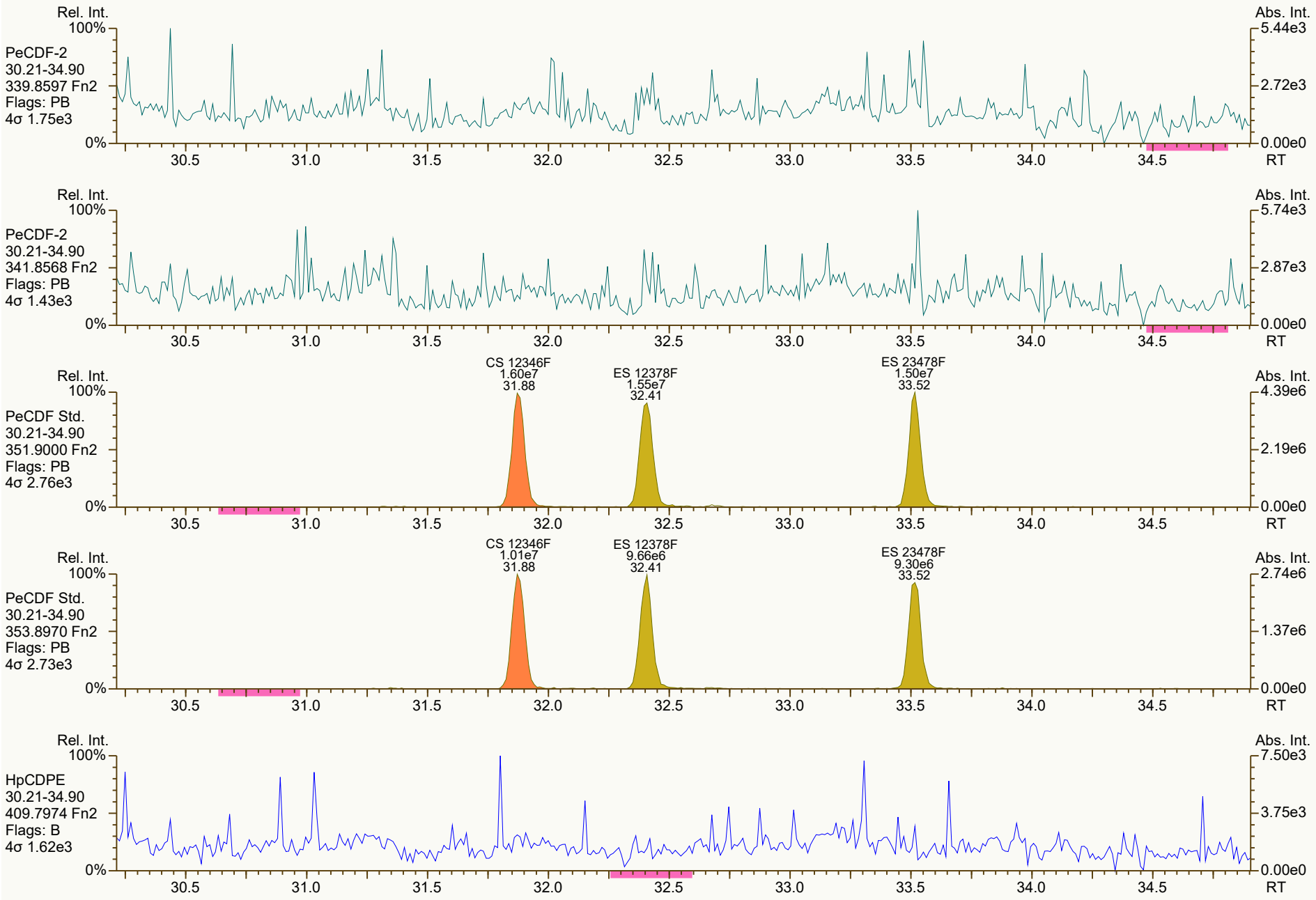
SGS ID: B6236_18881_DF_001 | Sample ID: 11215131-012222-S-BN-RB-14 | Acq: 04-Feb-2022 17:11:46

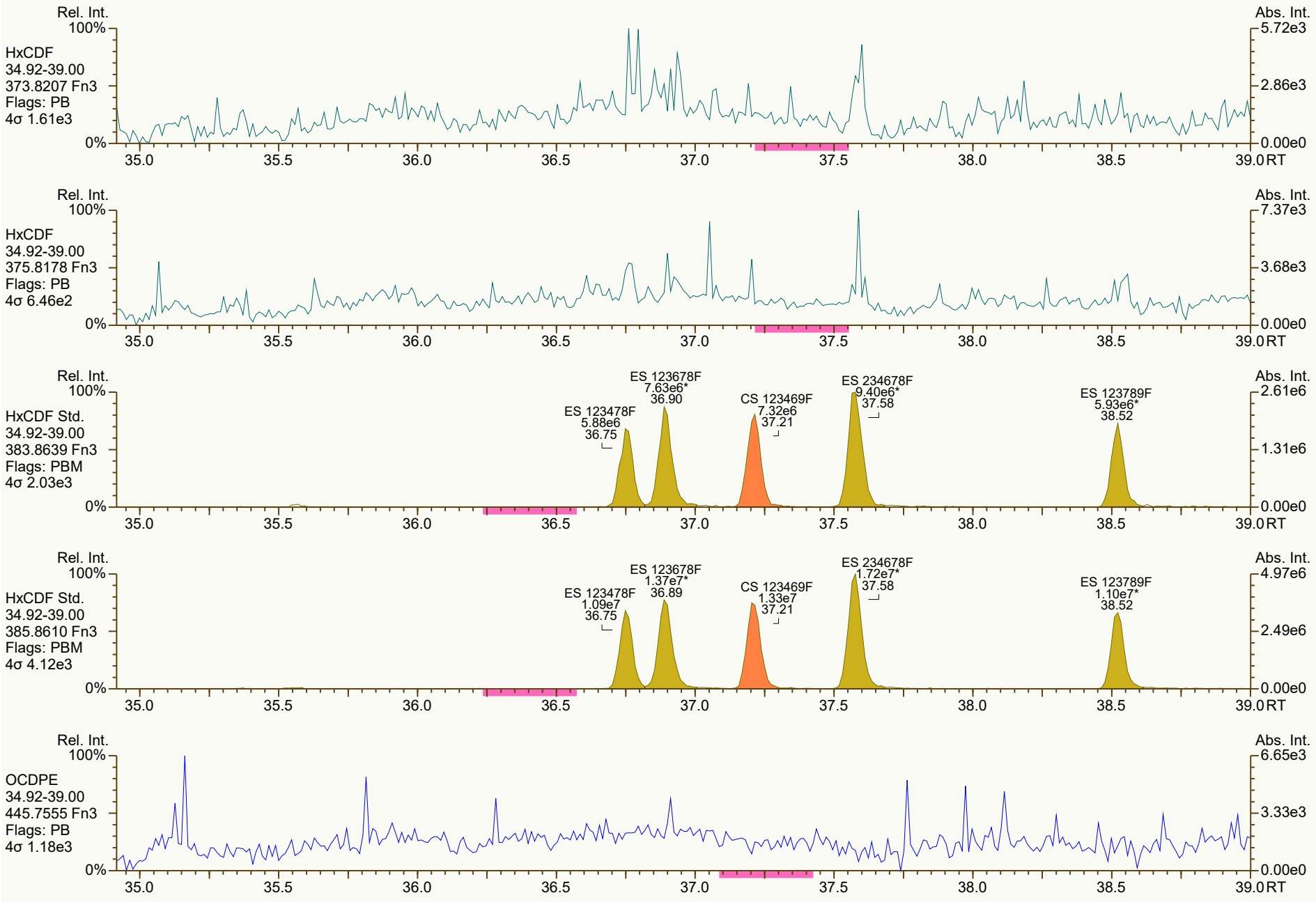
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 39 | User: DTF Datafile: 220204C11



Results: P:\B6200_B6299\B6236\B6236_18881 DF\Resources\B6236_18881_DF_001.utp_res, saved 07-Feb-2022 15:48 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2869 scc: 107-387 | *PKD: 07-Feb-2022 15:29 Printed: 07-Feb-2022 15:51 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PB
4σ 1.75e3
0%
Abs. Int.
5.44e3
2.72e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PB
4σ 1.43e3
5.74e3
2.87e3
CS 12346F
1.60e7
31.88
ES 12378F
1.55e7
32.41
ES 23478F
1.50e7
33.52
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 2.76e3
4.39e6
2.19e6
CS 12346F
1.01e7
31.88
ES 12378F
9.66e6
32.41
ES 23478F
9.30e6
33.52
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 2.73e3
2.74e6
1.37e6
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.62e3
7.50e3
3.75e3


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PB
4σ 1.61e3
0%
Abs. Int.
5.72e3
2.86e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PB
4σ 6.46e2
0%
Abs. Int.
7.37e3
3.68e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 2.03e3
0%
ES 123478F
5.88e6
36.75
ES 123678F
7.63e6*
36.90
CS 123469F
7.32e6
37.21
ES 234678F
9.40e6*
37.58
ES 123789F
5.93e6*
38.52
Abs. Int.
2.61e6
1.31e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 4.12e3
0%
ES 123478F
1.09e7
36.75
ES 123678F
1.37e7*
36.89
CS 123469F
1.33e7
37.21
ES 234678F
1.72e7*
37.58
ES 123789F
1.10e7*
38.52
Abs. Int.
4.97e6
2.49e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.18e3
0%
Abs. Int.
6.65e3
3.33e3
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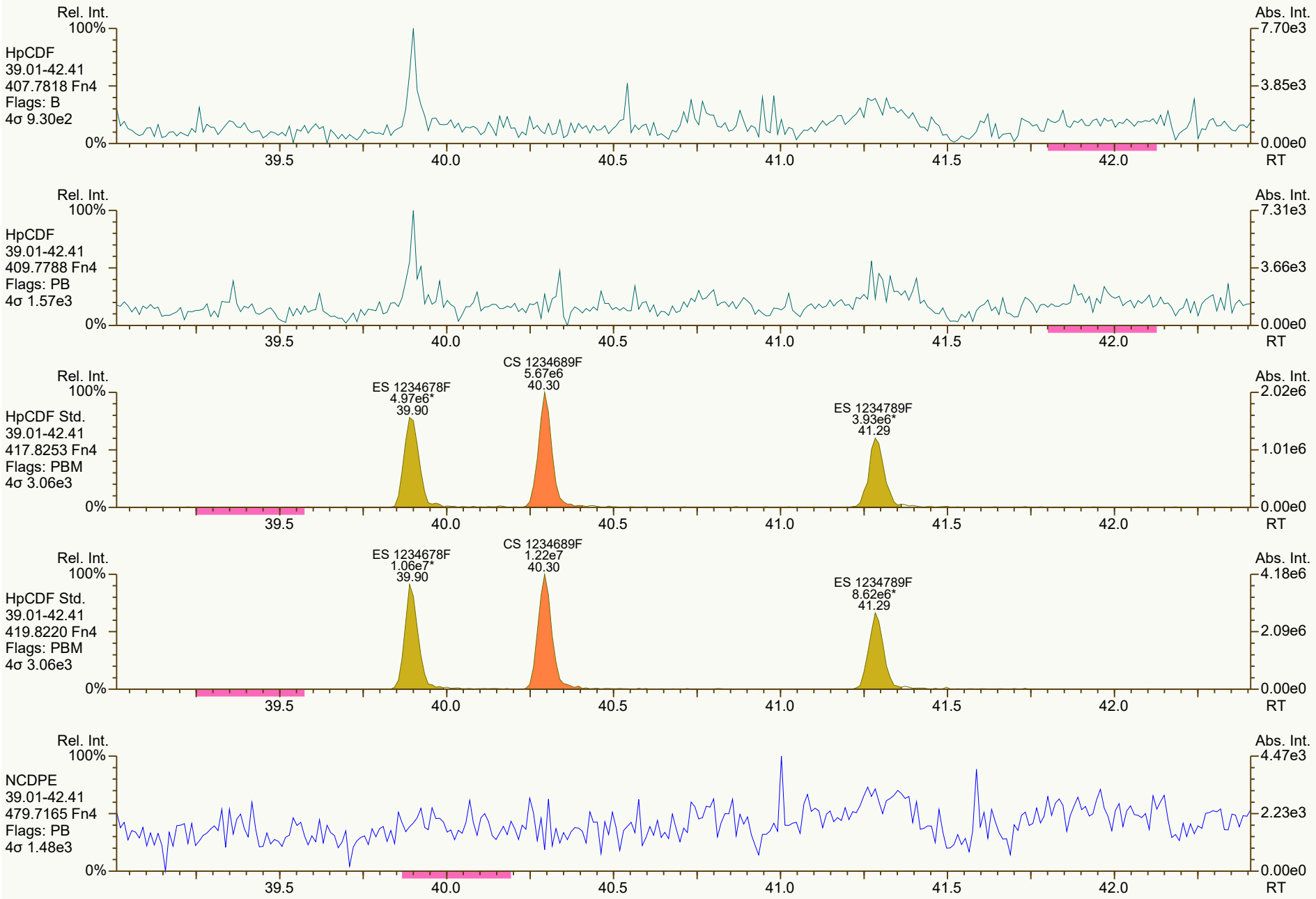
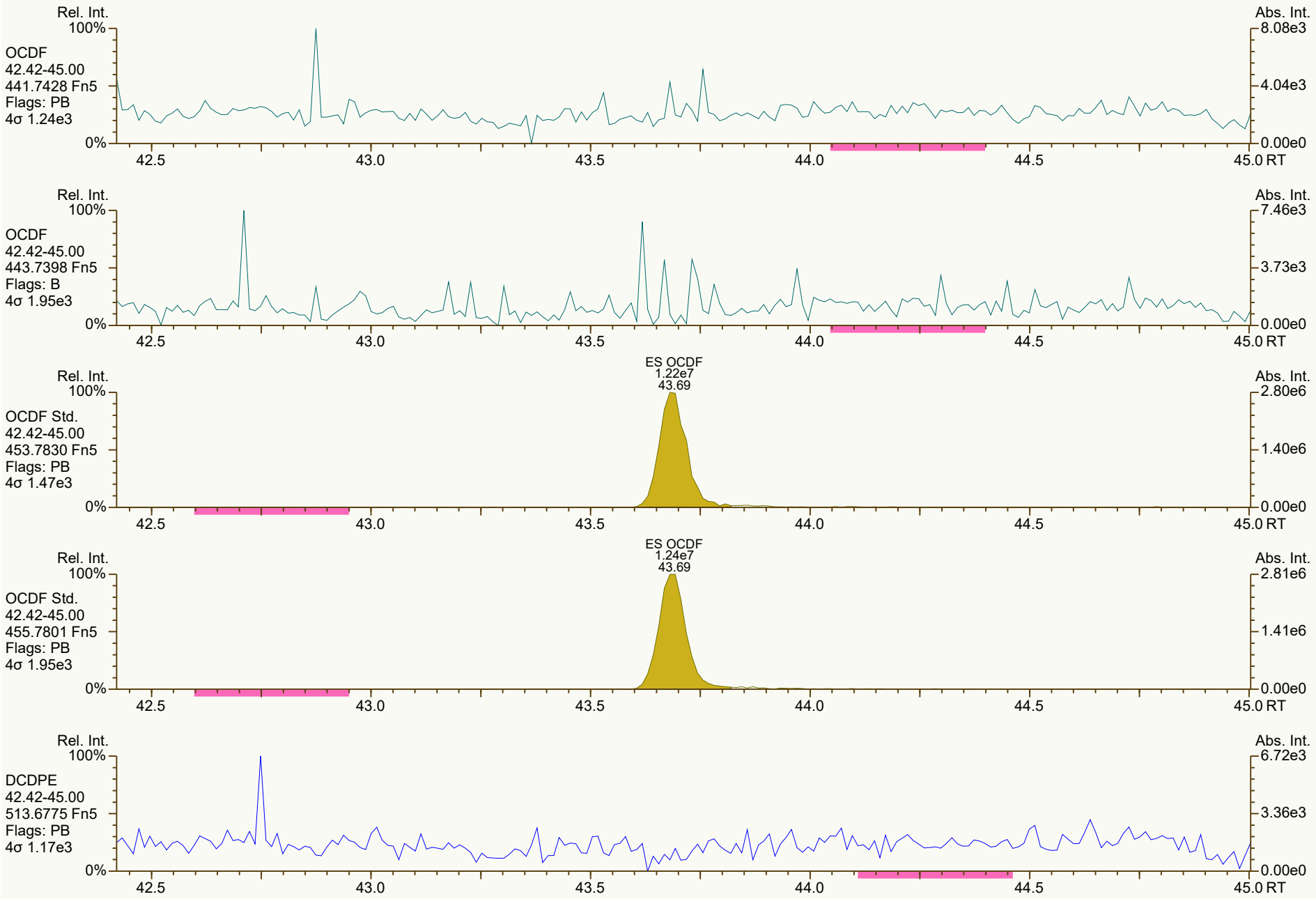
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: B
4σ 9.30e2
0%
Abs. Int.
7.70e3
3.85e3
0.00e0
RT
39.5
40.0
40.5
41.0
41.5
42.0
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.57e3
7.31e3
3.66e3
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 3.06e3
ES 1234678F
4.97e6*
39.90
CS 1234689F
5.67e6
40.30
ES 1234789F
3.93e6*
41.29
2.02e6
1.01e6
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 3.06e3
ES 1234678F
1.06e7*
39.90
CS 1234689F
1.22e7
40.30
ES 1234789F
8.62e6*
41.29
4.18e6
2.09e6
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.48e3
4.47e3
2.23e3


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.24e3
0%
Abs. Int.
8.08e3
4.04e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: B
4σ 1.95e3
0%
Abs. Int.
7.46e3
3.73e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.22e7
43.69
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.47e3
0%
Abs. Int.
2.80e6
1.40e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.24e7
43.69
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 1.95e3
0%
Abs. Int.
2.81e6
1.41e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.17e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

REVIEWED
Tamara Burkamper , 2/9/2022, 1:34:02 PM

SGS Environmental Services — Run Log **Project: B6236_18881_DF**

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

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
2	220204C02	3	CS3_220204_DF_CB	1.00	25-347-1	DTF	913-732	04-Feb-2022	09:56:00
3	220204C03	37	OPR1_18881_DF	1.00	0_18881_OPR001	DTF	138-468	04-Feb-2022	11:01:21
4	220204C04	38	OPR2_18881_DF	1.00	0_18881_OPR002	DTF	407-345	04-Feb-2022	11:47:41
7	220204C07	2	SBS_220204_DF_CA	1.00	20-61-1	DTF	349-810	04-Feb-2022	14:06:36
8	220204C08	36	MB1_18881_DF_TLX	1.00	Method Blank	DTF	768-588	04-Feb-2022	14:52:53
9	220204C11	39	B6236_18881_DF_001	1.04	11215131-012222-S-BN-RB-14	DTF	107-387	04-Feb-2022	17:11:46

REVIEWED
Tyler_Fritz , 2/7/2022, 3:55:07 PM

Dioxin/Furan QC Summary	Acq'd: 04 Feb 2022 09:56 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220204_DF_CB	UTP: 07-Feb-2022 15:32:54 DTF	Checkcode: 913-732-ZXY
Sample ID: 25-347-1	Report: 07 Feb 2022 15:40 TF	Datafile: 220204C02

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.54	2.93E+06	0.81	Y	1.18	1.21	2%
12378-PeCDD	33.87	1.11E+07	1.58	Y	1.04	1.06	2%
123478-HxCDD	37.77	1.01E+07	1.24	Y	1.09	1.13	3%
123678-HxCDD	37.89	1.05E+07	1.28	Y	1.15	1.21	5%
123789-HxCDD	38.18	1.07E+07	1.31	Y	1.05	1.09	4%
1234678-HpCDD	40.84	9.53E+06	1.05	Y	1.06	1.10	4%
OCDD	43.53	1.56E+07	0.92	Y	1.13	1.15	2%
2378-TCDF	27.69	4.71E+06	0.79	Y	1.08	1.18	10%
12378-PeCDF	32.42	1.83E+07	1.56	Y	1.02	1.05	3%
23478-PeCDF	33.53	1.83E+07	1.56	Y	1.02	1.08	6%
123478-HxCDF	36.77	1.64E+07	1.24	Y	1.27	1.32	4%
123678-HxCDF	36.91	1.75E+07	1.26	Y	1.15	1.20	4%
234678-HxCDF	37.59	1.62E+07	1.26	Y	1.19	1.20	1%
123789-HxCDF	38.54	1.42E+07	1.30	Y	1.16	1.18	1%
1234678-HpCDF	39.91	1.48E+07	1.02	Y	1.37	1.38	1%
1234789-HpCDF	41.30	1.30E+07	1.04	Y	1.31	1.35	3%
OCDF	43.71	2.20E+07	0.92	Y	1.07	1.13	5%
ES 2378-TCDD	28.52	2.42E+07	0.81	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.846	2.09E+07	1.57	Y	0.88	0.88	1%
ES 123478-HxCDD	37.758	1.79E+07	1.23	Y	0.97	1.00	3%
ES 123678-HxCDD	37.877	1.74E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	38.165	1.97E+07	1.22	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.829	1.73E+07	1.08	Y	0.91	0.97	7%
ES OCDD	43.52	2.70E+07	0.90	Y	0.62	0.76	22%
ES 2378-TCDF	27.665	3.98E+07	0.84	Y	1.06	1.00	-5%
ES 12378-PeCDF	32.402	3.47E+07	1.60	Y	0.91	0.88	-4%
ES 23478-PeCDF	33.512	3.40E+07	1.60	Y	0.88	0.86	-3%
ES 123478-HxCDF	36.749	2.48E+07	0.54	Y	1.20	1.39	16%
ES 123678-HxCDF	36.89	2.92E+07	0.55	Y	1.35	1.64	21%
ES 234678-HxCDF	37.572	2.70E+07	0.55	Y	1.24	1.51	22%
ES 123789-HxCDF	38.522	2.42E+07	0.55	Y	1.16	1.36	17%
ES 1234678-HpCDF	39.895	2.14E+07	0.47	Y	0.97	1.20	24%
ES 1234789-HpCDF	41.292	1.93E+07	0.48	Y	0.85	1.08	27%
ES OCDF	43.695	3.91E+07	0.93	Y	0.81	1.10	36% *

Dioxin/Furan QC Summary	Acq'd: 04 Feb 2022 09:56 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220204_DF_CB	UTP: 07-Feb-2022 15:32:54 DTF	Checkcode: 913-732-ZXY
Sample ID: 25-347-1	Report: 07 Feb 2022 15:40 TF	Datafile: 220204C02

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.86	2.36E+07	0.81	Y	-	-	-
JS 1234-TCDF	26.31	3.97E+07	0.84	Y	-	-	-
JS 123467-HxCDD	38.07	8.91E+06	1.27	Y	-	-	-
CS 37Cl-2378-TCDD	28.54	3.16E+06	n/a	-	1.20	1.34	12%
CS 12347-PeCDD	33.34	1.89E+07	1.55	Y	0.75	0.80	7%
CS 12346-PeCDF	31.87	3.35E+07	1.58	Y	0.85	0.84	-1%
CS 123469-HxCDF	37.21	2.65E+07	0.55	Y	1.12	1.49	33%**
CS 1234689-HpCDF	40.29	2.22E+07	0.45	Y	0.89	1.25	41%**
~~SS 37Cl-2378-TCDD~~	~~28.54~~	~~3.16E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.31~~	~~14%~~
~~SS 12347-PeCDD~~	~~33.34~~	~~1.89E+07~~	~~1.55~~	~~Y~~	~~0.86~~	~~0.91~~	~~6%~~
~~SS 12346-PeCDF~~	~~31.87~~	~~3.35E+07~~	~~1.50~~	~~Y~~	~~0.94~~	~~0.96~~	~~3%~~
~~SS 123469-HxCDF~~	~~37.21~~	~~2.65E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~0.91~~	~~10%~~
~~SS 1234689-HpCDF~~	~~40.29~~	~~2.22E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~1.04~~	~~13%~~
~~OCDD-a~~	~~43.53~~	~~9.60E+05~~	~~2.78~~	~~Y~~	~~0.07~~	~~0.07~~	~~-1%~~
~~OCDF-a~~	~~43.71~~	~~1.33E+06~~	~~2.73~~	~~Y~~	~~0.07~~	~~0.07~~	~~2%~~

**no M1613B criteria
TB 2/9/2022

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

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220204C02 Analysis Date: 04-FEB-2022 09:56:00

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.81	0.65 - 0.89	Y	10.2	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32 - 1.78	Y	51.2	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	51.7	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	52.7	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.31	1.05 - 1.43	Y	51.9	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88 - 1.20	Y	51.9	43 - 58	Y
OCDD	M+2/M+4	0.92	0.76 - 1.02	Y	102	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.79	0.65 - 0.89	Y	11	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32 - 1.78	Y	51.4	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32 - 1.78	Y	52.8	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	52.1	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	52	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	50.5	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.30	1.05 - 1.43	Y	50.7	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.02	0.88 - 1.20	Y	50.3	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	0.88 - 1.20	Y	51.5	43 - 58	Y
OCDF	M+2/M+4	0.92	0.76 - 1.02	Y	105	63 - 159	Y

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

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

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

Processed: 07 Feb 2022 15:40 Analyst: TF

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

Lab Name: SGS North America

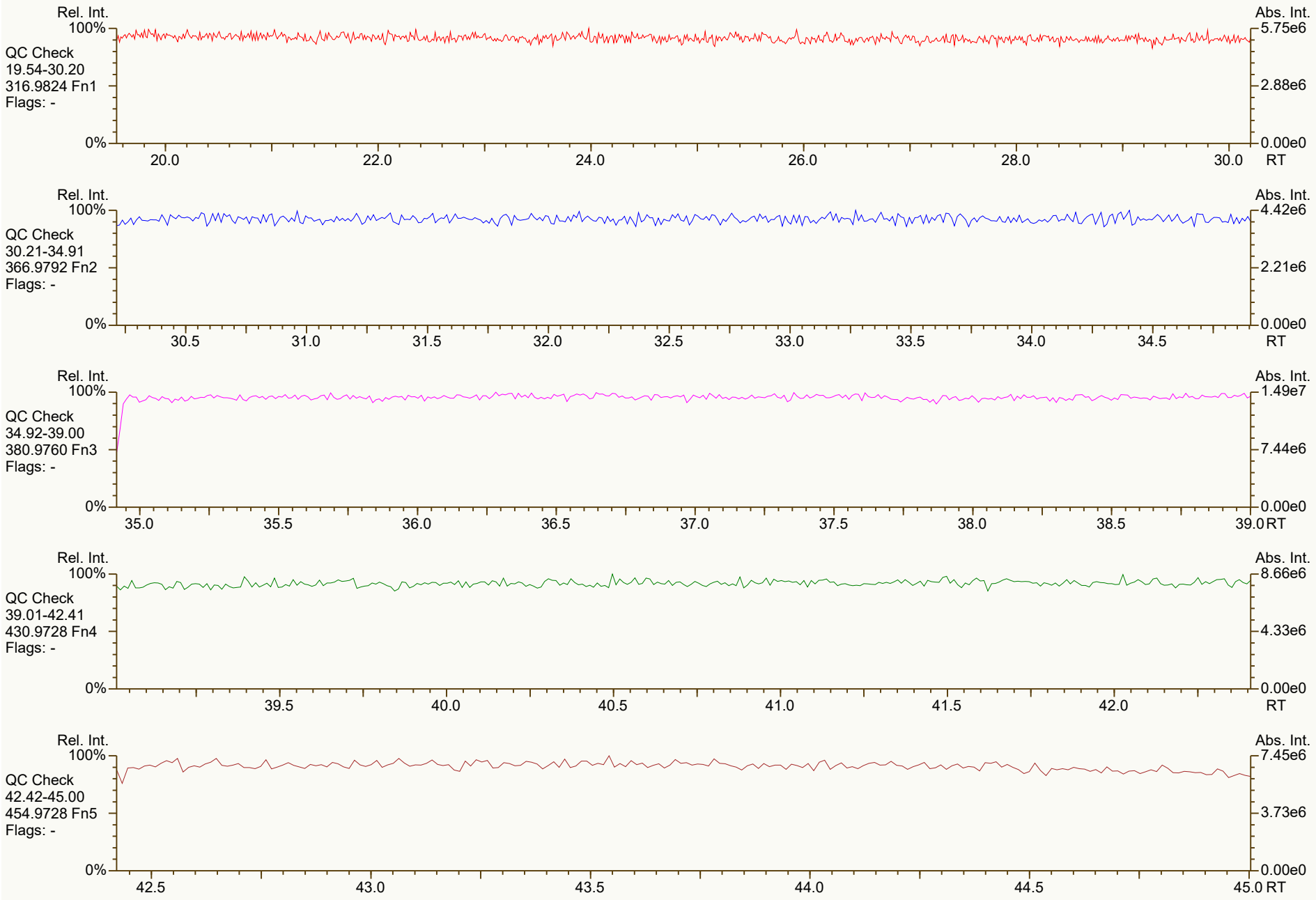
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

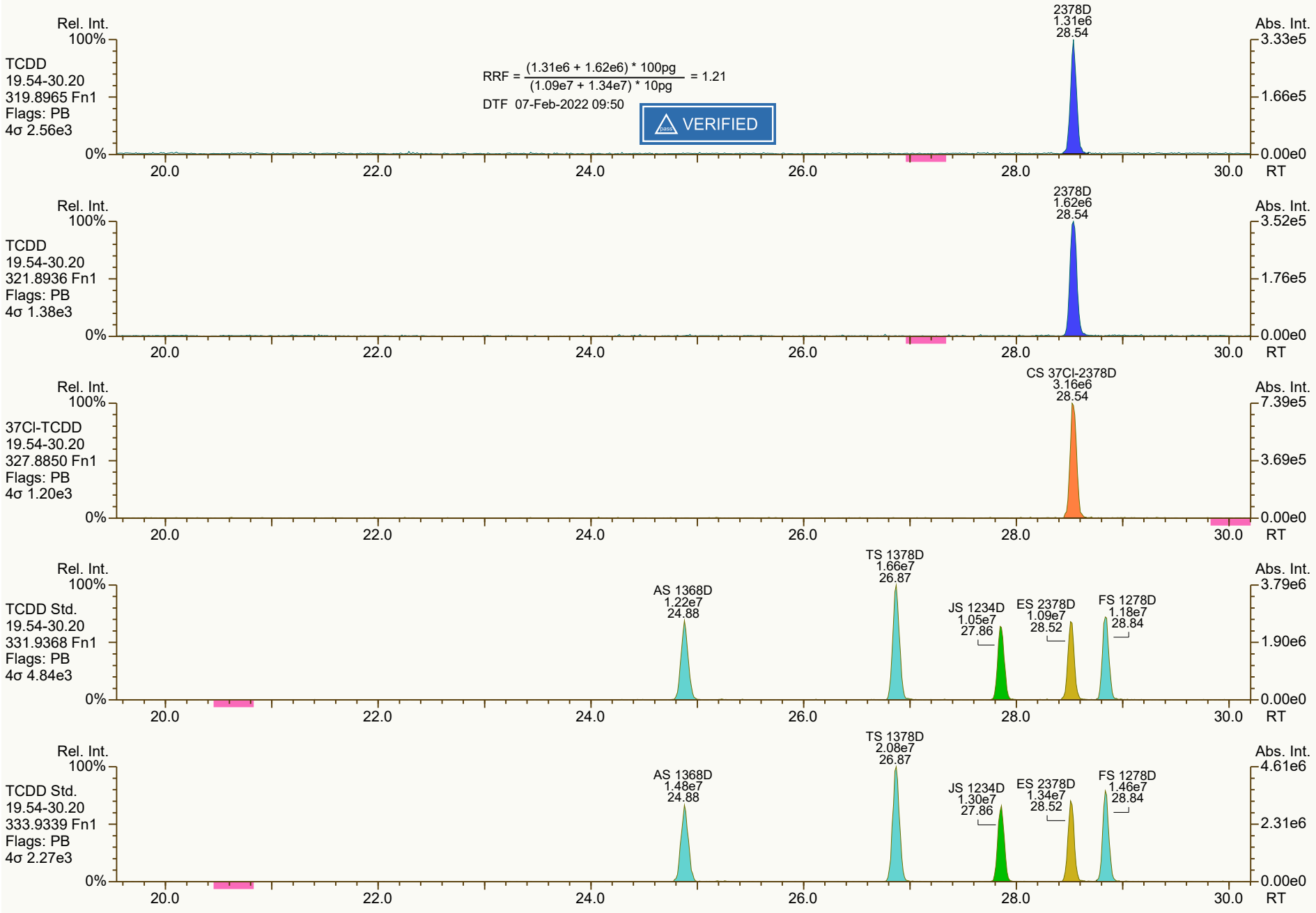
Instrument ID: HRMS3 GC Column ID: ZB-5ms

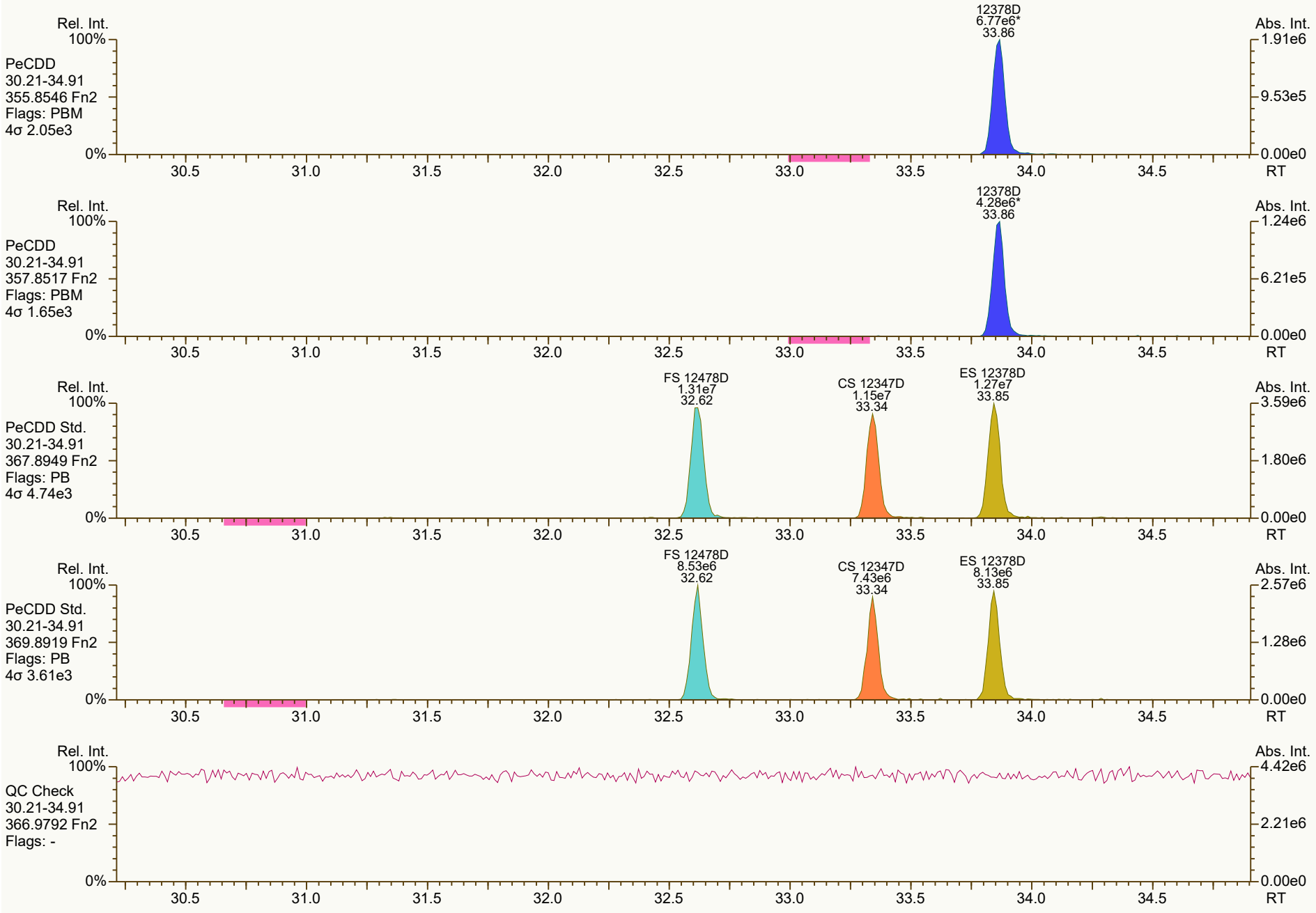
VER Data Filename: 220204C02 Analysis Date: 04-FEB-2022 09:56:00

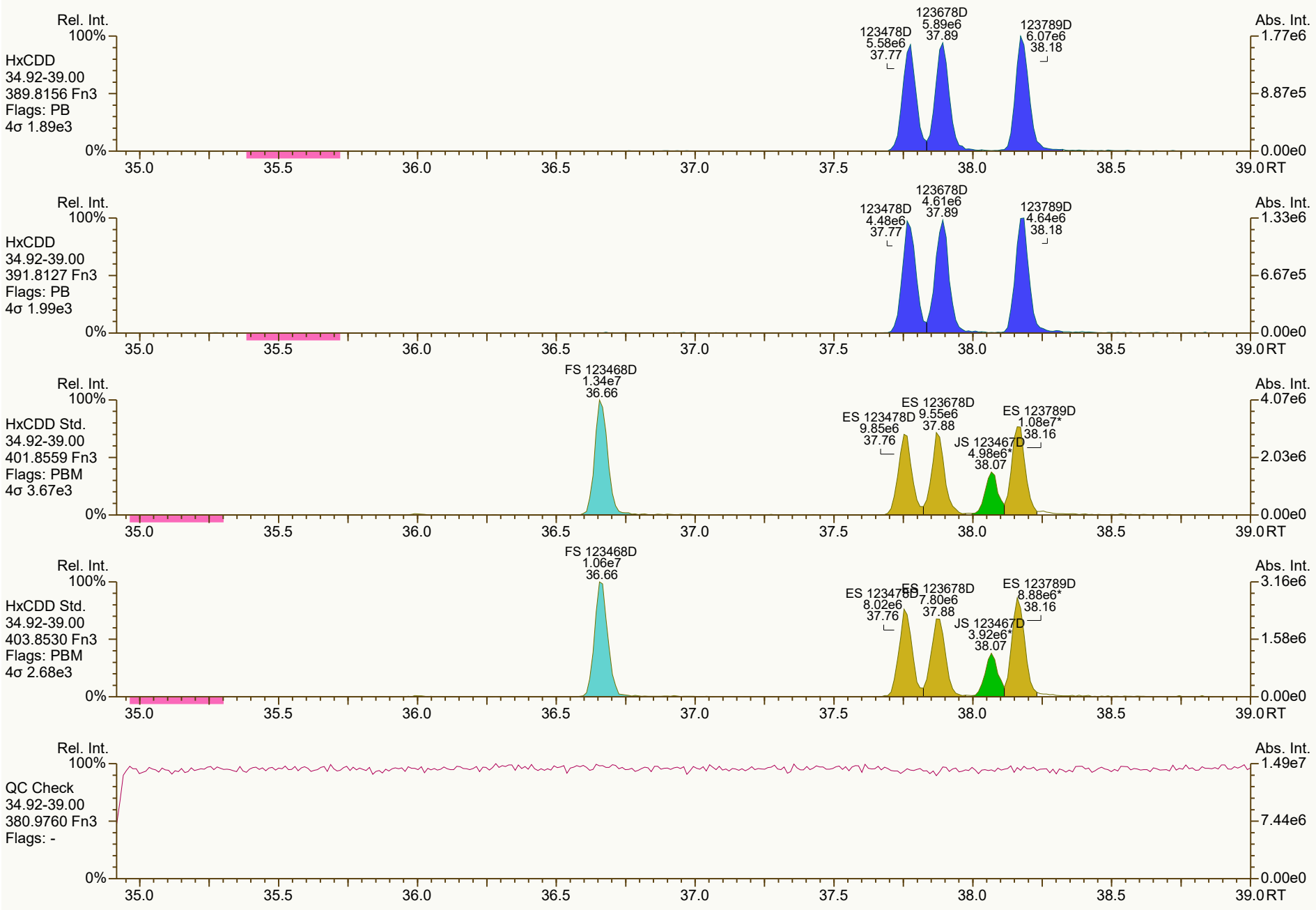
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.81	0.65	-	0.89	Y	98.3	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32	-	1.78	Y	101	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.23	1.05	-	1.43	Y	103	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.22	1.05	-	1.43	Y	103	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.22	1.05	-	1.43	Y	101	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.08	0.88	-	1.20	Y	107	72	-	138	Y
13C-OCDD	M+2/M+4	0.90	0.76	-	1.02	Y	243	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.84	0.65	-	0.89	Y	94.6	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.60	1.32	-	1.78	Y	96.2	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.60	1.32	-	1.78	Y	97	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	116	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	121	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	122	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	117	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.47	0.37	-	0.51	Y	124	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.48	0.37	-	0.51	Y	127	77	-	129	Y
13C-OCDF	M+2/M+4	0.93	0.76	-	1.02	Y	272	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						11.2	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.55	1.32	-	1.78	Y	107	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	99.1	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	133	70	-	130	N
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	141	70	-	130	N

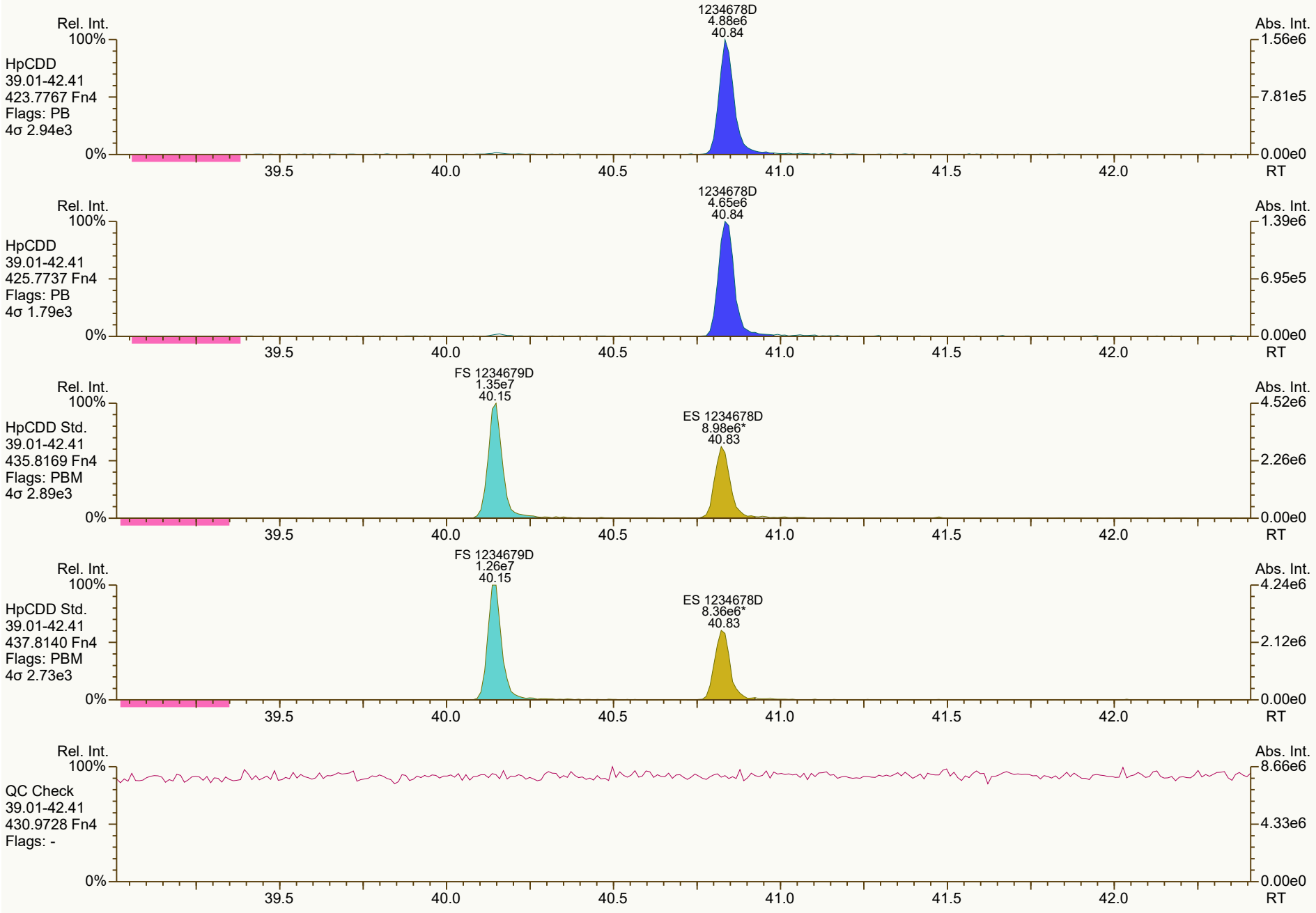
Processed: 07 Feb 2022 15:40 Analyst: TF

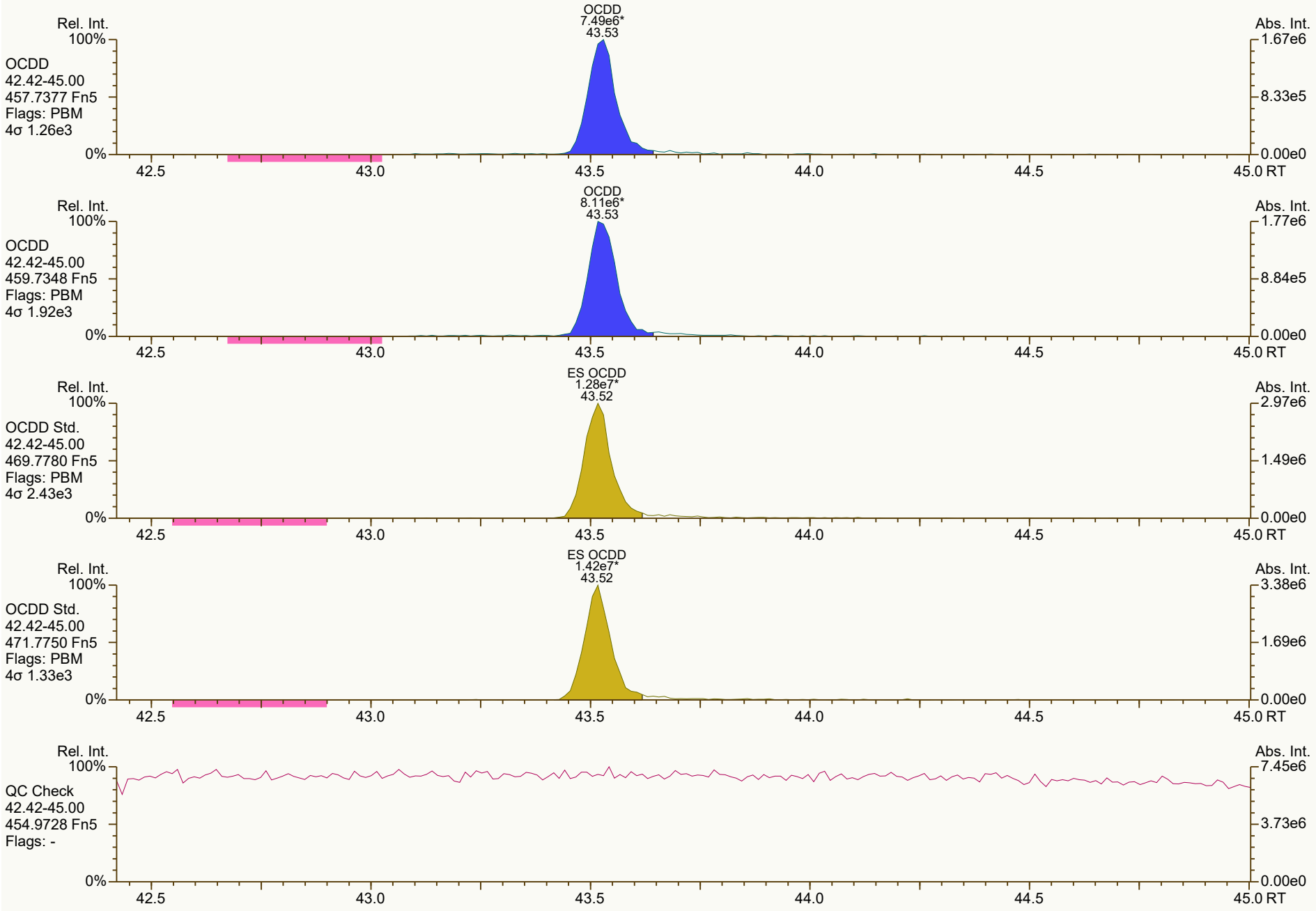

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
5.75e6
2.88e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.42e6
2.21e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.49e7
7.44e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
8.66e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
7.45e6
3.73e6
0.00e0

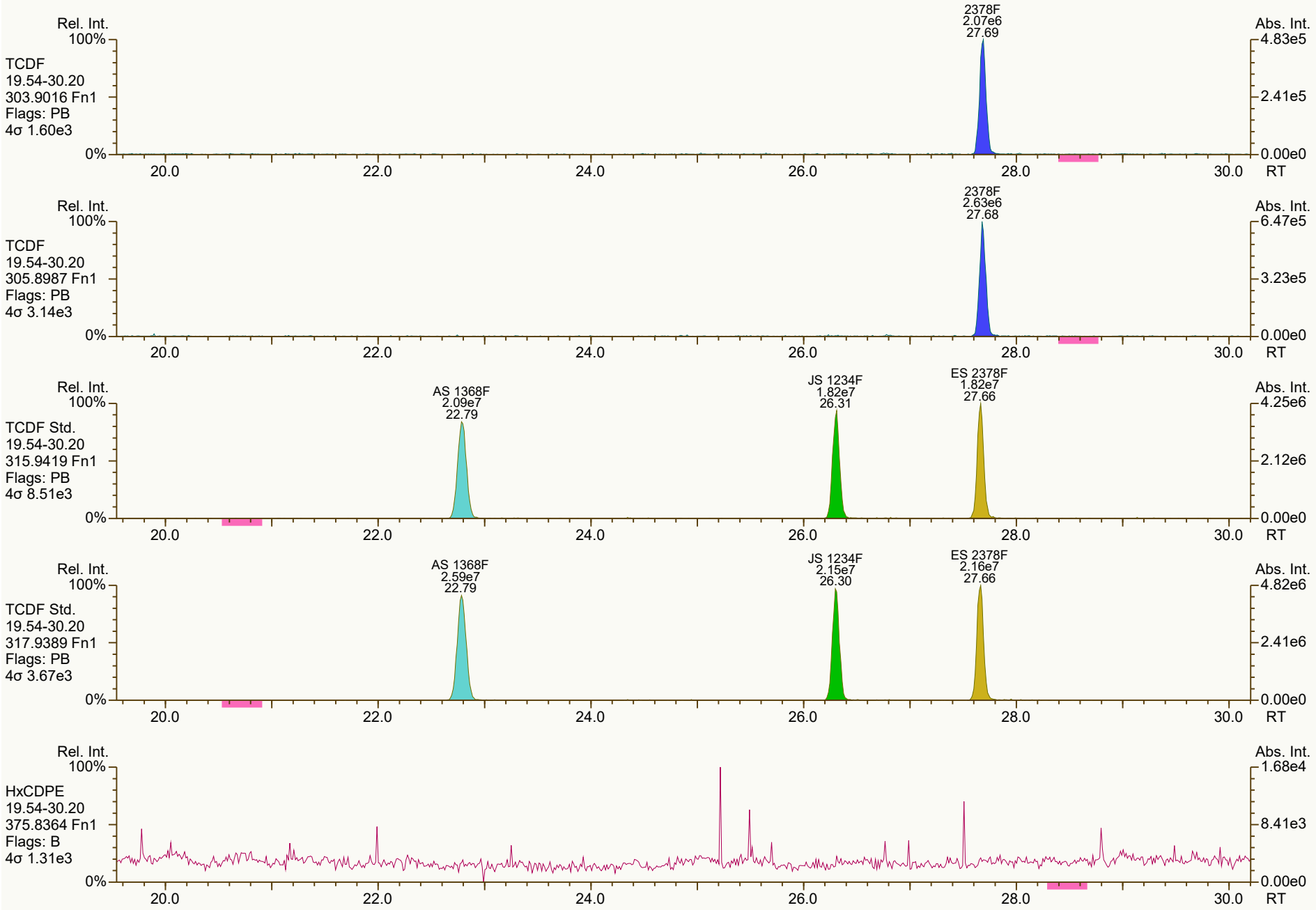

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.56e3
0%
2378D
1.31e6
28.54
Abs. Int.
3.33e5
1.66e5
0.00e0
RRF = (1.31e6 + 1.62e6) * 100pg / (1.09e7 + 1.34e7) * 10pg = 1.21
DTF 07-Feb-2022 09:50
VERIFIED
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.38e3
0%
2378D
1.62e6
28.54
Abs. Int.
3.52e5
1.76e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.20e3
0%
CS 37Cl-2378D
3.16e6
28.54
Abs. Int.
7.39e5
3.69e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.84e3
0%
AS 1368D
1.22e7
24.88
TS 1378D
1.66e7
26.87
JS 1234D
1.05e7
27.86
ES 2378D
1.09e7
28.52
FS 1278D
1.18e7
28.84
Abs. Int.
3.79e6
1.90e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.27e3
0%
AS 1368D
1.48e7
24.88
TS 1378D
2.08e7
26.87
JS 1234D
1.30e7
27.86
ES 2378D
1.34e7
28.52
FS 1278D
1.46e7
28.84
Abs. Int.
4.61e6
2.31e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PBM
4σ 2.05e3
0%
12378D
6.77e6*
33.86
Abs. Int.
1.91e6
9.53e5
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PBM
4σ 1.65e3
0%
12378D
4.28e6*
33.86
Abs. Int.
1.24e6
6.21e5
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 4.74e3
0%
FS 12478D
1.31e7
32.62
CS 12347D
1.15e7
33.34
ES 12378D
1.27e7
33.85
Abs. Int.
3.59e6
1.80e6
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 3.61e3
0%
FS 12478D
8.53e6
32.62
CS 12347D
7.43e6
33.34
ES 12378D
8.13e6
33.85
Abs. Int.
2.57e6
1.28e6
0.00e0
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.42e6
2.21e6
0.00e0
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 1.89e3
123478D
5.58e6
37.77
123678D
5.89e6
37.89
123789D
6.07e6
38.18
Abs. Int.
1.77e6
8.87e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 1.99e3
123478D
4.48e6
37.77
123678D
4.61e6
37.89
123789D
4.64e6
38.18
Abs. Int.
1.33e6
6.67e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 3.67e3
FS 123468D
1.34e7
36.66
ES 123478D
9.85e6
37.76
ES 123678D
9.55e6
37.88
JS 123467D
4.98e6*
38.07
ES 123789D
1.08e7*
38.16
Abs. Int.
4.07e6
2.03e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.06e7
36.66
ES 123478D
8.02e6
37.76
ES 123678D
7.80e6
37.88
JS 123467D
3.92e6*
38.07
ES 123789D
8.88e6*
38.16
Abs. Int.
3.16e6
1.58e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
Abs. Int.
1.49e7
7.44e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

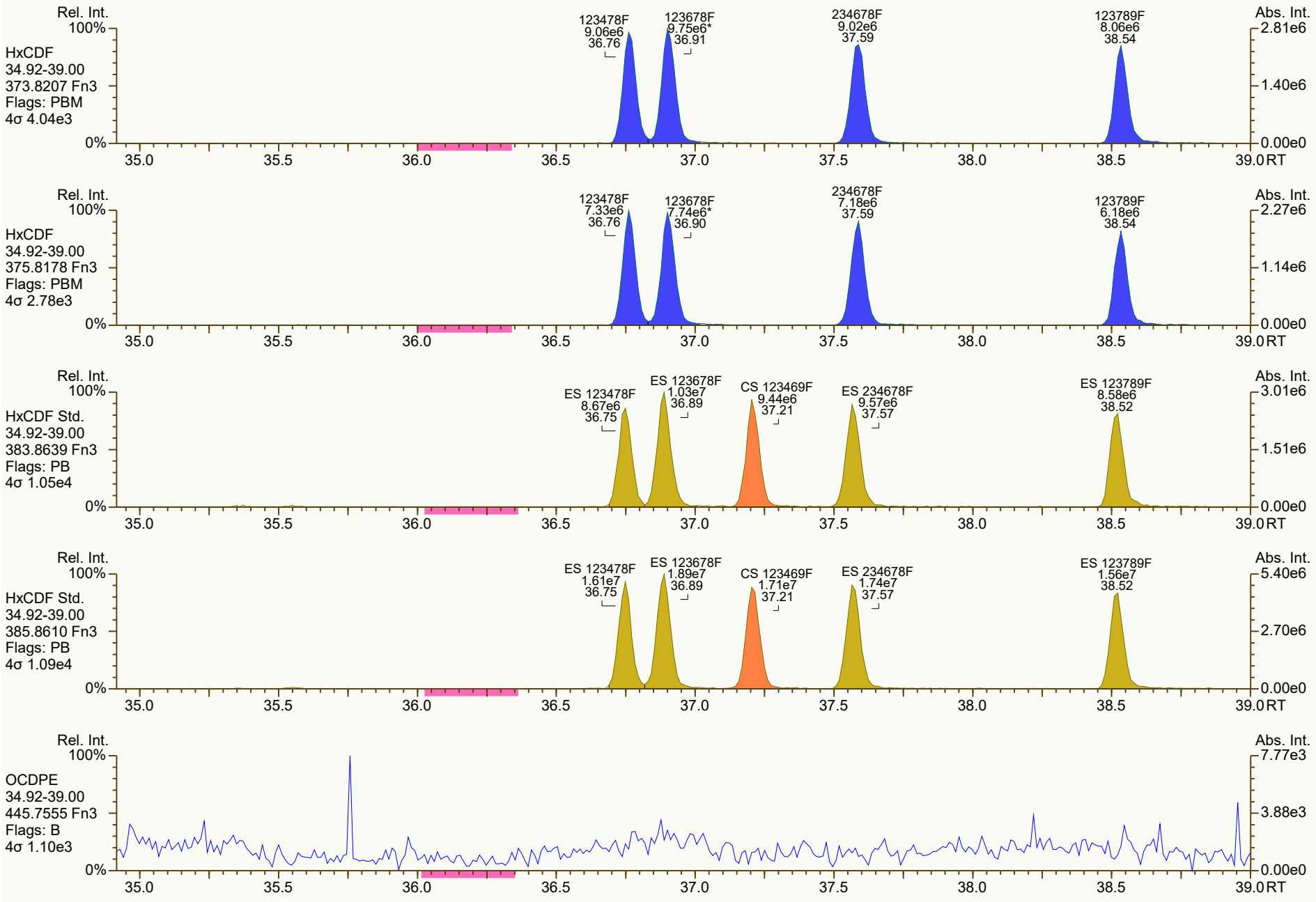

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 2.94e3
0%
1234678D
4.88e6
40.84
Abs. Int.
1.56e6
7.81e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.79e3
0%
1234678D
4.65e6
40.84
Abs. Int.
1.39e6
6.95e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 2.89e3
0%
FS 1234679D
1.35e7
40.15
ES 1234678D
8.98e6*
40.83
Abs. Int.
4.52e6
2.26e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 2.73e3
0%
FS 1234679D
1.26e7
40.15
ES 1234678D
8.36e6*
40.83
Abs. Int.
4.24e6
2.12e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
8.66e6
4.33e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

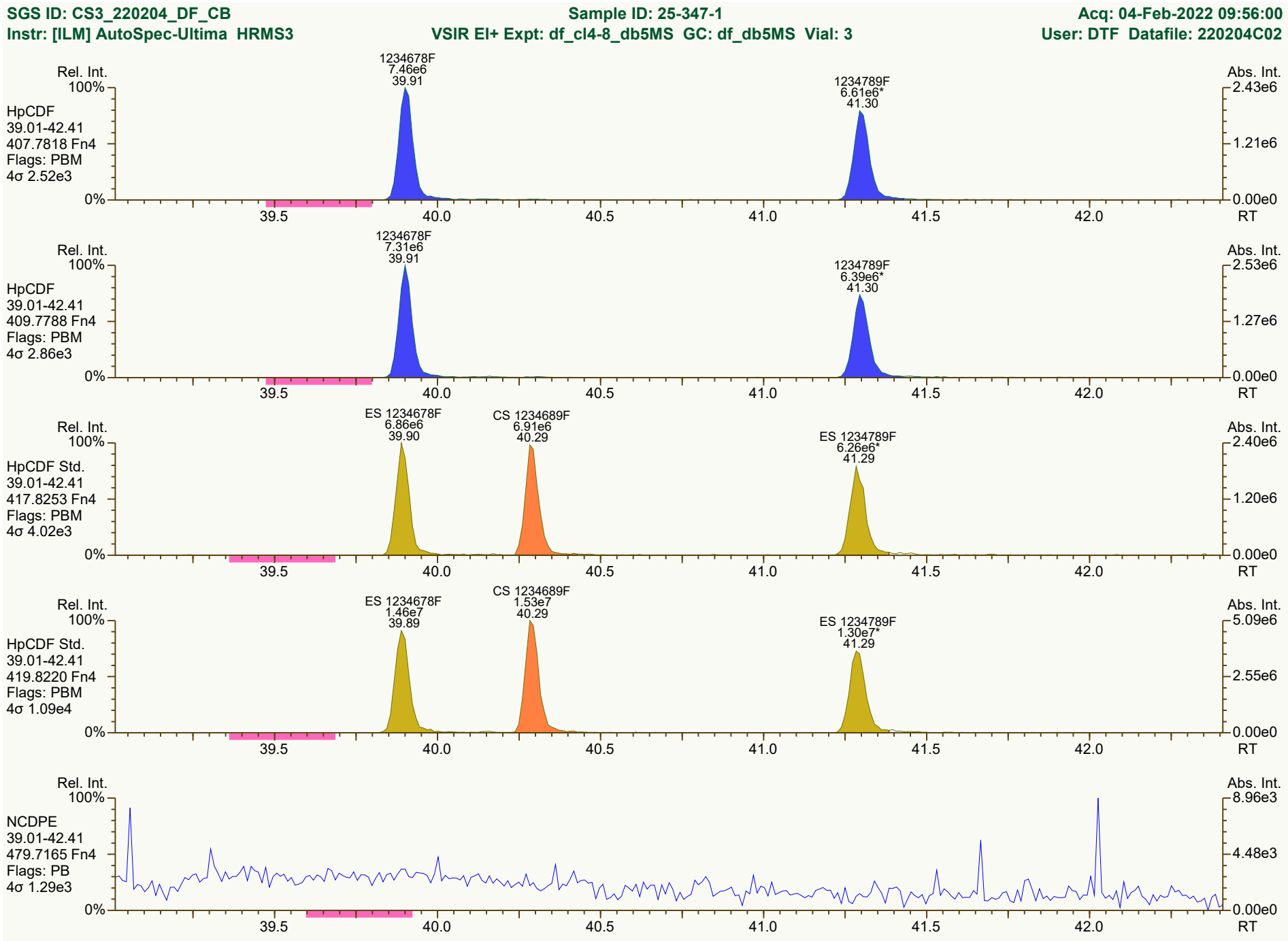

OCDD
7.49e6*
43.53
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.26e3
0%
Abs. Int.
1.67e6
8.33e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
8.11e6*
43.53
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 1.92e3
1.77e6
8.84e5
ES OCDD
1.28e7*
43.52
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 2.43e3
2.97e6
1.49e6
ES OCDD
1.42e7*
43.52
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 1.33e3
3.38e6
1.69e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
7.45e6
3.73e6

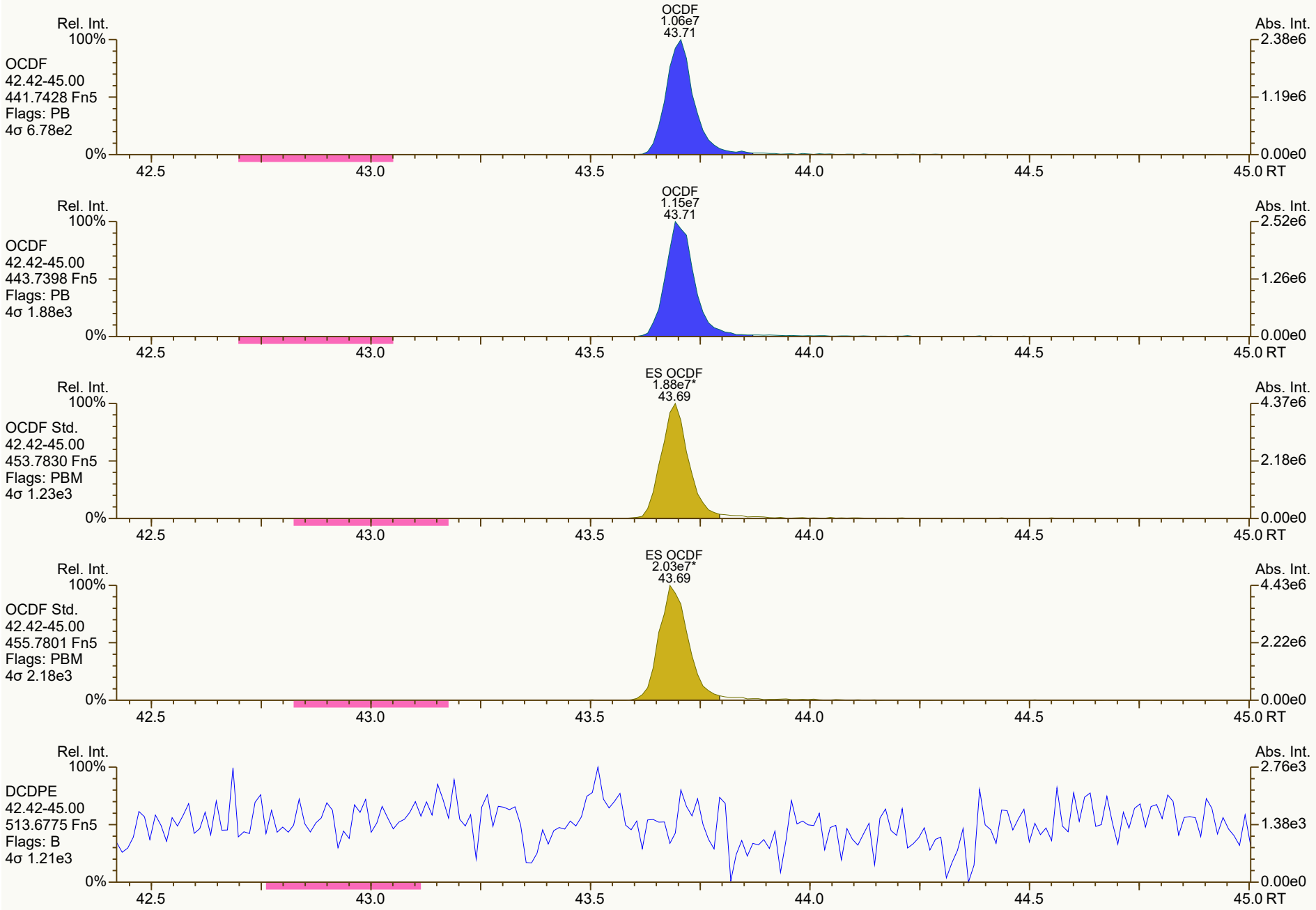

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.60e3
0%
2378F
2.07e6
27.69
Abs. Int.
4.83e5
2.41e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 3.14e3
0%
2378F
2.63e6
27.68
Abs. Int.
6.47e5
3.23e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 8.51e3
0%
AS 1368F
2.09e7
22.79
JS 1234F
1.82e7
26.31
ES 2378F
1.82e7
27.66
Abs. Int.
4.25e6
2.12e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.67e3
0%
AS 1368F
2.59e7
22.79
JS 1234F
2.15e7
26.30
ES 2378F
2.16e7
27.66
Abs. Int.
4.82e6
2.41e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.31e3
0%
Abs. Int.
1.68e4
8.41e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

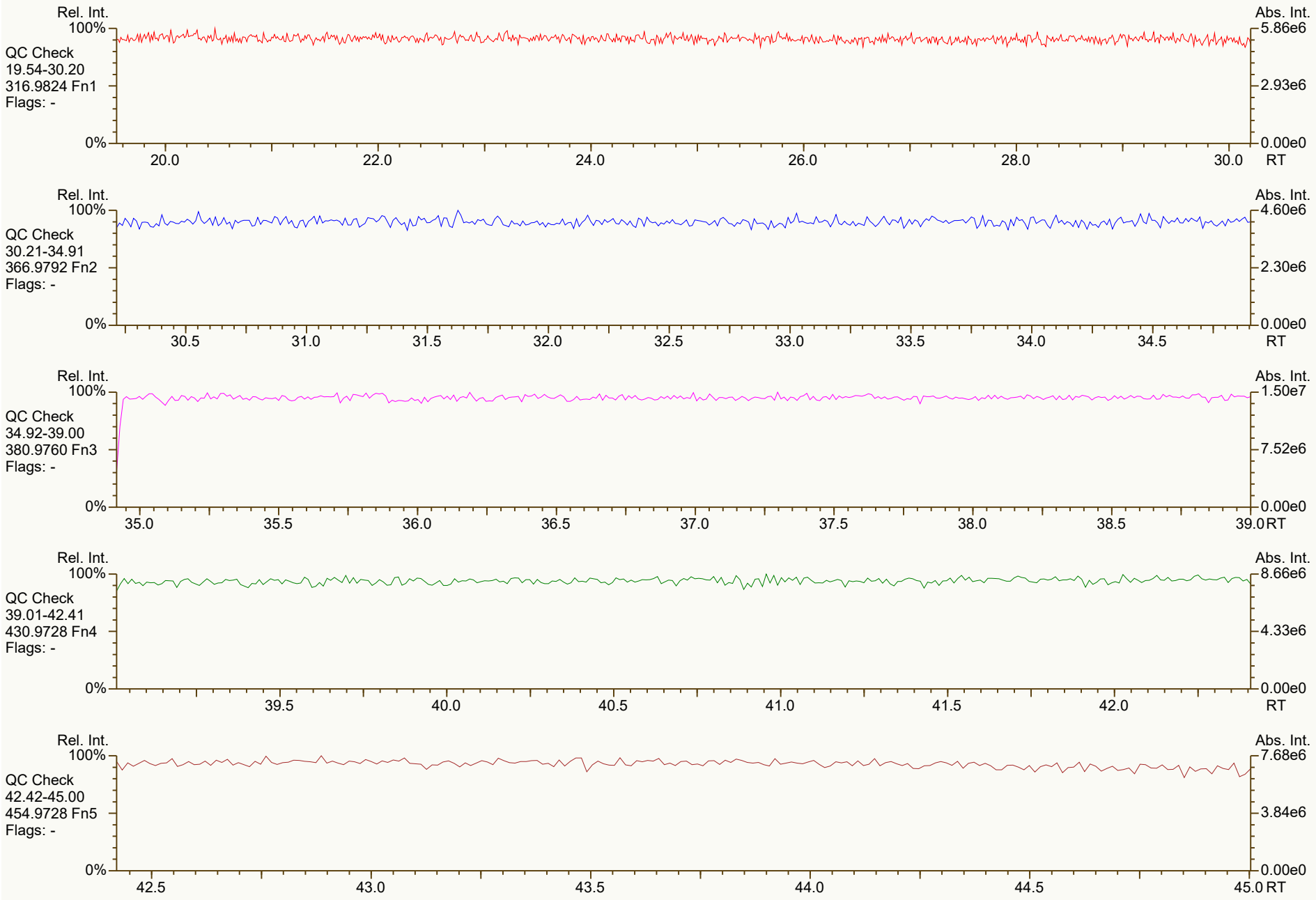

Rel. Int.
100%
0%
Abs. Int.
8.40e3
4.20e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.14e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.69e4
8.45e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.66e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
5.75e6
2.88e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PB
4σ 3.87e3
0%
12378F
1.11e7
32.42
23478F
1.12e7
33.53
Abs. Int.
3.12e6
1.56e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PB
4σ 2.13e3
0%
12378F
7.15e6
32.42
23478F
7.14e6
33.53
Abs. Int.
1.98e6
9.90e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PBM
4σ 4.52e3
0%
CS 12346F
2.05e7*
31.87
ES 12378F
2.14e7
32.40
ES 23478F
2.09e7
33.51
Abs. Int.
5.91e6
2.96e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PBM
4σ 6.42e3
0%
CS 12346F
1.30e7*
31.87
ES 12378F
1.34e7
32.40
ES 23478F
1.31e7
33.51
Abs. Int.
3.65e6
1.82e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.19e3
0%
Abs. Int.
7.07e3
3.53e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

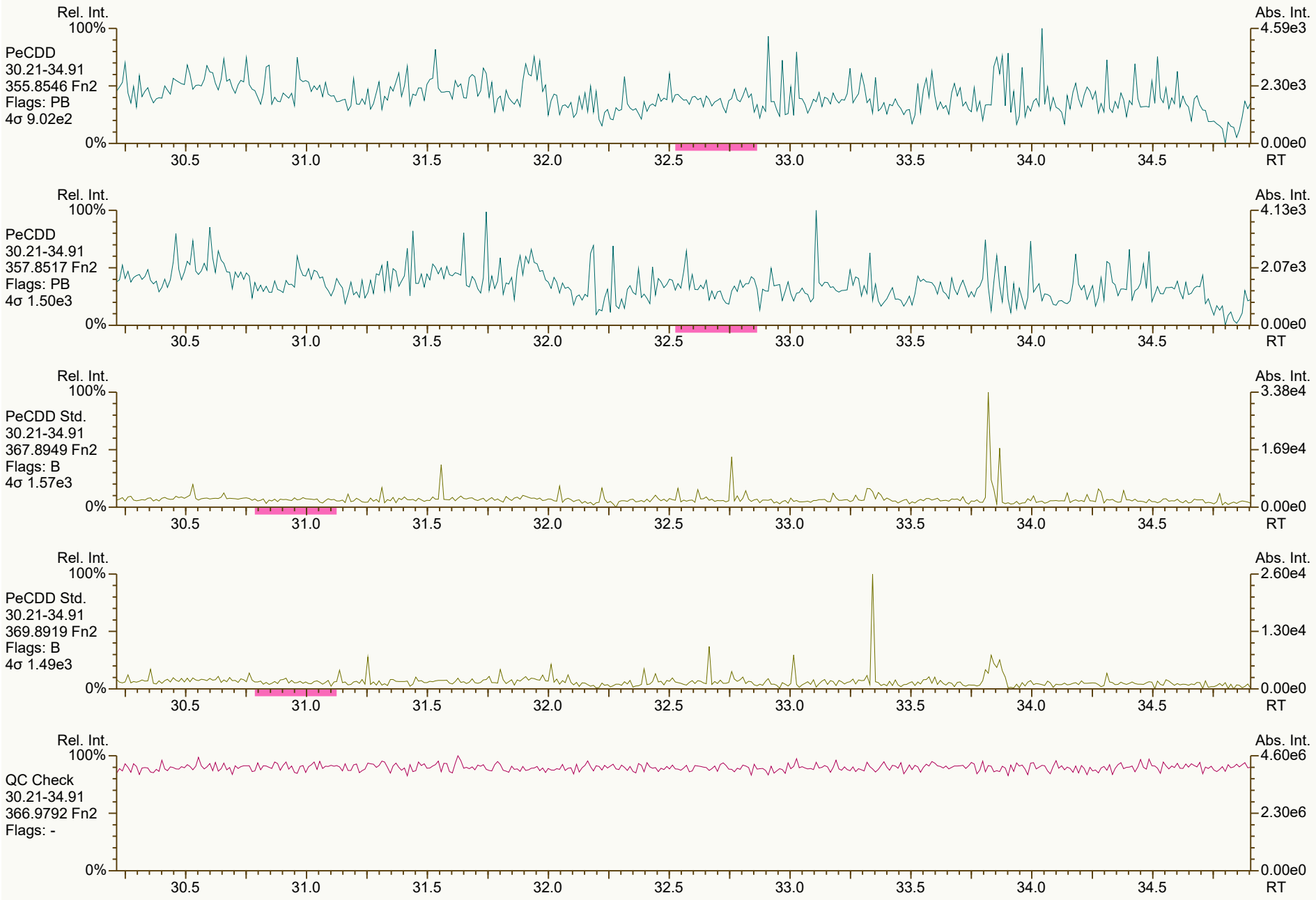

Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 4.04e3
123478F
9.06e6
36.76
123678F
9.75e6*
36.91
234678F
9.02e6
37.59
123789F
8.06e6
38.54
Abs. Int.
2.81e6
1.40e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 2.78e3
123478F
7.33e6
36.76
123678F
7.74e6*
36.90
234678F
7.18e6
37.59
123789F
6.18e6
38.54
Abs. Int.
2.27e6
1.14e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 1.05e4
ES 123478F
8.67e6
36.75
ES 123678F
1.03e7
36.89
CS 123469F
9.44e6
37.21
ES 234678F
9.57e6
37.57
ES 123789F
8.58e6
38.52
Abs. Int.
3.01e6
1.51e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 1.09e4
ES 123478F
1.61e7
36.75
ES 123678F
1.89e7
36.89
CS 123469F
1.71e7
37.21
ES 234678F
1.74e7
37.57
ES 123789F
1.56e7
38.52
Abs. Int.
5.40e6
2.70e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.10e3
Abs. Int.
7.77e3
3.88e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: CS3_220204_DF_CB
Sample ID: 25-347-1
Acq: 04-Feb-2022 09:56:00
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220204C02
Rel. Int.
Abs. Int.
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 2.52e3
1234678F
7.46e6
39.91
1234789F
6.61e6*
41.30
2.43e6
1.21e6
0.00e0
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 2.86e3
1234678F
7.31e6
39.91
1234789F
6.39e6*
41.30
2.53e6
1.27e6
0.00e0
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 4.02e3
ES 1234678F
6.86e6
39.90
CS 1234689F
6.91e6
40.29
ES 1234789F
6.26e6*
41.29
2.40e6
1.20e6
0.00e0
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 1.09e4
ES 1234678F
1.46e7
39.89
CS 1234689F
1.53e7
40.29
ES 1234789F
1.30e7*
41.29
5.09e6
2.55e6
0.00e0
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.29e3
8.96e3
4.48e3
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6236\B6236_18881 DF\Resources\CS3_220204_DF_CB.utp_res, saved 07-Feb-2022 15:48 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7380, 6594, 4492 scc: 913-732
Revised: 04-Feb-2022 10:55 (DTF) Printed: 07-Feb-2022 15:49 Page 11 of 12


OCDF
1.06e7
43.71
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 6.78e2
0%
Abs. Int.
2.38e6
1.19e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.15e7
43.71
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.88e3
2.52e6
1.26e6
ES OCDF
1.88e7*
43.69
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 1.23e3
4.37e6
2.18e6
ES OCDF
2.03e7*
43.69
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 2.18e3
4.43e6
2.22e6
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.21e3
2.76e3
1.38e3


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
5.86e6
2.93e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.60e6
2.30e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.50e7
7.52e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
8.66e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
7.68e6
3.84e6
0.00e0

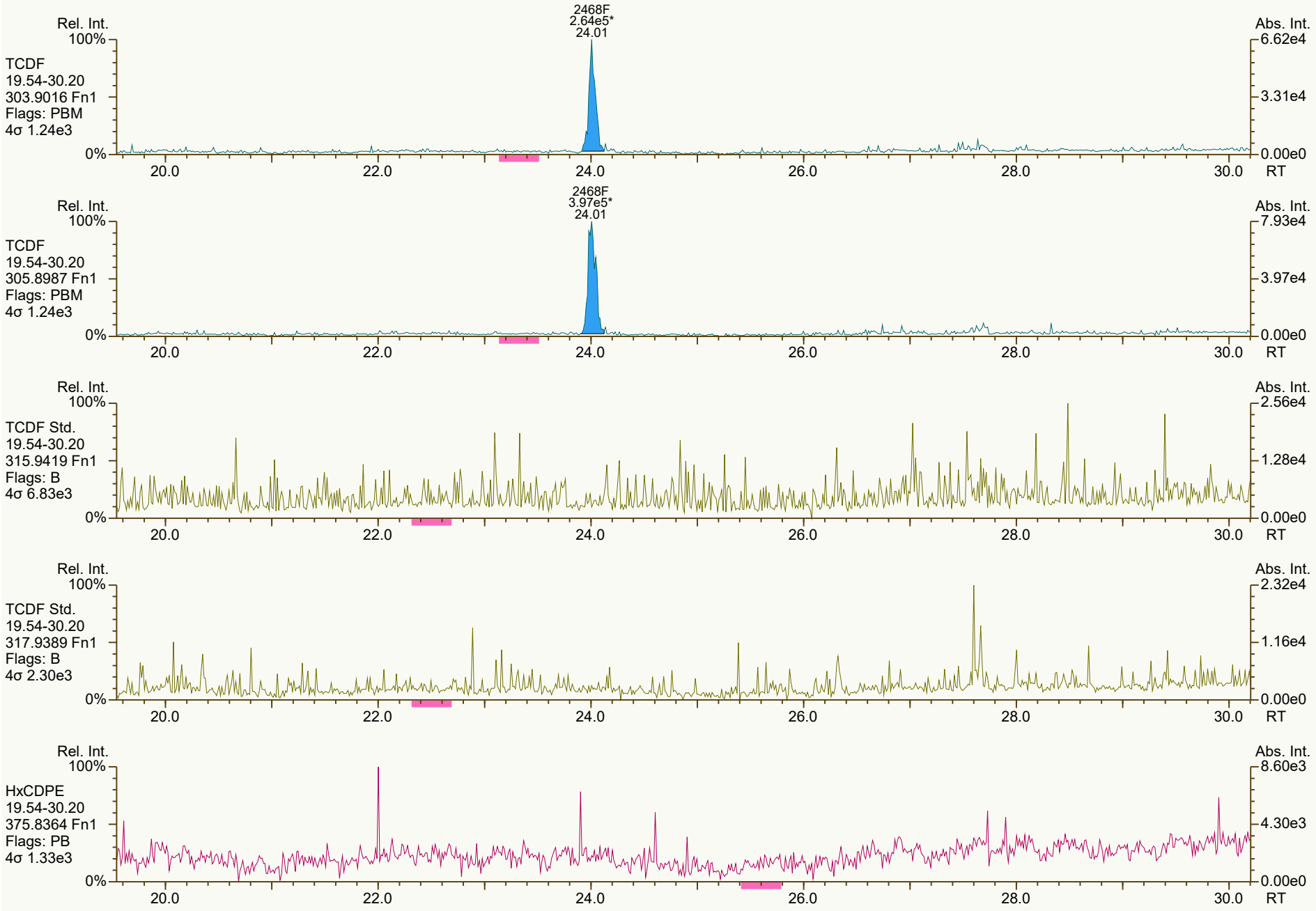

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.07e3
0%
Abs. Int.
8.14e3
4.07e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
8.54e3
4.27e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.00e3
0%
Abs. Int.
9.01e3
4.51e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 5.75e3
0%
Abs. Int.
3.18e4
1.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 2.00e3
0%
Abs. Int.
1.53e4
7.65e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PB
4σ 9.02e2
0%
Abs. Int.
4.59e3
2.30e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PB
4σ 1.50e3
0%
Abs. Int.
4.13e3
2.07e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: B
4σ 1.57e3
0%
Abs. Int.
3.38e4
1.69e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: B
4σ 1.49e3
0%
Abs. Int.
2.60e4
1.30e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.60e6
2.30e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 1.44e3
0%
Abs. Int.
5.50e3
2.75e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: B
4σ 1.24e3
0%
Abs. Int.
5.75e3
2.88e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: B
4σ 1.49e3
0%
Abs. Int.
1.92e4
9.60e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: B
4σ 2.40e3
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.50e7
7.52e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.46e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: B
4σ 1.12e3
0%
Abs. Int.
6.66e3
3.33e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: B
4σ 1.54e3
0%
Abs. Int.
1.61e4
8.06e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: B
4σ 1.97e3
0%
Abs. Int.
1.16e4
5.80e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
8.66e6
4.33e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 1.50e3
0%
Abs. Int.
1.17e4
5.85e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: B
4σ 2.42e3
0%
Abs. Int.
1.69e4
8.44e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: B
4σ 2.43e3
0%
Abs. Int.
1.36e4
6.78e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: B
4σ 1.25e3
0%
Abs. Int.
1.29e4
6.44e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.68e6
3.84e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


2468F
2.64e5*
24.01
Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.24e3
0%
Abs. Int.
6.62e4
3.31e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
2468F
3.97e5*
24.01
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.24e3
0%
Abs. Int.
7.93e4
3.97e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 6.83e3
0%
Abs. Int.
2.56e4
1.28e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 2.30e3
0%
Abs. Int.
2.32e4
1.16e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.33e3
0%
Abs. Int.
8.60e3
4.30e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.49e4
7.46e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.09e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.53e3
4.27e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.40e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
5.86e6
2.93e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: B
4σ 1.65e3
0%
Abs. Int.
1.21e4
6.05e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: B
4σ 1.66e3
0%
Abs. Int.
7.20e3
3.60e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.83e4
9.15e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: B
4σ 1.44e3
0%
Abs. Int.
1.06e4
5.32e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.38e3
0%
Abs. Int.
8.15e3
4.07e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: B
4σ 1.44e3
0%
Abs. Int.
1.11e4
5.55e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: B
4σ 1.05e3
0%
Abs. Int.
1.01e4
5.06e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: B
4σ 2.00e3
0%
Abs. Int.
1.26e4
6.30e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: B
4σ 3.28e3
0%
Abs. Int.
2.20e4
1.10e4
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.42e3
0%
Abs. Int.
5.91e3
2.96e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT

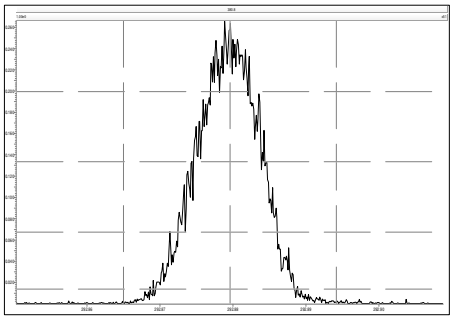

Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: B
4σ 1.09e3
0%
Abs. Int.
7.56e3
3.78e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.35e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: B
4σ 1.76e3
0%
Abs. Int.
1.24e4
6.20e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: B
4σ 1.65e3
0%
Abs. Int.
2.38e4
1.19e4
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.13e3
0%
Abs. Int.
6.49e3
3.24e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.49e3
0%
Abs. Int.
4.54e3
2.27e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.25e3
0%
Abs. Int.
4.73e3
2.36e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: B
4σ 1.55e3
0%
Abs. Int.
7.30e3
3.65e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: B
4σ 2.10e3
0%
Abs. Int.
1.84e4
9.19e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.16e3
0%
Abs. Int.
4.45e3
2.22e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

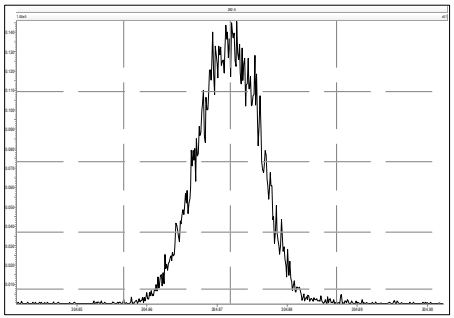
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Friday, February 04, 2022 09:54:22 Eastern Standard Time

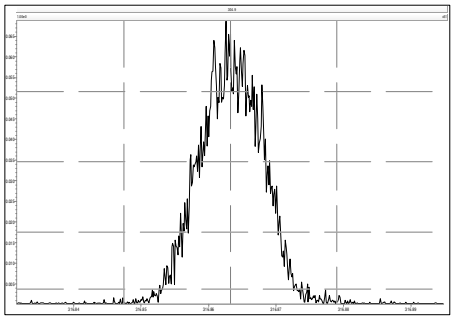
M 292.9824 R 15247



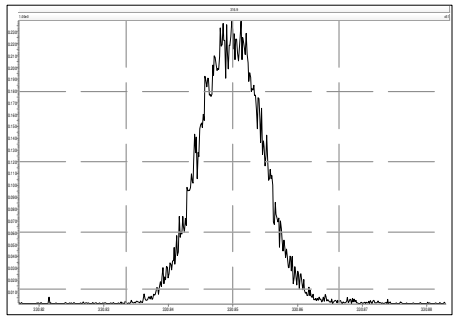
M 304.9824 R 15527



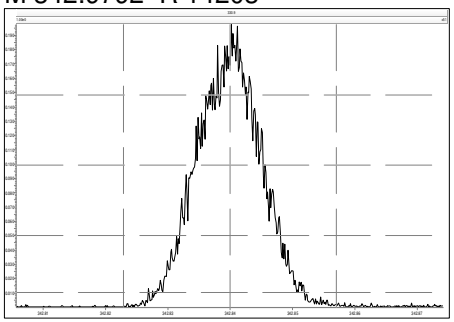
M 316.9824 R 15341



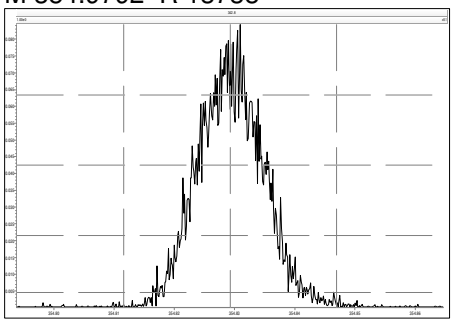
M 330.9792 R 14621



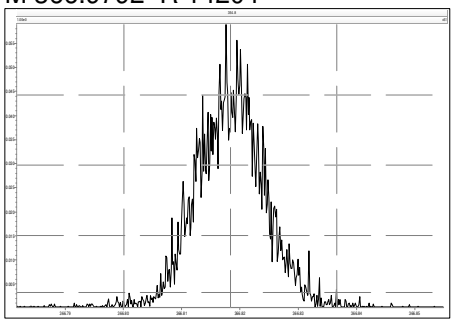
M 342.9792 R 14203



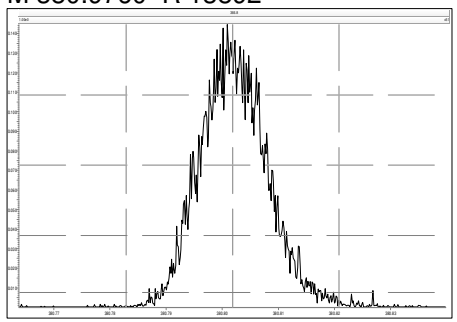
M 354.9792 R 13738



M 366.9792 R 14204



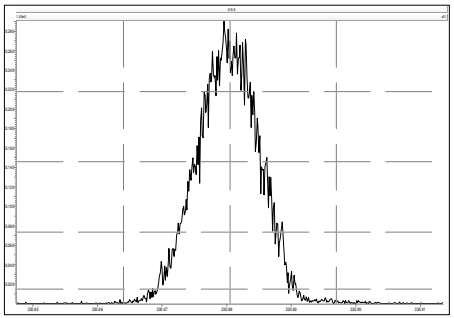
M 380.9760 R 13892



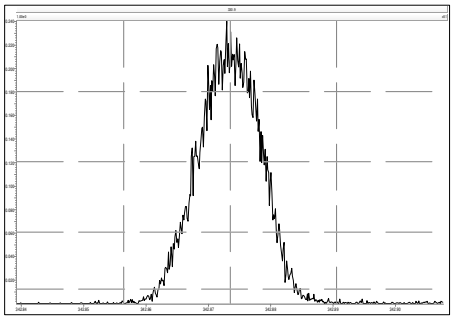
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Friday, February 04, 2022 09:54:39 Eastern Standard Time

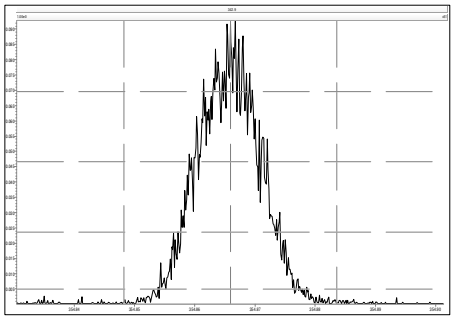
M 330.9792 R 16229



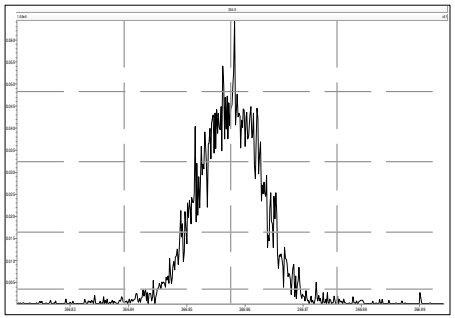
M 342.9792 R 15625



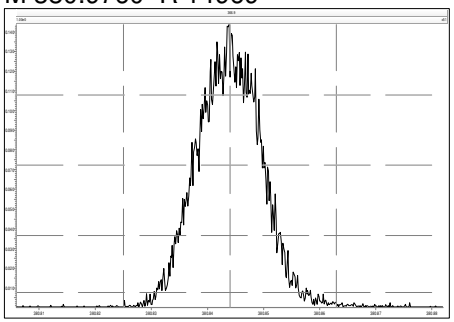
M 354.9792 R 14878



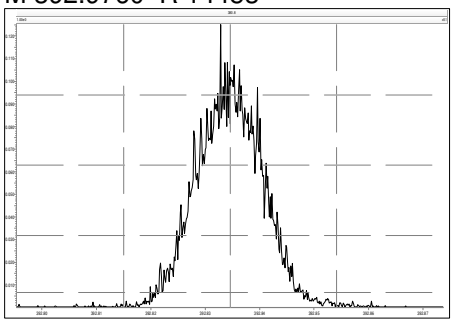
M 366.9792 R 15433



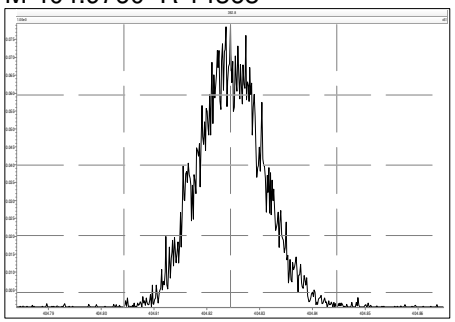
M 380.9760 R 14969



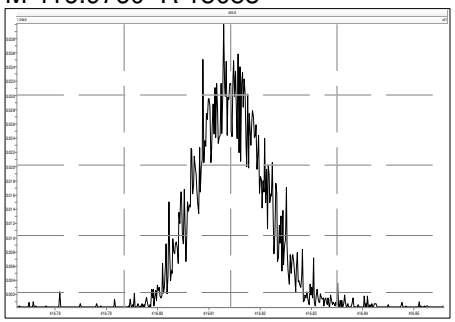
M 392.9760 R 14453



M 404.9760 R 14368



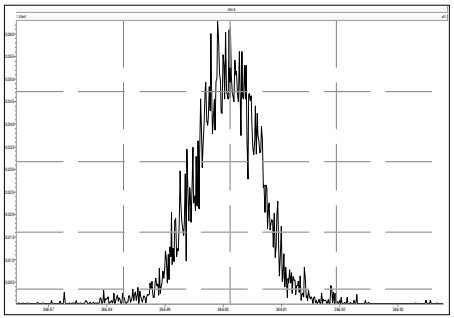
M 416.9760 R 15058



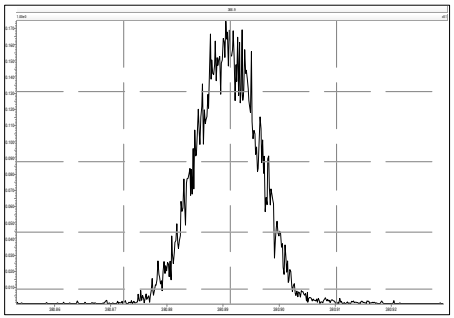
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Friday, February 04, 2022 09:54:55 Eastern Standard Time

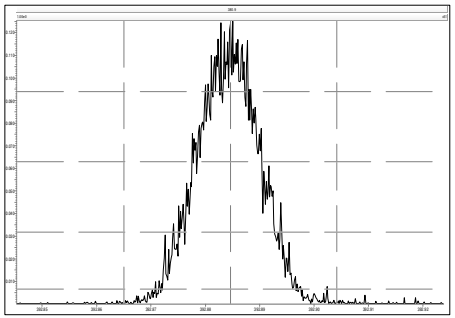
M 366.9792 R 16670



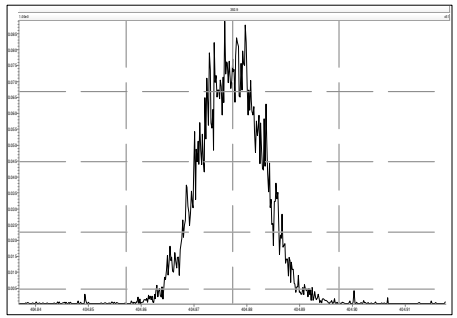
M 380.9760 R 16448



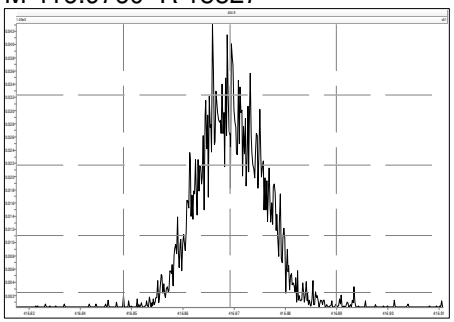
M 392.9760 R 14968



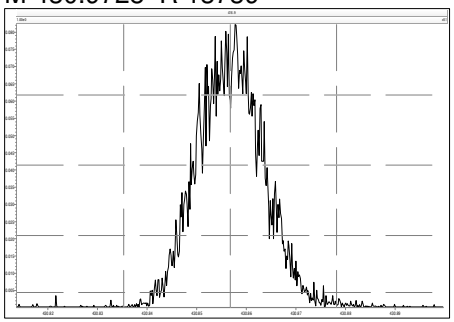
M 404.9760 R 15524



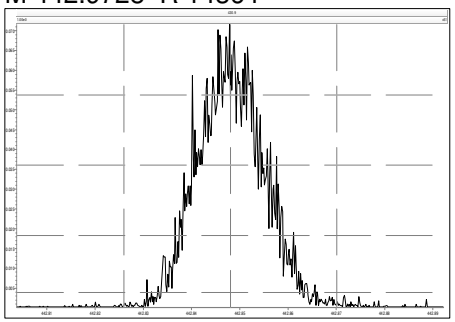
M 416.9760 R 15527



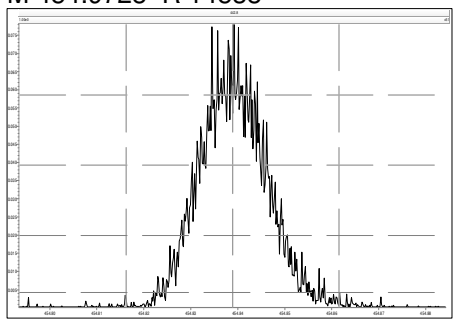
M 430.9728 R 13739



M 442.9728 R 14364



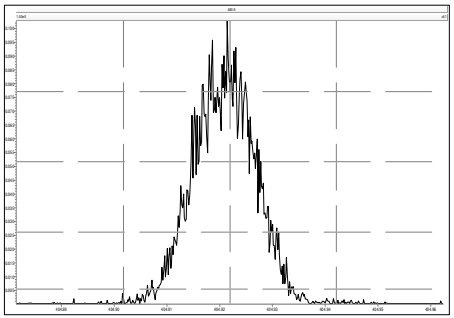
M 454.9728 R 14538



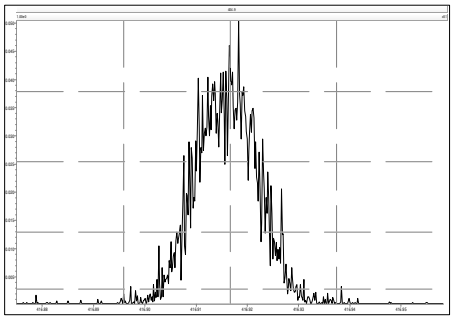
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Friday, February 04, 2022 09:55:11 Eastern Standard Time

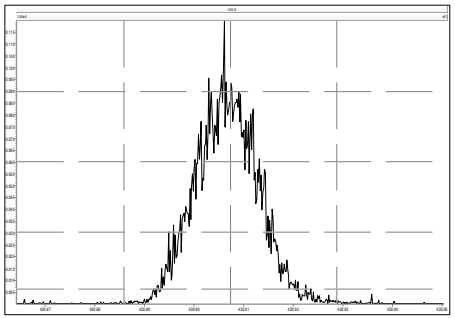
M 404.9760 R 16023



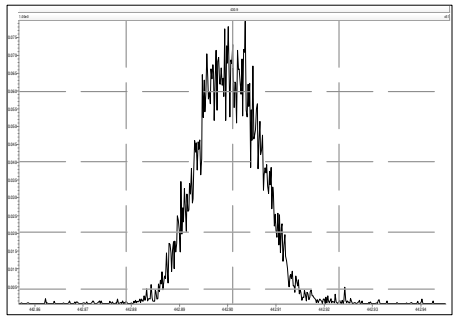
M 416.9760 R 15925



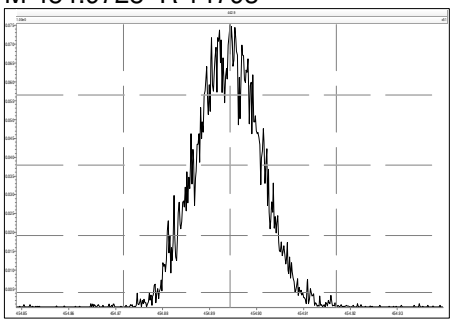
M 430.9728 R 15060



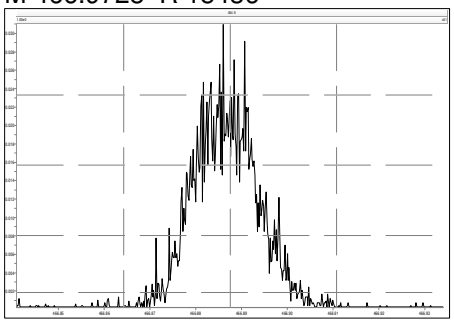
M 442.9728 R 15154



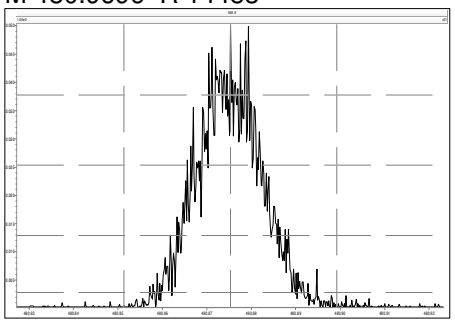
M 454.9728 R 14793



M 466.9728 R 15436



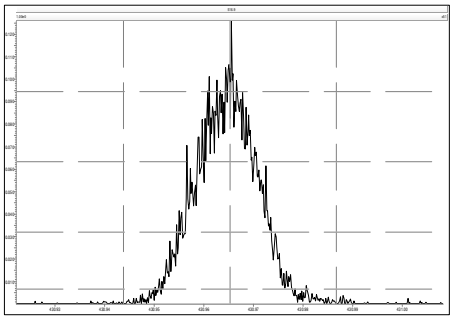
M 480.9696 R 14453



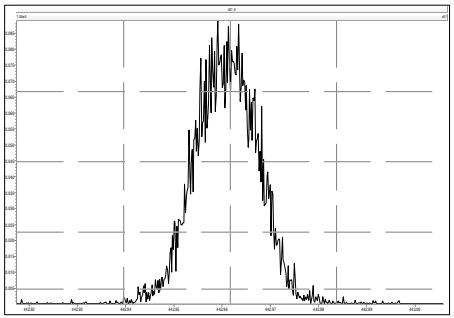
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Friday, February 04, 2022 09:55:27 Eastern Standard Time

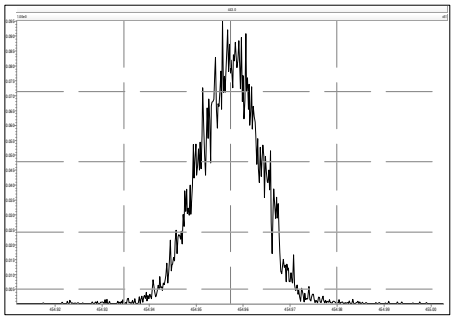
M 430.9728 R 16230



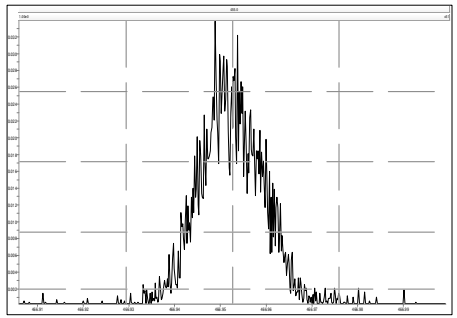
M 442.9728 R 15923



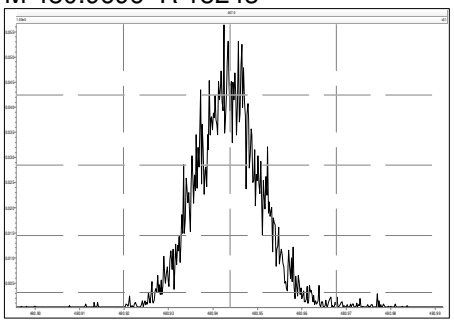
M 454.9728 R 15149



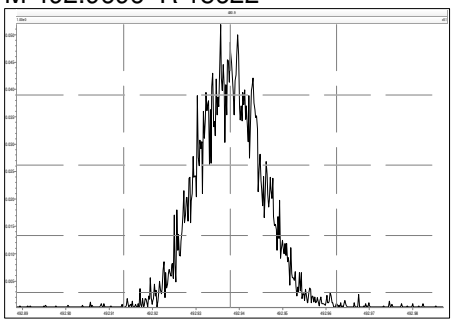
M 466.9728 R 14882



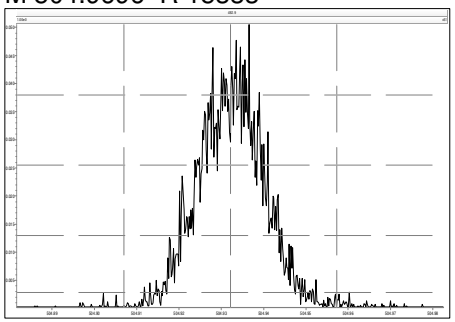
M 480.9696 R 15243



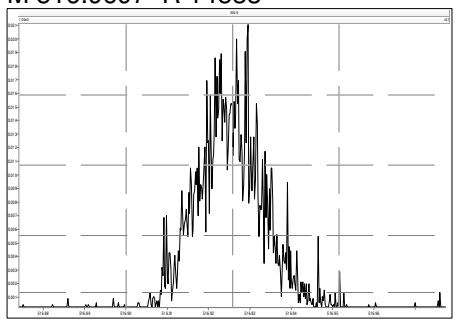
M 492.9696 R 15622



M 504.9696 R 15333



M 516.9697 R 14533



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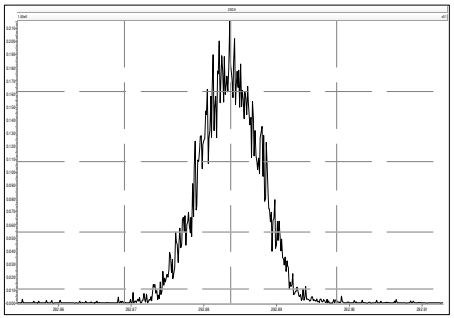
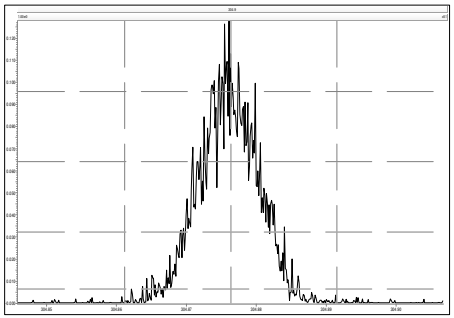
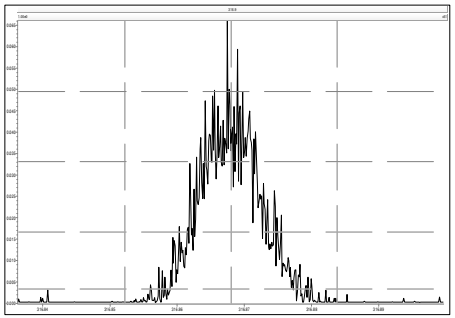
M 292.9824 R 16678



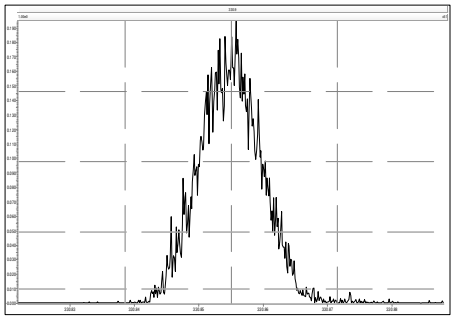
M 304.9824 R 17485



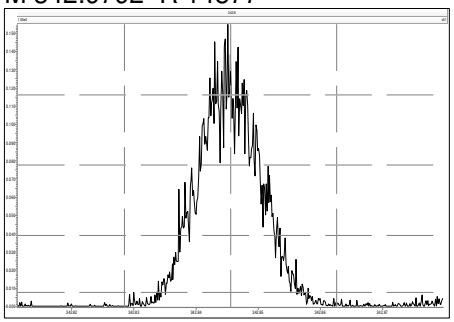
M 316.9824 R 17524



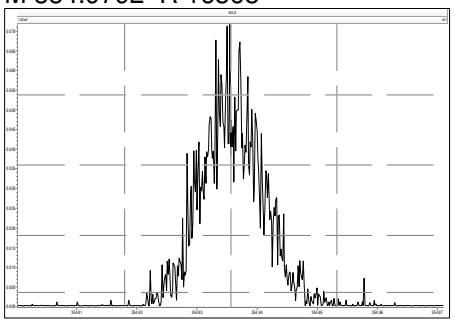
M 330.9792 R 15923



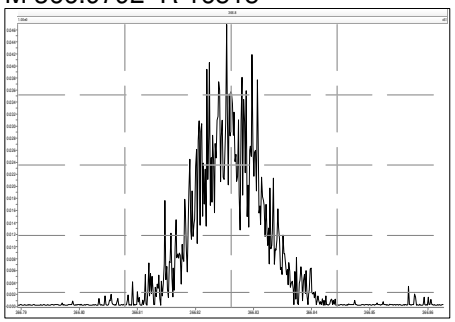
M 342.9792 R 14577



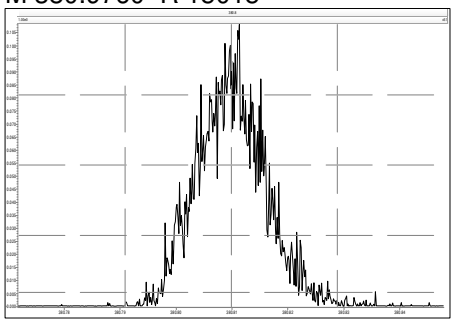
M 354.9792 R 16568



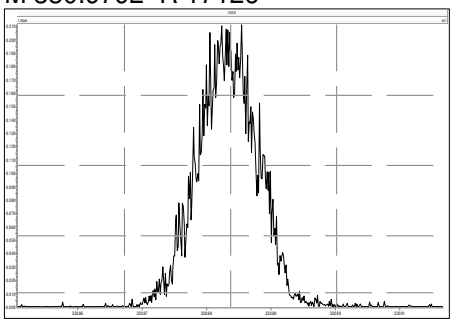
M 366.9792 R 16515



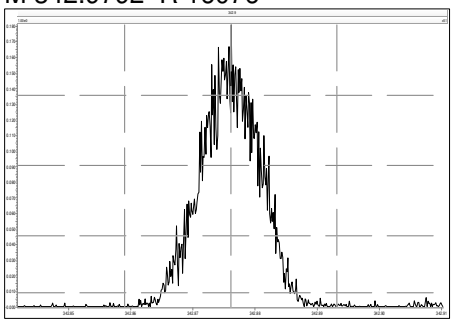
M 380.9760 R 15015



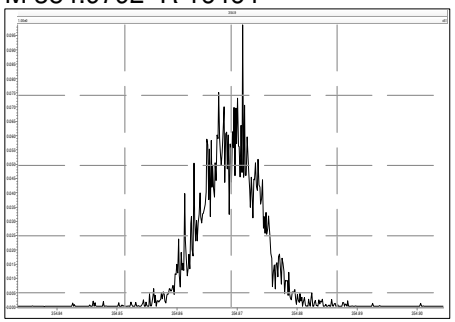
M 330.9792 R 17126



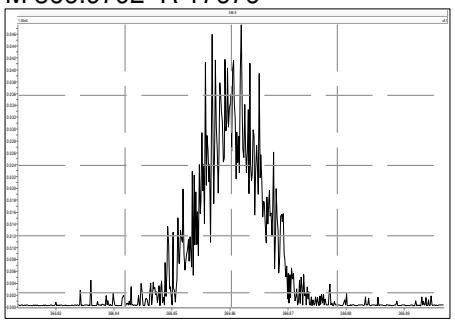
M 342.9792 R 16076



M 354.9792 R 16464



M 366.9792 R 17676



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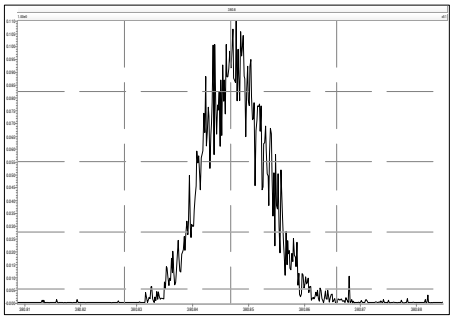
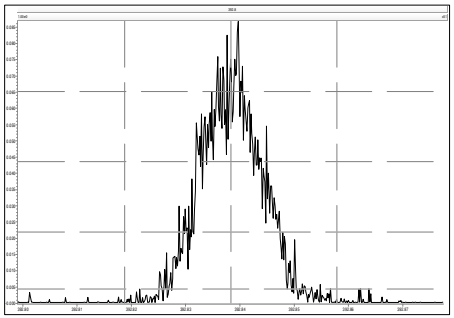
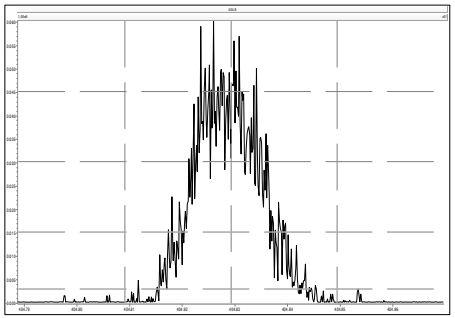
M 380.9760 R 16139



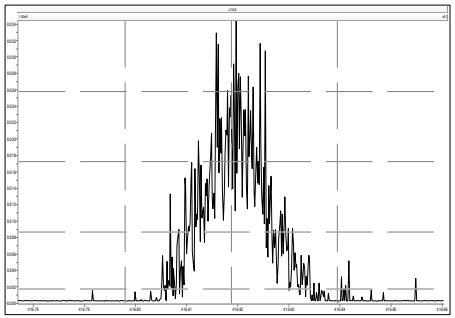
M 392.9760 R 16953



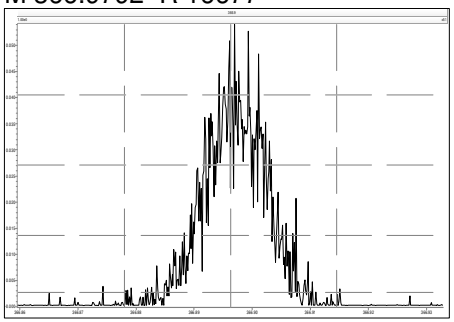
M 404.9760 R 15899



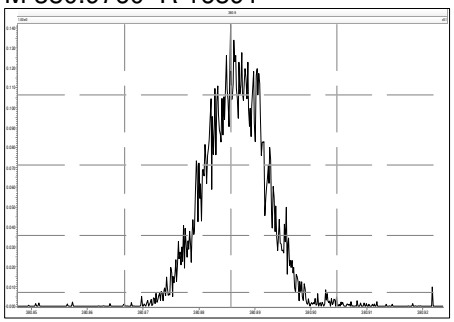
M 416.9760 R 17085



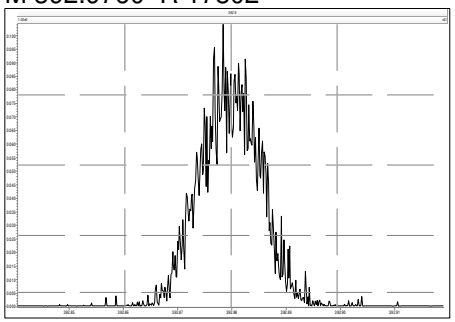
M 366.9792 R 16677



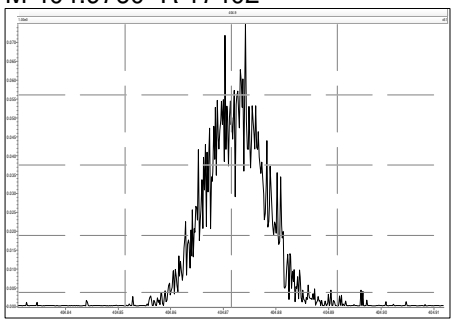
M 380.9760 R 16891



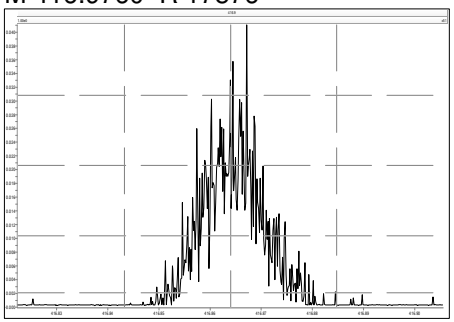
M 392.9760 R 17802



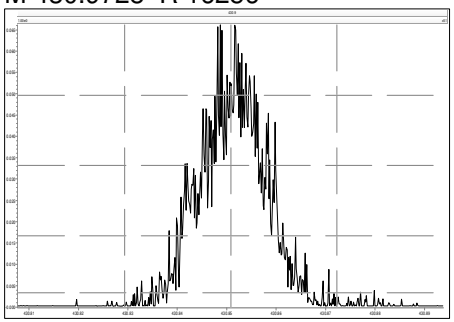
M 404.9760 R 17402



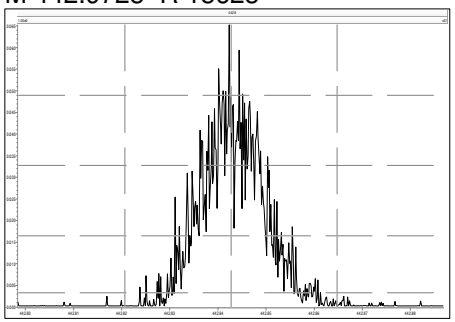
M 416.9760 R 17576



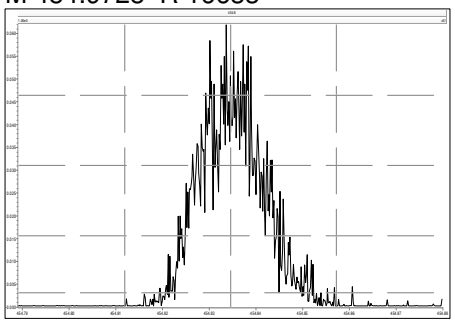
M 430.9728 R 16256



M 442.9728 R 15625



M 454.9728 R 16633



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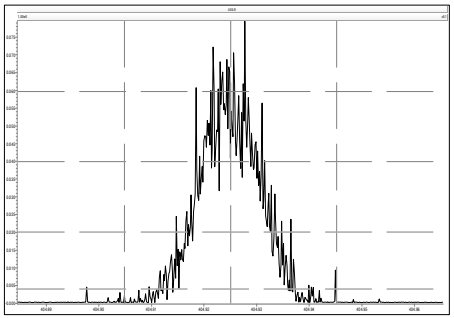
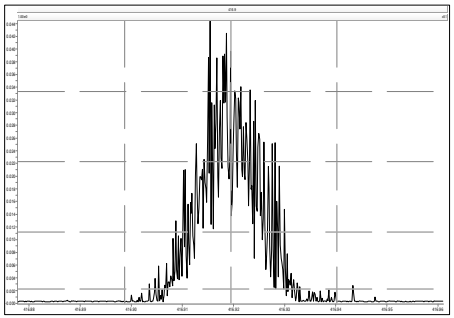
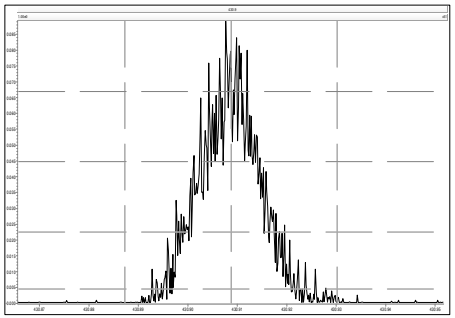
M 404.9760 R 17431



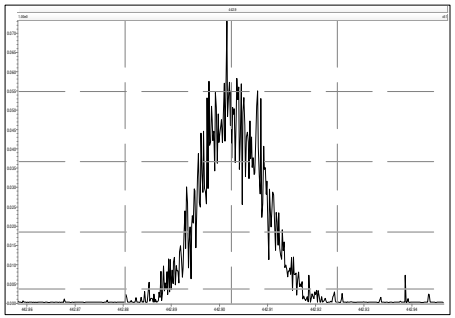
M 416.9760 R 19147



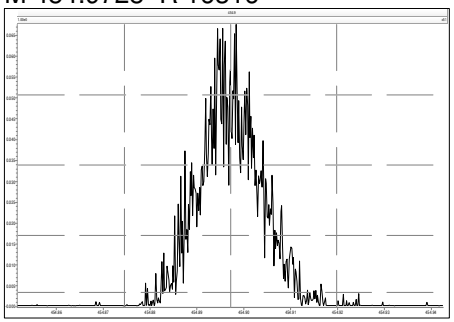
M 430.9728 R 17066



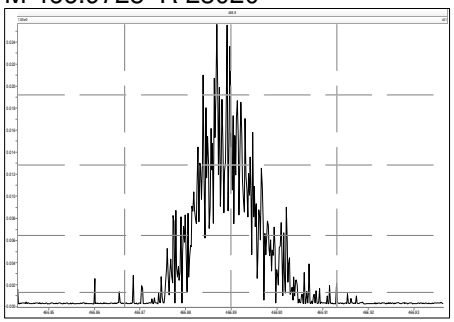
M 442.9728 R 16078



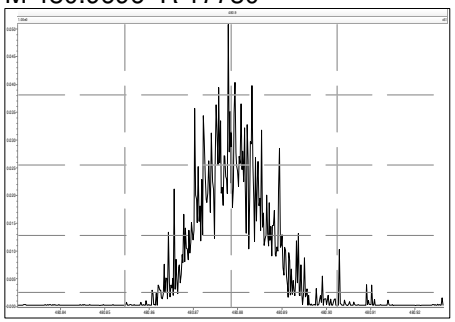
M 454.9728 R 16316



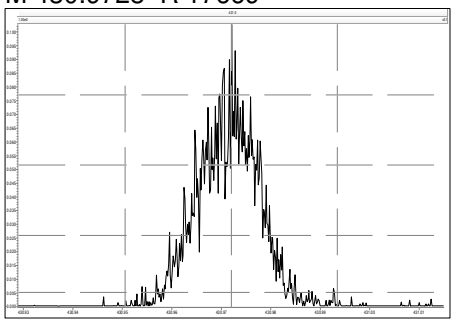
M 466.9728 R 23020



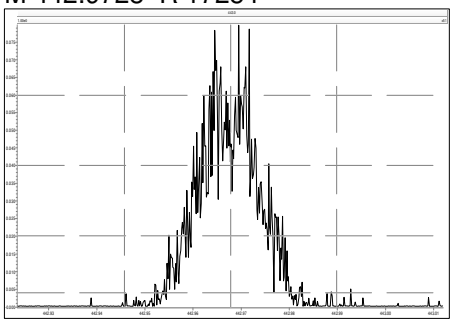
M 480.9696 R 17730



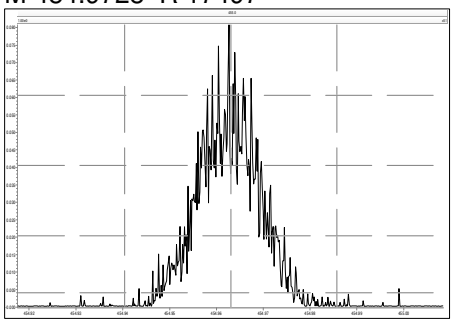
M 430.9728 R 17669



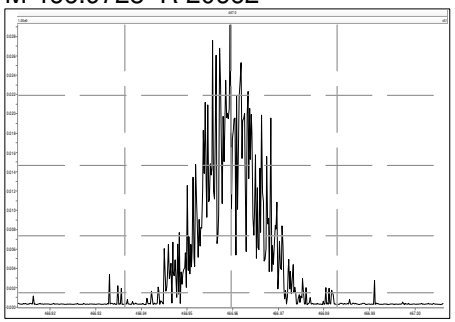
M 442.9728 R 17254



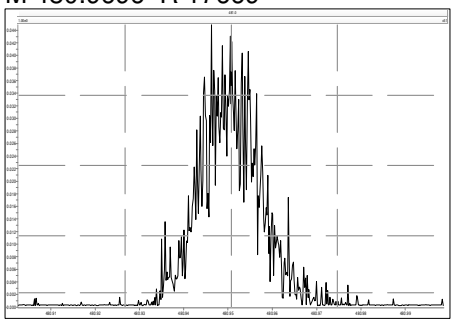
M 454.9728 R 17497



M 466.9728 R 20662



M 480.9696 R 17669



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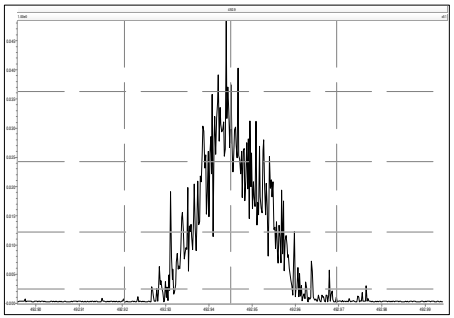
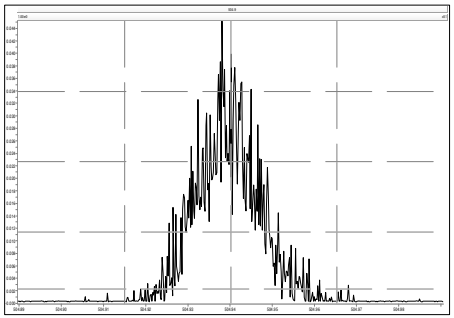
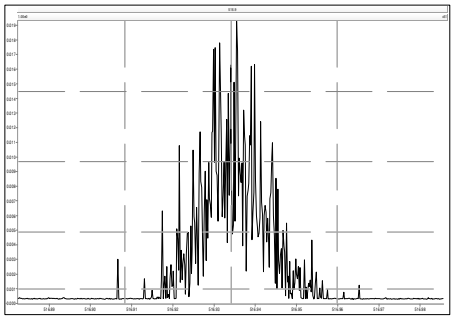
M 492.9696 R 17438



M 504.9696 R 18383



M 516.9697 R 23837



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86 ✓	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07 ✓	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10 ✓	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28 ✓	1.33

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

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
Tyler_Fritz , 11/11/2021, 4:44:03 PM

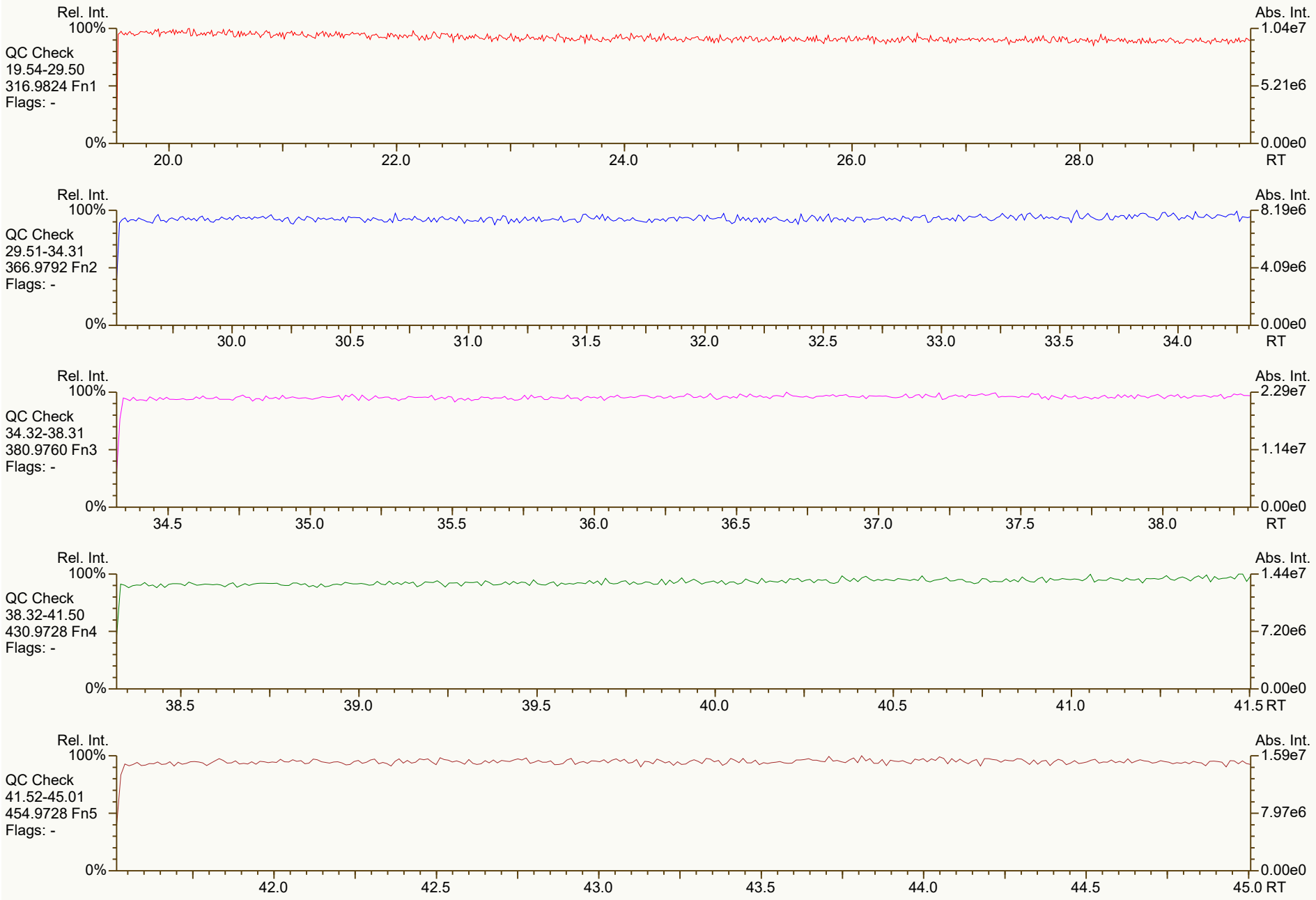
APPROVED
Amy_Boehm , 11/11/2021, 5:28:50 PM

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

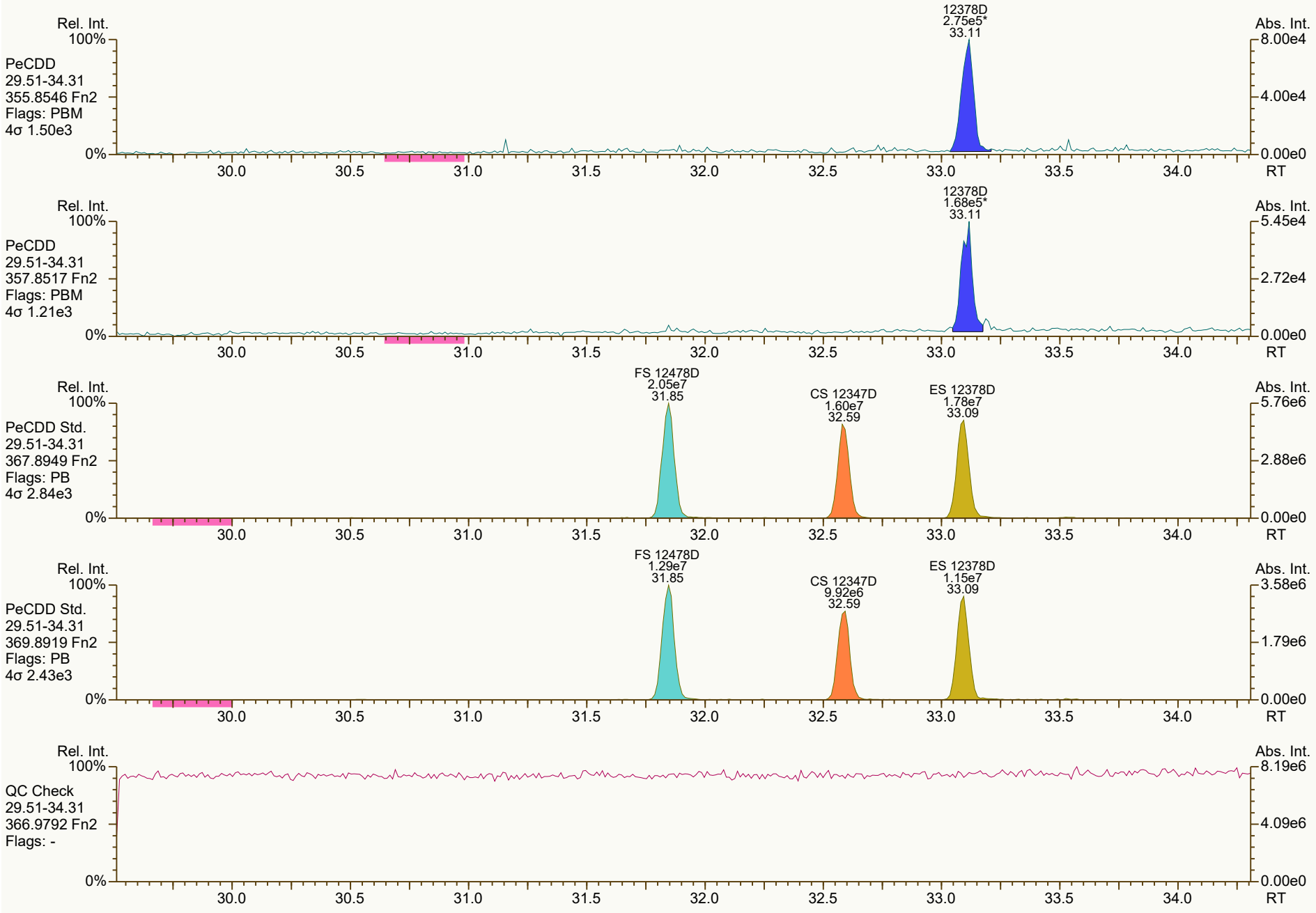
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

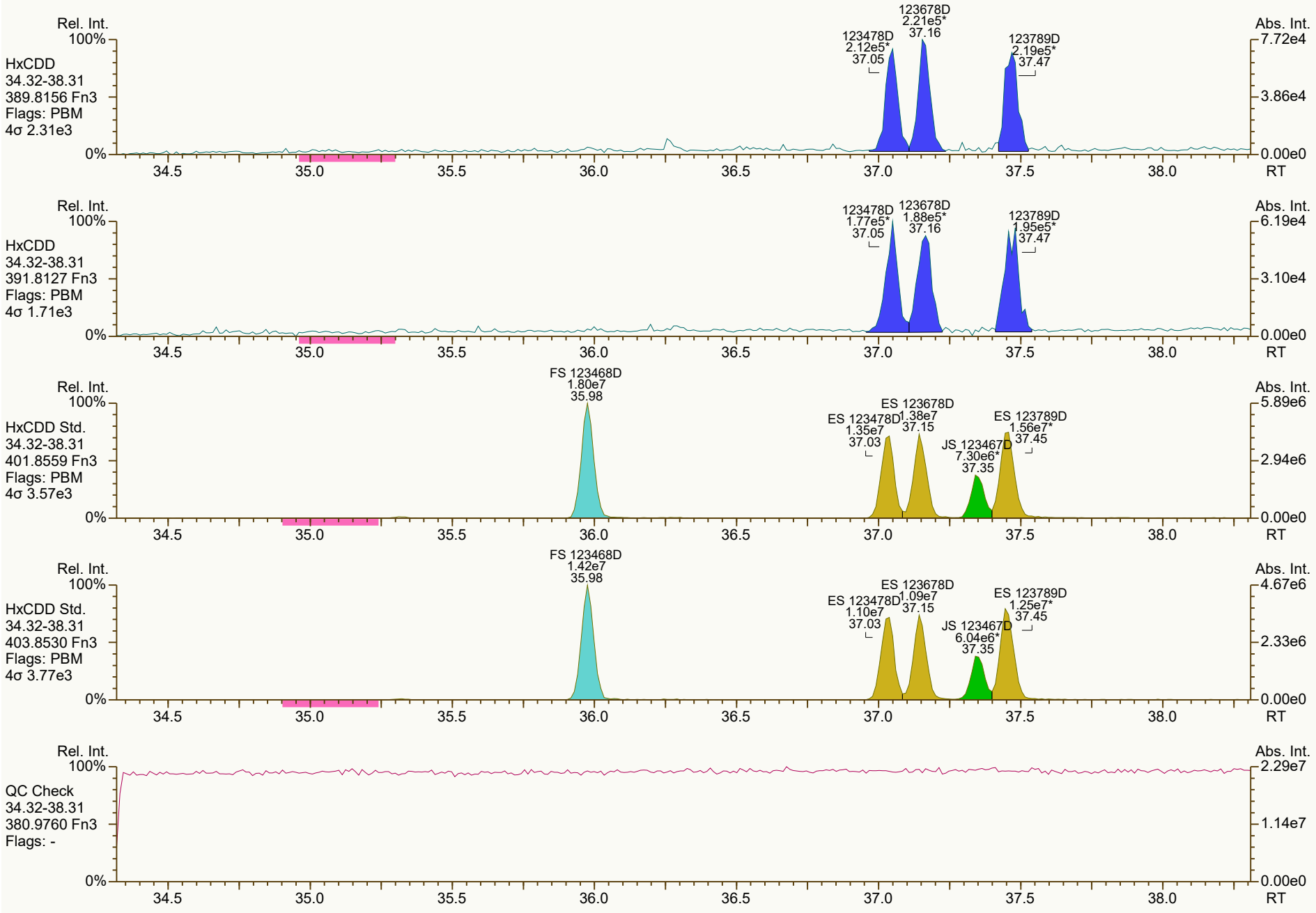
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

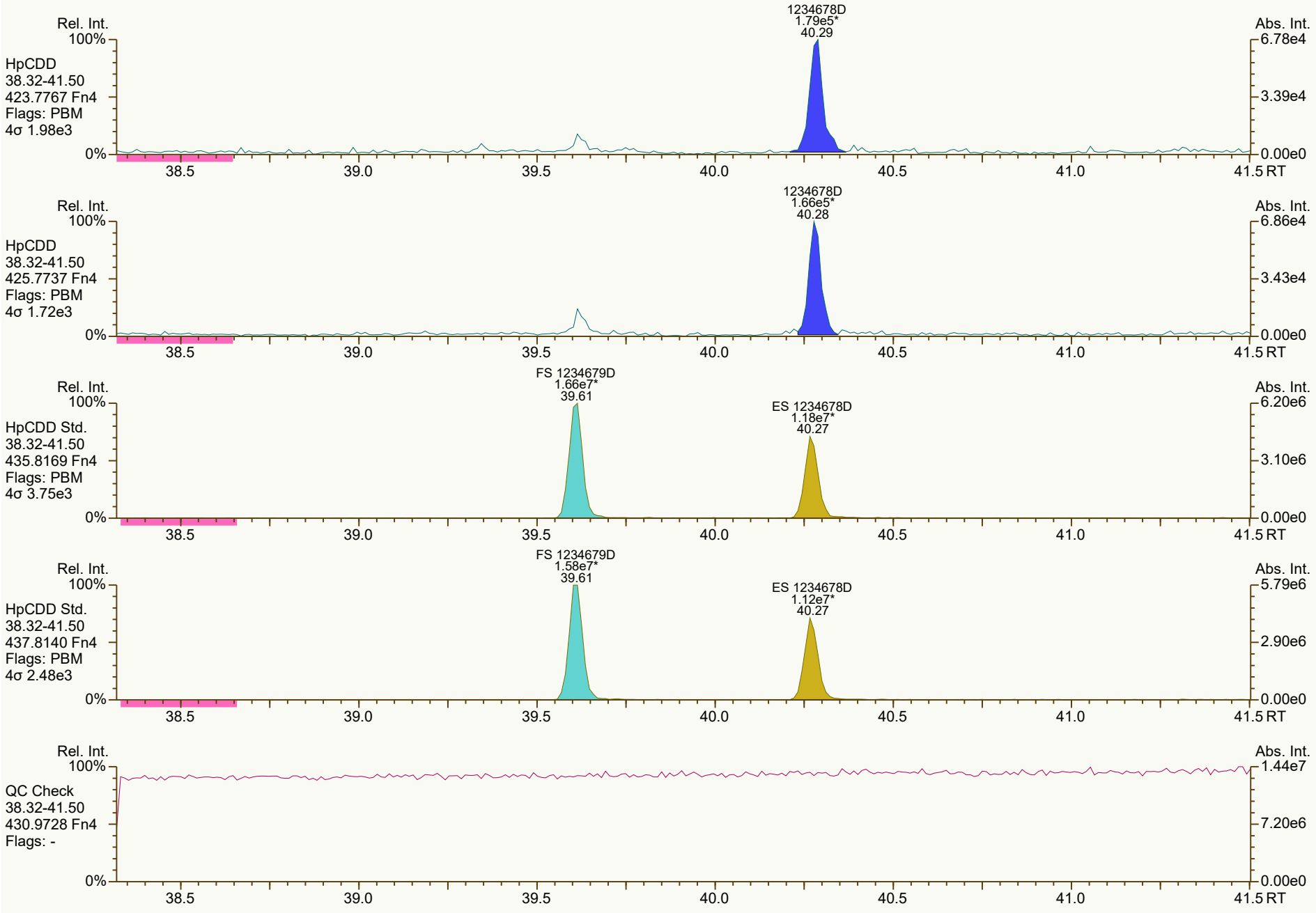
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF					Checkcode: 245-007-QLD
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C04
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%

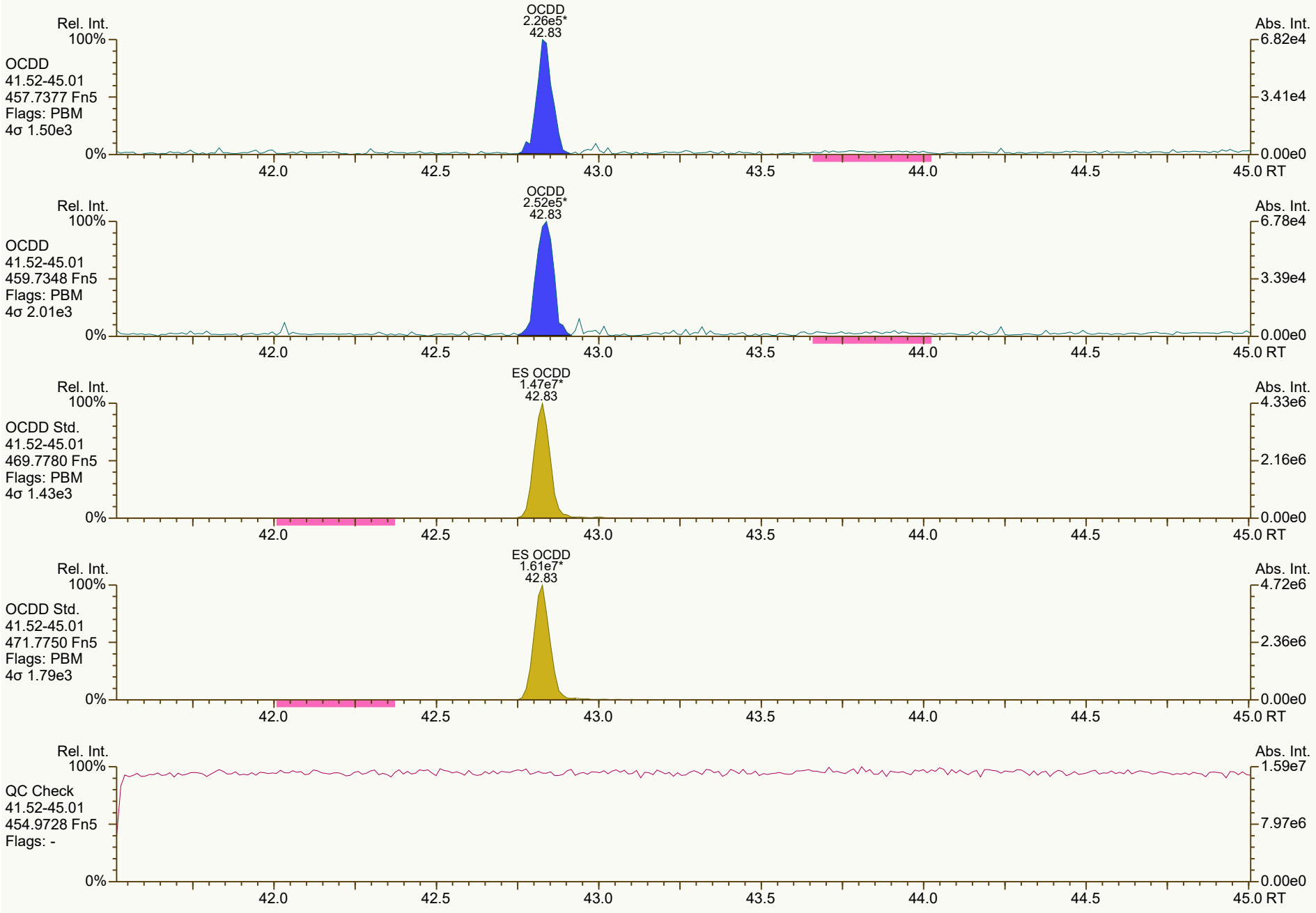

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.04e7
5.21e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.19e6
4.09e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.29e7
1.14e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.44e7
7.20e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.97e6
0.00e0

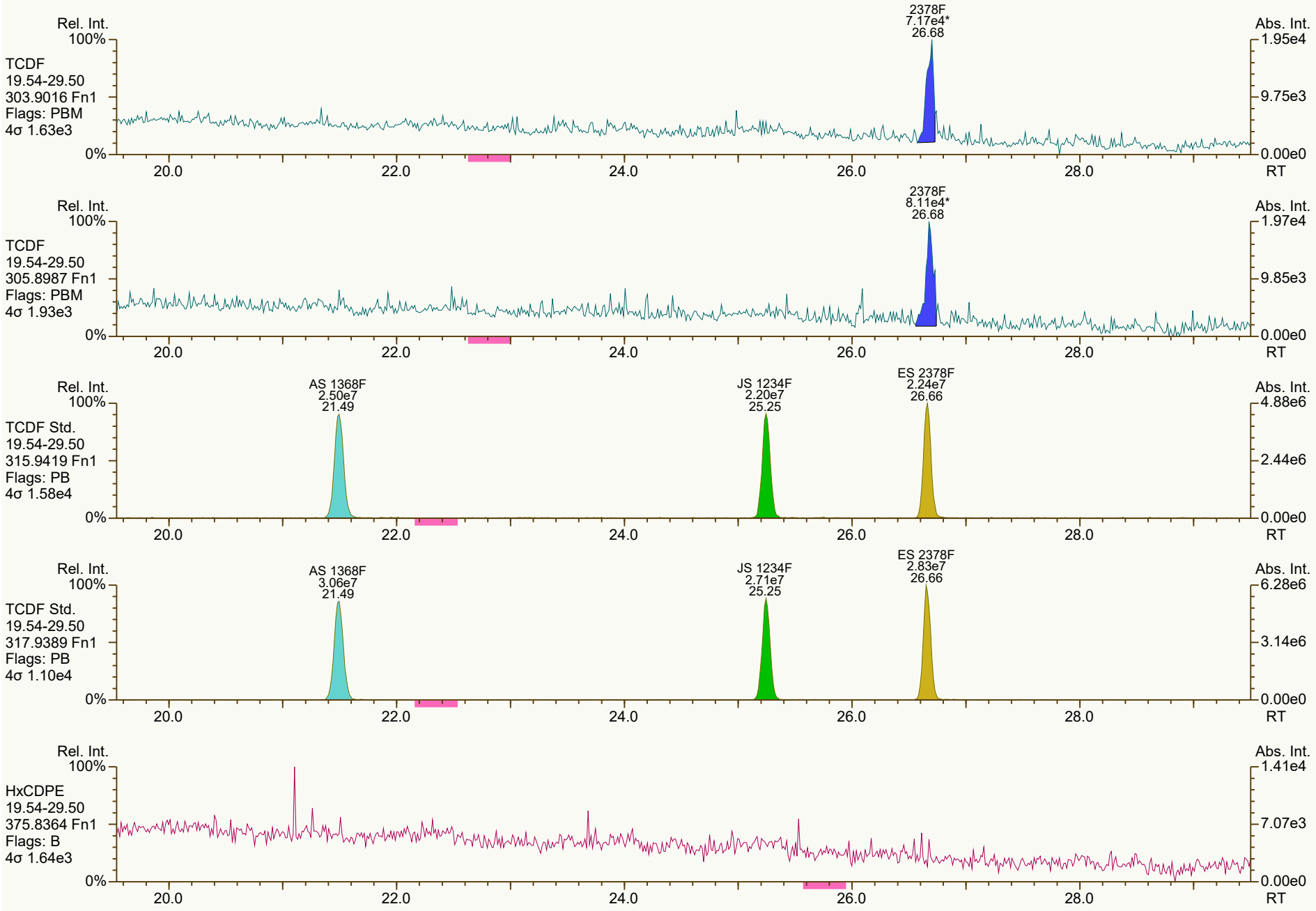

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
0%
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
Abs. Int.
1.67e4
8.35e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
2.13e4
1.06e4
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3504, 1483, 2998 scc: 245-007
Revised: 11-Nov-2021 16:18 (DTF) Printed: 11-Nov-2021 16:32 Page 2 of 12


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
123478D
2.12e5*
37.05
123678D
2.21e5*
37.16
123789D
2.19e5*
37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
123478D
1.77e5*
37.05
123678D
1.88e5*
37.16
123789D
1.95e5*
37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
FS 123468D
1.80e7
35.98
ES 123478D
1.35e7
37.03
ES 123678D
1.38e7
37.15
JS 123467D
7.30e6*
37.35
ES 123789D
1.56e7*
37.45
Abs. Int.
5.89e6
2.94e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
FS 123468D
1.42e7
35.98
ES 123478D
1.10e7
37.03
ES 123678D
1.09e7
37.15
JS 123467D
6.04e6*
37.35
ES 123789D
1.25e7*
37.45
Abs. Int.
4.67e6
2.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.29e7
1.14e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

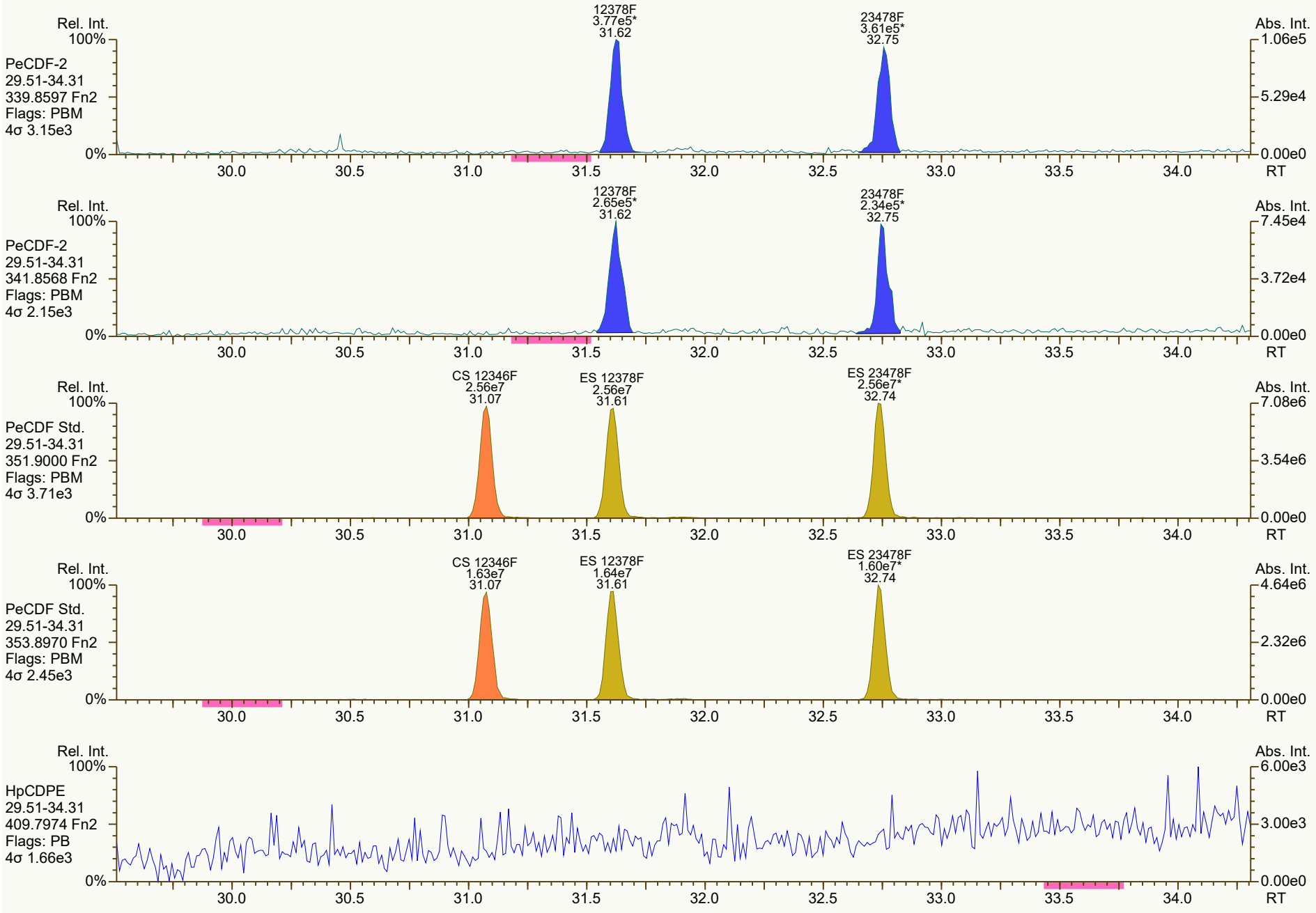

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

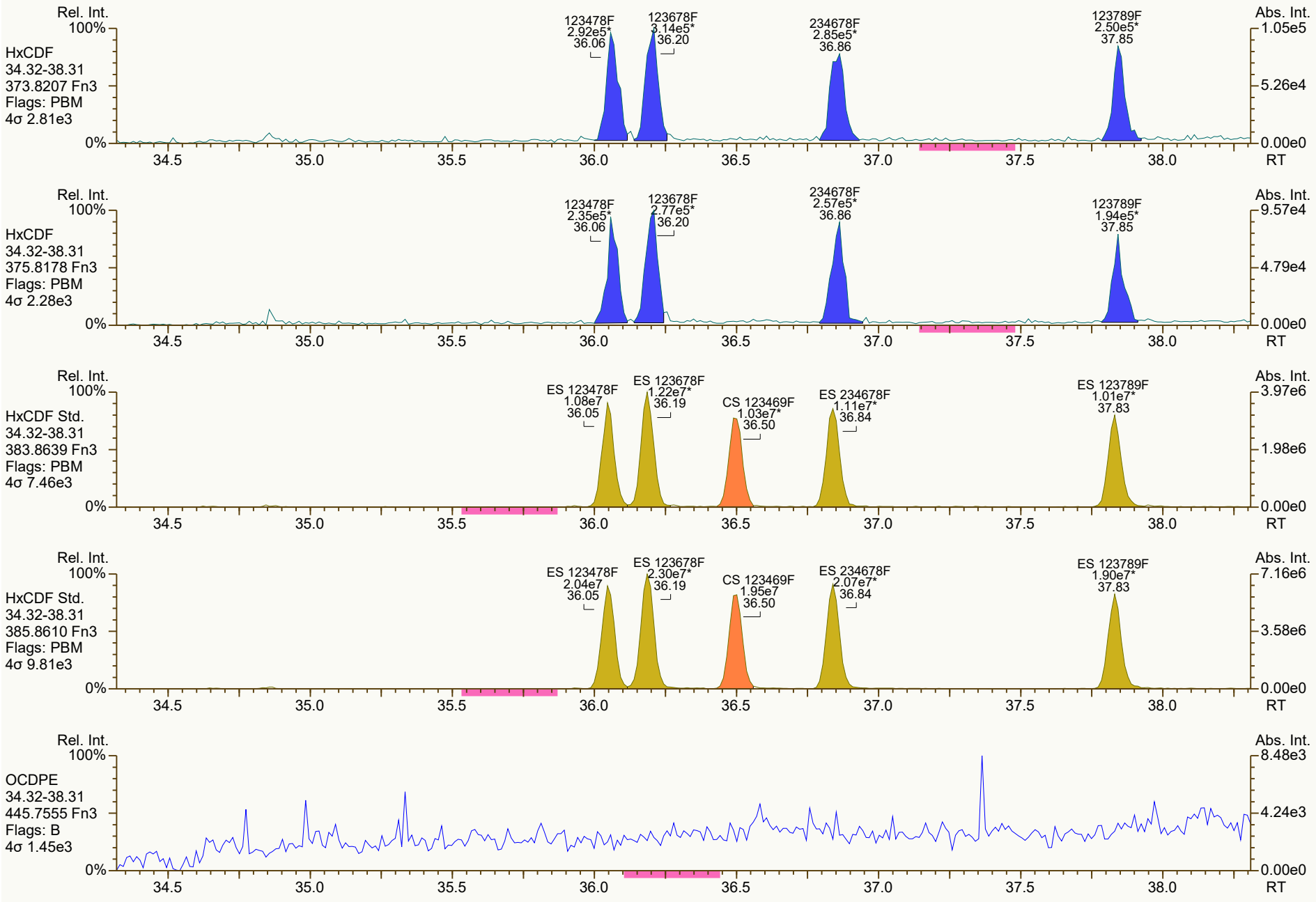

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
Abs. Int.
1.41e4
7.07e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT

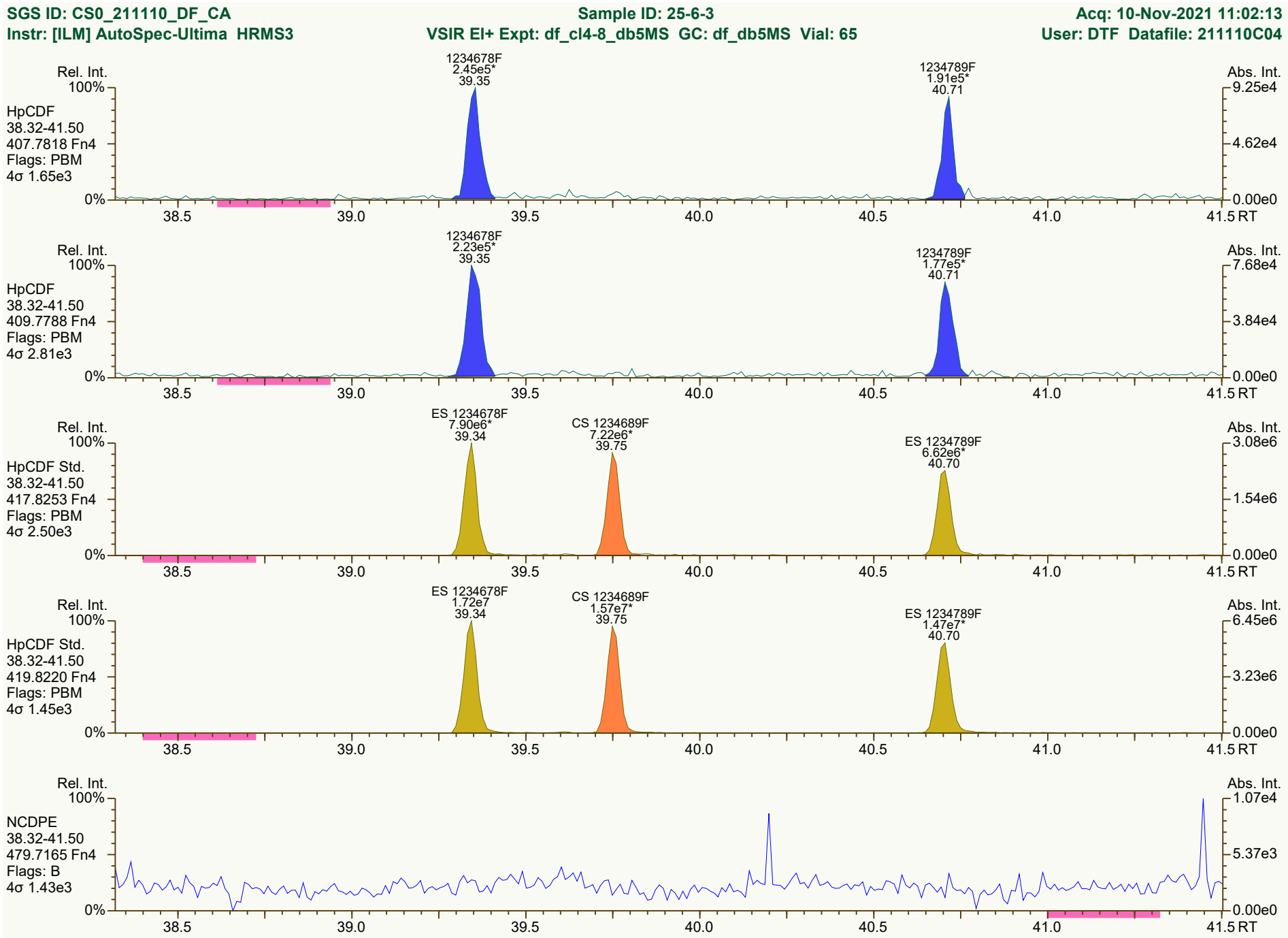
SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04

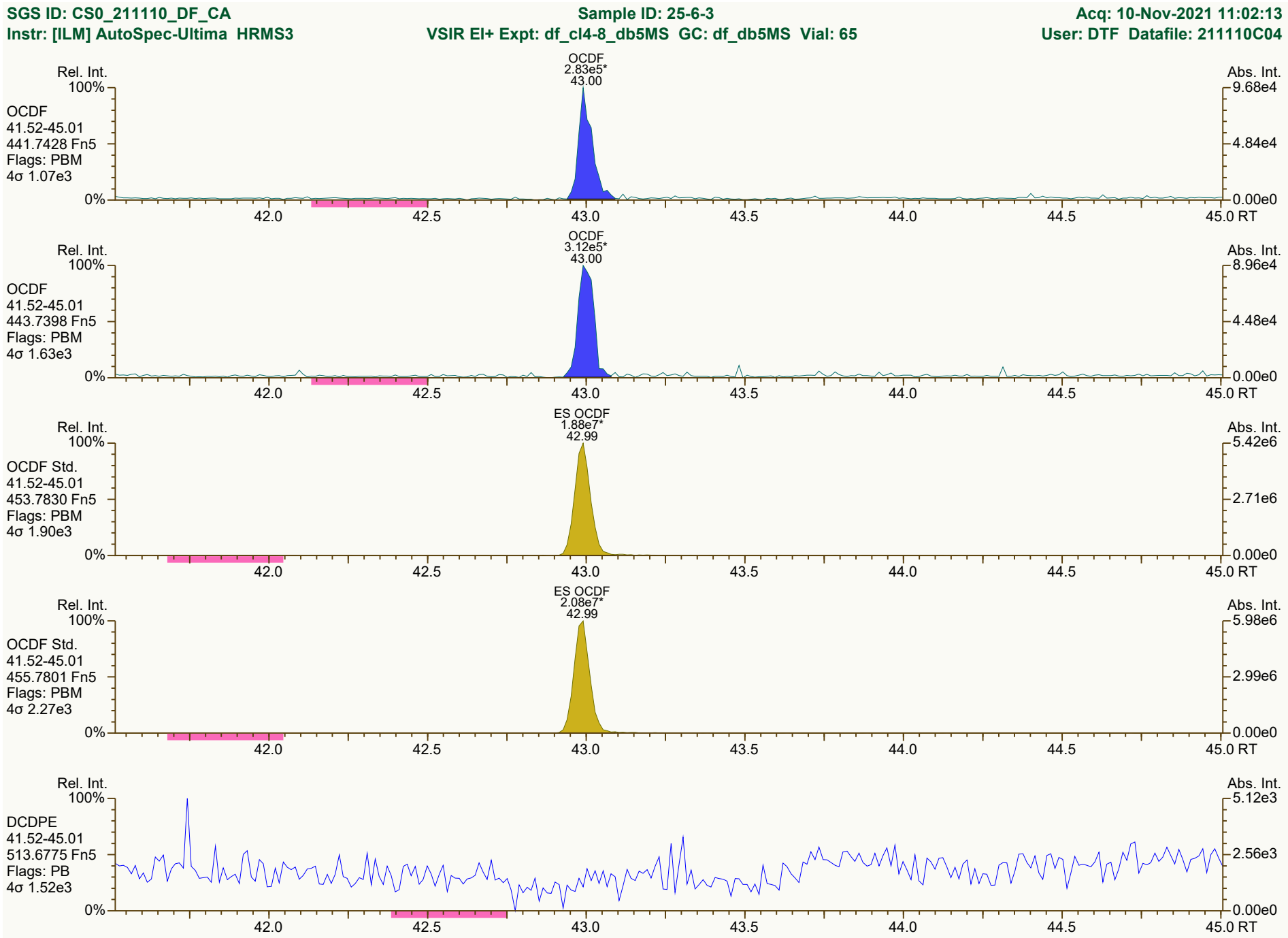


Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6412 scc: 245-007
PKD: 10-Nov-2021 13:30 Printed: 11-Nov-2021 16:32 Page 8 of 12


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
0%
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
0%
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
0%
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
0%
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
9.25e4
4.62e4
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
7.68e4
3.84e4
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
3.08e6
1.54e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
6.45e6
3.23e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
1.07e4
5.37e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0834, 2511, 5505 scc: 245-007
Revised: 10-Nov-2021 13:36 (DTF) Printed: 11-Nov-2021 16:32 Page 11 of 12

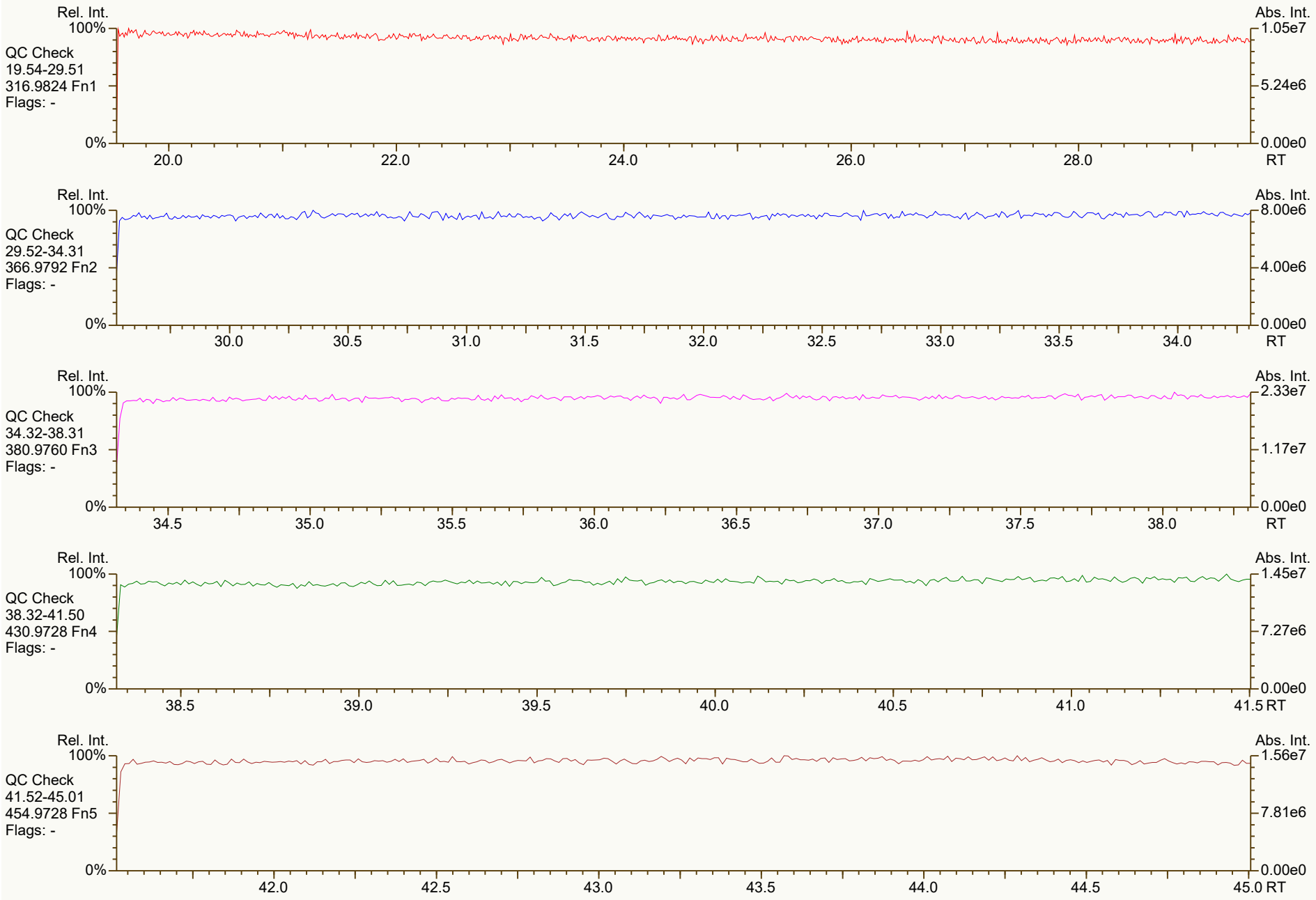

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
OCDF
2.83e5*
43.00
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
9.68e4
4.84e4
0.00e0
OCDF
3.12e5*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
8.96e4
4.48e4
0.00e0
ES OCDF
1.88e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
5.42e6
2.71e6
0.00e0
ES OCDF
2.08e7*
42.99
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
5.98e6
2.99e6
0.00e0
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
5.12e3
2.56e3
0.00e0
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 5689, 8554, 0504 scc: 245-007
Revised: 10-Nov-2021 13:36 (DTF) Printed: 11-Nov-2021 16:32 Page 12 of 12

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:48 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 419-111-CRN
Sample ID: 25-6-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C05

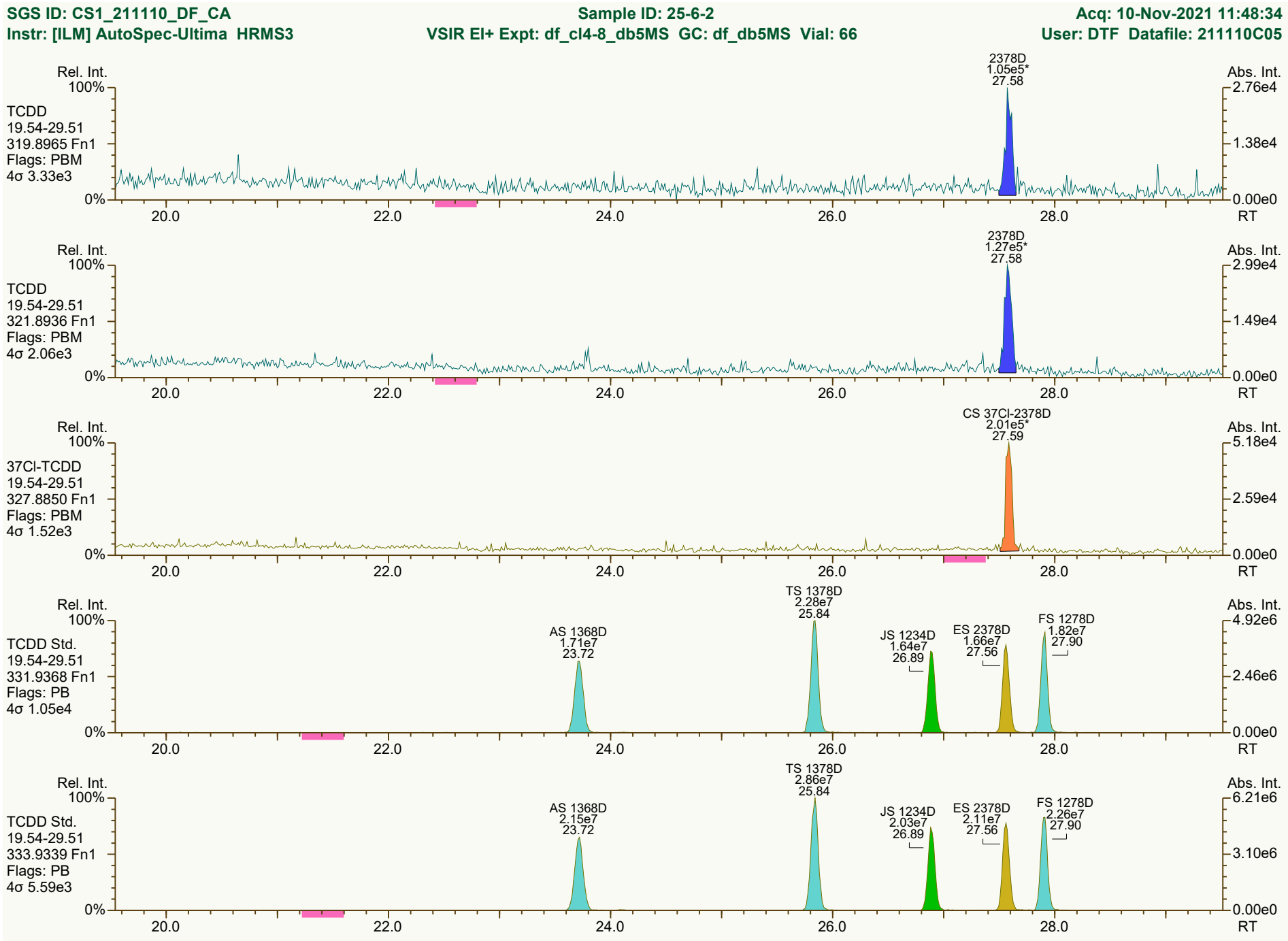
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

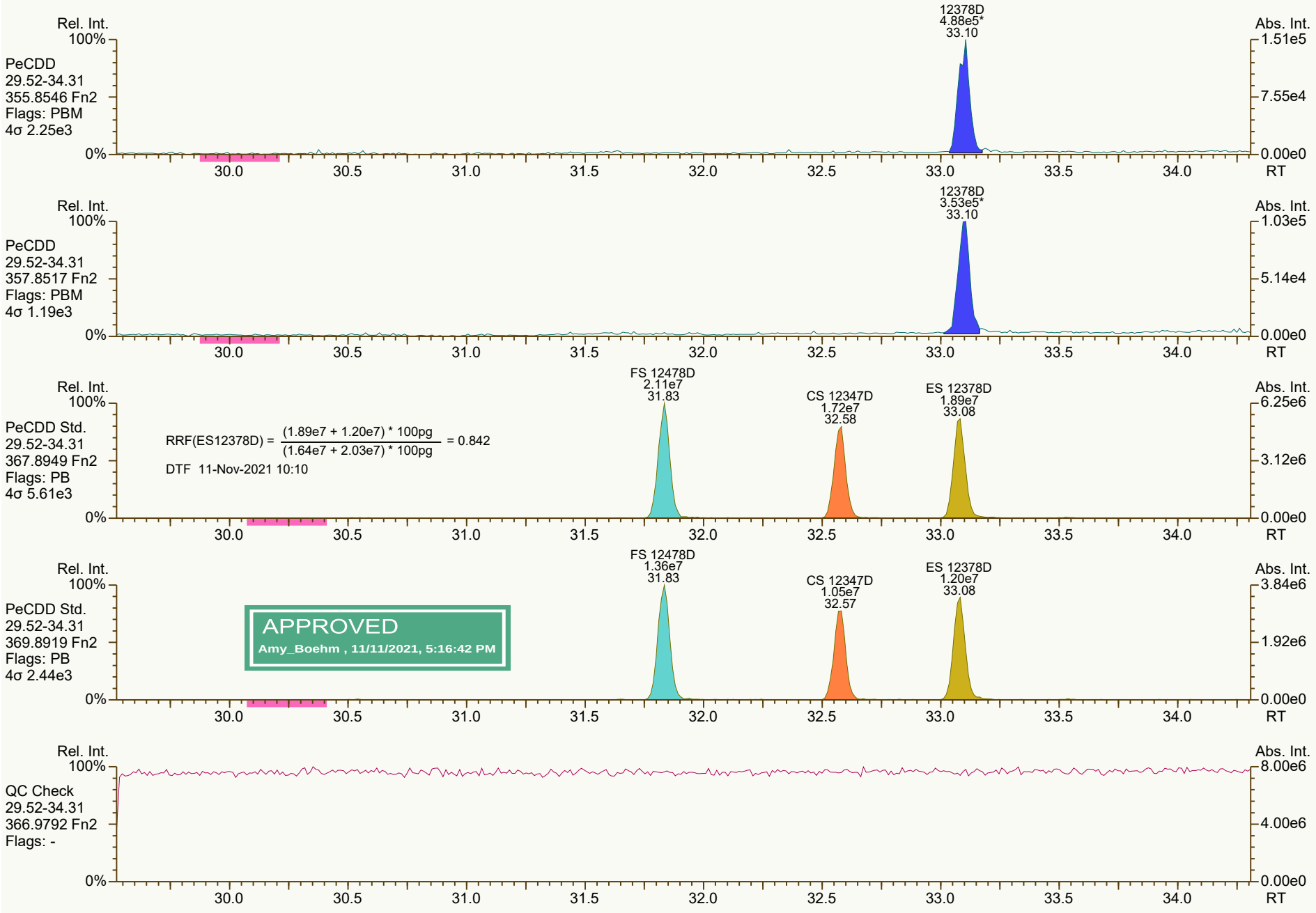
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

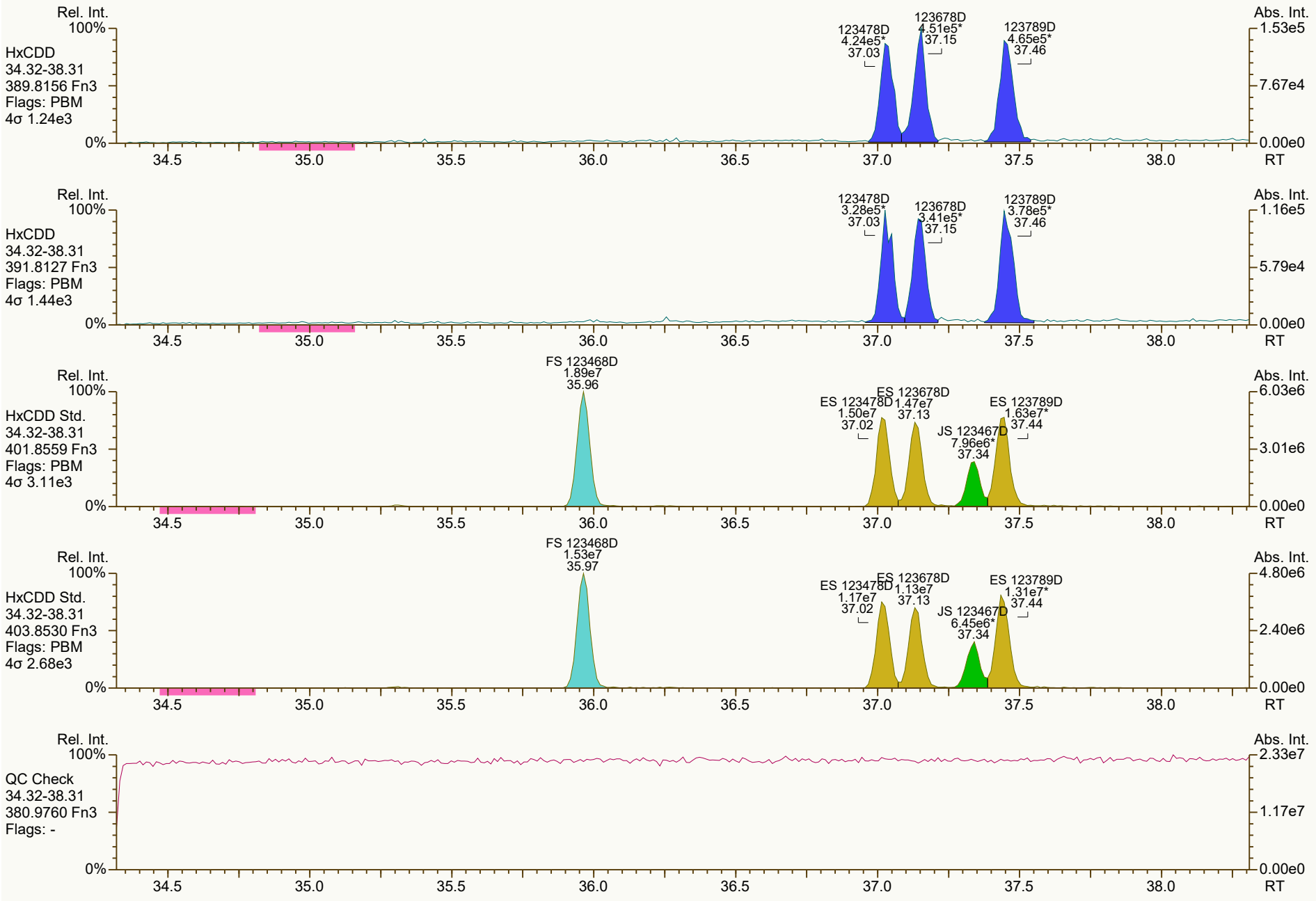
SGS ID: CS1_211110_DF_CA **Sample ID: 25-6-2** **Acq: 10-Nov-2021 11:48:34**
Instr: [ILM] AutoSpec-Ultima HRMS3 **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66** **User: DTF Datafile: 211110C05**

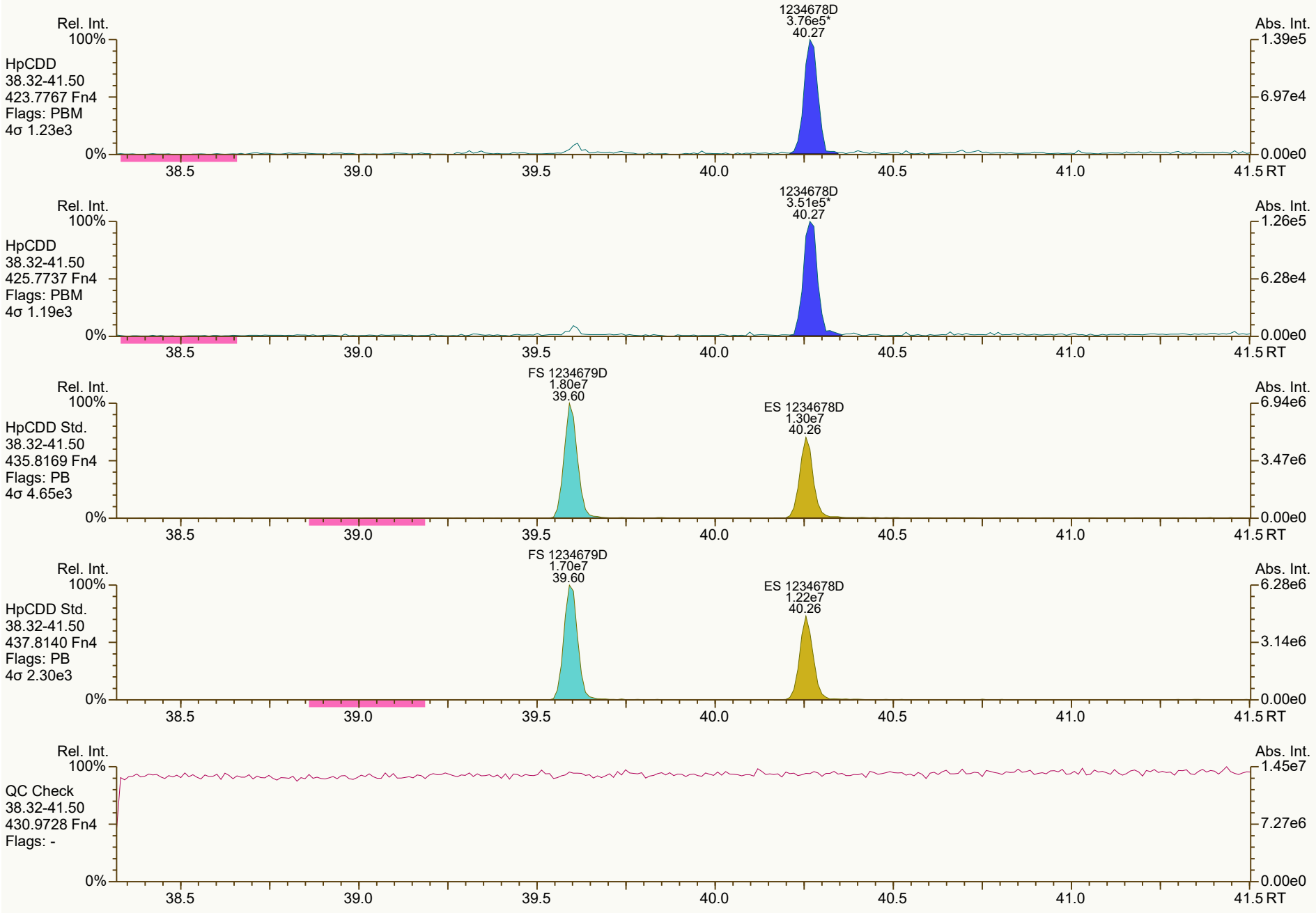


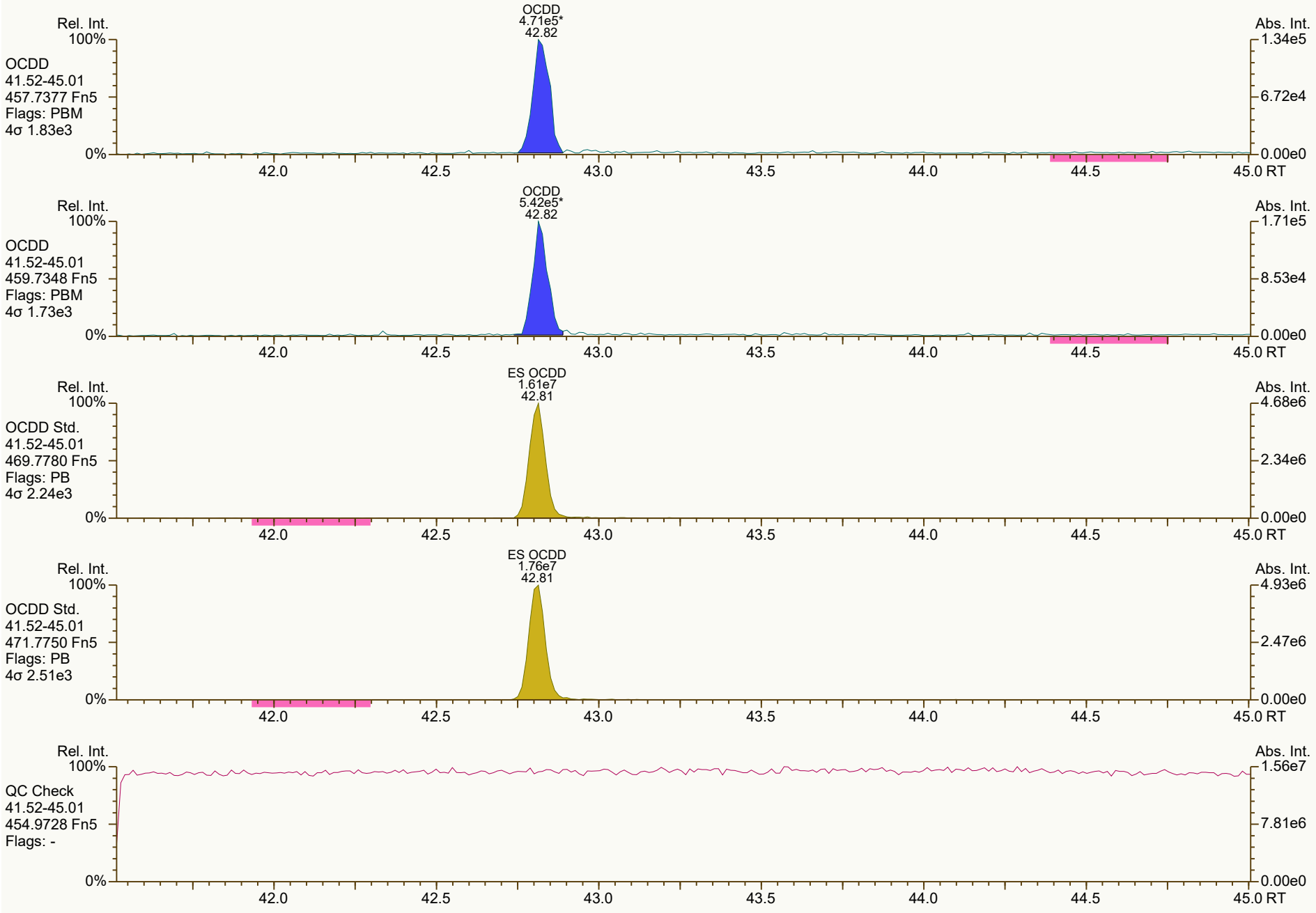
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 scc: 419-111 *PKD: n/a Printed: 11-Nov-2021 10:40 Page 1 of 12*

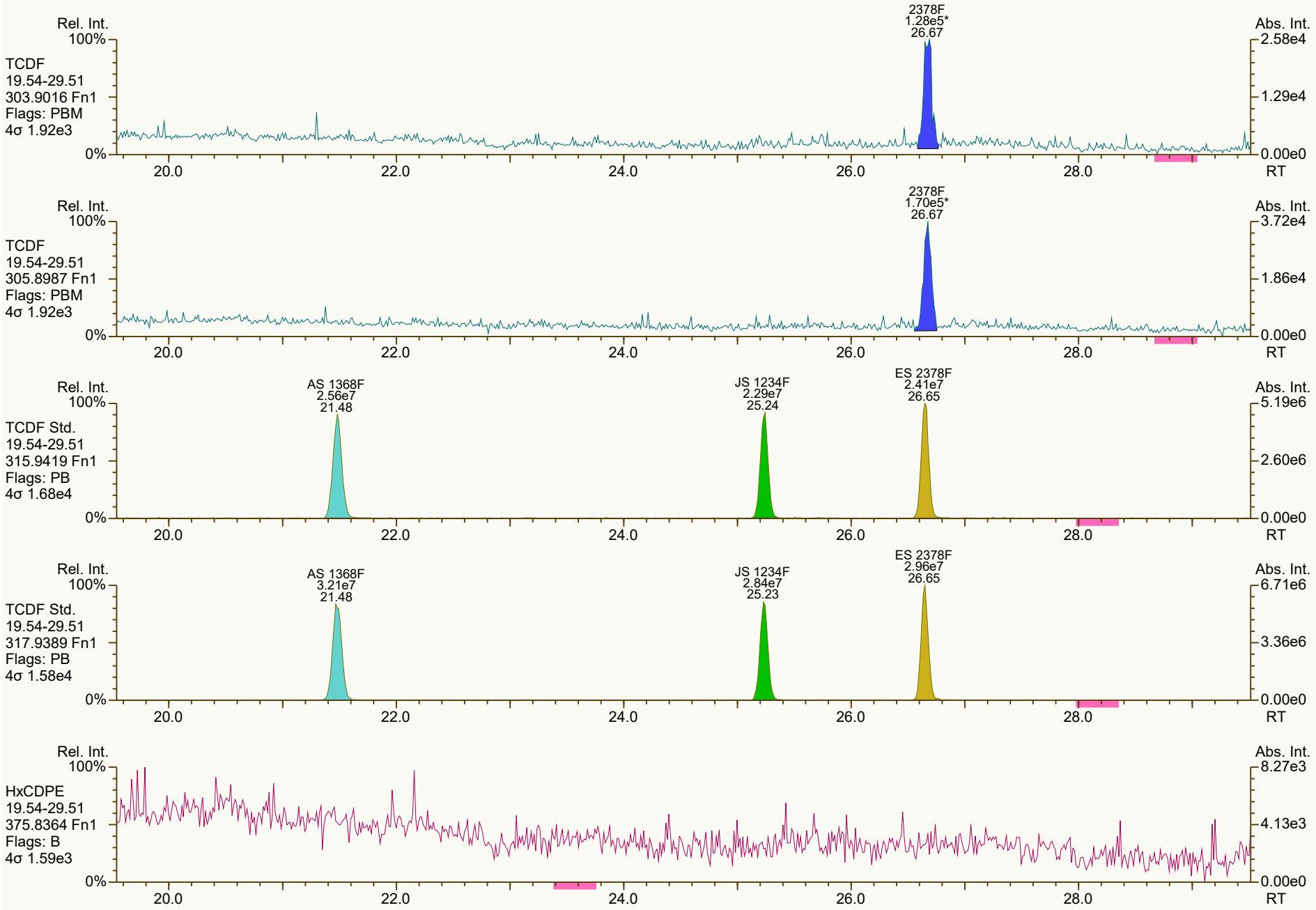

SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
2378D
1.05e5*
27.58
2.76e4
1.38e4
0.00e0
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
2378D
1.27e5*
27.58
2.99e4
1.49e4
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
CS 37Cl-2378D
2.01e5*
27.59
5.18e4
2.59e4
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
4.92e6
2.46e6
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
6.21e6
3.10e6
0%
100%
20.0
22.0
24.0
26.0
28.0
RT
0.00e0
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3152, 8182, 8895 scc: 419-111
Revised: 10-Nov-2021 13:37 (DTF)
Printed: 11-Nov-2021 10:40 Page 2 of 12

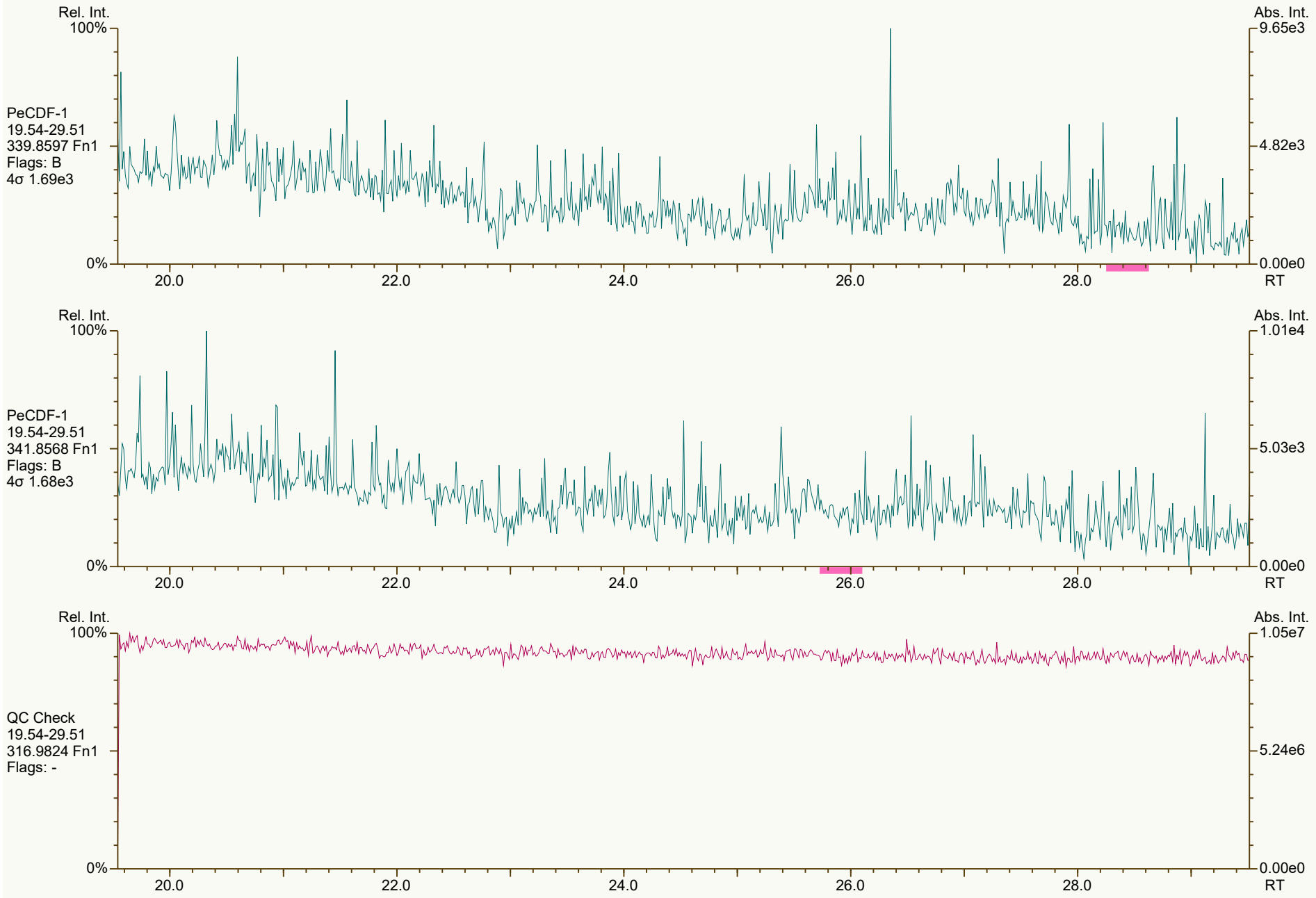

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123678D
1.47e7
37.13
ES 123478D
1.50e7
37.02
ES 123789D
1.63e7*
37.44
JS 123467D
7.96e6*
37.34
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123678D
1.13e7
37.13
ES 123478D
1.17e7
37.02
ES 123789D
1.31e7*
37.44
JS 123467D
6.45e6*
37.34
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

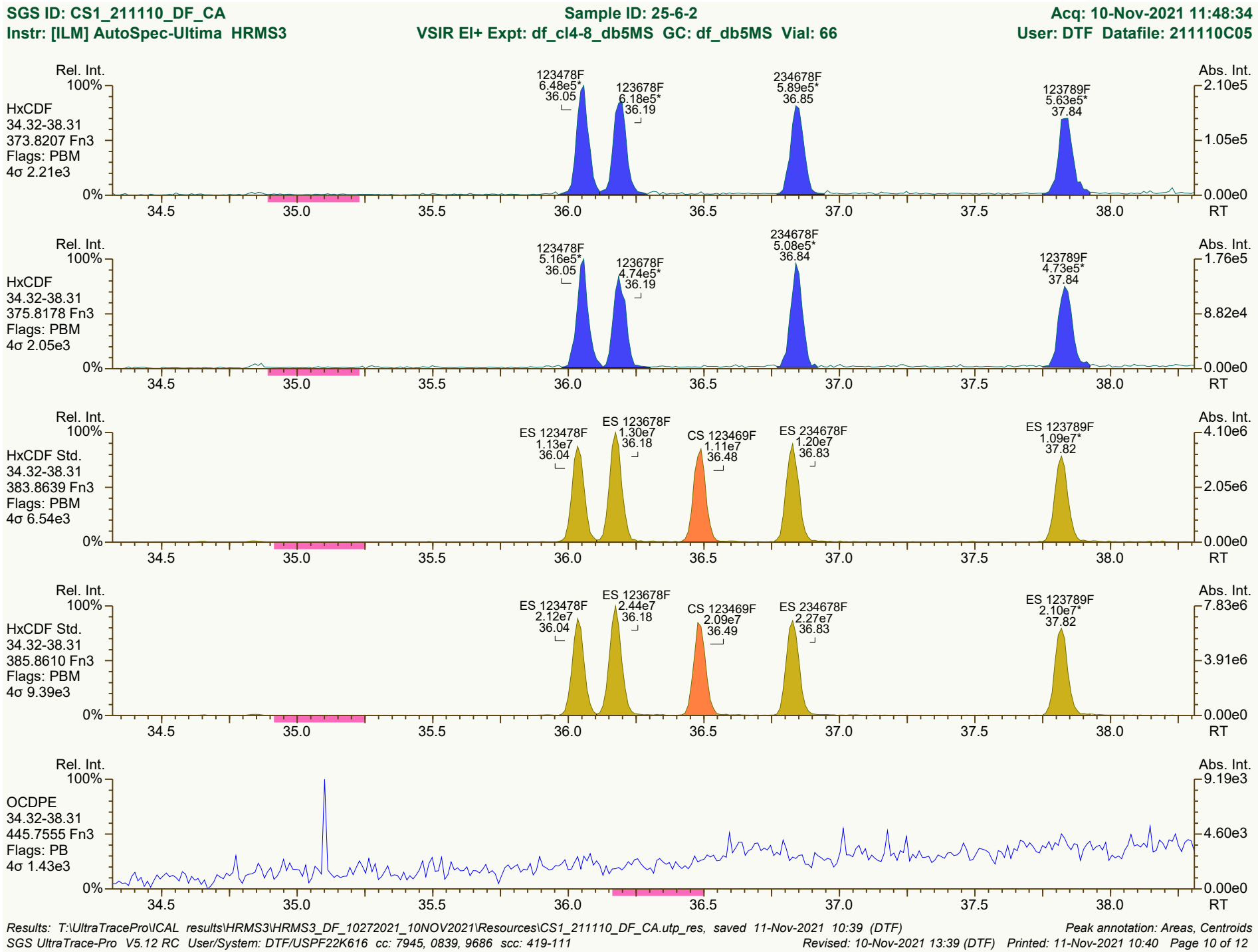

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

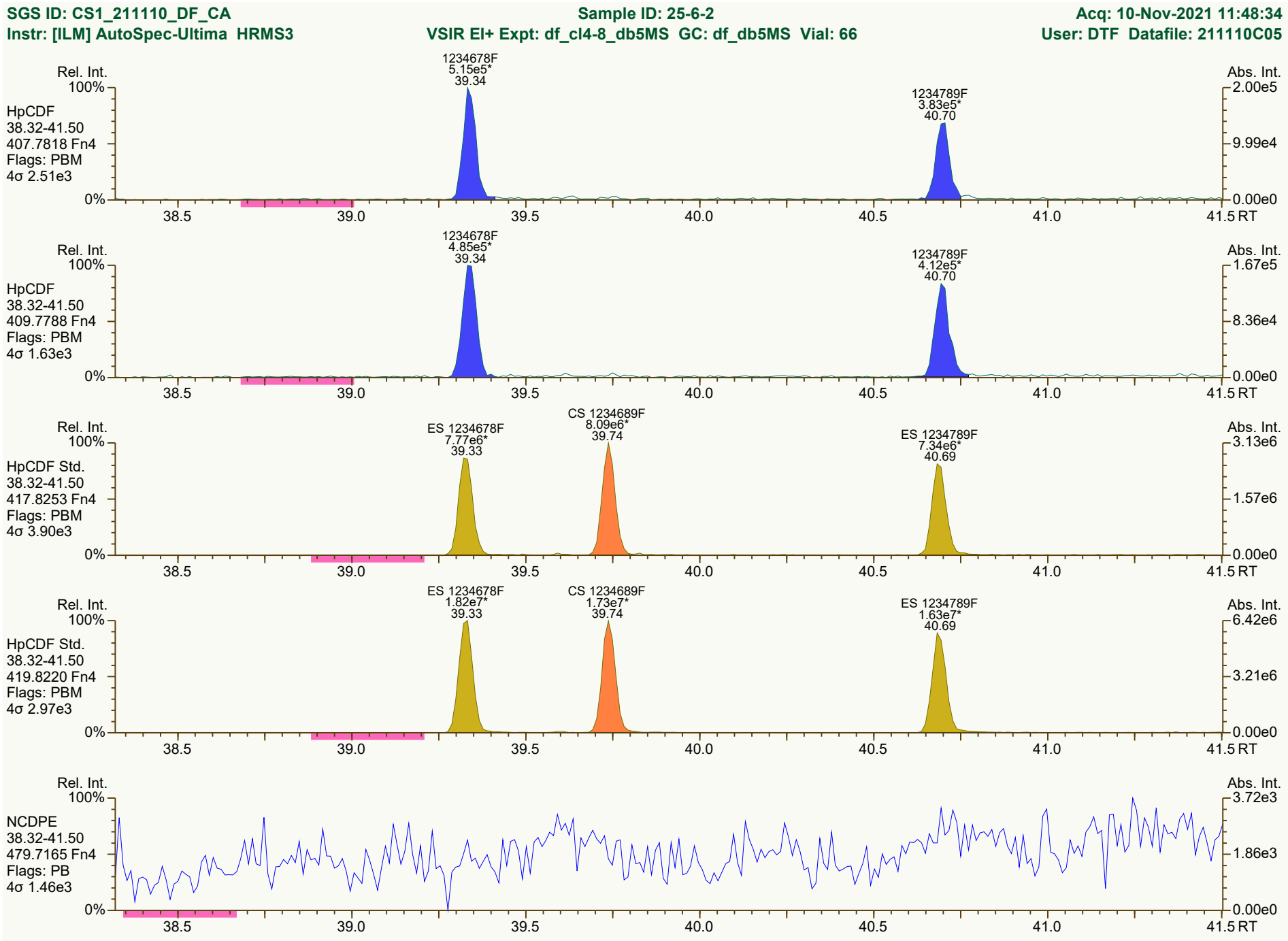

OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

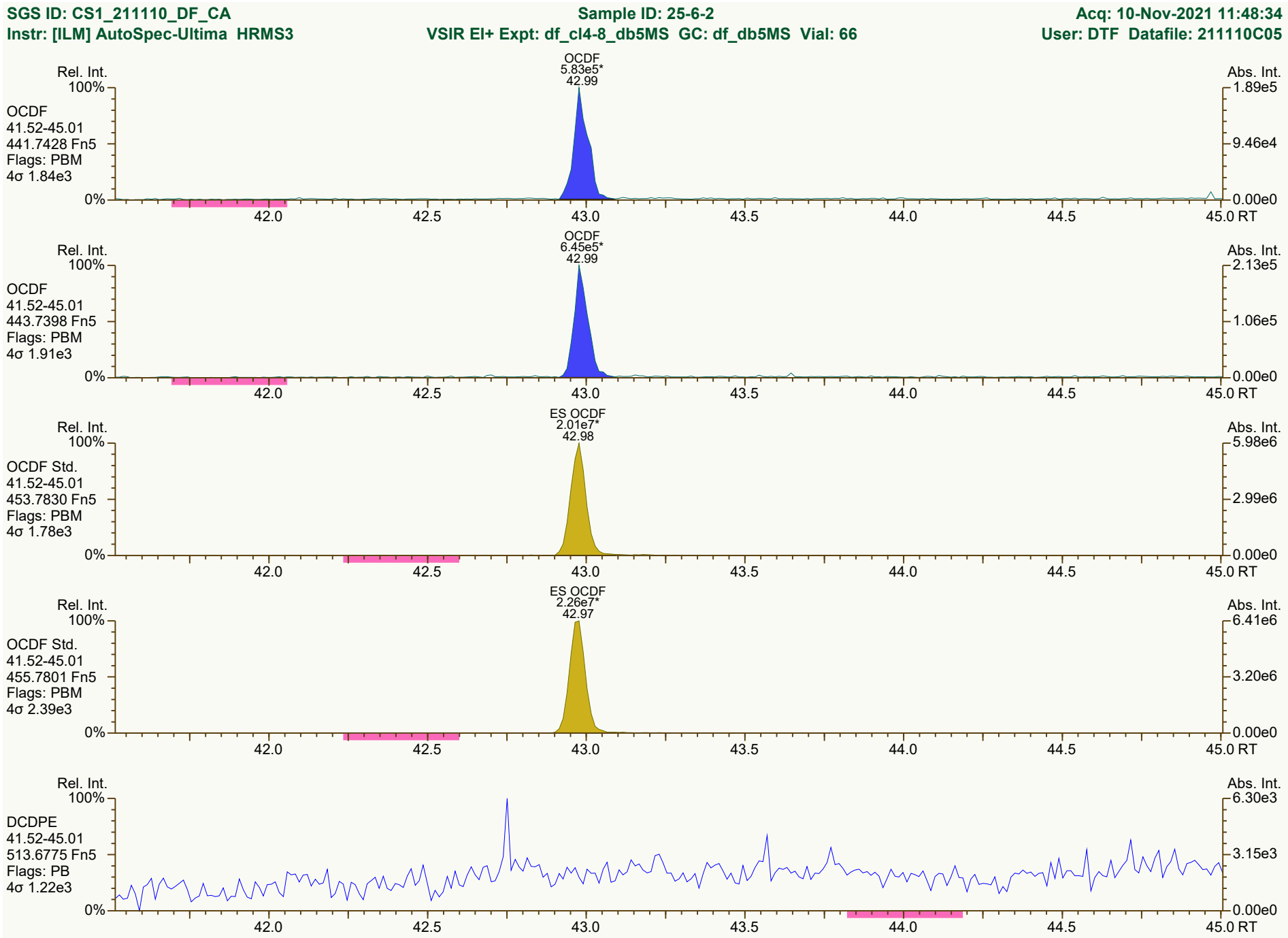

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
Abs. Int.
1.40e5
7.02e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
Abs. Int.
7.54e6
3.77e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
Abs. Int.
4.85e6
2.42e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
Abs. Int.
1.10e4
5.51e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
123478F 6.48e5* 36.05
123678F 6.18e5* 36.19
234678F 5.89e5* 36.85
123789F 5.63e5* 37.84
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
123478F 5.16e5* 36.05
123678F 4.74e5* 36.19
234678F 5.08e5* 36.84
123789F 4.73e5* 37.84
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
ES 123478F 1.13e7 36.04
ES 123678F 1.30e7 36.18
CS 123469F 1.11e7 36.48
ES 234678F 1.20e7 36.83
ES 123789F 1.09e7* 37.82
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
ES 123478F 2.12e7 36.04
ES 123678F 2.44e7 36.18
CS 123469F 2.09e7 36.49
ES 234678F 2.27e7 36.83
ES 123789F 2.10e7* 37.82
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 7945, 0839, 9686 scc: 419-111
Revised: 10-Nov-2021 13:39 (DTF) Printed: 11-Nov-2021 10:40 Page 10 of 12


SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
2.00e5
9.99e4
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
1.67e5
8.36e4
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
3.13e6
1.57e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
3.72e3
1.86e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3913, 8502, 2889 scc: 419-111
Revised: 10-Nov-2021 13:39 (DTF) Printed: 11-Nov-2021 10:40 Page 11 of 12

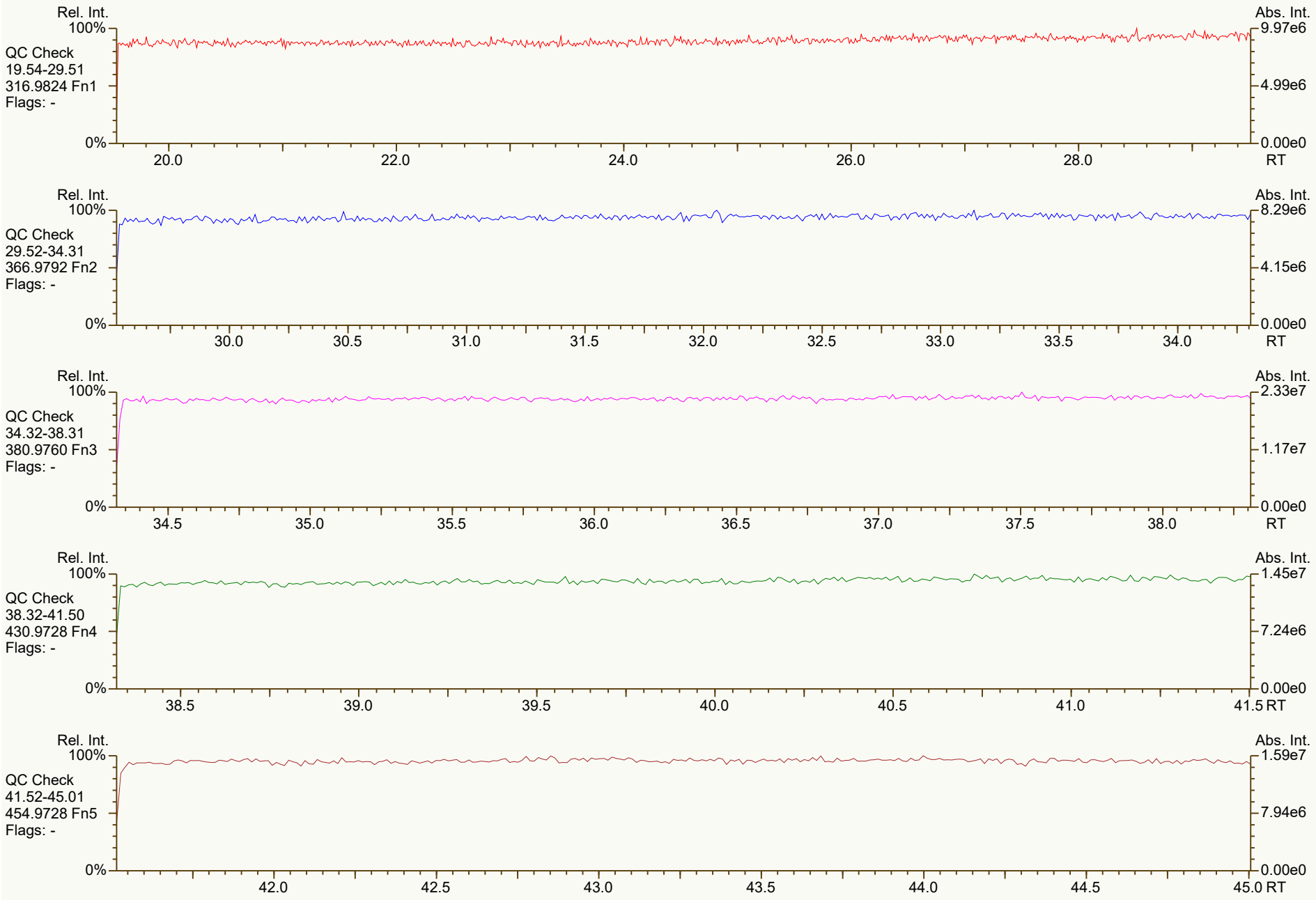

SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
OCDF
5.83e5*
42.99
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
1.89e5
9.46e4
0.00e0
OCDF
6.45e5*
42.99
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
2.13e5
1.06e5
0.00e0
ES OCDF
2.01e7*
42.98
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
5.98e6
2.99e6
0.00e0
ES OCDF
2.26e7*
42.97
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
6.41e6
3.20e6
0.00e0
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
6.30e3
3.15e3
0.00e0
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 1506, 2210, 2191 scc: 419-111
Revised: 10-Nov-2021 13:39 (DTF) Printed: 11-Nov-2021 10:40 Page 12 of 12

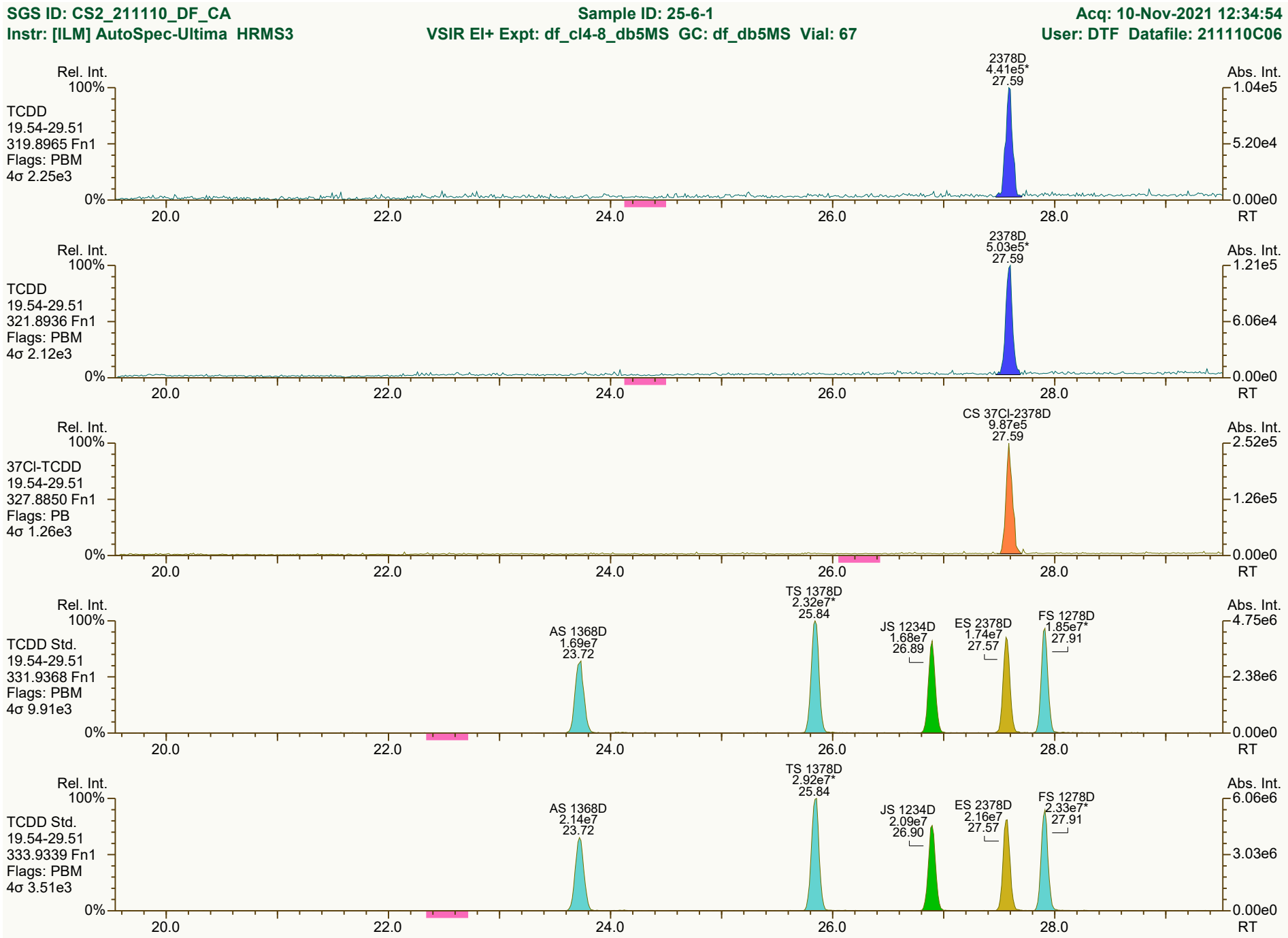
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

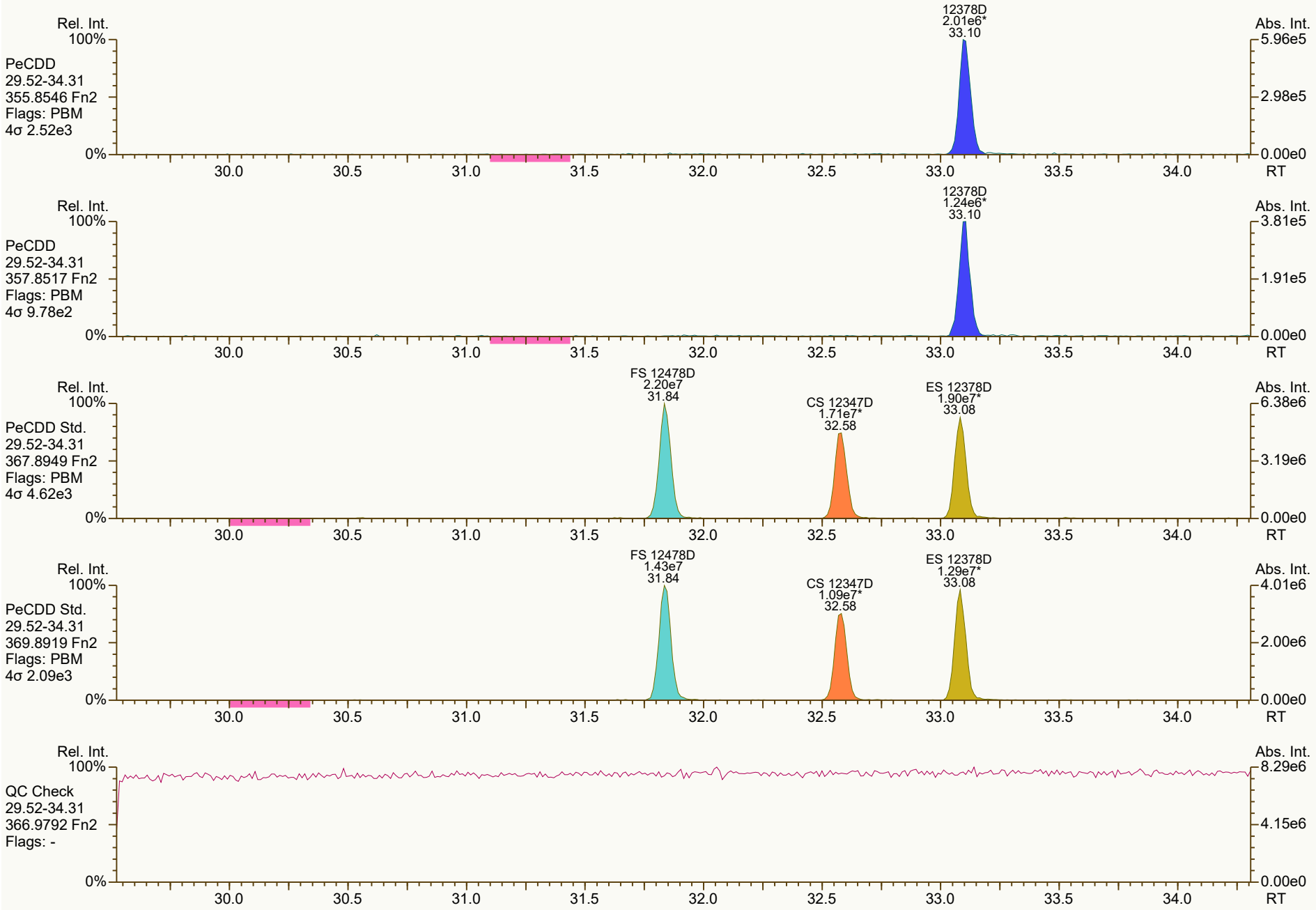
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

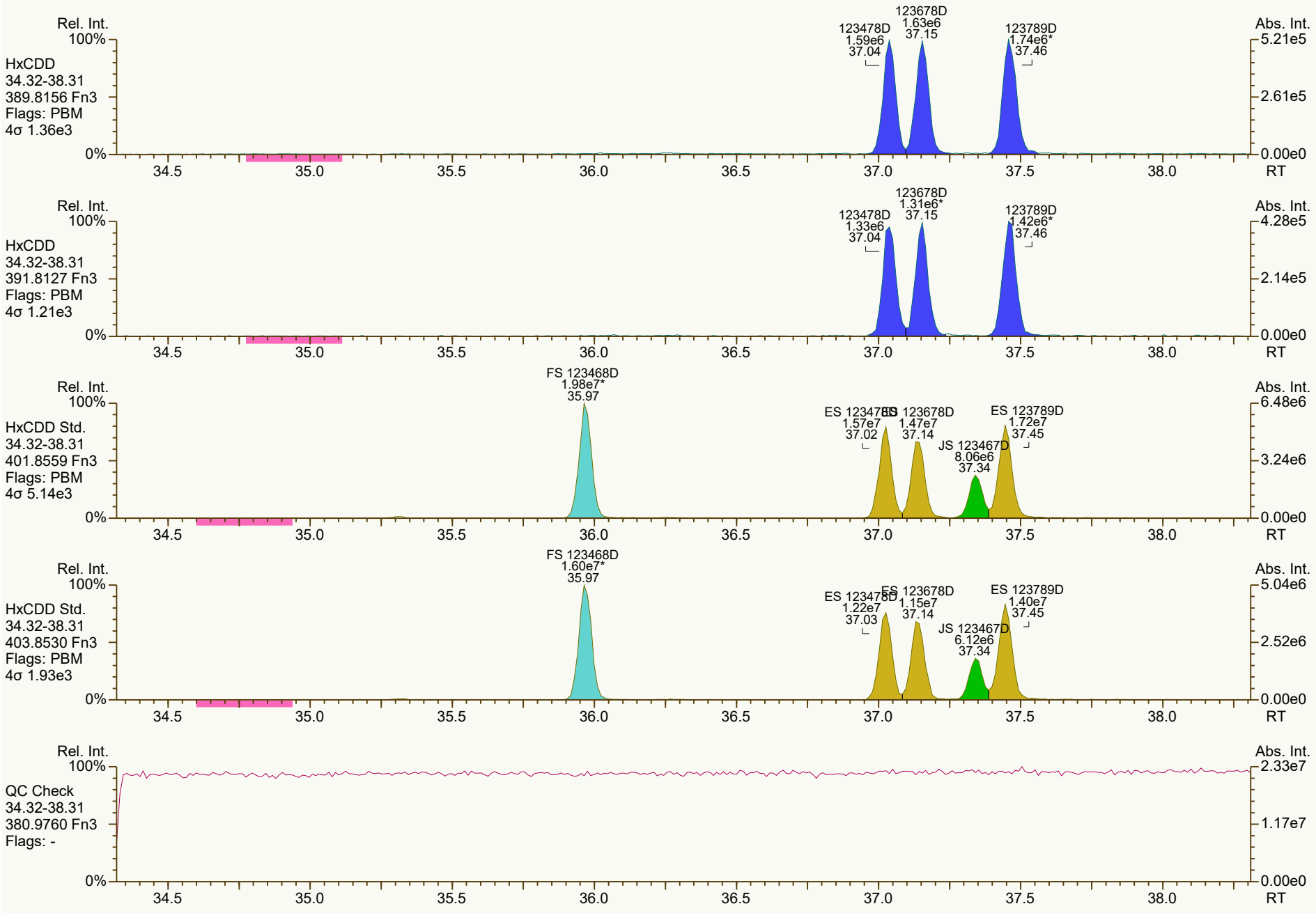
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

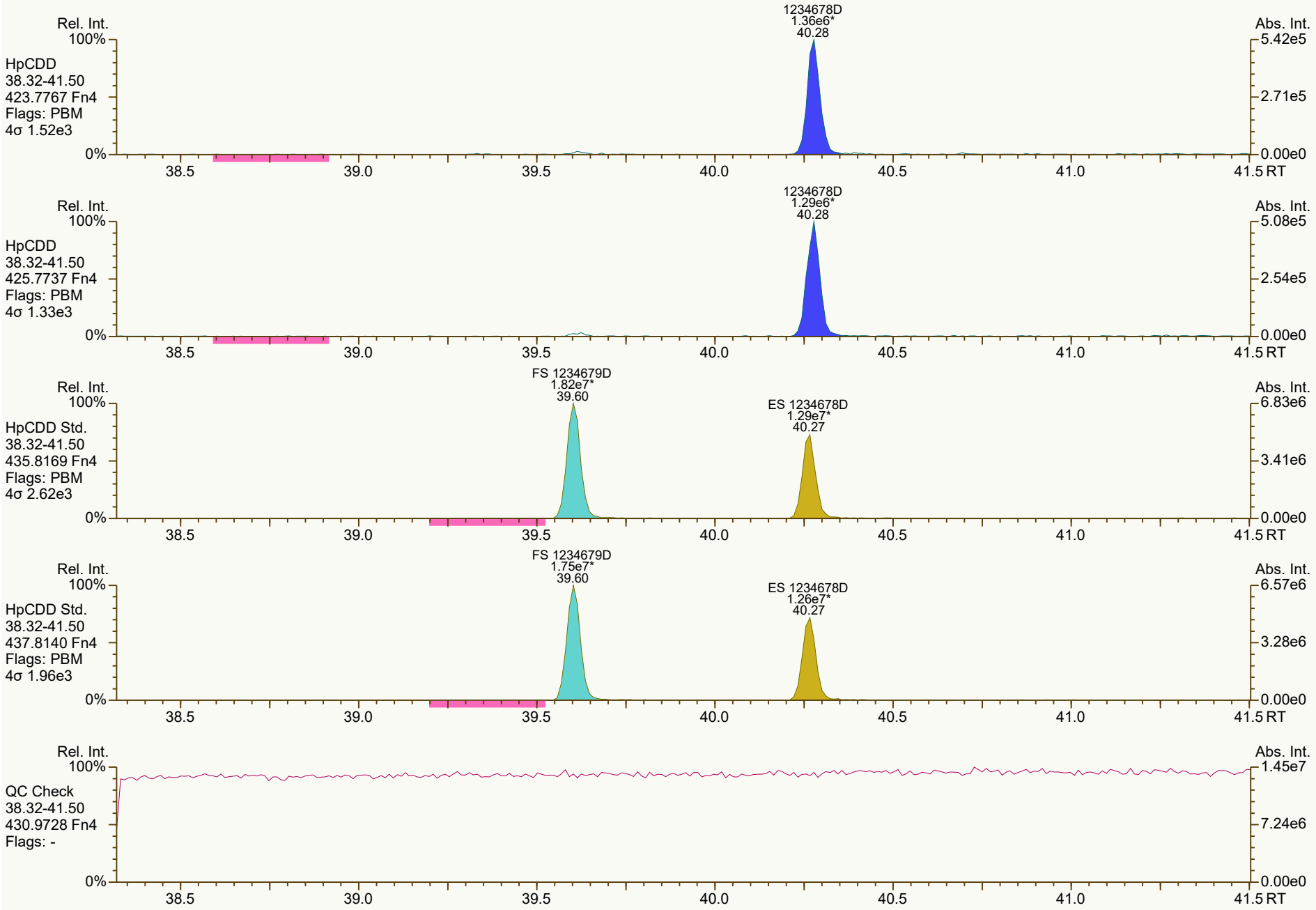
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%


Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0

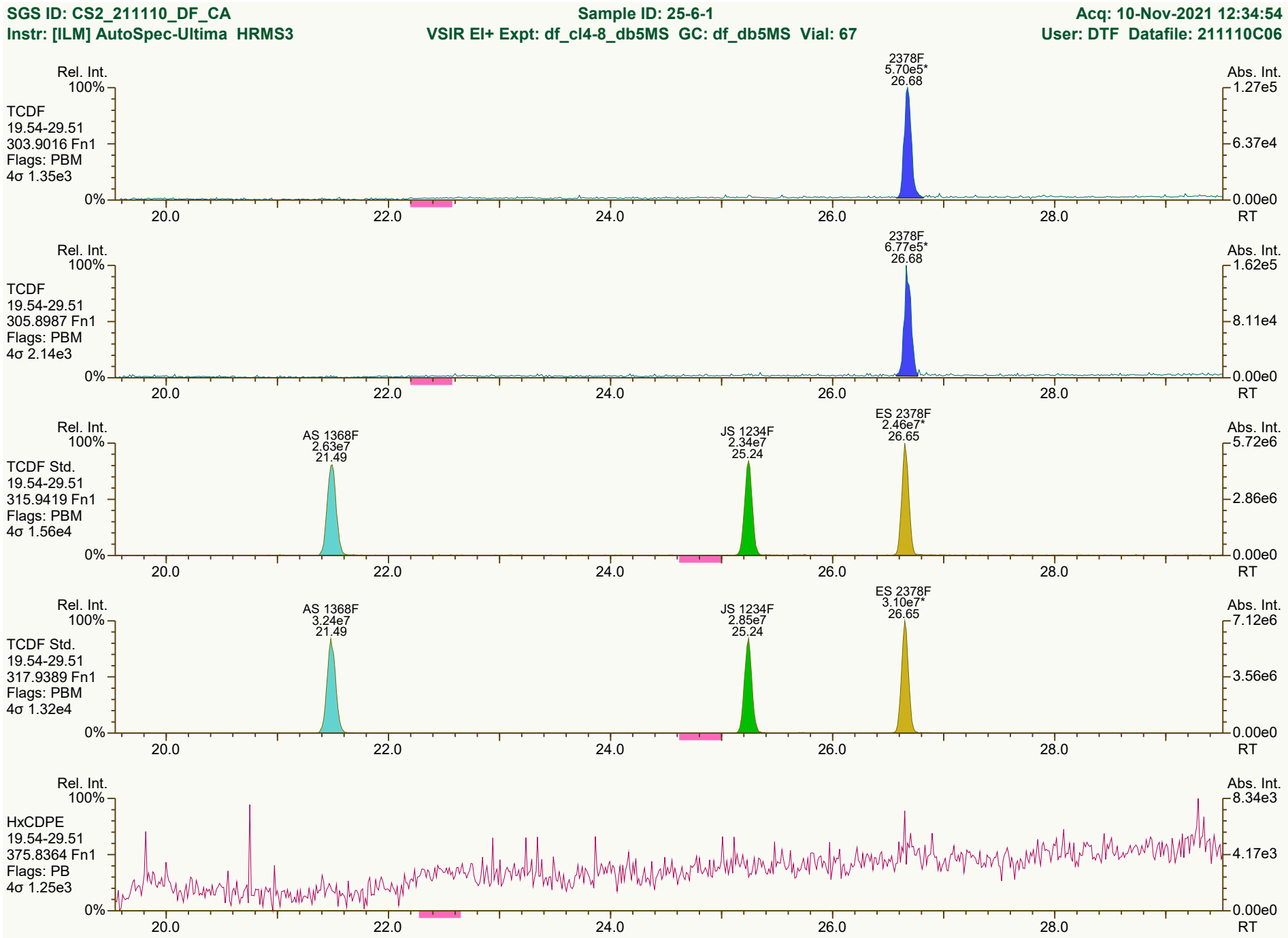

SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
2378D
4.41e5*
27.59
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
2378D
5.03e5*
27.59
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
CS 37Cl-2378D
9.87e5
27.59
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 1584, 4976, 2477 scc: 385-758
Revised: 10-Nov-2021 13:50 (DTF)
Printed: 11-Nov-2021 10:40 Page 2 of 12


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

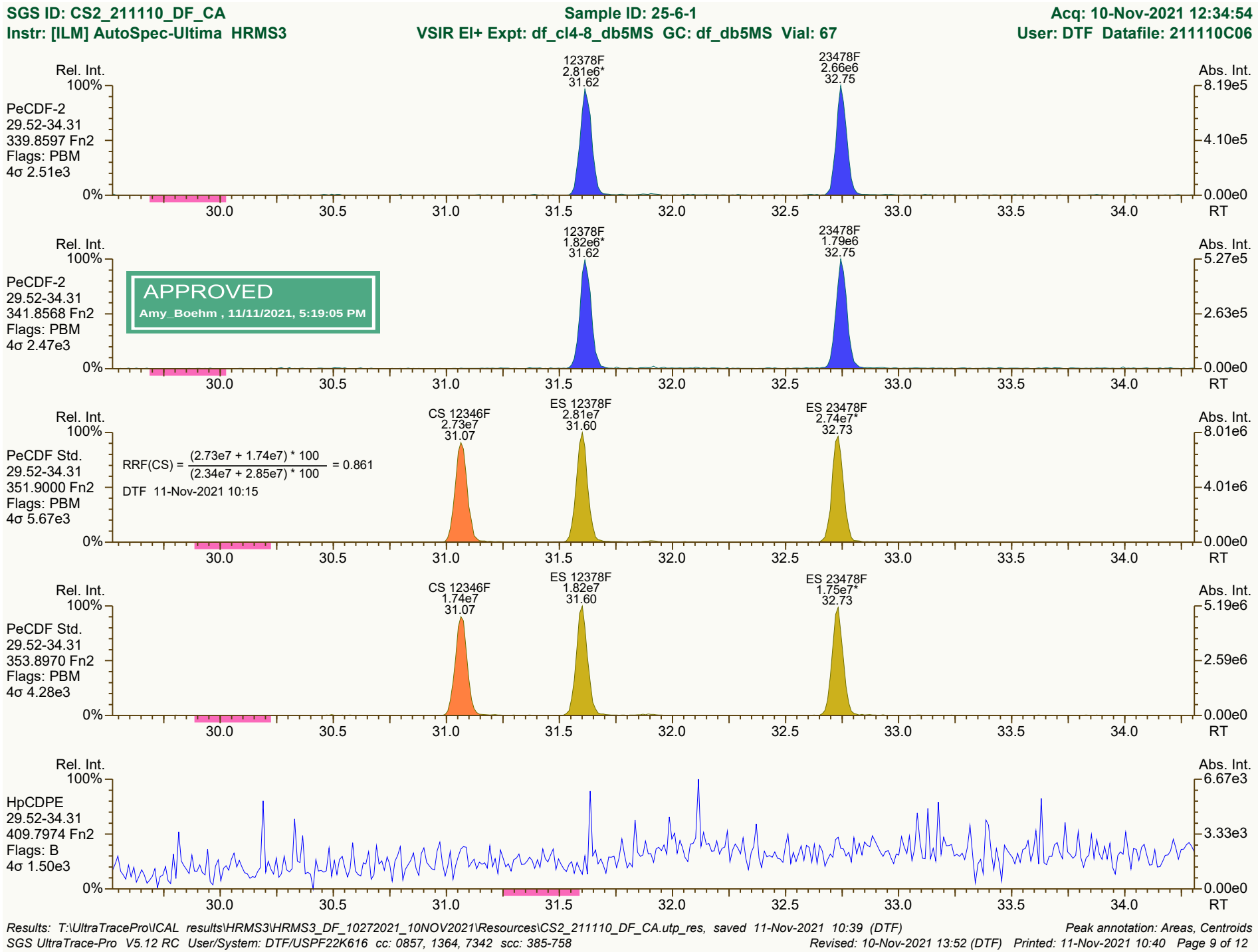

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
4.28e5
2.14e5
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
6.48e6
3.24e6
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
5.04e6
2.52e6
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.33e7
1.17e7

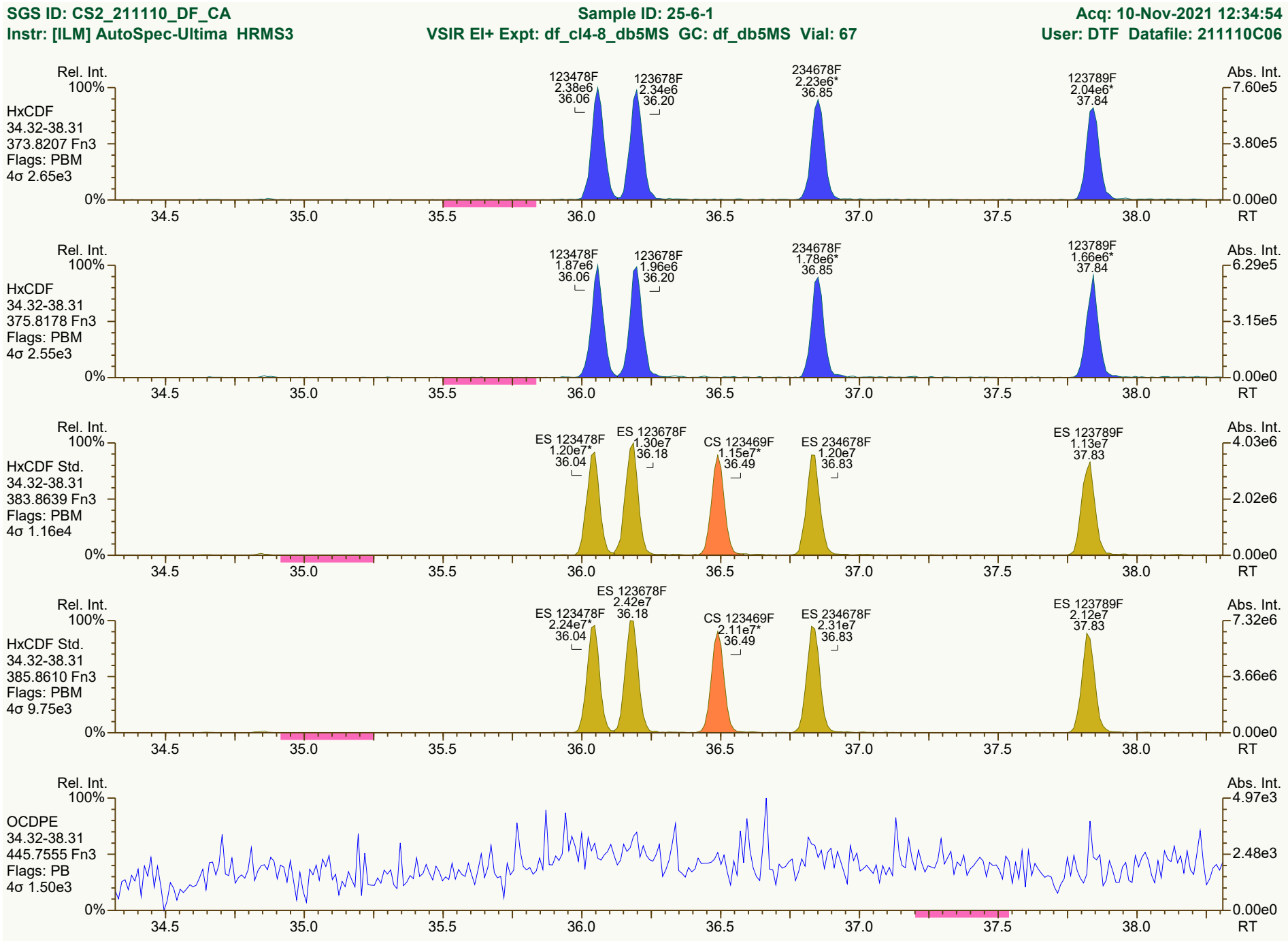

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
2378F
5.70e5*
26.68
1.27e5
6.37e4
0.00e0
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
2378F
6.77e5*
26.68
1.62e5
8.11e4
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
5.72e6
2.86e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
7.12e6
3.56e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
8.34e3
4.17e3
100%
0%
20.0
22.0
24.0
26.0
28.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0757, 8106, 9238 scc: 385-758
Revised: 10-Nov-2021 13:51 (DTF) Printed: 11-Nov-2021 10:40 Page 7 of 12

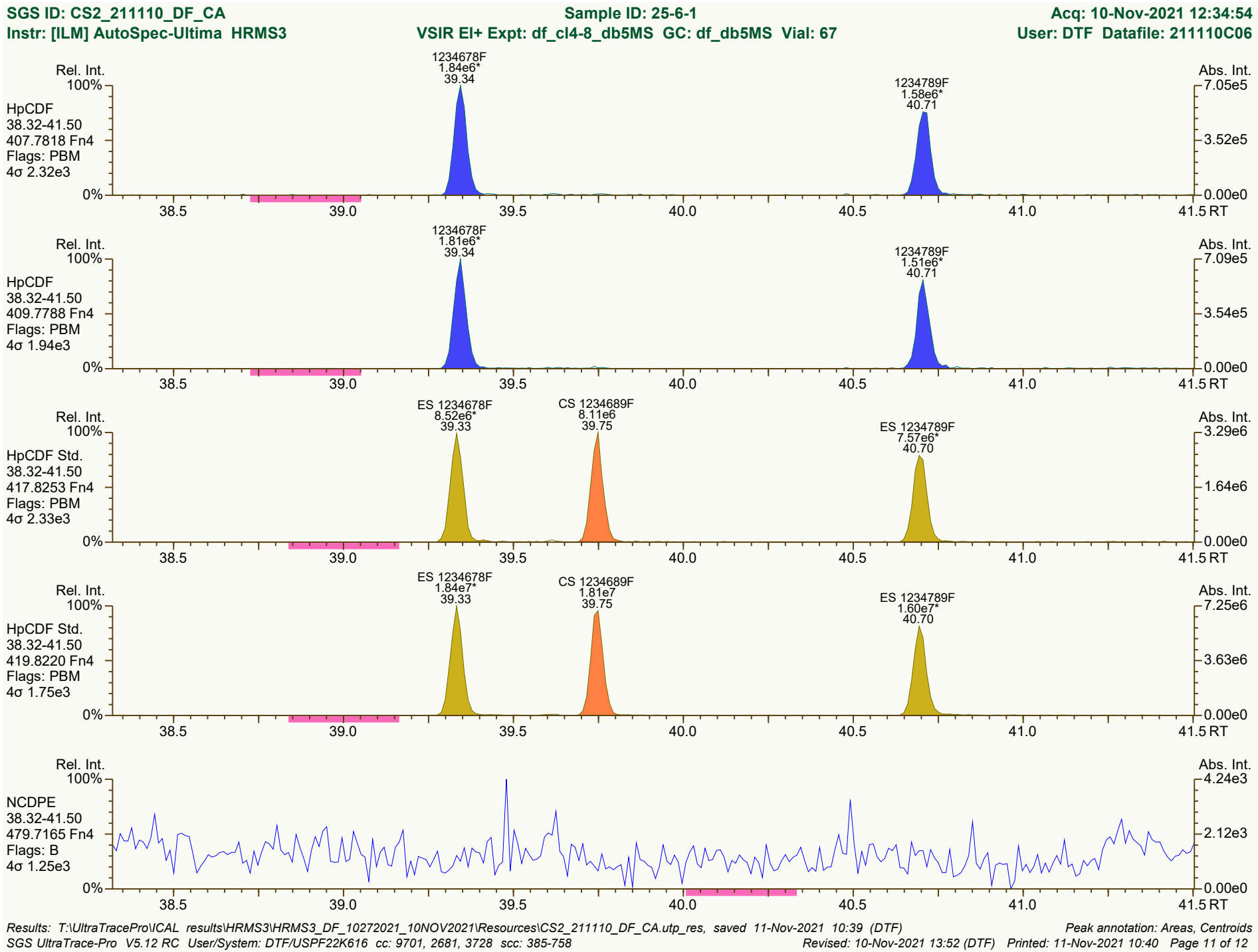

Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT

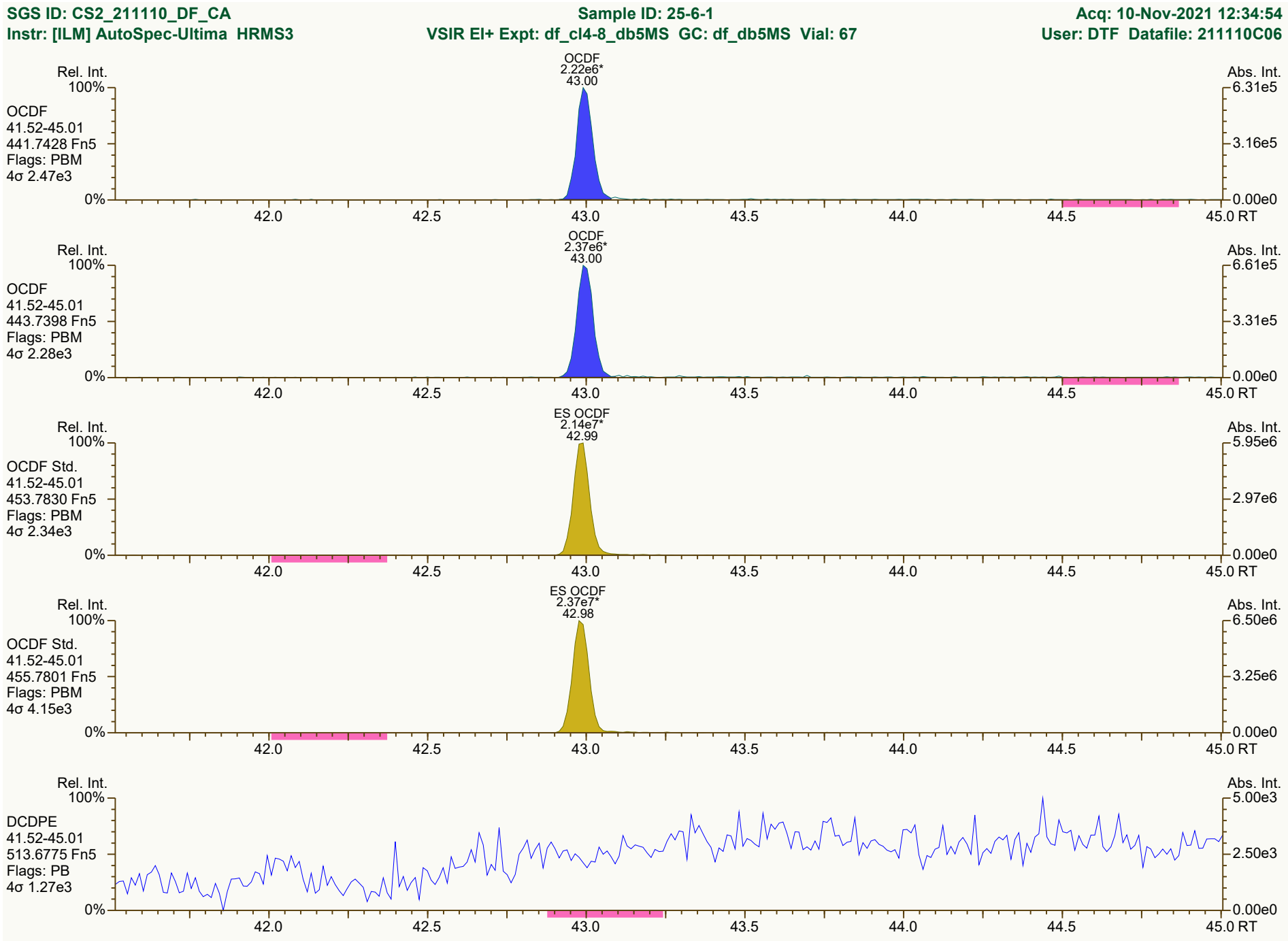

SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
8.19e5
4.10e5
0.00e0
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
5.27e5
2.63e5
0.00e0
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
8.01e6
4.01e6
0.00e0
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
5.19e6
2.59e6
0.00e0
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
6.67e3
3.33e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0857, 1364, 7342 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 9 of 12



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 7496, 9123, 5141 scc: 385-758 *Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 10 of 12*

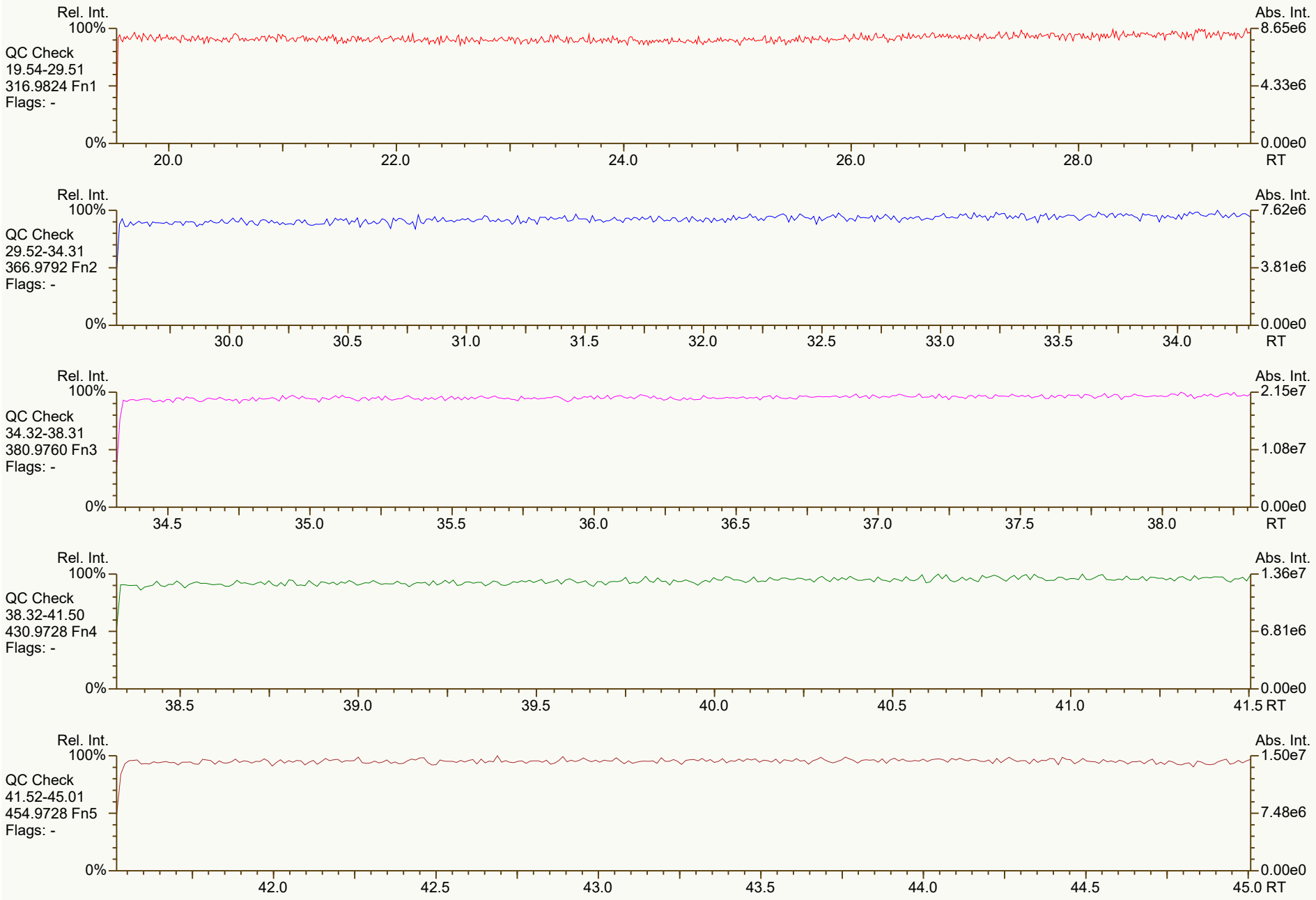

SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
7.05e5
3.52e5
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
7.09e5
3.54e5
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
3.29e6
1.64e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
7.25e6
3.63e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
4.24e3
2.12e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9701, 2681, 3728 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 11 of 12

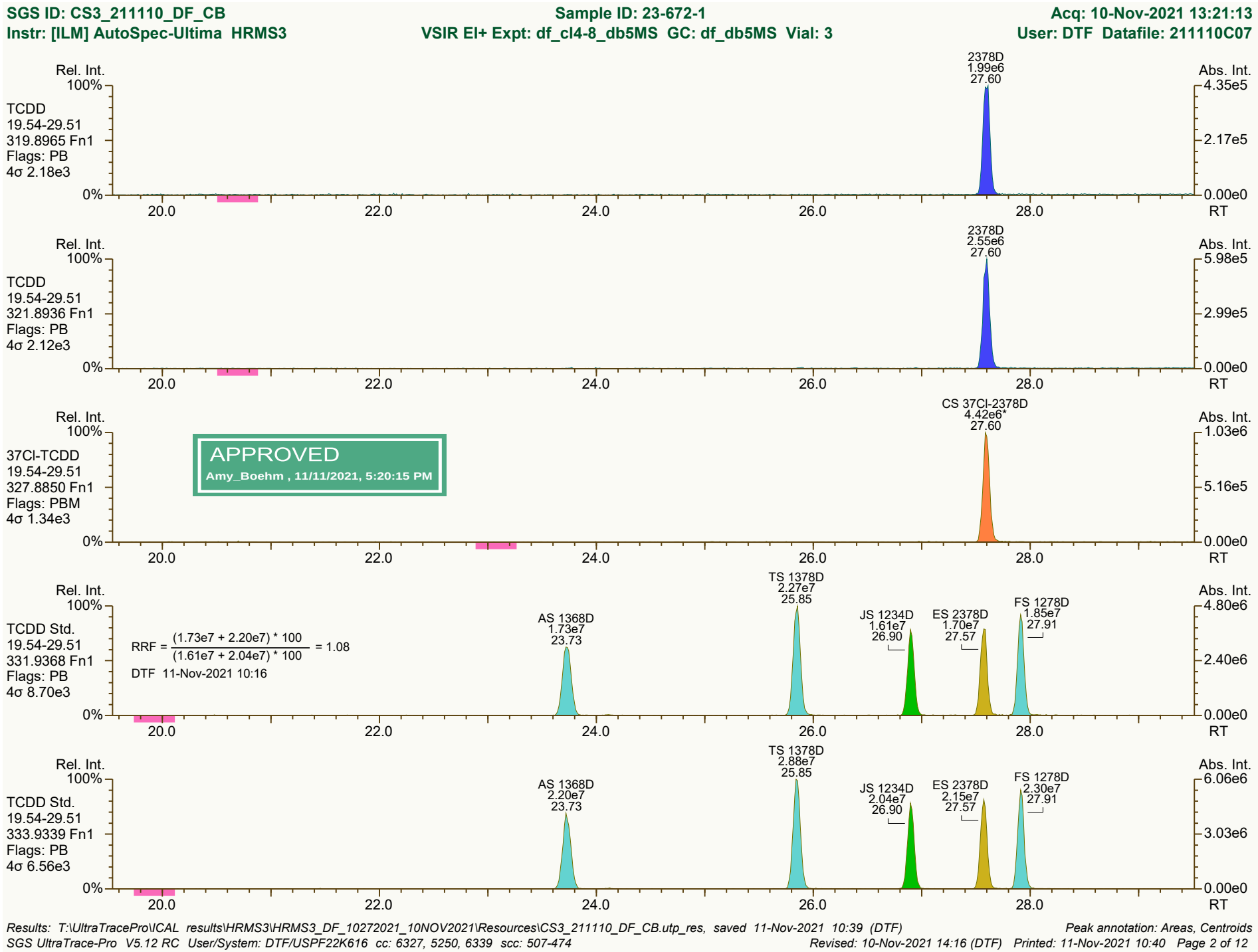

SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
OCDF
2.22e6*
43.00
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
6.31e5
3.16e5
0.00e0
OCDF
2.37e6*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
6.61e5
3.31e5
ES OCDF
2.14e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
5.95e6
2.97e6
ES OCDF
2.37e7*
42.98
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
6.50e6
3.25e6
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
5.00e3
2.50e3
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 5547, 1929, 8450 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 12 of 12

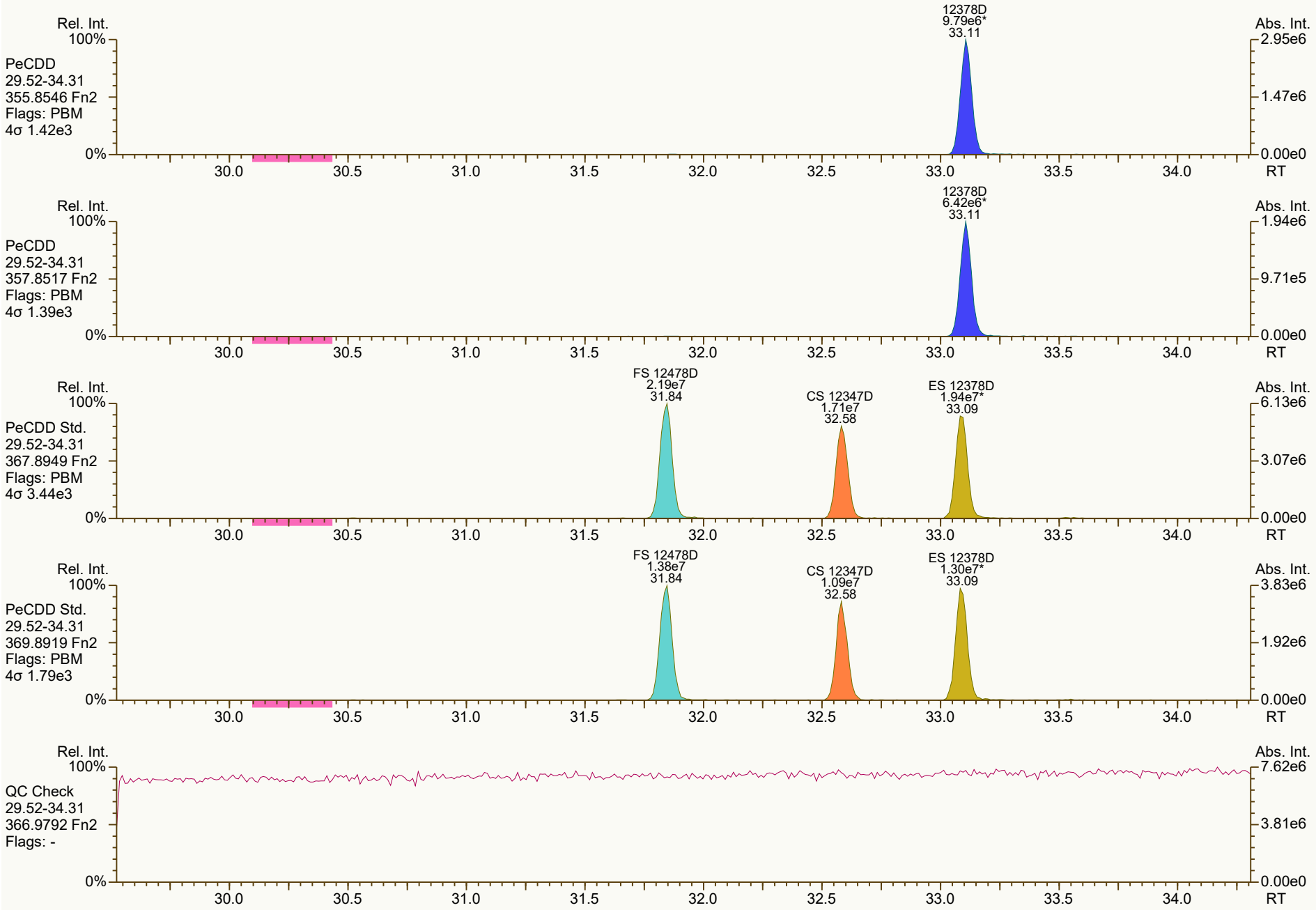
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

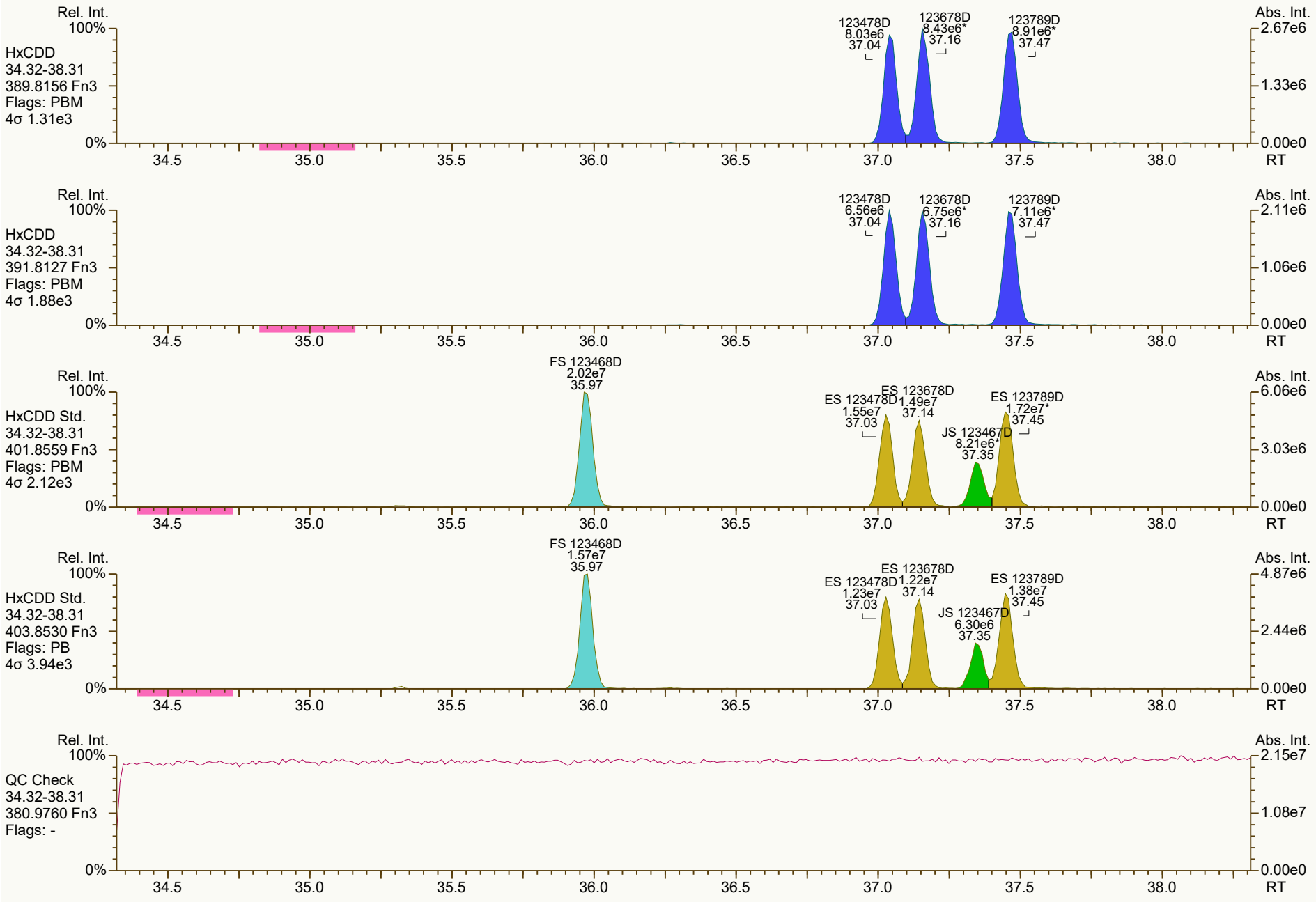
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

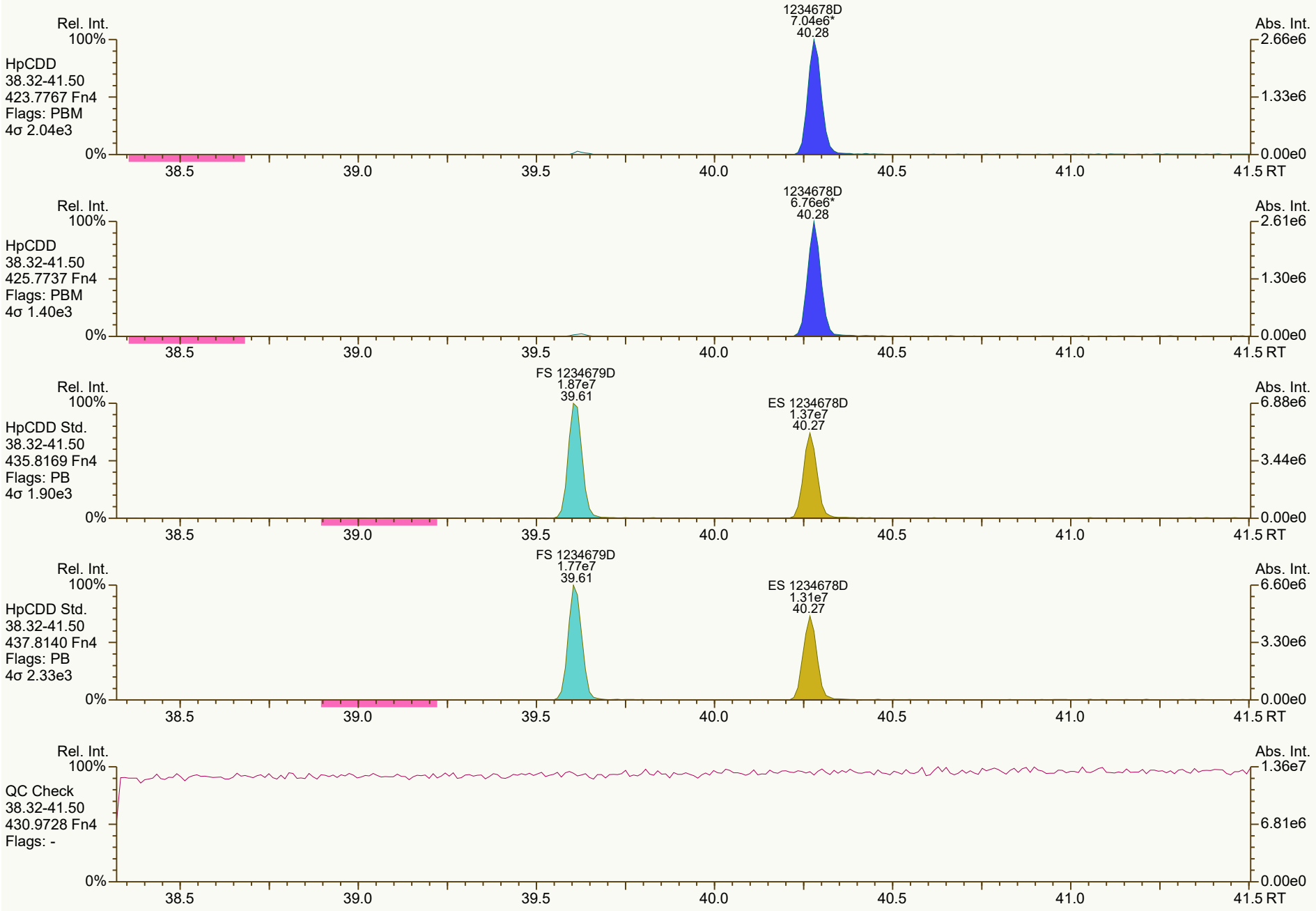
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%


Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
8.65e6
4.33e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
7.62e6
3.81e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
2.15e7
1.08e7
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
2378D
1.99e6
27.60
4.35e5
2.17e5
0.00e0
RT
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
2378D
2.55e6
27.60
5.98e5
2.99e5
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
1.03e6
5.16e5
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
4.80e6
2.40e6
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
6.06e6
3.03e6
20.0
22.0
24.0
26.0
28.0
0%
100%
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6327, 5250, 6339 scc: 507-474
Revised: 10-Nov-2021 14:16 (DTF) Printed: 11-Nov-2021 10:40 Page 2 of 12


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.62e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
9.25e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.02e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.70e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.86e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*

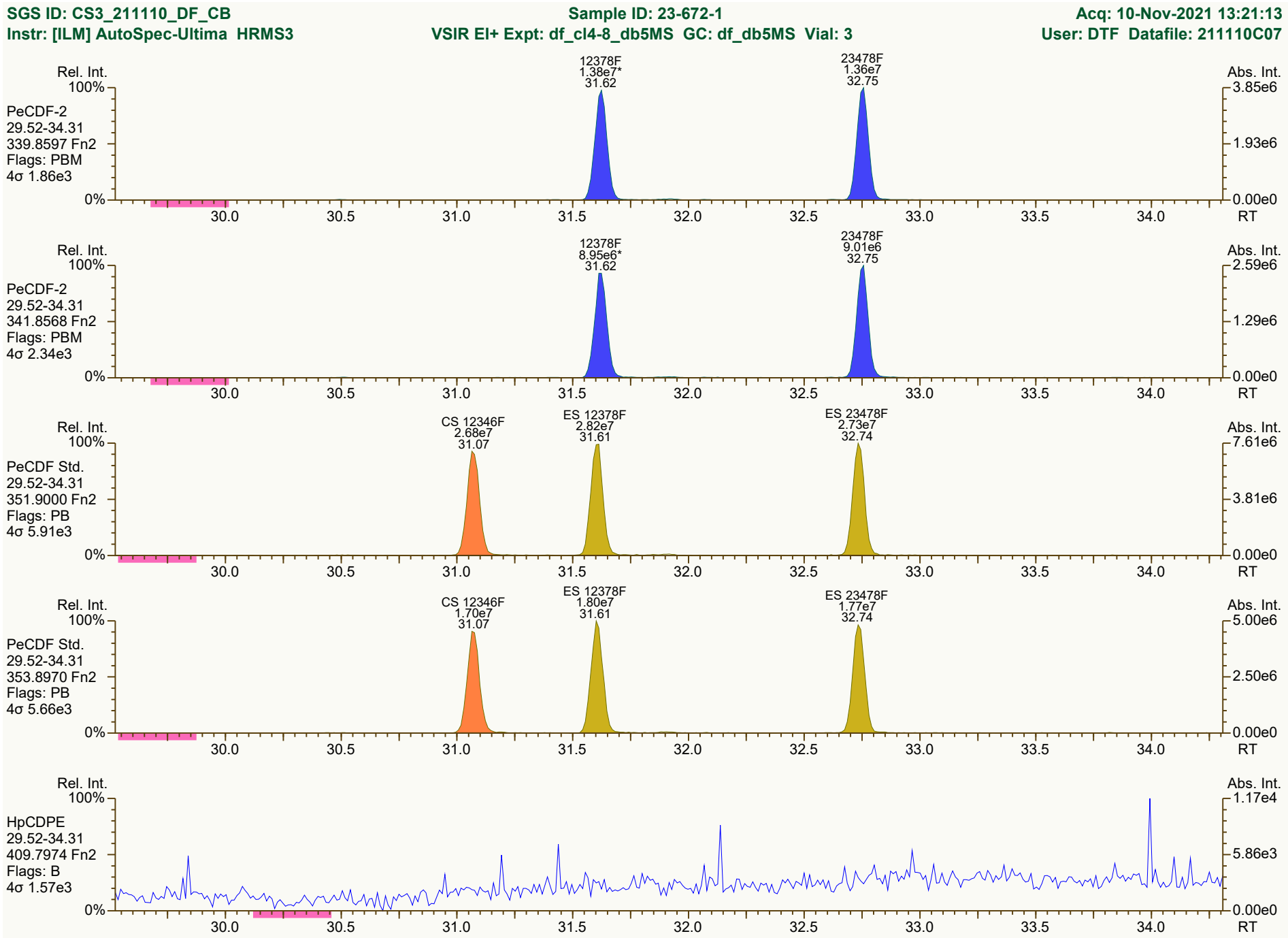
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 1031, 7005, 4716 scc: 507-474 *PKD: 10-Nov-2021 14:16 Printed: 11-Nov-2021 10:40 Page 7 of 12*


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT

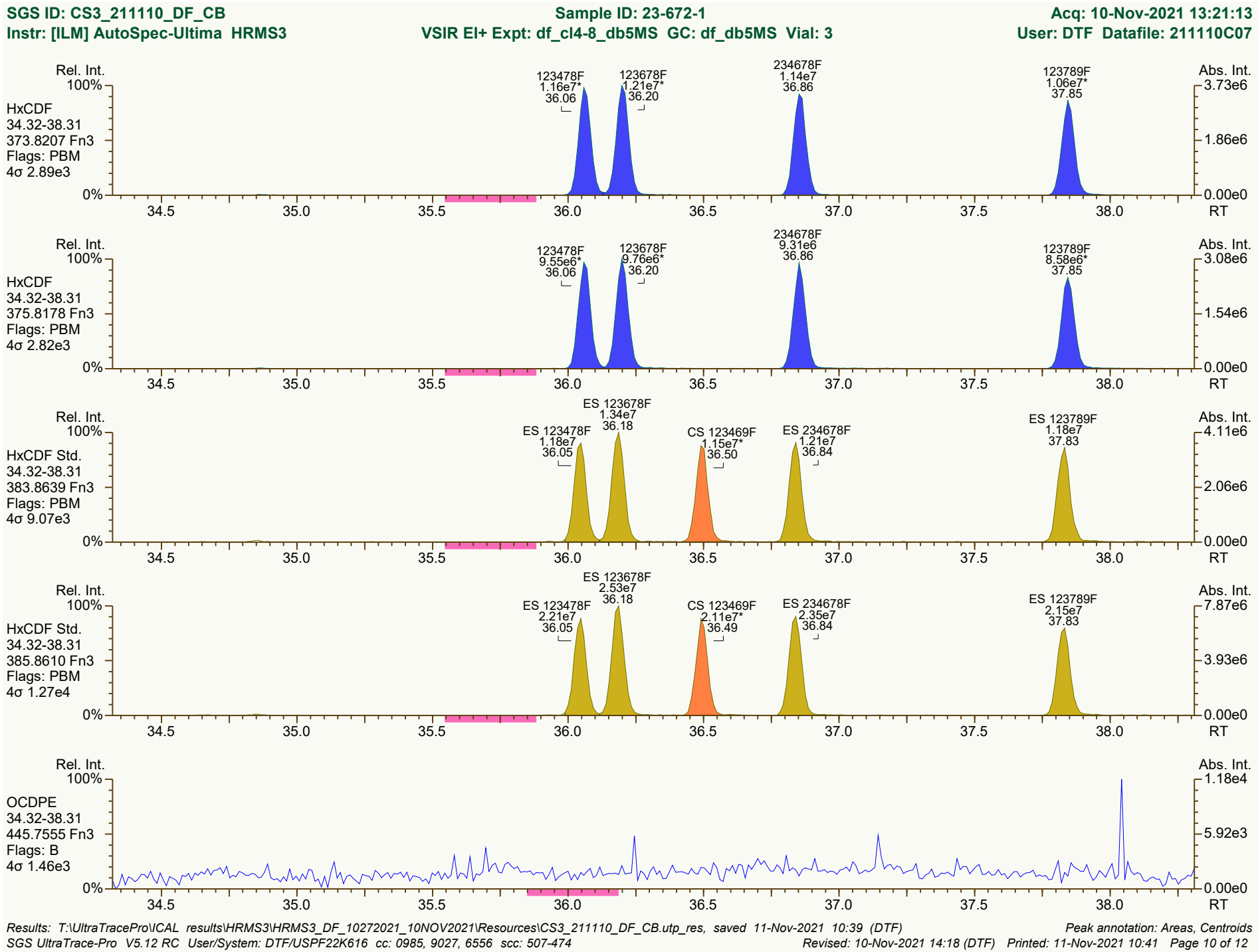
SGS ID: CS3_211110_DF_CB
Instr: [ILM] AutoSpec-Ultima HRMS3

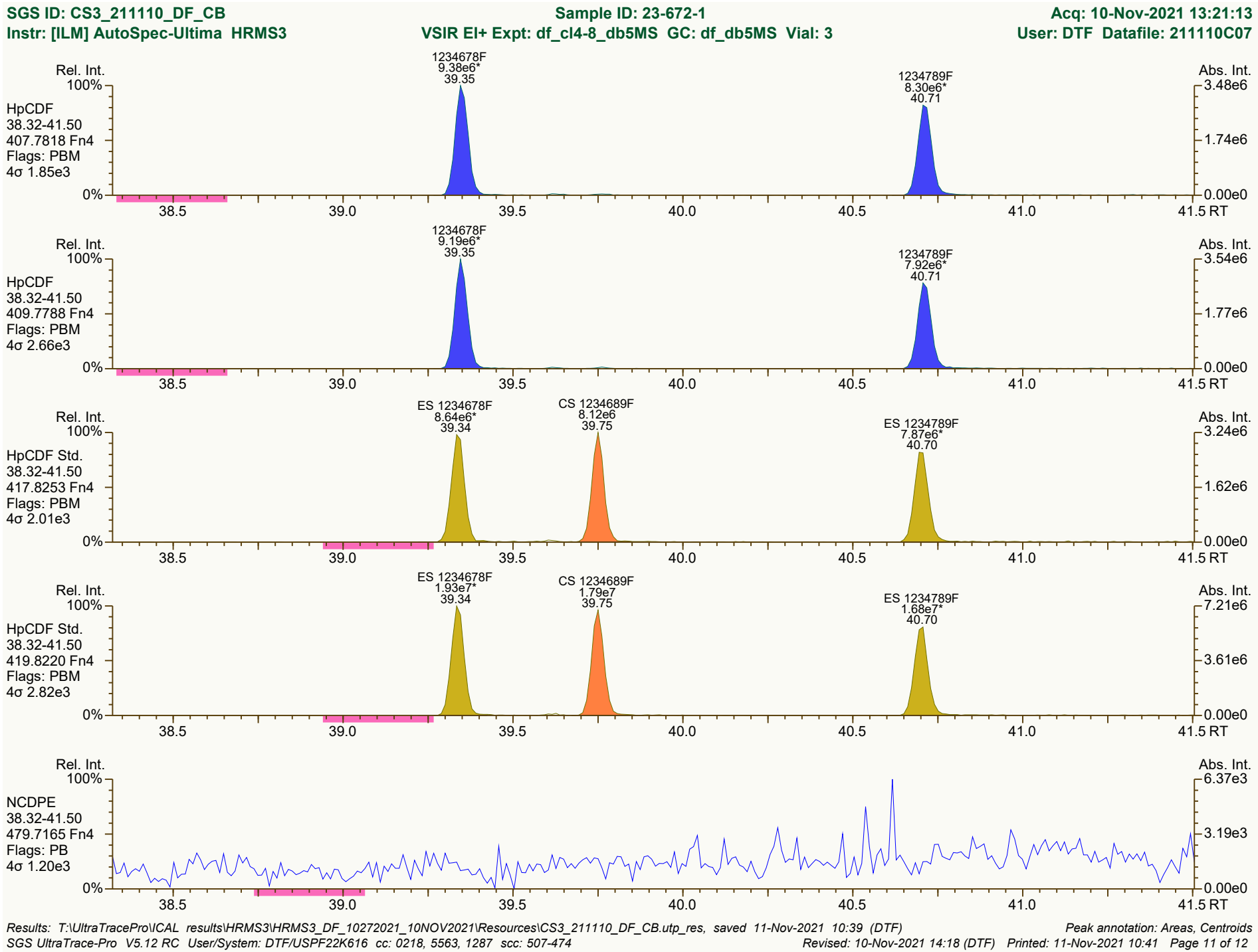
Sample ID: 23-672-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3

Acq: 10-Nov-2021 13:21:13
User: DTF Datafile: 211110C07

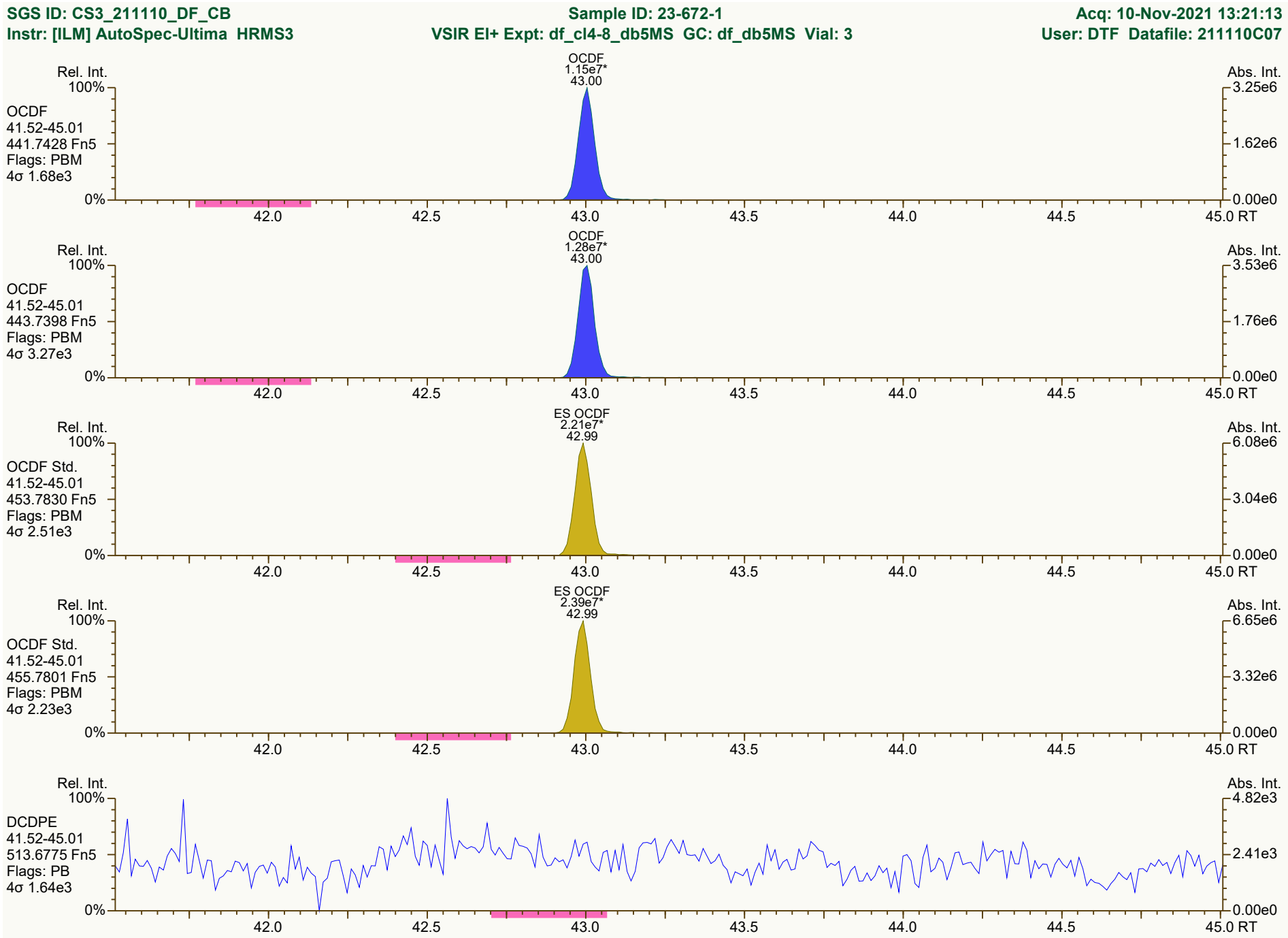


Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0728, 8378, 8418 scc: 507-474
Revised: 10-Nov-2021 14:17 (DTF) Printed: 11-Nov-2021 10:41 Page 9 of 12


SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
123478F 1.16e7* 36.06
123678F 1.21e7* 36.20
234678F 1.14e7 36.86
123789F 1.06e7* 37.85
3.73e6
1.86e6
0.00e0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
123478F 9.55e6* 36.06
123678F 9.76e6* 36.20
234678F 9.31e6 36.86
123789F 8.58e6* 37.85
3.08e6
1.54e6
0.00e0
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
ES 123478F 1.18e7 36.05
ES 123678F 1.34e7 36.18
CS 123469F 1.15e7* 36.50
ES 234678F 1.21e7 36.84
ES 123789F 1.18e7 37.83
4.11e6
2.06e6
0.00e0
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
ES 123478F 2.21e7 36.05
ES 123678F 2.53e7 36.18
CS 123469F 2.11e7* 36.49
ES 234678F 2.35e7 36.84
ES 123789F 2.15e7 37.83
7.87e6
3.93e6
0.00e0
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
1.18e4
5.92e3
0.00e0
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0985, 9027, 6556 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 10 of 12


SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
3.48e6
1.74e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
3.54e6
1.77e6
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
3.24e6
1.62e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
7.21e6
3.61e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
6.37e3
3.19e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0218, 5563, 1287 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

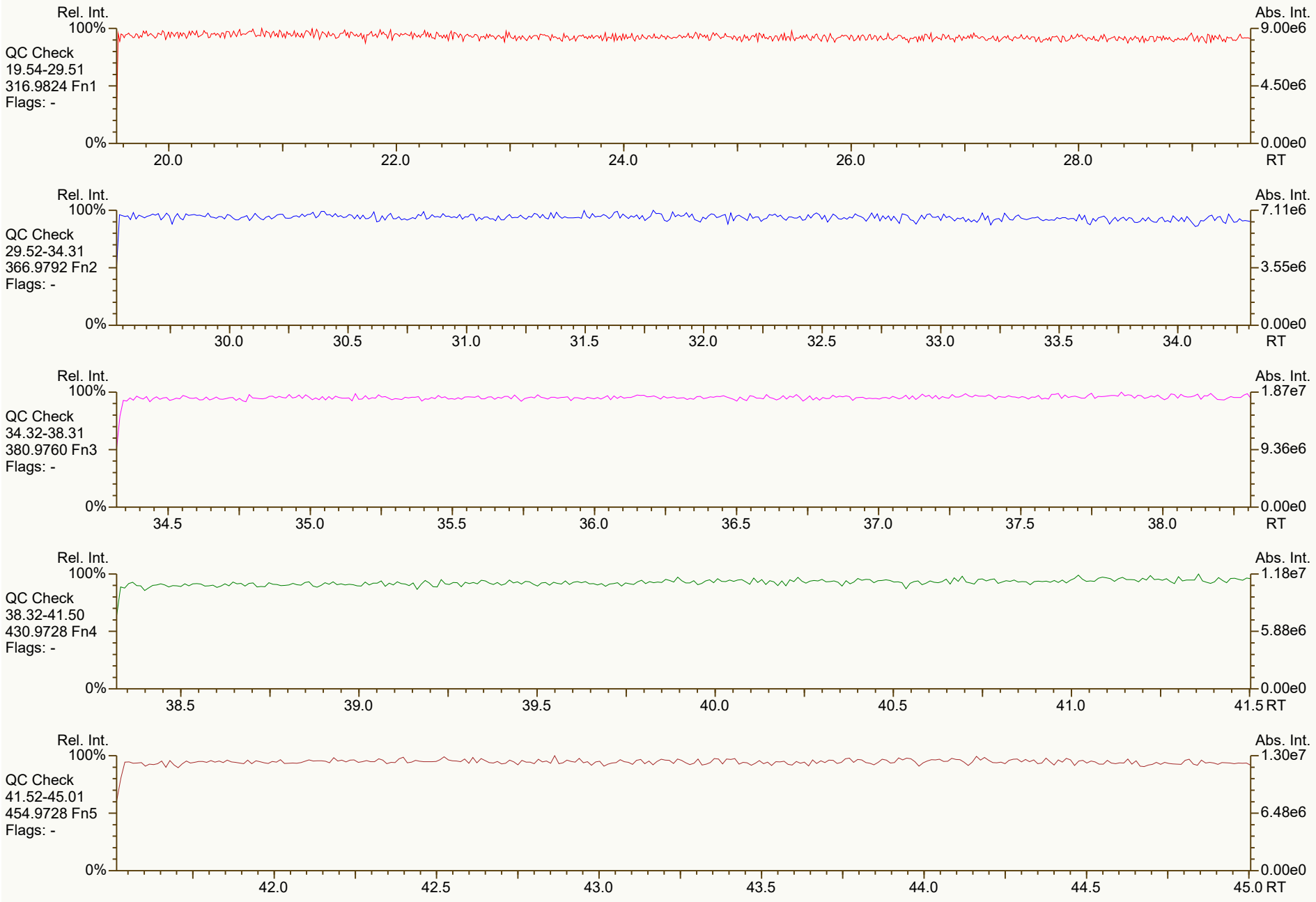
SGS ID: CS3_211110_DF_CB
Instr: [ILM] AutoSpec-Ultima HRMS3
Sample ID: 23-672-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
Acq: 10-Nov-2021 13:21:13
User: DTF Datafile: 211110C07

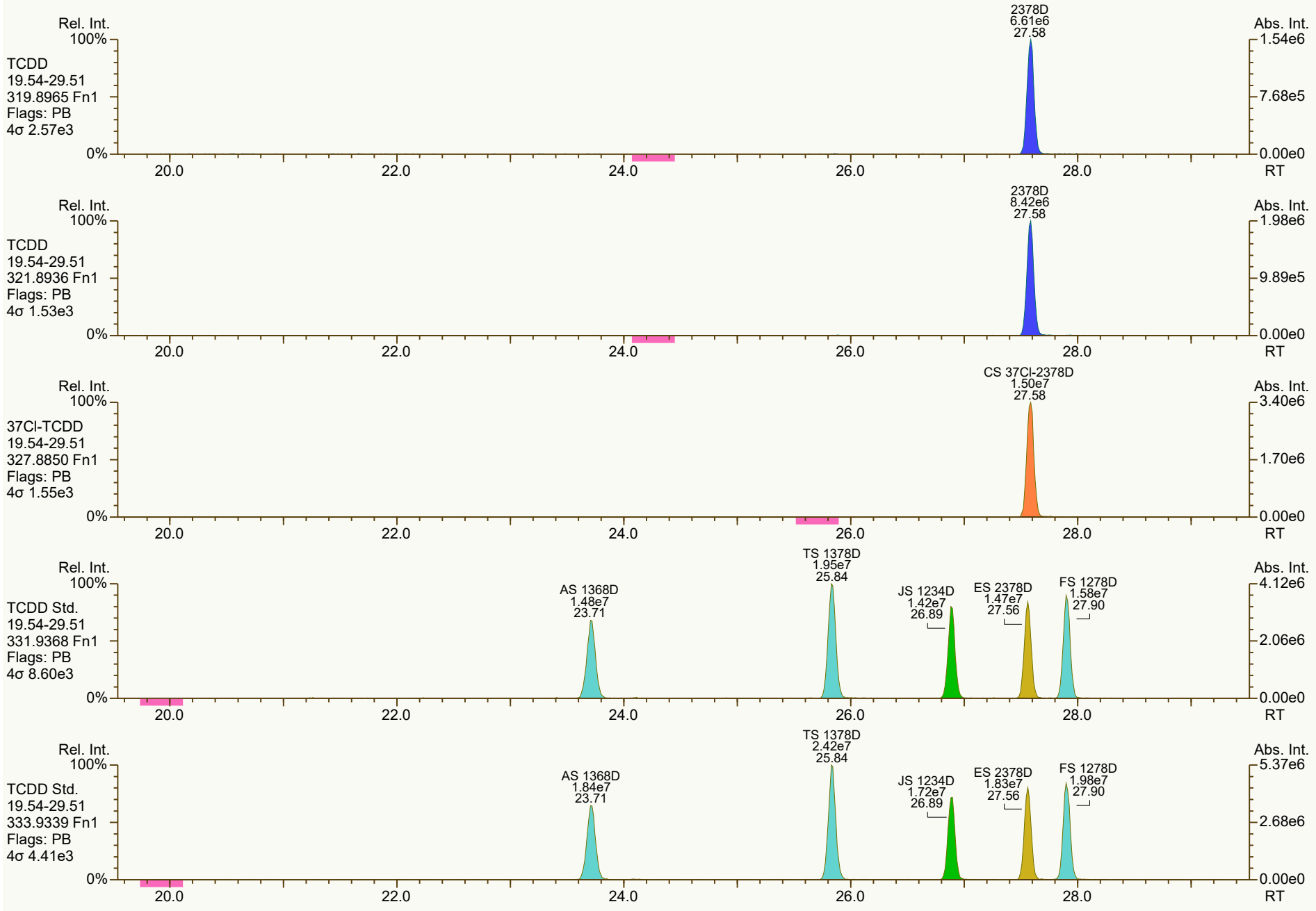


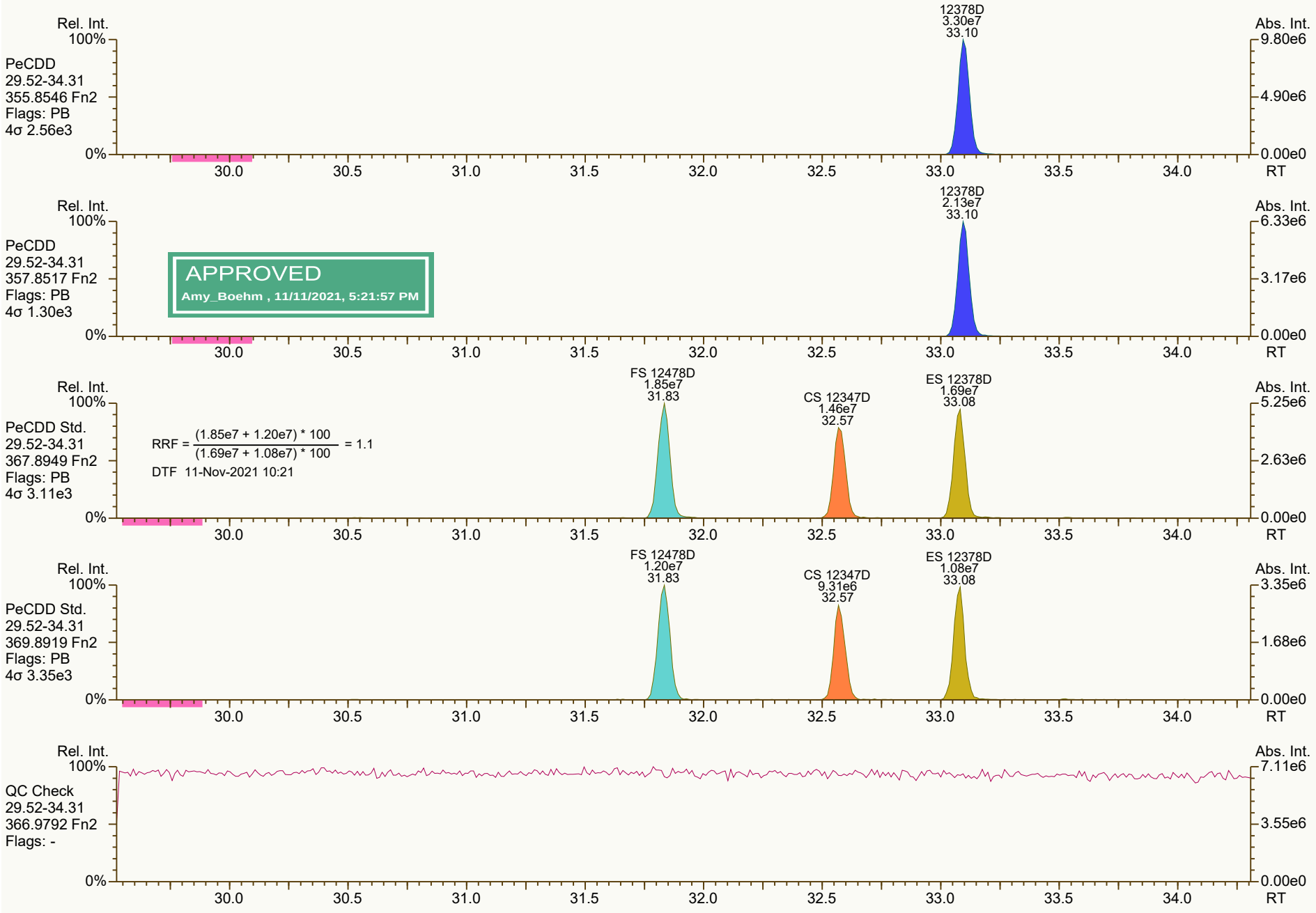
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

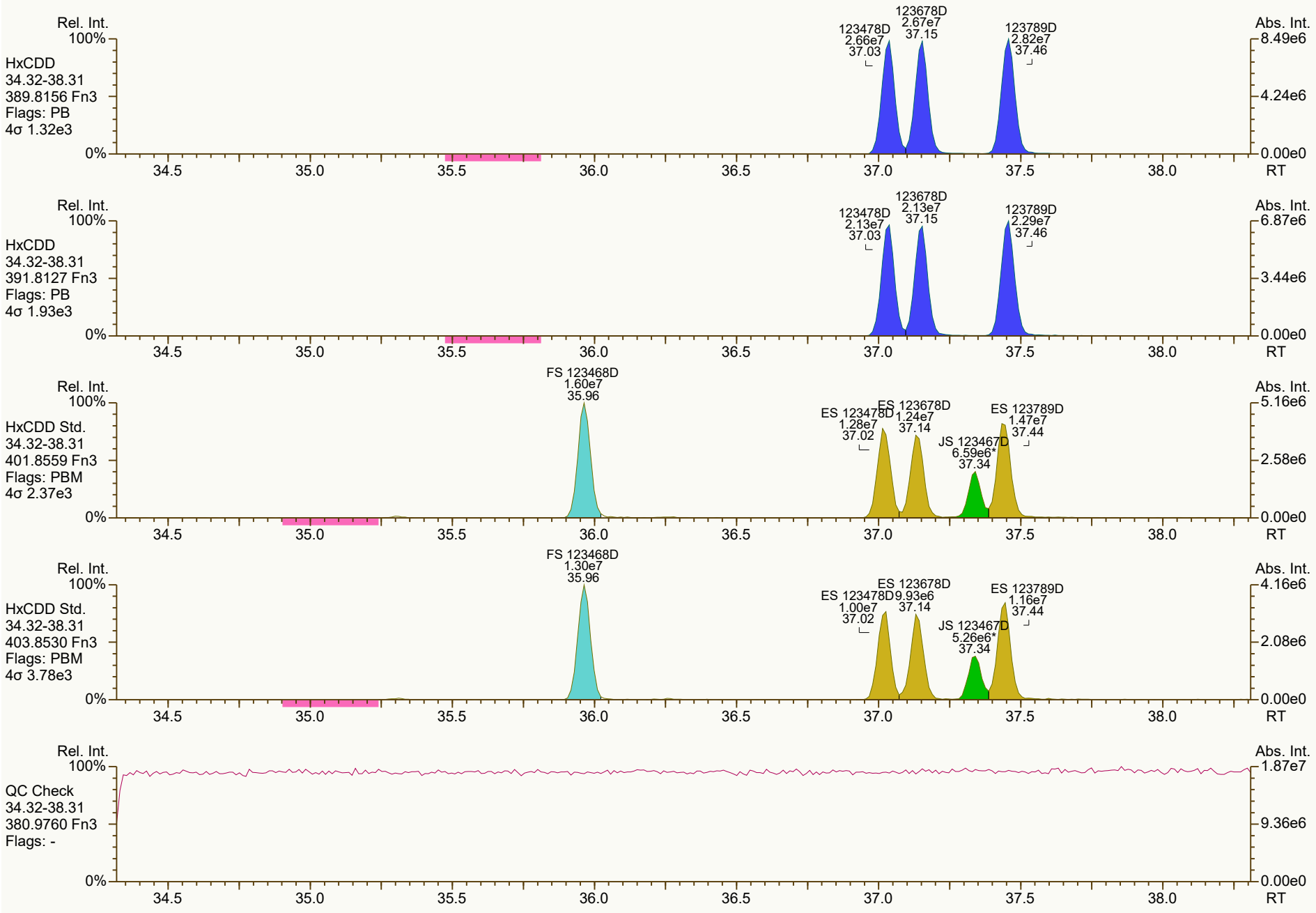
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:07 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS4_211110_DF_CA		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 855-576-PGM	
Sample ID: 25-5-4		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C08	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

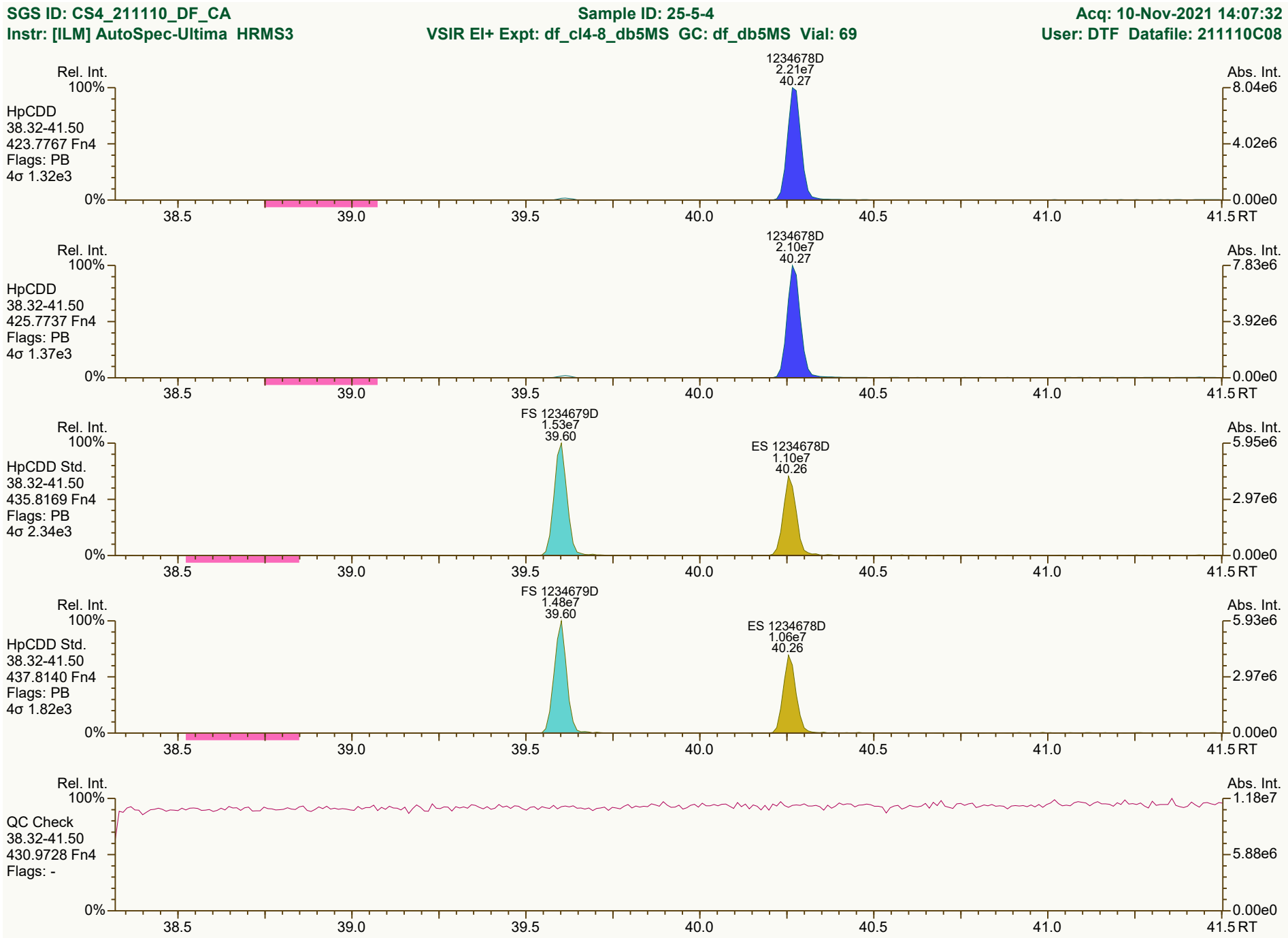

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.00e6
4.50e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.11e6
3.55e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.87e7
9.36e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.18e7
5.88e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.30e7
6.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

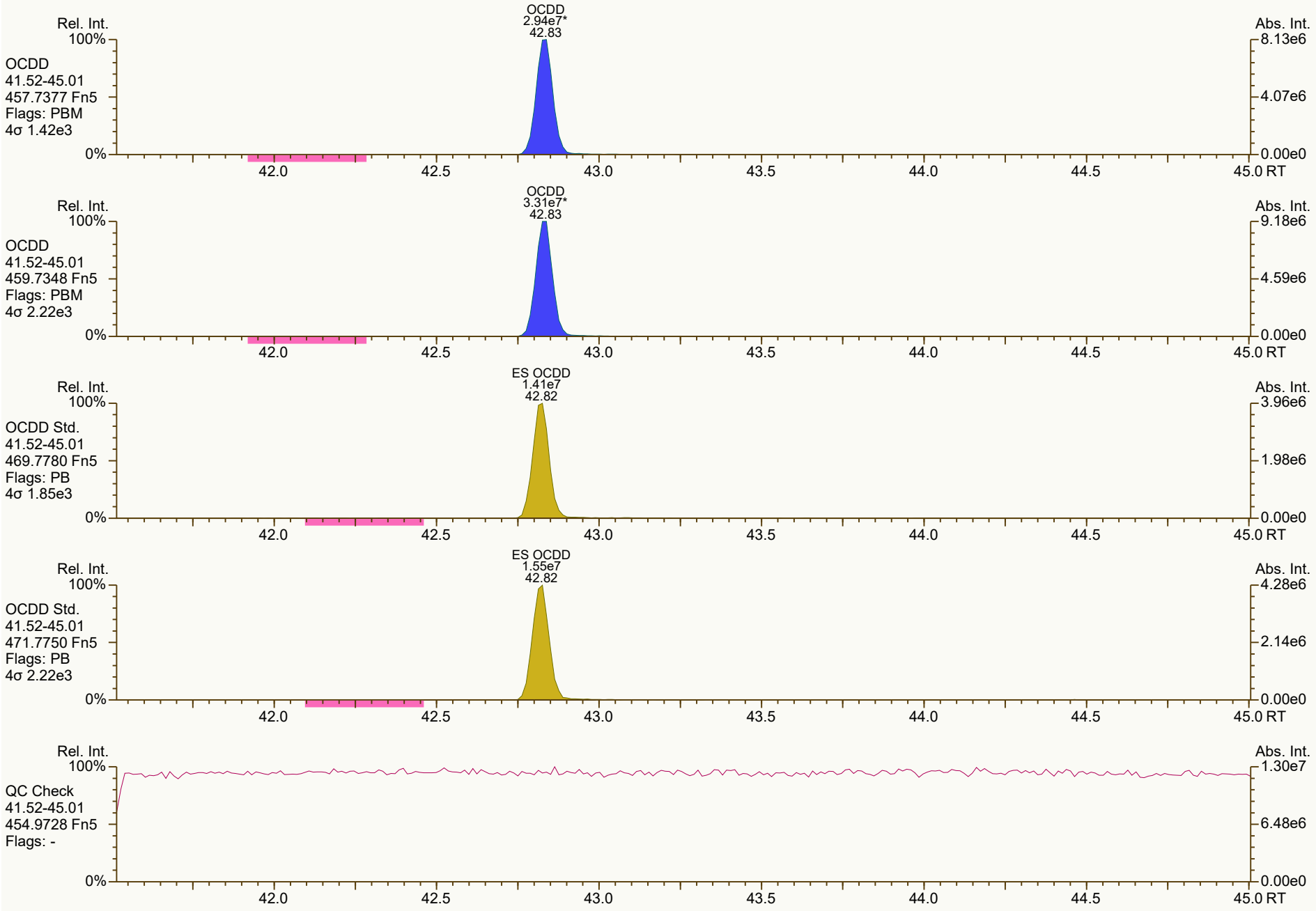

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
0%
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
0%
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

SGS ID: CS4_211110_DF_CA | Sample ID: 25-5-4 | Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69 | User: DTF Datafile: 211110C08



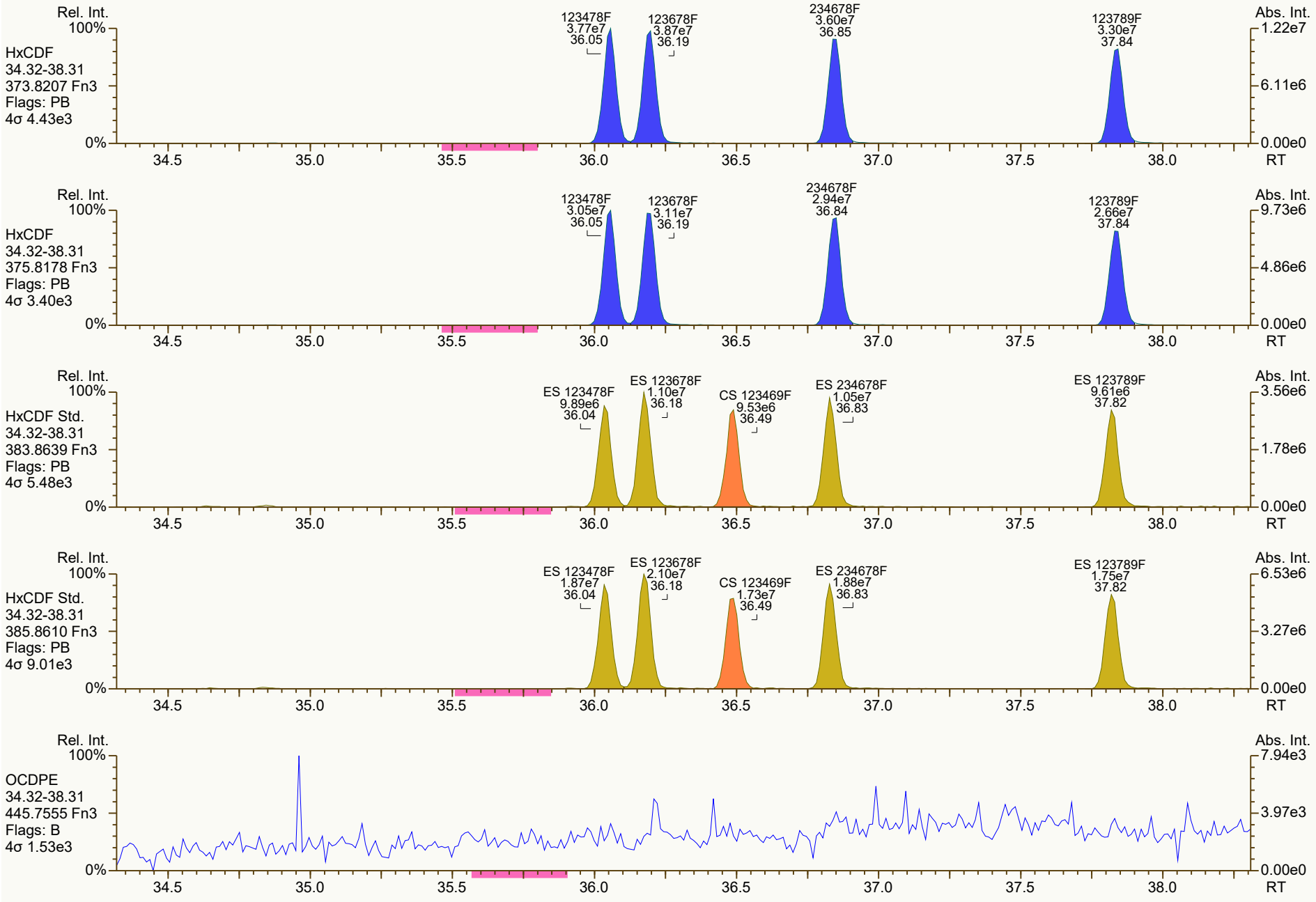
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 1775, 5353 scc: 855-576 | PKD: 10-Nov-2021 15:17 Printed: 11-Nov-2021 10:41 Page 5 of 12

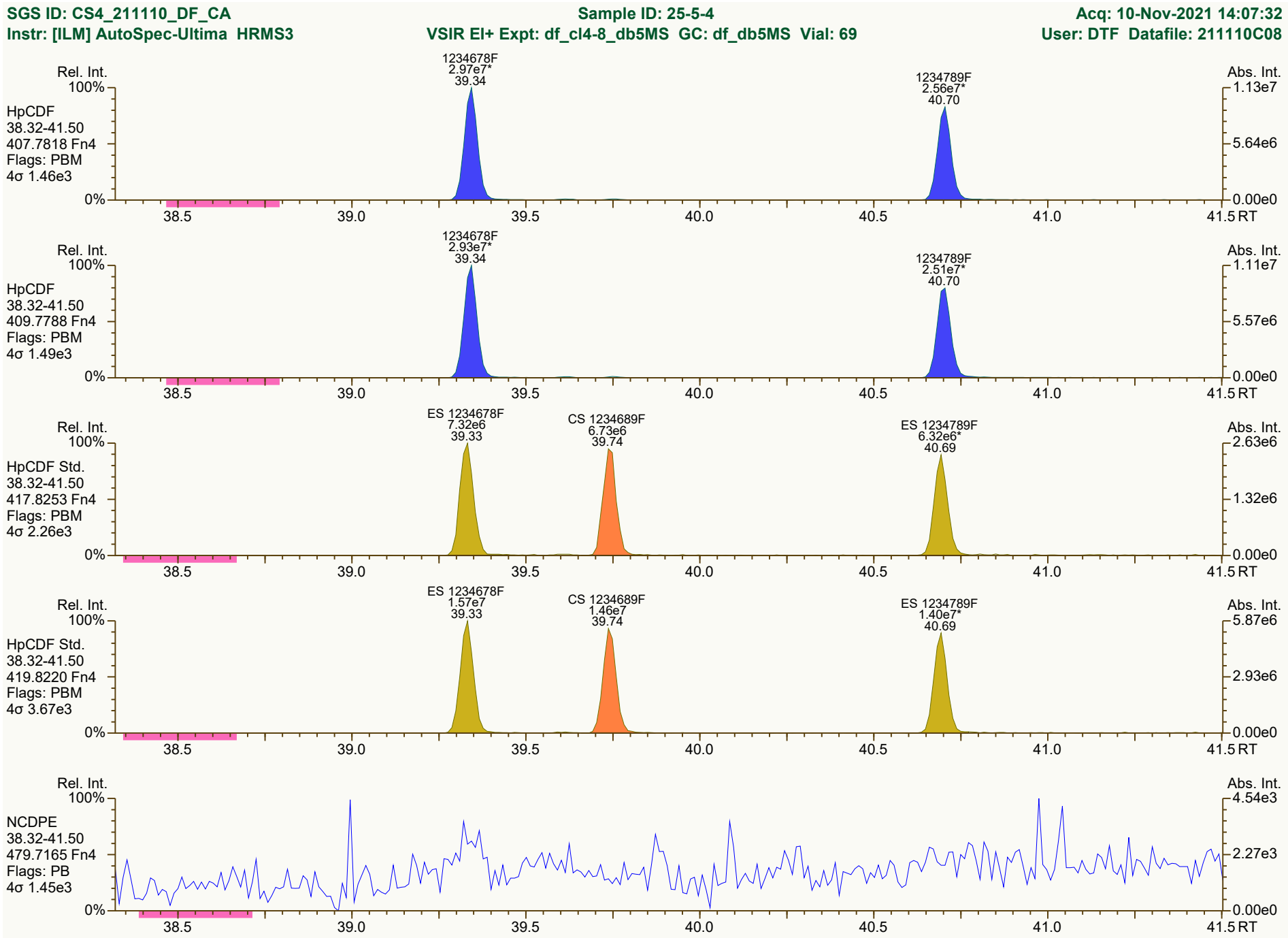

OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
8.94e3
4.47e3
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
9.00e6
4.50e6

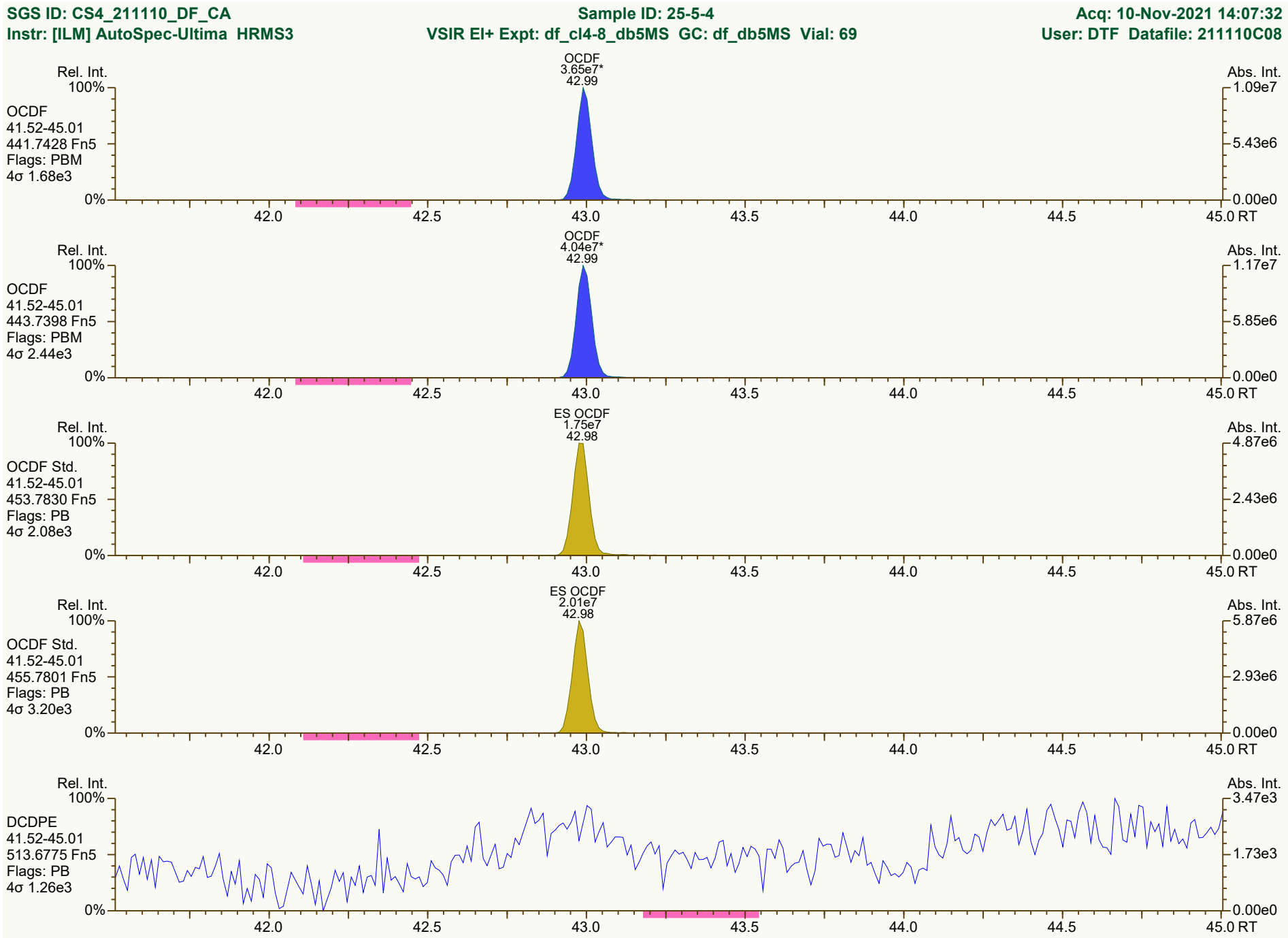

Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
Abs. Int.
7.51e3
3.76e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*

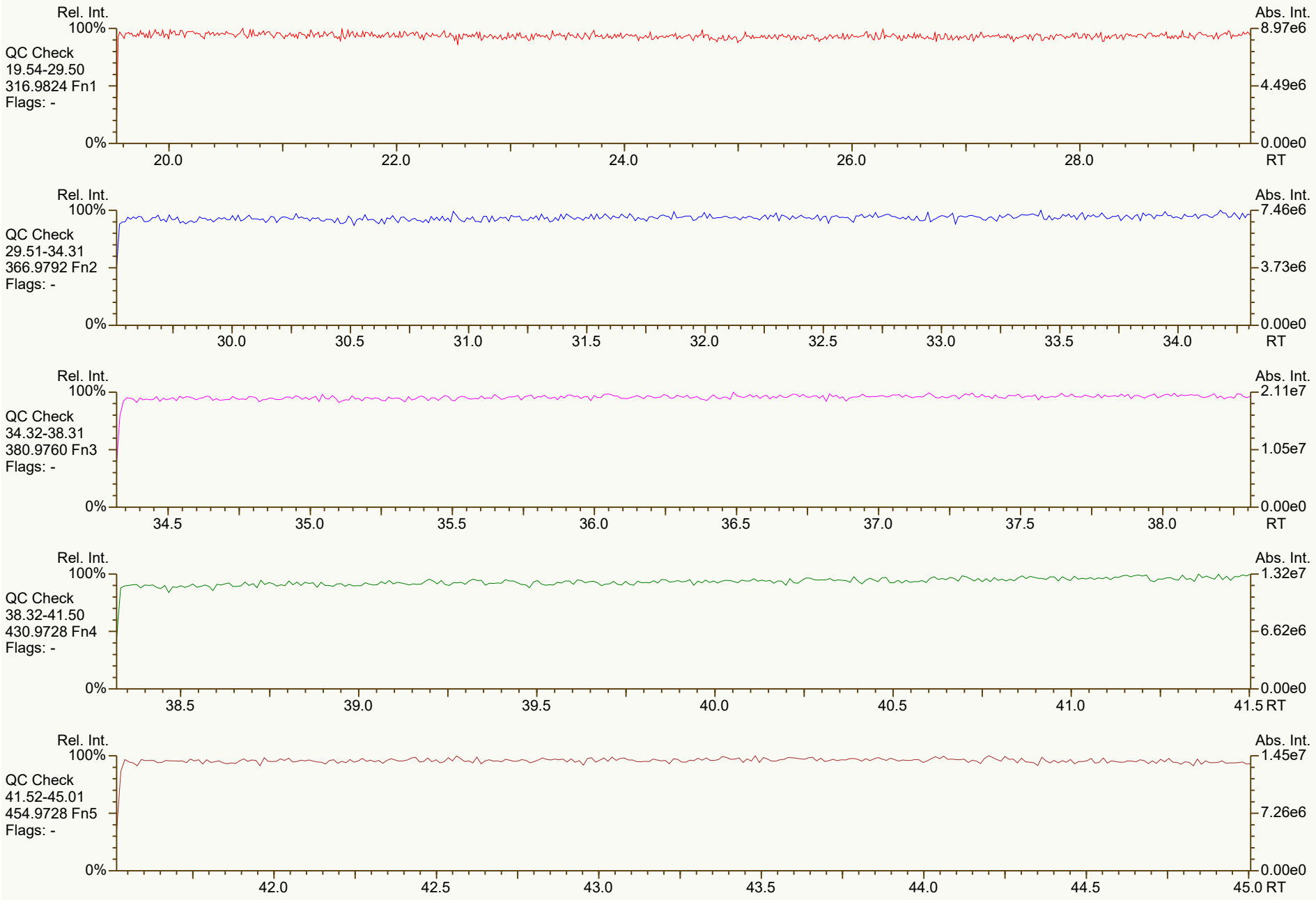
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 2764, 9565, 4492 scc: 855-576 *Revised: 10-Nov-2021 15:17 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12*

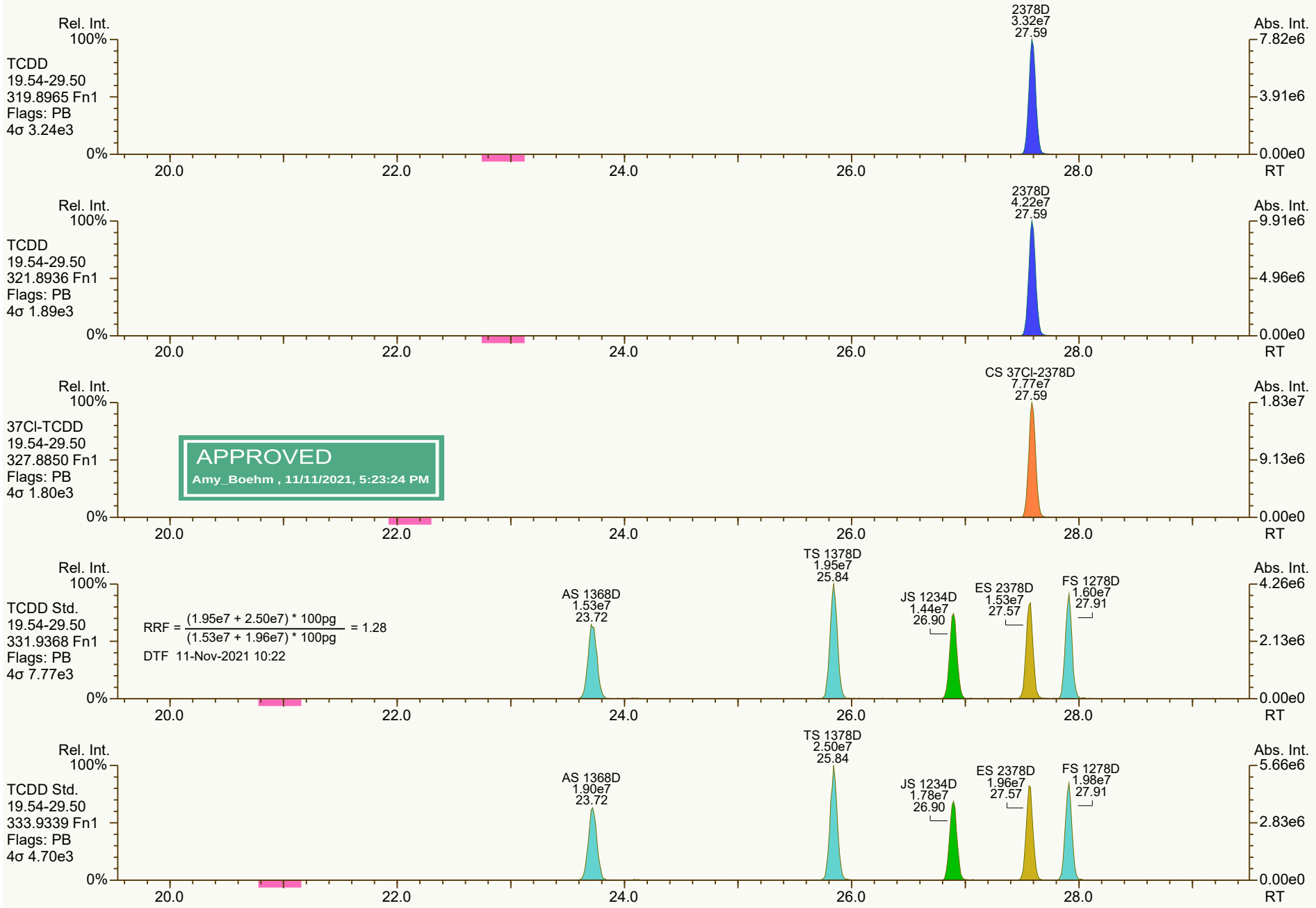

SGS ID: CS4_211110_DF_CA
Sample ID: 25-5-4
Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 211110C08
Rel. Int.
Abs. Int.
OCDF
3.65e7*
42.99
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
1.09e7
5.43e6
0.00e0
OCDF
4.04e7*
42.99
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
1.17e7
5.85e6
ES OCDF
1.75e7
42.98
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
4.87e6
2.43e6
ES OCDF
2.01e7
42.98
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
5.87e6
2.93e6
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
3.47e3
1.73e3
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4499, 5387, 8248 scc: 855-576
Revised: 10-Nov-2021 15:17 (DTF) Printed: 11-Nov-2021 10:41 Page 12 of 12

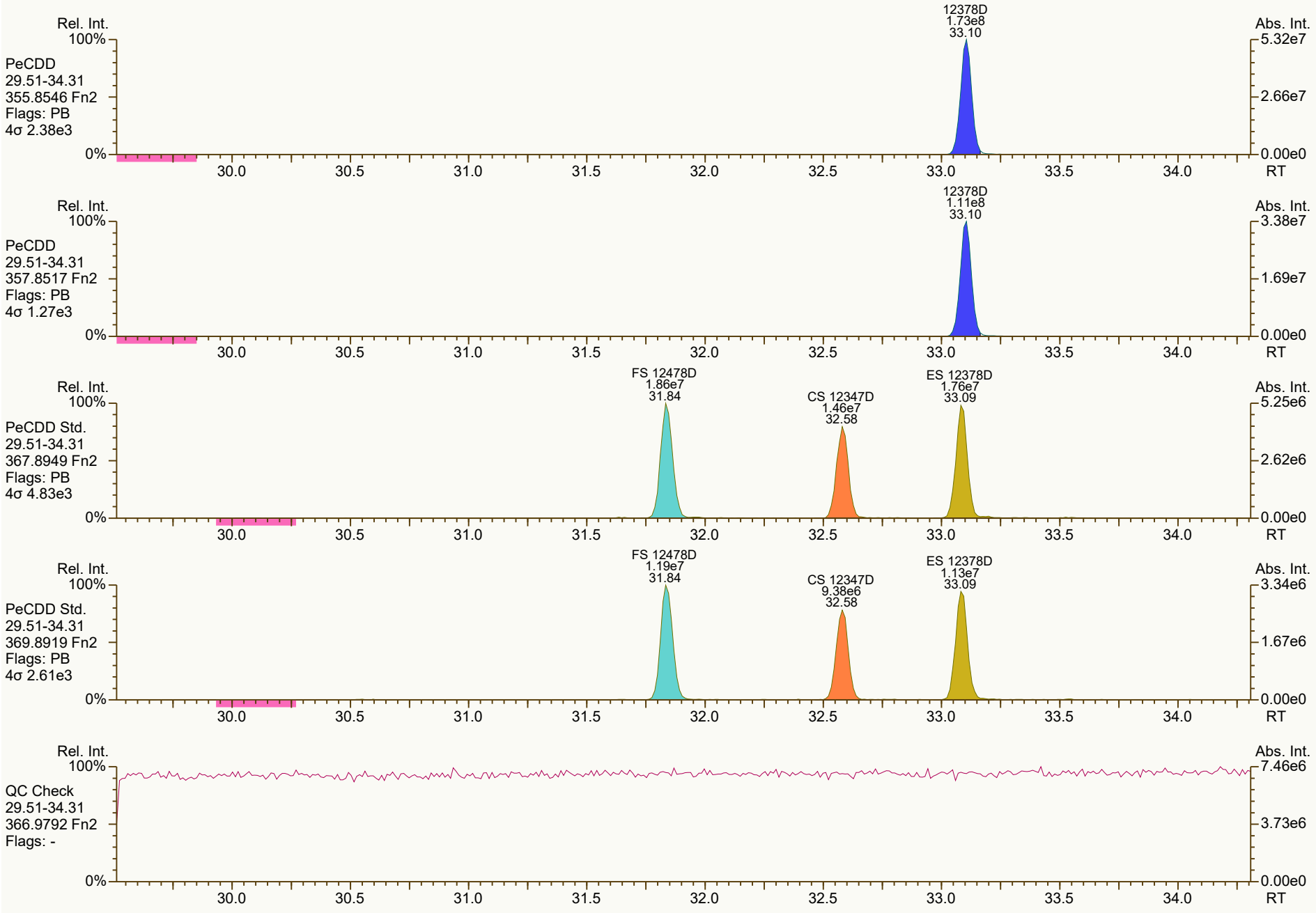
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:53 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS5_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 573-489-BMZ	
Sample ID: 25-5-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C09	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

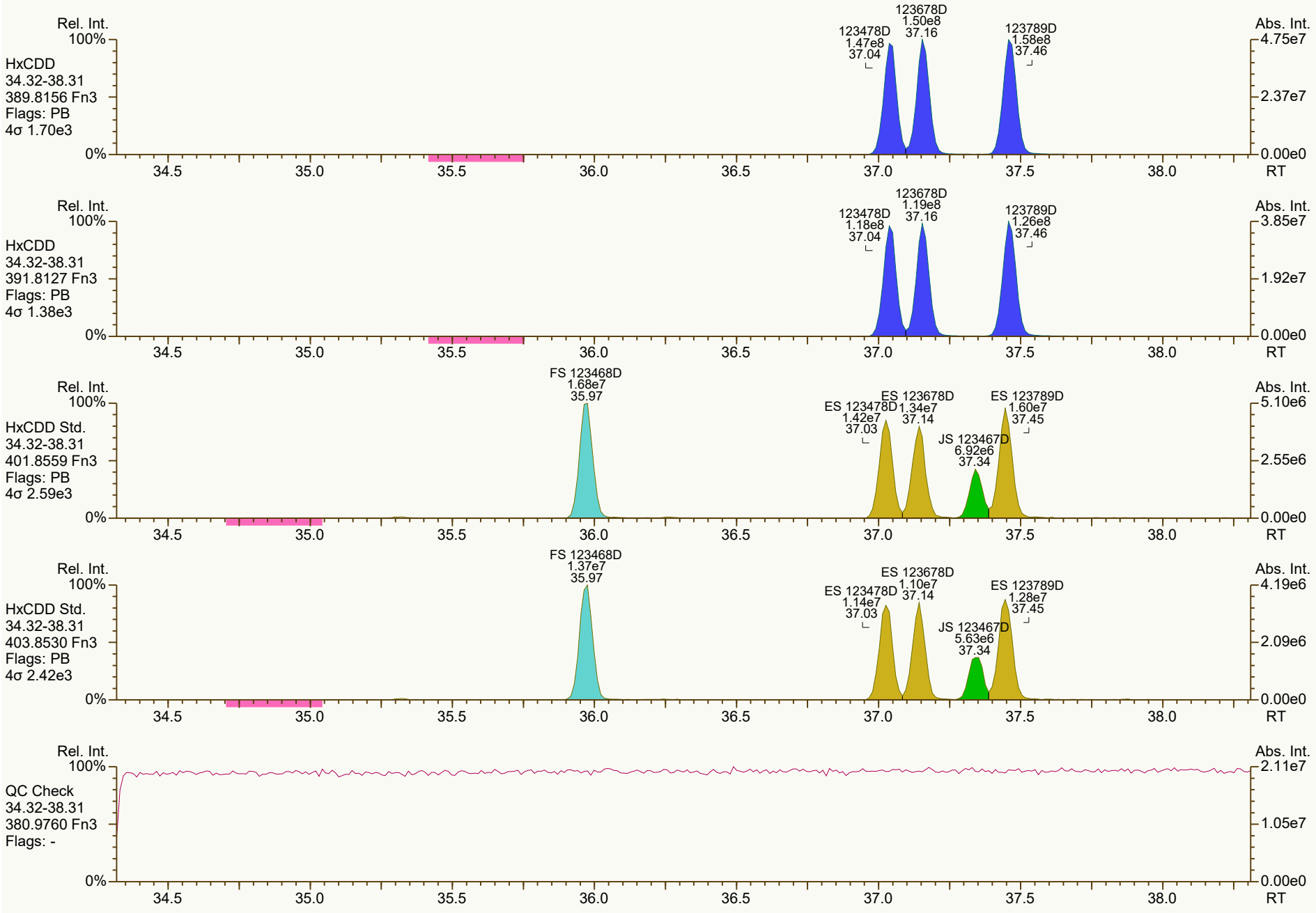
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

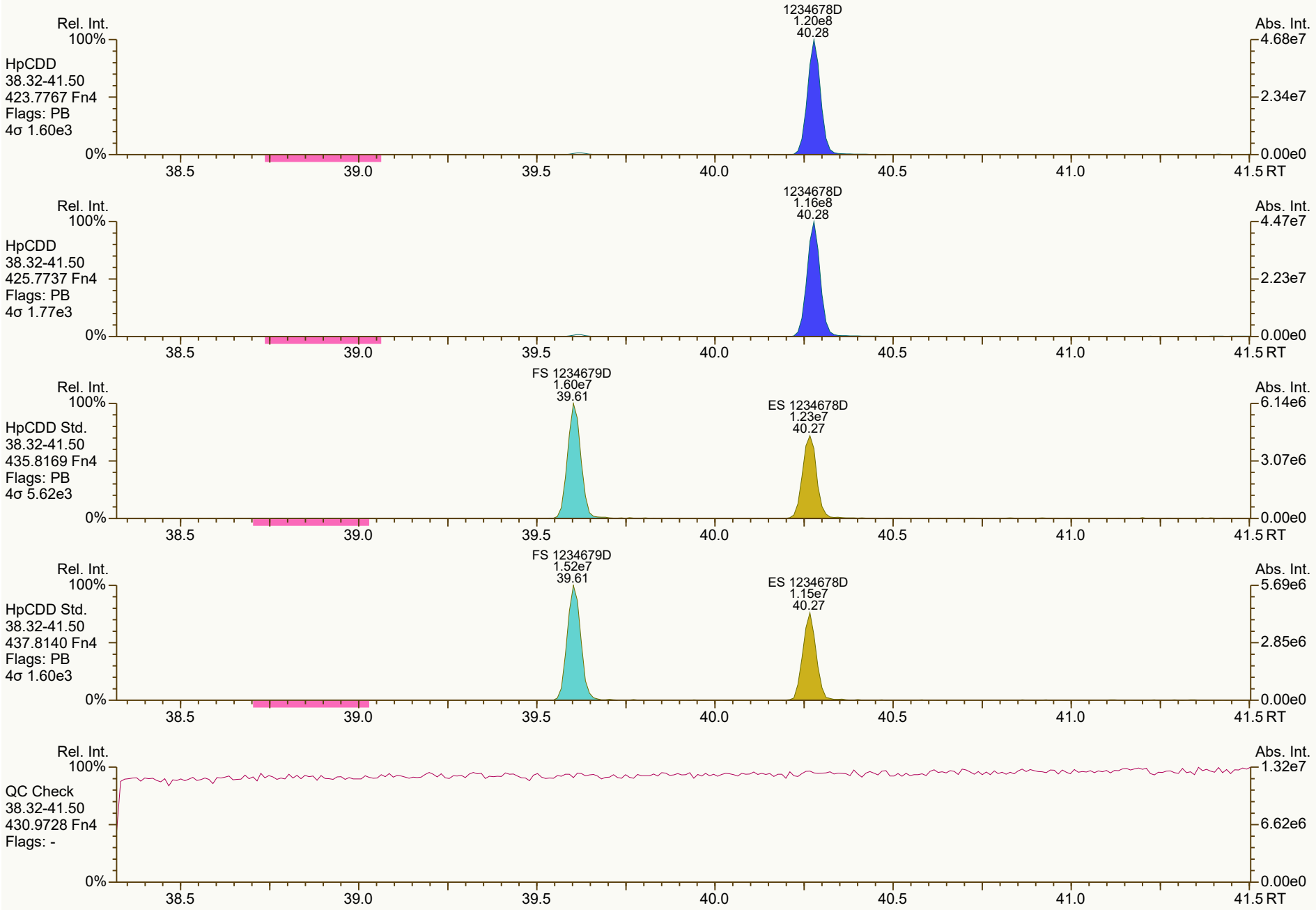
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

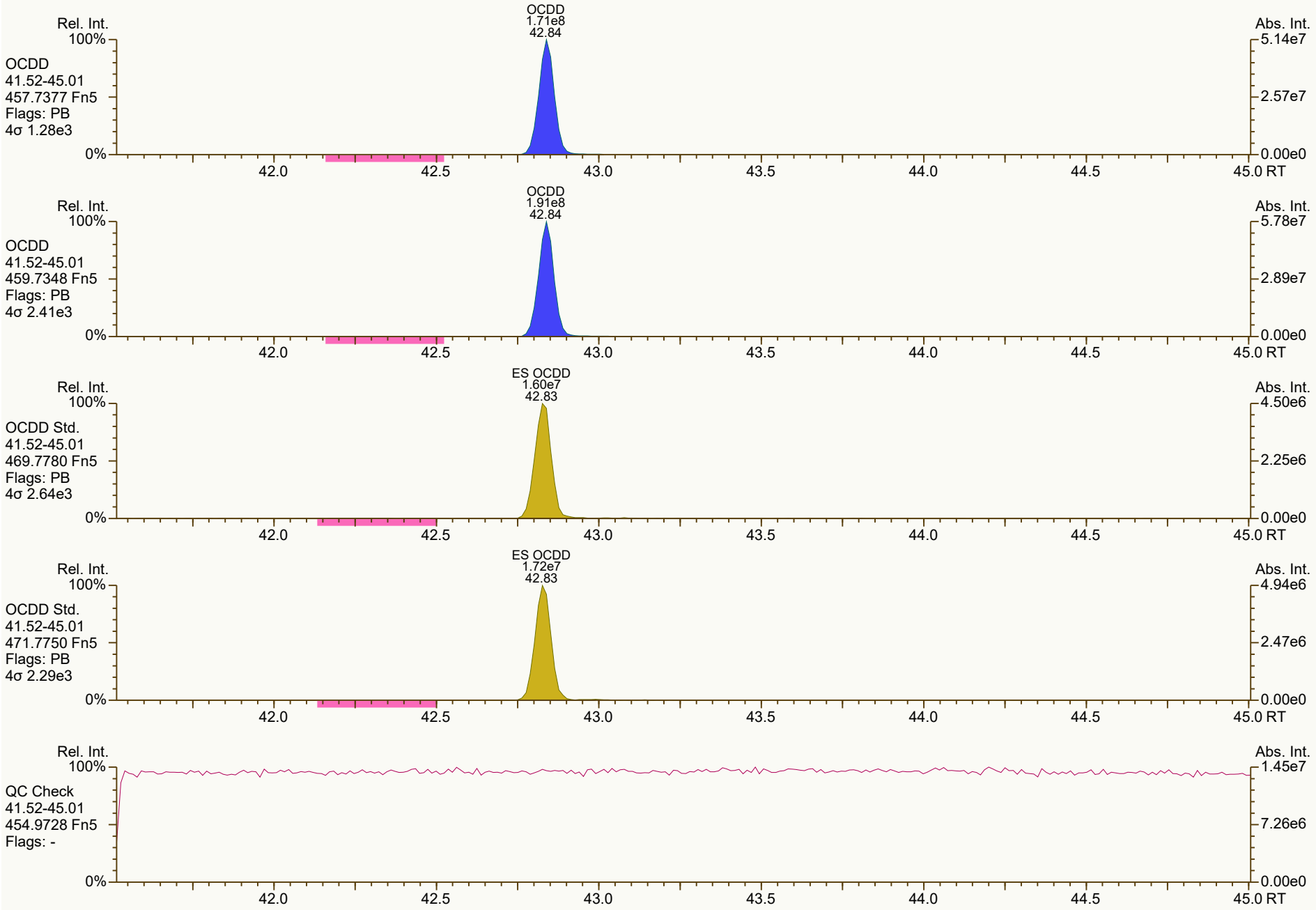

Rel. Int.
100%
0%
Abs. Int.
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
8.97e6
4.49e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
7.46e6
3.73e6
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.11e7
1.05e7
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
1.32e7
6.62e6
38.5
39.0
39.5
40.0
40.5
41.0
41.5
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6
42.0
42.5
43.0
43.5
44.0
44.5
45.0


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
0%
2378D
4.22e7
27.59
Abs. Int.
9.91e6
4.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
Abs. Int.
1.83e7
9.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
0%
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
Abs. Int.
4.26e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
0%
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
Abs. Int.
5.66e6
2.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.46e6
3.73e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
0%
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
0%
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
0%
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
0%
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.11e7
1.05e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
OCDD
1.71e8
42.84
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
0%
OCDD
1.91e8
42.84
Abs. Int.
5.78e7
2.89e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
0%
ES OCDD
1.60e7
42.83
Abs. Int.
4.50e6
2.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
0%
ES OCDD
1.72e7
42.83
Abs. Int.
4.94e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.45e7
7.26e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

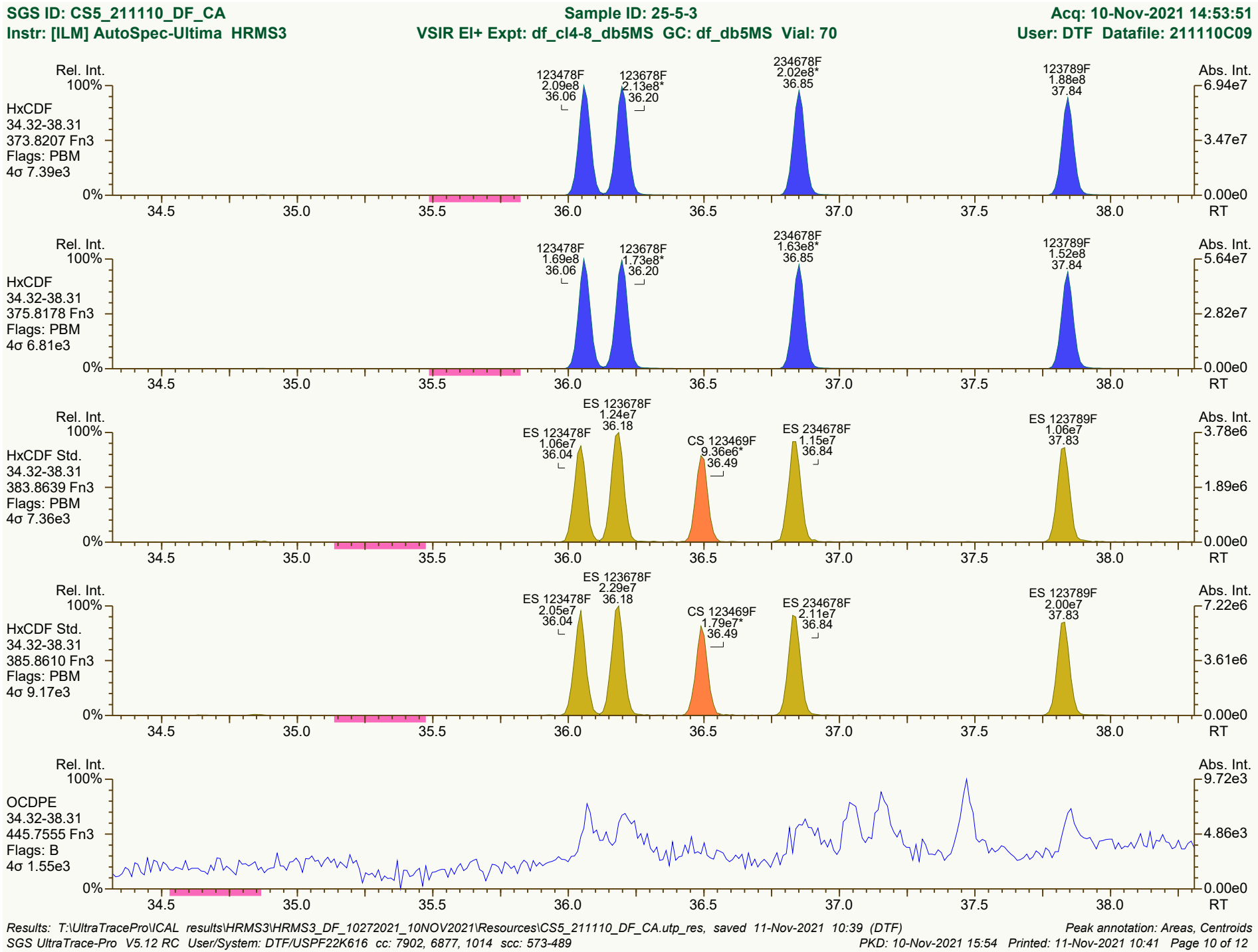

Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
0%
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
0%
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
0%
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
0%
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.03e4
5.14e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

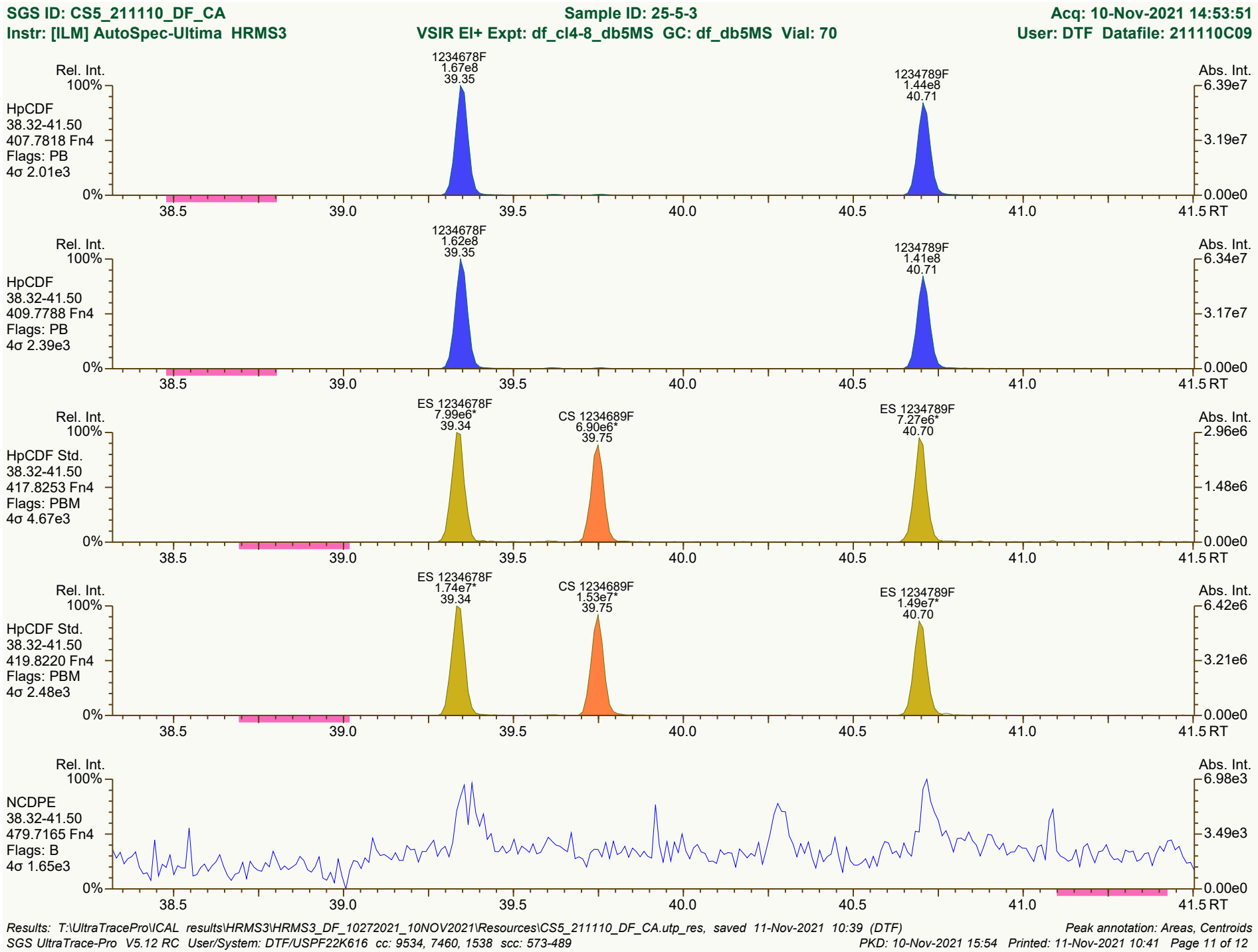
SGS ID: CS5_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

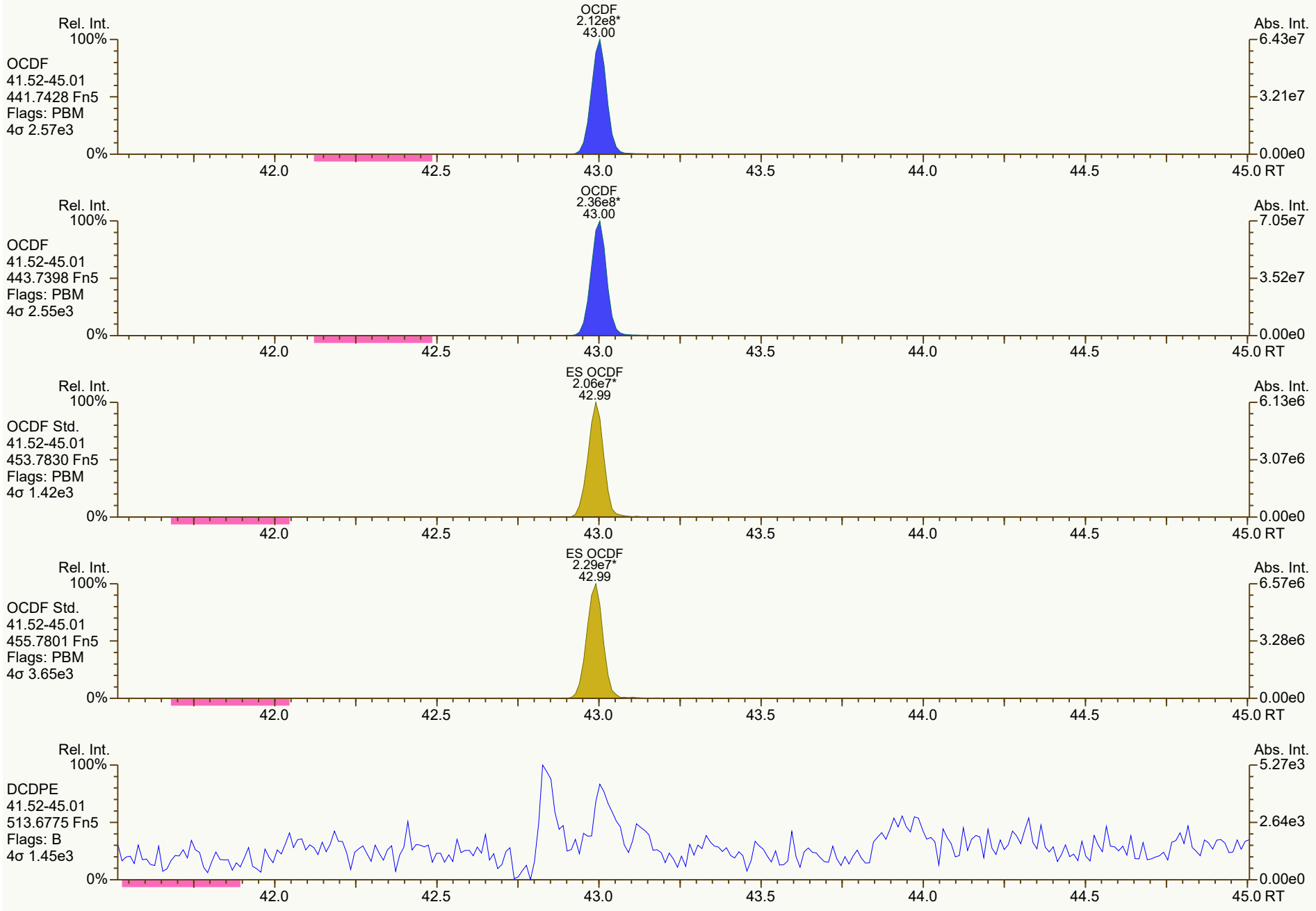
Sample ID: 25-5-3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70

Acq: 10-Nov-2021 14:53:51
User: DTF Datafile: 211110C09



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 7902, 6877, 1014 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 10 of 12

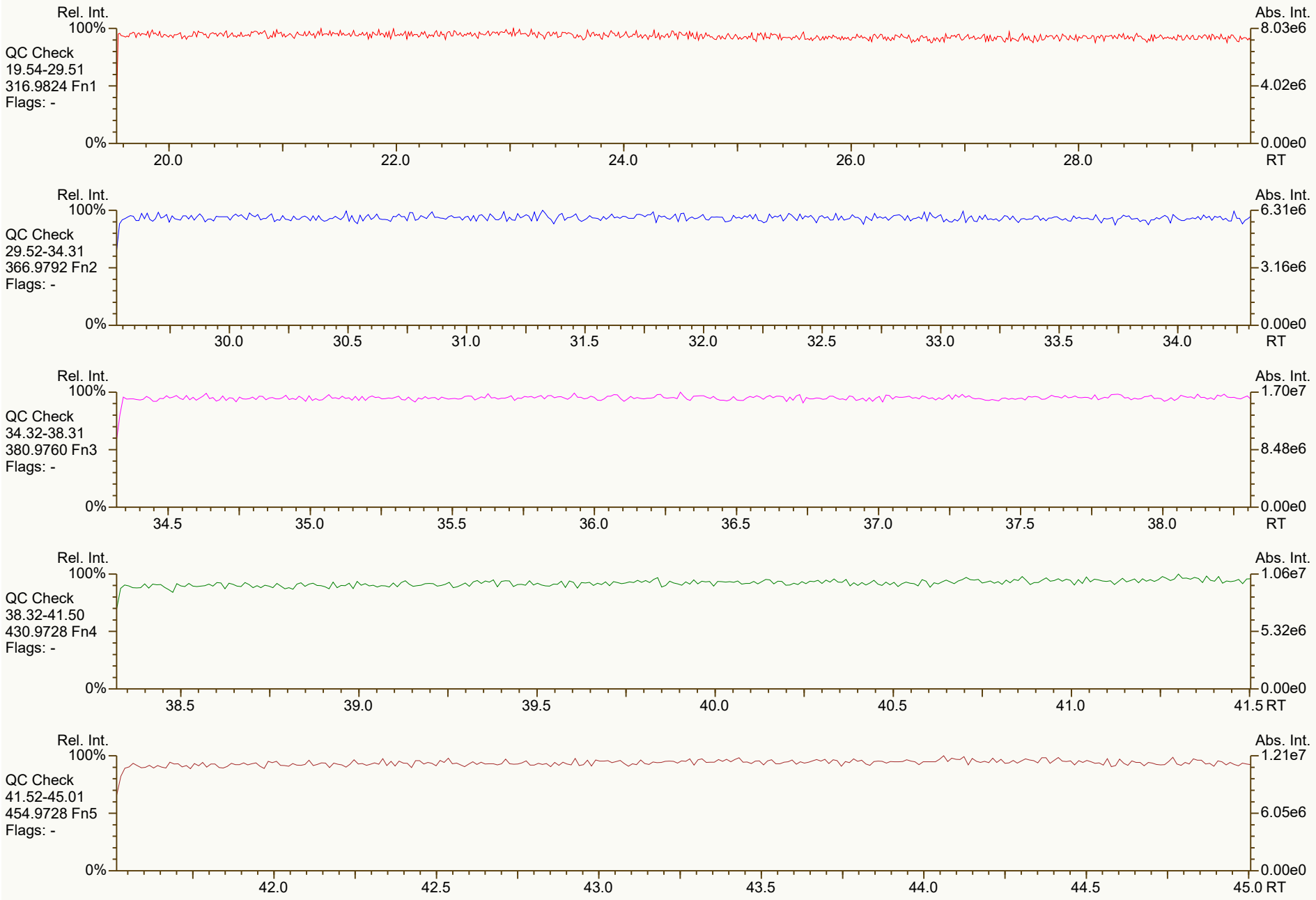

SGS ID: CS5_211110_DF_CA
Sample ID: 25-5-3
Acq: 10-Nov-2021 14:53:51
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 211110C09
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9534, 7460, 1538 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 11 of 12

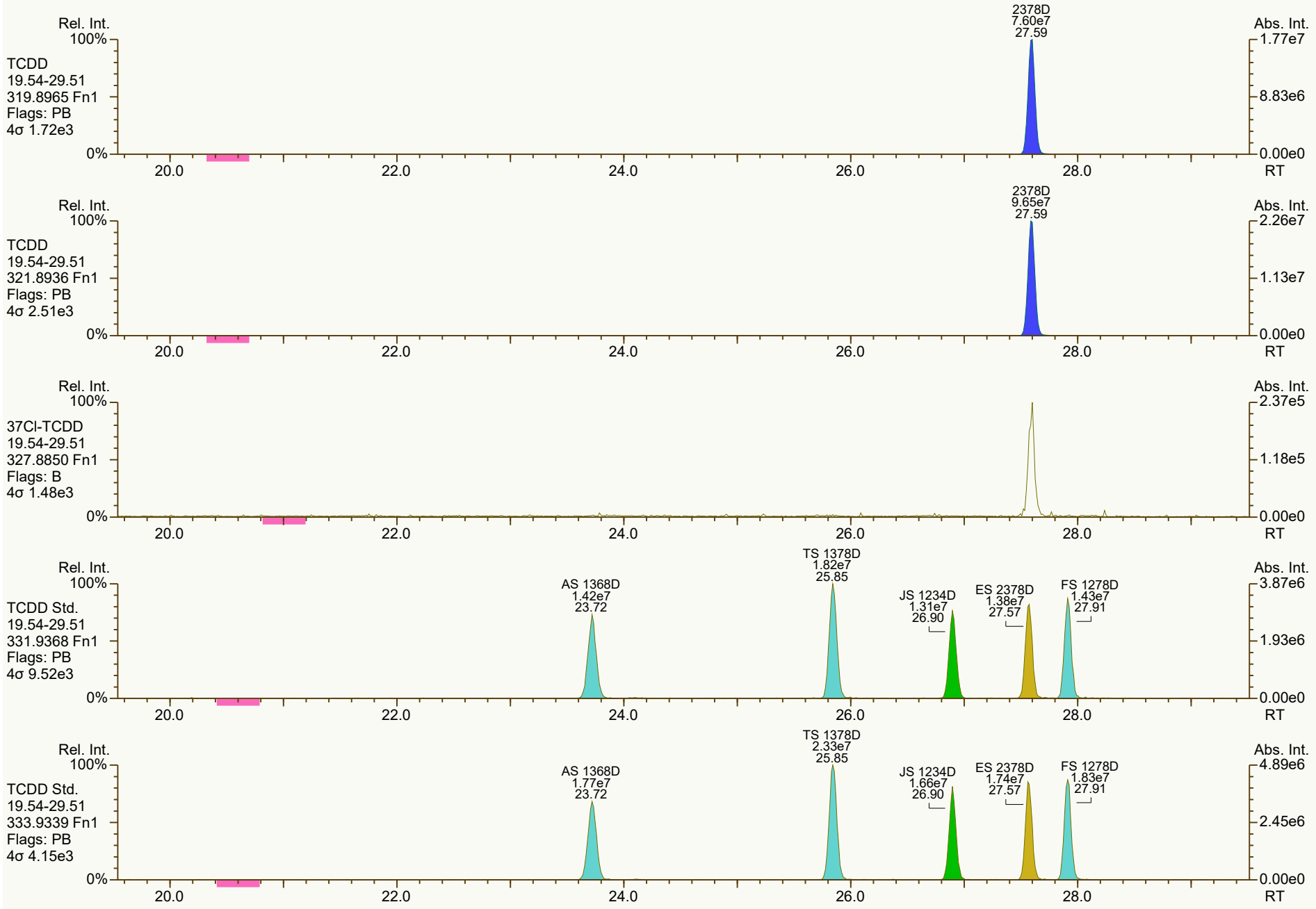

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

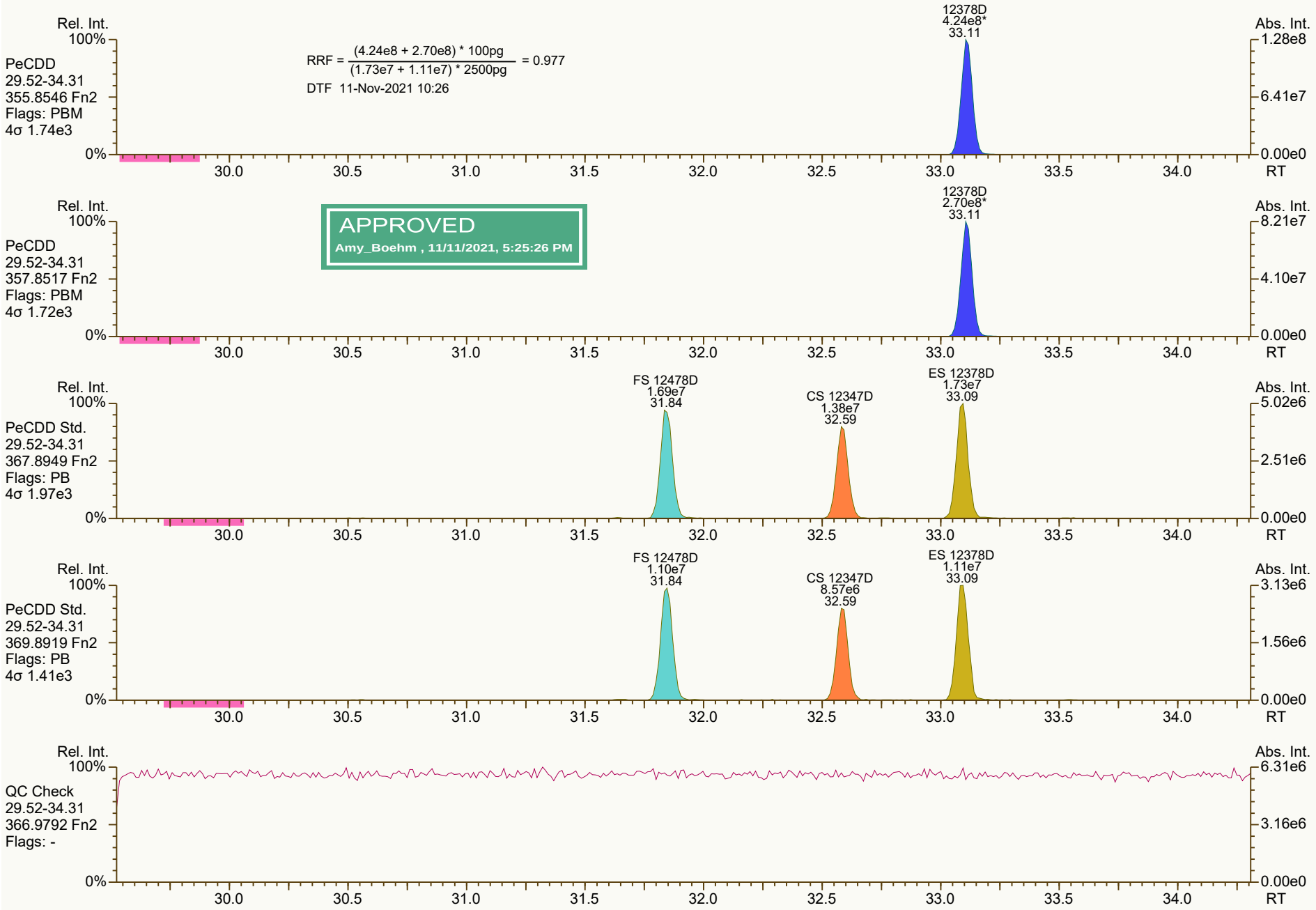
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

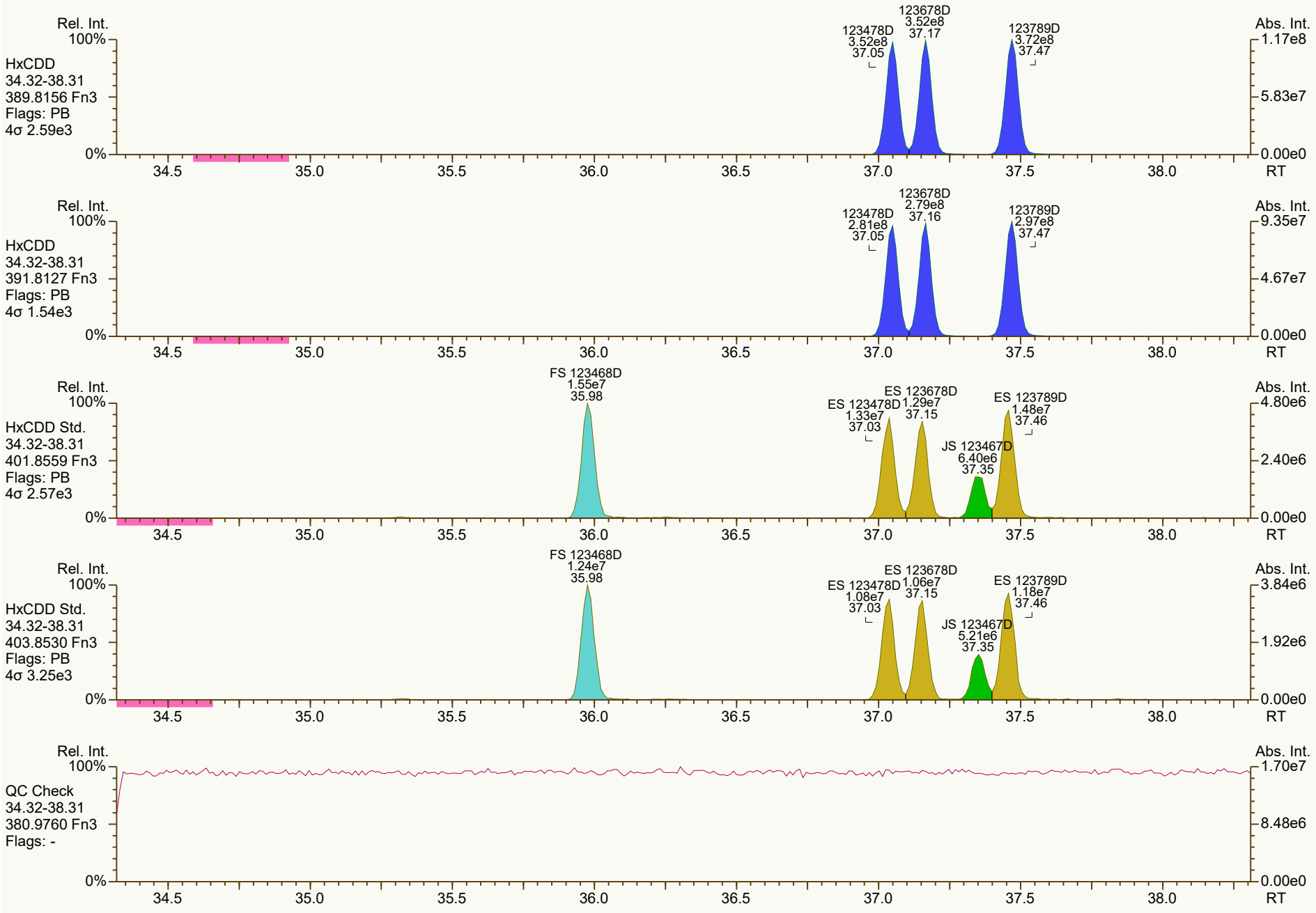
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

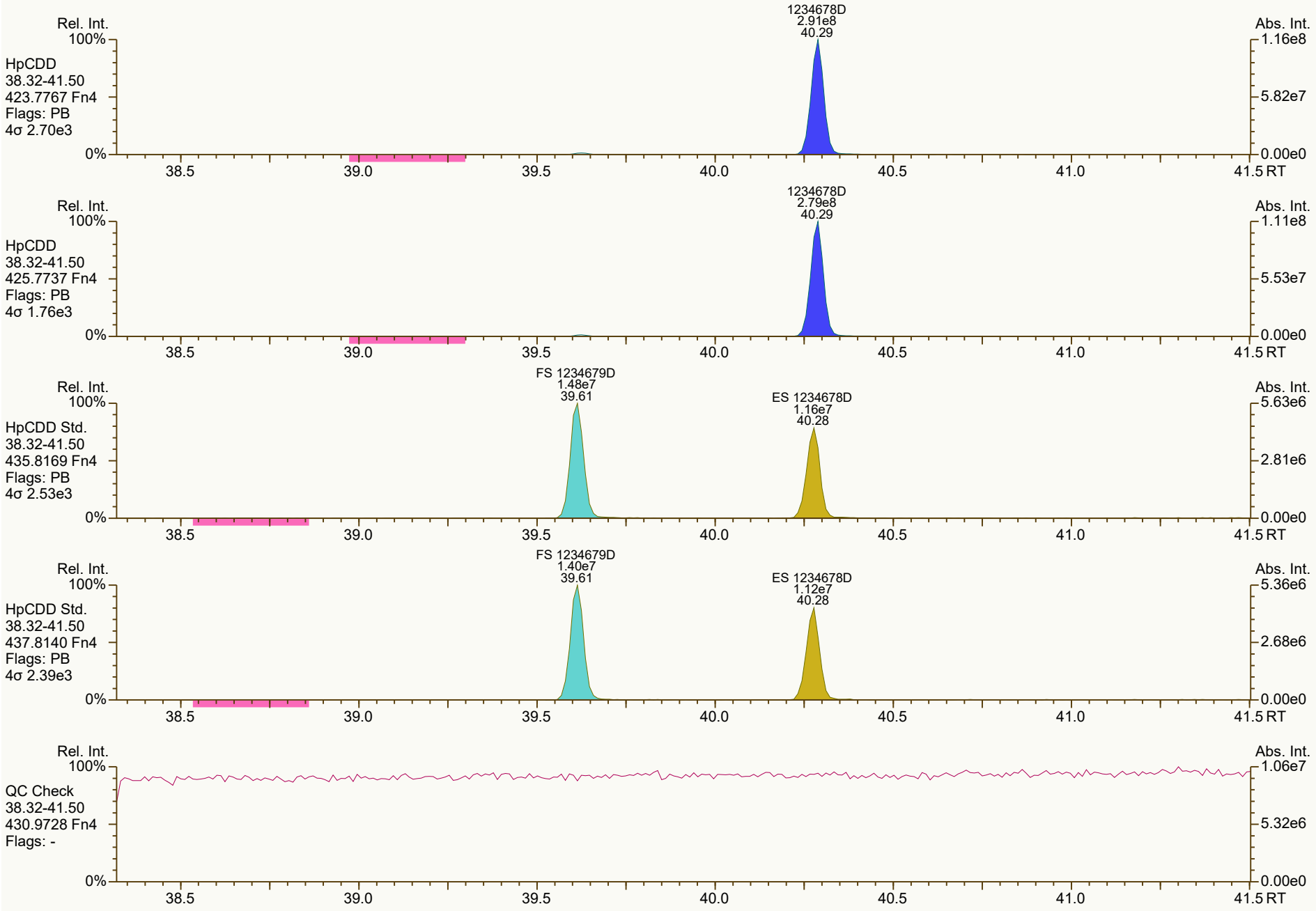
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 15:40 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS6_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 172-736-WQL	
Sample ID: 25-5-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C10	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

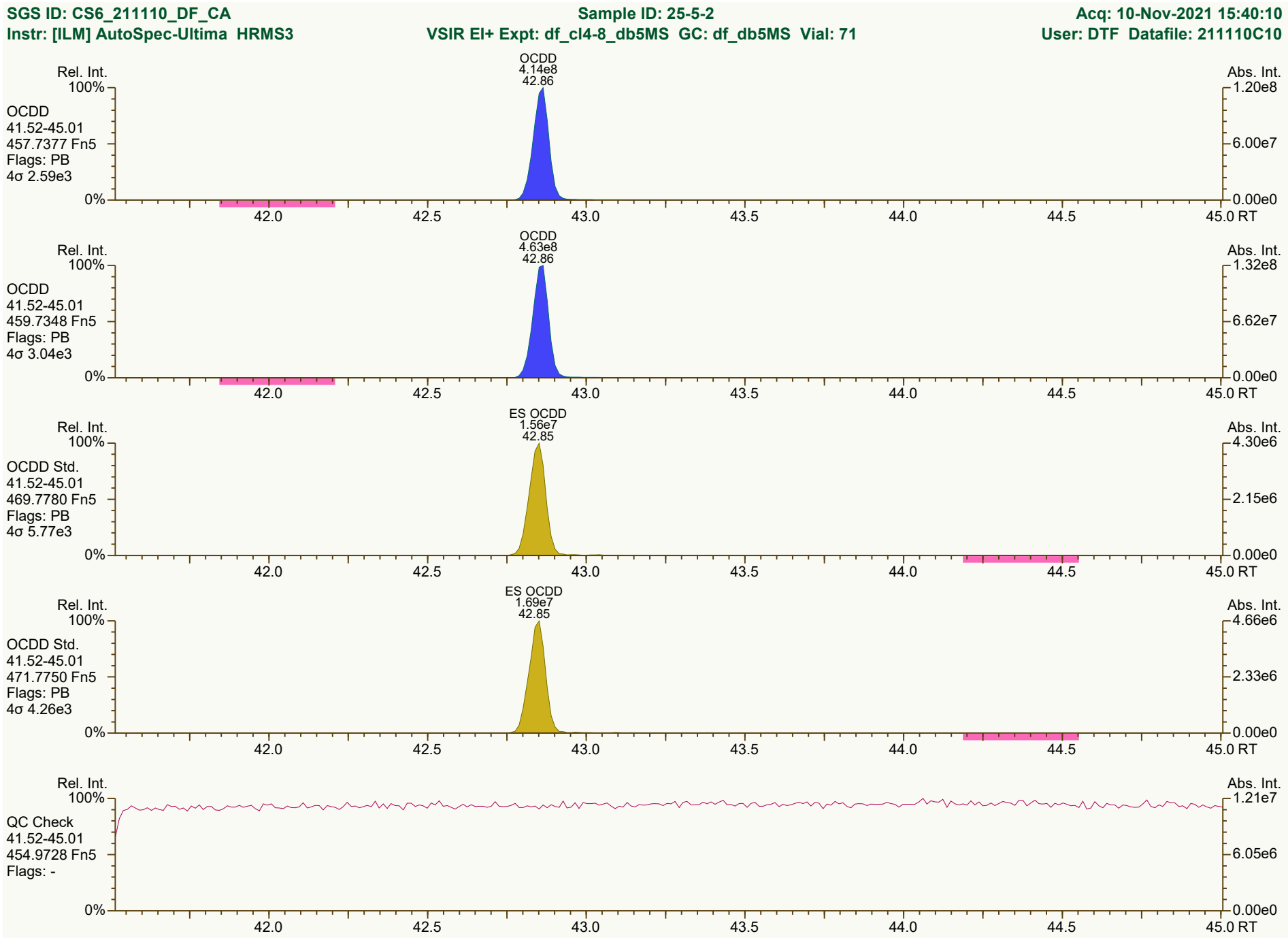

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
0%
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
0%
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.31e6
3.16e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
0%
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
0%
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
0%
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
0%
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.70e7
8.48e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


SGS ID: CS6_211110_DF_CA
Sample ID: 25-5-2
Acq: 10-Nov-2021 15:40:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 211110C10
OCDD
4.14e8
42.86
Rel. Int.
Abs. Int.
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
OCDD
4.63e8
42.86
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
ES OCDD
1.56e7
42.85
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
ES OCDD
1.69e7
42.85
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS6_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6614, 8805 scc: 172-736
PKD: 10-Nov-2021 16:46 Printed: 11-Nov-2021 10:41 Page 6 of 12

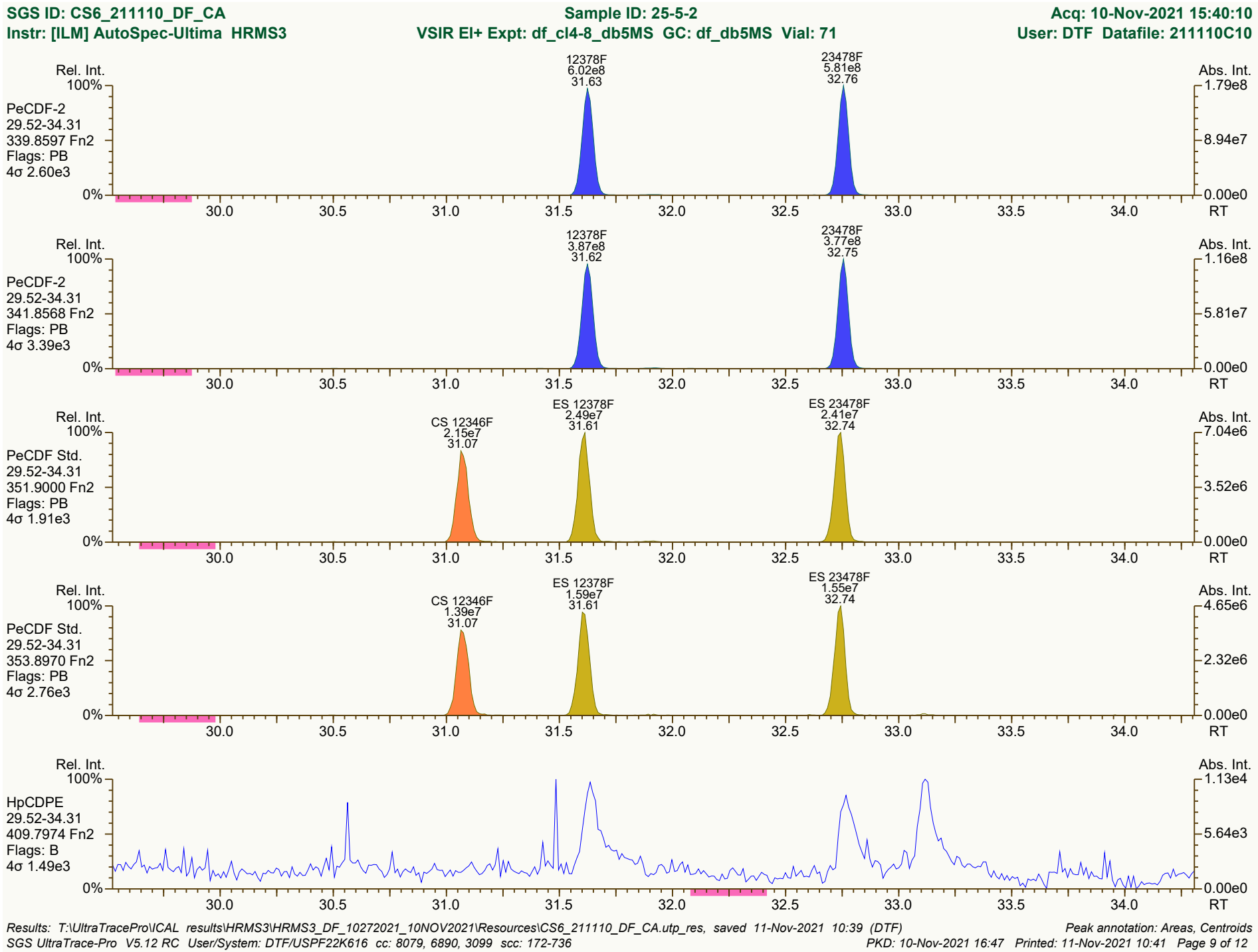

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT

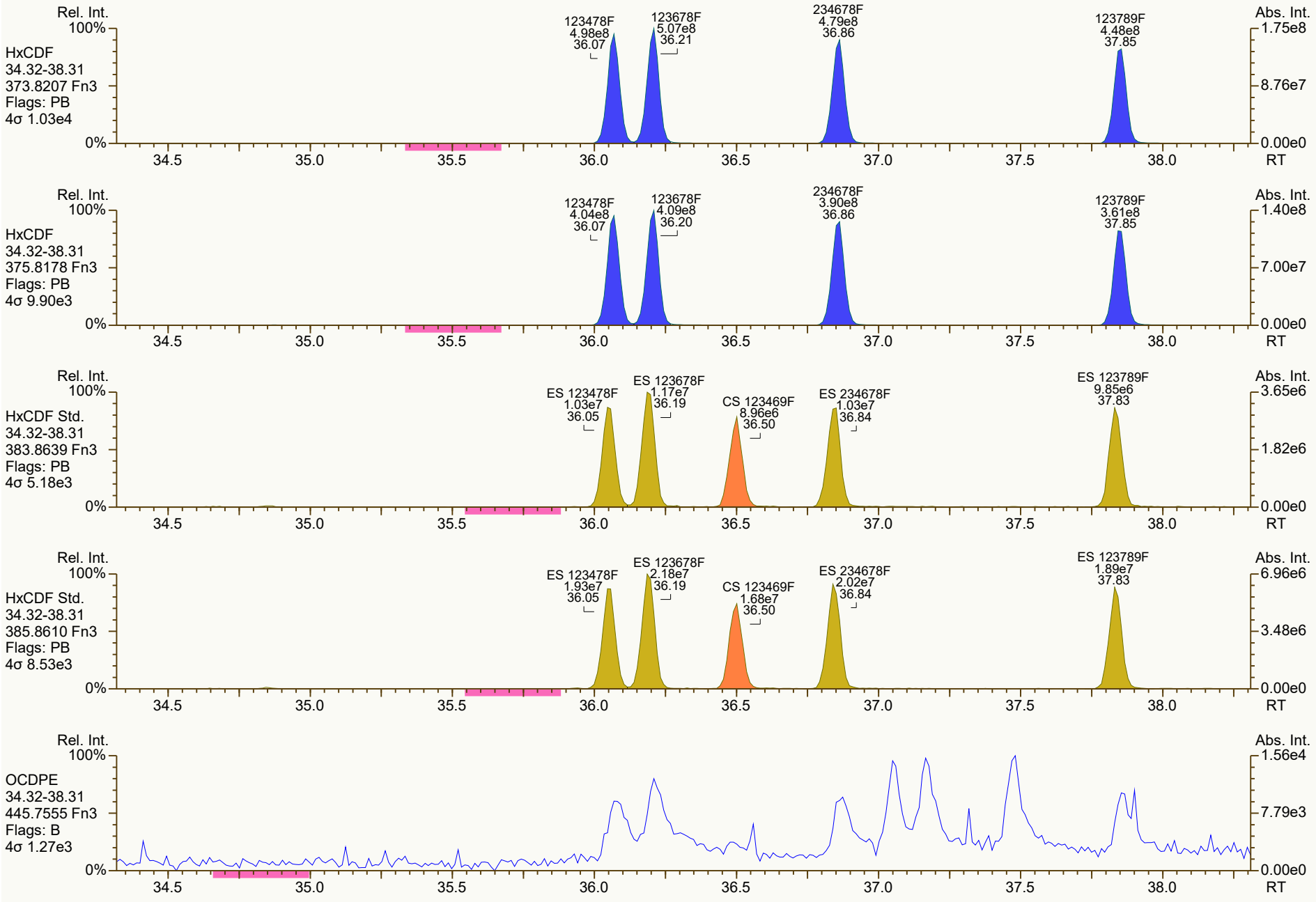
SGS ID: CS6_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

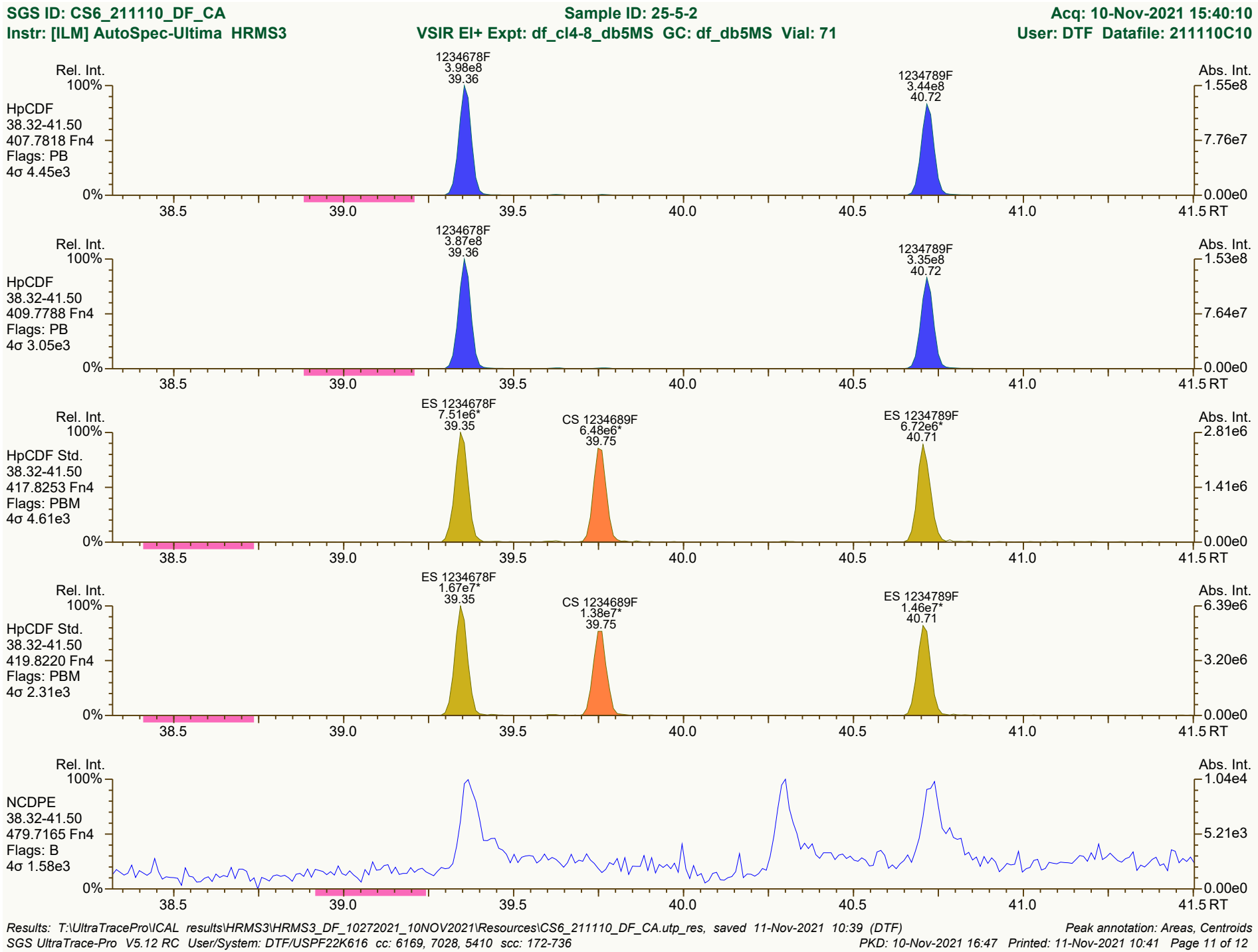
Sample ID: 25-5-2
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71

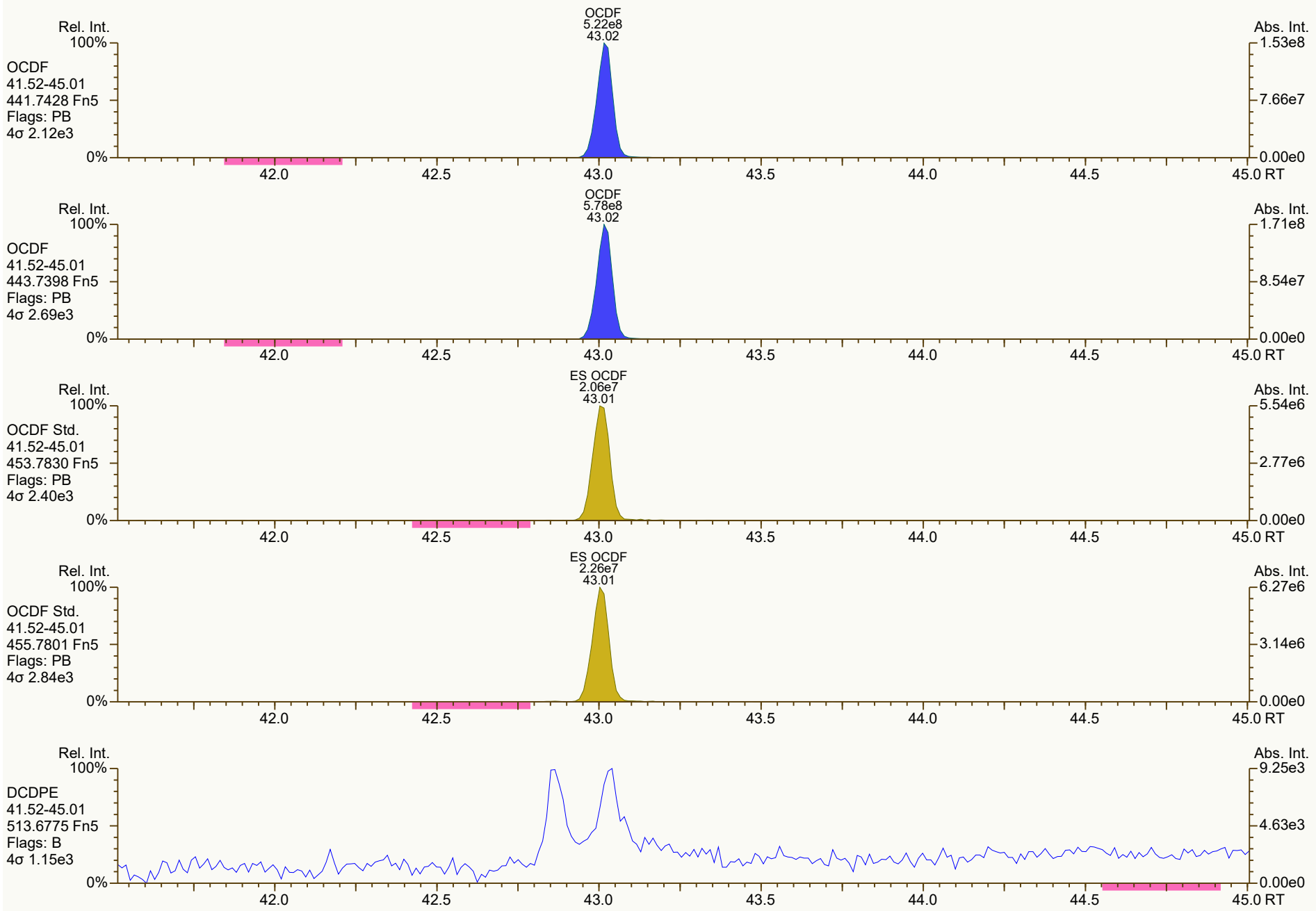
Acq: 10-Nov-2021 15:40:10
User: DTF Datafile: 211110C10

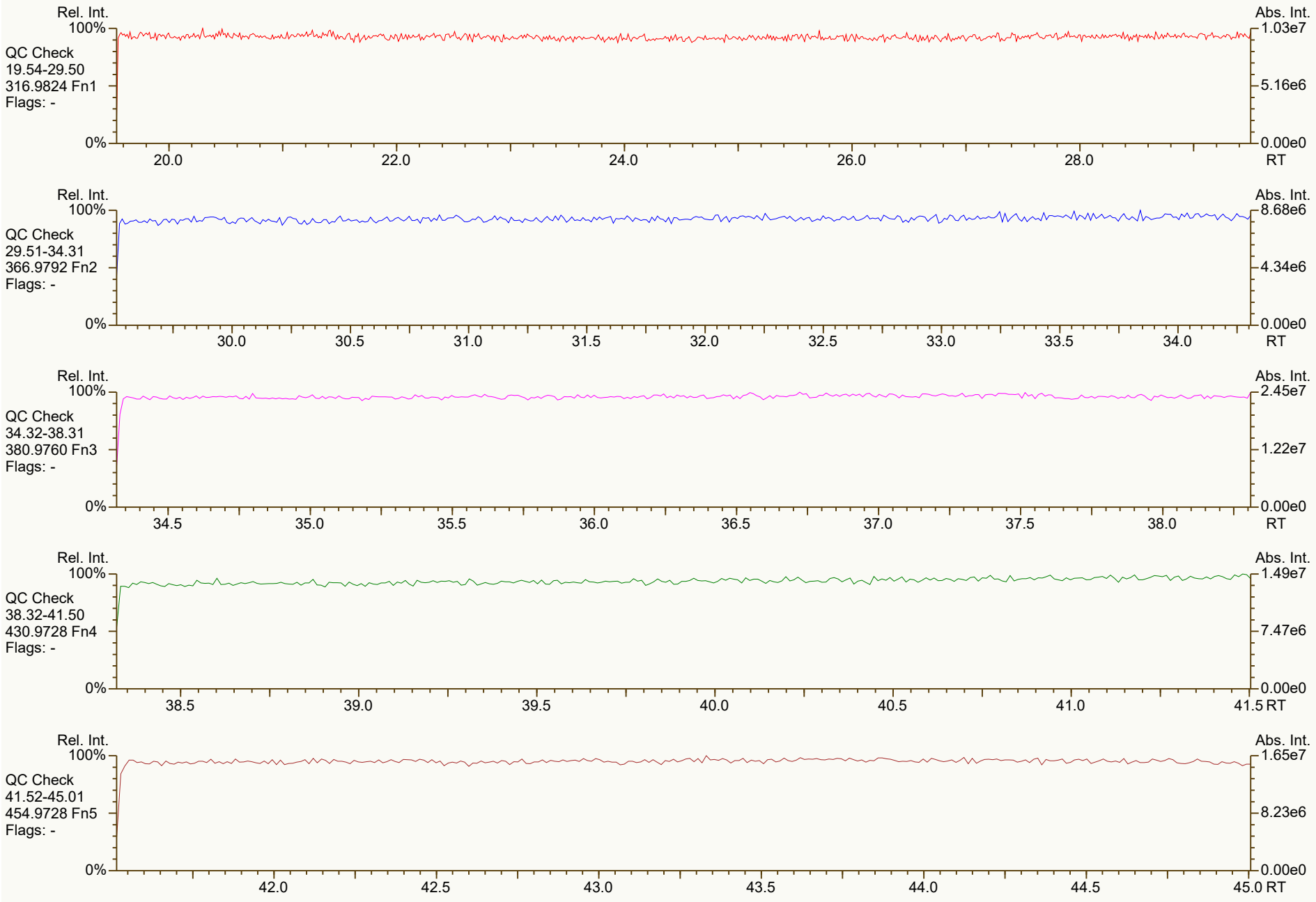


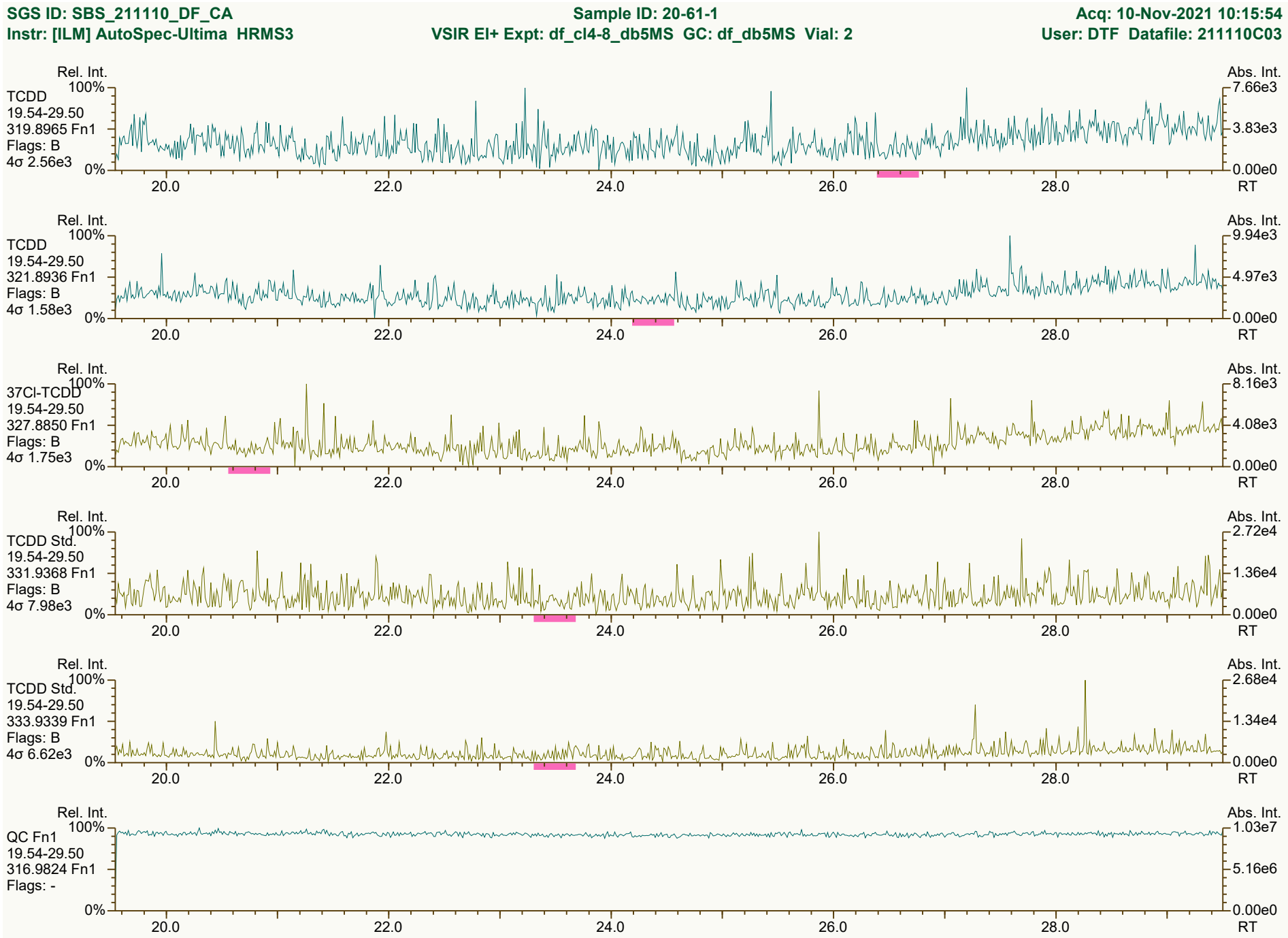
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS6_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 8079, 6890, 3099 scc: 172-736
PKD: 10-Nov-2021 16:47 Printed: 11-Nov-2021 10:41 Page 9 of 12


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

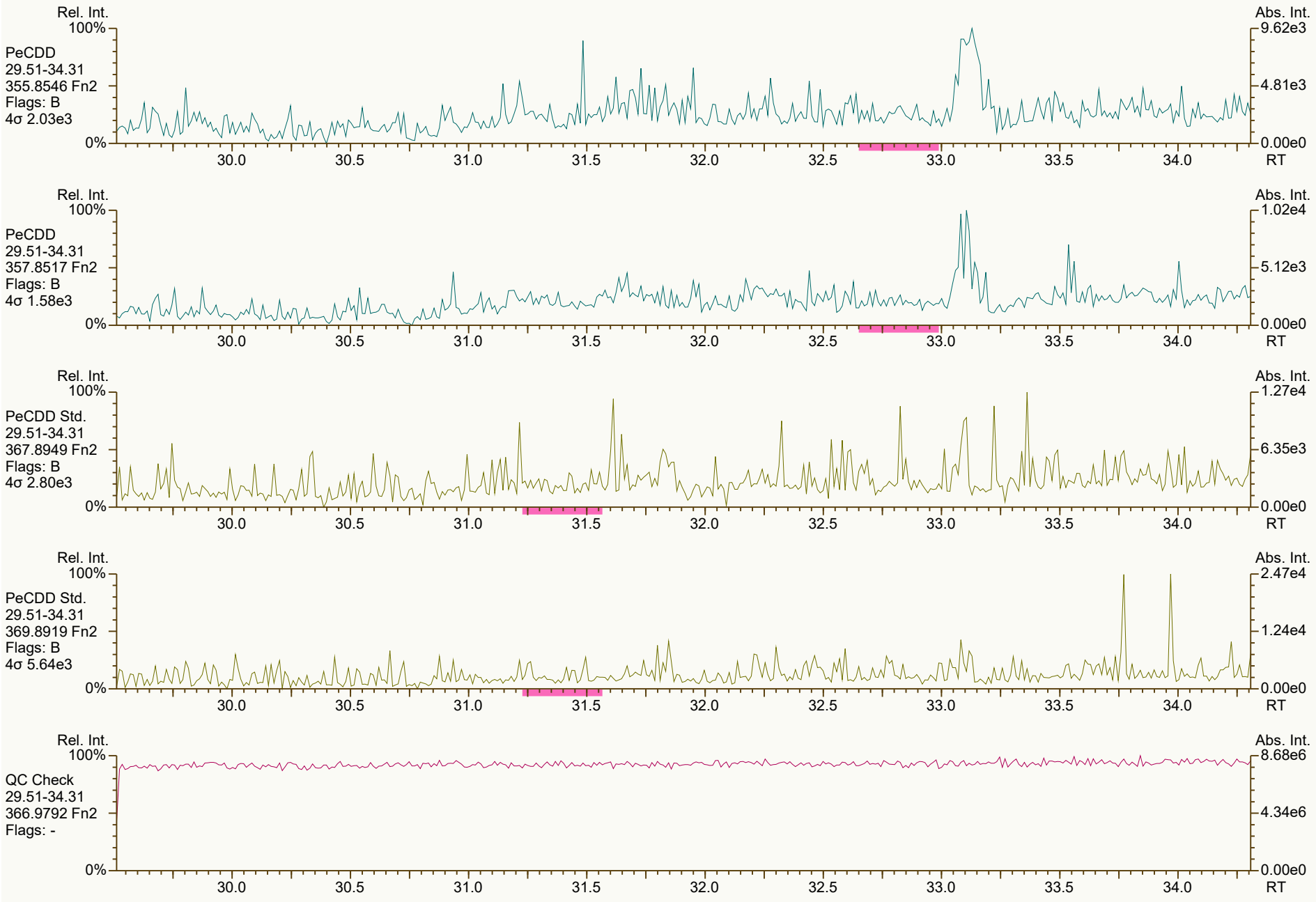

SGS ID: CS6_211110_DF_CA
Sample ID: 25-5-2
Acq: 10-Nov-2021 15:40:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 211110C10
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
1.55e8
7.76e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
1.53e8
7.64e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
2.81e6
1.41e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
6.39e6
3.20e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
1.04e4
5.21e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.65e7
8.23e6
0.00e0


SGS ID: SBS_211110_DF_CA
Sample ID: 20-61-1
Acq: 10-Nov-2021 10:15:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: DTF Datafile: 211110C03
Rel. Int.
Abs. Int.
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
7.66e3
3.83e3
0.00e0
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
9.94e3
4.97e3
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
8.16e3
4.08e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
2.72e4
1.36e4
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
2.68e4
1.34e4
QC Fn1
19.54-29.50
316.9824 Fn1
Flags: -
1.03e7
5.16e6
100%
0%
20.0
22.0
24.0
26.0
28.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647
PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1

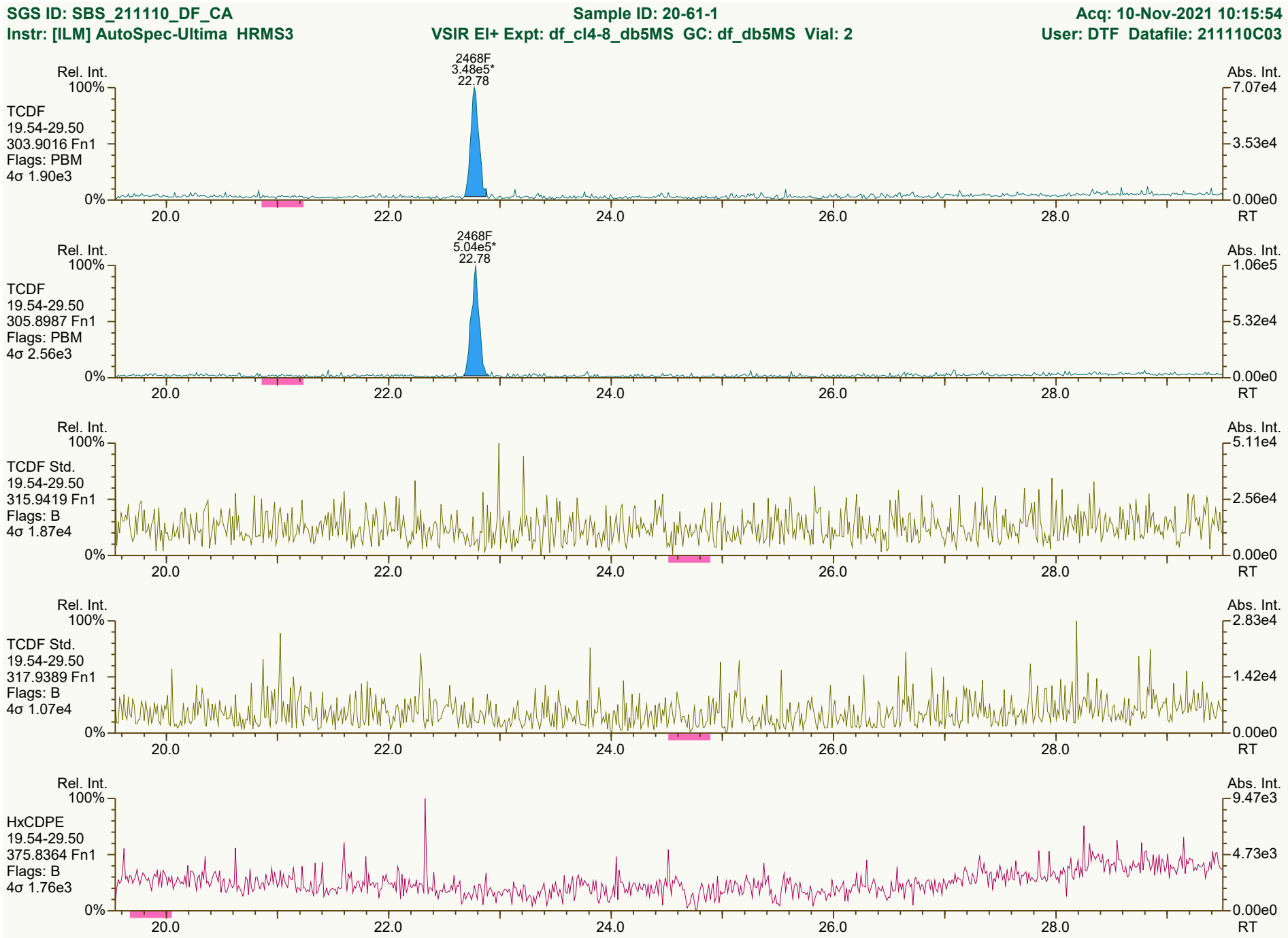

Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

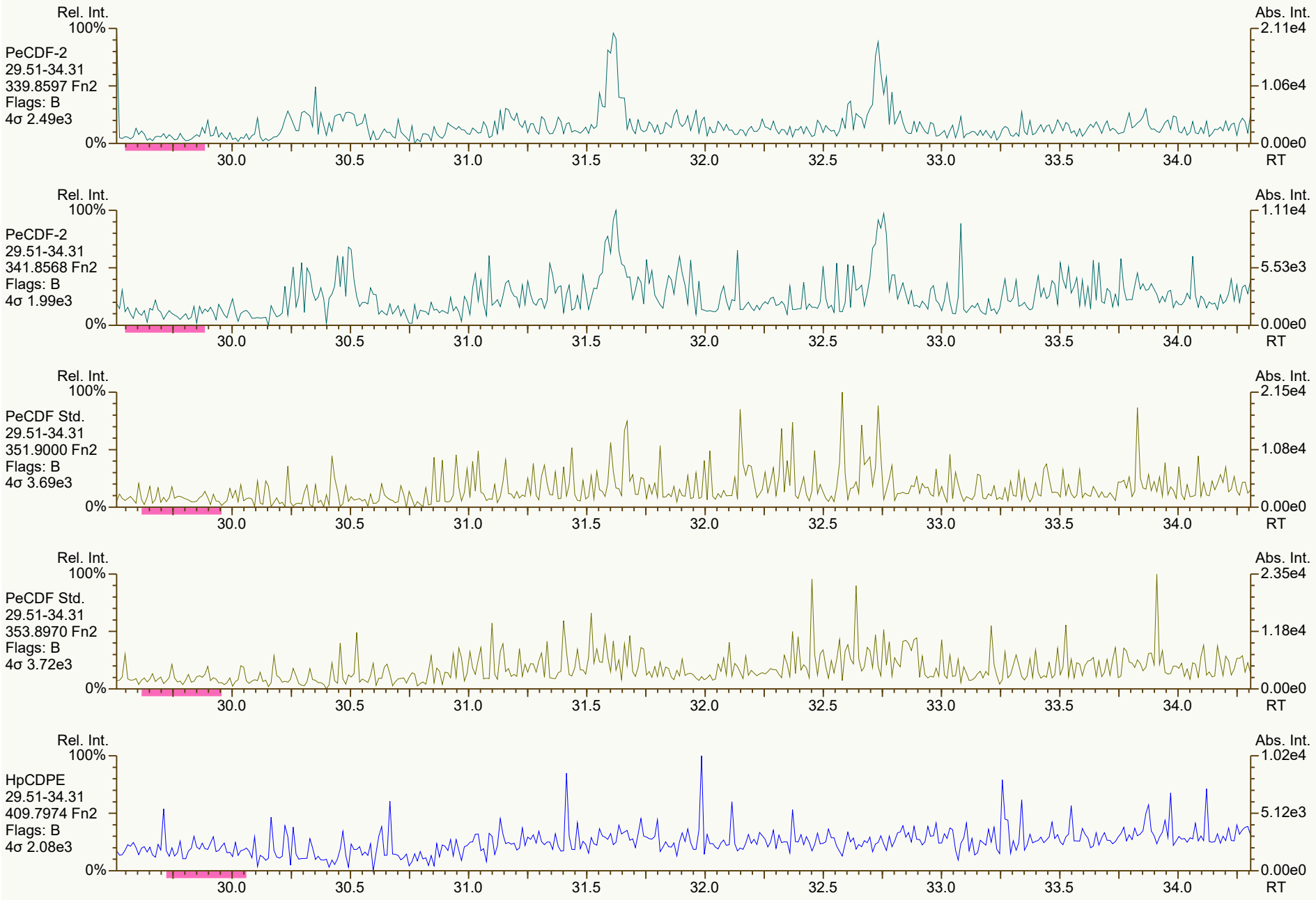

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

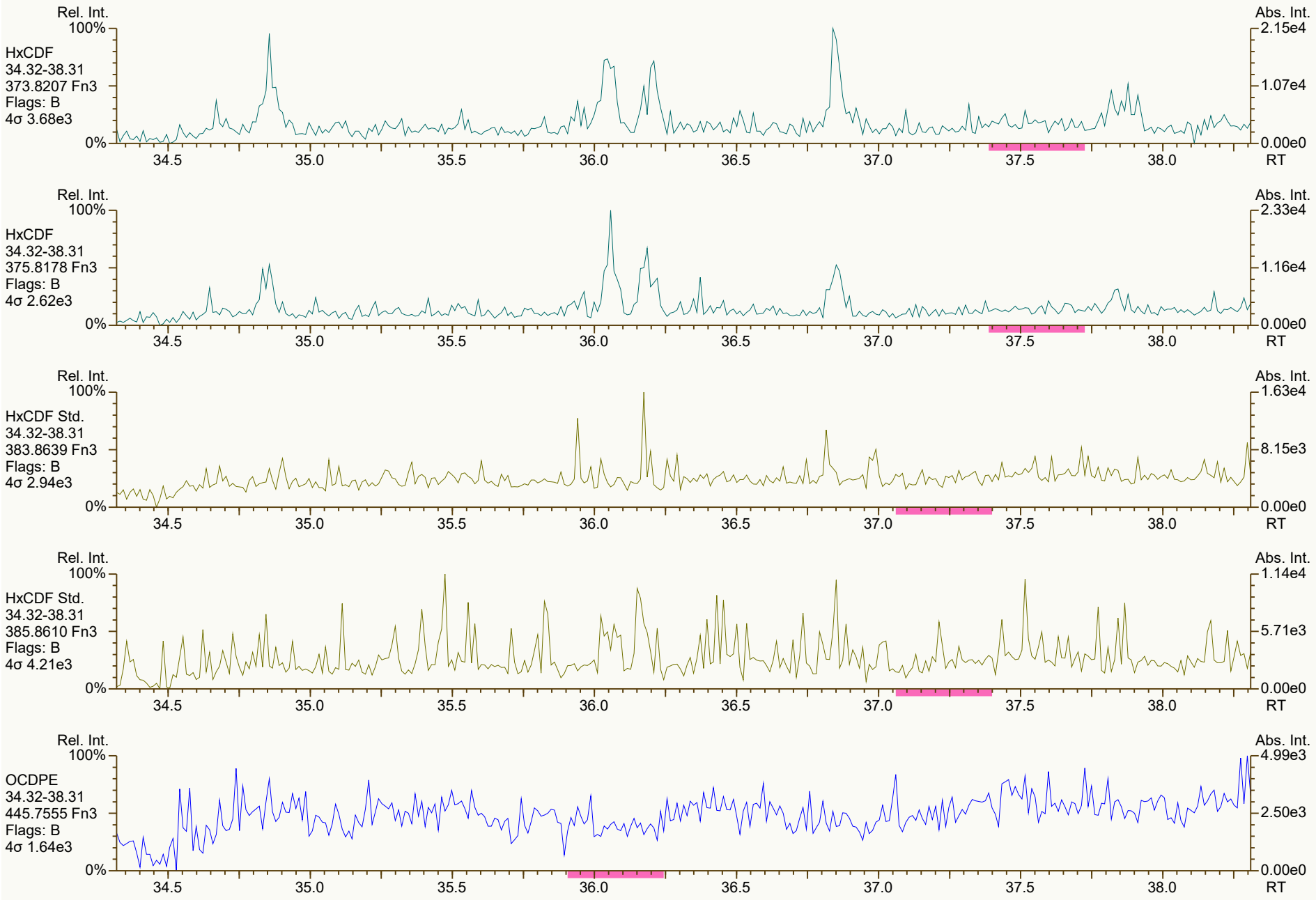

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: SBS_211110_DF_CA
Sample ID: 20-61-1
Acq: 10-Nov-2021 10:15:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: DTF Datafile: 211110C03
2468F
3.48e5*
22.78
Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
7.07e4
3.53e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
2468F
5.04e5*
22.78
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
1.06e5
5.32e4
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
5.11e4
2.56e4
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
2.83e4
1.42e4
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
9.47e3
4.73e3
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 1025, 5319, 6711 scc: 876-647
Revised: 10-Nov-2021 11:40 (DTF) Printed: 11-Nov-2021 10:39 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

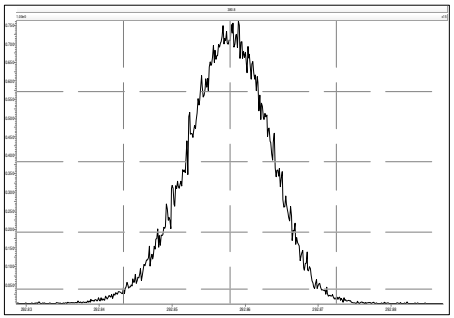

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

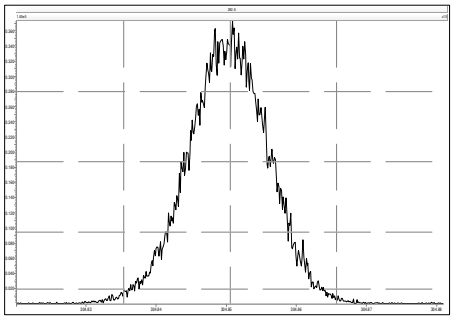
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

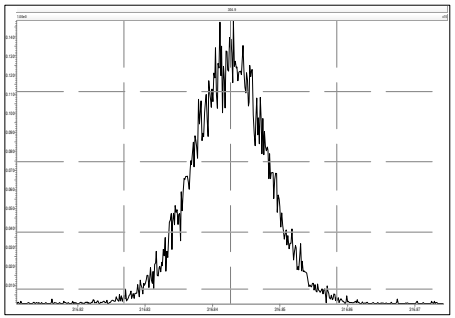
M 292.9824 R 10731



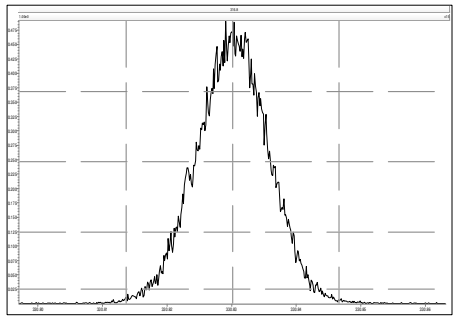
M 304.9824 R 11311



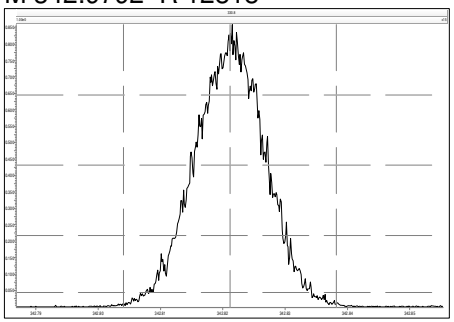
M 316.9824 R 12373



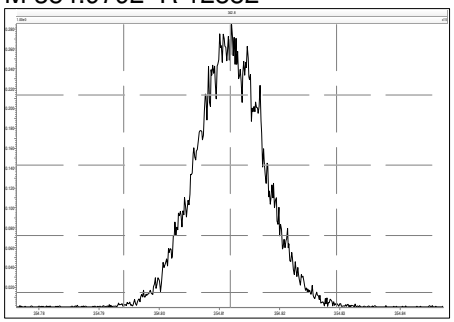
M 330.9792 R 12887



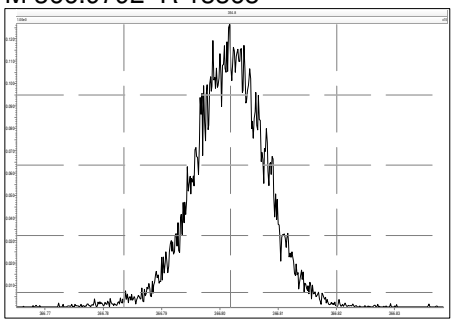
M 342.9792 R 12818



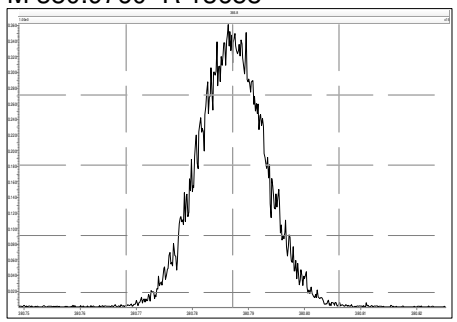
M 354.9792 R 12882



M 366.9792 R 13368



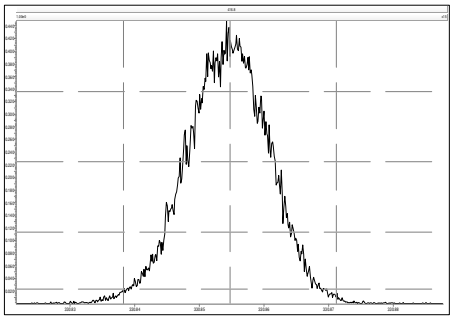
M 380.9760 R 13658



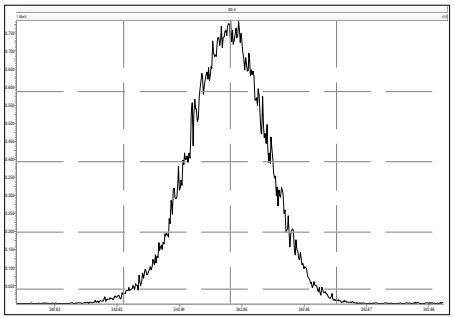
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

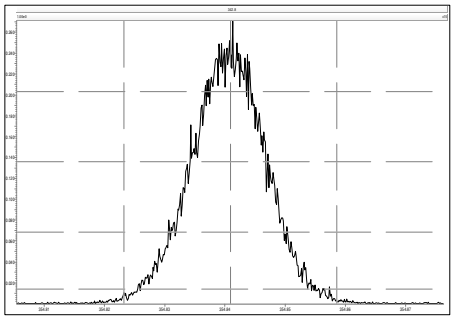
M 330.9792 R 11112



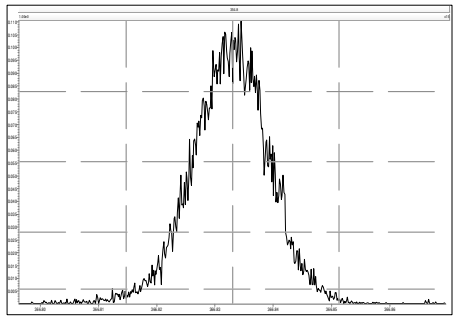
M 342.9792 R 11909



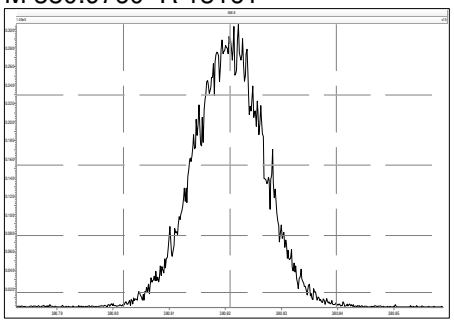
M 354.9792 R 11684



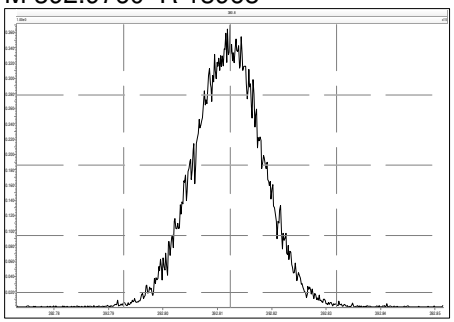
M 366.9792 R 11962



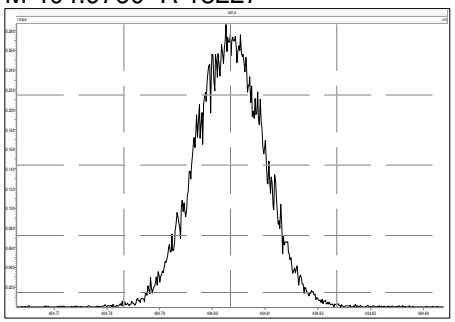
M 380.9760 R 13161



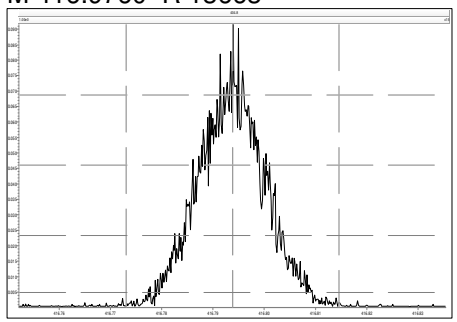
M 392.9760 R 13968



M 404.9760 R 13227



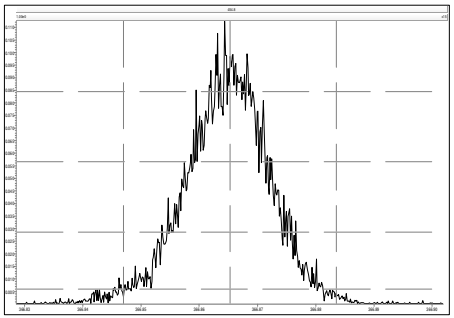
M 416.9760 R 13663



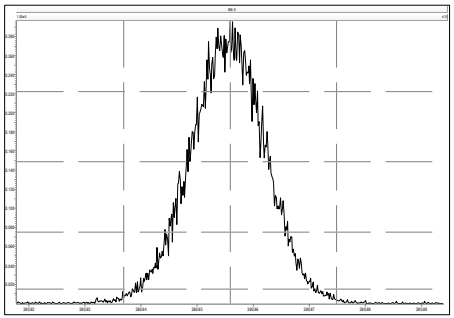
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

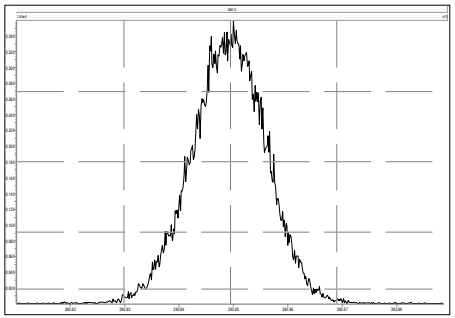
M 366.9792 R 10680



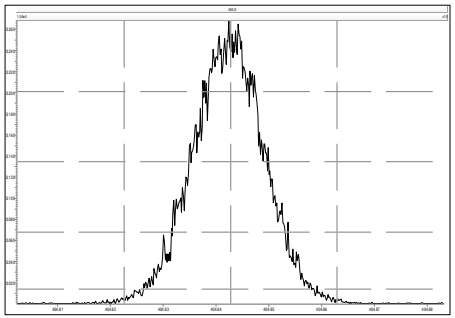
M 380.9760 R 12315



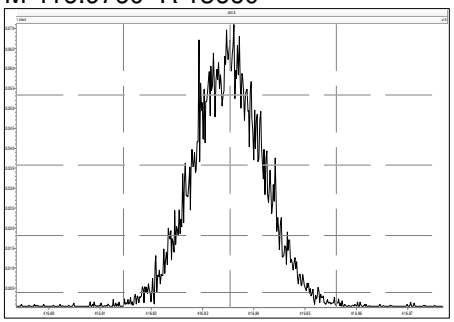
M 392.9760 R 12197



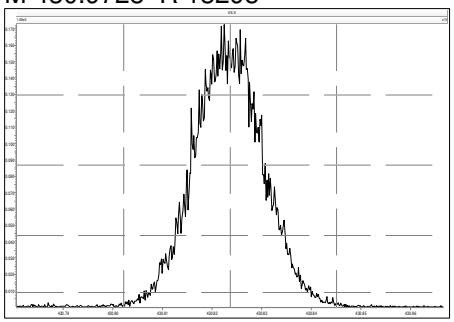
M 404.9760 R 12433



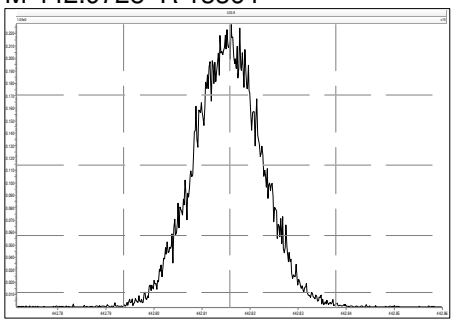
M 416.9760 R 13660



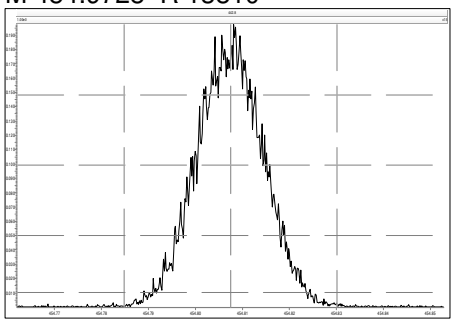
M 430.9728 R 13295



M 442.9728 R 13364



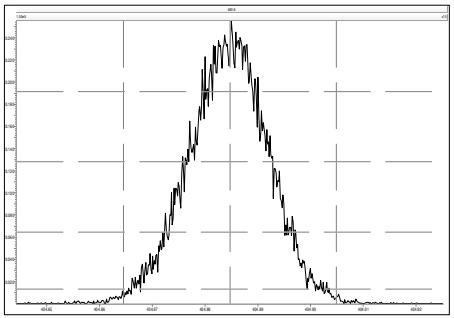
M 454.9728 R 13810



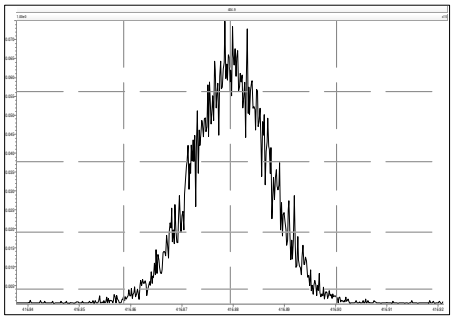
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

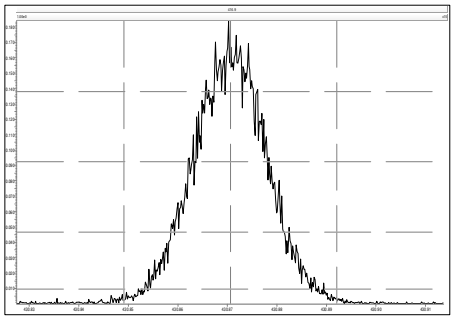
M 404.9760 R 11679



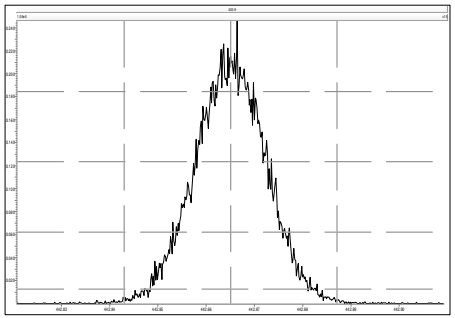
M 416.9760 R 12886



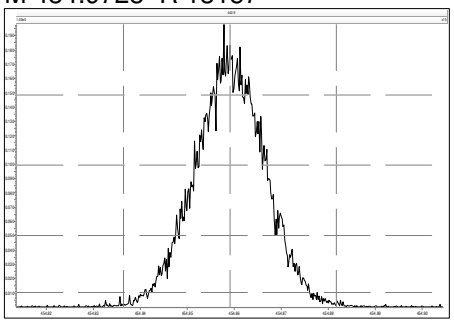
M 430.9728 R 12253



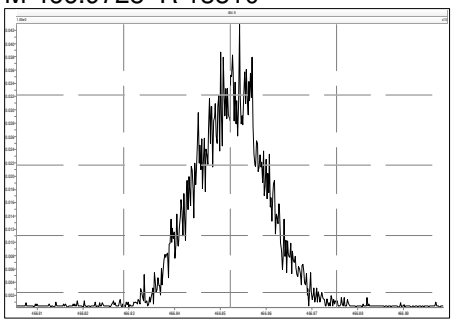
M 442.9728 R 12756



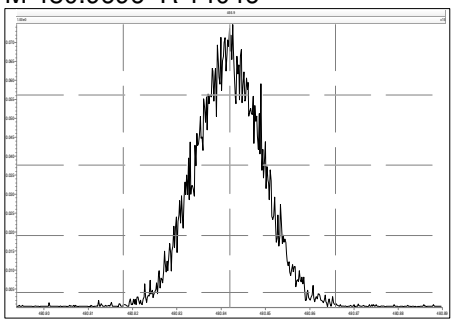
M 454.9728 R 13157



M 466.9728 R 13810



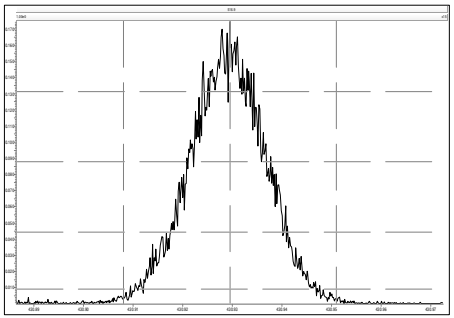
M 480.9696 R 14046



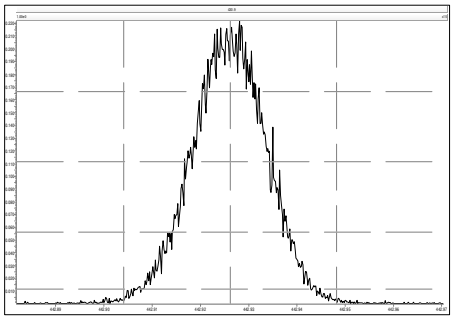
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

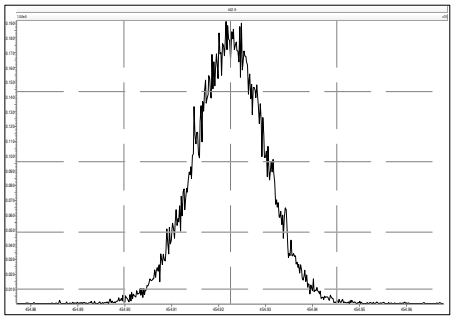
M 430.9728 R 11574



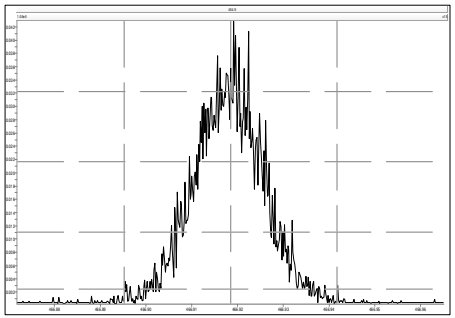
M 442.9728 R 12198



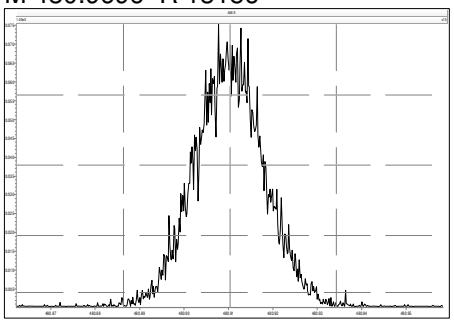
M 454.9728 R 12950



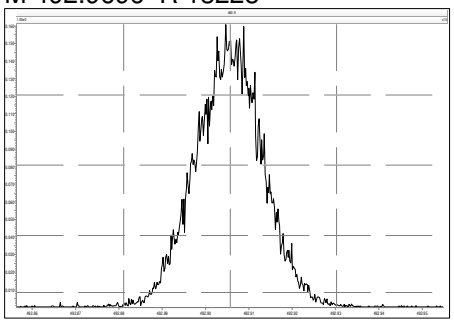
M 466.9728 R 13088



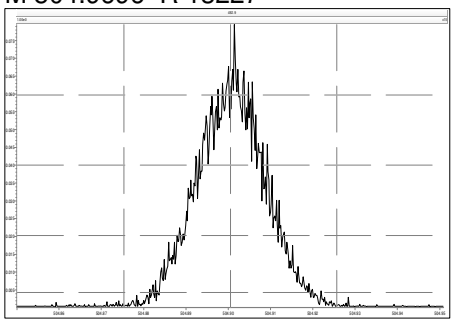
M 480.9696 R 13156



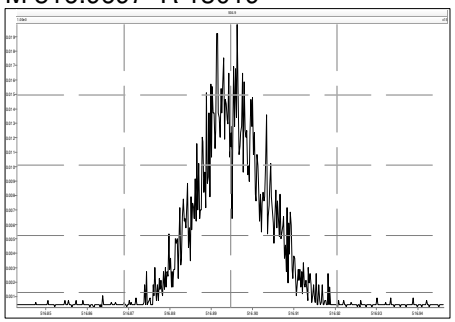
M 492.9696 R 13228



M 504.9696 R 13227



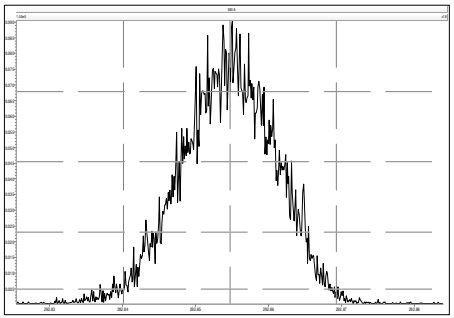
M 516.9697 R 13019



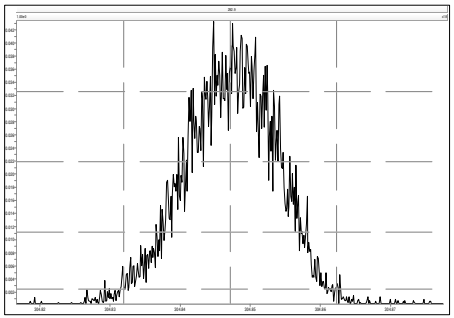
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

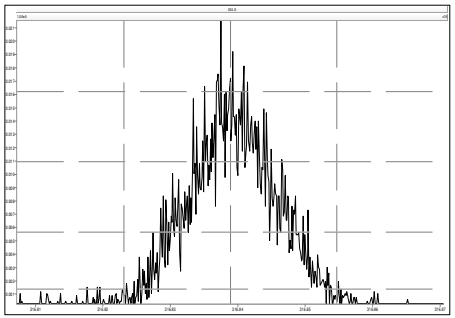
M 292.9824 R 10122



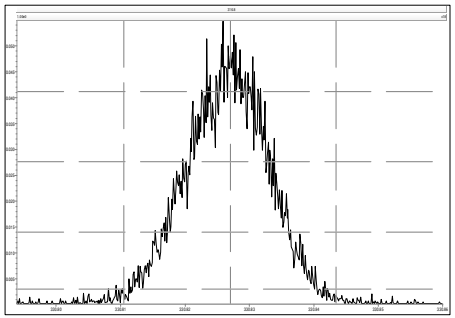
M 304.9824 R 10329



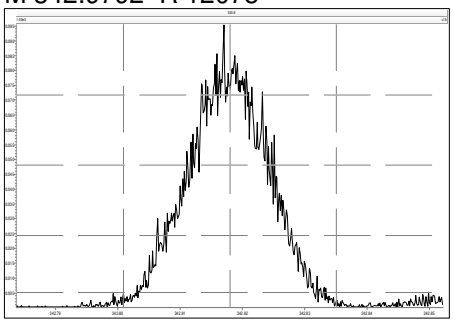
M 316.9824 R 11964



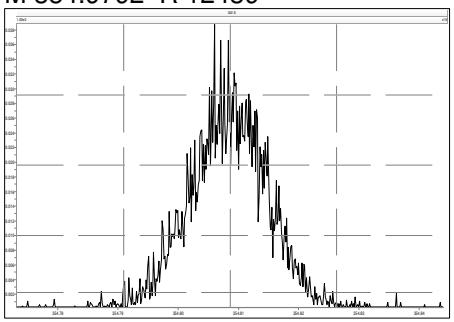
M 330.9792 R 11062



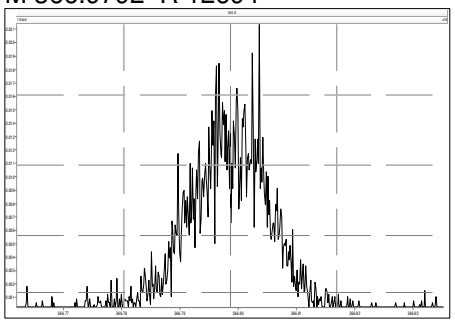
M 342.9792 R 12075



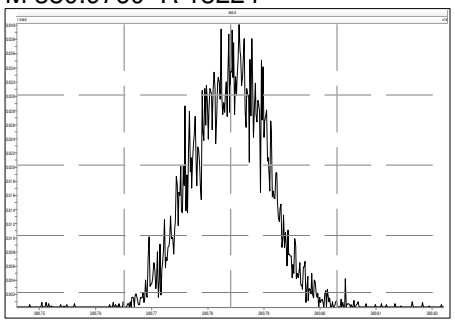
M 354.9792 R 12439



M 366.9792 R 12694



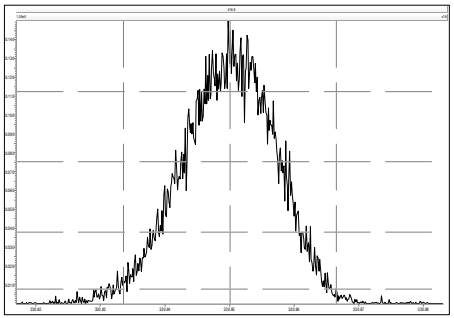
M 380.9760 R 13224



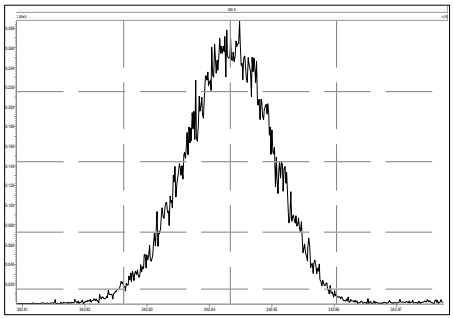
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

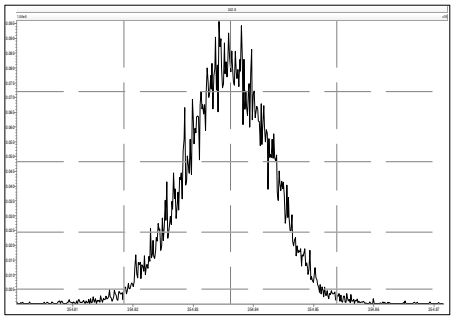
M 330.9792 R 10730



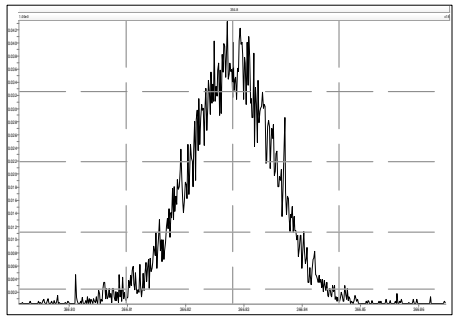
M 342.9792 R 10039



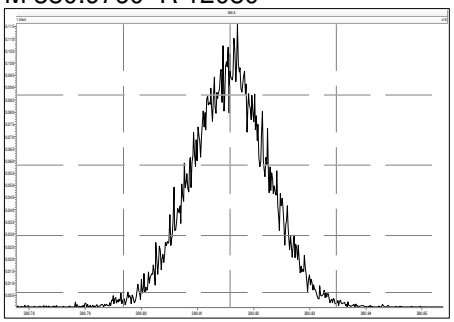
M 354.9792 R 11108



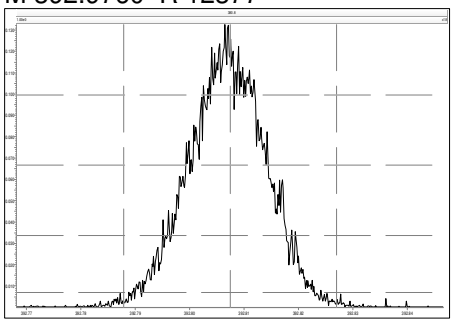
M 366.9792 R 11520



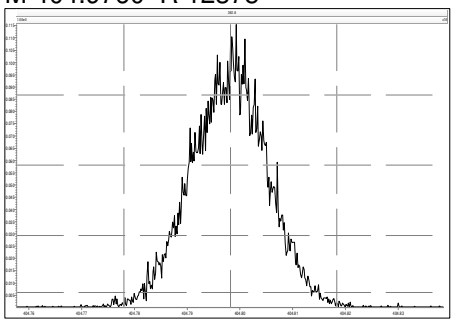
M 380.9760 R 12080



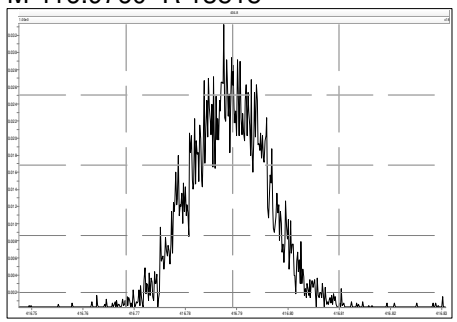
M 392.9760 R 12377



M 404.9760 R 12375



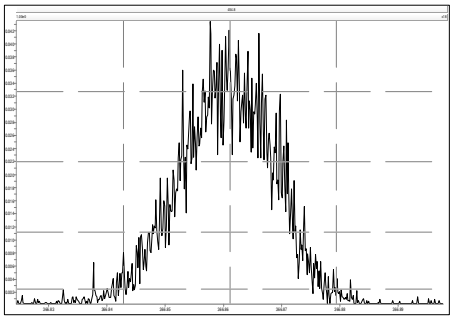
M 416.9760 R 13515



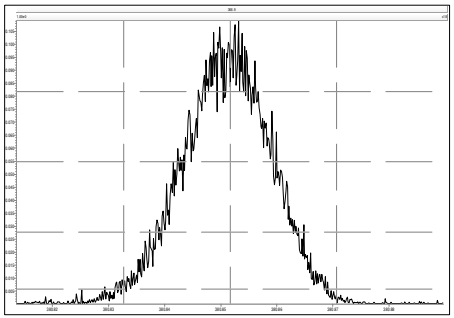
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

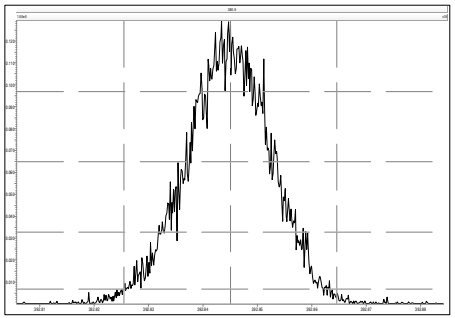
M 366.9792 R 10866



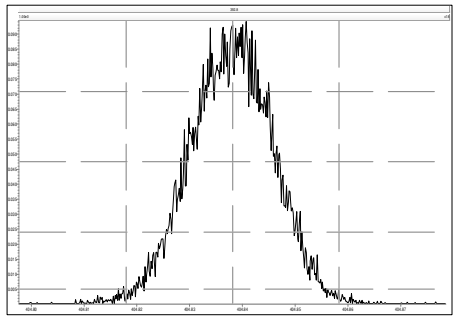
M 380.9760 R 10416



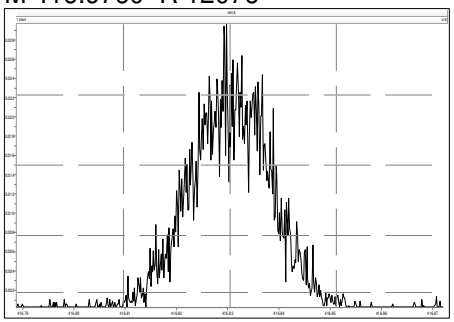
M 392.9760 R 10640



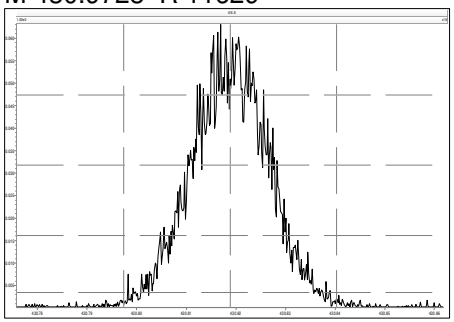
M 404.9760 R 11957



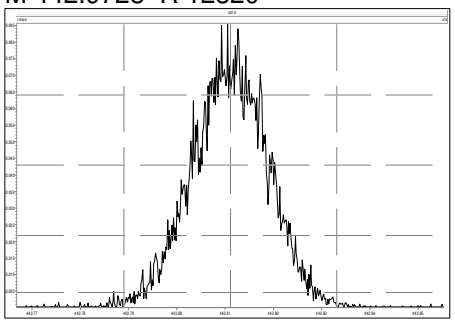
M 416.9760 R 12076



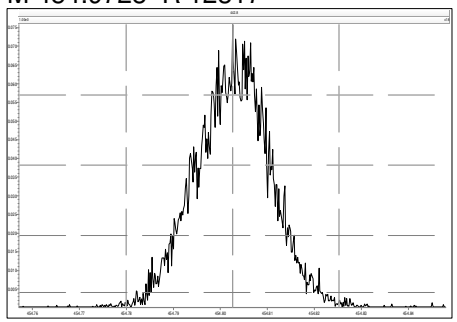
M 430.9728 R 11629



M 442.9728 R 12820



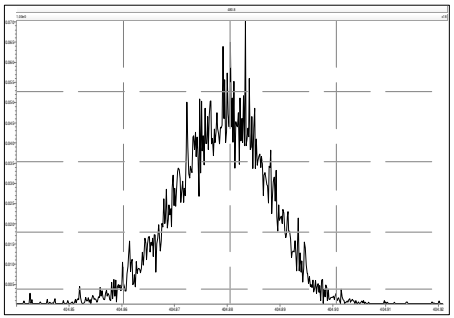
M 454.9728 R 12317



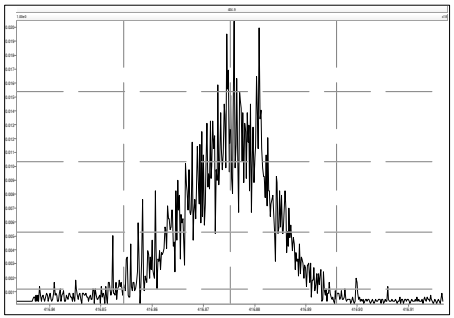
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

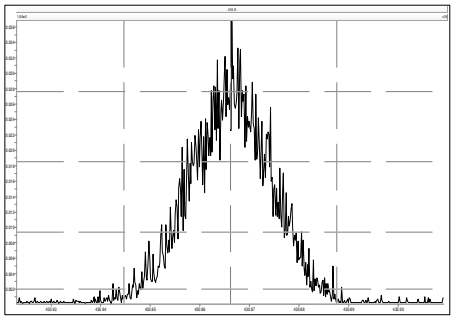
M 404.9760 R 10505



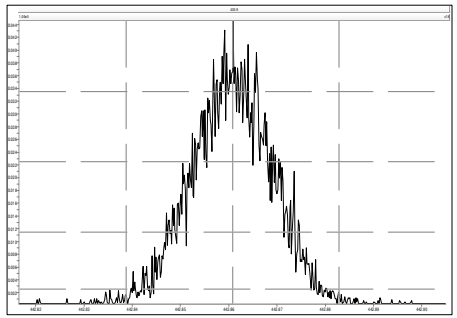
M 416.9760 R 12500



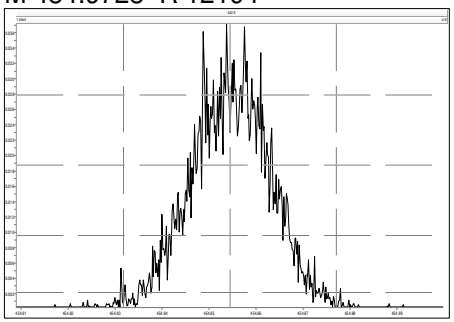
M 430.9728 R 11362



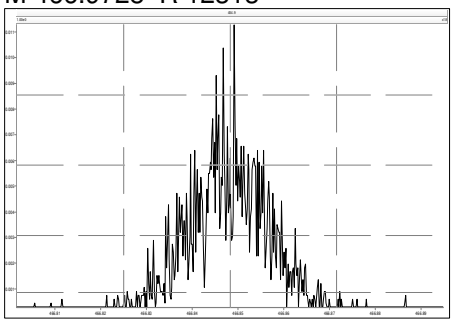
M 442.9728 R 12756



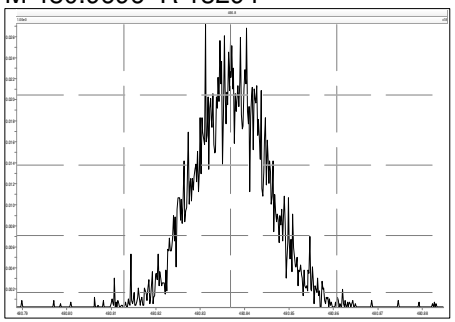
M 454.9728 R 12194



M 466.9728 R 12313



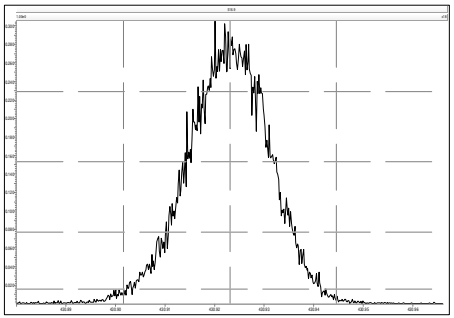
M 480.9696 R 13294



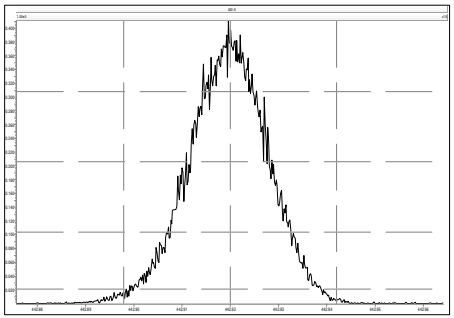
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

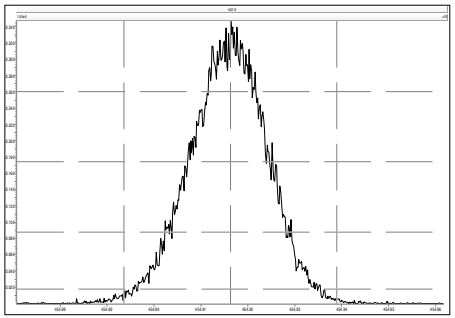
M 430.9728 R 11312



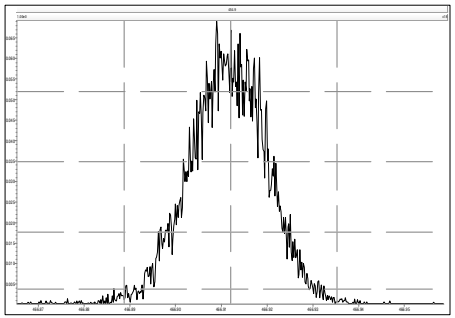
M 442.9728 R 11110



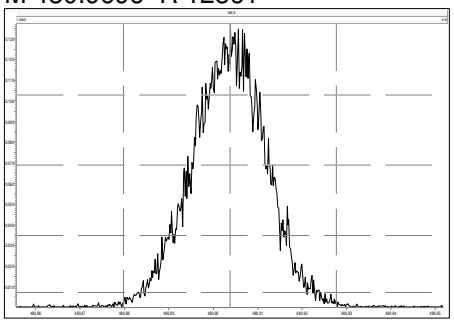
M 454.9728 R 11906



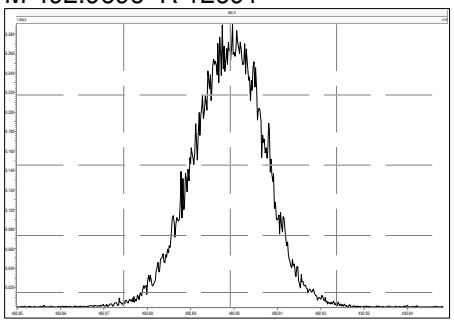
M 466.9728 R 12562



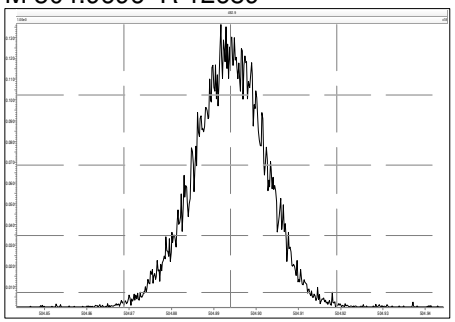
M 480.9696 R 12561



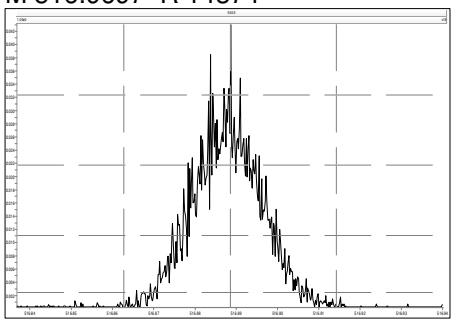
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



Lab ID: OPR1_18881_DF

REVIEWED
Tamara Burkamper , 2/9/2022, 1:37:15 PM

Acq'd: 04 Feb 2022 11:01 DTF

Wt/Vol: 1 uL

ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18881_OPR001

UTP: 07-Feb-2022 15:32:55 DTF

J-level: 0.25 pg/uL **Split:** 1

Checkcode: 138-468-JWR

Datafile: 220204C03

Report: 07 Feb 2022 15:40 TF

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

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.55		1.0008	1.0008	0	2.75E+06	0.82	Y	1.18	11.2	3656.645	0.146
12378-PeCDD	33.87		1.0006	1.0006	0	1.07E+07	1.58	Y	1.04	51	2716.221	0.118
123478-HxCDD	37.78		1.0004	1.0004	0	1.24E+07	1.33	Y	1.09	55.6	4440.289	0.173
123678-HxCDD	37.90		1.0035	1.0035	0	1.47E+07	1.25	Y	1.15	54.6	4440.289	0.154
123789-HxCDD	38.19		1.0112	1.0112	0	1.14E+07	1.22	Y	1.05	51.3	4440.289	0.183
1234678-HpCDD	40.85		1.0003	1.0003	0	1.03E+07	1.04	Y	1.06	54.5	3972.218	0.17
OCDD	43.53		1.0004	1.0003	-0.3	1.46E+07	0.93	Y	1.13	118	3458.675	0.316
2378-TCDF	27.69		1.0008	1.0008	0	4.06E+06	0.81	Y	1.08	11.3	3799.164	0.115
12378-PeCDF	32.43		1.0005	1.0005	0	1.74E+07	1.57	Y	1.02	53.1	7746.572	0.227
23478-PeCDF	33.54		1.0005	1.0005	0	1.89E+07	1.53	Y	1.02	57.5	7746.572	0.216
123478-HxCDF	36.77		1.0004	1.0005	+0.2	1.51E+07	1.20	Y	1.27	56	3297.676	0.102
123678-HxCDF	36.92		1.0004	1.0005	+0.2	1.75E+07	1.24	Y	1.15	55.5	3297.676	0.0968
234678-HxCDF	37.60		1.0005	1.0005	0	2.21E+07	1.26	Y	1.19	53.4	3297.676	0.0703
123789-HxCDF	38.55		1.0004	1.0005	+0.2	1.36E+07	1.25	Y	1.16	53.8	3297.676	0.101
1234678-HpCDF	39.91		1.0003	1.0003	0	1.52E+07	1.04	Y	1.37	54.4	5305.435	0.133
1234789-HpCDF	41.31		1.0002	1.0003	+0.2	1.20E+07	1.06	Y	1.31	54	5305.435	0.211
OCDF	43.71		1.0003	1.0002	-0.3	1.87E+07	0.89	Y	1.07	108	3103.855	0.189

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.52	1.0236	1.0237	+0.2	2.08E+07	0.80	Y	1.05	87.8
ES 12378-PeCDD	33.85	1.2144	1.2151	+1.4	2.03E+07	1.58	Y	0.88	102
ES 123478-HxCDD	37.77	0.9920	0.9920	0	2.04E+07	1.33	Y	0.97	96.2
ES 123678-HxCDD	37.88	0.9951	0.9951	0	2.34E+07	1.26	Y	0.94	114
ES 123789-HxCDD	38.18	1.0027	1.0028	+0.2	2.11E+07	1.27	Y	1.09	88.8
ES 1234678-HpCDD	40.84	1.0724	1.0727	+0.7	1.78E+07	1.07	Y	0.91	89.4
ES OCDD	43.52	1.1428	1.1431	+0.8	2.20E+07	0.91	Y	0.62	80.9
ES 2378-TCDF	27.67	1.0516	1.0517	+0.2	3.33E+07	0.80	Y	1.06	83
ES 12378-PeCDF	32.41	1.2312	1.2319	+1.4	3.19E+07	1.61	Y	0.91	92.6
ES 23478-PeCDF	33.52	1.2733	1.2741	+1.6	3.23E+07	1.60	Y	0.88	96.5
ES 123478-HxCDF	36.76	0.9655	0.9654	-0.2	2.12E+07	0.52	Y	1.20	80.9
ES 123678-HxCDF	36.90	0.9692	0.9693	+0.2	2.73E+07	0.54	Y	1.35	92.6
ES 234678-HxCDF	37.58	0.9871	0.9872	+0.2	3.48E+07	0.50	Y	1.24	128
ES 123789-HxCDF	38.53	1.0121	1.0120	-0.2	2.18E+07	0.55	Y	1.16	86.6
ES 1234678-HpCDF	39.90	1.0479	1.0481	+0.5	2.04E+07	0.48	Y	0.97	96.8
ES 1234789-HpCDF	41.30	1.0845	1.0847	+0.5	1.70E+07	0.48	Y	0.85	91.5
ES OCDF	43.70	1.1477	1.1480	+0.8	3.24E+07	0.92	Y	0.81	92.1

Lab ID: OPR1_18881_DF **Acq'd:** 04 Feb 2022 11:01 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18881_OPR001 **UTP:** 07-Feb-2022 15:32:55 DTF **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 138-468-JWR

Datafile: 220204C03 **Report:** 07 Feb 2022 15:40 TF **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.86		-	-	-	2.27E+07	0.85	Y	-	-
JS 1234-TCDF	26.31		-	-	-	3.79E+07	0.78	Y	-	-
JS 123467-HxCDD	38.07		-	-	-	1.09E+07	1.20	Y	-	-
CS 37Cl-2378-TCDD	28.54		1.0244	1.0245	+0.2	1.02E+07	n/a	-	1.20	93.8
CS 12347-PeCDD	33.35		1.1964	1.1971	+1.4	2.12E+07	1.57	Y	0.75	124
CS 12346-PeCDF	31.88		1.2112	1.2117	+1.0	3.38E+07	1.56	Y	0.85	105
CS 123469-HxCDF	37.22		0.9775	0.9776	+0.2	2.76E+07	0.53	Y	1.12	113
CS 1234689-HpCDF	40.31		1.0584	1.0588	+1.0	2.26E+07	0.47	Y	0.89	117
~~SS 37Cl-2378-TCDD~~	~~28.54~~		~~1.0244~~	~~1.0245~~	~~+0.2~~	~~1.02E+07~~	~~n/a~~		~~1.15~~	~~107~~
~~SS 12347-PeCDD~~	~~33.35~~		~~1.1964~~	~~1.1971~~	~~+1.4~~	~~2.12E+07~~	~~1.57~~	~~Y~~	~~0.86~~	~~122~~
~~SS 12346-PeCDF~~	~~31.88~~		~~1.2112~~	~~1.2117~~	~~+1.0~~	~~3.38E+07~~	~~1.56~~	~~Y~~	~~0.94~~	~~113~~
~~SS 123469-HxCDF~~	~~37.22~~		~~0.9775~~	~~0.9776~~	~~+0.2~~	~~2.76E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~122~~
~~SS 1234689-HpCDF~~	~~40.31~~		~~1.0584~~	~~1.0588~~	~~+1.0~~	~~2.26E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~120~~

Totals	Conc	EMPC
Total TCDD	52.5	52.5
Total PeCDD	75.6	75.6
Total HxCDD	173	173
Total HpCDD	66.6	66.6
Total Tetra-Octa Dioxins	485	485
Total TCDF	64.5	64.5
Total PeCDF	209	209
Total HxCDF	333	333
Total HpCDF	108	108
Total Tetra-Octa Furans	822	822
Total Tetra-Octa Dioxins & Furans	1310	1310

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.818	0.82
Response	2.76E+06	2.75E+06

Lab ID: OPR1_18881_DF **Acq'd: 04 Feb 2022 11:01 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18881_OPR001 **UTP: 07-Feb-2022 15:32:55 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 138-468-JWR**

Datafile: 220204C03 **Report: 07 Feb 2022 15:40 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.92		0.8737	0.8735	-0.3	3.79E+06	0.81	Y	1.18	15.4	3656.645	0.146
1379-TCDD	NotFnd		0.8860						1.18		3656.645	0.146
1369-TCDD	NotFnd		0.9009						1.18		3656.645	0.146
1469-TCDD	NotFnd		0.9281						1.18		3656.645	0.146
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3656.645	0.146
1378-TCDD	NotFnd		0.9432						1.18		3656.645	0.146
1268-TCDD	NotFnd		0.9500						1.18		3656.645	0.146
1478-TCDD	NotFnd		0.9586						1.18		3656.645	0.146
1279-TCDD	NotFnd		0.9645						1.18		3656.645	0.146
1234/1269-TCDD	NotFnd		0.9770						1.18		3656.645	0.146
1236-TCDD	NotFnd		0.9817						1.18		3656.645	0.146
1237/1238-TCDD	NotFnd		0.9905						1.18		3656.645	0.146
1239-TCDD	28.39		0.9952	0.9952	0	2.55E+06	0.83	Y	1.18	10.3	3656.645	0.146
2378-TCDD	**28.55**		**1.0008**	1.0008	**0**	2.75E+06	0.82	Y	**1.18**	**11.2**	**3656.645**	**0.146**
1278-TCDD	NotFnd		1.0121						1.18		3656.645	0.146
1267-TCDD	NotFnd		1.0167						1.18		3656.645	0.146
1289-TCDD	29.51		1.0345	1.0347	+0.4	3.86E+06	0.78	Y	1.18	15.6	3656.645	0.146
12479/12468-PeCDD	31.37		0.9267	0.9267	0	2.42E+06	1.58	Y	1.04	11.5	2716.221	0.118
12469-PeCDD	NotFnd		0.9425						1.04		2716.221	0.118
12368-PeCDD	NotFnd		0.9588						1.04		2716.221	0.118
12478-PeCDD	NotFnd		0.9643						1.04		2716.221	0.118
12379-PeCDD	NotFnd		0.9673						1.04		2716.221	0.118
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		2716.221	0.118
12346/12347-PeCDD	NotFnd		0.9858						1.04		2716.221	0.118
12378-PeCDD	33.87		**1.0006**	**1.0006**	**0**	**1.07E+07**	**1.58**	**Y**	**1.04**	**51**	**2716.221**	**0.118**
12367-PeCDD	NotFnd		1.0033						1.04		2716.221	0.118
12389-PeCDD	34.31		1.0134	1.0135	+0.2	2.75E+06	1.61	Y	1.04	13.1	2716.221	0.118
124679/124689-HxCDD	36.03		0.9542	0.9540	-0.4	2.73E+06	1.28	Y	1.10	11.5	4440.289	0.169
123468-HxCDD	NotFnd		0.9715						1.10		4440.289	0.169
123679/123689-HxCDD	NotFnd		0.9793						1.10		4440.289	0.169
123469-HxCDD	NotFnd		0.9828						1.10		4440.289	0.169
123478-HxCDD	37.78		**1.0004**	**1.0004**	**0**	**1.24E+07**	**1.33**	**Y**	1.09	**55.6**	**4440.289**	**0.173**
123678-HxCDD	37.90		**1.0035**	**1.0035**	**0**	**1.47E+07**	**1.25**	**Y**	1.15	**54.6**	**4440.289**	**0.154**
123467-HxCDD	NotFnd		1.0085						1.10		4440.289	0.169
123789-HxCDD	38.19		**1.0112**	**1.0112**	**0**	**1.14E+07**	**1.22**	**Y**	1.05	**51.3**	**4440.289**	**0.183**

Lab ID: OPR1_18881_DF **Acq'd: 04 Feb 2022 11:01 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18881_OPR001 **UTP: 07-Feb-2022 15:32:55 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 138-468-JWR**

Datafile: 220204C03 **Report: 07 Feb 2022 15:40 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.17		0.9837	0.9836	-0.2	2.28E+06	1.04	Y	1.06	12.1	3972.218	0.17
1234678-HpCDD	**40.85**		**1.0003**	**1.0003**	**0**	**1.03E+07**	**1.04**	**Y**	**1.06**	**54.5**	**3972.218**	**0.17**
OCDD	**43.53**		**1.0004**	**1.0003**	**-0.3**	**1.46E+07**	**0.93**	**Y**	**1.13**	**118**	**3458.675**	**0.316**
OCDD-a	43.53		1.0003	1.0003	0	8.56E+05	2.79	Y	0.07	108	3548.112	5.07
1368-TCDF	22.82		0.8251	0.8248	-0.4	5.65E+06	0.76	Y	1.08	15.7	3799.164	0.115
1468-TCDF	NotFnd		0.8458						1.08		3799.164	0.115
2468-TCDF	24.02		0.8686	0.8683	-0.4	1.47E+06	0.84	Y	1.08	4.1	3799.164	0.115
1346/1246-TCDF	NotFnd		0.8814						1.08		3799.164	0.115
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		3799.164	0.115
1348-TCDF	NotFnd		0.8962						1.08		3799.164	0.115
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		3799.164	0.115
1268-TCDF	NotFnd		0.9145						1.08		3799.164	0.115
1467-TCDF	NotFnd		0.9193						1.08		3799.164	0.115
1478-TCDF	NotFnd		0.9254						1.08		3799.164	0.115
1369/1237-TCDF	NotFnd		0.9387						1.08		3799.164	0.115
2467-TCDF	NotFnd		0.9433						1.08		3799.164	0.115
2368-TCDF	NotFnd		0.9489						1.08		3799.164	0.115
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		3799.164	0.115
1278-TCDF	NotFnd		0.9683						1.08		3799.164	0.115
1349-TCDF	NotFnd		0.9722						1.08		3799.164	0.115
1267-TCDF	NotFnd		0.9783						1.08		3799.164	0.115
2346/1249-TCDF	NotFnd		0.9850						1.08		3799.164	0.115
2347/1279-TCDF	NotFnd		0.9926						1.08		3799.164	0.115
2348-TCDF	27.58		0.9967	0.9968	+0.2	5.76E+06	0.79	Y	1.08	16	3799.164	0.115
2378-TCDF	**27.69**		**1.0008**	**1.0008**	**0**	**4.06E+06**	**0.81**	**Y**	**1.08**	**11.3**	**3799.164**	**0.115**
2367/3467-TCDF	NotFnd		1.0137						1.08		3799.164	0.115
1269-TCDF	NotFnd		1.0223						1.08		3799.164	0.115
1239-TCDF	NotFnd		1.0321						1.08		3799.164	0.115
1289-TCDF	29.68		1.0722	1.0728	+1.1	6.21E+06	0.81	Y	1.08	17.3	3799.164	0.115
13468/12468-PeCDF	29.60		0.9139	0.9132	-1.2	2.85E+07	1.57	Y	1.02	86.8	3182.133	0.0908
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		7746.572	0.221
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		7746.572	0.221
14678-PeCDF	NotFnd		0.9692						1.02		7746.572	0.221
13479-PeCDF	NotFnd		0.9723						1.02		7746.572	0.221
13469/12479-PeCDF	NotFnd		0.9797						1.02		7746.572	0.221
12346-PeCDF	NotFnd		0.9840						1.02		7746.572	0.221

Lab ID: OPR1_18881_DF **Acq'd: 04 Feb 2022 11:01 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18881_OPR001 **UTP: 07-Feb-2022 15:32:55 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 138-468-JWR**

Datafile: 220204C03 **Report: 07 Feb 2022 15:40 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		7746.572	0.221
12347-PeCDF	NotFnd		0.9894						1.02		7746.572	0.221
12348-PeCDF	NotFnd		0.9940						1.02		7746.572	0.221
12378-PeCDF	**32.43**		**1.0005**	**1.0005**	**0**	**1.74E+07**	**1.57**	**Y**	**1.02**	**53.1**	**7746.572**	**0.227**
12678/12367-PeCDF	NotFnd		1.0089						1.02		7746.572	0.221
12379-PeCDF	NotFnd		1.0142						1.02		7746.572	0.221
12679-PeCDF	NotFnd		0.9929						1.02		7746.572	0.221
23467/12369-PeCDF	NotFnd		0.9967						1.02		7746.572	0.221
23478-PeCDF	**33.54**		**1.0005**	**1.0005**	**0**	**1.89E+07**	**1.53**	**Y**	**1.02**	**57.5**	**7746.572**	**0.216**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7746.572	0.221
12349-PeCDF	NotFnd		1.0100						1.02		7746.572	0.221
12389-PeCDF	34.61		1.0324	1.0325	+0.2	3.65E+06	1.48	Y	1.02	11.1	7746.572	0.221
123468-HxCDF	35.39		0.9627	0.9627	0	3.59E+07	1.27	Y	1.19	114	3297.676	0.0898
124678/134678-HxCDF	NotFnd		0.9682						1.19		3297.676	0.0898
134679-HxCDF	NotFnd		0.9744						1.19		3297.676	0.0898
124679-HxCDF	NotFnd		0.9798						1.19		3297.676	0.0898
124689-HxCDF	NotFnd		0.9858						1.19		3297.676	0.0898
123467-HxCDF	NotFnd		0.9972						1.19		3297.676	0.0898
123478-HxCDF	**36.77**		**1.0004**	**1.0005**	**+0.2**	**1.51E+07**	**1.20**	**Y**	**1.27**	**56**	**3297.676**	**0.102**
123678-HxCDF	**36.92**		**1.0004**	**1.0005**	**+0.2**	**1.75E+07**	**1.24**	**Y**	**1.15**	**55.5**	**3297.676**	**0.0968**
123479-HxCDF	NotFnd		1.0049						1.19		3297.676	0.0898
123469-HxCDF	NotFnd		1.0090						1.19		3297.676	0.0898
123679-HxCDF	NotFnd		0.9942						1.19		3297.676	0.0898
234678-HxCDF	**37.60**		**1.0005**	**1.0005**	**0**	**2.21E+07**	**1.26**	**Y**	**1.19**	**53.4**	**3297.676**	**0.0703**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3297.676	0.0898
123789-HxCDF	**38.55**		**1.0004**	**1.0005**	**+0.2**	**1.36E+07**	**1.25**	**Y**	**1.16**	**53.8**	**3297.676**	**0.101**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		3297.676	0.0898
1234678-HpCDF	**39.91**		**1.0003**	**1.0003**	**0**	**1.52E+07**	**1.04**	**Y**	**1.37**	**54.4**	**5305.435**	**0.133**
1234679-HpCDF	NotFnd		1.0068						1.34		5305.435	0.168
1234689-HpCDF	NotFnd		1.0103						1.34		5305.435	0.168
1234789-HpCDF	**41.31**		**1.0002**	**1.0003**	**+0.2**	**1.20E+07**	**1.06**	**Y**	**1.31**	**54**	**5305.435**	**0.211**
OCDF	**43.71**		**1.0003**	**1.0002**	**-0.3**	**1.87E+07**	**0.89**	**Y**	**1.07**	**108**	**3103.855**	**0.189**
OCDF-a	43.71	**EMPC**	1.0002	1.0000	-0.5	9.45E+05	3.36	N	0.07	87.8	3392.181	3.33

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220204C03	Analysis Date:	04-FEB-2022 11:01:21
Lab ID:	OPR1_18881_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.2	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	51	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	55.6	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	54.6	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	51.3	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	54.5	35	-	70	Y
OCDD	100	118	78	-	144	Y
2,3,7,8-TCDF	10	11.3	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	53.1	40	-	67	Y
2,3,4,7,8-PeCDF	50	57.5	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	56	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	55.5	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	53.4	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	53.8	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	54.4	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	54	39	-	69	Y
OCDF	100	108	63	-	170	Y

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

Processed: 07 Feb 2022 15:41 Analyst: TF

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220204C03	Analysis Date:	04-FEB-2022 11:01:21
Lab ID:	OPR1_18881_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	87.8	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	102	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	96.2	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	114	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	88.8	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	89.4	26	-	166	Y
13C-OCDD	200	162	26	-	397	Y
13C-2,3,7,8-TCDF	100	83	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	92.6	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	96.5	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	80.9	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	92.6	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	128	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	86.6	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	96.8	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	91.5	20	-	186	Y
13C-OCDF	200	184	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	37.5	12.4	-	76.4	Y

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

Processed: 07 Feb 2022 15:41 Analyst: TF

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220204C03	Analysis Date:	04-FEB-2022 11:01:21
Lab ID:	OPR1_18881_DF		

Window Defining Standards Results

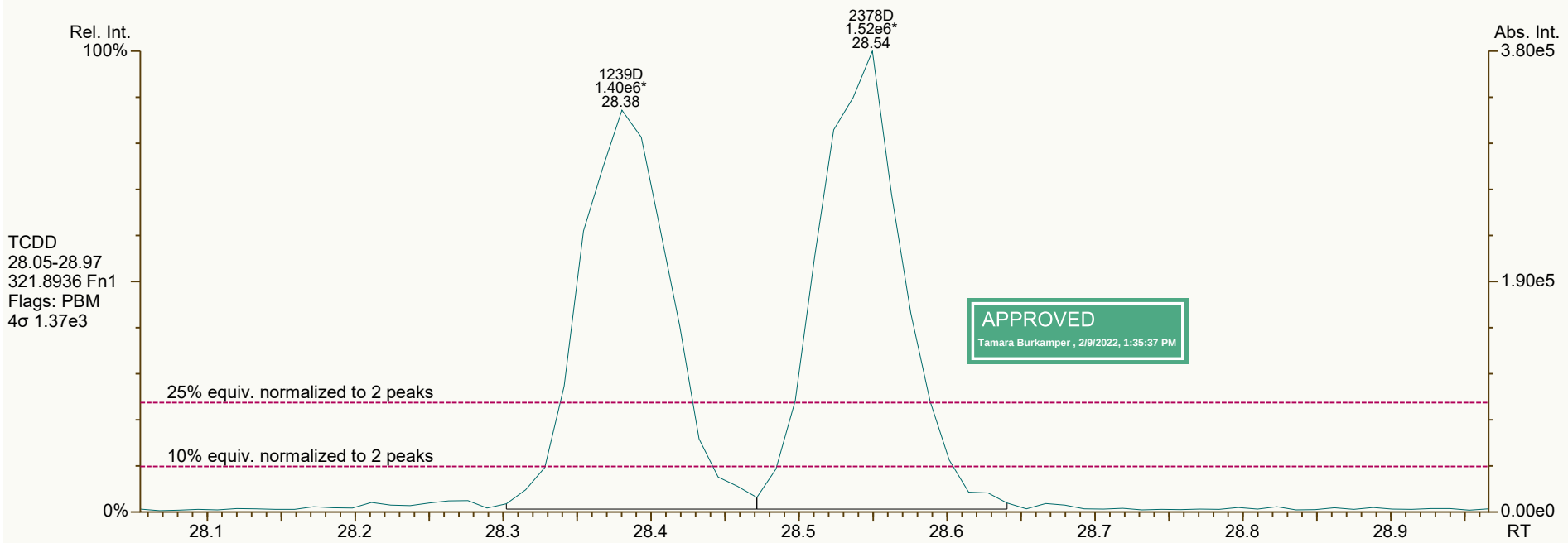
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.92	1289-TCDD	29.51
12479/12468-PeCDD	31.37	12389-PeCDD	34.31
124679/124689-HxCDD	36.03	123789-HxCDD	38.19
1234679-HpCDD	40.17	1234678-HpCDD	40.85
1368-TCDF	22.82	1289-TCDF	29.68
13468/12468-PeCDF	29.60	12389-PeCDF	34.61
123468-HxCDF	35.39	123789-HxCDF	38.55
1234678-HpCDF	39.91	1234789-HpCDF	41.31

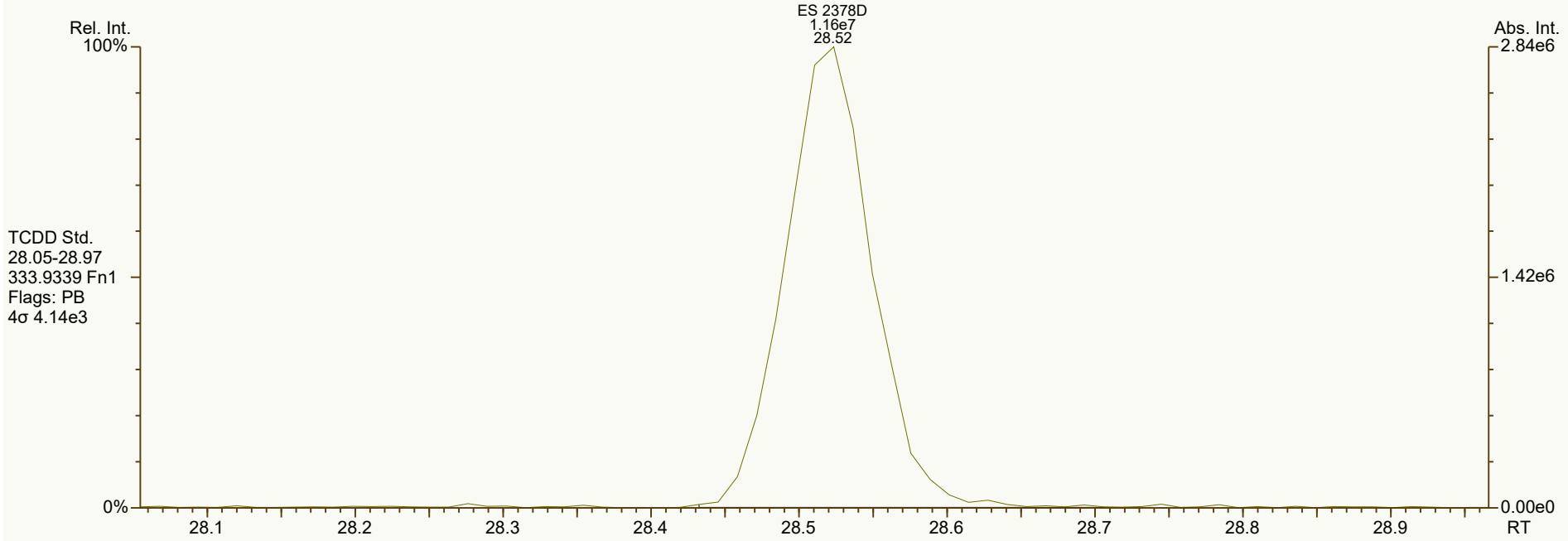
Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.39	2378-TCDD	28.55
2348-TCDF	27.58	2378-TCDF	27.69

Processed: 07 Feb 2022 15:41 Analyst: TF

SGS ID: OPR1_18881_DF
Sample ID: 0_18881_OPR001
Acq: 04-Feb-2022 11:01:21
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37
User: DTF Datafile: 220204C03





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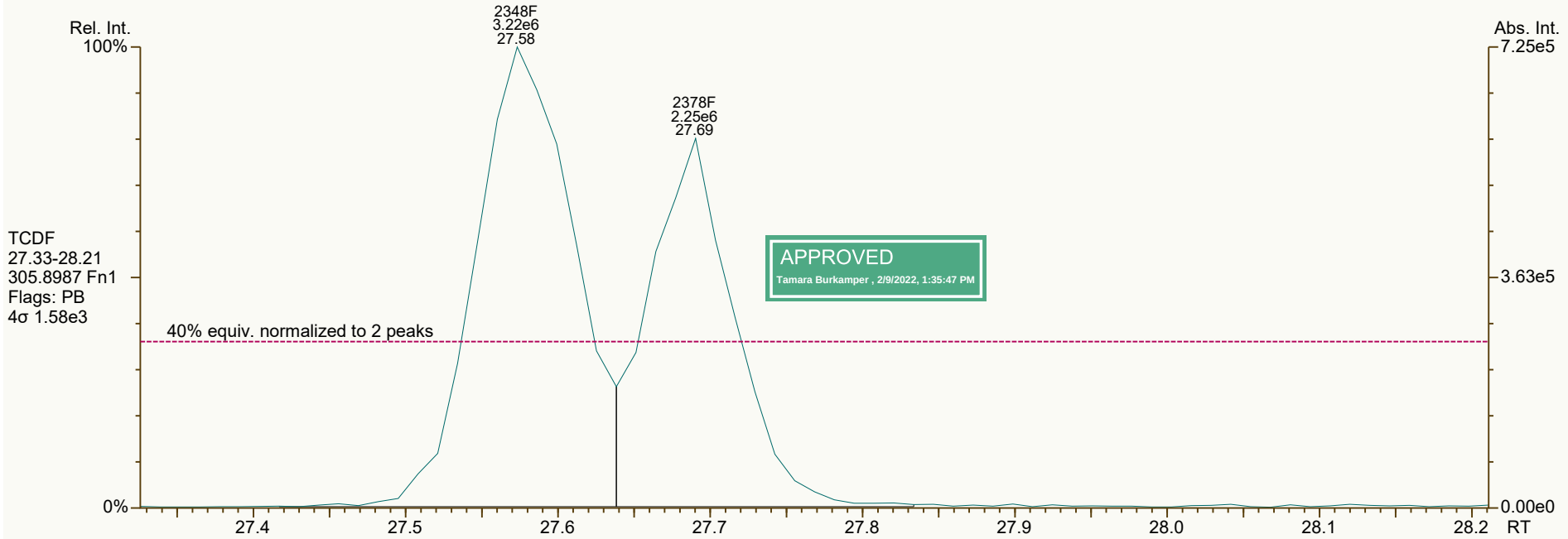
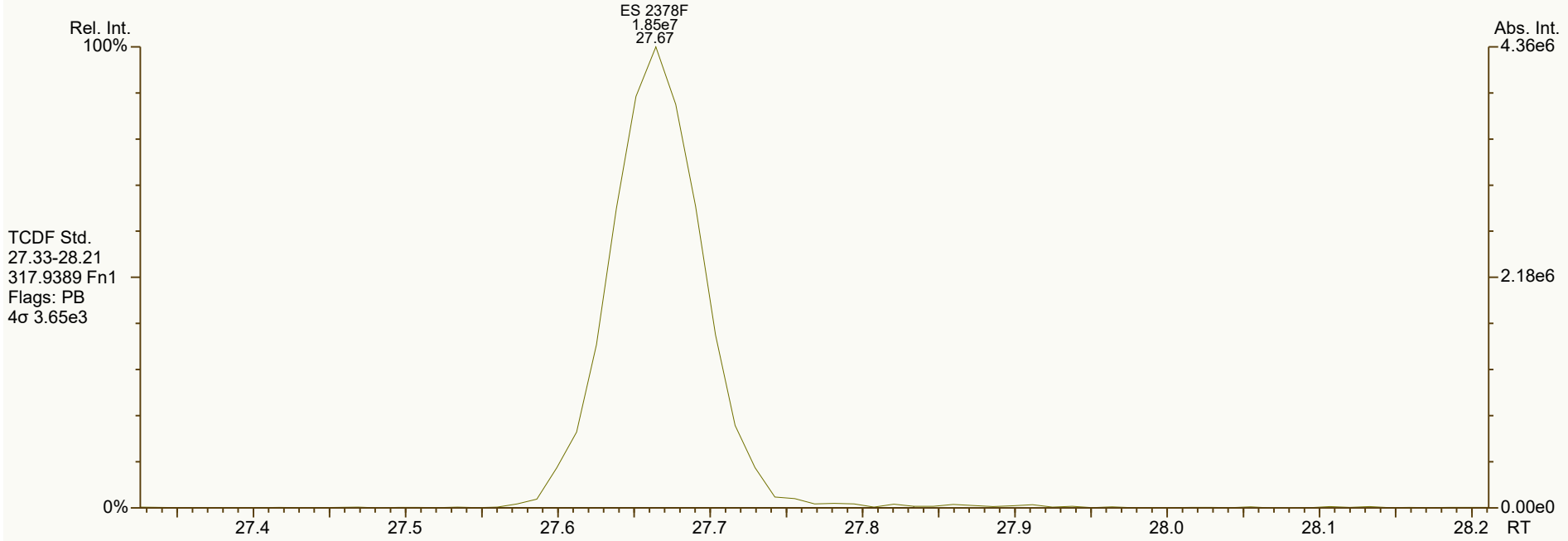
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 07-Feb-2022 15:23 (DTF) Printed: 07-Feb-2022 15:48

SGS ID: OPR1_18881_DF | Sample ID: 0_18881_OPR001 | Acq: 04-Feb-2022 11:01:21
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37 | User: DTF Datafile: 220204C03





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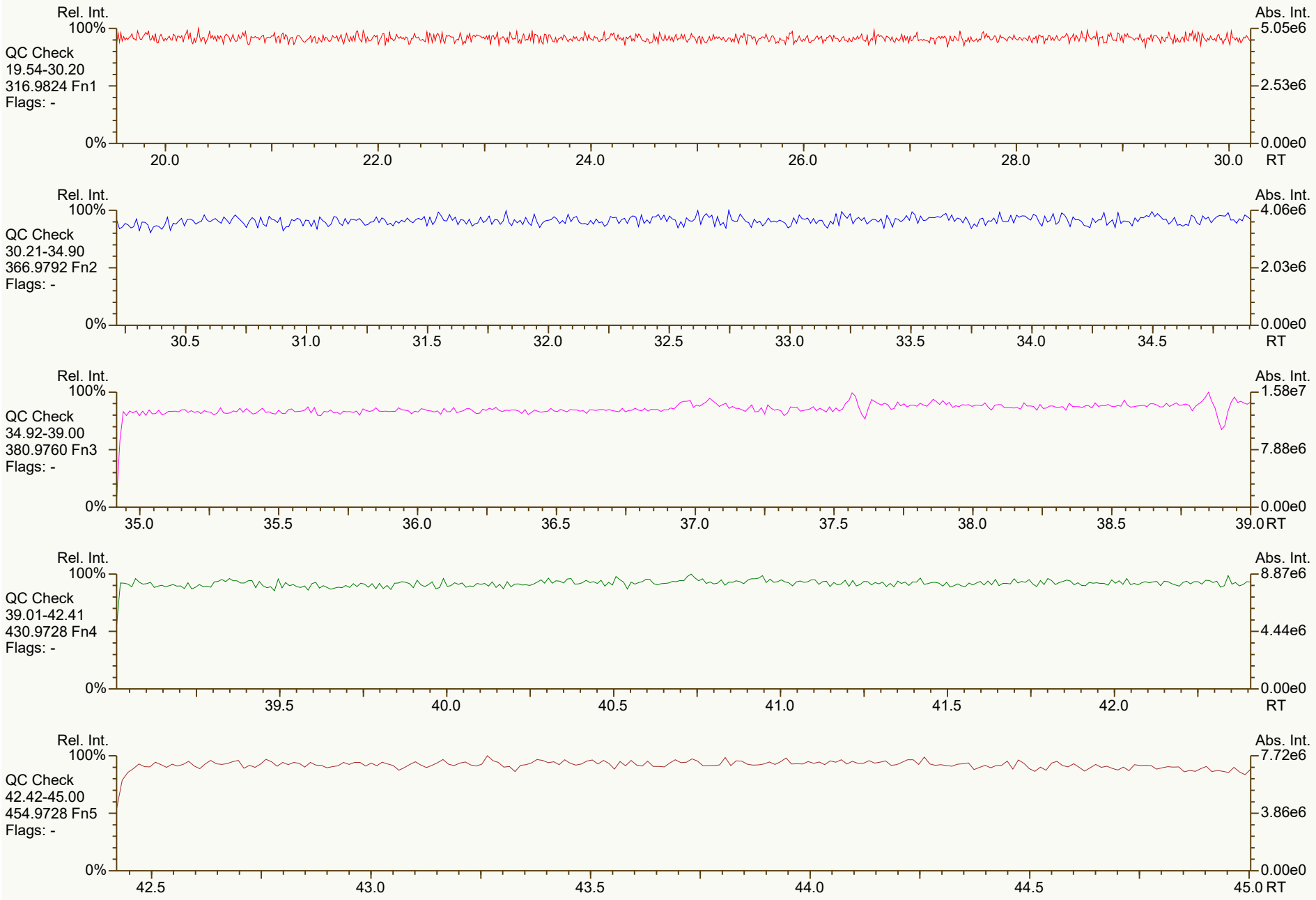
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 07-Feb-2022 15:24 (DTF) Printed: 07-Feb-2022 15:48


Rel. Int.
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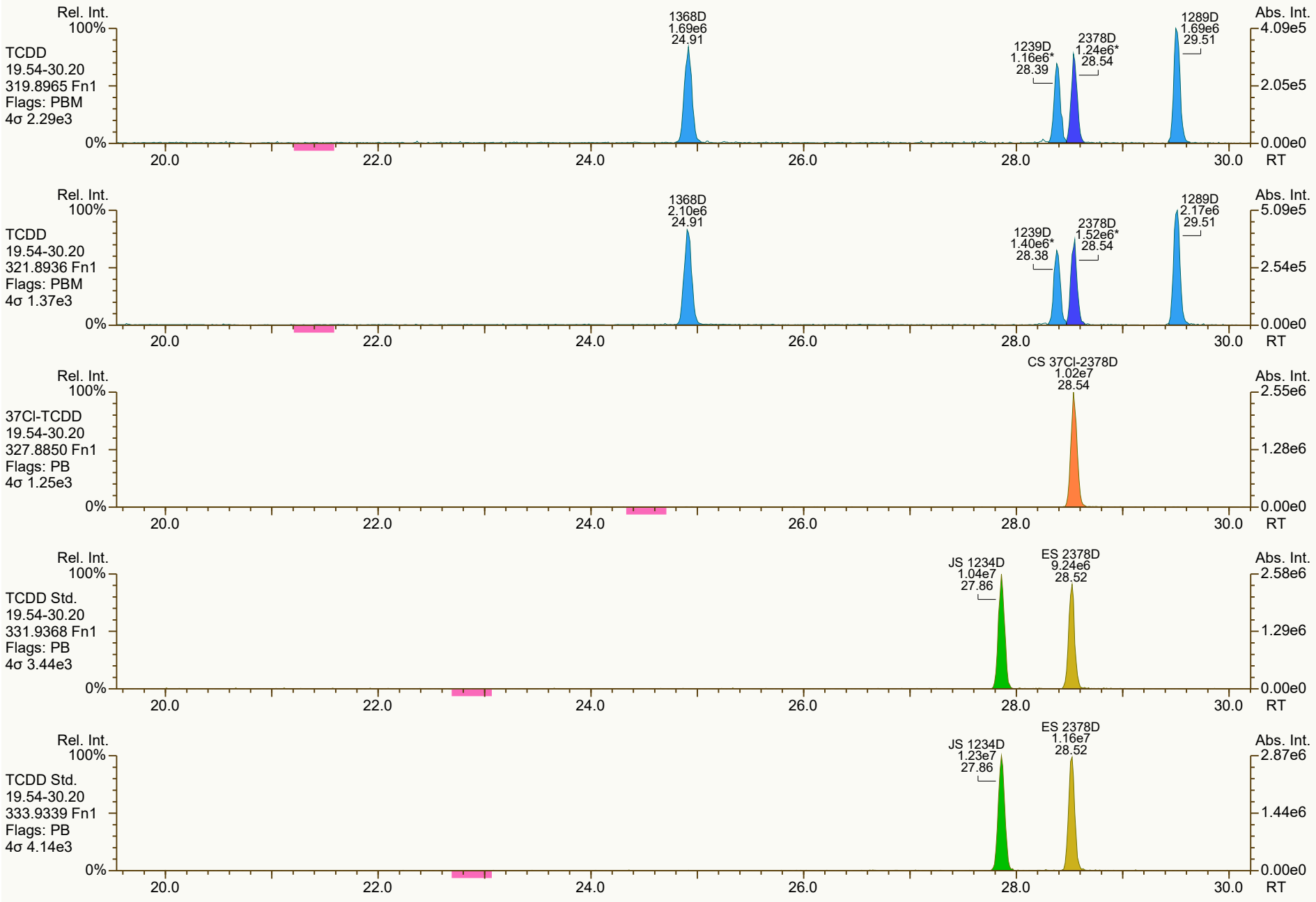
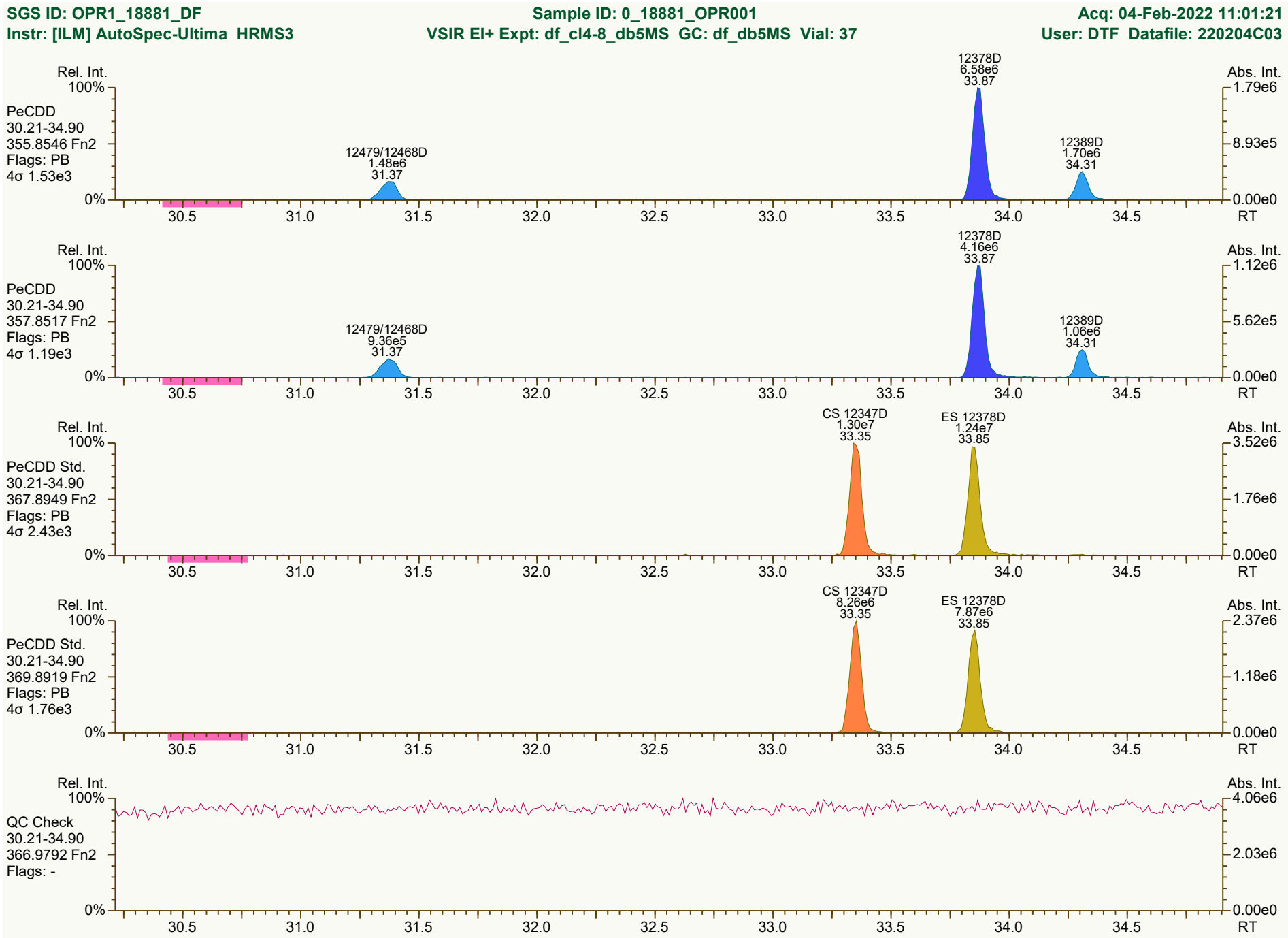
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
5.05e6
2.53e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.06e6
2.03e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.58e7
7.88e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
8.87e6
4.44e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
7.72e6
3.86e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.29e3
0%
1368D
1.69e6
24.91
1239D
1.16e6*
28.39
2378D
1.24e6*
28.54
1289D
1.69e6
29.51
Abs. Int.
4.09e5
2.05e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.37e3
0%
1368D
2.10e6
24.91
1239D
1.40e6*
28.38
2378D
1.52e6*
28.54
1289D
2.17e6
29.51
Abs. Int.
5.09e5
2.54e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.25e3
0%
CS 37Cl-2378D
1.02e7
28.54
Abs. Int.
2.55e6
1.28e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 3.44e3
0%
JS 1234D
1.04e7
27.86
ES 2378D
9.24e6
28.52
Abs. Int.
2.58e6
1.29e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.14e3
0%
JS 1234D
1.23e7
27.86
ES 2378D
1.16e7
28.52
Abs. Int.
2.87e6
1.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT



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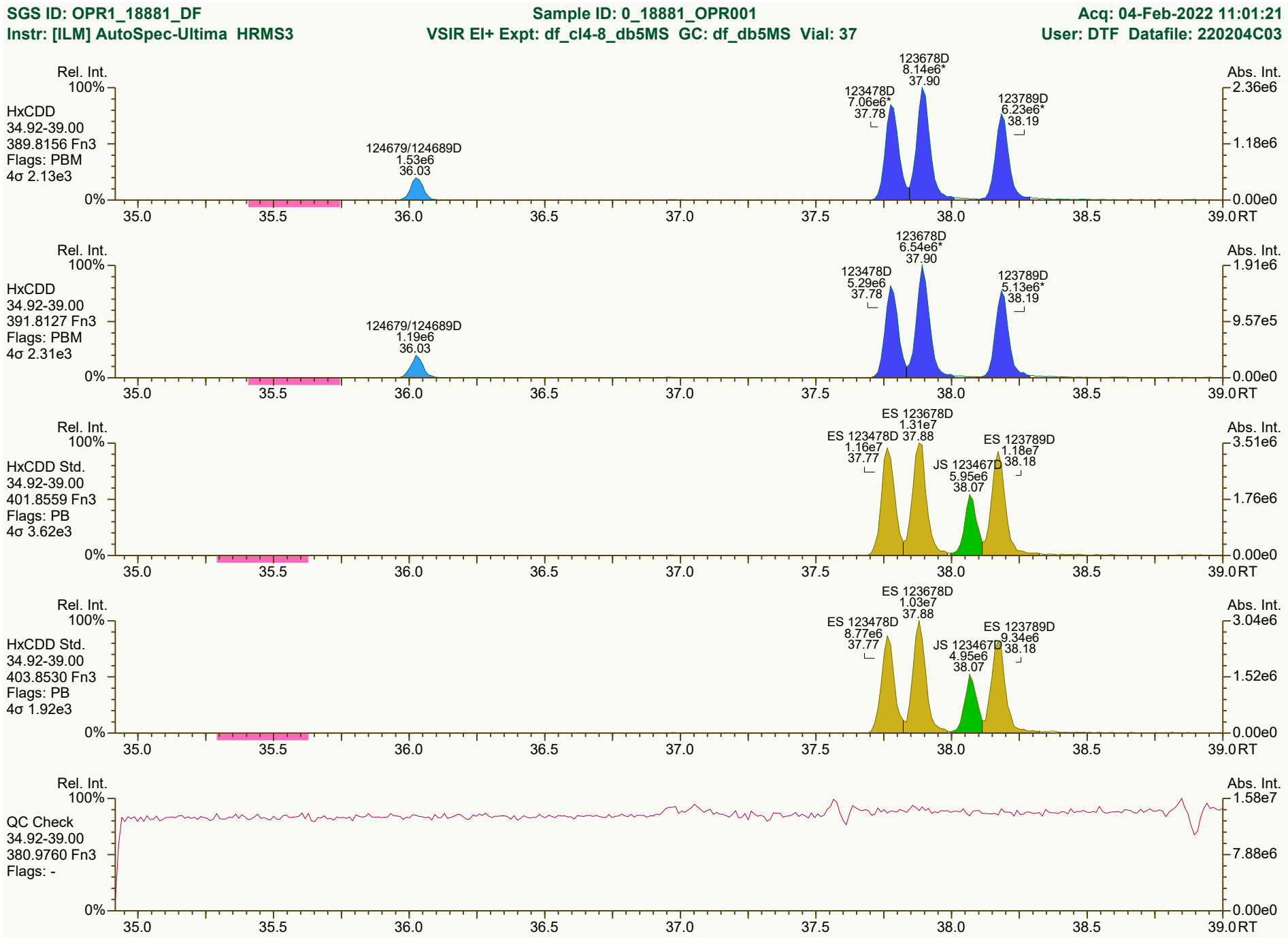
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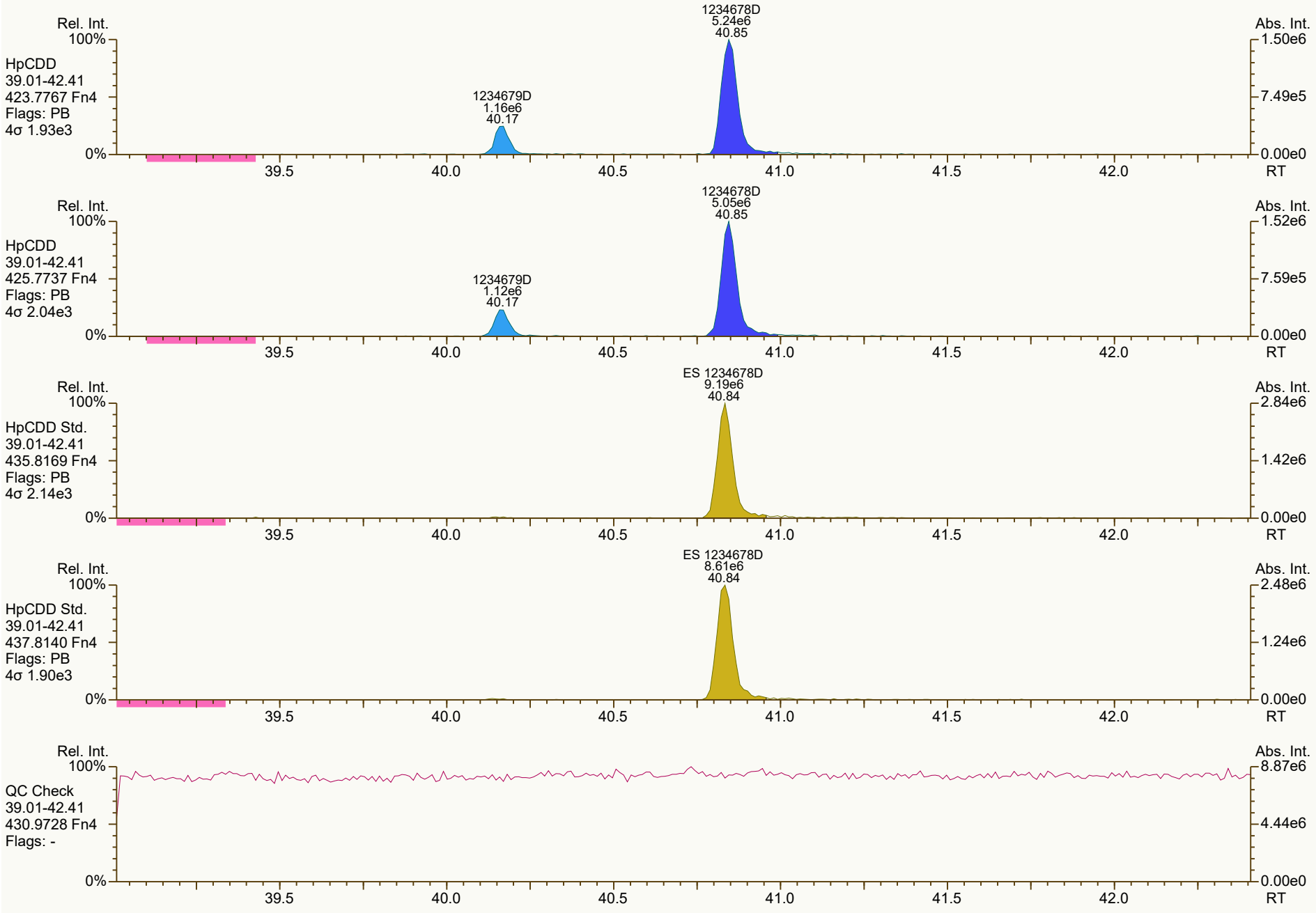
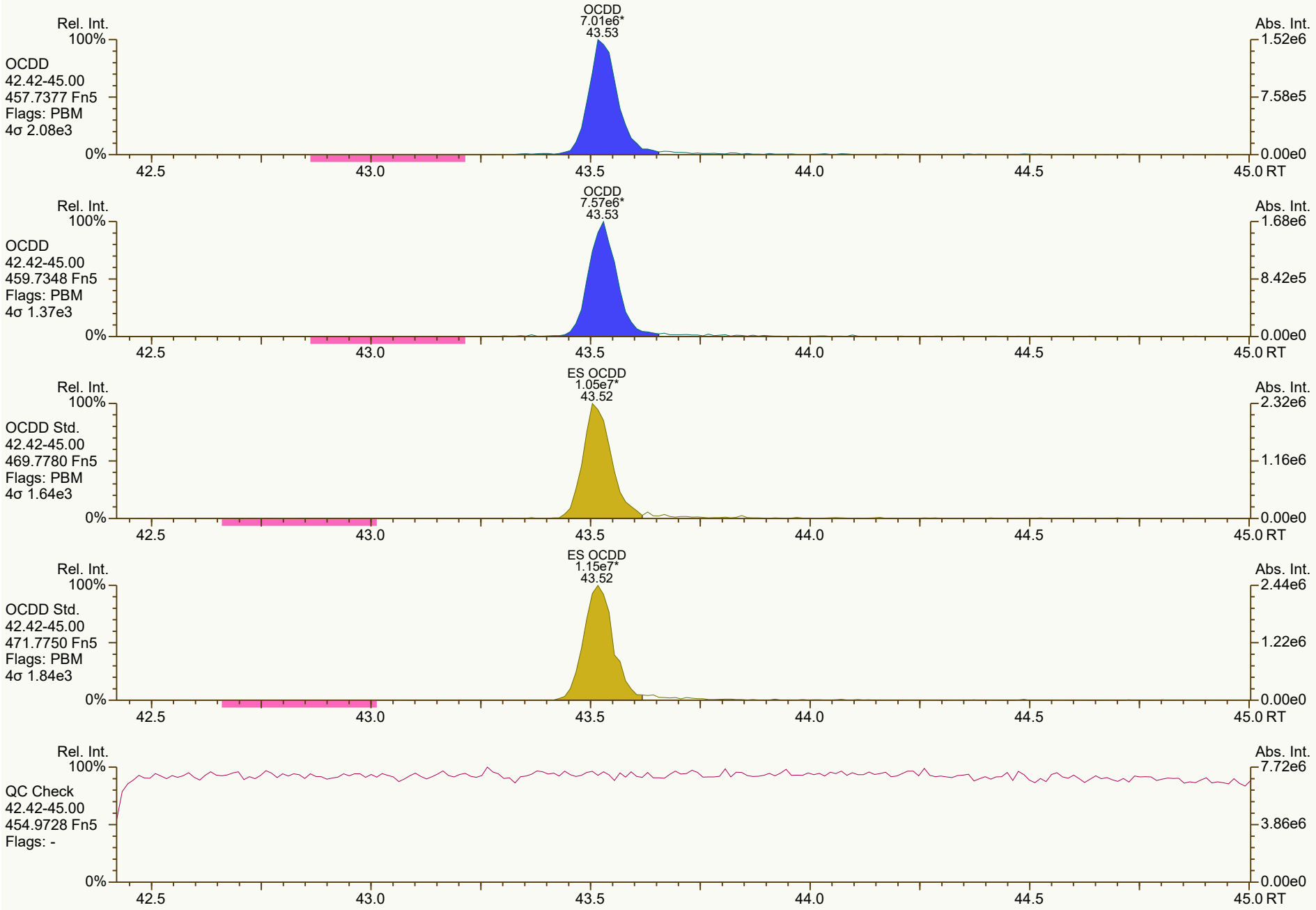
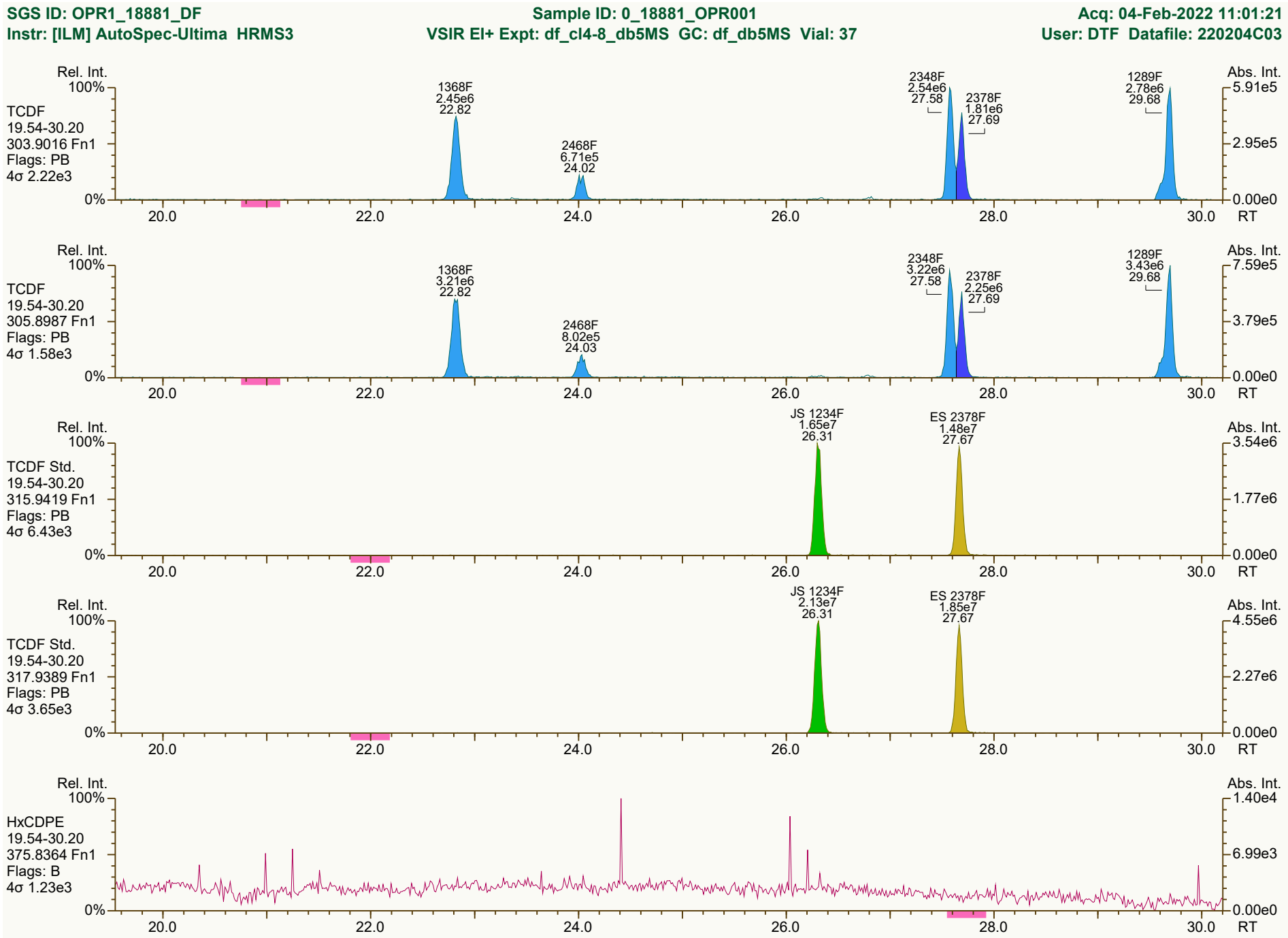
Acq: 04-Feb-2022 11:01:21
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37
User: DTF Datafile: 220204C03
Rel. Int.
Abs. Int.
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 2.13e3
124679/124689D
1.53e6
36.03
123678D
8.14e6*
37.90
123478D
7.06e6*
37.78
123789D
6.23e6*
38.19
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 2.31e3
124679/124689D
1.19e6
36.03
123678D
6.54e6*
37.90
123478D
5.29e6
37.78
123789D
5.13e6*
38.19
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 3.62e3
ES 123678D
1.31e7
37.88
ES 123478D
1.16e7
37.77
ES 123789D
1.18e7
38.18
JS 123467D
5.95e6
38.07
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 1.92e3
ES 123678D
1.03e7
37.88
ES 123478D
8.77e6
37.77
ES 123789D
9.34e6
38.18
JS 123467D
4.95e6
38.07
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
RT

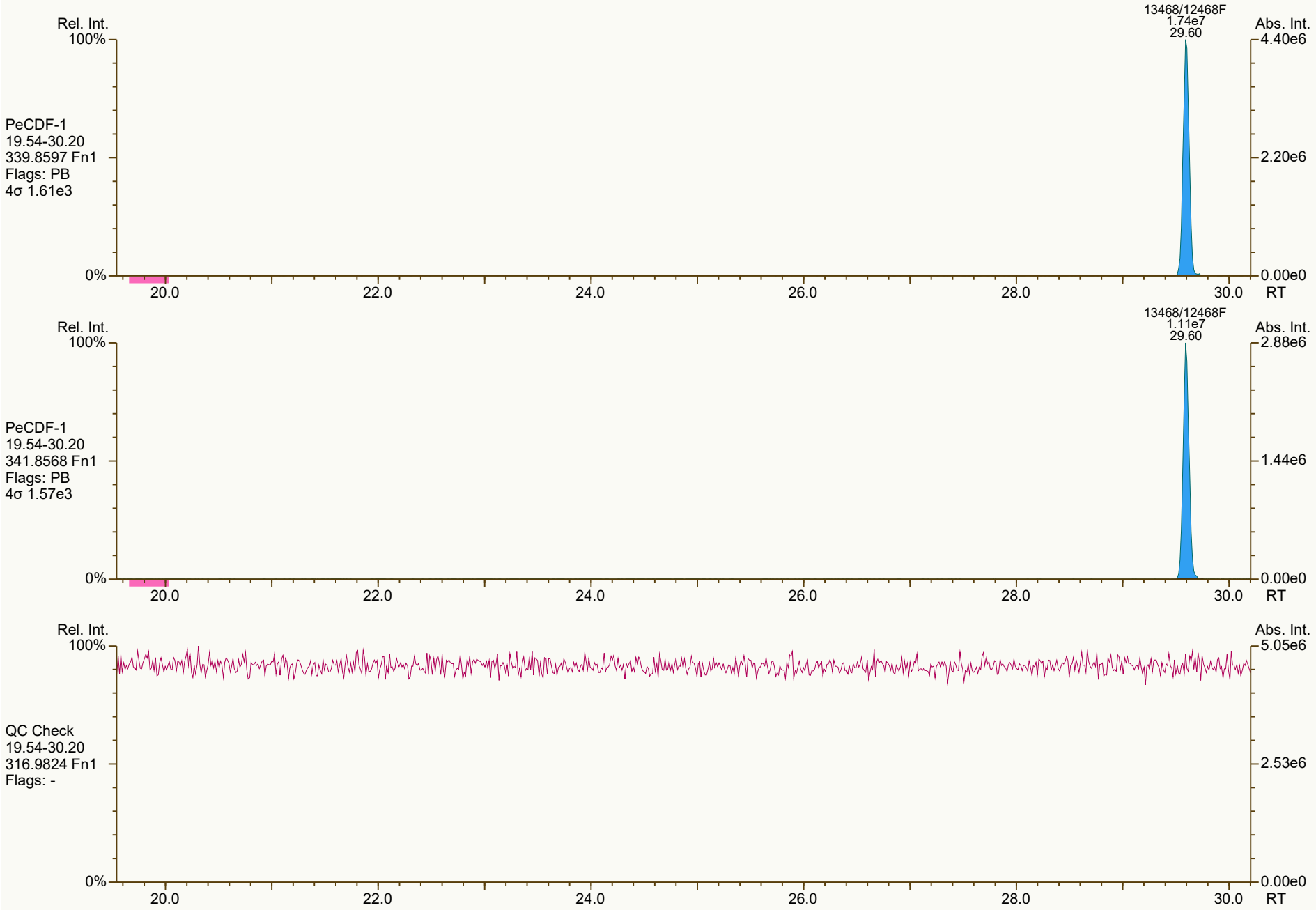

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 1.93e3
1234678D
5.24e6
40.85
1234679D
1.16e6
40.17
Abs. Int.
1.50e6
7.49e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 2.04e3
1234678D
5.05e6
40.85
1234679D
1.12e6
40.17
Abs. Int.
1.52e6
7.59e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.14e3
ES 1234678D
9.19e6
40.84
Abs. Int.
2.84e6
1.42e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.90e3
ES 1234678D
8.61e6
40.84
Abs. Int.
2.48e6
1.24e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
8.87e6
4.44e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 2.08e3
0%
OCDD
7.01e6*
43.53
Abs. Int.
1.52e6
7.58e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 1.37e3
0%
OCDD
7.57e6*
43.53
Abs. Int.
1.68e6
8.42e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 1.64e3
0%
ES OCDD
1.05e7*
43.52
Abs. Int.
2.32e6
1.16e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 1.84e3
0%
ES OCDD
1.15e7*
43.52
Abs. Int.
2.44e6
1.22e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.72e6
3.86e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

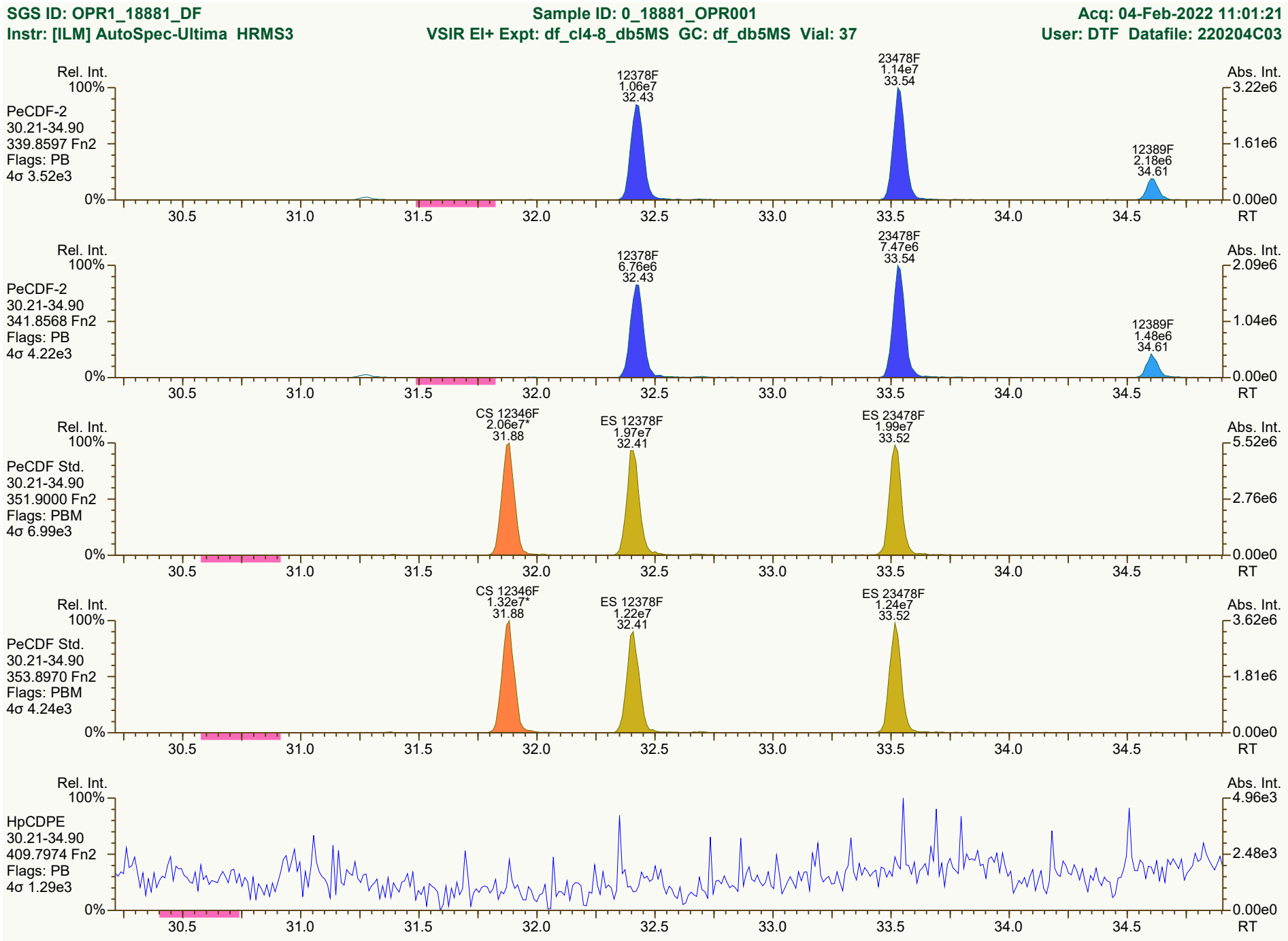


Results: P:\B6200_B6299\B6236\B6236_18881 DF\Resources\OPR1_18881_DF.utp_res, saved 07-Feb-2022 15:48 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7219, 3144, 4626 scc: 138-468
Revised: 07-Feb-2022 15:24 (DTF) Printed: 07-Feb-2022 15:50 Page 7 of 12

SGS ID: OPR1_18881_DF
Sample ID: 0_18881_OPR001
Acq: 04-Feb-2022 11:01:21
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37
User: DTF Datafile: 220204C03



Results: P:\B6200_B6299\B6236\B6236_18881 DF\Resources\OPR1_18881_DF.utp_res, saved 07-Feb-2022 15:48 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4551 scc: 138-468
PKD: 07-Feb-2022 15:23 Printed: 07-Feb-2022 15:50 Page 8 of 12

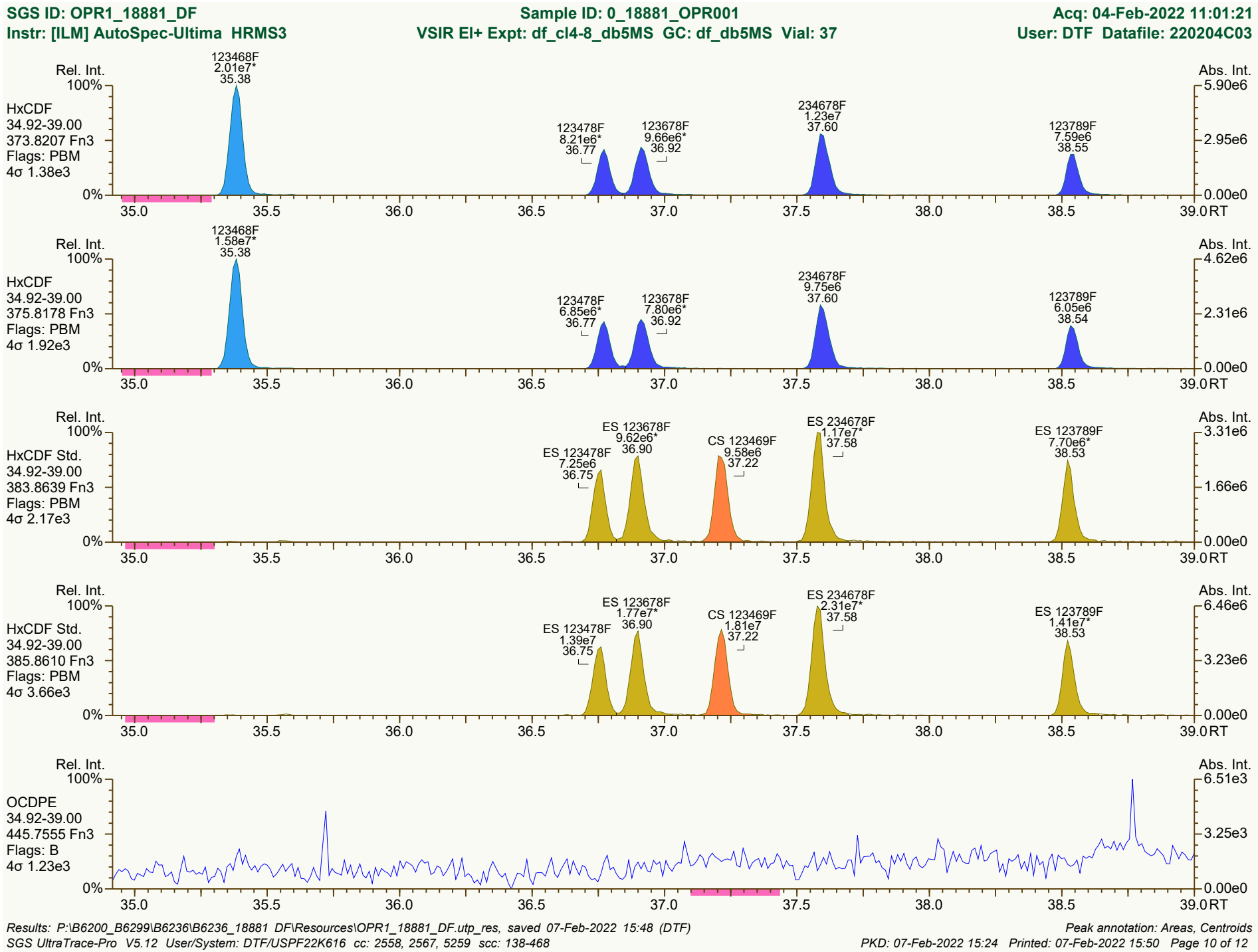


Results: P:\B6200_B6299\B6236\B6236_18881 DF\Resources\OPR1_18881_DF.utp_res, saved 07-Feb-2022 15:48 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8034, 4297, 7693 scc: 138-468
PKD: 07-Feb-2022 15:24 Printed: 07-Feb-2022 15:50 Page 9 of 12

SGS ID: OPR1_18881_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

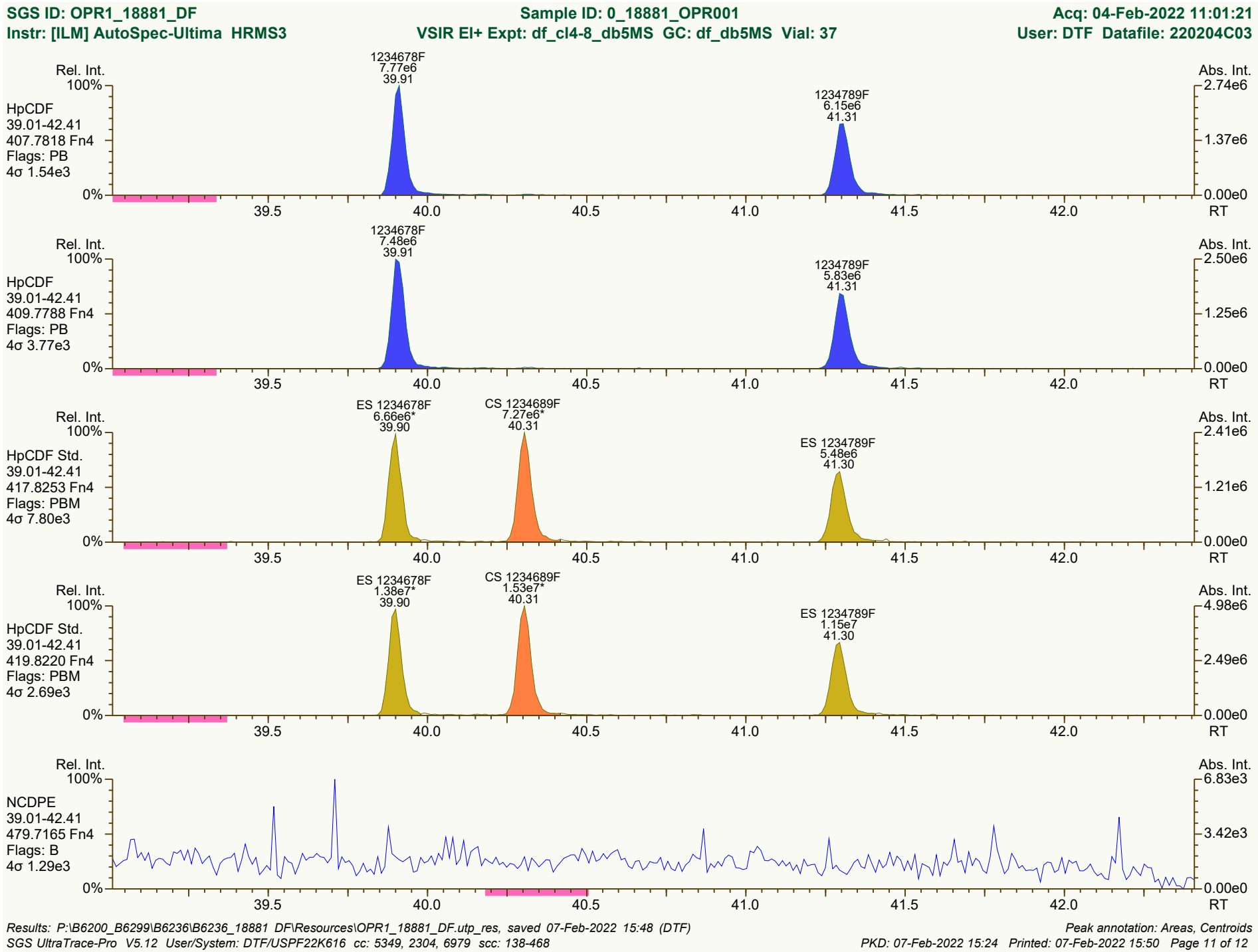
Sample ID: 0_18881_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37

Acq: 04-Feb-2022 11:01:21
User: DTF Datafile: 220204C03



Results: P:\B6200_B6299\B6236\B6236_18881 DF\Resources\OPR1_18881_DF.utp_res, saved 07-Feb-2022 15:48 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2558, 2567, 5259 scc: 138-468

Peak annotation: Areas, Centroids
PKD: 07-Feb-2022 15:24 Printed: 07-Feb-2022 15:50 Page 10 of 12


SGS ID: OPR1_18881_DF
Sample ID: 0_18881_OPR001
Acq: 04-Feb-2022 11:01:21
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37
User: DTF Datafile: 220204C03
Rel. Int.
Abs. Int.
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.54e3
1234678F
7.77e6
39.91
1234789F
6.15e6
41.31
2.74e6
1.37e6
0.00e0
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 3.77e3
1234678F
7.48e6
39.91
1234789F
5.83e6
41.31
2.50e6
1.25e6
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 7.80e3
ES 1234678F
6.66e6*
39.90
CS 1234689F
7.27e6*
40.31
ES 1234789F
5.48e6
41.30
2.41e6
1.21e6
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 2.69e3
ES 1234678F
1.38e7*
39.90
CS 1234689F
1.53e7*
40.31
ES 1234789F
1.15e7
41.30
4.98e6
2.49e6
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.29e3
6.83e3
3.42e3
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6236\B6236_18881 DF\Resources\OPR1_18881_DF.utp_res, saved 07-Feb-2022 15:48 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5349, 2304, 6979 scc: 138-468
PKD: 07-Feb-2022 15:24 Printed: 07-Feb-2022 15:50 Page 11 of 12

SGS ID: OPR1_18881_DF | Sample ID: 0_18881_OPR001 | Acq: 04-Feb-2022 11:01:21

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37 | User: DTF Datafile: 220204C03



Results: P:\B6200_B6299\B6236\B6236_18881 DF\Resources\OPR1_18881_DF.utp_res, saved 07-Feb-2022 15:48 (DTF)

Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9454, 4217, 3856 scc: 138-468

PKD: 07-Feb-2022 15:23 Printed: 07-Feb-2022 15:50 Page 12 of 12

Lab ID: OPR2_18881_DF **Acq'd: 04 Feb 2022 11:47 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18881_OPR002 **UTP: 07-Feb-2022 15:32:55 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 407-345-JFT**

Datafile: 220204C04 **Report: 07 Feb 2022 15:41 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.53		1.0008	1.0008	0	2.99E+06	0.76	Y	1.18	11.2	3919.226	0.146
12378-PeCDD	33.86		1.0006	1.0005	-0.2	1.10E+07	1.60	Y	1.04	48	3976.228	0.167
123478-HxCDD	37.77		1.0004	1.0004	0	1.22E+07	1.28	Y	1.09	52.9	3817.131	0.144
123678-HxCDD	37.89		1.0035	1.0036	+0.2	1.46E+07	1.29	Y	1.15	53.2	3817.131	0.121
123789-HxCDD	38.18		1.0112	1.0113	+0.2	1.16E+07	1.23	Y	1.05	49	3817.131	0.145
1234678-HpCDD	40.84		1.0003	1.0003	0	1.04E+07	1.07	Y	1.06	53.2	3602.196	0.156
OCDD	43.53		1.0004	1.0003	-0.3	1.46E+07	0.91	Y	1.13	109	4350.151	0.384
2378-TCDF	27.67		1.0008	1.0008	0	4.26E+06	0.77	Y	1.08	11.4	3552.691	0.109
12378-PeCDF	32.41		1.0005	1.0005	0	1.79E+07	1.54	Y	1.02	51.4	5775.209	0.153
23478-PeCDF	33.52		1.0005	1.0005	0	1.95E+07	1.54	Y	1.02	54.7	5775.209	0.145
123478-HxCDF	36.76		1.0004	1.0005	+0.2	1.55E+07	1.26	Y	1.27	52.8	4104.727	0.116
123678-HxCDF	36.90		1.0004	1.0004	0	1.78E+07	1.23	Y	1.15	52.7	4104.727	0.115
234678-HxCDF	37.59		1.0005	1.0005	0	2.10E+07	1.25	Y	1.19	51.4	4104.727	0.0793
123789-HxCDF	38.54		1.0004	1.0004	0	1.38E+07	1.23	Y	1.16	51.6	4104.727	0.133
1234678-HpCDF	39.90		1.0003	1.0003	0	1.48E+07	1.01	Y	1.37	50.2	2845.362	0.0711
1234789-HpCDF	41.30		1.0002	1.0003	+0.2	1.23E+07	1.06	Y	1.31	52.7	2845.362	0.0984
OCDF	43.70		1.0003	1.0003	0	1.89E+07	0.91	Y	1.07	106	2780.899	0.177

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.51	1.0236	1.0237	+0.2	2.25E+07	0.79	Y	1.05	92.3
ES 12378-PeCDD	33.84	1.2144	1.2154	+2.0	2.21E+07	1.54	Y	0.88	108
ES 123478-HxCDD	37.75	0.9920	0.9919	-0.2	2.11E+07	1.27	Y	0.97	101
ES 123678-HxCDD	37.87	0.9951	0.9950	-0.2	2.39E+07	1.27	Y	0.94	117
ES 123789-HxCDD	38.16	1.0027	1.0027	0	2.25E+07	1.30	Y	1.09	95.8
ES 1234678-HpCDD	40.83	1.0724	1.0727	+0.7	1.84E+07	1.11	Y	0.91	93.7
ES OCDD	43.51	1.1428	1.1433	+1.3	2.37E+07	0.90	Y	0.62	88.2
ES 2378-TCDF	27.65	1.0516	1.0517	+0.2	3.47E+07	0.80	Y	1.06	89.3
ES 12378-PeCDF	32.39	1.2312	1.2321	+1.7	3.40E+07	1.59	Y	0.91	102
ES 23478-PeCDF	33.51	1.2733	1.2744	+2.2	3.50E+07	1.58	Y	0.88	108
ES 123478-HxCDF	36.74	0.9655	0.9654	-0.2	2.31E+07	0.55	Y	1.20	89.2
ES 123678-HxCDF	36.89	0.9692	0.9692	0	2.93E+07	0.54	Y	1.35	101
ES 234678-HxCDF	37.57	0.9871	0.9871	0	3.44E+07	0.55	Y	1.24	129
ES 123789-HxCDF	38.52	1.0121	1.0121	0	2.30E+07	0.53	Y	1.16	92.2
ES 1234678-HpCDF	39.89	1.0479	1.0482	+0.7	2.16E+07	0.45	Y	0.97	103
ES 1234789-HpCDF	41.29	1.0845	1.0847	+0.5	1.79E+07	0.46	Y	0.85	97.5
ES OCDF	43.69	1.1477	1.1479	+0.5	3.32E+07	0.91	Y	0.81	95.4

Lab ID: OPR2_18881_DF **Acq'd:** 04 Feb 2022 11:47 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18881_OPR002 **UTP:** 07-Feb-2022 15:32:55 DTF **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 407-345-JFT

Datafile: 220204C04 **Report:** 07 Feb 2022 15:41 TF **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.84		-	-	-	2.33E+07	0.81	Y	-	-
JS 1234-TCDF	26.29		-	-	-	3.67E+07	0.81	Y	-	-
JS 123467-HxCDD	38.06		-	-	-	1.08E+07	1.28	Y	-	-
CS 37Cl-2378-TCDD	28.53		1.0244	1.0245	+0.2	1.06E+07	n/a	-	1.20	95.1
CS 12347-PeCDD	33.34		1.1964	1.1973	+1.8	2.22E+07	1.63	Y	0.75	127
CS 12346-PeCDF	31.86		1.2112	1.2119	+1.3	3.56E+07	1.60	Y	0.85	114
CS 123469-HxCDF	37.20		0.9775	0.9774	-0.2	2.88E+07	0.57	Y	1.12	120
CS 1234689-HpCDF	40.30		1.0584	1.0587	+0.7	2.39E+07	0.45	Y	0.89	125
~~SS 37Cl-2378-TCDD~~	~~28.53~~		~~1.0244~~	~~1.0245~~	~~+0.2~~	~~1.06E+07~~	~~n/a~~		~~1.15~~	~~103~~
~~SS 12347-PeCDD~~	~~33.34~~		~~1.1964~~	~~1.1973~~	~~+1.8~~	~~2.22E+07~~	~~1.63~~	~~Y~~	~~0.86~~	~~117~~
~~SS 12346-PeCDF~~	~~31.86~~		~~1.2112~~	~~1.2119~~	~~+1.3~~	~~3.56E+07~~	~~1.60~~	~~Y~~	~~0.94~~	~~112~~
~~SS 123469-HxCDF~~	~~37.20~~		~~0.9775~~	~~0.9774~~	~~-0.2~~	~~2.88E+07~~	~~0.57~~	~~Y~~	~~0.83~~	~~119~~
~~SS 1234689-HpCDF~~	~~40.30~~		~~1.0584~~	~~1.0587~~	~~+0.7~~	~~2.39E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~121~~

Totals	Conc	EMPC
Total TCDD	50.8	50.8
Total PeCDD	71.9	71.9
Total HxCDD	167	167
Total HpCDD	65.5	65.5
Total Tetra-Octa Dioxins	465	465
Total TCDF	64.8	64.8
Total PeCDF	202	202
Total HxCDF	325	325
Total HpCDF	103	103
Total Tetra-Octa Furans	801	801
Total Tetra-Octa Dioxins & Furans	1270	1270

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.761	0.76
Response	3.00E+06	2.99E+06

Lab ID: OPR2_18881_DF **Acq'd: 04 Feb 2022 11:47 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18881_OPR002 **UTP: 07-Feb-2022 15:32:55 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 407-345-JFT**

Datafile: 220204C04 **Report: 07 Feb 2022 15:41 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.89		0.8737	0.8733	-0.6	3.86E+06	0.84	Y	1.18	14.5	3919.226	0.146
1379-TCDD	NotFnd		0.8860						1.18		3919.226	0.146
1369-TCDD	NotFnd		0.9009						1.18		3919.226	0.146
1469-TCDD	NotFnd		0.9281						1.18		3919.226	0.146
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3919.226	0.146
1378-TCDD	NotFnd		0.9432						1.18		3919.226	0.146
1268-TCDD	NotFnd		0.9500						1.18		3919.226	0.146
1478-TCDD	NotFnd		0.9586						1.18		3919.226	0.146
1279-TCDD	NotFnd		0.9645						1.18		3919.226	0.146
1234/1269-TCDD	NotFnd		0.9770						1.18		3919.226	0.146
1236-TCDD	NotFnd		0.9817						1.18		3919.226	0.146
1237/1238-TCDD	NotFnd		0.9905						1.18		3919.226	0.146
1239-TCDD	28.37		0.9952	0.9952	0	2.67E+06	0.83	Y	1.18	10	3919.226	0.146
2378-TCDD	**28.53**		**1.0008**	1.0008	**0**	2.99E+06	0.76	Y	**1.18**	**11.2**	**3919.226**	**0.146**
1278-TCDD	NotFnd		1.0121						1.18		3919.226	0.146
1267-TCDD	NotFnd		1.0167						1.18		3919.226	0.146
1289-TCDD	29.50		1.0345	1.0347	+0.4	3.98E+06	0.78	Y	1.18	15	3919.226	0.146
12479/12468-PeCDD	31.36		0.9267	0.9266	-0.2	2.60E+06	1.50	Y	1.04	11.3	3976.228	0.167
12469-PeCDD	NotFnd		0.9425						1.04		3976.228	0.167
12368-PeCDD	NotFnd		0.9588						1.04		3976.228	0.167
12478-PeCDD	NotFnd		0.9643						1.04		3976.228	0.167
12379-PeCDD	NotFnd		0.9673						1.04		3976.228	0.167
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		3976.228	0.167
12346/12347-PeCDD	NotFnd		0.9858						1.04		3976.228	0.167
12378-PeCDD	33.86		**1.0006**	**1.0005**	**-0.2**	**1.10E+07**	**1.60**	**Y**	**1.04**	**48**	**3976.228**	**0.167**
12367-PeCDD	NotFnd		1.0033						1.04		3976.228	0.167
12389-PeCDD	34.30		1.0134	1.0134	0	2.87E+06	1.60	Y	1.04	12.5	3976.228	0.167
124679/124689-HxCDD	36.02		0.9542	0.9541	-0.2	3.01E+06	1.15	Y	1.10	12.2	3817.131	0.136
123468-HxCDD	NotFnd		0.9715						1.10		3817.131	0.136
123679/123689-HxCDD	NotFnd		0.9793						1.10		3817.131	0.136
123469-HxCDD	NotFnd		0.9828						1.10		3817.131	0.136
123478-HxCDD	37.77		**1.0004**	**1.0004**	**0**	**1.22E+07**	**1.28**	**Y**	1.09	**52.9**	**3817.131**	**0.144**
123678-HxCDD	37.89		**1.0035**	**1.0036**	**+0.2**	**1.46E+07**	**1.29**	**Y**	1.15	**53.2**	**3817.131**	**0.121**
123467-HxCDD	NotFnd		1.0085						1.10		3817.131	0.136
123789-HxCDD	38.18		**1.0112**	**1.0113**	**+0.2**	**1.16E+07**	**1.23**	**Y**	1.05	**49**	**3817.131**	**0.145**

Lab ID: OPR2_18881_DF **Acq'd: 04 Feb 2022 11:47 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18881_OPR002 **UTP: 07-Feb-2022 15:32:55 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 407-345-JFT**

Datafile: 220204C04 **Report: 07 Feb 2022 15:41 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16		0.9837	0.9836	-0.2	2.40E+06	1.06	Y	1.06	12.3	3602.196	0.156
1234678-HpCDD	**40.84**		**1.0003**	**1.0003**	**0**	**1.04E+07**	**1.07**	**Y**	**1.06**	**53.2**	**3602.196**	**0.156**
OCDD	**43.53**		**1.0004**	**1.0003**	**-0.3**	**1.46E+07**	**0.91**	**Y**	**1.13**	**109**	**4350.151**	**0.384**
OCDD-a	43.52		1.0003	1.0002	-0.3	9.15E+05	2.84	Y	0.07	107	4299.611	5.94
1368-TCDF	22.80		0.8251	0.8245	-0.8	5.84E+06	0.81	Y	1.08	15.6	3552.691	0.109
1468-TCDF	NotFnd		0.8458						1.08		3552.691	0.109
2468-TCDF	24.01		0.8686	0.8682	-0.6	1.43E+06	0.81	Y	1.08	3.82	3552.691	0.109
1346/1246-TCDF	NotFnd		0.8814						1.08		3552.691	0.109
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		3552.691	0.109
1348-TCDF	NotFnd		0.8962						1.08		3552.691	0.109
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		3552.691	0.109
1268-TCDF	NotFnd		0.9145						1.08		3552.691	0.109
1467-TCDF	NotFnd		0.9193						1.08		3552.691	0.109
1478-TCDF	NotFnd		0.9254						1.08		3552.691	0.109
1369/1237-TCDF	NotFnd		0.9387						1.08		3552.691	0.109
2467-TCDF	NotFnd		0.9433						1.08		3552.691	0.109
2368-TCDF	NotFnd		0.9489						1.08		3552.691	0.109
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		3552.691	0.109
1278-TCDF	NotFnd		0.9683						1.08		3552.691	0.109
1349-TCDF	NotFnd		0.9722						1.08		3552.691	0.109
1267-TCDF	NotFnd		0.9783						1.08		3552.691	0.109
2346/1249-TCDF	NotFnd		0.9850						1.08		3552.691	0.109
2347/1279-TCDF	NotFnd		0.9926						1.08		3552.691	0.109
2348-TCDF	27.56		0.9967	0.9969	+0.3	5.91E+06	0.87	Y	1.08	15.8	3552.691	0.109
2378-TCDF	**27.67**		**1.0008**	**1.0008**	**0**	**4.26E+06**	**0.77**	**Y**	**1.08**	**11.4**	**3552.691**	**0.109**
2367/3467-TCDF	NotFnd		1.0137						1.08		3552.691	0.109
1269-TCDF	NotFnd		1.0223						1.08		3552.691	0.109
1239-TCDF	NotFnd		1.0321						1.08		3552.691	0.109
1289-TCDF	29.67		1.0722	1.0728	+1.1	6.83E+06	0.77	Y	1.08	18.2	3552.691	0.109
13468/12468-PeCDF	29.58		0.9139	0.9131	-1.4	3.00E+07	1.57	Y	1.02	85	3053.578	0.0788
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		5775.209	0.149
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		5775.209	0.149
14678-PeCDF	NotFnd		0.9692						1.02		5775.209	0.149
13479-PeCDF	NotFnd		0.9723						1.02		5775.209	0.149
13469/12479-PeCDF	NotFnd		0.9797						1.02		5775.209	0.149
12346-PeCDF	NotFnd		0.9840						1.02		5775.209	0.149

Lab ID: OPR2_18881_DF | **Acq'd: 04 Feb 2022 11:47 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18881_OPR002 | **UTP: 07-Feb-2022 15:32:55 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 407-345-JFT**

Datafile: 220204C04 | **Report: 07 Feb 2022 15:41 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		5775.209	0.149
12347-PeCDF	NotFnd		0.9894						1.02		5775.209	0.149
12348-PeCDF	NotFnd		0.9940						1.02		5775.209	0.149
12378-PeCDF	**32.41**		**1.0005**	**1.0005**	**0**	**1.79E+07**	**1.54**	**Y**	**1.02**	**51.4**	**5775.209**	**0.153**
12678/12367-PeCDF	NotFnd		1.0089						1.02		5775.209	0.149
12379-PeCDF	NotFnd		1.0142						1.02		5775.209	0.149
12679-PeCDF	NotFnd		0.9929						1.02		5775.209	0.149
23467/12369-PeCDF	NotFnd		0.9967						1.02		5775.209	0.149
23478-PeCDF	**33.52**		**1.0005**	**1.0005**	**0**	**1.95E+07**	**1.54**	**Y**	**1.02**	**54.7**	**5775.209**	**0.145**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5775.209	0.149
12349-PeCDF	NotFnd		1.0100						1.02		5775.209	0.149
12389-PeCDF	34.60		1.0324	1.0326	+0.4	3.86E+06	1.46	Y	1.02	10.9	5775.209	0.149
123468-HxCDF	35.37		0.9627	0.9627	0	3.81E+07	1.24	Y	1.19	116	4104.727	0.108
124678/134678-HxCDF	NotFnd		0.9682						1.19		4104.727	0.108
134679-HxCDF	NotFnd		0.9744						1.19		4104.727	0.108
124679-HxCDF	NotFnd		0.9798						1.19		4104.727	0.108
124689-HxCDF	NotFnd		0.9858						1.19		4104.727	0.108
123467-HxCDF	NotFnd		0.9972						1.19		4104.727	0.108
123478-HxCDF	**36.76**		**1.0004**	**1.0005**	**+0.2**	**1.55E+07**	**1.26**	**Y**	**1.27**	**52.8**	**4104.727**	**0.116**
123678-HxCDF	**36.90**		**1.0004**	**1.0004**	**0**	**1.78E+07**	**1.23**	**Y**	**1.15**	**52.7**	**4104.727**	**0.115**
123479-HxCDF	NotFnd		1.0049						1.19		4104.727	0.108
123469-HxCDF	NotFnd		1.0090						1.19		4104.727	0.108
123679-HxCDF	NotFnd		0.9942						1.19		4104.727	0.108
234678-HxCDF	**37.59**		**1.0005**	**1.0005**	**0**	**2.10E+07**	**1.25**	**Y**	**1.19**	**51.4**	**4104.727**	**0.0793**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4104.727	0.108
123789-HxCDF	**38.54**		**1.0004**	**1.0004**	**0**	**1.38E+07**	**1.23**	**Y**	**1.16**	**51.6**	**4104.727**	**0.133**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		4104.727	0.108
1234678-HpCDF	**39.90**		**1.0003**	**1.0003**	**0**	**1.48E+07**	**1.01**	**Y**	**1.37**	**50.2**	**2845.362**	**0.0711**
1234679-HpCDF	NotFnd		1.0068						1.34		2845.362	0.0834
1234689-HpCDF	NotFnd		1.0103						1.34		2845.362	0.0834
1234789-HpCDF	**41.30**		**1.0002**	**1.0003**	**+0.2**	**1.23E+07**	**1.06**	**Y**	**1.31**	**52.7**	**2845.362**	**0.0984**
OCDF	**43.70**		**1.0003**	**1.0003**	**0**	**1.89E+07**	**0.91**	**Y**	**1.07**	**106**	**2780.899**	**0.177**
OCDF-a	43.70		1.0002	1.0002	0	1.26E+06	2.64	Y	0.07	115	3265.265	3.36

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220204C04	Analysis Date:	04-FEB-2022 11:47:41
Lab ID:	OPR2_18881_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.2	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	48	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	52.9	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	53.2	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	49	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	53.2	35	-	70	Y
OCDD	100	109	78	-	144	Y
2,3,7,8-TCDF	10	11.4	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	51.4	40	-	67	Y
2,3,4,7,8-PeCDF	50	54.7	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	52.8	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	52.7	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	51.4	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	51.6	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	50.2	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	52.7	39	-	69	Y
OCDF	100	106	63	-	170	Y

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

Processed: 07 Feb 2022 15:41 Analyst: TF

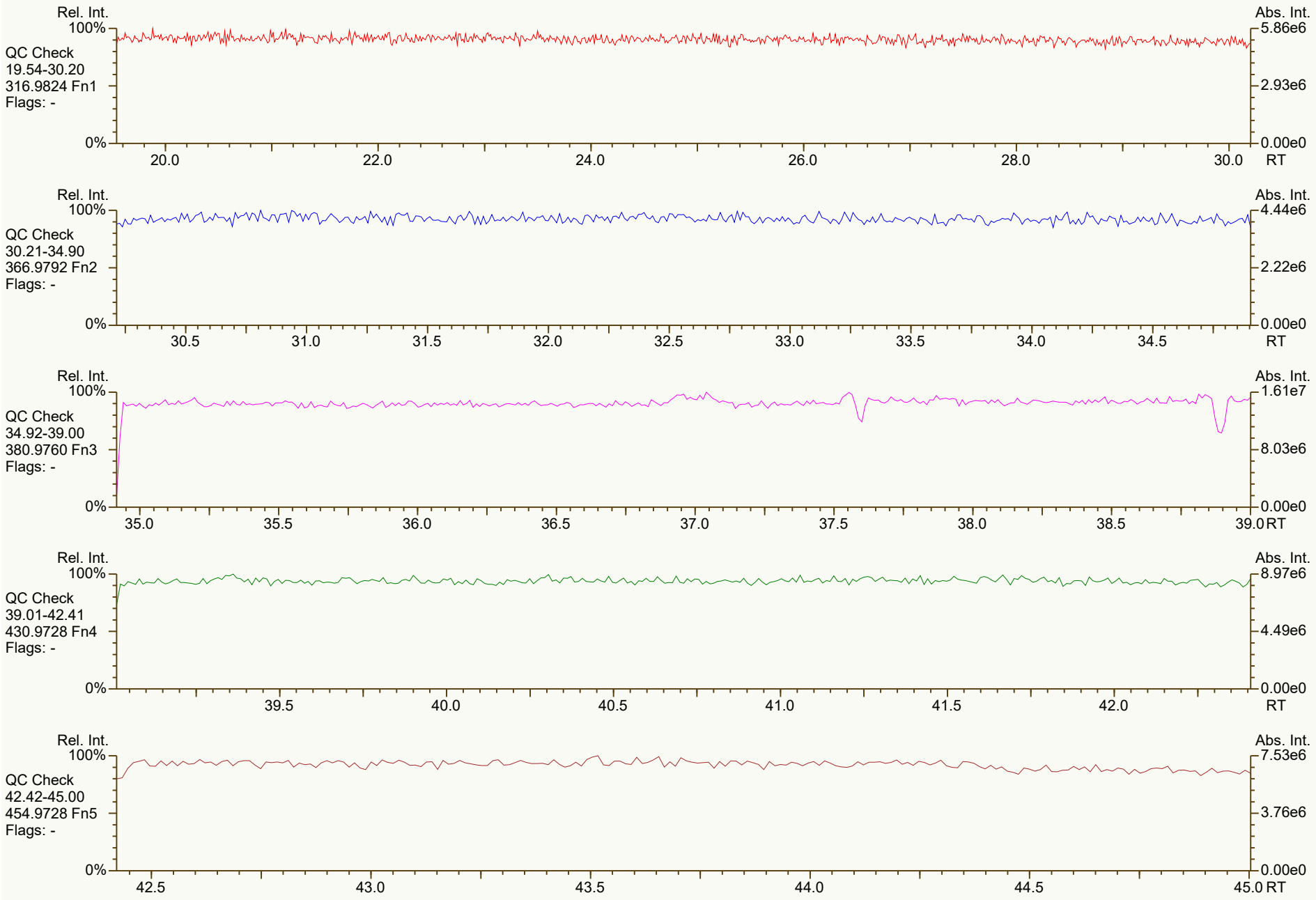
METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

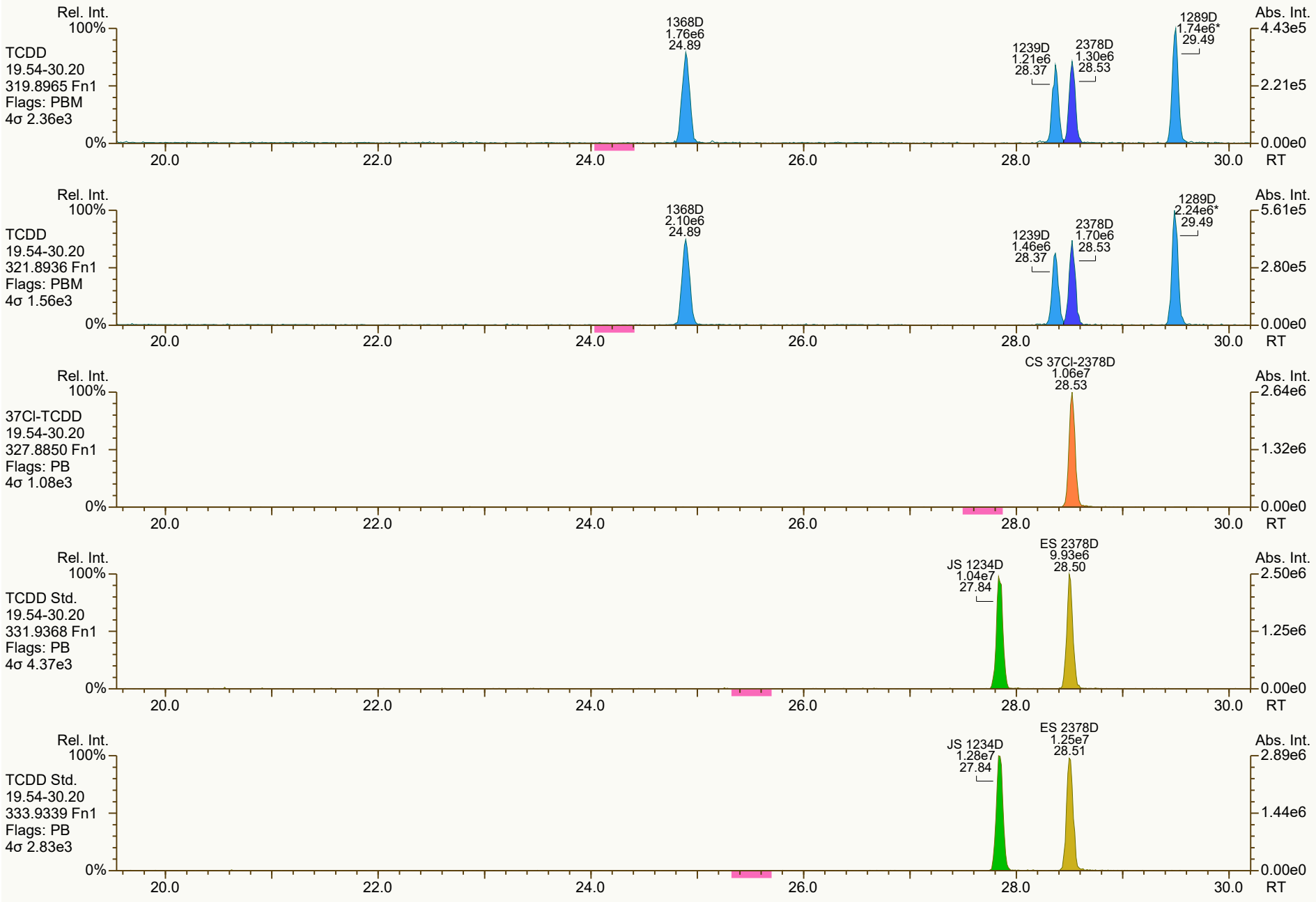
Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220204C04	Analysis Date:	04-FEB-2022 11:47:41
Lab ID:	OPR2_18881_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	92.3	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	108	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	101	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	117	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	95.8	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	93.7	26	-	166	Y
13C-OCDD	200	176	26	-	397	Y
13C-2,3,7,8-TCDF	100	89.3	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	102	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	108	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	89.2	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	101	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	129	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	92.2	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	103	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	97.5	20	-	186	Y
13C-OCDF	200	191	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	38	12.4	-	76.4	Y

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

Processed: 07 Feb 2022 15:41 Analyst: TF


Rel. Int.
100%
0%
Abs. Int.
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
5.86e6
2.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
4.44e6
2.22e6
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
1.61e7
8.03e6
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
8.97e6
4.49e6
39.5
40.0
40.5
41.0
41.5
42.0
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
7.53e6
3.76e6
42.5
43.0
43.5
44.0
44.5
45.0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.36e3
1368D
1.76e6
24.89
1239D
1.21e6
28.37
2378D
1.30e6
28.53
1289D
1.74e6*
29.49
Abs. Int.
4.43e5
2.21e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.56e3
1368D
2.10e6
24.89
1239D
1.46e6
28.37
2378D
1.70e6
28.53
1289D
2.24e6*
29.49
Abs. Int.
5.61e5
2.80e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.08e3
CS 37Cl-2378D
1.06e7
28.53
Abs. Int.
2.64e6
1.32e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.37e3
JS 1234D
1.04e7
27.84
ES 2378D
9.93e6
28.50
Abs. Int.
2.50e6
1.25e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.83e3
JS 1234D
1.28e7
27.84
ES 2378D
1.25e7
28.51
Abs. Int.
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0%
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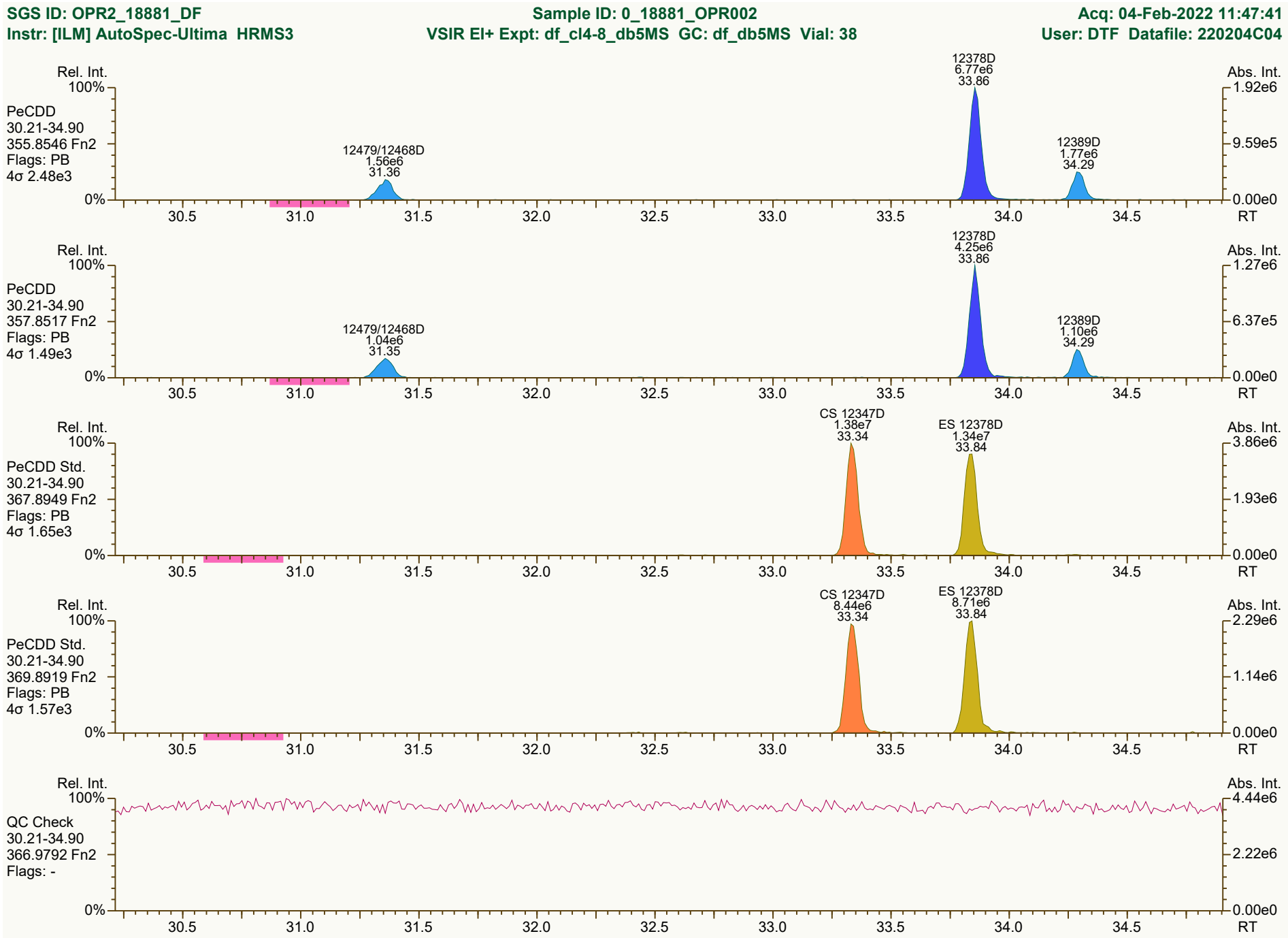
22.0
24.0
26.0
28.0
30.0
RT



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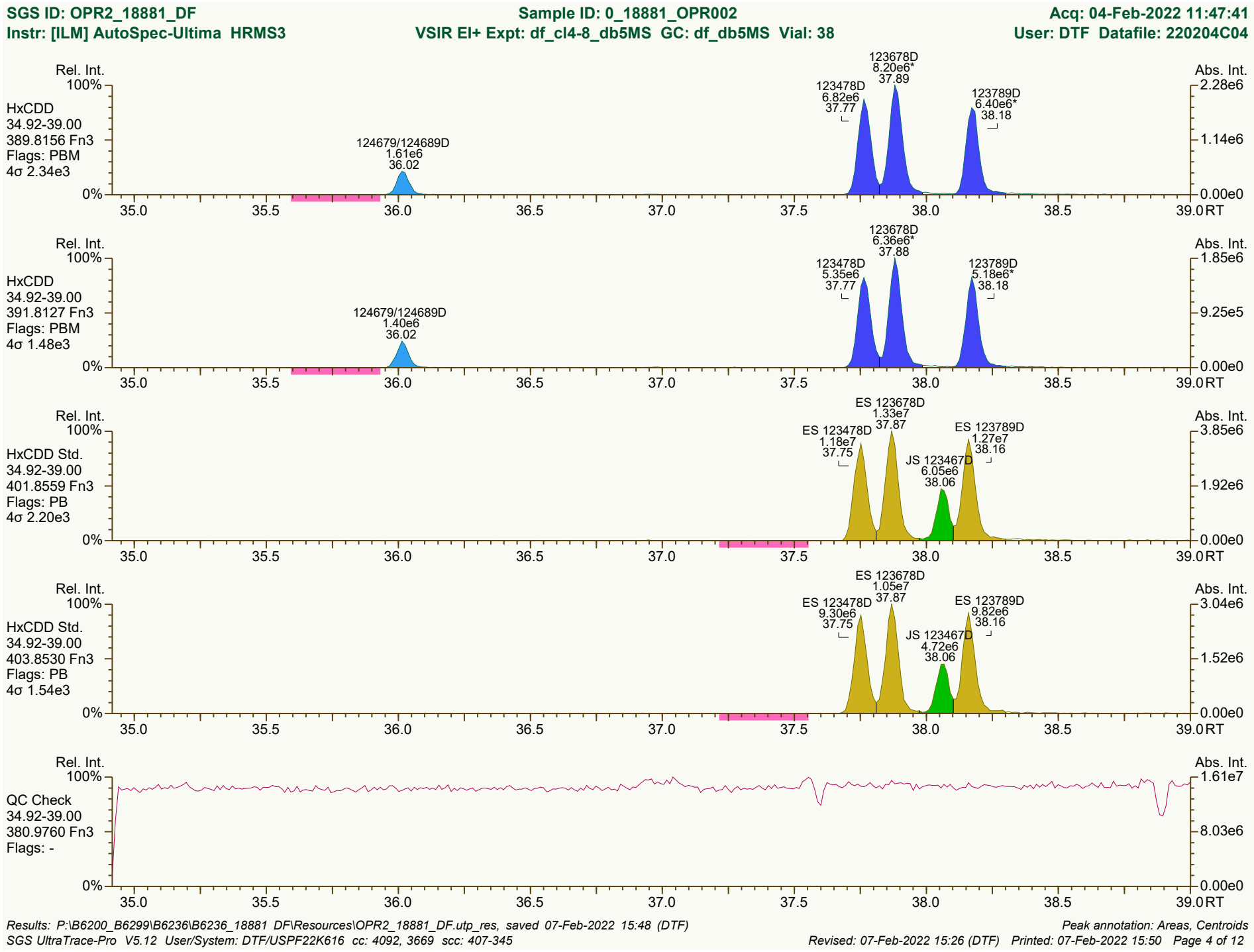
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8583, 6584 scc: 407-345
PKD: 07-Feb-2022 15:25 Printed: 07-Feb-2022 15:50 Page 3 of 12



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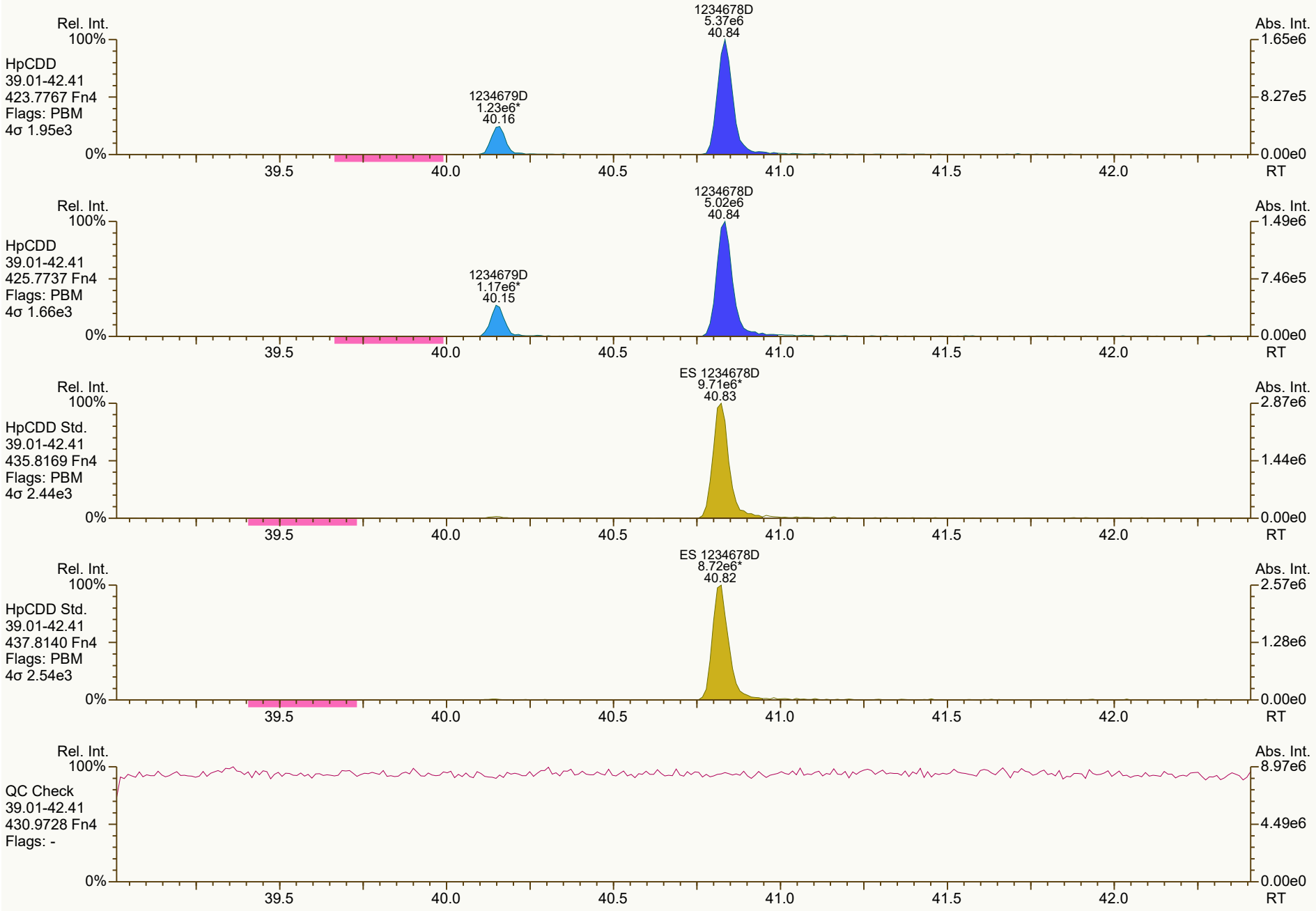
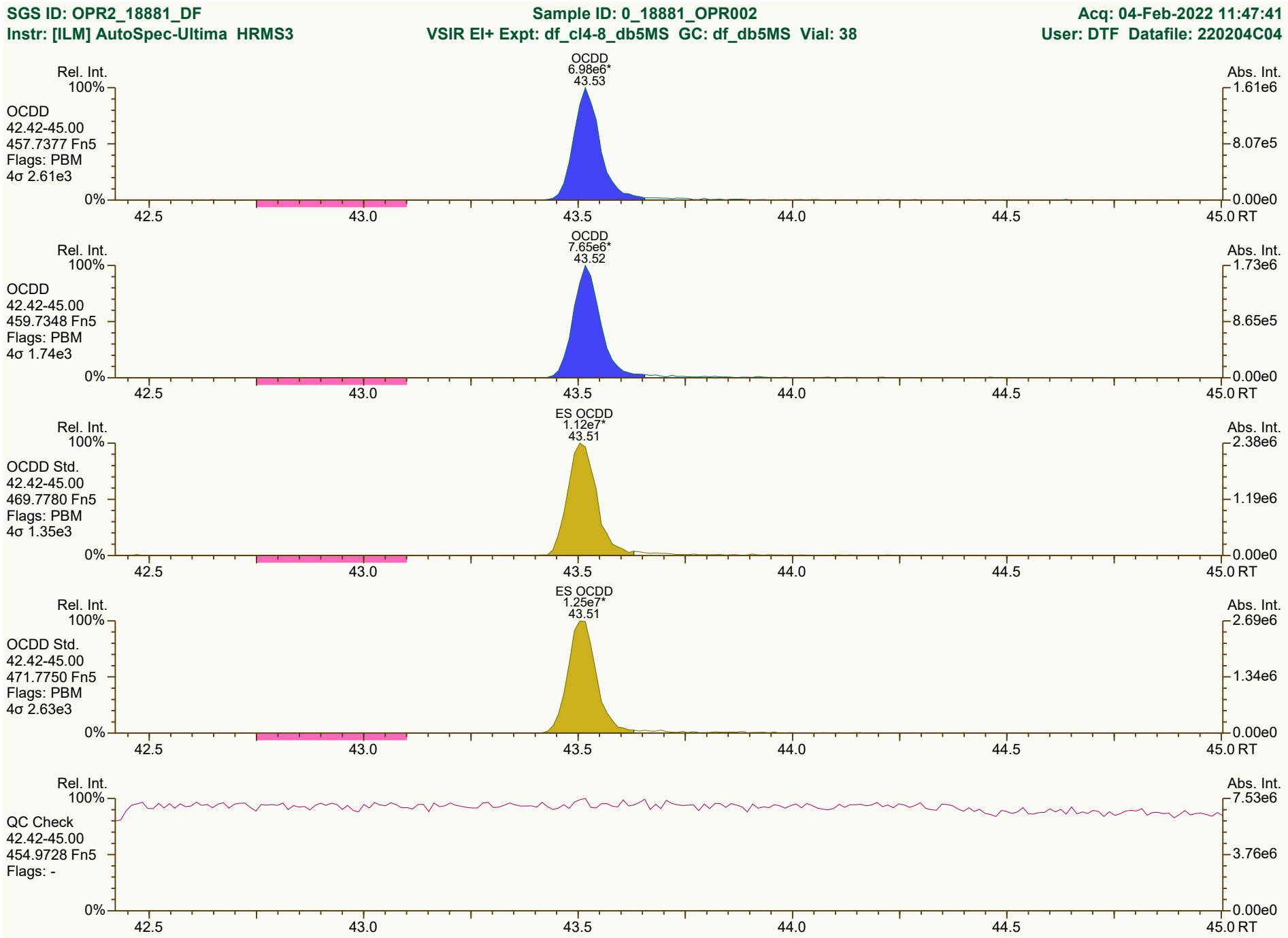
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4092, 3669 scc: 407-345
Revised: 07-Feb-2022 15:26 (DTF) Printed: 07-Feb-2022 15:50 Page 4 of 12


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 1.95e3
1234678D
5.37e6
40.84
1234679D
1.23e6*
40.16
Abs. Int.
1.65e6
8.27e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 1.66e3
1234678D
5.02e6
40.84
1234679D
1.17e6*
40.15
Abs. Int.
1.49e6
7.46e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 2.44e3
ES 1234678D
9.71e6*
40.83
Abs. Int.
2.87e6
1.44e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 2.54e3
ES 1234678D
8.72e6*
40.82
Abs. Int.
2.57e6
1.28e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
8.97e6
4.49e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

SGS ID: OPR2_18881_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18881_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 38

Acq: 04-Feb-2022 11:47:41
User: DTF Datafile: 220204C04



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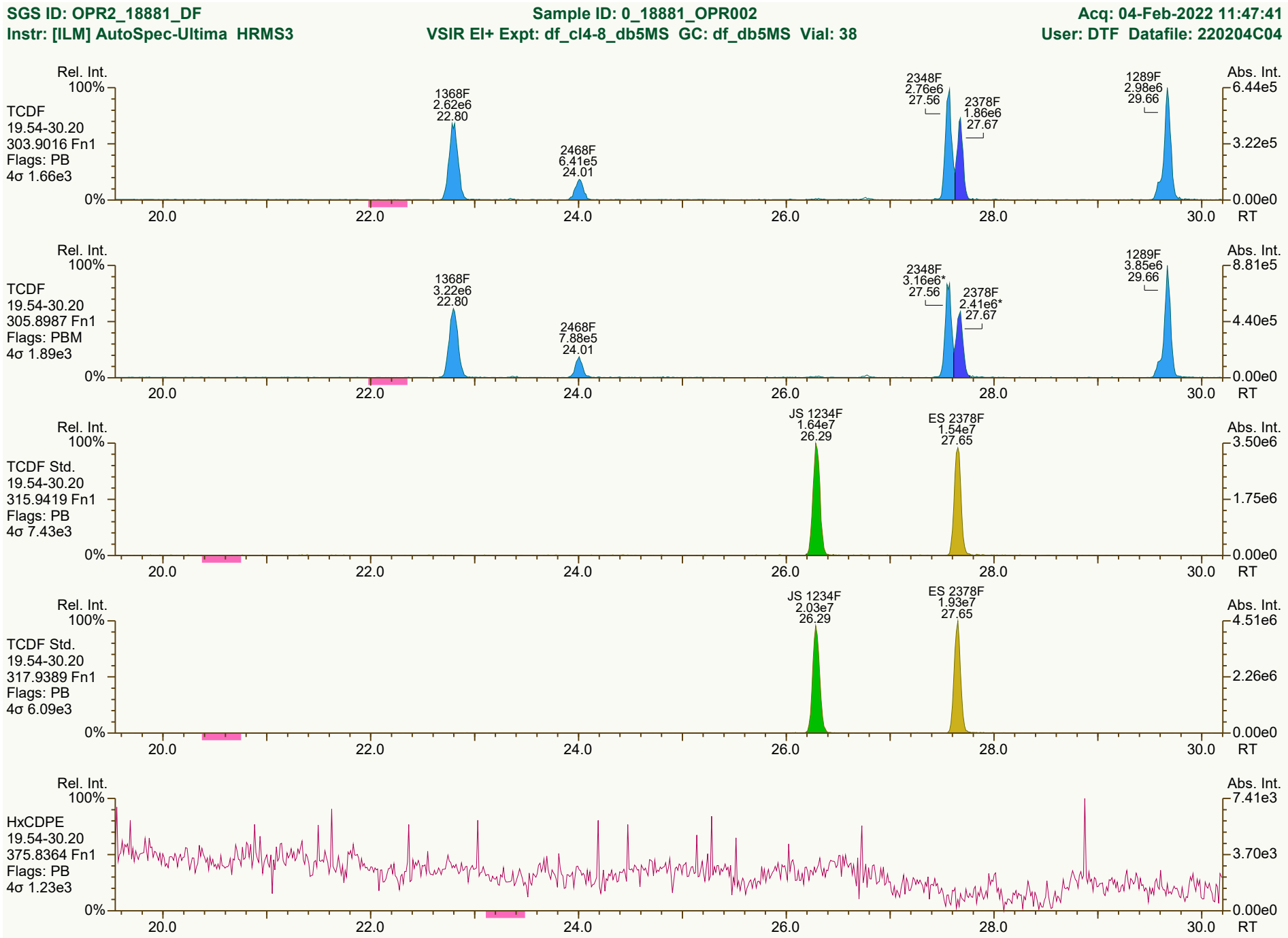
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6201, 4277 scc: 407-345

Peak annotation: Areas, Centroids
Revised: 07-Feb-2022 15:26 (DTF) Printed: 07-Feb-2022 15:50 Page 6 of 12

SGS ID: OPR2_18881_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18881_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 38

Acq: 04-Feb-2022 11:47:41
User: DTF Datafile: 220204C04



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SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9442, 1816, 0208 scc: 407-345

Peak annotation: Areas, Centroids
Revised: 07-Feb-2022 15:26 (DTF) Printed: 07-Feb-2022 15:50 Page 7 of 12

SGS ID: OPR2_18881_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

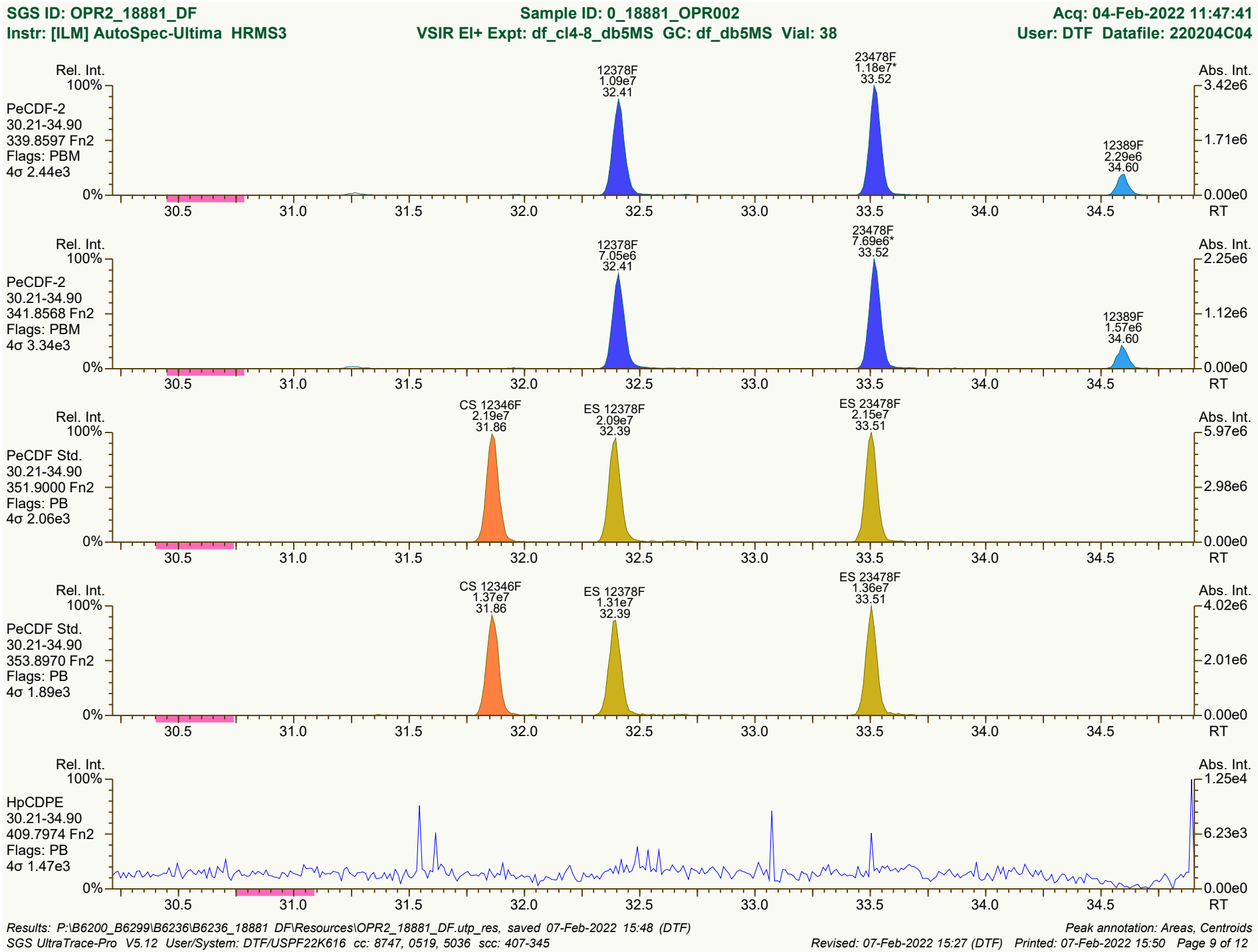
Sample ID: 0_18881_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 38

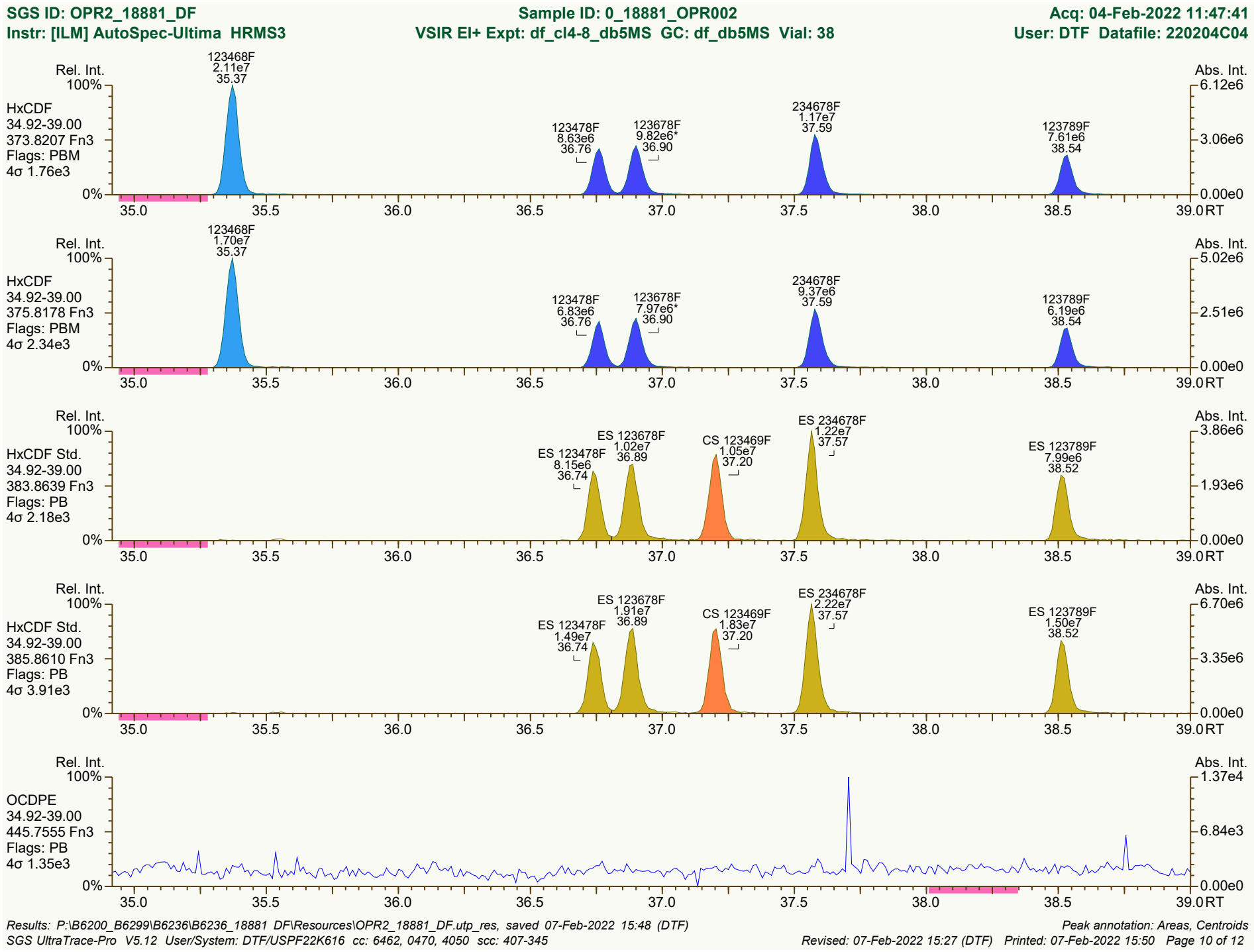
Acq: 04-Feb-2022 11:47:41
User: DTF Datafile: 220204C04



Results: P:\B6200_B6299\B6236\B6236_18881 DF\Resources\OPR2_18881_DF.utp_res, saved 07-Feb-2022 15:48 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2640 scc: 407-345

Peak annotation: Areas, Centroids
PKD: 07-Feb-2022 15:25 Printed: 07-Feb-2022 15:50 Page 8 of 12


SGS ID: OPR2_18881_DF
Sample ID: 0_18881_OPR002
Acq: 04-Feb-2022 11:47:41
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 38
User: DTF Datafile: 220204C04
Rel. Int.
Abs. Int.
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 2.44e3
12378F
1.09e7
32.41
23478F
1.18e7*
33.52
12389F
2.29e6
34.60
3.42e6
1.71e6
0.00e0
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 3.34e3
12378F
7.05e6
32.41
23478F
7.69e6*
33.52
12389F
1.57e6
34.60
2.25e6
1.12e6
0.00e0
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 2.06e3
CS 12346F
2.19e7
31.86
ES 12378F
2.09e7
32.39
ES 23478F
2.15e7
33.51
5.97e6
2.98e6
0.00e0
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 1.89e3
CS 12346F
1.37e7
31.86
ES 12378F
1.31e7
32.39
ES 23478F
1.36e7
33.51
4.02e6
2.01e6
0.00e0
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: PB
4σ 1.47e3
1.25e4
6.23e3
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Results: P:\B6200_B6299\B6236\B6236_18881 DF\Resources\OPR2_18881_DF.utp_res, saved 07-Feb-2022 15:48 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8747, 0519, 5036 scc: 407-345
Revised: 07-Feb-2022 15:27 (DTF) Printed: 07-Feb-2022 15:50 Page 9 of 12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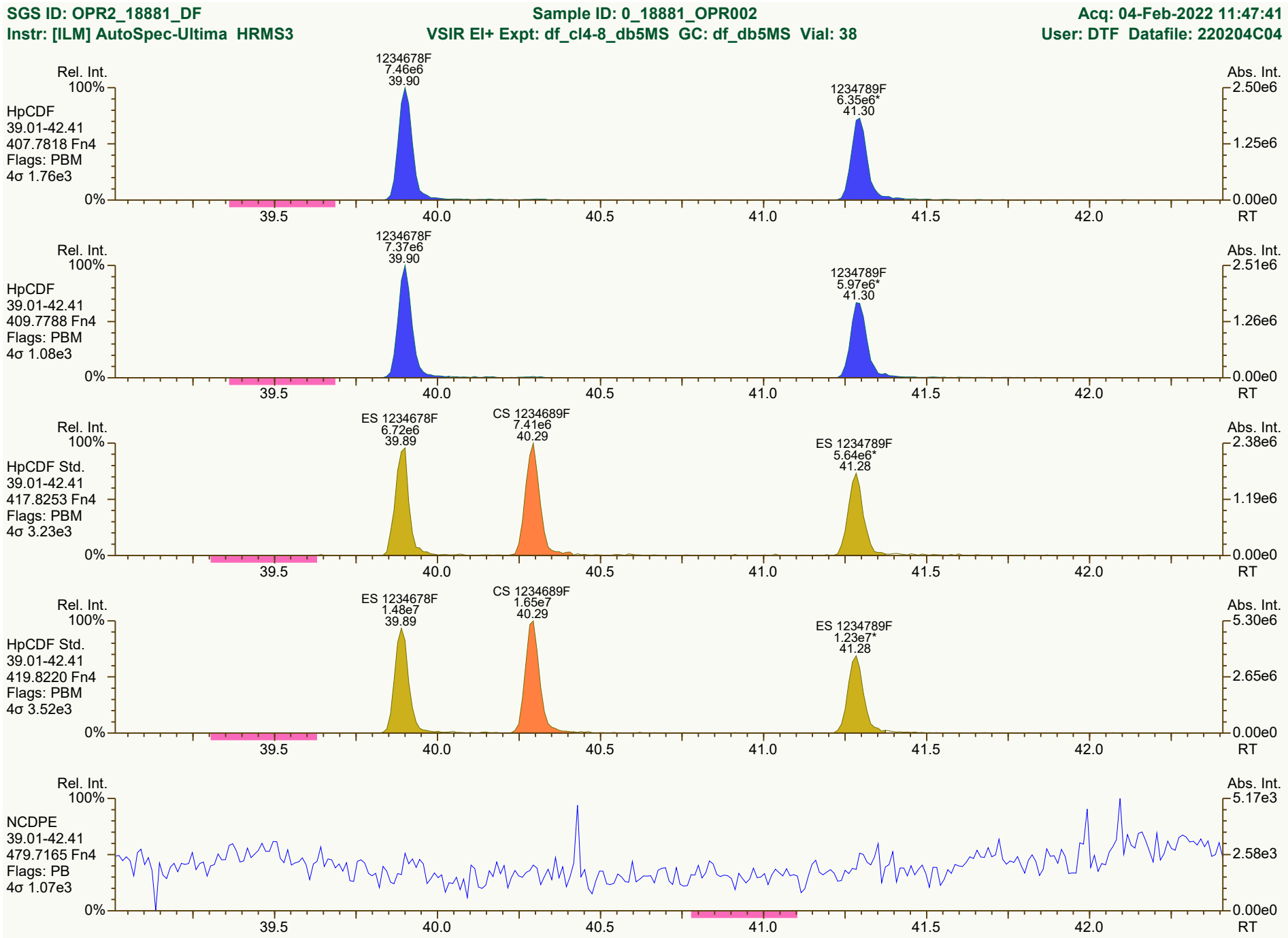
Sample ID: 0_18881_OPR002
Acq: 04-Feb-2022 11:47:41
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 38
User: DTF Datafile: 220204C04
Rel. Int.
Abs. Int.
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 1.76e3
123468F 2.11e7 35.37
123478F 8.63e6 36.76
123678F 9.82e6* 36.90
234678F 1.17e7 37.59
123789F 7.61e6 38.54
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 2.34e3
123468F 1.70e7 35.37
123478F 6.83e6 36.76
123678F 7.97e6* 36.90
234678F 9.37e6 37.59
123789F 6.19e6 38.54
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 2.18e3
ES 123478F 8.15e6 36.74
ES 123678F 1.02e7 36.89
CS 123469F 1.05e7 37.20
ES 234678F 1.22e7 37.57
ES 123789F 7.99e6 38.52
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 3.91e3
ES 123478F 1.49e7 36.74
ES 123678F 1.91e7 36.89
CS 123469F 1.83e7 37.20
ES 234678F 2.22e7 37.57
ES 123789F 1.50e7 38.52
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.35e3
RT
Results: P:\B6200_B6299\B6236\B6236_18881 DF\Resources\OPR2_18881_DF.utp_res, saved 07-Feb-2022 15:48 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6462, 0470, 4050 scc: 407-345
Revised: 07-Feb-2022 15:27 (DTF) Printed: 07-Feb-2022 15:50 Page 10 of 12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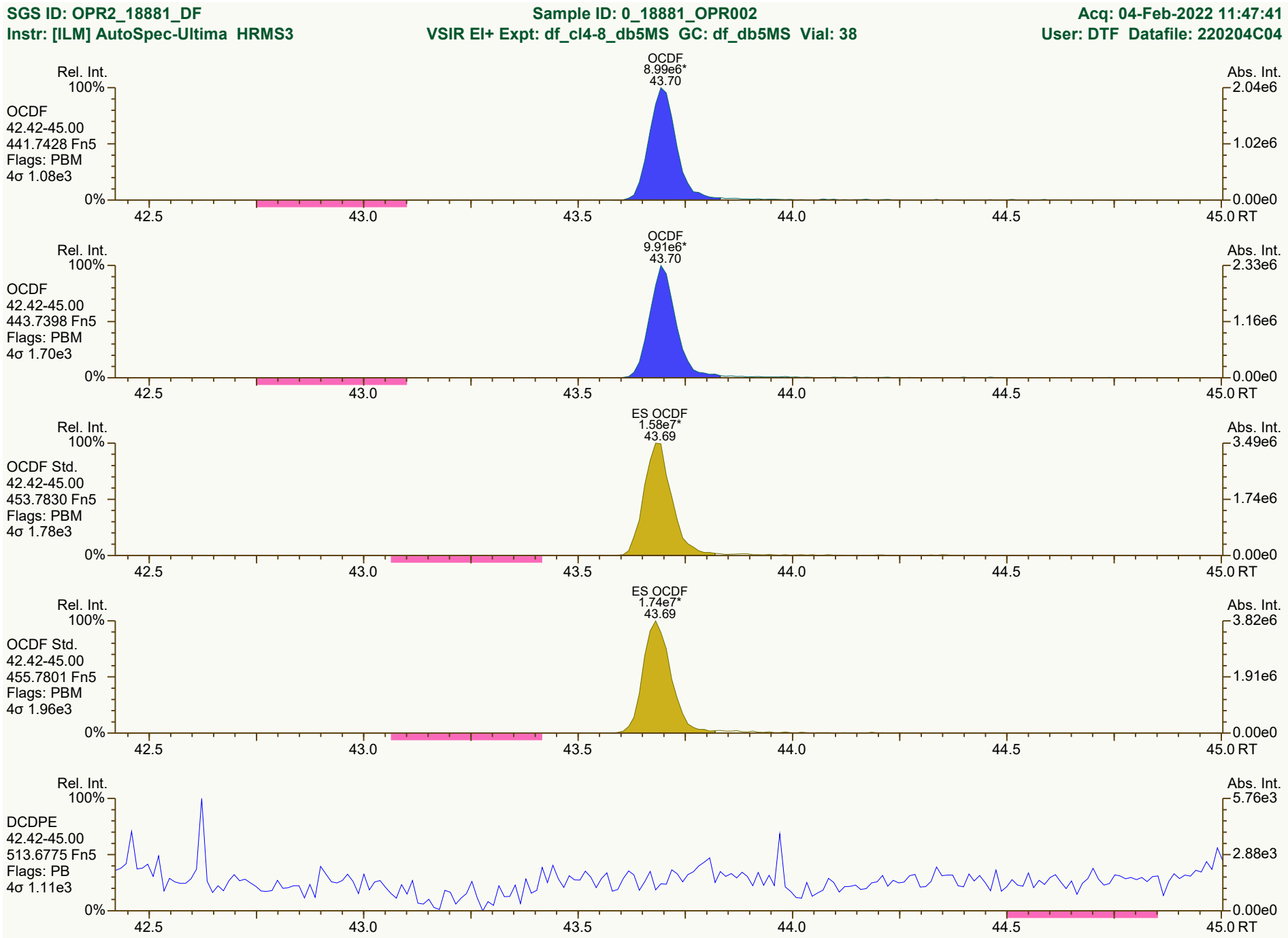
Sample ID: 0_18881_OPR002
Acq: 04-Feb-2022 11:47:41
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 38
User: DTF Datafile: 220204C04
Rel. Int.
Abs. Int.
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 1.76e3
1234678F
7.46e6
39.90
1234789F
6.35e6*
41.30
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 1.08e3
1234678F
7.37e6
39.90
1234789F
5.97e6*
41.30
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 3.23e3
ES 1234678F
6.72e6
39.89
CS 1234689F
7.41e6
40.29
ES 1234789F
5.64e6*
41.28
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 3.52e3
ES 1234678F
1.48e7
39.89
CS 1234689F
1.65e7
40.29
ES 1234789F
1.23e7*
41.28
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.07e3
RT


SGS ID: OPR2_18881_DF
Sample ID: 0_18881_OPR002
Acq: 04-Feb-2022 11:47:41
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 38
User: DTF Datafile: 220204C04
Rel. Int.
Abs. Int.
OCDF
8.99e6*
43.70
OCDF
42.42-45.00
441.7428 Fn5
Flags: PBM
4σ 1.08e3
2.04e6
1.02e6
0.00e0
OCDF
9.91e6*
43.70
OCDF
42.42-45.00
443.7398 Fn5
Flags: PBM
4σ 1.70e3
2.33e6
1.16e6
0.00e0
ES OCDF
1.58e7*
43.69
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 1.78e3
3.49e6
1.74e6
0.00e0
ES OCDF
1.74e7*
43.69
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 1.96e3
3.82e6
1.91e6
0.00e0
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.11e3
5.76e3
2.88e3
0.00e0
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6200_B6299\B6236\B6236_18881 DF\Resources\OPR2_18881_DF.utp_res, saved 07-Feb-2022 15:48 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2399, 9271, 3157 scc: 407-345
Revised: 07-Feb-2022 15:27 (DTF) Printed: 07-Feb-2022 15:50 Page 12 of 12



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6234

28-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

Meagan Willis

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Houston, TX 77079
Phone: 713-907-3710
Email: Meagan.Willis@ghd.com

This report is approved by

Tamara Burkamper

tamara.burkamper@sgs.com

Senior Project Manager

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Results reported relate only to the items tested.

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

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6234
Analytical Protocol(s)	1613B
No. Samples Submitted	9
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	26-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	0.2, 0.0
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

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

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

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.14.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

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

Data processing uses proprietary software.

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

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

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

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

Continuing Calibration meets requirements, except for the following: the reported percent deviation of CS 1,2,3,4,6,8,9-HpCDF is above SOP criteria. There is no method specified criteria for these standards and no adverse impact on results.

No re-extractions or dilutions were required.

B6234_005: the reported ion ratio of labeled standard ES 1,2,3,7,8,9-HxCDD is outside method criteria.

OPR1/OPR2_18872 meet accuracy and precision criteria, except for the following: RPD of 2,3,7,8-TCDF is >20%.

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

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

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

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

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

APPENDIX C: LAB IDENTIFIERS

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

SGS CERTIFICATIONS

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

Rev. 12-Oct-2021

Sample ID: 11215131-012022-GW-BN-PZ-SC — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6237	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID	B6237_18888_DF_001	Date Extracted:	02-Feb-2022
Date Collected:	20-Jan-2022	pH:	6	QC Batch No:	18888	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:41:24

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	EMPC		3.52	J	ES 2378-TCDD	85.7	
12378-PeCDD	ND	1.4			ES 12378-PeCDD	93.3	
123478-HxCDD	ND	1.56			ES 123478-HxCDD	95.1	
123678-HxCDD	ND	1.44			ES 123678-HxCDD	106	
123789-HxCDD	ND	1.51			ES 123789-HxCDD	92.7	
1234678-HpCDD	ND	1.53			ES 1234678-HpCDD	96.1	
OCDD	15.7			J	ES OCDD	94.1	
2378-TCDF	16.6				ES 2378-TCDF	88.2	
12378-PeCDF	ND	0.829			ES 12378-PeCDF	88.4	
23478-PeCDF	ND	0.784			ES 23478-PeCDF	91.6	
123478-HxCDF	ND	0.791			ES 123478-HxCDF	92.1	
123678-HxCDF	ND	0.799			ES 123678-HxCDF	97.8	
234678-HxCDF	ND	0.742			ES 234678-HxCDF	115	
123789-HxCDF	ND	0.904			ES 123789-HxCDF	94.5	
1234678-HpCDF	ND	0.817			ES 1234678-HpCDF	99.3	
1234789-HpCDF	ND	1.21			ES 1234789-HpCDF	97.2	
OCDF	4.11			J	ES OCDF	101	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	92.6	
Total TCDD	ND		3.52		CS 12347-PeCDD	112	
Total PeCDD	ND	1.4	ND		CS 12346-PeCDF	99.5	
Total HxCDD	ND	1.5	ND		CS 123469-HxCDF	119	
Total HpCDD	ND		2.92		CS 1234689-HpCDF	117	
Total TCDF	30.1		32.2				
Total PeCDF	ND	0.806	ND				
Total HxCDF	ND	0.802	ND				
Total HpCDF	ND	0.995	ND				
Total PCDD/Fs	**50**		**58.4**				
WHO-2005 TEQs							
TEQ: ND=0	1.67		5.19				
TEQ: ND=DL/2	2.91	2.2	6.42				
TEQ: ND=DL	4.14	4.4	7.66				

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Sample ID: 11215131-012022-GW-BN-PZ-SC — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6237	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID:	B6237_18888_DF_001	Date Extracted:	02-Feb-2022
Date Collected:	20-Jan-2022	pH:	6	QC Batch No.:	18888	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:41:24

Tetra-Dioxins	Conc. (pg/L)	Qualifiers	Penta-Dioxins	Conc. (pg/L)	Qualifiers	Hexa-Dioxins	Conc (pg/L)	Qualifiers	Hepta-Dioxins	Conc (pg/L)	Qualifiers
1368D	(1.84)		12479/12468D	(1.4)		124679/124689D	(1.5)		1234679D	[2.92]	J
1379D	(1.84)		12469D	(1.4)		123468D	(1.5)		1234678D	(1.53)	
1369D	(1.84)		12368D	(1.4)		123679/123689D	(1.5)				
1469D	(1.84)		12478D	(1.4)		123469D	(1.5)				
1247D...[4]	(1.84)		12379D	(1.4)		123478D	(1.56)				
1378D	(1.84)		12369D...[3]	(1.4)		123678D	(1.44)				
1268D	(1.84)		12346/12347D	(1.4)		123467D	(1.5)				
1478D	(1.84)		12378D	(1.4)		123789D	(1.51)		**Conc.**	0	
1279D	(1.84)		12367D	(1.4)					**EMPC**	2.92	
1234/1269D	(1.84)		12389D	(1.4)							
1236D	(1.84)								**Octa-Dioxin**	**Conc (pg/L)**	**Qualifiers**
1237/1238D	(1.84)										
1239D	(1.84)								OCDD	15.7	J
2378D	[3.52]	J									
1278D	(1.84)										
1267D	(1.84)										
1289D	(1.84)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	3.52		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	1.67	5.19
TEQ: ND=DL/2	2.91	6.42
TEQ: ND=DL	4.14	7.66

	Conc.	EMPC
Total PCDD/Fs	50	58.4

Checkcode: 543-255-MYM

Report Created: 10-Feb-2022 10:27 Analyst: TF

Sample ID: 11215131-012022-GW-BN-PZ-SC — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6237	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID:	B6237_18888_DF_001	Date Extracted:	02-Feb-2022
Date Collected:	20-Jan-2022	pH:	6	QC Batch No.:	18888	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:41:24

Tetra-Furans	Conc. (pg/L)	Qualifiers	Penta-Furans	Conc. (pg/L)	Qualifiers	Hexa-Furans	Conc (pg/L)	Qualifiers	Hepta-Furans	Conc (pg/L)	Qualifiers
1368F	(0.936)		13468/12468F	(0.817)		123468F	(0.802)		1234678F	(0.817)	
1468F	(0.936)		13678F...[3]	(0.806)		124678/134678F	(0.802)		1234679F	(0.995)	
2468F	(0.936)		12368F...[3]	(0.806)		134679F	(0.802)		1234689F	(0.995)	
1346/1246F	(0.936)		14678F	(0.806)		124679F	(0.802)		1234789F	(1.21)	
1347F...[3]	(0.936)		13479F	(0.806)		124689F	(0.802)				
1348F	(0.936)		13469/12479F	(0.806)		123467F	(0.802)				
1248F...[3]	(0.936)		12346F	(0.806)		123478F	(0.791)				
1268F	(0.936)		23468/12469F	(0.806)		123678F	(0.799)				
1467F	(0.936)		12347F	(0.806)		123479F	(0.802)				
1478F	(0.936)		12348F	(0.806)		123469F	(0.802)				
1369/1237F	(0.936)		12378F	(0.829)		123679F	(0.802)				
2467F	(0.936)		12678/12367F	(0.806)		234678F	(0.742)		**Conc.**	0	
2368F	(0.936)		12379F	(0.806)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.936)		12679F	(0.806)		123689F	(0.802)				
1278F	9.22		23467/12369F	(0.806)		123789F	(0.904)		**Octa-Furan**	**Conc (pg/L)**	**Qualifiers**
1349F	(0.936)		23478F	(0.784)		123789/123489F	0				
1267F	(0.936)		23478/12489F	0		123489F	(0.802)		OCDF	4.11	J
2346/1249F	(0.936)		12489F	(0.806)							
2347/1279F	(0.936)		12349F	(0.806)							
2348F	1.87	J	12389F	(0.806)							
2378F	16.6										
2367/3467F	2.4	J									
1269F	(0.936)										
1239F	(0.936)										
1289F	[2.02]	J									
Conc.	30.1		**Conc.**	0		**Conc.**	0				
EMPC	32.2		**EMPC**	0		**EMPC**	0				

Checkcode: 543-255-MYM

Report Created: 10-Feb-2022 10:27 Analyst: TF

Sample ID: 11215131-012022-GW-BN-PZ-SC TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Sample ID:	B6237_18888_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	QC Batch No.:	18888
Date Collected:	20-Jan-2022	Split:	-	Date Extracted:	02-Feb-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	09-Feb-2022 21:41
Lab Project No:	B6237	Units	pg/L		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	[3.52]	J	1.84	[3.52]	[3.52]	[3.52]
12378-PeCDD	(1.4)		1.4	(0.699)	(1.4)	(1.4)
123478-HxCDD	(1.56)		1.56	(0.156)	(0.156)	(0.156)
123678-HxCDD	(1.44)		1.44	(0.144)	(0.144)	(0.144)
123789-HxCDD	(1.51)		1.51	(0.151)	(0.151)	(0.151)
1234678-HpCDD	(1.53)		1.53	(0.0153)	(0.0153)	(0.0153)
OCDD	15.7	J	3.44	0.0157	0.00157	0.00472
2378-TCDF	16.6		0.936	1.66	1.66	1.66
12378-PeCDF	(0.829)		0.829	(0.0414)	(0.0414)	(0.0249)
23478-PeCDF	(0.784)		0.784	(0.392)	(0.392)	(0.235)
123478-HxCDF	(0.791)		0.791	(0.0791)	(0.0791)	(0.0791)
123678-HxCDF	(0.799)		0.799	(0.0799)	(0.0799)	(0.0799)
234678-HxCDF	(0.742)		0.742	(0.0742)	(0.0742)	(0.0742)
123789-HxCDF	(0.904)		0.904	(0.0904)	(0.0904)	(0.0904)
1234678-HpCDF	(0.817)		0.817	(0.00817)	(0.00817)	(0.00817)
1234789-HpCDF	(1.21)		1.21	(0.0121)	(0.0121)	(0.0121)
OCDF	4.11	J	2.37	0.00411	0.000411	0.00123

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TEQ Summaries			
EMPC = 0, ND = 0	1.68	1.67	1.67
EMPC = 0, ND = DL / 2	2.66	2.99	2.91
EMPC = 0, ND = DL	3.63	4.31	4.14
EMPC = 0, < J-level = 0	1.66	1.66	1.66
EMPC = EMPC, ND = 0	5.2	5.19	5.19
EMPC = EMPC, ND = DL / 2	6.18	6.51	6.42
EMPC = EMPC, ND = DL	7.15	7.83	7.66
EMPC = EMPC, < J-level = 0	1.66	1.66	1.66

Checkcode: 543-255-MYM

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Sample ID: 11215131-012022-GW-BN-PZ-SC-MS — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6237	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID	B6237_18888_DF_001MS	Date Extracted:	02-Feb-2022
Date Collected:	20-Jan-2022	pH:	6	QC Batch No:	18888	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:27:43

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	258				ES 2378-TCDD	80.1	
12378-PeCDD	1,120				ES 12378-PeCDD	82.9	
123478-HxCDD	1,260				ES 123478-HxCDD	82.8	
123678-HxCDD	1,240				ES 123678-HxCDD	93.1	
123789-HxCDD	1,190				ES 123789-HxCDD	80.2	
1234678-HpCDD	1,200				ES 1234678-HpCDD	81.9	
OCDD	2,410				ES OCDD	80.1	
2378-TCDF	258				ES 2378-TCDF	75.4	
12378-PeCDF	1,110				ES 12378-PeCDF	81.4	
23478-PeCDF	1,240				ES 23478-PeCDF	80	
123478-HxCDF	1,170				ES 123478-HxCDF	81.5	
123678-HxCDF	1,180				ES 123678-HxCDF	84.7	
234678-HxCDF	1,160				ES 234678-HxCDF	99	
123789-HxCDF	1,100				ES 123789-HxCDF	84	
1234678-HpCDF	1,180				ES 1234678-HpCDF	85.7	
1234789-HpCDF	1,120				ES 1234789-HpCDF	84.7	
OCDF	2,330				ES OCDF	84.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	93.8	
Total TCDD	1,190		1,190		CS 12347-PeCDD	109	
Total PeCDD	1,680		1,680		CS 12346-PeCDF	101	
Total HxCDD	4,000		4,000		CS 123469-HxCDF	112	
Total HpCDD	1,480		1,480		CS 1234689-HpCDF	109	
Total TCDF	1,440		1,440				
Total PeCDF	4,700		4,700				
Total HxCDF	7,280		7,280				
Total HpCDF	2,300		2,300				
Total PCDD/Fs	**28,800**		**28,800**				
WHO-2005 TEQs							
TEQ: ND=0	2670		2670				
TEQ: ND=DL/2	2670	4.52	2670				
TEQ: ND=DL	2670	9.05	2670				

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Sample ID: 11215131-012022-GW-BN-PZ-SC-MSD — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6237	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID	B6237_18888_DF_001MSD	Date Extracted:	02-Feb-2022
Date Collected:	20-Jan-2022	pH:	6	QC Batch No:	18888	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:14:03

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	229				ES 2378-TCDD	86.3	
12378-PeCDD	998				ES 12378-PeCDD	91.2	
123478-HxCDD	1,080				ES 123478-HxCDD	95.8	
123678-HxCDD	1,110				ES 123678-HxCDD	106	
123789-HxCDD	1,040				ES 123789-HxCDD	93.2	
1234678-HpCDD	1,050				ES 1234678-HpCDD	93	
OCDD	2,230				ES OCDD	88.3	
2378-TCDF	238				ES 2378-TCDF	84	
12378-PeCDF	962				ES 12378-PeCDF	88.5	
23478-PeCDF	1,050				ES 23478-PeCDF	88.9	
123478-HxCDF	1,030				ES 123478-HxCDF	92	
123678-HxCDF	1,060				ES 123678-HxCDF	96.6	
234678-HxCDF	1,010				ES 234678-HxCDF	115	
123789-HxCDF	987				ES 123789-HxCDF	93.5	
1234678-HpCDF	1,020				ES 1234678-HpCDF	99	
1234789-HpCDF	1,030				ES 1234789-HpCDF	93.5	
OCDF	2,090				ES OCDF	96.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	87	
Total TCDD	1,070		1,070		CS 12347-PeCDD	103	
Total PeCDD	1,480		1,480		CS 12346-PeCDF	91.6	
Total HxCDD	3,490		3,490		CS 123469-HxCDF	114	
Total HpCDD	1,290		1,290		CS 1234689-HpCDF	107	
Total TCDF	1,290		1,290				
Total PeCDF	4,110		4,110				
Total HxCDF	6,420		6,420				
Total HpCDF	2,050		2,050				
Total PCDD/Fs	**25,500**		**25,500**				
WHO-2005 TEQs							
TEQ: ND=0	2360		2360				
TEQ: ND=DL/2	2360	3.79	2360				
TEQ: ND=DL	2360	7.59	2360				

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MS/MSD Comparison

Method 1613B

Sample ID: 11215131-012022-GW-BN-PZ-SC

Analyte	Native Conc.	MS Spike	MS Conc.	MS Rec.	MSD Spike	MSD Conc.	MSD Rec.	RPD
	(pg/L)	(pg/L)	(pg/L)	%	(pg/L)	(pg/L)	%	
2,3,7,8-TCDD	3.52	200	258	127	200	229	113	12%
1,2,3,7,8-PeCDD	0	1000	1120	112	1000	998	99.8	12%
1,2,3,4,7,8-HxCDD	0	1000	1260	126	1000	1080	108	15%
1,2,3,6,7,8-HxCDD	0	1000	1240	124	1000	1110	111	11%
1,2,3,7,8,9-HxCDD	0	1000	1190	119	1000	1040	104	13%
1,2,3,4,6,7,8-HpCDD	0	1000	1200	120	1000	1050	105	13%
OCDD	15.7	2000	2410	120	2000	2230	111	8%
2,3,7,8-TCDF	16.6	200	258	121	200	238	111	9%
1,2,3,7,8-PeCDF	0	1000	1110	111	1000	962	96.2	14%
2,3,4,7,8-PeCDF	0	1000	1240	124	1000	1050	105	17%
1,2,3,4,7,8-HxCDF	0	1000	1170	117	1000	1030	103	13%
1,2,3,6,7,8-HxCDF	0	1000	1180	118	1000	1060	106	11%
2,3,4,6,7,8-HxCDF	0	1000	1160	116	1000	1010	101	14%
1,2,3,7,8,9-HxCDF	0	1000	1100	110	1000	987	98.7	11%
1,2,3,4,6,7,8-HpCDF	0	1000	1180	118	1000	1020	102	15%
1,2,3,4,7,8,9-HpCDF	0	1000	1120	112	1000	1030	103	8%
OCDF	4.11	2000	2330	116	2000	2090	104	11%

* % Recovery limits for MS and MSD: 70-130% of expected value, if native < RL
* RPD limit for MS vs. MSD recoveries: +/- 20%, if native < RL

Sample ID: 11215131-012022-GW-BN-PZ-SW — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6237	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	Lab Sample ID	B6237_18888_DF_002	Date Extracted:	02-Feb-2022
Date Collected:	20-Jan-2022	pH:	6	QC Batch No:	18888	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:00:24

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	2.19			ES 2378-TCDD	86.8	
12378-PeCDD	ND	1.6			ES 12378-PeCDD	90.5	
123478-HxCDD	ND	1.62			ES 123478-HxCDD	95.8	
123678-HxCDD	ND	1.44			ES 123678-HxCDD	103	
123789-HxCDD	ND	1.56			ES 123789-HxCDD	91.1	
1234678-HpCDD	ND	1.66			ES 1234678-HpCDD	89.8	
OCDD	EMPC		9.47	J	ES OCDD	91.2	
2378-TCDF	ND	1.05			ES 2378-TCDF	83.8	
12378-PeCDF	ND	1.1			ES 12378-PeCDF	82.3	
23478-PeCDF	ND	1			ES 23478-PeCDF	84.7	
123478-HxCDF	ND	1.31			ES 123478-HxCDF	88.9	
123678-HxCDF	ND	1.27			ES 123678-HxCDF	97.4	
234678-HxCDF	ND	1.17			ES 234678-HxCDF	114	
123789-HxCDF	ND	1.36			ES 123789-HxCDF	95	
1234678-HpCDF	1.71			J	ES 1234678-HpCDF	99	
1234789-HpCDF	ND	1.83			ES 1234789-HpCDF	89.8	
OCDF	ND	4			ES OCDF	91.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	91.4	
Total TCDD	ND	2.19	ND		CS 12347-PeCDD	102	
Total PeCDD	ND	1.6	ND		CS 12346-PeCDF	86.8	
Total HxCDD	ND	1.54	ND		CS 123469-HxCDF	112	
Total HpCDD	ND	1.66	ND		CS 1234689-HpCDF	106	
Total TCDF	ND	1.05	ND				
Total PeCDF	ND	1.05	ND				
Total HxCDF	ND	1.27	ND				
Total HpCDF	1.71		1.71				
Total PCDD/Fs	**1.71**		**11.2**				
WHO-2005 TEQs							
TEQ: ND=0	0.0171		0.02				
TEQ: ND=DL/2	2.64	2.63	2.64				
TEQ: ND=DL	5.25	5.25	5.26				

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Sample ID: 11215131-012022-GW-BN-PZ-SW — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6237	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	Lab Sample ID:	B6237_18888_DF_002	Date Extracted:	02-Feb-2022
Date Collected:	20-Jan-2022	pH:	6	QC Batch No.:	18888	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:00:24

Tetra-Dioxins	Conc. (pg/L)	Qualifiers	Penta-Dioxins	Conc. (pg/L)	Qualifiers	Hexa-Dioxins	Conc (pg/L)	Qualifiers	Hepta-Dioxins	Conc (pg/L)	Qualifiers
1368D	(2.19)		12479/12468D	(1.6)		124679/124689D	(1.54)		1234679D	(1.66)	
1379D	(2.19)		12469D	(1.6)		123468D	(1.54)		1234678D	(1.66)	
1369D	(2.19)		12368D	(1.6)		123679/123689D	(1.54)				
1469D	(2.19)		12478D	(1.6)		123469D	(1.54)				
1247D...[4]	(2.19)		12379D	(1.6)		123478D	(1.62)				
1378D	(2.19)		12369D...[3]	(1.6)		123678D	(1.44)				
1268D	(2.19)		12346/12347D	(1.6)		123467D	(1.54)				
1478D	(2.19)		12378D	(1.6)		123789D	(1.56)		**Conc.**	0	
1279D	(2.19)		12367D	(1.6)					**EMPC**	0	
1234/1269D	(2.19)		12389D	(1.6)							
1236D	(2.19)								**Octa-Dioxin**	**Conc (pg/L)**	**Qualifiers**
1237/1238D	(2.19)										
1239D	(2.19)								OCDD	[9.47]	J
2378D	(2.19)										
1278D	(2.19)										
1267D	(2.19)										
1289D	(2.19)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0.0171	0.02
TEQ: ND=DL/2	2.64	2.64
TEQ: ND=DL	5.25	5.26

	Conc.	EMPC
Total PCDD/Fs	1.71	11.2

Checkcode: 769-829-KJV

Report Created: 10-Feb-2022 10:27 Analyst: TF

Sample ID: 11215131-012022-GW-BN-PZ-SW — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6237	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	Lab Sample ID:	B6237_18888_DF_002	Date Extracted:	02-Feb-2022
Date Collected:	20-Jan-2022	pH:	6	QC Batch No.:	18888	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:00:24

Tetra-Furans	Conc. (pg/L)	Qualifiers	Penta-Furans	Conc. (pg/L)	Qualifiers	Hexa-Furans	Conc (pg/L)	Qualifiers	Hepta-Furans	Conc (pg/L)	Qualifiers
1368F	(1.05)		13468/12468F	(1.05)		123468F	(1.27)		1234678F	1.71	J
1468F	(1.05)		13678F...[3]	(1.05)		124678/134678F	(1.27)		1234679F	(1.54)	
2468F	(1.05)		12368F...[3]	(1.05)		134679F	(1.27)		1234689F	(1.54)	
1346/1246F	(1.05)		14678F	(1.05)		124679F	(1.27)		1234789F	(1.83)	
1347F...[3]	(1.05)		13479F	(1.05)		124689F	(1.27)				
1348F	(1.05)		13469/12479F	(1.05)		123467F	(1.27)				
1248F...[3]	(1.05)		12346F	(1.05)		123478F	(1.31)				
1268F	(1.05)		23468/12469F	(1.05)		123678F	(1.27)				
1467F	(1.05)		12347F	(1.05)		123479F	(1.27)				
1478F	(1.05)		12348F	(1.05)		123469F	(1.27)				
1369/1237F	(1.05)		12378F	(1.1)		123679F	(1.27)				
2467F	(1.05)		12678/12367F	(1.05)		234678F	(1.17)		**Conc.**	1.71	
2368F	(1.05)		12379F	(1.05)		234678/123689F	0		**EMPC**	1.71	
1238F...[5]	(1.05)		12679F	(1.05)		123689F	(1.27)				
1278F	(1.05)		23467/12369F	(1.05)		123789F	(1.36)		**Octa-Furan**	**Conc (pg/L)**	**Qualifiers**
1349F	(1.05)		23478F	(1)		123789/123489F	0				
1267F	(1.05)		23478/12489F	0		123489F	(1.27)		OCDF	(4)	
2346/1249F	(1.05)		12489F	(1.05)							
2347/1279F	(1.05)		12349F	(1.05)							
2348F	(1.05)		12389F	(1.05)							
2378F	(1.05)										
2367/3467F	(1.05)										
1269F	(1.05)										
1239F	(1.05)										
1289F	(1.05)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 769-829-KJV

Report Created: 10-Feb-2022 10:27 Analyst: TF

Sample ID: 11215131-012022-GW-BN-PZ-SW TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Sample ID:	B6237_18888_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	QC Batch No.:	18888
Date Collected:	20-Jan-2022	Split:	-	Date Extracted:	02-Feb-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	10-Feb-2022 00:00
Lab Project No:	B6237	Units	pg/L		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(2.19)		2.19	(2.19)	(2.19)	(2.19)
12378-PeCDD	(1.6)		1.6	(0.8)	(1.6)	(1.6)
123478-HxCDD	(1.62)		1.62	(0.162)	(0.162)	(0.162)
123678-HxCDD	(1.44)		1.44	(0.144)	(0.144)	(0.144)
123789-HxCDD	(1.56)		1.56	(0.156)	(0.156)	(0.156)
1234678-HpCDD	(1.66)		1.66	(0.0166)	(0.0166)	(0.0166)
OCDD	[9.47]	J	5.86	[0.00947]	[0.000947]	[0.00284]
2378-TCDF	(1.05)		1.05	(0.105)	(0.105)	(0.105)
12378-PeCDF	(1.1)		1.1	(0.0551)	(0.0551)	(0.0331)
23478-PeCDF	(1)		1	(0.501)	(0.501)	(0.301)
123478-HxCDF	(1.31)		1.31	(0.131)	(0.131)	(0.131)
123678-HxCDF	(1.27)		1.27	(0.127)	(0.127)	(0.127)
234678-HxCDF	(1.17)		1.17	(0.117)	(0.117)	(0.117)
123789-HxCDF	(1.36)		1.36	(0.136)	(0.136)	(0.136)
1234678-HpCDF	1.71	J	1.32	0.0171	0.0171	0.0171
1234789-HpCDF	(1.83)		1.83	(0.0183)	(0.0183)	(0.0183)
OCDF	(4)		4	(0.004)	(0.0004)	(0.0012)

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TEQ Summaries			
EMPC = 0, ND = 0	0.0171	0.0171	0.0171
EMPC = 0, ND = DL / 2	2.35	2.75	2.64
EMPC = 0, ND = DL	4.68	5.48	5.25
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0.0266	0.0181	0.02
EMPC = EMPC, ND = DL / 2	2.36	2.75	2.64
EMPC = EMPC, ND = DL	4.69	5.48	5.26
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 769-829-KJV

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Sample ID: 11215131-012022-GW-BN-PZ-NC — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6237	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.01 L	Lab Sample ID	B6237_18888_DF_003	Date Extracted:	02-Feb-2022
Date Collected:	20-Jan-2022	pH:	7	QC Batch No:	18888	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:46:43

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	1.84			ES 2378-TCDD	87	
12378-PeCDD	ND	1.87			ES 12378-PeCDD	92.3	
123478-HxCDD	ND	1.58			ES 123478-HxCDD	89.6	
123678-HxCDD	ND	1.34			ES 123678-HxCDD	100	
123789-HxCDD	ND	1.36			ES 123789-HxCDD	85.3	
1234678-HpCDD	ND	1.72			ES 1234678-HpCDD	88.1	
OCDD	EMPC		16.5	J	ES OCDD	83.2	
2378-TCDF	4.02			J	ES 2378-TCDF	84	
12378-PeCDF	ND	1.1			ES 12378-PeCDF	87.3	
23478-PeCDF	ND	1.17			ES 23478-PeCDF	86.5	
123478-HxCDF	ND	1.19			ES 123478-HxCDF	88.6	
123678-HxCDF	ND	1.21			ES 123678-HxCDF	96	
234678-HxCDF	ND	0.979			ES 234678-HxCDF	109	
123789-HxCDF	ND	1.38			ES 123789-HxCDF	87.1	
1234678-HpCDF	ND	0.964			ES 1234678-HpCDF	92	
1234789-HpCDF	ND	1.39			ES 1234789-HpCDF	85.8	
OCDF	ND	2.32			ES OCDF	86	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	93.1	
Total TCDD	ND	1.84	ND		CS 12347-PeCDD	107	
Total PeCDD	ND	1.87	ND		CS 12346-PeCDF	95.7	
Total HxCDD	ND	1.42	ND		CS 123469-HxCDF	111	
Total HpCDD	ND	1.72	ND		CS 1234689-HpCDF	104	
Total TCDF	6.81		6.81				
Total PeCDF	ND	1.14	ND				
Total HxCDF	ND	1.17	ND				
Total HpCDF	ND	1.15	ND				
Total PCDD/Fs	**6.81**		**23.3**				
WHO-2005 TEQs							
TEQ: ND=0	0.402		0.407				
TEQ: ND=DL/2	2.92	2.57	2.93				
TEQ: ND=DL	5.44	5.13	5.44				

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Sample ID: 11215131-012022-GW-BN-PZ-NC — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6237	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.01 L	Lab Sample ID:	B6237_18888_DF_003	Date Extracted:	02-Feb-2022
Date Collected:	20-Jan-2022	pH:	7	QC Batch No.:	18888	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:46:43

Tetra-Dioxins	Conc. (pg/L)	Qualifiers	Penta-Dioxins	Conc. (pg/L)	Qualifiers	Hexa-Dioxins	Conc (pg/L)	Qualifiers	Hepta-Dioxins	Conc (pg/L)	Qualifiers
1368D	(1.84)		12479/12468D	(1.87)		124679/124689D	(1.42)		1234679D	(1.72)	
1379D	(1.84)		12469D	(1.87)		123468D	(1.42)		1234678D	(1.72)	
1369D	(1.84)		12368D	(1.87)		123679/123689D	(1.42)				
1469D	(1.84)		12478D	(1.87)		123469D	(1.42)				
1247D...[4]	(1.84)		12379D	(1.87)		123478D	(1.58)				
1378D	(1.84)		12369D...[3]	(1.87)		123678D	(1.34)				
1268D	(1.84)		12346/12347D	(1.87)		123467D	(1.42)				
1478D	(1.84)		12378D	(1.87)		123789D	(1.36)		**Conc.**	0	
1279D	(1.84)		12367D	(1.87)					**EMPC**	0	
1234/1269D	(1.84)		12389D	(1.87)							
1236D	(1.84)								**Octa-Dioxin**	**Conc (pg/L)**	**Qualifiers**
1237/1238D	(1.84)										
1239D	(1.84)								OCDD	[16.5]	J
2378D	(1.84)										
1278D	(1.84)										
1267D	(1.84)										
1289D	(1.84)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0.402	0.407
TEQ: ND=DL/2	2.92	2.93
TEQ: ND=DL	5.44	5.44

	Conc.	EMPC
Total PCDD/Fs	6.81	23.3

Checkcode: 156-756-KGC

Report Created: 10-Feb-2022 10:28 Analyst: TF

Sample ID: 11215131-012022-GW-BN-PZ-NC — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6237	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.01 L	Lab Sample ID:	B6237_18888_DF_003	Date Extracted:	02-Feb-2022
Date Collected:	20-Jan-2022	pH:	7	QC Batch No.:	18888	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:46:43

Tetra-Furans	Conc. (pg/L)	Qualifiers	Penta-Furans	Conc. (pg/L)	Qualifiers	Hexa-Furans	Conc (pg/L)	Qualifiers	Hepta-Furans	Conc (pg/L)	Qualifiers
1368F	(0.947)		13468/12468F	(1.12)		123468F	(1.17)		1234678F	(0.964)	
1468F	(0.947)		13678F...[3]	(1.14)		124678/134678F	(1.17)		1234679F	(1.15)	
2468F	(0.947)		12368F...[3]	(1.14)		134679F	(1.17)		1234689F	(1.15)	
1346/1246F	(0.947)		14678F	(1.14)		124679F	(1.17)		1234789F	(1.39)	
1347F...[3]	(0.947)		13479F	(1.14)		124689F	(1.17)				
1348F	(0.947)		13469/12479F	(1.14)		123467F	(1.17)				
1248F...[3]	(0.947)		12346F	(1.14)		123478F	(1.19)				
1268F	(0.947)		23468/12469F	(1.14)		123678F	(1.21)				
1467F	(0.947)		12347F	(1.14)		123479F	(1.17)				
1478F	(0.947)		12348F	(1.14)		123469F	(1.17)				
1369/1237F	(0.947)		12378F	(1.1)		123679F	(1.17)				
2467F	(0.947)		12678/12367F	(1.14)		234678F	(0.979)		**Conc.**	0	
2368F	(0.947)		12379F	(1.14)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.947)		12679F	(1.14)		123689F	(1.17)				
1278F	2.79	J	23467/12369F	(1.14)		123789F	(1.38)		**Octa-Furan**	**Conc (pg/L)**	**Qualifiers**
1349F	(0.947)		23478F	(1.17)		123789/123489F	0				
1267F	(0.947)		23478/12489F	0		123489F	(1.17)		OCDF	(2.32)	
2346/1249F	(0.947)		12489F	(1.14)							
2347/1279F	(0.947)		12349F	(1.14)							
2348F	(0.947)		12389F	(1.14)							
2378F	4.02	J									
2367/3467F	(0.947)										
1269F	(0.947)										
1239F	(0.947)										
1289F	(0.947)										
Conc.	6.81		**Conc.**	0		**Conc.**	0				
EMPC	6.81		**EMPC**	0		**EMPC**	0				

Checkcode: 156-756-KGC

Report Created: 10-Feb-2022 10:28 Analyst: TF

Sample ID: 11215131-012022-GW-BN-PZ-NC TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Sample ID:	B6237_18888_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.01 L	QC Batch No.:	18888
Date Collected:	20-Jan-2022	Split:	-	Date Extracted:	02-Feb-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	10-Feb-2022 00:46
Lab Project No:	B6237	Units	pg/L		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(1.84)		1.84	(1.84)	(1.84)	(1.84)
12378-PeCDD	(1.87)		1.87	(0.934)	(1.87)	(1.87)
123478-HxCDD	(1.58)		1.58	(0.158)	(0.158)	(0.158)
123678-HxCDD	(1.34)		1.34	(0.134)	(0.134)	(0.134)
123789-HxCDD	(1.36)		1.36	(0.136)	(0.136)	(0.136)
1234678-HpCDD	(1.72)		1.72	(0.0172)	(0.0172)	(0.0172)
OCDD	[16.5]	J	4.63	[0.0165]	[0.00165]	[0.00495]
2378-TCDF	4.02	J	0.947	0.402	0.402	0.402
12378-PeCDF	(1.1)		1.1	(0.055)	(0.055)	(0.033)
23478-PeCDF	(1.17)		1.17	(0.587)	(0.587)	(0.352)
123478-HxCDF	(1.19)		1.19	(0.119)	(0.119)	(0.119)
123678-HxCDF	(1.21)		1.21	(0.121)	(0.121)	(0.121)
234678-HxCDF	(0.979)		0.979	(0.0979)	(0.0979)	(0.0979)
123789-HxCDF	(1.38)		1.38	(0.138)	(0.138)	(0.138)
1234678-HpCDF	(0.964)		0.964	(0.00964)	(0.00964)	(0.00964)
1234789-HpCDF	(1.39)		1.39	(0.0139)	(0.0139)	(0.0139)
OCDF	(2.32)		2.32	(0.00232)	(0.000232)	(0.000695)

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TEQ Summaries			
EMPC = 0, ND = 0	0.402	0.402	0.402
EMPC = 0, ND = DL / 2	2.58	3.05	2.92
EMPC = 0, ND = DL	4.76	5.69	5.44
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0.418	0.404	0.407
EMPC = EMPC, ND = DL / 2	2.6	3.05	2.93
EMPC = EMPC, ND = DL	4.78	5.7	5.44
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 156-756-KGC

Sample ID: 11215131-012022-GW-BN-PZ-NE — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6237	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	Lab Sample ID	B6237_18888_DF_004	Date Extracted:	02-Feb-2022
Date Collected:	20-Jan-2022	pH:	6	QC Batch No:	18888	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:33:04

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	1.95			ES 2378-TCDD	85.6	
12378-PeCDD	ND	1.97			ES 12378-PeCDD	88.3	
123478-HxCDD	ND	1.94			ES 123478-HxCDD	92.7	
123678-HxCDD	ND	1.77			ES 123678-HxCDD	104	
123789-HxCDD	ND	1.82			ES 123789-HxCDD	89.1	
1234678-HpCDD	ND	1.84			ES 1234678-HpCDD	89.7	
OCDD	14.4			J	ES OCDD	82.5	
2378-TCDF	4.11			J	ES 2378-TCDF	83.6	
12378-PeCDF	ND	1.13			ES 12378-PeCDF	86	
23478-PeCDF	ND	1.03			ES 23478-PeCDF	86	
123478-HxCDF	ND	0.989			ES 123478-HxCDF	89.3	
123678-HxCDF	ND	0.979			ES 123678-HxCDF	94.4	
234678-HxCDF	ND	0.854			ES 234678-HxCDF	113	
123789-HxCDF	ND	1.23			ES 123789-HxCDF	90.8	
1234678-HpCDF	ND	0.795			ES 1234678-HpCDF	94.9	
1234789-HpCDF	ND	1.17			ES 1234789-HpCDF	87.6	
OCDF	ND	3.44			ES OCDF	88.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	89.1	
Total TCDD	ND	1.95	ND		CS 12347-PeCDD	106	
Total PeCDD	ND	1.97	ND		CS 12346-PeCDF	96.4	
Total HxCDD	ND	1.84	ND		CS 123469-HxCDF	117	
Total HpCDD	ND	1.84	ND		CS 1234689-HpCDF	111	
Total TCDF	4.11		4.11				
Total PeCDF	ND	1.08	ND				
Total HxCDF	ND	0.998	ND				
Total HpCDF	ND	0.961	ND				
Total PCDD/Fs	**18.5**		**18.5**				
WHO-2005 TEQs							
TEQ: ND=0	0.415		0.415				
TEQ: ND=DL/2	3.05	2.68	3.05				
TEQ: ND=DL	5.68	5.36	5.68				

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Sample ID: 11215131-012022-GW-BN-PZ-NE — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6237	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	Lab Sample ID:	B6237_18888_DF_004	Date Extracted:	02-Feb-2022
Date Collected:	20-Jan-2022	pH:	6	QC Batch No.:	18888	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:33:04

Tetra-Dioxins	Conc. (pg/L)	Qualifiers	Penta-Dioxins	Conc. (pg/L)	Qualifiers	Hexa-Dioxins	Conc (pg/L)	Qualifiers	Hepta-Dioxins	Conc (pg/L)	Qualifiers
1368D	(1.95)		12479/12468D	(1.97)		124679/124689D	(1.84)		1234679D	(1.84)	
1379D	(1.95)		12469D	(1.97)		123468D	(1.84)		1234678D	(1.84)	
1369D	(1.95)		12368D	(1.97)		123679/123689D	(1.84)				
1469D	(1.95)		12478D	(1.97)		123469D	(1.84)				
1247D...[4]	(1.95)		12379D	(1.97)		123478D	(1.94)				
1378D	(1.95)		12369D...[3]	(1.97)		123678D	(1.77)				
1268D	(1.95)		12346/12347D	(1.97)		123467D	(1.84)				
1478D	(1.95)		12378D	(1.97)		123789D	(1.82)		**Conc.**	0	
1279D	(1.95)		12367D	(1.97)					**EMPC**	0	
1234/1269D	(1.95)		12389D	(1.97)							
1236D	(1.95)								**Octa-Dioxin**	**Conc (pg/L)**	**Qualifiers**
1237/1238D	(1.95)										
1239D	(1.95)								OCDD	14.4	J
2378D	(1.95)										
1278D	(1.95)										
1267D	(1.95)										
1289D	(1.95)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0.415	0.415
TEQ: ND=DL/2	3.05	3.05
TEQ: ND=DL	5.68	5.68

	Conc.	EMPC
Total PCDD/Fs	18.5	18.5

Checkcode: 938-617-BQJ

Report Created: 10-Feb-2022 10:28 Analyst: TF

Sample ID: 11215131-012022-GW-BN-PZ-NE — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6237	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	Lab Sample ID:	B6237_18888_DF_004	Date Extracted:	02-Feb-2022
Date Collected:	20-Jan-2022	pH:	6	QC Batch No.:	18888	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:33:04

Tetra-Furans	Conc. (pg/L)	Qualifiers	Penta-Furans	Conc. (pg/L)	Qualifiers	Hexa-Furans	Conc (pg/L)	Qualifiers	Hepta-Furans	Conc (pg/L)	Qualifiers
1368F	(0.999)		13468/12468F	(1.14)		123468F	(0.998)		1234678F	(0.795)	
1468F	(0.999)		13678F...[3]	(1.08)		124678/134678F	(0.998)		1234679F	(0.961)	
2468F	(0.999)		12368F...[3]	(1.08)		134679F	(0.998)		1234689F	(0.961)	
1346/1246F	(0.999)		14678F	(1.08)		124679F	(0.998)		1234789F	(1.17)	
1347F...[3]	(0.999)		13479F	(1.08)		124689F	(0.998)				
1348F	(0.999)		13469/12479F	(1.08)		123467F	(0.998)				
1248F...[3]	(0.999)		12346F	(1.08)		123478F	(0.989)				
1268F	(0.999)		23468/12469F	(1.08)		123678F	(0.979)				
1467F	(0.999)		12347F	(1.08)		123479F	(0.998)				
1478F	(0.999)		12348F	(1.08)		123469F	(0.998)				
1369/1237F	(0.999)		12378F	(1.13)		123679F	(0.998)				
2467F	(0.999)		12678/12367F	(1.08)		234678F	(0.854)		**Conc.**	0	
2368F	(0.999)		12379F	(1.08)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.999)		12679F	(1.08)		123689F	(0.998)				
1278F	(0.999)		23467/12369F	(1.08)		123789F	(1.23)		**Octa-Furan**	**Conc (pg/L)**	**Qualifiers**
1349F	(0.999)		23478F	(1.03)		123789/123489F	0				
1267F	(0.999)		23478/12489F	0		123489F	(0.998)		OCDF	(3.44)	
2346/1249F	(0.999)		12489F	(1.08)							
2347/1279F	(0.999)		12349F	(1.08)							
2348F	(0.999)		12389F	(1.08)							
2378F	4.11	J									
2367/3467F	(0.999)										
1269F	(0.999)										
1239F	(0.999)										
1289F	(0.999)										
Conc.	4.11		**Conc.**	0		**Conc.**	0				
EMPC	4.11		**EMPC**	0		**EMPC**	0				

Checkcode: 938-617-BQJ

Report Created: 10-Feb-2022 10:28 Analyst: TF

Sample ID: 11215131-012022-GW-BN-PZ-NE TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Sample ID:	B6237_18888_DF_004
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	QC Batch No.:	18888
Date Collected:	20-Jan-2022	Split:	-	Date Extracted:	02-Feb-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	10-Feb-2022 01:33
Lab Project No:	B6237	Units	pg/L		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(1.95)		1.95	(1.95)	(1.95)	(1.95)
12378-PeCDD	(1.97)		1.97	(0.987)	(1.97)	(1.97)
123478-HxCDD	(1.94)		1.94	(0.194)	(0.194)	(0.194)
123678-HxCDD	(1.77)		1.77	(0.177)	(0.177)	(0.177)
123789-HxCDD	(1.82)		1.82	(0.182)	(0.182)	(0.182)
1234678-HpCDD	(1.84)		1.84	(0.0184)	(0.0184)	(0.0184)
OCDD	14.4	J	4.06	0.0144	0.00144	0.00431
2378-TCDF	4.11	J	0.999	0.411	0.411	0.411
12378-PeCDF	(1.13)		1.13	(0.0564)	(0.0564)	(0.0338)
23478-PeCDF	(1.03)		1.03	(0.513)	(0.513)	(0.308)
123478-HxCDF	(0.989)		0.989	(0.0989)	(0.0989)	(0.0989)
123678-HxCDF	(0.979)		0.979	(0.0979)	(0.0979)	(0.0979)
234678-HxCDF	(0.854)		0.854	(0.0854)	(0.0854)	(0.0854)
123789-HxCDF	(1.23)		1.23	(0.123)	(0.123)	(0.123)
1234678-HpCDF	(0.795)		0.795	(0.00795)	(0.00795)	(0.00795)
1234789-HpCDF	(1.17)		1.17	(0.0117)	(0.0117)	(0.0117)
OCDF	(3.44)		3.44	(0.00344)	(0.000344)	(0.00103)

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TEQ Summaries			
EMPC = 0, ND = 0	0.425	0.412	0.415
EMPC = 0, ND = DL / 2	2.68	3.16	3.05
EMPC = 0, ND = DL	4.93	5.9	5.68
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0.425	0.412	0.415
EMPC = EMPC, ND = DL / 2	2.68	3.16	3.05
EMPC = EMPC, ND = DL	4.93	5.9	5.68
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 938-617-BQJ

Sample ID: 11215131-012022-GW-BN-DUP-1 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6237	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	Lab Sample ID	B6237_18888_DF_005	Date Extracted:	02-Feb-2022
Date Collected:	20-Jan-2022	pH:	6	QC Batch No:	18888	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:19:25

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	2.11			ES 2378-TCDD	89.3	
12378-PeCDD	ND	2			ES 12378-PeCDD	92.8	
123478-HxCDD	ND	1.37			ES 123478-HxCDD	92.5	
123678-HxCDD	ND	1.25			ES 123678-HxCDD	99.7	
123789-HxCDD	ND	1.27			ES 123789-HxCDD	87.3	
1234678-HpCDD	ND	1.49			ES 1234678-HpCDD	88	
OCDD	EMPC		14.7	J	ES OCDD	83.9	
2378-TCDF	4.65			J	ES 2378-TCDF	85.1	
12378-PeCDF	ND	0.827			ES 12378-PeCDF	88.5	
23478-PeCDF	ND	0.787			ES 23478-PeCDF	89.7	
123478-HxCDF	ND	1.34			ES 123478-HxCDF	88.3	
123678-HxCDF	ND	1.18			ES 123678-HxCDF	95.9	
234678-HxCDF	ND	1.13			ES 234678-HxCDF	109	
123789-HxCDF	ND	1.51			ES 123789-HxCDF	87.9	
1234678-HpCDF	ND	1.13			ES 1234678-HpCDF	91.6	
1234789-HpCDF	ND	1.67			ES 1234789-HpCDF	85.9	
OCDF	ND	2.77			ES OCDF	88.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	89	
Total TCDD	ND	2.11	ND		CS 12347-PeCDD	105	
Total PeCDD	ND	2	ND		CS 12346-PeCDF	94.5	
Total HxCDD	ND	1.3	ND		CS 123469-HxCDF	108	
Total HpCDD	ND	1.49	ND		CS 1234689-HpCDF	103	
Total TCDF	4.65		7.15				
Total PeCDF	ND	0.807	ND				
Total HxCDF	ND	1.27	ND				
Total HpCDF	ND	1.37	ND				
Total PCDD/Fs	**4.65**		**21.9**				
WHO-2005 TEQs							
TEQ: ND=0	0.465		0.47				
TEQ: ND=DL/2	3.12	2.71	3.13				
TEQ: ND=DL	5.78	5.43	5.78				

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Sample ID: 11215131-012022-GW-BN-DUP-1 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6237	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	Lab Sample ID:	B6237_18888_DF_005	Date Extracted:	02-Feb-2022
Date Collected:	20-Jan-2022	pH:	6	QC Batch No.:	18888	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:19:25

Tetra-Dioxins	Conc. (pg/L)	Qualifiers	Penta-Dioxins	Conc. (pg/L)	Qualifiers	Hexa-Dioxins	Conc (pg/L)	Qualifiers	Hepta-Dioxins	Conc (pg/L)	Qualifiers
1368D	(2.11)		12479/12468D	(2)		124679/124689D	(1.3)		1234679D	(1.49)	
1379D	(2.11)		12469D	(2)		123468D	(1.3)		1234678D	(1.49)	
1369D	(2.11)		12368D	(2)		123679/123689D	(1.3)				
1469D	(2.11)		12478D	(2)		123469D	(1.3)				
1247D...[4]	(2.11)		12379D	(2)		123478D	(1.37)				
1378D	(2.11)		12369D...[3]	(2)		123678D	(1.25)				
1268D	(2.11)		12346/12347D	(2)		123467D	(1.3)				
1478D	(2.11)		12378D	(2)		123789D	(1.27)		**Conc.**	0	
1279D	(2.11)		12367D	(2)					**EMPC**	0	
1234/1269D	(2.11)		12389D	(2)							
1236D	(2.11)								**Octa-Dioxin**	**Conc (pg/L)**	**Qualifiers**
1237/1238D	(2.11)										
1239D	(2.11)								OCDD	[14.7]	J
2378D	(2.11)										
1278D	(2.11)										
1267D	(2.11)										
1289D	(2.11)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0.465	0.47
TEQ: ND=DL/2	3.12	3.13
TEQ: ND=DL	5.78	5.78

	Conc.	EMPC
Total PCDD/Fs	4.65	21.9

Checkcode: 790-719-FNF

Report Created: 10-Feb-2022 10:28 Analyst: TF

Sample ID: 11215131-012022-GW-BN-DUP-1 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6237	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	Lab Sample ID:	B6237_18888_DF_005	Date Extracted:	02-Feb-2022
Date Collected:	20-Jan-2022	pH:	6	QC Batch No.:	18888	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:19:25

Tetra-Furans	Conc. (pg/L)	Qualifiers	Penta-Furans	Conc. (pg/L)	Qualifiers	Hexa-Furans	Conc (pg/L)	Qualifiers	Hepta-Furans	Conc (pg/L)	Qualifiers
1368F	(1.1)		13468/12468F	(1.19)		123468F	(1.27)		1234678F	(1.13)	
1468F	(1.1)		13678F...[3]	(0.807)		124678/134678F	(1.27)		1234679F	(1.37)	
2468F	(1.1)		12368F...[3]	(0.807)		134679F	(1.27)		1234689F	(1.37)	
1346/1246F	(1.1)		14678F	(0.807)		124679F	(1.27)		1234789F	(1.67)	
1347F...[3]	(1.1)		13479F	(0.807)		124689F	(1.27)				
1348F	(1.1)		13469/12479F	(0.807)		123467F	(1.27)				
1248F...[3]	(1.1)		12346F	(0.807)		123478F	(1.34)				
1268F	(1.1)		23468/12469F	(0.807)		123678F	(1.18)				
1467F	(1.1)		12347F	(0.807)		123479F	(1.27)				
1478F	(1.1)		12348F	(0.807)		123469F	(1.27)				
1369/1237F	(1.1)		12378F	(0.827)		123679F	(1.27)				
2467F	(1.1)		12678/12367F	(0.807)		234678F	(1.13)		**Conc.**	0	
2368F	(1.1)		12379F	(0.807)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(1.1)		12679F	(0.807)		123689F	(1.27)				
1278F	[2.49]	J	23467/12369F	(0.807)		123789F	(1.51)		**Octa-Furan**	**Conc (pg/L)**	**Qualifiers**
1349F	(1.1)		23478F	(0.787)		123789/123489F	0				
1267F	(1.1)		23478/12489F	0		123489F	(1.27)		OCDF	(2.77)	
2346/1249F	(1.1)		12489F	(0.807)							
2347/1279F	(1.1)		12349F	(0.807)							
2348F	(1.1)		12389F	(0.807)							
2378F	4.65	J									
2367/3467F	(1.1)										
1269F	(1.1)										
1239F	(1.1)										
1289F	(1.1)										
Conc.	4.65		**Conc.**	0		**Conc.**	0				
EMPC	7.15		**EMPC**	0		**EMPC**	0				

Checkcode: 790-719-FNF

Report Created: 10-Feb-2022 10:28 Analyst: TF

Sample ID: 11215131-012022-GW-BN-DUP-1 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Sample ID:	B6237_18888_DF_005
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	QC Batch No.:	18888
Date Collected:	20-Jan-2022	Split:	-	Date Extracted:	02-Feb-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	10-Feb-2022 02:19
Lab Project No:	B6237	Units	pg/L		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(2.11)		2.11	(2.11)	(2.11)	(2.11)
12378-PeCDD	(2)		2	(0.999)	(2)	(2)
123478-HxCDD	(1.37)		1.37	(0.137)	(0.137)	(0.137)
123678-HxCDD	(1.25)		1.25	(0.125)	(0.125)	(0.125)
123789-HxCDD	(1.27)		1.27	(0.127)	(0.127)	(0.127)
1234678-HpCDD	(1.49)		1.49	(0.0149)	(0.0149)	(0.0149)
OCDD	[14.7]	J	5.21	[0.0147]	[0.00147]	[0.00442]
2378-TCDF	4.65	J	1.1	0.465	0.465	0.465
12378-PeCDF	(0.827)		0.827	(0.0414)	(0.0414)	(0.0248)
23478-PeCDF	(0.787)		0.787	(0.394)	(0.394)	(0.236)
123478-HxCDF	(1.34)		1.34	(0.134)	(0.134)	(0.134)
123678-HxCDF	(1.18)		1.18	(0.118)	(0.118)	(0.118)
234678-HxCDF	(1.13)		1.13	(0.113)	(0.113)	(0.113)
123789-HxCDF	(1.51)		1.51	(0.151)	(0.151)	(0.151)
1234678-HpCDF	(1.13)		1.13	(0.0113)	(0.0113)	(0.0113)
1234789-HpCDF	(1.67)		1.67	(0.0167)	(0.0167)	(0.0167)
OCDF	(2.77)		2.77	(0.00277)	(0.000277)	(0.00083)

TEQ Summaries			
EMPC = 0, ND = 0	0.465	0.465	0.465
EMPC = 0, ND = DL / 2	2.71	3.21	3.12
EMPC = 0, ND = DL	4.96	5.95	5.78
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0.48	0.467	0.47
EMPC = EMPC, ND = DL / 2	2.73	3.21	3.13
EMPC = EMPC, ND = DL	4.97	5.95	5.78
EMPC = EMPC, < J-level = 0	0	0	0

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Checkcode: 790-719-FNF

Sample ID: Method Blank B6237_18888 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6237	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID	MB1_18888_DF_TLX	Date Extracted:	02-Feb-2022
Date Collected:	n/a	pH:	n/a	QC Batch No:	18888	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:22:22

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	2.01			ES 2378-TCDD	84.4	
12378-PeCDD	ND	1.83			ES 12378-PeCDD	86.6	
123478-HxCDD	ND	2.03			ES 123478-HxCDD	91	
123678-HxCDD	ND	1.8			ES 123678-HxCDD	100	
123789-HxCDD	ND	1.91			ES 123789-HxCDD	88.1	
1234678-HpCDD	ND	2.3			ES 1234678-HpCDD	86.2	
OCDD	ND	12.2			ES OCDD	81.5	
2378-TCDF	ND	0.949			ES 2378-TCDF	81.5	
12378-PeCDF	ND	1.29			ES 12378-PeCDF	83.2	
23478-PeCDF	ND	1.19			ES 23478-PeCDF	83.8	
123478-HxCDF	ND	1.64			ES 123478-HxCDF	84.8	
123678-HxCDF	ND	1.61			ES 123678-HxCDF	89.6	
234678-HxCDF	ND	1.42			ES 234678-HxCDF	105	
123789-HxCDF	ND	1.81			ES 123789-HxCDF	82.4	
1234678-HpCDF	ND	1.03			ES 1234678-HpCDF	89.3	
1234789-HpCDF	ND	1.43			ES 1234789-HpCDF	82.8	
OCDF	ND	3.32			ES OCDF	82.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	89.2	
Total TCDD	ND	2.01	ND		CS 12347-PeCDD	104	
Total PeCDD	ND	1.83	ND		CS 12346-PeCDF	92.5	
Total HxCDD	ND	1.91	ND		CS 123469-HxCDF	115	
Total HpCDD	ND	2.3	ND		CS 1234689-HpCDF	105	
Total TCDF	ND	0.949	ND				
Total PeCDF	ND	1.24	ND				
Total HxCDF	ND	1.6	ND				
Total HpCDF	ND	1.21	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	2.8	2.8	2.8				
TEQ: ND=DL	5.6	5.6	5.6				

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Sample ID: Method Blank B6237_18888 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6237	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID:	MB1_18888_DF_TLX	Date Extracted:	02-Feb-2022
Date Collected:	n/a	pH:	n/a	QC Batch No.:	18888	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:22:22

Tetra-Dioxins	Conc. (pg/L)	Qualifiers	Penta-Dioxins	Conc. (pg/L)	Qualifiers	Hexa-Dioxins	Conc (pg/L)	Qualifiers	Hepta-Dioxins	Conc (pg/L)	Qualifiers
1368D	(2.01)		12479/12468D	(1.83)		124679/124689D	(1.91)		1234679D	(2.3)	
1379D	(2.01)		12469D	(1.83)		123468D	(1.91)		1234678D	(2.3)	
1369D	(2.01)		12368D	(1.83)		123679/123689D	(1.91)				
1469D	(2.01)		12478D	(1.83)		123469D	(1.91)				
1247D...[4]	(2.01)		12379D	(1.83)		123478D	(2.03)				
1378D	(2.01)		12369D...[3]	(1.83)		123678D	(1.8)				
1268D	(2.01)		12346/12347D	(1.83)		123467D	(1.91)				
1478D	(2.01)		12378D	(1.83)		123789D	(1.91)		**Conc.**	0	
1279D	(2.01)		12367D	(1.83)					**EMPC**	0	
1234/1269D	(2.01)		12389D	(1.83)							
1236D	(2.01)								**Octa-Dioxin**	**Conc (pg/L)**	**Qualifiers**
1237/1238D	(2.01)										
1239D	(2.01)								OCDD	(12.2)	
2378D	(2.01)										
1278D	(2.01)										
1267D	(2.01)										
1289D	(2.01)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	2.8	2.8
TEQ: ND=DL	5.6	5.6

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 476-076-ZXN

Report Created: 10-Feb-2022 10:27 Analyst: TF

Sample ID: Method Blank B6237_18888 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6237	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID:	MB1_18888_DF_TLX	Date Extracted:	02-Feb-2022
Date Collected:	n/a	pH:	n/a	QC Batch No.:	18888	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:22:22

Tetra-Furans	Conc. (pg/L)	Qualifiers	Penta-Furans	Conc. (pg/L)	Qualifiers	Hexa-Furans	Conc (pg/L)	Qualifiers	Hepta-Furans	Conc (pg/L)	Qualifiers
1368F	(0.949)		13468/12468F	(1.34)		123468F	(1.6)		1234678F	(1.03)	
1468F	(0.949)		13678F...[3]	(1.24)		124678/134678F	(1.6)		1234679F	(1.21)	
2468F	(0.949)		12368F...[3]	(1.24)		134679F	(1.6)		1234689F	(1.21)	
1346/1246F	(0.949)		14678F	(1.24)		124679F	(1.6)		1234789F	(1.43)	
1347F...[3]	(0.949)		13479F	(1.24)		124689F	(1.6)				
1348F	(0.949)		13469/12479F	(1.24)		123467F	(1.6)				
1248F...[3]	(0.949)		12346F	(1.24)		123478F	(1.64)				
1268F	(0.949)		23468/12469F	(1.24)		123678F	(1.61)				
1467F	(0.949)		12347F	(1.24)		123479F	(1.6)				
1478F	(0.949)		12348F	(1.24)		123469F	(1.6)				
1369/1237F	(0.949)		12378F	(1.29)		123679F	(1.6)				
2467F	(0.949)		12678/12367F	(1.24)		234678F	(1.42)		**Conc.**	0	
2368F	(0.949)		12379F	(1.24)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.949)		12679F	(1.24)		123689F	(1.6)				
1278F	(0.949)		23467/12369F	(1.24)		123789F	(1.81)		**Octa-Furan**	**Conc (pg/L)**	**Qualifiers**
1349F	(0.949)		23478F	(1.19)		123789/123489F	0				
1267F	(0.949)		23478/12489F	0		123489F	(1.6)		OCDF	(3.32)	
2346/1249F	(0.949)		12489F	(1.24)							
2347/1279F	(0.949)		12349F	(1.24)							
2348F	(0.949)		12389F	(1.24)							
2378F	(0.949)										
2367/3467F	(0.949)										
1269F	(0.949)										
1239F	(0.949)										
1289F	(0.949)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 476-076-ZXN

Report Created: 10-Feb-2022 10:27 Analyst: TF

Sample ID: Method Blank B6237_18888 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Sample ID:	MB1_18888_DF_TLX
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	QC Batch No.:	18888
Date Collected:	n/a	Split:	-	Date Extracted:	02-Feb-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	09-Feb-2022 19:22
Lab Project No:	B6237	Units	pg/L		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(2.01)		2.01	(2.01)	(2.01)	(2.01)
12378-PeCDD	(1.83)		1.83	(0.913)	(1.83)	(1.83)
123478-HxCDD	(2.03)		2.03	(0.203)	(0.203)	(0.203)
123678-HxCDD	(1.8)		1.8	(0.18)	(0.18)	(0.18)
123789-HxCDD	(1.91)		1.91	(0.191)	(0.191)	(0.191)
1234678-HpCDD	(2.3)		2.3	(0.023)	(0.023)	(0.023)
OCDD	(12.2)		12.2	(0.0122)	(0.00122)	(0.00365)
2378-TCDF	(0.949)		0.949	(0.0949)	(0.0949)	(0.0949)
12378-PeCDF	(1.29)		1.29	(0.0643)	(0.0643)	(0.0386)
23478-PeCDF	(1.19)		1.19	(0.595)	(0.595)	(0.357)
123478-HxCDF	(1.64)		1.64	(0.164)	(0.164)	(0.164)
123678-HxCDF	(1.61)		1.61	(0.161)	(0.161)	(0.161)
234678-HxCDF	(1.42)		1.42	(0.142)	(0.142)	(0.142)
123789-HxCDF	(1.81)		1.81	(0.181)	(0.181)	(0.181)
1234678-HpCDF	(1.03)		1.03	(0.0103)	(0.0103)	(0.0103)
1234789-HpCDF	(1.43)		1.43	(0.0143)	(0.0143)	(0.0143)
OCDF	(3.32)		3.32	(0.00332)	(0.000332)	(0.000995)

TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	2.48	2.93	2.8
EMPC = 0, ND = DL	4.96	5.86	5.6
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	2.48	2.93	2.8
EMPC = EMPC, ND = DL	4.96	5.86	5.6
EMPC = EMPC, < J-level = 0	0	0	0

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Checkcode: 476-076-ZXN

Sample ID: 0_18888_OPR001

Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6237	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18888_DF	Date Extracted:	02-Feb-2022
Date Collected:	n/a	pH:	n/a	QC Batch No:	18888	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:17:00

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11				ES 2378-TCDD	91.1	
12378-PeCDD	48.3				ES 12378-PeCDD	96.9	
123478-HxCDD	53.9				ES 123478-HxCDD	93.2	
123678-HxCDD	53.7				ES 123678-HxCDD	106	
123789-HxCDD	52.8				ES 123789-HxCDD	88.9	
1234678-HpCDD	53.4				ES 1234678-HpCDD	90.8	
OCDD	107				ES OCDD	91	
2378-TCDF	10.6				ES 2378-TCDF	86.7	
12378-PeCDF	49.1				ES 12378-PeCDF	93.2	
23478-PeCDF	53.6				ES 23478-PeCDF	91.3	
123478-HxCDF	50.6				ES 123478-HxCDF	87.6	
123678-HxCDF	53.1				ES 123678-HxCDF	93.9	
234678-HxCDF	50				ES 234678-HxCDF	102	
123789-HxCDF	49.1				ES 123789-HxCDF	87.7	
1234678-HpCDF	51.3				ES 1234678-HpCDF	94.3	
1234789-HpCDF	51.2				ES 1234789-HpCDF	89.9	
OCDF	102				ES OCDF	92.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	91.9	
Total TCDD	50.9		50.9		CS 12347-PeCDD	111	
Total PeCDD	73.2		73.2		CS 12346-PeCDF	100	
Total HxCDD	174		174		CS 123469-HxCDF	107	
Total HpCDD	65.3		65.3		CS 1234689-HpCDF	105	
Total TCDF	60		60				
Total PeCDF	211		211				
Total HxCDF	320		320				
Total HpCDF	102		102				
Total PCDD/Fs	**1,270**		**1,270**				
WHO-2005 TEQs							
TEQ: ND=0	116		116				
TEQ: ND=DL/2	116	0.161	116				
TEQ: ND=DL	116	0.323	116				

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Sample Receipt Notification

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

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*26-Jan-22 at 11:48*
AP Project name:	*B6237*
Requested TAT:	*10 business days*
Projected due date:	*9-Feb-22*
Matrix:	*Aqueous*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

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

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-012022-GW-BN-PZ-SC	B6237_001	Water - MS/MSD	3	1-Liter Amber	20-Jan-22	12:40	0.8	2	4905 2704 4719
11215131-012022-GW-BN-PZ-SW	B6237_002	Water	1	1-Liter Amber	20-Jan-22	13:55	0	3	4905 2704 4720
11215131-012022-GW-BN-PZ-NC	B6237_003	Water	1	1-Liter Amber	20-Jan-22	14:40	0.8	2	4905 2704 4719
11215131-012022-GW-BN-PZ-NE	B6237_004	Water	1	1-Liter Amber	20-Jan-22	15:20	0	3	4905 2704 4720
11215131-012022-GW-BN-DUP-1	B6237_005	Water	1	1-Liter Amber	20-Jan-22	00:00	0.8	2	4905 2704 4719

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact. Total samples.

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

Received by: Ashley Owens *Logged in by: Ashley Owens* *QC'ed by:* AK 28 Jan 22

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

Cooler 1 of 2

FD7743[illegible]

SGS CHAIN OF CUSTODY

To: Wilmington Lab
Attn: Tamara Burkamper
(910)794-2527

BU237 1/2

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

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston, [illegible]
PHONE: 713-907-3710 EMAIL: Meagan.Willis(

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

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: NONE	ANALYSIS & METHOD: M1613B	M8290A	M1668A	M1668C (BN)	HR-PAH	M1699	QC: MS	MSD	DUP	QTY	REMARKS
1 [illegible]-PZ-SC	1-20-22	1240		W	1 L		X						X	X		6	
																	Total D/F and Dissolved
																	D/F (lab filtered at 0.45 microns)
																	1 Liter amber - Total
																	1 Liter amber - Dissolved
																	COOLER 1 of 2 !

COLLECTED/RELINQUISHED BY (1): Brianna [illegible]	DATE: 1-21-22	TIME: 1245	RECEIVED BY: [illegible]		
RELINQUISHED BY (2): [illegible]	DATE: 1-21-22	TIME: 1350	RECEIVED BY: [illegible]	1/21/22	1350
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:		

RECEIVED BY LABORATORY: DATE: TIME:
[illegible] 1/21/22 11:48
COOLER SEAL: ☐ INTACT ☐ BROKEN ☐ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT
CARRIER: FedEx TEMP: °C 2.3 0.2 ; 0.0°
TRACKING #:

SGS NORTH AMERICA INC | ENVIRONMENT, HEALTH & SAFETY 6500 Business Drive Wilmington, NC 28405 910 350 1903 | 866 846 8290 www.sgs.com/ehs

Member of the SGS Group (SGS SA)

Cooler 2 of 2

~~TD774934~~ (F)

TO: Wilmington Lab
Attn: Tamara Burkamper
(910)794-2527

B602372

SGS CHAIN OF CUSTODY

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

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis(

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

PRESERVATIVE: None

ANALYSIS & METHOD: M1613B; ~~M8290A~~; M1668A; M1668C (B); HR-PAH; ~~M1699~~

	SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	QC (MS / MSD / DUP)	QTY	REMARKS
2	11215131-012022-GW-BN-PZ-SW	1-20-22	1355		W	1L		2	Total D/F and dissolved
3	11215131-012022-GW-BN-PZ-NC	↓	1440		↓	↓		2	D/F (lab filtered a.45 microns)
4	11215131-012022-GW-BN-PZ-NC		1520					2	1 Liter amber - Total
5	11215131-012022-GW-BN-DUP-1		—				DUP	2	1 Liter amber - Dissolved

Cooler 2 of 2!

COLLECTED/RELINQUISHED BY (1): Breana North	DATE: 1-20-22	TIME: 1245	RECEIVED BY: Eddie Custer	RECEIVED BY LABORATORY: Ashley Burns	DATE: 1/26/22 TIME: 11:48
RELINQUISHED BY (2): Eddie Custer	DATE: 1-21-22	TIME: 1350	RECEIVED BY: 1/21/22 1350	COOLER SEAL: ☐ INTACT ☐ BROKEN ■ ABSENT	
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:	CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT	
				CARRIER: FedEx	TEMP: °C 2.2 0.8 ; 0.0
				TRACKING #:	

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

SHIP DATE: 1JAN22
ACTWGT: 45.[illegible] LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

1/26/2022
11:48
0.2° (T.B.)

FedEx Express

1 of 3

TRK# [0201] 4905 2704 4708
MASTER

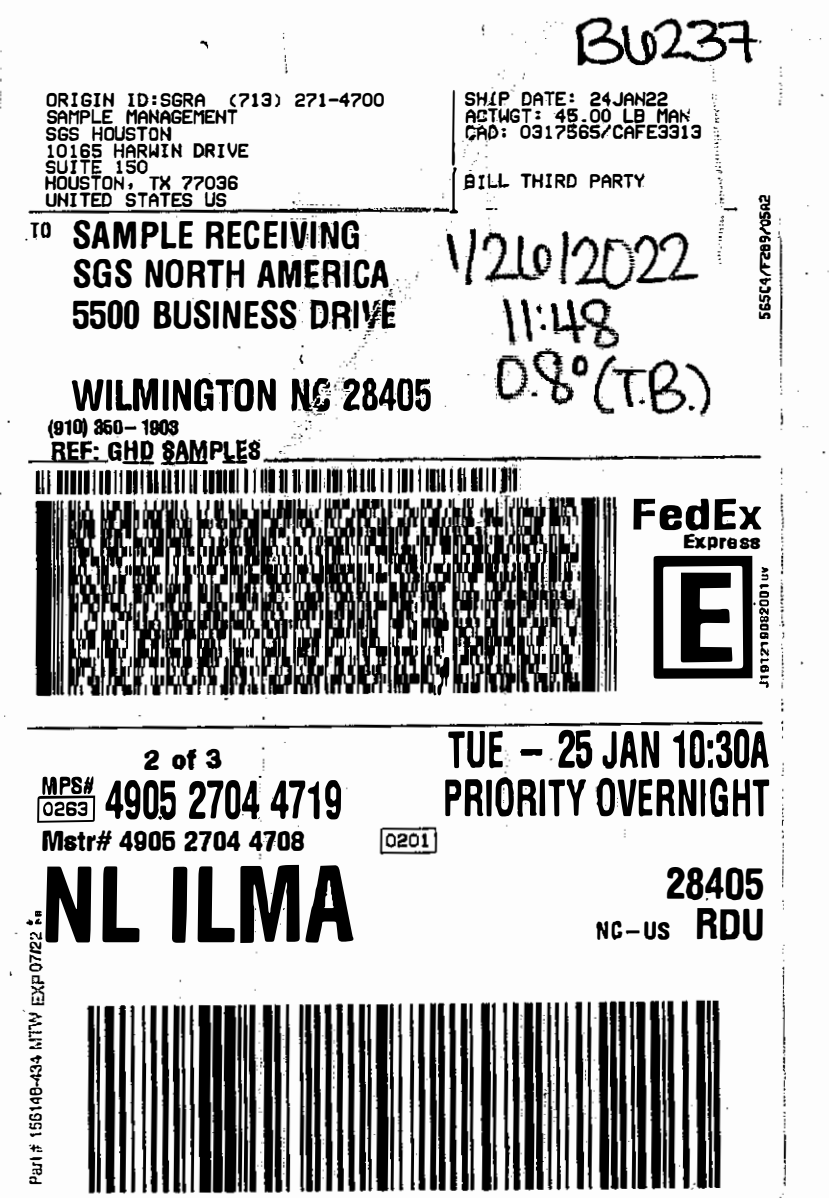
TUE - 25 JAN 10:30A
PRIORITY OVERNIGHT

NL ILMA

28405
NC-US RDU

Part # 156148-434 MTW EXP 07/22

565C4/7289/05A2



B0237

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

SHIP DATE: 24JAN22
ACTWGT: 45.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

1/26/2022
11:48
0.8° (T.B.)

FedEx Express

2 of 3

MPS# [0263] 4905 2704 4719
Mstr# 4905 2704 4708 [0201]

TUE - 25 JAN 10:30A
PRIORITY OVERNIGHT

NL ILMA

28405
NC-US RDU

Part # 156148-434 MTW EXP 07/22

565C4/7289/05A2

B6237

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

SHIP DATE: 24JAN22
ACTWGT: 45.00 LB MAN
CAD: 0317555/CAFE3313

BILL THIRD PARTY

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

1/26/2022
11:48
0.0°

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

56SC4/F289/05A2

FedEx Express

E

J191219082001uv

3 of 3

MPS# 0263 4905 2704 4720
Mstr# 4905 2704 4708 0201

TUE - 25 JAN 10:30A
PRIORITY OVERNIGHT

NL ILMA

28405
NC-US RDU

Part # 156148-434MTW EXP 07/22

SGS

Project Initiation Form

Project Number: B6237

Initiation Date: 28-Jan-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Aqueous

TAT: 10 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR

1L extraction

Sample 001 is MS/MSD

Read and understood, initial and date: Prep Lab: JRH 2/3/22 RBB 2/4/22 HRMS Lab:

Reporting Instructions

M1613B

Full Report

Sample 001 is MS/MSD summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab:

PM Initials: akornegay Date: 28-Jan-2022

SGS

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

Extraction Type: SDS | TALEX Carbon SPE

[Aqueous]

Final Volume: 20 mL

Batch# 18888

Split: ~~T12~~ ~~T14~~

Extract Initial/Date: JRH 2/3/22

Clean-up Initial/Date: ~~JAB~~ 2/4/22

Transfer Init/Date: ~~JAB~~ 2/7/22

Lab Sample ID	Extraction Position Solvent: DCM	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B6237_18888_001	3	995.6				6 0 pale cloudy, yellow
B6237_18888_001MS	4	996.6				6 0 cloudy, pale yellow
B6237_18888_001MSD	5	999.9				6 0 cloudy, pale yellow
B6237_18888_002	6	1016.5				6 0 sewage smell, cloudy
B6237_18888_003	7	1010.7		TD 2/10/22		7 0 cloudy, yellow
B6237_18888_004	8	1022.0				6 0 sewage smell, DM, cloudy, amber
B6237_18888_005	9	1022.1				6 0 DM, cloudy, amber
MB1_18888	1	1000.0				5 0 Distilled H2O
OPR1_18888	2	1000.0				5 0 Distilled H2O

TD 2/8/22

Supply IDs

Toluene	N/A
MeCHL	STL4417
Florisil	SPL5-77
Hexane	STL14-22
Silica	SPL5-69
S Nitrate	N/A
Base Silica	N/A
HydroMatrix	N/A
Tetradecane	SPL5-75D
H_2SO_4	N/A
A Silica	SPL5-82
Sodium Sulfate	SPL5-60B

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	TD 2/10/22
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start:	
	Stop:	TD 2/10/22
HEX	Start:	
	Stop:	
DCM	Start:	1430
	Stop:	1925

SGS

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

Aqueous

Batch# 18888

Inter-Department Communication Sheet

SGS

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

Batch# 18888

Lab Sample ID	Spiker Initials/Date: JRH 2/2/22	JRH 2/2/22	JRH 2/2/22	2/4/22	2/7/22		
	D/F A2-A	D/F A2-B	D/F ES	D/F CS	D/F JS		
	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount:	Amount:
	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials
B6237_18888_001	—	—	KE	KE	KE		
B6237_18888_001MS	KE	KE	KE	KE	KE		
B6237_18888_001MSD	KE	KE	KE	KE	KE		
B6237_18888_002	—	—	KE	KE	KE		
B6237_18888_003	—	—	KE	KE	KE		
B6237_18888_004	—	—	KE	KE	KE		
B6237_18888_005	—	—	KE	KE	KE		
MBI_18888	—	—	KE	KE	KE		
OPR1_18888	KE	KE	KE	KE	KE		

2/8/22

Standard Information

Pipette ID							
Spike ID	D/F A2-A	D/F A2-B	D/F ES	D/F CS	D/F JS		
SII.#	26-2-8	25-157-2	26-2-9	25-338-1	25-384-1		
Concentration	10 pg/µL	10 pg/µL	100 pg/µL	100 pg/µL	100 pg/µL		
Expiration Date	7/9/23	6/22/22	2/2023	4/6/22	1/28/23		

KE 2/10/22

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

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
13	220209C13	3	CS3_220209_DF_CB	1.00	25-347-1	DTF	483-759	09-Feb-2022	15:26:13
14	220209C14	7	OPR1_18888_DF	1.00	0_18888_OPR001	DTF	357-810	09-Feb-2022	16:17:00
16	220209C16	2	SBS_220209_DF_CC	1.00	30-61-1	DTF	217-503	09-Feb-2022	18:36:03
17	220209C17	6	MB1_18888_DF_TLX	1.00	Method Blank	DTF	476-076	09-Feb-2022	19:22:22
20	220209C20	8	B6237_18888_DF_001	1.00	11215131-012022-GW-BN-PZ-SC	DTF	543-255	09-Feb-2022	21:41:24
21	220209C21	9	B6237_18888_DF_001MS	1.00	11215131-012022-GW-BN-PZ-SC-MS	DTF	368-796	09-Feb-2022	22:27:43
22	220209C22	10	B6237_18888_DF_001MSD	1.00	11215131-012022-GW-BN-PZ-SC-MSD	DTF	324-318	09-Feb-2022	23:14:03
23	220209C23	11	B6237_18888_DF_002	1.02	11215131-012022-GW-BN-PZ-SW	DTF	769-829	10-Feb-2022	00:00:24
24	220209C24	12	B6237_18888_DF_003	1.01	11215131-012022-GW-BN-PZ-NC	DTF	156-756	10-Feb-2022	00:46:43
25	220209C25	13	B6237_18888_DF_004	1.02	11215131-012022-GW-BN-PZ-NE	DTF	938-617	10-Feb-2022	01:33:04
26	220209C26	14	B6237_18888_DF_005	1.02	11215131-012022-GW-BN-DUP-1	DTF	790-719	10-Feb-2022	02:19:25

REVIEWED
Tyler_Fritz , 2/10/2022, 10:39:22 AM

REVIEWED
Amber_Kornegay , 2/10/2022, 1:51:20 PM

Lab ID: MB1_18888_DF_TLX **Acq'd:** 09 Feb 2022 19:22 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6237_18888 **UTP:** 10-Feb-2022 10:22:26 DTF **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 476-076-ZXN

Datafile: 220209C17 **Report:** 10 Feb 2022 10:27 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	3195.844	2.01
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	2503.841	1.83
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2933.883	2.03
123678-HxCDD	NotFnd		1.0035	-		-	-	-	1.15	-	2933.883	1.8
123789-HxCDD	NotFnd		1.0112	-		-	-	-	1.05	-	2933.883	1.91
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	3035.383	2.3
OCDD	NotFnd		1.0004	-		-	-	-	1.13	-	8381.278	12.2
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	1904.4755	0.949
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2518.538	1.29
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2518.538	1.19
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	3089.563	1.64
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3089.563	1.61
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	3089.563	1.42
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3089.563	1.81
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2087.9078	1.03
1234789-HpCDF	NotFnd		1.0002	-		-	-	-	1.31	-	2087.9078	1.43
OCDF	NotFnd		1.0003	-		-	-	-	1.07	-	2745.615	3.32

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.45	1.0236	1.0239	+0.5	2.75E+07	0.82	Y	1.05	84.4
ES 12378-PeCDD	33.79	1.2144	1.2162	+3.6	2.38E+07	1.62	Y	0.88	86.6
ES 123478-HxCDD	37.71	0.9920	0.9919	-0.2	2.26E+07	1.29	Y	0.97	91
ES 123678-HxCDD	37.83	0.9951	0.9950	-0.2	2.42E+07	1.29	Y	0.94	100
ES 123789-HxCDD	38.13	1.0027	1.0027	0	2.46E+07	1.26	Y	1.09	88.1
ES 1234678-HpCDD	40.80	1.0724	1.0730	+1.5	2.01E+07	1.06	Y	0.91	86.2
ES OCDD	43.48	1.1428	1.1435	+1.8	2.60E+07	0.93	Y	0.62	81.5
ES 2378-TCDF	27.59	1.0516	1.0520	+0.7	4.23E+07	0.78	Y	1.06	81.5
ES 12378-PeCDF	32.35	1.2312	1.2333	+4.1	3.71E+07	1.56	Y	0.91	83.2
ES 23478-PeCDF	33.46	1.2733	1.2757	+4.8	3.63E+07	1.53	Y	0.88	83.8
ES 123478-HxCDF	36.70	0.9655	0.9653	-0.4	2.59E+07	0.54	Y	1.20	84.8
ES 123678-HxCDF	36.85	0.9692	0.9691	-0.2	3.09E+07	0.53	Y	1.35	89.6
ES 234678-HxCDF	37.53	0.9871	0.9870	-0.2	3.32E+07	0.53	Y	1.24	105
ES 123789-HxCDF	38.48	1.0121	1.0121	0	2.43E+07	0.53	Y	1.16	82.4
ES 1234678-HpCDF	39.87	1.0479	1.0485	+1.4	2.21E+07	0.49	Y	0.97	89.3
ES 1234789-HpCDF	41.26	1.0845	1.0851	+1.5	1.80E+07	0.45	Y	0.85	82.8
ES OCDF	43.66	1.1477	1.1481	+1.0	3.40E+07	0.90	Y	0.81	82.4

Lab ID: MB1_18888_DF_TLX **Acq'd:** 09 Feb 2022 19:22 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6237_18888 **UTP:** 10-Feb-2022 10:22:26 DTF **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 476-076-ZXN

Datafile: 220209C17 **Report:** 10 Feb 2022 10:27 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.79		-	-	-	3.12E+07	0.79	Y	-	-
JS 1234-TCDF	26.23		-	-	-	4.90E+07	0.79	Y	-	-
JS 123467-HxCDD	38.02		-	-	-	1.28E+07	1.32	Y	-	-
CS 37Cl-2378-TCDD	28.47		1.0244	1.0247	+0.5	1.34E+07	n/a	-	1.20	89.2
CS 12347-PeCDD	33.29		1.1964	1.1981	+3.4	2.44E+07	1.57	Y	0.75	104
CS 12346-PeCDF	31.82		1.2112	1.2131	+3.6	3.86E+07	1.57	Y	0.85	92.5
CS 123469-HxCDF	37.16		0.9775	0.9774	-0.2	3.27E+07	0.56	Y	1.12	115
CS 1234689-HpCDF	40.27		1.0584	1.0591	+1.7	2.39E+07	0.46	Y	0.89	105
~~SS 37Cl-2378-TCDD~~	~~28.47~~		~~1.0244~~	~~1.0247~~	~~+0.5~~	~~1.34E+07~~	~~n/a~~		~~1.15~~	~~106~~
~~SS 12347-PeCDD~~	~~33.29~~		~~1.1964~~	~~1.1981~~	~~+3.4~~	~~2.44E+07~~	~~1.57~~	~~Y~~	~~0.86~~	~~120~~
~~SS 12346-PeCDF~~	~~31.82~~		~~1.2112~~	~~1.2131~~	~~+3.6~~	~~3.86E+07~~	~~1.57~~	~~Y~~	~~0.94~~	~~111~~
~~SS 123469-HxCDF~~	~~37.16~~		~~0.9775~~	~~0.9774~~	~~-0.2~~	~~3.27E+07~~	~~0.56~~	~~Y~~	~~0.83~~	~~120~~
~~SS 1234689-HpCDF~~	~~40.27~~		~~1.0584~~	~~1.0591~~	~~+1.7~~	~~2.39E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~118~~

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

Lab ID: MB1_18888_DF_TLX **Acq'd: 09 Feb 2022 19:22 DTF** **Wt/Vol: 1.00 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6237_18888 **UTP: 10-Feb-2022 10:22:26 DTF** **J-level: 5 pg/L** **Split: 1** **Checkcode: 476-076-ZXN**

Datafile: 220209C17 **Report: 10 Feb 2022 10:27 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8737						1.18		3195.844	2.01
1379-TCDD	NotFnd		0.8860						1.18		3195.844	2.01
1369-TCDD	NotFnd		0.9009						1.18		3195.844	2.01
1469-TCDD	NotFnd		0.9281						1.18		3195.844	2.01
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3195.844	2.01
1378-TCDD	NotFnd		0.9432						1.18		3195.844	2.01
1268-TCDD	NotFnd		0.9500						1.18		3195.844	2.01
1478-TCDD	NotFnd		0.9586						1.18		3195.844	2.01
1279-TCDD	NotFnd		0.9645						1.18		3195.844	2.01
1234/1269-TCDD	NotFnd		0.9770						1.18		3195.844	2.01
1236-TCDD	NotFnd		0.9817						1.18		3195.844	2.01
1237/1238-TCDD	NotFnd		0.9905						1.18		3195.844	2.01
1239-TCDD	NotFnd		0.9952						1.18		3195.844	2.01
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**3195.844**	**2.01**
1278-TCDD	NotFnd		1.0121						1.18		3195.844	2.01
1267-TCDD	NotFnd		1.0167						1.18		3195.844	2.01
1289-TCDD	NotFnd		1.0345						1.18		3195.844	2.01
12479/12468-PeCDD	NotFnd		0.9267						1.04		2503.841	1.83
12469-PeCDD	NotFnd		0.9425						1.04		2503.841	1.83
12368-PeCDD	NotFnd		0.9588						1.04		2503.841	1.83
12478-PeCDD	NotFnd		0.9643						1.04		2503.841	1.83
12379-PeCDD	NotFnd		0.9673						1.04		2503.841	1.83
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		2503.841	1.83
12346/12347-PeCDD	NotFnd		0.9858						1.04		2503.841	1.83
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**2503.841**	**1.83**
12367-PeCDD	NotFnd		1.0033						1.04		2503.841	1.83
12389-PeCDD	NotFnd		1.0134						1.04		2503.841	1.83
124679/124689-HxCDD	NotFnd		0.9542						1.10		2933.883	1.91
123468-HxCDD	NotFnd		0.9715						1.10		2933.883	1.91
123679/123689-HxCDD	NotFnd		0.9793						1.10		2933.883	1.91
123469-HxCDD	NotFnd		0.9828						1.10		2933.883	1.91
123478-HxCDD	NotFnd		**1.0004**						1.09		**2933.883**	**2.03**
123678-HxCDD	NotFnd		**1.0035**						1.15		**2933.883**	**1.8**
123467-HxCDD	NotFnd		1.0085						1.10		2933.883	1.91
123789-HxCDD	NotFnd		**1.0112**						1.05		**2933.883**	**1.91**

Lab ID: MB1_18888_DF_TLX **Acq'd:** 09 Feb 2022 19:22 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6237_18888 **UTP:** 10-Feb-2022 10:22:26 DTF **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 476-076-ZXN

Datafile: 220209C17 **Report:** 10 Feb 2022 10:27 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

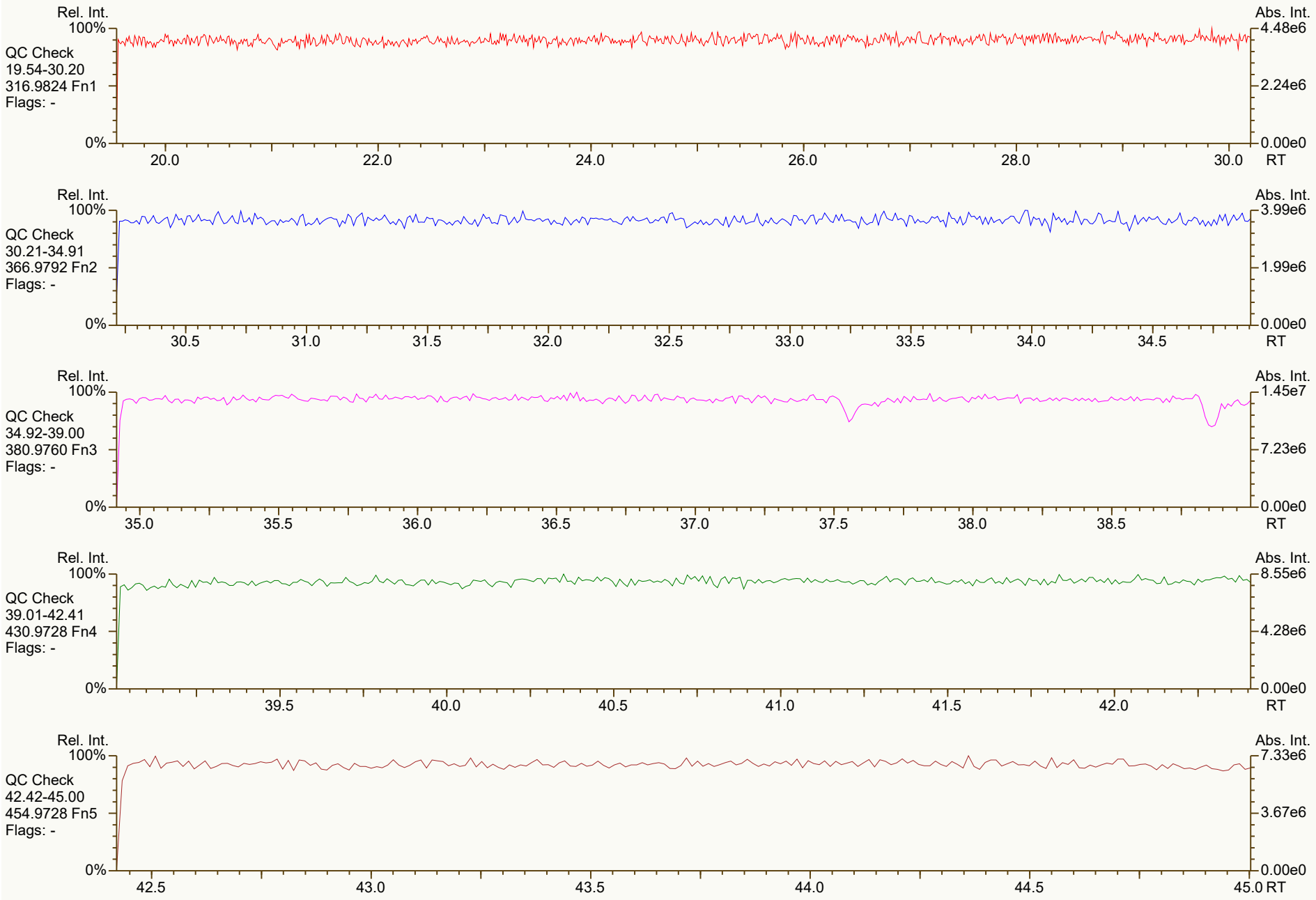
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9837						1.06		3035.383	2.3
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**3035.383**	**2.3**
OCDD	**NotFnd**		**1.0004**						**1.13**		**8381.278**	**12.2**
OCDD-a	NotFnd		1.0003						0.07		2955.731	67.1
1368-TCDF	NotFnd		0.8251						1.08		1904.4755	0.949
1468-TCDF	NotFnd		0.8458						1.08		1904.4755	0.949
2468-TCDF	NotFnd		0.8686						1.08		1904.4755	0.949
1346/1246-TCDF	NotFnd		0.8814						1.08		1904.4755	0.949
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		1904.4755	0.949
1348-TCDF	NotFnd		0.8962						1.08		1904.4755	0.949
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		1904.4755	0.949
1268-TCDF	NotFnd		0.9145						1.08		1904.4755	0.949
1467-TCDF	NotFnd		0.9193						1.08		1904.4755	0.949
1478-TCDF	NotFnd		0.9254						1.08		1904.4755	0.949
1369/1237-TCDF	NotFnd		0.9387						1.08		1904.4755	0.949
2467-TCDF	NotFnd		0.9433						1.08		1904.4755	0.949
2368-TCDF	NotFnd		0.9489						1.08		1904.4755	0.949
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		1904.4755	0.949
1278-TCDF	NotFnd		0.9683						1.08		1904.4755	0.949
1349-TCDF	NotFnd		0.9722						1.08		1904.4755	0.949
1267-TCDF	NotFnd		0.9783						1.08		1904.4755	0.949
2346/1249-TCDF	NotFnd		0.9850						1.08		1904.4755	0.949
2347/1279-TCDF	NotFnd		0.9926						1.08		1904.4755	0.949
2348-TCDF	NotFnd		0.9967						1.08		1904.4755	0.949
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**1904.4755**	**0.949**
2367/3467-TCDF	NotFnd		1.0137						1.08		1904.4755	0.949
1269-TCDF	NotFnd		1.0223						1.08		1904.4755	0.949
1239-TCDF	NotFnd		1.0321						1.08		1904.4755	0.949
1289-TCDF	NotFnd		1.0722						1.08		1904.4755	0.949
13468/12468-PeCDF	NotFnd		0.9139						1.02		2716.639	1.34
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		2518.538	1.24
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		2518.538	1.24
14678-PeCDF	NotFnd		0.9692						1.02		2518.538	1.24
13479-PeCDF	NotFnd		0.9723						1.02		2518.538	1.24
13469/12479-PeCDF	NotFnd		0.9797						1.02		2518.538	1.24
12346-PeCDF	NotFnd		0.9840						1.02		2518.538	1.24

Lab ID: MB1_18888_DF_TLX **Acq'd: 09 Feb 2022 19:22 DTF** **Wt/Vol: 1.00 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6237_18888 **UTP: 10-Feb-2022 10:22:26 DTF** **J-level: 5 pg/L** **Split: 1** **Checkcode: 476-076-ZXN**

Datafile: 220209C17 **Report: 10 Feb 2022 10:27 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		2518.538	1.24
12347-PeCDF	NotFnd		0.9894						1.02		2518.538	1.24
12348-PeCDF	NotFnd		0.9940						1.02		2518.538	1.24
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2518.538**	**1.29**
12678/12367-PeCDF	NotFnd		1.0089						1.02		2518.538	1.24
12379-PeCDF	NotFnd		1.0142						1.02		2518.538	1.24
12679-PeCDF	NotFnd		0.9929						1.02		2518.538	1.24
23467/12369-PeCDF	NotFnd		0.9967						1.02		2518.538	1.24
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2518.538**	**1.19**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2518.538	1.24
12349-PeCDF	NotFnd		1.0100						1.02		2518.538	1.24
12389-PeCDF	NotFnd		1.0324						1.02		2518.538	1.24
123468-HxCDF	NotFnd		0.9627						1.19		3089.563	1.6
124678/134678-HxCDF	NotFnd		0.9682						1.19		3089.563	1.6
134679-HxCDF	NotFnd		0.9744						1.19		3089.563	1.6
124679-HxCDF	NotFnd		0.9798						1.19		3089.563	1.6
124689-HxCDF	NotFnd		0.9858						1.19		3089.563	1.6
123467-HxCDF	NotFnd		0.9972						1.19		3089.563	1.6
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**3089.563**	**1.64**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3089.563**	**1.61**
123479-HxCDF	NotFnd		1.0049						1.19		3089.563	1.6
123469-HxCDF	NotFnd		1.0090						1.19		3089.563	1.6
123679-HxCDF	NotFnd		0.9942						1.19		3089.563	1.6
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**3089.563**	**1.42**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3089.563	1.6
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3089.563**	**1.81**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		3089.563	1.6
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2087.9078**	**1.03**
1234679-HpCDF	NotFnd		1.0068						1.34		2087.9078	1.21
1234689-HpCDF	NotFnd		1.0103						1.34		2087.9078	1.21
1234789-HpCDF	**NotFnd**		**1.0002**						**1.31**		**2087.9078**	**1.43**
OCDF	**NotFnd**		**1.0003**						**1.07**		**2745.615**	**3.32**
OCDF-a	NotFnd		1.0002						0.07		3210.98	62.6


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.48e6
2.24e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.99e6
1.99e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.45e7
7.23e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
8.55e6
4.28e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
7.33e6
3.67e6
0.00e0

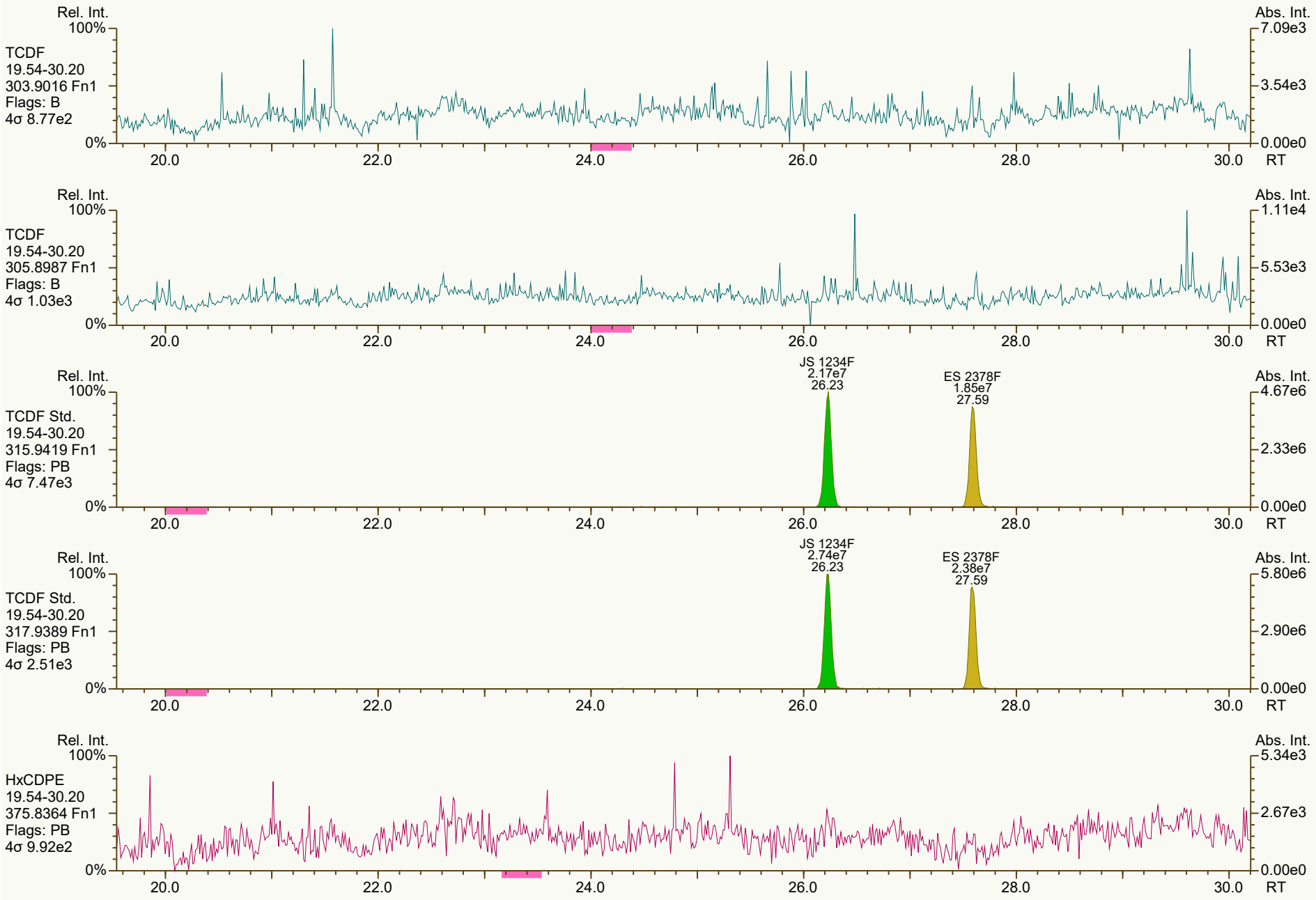

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 2.15e3
0%
Abs. Int.
8.31e3
4.15e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.04e3
0%
Abs. Int.
7.04e3
3.52e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.32e3
0%
CS 37Cl-2378D
1.34e7
28.47
Abs. Int.
3.23e6
1.61e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.32e3
0%
JS 1234D
1.38e7
27.79
ES 2378D
1.24e7
28.45
Abs. Int.
3.22e6
1.61e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 1.77e3
0%
JS 1234D
1.74e7
27.79
ES 2378D
1.51e7
28.45
Abs. Int.
3.93e6
1.97e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PB
4σ 1.32e3
0%
Abs. Int.
7.55e3
3.77e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PB
4σ 1.19e3
0%
Abs. Int.
4.38e3
2.19e3
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 2.08e3
0%
CS 12347D
1.49e7
33.29
ES 12378D
1.47e7
33.79
Abs. Int.
4.34e6
2.17e6
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 1.89e3
0%
CS 12347D
9.50e6
33.29
ES 12378D
9.06e6
33.80
Abs. Int.
2.67e6
1.34e6
0.00e0
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.99e6
1.99e6
0.00e0
RT

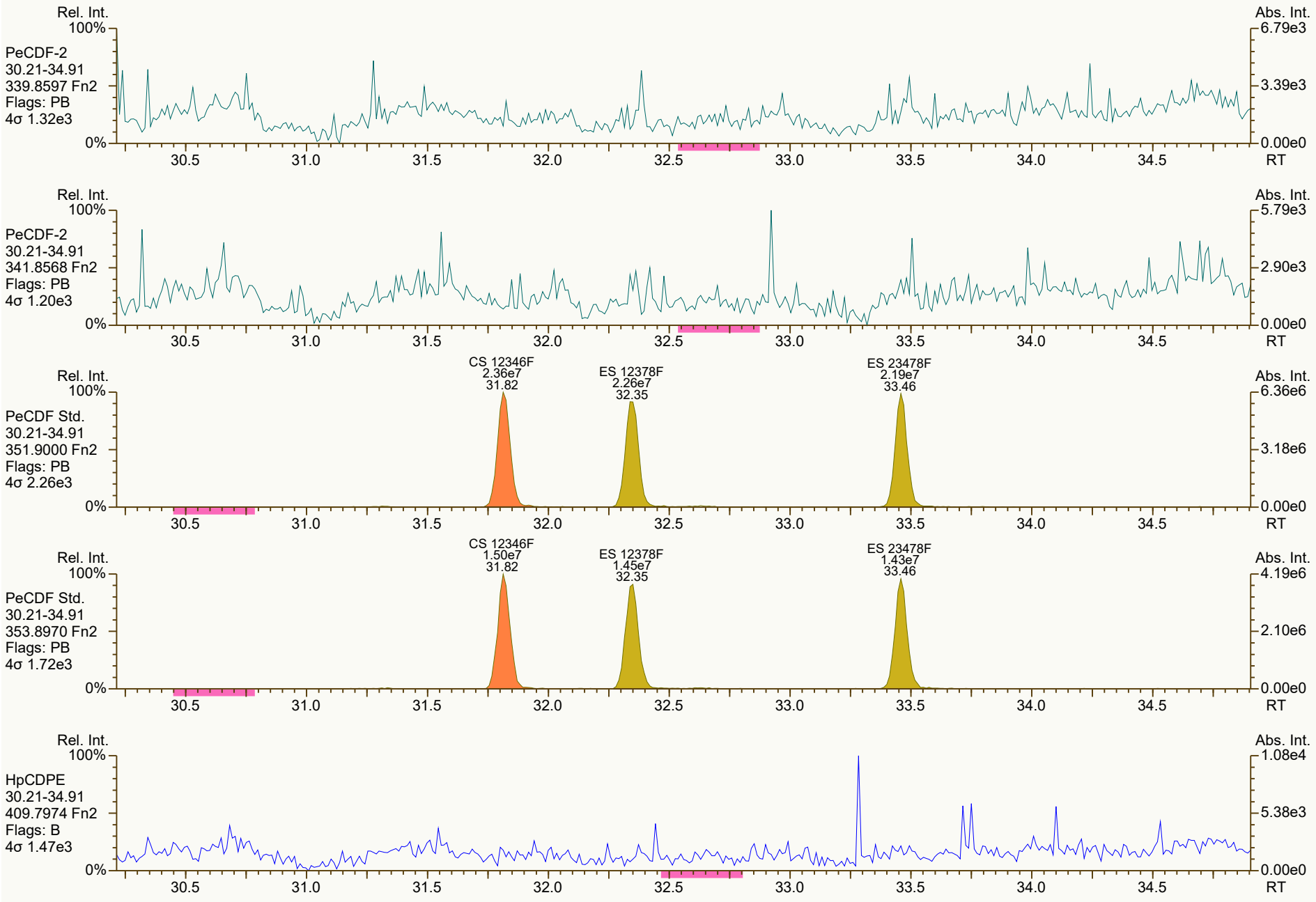

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: B
4σ 1.61e3
0%
Abs. Int.
6.31e3
3.16e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: B
4σ 1.33e3
0%
Abs. Int.
6.86e3
3.43e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 1.61e3
0%
ES 123678D
1.37e7
37.83
ES 123478D
1.27e7
37.71
ES 123789D
1.37e7
38.12
JS 123467D
7.26e6
38.02
Abs. Int.
4.09e6
2.05e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 1.66e3
0%
ES 123678D
1.06e7
37.83
ES 123478D
9.88e6
37.71
ES 123789D
1.09e7
38.12
JS 123467D
5.50e6
38.02
Abs. Int.
3.25e6
1.62e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.45e7
7.23e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.58e3
0%
Abs. Int.
6.13e3
3.07e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: B
4σ 1.45e3
0%
Abs. Int.
1.13e4
5.64e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
1.03e7
40.80
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.84e3
0%
Abs. Int.
3.21e6
1.60e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
9.74e6
40.80
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 2.28e3
0%
Abs. Int.
2.95e6
1.48e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
8.55e6
4.28e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

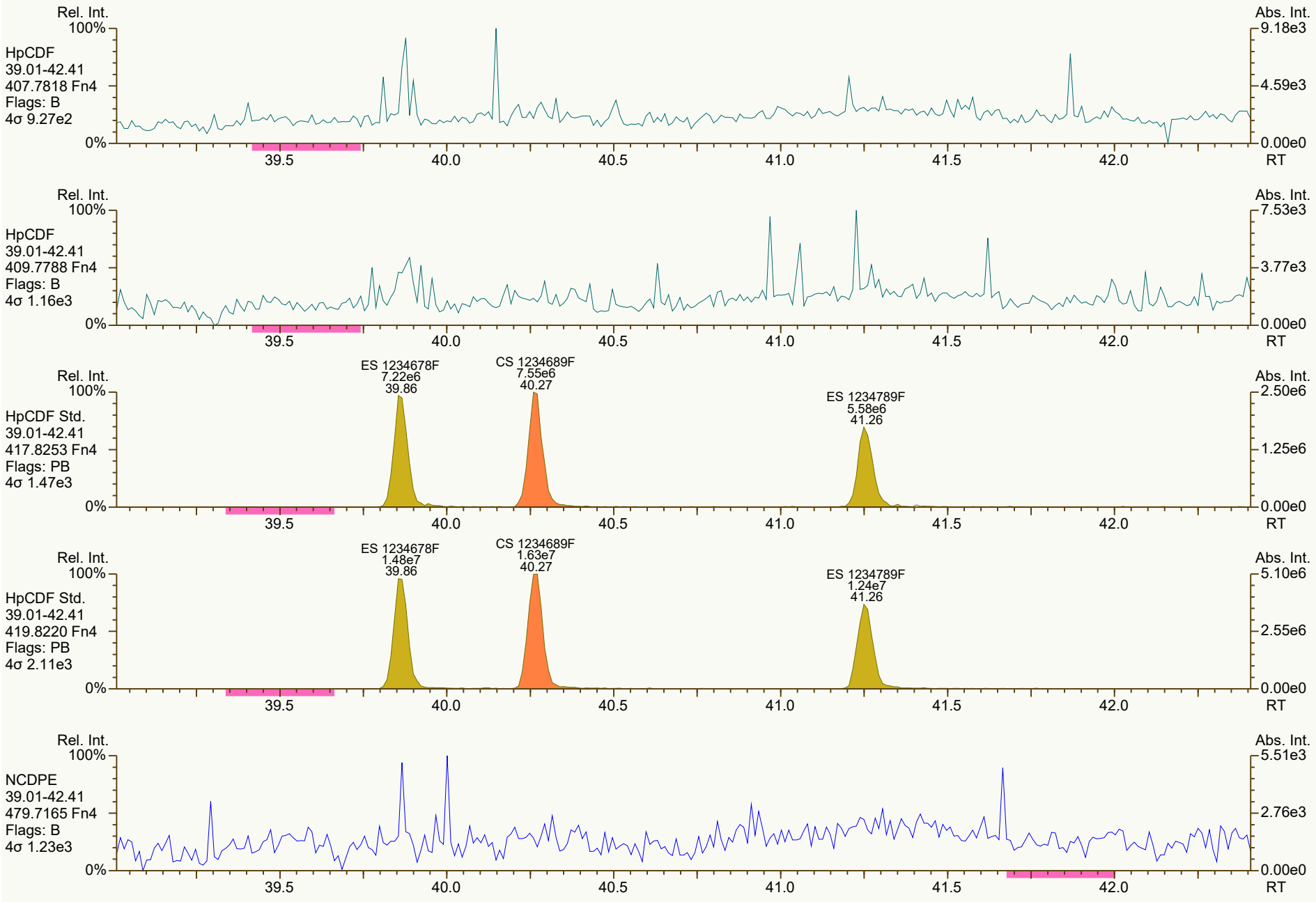

Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: B
4σ 4.14e3
0%
Abs. Int.
1.42e4
7.12e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: B
4σ 4.24e3
0%
Abs. Int.
1.19e4
5.93e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.25e7*
43.48
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 1.54e3
0%
Abs. Int.
2.94e6
1.47e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.35e7*
43.48
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
3.27e6
1.64e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.33e6
3.67e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

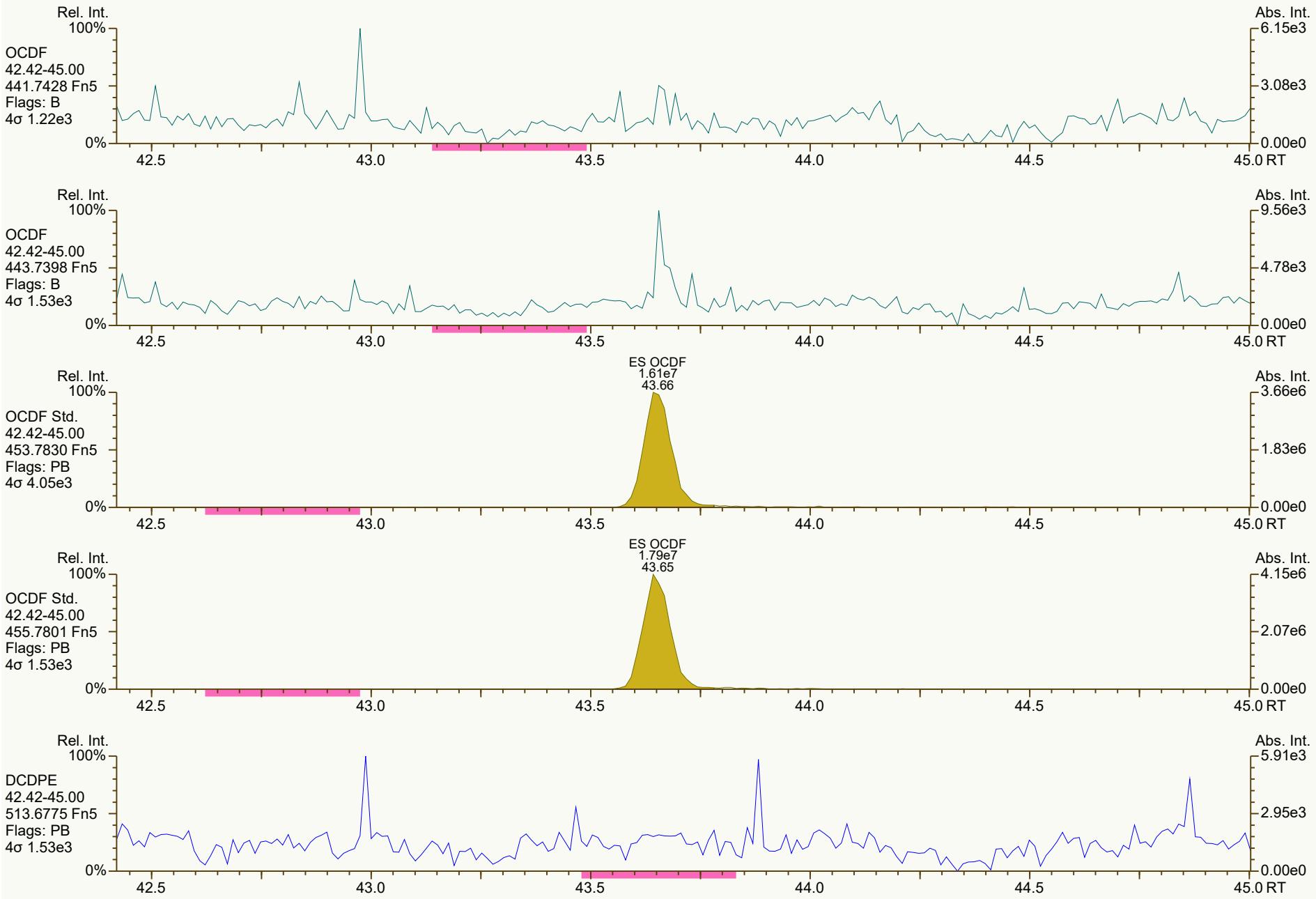

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: B
4σ 8.77e2
0%
Abs. Int.
7.09e3
3.54e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 1.03e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 7.47e3
0%
JS 1234F
2.17e7
26.23
ES 2378F
1.85e7
27.59
Abs. Int.
4.67e6
2.33e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.51e3
0%
JS 1234F
2.74e7
26.23
ES 2378F
2.38e7
27.59
Abs. Int.
5.80e6
2.90e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 9.92e2
0%
Abs. Int.
5.34e3
2.67e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.16e4
5.79e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.57e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.81e3
4.90e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.14e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.48e6
2.24e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PB
4σ 1.32e3
0%
Abs. Int.
6.79e3
3.39e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PB
4σ 1.20e3
0%
Abs. Int.
5.79e3
2.90e3
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 2.26e3
0%
CS 12346F
2.36e7
31.82
ES 12378F
2.26e7
32.35
ES 23478F
2.19e7
33.46
Abs. Int.
6.36e6
3.18e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 1.72e3
0%
CS 12346F
1.50e7
31.82
ES 12378F
1.45e7
32.35
ES 23478F
1.43e7
33.46
Abs. Int.
4.19e6
2.10e6
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.47e3
0%
Abs. Int.
1.08e4
5.38e3
0.00e0
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PB
4σ 1.16e3
0%
Abs. Int.
3.52e3
1.76e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: B
4σ 1.93e3
0%
Abs. Int.
6.47e3
3.24e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 2.63e3
0%
ES 123478F
9.08e6
36.70
ES 123678F
1.07e7
36.85
CS 123469F
1.17e7
37.16
ES 234678F
1.15e7
37.53
ES 123789F
8.44e6*
38.48
Abs. Int.
3.26e6
1.63e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 3.89e3
0%
ES 123478F
1.69e7
36.70
ES 123678F
2.03e7
36.85
CS 123469F
2.10e7
37.16
ES 234678F
2.17e7
37.53
ES 123789F
1.59e7*
38.48
Abs. Int.
6.19e6
3.10e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.23e3
0%
Abs. Int.
7.19e3
3.60e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: B
4σ 9.27e2
0%
Abs. Int.
9.18e3
4.59e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: B
4σ 1.16e3
0%
Abs. Int.
7.53e3
3.77e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 1.47e3
0%
ES 1234678F
7.22e6
39.86
CS 1234689F
7.55e6
40.27
ES 1234789F
5.58e6
41.26
Abs. Int.
2.50e6
1.25e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 2.11e3
0%
ES 1234678F
1.48e7
39.86
CS 1234689F
1.63e7
40.27
ES 1234789F
1.24e7
41.26
Abs. Int.
5.10e6
2.55e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.23e3
0%
Abs. Int.
5.51e3
2.76e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: B
4σ 1.22e3
0%
Abs. Int.
6.15e3
3.08e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: B
4σ 1.53e3
0%
Abs. Int.
9.56e3
4.78e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.61e7
43.66
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 4.05e3
0%
Abs. Int.
3.66e6
1.83e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.79e7
43.65
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 1.53e3
0%
Abs. Int.
4.15e6
2.07e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.53e3
0%
Abs. Int.
5.91e3
2.95e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6237_18888_DF_001 **Acq'd:** 09 Feb 2022 21:41 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-SC **UTP:** 10-Feb-2022 10:22:27 DTF **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 543-255-MYM

Datafile: 220209C20 **Report:** 10 Feb 2022 10:27 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.48	J EMPC	1.0008	1.0009	+0.2	7.18E+04	1.25	N	1.18	3.52	3457.763	1.84
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	2708.671	1.4
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2957.792	1.56
123678-HxCDD	NotFnd		1.0035	-		-	-	-	1.15	-	2957.792	1.44
123789-HxCDD	NotFnd		1.0112	-		-	-	-	1.05	-	2957.792	1.51
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	2722.205	1.53
OCDD	43.51	J	1.0004	1.0005	+0.3	1.64E+05	0.89	Y	1.13	15.7	3121.293	3.44
2378-TCDF	27.62		1.0008	1.0006	-0.3	4.94E+05	0.75	Y	1.08	16.6	2571.928	0.936
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2256.461	0.829
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2256.461	0.784
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2213.9858	0.791
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2213.9858	0.799
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2213.9858	0.742
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2213.9858	0.904
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2399.608	0.817
1234789-HpCDF	NotFnd		1.0002	-		-	-	-	1.31	-	2399.608	1.21
OCDF	43.67	J	1.0003	1.0002	-0.3	5.68E+04	0.78	Y	1.07	4.11	3007.848	2.37

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.45	1.0236	1.0238	+0.3	3.45E+07	0.83	Y	1.05	85.7
ES 12378-PeCDD	33.80	1.2144	1.2161	+3.4	3.15E+07	1.59	Y	0.88	93.3
ES 123478-HxCDD	37.72	0.9920	0.9919	-0.2	2.91E+07	1.27	Y	0.97	95.1
ES 123678-HxCDD	37.83	0.9951	0.9950	-0.2	3.17E+07	1.26	Y	0.94	106
ES 123789-HxCDD	38.13	1.0027	1.0027	0	3.19E+07	1.26	Y	1.09	92.7
ES 1234678-HpCDD	40.80	1.0724	1.0730	+1.5	2.76E+07	1.08	Y	0.91	96.1
ES OCDD	43.49	1.1428	1.1436	+2.1	3.70E+07	0.94	Y	0.62	94.1
ES 2378-TCDF	27.60	1.0516	1.0520	+0.7	5.50E+07	0.80	Y	1.06	88.2
ES 12378-PeCDF	32.35	1.2312	1.2331	+3.7	4.74E+07	1.54	Y	0.91	88.4
ES 23478-PeCDF	33.46	1.2733	1.2755	+4.4	4.76E+07	1.56	Y	0.88	91.6
ES 123478-HxCDF	36.71	0.9655	0.9653	-0.4	3.48E+07	0.53	Y	1.20	92.1
ES 123678-HxCDF	36.85	0.9692	0.9691	-0.2	4.17E+07	0.55	Y	1.35	97.8
ES 234678-HxCDF	37.53	0.9871	0.9870	-0.2	4.49E+07	0.54	Y	1.24	115
ES 123789-HxCDF	38.48	1.0121	1.0121	0	3.44E+07	0.55	Y	1.16	94.5
ES 1234678-HpCDF	39.87	1.0479	1.0485	+1.4	3.03E+07	0.46	Y	0.97	99.3
ES 1234789-HpCDF	41.26	1.0845	1.0852	+1.7	2.61E+07	0.48	Y	0.85	97.2
ES OCDF	43.67	1.1477	1.1484	+1.8	5.16E+07	0.91	Y	0.81	101

Lab ID: B6237_18888_DF_001 **Acq'd:** 09 Feb 2022 21:41 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-SC **UTP:** 10-Feb-2022 10:22:27 DTF **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 543-255-MYM

Datafile: 220209C20 **Report:** 10 Feb 2022 10:27 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.79		-	-	-	3.85E+07	0.84	Y	-	-
JS 1234-TCDF	26.24		-	-	-	5.89E+07	0.79	Y	-	-
JS 123467-HxCDD	38.02		-	-	-	1.57E+07	1.28	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0244	1.0247	+0.5	1.71E+07	n/a	-	1.20	92.6
CS 12347-PeCDD	33.29		1.1964	1.1980	+3.2	3.23E+07	1.62	Y	0.75	112
CS 12346-PeCDF	31.82		1.2112	1.2129	+3.2	4.98E+07	1.58	Y	0.85	99.5
CS 123469-HxCDF	37.17		0.9775	0.9774	-0.2	4.19E+07	0.53	Y	1.12	119
CS 1234689-HpCDF	40.27		1.0584	1.0591	+1.7	3.28E+07	0.45	Y	0.89	117
~~SS 37Cl-2378-TCDD~~	~~28.48~~		~~1.0244~~	~~1.0247~~	~~+0.5~~	~~1.71E+07~~	~~n/a~~		~~1.15~~	~~108~~
~~SS 12347-PeCDD~~	~~33.29~~		~~1.1964~~	~~1.1980~~	~~+3.2~~	~~3.23E+07~~	~~1.62~~	~~Y~~	~~0.86~~	~~119~~
~~SS 12346-PeCDF~~	~~31.82~~		~~1.2112~~	~~1.2129~~	~~+3.2~~	~~4.98E+07~~	~~1.58~~	~~Y~~	~~0.94~~	~~112~~
~~SS 123469-HxCDF~~	~~37.17~~		~~0.9775~~	~~0.9774~~	~~-0.2~~	~~4.19E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~121~~
~~SS 1234689-HpCDF~~	~~40.27~~		~~1.0584~~	~~1.0591~~	~~+1.7~~	~~3.28E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~118~~

Totals	Conc	EMPC
Total TCDD	0	3.52
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	2.92
Total Tetra-Octa Dioxins	15.7	22.2
Total TCDF	30.1	32.2
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	34.2	36.3
Total Tetra-Octa Dioxins & Furans	50	58.4

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	1	1.25
Response	1.02E+05	9.15E+04

Lab ID: B6237_18888_DF_001 **Acq'd: 09 Feb 2022 21:41 DTF** **Wt/Vol: 1.00 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012022-GW-BN-PZ-SC **UTP: 10-Feb-2022 10:22:27 DTF** **J-level: 5 pg/L** **Split: 1** **Checkcode: 543-255-MYM**

Datafile: 220209C20 **Report: 10 Feb 2022 10:27 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8737						1.18		3457.763	1.84
1379-TCDD	NotFnd		0.8860						1.18		3457.763	1.84
1369-TCDD	NotFnd		0.9009						1.18		3457.763	1.84
1469-TCDD	NotFnd		0.9281						1.18		3457.763	1.84
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3457.763	1.84
1378-TCDD	NotFnd		0.9432						1.18		3457.763	1.84
1268-TCDD	NotFnd		0.9500						1.18		3457.763	1.84
1478-TCDD	NotFnd		0.9586						1.18		3457.763	1.84
1279-TCDD	NotFnd		0.9645						1.18		3457.763	1.84
1234/1269-TCDD	NotFnd		0.9770						1.18		3457.763	1.84
1236-TCDD	NotFnd		0.9817						1.18		3457.763	1.84
1237/1238-TCDD	NotFnd		0.9905						1.18		3457.763	1.84
1239-TCDD	NotFnd		0.9952						1.18		3457.763	1.84
2378-TCDD	**28.48**	J EMPC	**1.0008**	1.0009	**+0.2**	7.18E+04	1.25	N	**1.18**	**3.52**	**3457.763**	**1.84**
1278-TCDD	NotFnd		1.0121						1.18		3457.763	1.84
1267-TCDD	NotFnd		1.0167						1.18		3457.763	1.84
1289-TCDD	NotFnd		1.0345						1.18		3457.763	1.84
12479/12468-PeCDD	NotFnd		0.9267						1.04		2708.671	1.4
12469-PeCDD	NotFnd		0.9425						1.04		2708.671	1.4
12368-PeCDD	NotFnd		0.9588						1.04		2708.671	1.4
12478-PeCDD	NotFnd		0.9643						1.04		2708.671	1.4
12379-PeCDD	NotFnd		0.9673						1.04		2708.671	1.4
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		2708.671	1.4
12346/12347-PeCDD	NotFnd		0.9858						1.04		2708.671	1.4
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**2708.671**	**1.4**
12367-PeCDD	NotFnd		1.0033						1.04		2708.671	1.4
12389-PeCDD	NotFnd		1.0134						1.04		2708.671	1.4
124679/124689-HxCDD	NotFnd		0.9542						1.10		2957.792	1.5
123468-HxCDD	NotFnd		0.9715						1.10		2957.792	1.5
123679/123689-HxCDD	NotFnd		0.9793						1.10		2957.792	1.5
123469-HxCDD	NotFnd		0.9828						1.10		2957.792	1.5
123478-HxCDD	NotFnd		**1.0004**						1.09		**2957.792**	**1.56**
123678-HxCDD	NotFnd		**1.0035**						1.15		**2957.792**	**1.44**
123467-HxCDD	NotFnd		1.0085						1.10		2957.792	1.5
123789-HxCDD	NotFnd		**1.0112**						1.05		**2957.792**	**1.51**

Lab ID: B6237_18888_DF_001 **Acq'd: 09 Feb 2022 21:41 DTF** **Wt/Vol: 1.00 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012022-GW-BN-PZ-SC **UTP: 10-Feb-2022 10:22:27 DTF** **J-level: 5 pg/L** **Split: 1** **Checkcode: 543-255-MYM**

Datafile: 220209C20 **Report: 10 Feb 2022 10:27 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

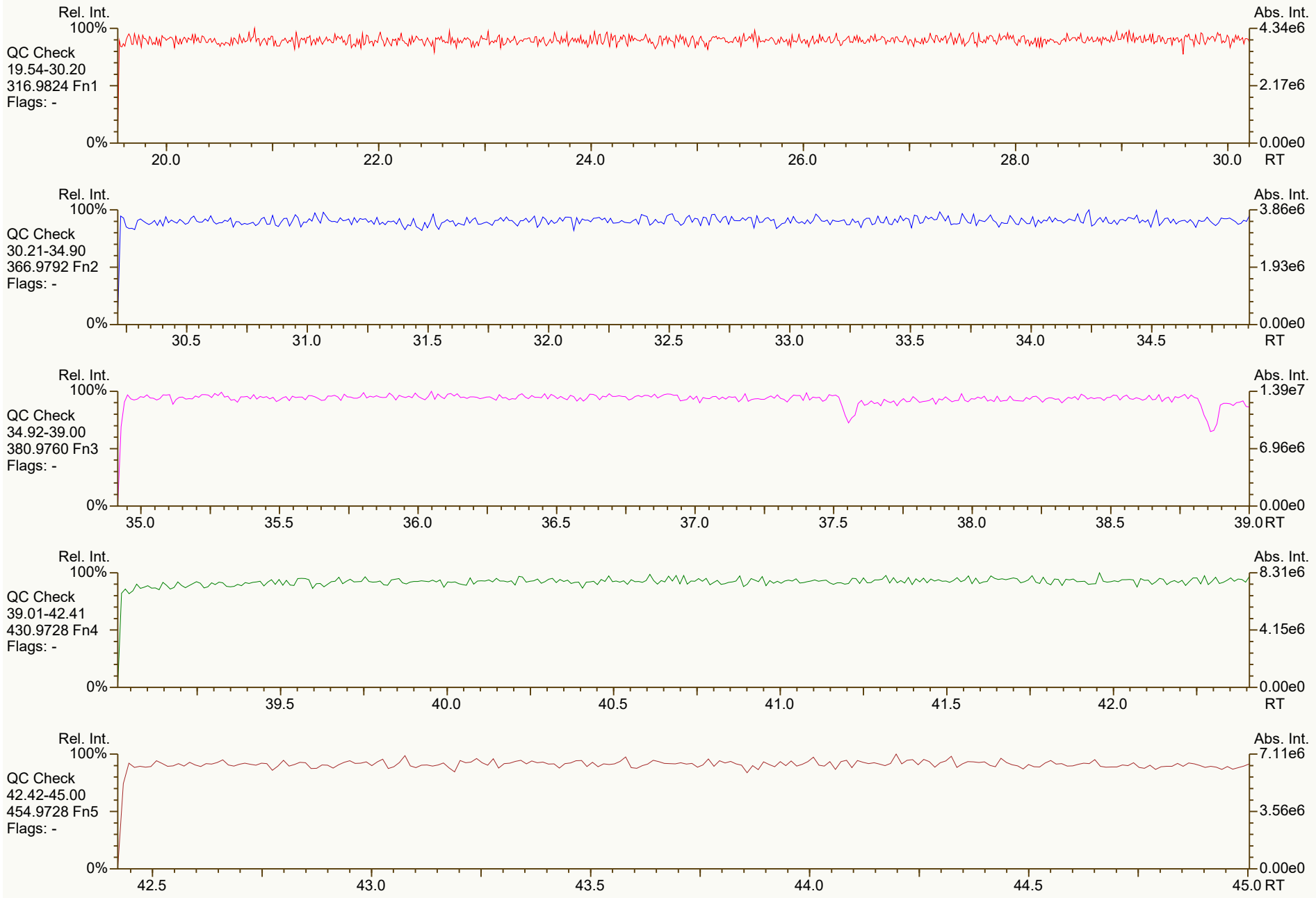
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.14	J EMPC	0.9837	0.9838	+0.2	4.27E+04	1.27	N	1.06	2.92	2722.205	1.53
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**2722.205**	**1.53**
OCDD	**43.51**	**J**	**1.0004**	**1.0005**	**+0.3**	**1.64E+05**	**0.89**	**Y**	**1.13**	**15.7**	**3121.293**	**3.44**
OCDD-a	NotFnd		1.0003						0.07		3246.321	56
1368-TCDF	NotFnd		0.8251						1.08		2571.928	0.936
1468-TCDF	NotFnd		0.8458						1.08		2571.928	0.936
2468-TCDF	NotFnd		0.8686						1.08		2571.928	0.936
1346/1246-TCDF	NotFnd		0.8814						1.08		2571.928	0.936
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2571.928	0.936
1348-TCDF	NotFnd		0.8962						1.08		2571.928	0.936
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2571.928	0.936
1268-TCDF	NotFnd		0.9145						1.08		2571.928	0.936
1467-TCDF	NotFnd		0.9193						1.08		2571.928	0.936
1478-TCDF	NotFnd		0.9254						1.08		2571.928	0.936
1369/1237-TCDF	NotFnd		0.9387						1.08		2571.928	0.936
2467-TCDF	NotFnd		0.9433						1.08		2571.928	0.936
2368-TCDF	NotFnd		0.9489						1.08		2571.928	0.936
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2571.928	0.936
1278-TCDF	26.72		0.9683	0.9683	0	2.74E+05	0.82	Y	1.08	9.22	2571.928	0.936
1349-TCDF	NotFnd		0.9722						1.08		2571.928	0.936
1267-TCDF	NotFnd		0.9783						1.08		2571.928	0.936
2346/1249-TCDF	NotFnd		0.9850						1.08		2571.928	0.936
2347/1279-TCDF	NotFnd		0.9926						1.08		2571.928	0.936
2348-TCDF	27.50	J	0.9967	0.9965	-0.3	5.55E+04	0.86	Y	1.08	1.87	2571.928	0.936
2378-TCDF	**27.62**		**1.0008**	**1.0006**	**-0.3**	**4.94E+05**	**0.75**	**Y**	**1.08**	**16.6**	**2571.928**	**0.936**
2367/3467-TCDF	27.98	J	1.0137	1.0138	+0.2	7.14E+04	0.88	Y	1.08	2.4	2571.928	0.936
1269-TCDF	NotFnd		1.0223						1.08		2571.928	0.936
1239-TCDF	NotFnd		1.0321						1.08		2571.928	0.936
1289-TCDF	29.62	J EMPC	1.0722	1.0732	+1.8	5.99E+04	0.61	N	1.08	2.02	2571.928	0.936
13468/12468-PeCDF	NotFnd		0.9139						1.02		2287.612	0.817
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		2256.461	0.806
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		2256.461	0.806
14678-PeCDF	NotFnd		0.9692						1.02		2256.461	0.806
13479-PeCDF	NotFnd		0.9723						1.02		2256.461	0.806
13469/12479-PeCDF	NotFnd		0.9797						1.02		2256.461	0.806
12346-PeCDF	NotFnd		0.9840						1.02		2256.461	0.806

Lab ID: B6237_18888_DF_001 **Acq'd: 09 Feb 2022 21:41 DTF** **Wt/Vol: 1.00 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012022-GW-BN-PZ-SC **UTP: 10-Feb-2022 10:22:27 DTF** **J-level: 5 pg/L** **Split: 1** **Checkcode: 543-255-MYM**

Datafile: 220209C20 **Report: 10 Feb 2022 10:27 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		2256.461	0.806
12347-PeCDF	NotFnd		0.9894						1.02		2256.461	0.806
12348-PeCDF	NotFnd		0.9940						1.02		2256.461	0.806
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2256.461**	**0.829**
12678/12367-PeCDF	NotFnd		1.0089						1.02		2256.461	0.806
12379-PeCDF	NotFnd		1.0142						1.02		2256.461	0.806
12679-PeCDF	NotFnd		0.9929						1.02		2256.461	0.806
23467/12369-PeCDF	NotFnd		0.9967						1.02		2256.461	0.806
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2256.461**	**0.784**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2256.461	0.806
12349-PeCDF	NotFnd		1.0100						1.02		2256.461	0.806
12389-PeCDF	NotFnd		1.0324						1.02		2256.461	0.806
123468-HxCDF	NotFnd		0.9627						1.19		2213.9858	0.802
124678/134678-HxCDF	NotFnd		0.9682						1.19		2213.9858	0.802
134679-HxCDF	NotFnd		0.9744						1.19		2213.9858	0.802
124679-HxCDF	NotFnd		0.9798						1.19		2213.9858	0.802
124689-HxCDF	NotFnd		0.9858						1.19		2213.9858	0.802
123467-HxCDF	NotFnd		0.9972						1.19		2213.9858	0.802
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2213.9858**	**0.791**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2213.9858**	**0.799**
123479-HxCDF	NotFnd		1.0049						1.19		2213.9858	0.802
123469-HxCDF	NotFnd		1.0090						1.19		2213.9858	0.802
123679-HxCDF	NotFnd		0.9942						1.19		2213.9858	0.802
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2213.9858**	**0.742**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2213.9858	0.802
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2213.9858**	**0.904**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		2213.9858	0.802
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2399.608**	**0.817**
1234679-HpCDF	NotFnd		1.0068						1.34		2399.608	0.995
1234689-HpCDF	NotFnd		1.0103						1.34		2399.608	0.995
1234789-HpCDF	**NotFnd**		**1.0002**						**1.31**		**2399.608**	**1.21**
OCDF	**43.67**	**J**	**1.0003**	**1.0002**	**-0.3**	**5.68E+04**	**0.78**	**Y**	**1.07**	**4.11**	**3007.848**	**2.37**
OCDF-a	NotFnd		1.0002						0.07		3452.929	44

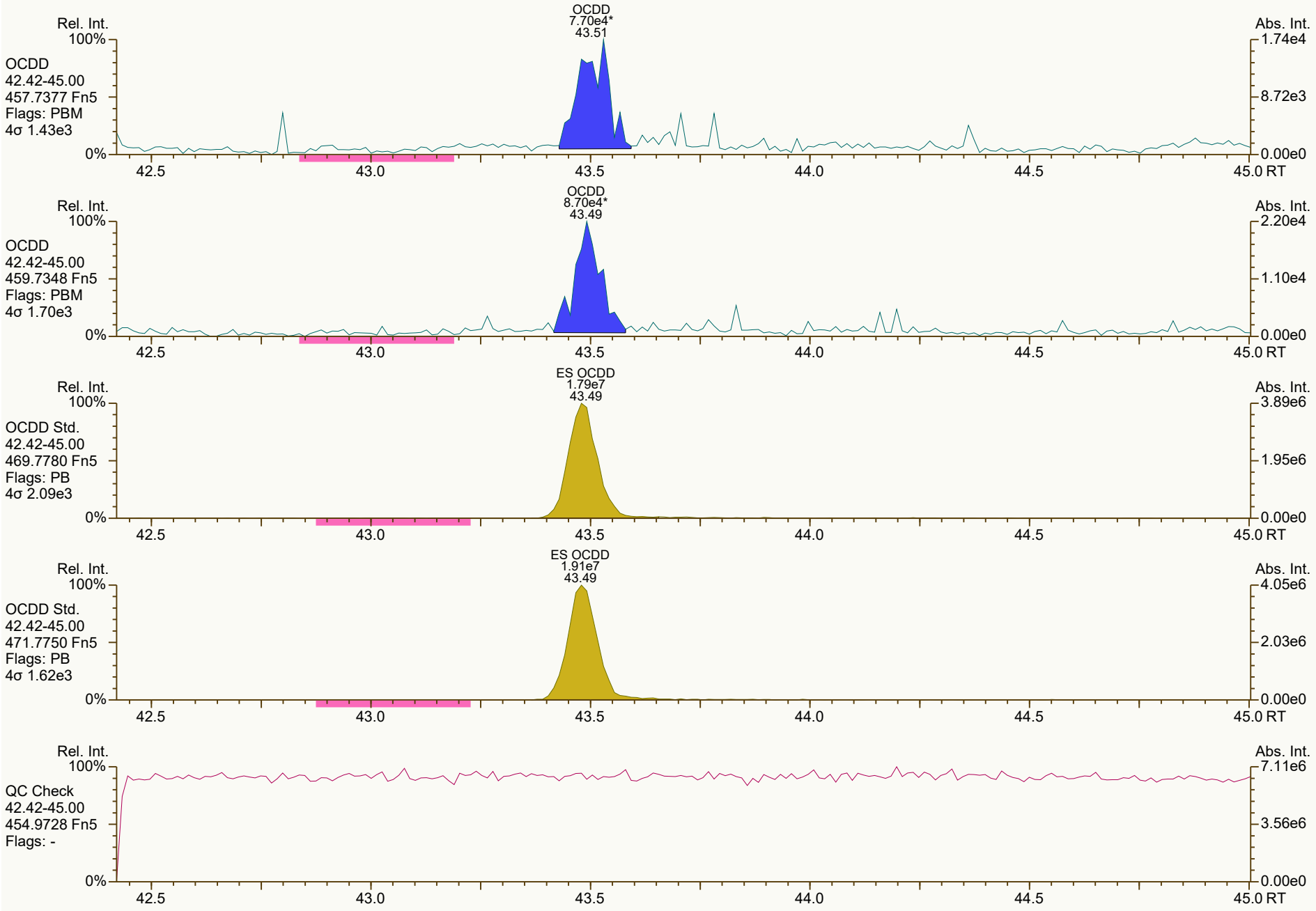

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.34e6
2.17e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.86e6
1.93e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.39e7
6.96e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
8.31e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
7.11e6
3.56e6
0.00e0

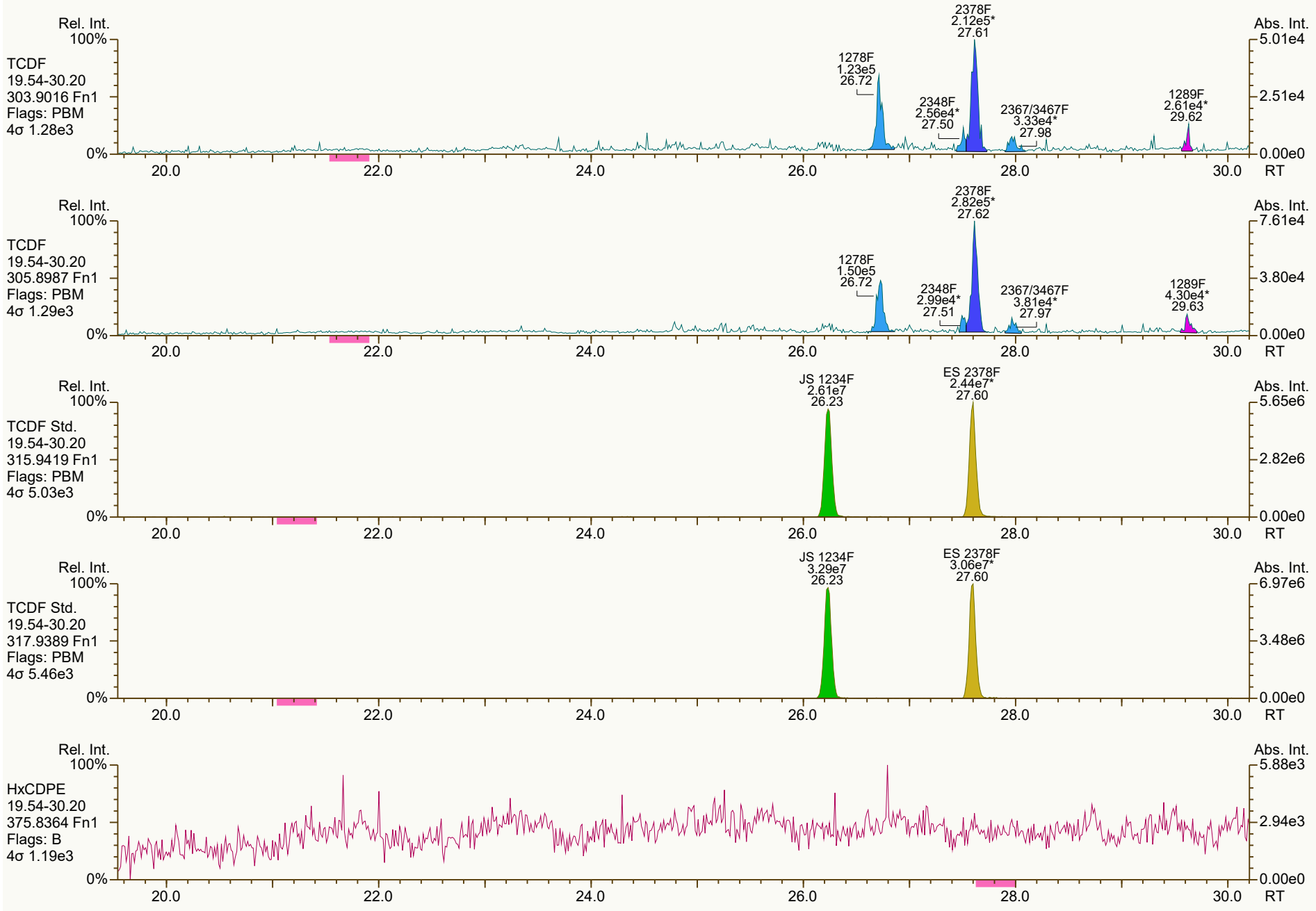

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.64e3
0%
2378D
5.09e4*
28.48
Abs. Int.
1.39e4
6.93e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.82e3
0%
2378D
5.09e4*
28.48
Abs. Int.
1.60e4
7.99e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.39e3
0%
CS 37Cl-2378D
1.71e7
28.48
Abs. Int.
4.03e6
2.01e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PBM
4σ 4.88e3
0%
JS 1234D
1.75e7*
27.79
ES 2378D
1.56e7
28.45
Abs. Int.
4.02e6
2.01e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PBM
4σ 2.17e3
0%
JS 1234D
2.10e7*
27.79
ES 2378D
1.89e7
28.45
Abs. Int.
4.73e6
2.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: B
4σ 1.31e3
0%
Abs. Int.
1.43e4
7.14e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 1.40e3
0%
Abs. Int.
5.23e3
2.61e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 2.38e3
0%
CS 12347D
2.00e7
33.29
ES 12378D
1.94e7
33.80
Abs. Int.
5.94e6
2.97e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 2.18e3
0%
CS 12347D
1.23e7
33.29
ES 12378D
1.22e7
33.80
Abs. Int.
3.45e6
1.73e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.86e6
1.93e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

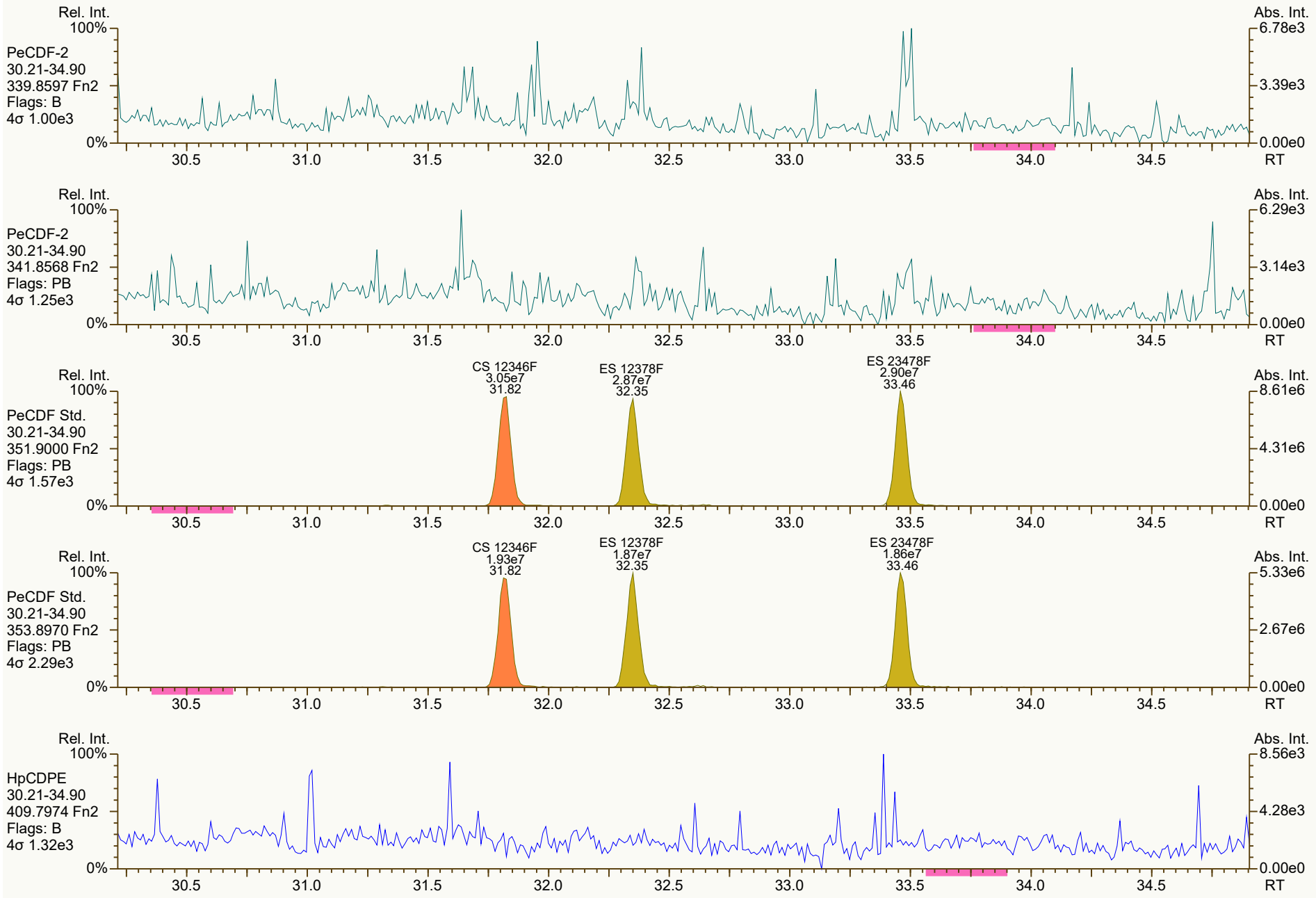

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: B
4σ 1.55e3
0%
Abs. Int.
7.67e3
3.84e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 1.41e3
0%
Abs. Int.
7.15e3
3.58e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 2.11e3
0%
ES 123678D
1.77e7
37.83
ES 123478D
1.63e7
37.72
ES 123789D
1.78e7
38.13
JS 123467D
8.83e6
38.02
Abs. Int.
5.21e6
2.60e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 1.79e3
0%
ES 123678D
1.40e7
37.83
ES 123478D
1.28e7
37.72
ES 123789D
1.41e7
38.13
JS 123467D
6.91e6
38.02
Abs. Int.
4.22e6
2.11e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.39e7
6.96e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

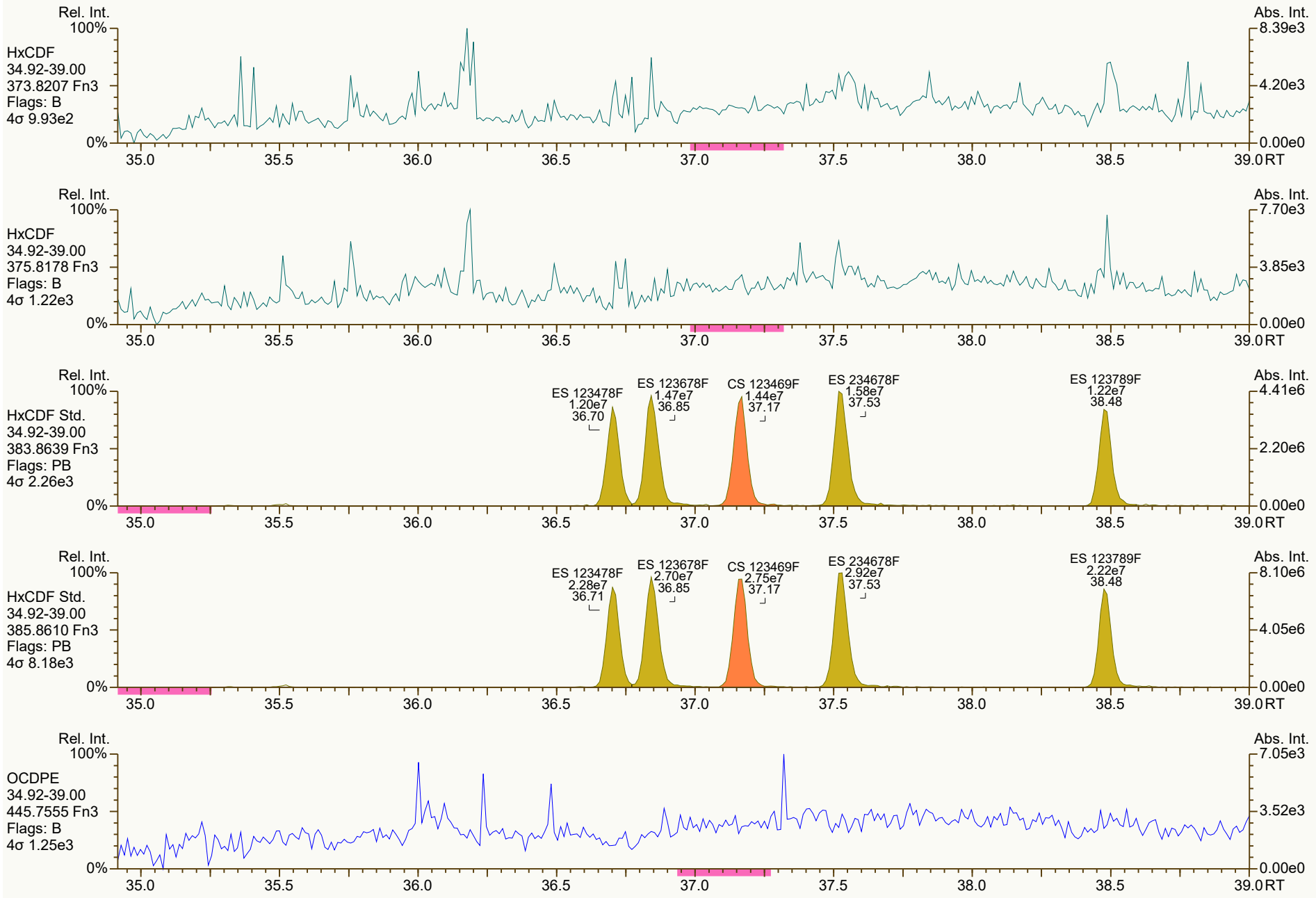

1234679D
2.65e4*
40.14
Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 1.24e3
0%
Abs. Int.
1.00e4
5.01e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
1234679D
2.10e4*
40.13
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 1.48e3
1.31e4
6.56e3
ES 1234678D
1.44e7
40.80
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.64e3
4.37e6
2.18e6
ES 1234678D
1.33e7
40.80
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 2.11e3
4.29e6
2.15e6
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
8.31e6
4.15e6


OCDD
7.70e4*
43.51
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
1.74e4
8.72e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
8.70e4*
43.49
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 1.70e3
0%
Abs. Int.
2.20e4
1.10e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.79e7
43.49
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 2.09e3
0%
Abs. Int.
3.89e6
1.95e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.91e7
43.49
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 1.62e3
0%
Abs. Int.
4.05e6
2.03e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.11e6
3.56e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.28e3
0%
1278F
1.23e5
26.72
2378F
2.12e5*
27.61
2348F
2.56e4*
27.50
2367/3467F
3.33e4*
27.98
1289F
2.61e4*
29.62
Abs. Int.
5.01e4
2.51e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.29e3
0%
1278F
1.50e5
26.72
2378F
2.82e5*
27.62
2348F
2.99e4*
27.51
2367/3467F
3.81e4*
27.97
1289F
4.30e4*
29.63
Abs. Int.
7.61e4
3.80e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PBM
4σ 5.03e3
0%
JS 1234F
2.61e7
26.23
ES 2378F
2.44e7*
27.60
Abs. Int.
5.65e6
2.82e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PBM
4σ 5.46e3
0%
JS 1234F
3.29e7
26.23
ES 2378F
3.06e7*
27.60
Abs. Int.
6.97e6
3.48e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.19e3
0%
Abs. Int.
5.88e3
2.94e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.40e4
6.99e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.04e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.24e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.34e6
2.17e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT

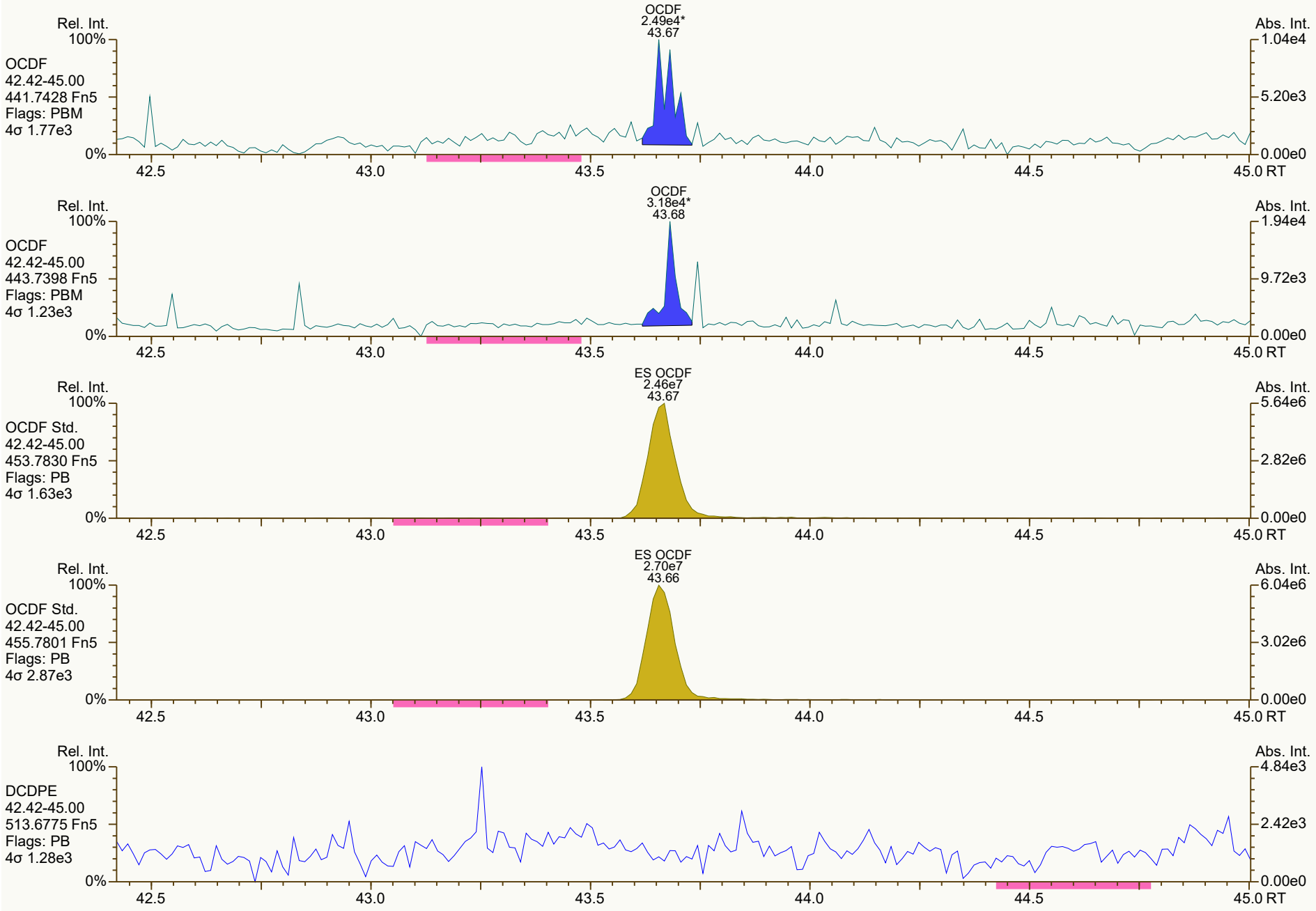

Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: B
4σ 1.00e3
0%
Abs. Int.
6.78e3
3.39e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PB
4σ 1.25e3
6.29e3
3.14e3
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 1.57e3
CS 12346F
3.05e7
31.82
ES 12378F
2.87e7
32.35
ES 23478F
2.90e7
33.46
8.61e6
4.31e6
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 2.29e3
CS 12346F
1.93e7
31.82
ES 12378F
1.87e7
32.35
ES 23478F
1.86e7
33.46
5.33e6
2.67e6
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.32e3
8.56e3
4.28e3


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: B
4σ 9.93e2
0%
Abs. Int.
8.39e3
4.20e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: B
4σ 1.22e3
0%
Abs. Int.
7.70e3
3.85e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 2.26e3
0%
ES 123478F
1.20e7
36.70
ES 123678F
1.47e7
36.85
CS 123469F
1.44e7
37.17
ES 234678F
1.58e7
37.53
ES 123789F
1.22e7
38.48
Abs. Int.
4.41e6
2.20e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 8.18e3
0%
ES 123478F
2.28e7
36.71
ES 123678F
2.70e7
36.85
CS 123469F
2.75e7
37.17
ES 234678F
2.92e7
37.53
ES 123789F
2.22e7
38.48
Abs. Int.
8.10e6
4.05e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.25e3
0%
Abs. Int.
7.05e3
3.52e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: B
4σ 1.06e3
0%
Abs. Int.
8.15e3
4.07e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.34e3
0%
Abs. Int.
5.17e3
2.58e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 3.93e3
0%
ES 1234678F
9.59e6
39.87
CS 1234689F
1.02e7
40.27
ES 1234789F
8.41e6
41.26
Abs. Int.
3.40e6
1.70e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 2.41e3
0%
ES 1234678F
2.07e7
39.87
CS 1234689F
2.26e7
40.27
ES 1234789F
1.77e7
41.26
Abs. Int.
7.20e6
3.60e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.30e3
0%
Abs. Int.
3.68e3
1.84e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

SGS ID: B6237_18888_DF_001 | Sample ID: 11215131-012022-GW-BN-PZ-SC | Acq: 09-Feb-2022 21:41:24

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 8 | User: DTF Datafile: 220209C20



Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\B6237_18888_DF_001.utp_res, saved 10-Feb-2022 10:22 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9406, 1932, 6149 scc: 543-255 | *Revised: 10-Feb-2022 10:00 (DTF) Printed: 10-Feb-2022 10:33 Page 12 of 12*

Lab ID: B6237_18888_DF_001MS **Acq'd:** 09 Feb 2022 22:27 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-SC-MS **UTP:** 10-Feb-2022 10:22:28 DTF **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 368-796-HFS

Datafile: 220209C21 **Report:** 10 Feb 2022 10:27 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.48		1.0008	1.0008	0	3.86E+06	0.80	Y	1.18	258	4132.194	2.96
12378-PeCDD	33.82		1.0006	1.0006	0	1.28E+07	1.56	Y	1.04	1,120	3563.089	2.67
123478-HxCDD	37.74		1.0004	1.0004	0	1.41E+07	1.28	Y	1.09	1,260	2648.352	2.02
123678-HxCDD	37.86		1.0035	1.0036	+0.2	1.59E+07	1.27	Y	1.15	1,240	2648.352	1.76
123789-HxCDD	38.14		1.0112	1.0113	+0.2	1.39E+07	1.24	Y	1.05	1,190	2648.352	1.99
1234678-HpCDD	40.82		1.0003	1.0003	0	1.21E+07	1.04	Y	1.06	1,200	2839.144	2.26
OCDD	43.50		1.0004	1.0003	-0.3	1.72E+07	0.90	Y	1.13	2,410	3326.673	5.37
2378-TCDF	27.62		1.0008	1.0007	-0.2	5.23E+06	0.84	Y	1.08	258	2768.712	1.53
12378-PeCDF	32.37		1.0005	1.0006	+0.2	1.99E+07	1.55	Y	1.02	1,110	6201.382	3.13
23478-PeCDF	33.48		1.0005	1.0005	0	2.11E+07	1.50	Y	1.02	1,240	6201.382	3.26
123478-HxCDF	36.73		1.0004	1.0004	0	1.84E+07	1.23	Y	1.27	1,170	7394.06	3.92
123678-HxCDF	36.87		1.0004	1.0005	+0.2	1.98E+07	1.24	Y	1.15	1,180	7394.06	3.88
234678-HxCDF	37.55		1.0005	1.0005	0	2.16E+07	1.25	Y	1.19	1,160	7394.06	3.42
123789-HxCDF	38.50		1.0004	1.0004	0	1.58E+07	1.22	Y	1.16	1,100	7394.06	4.39
1234678-HpCDF	39.88		1.0003	1.0003	0	1.71E+07	1.03	Y	1.37	1,180	2869.25	1.36
1234789-HpCDF	41.28		1.0002	1.0002	0	1.34E+07	1.01	Y	1.31	1,120	2869.25	1.82
OCDF	43.68		1.0003	1.0002	-0.3	2.16E+07	0.91	Y	1.07	2,330	3173.386	3.91

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46	1.0236	1.0238	+0.3	2.53E+07	0.80	Y	1.05	80.1
ES 12378-PeCDD	33.80	1.2144	1.2161	+3.4	2.20E+07	1.63	Y	0.88	82.9
ES 123478-HxCDD	37.72	0.9920	0.9918	-0.5	2.04E+07	1.28	Y	0.97	82.8
ES 123678-HxCDD	37.84	0.9951	0.9949	-0.5	2.23E+07	1.26	Y	0.94	93.1
ES 123789-HxCDD	38.13	1.0027	1.0026	-0.2	2.22E+07	1.31	Y	1.09	80.2
ES 1234678-HpCDD	40.81	1.0724	1.0730	+1.5	1.90E+07	1.06	Y	0.91	81.9
ES OCDD	43.48	1.1428	1.1434	+1.6	2.54E+07	0.93	Y	0.62	80.1
ES 2378-TCDF	27.60	1.0516	1.0520	+0.7	3.76E+07	0.82	Y	1.06	75.4
ES 12378-PeCDF	32.35	1.2312	1.2332	+3.9	3.49E+07	1.56	Y	0.91	81.4
ES 23478-PeCDF	33.47	1.2733	1.2756	+4.6	3.33E+07	1.57	Y	0.88	80
ES 123478-HxCDF	36.71	0.9655	0.9653	-0.4	2.48E+07	0.54	Y	1.20	81.5
ES 123678-HxCDF	36.85	0.9692	0.9690	-0.4	2.91E+07	0.53	Y	1.35	84.7
ES 234678-HxCDF	37.53	0.9871	0.9869	-0.5	3.13E+07	0.56	Y	1.24	99
ES 123789-HxCDF	38.49	1.0121	1.0120	-0.2	2.47E+07	0.52	Y	1.16	84
ES 1234678-HpCDF	39.87	1.0479	1.0483	+1.0	2.11E+07	0.46	Y	0.97	85.7
ES 1234789-HpCDF	41.27	1.0845	1.0851	+1.5	1.83E+07	0.43	Y	0.85	84.7
ES OCDF	43.67	1.1477	1.1483	+1.6	3.46E+07	0.91	Y	0.81	84.2

Lab ID: B6237_18888_DF_001MS | **Acq'd:** 09 Feb 2022 22:27 DTF | **Wt/Vol:** 1.00 L | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-SC-MS | **UTP:** 10-Feb-2022 10:22:28 DTF | **J-level:** 5 pg/L | **Split:** 1 | **Checkcode:** 368-796-HFS

Datafile: 220209C21 | **Report:** 10 Feb 2022 10:27 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.79		-	-	-	3.02E+07	0.79	Y	-	-
JS 1234-TCDF	26.23		-	-	-	4.71E+07	0.82	Y	-	-
JS 123467-HxCDD	38.03		-	-	-	1.27E+07	1.30	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0244	1.0246	+0.3	1.36E+07	n/a	-	1.20	93.8
CS 12347-PeCDD	33.30		1.1964	1.1981	+3.4	2.49E+07	1.60	Y	0.75	109
CS 12346-PeCDF	31.82		1.2112	1.2131	+3.6	4.04E+07	1.54	Y	0.85	101
CS 123469-HxCDF	37.17		0.9775	0.9773	-0.4	3.19E+07	0.54	Y	1.12	112
CS 1234689-HpCDF	40.27		1.0584	1.0589	+1.2	2.46E+07	0.47	Y	0.89	109
~~SS 37Cl-2378-TCDD~~	~~28.48~~		~~1.0244~~	~~1.0246~~	~~+0.3~~	~~1.36E+07~~	~~n/a~~		~~1.15~~	~~117~~
~~SS 12347-PeCDD~~	~~33.30~~	~~V~~	~~1.1964~~	~~1.1981~~	~~+3.4~~	~~2.49E+07~~	~~1.60~~	~~Y~~	~~0.86~~	~~132~~
~~SS 12346-PeCDF~~	~~31.82~~		~~1.2112~~	~~1.2131~~	~~+3.6~~	~~4.04E+07~~	~~1.54~~	~~Y~~	~~0.94~~	~~124~~
~~SS 123469-HxCDF~~	~~37.17~~	~~V~~	~~0.9775~~	~~0.9773~~	~~-0.4~~	~~3.19E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~132~~
~~SS 1234689-HpCDF~~	~~40.27~~		~~1.0584~~	~~1.0589~~	~~+1.2~~	~~2.46E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~127~~

Totals	Conc	EMPC
Total TCDD	1190	1190
Total PeCDD	1680	1680
Total HxCDD	4000	4000
Total HpCDD	1480	1480
Total Tetra-Octa Dioxins	10800	10800
Total TCDF	1,440	1440
Total PeCDF	4,700	4700
Total HxCDF	7,280	7280
Total HpCDF	2,300	2300
Total Tetra-Octa Furans	18,100	18100
Total Tetra-Octa Dioxins & Furans	28800	28800

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.796	0.80
Response	3.87E+06	3.86E+06

Lab ID: B6237_18888_DF_001MS **Acq'd: 09 Feb 2022 22:27 DTF** **Wt/Vol: 1.00 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012022-GW-BN-PZ-SC-MS **UTP: 10-Feb-2022 10:22:28 DTF** **J-level: 5 pg/L** **Split: 1** **Checkcode: 368-796-HFS**

Datafile: 220209C21 **Report: 10 Feb 2022 10:27 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.83		0.8737	0.8726	-1.6	5.27E+06	0.76	Y	1.18	352	4132.194	2.96
1379-TCDD	NotFnd		0.8860						1.18		4132.194	2.96
1369-TCDD	NotFnd		0.9009						1.18		4132.194	2.96
1469-TCDD	NotFnd		0.9281						1.18		4132.194	2.96
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		4132.194	2.96
1378-TCDD	NotFnd		0.9432						1.18		4132.194	2.96
1268-TCDD	NotFnd		0.9500						1.18		4132.194	2.96
1478-TCDD	NotFnd		0.9586						1.18		4132.194	2.96
1279-TCDD	NotFnd		0.9645						1.18		4132.194	2.96
1234/1269-TCDD	NotFnd		0.9770						1.18		4132.194	2.96
1236-TCDD	NotFnd		0.9817						1.18		4132.194	2.96
1237/1238-TCDD	NotFnd		0.9905						1.18		4132.194	2.96
1239-TCDD	28.32		0.9952	0.9951	-0.2	3.53E+06	0.80	Y	1.18	236	4132.194	2.96
2378-TCDD	**28.48**		**1.0008**	1.0008	**0**	3.86E+06	0.80	Y	**1.18**	**258**	**4132.194**	**2.96**
1278-TCDD	NotFnd		1.0121						1.18		4132.194	2.96
1267-TCDD	NotFnd		1.0167						1.18		4132.194	2.96
1289-TCDD	29.45		1.0345	1.0349	+0.7	5.10E+06	0.83	Y	1.18	341	4132.194	2.96
12479/12468-PeCDD	31.32		0.9267	0.9265	-0.4	3.18E+06	1.53	Y	1.04	279	3563.089	2.67
12469-PeCDD	NotFnd		0.9425						1.04		3563.089	2.67
12368-PeCDD	NotFnd		0.9588						1.04		3563.089	2.67
12478-PeCDD	NotFnd		0.9643						1.04		3563.089	2.67
12379-PeCDD	NotFnd		0.9673						1.04		3563.089	2.67
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		3563.089	2.67
12346/12347-PeCDD	NotFnd		0.9858						1.04		3563.089	2.67
12378-PeCDD	33.82		**1.0006**	**1.0006**	**0**	**1.28E+07**	**1.56**	**Y**	**1.04**	**1,120**	**3563.089**	**2.67**
12367-PeCDD	NotFnd		1.0033						1.04		3563.089	2.67
12389-PeCDD	34.26		1.0134	1.0135	+0.2	3.28E+06	1.52	Y	1.04	287	3563.089	2.67
124679/124689-HxCDD	35.99		0.9542	0.9540	-0.4	3.61E+06	1.19	Y	1.10	304	2648.352	1.92
123468-HxCDD	NotFnd		0.9715						1.10		2648.352	1.92
123679/123689-HxCDD	NotFnd		0.9793						1.10		2648.352	1.92
123469-HxCDD	NotFnd		0.9828						1.10		2648.352	1.92
123478-HxCDD	37.74		**1.0004**	**1.0004**	**0**	**1.41E+07**	**1.28**	**Y**	1.09	**1,260**	**2648.352**	**2.02**
123678-HxCDD	37.86		**1.0035**	**1.0036**	**+0.2**	**1.59E+07**	**1.27**	**Y**	1.15	**1,240**	**2648.352**	**1.76**
123467-HxCDD	NotFnd		1.0085						1.10		2648.352	1.92
123789-HxCDD	38.14		**1.0112**	**1.0113**	**+0.2**	**1.39E+07**	**1.24**	**Y**	1.05	**1,190**	**2648.352**	**1.99**

Lab ID: B6237_18888_DF_001MS **Acq'd: 09 Feb 2022 22:27 DTF** **Wt/Vol: 1.00 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012022-GW-BN-PZ-SC-MS **UTP: 10-Feb-2022 10:22:28 DTF** **J-level: 5 pg/L** **Split: 1** **Checkcode: 368-796-HFS**

Datafile: 220209C21 **Report: 10 Feb 2022 10:27 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

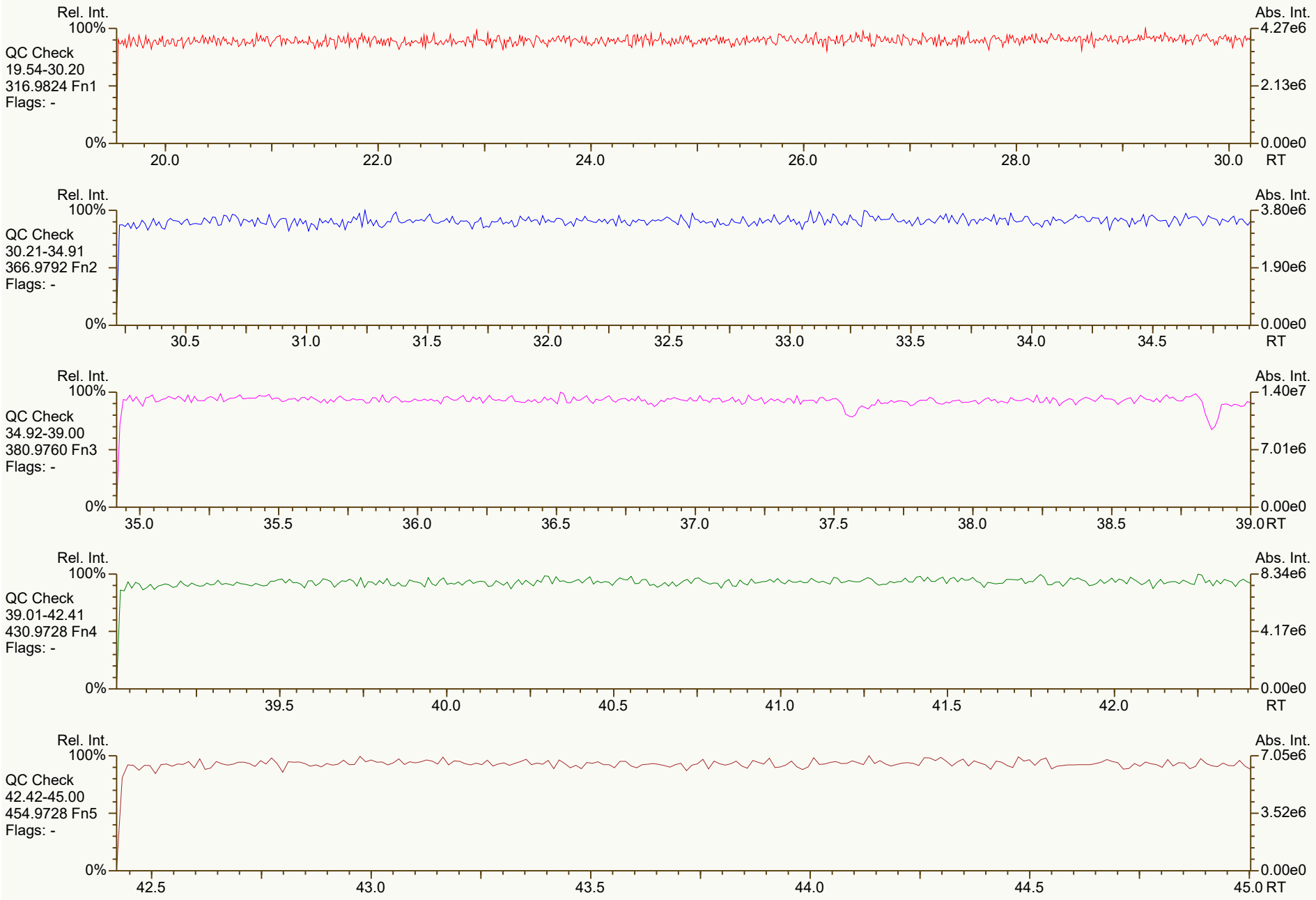
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.14		0.9837	0.9836	-0.2	2.82E+06	1.02	Y	1.06	280	2839.144	2.26
1234678-HpCDD	**40.82**		**1.0003**	**1.0003**	**0**	**1.21E+07**	**1.04**	**Y**	**1.06**	**1,200**	**2839.144**	**2.26**
OCDD	**43.50**		**1.0004**	**1.0003**	**-0.3**	**1.72E+07**	**0.90**	**Y**	**1.13**	**2,410**	**3326.673**	**5.37**
OCDD-a	43.49	**EMPC**	1.0003	1.0002	-0.3	1.09E+06	1.97	N	0.07	2,370	3219.309	81.2
1368-TCDF	22.72		0.8251	0.8232	-2.6	7.00E+06	0.80	Y	1.08	345	2768.712	1.53
1468-TCDF	NotFnd		0.8458						1.08		2768.712	1.53
2468-TCDF	23.94		0.8686	0.8673	-1.9	1.69E+06	0.80	Y	1.08	83.2	2768.712	1.53
1346/1246-TCDF	NotFnd		0.8814						1.08		2768.712	1.53
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2768.712	1.53
1348-TCDF	NotFnd		0.8962						1.08		2768.712	1.53
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2768.712	1.53
1268-TCDF	NotFnd		0.9145						1.08		2768.712	1.53
1467-TCDF	NotFnd		0.9193						1.08		2768.712	1.53
1478-TCDF	NotFnd		0.9254						1.08		2768.712	1.53
1369/1237-TCDF	NotFnd		0.9387						1.08		2768.712	1.53
2467-TCDF	NotFnd		0.9433						1.08		2768.712	1.53
2368-TCDF	NotFnd		0.9489						1.08		2768.712	1.53
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2768.712	1.53
1278-TCDF	26.72		0.9683	0.9682	-0.2	2.98E+05	0.82	Y	1.08	14.7	2768.712	1.53
1349-TCDF	NotFnd		0.9722						1.08		2768.712	1.53
1267-TCDF	NotFnd		0.9783						1.08		2768.712	1.53
2346/1249-TCDF	NotFnd		0.9850						1.08		2768.712	1.53
2347/1279-TCDF	NotFnd		0.9926						1.08		2768.712	1.53
2348-TCDF	27.51		0.9967	0.9967	0	6.95E+06	0.74	Y	1.08	343	2768.712	1.53
2378-TCDF	**27.62**		**1.0008**	**1.0007**	**-0.2**	**5.23E+06**	**0.84**	**Y**	**1.08**	**258**	**2768.712**	**1.53**
2367/3467-TCDF	NotFnd		1.0137						1.08		2768.712	1.53
1269-TCDF	NotFnd		1.0223						1.08		2768.712	1.53
1239-TCDF	NotFnd		1.0321						1.08		2768.712	1.53
1289-TCDF	29.62		1.0722	1.0732	+1.8	7.99E+06	0.79	Y	1.08	394	2768.712	1.53
13468/12468-PeCDF	29.54		0.9139	0.9129	-1.8	3.66E+07	1.55	Y	1.02	2,100	2700.12	1.39
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		6201.382	3.19
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		6201.382	3.19
14678-PeCDF	NotFnd		0.9692						1.02		6201.382	3.19
13479-PeCDF	NotFnd		0.9723						1.02		6201.382	3.19
13469/12479-PeCDF	NotFnd		0.9797						1.02		6201.382	3.19
12346-PeCDF	NotFnd		0.9840						1.02		6201.382	3.19

Lab ID: B6237_18888_DF_001MS **Acq'd:** 09 Feb 2022 22:27 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

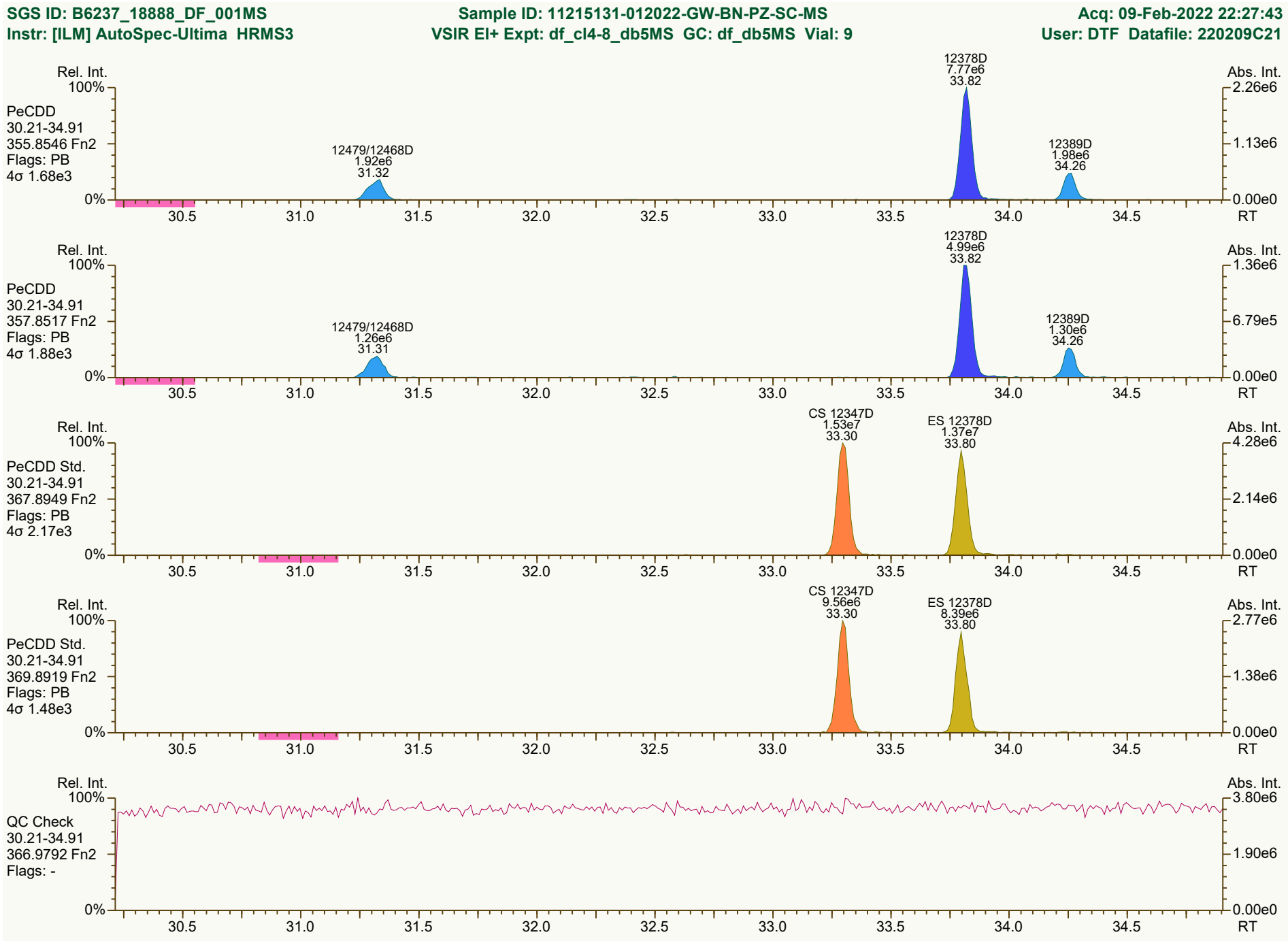
Client ID: 11215131-012022-GW-BN-PZ-SC-MS **UTP:** 10-Feb-2022 10:22:28 DTF **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 368-796-HFS

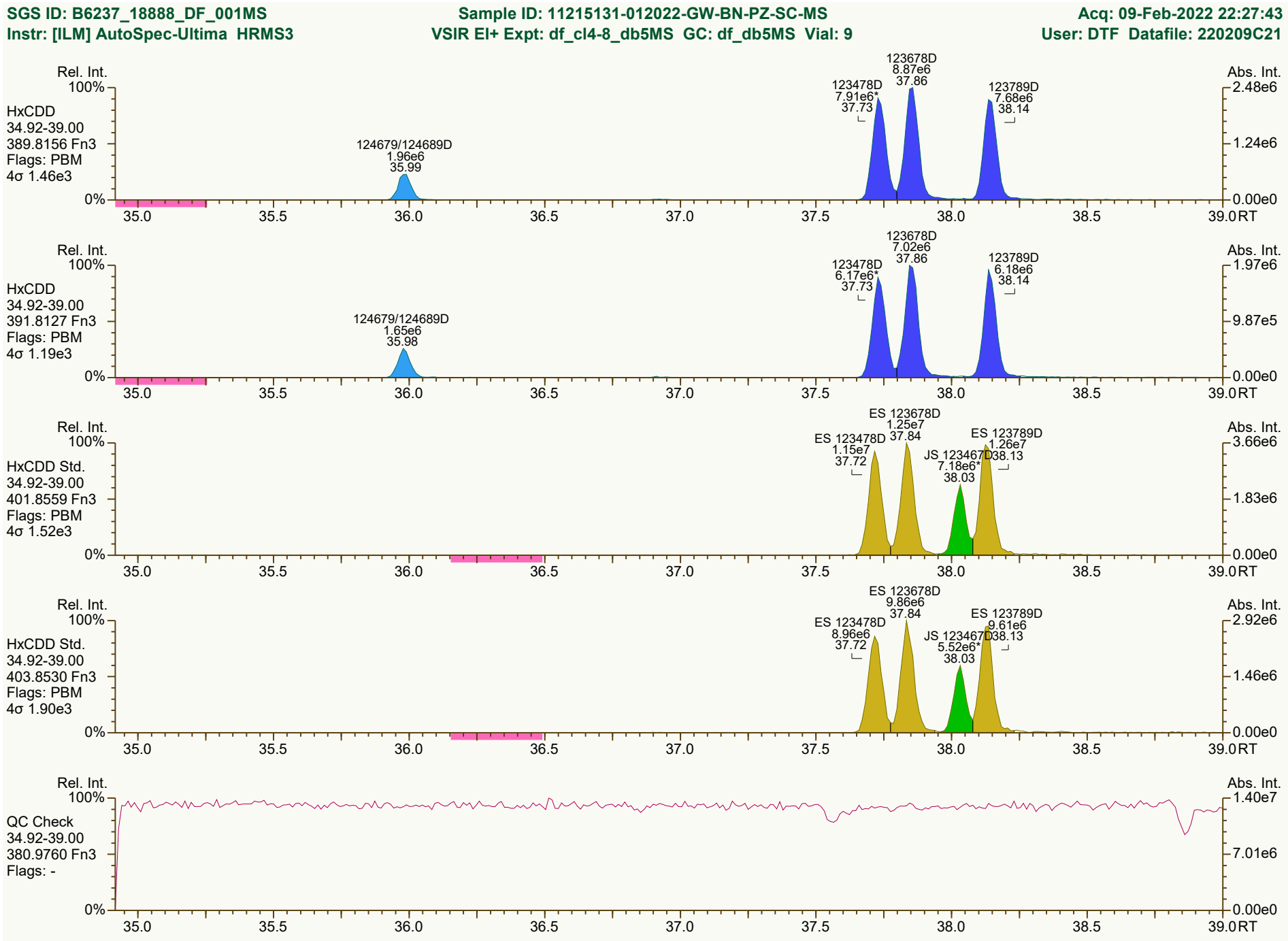
Datafile: 220209C21 **Report:** 10 Feb 2022 10:27 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		6201.382	3.19
12347-PeCDF	NotFnd		0.9894						1.02		6201.382	3.19
12348-PeCDF	NotFnd		0.9940						1.02		6201.382	3.19
12378-PeCDF	**32.37**		**1.0005**	**1.0006**	**+0.2**	**1.99E+07**	**1.55**	**Y**	**1.02**	**1,110**	**6201.382**	**3.13**
12678/12367-PeCDF	NotFnd		1.0089						1.02		6201.382	3.19
12379-PeCDF	NotFnd		1.0142						1.02		6201.382	3.19
12679-PeCDF	NotFnd		0.9929						1.02		6201.382	3.19
23467/12369-PeCDF	NotFnd		0.9967						1.02		6201.382	3.19
23478-PeCDF	**33.48**		**1.0005**	**1.0005**	**0**	**2.11E+07**	**1.50**	**Y**	**1.02**	**1,240**	**6201.382**	**3.26**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6201.382	3.19
12349-PeCDF	NotFnd		1.0100						1.02		6201.382	3.19
12389-PeCDF	34.56		1.0324	1.0326	+0.4	4.25E+06	1.53	Y	1.02	244	6201.382	3.19
123468-HxCDF	35.34		0.9627	0.9626	-0.2	4.38E+07	1.24	Y	1.19	2,670	7394.06	3.87
124678/134678-HxCDF	NotFnd		0.9682						1.19		7394.06	3.87
134679-HxCDF	NotFnd		0.9744						1.19		7394.06	3.87
124679-HxCDF	NotFnd		0.9798						1.19		7394.06	3.87
124689-HxCDF	NotFnd		0.9858						1.19		7394.06	3.87
123467-HxCDF	NotFnd		0.9972						1.19		7394.06	3.87
123478-HxCDF	**36.73**		**1.0004**	**1.0004**	**0**	**1.84E+07**	**1.23**	**Y**	**1.27**	**1,170**	**7394.06**	**3.92**
123678-HxCDF	**36.87**		**1.0004**	**1.0005**	**+0.2**	**1.98E+07**	**1.24**	**Y**	**1.15**	**1,180**	**7394.06**	**3.88**
123479-HxCDF	NotFnd		1.0049						1.19		7394.06	3.87
123469-HxCDF	NotFnd		1.0090						1.19		7394.06	3.87
123679-HxCDF	NotFnd		0.9942						1.19		7394.06	3.87
234678-HxCDF	**37.55**		**1.0005**	**1.0005**	**0**	**2.16E+07**	**1.25**	**Y**	**1.19**	**1,160**	**7394.06**	**3.42**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		7394.06	3.87
123789-HxCDF	**38.50**		**1.0004**	**1.0004**	**0**	**1.58E+07**	**1.22**	**Y**	**1.16**	**1,100**	**7394.06**	**4.39**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		7394.06	3.87
1234678-HpCDF	**39.88**		**1.0003**	**1.0003**	**0**	**1.71E+07**	**1.03**	**Y**	**1.37**	**1,180**	**2869.25**	**1.36**
1234679-HpCDF	NotFnd		1.0068						1.34		2869.25	1.57
1234689-HpCDF	NotFnd		1.0103						1.34		2869.25	1.57
1234789-HpCDF	**41.28**		**1.0002**	**1.0002**	**0**	**1.34E+07**	**1.01**	**Y**	**1.31**	**1,120**	**2869.25**	**1.82**
OCDF	**43.68**		**1.0003**	**1.0002**	**-0.3**	**2.16E+07**	**0.91**	**Y**	**1.07**	**2,330**	**3173.386**	**3.91**
OCDF-a	43.68		1.0002	1.0002	0	1.44E+06	2.70	Y	0.07	2,510	3126.766	62.2

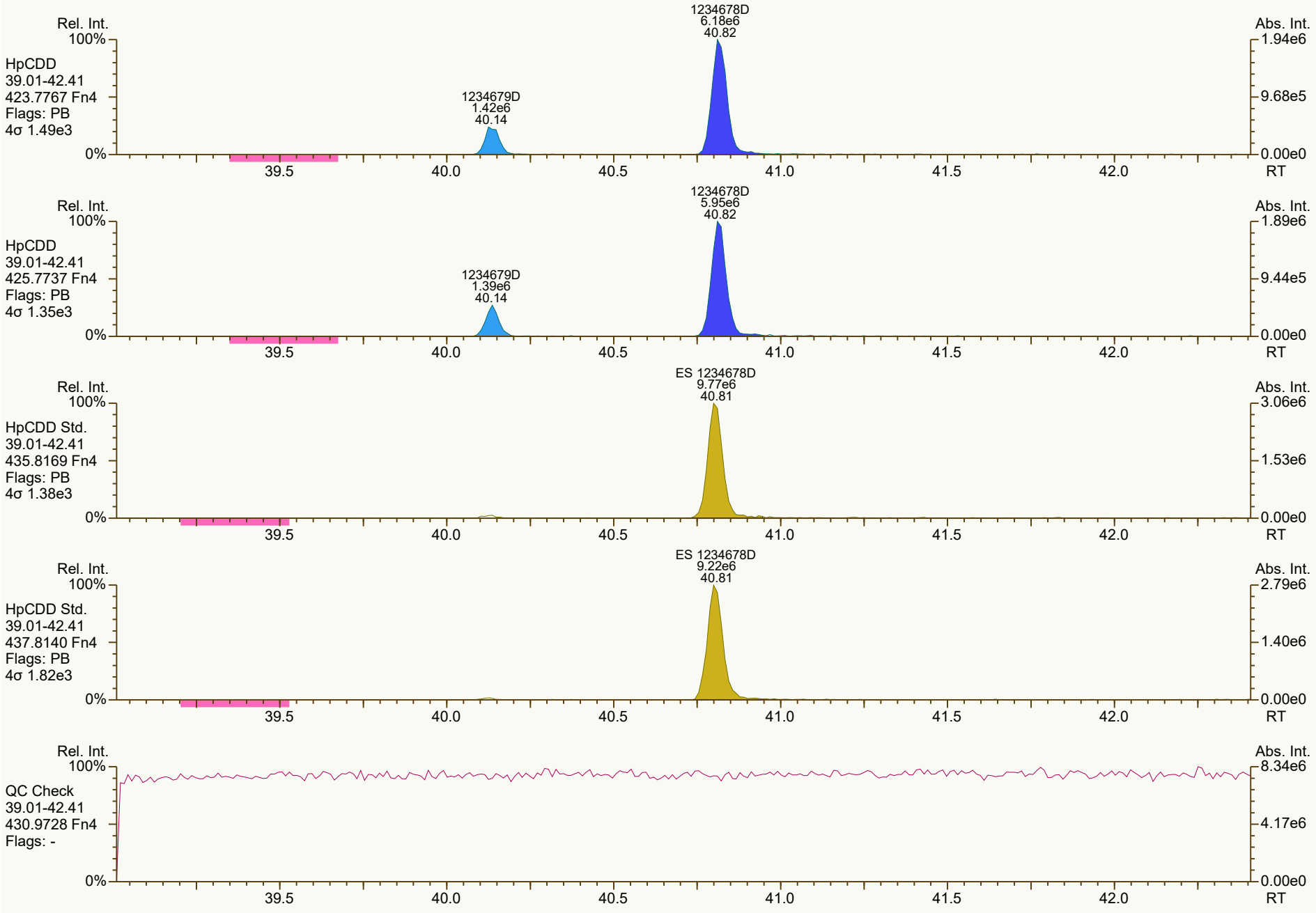

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.27e6
2.13e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.80e6
1.90e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.40e7
7.01e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
8.34e6
4.17e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
7.05e6
3.52e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.39e3
1368D
2.28e6
24.83
1239D
1.56e6
28.32
2378D
1.71e6*
28.48
1289D
2.32e6
29.45
Abs. Int.
5.89e5
2.95e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.74e3
1368D
2.99e6
24.83
1239D
1.97e6
28.32
2378D
2.15e6*
28.48
1289D
2.78e6
29.45
Abs. Int.
6.74e5
3.37e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.43e3
CS 37Cl-2378D
1.36e7
28.48
Abs. Int.
3.23e6
1.61e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 3.45e3
JS 1234D
1.34e7
27.79
ES 2378D
1.12e7
28.46
Abs. Int.
3.20e6
1.60e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.89e3
JS 1234D
1.69e7
27.79
ES 2378D
1.41e7
28.46
Abs. Int.
3.98e6
1.99e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6237_18888_DF_001MS
Sample ID: 11215131-012022-GW-BN-PZ-SC-MS
Acq: 09-Feb-2022 22:27:43
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 9
User: DTF Datafile: 220209C21
Rel. Int.
Abs. Int.
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PB
4σ 1.68e3
12479/12468D
1.92e6
31.32
12378D
7.77e6
33.82
12389D
1.98e6
34.26
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PB
4σ 1.88e3
12479/12468D
1.26e6
31.31
12378D
4.99e6
33.82
12389D
1.30e6
34.26
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 2.17e3
CS 12347D
1.53e7
33.30
ES 12378D
1.37e7
33.80
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 1.48e3
CS 12347D
9.56e6
33.30
ES 12378D
8.39e6
33.80
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
RT
Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\B6237_18888_DF_001MS.utp_res, saved 10-Feb-2022 10:22 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7708, 9603 scc: 368-796
PKD: 10-Feb-2022 10:02 Printed: 10-Feb-2022 10:33 Page 3 of 12



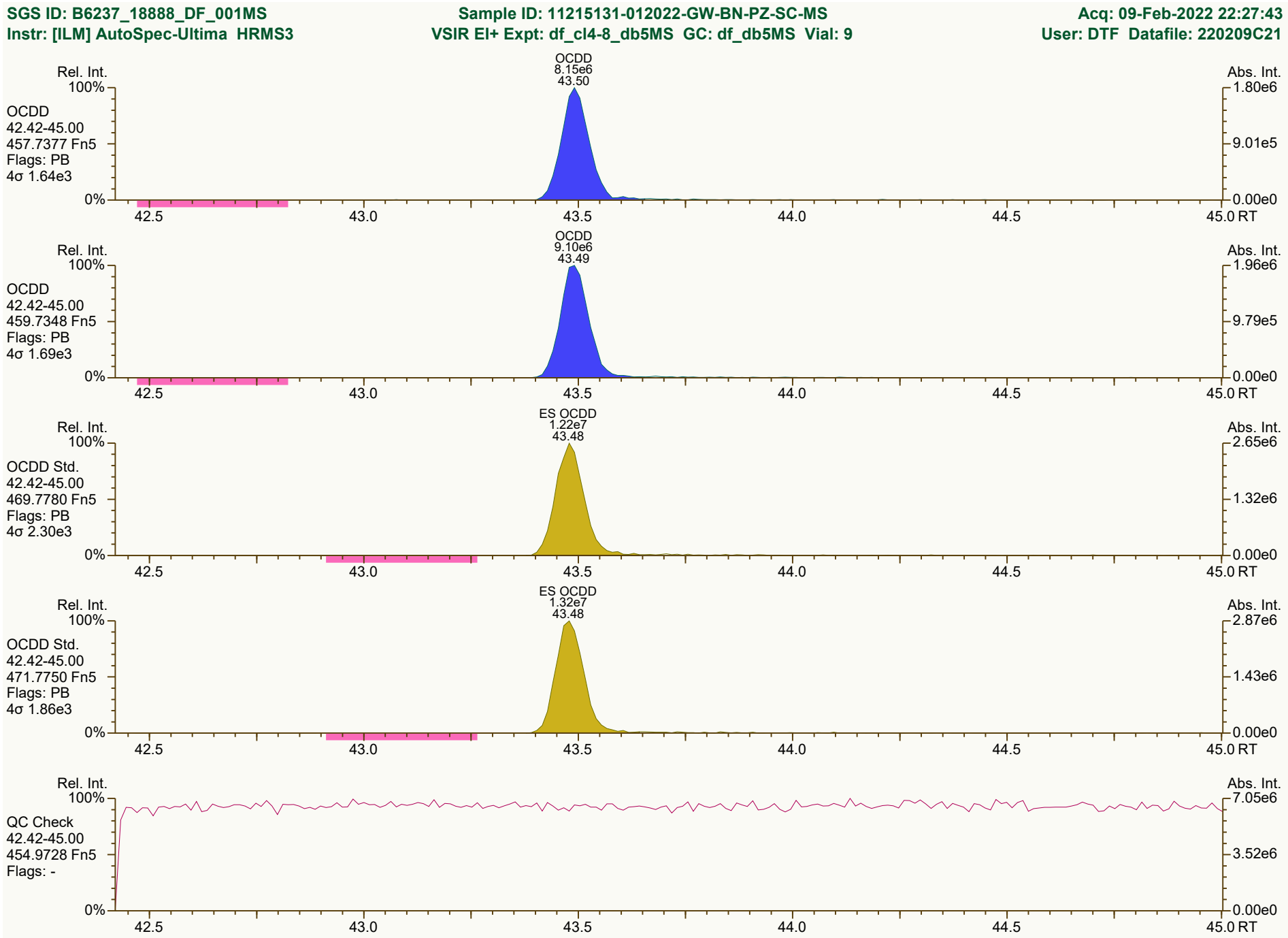
Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\B6237_18888_DF_001MS.utp_res, saved 10-Feb-2022 10:22 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4519, 1241 scc: 368-796
PKD: 10-Feb-2022 10:02 Printed: 10-Feb-2022 10:34 Page 4 of 12


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 1.49e3
1234678D
6.18e6
40.82
1234679D
1.42e6
40.14
Abs. Int.
1.94e6
9.68e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.35e3
1234678D
5.95e6
40.82
1234679D
1.39e6
40.14
Abs. Int.
1.89e6
9.44e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.38e3
ES 1234678D
9.77e6
40.81
Abs. Int.
3.06e6
1.53e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.82e3
ES 1234678D
9.22e6
40.81
Abs. Int.
2.79e6
1.40e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
8.34e6
4.17e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

SGS ID: B6237_18888_DF_001MS
Instr: [ILM] AutoSpec-Ultima HRMS3

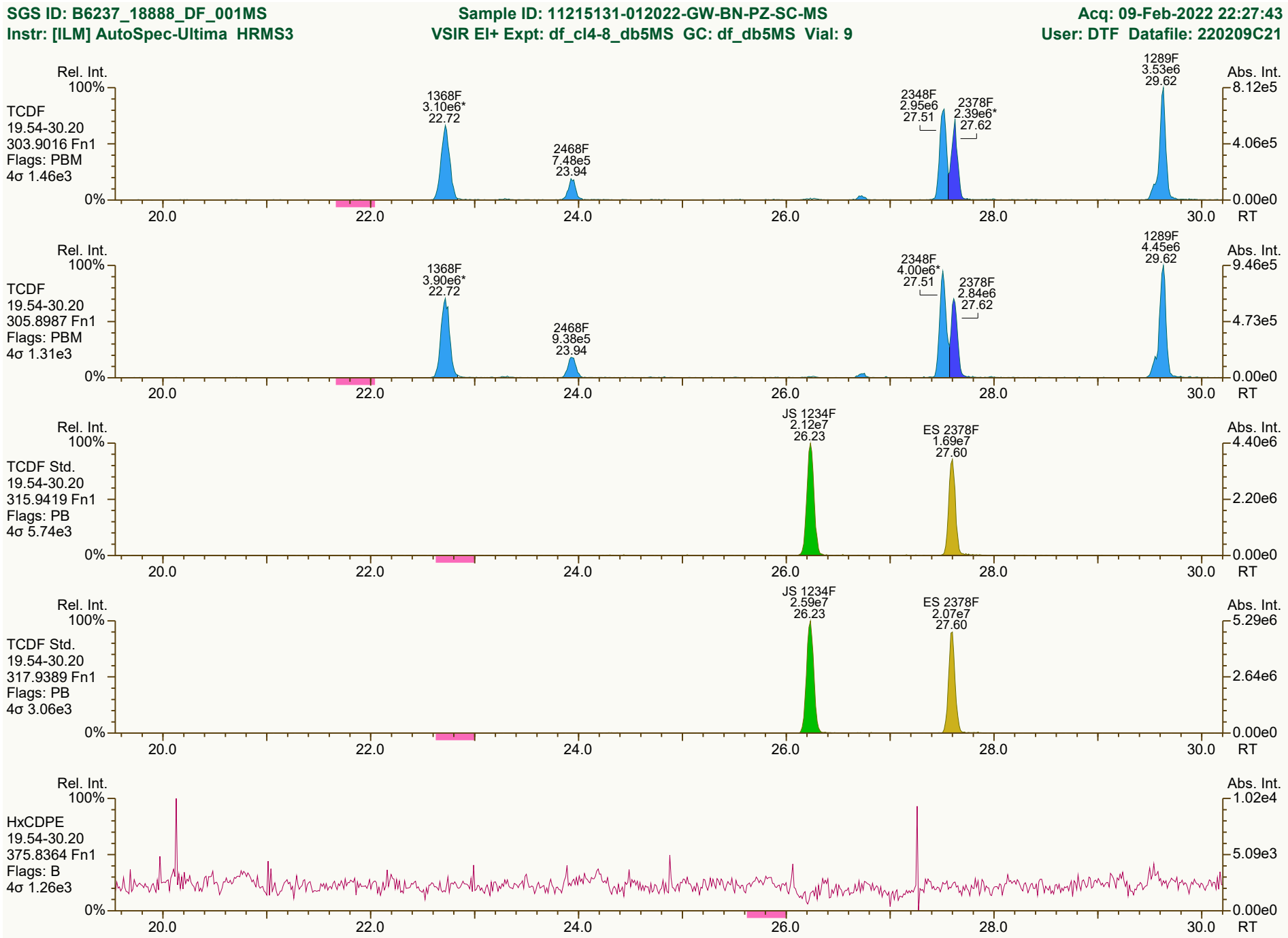
Sample ID: 11215131-012022-GW-BN-PZ-SC-MS
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 9

Acq: 09-Feb-2022 22:27:43
User: DTF Datafile: 220209C21

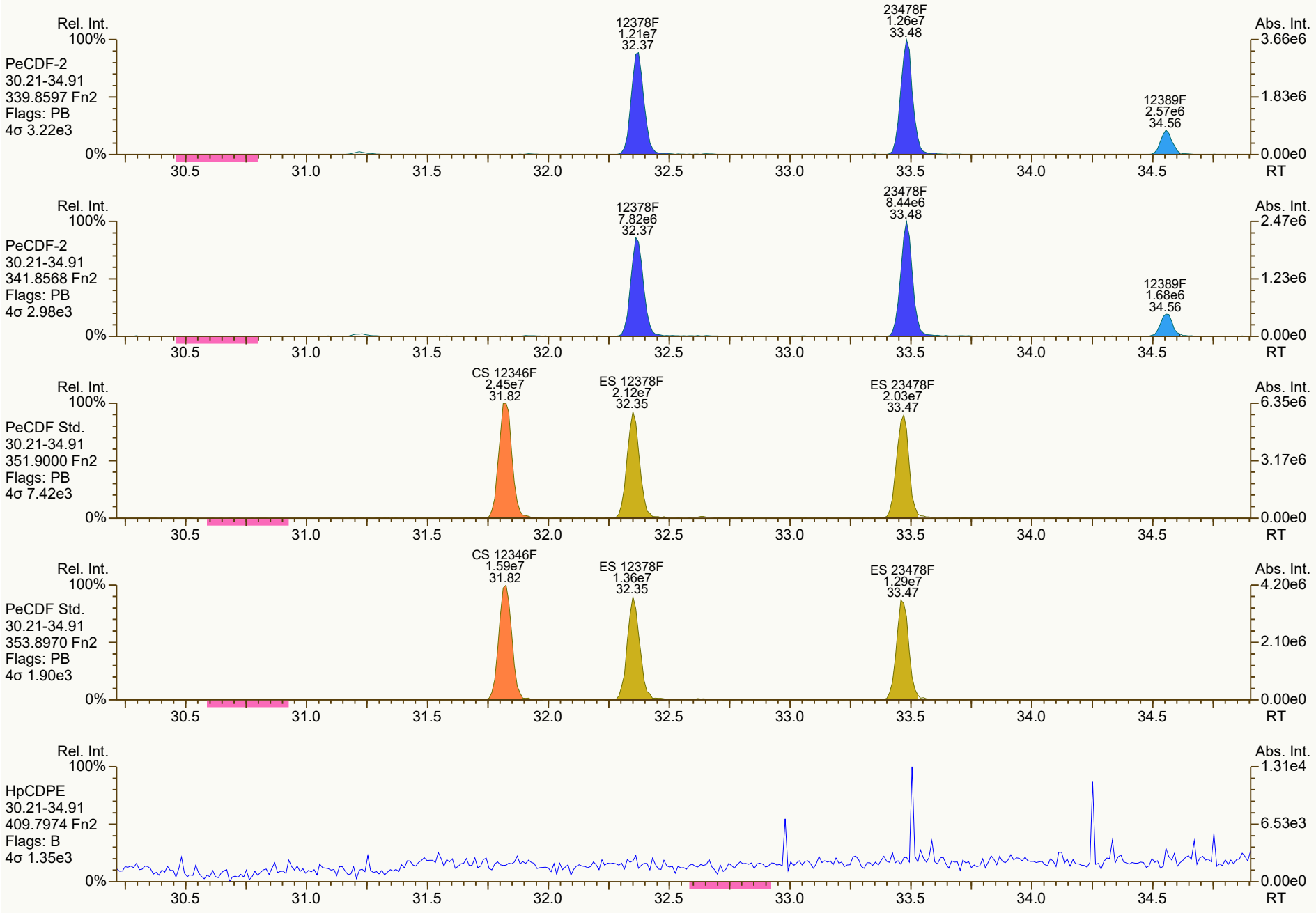


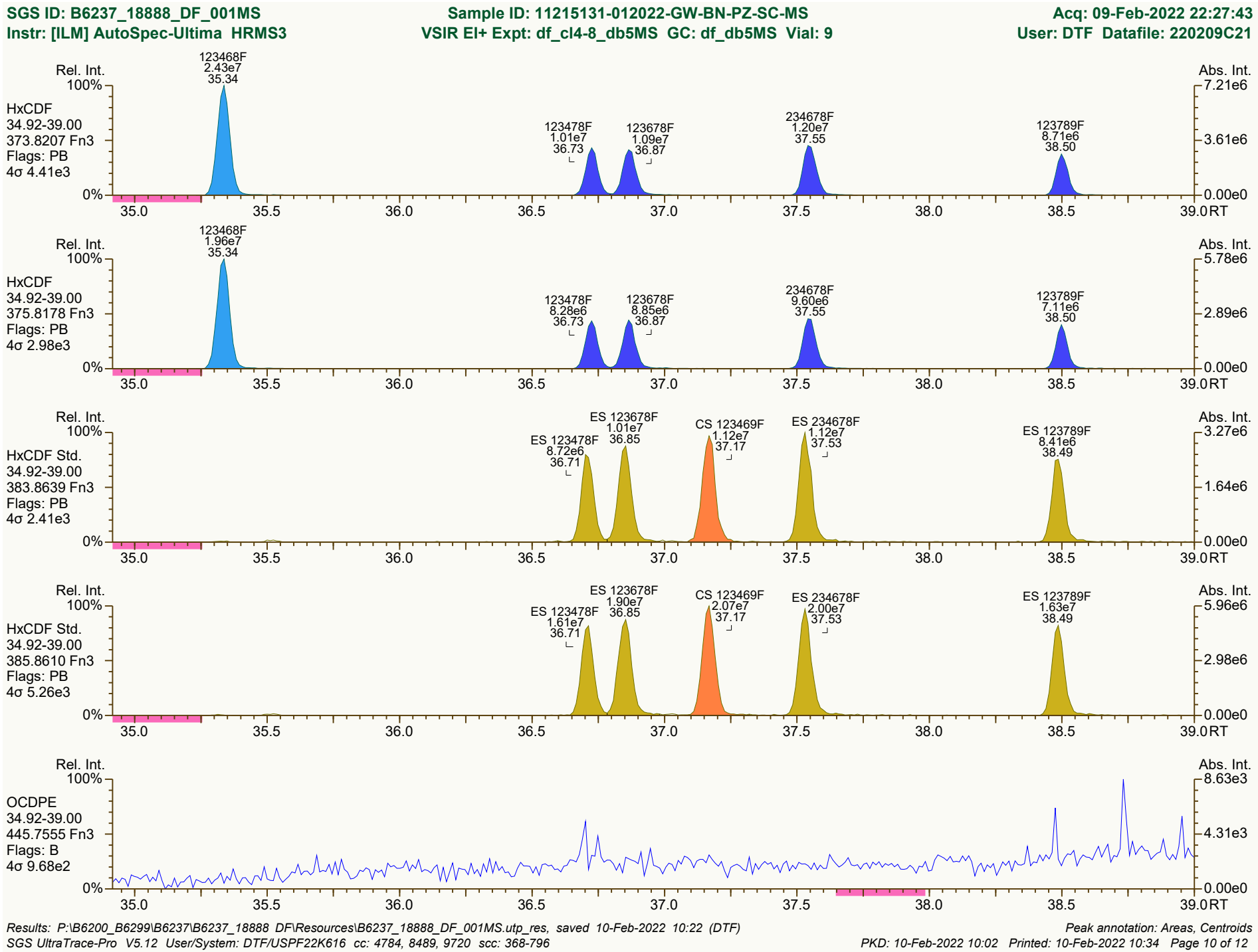
Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\B6237_18888_DF_001MS.utp_res, saved 10-Feb-2022 10:22 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7821, 2635 scc: 368-796

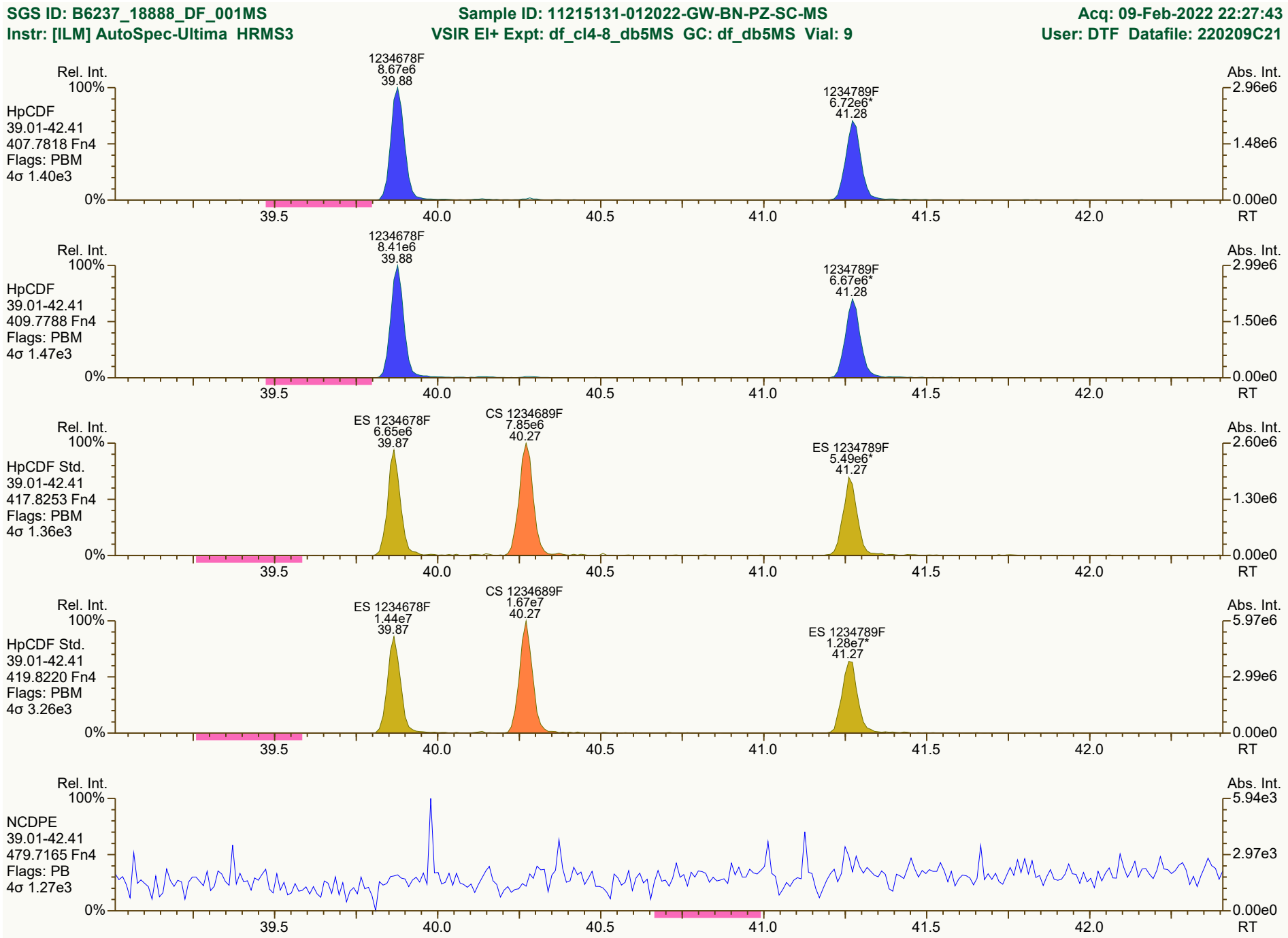
Peak annotation: Areas, Centroids
PKD: 10-Feb-2022 10:00 Printed: 10-Feb-2022 10:34 Page 6 of 12


SGS ID: B6237_18888_DF_001MS
Sample ID: 11215131-012022-GW-BN-PZ-SC-MS
Acq: 09-Feb-2022 22:27:43
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 9
User: DTF Datafile: 220209C21
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.46e3
1368F 3.10e6* 22.72
2468F 7.48e5 23.94
2348F 2.95e6 27.51
2378F 2.39e6* 27.62
1289F 3.53e6 29.62
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.31e3
1368F 3.90e6* 22.72
2468F 9.38e5 23.94
2348F 4.00e6* 27.51
2378F 2.84e6 27.62
1289F 4.45e6 29.62
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 5.74e3
JS 1234F 2.12e7 26.23
ES 2378F 1.69e7 27.60
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.06e3
JS 1234F 2.59e7 26.23
ES 2378F 2.07e7 27.60
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.26e3
RT
Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\B6237_18888_DF_001MS.utp_res, saved 10-Feb-2022 10:22 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0045, 8633, 6934 scc: 368-796
Revised: 10-Feb-2022 10:04 (DTF) Printed: 10-Feb-2022 10:34 Page 7 of 12

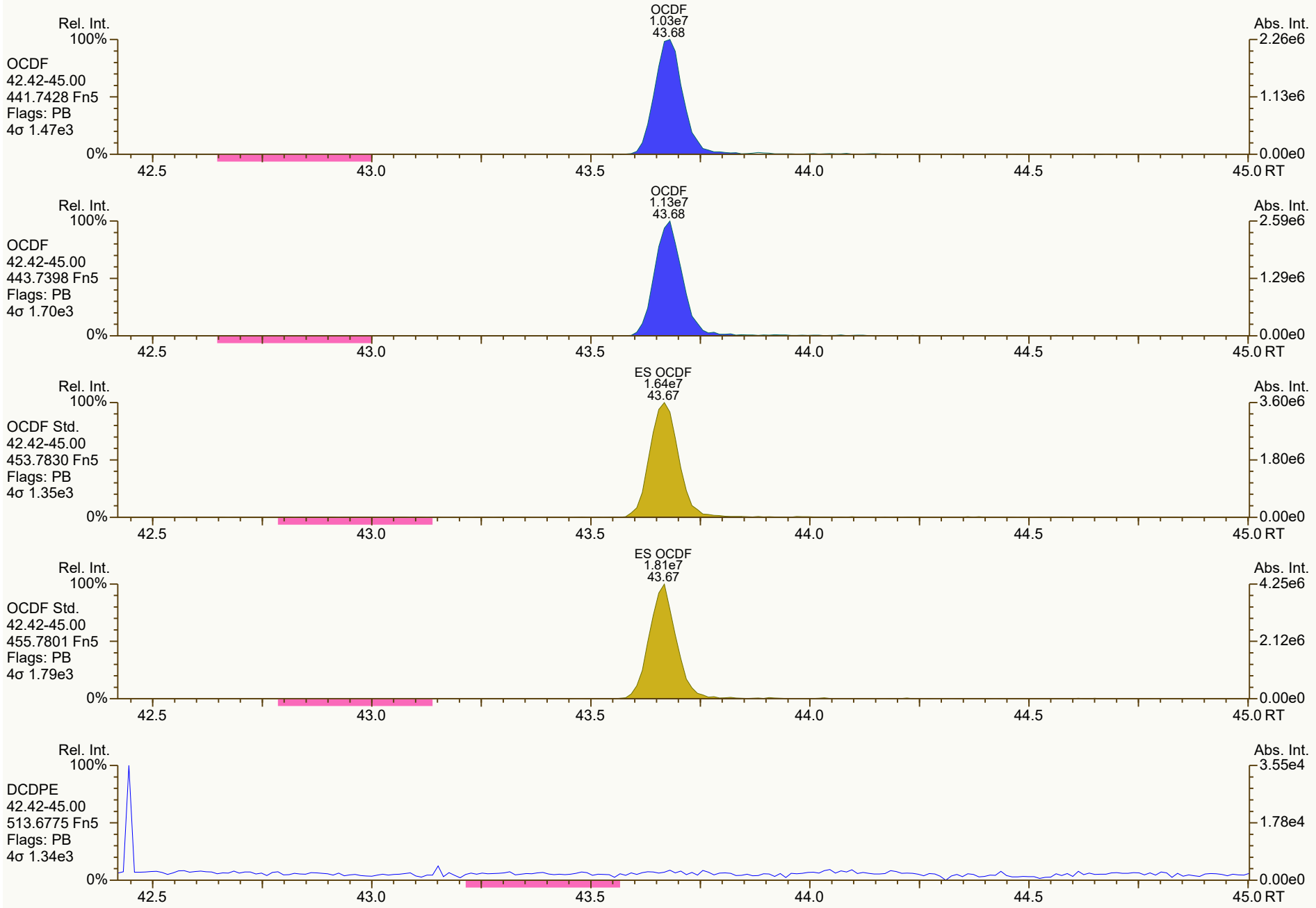

Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.43e3
13468/12468F
2.23e7
29.54
Abs. Int.
5.58e6
2.79e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.27e3
13468/12468F
1.43e7
29.54
Abs. Int.
3.58e6
1.79e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
4.27e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PB
4σ 3.22e3
0%
12378F
1.21e7
32.37
23478F
1.26e7
33.48
12389F
2.57e6
34.56
Abs. Int.
3.66e6
1.83e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PB
4σ 2.98e3
0%
12378F
7.82e6
32.37
23478F
8.44e6
33.48
12389F
1.68e6
34.56
Abs. Int.
2.47e6
1.23e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 7.42e3
0%
CS 12346F
2.45e7
31.82
ES 12378F
2.12e7
32.35
ES 23478F
2.03e7
33.47
Abs. Int.
6.35e6
3.17e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 1.90e3
0%
CS 12346F
1.59e7
31.82
ES 12378F
1.36e7
32.35
ES 23478F
1.29e7
33.47
Abs. Int.
4.20e6
2.10e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.35e3
0%
Abs. Int.
1.31e4
6.53e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


SGS ID: B6237_18888_DF_001MS
Sample ID: 11215131-012022-GW-BN-PZ-SC-MS
Acq: 09-Feb-2022 22:27:43
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 9
User: DTF Datafile: 220209C21
Rel. Int.
Abs. Int.
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PB
4σ 4.41e3
123468F 2.43e7 35.34
123478F 1.01e7 36.73
123678F 1.09e7 36.87
234678F 1.20e7 37.55
123789F 8.71e6 38.50
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PB
4σ 2.98e3
123468F 1.96e7 35.34
123478F 8.28e6 36.73
123678F 8.85e6 36.87
234678F 9.60e6 37.55
123789F 7.11e6 38.50
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 2.41e3
ES 123478F 8.72e6 36.71
ES 123678F 1.01e7 36.85
CS 123469F 1.12e7 37.17
ES 234678F 1.12e7 37.53
ES 123789F 8.41e6 38.49
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 5.26e3
ES 123478F 1.61e7 36.71
ES 123678F 1.90e7 36.85
CS 123469F 2.07e7 37.17
ES 234678F 2.00e7 37.53
ES 123789F 1.63e7 38.49
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 9.68e2
RT
Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\B6237_18888_DF_001MS.utp_res, saved 10-Feb-2022 10:22 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4784, 8489, 9720 scc: 368-796
PKD: 10-Feb-2022 10:02 Printed: 10-Feb-2022 10:34 Page 10 of 12



Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\B6237_18888_DF_001MS.utp_res, saved 10-Feb-2022 10:22 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6883, 1738, 1742 scc: 368-796
Revised: 10-Feb-2022 10:01 (DTF) Printed: 10-Feb-2022 10:34 Page 11 of 12


OCDF
1.03e7
43.68
Rel. Int.
Abs. Int.
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.47e3
OCDF
1.13e7
43.68
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.70e3
ES OCDF
1.64e7
43.67
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.35e3
ES OCDF
1.81e7
43.67
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 1.79e3
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.34e3
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6237_18888_DF_001MSD | **Acq'd:** 09 Feb 2022 23:14 DTF | **Wt/Vol:** 1.00 L | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-SC-MSD | **UTP:** 10-Feb-2022 10:22:28 DTF | **J-level:** 5 pg/L | **Split:** 1 | **Checkcode:** 324-318-DJC

Datafile: 220209C22 | **Report:** 10 Feb 2022 10:27 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.48		1.0008	1.0007	-0.2	3.98E+06	0.80	Y	1.18	229	3713.335	2.35
12378-PeCDD	33.83		1.0006	1.0005	-0.2	1.35E+07	1.56	Y	1.04	998	3688.091	2.44
123478-HxCDD	37.74		1.0004	1.0004	0	1.43E+07	1.27	Y	1.09	1,080	2673.1562	1.83
123678-HxCDD	37.86		1.0035	1.0036	+0.2	1.66E+07	1.26	Y	1.15	1,110	2673.1562	1.58
123789-HxCDD	38.15		1.0112	1.0113	+0.2	1.44E+07	1.30	Y	1.05	1,040	2673.1562	1.65
1234678-HpCDD	40.83		1.0003	1.0003	0	1.23E+07	1.05	Y	1.06	1,050	2842.233	2.01
OCDD	43.50		1.0004	1.0002	-0.5	1.80E+07	0.91	Y	1.13	2,230	3530.259	4.99
2378-TCDF	27.63		1.0008	1.0007	-0.2	5.80E+06	0.80	Y	1.08	238	2737.649	1.23
12378-PeCDF	32.38		1.0005	1.0005	0	2.02E+07	1.56	Y	1.02	962	6917.075	2.98
23478-PeCDF	33.49		1.0005	1.0005	0	2.14E+07	1.54	Y	1.02	1,050	6917.075	2.93
123478-HxCDF	36.73		1.0004	1.0005	+0.2	1.88E+07	1.26	Y	1.27	1,030	6549.013	2.84
123678-HxCDF	36.88		1.0004	1.0005	+0.2	2.07E+07	1.24	Y	1.15	1,060	6549.013	3.01
234678-HxCDF	37.56		1.0005	1.0004	-0.2	2.22E+07	1.21	Y	1.19	1,010	6549.013	2.57
123789-HxCDF	38.51		1.0004	1.0004	0	1.61E+07	1.25	Y	1.16	987	6549.013	3.18
1234678-HpCDF	39.89		1.0003	1.0003	0	1.75E+07	1.03	Y	1.37	1,020	1950.0909	0.831
1234789-HpCDF	41.28		1.0002	1.0003	+0.2	1.40E+07	1.03	Y	1.31	1,030	1950.0909	1.18
OCDF	43.69		1.0003	1.0002	-0.3	2.27E+07	0.92	Y	1.07	2,090	2860.069	2.97

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46	1.0236	1.0239	+0.5	2.93E+07	0.79	Y	1.05	86.3
ES 12378-PeCDD	33.81	1.2144	1.2161	+3.4	2.61E+07	1.57	Y	0.88	91.2
ES 123478-HxCDD	37.72	0.9920	0.9918	-0.5	2.43E+07	1.25	Y	0.97	95.8
ES 123678-HxCDD	37.84	0.9951	0.9950	-0.2	2.61E+07	1.30	Y	0.94	106
ES 123789-HxCDD	38.14	1.0027	1.0027	0	2.65E+07	1.26	Y	1.09	93.2
ES 1234678-HpCDD	40.81	1.0724	1.0730	+1.5	2.21E+07	1.06	Y	0.91	93
ES OCDD	43.49	1.1428	1.1435	+1.8	2.87E+07	0.89	Y	0.62	88.3
ES 2378-TCDF	27.61	1.0516	1.0519	+0.5	4.52E+07	0.79	Y	1.06	84
ES 12378-PeCDF	32.36	1.2312	1.2331	+3.7	4.09E+07	1.61	Y	0.91	88.5
ES 23478-PeCDF	33.47	1.2733	1.2755	+4.4	3.99E+07	1.63	Y	0.88	88.9
ES 123478-HxCDF	36.71	0.9655	0.9653	-0.4	2.87E+07	0.55	Y	1.20	92
ES 123678-HxCDF	36.86	0.9692	0.9690	-0.4	3.40E+07	0.56	Y	1.35	96.6
ES 234678-HxCDF	37.54	0.9871	0.9870	-0.2	3.72E+07	0.54	Y	1.24	115
ES 123789-HxCDF	38.49	1.0121	1.0121	0	2.81E+07	0.53	Y	1.16	93.5
ES 1234678-HpCDF	39.88	1.0479	1.0484	+1.2	2.50E+07	0.47	Y	0.97	99
ES 1234789-HpCDF	41.27	1.0845	1.0850	+1.2	2.07E+07	0.47	Y	0.85	93.5
ES OCDF	43.68	1.1477	1.1483	+1.6	4.06E+07	0.91	Y	0.81	96.6

Lab ID: B6237_18888_DF_001MSD | **Acq'd:** 09 Feb 2022 23:14 DTF | **Wt/Vol:** 1.00 L | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-SC-MSD | **UTP:** 10-Feb-2022 10:22:28 DTF | **J-level:** 5 pg/L | **Split:** 1 | **Checkcode:** 324-318-DJC

Datafile: 220209C22 | **Report:** 10 Feb 2022 10:27 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.80		-	-	-	3.25E+07	0.81	Y	-	-
JS 1234-TCDF	26.24		-	-	-	5.08E+07	0.81	Y	-	-
JS 123467-HxCDD	38.04		-	-	-	1.30E+07	1.23	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0244	1.0246	+0.3	1.36E+07	n/a	-	1.20	87
CS 12347-PeCDD	33.30		1.1964	1.1980	+3.2	2.53E+07	1.54	Y	0.75	103
CS 12346-PeCDF	31.83		1.2112	1.2128	+3.1	3.96E+07	1.57	Y	0.85	91.6
CS 123469-HxCDF	37.17		0.9775	0.9773	-0.4	3.31E+07	0.53	Y	1.12	114
CS 1234689-HpCDF	40.28		1.0584	1.0590	+1.5	2.48E+07	0.45	Y	0.89	107
~~SS 37Cl-2378-TCDD~~	~~28.48~~		~~1.0244~~	~~1.0246~~	~~+0.3~~	~~1.36E+07~~	~~n/a~~		~~1.15~~	~~101~~
~~SS 12347-PeCDD~~	~~33.30~~		~~1.1964~~	~~1.1980~~	~~+3.2~~	~~2.53E+07~~	~~1.54~~	~~Y~~	~~0.86~~	~~113~~
~~SS 12346-PeCDF~~	~~31.83~~		~~1.2112~~	~~1.2128~~	~~+3.1~~	~~3.96E+07~~	~~1.57~~	~~Y~~	~~0.94~~	~~103~~
~~SS 123469-HxCDF~~	~~37.17~~		~~0.9775~~	~~0.9773~~	~~-0.4~~	~~3.31E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~110~~
~~SS 1234689-HpCDF~~	~~40.28~~		~~1.0584~~	~~1.0590~~	~~+1.5~~	~~2.48E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~108~~

Totals	Conc	EMPC
Total TCDD	1070	1070
Total PeCDD	1480	1480
Total HxCDD	3490	3490
Total HpCDD	1290	1290
Total Tetra-Octa Dioxins	9570	9570
Total TCDF	1,290	1290
Total PeCDF	4,110	4110
Total HxCDF	6,420	6420
Total HpCDF	2,050	2050
Total Tetra-Octa Furans	16,000	16000
Total Tetra-Octa Dioxins & Furans	25500	25500

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.794	0.80
Response	3.99E+06	3.98E+06

Lab ID: B6237_18888_DF_001MSD | **Acq'd: 09 Feb 2022 23:14 DTF** | **Wt/Vol: 1.00 L** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012022-GW-BN-PZ-SC-MSD | **UTP: 10-Feb-2022 10:22:28 DTF** | **J-level: 5 pg/L** | **Split: 1** | **Checkcode: 324-318-DJC**

Datafile: 220209C22 | **Report: 10 Feb 2022 10:27 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.84		0.8737	0.8728	-1.3	5.40E+06	0.79	Y	1.18	311	3713.335	2.35
1379-TCDD	NotFnd		0.8860						1.18		3713.335	2.35
1369-TCDD	NotFnd		0.9009						1.18		3713.335	2.35
1469-TCDD	NotFnd		0.9281						1.18		3713.335	2.35
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3713.335	2.35
1378-TCDD	NotFnd		0.9432						1.18		3713.335	2.35
1268-TCDD	NotFnd		0.9500						1.18		3713.335	2.35
1478-TCDD	NotFnd		0.9586						1.18		3713.335	2.35
1279-TCDD	NotFnd		0.9645						1.18		3713.335	2.35
1234/1269-TCDD	NotFnd		0.9770						1.18		3713.335	2.35
1236-TCDD	NotFnd		0.9817						1.18		3713.335	2.35
1237/1238-TCDD	NotFnd		0.9905						1.18		3713.335	2.35
1239-TCDD	28.33		0.9952	0.9952	0	3.71E+06	0.85	Y	1.18	214	3713.335	2.35
2378-TCDD	**28.48**		**1.0008**	1.0007	**-0.2**	3.98E+06	0.80	Y	**1.18**	**229**	**3713.335**	**2.35**
1278-TCDD	NotFnd		1.0121						1.18		3713.335	2.35
1267-TCDD	NotFnd		1.0167						1.18		3713.335	2.35
1289-TCDD	29.46		1.0345	1.0349	+0.7	5.42E+06	0.79	Y	1.18	312	3713.335	2.35
12479/12468-PeCDD	31.32		0.9267	0.9265	-0.4	3.13E+06	1.59	Y	1.04	232	3688.091	2.44
12469-PeCDD	NotFnd		0.9425						1.04		3688.091	2.44
12368-PeCDD	NotFnd		0.9588						1.04		3688.091	2.44
12478-PeCDD	NotFnd		0.9643						1.04		3688.091	2.44
12379-PeCDD	NotFnd		0.9673						1.04		3688.091	2.44
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		3688.091	2.44
12346/12347-PeCDD	NotFnd		0.9858						1.04		3688.091	2.44
12378-PeCDD	33.83		**1.0006**	**1.0005**	**-0.2**	**1.35E+07**	**1.56**	**Y**	**1.04**	**998**	**3688.091**	**2.44**
12367-PeCDD	NotFnd		1.0033						1.04		3688.091	2.44
12389-PeCDD	34.26		1.0134	1.0135	+0.2	3.40E+06	1.54	Y	1.04	252	3688.091	2.44
124679/124689-HxCDD	35.99		0.9542	0.9540	-0.4	3.72E+06	1.25	Y	1.10	266	2673.1562	1.68
123468-HxCDD	NotFnd		0.9715						1.10		2673.1562	1.68
123679/123689-HxCDD	NotFnd		0.9793						1.10		2673.1562	1.68
123469-HxCDD	NotFnd		0.9828						1.10		2673.1562	1.68
123478-HxCDD	37.74		**1.0004**	**1.0004**	**0**	**1.43E+07**	**1.27**	**Y**	1.09	**1,080**	**2673.1562**	**1.83**
123678-HxCDD	37.86		**1.0035**	**1.0036**	**+0.2**	**1.66E+07**	**1.26**	**Y**	1.15	**1,110**	**2673.1562**	**1.58**
123467-HxCDD	NotFnd		1.0085						1.10		2673.1562	1.68
123789-HxCDD	38.15		**1.0112**	**1.0113**	**+0.2**	**1.44E+07**	**1.30**	**Y**	1.05	**1,040**	**2673.1562**	**1.65**

Lab ID: B6237_18888_DF_001MSD | **Acq'd: 09 Feb 2022 23:14 DTF** | **Wt/Vol: 1.00 L** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012022-GW-BN-PZ-SC-MSD | **UTP: 10-Feb-2022 10:22:28 DTF** | **J-level: 5 pg/L** | **Split: 1** | **Checkcode: 324-318-DJC**

Datafile: 220209C22 | **Report: 10 Feb 2022 10:27 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

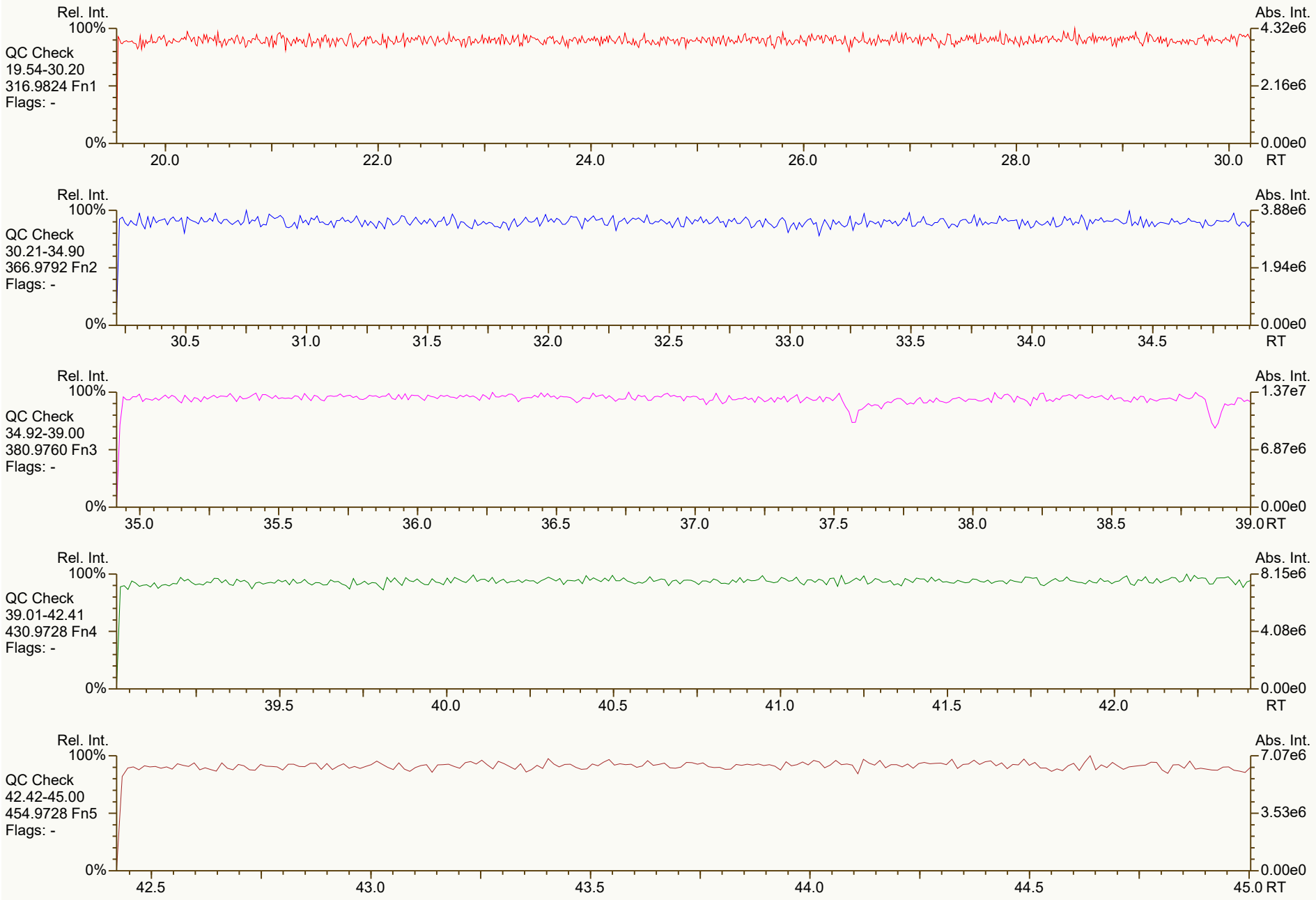
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.14		0.9837	0.9836	-0.2	2.81E+06	1.07	Y	1.06	240	2842.233	2.01
1234678-HpCDD	**40.83**		**1.0003**	**1.0003**	**0**	**1.23E+07**	**1.05**	**Y**	**1.06**	**1,050**	**2842.233**	**2.01**
OCDD	**43.50**		**1.0004**	**1.0002**	**-0.5**	**1.80E+07**	**0.91**	**Y**	**1.13**	**2,230**	**3530.259**	**4.99**
OCDD-a	43.50	**EMPC**	1.0003	1.0002	-0.3	1.03E+06	2.01	N	0.07	2,000	3182.956	70.4
1368-TCDF	22.74		0.8251	0.8235	-2.2	7.69E+06	0.75	Y	1.08	315	2737.649	1.23
1468-TCDF	NotFnd		0.8458						1.08		2737.649	1.23
2468-TCDF	23.95		0.8686	0.8675	-1.6	1.92E+06	0.84	Y	1.08	78.6	2737.649	1.23
1346/1246-TCDF	NotFnd		0.8814						1.08		2737.649	1.23
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2737.649	1.23
1348-TCDF	NotFnd		0.8962						1.08		2737.649	1.23
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2737.649	1.23
1268-TCDF	NotFnd		0.9145						1.08		2737.649	1.23
1467-TCDF	NotFnd		0.9193						1.08		2737.649	1.23
1478-TCDF	NotFnd		0.9254						1.08		2737.649	1.23
1369/1237-TCDF	NotFnd		0.9387						1.08		2737.649	1.23
2467-TCDF	NotFnd		0.9433						1.08		2737.649	1.23
2368-TCDF	NotFnd		0.9489						1.08		2737.649	1.23
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2737.649	1.23
1278-TCDF	26.72		0.9683	0.9680	-0.5	3.45E+05	0.79	Y	1.08	14.2	2737.649	1.23
1349-TCDF	NotFnd		0.9722						1.08		2737.649	1.23
1267-TCDF	NotFnd		0.9783						1.08		2737.649	1.23
2346/1249-TCDF	NotFnd		0.9850						1.08		2737.649	1.23
2347/1279-TCDF	NotFnd		0.9926						1.08		2737.649	1.23
2348-TCDF	27.52		0.9967	0.9967	0	7.40E+06	0.77	Y	1.08	303	2737.649	1.23
2378-TCDF	**27.63**		**1.0008**	**1.0007**	**-0.2**	**5.80E+06**	**0.80**	**Y**	**1.08**	**238**	**2737.649**	**1.23**
2367/3467-TCDF	NotFnd		1.0137						1.08		2737.649	1.23
1269-TCDF	NotFnd		1.0223						1.08		2737.649	1.23
1239-TCDF	NotFnd		1.0321						1.08		2737.649	1.23
1289-TCDF	29.62		1.0722	1.0731	+1.6	8.21E+06	0.79	Y	1.08	337	2737.649	1.23
13468/12468-PeCDF	29.54		0.9139	0.9129	-1.8	3.89E+07	1.56	Y	1.02	1,890	2743.38	1.17
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		6917.075	2.95
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		6917.075	2.95
14678-PeCDF	NotFnd		0.9692						1.02		6917.075	2.95
13479-PeCDF	NotFnd		0.9723						1.02		6917.075	2.95
13469/12479-PeCDF	NotFnd		0.9797						1.02		6917.075	2.95
12346-PeCDF	NotFnd		0.9840						1.02		6917.075	2.95

Lab ID: B6237_18888_DF_001MSD | **Acq'd: 09 Feb 2022 23:14 DTF** | **Wt/Vol: 1.00 L** | **ICAL: HRMS3_DF_10272021 10NOV2021**

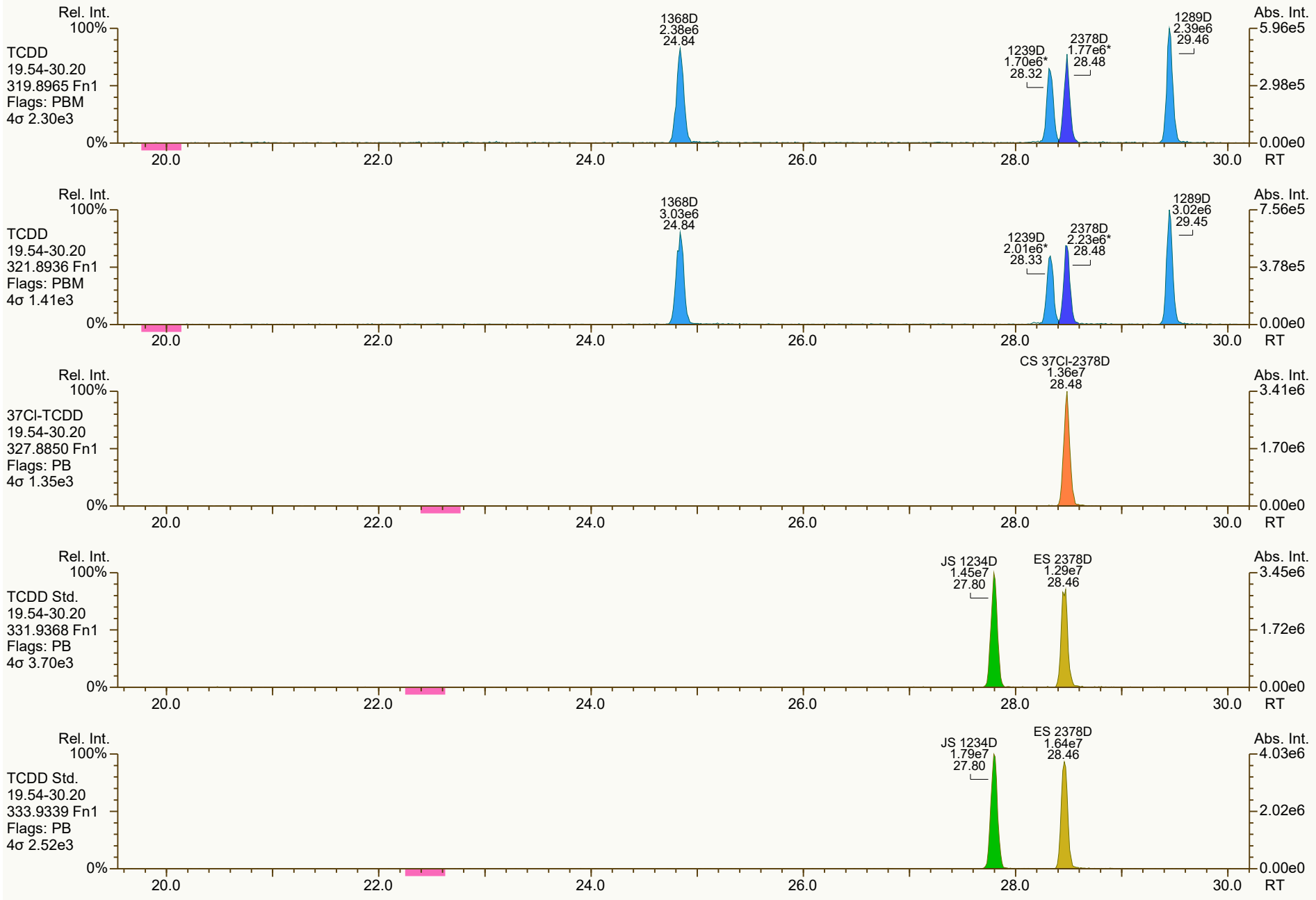
Client ID: 11215131-012022-GW-BN-PZ-SC-MSD | **UTP: 10-Feb-2022 10:22:28 DTF** | **J-level: 5 pg/L** | **Split: 1** | **Checkcode: 324-318-DJC**

Datafile: 220209C22 | **Report: 10 Feb 2022 10:27 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		6917.075	2.95
12347-PeCDF	NotFnd		0.9894						1.02		6917.075	2.95
12348-PeCDF	NotFnd		0.9940						1.02		6917.075	2.95
12378-PeCDF	**32.38**		**1.0005**	**1.0005**	**0**	**2.02E+07**	**1.56**	**Y**	**1.02**	**962**	**6917.075**	**2.98**
12678/12367-PeCDF	NotFnd		1.0089						1.02		6917.075	2.95
12379-PeCDF	NotFnd		1.0142						1.02		6917.075	2.95
12679-PeCDF	NotFnd		0.9929						1.02		6917.075	2.95
23467/12369-PeCDF	NotFnd		0.9967						1.02		6917.075	2.95
23478-PeCDF	**33.49**		**1.0005**	**1.0005**	**0**	**2.14E+07**	**1.54**	**Y**	**1.02**	**1,050**	**6917.075**	**2.93**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6917.075	2.95
12349-PeCDF	NotFnd		1.0100						1.02		6917.075	2.95
12389-PeCDF	34.57		1.0324	1.0327	+0.6	4.39E+06	1.58	Y	1.02	213	6917.075	2.95
123468-HxCDF	35.34		0.9627	0.9626	-0.2	4.46E+07	1.24	Y	1.19	2,340	6549.013	2.87
124678/134678-HxCDF	NotFnd		0.9682						1.19		6549.013	2.87
134679-HxCDF	NotFnd		0.9744						1.19		6549.013	2.87
124679-HxCDF	NotFnd		0.9798						1.19		6549.013	2.87
124689-HxCDF	NotFnd		0.9858						1.19		6549.013	2.87
123467-HxCDF	NotFnd		0.9972						1.19		6549.013	2.87
123478-HxCDF	**36.73**		**1.0004**	**1.0005**	**+0.2**	**1.88E+07**	**1.26**	**Y**	**1.27**	**1,030**	**6549.013**	**2.84**
123678-HxCDF	**36.88**		**1.0004**	**1.0005**	**+0.2**	**2.07E+07**	**1.24**	**Y**	**1.15**	**1,060**	**6549.013**	**3.01**
123479-HxCDF	NotFnd		1.0049						1.19		6549.013	2.87
123469-HxCDF	NotFnd		1.0090						1.19		6549.013	2.87
123679-HxCDF	NotFnd		0.9942						1.19		6549.013	2.87
234678-HxCDF	**37.56**		**1.0005**	**1.0004**	**-0.2**	**2.22E+07**	**1.21**	**Y**	**1.19**	**1,010**	**6549.013**	**2.57**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6549.013	2.87
123789-HxCDF	**38.51**		**1.0004**	**1.0004**	**0**	**1.61E+07**	**1.25**	**Y**	**1.16**	**987**	**6549.013**	**3.18**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		6549.013	2.87
1234678-HpCDF	**39.89**		**1.0003**	**1.0003**	**0**	**1.75E+07**	**1.03**	**Y**	**1.37**	**1,020**	**1950.0909**	**0.831**
1234679-HpCDF	NotFnd		1.0068						1.34		1950.0909	0.987
1234689-HpCDF	NotFnd		1.0103						1.34		1950.0909	0.987
1234789-HpCDF	**41.28**		**1.0002**	**1.0003**	**+0.2**	**1.40E+07**	**1.03**	**Y**	**1.31**	**1,030**	**1950.0909**	**1.18**
OCDF	**43.69**		**1.0003**	**1.0002**	**-0.3**	**2.27E+07**	**0.92**	**Y**	**1.07**	**2,090**	**2860.069**	**2.97**
OCDF-a	43.69		1.0002	1.0002	0	1.19E+06	2.56	Y	0.07	1,760	3116.378	52.3


Rel. Int.
100%
0%
Abs. Int.
4.32e6
2.16e6
0.00e0
RT
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
3.88e6
1.94e6
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
1.37e7
6.87e6
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
8.15e6
4.08e6
39.5
40.0
40.5
41.0
41.5
42.0
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
7.07e6
3.53e6
42.5
43.0
43.5
44.0
44.5
45.0

SGS ID: B6237_18888_DF_001MSD
Sample ID: 11215131-012022-GW-BN-PZ-SC-MSD
Acq: 09-Feb-2022 23:14:03
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 10
User: DTF Datafile: 220209C22

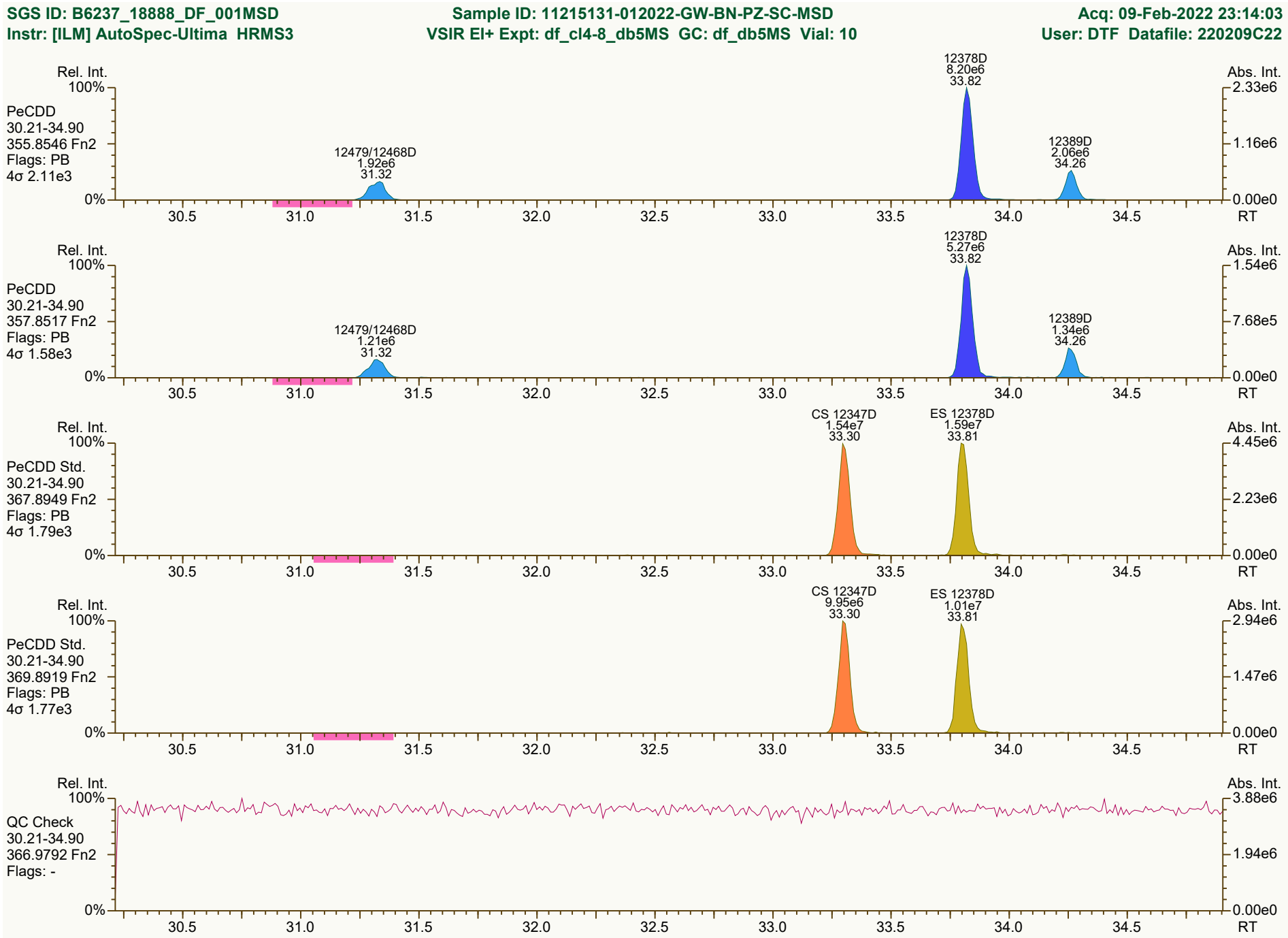


Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\B6237_18888_DF_001MSD.utp_res, saved 10-Feb-2022 10:22 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0490, 6207, 3856 scc: 324-318
Revised: 10-Feb-2022 10:03 (DTF) Printed: 10-Feb-2022 10:34 Page 2 of 12

SGS ID: B6237_18888_DF_001MSD
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 11215131-012022-GW-BN-PZ-SC-MSD
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 10

Acq: 09-Feb-2022 23:14:03
User: DTF Datafile: 220209C22



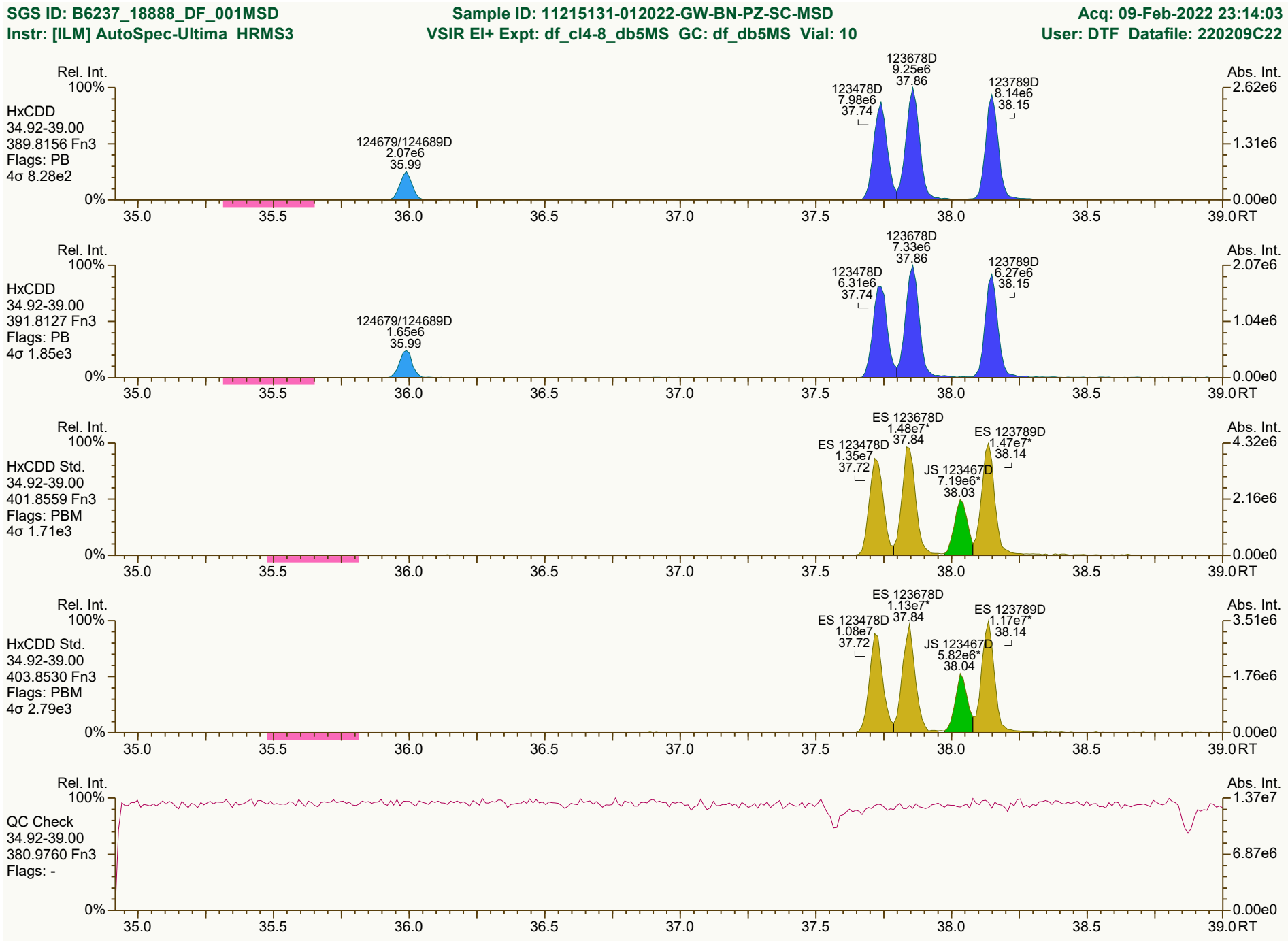
Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\B6237_18888_DF_001MSD.utp_res, saved 10-Feb-2022 10:22 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8829, 3189 scc: 324-318

Peak annotation: Areas, Centroids
PKD: 10-Feb-2022 10:04 Printed: 10-Feb-2022 10:34 Page 3 of 12

SGS ID: B6237_18888_DF_001MSD
Instr: [ILM] AutoSpec-Ultima HRMS3

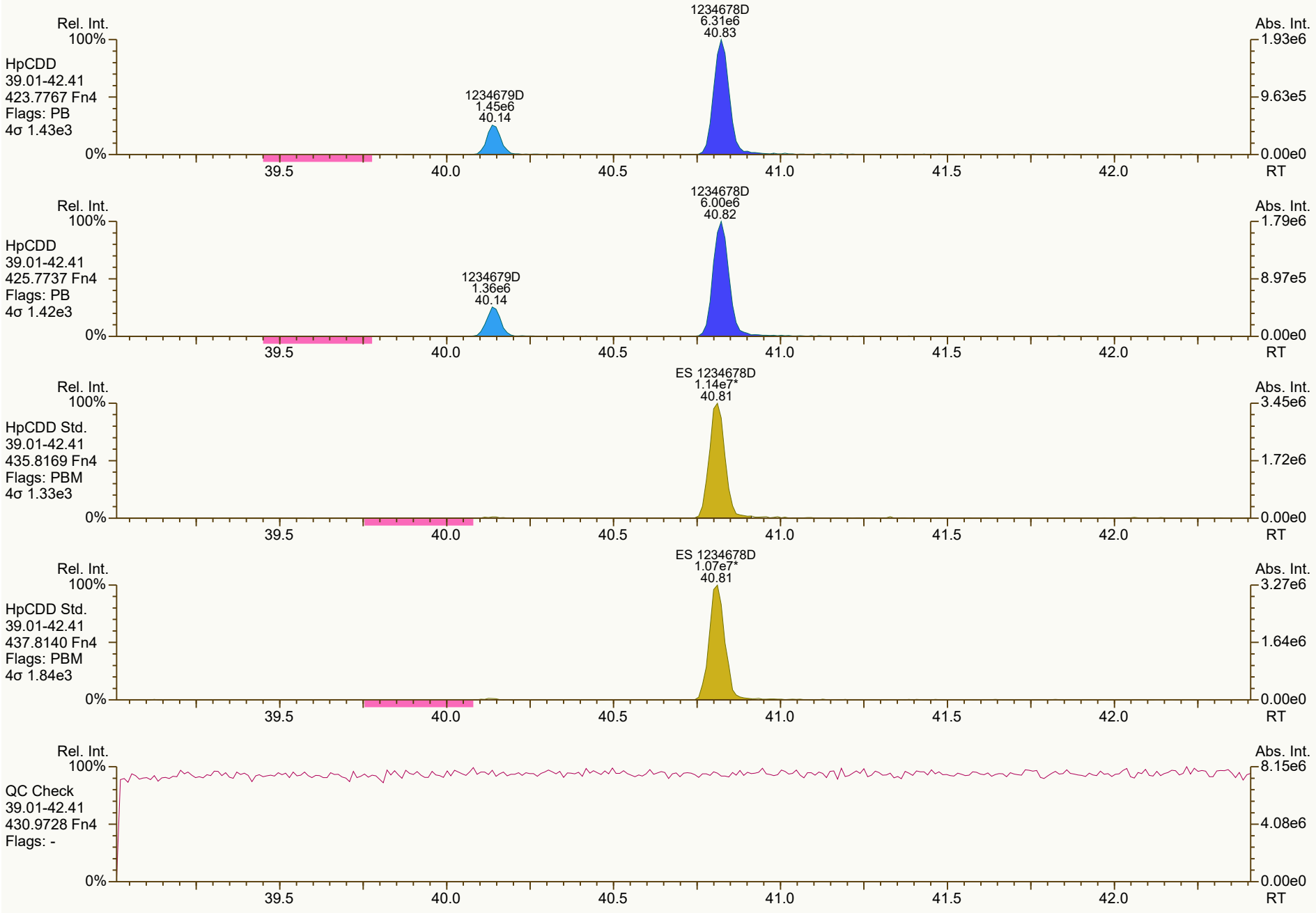
Sample ID: 11215131-012022-GW-BN-PZ-SC-MSD
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 10

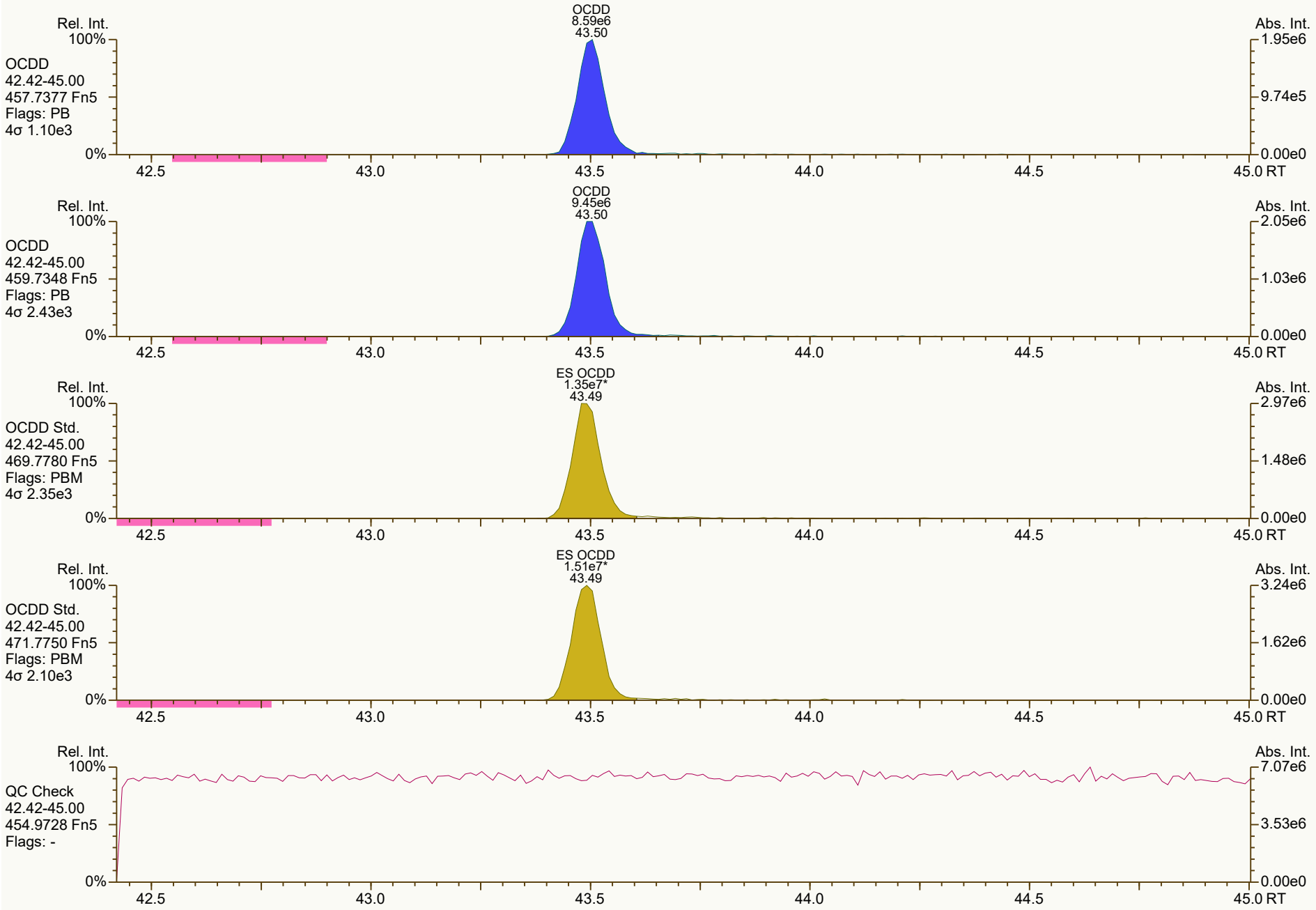
Acq: 09-Feb-2022 23:14:03
User: DTF Datafile: 220209C22



Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\B6237_18888_DF_001MSD.utp_res, saved 10-Feb-2022 10:22 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6629, 6490 scc: 324-318

Peak annotation: Areas, Centroids
PKD: 10-Feb-2022 10:04 Printed: 10-Feb-2022 10:34 Page 4 of 12

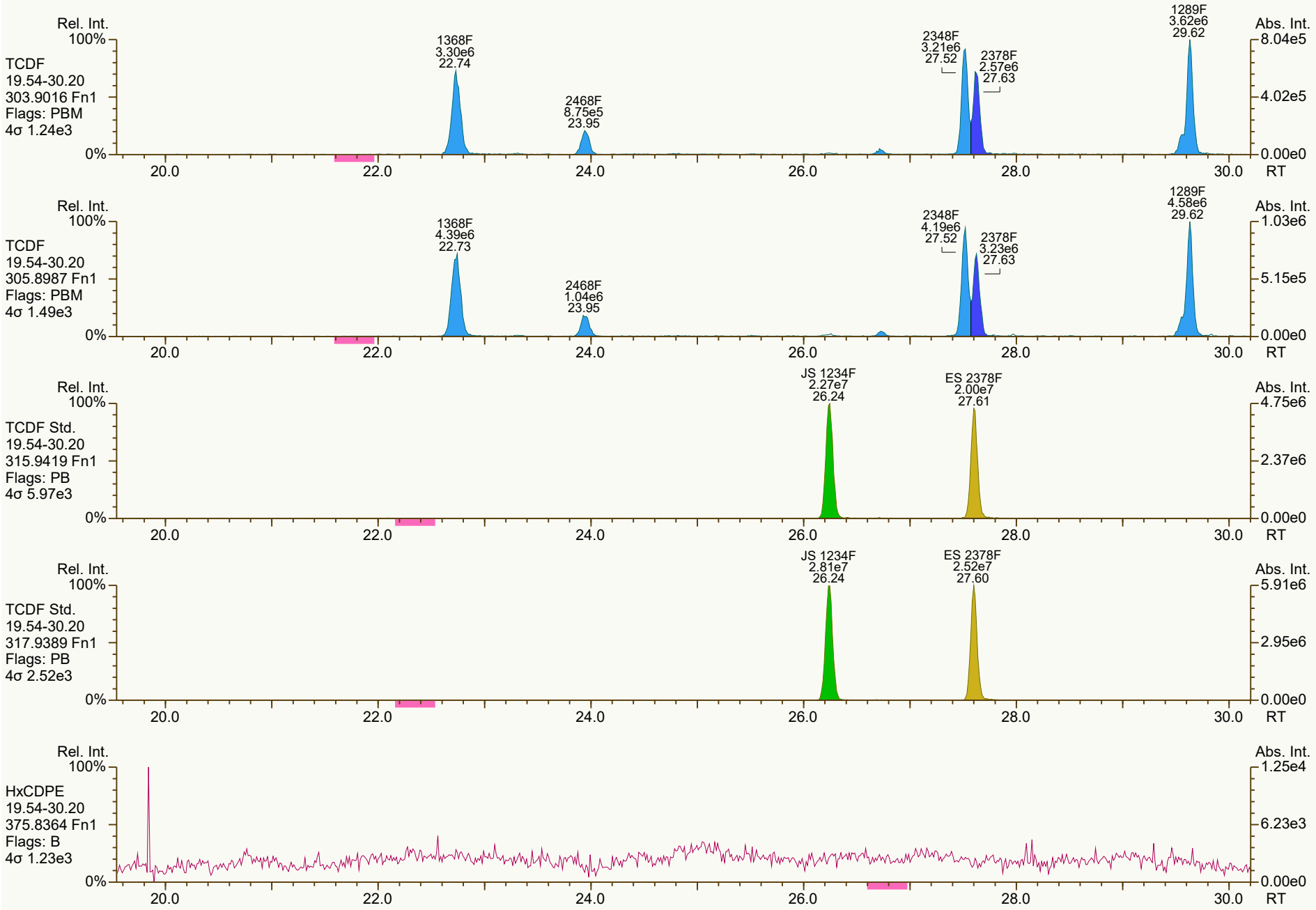

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 1.43e3
1234678D
6.31e6
40.83
1234679D
1.45e6
40.14
Abs. Int.
1.93e6
9.63e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.42e3
1234678D
6.00e6
40.82
1234679D
1.36e6
40.14
Abs. Int.
1.79e6
8.97e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 1.33e3
ES 1234678D
1.14e7*
40.81
Abs. Int.
3.45e6
1.72e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 1.84e3
ES 1234678D
1.07e7*
40.81
Abs. Int.
3.27e6
1.64e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
8.15e6
4.08e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 1.10e3
0%
OCDD
8.59e6
43.50
Abs. Int.
1.95e6
9.74e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 2.43e3
0%
OCDD
9.45e6
43.50
Abs. Int.
2.05e6
1.03e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 2.35e3
0%
ES OCDD
1.35e7*
43.49
Abs. Int.
2.97e6
1.48e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 2.10e3
0%
ES OCDD
1.51e7*
43.49
Abs. Int.
3.24e6
1.62e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.07e6
3.53e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: B6237_18888_DF_001MSD
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 11215131-012022-GW-BN-PZ-SC-MSD
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 10

Acq: 09-Feb-2022 23:14:03
User: DTF Datafile: 220209C22



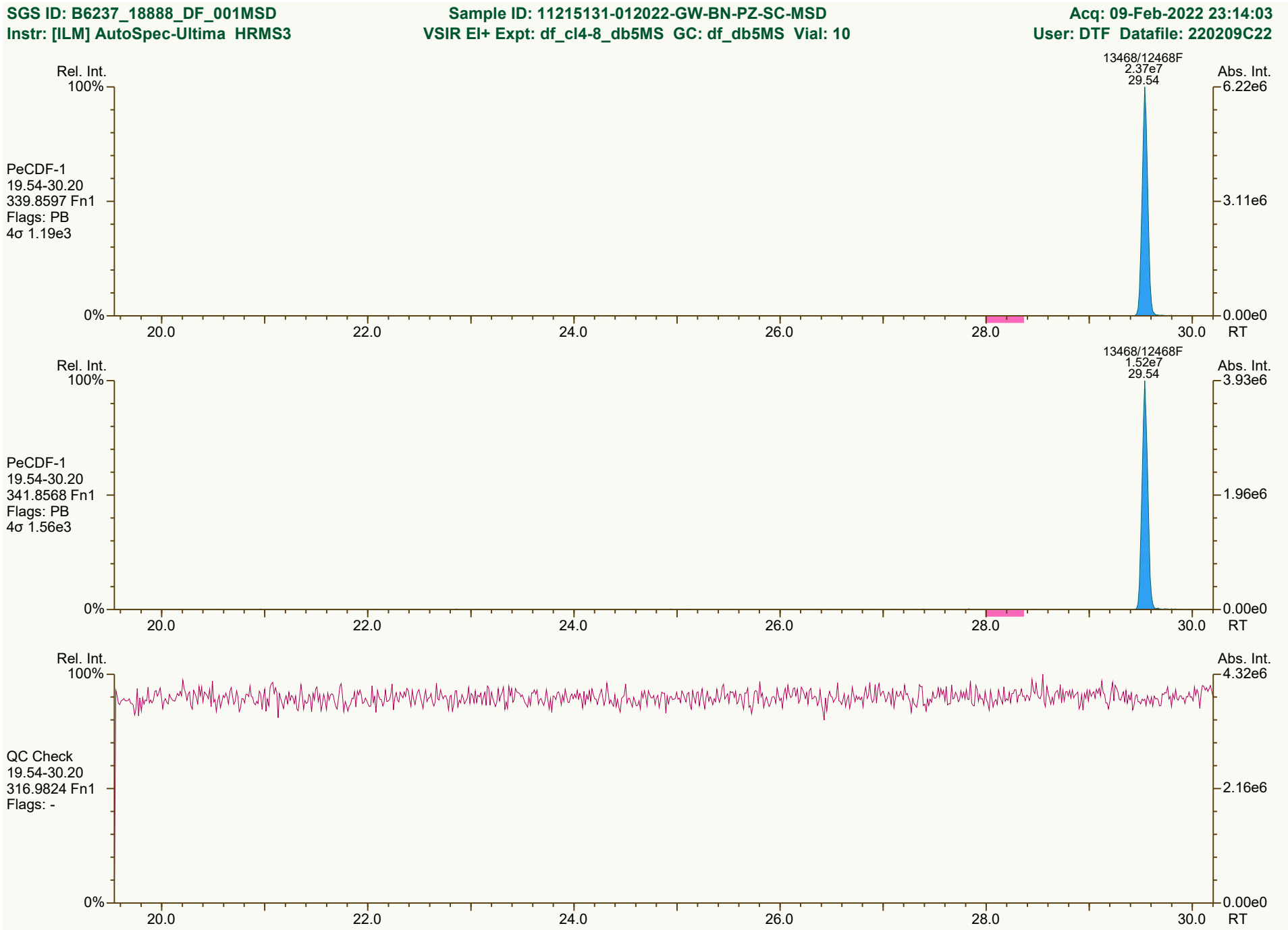
Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\B6237_18888_DF_001MSD.utp_res, saved 10-Feb-2022 10:22 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8379, 8514, 4212 scc: 324-318

Peak annotation: Areas, Centroids
PKD: 10-Feb-2022 10:04 Printed: 10-Feb-2022 10:34 Page 7 of 12

SGS ID: B6237_18888_DF_001MSD
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 11215131-012022-GW-BN-PZ-SC-MSD
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 10

Acq: 09-Feb-2022 23:14:03
User: DTF Datafile: 220209C22



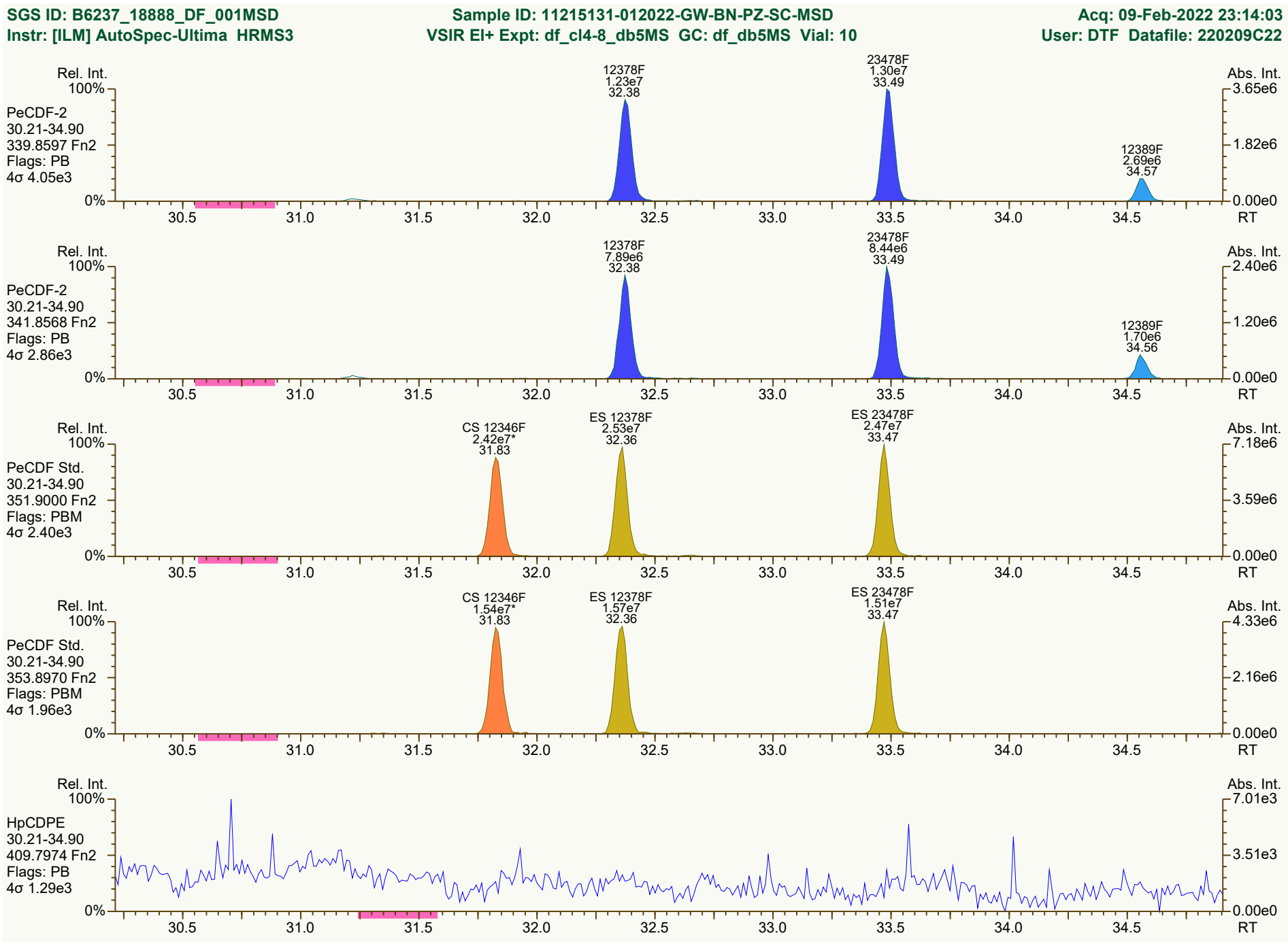
Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\B6237_18888_DF_001MSD.utp_res, saved 10-Feb-2022 10:22 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2467 scc: 324-318

Peak annotation: Areas, Centroids
PKD: 10-Feb-2022 10:02 Printed: 10-Feb-2022 10:34 Page 8 of 12

SGS ID: B6237_18888_DF_001MSD
Instr: [ILM] AutoSpec-Ultima HRMS3

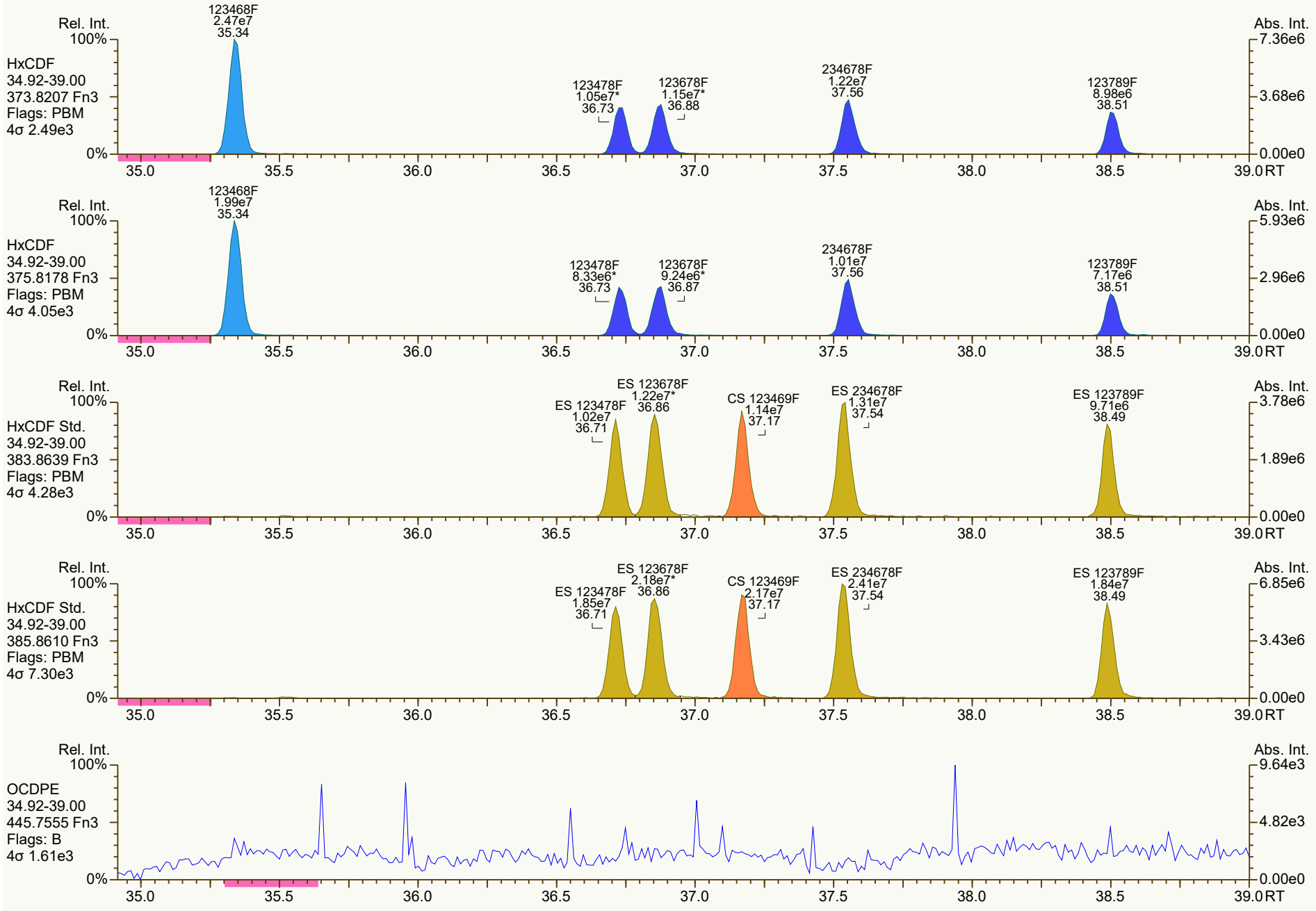
Sample ID: 11215131-012022-GW-BN-PZ-SC-MSD
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 10

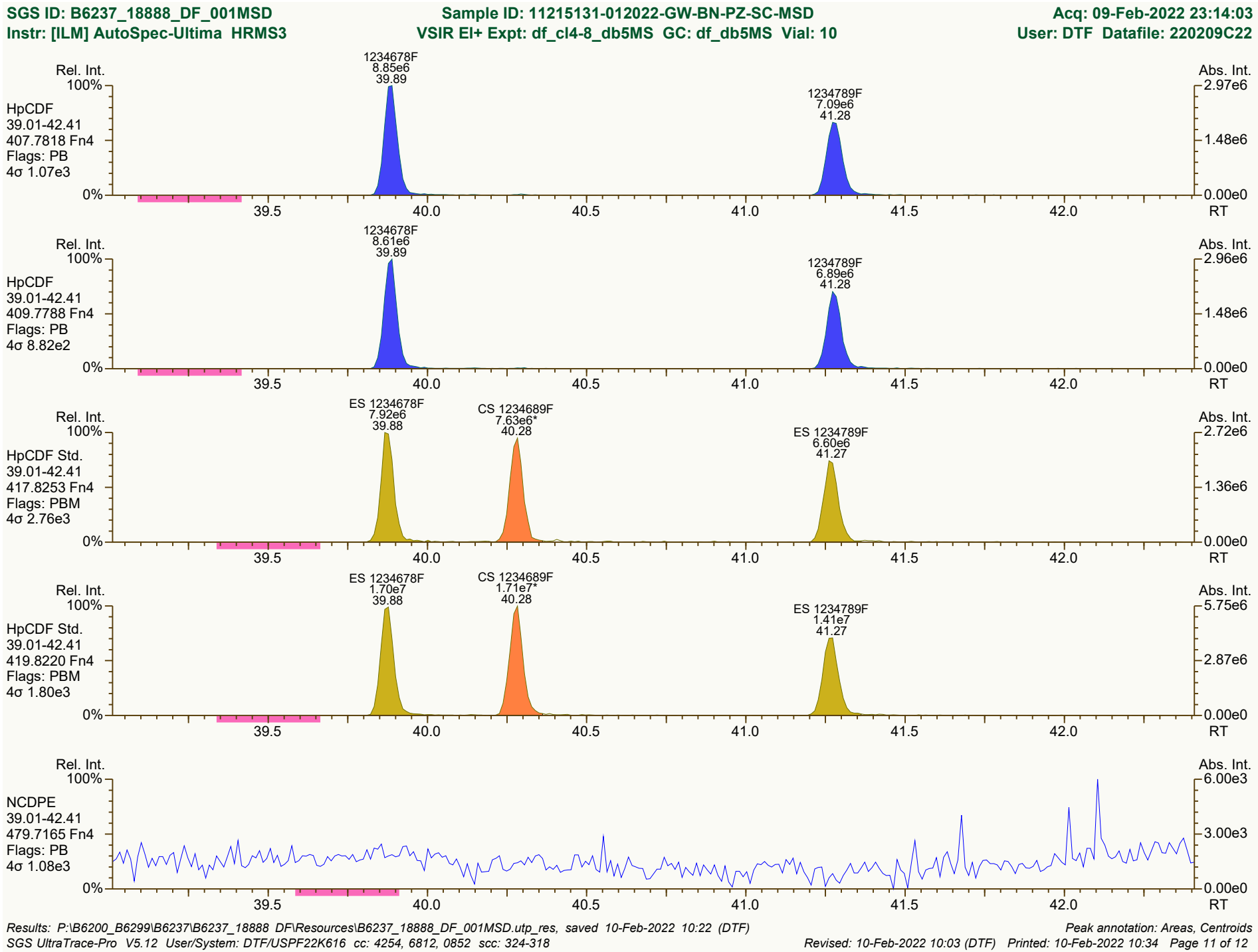
Acq: 09-Feb-2022 23:14:03
User: DTF Datafile: 220209C22

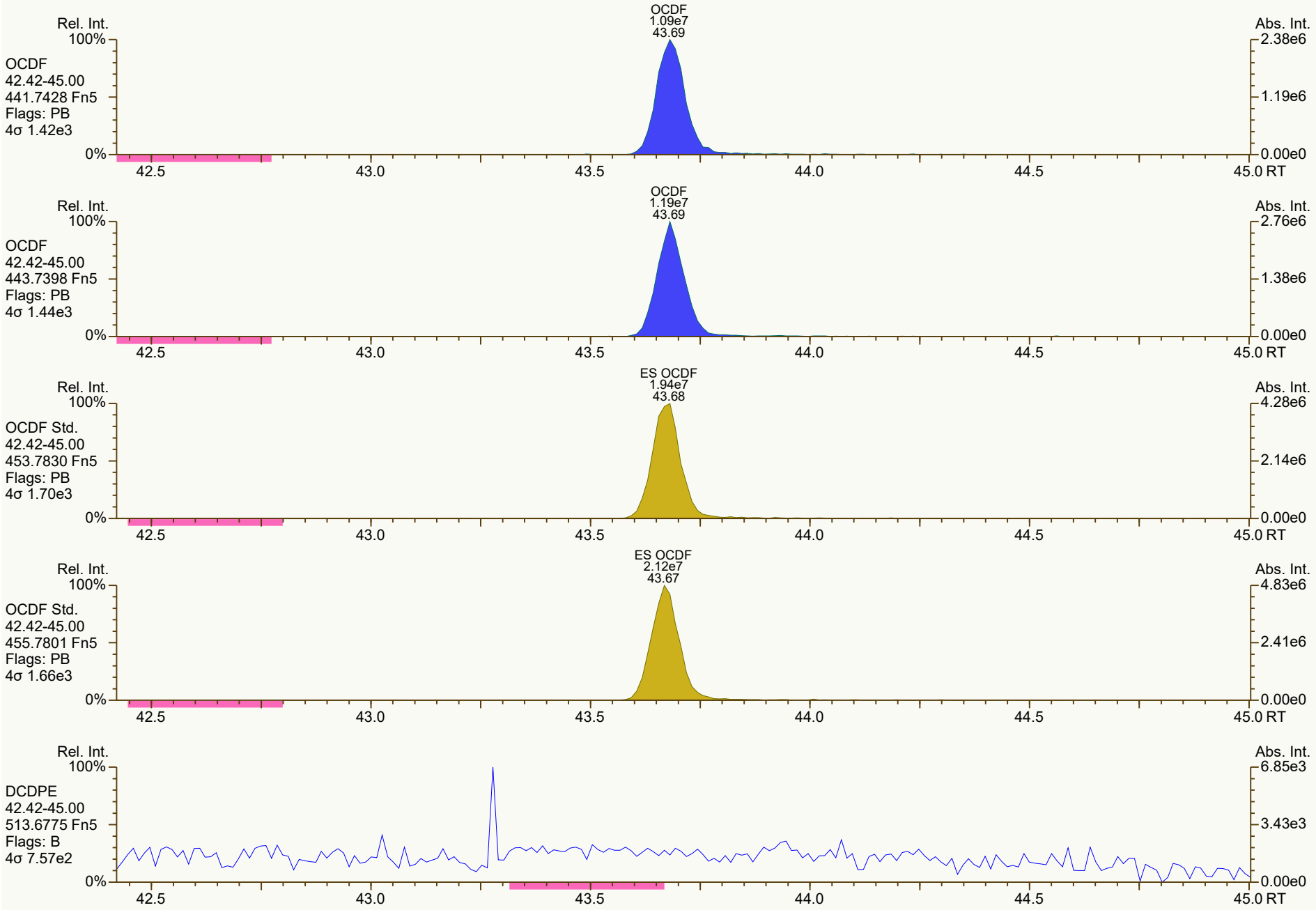


Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\B6237_18888_DF_001MSD.utp_res, saved 10-Feb-2022 10:22 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4075, 3666, 8150 scc: 324-318

Peak annotation: Areas, Centroids
Revised: 10-Feb-2022 10:03 (DTF) Printed: 10-Feb-2022 10:34 Page 9 of 12


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 2.49e3
0%
123468F
2.47e7
35.34
123478F
1.05e7*
36.73
123678F
1.15e7*
36.88
234678F
1.22e7
37.56
123789F
8.98e6
38.51
Abs. Int.
7.36e6
3.68e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 4.05e3
0%
123468F
1.99e7
35.34
123478F
8.33e6*
36.73
123678F
9.24e6*
36.87
234678F
1.01e7
37.56
123789F
7.17e6
38.51
Abs. Int.
5.93e6
2.96e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 4.28e3
0%
ES 123678F
1.22e7*
36.86
ES 123478F
1.02e7
36.71
CS 123469F
1.14e7
37.17
ES 234678F
1.31e7
37.54
ES 123789F
9.71e6
38.49
Abs. Int.
3.78e6
1.89e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 7.30e3
0%
ES 123678F
2.18e7*
36.86
ES 123478F
1.85e7
36.71
CS 123469F
2.17e7
37.17
ES 234678F
2.41e7
37.54
ES 123789F
1.84e7
38.49
Abs. Int.
6.85e6
3.43e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.61e3
0%
Abs. Int.
9.64e3
4.82e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: B6237_18888_DF_001MSD
Sample ID: 11215131-012022-GW-BN-PZ-SC-MSD
Acq: 09-Feb-2022 23:14:03
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 10
User: DTF Datafile: 220209C22
Rel. Int.
Abs. Int.
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.07e3
1234678F
8.85e6
39.89
1234789F
7.09e6
41.28
2.97e6
1.48e6
0.00e0
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 8.82e2
1234678F
8.61e6
39.89
1234789F
6.89e6
41.28
2.96e6
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 2.76e3
ES 1234678F
7.92e6
39.88
CS 1234689F
7.63e6*
40.28
ES 1234789F
6.60e6
41.27
2.72e6
1.36e6
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 1.80e3
ES 1234678F
1.70e7
39.88
CS 1234689F
1.71e7*
40.28
ES 1234789F
1.41e7
41.27
5.75e6
2.87e6
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.08e3
6.00e3
3.00e3
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\B6237_18888_DF_001MSD.utp_res, saved 10-Feb-2022 10:22 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4254, 6812, 0852 scc: 324-318
Revised: 10-Feb-2022 10:03 (DTF) Printed: 10-Feb-2022 10:34 Page 11 of 12


OCDF
1.09e7
43.69
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.42e3
0%
Abs. Int.
2.38e6
1.19e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.19e7
43.69
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.44e3
0%
Abs. Int.
2.76e6
1.38e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.94e7
43.68
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.70e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.12e7
43.67
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 1.66e3
0%
Abs. Int.
4.83e6
2.41e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 7.57e2
0%
Abs. Int.
6.85e3
3.43e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6237_18888_DF_002 **Acq'd: 10 Feb 2022 00:00 DTF** **Wt/Vol: 1.02 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012022-GW-BN-PZ-SW **UTP: 10-Feb-2022 10:22:29 DTF** **J-level: 4.9 pg/L** **Split: 1** **Checkcode: 769-829-KJV**

Datafile: 220209C23 **Report: 10 Feb 2022 10:28 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	3737.676	2.19
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	2709.911	1.6
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2654.842	1.62
123678-HxCDD	NotFnd		1.0035	-		-	-	-	1.15	-	2654.842	1.44
123789-HxCDD	NotFnd		1.0112	-		-	-	-	1.05	-	2654.842	1.56
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	2460.432	1.66
OCDD	43.50	J EMPC	1.0004	1.0003	-0.3	8.39E+04	0.55	N	1.13	9.47	4666.244	5.86
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	2555.912	1.05
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2469.194	1.1
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2469.194	1
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2994.179	1.31
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2994.179	1.27
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2994.179	1.17
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2994.179	1.36
1234678-HpCDF	39.87	J	1.0003	1.0002	-0.2	3.10E+04	0.96	Y	1.37	1.71	3193.351	1.32
1234789-HpCDF	NotFnd		1.0002	-		-	-	-	1.31	-	3193.351	1.83
OCDF	NotFnd		1.0003	-		-	-	-	1.07	-	3993.02	4

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46	1.0236	1.0239	+0.5	3.04E+07	0.80	Y	1.05	86.8
ES 12378-PeCDD	33.80	1.2144	1.2161	+3.4	2.66E+07	1.58	Y	0.88	90.5
ES 123478-HxCDD	37.72	0.9920	0.9920	0	2.52E+07	1.24	Y	0.97	95.8
ES 123678-HxCDD	37.83	0.9951	0.9950	-0.2	2.62E+07	1.34	Y	0.94	103
ES 123789-HxCDD	38.13	1.0027	1.0028	+0.2	2.69E+07	1.26	Y	1.09	91.1
ES 1234678-HpCDD	40.80	1.0724	1.0730	+1.5	2.22E+07	1.04	Y	0.91	89.8
ES OCDD	43.48	1.1428	1.1436	+2.1	3.08E+07	0.91	Y	0.62	91.2
ES 2378-TCDF	27.60	1.0516	1.0520	+0.7	4.75E+07	0.79	Y	1.06	83.8
ES 12378-PeCDF	32.35	1.2312	1.2331	+3.7	4.01E+07	1.59	Y	0.91	82.3
ES 23478-PeCDF	33.46	1.2733	1.2755	+4.4	4.01E+07	1.64	Y	0.88	84.7
ES 123478-HxCDF	36.71	0.9655	0.9653	-0.4	2.89E+07	0.53	Y	1.20	88.9
ES 123678-HxCDF	36.85	0.9692	0.9692	0	3.57E+07	0.53	Y	1.35	97.4
ES 234678-HxCDF	37.53	0.9871	0.9870	-0.2	3.83E+07	0.54	Y	1.24	114
ES 123789-HxCDF	38.48	1.0121	1.0121	0	2.97E+07	0.54	Y	1.16	95
ES 1234678-HpCDF	39.87	1.0479	1.0485	+1.4	2.59E+07	0.45	Y	0.97	99
ES 1234789-HpCDF	41.26	1.0845	1.0851	+1.5	2.07E+07	0.46	Y	0.85	89.8
ES OCDF	43.66	1.1477	1.1483	+1.6	4.00E+07	0.90	Y	0.81	91.4

Lab ID: B6237_18888_DF_002 **Acq'd:** 10 Feb 2022 00:00 DTF **Wt/Vol:** 1.02 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-SW **UTP:** 10-Feb-2022 10:22:29 DTF **J-level:** 4.9 pg/L **Split:** 1 **Checkcode:** 769-829-KJV

Datafile: 220209C23 **Report:** 10 Feb 2022 10:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.79		-	-	-	3.35E+07	0.81	Y	-	-
JS 1234-TCDF	26.24		-	-	-	5.35E+07	0.79	Y	-	-
JS 123467-HxCDD	38.02		-	-	-	1.35E+07	1.26	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0244	1.0247	+0.5	1.47E+07	n/a	-	1.20	91.4
CS 12347-PeCDD	33.29		1.1964	1.1979	+3.0	2.56E+07	1.59	Y	0.75	102
CS 12346-PeCDF	31.82		1.2112	1.2128	+3.1	3.95E+07	1.55	Y	0.85	86.8
CS 123469-HxCDF	37.17		0.9775	0.9775	0	3.38E+07	0.54	Y	1.12	112
CS 1234689-HpCDF	40.27		1.0584	1.0590	+1.4	2.54E+07	0.44	Y	0.89	106
~~SS 37Cl-2378-TCDD~~	~~28.48~~		~~1.0244~~	~~1.0247~~	~~+0.5~~	~~1.47E+07~~	~~n/a~~		~~1.15~~	~~106~~
~~SS 12347-PeCDD~~	~~33.29~~		~~1.1964~~	~~1.1979~~	~~+3.0~~	~~2.56E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~112~~
~~SS 12346-PeCDF~~	~~31.82~~		~~1.2112~~	~~1.2128~~	~~+3.1~~	~~3.95E+07~~	~~1.55~~	~~Y~~	~~0.94~~	~~105~~
~~SS 123469-HxCDF~~	~~37.17~~		~~0.9775~~	~~0.9775~~	~~0~~	~~3.38E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~114~~
~~SS 1234689-HpCDF~~	~~40.27~~		~~1.0584~~	~~1.0590~~	~~+1.4~~	~~2.54E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~107~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	9.47
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	1.71	1.71
Total Tetra-Octa Furans	1.71	1.71
Total Tetra-Octa Dioxins & Furans	1.71	11.2

Lab ID: B6237_18888_DF_002 **Acq'd: 10 Feb 2022 00:00 DTF** **Wt/Vol: 1.02 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012022-GW-BN-PZ-SW **UTP: 10-Feb-2022 10:22:29 DTF** **J-level: 4.9 pg/L** **Split: 1** **Checkcode: 769-829-KJV**

Datafile: 220209C23 **Report: 10 Feb 2022 10:28 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8737						1.18		3737.676	2.19
1379-TCDD	NotFnd		0.8860						1.18		3737.676	2.19
1369-TCDD	NotFnd		0.9009						1.18		3737.676	2.19
1469-TCDD	NotFnd		0.9281						1.18		3737.676	2.19
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3737.676	2.19
1378-TCDD	NotFnd		0.9432						1.18		3737.676	2.19
1268-TCDD	NotFnd		0.9500						1.18		3737.676	2.19
1478-TCDD	NotFnd		0.9586						1.18		3737.676	2.19
1279-TCDD	NotFnd		0.9645						1.18		3737.676	2.19
1234/1269-TCDD	NotFnd		0.9770						1.18		3737.676	2.19
1236-TCDD	NotFnd		0.9817						1.18		3737.676	2.19
1237/1238-TCDD	NotFnd		0.9905						1.18		3737.676	2.19
1239-TCDD	NotFnd		0.9952						1.18		3737.676	2.19
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**3737.676**	**2.19**
1278-TCDD	NotFnd		1.0121						1.18		3737.676	2.19
1267-TCDD	NotFnd		1.0167						1.18		3737.676	2.19
1289-TCDD	NotFnd		1.0345						1.18		3737.676	2.19
12479/12468-PeCDD	NotFnd		0.9267						1.04		2709.911	1.6
12469-PeCDD	NotFnd		0.9425						1.04		2709.911	1.6
12368-PeCDD	NotFnd		0.9588						1.04		2709.911	1.6
12478-PeCDD	NotFnd		0.9643						1.04		2709.911	1.6
12379-PeCDD	NotFnd		0.9673						1.04		2709.911	1.6
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		2709.911	1.6
12346/12347-PeCDD	NotFnd		0.9858						1.04		2709.911	1.6
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**2709.911**	**1.6**
12367-PeCDD	NotFnd		1.0033						1.04		2709.911	1.6
12389-PeCDD	NotFnd		1.0134						1.04		2709.911	1.6
124679/124689-HxCDD	NotFnd		0.9542						1.10		2654.842	1.54
123468-HxCDD	NotFnd		0.9715						1.10		2654.842	1.54
123679/123689-HxCDD	NotFnd		0.9793						1.10		2654.842	1.54
123469-HxCDD	NotFnd		0.9828						1.10		2654.842	1.54
123478-HxCDD	NotFnd		**1.0004**						1.09		**2654.842**	**1.62**
123678-HxCDD	NotFnd		**1.0035**						1.15		**2654.842**	**1.44**
123467-HxCDD	NotFnd		1.0085						1.10		2654.842	1.54
123789-HxCDD	NotFnd		**1.0112**						1.05		**2654.842**	**1.56**

Lab ID: B6237_18888_DF_002 **Acq'd:** 10 Feb 2022 00:00 DTF **Wt/Vol:** 1.02 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-SW **UTP:** 10-Feb-2022 10:22:29 DTF **J-level:** 4.9 pg/L **Split:** 1 **Checkcode:** 769-829-KJV

Datafile: 220209C23 **Report:** 10 Feb 2022 10:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

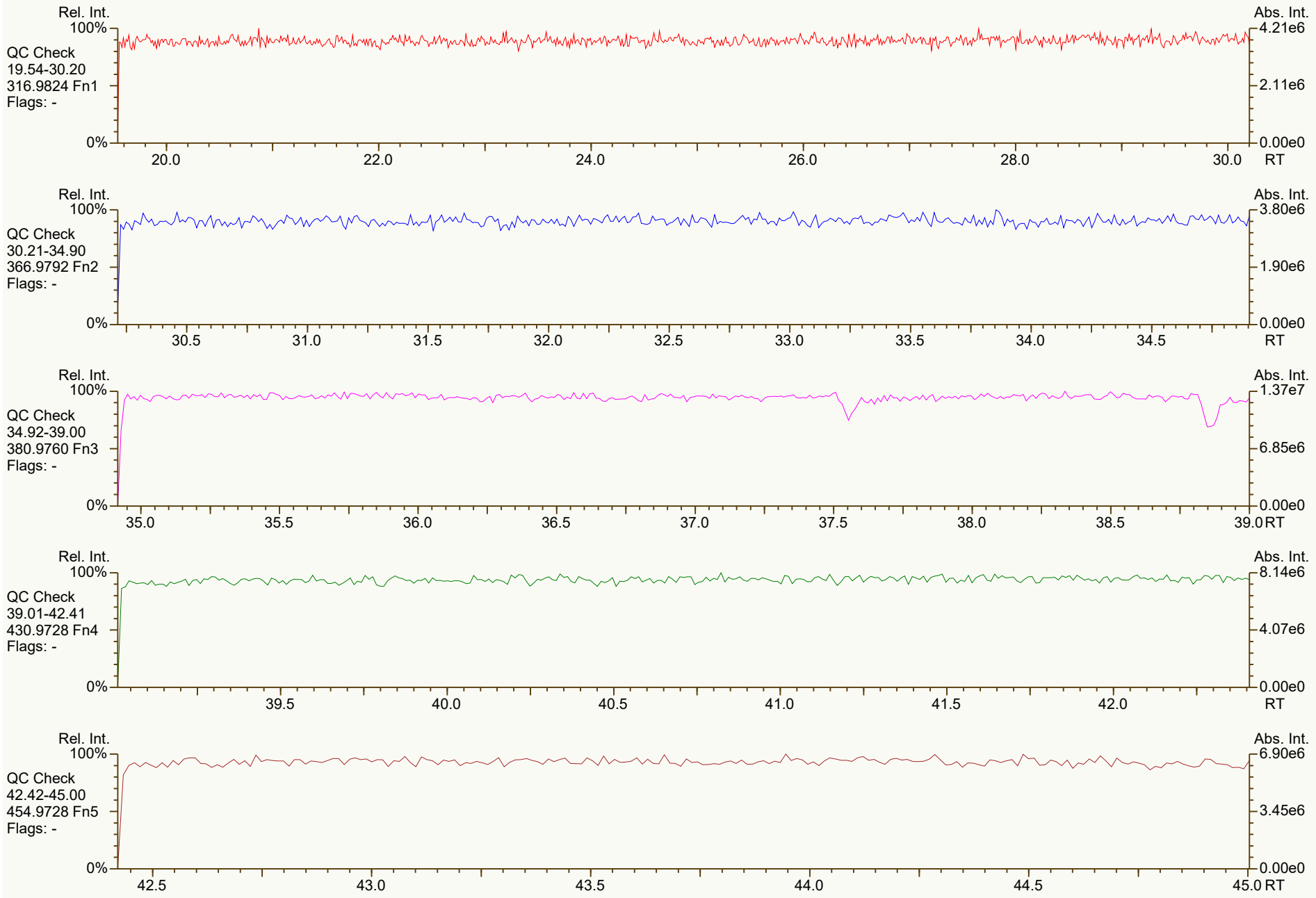
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9837						1.06		2460.432	1.66
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**2460.432**	**1.66**
OCDD	**43.50**	**J EMPC**	**1.0004**	**1.0003**	**-0.3**	**8.39E+04**	**0.55**	**N**	**1.13**	**9.47**	**4666.244**	**5.86**
OCDD-a	NotFnd		1.0003						0.07		2807.402	55.1
1368-TCDF	NotFnd		0.8251						1.08		2555.912	1.05
1468-TCDF	NotFnd		0.8458						1.08		2555.912	1.05
2468-TCDF	NotFnd		0.8686						1.08		2555.912	1.05
1346/1246-TCDF	NotFnd		0.8814						1.08		2555.912	1.05
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2555.912	1.05
1348-TCDF	NotFnd		0.8962						1.08		2555.912	1.05
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2555.912	1.05
1268-TCDF	NotFnd		0.9145						1.08		2555.912	1.05
1467-TCDF	NotFnd		0.9193						1.08		2555.912	1.05
1478-TCDF	NotFnd		0.9254						1.08		2555.912	1.05
1369/1237-TCDF	NotFnd		0.9387						1.08		2555.912	1.05
2467-TCDF	NotFnd		0.9433						1.08		2555.912	1.05
2368-TCDF	NotFnd		0.9489						1.08		2555.912	1.05
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2555.912	1.05
1278-TCDF	NotFnd		0.9683						1.08		2555.912	1.05
1349-TCDF	NotFnd		0.9722						1.08		2555.912	1.05
1267-TCDF	NotFnd		0.9783						1.08		2555.912	1.05
2346/1249-TCDF	NotFnd		0.9850						1.08		2555.912	1.05
2347/1279-TCDF	NotFnd		0.9926						1.08		2555.912	1.05
2348-TCDF	NotFnd		0.9967						1.08		2555.912	1.05
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**2555.912**	**1.05**
2367/3467-TCDF	NotFnd		1.0137						1.08		2555.912	1.05
1269-TCDF	NotFnd		1.0223						1.08		2555.912	1.05
1239-TCDF	NotFnd		1.0321						1.08		2555.912	1.05
1289-TCDF	NotFnd		1.0722						1.08		2555.912	1.05
13468/12468-PeCDF	NotFnd		0.9139						1.02		2452.22	1.05
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		2469.194	1.05
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		2469.194	1.05
14678-PeCDF	NotFnd		0.9692						1.02		2469.194	1.05
13479-PeCDF	NotFnd		0.9723						1.02		2469.194	1.05
13469/12479-PeCDF	NotFnd		0.9797						1.02		2469.194	1.05
12346-PeCDF	NotFnd		0.9840						1.02		2469.194	1.05

Lab ID: B6237_18888_DF_002 **Acq'd:** 10 Feb 2022 00:00 DTF **Wt/Vol:** 1.02 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-SW **UTP:** 10-Feb-2022 10:22:29 DTF **J-level:** 4.9 pg/L **Split:** 1 **Checkcode:** 769-829-KJV

Datafile: 220209C23 **Report:** 10 Feb 2022 10:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		2469.194	1.05
12347-PeCDF	NotFnd		0.9894						1.02		2469.194	1.05
12348-PeCDF	NotFnd		0.9940						1.02		2469.194	1.05
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2469.194**	**1.1**
12678/12367-PeCDF	NotFnd		1.0089						1.02		2469.194	1.05
12379-PeCDF	NotFnd		1.0142						1.02		2469.194	1.05
12679-PeCDF	NotFnd		0.9929						1.02		2469.194	1.05
23467/12369-PeCDF	NotFnd		0.9967						1.02		2469.194	1.05
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2469.194**	**1**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2469.194	1.05
12349-PeCDF	NotFnd		1.0100						1.02		2469.194	1.05
12389-PeCDF	NotFnd		1.0324						1.02		2469.194	1.05
123468-HxCDF	NotFnd		0.9627						1.19		2994.179	1.27
124678/134678-HxCDF	NotFnd		0.9682						1.19		2994.179	1.27
134679-HxCDF	NotFnd		0.9744						1.19		2994.179	1.27
124679-HxCDF	NotFnd		0.9798						1.19		2994.179	1.27
124689-HxCDF	NotFnd		0.9858						1.19		2994.179	1.27
123467-HxCDF	NotFnd		0.9972						1.19		2994.179	1.27
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2994.179**	**1.31**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2994.179**	**1.27**
123479-HxCDF	NotFnd		1.0049						1.19		2994.179	1.27
123469-HxCDF	NotFnd		1.0090						1.19		2994.179	1.27
123679-HxCDF	NotFnd		0.9942						1.19		2994.179	1.27
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2994.179**	**1.17**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2994.179	1.27
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2994.179**	**1.36**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		2994.179	1.27
1234678-HpCDF	**39.87**	**J**	**1.0003**	**1.0002**	**-0.2**	**3.10E+04**	**0.96**	**Y**	**1.37**	**1.71**	**3193.351**	**1.32**
1234679-HpCDF	NotFnd		1.0068						1.34		3193.351	1.54
1234689-HpCDF	NotFnd		1.0103						1.34		3193.351	1.54
1234789-HpCDF	**NotFnd**		**1.0002**						**1.31**		**3193.351**	**1.83**
OCDF	**NotFnd**		**1.0003**						**1.07**		**3993.02**	**4**
OCDF-a	NotFnd		1.0002						0.07		2811.586	45.4


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.21e6
2.11e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.80e6
1.90e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.37e7
6.85e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
8.14e6
4.07e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
6.90e6
3.45e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 1.81e3
0%
Abs. Int.
1.20e4
5.99e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.93e3
0%
Abs. Int.
1.04e4
5.18e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.05e3
0%
CS 37Cl-2378D
1.47e7
28.48
Abs. Int.
3.53e6
1.76e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.49e3
0%
JS 1234D
1.50e7
27.79
ES 2378D
1.35e7
28.46
Abs. Int.
3.41e6
1.71e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 1.82e3
0%
JS 1234D
1.85e7
27.79
ES 2378D
1.69e7
28.45
Abs. Int.
4.36e6
2.18e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: B6237_18888_DF_002 | Sample ID: 11215131-012022-GW-BN-PZ-SW | Acq: 10-Feb-2022 00:00:24

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11 | User: DTF Datafile: 220209C23



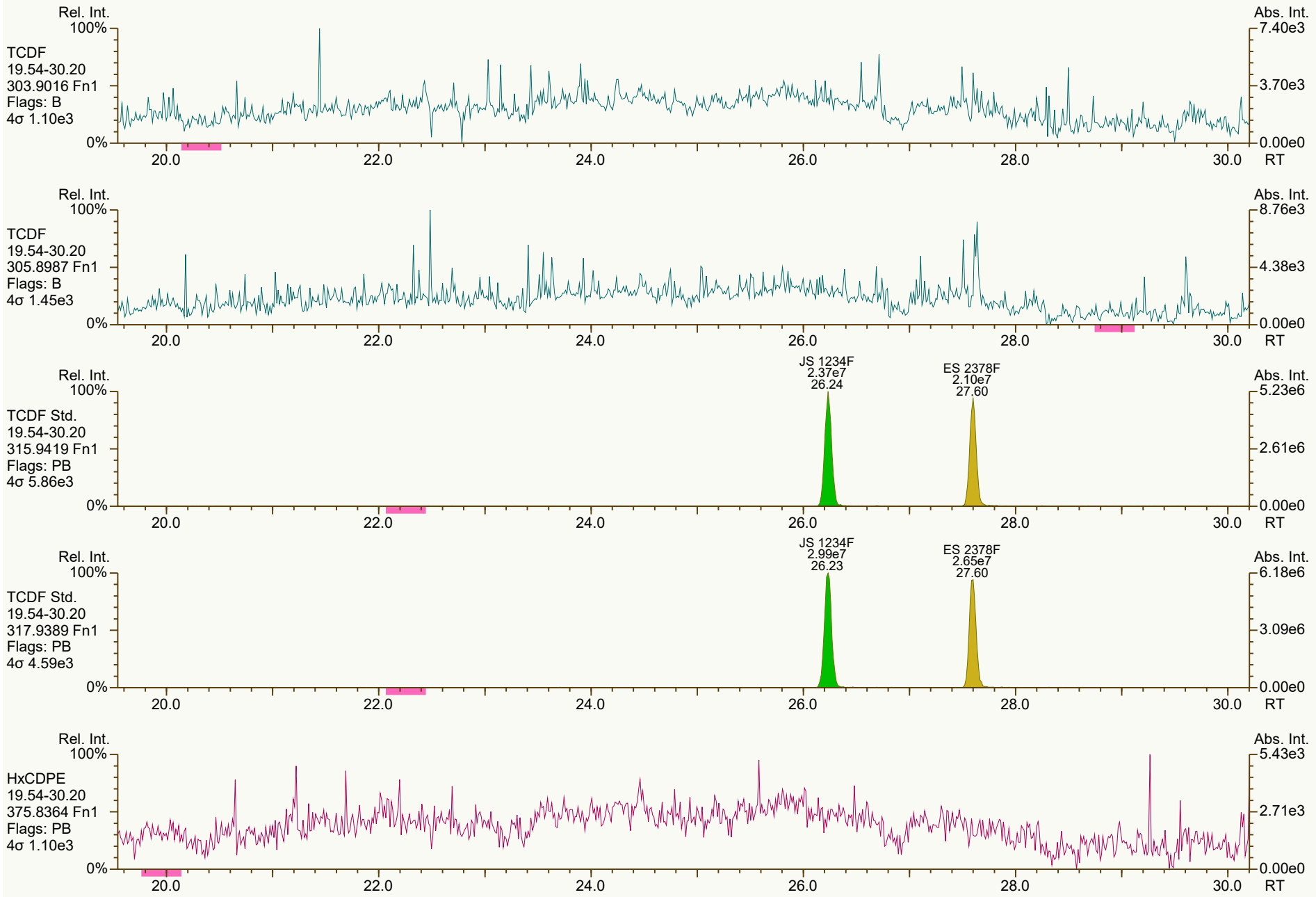
Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\B6237_18888_DF_002.utp_res, saved 10-Feb-2022 10:22 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1814, 6071 scc: 769-829 *Revised: 10-Feb-2022 10:09 (DTF) Printed: 10-Feb-2022 10:34 Page 3 of 12*


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: B
4σ 1.60e3
0%
Abs. Int.
1.04e4
5.22e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: B
4σ 1.06e3
0%
Abs. Int.
1.05e4
5.27e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 2.61e3
0%
ES 123678D
1.50e7
37.83
ES 123478D
1.39e7
37.72
ES 123789D
1.50e7*
38.13
JS 123467D
7.54e6
38.02
Abs. Int.
4.50e6
2.25e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 1.65e3
0%
ES 123678D
1.12e7
37.83
ES 123478D
1.13e7
37.72
ES 123789D
1.19e7*
38.13
JS 123467D
5.99e6
38.02
Abs. Int.
3.42e6
1.71e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.37e7
6.85e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.39e3
0%
Abs. Int.
8.67e3
4.33e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: B
4σ 1.07e3
0%
Abs. Int.
8.54e3
4.27e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
1.13e7
40.80
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.90e3
0%
Abs. Int.
3.49e6
1.75e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
1.09e7
40.80
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 3.27e3
0%
Abs. Int.
3.31e6
1.66e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
8.14e6
4.07e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
3.95e4*
43.50
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 2.12e3
0%
Abs. Int.
1.09e4
5.47e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
7.16e4*
43.49
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 2.54e3
0%
Abs. Int.
2.21e4
1.11e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7
43.48
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 1.79e3
0%
Abs. Int.
3.30e6
1.65e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.62e7
43.48
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 2.12e3
0%
Abs. Int.
3.52e6
1.76e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.90e6
3.45e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: B
4σ 1.10e3
0%
Abs. Int.
7.40e3
3.70e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 1.45e3
0%
Abs. Int.
8.76e3
4.38e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 5.86e3
0%
JS 1234F
2.37e7
26.24
ES 2378F
2.10e7
27.60
Abs. Int.
5.23e6
2.61e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.59e3
0%
JS 1234F
2.99e7
26.23
ES 2378F
2.65e7
27.60
Abs. Int.
6.18e6
3.09e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.10e3
0%
Abs. Int.
5.43e3
2.71e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

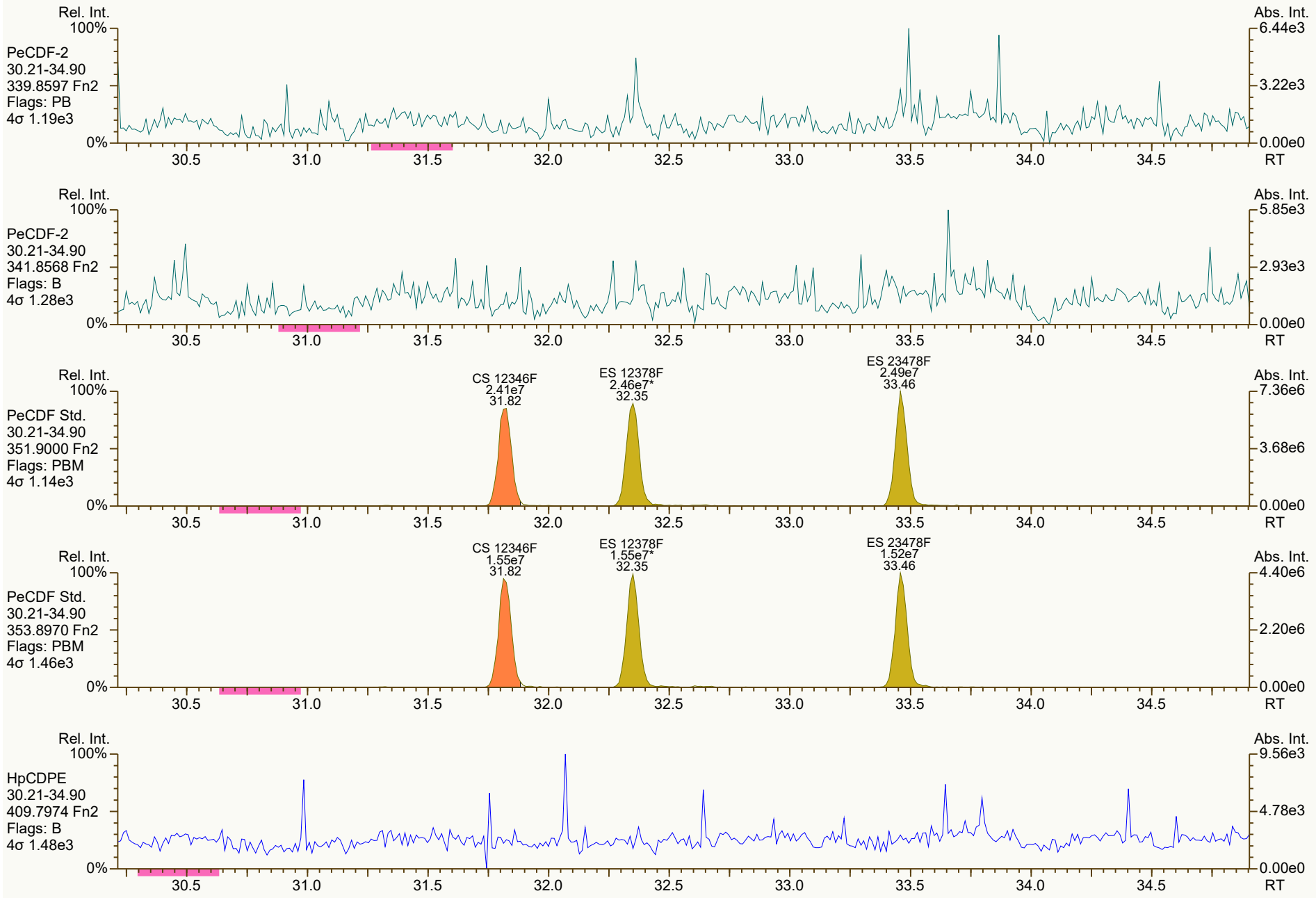
SGS ID: B6237_18888_DF_002 | Sample ID: 11215131-012022-GW-BN-PZ-SW | Acq: 10-Feb-2022 00:00:24

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11 | User: DTF Datafile: 220209C23



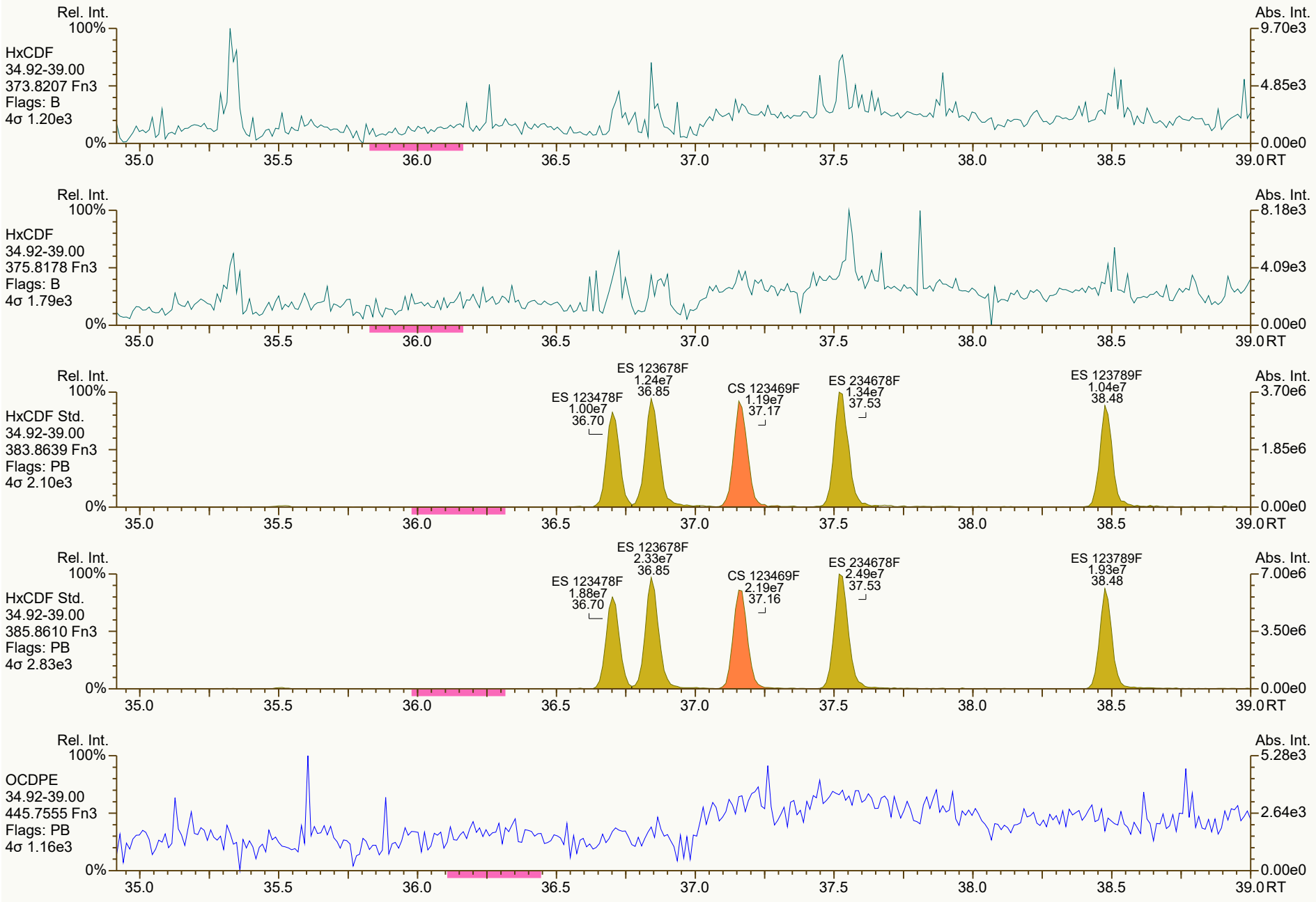
Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\B6237_18888_DF_002.utp_res, saved 10-Feb-2022 10:22 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4543 scc: 769-829 | *PKD: 10-Feb-2022 10:08 Printed: 10-Feb-2022 10:34 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PB
4σ 1.19e3
0%
Abs. Int.
6.44e3
3.22e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: B
4σ 1.28e3
0%
Abs. Int.
5.85e3
2.93e3
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PBM
4σ 1.14e3
0%
CS 12346F
2.41e7
31.82
ES 12378F
2.46e7*
32.35
ES 23478F
2.49e7
33.46
Abs. Int.
7.36e6
3.68e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PBM
4σ 1.46e3
0%
CS 12346F
1.55e7
31.82
ES 12378F
1.55e7*
32.35
ES 23478F
1.52e7
33.46
Abs. Int.
4.40e6
2.20e6
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.48e3
0%
Abs. Int.
9.56e3
4.78e3
0.00e0
RT

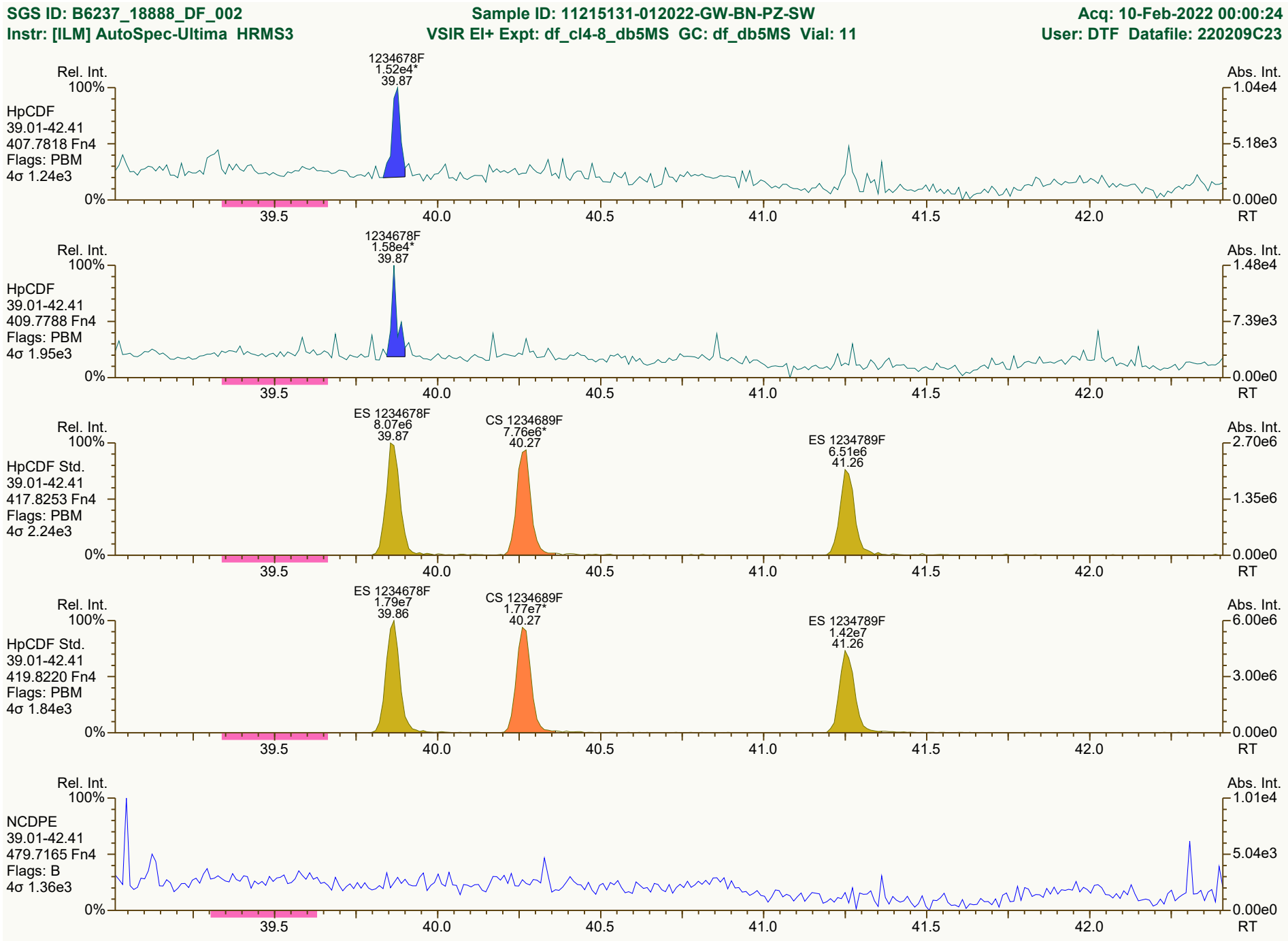
SGS ID: B6237_18888_DF_002 | Sample ID: 11215131-012022-GW-BN-PZ-SW | Acq: 10-Feb-2022 00:00:24

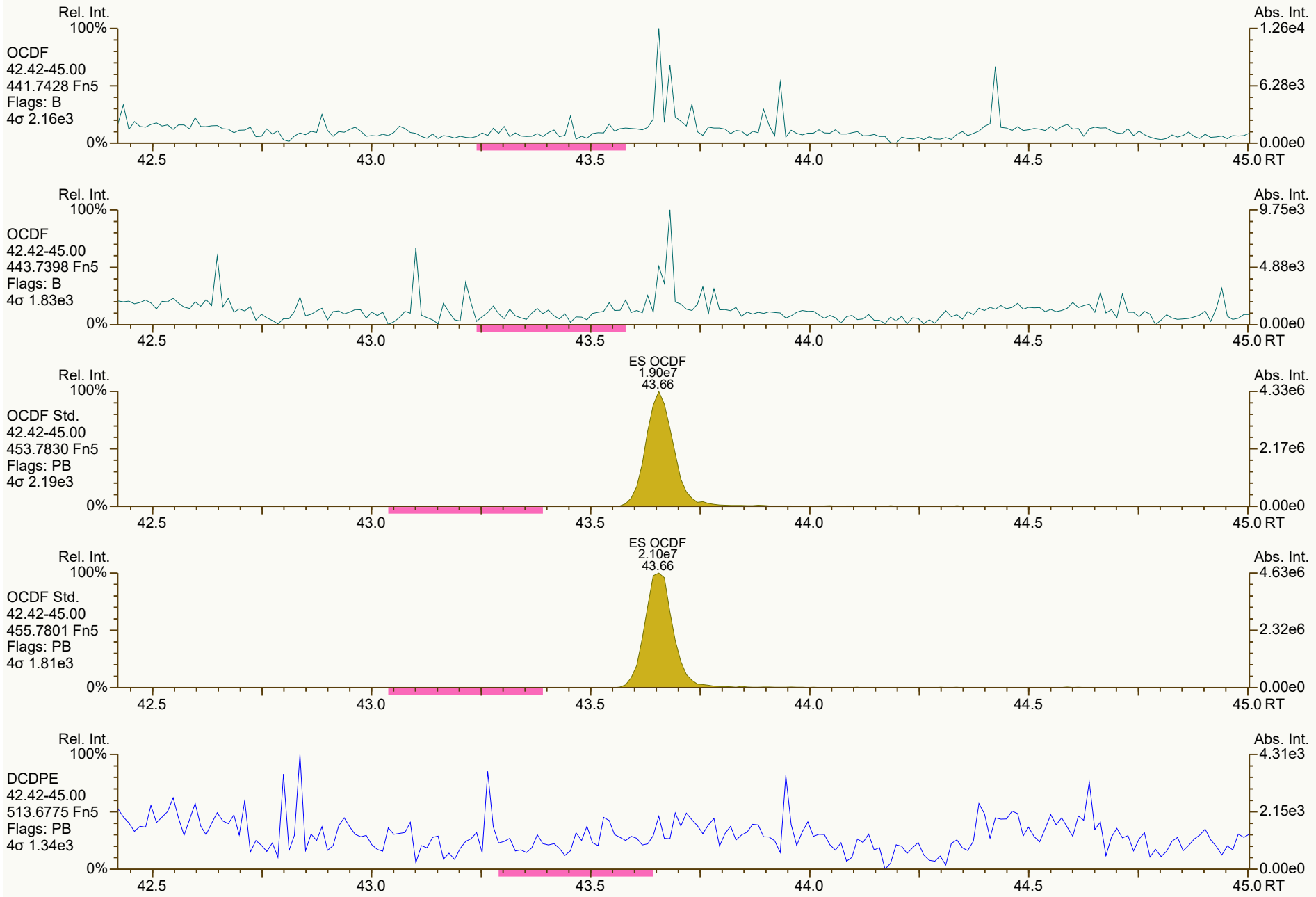
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11 | User: DTF Datafile: 220209C23



Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\B6237_18888_DF_002.utp_res, saved 10-Feb-2022 10:22 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3686, 7777, 4109 scc: 769-829 | *PKD: 10-Feb-2022 10:08 Printed: 10-Feb-2022 10:34 Page 10 of 12*


SGS ID: B6237_18888_DF_002
Sample ID: 11215131-012022-GW-BN-PZ-SW
Acq: 10-Feb-2022 00:00:24
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11
User: DTF Datafile: 220209C23
Rel. Int.
Abs. Int.
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 1.24e3
1234678F
1.52e4*
39.87
1.04e4
5.18e3
0.00e0
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 1.95e3
1234678F
1.58e4*
39.87
1.48e4
7.39e3
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 2.24e3
ES 1234678F
8.07e6
39.87
CS 1234689F
7.76e6*
40.27
ES 1234789F
6.51e6
41.26
2.70e6
1.35e6
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 1.84e3
ES 1234678F
1.79e7
39.86
CS 1234689F
1.77e7*
40.27
ES 1234789F
1.42e7
41.26
6.00e6
3.00e6
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.36e3
1.01e4
5.04e3
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\B6237_18888_DF_002.utp_res, saved 10-Feb-2022 10:22 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8779, 9839, 0876 scc: 769-829
Revised: 10-Feb-2022 10:09 (DTF) Printed: 10-Feb-2022 10:34 Page 11 of 12


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: B
4σ 2.16e3
0%
Abs. Int.
1.26e4
6.28e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: B
4σ 1.83e3
0%
Abs. Int.
9.75e3
4.88e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.90e7
43.66
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 2.19e3
0%
Abs. Int.
4.33e6
2.17e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.10e7
43.66
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 1.81e3
0%
Abs. Int.
4.63e6
2.32e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.34e3
0%
Abs. Int.
4.31e3
2.15e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6237_18888_DF_003 **Acq'd:** 10 Feb 2022 00:46 DTF **Wt/Vol:** 1.01 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-NC **UTP:** 10-Feb-2022 10:22:30 DTF **J-level:** 4.95 pg/L **Split:** 1 **Checkcode:** 156-756-KGC

Datafile: 220209C24 **Report:** 10 Feb 2022 10:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	3578.656	1.84
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	3288.86	1.87
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2479.037	1.58
123678-HxCDD	NotFnd		1.0035	-		-	-	-	1.15	-	2479.037	1.34
123789-HxCDD	NotFnd		1.0112	-		-	-	-	1.05	-	2479.037	1.36
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	2807.839	1.72
OCDD	43.49	J EMPC	1.0004	1.0001	-0.8	1.43E+05	1.34	N	1.13	16.5	3791.737	4.63
2378-TCDF	27.61	J	1.0008	1.0004	-0.7	1.08E+05	0.76	Y	1.08	4.02	2263.051	0.947
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2806.003	1.1
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2806.003	1.17
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2851.082	1.19
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2851.082	1.21
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2851.082	0.979
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2851.082	1.38
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2331.21	0.964
1234789-HpCDF	NotFnd		1.0002	-		-	-	-	1.31	-	2331.21	1.39
OCDF	NotFnd		1.0003	-		-	-	-	1.07	-	2242.8393	2.32

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46	1.0236	1.0238	+0.3	3.18E+07	0.82	Y	1.05	87
ES 12378-PeCDD	33.80	1.2144	1.2161	+3.4	2.84E+07	1.54	Y	0.88	92.3
ES 123478-HxCDD	37.72	0.9920	0.9918	-0.5	2.56E+07	1.25	Y	0.97	89.6
ES 123678-HxCDD	37.84	0.9951	0.9950	-0.2	2.77E+07	1.23	Y	0.94	100
ES 123789-HxCDD	38.13	1.0027	1.0027	0	2.73E+07	1.31	Y	1.09	85.3
ES 1234678-HpCDD	40.81	1.0724	1.0730	+1.5	2.36E+07	1.01	Y	0.91	88.1
ES OCDD	43.49	1.1428	1.1435	+1.8	3.05E+07	0.91	Y	0.62	83.2
ES 2378-TCDF	27.60	1.0516	1.0520	+0.7	4.94E+07	0.80	Y	1.06	84
ES 12378-PeCDF	32.35	1.2312	1.2331	+3.7	4.41E+07	1.51	Y	0.91	87.3
ES 23478-PeCDF	33.47	1.2733	1.2755	+4.4	4.24E+07	1.57	Y	0.88	86.5
ES 123478-HxCDF	36.71	0.9655	0.9653	-0.4	3.12E+07	0.52	Y	1.20	88.6
ES 123678-HxCDF	36.85	0.9692	0.9690	-0.4	3.81E+07	0.52	Y	1.35	96
ES 234678-HxCDF	37.53	0.9871	0.9869	-0.5	3.98E+07	0.53	Y	1.24	109
ES 123789-HxCDF	38.49	1.0121	1.0120	-0.2	2.95E+07	0.54	Y	1.16	87.1
ES 1234678-HpCDF	39.87	1.0479	1.0484	+1.2	2.61E+07	0.45	Y	0.97	92
ES 1234789-HpCDF	41.27	1.0845	1.0851	+1.5	2.14E+07	0.43	Y	0.85	85.8
ES OCDF	43.67	1.1477	1.1483	+1.6	4.08E+07	0.90	Y	0.81	86

Lab ID: B6237_18888_DF_003 **Acq'd:** 10 Feb 2022 00:46 DTF **Wt/Vol:** 1.01 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-NC **UTP:** 10-Feb-2022 10:22:30 DTF **J-level:** 4.95 pg/L **Split:** 1 **Checkcode:** 156-756-KGC

Datafile: 220209C24 **Report:** 10 Feb 2022 10:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.80		-	-	-	3.50E+07	0.81	Y	-	-
JS 1234-TCDF	26.24		-	-	-	5.55E+07	0.81	Y	-	-
JS 123467-HxCDD	38.03		-	-	-	1.47E+07	1.29	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0244	1.0246	+0.3	1.57E+07	n/a	-	1.20	93.1
CS 12347-PeCDD	33.30		1.1964	1.1980	+3.2	2.82E+07	1.58	Y	0.75	107
CS 12346-PeCDF	31.82		1.2112	1.2129	+3.2	4.52E+07	1.59	Y	0.85	95.7
CS 123469-HxCDF	37.17		0.9775	0.9774	-0.2	3.64E+07	0.53	Y	1.12	111
CS 1234689-HpCDF	40.27		1.0584	1.0590	+1.4	2.72E+07	0.46	Y	0.89	104
~~SS 37Cl-2378-TCDD~~	~~28.48~~		~~1.0244~~	~~1.0246~~	~~+0.3~~	~~1.57E+07~~	~~n/a~~		~~1.15~~	~~107~~
~~SS 12347-PeCDD~~	~~33.30~~		~~1.1964~~	~~1.1980~~	~~+3.2~~	~~2.82E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~116~~
~~SS 12346-PeCDF~~	~~31.82~~		~~1.2112~~	~~1.2129~~	~~+3.2~~	~~4.52E+07~~	~~1.59~~	~~Y~~	~~0.94~~	~~109~~
~~SS 123469-HxCDF~~	~~37.17~~		~~0.9775~~	~~0.9774~~	~~-0.2~~	~~3.64E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~116~~
~~SS 1234689-HpCDF~~	~~40.27~~		~~1.0584~~	~~1.0590~~	~~+1.4~~	~~2.72E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~113~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	16.5
Total TCDF	6.81	6.81
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	6.81	6.81
Total Tetra-Octa Dioxins & Furans	6.81	23.3

Lab ID: B6237_18888_DF_003 **Acq'd: 10 Feb 2022 00:46 DTF** **Wt/Vol: 1.01 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012022-GW-BN-PZ-NC **UTP: 10-Feb-2022 10:22:30 DTF** **J-level: 4.95 pg/L** **Split: 1** **Checkcode: 156-756-KGC**

Datafile: 220209C24 **Report: 10 Feb 2022 10:28 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8737						1.18		3578.656	1.84
1379-TCDD	NotFnd		0.8860						1.18		3578.656	1.84
1369-TCDD	NotFnd		0.9009						1.18		3578.656	1.84
1469-TCDD	NotFnd		0.9281						1.18		3578.656	1.84
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3578.656	1.84
1378-TCDD	NotFnd		0.9432						1.18		3578.656	1.84
1268-TCDD	NotFnd		0.9500						1.18		3578.656	1.84
1478-TCDD	NotFnd		0.9586						1.18		3578.656	1.84
1279-TCDD	NotFnd		0.9645						1.18		3578.656	1.84
1234/1269-TCDD	NotFnd		0.9770						1.18		3578.656	1.84
1236-TCDD	NotFnd		0.9817						1.18		3578.656	1.84
1237/1238-TCDD	NotFnd		0.9905						1.18		3578.656	1.84
1239-TCDD	NotFnd		0.9952						1.18		3578.656	1.84
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**3578.656**	**1.84**
1278-TCDD	NotFnd		1.0121						1.18		3578.656	1.84
1267-TCDD	NotFnd		1.0167						1.18		3578.656	1.84
1289-TCDD	NotFnd		1.0345						1.18		3578.656	1.84
12479/12468-PeCDD	NotFnd		0.9267						1.04		3288.86	1.87
12469-PeCDD	NotFnd		0.9425						1.04		3288.86	1.87
12368-PeCDD	NotFnd		0.9588						1.04		3288.86	1.87
12478-PeCDD	NotFnd		0.9643						1.04		3288.86	1.87
12379-PeCDD	NotFnd		0.9673						1.04		3288.86	1.87
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		3288.86	1.87
12346/12347-PeCDD	NotFnd		0.9858						1.04		3288.86	1.87
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**3288.86**	**1.87**
12367-PeCDD	NotFnd		1.0033						1.04		3288.86	1.87
12389-PeCDD	NotFnd		1.0134						1.04		3288.86	1.87
124679/124689-HxCDD	NotFnd		0.9542						1.10		2479.037	1.42
123468-HxCDD	NotFnd		0.9715						1.10		2479.037	1.42
123679/123689-HxCDD	NotFnd		0.9793						1.10		2479.037	1.42
123469-HxCDD	NotFnd		0.9828						1.10		2479.037	1.42
123478-HxCDD	NotFnd		**1.0004**						1.09		**2479.037**	**1.58**
123678-HxCDD	NotFnd		**1.0035**						1.15		**2479.037**	**1.34**
123467-HxCDD	NotFnd		1.0085						1.10		2479.037	1.42
123789-HxCDD	NotFnd		**1.0112**						1.05		**2479.037**	**1.36**

Lab ID: B6237_18888_DF_003 **Acq'd: 10 Feb 2022 00:46 DTF** **Wt/Vol: 1.01 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012022-GW-BN-PZ-NC **UTP: 10-Feb-2022 10:22:30 DTF** **J-level: 4.95 pg/L** **Split: 1** **Checkcode: 156-756-KGC**

Datafile: 220209C24 **Report: 10 Feb 2022 10:28 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

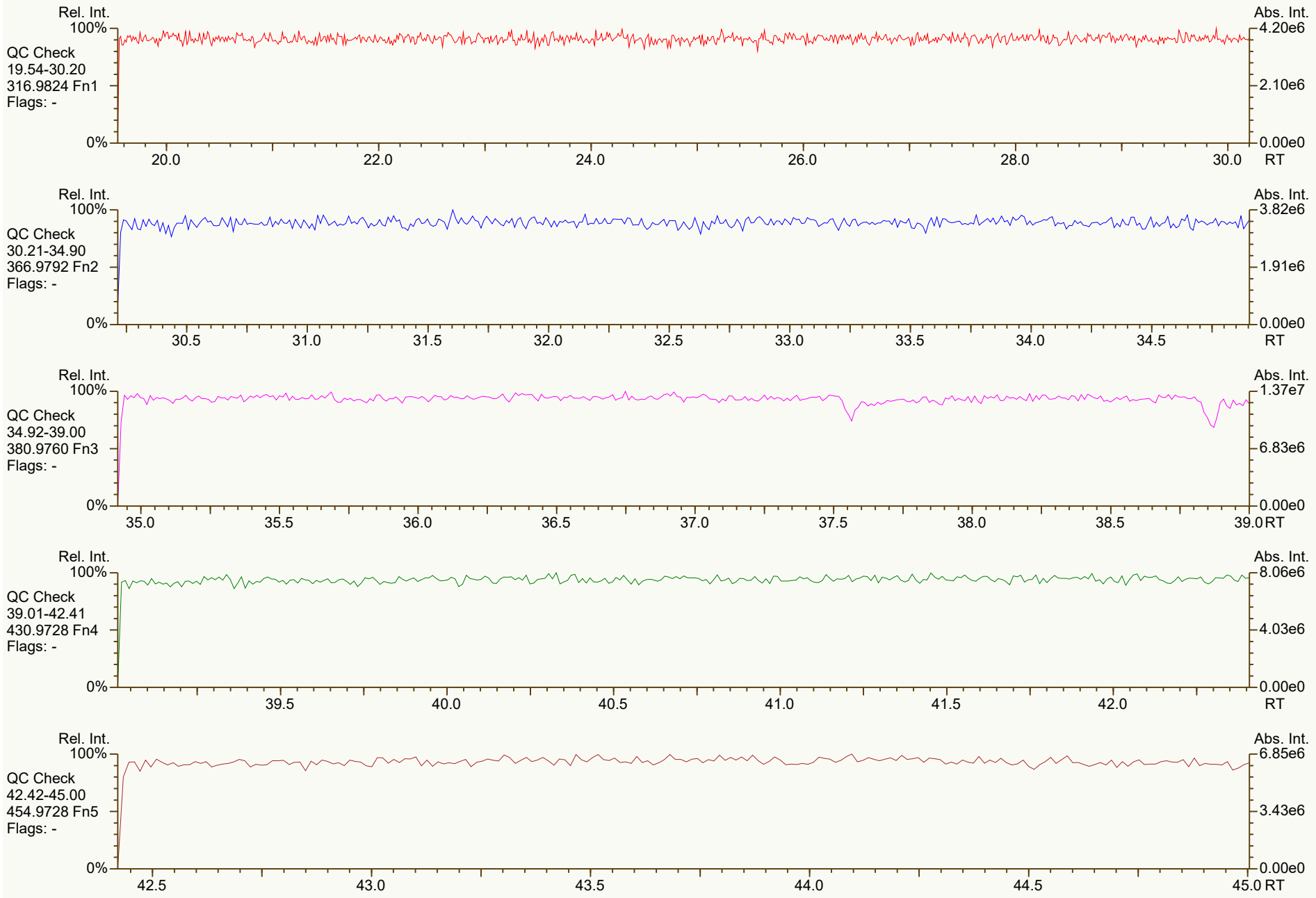
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9837						1.06		2807.839	1.72
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**2807.839**	**1.72**
OCDD	**43.49**	**J EMPC**	**1.0004**	**1.0001**	**-0.8**	**1.43E+05**	**1.34**	**N**	**1.13**	**16.5**	**3791.737**	**4.63**
OCDD-a	NotFnd		1.0003						0.07		2925.78	55.9
1368-TCDF	NotFnd		0.8251						1.08		2263.051	0.947
1468-TCDF	NotFnd		0.8458						1.08		2263.051	0.947
2468-TCDF	NotFnd		0.8686						1.08		2263.051	0.947
1346/1246-TCDF	NotFnd		0.8814						1.08		2263.051	0.947
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2263.051	0.947
1348-TCDF	NotFnd		0.8962						1.08		2263.051	0.947
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2263.051	0.947
1268-TCDF	NotFnd		0.9145						1.08		2263.051	0.947
1467-TCDF	NotFnd		0.9193						1.08		2263.051	0.947
1478-TCDF	NotFnd		0.9254						1.08		2263.051	0.947
1369/1237-TCDF	NotFnd		0.9387						1.08		2263.051	0.947
2467-TCDF	NotFnd		0.9433						1.08		2263.051	0.947
2368-TCDF	NotFnd		0.9489						1.08		2263.051	0.947
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2263.051	0.947
1278-TCDF	26.72	J	0.9683	0.9680	-0.5	7.51E+04	0.66	Y	1.08	2.79	2263.051	0.947
1349-TCDF	NotFnd		0.9722						1.08		2263.051	0.947
1267-TCDF	NotFnd		0.9783						1.08		2263.051	0.947
2346/1249-TCDF	NotFnd		0.9850						1.08		2263.051	0.947
2347/1279-TCDF	NotFnd		0.9926						1.08		2263.051	0.947
2348-TCDF	NotFnd		0.9967						1.08		2263.051	0.947
2378-TCDF	**27.61**	J	**1.0008**	**1.0004**	**-0.7**	**1.08E+05**	**0.76**	**Y**	**1.08**	**4.02**	**2263.051**	**0.947**
2367/3467-TCDF	NotFnd		1.0137						1.08		2263.051	0.947
1269-TCDF	NotFnd		1.0223						1.08		2263.051	0.947
1239-TCDF	NotFnd		1.0321						1.08		2263.051	0.947
1289-TCDF	NotFnd		1.0722						1.08		2263.051	0.947
13468/12468-PeCDF	NotFnd		0.9139						1.02		2755.72	1.12
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		2806.003	1.14
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		2806.003	1.14
14678-PeCDF	NotFnd		0.9692						1.02		2806.003	1.14
13479-PeCDF	NotFnd		0.9723						1.02		2806.003	1.14
13469/12479-PeCDF	NotFnd		0.9797						1.02		2806.003	1.14
12346-PeCDF	NotFnd		0.9840						1.02		2806.003	1.14

Lab ID: B6237_18888_DF_003 **Acq'd: 10 Feb 2022 00:46 DTF** **Wt/Vol: 1.01 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012022-GW-BN-PZ-NC **UTP: 10-Feb-2022 10:22:30 DTF** **J-level: 4.95 pg/L** **Split: 1** **Checkcode: 156-756-KGC**

Datafile: 220209C24 **Report: 10 Feb 2022 10:28 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		2806.003	1.14
12347-PeCDF	NotFnd		0.9894						1.02		2806.003	1.14
12348-PeCDF	NotFnd		0.9940						1.02		2806.003	1.14
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2806.003**	**1.1**
12678/12367-PeCDF	NotFnd		1.0089						1.02		2806.003	1.14
12379-PeCDF	NotFnd		1.0142						1.02		2806.003	1.14
12679-PeCDF	NotFnd		0.9929						1.02		2806.003	1.14
23467/12369-PeCDF	NotFnd		0.9967						1.02		2806.003	1.14
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2806.003**	**1.17**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2806.003	1.14
12349-PeCDF	NotFnd		1.0100						1.02		2806.003	1.14
12389-PeCDF	NotFnd		1.0324						1.02		2806.003	1.14
123468-HxCDF	NotFnd		0.9627						1.19		2851.082	1.17
124678/134678-HxCDF	NotFnd		0.9682						1.19		2851.082	1.17
134679-HxCDF	NotFnd		0.9744						1.19		2851.082	1.17
124679-HxCDF	NotFnd		0.9798						1.19		2851.082	1.17
124689-HxCDF	NotFnd		0.9858						1.19		2851.082	1.17
123467-HxCDF	NotFnd		0.9972						1.19		2851.082	1.17
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2851.082**	**1.19**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2851.082**	**1.21**
123479-HxCDF	NotFnd		1.0049						1.19		2851.082	1.17
123469-HxCDF	NotFnd		1.0090						1.19		2851.082	1.17
123679-HxCDF	NotFnd		0.9942						1.19		2851.082	1.17
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2851.082**	**0.979**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2851.082	1.17
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2851.082**	**1.38**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		2851.082	1.17
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2331.21**	**0.964**
1234679-HpCDF	NotFnd		1.0068						1.34		2331.21	1.15
1234689-HpCDF	NotFnd		1.0103						1.34		2331.21	1.15
1234789-HpCDF	**NotFnd**		**1.0002**						**1.31**		**2331.21**	**1.39**
OCDF	**NotFnd**		**1.0003**						**1.07**		**2242.8393**	**2.32**
OCDF-a	NotFnd		1.0002						0.07		2708.447	45.2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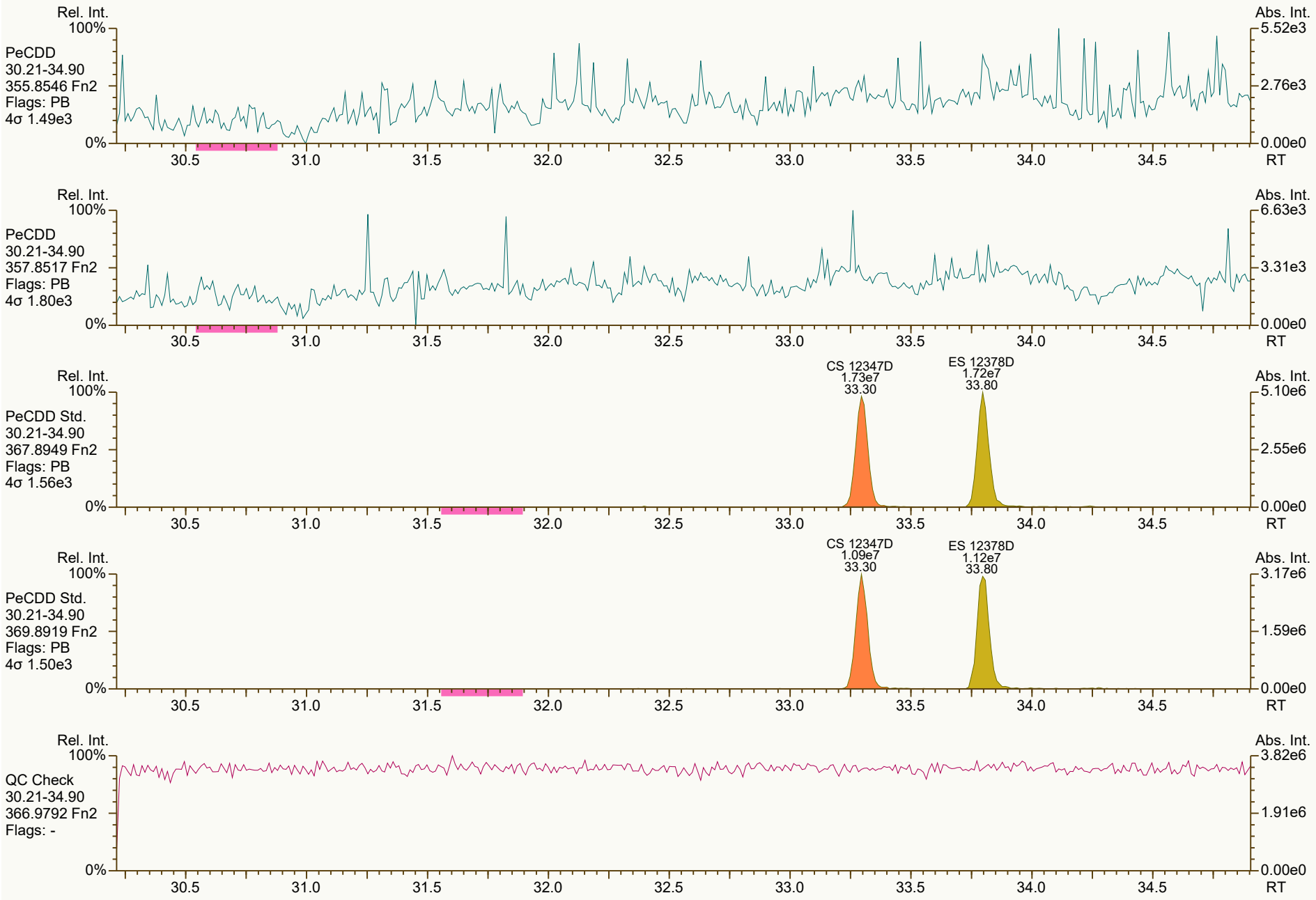
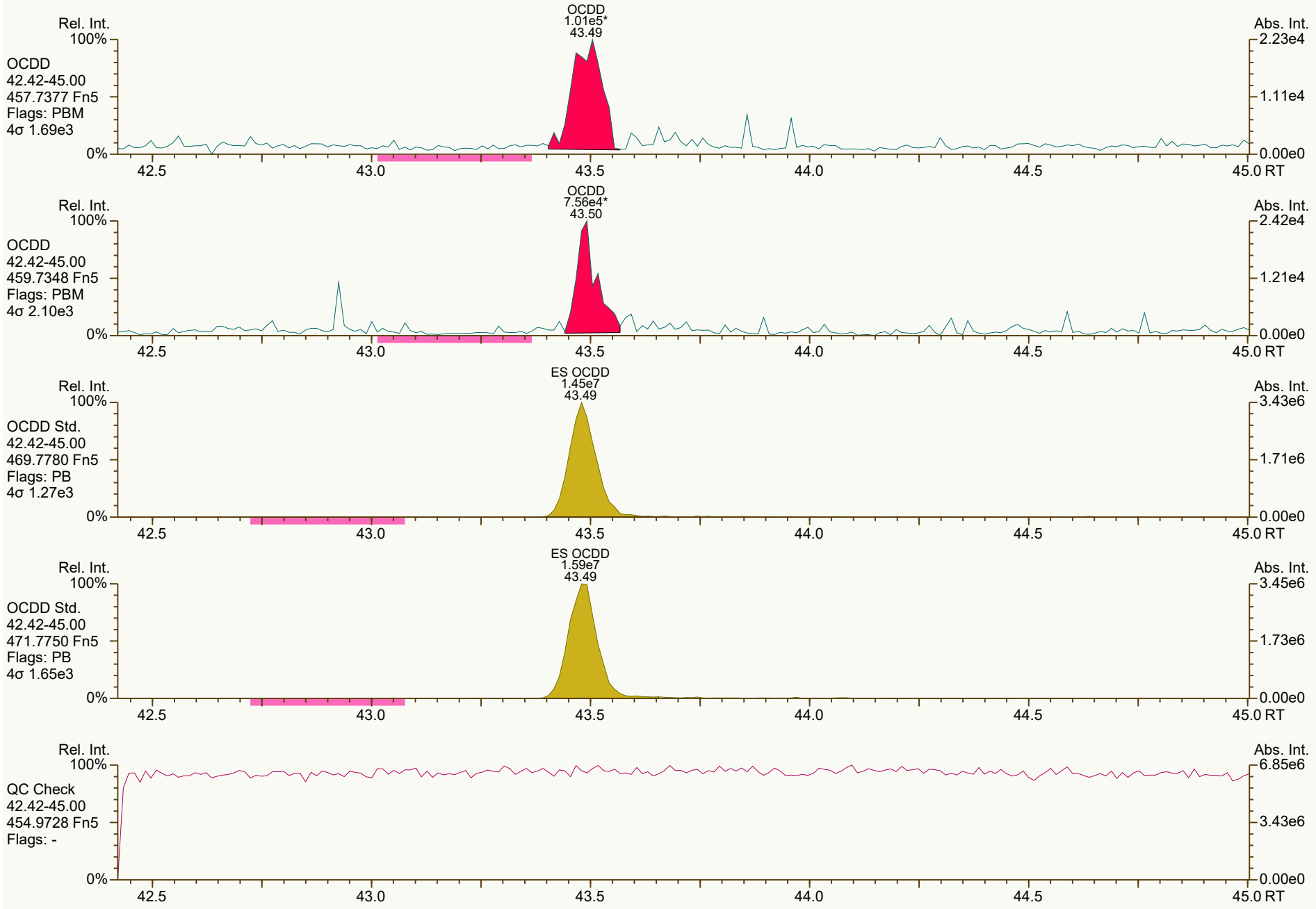
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.20e6
2.10e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.82e6
1.91e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.37e7
6.83e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
8.06e6
4.03e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
6.85e6
3.43e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 2.05e3
0%
Abs. Int.
9.88e3
4.94e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.53e3
0%
Abs. Int.
7.41e3
3.70e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.34e3
0%
CS 37Cl-2378D
1.57e7
28.48
Abs. Int.
3.61e6
1.81e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 3.66e3
0%
JS 1234D
1.57e7
27.79
ES 2378D
1.44e7
28.46
Abs. Int.
3.68e6
1.84e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.11e3
0%
JS 1234D
1.93e7
27.80
ES 2378D
1.75e7
28.46
Abs. Int.
4.40e6
2.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PB
4σ 1.49e3
0%
Abs. Int.
5.52e3
2.76e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 1.80e3
0%
Abs. Int.
6.63e3
3.31e3
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 1.56e3
0%
CS 12347D
1.73e7
33.30
ES 12378D
1.72e7
33.80
Abs. Int.
5.10e6
2.55e6
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.50e3
0%
CS 12347D
1.09e7
33.30
ES 12378D
1.12e7
33.80
Abs. Int.
3.17e6
1.59e6
0.00e0
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.82e6
1.91e6
0.00e0
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 1.12e3
0%
Abs. Int.
5.47e3
2.74e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: B
4σ 1.36e3
0%
Abs. Int.
4.96e3
2.48e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 1.72e3
0%
ES 123678D
1.53e7
37.84
ES 123478D
1.42e7
37.72
ES 123789D
1.55e7*
38.13
JS 123467D
8.25e6*
38.03
Abs. Int.
4.88e6
2.44e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 2.00e3
0%
ES 123678D
1.24e7
37.84
ES 123478D
1.14e7
37.72
ES 123789D
1.18e7*
38.13
JS 123467D
6.42e6*
38.03
Abs. Int.
3.40e6
1.70e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.37e7
6.83e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.81e3
0%
Abs. Int.
8.82e3
4.41e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: B
4σ 1.00e3
0%
Abs. Int.
6.84e3
3.42e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
1.19e7
40.80
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.81e3
0%
Abs. Int.
3.82e6
1.91e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
1.17e7
40.80
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 2.53e3
0%
Abs. Int.
3.72e6
1.86e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
8.06e6
4.03e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

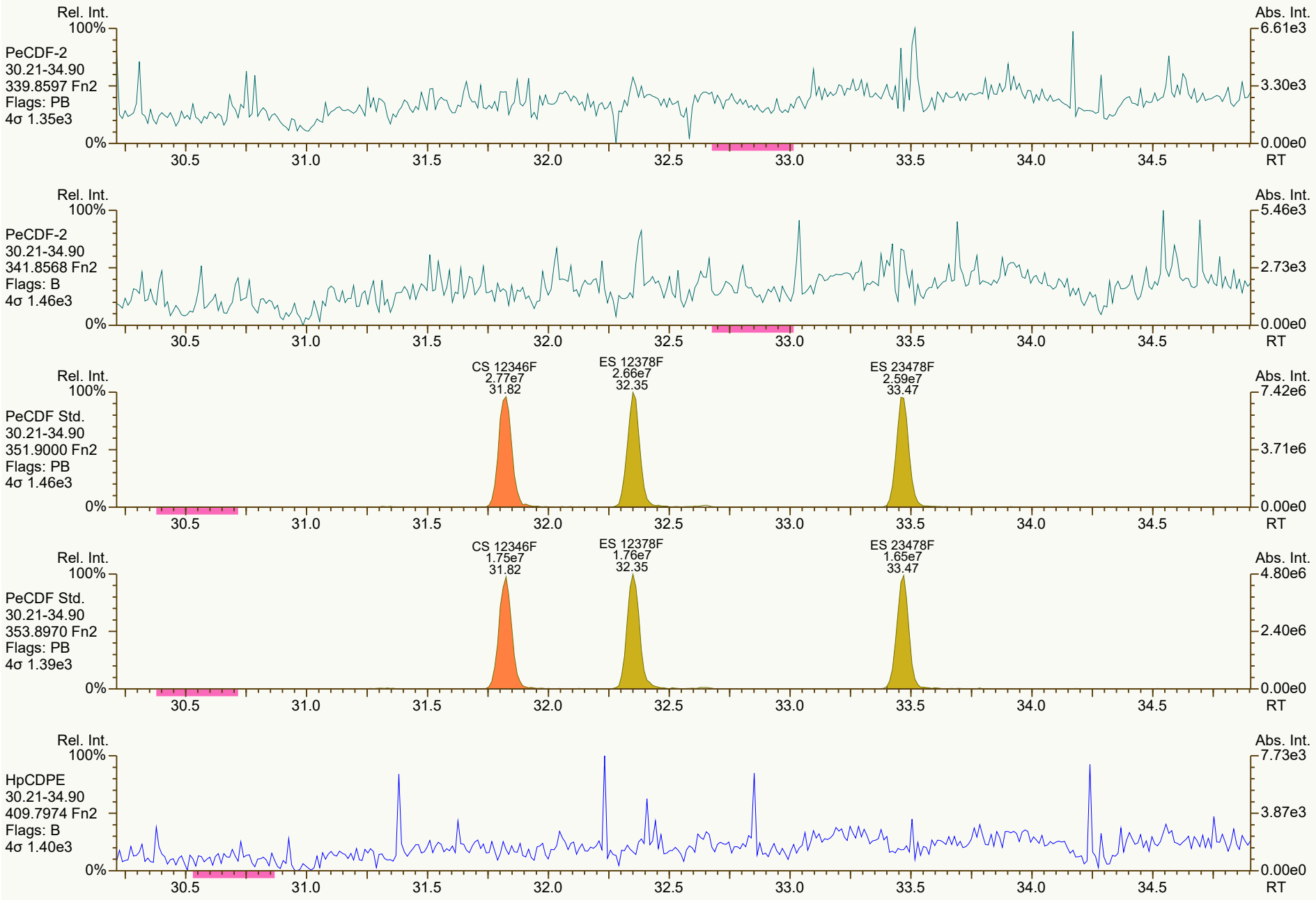

OCDD
1.01e5*
43.49
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.69e3
0%
Abs. Int.
2.23e4
1.11e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
7.56e4*
43.50
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 2.10e3
0%
Abs. Int.
2.42e4
1.21e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.45e7
43.49
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
3.43e6
1.71e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.59e7
43.49
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 1.65e3
0%
Abs. Int.
3.45e6
1.73e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.85e6
3.43e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

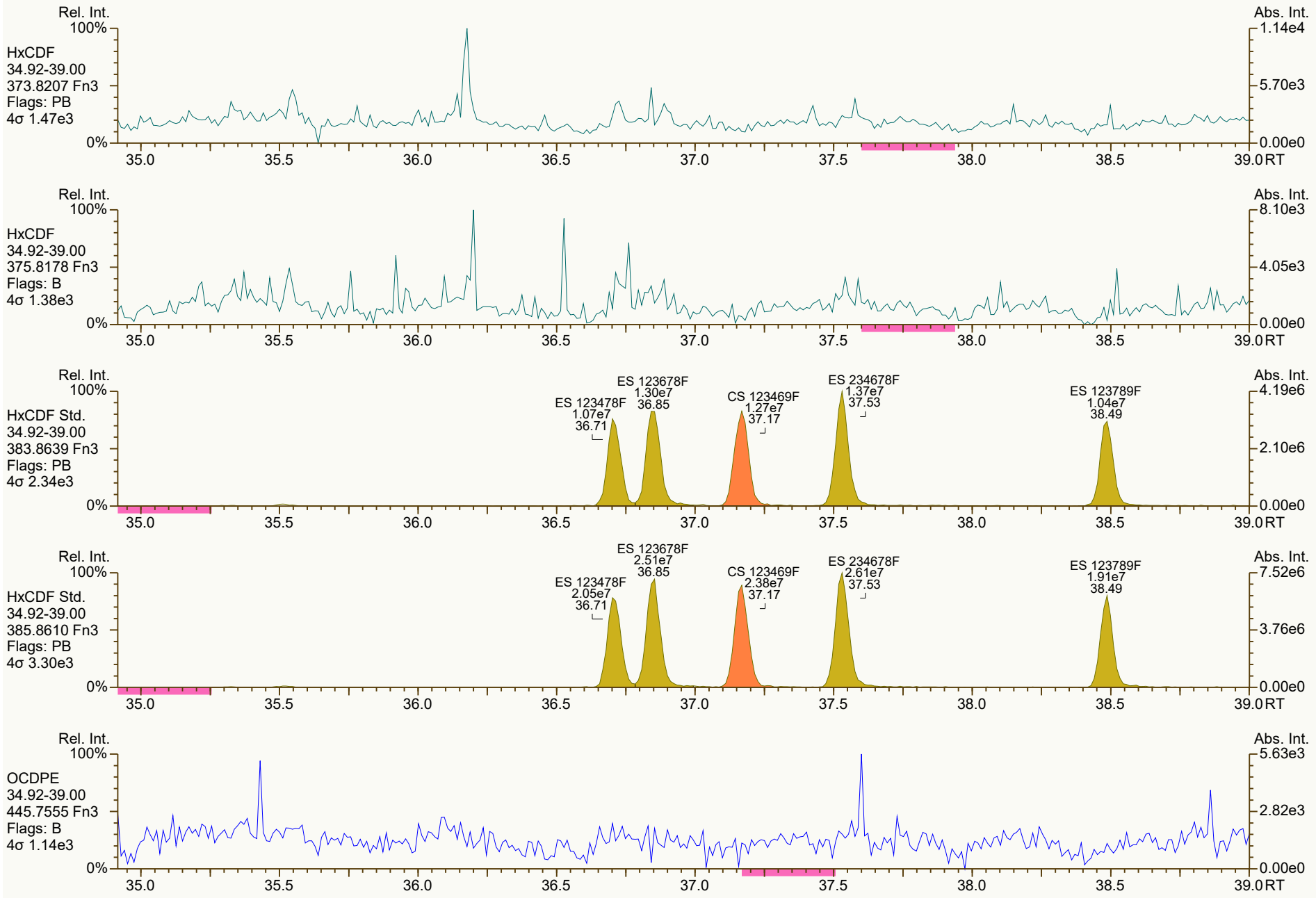
SGS ID: B6237_18888_DF_003 | Sample ID: 11215131-012022-GW-BN-PZ-NC | Acq: 10-Feb-2022 00:46:43
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 12 | User: DTF Datafile: 220209C24

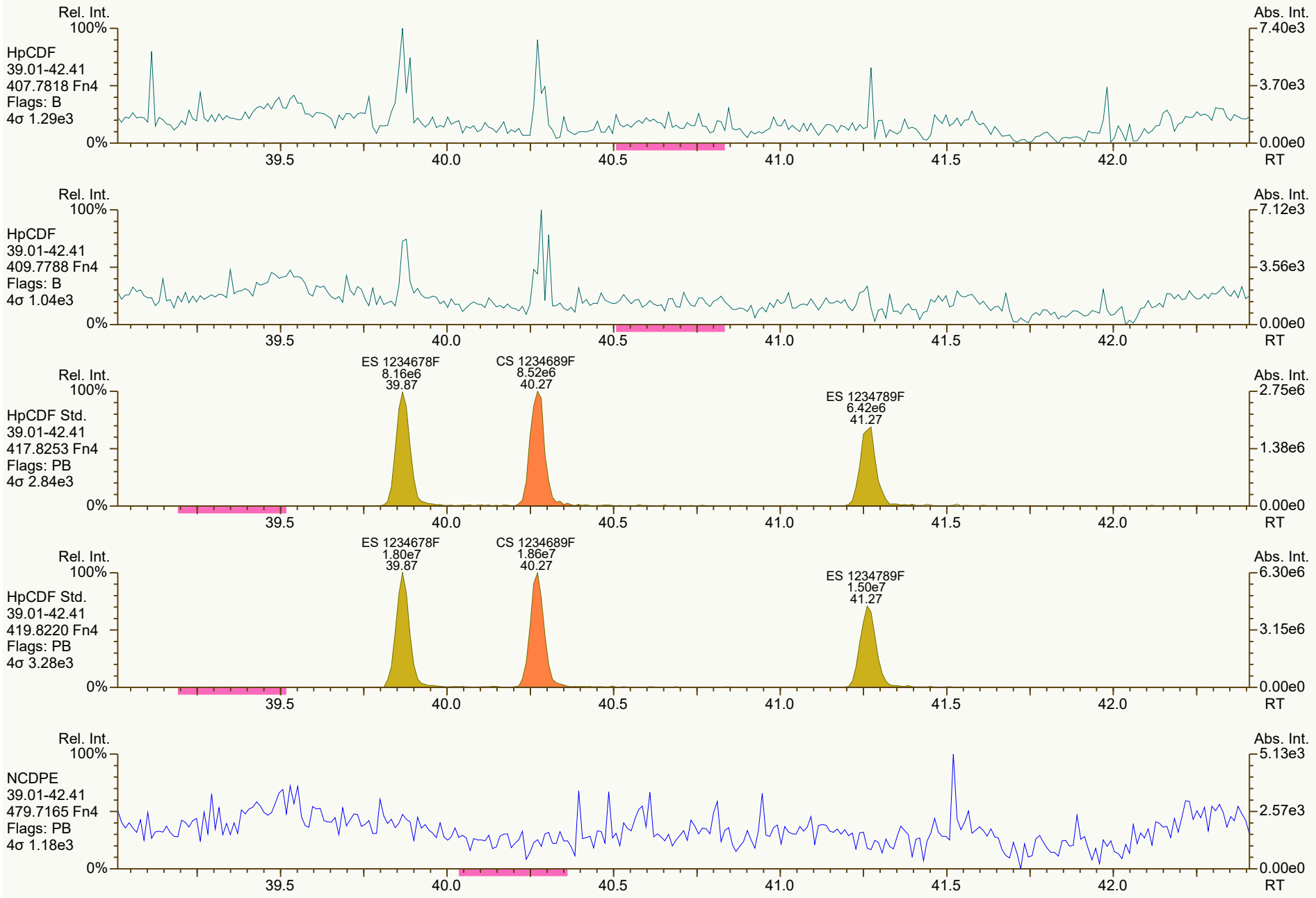


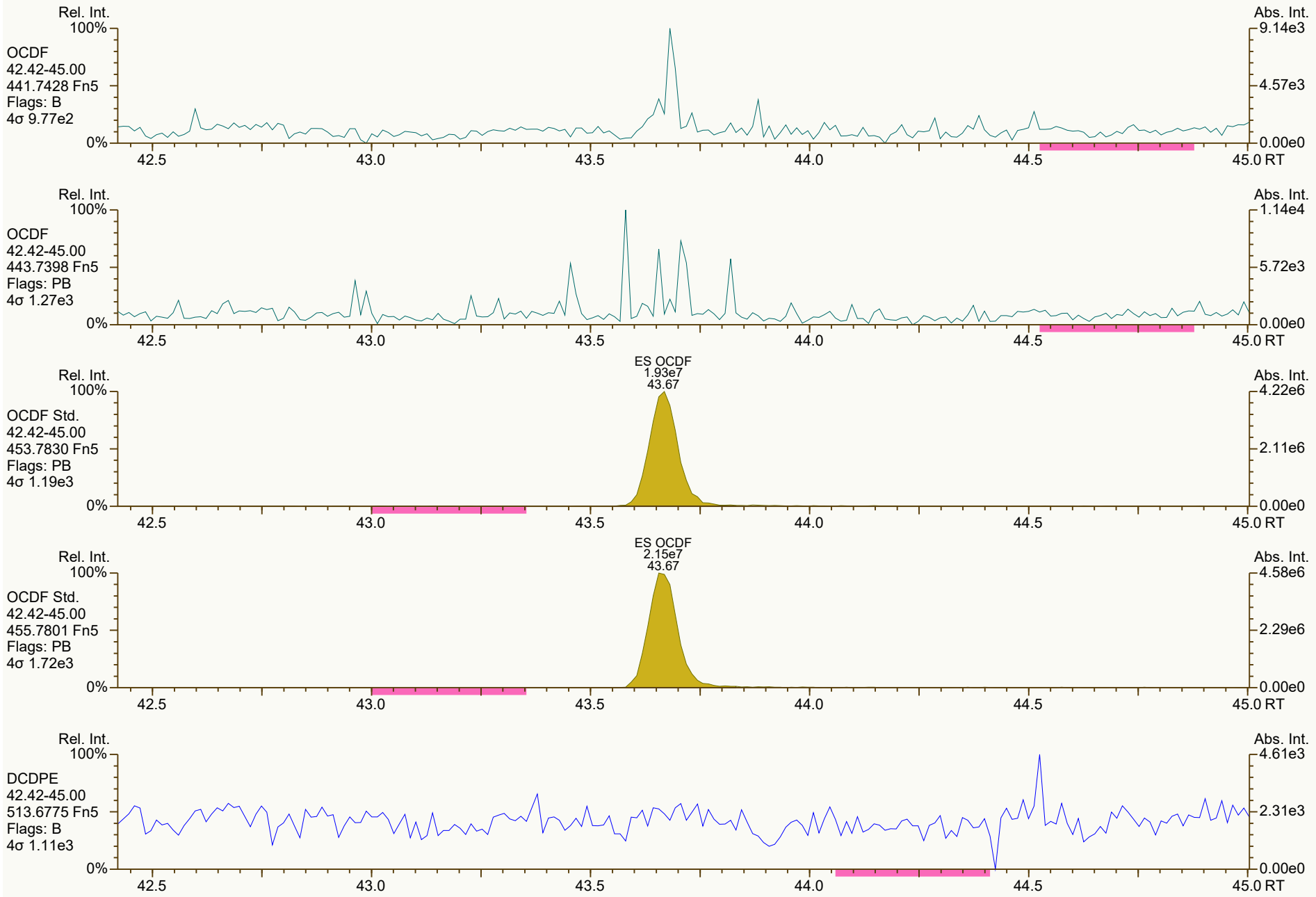
Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\B6237_18888_DF_003.utp_res, saved 10-Feb-2022 10:22 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8994, 6834, 0690 scc: 156-756 | Revised: 10-Feb-2022 10:18 (DTF) Printed: 10-Feb-2022 10:34 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.23e4
6.17e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.40e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
5.49e3
2.75e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.36e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.20e6
2.10e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PB
4σ 1.35e3
0%
Abs. Int.
6.61e3
3.30e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: B
4σ 1.46e3
5.46e3
2.73e3
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 1.46e3
CS 12346F
2.77e7
31.82
ES 12378F
2.66e7
32.35
ES 23478F
2.59e7
33.47
7.42e6
3.71e6
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 1.39e3
CS 12346F
1.75e7
31.82
ES 12378F
1.76e7
32.35
ES 23478F
1.65e7
33.47
4.80e6
2.40e6
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.40e3
7.73e3
3.87e3


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PB
4σ 1.47e3
0%
Abs. Int.
1.14e4
5.70e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: B
4σ 1.38e3
0%
Abs. Int.
8.10e3
4.05e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 2.34e3
0%
ES 123478F
1.07e7
36.71
ES 123678F
1.30e7
36.85
CS 123469F
1.27e7
37.17
ES 234678F
1.37e7
37.53
ES 123789F
1.04e7
38.49
Abs. Int.
4.19e6
2.10e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 3.30e3
0%
ES 123478F
2.05e7
36.71
ES 123678F
2.51e7
36.85
CS 123469F
2.38e7
37.17
ES 234678F
2.61e7
37.53
ES 123789F
1.91e7
38.49
Abs. Int.
7.52e6
3.76e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.14e3
0%
Abs. Int.
5.63e3
2.82e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: B
4σ 1.29e3
0%
Abs. Int.
7.40e3
3.70e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: B
4σ 1.04e3
0%
Abs. Int.
7.12e3
3.56e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 2.84e3
0%
ES 1234678F
8.16e6
39.87
CS 1234689F
8.52e6
40.27
ES 1234789F
6.42e6
41.27
Abs. Int.
2.75e6
1.38e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 3.28e3
0%
ES 1234678F
1.80e7
39.87
CS 1234689F
1.86e7
40.27
ES 1234789F
1.50e7
41.27
Abs. Int.
6.30e6
3.15e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.18e3
0%
Abs. Int.
5.13e3
2.57e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: B
4σ 9.77e2
0%
Abs. Int.
9.14e3
4.57e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
1.14e4
5.72e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.93e7
43.67
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.19e3
0%
Abs. Int.
4.22e6
2.11e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.15e7
43.67
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 1.72e3
0%
Abs. Int.
4.58e6
2.29e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.11e3
0%
Abs. Int.
4.61e3
2.31e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6237_18888_DF_004 **Acq'd:** 10 Feb 2022 01:33 DTF **Wt/Vol:** 1.02 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-NE **UTP:** 10-Feb-2022 10:22:31 DTF **J-level:** 4.9 pg/L **Split:** 1 **Checkcode:** 938-617-BQJ

Datafile: 220209C25 **Report:** 10 Feb 2022 10:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	3502.318	1.95
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	2909.877	1.97
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2899.8224	1.94
123678-HxCDD	NotFnd		1.0035	-		-	-	-	1.15	-	2899.8224	1.77
123789-HxCDD	NotFnd		1.0112	-		-	-	-	1.05	-	2899.8224	1.82
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	2731.961	1.84
OCDD	43.49	J	1.0004	1.0001	-0.8	1.10E+05	0.78	Y	1.13	14.4	2665.196	4.06
2378-TCDF	27.62	J	1.0008	1.0005	-0.5	1.00E+05	0.67	Y	1.08	4.11	2194.6055	0.999
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2492.072	1.13
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2492.072	1.03
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2258.279	0.989
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2258.279	0.979
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2258.279	0.854
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2258.279	1.23
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	1873.3521	0.795
1234789-HpCDF	NotFnd		1.0002	-		-	-	-	1.31	-	1873.3521	1.17
OCDF	NotFnd		1.0003	-		-	-	-	1.07	-	3050.495	3.44

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46	1.0236	1.0239	+0.5	2.88E+07	0.77	Y	1.05	85.6
ES 12378-PeCDD	33.80	1.2144	1.2162	+3.7	2.50E+07	1.60	Y	0.88	88.3
ES 123478-HxCDD	37.72	0.9920	0.9919	-0.2	2.34E+07	1.31	Y	0.97	92.7
ES 123678-HxCDD	37.85	0.9951	0.9950	-0.2	2.54E+07	1.29	Y	0.94	104
ES 123789-HxCDD	38.14	1.0027	1.0027	0	2.53E+07	1.28	Y	1.09	89.1
ES 1234678-HpCDD	40.81	1.0724	1.0730	+1.5	2.13E+07	1.07	Y	0.91	89.7
ES OCDD	43.49	1.1428	1.1434	+1.6	2.67E+07	0.87	Y	0.62	82.5
ES 2378-TCDF	27.60	1.0516	1.0520	+0.7	4.44E+07	0.80	Y	1.06	83.6
ES 12378-PeCDF	32.36	1.2312	1.2331	+3.7	3.93E+07	1.61	Y	0.91	86
ES 23478-PeCDF	33.47	1.2733	1.2756	+4.6	3.81E+07	1.59	Y	0.88	86
ES 123478-HxCDF	36.71	0.9655	0.9653	-0.4	2.78E+07	0.52	Y	1.20	89.3
ES 123678-HxCDF	36.86	0.9692	0.9690	-0.4	3.32E+07	0.54	Y	1.35	94.4
ES 234678-HxCDF	37.54	0.9871	0.9870	-0.2	3.64E+07	0.53	Y	1.24	113
ES 123789-HxCDF	38.49	1.0121	1.0121	0	2.73E+07	0.56	Y	1.16	90.8
ES 1234678-HpCDF	39.88	1.0479	1.0484	+1.2	2.39E+07	0.44	Y	0.97	94.9
ES 1234789-HpCDF	41.27	1.0845	1.0851	+1.5	1.94E+07	0.44	Y	0.85	87.6
ES OCDF	43.68	1.1477	1.1483	+1.6	3.70E+07	0.89	Y	0.81	88.3

Lab ID: B6237_18888_DF_004 **Acq'd:** 10 Feb 2022 01:33 DTF **Wt/Vol:** 1.02 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-NE **UTP:** 10-Feb-2022 10:22:31 DTF **J-level:** 4.9 pg/L **Split:** 1 **Checkcode:** 938-617-BQJ

Datafile: 220209C25 **Report:** 10 Feb 2022 10:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.80		-	-	-	3.22E+07	0.80	Y	-	-
JS 1234-TCDF	26.24		-	-	-	5.02E+07	0.81	Y	-	-
JS 123467-HxCDD	38.03		-	-	-	1.30E+07	1.20	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0244	1.0247	+0.5	1.38E+07	n/a	-	1.20	89.1
CS 12347-PeCDD	33.30		1.1964	1.1981	+3.4	2.58E+07	1.57	Y	0.75	106
CS 12346-PeCDF	31.83		1.2112	1.2129	+3.2	4.11E+07	1.54	Y	0.85	96.4
CS 123469-HxCDF	37.17		0.9775	0.9773	-0.4	3.39E+07	0.53	Y	1.12	117
CS 1234689-HpCDF	40.28		1.0584	1.0591	+1.7	2.57E+07	0.46	Y	0.89	111
~~SS 37Cl-2378-TCDD~~	~~28.48~~		~~1.0244~~	~~1.0247~~	~~+0.5~~	~~1.38E+07~~	~~n/a~~		~~1.15~~	~~104~~
~~SS 12347-PeCDD~~	~~33.30~~		~~1.1964~~	~~1.1981~~	~~+3.4~~	~~2.58E+07~~	~~1.57~~	~~Y~~	~~0.86~~	~~120~~
~~SS 12346-PeCDF~~	~~31.83~~		~~1.2112~~	~~1.2129~~	~~+3.2~~	~~4.11E+07~~	~~1.54~~	~~Y~~	~~0.94~~	~~112~~
~~SS 123469-HxCDF~~	~~37.17~~		~~0.9775~~	~~0.9773~~	~~-0.4~~	~~3.39E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~123~~
~~SS 1234689-HpCDF~~	~~40.28~~		~~1.0584~~	~~1.0591~~	~~+1.7~~	~~2.57E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~117~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	14.4	14.4
Total TCDF	4.11	4.11
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	4.11	4.11
Total Tetra-Octa Dioxins & Furans	18.5	18.5

Lab ID: B6237_18888_DF_004 **Acq'd: 10 Feb 2022 01:33 DTF** **Wt/Vol: 1.02 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012022-GW-BN-PZ-NE **UTP: 10-Feb-2022 10:22:31 DTF** **J-level: 4.9 pg/L** **Split: 1** **Checkcode: 938-617-BQJ**

Datafile: 220209C25 **Report: 10 Feb 2022 10:28 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8737						1.18		3502.318	1.95
1379-TCDD	NotFnd		0.8860						1.18		3502.318	1.95
1369-TCDD	NotFnd		0.9009						1.18		3502.318	1.95
1469-TCDD	NotFnd		0.9281						1.18		3502.318	1.95
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3502.318	1.95
1378-TCDD	NotFnd		0.9432						1.18		3502.318	1.95
1268-TCDD	NotFnd		0.9500						1.18		3502.318	1.95
1478-TCDD	NotFnd		0.9586						1.18		3502.318	1.95
1279-TCDD	NotFnd		0.9645						1.18		3502.318	1.95
1234/1269-TCDD	NotFnd		0.9770						1.18		3502.318	1.95
1236-TCDD	NotFnd		0.9817						1.18		3502.318	1.95
1237/1238-TCDD	NotFnd		0.9905						1.18		3502.318	1.95
1239-TCDD	NotFnd		0.9952						1.18		3502.318	1.95
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**3502.318**	**1.95**
1278-TCDD	NotFnd		1.0121						1.18		3502.318	1.95
1267-TCDD	NotFnd		1.0167						1.18		3502.318	1.95
1289-TCDD	NotFnd		1.0345						1.18		3502.318	1.95
12479/12468-PeCDD	NotFnd		0.9267						1.04		2909.877	1.97
12469-PeCDD	NotFnd		0.9425						1.04		2909.877	1.97
12368-PeCDD	NotFnd		0.9588						1.04		2909.877	1.97
12478-PeCDD	NotFnd		0.9643						1.04		2909.877	1.97
12379-PeCDD	NotFnd		0.9673						1.04		2909.877	1.97
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		2909.877	1.97
12346/12347-PeCDD	NotFnd		0.9858						1.04		2909.877	1.97
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**2909.877**	**1.97**
12367-PeCDD	NotFnd		1.0033						1.04		2909.877	1.97
12389-PeCDD	NotFnd		1.0134						1.04		2909.877	1.97
124679/124689-HxCDD	NotFnd		0.9542						1.10		2899.8224	1.84
123468-HxCDD	NotFnd		0.9715						1.10		2899.8224	1.84
123679/123689-HxCDD	NotFnd		0.9793						1.10		2899.8224	1.84
123469-HxCDD	NotFnd		0.9828						1.10		2899.8224	1.84
123478-HxCDD	NotFnd		**1.0004**						1.09		**2899.8224**	**1.94**
123678-HxCDD	NotFnd		**1.0035**						1.15		**2899.8224**	**1.77**
123467-HxCDD	NotFnd		1.0085						1.10		2899.8224	1.84
123789-HxCDD	NotFnd		**1.0112**						1.05		**2899.8224**	**1.82**

Lab ID: B6237_18888_DF_004 **Acq'd: 10 Feb 2022 01:33 DTF** **Wt/Vol: 1.02 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012022-GW-BN-PZ-NE **UTP: 10-Feb-2022 10:22:31 DTF** **J-level: 4.9 pg/L** **Split: 1** **Checkcode: 938-617-BQJ**

Datafile: 220209C25 **Report: 10 Feb 2022 10:28 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

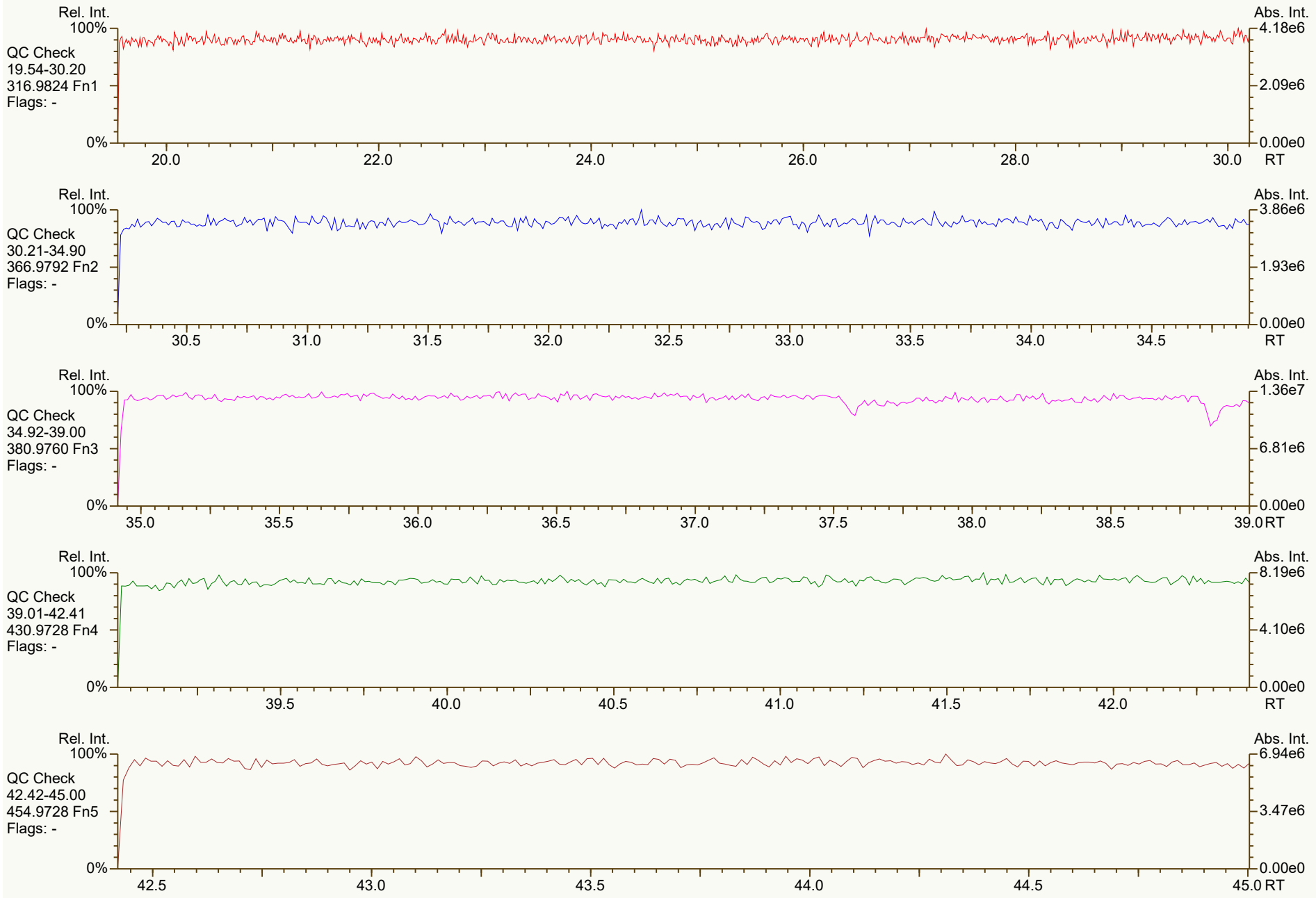
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9837						1.06		2731.961	1.84
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**2731.961**	**1.84**
OCDD	**43.49**	**J**	**1.0004**	**1.0001**	**-0.8**	**1.10E+05**	**0.78**	**Y**	**1.13**	**14.4**	**2665.196**	**4.06**
OCDD-a	NotFnd		1.0003						0.07		3024.253	72.1
1368-TCDF	NotFnd		0.8251						1.08		2194.6055	0.999
1468-TCDF	NotFnd		0.8458						1.08		2194.6055	0.999
2468-TCDF	NotFnd		0.8686						1.08		2194.6055	0.999
1346/1246-TCDF	NotFnd		0.8814						1.08		2194.6055	0.999
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2194.6055	0.999
1348-TCDF	NotFnd		0.8962						1.08		2194.6055	0.999
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2194.6055	0.999
1268-TCDF	NotFnd		0.9145						1.08		2194.6055	0.999
1467-TCDF	NotFnd		0.9193						1.08		2194.6055	0.999
1478-TCDF	NotFnd		0.9254						1.08		2194.6055	0.999
1369/1237-TCDF	NotFnd		0.9387						1.08		2194.6055	0.999
2467-TCDF	NotFnd		0.9433						1.08		2194.6055	0.999
2368-TCDF	NotFnd		0.9489						1.08		2194.6055	0.999
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2194.6055	0.999
1278-TCDF	NotFnd		0.9683						1.08		2194.6055	0.999
1349-TCDF	NotFnd		0.9722						1.08		2194.6055	0.999
1267-TCDF	NotFnd		0.9783						1.08		2194.6055	0.999
2346/1249-TCDF	NotFnd		0.9850						1.08		2194.6055	0.999
2347/1279-TCDF	NotFnd		0.9926						1.08		2194.6055	0.999
2348-TCDF	NotFnd		0.9967						1.08		2194.6055	0.999
2378-TCDF	**27.62**	J	**1.0008**	**1.0005**	**-0.5**	**1.00E+05**	**0.67**	**Y**	**1.08**	**4.11**	**2194.6055**	**0.999**
2367/3467-TCDF	NotFnd		1.0137						1.08		2194.6055	0.999
1269-TCDF	NotFnd		1.0223						1.08		2194.6055	0.999
1239-TCDF	NotFnd		1.0321						1.08		2194.6055	0.999
1289-TCDF	NotFnd		1.0722						1.08		2194.6055	0.999
13468/12468-PeCDF	NotFnd		0.9139						1.02		2630.901	1.14
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		2492.072	1.08
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		2492.072	1.08
14678-PeCDF	NotFnd		0.9692						1.02		2492.072	1.08
13479-PeCDF	NotFnd		0.9723						1.02		2492.072	1.08
13469/12479-PeCDF	NotFnd		0.9797						1.02		2492.072	1.08
12346-PeCDF	NotFnd		0.9840						1.02		2492.072	1.08

Lab ID: B6237_18888_DF_004 **Acq'd:** 10 Feb 2022 01:33 DTF **Wt/Vol:** 1.02 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-NE **UTP:** 10-Feb-2022 10:22:31 DTF **J-level:** 4.9 pg/L **Split:** 1 **Checkcode:** 938-617-BQJ

Datafile: 220209C25 **Report:** 10 Feb 2022 10:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		2492.072	1.08
12347-PeCDF	NotFnd		0.9894						1.02		2492.072	1.08
12348-PeCDF	NotFnd		0.9940						1.02		2492.072	1.08
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2492.072**	**1.13**
12678/12367-PeCDF	NotFnd		1.0089						1.02		2492.072	1.08
12379-PeCDF	NotFnd		1.0142						1.02		2492.072	1.08
12679-PeCDF	NotFnd		0.9929						1.02		2492.072	1.08
23467/12369-PeCDF	NotFnd		0.9967						1.02		2492.072	1.08
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2492.072**	**1.03**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2492.072	1.08
12349-PeCDF	NotFnd		1.0100						1.02		2492.072	1.08
12389-PeCDF	NotFnd		1.0324						1.02		2492.072	1.08
123468-HxCDF	NotFnd		0.9627						1.19		2258.279	0.998
124678/134678-HxCDF	NotFnd		0.9682						1.19		2258.279	0.998
134679-HxCDF	NotFnd		0.9744						1.19		2258.279	0.998
124679-HxCDF	NotFnd		0.9798						1.19		2258.279	0.998
124689-HxCDF	NotFnd		0.9858						1.19		2258.279	0.998
123467-HxCDF	NotFnd		0.9972						1.19		2258.279	0.998
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2258.279**	**0.989**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2258.279**	**0.979**
123479-HxCDF	NotFnd		1.0049						1.19		2258.279	0.998
123469-HxCDF	NotFnd		1.0090						1.19		2258.279	0.998
123679-HxCDF	NotFnd		0.9942						1.19		2258.279	0.998
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2258.279**	**0.854**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2258.279	0.998
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2258.279**	**1.23**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		2258.279	0.998
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**1873.3521**	**0.795**
1234679-HpCDF	NotFnd		1.0068						1.34		1873.3521	0.961
1234689-HpCDF	NotFnd		1.0103						1.34		1873.3521	0.961
1234789-HpCDF	**NotFnd**		**1.0002**						**1.31**		**1873.3521**	**1.17**
OCDF	**NotFnd**		**1.0003**						**1.07**		**3050.495**	**3.44**
OCDF-a	NotFnd		1.0002						0.07		3098.553	56.4


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.18e6
2.09e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.86e6
1.93e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
8.19e6
4.10e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
6.94e6
3.47e6
0.00e0

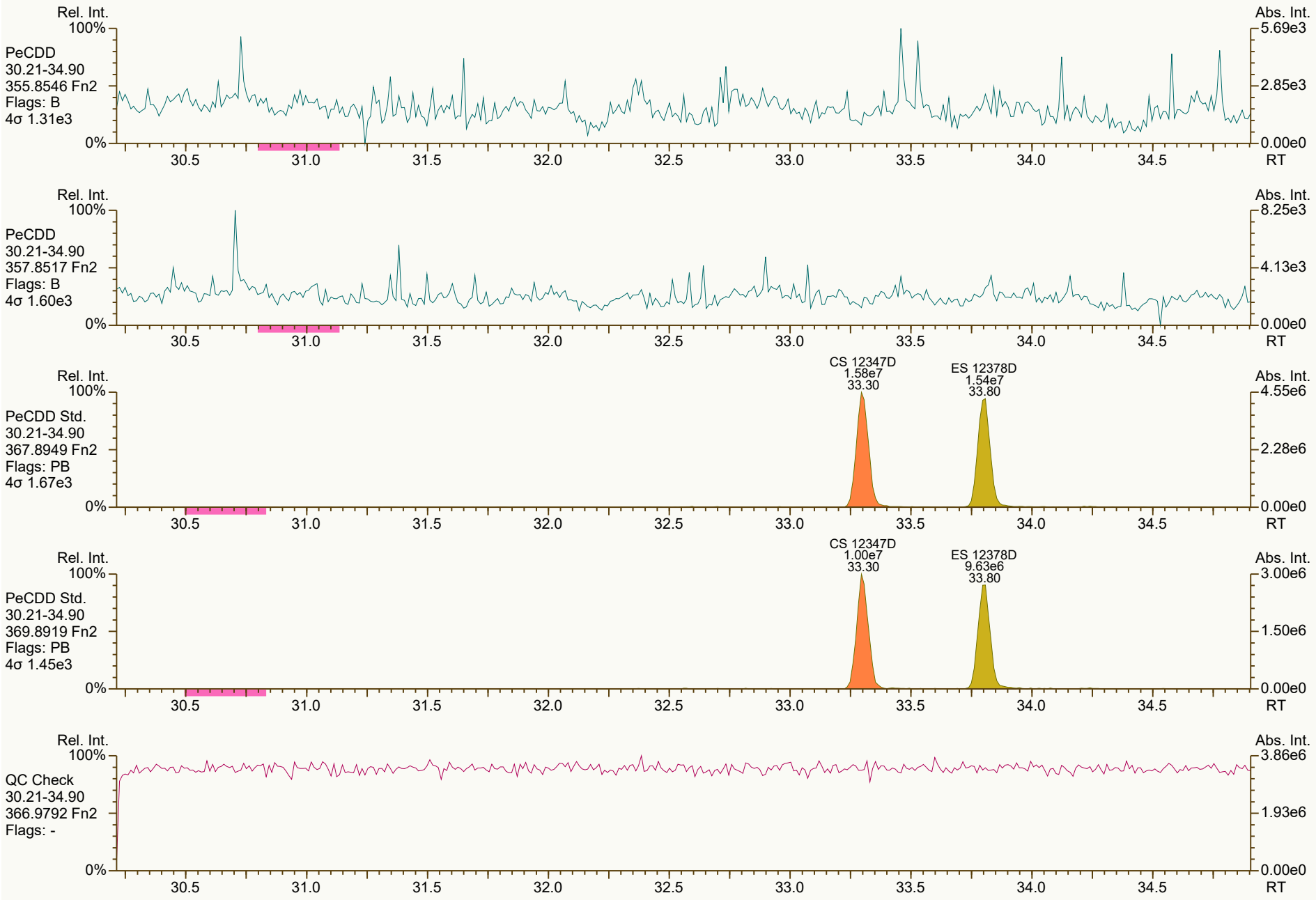
SGS ID: B6237_18888_DF_004 | Sample ID: 11215131-012022-GW-BN-PZ-NE | Acq: 10-Feb-2022 01:33:04

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 13 | User: DTF Datafile: 220209C25



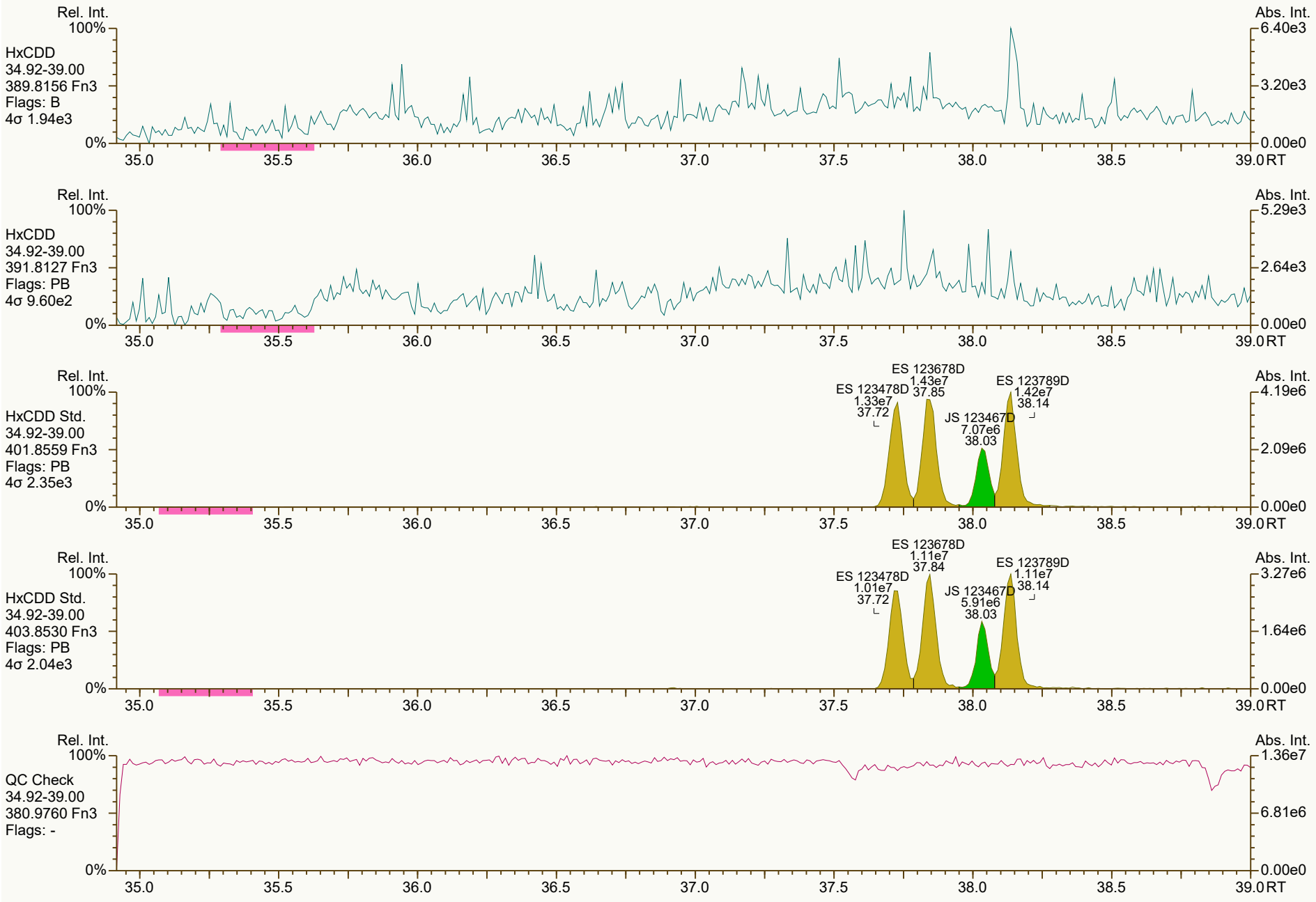
Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\B6237_18888_DF_004.utp_res, saved 10-Feb-2022 10:22 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6682, 6220, 8528 scc: 938-617 | *PKD: 10-Feb-2022 10:19 Printed: 10-Feb-2022 10:35 Page 2 of 12*


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: B
4σ 1.31e3
0%
Abs. Int.
5.69e3
2.85e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: B
4σ 1.60e3
0%
Abs. Int.
8.25e3
4.13e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 1.67e3
0%
CS 12347D
1.58e7
33.30
ES 12378D
1.54e7
33.80
Abs. Int.
4.55e6
2.28e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.45e3
0%
CS 12347D
1.00e7
33.30
ES 12378D
9.63e6
33.80
Abs. Int.
3.00e6
1.50e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.86e6
1.93e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

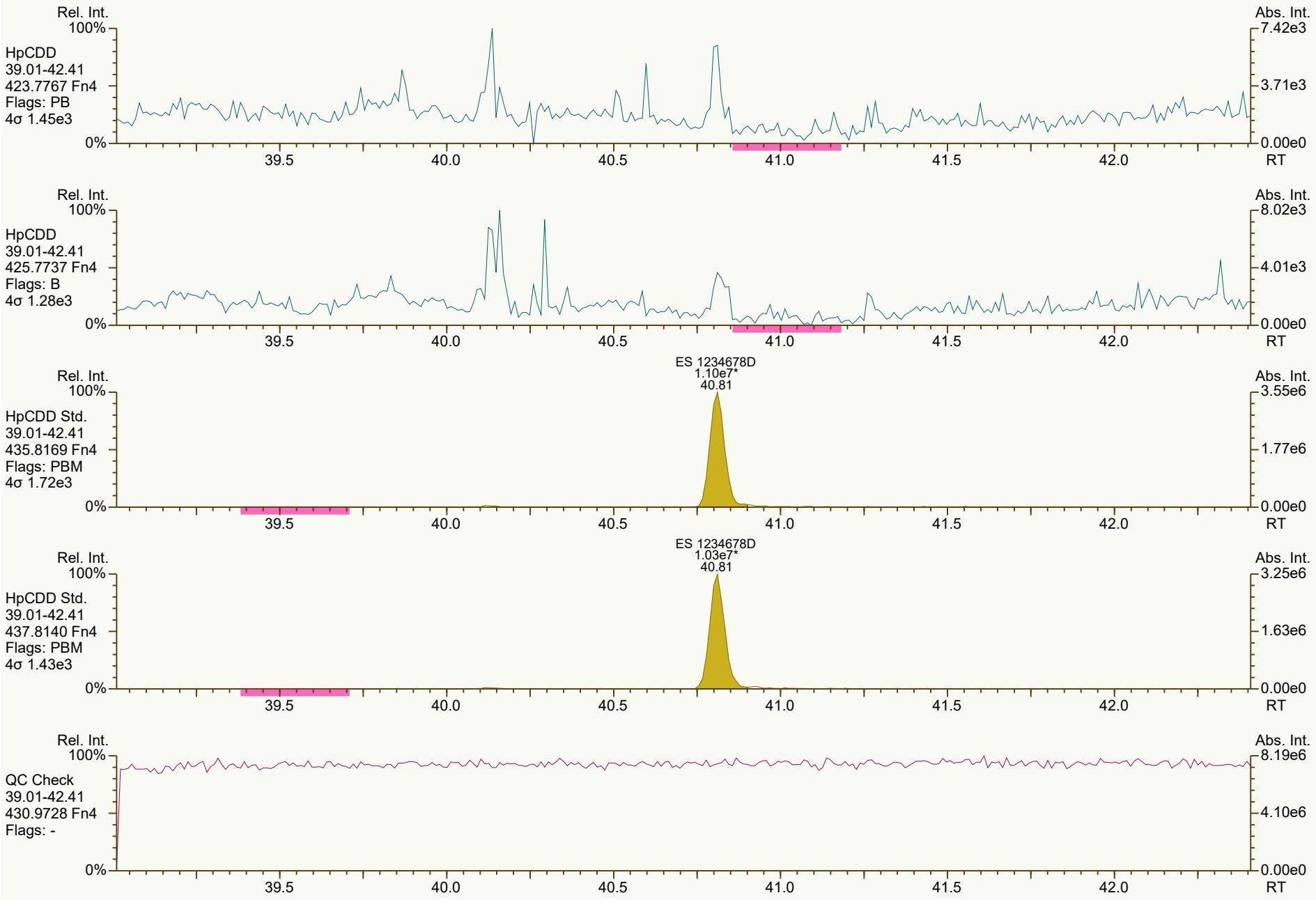
SGS ID: B6237_18888_DF_004 | Sample ID: 11215131-012022-GW-BN-PZ-NE | Acq: 10-Feb-2022 01:33:04

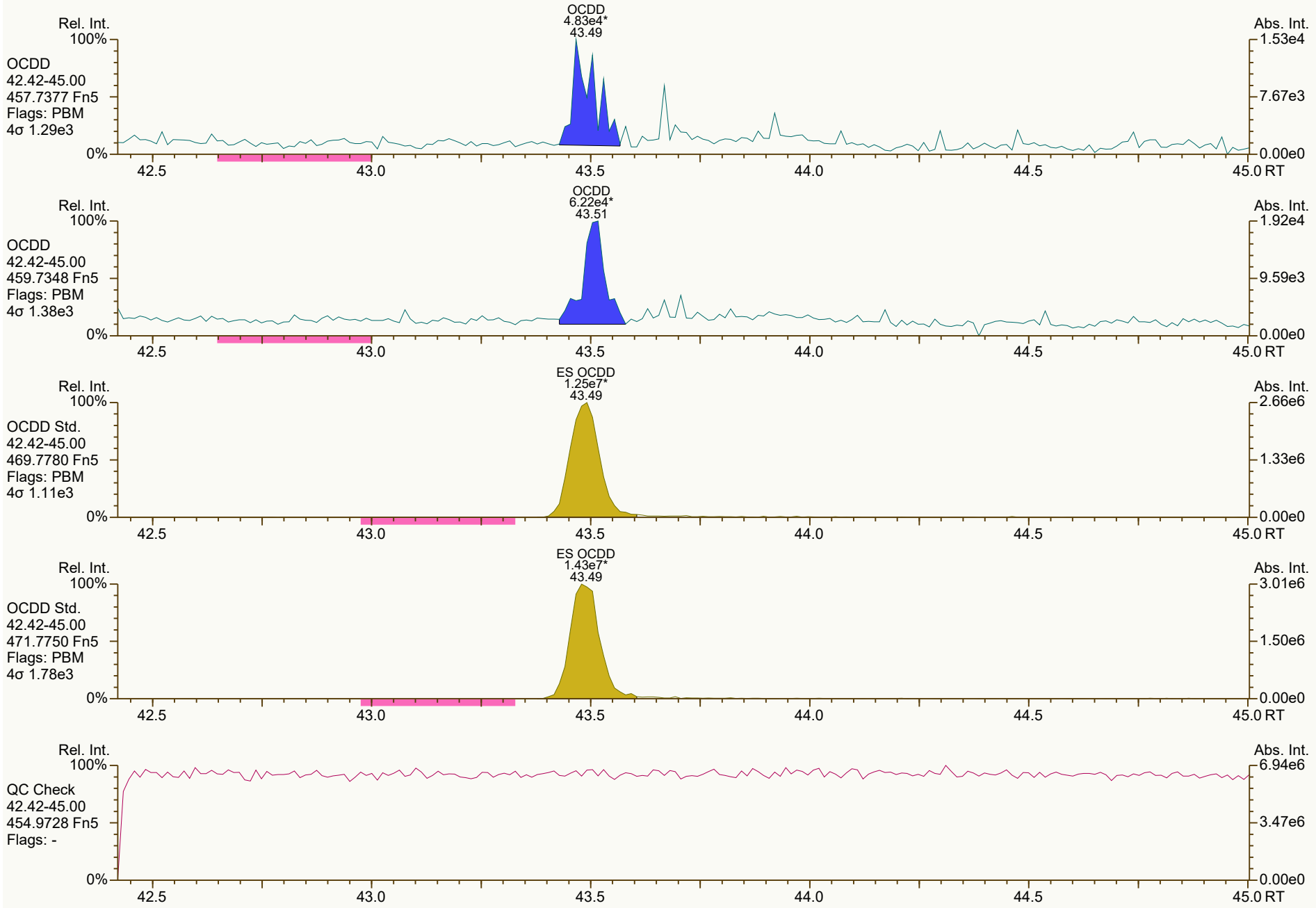
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 13 | User: DTF Datafile: 220209C25

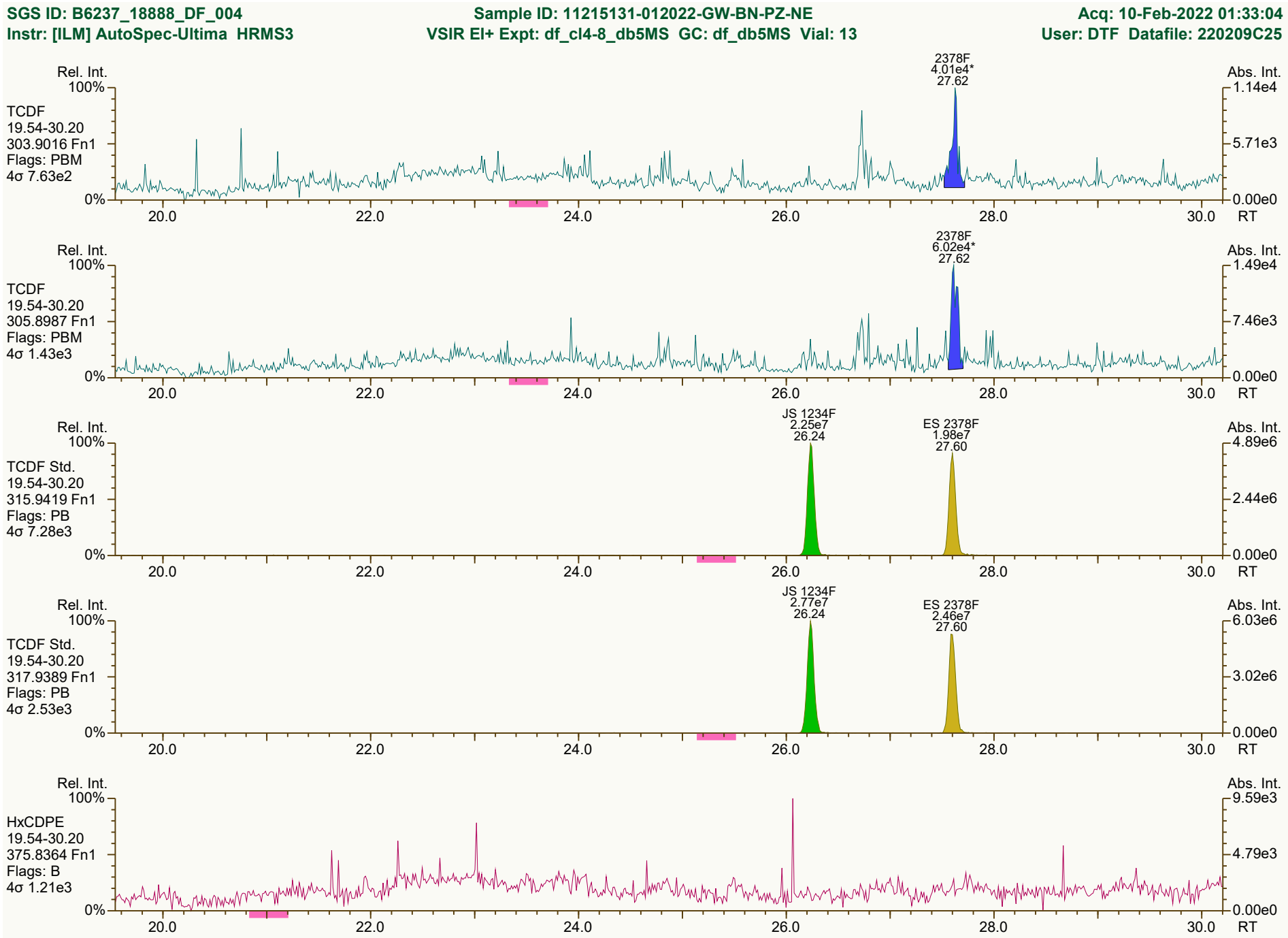


Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\B6237_18888_DF_004.utp_res, saved 10-Feb-2022 10:22 (DTF) | *Peak annotation: Areas, Centroids*

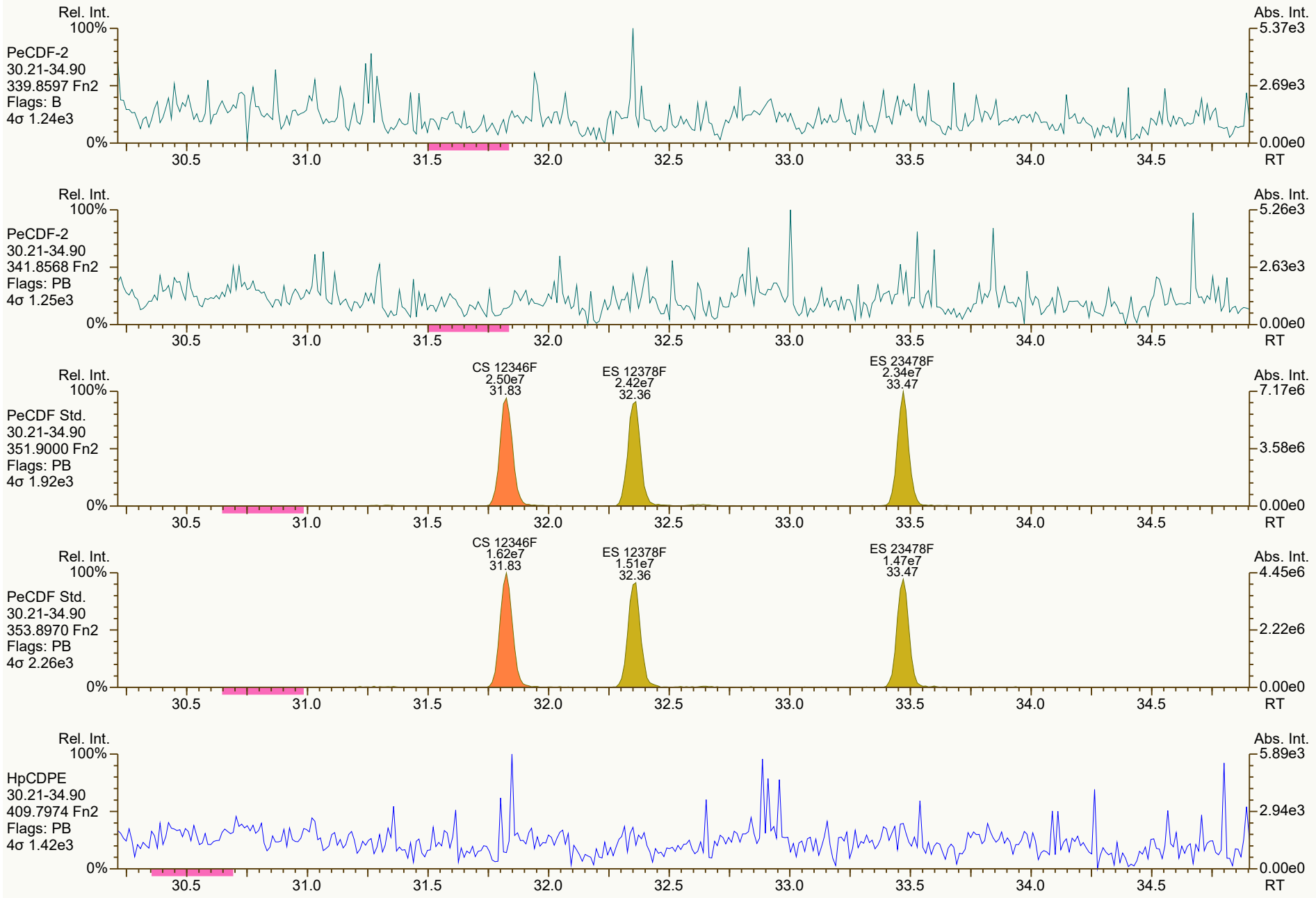
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0019, 9573 scc: 938-617 | *PKD: 10-Feb-2022 10:19 Printed: 10-Feb-2022 10:35 Page 4 of 12*

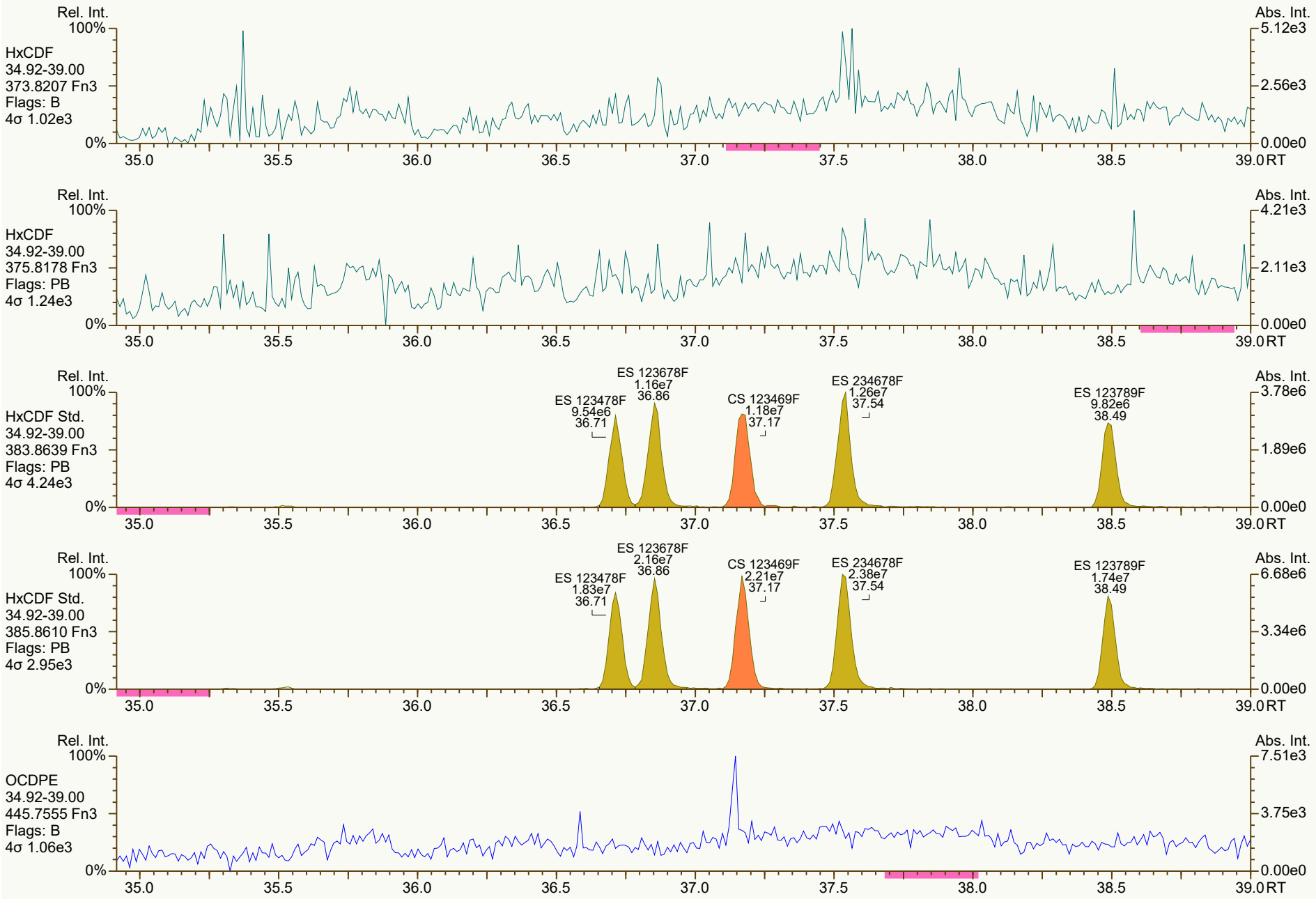

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 1.45e3
0%
Abs. Int.
7.42e3
3.71e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: B
4σ 1.28e3
0%
Abs. Int.
8.02e3
4.01e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
1.10e7*
40.81
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 1.72e3
0%
Abs. Int.
3.55e6
1.77e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
1.03e7*
40.81
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
3.25e6
1.63e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
8.19e6
4.10e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

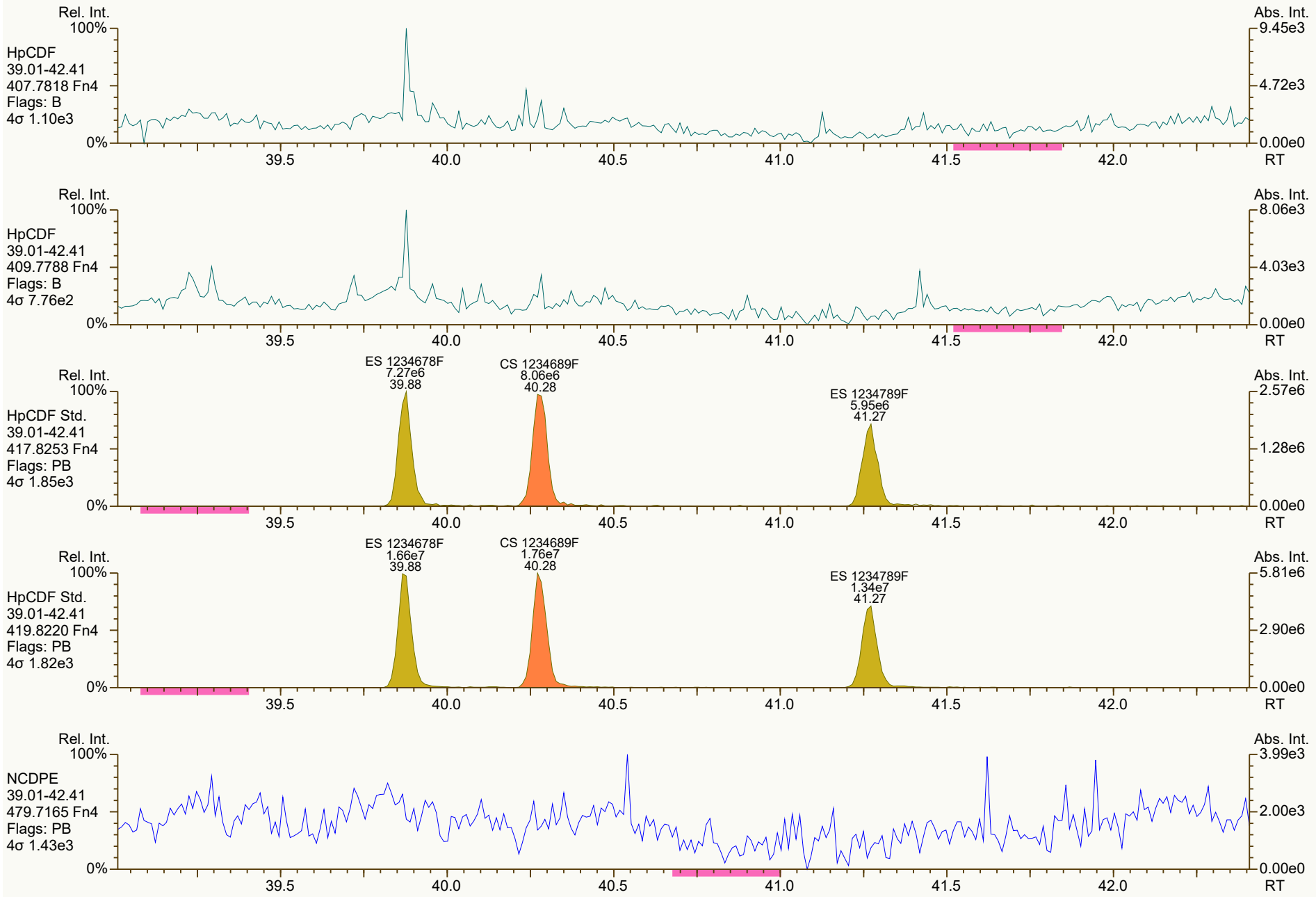

OCDD
4.83e4*
43.49
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.29e3
0%
Abs. Int.
1.53e4
7.67e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
6.22e4*
43.51
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 1.38e3
0%
Abs. Int.
1.92e4
9.59e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.25e7*
43.49
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 1.11e3
0%
Abs. Int.
2.66e6
1.33e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.43e7*
43.49
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 1.78e3
0%
Abs. Int.
3.01e6
1.50e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.94e6
3.47e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: B6237_18888_DF_004
Sample ID: 11215131-012022-GW-BN-PZ-NE
Acq: 10-Feb-2022 01:33:04
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 13
User: DTF Datafile: 220209C25
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 7.63e2
2378F
4.01e4*
27.62
1.14e4
5.71e3
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.43e3
2378F
6.02e4*
27.62
1.49e4
7.46e3
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 7.28e3
JS 1234F
2.25e7
26.24
ES 2378F
1.98e7
27.60
4.89e6
2.44e6
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.53e3
JS 1234F
2.77e7
26.24
ES 2378F
2.46e7
27.60
6.03e6
3.02e6
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.21e3
9.59e3
4.79e3
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\B6237_18888_DF_004.utp_res, saved 10-Feb-2022 10:22 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5968, 9568, 4659 scc: 938-617
Revised: 10-Feb-2022 10:19 (DTF) Printed: 10-Feb-2022 10:35 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
5.94e3
2.97e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.50e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
7.97e3
3.98e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.13e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.18e6
2.09e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: B
4σ 1.24e3
0%
Abs. Int.
5.37e3
2.69e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PB
4σ 1.25e3
5.26e3
2.63e3
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 1.92e3
CS 12346F
2.50e7
31.83
ES 12378F
2.42e7
32.36
ES 23478F
2.34e7
33.47
7.17e6
3.58e6
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 2.26e3
CS 12346F
1.62e7
31.83
ES 12378F
1.51e7
32.36
ES 23478F
1.47e7
33.47
4.45e6
2.22e6
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: PB
4σ 1.42e3
5.89e3
2.94e3


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: B
4σ 1.02e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PB
4σ 1.24e3
0%
Abs. Int.
4.21e3
2.11e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 4.24e3
0%
ES 123478F
9.54e6
36.71
ES 123678F
1.16e7
36.86
CS 123469F
1.18e7
37.17
ES 234678F
1.26e7
37.54
ES 123789F
9.82e6
38.49
Abs. Int.
3.78e6
1.89e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 2.95e3
0%
ES 123478F
1.83e7
36.71
ES 123678F
2.16e7
36.86
CS 123469F
2.21e7
37.17
ES 234678F
2.38e7
37.54
ES 123789F
1.74e7
38.49
Abs. Int.
6.68e6
3.34e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.06e3
0%
Abs. Int.
7.51e3
3.75e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: B
4σ 1.10e3
0%
Abs. Int.
9.45e3
4.72e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: B
4σ 7.76e2
0%
Abs. Int.
8.06e3
4.03e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 1.85e3
0%
ES 1234678F
7.27e6
39.88
CS 1234689F
8.06e6
40.28
ES 1234789F
5.95e6
41.27
Abs. Int.
2.57e6
1.28e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 1.82e3
0%
ES 1234678F
1.66e7
39.88
CS 1234689F
1.76e7
40.28
ES 1234789F
1.34e7
41.27
Abs. Int.
5.81e6
2.90e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.43e3
0%
Abs. Int.
3.99e3
2.00e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

SGS ID: B6237_18888_DF_004 | Sample ID: 11215131-012022-GW-BN-PZ-NE | Acq: 10-Feb-2022 01:33:04

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 13 | User: DTF Datafile: 220209C25



Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\B6237_18888_DF_004.utp_res, saved 10-Feb-2022 10:22 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7999, 4963, 7901 scc: 938-617 *PKD: 10-Feb-2022 10:19 Printed: 10-Feb-2022 10:35 Page 12 of 12*

Lab ID: B6237_18888_DF_005 **Acq'd:** 10 Feb 2022 02:19 DTF **Wt/Vol:** 1.02 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-DUP-1 **UTP:** 10-Feb-2022 10:22:31 DTF **J-level:** 4.9 pg/L **Split:** 1 **Checkcode:** 790-719-FNF

Datafile: 220209C26 **Report:** 10 Feb 2022 10:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	3388.054	2.11
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	3027.904	2
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2048.2207	1.37
123678-HxCDD	NotFnd		1.0035	-		-	-	-	1.15	-	2048.2207	1.25
123789-HxCDD	NotFnd		1.0112	-		-	-	-	1.05	-	2048.2207	1.27
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	2094.1905	1.49
OCDD	43.49	J EMPC	1.0004	1.0002	-0.5	1.14E+05	1.26	N	1.13	14.7	3648.163	5.21
2378-TCDF	27.62	J	1.0008	1.0009	+0.2	1.15E+05	0.83	Y	1.08	4.65	2418.831	1.1
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	1871.7472	0.827
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	1871.7472	0.787
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2818.468	1.34
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2818.468	1.18
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2818.468	1.13
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2818.468	1.51
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2486.138	1.13
1234789-HpCDF	NotFnd		1.0002	-		-	-	-	1.31	-	2486.138	1.67
OCDF	NotFnd		1.0003	-		-	-	-	1.07	-	2410.634	2.77

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.45	1.0236	1.0238	+0.3	2.89E+07	0.81	Y	1.05	89.3
ES 12378-PeCDD	33.80	1.2144	1.2161	+3.4	2.52E+07	1.59	Y	0.88	92.8
ES 123478-HxCDD	37.72	0.9920	0.9919	-0.2	2.32E+07	1.31	Y	0.97	92.5
ES 123678-HxCDD	37.83	0.9951	0.9950	-0.2	2.42E+07	1.24	Y	0.94	99.7
ES 123789-HxCDD	38.13	1.0027	1.0027	0	2.45E+07	1.33	Y	1.09	87.3
ES 1234678-HpCDD	40.80	1.0724	1.0730	+1.5	2.07E+07	1.06	Y	0.91	88
ES OCDD	43.49	1.1428	1.1436	+2.1	2.69E+07	0.92	Y	0.62	83.9
ES 2378-TCDF	27.60	1.0516	1.0520	+0.7	4.48E+07	0.81	Y	1.06	85.1
ES 12378-PeCDF	32.35	1.2312	1.2332	+3.9	4.00E+07	1.57	Y	0.91	88.5
ES 23478-PeCDF	33.46	1.2733	1.2756	+4.6	3.93E+07	1.56	Y	0.88	89.7
ES 123478-HxCDF	36.70	0.9655	0.9653	-0.4	2.72E+07	0.52	Y	1.20	88.3
ES 123678-HxCDF	36.85	0.9692	0.9690	-0.4	3.34E+07	0.53	Y	1.35	95.9
ES 234678-HxCDF	37.53	0.9871	0.9870	-0.2	3.49E+07	0.56	Y	1.24	109
ES 123789-HxCDF	38.48	1.0121	1.0121	0	2.61E+07	0.55	Y	1.16	87.9
ES 1234678-HpCDF	39.87	1.0479	1.0485	+1.4	2.28E+07	0.49	Y	0.97	91.6
ES 1234789-HpCDF	41.26	1.0845	1.0851	+1.5	1.88E+07	0.46	Y	0.85	85.9
ES OCDF	43.66	1.1477	1.1483	+1.6	3.68E+07	0.95	Y	0.81	88.4

Lab ID: B6237_18888_DF_005 **Acq'd:** 10 Feb 2022 02:19 DTF **Wt/Vol:** 1.02 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-DUP-1 **UTP:** 10-Feb-2022 10:22:31 DTF **J-level:** 4.9 pg/L **Split:** 1 **Checkcode:** 790-719-FNF

Datafile: 220209C26 **Report:** 10 Feb 2022 10:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.79		-	-	-	3.09E+07	0.81	Y	-	-
JS 1234-TCDF	26.23		-	-	-	4.97E+07	0.78	Y	-	-
JS 123467-HxCDD	38.02		-	-	-	1.29E+07	1.22	Y	-	-
CS 37Cl-2378-TCDD	28.47		1.0244	1.0246	+0.3	1.32E+07	n/a	-	1.20	89
CS 12347-PeCDD	33.29		1.1964	1.1980	+3.2	2.45E+07	1.67	Y	0.75	105
CS 12346-PeCDF	31.82		1.2112	1.2130	+3.4	3.99E+07	1.61	Y	0.85	94.5
CS 123469-HxCDF	37.16		0.9775	0.9774	-0.2	3.10E+07	0.54	Y	1.12	108
CS 1234689-HpCDF	40.27		1.0584	1.0590	+1.4	2.36E+07	0.47	Y	0.89	103
~~SS 37Cl-2378-TCDD~~	~~28.47~~		~~1.0244~~	~~1.0246~~	~~+0.3~~	~~1.32E+07~~	~~n/a~~		~~1.15~~	~~99.8~~
~~SS 12347-PeCDD~~	~~33.29~~		~~1.1964~~	~~1.1980~~	~~+3.2~~	~~2.45E+07~~	~~1.67~~	~~Y~~	~~0.86~~	~~113~~
~~SS 12346-PeCDF~~	~~31.82~~		~~1.2112~~	~~1.2130~~	~~+3.4~~	~~3.99E+07~~	~~1.61~~	~~Y~~	~~0.94~~	~~107~~
~~SS 123469-HxCDF~~	~~37.16~~		~~0.9775~~	~~0.9774~~	~~-0.2~~	~~3.10E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~112~~
~~SS 1234689-HpCDF~~	~~40.27~~		~~1.0584~~	~~1.0590~~	~~+1.4~~	~~2.36E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~113~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	14.7
Total TCDF	4.65	7.15
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	4.65	7.15
Total Tetra-Octa Dioxins & Furans	4.65	21.9

Lab ID: B6237_18888_DF_005 **Acq'd: 10 Feb 2022 02:19 DTF** **Wt/Vol: 1.02 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012022-GW-BN-DUP-1 **UTP: 10-Feb-2022 10:22:31 DTF** **J-level: 4.9 pg/L** **Split: 1** **Checkcode: 790-719-FNF**

Datafile: 220209C26 **Report: 10 Feb 2022 10:28 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8737						1.18		3388.054	2.11
1379-TCDD	NotFnd		0.8860						1.18		3388.054	2.11
1369-TCDD	NotFnd		0.9009						1.18		3388.054	2.11
1469-TCDD	NotFnd		0.9281						1.18		3388.054	2.11
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3388.054	2.11
1378-TCDD	NotFnd		0.9432						1.18		3388.054	2.11
1268-TCDD	NotFnd		0.9500						1.18		3388.054	2.11
1478-TCDD	NotFnd		0.9586						1.18		3388.054	2.11
1279-TCDD	NotFnd		0.9645						1.18		3388.054	2.11
1234/1269-TCDD	NotFnd		0.9770						1.18		3388.054	2.11
1236-TCDD	NotFnd		0.9817						1.18		3388.054	2.11
1237/1238-TCDD	NotFnd		0.9905						1.18		3388.054	2.11
1239-TCDD	NotFnd		0.9952						1.18		3388.054	2.11
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**3388.054**	**2.11**
1278-TCDD	NotFnd		1.0121						1.18		3388.054	2.11
1267-TCDD	NotFnd		1.0167						1.18		3388.054	2.11
1289-TCDD	NotFnd		1.0345						1.18		3388.054	2.11
12479/12468-PeCDD	NotFnd		0.9267						1.04		3027.904	2
12469-PeCDD	NotFnd		0.9425						1.04		3027.904	2
12368-PeCDD	NotFnd		0.9588						1.04		3027.904	2
12478-PeCDD	NotFnd		0.9643						1.04		3027.904	2
12379-PeCDD	NotFnd		0.9673						1.04		3027.904	2
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		3027.904	2
12346/12347-PeCDD	NotFnd		0.9858						1.04		3027.904	2
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**3027.904**	**2**
12367-PeCDD	NotFnd		1.0033						1.04		3027.904	2
12389-PeCDD	NotFnd		1.0134						1.04		3027.904	2
124679/124689-HxCDD	NotFnd		0.9542						1.10		2048.2207	1.3
123468-HxCDD	NotFnd		0.9715						1.10		2048.2207	1.3
123679/123689-HxCDD	NotFnd		0.9793						1.10		2048.2207	1.3
123469-HxCDD	NotFnd		0.9828						1.10		2048.2207	1.3
123478-HxCDD	NotFnd		**1.0004**						1.09		**2048.2207**	**1.37**
123678-HxCDD	NotFnd		**1.0035**						1.15		**2048.2207**	**1.25**
123467-HxCDD	NotFnd		1.0085						1.10		2048.2207	1.3
123789-HxCDD	NotFnd		**1.0112**						1.05		**2048.2207**	**1.27**

Lab ID: B6237_18888_DF_005 **Acq'd: 10 Feb 2022 02:19 DTF** **Wt/Vol: 1.02 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012022-GW-BN-DUP-1 **UTP: 10-Feb-2022 10:22:31 DTF** **J-level: 4.9 pg/L** **Split: 1** **Checkcode: 790-719-FNF**

Datafile: 220209C26 **Report: 10 Feb 2022 10:28 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

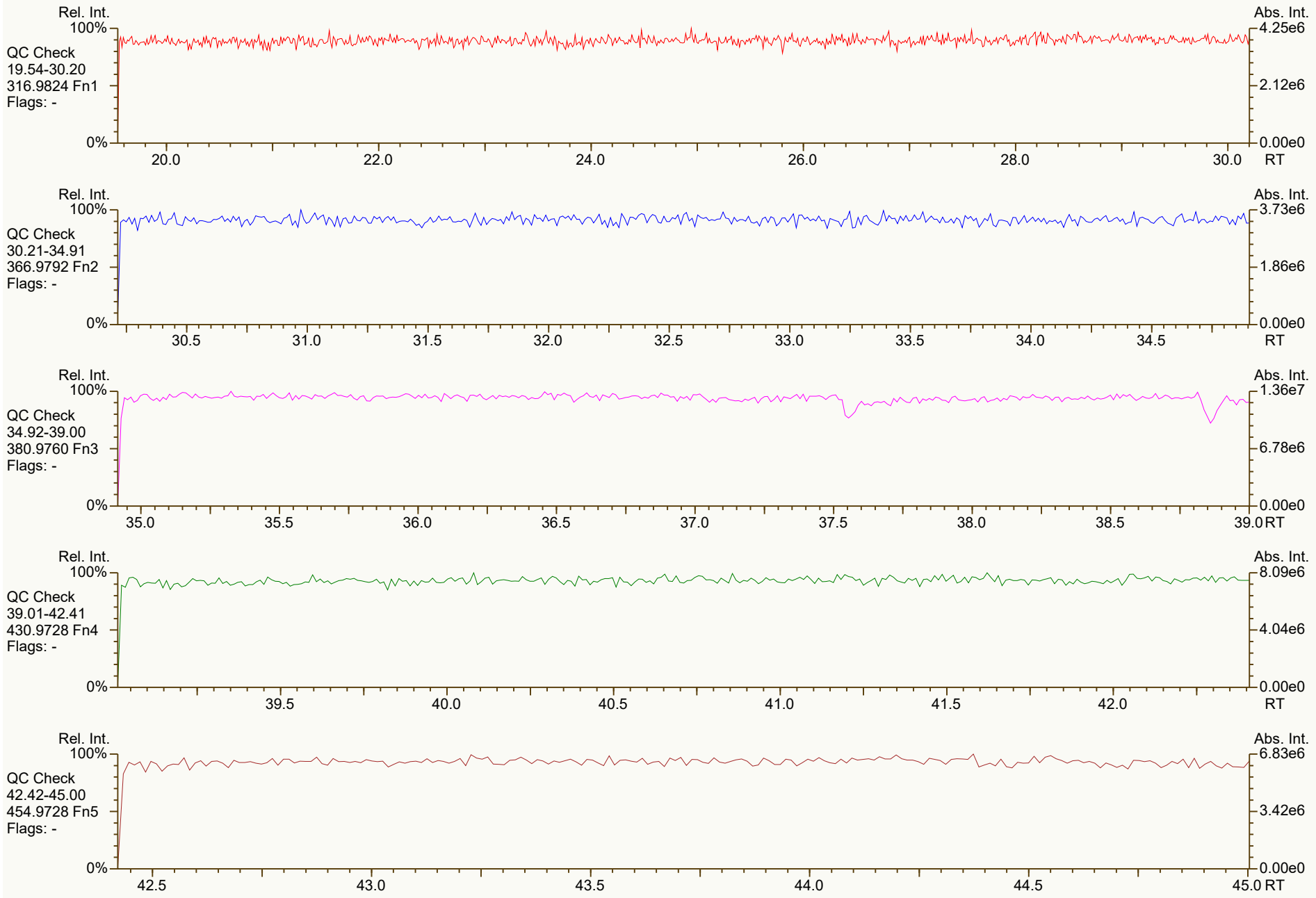
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9837						1.06		2094.1905	1.49
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**2094.1905**	**1.49**
OCDD	**43.49**	**J EMPC**	**1.0004**	**1.0002**	**-0.5**	**1.14E+05**	**1.26**	**N**	**1.13**	**14.7**	**3648.163**	**5.21**
OCDD-a	NotFnd		1.0003						0.07		3126.95	69.8
1368-TCDF	NotFnd		0.8251						1.08		2418.831	1.1
1468-TCDF	NotFnd		0.8458						1.08		2418.831	1.1
2468-TCDF	NotFnd		0.8686						1.08		2418.831	1.1
1346/1246-TCDF	NotFnd		0.8814						1.08		2418.831	1.1
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2418.831	1.1
1348-TCDF	NotFnd		0.8962						1.08		2418.831	1.1
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2418.831	1.1
1268-TCDF	NotFnd		0.9145						1.08		2418.831	1.1
1467-TCDF	NotFnd		0.9193						1.08		2418.831	1.1
1478-TCDF	NotFnd		0.9254						1.08		2418.831	1.1
1369/1237-TCDF	NotFnd		0.9387						1.08		2418.831	1.1
2467-TCDF	NotFnd		0.9433						1.08		2418.831	1.1
2368-TCDF	NotFnd		0.9489						1.08		2418.831	1.1
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2418.831	1.1
1278-TCDF	26.73	J EMPC	0.9683	0.9686	+0.5	6.14E+04	0.65	N	1.08	2.49	2418.831	1.1
1349-TCDF	NotFnd		0.9722						1.08		2418.831	1.1
1267-TCDF	NotFnd		0.9783						1.08		2418.831	1.1
2346/1249-TCDF	NotFnd		0.9850						1.08		2418.831	1.1
2347/1279-TCDF	NotFnd		0.9926						1.08		2418.831	1.1
2348-TCDF	NotFnd		0.9967						1.08		2418.831	1.1
2378-TCDF	**27.62**	J	**1.0008**	**1.0009**	**+0.2**	**1.15E+05**	**0.83**	**Y**	**1.08**	**4.65**	**2418.831**	**1.1**
2367/3467-TCDF	NotFnd		1.0137						1.08		2418.831	1.1
1269-TCDF	NotFnd		1.0223						1.08		2418.831	1.1
1239-TCDF	NotFnd		1.0321						1.08		2418.831	1.1
1289-TCDF	NotFnd		1.0722						1.08		2418.831	1.1
13468/12468-PeCDF	NotFnd		0.9139						1.02		2752.642	1.19
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		1871.7472	0.807
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		1871.7472	0.807
14678-PeCDF	NotFnd		0.9692						1.02		1871.7472	0.807
13479-PeCDF	NotFnd		0.9723						1.02		1871.7472	0.807
13469/12479-PeCDF	NotFnd		0.9797						1.02		1871.7472	0.807
12346-PeCDF	NotFnd		0.9840						1.02		1871.7472	0.807

Lab ID: B6237_18888_DF_005 **Acq'd: 10 Feb 2022 02:19 DTF** **Wt/Vol: 1.02 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012022-GW-BN-DUP-1 **UTP: 10-Feb-2022 10:22:31 DTF** **J-level: 4.9 pg/L** **Split: 1** **Checkcode: 790-719-FNF**

Datafile: 220209C26 **Report: 10 Feb 2022 10:28 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		1871.7472	0.807
12347-PeCDF	NotFnd		0.9894						1.02		1871.7472	0.807
12348-PeCDF	NotFnd		0.9940						1.02		1871.7472	0.807
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**1871.7472**	**0.827**
12678/12367-PeCDF	NotFnd		1.0089						1.02		1871.7472	0.807
12379-PeCDF	NotFnd		1.0142						1.02		1871.7472	0.807
12679-PeCDF	NotFnd		0.9929						1.02		1871.7472	0.807
23467/12369-PeCDF	NotFnd		0.9967						1.02		1871.7472	0.807
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**1871.7472**	**0.787**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		1871.7472	0.807
12349-PeCDF	NotFnd		1.0100						1.02		1871.7472	0.807
12389-PeCDF	NotFnd		1.0324						1.02		1871.7472	0.807
123468-HxCDF	NotFnd		0.9627						1.19		2818.468	1.27
124678/134678-HxCDF	NotFnd		0.9682						1.19		2818.468	1.27
134679-HxCDF	NotFnd		0.9744						1.19		2818.468	1.27
124679-HxCDF	NotFnd		0.9798						1.19		2818.468	1.27
124689-HxCDF	NotFnd		0.9858						1.19		2818.468	1.27
123467-HxCDF	NotFnd		0.9972						1.19		2818.468	1.27
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2818.468**	**1.34**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2818.468**	**1.18**
123479-HxCDF	NotFnd		1.0049						1.19		2818.468	1.27
123469-HxCDF	NotFnd		1.0090						1.19		2818.468	1.27
123679-HxCDF	NotFnd		0.9942						1.19		2818.468	1.27
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2818.468**	**1.13**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2818.468	1.27
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2818.468**	**1.51**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		2818.468	1.27
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2486.138**	**1.13**
1234679-HpCDF	NotFnd		1.0068						1.34		2486.138	1.37
1234689-HpCDF	NotFnd		1.0103						1.34		2486.138	1.37
1234789-HpCDF	**NotFnd**		**1.0002**						**1.31**		**2486.138**	**1.67**
OCDF	**NotFnd**		**1.0003**						**1.07**		**2410.634**	**2.77**
OCDF-a	NotFnd		1.0002						0.07		3452.333	63.9


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.25e6
2.12e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.73e6
1.86e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.36e7
6.78e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
8.09e6
4.04e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
6.83e6
3.42e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 1.96e3
0%
Abs. Int.
9.34e3
4.67e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.43e3
0%
Abs. Int.
8.56e3
4.28e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PBM
4σ 1.21e3
0%
CS 37Cl-2378D
1.32e7*
28.47
Abs. Int.
3.03e6
1.52e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.86e3
0%
JS 1234D
1.38e7
27.79
ES 2378D
1.29e7
28.45
Abs. Int.
3.01e6
1.50e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.27e3
0%
JS 1234D
1.71e7
27.79
ES 2378D
1.60e7
28.45
Abs. Int.
4.01e6
2.01e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PB
4σ 1.56e3
0%
Abs. Int.
6.58e3
3.29e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PB
4σ 1.46e3
0%
Abs. Int.
6.24e3
3.12e3
0.00e0
RT
CS 12347D
1.53e7
33.29
ES 12378D
1.55e7
33.80
Rel. Int.
100%
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 1.76e3
0%
Abs. Int.
4.40e6
2.20e6
0.00e0
RT
CS 12347D
9.18e6
33.29
ES 12378D
9.75e6
33.80
Rel. Int.
100%
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 3.36e3
0%
Abs. Int.
2.78e6
1.39e6
0.00e0
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.73e6
1.86e6
0.00e0
RT

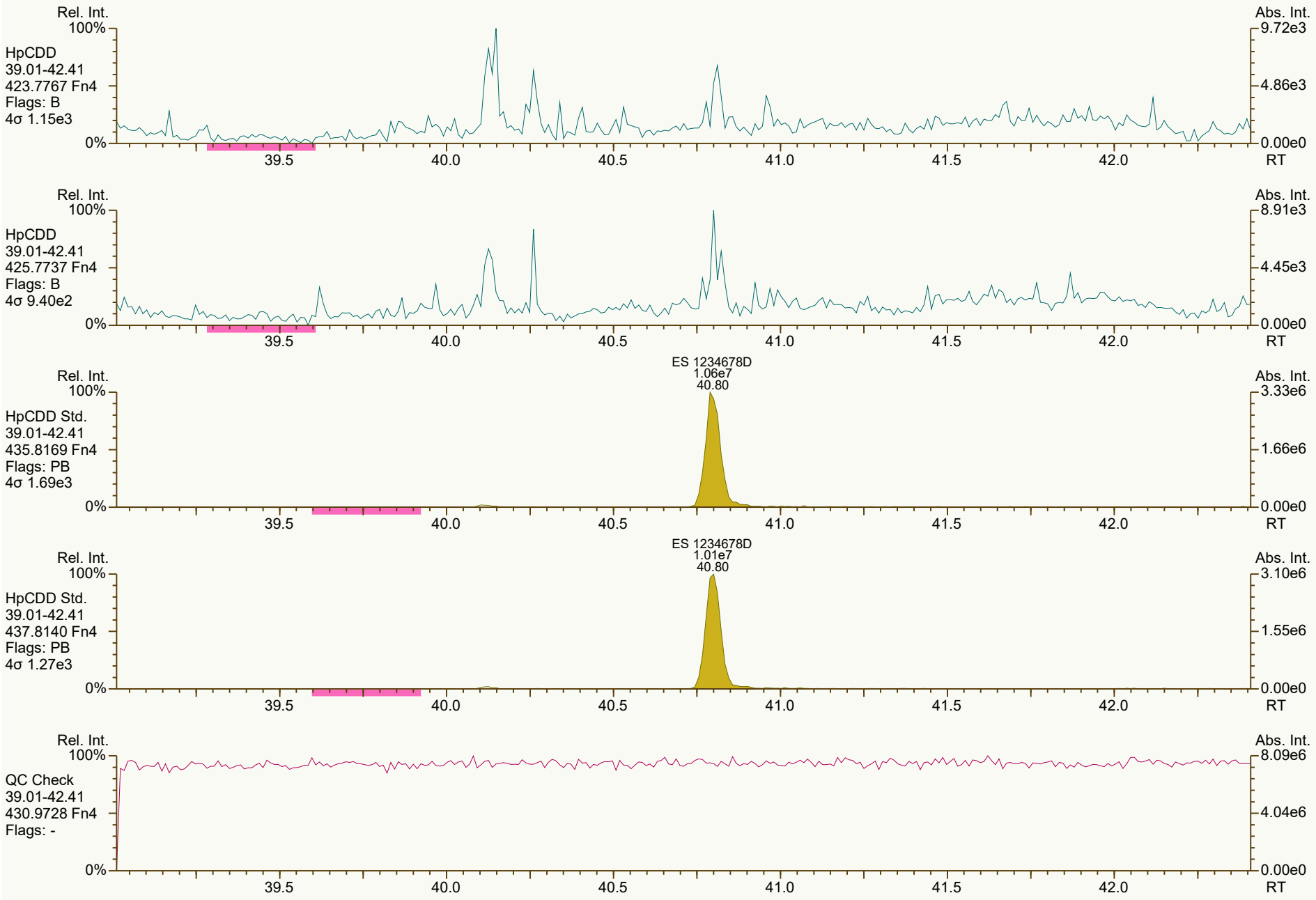
SGS ID: B6237_18888_DF_005 | Sample ID: 11215131-012022-GW-BN-DUP-1 | Acq: 10-Feb-2022 02:19:25

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 14 | User: DTF Datafile: 220209C26

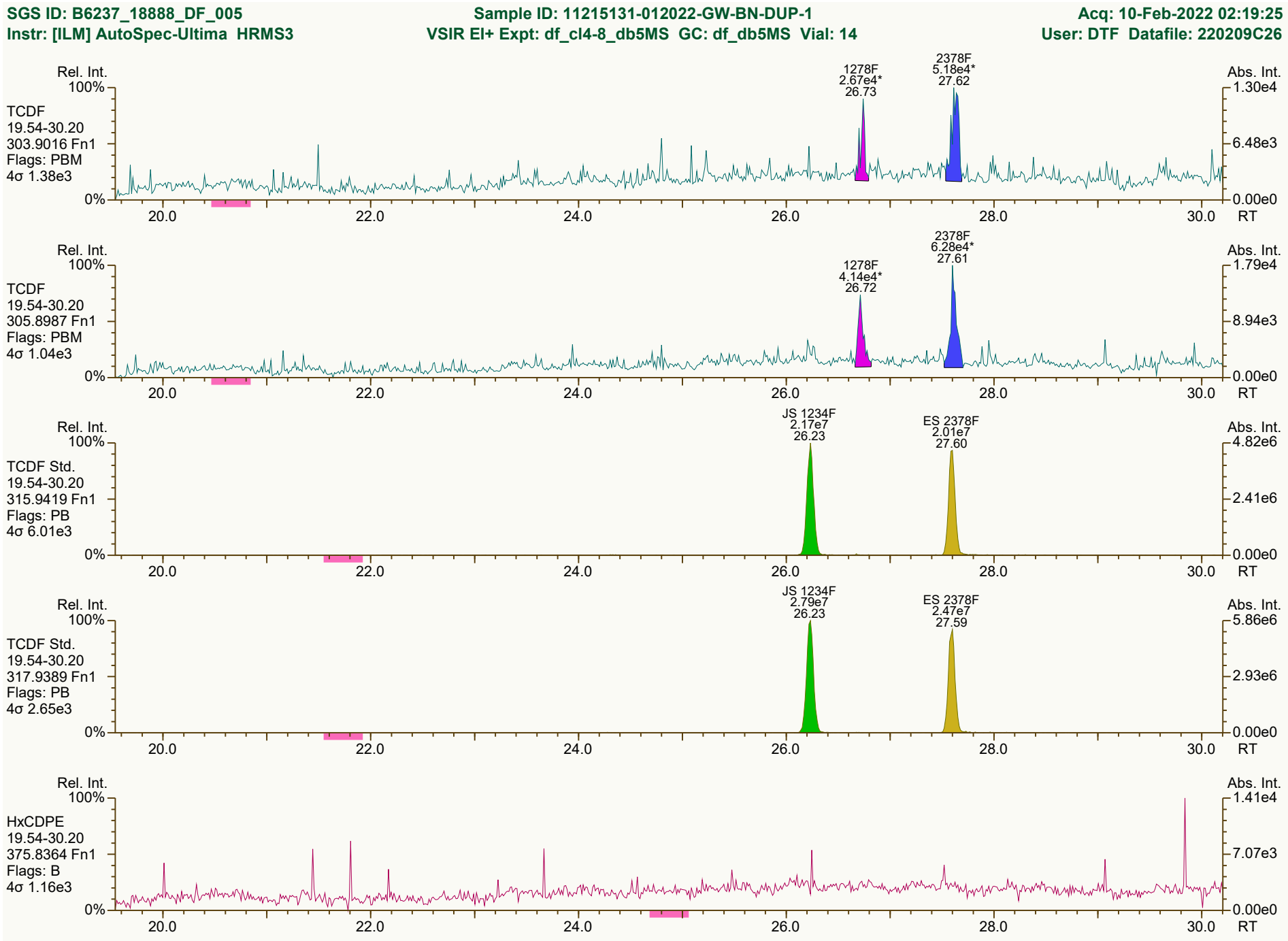


Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\B6237_18888_DF_005.utp_res, saved 10-Feb-2022 10:22 (DTF) | *Peak annotation: Areas, Centroids*

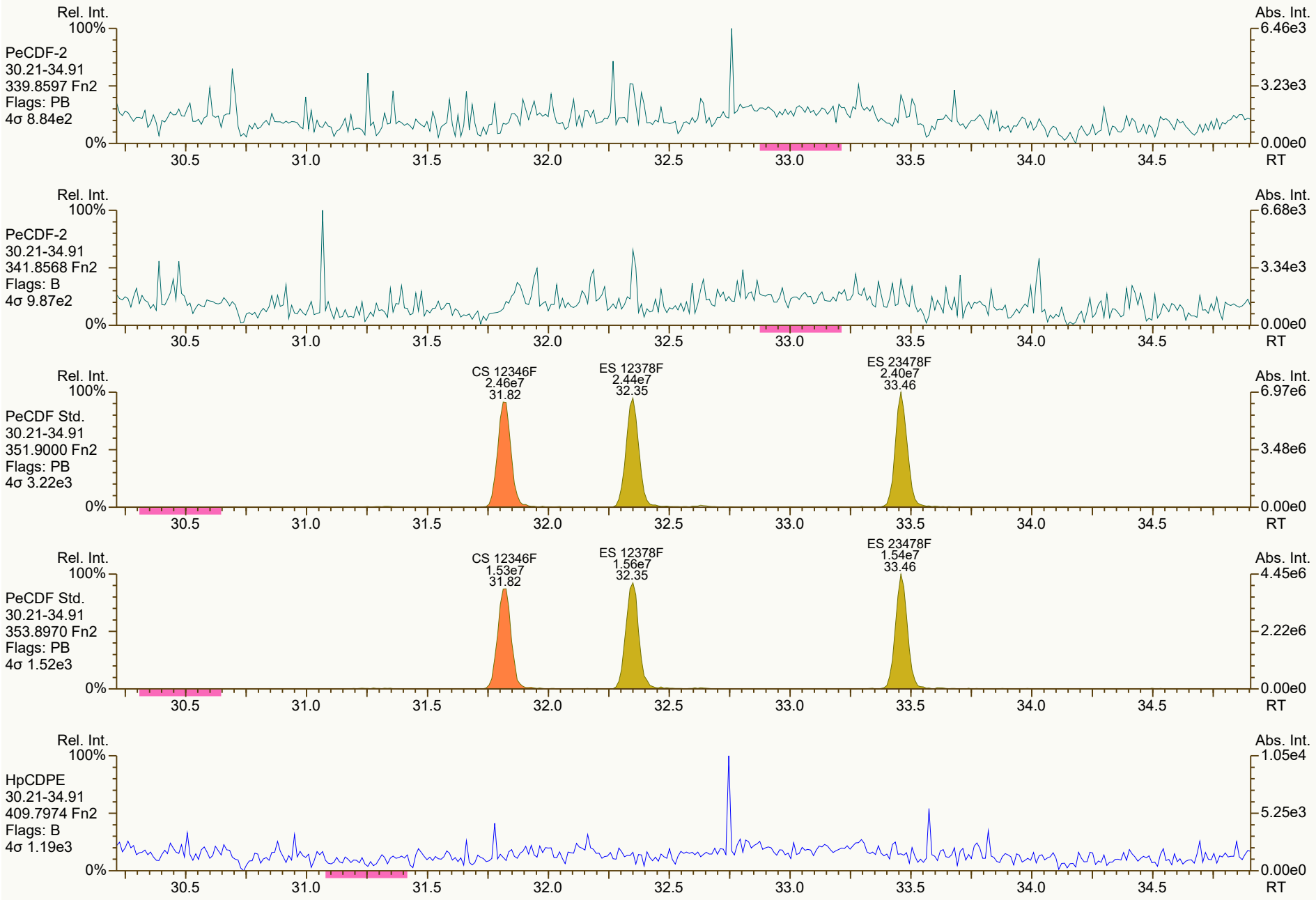
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4245, 3165 scc: 790-719 | *Revised: 10-Feb-2022 10:20 (DTF) Printed: 10-Feb-2022 10:35 Page 4 of 12*


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.72e3
4.86e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: B
4σ 9.40e2
0%
Abs. Int.
8.91e3
4.45e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
1.06e7
40.80
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.69e3
0%
Abs. Int.
3.33e6
1.66e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
1.01e7
40.80
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.27e3
0%
Abs. Int.
3.10e6
1.55e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
8.09e6
4.04e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
7.61e4*
43.49
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.41e3
0%
Abs. Int.
2.13e4
1.06e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
6.04e4*
43.50
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 2.24e3
1.72e4
8.61e3
ES OCDD
1.29e7
43.48
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 1.82e3
2.92e6
1.46e6
ES OCDD
1.40e7
43.48
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 1.55e3
3.12e6
1.56e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
6.83e6
3.42e6

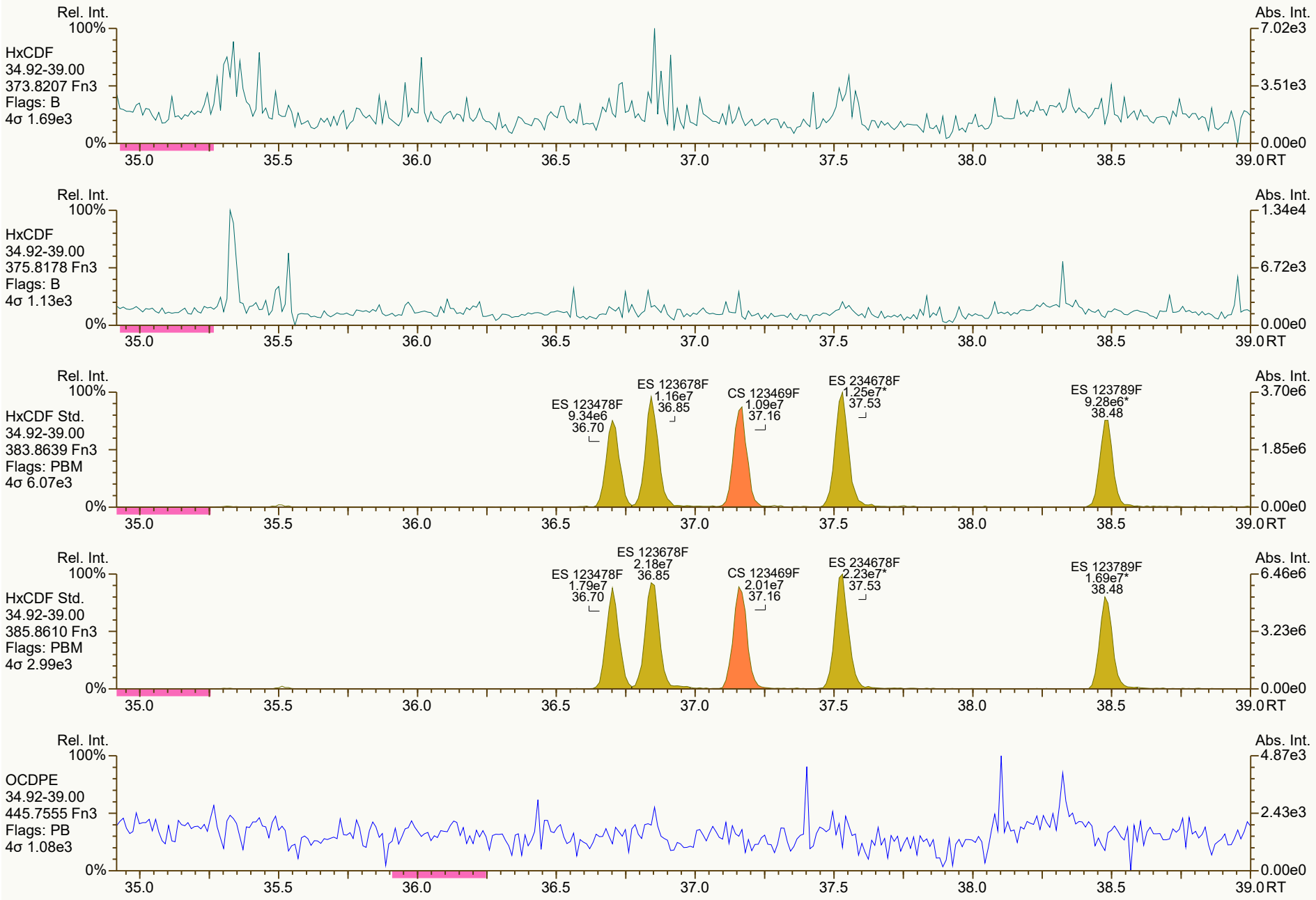

SGS ID: B6237_18888_DF_005
Sample ID: 11215131-012022-GW-BN-DUP-1
Acq: 10-Feb-2022 02:19:25
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 14
User: DTF Datafile: 220209C26
Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.38e3
1278F
2.67e4*
26.73
2378F
5.18e4*
27.62
Abs. Int.
1.30e4
6.48e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.04e3
1278F
4.14e4*
26.72
2378F
6.28e4*
27.61
Abs. Int.
1.79e4
8.94e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 6.01e3
JS 1234F
2.17e7
26.23
ES 2378F
2.01e7
27.60
Abs. Int.
4.82e6
2.41e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.65e3
JS 1234F
2.79e7
26.23
ES 2378F
2.47e7
27.59
Abs. Int.
5.86e6
2.93e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.16e3
Abs. Int.
1.41e4
7.07e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\B6237_18888_DF_005.utp_res, saved 10-Feb-2022 10:22 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1084, 2458, 7037 scc: 790-719
Revised: 10-Feb-2022 10:22 (DTF) Printed: 10-Feb-2022 10:35 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.77e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.43e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.24e4
6.22e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.32e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.25e6
2.12e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PB
4σ 8.84e2
0%
Abs. Int.
6.46e3
3.23e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: B
4σ 9.87e2
0%
Abs. Int.
6.68e3
3.34e3
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 3.22e3
0%
CS 12346F
2.46e7
31.82
ES 12378F
2.44e7
32.35
ES 23478F
2.40e7
33.46
Abs. Int.
6.97e6
3.48e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 1.52e3
0%
CS 12346F
1.53e7
31.82
ES 12378F
1.56e7
32.35
ES 23478F
1.54e7
33.46
Abs. Int.
4.45e6
2.22e6
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.19e3
0%
Abs. Int.
1.05e4
5.25e3
0.00e0
RT

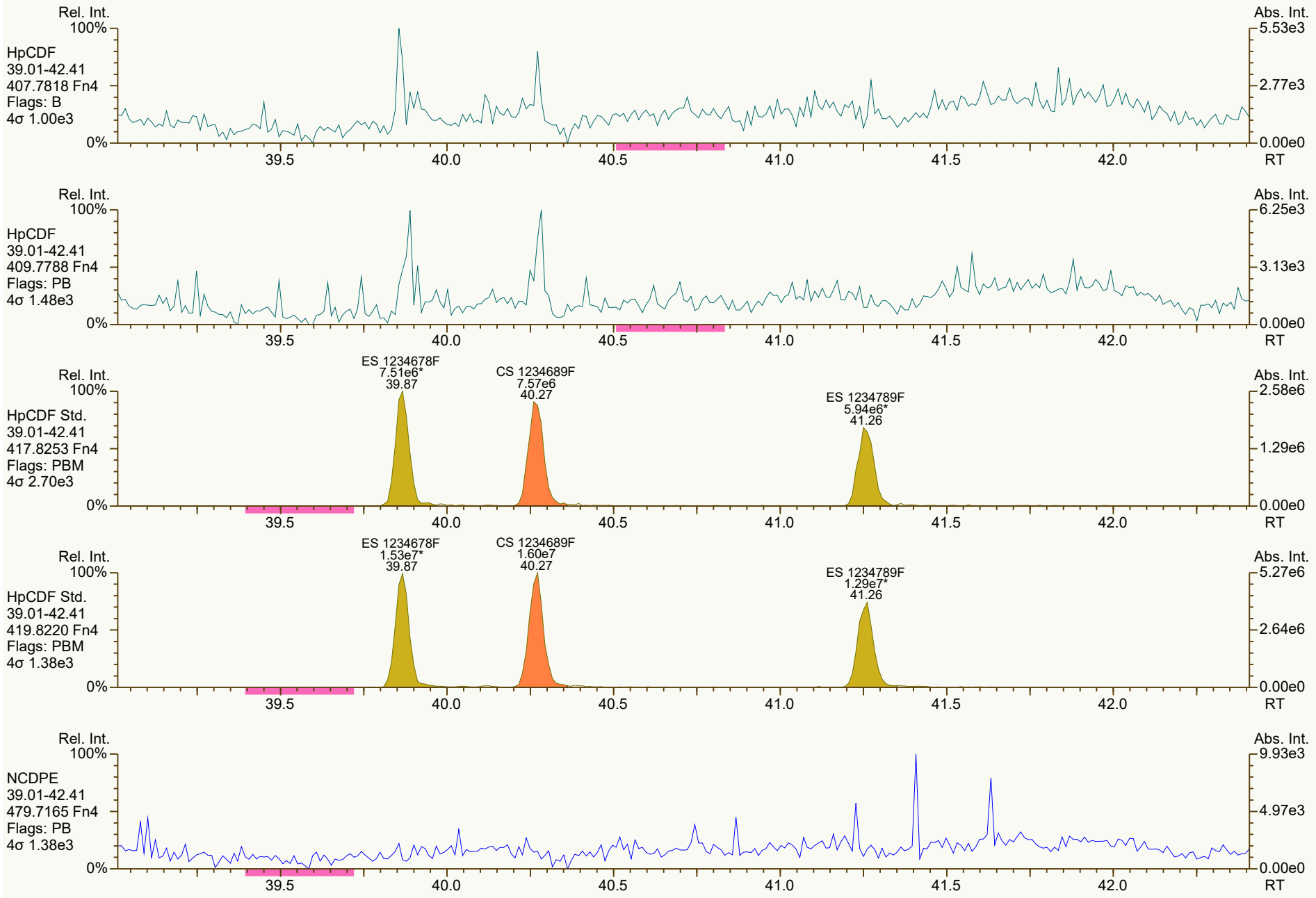
SGS ID: B6237_18888_DF_005 | Sample ID: 11215131-012022-GW-BN-DUP-1 | Acq: 10-Feb-2022 02:19:25

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 14 | User: DTF Datafile: 220209C26



Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\B6237_18888_DF_005.utp_res, saved 10-Feb-2022 10:22 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6493, 0579, 5723 scc: 790-719 | *PKD: 10-Feb-2022 10:22 Printed: 10-Feb-2022 10:35 Page 10 of 12*


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: B
4σ 1.00e3
0%
Abs. Int.
5.53e3
2.77e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.48e3
0%
Abs. Int.
6.25e3
3.13e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 2.70e3
0%
ES 1234678F
7.51e6*
39.87
CS 1234689F
7.57e6
40.27
ES 1234789F
5.94e6*
41.26
Abs. Int.
2.58e6
1.29e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 1.38e3
0%
ES 1234678F
1.53e7*
39.87
CS 1234689F
1.60e7
40.27
ES 1234789F
1.29e7*
41.26
Abs. Int.
5.27e6
2.64e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.38e3
0%
Abs. Int.
9.93e3
4.97e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: B
4σ 1.13e3
0%
Abs. Int.
1.04e4
5.21e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: B
4σ 1.28e3
0%
Abs. Int.
6.42e3
3.21e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.79e7
43.66
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
3.88e6
1.94e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.89e7
43.66
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 1.81e3
0%
Abs. Int.
4.07e6
2.04e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 9.41e2
0%
Abs. Int.
3.56e3
1.78e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

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

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
13	220209C13	3	CS3_220209_DF_CB	1.00	25-347-1	DTF	483-759	09-Feb-2022	15:26:13
14	220209C14	7	OPR1_18888_DF	1.00	0_18888_OPR001	DTF	357-810	09-Feb-2022	16:17:00
16	220209C16	2	SBS_220209_DF_CC	1.00	30-61-1	DTF	217-503	09-Feb-2022	18:36:03
17	220209C17	6	MB1_18888_DF_TLX	1.00	Method Blank	DTF	476-076	09-Feb-2022	19:22:22
20	220209C20	8	B6237_18888_DF_001	1.00	11215131-012022-GW-BN-PZ-SC	DTF	543-255	09-Feb-2022	21:41:24
21	220209C21	9	B6237_18888_DF_001MS	1.00	11215131-012022-GW-BN-PZ-SC-MS	DTF	368-796	09-Feb-2022	22:27:43
22	220209C22	10	B6237_18888_DF_001MSD	1.00	11215131-012022-GW-BN-PZ-SC-MSD	DTF	324-318	09-Feb-2022	23:14:03
23	220209C23	11	B6237_18888_DF_002	1.02	11215131-012022-GW-BN-PZ-SW	DTF	769-829	10-Feb-2022	00:00:24
24	220209C24	12	B6237_18888_DF_003	1.01	11215131-012022-GW-BN-PZ-NC	DTF	156-756	10-Feb-2022	00:46:43
25	220209C25	13	B6237_18888_DF_004	1.02	11215131-012022-GW-BN-PZ-NE	DTF	938-617	10-Feb-2022	01:33:04
26	220209C26	14	B6237_18888_DF_005	1.02	11215131-012022-GW-BN-DUP-1	DTF	790-719	10-Feb-2022	02:19:25

REVIEWED
Tyler_Fritz , 2/10/2022, 10:39:22 AM

REVIEWED
Amber_Kornegay , 2/10/2022, 1:35:18 PM

Dioxin/Furan QC Summary		Acq'd: 09 Feb 2022 15:26 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_220209_DF_CB		UTP: 10-Feb-2022 10:22:25 DTF				Checkcode: 483-759-WBG	
Sample ID: 25-347-1		Report: 10 Feb 2022 10:26 TF				Datafile: 220209C13	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	28.48	5.66E+06	0.76	Y	1.18	1.16	-2%
12378-PeCDD	33.82	2.09E+07	1.56	Y	1.04	1.04	0%
123478-HxCDD	37.73	1.90E+07	1.28	Y	1.09	1.07	-2%
123678-HxCDD	37.85	1.94E+07	1.22	Y	1.15	1.14	0%
123789-HxCDD	38.14	2.08E+07	1.27	Y	1.05	1.03	-2%
1234678-HpCDD	40.81	1.76E+07	1.04	Y	1.06	1.04	-2%
OCDD	43.49	2.93E+07	0.90	Y	1.13	1.15	2%
2378-TCDF	27.63	7.82E+06	0.80	Y	1.08	1.08	0%
12378-PeCDF	32.37	3.19E+07	1.56	Y	1.02	0.98	-4%
23478-PeCDF	33.48	2.91E+07	1.50	Y	1.02	0.96	-6%
123478-HxCDF	36.72	2.80E+07	1.19	Y	1.27	1.22	-4%
123678-HxCDF	36.86	3.04E+07	1.23	Y	1.15	1.09	-6%
234678-HxCDF	37.54	2.71E+07	1.22	Y	1.19	1.13	-5%
123789-HxCDF	38.50	2.44E+07	1.25	Y	1.16	1.12	-4%
1234678-HpCDF	39.87	2.47E+07	1.03	Y	1.37	1.30	-5%
1234789-HpCDF	41.27	2.08E+07	1.02	Y	1.31	1.25	-5%
OCDF	43.67	3.52E+07	0.91	Y	1.07	1.07	0%
ES 2378-TCDD	28.46	4.89E+07	0.80	Y	1.05	1.02	-2%
ES 12378-PeCDD	33.798	4.02E+07	1.59	Y	0.88	0.84	-5%
ES 123478-HxCDD	37.713	3.57E+07	1.27	Y	0.97	0.99	2%
ES 123678-HxCDD	37.832	3.39E+07	1.28	Y	0.94	0.94	0%
ES 123789-HxCDD	38.125	4.05E+07	1.25	Y	1.09	1.12	3%
ES 1234678-HpCDD	40.795	3.38E+07	1.09	Y	0.91	0.94	3%
ES OCDD	43.472	5.12E+07	0.90	Y	0.62	0.71	14%
ES 2378-TCDF	27.605	7.24E+07	0.80	Y	1.06	1.01	-4%
ES 12378-PeCDF	32.354	6.50E+07	1.55	Y	0.91	0.91	0%
ES 23478-PeCDF	33.465	6.05E+07	1.59	Y	0.88	0.84	-4%
ES 123478-HxCDF	36.705	4.56E+07	0.54	Y	1.20	1.27	6%
ES 123678-HxCDF	36.847	5.58E+07	0.54	Y	1.35	1.55	15%
ES 234678-HxCDF	37.526	4.82E+07	0.52	Y	1.24	1.34	8%
ES 123789-HxCDF	38.482	4.35E+07	0.53	Y	1.16	1.21	5%
ES 1234678-HpCDF	39.86	3.78E+07	0.47	Y	0.97	1.05	8%
ES 1234789-HpCDF	41.255	3.33E+07	0.46	Y	0.85	0.93	9%
ES OCDF	43.655	6.57E+07	0.88	Y	0.81	0.91	13%

Dioxin/Furan QC Summary	Acq'd: 09 Feb 2022 15:26 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220209_DF_CB	UTP: 10-Feb-2022 10:22:25 DTF	Checkcode: 483-759-WBG
Sample ID: 25-347-1	Report: 10 Feb 2022 10:26 TF	Datafile: 220209C13

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.80	4.79E+07	0.82	Y	-	-	-
JS 1234-TCDF	26.24	7.16E+07	0.78	Y	-	-	-
JS 123467-HxCDD	38.02	1.80E+07	1.22	Y	-	-	-
CS 37Cl-2378-TCDD	28.48	6.24E+06	n/a	-	1.20	1.30	8%
CS 12347-PeCDD	33.30	3.74E+07	1.61	Y	0.75	0.78	4%
CS 12346-PeCDF	31.82	5.96E+07	1.62	Y	0.85	0.83	-2%
CS 123469-HxCDF	37.16	4.70E+07	0.55	Y	1.12	1.31	17%
CS 1234689-HpCDF	40.26	3.83E+07	0.44	Y	0.89	1.06	20%
~~SS 37Cl-2378-TCDD~~	~~28.48~~	~~6.24E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.28~~	~~11%~~
~~SS 12347-PeCDD~~	~~33.30~~	~~3.74E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~0.93~~	~~9%~~
~~SS 12346-PeCDF~~	~~31.82~~	~~5.96E+07~~	~~1.62~~	~~Y~~	~~0.94~~	~~0.92~~	~~-2%~~
~~SS 123469-HxCDF~~	~~37.16~~	~~4.70E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~0.84~~	~~2%~~
~~SS 1234689-HpCDF~~	~~40.26~~	~~3.83E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~1.01~~	~~10%~~
~~OCDD-a~~	~~43.48~~	~~1.81E+06~~	~~2.56~~	~~Y~~	~~0.07~~	~~0.07~~	~~-2%~~
~~OCDF-a~~	~~43.66~~	~~2.19E+06~~	~~2.30~~	~~Y~~	~~0.07~~	~~0.07~~	~~0%~~

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

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220209C13 Analysis Date: 09-FEB-2022 15:26:13

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.76	0.65 - 0.89	Y	9.77	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.56	1.32 - 1.78	Y	50.2	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	49	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.22	1.05 - 1.43	Y	49.8	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	49.1	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88 - 1.20	Y	49	43 - 58	Y
OCDD	M+2/M+4	0.90	0.76 - 1.02	Y	102	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.80	0.65 - 0.89	Y	10	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32 - 1.78	Y	47.8	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.50	1.32 - 1.78	Y	47.2	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.19	1.05 - 1.43	Y	48.2	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	47.2	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.22	1.05 - 1.43	Y	47.4	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	48.2	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	47.6	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.02	0.88 - 1.20	Y	47.6	43 - 58	Y
OCDF	M+2/M+4	0.91	0.76 - 1.02	Y	100	63 - 159	Y

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

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

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

Processed: 10 Feb 2022 10:26 Analyst: TF

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

Lab Name: SGS North America

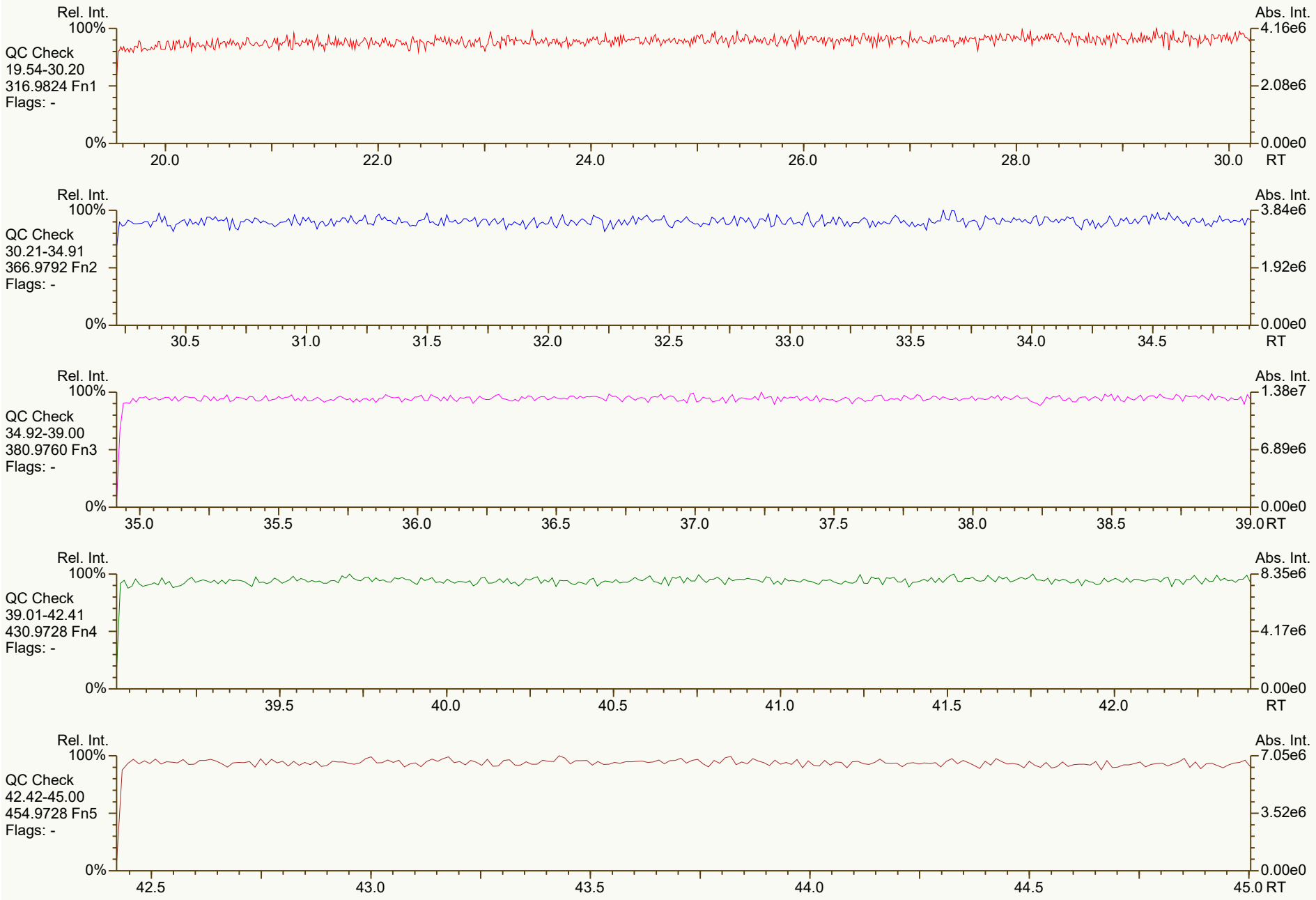
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

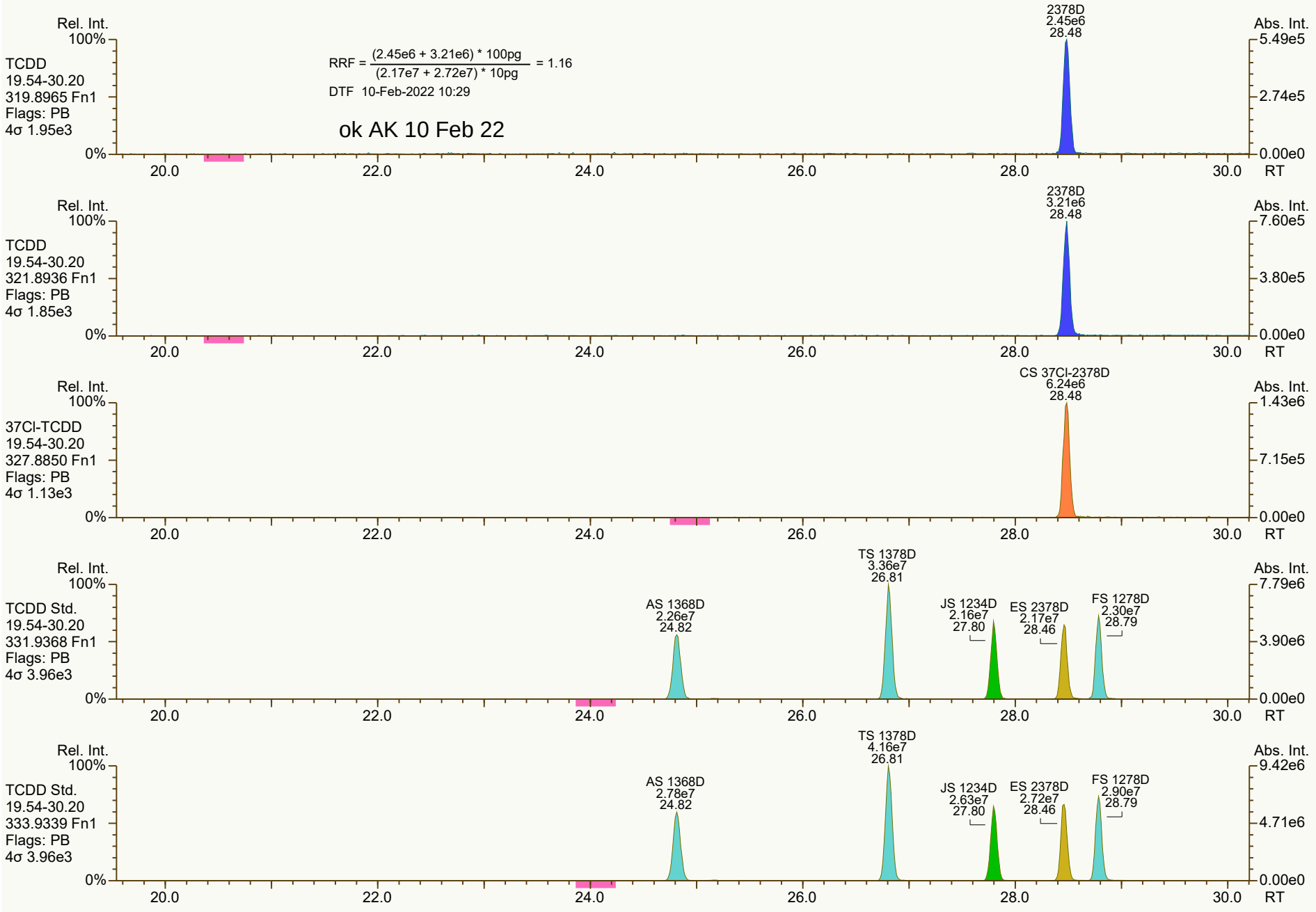
Instrument ID: HRMS3 GC Column ID: ZB-5ms

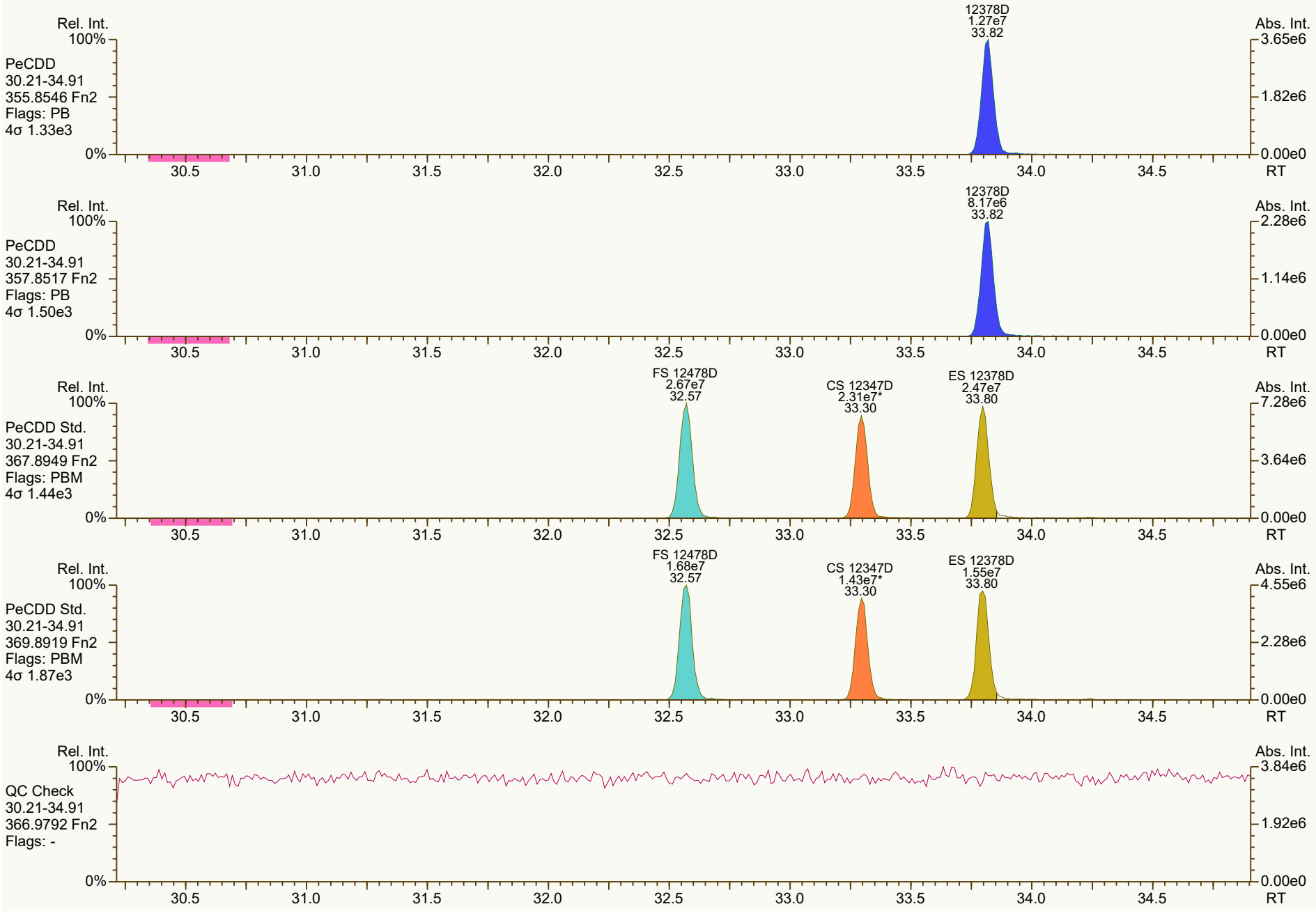
VER Data Filename: 220209C13 Analysis Date: 09-FEB-2022 15:26:13

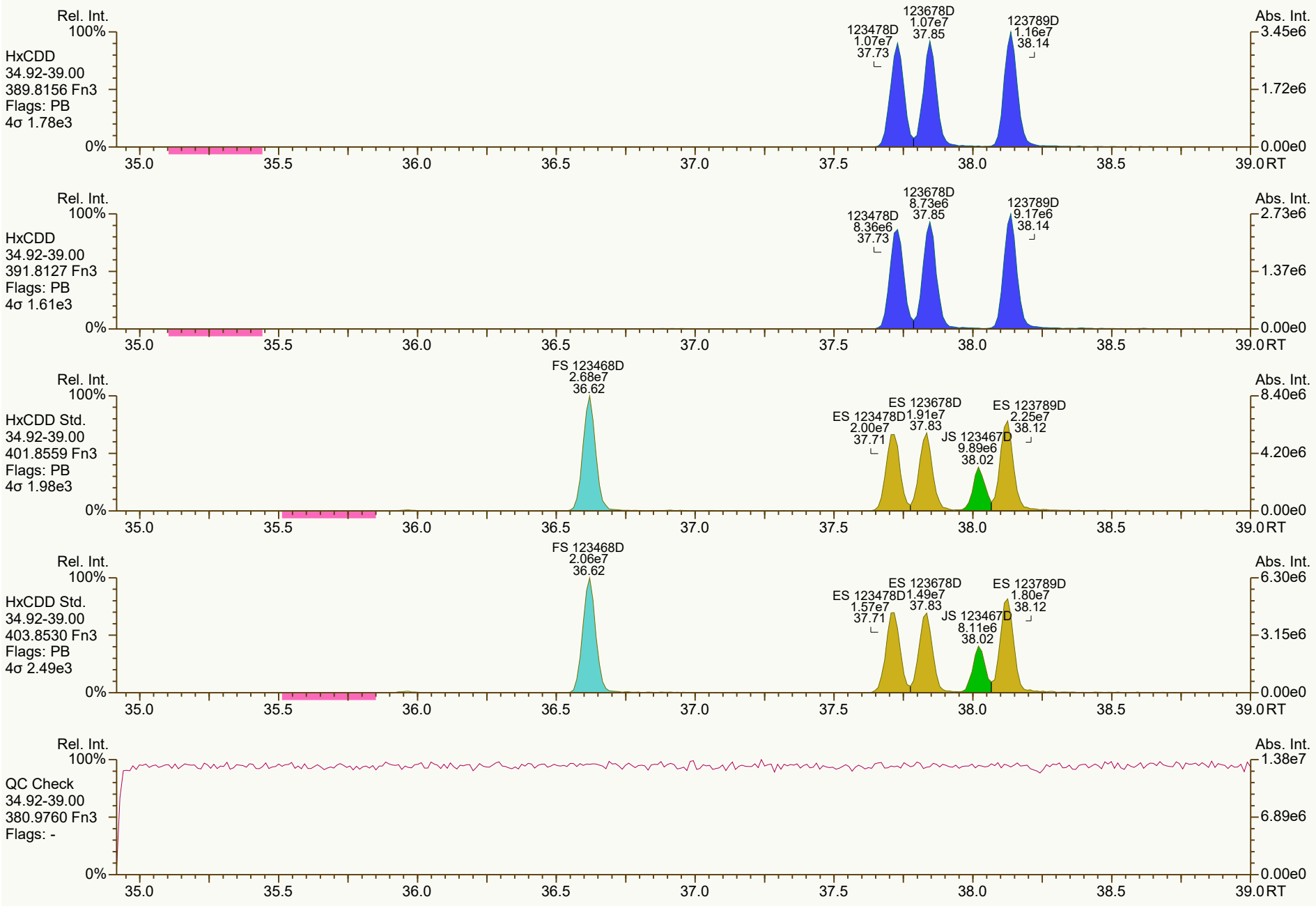
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65 - 0.89	Y	97.7	82 - 121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.59	1.32 - 1.78	Y	95.4	62 - 160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	102	85 - 117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	99.8	85 - 118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	103	85 - 118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.09	0.88 - 1.20	Y	103	72 - 138	Y
13C-OCDD	M+2/M+4	0.90	0.76 - 1.02	Y	228	96 - 415	Y
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65 - 0.89	Y	95.5	71 - 140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32 - 1.78	Y	99.8	76 - 130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32 - 1.78	Y	95.7	77 - 130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	106	76 - 131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	115	70 - 143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43 - 0.59	Y	108	73 - 137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.53	0.43 - 0.59	Y	105	74 - 135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.47	0.37 - 0.51	Y	108	78 - 129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.46	0.37 - 0.51	Y	109	77 - 129	Y
13C-OCDF	M+2/M+4	0.88	0.76 - 1.02	Y	226	96 - 415	Y
CLEANUP STANDARDS							
37Cl-2,3,7,8-TCDD	n/a				10.8	7.9 - 12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.61	1.32 - 1.78	Y	104	70 - 130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.62	1.32 - 1.78	Y	97.8	70 - 130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.55	0.43 - 0.59	Y	117	70 - 130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.44	0.37 - 0.51	Y	120	70 - 130	Y

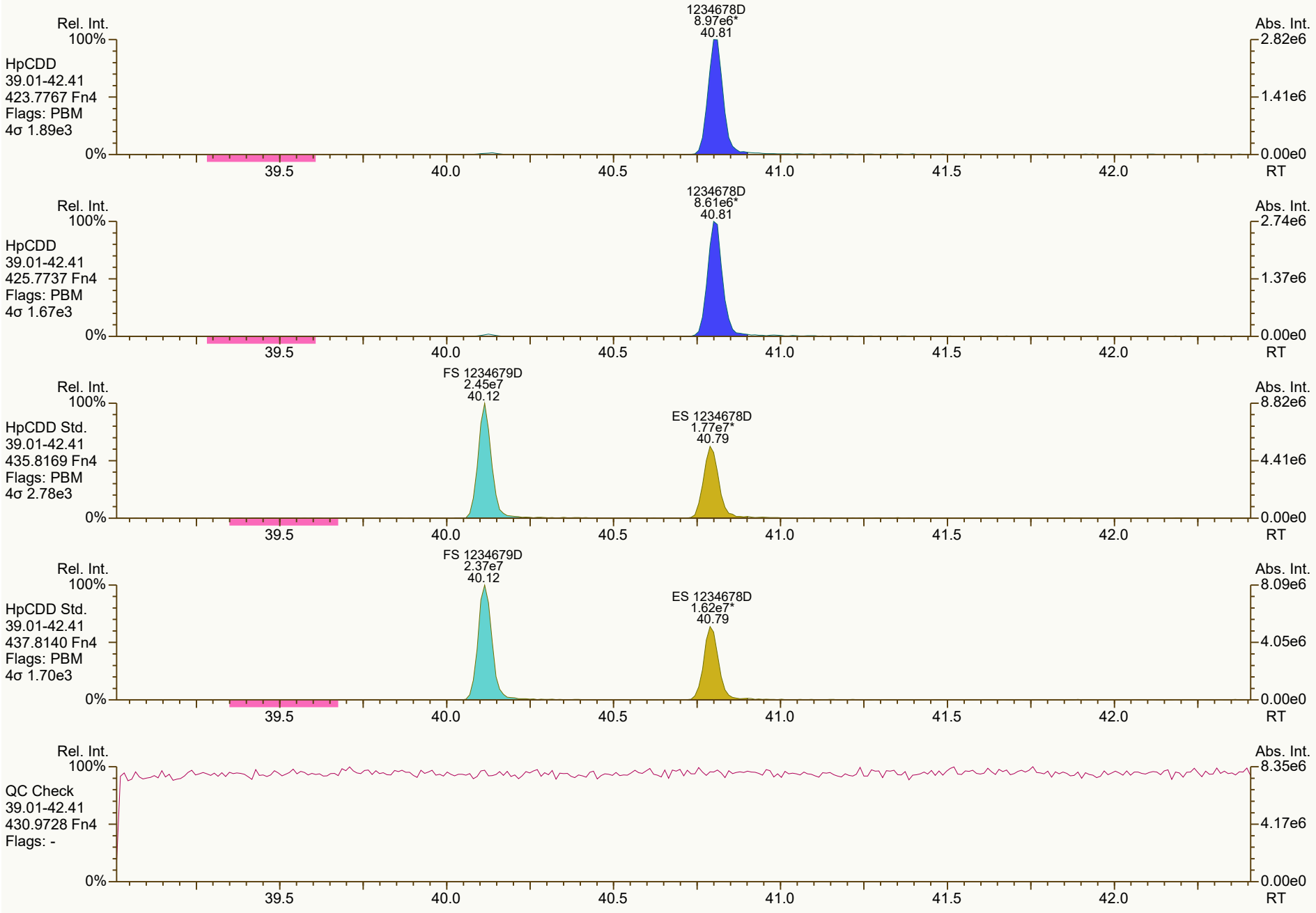
Processed: 10 Feb 2022 10:26 Analyst: TF

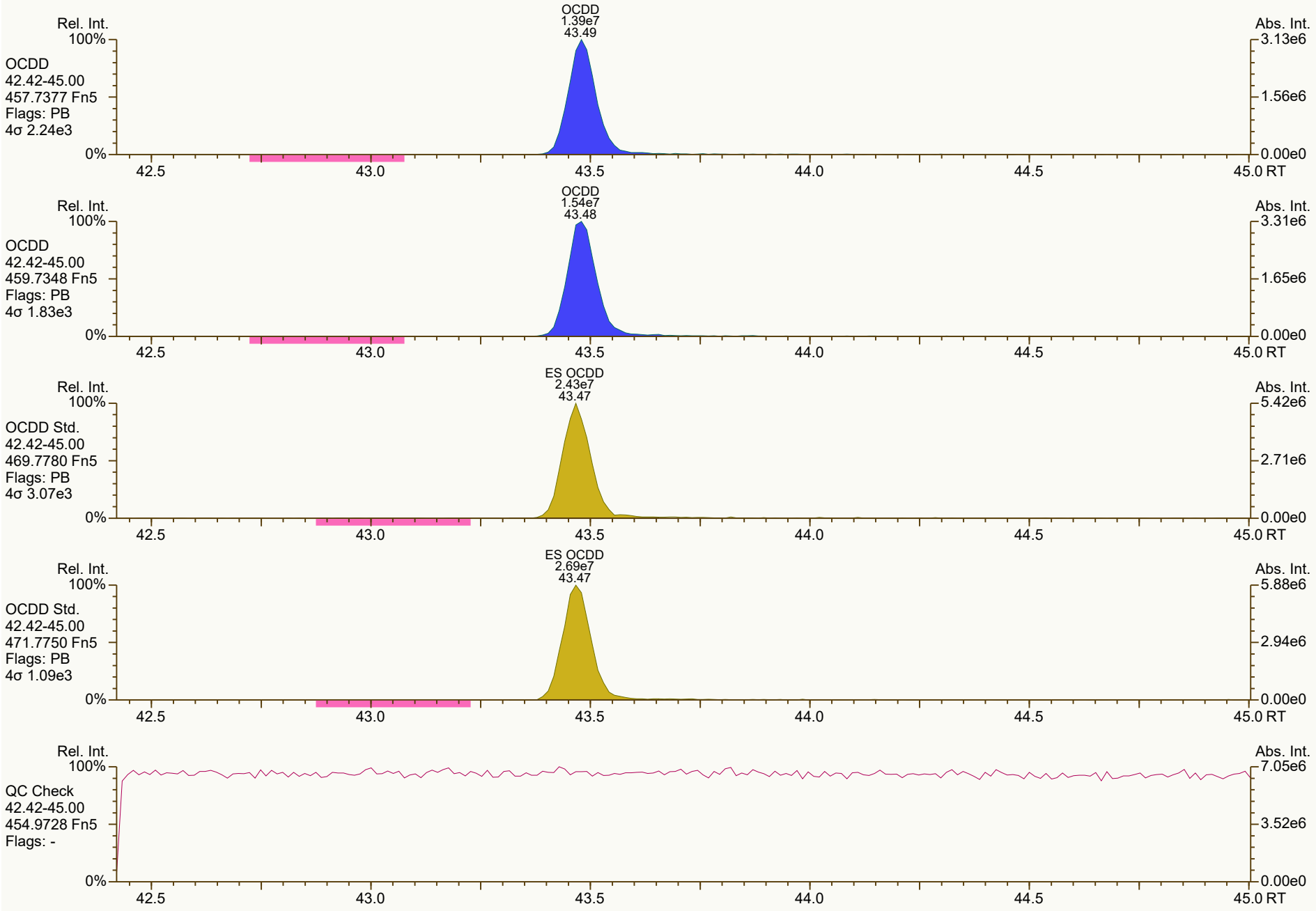

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.16e6
2.08e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.84e6
1.92e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.38e7
6.89e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
8.35e6
4.17e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
7.05e6
3.52e6
0.00e0

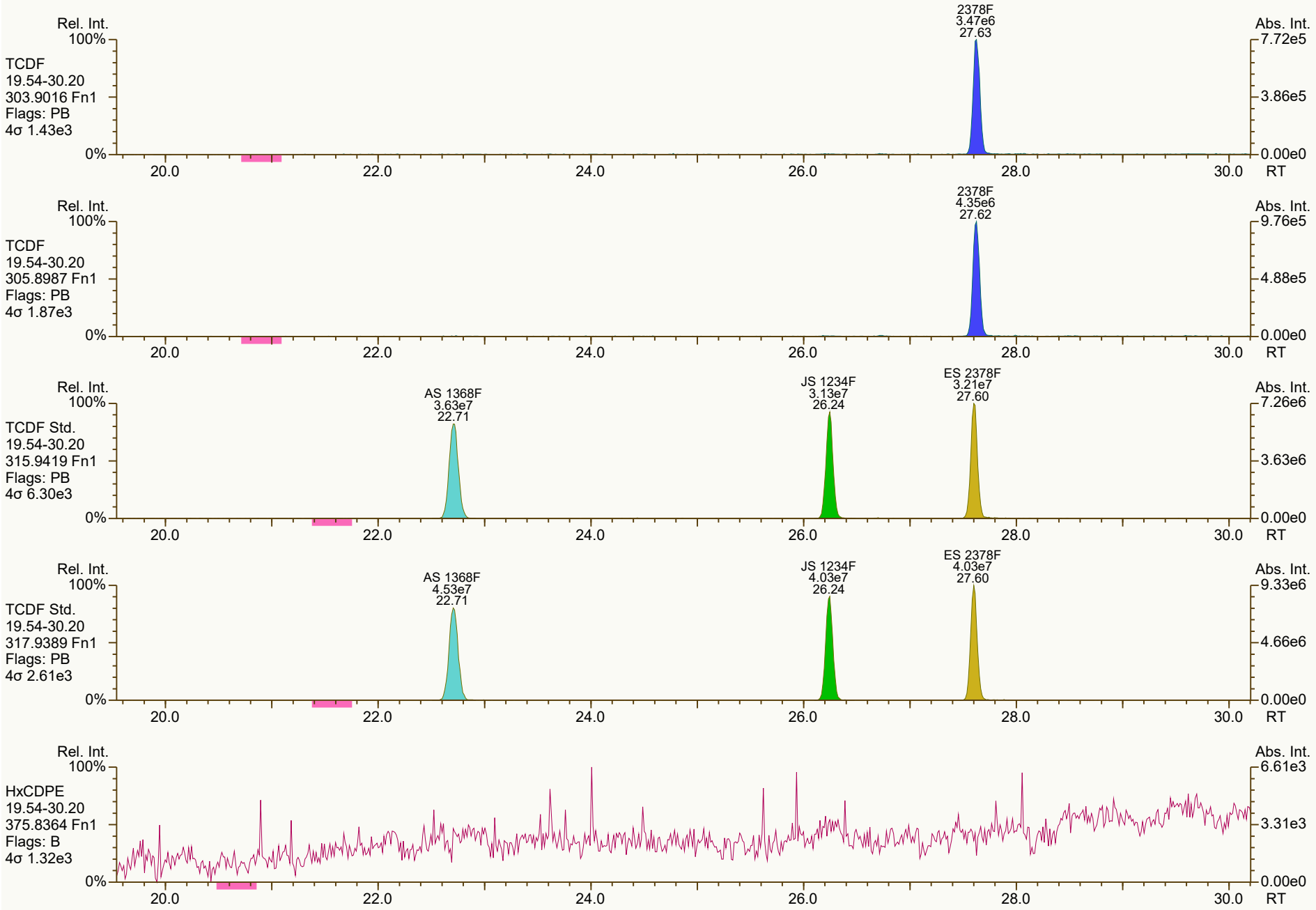

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 1.95e3
RRF = (2.45e6 + 3.21e6) * 100pg / (2.17e7 + 2.72e7) * 10pg = 1.16
DTF 10-Feb-2022 10:29
ok AK 10 Feb 22
2378D
2.45e6
28.48
Abs. Int.
5.49e5
2.74e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.85e3
2378D
3.21e6
28.48
Abs. Int.
7.60e5
3.80e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.13e3
CS 37Cl-2378D
6.24e6
28.48
Abs. Int.
1.43e6
7.15e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 3.96e3
AS 1368D
2.26e7
24.82
TS 1378D
3.36e7
26.81
JS 1234D
2.16e7
27.80
ES 2378D
2.17e7
28.46
FS 1278D
2.30e7
28.79
Abs. Int.
7.79e6
3.90e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.96e3
AS 1368D
2.78e7
24.82
TS 1378D
4.16e7
26.81
JS 1234D
2.63e7
27.80
ES 2378D
2.72e7
28.46
FS 1278D
2.90e7
28.79
Abs. Int.
9.42e6
4.71e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PB
4σ 1.33e3
0%
12378D
1.27e7
33.82
Abs. Int.
3.65e6
1.82e6
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PB
4σ 1.50e3
0%
12378D
8.17e6
33.82
Abs. Int.
2.28e6
1.14e6
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PBM
4σ 1.44e3
0%
FS 12478D
2.67e7
32.57
CS 12347D
2.31e7*
33.30
ES 12378D
2.47e7
33.80
Abs. Int.
7.28e6
3.64e6
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PBM
4σ 1.87e3
0%
FS 12478D
1.68e7
32.57
CS 12347D
1.43e7*
33.30
ES 12378D
1.55e7
33.80
Abs. Int.
4.55e6
2.28e6
0.00e0
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.84e6
1.92e6
0.00e0
RT

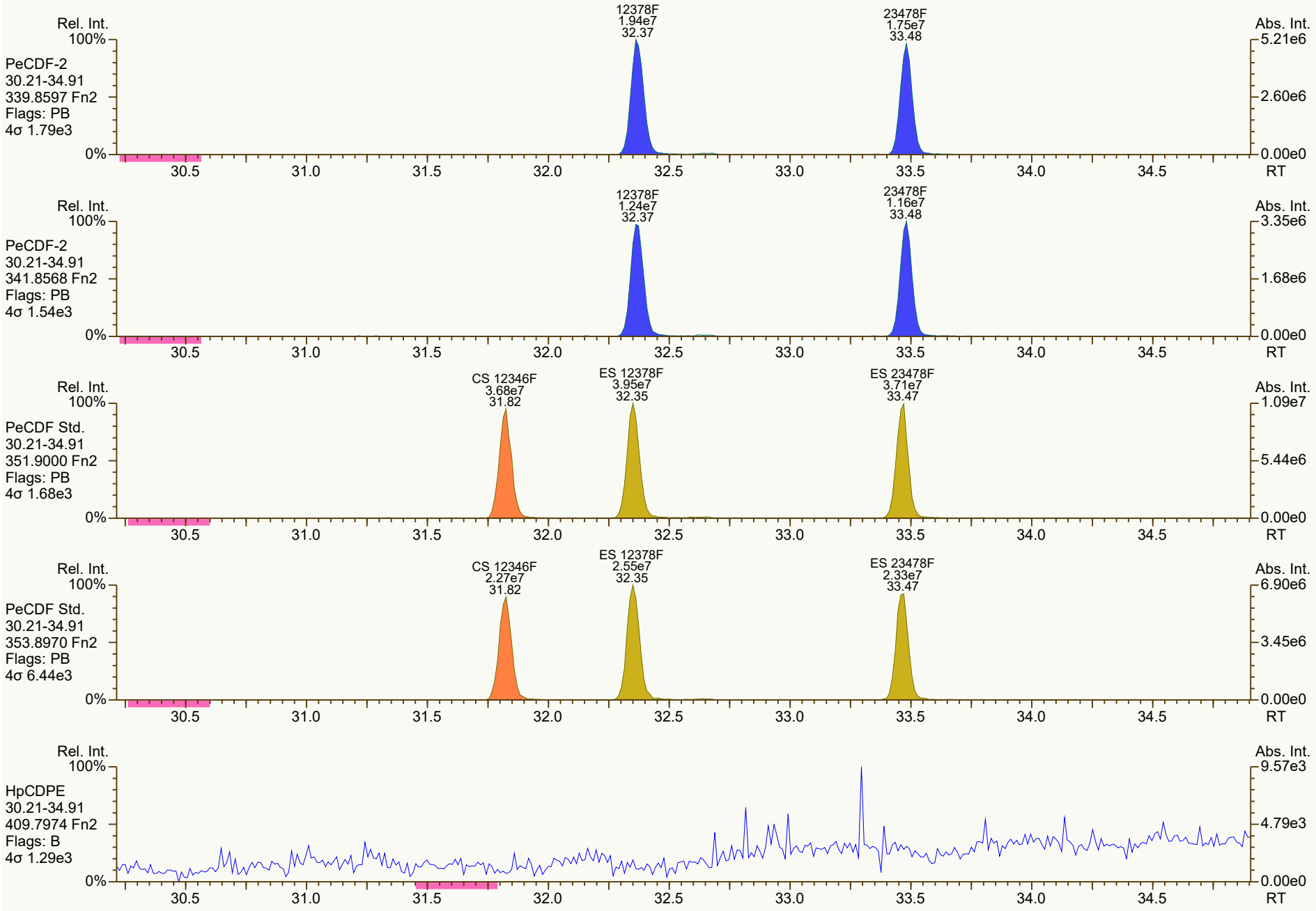

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 1.78e3
0%
123478D
1.07e7
37.73
123678D
1.07e7
37.85
123789D
1.16e7
38.14
Abs. Int.
3.45e6
1.72e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 1.61e3
0%
123478D
8.36e6
37.73
123678D
8.73e6
37.85
123789D
9.17e6
38.14
Abs. Int.
2.73e6
1.37e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 1.98e3
0%
FS 123468D
2.68e7
36.62
ES 123478D
2.00e7
37.71
ES 123678D
1.91e7
37.83
JS 123467D
9.89e6
38.02
ES 123789D
2.25e7
38.12
Abs. Int.
8.40e6
4.20e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 2.49e3
0%
FS 123468D
2.06e7
36.62
ES 123478D
1.57e7
37.71
ES 123678D
1.49e7
37.83
JS 123467D
8.11e6
38.02
ES 123789D
1.80e7
38.12
Abs. Int.
6.30e6
3.15e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.38e7
6.89e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

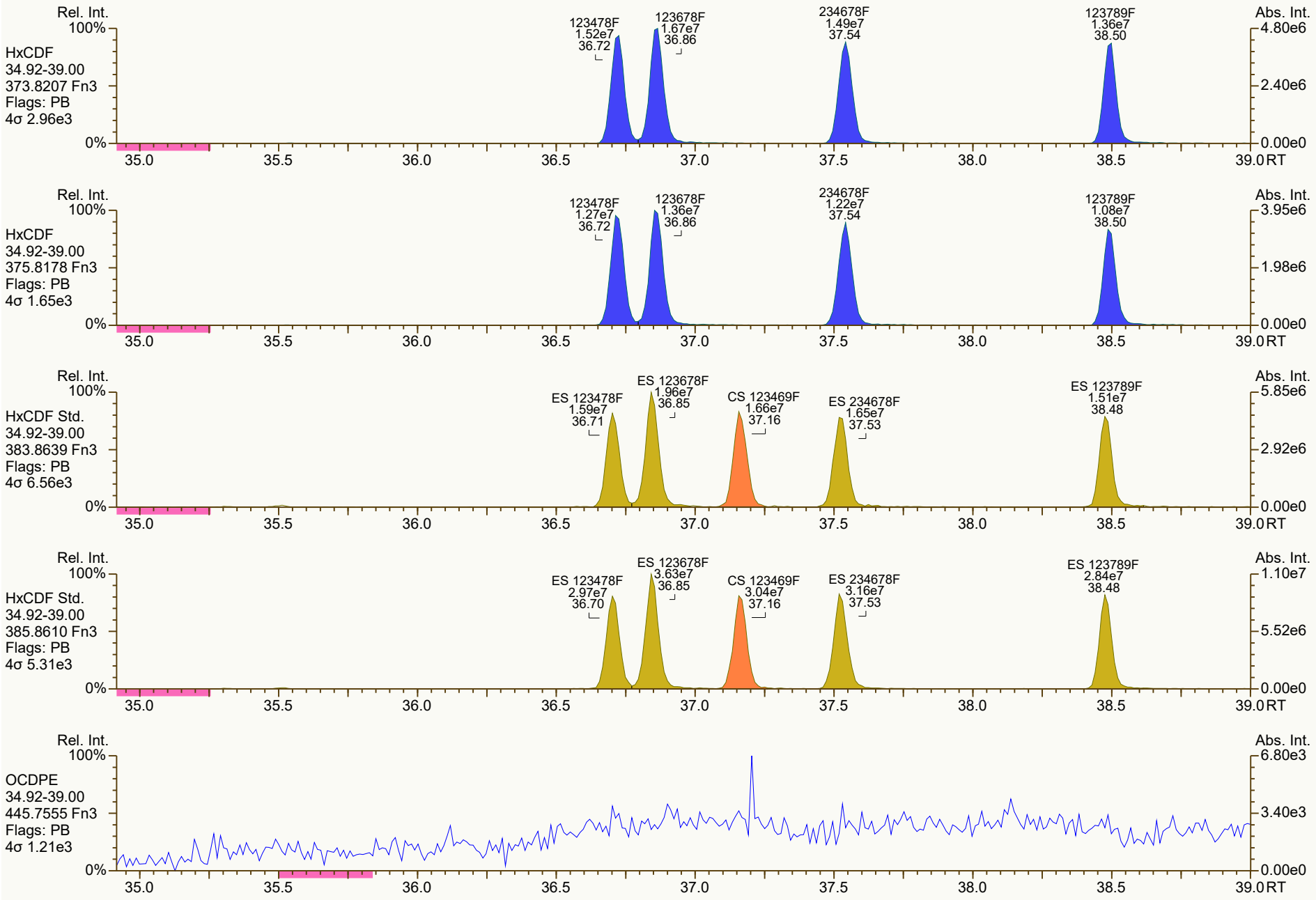

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 1.89e3
1234678D
8.97e6*
40.81
Abs. Int.
2.82e6
1.41e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 1.67e3
1234678D
8.61e6*
40.81
Abs. Int.
2.74e6
1.37e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 2.78e3
FS 1234679D
2.45e7
40.12
ES 1234678D
1.77e7*
40.79
Abs. Int.
8.82e6
4.41e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 1.70e3
FS 1234679D
2.37e7
40.12
ES 1234678D
1.62e7*
40.79
Abs. Int.
8.09e6
4.05e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
8.35e6
4.17e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

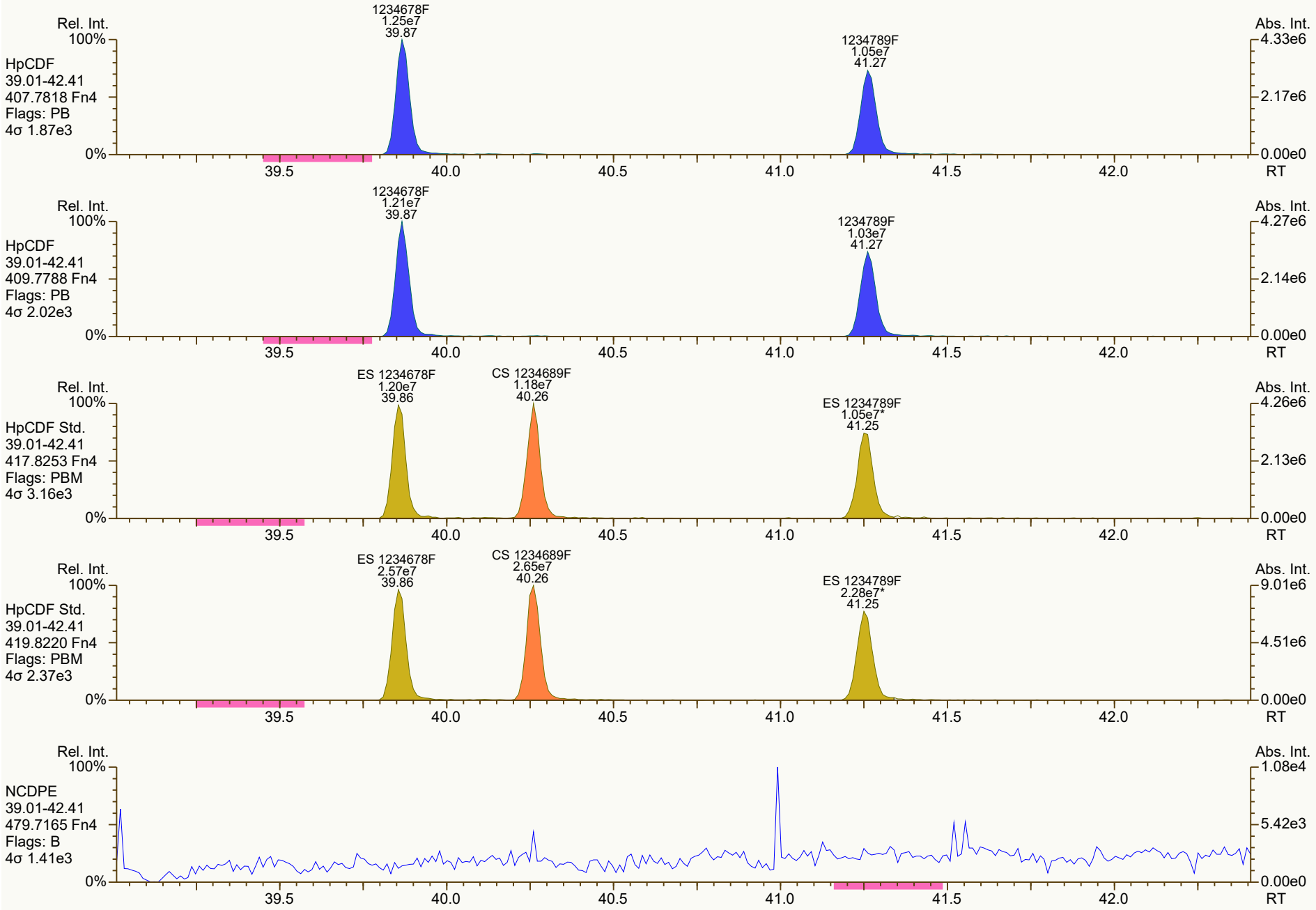

OCDD
1.39e7
43.49
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
3.13e6
1.56e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.54e7
43.48
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 1.83e3
3.31e6
1.65e6
ES OCDD
2.43e7
43.47
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 3.07e3
5.42e6
2.71e6
ES OCDD
2.69e7
43.47
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 1.09e3
5.88e6
2.94e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
7.05e6
3.52e6


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.43e3
0%
2378F
3.47e6
27.63
Abs. Int.
7.72e5
3.86e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 1.87e3
0%
2378F
4.35e6
27.62
Abs. Int.
9.76e5
4.88e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 6.30e3
0%
AS 1368F
3.63e7
22.71
JS 1234F
3.13e7
26.24
ES 2378F
3.21e7
27.60
Abs. Int.
7.26e6
3.63e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.61e3
0%
AS 1368F
4.53e7
22.71
JS 1234F
4.03e7
26.24
ES 2378F
4.03e7
27.60
Abs. Int.
9.33e6
4.66e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.32e3
0%
Abs. Int.
6.61e3
3.31e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

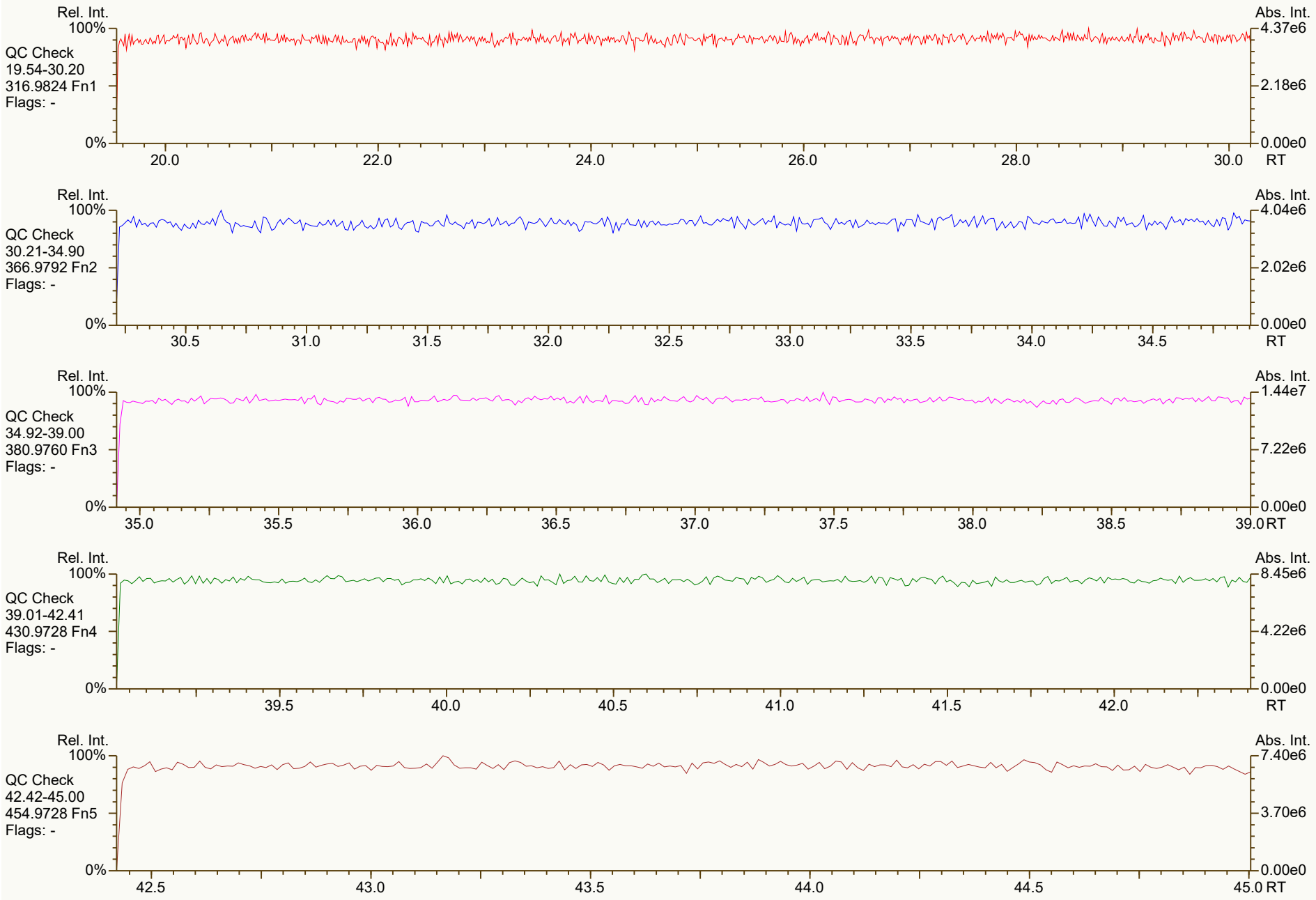

Rel. Int.
100%
0%
Abs. Int.
1.37e4
6.84e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 9.81e2
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.06e4
5.29e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.16e6
2.08e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT

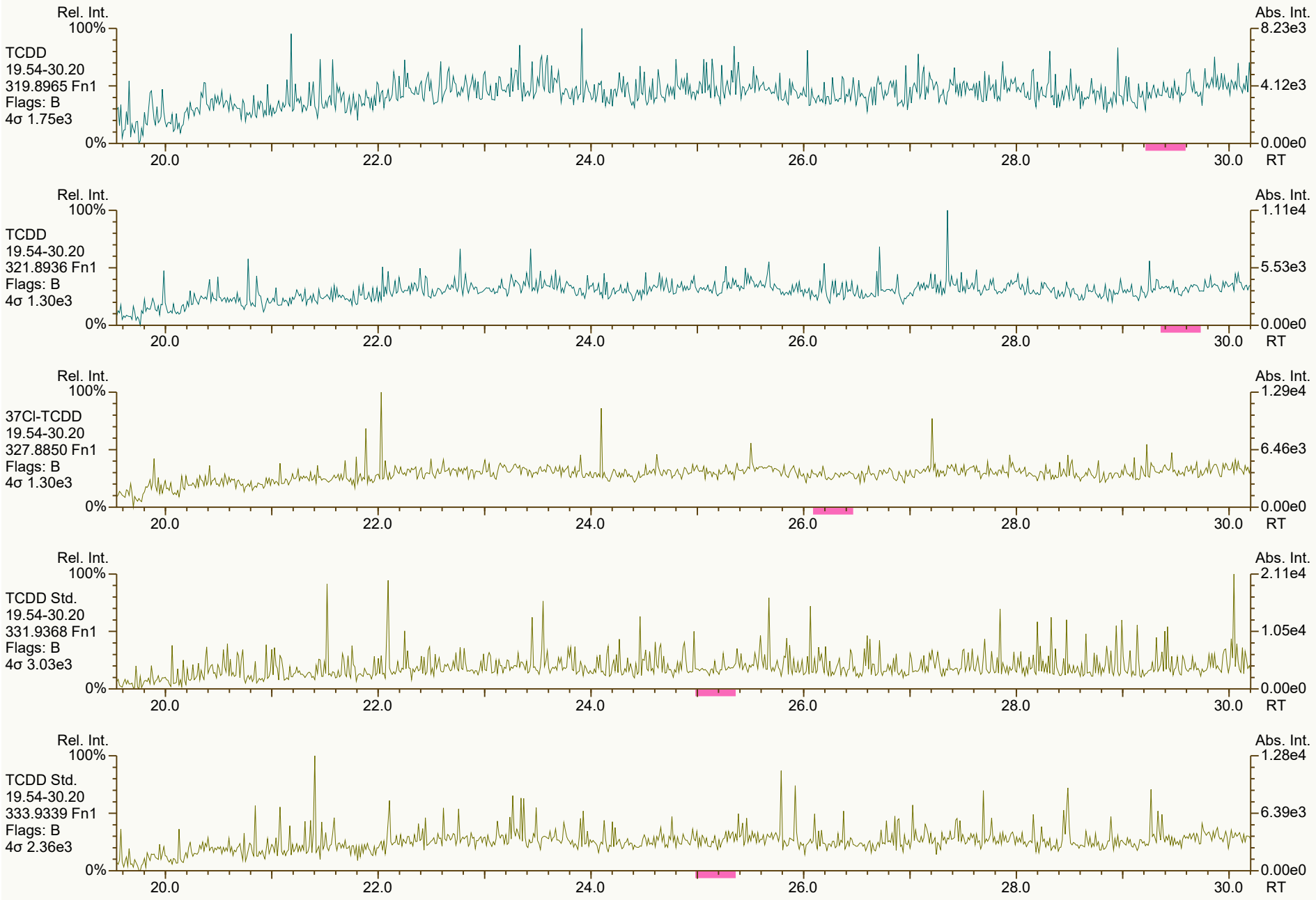

Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PB
4σ 1.79e3
0%
12378F
1.94e7
32.37
23478F
1.75e7
33.48
Abs. Int.
5.21e6
2.60e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PB
4σ 1.54e3
0%
12378F
1.24e7
32.37
23478F
1.16e7
33.48
Abs. Int.
3.35e6
1.68e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 1.68e3
0%
CS 12346F
3.68e7
31.82
ES 12378F
3.95e7
32.35
ES 23478F
3.71e7
33.47
Abs. Int.
1.09e7
5.44e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 6.44e3
0%
CS 12346F
2.27e7
31.82
ES 12378F
2.55e7
32.35
ES 23478F
2.33e7
33.47
Abs. Int.
6.90e6
3.45e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.29e3
0%
Abs. Int.
9.57e3
4.79e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PB
4σ 2.96e3
0%
123478F
1.52e7
36.72
123678F
1.67e7
36.86
234678F
1.49e7
37.54
123789F
1.36e7
38.50
Abs. Int.
4.80e6
2.40e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PB
4σ 1.65e3
0%
123478F
1.27e7
36.72
123678F
1.36e7
36.86
234678F
1.22e7
37.54
123789F
1.08e7
38.50
Abs. Int.
3.95e6
1.98e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 6.56e3
0%
ES 123478F
1.59e7
36.71
ES 123678F
1.96e7
36.85
CS 123469F
1.66e7
37.16
ES 234678F
1.65e7
37.53
ES 123789F
1.51e7
38.48
Abs. Int.
5.85e6
2.92e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 5.31e3
0%
ES 123478F
2.97e7
36.70
ES 123678F
3.63e7
36.85
CS 123469F
3.04e7
37.16
ES 234678F
3.16e7
37.53
ES 123789F
2.84e7
38.48
Abs. Int.
1.10e7
5.52e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.21e3
0%
Abs. Int.
6.80e3
3.40e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.87e3
1234678F
1.25e7
39.87
1234789F
1.05e7
41.27
Abs. Int.
4.33e6
2.17e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 2.02e3
1234678F
1.21e7
39.87
1234789F
1.03e7
41.27
Abs. Int.
4.27e6
2.14e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 3.16e3
ES 1234678F
1.20e7
39.86
CS 1234689F
1.18e7
40.26
ES 1234789F
1.05e7*
41.25
Abs. Int.
4.26e6
2.13e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 2.37e3
ES 1234678F
2.57e7
39.86
CS 1234689F
2.65e7
40.26
ES 1234789F
2.28e7*
41.25
Abs. Int.
9.01e6
4.51e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.41e3
Abs. Int.
1.08e4
5.42e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
1.67e7
43.67
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.31e3
0%
Abs. Int.
3.75e6
1.88e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.85e7
43.67
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.23e3
4.18e6
2.09e6
ES OCDF
3.07e7*
43.66
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 1.57e3
7.08e6
3.54e6
ES OCDF
3.50e7*
43.65
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 1.24e3
8.19e6
4.09e6
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.52e3
3.72e3
1.86e3


Rel. Int.
100%
0%
Abs. Int.
4.37e6
2.18e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.04e6
2.02e6
0.00e0
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
0%
Abs. Int.
1.44e7
7.22e6
0.00e0
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.45e6
4.22e6
0.00e0
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
0%
Abs. Int.
7.40e6
3.70e6
0.00e0
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0
RT


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.23e3
4.12e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.30e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: B
4σ 1.30e3
0%
Abs. Int.
1.29e4
6.46e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 3.03e3
0%
Abs. Int.
2.11e4
1.05e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 2.36e3
0%
Abs. Int.
1.28e4
6.39e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PB
4σ 1.58e3
0%
Abs. Int.
4.63e3
2.31e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 1.28e3
0%
Abs. Int.
4.91e3
2.46e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
7.90e3
3.95e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: B
4σ 1.65e3
0%
Abs. Int.
2.14e4
1.07e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.04e6
2.02e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: B
4σ 1.22e3
0%
Abs. Int.
4.68e3
2.34e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 1.05e3
0%
Abs. Int.
8.56e3
4.28e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 1.89e3
0%
Abs. Int.
1.15e4
5.73e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: B
4σ 1.90e3
0%
Abs. Int.
9.24e3
4.62e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.44e7
7.22e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 1.42e3
0%
Abs. Int.
6.12e3
3.06e3
0.00e0
RT
39.5
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.24e3
0%
Abs. Int.
4.92e3
2.46e3
0.00e0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: B
4σ 1.76e3
0%
Abs. Int.
1.17e4
5.87e3
0.00e0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: B
4σ 1.32e3
0%
Abs. Int.
1.12e4
5.62e3
0.00e0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
8.45e6
4.22e6
0.00e0
RT


Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 2.16e3
0%
Abs. Int.
6.69e3
3.35e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: B
4σ 1.74e3
0%
Abs. Int.
1.23e4
6.15e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: B
4σ 1.65e3
0%
Abs. Int.
1.48e4
7.42e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: B
4σ 1.54e3
0%
Abs. Int.
1.00e4
5.01e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.40e6
3.70e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: SBS_220209_DF_CC
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 30-61-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2

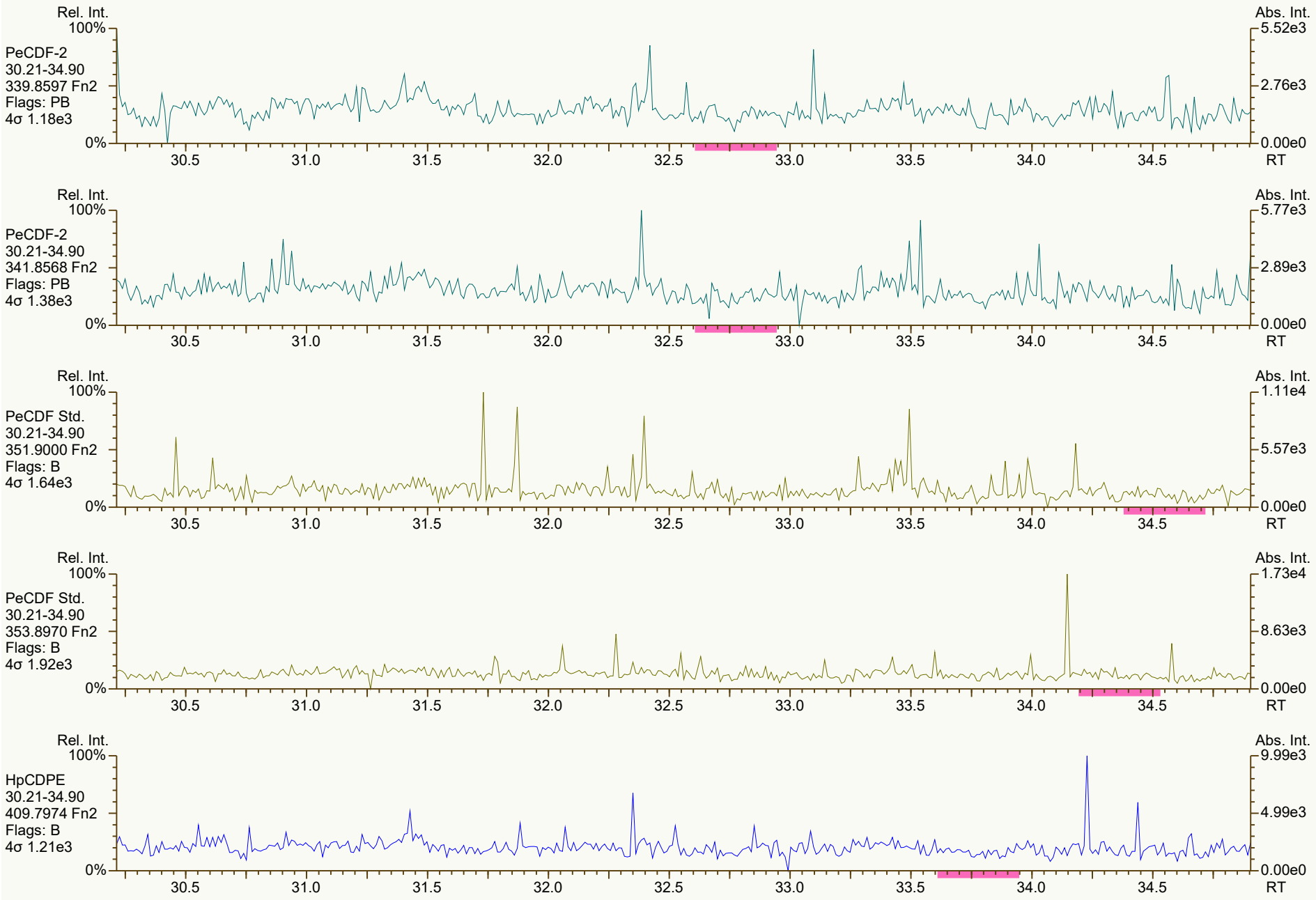
Acq: 09-Feb-2022 18:36:03
User: DTF Datafile: 220209C16

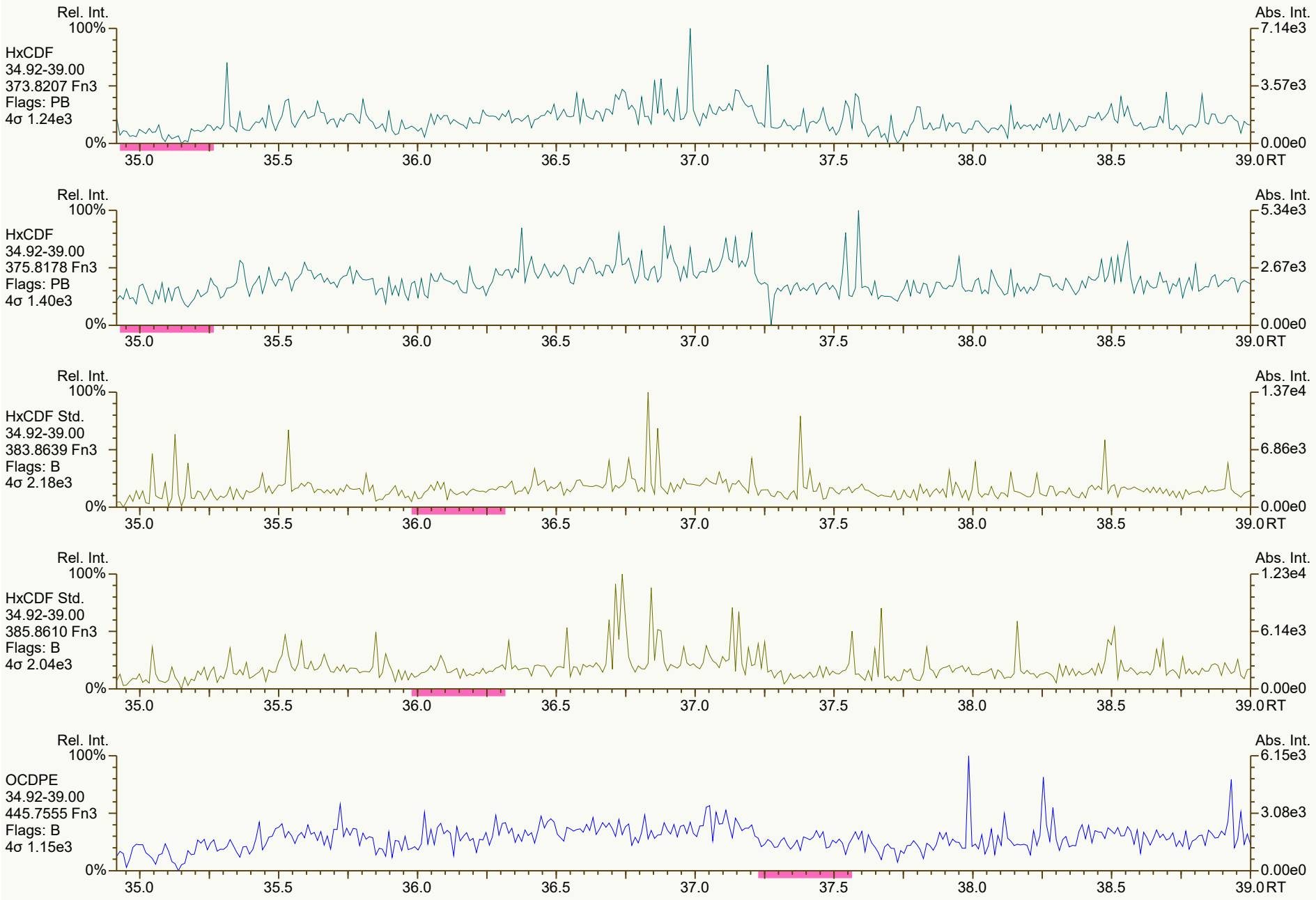


Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\SBS_220209_DF_CC.utp_res, saved 10-Feb-2022 09:35 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3717, 6923, 7033 scc: 217-503

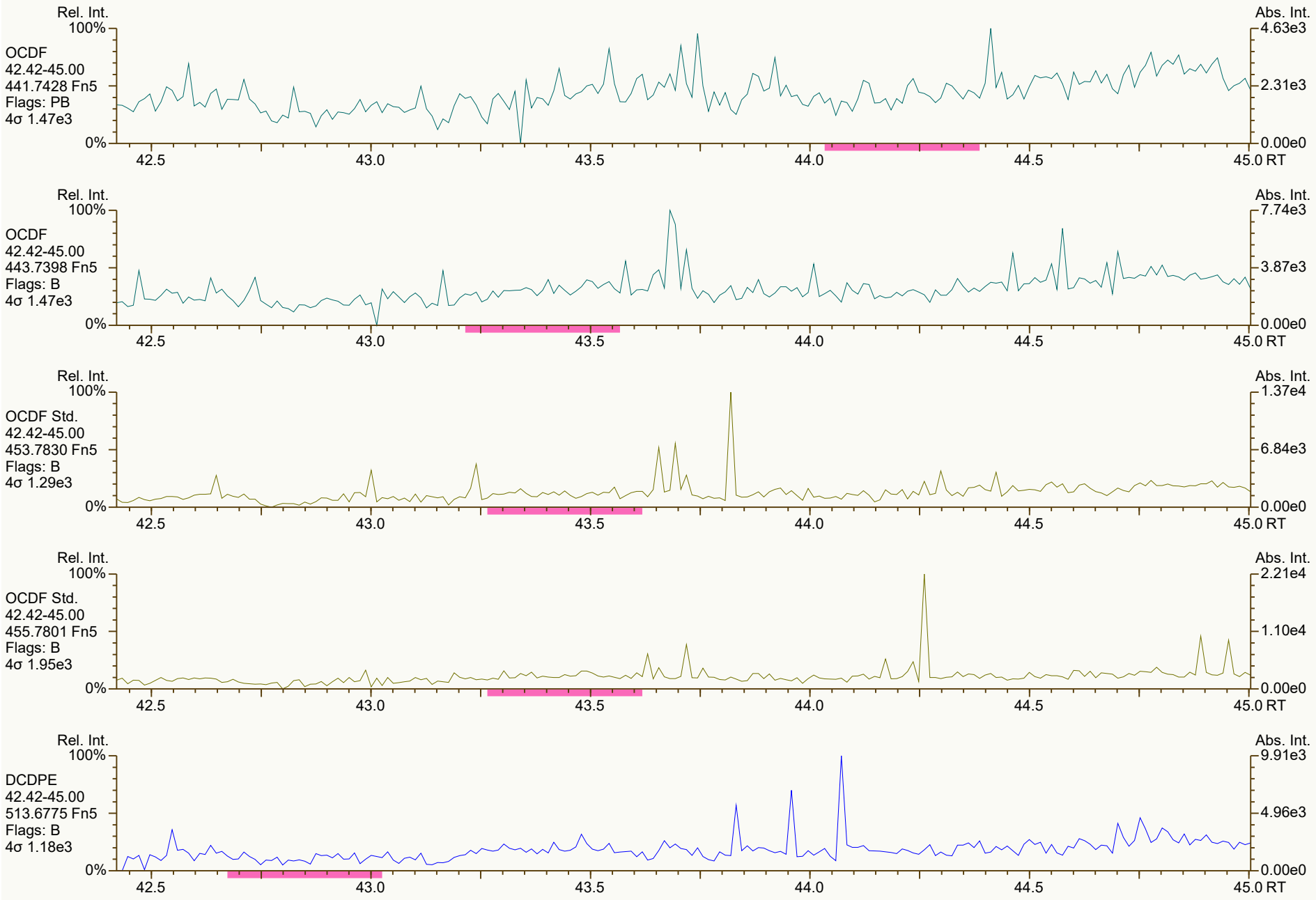
Peak annotation: Areas, Centroids
Revised: 10-Feb-2022 09:35 (DTF) Printed: 10-Feb-2022 10:33 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.75e4
8.73e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.31e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.28e4
6.39e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.05e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.37e6
2.18e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PB
4σ 1.18e3
0%
Abs. Int.
5.52e3
2.76e3
0.00e0
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PB
4σ 1.38e3
0%
Abs. Int.
5.77e3
2.89e3
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.11e4
5.57e3
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: B
4σ 1.92e3
0%
Abs. Int.
1.73e4
8.63e3
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.21e3
0%
Abs. Int.
9.99e3
4.99e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5

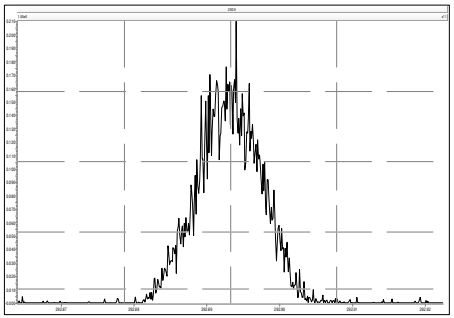

Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PB
4σ 1.24e3
0%
Abs. Int.
7.14e3
3.57e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PB
4σ 1.40e3
0%
Abs. Int.
5.34e3
2.67e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: B
4σ 2.18e3
0%
Abs. Int.
1.37e4
6.86e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: B
4σ 2.04e3
0%
Abs. Int.
1.23e4
6.14e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.15e3
0%
Abs. Int.
6.15e3
3.08e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.24e3
0%
Abs. Int.
5.03e3
2.52e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: B
4σ 1.48e3
0%
Abs. Int.
4.79e3
2.40e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: B
4σ 1.91e3
0%
Abs. Int.
1.39e4
6.97e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: B
4σ 2.72e3
0%
Abs. Int.
1.33e4
6.63e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.28e3
0%
Abs. Int.
6.29e3
3.15e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.47e3
0%
Abs. Int.
4.63e3
2.31e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: B
4σ 1.47e3
0%
Abs. Int.
7.74e3
3.87e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: B
4σ 1.29e3
0%
Abs. Int.
1.37e4
6.84e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: B
4σ 1.95e3
0%
Abs. Int.
2.21e4
1.10e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.18e3
0%
Abs. Int.
9.91e3
4.96e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Printed: Wednesday, February 09, 2022 14:33:20 Eastern Standard Time

M 292.9824 R 15198



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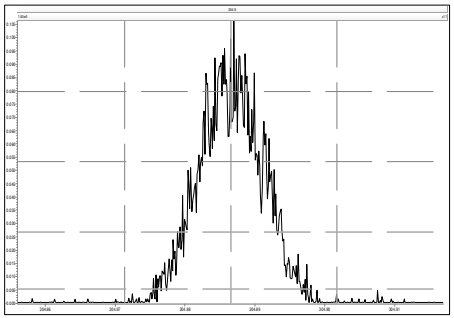

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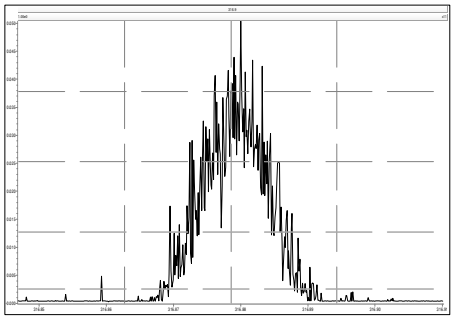

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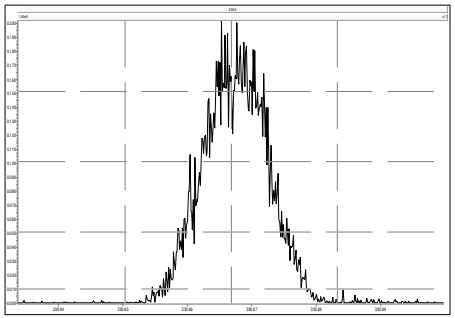

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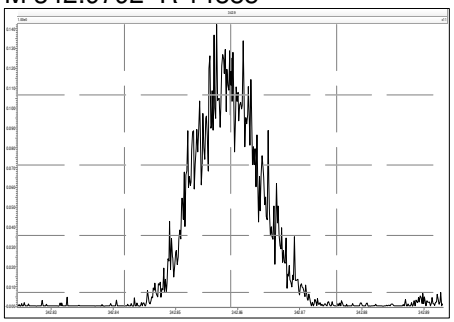

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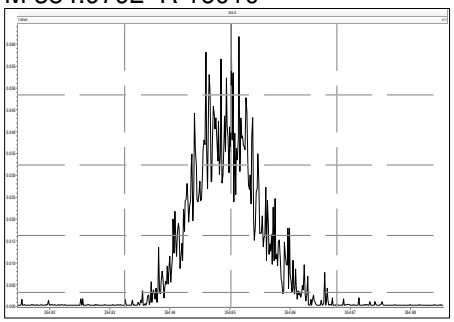

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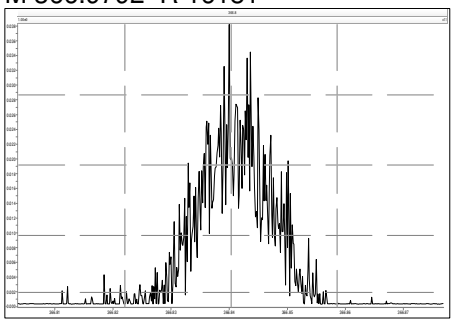

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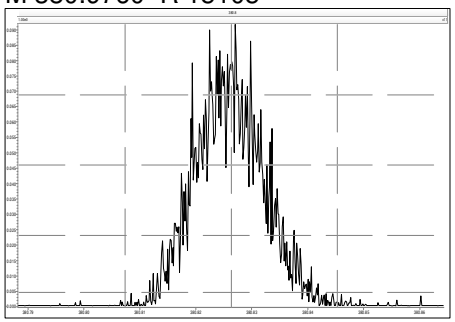

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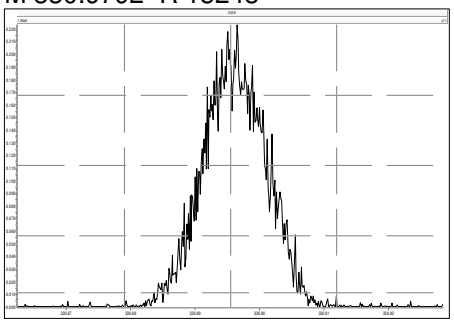

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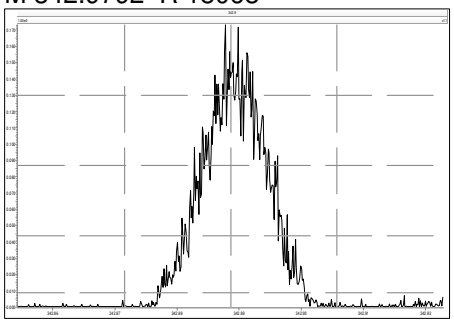

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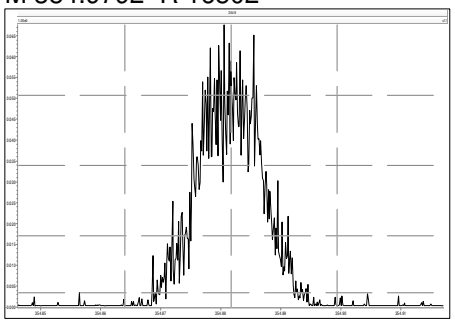

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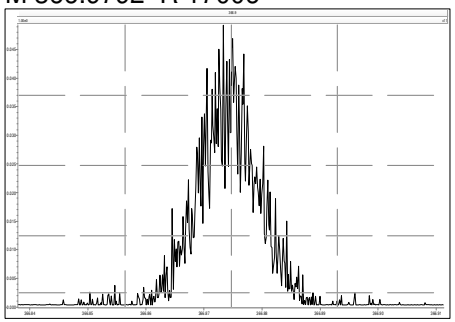

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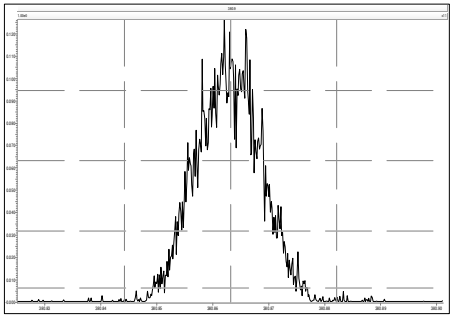

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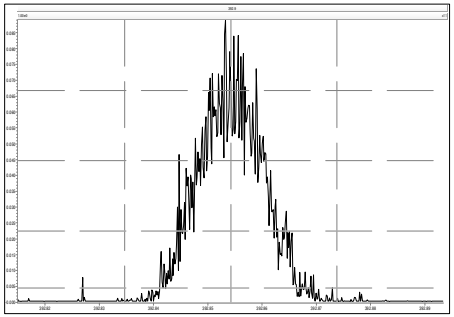

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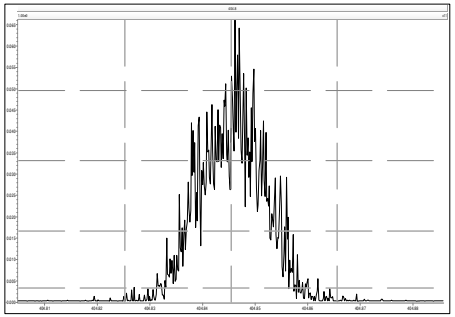

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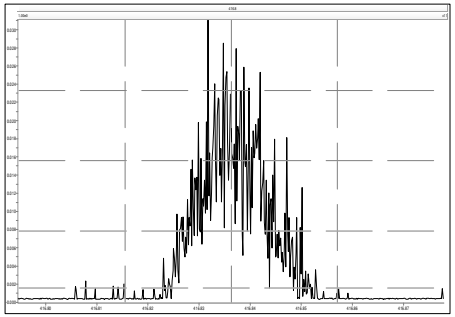

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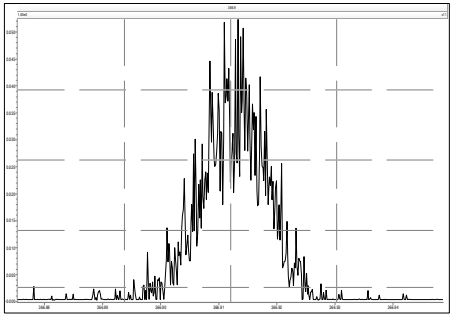

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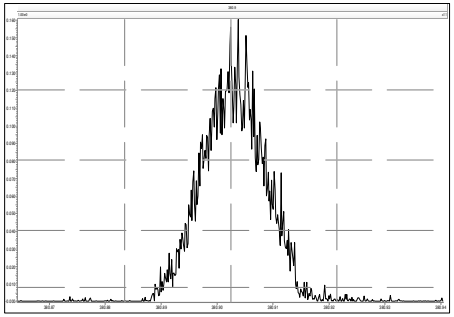

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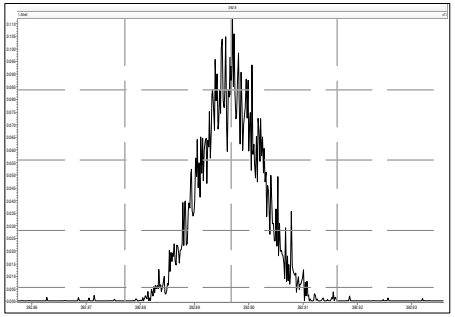

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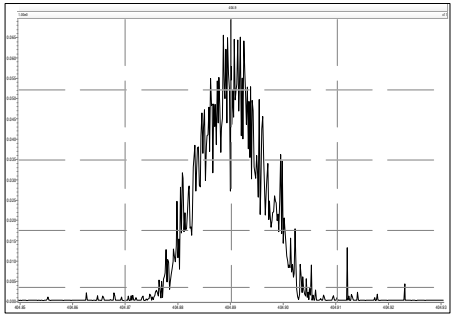

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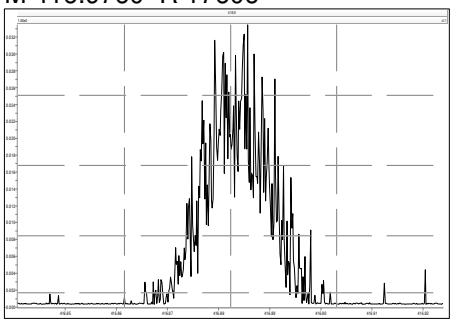

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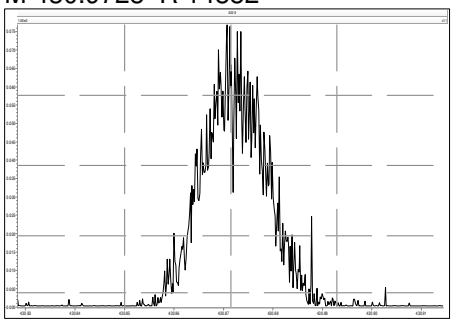

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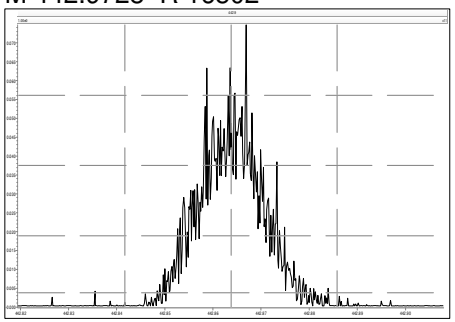

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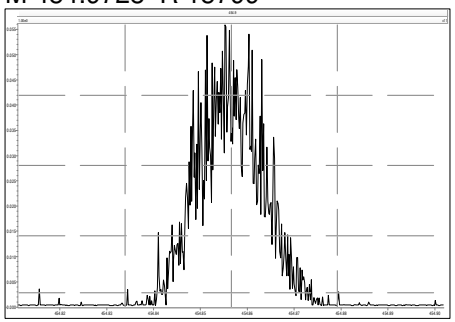

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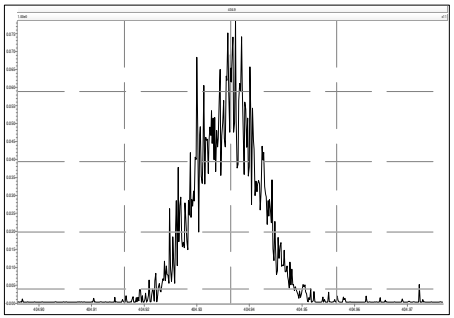

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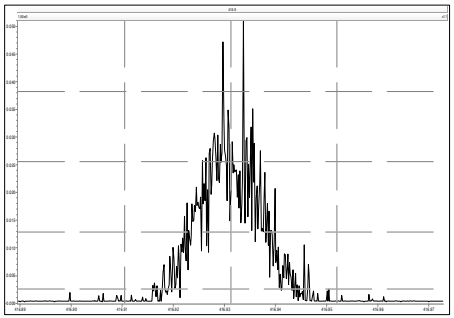

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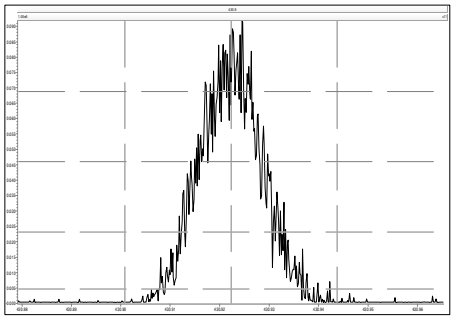

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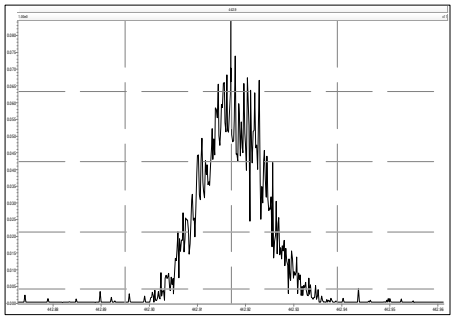

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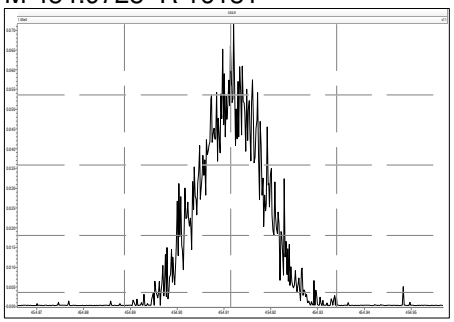

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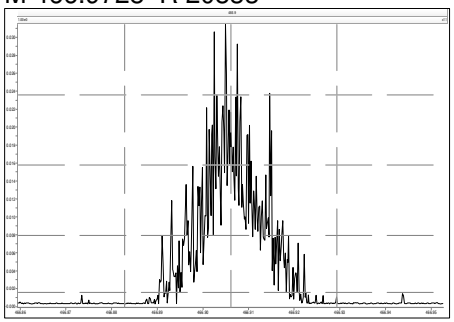

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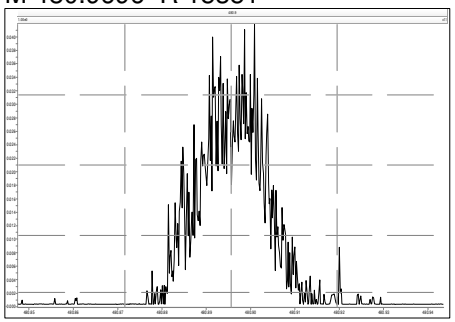

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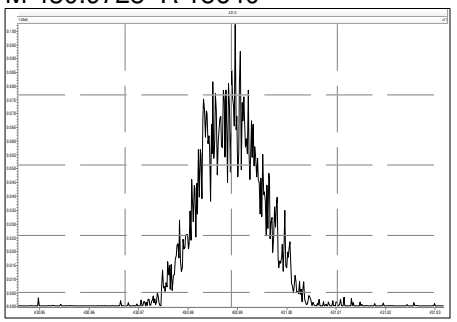

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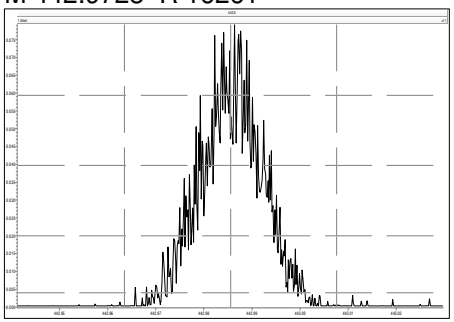

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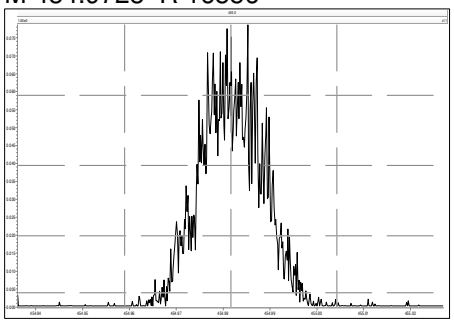

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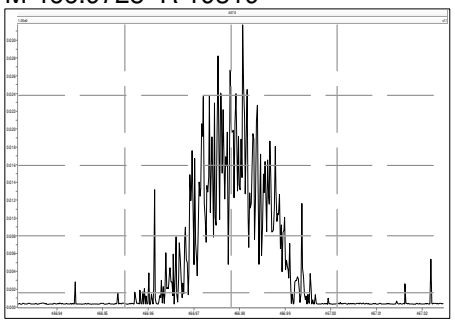

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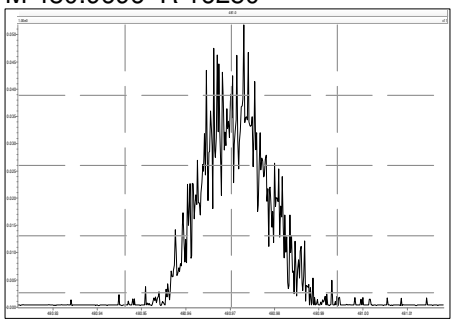

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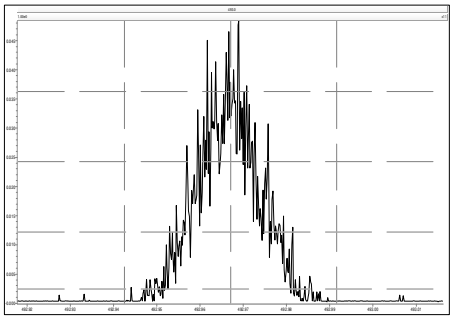

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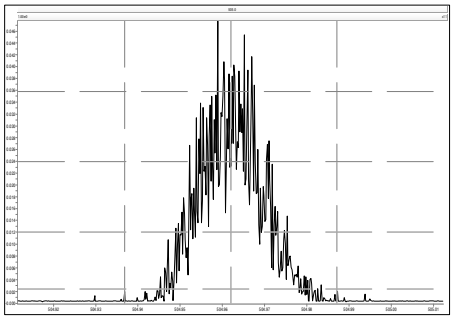

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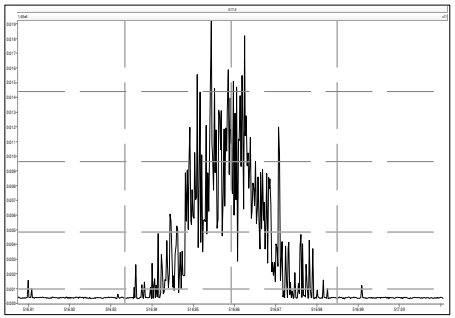

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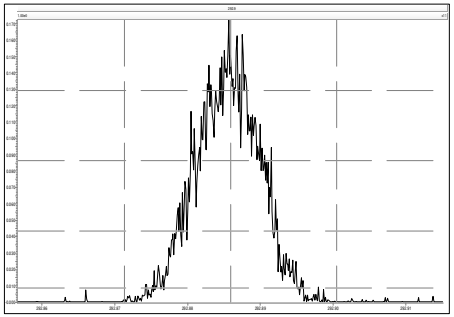

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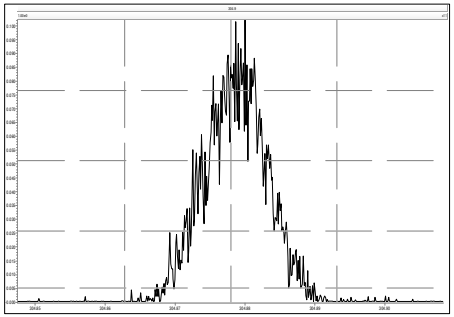

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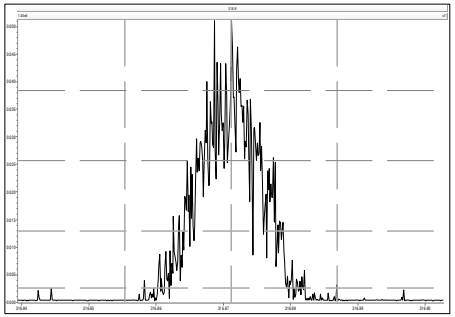

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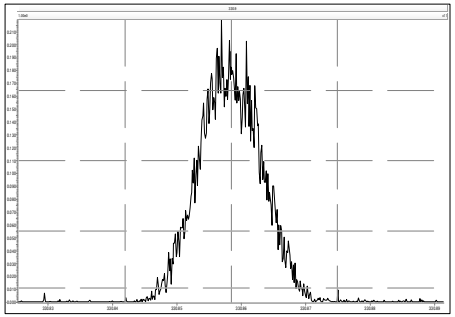

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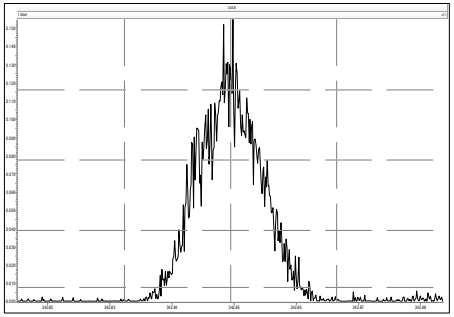

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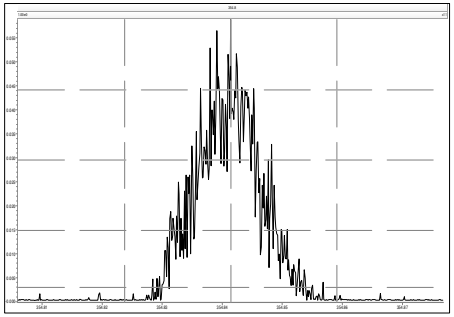

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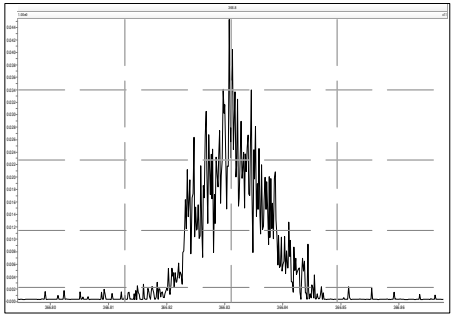

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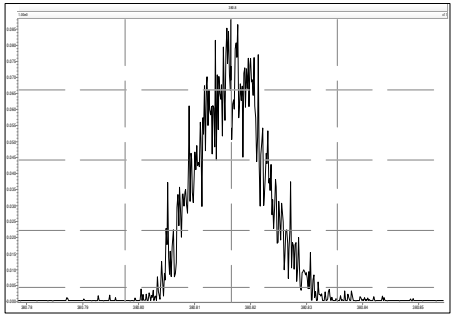

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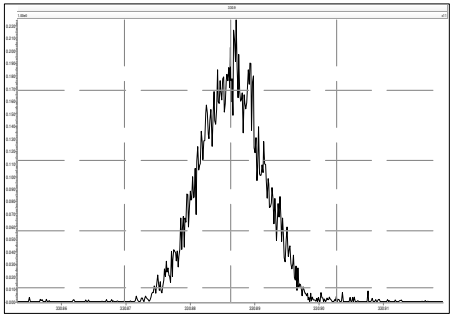

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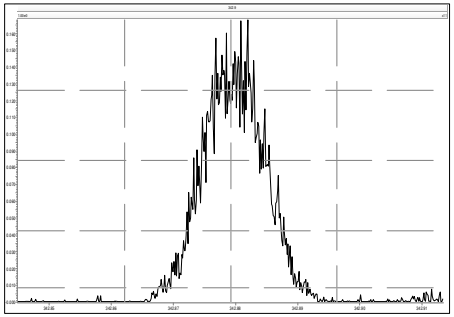

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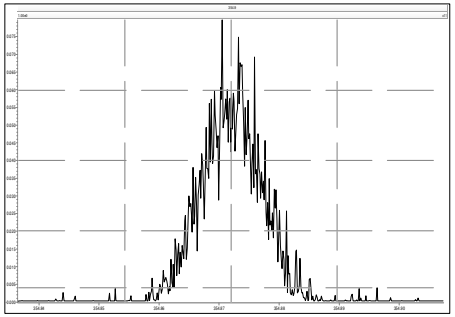

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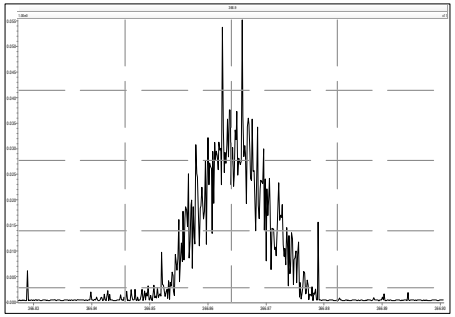

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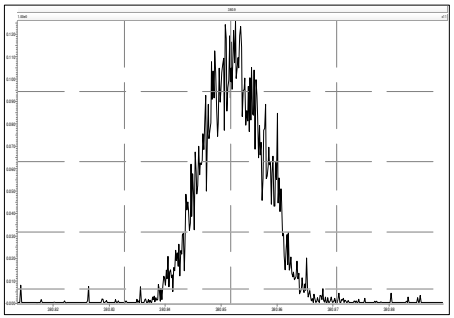

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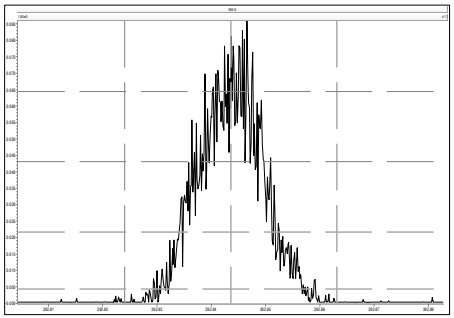

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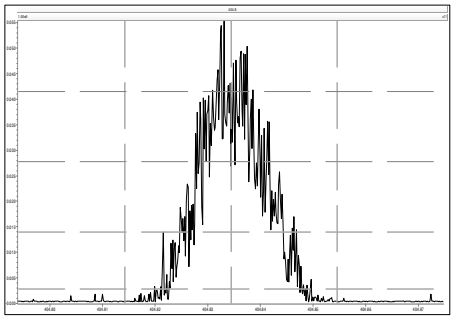

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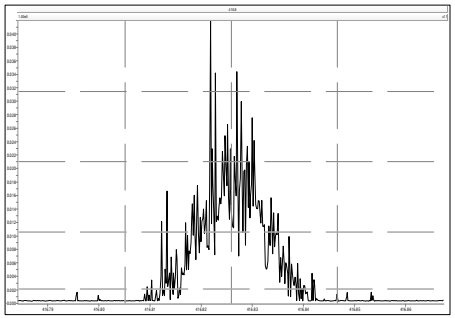
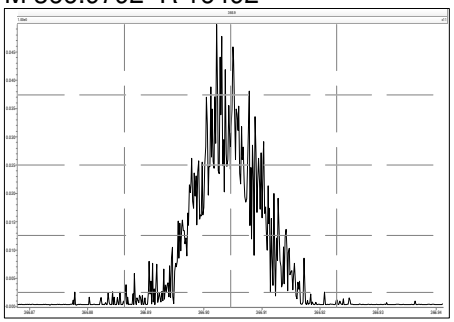
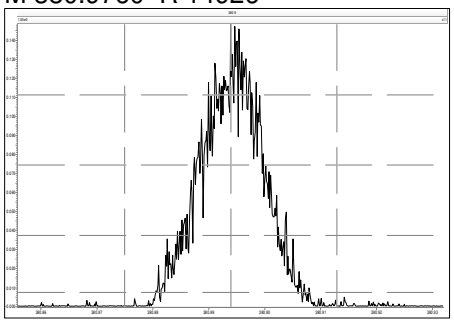


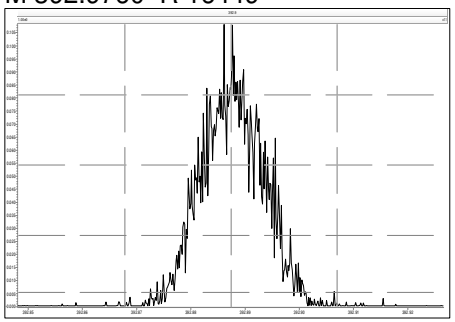
M 366.9792 R 16492



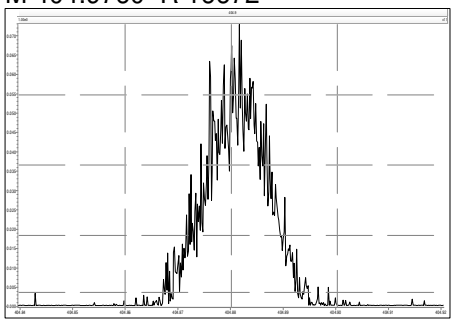
M 380.9760 R 14926



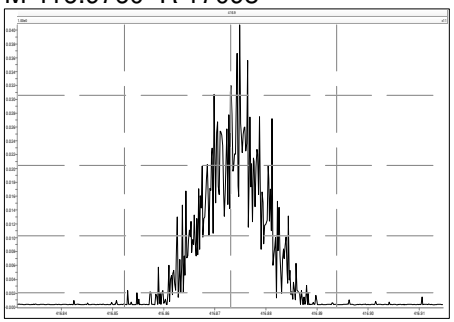
M 392.9760 R 16449



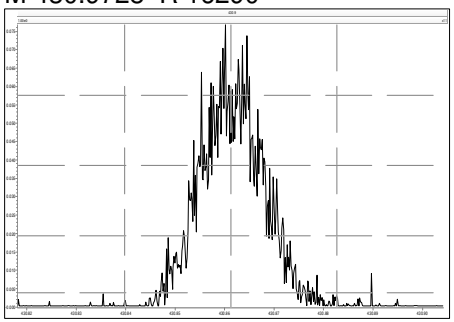
M 404.9760 R 16672



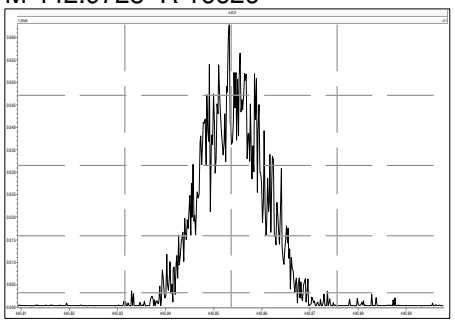
M 416.9760 R 17098



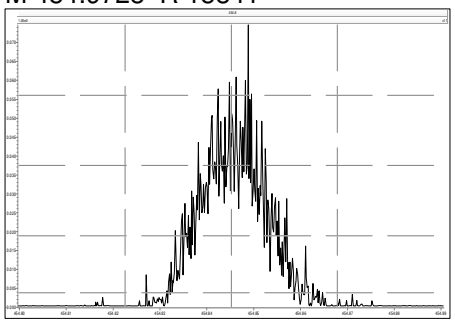
M 430.9728 R 16290



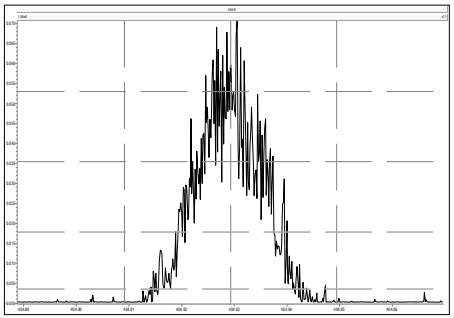
M 442.9728 R 16626



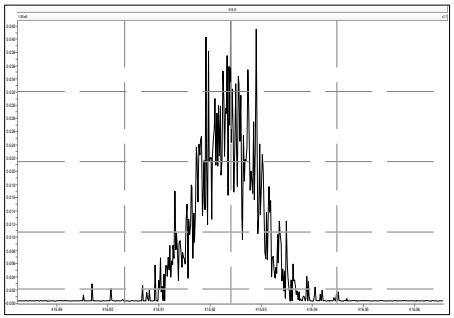
M 454.9728 R 15841



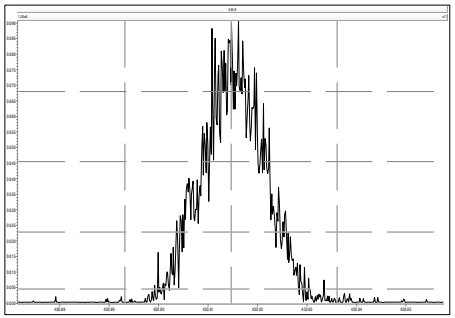
M 404.9760 R 15987



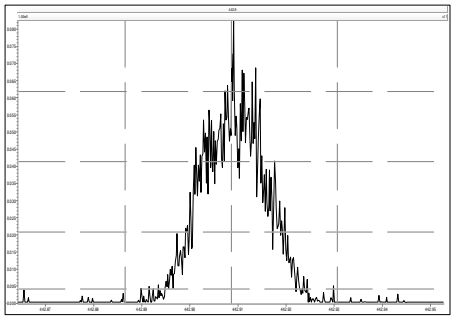
M 416.9760 R 18480



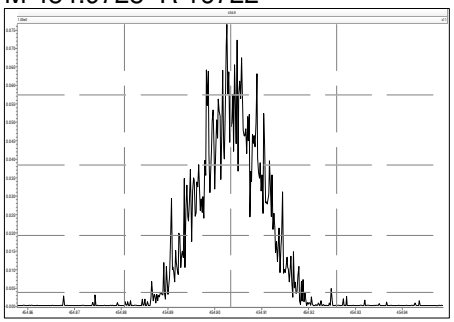
M 430.9728 R 16356



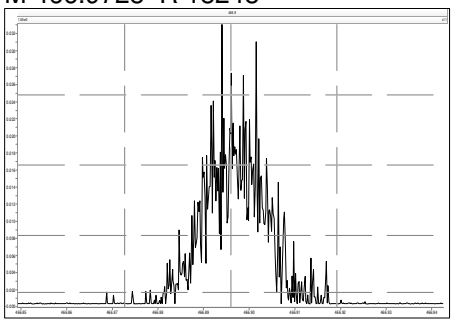
M 442.9728 R 16857



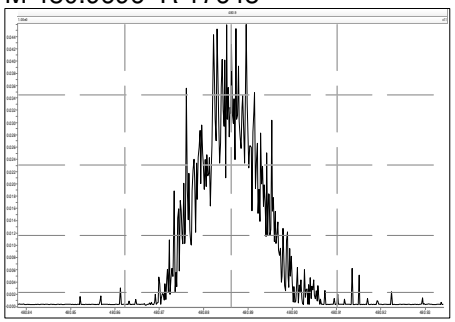
M 454.9728 R 16722



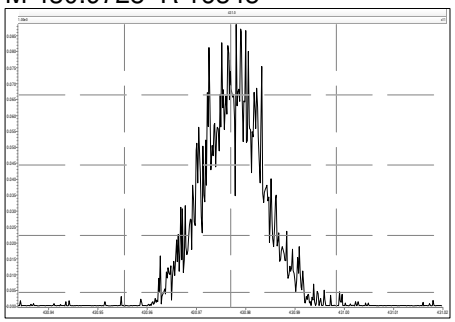
M 466.9728 R 18248



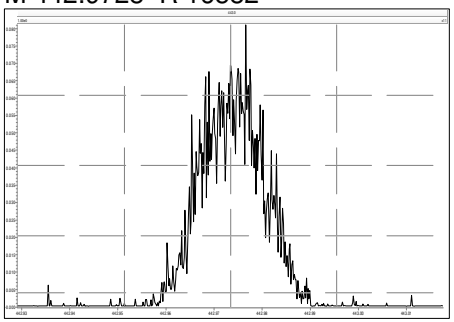
M 480.9696 R 17648



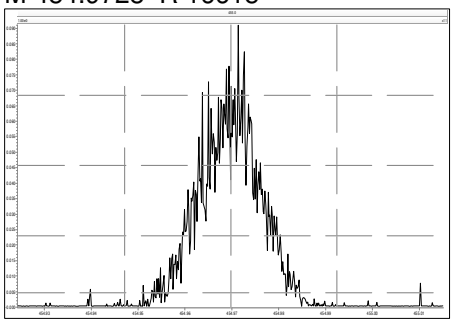
M 430.9728 R 16345



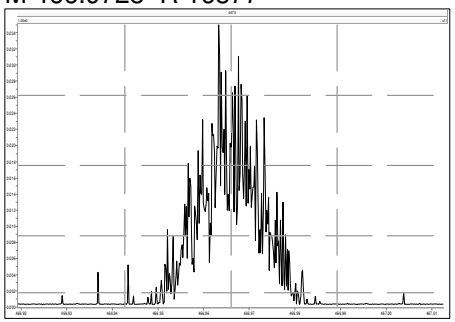
M 442.9728 R 16582



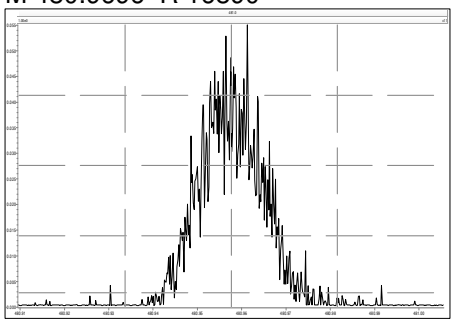
M 454.9728 R 16615



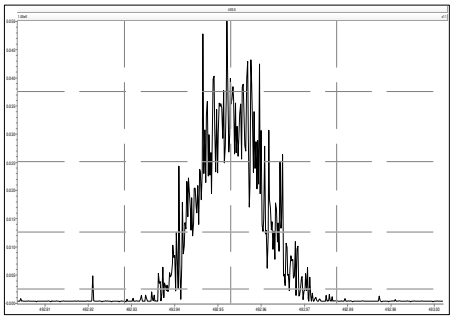
M 466.9728 R 16877



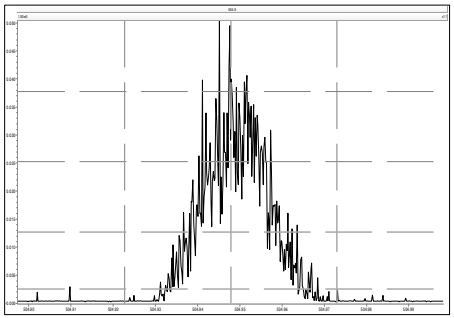
M 480.9696 R 16890



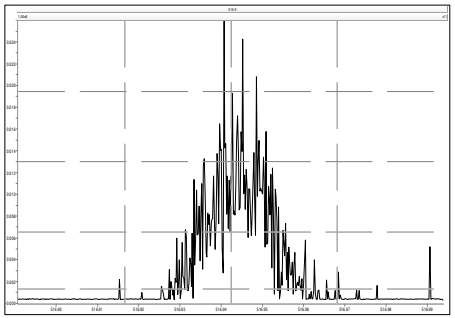
M 492.9696 R 17482



M 504.9696 R 15853



M 516.9697 R 22923



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34 ✓	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98 ✓
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84 ✓	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86 ✓	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07 ✓	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10 ✓	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28 ✓	1.33

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

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
Tyler_Fritz , 11/11/2021, 4:44:03 PM

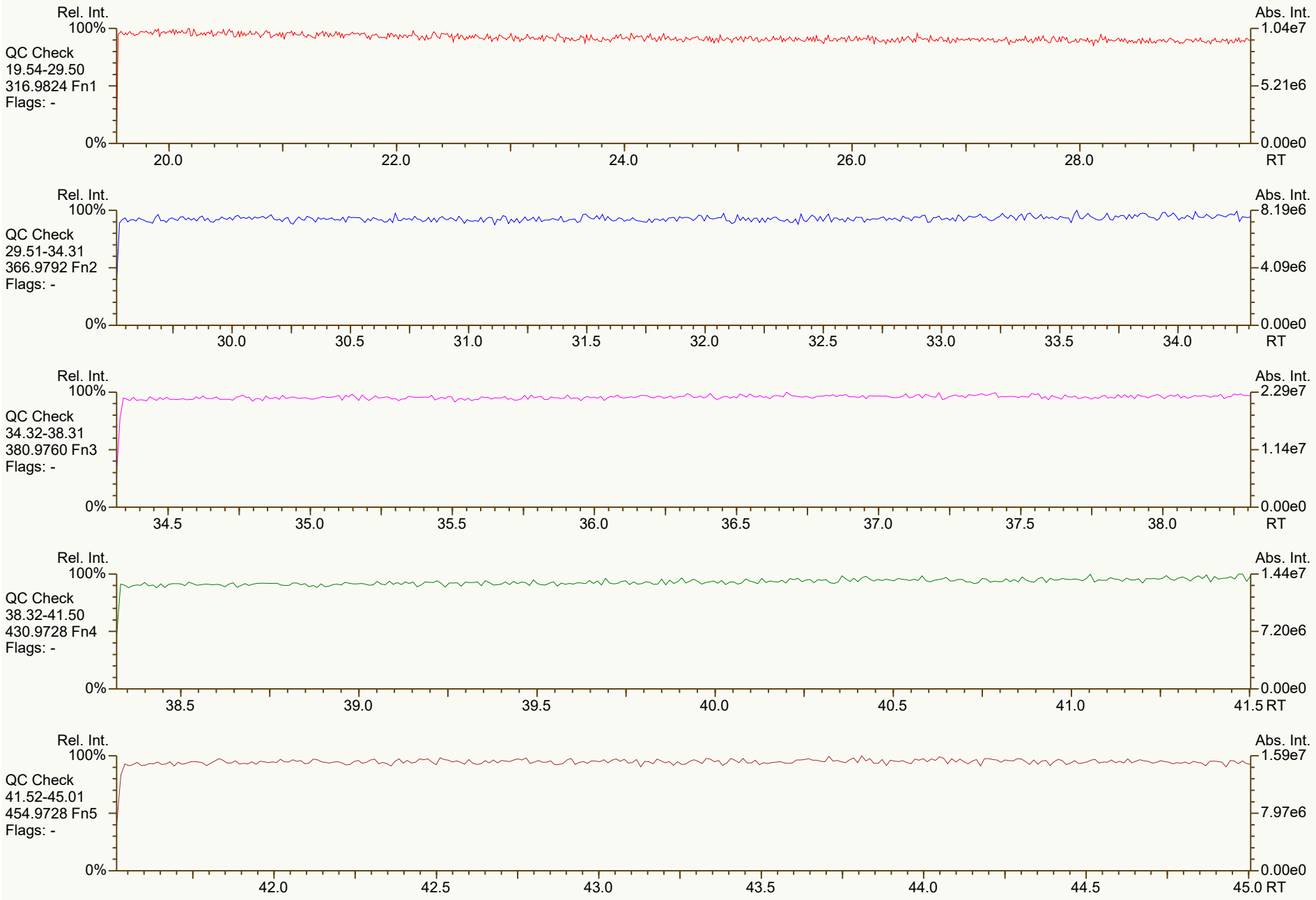
APPROVED
Amy_Boehm , 11/11/2021, 5:28:50 PM

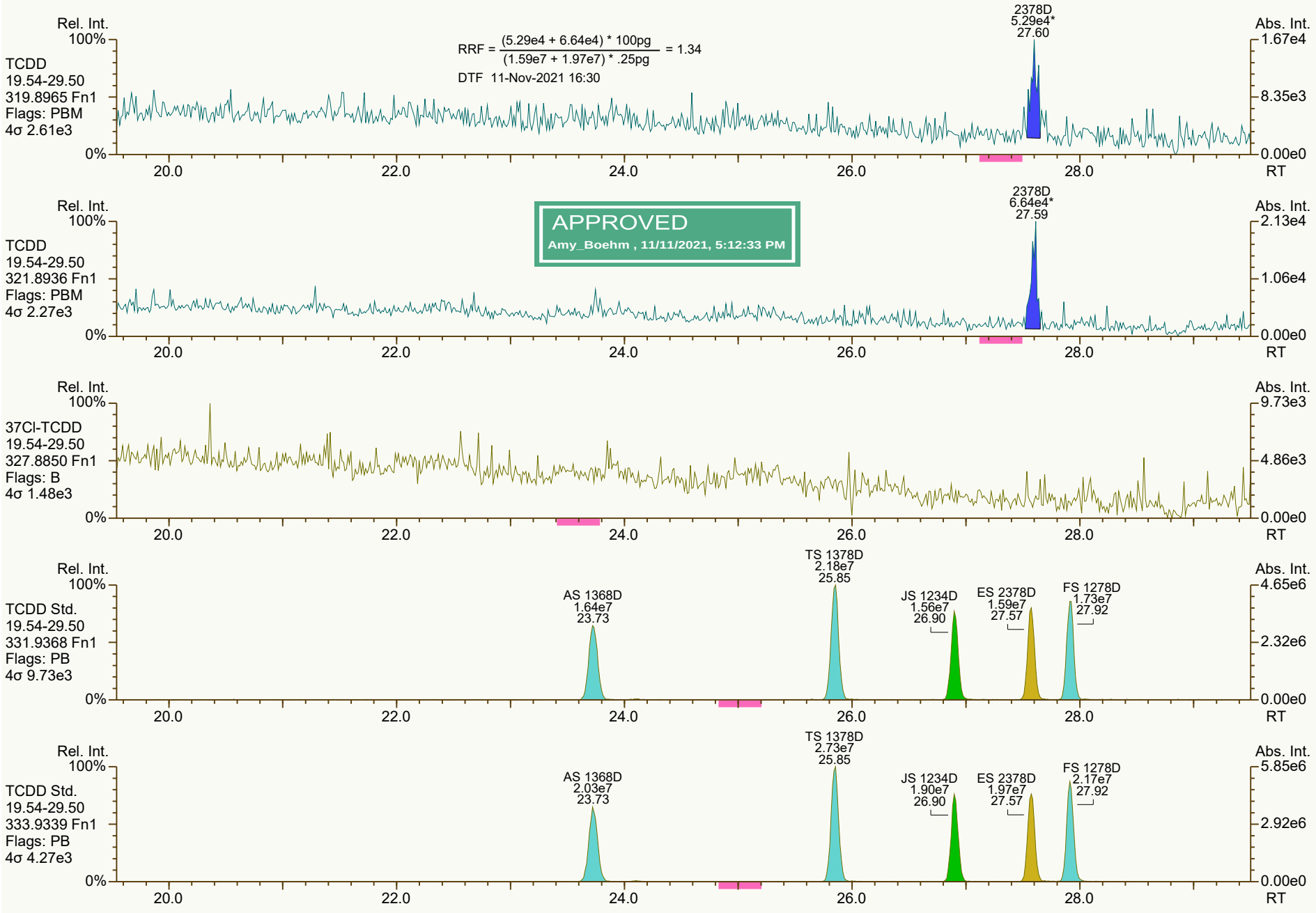
Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD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

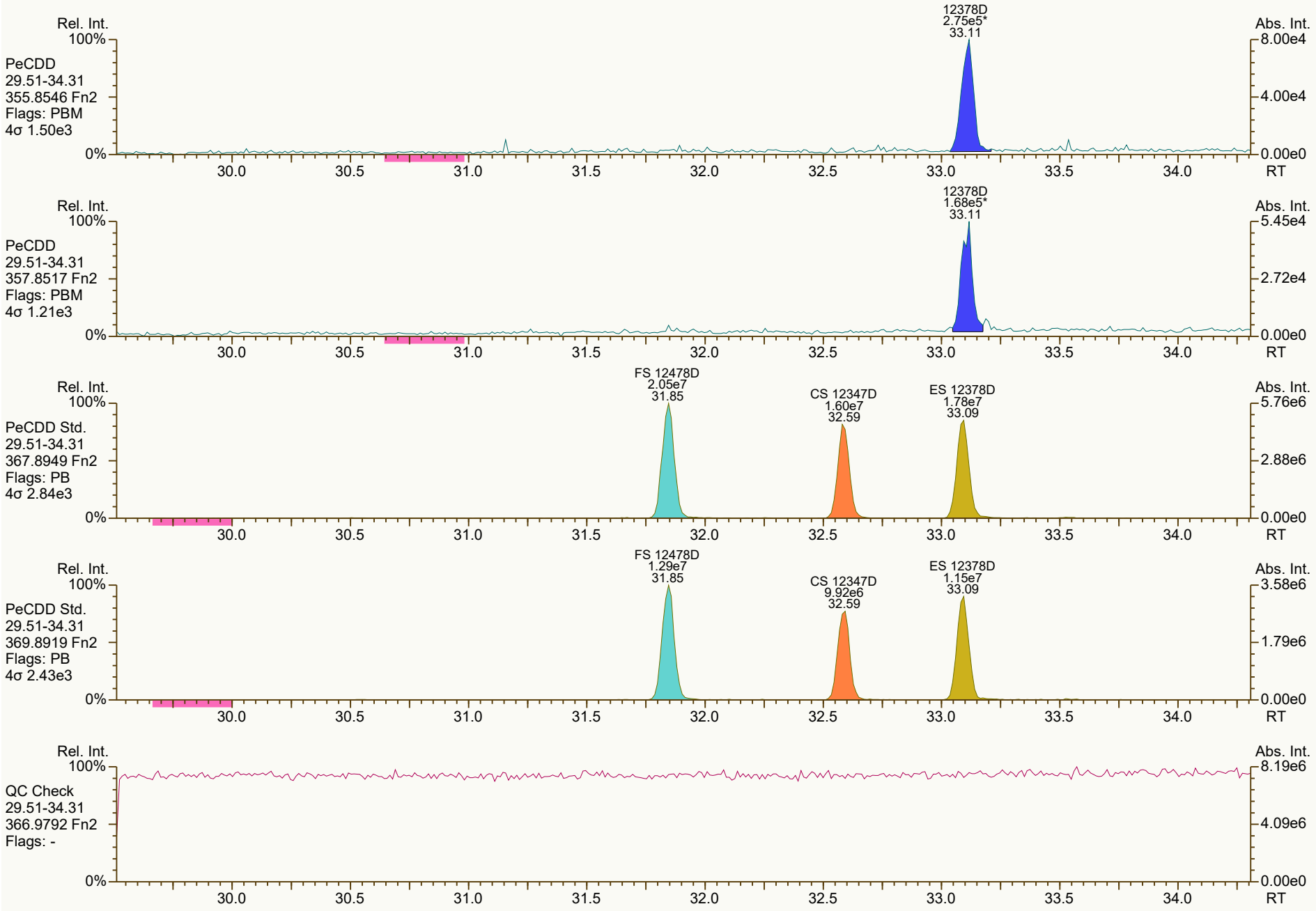
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

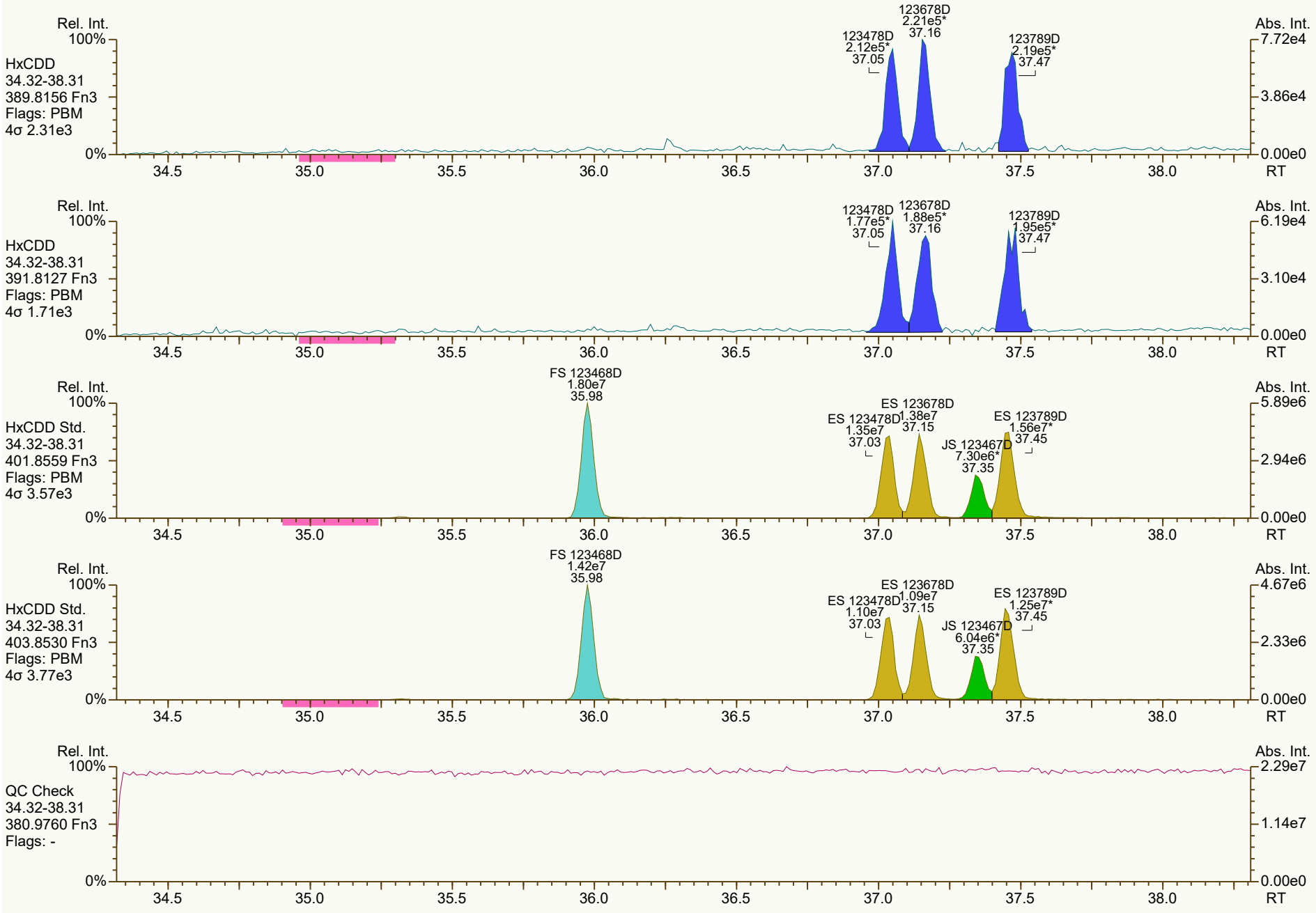
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

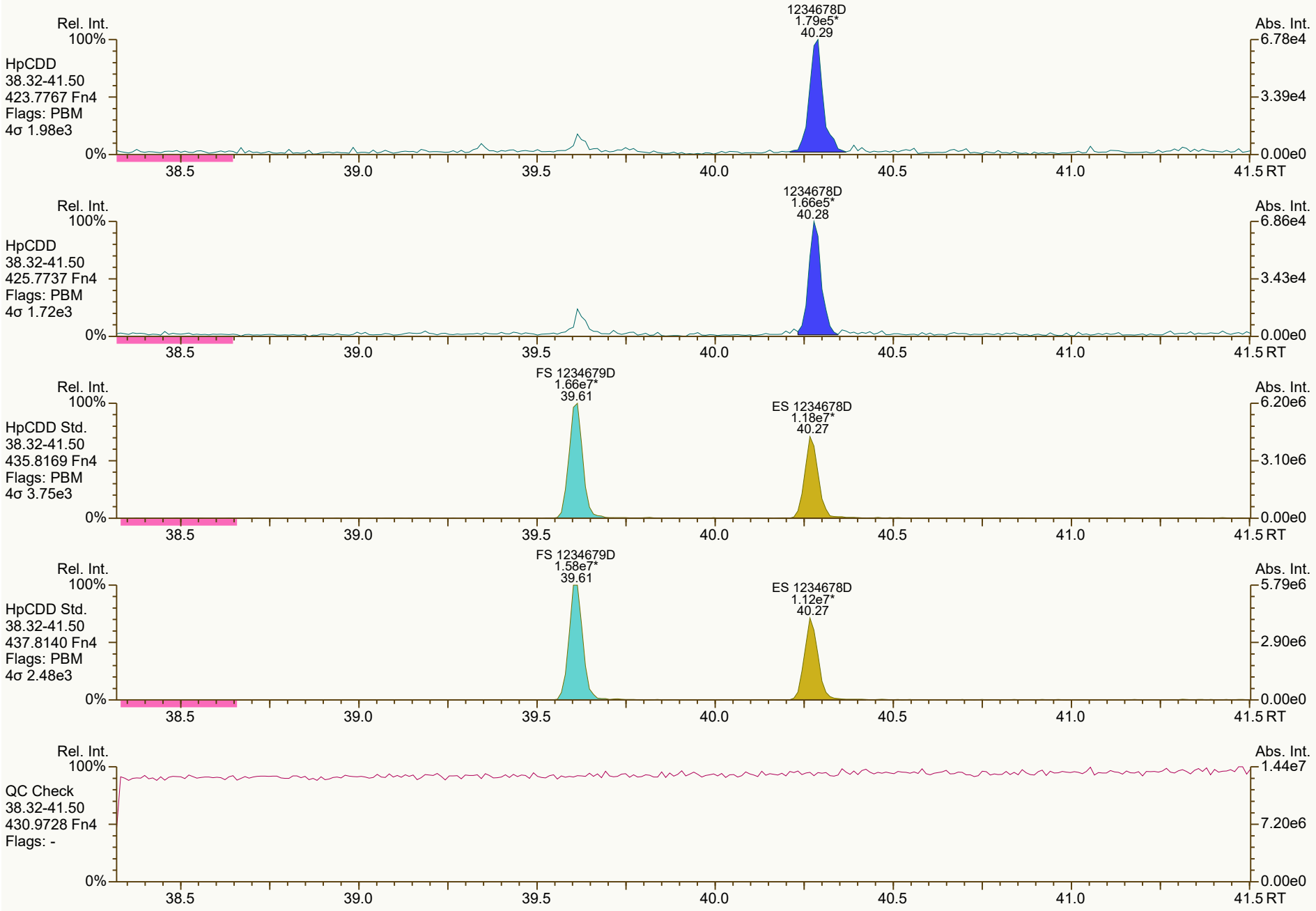
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF					Checkcode: 245-007-QLD
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C04
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%

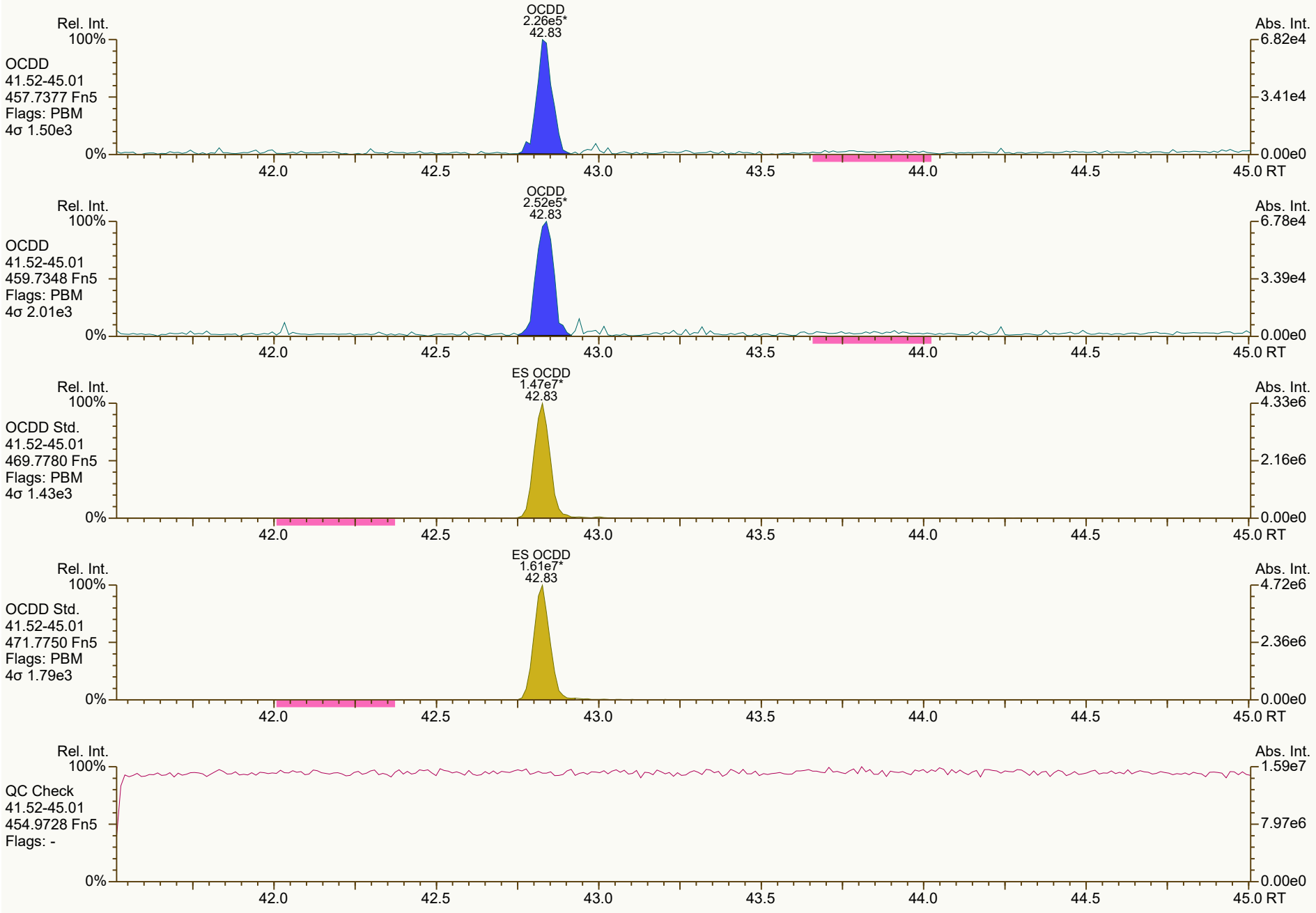

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.04e7
5.21e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.19e6
4.09e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.29e7
1.14e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.44e7
7.20e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.97e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
0%
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
Abs. Int.
1.67e4
8.35e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
2.13e4
1.06e4
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
0%
123478D
2.12e5*
37.05
123678D
2.21e5*
37.16
123789D
2.19e5*
37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
0%
123478D
1.77e5*
37.05
123678D
1.88e5*
37.16
123789D
1.95e5*
37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
0%
FS 123468D
1.80e7
35.98
ES 123478D
1.35e7
37.03
ES 123678D
1.38e7
37.15
JS 123467D
7.30e6*
37.35
ES 123789D
1.56e7*
37.45
Abs. Int.
5.89e6
2.94e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
0%
FS 123468D
1.42e7
35.98
ES 123478D
1.10e7
37.03
ES 123678D
1.09e7
37.15
JS 123467D
6.04e6*
37.35
ES 123789D
1.25e7*
37.45
Abs. Int.
4.67e6
2.33e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.29e7
1.14e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

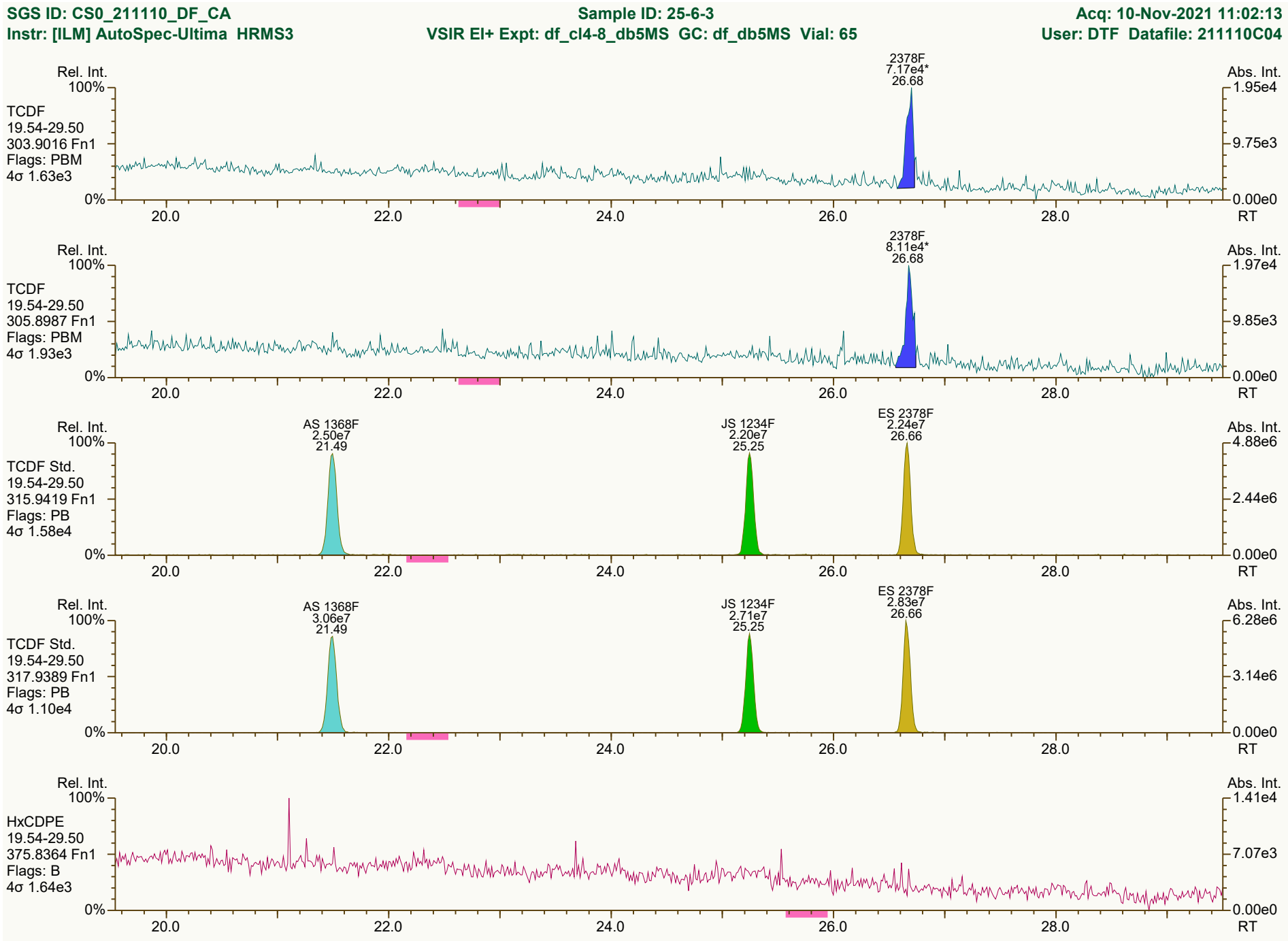

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
ES OCDD
1.47e7*
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
4.33e6
2.16e6
ES OCDD
1.61e7*
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
4.72e6
2.36e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.59e7
7.97e6

SGS ID: CS0_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 25-6-3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65

Acq: 10-Nov-2021 11:02:13
User: DTF Datafile: 211110C04

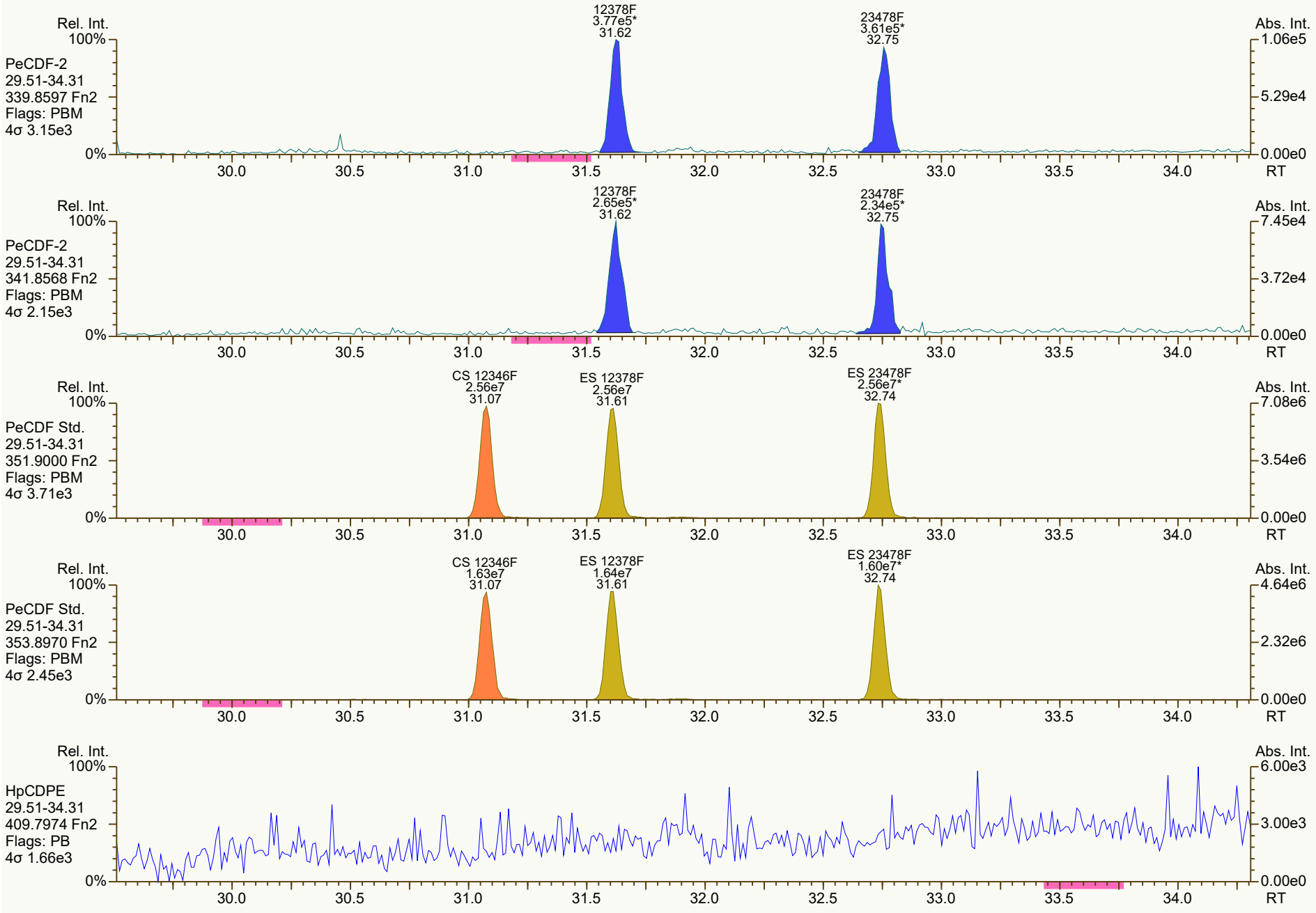


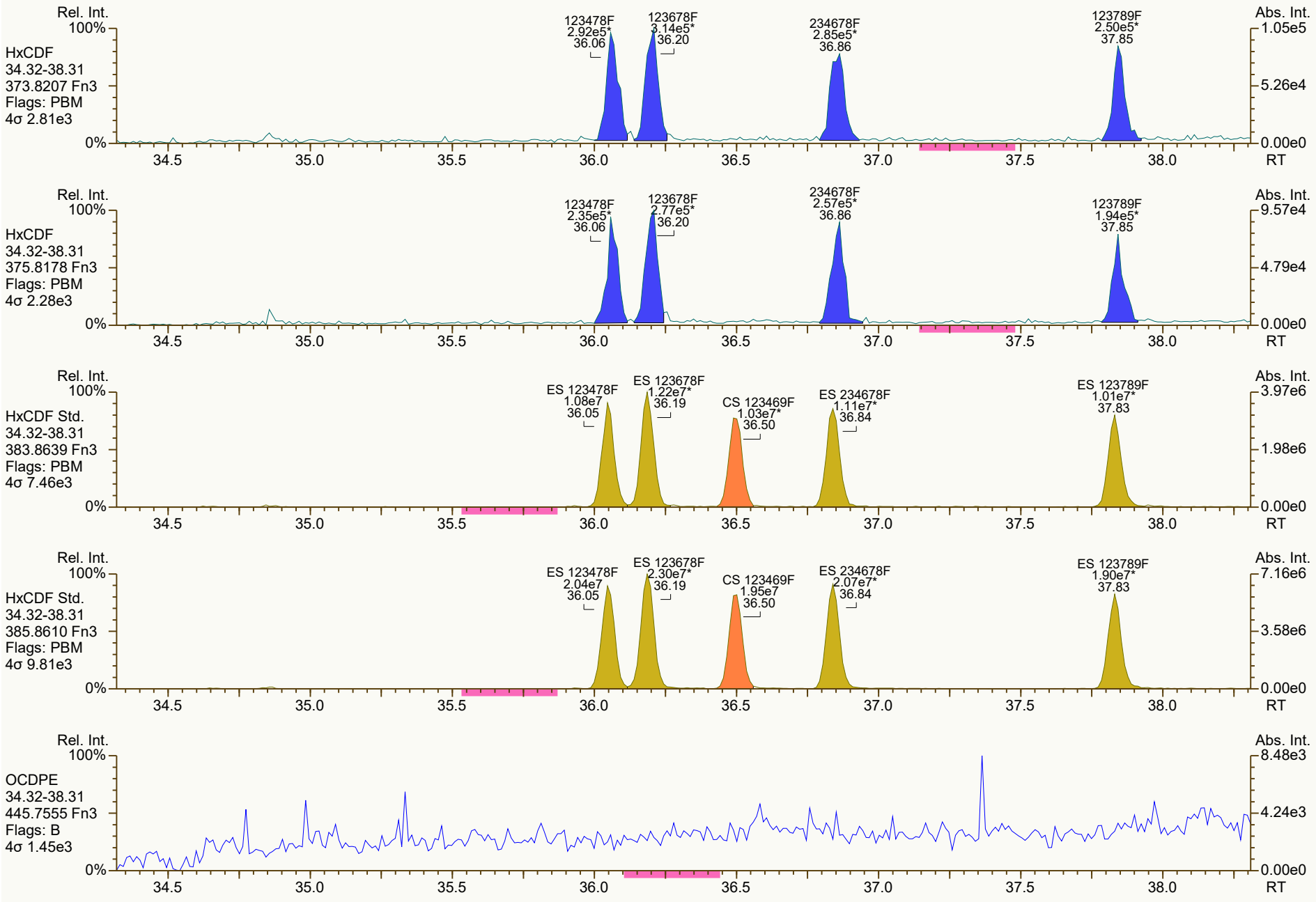
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 5762, 7924, 6610 scc: 245-007
Revised: 10-Nov-2021 13:35 (DTF) Printed: 11-Nov-2021 16:32 Page 7 of 12

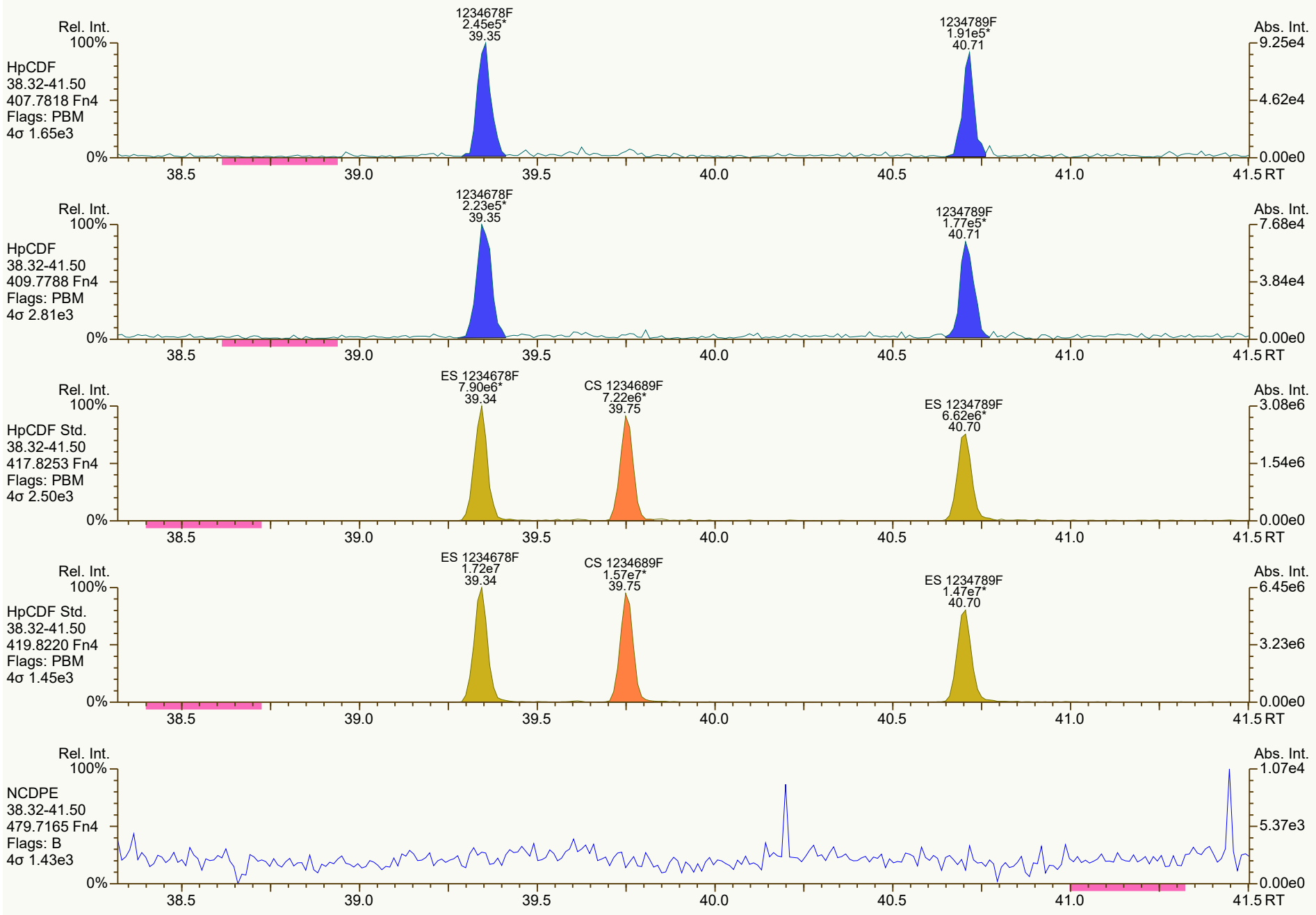
SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6412 scc: 245-007
PKD: 10-Nov-2021 13:30 Printed: 11-Nov-2021 16:32 Page 8 of 12


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

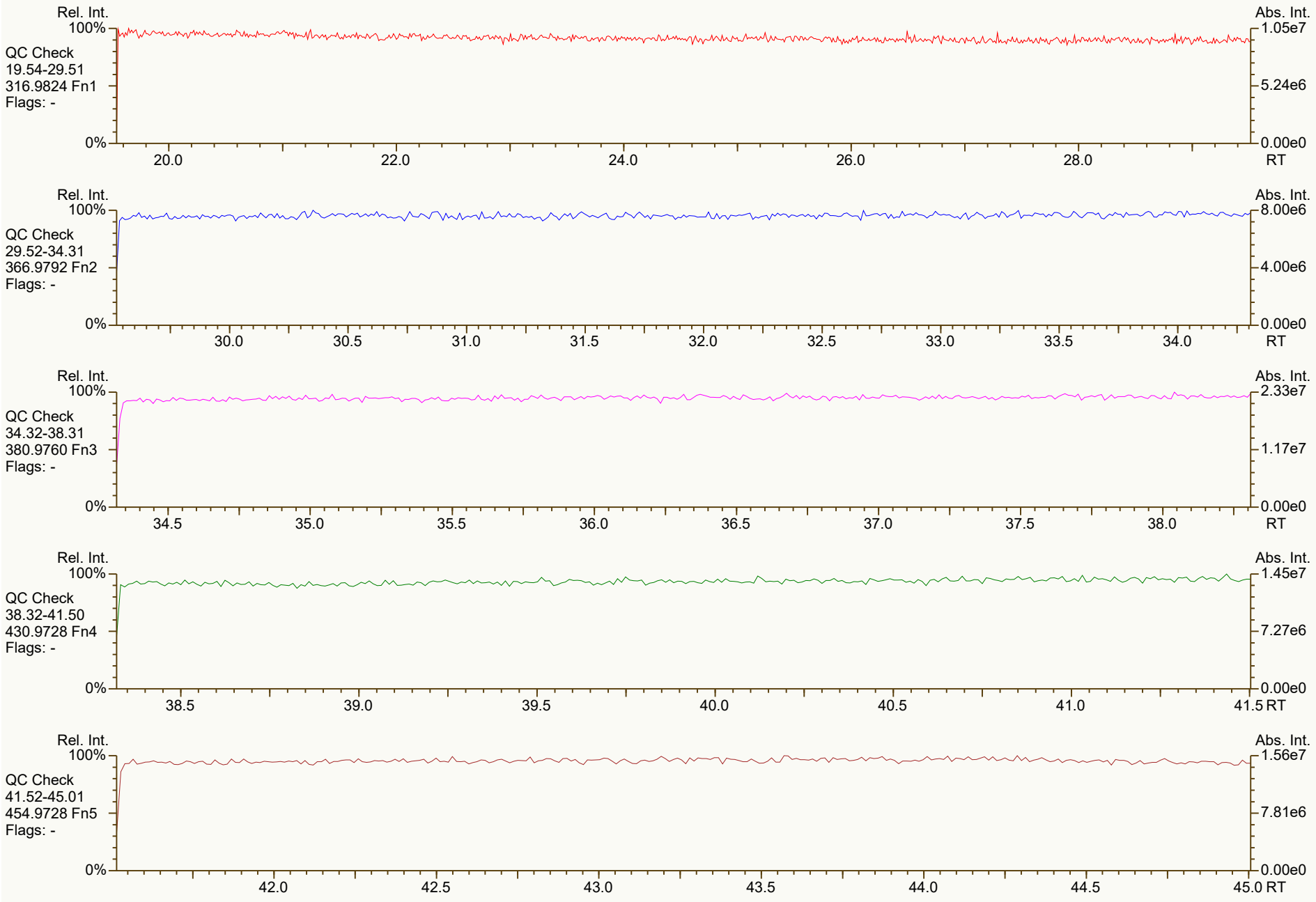

Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
0%
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
0%
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
0%
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
0%
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

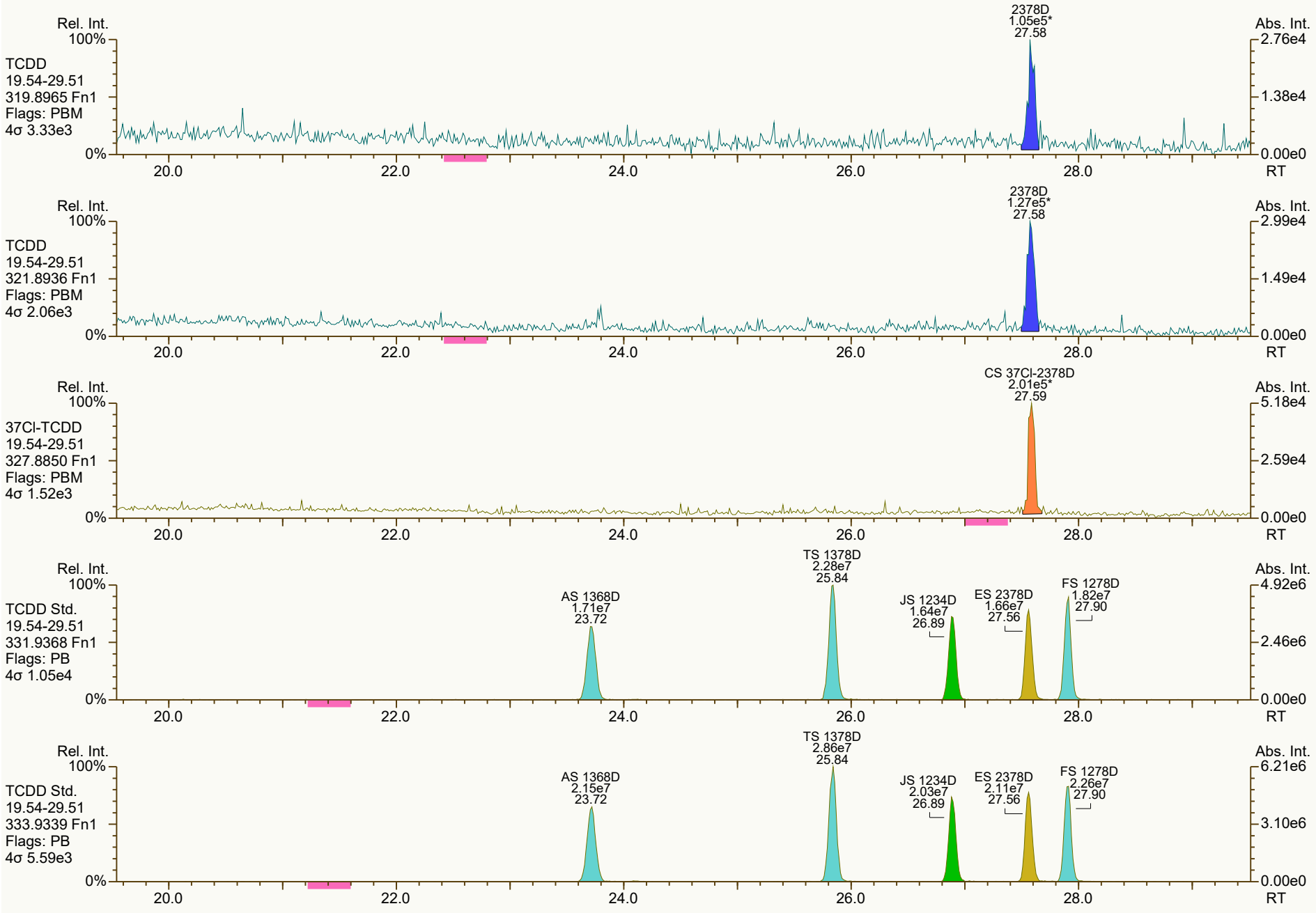

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

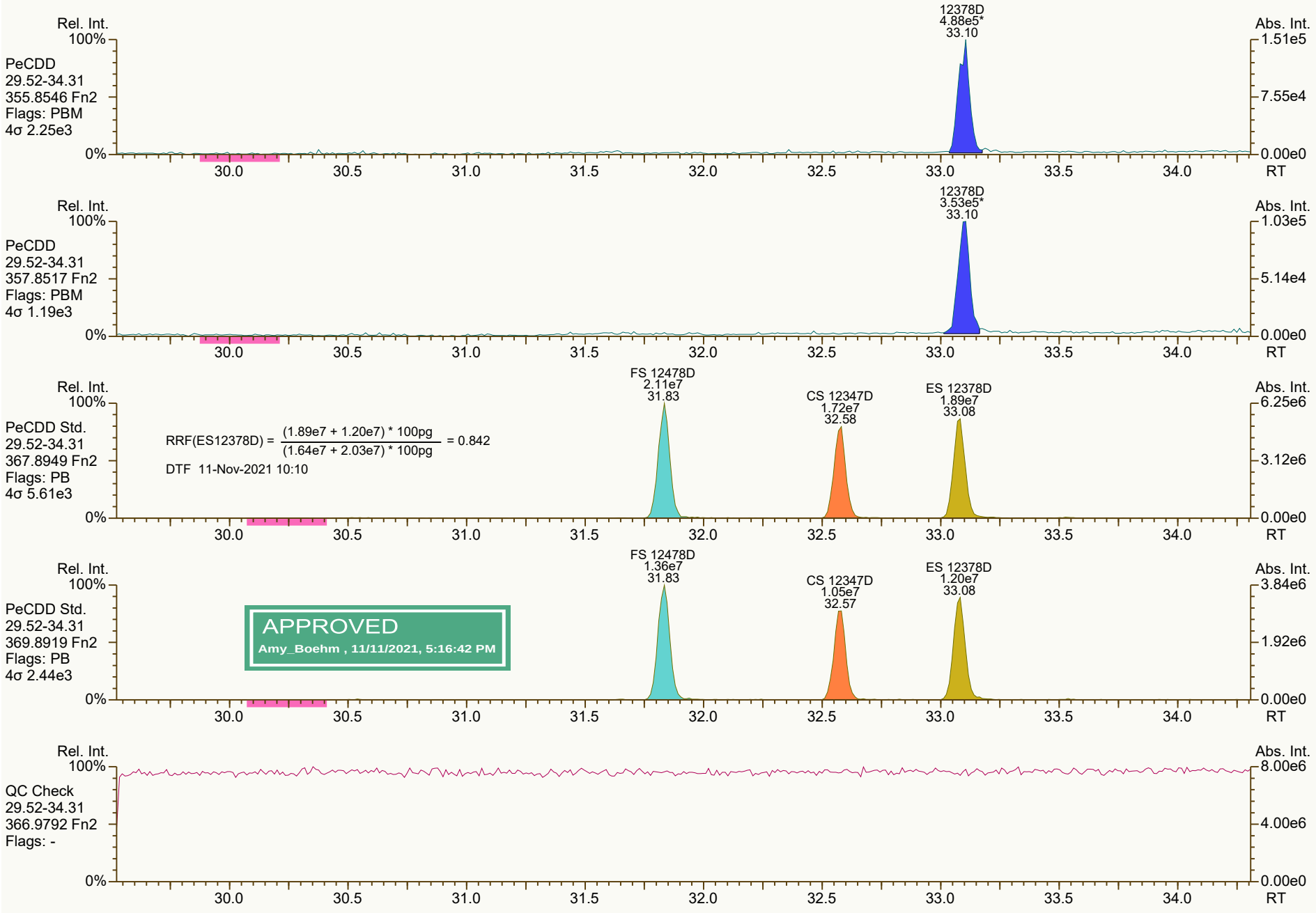

OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

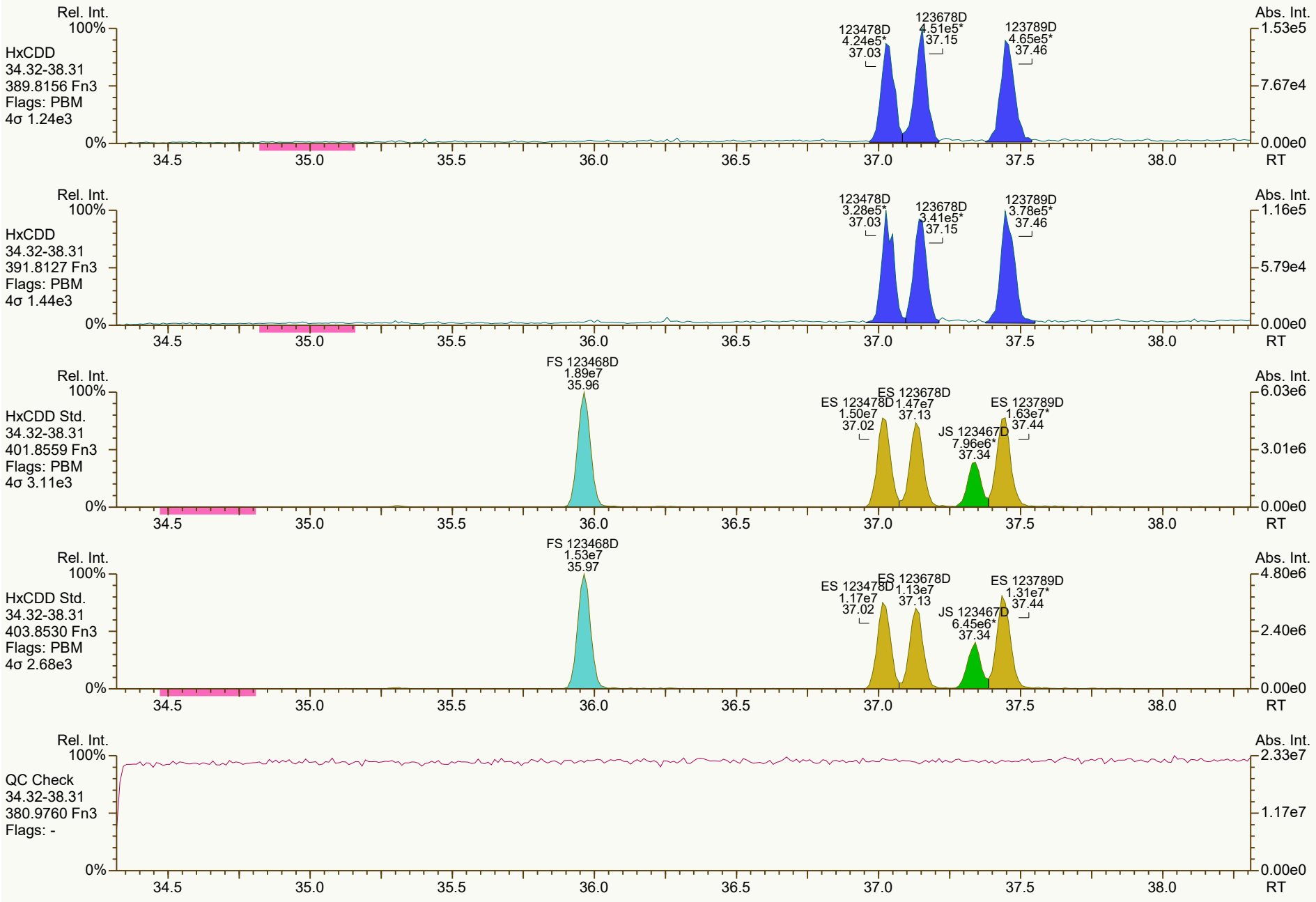
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

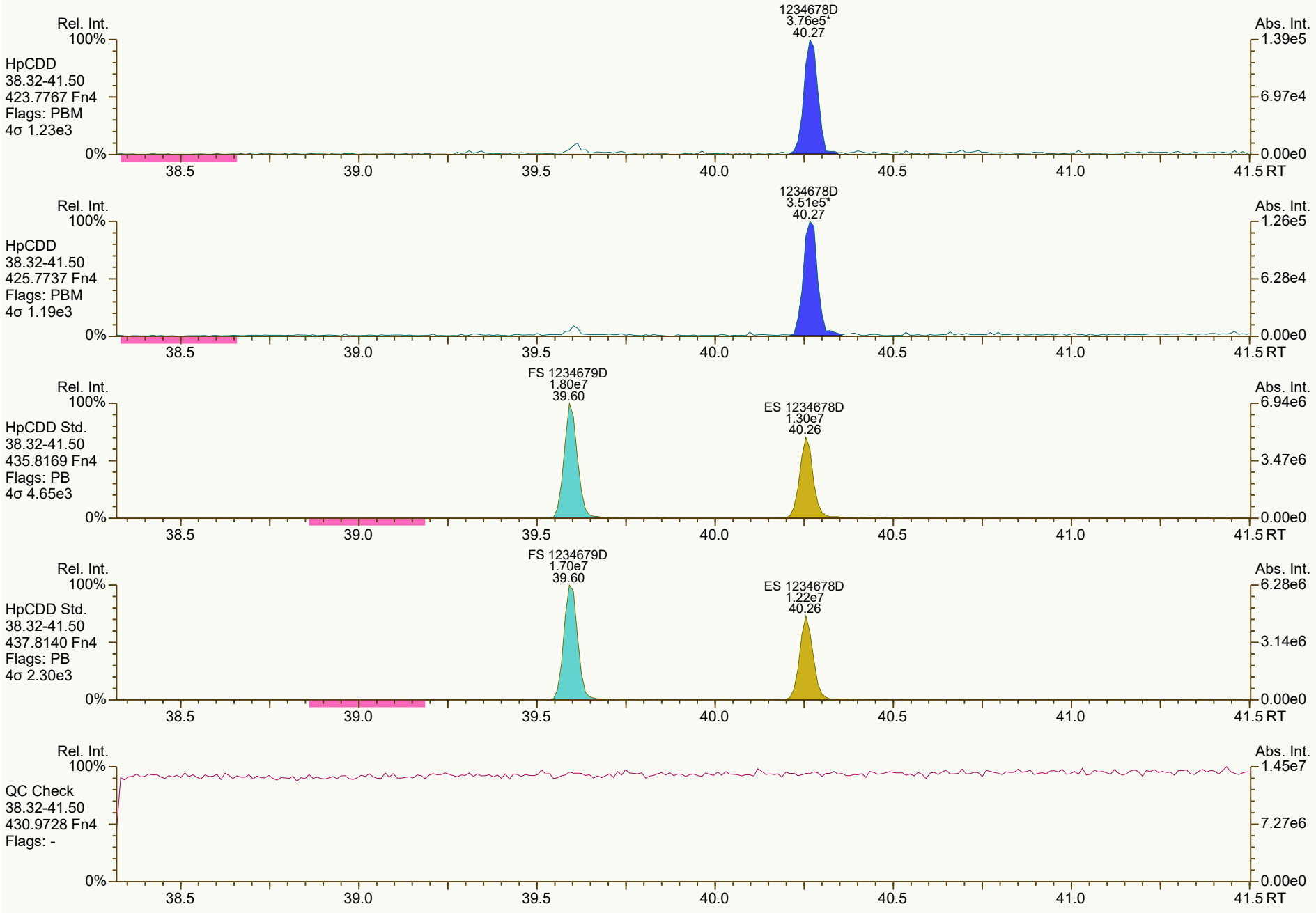
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

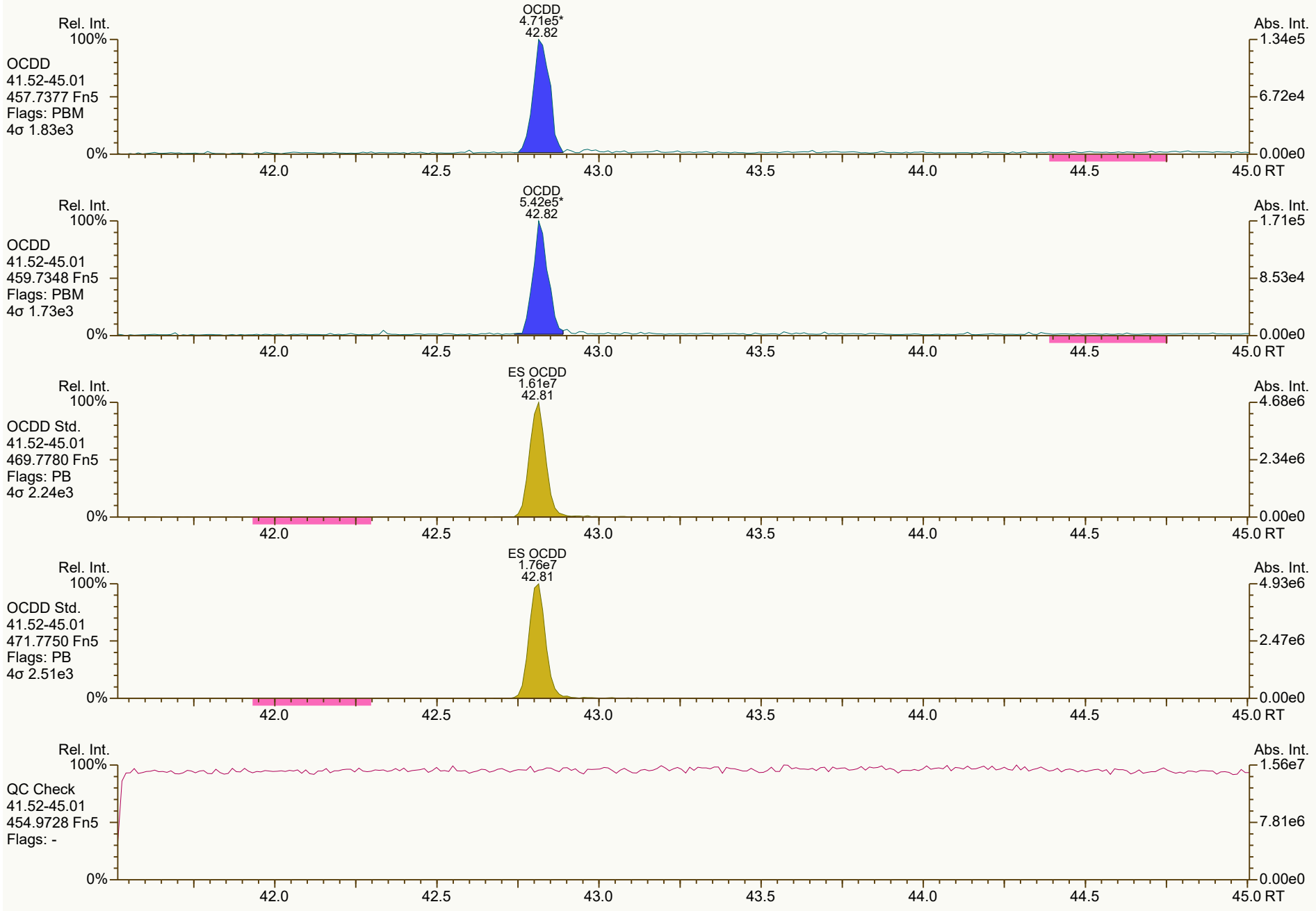

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.05e7
5.24e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.00e6
4.00e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.27e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.56e7
7.81e6
0.00e0

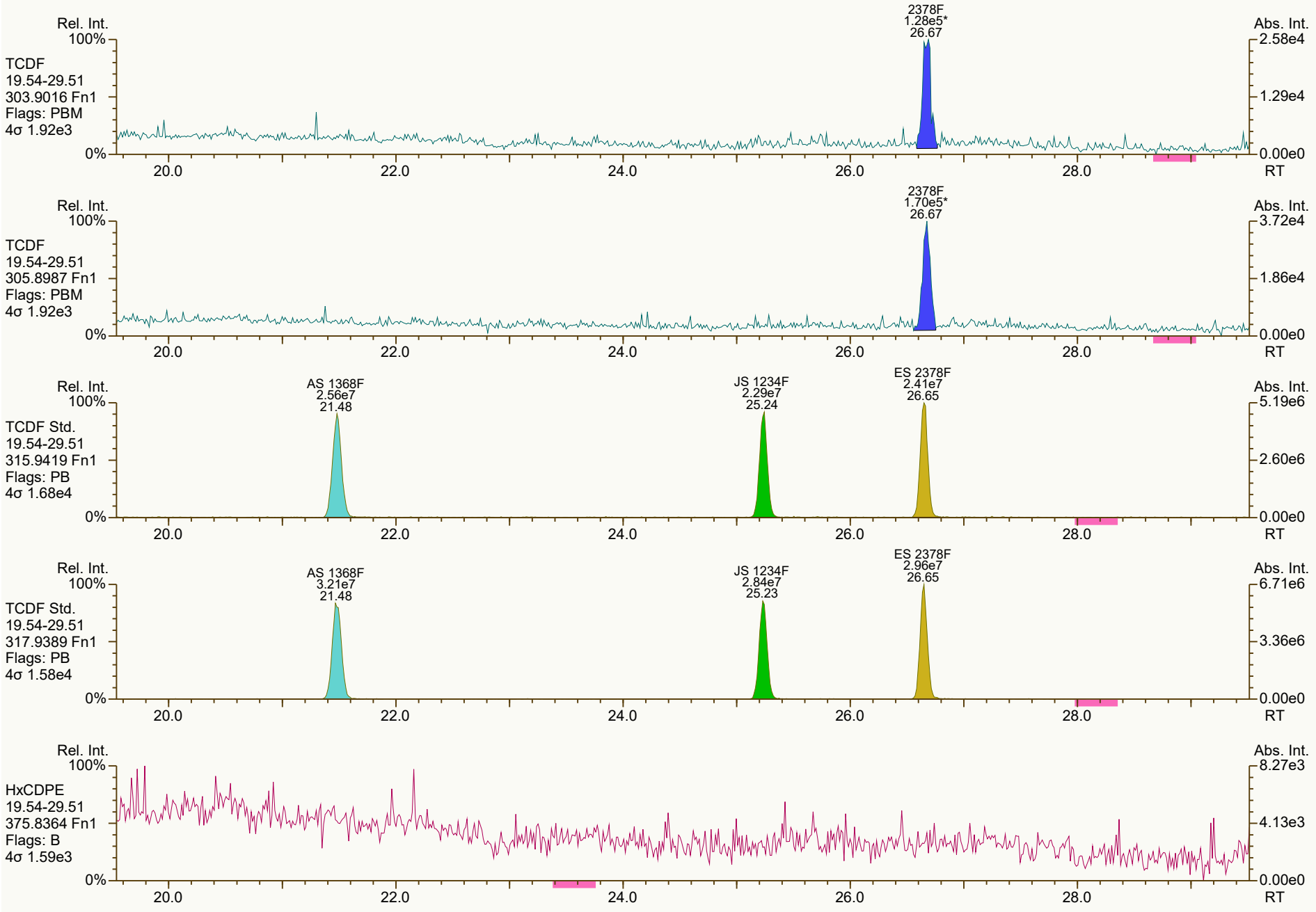

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

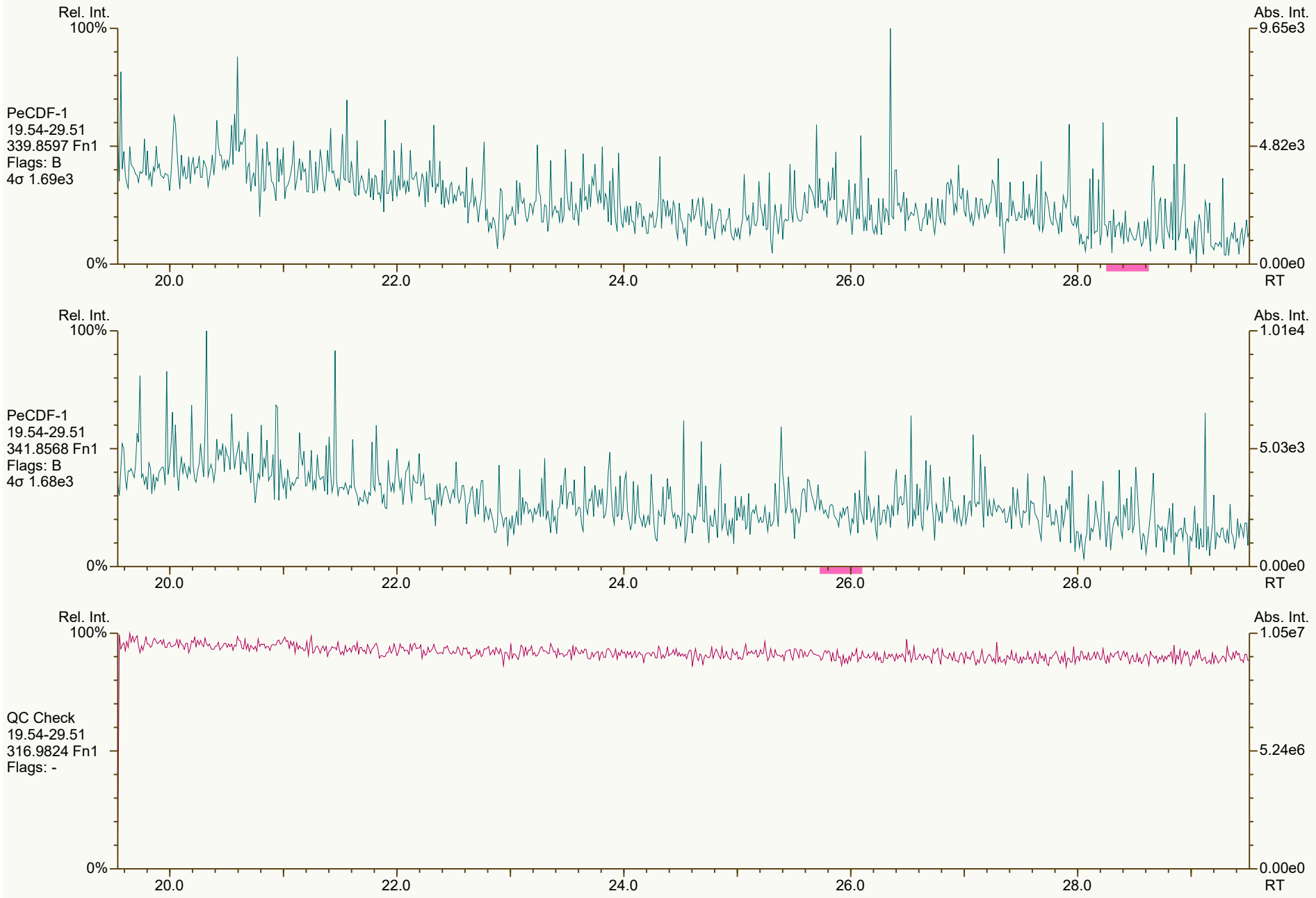

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123678D
1.47e7
37.13
ES 123478D
1.50e7
37.02
ES 123789D
1.63e7*
37.44
JS 123467D
7.96e6*
37.34
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123678D
1.13e7
37.13
ES 123478D
1.17e7
37.02
ES 123789D
1.31e7*
37.44
JS 123467D
6.45e6*
37.34
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

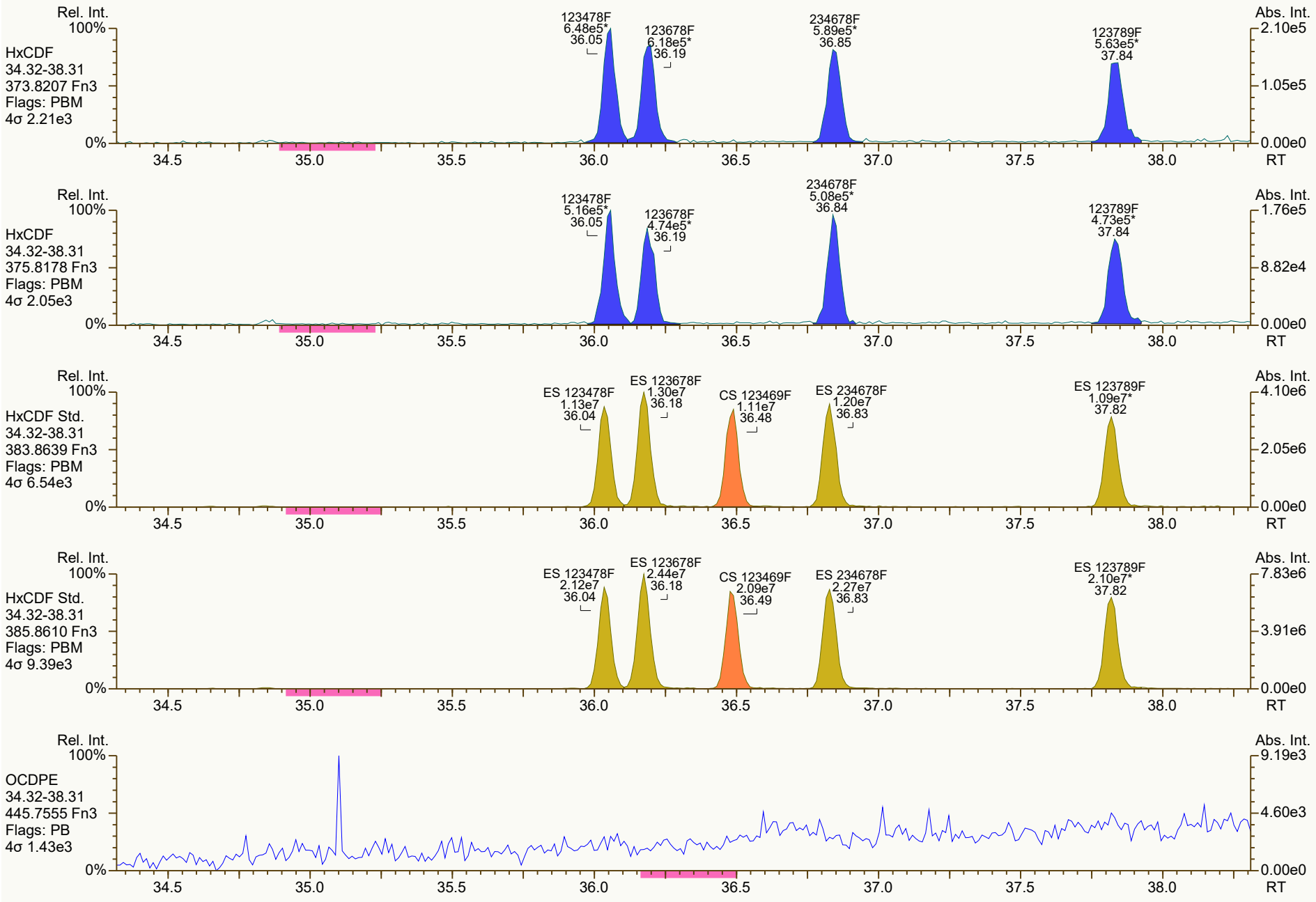

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

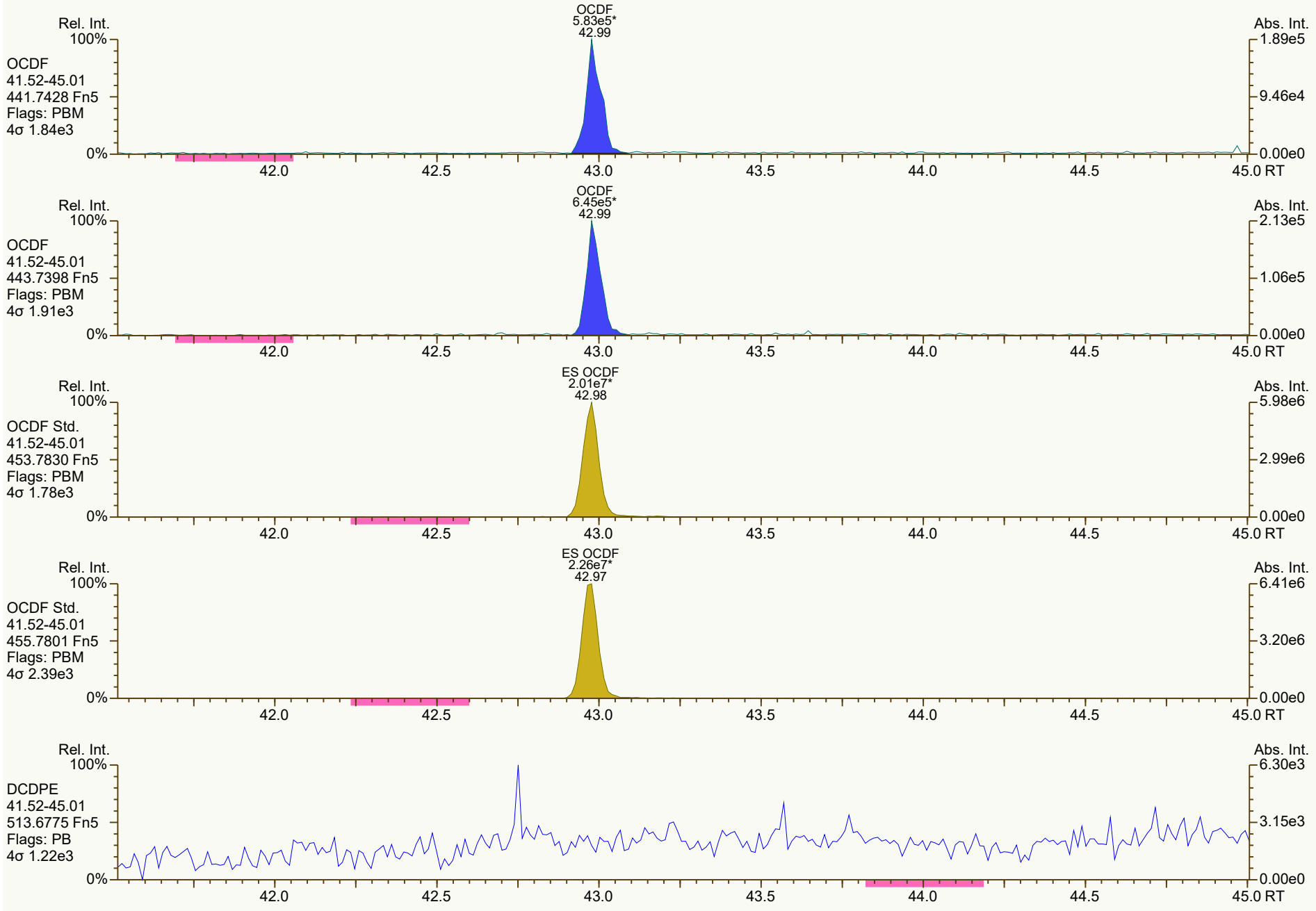

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
2.10e5
1.05e5
0.00e0
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
1.40e5
7.02e4
0.00e0
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
7.54e6
3.77e6
0.00e0
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
4.85e6
2.42e6
0.00e0
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
1.10e4
5.51e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
0%
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
1.76e5
8.82e4
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
4.10e6
2.05e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
7.83e6
3.91e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
9.19e3
4.60e3

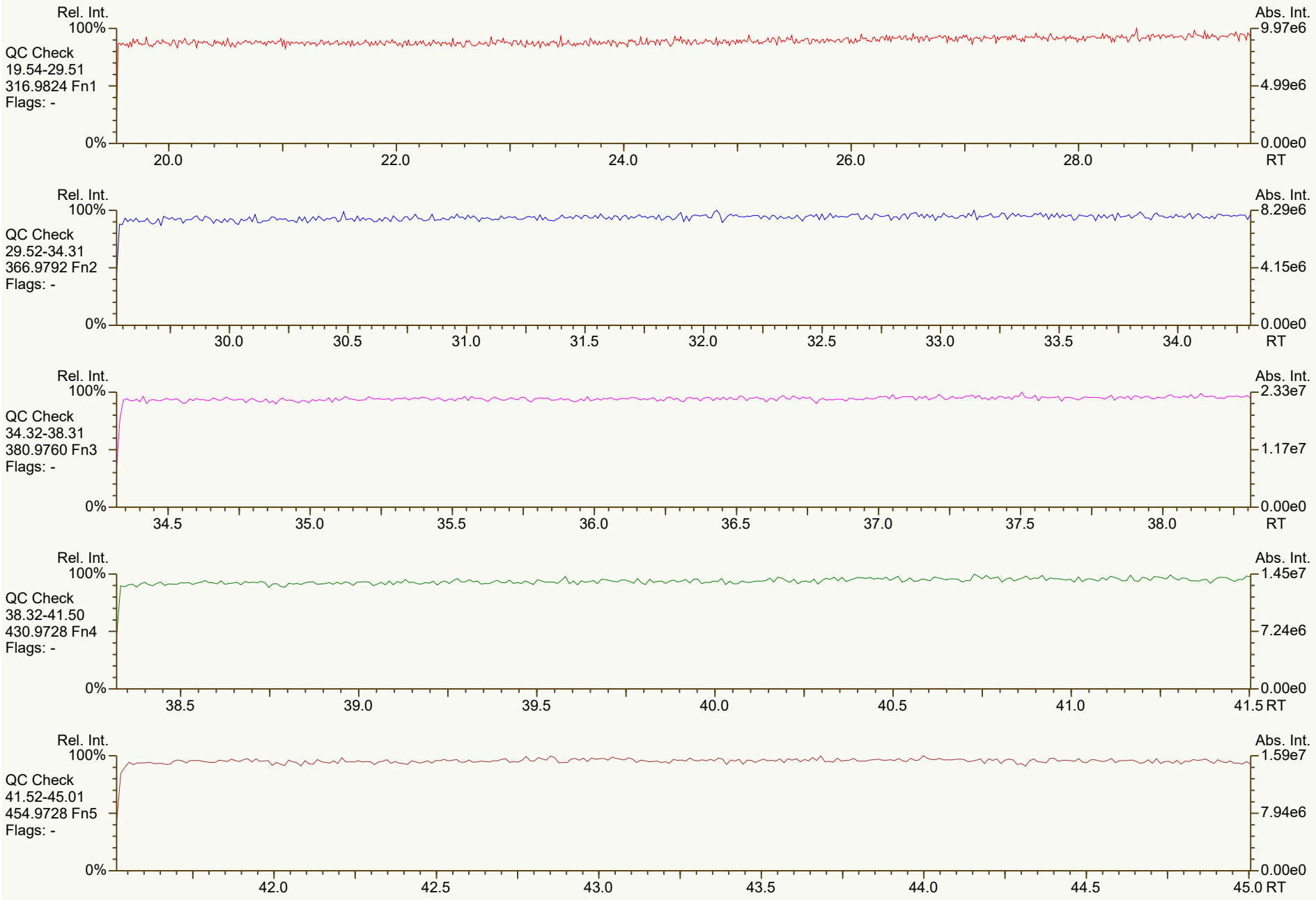

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
0%
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
Abs. Int.
2.00e5
9.99e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
0%
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
Abs. Int.
1.67e5
8.36e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
0%
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
Abs. Int.
3.13e6
1.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
0%
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
Abs. Int.
6.42e6
3.21e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
0%
Abs. Int.
3.72e3
1.86e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

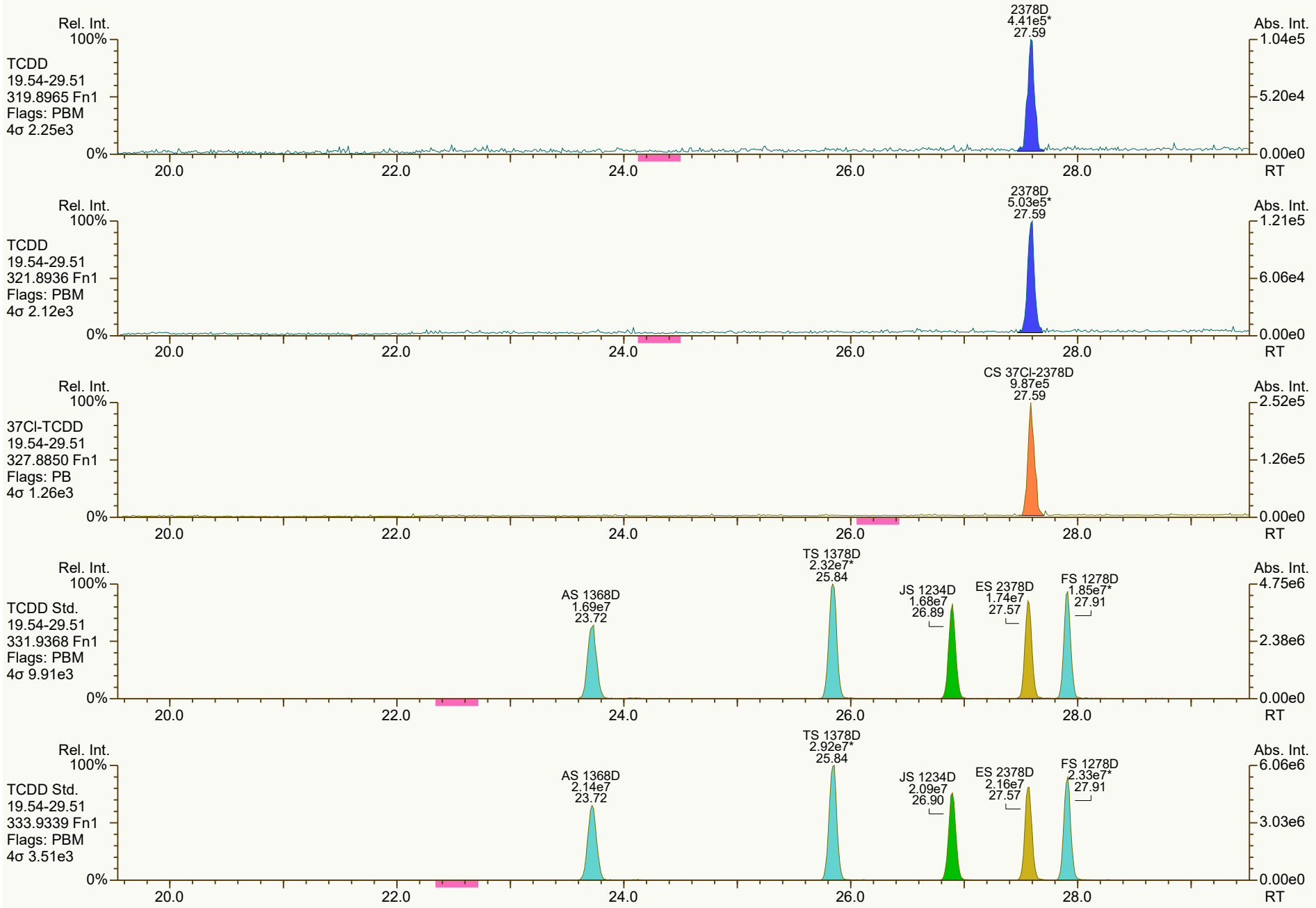

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
OCDF
5.83e5*
42.99
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
OCDF
6.45e5*
42.99
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
ES OCDF
2.01e7*
42.98
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
ES OCDF
2.26e7*
42.97
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

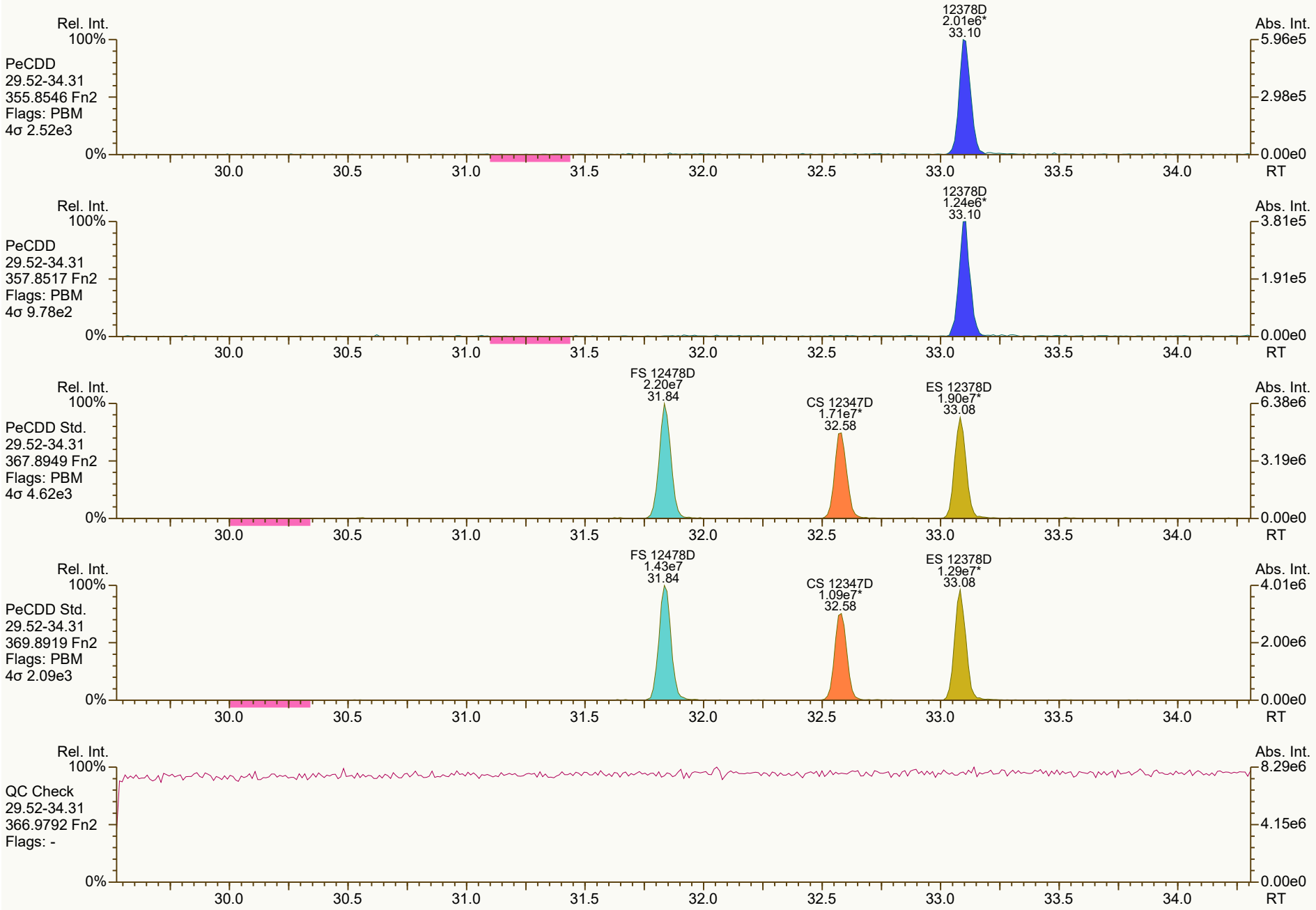
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

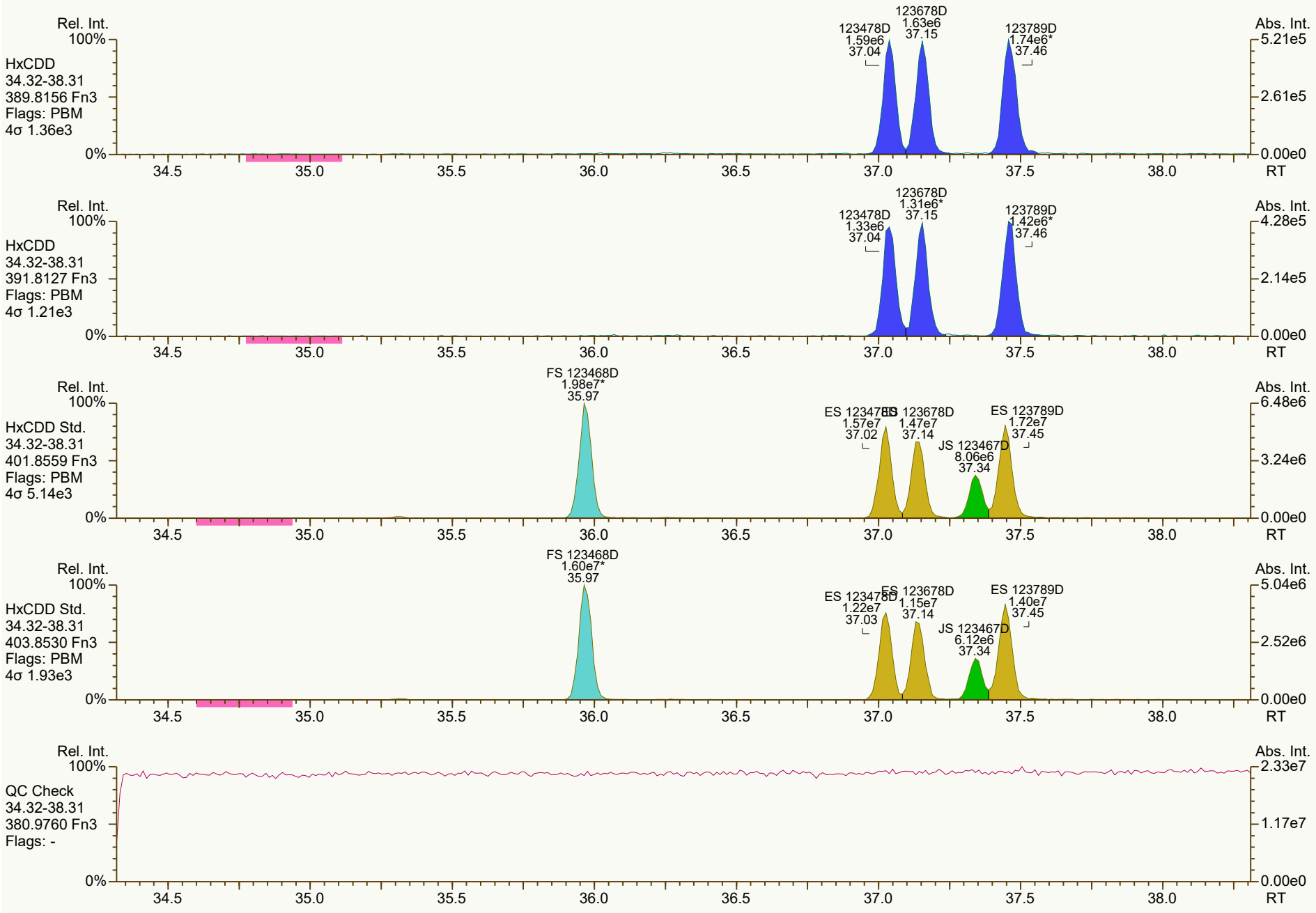
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

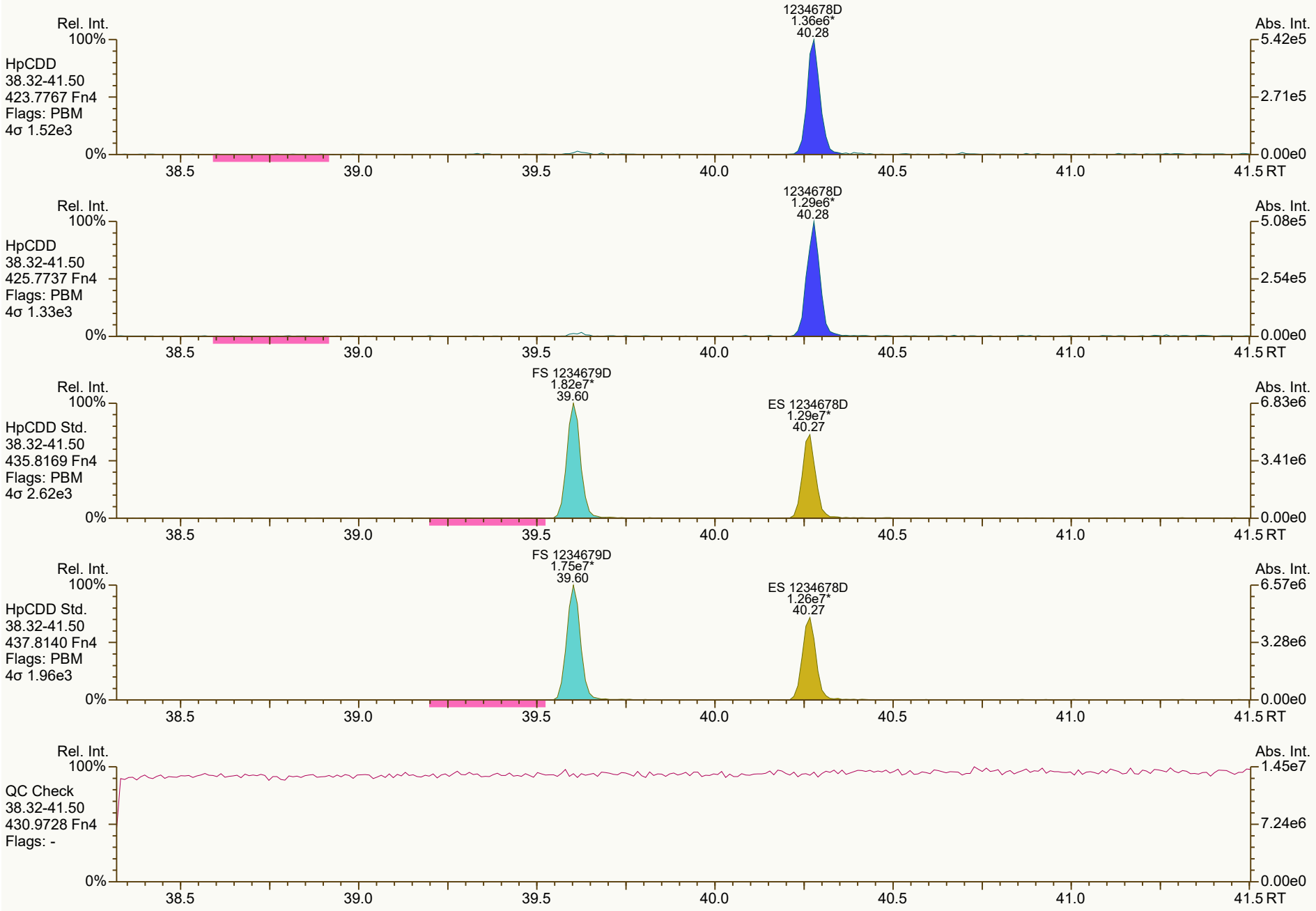
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 12:34 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS2_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 385-758-WQN	
Sample ID: 25-6-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C06	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

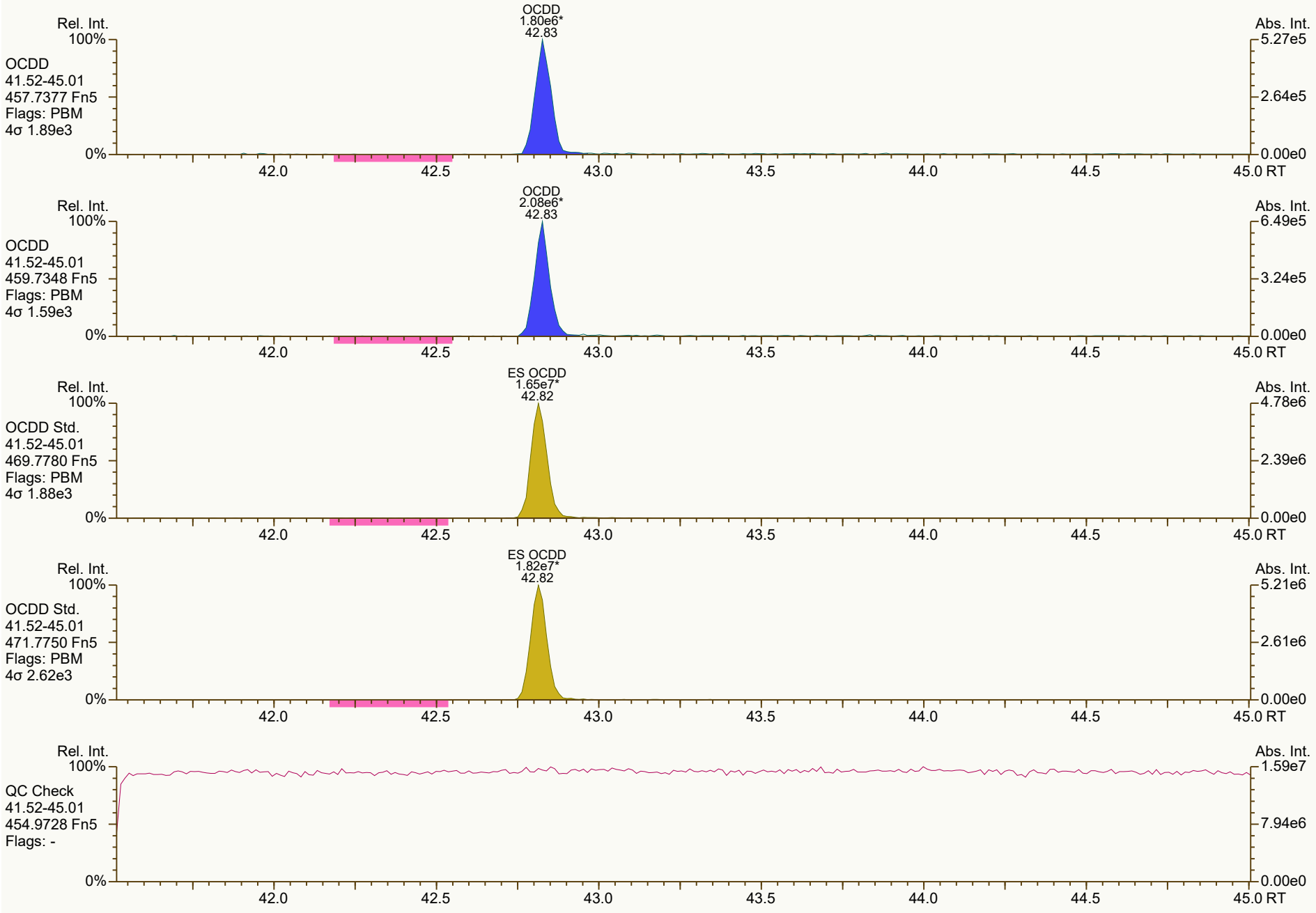

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0

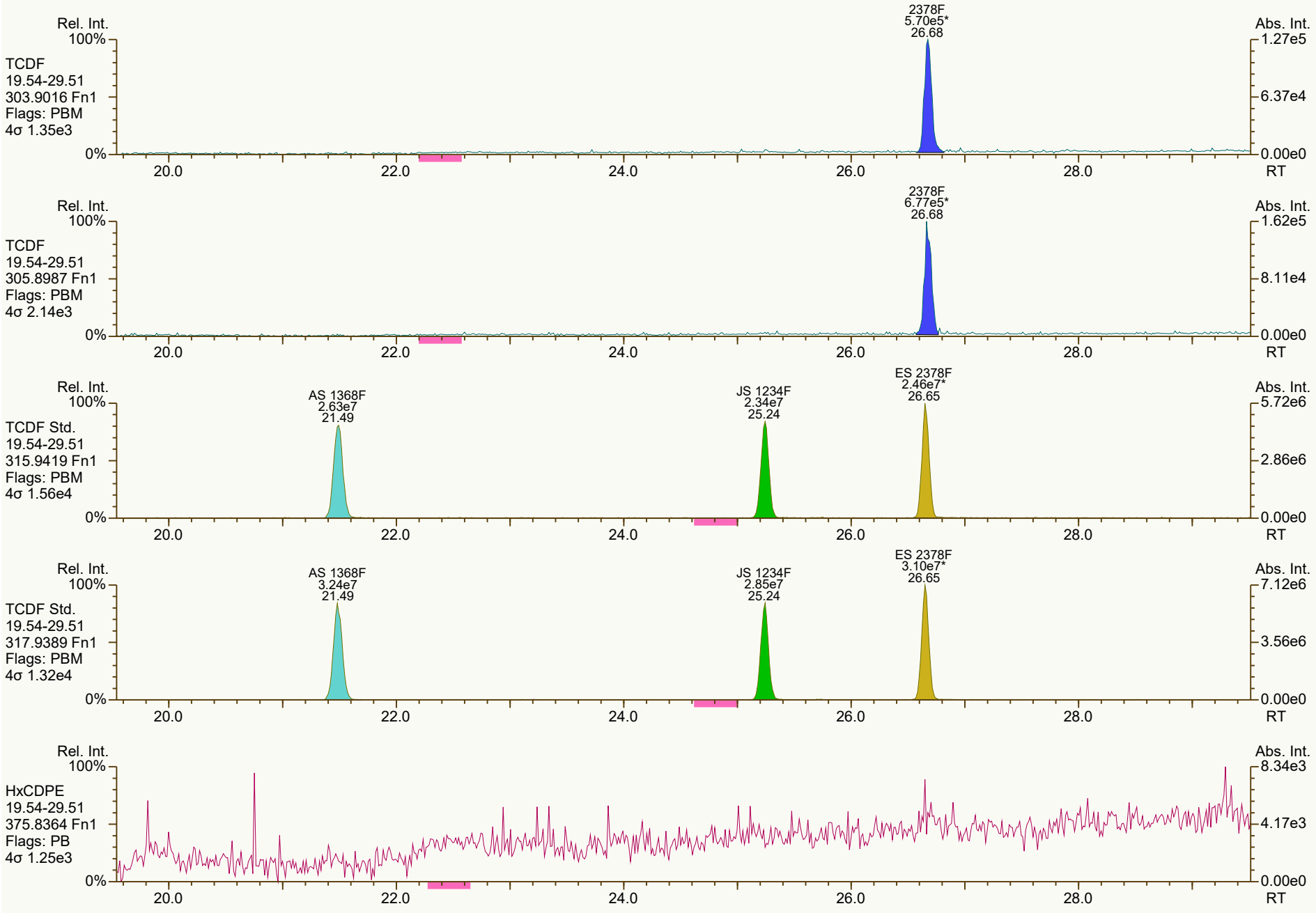

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
4.28e5
2.14e5
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
6.48e6
3.24e6
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
5.04e6
2.52e6
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.33e7
1.17e7

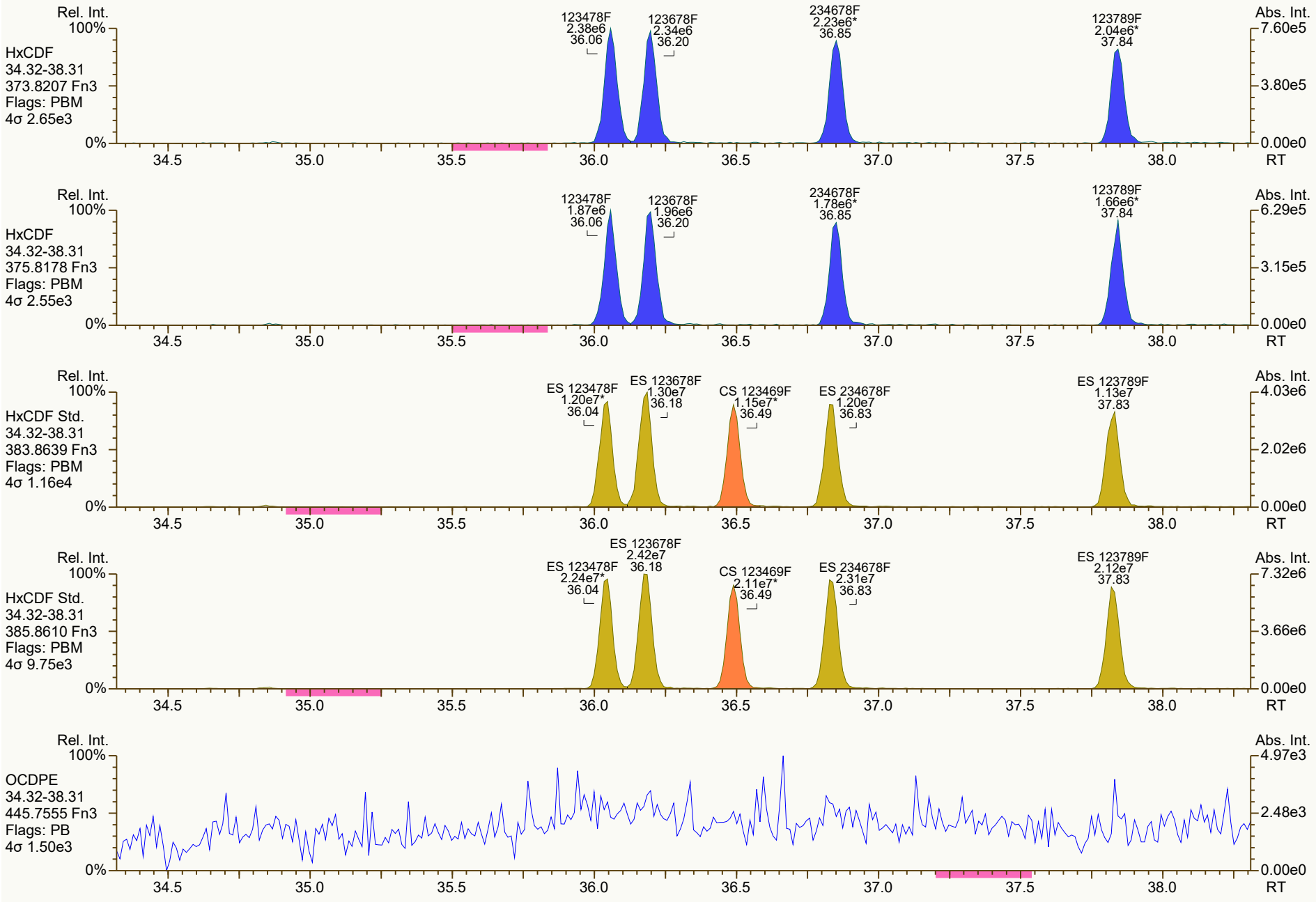

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

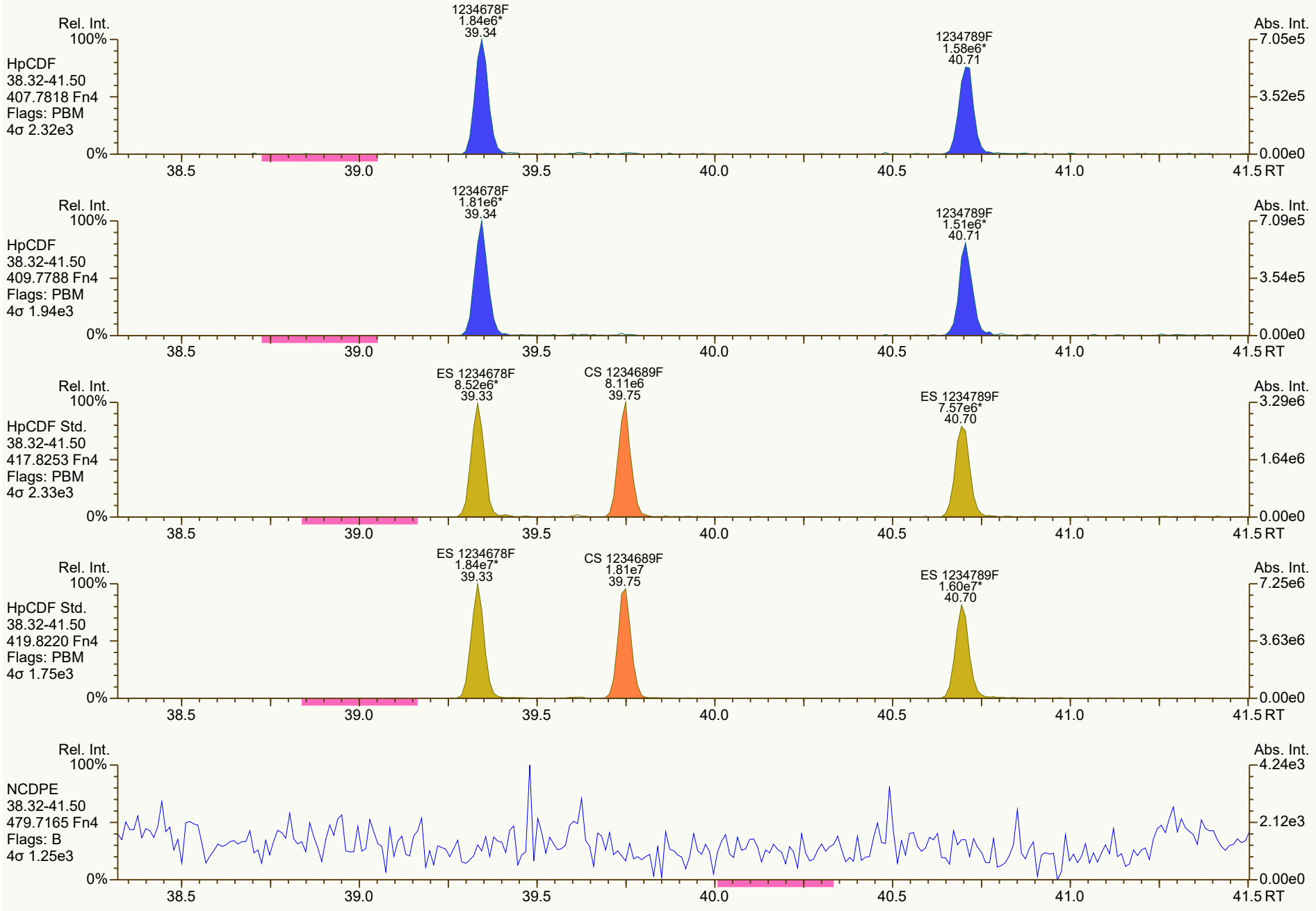

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

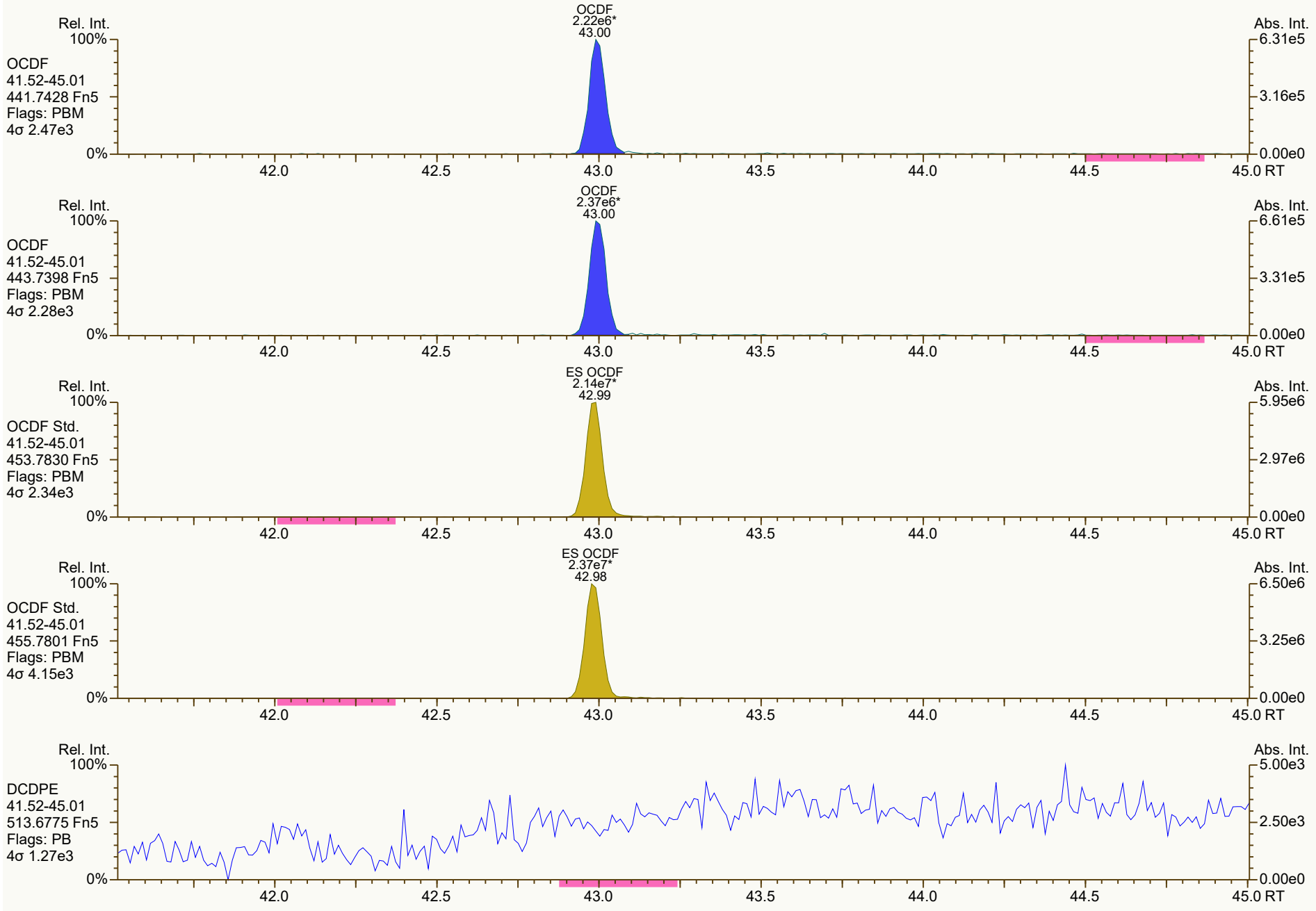

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
0%
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
0%
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
0%
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
0%
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
5.27e5
2.63e5
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
8.01e6
4.01e6
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
5.19e6
2.59e6
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
6.67e3
3.33e3


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
6.29e5
3.15e5
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
4.03e6
2.02e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
ES 123478F
2.24e7*
36.04
ES 123678F
2.42e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
7.32e6
3.66e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
4.97e3
2.48e3

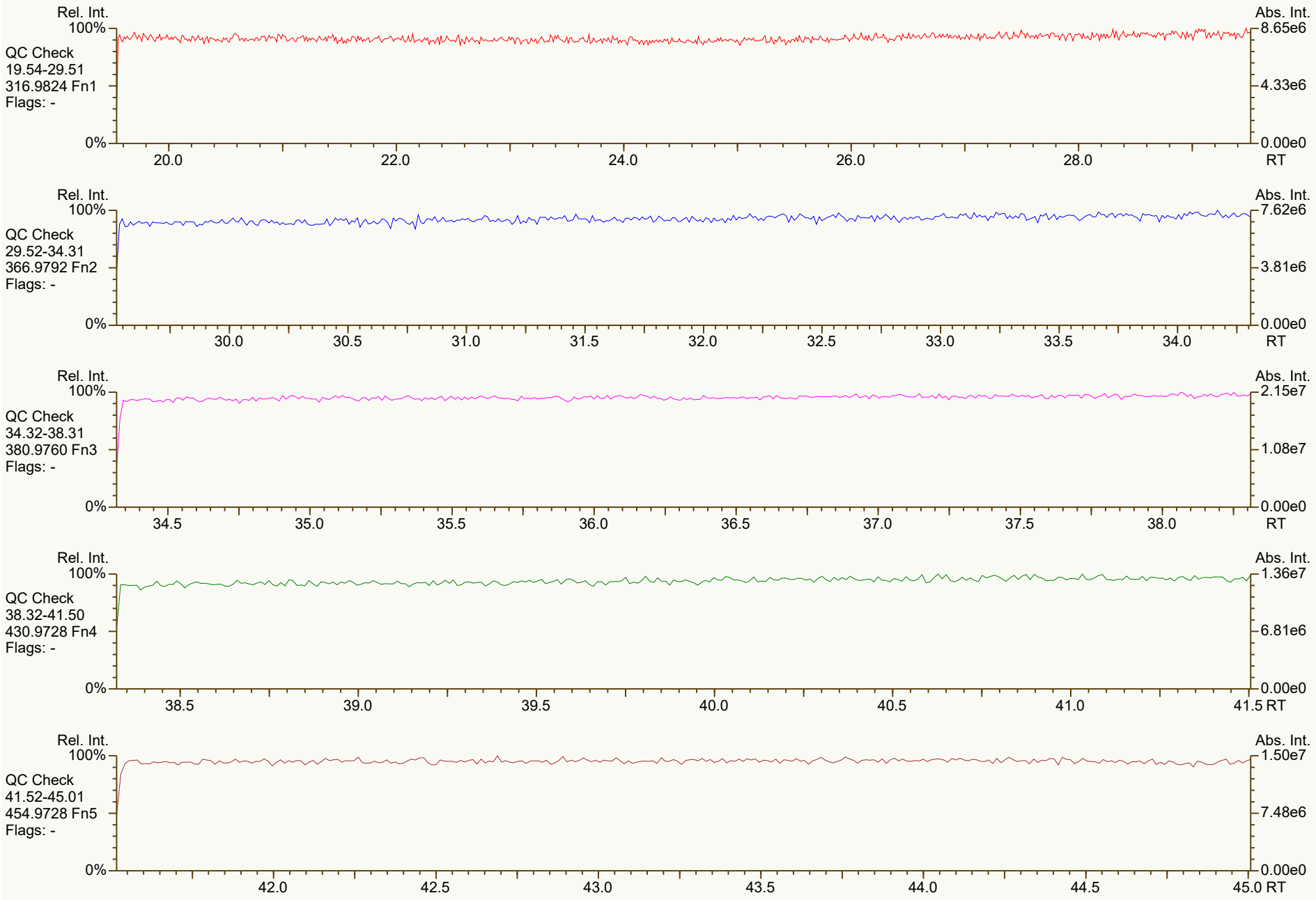

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
0%
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
0%
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
0%
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
0%
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
0%
Abs. Int.
4.24e3
2.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
2.22e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
0%
Abs. Int.
6.31e5
3.16e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.37e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
0%
Abs. Int.
6.61e5
3.31e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.14e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
5.95e6
2.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.37e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
0%
Abs. Int.
6.50e6
3.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

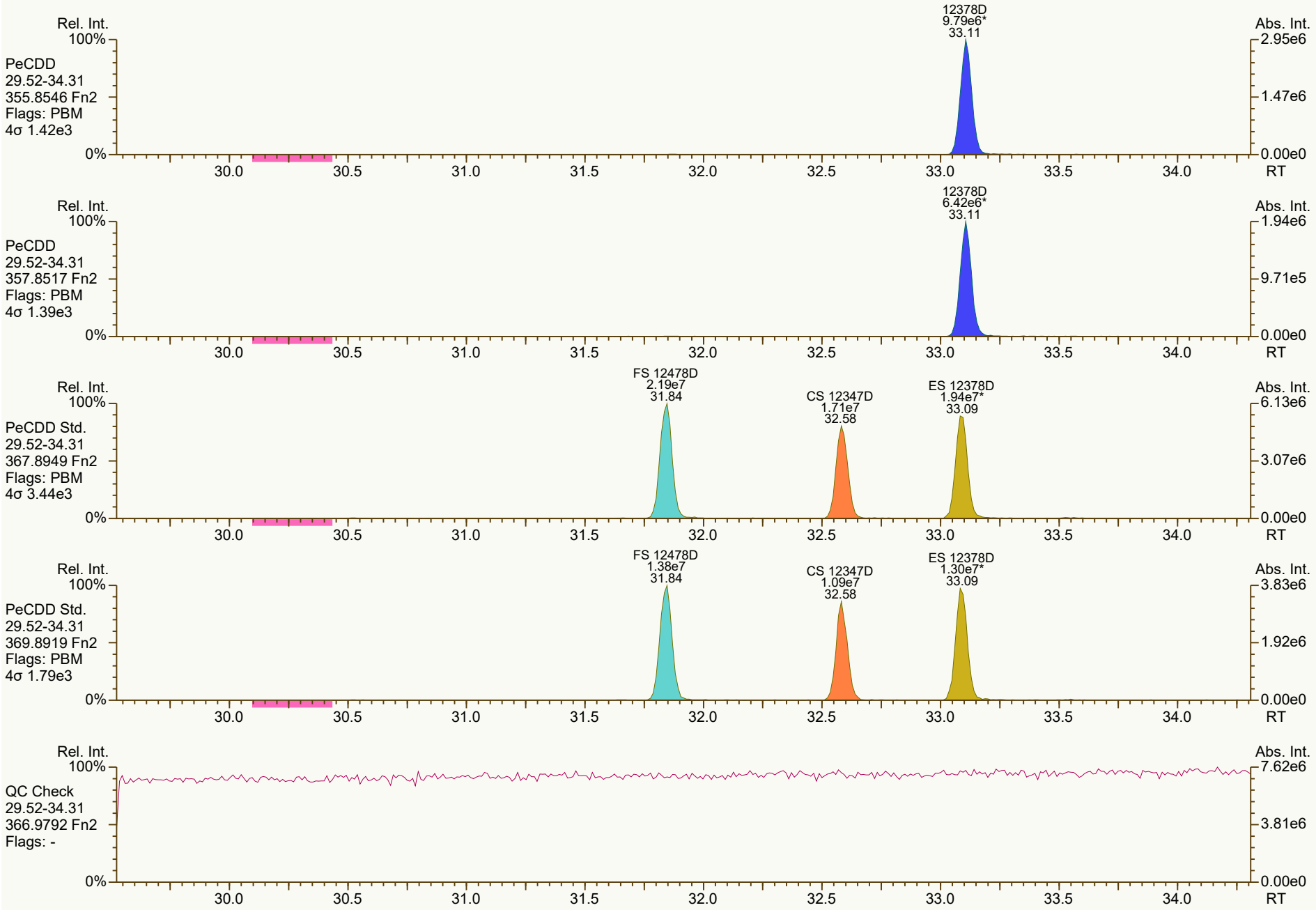
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

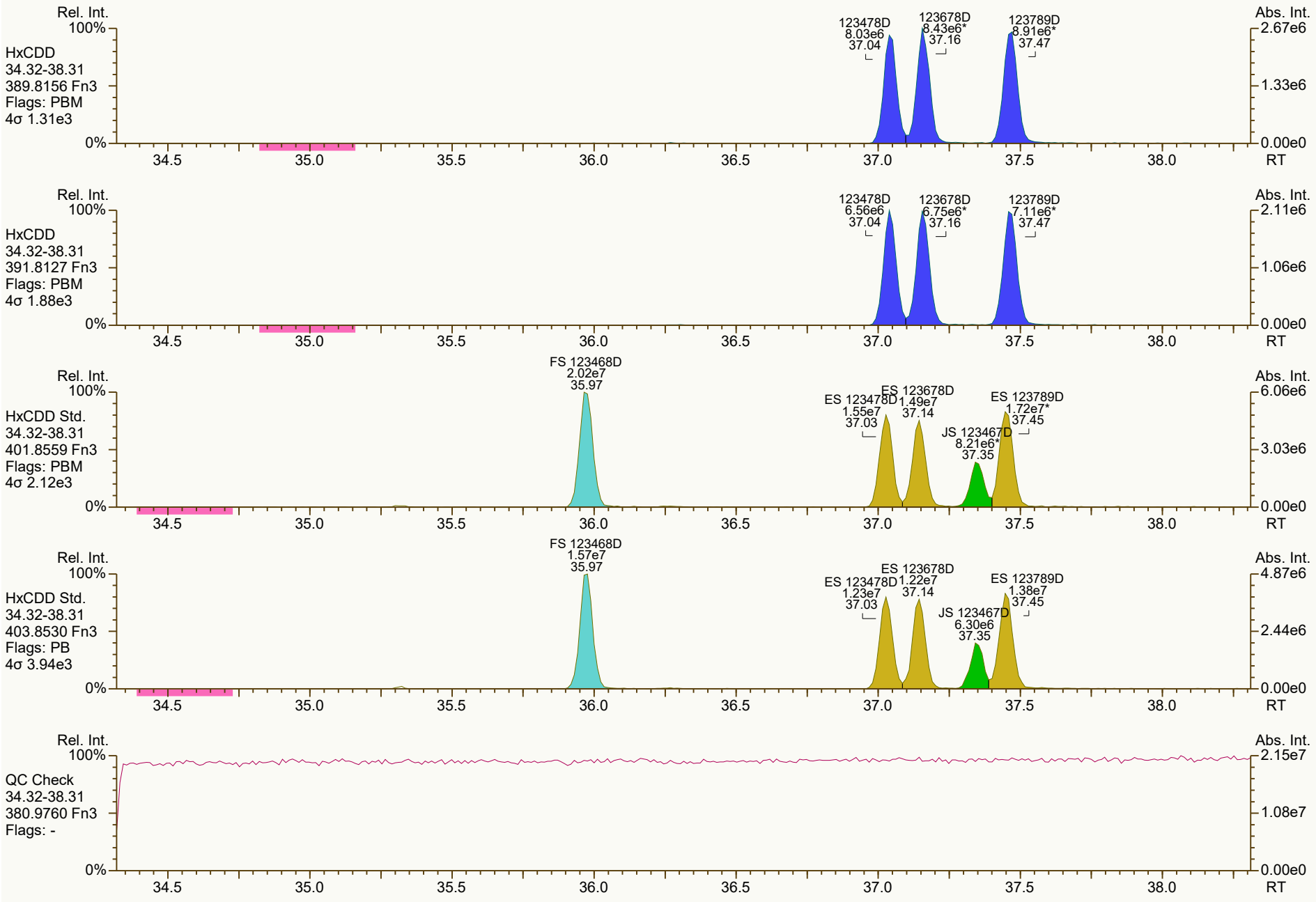
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

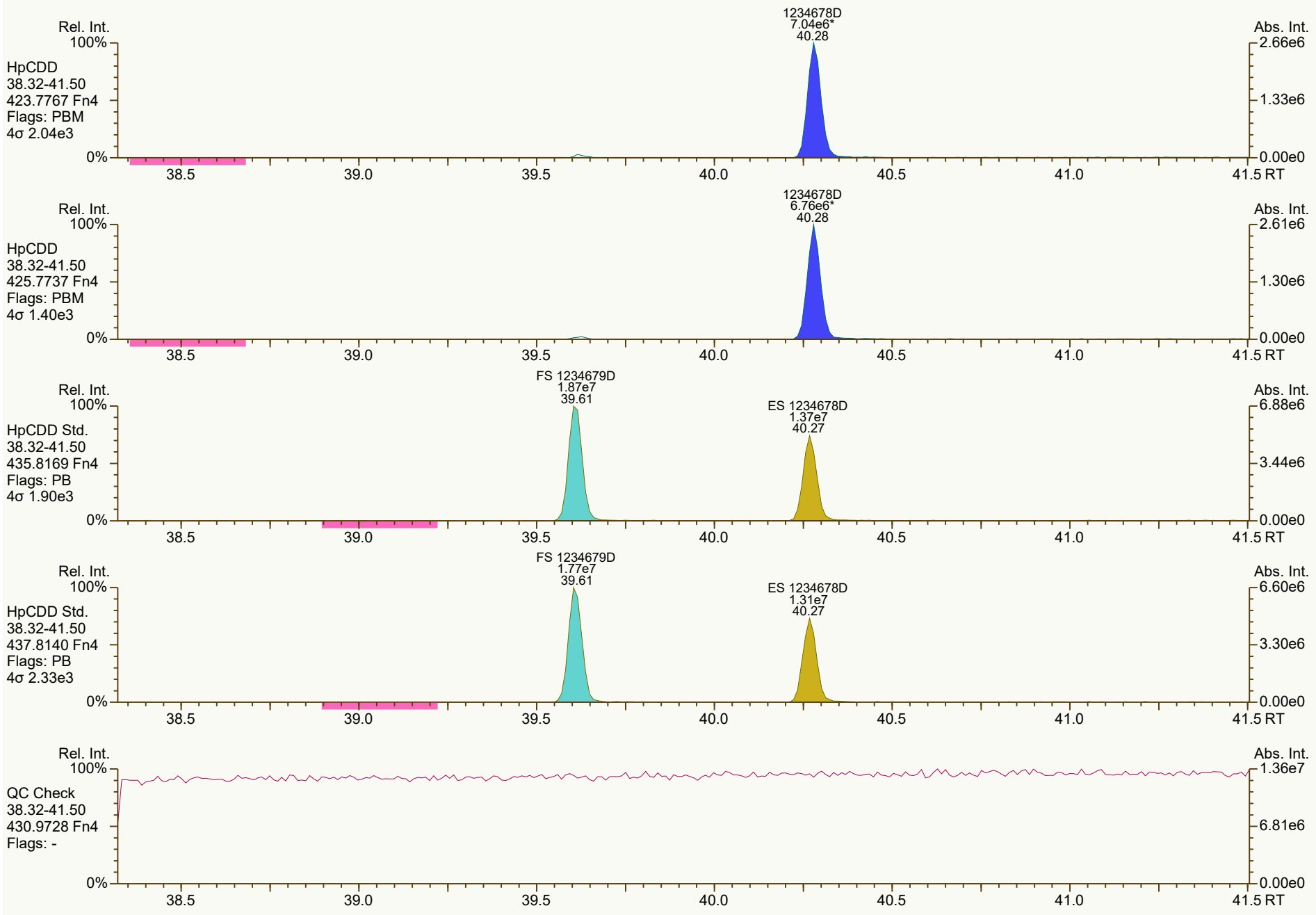
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%

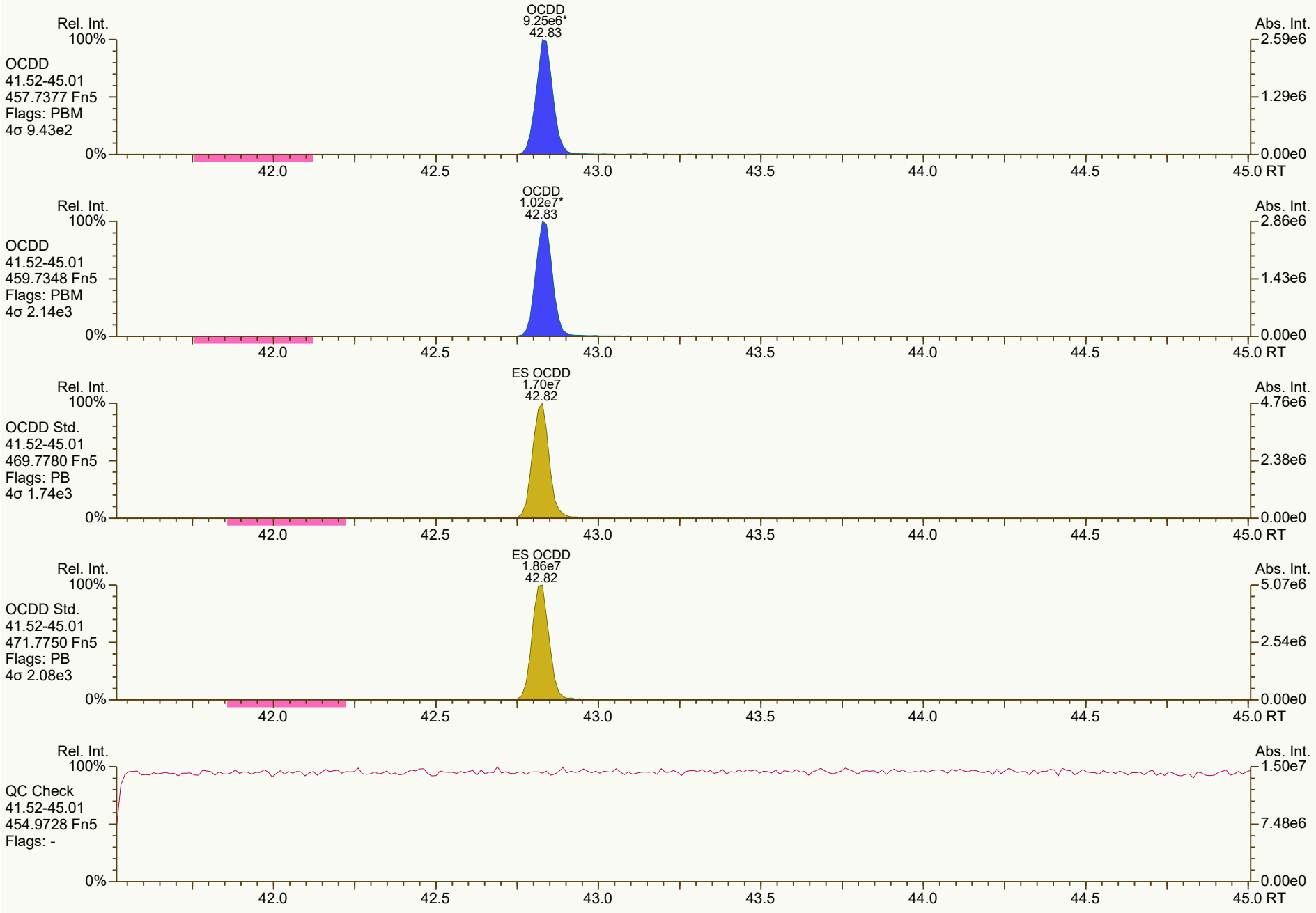

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
0%
2378D
1.99e6
27.60
Abs. Int.
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
0%
2378D
2.55e6
27.60
Abs. Int.
5.98e5
2.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
Abs. Int.
1.03e6
5.16e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
0%
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
Abs. Int.
4.80e6
2.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
0%
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
0%
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
0%
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
0%
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
0%
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.62e6
3.81e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
OCDD
9.25e6*
42.83
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
OCDD
1.02e7*
42.83
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
ES OCDD
1.70e7
42.82
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
ES OCDD
1.86e7
42.82
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
0%
2378F
2.58e6
26.68
Abs. Int.
5.81e5
2.91e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
0%
2378F
3.32e6
26.68
Abs. Int.
7.66e5
3.83e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
0%
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
Abs. Int.
5.45e6
2.73e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
0%
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
Abs. Int.
6.76e6
3.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
0%
Abs. Int.
6.84e3
3.42e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

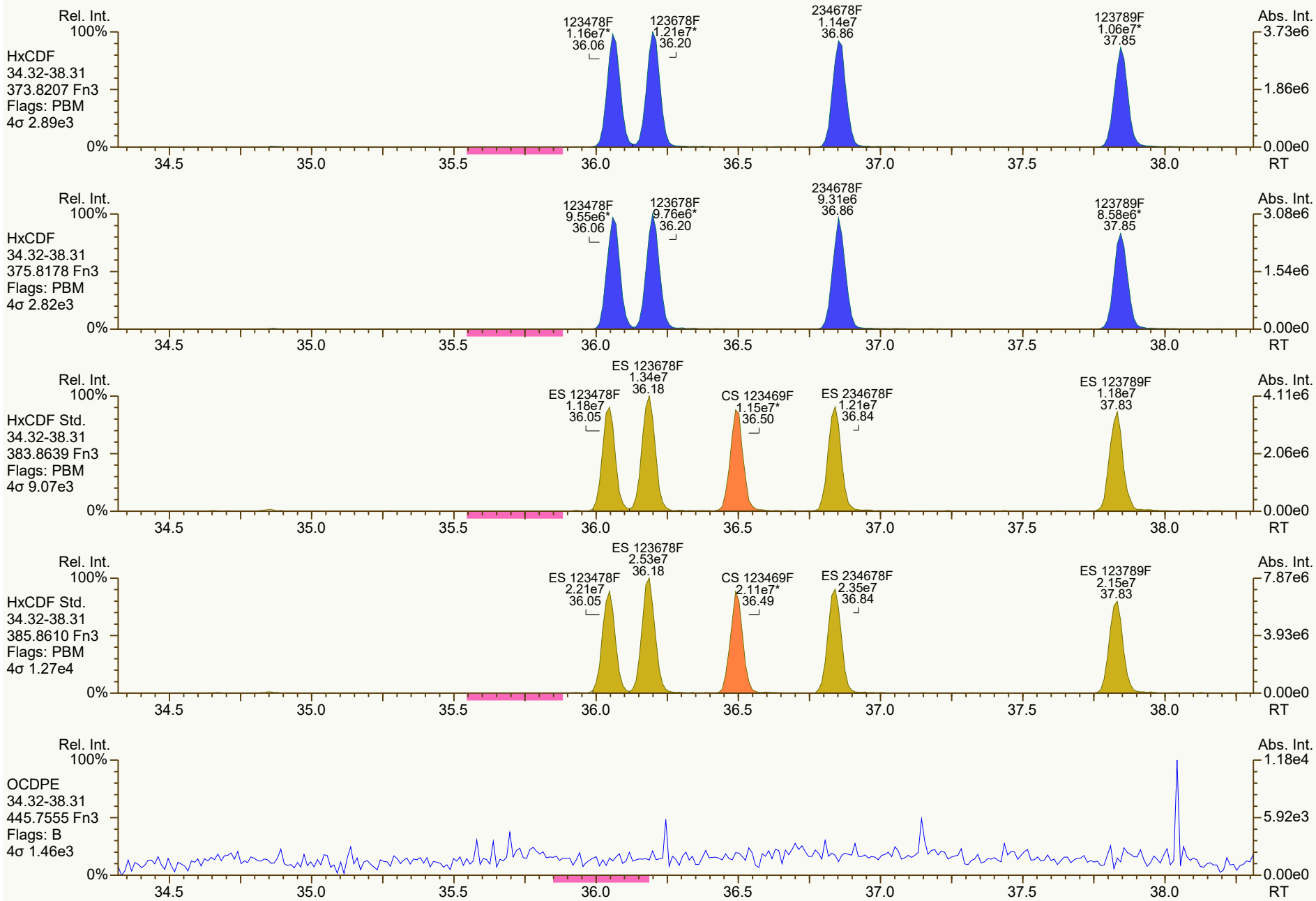

Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
Abs. Int.
3.85e6
1.93e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
Abs. Int.
2.59e6
1.29e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
Abs. Int.
7.61e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
Abs. Int.
5.00e6
2.50e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
Abs. Int.
1.17e4
5.86e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

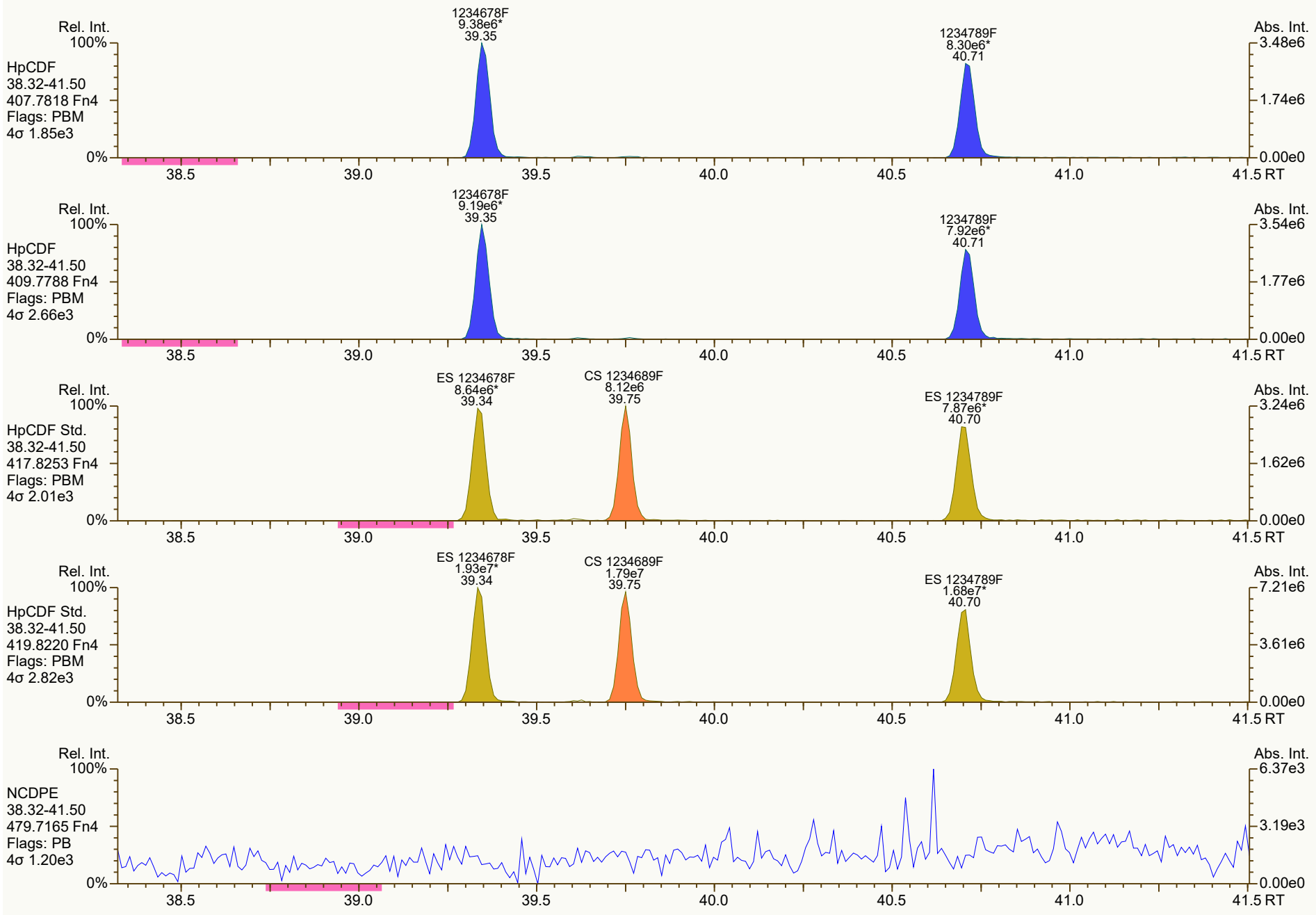
SGS ID: CS3_211110_DF_CB
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 23-672-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3

Acq: 10-Nov-2021 13:21:13
User: DTF Datafile: 211110C07



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0985, 9027, 6556 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 10 of 12


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
0%
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
Abs. Int.
3.48e6
1.74e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
0%
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
Abs. Int.
3.54e6
1.77e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
0%
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
Abs. Int.
3.24e6
1.62e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
0%
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
Abs. Int.
7.21e6
3.61e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
0%
Abs. Int.
6.37e3
3.19e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

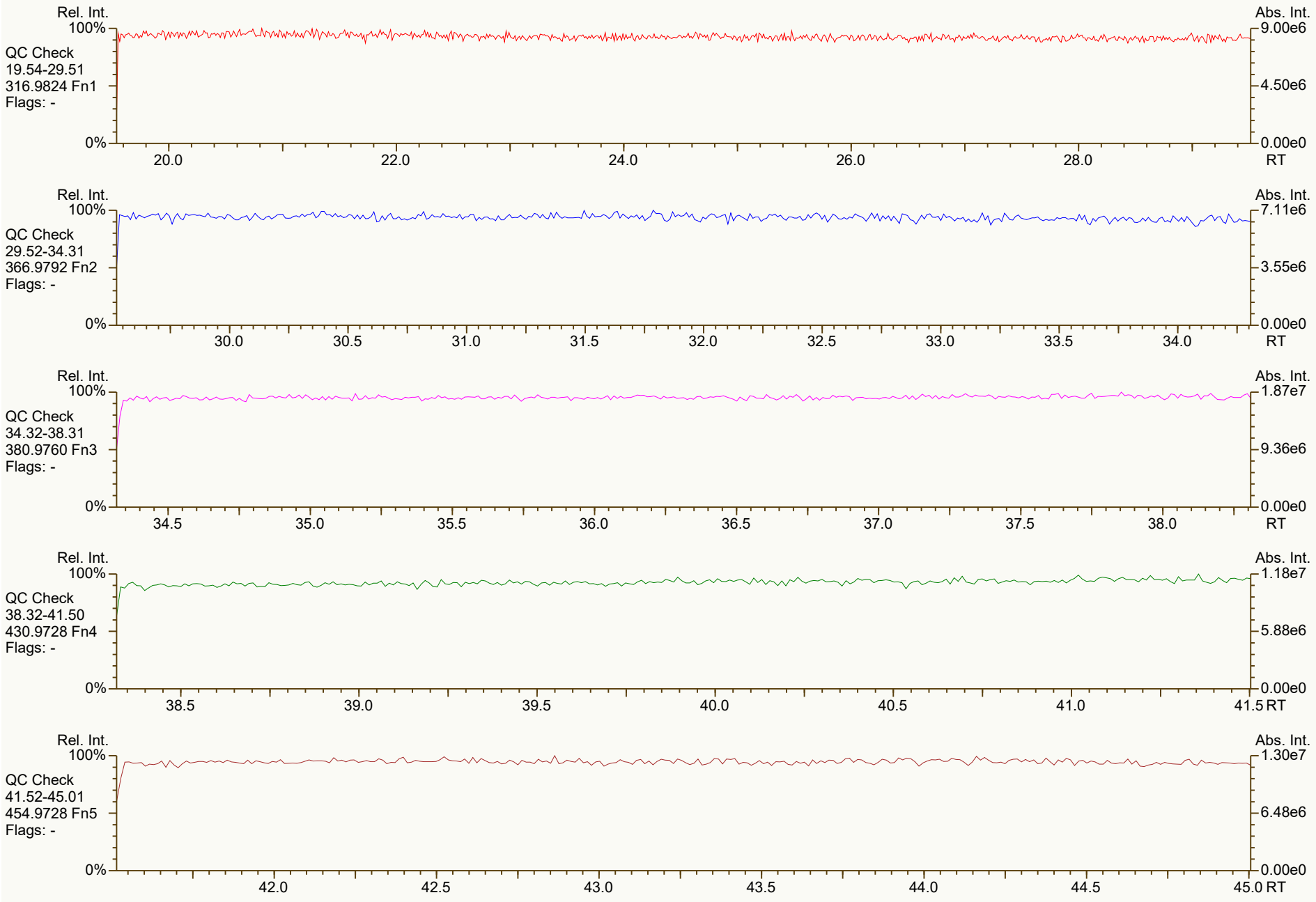

OCDF
1.15e7*
43.00
Rel. Int.
Abs. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
3.25e6
1.62e6
0.00e0
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
3.53e6
1.76e6
ES OCDF
2.21e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
6.08e6
3.04e6
ES OCDF
2.39e7*
42.99
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
6.65e6
3.32e6
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
4.82e3
2.41e3

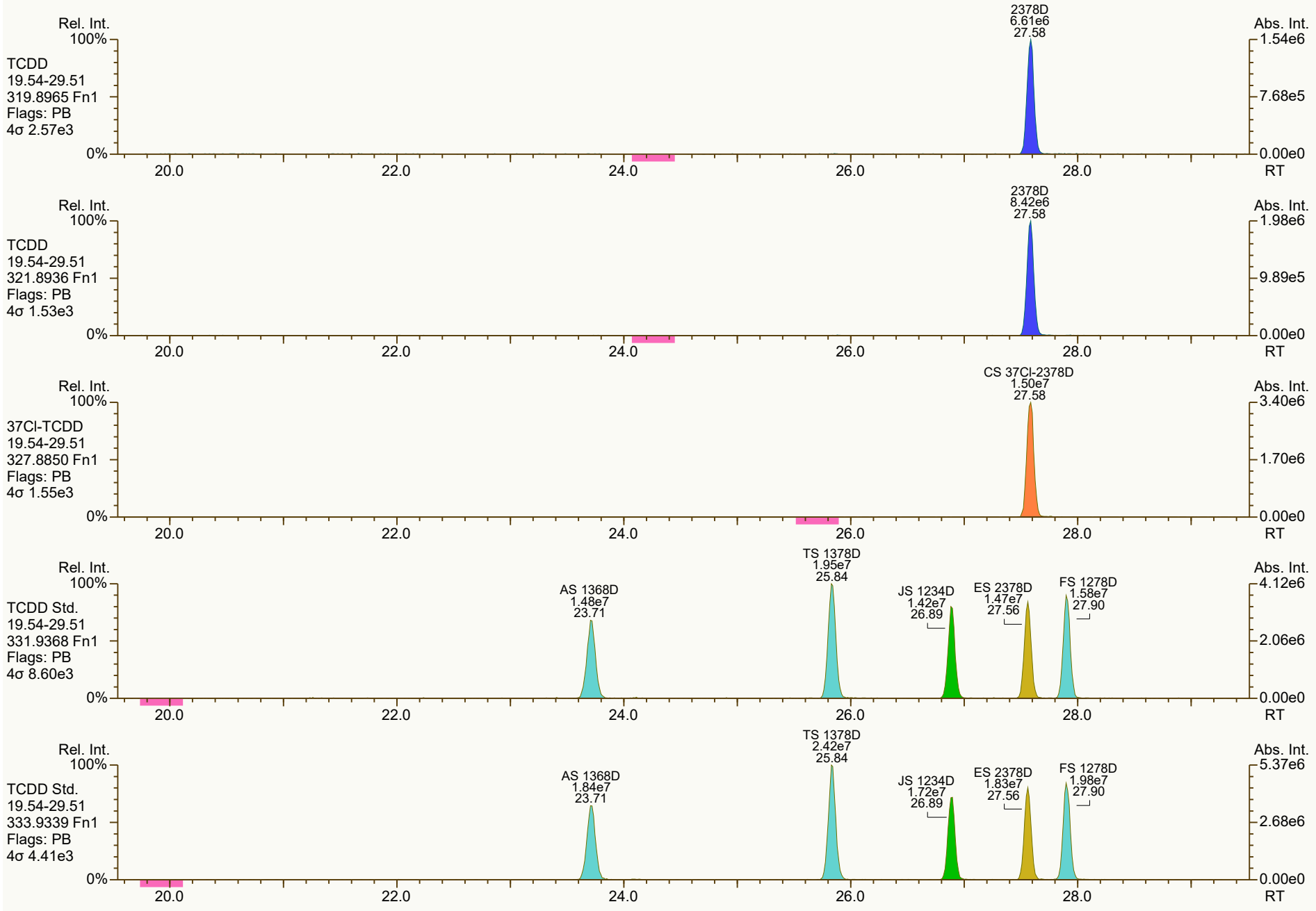
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

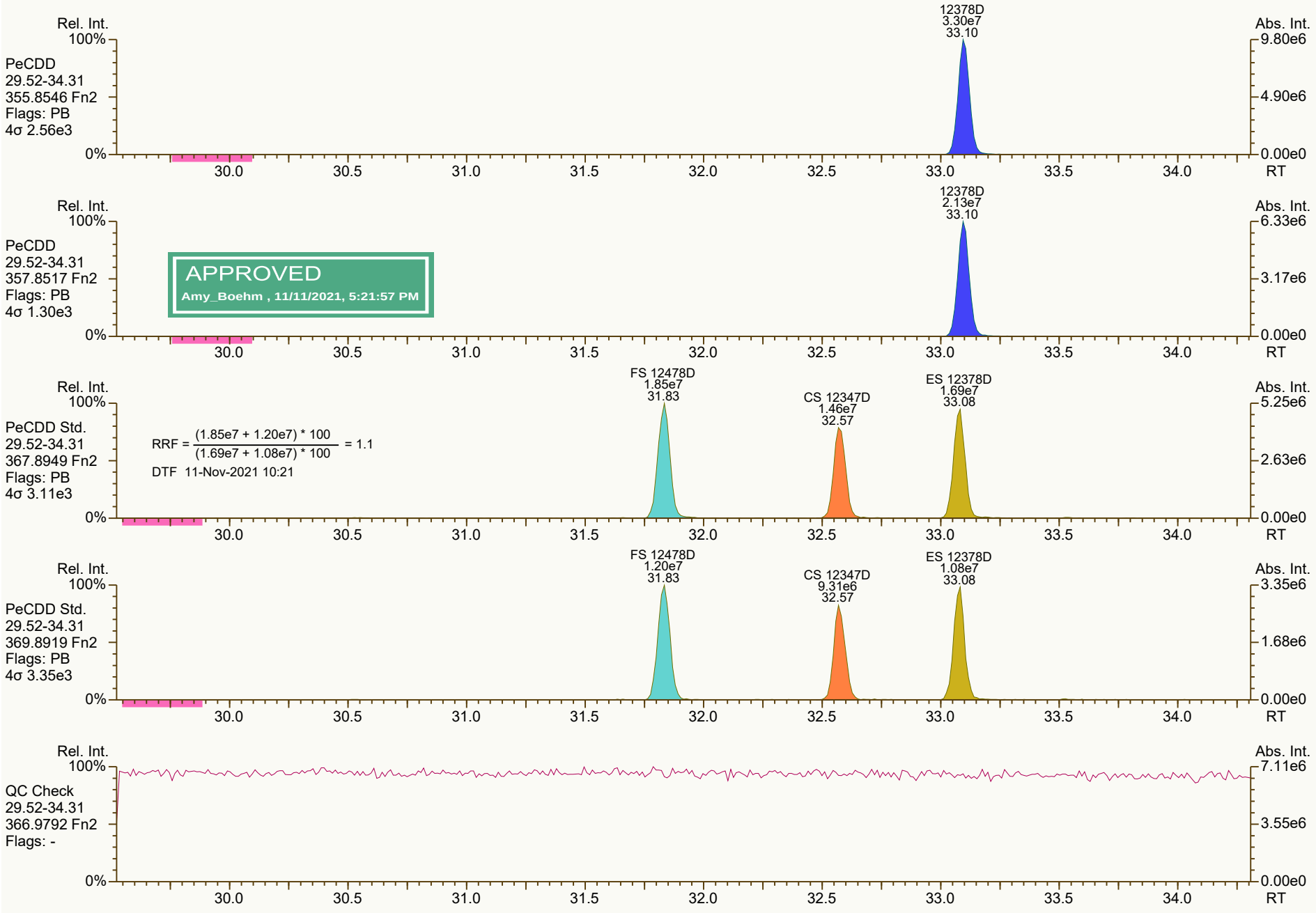
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

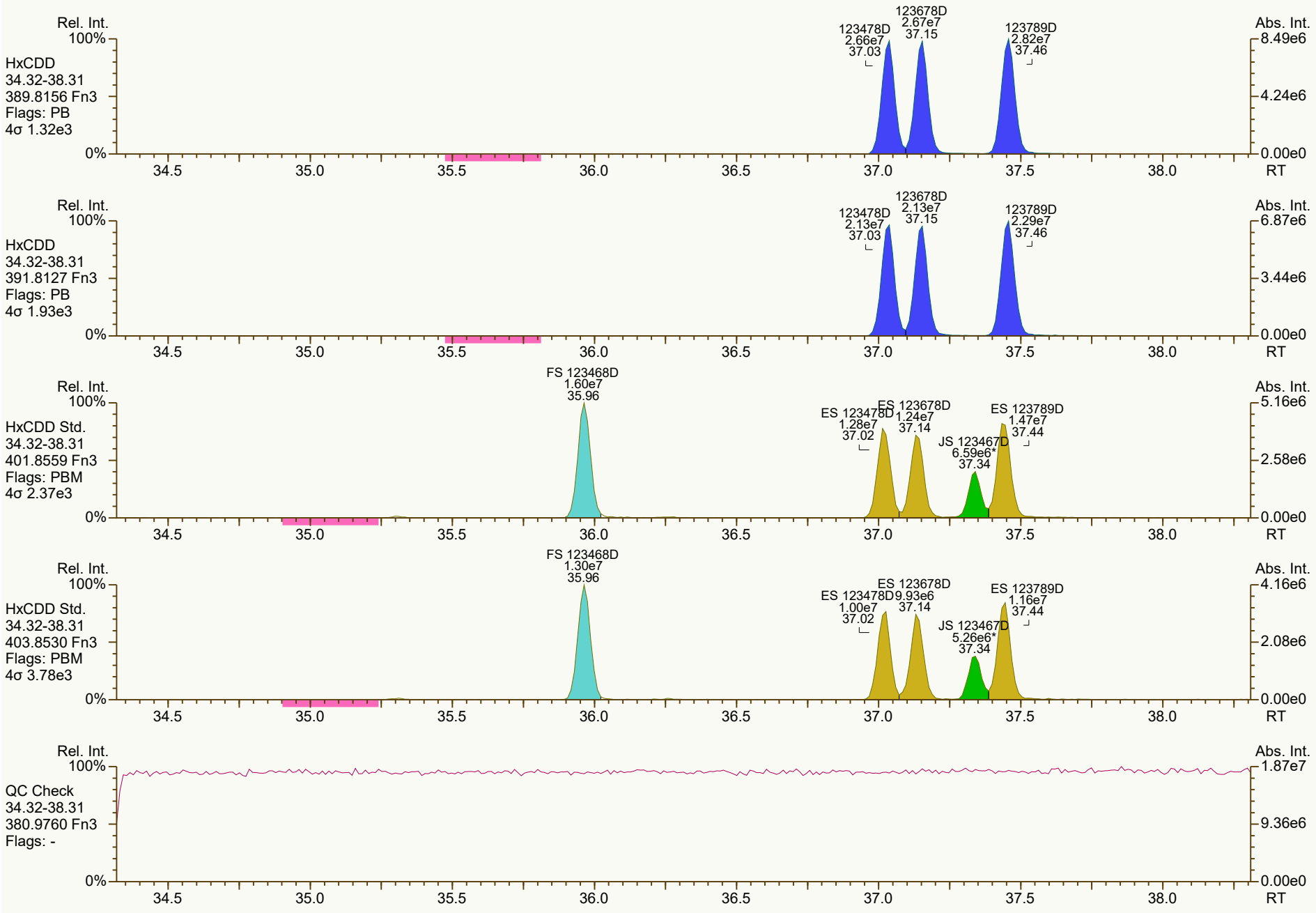
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

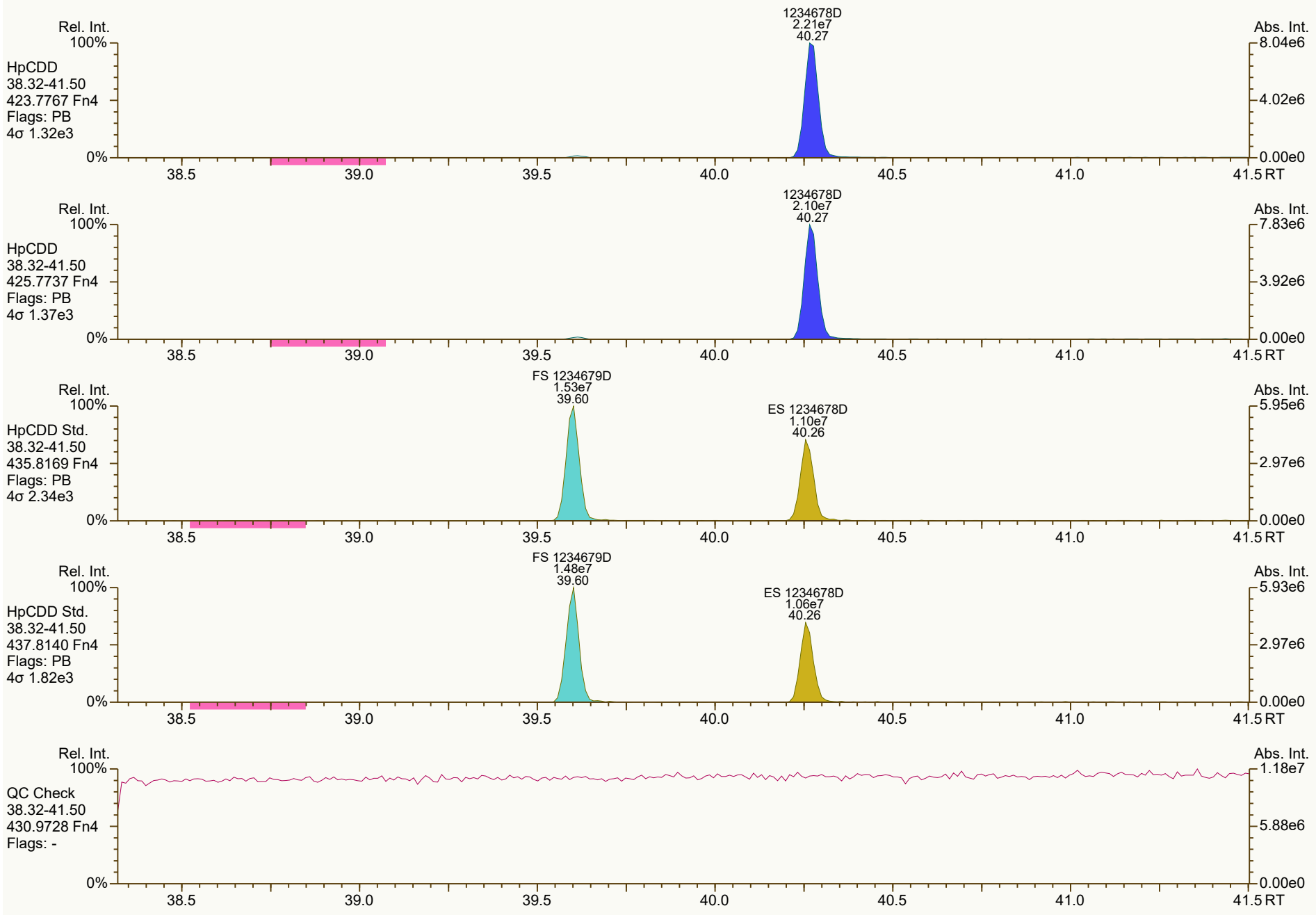
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

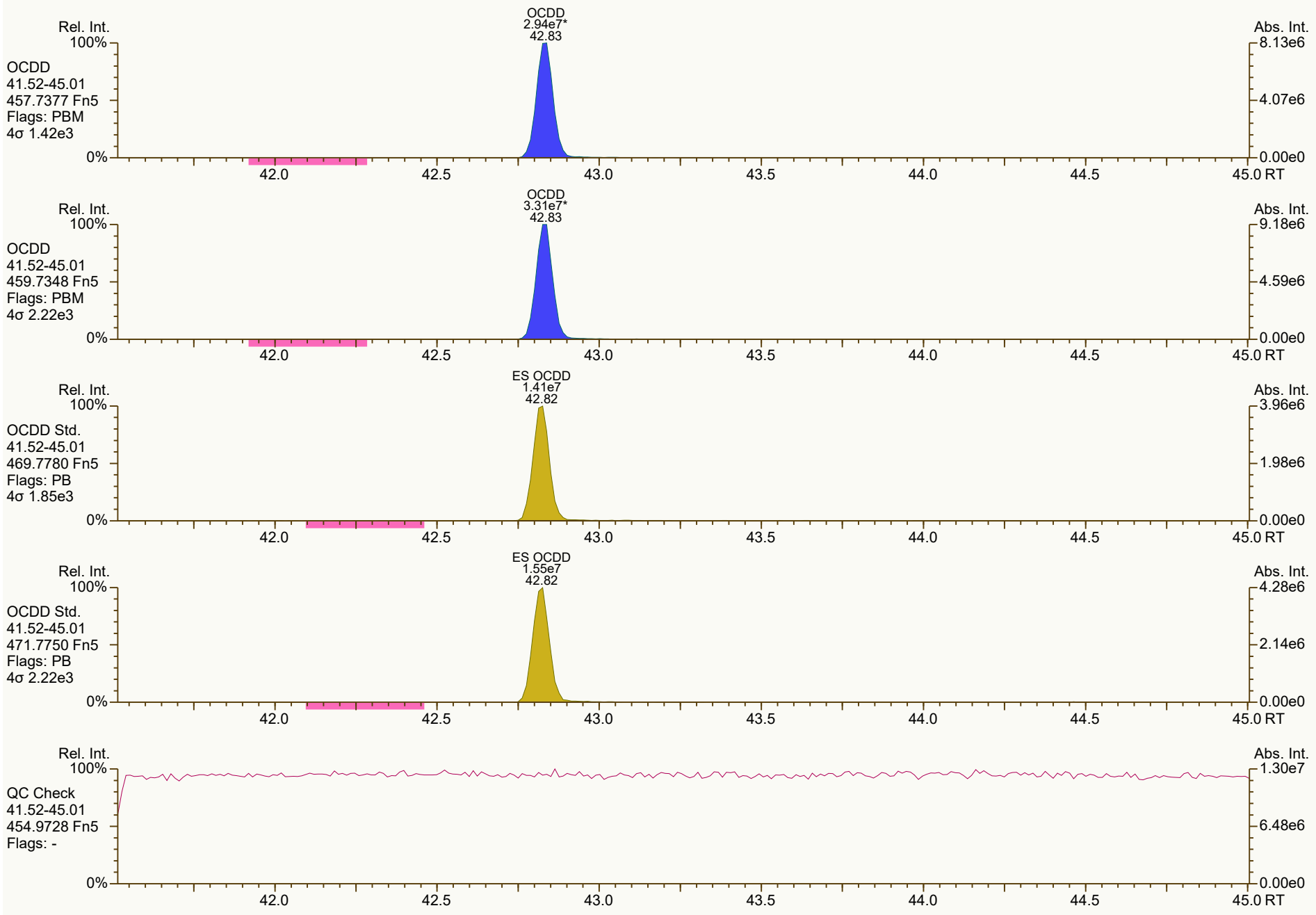

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.00e6
4.50e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.11e6
3.55e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.87e7
9.36e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.18e7
5.88e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.30e7
6.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
0%
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
0%
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

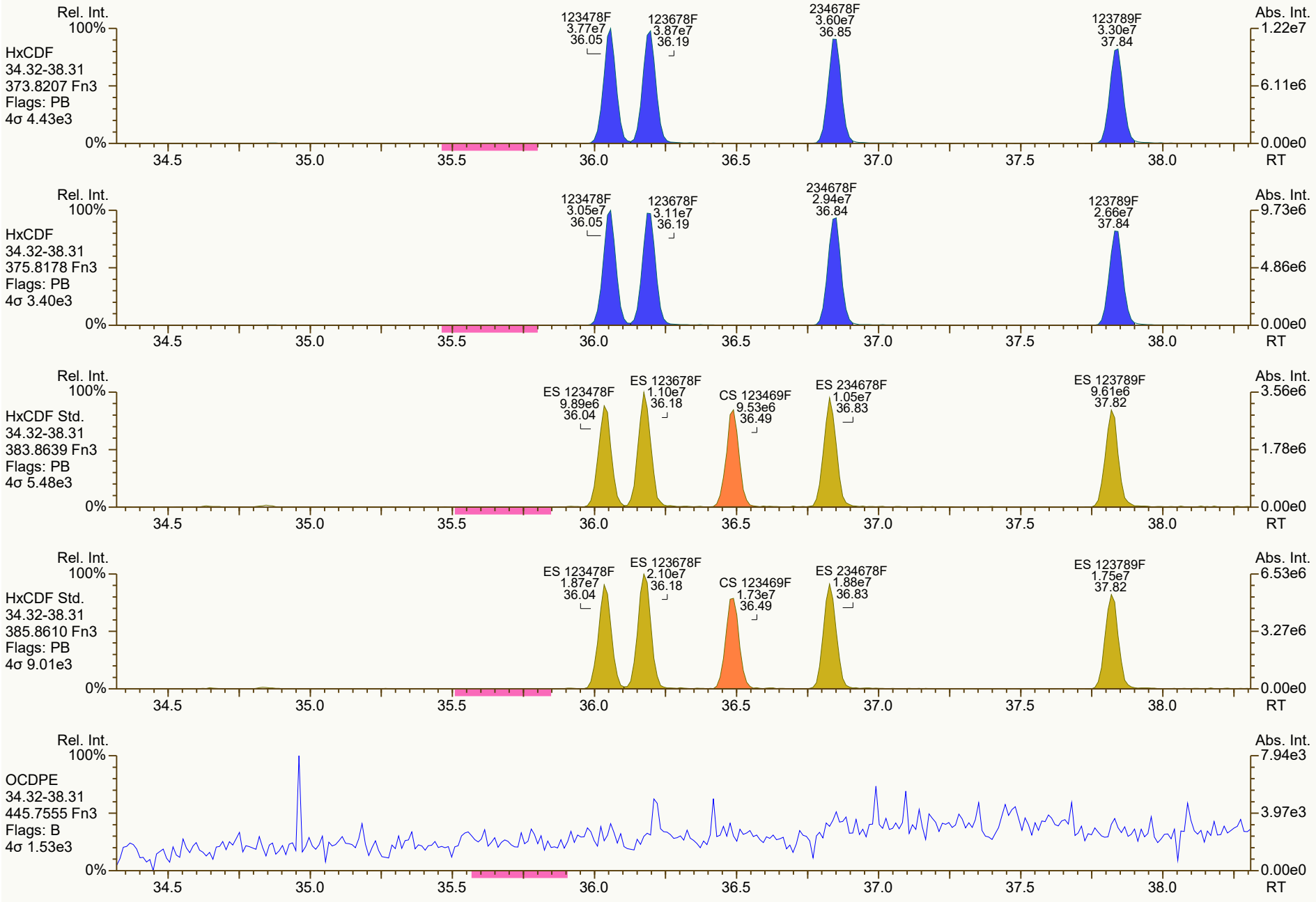

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.94e3
4.47e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.00e6
4.50e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT

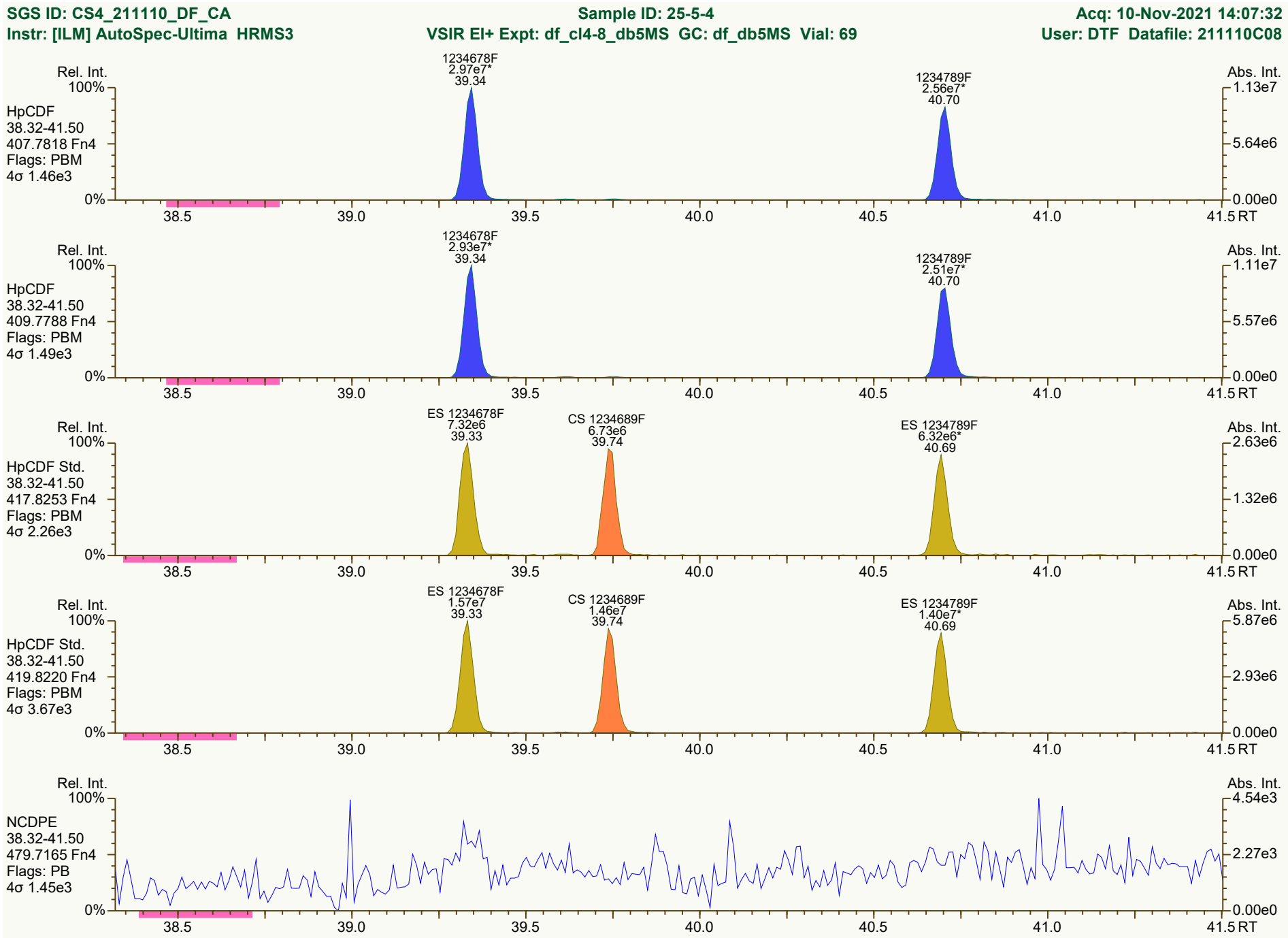

Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
Abs. Int.
7.51e3
3.76e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3

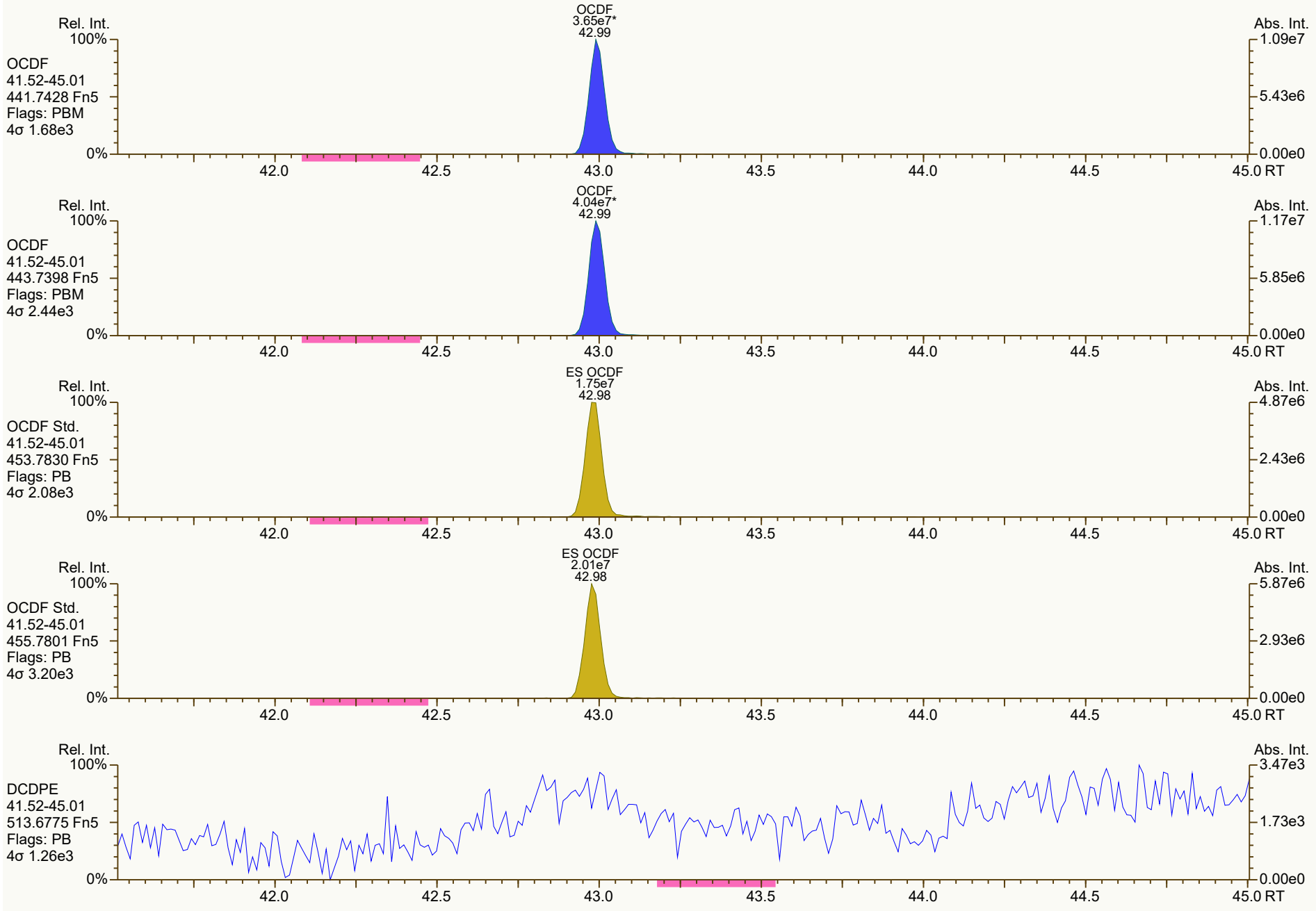
SGS ID: CS4_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 25-5-4
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69

Acq: 10-Nov-2021 14:07:32
User: DTF Datafile: 211110C08



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 2764, 9565, 4492 scc: 855-576
Revised: 10-Nov-2021 15:17 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

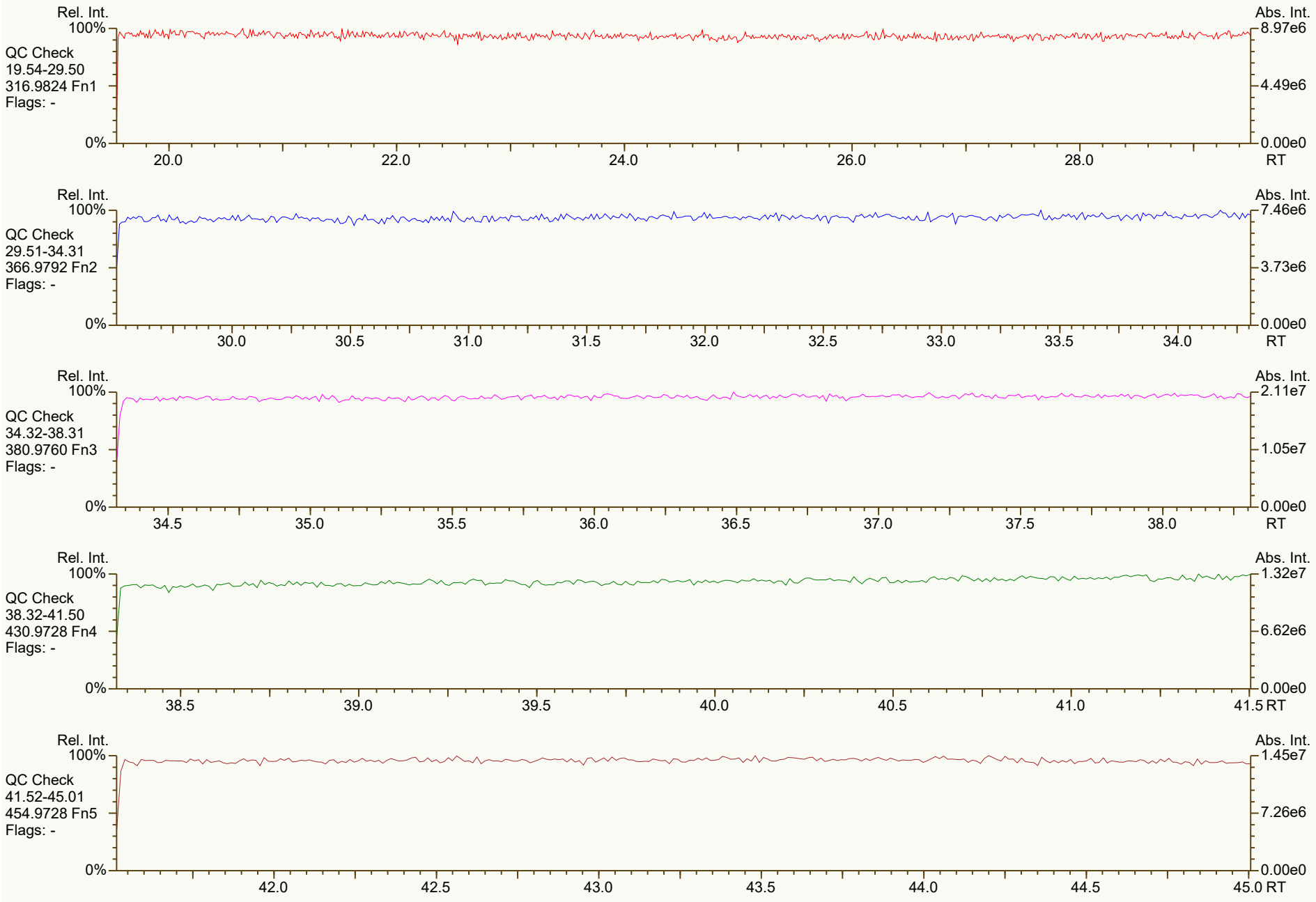

OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

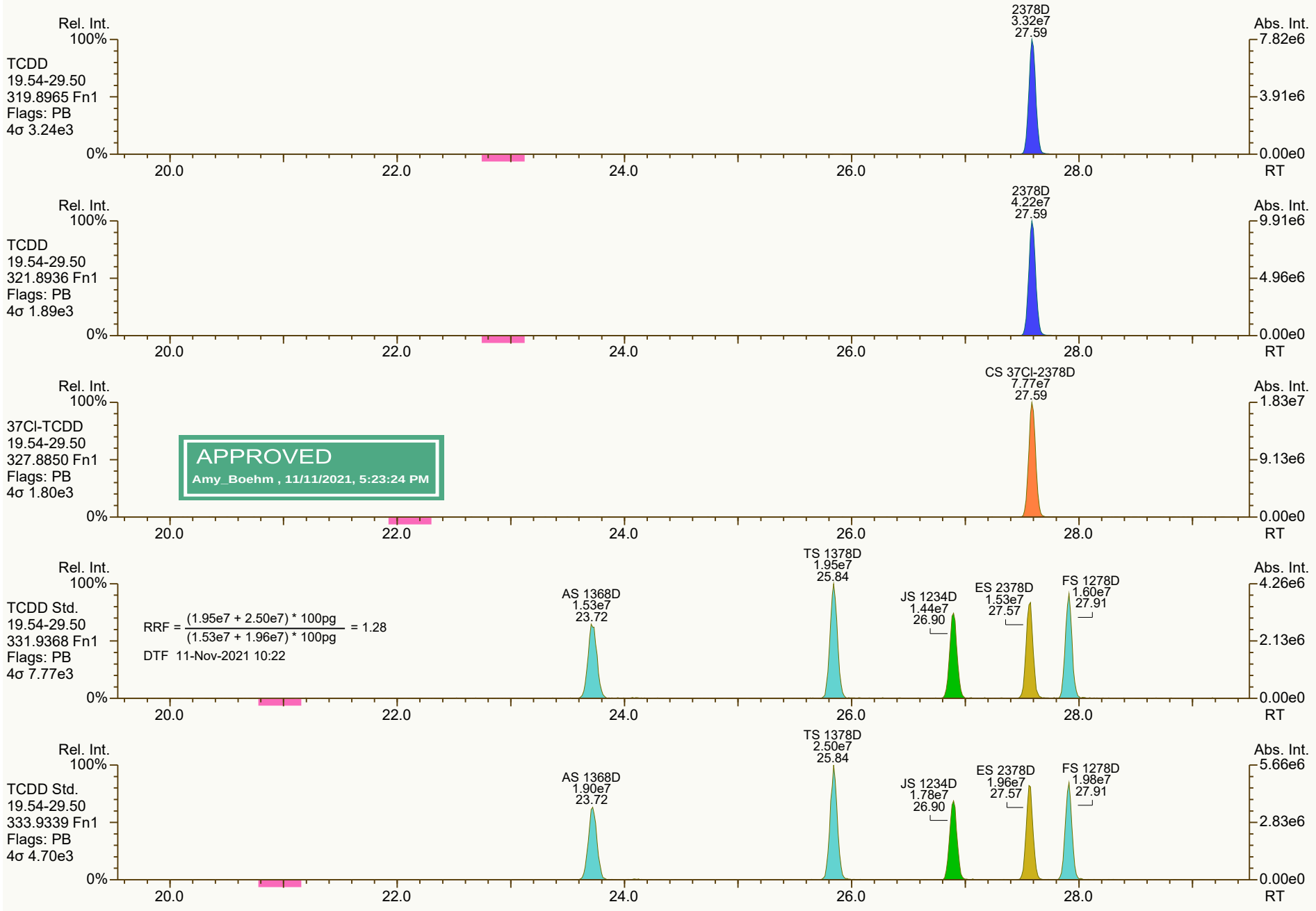
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

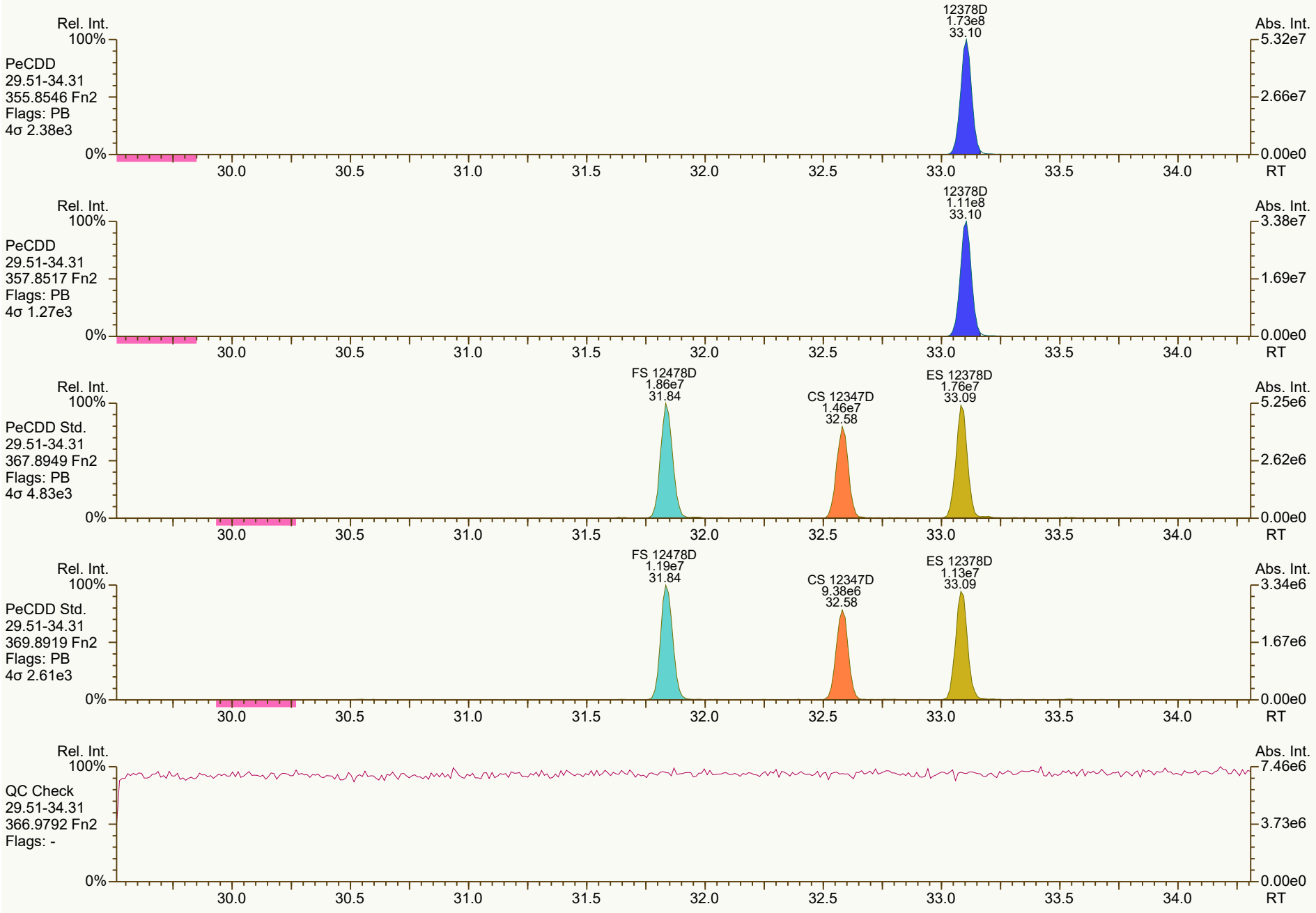
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

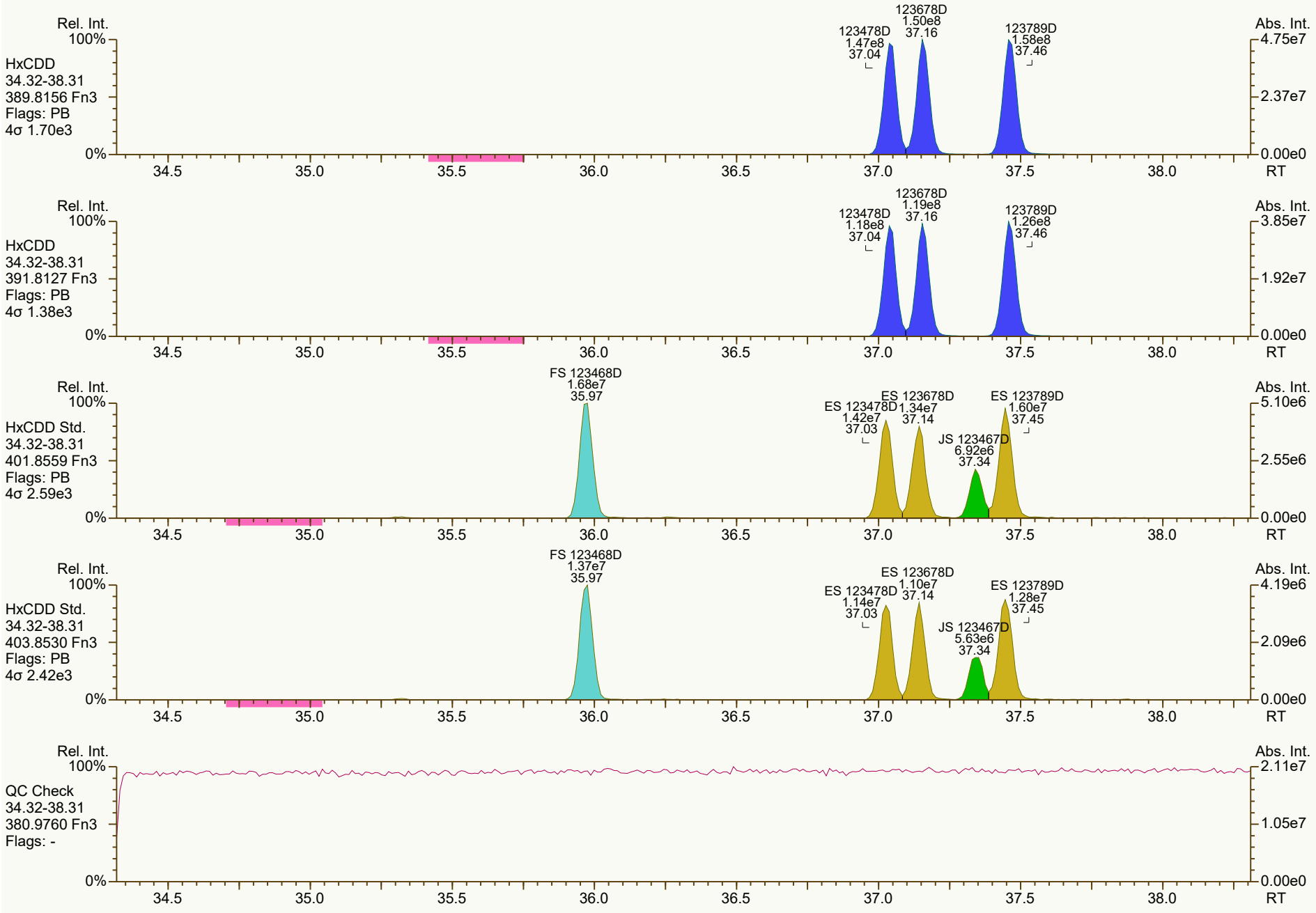
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

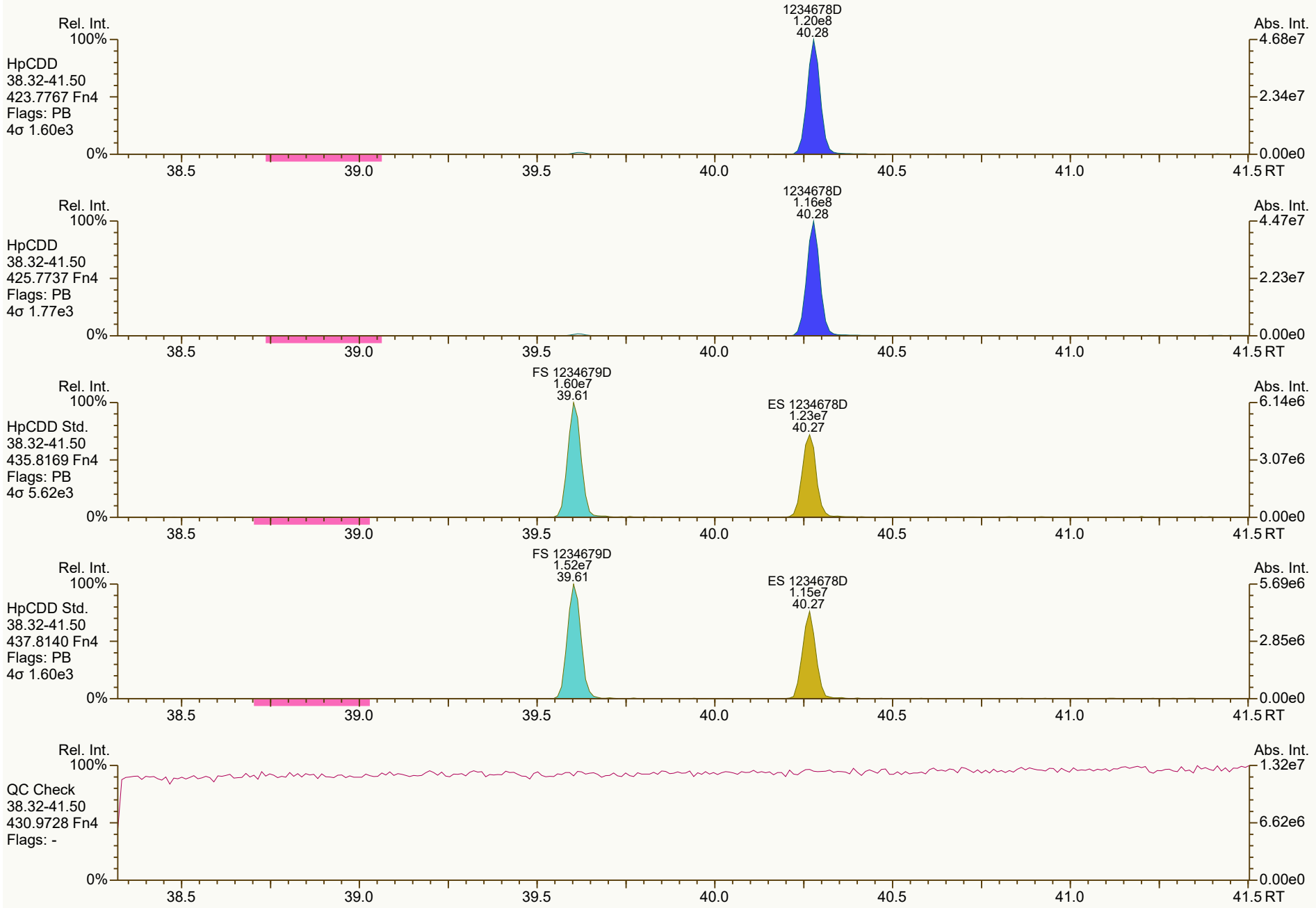
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

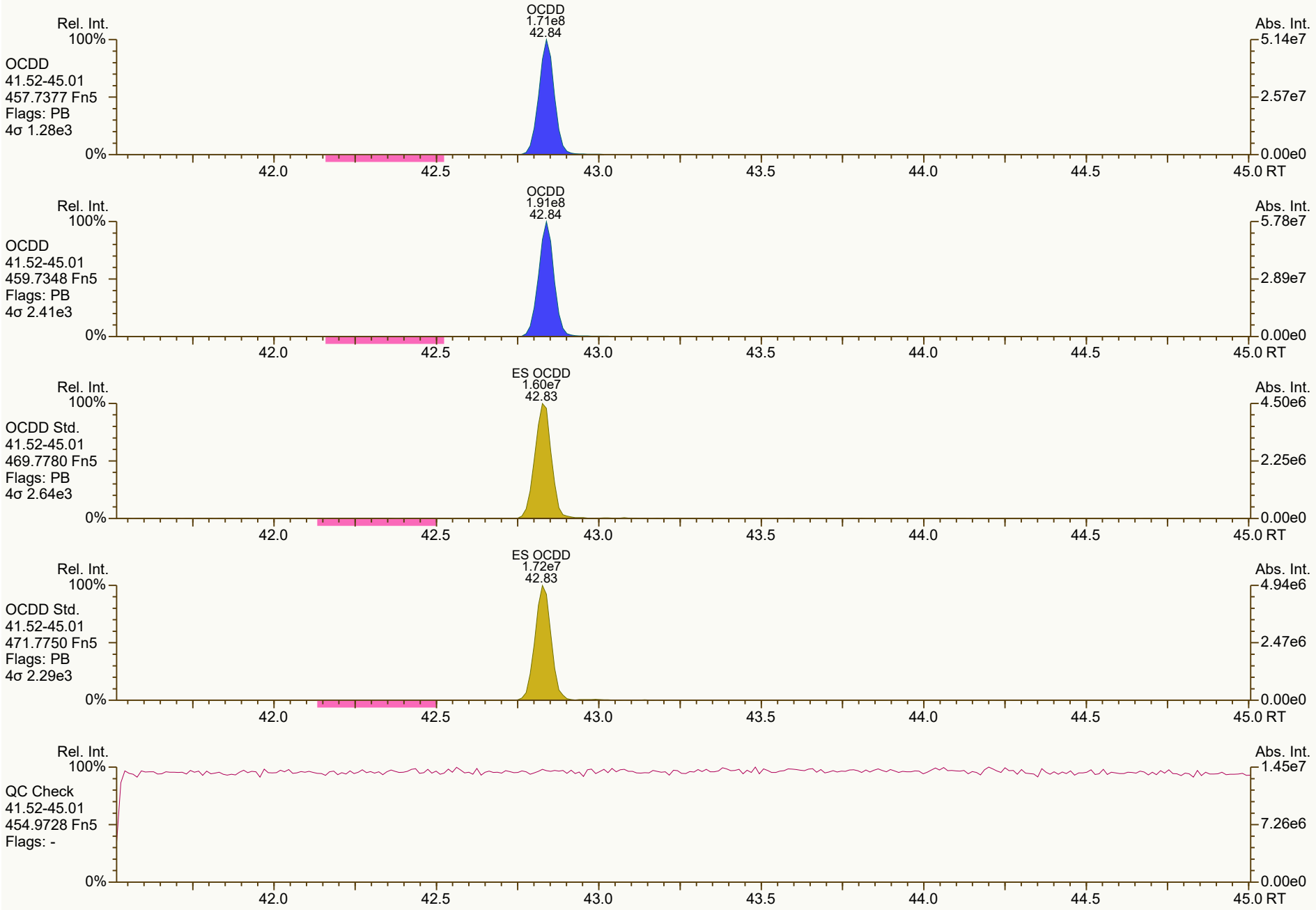

Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
RT
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
7.46e6
3.73e6
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.11e7
1.05e7
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
1.32e7
6.62e6
38.5
39.0
39.5
40.0
40.5
41.0
41.5
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6
42.0
42.5
43.0
43.5
44.0
44.5
45.0


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
0%
2378D
4.22e7
27.59
Abs. Int.
9.91e6
4.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
Abs. Int.
1.83e7
9.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
0%
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
Abs. Int.
4.26e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
0%
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
Abs. Int.
5.66e6
2.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.46e6
3.73e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

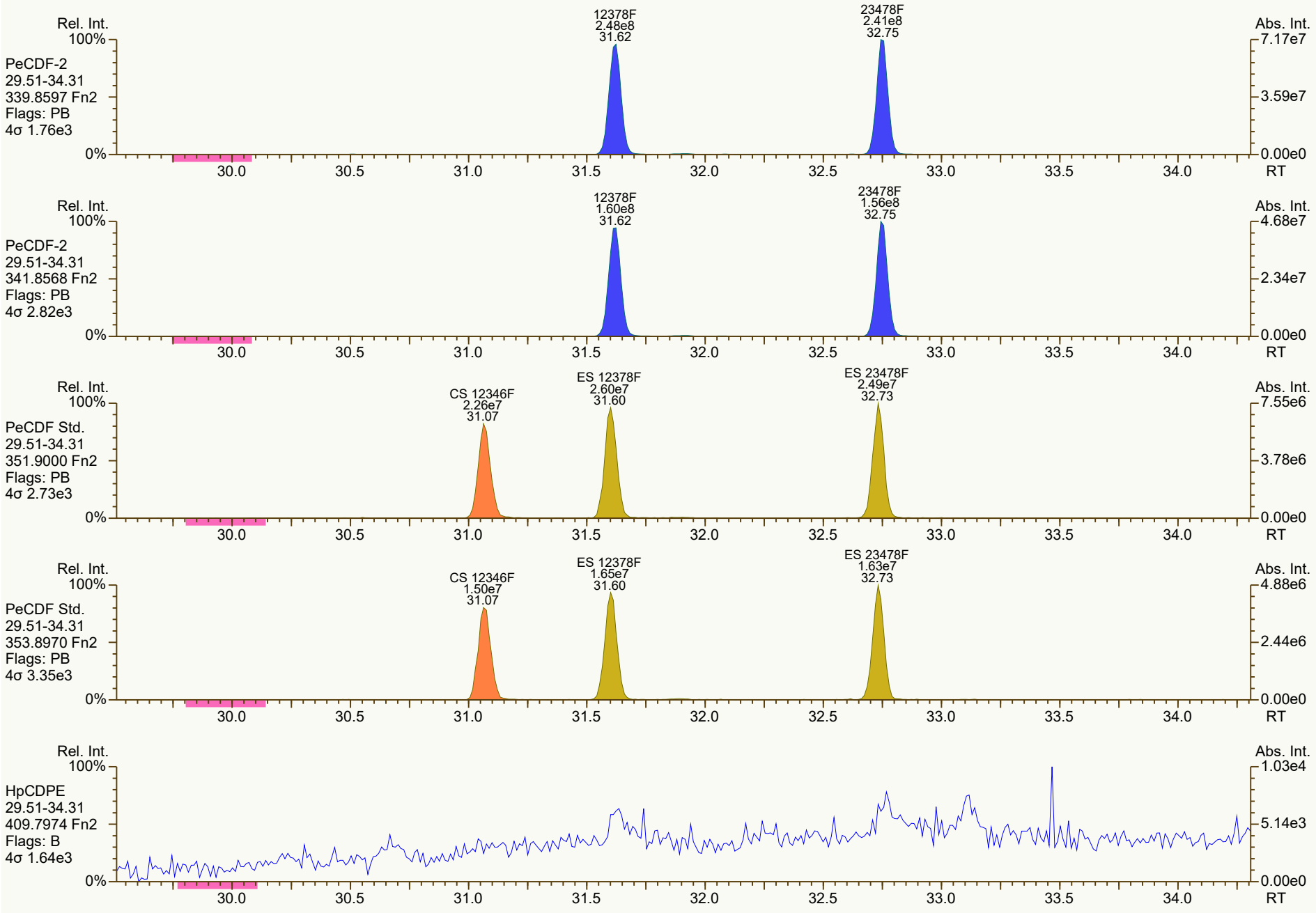

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

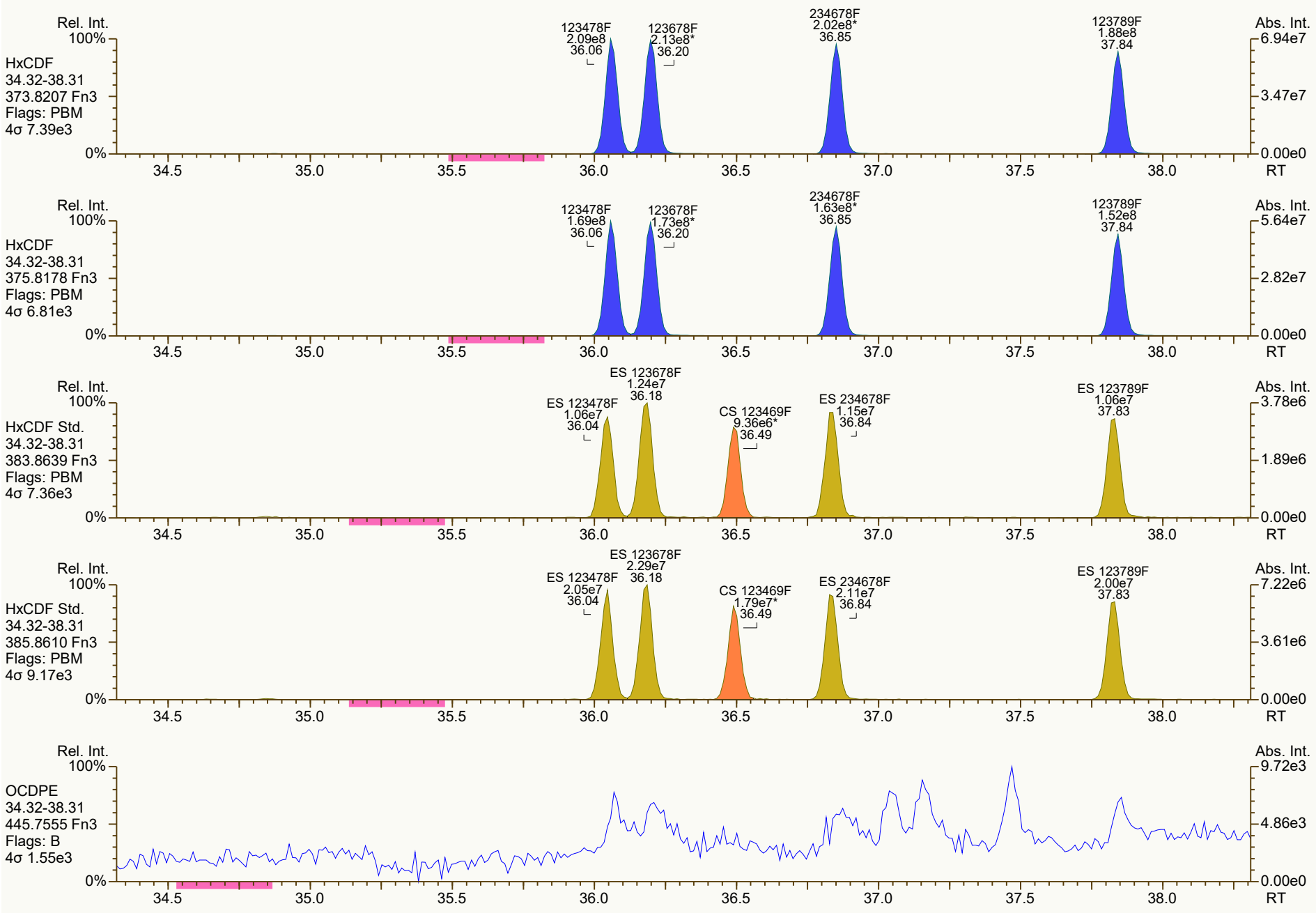

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT

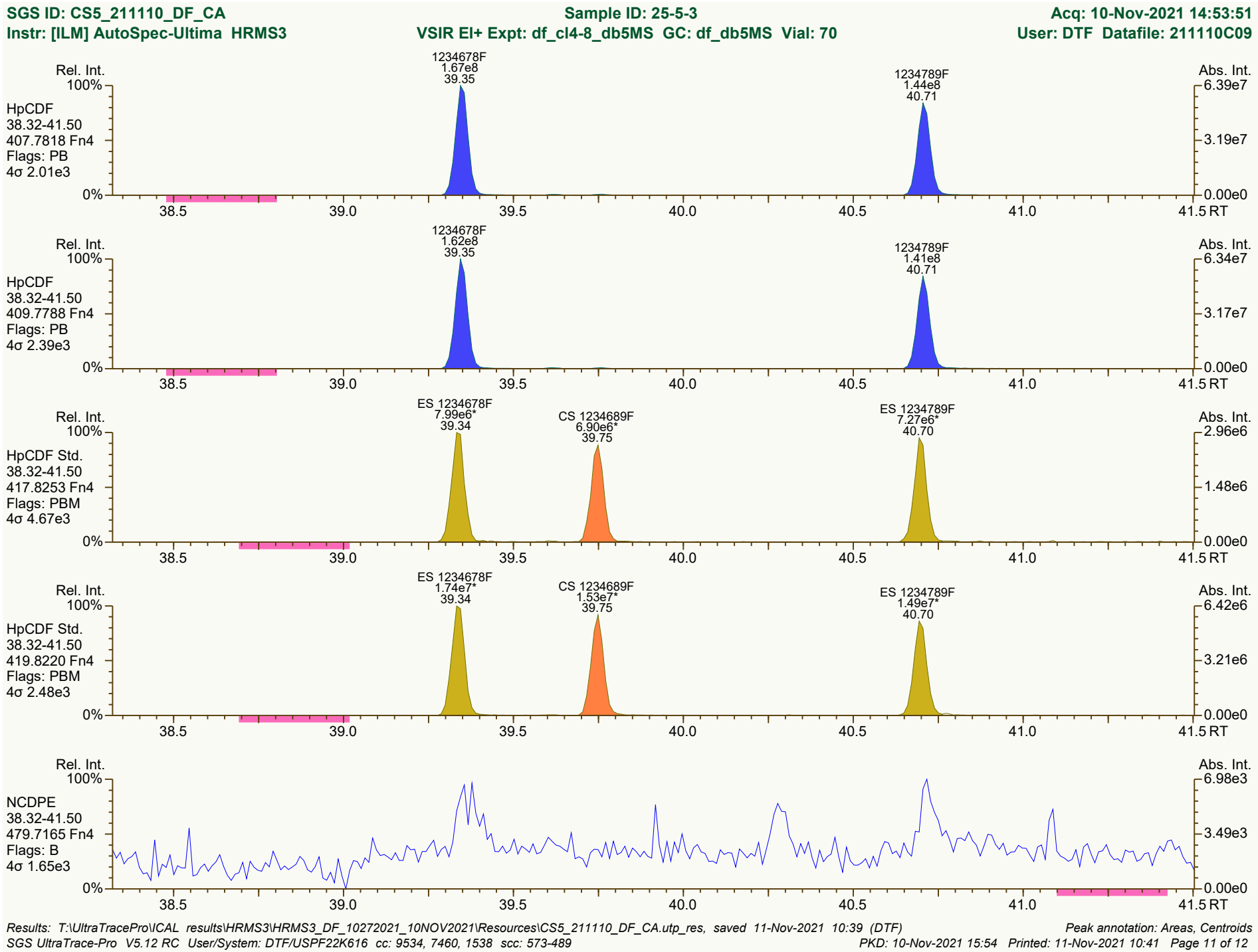

Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
Abs. Int.
1.03e4
5.14e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
123478F 2.09e8 36.06
123678F 2.13e8* 36.20
234678F 2.02e8* 36.85
123789F 1.88e8 37.84
Abs. Int.
6.94e7
3.47e7
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
123478F 1.69e8 36.06
123678F 1.73e8* 36.20
234678F 1.63e8* 36.85
123789F 1.52e8 37.84
Abs. Int.
5.64e7
2.82e7
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
ES 123478F 1.06e7 36.04
ES 123678F 1.24e7 36.18
CS 123469F 9.36e6* 36.49
ES 234678F 1.15e7 36.84
ES 123789F 1.06e7 37.83
Abs. Int.
3.78e6
1.89e6
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
ES 123478F 2.05e7 36.04
ES 123678F 2.29e7 36.18
CS 123469F 1.79e7* 36.49
ES 234678F 2.11e7 36.84
ES 123789F 2.00e7 37.83
Abs. Int.
7.22e6
3.61e6
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
Abs. Int.
9.72e3
4.86e3
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0
RT

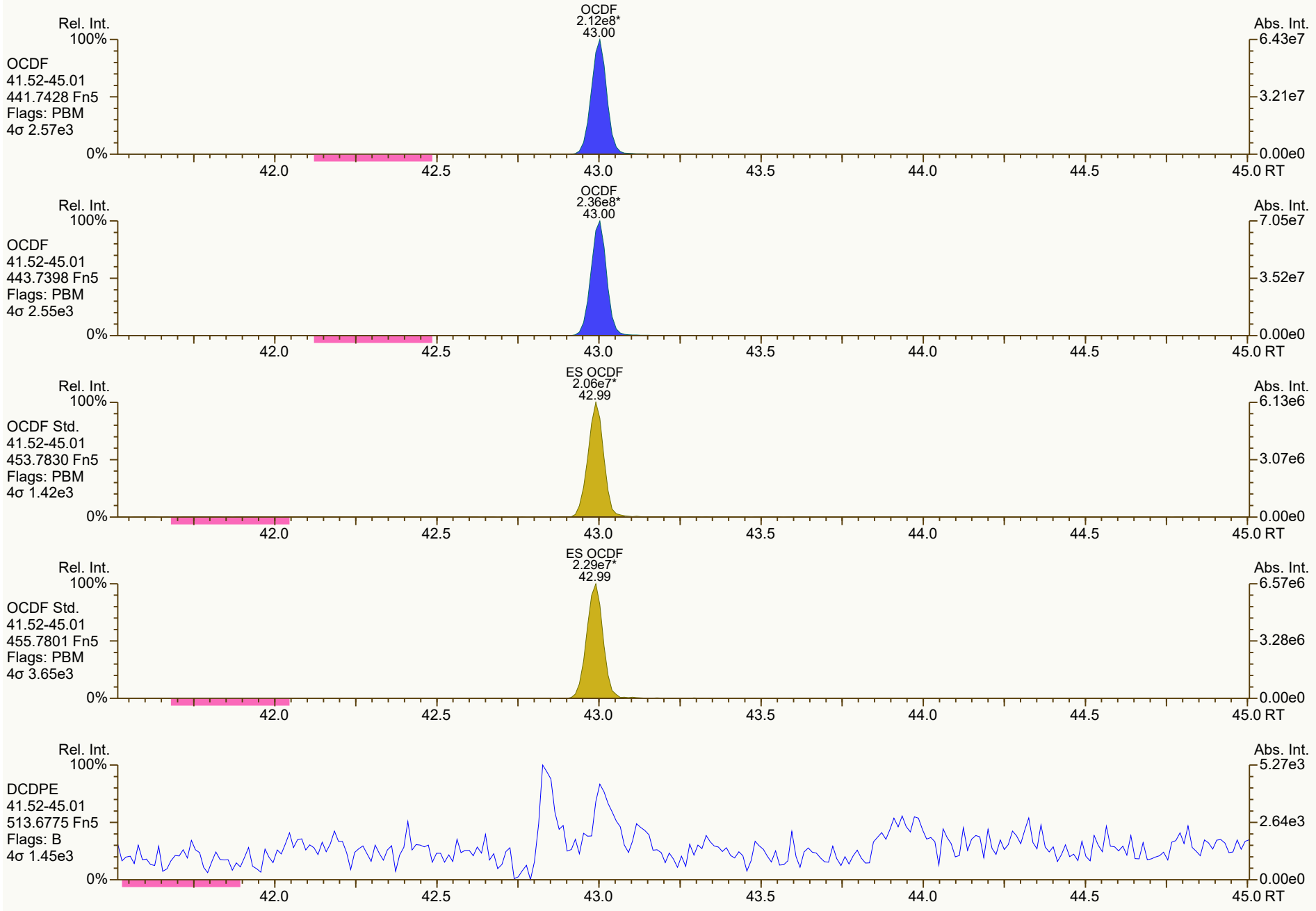
SGS ID: CS5_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 25-5-3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70

Acq: 10-Nov-2021 14:53:51
User: DTF Datafile: 211110C09



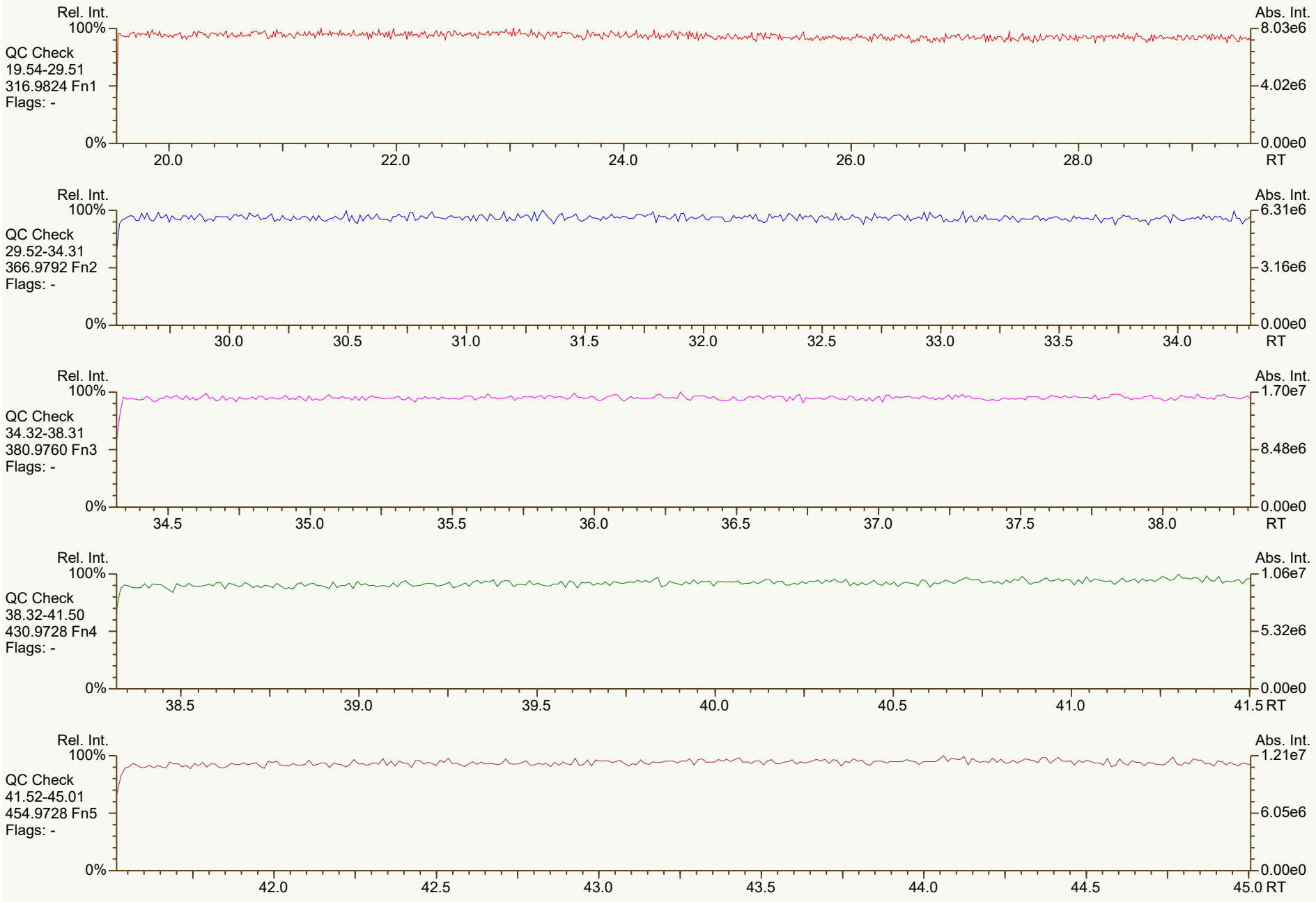
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9534, 7460, 1538 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 11 of 12

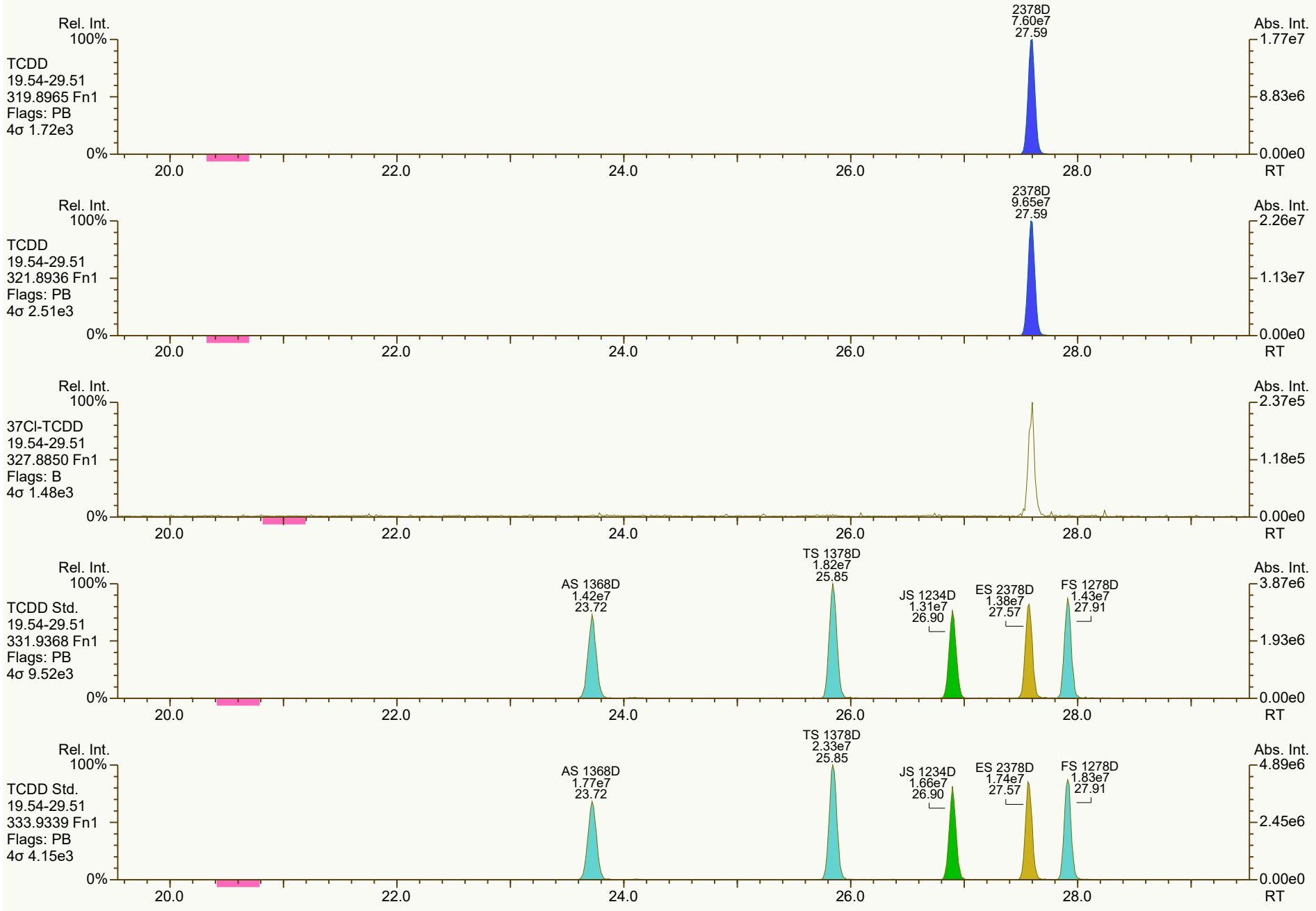

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

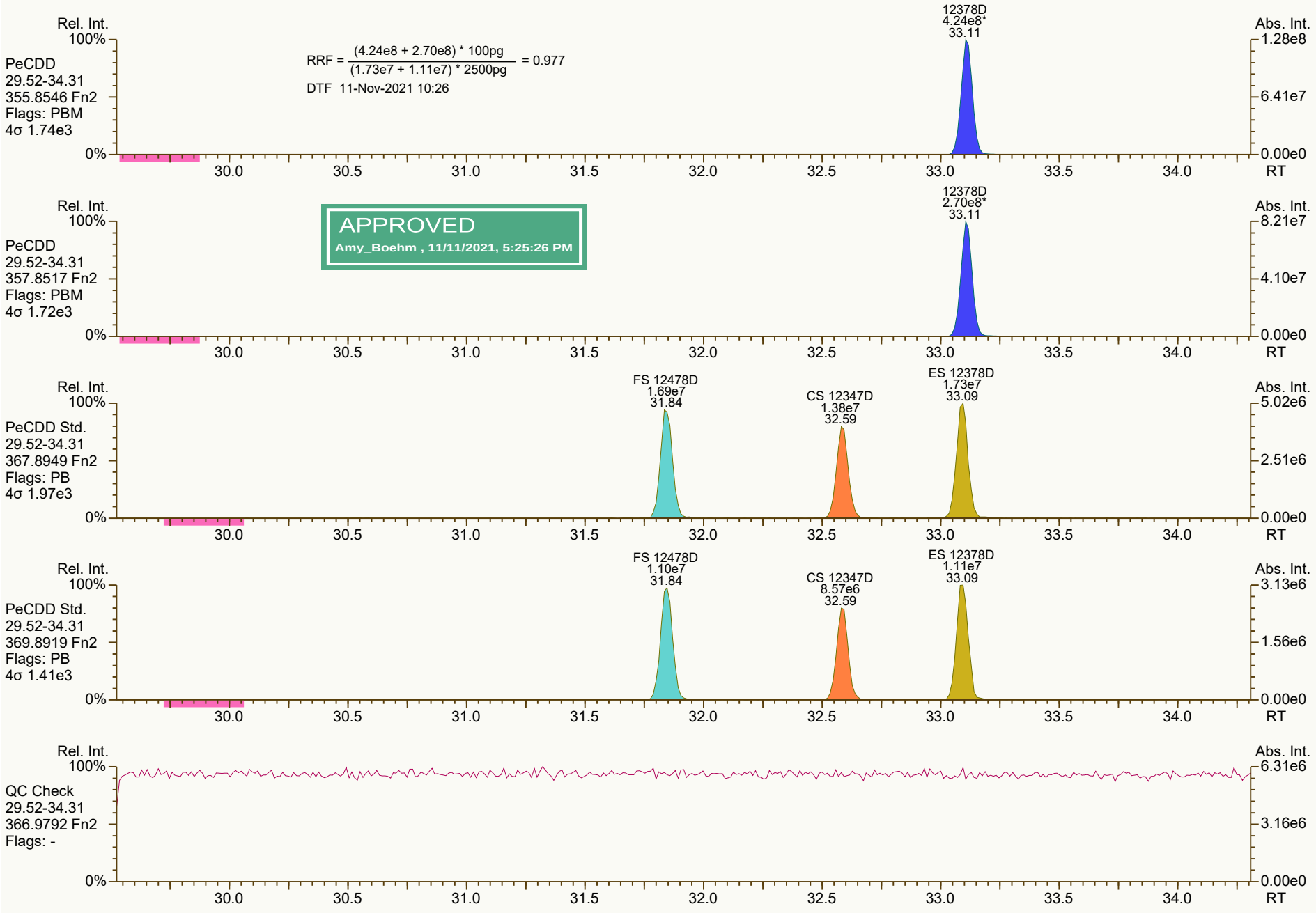
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

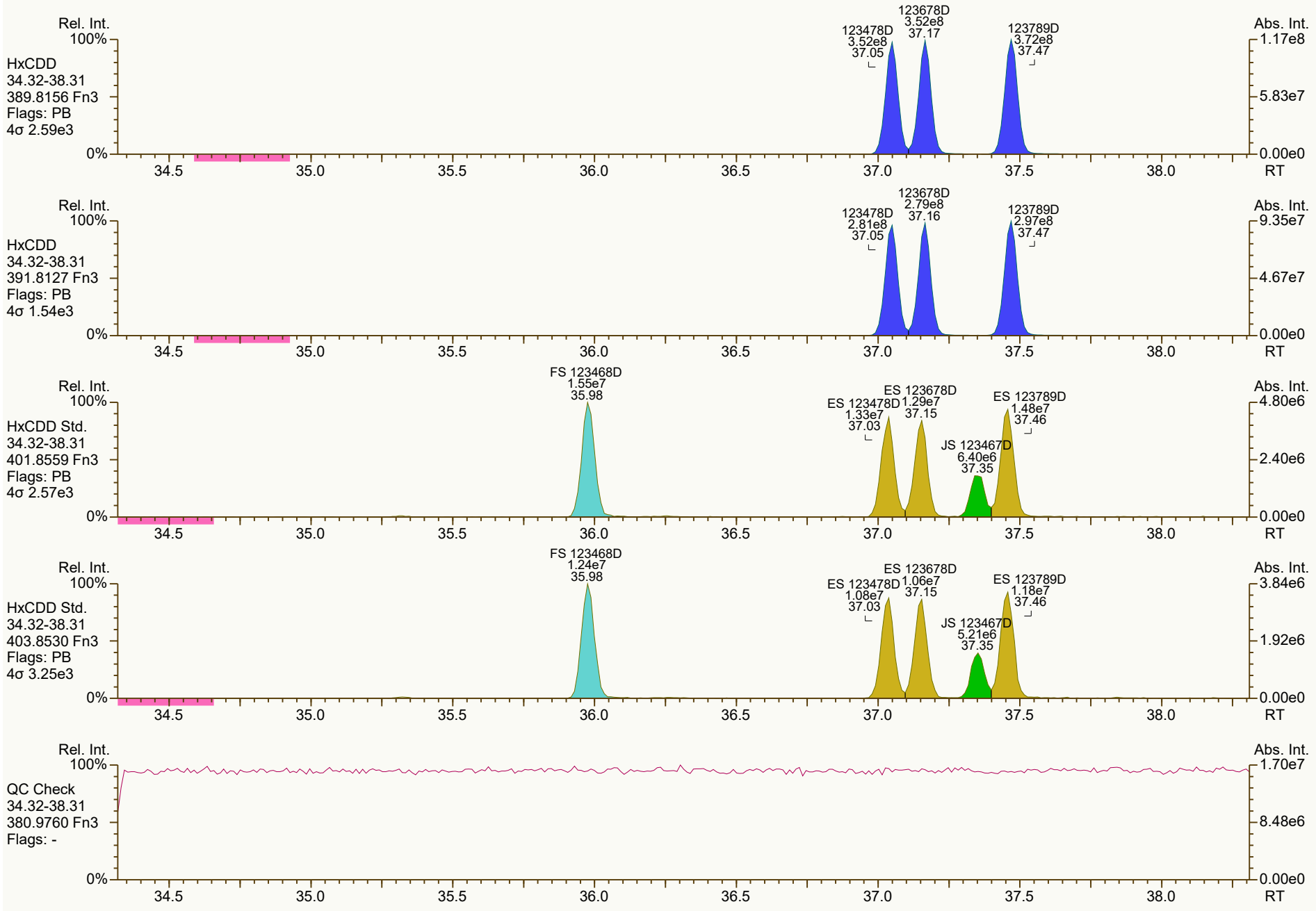
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

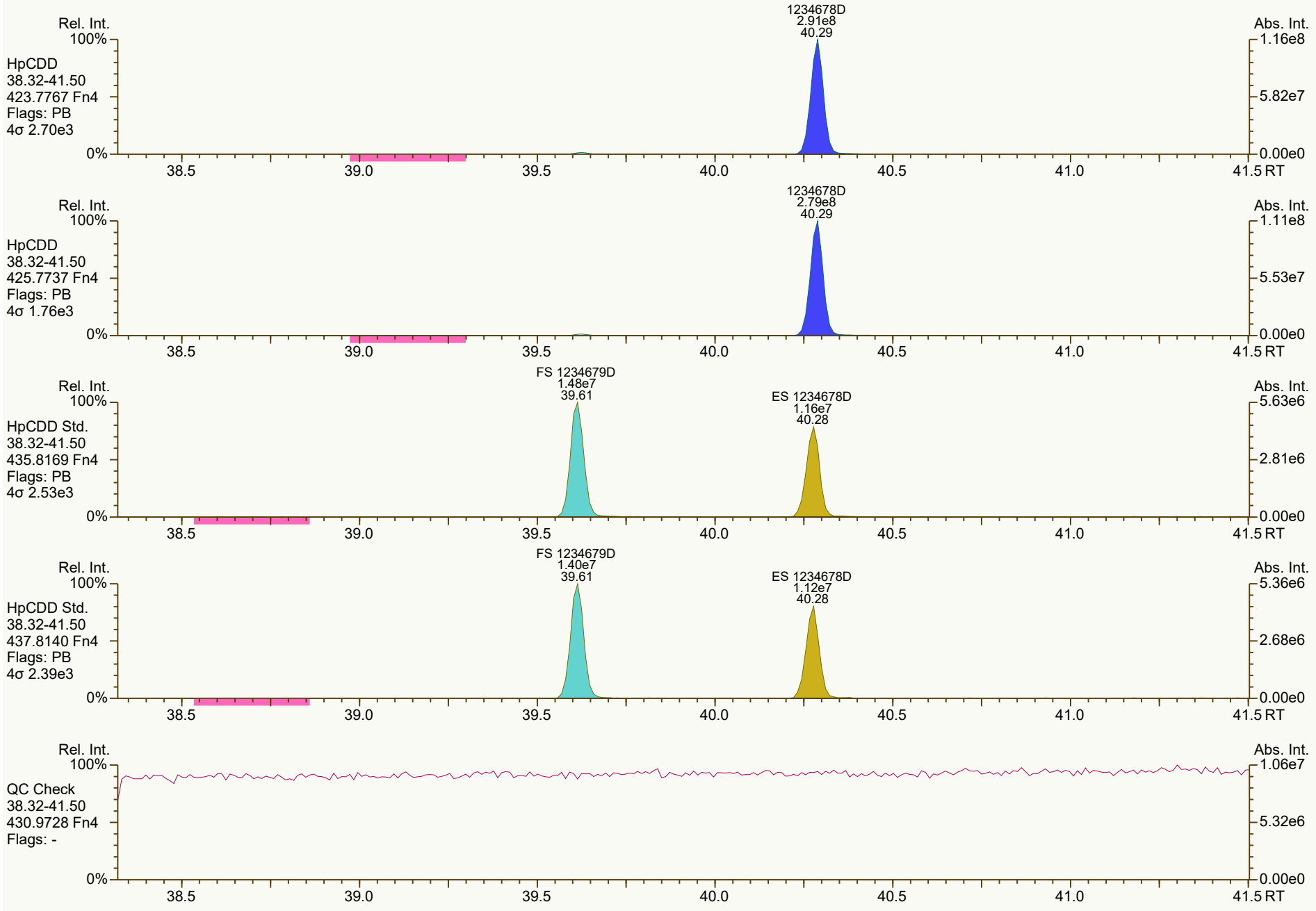
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 15:40 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS6_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 172-736-WQL	
Sample ID: 25-5-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C10	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

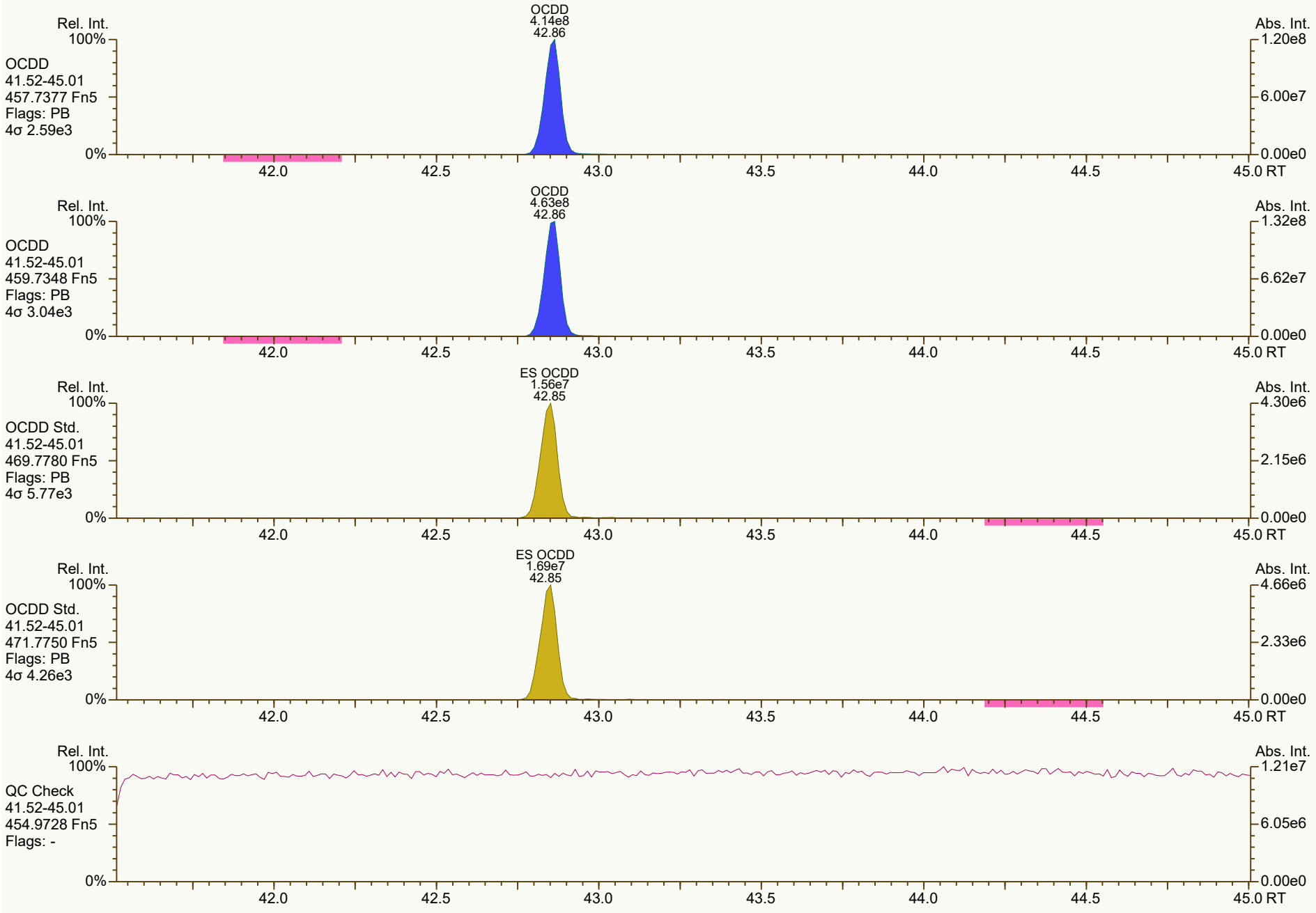

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
0%
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
0%
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.31e6
3.16e6
0.00e0

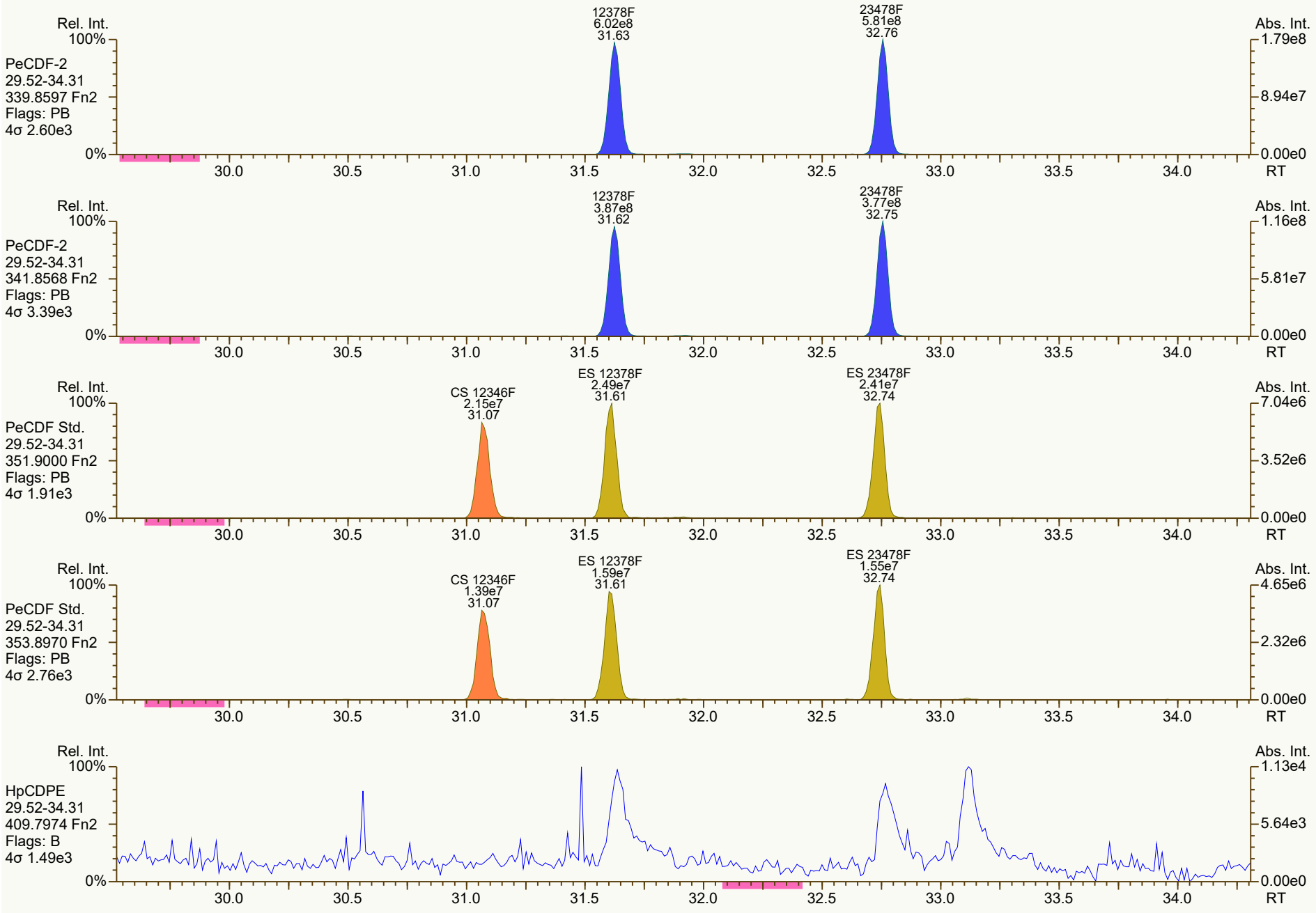

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
0%
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
0%
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
0%
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
0%
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.70e7
8.48e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

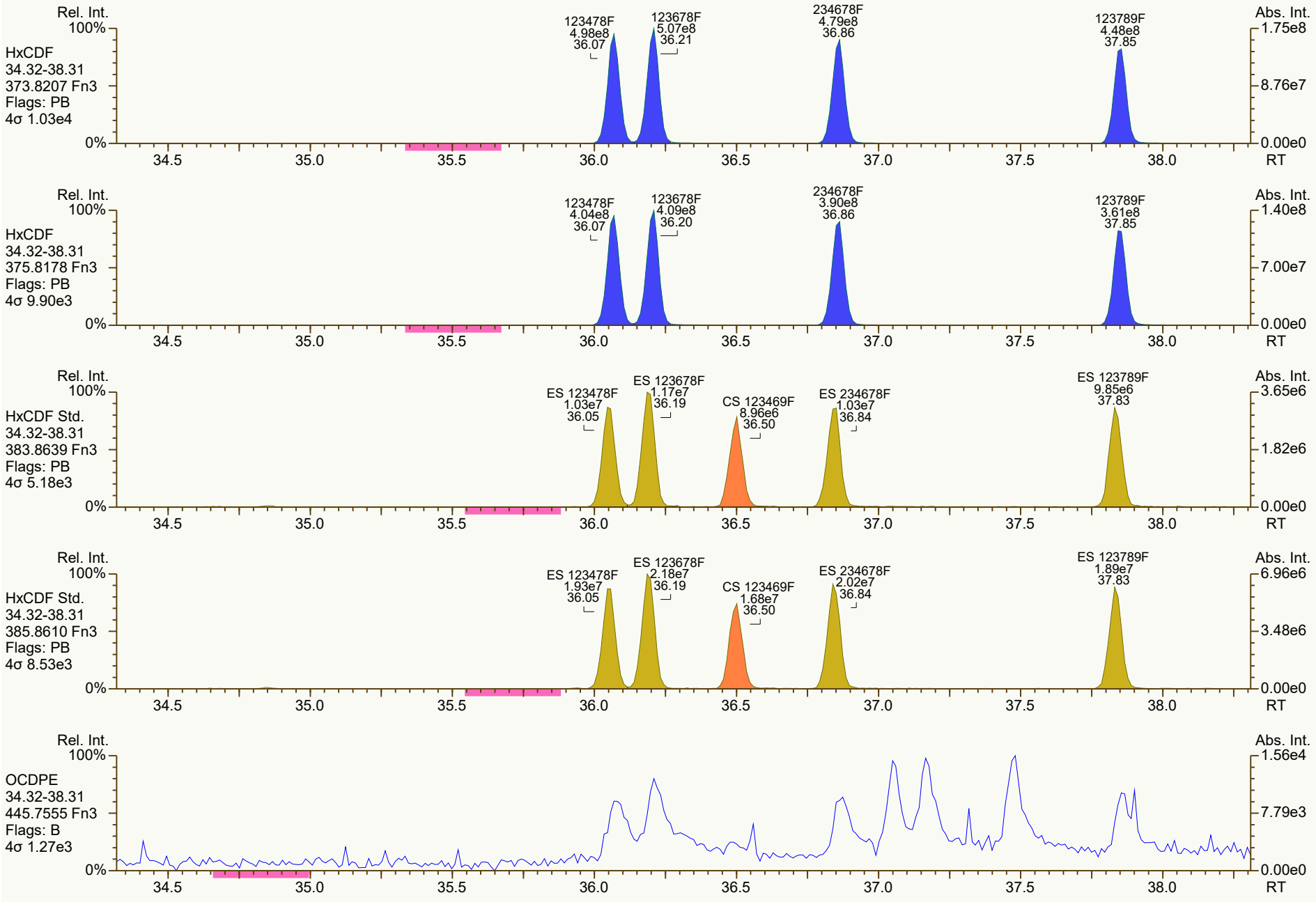

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

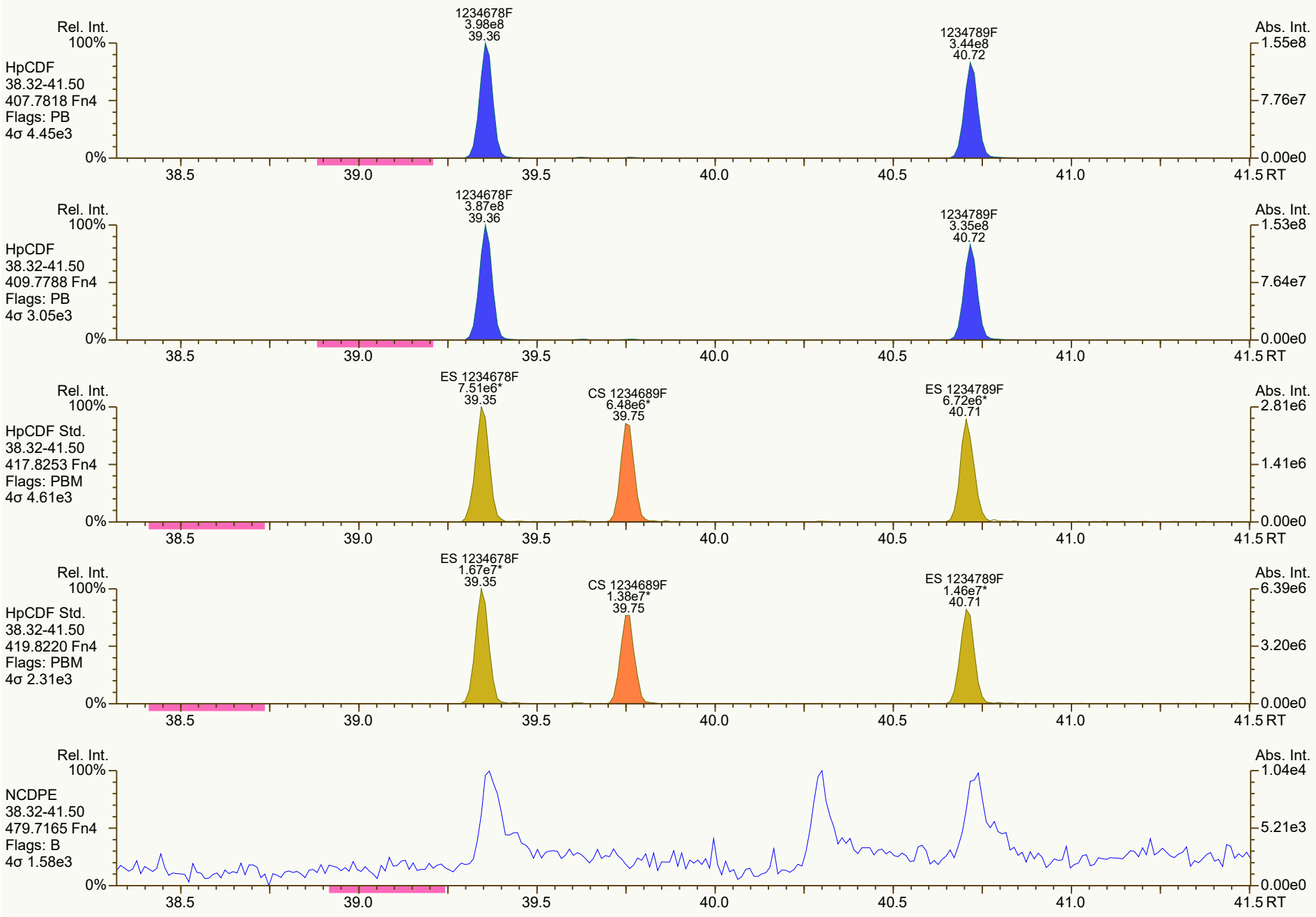

OCDD
4.14e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.63e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.56e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.69e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

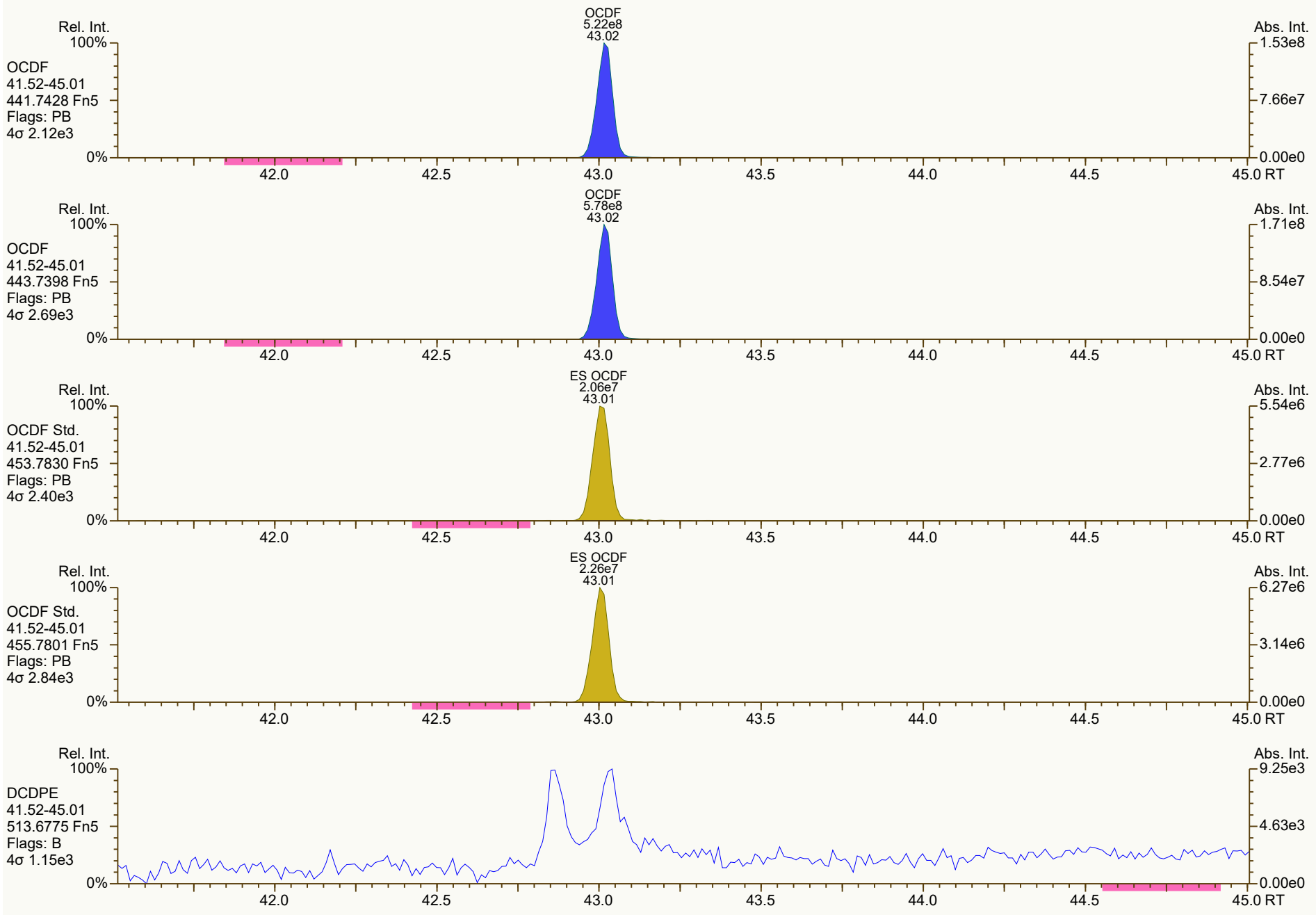

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

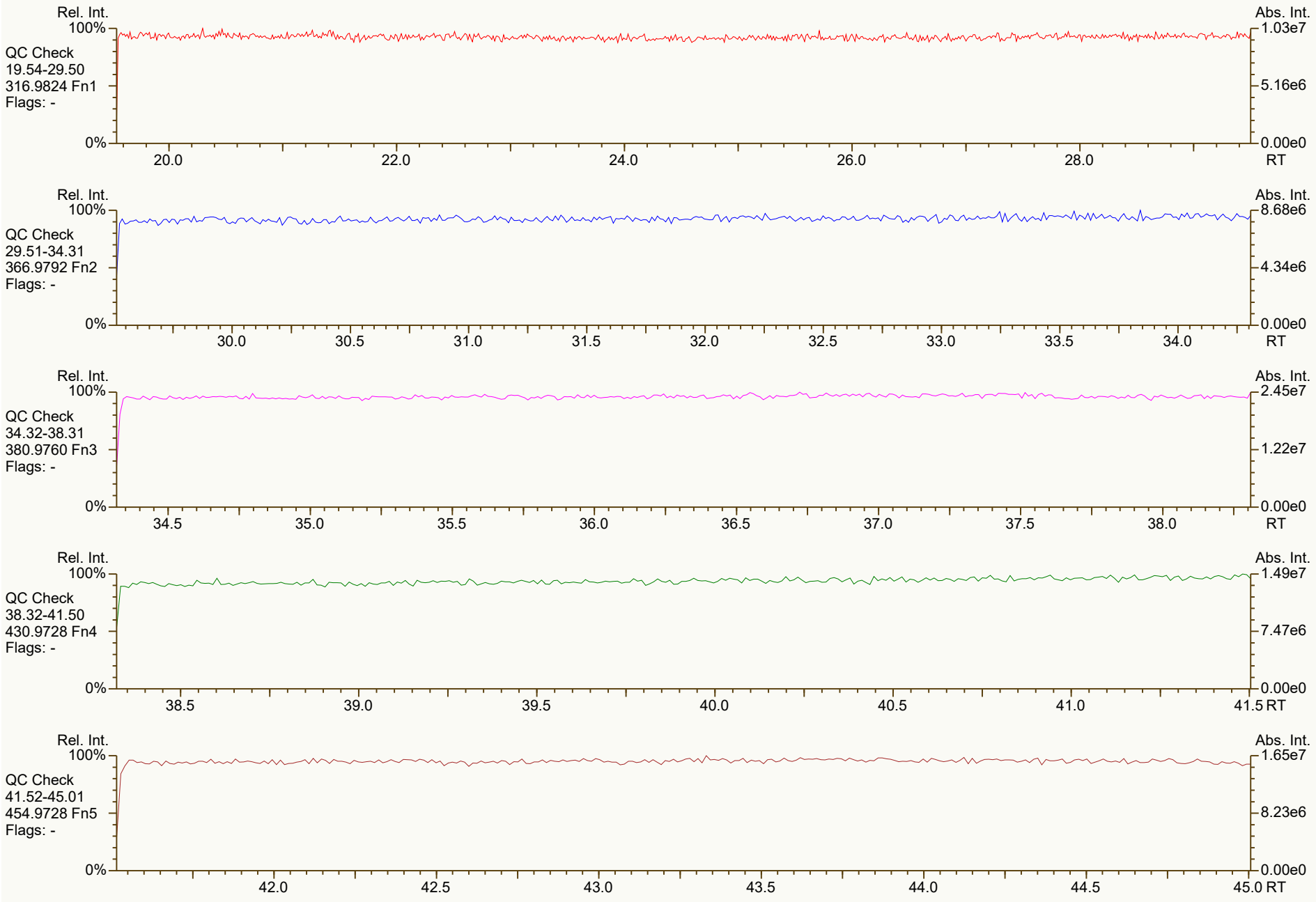

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
Abs. Int.
1.13e4
5.64e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.65e7
8.23e6
0.00e0

SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

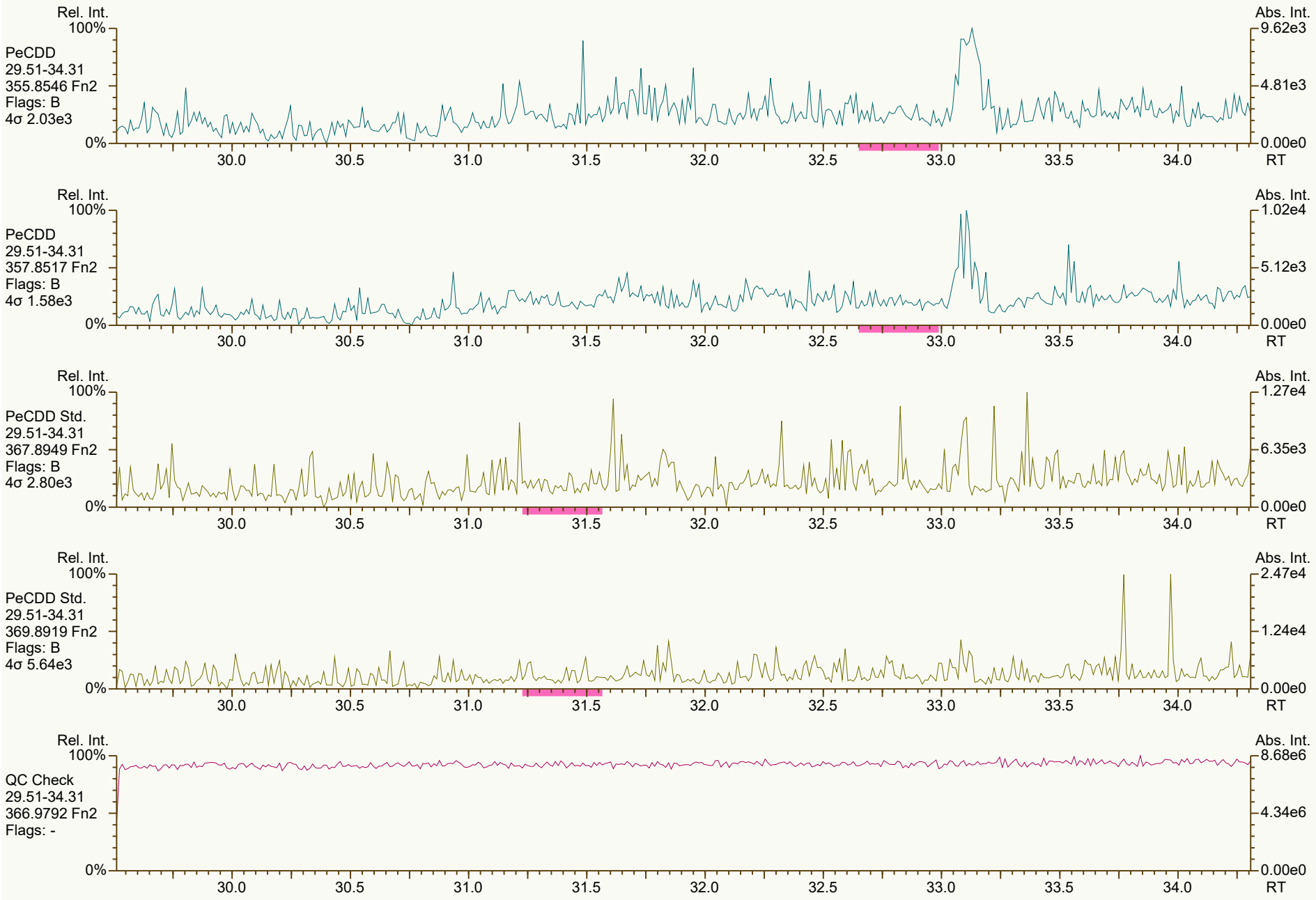
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF) *Peak annotation: Areas, Centroids*

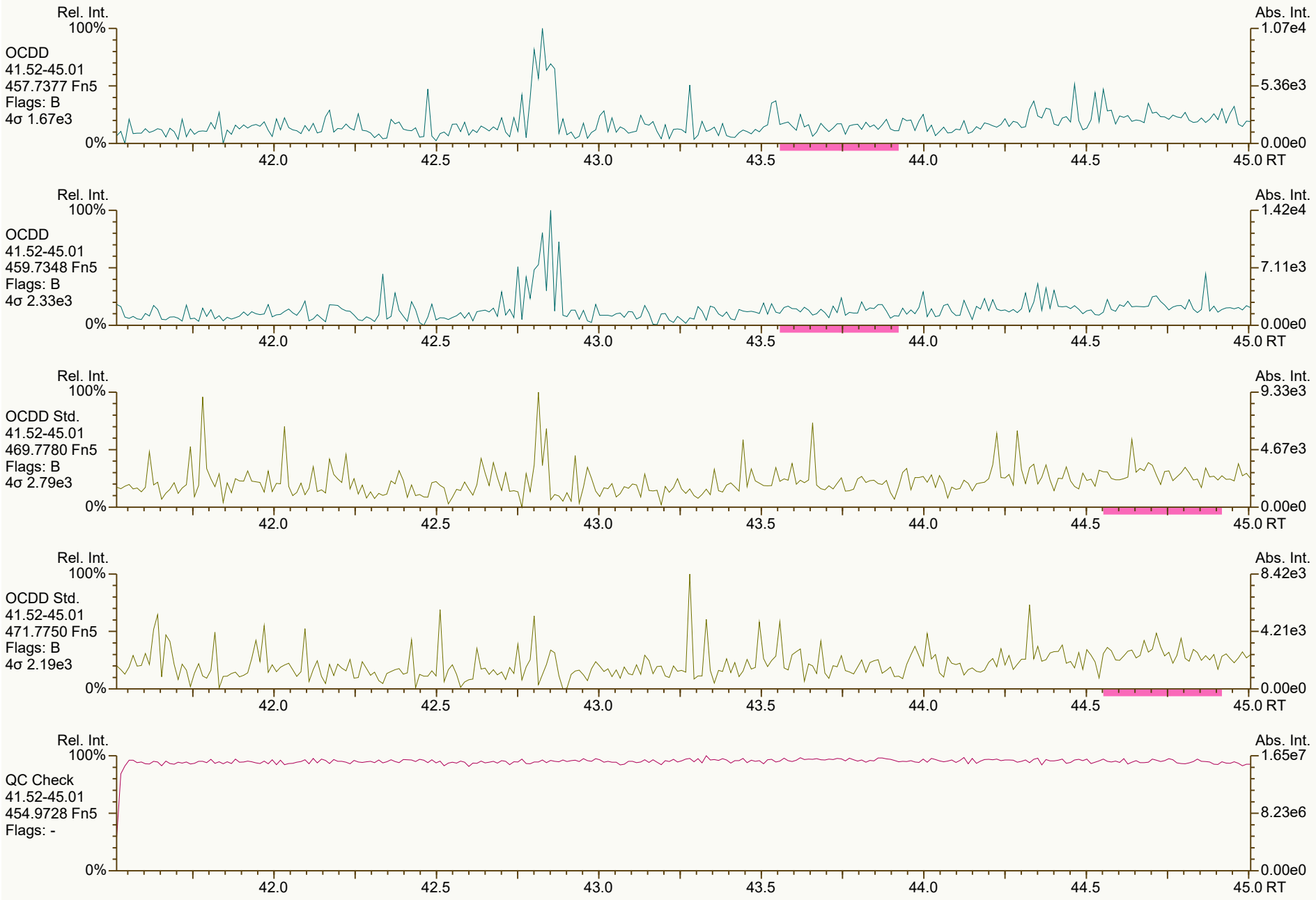
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1*


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

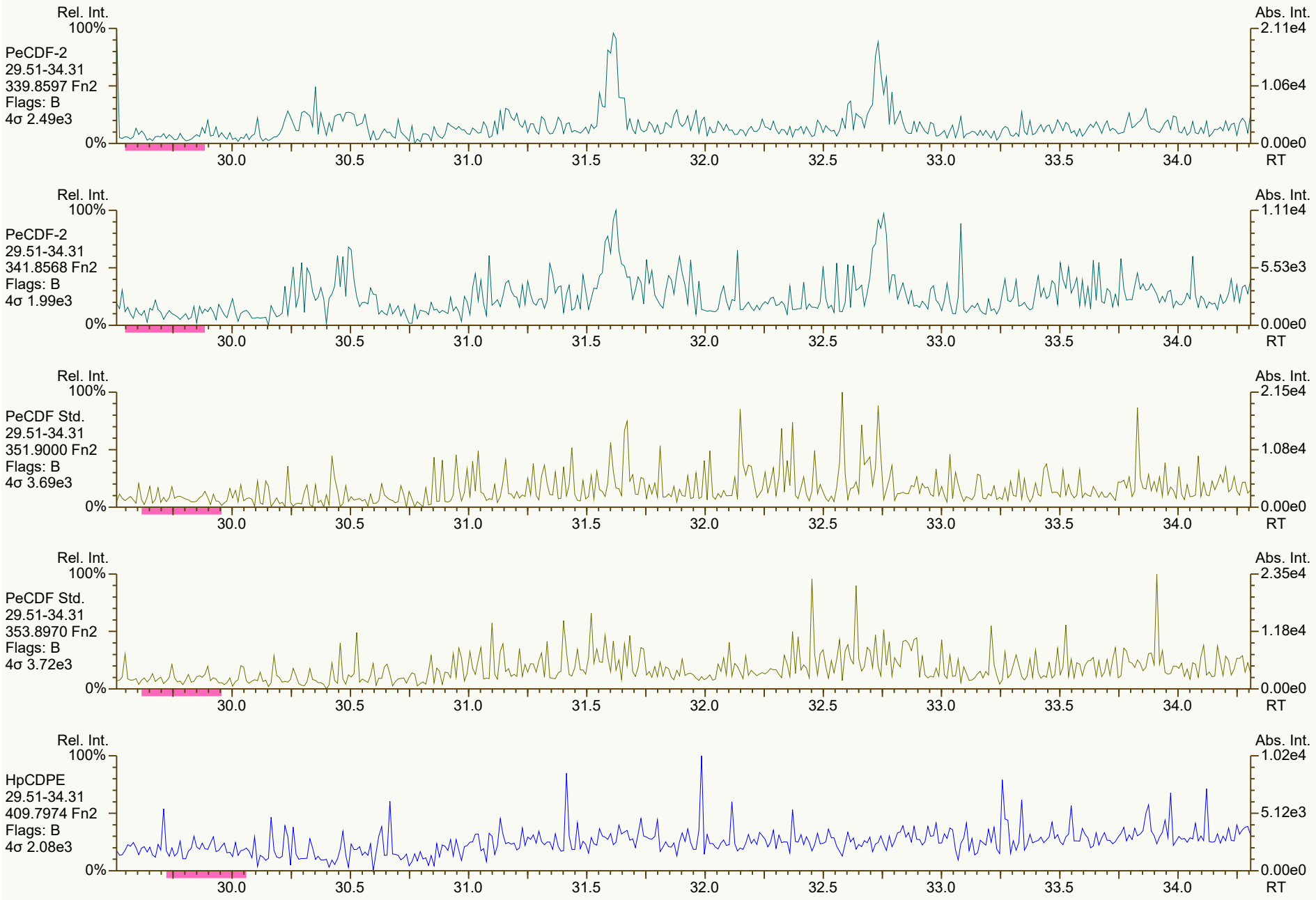

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
Abs. Int.
7.07e4
3.53e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
Abs. Int.
1.06e5
5.32e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
Abs. Int.
5.11e4
2.56e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
Abs. Int.
2.83e4
1.42e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
Abs. Int.
9.47e3
4.73e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

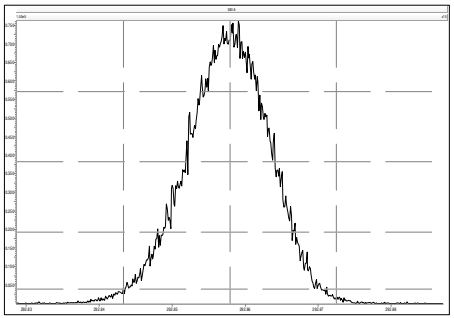

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

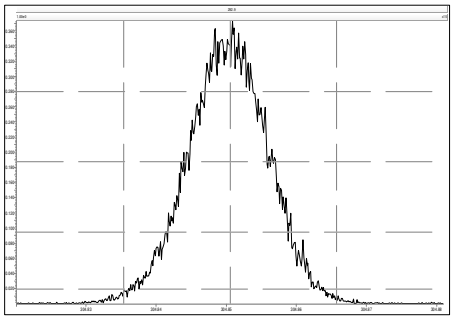
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

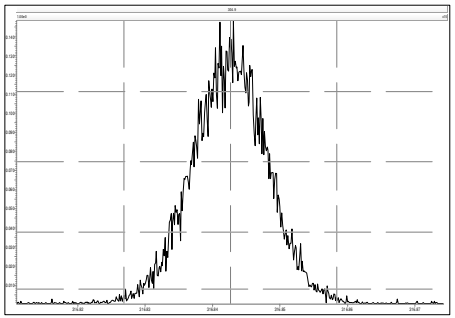
M 292.9824 R 10731



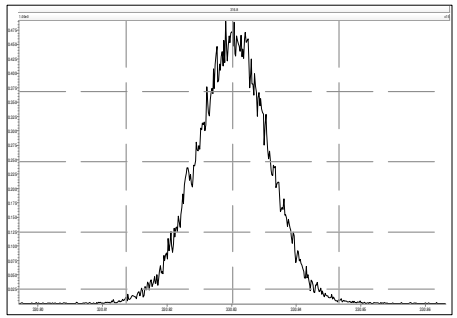
M 304.9824 R 11311



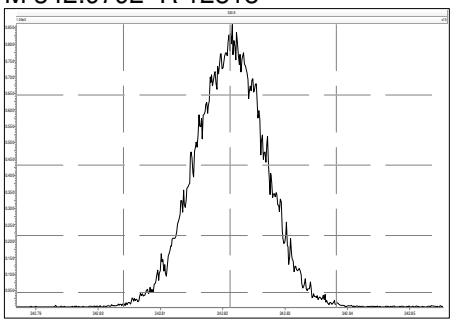
M 316.9824 R 12373



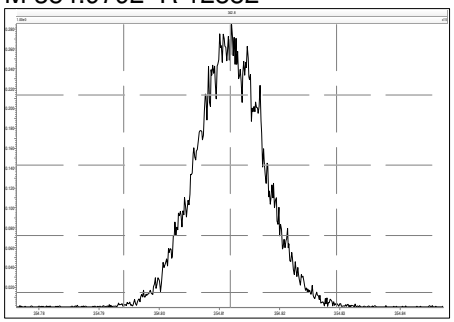
M 330.9792 R 12887



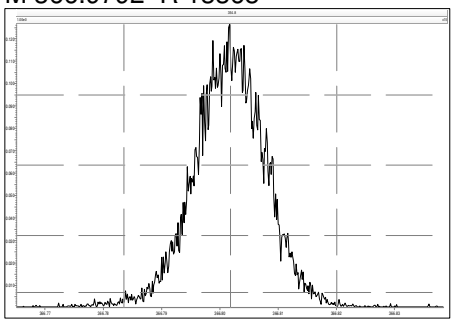
M 342.9792 R 12818



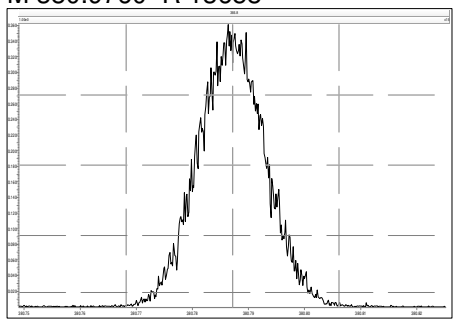
M 354.9792 R 12882



M 366.9792 R 13368



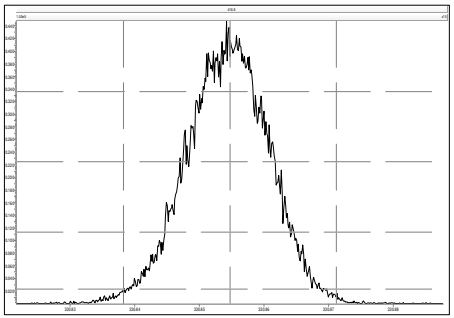
M 380.9760 R 13658



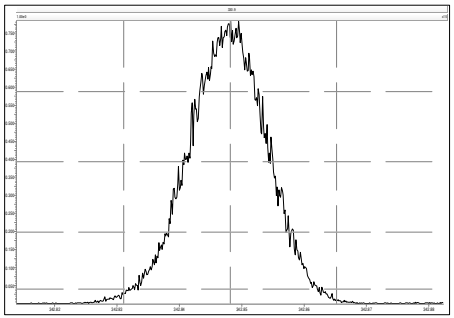
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

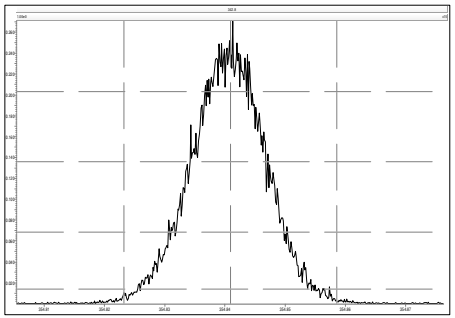
M 330.9792 R 11112



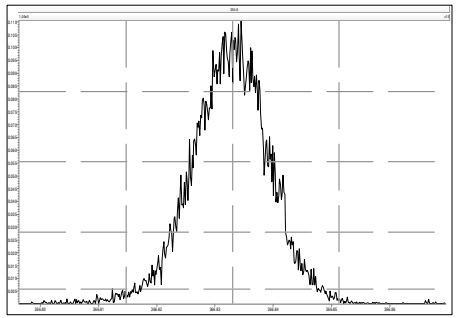
M 342.9792 R 11909



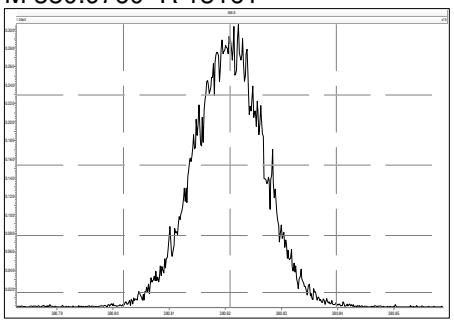
M 354.9792 R 11684



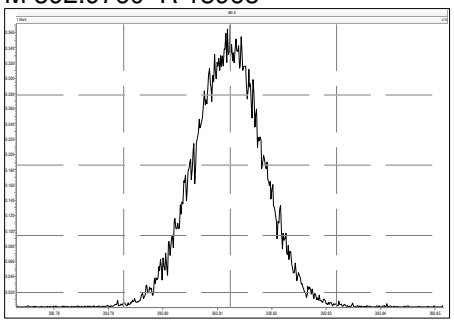
M 366.9792 R 11962



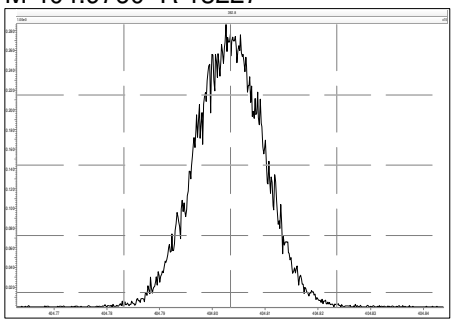
M 380.9760 R 13161



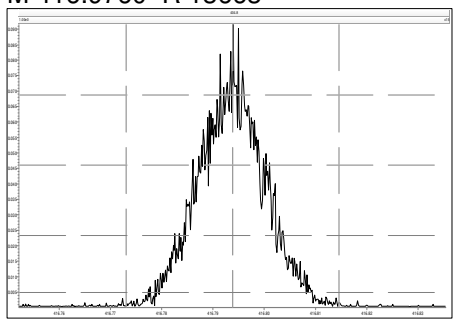
M 392.9760 R 13968



M 404.9760 R 13227



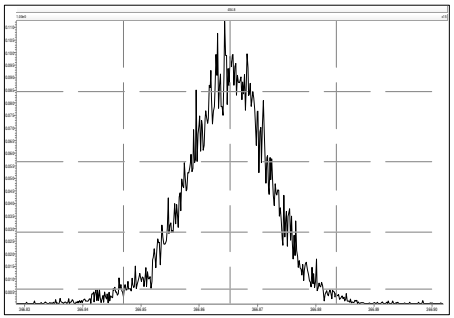
M 416.9760 R 13663



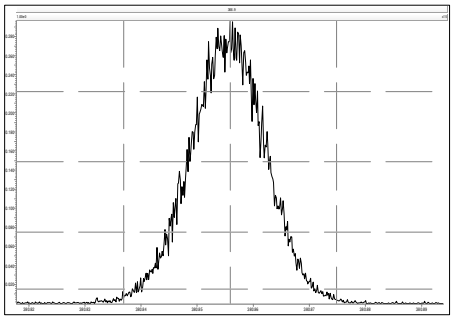
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

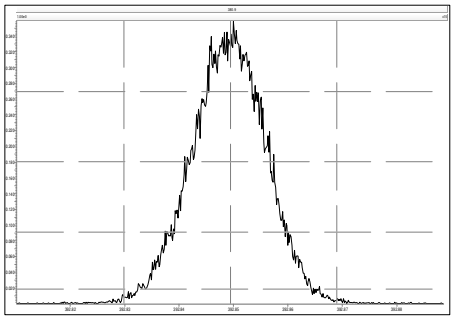
M 366.9792 R 10680



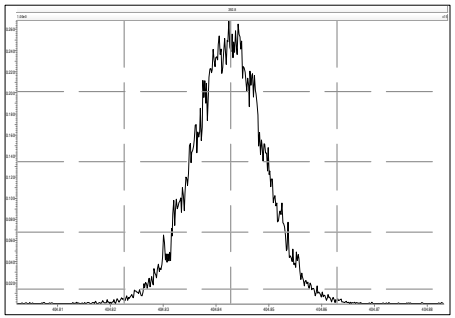
M 380.9760 R 12315



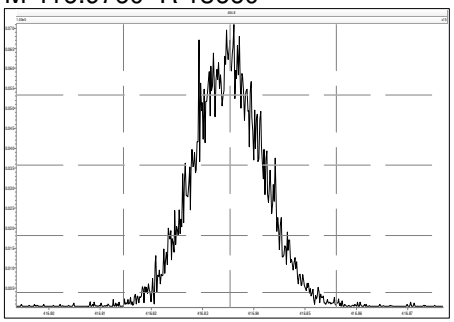
M 392.9760 R 12197



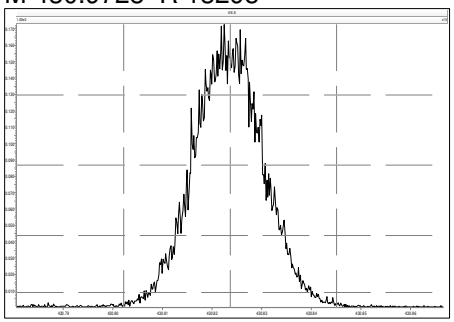
M 404.9760 R 12433



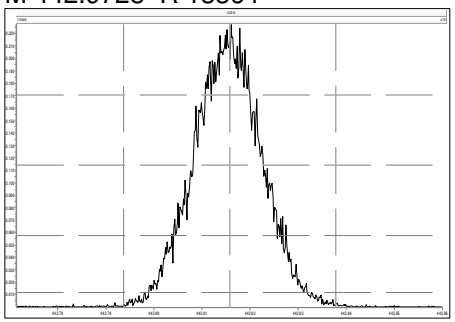
M 416.9760 R 13660



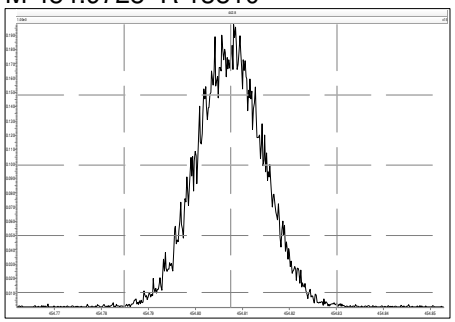
M 430.9728 R 13295



M 442.9728 R 13364



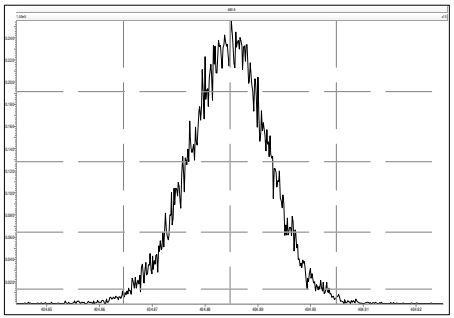
M 454.9728 R 13810



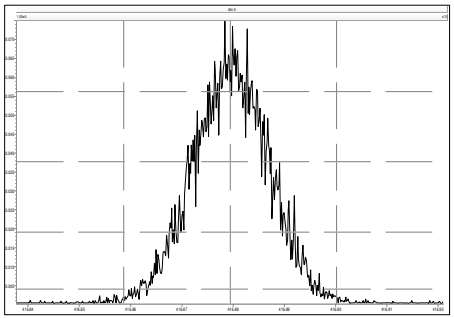
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

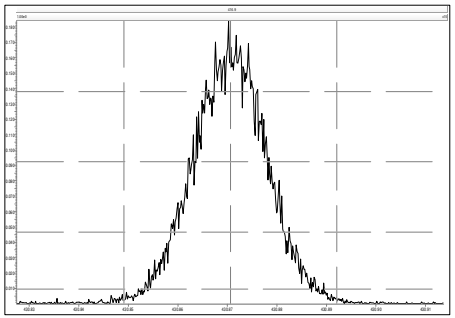
M 404.9760 R 11679



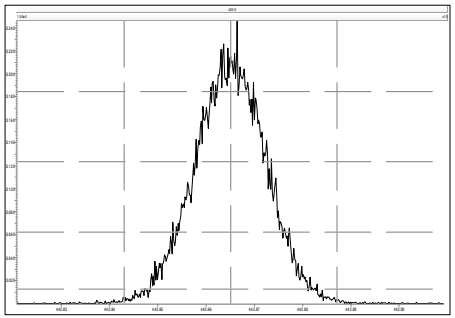
M 416.9760 R 12886



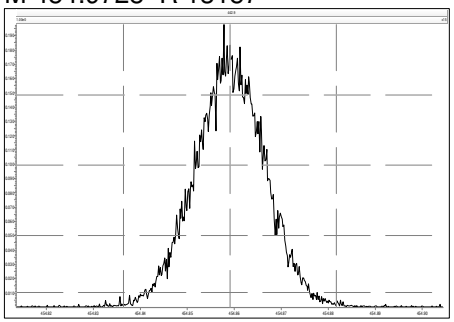
M 430.9728 R 12253



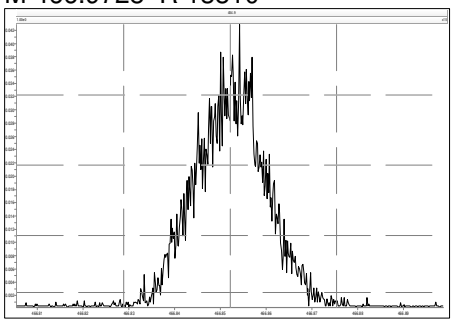
M 442.9728 R 12756



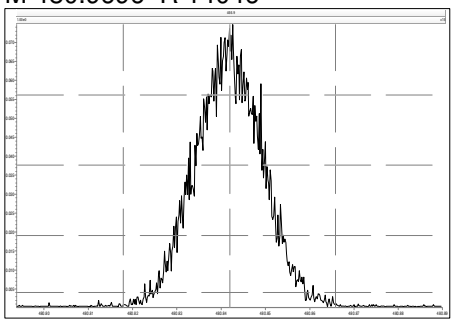
M 454.9728 R 13157



M 466.9728 R 13810



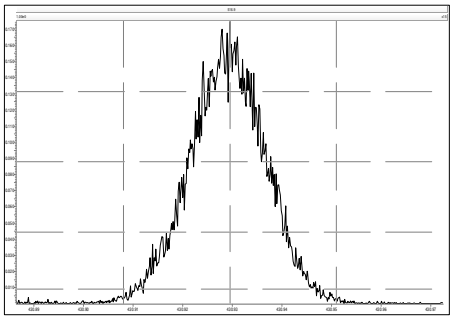
M 480.9696 R 14046



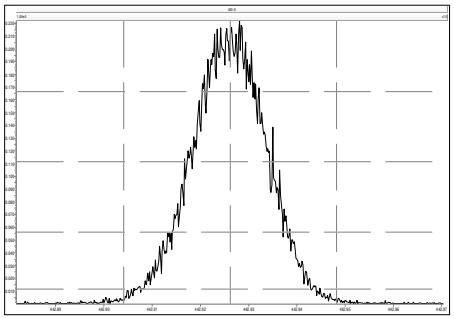
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

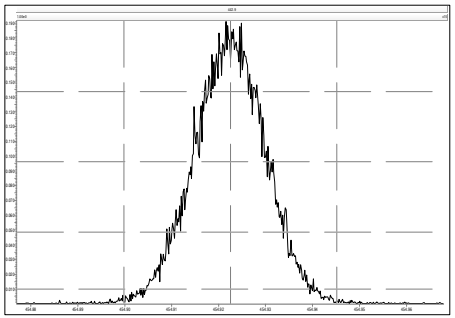
M 430.9728 R 11574



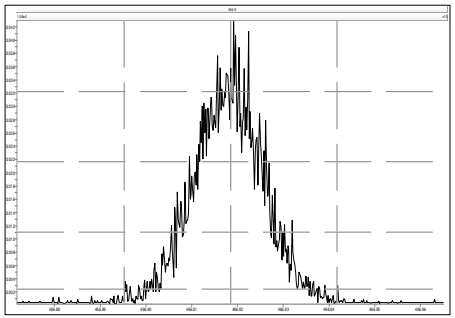
M 442.9728 R 12198



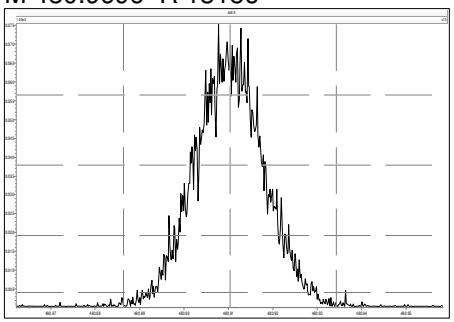
M 454.9728 R 12950



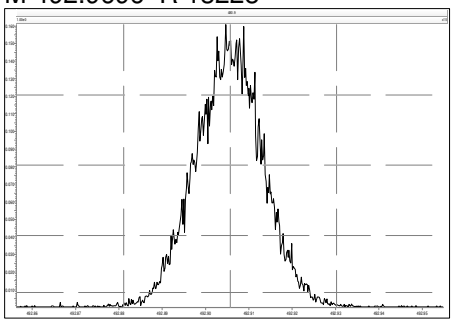
M 466.9728 R 13088



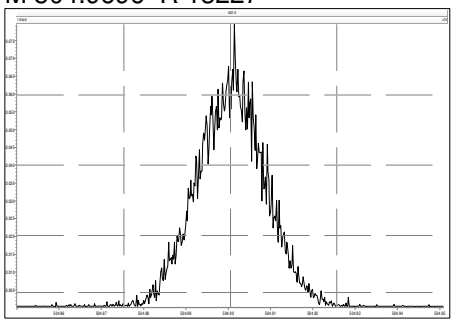
M 480.9696 R 13156



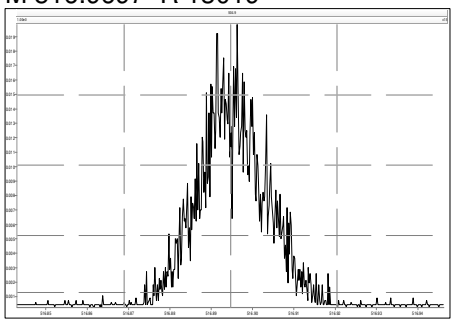
M 492.9696 R 13228



M 504.9696 R 13227



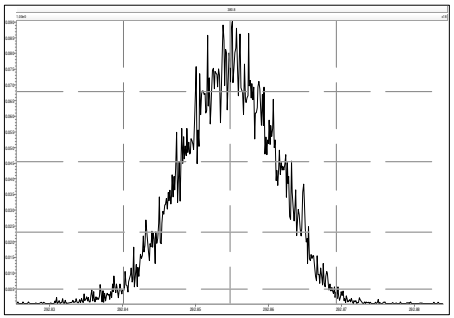
M 516.9697 R 13019



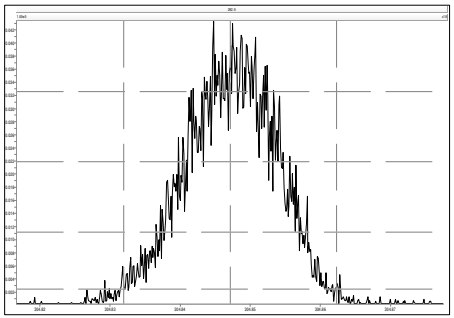
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

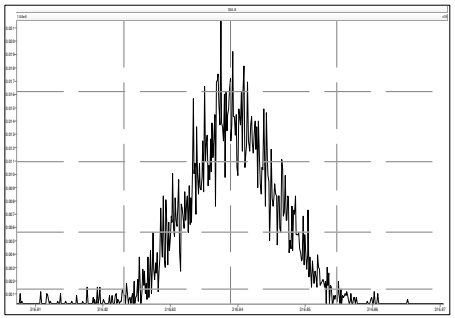
M 292.9824 R 10122



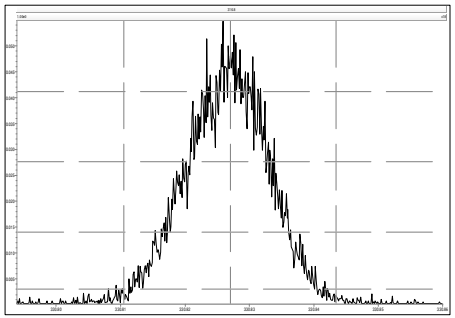
M 304.9824 R 10329



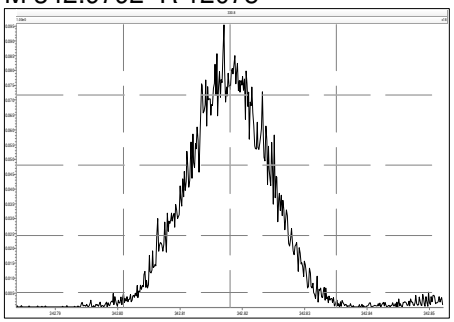
M 316.9824 R 11964



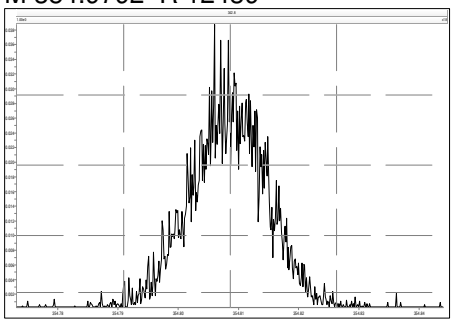
M 330.9792 R 11062



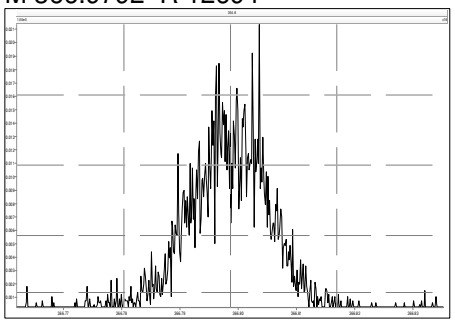
M 342.9792 R 12075



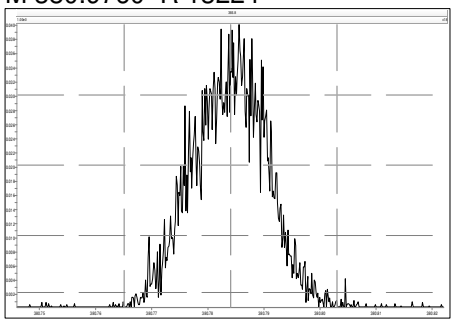
M 354.9792 R 12439



M 366.9792 R 12694



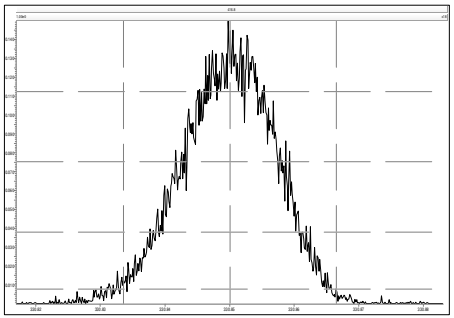
M 380.9760 R 13224



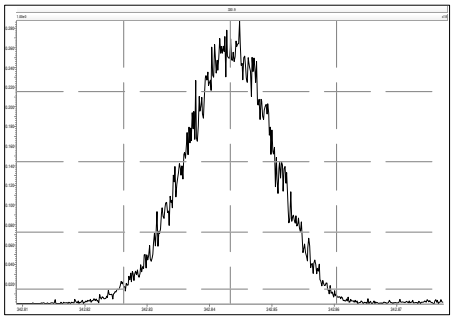
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

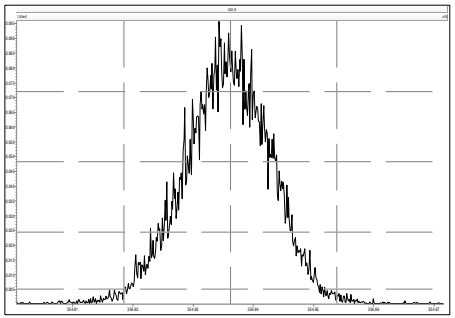
M 330.9792 R 10730



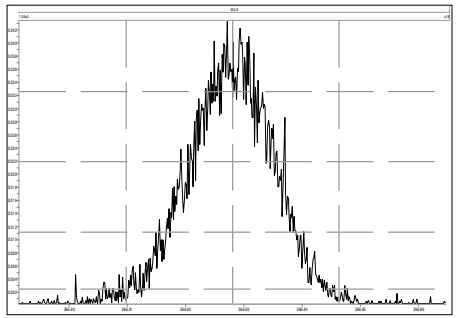
M 342.9792 R 10039



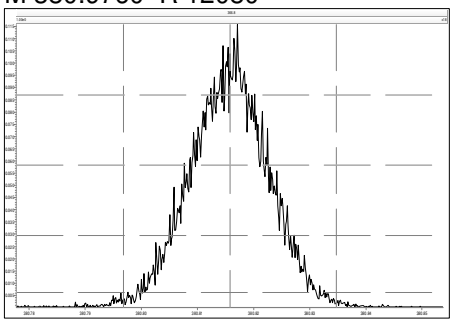
M 354.9792 R 11108



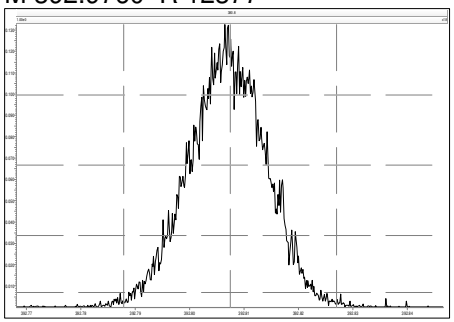
M 366.9792 R 11520



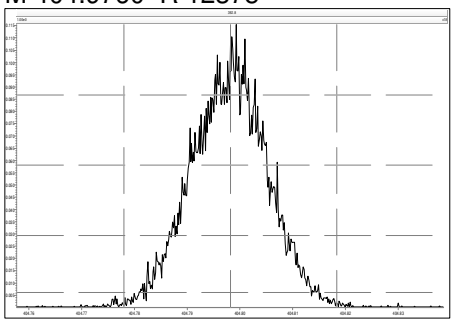
M 380.9760 R 12080



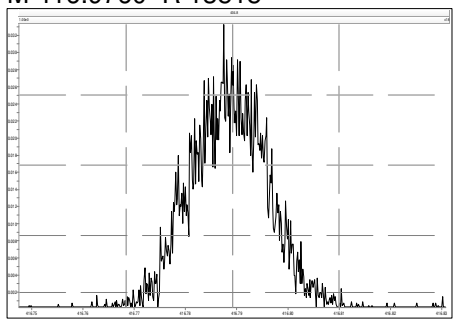
M 392.9760 R 12377



M 404.9760 R 12375



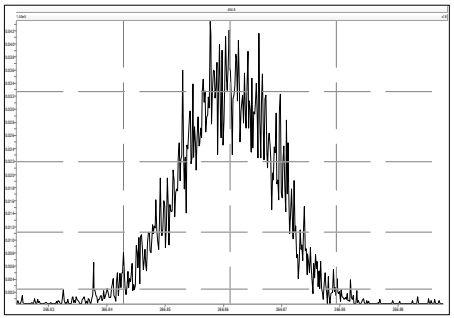
M 416.9760 R 13515



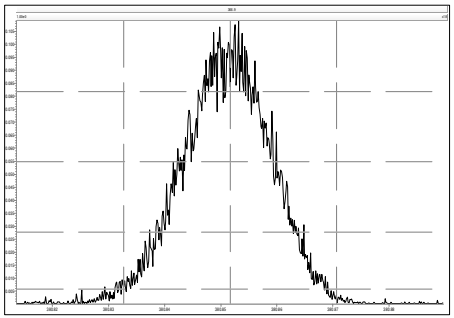
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

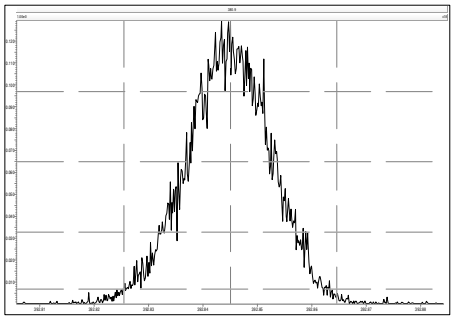
M 366.9792 R 10866



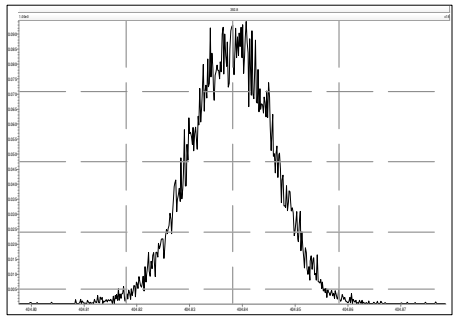
M 380.9760 R 10416



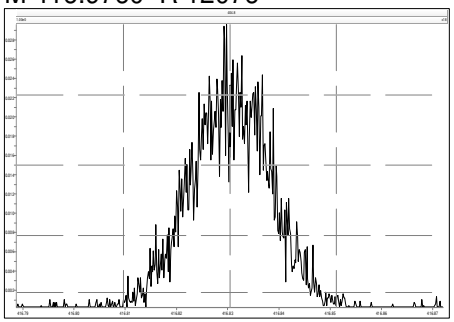
M 392.9760 R 10640



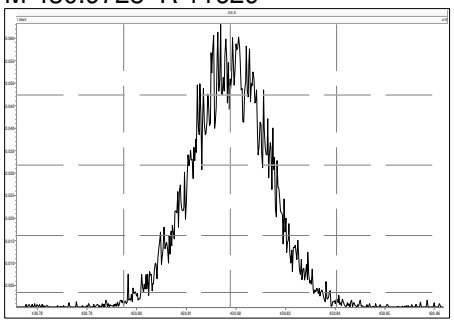
M 404.9760 R 11957



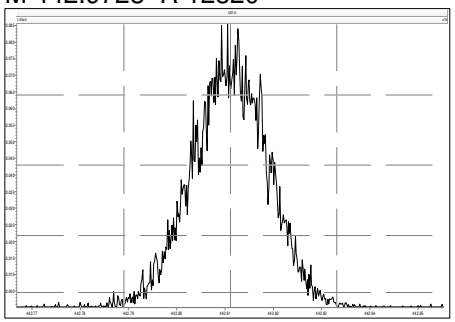
M 416.9760 R 12076



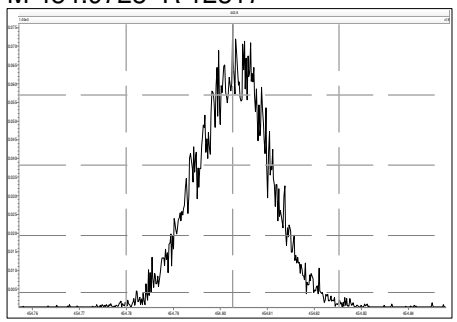
M 430.9728 R 11629



M 442.9728 R 12820



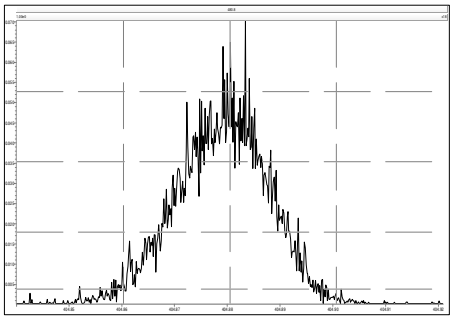
M 454.9728 R 12317



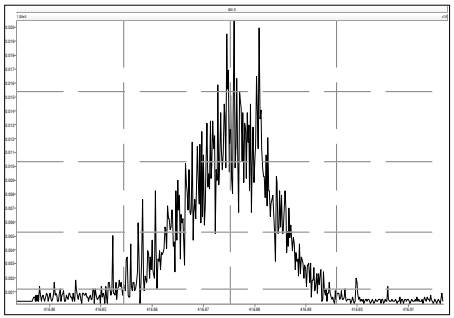
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

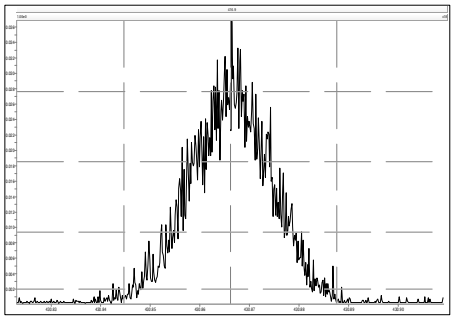
M 404.9760 R 10505



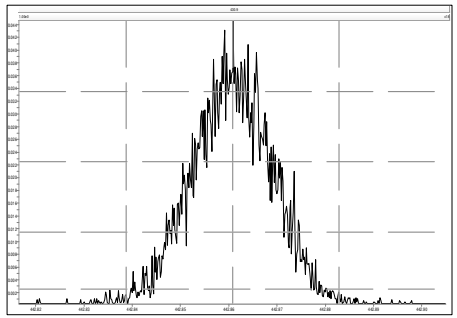
M 416.9760 R 12500



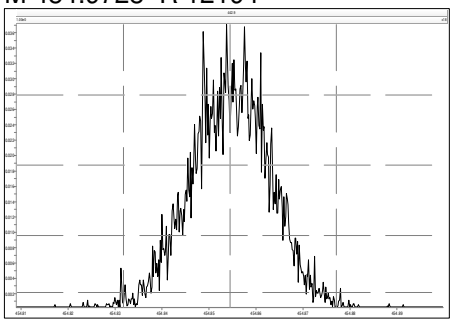
M 430.9728 R 11362



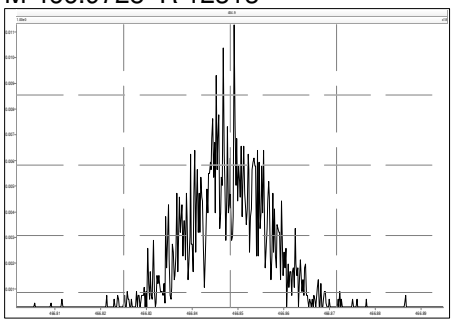
M 442.9728 R 12756



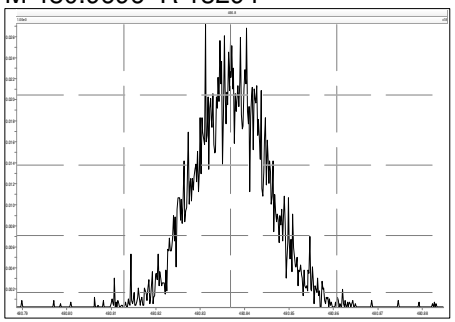
M 454.9728 R 12194



M 466.9728 R 12313



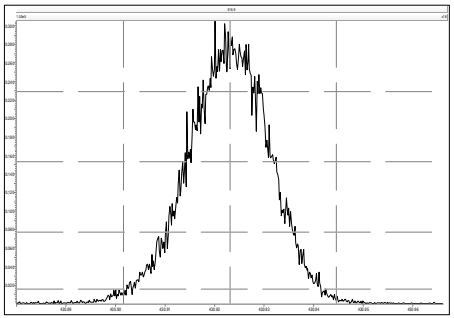
M 480.9696 R 13294



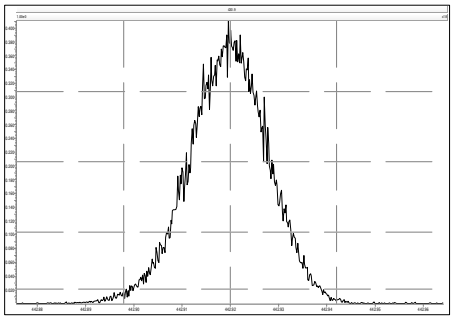
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

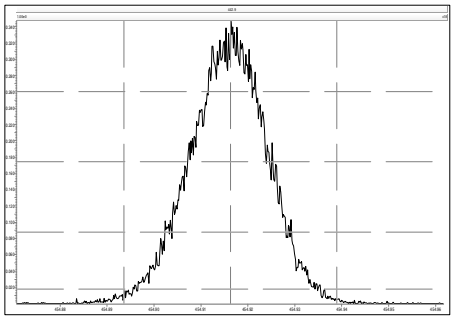
M 430.9728 R 11312



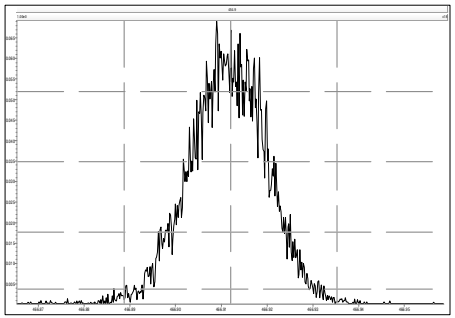
M 442.9728 R 11110



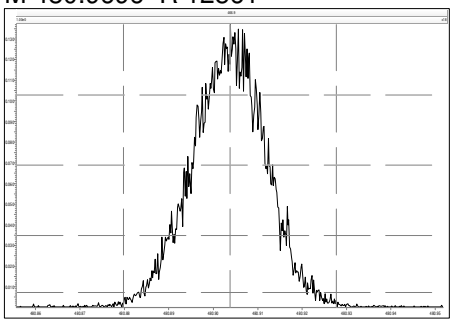
M 454.9728 R 11906



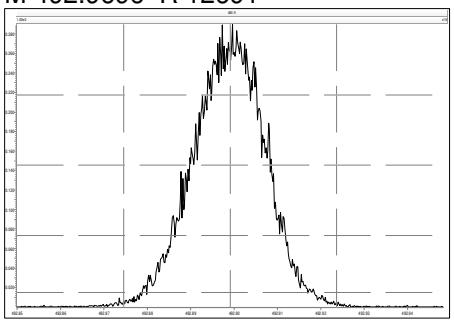
M 466.9728 R 12562



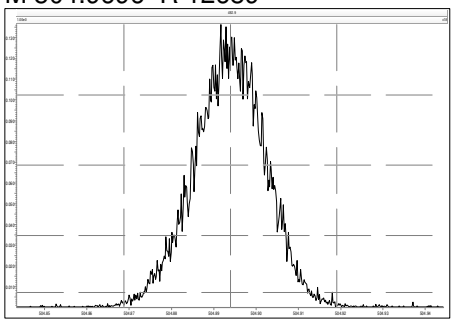
M 480.9696 R 12561



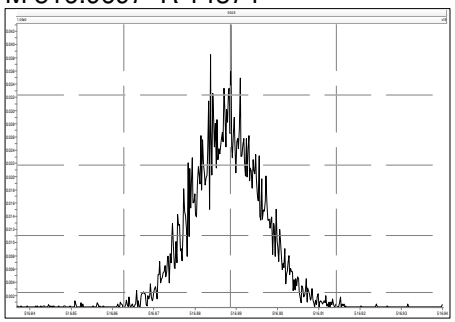
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



REVIEWED
Amber_Kornegay , 2/10/2022, 1:38:34 PM

Lab ID: OPR1_18888_DF **Acq'd:** 09 Feb 2022 16:17 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18888_OPR001 **UTP:** 10-Feb-2022 10:30:44 DTF **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 357-810-YWY

Datafile: 220209C14 **Report:** 10 Feb 2022 10:31 TF **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.48		1.0008	1.0008	0	4.77E+06	0.80	Y	1.18	11	4112.822	0.0976
12378-PeCDD	33.82		1.0006	1.0006	0	1.65E+07	1.54	Y	1.04	48.3	3152.422	0.081
123478-HxCDD	37.74		1.0004	1.0004	0	1.78E+07	1.25	Y	1.09	53.9	3251.873	0.0867
123678-HxCDD	37.85		1.0035	1.0035	0	2.07E+07	1.26	Y	1.15	53.7	3251.873	0.0742
123789-HxCDD	38.15		1.0112	1.0113	+0.2	1.80E+07	1.26	Y	1.05	52.8	3251.873	0.0816
1234678-HpCDD	40.82		1.0003	1.0003	0	1.57E+07	1.04	Y	1.06	53.4	3287.748	0.0877
OCDD	43.50		1.0004	1.0003	-0.3	2.30E+07	0.90	Y	1.13	107	4366.458	0.232
2378-TCDF	27.62		1.0008	1.0008	0	6.26E+06	0.78	Y	1.08	10.6	2601.9148	0.0469
12378-PeCDF	32.37		1.0005	1.0006	+0.2	2.54E+07	1.48	Y	1.02	49.1	7028.441	0.119
23478-PeCDF	33.49		1.0005	1.0006	+0.2	2.62E+07	1.54	Y	1.02	53.6	7028.441	0.121
123478-HxCDF	36.73		1.0004	1.0004	0	2.27E+07	1.24	Y	1.27	50.6	9774.718	0.181
123678-HxCDF	36.87		1.0004	1.0005	+0.2	2.61E+07	1.21	Y	1.15	53.1	9774.718	0.178
234678-HxCDF	37.55		1.0005	1.0005	0	2.52E+07	1.22	Y	1.19	50	9774.718	0.168
123789-HxCDF	38.50		1.0004	1.0004	0	1.94E+07	1.20	Y	1.16	49.1	9774.718	0.205
1234678-HpCDF	39.88		1.0003	1.0003	0	2.15E+07	1.03	Y	1.37	51.3	3049.848	0.0547
1234789-HpCDF	41.28		1.0002	1.0003	+0.2	1.72E+07	1.03	Y	1.31	51.2	3049.848	0.0697
OCDF	43.68		1.0003	1.0002	-0.3	2.76E+07	0.89	Y	1.07	102	4133.558	0.171

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46	1.0236	1.0238	+0.3	3.67E+07	0.79	Y	1.05	91.1
ES 12378-PeCDD	33.80	1.2144	1.2161	+3.4	3.29E+07	1.56	Y	0.88	96.9
ES 123478-HxCDD	37.72	0.9920	0.9918	-0.5	3.04E+07	1.26	Y	0.97	93.2
ES 123678-HxCDD	37.84	0.9951	0.9949	-0.5	3.36E+07	1.27	Y	0.94	106
ES 123789-HxCDD	38.13	1.0027	1.0027	0	3.26E+07	1.29	Y	1.09	88.9
ES 1234678-HpCDD	40.80	1.0724	1.0729	+1.2	2.78E+07	1.05	Y	0.91	90.8
ES OCDD	43.49	1.1428	1.1435	+1.8	3.81E+07	0.91	Y	0.62	91
ES 2378-TCDF	27.60	1.0516	1.0520	+0.7	5.45E+07	0.80	Y	1.06	86.7
ES 12378-PeCDF	32.36	1.2312	1.2331	+3.7	5.04E+07	1.57	Y	0.91	93.2
ES 23478-PeCDF	33.47	1.2733	1.2755	+4.4	4.79E+07	1.54	Y	0.88	91.3
ES 123478-HxCDF	36.71	0.9655	0.9653	-0.4	3.52E+07	0.53	Y	1.20	87.6
ES 123678-HxCDF	36.85	0.9692	0.9690	-0.4	4.26E+07	0.55	Y	1.35	93.9
ES 234678-HxCDF	37.53	0.9871	0.9869	-0.5	4.25E+07	0.53	Y	1.24	102
ES 123789-HxCDF	38.49	1.0121	1.0120	-0.2	3.40E+07	0.52	Y	1.16	87.7
ES 1234678-HpCDF	39.87	1.0479	1.0484	+1.2	3.06E+07	0.48	Y	0.97	94.3
ES 1234789-HpCDF	41.27	1.0845	1.0850	+1.2	2.57E+07	0.47	Y	0.85	89.9
ES OCDF	43.67	1.1477	1.1481	+1.0	5.02E+07	0.89	Y	0.81	92.7

Lab ID: OPR1_18888_DF | **Acq'd:** 09 Feb 2022 16:17 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18888_OPR001 | **UTP:** 10-Feb-2022 10:30:44 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 357-810-YWY

Datafile: 220209C14 | **Report:** 10 Feb 2022 10:31 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.80		-	-	-	3.86E+07	0.82	Y	-	-
JS 1234-TCDF	26.24		-	-	-	5.94E+07	0.79	Y	-	-
JS 123467-HxCDD	38.03		-	-	-	1.68E+07	1.22	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0244	1.0246	+0.3	1.70E+07	n/a	-	1.20	91.9
CS 12347-PeCDD	33.30		1.1964	1.1980	+3.2	3.22E+07	1.59	Y	0.75	111
CS 12346-PeCDF	31.83		1.2112	1.2129	+3.2	5.06E+07	1.58	Y	0.85	100
CS 123469-HxCDF	37.17		0.9775	0.9773	-0.4	4.01E+07	0.52	Y	1.12	107
CS 1234689-HpCDF	40.27		1.0584	1.0590	+1.4	3.11E+07	0.47	Y	0.89	105
~~SS 37Cl-2378-TCDD~~	~~28.48~~		~~1.0244~~	~~1.0246~~	~~+0.3~~	~~1.70E+07~~	~~n/a~~		~~1.15~~	~~101~~
~~SS 12347-PeCDD~~	~~33.30~~		~~1.1964~~	~~1.1980~~	~~+3.2~~	~~3.22E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~114~~
~~SS 12346-PeCDF~~	~~31.83~~		~~1.2112~~	~~1.2129~~	~~+3.2~~	~~5.06E+07~~	~~1.58~~	~~Y~~	~~0.94~~	~~107~~
~~SS 123469-HxCDF~~	~~37.17~~		~~0.9775~~	~~0.9773~~	~~-0.4~~	~~4.01E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~114~~
~~SS 1234689-HpCDF~~	~~40.27~~		~~1.0584~~	~~1.0590~~	~~+1.4~~	~~3.11E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~111~~

Totals	Conc	EMPC
Total TCDD	50.9	50.9
Total PeCDD	73.2	73.2
Total HxCDD	174	174
Total HpCDD	65.3	65.3
Total Tetra-Octa Dioxins	471	471
Total TCDF	60	60
Total PeCDF	211	211
Total HxCDF	320	320
Total HpCDF	102	102
Total Tetra-Octa Furans	796	796
Total Tetra-Octa Dioxins & Furans	1270	1270

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.799	0.80
Response	4.78E+06	4.77E+06

Lab ID: OPR1_18888_DF | **Acq'd: 09 Feb 2022 16:17 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18888_OPR001 | **UTP: 10-Feb-2022 10:30:44 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 357-810-YWY**

Datafile: 220209C14 | **Report: 10 Feb 2022 10:31 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.84		0.8737	0.8727	-1.5	6.41E+06	0.79	Y	1.18	14.7	4112.822	0.0976
1379-TCDD	NotFnd		0.8860						1.18		4112.822	0.0976
1369-TCDD	NotFnd		0.9009						1.18		4112.822	0.0976
1469-TCDD	NotFnd		0.9281						1.18		4112.822	0.0976
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		4112.822	0.0976
1378-TCDD	NotFnd		0.9432						1.18		4112.822	0.0976
1268-TCDD	NotFnd		0.9500						1.18		4112.822	0.0976
1478-TCDD	NotFnd		0.9586						1.18		4112.822	0.0976
1279-TCDD	NotFnd		0.9645						1.18		4112.822	0.0976
1234/1269-TCDD	NotFnd		0.9770						1.18		4112.822	0.0976
1236-TCDD	NotFnd		0.9817						1.18		4112.822	0.0976
1237/1238-TCDD	NotFnd		0.9905						1.18		4112.822	0.0976
1239-TCDD	28.32		0.9952	0.9953	+0.2	4.37E+06	0.78	Y	1.18	10	4112.822	0.0976
2378-TCDD	**28.48**		**1.0008**	1.0008	**0**	4.77E+06	0.80	Y	**1.18**	**11**	**4112.822**	**0.0976**
1278-TCDD	NotFnd		1.0121						1.18		4112.822	0.0976
1267-TCDD	NotFnd		1.0167						1.18		4112.822	0.0976
1289-TCDD	29.45		1.0345	1.0349	+0.7	6.61E+06	0.79	Y	1.18	15.2	4112.822	0.0976
12479/12468-PeCDD	31.32		0.9267	0.9265	-0.4	4.09E+06	1.59	Y	1.04	12	3152.422	0.081
12469-PeCDD	NotFnd		0.9425						1.04		3152.422	0.081
12368-PeCDD	NotFnd		0.9588						1.04		3152.422	0.081
12478-PeCDD	NotFnd		0.9643						1.04		3152.422	0.081
12379-PeCDD	NotFnd		0.9673						1.04		3152.422	0.081
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		3152.422	0.081
12346/12347-PeCDD	NotFnd		0.9858						1.04		3152.422	0.081
12378-PeCDD	33.82		**1.0006**	**1.0006**	**0**	**1.65E+07**	**1.54**	**Y**	**1.04**	**48.3**	**3152.422**	**0.081**
12367-PeCDD	NotFnd		1.0033						1.04		3152.422	0.081
12389-PeCDD	34.26		1.0134	1.0135	+0.2	4.41E+06	1.59	Y	1.04	12.9	3152.422	0.081
124679/124689-HxCDD	35.99		0.9542	0.9540	-0.4	4.79E+06	1.27	Y	1.10	13.6	3251.873	0.0805
123468-HxCDD	NotFnd		0.9715						1.10		3251.873	0.0805
123679/123689-HxCDD	NotFnd		0.9793						1.10		3251.873	0.0805
123469-HxCDD	NotFnd		0.9828						1.10		3251.873	0.0805
123478-HxCDD	37.74		**1.0004**	**1.0004**	**0**	**1.78E+07**	**1.25**	**Y**	1.09	**53.9**	**3251.873**	**0.0867**
123678-HxCDD	37.85		**1.0035**	**1.0035**	**0**	**2.07E+07**	**1.26**	**Y**	1.15	**53.7**	**3251.873**	**0.0742**
123467-HxCDD	NotFnd		1.0085						1.10		3251.873	0.0805
123789-HxCDD	38.15		**1.0112**	**1.0113**	**+0.2**	**1.80E+07**	**1.26**	**Y**	1.05	**52.8**	**3251.873**	**0.0816**

Lab ID: OPR1_18888_DF **Acq'd: 09 Feb 2022 16:17 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18888_OPR001 **UTP: 10-Feb-2022 10:30:44 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 357-810-YWY**

Datafile: 220209C14 **Report: 10 Feb 2022 10:31 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.14		0.9837	0.9838	+0.2	3.52E+06	0.97	Y	1.06	11.9	3287.748	0.0877
1234678-HpCDD	**40.82**		**1.0003**	**1.0003**	**0**	**1.57E+07**	**1.04**	**Y**	**1.06**	**53.4**	**3287.748**	**0.0877**
OCDD	**43.50**		**1.0004**	**1.0003**	**-0.3**	**2.30E+07**	**0.90**	**Y**	**1.13**	**107**	**4366.458**	**0.232**
OCDD-a	43.50		1.0003	1.0001	-0.5	1.27E+06	2.84	Y	0.07	92.6	3162.317	2.63
1368-TCDF	22.73		0.8251	0.8234	-2.3	8.66E+06	0.77	Y	1.08	14.7	2601.9148	0.0469
1468-TCDF	NotFnd		0.8458						1.08		2601.9148	0.0469
2468-TCDF	23.94		0.8686	0.8675	-1.6	2.20E+06	0.75	Y	1.08	3.74	2601.9148	0.0469
1346/1246-TCDF	NotFnd		0.8814						1.08		2601.9148	0.0469
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2601.9148	0.0469
1348-TCDF	NotFnd		0.8962						1.08		2601.9148	0.0469
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2601.9148	0.0469
1268-TCDF	NotFnd		0.9145						1.08		2601.9148	0.0469
1467-TCDF	NotFnd		0.9193						1.08		2601.9148	0.0469
1478-TCDF	NotFnd		0.9254						1.08		2601.9148	0.0469
1369/1237-TCDF	NotFnd		0.9387						1.08		2601.9148	0.0469
2467-TCDF	NotFnd		0.9433						1.08		2601.9148	0.0469
2368-TCDF	NotFnd		0.9489						1.08		2601.9148	0.0469
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2601.9148	0.0469
1278-TCDF	NotFnd		0.9683						1.08		2601.9148	0.0469
1349-TCDF	NotFnd		0.9722						1.08		2601.9148	0.0469
1267-TCDF	NotFnd		0.9783						1.08		2601.9148	0.0469
2346/1249-TCDF	NotFnd		0.9850						1.08		2601.9148	0.0469
2347/1279-TCDF	NotFnd		0.9926						1.08		2601.9148	0.0469
2348-TCDF	27.52		0.9967	0.9968	+0.2	8.63E+06	0.78	Y	1.08	14.7	2601.9148	0.0469
2378-TCDF	**27.62**		**1.0008**	**1.0008**	**0**	**6.26E+06**	**0.78**	**Y**	**1.08**	**10.6**	**2601.9148**	**0.0469**
2367/3467-TCDF	NotFnd		1.0137						1.08		2601.9148	0.0469
1269-TCDF	NotFnd		1.0223						1.08		2601.9148	0.0469
1239-TCDF	NotFnd		1.0321						1.08		2601.9148	0.0469
1289-TCDF	29.62		1.0722	1.0731	+1.6	9.56E+06	0.78	Y	1.08	16.2	2601.9148	0.0469
13468/12468-PeCDF	29.54		0.9139	0.9129	-1.8	4.91E+07	1.57	Y	1.02	97.6	2479.683	0.0423
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		7028.441	0.12
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		7028.441	0.12
14678-PeCDF	NotFnd		0.9692						1.02		7028.441	0.12
13479-PeCDF	NotFnd		0.9723						1.02		7028.441	0.12
13469/12479-PeCDF	NotFnd		0.9797						1.02		7028.441	0.12
12346-PeCDF	NotFnd		0.9840						1.02		7028.441	0.12

Lab ID: OPR1_18888_DF | **Acq'd: 09 Feb 2022 16:17 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18888_OPR001 | **UTP: 10-Feb-2022 10:30:44 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 357-810-YWY**

Datafile: 220209C14 | **Report: 10 Feb 2022 10:31 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		7028.441	0.12
12347-PeCDF	NotFnd		0.9894						1.02		7028.441	0.12
12348-PeCDF	NotFnd		0.9940						1.02		7028.441	0.12
12378-PeCDF	**32.37**		**1.0005**	**1.0006**	**+0.2**	**2.54E+07**	**1.48**	**Y**	**1.02**	**49.1**	**7028.441**	**0.119**
12678/12367-PeCDF	NotFnd		1.0089						1.02		7028.441	0.12
12379-PeCDF	NotFnd		1.0142						1.02		7028.441	0.12
12679-PeCDF	NotFnd		0.9929						1.02		7028.441	0.12
23467/12369-PeCDF	NotFnd		0.9967						1.02		7028.441	0.12
23478-PeCDF	**33.49**		**1.0005**	**1.0006**	**+0.2**	**2.62E+07**	**1.54**	**Y**	**1.02**	**53.6**	**7028.441**	**0.121**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7028.441	0.12
12349-PeCDF	NotFnd		1.0100						1.02		7028.441	0.12
12389-PeCDF	34.56		1.0324	1.0326	+0.4	5.35E+06	1.53	Y	1.02	10.6	7028.441	0.12
123468-HxCDF	35.34		0.9627	0.9626	-0.2	5.38E+07	1.24	Y	1.19	117	9774.718	0.182
124678/134678-HxCDF	NotFnd		0.9682						1.19		9774.718	0.182
134679-HxCDF	NotFnd		0.9744						1.19		9774.718	0.182
124679-HxCDF	NotFnd		0.9798						1.19		9774.718	0.182
124689-HxCDF	NotFnd		0.9858						1.19		9774.718	0.182
123467-HxCDF	NotFnd		0.9972						1.19		9774.718	0.182
123478-HxCDF	**36.73**		**1.0004**	**1.0004**	**0**	**2.27E+07**	**1.24**	**Y**	**1.27**	**50.6**	**9774.718**	**0.181**
123678-HxCDF	**36.87**		**1.0004**	**1.0005**	**+0.2**	**2.61E+07**	**1.21**	**Y**	**1.15**	**53.1**	**9774.718**	**0.178**
123479-HxCDF	NotFnd		1.0049						1.19		9774.718	0.182
123469-HxCDF	NotFnd		1.0090						1.19		9774.718	0.182
123679-HxCDF	NotFnd		0.9942						1.19		9774.718	0.182
234678-HxCDF	**37.55**		**1.0005**	**1.0005**	**0**	**2.52E+07**	**1.22**	**Y**	**1.19**	**50**	**9774.718**	**0.168**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		9774.718	0.182
123789-HxCDF	**38.50**		**1.0004**	**1.0004**	**0**	**1.94E+07**	**1.20**	**Y**	**1.16**	**49.1**	**9774.718**	**0.205**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		9774.718	0.182
1234678-HpCDF	**39.88**		**1.0003**	**1.0003**	**0**	**2.15E+07**	**1.03**	**Y**	**1.37**	**51.3**	**3049.848**	**0.0547**
1234679-HpCDF	NotFnd		1.0068						1.34		3049.848	0.0615
1234689-HpCDF	NotFnd		1.0103						1.34		3049.848	0.0615
1234789-HpCDF	**41.28**		**1.0002**	**1.0003**	**+0.2**	**1.72E+07**	**1.03**	**Y**	**1.31**	**51.2**	**3049.848**	**0.0697**
OCDF	**43.68**		**1.0003**	**1.0002**	**-0.3**	**2.76E+07**	**0.89**	**Y**	**1.07**	**102**	**4133.558**	**0.171**
OCDF-a	43.67		1.0002	1.0002	0	1.67E+06	2.26	Y	0.07	100	3444.841	2.3

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220209C14	Analysis Date:	09-FEB-2022 16:17:00
Lab ID:	OPR1_18888_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	48.3	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	53.9	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	53.7	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	52.8	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	53.4	35	-	70	Y
OCDD	100	107	78	-	144	Y
2,3,7,8-TCDF	10	10.6	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	49.1	40	-	67	Y
2,3,4,7,8-PeCDF	50	53.6	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	50.6	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	53.1	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	50	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	49.1	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	51.3	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	51.2	39	-	69	Y
OCDF	100	102	63	-	170	Y

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

Processed: 10 Feb 2022 10:31 Analyst: TF

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220209C14	Analysis Date:	09-FEB-2022 16:17:00
Lab ID:	OPR1_18888_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	91.1	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	96.9	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	93.2	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	106	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	88.9	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	90.8	26	-	166	Y
13C-OCDD	200	182	26	-	397	Y
13C-2,3,7,8-TCDF	100	86.7	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	93.2	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	91.3	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	87.6	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	93.9	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	102	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	87.7	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	94.3	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	89.9	20	-	186	Y
13C-OCDF	200	185	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	36.8	12.4	-	76.4	Y

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

Processed: 10 Feb 2022 10:31 Analyst: TF

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220209C14	Analysis Date:	09-FEB-2022 16:17:00
Lab ID:	OPR1_18888_DF		

Window Defining Standards Results

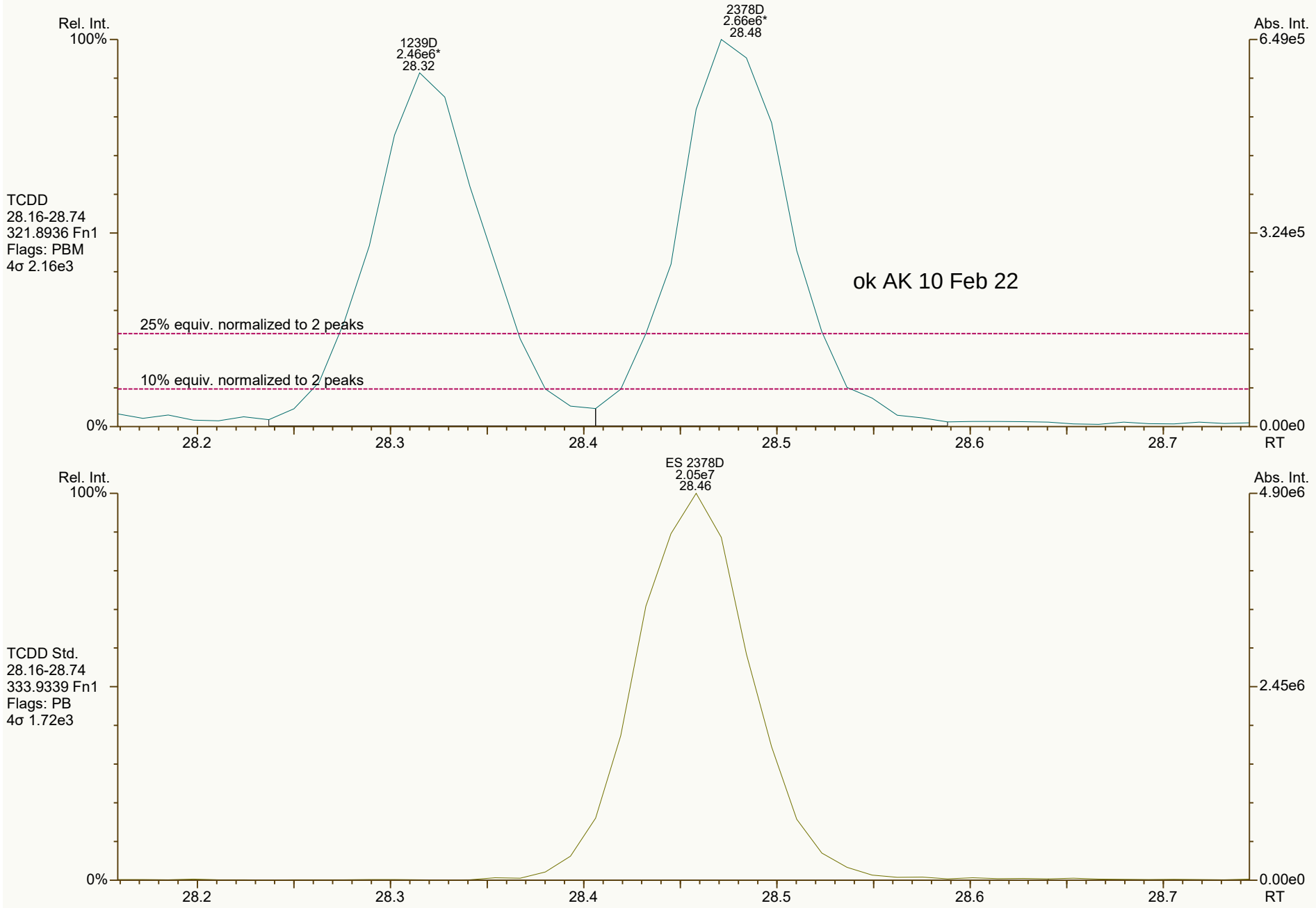
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.84	1289-TCDD	29.45
12479/12468-PeCDD	31.32	12389-PeCDD	34.26
124679/124689-HxCDD	35.99	123789-HxCDD	38.15
1234679-HpCDD	40.14	1234678-HpCDD	40.82
1368-TCDF	22.73	1289-TCDF	29.62
13468/12468-PeCDF	29.54	12389-PeCDF	34.56
123468-HxCDF	35.34	123789-HxCDF	38.50
1234678-HpCDF	39.88	1234789-HpCDF	41.28

Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.32	2378-TCDD	28.48
2348-TCDF	27.52	2378-TCDF	27.62

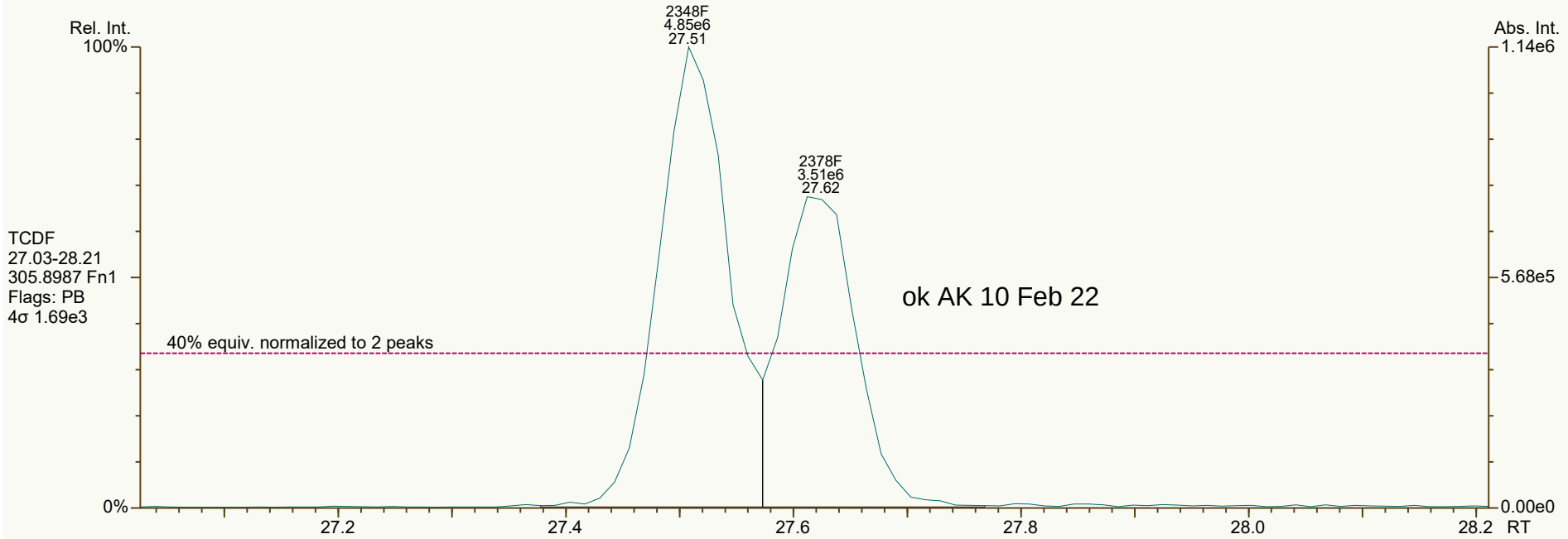
Processed: 10 Feb 2022 10:31 Analyst: TF

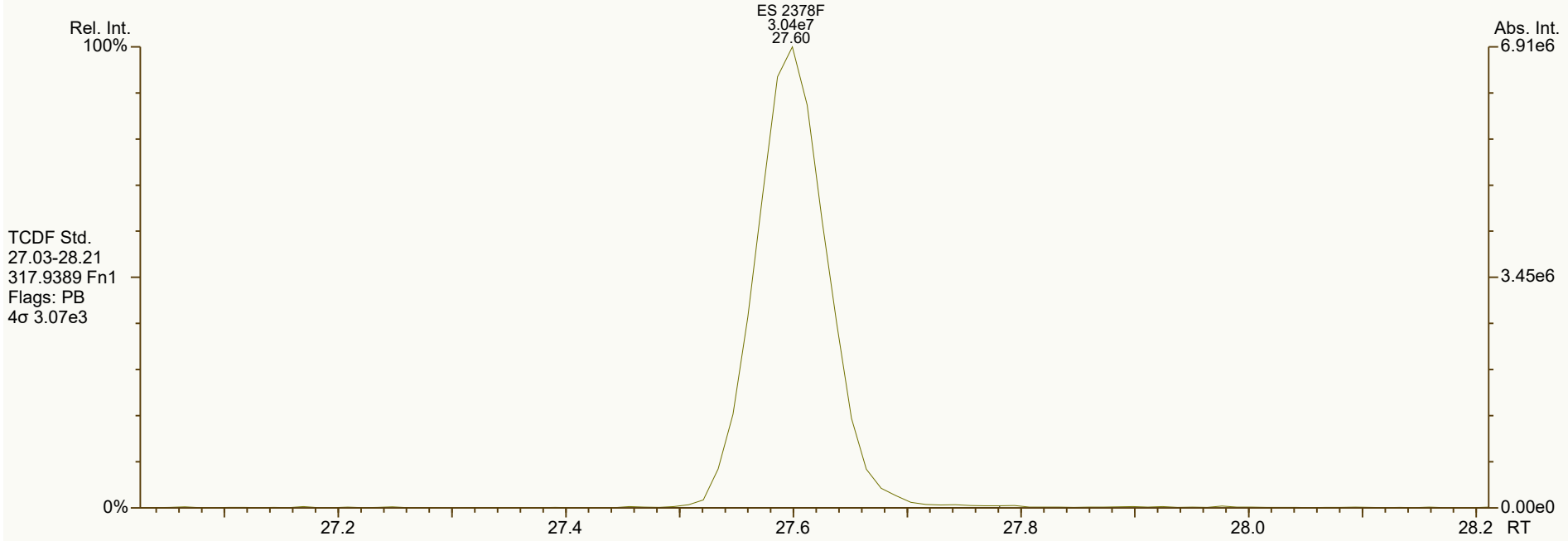
SGS ID: OPR1_18888_DF | Sample ID: 0_18888_OPR001 | Acq: 09-Feb-2022 16:17:00
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7 | User: DTF Datafile: 220209C14



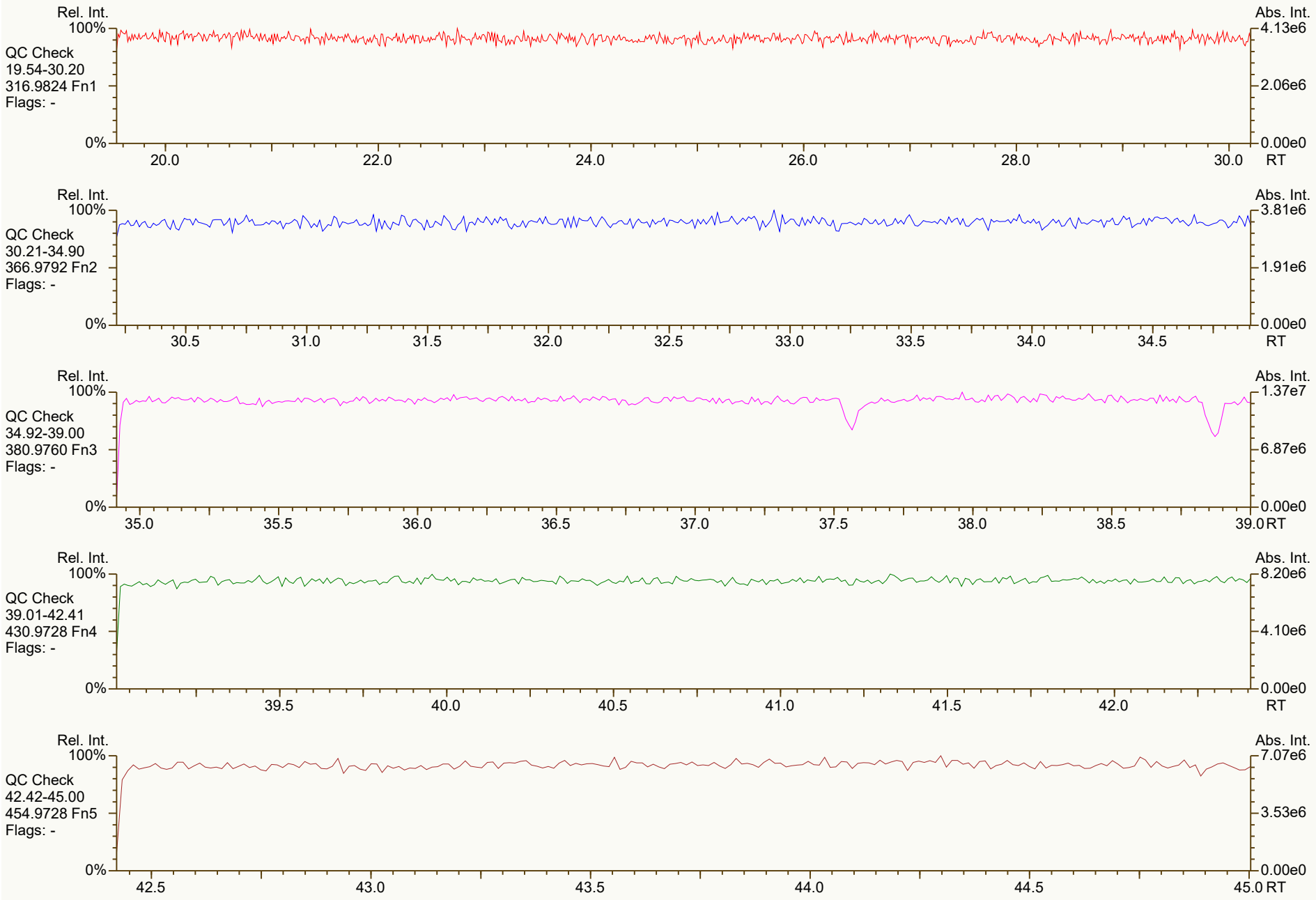
Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\OPR1_18888_DF.utp_res, saved 10-Feb-2022 10:30 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
PKD: 10-Feb-2022 10:30 Printed: 10-Feb-2022 10:30

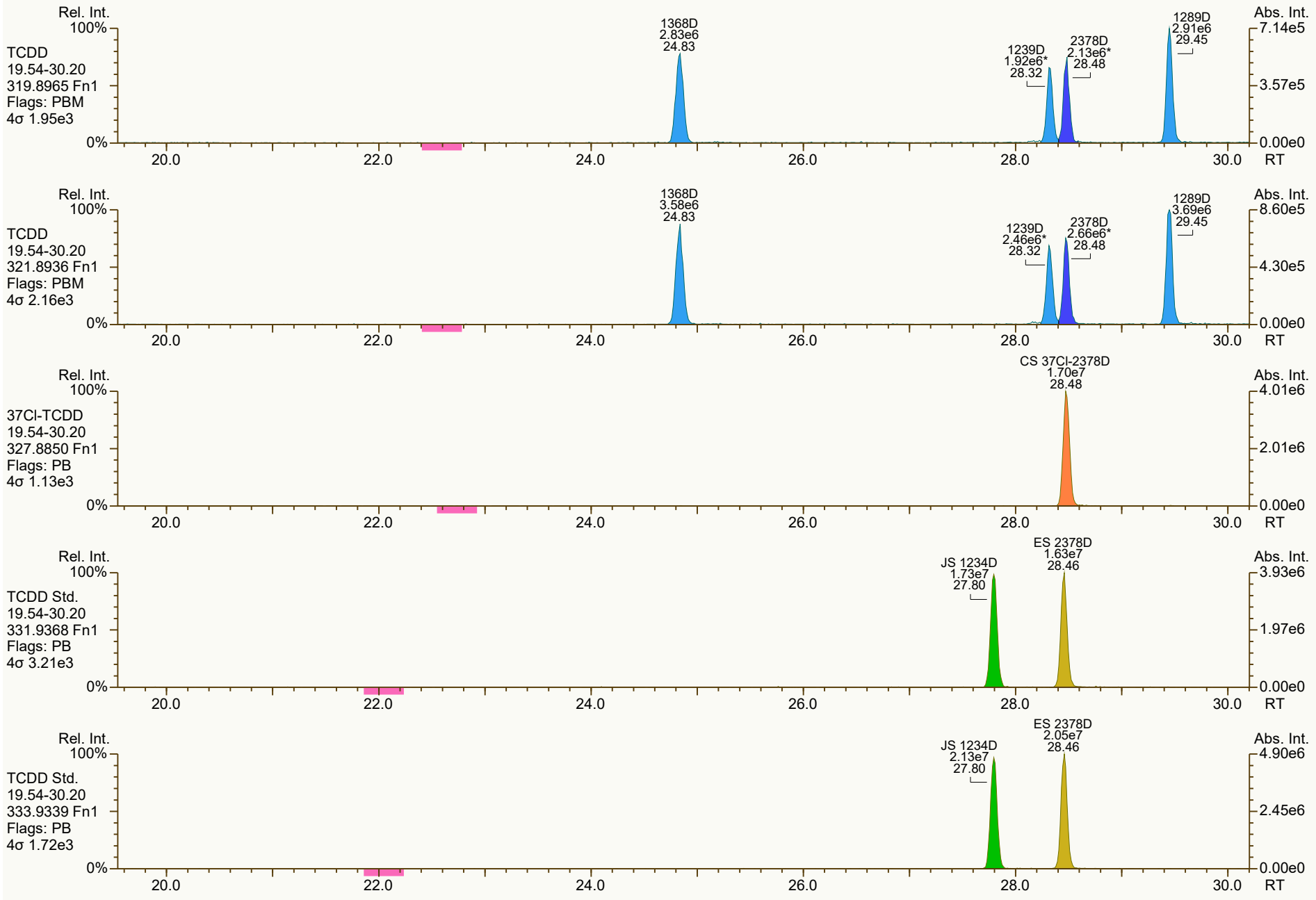
SGS ID: OPR1_18888_DF
Sample ID: 0_18888_OPR001
Acq: 09-Feb-2022 16:17:00
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: DTF Datafile: 220209C14

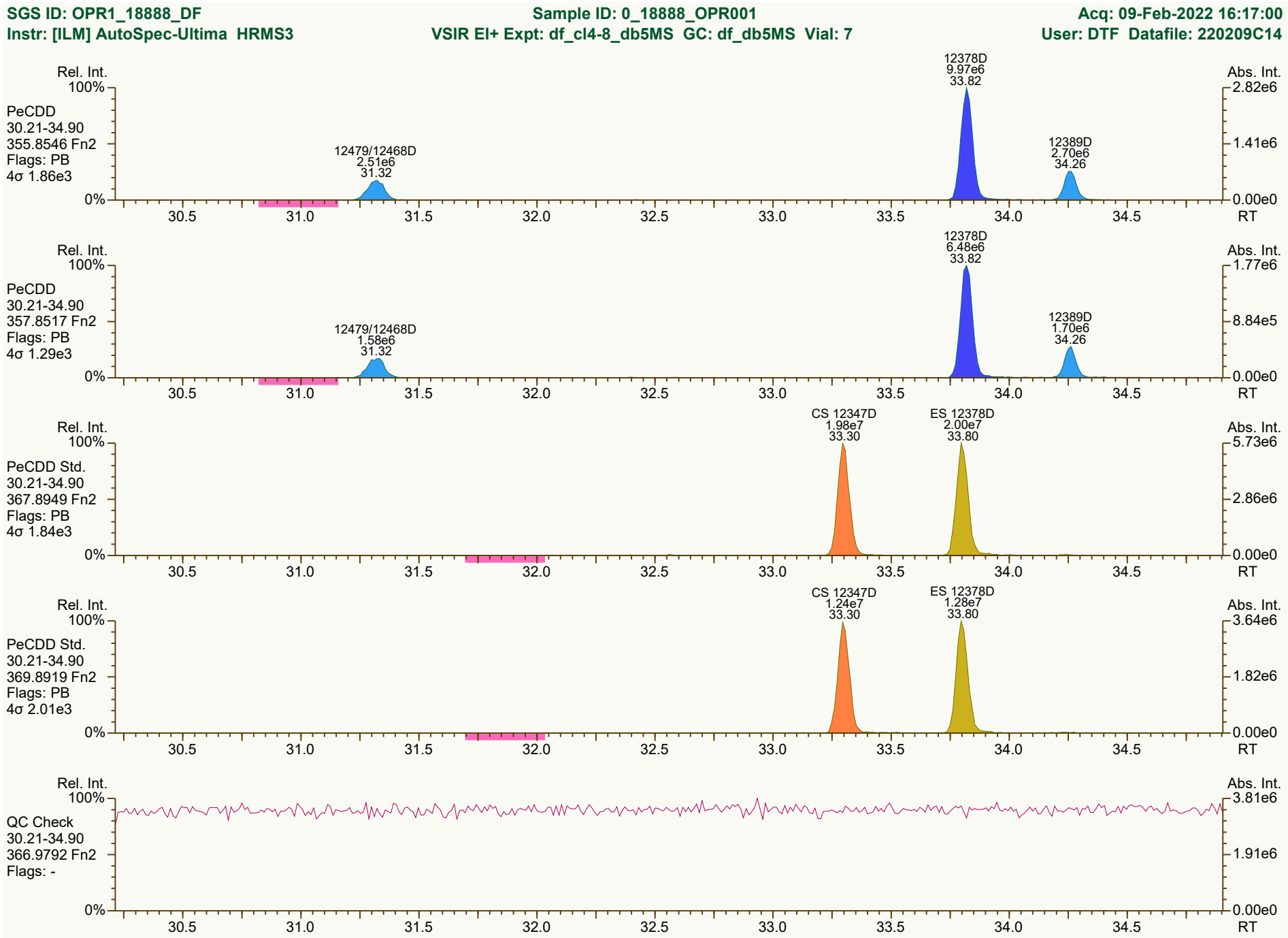




Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\OPR1_18888_DF.utp_res, saved 10-Feb-2022 10:30 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 10-Feb-2022 09:56 (DTF) Printed: 10-Feb-2022 10:30


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.13e6
2.06e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.81e6
1.91e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.37e7
6.87e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
8.20e6
4.10e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
7.07e6
3.53e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.95e3
1368D
2.83e6
24.83
1239D
1.92e6*
28.32
2378D
2.13e6*
28.48
1289D
2.91e6
29.45
Abs. Int.
7.14e5
3.57e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.16e3
1368D
3.58e6
24.83
1239D
2.46e6*
28.32
2378D
2.66e6*
28.48
1289D
3.69e6
29.45
Abs. Int.
8.60e5
4.30e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.13e3
CS 37Cl-2378D
1.70e7
28.48
Abs. Int.
4.01e6
2.01e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 3.21e3
JS 1234D
1.73e7
27.80
ES 2378D
1.63e7
28.46
Abs. Int.
3.93e6
1.97e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 1.72e3
JS 1234D
2.13e7
27.80
ES 2378D
2.05e7
28.46
Abs. Int.
4.90e6
2.45e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT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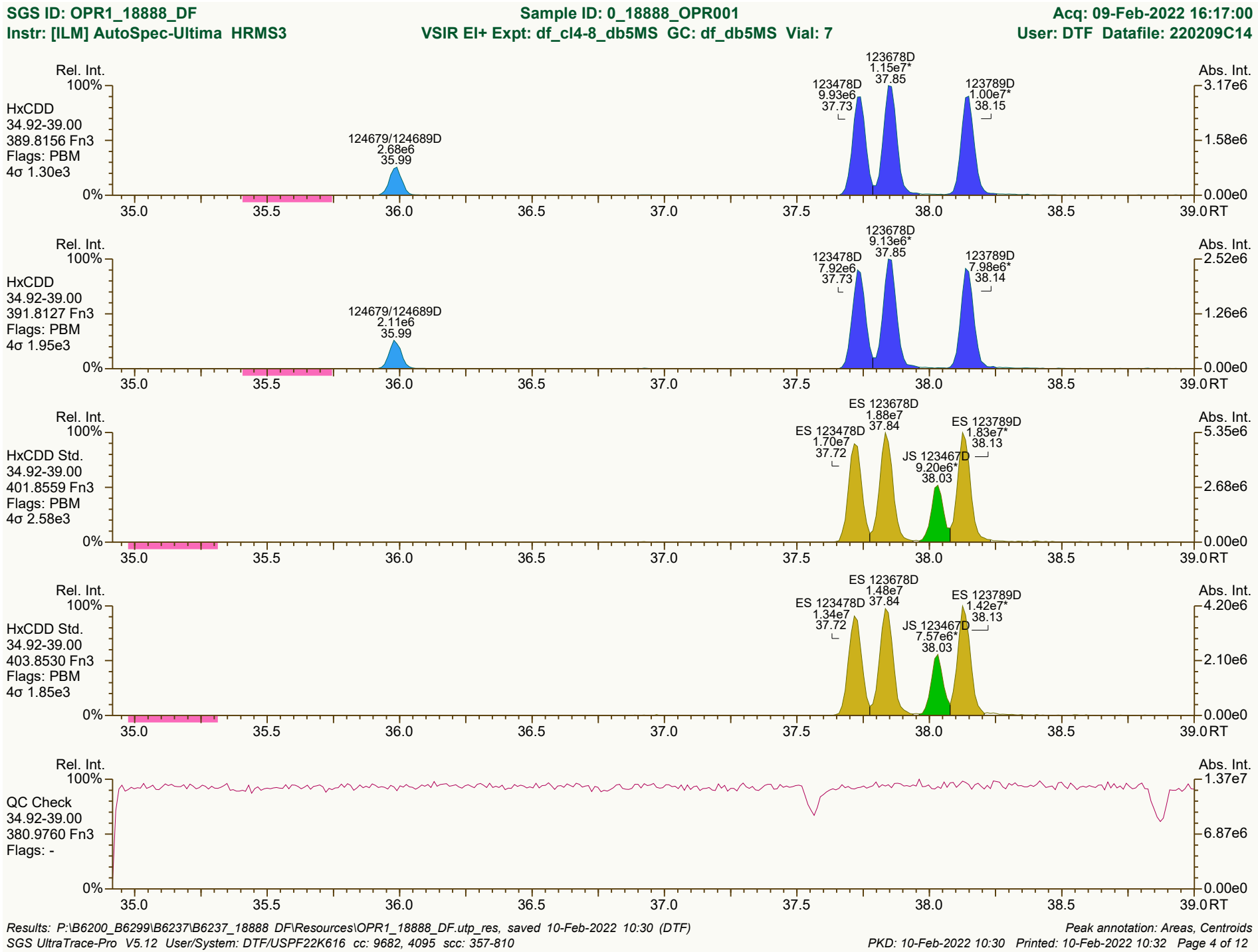
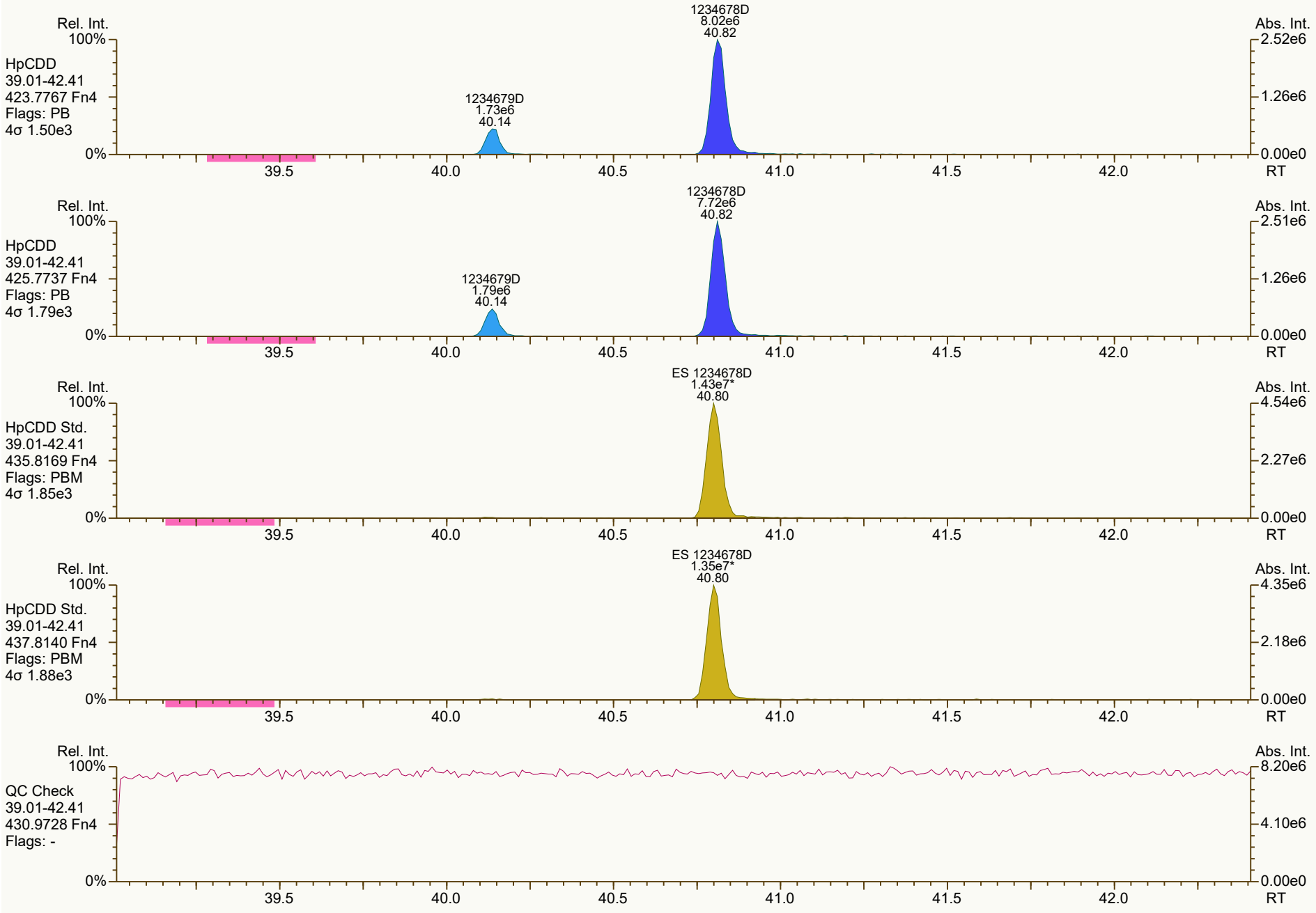
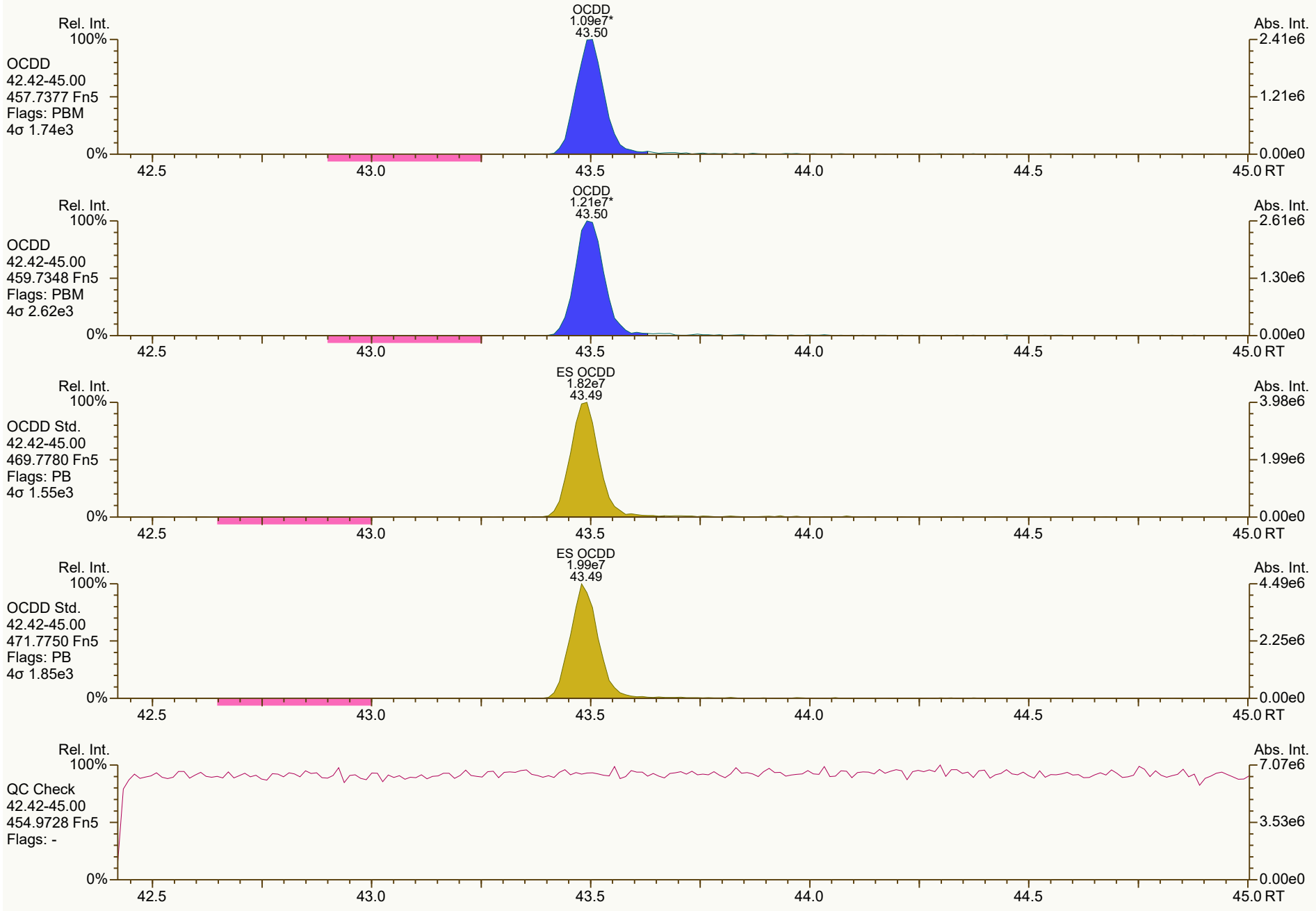
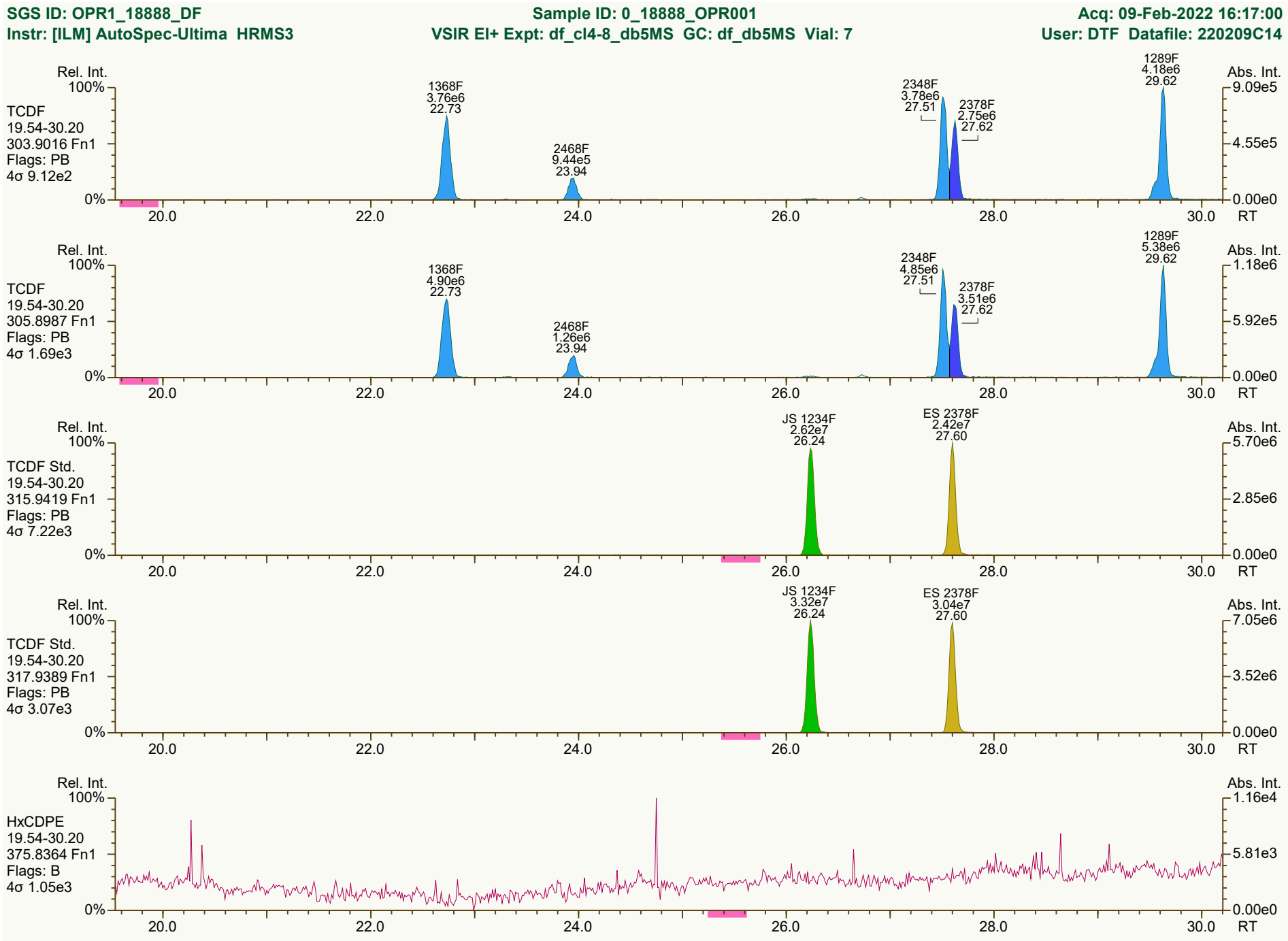
Sample ID: 0_18888_OPR001
Acq: 09-Feb-2022 16:17:00
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: DTF Datafile: 220209C14
Rel. Int.
Abs. Int.
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PB
4σ 1.86e3
12479/12468D
2.51e6
31.32
12378D
9.97e6
33.82
12389D
2.70e6
34.26
2.82e6
1.41e6
0.00e0
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 1.29e3
12479/12468D
1.58e6
31.32
12378D
6.48e6
33.82
12389D
1.70e6
34.26
1.77e6
8.84e5
0.00e0
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 1.84e3
CS 12347D
1.98e7
33.30
ES 12378D
2.00e7
33.80
5.73e6
2.86e6
0.00e0
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 2.01e3
CS 12347D
1.24e7
33.30
ES 12378D
1.28e7
33.80
3.64e6
1.82e6
0.00e0
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
3.81e6
1.91e6
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\OPR1_18888_DF.utp_res, saved 10-Feb-2022 10:30 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5655, 3638 scc: 357-810
PKD: 10-Feb-2022 09:55 Printed: 10-Feb-2022 10:32 Page 3 of 12

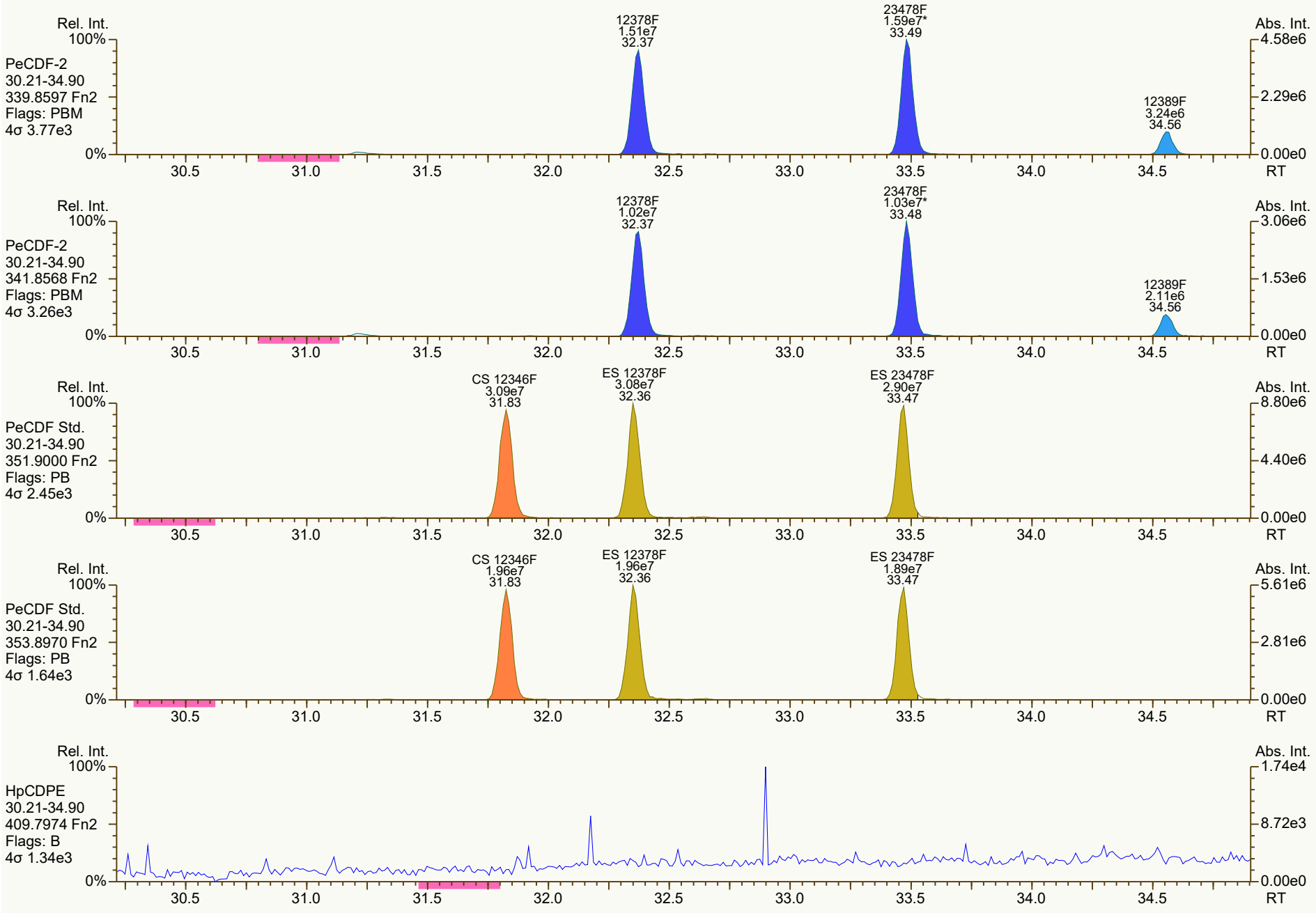

SGS ID: OPR1_18888_DF
Sample ID: 0_18888_OPR001
Acq: 09-Feb-2022 16:17:00
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: DTF Datafile: 220209C14
Rel. Int.
Abs. Int.
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 1.30e3
124679/124689D
2.68e6
35.99
123478D
9.93e6
37.73
123678D
1.15e7*
37.85
123789D
1.00e7*
38.15
3.17e6
1.58e6
0.00e0
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 1.95e3
124679/124689D
2.11e6
35.99
123478D
7.92e6
37.73
123678D
9.13e6*
37.85
123789D
7.98e6*
38.14
2.52e6
1.26e6
0.00e0
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 2.58e3
ES 123478D
1.70e7
37.72
ES 123678D
1.88e7
37.84
JS 123467D
9.20e6*
38.03
ES 123789D
1.83e7*
38.13
5.35e6
2.68e6
0.00e0
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 1.85e3
ES 123478D
1.34e7
37.72
ES 123678D
1.48e7
37.84
JS 123467D
7.57e6*
38.03
ES 123789D
1.42e7*
38.13
4.20e6
2.10e6
0.00e0
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
1.37e7
6.87e6
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\OPR1_18888_DF.utp_res, saved 10-Feb-2022 10:30 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9682, 4095 scc: 357-810
PKD: 10-Feb-2022 10:30 Printed: 10-Feb-2022 10:32 Page 4 of 12


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 1.50e3
1234678D
8.02e6
40.82
1234679D
1.73e6
40.14
Abs. Int.
2.52e6
1.26e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.79e3
1234678D
7.72e6
40.82
1234679D
1.79e6
40.14
Abs. Int.
2.51e6
1.26e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 1.85e3
ES 1234678D
1.43e7*
40.80
Abs. Int.
4.54e6
2.27e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 1.88e3
ES 1234678D
1.35e7*
40.80
Abs. Int.
4.35e6
2.18e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
8.20e6
4.10e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
1.09e7*
43.50
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.74e3
0%
Abs. Int.
2.41e6
1.21e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.21e7*
43.50
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 2.62e3
2.61e6
1.30e6
ES OCDD
1.82e7
43.49
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 1.55e3
3.98e6
1.99e6
ES OCDD
1.99e7
43.49
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 1.85e3
4.49e6
2.25e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
7.07e6
3.53e6

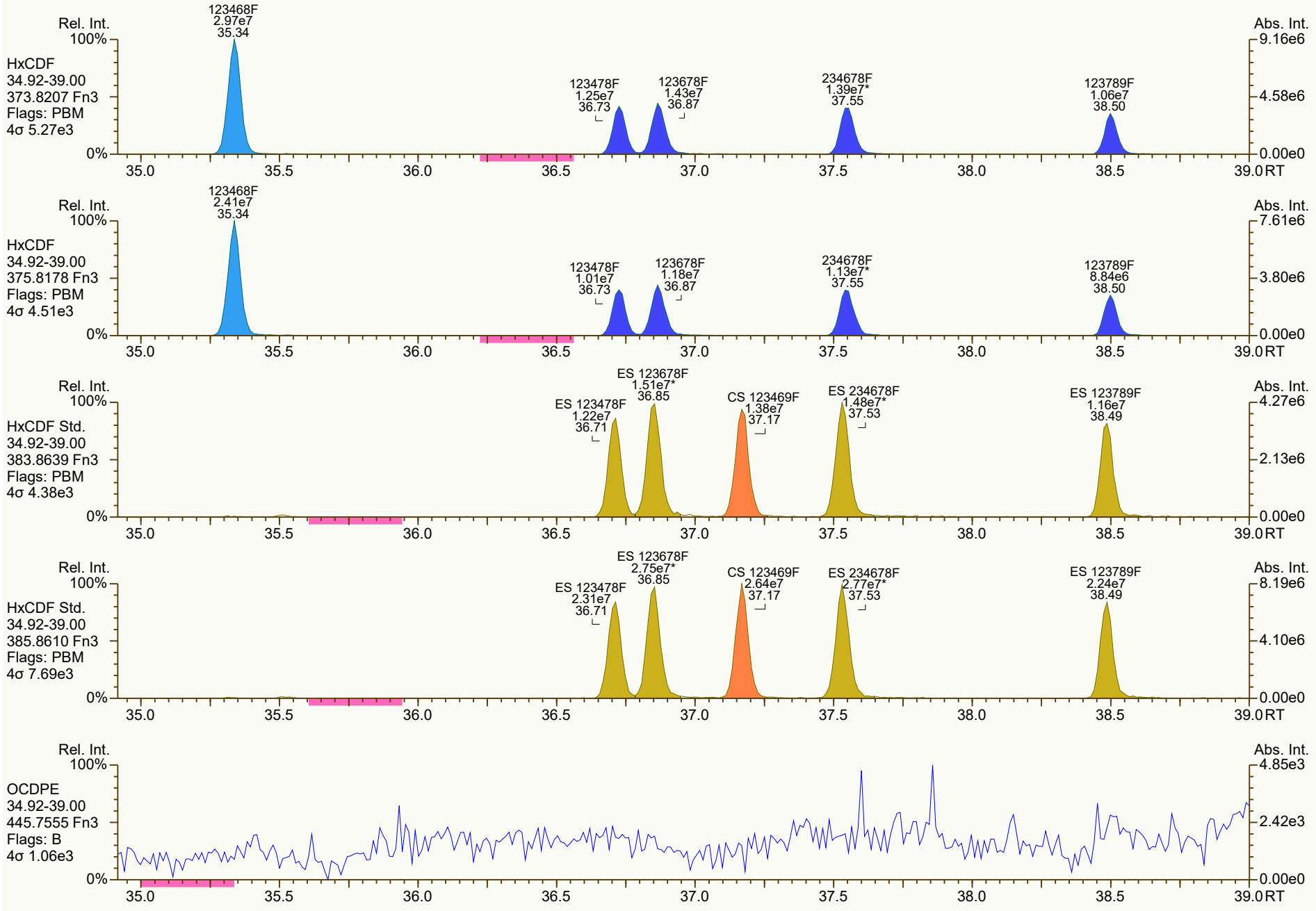

SGS ID: OPR1_18888_DF
Sample ID: 0_18888_OPR001
Acq: 09-Feb-2022 16:17:00
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: DTF Datafile: 220209C14
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 9.12e2
1368F 3.76e6 22.73
2468F 9.44e5 23.94
2348F 3.78e6 27.51
2378F 2.75e6 27.62
1289F 4.18e6 29.62
9.09e5
4.55e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 1.69e3
1368F 4.90e6 22.73
2468F 1.26e6 23.94
2348F 4.85e6 27.51
2378F 3.51e6 27.62
1289F 5.38e6 29.62
1.18e6
5.92e5
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 7.22e3
JS 1234F 2.62e7 26.24
ES 2378F 2.42e7 27.60
5.70e6
2.85e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.07e3
JS 1234F 3.32e7 26.24
ES 2378F 3.04e7 27.60
7.05e6
3.52e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.05e3
1.16e4
5.81e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\OPR1_18888_DF.utp_res, saved 10-Feb-2022 10:30 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8210, 7517, 9684 scc: 357-810
Revised: 10-Feb-2022 09:56 (DTF) Printed: 10-Feb-2022 10:32 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.09e3
13468/12468F
3.00e7
29.54
Abs. Int.
7.59e6
3.79e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.39e3
13468/12468F
1.91e7
29.54
Abs. Int.
4.68e6
2.34e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
4.13e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 3.77e3
12378F
1.51e7
32.37
23478F
1.59e7*
33.49
12389F
3.24e6
34.56
Abs. Int.
4.58e6
2.29e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 3.26e3
12378F
1.02e7
32.37
23478F
1.03e7*
33.48
12389F
2.11e6
34.56
Abs. Int.
3.06e6
1.53e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 2.45e3
CS 12346F
3.09e7
31.83
ES 12378F
3.08e7
32.36
ES 23478F
2.90e7
33.47
Abs. Int.
8.80e6
4.40e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 1.64e3
CS 12346F
1.96e7
31.83
ES 12378F
1.96e7
32.36
ES 23478F
1.89e7
33.47
Abs. Int.
5.61e6
2.81e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.34e3
Abs. Int.
1.74e4
8.72e3
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

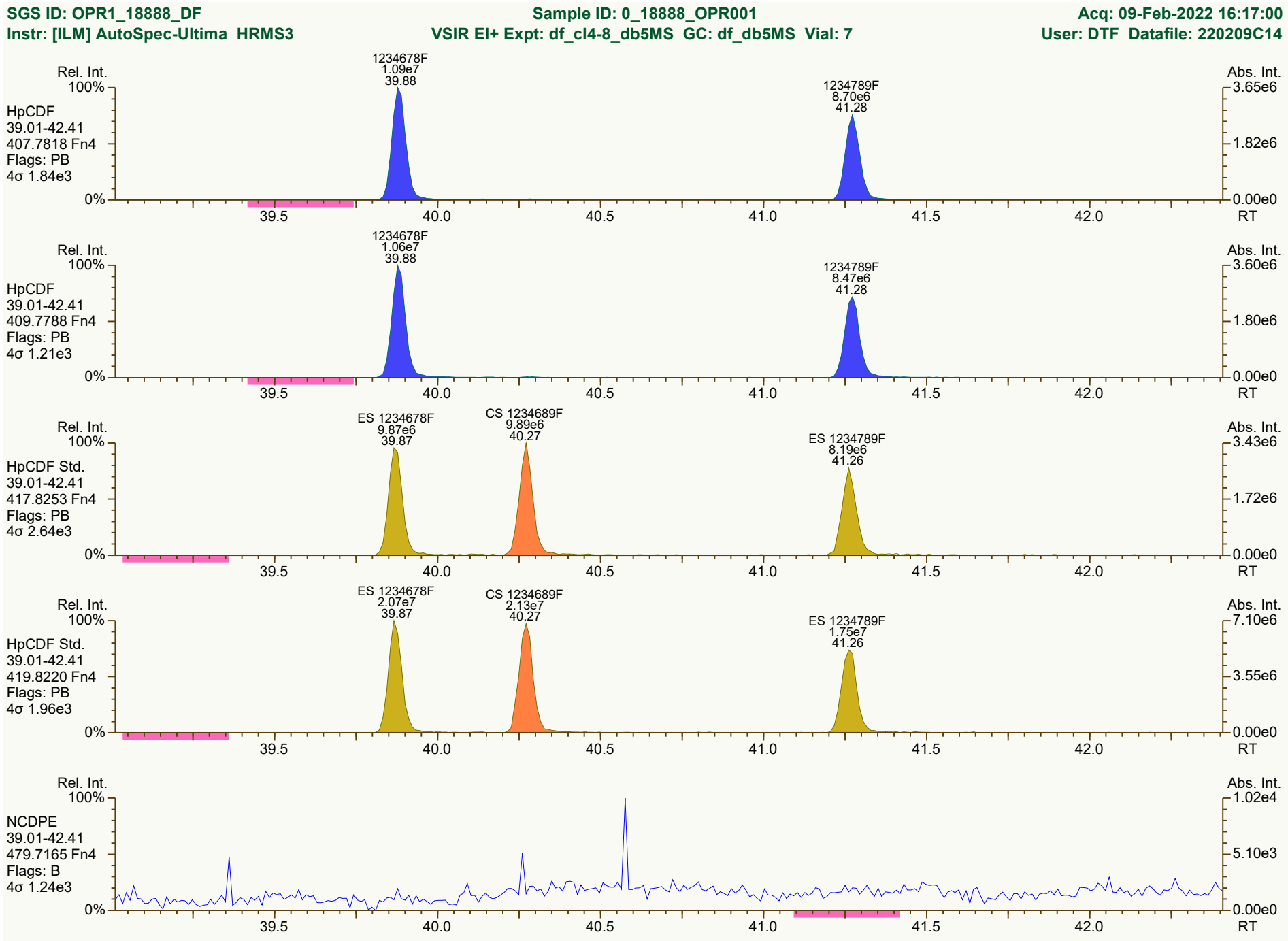
SGS ID: OPR1_18888_DF | Sample ID: 0_18888_OPR001 | Acq: 09-Feb-2022 16:17:00

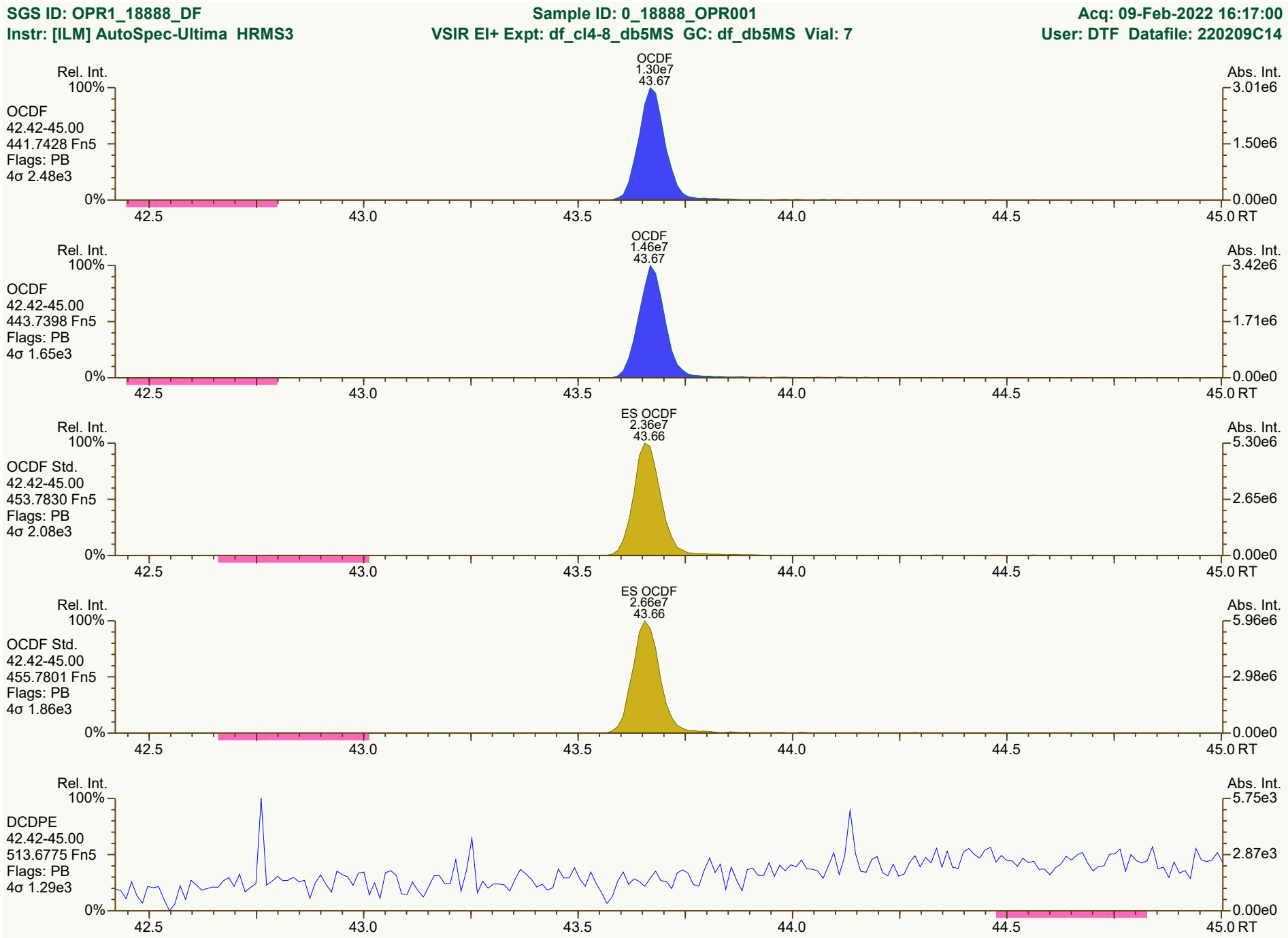
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7 | User: DTF Datafile: 220209C14



Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\OPR1_18888_DF.utp_res, saved 10-Feb-2022 10:30 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3695, 2462, 0499 scc: 357-810 | *PKD: 10-Feb-2022 10:30 Printed: 10-Feb-2022 10:33 Page 10 of 12*


SGS ID: OPR1_18888_DF
Sample ID: 0_18888_OPR001
Acq: 09-Feb-2022 16:17:00
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: DTF Datafile: 220209C14
Rel. Int.
Abs. Int.
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.84e3
1234678F
1.09e7
39.88
1234789F
8.70e6
41.28
3.65e6
1.82e6
0.00e0
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.21e3
1234678F
1.06e7
39.88
1234789F
8.47e6
41.28
3.60e6
1.80e6
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 2.64e3
ES 1234678F
9.87e6
39.87
CS 1234689F
9.89e6
40.27
ES 1234789F
8.19e6
41.26
3.43e6
1.72e6
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 1.96e3
ES 1234678F
2.07e7
39.87
CS 1234689F
2.13e7
40.27
ES 1234789F
1.75e7
41.26
7.10e6
3.55e6
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.24e3
1.02e4
5.10e3
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\OPR1_18888_DF.utp_res, saved 10-Feb-2022 10:30 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7287, 1721, 4680 scc: 357-810
PKD: 10-Feb-2022 09:55 Printed: 10-Feb-2022 10:33 Page 11 of 12


SGS ID: OPR1_18888_DF
Sample ID: 0_18888_OPR001
Acq: 09-Feb-2022 16:17:00
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: DTF Datafile: 220209C14
OCDF
1.30e7
43.67
Rel. Int.
Abs. Int.
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 2.48e3
OCDF
1.46e7
43.67
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.65e3
ES OCDF
2.36e7
43.66
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 2.08e3
ES OCDF
2.66e7
43.66
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 1.86e3
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.29e3
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6200_B6299\B6237\B6237_18888 DF\Resources\OPR1_18888_DF.utp_res, saved 10-Feb-2022 10:30 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1831, 2826, 4802 scc: 357-810
PKD: 10-Feb-2022 09:55 Printed: 10-Feb-2022 10:33 Page 12 of 12



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6238

10-Feb-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

Meagan Willis

11451 Katy Fwy #400
Houston, TX 77079
Phone: 713-907-3710
Email: Meagan.Willis@ghd.com

This report is approved by

Tamara Burkamper

tamara.burkamper@sgs.com

Senior Project Manager

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

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6238
Analytical Protocol(s)	1613B
No. Samples Submitted	5
Additional QC Sample(s)	MS/MSD
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	1
Date Received	26-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	0.8, 0.0
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

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

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

Samples were prepped per SW-846 Test Method 3520C Continuous Liquid-Liquid Extraction. Revision 3, December 1996 and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.14.

MDL and/or validation studies provided upon request.

Aqueous samples are reported on “as is” basis.

There was a client designated MS/MSD analyzed for precision.

Data processing uses proprietary software.

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

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

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All samples were extracted and analyzed within recommended holding times.

All samples were analyzed for Dissolved Dioxin/Furans and filtered through a 0.45 um filter prior to extraction. Samples B6238_001, B6238_004, B6238_005 were filtered through a 1 um filter prior to the 0.45 um filter due to particulate matter in the samples.

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

Continuing Calibration meets requirements.

No re-extractions or dilutions were required.

OPR1_18887 meets accuracy criteria.

MS/MSD meet accuracy and precision criteria.

Samples were extracted at ~1 L volume and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

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

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

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

APPENDIX C: LAB IDENTIFIERS

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

SGS CERTIFICATIONS

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

Rev. 12-Oct-2021

Sample ID: 11215131-012022-GW-BN-PZ-SC — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6238	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.03 L	Lab Sample ID	B6238_18887_DF_001	Date Extracted:	03-Feb-2022
Date Collected:	20-Jan-2022	pH:	7	QC Batch No:	18887	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:06:31

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	2.09			ES 2378-TCDD	85.9	
12378-PeCDD	ND	1.65			ES 12378-PeCDD	94.2	
123478-HxCDD	ND	1.78			ES 123478-HxCDD	94.4	
123678-HxCDD	ND	1.48			ES 123678-HxCDD	105	
123789-HxCDD	ND	1.68			ES 123789-HxCDD	88.5	
1234678-HpCDD	ND	3.69			ES 1234678-HpCDD	85.8	
OCDD	ND	10.9			ES OCDD	80.3	
2378-TCDF	EMPC		3.12	J	ES 2378-TCDF	86.3	
12378-PeCDF	ND	1.43			ES 12378-PeCDF	89.4	
23478-PeCDF	ND	1.43			ES 23478-PeCDF	91	
123478-HxCDF	ND	1.14			ES 123478-HxCDF	95.2	
123678-HxCDF	ND	1.18			ES 123678-HxCDF	97.9	
234678-HxCDF	ND	1.17			ES 234678-HxCDF	103	
123789-HxCDF	ND	1.36			ES 123789-HxCDF	91.9	
1234678-HpCDF	ND	0.95			ES 1234678-HpCDF	97.5	
1234789-HpCDF	ND	1.41			ES 1234789-HpCDF	85.5	
OCDF	ND	2.77			ES OCDF	83.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	93	
Total TCDD	ND	2.09	ND		CS 12347-PeCDD	113	
Total PeCDD	ND	1.65	ND		CS 12346-PeCDF	101	
Total HxCDD	ND	1.64	ND		CS 123469-HxCDF	119	
Total HpCDD	3.98		3.98		CS 1234689-HpCDF	111	
Total TCDF	ND		3.12				
Total PeCDF	ND	1.43	ND				
Total HxCDF	ND	1.2	ND				
Total HpCDF	ND	1.15	ND				
Total PCDD/Fs	**3.98**		**7.09**				
WHO-2005 TEQs							
TEQ: ND=0	0		0.312				
TEQ: ND=DL/2	2.63	2.75	2.94				
TEQ: ND=DL	5.25	5.49	5.56				

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Sample ID: 11215131-012022-GW-BN-PZ-SC — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6238	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.03 L	Lab Sample ID:	B6238_18887_DF_001	Date Extracted:	03-Feb-2022
Date Collected:	20-Jan-2022	pH:	7	QC Batch No.:	18887	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:06:31

Tetra-Dioxins	Conc. (pg/L)	Qualifiers	Penta-Dioxins	Conc. (pg/L)	Qualifiers	Hexa-Dioxins	Conc (pg/L)	Qualifiers	Hepta-Dioxins	Conc (pg/L)	Qualifiers
1368D	(2.09)		12479/12468D	(1.65)		124679/124689D	(1.64)		1234679D	3.98	J
1379D	(2.09)		12469D	(1.65)		123468D	(1.64)		1234678D	(3.69)	
1369D	(2.09)		12368D	(1.65)		123679/123689D	(1.64)				
1469D	(2.09)		12478D	(1.65)		123469D	(1.64)				
1247D...[4]	(2.09)		12379D	(1.65)		123478D	(1.78)				
1378D	(2.09)		12369D...[3]	(1.65)		123678D	(1.48)				
1268D	(2.09)		12346/12347D	(1.65)		123467D	(1.64)				
1478D	(2.09)		12378D	(1.65)		123789D	(1.68)		**Conc.**	3.98	
1279D	(2.09)		12367D	(1.65)					**EMPC**	3.98	
1234/1269D	(2.09)		12389D	(1.65)							
1236D	(2.09)								**Octa-Dioxin**	**Conc (pg/L)**	**Qualifiers**
1237/1238D	(2.09)										
1239D	(2.09)								OCDD	(10.9)	
2378D	(2.09)										
1278D	(2.09)										
1267D	(2.09)										
1289D	(2.09)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0.312
TEQ: ND=DL/2	2.63	2.94
TEQ: ND=DL	5.25	5.56

	Conc.	EMPC
Total PCDD/Fs	3.98	7.09

Checkcode: 226-844-BXS

Report Created: 09-Feb-2022 17:27 Analyst: TF

Sample ID: 11215131-012022-GW-BN-PZ-SC — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6238	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.03 L	Lab Sample ID:	B6238_18887_DF_001	Date Extracted:	03-Feb-2022
Date Collected:	20-Jan-2022	pH:	7	QC Batch No.:	18887	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:06:31

Tetra-Furans	Conc. (pg/L)	Qualifiers	Penta-Furans	Conc. (pg/L)	Qualifiers	Hexa-Furans	Conc (pg/L)	Qualifiers	Hepta-Furans	Conc (pg/L)	Qualifiers
1368F	(2.4)		13468/12468F	(1.24)		123468F	(1.2)		1234678F	(0.95)	
1468F	(2.4)		13678F...[3]	(1.43)		124678/134678F	(1.2)		1234679F	(1.15)	
2468F	(2.4)		12368F...[3]	(1.43)		134679F	(1.2)		1234689F	(1.15)	
1346/1246F	(2.4)		14678F	(1.43)		124679F	(1.2)		1234789F	(1.41)	
1347F...[3]	(2.4)		13479F	(1.43)		124689F	(1.2)				
1348F	(2.4)		13469/12479F	(1.43)		123467F	(1.2)				
1248F...[3]	(2.4)		12346F	(1.43)		123478F	(1.14)				
1268F	(2.4)		23468/12469F	(1.43)		123678F	(1.18)				
1467F	(2.4)		12347F	(1.43)		123479F	(1.2)				
1478F	(2.4)		12348F	(1.43)		123469F	(1.2)				
1369/1237F	(2.4)		12378F	(1.43)		123679F	(1.2)				
2467F	(2.4)		12678/12367F	(1.43)		234678F	(1.17)		**Conc.**	0	
2368F	(2.4)		12379F	(1.43)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(2.4)		12679F	(1.43)		123689F	(1.2)				
1278F	(2.4)		23467/12369F	(1.43)		123789F	(1.36)		**Octa-Furan**	**Conc (pg/L)**	**Qualifiers**
1349F	(2.4)		23478F	(1.43)		123789/123489F	0				
1267F	(2.4)		23478/12489F	0		123489F	(1.2)		OCDF	(2.77)	
2346/1249F	(2.4)		12489F	(1.43)							
2347/1279F	(2.4)		12349F	(1.43)							
2348F	(2.4)		12389F	(1.43)							
2378F	[3.12]	J									
2367/3467F	(2.4)										
1269F	(2.4)										
1239F	(2.4)										
1289F	(2.4)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	3.12		**EMPC**	0		**EMPC**	0				

Checkcode: 226-844-BXS

Report Created: 09-Feb-2022 17:27 Analyst: TF

Sample ID: 11215131-012022-GW-BN-PZ-SC TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Sample ID:	B6238_18887_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.03 L	QC Batch No.:	18887
Date Collected:	20-Jan-2022	Split:	-	Date Extracted:	03-Feb-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	09-Feb-2022 08:06
Lab Project No:	B6238	Units	pg/L		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(2.09)		2.09	(2.09)	(2.09)	(2.09)
12378-PeCDD	(1.65)		1.65	(0.825)	(1.65)	(1.65)
123478-HxCDD	(1.78)		1.78	(0.178)	(0.178)	(0.178)
123678-HxCDD	(1.48)		1.48	(0.148)	(0.148)	(0.148)
123789-HxCDD	(1.68)		1.68	(0.168)	(0.168)	(0.168)
1234678-HpCDD	(3.69)		3.69	(0.0369)	(0.0369)	(0.0369)
OCDD	(10.9)		10.9	(0.0109)	(0.00109)	(0.00328)
2378-TCDF	[3.12]	J	2.4	[0.312]	[0.312]	[0.312]
12378-PeCDF	(1.43)		1.43	(0.0717)	(0.0717)	(0.043)
23478-PeCDF	(1.43)		1.43	(0.717)	(0.717)	(0.43)
123478-HxCDF	(1.14)		1.14	(0.114)	(0.114)	(0.114)
123678-HxCDF	(1.18)		1.18	(0.118)	(0.118)	(0.118)
234678-HxCDF	(1.17)		1.17	(0.117)	(0.117)	(0.117)
123789-HxCDF	(1.36)		1.36	(0.136)	(0.136)	(0.136)
1234678-HpCDF	(0.95)		0.95	(0.0095)	(0.0095)	(0.0095)
1234789-HpCDF	(1.41)		1.41	(0.0141)	(0.0141)	(0.0141)
OCDF	(2.77)		2.77	(0.00277)	(0.000277)	(0.00083)

TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	2.38	2.78	2.63
EMPC = 0, ND = DL	4.75	5.56	5.25
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0.312	0.312	0.312
EMPC = EMPC, ND = DL / 2	2.69	3.09	2.94
EMPC = EMPC, ND = DL	5.06	5.88	5.56
EMPC = EMPC, < J-level = 0	0	0	0

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Checkcode: 226-844-BXS

Sample ID: 11215131-012022-GW-BN-PZ-SC-MS

Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6238	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID	B6238_18887_DF_001MS	Date Extracted:	03-Feb-2022
Date Collected:	20-Jan-2022	pH:	7	QC Batch No:	18887	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:52:50

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	234				ES 2378-TCDD	83.8	
12378-PeCDD	1,040				ES 12378-PeCDD	88.4	
123478-HxCDD	1,090				ES 123478-HxCDD	89.9	
123678-HxCDD	1,160				ES 123678-HxCDD	96.8	
123789-HxCDD	1,110				ES 123789-HxCDD	80.8	
1234678-HpCDD	1,100				ES 1234678-HpCDD	81	
OCDD	2,310				ES OCDD	70.9	
2378-TCDF	218				ES 2378-TCDF	85	
12378-PeCDF	1,040				ES 12378-PeCDF	87.4	
23478-PeCDF	1,100				ES 23478-PeCDF	90.2	
123478-HxCDF	1,070				ES 123478-HxCDF	88.2	
123678-HxCDF	1,110				ES 123678-HxCDF	92.7	
234678-HxCDF	1,060				ES 234678-HxCDF	102	
123789-HxCDF	1,020				ES 123789-HxCDF	84.2	
1234678-HpCDF	1,080				ES 1234678-HpCDF	88.2	
1234789-HpCDF	1,080				ES 1234789-HpCDF	76.9	
OCDF	2,170				ES OCDF	75.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	92.6	
Total TCDD	1,100		1,100		CS 12347-PeCDD	107	
Total PeCDD	1,570		1,570		CS 12346-PeCDF	102	
Total HxCDD	3,650		3,650		CS 123469-HxCDF	112	
Total HpCDD	1,370		1,370		CS 1234689-HpCDF	106	
Total TCDF	1,290		1,290				
Total PeCDF	4,240		4,240				
Total HxCDF	6,920		6,920				
Total HpCDF	2,160		2,160				
Total PCDD/Fs	**26,800**		**26,800**				
WHO-2005 TEQs							
TEQ: ND=0	2450		2450				
TEQ: ND=DL/2	2450	5.16	2450				
TEQ: ND=DL	2450	10.3	2450				

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Sample ID: 11215131-012022-GW-BN-PZ-SC-MSD — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6238	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.01 L	Lab Sample ID	B6238_18887_DF_001MSD	Date Extracted:	03-Feb-2022
Date Collected:	20-Jan-2022	pH:	7	QC Batch No:	18887	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	9:39:11

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	230				ES 2378-TCDD	88.7	
12378-PeCDD	983				ES 12378-PeCDD	96.5	
123478-HxCDD	1,120				ES 123478-HxCDD	88.8	
123678-HxCDD	1,100				ES 123678-HxCDD	98.8	
123789-HxCDD	1,060				ES 123789-HxCDD	88.1	
1234678-HpCDD	1,100				ES 1234678-HpCDD	85.3	
OCDD	2,220				ES OCDD	82.5	
2378-TCDF	232				ES 2378-TCDF	84.8	
12378-PeCDF	993				ES 12378-PeCDF	90.4	
23478-PeCDF	1,090				ES 23478-PeCDF	94.3	
123478-HxCDF	1,030				ES 123478-HxCDF	92.6	
123678-HxCDF	1,060				ES 123678-HxCDF	96.6	
234678-HxCDF	1,040				ES 234678-HxCDF	98.7	
123789-HxCDF	972				ES 123789-HxCDF	90.1	
1234678-HpCDF	1,030				ES 1234678-HpCDF	94	
1234789-HpCDF	1,040				ES 1234789-HpCDF	86.2	
OCDF	2,070				ES OCDF	89	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	95.9	
Total TCDD	1,100		1,100		CS 12347-PeCDD	114	
Total PeCDD	1,490		1,490		CS 12346-PeCDF	107	
Total HxCDD	3,580		3,580		CS 123469-HxCDF	115	
Total HpCDD	1,360		1,360		CS 1234689-HpCDF	111	
Total TCDF	1,340		1,340				
Total PeCDF	4,210		4,210				
Total HxCDF	6,860		6,860				
Total HpCDF	2,070		2,070				
Total PCDD/Fs	**26,300**		**26,300**				
WHO-2005 TEQs							
TEQ: ND=0	2360		2360				
TEQ: ND=DL/2	2360	3.26	2360				
TEQ: ND=DL	2360	6.53	2360				

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MS/MSD Comparison

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Method 1613B

Sample ID: 11215131-012022-GW-BN-PZ-SC

Analyte	Native Conc.	MS Spike	MS Conc.	MS Rec.	MSD Spike	MSD Conc.	MSD Rec.	RPD
	(pg/L)	(pg/L)	(pg/L)	%	(pg/L)	(pg/L)	%	
2,3,7,8-TCDD	0	200	234	117	198	230	116	1%
1,2,3,7,8-PeCDD	0	1000	1040	104	988	983	99.4	5%
1,2,3,4,7,8-HxCDD	0	1000	1090	109	988	1120	114	4%
1,2,3,6,7,8-HxCDD	0	1000	1160	116	988	1100	111	4%
1,2,3,7,8,9-HxCDD	0	1000	1110	111	988	1060	108	3%
1,2,3,4,6,7,8-HpCDD	0	1000	1100	110	988	1100	111	1%
OCDD	0	2000	2310	116	1980	2220	112	4%
2,3,7,8-TCDF	3.12	200	218	107	198	232	116	8%
1,2,3,7,8-PeCDF	0	1000	1040	104	988	993	101	3%
2,3,4,7,8-PeCDF	0	1000	1100	110	988	1090	110	0%
1,2,3,4,7,8-HxCDF	0	1000	1070	107	988	1030	104	3%
1,2,3,6,7,8-HxCDF	0	1000	1110	111	988	1060	107	4%
2,3,4,6,7,8-HxCDF	0	1000	1060	106	988	1040	106	0%
1,2,3,7,8,9-HxCDF	0	1000	1020	102	988	972	98.4	4%
1,2,3,4,6,7,8-HpCDF	0	1000	1080	108	988	1030	104	4%
1,2,3,4,7,8,9-HpCDF	0	1000	1080	108	988	1040	105	3%
OCDF	0	2000	2170	108	1980	2070	105	3%

* % Recovery limits for MS and MSD: 70-130% of expected value, if native < RL
* RPD limit for MS vs. MSD recoveries: +/- 20%, if native < RL

Sample ID: 11215131-012022-GW-BN-PZ-SW — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6238	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID	B6238_18887_DF_002	Date Extracted:	03-Feb-2022
Date Collected:	20-Jan-2022	pH:	7	QC Batch No:	18887	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	10:25:30

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	2.13			ES 2378-TCDD	90.8	
12378-PeCDD	ND	1.86			ES 12378-PeCDD	99.7	
123478-HxCDD	ND	1.55			ES 123478-HxCDD	97.6	
123678-HxCDD	ND	1.54			ES 123678-HxCDD	103	
123789-HxCDD	ND	1.56			ES 123789-HxCDD	91.8	
1234678-HpCDD	ND	1.95			ES 1234678-HpCDD	86.3	
OCDD	ND	15.1			ES OCDD	81	
2378-TCDF	ND	1.2			ES 2378-TCDF	90.4	
12378-PeCDF	ND	1.34			ES 12378-PeCDF	89.4	
23478-PeCDF	ND	1.24			ES 23478-PeCDF	91.3	
123478-HxCDF	ND	1.43			ES 123478-HxCDF	98.2	
123678-HxCDF	ND	1.44			ES 123678-HxCDF	103	
234678-HxCDF	ND	1.37			ES 234678-HxCDF	106	
123789-HxCDF	ND	1.68			ES 123789-HxCDF	90.3	
1234678-HpCDF	2.63			J	ES 1234678-HpCDF	95.7	
1234789-HpCDF	ND	1.9			ES 1234789-HpCDF	85.5	
OCDF	ND	3.37			ES OCDF	79.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	91.9	
Total TCDD	ND	2.13	ND		CS 12347-PeCDD	109	
Total PeCDD	ND	1.86	ND		CS 12346-PeCDF	99.3	
Total HxCDD	ND	1.55	ND		CS 123469-HxCDF	113	
Total HpCDD	ND	1.95	ND		CS 1234689-HpCDF	103	
Total TCDF	ND	1.2	ND				
Total PeCDF	ND	1.29	ND				
Total HxCDF	3.55		3.55				
Total HpCDF	2.63		2.63				
Total PCDD/Fs	**6.17**		**6.17**				
WHO-2005 TEQs							
TEQ: ND=0	0.0263		0.0263				
TEQ: ND=DL/2	2.84	2.82	2.84				
TEQ: ND=DL	5.64	5.63	5.64				

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Sample ID: 11215131-012022-GW-BN-PZ-SW — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6238	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID:	B6238_18887_DF_002	Date Extracted:	03-Feb-2022
Date Collected:	20-Jan-2022	pH:	7	QC Batch No.:	18887	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	10:25:30

Tetra-Dioxins	Conc. (pg/L)	Qualifiers	Penta-Dioxins	Conc. (pg/L)	Qualifiers	Hexa-Dioxins	Conc (pg/L)	Qualifiers	Hepta-Dioxins	Conc (pg/L)	Qualifiers
1368D	(2.13)		12479/12468D	(1.86)		124679/124689D	(1.55)		1234679D	(1.95)	
1379D	(2.13)		12469D	(1.86)		123468D	(1.55)		1234678D	(1.95)	
1369D	(2.13)		12368D	(1.86)		123679/123689D	(1.55)				
1469D	(2.13)		12478D	(1.86)		123469D	(1.55)				
1247D...[4]	(2.13)		12379D	(1.86)		123478D	(1.55)				
1378D	(2.13)		12369D...[3]	(1.86)		123678D	(1.54)				
1268D	(2.13)		12346/12347D	(1.86)		123467D	(1.55)				
1478D	(2.13)		12378D	(1.86)		123789D	(1.56)		**Conc.**	0	
1279D	(2.13)		12367D	(1.86)					**EMPC**	0	
1234/1269D	(2.13)		12389D	(1.86)							
1236D	(2.13)								**Octa-Dioxin**	**Conc (pg/L)**	**Qualifiers**
1237/1238D	(2.13)										
1239D	(2.13)								OCDD	(15.1)	
2378D	(2.13)										
1278D	(2.13)										
1267D	(2.13)										
1289D	(2.13)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0.0263	0.0263
TEQ: ND=DL/2	2.84	2.84
TEQ: ND=DL	5.64	5.64

	Conc.	EMPC
Total PCDD/Fs	6.17	6.17

Checkcode: 245-743-FNJ

Report Created: 09-Feb-2022 17:28 Analyst: TF

Sample ID: 11215131-012022-GW-BN-PZ-SW — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6238	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID:	B6238_18887_DF_002	Date Extracted:	03-Feb-2022
Date Collected:	20-Jan-2022	pH:	7	QC Batch No.:	18887	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	10:25:30

Tetra-Furans	Conc. (pg/L)	Qualifiers	Penta-Furans	Conc. (pg/L)	Qualifiers	Hexa-Furans	Conc (pg/L)	Qualifiers	Hepta-Furans	Conc (pg/L)	Qualifiers
1368F	(1.2)		13468/12468F	(1.24)		123468F	3.55	J	1234678F	2.63	J
1468F	(1.2)		13678F...[3]	(1.29)		124678/134678F	(1.47)		1234679F	(1.55)	
2468F	(1.2)		12368F...[3]	(1.29)		134679F	(1.47)		1234689F	(1.55)	
1346/1246F	(1.2)		14678F	(1.29)		124679F	(1.47)		1234789F	(1.9)	
1347F...[3]	(1.2)		13479F	(1.29)		124689F	(1.47)				
1348F	(1.2)		13469/12479F	(1.29)		123467F	(1.47)				
1248F...[3]	(1.2)		12346F	(1.29)		123478F	(1.43)				
1268F	(1.2)		23468/12469F	(1.29)		123678F	(1.44)				
1467F	(1.2)		12347F	(1.29)		123479F	(1.47)				
1478F	(1.2)		12348F	(1.29)		123469F	(1.47)				
1369/1237F	(1.2)		12378F	(1.34)		123679F	(1.47)				
2467F	(1.2)		12678/12367F	(1.29)		234678F	(1.37)		**Conc.**	2.63	
2368F	(1.2)		12379F	(1.29)		234678/123689F	0		**EMPC**	2.63	
1238F...[5]	(1.2)		12679F	(1.29)		123689F	(1.47)				
1278F	(1.2)		23467/12369F	(1.29)		123789F	(1.68)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(1.2)		23478F	(1.24)		123789/123489F	0			**(pg/L)**	
1267F	(1.2)		23478/12489F	0		123489F	(1.47)		OCDF	(3.37)	
2346/1249F	(1.2)		12489F	(1.29)							
2347/1279F	(1.2)		12349F	(1.29)							
2348F	(1.2)		12389F	(1.29)							
2378F	(1.2)										
2367/3467F	(1.2)										
1269F	(1.2)										
1239F	(1.2)										
1289F	(1.2)										
Conc.	0		**Conc.**	0		**Conc.**	3.55				
EMPC	0		**EMPC**	0		**EMPC**	3.55				

Checkcode: 245-743-FNJ

Report Created: 09-Feb-2022 17:28 Analyst: TF

Sample ID: 11215131-012022-GW-BN-PZ-SW TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Sample ID:	B6238_18887_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	QC Batch No.:	18887
Date Collected:	20-Jan-2022	Split:	-	Date Extracted:	03-Feb-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	09-Feb-2022 10:25
Lab Project No:	B6238	Units	pg/L		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(2.13)		2.13	(2.13)	(2.13)	(2.13)
12378-PeCDD	(1.86)		1.86	(0.93)	(1.86)	(1.86)
123478-HxCDD	(1.55)		1.55	(0.155)	(0.155)	(0.155)
123678-HxCDD	(1.54)		1.54	(0.154)	(0.154)	(0.154)
123789-HxCDD	(1.56)		1.56	(0.156)	(0.156)	(0.156)
1234678-HpCDD	(1.95)		1.95	(0.0195)	(0.0195)	(0.0195)
OCDD	(15.1)		15.1	(0.0151)	(0.00151)	(0.00454)
2378-TCDF	(1.2)		1.2	(0.12)	(0.12)	(0.12)
12378-PeCDF	(1.34)		1.34	(0.0672)	(0.0672)	(0.0403)
23478-PeCDF	(1.24)		1.24	(0.618)	(0.618)	(0.371)
123478-HxCDF	(1.43)		1.43	(0.143)	(0.143)	(0.143)
123678-HxCDF	(1.44)		1.44	(0.144)	(0.144)	(0.144)
234678-HxCDF	(1.37)		1.37	(0.137)	(0.137)	(0.137)
123789-HxCDF	(1.68)		1.68	(0.168)	(0.168)	(0.168)
1234678-HpCDF	2.63	J	1.28	0.0263	0.0263	0.0263
1234789-HpCDF	(1.9)		1.9	(0.019)	(0.019)	(0.019)
OCDF	(3.37)		3.37	(0.00337)	(0.000337)	(0.00101)

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TEQ Summaries			
EMPC = 0, ND = 0	0.0263	0.0263	0.0263
EMPC = 0, ND = DL / 2	2.51	2.97	2.84
EMPC = 0, ND = DL	5	5.92	5.64
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0.0263	0.0263	0.0263
EMPC = EMPC, ND = DL / 2	2.51	2.97	2.84
EMPC = EMPC, ND = DL	5	5.92	5.64
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 245-743-FNJ

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Sample ID: 11215131-012022-GW-BN-PZ-NC

Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6238	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	0.99 L	Lab Sample ID	B6238_18887_DF_003	Date Extracted:	03-Feb-2022
Date Collected:	20-Jan-2022	pH:	7	QC Batch No:	18887	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:11:51

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	2.37			ES 2378-TCDD	84.6	
12378-PeCDD	ND	2			ES 12378-PeCDD	90.8	
123478-HxCDD	ND	1.54			ES 123478-HxCDD	89.5	
123678-HxCDD	ND	1.36			ES 123678-HxCDD	97.6	
123789-HxCDD	ND	1.36			ES 123789-HxCDD	90.3	
1234678-HpCDD	ND	2.61			ES 1234678-HpCDD	84	
OCDD	ND	5.83			ES OCDD	76.8	
2378-TCDF	ND	1.15			ES 2378-TCDF	82.4	
12378-PeCDF	ND	1.26			ES 12378-PeCDF	86.5	
23478-PeCDF	ND	1.22			ES 23478-PeCDF	90	
123478-HxCDF	ND	1.27			ES 123478-HxCDF	90.1	
123678-HxCDF	ND	1.24			ES 123678-HxCDF	95.8	
234678-HxCDF	ND	1.3			ES 234678-HxCDF	98.7	
123789-HxCDF	ND	1.48			ES 123789-HxCDF	84.8	
1234678-HpCDF	ND	1.19			ES 1234678-HpCDF	89.5	
1234789-HpCDF	ND	1.85			ES 1234789-HpCDF	81.4	
OCDF	ND	3.27			ES OCDF	74.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	93.2	
Total TCDD	ND	2.37	ND		CS 12347-PeCDD	114	
Total PeCDD	ND	2	ND		CS 12346-PeCDF	105	
Total HxCDD	ND	1.42	ND		CS 123469-HxCDF	119	
Total HpCDD	ND	2.61	ND		CS 1234689-HpCDF	111	
Total TCDF	ND	1.15	ND				
Total PeCDF	ND	1.24	ND				
Total HxCDF	ND	1.31	ND				
Total HpCDF	ND	1.48	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	2.95	2.95	2.95				
TEQ: ND=DL	5.9	5.9	5.9				

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Sample ID: 11215131-012022-GW-BN-PZ-NC — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6238	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	0.99 L	Lab Sample ID:	B6238_18887_DF_003	Date Extracted:	03-Feb-2022
Date Collected:	20-Jan-2022	pH:	7	QC Batch No.:	18887	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:11:51

Tetra-Dioxins	Conc. (pg/L)	Qualifiers	Penta-Dioxins	Conc. (pg/L)	Qualifiers	Hexa-Dioxins	Conc (pg/L)	Qualifiers	Hepta-Dioxins	Conc (pg/L)	Qualifiers
1368D	(2.37)		12479/12468D	(2)		124679/124689D	(1.42)		1234679D	(2.61)	
1379D	(2.37)		12469D	(2)		123468D	(1.42)		1234678D	(2.61)	
1369D	(2.37)		12368D	(2)		123679/123689D	(1.42)				
1469D	(2.37)		12478D	(2)		123469D	(1.42)				
1247D...[4]	(2.37)		12379D	(2)		123478D	(1.54)				
1378D	(2.37)		12369D...[3]	(2)		123678D	(1.36)				
1268D	(2.37)		12346/12347D	(2)		123467D	(1.42)				
1478D	(2.37)		12378D	(2)		123789D	(1.36)		**Conc.**	0	
1279D	(2.37)		12367D	(2)					**EMPC**	0	
1234/1269D	(2.37)		12389D	(2)							
1236D	(2.37)								**Octa-Dioxin**	**Conc (pg/L)**	**Qualifiers**
1237/1238D	(2.37)										
1239D	(2.37)								OCDD	(5.83)	
2378D	(2.37)										
1278D	(2.37)										
1267D	(2.37)										
1289D	(2.37)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	2.95	2.95
TEQ: ND=DL	5.9	5.9

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 216-586-JHG

Report Created: 09-Feb-2022 17:28 Analyst: TF

Sample ID: 11215131-012022-GW-BN-PZ-NC — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6238	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	0.99 L	Lab Sample ID:	B6238_18887_DF_003	Date Extracted:	03-Feb-2022
Date Collected:	20-Jan-2022	pH:	7	QC Batch No.:	18887	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:11:51

Tetra-Furans	Conc. (pg/L)	Qualifiers	Penta-Furans	Conc. (pg/L)	Qualifiers	Hexa-Furans	Conc (pg/L)	Qualifiers	Hepta-Furans	Conc (pg/L)	Qualifiers
1368F	(1.15)		13468/12468F	(1.4)		123468F	(1.31)		1234678F	(1.19)	
1468F	(1.15)		13678F...[3]	(1.24)		124678/134678F	(1.31)		1234679F	(1.48)	
2468F	(1.15)		12368F...[3]	(1.24)		134679F	(1.31)		1234689F	(1.48)	
1346/1246F	(1.15)		14678F	(1.24)		124679F	(1.31)		1234789F	(1.85)	
1347F...[3]	(1.15)		13479F	(1.24)		124689F	(1.31)				
1348F	(1.15)		13469/12479F	(1.24)		123467F	(1.31)				
1248F...[3]	(1.15)		12346F	(1.24)		123478F	(1.27)				
1268F	(1.15)		23468/12469F	(1.24)		123678F	(1.24)				
1467F	(1.15)		12347F	(1.24)		123479F	(1.31)				
1478F	(1.15)		12348F	(1.24)		123469F	(1.31)				
1369/1237F	(1.15)		12378F	(1.26)		123679F	(1.31)				
2467F	(1.15)		12678/12367F	(1.24)		234678F	(1.3)		**Conc.**	0	
2368F	(1.15)		12379F	(1.24)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(1.15)		12679F	(1.24)		123689F	(1.31)				
1278F	(1.15)		23467/12369F	(1.24)		123789F	(1.48)		**Octa-Furan**	**Conc (pg/L)**	**Qualifiers**
1349F	(1.15)		23478F	(1.22)		123789/123489F	0				
1267F	(1.15)		23478/12489F	0		123489F	(1.31)		OCDF	(3.27)	
2346/1249F	(1.15)		12489F	(1.24)							
2347/1279F	(1.15)		12349F	(1.24)							
2348F	(1.15)		12389F	(1.24)							
2378F	(1.15)										
2367/3467F	(1.15)										
1269F	(1.15)										
1239F	(1.15)										
1289F	(1.15)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 216-586-JHG

Report Created: 09-Feb-2022 17:28 Analyst: TF

Sample ID: 11215131-012022-GW-BN-PZ-NC TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Sample ID:	B6238_18887_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	0.99 L	QC Batch No.:	18887
Date Collected:	20-Jan-2022	Split:	-	Date Extracted:	03-Feb-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	09-Feb-2022 11:11
Lab Project No:	B6238	Units	pg/L		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(2.37)		2.37	(2.37)	(2.37)	(2.37)
12378-PeCDD	(2)		2	(1)	(2)	(2)
123478-HxCDD	(1.54)		1.54	(0.154)	(0.154)	(0.154)
123678-HxCDD	(1.36)		1.36	(0.136)	(0.136)	(0.136)
123789-HxCDD	(1.36)		1.36	(0.136)	(0.136)	(0.136)
1234678-HpCDD	(2.61)		2.61	(0.0261)	(0.0261)	(0.0261)
OCDD	(5.83)		5.83	(0.00583)	(0.000583)	(0.00175)
2378-TCDF	(1.15)		1.15	(0.115)	(0.115)	(0.115)
12378-PeCDF	(1.26)		1.26	(0.0629)	(0.0629)	(0.0377)
23478-PeCDF	(1.22)		1.22	(0.612)	(0.612)	(0.367)
123478-HxCDF	(1.27)		1.27	(0.127)	(0.127)	(0.127)
123678-HxCDF	(1.24)		1.24	(0.124)	(0.124)	(0.124)
234678-HxCDF	(1.3)		1.3	(0.13)	(0.13)	(0.13)
123789-HxCDF	(1.48)		1.48	(0.148)	(0.148)	(0.148)
1234678-HpCDF	(1.19)		1.19	(0.0119)	(0.0119)	(0.0119)
1234789-HpCDF	(1.85)		1.85	(0.0185)	(0.0185)	(0.0185)
OCDF	(3.27)		3.27	(0.00327)	(0.000327)	(0.00098)

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TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	2.59	3.08	2.95
EMPC = 0, ND = DL	5.18	6.17	5.9
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	2.59	3.08	2.95
EMPC = EMPC, ND = DL	5.18	6.17	5.9
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 216-586-JHG

Sample ID: 11215131-012022-GW-BN-PZ-NE

Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6238	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.03 L	Lab Sample ID	B6238_18887_DF_004	Date Extracted:	03-Feb-2022
Date Collected:	20-Jan-2022	pH:	6	QC Batch No:	18887	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:58:12

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	2.27			ES 2378-TCDD	88.8	
12378-PeCDD	ND	1.67			ES 12378-PeCDD	96.2	
123478-HxCDD	ND	1.64			ES 123478-HxCDD	95	
123678-HxCDD	ND	1.52			ES 123678-HxCDD	102	
123789-HxCDD	ND	1.53			ES 123789-HxCDD	91.4	
1234678-HpCDD	ND	2.17			ES 1234678-HpCDD	88.9	
OCDD	ND	14.2			ES OCDD	79	
2378-TCDF	ND	1.32			ES 2378-TCDF	88.5	
12378-PeCDF	ND	1.02			ES 12378-PeCDF	91.5	
23478-PeCDF	ND	0.991			ES 23478-PeCDF	90.8	
123478-HxCDF	ND	1.04			ES 123478-HxCDF	91.1	
123678-HxCDF	ND	0.902			ES 123678-HxCDF	95.8	
234678-HxCDF	ND	0.896			ES 234678-HxCDF	107	
123789-HxCDF	ND	1.11			ES 123789-HxCDF	88.1	
1234678-HpCDF	ND	1.21			ES 1234678-HpCDF	95	
1234789-HpCDF	ND	1.91			ES 1234789-HpCDF	84.4	
OCDF	ND	3.33			ES OCDF	81	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	97	
Total TCDD	ND	2.27	ND		CS 12347-PeCDD	112	
Total PeCDD	ND	1.67	ND		CS 12346-PeCDF	103	
Total HxCDD	ND	1.56	ND		CS 123469-HxCDF	116	
Total HpCDD	ND	2.17	ND		CS 1234689-HpCDF	107	
Total TCDF	ND	1.32	ND				
Total PeCDF	ND	1.01	ND				
Total HxCDF	ND	0.979	ND				
Total HpCDF	ND	1.51	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	2.66	2.66	2.66				
TEQ: ND=DL	5.32	5.32	5.32				

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Sample ID: 11215131-012022-GW-BN-PZ-NE — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6238	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.03 L	Lab Sample ID:	B6238_18887_DF_004	Date Extracted:	03-Feb-2022
Date Collected:	20-Jan-2022	pH:	6	QC Batch No.:	18887	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:58:12

Tetra-Dioxins	Conc. (pg/L)	Qualifiers	Penta-Dioxins	Conc. (pg/L)	Qualifiers	Hexa-Dioxins	Conc (pg/L)	Qualifiers	Hepta-Dioxins	Conc (pg/L)	Qualifiers
1368D	(2.27)		12479/12468D	(1.67)		124679/124689D	(1.56)		1234679D	(2.17)	
1379D	(2.27)		12469D	(1.67)		123468D	(1.56)		1234678D	(2.17)	
1369D	(2.27)		12368D	(1.67)		123679/123689D	(1.56)				
1469D	(2.27)		12478D	(1.67)		123469D	(1.56)				
1247D...[4]	(2.27)		12379D	(1.67)		123478D	(1.64)				
1378D	(2.27)		12369D...[3]	(1.67)		123678D	(1.52)				
1268D	(2.27)		12346/12347D	(1.67)		123467D	(1.56)				
1478D	(2.27)		12378D	(1.67)		123789D	(1.53)		**Conc.**	0	
1279D	(2.27)		12367D	(1.67)					**EMPC**	0	
1234/1269D	(2.27)		12389D	(1.67)							
1236D	(2.27)								**Octa-Dioxin**	**Conc (pg/L)**	**Qualifiers**
1237/1238D	(2.27)										
1239D	(2.27)								OCDD	(14.2)	
2378D	(2.27)										
1278D	(2.27)										
1267D	(2.27)										
1289D	(2.27)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	2.66	2.66
TEQ: ND=DL	5.32	5.32

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 151-857-SLQ

Report Created: 09-Feb-2022 17:28 Analyst: TF

Sample ID: 11215131-012022-GW-BN-PZ-NE — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6238	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.03 L	Lab Sample ID:	B6238_18887_DF_004	Date Extracted:	03-Feb-2022
Date Collected:	20-Jan-2022	pH:	6	QC Batch No.:	18887	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:58:12

Tetra-Furans	Conc. (pg/L)	Qualifiers	Penta-Furans	Conc. (pg/L)	Qualifiers	Hexa-Furans	Conc (pg/L)	Qualifiers	Hepta-Furans	Conc (pg/L)	Qualifiers
1368F	(1.32)		13468/12468F	(1.01)		123468F	(0.979)		1234678F	(1.21)	
1468F	(1.32)		13678F...[3]	(1.01)		124678/134678F	(0.979)		1234679F	(1.51)	
2468F	(1.32)		12368F...[3]	(1.01)		134679F	(0.979)		1234689F	(1.51)	
1346/1246F	(1.32)		14678F	(1.01)		124679F	(0.979)		1234789F	(1.91)	
1347F...[3]	(1.32)		13479F	(1.01)		124689F	(0.979)				
1348F	(1.32)		13469/12479F	(1.01)		123467F	(0.979)				
1248F...[3]	(1.32)		12346F	(1.01)		123478F	(1.04)				
1268F	(1.32)		23468/12469F	(1.01)		123678F	(0.902)				
1467F	(1.32)		12347F	(1.01)		123479F	(0.979)				
1478F	(1.32)		12348F	(1.01)		123469F	(0.979)				
1369/1237F	(1.32)		12378F	(1.02)		123679F	(0.979)				
2467F	(1.32)		12678/12367F	(1.01)		234678F	(0.896)		**Conc.**	0	
2368F	(1.32)		12379F	(1.01)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(1.32)		12679F	(1.01)		123689F	(0.979)				
1278F	(1.32)		23467/12369F	(1.01)		123789F	(1.11)		**Octa-Furan**	**Conc (pg/L)**	**Qualifiers**
1349F	(1.32)		23478F	(0.991)		123789/123489F	0				
1267F	(1.32)		23478/12489F	0		123489F	(0.979)		OCDF	(3.33)	
2346/1249F	(1.32)		12489F	(1.01)							
2347/1279F	(1.32)		12349F	(1.01)							
2348F	(1.32)		12389F	(1.01)							
2378F	(1.32)										
2367/3467F	(1.32)										
1269F	(1.32)										
1239F	(1.32)										
1289F	(1.32)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 151-857-SLQ

Report Created: 09-Feb-2022 17:28 Analyst: TF

Sample ID: 11215131-012022-GW-BN-PZ-NE TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Sample ID:	B6238_18887_DF_004
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.03 L	QC Batch No.:	18887
Date Collected:	20-Jan-2022	Split:	-	Date Extracted:	03-Feb-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	09-Feb-2022 11:58
Lab Project No:	B6238	Units	pg/L		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(2.27)		2.27	(2.27)	(2.27)	(2.27)
12378-PeCDD	(1.67)		1.67	(0.834)	(1.67)	(1.67)
123478-HxCDD	(1.64)		1.64	(0.164)	(0.164)	(0.164)
123678-HxCDD	(1.52)		1.52	(0.152)	(0.152)	(0.152)
123789-HxCDD	(1.53)		1.53	(0.153)	(0.153)	(0.153)
1234678-HpCDD	(2.17)		2.17	(0.0217)	(0.0217)	(0.0217)
OCDD	(14.2)		14.2	(0.0142)	(0.00142)	(0.00427)
2378-TCDF	(1.32)		1.32	(0.132)	(0.132)	(0.132)
12378-PeCDF	(1.02)		1.02	(0.0511)	(0.0511)	(0.0306)
23478-PeCDF	(0.991)		0.991	(0.495)	(0.495)	(0.297)
123478-HxCDF	(1.04)		1.04	(0.104)	(0.104)	(0.104)
123678-HxCDF	(0.902)		0.902	(0.0902)	(0.0902)	(0.0902)
234678-HxCDF	(0.896)		0.896	(0.0896)	(0.0896)	(0.0896)
123789-HxCDF	(1.11)		1.11	(0.111)	(0.111)	(0.111)
1234678-HpCDF	(1.21)		1.21	(0.0121)	(0.0121)	(0.0121)
1234789-HpCDF	(1.91)		1.91	(0.0191)	(0.0191)	(0.0191)
OCDF	(3.33)		3.33	(0.00333)	(0.000333)	(0.001)

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TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	2.36	2.77	2.66
EMPC = 0, ND = DL	4.72	5.54	5.32
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	2.36	2.77	2.66
EMPC = EMPC, ND = DL	4.72	5.54	5.32
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 151-857-SLQ

Sample ID: 11215131-012022-GW-BN-DUP-1 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6238	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	Lab Sample ID	B6238_18887_DF_005	Date Extracted:	03-Feb-2022
Date Collected:	20-Jan-2022	pH:	6	QC Batch No:	18887	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:44:33

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	1.73			ES 2378-TCDD	85	
12378-PeCDD	ND	1.58			ES 12378-PeCDD	96.9	
123478-HxCDD	ND	1.84			ES 123478-HxCDD	90.3	
123678-HxCDD	ND	1.71			ES 123678-HxCDD	99.2	
123789-HxCDD	ND	1.7			ES 123789-HxCDD	87.1	
1234678-HpCDD	ND	2.08			ES 1234678-HpCDD	86.4	
OCDD	EMPC		7.96	J	ES OCDD	82.2	
2378-TCDF	ND	1.16			ES 2378-TCDF	86.3	
12378-PeCDF	ND	1.28			ES 12378-PeCDF	92.1	
23478-PeCDF	ND	1.23			ES 23478-PeCDF	93.4	
123478-HxCDF	ND	1.15			ES 123478-HxCDF	88.9	
123678-HxCDF	ND	1.13			ES 123678-HxCDF	95	
234678-HxCDF	ND	1.11			ES 234678-HxCDF	98.7	
123789-HxCDF	ND	1.22			ES 123789-HxCDF	87.7	
1234678-HpCDF	ND	1.34			ES 1234678-HpCDF	93	
1234789-HpCDF	ND	1.91			ES 1234789-HpCDF	82.9	
OCDF	ND	2.89			ES OCDF	84	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	90.4	
Total TCDD	ND	1.73	ND		CS 12347-PeCDD	110	
Total PeCDD	ND	1.58	ND		CS 12346-PeCDF	102	
Total HxCDD	ND	1.75	ND		CS 123469-HxCDF	112	
Total HpCDD	ND	2.08	ND		CS 1234689-HpCDF	108	
Total TCDF	ND	1.16	ND				
Total PeCDF	ND	1.25	ND				
Total HxCDF	ND	1.15	ND				
Total HpCDF	ND	1.59	ND				
Total PCDD/Fs	**ND**		**7.96**				
WHO-2005 TEQs							
TEQ: ND=0	0		0.00239				
TEQ: ND=DL/2	2.44	2.44	2.44				
TEQ: ND=DL	4.87	4.87	4.87				

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Sample ID: 11215131-012022-GW-BN-DUP-1 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6238	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	Lab Sample ID:	B6238_18887_DF_005	Date Extracted:	03-Feb-2022
Date Collected:	20-Jan-2022	pH:	6	QC Batch No.:	18887	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:44:33

Tetra-Dioxins	Conc. (pg/L)	Qualifiers	Penta-Dioxins	Conc. (pg/L)	Qualifiers	Hexa-Dioxins	Conc (pg/L)	Qualifiers	Hepta-Dioxins	Conc (pg/L)	Qualifiers
1368D	(1.73)		12479/12468D	(1.58)		124679/124689D	(1.75)		1234679D	(2.08)	
1379D	(1.73)		12469D	(1.58)		123468D	(1.75)		1234678D	(2.08)	
1369D	(1.73)		12368D	(1.58)		123679/123689D	(1.75)				
1469D	(1.73)		12478D	(1.58)		123469D	(1.75)				
1247D...[4]	(1.73)		12379D	(1.58)		123478D	(1.84)				
1378D	(1.73)		12369D...[3]	(1.58)		123678D	(1.71)				
1268D	(1.73)		12346/12347D	(1.58)		123467D	(1.75)				
1478D	(1.73)		12378D	(1.58)		123789D	(1.7)		**Conc.**	0	
1279D	(1.73)		12367D	(1.58)					**EMPC**	0	
1234/1269D	(1.73)		12389D	(1.58)							
1236D	(1.73)								**Octa-Dioxin**	**Conc (pg/L)**	**Qualifiers**
1237/1238D	(1.73)										
1239D	(1.73)								OCDD	[7.96]	J
2378D	(1.73)										
1278D	(1.73)										
1267D	(1.73)										
1289D	(1.73)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0.00239
TEQ: ND=DL/2	2.44	2.44
TEQ: ND=DL	4.87	4.87

	Conc.	EMPC
Total PCDD/Fs	0	7.96

Checkcode: 170-231-FWV

Report Created: 09-Feb-2022 17:28 Analyst: TF

Sample ID: 11215131-012022-GW-BN-DUP-1 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6238	Date Received:	26-Jan-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	Lab Sample ID:	B6238_18887_DF_005	Date Extracted:	03-Feb-2022
Date Collected:	20-Jan-2022	pH:	6	QC Batch No.:	18887	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:44:33

Tetra-Furans	Conc. (pg/L)	Qualifiers	Penta-Furans	Conc. (pg/L)	Qualifiers	Hexa-Furans	Conc (pg/L)	Qualifiers	Hepta-Furans	Conc (pg/L)	Qualifiers
1368F	(1.16)		13468/12468F	(1.07)		123468F	(1.15)		1234678F	(1.34)	
1468F	(1.16)		13678F...[3]	(1.25)		124678/134678F	(1.15)		1234679F	(1.59)	
2468F	(1.16)		12368F...[3]	(1.25)		134679F	(1.15)		1234689F	(1.59)	
1346/1246F	(1.16)		14678F	(1.25)		124679F	(1.15)		1234789F	(1.91)	
1347F...[3]	(1.16)		13479F	(1.25)		124689F	(1.15)				
1348F	(1.16)		13469/12479F	(1.25)		123467F	(1.15)				
1248F...[3]	(1.16)		12346F	(1.25)		123478F	(1.15)				
1268F	(1.16)		23468/12469F	(1.25)		123678F	(1.13)				
1467F	(1.16)		12347F	(1.25)		123479F	(1.15)				
1478F	(1.16)		12348F	(1.25)		123469F	(1.15)				
1369/1237F	(1.16)		12378F	(1.28)		123679F	(1.15)				
2467F	(1.16)		12678/12367F	(1.25)		234678F	(1.11)		**Conc.**	0	
2368F	(1.16)		12379F	(1.25)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(1.16)		12679F	(1.25)		123689F	(1.15)				
1278F	(1.16)		23467/12369F	(1.25)		123789F	(1.22)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(1.16)		23478F	(1.23)		123789/123489F	0			(pg/L)	
1267F	(1.16)		23478/12489F	0		123489F	(1.15)		OCDF	(2.89)	
2346/1249F	(1.16)		12489F	(1.25)							
2347/1279F	(1.16)		12349F	(1.25)							
2348F	(1.16)		12389F	(1.25)							
2378F	(1.16)										
2367/3467F	(1.16)										
1269F	(1.16)										
1239F	(1.16)										
1289F	(1.16)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 170-231-FWV

Report Created: 09-Feb-2022 17:28 Analyst: TF

Sample ID: 11215131-012022-GW-BN-DUP-1 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Sample ID:	B6238_18887_DF_005
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	QC Batch No.:	18887
Date Collected:	20-Jan-2022	Split:	-	Date Extracted:	03-Feb-2022
Date Received:	26-Jan-2022	Dilution:	-	Date Analyzed:	09-Feb-2022 12:44
Lab Project No:	B6238	Units	pg/L		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(1.73)		1.73	(1.73)	(1.73)	(1.73)
12378-PeCDD	(1.58)		1.58	(0.789)	(1.58)	(1.58)
123478-HxCDD	(1.84)		1.84	(0.184)	(0.184)	(0.184)
123678-HxCDD	(1.71)		1.71	(0.171)	(0.171)	(0.171)
123789-HxCDD	(1.7)		1.7	(0.17)	(0.17)	(0.17)
1234678-HpCDD	(2.08)		2.08	(0.0208)	(0.0208)	(0.0208)
OCDD	[7.96]	J	5.44	[0.00796]	[0.000796]	[0.00239]
2378-TCDF	(1.16)		1.16	(0.116)	(0.116)	(0.116)
12378-PeCDF	(1.28)		1.28	(0.0638)	(0.0638)	(0.0383)
23478-PeCDF	(1.23)		1.23	(0.613)	(0.613)	(0.368)
123478-HxCDF	(1.15)		1.15	(0.115)	(0.115)	(0.115)
123678-HxCDF	(1.13)		1.13	(0.113)	(0.113)	(0.113)
234678-HxCDF	(1.11)		1.11	(0.111)	(0.111)	(0.111)
123789-HxCDF	(1.22)		1.22	(0.122)	(0.122)	(0.122)
1234678-HpCDF	(1.34)		1.34	(0.0134)	(0.0134)	(0.0134)
1234789-HpCDF	(1.91)		1.91	(0.0191)	(0.0191)	(0.0191)
OCDF	(2.89)		2.89	(0.00289)	(0.000289)	(0.000866)

TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	2.18	2.57	2.44
EMPC = 0, ND = DL	4.36	5.14	4.87
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0.00796	0.000796	0.00239
EMPC = EMPC, ND = DL / 2	2.19	2.57	2.44
EMPC = EMPC, ND = DL	4.36	5.14	4.87
EMPC = EMPC, < J-level = 0	0	0	0

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Checkcode: 170-231-FWV

Sample ID: Method Blank B6238_18887 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6238	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID	MB1_18887_DF_TLX	Date Extracted:	03-Feb-2022
Date Collected:	n/a	pH:	n/a	QC Batch No:	18887	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	7:20:11

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	1.96			ES 2378-TCDD	86.4	
12378-PeCDD	ND	1.16			ES 12378-PeCDD	96	
123478-HxCDD	ND	1.83			ES 123478-HxCDD	93.9	
123678-HxCDD	ND	1.81			ES 123678-HxCDD	104	
123789-HxCDD	ND	2.06			ES 123789-HxCDD	87.2	
1234678-HpCDD	ND	2.47			ES 1234678-HpCDD	88.6	
OCDD	ND	12.2			ES OCDD	81.4	
2378-TCDF	ND	1.06			ES 2378-TCDF	89.4	
12378-PeCDF	ND	1.11			ES 12378-PeCDF	92.6	
23478-PeCDF	ND	1.09			ES 23478-PeCDF	92.2	
123478-HxCDF	ND	0.944			ES 123478-HxCDF	91.5	
123678-HxCDF	ND	0.875			ES 123678-HxCDF	100	
234678-HxCDF	ND	0.844			ES 234678-HxCDF	106	
123789-HxCDF	ND	1.04			ES 123789-HxCDF	88.2	
1234678-HpCDF	ND	1.09			ES 1234678-HpCDF	93.9	
1234789-HpCDF	ND	1.56			ES 1234789-HpCDF	85.4	
OCDF	ND	3.14			ES OCDF	83.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	93.1	
Total TCDD	ND	1.96	ND		CS 12347-PeCDD	110	
Total PeCDD	ND	1.16	ND		CS 12346-PeCDF	103	
Total HxCDD	ND	1.9	ND		CS 123469-HxCDF	118	
Total HpCDD	ND	2.47	ND		CS 1234689-HpCDF	110	
Total TCDF	ND	1.06	ND				
Total PeCDF	ND	1.1	ND				
Total HxCDF	ND	0.917	ND				
Total HpCDF	ND	1.3	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	2.29	2.29	2.29				
TEQ: ND=DL	4.59	4.59	4.59				

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Sample ID: Method Blank B6238_18887 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6238	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID:	MB1_18887_DF_TLX	Date Extracted:	03-Feb-2022
Date Collected:	n/a	pH:	n/a	QC Batch No.:	18887	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	7:20:11

Tetra-Dioxins	Conc. (pg/L)	Qualifiers	Penta-Dioxins	Conc. (pg/L)	Qualifiers	Hexa-Dioxins	Conc (pg/L)	Qualifiers	Hepta-Dioxins	Conc (pg/L)	Qualifiers
1368D	(1.96)		12479/12468D	(1.16)		124679/124689D	(1.9)		1234679D	(2.47)	
1379D	(1.96)		12469D	(1.16)		123468D	(1.9)		1234678D	(2.47)	
1369D	(1.96)		12368D	(1.16)		123679/123689D	(1.9)				
1469D	(1.96)		12478D	(1.16)		123469D	(1.9)				
1247D...[4]	(1.96)		12379D	(1.16)		123478D	(1.83)				
1378D	(1.96)		12369D...[3]	(1.16)		123678D	(1.81)				
1268D	(1.96)		12346/12347D	(1.16)		123467D	(1.9)				
1478D	(1.96)		12378D	(1.16)		123789D	(2.06)		Conc.	0	
1279D	(1.96)		12367D	(1.16)					EMPC	0	
1234/1269D	(1.96)		12389D	(1.16)							
1236D	(1.96)								Octa-Dioxin	Conc (pg/L)	Qualifiers
1237/1238D	(1.96)										
1239D	(1.96)								OCDD	(12.2)	
2378D	(1.96)										
1278D	(1.96)										
1267D	(1.96)										
1289D	(1.96)										
Conc.	0		Conc.	0		Conc.	0				
EMPC	0		EMPC	0		EMPC	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	2.29	2.29
TEQ: ND=DL	4.59	4.59

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 545-493-LLD

Report Created: 09-Feb-2022 17:27 Analyst: TF

Sample ID: Method Blank B6238_18887 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6238	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID:	MB1_18887_DF_TLX	Date Extracted:	03-Feb-2022
Date Collected:	n/a	pH:	n/a	QC Batch No.:	18887	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	7:20:11

Tetra-Furans	Conc. (pg/L)	Qualifiers	Penta-Furans	Conc. (pg/L)	Qualifiers	Hexa-Furans	Conc (pg/L)	Qualifiers	Hepta-Furans	Conc (pg/L)	Qualifiers
1368F	(1.06)		13468/12468F	(1.07)		123468F	(0.917)		1234678F	(1.09)	
1468F	(1.06)		13678F...[3]	(1.1)		124678/134678F	(0.917)		1234679F	(1.3)	
2468F	(1.06)		12368F...[3]	(1.1)		134679F	(0.917)		1234689F	(1.3)	
1346/1246F	(1.06)		14678F	(1.1)		124679F	(0.917)		1234789F	(1.56)	
1347F...[3]	(1.06)		13479F	(1.1)		124689F	(0.917)				
1348F	(1.06)		13469/12479F	(1.1)		123467F	(0.917)				
1248F...[3]	(1.06)		12346F	(1.1)		123478F	(0.944)				
1268F	(1.06)		23468/12469F	(1.1)		123678F	(0.875)				
1467F	(1.06)		12347F	(1.1)		123479F	(0.917)				
1478F	(1.06)		12348F	(1.1)		123469F	(0.917)				
1369/1237F	(1.06)		12378F	(1.11)		123679F	(0.917)				
2467F	(1.06)		12678/12367F	(1.1)		234678F	(0.844)		**Conc.**	0	
2368F	(1.06)		12379F	(1.1)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(1.06)		12679F	(1.1)		123689F	(0.917)				
1278F	(1.06)		23467/12369F	(1.1)		123789F	(1.04)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(1.06)		23478F	(1.09)		123789/123489F	0			(pg/L)	
1267F	(1.06)		23478/12489F	0		123489F	(0.917)		OCDF	(3.14)	
2346/1249F	(1.06)		12489F	(1.1)							
2347/1279F	(1.06)		12349F	(1.1)							
2348F	(1.06)		12389F	(1.1)							
2378F	(1.06)										
2367/3467F	(1.06)										
1269F	(1.06)										
1239F	(1.06)										
1289F	(1.06)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 545-493-LLD

Report Created: 09-Feb-2022 17:27 Analyst: TF

Sample ID: Method Blank B6238_18887 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Sample ID:	MB1_18887_DF_TLX
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	QC Batch No.:	18887
Date Collected:	n/a	Split:	-	Date Extracted:	03-Feb-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	09-Feb-2022 07:20
Lab Project No:	B6238	Units	pg/L		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(1.96)		1.96	(1.96)	(1.96)	(1.96)
12378-PeCDD	(1.16)		1.16	(0.582)	(1.16)	(1.16)
123478-HxCDD	(1.83)		1.83	(0.183)	(0.183)	(0.183)
123678-HxCDD	(1.81)		1.81	(0.181)	(0.181)	(0.181)
123789-HxCDD	(2.06)		2.06	(0.206)	(0.206)	(0.206)
1234678-HpCDD	(2.47)		2.47	(0.0247)	(0.0247)	(0.0247)
OCDD	(12.2)		12.2	(0.0122)	(0.00122)	(0.00365)
2378-TCDF	(1.06)		1.06	(0.106)	(0.106)	(0.106)
12378-PeCDF	(1.11)		1.11	(0.0557)	(0.0557)	(0.0334)
23478-PeCDF	(1.09)		1.09	(0.543)	(0.543)	(0.326)
123478-HxCDF	(0.944)		0.944	(0.0944)	(0.0944)	(0.0944)
123678-HxCDF	(0.875)		0.875	(0.0875)	(0.0875)	(0.0875)
234678-HxCDF	(0.844)		0.844	(0.0844)	(0.0844)	(0.0844)
123789-HxCDF	(1.04)		1.04	(0.104)	(0.104)	(0.104)
1234678-HpCDF	(1.09)		1.09	(0.0109)	(0.0109)	(0.0109)
1234789-HpCDF	(1.56)		1.56	(0.0156)	(0.0156)	(0.0156)
OCDF	(3.14)		3.14	(0.00314)	(0.000314)	(0.000941)

TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	2.13	2.41	2.29
EMPC = 0, ND = DL	4.26	4.83	4.59
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	2.13	2.41	2.29
EMPC = EMPC, ND = DL	4.26	4.83	4.59
EMPC = EMPC, < J-level = 0	0	0	0

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Checkcode: 545-493-LLD

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Sample ID: 0_18887_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6238	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18887_DF	Date Extracted:	03-Feb-2022
Date Collected:	n/a	pH:	n/a	QC Batch No:	18887	Date Analyzed:	09-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	5:47:32

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.3				ES 2378-TCDD	90.2	
12378-PeCDD	49.1				ES 12378-PeCDD	99.3	
123478-HxCDD	52.6				ES 123478-HxCDD	96.1	
123678-HxCDD	53.4				ES 123678-HxCDD	107	
123789-HxCDD	50.9				ES 123789-HxCDD	91.3	
1234678-HpCDD	51.2				ES 1234678-HpCDD	91.9	
OCDD	109				ES OCDD	83.7	
2378-TCDF	11.1				ES 2378-TCDF	88.3	
12378-PeCDF	48.2				ES 12378-PeCDF	91.7	
23478-PeCDF	52.2				ES 23478-PeCDF	92.4	
123478-HxCDF	51.3				ES 123478-HxCDF	89.7	
123678-HxCDF	52.4				ES 123678-HxCDF	96.6	
234678-HxCDF	49.9				ES 234678-HxCDF	103	
123789-HxCDF	49.6				ES 123789-HxCDF	87.1	
1234678-HpCDF	50.3				ES 1234678-HpCDF	96.1	
1234789-HpCDF	50.4				ES 1234789-HpCDF	85.1	
OCDF	102				ES OCDF	85.1	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	92.2	
Total TCDD	52		52		CS 12347-PeCDD	111	
Total PeCDD	73.1		73.1		CS 12346-PeCDF	99.8	
Total HxCDD	170		170		CS 123469-HxCDF	114	
Total HpCDD	63.5		63.5		CS 1234689-HpCDF	111	
Total TCDF	60.6		60.6				
Total PeCDF	200		200				
Total HxCDF	327		327				
Total HpCDF	101		101				
Total PCDD/Fs	**1,260**		**1,260**				
WHO-2005 TEQs							
TEQ: ND=0	116		116				
TEQ: ND=DL/2	116	0.177	116				
TEQ: ND=DL	116	0.355	116				

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Sample Receipt Notification

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

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*26-Jan-22 at 11:48*
AP Project name:	*B6238*
Requested TAT:	*10 business days*
Projected due date:	*9-Feb-22*
Matrix:	*Aqueous*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

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

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-012022-GW-BN-PZ-SC	B6238_001	Water - MS/MSD	3	1-Liter Amber	20-Jan-22	12:40	0.8	2	4905 2704 4719
11215131-012022-GW-BN-PZ-SW	B6238_002	Water	1	1-Liter Amber	20-Jan-22	13:55	0	3	4905 2704 4720
11215131-012022-GW-BN-PZ-NC	B6238_003	Water	1	1-Liter Amber	20-Jan-22	14:40	0.8	2	4905 2704 4719
11215131-012022-GW-BN-PZ-NE	B6238_004	Water	1	1-Liter Amber	20-Jan-22	15:20	0	3	4905 2704 4720
11215131-012022-GW-BN-DUP-1	B6238_005	Water	1	1-Liter Amber	20-Jan-22	n/a	0.8	2	4905 2704 4719

Preservation Type: **Sample Seals:** No

Notes/Comments:
Samples received intact. Dissolved samples.

Logged sample 002 per COC.

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

Received by: Ashley Owens *Logged in by: Ashley Owens* *QC'ed by:* AK 28 Jan 22

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

Cooler 1 of 2

~~TD77934~~

TO: Wilmington Lab
Attn: Tamara Burkamper
(910)794-2527

B6238 1/2

SGS CHAIN OF CUSTODY

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

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis(

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

PRESERVATIVE: NONE

ANALYSIS & METHOD: M1613B, ~~M8290A~~, ~~M1668A~~, ~~M1668C~~ (BN), ~~HR-PAH~~, ~~M1699~~

	SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B	~~M8290A~~	~~M1668A~~	~~M1668C~~ (BN)	~~HR-PAH~~	~~M1699~~	QC MS	QC MSD	QC DUP	QTY	REMARKS
1	11215131-012022-GW-BN-PZ-SC	1-20-22	1240		W	1L	X						X	X		6	
																	Total D/F and Dissolved
																	D/F (lab filtered 0.45 microns)
																	1 Liter amber - Total
																	1 Liter amber - Dissolved
																	COOLER 1 of 2!

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:	RECEIVED BY LABORATORY:	DATE:	TIME:
Breanna [signature]	1-21-22	1245	[signature]	[signature]	1/26/22	11:48
RELINQUISHED BY (2): [signature]	DATE: 1-21-22	TIME: 1350	RECEIVED BY: [signature] 11/21/22 1350	COOLER SEAL: ☒ INTACT ☐ BROKEN ☐ ABSENT		
				CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT		
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:	CARRIER: FedEx	TEMP: °C	2.7 0.8° ≤ 0.0°
				TRACKING #:		

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36 of 364
Member of the SGS Group (SGS SA)

Cooler 2 of 2

~~TD77934~~

To: Wilmington Lab
Attn: Tamara Burkamper
(910) 794-2527

B6238 2/2

SGS CHAIN OF CUSTODY

PROJECT INFO

PROJECT: 11215131-SJRWP - PCFSE

P.O. #:

QUOTE #: file

SITE REF: International Paper

TURN AROUND TIME:

REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV

SPECIAL DELIVERABLES:

☐ DoD ■ EDD/Version: GHD EQuIS 4-file

☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO

COMPANY: GHD Services Inc.

CONTACT: Meagan Willis

ADDRESS: 11451 Katy Fwy #400, Houston, T

PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (■ CHECK IF SAME)

COMPANY:

CONTACT:

ADDRESS:

PHONE: EMAIL:

PRESERVATIVE: NONE

ANALYSIS & METHOD: M1613B, ~~M8290A~~, ~~M1668A~~, ~~M1668C~~ BN, ~~HR-PAH~~, ~~M1699~~

	SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B	~~M8290A~~	~~M1668A~~	~~M1668C~~ BN	~~HR-PAH~~	~~M1699~~	QC MS	QC MSD	QC DUP	QTY	REMARKS
2	11215131-012022-GW-BN-PZ-SW	1-20-22	1355		W	1L	X									2	Total D/F and dissolved
3	11215131-012022-GW-BN-PZ-NC	↓	1440		↓	↓	X									2	D/F (lab filtered 0.45 microns)
4	11215131-012022-GW-BN-PZ-NE	↓	1520		↓	↓	X									2	1 Liter amber - Total
5	11215131-012022-GW-BN-DUP-1	↓	—		↓	↓	X								X	2	1 Liter amber - Dissolved

Cooler 2 of 2!

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:	RECEIVED BY LABORATORY:	DATE:	TIME:
Brianna North	1-20-22	1245	Eddie Custer	[signature]	1/20/22	11:48
RELINQUISHED BY (2):	DATE:	TIME:	RECEIVED BY:	COOLER SEAL: ☑ INTACT ☐ BROKEN ☐ ABSENT		
Eddie Custer	1-21-22	1350	[signature] 1/21/22 1350	CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☑ ABSENT		
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:	CARRIER: FedEx	TEMP: °C	2.2 0.8° & 0.0°
				TRACKING #:		

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

Member of the SGS Group (SGS SA)

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

SHIP DATE: 24JAN22
ACTWGT: 45.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

1/26/2022
11:48
0.2° (T.B.)

FedEx Express

1 of 3

TRK# 0201 4905 2704 4708
MASTER

TUE - 25 JAN 10:30A
PRIORITY OVERNIGHT

NL ILMA

28405
NC-US RDU

Part # 158148-434 MTW EXP 07/22

BU238 1/2

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
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SUITE 150
HOUSTON, TX 77036
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REF: GHD SAMPLES

1/26/2022
11:48
0.8° (T.B.)

FedEx Express

2 of 3

MPS# 0263 4905 2704 4719
Mstr# 4905 2704 4708 0201

TUE - 25 JAN 10:30A
PRIORITY OVERNIGHT

NL ILMA

28405
NC-US RDU

Part # 158148-434 MTW EXP 07/22

B6238 2/2

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

SHIP DATE: 24JAN22
ACTWGT: 45.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

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

1/26/2022
11:48
0.0°

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

SGS C4/F289/05 R2

FedEx Express

E

J191219082001uv

3 of 3

MPS# 0263 4905 2704 4720
Mstr# 4905 2704 4708 [0201]

TUE - 25 JAN 10:30A
PRIORITY OVERNIGHT

NL ILMA

28405
NC-US RDU

Part # 159148-434 MTW EXP 07/22

SGS

Project Initiation Form

Project Number: B6238

Initiation Date: 28-Jan-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Aqueous

TAT: 10 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR

IL extraction

Sample 001 is MS/MSD

Samples must be filtered through 0.45 uM prior to extraction. only extracting water.
Please save each filter in 8oz jar, label and refrigerate.

Read and understood, initial and date: Prep Lab: JTH 2/3/22 2/7/22 HRMS Lab:

Reporting Instructions

M1613B

Full Report

Sample 001 is MS/MSD summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood initial and date: HRMS Lab:

PM Initials: akornegay Date: 28-Jan-2022

SGS

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

Batch# 18887 | Split: ~~1/2~~ ~~1/4~~ | Extract Initial/Date: JDH 2/3/22 | Clean-up Initial/Date: BB3 2/7/22 | Transfer Init/Date: TAB 2/8/22

Lab Sample ID	Extraction Position Solvent: DCM	Extraction Weight/Volume g	mL	(Td)	ASECS#	pH	Cl⁻	Observations
B6238_18887_001	3	1025.0				7	0	clear, pale yellow
B6238_18887_001MS	4	997.1				7	0	clear, pale yellow
B6238_18887_001MSD	5	1011.9				7	0	clear, pale yellow
B6238_18887_002	6	999.9				7	0	strong smell, off-white
B6238_18887_003	7	994.9		TB 2/10/22		7	0	clear, off-white
B6238_18887_004	8	1031.4				6	0	cloudy, yellow tint
B6238_18887_005	9	1021.9				6	0	cloudy, yellow tint
MBI_18887	1	1000.0				5	0	Distilled H2O
OPR1_18887	2	1000.0				5	0	Distilled H2O

BB3 2/8/22

Supply IDs

Toluene	N/A
MeCHL	STL 14-17
Florisil	SLS-77
Hexane	STL 4-22
Silica	SLS-69
S Nitrate	N/A
Base Silica	N/A
HydroMatrix	N/A
Tetradecane	SLS-738
H_2SO_4	N/A
A Silica	SLS-82
Sodium Sulfate	SLS-800

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	TB 2/10/22
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start:	TB 2/10/22
	Stop:	
HEX	Start:	
	Stop:	
DCM	Start:	1545
	Stop:	930

SGS

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

Aqueous

Batch# 18887

Inter-Department Communication Sheet

Filtered samples B6238-001, B6238-004, B6214-005 filtered through 1 micron and 0.45 micron filter due to PM content and consistency.

Filtered sample B6238-001MS, B6238-001MSD, B6238-002, B6238-003 with 0.45 micron. JRH 2/9/22

2/10/22
TD

SGS

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

Batch # 18887

Lab Sample ID	Spiker Initials/Date: JRH 2/1/22	JRH 2/1/22	JRH 2/1/22	2/7/22	2/7/22		
	D/F A-A	D/F A-B	D/F ES	D/F CS	D/F JS		
	Amount: 20 µL	Amount: 20 µL	Amount: 20 µL	Amount: 20 µL	Amount: 20 µL	Amount:	Amount:
	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials
B6238_18887_001	–	–	KE	KE	KE		
B6238_18887_001MS	KE	KE	KE	KE	KE		
B6238_18887_001MSD	KE	KE	KE	KE	KE		
B6238_18887_002	–	–	KE	KE	KE		
B6238_18887_003	–	–	KE	KE	KE		
B6238_18887_004	–	–	KE	KE	KE		
B6238_18887_005	–	–	KE	KE	KE		
MB1_18887	–	–	KE	KE	KE		
OPR1_18887	KE	KE	KE	KE	KE		

2/8/22

Standard Information

Pipette ID							
Spike ID	D/F A-A	D/F A-B	D/F ES	D/F CS	D/F JS		
SIL#	26-2-8	25-187-2	26-2-9	25-338-1	25-384-1		
Concentration	10 pg/µL	10 pg/µL	100 pg/µL	100 pg/µL	100 pg/µL		
Expiration Date	2/4/28	6/22/22	2/2028	11/16/22	1/28/23		

2/8/22

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

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
0	220209C01	3	CS3_220209_DF_CA	1.00	25-347-1	DTF	139-031	09-Feb-2022	05:01:12
1	220209C02	17	OPR1_18887_DF	1.00	0_18887_OPR001	DTF	724-032	09-Feb-2022	05:47:32
2	220209C03	2	SBS_220209_DF_CA	1.00	30-61-1	DTF	856-152	09-Feb-2022	06:33:51
4	220209C04	16	MB1_18887_DF_TLX	1.00	Method Blank	DTF	545-493	09-Feb-2022	07:20:11
5	220209C05	18	B6238_18887_DF_001	1.03	11215131-012022-GW-BN-PZ-SC	DTF	226-844	09-Feb-2022	08:06:31
6	220209C06	19	B6238_18887_DF_001MS	1.00	11215131-012022-GW-BN-PZ-SC-MS	DTF	817-064	09-Feb-2022	08:52:50
7	220209C07	20	B6238_18887_DF_001MSD	1.01	11215131-012022-GW-BN-PZ-SC-MSD	DTF	547-243	09-Feb-2022	09:39:11
8	220209C08	21	B6238_18887_DF_002	1.00	11215131-012022-GW-BN-PZ-SW	DTF	245-743	09-Feb-2022	10:25:30
9	220209C09	22	B6238_18887_DF_003	0.99	11215131-012022-GW-BN-PZ-NC	DTF	216-586	09-Feb-2022	11:11:51
10	220209C10	23	B6238_18887_DF_004	1.03	11215131-012022-GW-BN-PZ-NE	DTF	151-857	09-Feb-2022	11:58:12
11	220209C11	24	B6238_18887_DF_005	1.02	11215131-012022-GW-BN-DUP-1	DTF	170-231	09-Feb-2022	12:44:33

Lab ID: MB1_18887_DF_TLX **Acq'd:** 09 Feb 2022 07:20 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6238_18887 **UTP:** 09-Feb-2022 14:37:51 DTF **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 545-493-LLD

Datafile: 220209C04 **Report:** 09 Feb 2022 17:27 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	3234.944	1.96
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	1763.2106	1.16
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	3003.266	1.83
123678-HxCDD	NotFnd		1.0035	-		-	-	-	1.15	-	3003.266	1.81
123789-HxCDD	NotFnd		1.0112	-		-	-	-	1.05	-	3003.266	2.06
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	3348.81	2.47
OCDD	NotFnd		1.0004	-		-	-	-	1.13	-	8472.777	12.2
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	2405.456	1.06
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2549.477	1.11
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2549.477	1.09
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	1933.2085	0.944
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	1933.2085	0.875
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	1933.2085	0.844
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	1933.2085	1.04
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2342.869	1.09
1234789-HpCDF	NotFnd		1.0002	-		-	-	-	1.31	-	2342.869	1.56
OCDF	NotFnd		1.0003	-		-	-	-	1.07	-	2610.949	3.14

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46	1.0236	1.0238	+0.3	2.92E+07	0.84	Y	1.05	86.4
ES 12378-PeCDD	33.80	1.2144	1.2160	+3.2	2.73E+07	1.59	Y	0.88	96
ES 123478-HxCDD	37.72	0.9920	0.9918	-0.5	2.34E+07	1.27	Y	0.97	93.9
ES 123678-HxCDD	37.84	0.9951	0.9949	-0.5	2.51E+07	1.29	Y	0.94	104
ES 123789-HxCDD	38.13	1.0027	1.0027	0	2.45E+07	1.31	Y	1.09	87.2
ES 1234678-HpCDD	40.80	1.0724	1.0728	+1.0	2.08E+07	1.01	Y	0.91	88.6
ES OCDD	43.48	1.1428	1.1433	+1.3	2.61E+07	0.90	Y	0.62	81.4
ES 2378-TCDF	27.61	1.0516	1.0520	+0.7	4.69E+07	0.79	Y	1.06	89.4
ES 12378-PeCDF	32.36	1.2312	1.2330	+3.5	4.18E+07	1.58	Y	0.91	92.6
ES 23478-PeCDF	33.47	1.2733	1.2754	+4.2	4.03E+07	1.58	Y	0.88	92.2
ES 123478-HxCDF	36.71	0.9655	0.9653	-0.4	2.82E+07	0.53	Y	1.20	91.5
ES 123678-HxCDF	36.85	0.9692	0.9690	-0.4	3.48E+07	0.54	Y	1.35	100
ES 234678-HxCDF	37.53	0.9871	0.9870	-0.2	3.38E+07	0.55	Y	1.24	106
ES 123789-HxCDF	38.49	1.0121	1.0120	-0.2	2.62E+07	0.53	Y	1.16	88.2
ES 1234678-HpCDF	39.87	1.0479	1.0484	+1.2	2.34E+07	0.45	Y	0.97	93.9
ES 1234789-HpCDF	41.26	1.0845	1.0849	+1.0	1.87E+07	0.47	Y	0.85	85.4
ES OCDF	43.65	1.1477	1.1478	+0.3	3.47E+07	0.92	Y	0.81	83.7

Lab ID: MB1_18887_DF_TLX | **Acq'd:** 09 Feb 2022 07:20 DTF | **Wt/Vol:** 1.00 L | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6238_18887 | **UTP:** 09-Feb-2022 14:37:51 DTF | **J-level:** 5 pg/L | **Split:** 1 | **Checkcode:** 545-493-LLD

Datafile: 220209C04 | **Report:** 09 Feb 2022 17:27 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.80		-	-	-	3.23E+07	0.80	Y	-	-
JS 1234-TCDF	26.24		-	-	-	4.96E+07	0.78	Y	-	-
JS 123467-HxCDD	38.03		-	-	-	1.28E+07	1.22	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0244	1.0246	+0.3	1.45E+07	n/a	-	1.20	93.1
CS 12347-PeCDD	33.30		1.1964	1.1979	+3.0	2.67E+07	1.55	Y	0.75	110
CS 12346-PeCDF	31.83		1.2112	1.2129	+3.2	4.33E+07	1.57	Y	0.85	103
CS 123469-HxCDF	37.17		0.9775	0.9774	-0.2	3.38E+07	0.52	Y	1.12	118
CS 1234689-HpCDF	40.27		1.0584	1.0589	+1.2	2.51E+07	0.44	Y	0.89	110
SS 37Cl-2378-TCDD	28.48		1.0244	1.0246	+0.3	1.45E+07	n/a	-	1.15	108
SS 12347-PeCDD	33.30		1.1964	1.1979	+3.0	2.67E+07	1.55	Y	0.86	114
SS 12346-PeCDF	31.83		1.2112	1.2129	+3.2	4.33E+07	1.57	Y	0.94	111
SS 123469-HxCDF	37.17		0.9775	0.9774	-0.2	3.38E+07	0.52	Y	0.83	117
SS 1234689-HpCDF	40.27		1.0584	1.0589	+1.2	2.51E+07	0.44	Y	0.92	117

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

Lab ID: MB1_18887_DF_TLX **Acq'd:** 09 Feb 2022 07:20 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6238_18887 **UTP:** 09-Feb-2022 14:37:51 DTF **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 545-493-LLD

Datafile: 220209C04 **Report:** 09 Feb 2022 17:27 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8737						1.18		3234.944	1.96
1379-TCDD	NotFnd		0.8860						1.18		3234.944	1.96
1369-TCDD	NotFnd		0.9009						1.18		3234.944	1.96
1469-TCDD	NotFnd		0.9281						1.18		3234.944	1.96
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3234.944	1.96
1378-TCDD	NotFnd		0.9432						1.18		3234.944	1.96
1268-TCDD	NotFnd		0.9500						1.18		3234.944	1.96
1478-TCDD	NotFnd		0.9586						1.18		3234.944	1.96
1279-TCDD	NotFnd		0.9645						1.18		3234.944	1.96
1234/1269-TCDD	NotFnd		0.9770						1.18		3234.944	1.96
1236-TCDD	NotFnd		0.9817						1.18		3234.944	1.96
1237/1238-TCDD	NotFnd		0.9905						1.18		3234.944	1.96
1239-TCDD	NotFnd		0.9952						1.18		3234.944	1.96
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**3234.944**	**1.96**
1278-TCDD	NotFnd		1.0121						1.18		3234.944	1.96
1267-TCDD	NotFnd		1.0167						1.18		3234.944	1.96
1289-TCDD	NotFnd		1.0345						1.18		3234.944	1.96
12479/12468-PeCDD	NotFnd		0.9267						1.04		1763.2106	1.16
12469-PeCDD	NotFnd		0.9425						1.04		1763.2106	1.16
12368-PeCDD	NotFnd		0.9588						1.04		1763.2106	1.16
12478-PeCDD	NotFnd		0.9643						1.04		1763.2106	1.16
12379-PeCDD	NotFnd		0.9673						1.04		1763.2106	1.16
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		1763.2106	1.16
12346/12347-PeCDD	NotFnd		0.9858						1.04		1763.2106	1.16
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**1763.2106**	**1.16**
12367-PeCDD	NotFnd		1.0033						1.04		1763.2106	1.16
12389-PeCDD	NotFnd		1.0134						1.04		1763.2106	1.16
124679/124689-HxCDD	NotFnd		0.9542						1.10		3003.266	1.9
123468-HxCDD	NotFnd		0.9715						1.10		3003.266	1.9
123679/123689-HxCDD	NotFnd		0.9793						1.10		3003.266	1.9
123469-HxCDD	NotFnd		0.9828						1.10		3003.266	1.9
123478-HxCDD	NotFnd		**1.0004**						1.09		**3003.266**	**1.83**
123678-HxCDD	NotFnd		**1.0035**						1.15		**3003.266**	**1.81**
123467-HxCDD	NotFnd		1.0085						1.10		3003.266	1.9
123789-HxCDD	NotFnd		**1.0112**						1.05		**3003.266**	**2.06**

Lab ID: MB1_18887_DF_TLX **Acq'd:** 09 Feb 2022 07:20 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6238_18887 **UTP:** 09-Feb-2022 14:37:51 DTF **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 545-493-LLD

Datafile: 220209C04 **Report:** 09 Feb 2022 17:27 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9837						1.06		3348.81	2.47
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**3348.81**	**2.47**
OCDD	**NotFnd**		**1.0004**						**1.13**		**8472.777**	**12.2**
OCDD-a	NotFnd		1.0003						0.07		3551.356	79.8
1368-TCDF	NotFnd		0.8251						1.08		2405.456	1.06
1468-TCDF	NotFnd		0.8458						1.08		2405.456	1.06
2468-TCDF	NotFnd		0.8686						1.08		2405.456	1.06
1346/1246-TCDF	NotFnd		0.8814						1.08		2405.456	1.06
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2405.456	1.06
1348-TCDF	NotFnd		0.8962						1.08		2405.456	1.06
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2405.456	1.06
1268-TCDF	NotFnd		0.9145						1.08		2405.456	1.06
1467-TCDF	NotFnd		0.9193						1.08		2405.456	1.06
1478-TCDF	NotFnd		0.9254						1.08		2405.456	1.06
1369/1237-TCDF	NotFnd		0.9387						1.08		2405.456	1.06
2467-TCDF	NotFnd		0.9433						1.08		2405.456	1.06
2368-TCDF	NotFnd		0.9489						1.08		2405.456	1.06
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2405.456	1.06
1278-TCDF	NotFnd		0.9683						1.08		2405.456	1.06
1349-TCDF	NotFnd		0.9722						1.08		2405.456	1.06
1267-TCDF	NotFnd		0.9783						1.08		2405.456	1.06
2346/1249-TCDF	NotFnd		0.9850						1.08		2405.456	1.06
2347/1279-TCDF	NotFnd		0.9926						1.08		2405.456	1.06
2348-TCDF	NotFnd		0.9967						1.08		2405.456	1.06
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**2405.456**	**1.06**
2367/3467-TCDF	NotFnd		1.0137						1.08		2405.456	1.06
1269-TCDF	NotFnd		1.0223						1.08		2405.456	1.06
1239-TCDF	NotFnd		1.0321						1.08		2405.456	1.06
1289-TCDF	NotFnd		1.0722						1.08		2405.456	1.06
13468/12468-PeCDF	NotFnd		0.9139						1.02		2469.009	1.07
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		2549.477	1.1
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		2549.477	1.1
14678-PeCDF	NotFnd		0.9692						1.02		2549.477	1.1
13479-PeCDF	NotFnd		0.9723						1.02		2549.477	1.1
13469/12479-PeCDF	NotFnd		0.9797						1.02		2549.477	1.1
12346-PeCDF	NotFnd		0.9840						1.02		2549.477	1.1

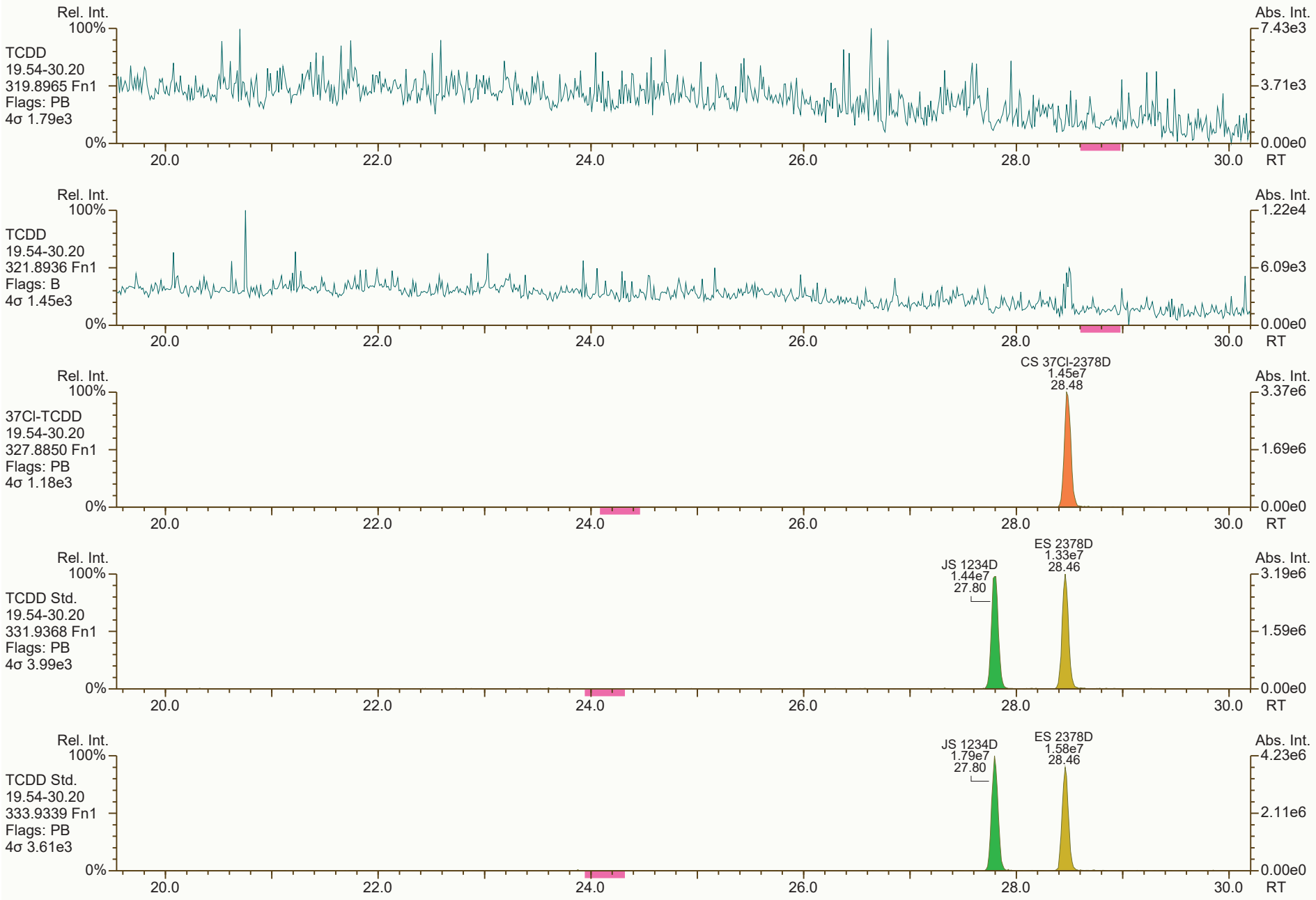
Lab ID: MB1_18887_DF_TLX | **Acq'd:** 09 Feb 2022 07:20 DTF | **Wt/Vol:** 1.00 L | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6238_18887 | **UTP:** 09-Feb-2022 14:37:51 DTF | **J-level:** 5 pg/L | **Split:** 1 | **Checkcode:** 545-493-LLD

Datafile: 220209C04 | **Report:** 09 Feb 2022 17:27 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		2549.477	1.1
12347-PeCDF	NotFnd		0.9894						1.02		2549.477	1.1
12348-PeCDF	NotFnd		0.9940						1.02		2549.477	1.1
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2549.477**	**1.11**
12678/12367-PeCDF	NotFnd		1.0089						1.02		2549.477	1.1
12379-PeCDF	NotFnd		1.0142						1.02		2549.477	1.1
12679-PeCDF	NotFnd		0.9929						1.02		2549.477	1.1
23467/12369-PeCDF	NotFnd		0.9967						1.02		2549.477	1.1
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2549.477**	**1.09**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2549.477	1.1
12349-PeCDF	NotFnd		1.0100						1.02		2549.477	1.1
12389-PeCDF	NotFnd		1.0324						1.02		2549.477	1.1
123468-HxCDF	NotFnd		0.9627						1.19		1933.2085	0.917
124678/134678-HxCDF	NotFnd		0.9682						1.19		1933.2085	0.917
134679-HxCDF	NotFnd		0.9744						1.19		1933.2085	0.917
124679-HxCDF	NotFnd		0.9798						1.19		1933.2085	0.917
124689-HxCDF	NotFnd		0.9858						1.19		1933.2085	0.917
123467-HxCDF	NotFnd		0.9972						1.19		1933.2085	0.917
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**1933.2085**	**0.944**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**1933.2085**	**0.875**
123479-HxCDF	NotFnd		1.0049						1.19		1933.2085	0.917
123469-HxCDF	NotFnd		1.0090						1.19		1933.2085	0.917
123679-HxCDF	NotFnd		0.9942						1.19		1933.2085	0.917
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**1933.2085**	**0.844**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		1933.2085	0.917
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**1933.2085**	**1.04**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		1933.2085	0.917
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2342.869**	**1.09**
1234679-HpCDF	NotFnd		1.0068						1.34		2342.869	1.3
1234689-HpCDF	NotFnd		1.0103						1.34		2342.869	1.3
1234789-HpCDF	**NotFnd**		**1.0002**						**1.31**		**2342.869**	**1.56**
OCDF	**NotFnd**		**1.0003**						**1.07**		**2610.949**	**3.14**
OCDF-a	NotFnd		1.0002						0.07		3223.431	62.5


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.56e6
2.28e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.16e6
2.08e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.55e7
7.76e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
9.31e6
4.65e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
8.06e6
4.03e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
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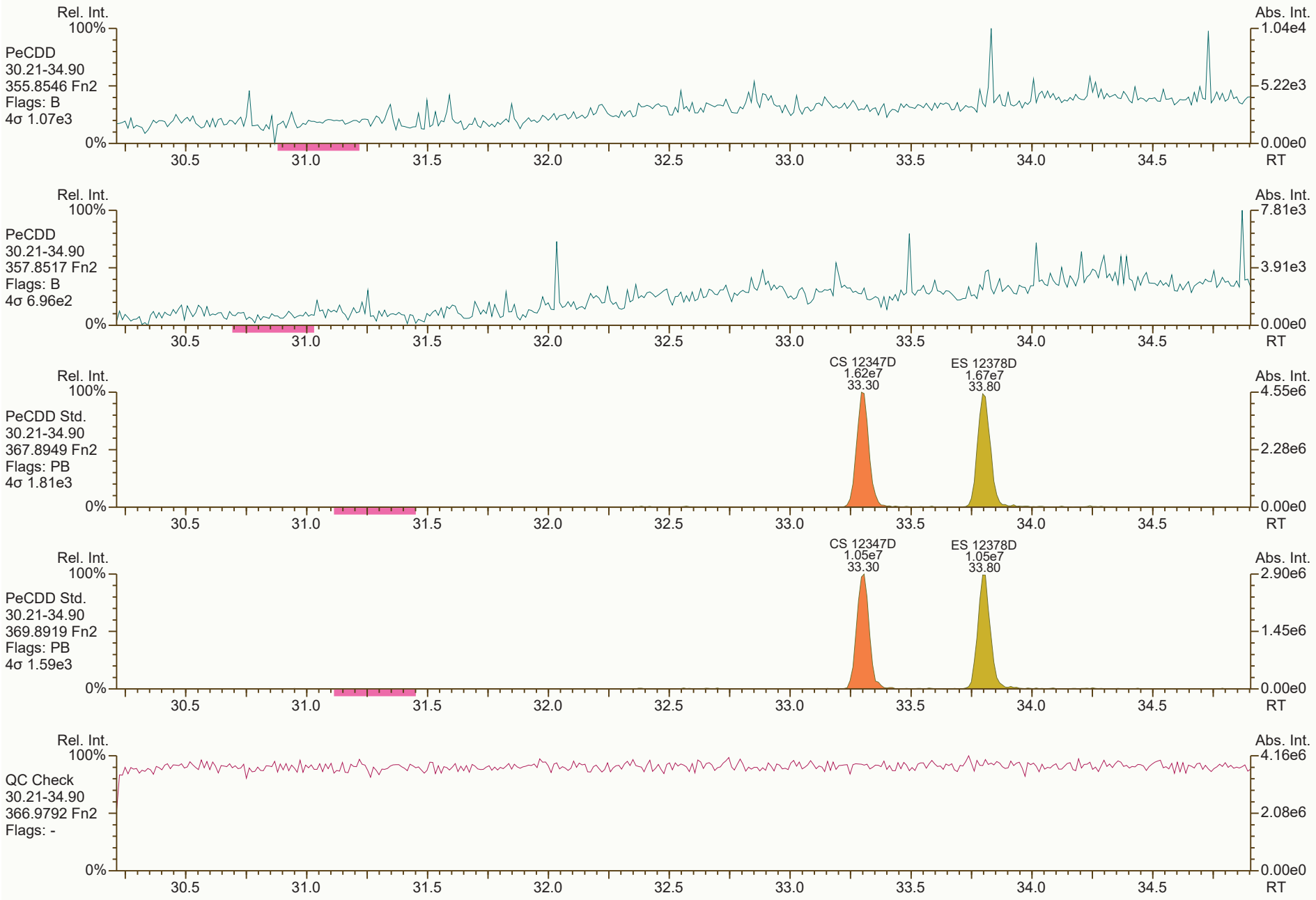
0%
Abs. Int.
7.43e3
3.71e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.45e3
0%
Abs. Int.
1.22e4
6.09e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.18e3
0%
CS 37Cl-2378D
1.45e7
28.48
Abs. Int.
3.37e6
1.69e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 3.99e3
0%
JS 1234D
1.44e7
27.80
ES 2378D
1.33e7
28.46
Abs. Int.
3.19e6
1.59e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.61e3
0%
JS 1234D
1.79e7
27.80
ES 2378D
1.58e7
28.46
Abs. Int.
4.23e6
2.11e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: B
4σ 1.07e3
0%
Abs. Int.
1.04e4
5.22e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: B
4σ 6.96e2
0%
Abs. Int.
7.81e3
3.91e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 1.81e3
0%
CS 12347D
1.62e7
33.30
ES 12378D
1.67e7
33.80
Abs. Int.
4.55e6
2.28e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.59e3
0%
CS 12347D
1.05e7
33.30
ES 12378D
1.05e7
33.80
Abs. Int.
2.90e6
1.45e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.16e6
2.08e6
0.00e0
30.5
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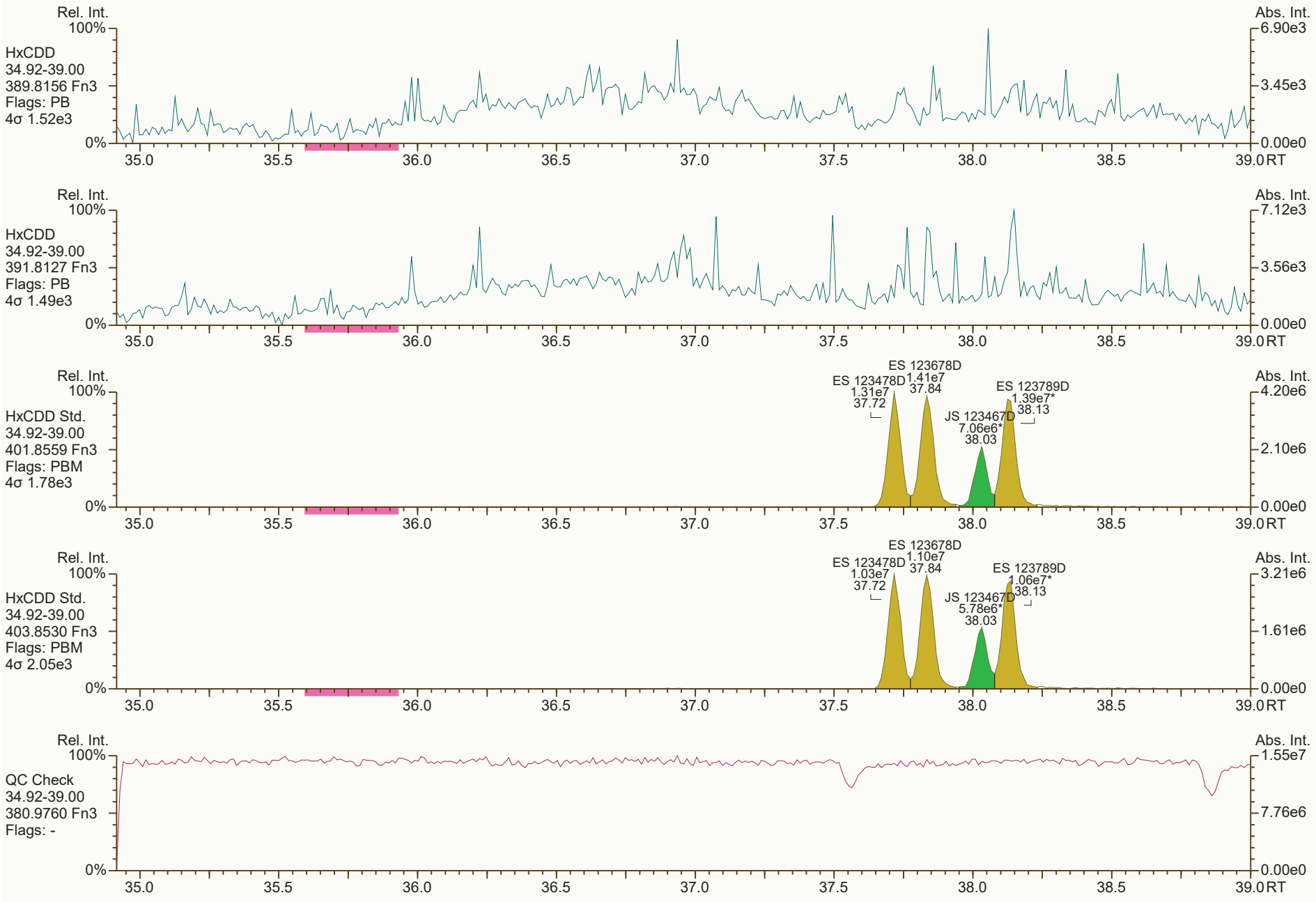
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 1.52e3
0%
Abs. Int.
6.90e3
3.45e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 1.49e3
0%
Abs. Int.
7.12e3
3.56e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 1.78e3
0%
ES 123678D
1.41e7
37.84
ES 123478D
1.31e7
37.72
ES 123789D
1.39e7*
38.13
JS 123467D
7.06e6*
38.03
Abs. Int.
4.20e6
2.10e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 2.05e3
0%
ES 123678D
1.10e7
37.84
ES 123478D
1.03e7
37.72
ES 123789D
1.06e7*
38.13
JS 123467D
5.78e6*
38.03
Abs. Int.
3.21e6
1.61e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.55e7
7.76e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.43e4
7.13e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: B
4σ 1.68e3
0%
Abs. Int.
8.24e3
4.12e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
1.04e7
40.80
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.79e3
0%
Abs. Int.
3.22e6
1.61e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
1.03e7
40.80
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.80e3
0%
Abs. Int.
3.28e6
1.64e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
9.31e6
4.65e6
0.00e0
39.5
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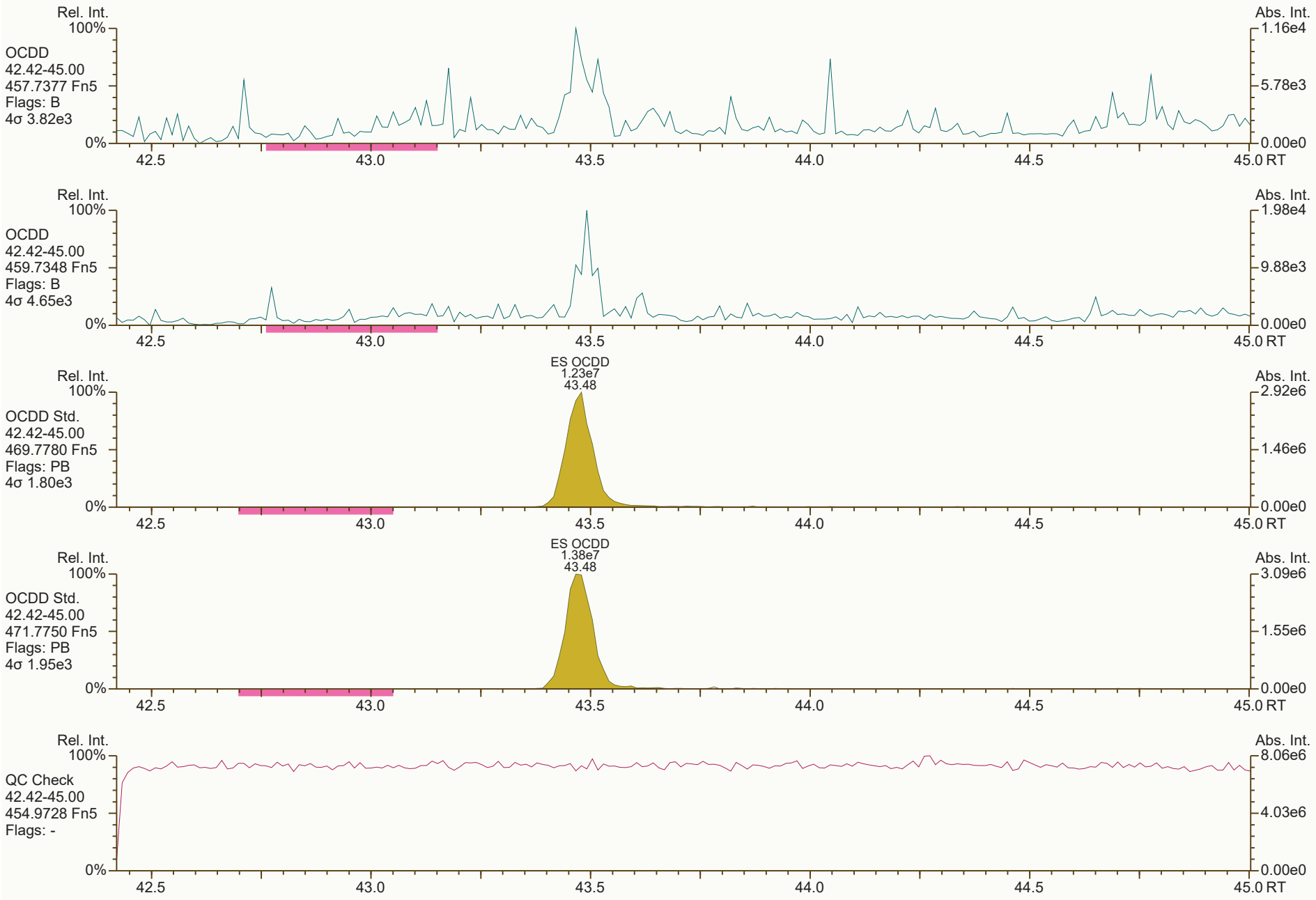
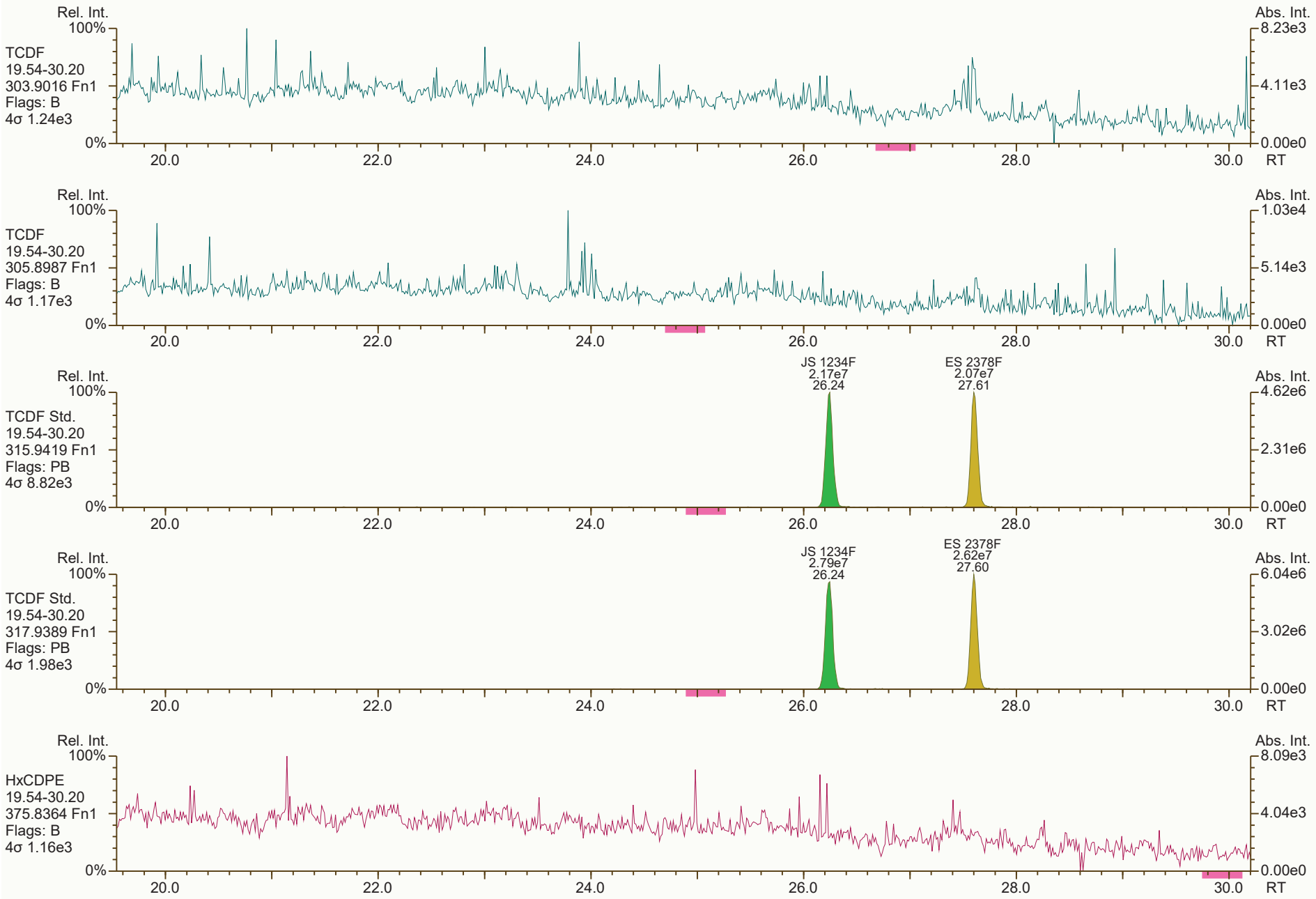
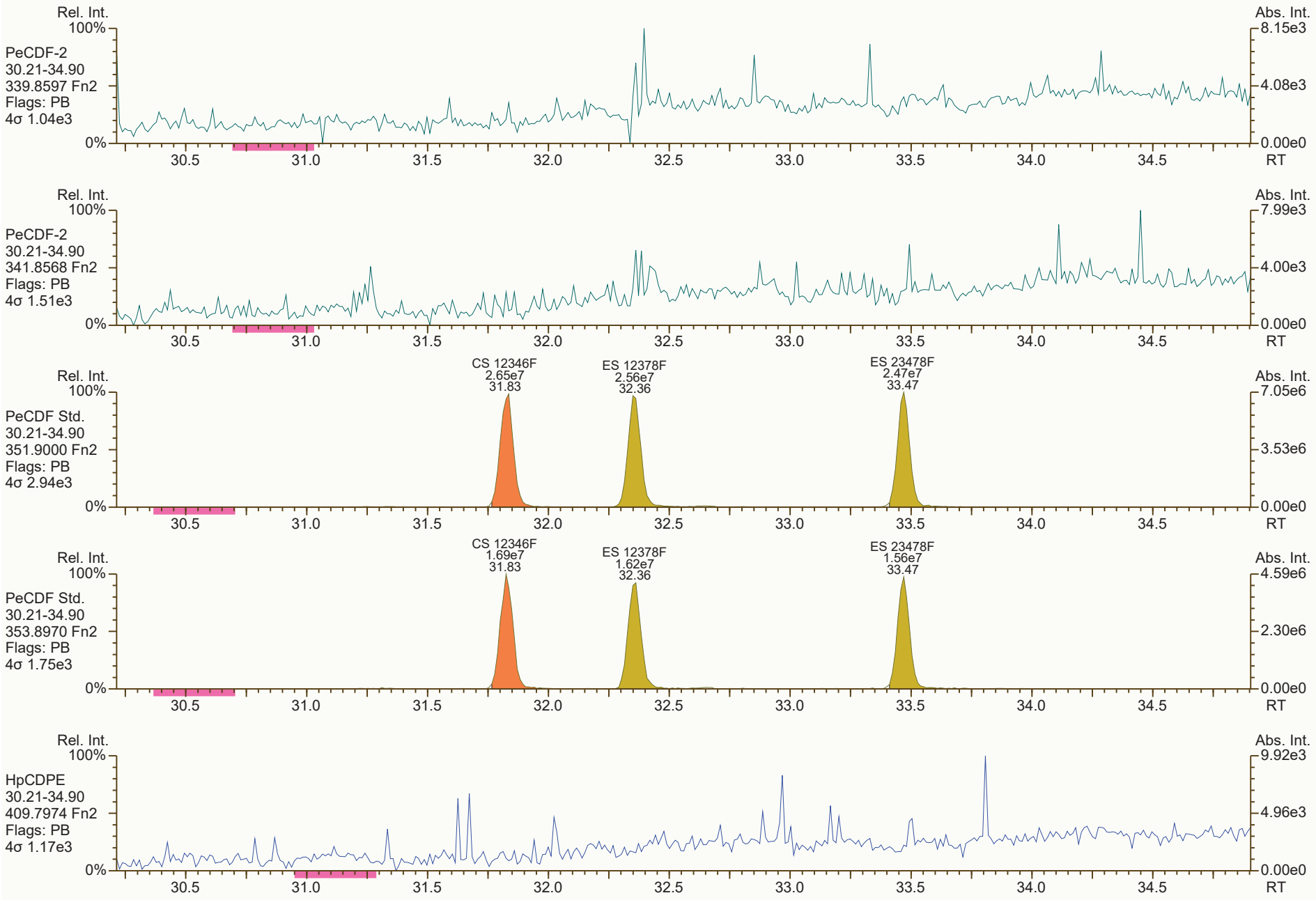
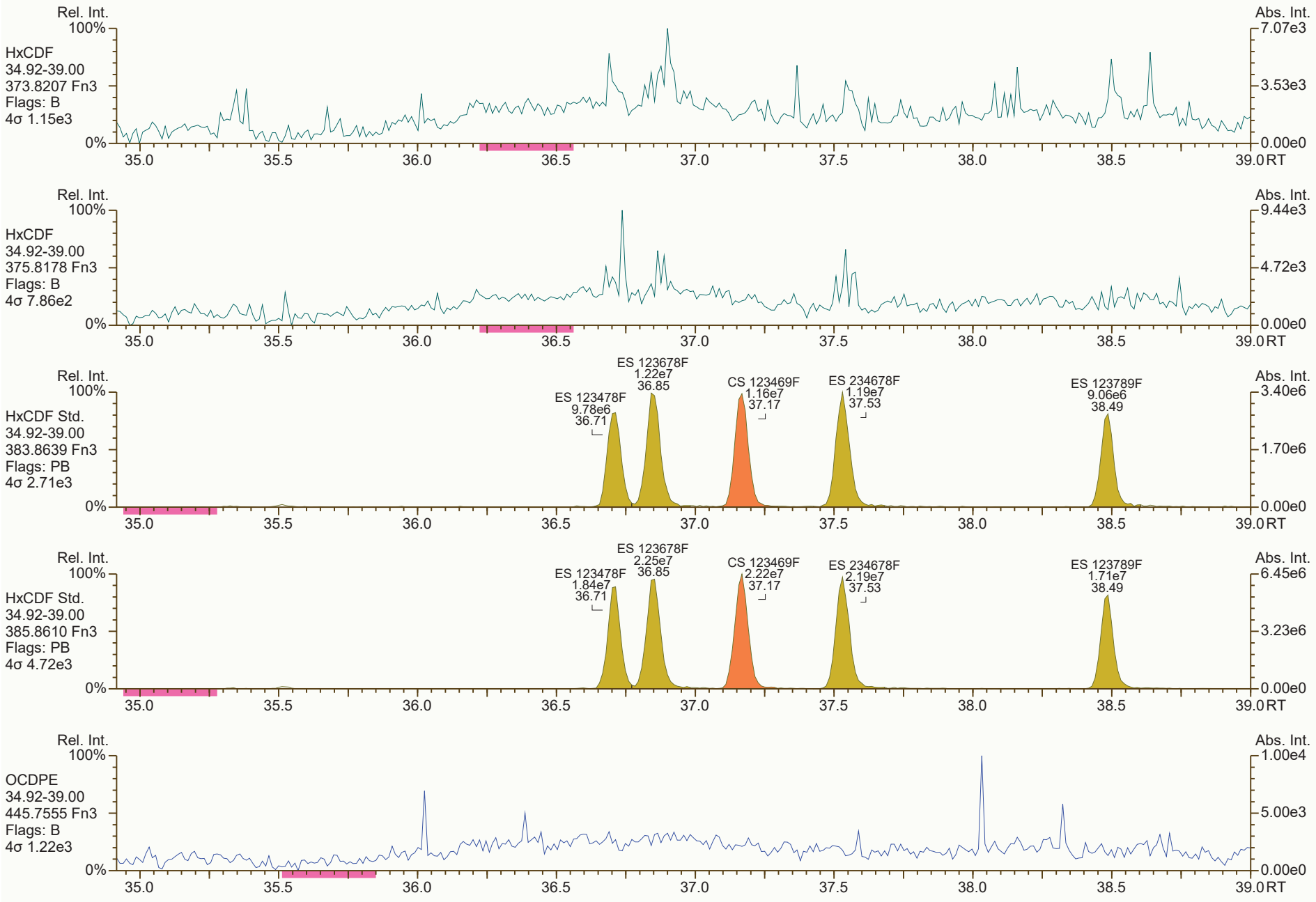
41.0
41.5
42.0
RT

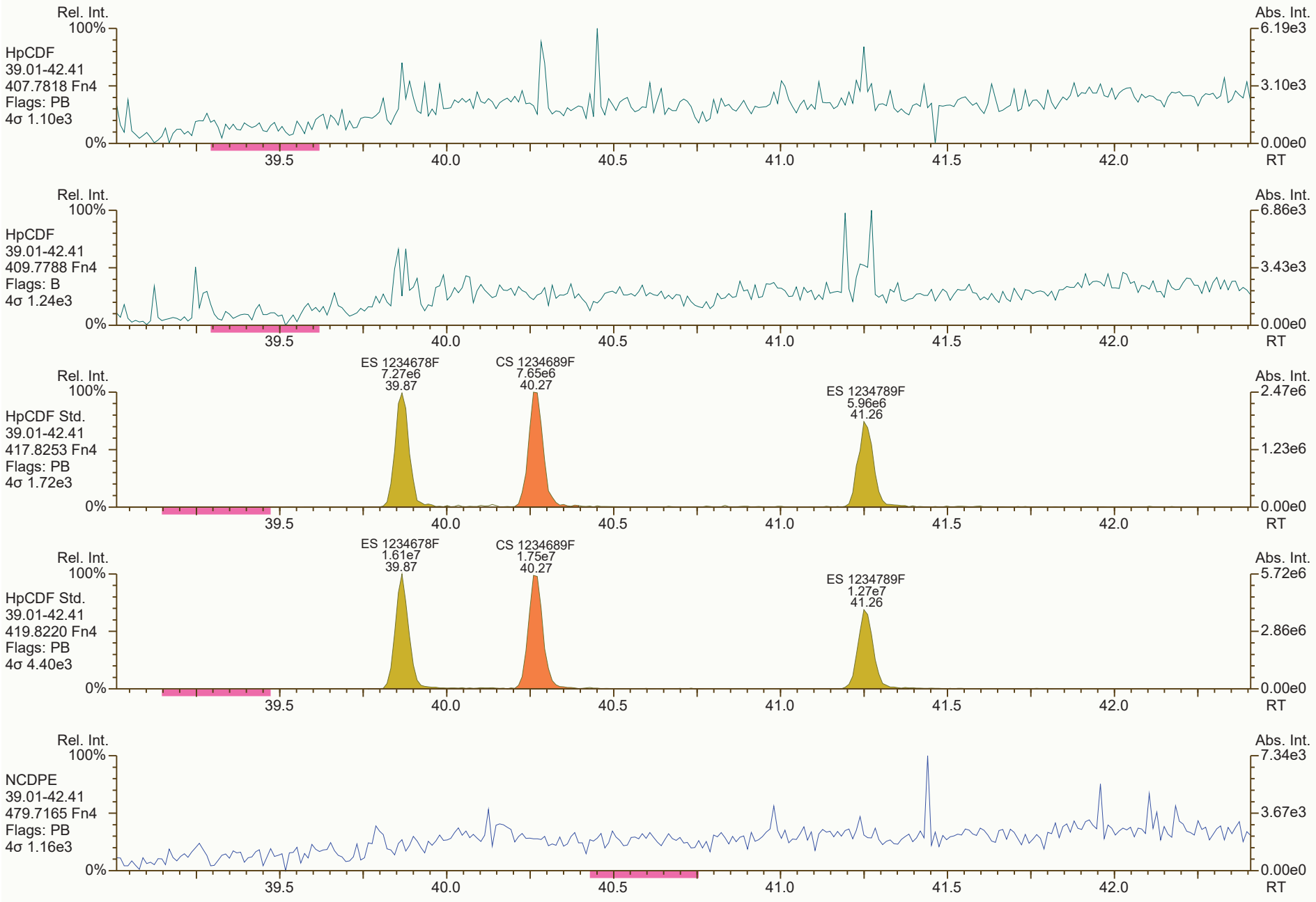

Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: B
4σ 3.82e3
0%
Abs. Int.
1.16e4
5.78e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: B
4σ 4.65e3
0%
Abs. Int.
1.98e4
9.88e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.23e7
43.48
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 1.80e3
0%
Abs. Int.
2.92e6
1.46e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.38e7
43.48
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 1.95e3
0%
Abs. Int.
3.09e6
1.55e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
8.06e6
4.03e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: B
4σ 1.24e3
0%
Abs. Int.
8.23e3
4.11e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 1.17e3
0%
Abs. Int.
1.03e4
5.14e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 8.82e3
0%
JS 1234F
2.17e7
26.24
ES 2378F
2.07e7
27.61
Abs. Int.
4.62e6
2.31e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 1.98e3
0%
JS 1234F
2.79e7
26.24
ES 2378F
2.62e7
27.60
Abs. Int.
6.04e6
3.02e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.16e3
0%
Abs. Int.
8.09e3
4.04e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.11e4
5.57e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.18e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.51e4
7.55e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.29e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.56e6
2.28e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PB
4σ 1.04e3
0%
Abs. Int.
8.15e3
4.08e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PB
4σ 1.51e3
0%
Abs. Int.
7.99e3
4.00e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 2.94e3
0%
CS 12346F
2.65e7
31.83
ES 12378F
2.56e7
32.36
ES 23478F
2.47e7
33.47
Abs. Int.
7.05e6
3.53e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 1.75e3
0%
CS 12346F
1.69e7
31.83
ES 12378F
1.62e7
32.36
ES 23478F
1.56e7
33.47
Abs. Int.
4.59e6
2.30e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: PB
4σ 1.17e3
0%
Abs. Int.
9.92e3
4.96e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: B
4σ 1.15e3
0%
Abs. Int.
7.07e3
3.53e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: B
4σ 7.86e2
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 2.71e3
0%
ES 123678F
1.22e7
36.85
ES 123478F
9.78e6
36.71
CS 123469F
1.16e7
37.17
ES 234678F
1.19e7
37.53
ES 123789F
9.06e6
38.49
Abs. Int.
3.40e6
1.70e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 4.72e3
0%
ES 123678F
2.25e7
36.85
ES 123478F
1.84e7
36.71
CS 123469F
2.22e7
37.17
ES 234678F
2.19e7
37.53
ES 123789F
1.71e7
38.49
Abs. Int.
6.45e6
3.23e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.22e3
0%
Abs. Int.
1.00e4
5.00e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.10e3
0%
Abs. Int.
6.19e3
3.10e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: B
4σ 1.24e3
0%
Abs. Int.
6.86e3
3.43e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 1.72e3
0%
ES 1234678F
7.27e6
39.87
CS 1234689F
7.65e6
40.27
ES 1234789F
5.96e6
41.26
Abs. Int.
2.47e6
1.23e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 4.40e3
0%
ES 1234678F
1.61e7
39.87
CS 1234689F
1.75e7
40.27
ES 1234789F
1.27e7
41.26
Abs. Int.
5.72e6
2.86e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.16e3
0%
Abs. Int.
7.34e3
3.67e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: B
4σ 1.09e3
0%
Abs. Int.
5.48e3
2.74e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: B
4σ 1.52e3
0%
Abs. Int.
6.67e3
3.34e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.66e7
43.65
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.99e3
0%
Abs. Int.
3.72e6
1.86e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.81e7
43.65
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 1.99e3
0%
Abs. Int.
4.23e6
2.11e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.51e3
0%
Abs. Int.
5.39e3
2.70e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6238_18887_DF_001 **Acq'd:** 09 Feb 2022 08:06 DTF **Wt/Vol:** 1.03 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-SC **UTP:** 09-Feb-2022 14:37:52 DTF **J-level:** 4.85 pg/L **Split:** 1 **Checkcode:** 226-844-BXS

Datafile: 220209C05 **Report:** 09 Feb 2022 17:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	3521.107	2.09
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	2524.394	1.65
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2532.759	1.78
123678-HxCDD	NotFnd		1.0035	-		-	-	-	1.15	-	2532.759	1.48
123789-HxCDD	NotFnd		1.0112	-		-	-	-	1.05	-	2532.759	1.68
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	4999.867	3.69
OCDD	NotFnd		1.0004	-		-	-	-	1.13	-	7074.353	10.9
2378-TCDF	27.61	J EMPC	1.0008	1.0003	-0.8	7.77E+04	0.93	N	1.08	3.12	5573.294	2.4
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3288.223	1.43
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3288.223	1.43
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2559.251	1.14
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2559.251	1.18
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2559.251	1.17
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2559.251	1.36
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2108.067	0.95
1234789-HpCDF	NotFnd		1.0002	-		-	-	-	1.31	-	2108.067	1.41
OCDF	NotFnd		1.0003	-		-	-	-	1.07	-	2286.679	2.77

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46	1.0236	1.0239	+0.5	2.76E+07	0.79	Y	1.05	85.9
ES 12378-PeCDD	33.80	1.2144	1.2161	+3.4	2.55E+07	1.58	Y	0.88	94.2
ES 123478-HxCDD	37.71	0.9920	0.9918	-0.5	2.24E+07	1.23	Y	0.97	94.4
ES 123678-HxCDD	37.83	0.9951	0.9949	-0.5	2.41E+07	1.24	Y	0.94	105
ES 123789-HxCDD	38.12	1.0027	1.0026	-0.2	2.36E+07	1.28	Y	1.09	88.5
ES 1234678-HpCDD	40.79	1.0724	1.0728	+1.0	1.91E+07	1.06	Y	0.91	85.8
ES OCDD	43.47	1.1428	1.1432	+1.0	2.44E+07	0.92	Y	0.62	80.3
ES 2378-TCDF	27.60	1.0516	1.0520	+0.7	4.49E+07	0.78	Y	1.06	86.3
ES 12378-PeCDF	32.35	1.2312	1.2331	+3.7	3.99E+07	1.57	Y	0.91	89.4
ES 23478-PeCDF	33.46	1.2733	1.2755	+4.4	3.94E+07	1.56	Y	0.88	91
ES 123478-HxCDF	36.70	0.9655	0.9653	-0.4	2.78E+07	0.55	Y	1.20	95.2
ES 123678-HxCDF	36.84	0.9692	0.9690	-0.4	3.23E+07	0.54	Y	1.35	97.9
ES 234678-HxCDF	37.53	0.9871	0.9870	-0.2	3.12E+07	0.54	Y	1.24	103
ES 123789-HxCDF	38.48	1.0121	1.0121	0	2.59E+07	0.53	Y	1.16	91.9
ES 1234678-HpCDF	39.86	1.0479	1.0483	+1.0	2.30E+07	0.44	Y	0.97	97.5
ES 1234789-HpCDF	41.25	1.0845	1.0850	+1.2	1.78E+07	0.46	Y	0.85	85.5
ES OCDF	43.65	1.1477	1.1480	+0.8	3.28E+07	0.91	Y	0.81	83.3

Lab ID: B6238_18887_DF_001 **Acq'd:** 09 Feb 2022 08:06 DTF **Wt/Vol:** 1.03 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-SC **UTP:** 09-Feb-2022 14:37:52 DTF **J-level:** 4.85 pg/L **Split:** 1 **Checkcode:** 226-844-BXS

Datafile: 220209C05 **Report:** 09 Feb 2022 17:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.79		-	-	-	3.08E+07	0.81	Y	-	-
JS 1234-TCDF	26.23		-	-	-	4.91E+07	0.79	Y	-	-
JS 123467-HxCDD	38.02		-	-	-	1.22E+07	1.32	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0244	1.0246	+0.3	1.38E+07	n/a	-	1.20	93
CS 12347-PeCDD	33.29		1.1964	1.1980	+3.2	2.61E+07	1.62	Y	0.75	113
CS 12346-PeCDF	31.82		1.2112	1.2129	+3.2	4.23E+07	1.56	Y	0.85	101
CS 123469-HxCDF	37.16		0.9775	0.9774	-0.2	3.23E+07	0.53	Y	1.12	119
CS 1234689-HpCDF	40.26		1.0584	1.0589	+1.2	2.40E+07	0.45	Y	0.89	111
SS 37Cl-2378-TCDD	28.48		1.0244	1.0246	+0.3	1.38E+07	n/a	-	1.15	108
SS 12347-PeCDD	33.29		1.1964	1.1980	+3.2	2.61E+07	1.62	Y	0.86	119
SS 12346-PeCDF	31.82		1.2112	1.2129	+3.2	4.23E+07	1.56	Y	0.94	113
SS 123469-HxCDF	37.16		0.9775	0.9774	-0.2	3.23E+07	0.53	Y	0.83	121
SS 1234689-HpCDF	40.26		1.0584	1.0589	+1.2	2.40E+07	0.45	Y	0.92	114

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	3.98	3.98
Total Tetra-Octa Dioxins	3.98	3.98
Total TCDF	0	3.12
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	3.12
Total Tetra-Octa Dioxins & Furans	3.98	7.09

Lab ID: B6238_18887_DF_001 **Acq'd: 09 Feb 2022 08:06 DTF** **Wt/Vol: 1.03 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012022-GW-BN-PZ-SC **UTP: 09-Feb-2022 14:37:52 DTF** **J-level: 4.85 pg/L** **Split: 1** **Checkcode: 226-844-BXS**

Datafile: 220209C05 **Report: 09 Feb 2022 17:28 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8737						1.18		3521.107	2.09
1379-TCDD	NotFnd		0.8860						1.18		3521.107	2.09
1369-TCDD	NotFnd		0.9009						1.18		3521.107	2.09
1469-TCDD	NotFnd		0.9281						1.18		3521.107	2.09
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3521.107	2.09
1378-TCDD	NotFnd		0.9432						1.18		3521.107	2.09
1268-TCDD	NotFnd		0.9500						1.18		3521.107	2.09
1478-TCDD	NotFnd		0.9586						1.18		3521.107	2.09
1279-TCDD	NotFnd		0.9645						1.18		3521.107	2.09
1234/1269-TCDD	NotFnd		0.9770						1.18		3521.107	2.09
1236-TCDD	NotFnd		0.9817						1.18		3521.107	2.09
1237/1238-TCDD	NotFnd		0.9905						1.18		3521.107	2.09
1239-TCDD	NotFnd		0.9952						1.18		3521.107	2.09
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**3521.107**	**2.09**
1278-TCDD	NotFnd		1.0121						1.18		3521.107	2.09
1267-TCDD	NotFnd		1.0167						1.18		3521.107	2.09
1289-TCDD	NotFnd		1.0345						1.18		3521.107	2.09
12479/12468-PeCDD	NotFnd		0.9267						1.04		2524.394	1.65
12469-PeCDD	NotFnd		0.9425						1.04		2524.394	1.65
12368-PeCDD	NotFnd		0.9588						1.04		2524.394	1.65
12478-PeCDD	NotFnd		0.9643						1.04		2524.394	1.65
12379-PeCDD	NotFnd		0.9673						1.04		2524.394	1.65
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		2524.394	1.65
12346/12347-PeCDD	NotFnd		0.9858						1.04		2524.394	1.65
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**2524.394**	**1.65**
12367-PeCDD	NotFnd		1.0033						1.04		2524.394	1.65
12389-PeCDD	NotFnd		1.0134						1.04		2524.394	1.65
124679/124689-HxCDD	NotFnd		0.9542						1.10		2532.759	1.64
123468-HxCDD	NotFnd		0.9715						1.10		2532.759	1.64
123679/123689-HxCDD	NotFnd		0.9793						1.10		2532.759	1.64
123469-HxCDD	NotFnd		0.9828						1.10		2532.759	1.64
123478-HxCDD	NotFnd		**1.0004**						1.09		**2532.759**	**1.78**
123678-HxCDD	NotFnd		**1.0035**						1.15		**2532.759**	**1.48**
123467-HxCDD	NotFnd		1.0085						1.10		2532.759	1.64
123789-HxCDD	NotFnd		**1.0112**						1.05		**2532.759**	**1.68**

Lab ID: B6238_18887_DF_001 **Acq'd:** 09 Feb 2022 08:06 DTF **Wt/Vol:** 1.03 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-SC **UTP:** 09-Feb-2022 14:37:52 DTF **J-level:** 4.85 pg/L **Split:** 1 **Checkcode:** 226-844-BXS

Datafile: 220209C05 **Report:** 09 Feb 2022 17:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.12	J	0.9837	0.9837	0	4.15E+04	1.19	Y	1.06	3.98	4999.867	3.69
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**4999.867**	**3.69**
OCDD	**NotFnd**		**1.0004**						**1.13**		**7074.353**	**10.9**
OCDD-a	NotFnd		1.0003						0.07		3224.804	78
1368-TCDF	NotFnd		0.8251						1.08		5573.294	2.4
1468-TCDF	NotFnd		0.8458						1.08		5573.294	2.4
2468-TCDF	NotFnd		0.8686						1.08		5573.294	2.4
1346/1246-TCDF	NotFnd		0.8814						1.08		5573.294	2.4
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		5573.294	2.4
1348-TCDF	NotFnd		0.8962						1.08		5573.294	2.4
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		5573.294	2.4
1268-TCDF	NotFnd		0.9145						1.08		5573.294	2.4
1467-TCDF	NotFnd		0.9193						1.08		5573.294	2.4
1478-TCDF	NotFnd		0.9254						1.08		5573.294	2.4
1369/1237-TCDF	NotFnd		0.9387						1.08		5573.294	2.4
2467-TCDF	NotFnd		0.9433						1.08		5573.294	2.4
2368-TCDF	NotFnd		0.9489						1.08		5573.294	2.4
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		5573.294	2.4
1278-TCDF	NotFnd		0.9683						1.08		5573.294	2.4
1349-TCDF	NotFnd		0.9722						1.08		5573.294	2.4
1267-TCDF	NotFnd		0.9783						1.08		5573.294	2.4
2346/1249-TCDF	NotFnd		0.9850						1.08		5573.294	2.4
2347/1279-TCDF	NotFnd		0.9926						1.08		5573.294	2.4
2348-TCDF	NotFnd		0.9967						1.08		5573.294	2.4
2378-TCDF	**27.61**	J EMPC	**1.0008**	**1.0003**	**-0.8**	**7.77E+04**	**0.93**	**N**	**1.08**	**3.12**	**5573.294**	**2.4**
2367/3467-TCDF	NotFnd		1.0137						1.08		5573.294	2.4
1269-TCDF	NotFnd		1.0223						1.08		5573.294	2.4
1239-TCDF	NotFnd		1.0321						1.08		5573.294	2.4
1289-TCDF	NotFnd		1.0722						1.08		5573.294	2.4
13468/12468-PeCDF	NotFnd		0.9139						1.02		2832.798	1.24
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		3288.223	1.43
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		3288.223	1.43
14678-PeCDF	NotFnd		0.9692						1.02		3288.223	1.43
13479-PeCDF	NotFnd		0.9723						1.02		3288.223	1.43
13469/12479-PeCDF	NotFnd		0.9797						1.02		3288.223	1.43
12346-PeCDF	NotFnd		0.9840						1.02		3288.223	1.43

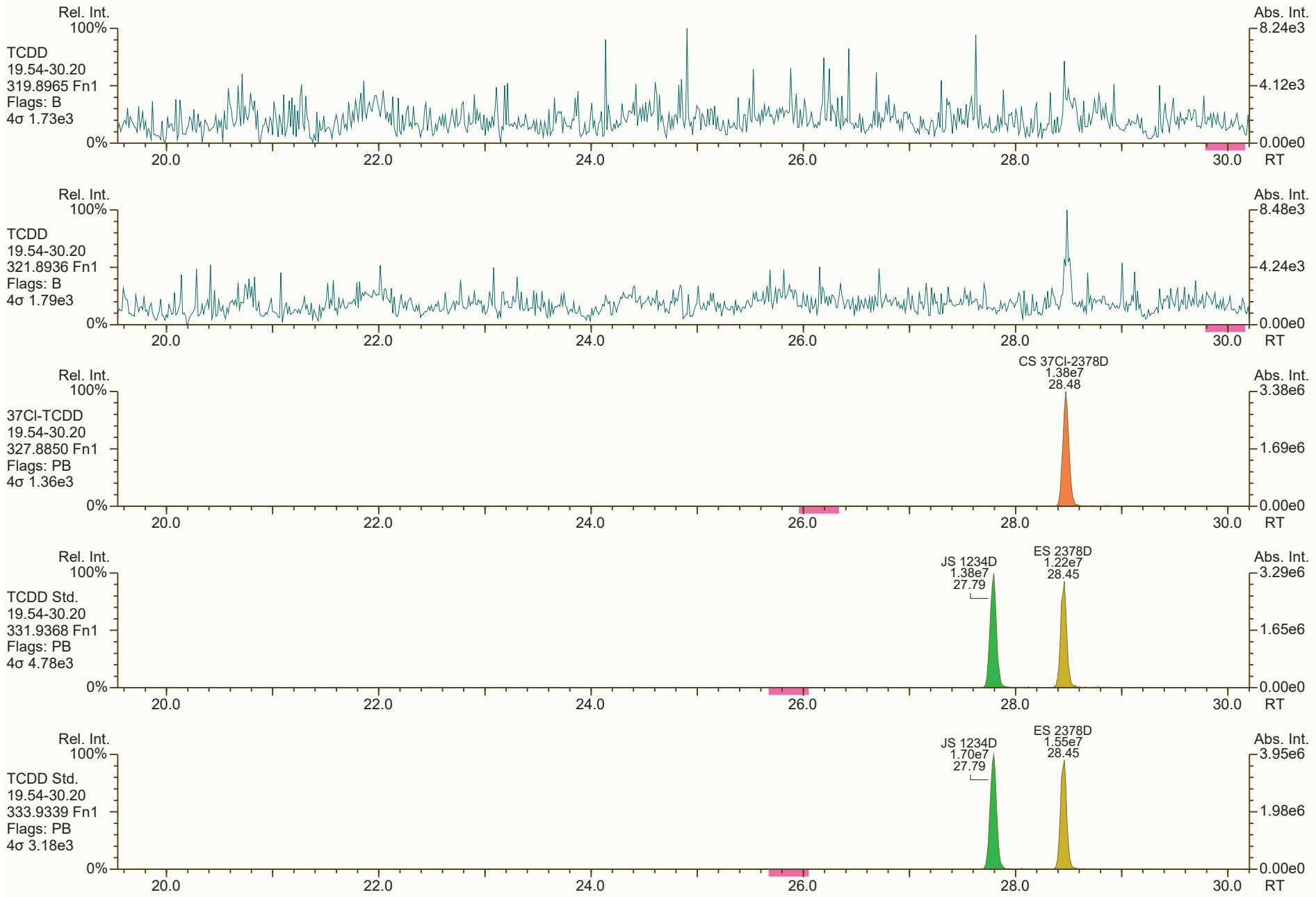
Lab ID: B6238_18887_DF_001 **Acq'd:** 09 Feb 2022 08:06 DTF **Wt/Vol:** 1.03 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-SC **UTP:** 09-Feb-2022 14:37:52 DTF **J-level:** 4.85 pg/L **Split:** 1 **Checkcode:** 226-844-BXS

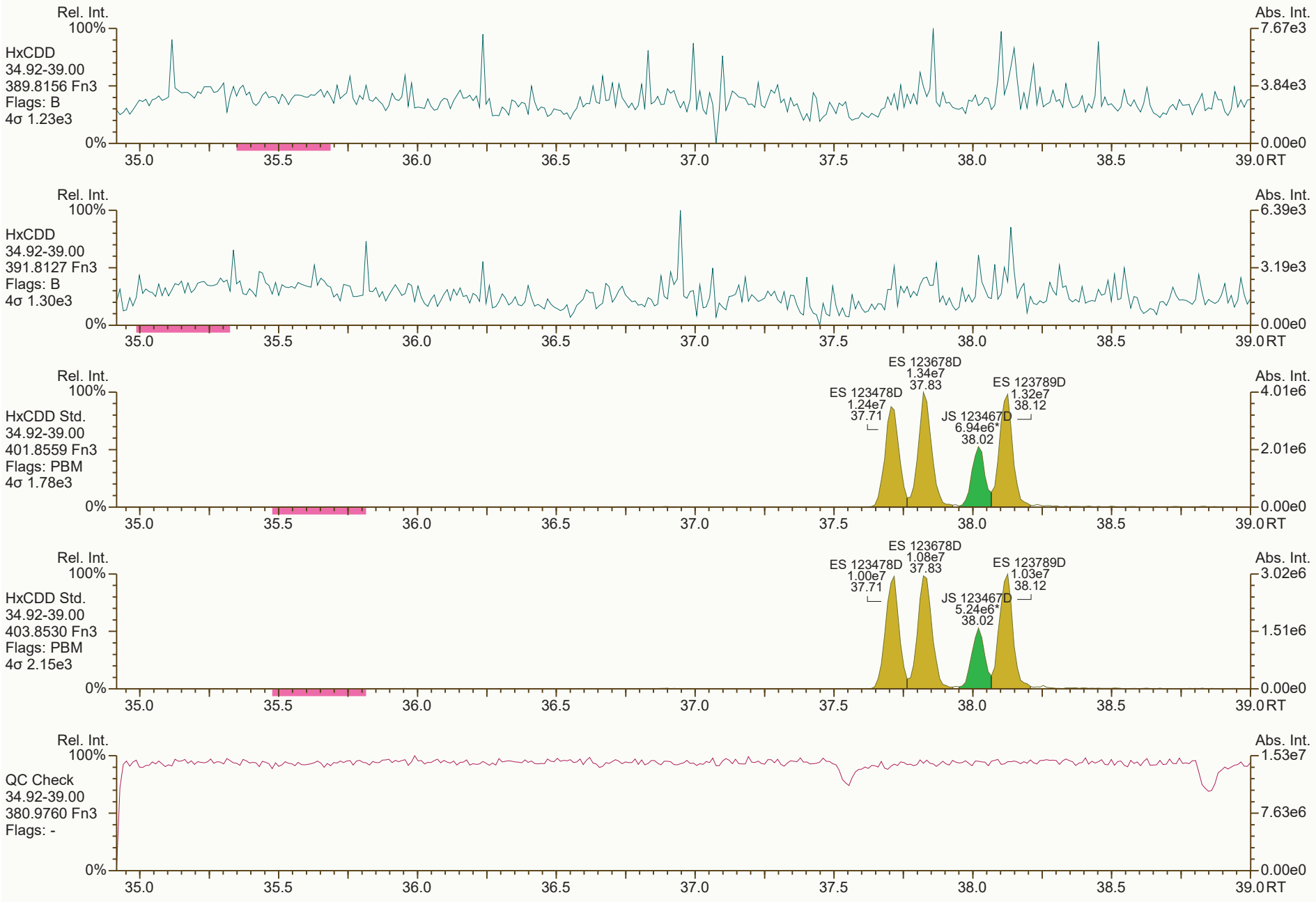
Datafile: 220209C05 **Report:** 09 Feb 2022 17:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

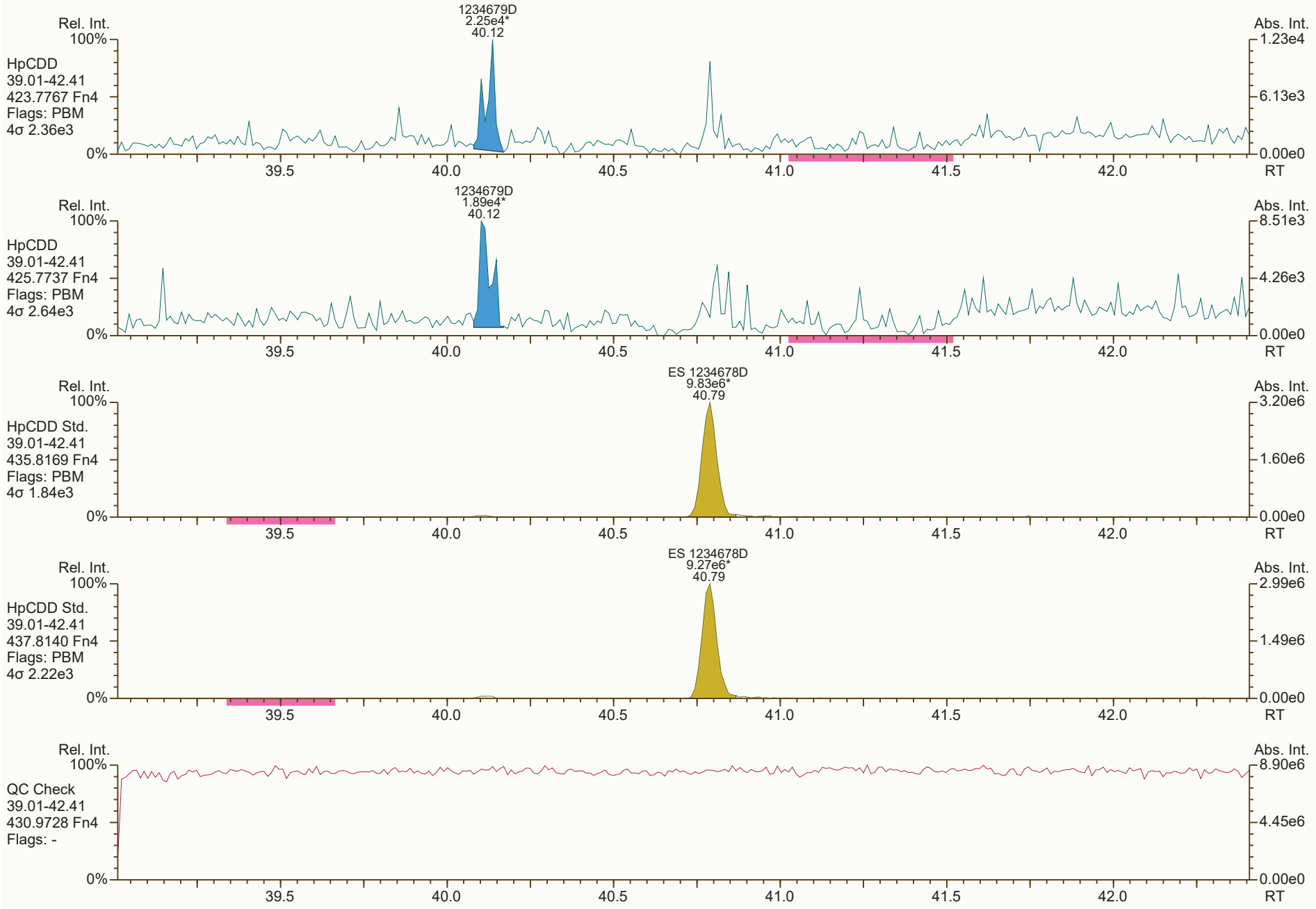
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		3288.223	1.43
12347-PeCDF	NotFnd		0.9894						1.02		3288.223	1.43
12348-PeCDF	NotFnd		0.9940						1.02		3288.223	1.43
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3288.223**	**1.43**
12678/12367-PeCDF	NotFnd		1.0089						1.02		3288.223	1.43
12379-PeCDF	NotFnd		1.0142						1.02		3288.223	1.43
12679-PeCDF	NotFnd		0.9929						1.02		3288.223	1.43
23467/12369-PeCDF	NotFnd		0.9967						1.02		3288.223	1.43
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3288.223**	**1.43**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3288.223	1.43
12349-PeCDF	NotFnd		1.0100						1.02		3288.223	1.43
12389-PeCDF	NotFnd		1.0324						1.02		3288.223	1.43
123468-HxCDF	NotFnd		0.9627						1.19		2559.251	1.2
124678/134678-HxCDF	NotFnd		0.9682						1.19		2559.251	1.2
134679-HxCDF	NotFnd		0.9744						1.19		2559.251	1.2
124679-HxCDF	NotFnd		0.9798						1.19		2559.251	1.2
124689-HxCDF	NotFnd		0.9858						1.19		2559.251	1.2
123467-HxCDF	NotFnd		0.9972						1.19		2559.251	1.2
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2559.251**	**1.14**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2559.251**	**1.18**
123479-HxCDF	NotFnd		1.0049						1.19		2559.251	1.2
123469-HxCDF	NotFnd		1.0090						1.19		2559.251	1.2
123679-HxCDF	NotFnd		0.9942						1.19		2559.251	1.2
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2559.251**	**1.17**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2559.251	1.2
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2559.251**	**1.36**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		2559.251	1.2
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2108.067**	**0.95**
1234679-HpCDF	NotFnd		1.0068						1.34		2108.067	1.15
1234689-HpCDF	NotFnd		1.0103						1.34		2108.067	1.15
1234789-HpCDF	**NotFnd**		**1.0002**						**1.31**		**2108.067**	**1.41**
OCDF	**NotFnd**		**1.0003**						**1.07**		**2286.679**	**2.77**
OCDF-a	NotFnd		1.0002						0.07		3049.059	59.5


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.53e6
2.26e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.06e6
2.03e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.53e7
7.63e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
8.90e6
4.45e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
7.71e6
3.86e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 1.73e3
0%
Abs. Int.
8.24e3
4.12e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.79e3
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.36e3
0%
CS 37Cl-2378D
1.38e7
28.48
Abs. Int.
3.38e6
1.69e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.78e3
0%
JS 1234D
1.38e7
27.79
ES 2378D
1.22e7
28.45
Abs. Int.
3.29e6
1.65e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.18e3
0%
JS 1234D
1.70e7
27.79
ES 2378D
1.55e7
28.45
Abs. Int.
3.95e6
1.98e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.91
355.8546 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
7.29e3
3.64e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PB
4σ 1.02e3
0%
Abs. Int.
6.94e3
3.47e3
0.00e0
RT
CS 12347D
1.61e7
33.29
ES 12378D
1.56e7
33.80
Rel. Int.
100%
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 1.53e3
0%
Abs. Int.
4.43e6
2.22e6
0.00e0
RT
CS 12347D
9.97e6
33.29
ES 12378D
9.88e6
33.80
Rel. Int.
100%
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 1.95e3
0%
Abs. Int.
2.84e6
1.42e6
0.00e0
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.06e6
2.03e6
0.00e0
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: B
4σ 1.23e3
0%
Abs. Int.
7.67e3
3.84e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: B
4σ 1.30e3
0%
Abs. Int.
6.39e3
3.19e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 1.78e3
0%
ES 123678D
1.34e7
37.83
ES 123478D
1.24e7
37.71
ES 123789D
1.32e7
38.12
JS 123467D
6.94e6*
38.02
Abs. Int.
4.01e6
2.01e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 2.15e3
0%
ES 123678D
1.08e7
37.83
ES 123478D
1.00e7
37.71
ES 123789D
1.03e7
38.12
JS 123467D
5.24e6*
38.02
Abs. Int.
3.02e6
1.51e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.53e7
7.63e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


1234679D
2.25e4*
40.12
Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 2.36e3
0%
Abs. Int.
1.23e4
6.13e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
1234679D
1.89e4*
40.12
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 2.64e3
8.51e3
4.26e3
ES 1234678D
9.83e6*
40.79
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 1.84e3
3.20e6
1.60e6
ES 1234678D
9.27e6*
40.79
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 2.22e3
2.99e6
1.49e6
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
8.90e6
4.45e6

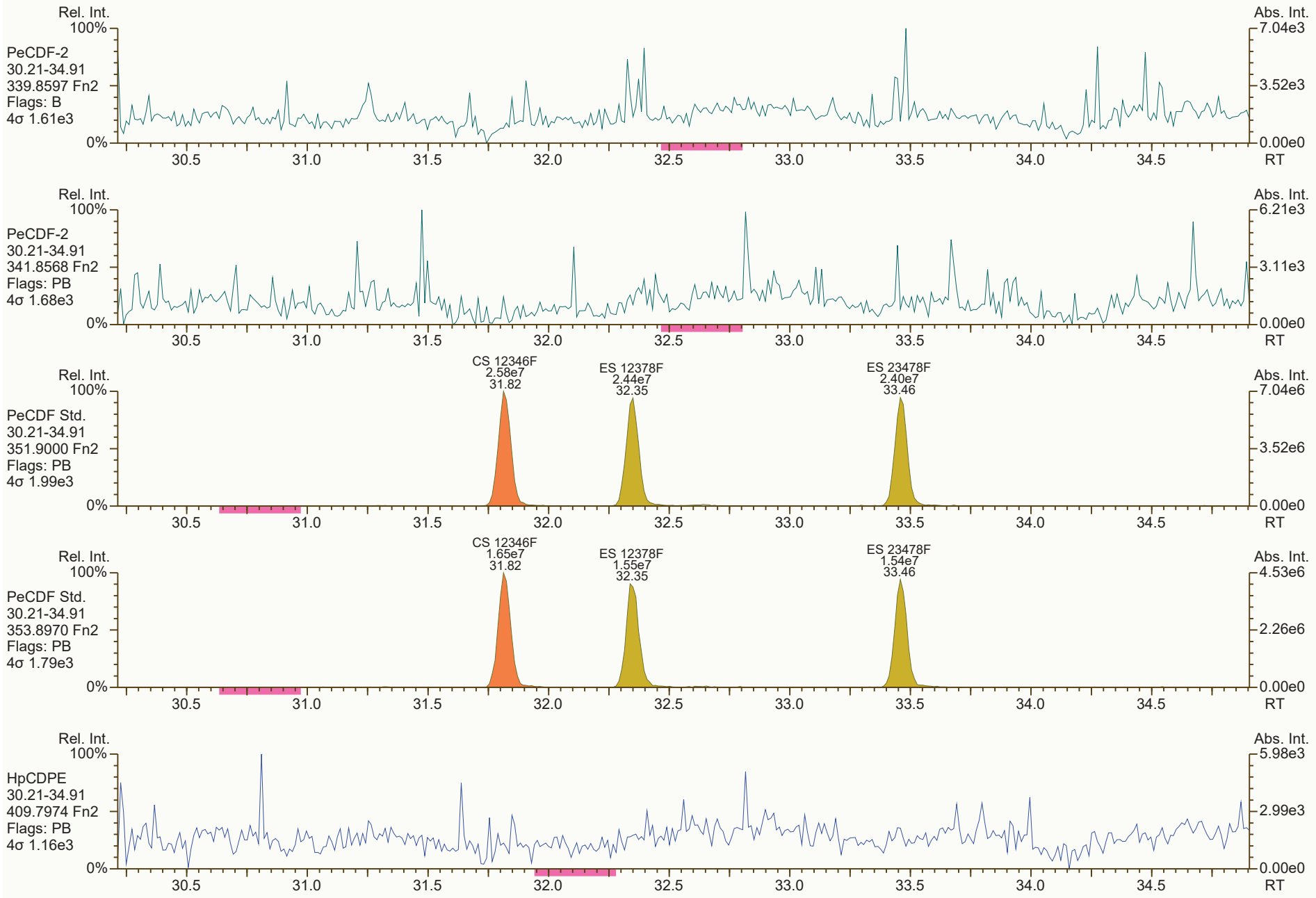

Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: B
4σ 3.43e3
0%
Abs. Int.
1.36e4
6.79e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: B
4σ 3.65e3
0%
Abs. Int.
1.38e4
6.91e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.17e7
43.47
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 1.65e3
0%
Abs. Int.
2.66e6
1.33e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.28e7
43.47
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 1.49e3
0%
Abs. Int.
3.02e6
1.51e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.71e6
3.86e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

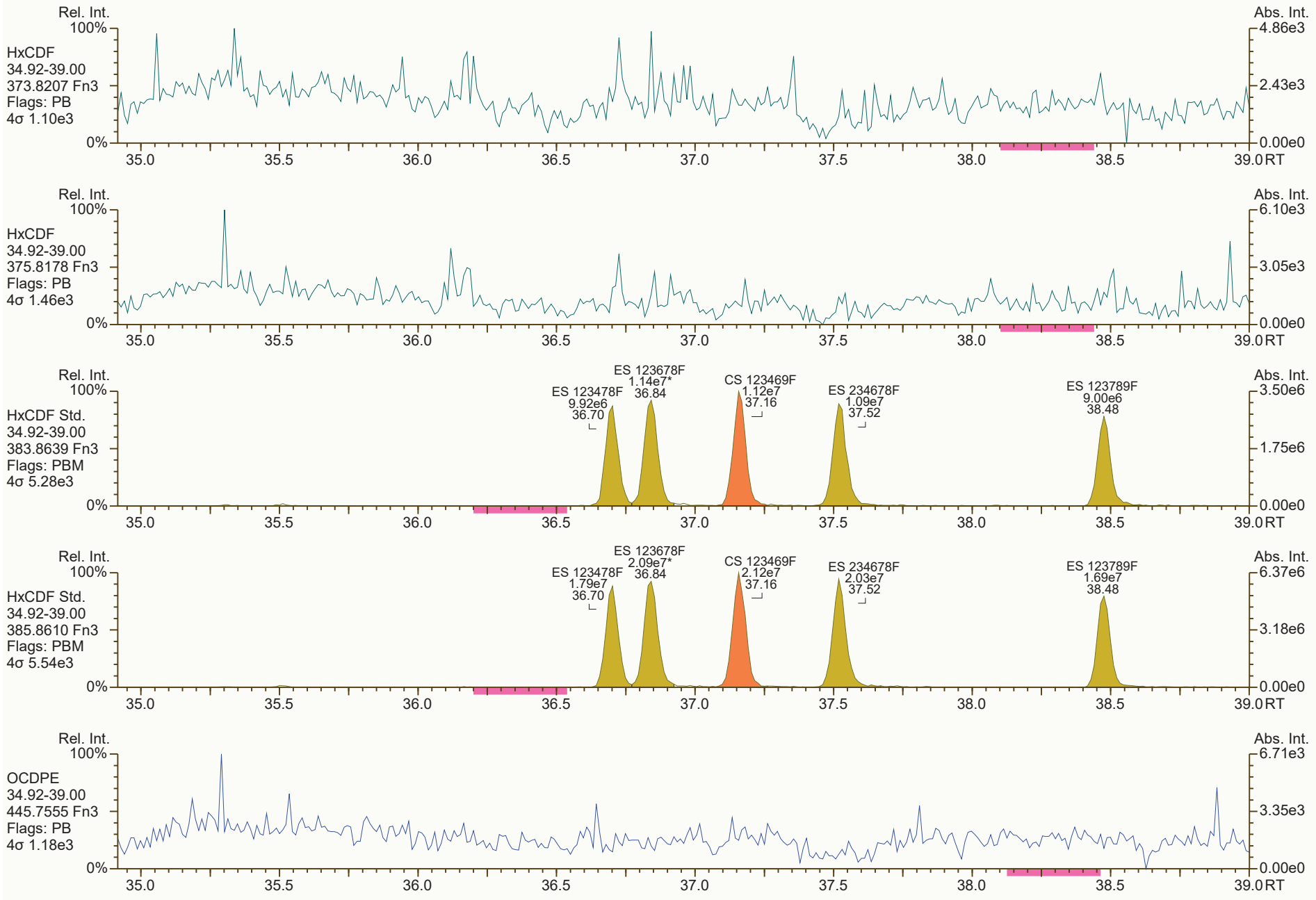
SGS ID: B6238_18887_DF_001 | Sample ID: 11215131-012022-GW-BN-PZ-SC | Acq: 09-Feb-2022 08:06:31
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 18 | User: DTF Datafile: 220209C05

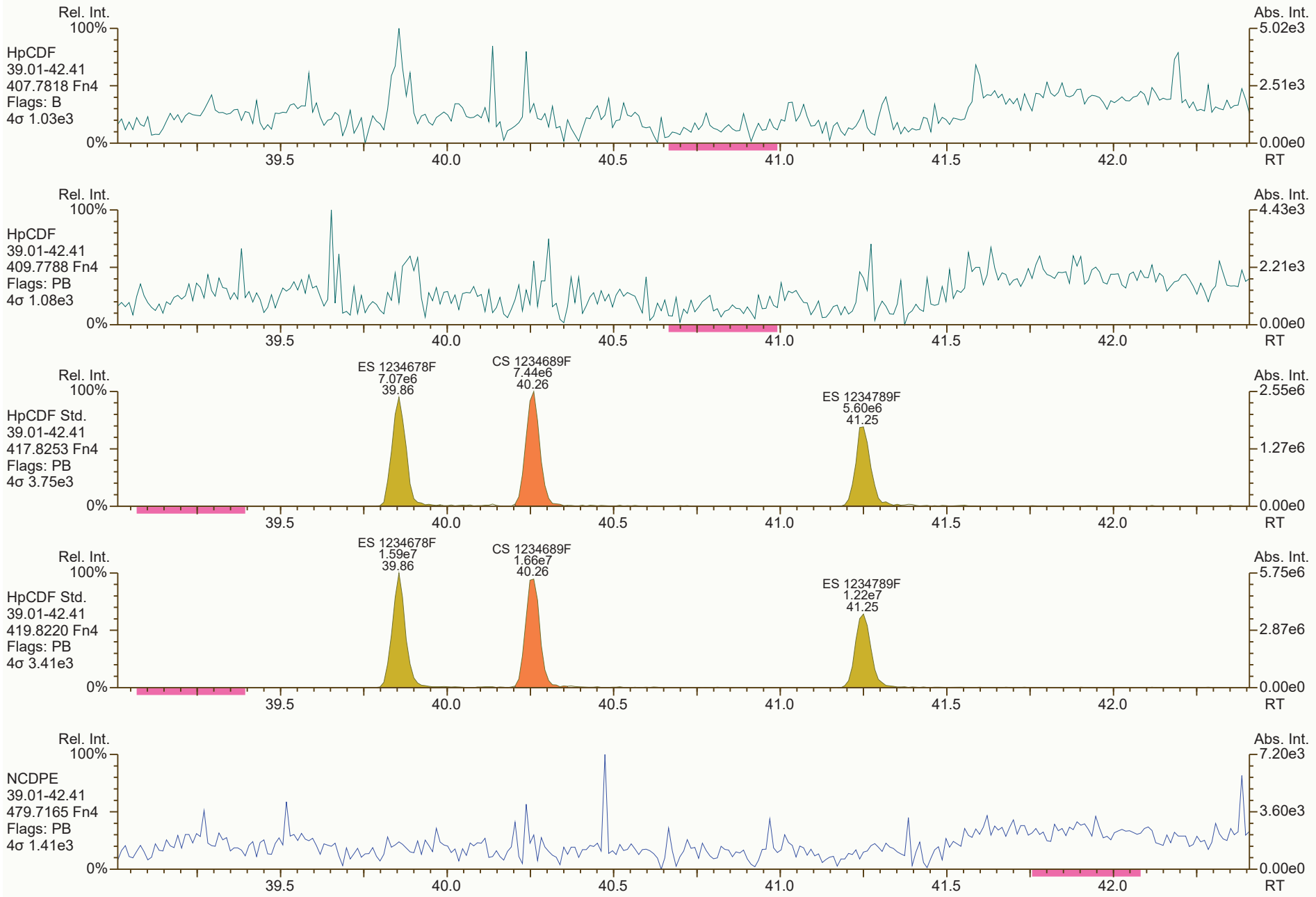


Results: P:\B6200_B6299\B6238\B6238_18887 DF\Resources\B6238_18887_DF_001.utp_res, saved 09-Feb-2022 14:37 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1622, 8719, 0559 scc: 226-844 | Revised: 09-Feb-2022 14:22 (DTF) Printed: 09-Feb-2022 14:49 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
8.22e3
4.11e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.24e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.45e4
7.23e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.60e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.53e6
2.26e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: B
4σ 1.61e3
0%
Abs. Int.
7.04e3
3.52e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PB
4σ 1.68e3
6.21e3
3.11e3
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 1.99e3
CS 12346F
2.58e7
31.82
ES 12378F
2.44e7
32.35
ES 23478F
2.40e7
33.46
7.04e6
3.52e6
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 1.79e3
CS 12346F
1.65e7
31.82
ES 12378F
1.55e7
32.35
ES 23478F
1.54e7
33.46
4.53e6
2.26e6
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: PB
4σ 1.16e3
5.98e3
2.99e3


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PB
4σ 1.10e3
0%
Abs. Int.
4.86e3
2.43e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PB
4σ 1.46e3
0%
Abs. Int.
6.10e3
3.05e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 5.28e3
0%
ES 123478F
9.92e6
36.70
ES 123678F
1.14e7*
36.84
CS 123469F
1.12e7
37.16
ES 234678F
1.09e7
37.52
ES 123789F
9.00e6
38.48
Abs. Int.
3.50e6
1.75e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 5.54e3
0%
ES 123478F
1.79e7
36.70
ES 123678F
2.09e7*
36.84
CS 123469F
2.12e7
37.16
ES 234678F
2.03e7
37.52
ES 123789F
1.69e7
38.48
Abs. Int.
6.37e6
3.18e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.18e3
0%
Abs. Int.
6.71e3
3.35e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: B
4σ 1.03e3
0%
Abs. Int.
5.02e3
2.51e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.08e3
0%
Abs. Int.
4.43e3
2.21e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 3.75e3
0%
ES 1234678F
7.07e6
39.86
CS 1234689F
7.44e6
40.26
ES 1234789F
5.60e6
41.25
Abs. Int.
2.55e6
1.27e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 3.41e3
0%
ES 1234678F
1.59e7
39.86
CS 1234689F
1.66e7
40.26
ES 1234789F
1.22e7
41.25
Abs. Int.
5.75e6
2.87e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.41e3
0%
Abs. Int.
7.20e3
3.60e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.12e3
0%
Abs. Int.
3.36e3
1.68e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.17e3
0%
Abs. Int.
5.95e3
2.97e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.56e7*
43.65
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 1.52e3
0%
Abs. Int.
3.57e6
1.79e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.71e7*
43.65
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 3.16e3
0%
Abs. Int.
4.21e6
2.11e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.13e3
0%
Abs. Int.
2.52e3
1.26e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6238_18887_DF_001MS | **Acq'd:** 09 Feb 2022 08:52 DTF | **Wt/Vol:** 1.00 L | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-SC-MS | **UTP:** 09-Feb-2022 14:37:53 DTF | **J-level:** 5 pg/L | **Split:** 1 | **Checkcode:** 817-064-LSB

Datafile: 220209C06 | **Report:** 09 Feb 2022 17:28 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.48		1.0008	1.0008	0	2.90E+06	0.79	Y	1.18	234	3628.133	3.15
12378-PeCDD	33.83		1.0006	1.0006	0	1.00E+07	1.52	Y	1.04	1,040	3651.313	3.42
123478-HxCDD	37.73		1.0004	1.0004	0	9.92E+06	1.24	Y	1.09	1,090	3024.944	2.79
123678-HxCDD	37.85		1.0035	1.0036	+0.2	1.16E+07	1.28	Y	1.15	1,160	3024.944	2.5
123789-HxCDD	38.14		1.0112	1.0112	0	9.81E+06	1.21	Y	1.05	1,110	3024.944	2.94
1234678-HpCDD	40.81		1.0003	1.0003	0	8.29E+06	1.04	Y	1.06	1,100	2812.005	2.8
OCDD	43.49		1.0004	1.0003	-0.3	1.10E+07	0.90	Y	1.13	2,310	4496.372	10.1
2378-TCDF	27.62		1.0008	1.0008	0	3.89E+06	0.81	Y	1.08	218	2929.824	1.89
12378-PeCDF	32.38		1.0005	1.0005	0	1.57E+07	1.46	Y	1.02	1,040	5182.581	3.27
23478-PeCDF	33.49		1.0005	1.0005	0	1.64E+07	1.52	Y	1.02	1,100	5182.581	3.03
123478-HxCDF	36.73		1.0004	1.0004	0	1.37E+07	1.23	Y	1.27	1,070	6545.291	4.05
123678-HxCDF	36.87		1.0004	1.0005	+0.2	1.54E+07	1.23	Y	1.15	1,110	6545.291	4.12
234678-HxCDF	37.55		1.0005	1.0005	0	1.53E+07	1.23	Y	1.19	1,060	6545.291	3.88
123789-HxCDF	38.50		1.0004	1.0004	0	1.11E+07	1.27	Y	1.16	1,020	6545.291	4.72
1234678-HpCDF	39.88		1.0003	1.0003	0	1.20E+07	1.02	Y	1.37	1,080	2280.493	1.45
1234789-HpCDF	41.28		1.0002	1.0003	+0.2	8.84E+06	1.01	Y	1.31	1,080	2280.493	2.05
OCDF	43.67		1.0003	1.0003	0	1.36E+07	0.96	Y	1.07	2,170	3511.769	5.96

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46	1.0236	1.0239	+0.5	2.10E+07	0.80	Y	1.05	83.8
ES 12378-PeCDD	33.81	1.2144	1.2162	+3.7	1.86E+07	1.60	Y	0.88	88.4
ES 123478-HxCDD	37.72	0.9920	0.9918	-0.5	1.67E+07	1.29	Y	0.97	89.9
ES 123678-HxCDD	37.84	0.9951	0.9950	-0.2	1.75E+07	1.22	Y	0.94	96.8
ES 123789-HxCDD	38.13	1.0027	1.0026	-0.2	1.69E+07	1.33	Y	1.09	80.8
ES 1234678-HpCDD	40.80	1.0724	1.0729	+1.2	1.42E+07	1.09	Y	0.91	81
ES OCDD	43.48	1.1428	1.1433	+1.3	1.69E+07	0.96	Y	0.62	70.9
ES 2378-TCDF	27.60	1.0516	1.0521	+0.8	3.31E+07	0.81	Y	1.06	85
ES 12378-PeCDF	32.36	1.2312	1.2334	+4.3	2.93E+07	1.58	Y	0.91	87.4
ES 23478-PeCDF	33.47	1.2733	1.2758	+5.0	2.93E+07	1.61	Y	0.88	90.2
ES 123478-HxCDF	36.71	0.9655	0.9654	-0.2	2.02E+07	0.56	Y	1.20	88.2
ES 123678-HxCDF	36.85	0.9692	0.9691	-0.2	2.40E+07	0.53	Y	1.35	92.7
ES 234678-HxCDF	37.53	0.9871	0.9870	-0.2	2.43E+07	0.54	Y	1.24	102
ES 123789-HxCDF	38.49	1.0121	1.0120	-0.2	1.86E+07	0.55	Y	1.16	84.2
ES 1234678-HpCDF	39.87	1.0479	1.0483	+1.0	1.63E+07	0.47	Y	0.97	88.2
ES 1234789-HpCDF	41.26	1.0845	1.0850	+1.2	1.25E+07	0.43	Y	0.85	76.9
ES OCDF	43.66	1.1477	1.1481	+1.0	2.34E+07	0.92	Y	0.81	75.6

Lab ID: B6238_18887_DF_001MS | **Acq'd:** 09 Feb 2022 08:52 DTF | **Wt/Vol:** 1.00 L | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-SC-MS | **UTP:** 09-Feb-2022 14:37:53 DTF | **J-level:** 5 pg/L | **Split:** 1 | **Checkcode:** 817-064-LSB

Datafile: 220209C06 | **Report:** 09 Feb 2022 17:28 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.80		-	-	-	2.40E+07	0.80	Y	-	-
JS 1234-TCDF	26.24		-	-	-	3.68E+07	0.81	Y	-	-
JS 123467-HxCDD	38.03		-	-	-	9.57E+06	1.21	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0244	1.0247	+0.5	1.07E+07	n/a	-	1.20	92.6
CS 12347-PeCDD	33.30		1.1964	1.1981	+3.4	1.94E+07	1.60	Y	0.75	107
CS 12346-PeCDF	31.83		1.2112	1.2132	+3.8	3.19E+07	1.60	Y	0.85	102
CS 123469-HxCDF	37.17		0.9775	0.9774	-0.2	2.40E+07	0.52	Y	1.12	112
CS 1234689-HpCDF	40.27		1.0584	1.0589	+1.2	1.80E+07	0.46	Y	0.89	106
SS 37Cl-2378-TCDD	28.48		1.0244	1.0247	+0.5	1.07E+07	n/a	-	1.15	111
SS 12347-PeCDD	33.30		1.1964	1.1981	+3.4	1.94E+07	1.60	Y	0.86	121
SS 12346-PeCDF	31.83		1.2112	1.2132	+3.8	3.19E+07	1.60	Y	0.94	116
SS 123469-HxCDF	37.17		0.9775	0.9774	-0.2	2.40E+07	0.52	Y	0.83	121
SS 1234689-HpCDF	40.27		1.0584	1.0589	+1.2	1.80E+07	0.46	Y	0.92	120

Totals	Conc	EMPC
Total TCDD	1100	1100
Total PeCDD	1570	1570
Total HxCDD	3650	3650
Total HpCDD	1370	1370
Total Tetra-Octa Dioxins	9990	9990
Total TCDF	1,290	1290
Total PeCDF	4,240	4240
Total HxCDF	6,920	6920
Total HpCDF	2,160	2160
Total Tetra-Octa Furans	16,800	16800
Total Tetra-Octa Dioxins & Furans	26800	26800

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.784	0.79
Response	2.91E+06	2.90E+06

Lab ID: B6238_18887_DF_001MS | **Acq'd:** 09 Feb 2022 08:52 DTF | **Wt/Vol:** 1.00 L | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-SC-MS | **UTP:** 09-Feb-2022 14:37:53 DTF | **J-level:** 5 pg/L | **Split:** 1 | **Checkcode:** 817-064-LSB

Datafile: 220209C06 | **Report:** 09 Feb 2022 17:28 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.83		0.8737	0.8725	-1.8	4.04E+06	0.77	Y	1.18	325	3628.133	3.15
1379-TCDD	NotFnd		0.8860						1.18		3628.133	3.15
1369-TCDD	NotFnd		0.9009						1.18		3628.133	3.15
1469-TCDD	NotFnd		0.9281						1.18		3628.133	3.15
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3628.133	3.15
1378-TCDD	NotFnd		0.9432						1.18		3628.133	3.15
1268-TCDD	NotFnd		0.9500						1.18		3628.133	3.15
1478-TCDD	NotFnd		0.9586						1.18		3628.133	3.15
1279-TCDD	NotFnd		0.9645						1.18		3628.133	3.15
1234/1269-TCDD	NotFnd		0.9770						1.18		3628.133	3.15
1236-TCDD	NotFnd		0.9817						1.18		3628.133	3.15
1237/1238-TCDD	NotFnd		0.9905						1.18		3628.133	3.15
1239-TCDD	28.32		0.9952	0.9952	0	2.74E+06	0.80	Y	1.18	220	3628.133	3.15
2378-TCDD	**28.48**		**1.0008**	1.0008	**0**	2.90E+06	0.79	Y	**1.18**	**234**	**3628.133**	**3.15**
1278-TCDD	NotFnd		1.0121						1.18		3628.133	3.15
1267-TCDD	NotFnd		1.0167						1.18		3628.133	3.15
1289-TCDD	29.45		1.0345	1.0349	+0.7	3.96E+06	0.75	Y	1.18	319	3628.133	3.15
12479/12468-PeCDD	31.32		0.9267	0.9265	-0.4	2.45E+06	1.59	Y	1.04	254	3651.313	3.42
12469-PeCDD	NotFnd		0.9425						1.04		3651.313	3.42
12368-PeCDD	NotFnd		0.9588						1.04		3651.313	3.42
12478-PeCDD	NotFnd		0.9643						1.04		3651.313	3.42
12379-PeCDD	NotFnd		0.9673						1.04		3651.313	3.42
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		3651.313	3.42
12346/12347-PeCDD	NotFnd		0.9858						1.04		3651.313	3.42
12378-PeCDD	33.83		**1.0006**	**1.0006**	**0**	**1.00E+07**	**1.52**	**Y**	**1.04**	**1,040**	**3651.313**	**3.42**
12367-PeCDD	NotFnd		1.0033						1.04		3651.313	3.42
12389-PeCDD	34.26		1.0134	1.0135	+0.2	2.65E+06	1.62	Y	1.04	275	3651.313	3.42
124679/124689-HxCDD	35.99		0.9542	0.9540	-0.4	2.71E+06	1.28	Y	1.10	291	3024.944	2.73
123468-HxCDD	NotFnd		0.9715						1.10		3024.944	2.73
123679/123689-HxCDD	NotFnd		0.9793						1.10		3024.944	2.73
123469-HxCDD	NotFnd		0.9828						1.10		3024.944	2.73
123478-HxCDD	37.73		**1.0004**	**1.0004**	**0**	**9.92E+06**	**1.24**	**Y**	1.09	**1,090**	**3024.944**	**2.79**
123678-HxCDD	37.85		**1.0035**	**1.0036**	**+0.2**	**1.16E+07**	**1.28**	**Y**	1.15	**1,160**	**3024.944**	**2.5**
123467-HxCDD	NotFnd		1.0085						1.10		3024.944	2.73
123789-HxCDD	38.14		**1.0112**	**1.0112**	**0**	**9.81E+06**	**1.21**	**Y**	1.05	**1,110**	**3024.944**	**2.94**

Lab ID: B6238_18887_DF_001MS | **Acq'd:** 09 Feb 2022 08:52 DTF | **Wt/Vol:** 1.00 L | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-SC-MS | **UTP:** 09-Feb-2022 14:37:53 DTF | **J-level:** 5 pg/L | **Split:** 1 | **Checkcode:** 817-064-LSB

Datafile: 220209C06 | **Report:** 09 Feb 2022 17:28 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

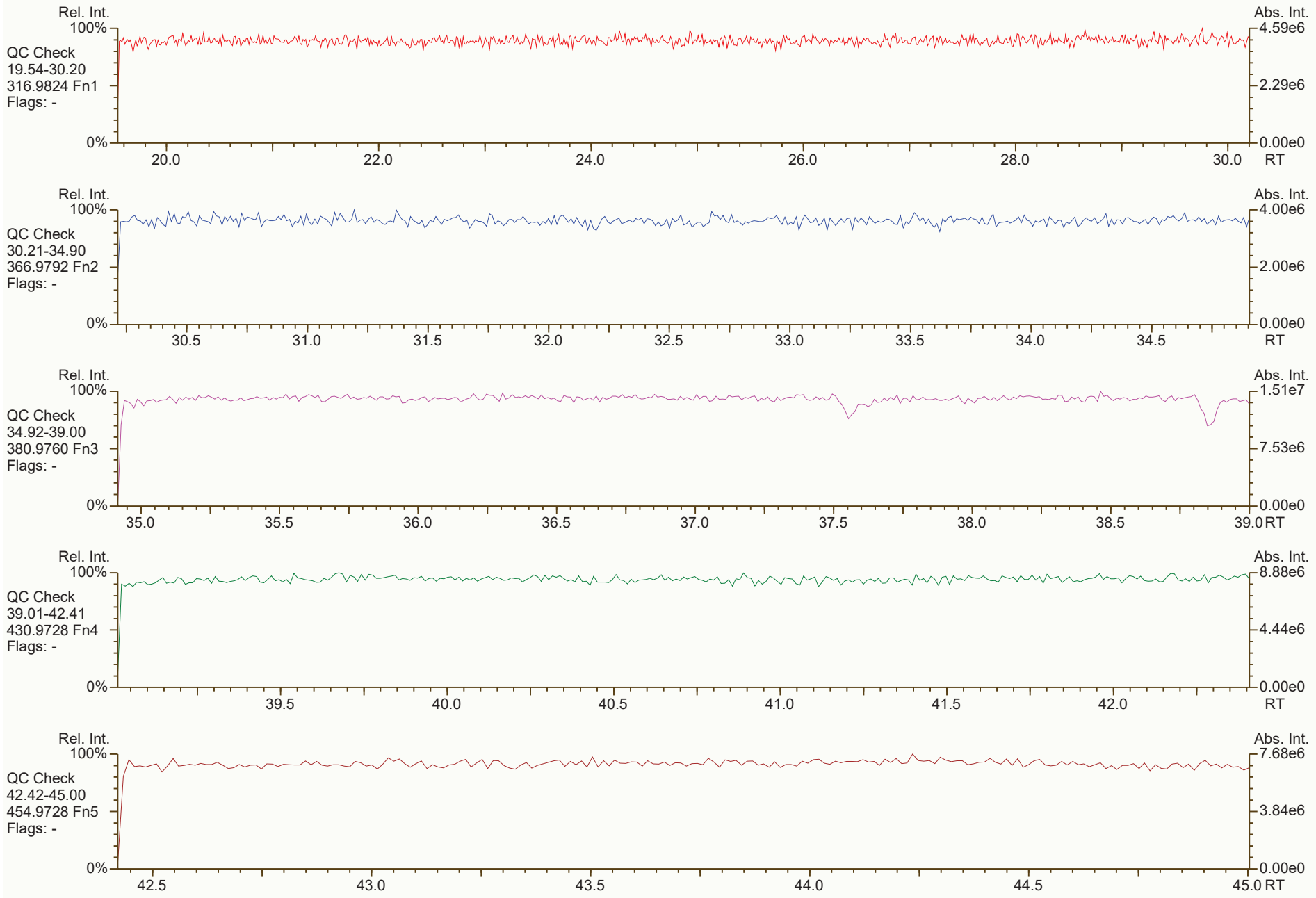
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.14		0.9837	0.9837	0	2.01E+06	1.12	Y	1.06	267	2812.005	2.8
1234678-HpCDD	**40.81**		**1.0003**	**1.0003**	**0**	**8.29E+06**	**1.04**	**Y**	**1.06**	**1,100**	**2812.005**	**2.8**
OCDD	**43.49**		**1.0004**	**1.0003**	**-0.3**	**1.10E+07**	**0.90**	**Y**	**1.13**	**2,310**	**4496.372**	**10.1**
OCDD-a	43.49		1.0003	1.0002	-0.3	7.32E+05	2.83	Y	0.07	2,400	3354.459	118
1368-TCDF	22.72		0.8251	0.8231	-2.7	5.57E+06	0.78	Y	1.08	311	2929.824	1.89
1468-TCDF	NotFnd		0.8458						1.08		2929.824	1.89
2468-TCDF	23.94		0.8686	0.8673	-1.9	1.44E+06	0.74	Y	1.08	80.4	2929.824	1.89
1346/1246-TCDF	NotFnd		0.8814						1.08		2929.824	1.89
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2929.824	1.89
1348-TCDF	NotFnd		0.8962						1.08		2929.824	1.89
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2929.824	1.89
1268-TCDF	NotFnd		0.9145						1.08		2929.824	1.89
1467-TCDF	NotFnd		0.9193						1.08		2929.824	1.89
1478-TCDF	NotFnd		0.9254						1.08		2929.824	1.89
1369/1237-TCDF	NotFnd		0.9387						1.08		2929.824	1.89
2467-TCDF	NotFnd		0.9433						1.08		2929.824	1.89
2368-TCDF	NotFnd		0.9489						1.08		2929.824	1.89
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2929.824	1.89
1278-TCDF	NotFnd		0.9683						1.08		2929.824	1.89
1349-TCDF	NotFnd		0.9722						1.08		2929.824	1.89
1267-TCDF	NotFnd		0.9783						1.08		2929.824	1.89
2346/1249-TCDF	NotFnd		0.9850						1.08		2929.824	1.89
2347/1279-TCDF	NotFnd		0.9926						1.08		2929.824	1.89
2348-TCDF	27.51		0.9967	0.9968	+0.2	5.61E+06	0.77	Y	1.08	314	2929.824	1.89
2378-TCDF	**27.62**		**1.0008**	**1.0008**	**0**	**3.89E+06**	**0.81**	**Y**	**1.08**	**218**	**2929.824**	**1.89**
2367/3467-TCDF	NotFnd		1.0137						1.08		2929.824	1.89
1269-TCDF	NotFnd		1.0223						1.08		2929.824	1.89
1239-TCDF	NotFnd		1.0321						1.08		2929.824	1.89
1289-TCDF	29.62		1.0722	1.0732	+1.8	6.50E+06	0.79	Y	1.08	363	2929.824	1.89
13468/12468-PeCDF	29.54		0.9139	0.9129	-1.8	2.79E+07	1.58	Y	1.02	1,860	2807.434	1.71
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		5182.581	3.15
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		5182.581	3.15
14678-PeCDF	NotFnd		0.9692						1.02		5182.581	3.15
13479-PeCDF	NotFnd		0.9723						1.02		5182.581	3.15
13469/12479-PeCDF	NotFnd		0.9797						1.02		5182.581	3.15
12346-PeCDF	NotFnd		0.9840						1.02		5182.581	3.15

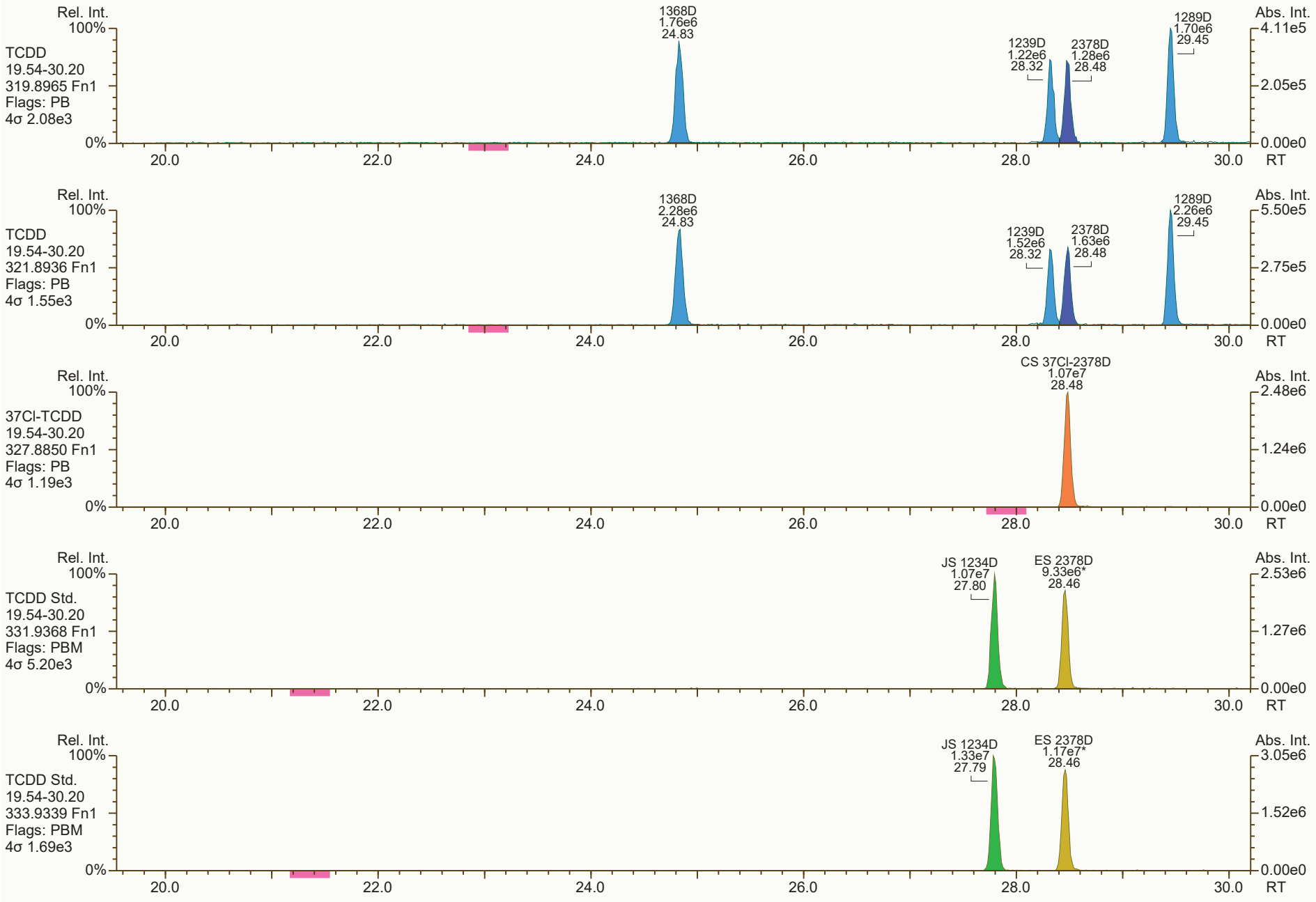
Lab ID: B6238_18887_DF_001MS | **Acq'd: 09 Feb 2022 08:52 DTF** | **Wt/Vol: 1.00 L** | **ICAL: HRMS3_DF_10272021 10NOV2021**

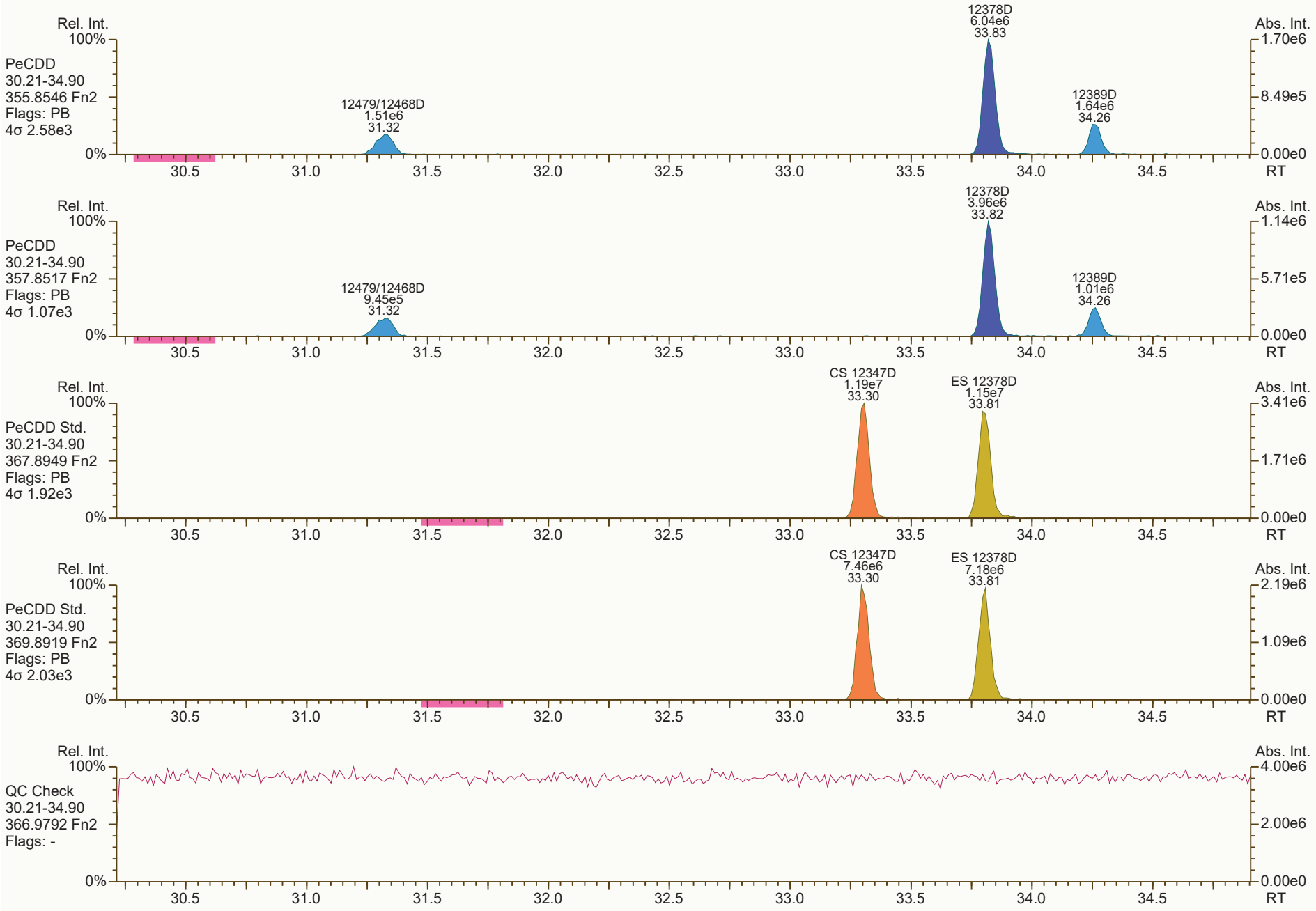
Client ID: 11215131-012022-GW-BN-PZ-SC-MS | **UTP: 09-Feb-2022 14:37:53 DTF** | **J-level: 5 pg/L** | **Split: 1** | **Checkcode: 817-064-LSB**

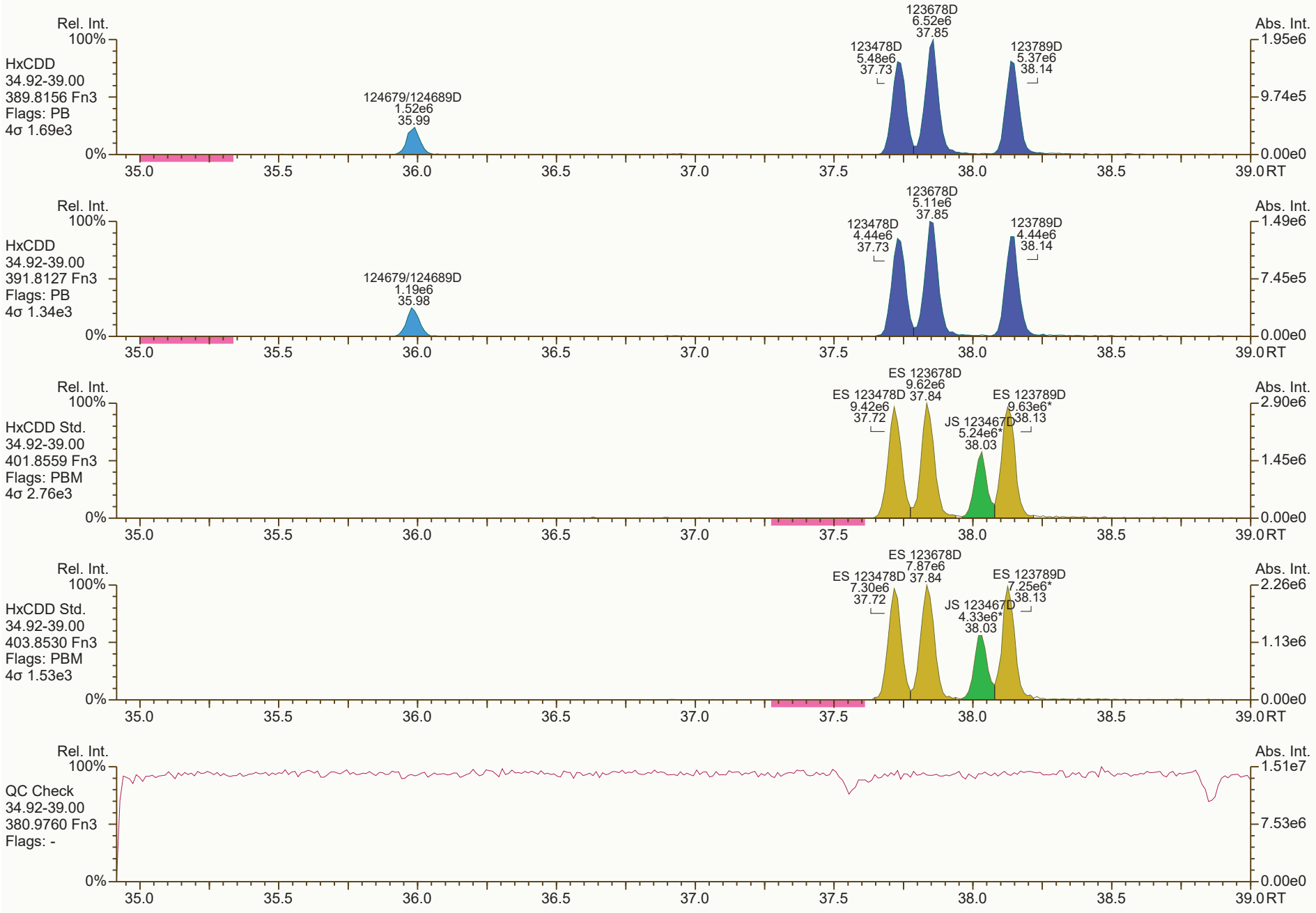
Datafile: 220209C06 | **Report: 09 Feb 2022 17:28 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

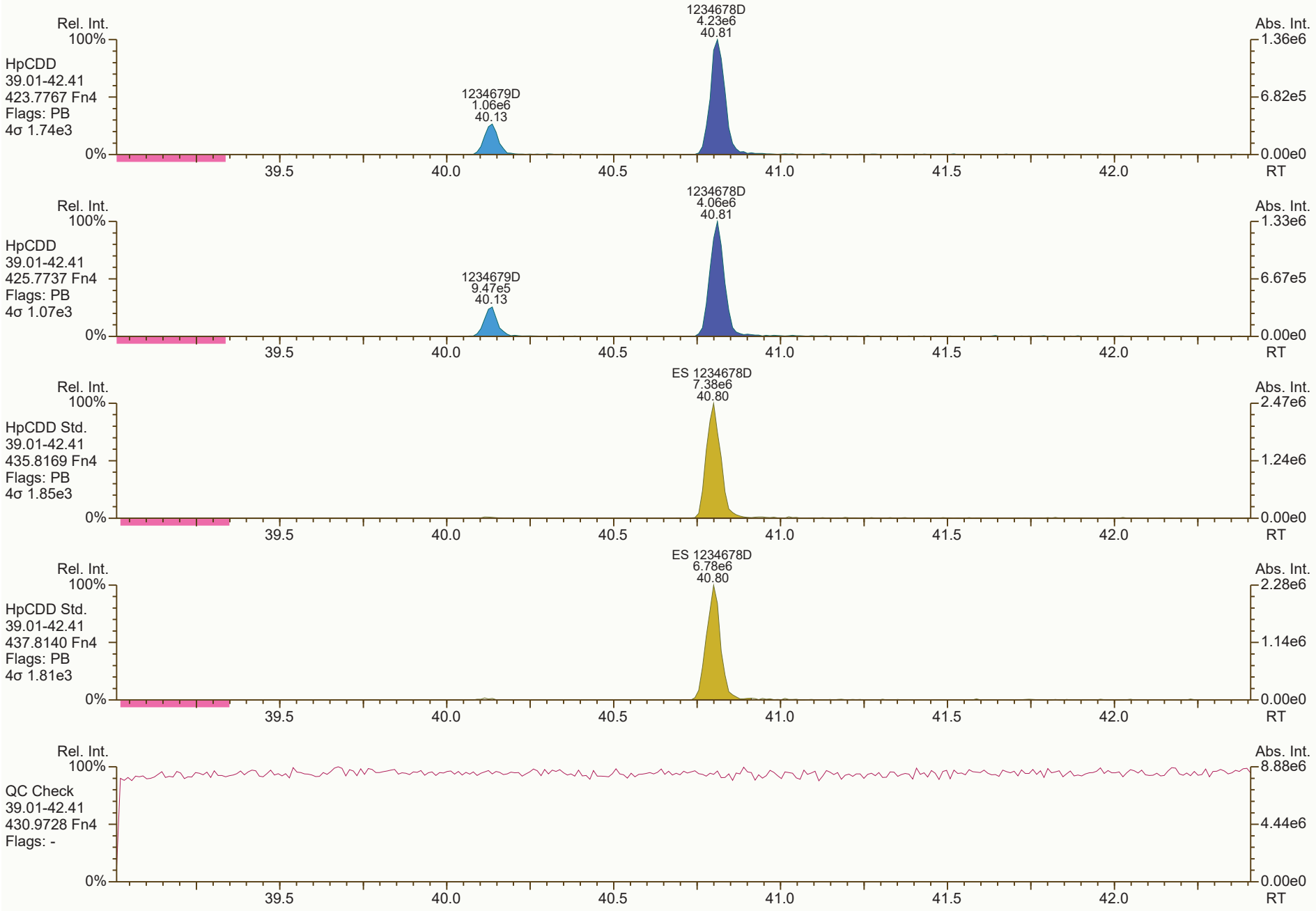
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		5182.581	3.15
12347-PeCDF	NotFnd		0.9894						1.02		5182.581	3.15
12348-PeCDF	NotFnd		0.9940						1.02		5182.581	3.15
12378-PeCDF	**32.38**		**1.0005**	**1.0005**	**0**	**1.57E+07**	**1.46**	**Y**	**1.02**	**1,040**	**5182.581**	**3.27**
12678/12367-PeCDF	NotFnd		1.0089						1.02		5182.581	3.15
12379-PeCDF	NotFnd		1.0142						1.02		5182.581	3.15
12679-PeCDF	NotFnd		0.9929						1.02		5182.581	3.15
23467/12369-PeCDF	NotFnd		0.9967						1.02		5182.581	3.15
23478-PeCDF	**33.49**		**1.0005**	**1.0005**	**0**	**1.64E+07**	**1.52**	**Y**	**1.02**	**1,100**	**5182.581**	**3.03**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5182.581	3.15
12349-PeCDF	NotFnd		1.0100						1.02		5182.581	3.15
12389-PeCDF	34.56		1.0324	1.0326	+0.4	3.43E+06	1.62	Y	1.02	229	5182.581	3.15
123468-HxCDF	35.34		0.9627	0.9626	-0.2	3.46E+07	1.22	Y	1.19	2,670	6545.291	4.16
124678/134678-HxCDF	NotFnd		0.9682						1.19		6545.291	4.16
134679-HxCDF	NotFnd		0.9744						1.19		6545.291	4.16
124679-HxCDF	NotFnd		0.9798						1.19		6545.291	4.16
124689-HxCDF	NotFnd		0.9858						1.19		6545.291	4.16
123467-HxCDF	NotFnd		0.9972						1.19		6545.291	4.16
123478-HxCDF	**36.73**		**1.0004**	**1.0004**	**0**	**1.37E+07**	**1.23**	**Y**	**1.27**	**1,070**	**6545.291**	**4.05**
123678-HxCDF	**36.87**		**1.0004**	**1.0005**	**+0.2**	**1.54E+07**	**1.23**	**Y**	**1.15**	**1,110**	**6545.291**	**4.12**
123479-HxCDF	NotFnd		1.0049						1.19		6545.291	4.16
123469-HxCDF	NotFnd		1.0090						1.19		6545.291	4.16
123679-HxCDF	NotFnd		0.9942						1.19		6545.291	4.16
234678-HxCDF	**37.55**		**1.0005**	**1.0005**	**0**	**1.53E+07**	**1.23**	**Y**	**1.19**	**1,060**	**6545.291**	**3.88**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6545.291	4.16
123789-HxCDF	**38.50**		**1.0004**	**1.0004**	**0**	**1.11E+07**	**1.27**	**Y**	**1.16**	**1,020**	**6545.291**	**4.72**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		6545.291	4.16
1234678-HpCDF	**39.88**		**1.0003**	**1.0003**	**0**	**1.20E+07**	**1.02**	**Y**	**1.37**	**1,080**	**2280.493**	**1.45**
1234679-HpCDF	NotFnd		1.0068						1.34		2280.493	1.71
1234689-HpCDF	NotFnd		1.0103						1.34		2280.493	1.71
1234789-HpCDF	**41.28**		**1.0002**	**1.0003**	**+0.2**	**8.84E+06**	**1.01**	**Y**	**1.31**	**1,080**	**2280.493**	**2.05**
OCDF	**43.67**		**1.0003**	**1.0003**	**0**	**1.36E+07**	**0.96**	**Y**	**1.07**	**2,170**	**3511.769**	**5.96**
OCDF-a	43.67		1.0002	1.0002	0	8.33E+05	2.14	Y	0.07	2,150	3743.94	103

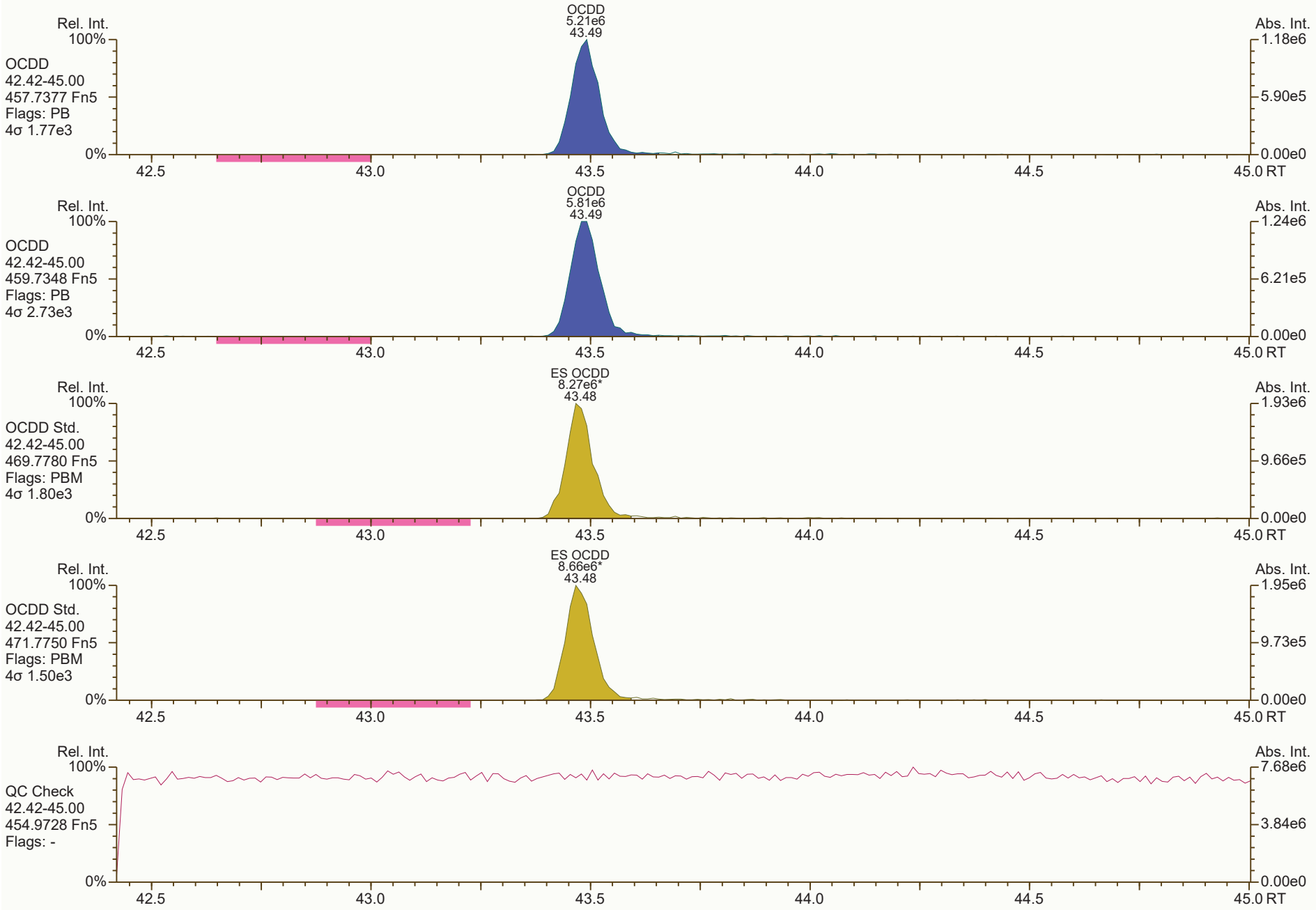

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
4.59e6
2.29e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.00e6
2.00e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.51e7
7.53e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
8.88e6
4.44e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.68e6
3.84e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT

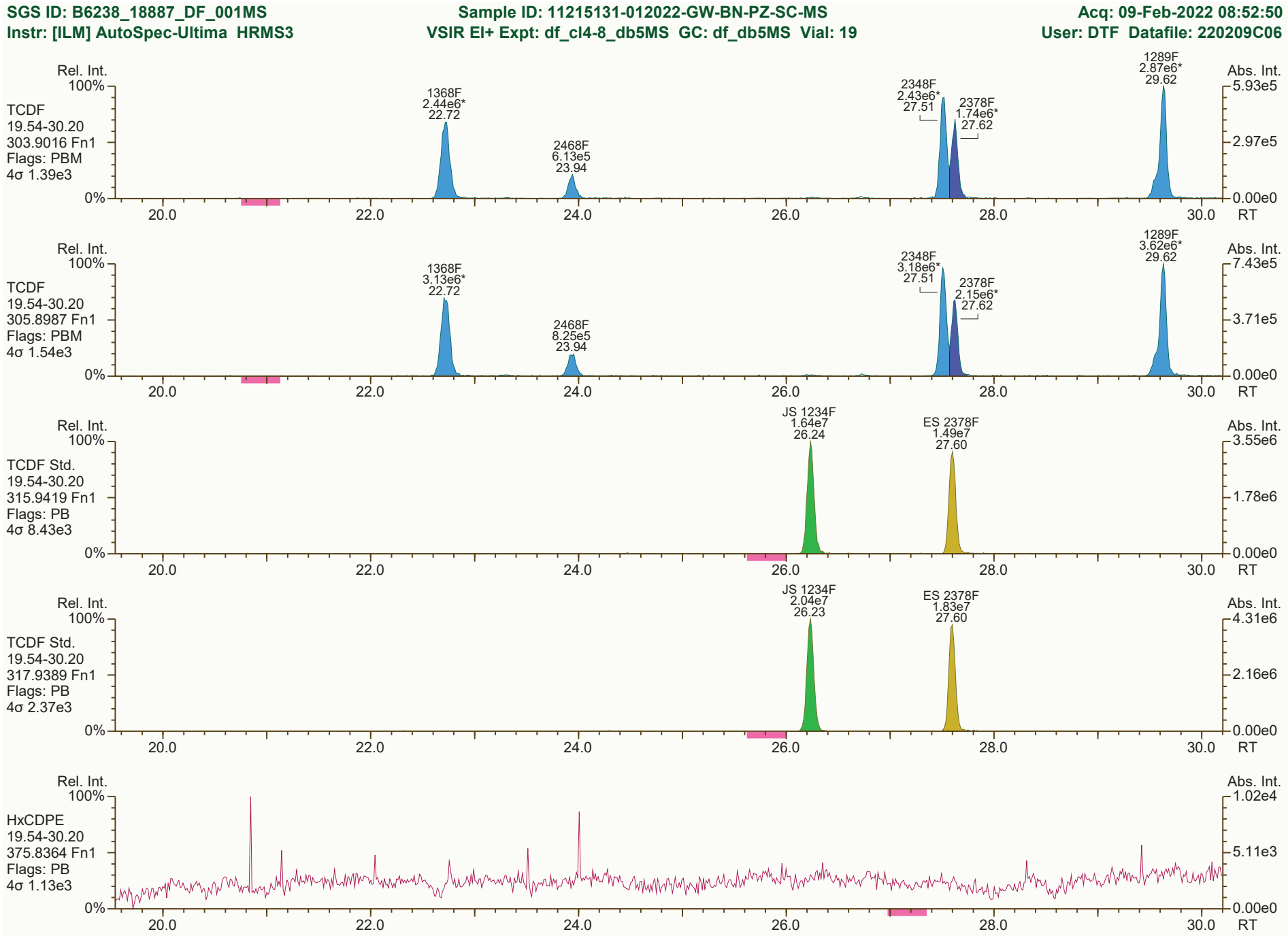

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.08e3
0%
1368D
1.76e6
24.83
1239D
1.22e6
28.32
2378D
1.28e6
28.48
1289D
1.70e6
29.45
Abs. Int.
4.11e5
2.05e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.55e3
0%
1368D
2.28e6
24.83
1239D
1.52e6
28.32
2378D
1.63e6
28.48
1289D
2.26e6
29.45
Abs. Int.
5.50e5
2.75e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.19e3
0%
CS 37Cl-2378D
1.07e7
28.48
Abs. Int.
2.48e6
1.24e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PBM
4σ 5.20e3
0%
JS 1234D
1.07e7
27.80
ES 2378D
9.33e6*
28.46
Abs. Int.
2.53e6
1.27e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PBM
4σ 1.69e3
0%
JS 1234D
1.33e7
27.79
ES 2378D
1.17e7*
28.46
Abs. Int.
3.05e6
1.52e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PB
4σ 2.58e3
12479/12468D
1.51e6
31.32
12378D
6.04e6
33.83
12389D
1.64e6
34.26
Abs. Int.
1.70e6
8.49e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 1.07e3
12479/12468D
9.45e5
31.32
12378D
3.96e6
33.82
12389D
1.01e6
34.26
Abs. Int.
1.14e6
5.71e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 1.92e3
CS 12347D
1.19e7
33.30
ES 12378D
1.15e7
33.81
Abs. Int.
3.41e6
1.71e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 2.03e3
CS 12347D
7.46e6
33.30
ES 12378D
7.18e6
33.81
Abs. Int.
2.19e6
1.09e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
Abs. Int.
4.00e6
2.00e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

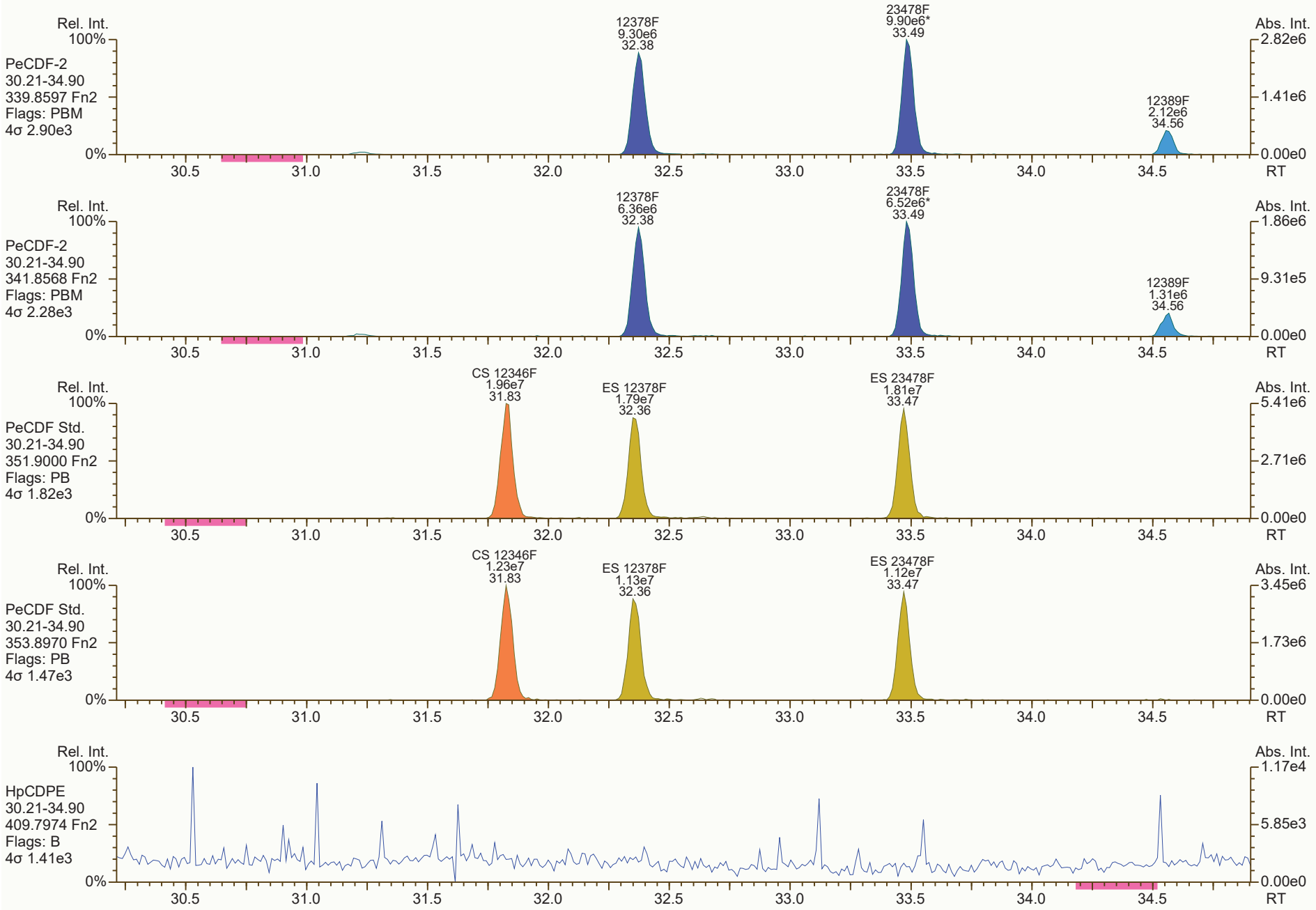

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 1.69e3
0%
124679/124689D
1.52e6
35.99
123478D
5.48e6
37.73
123678D
6.52e6
37.85
123789D
5.37e6
38.14
Abs. Int.
1.95e6
9.74e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 1.34e3
0%
124679/124689D
1.19e6
35.98
123478D
4.44e6
37.73
123678D
5.11e6
37.85
123789D
4.44e6
38.14
Abs. Int.
1.49e6
7.45e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 2.76e3
0%
ES 123478D
9.42e6
37.72
ES 123678D
9.62e6
37.84
JS 123467D
5.24e6*
38.03
ES 123789D
9.63e6*
38.13
Abs. Int.
2.90e6
1.45e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 1.53e3
0%
ES 123478D
7.30e6
37.72
ES 123678D
7.87e6
37.84
JS 123467D
4.33e6*
38.03
ES 123789D
7.25e6*
38.13
Abs. Int.
2.26e6
1.13e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.51e7
7.53e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

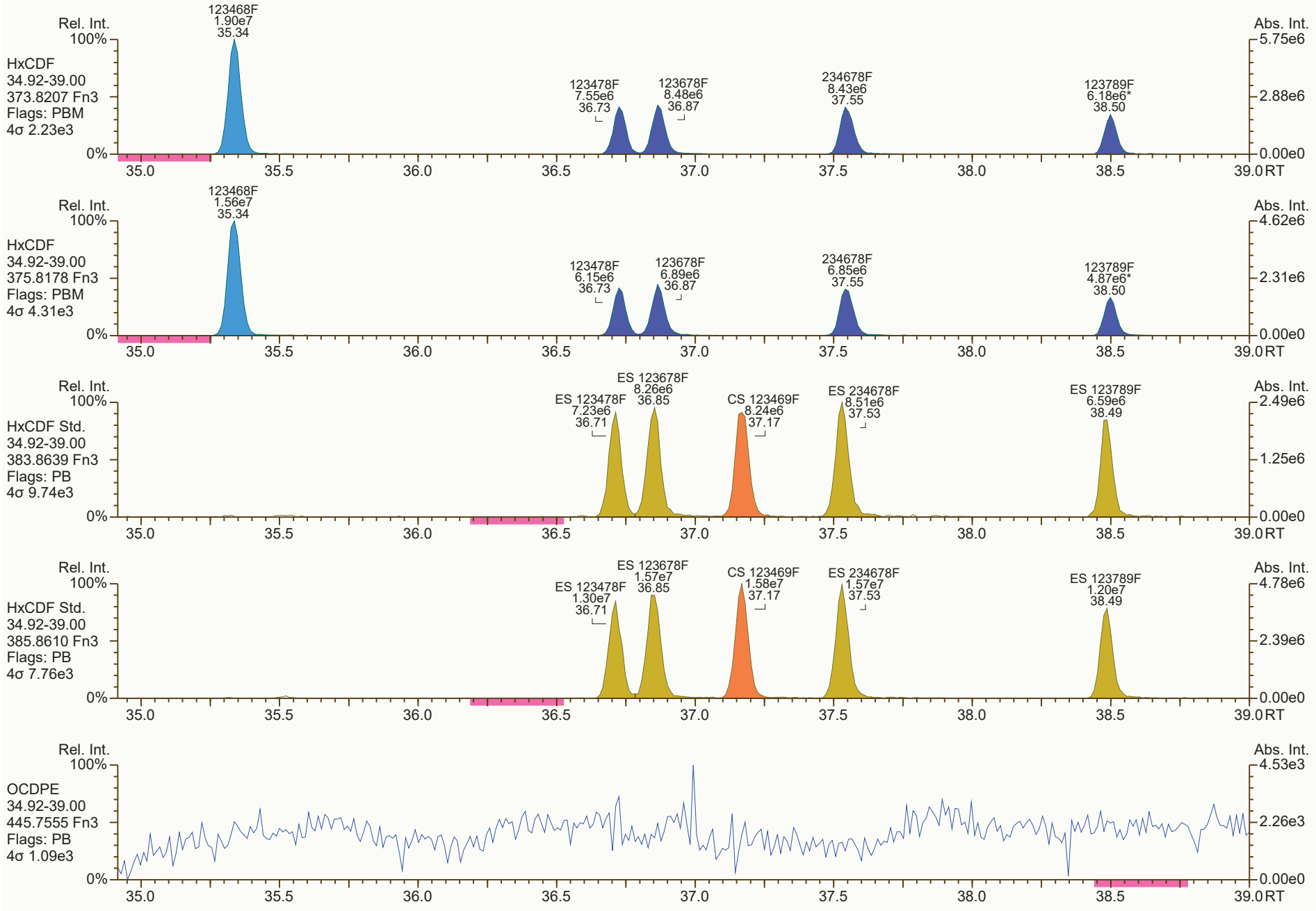

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 1.74e3
1234678D
4.23e6
40.81
1234679D
1.06e6
40.13
Abs. Int.
1.36e6
6.82e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.07e3
1234678D
4.06e6
40.81
1234679D
9.47e5
40.13
Abs. Int.
1.33e6
6.67e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.85e3
ES 1234678D
7.38e6
40.80
Abs. Int.
2.47e6
1.24e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.81e3
ES 1234678D
6.78e6
40.80
Abs. Int.
2.28e6
1.14e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
8.88e6
4.44e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

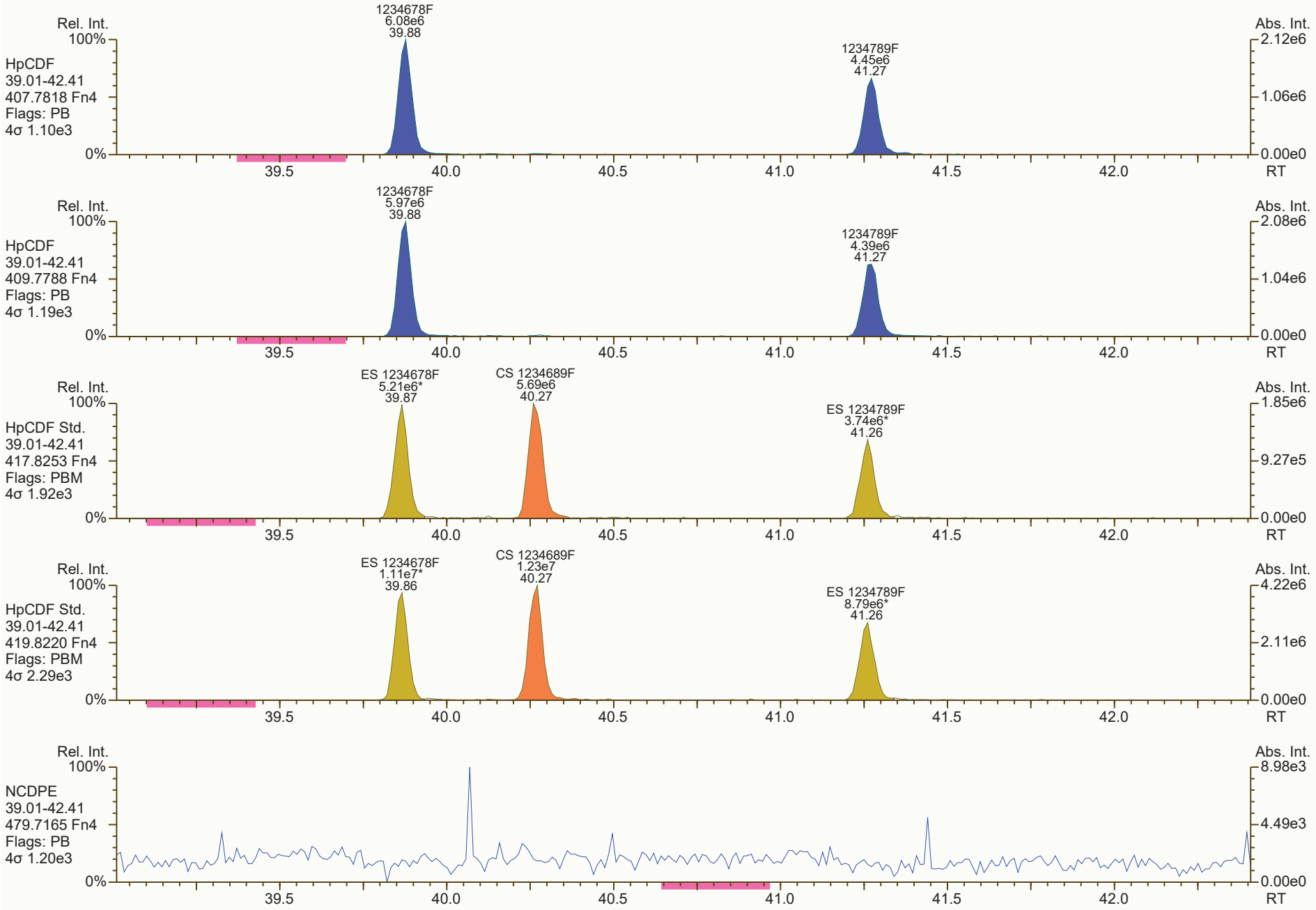

Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 1.77e3
0%
OCDD
5.21e6
43.49
Abs. Int.
1.18e6
5.90e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 2.73e3
0%
OCDD
5.81e6
43.49
Abs. Int.
1.24e6
6.21e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 1.80e3
0%
ES OCDD
8.27e6*
43.48
Abs. Int.
1.93e6
9.66e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 1.50e3
0%
ES OCDD
8.66e6*
43.48
Abs. Int.
1.95e6
9.73e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.68e6
3.84e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

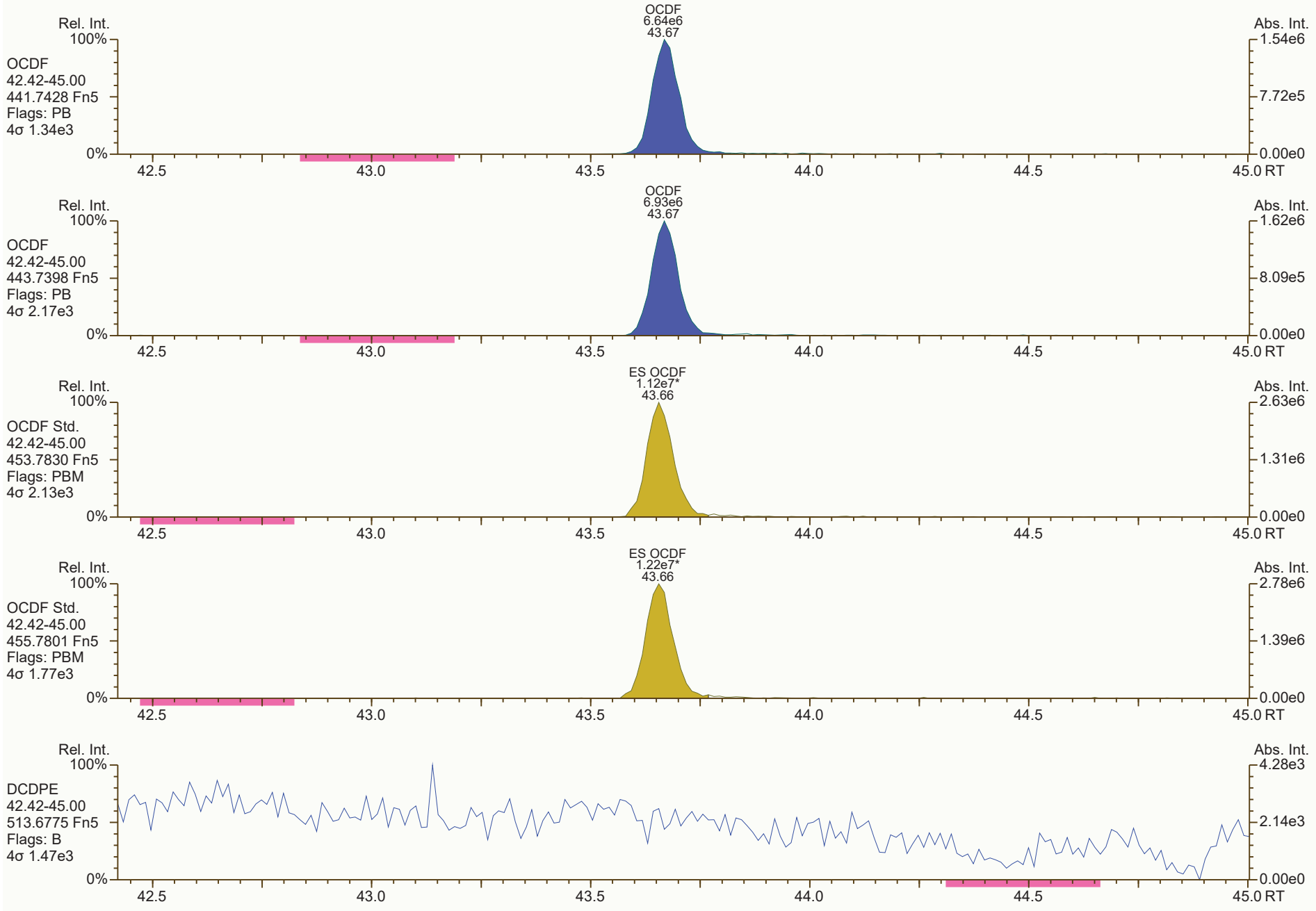

SGS ID: B6238_18887_DF_001MS
Sample ID: 11215131-012022-GW-BN-PZ-SC-MS
Acq: 09-Feb-2022 08:52:50
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 19
User: DTF Datafile: 220209C06
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.39e3
1368F 2.44e6* 22.72
2468F 6.13e5 23.94
2348F 2.43e6* 27.51
2378F 1.74e6* 27.62
1289F 2.87e6* 29.62
5.93e5
2.97e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.54e3
1368F 3.13e6* 22.72
2468F 8.25e5 23.94
2348F 3.18e6* 27.51
2378F 2.15e6* 27.62
1289F 3.62e6* 29.62
7.43e5
3.71e5
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 8.43e3
JS 1234F 1.64e7 26.24
ES 2378F 1.49e7 27.60
3.55e6
1.78e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.37e3
JS 1234F 2.04e7 26.23
ES 2378F 1.83e7 27.60
4.31e6
2.16e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.13e3
1.02e4
5.11e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6238\B6238_18887 DF\Resources\B6238_18887_DF_001MS.utp_res, saved 09-Feb-2022 14:37 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3191, 1414, 3632 scc: 817-064
Revised: 09-Feb-2022 14:24 (DTF) Printed: 09-Feb-2022 17:35 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.68e3
13468/12468F
1.71e7
29.54
Abs. Int.
4.29e6
2.15e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.13e3
13468/12468F
1.08e7
29.54
Abs. Int.
2.69e6
1.34e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
4.59e6
2.29e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 2.90e3
0%
12378F
9.30e6
32.38
23478F
9.90e6*
33.49
12389F
2.12e6
34.56
Abs. Int.
2.82e6
1.41e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 2.28e3
0%
12378F
6.36e6
32.38
23478F
6.52e6*
33.49
12389F
1.31e6
34.56
Abs. Int.
1.86e6
9.31e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 1.82e3
0%
CS 12346F
1.96e7
31.83
ES 12378F
1.79e7
32.36
ES 23478F
1.81e7
33.47
Abs. Int.
5.41e6
2.71e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 1.47e3
0%
CS 12346F
1.23e7
31.83
ES 12378F
1.13e7
32.36
ES 23478F
1.12e7
33.47
Abs. Int.
3.45e6
1.73e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.41e3
0%
Abs. Int.
1.17e4
5.85e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
Abs. Int.
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 2.23e3
123468F 1.90e7 35.34
123478F 7.55e6 36.73
123678F 8.48e6 36.87
234678F 8.43e6 37.55
123789F 6.18e6* 38.50
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 4.31e3
123468F 1.56e7 35.34
123478F 6.15e6 36.73
123678F 6.89e6 36.87
234678F 6.85e6 37.55
123789F 4.87e6* 38.50
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 9.74e3
ES 123478F 7.23e6 36.71
ES 123678F 8.26e6 36.85
CS 123469F 8.24e6 37.17
ES 234678F 8.51e6 37.53
ES 123789F 6.59e6 38.49
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 7.76e3
ES 123478F 1.30e7 36.71
ES 123678F 1.57e7 36.85
CS 123469F 1.58e7 37.17
ES 234678F 1.57e7 37.53
ES 123789F 1.20e7 38.49
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.09e3
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.10e3
1234678F
6.08e6
39.88
1234789F
4.45e6
41.27
Abs. Int.
2.12e6
1.06e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.19e3
1234678F
5.97e6
39.88
1234789F
4.39e6
41.27
Abs. Int.
2.08e6
1.04e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 1.92e3
ES 1234678F
5.21e6*
39.87
CS 1234689F
5.69e6
40.27
ES 1234789F
3.74e6*
41.26
Abs. Int.
1.85e6
9.27e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 2.29e3
ES 1234678F
1.11e7*
39.86
CS 1234689F
1.23e7
40.27
ES 1234789F
8.79e6*
41.26
Abs. Int.
4.22e6
2.11e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.20e3
Abs. Int.
8.98e3
4.49e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.34e3
0%
OCDF
6.64e6
43.67
Abs. Int.
1.54e6
7.72e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 2.17e3
0%
OCDF
6.93e6
43.67
Abs. Int.
1.62e6
8.09e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 2.13e3
0%
ES OCDF
1.12e7*
43.66
Abs. Int.
2.63e6
1.31e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 1.77e3
0%
ES OCDF
1.22e7*
43.66
Abs. Int.
2.78e6
1.39e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.47e3
0%
Abs. Int.
4.28e3
2.14e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6238_18887_DF_001MSD **Acq'd:** 09 Feb 2022 09:39 DTF **Wt/Vol:** 1.01 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-SC-MSD **UTP:** 09-Feb-2022 14:37:53 DTF **J-level:** 4.94 pg/L **Split:** 1 **Checkcode:** 547-243-FWD

Datafile: 220209C07 **Report:** 09 Feb 2022 17:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.49		1.0008	1.0008	0	4.23E+06	0.78	Y	1.18	230	3687.887	2.23
12378-PeCDD	33.83		1.0006	1.0005	-0.2	1.45E+07	1.53	Y	1.04	983	2868.065	1.76
123478-HxCDD	37.74		1.0004	1.0004	0	1.42E+07	1.31	Y	1.09	1,120	3460.113	2.32
123678-HxCDD	37.85		1.0035	1.0035	0	1.58E+07	1.24	Y	1.15	1,100	3460.113	2.1
123789-HxCDD	38.15		1.0112	1.0113	+0.2	1.44E+07	1.25	Y	1.05	1,060	3460.113	2.17
1234678-HpCDD	40.82		1.0003	1.0003	0	1.22E+07	1.05	Y	1.06	1,100	3528.337	2.48
OCDD	43.50		1.0004	1.0003	-0.3	1.73E+07	0.92	Y	1.13	2,220	4486.008	6.11
2378-TCDF	27.63		1.0008	1.0008	0	5.82E+06	0.79	Y	1.08	232	2949.392	1.34
12378-PeCDF	32.38		1.0005	1.0006	+0.2	2.17E+07	1.56	Y	1.02	993	6247.765	2.71
23478-PeCDF	33.49		1.0005	1.0005	0	2.40E+07	1.52	Y	1.02	1,090	6247.765	2.55
123478-HxCDF	36.73		1.0004	1.0004	0	1.95E+07	1.22	Y	1.27	1,030	4524.44	1.98
123678-HxCDF	36.87		1.0004	1.0005	+0.2	2.15E+07	1.24	Y	1.15	1,060	4524.44	1.95
234678-HxCDF	37.55		1.0005	1.0005	0	2.04E+07	1.25	Y	1.19	1,040	4524.44	2.06
123789-HxCDF	38.50		1.0004	1.0003	-0.2	1.59E+07	1.22	Y	1.16	972	4524.44	2.29
1234678-HpCDF	39.88		1.0003	1.0003	0	1.72E+07	1.02	Y	1.37	1,030	3306.862	1.38
1234789-HpCDF	41.28		1.0002	1.0003	+0.2	1.34E+07	1.03	Y	1.31	1,040	3306.862	2.12
OCDF	43.67		1.0003	1.0002	-0.3	2.15E+07	0.90	Y	1.07	2,070	3041.905	3.41

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46	1.0236	1.0238	+0.3	3.07E+07	0.81	Y	1.05	88.7
ES 12378-PeCDD	33.81	1.2144	1.2161	+3.4	2.81E+07	1.57	Y	0.88	96.5
ES 123478-HxCDD	37.72	0.9920	0.9918	-0.5	2.30E+07	1.24	Y	0.97	88.8
ES 123678-HxCDD	37.84	0.9951	0.9949	-0.5	2.48E+07	1.29	Y	0.94	98.8
ES 123789-HxCDD	38.13	1.0027	1.0026	-0.2	2.56E+07	1.23	Y	1.09	88.1
ES 1234678-HpCDD	40.80	1.0724	1.0729	+1.2	2.07E+07	1.08	Y	0.91	85.3
ES OCDD	43.49	1.1428	1.1435	+1.8	2.74E+07	0.91	Y	0.62	82.5
ES 2378-TCDF	27.61	1.0516	1.0519	+0.5	4.60E+07	0.80	Y	1.06	84.8
ES 12378-PeCDF	32.36	1.2312	1.2330	+3.5	4.21E+07	1.58	Y	0.91	90.4
ES 23478-PeCDF	33.47	1.2733	1.2754	+4.2	4.26E+07	1.57	Y	0.88	94.3
ES 123478-HxCDF	36.71	0.9655	0.9653	-0.4	2.95E+07	0.53	Y	1.20	92.6
ES 123678-HxCDF	36.85	0.9692	0.9690	-0.4	3.48E+07	0.52	Y	1.35	96.6
ES 234678-HxCDF	37.54	0.9871	0.9870	-0.2	3.26E+07	0.56	Y	1.24	98.7
ES 123789-HxCDF	38.49	1.0121	1.0120	-0.2	2.77E+07	0.53	Y	1.16	90.1
ES 1234678-HpCDF	39.87	1.0479	1.0483	+1.0	2.42E+07	0.46	Y	0.97	94
ES 1234789-HpCDF	41.26	1.0845	1.0850	+1.2	1.95E+07	0.46	Y	0.85	86.2
ES OCDF	43.66	1.1477	1.1481	+1.0	3.82E+07	0.90	Y	0.81	89

Lab ID: B6238_18887_DF_001MSD | **Acq'd:** 09 Feb 2022 09:39 DTF | **Wt/Vol:** 1.01 L | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-SC-MSD | **UTP:** 09-Feb-2022 14:37:53 DTF | **J-level:** 4.94 pg/L | **Split:** 1 | **Checkcode:** 547-243-FWD

Datafile: 220209C07 | **Report:** 09 Feb 2022 17:28 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.80		-	-	-	3.31E+07	0.82	Y	-	-
JS 1234-TCDF	26.24		-	-	-	5.12E+07	0.81	Y	-	-
JS 123467-HxCDD	38.03		-	-	-	1.33E+07	1.25	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0244	1.0246	+0.3	1.53E+07	n/a	-	1.20	95.9
CS 12347-PeCDD	33.30		1.1964	1.1980	+3.2	2.85E+07	1.56	Y	0.75	114
CS 12346-PeCDF	31.83		1.2112	1.2128	+3.1	4.68E+07	1.56	Y	0.85	107
CS 123469-HxCDF	37.17		0.9775	0.9774	-0.2	3.41E+07	0.52	Y	1.12	115
CS 1234689-HpCDF	40.27		1.0584	1.0590	+1.4	2.63E+07	0.44	Y	0.89	111
SS 37Cl-2378-TCDD	28.48		1.0244	1.0246	+0.3	1.53E+07	n/a	-	1.15	108
SS 12347-PeCDD	33.30		1.1964	1.1980	+3.2	2.85E+07	1.56	Y	0.86	118
SS 12346-PeCDF	31.83		1.2112	1.2128	+3.1	4.68E+07	1.56	Y	0.94	118
SS 123469-HxCDF	37.17		0.9775	0.9774	-0.2	3.41E+07	0.52	Y	0.83	119
SS 1234689-HpCDF	40.27		1.0584	1.0590	+1.4	2.63E+07	0.44	Y	0.92	118

Totals	Conc	EMPC
Total TCDD	1100	1100
Total PeCDD	1490	1490
Total HxCDD	3580	3580
Total HpCDD	1360	1360
Total Tetra-Octa Dioxins	9750	9750
Total TCDF	1,340	1340
Total PeCDF	4,210	4210
Total HxCDF	6,860	6860
Total HpCDF	2,070	2070
Total Tetra-Octa Furans	16,600	16600
Total Tetra-Octa Dioxins & Furans	26300	26300

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.781	0.78
Response	4.24E+06	4.23E+06

Lab ID: B6238_18887_DF_001MSD | **Acq'd: 09 Feb 2022 09:39 DTF** | **Wt/Vol: 1.01 L** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012022-GW-BN-PZ-SC-MSD | **UTP: 09-Feb-2022 14:37:53 DTF** | **J-level: 4.94 pg/L** | **Split: 1** | **Checkcode: 547-243-FWD**

Datafile: 220209C07 | **Report: 09 Feb 2022 17:28 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.84		0.8737	0.8728	-1.3	5.90E+06	0.80	Y	1.18	321	3687.887	2.23
1379-TCDD	NotFnd		0.8860						1.18		3687.887	2.23
1369-TCDD	NotFnd		0.9009						1.18		3687.887	2.23
1469-TCDD	NotFnd		0.9281						1.18		3687.887	2.23
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3687.887	2.23
1378-TCDD	NotFnd		0.9432						1.18		3687.887	2.23
1268-TCDD	NotFnd		0.9500						1.18		3687.887	2.23
1478-TCDD	NotFnd		0.9586						1.18		3687.887	2.23
1279-TCDD	NotFnd		0.9645						1.18		3687.887	2.23
1234/1269-TCDD	NotFnd		0.9770						1.18		3687.887	2.23
1236-TCDD	NotFnd		0.9817						1.18		3687.887	2.23
1237/1238-TCDD	NotFnd		0.9905						1.18		3687.887	2.23
1239-TCDD	28.33		0.9952	0.9952	0	4.11E+06	0.79	Y	1.18	223	3687.887	2.23
2378-TCDD	**28.49**		**1.0008**	1.0008	**0**	4.23E+06	0.78	Y	**1.18**	**230**	**3687.887**	**2.23**
1278-TCDD	NotFnd		1.0121						1.18		3687.887	2.23
1267-TCDD	NotFnd		1.0167						1.18		3687.887	2.23
1289-TCDD	29.46		1.0345	1.0349	+0.7	5.93E+06	0.80	Y	1.18	322	3687.887	2.23
12479/12468-PeCDD	31.32		0.9267	0.9264	-0.6	3.64E+06	1.54	Y	1.04	247	2868.065	1.76
12469-PeCDD	NotFnd		0.9425						1.04		2868.065	1.76
12368-PeCDD	NotFnd		0.9588						1.04		2868.065	1.76
12478-PeCDD	NotFnd		0.9643						1.04		2868.065	1.76
12379-PeCDD	NotFnd		0.9673						1.04		2868.065	1.76
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		2868.065	1.76
12346/12347-PeCDD	NotFnd		0.9858						1.04		2868.065	1.76
12378-PeCDD	33.83		**1.0006**	**1.0005**	**-0.2**	**1.45E+07**	**1.53**	**Y**	**1.04**	**983**	**2868.065**	**1.76**
12367-PeCDD	NotFnd		1.0033						1.04		2868.065	1.76
12389-PeCDD	34.26		1.0134	1.0135	+0.2	3.86E+06	1.53	Y	1.04	262	2868.065	1.76
124679/124689-HxCDD	35.99		0.9542	0.9541	-0.2	4.03E+06	1.20	Y	1.10	297	3460.113	2.19
123468-HxCDD	NotFnd		0.9715						1.10		3460.113	2.19
123679/123689-HxCDD	NotFnd		0.9793						1.10		3460.113	2.19
123469-HxCDD	NotFnd		0.9828						1.10		3460.113	2.19
123478-HxCDD	37.74		**1.0004**	**1.0004**	**0**	**1.42E+07**	**1.31**	**Y**	1.09	**1,120**	**3460.113**	**2.32**
123678-HxCDD	37.85		**1.0035**	**1.0035**	**0**	**1.58E+07**	**1.24**	**Y**	1.15	**1,100**	**3460.113**	**2.1**
123467-HxCDD	NotFnd		1.0085						1.10		3460.113	2.19
123789-HxCDD	38.15		**1.0112**	**1.0113**	**+0.2**	**1.44E+07**	**1.25**	**Y**	1.05	**1,060**	**3460.113**	**2.17**

Lab ID: B6238_18887_DF_001MSD | **Acq'd: 09 Feb 2022 09:39 DTF** | **Wt/Vol: 1.01 L** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012022-GW-BN-PZ-SC-MSD | **UTP: 09-Feb-2022 14:37:53 DTF** | **J-level: 4.94 pg/L** | **Split: 1** | **Checkcode: 547-243-FWD**

Datafile: 220209C07 | **Report: 09 Feb 2022 17:28 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

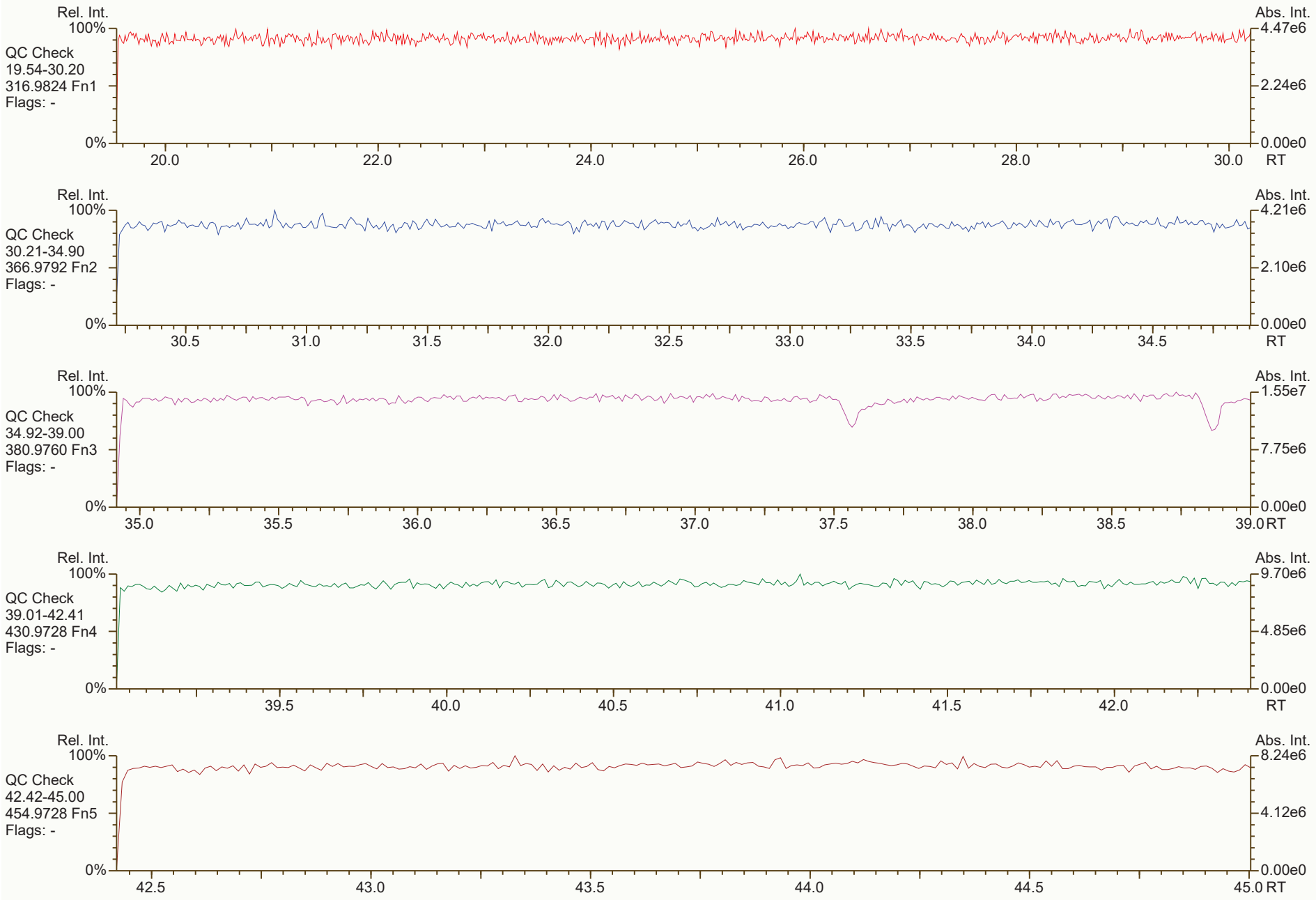
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.14		0.9837	0.9836	-0.2	2.91E+06	1.03	Y	1.06	261	3528.337	2.48
1234678-HpCDD	**40.82**		**1.0003**	**1.0003**	**0**	**1.22E+07**	**1.05**	**Y**	**1.06**	**1,100**	**3528.337**	**2.48**
OCDD	**43.50**		**1.0004**	**1.0003**	**-0.3**	**1.73E+07**	**0.92**	**Y**	**1.13**	**2,220**	**4486.008**	**6.11**
OCDD-a	43.50		1.0003	1.0002	-0.3	1.03E+06	2.26	Y	0.07	2,060	3733.714	79.6
1368-TCDF	22.74		0.8251	0.8237	-1.9	8.18E+06	0.79	Y	1.08	326	2949.392	1.34
1468-TCDF	NotFnd		0.8458						1.08		2949.392	1.34
2468-TCDF	23.95		0.8686	0.8675	-1.6	2.10E+06	0.78	Y	1.08	83.8	2949.392	1.34
1346/1246-TCDF	NotFnd		0.8814						1.08		2949.392	1.34
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2949.392	1.34
1348-TCDF	NotFnd		0.8962						1.08		2949.392	1.34
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2949.392	1.34
1268-TCDF	NotFnd		0.9145						1.08		2949.392	1.34
1467-TCDF	NotFnd		0.9193						1.08		2949.392	1.34
1478-TCDF	NotFnd		0.9254						1.08		2949.392	1.34
1369/1237-TCDF	NotFnd		0.9387						1.08		2949.392	1.34
2467-TCDF	NotFnd		0.9433						1.08		2949.392	1.34
2368-TCDF	NotFnd		0.9489						1.08		2949.392	1.34
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2949.392	1.34
1278-TCDF	NotFnd		0.9683						1.08		2949.392	1.34
1349-TCDF	NotFnd		0.9722						1.08		2949.392	1.34
1267-TCDF	NotFnd		0.9783						1.08		2949.392	1.34
2346/1249-TCDF	NotFnd		0.9850						1.08		2949.392	1.34
2347/1279-TCDF	NotFnd		0.9926						1.08		2949.392	1.34
2348-TCDF	27.52		0.9967	0.9967	0	8.14E+06	0.77	Y	1.08	325	2949.392	1.34
2378-TCDF	**27.63**		**1.0008**	**1.0008**	**0**	**5.82E+06**	**0.79**	**Y**	**1.08**	**232**	**2949.392**	**1.34**
2367/3467-TCDF	NotFnd		1.0137						1.08		2949.392	1.34
1269-TCDF	NotFnd		1.0223						1.08		2949.392	1.34
1239-TCDF	NotFnd		1.0321						1.08		2949.392	1.34
1289-TCDF	29.63		1.0722	1.0731	+1.6	9.37E+06	0.78	Y	1.08	373	2949.392	1.34
13468/12468-PeCDF	29.54		0.9139	0.9129	-1.8	4.18E+07	1.60	Y	1.02	1,900	2673.599	1.13
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		6247.765	2.63
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		6247.765	2.63
14678-PeCDF	NotFnd		0.9692						1.02		6247.765	2.63
13479-PeCDF	NotFnd		0.9723						1.02		6247.765	2.63
13469/12479-PeCDF	NotFnd		0.9797						1.02		6247.765	2.63
12346-PeCDF	NotFnd		0.9840						1.02		6247.765	2.63

Lab ID: B6238_18887_DF_001MSD | **Acq'd: 09 Feb 2022 09:39 DTF** | **Wt/Vol: 1.01 L** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-012022-GW-BN-PZ-SC-MSD | **UTP: 09-Feb-2022 14:37:53 DTF** | **J-level: 4.94 pg/L** | **Split: 1** | **Checkcode: 547-243-FWD**

Datafile: 220209C07 | **Report: 09 Feb 2022 17:28 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		6247.765	2.63
12347-PeCDF	NotFnd		0.9894						1.02		6247.765	2.63
12348-PeCDF	NotFnd		0.9940						1.02		6247.765	2.63
12378-PeCDF	**32.38**		**1.0005**	**1.0006**	**+0.2**	**2.17E+07**	**1.56**	**Y**	**1.02**	**993**	**6247.765**	**2.71**
12678/12367-PeCDF	NotFnd		1.0089						1.02		6247.765	2.63
12379-PeCDF	NotFnd		1.0142						1.02		6247.765	2.63
12679-PeCDF	NotFnd		0.9929						1.02		6247.765	2.63
23467/12369-PeCDF	NotFnd		0.9967						1.02		6247.765	2.63
23478-PeCDF	**33.49**		**1.0005**	**1.0005**	**0**	**2.40E+07**	**1.52**	**Y**	**1.02**	**1,090**	**6247.765**	**2.55**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6247.765	2.63
12349-PeCDF	NotFnd		1.0100						1.02		6247.765	2.63
12389-PeCDF	34.56		1.0324	1.0326	+0.4	4.94E+06	1.55	Y	1.02	226	6247.765	2.63
123468-HxCDF	35.34		0.9627	0.9627	0	5.18E+07	1.24	Y	1.19	2,750	4524.44	2.06
124678/134678-HxCDF	NotFnd		0.9682						1.19		4524.44	2.06
134679-HxCDF	NotFnd		0.9744						1.19		4524.44	2.06
124679-HxCDF	NotFnd		0.9798						1.19		4524.44	2.06
124689-HxCDF	NotFnd		0.9858						1.19		4524.44	2.06
123467-HxCDF	NotFnd		0.9972						1.19		4524.44	2.06
123478-HxCDF	**36.73**		**1.0004**	**1.0004**	**0**	**1.95E+07**	**1.22**	**Y**	**1.27**	**1,030**	**4524.44**	**1.98**
123678-HxCDF	**36.87**		**1.0004**	**1.0005**	**+0.2**	**2.15E+07**	**1.24**	**Y**	**1.15**	**1,060**	**4524.44**	**1.95**
123479-HxCDF	NotFnd		1.0049						1.19		4524.44	2.06
123469-HxCDF	NotFnd		1.0090						1.19		4524.44	2.06
123679-HxCDF	NotFnd		0.9942						1.19		4524.44	2.06
234678-HxCDF	**37.55**		**1.0005**	**1.0005**	**0**	**2.04E+07**	**1.25**	**Y**	**1.19**	**1,040**	**4524.44**	**2.06**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4524.44	2.06
123789-HxCDF	**38.50**		**1.0004**	**1.0003**	**-0.2**	**1.59E+07**	**1.22**	**Y**	**1.16**	**972**	**4524.44**	**2.29**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		4524.44	2.06
1234678-HpCDF	**39.88**		**1.0003**	**1.0003**	**0**	**1.72E+07**	**1.02**	**Y**	**1.37**	**1,030**	**3306.862**	**1.38**
1234679-HpCDF	NotFnd		1.0068						1.34		3306.862	1.71
1234689-HpCDF	NotFnd		1.0103						1.34		3306.862	1.71
1234789-HpCDF	**41.28**		**1.0002**	**1.0003**	**+0.2**	**1.34E+07**	**1.03**	**Y**	**1.31**	**1,040**	**3306.862**	**2.12**
OCDF	**43.67**		**1.0003**	**1.0002**	**-0.3**	**2.15E+07**	**0.90**	**Y**	**1.07**	**2,070**	**3041.905**	**3.41**
OCDF-a	43.67		1.0002	1.0003	+0.3	1.30E+06	2.40	Y	0.07	2,020	3949.013	71.5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316.9824 Fn1
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24.0
26.0
28.0
30.0
RT
Abs. Int.
4.47e6
2.24e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.21e6
2.10e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.55e7
7.75e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
9.70e6
4.85e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
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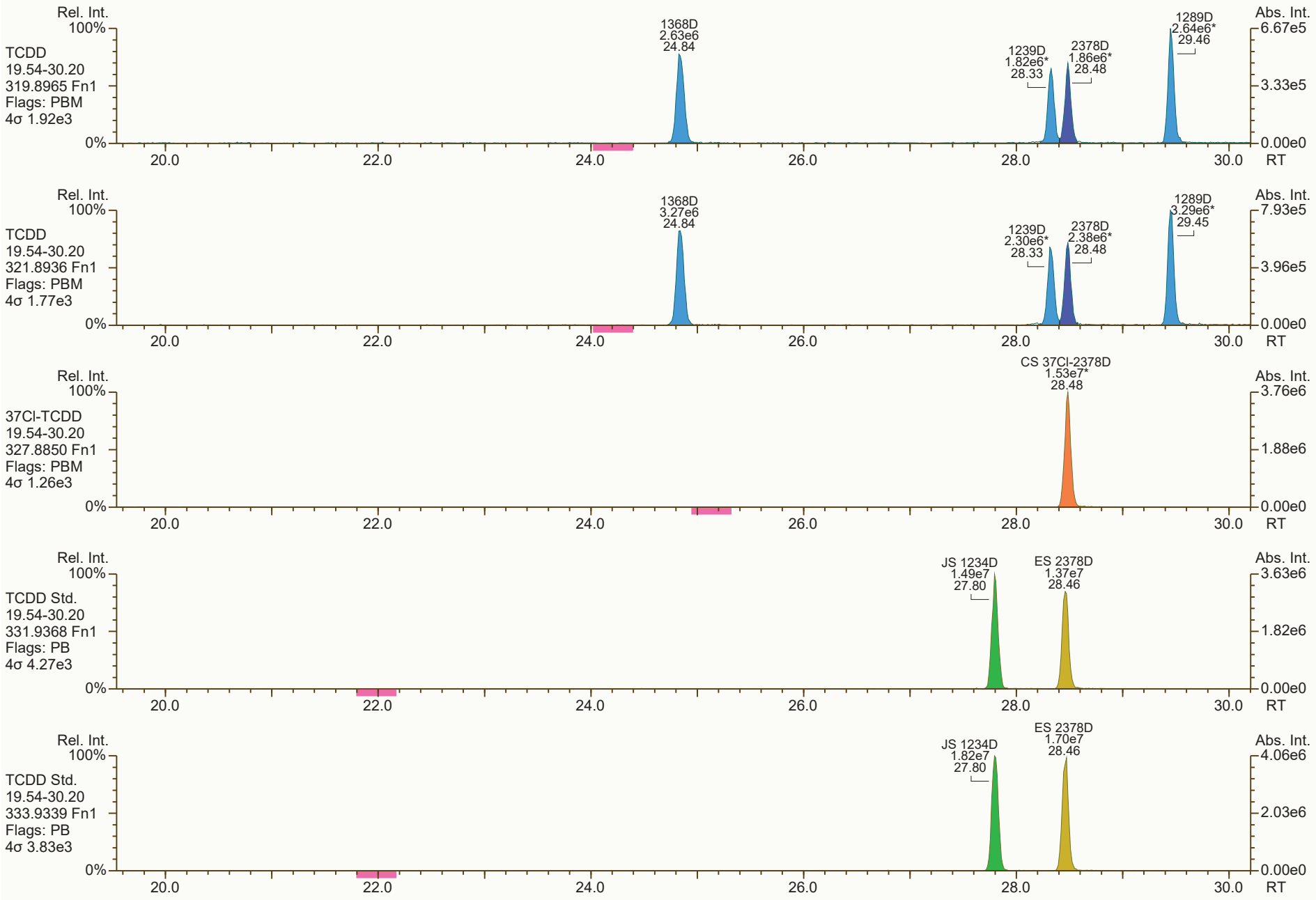
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
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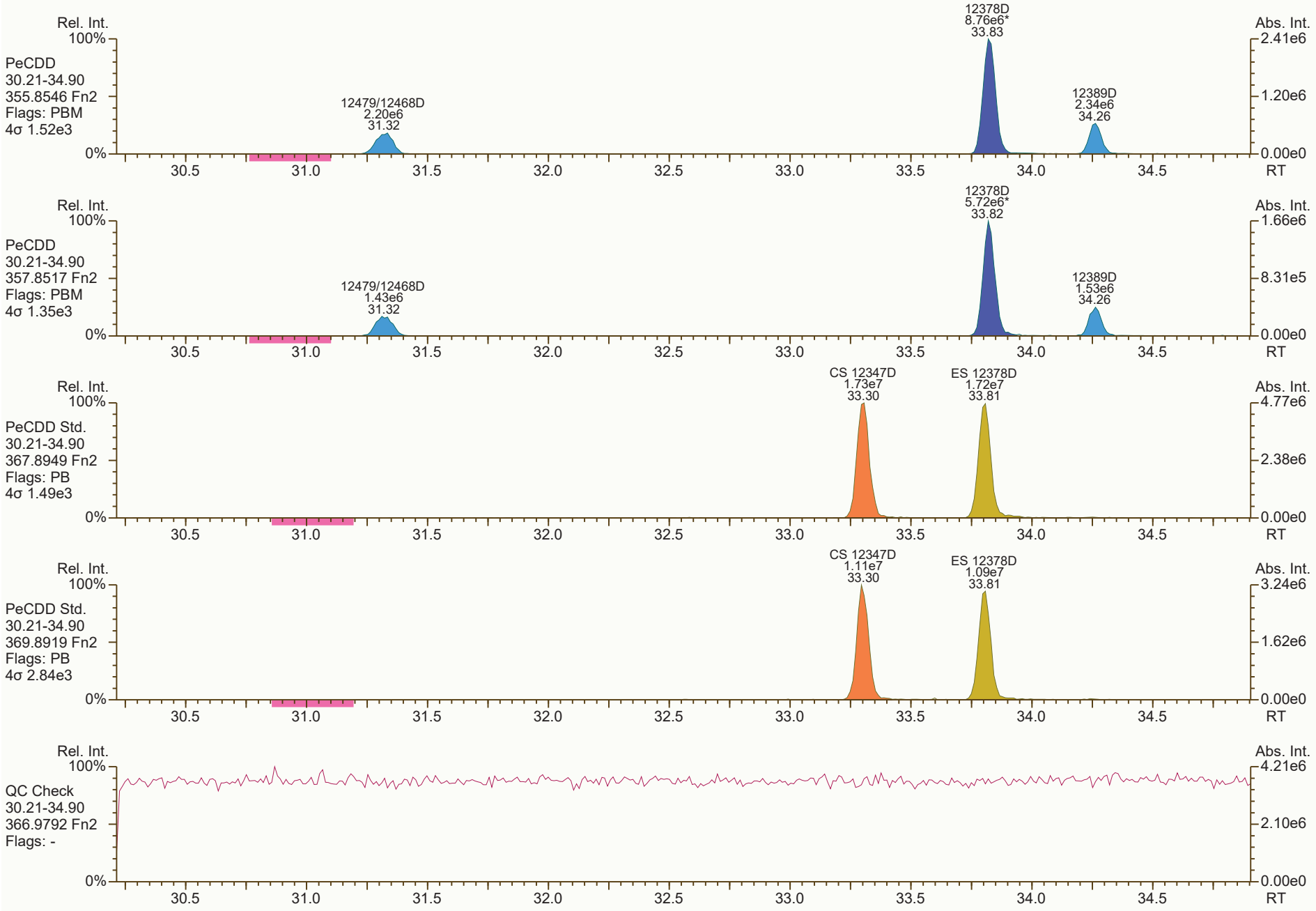
1368D
2.63e6
24.84
1239D
1.82e6*
28.33
2378D
1.86e6*
28.48
1289D
2.64e6*
29.46
Abs. Int.
6.67e5
3.33e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.77e3
1368D
3.27e6
24.84
1239D
2.30e6*
28.33
2378D
2.38e6*
28.48
1289D
3.29e6*
29.45
Abs. Int.
7.93e5
3.96e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PBM
4σ 1.26e3
CS 37Cl-2378D
1.53e7*
28.48
Abs. Int.
3.76e6
1.88e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.27e3
JS 1234D
1.49e7
27.80
ES 2378D
1.37e7
28.46
Abs. Int.
3.63e6
1.82e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.83e3
JS 1234D
1.82e7
27.80
ES 2378D
1.70e7
28.46
Abs. Int.
4.06e6
2.03e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT



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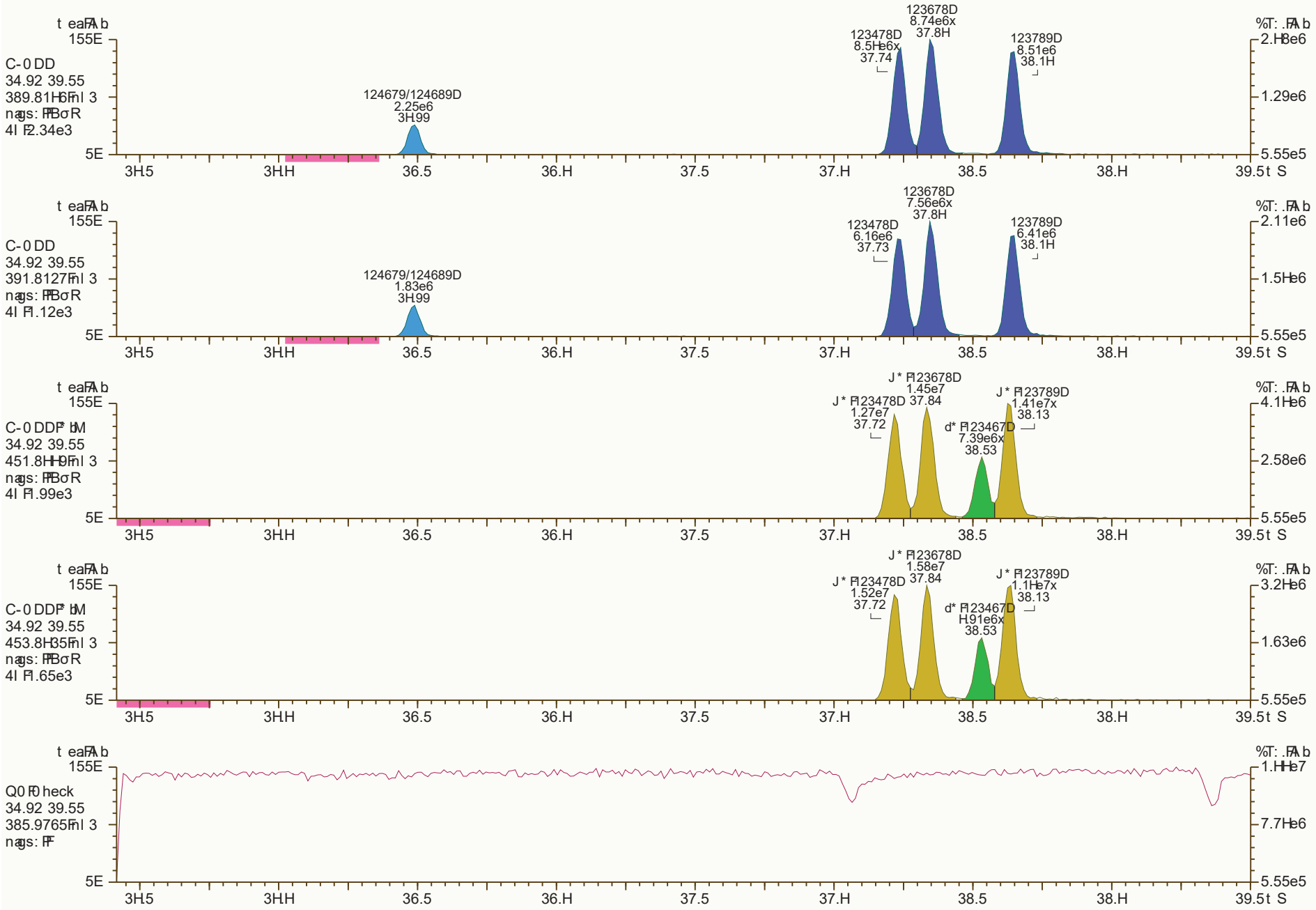
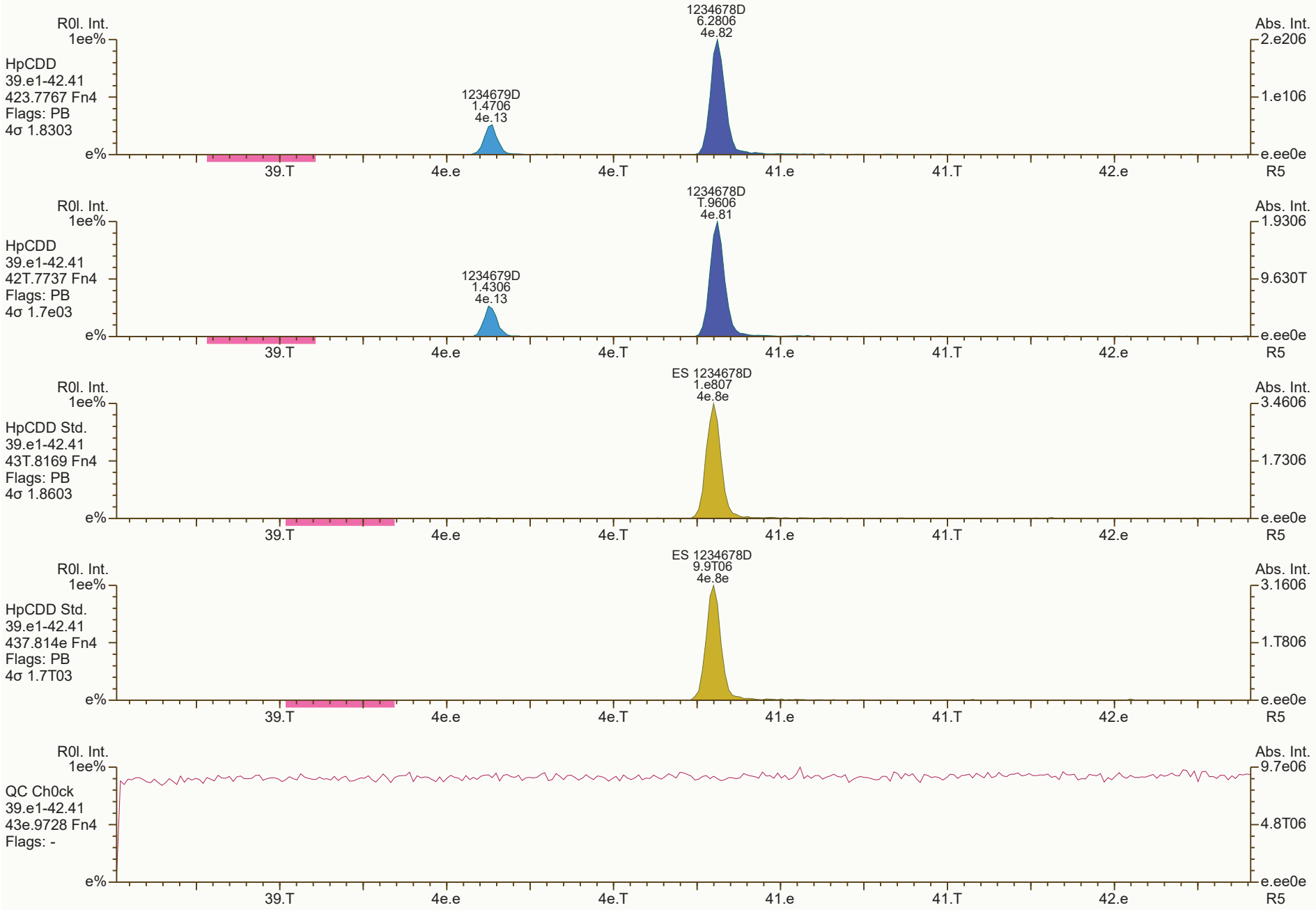
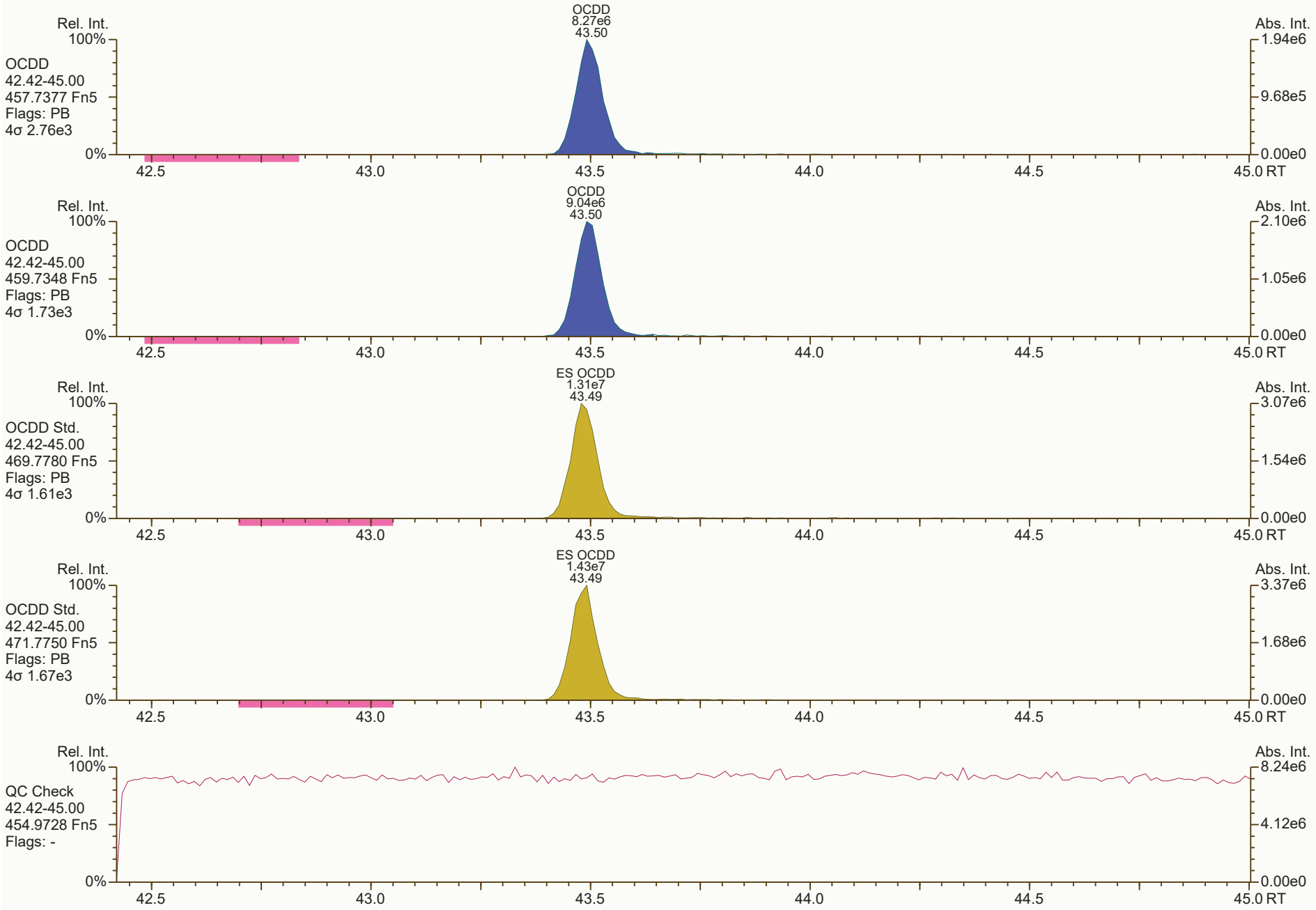
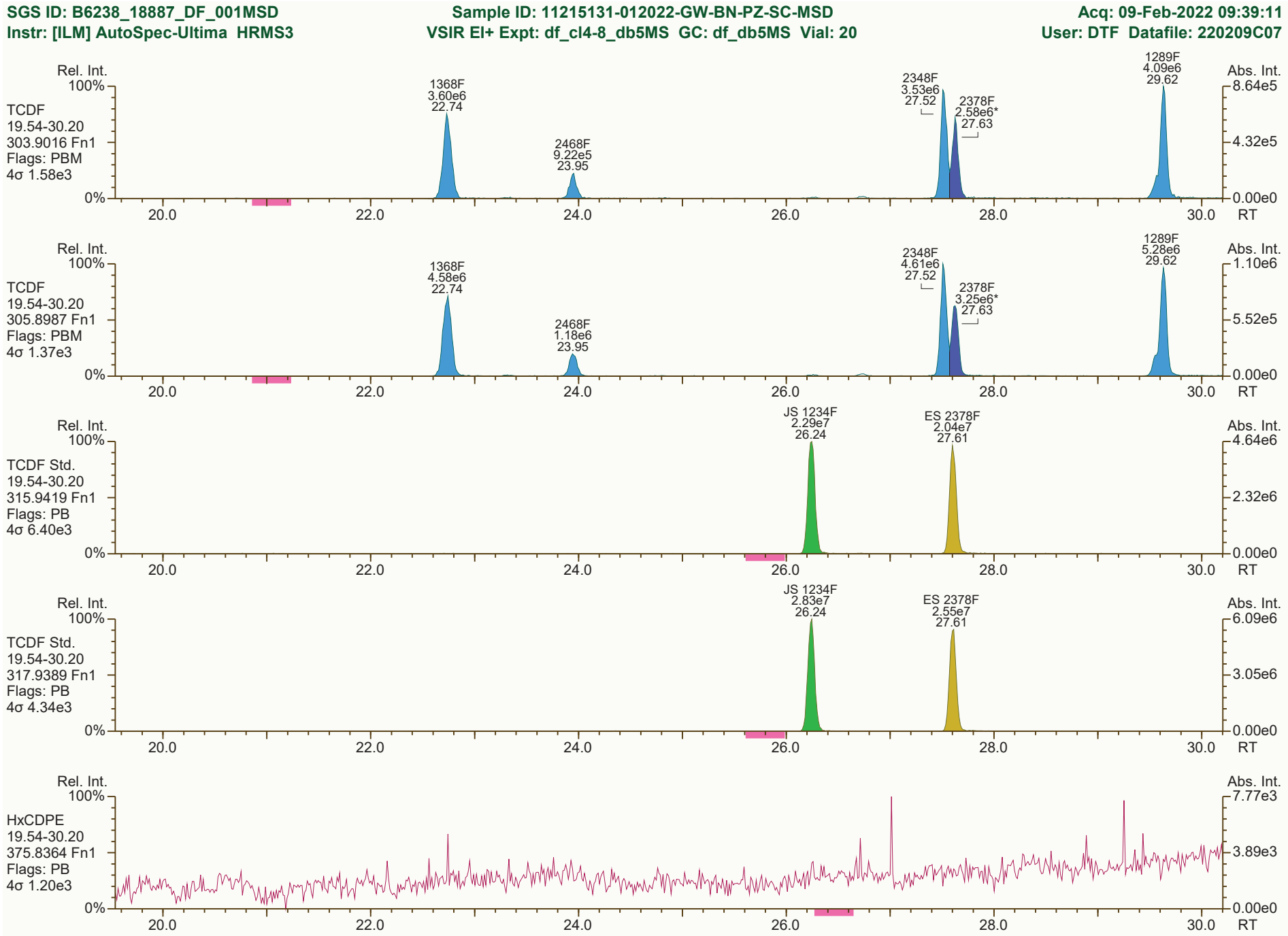
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3187, 6989 scc: 547-243
Revised: 09-Feb-2022 14:25 (DTF) Printed: 09-Feb-2022 17:35 Page 3 of 12

SGS ID: B6238_18887_DF_001MSD
Instr: [ILM] AutoSpec-Ultima HRMS3
Sample ID: 11215131-012022-GW-BN-PZ-SC-MSD
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 20
Acq: 09-Feb-2022 09:39:11
User: DTF Datafile: 220209C07

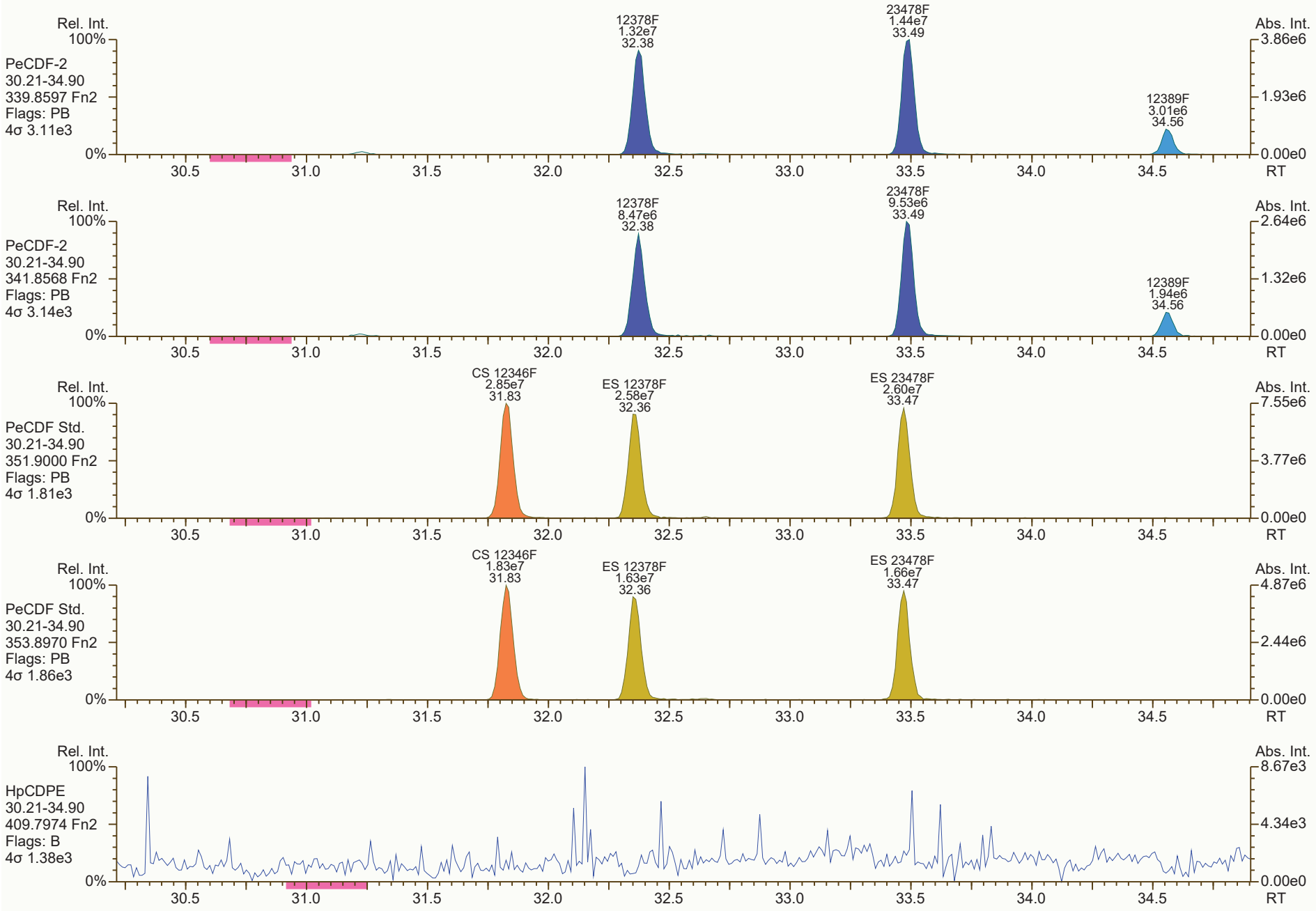


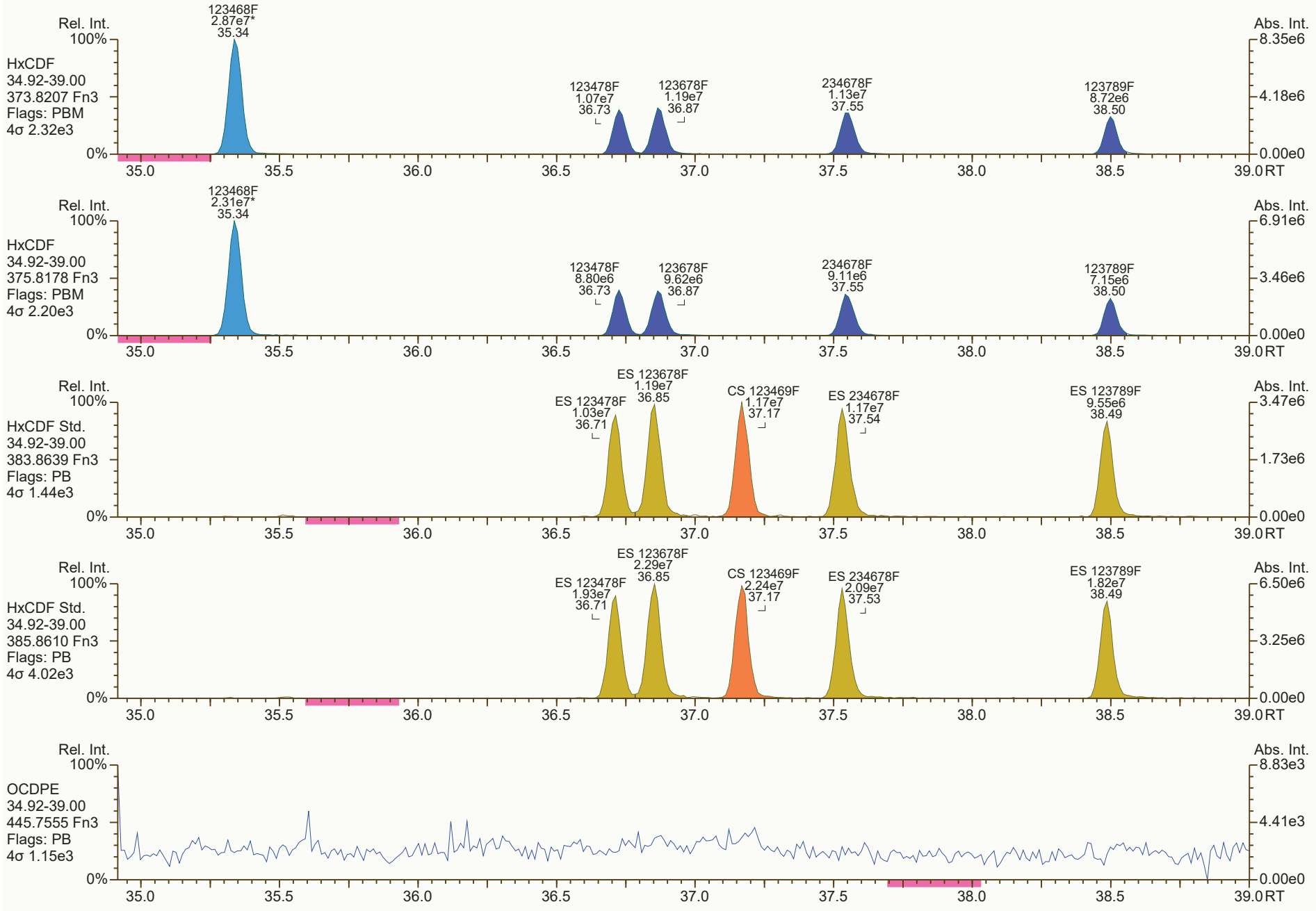

R0l. Int.
1ee%
HpCDD
39.e1-42.41
423.7767 Fn4
Flags: PB
4σ 1.8303
1234678D
6.2806
4e.82
1234679D
1.4706
4e.13
Abs. Int.
2.e206
1.e106
e.ee0e
e%
39.T
4e.e
4e.T
41.e
41.T
42.e
R5
R0l. Int.
1ee%
HpCDD
39.e1-42.41
42T.7737 Fn4
Flags: PB
4σ 1.7e03
1234678D
T.9606
4e.81
1234679D
1.4306
4e.13
Abs. Int.
1.9306
9.630T
e.ee0e
R0l. Int.
1ee%
HpCDD Std.
39.e1-42.41
43T.8169 Fn4
Flags: PB
4σ 1.8603
ES 1234678D
1.e807
4e.8e
Abs. Int.
3.4606
1.7306
e.ee0e
R0l. Int.
1ee%
HpCDD Std.
39.e1-42.41
437.814e Fn4
Flags: PB
4σ 1.7T03
ES 1234678D
9.9T06
4e.8e
Abs. Int.
3.1606
1.T806
e.ee0e
R0l. Int.
1ee%
QC Ch0ck
39.e1-42.41
43e.9728 Fn4
Flags: -
Abs. Int.
9.7e06
4.8T06
e.ee0e

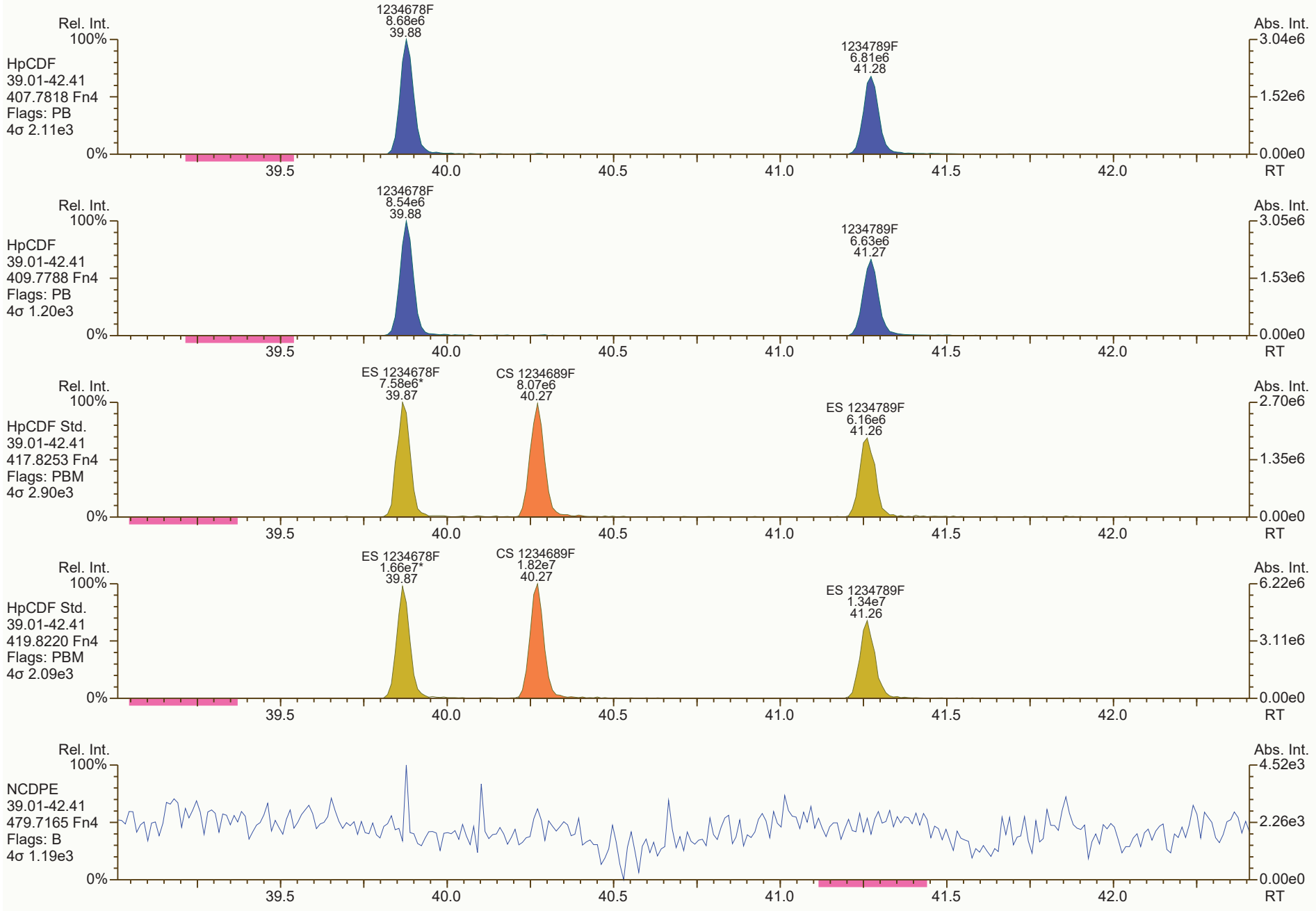

OCDD
8.27e6
43.50
Rel. Int.
Abs. Int.
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 2.76e3
OCDD
9.04e6
43.50
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 1.73e3
ES OCDD
1.31e7
43.49
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 1.61e3
ES OCDD
1.43e7
43.49
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 1.67e3
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT

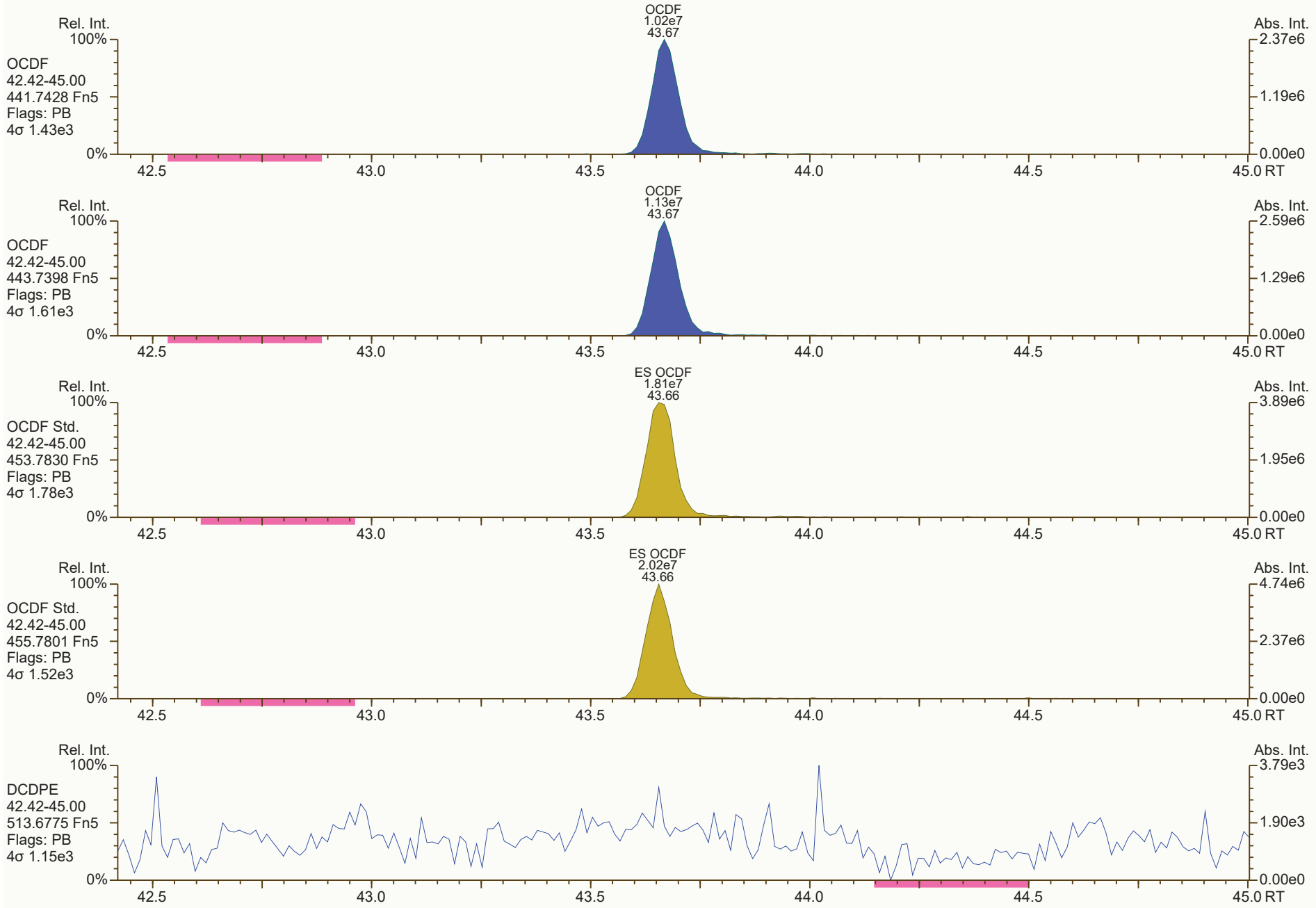

SGS ID: B6238_18887_DF_001MSD
Sample ID: 11215131-012022-GW-BN-PZ-SC-MSD
Acq: 09-Feb-2022 09:39:11
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 20
User: DTF Datafile: 220209C07
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.58e3
1368F 3.60e6 22.74
2468F 9.22e5 23.95
2348F 3.53e6 27.52
2378F 2.58e6* 27.63
1289F 4.09e6 29.62
8.64e5
4.32e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.37e3
1368F 4.58e6 22.74
2468F 1.18e6 23.95
2348F 4.61e6 27.52
2378F 3.25e6* 27.63
1289F 5.28e6 29.62
1.10e6
5.52e5
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 6.40e3
JS 1234F 2.29e7 26.24
ES 2378F 2.04e7 27.61
4.64e6
2.32e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.34e3
JS 1234F 2.83e7 26.24
ES 2378F 2.55e7 27.61
6.09e6
3.05e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.20e3
7.77e3
3.89e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6238\B6238_18887 DF\Resources\B6238_18887_DF_001MSD.utp_res, saved 09-Feb-2022 14:37 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0826, 8193, 7627 scc: 547-243
PKD: 09-Feb-2022 14:28 Printed: 09-Feb-2022 17:35 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.44e3
13468/12468F
2.57e7
29.54
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.23e3
13468/12468F
1.60e7
29.54
Abs. Int.
4.11e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
4.47e6
2.24e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PB
4σ 3.11e3
0%
12378F
1.32e7
32.38
23478F
1.44e7
33.49
12389F
3.01e6
34.56
Abs. Int.
3.86e6
1.93e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PB
4σ 3.14e3
0%
12378F
8.47e6
32.38
23478F
9.53e6
33.49
12389F
1.94e6
34.56
Abs. Int.
2.64e6
1.32e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 1.81e3
0%
CS 12346F
2.85e7
31.83
ES 12378F
2.58e7
32.36
ES 23478F
2.60e7
33.47
Abs. Int.
7.55e6
3.77e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 1.86e3
0%
CS 12346F
1.83e7
31.83
ES 12378F
1.63e7
32.36
ES 23478F
1.66e7
33.47
Abs. Int.
4.87e6
2.44e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.38e3
0%
Abs. Int.
8.67e3
4.34e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 2.32e3
123468F
2.87e7*
35.34
123478F
1.07e7
36.73
123678F
1.19e7
36.87
234678F
1.13e7
37.55
123789F
8.72e6
38.50
Abs. Int.
8.35e6
4.18e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 2.20e3
123468F
2.31e7*
35.34
123478F
8.80e6
36.73
123678F
9.62e6
36.87
234678F
9.11e6
37.55
123789F
7.15e6
38.50
Abs. Int.
6.91e6
3.46e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 1.44e3
ES 123678F
1.19e7
36.85
ES 123478F
1.03e7
36.71
CS 123469F
1.17e7
37.17
ES 234678F
1.17e7
37.54
ES 123789F
9.55e6
38.49
Abs. Int.
3.47e6
1.73e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 4.02e3
ES 123678F
2.29e7
36.85
ES 123478F
1.93e7
36.71
CS 123469F
2.24e7
37.17
ES 234678F
2.09e7
37.53
ES 123789F
1.82e7
38.49
Abs. Int.
6.50e6
3.25e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.15e3
Abs. Int.
8.83e3
4.41e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 2.11e3
1234678F
8.68e6
39.88
1234789F
6.81e6
41.28
Abs. Int.
3.04e6
1.52e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.20e3
1234678F
8.54e6
39.88
1234789F
6.63e6
41.27
Abs. Int.
3.05e6
1.53e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 2.90e3
ES 1234678F
7.58e6*
39.87
CS 1234689F
8.07e6
40.27
ES 1234789F
6.16e6
41.26
Abs. Int.
2.70e6
1.35e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 2.09e3
ES 1234678F
1.66e7*
39.87
CS 1234689F
1.82e7
40.27
ES 1234789F
1.34e7
41.26
Abs. Int.
6.22e6
3.11e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.19e3
Abs. Int.
4.52e3
2.26e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
1.02e7
43.67
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.43e3
0%
Abs. Int.
2.37e6
1.19e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.13e7
43.67
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.61e3
2.59e6
1.29e6
ES OCDF
1.81e7
43.66
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.78e3
3.89e6
1.95e6
ES OCDF
2.02e7
43.66
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 1.52e3
4.74e6
2.37e6
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.15e3
3.79e3
1.90e3

Lab ID: B6238_18887_DF_002 **Acq'd:** 09 Feb 2022 10:25 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-SW **UTP:** 09-Feb-2022 14:37:54 DTF **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 245-743-FNJ

Datafile: 220209C08 **Report:** 09 Feb 2022 17:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	3459.224	2.13
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	2719.29	1.86
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2369.797	1.55
123678-HxCDD	NotFnd		1.0035	-		-	-	-	1.15	-	2369.797	1.54
123789-HxCDD	NotFnd		1.0112	-		-	-	-	1.05	-	2369.797	1.56
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	2302.062	1.95
OCDD	NotFnd		1.0004	-		-	-	-	1.13	-	9150.41	15.1
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	2752.557	1.2
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2866.18	1.34
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2866.18	1.24
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	3134.851	1.43
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3134.851	1.44
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	3134.851	1.37
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3134.851	1.68
1234678-HpCDF	39.86	J	1.0003	1.0001	-0.5	3.96E+04	1.04	Y	1.37	2.63	2713.731	1.28
1234789-HpCDF	NotFnd		1.0002	-		-	-	-	1.31	-	2713.731	1.9
OCDF	NotFnd		1.0003	-		-	-	-	1.07	-	2435.506	3.37

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.45	1.0236	1.0239	+0.5	2.87E+07	0.82	Y	1.05	90.8
ES 12378-PeCDD	33.80	1.2144	1.2162	+3.7	2.65E+07	1.55	Y	0.88	99.7
ES 123478-HxCDD	37.71	0.9920	0.9918	-0.5	2.25E+07	1.26	Y	0.97	97.6
ES 123678-HxCDD	37.83	0.9951	0.9949	-0.5	2.31E+07	1.24	Y	0.94	103
ES 123789-HxCDD	38.12	1.0027	1.0027	0	2.38E+07	1.24	Y	1.09	91.8
ES 1234678-HpCDD	40.79	1.0724	1.0729	+1.2	1.87E+07	1.02	Y	0.91	86.3
ES OCDD	43.47	1.1428	1.1434	+1.6	2.40E+07	0.90	Y	0.62	81
ES 2378-TCDF	27.60	1.0516	1.0520	+0.7	4.61E+07	0.80	Y	1.06	90.4
ES 12378-PeCDF	32.35	1.2312	1.2332	+3.9	3.92E+07	1.53	Y	0.91	89.4
ES 23478-PeCDF	33.46	1.2733	1.2755	+4.4	3.88E+07	1.54	Y	0.88	91.3
ES 123478-HxCDF	36.70	0.9655	0.9653	-0.4	2.80E+07	0.53	Y	1.20	98.2
ES 123678-HxCDF	36.84	0.9692	0.9691	-0.2	3.31E+07	0.54	Y	1.35	103
ES 234678-HxCDF	37.53	0.9871	0.9870	-0.2	3.14E+07	0.53	Y	1.24	106
ES 123789-HxCDF	38.48	1.0121	1.0120	-0.2	2.48E+07	0.52	Y	1.16	90.3
ES 1234678-HpCDF	39.86	1.0479	1.0483	+1.0	2.20E+07	0.45	Y	0.97	95.7
ES 1234789-HpCDF	41.25	1.0845	1.0850	+1.2	1.73E+07	0.46	Y	0.85	85.5
ES OCDF	43.65	1.1477	1.1481	+1.0	3.06E+07	0.90	Y	0.81	79.8

Lab ID: B6238_18887_DF_002 **Acq'd:** 09 Feb 2022 10:25 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-SW **UTP:** 09-Feb-2022 14:37:54 DTF **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 245-743-FNJ

Datafile: 220209C08 **Report:** 09 Feb 2022 17:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.79		-	-	-	3.03E+07	0.81	Y	-	-
JS 1234-TCDF	26.23		-	-	-	4.82E+07	0.78	Y	-	-
JS 123467-HxCDD	38.02		-	-	-	1.19E+07	1.27	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0244	1.0247	+0.5	1.34E+07	n/a	-	1.20	91.9
CS 12347-PeCDD	33.29		1.1964	1.1980	+3.2	2.50E+07	1.57	Y	0.75	109
CS 12346-PeCDF	31.82		1.2112	1.2130	+3.4	4.07E+07	1.57	Y	0.85	99.3
CS 123469-HxCDF	37.16		0.9775	0.9774	-0.2	3.01E+07	0.55	Y	1.12	113
CS 1234689-HpCDF	40.26		1.0584	1.0590	+1.4	2.16E+07	0.44	Y	0.89	103
SS 37Cl-2378-TCDD	28.48		1.0244	1.0247	+0.5	1.34E+07	n/a	-	1.15	101
SS 12347-PeCDD	33.29		1.1964	1.1980	+3.2	2.50E+07	1.57	Y	0.86	110
SS 12346-PeCDF	31.82		1.2112	1.2130	+3.4	4.07E+07	1.57	Y	0.94	111
SS 123469-HxCDF	37.16		0.9775	0.9774	-0.2	3.01E+07	0.55	Y	0.83	110
SS 1234689-HpCDF	40.26		1.0584	1.0590	+1.4	2.16E+07	0.44	Y	0.92	107

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	3.55	3.55
Total HpCDF	2.63	2.63
Total Tetra-Octa Furans	6.17	6.17
Total Tetra-Octa Dioxins & Furans	6.17	6.17

Lab ID: B6238_18887_DF_002 **Acq'd:** 09 Feb 2022 10:25 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-SW **UTP:** 09-Feb-2022 14:37:54 DTF **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 245-743-FNJ

Datafile: 220209C08 **Report:** 09 Feb 2022 17:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8737						1.18		3459.224	2.13
1379-TCDD	NotFnd		0.8860						1.18		3459.224	2.13
1369-TCDD	NotFnd		0.9009						1.18		3459.224	2.13
1469-TCDD	NotFnd		0.9281						1.18		3459.224	2.13
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3459.224	2.13
1378-TCDD	NotFnd		0.9432						1.18		3459.224	2.13
1268-TCDD	NotFnd		0.9500						1.18		3459.224	2.13
1478-TCDD	NotFnd		0.9586						1.18		3459.224	2.13
1279-TCDD	NotFnd		0.9645						1.18		3459.224	2.13
1234/1269-TCDD	NotFnd		0.9770						1.18		3459.224	2.13
1236-TCDD	NotFnd		0.9817						1.18		3459.224	2.13
1237/1238-TCDD	NotFnd		0.9905						1.18		3459.224	2.13
1239-TCDD	NotFnd		0.9952						1.18		3459.224	2.13
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**3459.224**	**2.13**
1278-TCDD	NotFnd		1.0121						1.18		3459.224	2.13
1267-TCDD	NotFnd		1.0167						1.18		3459.224	2.13
1289-TCDD	NotFnd		1.0345						1.18		3459.224	2.13
12479/12468-PeCDD	NotFnd		0.9267						1.04		2719.29	1.86
12469-PeCDD	NotFnd		0.9425						1.04		2719.29	1.86
12368-PeCDD	NotFnd		0.9588						1.04		2719.29	1.86
12478-PeCDD	NotFnd		0.9643						1.04		2719.29	1.86
12379-PeCDD	NotFnd		0.9673						1.04		2719.29	1.86
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		2719.29	1.86
12346/12347-PeCDD	NotFnd		0.9858						1.04		2719.29	1.86
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**2719.29**	**1.86**
12367-PeCDD	NotFnd		1.0033						1.04		2719.29	1.86
12389-PeCDD	NotFnd		1.0134						1.04		2719.29	1.86
124679/124689-HxCDD	NotFnd		0.9542						1.10		2369.797	1.55
123468-HxCDD	NotFnd		0.9715						1.10		2369.797	1.55
123679/123689-HxCDD	NotFnd		0.9793						1.10		2369.797	1.55
123469-HxCDD	NotFnd		0.9828						1.10		2369.797	1.55
123478-HxCDD	NotFnd		**1.0004**						1.09		**2369.797**	**1.55**
123678-HxCDD	NotFnd		**1.0035**						1.15		**2369.797**	**1.54**
123467-HxCDD	NotFnd		1.0085						1.10		2369.797	1.55
123789-HxCDD	NotFnd		**1.0112**						1.05		**2369.797**	**1.56**

Lab ID: B6238_18887_DF_002 **Acq'd:** 09 Feb 2022 10:25 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-SW **UTP:** 09-Feb-2022 14:37:54 DTF **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 245-743-FNJ

Datafile: 220209C08 **Report:** 09 Feb 2022 17:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

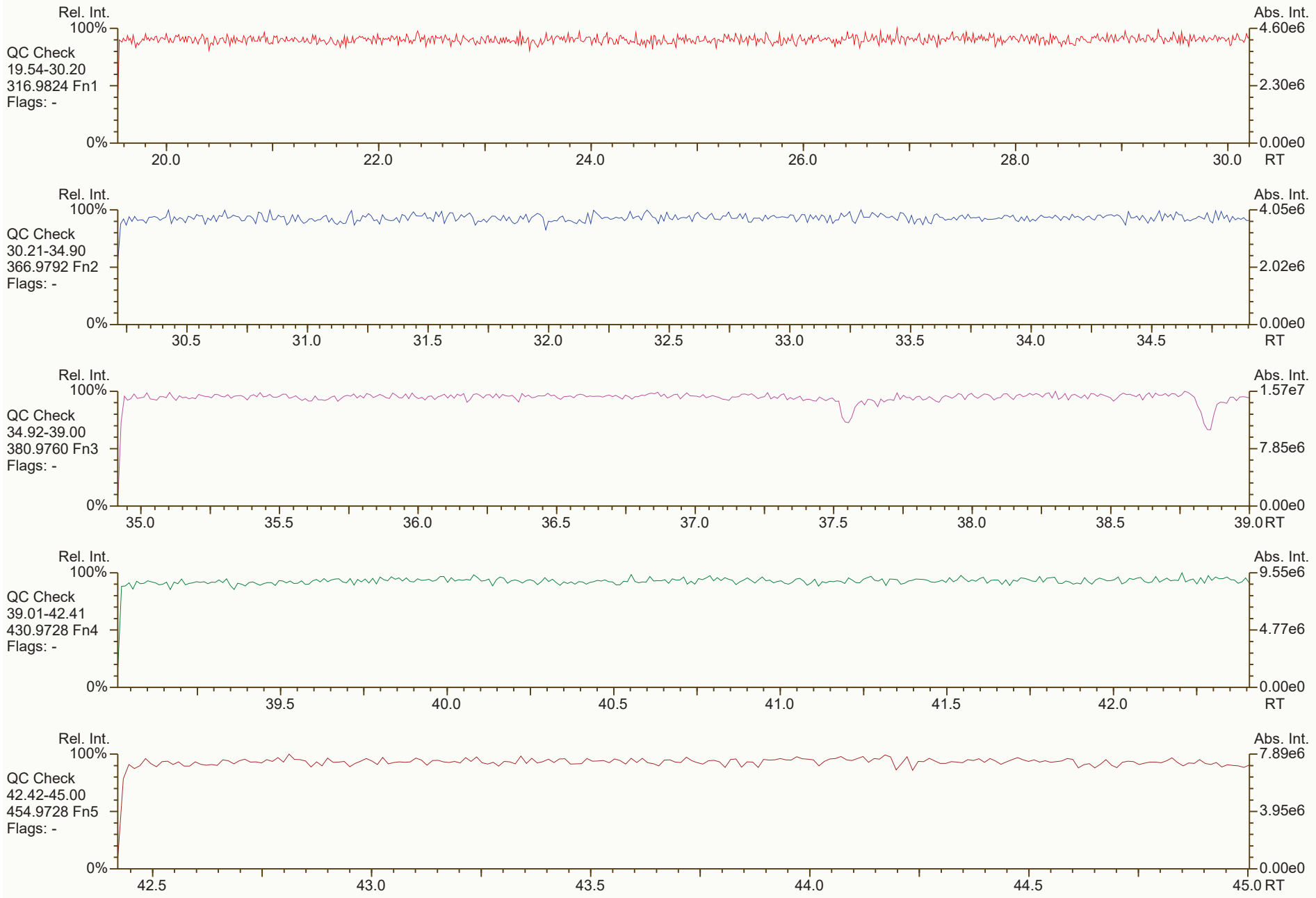
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9837						1.06		2302.062	1.95
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**2302.062**	**1.95**
OCDD	**NotFnd**		**1.0004**						**1.13**		**9150.41**	**15.1**
OCDD-a	NotFnd		1.0003						0.07		3439.39	89
1368-TCDF	NotFnd		0.8251						1.08		2752.557	1.2
1468-TCDF	NotFnd		0.8458						1.08		2752.557	1.2
2468-TCDF	NotFnd		0.8686						1.08		2752.557	1.2
1346/1246-TCDF	NotFnd		0.8814						1.08		2752.557	1.2
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2752.557	1.2
1348-TCDF	NotFnd		0.8962						1.08		2752.557	1.2
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2752.557	1.2
1268-TCDF	NotFnd		0.9145						1.08		2752.557	1.2
1467-TCDF	NotFnd		0.9193						1.08		2752.557	1.2
1478-TCDF	NotFnd		0.9254						1.08		2752.557	1.2
1369/1237-TCDF	NotFnd		0.9387						1.08		2752.557	1.2
2467-TCDF	NotFnd		0.9433						1.08		2752.557	1.2
2368-TCDF	NotFnd		0.9489						1.08		2752.557	1.2
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2752.557	1.2
1278-TCDF	NotFnd		0.9683						1.08		2752.557	1.2
1349-TCDF	NotFnd		0.9722						1.08		2752.557	1.2
1267-TCDF	NotFnd		0.9783						1.08		2752.557	1.2
2346/1249-TCDF	NotFnd		0.9850						1.08		2752.557	1.2
2347/1279-TCDF	NotFnd		0.9926						1.08		2752.557	1.2
2348-TCDF	NotFnd		0.9967						1.08		2752.557	1.2
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**2752.557**	**1.2**
2367/3467-TCDF	NotFnd		1.0137						1.08		2752.557	1.2
1269-TCDF	NotFnd		1.0223						1.08		2752.557	1.2
1239-TCDF	NotFnd		1.0321						1.08		2752.557	1.2
1289-TCDF	NotFnd		1.0722						1.08		2752.557	1.2
13468/12468-PeCDF	NotFnd		0.9139						1.02		2749.802	1.24
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		2866.18	1.29
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		2866.18	1.29
14678-PeCDF	NotFnd		0.9692						1.02		2866.18	1.29
13479-PeCDF	NotFnd		0.9723						1.02		2866.18	1.29
13469/12479-PeCDF	NotFnd		0.9797						1.02		2866.18	1.29
12346-PeCDF	NotFnd		0.9840						1.02		2866.18	1.29

Lab ID: B6238_18887_DF_002 **Acq'd:** 09 Feb 2022 10:25 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-SW **UTP:** 09-Feb-2022 14:37:54 DTF **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 245-743-FNJ

Datafile: 220209C08 **Report:** 09 Feb 2022 17:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		2866.18	1.29
12347-PeCDF	NotFnd		0.9894						1.02		2866.18	1.29
12348-PeCDF	NotFnd		0.9940						1.02		2866.18	1.29
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2866.18**	**1.34**
12678/12367-PeCDF	NotFnd		1.0089						1.02		2866.18	1.29
12379-PeCDF	NotFnd		1.0142						1.02		2866.18	1.29
12679-PeCDF	NotFnd		0.9929						1.02		2866.18	1.29
23467/12369-PeCDF	NotFnd		0.9967						1.02		2866.18	1.29
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2866.18**	**1.24**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2866.18	1.29
12349-PeCDF	NotFnd		1.0100						1.02		2866.18	1.29
12389-PeCDF	NotFnd		1.0324						1.02		2866.18	1.29
123468-HxCDF	35.33	J	0.9627	0.9627	0	6.20E+04	1.34	Y	1.19	3.55	3134.851	1.47
124678/134678-HxCDF	NotFnd		0.9682						1.19		3134.851	1.47
134679-HxCDF	NotFnd		0.9744						1.19		3134.851	1.47
124679-HxCDF	NotFnd		0.9798						1.19		3134.851	1.47
124689-HxCDF	NotFnd		0.9858						1.19		3134.851	1.47
123467-HxCDF	NotFnd		0.9972						1.19		3134.851	1.47
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**3134.851**	**1.43**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3134.851**	**1.44**
123479-HxCDF	NotFnd		1.0049						1.19		3134.851	1.47
123469-HxCDF	NotFnd		1.0090						1.19		3134.851	1.47
123679-HxCDF	NotFnd		0.9942						1.19		3134.851	1.47
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**3134.851**	**1.37**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3134.851	1.47
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3134.851**	**1.68**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		3134.851	1.47
1234678-HpCDF	**39.86**	**J**	**1.0003**	**1.0001**	**-0.5**	**3.96E+04**	**1.04**	**Y**	**1.37**	**2.63**	**2713.731**	**1.28**
1234679-HpCDF	NotFnd		1.0068						1.34		2713.731	1.55
1234689-HpCDF	NotFnd		1.0103						1.34		2713.731	1.55
1234789-HpCDF	**NotFnd**		**1.0002**						**1.31**		**2713.731**	**1.9**
OCDF	**NotFnd**		**1.0003**						**1.07**		**2435.506**	**3.37**
OCDF-a	NotFnd		1.0002						0.07		3295.427	73.7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QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.60e6
2.30e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.05e6
2.02e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.57e7
7.85e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
9.55e6
4.77e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
7.89e6
3.95e6
0.00e0

SGS ID: B6238_18887_DF_002 SMa mpl ID: 1121e1315 0120225G- 5BW5NP5S- ZCA: 0c5Fl q5 2022 10:2e:30
I9bns: tlr [LZ] ruSm1 C5 opla M i H[S3 RSIH VIE V+mn xd_Cpf 5B_xqe[S G4 : xd_xqe[S RUMp 21 obl s: DTF DMnMdpl : 22020c4 08




Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: B
4σ 1.44e3
0%
Abs. Int.
1.13e4
5.67e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: B
4σ 1.28e3
0%
Abs. Int.
6.96e3
3.48e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 1.62e3
0%
CS 12347D
1.52e7
33.29
ES 12378D
1.61e7
33.80
Abs. Int.
4.29e6
2.14e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.70e3
0%
CS 12347D
9.72e6
33.29
ES 12378D
1.04e7
33.80
Abs. Int.
2.74e6
1.37e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.05e6
2.02e6
0.00e0
30.5
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31.5
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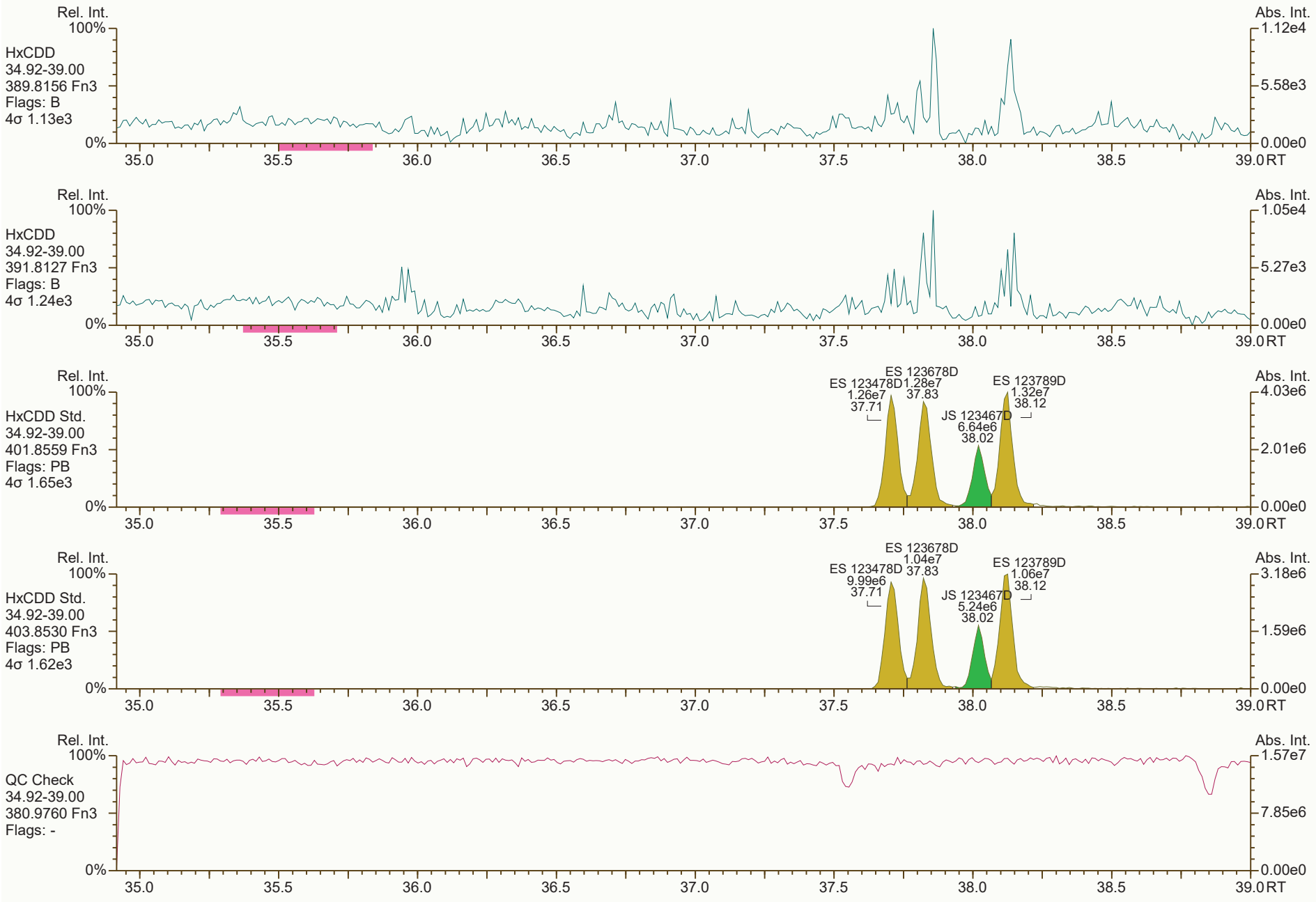
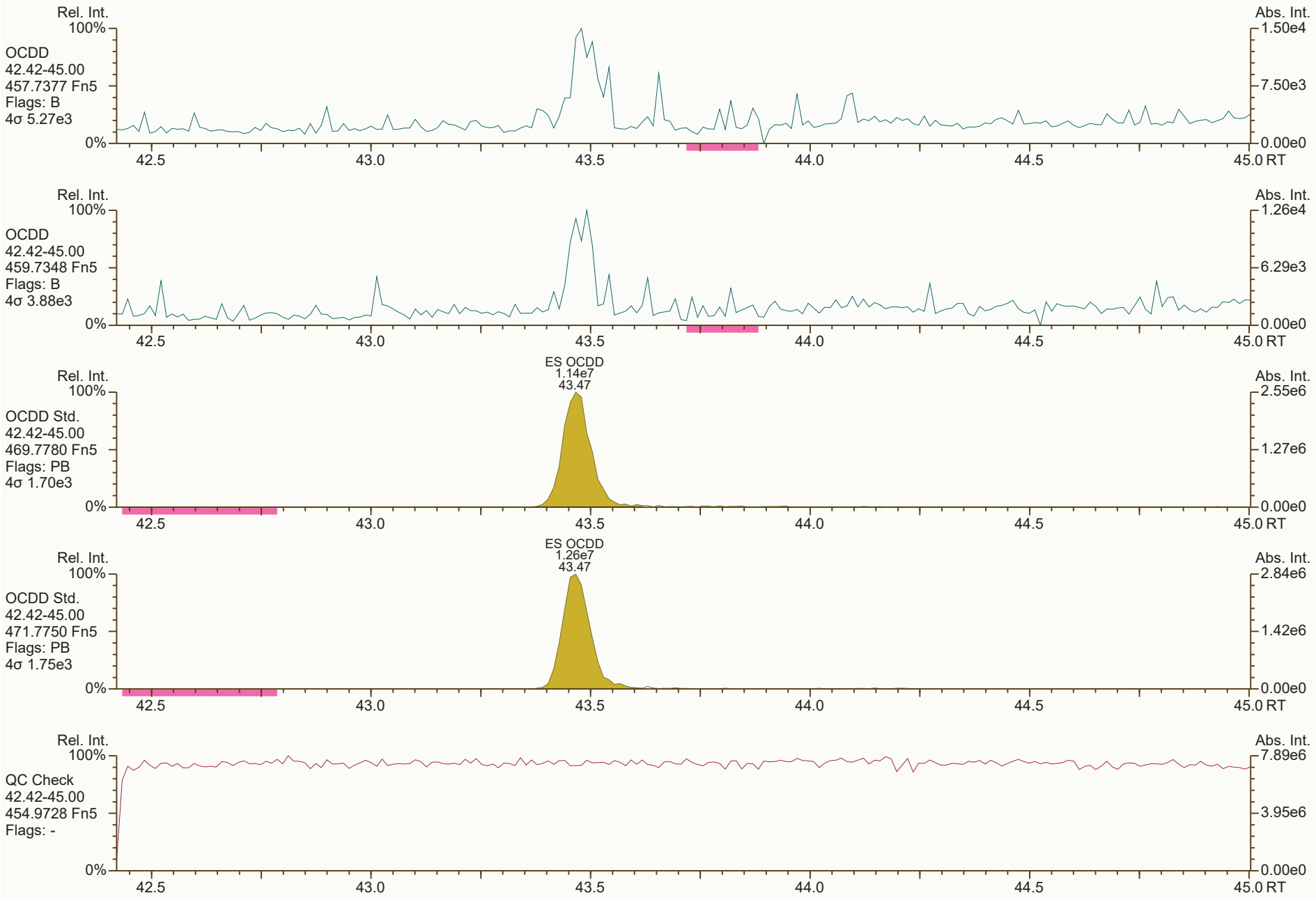
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: B
4σ 1.13e3
0%
Abs. Int.
1.12e4
5.58e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: B
4σ 1.24e3
0%
Abs. Int.
1.05e4
5.27e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 1.65e3
0%
ES 123678D
1.28e7
37.83
ES 123478D
1.26e7
37.71
ES 123789D
1.32e7
38.12
JS 123467D
6.64e6
38.02
Abs. Int.
4.03e6
2.01e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 1.62e3
0%
ES 123678D
1.04e7
37.83
ES 123478D
9.99e6
37.71
ES 123789D
1.06e7
38.12
JS 123467D
5.24e6
38.02
Abs. Int.
3.18e6
1.59e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.57e7
7.85e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.13e3
0%
Abs. Int.
7.00e3
3.50e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: B
4σ 1.18e3
0%
Abs. Int.
1.07e4
5.34e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
9.43e6
40.79
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.78e3
0%
Abs. Int.
2.81e6
1.41e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
9.28e6
40.79
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.38e3
0%
Abs. Int.
2.97e6
1.48e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
9.55e6
4.77e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: B
4σ 5.27e3
0%
Abs. Int.
1.50e4
7.50e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: B
4σ 3.88e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.14e7
43.47
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 1.70e3
0%
Abs. Int.
2.55e6
1.27e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.26e7
43.47
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 1.75e3
0%
Abs. Int.
2.84e6
1.42e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.89e6
3.95e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: B6238_18887_DF_002
SMa mp ID: 1121e1315 0120225G- 5BW5NP5S-
ZCA: 0c5Fl q52022 10:2e:30
I9bns: tlr [LZ] nuSml C5opta M i H[S3
RSIH VIE V+mn xd_Qpf 5B_xqe[S G4 : xd_xqe[S RUWp 21
obl s: DTF DMrMdp : 22020c4 08
Rel. Int.
Abs. Int.
100%
0%
TCDF
19.54-30.20
303.9016 Fn1
Flags: B
4σ 1.52e3
1.09e4
5.45e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 1.23e3
1.29e4
6.45e3
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 6.21e3
JS 1234F
2.11e7
26.23
ES 2378F
2.05e7
27.60
4.73e6
2.37e6
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 5.48e3
JS 1234F
2.71e7
26.23
ES 2378F
2.56e7
27.60
5.88e6
2.94e6
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.30e3
1.26e4
6.29e3
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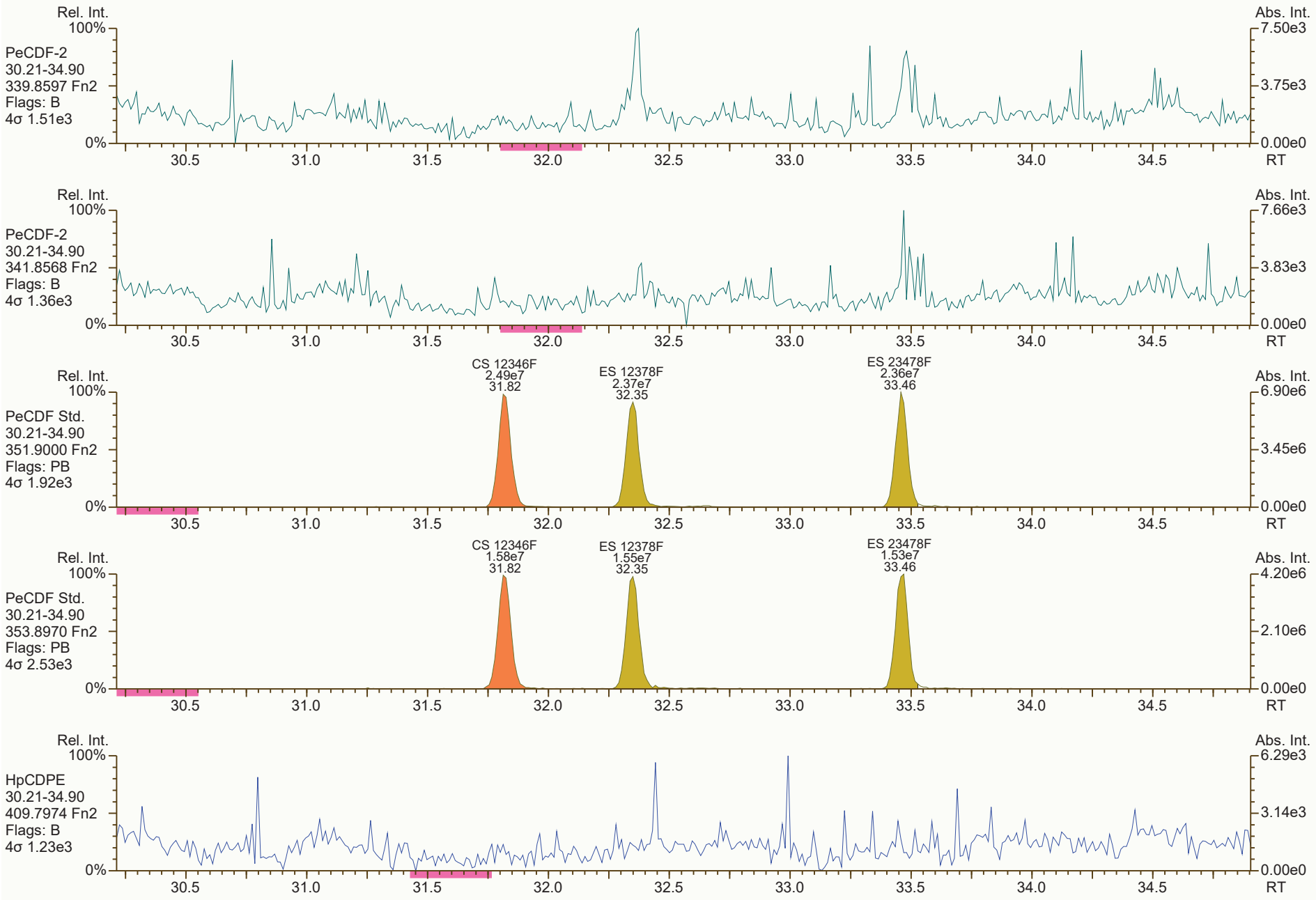
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7214, 6388, 4360 scc: 245-743
Revised: 09-Feb-2022 14:29 (DTF) Printed: 09-Feb-2022 14:50 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.51e4
7.55e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.46e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.20e4
5.99e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.29e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.60e6
2.30e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT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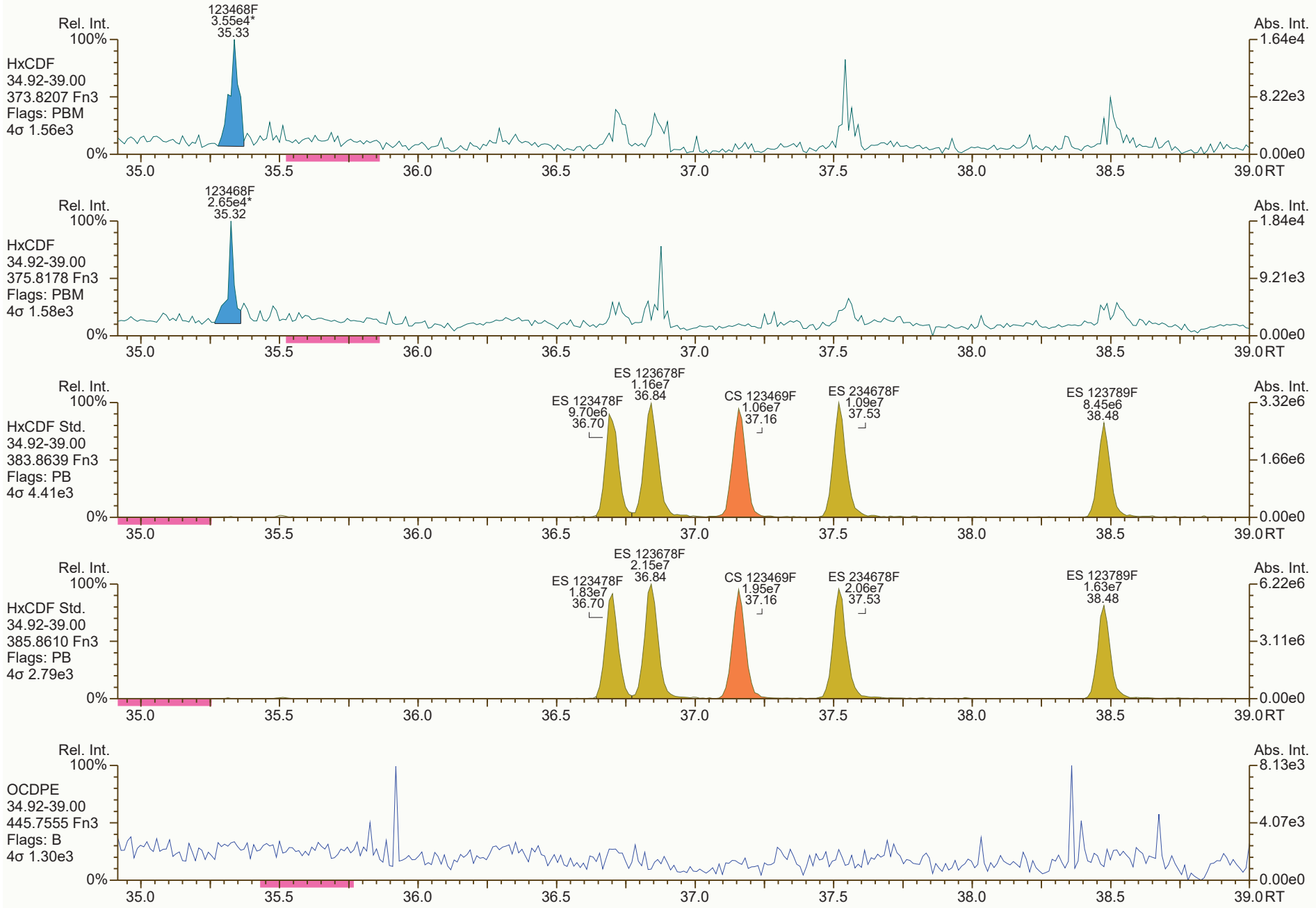
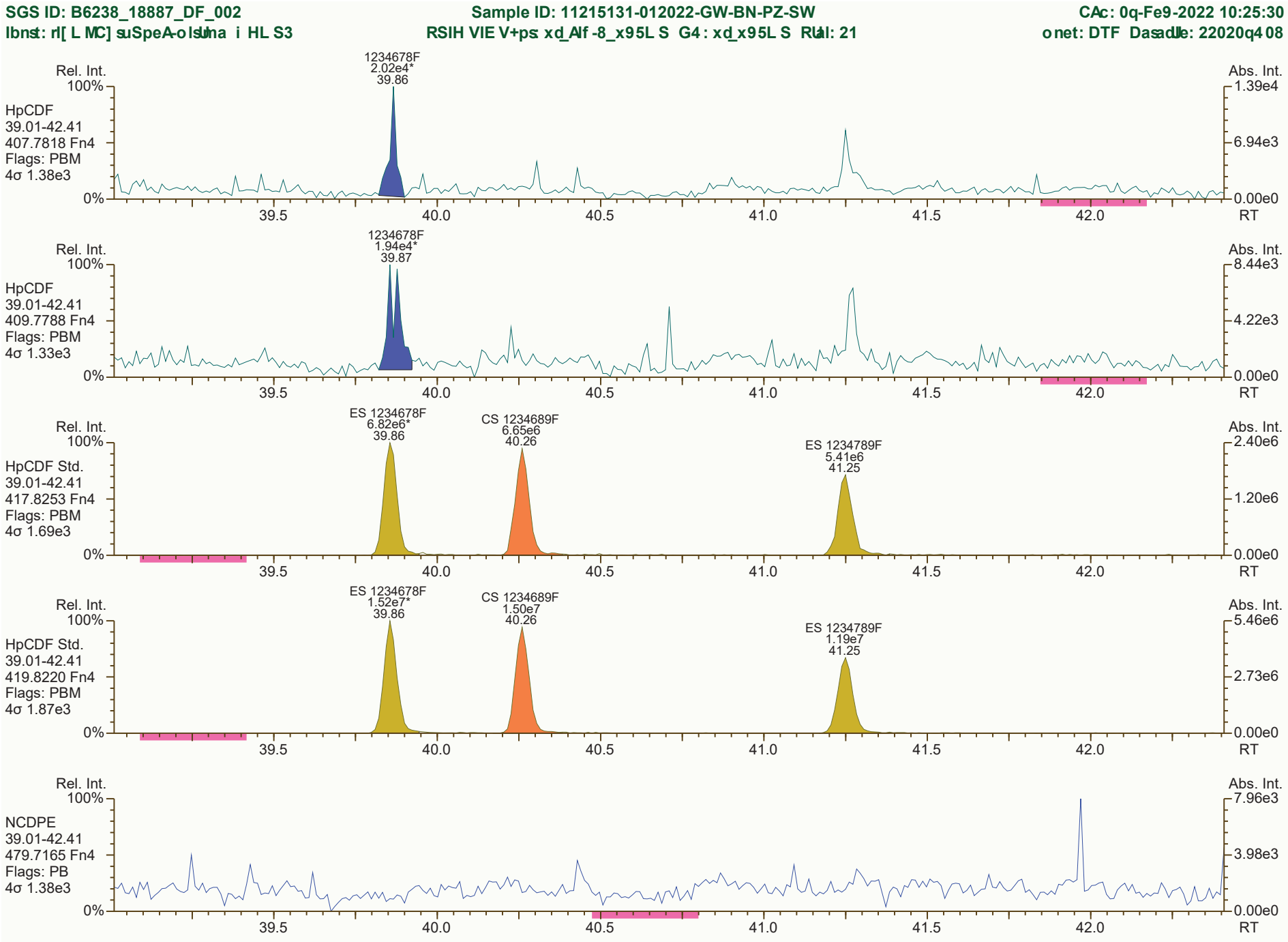
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: B
4σ 1.51e3
0%
Abs. Int.
7.50e3
3.75e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: B
4σ 1.36e3
7.66e3
3.83e3
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 1.92e3
CS 12346F
2.49e7
31.82
ES 12378F
2.37e7
32.35
ES 23478F
2.36e7
33.46
6.90e6
3.45e6
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 2.53e3
CS 12346F
1.58e7
31.82
ES 12378F
1.55e7
32.35
ES 23478F
1.53e7
33.46
4.20e6
2.10e6
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.23e3
6.29e3
3.14e3


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 1.56e3
123468F
3.55e4*
35.33
Abs. Int.
1.64e4
8.22e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 1.58e3
123468F
2.65e4*
35.32
Abs. Int.
1.84e4
9.21e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 4.41e3
ES 123478F
9.70e6
36.70
ES 123678F
1.16e7
36.84
CS 123469F
1.06e7
37.16
ES 234678F
1.09e7
37.53
ES 123789F
8.45e6
38.48
Abs. Int.
3.32e6
1.66e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 2.79e3
ES 123478F
1.83e7
36.70
ES 123678F
2.15e7
36.84
CS 123469F
1.95e7
37.16
ES 234678F
2.06e7
37.53
ES 123789F
1.63e7
38.48
Abs. Int.
6.22e6
3.11e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.30e3
Abs. Int.
8.13e3
4.07e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: B6238_18887_DF_002
Sample ID: 11215131-012022-GW-BN-PZ-SW
Ibnst: rl[L MC] suSpeA-olsUna i HL S3
RSIH VIE V+ps: xd_Alf -8_x95L S G4 : xd_x95L S Rul: 21
onet: DTF Dasadle: 22020q4 08
Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 1.38e3
1234678F
2.02e4*
39.86
Abs. Int.
1.39e4
6.94e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 1.33e3
1234678F
1.94e4*
39.87
Abs. Int.
8.44e3
4.22e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 1.69e3
ES 1234678F
6.82e6*
39.86
CS 1234689F
6.65e6
40.26
ES 1234789F
5.41e6
41.25
Abs. Int.
2.40e6
1.20e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 1.87e3
ES 1234678F
1.52e7*
39.86
CS 1234689F
1.50e7
40.26
ES 1234789F
1.19e7
41.25
Abs. Int.
5.46e6
2.73e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.38e3
Abs. Int.
7.96e3
3.98e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6238\B6238_18887 DF\Resources\B6238_18887_DF_002.utp_res, saved 09-Feb-2022 14:37 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5718, 9733, 8825 scc: 245-743
Revised: 09-Feb-2022 14:30 (DTF) Printed: 09-Feb-2022 14:50 Page 11 of 12


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: B
4σ 1.28e3
0%
Abs. Int.
7.15e3
3.57e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: B
4σ 1.16e3
0%
Abs. Int.
1.41e4
7.04e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.45e7
43.65
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.83e3
0%
Abs. Int.
3.20e6
1.60e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.61e7
43.65
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 1.59e3
0%
Abs. Int.
3.57e6
1.78e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.06e3
0%
Abs. Int.
4.27e3
2.14e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6238_18887_DF_003 **Acq'd:** 09 Feb 2022 11:11 DTF **Wt/Vol:** 0.99 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-NC **UTP:** 09-Feb-2022 14:37:55 DTF **J-level:** 5.05 pg/L **Split:** 1 **Checkcode:** 216-586-JHG

Datafile: 220209C09 **Report:** 09 Feb 2022 17:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	3531.481	2.37
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	2594.507	2
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	1926.6151	1.54
123678-HxCDD	NotFnd		1.0035	-		-	-	-	1.15	-	1926.6151	1.36
123789-HxCDD	NotFnd		1.0112	-		-	-	-	1.05	-	1926.6151	1.36
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	3232.851	2.61
OCDD	NotFnd		1.0004	-		-	-	-	1.13	-	3308.876	5.83
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	2328.975	1.15
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2564.5367	1.26
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2564.5367	1.22
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2412.8841	1.27
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2412.8841	1.24
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2412.8841	1.3
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2412.8841	1.48
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2319.879	1.19
1234789-HpCDF	NotFnd		1.0002	-		-	-	-	1.31	-	2319.879	1.85
OCDF	NotFnd		1.0003	-		-	-	-	1.07	-	2305.553	3.27

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46	1.0236	1.0239	+0.5	2.63E+07	0.81	Y	1.05	84.6
ES 12378-PeCDD	33.80	1.2144	1.2160	+3.2	2.37E+07	1.60	Y	0.88	90.8
ES 123478-HxCDD	37.72	0.9920	0.9919	-0.2	2.05E+07	1.29	Y	0.97	89.5
ES 123678-HxCDD	37.84	0.9951	0.9950	-0.2	2.17E+07	1.21	Y	0.94	97.6
ES 123789-HxCDD	38.13	1.0027	1.0027	0	2.32E+07	1.28	Y	1.09	90.3
ES 1234678-HpCDD	40.80	1.0724	1.0730	+1.5	1.80E+07	1.05	Y	0.91	84
ES OCDD	43.48	1.1428	1.1433	+1.3	2.25E+07	0.90	Y	0.62	76.8
ES 2378-TCDF	27.60	1.0516	1.0520	+0.7	4.10E+07	0.81	Y	1.06	82.4
ES 12378-PeCDF	32.36	1.2312	1.2331	+3.7	3.70E+07	1.57	Y	0.91	86.5
ES 23478-PeCDF	33.47	1.2733	1.2756	+4.6	3.73E+07	1.56	Y	0.88	90
ES 123478-HxCDF	36.71	0.9655	0.9654	-0.2	2.54E+07	0.55	Y	1.20	90.1
ES 123678-HxCDF	36.85	0.9692	0.9691	-0.2	3.04E+07	0.52	Y	1.35	95.8
ES 234678-HxCDF	37.53	0.9871	0.9870	-0.2	2.88E+07	0.55	Y	1.24	98.7
ES 123789-HxCDF	38.48	1.0121	1.0121	0	2.30E+07	0.54	Y	1.16	84.8
ES 1234678-HpCDF	39.86	1.0479	1.0483	+1.0	2.04E+07	0.45	Y	0.97	89.5
ES 1234789-HpCDF	41.26	1.0845	1.0850	+1.2	1.63E+07	0.48	Y	0.85	81.4
ES OCDF	43.66	1.1477	1.1482	+1.3	2.85E+07	0.90	Y	0.81	74.9

Lab ID: B6238_18887_DF_003 **Acq'd:** 09 Feb 2022 11:11 DTF **Wt/Vol:** 0.99 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-NC **UTP:** 09-Feb-2022 14:37:55 DTF **J-level:** 5.05 pg/L **Split:** 1 **Checkcode:** 216-586-JHG

Datafile: 220209C09 **Report:** 09 Feb 2022 17:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.80		-	-	-	2.97E+07	0.84	Y	-	-
JS 1234-TCDF	26.24		-	-	-	4.70E+07	0.78	Y	-	-
JS 123467-HxCDD	38.03		-	-	-	1.18E+07	1.21	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0244	1.0247	+0.5	1.33E+07	n/a	-	1.20	93.2
CS 12347-PeCDD	33.30		1.1964	1.1980	+3.2	2.55E+07	1.62	Y	0.75	114
CS 12346-PeCDF	31.83		1.2112	1.2129	+3.2	4.19E+07	1.56	Y	0.85	105
CS 123469-HxCDF	37.16		0.9775	0.9774	-0.2	3.14E+07	0.53	Y	1.12	119
CS 1234689-HpCDF	40.27		1.0584	1.0590	+1.4	2.31E+07	0.44	Y	0.89	111
SS 37Cl-2378-TCDD	28.48		1.0244	1.0247	+0.5	1.33E+07	n/a	-	1.15	110
SS 12347-PeCDD	33.30		1.1964	1.1980	+3.2	2.55E+07	1.62	Y	0.86	126
SS 12346-PeCDF	31.83		1.2112	1.2129	+3.2	4.19E+07	1.56	Y	0.94	121
SS 123469-HxCDF	37.16		0.9775	0.9774	-0.2	3.14E+07	0.53	Y	0.83	124
SS 1234689-HpCDF	40.27		1.0584	1.0590	+1.4	2.31E+07	0.44	Y	0.92	124

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

Lab ID: B6238_18887_DF_003 **Acq'd:** 09 Feb 2022 11:11 DTF **Wt/Vol:** 0.99 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-NC **UTP:** 09-Feb-2022 14:37:55 DTF **J-level:** 5.05 pg/L **Split:** 1 **Checkcode:** 216-586-JHG

Datafile: 220209C09 **Report:** 09 Feb 2022 17:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8737						1.18		3531.481	2.37
1379-TCDD	NotFnd		0.8860						1.18		3531.481	2.37
1369-TCDD	NotFnd		0.9009						1.18		3531.481	2.37
1469-TCDD	NotFnd		0.9281						1.18		3531.481	2.37
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3531.481	2.37
1378-TCDD	NotFnd		0.9432						1.18		3531.481	2.37
1268-TCDD	NotFnd		0.9500						1.18		3531.481	2.37
1478-TCDD	NotFnd		0.9586						1.18		3531.481	2.37
1279-TCDD	NotFnd		0.9645						1.18		3531.481	2.37
1234/1269-TCDD	NotFnd		0.9770						1.18		3531.481	2.37
1236-TCDD	NotFnd		0.9817						1.18		3531.481	2.37
1237/1238-TCDD	NotFnd		0.9905						1.18		3531.481	2.37
1239-TCDD	NotFnd		0.9952						1.18		3531.481	2.37
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**3531.481**	**2.37**
1278-TCDD	NotFnd		1.0121						1.18		3531.481	2.37
1267-TCDD	NotFnd		1.0167						1.18		3531.481	2.37
1289-TCDD	NotFnd		1.0345						1.18		3531.481	2.37
12479/12468-PeCDD	NotFnd		0.9267						1.04		2594.507	2
12469-PeCDD	NotFnd		0.9425						1.04		2594.507	2
12368-PeCDD	NotFnd		0.9588						1.04		2594.507	2
12478-PeCDD	NotFnd		0.9643						1.04		2594.507	2
12379-PeCDD	NotFnd		0.9673						1.04		2594.507	2
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		2594.507	2
12346/12347-PeCDD	NotFnd		0.9858						1.04		2594.507	2
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**2594.507**	**2**
12367-PeCDD	NotFnd		1.0033						1.04		2594.507	2
12389-PeCDD	NotFnd		1.0134						1.04		2594.507	2
124679/124689-HxCDD	NotFnd		0.9542						1.10		1926.6151	1.42
123468-HxCDD	NotFnd		0.9715						1.10		1926.6151	1.42
123679/123689-HxCDD	NotFnd		0.9793						1.10		1926.6151	1.42
123469-HxCDD	NotFnd		0.9828						1.10		1926.6151	1.42
123478-HxCDD	NotFnd		**1.0004**						1.09		**1926.6151**	**1.54**
123678-HxCDD	NotFnd		**1.0035**						1.15		**1926.6151**	**1.36**
123467-HxCDD	NotFnd		1.0085						1.10		1926.6151	1.42
123789-HxCDD	NotFnd		**1.0112**						1.05		**1926.6151**	**1.36**

Lab ID: B6238_18887_DF_003 **Acq'd:** 09 Feb 2022 11:11 DTF **Wt/Vol:** 0.99 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-NC **UTP:** 09-Feb-2022 14:37:55 DTF **J-level:** 5.05 pg/L **Split:** 1 **Checkcode:** 216-586-JHG

Datafile: 220209C09 **Report:** 09 Feb 2022 17:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

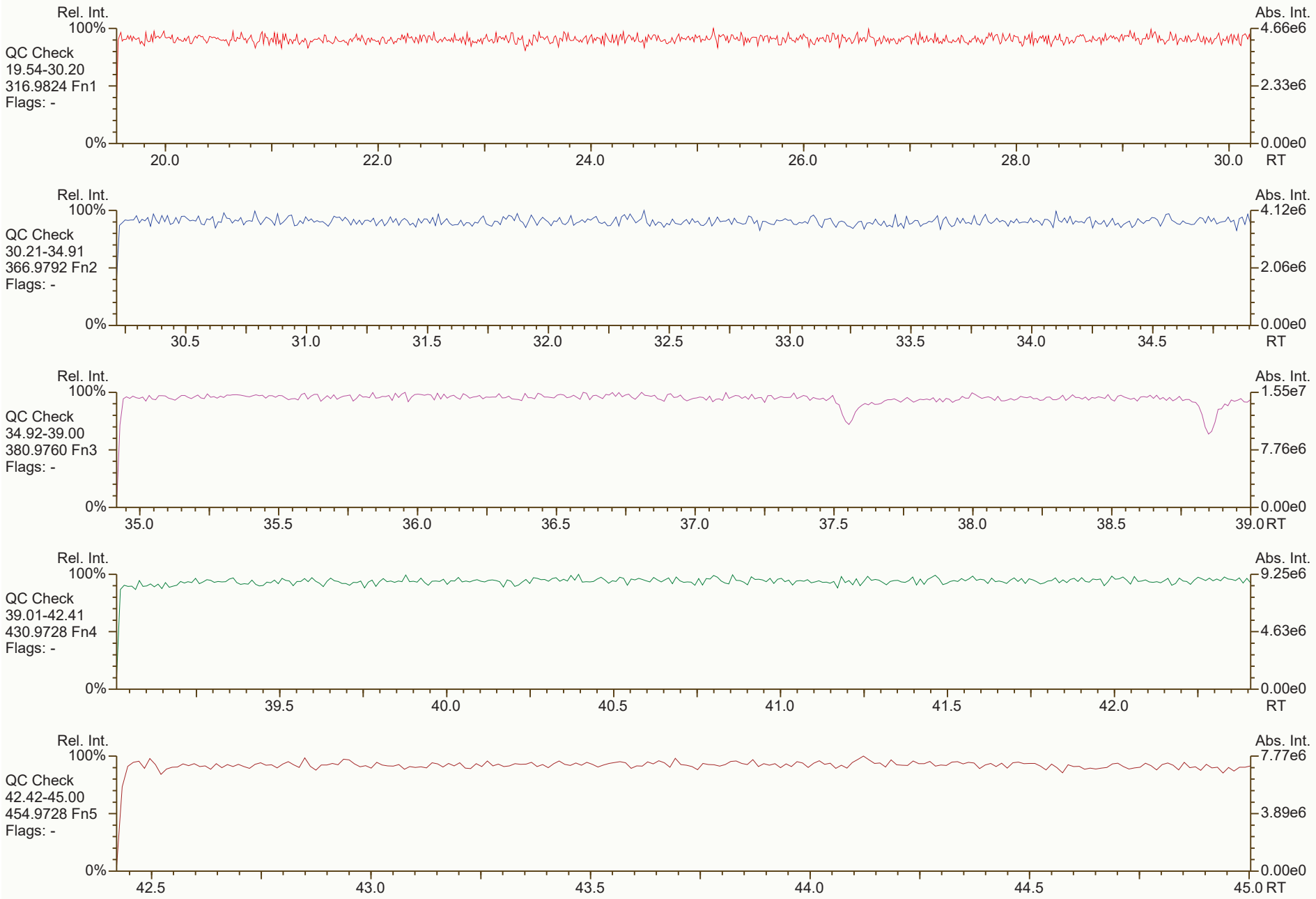
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9837						1.06		3232.851	2.61
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**3232.851**	**2.61**
OCDD	**NotFnd**		**1.0004**						**1.13**		**3308.876**	**5.83**
OCDD-a	NotFnd		1.0003						0.07		3387.454	93.4
1368-TCDF	NotFnd		0.8251						1.08		2328.975	1.15
1468-TCDF	NotFnd		0.8458						1.08		2328.975	1.15
2468-TCDF	NotFnd		0.8686						1.08		2328.975	1.15
1346/1246-TCDF	NotFnd		0.8814						1.08		2328.975	1.15
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2328.975	1.15
1348-TCDF	NotFnd		0.8962						1.08		2328.975	1.15
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2328.975	1.15
1268-TCDF	NotFnd		0.9145						1.08		2328.975	1.15
1467-TCDF	NotFnd		0.9193						1.08		2328.975	1.15
1478-TCDF	NotFnd		0.9254						1.08		2328.975	1.15
1369/1237-TCDF	NotFnd		0.9387						1.08		2328.975	1.15
2467-TCDF	NotFnd		0.9433						1.08		2328.975	1.15
2368-TCDF	NotFnd		0.9489						1.08		2328.975	1.15
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2328.975	1.15
1278-TCDF	NotFnd		0.9683						1.08		2328.975	1.15
1349-TCDF	NotFnd		0.9722						1.08		2328.975	1.15
1267-TCDF	NotFnd		0.9783						1.08		2328.975	1.15
2346/1249-TCDF	NotFnd		0.9850						1.08		2328.975	1.15
2347/1279-TCDF	NotFnd		0.9926						1.08		2328.975	1.15
2348-TCDF	NotFnd		0.9967						1.08		2328.975	1.15
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**2328.975**	**1.15**
2367/3467-TCDF	NotFnd		1.0137						1.08		2328.975	1.15
1269-TCDF	NotFnd		1.0223						1.08		2328.975	1.15
1239-TCDF	NotFnd		1.0321						1.08		2328.975	1.15
1289-TCDF	NotFnd		1.0722						1.08		2328.975	1.15
13468/12468-PeCDF	NotFnd		0.9139						1.02		2900.709	1.4
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		2564.5367	1.24
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		2564.5367	1.24
14678-PeCDF	NotFnd		0.9692						1.02		2564.5367	1.24
13479-PeCDF	NotFnd		0.9723						1.02		2564.5367	1.24
13469/12479-PeCDF	NotFnd		0.9797						1.02		2564.5367	1.24
12346-PeCDF	NotFnd		0.9840						1.02		2564.5367	1.24

Lab ID: B6238_18887_DF_003 **Acq'd:** 09 Feb 2022 11:11 DTF **Wt/Vol:** 0.99 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-NC **UTP:** 09-Feb-2022 14:37:55 DTF **J-level:** 5.05 pg/L **Split:** 1 **Checkcode:** 216-586-JHG

Datafile: 220209C09 **Report:** 09 Feb 2022 17:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		2564.5367	1.24
12347-PeCDF	NotFnd		0.9894						1.02		2564.5367	1.24
12348-PeCDF	NotFnd		0.9940						1.02		2564.5367	1.24
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2564.5367**	**1.26**
12678/12367-PeCDF	NotFnd		1.0089						1.02		2564.5367	1.24
12379-PeCDF	NotFnd		1.0142						1.02		2564.5367	1.24
12679-PeCDF	NotFnd		0.9929						1.02		2564.5367	1.24
23467/12369-PeCDF	NotFnd		0.9967						1.02		2564.5367	1.24
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2564.5367**	**1.22**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2564.5367	1.24
12349-PeCDF	NotFnd		1.0100						1.02		2564.5367	1.24
12389-PeCDF	NotFnd		1.0324						1.02		2564.5367	1.24
123468-HxCDF	NotFnd		0.9627						1.19		2412.8841	1.31
124678/134678-HxCDF	NotFnd		0.9682						1.19		2412.8841	1.31
134679-HxCDF	NotFnd		0.9744						1.19		2412.8841	1.31
124679-HxCDF	NotFnd		0.9798						1.19		2412.8841	1.31
124689-HxCDF	NotFnd		0.9858						1.19		2412.8841	1.31
123467-HxCDF	NotFnd		0.9972						1.19		2412.8841	1.31
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2412.8841**	**1.27**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2412.8841**	**1.24**
123479-HxCDF	NotFnd		1.0049						1.19		2412.8841	1.31
123469-HxCDF	NotFnd		1.0090						1.19		2412.8841	1.31
123679-HxCDF	NotFnd		0.9942						1.19		2412.8841	1.31
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2412.8841**	**1.3**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2412.8841	1.31
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2412.8841**	**1.48**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		2412.8841	1.31
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2319.879**	**1.19**
1234679-HpCDF	NotFnd		1.0068						1.34		2319.879	1.48
1234689-HpCDF	NotFnd		1.0103						1.34		2319.879	1.48
1234789-HpCDF	**NotFnd**		**1.0002**						**1.31**		**2319.879**	**1.85**
OCDF	**NotFnd**		**1.0003**						**1.07**		**2305.553**	**3.27**
OCDF-a	NotFnd		1.0002						0.07		2855.985	65.3


Rel. Int.
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QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
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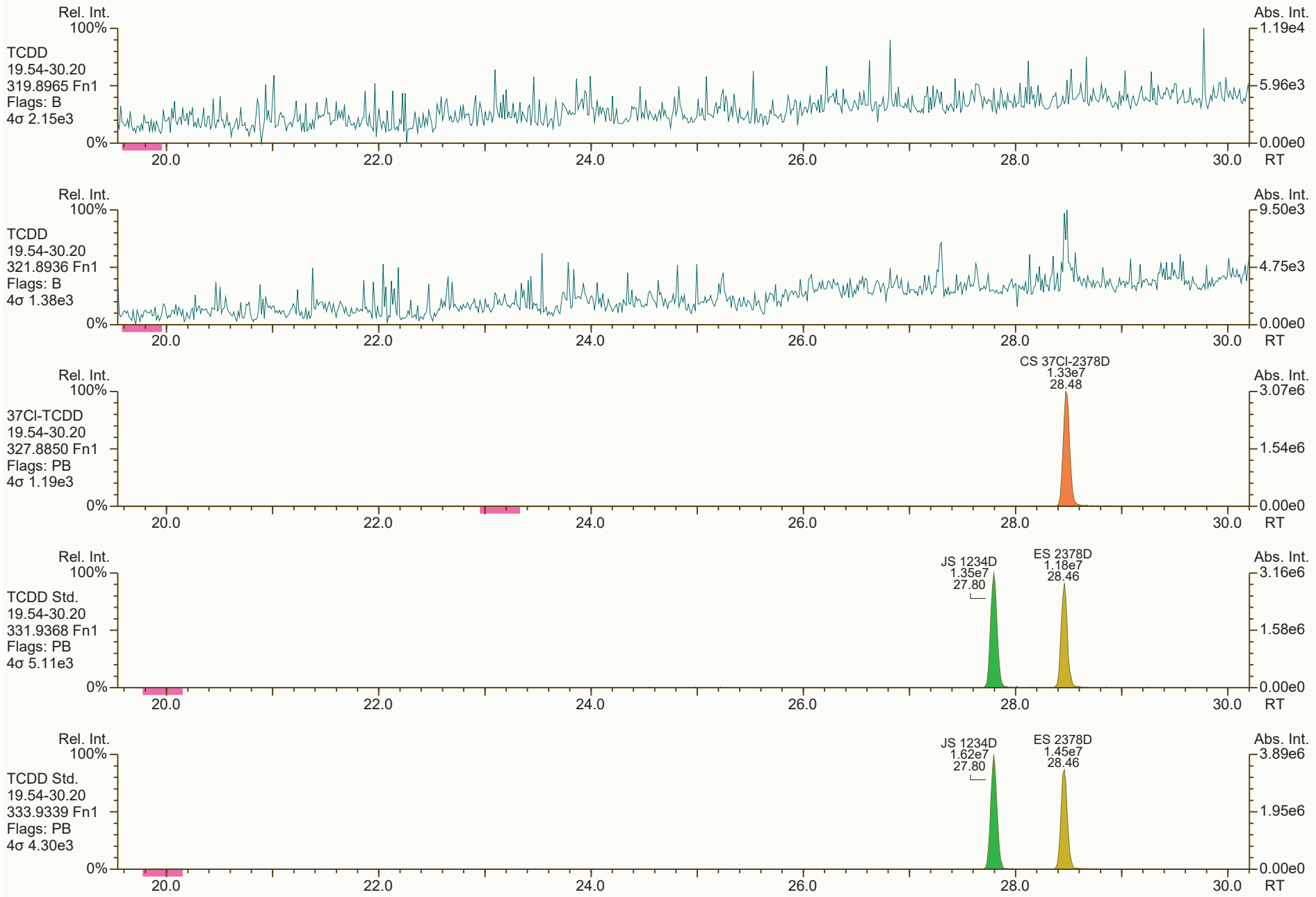
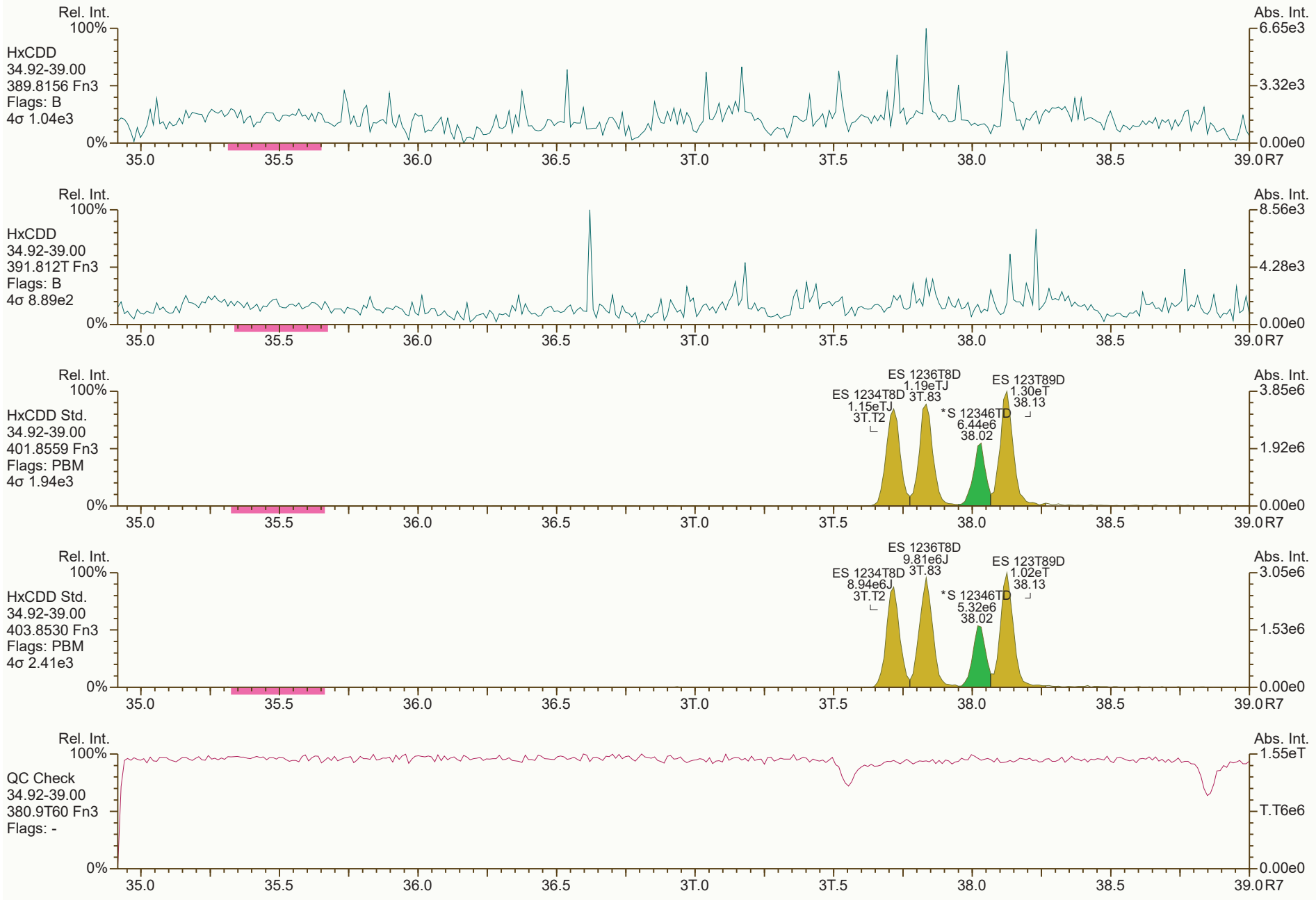
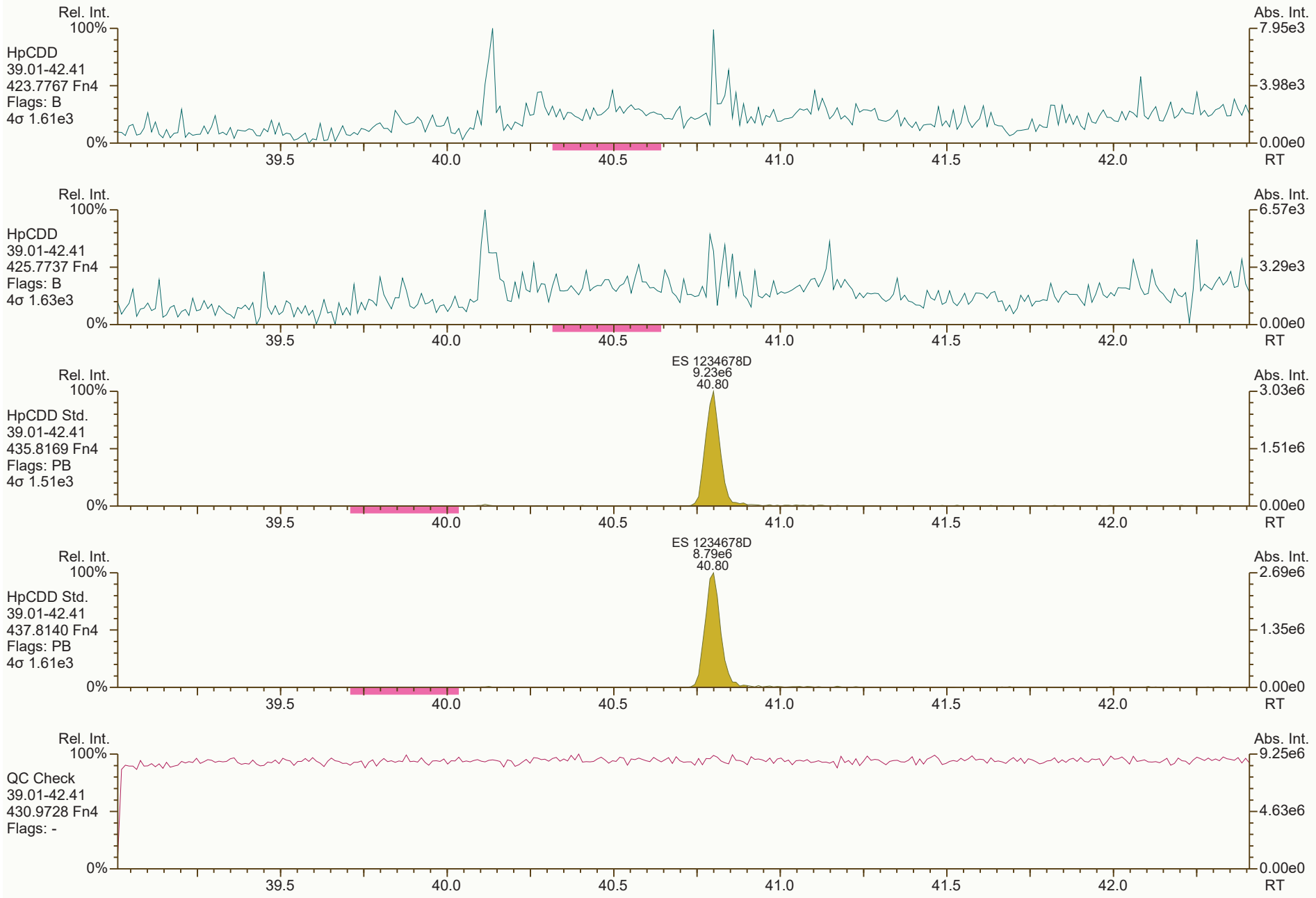
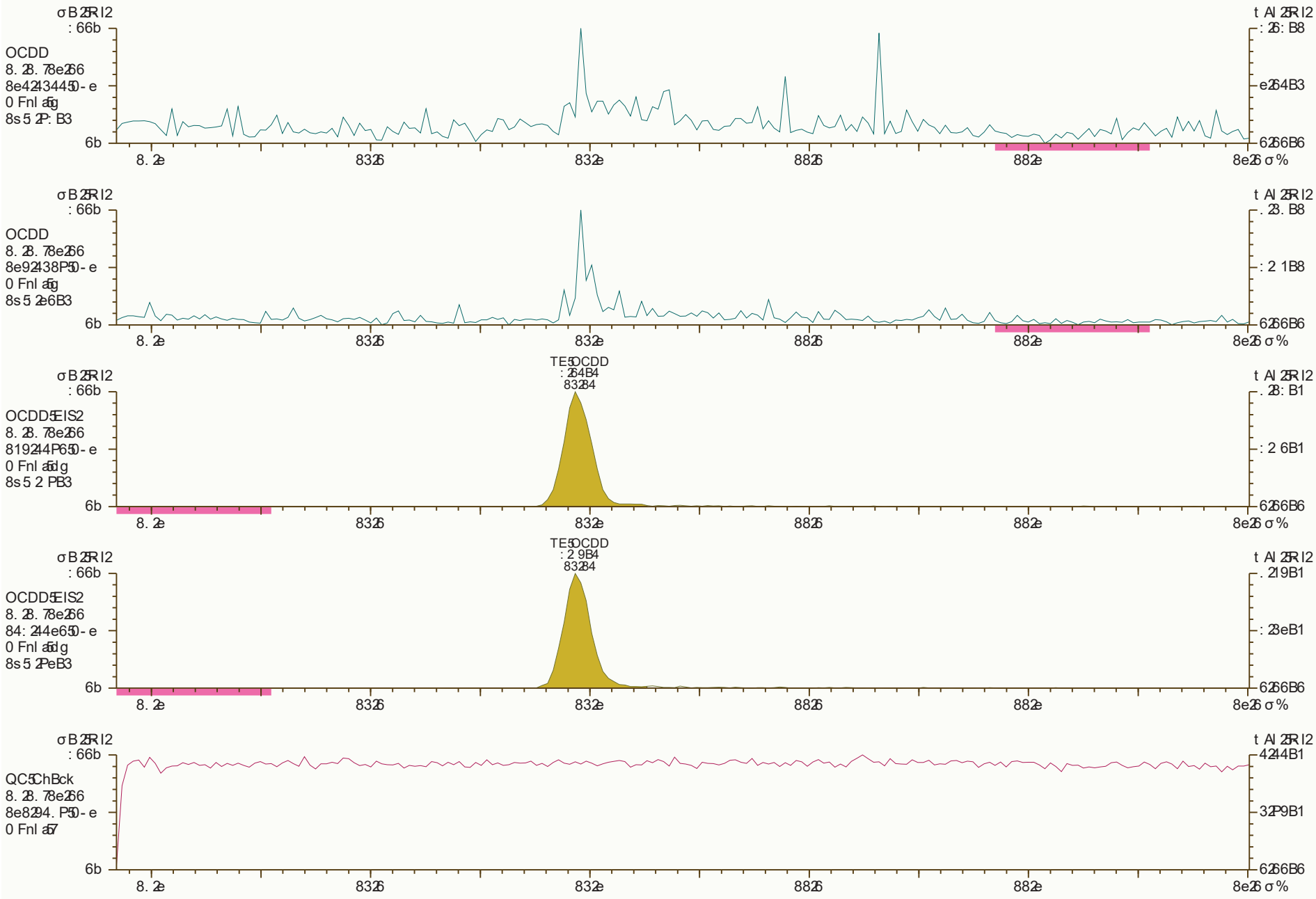
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.66e6
2.33e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.12e6
2.06e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.55e7
7.76e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
9.25e6
4.63e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
7.77e6
3.89e6
0.00e0

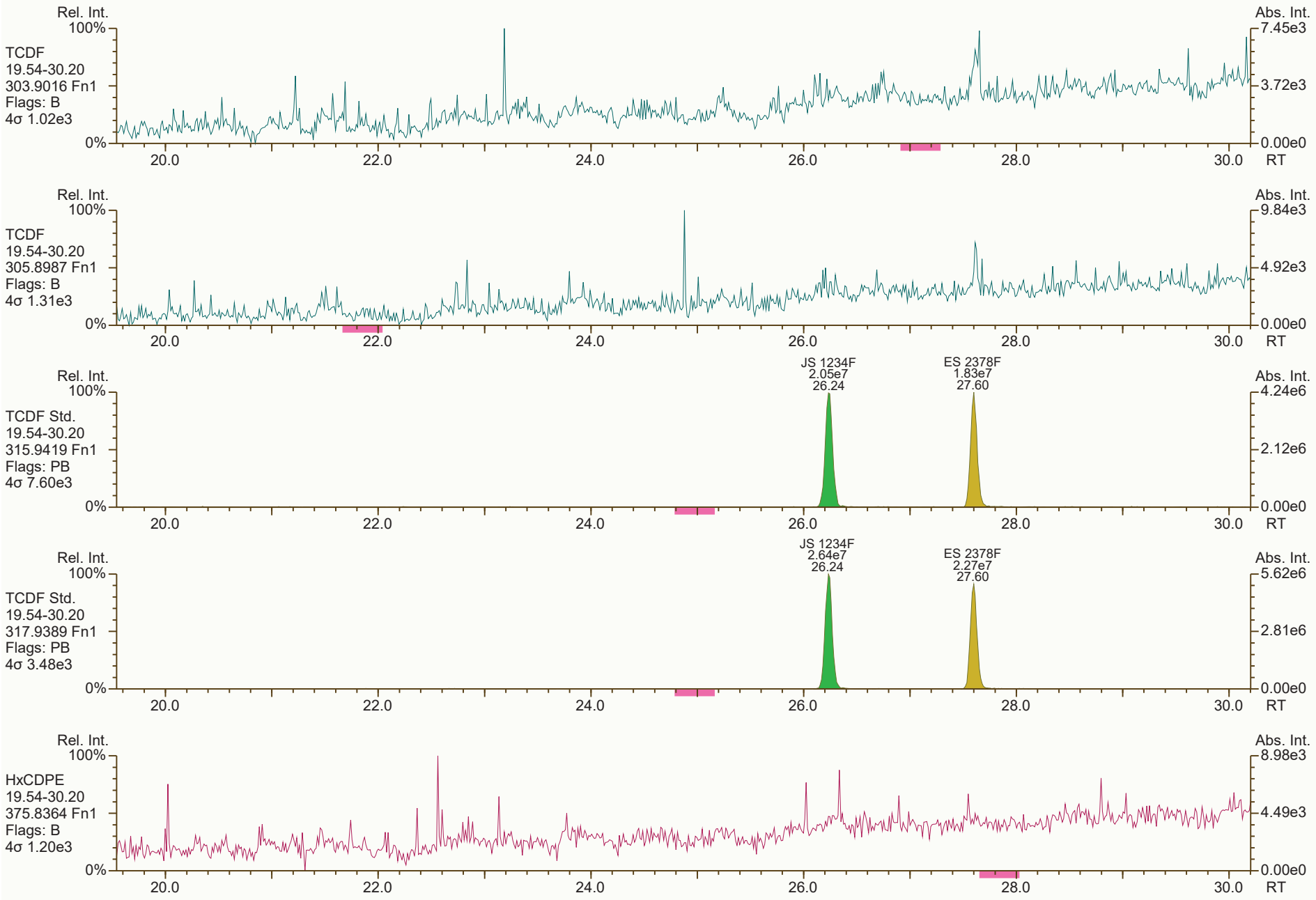

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 2.15e3
0%
Abs. Int.
1.19e4
5.96e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.38e3
0%
Abs. Int.
9.50e3
4.75e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.19e3
0%
CS 37Cl-2378D
1.33e7
28.48
Abs. Int.
3.07e6
1.54e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.11e3
0%
JS 1234D
1.35e7
27.80
ES 2378D
1.18e7
28.46
Abs. Int.
3.16e6
1.58e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.30e3
0%
JS 1234D
1.62e7
27.80
ES 2378D
1.45e7
28.46
Abs. Int.
3.89e6
1.95e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PB
4σ 1.16e3
0%
Abs. Int.
6.68e3
3.34e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
R7
Rel. Int.
100%
PeCDD
30.21-34.91
35T.851T Fn2
Flags: PB
4σ 1.43e3
0%
Abs. Int.
5.43e3
2.T2e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
R7
Rel. Int.
100%
PeCDD Std.
30.21-34.91
36T.8949 Fn2
Flags: PB
4σ 1.94e3
0%
CS 1234TD
1.58eT
33.30
ES 123T8D
1.46eT
33.80
Abs. Int.
4.4Te6
2.23e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
R7
Rel. Int.
100%
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 1.66e3
0%
CS 1234TD
9.T3e6
33.30
ES 123T8D
9.13e6
33.80
Abs. Int.
2.91e6
1.45e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
R7
Rel. Int.
100%
QC Check
30.21-34.91
366.9T92 Fn2
Flags: -
0%
Abs. Int.
4.12e6
2.06e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
R7


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: B
4σ 1.04e3
0%
Abs. Int.
6.65e3
3.32e3
0.00e0
35.0
35.5
36.0
36.5
3T.0
3T.5
38.0
38.5
39.0 R7
Rel. Int.
100%
HxCDD
34.92-39.00
391.812T Fn3
Flags: B
4σ 8.89e2
0%
Abs. Int.
8.56e3
4.28e3
0.00e0
35.0
35.5
36.0
36.5
3T.0
3T.5
38.0
38.5
39.0 R7
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 1.94e3
0%
ES 1234T8D
1.15eTJ
3T.T2
ES 1236T8D
1.19eTJ
3T.83
*S 12346TD
6.44e6
38.02
ES 123T89D
1.30eT
38.13
Abs. Int.
3.85e6
1.92e6
0.00e0
35.0
35.5
36.0
36.5
3T.0
3T.5
38.0
38.5
39.0 R7
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 2.41e3
0%
ES 1234T8D
8.94e6J
3T.T2
ES 1236T8D
9.81e6J
3T.83
*S 12346TD
5.32e6
38.02
ES 123T89D
1.02eT
38.13
Abs. Int.
3.05e6
1.53e6
0.00e0
35.0
35.5
36.0
36.5
3T.0
3T.5
38.0
38.5
39.0 R7
Rel. Int.
100%
QC Check
34.92-39.00
380.9T60 Fn3
Flags: -
0%
Abs. Int.
1.55eT
T.T6e6
0.00e0
35.0
35.5
36.0
36.5
3T.0
3T.5
38.0
38.5
39.0 R7


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.61e3
0%
Abs. Int.
7.95e3
3.98e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: B
4σ 1.63e3
0%
Abs. Int.
6.57e3
3.29e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
9.23e6
40.80
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.51e3
0%
Abs. Int.
3.03e6
1.51e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
8.79e6
40.80
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.61e3
0%
Abs. Int.
2.69e6
1.35e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
9.25e6
4.63e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
OCDD
TE5OCDD
OCDD5EIS2
TE5OCDD
OCDD5EIS2
QC5ChBck


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: B
4σ 1.02e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 1.31e3
0%
Abs. Int.
9.84e3
4.92e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 7.60e3
0%
JS 1234F
2.05e7
26.24
ES 2378F
1.83e7
27.60
Abs. Int.
4.24e6
2.12e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.48e3
0%
JS 1234F
2.64e7
26.24
ES 2378F
2.27e7
27.60
Abs. Int.
5.62e6
2.81e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.20e3
0%
Abs. Int.
8.98e3
4.49e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

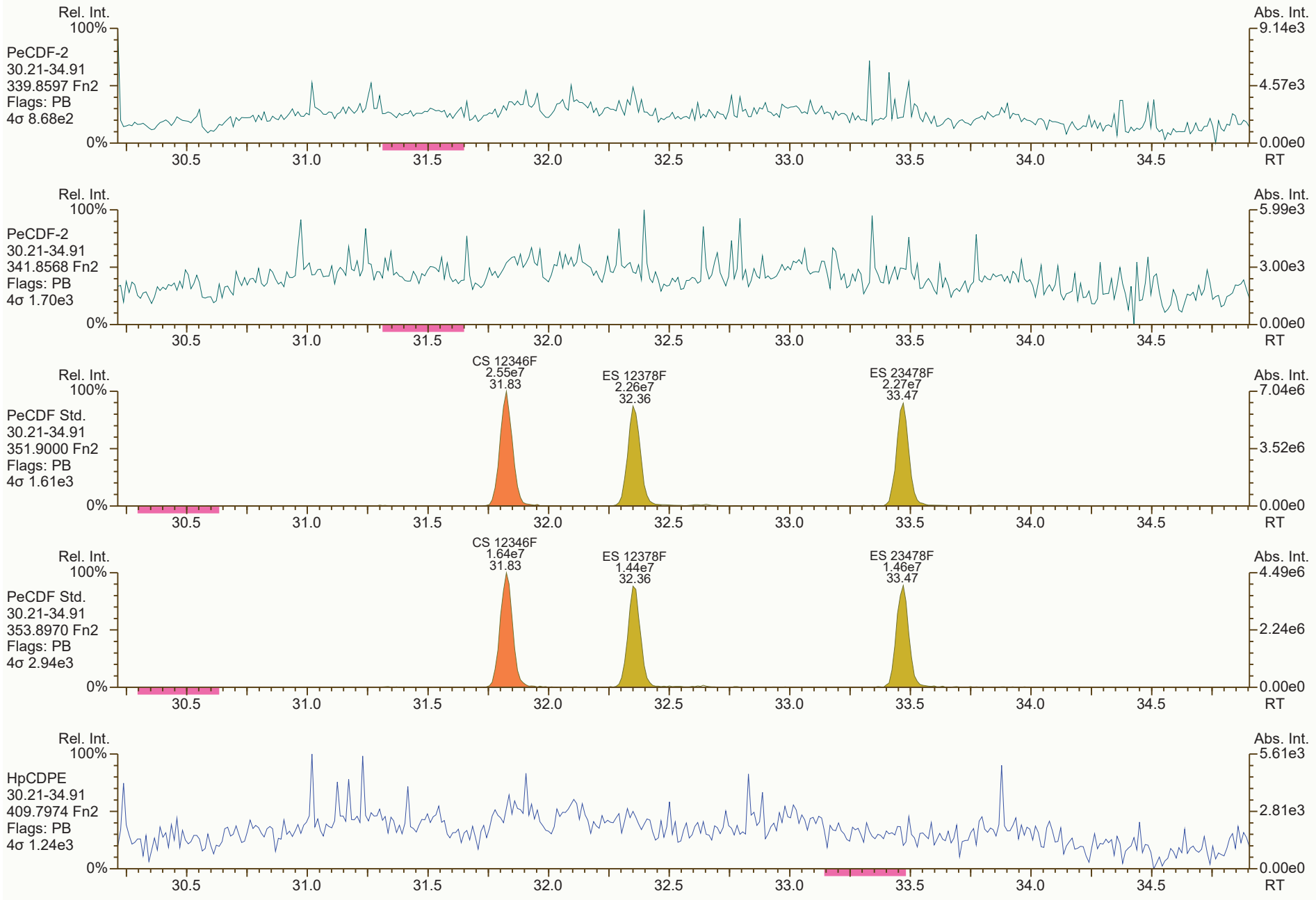
SGS ID: B6238_18887_DF_003 | Sample ID: 11215131-012022-GW-BN-PZ-NC | Acq: 09-Feb-2022 11:11:51

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 22 | User: DTF Datafile: 220209C09

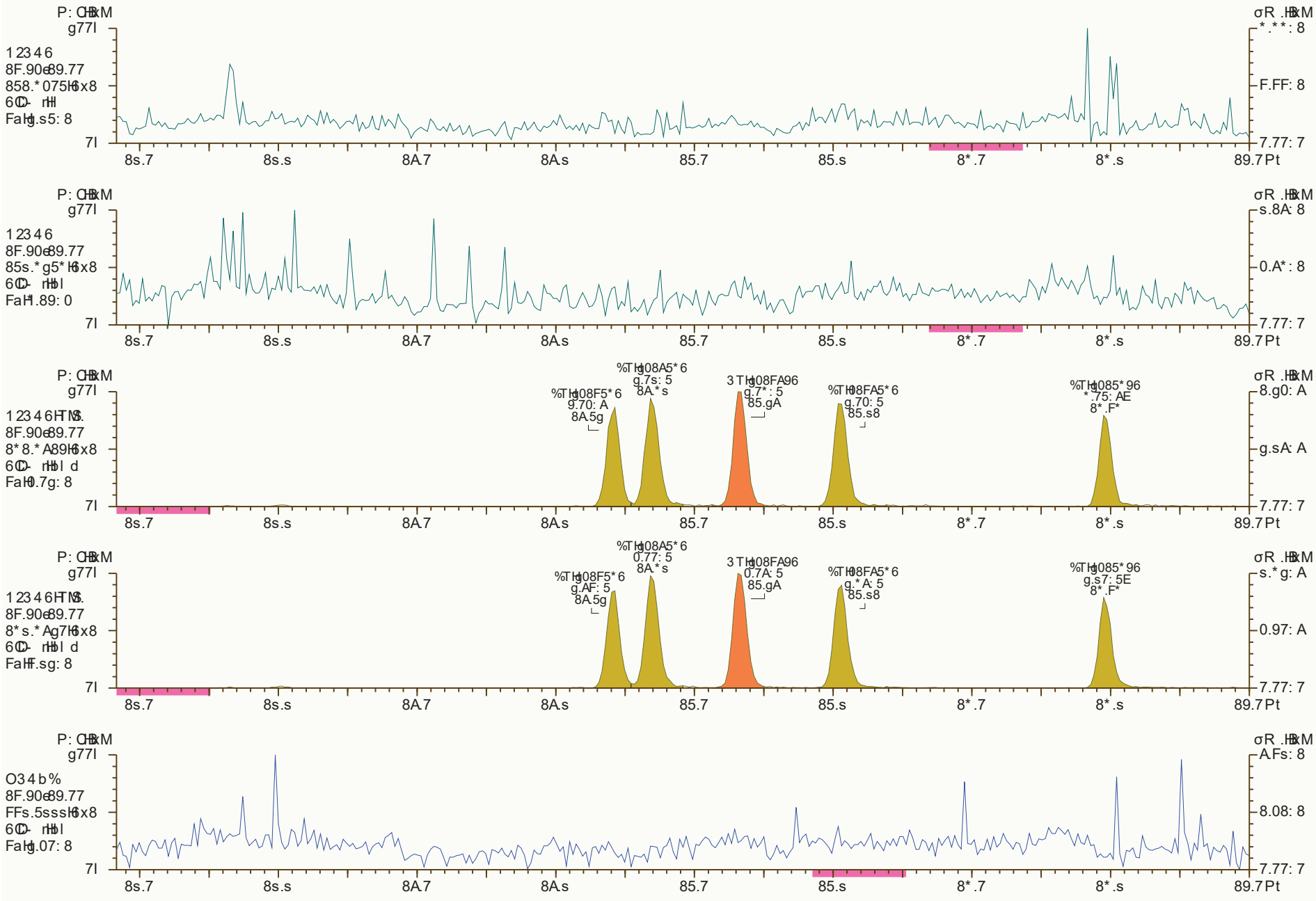


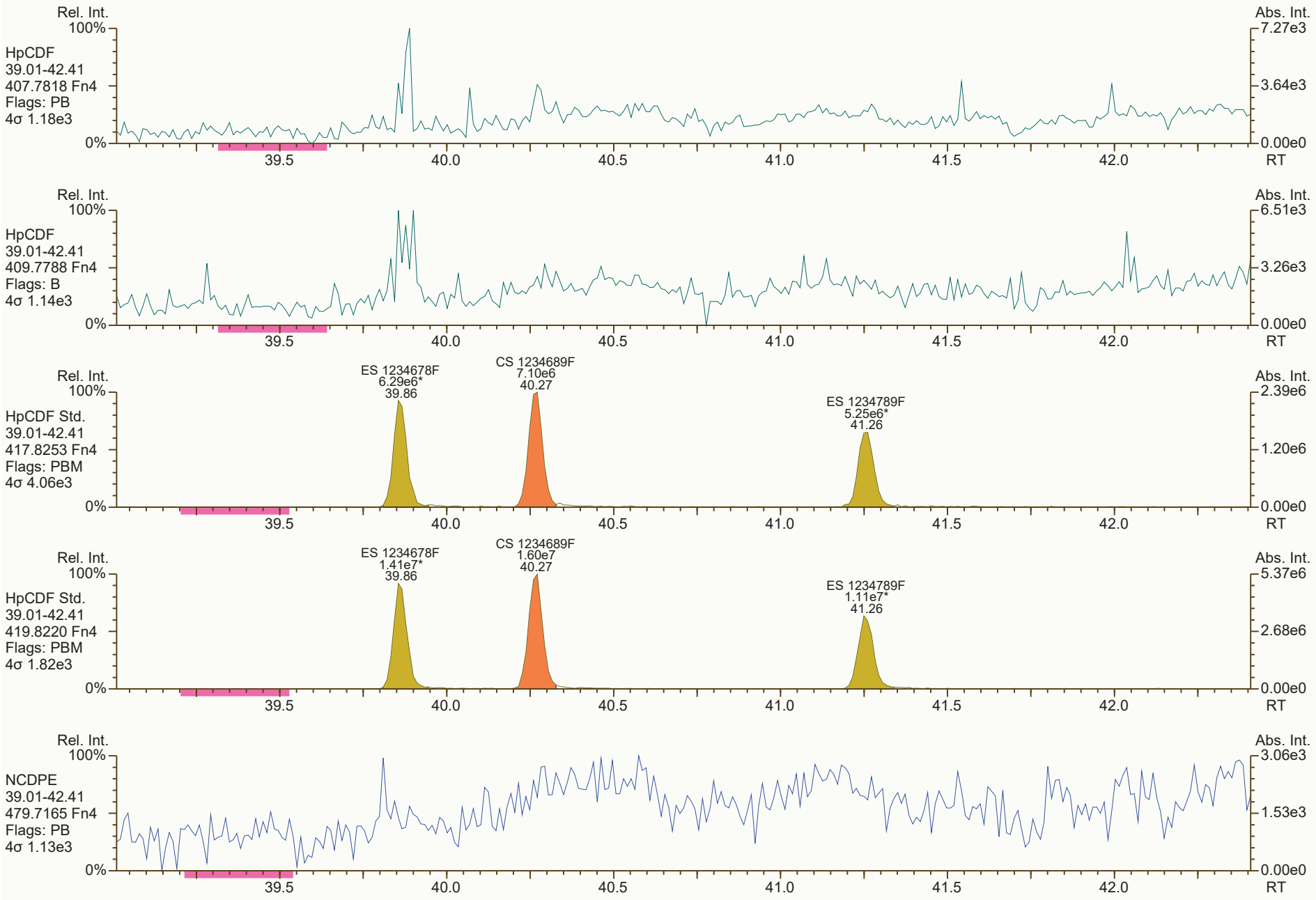
Results: P:\B6200_B6299\B6238\B6238_18887 DF\Resources\B6238_18887_DF_003.utp_res, saved 09-Feb-2022 14:37 (DTF) | *Peak annotation: Areas, Centroids*

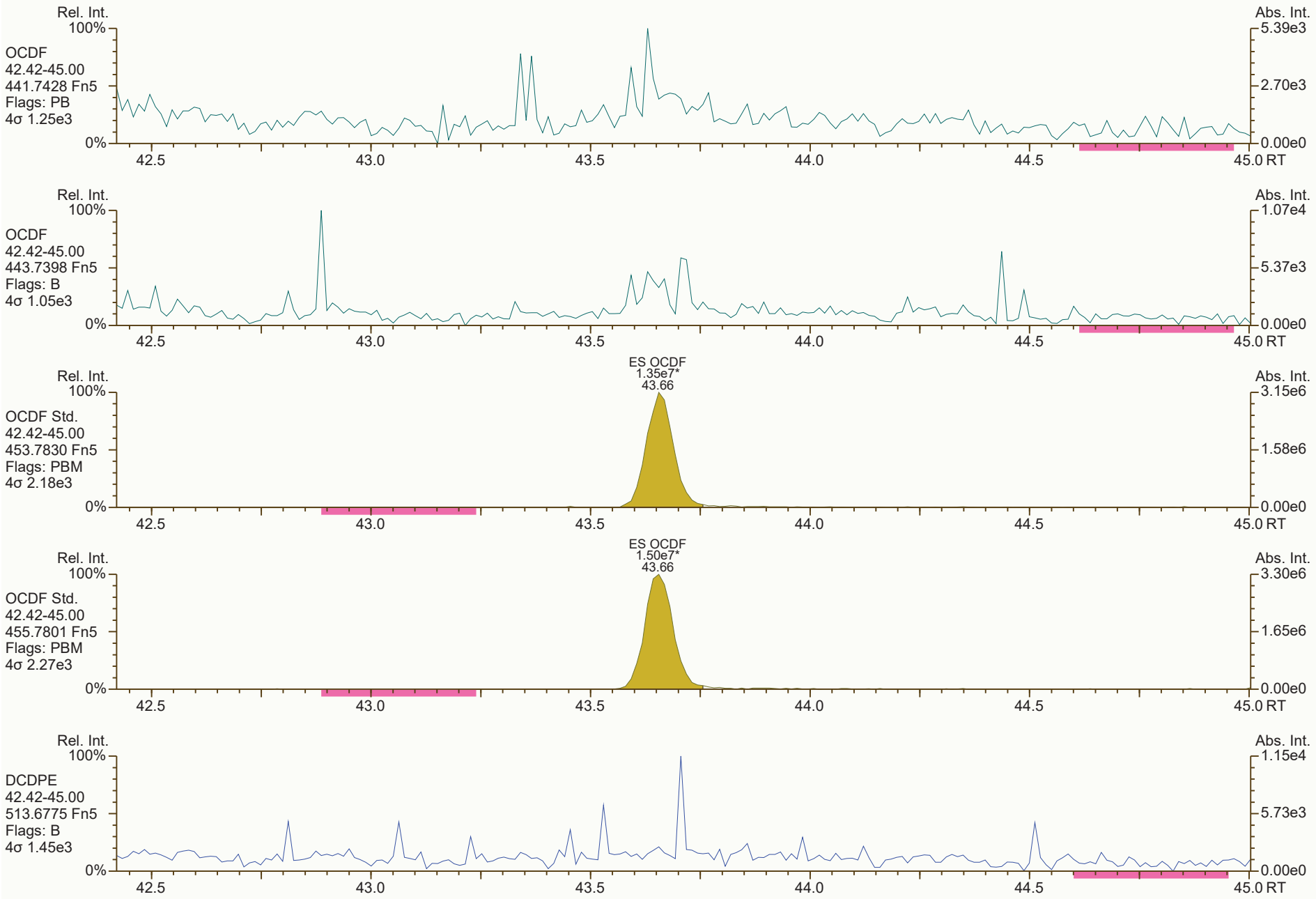
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9986 scc: 216-586 | *PKD: 09-Feb-2022 14:31 Printed: 09-Feb-2022 14:51 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PB
4σ 8.68e2
0%
Abs. Int.
9.14e3
4.57e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PB
4σ 1.70e3
0%
Abs. Int.
5.99e3
3.00e3
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 1.61e3
0%
CS 12346F
2.55e7
31.83
ES 12378F
2.26e7
32.36
ES 23478F
2.27e7
33.47
Abs. Int.
7.04e6
3.52e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 2.94e3
0%
CS 12346F
1.64e7
31.83
ES 12378F
1.44e7
32.36
ES 23478F
1.46e7
33.47
Abs. Int.
4.49e6
2.24e6
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: PB
4σ 1.24e3
0%
Abs. Int.
5.61e3
2.81e3
0.00e0
RT

SGS ID: B6238_18887_DF_003 Sample ID: 11215131-012022-GW-BN-PZ-NC Acq: 09-Feb-2022 11:11:51
Instr: [ILM] AutoSpec-Ultima HRMS3 VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 22 User: DTF Datafile: 220209C09




Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.18e3
0%
Abs. Int.
7.27e3
3.64e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: B
4σ 1.14e3
0%
Abs. Int.
6.51e3
3.26e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 4.06e3
0%
ES 1234678F
6.29e6*
39.86
CS 1234689F
7.10e6
40.27
ES 1234789F
5.25e6*
41.26
Abs. Int.
2.39e6
1.20e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 1.82e3
0%
ES 1234678F
1.41e7*
39.86
CS 1234689F
1.60e7
40.27
ES 1234789F
1.11e7*
41.26
Abs. Int.
5.37e6
2.68e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.13e3
0%
Abs. Int.
3.06e3
1.53e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.25e3
0%
Abs. Int.
5.39e3
2.70e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: B
4σ 1.05e3
0%
Abs. Int.
1.07e4
5.37e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.35e7*
43.66
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 2.18e3
0%
Abs. Int.
3.15e6
1.58e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.50e7*
43.66
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
3.30e6
1.65e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
1.15e4
5.73e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6238_18887_DF_004 **Acq'd:** 09 Feb 2022 11:58 DTF **Wt/Vol:** 1.03 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-NE **UTP:** 09-Feb-2022 14:37:56 DTF **J-level:** 4.85 pg/L **Split:** 1 **Checkcode:** 151-857-SLQ

Datafile: 220209C10 **Report:** 09 Feb 2022 17:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	3414.056	2.27
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	2369.088	1.67
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2352.3551	1.64
123678-HxCDD	NotFnd		1.0035	-		-	-	-	1.15	-	2352.3551	1.52
123789-HxCDD	NotFnd		1.0112	-		-	-	-	1.05	-	2352.3551	1.53
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	2999.695	2.17
OCDD	NotFnd		1.0004	-		-	-	-	1.13	-	8871.49	14.2
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	2892.086	1.32
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2275.424	1.02
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2275.424	0.991
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2071.2777	1.04
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2071.2777	0.902
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2071.2777	0.896
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2071.2777	1.11
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2632.002	1.21
1234789-HpCDF	NotFnd		1.0002	-		-	-	-	1.31	-	2632.002	1.91
OCDF	NotFnd		1.0003	-		-	-	-	1.07	-	2643.956	3.33

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.47	1.0236	1.0238	+0.3	2.74E+07	0.81	Y	1.05	88.8
ES 12378-PeCDD	33.81	1.2144	1.2160	+3.2	2.49E+07	1.57	Y	0.88	96.2
ES 123478-HxCDD	37.72	0.9920	0.9918	-0.5	2.23E+07	1.25	Y	0.97	95
ES 123678-HxCDD	37.84	0.9951	0.9949	-0.5	2.34E+07	1.26	Y	0.94	102
ES 123789-HxCDD	38.14	1.0027	1.0026	-0.2	2.41E+07	1.31	Y	1.09	91.4
ES 1234678-HpCDD	40.81	1.0724	1.0730	+1.5	1.96E+07	1.11	Y	0.91	88.9
ES OCDD	43.49	1.1428	1.1434	+1.6	2.38E+07	0.89	Y	0.62	79
ES 2378-TCDF	27.61	1.0516	1.0520	+0.7	4.38E+07	0.78	Y	1.06	88.5
ES 12378-PeCDF	32.36	1.2312	1.2331	+3.7	3.89E+07	1.61	Y	0.91	91.5
ES 23478-PeCDF	33.47	1.2733	1.2754	+4.2	3.75E+07	1.57	Y	0.88	90.8
ES 123478-HxCDF	36.72	0.9655	0.9653	-0.4	2.64E+07	0.54	Y	1.20	91.1
ES 123678-HxCDF	36.86	0.9692	0.9690	-0.4	3.13E+07	0.54	Y	1.35	95.8
ES 234678-HxCDF	37.54	0.9871	0.9869	-0.5	3.23E+07	0.53	Y	1.24	107
ES 123789-HxCDF	38.49	1.0121	1.0121	0	2.46E+07	0.53	Y	1.16	88.1
ES 1234678-HpCDF	39.87	1.0479	1.0483	+1.0	2.22E+07	0.45	Y	0.97	95
ES 1234789-HpCDF	41.27	1.0845	1.0851	+1.5	1.74E+07	0.45	Y	0.85	84.4
ES OCDF	43.68	1.1477	1.1483	+1.6	3.16E+07	0.89	Y	0.81	81

Lab ID: B6238_18887_DF_004 **Acq'd:** 09 Feb 2022 11:58 DTF **Wt/Vol:** 1.03 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-NE **UTP:** 09-Feb-2022 14:37:56 DTF **J-level:** 4.85 pg/L **Split:** 1 **Checkcode:** 151-857-SLQ

Datafile: 220209C10 **Report:** 09 Feb 2022 17:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.80		-	-	-	2.95E+07	0.80	Y	-	-
JS 1234-TCDF	26.25		-	-	-	4.67E+07	0.79	Y	-	-
JS 123467-HxCDD	38.04		-	-	-	1.21E+07	1.26	Y	-	-
CS 37Cl-2378-TCDD	28.49		1.0244	1.0247	+0.5	1.37E+07	n/a	-	1.20	97
CS 12347-PeCDD	33.31		1.1964	1.1979	+3.0	2.49E+07	1.60	Y	0.75	112
CS 12346-PeCDF	31.83		1.2112	1.2128	+3.1	4.10E+07	1.59	Y	0.85	103
CS 123469-HxCDF	37.17		0.9775	0.9773	-0.4	3.14E+07	0.53	Y	1.12	116
CS 1234689-HpCDF	40.28		1.0584	1.0590	+1.5	2.31E+07	0.45	Y	0.89	107
SS 37Cl-2378-TCDD	28.49		1.0244	1.0247	+0.5	1.37E+07	n/a	-	1.15	109
SS 12347-PeCDD	33.31		1.1964	1.1979	+3.0	2.49E+07	1.60	Y	0.86	116
SS 12346-PeCDF	31.83		1.2112	1.2128	+3.1	4.10E+07	1.59	Y	0.94	112
SS 123469-HxCDF	37.17		0.9775	0.9773	-0.4	3.14E+07	0.53	Y	0.83	121
SS 1234689-HpCDF	40.28		1.0584	1.0590	+1.5	2.31E+07	0.45	Y	0.92	113

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

Lab ID: B6238_18887_DF_004 **Acq'd:** 09 Feb 2022 11:58 DTF **Wt/Vol:** 1.03 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-NE **UTP:** 09-Feb-2022 14:37:56 DTF **J-level:** 4.85 pg/L **Split:** 1 **Checkcode:** 151-857-SLQ

Datafile: 220209C10 **Report:** 09 Feb 2022 17:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8737						1.18		3414.056	2.27
1379-TCDD	NotFnd		0.8860						1.18		3414.056	2.27
1369-TCDD	NotFnd		0.9009						1.18		3414.056	2.27
1469-TCDD	NotFnd		0.9281						1.18		3414.056	2.27
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3414.056	2.27
1378-TCDD	NotFnd		0.9432						1.18		3414.056	2.27
1268-TCDD	NotFnd		0.9500						1.18		3414.056	2.27
1478-TCDD	NotFnd		0.9586						1.18		3414.056	2.27
1279-TCDD	NotFnd		0.9645						1.18		3414.056	2.27
1234/1269-TCDD	NotFnd		0.9770						1.18		3414.056	2.27
1236-TCDD	NotFnd		0.9817						1.18		3414.056	2.27
1237/1238-TCDD	NotFnd		0.9905						1.18		3414.056	2.27
1239-TCDD	NotFnd		0.9952						1.18		3414.056	2.27
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**3414.056**	**2.27**
1278-TCDD	NotFnd		1.0121						1.18		3414.056	2.27
1267-TCDD	NotFnd		1.0167						1.18		3414.056	2.27
1289-TCDD	NotFnd		1.0345						1.18		3414.056	2.27
12479/12468-PeCDD	NotFnd		0.9267						1.04		2369.088	1.67
12469-PeCDD	NotFnd		0.9425						1.04		2369.088	1.67
12368-PeCDD	NotFnd		0.9588						1.04		2369.088	1.67
12478-PeCDD	NotFnd		0.9643						1.04		2369.088	1.67
12379-PeCDD	NotFnd		0.9673						1.04		2369.088	1.67
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		2369.088	1.67
12346/12347-PeCDD	NotFnd		0.9858						1.04		2369.088	1.67
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**2369.088**	**1.67**
12367-PeCDD	NotFnd		1.0033						1.04		2369.088	1.67
12389-PeCDD	NotFnd		1.0134						1.04		2369.088	1.67
124679/124689-HxCDD	NotFnd		0.9542						1.10		2352.3551	1.56
123468-HxCDD	NotFnd		0.9715						1.10		2352.3551	1.56
123679/123689-HxCDD	NotFnd		0.9793						1.10		2352.3551	1.56
123469-HxCDD	NotFnd		0.9828						1.10		2352.3551	1.56
123478-HxCDD	NotFnd		**1.0004**						1.09		**2352.3551**	**1.64**
123678-HxCDD	NotFnd		**1.0035**						1.15		**2352.3551**	**1.52**
123467-HxCDD	NotFnd		1.0085						1.10		2352.3551	1.56
123789-HxCDD	NotFnd		**1.0112**						1.05		**2352.3551**	**1.53**

Lab ID: B6238_18887_DF_004 | Acq'd: 09 Feb 2022 11:58 DTF | Wt/Vol: 1.03 L | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-PZ-NE | UTP: 09-Feb-2022 14:37:56 DTF | J-level: 4.85 pg/L | Split: 1 | Checkcode: 151-857-SLQ

Datafile: 220209C10 | Report: 09 Feb 2022 17:28 TF | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9837						1.06		2999.695	2.17
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**2999.695**	**2.17**
OCDD	**NotFnd**		**1.0004**						**1.13**		**8871.49**	**14.2**
OCDD-a	NotFnd		1.0003						0.07		3023.052	75.8
1368-TCDF	NotFnd		0.8251						1.08		2892.086	1.32
1468-TCDF	NotFnd		0.8458						1.08		2892.086	1.32
2468-TCDF	NotFnd		0.8686						1.08		2892.086	1.32
1346/1246-TCDF	NotFnd		0.8814						1.08		2892.086	1.32
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2892.086	1.32
1348-TCDF	NotFnd		0.8962						1.08		2892.086	1.32
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2892.086	1.32
1268-TCDF	NotFnd		0.9145						1.08		2892.086	1.32
1467-TCDF	NotFnd		0.9193						1.08		2892.086	1.32
1478-TCDF	NotFnd		0.9254						1.08		2892.086	1.32
1369/1237-TCDF	NotFnd		0.9387						1.08		2892.086	1.32
2467-TCDF	NotFnd		0.9433						1.08		2892.086	1.32
2368-TCDF	NotFnd		0.9489						1.08		2892.086	1.32
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2892.086	1.32
1278-TCDF	NotFnd		0.9683						1.08		2892.086	1.32
1349-TCDF	NotFnd		0.9722						1.08		2892.086	1.32
1267-TCDF	NotFnd		0.9783						1.08		2892.086	1.32
2346/1249-TCDF	NotFnd		0.9850						1.08		2892.086	1.32
2347/1279-TCDF	NotFnd		0.9926						1.08		2892.086	1.32
2348-TCDF	NotFnd		0.9967						1.08		2892.086	1.32
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**2892.086**	**1.32**
2367/3467-TCDF	NotFnd		1.0137						1.08		2892.086	1.32
1269-TCDF	NotFnd		1.0223						1.08		2892.086	1.32
1239-TCDF	NotFnd		1.0321						1.08		2892.086	1.32
1289-TCDF	NotFnd		1.0722						1.08		2892.086	1.32
13468/12468-PeCDF	NotFnd		0.9139						1.02		2288.244	1.01
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		2275.424	1.01
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		2275.424	1.01
14678-PeCDF	NotFnd		0.9692						1.02		2275.424	1.01
13479-PeCDF	NotFnd		0.9723						1.02		2275.424	1.01
13469/12479-PeCDF	NotFnd		0.9797						1.02		2275.424	1.01
12346-PeCDF	NotFnd		0.9840						1.02		2275.424	1.01

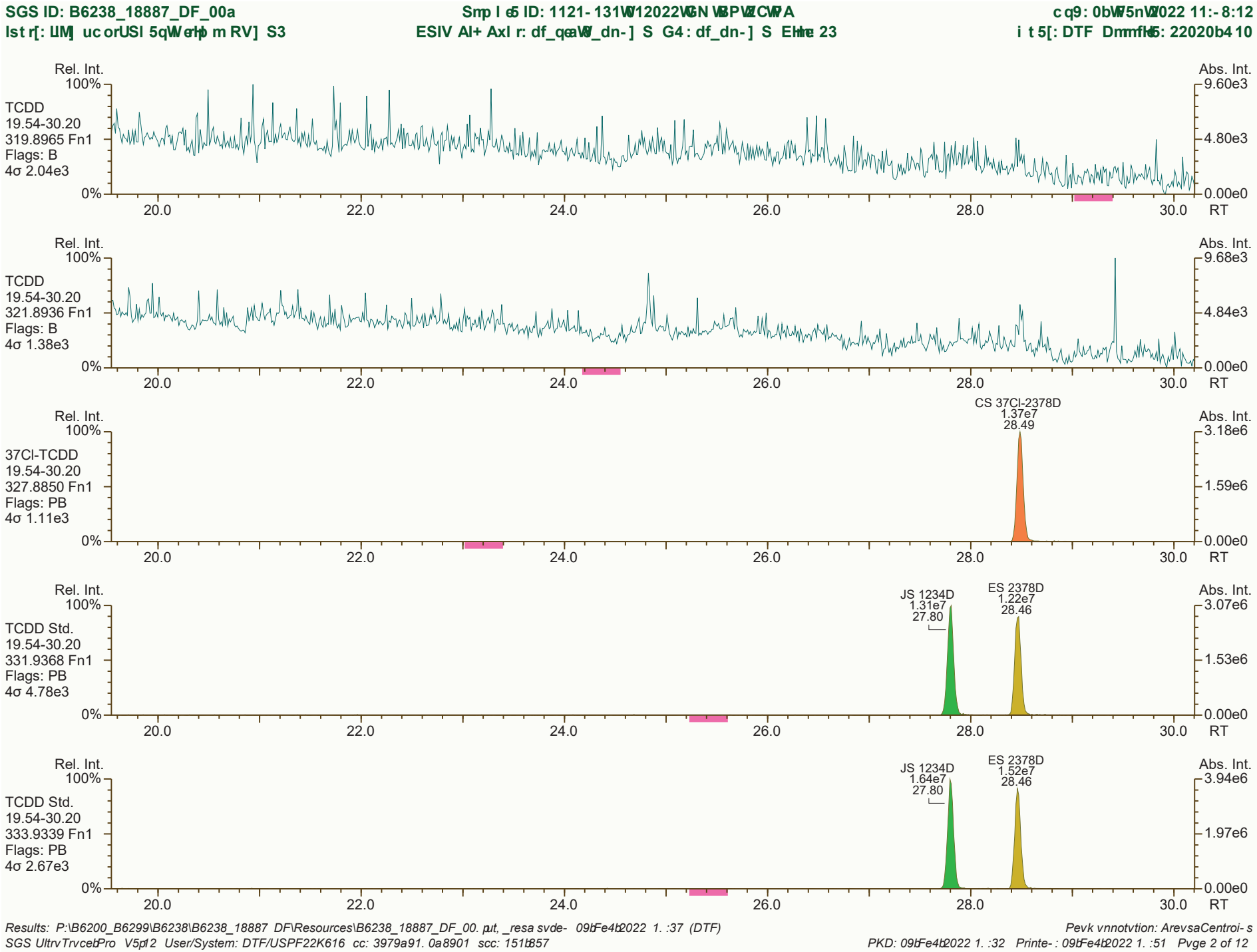
Lab ID: B6238_18887_DF_004 **Acq'd:** 09 Feb 2022 11:58 DTF **Wt/Vol:** 1.03 L **ICAL:** HRMS3_DF_10272021 10NOV2021

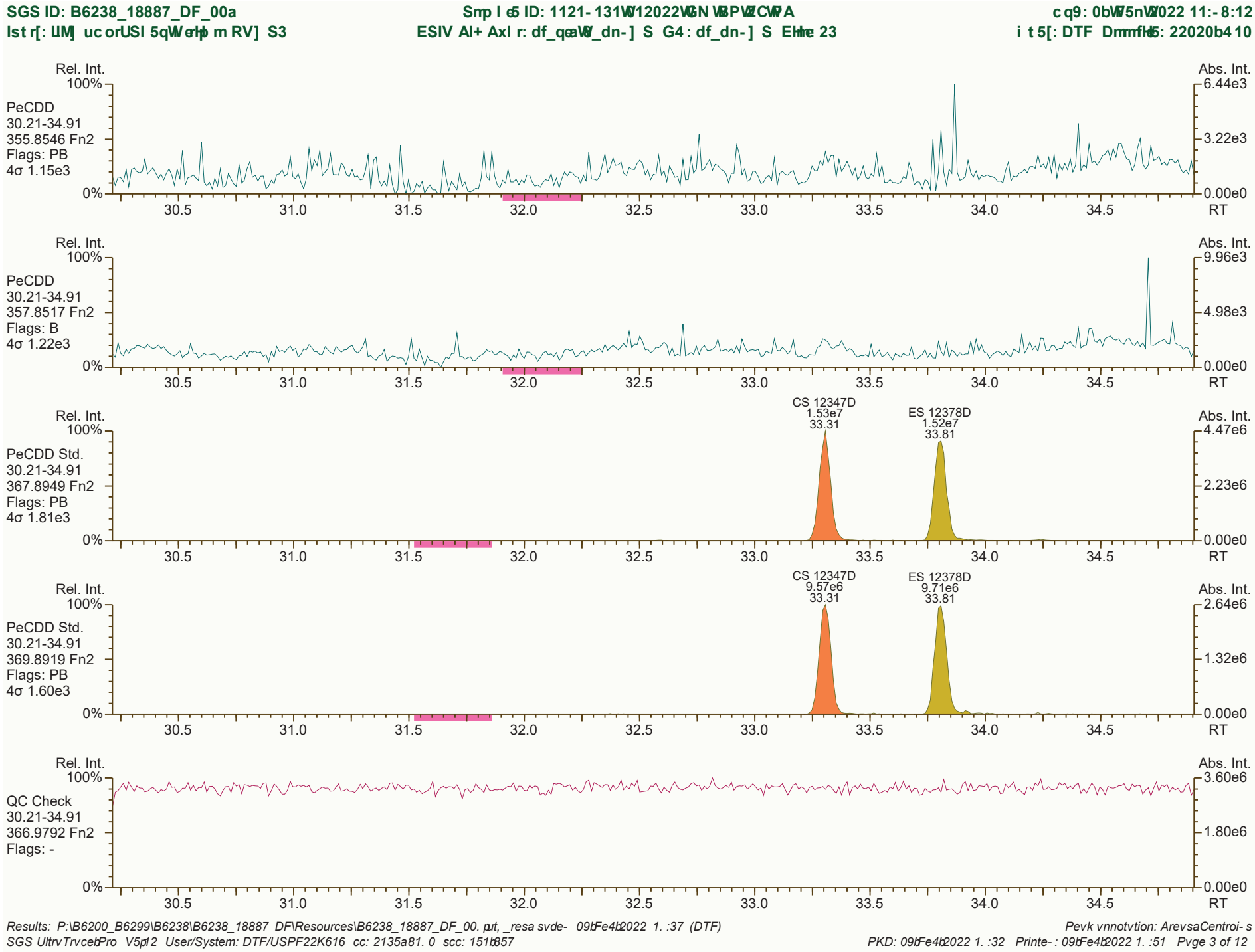
Client ID: 11215131-012022-GW-BN-PZ-NE **UTP:** 09-Feb-2022 14:37:56 DTF **J-level:** 4.85 pg/L **Split:** 1 **Checkcode:** 151-857-SLQ

Datafile: 220209C10 **Report:** 09 Feb 2022 17:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		2275.424	1.01
12347-PeCDF	NotFnd		0.9894						1.02		2275.424	1.01
12348-PeCDF	NotFnd		0.9940						1.02		2275.424	1.01
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2275.424**	**1.02**
12678/12367-PeCDF	NotFnd		1.0089						1.02		2275.424	1.01
12379-PeCDF	NotFnd		1.0142						1.02		2275.424	1.01
12679-PeCDF	NotFnd		0.9929						1.02		2275.424	1.01
23467/12369-PeCDF	NotFnd		0.9967						1.02		2275.424	1.01
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2275.424**	**0.991**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2275.424	1.01
12349-PeCDF	NotFnd		1.0100						1.02		2275.424	1.01
12389-PeCDF	NotFnd		1.0324						1.02		2275.424	1.01
123468-HxCDF	NotFnd		0.9627						1.19		2071.2777	0.979
124678/134678-HxCDF	NotFnd		0.9682						1.19		2071.2777	0.979
134679-HxCDF	NotFnd		0.9744						1.19		2071.2777	0.979
124679-HxCDF	NotFnd		0.9798						1.19		2071.2777	0.979
124689-HxCDF	NotFnd		0.9858						1.19		2071.2777	0.979
123467-HxCDF	NotFnd		0.9972						1.19		2071.2777	0.979
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2071.2777**	**1.04**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2071.2777**	**0.902**
123479-HxCDF	NotFnd		1.0049						1.19		2071.2777	0.979
123469-HxCDF	NotFnd		1.0090						1.19		2071.2777	0.979
123679-HxCDF	NotFnd		0.9942						1.19		2071.2777	0.979
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2071.2777**	**0.896**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2071.2777	0.979
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2071.2777**	**1.11**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		2071.2777	0.979
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2632.002**	**1.21**
1234679-HpCDF	NotFnd		1.0068						1.34		2632.002	1.51
1234689-HpCDF	NotFnd		1.0103						1.34		2632.002	1.51
1234789-HpCDF	**NotFnd**		**1.0002**						**1.31**		**2632.002**	**1.91**
OCDF	**NotFnd**		**1.0003**						**1.07**		**2643.956**	**3.33**
OCDF-a	NotFnd		1.0002						0.07		2929.702	59.6

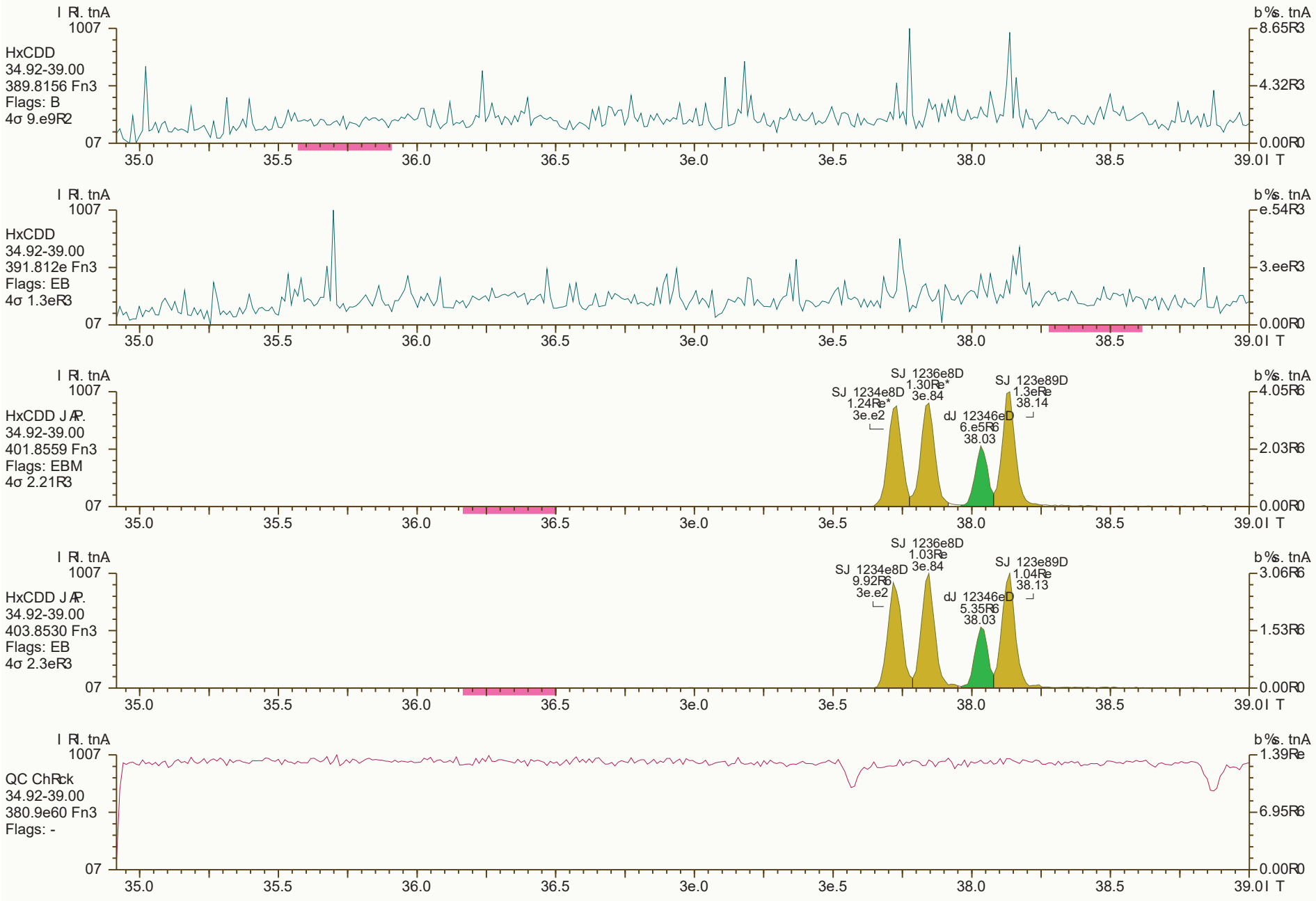

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.60e6
1.80e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.39e7
6.95e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
8.27e6
4.13e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.90e6
3.45e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT


SGS ID: B6238_18887_DF_00a
Rel. Int.
100%
0%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 2.04e3
Abs. Int.
9.60e3
4.80e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.38e3
9.68e3
4.84e3
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.11e3
CS 37Cl-2378D
1.37e7
28.49
3.18e6
1.59e6
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.78e3
JS 1234D
1.31e7
27.80
ES 2378D
1.22e7
28.46
3.07e6
1.53e6
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.67e3
JS 1234D
1.64e7
27.80
ES 2378D
1.52e7
28.46
3.94e6
1.97e6
Results: P:\B6200_B6299\B6238\B6238_18887 DF\Resources\B6238_18887_DF_00.put, _resa svde- 09bFe4b2022 1. :37 (DTF)
SGS UltrvTrvcebPro V5p12 User/System: DTF/USPF22K616 cc: 3979a91. 0a8901 scc: 151b857
Pevk vnnotvtion: ArevsaCentroi- s
PKD: 09bFe4b2022 1. :32 Printe- : 09bFe4b2022 1. :51 Pvge 2 of 12


SGS ID: B6238_18887_DF_00a
Smp l e5 ID: 1121- 131W012022WGN WBPVZCWPA
c q9: 0bW75nW2022 11:- 8:12
Ist r[: LIM] uc orUSI 5qW erh p m RV] S3
ESIV AI+ Axl r: df_qeaW_dn-] S G4: df_dn-] S Ehre 23
i t 5[: DTF Dmmfk5: 22020b4 10
Rel. Int.
100%
0%
Abs. Int.
6.44e3
3.22e3
0.00e0
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PB
4σ 1.15e3
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
0%
Abs. Int.
9.96e3
4.98e3
0.00e0
PeCDD
30.21-34.91
357.8517 Fn2
Flags: B
4σ 1.22e3
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
0%
Abs. Int.
4.47e6
2.23e6
0.00e0
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 1.81e3
CS 12347D
1.53e7
33.31
ES 12378D
1.52e7
33.81
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
0%
Abs. Int.
2.64e6
1.32e6
0.00e0
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 1.60e3
CS 12347D
9.57e6
33.31
ES 12378D
9.71e6
33.81
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
0%
Abs. Int.
3.60e6
1.80e6
0.00e0
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Results: P:\B6200_B6299\B6238\B6238_18887 DF\Resources\B6238_18887_DF_00. put, _resa svde- 09bFe4b2022 1. :37 (DTF)
Pevk vnnotvtion: ArevsaCentroi- s
SGS UltrvTrvcebPro V5p12 User/System: DTF/USPF22K616 cc: 2135a81. 0 scc: 151b857
PKD: 09bFe4b2022 1. :32 Printe- : 09bFe4b2022 1. :51 Pvge 3 of 12

SGS ID: B6238_18887_DF_004 **Sample ID: 11215131-012022-GW-BN-PZ-NE** **Acq: 09-Feb-2022 11:58:12**

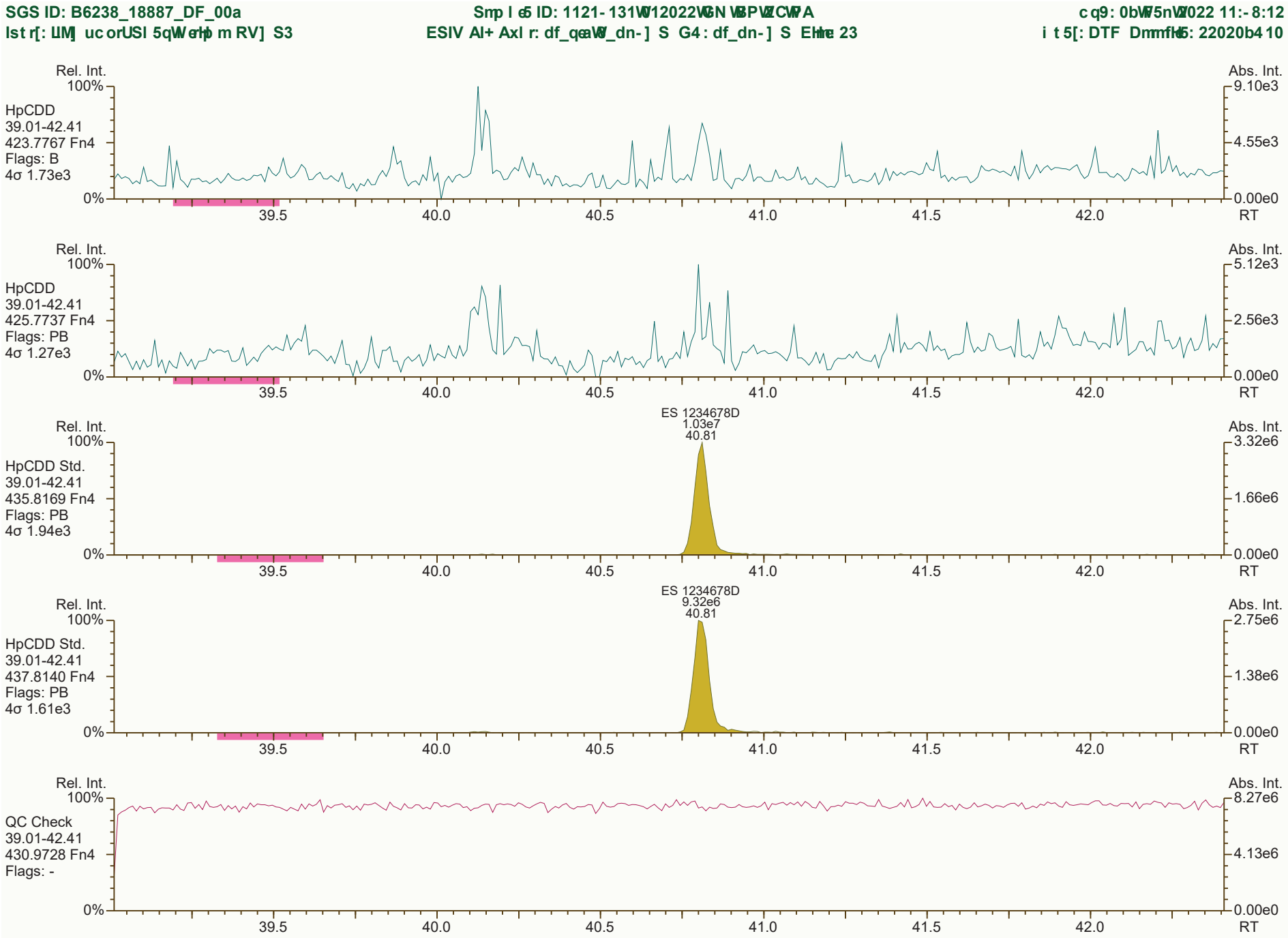
Instr: [ILM] AutoSpec-Ultima HRMS3 **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 23** **User: DTF Datafile: 220209C10**

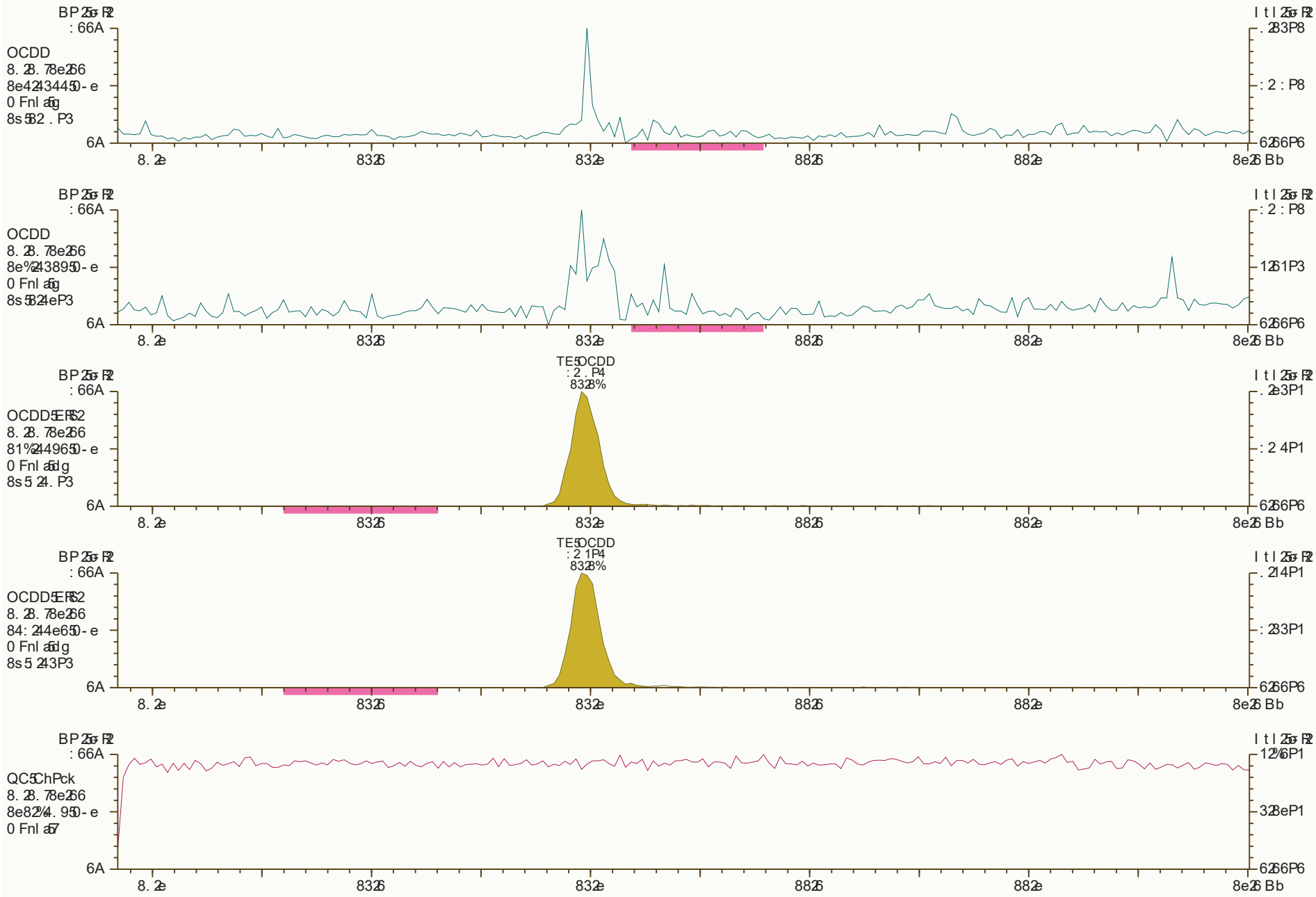


Results: P:\B6200_B6299\B6238\B6238_18887 DF\Resources\B6238_18887_DF_00. put, _resa svde- 09bFe4b2022 1. :37 (DTF)

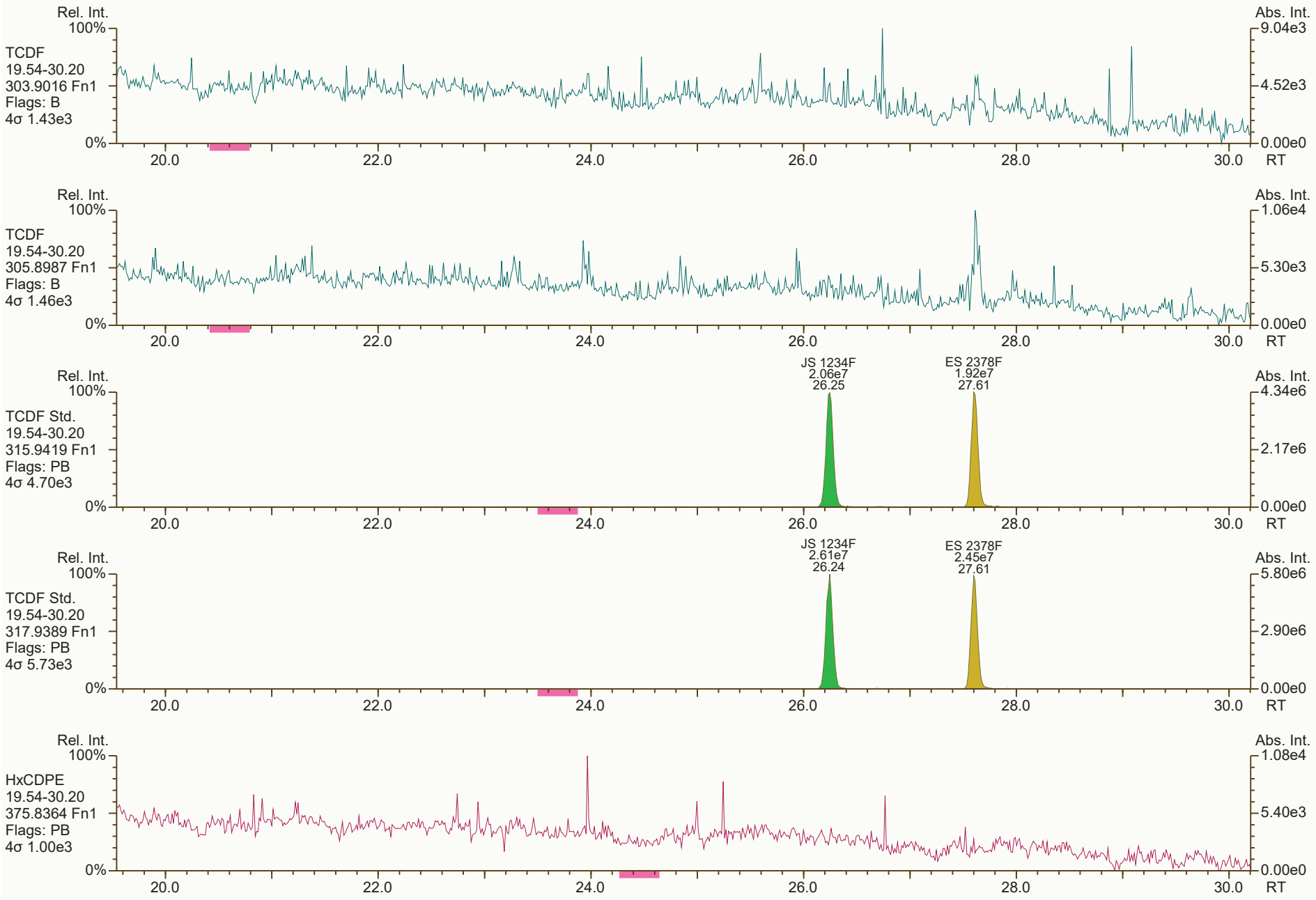
SGS UltrvTrvcebPro V5p12 User/System: DTF/USPF22K616 cc: 5803a5107 scc: 151b857

Redise- : 09bFe4b2022 1. :32 (DTF) Printe- : 09bFe4b2022 1. :51


HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.73e3
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.27e3
ES 1234678D
1.03e7
40.81
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.94e3
ES 1234678D
9.32e6
40.81
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.61e3
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Rel. Int.
Abs. Int.
100%
0%
RT
39.5
40.0
40.5
41.0
41.5
42.0


OCDD
TE5OCDD
: 2 . P4
832.8%
TE5OCDD
: 2 1P4
832.8%
QC5ChPck
6A
8. 2e
832.6
832e
882.6
882e
8e2.6 Bb

SGS ID: B6238_18887_DF_004 Sample ID: 11215131-012022-GW-BN-PZ-NE Acq: 09-Feb-2022 11:58:12
Instr: [ILM] AutoSpec-Ultima HRMS3 VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 23 User: DTF Datafile: 220209C10



Results: P:\B6200_B6299\B6238\B6238_18887 DF\Resources\B6238_18887_DF_00. put, _resa svde- 09bFe4b2022 1. :37 (DTF) *Pevk vnnotvtion: ArevsaCentroi- s*
SGS UltrvTrvcebPro V5p12 User/System: DTF/USPF22K616 cc: 2657a1291a9811 scc: 151b857 *Redise- : 09bFe4b2022 1. :33 (DTF) Printe- : 09bFe4b2022 1. :51 Pvge 7 of 12*

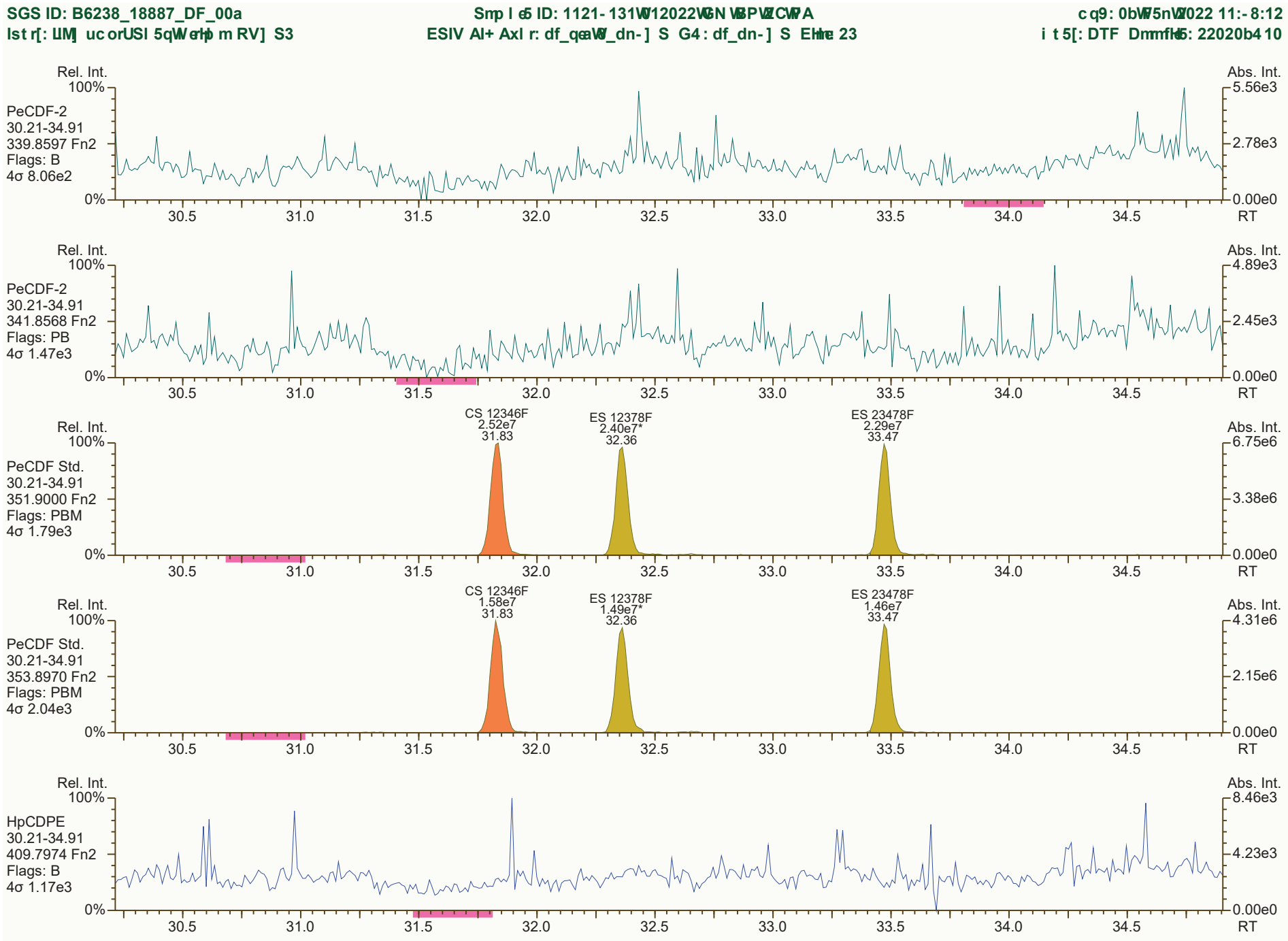
SGS ID: B6238_18887_DF_004 | **Sample ID: 11215131-012022-GW-BN-PZ-NE** | **Acq: 09-Feb-2022 11:58:12**

Instr: [ILM] AutoSpec-Ultima HRMS3 | **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 23** | **User: DTF Datafile: 220209C10**

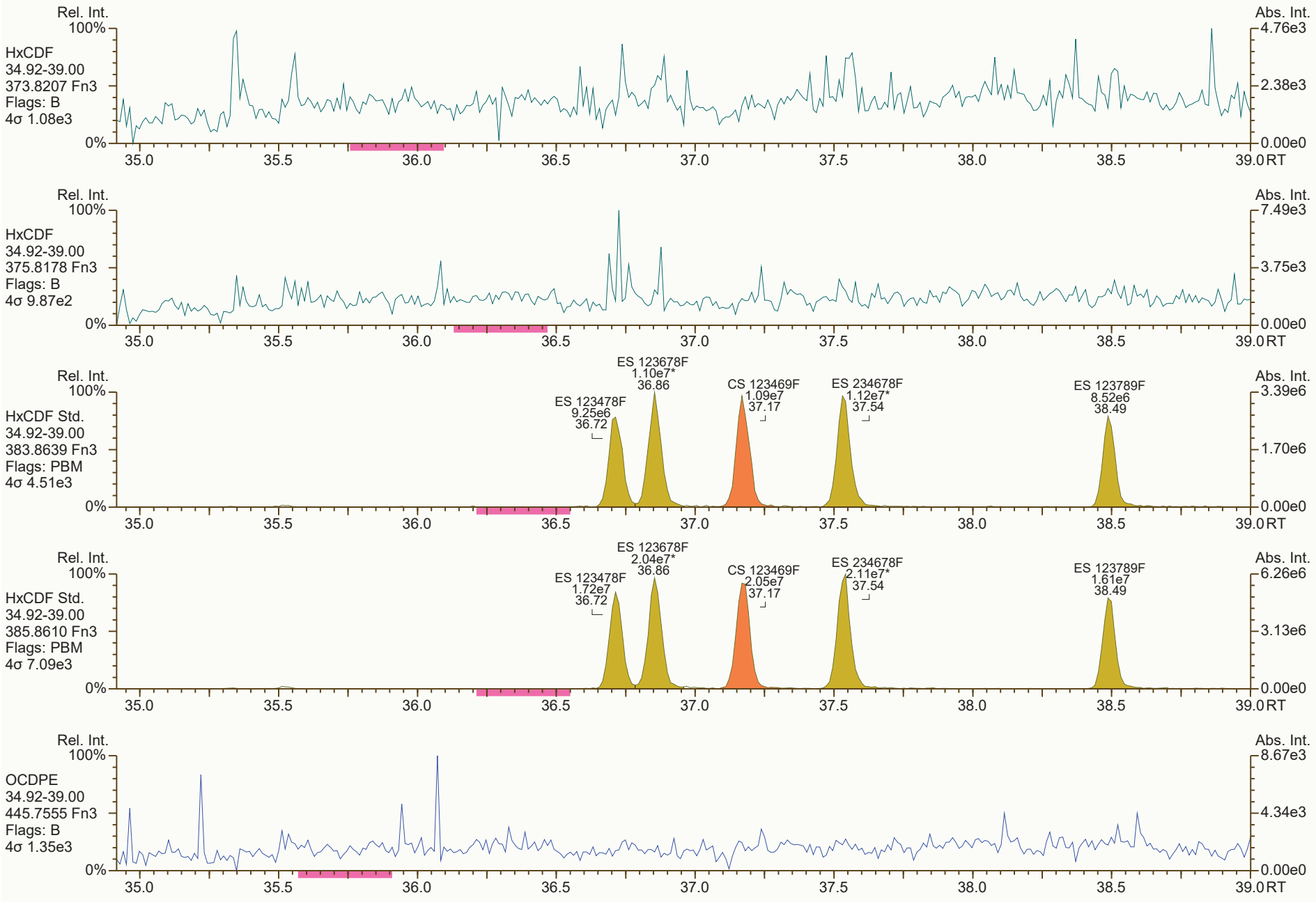


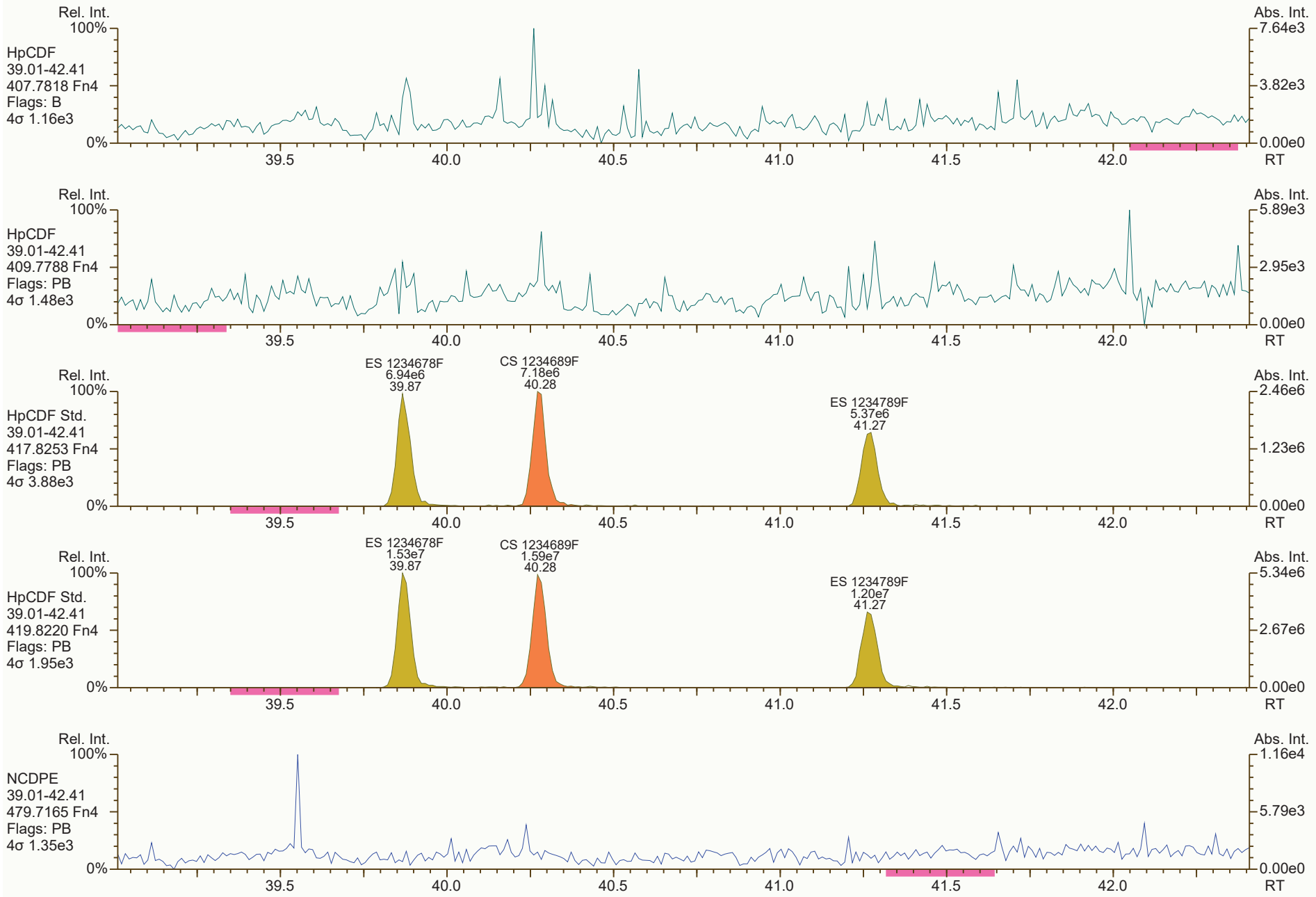
Results: P:\B6200_B6299\B6238\B6238_18887 DF\Resources\B6238_18887_DF_004.utp_res, saved 09-Feb-2022 14:37 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4617 scc: 151-857 *Revised: 09-Feb-2022 14:32 (DTF) Printed: 09-Feb-2022 14:51 Page 8 of 12*



Results: P:\B6200_B6299\B6238\B6238_18887 DF\Resources\B6238_18887_DF_004.utp_res, saved 09-Feb-2022 14:37 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6419, 4321, 5835 scc: 151-857
Revised: 09-Feb-2022 14:32 (DTF) Printed: 09-Feb-2022 14:51 Page 9 of 12


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: B
4σ 1.08e3
0%
Abs. Int.
4.76e3
2.38e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: B
4σ 9.87e2
0%
Abs. Int.
7.49e3
3.75e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 4.51e3
0%
ES 123678F
1.10e7*
36.86
ES 123478F
9.25e6
36.72
CS 123469F
1.09e7
37.17
ES 234678F
1.12e7*
37.54
ES 123789F
8.52e6
38.49
Abs. Int.
3.39e6
1.70e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 7.09e3
0%
ES 123678F
2.04e7*
36.86
ES 123478F
1.72e7
36.72
CS 123469F
2.05e7
37.17
ES 234678F
2.11e7*
37.54
ES 123789F
1.61e7
38.49
Abs. Int.
6.26e6
3.13e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.35e3
0%
Abs. Int.
8.67e3
4.34e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: B
4σ 1.16e3
0%
Abs. Int.
7.64e3
3.82e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.48e3
0%
Abs. Int.
5.89e3
2.95e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 3.88e3
0%
ES 1234678F
6.94e6
39.87
CS 1234689F
7.18e6
40.28
ES 1234789F
5.37e6
41.27
Abs. Int.
2.46e6
1.23e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 1.95e3
0%
ES 1234678F
1.53e7
39.87
CS 1234689F
1.59e7
40.28
ES 1234789F
1.20e7
41.27
Abs. Int.
5.34e6
2.67e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.35e3
0%
Abs. Int.
1.16e4
5.79e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: B
4σ 1.25e3
0%
Abs. Int.
4.27e3
2.13e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: B
4σ 1.39e3
0%
Abs. Int.
5.74e3
2.87e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.49e7*
43.68
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 1.81e3
0%
Abs. Int.
3.39e6
1.69e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.67e7*
43.67
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
3.64e6
1.82e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.24e3
0%
Abs. Int.
3.48e3
1.74e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6238_18887_DF_005 **Acq'd:** 09 Feb 2022 12:44 DTF **Wt/Vol:** 1.02 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-DUP-1 **UTP:** 09-Feb-2022 14:37:57 DTF **J-level:** 4.9 pg/L **Split:** 1 **Checkcode:** 170-231-FWV

Datafile: 220209C11 **Report:** 09 Feb 2022 17:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	3040.833	1.73
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	2555.082	1.58
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2757.52	1.84
123678-HxCDD	NotFnd		1.0035	-		-	-	-	1.15	-	2757.52	1.71
123789-HxCDD	NotFnd		1.0112	-		-	-	-	1.05	-	2757.52	1.7
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	2979.332	2.08
OCDD	43.50	J EMPC	1.0004	1.0006	+0.5	6.25E+04	0.70	N	1.13	7.96	3717.267	5.44
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	2855.736	1.16
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3024.9636	1.28
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3024.9636	1.23
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2595.09	1.15
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2595.09	1.13
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2595.09	1.11
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2595.09	1.22
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2978.63	1.34
1234789-HpCDF	NotFnd		1.0002	-		-	-	-	1.31	-	2978.63	1.91
OCDF	NotFnd		1.0003	-		-	-	-	1.07	-	2646.207	2.89

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.45	1.0236	1.0238	+0.3	2.93E+07	0.80	Y	1.05	85
ES 12378-PeCDD	33.79	1.2144	1.2162	+3.6	2.80E+07	1.61	Y	0.88	96.9
ES 123478-HxCDD	37.71	0.9920	0.9919	-0.2	2.34E+07	1.29	Y	0.97	90.3
ES 123678-HxCDD	37.83	0.9951	0.9950	-0.2	2.49E+07	1.27	Y	0.94	99.2
ES 123789-HxCDD	38.12	1.0027	1.0027	0	2.53E+07	1.29	Y	1.09	87.1
ES 1234678-HpCDD	40.79	1.0724	1.0730	+1.5	2.10E+07	1.08	Y	0.91	86.4
ES OCDD	43.47	1.1428	1.1434	+1.6	2.73E+07	0.92	Y	0.62	82.2
ES 2378-TCDF	27.59	1.0516	1.0519	+0.5	4.63E+07	0.78	Y	1.06	86.3
ES 12378-PeCDF	32.35	1.2312	1.2331	+3.7	4.24E+07	1.58	Y	0.91	92.1
ES 23478-PeCDF	33.46	1.2733	1.2756	+4.6	4.17E+07	1.59	Y	0.88	93.4
ES 123478-HxCDF	36.70	0.9655	0.9653	-0.4	2.84E+07	0.54	Y	1.20	88.9
ES 123678-HxCDF	36.84	0.9692	0.9690	-0.4	3.42E+07	0.55	Y	1.35	95
ES 234678-HxCDF	37.52	0.9871	0.9869	-0.5	3.26E+07	0.55	Y	1.24	98.7
ES 123789-HxCDF	38.48	1.0121	1.0120	-0.2	2.70E+07	0.51	Y	1.16	87.7
ES 1234678-HpCDF	39.86	1.0479	1.0484	+1.2	2.40E+07	0.46	Y	0.97	93
ES 1234789-HpCDF	41.25	1.0845	1.0850	+1.2	1.88E+07	0.45	Y	0.85	82.9
ES OCDF	43.65	1.1477	1.1482	+1.3	3.61E+07	0.93	Y	0.81	84

Lab ID: B6238_18887_DF_005 **Acq'd:** 09 Feb 2022 12:44 DTF **Wt/Vol:** 1.02 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-DUP-1 **UTP:** 09-Feb-2022 14:37:57 DTF **J-level:** 4.9 pg/L **Split:** 1 **Checkcode:** 170-231-FWV

Datafile: 220209C11 **Report:** 09 Feb 2022 17:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.79		-	-	-	3.29E+07	0.82	Y	-	-
JS 1234-TCDF	26.23		-	-	-	5.06E+07	0.78	Y	-	-
JS 123467-HxCDD	38.02		-	-	-	1.33E+07	1.23	Y	-	-
CS 37Cl-2378-TCDD	28.47		1.0244	1.0247	+0.5	1.43E+07	n/a	-	1.20	90.4
CS 12347-PeCDD	33.29		1.1964	1.1981	+3.4	2.73E+07	1.59	Y	0.75	110
CS 12346-PeCDF	31.82		1.2112	1.2129	+3.2	4.39E+07	1.60	Y	0.85	102
CS 123469-HxCDF	37.16		0.9775	0.9774	-0.2	3.32E+07	0.54	Y	1.12	112
CS 1234689-HpCDF	40.26		1.0584	1.0590	+1.4	2.55E+07	0.45	Y	0.89	108
SS 37Cl-2378-TCDD	28.47		1.0244	1.0247	+0.5	1.43E+07	n/a	-	1.15	107
SS 12347-PeCDD	33.29		1.1964	1.1981	+3.4	2.73E+07	1.59	Y	0.86	113
SS 12346-PeCDF	31.82		1.2112	1.2129	+3.2	4.39E+07	1.60	Y	0.94	110
SS 123469-HxCDF	37.16		0.9775	0.9774	-0.2	3.32E+07	0.54	Y	0.83	117
SS 1234689-HpCDF	40.26		1.0584	1.0590	+1.4	2.55E+07	0.45	Y	0.92	116

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	7.96
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	7.96

Lab ID: B6238_18887_DF_005 **Acq'd:** 09 Feb 2022 12:44 DTF **Wt/Vol:** 1.02 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-DUP-1 **UTP:** 09-Feb-2022 14:37:57 DTF **J-level:** 4.9 pg/L **Split:** 1 **Checkcode:** 170-231-FWV

Datafile: 220209C11 **Report:** 09 Feb 2022 17:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8737						1.18		3040.833	1.73
1379-TCDD	NotFnd		0.8860						1.18		3040.833	1.73
1369-TCDD	NotFnd		0.9009						1.18		3040.833	1.73
1469-TCDD	NotFnd		0.9281						1.18		3040.833	1.73
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3040.833	1.73
1378-TCDD	NotFnd		0.9432						1.18		3040.833	1.73
1268-TCDD	NotFnd		0.9500						1.18		3040.833	1.73
1478-TCDD	NotFnd		0.9586						1.18		3040.833	1.73
1279-TCDD	NotFnd		0.9645						1.18		3040.833	1.73
1234/1269-TCDD	NotFnd		0.9770						1.18		3040.833	1.73
1236-TCDD	NotFnd		0.9817						1.18		3040.833	1.73
1237/1238-TCDD	NotFnd		0.9905						1.18		3040.833	1.73
1239-TCDD	NotFnd		0.9952						1.18		3040.833	1.73
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**3040.833**	**1.73**
1278-TCDD	NotFnd		1.0121						1.18		3040.833	1.73
1267-TCDD	NotFnd		1.0167						1.18		3040.833	1.73
1289-TCDD	NotFnd		1.0345						1.18		3040.833	1.73
12479/12468-PeCDD	NotFnd		0.9267						1.04		2555.082	1.58
12469-PeCDD	NotFnd		0.9425						1.04		2555.082	1.58
12368-PeCDD	NotFnd		0.9588						1.04		2555.082	1.58
12478-PeCDD	NotFnd		0.9643						1.04		2555.082	1.58
12379-PeCDD	NotFnd		0.9673						1.04		2555.082	1.58
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		2555.082	1.58
12346/12347-PeCDD	NotFnd		0.9858						1.04		2555.082	1.58
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**2555.082**	**1.58**
12367-PeCDD	NotFnd		1.0033						1.04		2555.082	1.58
12389-PeCDD	NotFnd		1.0134						1.04		2555.082	1.58
124679/124689-HxCDD	NotFnd		0.9542						1.10		2757.52	1.75
123468-HxCDD	NotFnd		0.9715						1.10		2757.52	1.75
123679/123689-HxCDD	NotFnd		0.9793						1.10		2757.52	1.75
123469-HxCDD	NotFnd		0.9828						1.10		2757.52	1.75
123478-HxCDD	NotFnd		**1.0004**						1.09		**2757.52**	**1.84**
123678-HxCDD	NotFnd		**1.0035**						1.15		**2757.52**	**1.71**
123467-HxCDD	NotFnd		1.0085						1.10		2757.52	1.75
123789-HxCDD	NotFnd		**1.0112**						1.05		**2757.52**	**1.7**

Lab ID: B6238_18887_DF_005 **Acq'd:** 09 Feb 2022 12:44 DTF **Wt/Vol:** 1.02 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-DUP-1 **UTP:** 09-Feb-2022 14:37:57 DTF **J-level:** 4.9 pg/L **Split:** 1 **Checkcode:** 170-231-FWV

Datafile: 220209C11 **Report:** 09 Feb 2022 17:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9837						1.06		2979.332	2.08
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**2979.332**	**2.08**
OCDD	**43.50**	**J EMPC**	**1.0004**	**1.0006**	**+0.5**	**6.25E+04**	**0.70**	**N**	**1.13**	**7.96**	**3717.267**	**5.44**
OCDD-a	NotFnd		1.0003						0.07		3585.915	82.1
1368-TCDF	NotFnd		0.8251						1.08		2855.736	1.16
1468-TCDF	NotFnd		0.8458						1.08		2855.736	1.16
2468-TCDF	NotFnd		0.8686						1.08		2855.736	1.16
1346/1246-TCDF	NotFnd		0.8814						1.08		2855.736	1.16
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2855.736	1.16
1348-TCDF	NotFnd		0.8962						1.08		2855.736	1.16
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2855.736	1.16
1268-TCDF	NotFnd		0.9145						1.08		2855.736	1.16
1467-TCDF	NotFnd		0.9193						1.08		2855.736	1.16
1478-TCDF	NotFnd		0.9254						1.08		2855.736	1.16
1369/1237-TCDF	NotFnd		0.9387						1.08		2855.736	1.16
2467-TCDF	NotFnd		0.9433						1.08		2855.736	1.16
2368-TCDF	NotFnd		0.9489						1.08		2855.736	1.16
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2855.736	1.16
1278-TCDF	NotFnd		0.9683						1.08		2855.736	1.16
1349-TCDF	NotFnd		0.9722						1.08		2855.736	1.16
1267-TCDF	NotFnd		0.9783						1.08		2855.736	1.16
2346/1249-TCDF	NotFnd		0.9850						1.08		2855.736	1.16
2347/1279-TCDF	NotFnd		0.9926						1.08		2855.736	1.16
2348-TCDF	NotFnd		0.9967						1.08		2855.736	1.16
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**2855.736**	**1.16**
2367/3467-TCDF	NotFnd		1.0137						1.08		2855.736	1.16
1269-TCDF	NotFnd		1.0223						1.08		2855.736	1.16
1239-TCDF	NotFnd		1.0321						1.08		2855.736	1.16
1289-TCDF	NotFnd		1.0722						1.08		2855.736	1.16
13468/12468-PeCDF	NotFnd		0.9139						1.02		2582.428	1.07
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		3024.9636	1.25
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		3024.9636	1.25
14678-PeCDF	NotFnd		0.9692						1.02		3024.9636	1.25
13479-PeCDF	NotFnd		0.9723						1.02		3024.9636	1.25
13469/12479-PeCDF	NotFnd		0.9797						1.02		3024.9636	1.25
12346-PeCDF	NotFnd		0.9840						1.02		3024.9636	1.25

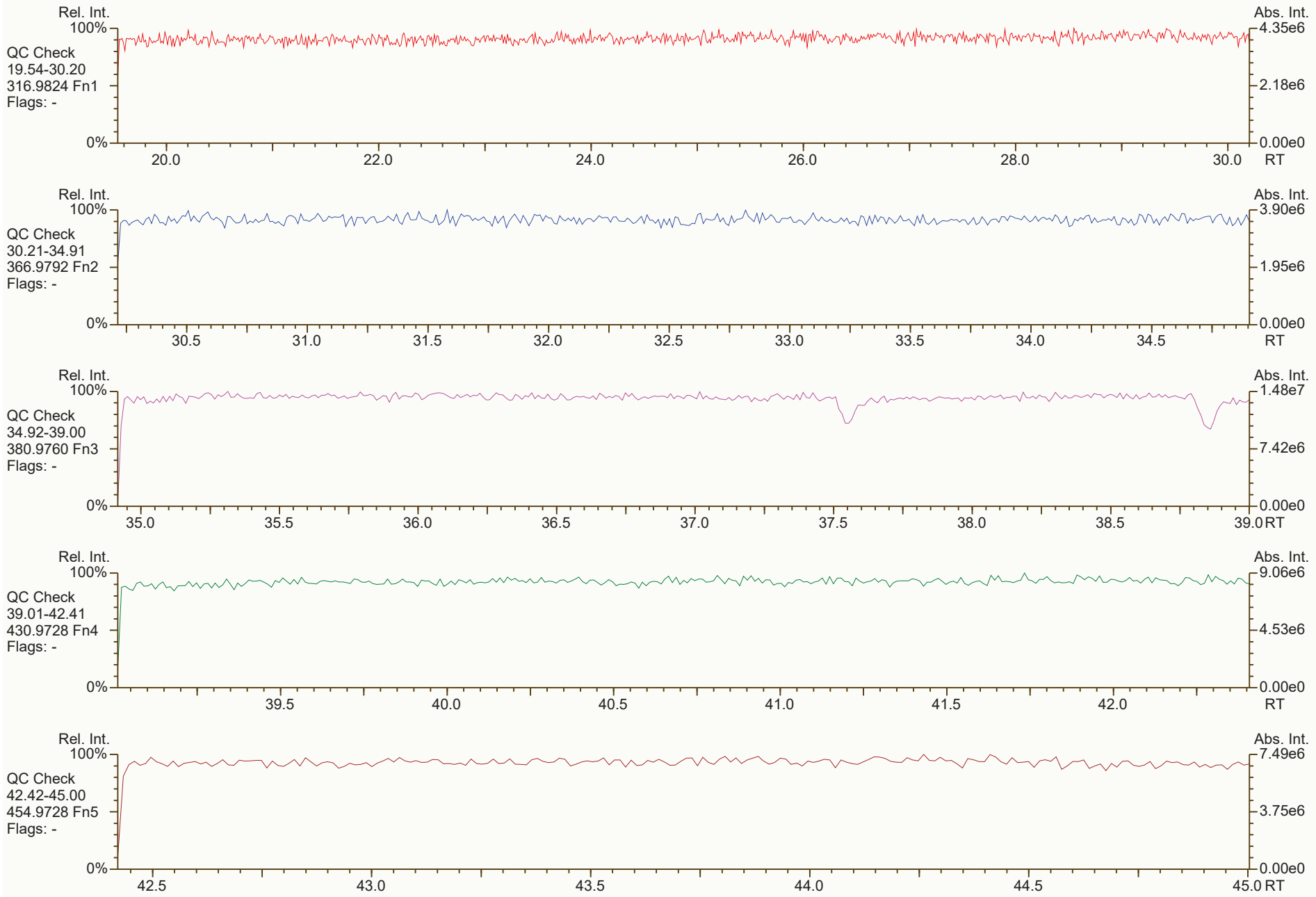
Lab ID: B6238_18887_DF_005 **Acq'd:** 09 Feb 2022 12:44 DTF **Wt/Vol:** 1.02 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-012022-GW-BN-DUP-1 **UTP:** 09-Feb-2022 14:37:57 DTF **J-level:** 4.9 pg/L **Split:** 1 **Checkcode:** 170-231-FWV

Datafile: 220209C11 **Report:** 09 Feb 2022 17:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

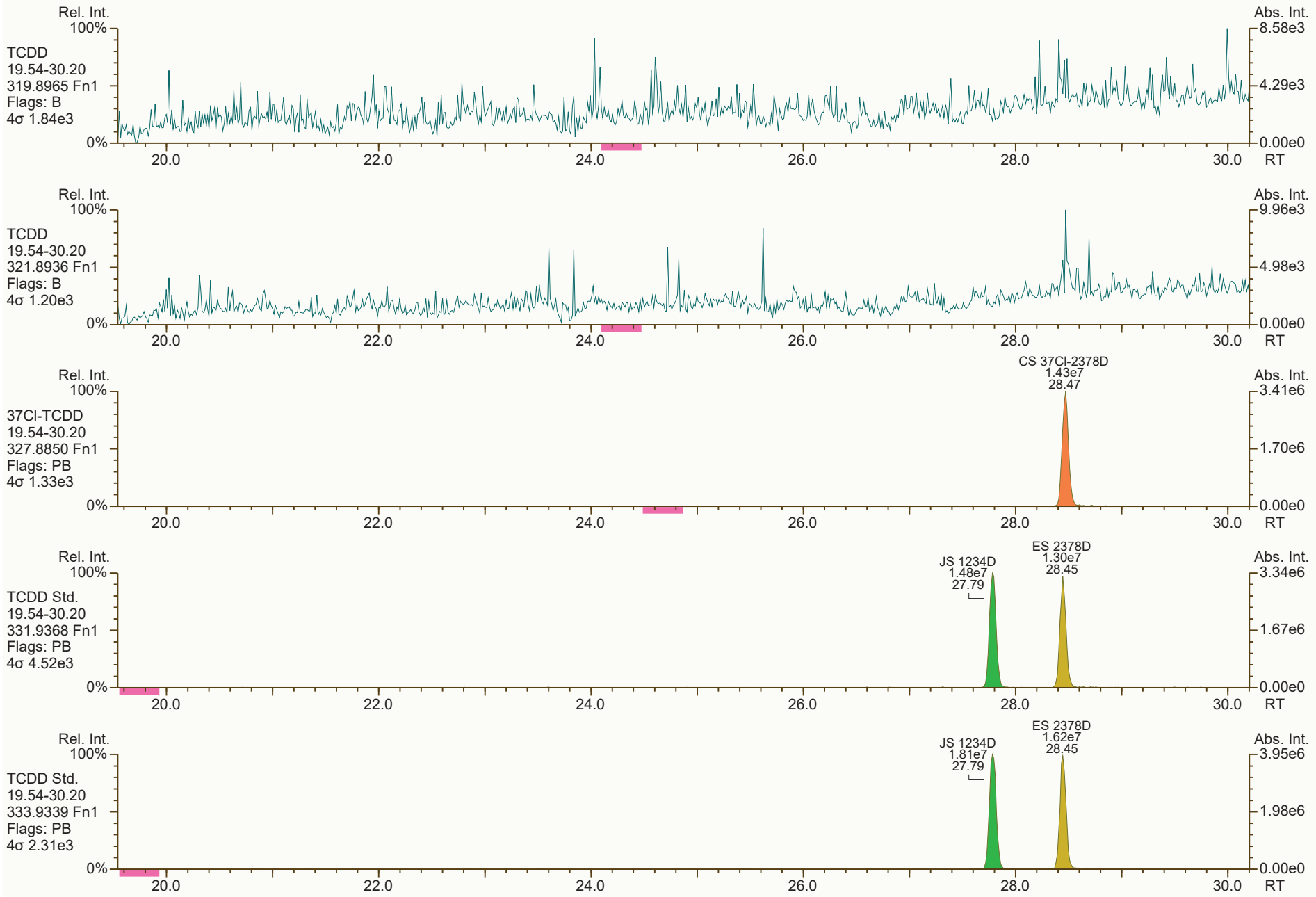
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		3024.9636	1.25
12347-PeCDF	NotFnd		0.9894						1.02		3024.9636	1.25
12348-PeCDF	NotFnd		0.9940						1.02		3024.9636	1.25
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3024.9636**	**1.28**
12678/12367-PeCDF	NotFnd		1.0089						1.02		3024.9636	1.25
12379-PeCDF	NotFnd		1.0142						1.02		3024.9636	1.25
12679-PeCDF	NotFnd		0.9929						1.02		3024.9636	1.25
23467/12369-PeCDF	NotFnd		0.9967						1.02		3024.9636	1.25
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3024.9636**	**1.23**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3024.9636	1.25
12349-PeCDF	NotFnd		1.0100						1.02		3024.9636	1.25
12389-PeCDF	NotFnd		1.0324						1.02		3024.9636	1.25
123468-HxCDF	NotFnd		0.9627						1.19		2595.09	1.15
124678/134678-HxCDF	NotFnd		0.9682						1.19		2595.09	1.15
134679-HxCDF	NotFnd		0.9744						1.19		2595.09	1.15
124679-HxCDF	NotFnd		0.9798						1.19		2595.09	1.15
124689-HxCDF	NotFnd		0.9858						1.19		2595.09	1.15
123467-HxCDF	NotFnd		0.9972						1.19		2595.09	1.15
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2595.09**	**1.15**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2595.09**	**1.13**
123479-HxCDF	NotFnd		1.0049						1.19		2595.09	1.15
123469-HxCDF	NotFnd		1.0090						1.19		2595.09	1.15
123679-HxCDF	NotFnd		0.9942						1.19		2595.09	1.15
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2595.09**	**1.11**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2595.09	1.15
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2595.09**	**1.22**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		2595.09	1.15
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2978.63**	**1.34**
1234679-HpCDF	NotFnd		1.0068						1.34		2978.63	1.59
1234689-HpCDF	NotFnd		1.0103						1.34		2978.63	1.59
1234789-HpCDF	**NotFnd**		**1.0002**						**1.31**		**2978.63**	**1.91**
OCDF	**NotFnd**		**1.0003**						**1.07**		**2646.207**	**2.89**
OCDF-a	NotFnd		1.0002						0.07		2890.865	50.9

SGS ID: B6238_18887_DF_005 | Sample ID: 11215131-012022-GW-BN-DUP-1 | Acq: 09-Feb-2022 12:44:33
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 24 | User: DTF Datafile: 220209C11



Results: P:\B6200_B6299\B6238\B6238_18887 DF\Resources\B6238_18887_DF_004.utp_res, saved 09-Feb-2022 1(:37 TD) Fk
GUG Vltra) race-Pro 54.12 Vser/Gystem: D) F/VGPF22K616 scc: 170-231

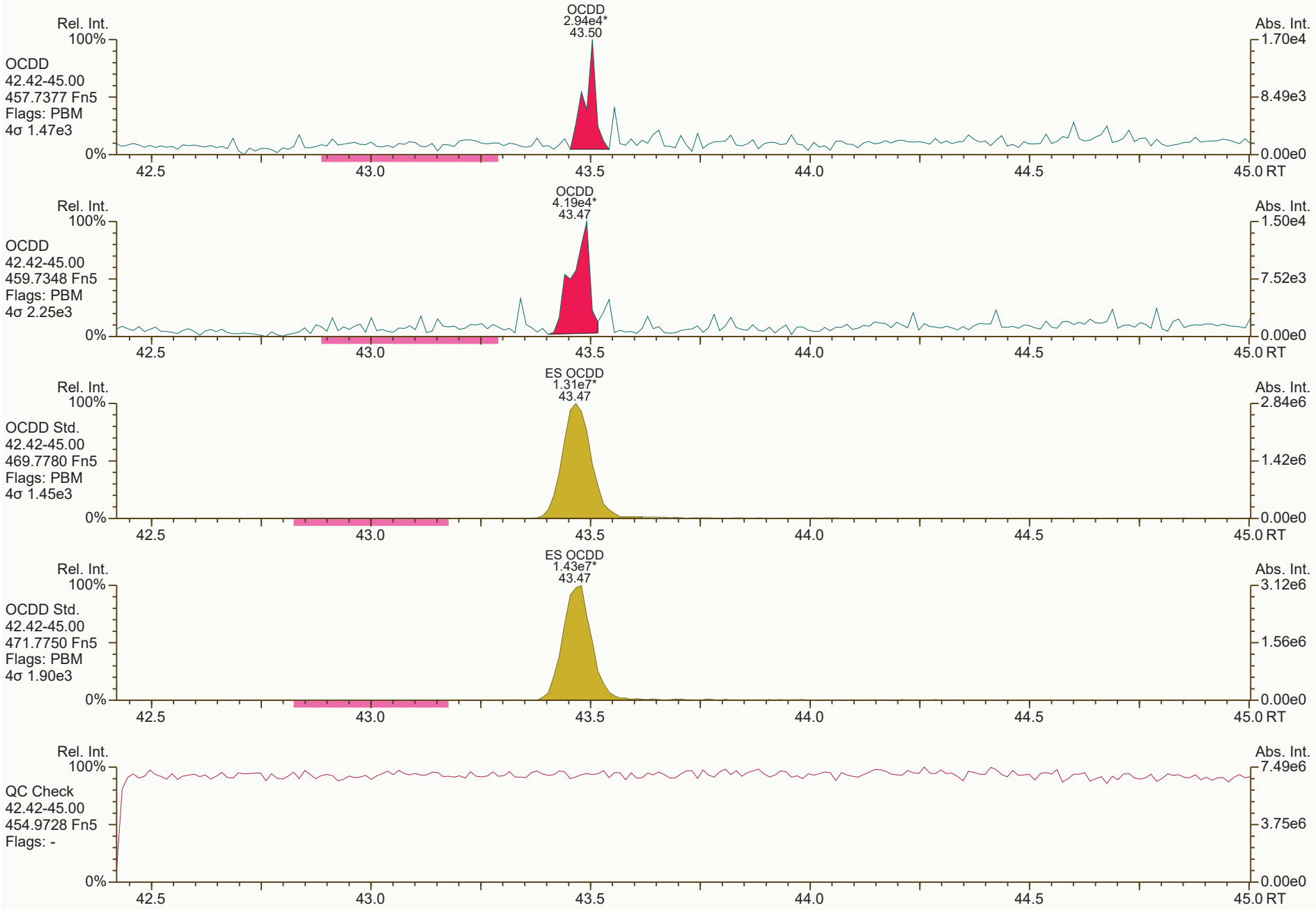
Pean ai i otatAoi : Creas, Sei troAds
PKD: i /a PrAted: 09-Feb-2022 1(:41 Page 1 of 12

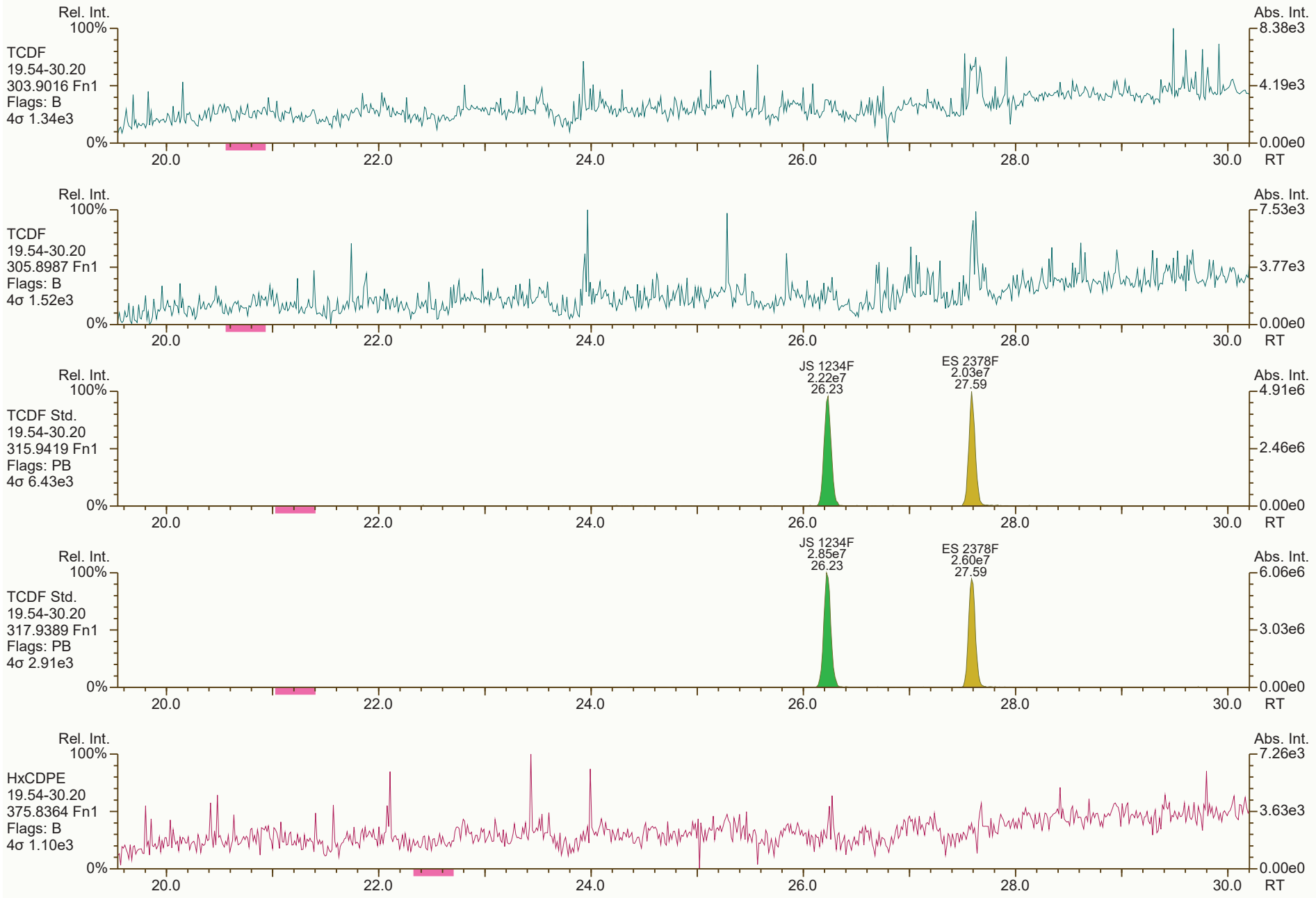

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 1.84e3
0%
Abs. Int.
8.58e3
4.29e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.20e3
0%
Abs. Int.
9.96e3
4.98e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.33e3
0%
CS 37Cl-2378D
1.43e7
28.47
Abs. Int.
3.41e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.52e3
0%
JS 1234D
1.48e7
27.79
ES 2378D
1.30e7
28.45
Abs. Int.
3.34e6
1.67e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.31e3
0%
JS 1234D
1.81e7
27.79
ES 2378D
1.62e7
28.45
Abs. Int.
3.95e6
1.98e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PB
4σ 1.39e3
0%
Abs. Int.
5.62e3
2.81e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PB
4σ 1.17e3
3.80e3
1.90e3
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 2.20e3
CS 12347D
1.67e7
33.29
ES 12378D
1.73e7
33.79
4.73e6
2.36e6
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 1.48e3
CS 12347D
1.06e7
33.29
ES 12378D
1.08e7
33.79
3.18e6
1.59e6
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
3.90e6
1.95e6


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: B
4σ 1.23e3
0%
Abs. Int.
4.38e3
2.19e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 1.53e3
0%
Abs. Int.
4.76e3
2.38e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 1.80e3
0%
ES 123678D
1.40e7
37.83
ES 123478D
1.32e7
37.71
ES 123789D
1.42e7
38.12
JS 123467D
7.33e6*
38.02
Abs. Int.
4.27e6
2.13e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 1.66e3
0%
ES 123678D
1.10e7
37.83
ES 123478D
1.02e7
37.71
ES 123789D
1.11e7
38.12
JS 123467D
5.98e6*
38.02
Abs. Int.
3.34e6
1.67e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.48e7
7.42e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.44e3
0%
Abs. Int.
6.91e3
3.45e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: B
4σ 1.54e3
0%
Abs. Int.
7.44e3
3.72e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
1.09e7
40.79
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.44e3
0%
Abs. Int.
3.44e6
1.72e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
1.01e7
40.79
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.99e3
0%
Abs. Int.
3.36e6
1.68e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
9.06e6
4.53e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

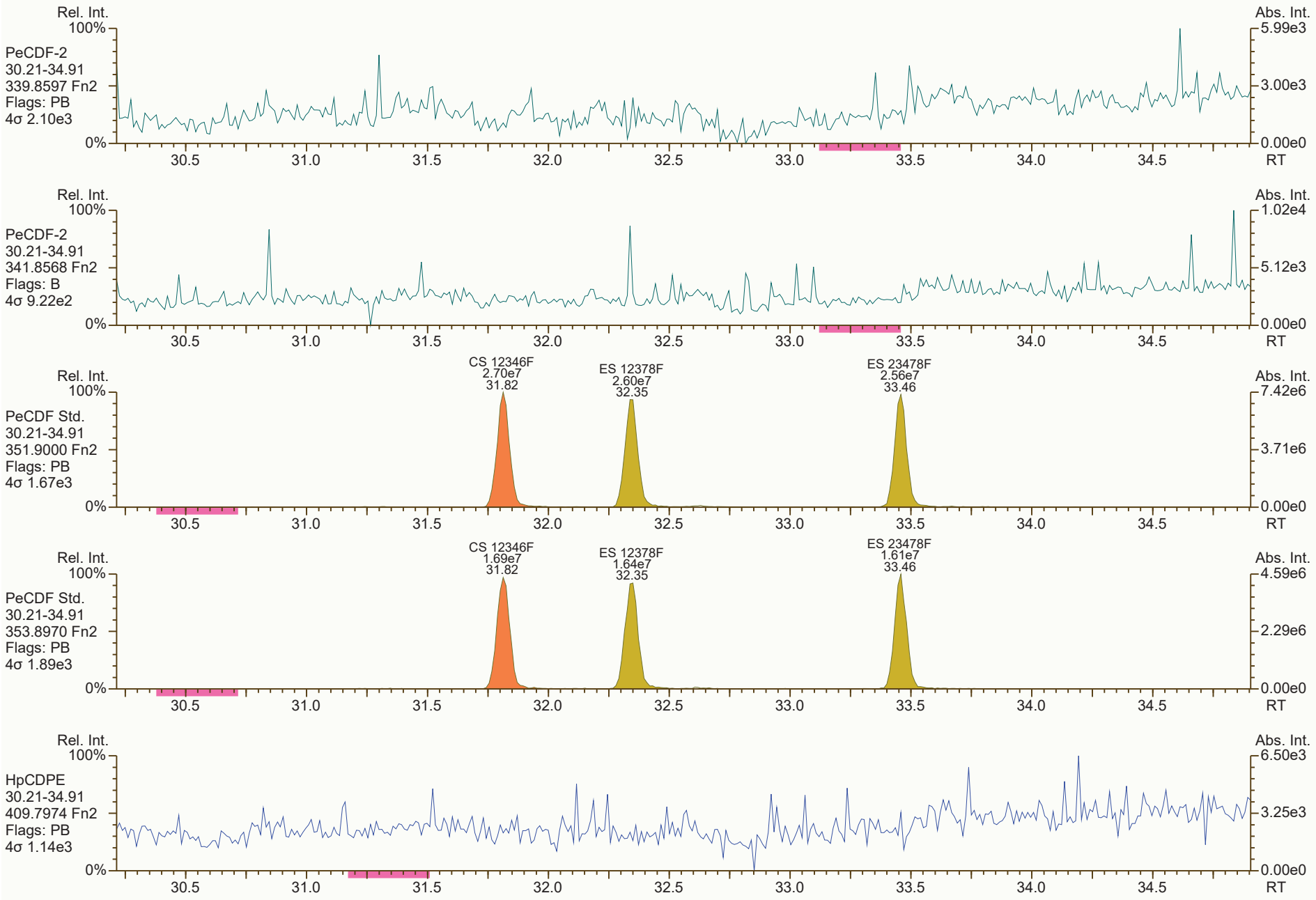

Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.47e3
0%
OCDD
2.94e4*
43.50
Abs. Int.
1.70e4
8.49e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 2.25e3
0%
OCDD
4.19e4*
43.47
Abs. Int.
1.50e4
7.52e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 1.45e3
0%
ES OCDD
1.31e7*
43.47
Abs. Int.
2.84e6
1.42e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 1.90e3
0%
ES OCDD
1.43e7*
43.47
Abs. Int.
3.12e6
1.56e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.49e6
3.75e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: B
4σ 1.34e3
0%
Abs. Int.
8.38e3
4.19e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
7.53e3
3.77e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 6.43e3
0%
JS 1234F
2.22e7
26.23
ES 2378F
2.03e7
27.59
Abs. Int.
4.91e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.91e3
0%
JS 1234F
2.85e7
26.23
ES 2378F
2.60e7
27.59
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.10e3
0%
Abs. Int.
7.26e3
3.63e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
8.79e3
4.40e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.34e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.11e4
5.56e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.24e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.35e6
2.18e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: B6238_18887_DF_005 | Sample ID: 11215131-012022-GW-BN-DUP-1 | Acq: 09-Feb-2022 12:44:33

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 24 | User: DTF Datafile: 220209C11

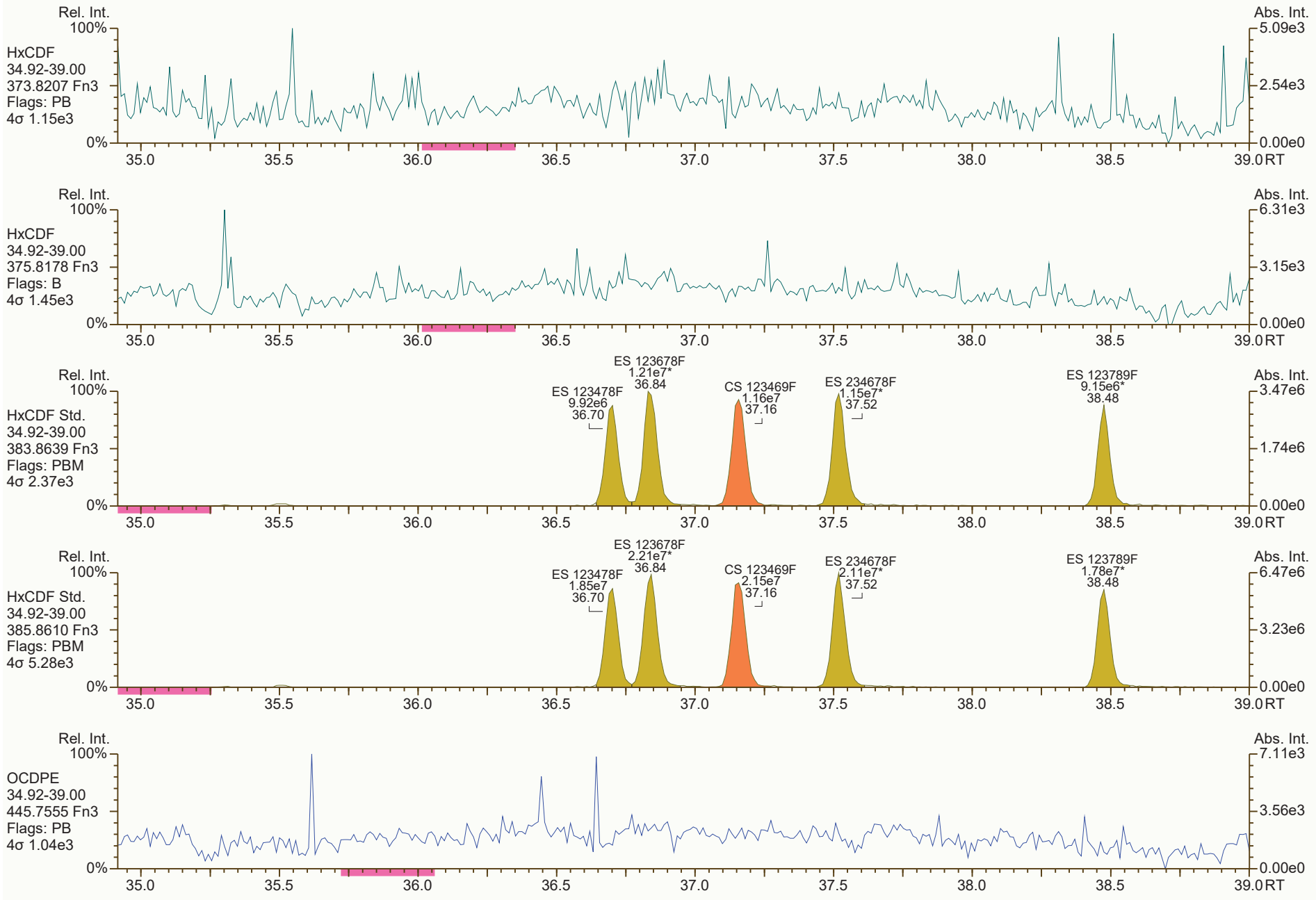


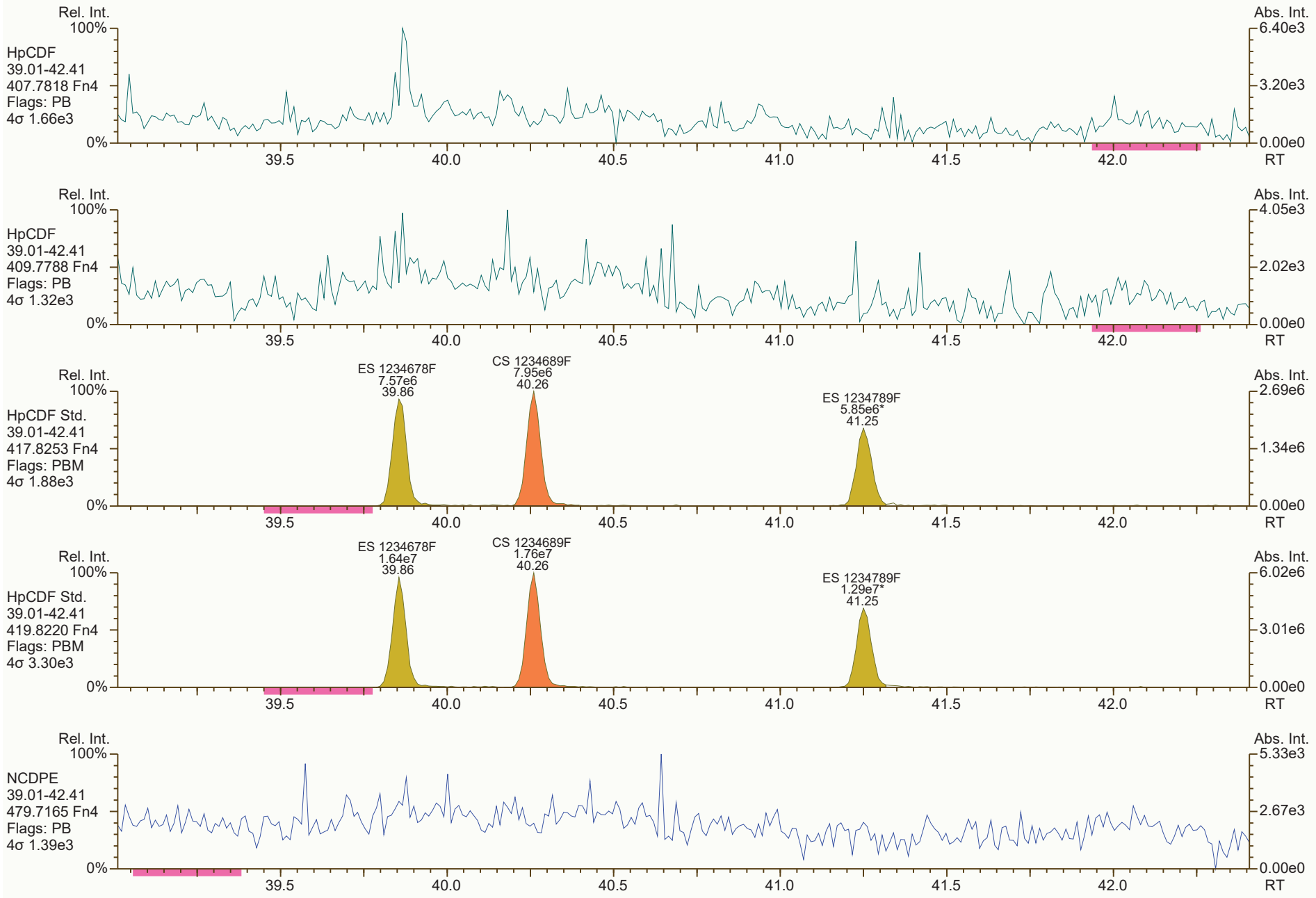
Results: P:\B6200_B6299\B6238\B6238_18887 DF\Resources\B6238_18887_DF_00. put, _resa svde- 09bFe4b2022 1(:37 TD) Fk

Pevn vi i otvtAi : CrevsaSei troAs

GUG Vltrv) rvcetPro 5. p12 Vser/Gystem: D) F/VGPF22K616 cc: 26. 1a8117a9. 2(scc: 170b231

PKD: 09bFe4b2022 1(:3(PrAte- : 09bFe4b2022 1(:. 1 Pvge 9 of 12


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PB
4σ 1.15e3
0%
Abs. Int.
5.09e3
2.54e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
6.31e3
3.15e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 2.37e3
0%
ES 123678F
1.21e7*
36.84
ES 123478F
9.92e6
36.70
CS 123469F
1.16e7
37.16
ES 234678F
1.15e7*
37.52
ES 123789F
9.15e6*
38.48
Abs. Int.
3.47e6
1.74e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 5.28e3
0%
ES 123678F
2.21e7*
36.84
ES 123478F
1.85e7
36.70
CS 123469F
2.15e7
37.16
ES 234678F
2.11e7*
37.52
ES 123789F
1.78e7*
38.48
Abs. Int.
6.47e6
3.23e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.04e3
0%
Abs. Int.
7.11e3
3.56e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.40e3
3.20e3
0.00e0
RT
39.5
40.0
40.5
41.0
41.5
42.0
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.32e3
4.05e3
2.02e3
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 1.88e3
ES 1234678F
7.57e6
39.86
CS 1234689F
7.95e6
40.26
ES 1234789F
5.85e6*
41.25
2.69e6
1.34e6
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 3.30e3
ES 1234678F
1.64e7
39.86
CS 1234689F
1.76e7
40.26
ES 1234789F
1.29e7*
41.25
6.02e6
3.01e6
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.39e3
5.33e3
2.67e3


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: B
4σ 1.01e3
0%
Abs. Int.
4.82e3
2.41e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.63e3
0%
Abs. Int.
4.70e3
2.35e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.74e7*
43.65
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 1.55e3
0%
Abs. Int.
4.05e6
2.03e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.87e7*
43.65
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 1.84e3
0%
Abs. Int.
4.16e6
2.08e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.29e3
0%
Abs. Int.
1.24e4
6.22e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

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

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
0	220209C01	3	CS3_220209_DF_CA	1.00	25-347-1	DTF	139-031	09-Feb-2022	05:01:12
1	220209C02	17	OPR1_18887_DF	1.00	0_18887_OPR001	DTF	724-032	09-Feb-2022	05:47:32
2	220209C03	2	SBS_220209_DF_CA	1.00	30-61-1	DTF	856-152	09-Feb-2022	06:33:51
4	220209C04	16	MB1_18887_DF_TLX	1.00	Method Blank	DTF	545-493	09-Feb-2022	07:20:11
5	220209C05	18	B6238_18887_DF_001	1.03	11215131-012022-GW-BN-PZ-SC	DTF	226-844	09-Feb-2022	08:06:31
6	220209C06	19	B6238_18887_DF_001MS	1.00	11215131-012022-GW-BN-PZ-SC-MS	DTF	817-064	09-Feb-2022	08:52:50
7	220209C07	20	B6238_18887_DF_001MSD	1.01	11215131-012022-GW-BN-PZ-SC-MSD	DTF	547-243	09-Feb-2022	09:39:11
8	220209C08	21	B6238_18887_DF_002	1.00	11215131-012022-GW-BN-PZ-SW	DTF	245-743	09-Feb-2022	10:25:30
9	220209C09	22	B6238_18887_DF_003	0.99	11215131-012022-GW-BN-PZ-NC	DTF	216-586	09-Feb-2022	11:11:51
10	220209C10	23	B6238_18887_DF_004	1.03	11215131-012022-GW-BN-PZ-NE	DTF	151-857	09-Feb-2022	11:58:12
11	220209C11	24	B6238_18887_DF_005	1.02	11215131-012022-GW-BN-DUP-1	DTF	170-231	09-Feb-2022	12:44:33

Dioxin/Furan QC Summary	Acq'd: 09 Feb 2022 05:01 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220209_DF_CA	UTP: 09-Feb-2022 14:37:49 DTF	Checkcode: 139-031-WCQ
Sample ID: 25-347-1	Report: 09 Feb 2022 14:40 TF	Datafile: 220209C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.49	4.85E+06	0.79	Y	1.18	1.20	2%
12378-PeCDD	33.82	1.81E+07	1.57	Y	1.04	1.06	2%
123478-HxCDD	37.73	1.60E+07	1.26	Y	1.09	1.07	-2%
123678-HxCDD	37.85	1.68E+07	1.25	Y	1.15	1.15	1%
123789-HxCDD	38.14	1.70E+07	1.26	Y	1.05	1.06	2%
1234678-HpCDD	40.81	1.43E+07	1.04	Y	1.06	1.08	2%
OCDD	43.48	2.33E+07	0.92	Y	1.13	1.14	1%
2378-TCDF	27.63	7.03E+06	0.77	Y	1.08	1.11	3%
12378-PeCDF	32.38	2.70E+07	1.54	Y	1.02	0.99	-3%
23478-PeCDF	33.49	2.65E+07	1.51	Y	1.02	0.99	-3%
123478-HxCDF	36.73	2.40E+07	1.24	Y	1.27	1.22	-4%
123678-HxCDF	36.87	2.50E+07	1.22	Y	1.15	1.12	-3%
234678-HxCDF	37.55	2.35E+07	1.23	Y	1.19	1.14	-4%
123789-HxCDF	38.50	2.03E+07	1.23	Y	1.16	1.13	-3%
1234678-HpCDF	39.88	2.10E+07	1.02	Y	1.37	1.32	-3%
1234789-HpCDF	41.27	1.75E+07	1.04	Y	1.31	1.27	-3%
OCDF	43.67	2.90E+07	0.92	Y	1.07	1.05	-2%
ES 2378-TCDD	28.47	4.03E+07	0.83	Y	1.05	1.00	-4%
ES 12378-PeCDD	33.803	3.41E+07	1.56	Y	0.88	0.85	-3%
ES 123478-HxCDD	37.716	3.00E+07	1.29	Y	0.97	0.97	0%
ES 123678-HxCDD	37.835	2.90E+07	1.29	Y	0.94	0.94	0%
ES 123789-HxCDD	38.128	3.20E+07	1.29	Y	1.09	1.04	-5%
ES 1234678-HpCDD	40.796	2.66E+07	1.06	Y	0.91	0.86	-5%
ES OCDD	43.471	4.10E+07	0.92	Y	0.62	0.67	7%
ES 2378-TCDF	27.609	6.31E+07	0.80	Y	1.06	0.99	-6%
ES 12378-PeCDF	32.358	5.43E+07	1.55	Y	0.91	0.86	-6%
ES 23478-PeCDF	33.471	5.34E+07	1.55	Y	0.88	0.84	-5%
ES 123478-HxCDF	36.709	3.95E+07	0.52	Y	1.20	1.28	7%
ES 123678-HxCDF	36.851	4.47E+07	0.54	Y	1.35	1.45	7%
ES 234678-HxCDF	37.531	4.12E+07	0.55	Y	1.24	1.34	8%
ES 123789-HxCDF	38.485	3.58E+07	0.53	Y	1.16	1.16	1%
ES 1234678-HpCDF	39.864	3.17E+07	0.46	Y	0.97	1.03	6%
ES 1234789-HpCDF	41.258	2.75E+07	0.46	Y	0.85	0.89	5%
ES OCDF	43.656	5.51E+07	0.91	Y	0.81	0.90	11%

Dioxin/Furan QC Summary	Acq'd: 09 Feb 2022 05:01 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220209_DF_CA	UTP: 09-Feb-2022 14:37:49 DTF	Checkcode: 139-031-WCQ
Sample ID: 25-347-1	Report: 09 Feb 2022 14:40 TF	Datafile: 220209C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.80	4.01E+07	0.84	Y	-	-	-
JS 1234-TCDF	26.25	6.34E+07	0.78	Y	-	-	-
JS 123467-HxCDD	38.03	1.54E+07	1.20	Y	-	-	-
CS 37Cl-2378-TCDD	28.49	5.26E+06	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	33.30	3.12E+07	1.60	Y	0.75	0.78	4%
CS 12346-PeCDF	31.83	5.29E+07	1.58	Y	0.85	0.83	-2%
CS 123469-HxCDF	37.17	4.02E+07	0.55	Y	1.12	1.31	17%
CS 1234689-HpCDF	40.27	3.14E+07	0.46	Y	0.89	1.02	15%
SS 37Cl-2378-TCDD	28.49	5.26E+06	n/a	-	1.15	1.31	14%
SS 12347-PeCDD	33.30	3.12E+07	1.60	Y	0.86	0.92	7%
SS 12346-PeCDF	31.83	5.29E+07	1.58	Y	0.94	0.97	4%
SS 123469-HxCDF	37.17	4.02E+07	0.55	Y	0.83	0.90	9%
SS 1234689-HpCDF	40.27	3.14E+07	0.46	Y	0.92	0.99	8%
OCDD-a	43.48	1.38E+06	2.24	Y	0.07	0.07	-6%
OCDF-a	43.67	1.79E+06	2.61	Y	0.07	0.07	-2%

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

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220209C01 Analysis Date: 09-FEB-2022 05:01:12

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.79	0.65 - 0.89	Y	10.2	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32 - 1.78	Y	51.2	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05 - 1.43	Y	49	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	50.3	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05 - 1.43	Y	50.8	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88 - 1.20	Y	50.8	43 - 58	Y
OCDD	M+2/M+4	0.92	0.76 - 1.02	Y	101	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.77	0.65 - 0.89	Y	10.3	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.54	1.32 - 1.78	Y	48.5	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.51	1.32 - 1.78	Y	48.6	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	47.9	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.22	1.05 - 1.43	Y	48.4	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	48	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	48.7	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.02	0.88 - 1.20	Y	48.4	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	0.88 - 1.20	Y	48.6	43 - 58	Y
OCDF	M+2/M+4	0.92	0.76 - 1.02	Y	98.4	63 - 159	Y

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

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

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

Processed: 09 Feb 2022 15:06 Analyst: TF

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

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

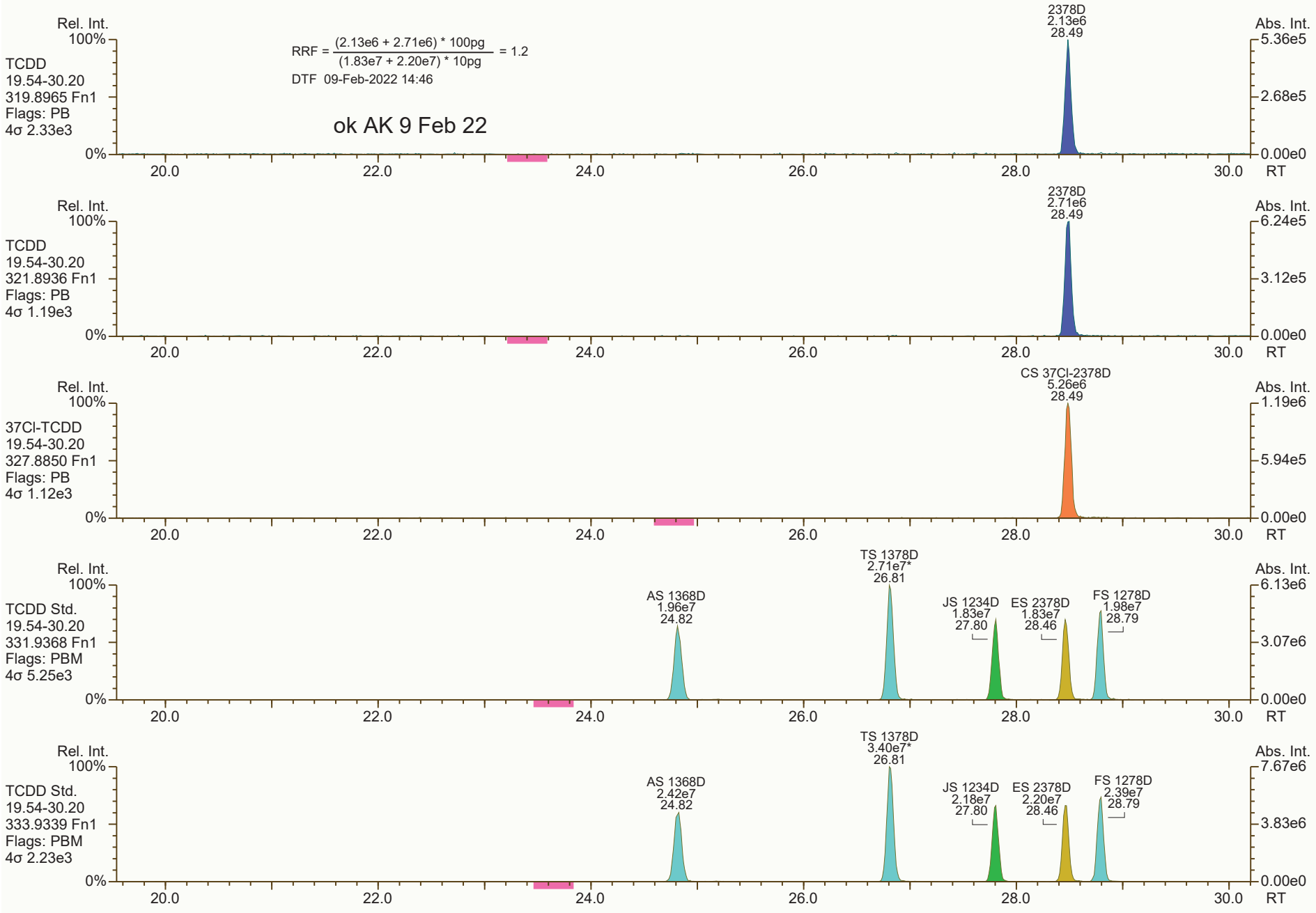
Instrument ID: HRMS3 GC Column ID: ZB-5ms

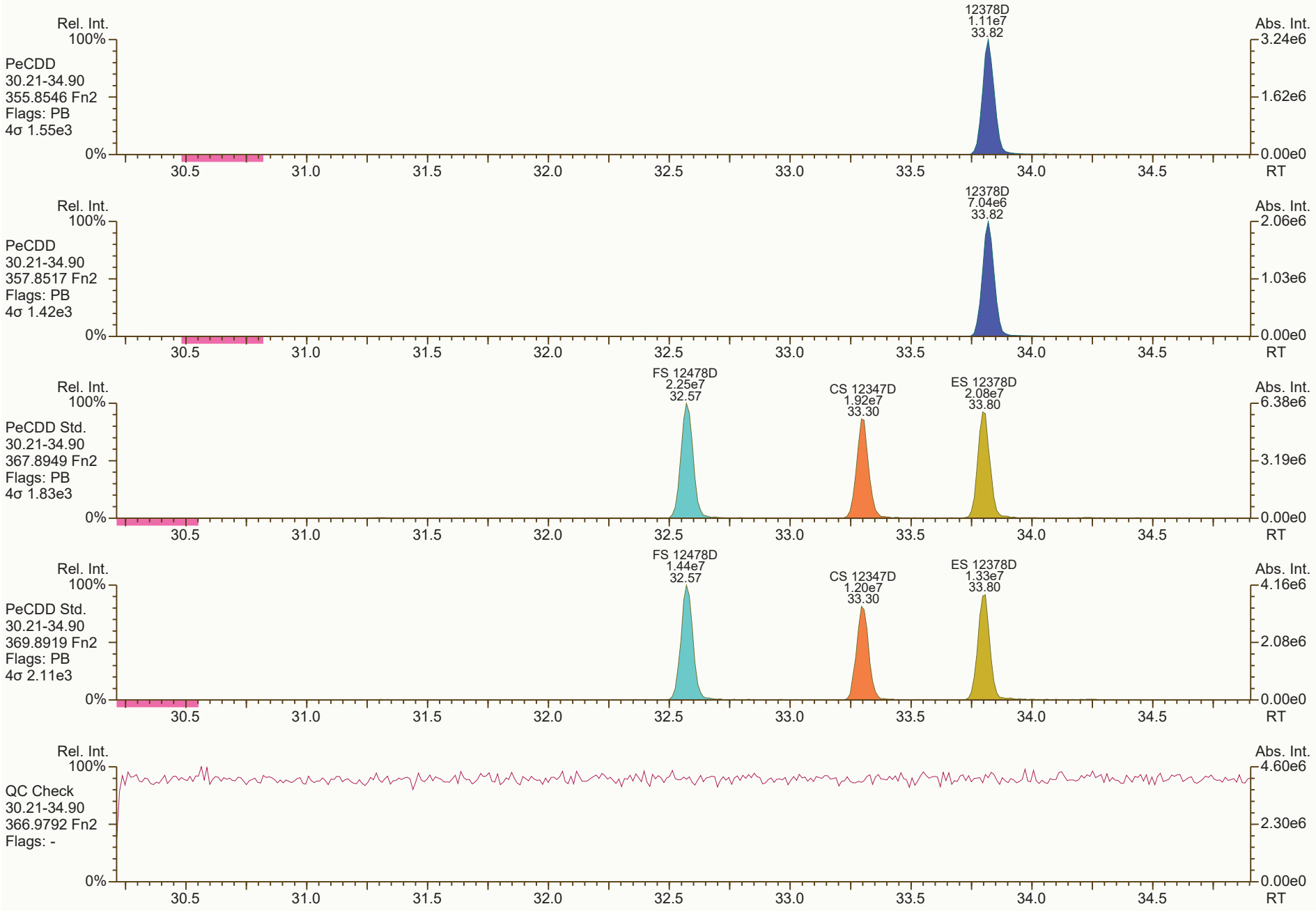
VER Data Filename: 220209C01 Analysis Date: 09-FEB-2022 05:01:12

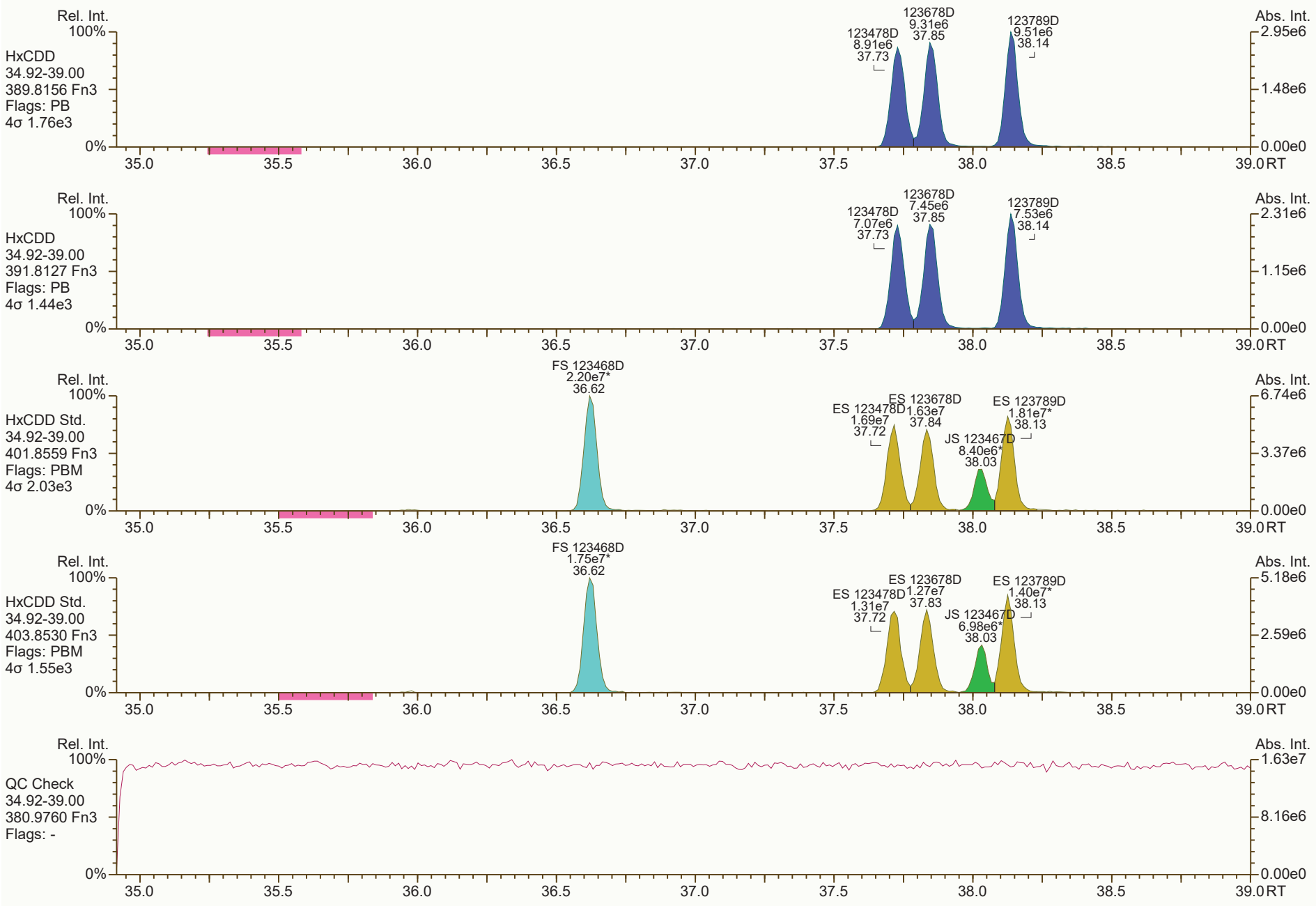
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
13C-2,3,7,8-TCDD	M/M+2	0.83	0.65 - 0.89	Y	96.1	82 - 121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.56	1.32 - 1.78	Y	96.8	62 - 160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.29	1.05 - 1.43	Y	100	85 - 117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05 - 1.43	Y	99.9	85 - 118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.29	1.05 - 1.43	Y	95.4	85 - 118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88 - 1.20	Y	94.5	72 - 138	Y
13C-OCDD	M+2/M+4	0.92	0.76 - 1.02	Y	213	96 - 415	Y
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65 - 0.89	Y	93.9	71 - 140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32 - 1.78	Y	94.1	76 - 130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.55	1.32 - 1.78	Y	95.4	77 - 130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43 - 0.59	Y	107	76 - 131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	107	70 - 143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.55	0.43 - 0.59	Y	108	73 - 137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.53	0.43 - 0.59	Y	101	74 - 135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37 - 0.51	Y	106	78 - 129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.46	0.37 - 0.51	Y	105	77 - 129	Y
13C-OCDF	M+2/M+4	0.91	0.76 - 1.02	Y	222	96 - 415	Y
CLEANUP STANDARDS							
37Cl-2,3,7,8-TCDD	n/a				10.9	7.9 - 12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.60	1.32 - 1.78	Y	104	70 - 130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.58	1.32 - 1.78	Y	98	70 - 130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.55	0.43 - 0.59	Y	117	70 - 130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.46	0.37 - 0.51	Y	115	70 - 130	Y

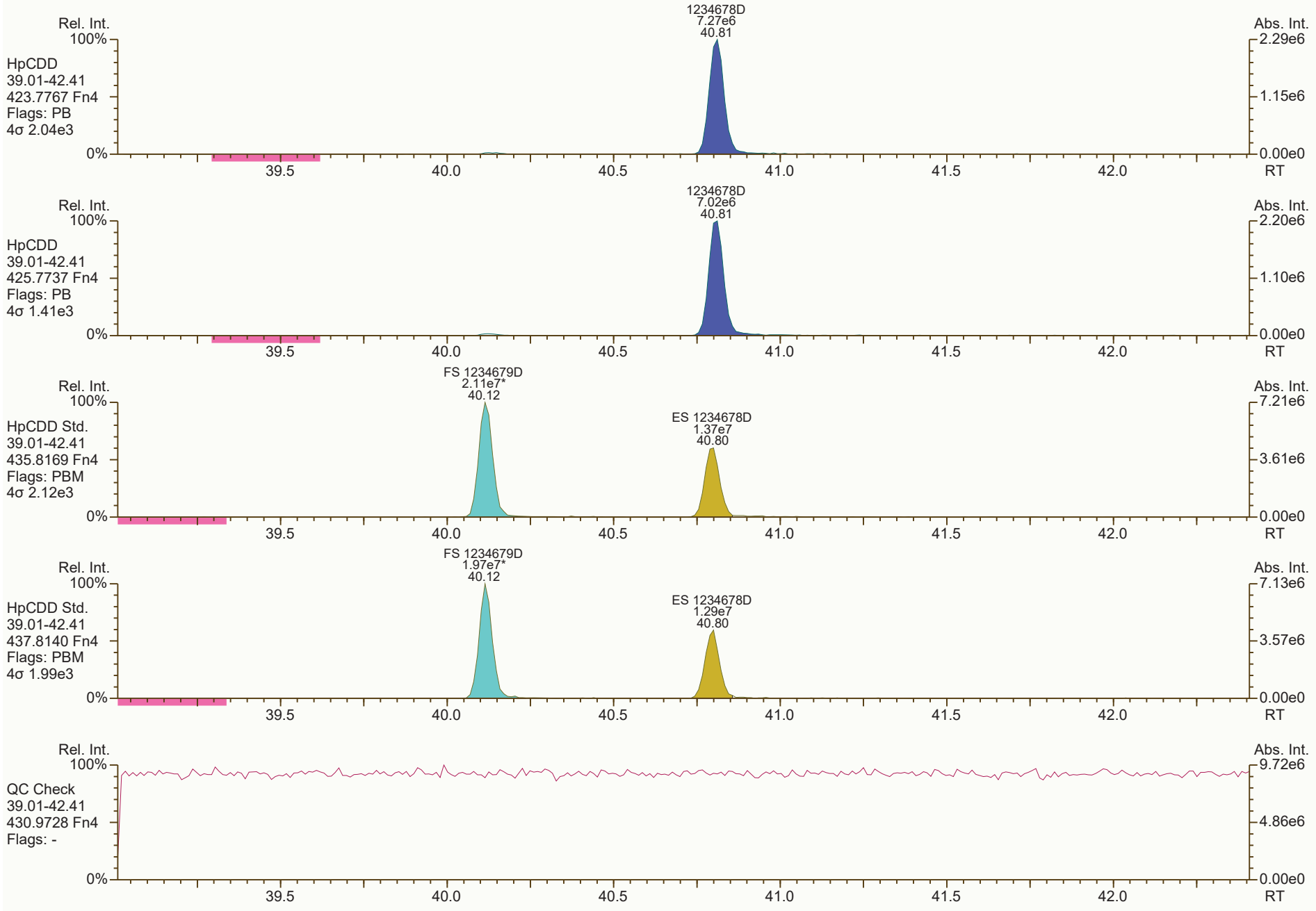
Processed: 09 Feb 2022 15:06 Analyst: TF

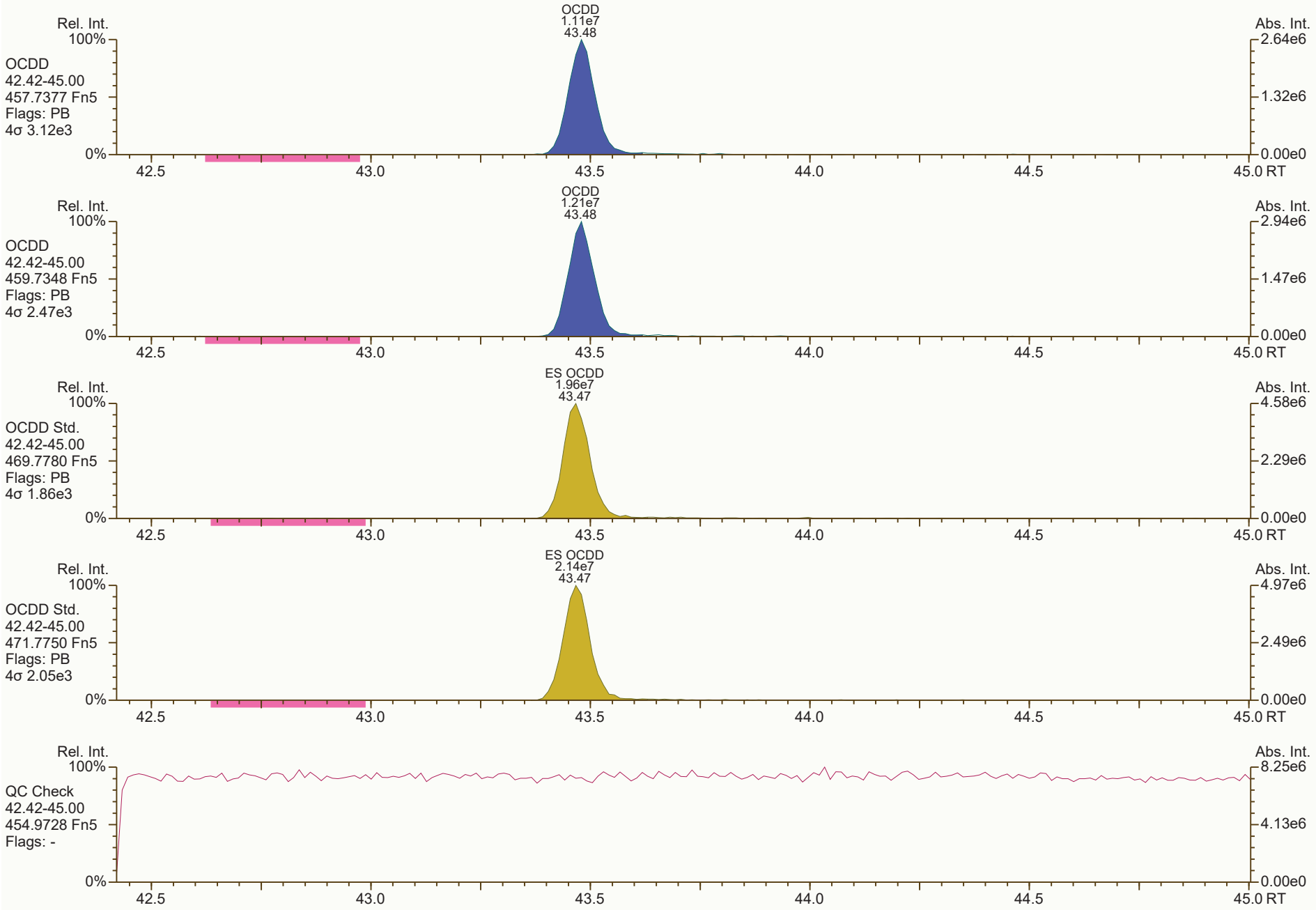

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.94e6
2.47e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.60e6
2.30e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.63e7
8.16e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
9.72e6
4.86e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
8.25e6
4.13e6
0.00e0

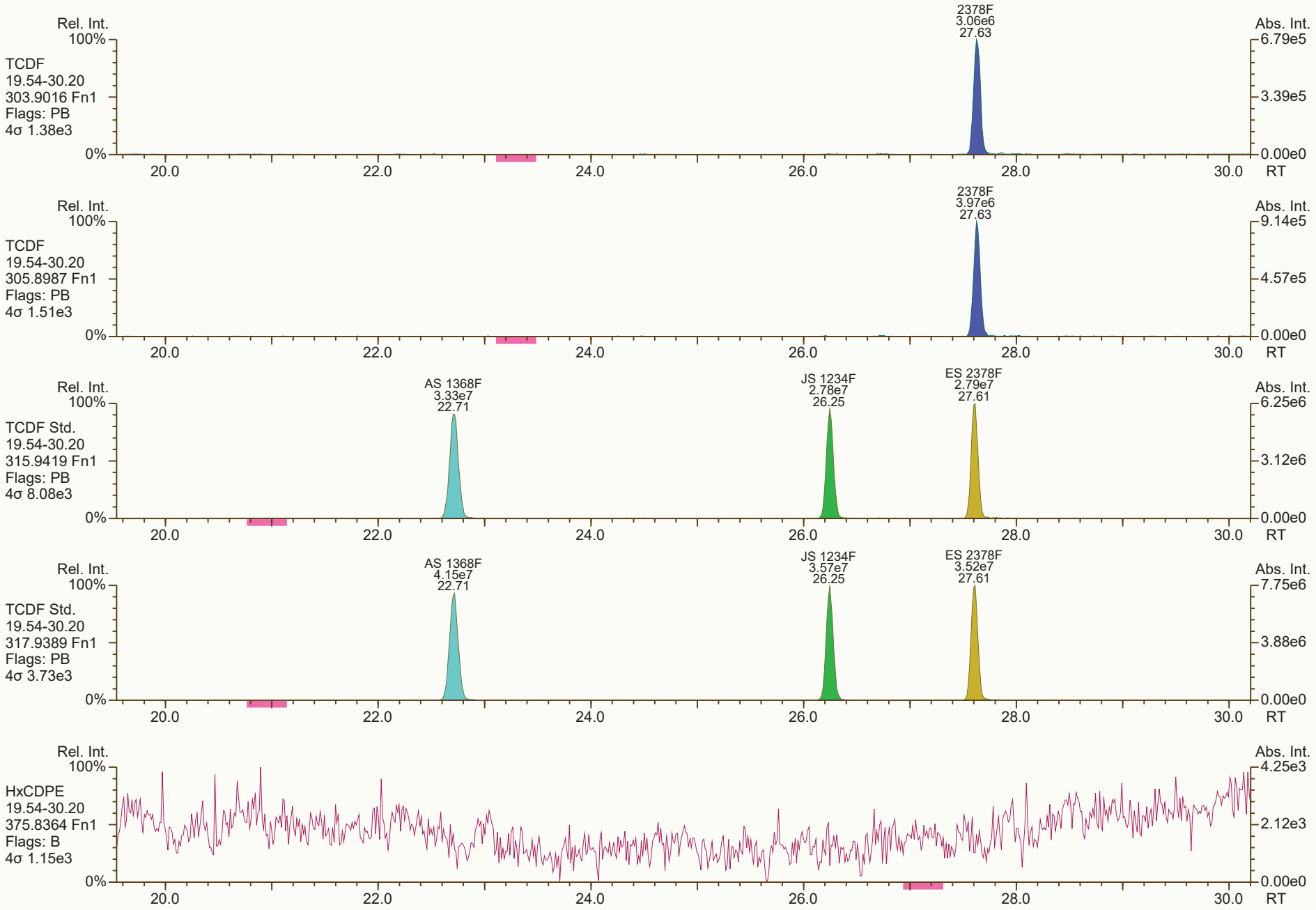

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.33e3
0%
RRF = (2.13e6 + 2.71e6) * 100pg / (1.83e7 + 2.20e7) * 10pg = 1.2
DTF 09-Feb-2022 14:46
ok AK 9 Feb 22
2378D
2.13e6
28.49
Abs. Int.
5.36e5
2.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.19e3
0%
2378D
2.71e6
28.49
Abs. Int.
6.24e5
3.12e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.12e3
0%
CS 37Cl-2378D
5.26e6
28.49
Abs. Int.
1.19e6
5.94e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PBM
4σ 5.25e3
0%
AS 1368D
1.96e7
24.82
TS 1378D
2.71e7*
26.81
JS 1234D
1.83e7
27.80
ES 2378D
1.83e7
28.46
FS 1278D
1.98e7
28.79
Abs. Int.
6.13e6
3.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PBM
4σ 2.23e3
0%
AS 1368D
2.42e7
24.82
TS 1378D
3.40e7*
26.81
JS 1234D
2.18e7
27.80
ES 2378D
2.20e7
28.46
FS 1278D
2.39e7
28.79
Abs. Int.
7.67e6
3.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PB
4σ 1.55e3
0%
12378D
1.11e7
33.82
Abs. Int.
3.24e6
1.62e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 1.42e3
0%
12378D
7.04e6
33.82
Abs. Int.
2.06e6
1.03e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 1.83e3
0%
FS 12478D
2.25e7
32.57
CS 12347D
1.92e7
33.30
ES 12378D
2.08e7
33.80
Abs. Int.
6.38e6
3.19e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 2.11e3
0%
FS 12478D
1.44e7
32.57
CS 12347D
1.20e7
33.30
ES 12378D
1.33e7
33.80
Abs. Int.
4.16e6
2.08e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.60e6
2.30e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

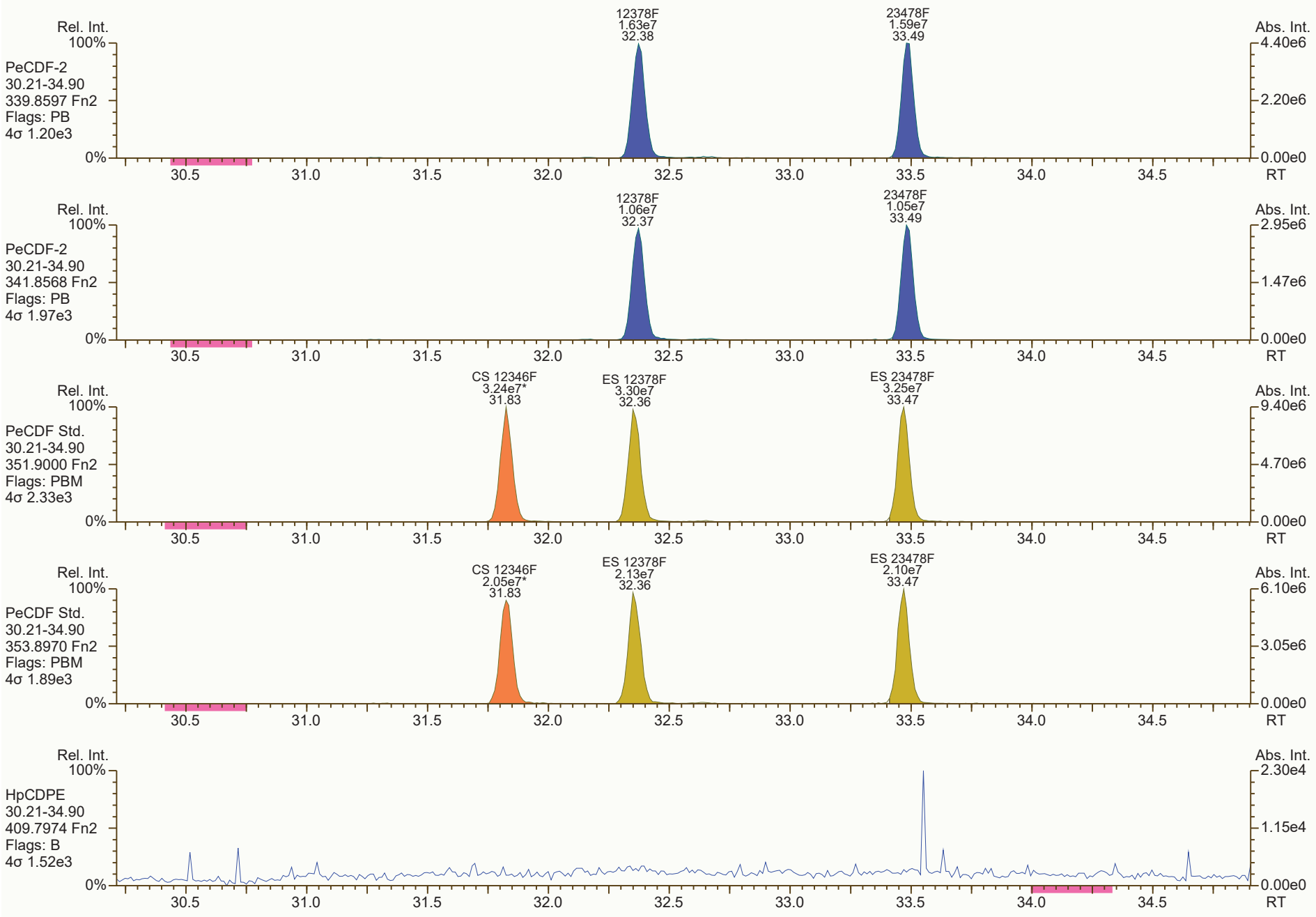

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 1.76e3
123478D
8.91e6
37.73
123678D
9.31e6
37.85
123789D
9.51e6
38.14
Abs. Int.
2.95e6
1.48e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 1.44e3
123478D
7.07e6
37.73
123678D
7.45e6
37.85
123789D
7.53e6
38.14
Abs. Int.
2.31e6
1.15e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 2.03e3
FS 123468D
2.20e7*
36.62
ES 123478D
1.69e7
37.72
ES 123678D
1.63e7
37.84
JS 123467D
8.40e6*
38.03
ES 123789D
1.81e7*
38.13
Abs. Int.
6.74e6
3.37e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 1.55e3
FS 123468D
1.75e7*
36.62
ES 123478D
1.31e7
37.72
ES 123678D
1.27e7
37.83
JS 123467D
6.98e6*
38.03
ES 123789D
1.40e7*
38.13
Abs. Int.
5.18e6
2.59e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
Abs. Int.
1.63e7
8.16e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

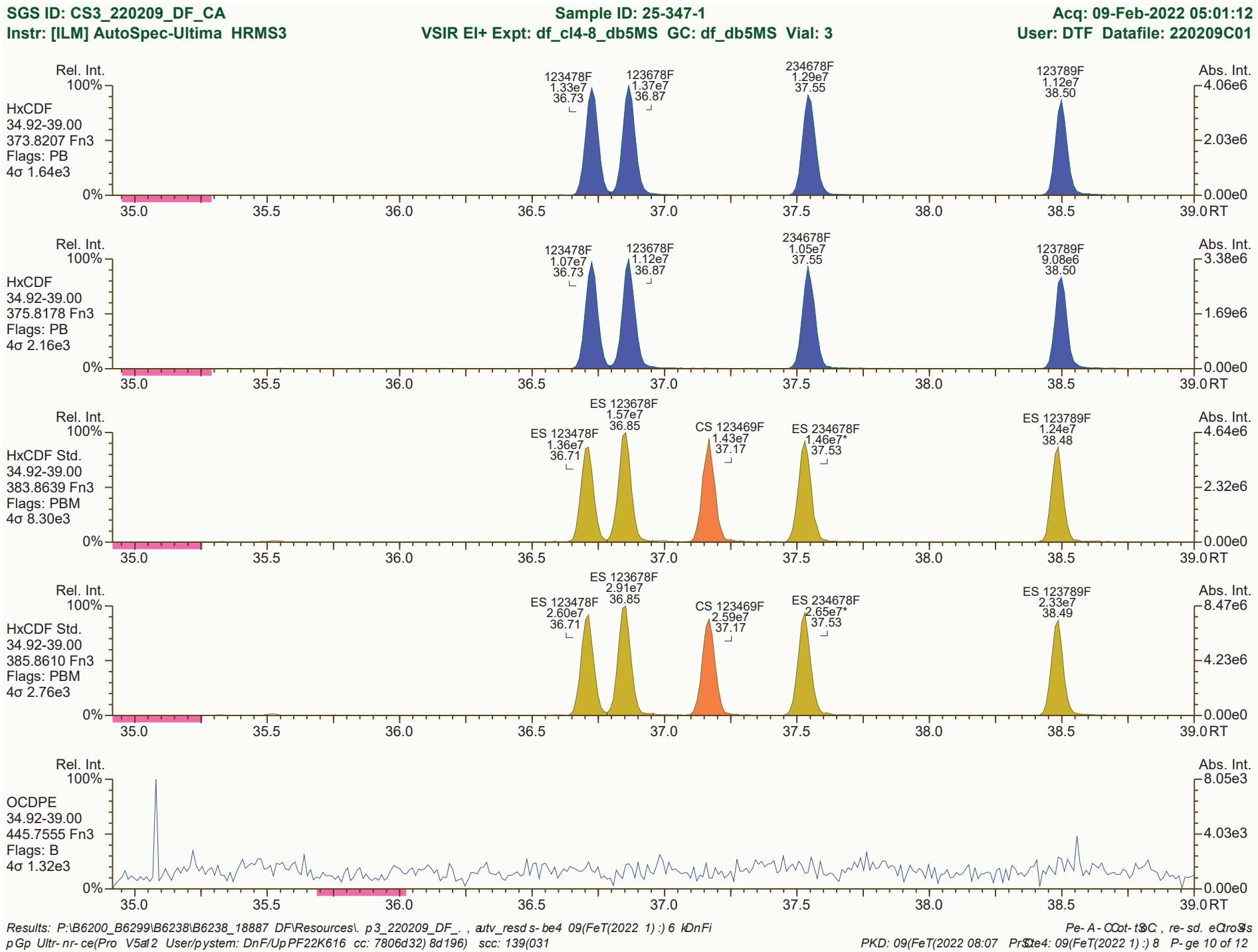

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 2.04e3
1234678D
7.27e6
40.81
Abs. Int.
2.29e6
1.15e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.41e3
1234678D
7.02e6
40.81
Abs. Int.
2.20e6
1.10e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 2.12e3
FS 1234679D
2.11e7*
40.12
ES 1234678D
1.37e7
40.80
Abs. Int.
7.21e6
3.61e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 1.99e3
FS 1234679D
1.97e7*
40.12
ES 1234678D
1.29e7
40.80
Abs. Int.
7.13e6
3.57e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
9.72e6
4.86e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

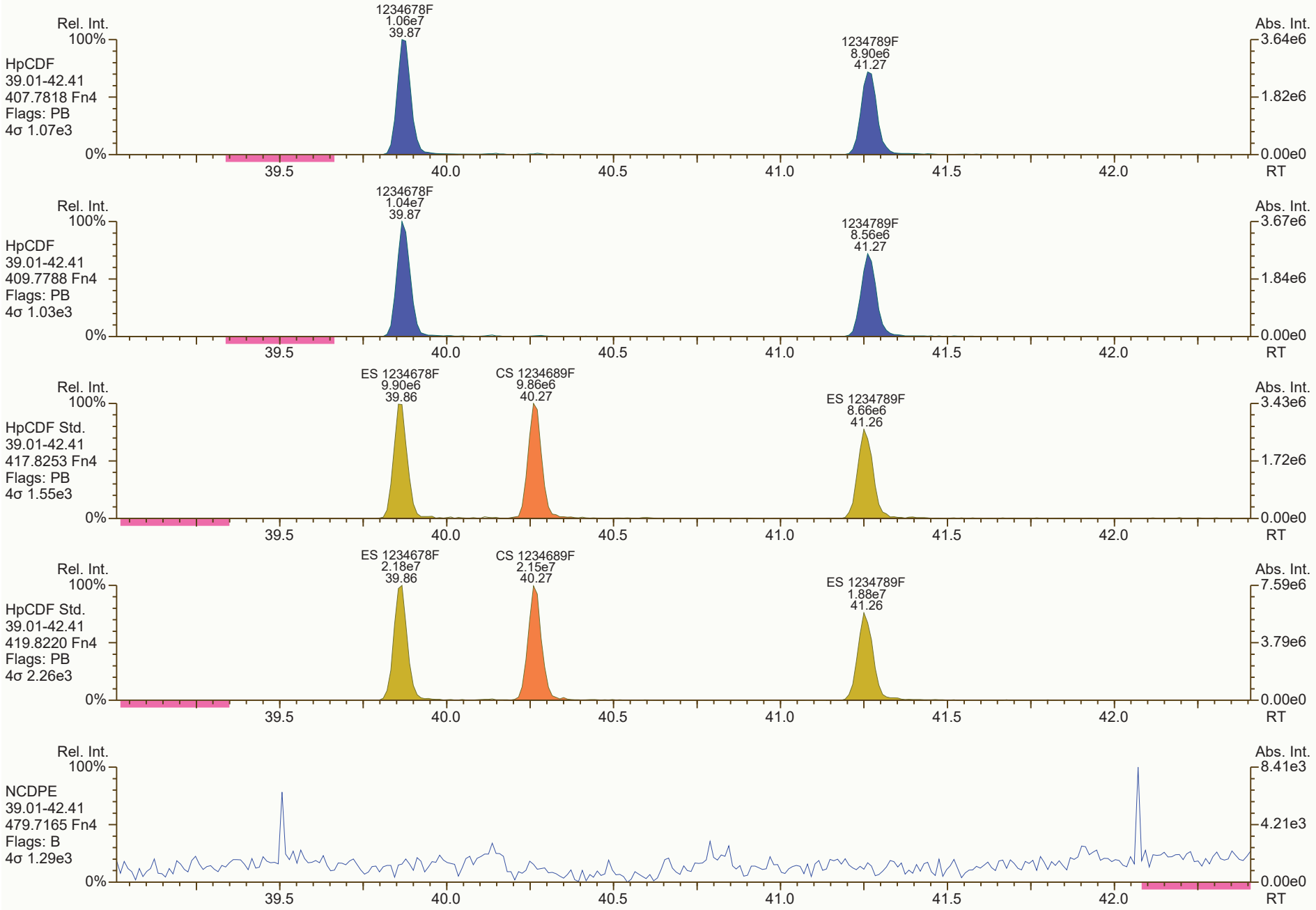

Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 3.12e3
0%
OCDD
1.11e7
43.48
Abs. Int.
2.64e6
1.32e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 2.47e3
0%
OCDD
1.21e7
43.48
Abs. Int.
2.94e6
1.47e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 1.86e3
0%
ES OCDD
1.96e7
43.47
Abs. Int.
4.58e6
2.29e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 2.05e3
0%
ES OCDD
2.14e7
43.47
Abs. Int.
4.97e6
2.49e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
8.25e6
4.13e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

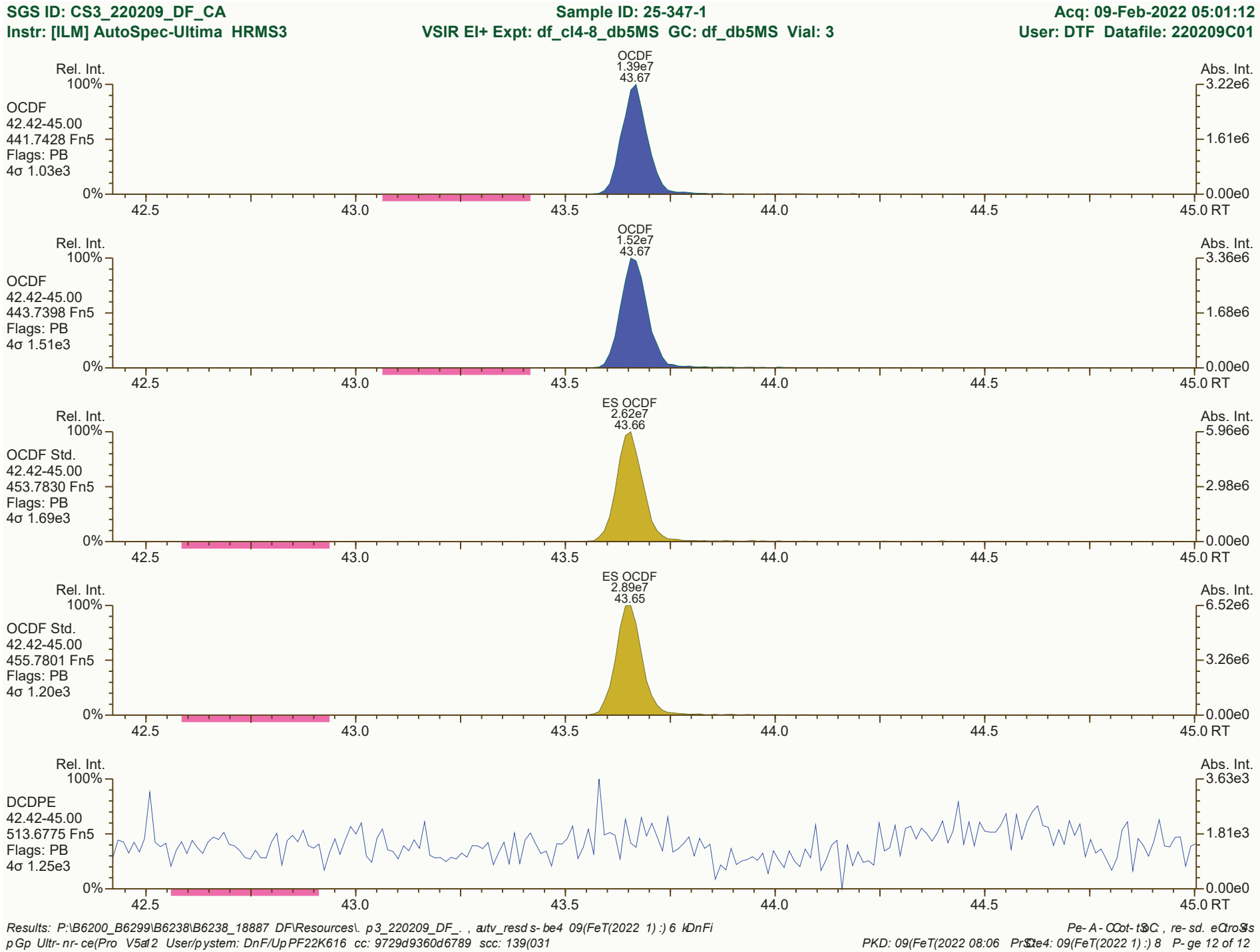

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.38e3
0%
2378F
3.06e6
27.63
Abs. Int.
6.79e5
3.39e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 1.51e3
0%
2378F
3.97e6
27.63
Abs. Int.
9.14e5
4.57e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 8.08e3
0%
AS 1368F
3.33e7
22.71
JS 1234F
2.78e7
26.25
ES 2378F
2.79e7
27.61
Abs. Int.
6.25e6
3.12e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.73e3
0%
AS 1368F
4.15e7
22.71
JS 1234F
3.57e7
26.25
ES 2378F
3.52e7
27.61
Abs. Int.
7.75e6
3.88e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.15e3
0%
Abs. Int.
4.25e3
2.12e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

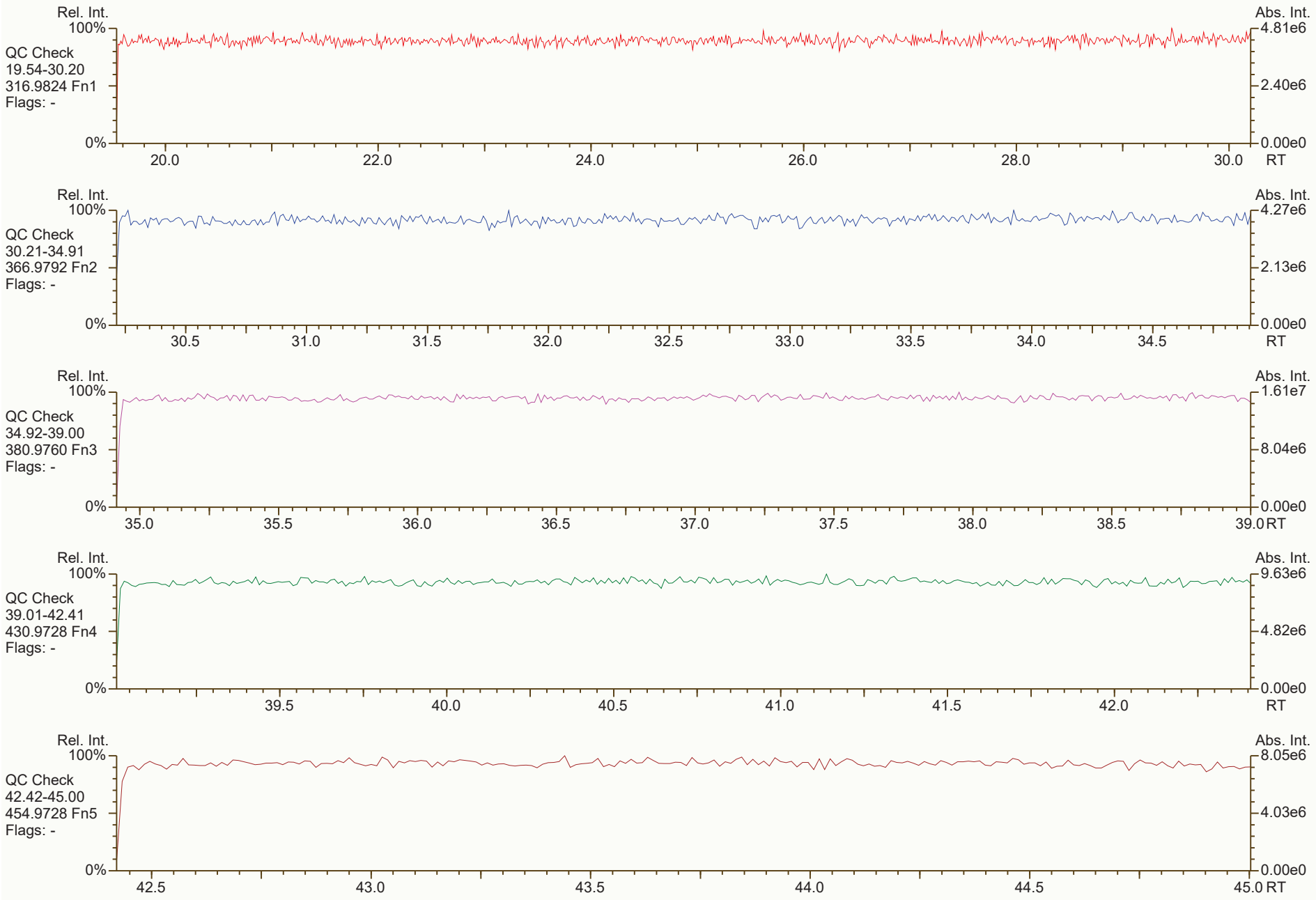

Rel. Int.
100%
0%
Abs. Int.
6.84e3
3.42e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.54e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.07e3
4.04e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.26e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.94e6
2.47e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT

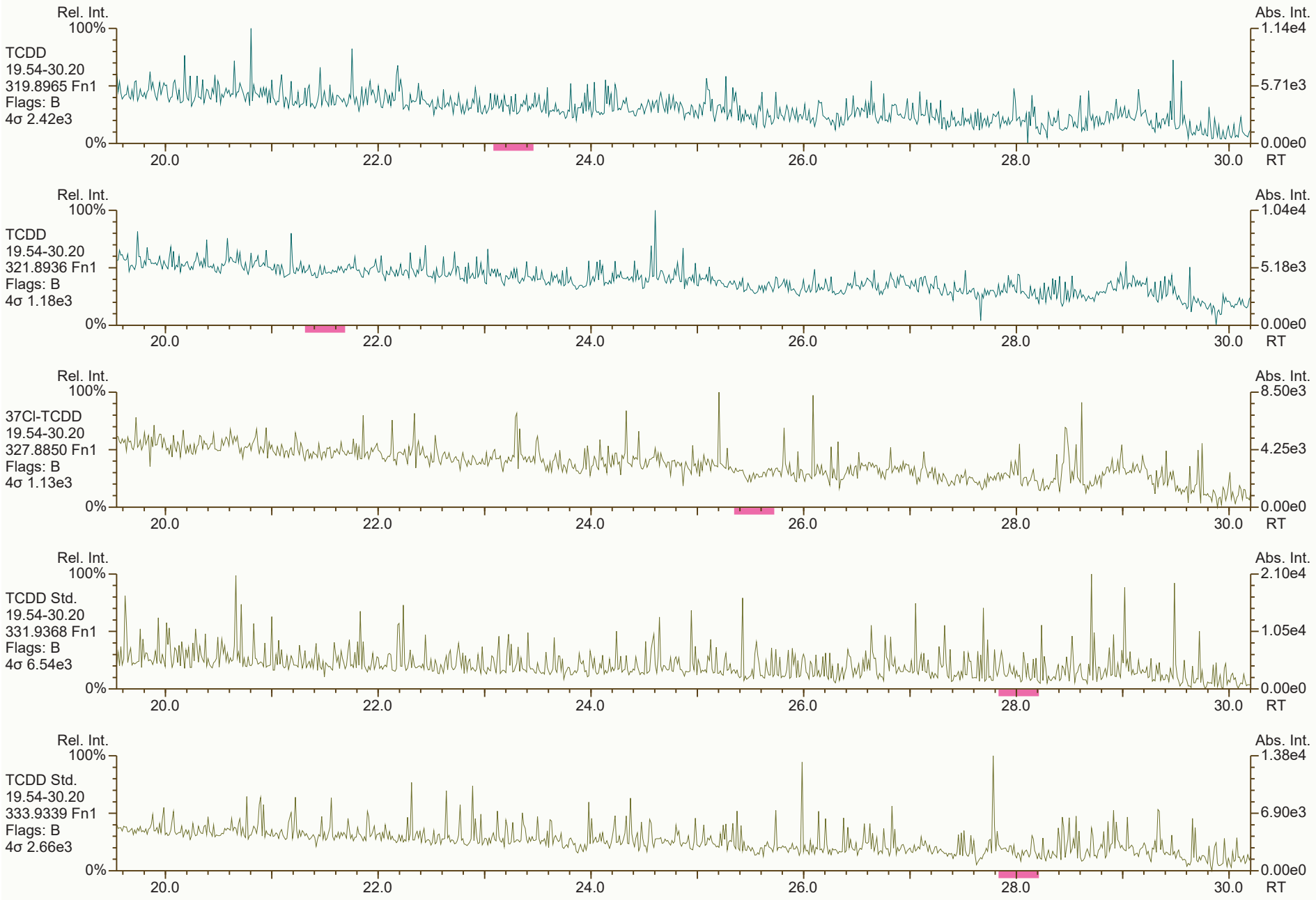

Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PB
4σ 1.20e3
0%
12378F
1.63e7
32.38
23478F
1.59e7
33.49
Abs. Int.
4.40e6
2.20e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PB
4σ 1.97e3
0%
12378F
1.06e7
32.37
23478F
1.05e7
33.49
Abs. Int.
2.95e6
1.47e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PBM
4σ 2.33e3
0%
CS 12346F
3.24e7*
31.83
ES 12378F
3.30e7
32.36
ES 23478F
3.25e7
33.47
Abs. Int.
9.40e6
4.70e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PBM
4σ 1.89e3
0%
CS 12346F
2.05e7*
31.83
ES 12378F
2.13e7
32.36
ES 23478F
2.10e7
33.47
Abs. Int.
6.10e6
3.05e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.52e3
0%
Abs. Int.
2.30e4
1.15e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

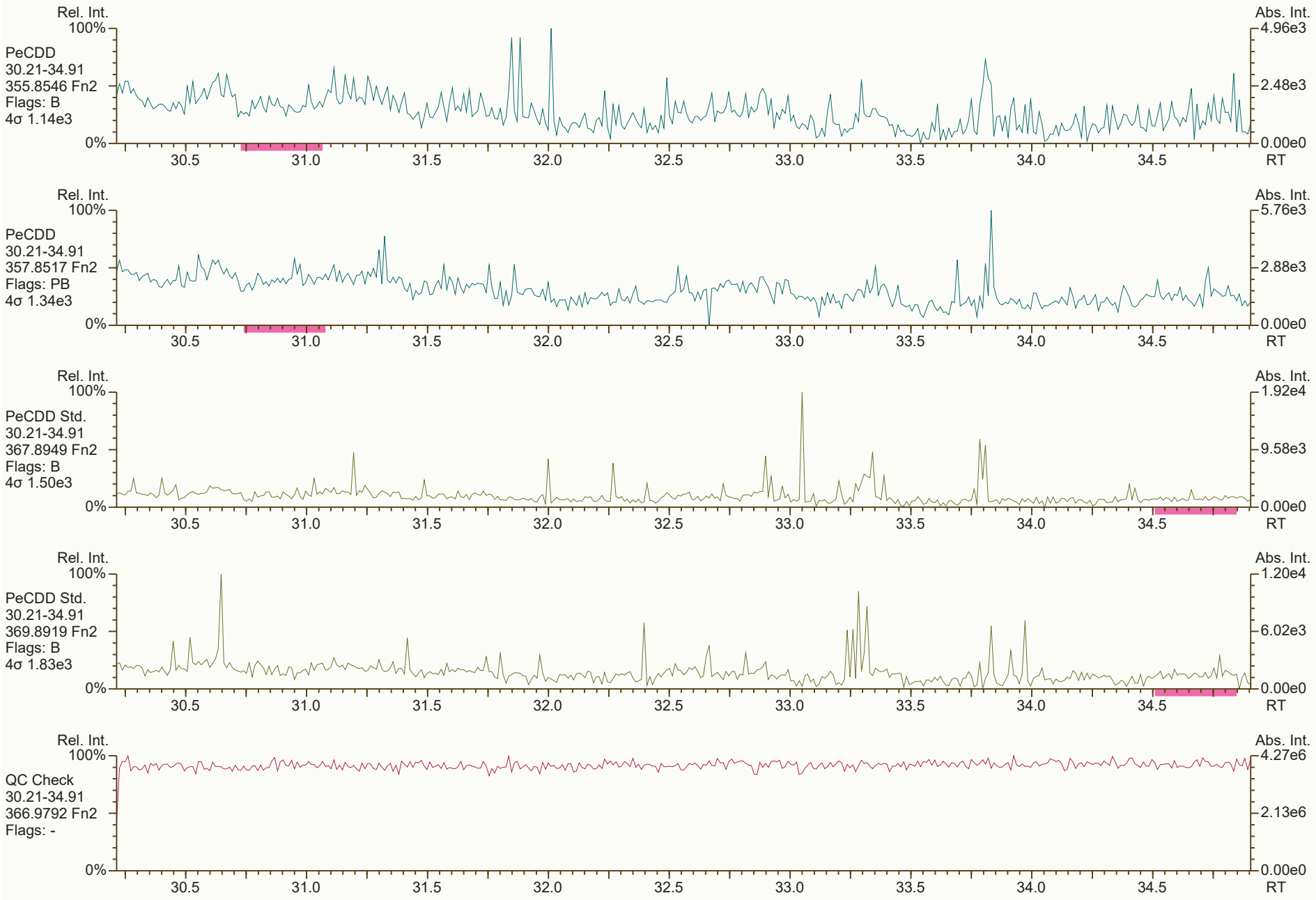

SGS ID: CS3_220209_DF_CA
Sample ID: 25-347-1
Acq: 09-Feb-2022 05:01:12
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220209C01
Rel. Int.
Abs. Int.
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PB
4σ 1.64e3
123478F
1.33e7
36.73
123678F
1.37e7
36.87
234678F
1.29e7
37.55
123789F
1.12e7
38.50
4.06e6
2.03e6
0.00e0
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PB
4σ 2.16e3
123478F
1.07e7
36.73
123678F
1.12e7
36.87
234678F
1.05e7
37.55
123789F
9.08e6
38.50
3.38e6
1.69e6
0.00e0
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 8.30e3
ES 123478F
1.36e7
36.71
ES 123678F
1.57e7
36.85
CS 123469F
1.43e7
37.17
ES 234678F
1.46e7*
37.53
ES 123789F
1.24e7
38.48
4.64e6
2.32e6
0.00e0
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 2.76e3
ES 123478F
2.60e7
36.71
ES 123678F
2.91e7
36.85
CS 123469F
2.59e7
37.17
ES 234678F
2.65e7*
37.53
ES 123789F
2.33e7
38.49
8.47e6
4.23e6
0.00e0
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.32e3
8.05e3
4.03e3
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.07e3
1234678F
1.06e7
39.87
1234789F
8.90e6
41.27
Abs. Int.
3.64e6
1.82e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.03e3
1234678F
1.04e7
39.87
1234789F
8.56e6
41.27
Abs. Int.
3.67e6
1.84e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 1.55e3
ES 1234678F
9.90e6
39.86
CS 1234689F
9.86e6
40.27
ES 1234789F
8.66e6
41.26
Abs. Int.
3.43e6
1.72e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 2.26e3
ES 1234678F
2.18e7
39.86
CS 1234689F
2.15e7
40.27
ES 1234789F
1.88e7
41.26
Abs. Int.
7.59e6
3.79e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.29e3
Abs. Int.
8.41e3
4.21e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


SGS ID: CS3_220209_DF_CA
Sample ID: 25-347-1
Acq: 09-Feb-2022 05:01:12
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220209C01
OCDF
1.39e7
43.67
Rel. Int.
Abs. Int.
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.03e3
OCDF
1.52e7
43.67
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.51e3
ES OCDF
2.62e7
43.66
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.69e3
ES OCDF
2.89e7
43.65
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 1.20e3
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.25e3
42.5
43.0
43.5
44.0
44.5
45.0 RT

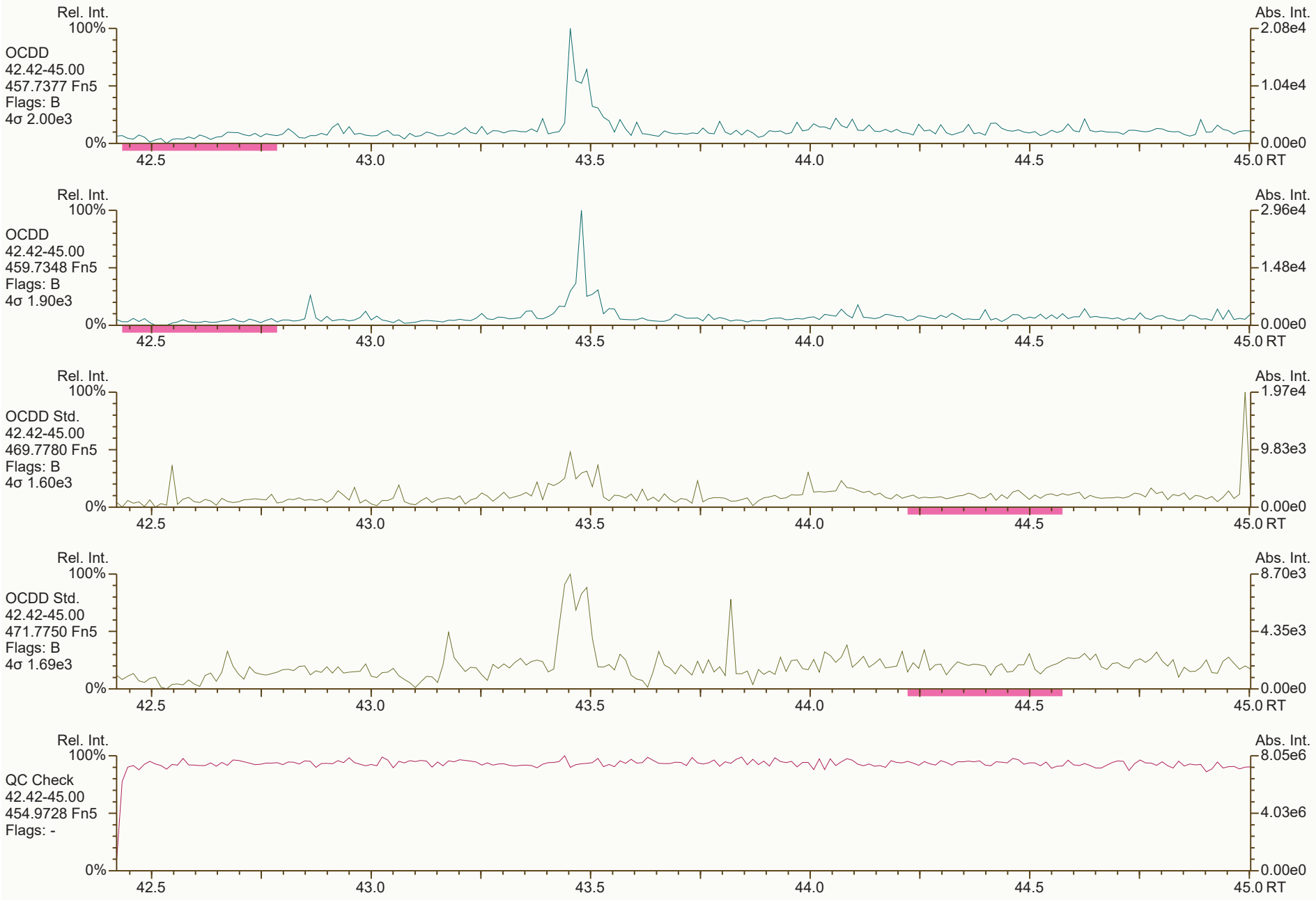

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.81e6
2.40e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.27e6
2.13e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.61e7
8.04e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
9.63e6
4.82e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
8.05e6
4.03e6
0.00e0

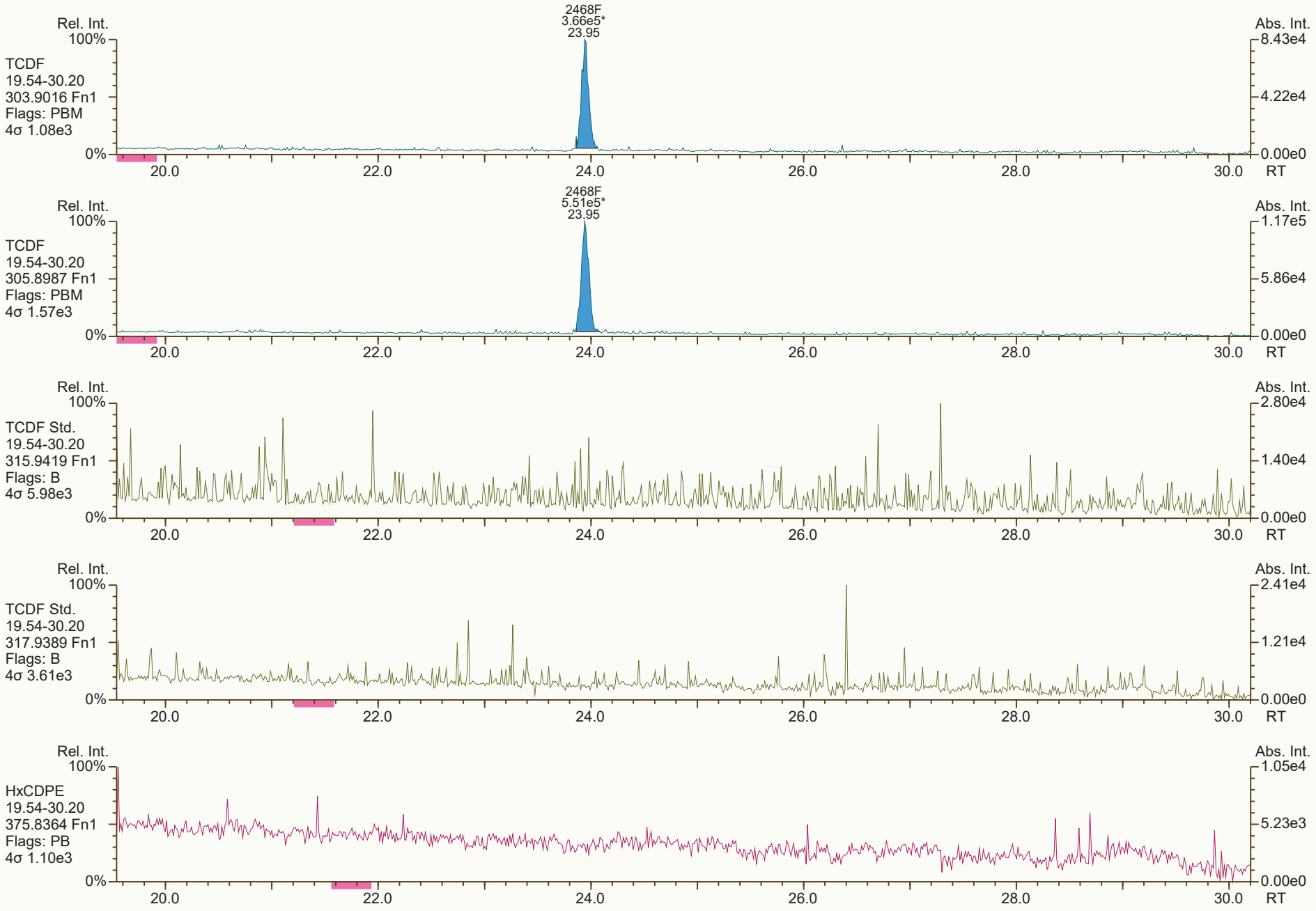

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 2.42e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.18e3
0%
Abs. Int.
1.04e4
5.18e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: B
4σ 1.13e3
0%
Abs. Int.
8.50e3
4.25e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 6.54e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 2.66e3
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

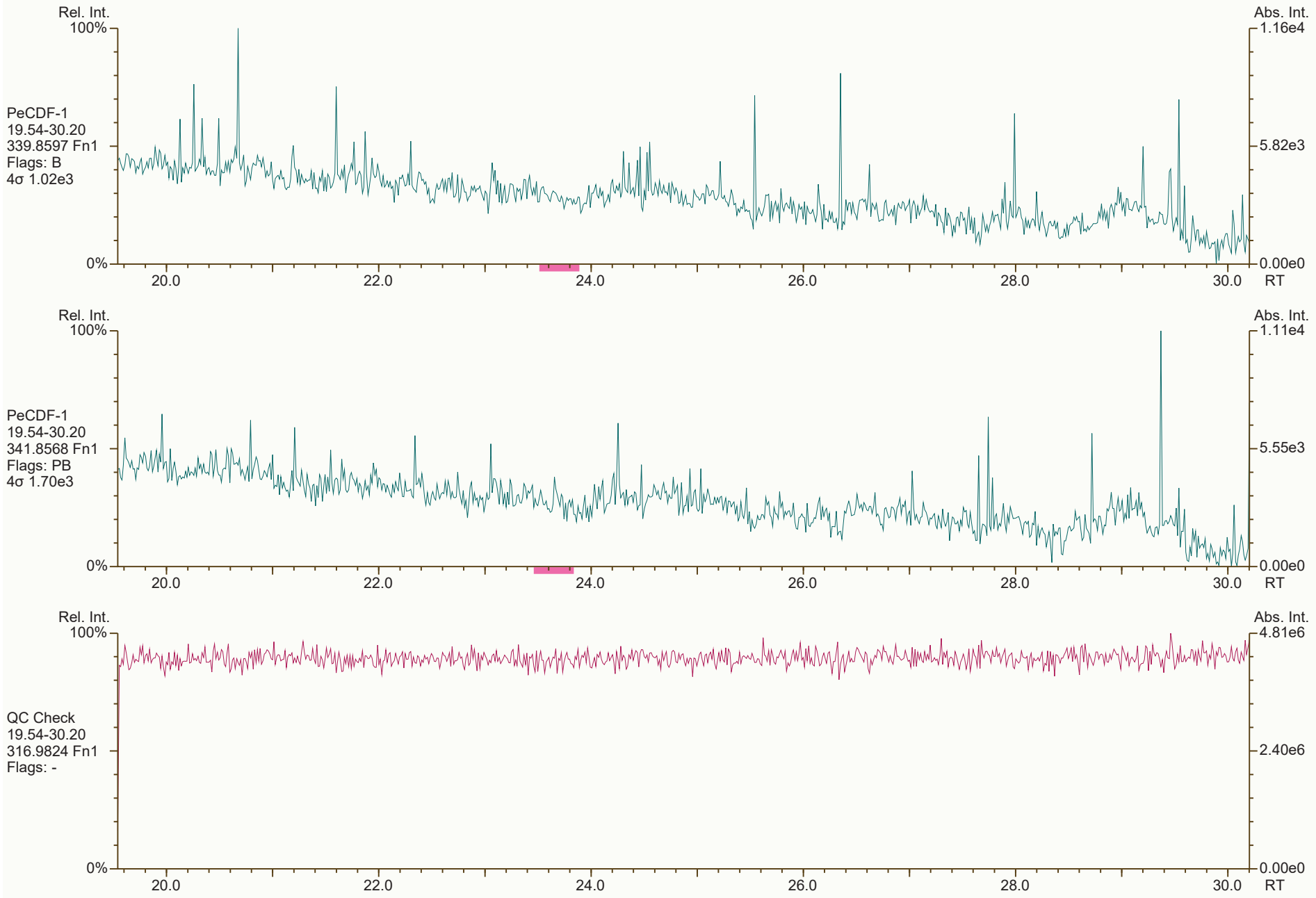

Rel. Int.
100%
PeCDD
30.21-34.91
355.8546 Fn2
Flags: B
4σ 1.14e3
0%
Abs. Int.
4.96e3
2.48e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PB
4σ 1.34e3
0%
Abs. Int.
5.76e3
2.88e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
1.92e4
9.58e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: B
4σ 1.83e3
0%
Abs. Int.
1.20e4
6.02e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.27e6
2.13e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: B
4σ 1.20e3
0%
Abs. Int.
1.23e4
6.17e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: B
4σ 1.76e3
0%
Abs. Int.
1.12e4
5.61e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: B
4σ 2.13e3
0%
Abs. Int.
1.79e4
8.97e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: B
4σ 1.77e3
0%
Abs. Int.
1.90e4
9.50e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.61e7
8.04e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 2.02e3
0%
Abs. Int.
6.01e3
3.00e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: B
4σ 1.38e3
0%
Abs. Int.
7.11e3
3.56e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: B
4σ 1.47e3
0%
Abs. Int.
8.68e3
4.34e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: B
4σ 1.69e3
0%
Abs. Int.
1.40e4
7.02e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
9.63e6
4.82e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: B
4σ 2.00e3
0%
Abs. Int.
2.08e4
1.04e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: B
4σ 1.90e3
0%
Abs. Int.
2.96e4
1.48e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: B
4σ 1.60e3
0%
Abs. Int.
1.97e4
9.83e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: B
4σ 1.69e3
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
8.05e6
4.03e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


2468F
3.66e5*
23.95
Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.08e3
0%
Abs. Int.
8.43e4
4.22e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
2468F
5.51e5*
23.95
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.57e3
0%
Abs. Int.
1.17e5
5.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 5.98e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 3.61e3
0%
Abs. Int.
2.41e4
1.21e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.10e3
0%
Abs. Int.
1.05e4
5.23e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.16e4
5.82e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.02e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.11e4
5.55e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.70e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.81e6
2.40e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: SBS_220209_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 30-61-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2

Acq: 09-Feb-2022 06:33:51
User: DTF Datafile: 220209C03



Results: P:\B6200_B6299\B6238\B6238_18887 DF\Resources\. B. _220209_DF_p, autv_resd s- be4 09(FeT(2022 1) :1) kDnFi
. G. Ultr- nr- ce(Pro V5a12 User/. ystem: DnF/U. PF22K616 cc: 9750d1365d26) 5 scc: 856(152

Pe- A - CCot- tSC , re- sdp eCtro3s
PKD: 09(FeT(2022 1) :1) PrSCte4: 09(FeT(2022 1) :) 9 P- ge 9 of 12

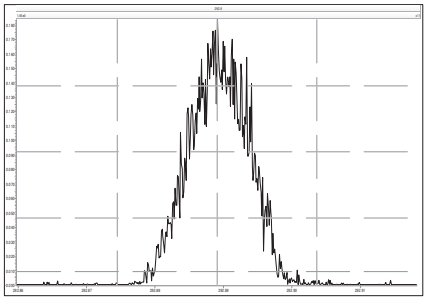

Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: B
4σ 1.25e3
0%
Abs. Int.
1.10e4
5.49e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: B
4σ 1.25e3
0%
Abs. Int.
9.12e3
4.56e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: B
4σ 2.00e3
0%
Abs. Int.
2.21e4
1.11e4
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: B
4σ 3.16e3
0%
Abs. Int.
2.61e4
1.30e4
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.24e3
0%
Abs. Int.
6.18e3
3.09e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.13e4
5.66e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: B
4σ 1.22e3
0%
Abs. Int.
8.94e3
4.47e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: B
4σ 1.61e3
0%
Abs. Int.
1.23e4
6.13e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: B
4σ 1.70e3
0%
Abs. Int.
2.16e4
1.08e4
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.12e3
0%
Abs. Int.
1.34e4
6.71e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

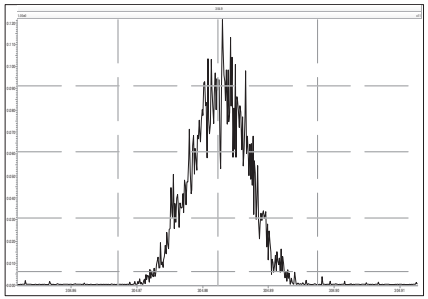

Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: B
4σ 1.30e3
0%
Abs. Int.
2.24e4
1.12e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: B
4σ 1.74e3
0%
Abs. Int.
1.08e4
5.42e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: B
4σ 1.71e3
0%
Abs. Int.
2.63e4
1.32e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: B
4σ 1.66e3
0%
Abs. Int.
1.64e4
8.18e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.25e3
0%
Abs. Int.
5.06e3
2.53e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Printed: Wednesday, February 09, 2022 05:01:07 Eastern Standard Time

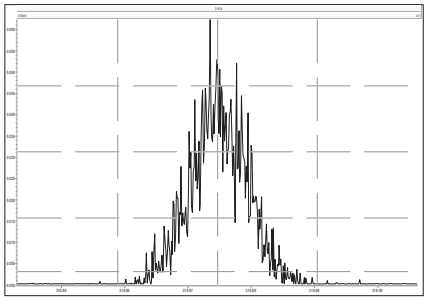
M 292.9824 R 15460



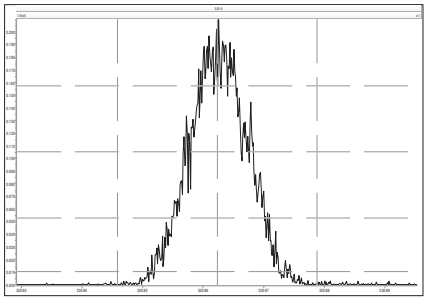
M 304.9824 R 16219



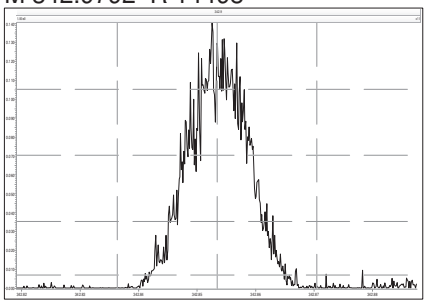
M 316.9824 R 16447



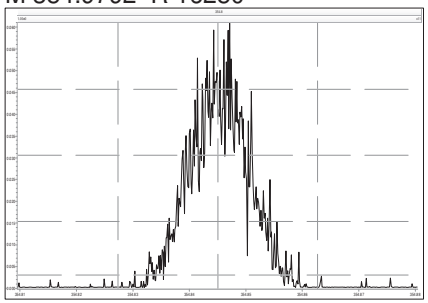
M 330.9792 R 15832



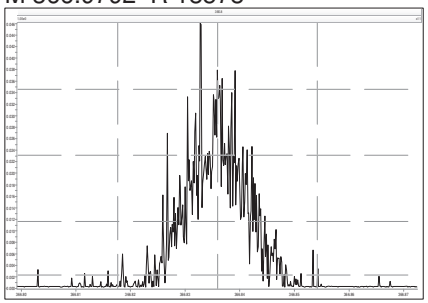
M 342.9792 R 14498



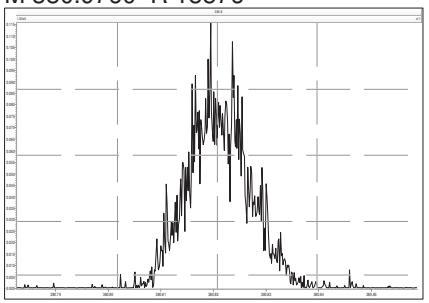
M 354.9792 R 16250



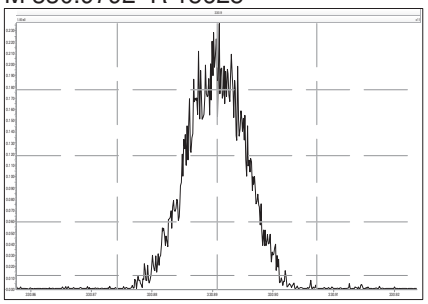
M 366.9792 R 18578



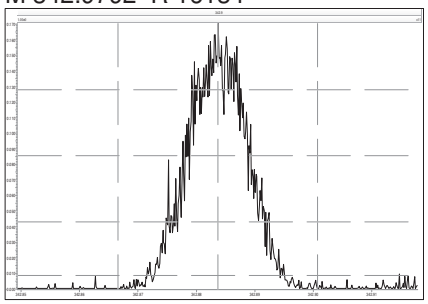
M 380.9760 R 15576



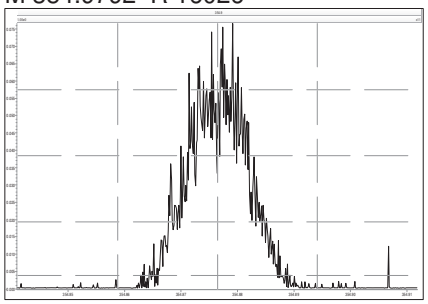
M 330.9792 R 15625



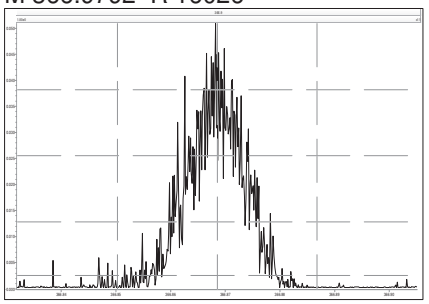
M 342.9792 R 16134



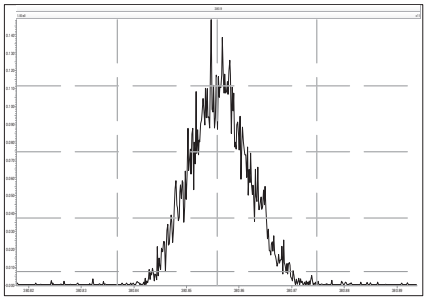
M 354.9792 R 16026



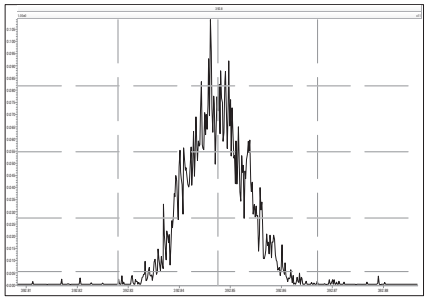
M 366.9792 R 16026



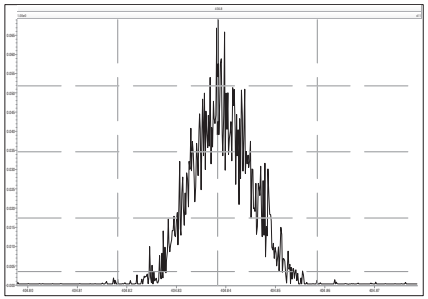
M 380.9760 R 15060



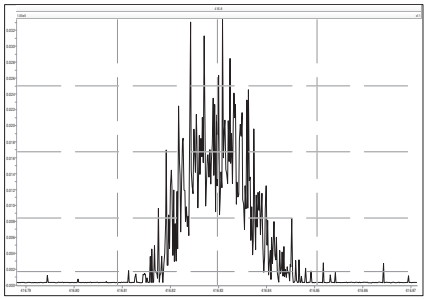
M 392.9760 R 14707



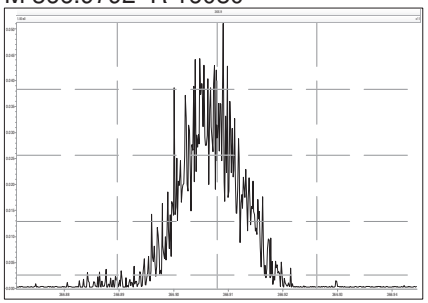
M 404.9760 R 16286



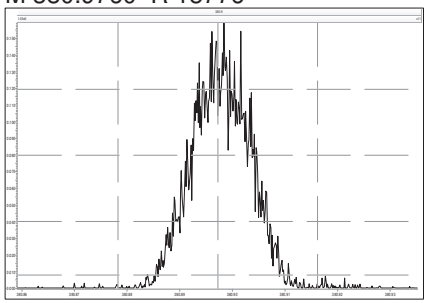
M 416.9760 R 16850



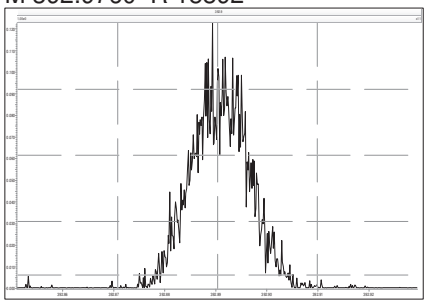
M 366.9792 R 16080



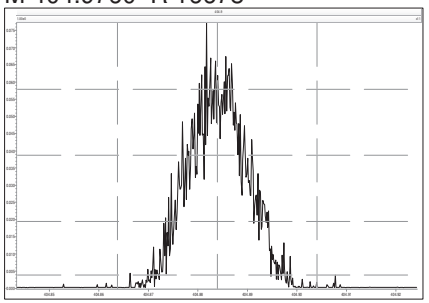
M 380.9760 R 15776



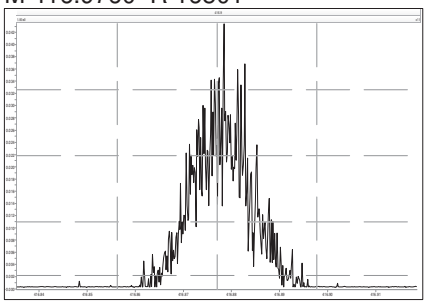
M 392.9760 R 15892



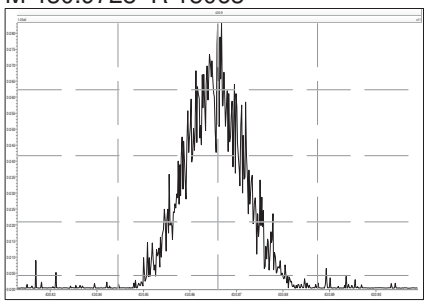
M 404.9760 R 16678



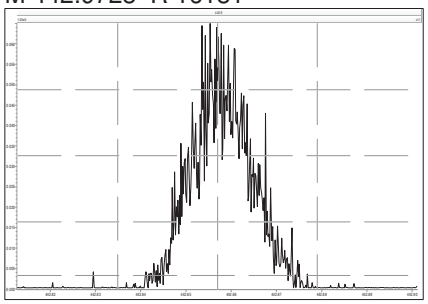
M 416.9760 R 16501



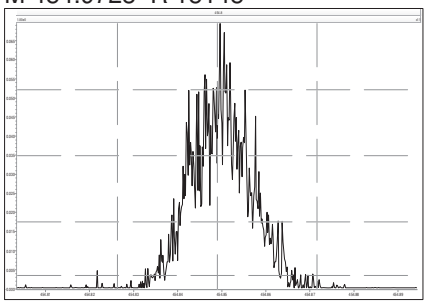
M 430.9728 R 15063



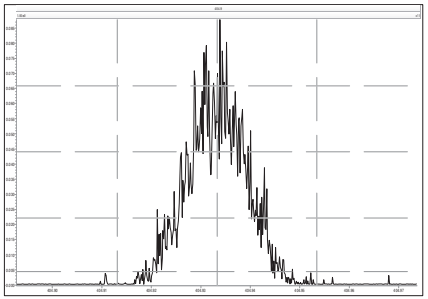
M 442.9728 R 16181



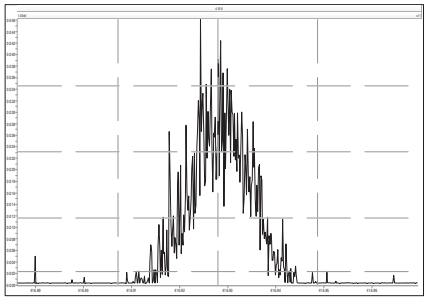
M 454.9728 R 15145



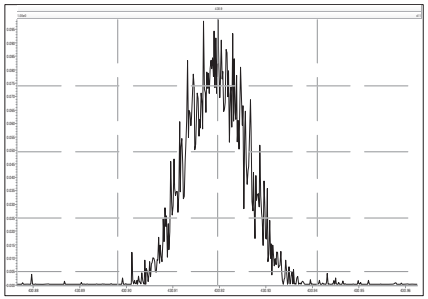
M 404.9760 R 16737



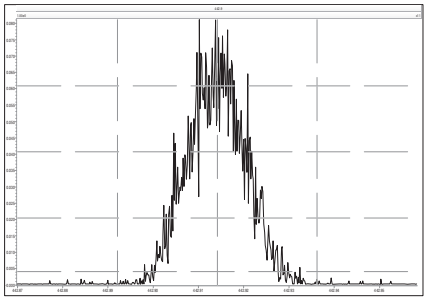
M 416.9760 R 18358



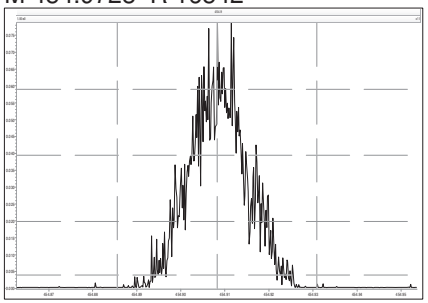
M 430.9728 R 16189



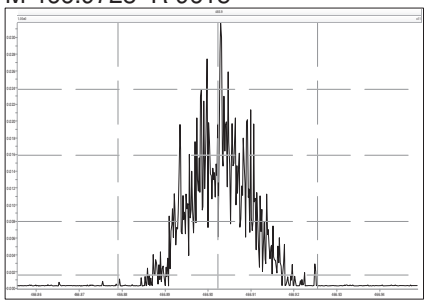
M 442.9728 R 16447



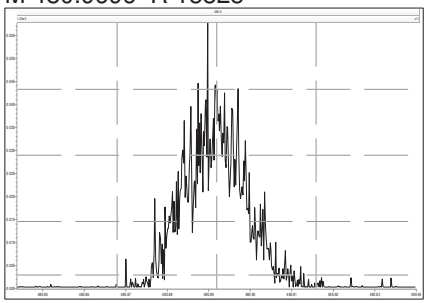
M 454.9728 R 16542



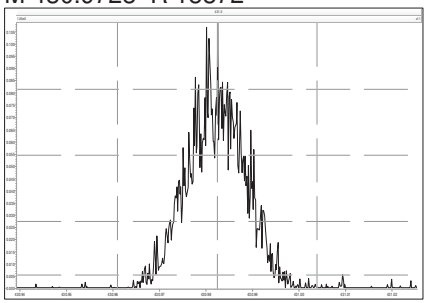
M 466.9728 R 9615



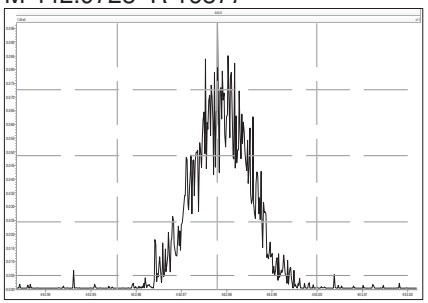
M 480.9696 R 15825



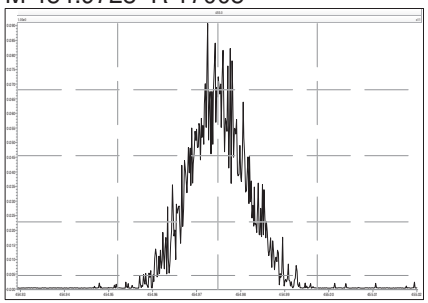
M 430.9728 R 15872



M 442.9728 R 16877



M 454.9728 R 17005



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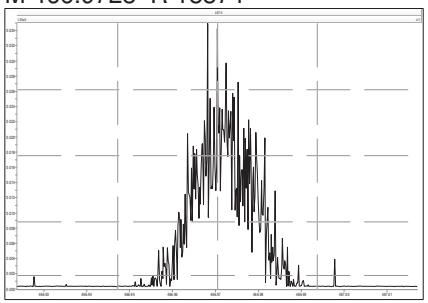

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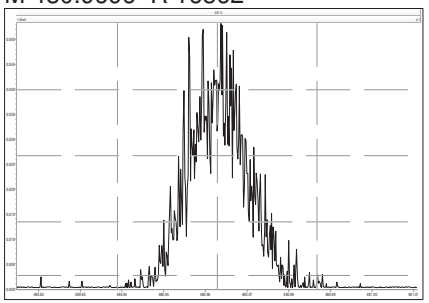

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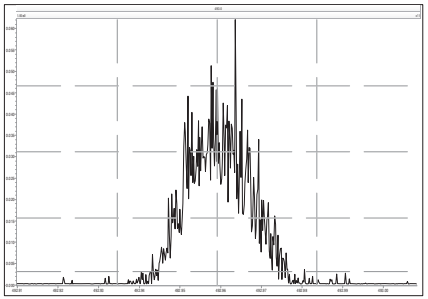

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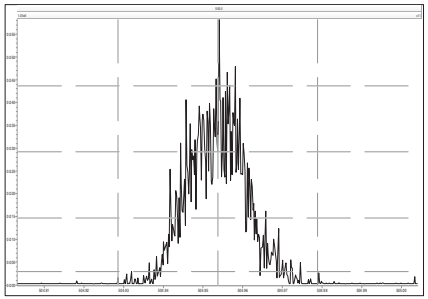

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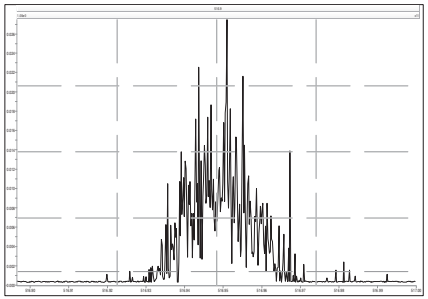

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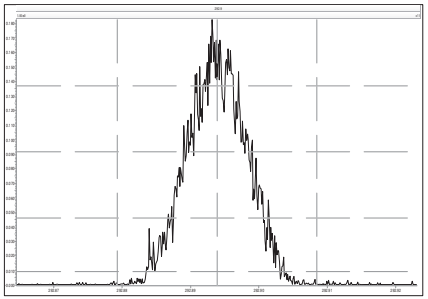

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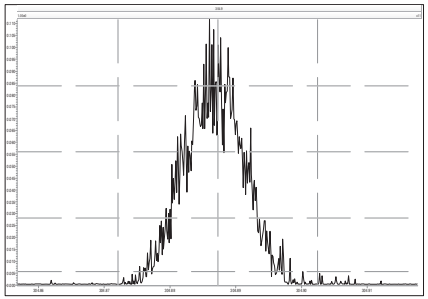

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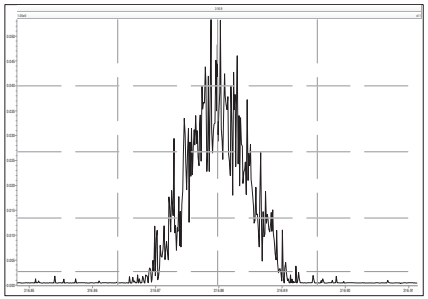

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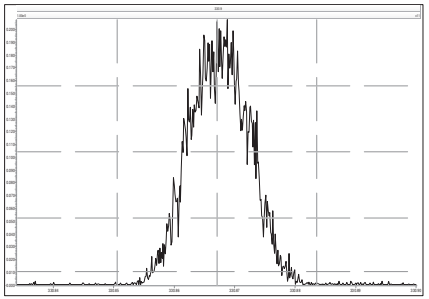

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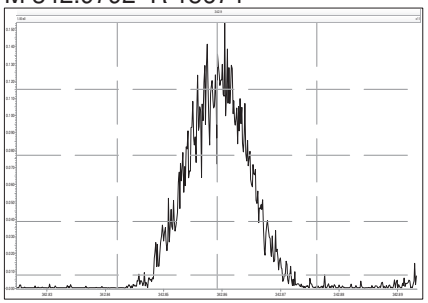

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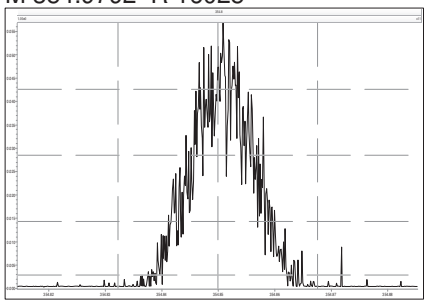

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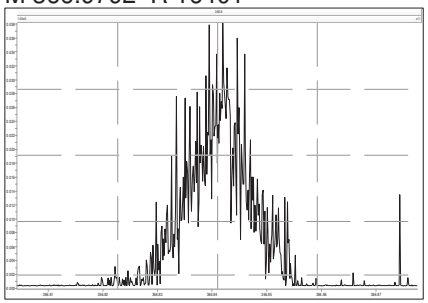

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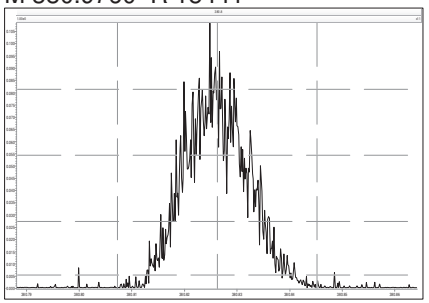

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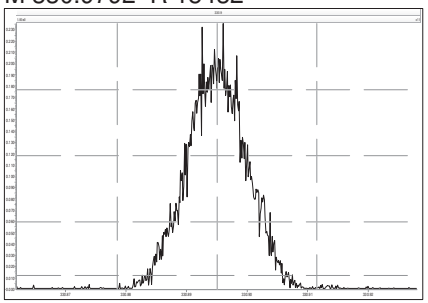

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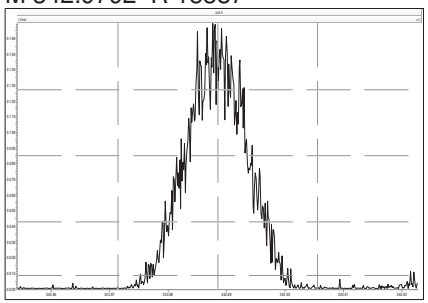

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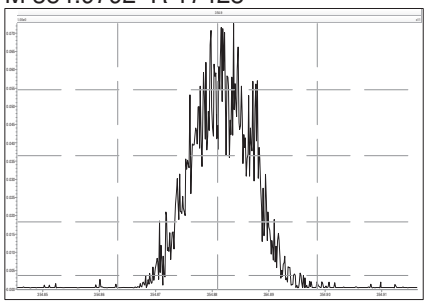

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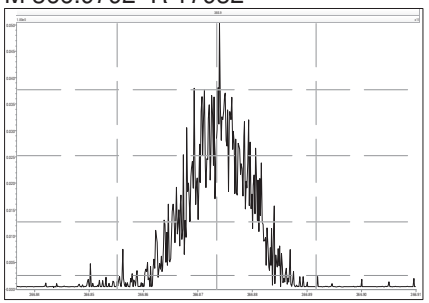

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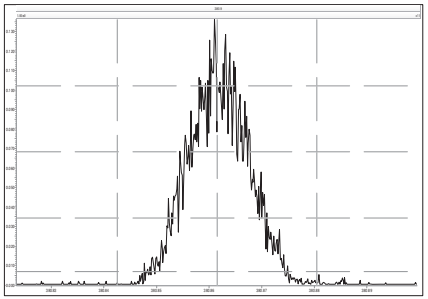

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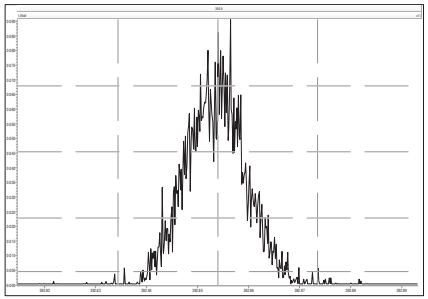

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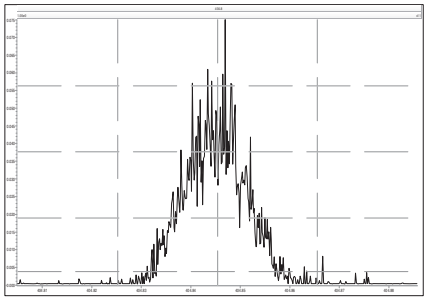

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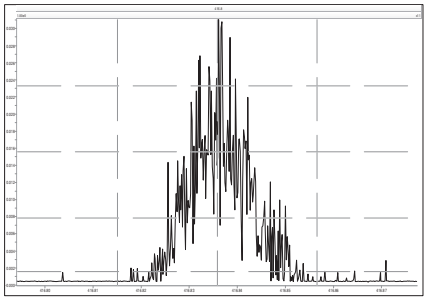

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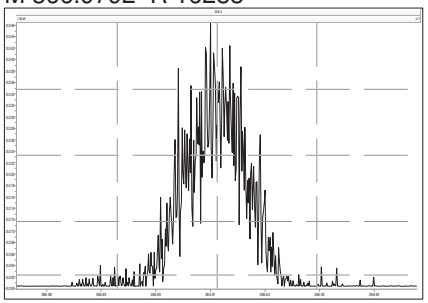

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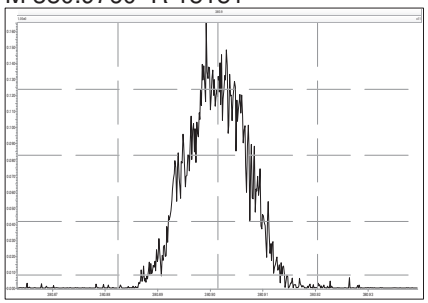

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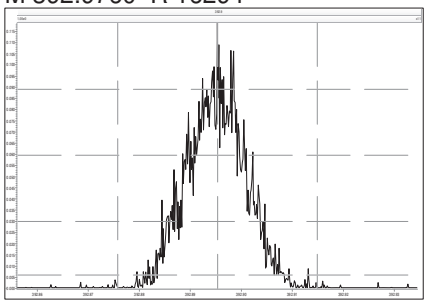

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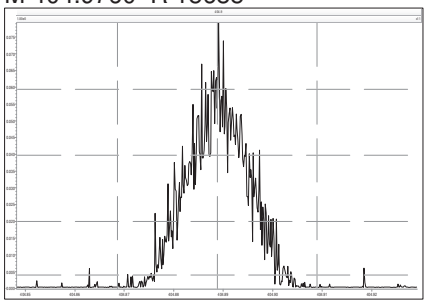

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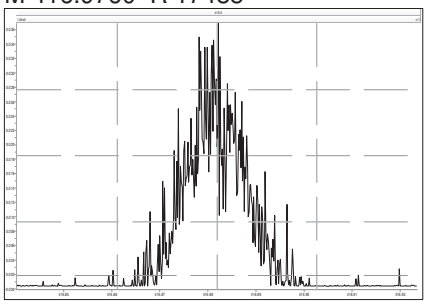

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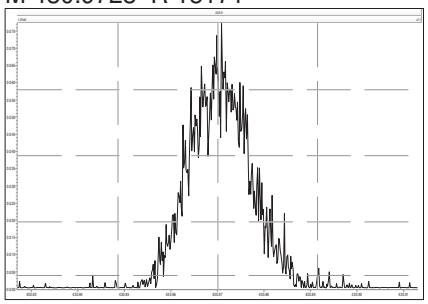

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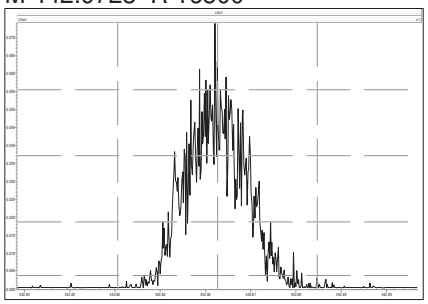

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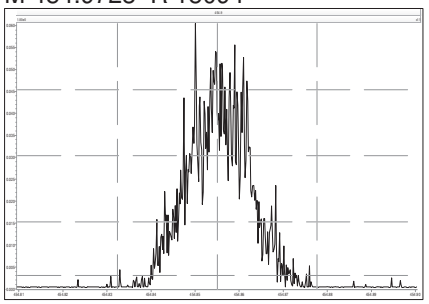

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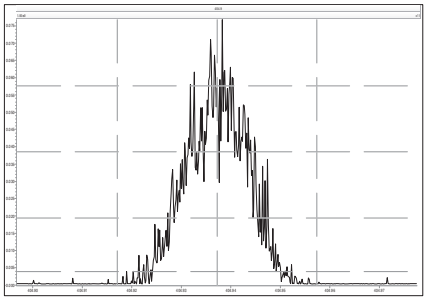

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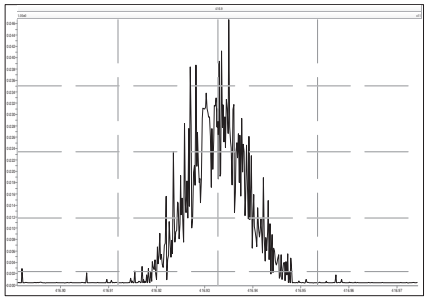

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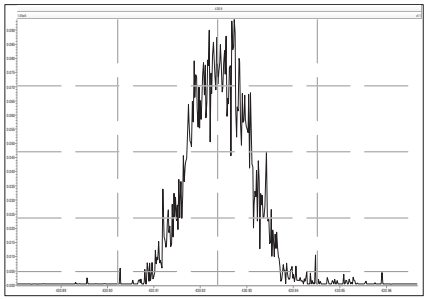

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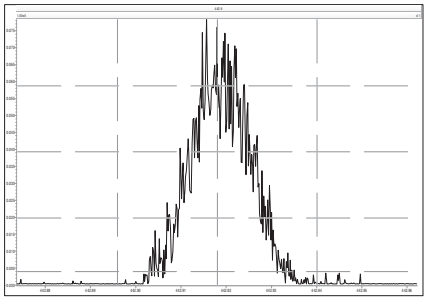

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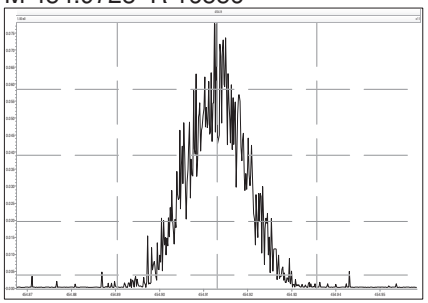

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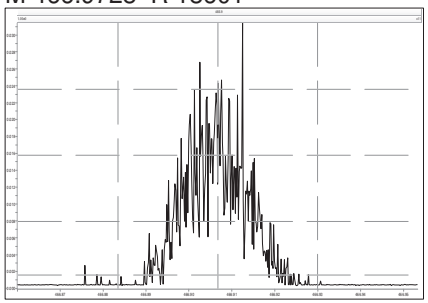

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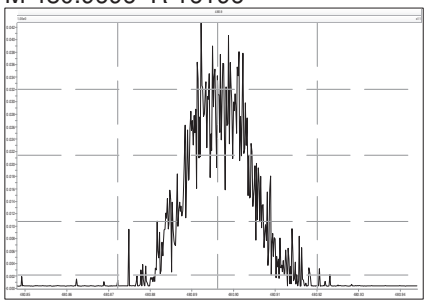

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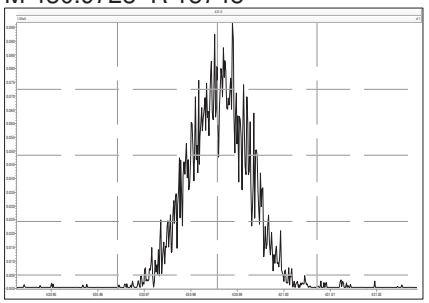

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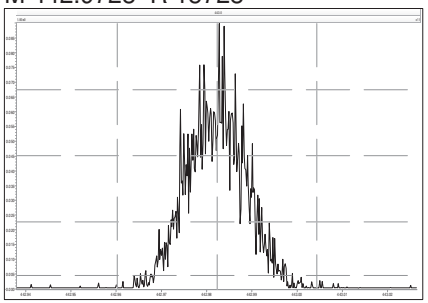

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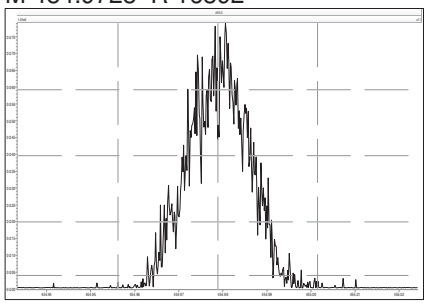

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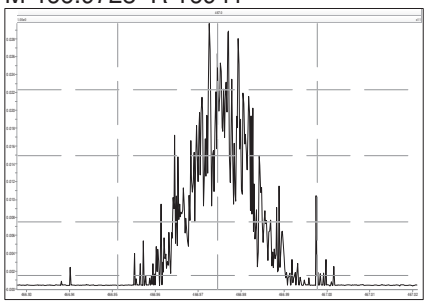

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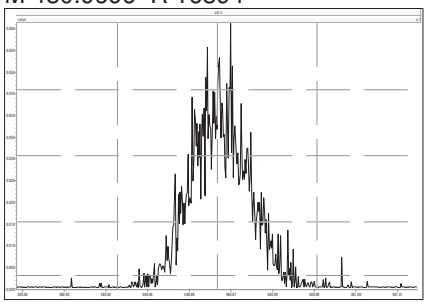

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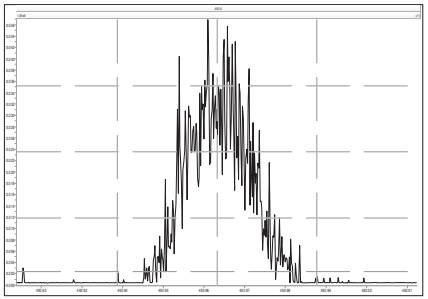

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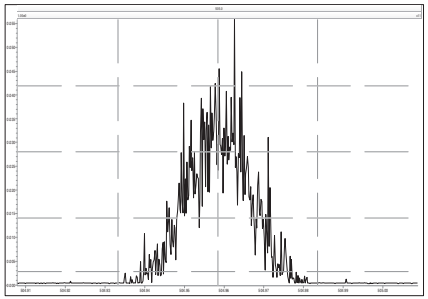

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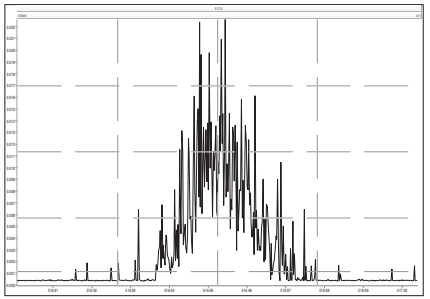


Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34 ✓	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98 ✓
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84 ✓	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28	1.33

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

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

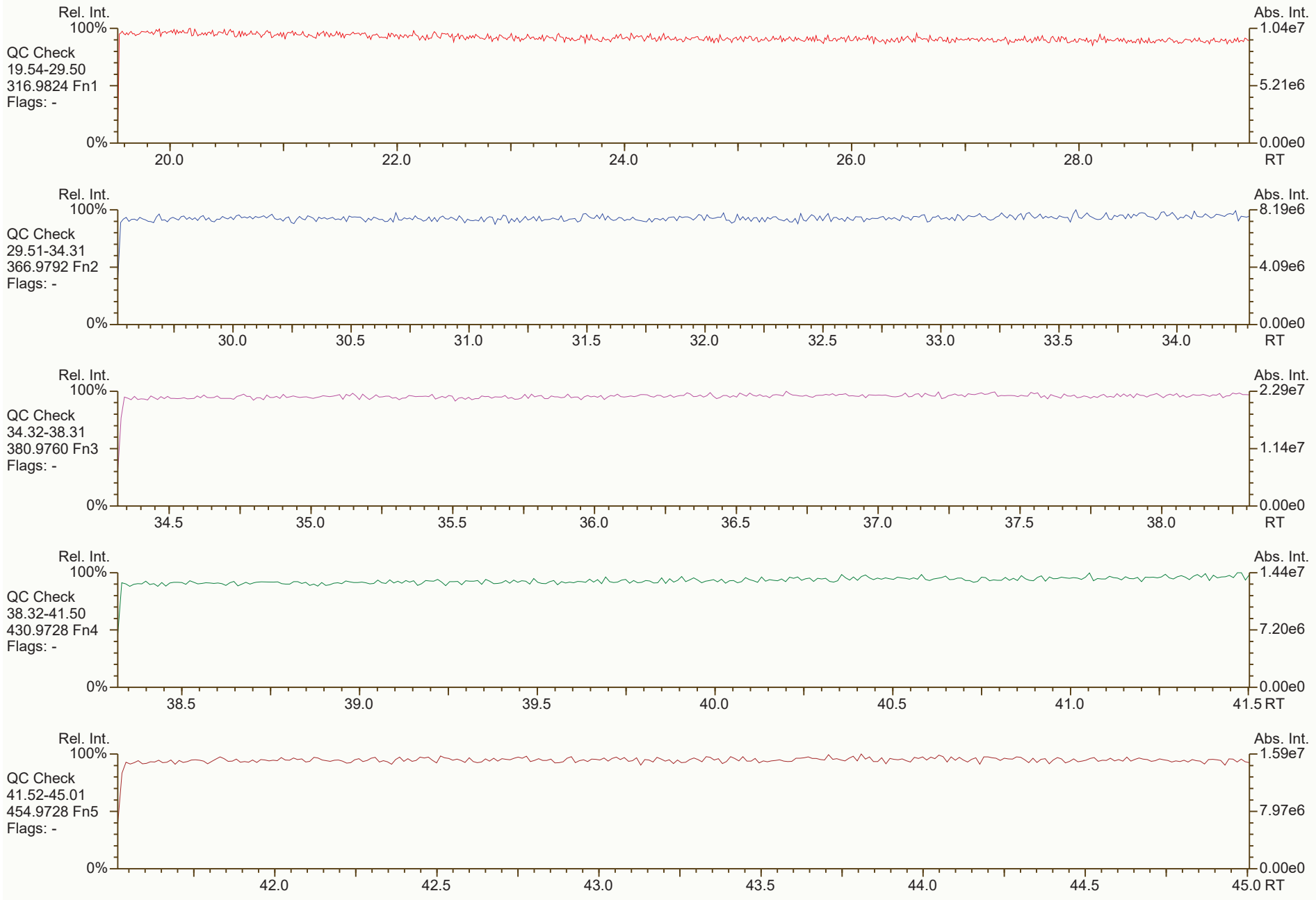
Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD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

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

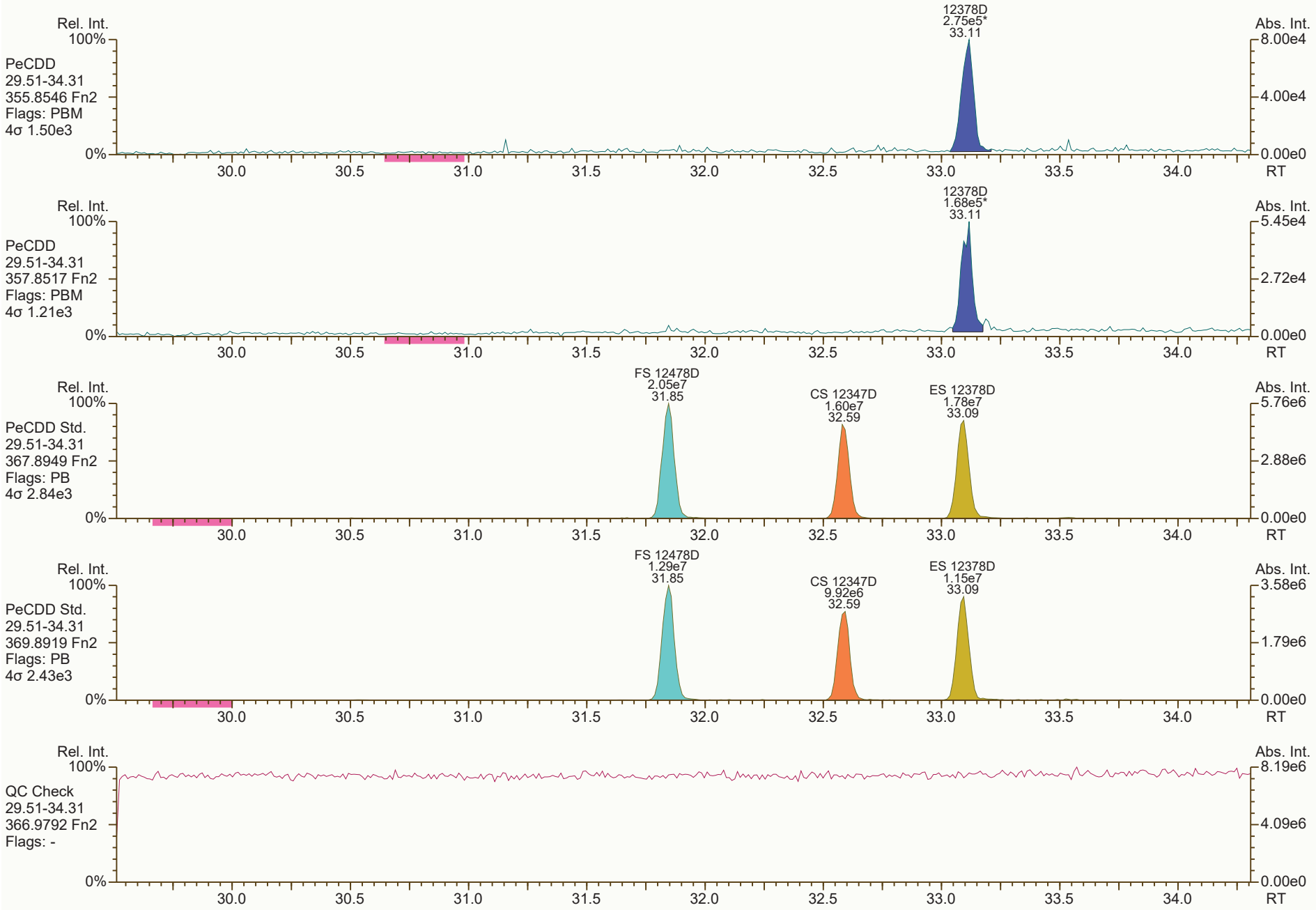
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

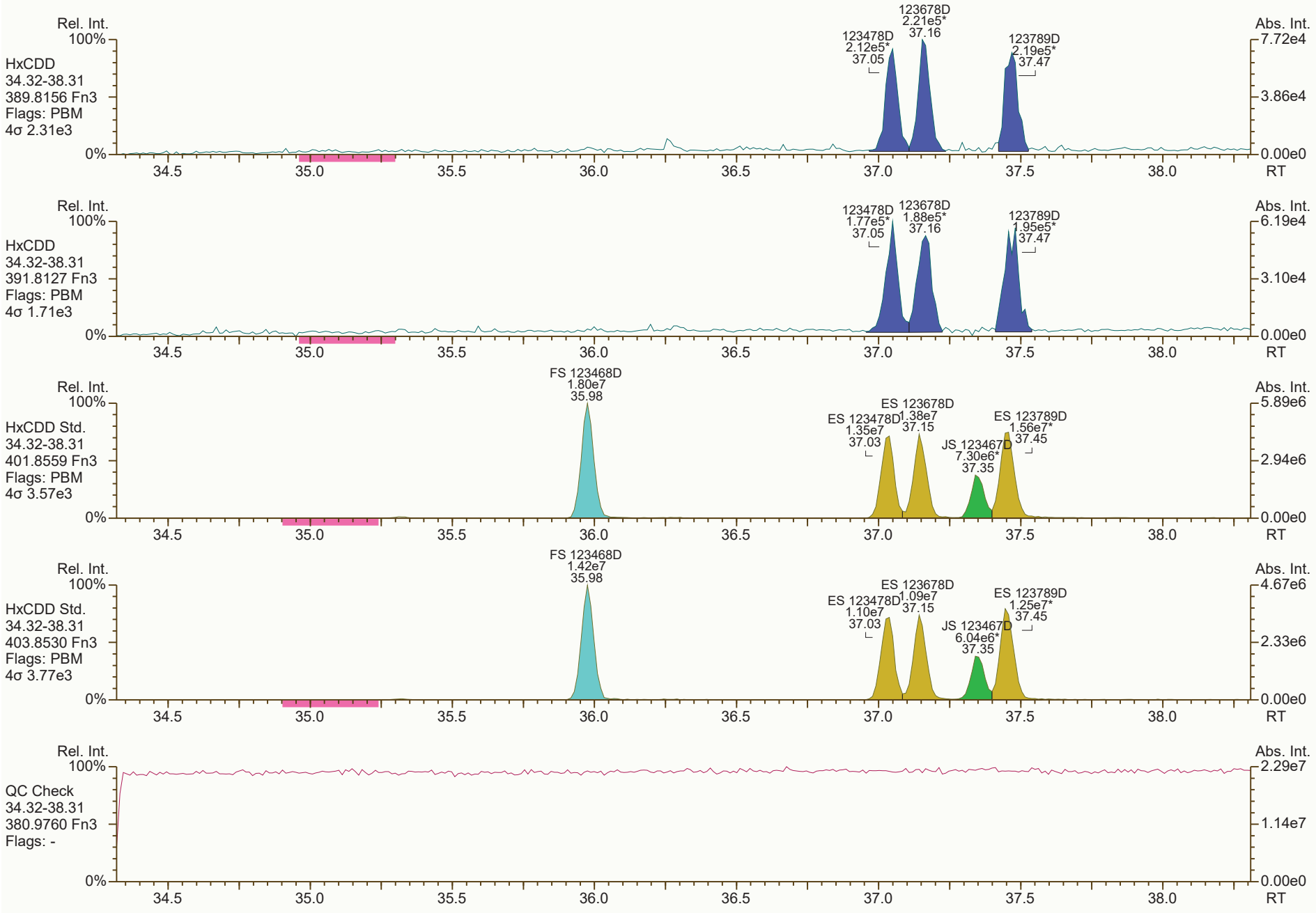
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

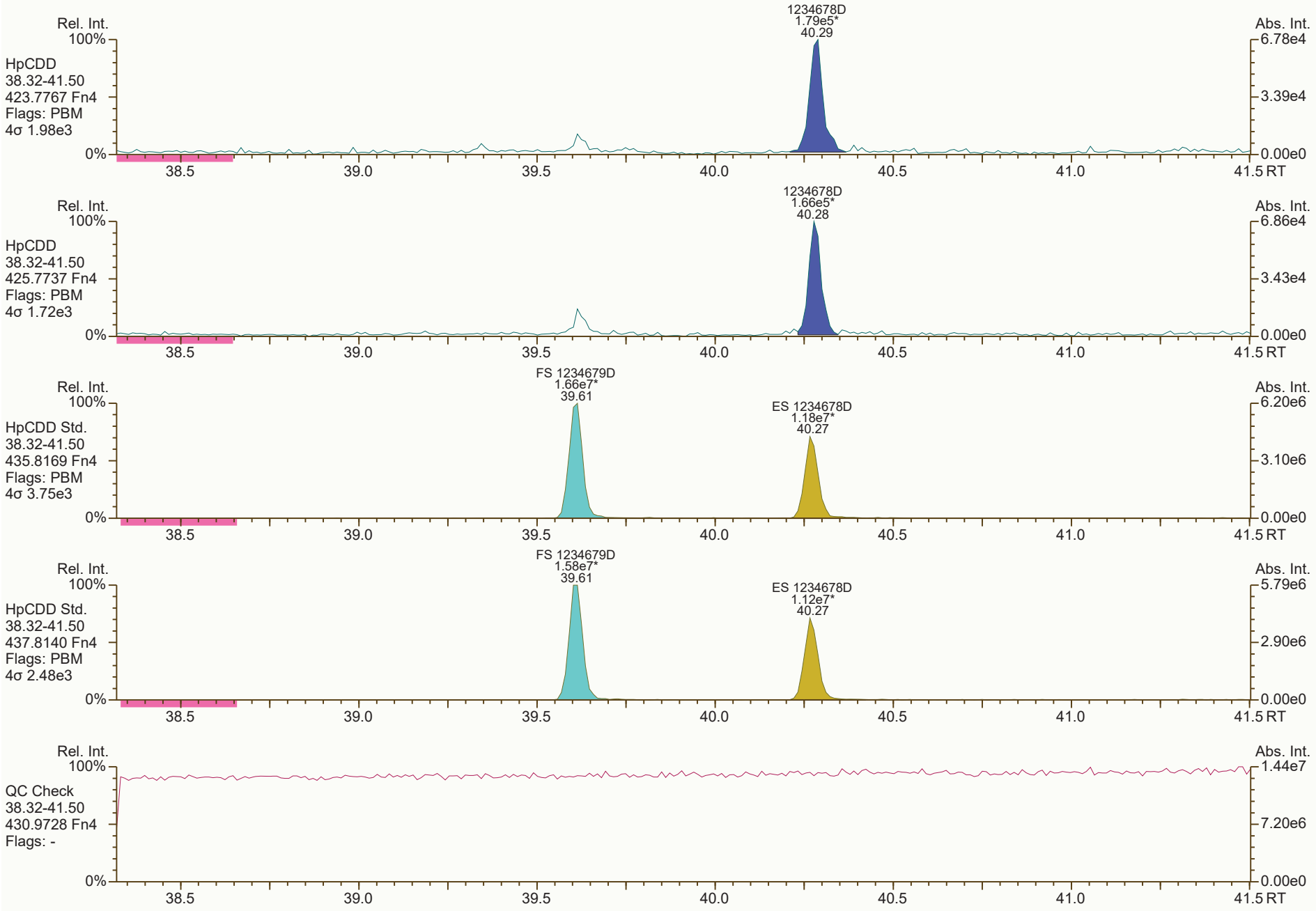
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%

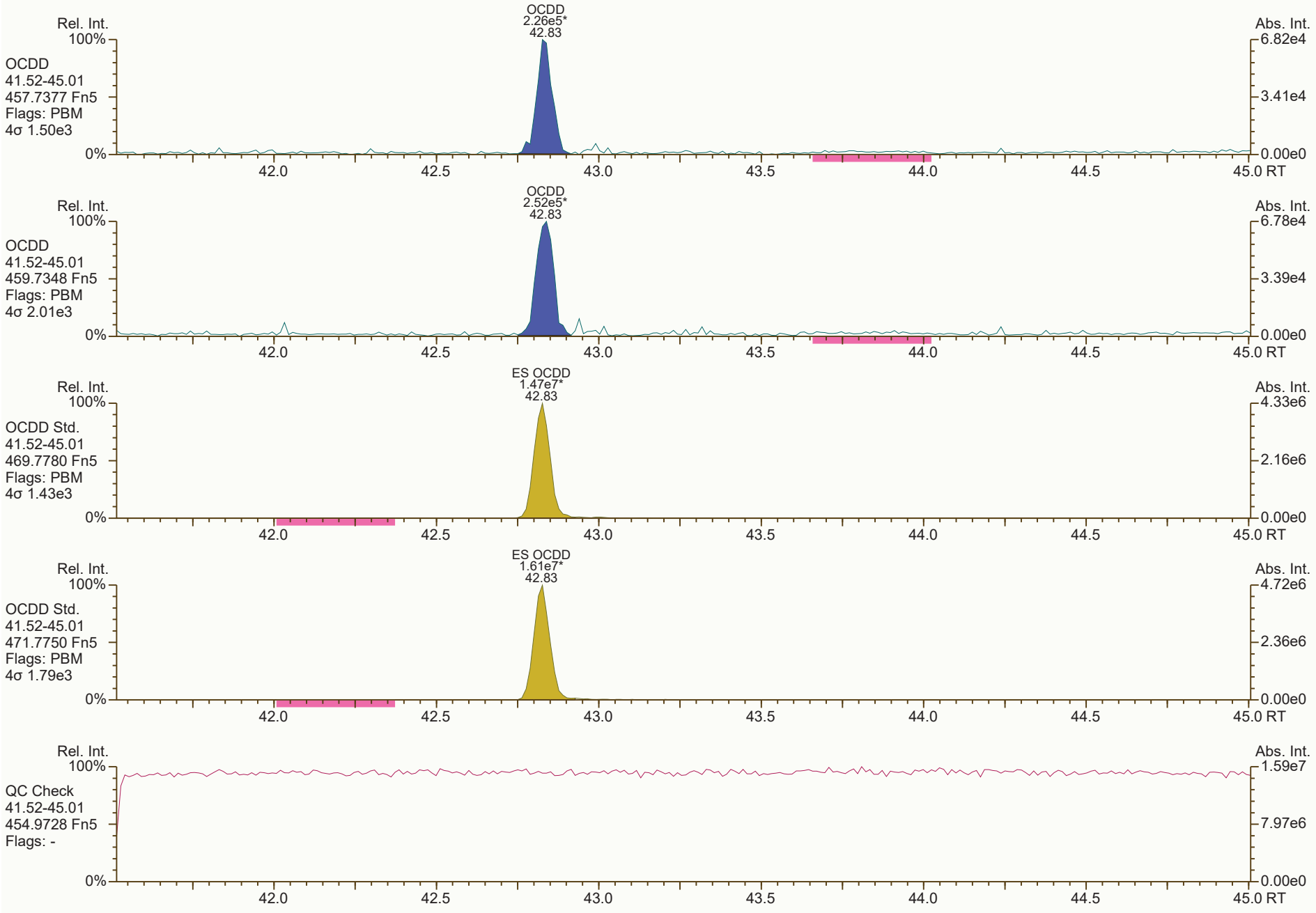

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
1.04e7
5.21e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
8.19e6
4.09e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
2.29e7
1.14e7
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.44e7
7.20e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.59e7
7.97e6
0.00e0
RT

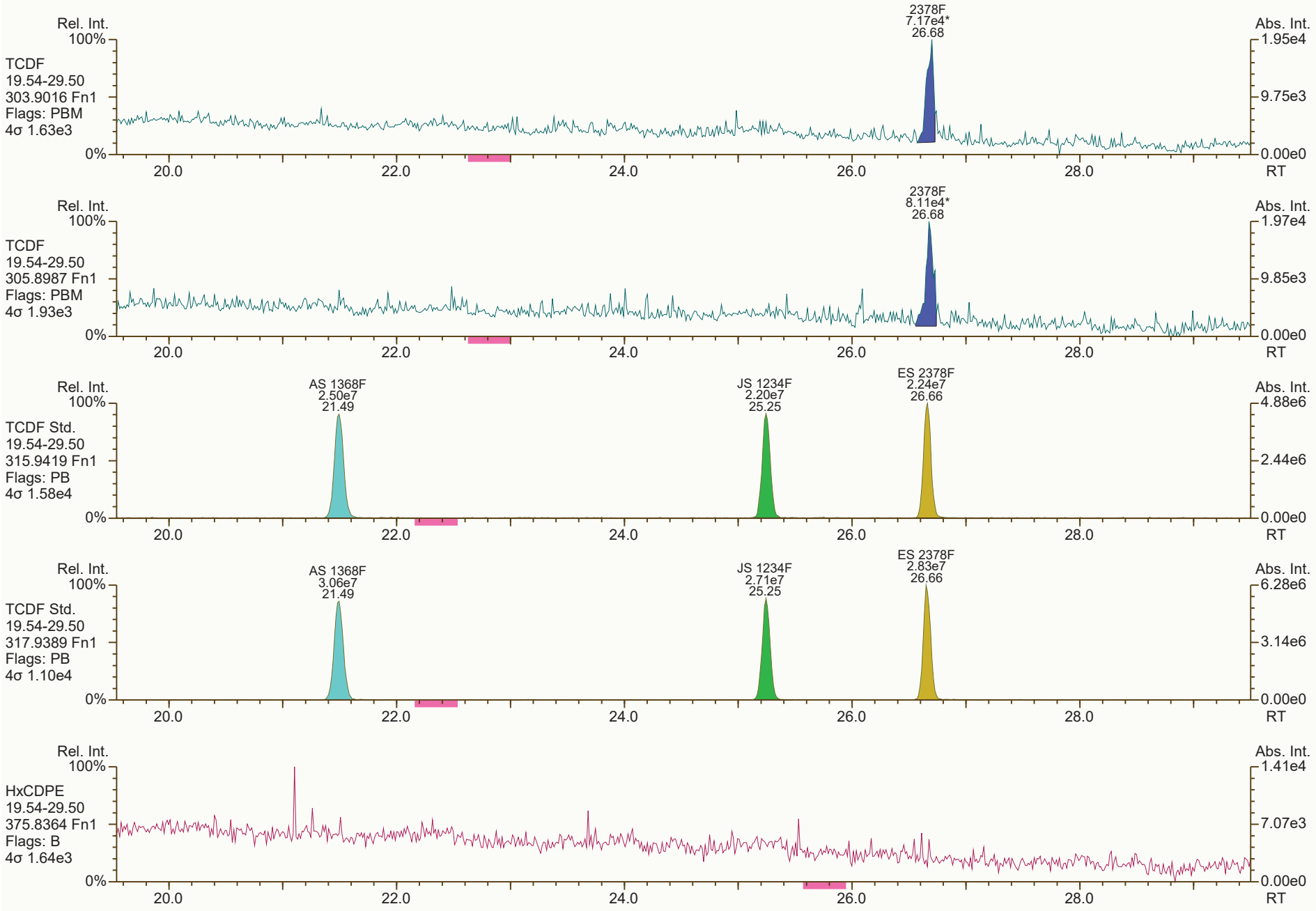

Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
0%
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
Abs. Int.
1.67e4
8.35e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
0%
2378D
6.64e4*
27.59
Abs. Int.
2.13e4
1.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
9.73e3
4.86e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
0%
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
Abs. Int.
4.65e6
2.32e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
0%
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
Abs. Int.
5.85e6
2.92e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

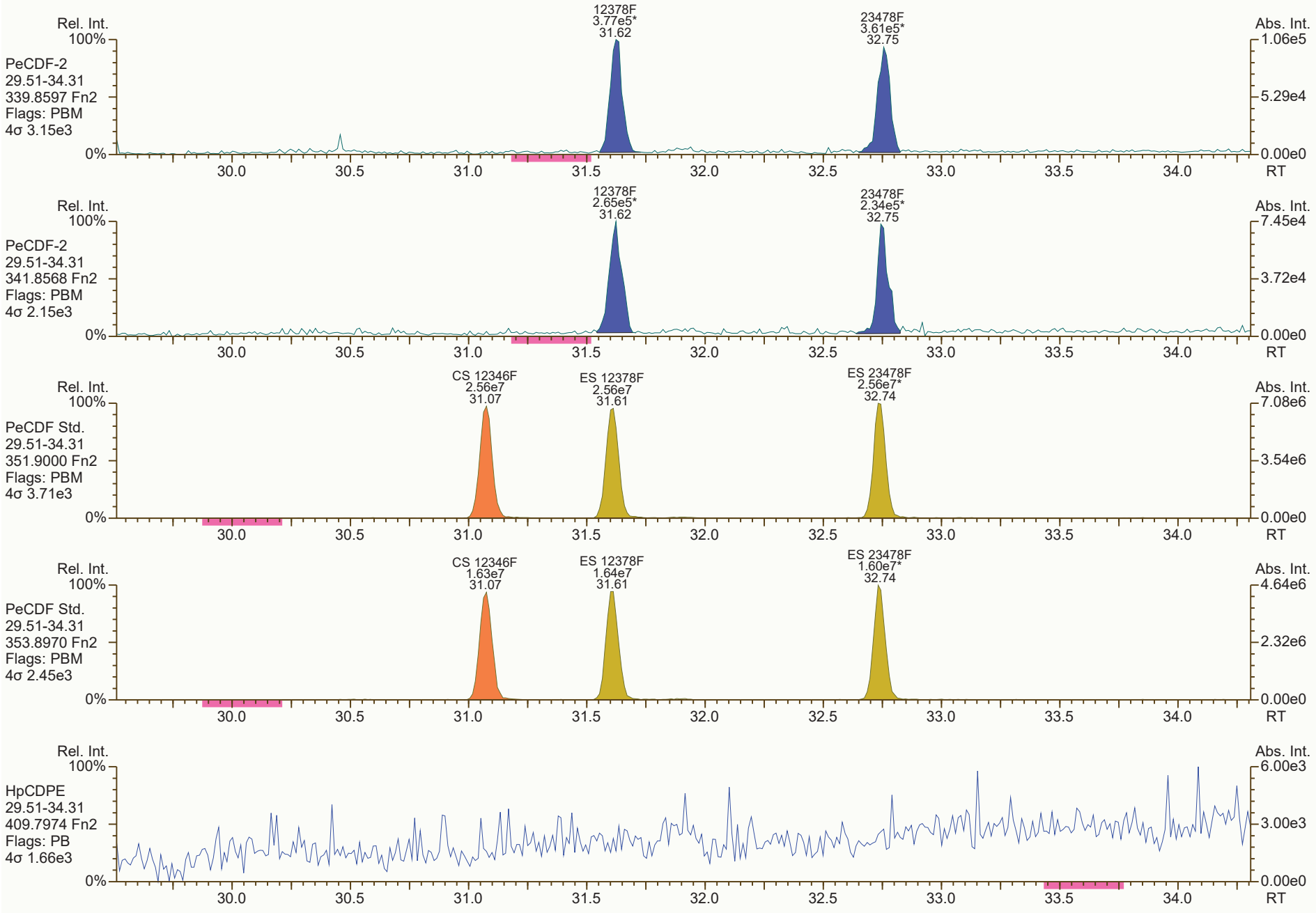

Rel. Int.
Abs. Int.
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
123478D 2.12e5* 37.05
123678D 2.21e5* 37.16
123789D 2.19e5* 37.47
7.72e4
3.86e4
0.00e0
RT
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
123478D 1.77e5* 37.05
123678D 1.88e5* 37.16
123789D 1.95e5* 37.47
6.19e4
3.10e4
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
FS 123468D 1.80e7 35.98
ES 123478D 1.35e7 37.03
ES 123678D 1.38e7 37.15
JS 123467D 7.30e6* 37.35
ES 123789D 1.56e7* 37.45
5.89e6
2.94e6
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
FS 123468D 1.42e7 35.98
ES 123478D 1.10e7 37.03
ES 123678D 1.09e7 37.15
JS 123467D 6.04e6* 37.35
ES 123789D 1.25e7* 37.45
4.67e6
2.33e6
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.29e7
1.14e7
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0

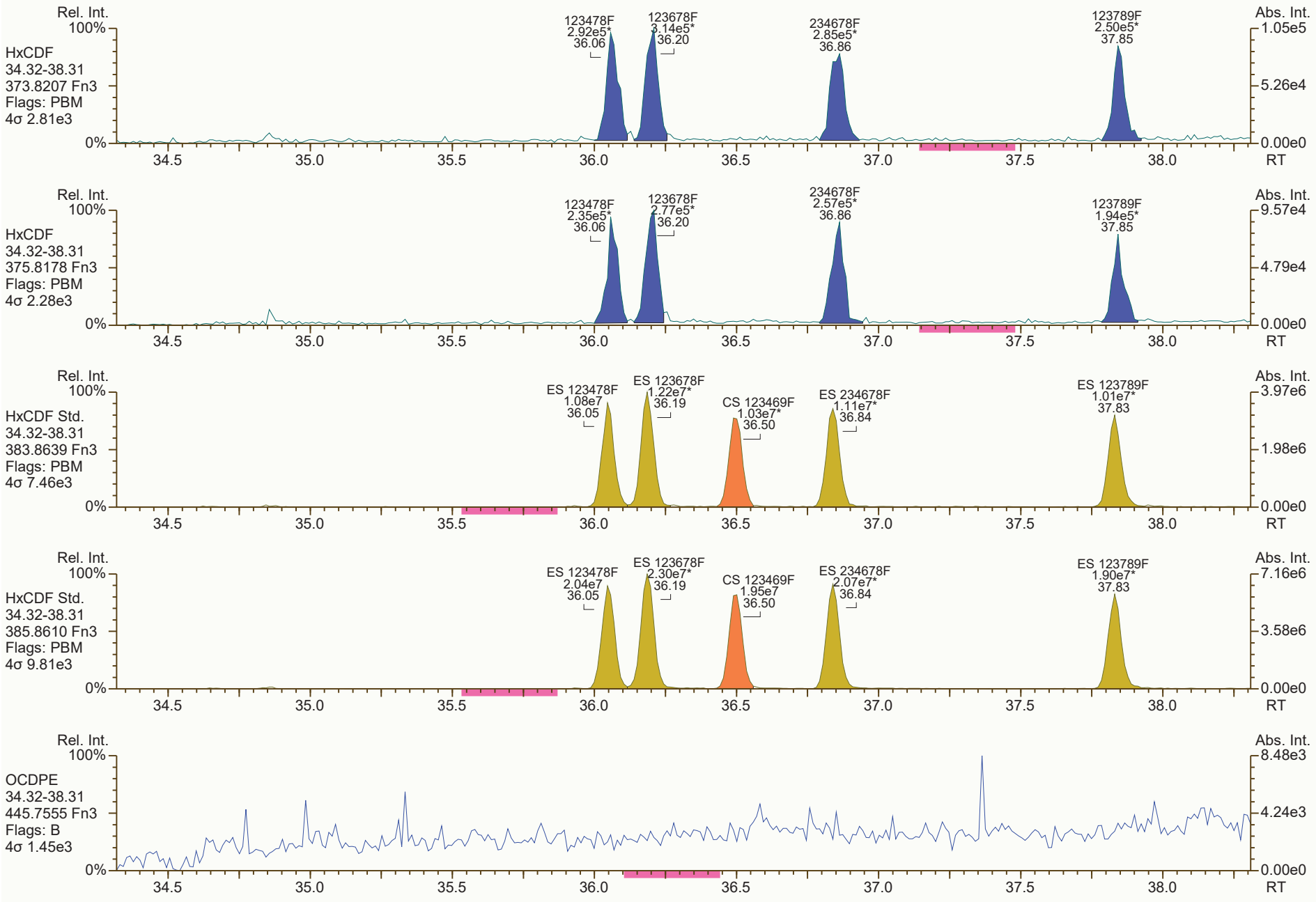

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

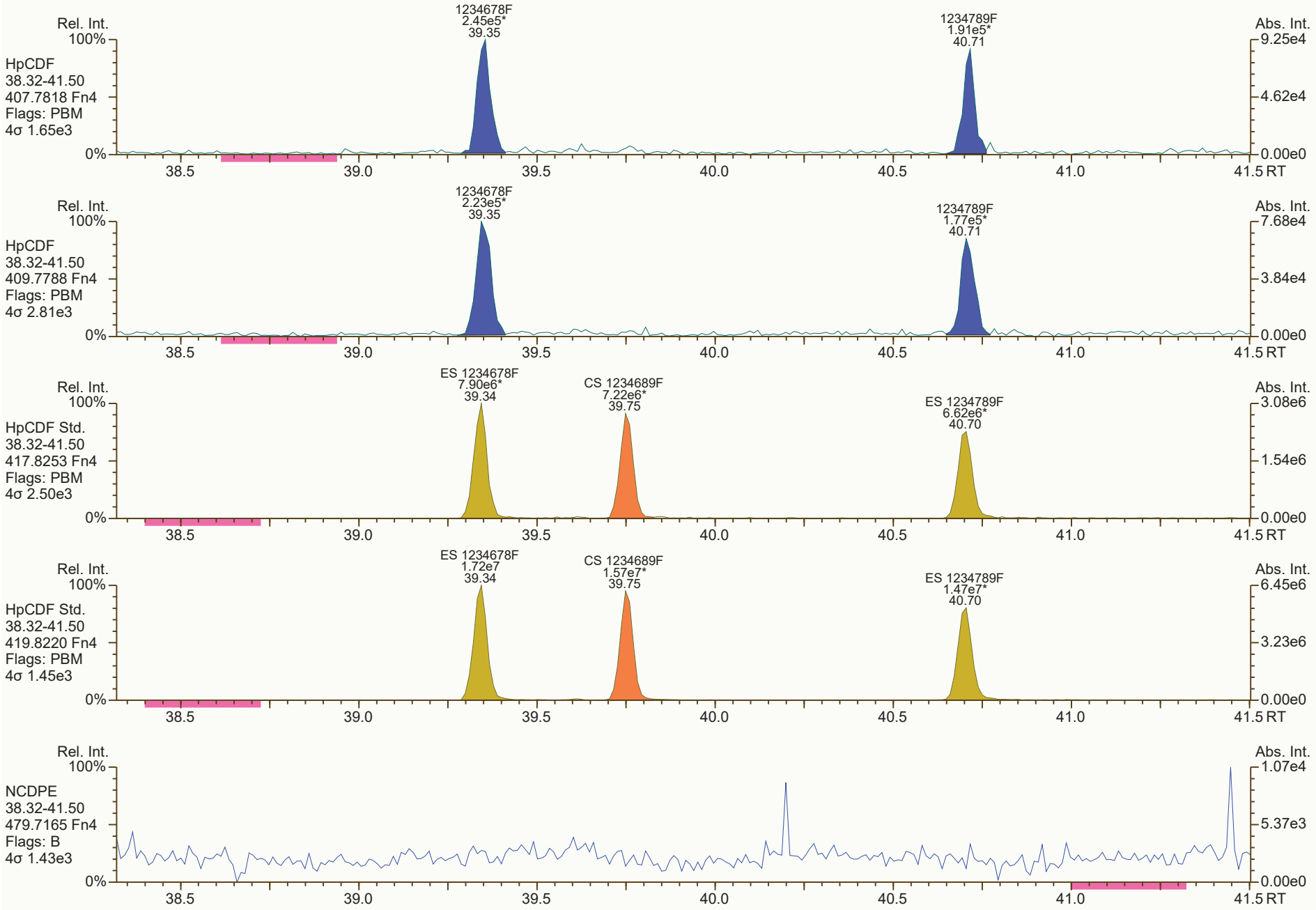

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
0%
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
0%
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
0%
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.41e4
7.07e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.25e4
6.27e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: PB
4σ 2.44e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.40e4
7.01e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 1.85e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.04e7
5.21e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
Abs. Int.
8.48e3
4.24e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

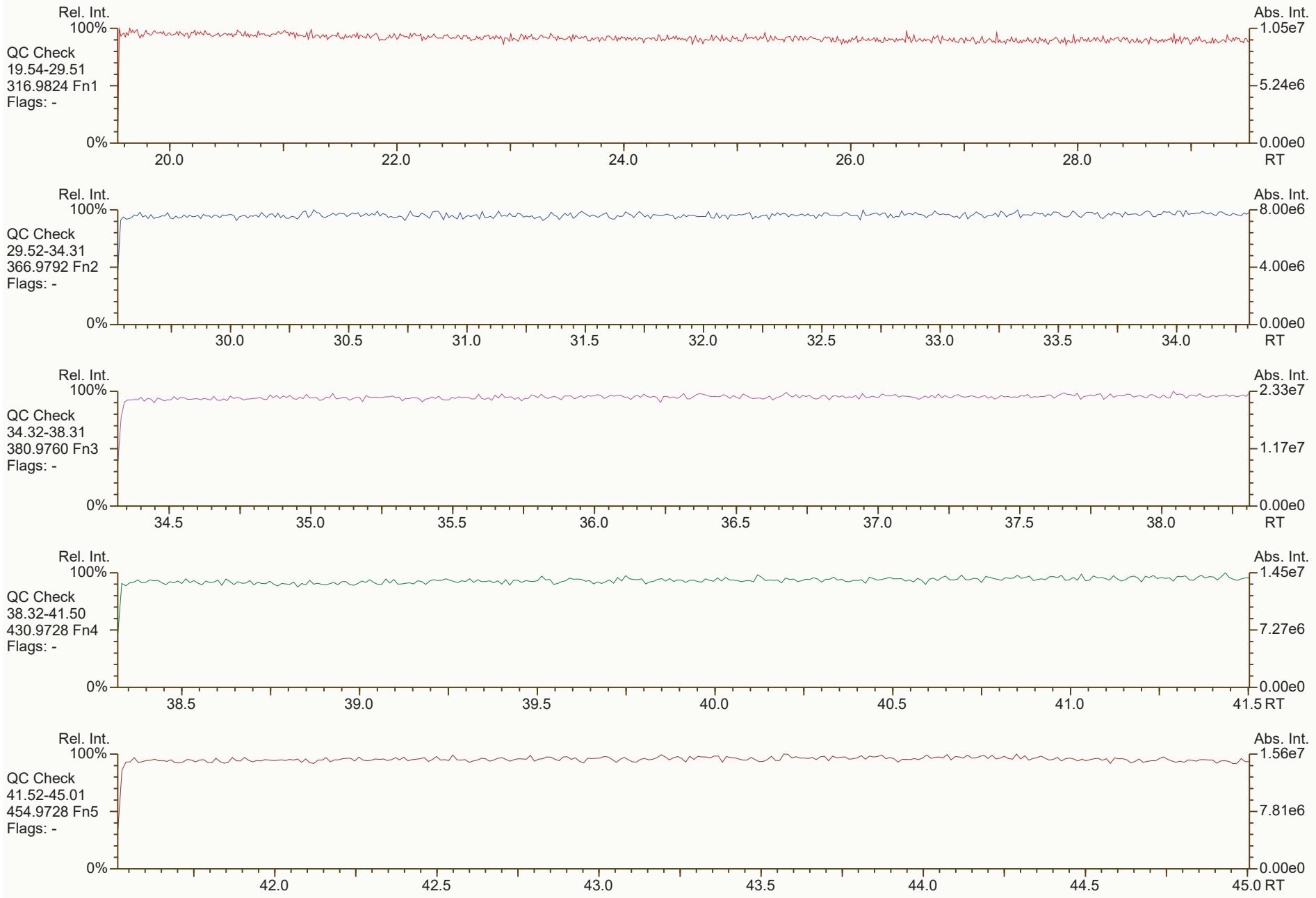

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
OCDF
2.83e5*
43.00
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
OCDF
3.12e5*
43.00
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
ES OCDF
1.88e7*
42.99
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
ES OCDF
2.08e7*
42.99
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:48 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 419-111-CRN
Sample ID: 25-6-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C05

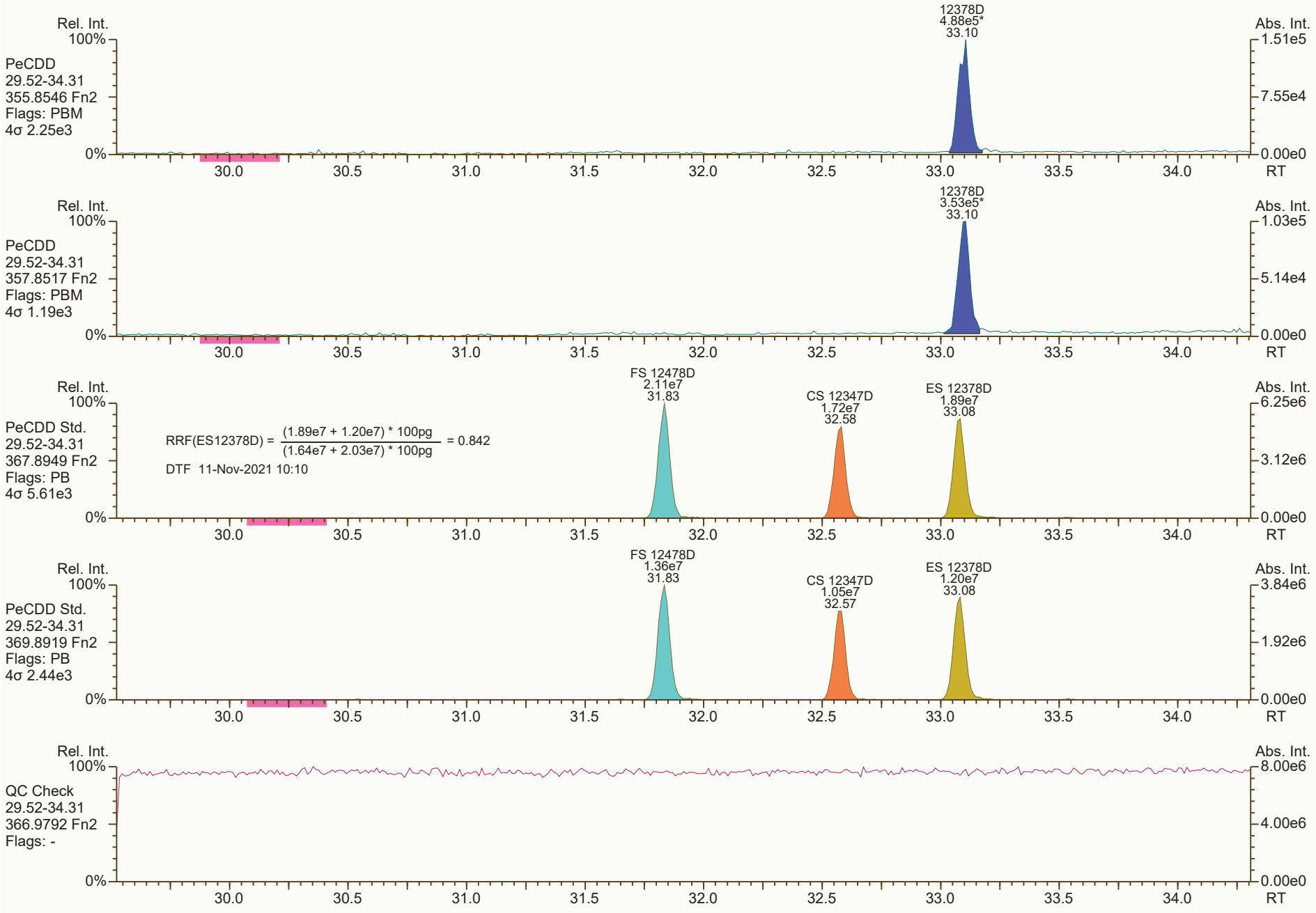
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

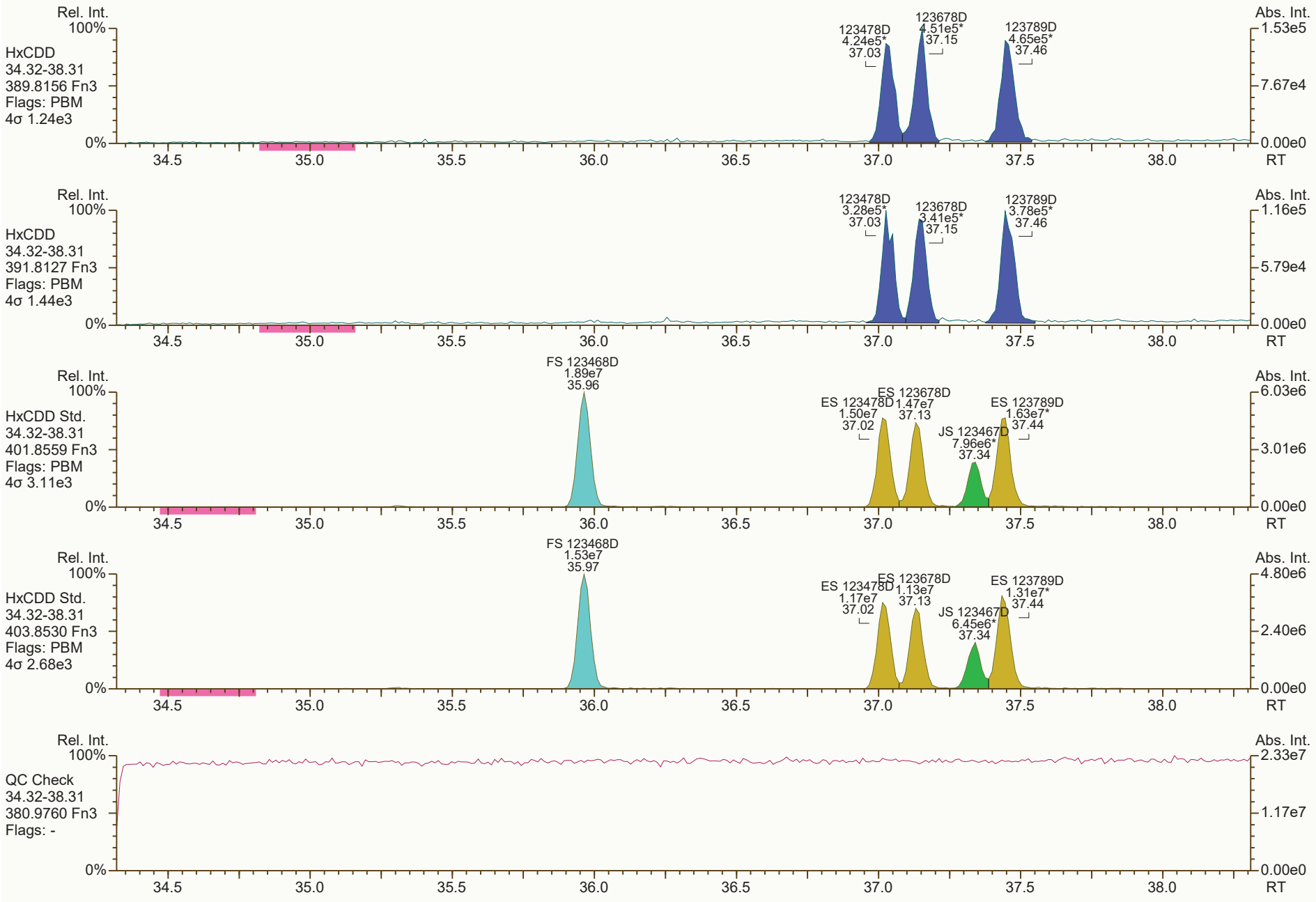
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:48 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 419-111-CRN
Sample ID: 25-6-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C05

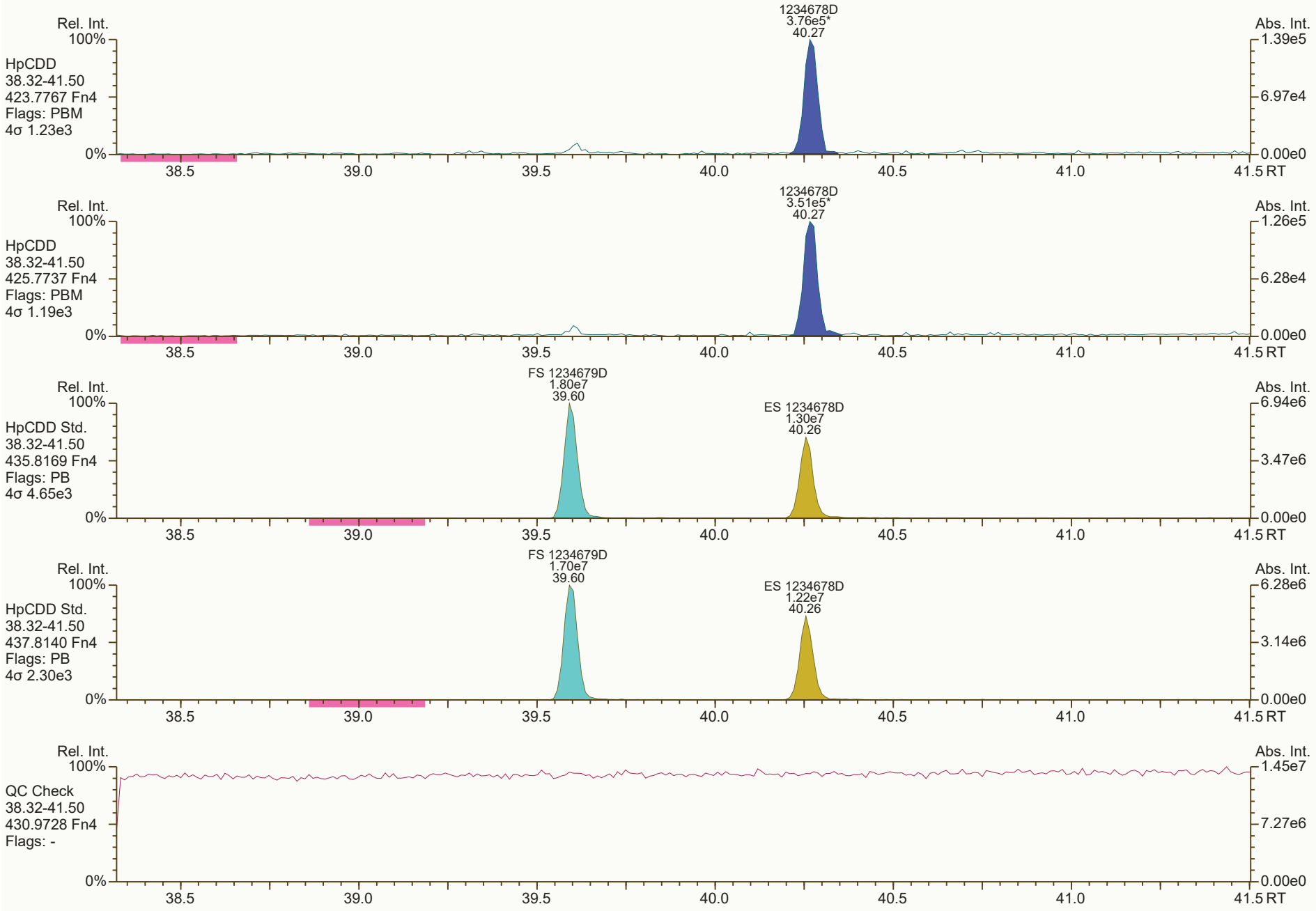
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

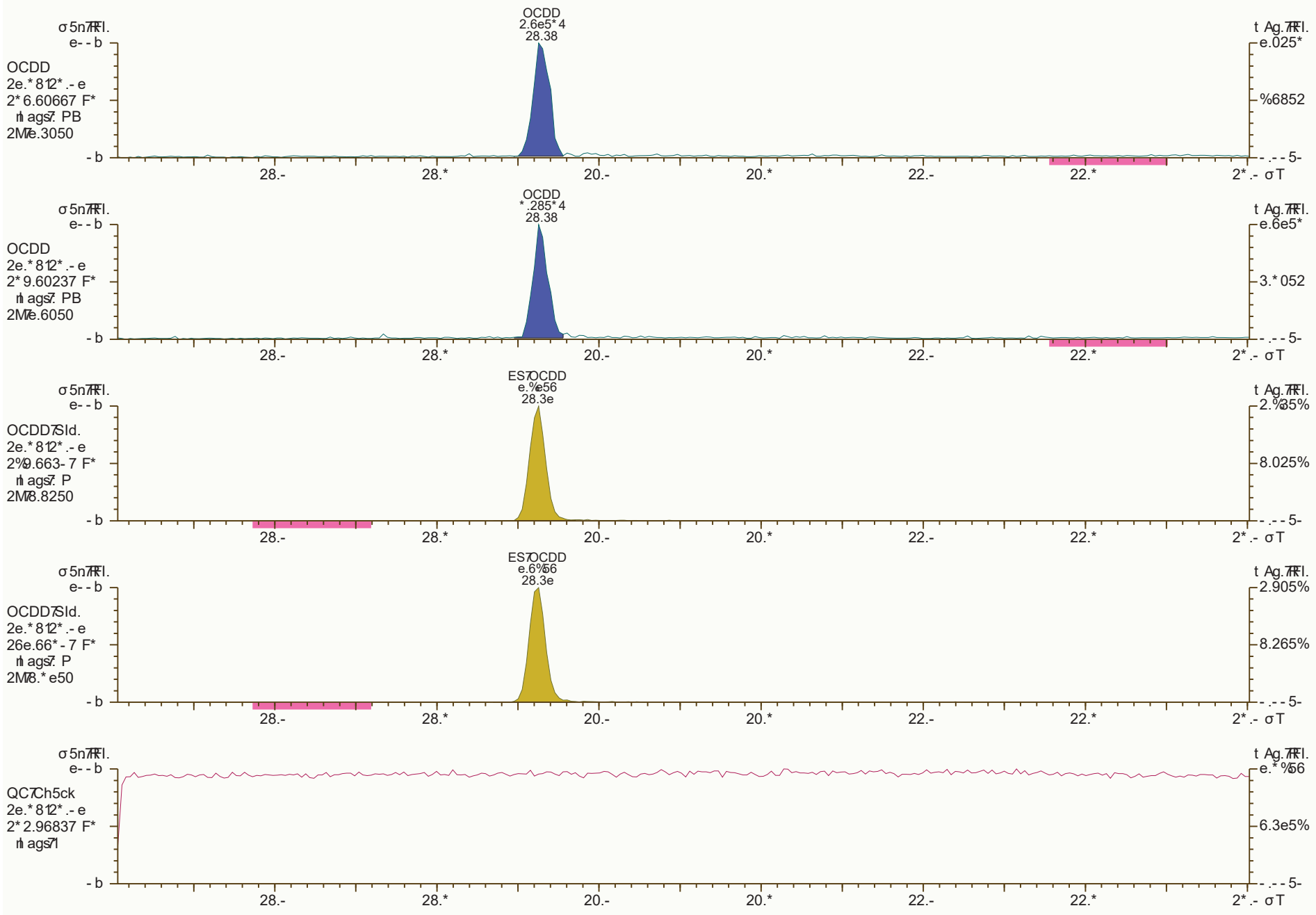

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
1.05e7
5.24e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
8.00e6
4.00e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
2.33e7
1.17e7
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.45e7
7.27e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.56e7
7.81e6
0.00e0
RT

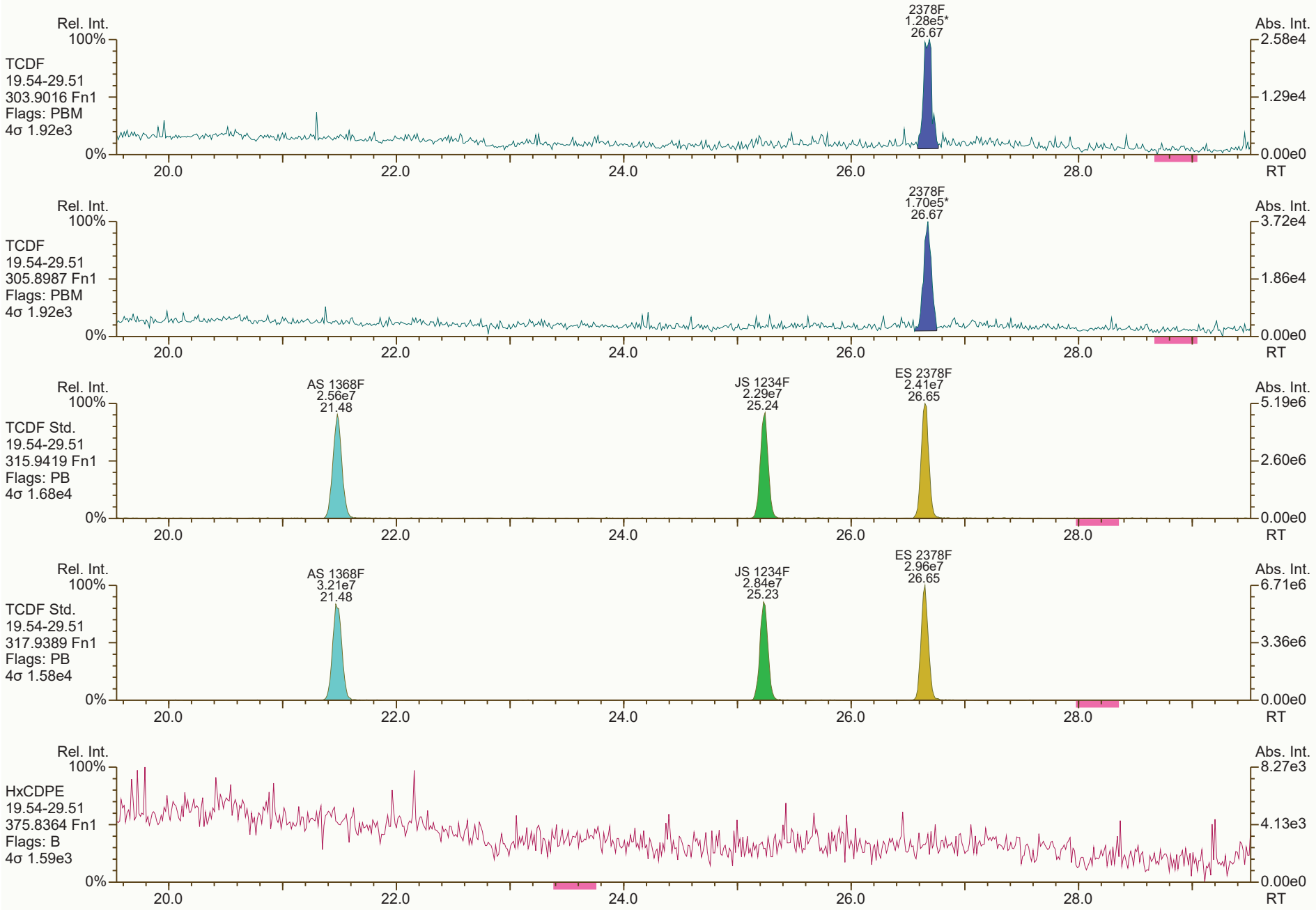

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

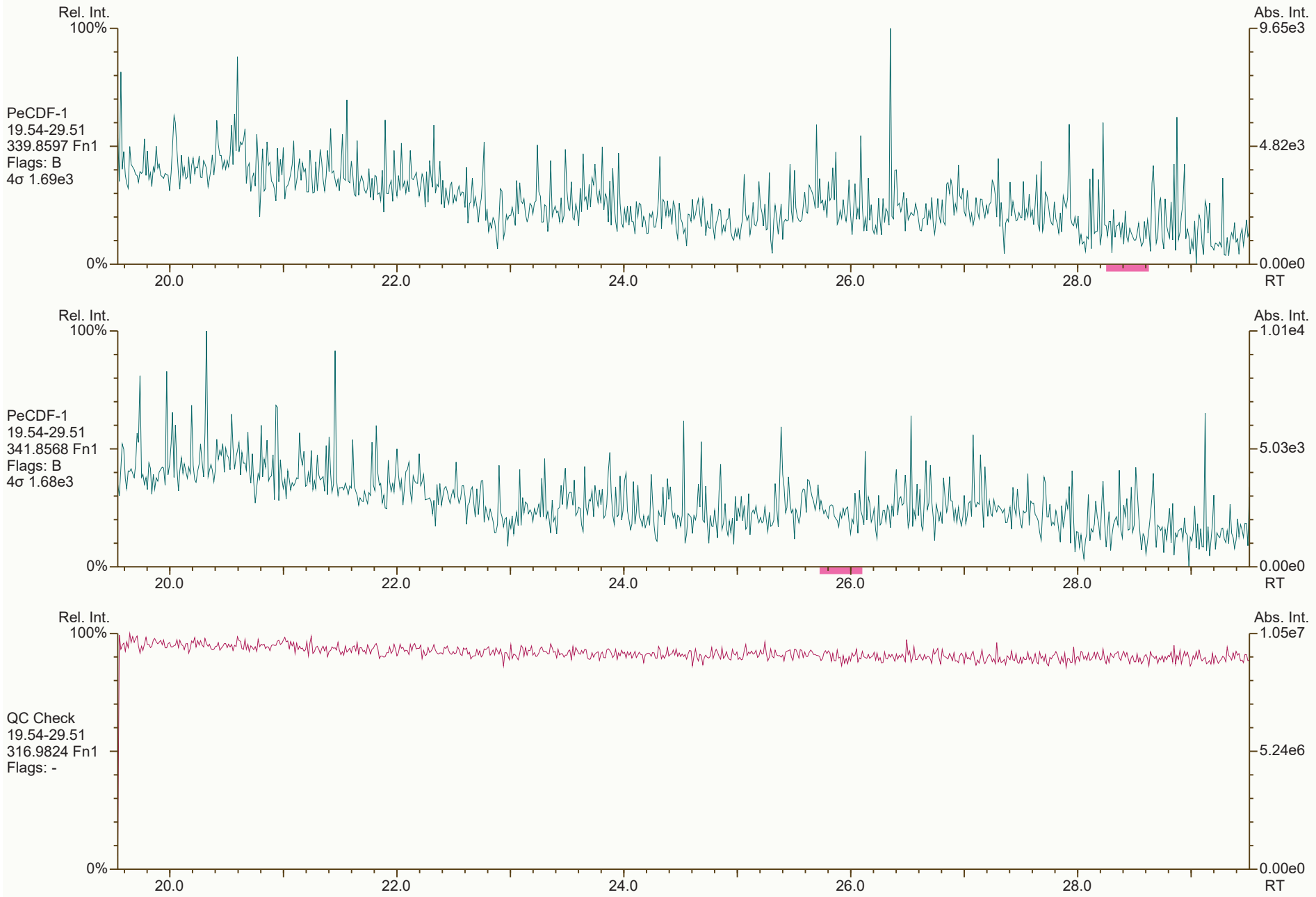

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
Abs. Int.
1.03e5
5.14e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
Abs. Int.
6.25e6
3.12e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.00e6
4.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

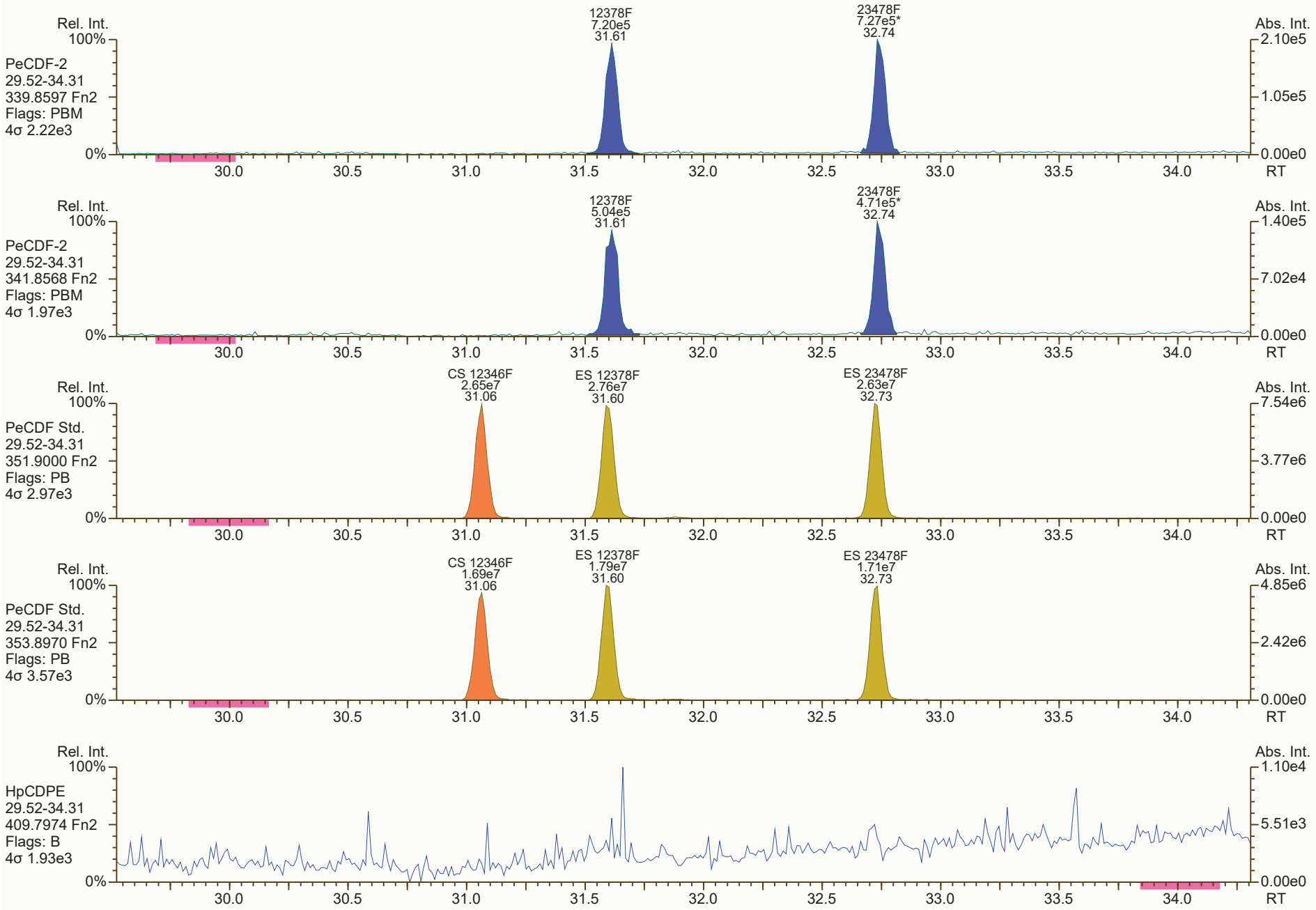

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123478D
1.50e7
37.02
ES 123678D
1.47e7
37.13
JS 123467D
7.96e6*
37.34
ES 123789D
1.63e7*
37.44
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123478D
1.17e7
37.02
ES 123678D
1.13e7
37.13
JS 123467D
6.45e6*
37.34
ES 123789D
1.31e7*
37.44
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

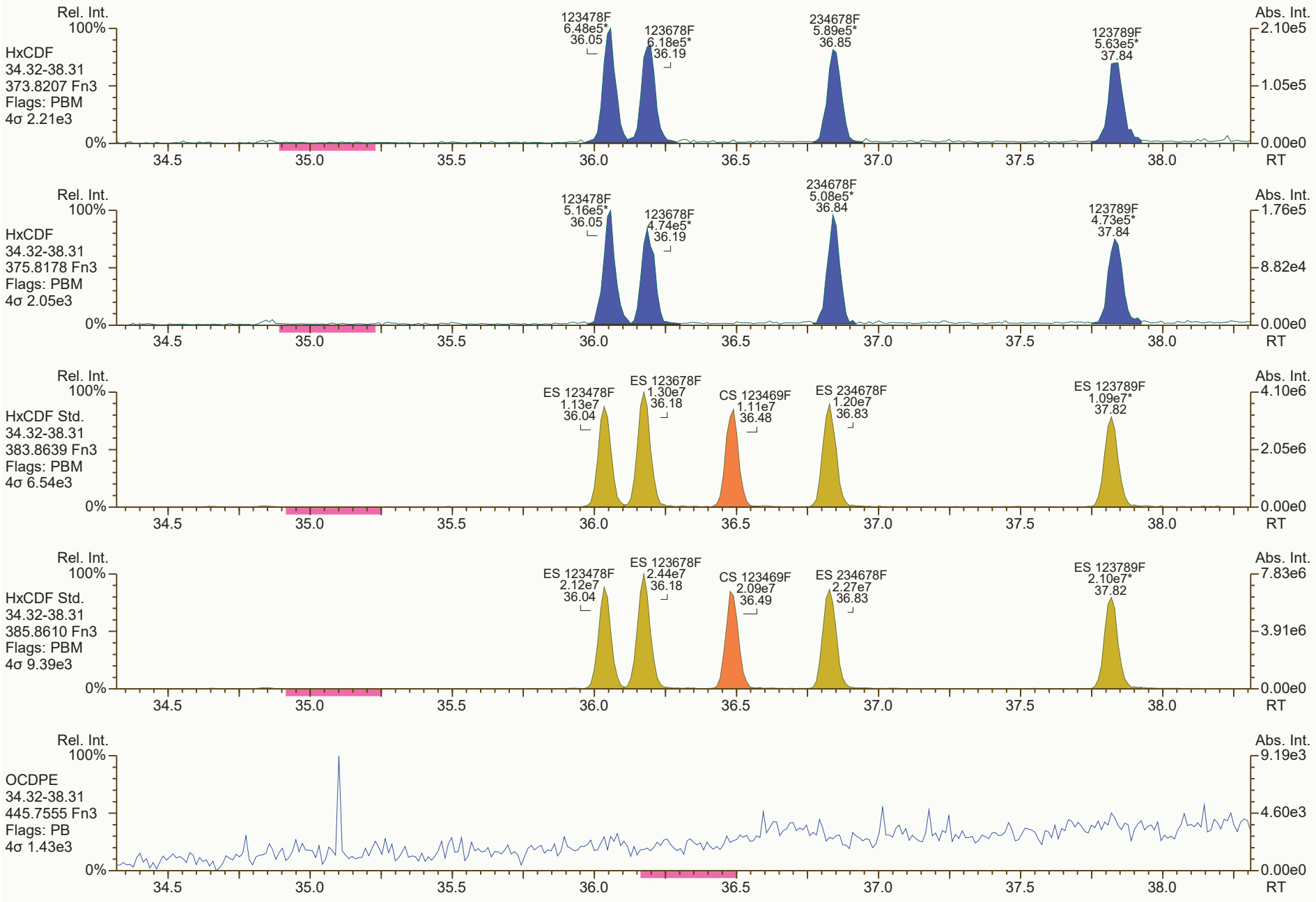

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

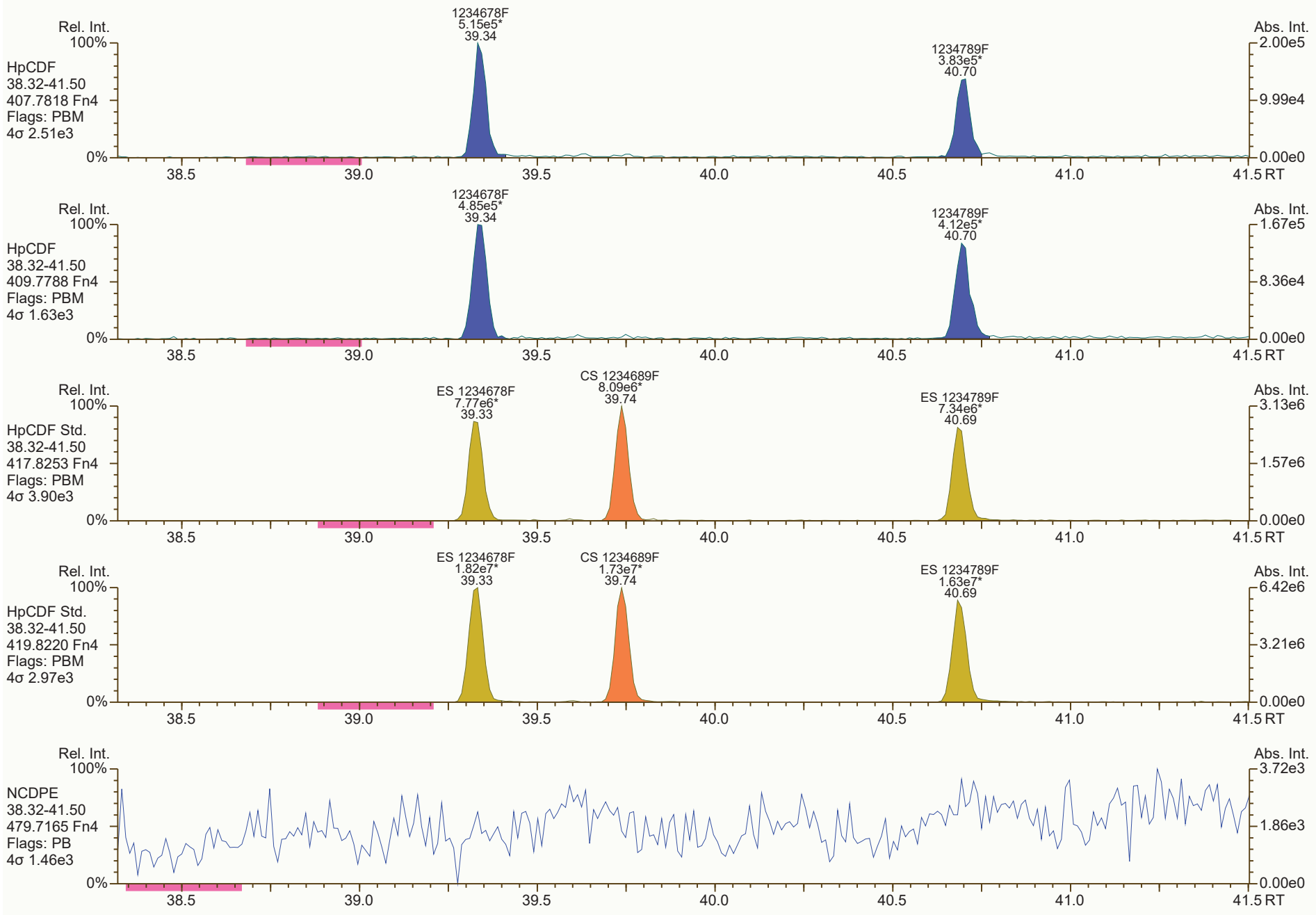

OCDD
2.6e5* 4
28.38
OCDD
2e.* 812* .- e
2* 6.60667 F*
m ags7. PB
2M7e.3050
%6852
28.-
28.*
20.-
20.*
22.-
22.*
OCDD
.285 4
28.38
OCDD
2e.* 812* .- e
2* 9.60237 F*
m ags7. PB
2M7e.6050
3.* 052
ES7OCDD
28.3e
OCDD7SId.
2e.* 812* .- e
2%9.663- 7 F*
m ags7. P
2M78.8250
8.025%
ES7OCDD
28.3e
OCDD7SId.
2e.* 812* .- e
26e.66* - 7 F*
m ags7. P
2M78.* e50
2.905%
8.265%
QC7Ch5ck
2e.* 812* .- e
2* 2.96837 F*
m ags71
6.3e5%

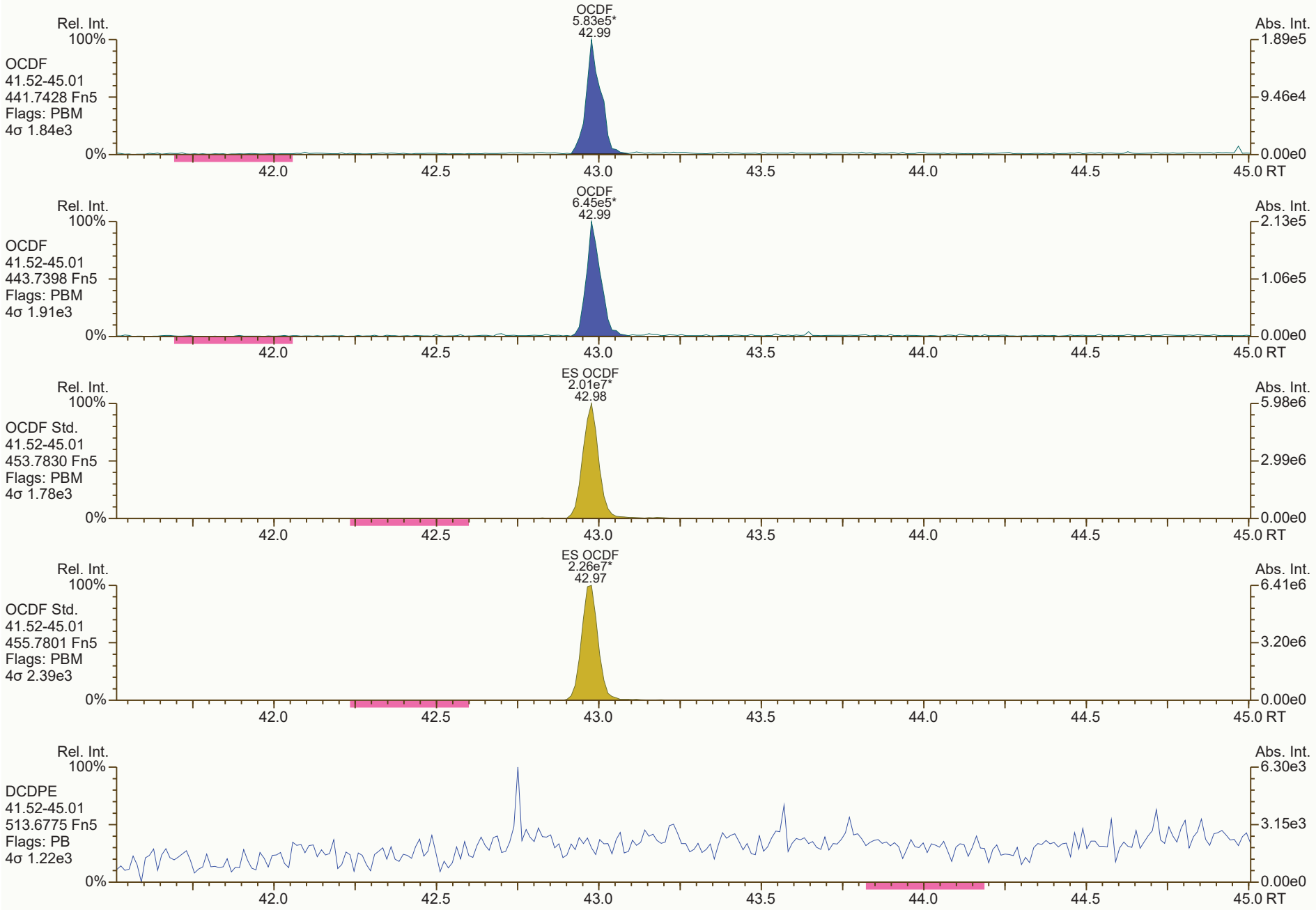

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
Abs. Int.
1.40e5
7.02e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
Abs. Int.
7.54e6
3.77e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
Abs. Int.
4.85e6
2.42e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
Abs. Int.
1.10e4
5.51e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
Abs. Int.
1.76e5
8.82e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
Abs. Int.
4.10e6
2.05e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
Abs. Int.
7.83e6
3.91e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
Abs. Int.
9.19e3
4.60e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
0%
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
Abs. Int.
2.00e5
9.99e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
0%
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
Abs. Int.
1.67e5
8.36e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
0%
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
Abs. Int.
3.13e6
1.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
0%
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
Abs. Int.
6.42e6
3.21e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
0%
Abs. Int.
3.72e3
1.86e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

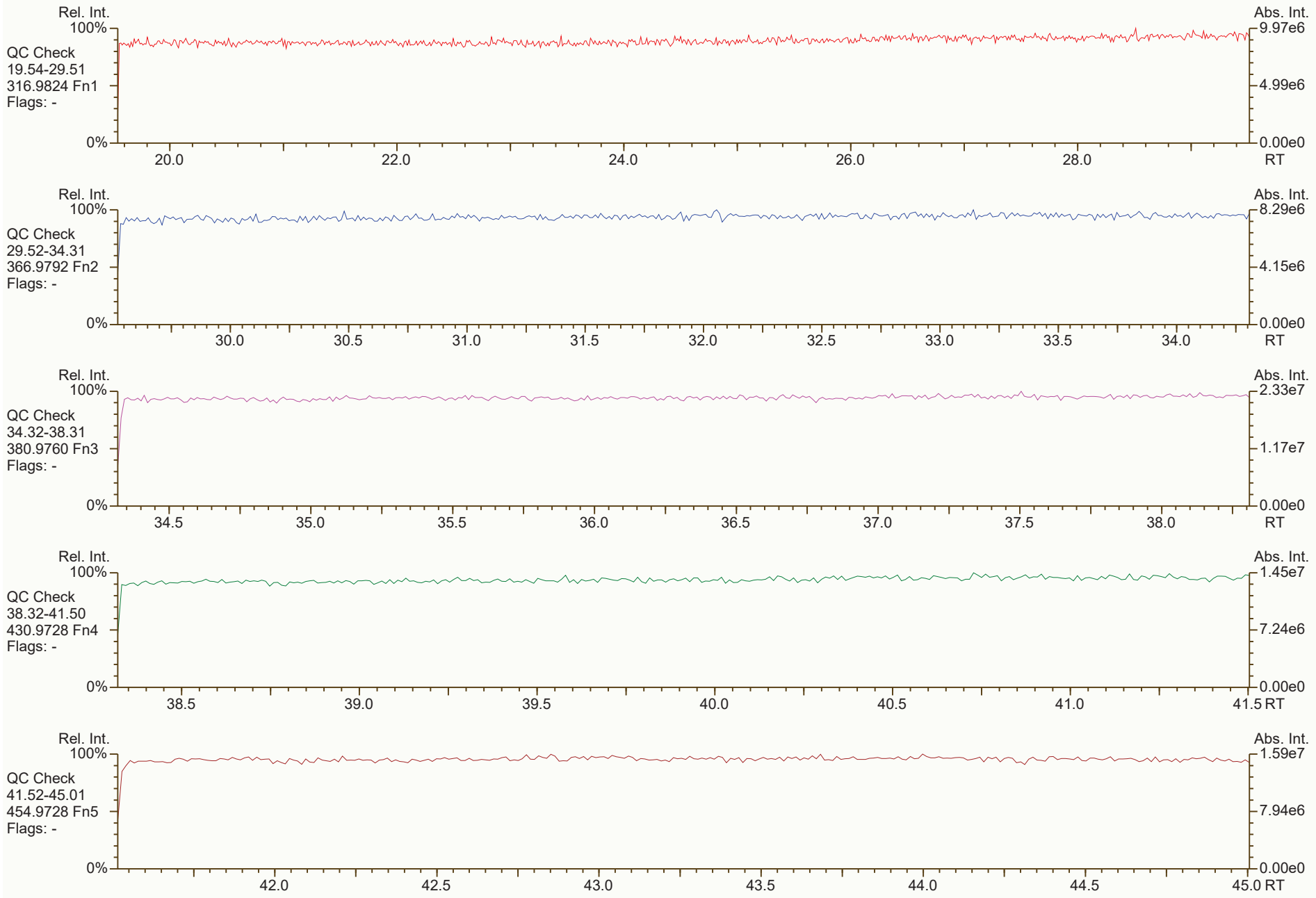

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
OCDF
5.83e5*
42.99
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
OCDF
6.45e5*
42.99
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
ES OCDF
2.01e7*
42.98
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
ES OCDF
2.26e7*
42.97
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

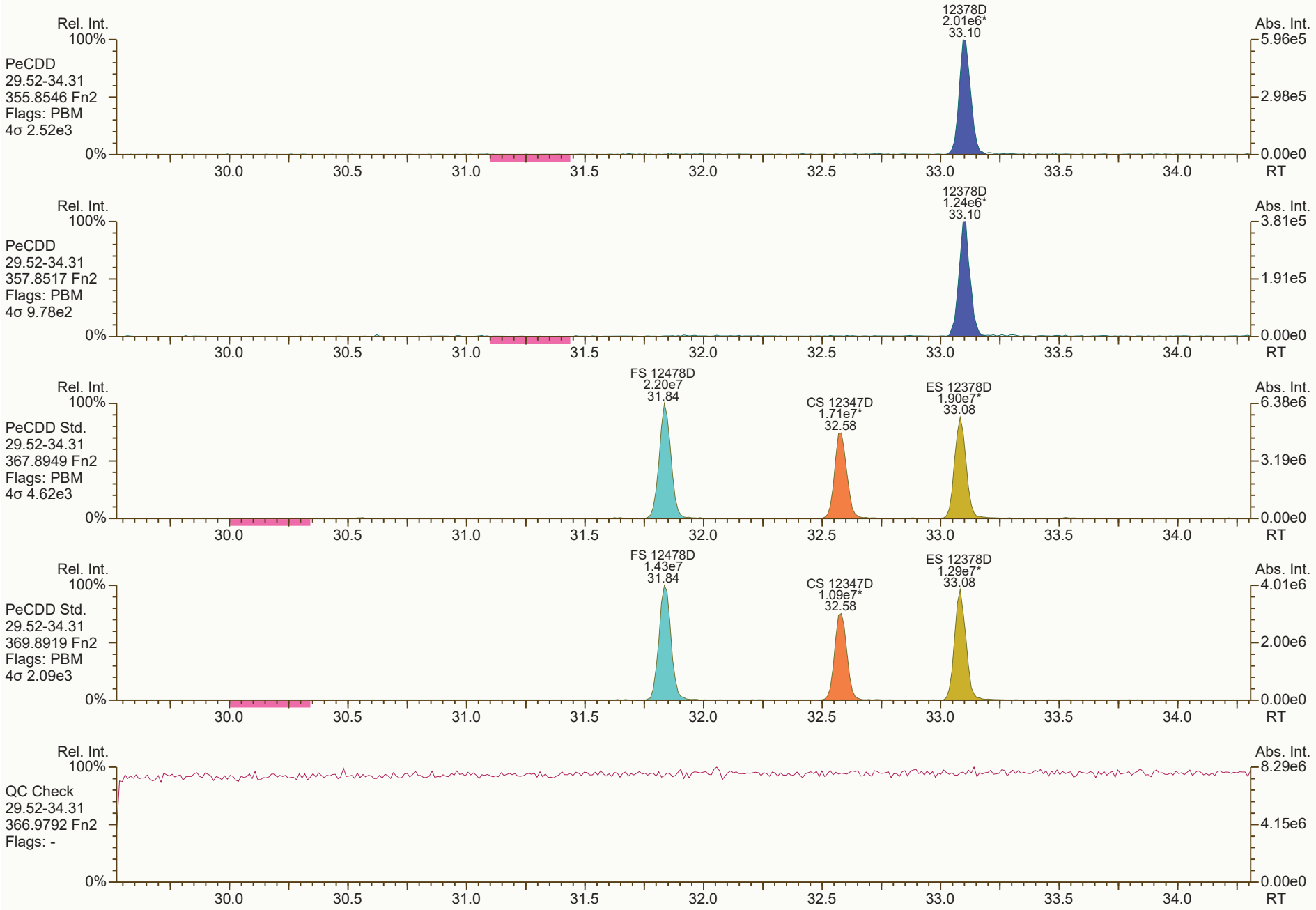
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

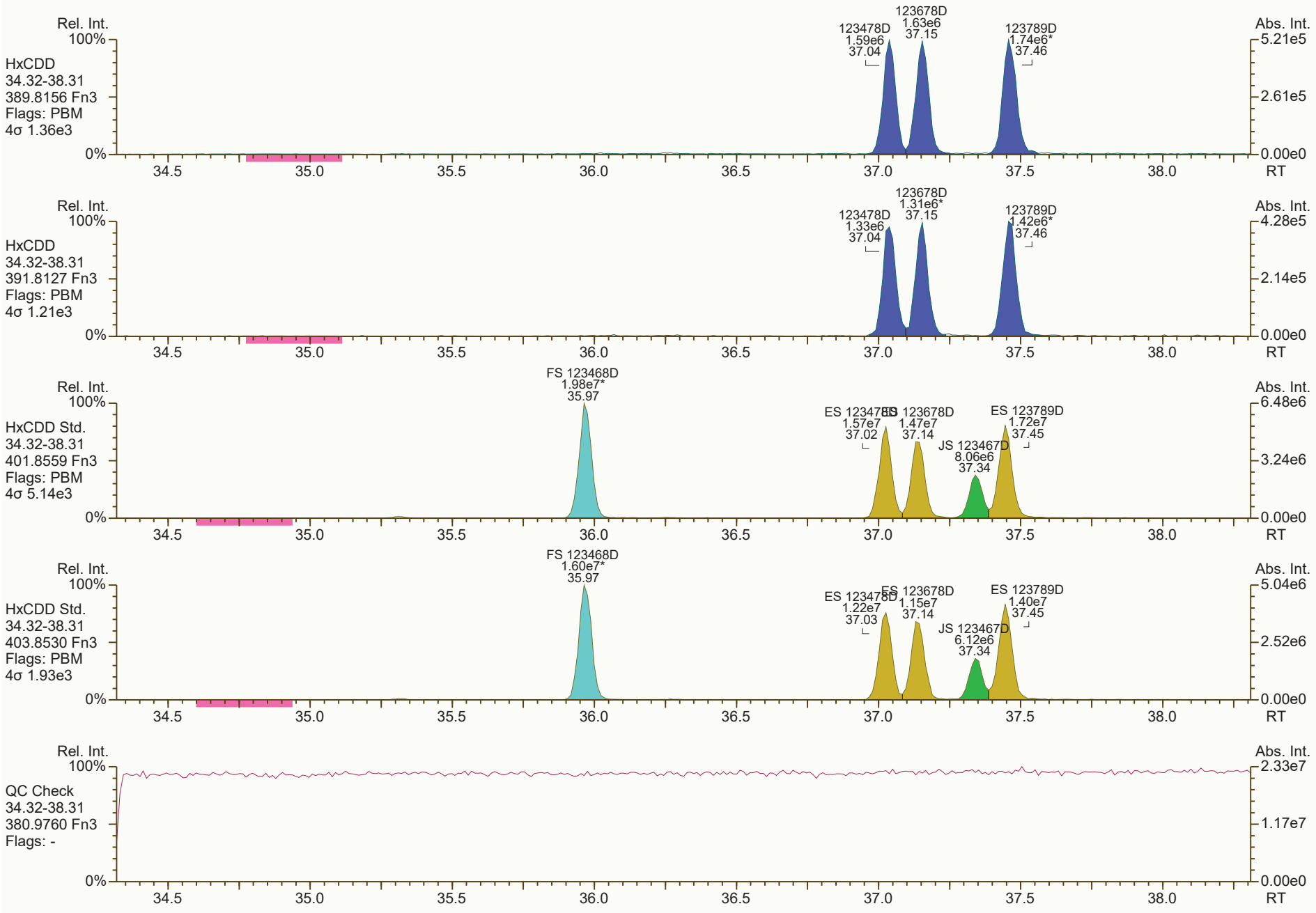
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

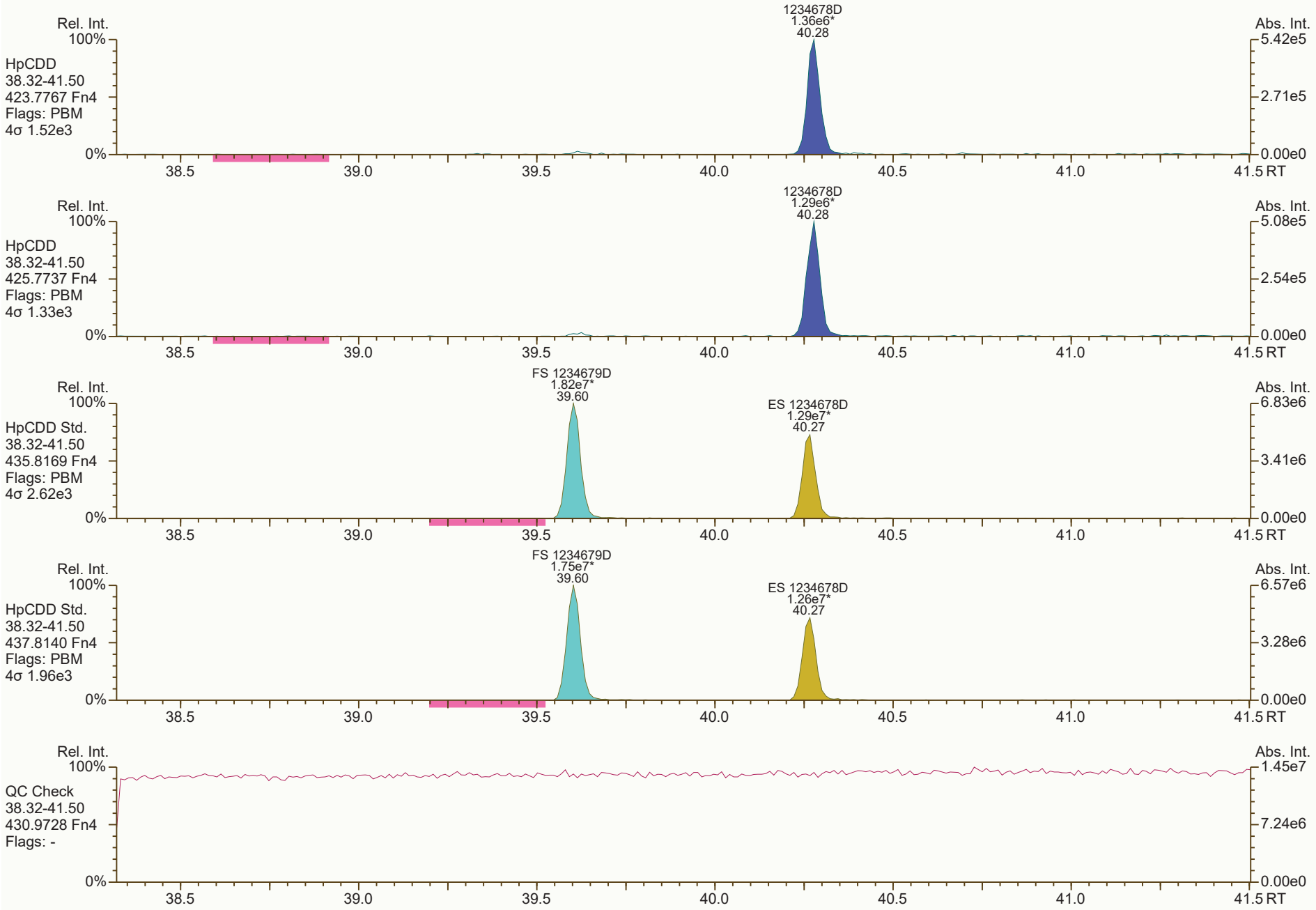
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

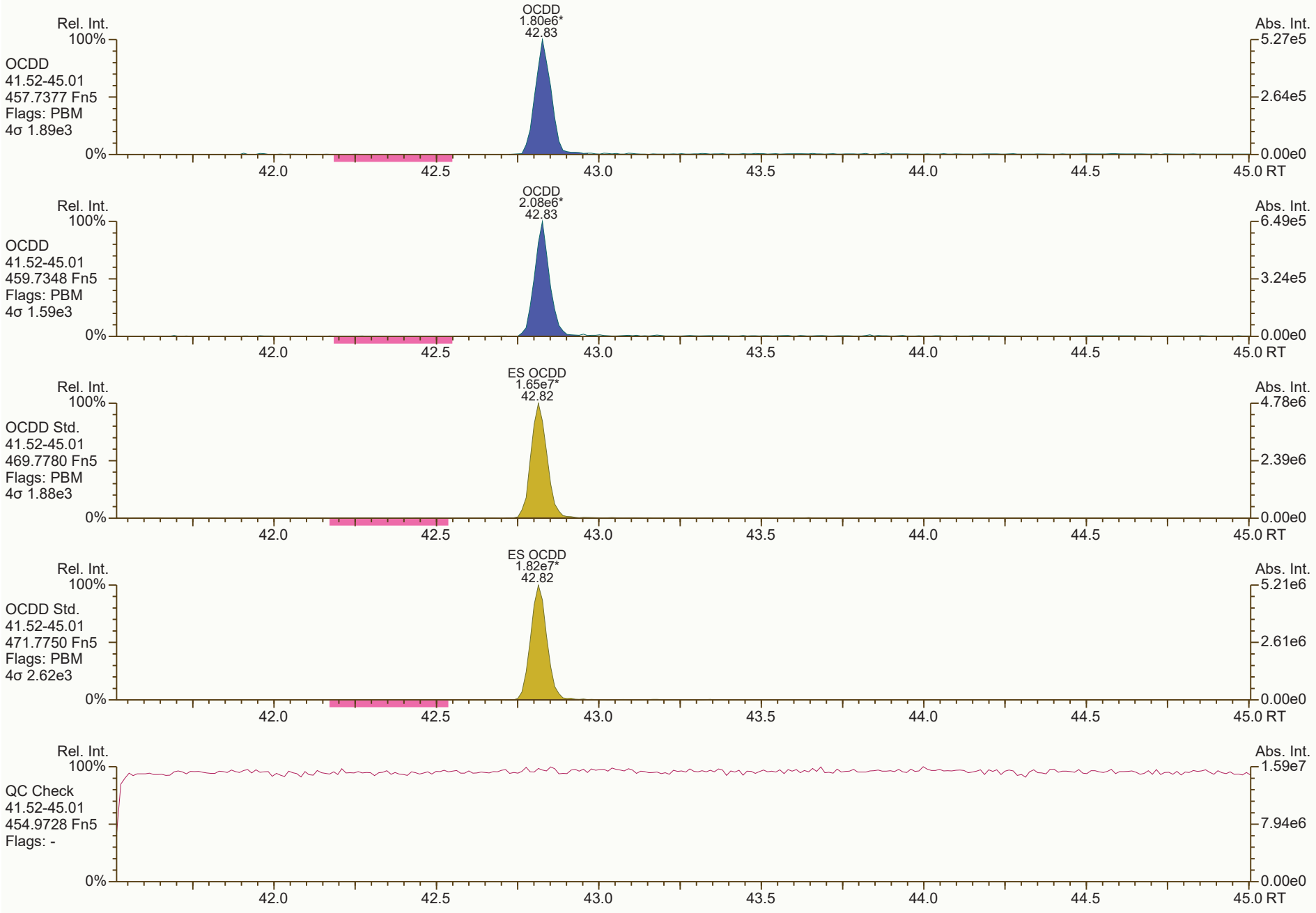

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
4.28e5
2.14e5
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
6.48e6
3.24e6
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
5.04e6
2.52e6
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.33e7
1.17e7

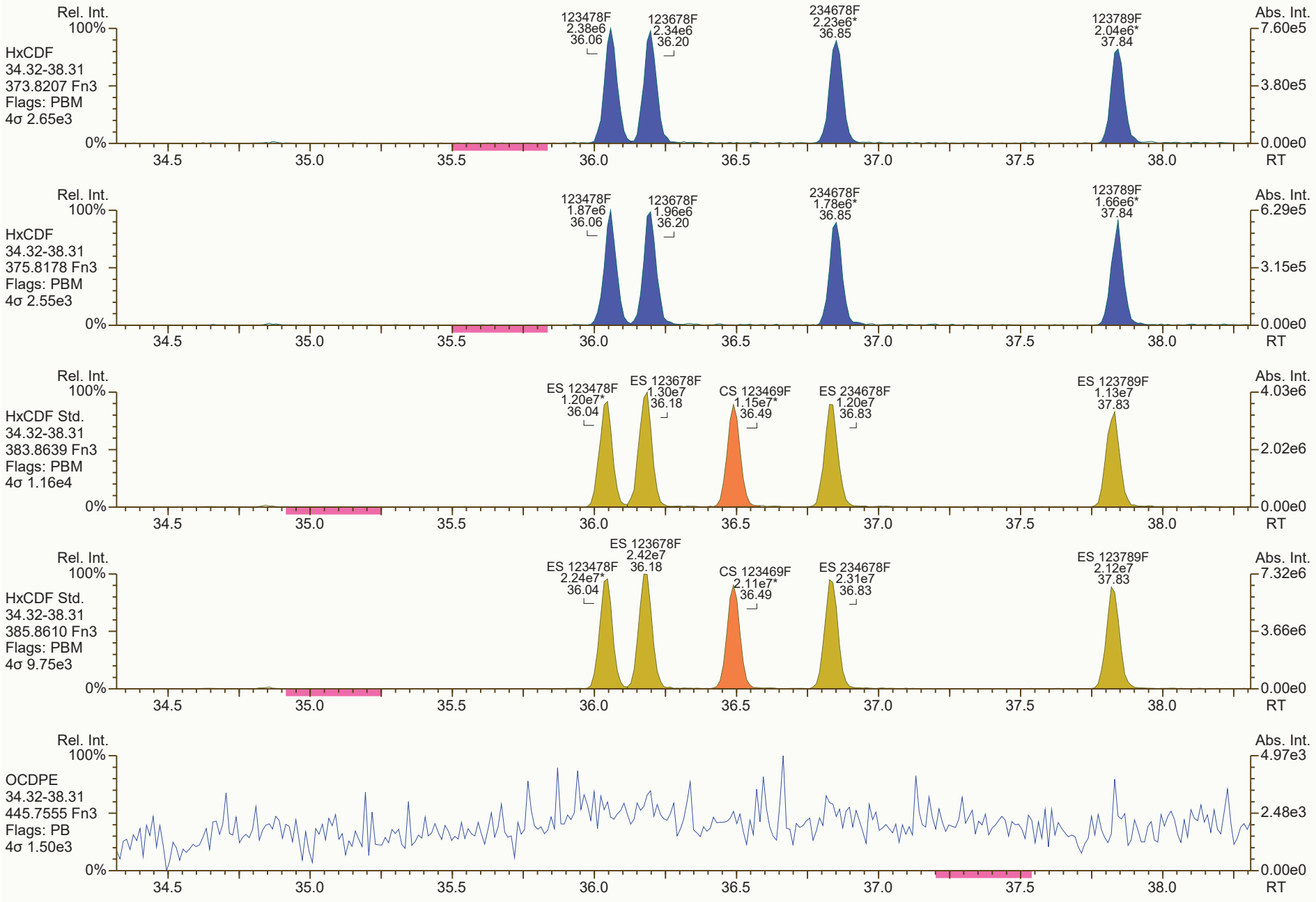

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

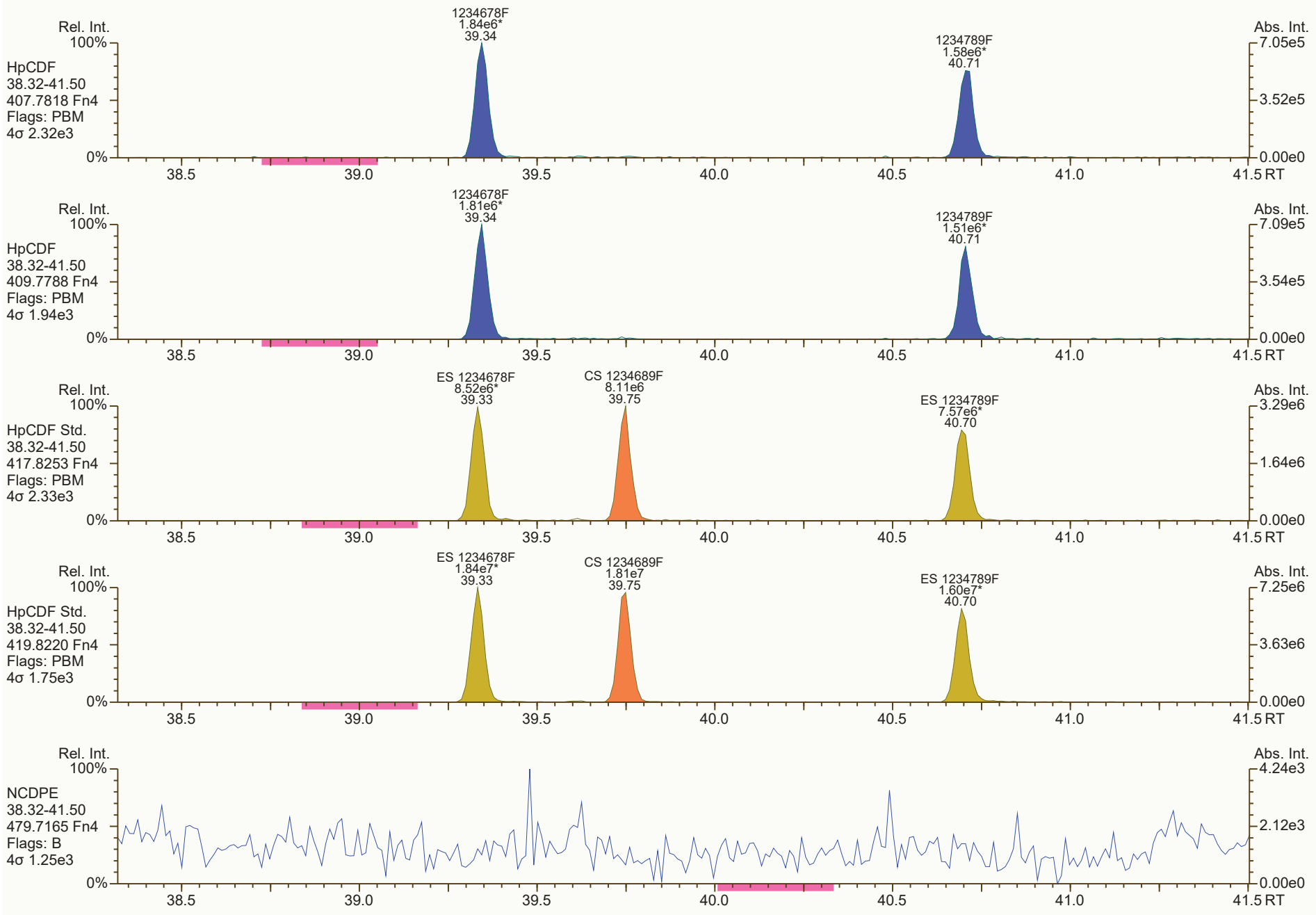

OCDD
1.80e6*
42.83
Rel. Int.
Abs. Int.
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
OCDD
2.08e6*
42.83
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
ES OCDD
1.65e7*
42.82
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
ES OCDD
1.82e7*
42.82
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

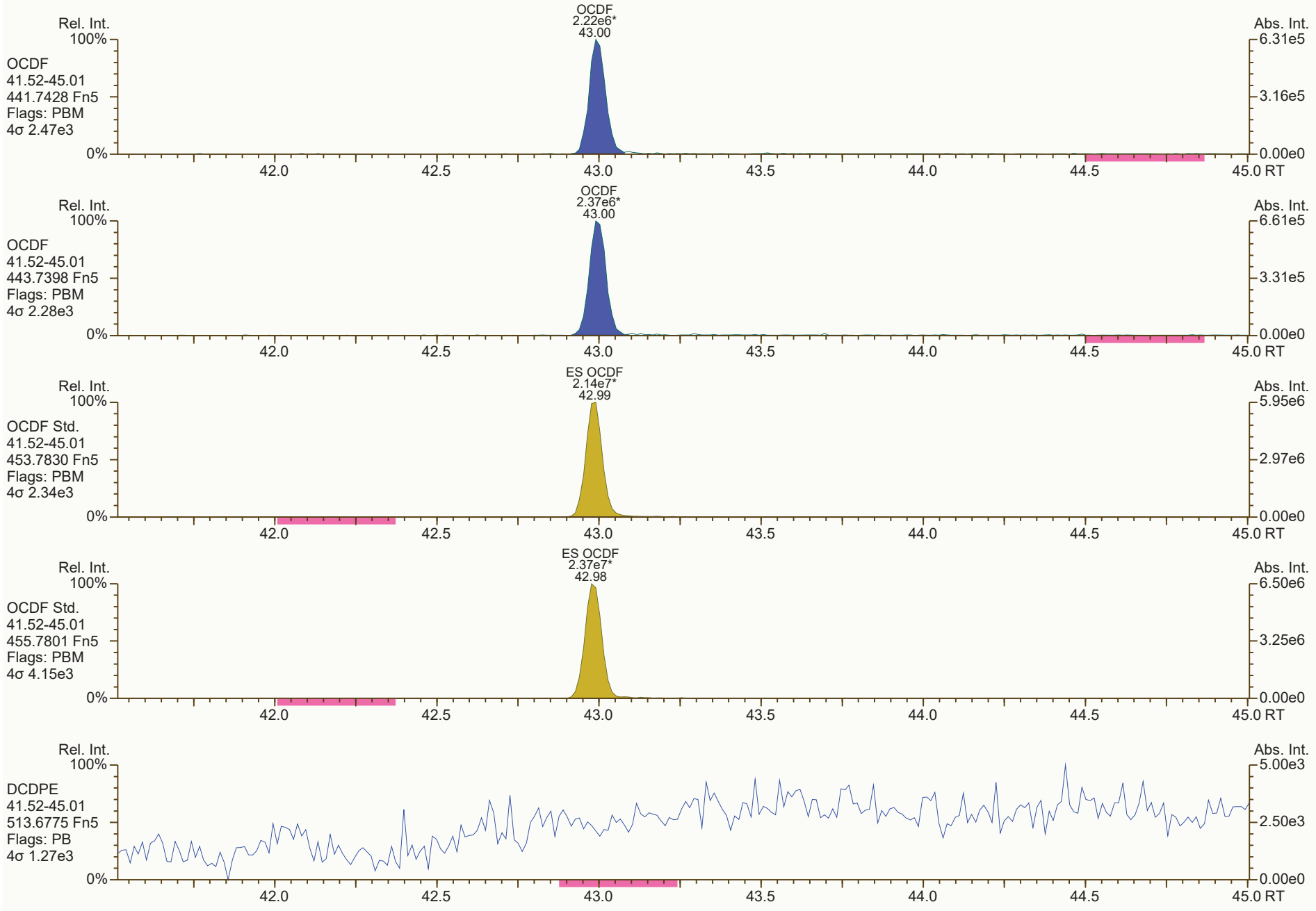

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
Abs. Int.
8.34e3
4.17e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
0%
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
Abs. Int.
5.27e5
2.63e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
0%
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
Abs. Int.
8.01e6
4.01e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
0%
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
Abs. Int.
5.19e6
2.59e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
6.67e3
3.33e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
0%
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
Abs. Int.
6.29e5
3.15e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
0%
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
Abs. Int.
4.03e6
2.02e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
0%
ES 123678F
2.42e7
36.18
ES 123478F
2.24e7*
36.04
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
Abs. Int.
7.32e6
3.66e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
0%
Abs. Int.
4.97e3
2.48e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
0%
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
0%
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
0%
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
0%
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
0%
Abs. Int.
4.24e3
2.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

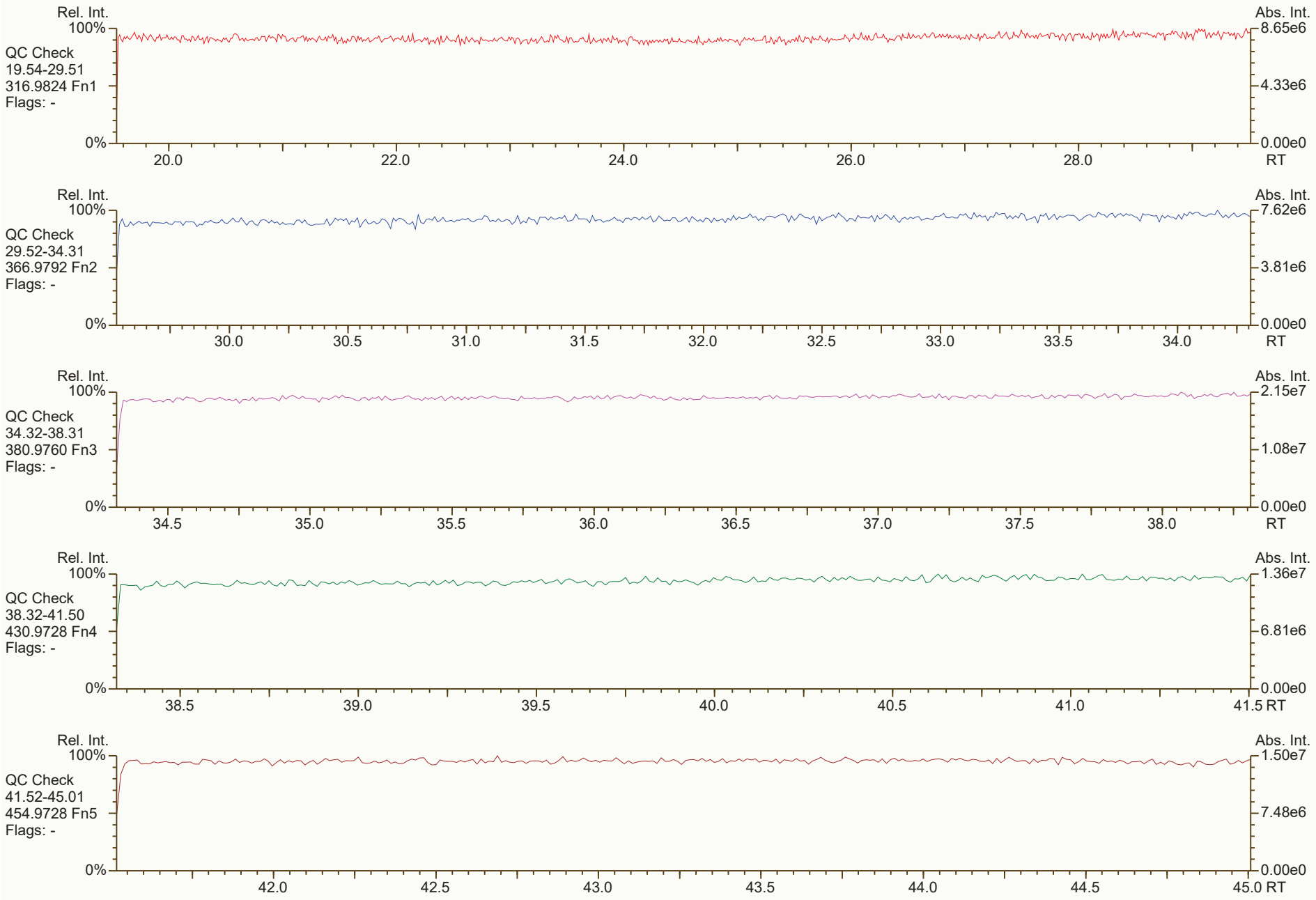

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
0%
OCDF
2.22e6*
43.00
Abs. Int.
6.31e5
3.16e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
0%
OCDF
2.37e6*
43.00
Abs. Int.
6.61e5
3.31e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
0%
ES OCDF
2.14e7*
42.99
Abs. Int.
5.95e6
2.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
0%
ES OCDF
2.37e7*
42.98
Abs. Int.
6.50e6
3.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

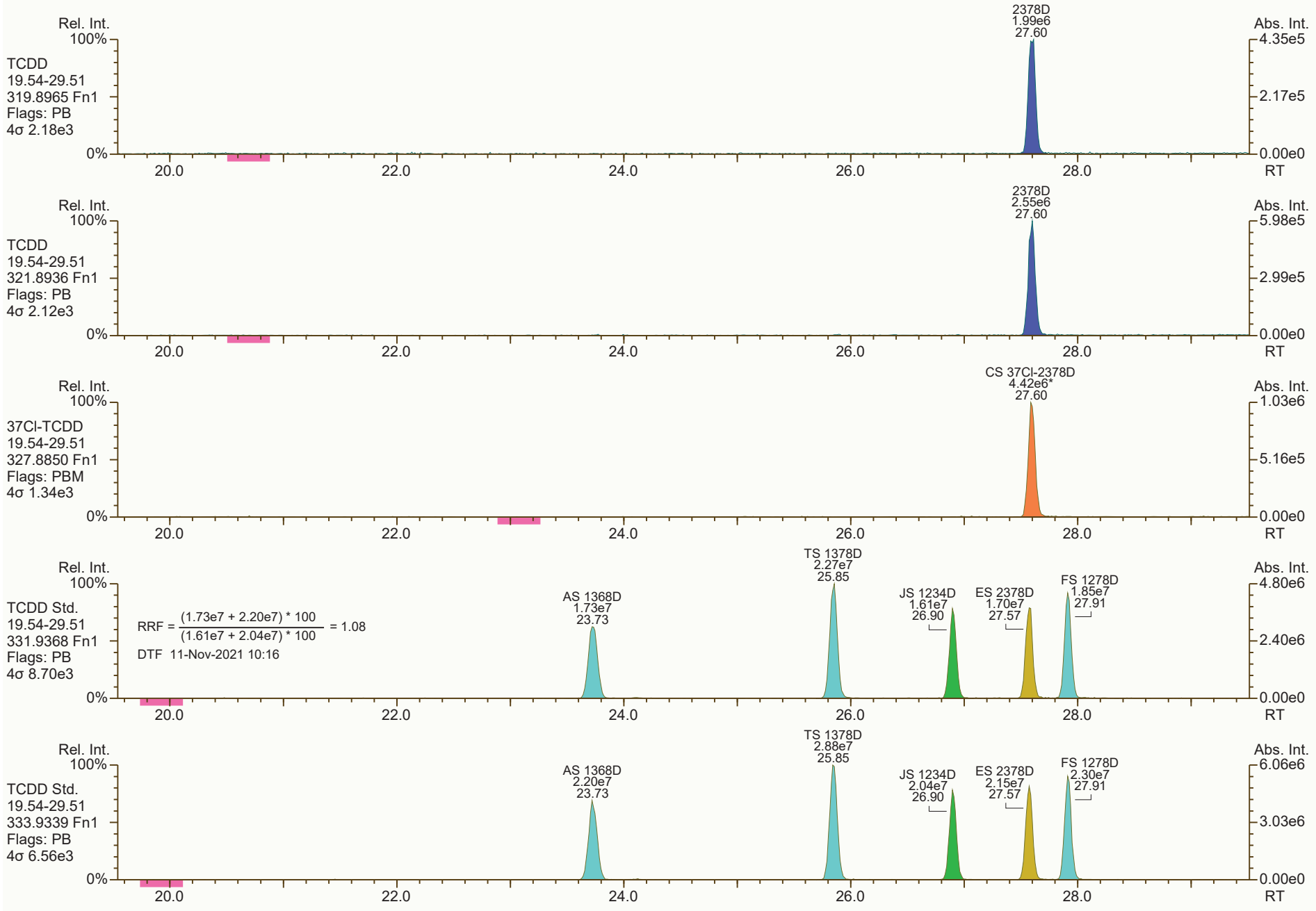
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

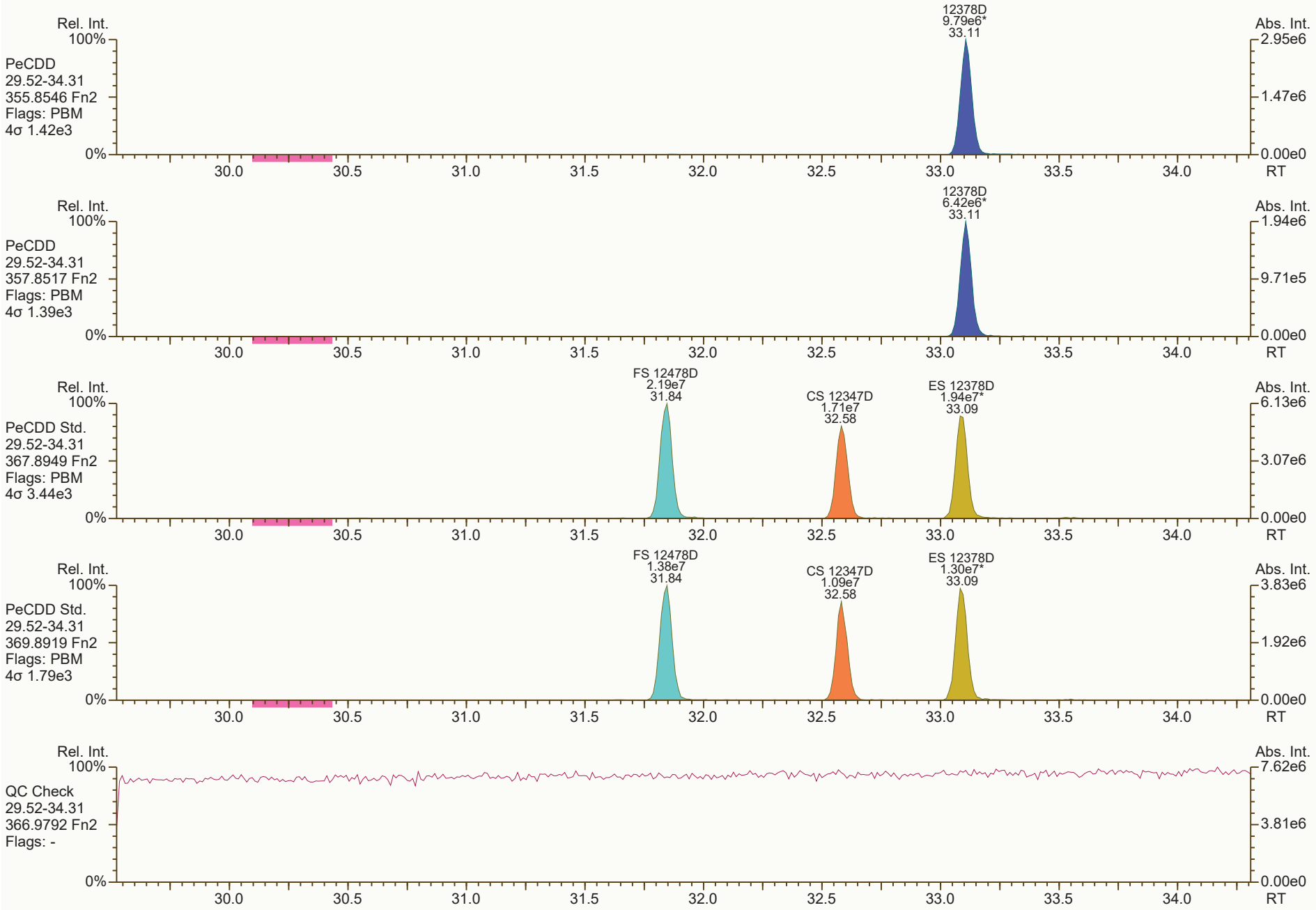
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

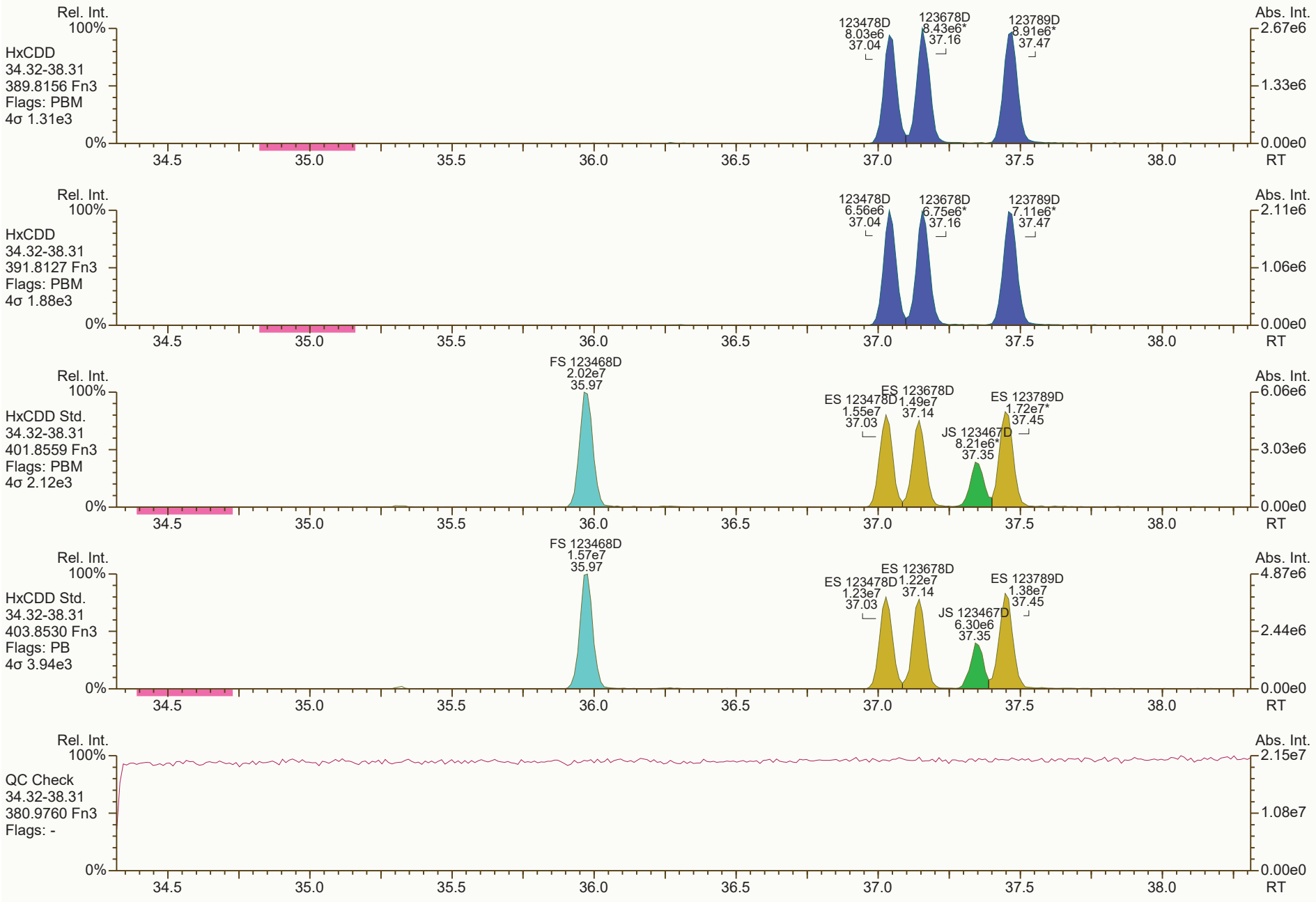
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

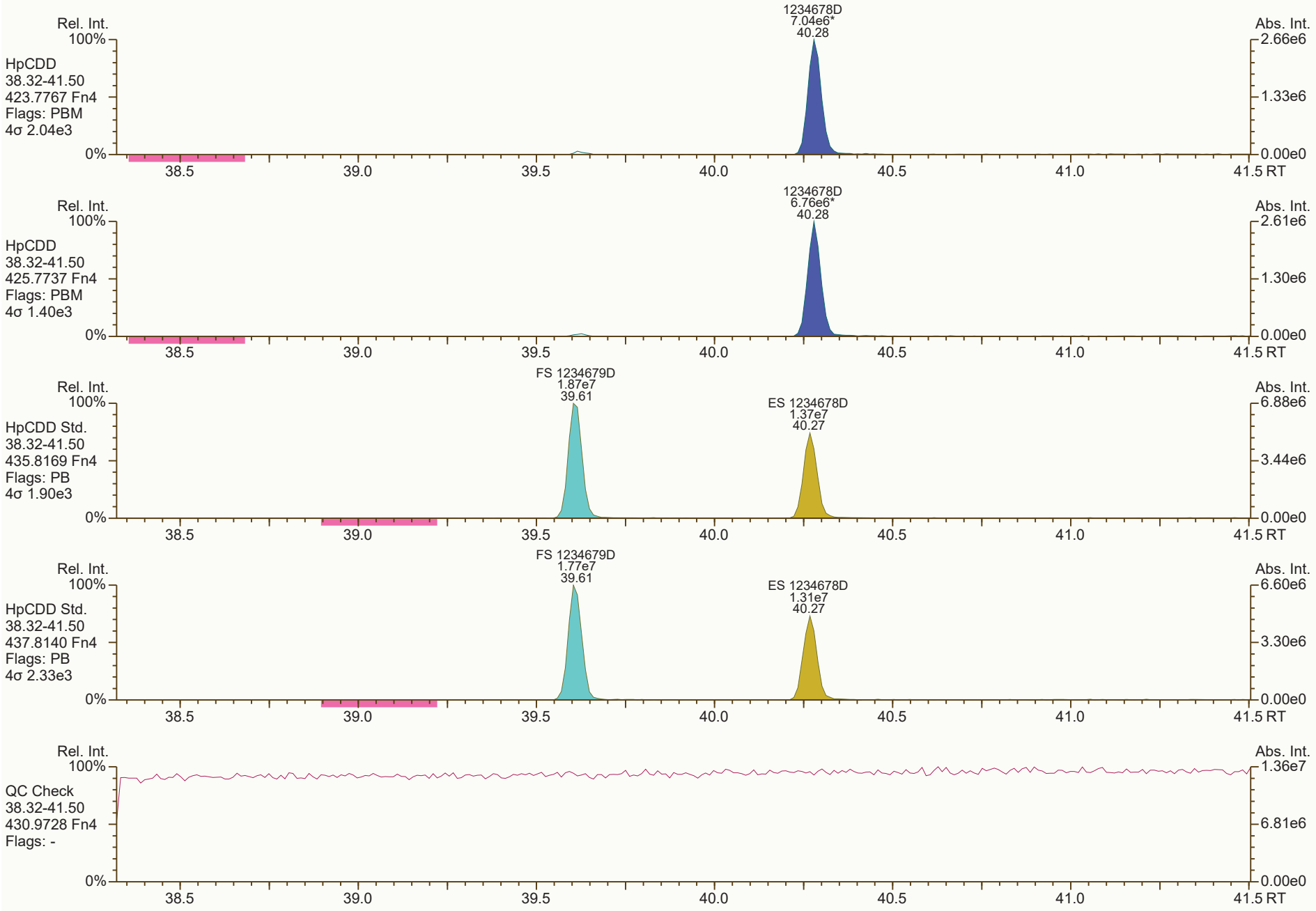
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%

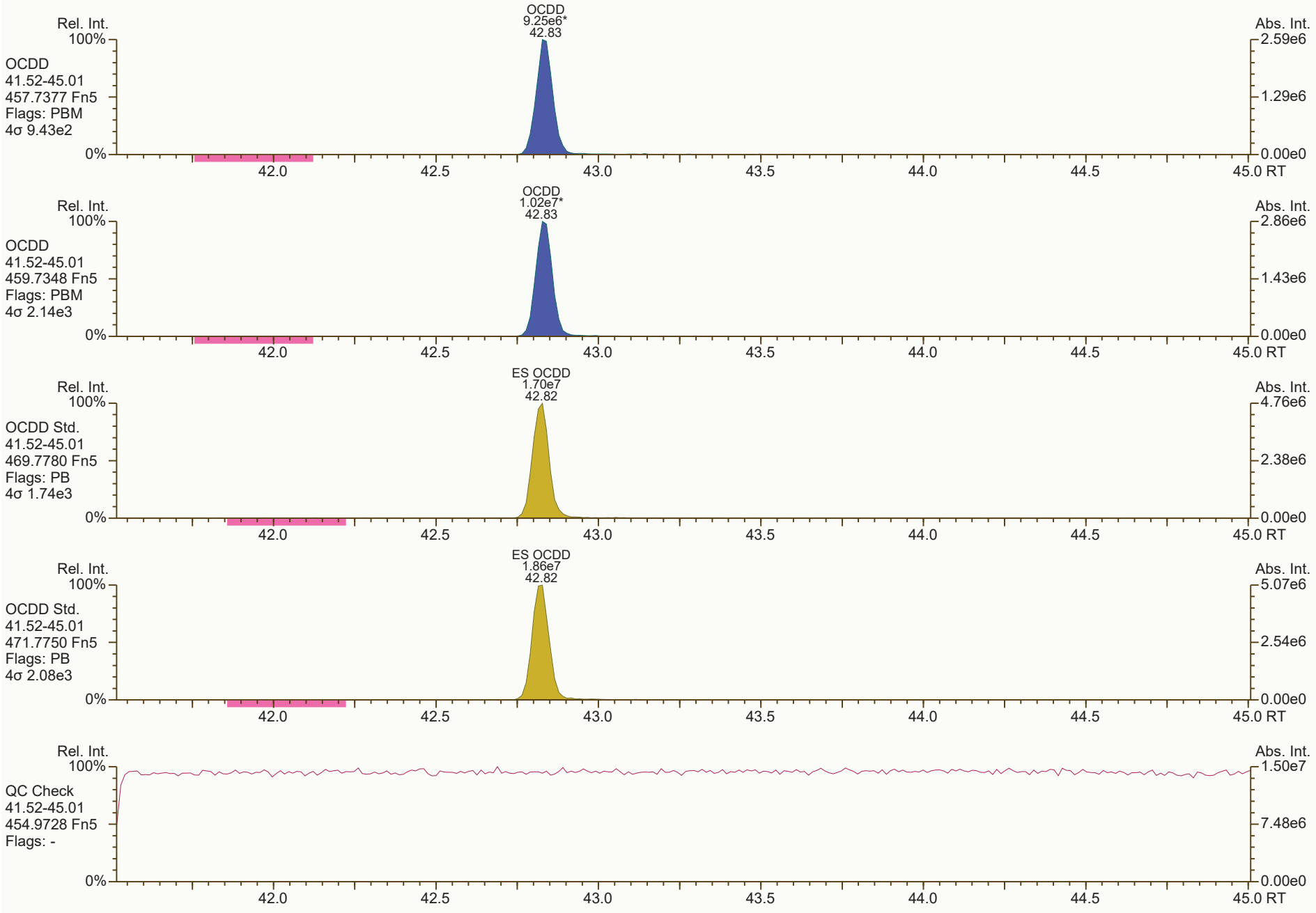

Rel. Int.
100%
0%
Abs. Int.
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
8.65e6
4.33e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
7.62e6
3.81e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
0%
Abs. Int.
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.15e7
1.08e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
0%
Abs. Int.
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
1.36e7
6.81e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
0%
Abs. Int.
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
0%
2378D
1.99e6
27.60
Abs. Int.
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
0%
2378D
2.55e6
27.60
Abs. Int.
5.98e5
2.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
0%
CS 37Cl-2378D
4.42e6*
27.60
Abs. Int.
1.03e6
5.16e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
0%
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
Abs. Int.
4.80e6
2.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
0%
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.62e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

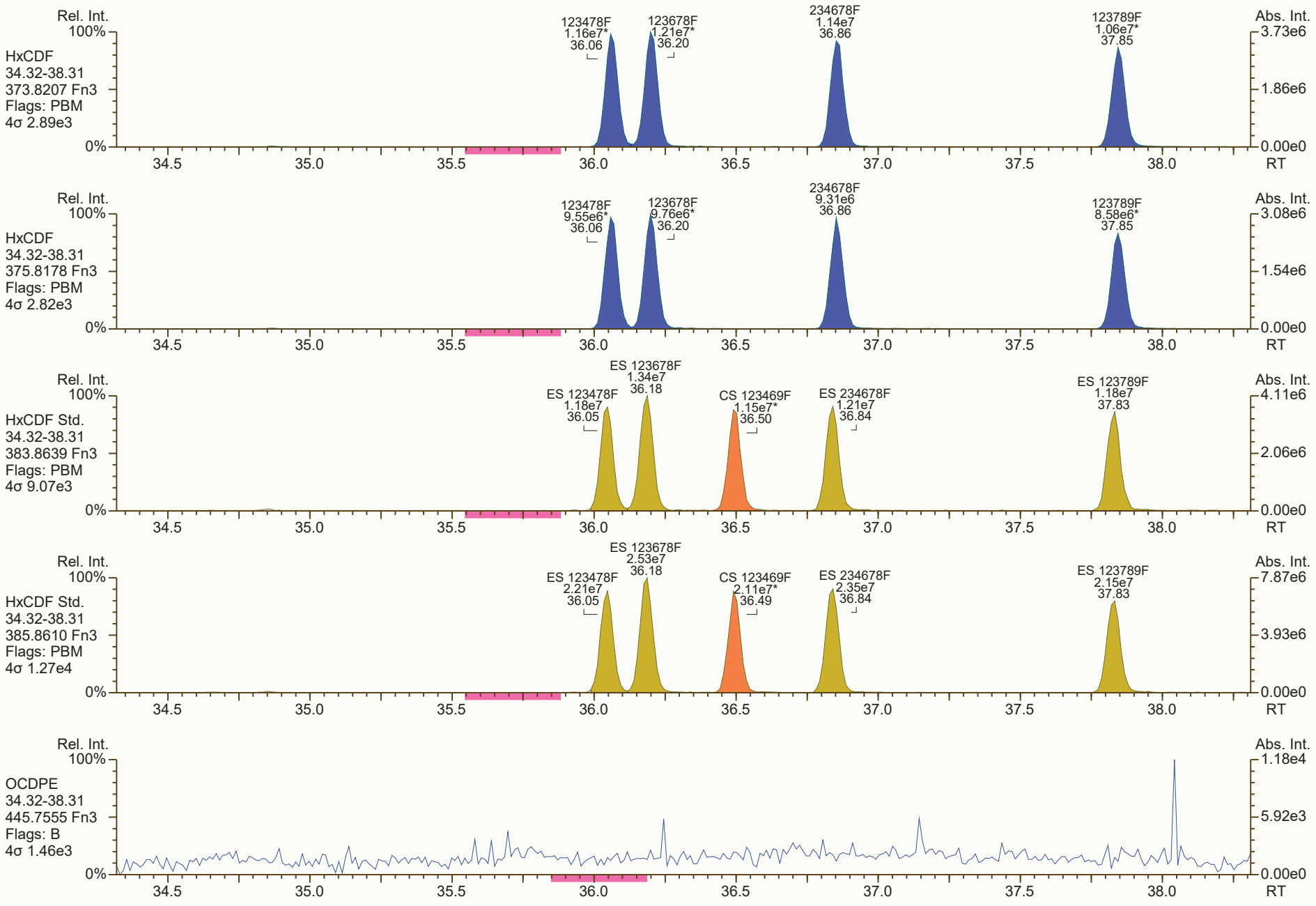

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

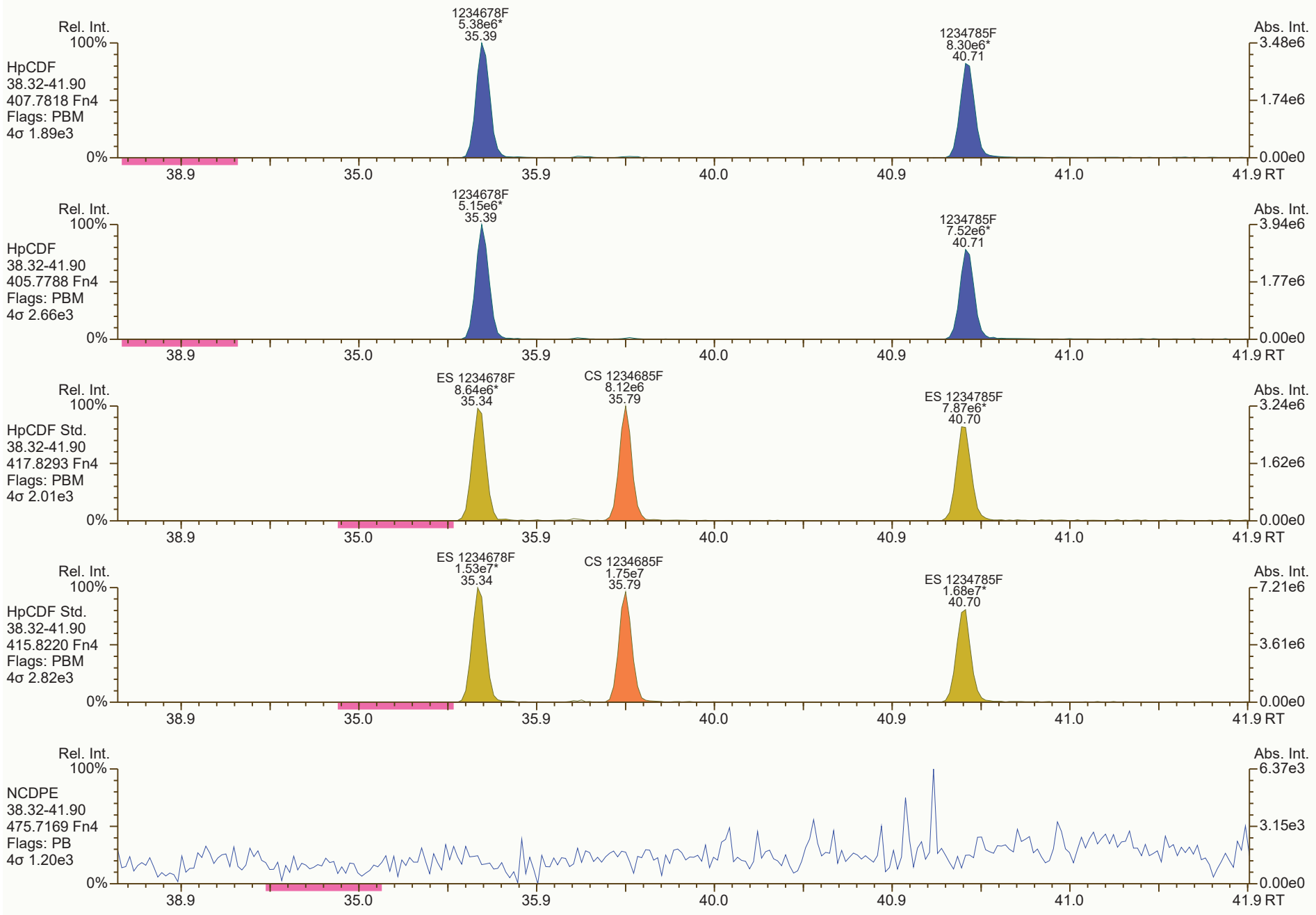

OCDD
9.25e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.02e7*
42.83
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
2.86e6
1.43e6
ES OCDD
1.70e7
42.82
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
4.76e6
2.38e6
ES OCDD
1.86e7
42.82
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
5.07e6
2.54e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.50e7
7.48e6

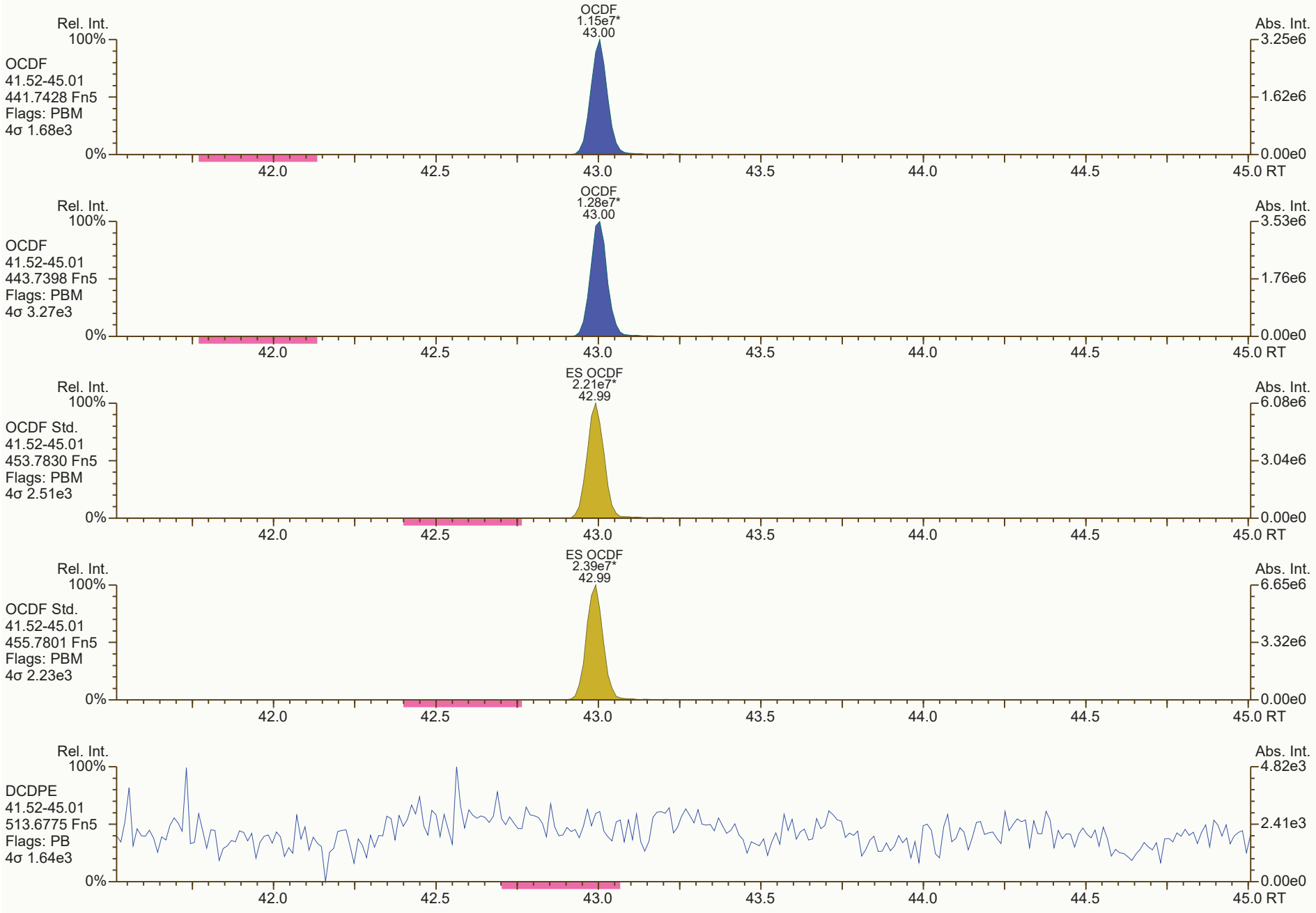

Rel. Int.
100%
0%
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
2378F
2.58e6
26.68
5.81e5
2.91e5
0.00e0
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
2378F
3.32e6
26.68
7.66e5
3.83e5
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
5.45e6
2.73e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
6.76e6
3.38e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
6.84e3
3.42e3
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
Abs. Int.
3.85e6
1.93e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
Abs. Int.
2.59e6
1.29e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
Abs. Int.
7.61e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
Abs. Int.
5.00e6
2.50e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
Abs. Int.
1.17e4
5.86e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
0%
123478F
1.16e7*
36.06
123678F
1.21e7*
36.20
234678F
1.14e7
36.86
123789F
1.06e7*
37.85
Abs. Int.
3.73e6
1.86e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
123478F
9.55e6*
36.06
123678F
9.76e6*
36.20
234678F
9.31e6
36.86
123789F
8.58e6*
37.85
3.08e6
1.54e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
ES 123478F
1.18e7
36.05
ES 123678F
1.34e7
36.18
CS 123469F
1.15e7*
36.50
ES 234678F
1.21e7
36.84
ES 123789F
1.18e7
37.83
4.11e6
2.06e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
ES 123478F
2.21e7
36.05
ES 123678F
2.53e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.35e7
36.84
ES 123789F
2.15e7
37.83
7.87e6
3.93e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
1.18e4
5.92e3


Rel. Int.
100%
HpCDF
38.32-41.90
407.7818 Fn4
Flags: PBM
4σ 1.89e3
0%
1234678F
5.38e6*
35.39
1234785F
8.30e6*
40.71
Abs. Int.
3.48e6
1.74e6
0.00e0
38.9
35.0
35.9
40.0
40.9
41.0
41.9 RT
Rel. Int.
100%
HpCDF
38.32-41.90
405.7788 Fn4
Flags: PBM
4σ 2.66e3
0%
1234678F
5.15e6*
35.39
1234785F
7.52e6*
40.71
Abs. Int.
3.94e6
1.77e6
0.00e0
38.9
35.0
35.9
40.0
40.9
41.0
41.9 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.90
417.8293 Fn4
Flags: PBM
4σ 2.01e3
0%
ES 1234678F
8.64e6*
35.34
CS 1234685F
8.12e6
35.79
ES 1234785F
7.87e6*
40.70
Abs. Int.
3.24e6
1.62e6
0.00e0
38.9
35.0
35.9
40.0
40.9
41.0
41.9 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.90
415.8220 Fn4
Flags: PBM
4σ 2.82e3
0%
ES 1234678F
1.53e7*
35.34
CS 1234685F
1.75e7
35.79
ES 1234785F
1.68e7*
40.70
Abs. Int.
7.21e6
3.61e6
0.00e0
38.9
35.0
35.9
40.0
40.9
41.0
41.9 RT
Rel. Int.
100%
NCDPE
38.32-41.90
475.7169 Fn4
Flags: PB
4σ 1.20e3
0%
Abs. Int.
6.37e3
3.15e3
0.00e0
38.9
35.0
35.9
40.0
40.9
41.0
41.9 RT

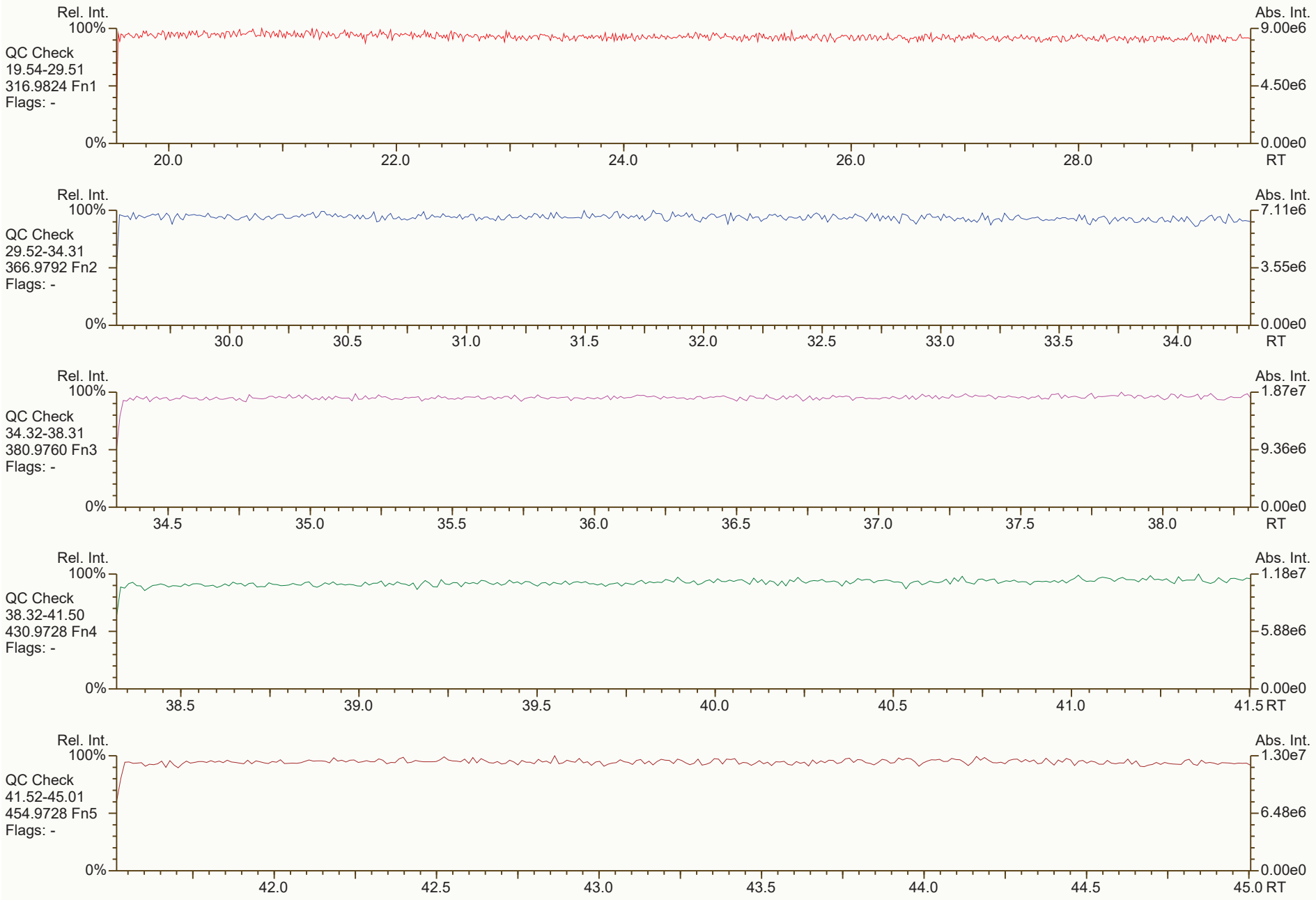

OCDF
1.15e7*
43.00
Rel. Int.
Abs. Int.
100%
0%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
3.25e6
1.62e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
3.53e6
1.76e6
ES OCDF
2.21e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
6.08e6
3.04e6
ES OCDF
2.39e7*
42.99
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
6.65e6
3.32e6
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
4.82e3
2.41e3

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

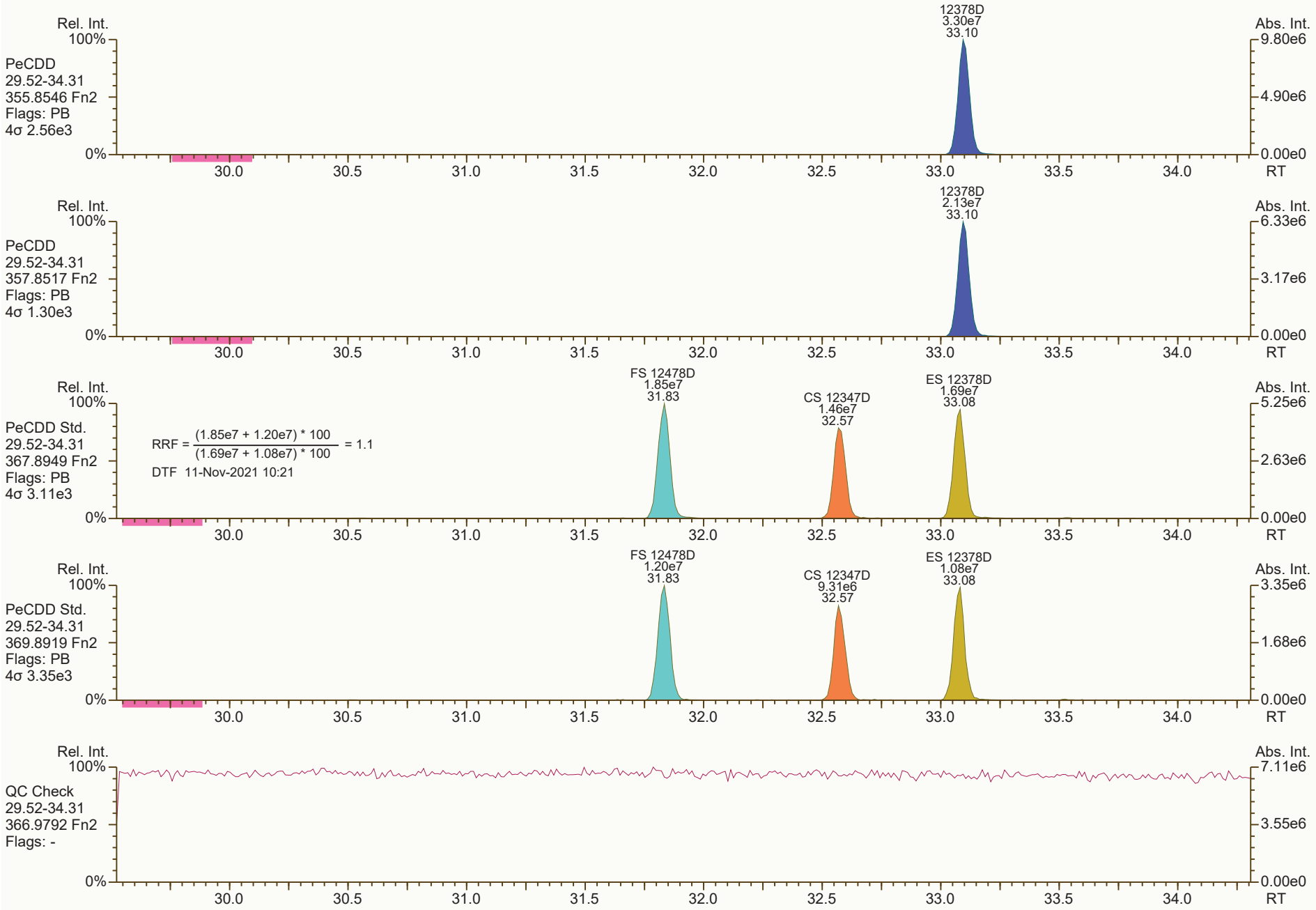
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

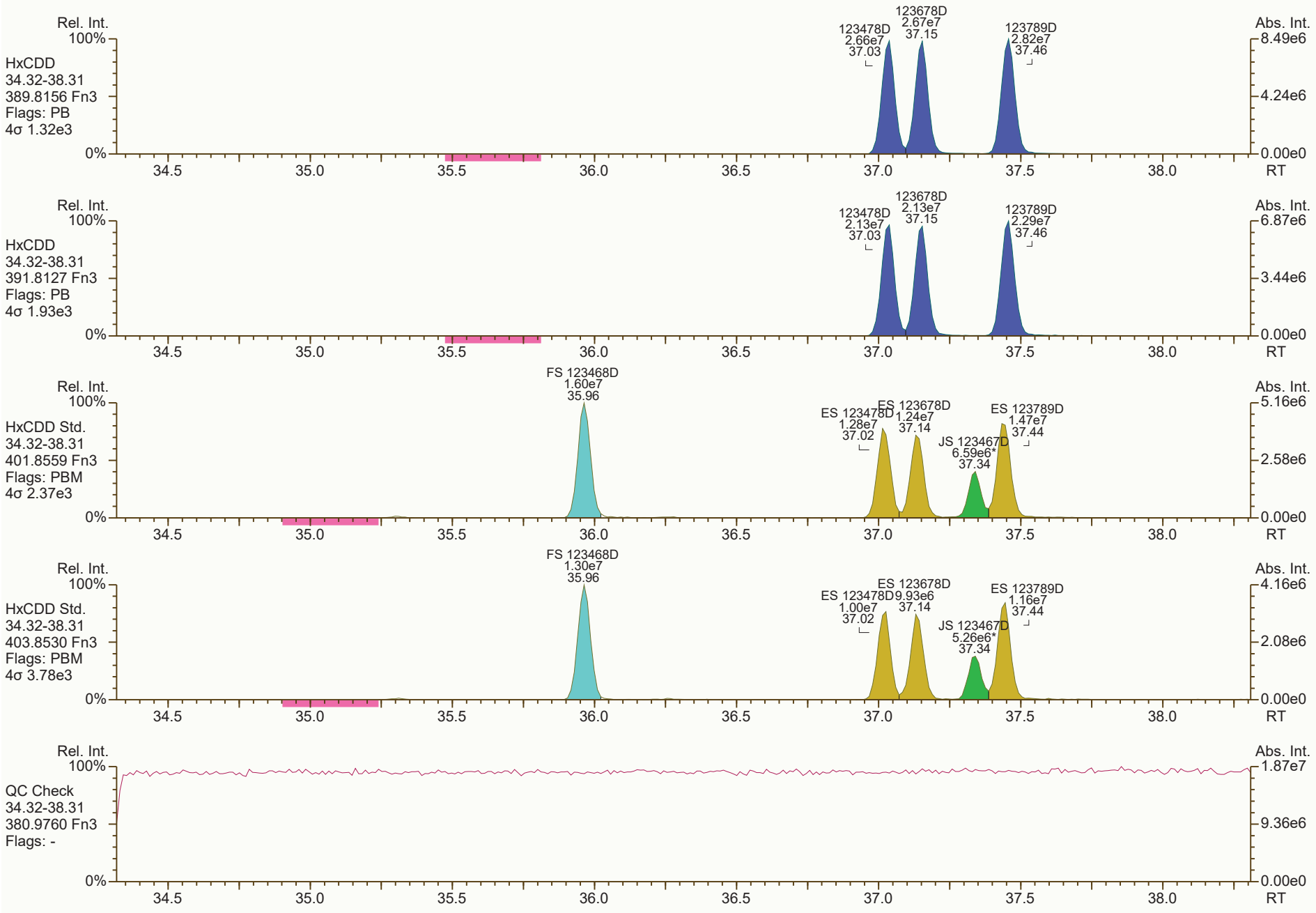
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

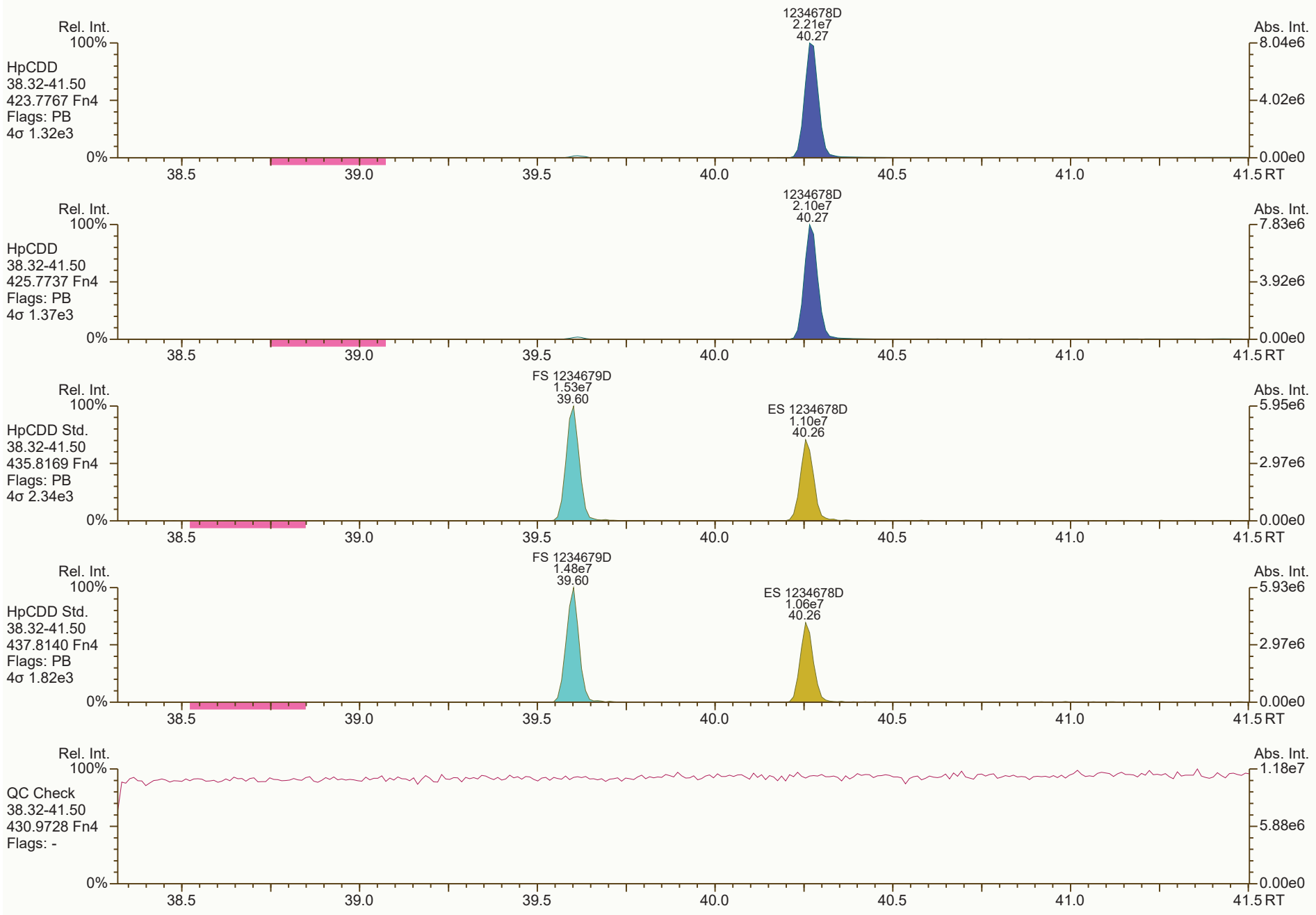
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

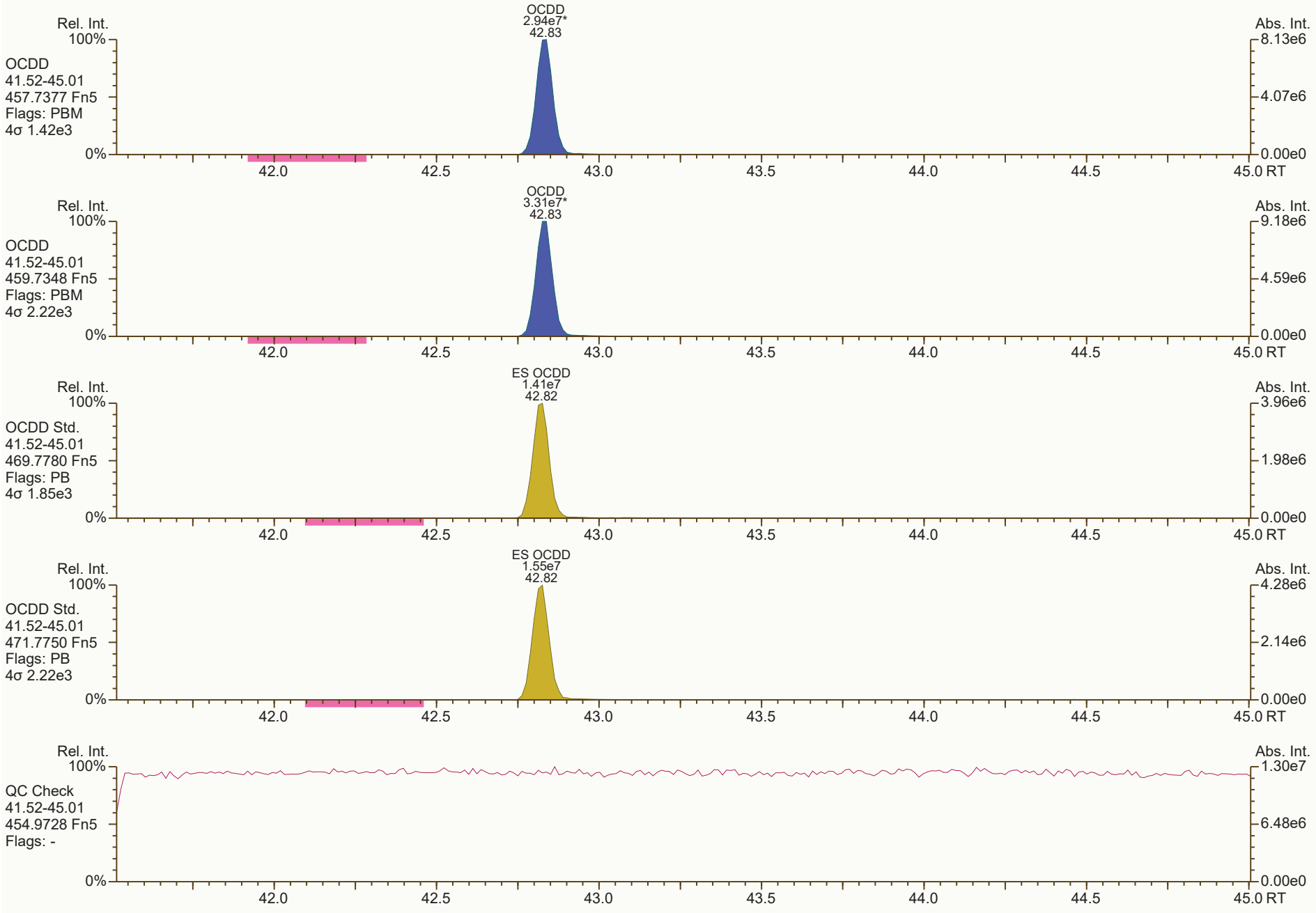

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.00e6
4.50e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.11e6
3.55e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.87e7
9.36e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.18e7
5.88e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.30e7
6.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
0%
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
0%
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

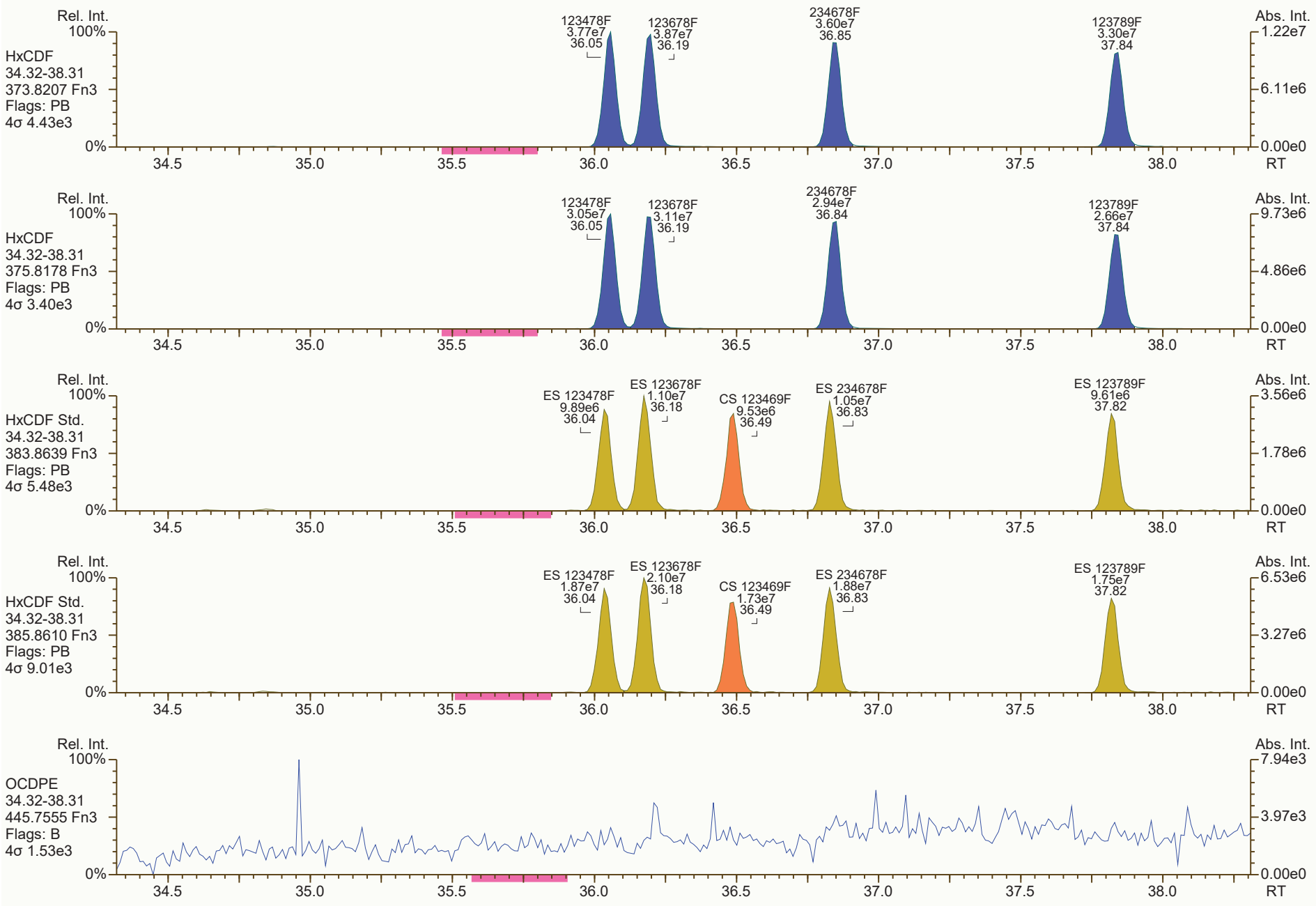

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

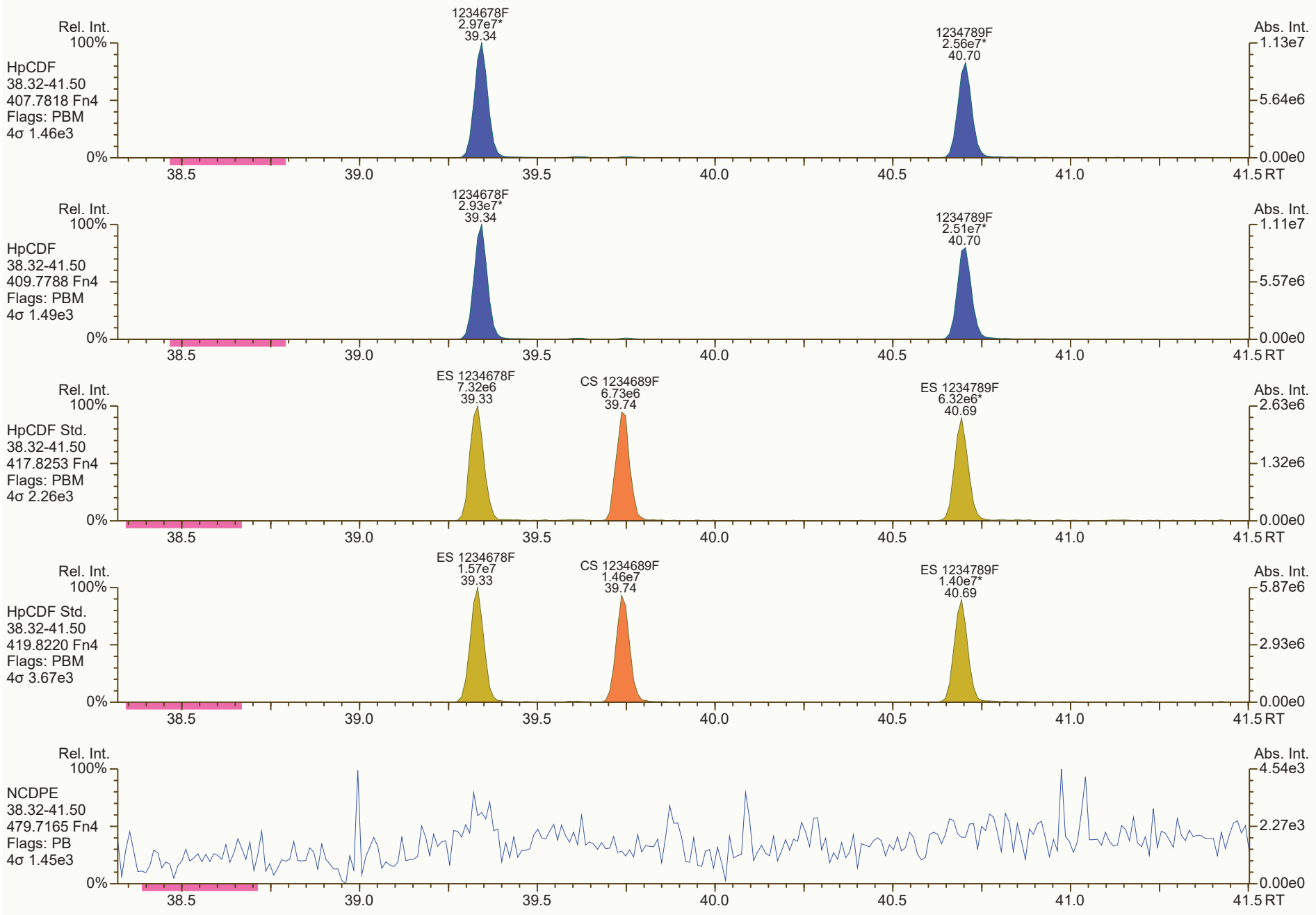

OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.94e3
4.47e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.00e6
4.50e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
Abs. Int.
7.51e3
3.76e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
0%
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
Abs. Int.
1.13e7
5.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
0%
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
Abs. Int.
1.11e7
5.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
0%
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
Abs. Int.
2.63e6
1.32e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
0%
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
Abs. Int.
5.87e6
2.93e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
0%
Abs. Int.
4.54e3
2.27e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

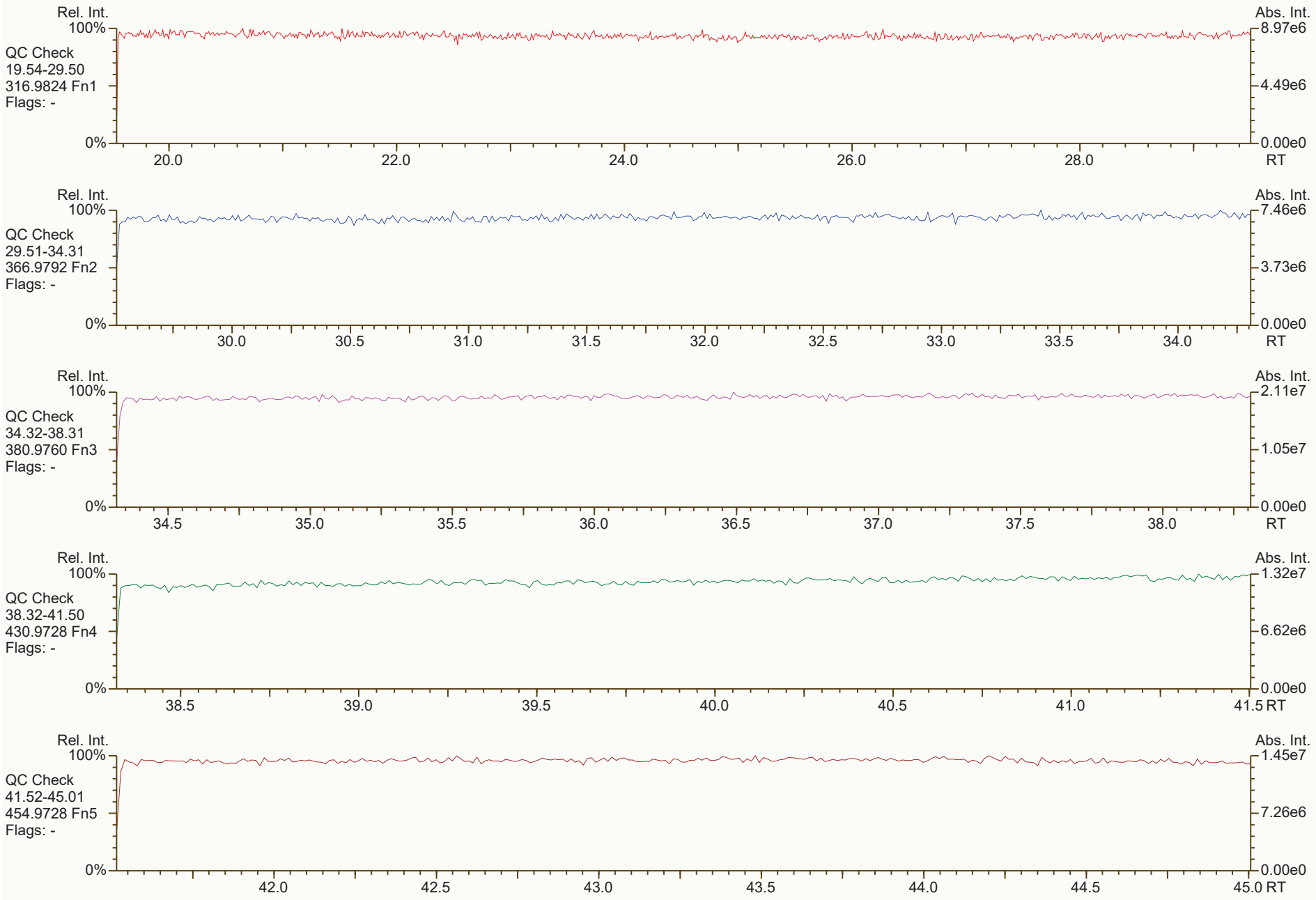

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
OCDF
3.65e7*
42.99
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
OCDF
4.04e7*
42.99
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
ES OCDF
1.75e7
42.98
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
ES OCDF
2.01e7
42.98
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

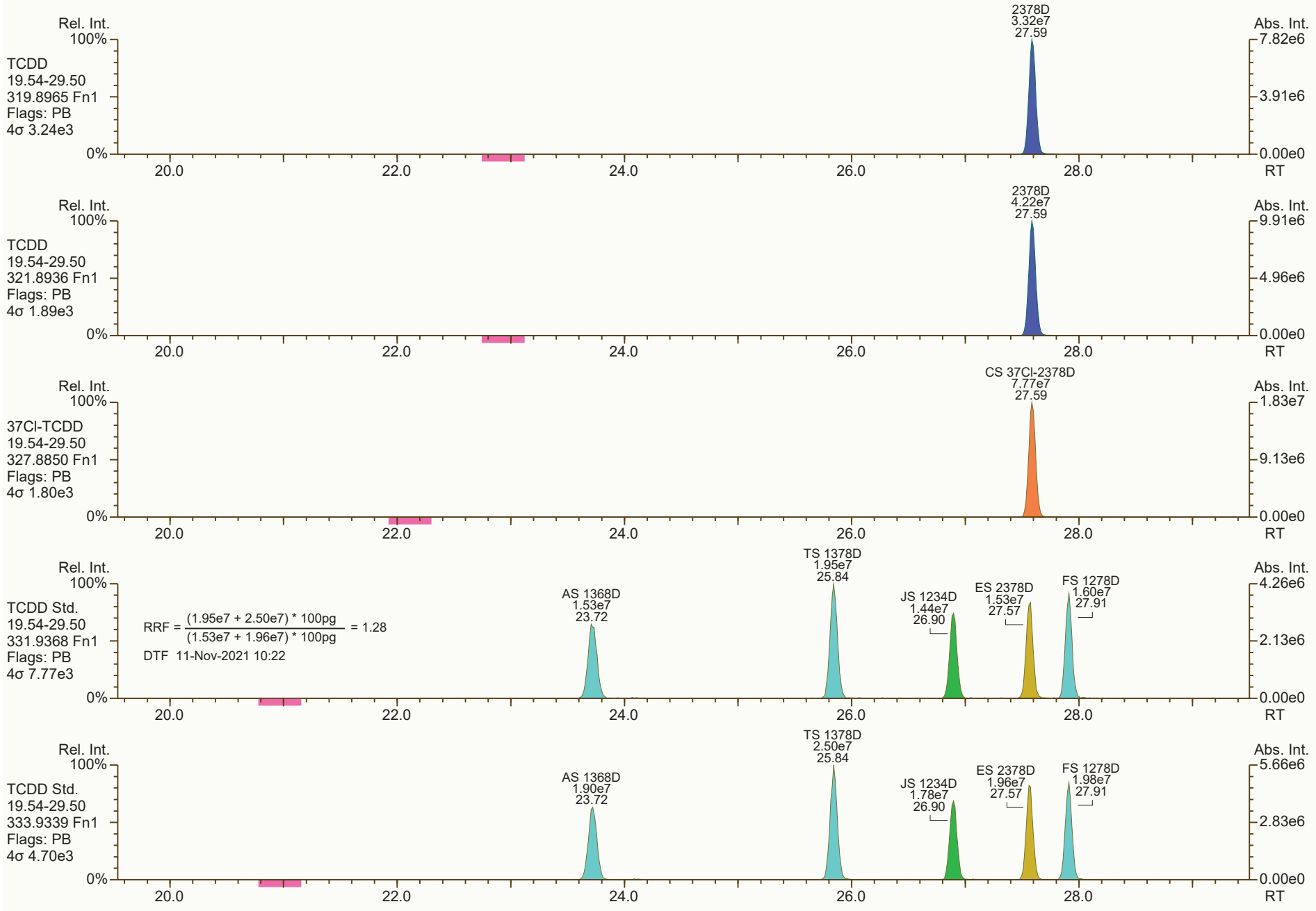
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

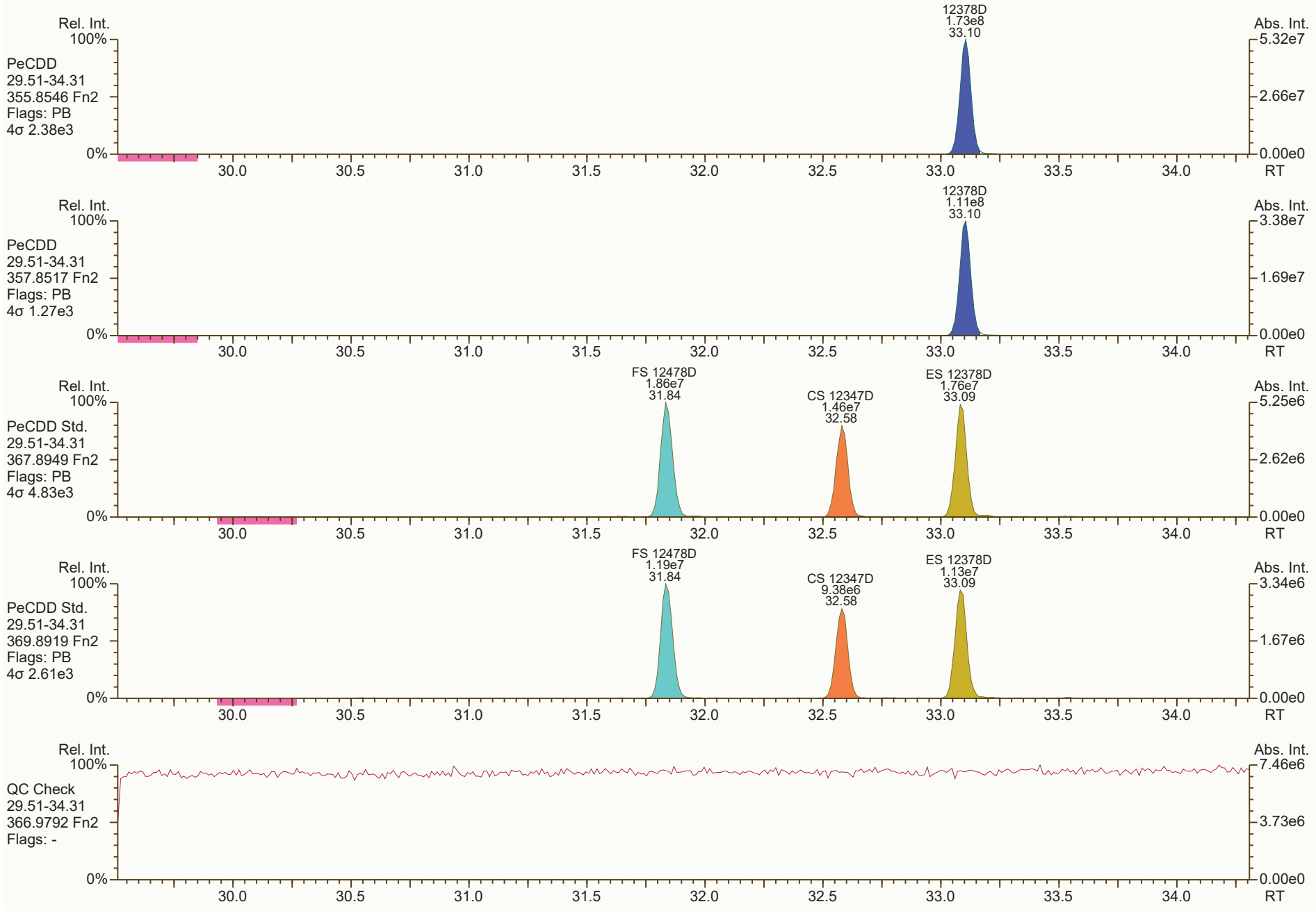
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

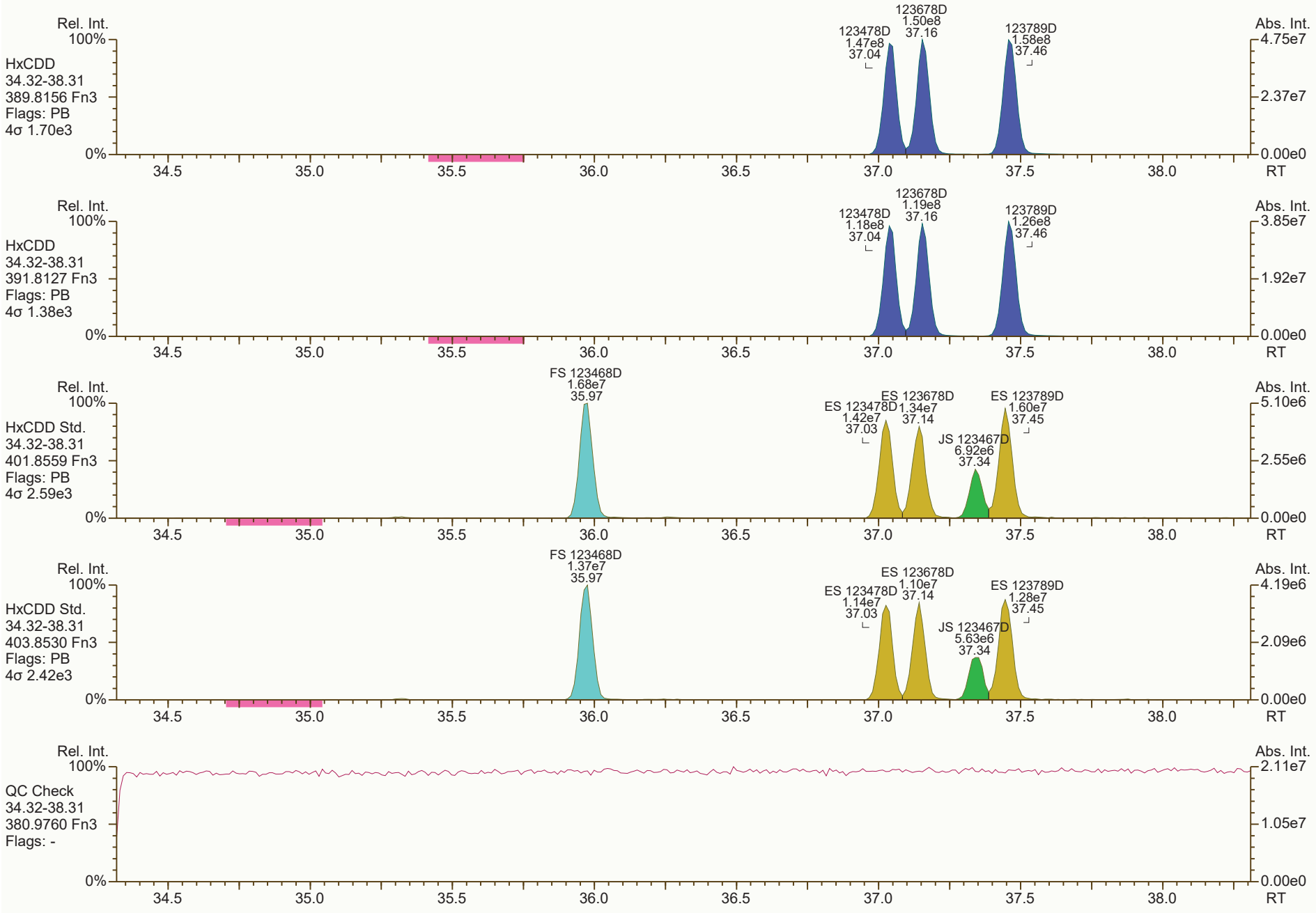
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

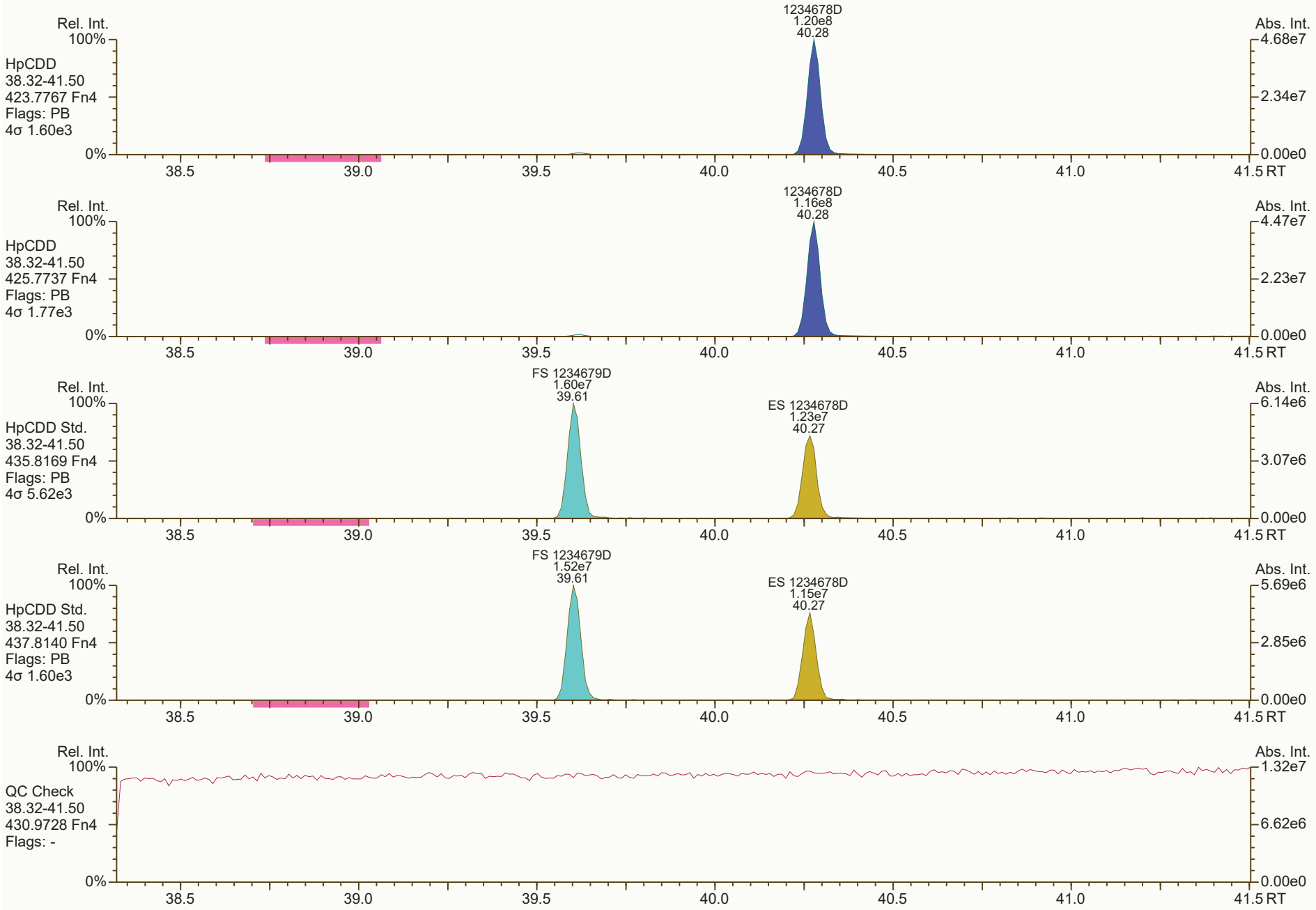
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

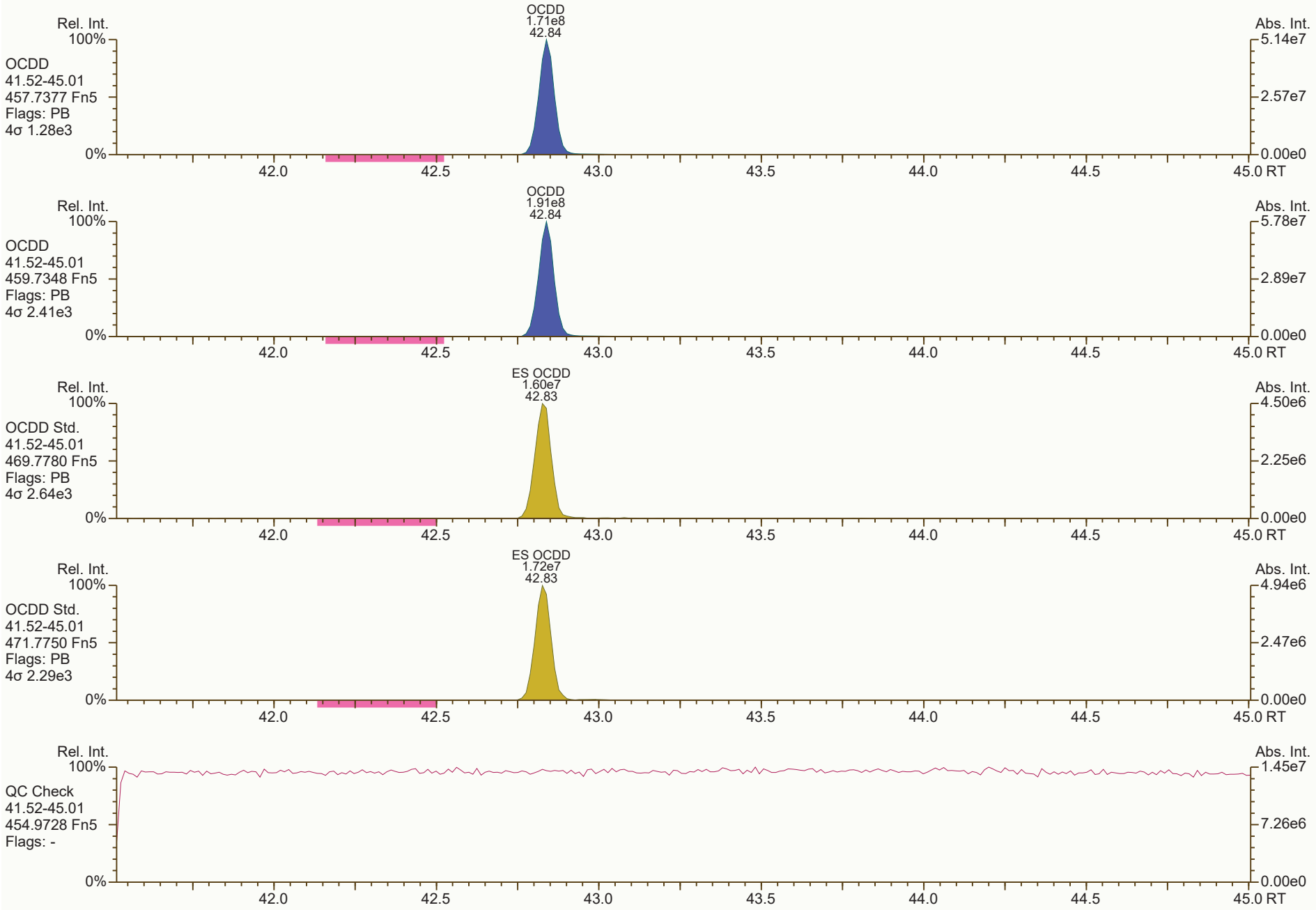

Rel. Int.
100%
0%
Abs. Int.
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
8.97e6
4.49e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
7.46e6
3.73e6
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.11e7
1.05e7
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
1.32e7
6.62e6
38.5
39.0
39.5
40.0
40.5
41.0
41.5
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6
42.0
42.5
43.0
43.5
44.0
44.5
45.0


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
0%
2378D
4.22e7
27.59
Abs. Int.
9.91e6
4.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
0%
CS 37Cl-2378D
7.77e7
27.59
Abs. Int.
1.83e7
9.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
0%
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
Abs. Int.
4.26e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
0%
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
Abs. Int.
5.66e6
2.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
0%
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
0%
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
0%
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
0%
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

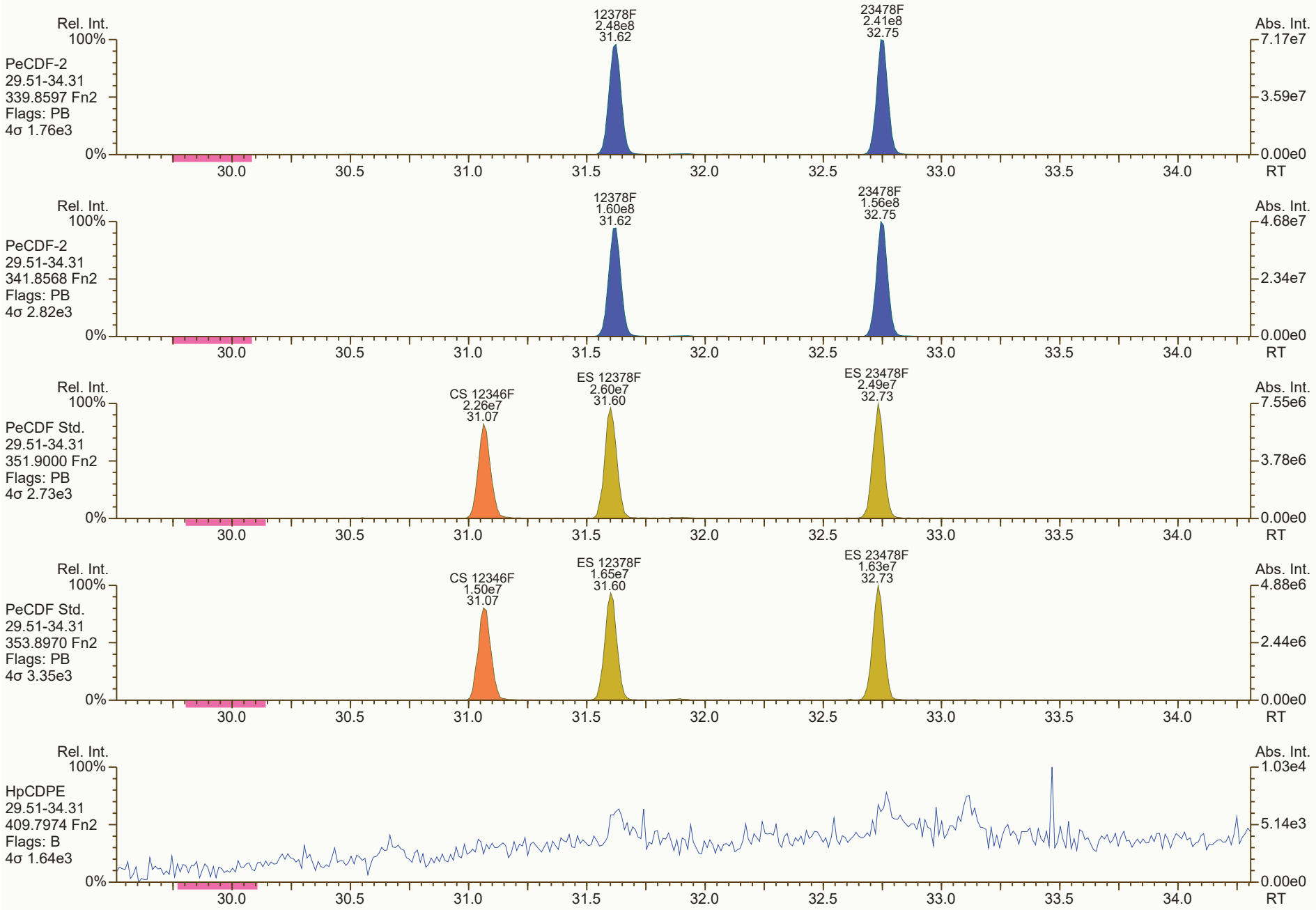

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

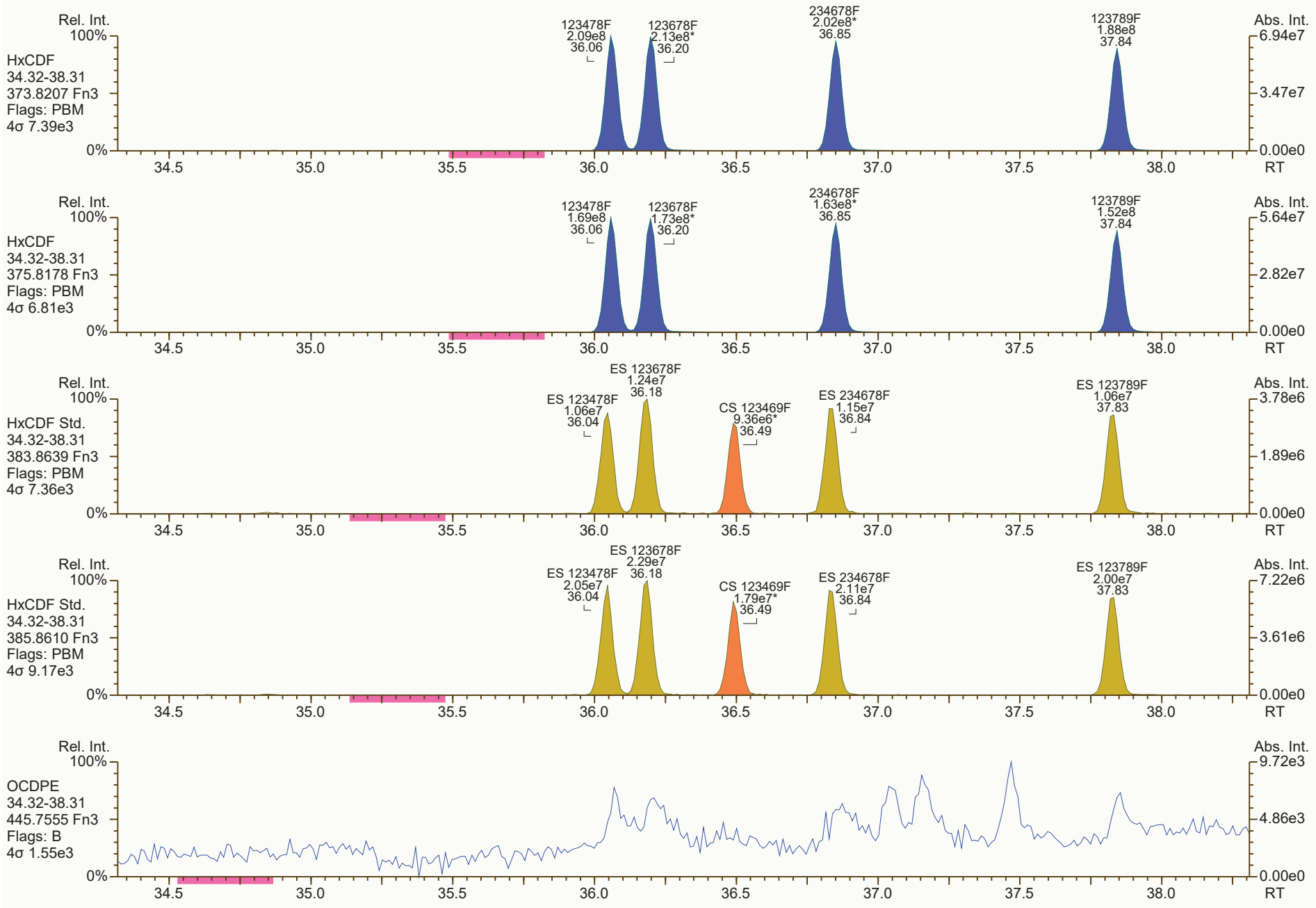

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

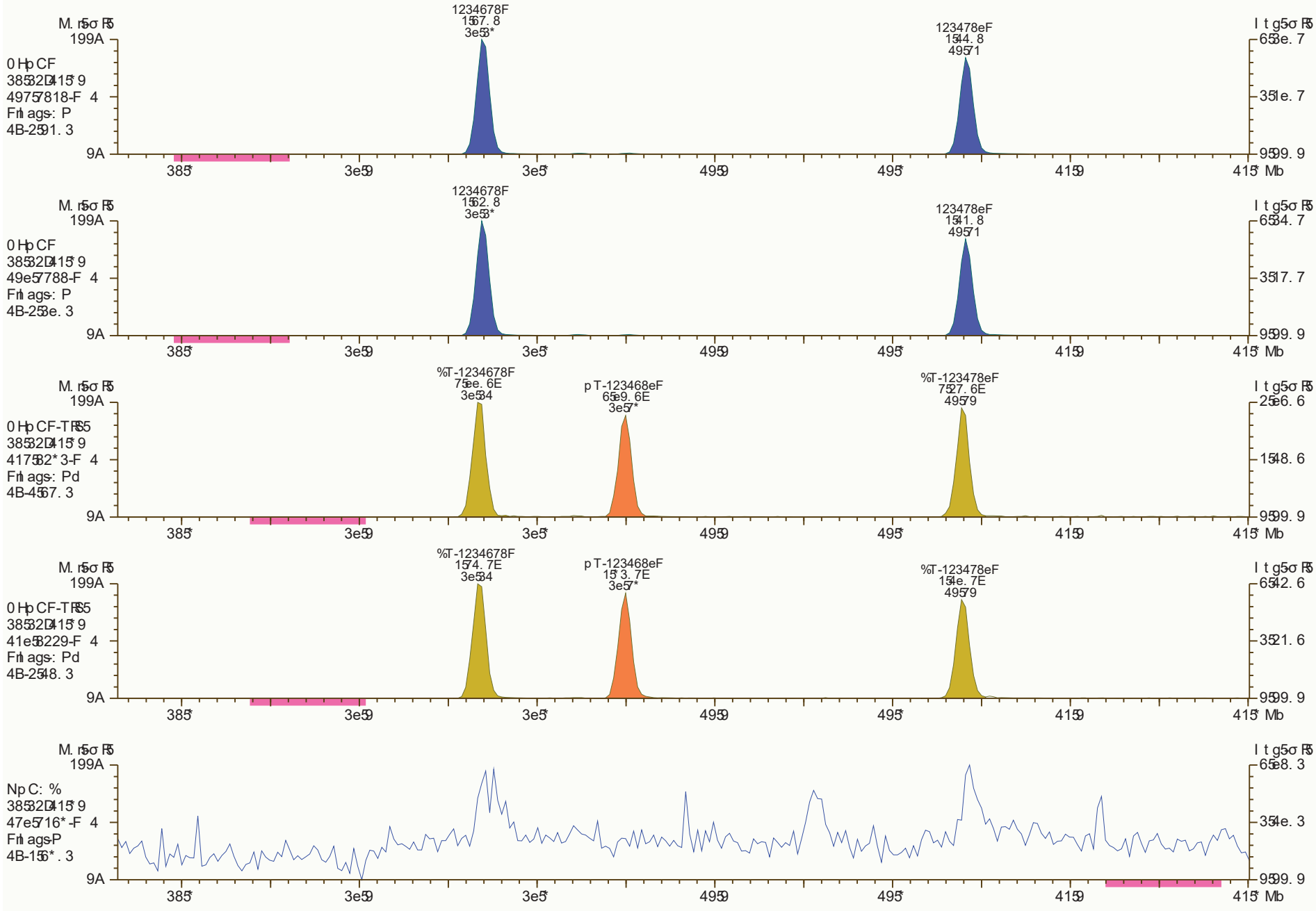

OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
Abs. Int.
1.03e4
5.14e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
0%
123478F
2.09e8
36.06
123678F
2.13e8*
36.20
234678F
2.02e8*
36.85
123789F
1.88e8
37.84
Abs. Int.
6.94e7
3.47e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
0%
123478F
1.69e8
36.06
123678F
1.73e8*
36.20
234678F
1.63e8*
36.85
123789F
1.52e8
37.84
Abs. Int.
5.64e7
2.82e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
0%
ES 123478F
1.06e7
36.04
ES 123678F
1.24e7
36.18
CS 123469F
9.36e6*
36.49
ES 234678F
1.15e7
36.84
ES 123789F
1.06e7
37.83
Abs. Int.
3.78e6
1.89e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
0%
ES 123478F
2.05e7
36.04
ES 123678F
2.29e7
36.18
CS 123469F
1.79e7*
36.49
ES 234678F
2.11e7
36.84
ES 123789F
2.00e7
37.83
Abs. Int.
7.22e6
3.61e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
0%
Abs. Int.
9.72e3
4.86e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


1234678F
123478eF
%T-1234678F
pT-123468eF
%T-123478eF
385
3e59
3e5
495
415
Mb

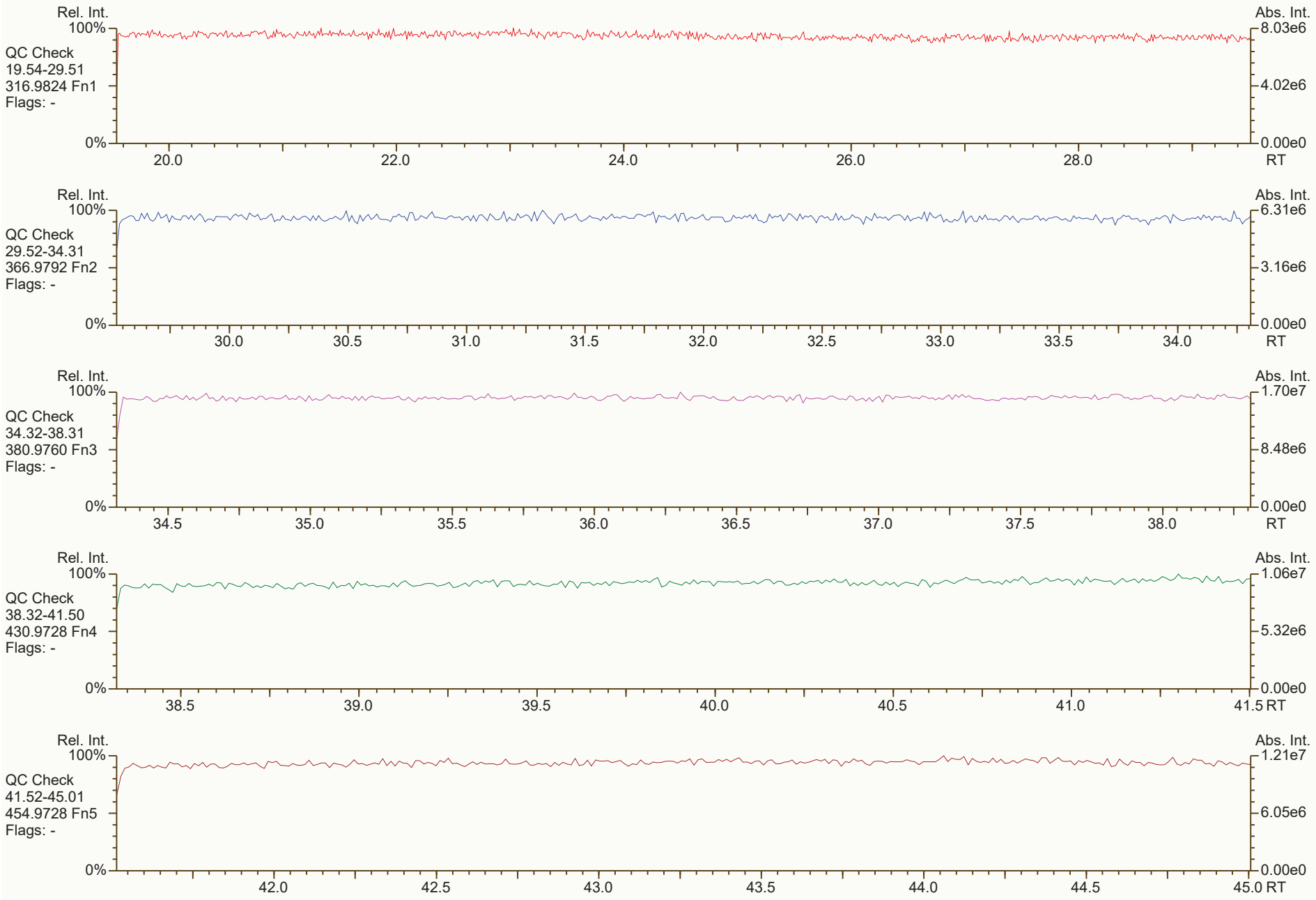

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

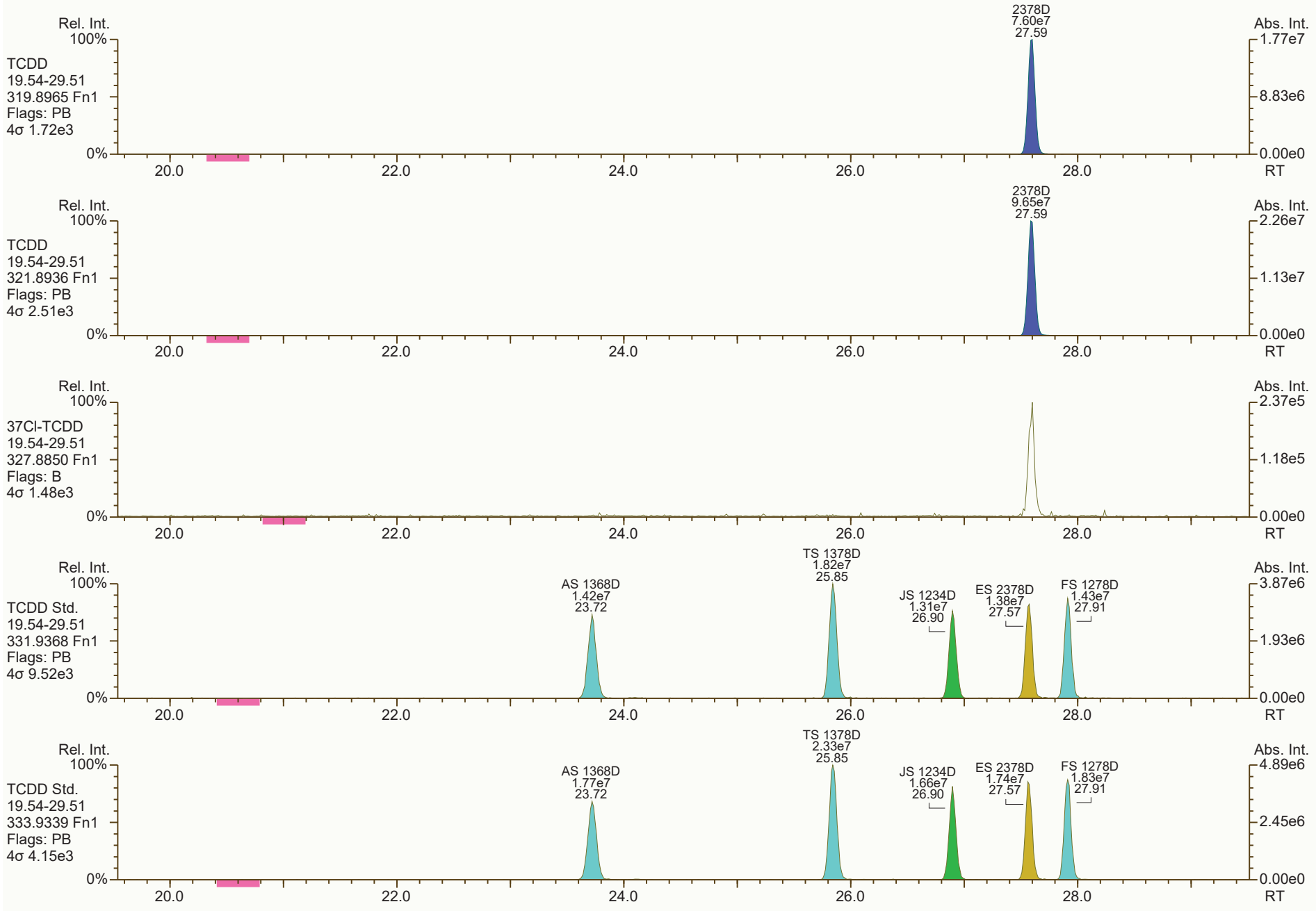
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

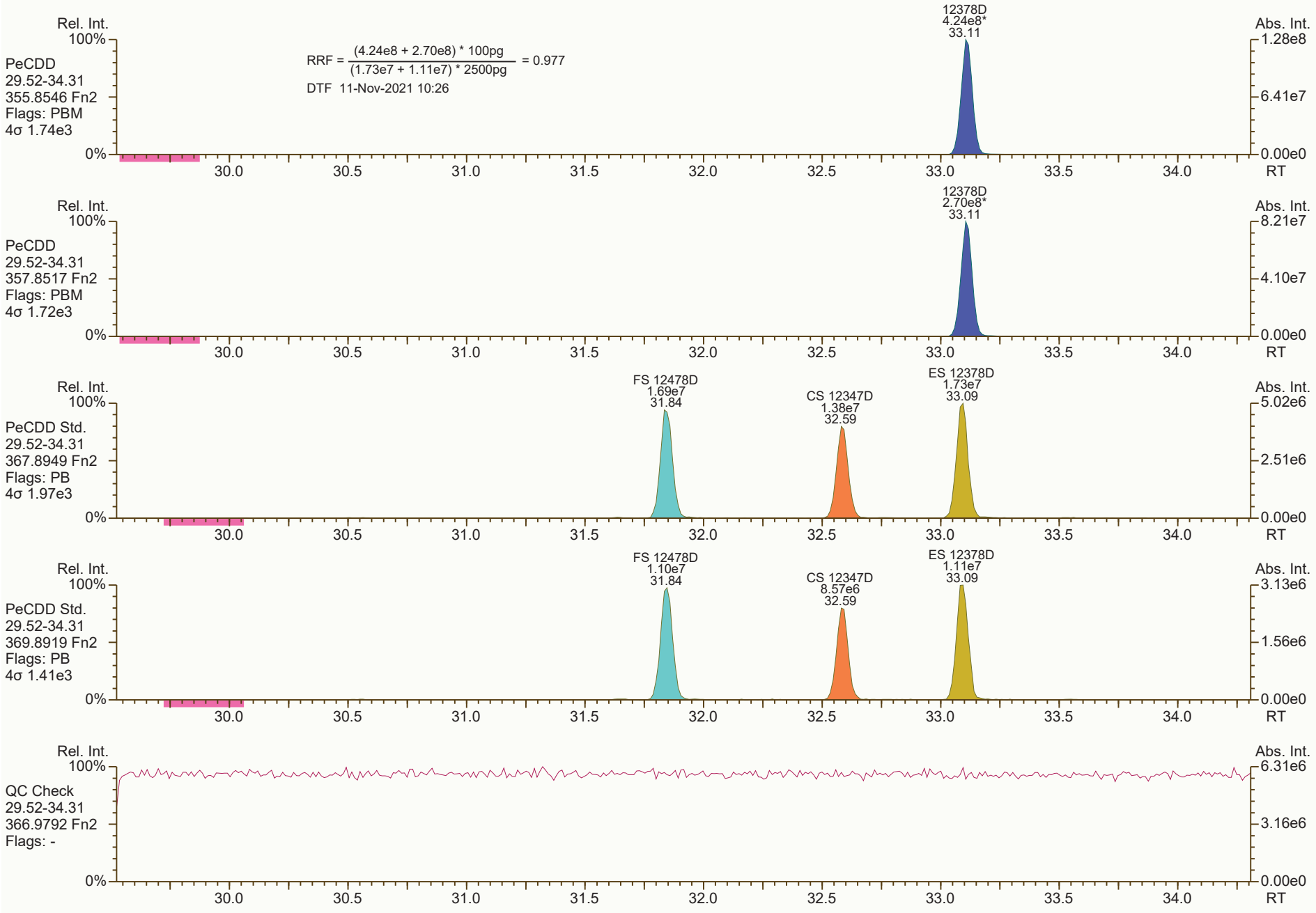
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

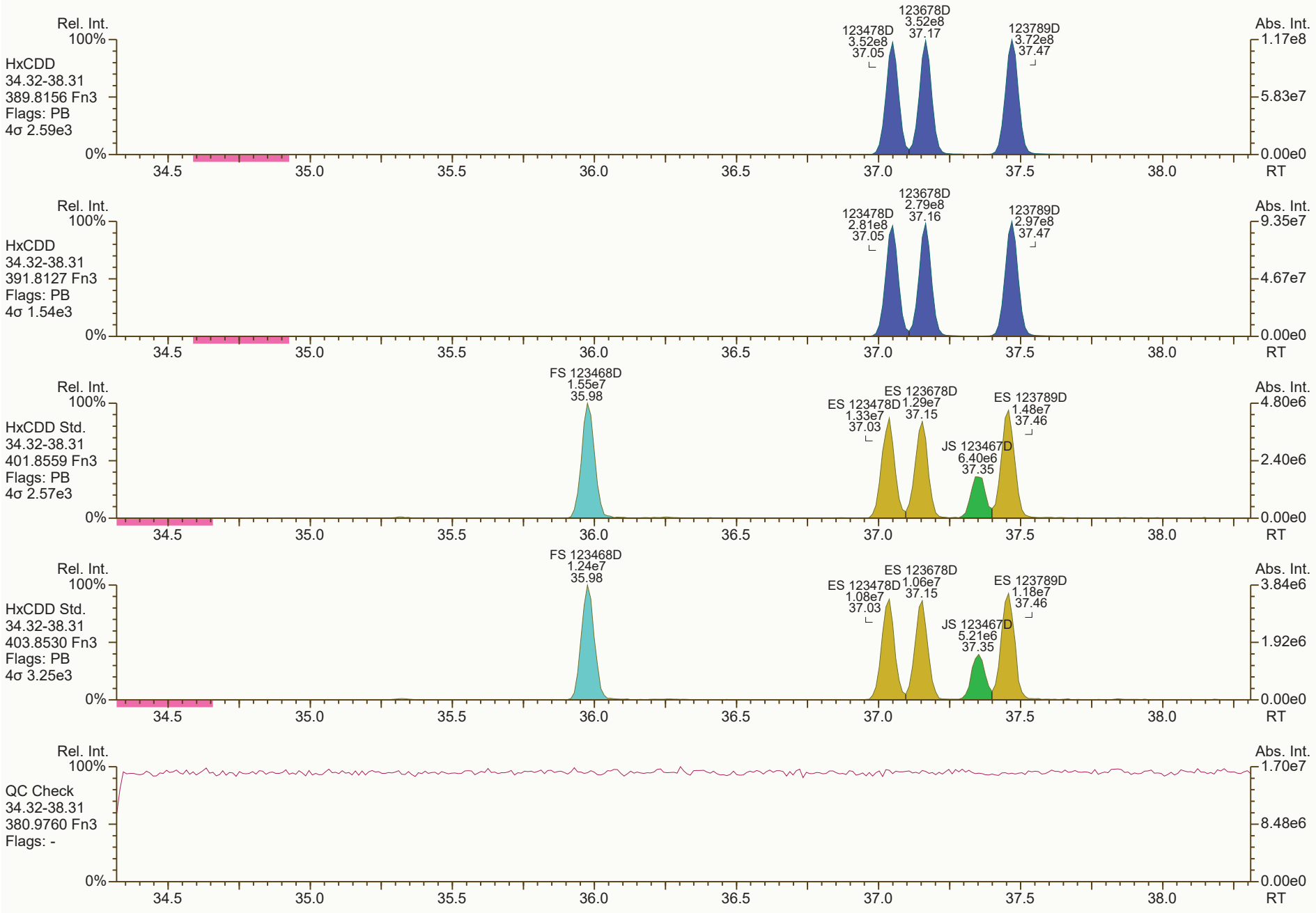
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

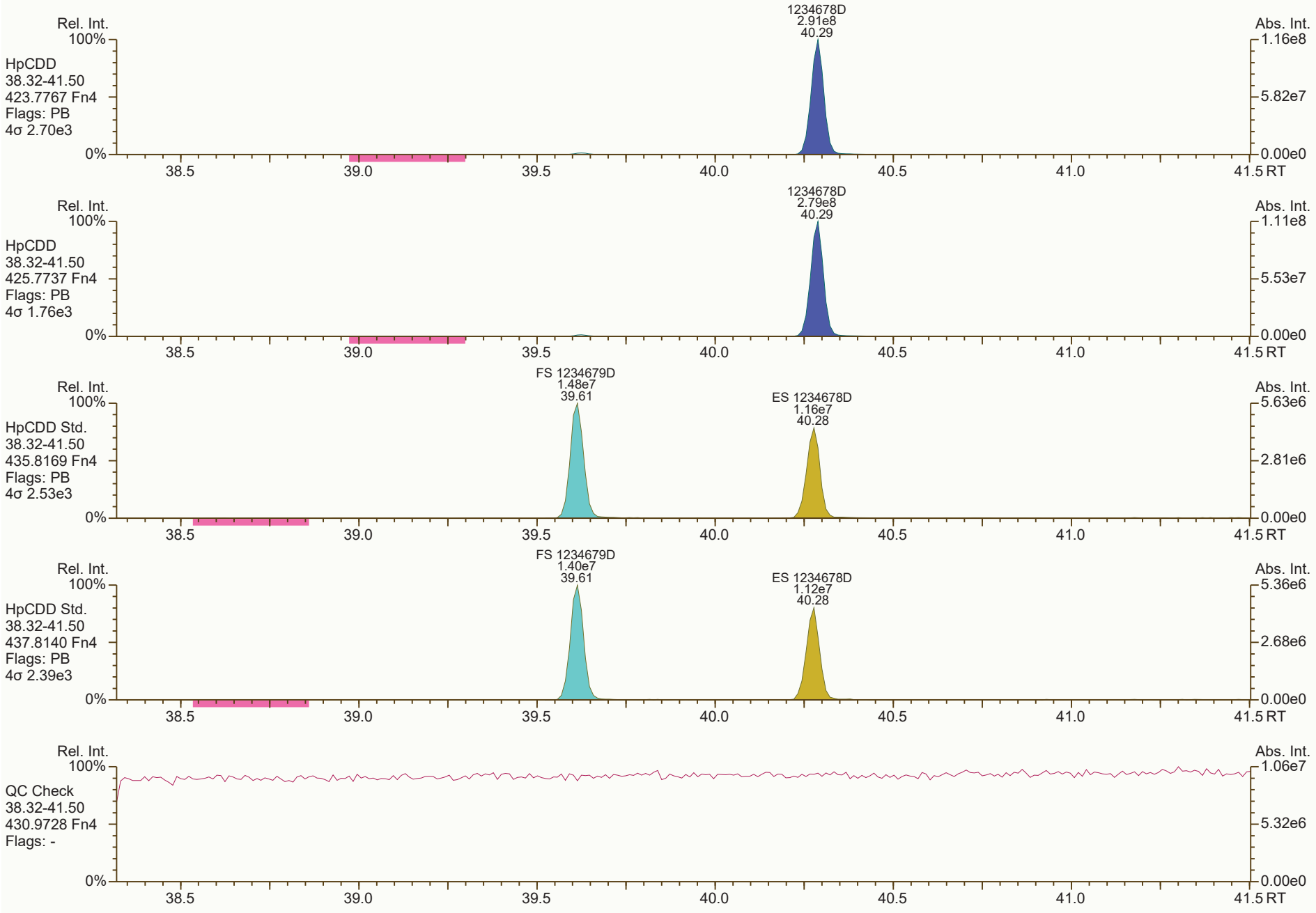
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

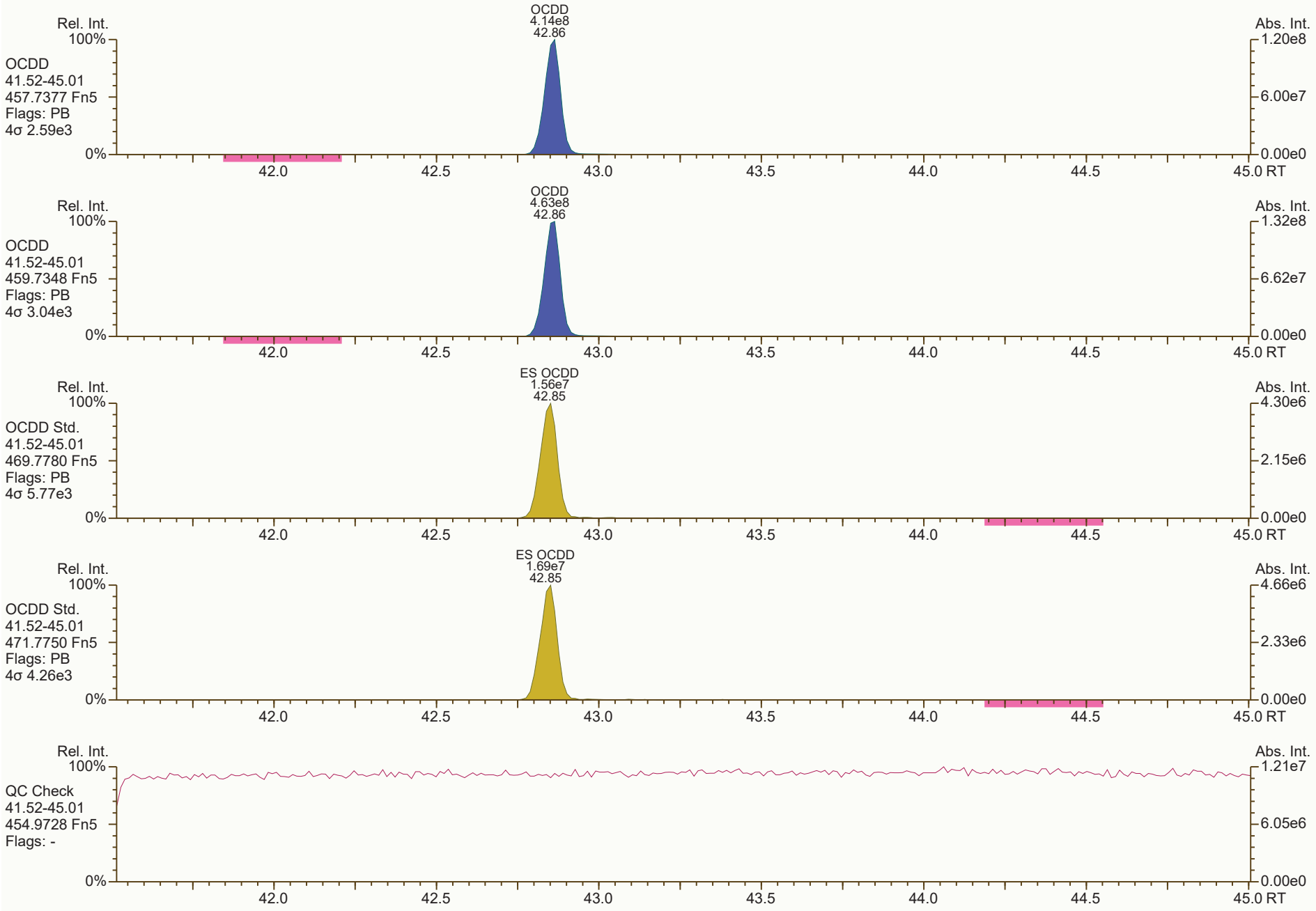

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
0%
Abs. Int.
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
2378D
7.60e7
27.59
1.77e7
8.83e6
0.00e0
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
2378D
9.65e7
27.59
2.26e7
1.13e7
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
2.37e5
1.18e5
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
3.87e6
1.93e6
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
4.89e6
2.45e6
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
12378D
2.70e8*
33.11
8.21e7
4.10e7
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
5.02e6
2.51e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
3.13e6
1.56e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
6.31e6
3.16e6

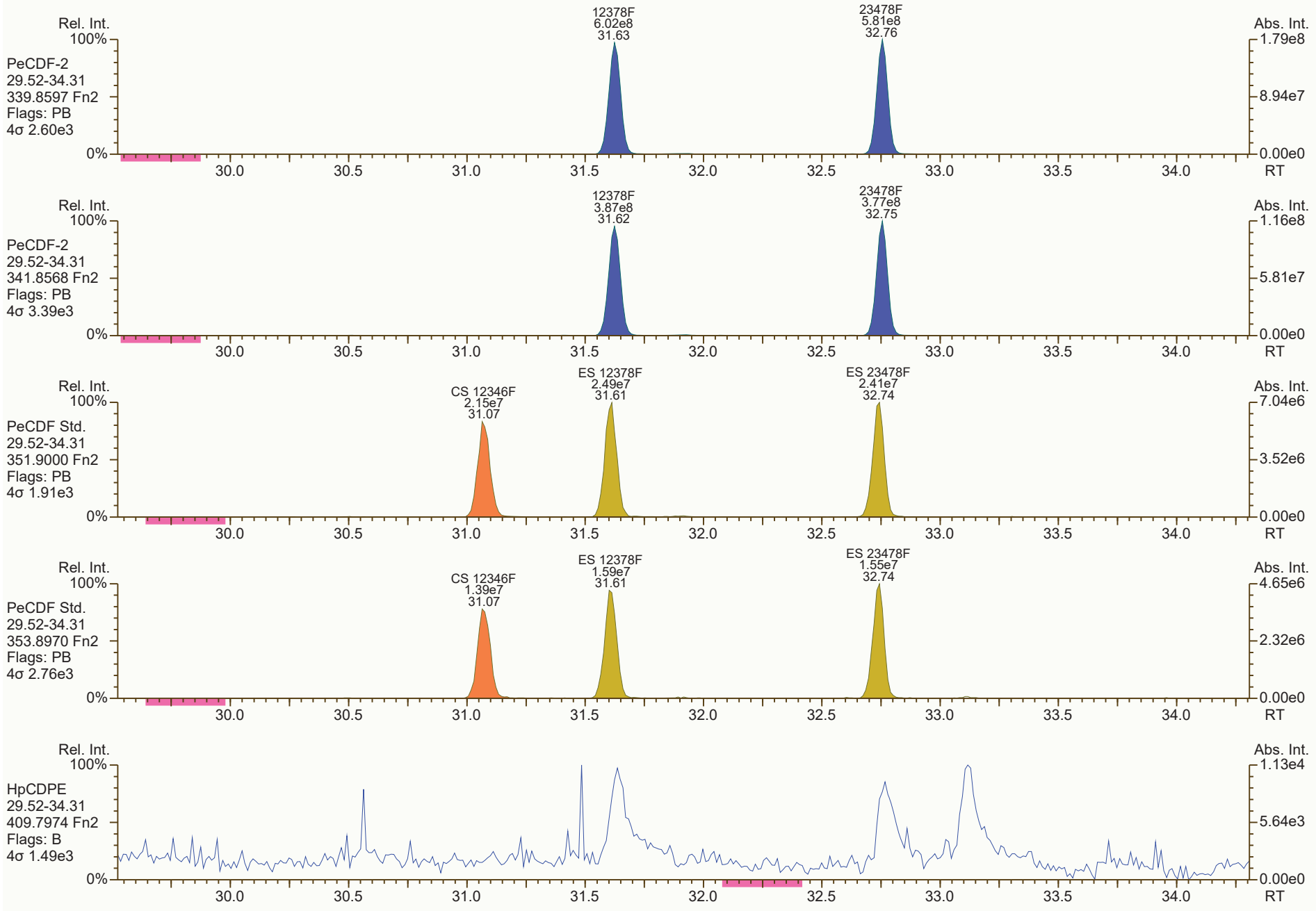

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.70e7
8.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

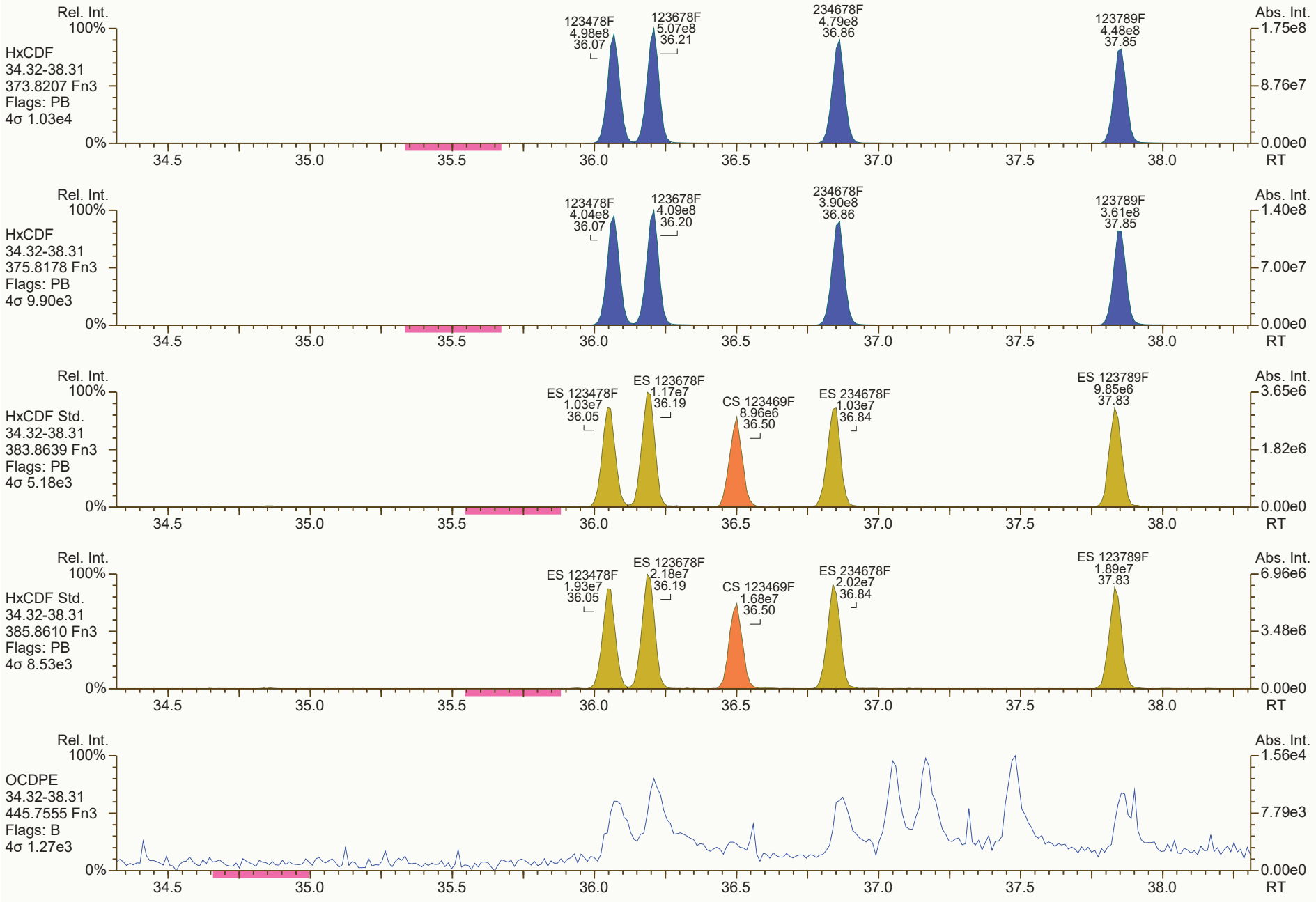

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

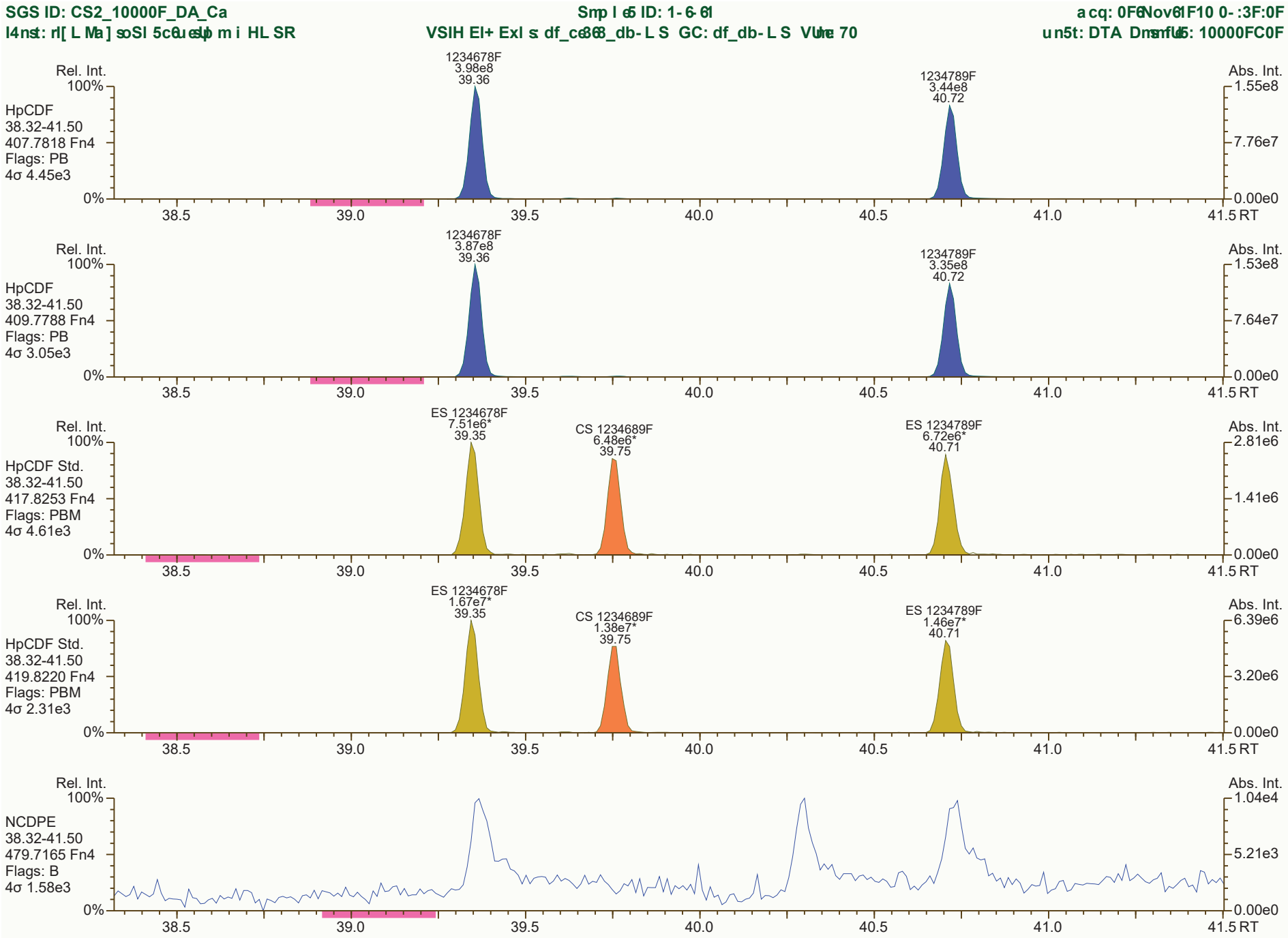

OCDD
4.14e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.63e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.56e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.69e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

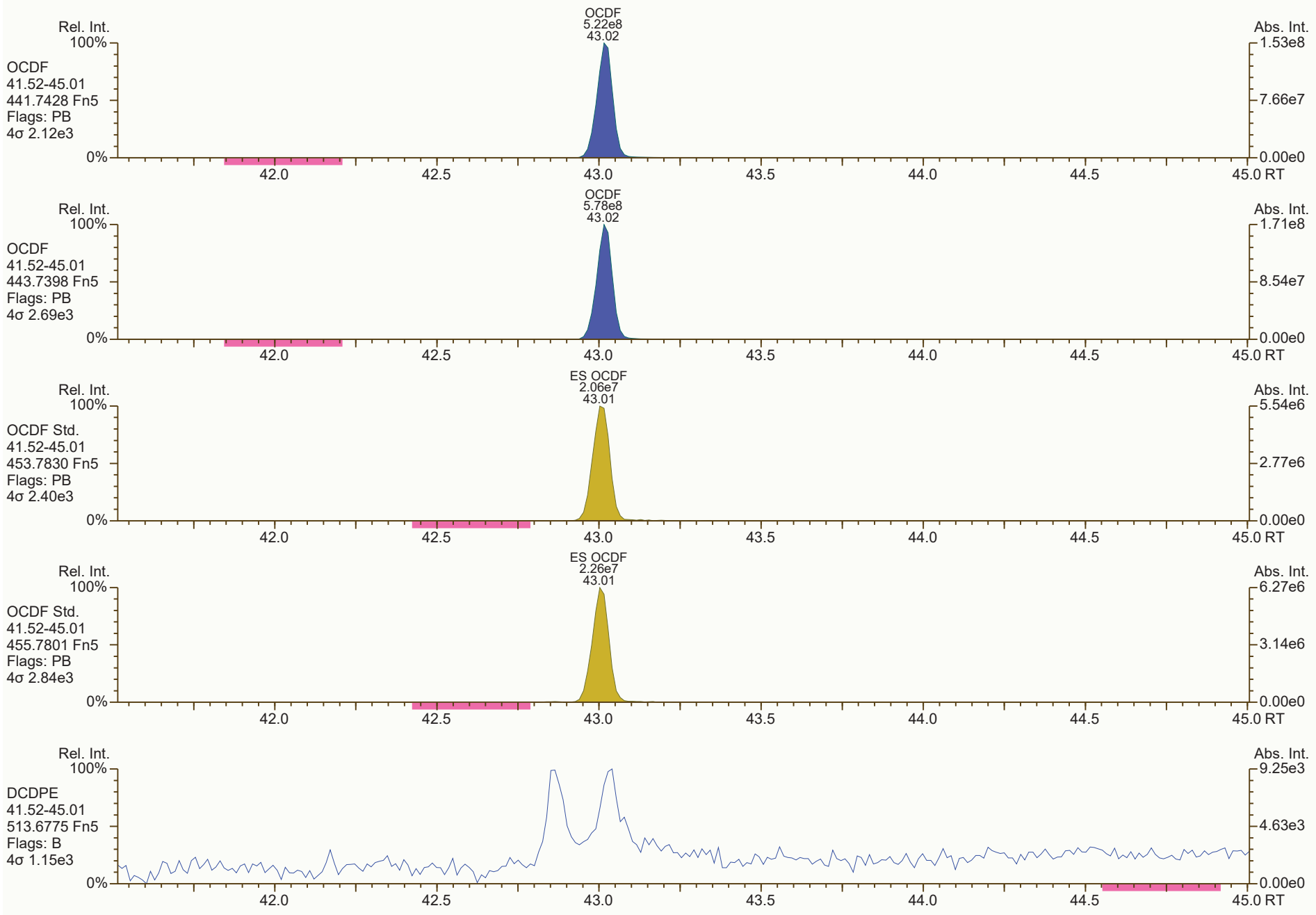

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

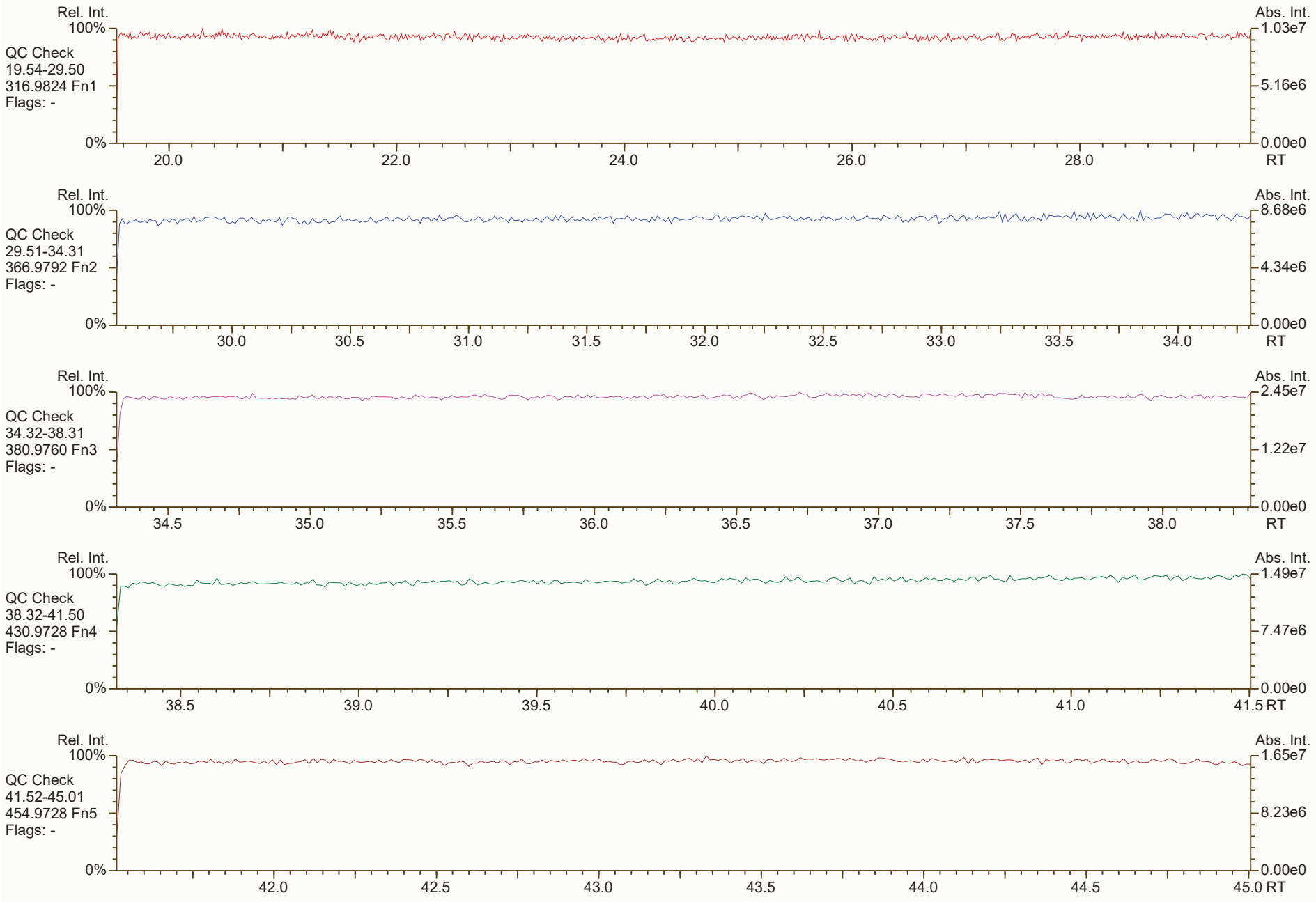

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
Abs. Int.
1.13e4
5.64e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: CS2_10000F_DA_Ca
Smp l e5 ID: 1-6-61
acq: 0F6Nov61F10 0-:3F:0F
VSIH El+ Exl s: df_ce868_db-L S GC: df_db-L S Vuhe 70
un5t: DTA Dmsmfu5: 10000FC0F
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
1.55e8
7.76e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
1.53e8
7.64e7
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
2.81e6
1.41e6
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
6.39e6
3.20e6
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
1.04e4
5.21e3
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.65e7
8.23e6
0.00e0

SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1*


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

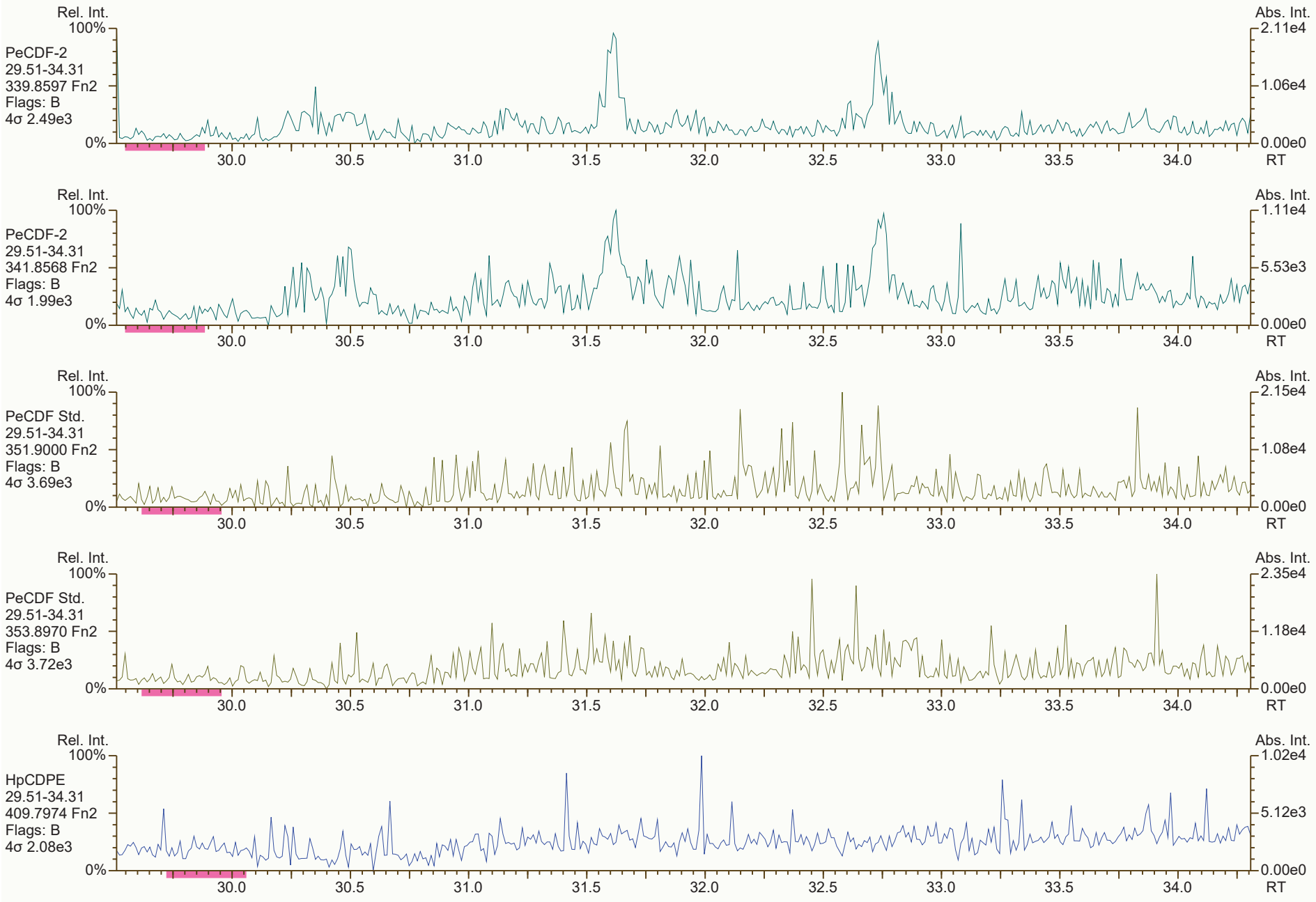

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

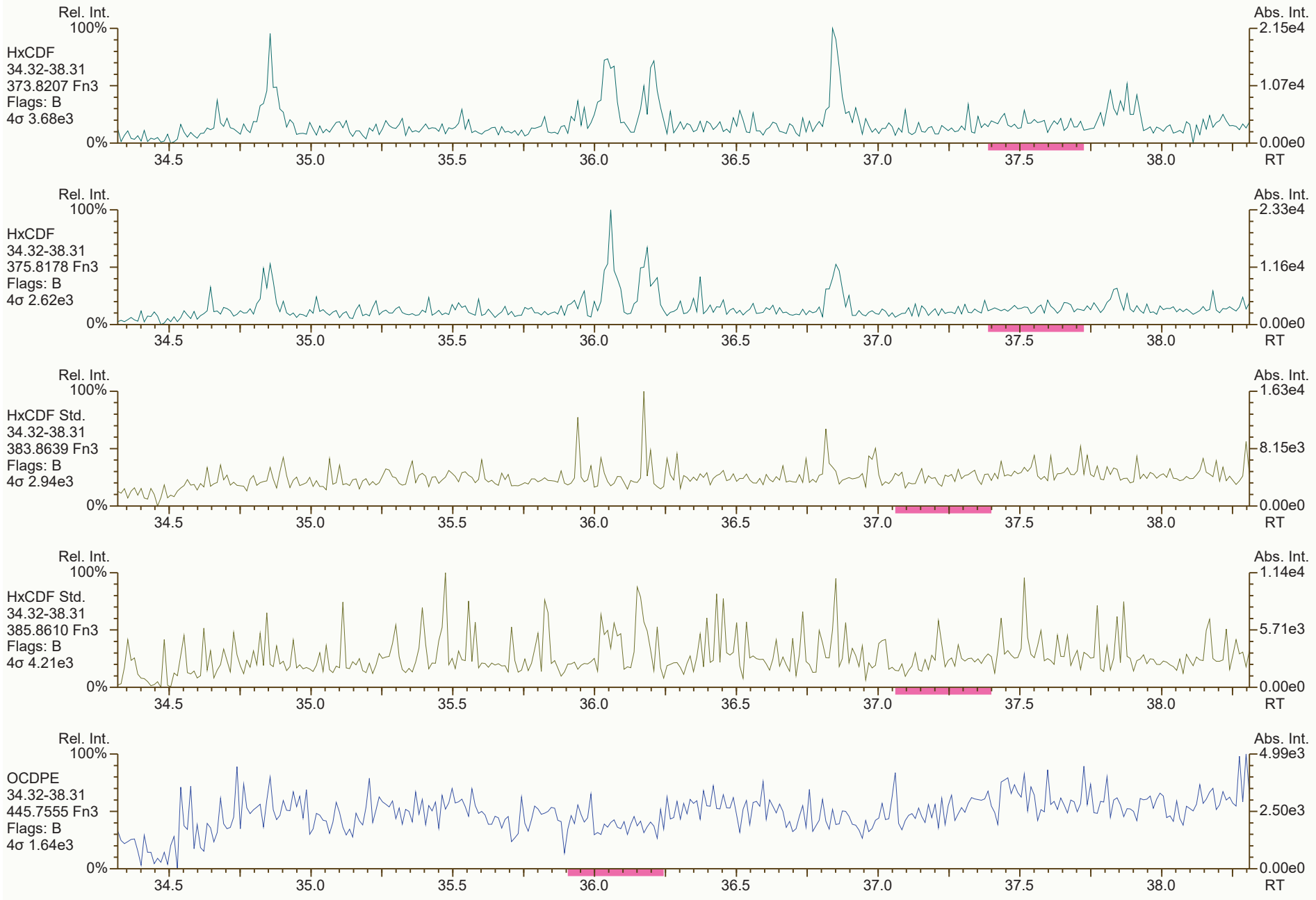

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
Abs. Int.
7.07e4
3.53e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
Abs. Int.
1.06e5
5.32e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
Abs. Int.
5.11e4
2.56e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
Abs. Int.
2.83e4
1.42e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
Abs. Int.
9.47e3
4.73e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

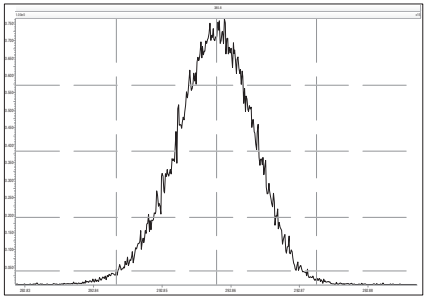

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

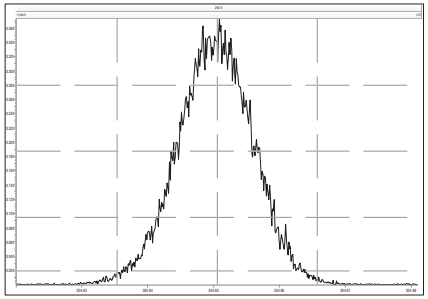
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

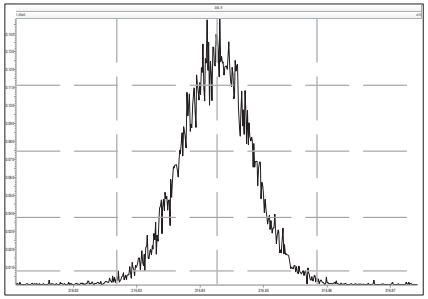
M 292.9824 R 10731



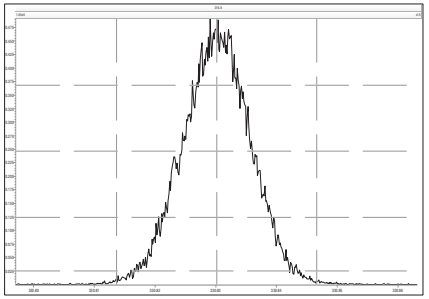
M 304.9824 R 11311



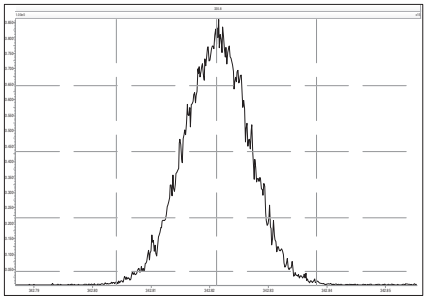
M 316.9824 R 12373



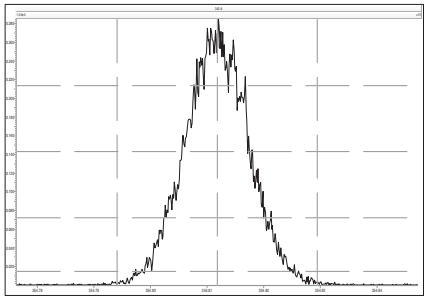
M 330.9792 R 12887



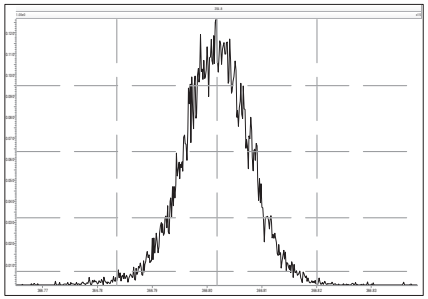
M 342.9792 R 12818



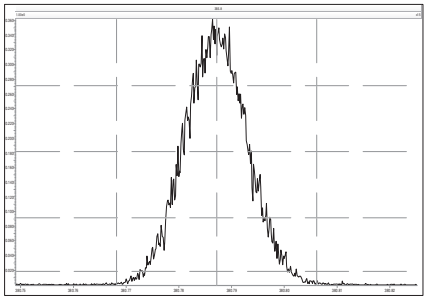
M 354.9792 R 12882



M 366.9792 R 13368



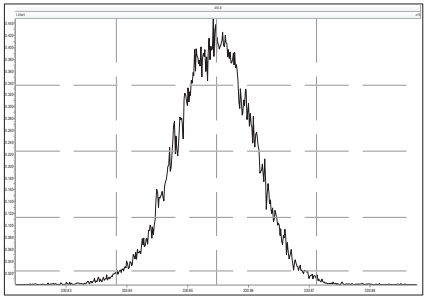
M 380.9760 R 13658



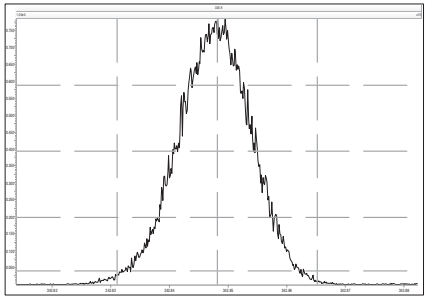
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

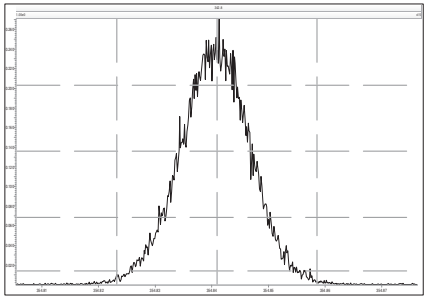
M 330.9792 R 11112



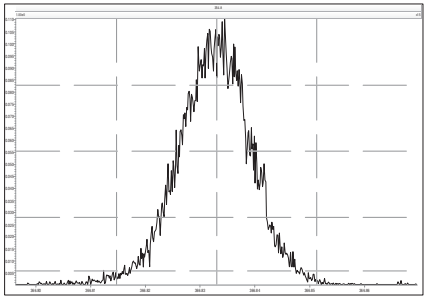
M 342.9792 R 11909



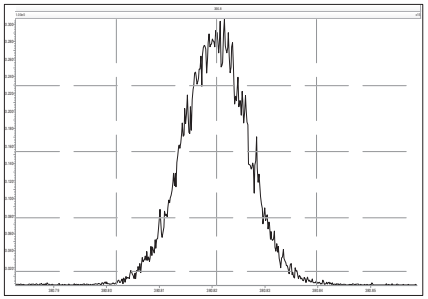
M 354.9792 R 11684



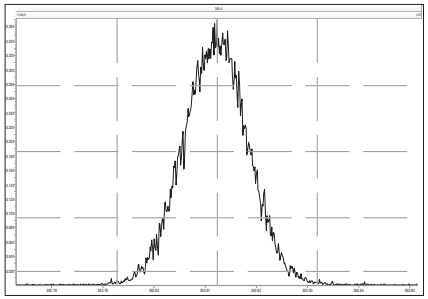
M 366.9792 R 11962



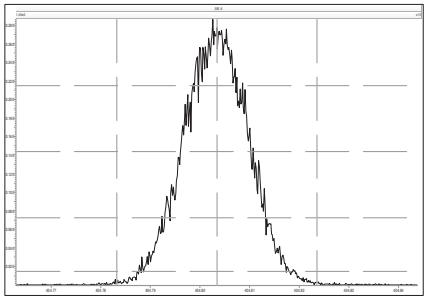
M 380.9760 R 13161



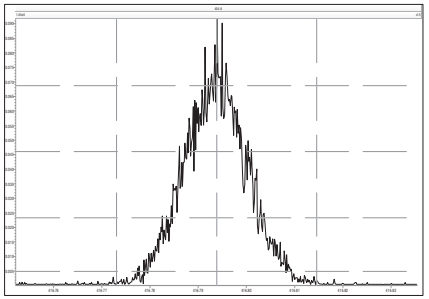
M 392.9760 R 13968



M 404.9760 R 13227



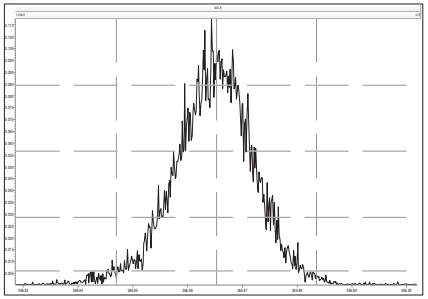
M 416.9760 R 13663



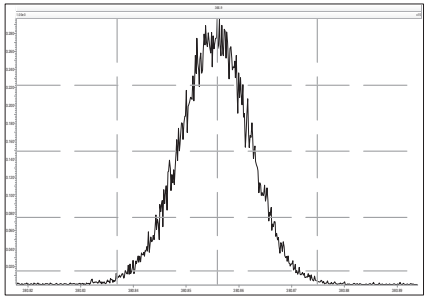
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

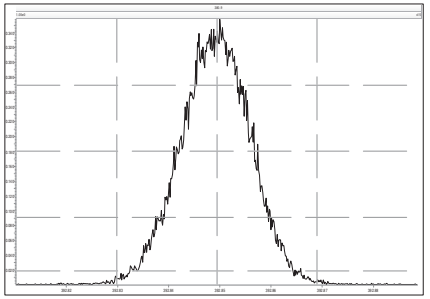
M 366.9792 R 10680



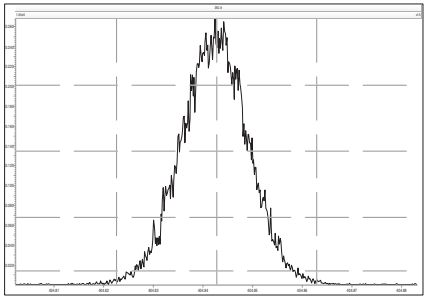
M 380.9760 R 12315



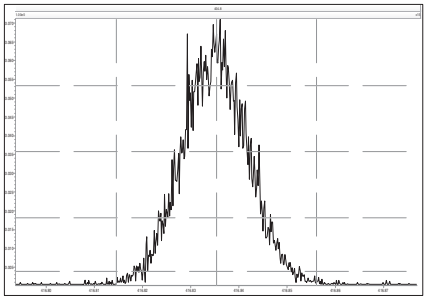
M 392.9760 R 12197



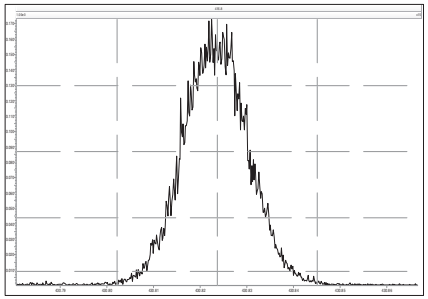
M 404.9760 R 12433



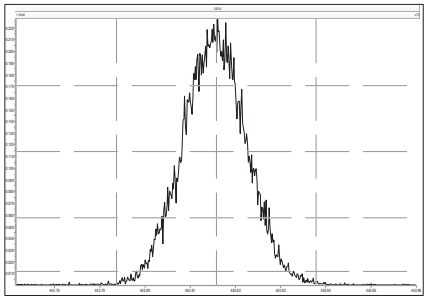
M 416.9760 R 13660



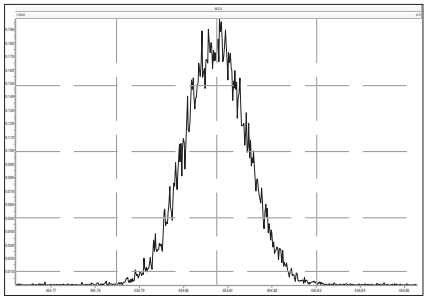
M 430.9728 R 13295



M 442.9728 R 13364



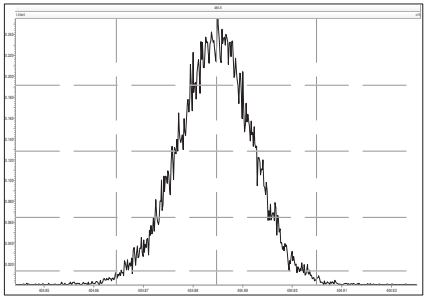
M 454.9728 R 13810



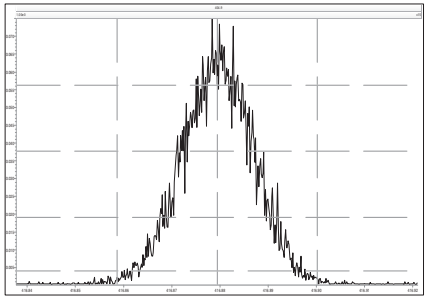
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

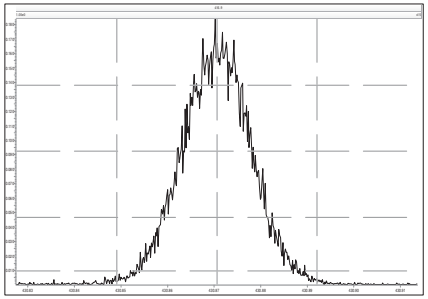
M 404.9760 R 11679



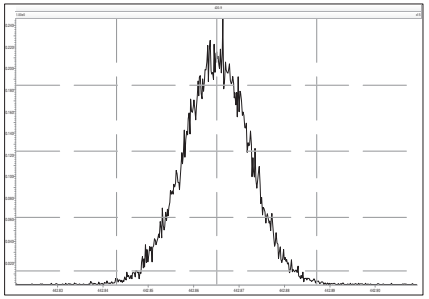
M 416.9760 R 12886



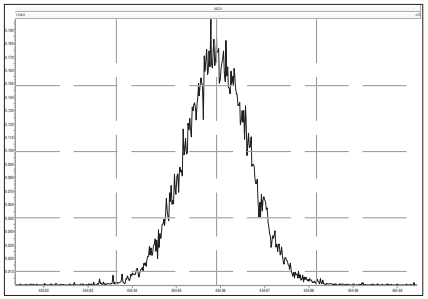
M 430.9728 R 12253



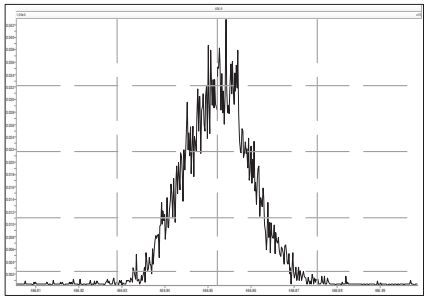
M 442.9728 R 12756



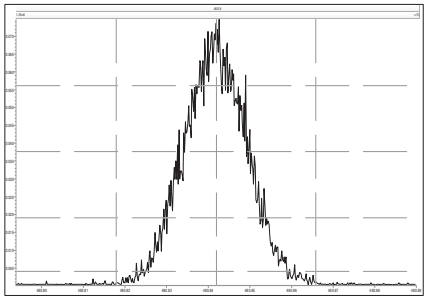
M 454.9728 R 13157



M 466.9728 R 13810



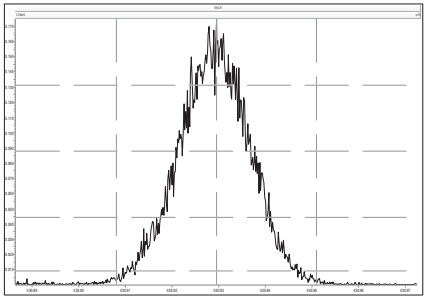
M 480.9696 R 14046



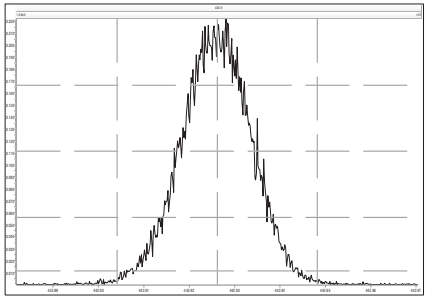
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

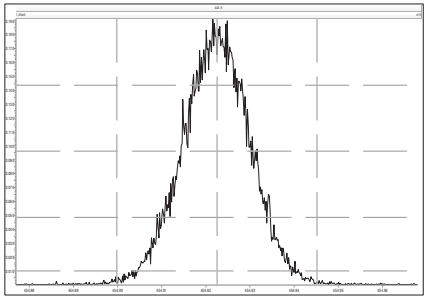
M 430.9728 R 11574



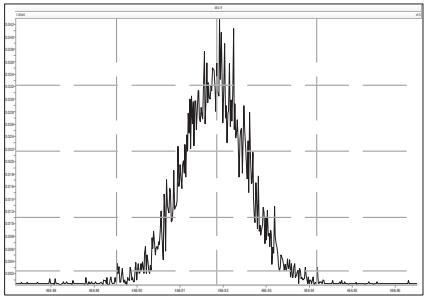
M 442.9728 R 12198



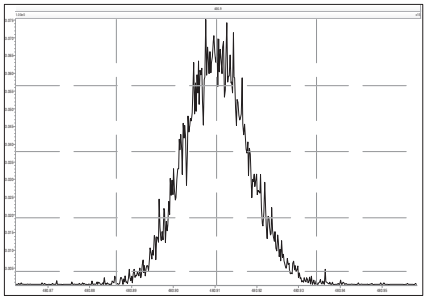
M 454.9728 R 12950



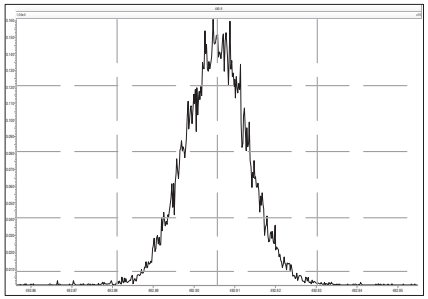
M 466.9728 R 13088



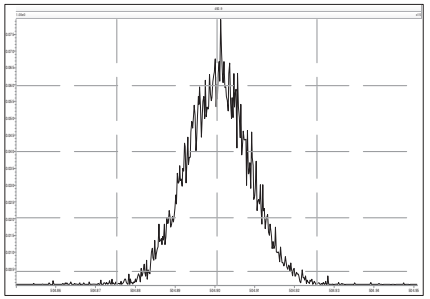
M 480.9696 R 13156



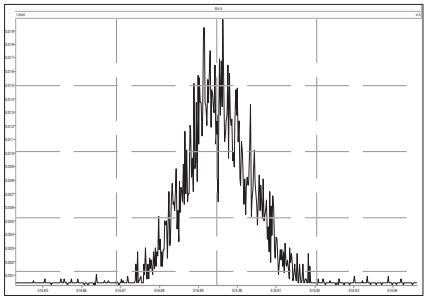
M 492.9696 R 13228



M 504.9696 R 13227



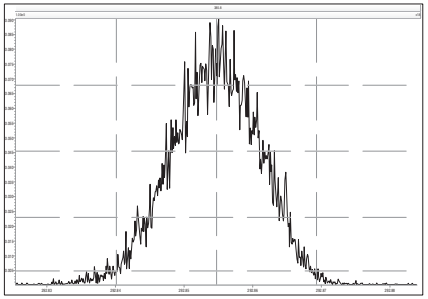
M 516.9697 R 13019



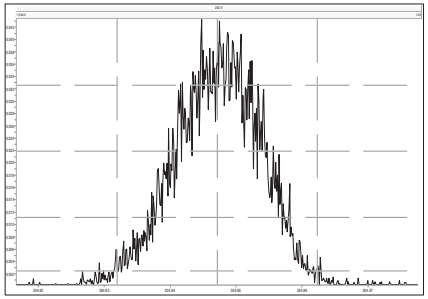
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

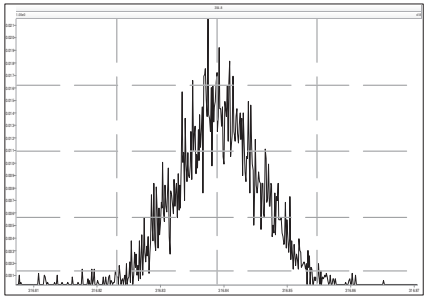
M 292.9824 R 10122



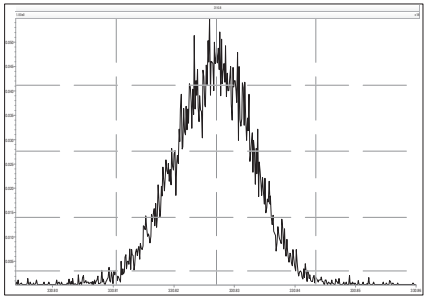
M 304.9824 R 10329



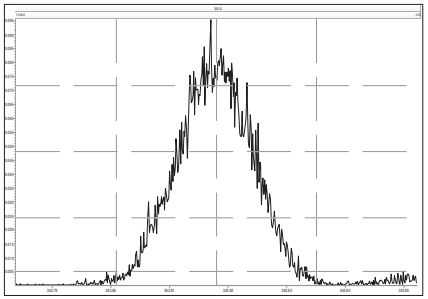
M 316.9824 R 11964



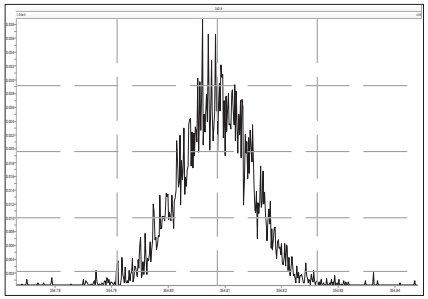
M 330.9792 R 11062



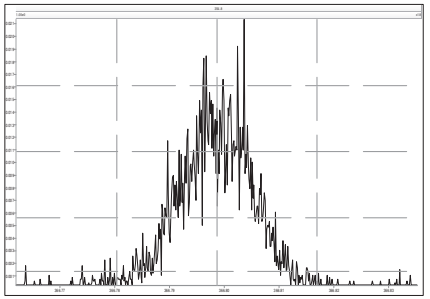
M 342.9792 R 12075



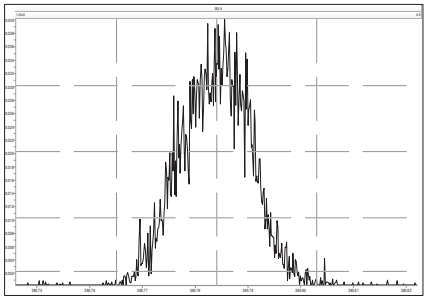
M 354.9792 R 12439



M 366.9792 R 12694



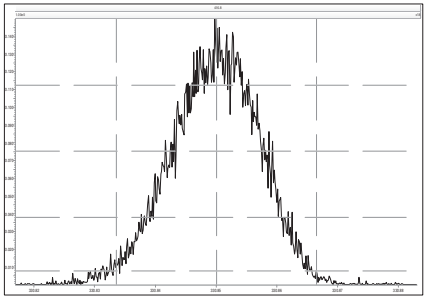
M 380.9760 R 13224



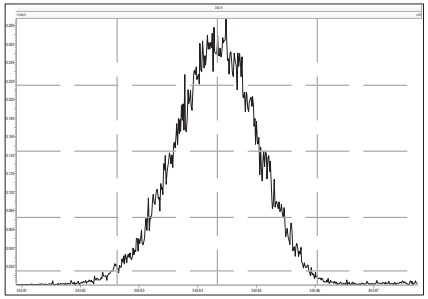
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

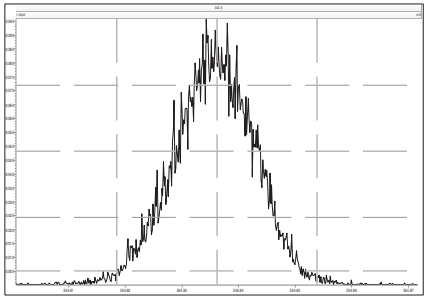
M 330.9792 R 10730



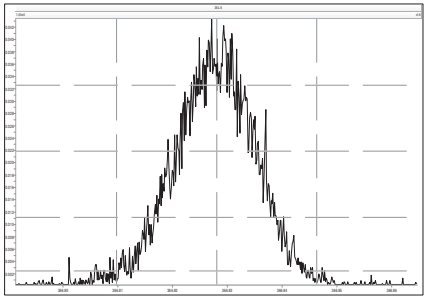
M 342.9792 R 10039



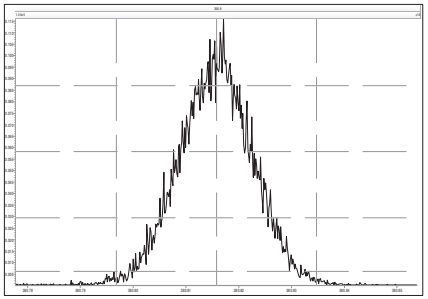
M 354.9792 R 11108



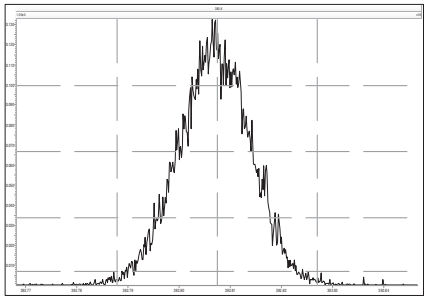
M 366.9792 R 11520



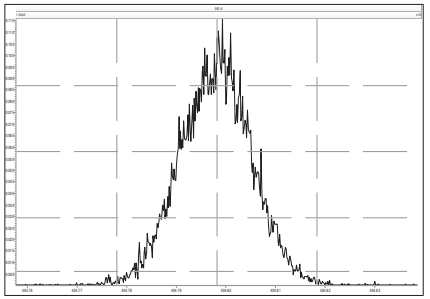
M 380.9760 R 12080



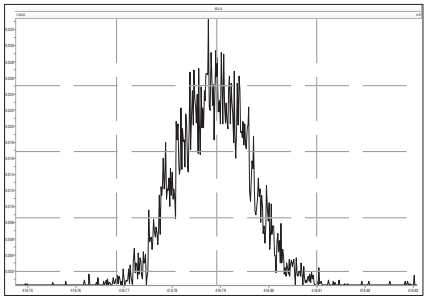
M 392.9760 R 12377



M 404.9760 R 12375



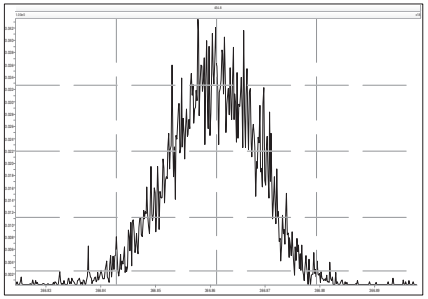
M 416.9760 R 13515



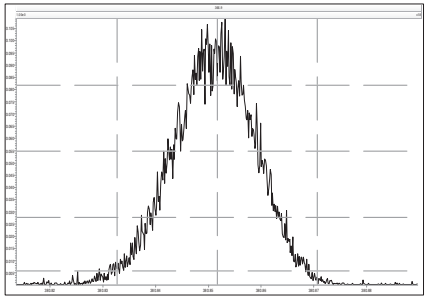
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

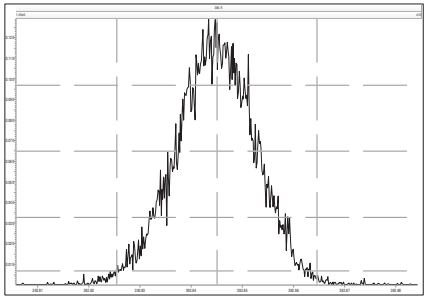
M 366.9792 R 10866



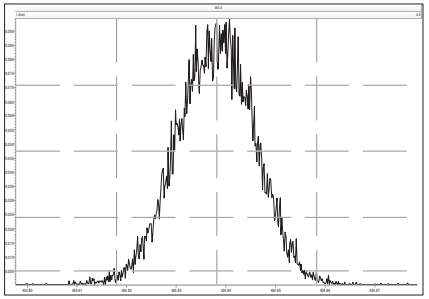
M 380.9760 R 10416



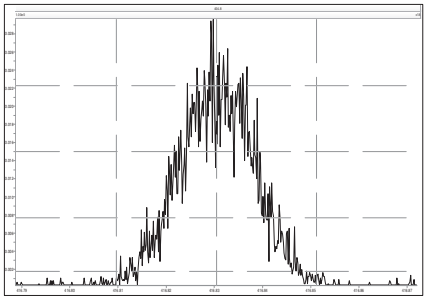
M 392.9760 R 10640



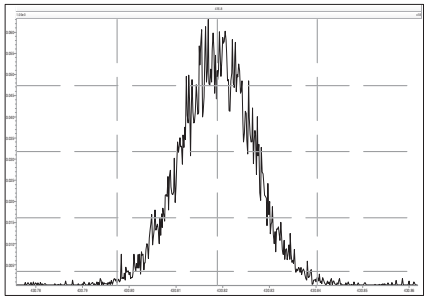
M 404.9760 R 11957



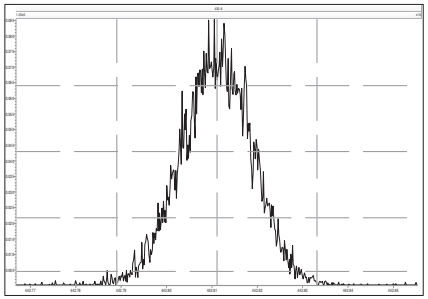
M 416.9760 R 12076



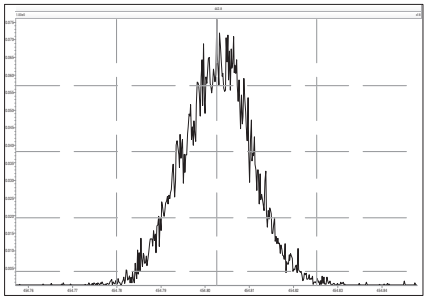
M 430.9728 R 11629



M 442.9728 R 12820



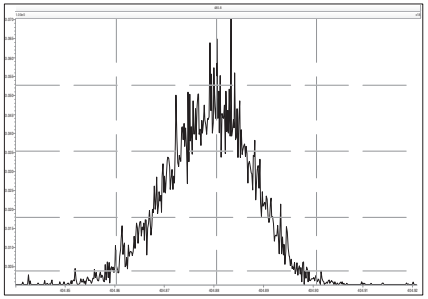
M 454.9728 R 12317



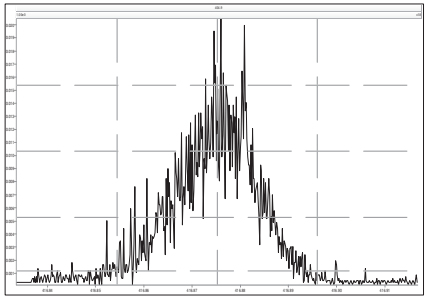
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

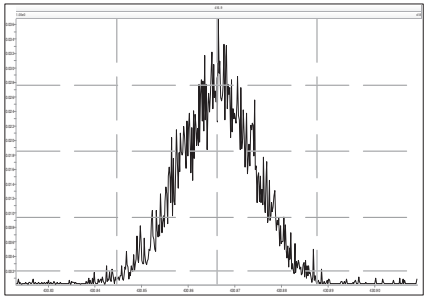
M 404.9760 R 10505



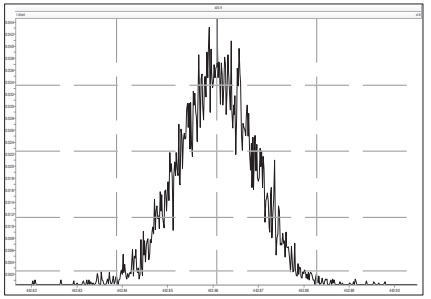
M 416.9760 R 12500



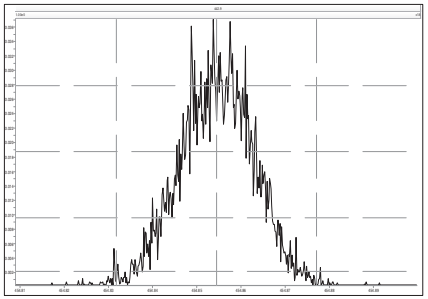
M 430.9728 R 11362



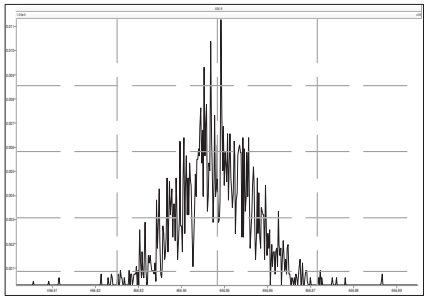
M 442.9728 R 12756



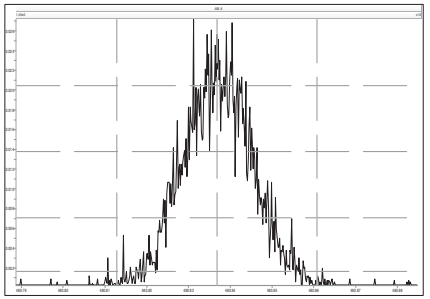
M 454.9728 R 12194



M 466.9728 R 12313



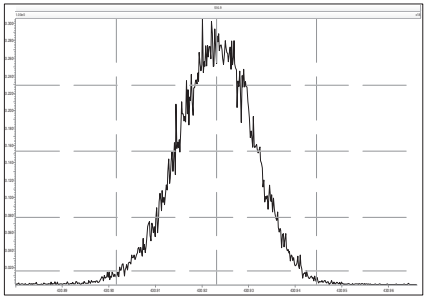
M 480.9696 R 13294



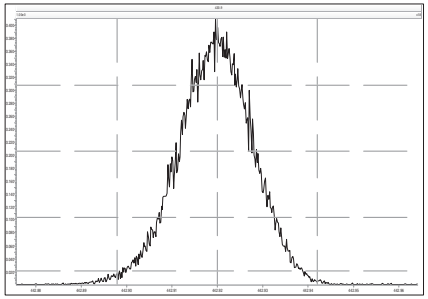
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

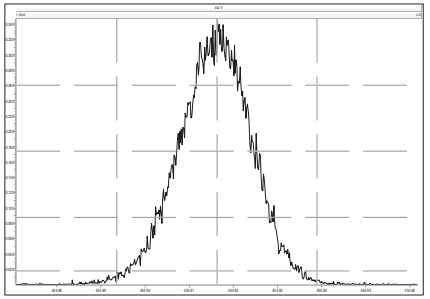
M 430.9728 R 11312



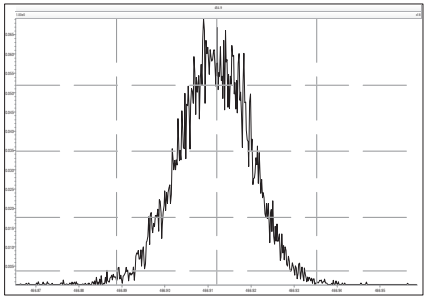
M 442.9728 R 11110



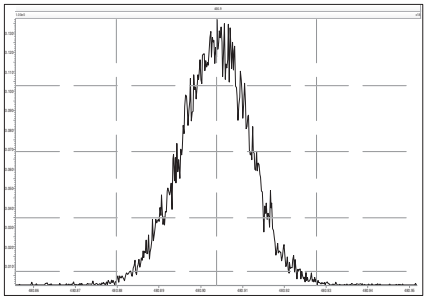
M 454.9728 R 11906



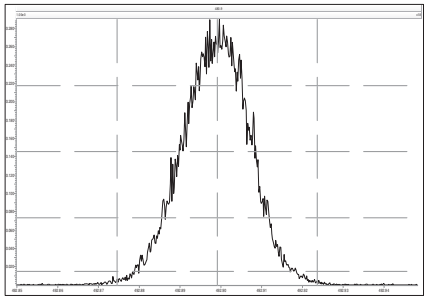
M 466.9728 R 12562



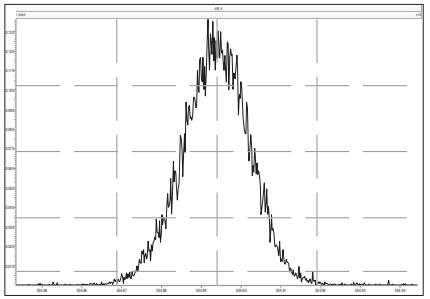
M 480.9696 R 12561



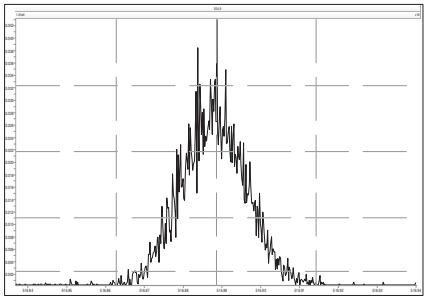
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



Lab ID: OPR1_18887_DF **Acq'd: 09 Feb 2022 05:47 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18887_OPR001 **UTP: 09-Feb-2022 14:37:50 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 724-032-NJC**

Datafile: 220209C02 **Report: 09 Feb 2022 17:30 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.48		1.0008	1.0008	0	4.12E+06	0.76	Y	1.18	11.3	4277.164	0.125
12378-PeCDD	33.82		1.0006	1.0006	0	1.45E+07	1.53	Y	1.04	49.1	2206.26	0.0673
123478-HxCDD	37.72		1.0004	1.0004	0	1.43E+07	1.24	Y	1.09	52.6	3159.852	0.0981
123678-HxCDD	37.84		1.0035	1.0035	0	1.65E+07	1.27	Y	1.15	53.4	3159.852	0.0926
123789-HxCDD	38.14		1.0112	1.0113	+0.2	1.42E+07	1.27	Y	1.05	50.9	3159.852	0.0988
1234678-HpCDD	40.80		1.0003	1.0003	0	1.22E+07	1.03	Y	1.06	51.2	2988.88	0.101
OCDD	43.47		1.0004	1.0003	-0.3	1.72E+07	0.91	Y	1.13	109	4776.689	0.318
2378-TCDF	27.62		1.0008	1.0007	-0.2	5.87E+06	0.77	Y	1.08	11.1	2453.561	0.0504
12378-PeCDF	32.37		1.0005	1.0005	0	2.16E+07	1.53	Y	1.02	48.2	6833.168	0.14
23478-PeCDF	33.48		1.0005	1.0005	0	2.27E+07	1.57	Y	1.02	52.2	6833.168	0.141
123478-HxCDF	36.72		1.0004	1.0005	+0.2	1.87E+07	1.23	Y	1.27	51.3	8708.72	0.201
123678-HxCDF	36.86		1.0004	1.0005	+0.2	2.11E+07	1.25	Y	1.15	52.4	8708.72	0.183
234678-HxCDF	37.54		1.0005	1.0005	0	2.03E+07	1.23	Y	1.19	49.9	8708.72	0.186
123789-HxCDF	38.50		1.0004	1.0004	0	1.55E+07	1.23	Y	1.16	49.6	8708.72	0.231
1234678-HpCDF	39.87		1.0003	1.0003	0	1.71E+07	1.03	Y	1.37	50.3	2496.07	0.0493
1234789-HpCDF	41.26		1.0002	1.0003	+0.2	1.28E+07	1.03	Y	1.31	50.4	2496.07	0.0814
OCDF	43.66		1.0003	1.0002	-0.3	2.02E+07	0.91	Y	1.07	102	3174.746	0.185

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46	1.0236	1.0238	+0.3	3.08E+07	0.84	Y	1.05	90.2
ES 12378-PeCDD	33.80	1.2144	1.2160	+3.2	2.85E+07	1.56	Y	0.88	99.3
ES 123478-HxCDD	37.71	0.9920	0.9918	-0.5	2.50E+07	1.31	Y	0.97	96.1
ES 123678-HxCDD	37.83	0.9951	0.9949	-0.5	2.69E+07	1.25	Y	0.94	107
ES 123789-HxCDD	38.12	1.0027	1.0026	-0.2	2.66E+07	1.29	Y	1.09	91.3
ES 1234678-HpCDD	40.79	1.0724	1.0729	+1.2	2.24E+07	1.07	Y	0.91	91.9
ES OCDD	43.46	1.1428	1.1431	+0.8	2.79E+07	0.92	Y	0.62	83.7
ES 2378-TCDF	27.60	1.0516	1.0519	+0.5	4.90E+07	0.80	Y	1.06	88.3
ES 12378-PeCDF	32.35	1.2312	1.2331	+3.7	4.37E+07	1.63	Y	0.91	91.7
ES 23478-PeCDF	33.46	1.2733	1.2756	+4.6	4.27E+07	1.58	Y	0.88	92.4
ES 123478-HxCDF	36.70	0.9655	0.9653	-0.4	2.87E+07	0.52	Y	1.20	89.7
ES 123678-HxCDF	36.84	0.9692	0.9690	-0.4	3.49E+07	0.54	Y	1.35	96.6
ES 234678-HxCDF	37.52	0.9871	0.9869	-0.5	3.42E+07	0.52	Y	1.24	103
ES 123789-HxCDF	38.48	1.0121	1.0120	-0.2	2.69E+07	0.55	Y	1.16	87.1
ES 1234678-HpCDF	39.86	1.0479	1.0483	+1.0	2.49E+07	0.45	Y	0.97	96.1
ES 1234789-HpCDF	41.25	1.0845	1.0849	+1.0	1.94E+07	0.47	Y	0.85	85.1
ES OCDF	43.65	1.1477	1.1479	+0.5	3.67E+07	0.90	Y	0.81	85.1

Lab ID: OPR1_18887_DF | **Acq'd:** 09 Feb 2022 05:47 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18887_OPR001 | **UTP:** 09-Feb-2022 14:37:50 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 724-032-NJC

Datafile: 220209C02 | **Report:** 09 Feb 2022 17:30 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.79		-	-	-	3.27E+07	0.83	Y	-	-
JS 1234-TCDF	26.24		-	-	-	5.24E+07	0.79	Y	-	-
JS 123467-HxCDD	38.02		-	-	-	1.34E+07	1.25	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0244	1.0246	+0.3	1.45E+07	n/a	-	1.20	92.2
CS 12347-PeCDD	33.29		1.1964	1.1979	+3.0	2.73E+07	1.59	Y	0.75	111
CS 12346-PeCDF	31.82		1.2112	1.2129	+3.2	4.44E+07	1.59	Y	0.85	99.8
CS 123469-HxCDF	37.16		0.9775	0.9773	-0.4	3.40E+07	0.54	Y	1.12	114
CS 1234689-HpCDF	40.26		1.0584	1.0590	+1.4	2.63E+07	0.47	Y	0.89	111
SS 37Cl-2378-TCDD	28.48		1.0244	1.0246	+0.3	1.45E+07	n/a	-	1.15	103
SS 12347-PeCDD	33.29		1.1964	1.1979	+3.0	2.73E+07	1.59	Y	0.86	111
SS 12346-PeCDF	31.82		1.2112	1.2129	+3.2	4.44E+07	1.59	Y	0.94	109
SS 123469-HxCDF	37.16		0.9775	0.9773	-0.4	3.40E+07	0.54	Y	0.83	118
SS 1234689-HpCDF	40.26		1.0584	1.0590	+1.4	2.63E+07	0.47	Y	0.92	115

Totals	Conc	EMPC
Total TCDD	52	52
Total PeCDD	73.1	73.1
Total HxCDD	170	170
Total HpCDD	63.5	63.5
Total Tetra-Octa Dioxins	469	469
Total TCDF	60.6	60.6
Total PeCDF	200	200
Total HxCDF	327	327
Total HpCDF	101	101
Total Tetra-Octa Furans	791	791
Total Tetra-Octa Dioxins & Furans	1260	1260

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.76	0.76
Response	4.13E+06	4.12E+06

Lab ID: OPR1_18887_DF | **Acq'd: 09 Feb 2022 05:47 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18887_OPR001 | **UTP: 09-Feb-2022 14:37:50 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 724-032-NJC**

Datafile: 220209C02 | **Report: 09 Feb 2022 17:30 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.83		0.8737	0.8727	-1.5	5.48E+06	0.81	Y	1.18	15	4277.164	0.125
1379-TCDD	NotFnd		0.8860						1.18		4277.164	0.125
1369-TCDD	NotFnd		0.9009						1.18		4277.164	0.125
1469-TCDD	NotFnd		0.9281						1.18		4277.164	0.125
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		4277.164	0.125
1378-TCDD	NotFnd		0.9432						1.18		4277.164	0.125
1268-TCDD	NotFnd		0.9500						1.18		4277.164	0.125
1478-TCDD	NotFnd		0.9586						1.18		4277.164	0.125
1279-TCDD	NotFnd		0.9645						1.18		4277.164	0.125
1234/1269-TCDD	NotFnd		0.9770						1.18		4277.164	0.125
1236-TCDD	NotFnd		0.9817						1.18		4277.164	0.125
1237/1238-TCDD	NotFnd		0.9905						1.18		4277.164	0.125
1239-TCDD	28.32		0.9952	0.9952	0	3.75E+06	0.79	Y	1.18	10.3	4277.164	0.125
2378-TCDD	**28.48**		**1.0008**	1.0008	**0**	4.12E+06	0.76	Y	**1.18**	**11.3**	**4277.164**	**0.125**
1278-TCDD	NotFnd		1.0121						1.18		4277.164	0.125
1267-TCDD	NotFnd		1.0167						1.18		4277.164	0.125
1289-TCDD	29.45		1.0345	1.0349	+0.7	5.63E+06	0.80	Y	1.18	15.4	4277.164	0.125
12479/12468-PeCDD	31.31		0.9267	0.9265	-0.4	3.44E+06	1.59	Y	1.04	11.7	2206.26	0.0673
12469-PeCDD	NotFnd		0.9425						1.04		2206.26	0.0673
12368-PeCDD	NotFnd		0.9588						1.04		2206.26	0.0673
12478-PeCDD	NotFnd		0.9643						1.04		2206.26	0.0673
12379-PeCDD	NotFnd		0.9673						1.04		2206.26	0.0673
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		2206.26	0.0673
12346/12347-PeCDD	NotFnd		0.9858						1.04		2206.26	0.0673
12378-PeCDD	33.82		**1.0006**	**1.0006**	**0**	**1.45E+07**	**1.53**	**Y**	**1.04**	**49.1**	**2206.26**	**0.0673**
12367-PeCDD	NotFnd		1.0033						1.04		2206.26	0.0673
12389-PeCDD	34.25		1.0134	1.0135	+0.2	3.66E+06	1.61	Y	1.04	12.4	2206.26	0.0673
124679/124689-HxCDD	35.98		0.9542	0.9540	-0.4	3.87E+06	1.23	Y	1.10	13.5	3159.852	0.0964
123468-HxCDD	NotFnd		0.9715						1.10		3159.852	0.0964
123679/123689-HxCDD	NotFnd		0.9793						1.10		3159.852	0.0964
123469-HxCDD	NotFnd		0.9828						1.10		3159.852	0.0964
123478-HxCDD	37.72		**1.0004**	**1.0004**	**0**	**1.43E+07**	**1.24**	**Y**	1.09	**52.6**	**3159.852**	**0.0981**
123678-HxCDD	37.84		**1.0035**	**1.0035**	**0**	**1.65E+07**	**1.27**	**Y**	1.15	**53.4**	**3159.852**	**0.0926**
123467-HxCDD	NotFnd		1.0085						1.10		3159.852	0.0964
123789-HxCDD	38.14		**1.0112**	**1.0113**	**+0.2**	**1.42E+07**	**1.27**	**Y**	1.05	**50.9**	**3159.852**	**0.0988**

Lab ID: OPR1_18887_DF | **Acq'd: 09 Feb 2022 05:47 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18887_OPR001 | **UTP: 09-Feb-2022 14:37:50 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 724-032-NJC**

Datafile: 220209C02 | **Report: 09 Feb 2022 17:30 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.13		0.9837	0.9837	0	2.93E+06	1.01	Y	1.06	12.3	2988.88	0.101
1234678-HpCDD	**40.80**		**1.0003**	**1.0003**	**0**	**1.22E+07**	**1.03**	**Y**	**1.06**	**51.2**	**2988.88**	**0.101**
OCDD	**43.47**		**1.0004**	**1.0003**	**-0.3**	**1.72E+07**	**0.91**	**Y**	**1.13**	**109**	**4776.689**	**0.318**
OCDD-a	43.46		1.0003	1.0000	-0.8	1.03E+06	2.75	Y	0.07	103	3538.934	3.69
1368-TCDF	22.73		0.8251	0.8235	-2.2	7.92E+06	0.80	Y	1.08	15	2453.561	0.0504
1468-TCDF	NotFnd		0.8458						1.08		2453.561	0.0504
2468-TCDF	23.94		0.8686	0.8675	-1.6	1.97E+06	0.76	Y	1.08	3.73	2453.561	0.0504
1346/1246-TCDF	NotFnd		0.8814						1.08		2453.561	0.0504
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2453.561	0.0504
1348-TCDF	NotFnd		0.8962						1.08		2453.561	0.0504
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2453.561	0.0504
1268-TCDF	NotFnd		0.9145						1.08		2453.561	0.0504
1467-TCDF	NotFnd		0.9193						1.08		2453.561	0.0504
1478-TCDF	NotFnd		0.9254						1.08		2453.561	0.0504
1369/1237-TCDF	NotFnd		0.9387						1.08		2453.561	0.0504
2467-TCDF	NotFnd		0.9433						1.08		2453.561	0.0504
2368-TCDF	NotFnd		0.9489						1.08		2453.561	0.0504
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2453.561	0.0504
1278-TCDF	NotFnd		0.9683						1.08		2453.561	0.0504
1349-TCDF	NotFnd		0.9722						1.08		2453.561	0.0504
1267-TCDF	NotFnd		0.9783						1.08		2453.561	0.0504
2346/1249-TCDF	NotFnd		0.9850						1.08		2453.561	0.0504
2347/1279-TCDF	NotFnd		0.9926						1.08		2453.561	0.0504
2348-TCDF	27.51		0.9967	0.9967	0	7.58E+06	0.79	Y	1.08	14.3	2453.561	0.0504
2378-TCDF	**27.62**		**1.0008**	**1.0007**	**-0.2**	**5.87E+06**	**0.77**	**Y**	**1.08**	**11.1**	**2453.561**	**0.0504**
2367/3467-TCDF	NotFnd		1.0137						1.08		2453.561	0.0504
1269-TCDF	NotFnd		1.0223						1.08		2453.561	0.0504
1239-TCDF	NotFnd		1.0321						1.08		2453.561	0.0504
1289-TCDF	29.62		1.0722	1.0731	+1.6	8.66E+06	0.77	Y	1.08	16.4	2453.561	0.0504
13468/12468-PeCDF	29.53		0.9139	0.9129	-1.8	3.92E+07	1.60	Y	1.02	88.8	3397.283	0.0698
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		6833.168	0.14
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		6833.168	0.14
14678-PeCDF	NotFnd		0.9692						1.02		6833.168	0.14
13479-PeCDF	NotFnd		0.9723						1.02		6833.168	0.14
13469/12479-PeCDF	NotFnd		0.9797						1.02		6833.168	0.14
12346-PeCDF	NotFnd		0.9840						1.02		6833.168	0.14

Lab ID: OPR1_18887_DF | **Acq'd: 09 Feb 2022 05:47 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18887_OPR001 | **UTP: 09-Feb-2022 14:37:50 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 724-032-NJC**

Datafile: 220209C02 | **Report: 09 Feb 2022 17:30 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		6833.168	0.14
12347-PeCDF	NotFnd		0.9894						1.02		6833.168	0.14
12348-PeCDF	NotFnd		0.9940						1.02		6833.168	0.14
12378-PeCDF	**32.37**		**1.0005**	**1.0005**	**0**	**2.16E+07**	**1.53**	**Y**	**1.02**	**48.2**	**6833.168**	**0.14**
12678/12367-PeCDF	NotFnd		1.0089						1.02		6833.168	0.14
12379-PeCDF	NotFnd		1.0142						1.02		6833.168	0.14
12679-PeCDF	NotFnd		0.9929						1.02		6833.168	0.14
23467/12369-PeCDF	NotFnd		0.9967						1.02		6833.168	0.14
23478-PeCDF	**33.48**		**1.0005**	**1.0005**	**0**	**2.27E+07**	**1.57**	**Y**	**1.02**	**52.2**	**6833.168**	**0.141**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6833.168	0.14
12349-PeCDF	NotFnd		1.0100						1.02		6833.168	0.14
12389-PeCDF	34.56		1.0324	1.0326	+0.4	4.71E+06	1.55	Y	1.02	10.7	6833.168	0.14
123468-HxCDF	35.33		0.9627	0.9627	0	4.62E+07	1.24	Y	1.19	124	8708.72	0.198
124678/134678-HxCDF	NotFnd		0.9682						1.19		8708.72	0.198
134679-HxCDF	NotFnd		0.9744						1.19		8708.72	0.198
124679-HxCDF	NotFnd		0.9798						1.19		8708.72	0.198
124689-HxCDF	NotFnd		0.9858						1.19		8708.72	0.198
123467-HxCDF	NotFnd		0.9972						1.19		8708.72	0.198
123478-HxCDF	**36.72**		**1.0004**	**1.0005**	**+0.2**	**1.87E+07**	**1.23**	**Y**	**1.27**	**51.3**	**8708.72**	**0.201**
123678-HxCDF	**36.86**		**1.0004**	**1.0005**	**+0.2**	**2.11E+07**	**1.25**	**Y**	**1.15**	**52.4**	**8708.72**	**0.183**
123479-HxCDF	NotFnd		1.0049						1.19		8708.72	0.198
123469-HxCDF	NotFnd		1.0090						1.19		8708.72	0.198
123679-HxCDF	NotFnd		0.9942						1.19		8708.72	0.198
234678-HxCDF	**37.54**		**1.0005**	**1.0005**	**0**	**2.03E+07**	**1.23**	**Y**	**1.19**	**49.9**	**8708.72**	**0.186**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		8708.72	0.198
123789-HxCDF	**38.50**		**1.0004**	**1.0004**	**0**	**1.55E+07**	**1.23**	**Y**	**1.16**	**49.6**	**8708.72**	**0.231**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		8708.72	0.198
1234678-HpCDF	**39.87**		**1.0003**	**1.0003**	**0**	**1.71E+07**	**1.03**	**Y**	**1.37**	**50.3**	**2496.07**	**0.0493**
1234679-HpCDF	NotFnd		1.0068						1.34		2496.07	0.0632
1234689-HpCDF	NotFnd		1.0103						1.34		2496.07	0.0632
1234789-HpCDF	**41.26**		**1.0002**	**1.0003**	**+0.2**	**1.28E+07**	**1.03**	**Y**	**1.31**	**50.4**	**2496.07**	**0.0814**
OCDF	**43.66**		**1.0003**	**1.0002**	**-0.3**	**2.02E+07**	**0.91**	**Y**	**1.07**	**102**	**3174.746**	**0.185**
OCDF-a	43.65		1.0002	1.0001	-0.3	1.37E+06	2.42	Y	0.07	112	2992.781	2.81

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220209C02	Analysis Date:	09-FEB-2022 05:47:32
Lab ID:	OPR1_18887_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.3	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	49.1	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	52.6	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	53.4	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	50.9	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	51.2	35	-	70	Y
OCDD	100	109	78	-	144	Y
2,3,7,8-TCDF	10	11.1	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	48.2	40	-	67	Y
2,3,4,7,8-PeCDF	50	52.2	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	51.3	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	52.4	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	49.9	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	49.6	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	50.3	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	50.4	39	-	69	Y
OCDF	100	102	63	-	170	Y

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

Processed: 09 Feb 2022 17:30 Analyst: TF

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220209C02	Analysis Date:	09-FEB-2022 05:47:32
Lab ID:	OPR1_18887_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	90.2	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	99.3	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	96.1	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	107	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	91.3	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	91.9	26	-	166	Y
13C-OCDD	200	167	26	-	397	Y
13C-2,3,7,8-TCDF	100	88.3	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	91.7	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	92.4	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	89.7	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	96.6	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	103	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	87.1	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	96.1	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	85.1	20	-	186	Y
13C-OCDF	200	170	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	36.9	12.4	-	76.4	Y

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

Processed: 09 Feb 2022 17:30 Analyst: TF

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220209C02	Analysis Date:	09-FEB-2022 05:47:32
Lab ID:	OPR1_18887_DF		

Window Defining Standards Results

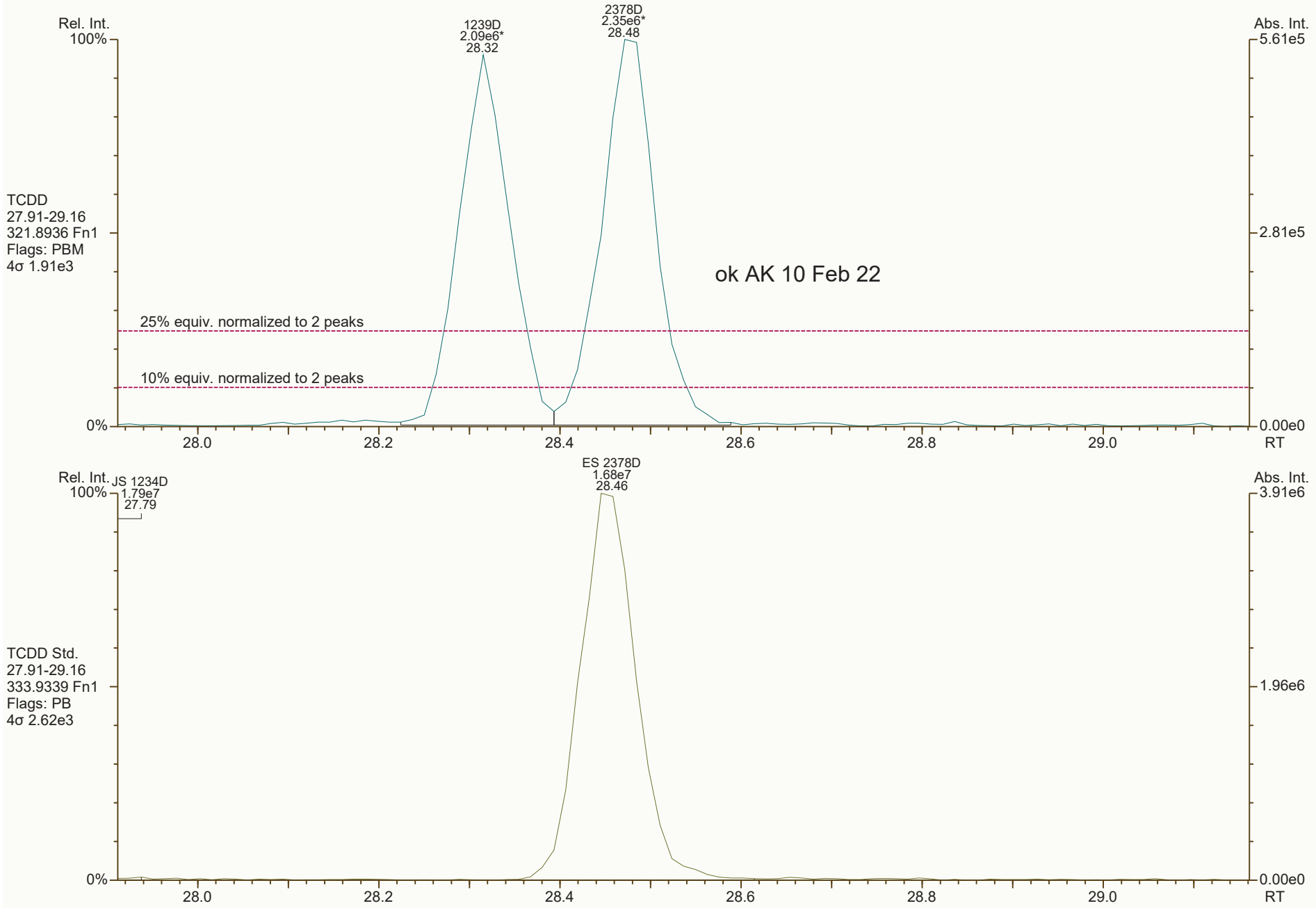
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.83	1289-TCDD	29.45
12479/12468-PeCDD	31.31	12389-PeCDD	34.25
124679/124689-HxCDD	35.98	123789-HxCDD	38.14
1234679-HpCDD	40.13	1234678-HpCDD	40.80
1368-TCDF	22.73	1289-TCDF	29.62
13468/12468-PeCDF	29.53	12389-PeCDF	34.56
123468-HxCDF	35.33	123789-HxCDF	38.50
1234678-HpCDF	39.87	1234789-HpCDF	41.26

Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.32	2378-TCDD	28.48
2348-TCDF	27.51	2378-TCDF	27.62

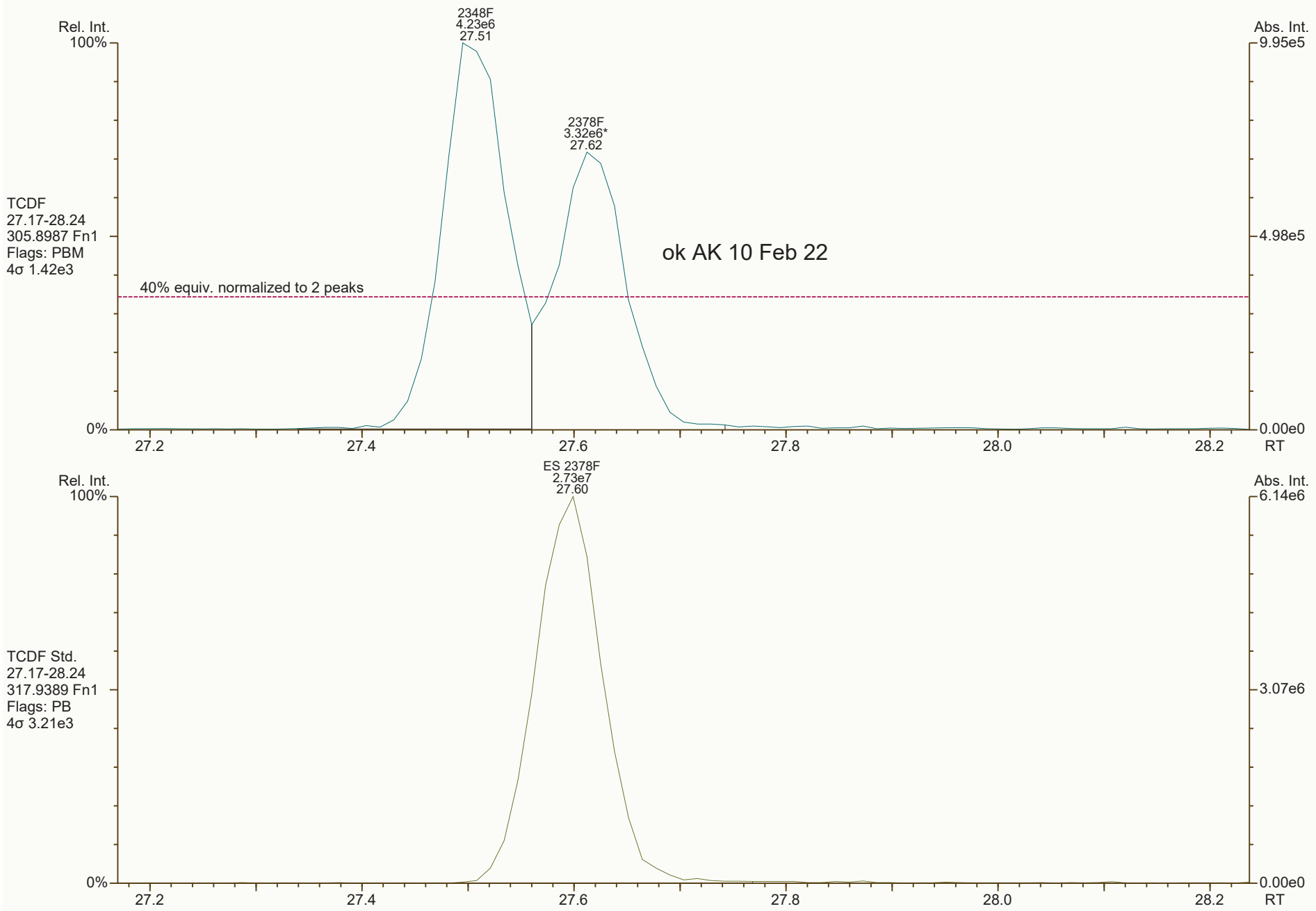
Processed: 09 Feb 2022 17:30 Analyst: TF

SGS ID: OPR1_18887_DF
Sample ID: 0_18887_OPR001
Acq: 09-Feb-2022 05:47:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 17
User: DTF Datafile: 220209C02



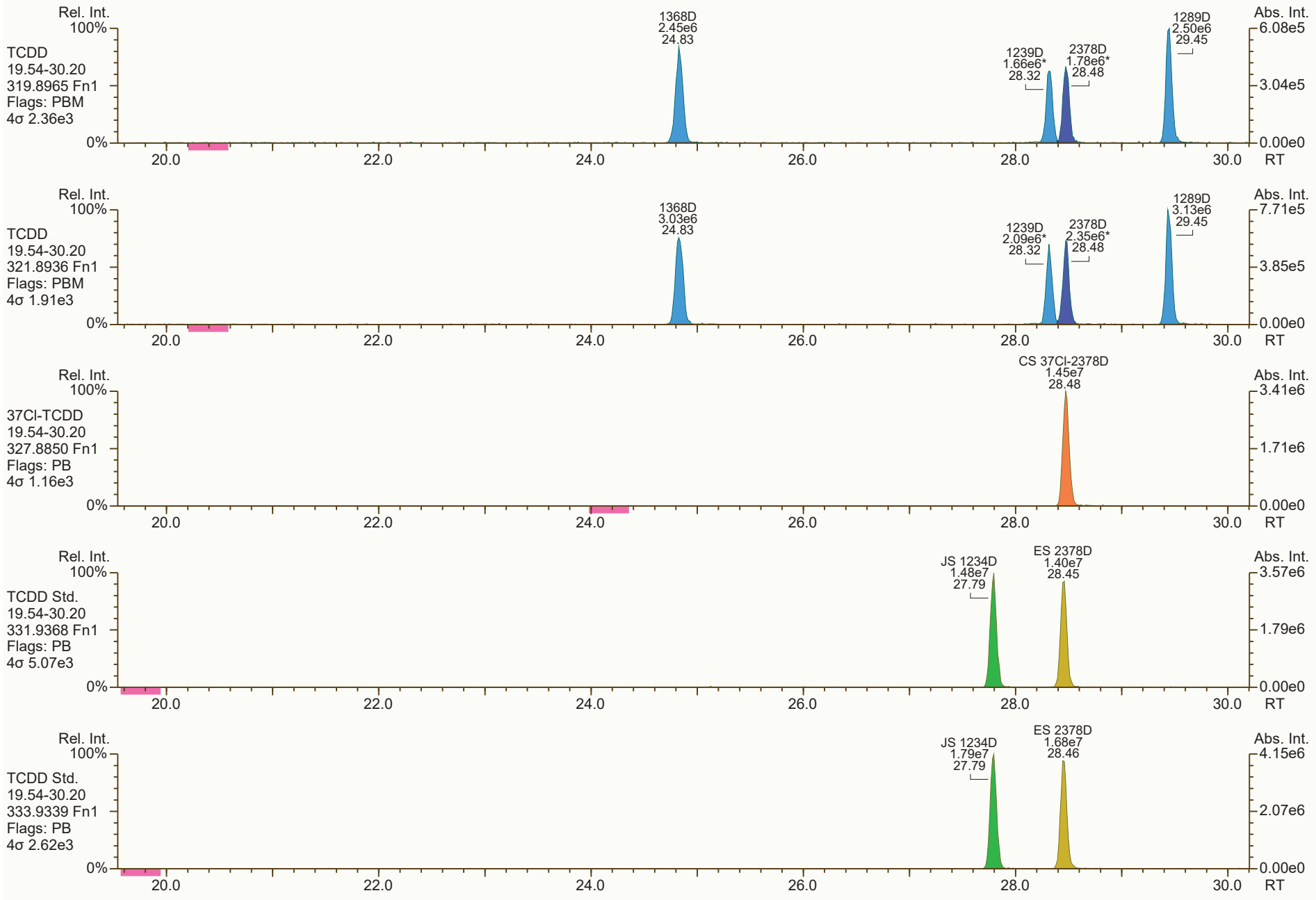
Results: P:\B6200_B6299\B6238\B6238_18887 DF\Resources\OPR1_18887_DF.utp_res, saved 09-Feb-2022 14:37 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
PKD: 09-Feb-2022 14:14 Printed: 09-Feb-2022 14:47

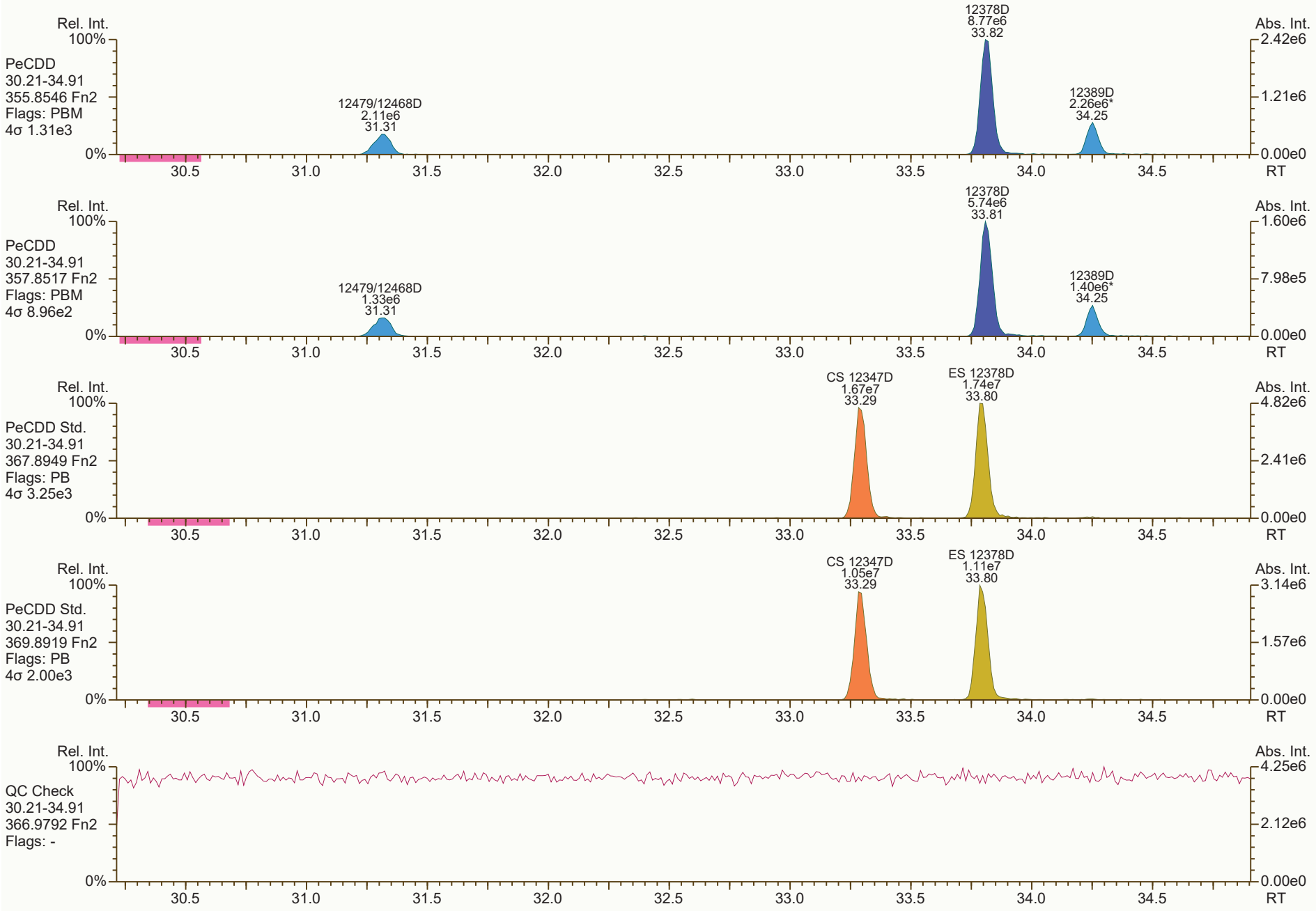
SGS ID: OPR1_18887_DF
Sample ID: 0_18887_OPR001
Acq: 09-Feb-2022 05:47:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 17
User: DTF Datafile: 220209C02

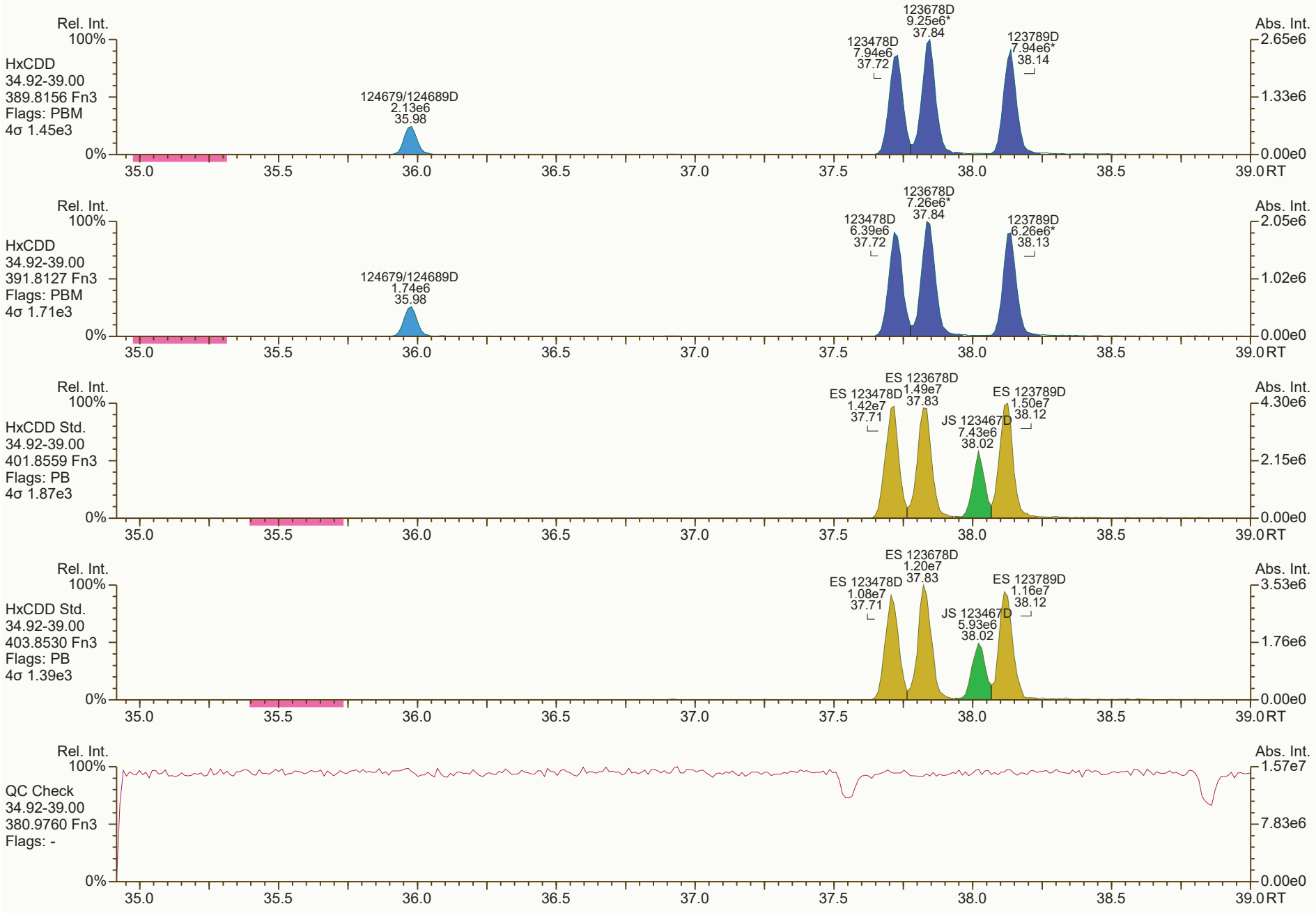


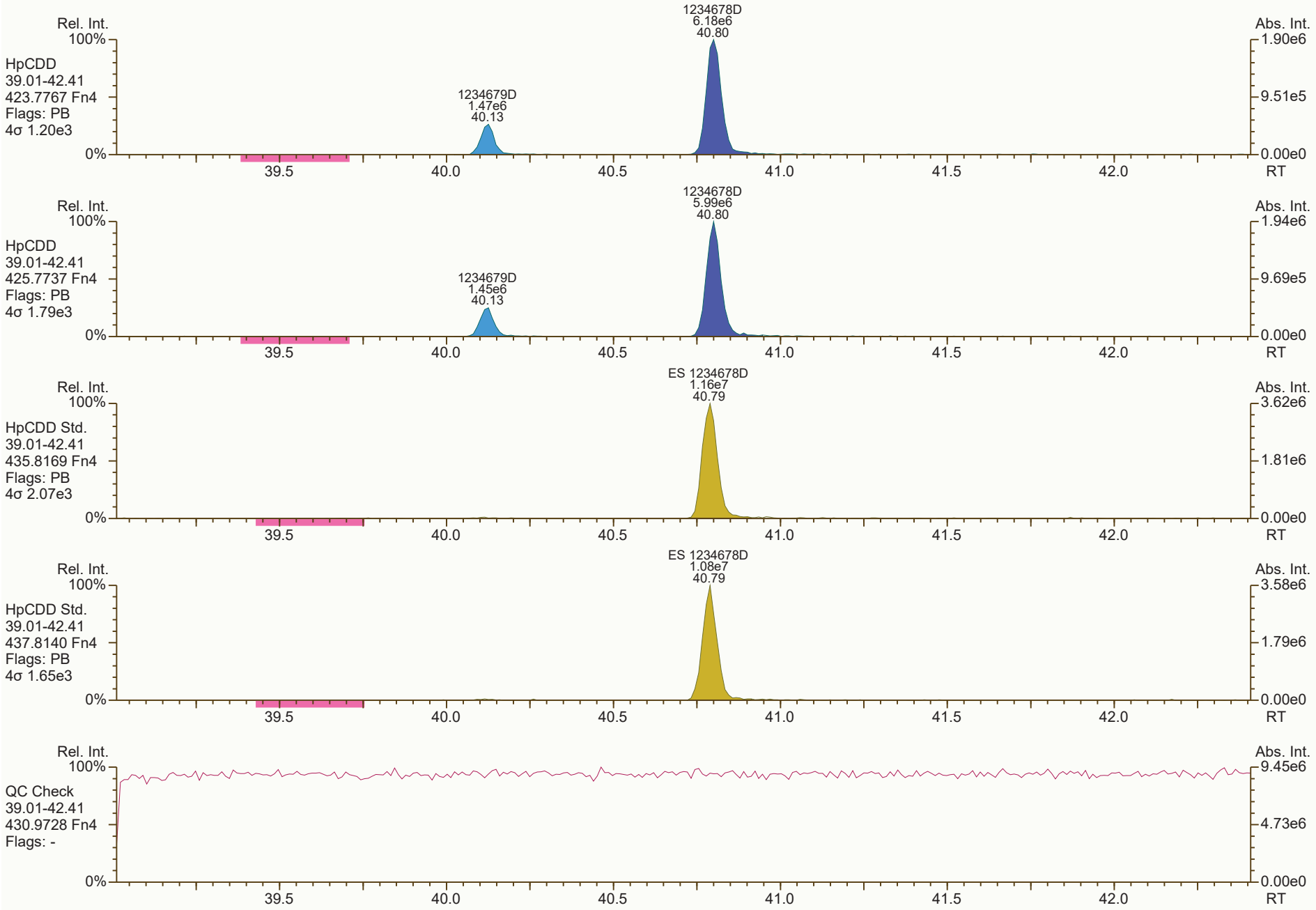
Results: P:\B6200_B6299\B6238\B6238_18887 DF\Resources\OPR1_18887_DF.utp_res, saved 09-Feb-2022 14:37 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
PKD: 09-Feb-2022 14:14 Printed: 09-Feb-2022 14:47

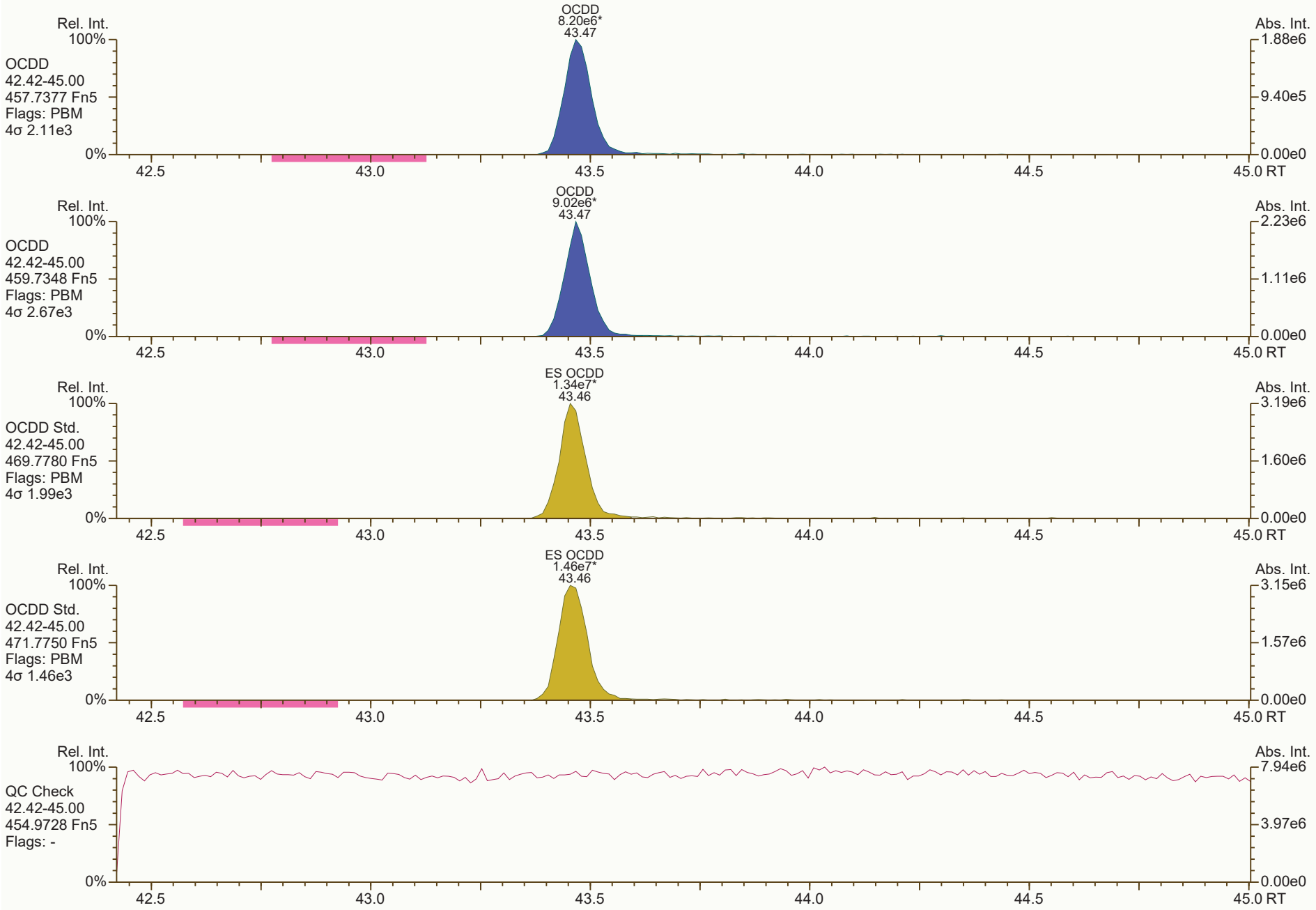

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.72e6
2.36e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.25e6
2.12e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.57e7
7.83e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
9.45e6
4.73e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
7.94e6
3.97e6
0.00e0

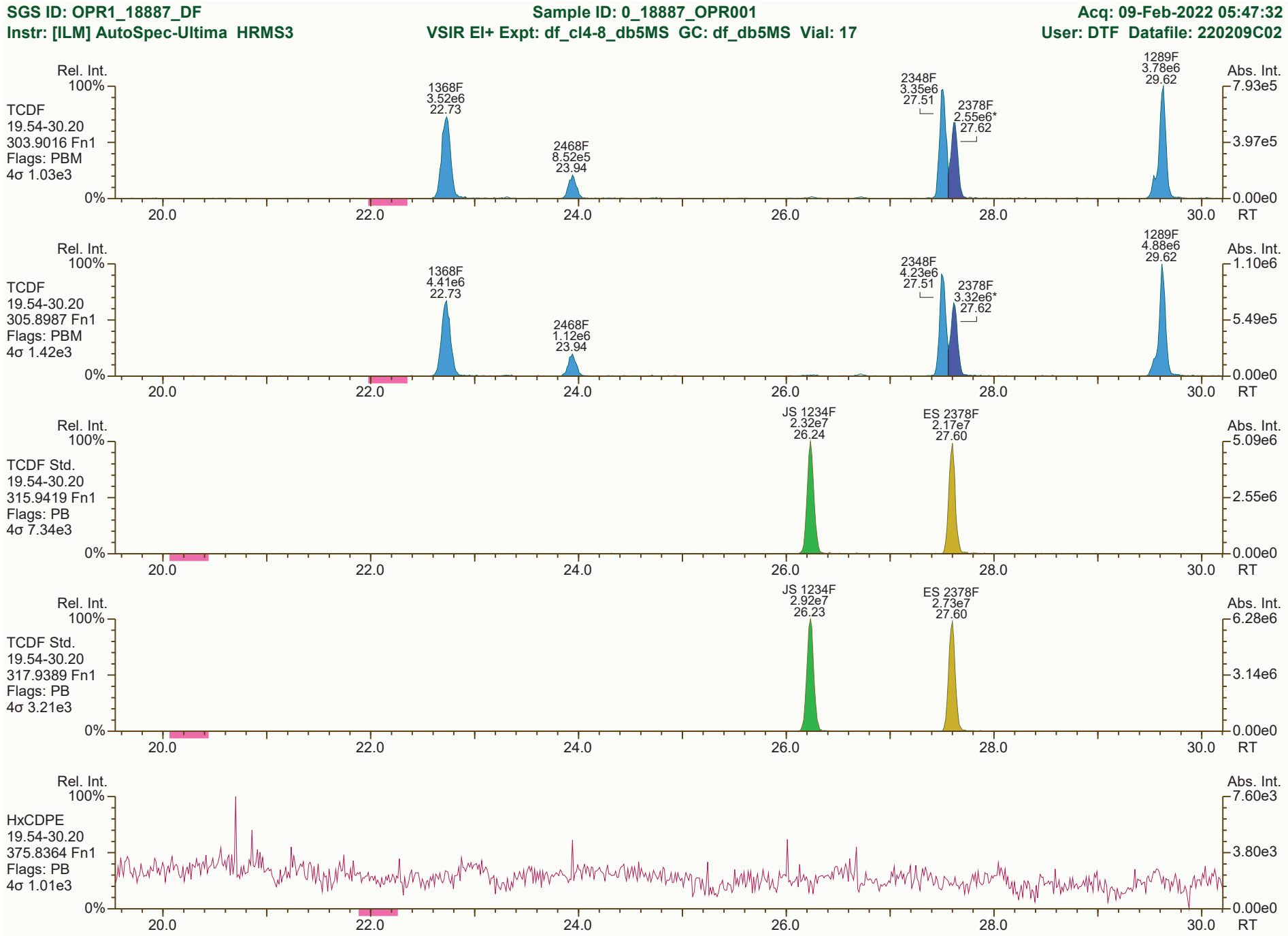

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.36e3
0%
1368D
2.45e6
24.83
1239D
1.66e6*
28.32
2378D
1.78e6*
28.48
1289D
2.50e6
29.45
Abs. Int.
6.08e5
3.04e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.91e3
0%
1368D
3.03e6
24.83
1239D
2.09e6*
28.32
2378D
2.35e6*
28.48
1289D
3.13e6
29.45
Abs. Int.
7.71e5
3.85e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.16e3
0%
CS 37Cl-2378D
1.45e7
28.48
Abs. Int.
3.41e6
1.71e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.07e3
0%
JS 1234D
1.48e7
27.79
ES 2378D
1.40e7
28.45
Abs. Int.
3.57e6
1.79e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.62e3
0%
JS 1234D
1.79e7
27.79
ES 2378D
1.68e7
28.46
Abs. Int.
4.15e6
2.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PBM
4σ 1.31e3
12479/12468D
2.11e6
31.31
12378D
8.77e6
33.82
12389D
2.26e6*
34.25
Abs. Int.
2.42e6
1.21e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PBM
4σ 8.96e2
12479/12468D
1.33e6
31.31
12378D
5.74e6
33.81
12389D
1.40e6*
34.25
Abs. Int.
1.60e6
7.98e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 3.25e3
CS 12347D
1.67e7
33.29
ES 12378D
1.74e7
33.80
Abs. Int.
4.82e6
2.41e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 2.00e3
CS 12347D
1.05e7
33.29
ES 12378D
1.11e7
33.80
Abs. Int.
3.14e6
1.57e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
Abs. Int.
4.25e6
2.12e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

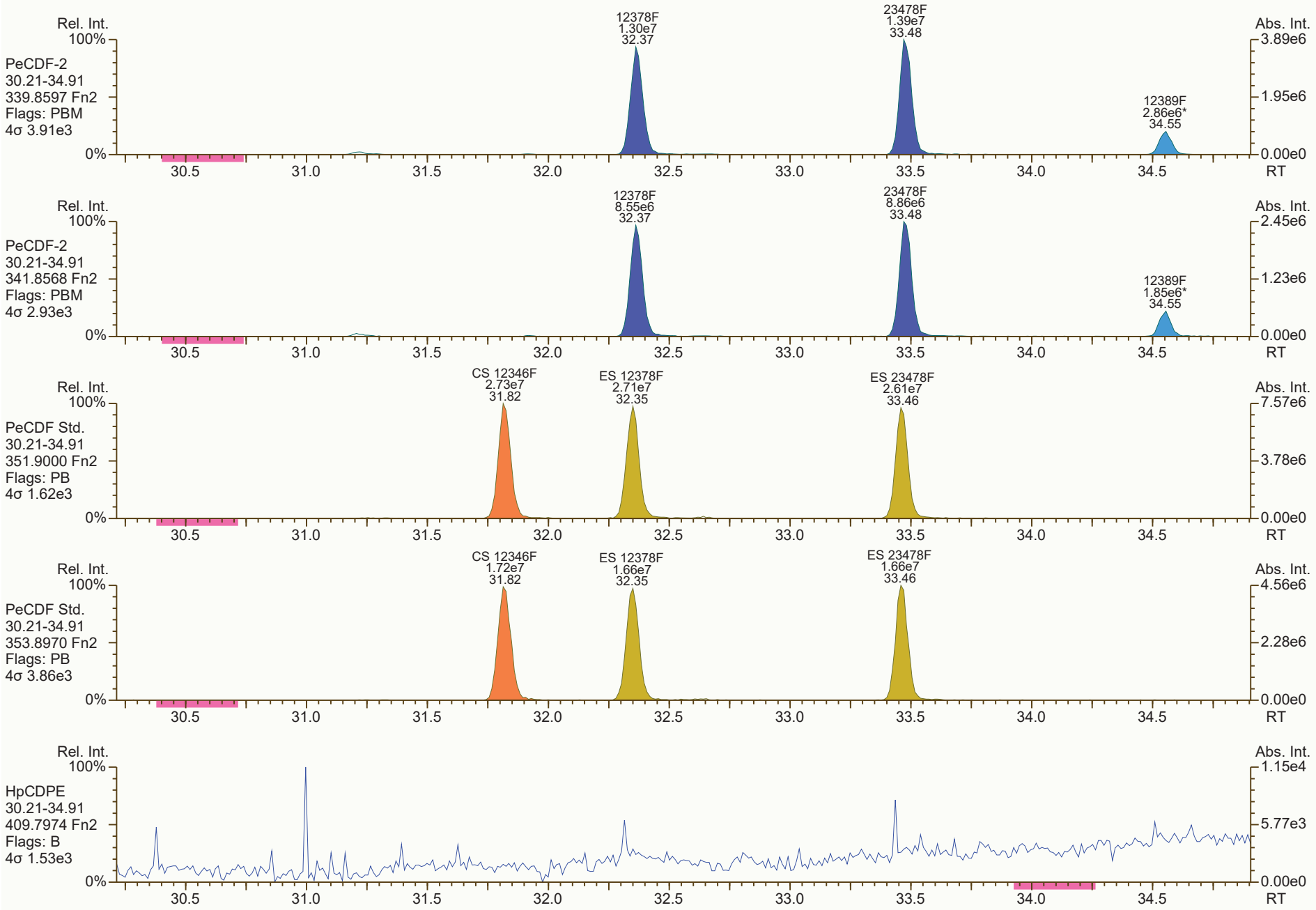

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 1.45e3
0%
124679/124689D
2.13e6
35.98
123478D
7.94e6
37.72
123678D
9.25e6*
37.84
123789D
7.94e6*
38.14
Abs. Int.
2.65e6
1.33e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 1.71e3
0%
124679/124689D
1.74e6
35.98
123478D
6.39e6
37.72
123678D
7.26e6*
37.84
123789D
6.26e6*
38.13
Abs. Int.
2.05e6
1.02e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 1.87e3
0%
ES 123478D
1.42e7
37.71
ES 123678D
1.49e7
37.83
JS 123467D
7.43e6
38.02
ES 123789D
1.50e7
38.12
Abs. Int.
4.30e6
2.15e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 1.39e3
0%
ES 123478D
1.08e7
37.71
ES 123678D
1.20e7
37.83
JS 123467D
5.93e6
38.02
ES 123789D
1.16e7
38.12
Abs. Int.
3.53e6
1.76e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.57e7
7.83e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

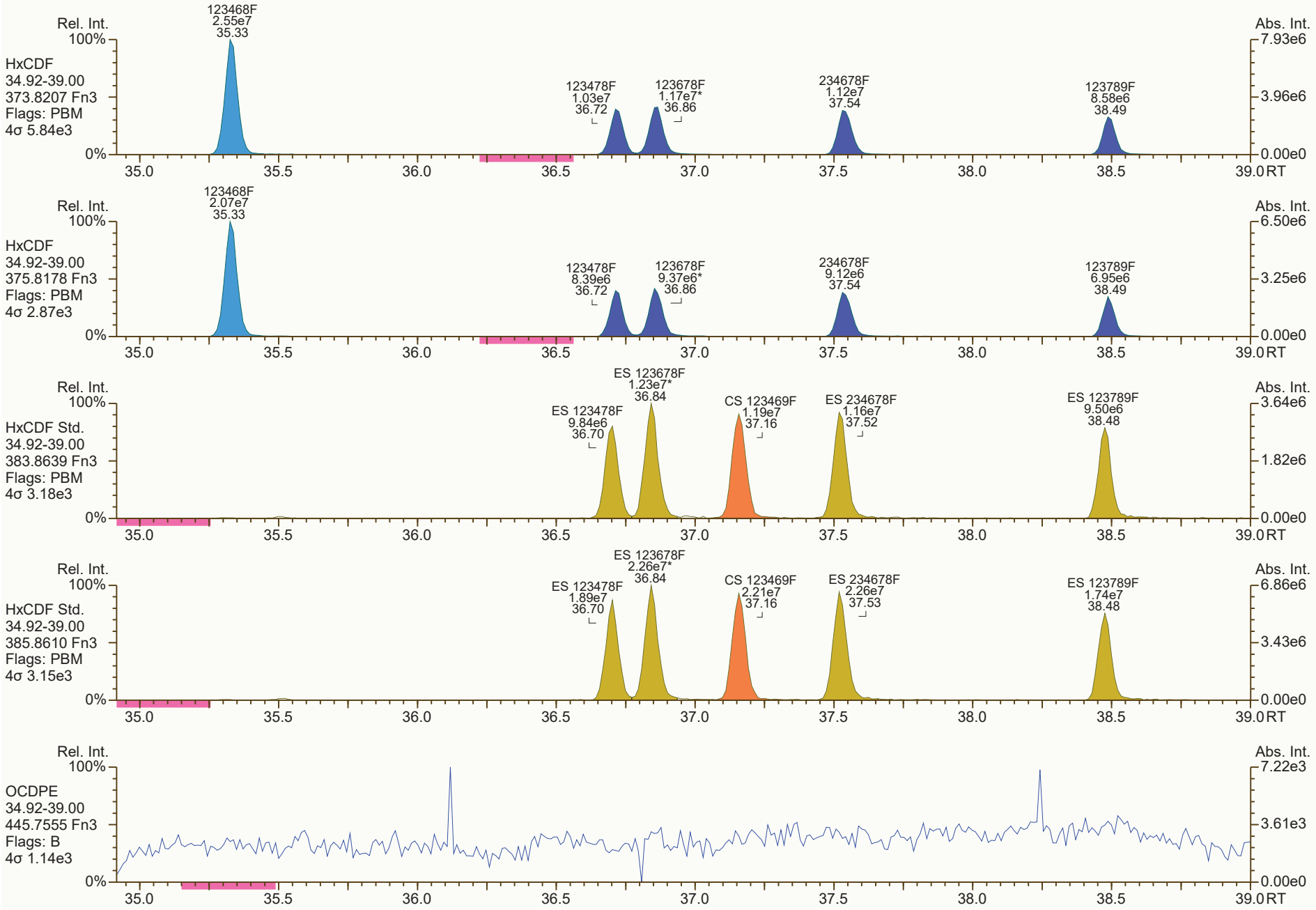

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 1.20e3
1234678D
6.18e6
40.80
1234679D
1.47e6
40.13
Abs. Int.
1.90e6
9.51e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.79e3
1234678D
5.99e6
40.80
1234679D
1.45e6
40.13
Abs. Int.
1.94e6
9.69e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.07e3
ES 1234678D
1.16e7
40.79
Abs. Int.
3.62e6
1.81e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.65e3
ES 1234678D
1.08e7
40.79
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
9.45e6
4.73e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
8.20e6*
43.47
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 2.11e3
0%
Abs. Int.
1.88e6
9.40e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
9.02e6*
43.47
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 2.67e3
0%
Abs. Int.
2.23e6
1.11e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.34e7*
43.46
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 1.99e3
0%
Abs. Int.
3.19e6
1.60e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.46e7*
43.46
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 1.46e3
0%
Abs. Int.
3.15e6
1.57e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.94e6
3.97e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: OPR1_18887_DF
Sample ID: 0_18887_OPR001
Acq: 09-Feb-2022 05:47:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 17
User: DTF Datafile: 220209C02
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.03e3
1368F 3.52e6 22.73
2468F 8.52e5 23.94
2348F 3.35e6 27.51
2378F 2.55e6* 27.62
1289F 3.78e6 29.62
7.93e5
3.97e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.42e3
1368F 4.41e6 22.73
2468F 1.12e6 23.94
2348F 4.23e6 27.51
2378F 3.32e6* 27.62
1289F 4.88e6 29.62
1.10e6
5.49e5
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 7.34e3
JS 1234F 2.32e7 26.24
ES 2378F 2.17e7 27.60
5.09e6
2.55e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.21e3
JS 1234F 2.92e7 26.23
ES 2378F 2.73e7 27.60
6.28e6
3.14e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.01e3
7.60e3
3.80e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6238\B6238_18887 DF\Resources\OPR1_18887_DF.utp_res, saved 09-Feb-2022 14:37 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1969, 6184, 1976 scc: 724-032
PKD: 09-Feb-2022 14:14 Printed: 09-Feb-2022 14:49 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.77e3
13468/12468F
2.41e7
29.53
Abs. Int.
6.20e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.63e3
13468/12468F
1.51e7
29.53
Abs. Int.
3.73e6
1.87e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
4.72e6
2.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

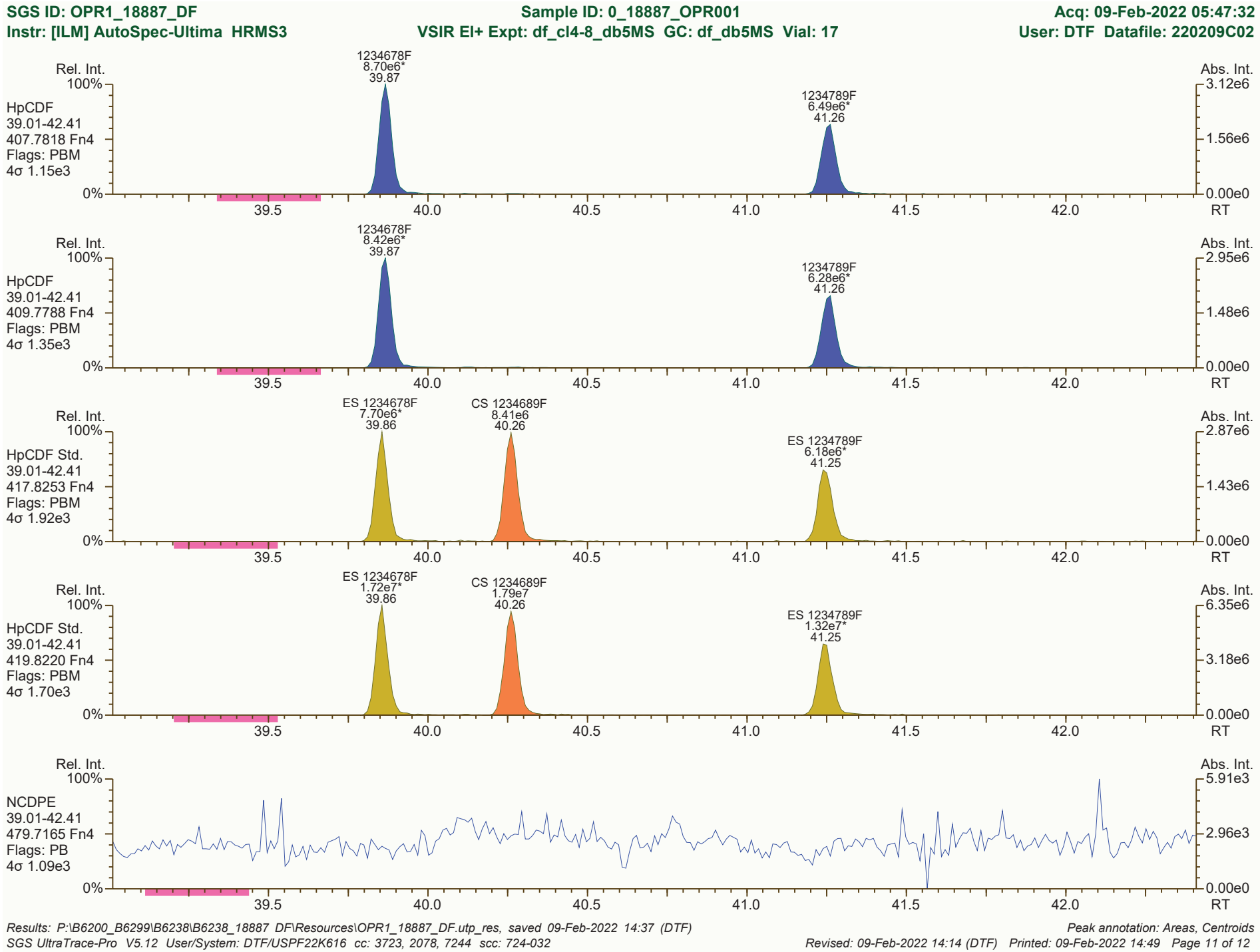

Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PBM
4σ 3.91e3
0%
12378F
1.30e7
32.37
23478F
1.39e7
33.48
12389F
2.86e6*
34.55
Abs. Int.
3.89e6
1.95e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PBM
4σ 2.93e3
0%
12378F
8.55e6
32.37
23478F
8.86e6
33.48
12389F
1.85e6*
34.55
Abs. Int.
2.45e6
1.23e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 1.62e3
0%
CS 12346F
2.73e7
31.82
ES 12378F
2.71e7
32.35
ES 23478F
2.61e7
33.46
Abs. Int.
7.57e6
3.78e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 3.86e3
0%
CS 12346F
1.72e7
31.82
ES 12378F
1.66e7
32.35
ES 23478F
1.66e7
33.46
Abs. Int.
4.56e6
2.28e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.53e3
0%
Abs. Int.
1.15e4
5.77e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
Abs. Int.
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 5.84e3
123468F 2.55e7 35.33
123478F 1.03e7 36.72
123678F 1.17e7* 36.86
234678F 1.12e7 37.54
123789F 8.58e6 38.49
7.93e6
3.96e6
0.00e0
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 2.87e3
123468F 2.07e7 35.33
123478F 8.39e6 36.72
123678F 9.37e6* 36.86
234678F 9.12e6 37.54
123789F 6.95e6 38.49
6.50e6
3.25e6
0.00e0
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 3.18e3
ES 123678F 1.23e7* 36.84
ES 123478F 9.84e6 36.70
CS 123469F 1.19e7 37.16
ES 234678F 1.16e7 37.52
ES 123789F 9.50e6 38.48
3.64e6
1.82e6
0.00e0
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 3.15e3
ES 123678F 2.26e7* 36.84
ES 123478F 1.89e7 36.70
CS 123469F 2.21e7 37.16
ES 234678F 2.26e7 37.53
ES 123789F 1.74e7 38.48
6.86e6
3.43e6
0.00e0
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.14e3
7.22e3
3.61e3
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT

SGS ID: OPR1_18887_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18887_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 17

Acq: 09-Feb-2022 05:47:32
User: DTF Datafile: 220209C02



Results: P:\B6200_B6299\B6238\B6238_18887 DF\Resources\OPR1_18887_DF.utp_res, saved 09-Feb-2022 14:37 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3723, 2078, 7244 scc: 724-032

Peak annotation: Areas, Centroids
Revised: 09-Feb-2022 14:14 (DTF) Printed: 09-Feb-2022 14:49 Page 11 of 12


OCDF
9.60e6*
43.66
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PBM
4σ 1.27e3
0%
Abs. Int.
2.23e6
1.12e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.06e7*
43.66
OCDF
42.42-45.00
443.7398 Fn5
Flags: PBM
4σ 1.91e3
2.37e6
1.19e6
ES OCDF
1.74e7
43.65
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.46e3
3.80e6
1.90e6
ES OCDF
1.93e7
43.64
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 2.30e3
4.32e6
2.16e6
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.43e3
1.01e4
5.04e3



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6234

28-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

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This report is approved by

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Senior Project Manager

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Results reported relate only to the items tested.

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

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6234
Analytical Protocol(s)	1613B
No. Samples Submitted	9
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	26-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	0.2, 0.0
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

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

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

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.14.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

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

Data processing uses proprietary software.

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

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

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

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

Continuing Calibration meets requirements, except for the following: the reported percent deviation of CS 1,2,3,4,6,8,9-HpCDF is above SOP criteria. There is no method specified criteria for these standards and no adverse impact on results.

No re-extractions or dilutions were required.

B6234_005: the reported ion ratio of labeled standard ES 1,2,3,7,8,9-HxCDD is outside method criteria.

OPR1/OPR2_18872 meet accuracy and precision criteria, except for the following: RPD of 2,3,7,8-TCDF is >20%.

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

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

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

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

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

APPENDIX C: LAB IDENTIFIERS

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

SGS CERTIFICATIONS

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

Rev. 12-Oct-2021

Sample ID: 1215131-020222-S-SB-NC-O-46 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6277	Date Received:	04-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.75 g	Lab Sample ID	B6277_18913_DF_001	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	78.1 %	QC Batch No:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:11:10

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	290				ES 2378-TCDD	82.1	
12378-PeCDD	3.75				ES 12378-PeCDD	95.1	
123478-HxCDD	2.51				ES 123478-HxCDD	85.7	
123678-HxCDD	7.77				ES 123678-HxCDD	91.1	
123789-HxCDD	4.8				ES 123789-HxCDD	85.6	
1234678-HpCDD	215				ES 1234678-HpCDD	89.5	
OCDD	2,500				ES OCDD	79.9	
2378-TCDF	744				ES 2378-TCDF	77.8	
12378-PeCDF	32.5				ES 12378-PeCDF	92.7	
23478-PeCDF	23.7			PR	ES 23478-PeCDF	90.5	
123478-HxCDF	53				ES 123478-HxCDF	91.7	
123678-HxCDF	13.2				ES 123678-HxCDF	103	
234678-HxCDF	4.66				ES 234678-HxCDF	95	
123789-HxCDF	ND	0.506			ES 123789-HxCDF	90.4	
1234678-HpCDF	49.2				ES 1234678-HpCDF	97.7	
1234789-HpCDF	9.32				ES 1234789-HpCDF	93	
OCDF	161				ES OCDF	83.1	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	80.9	
Total TCDD	331		331		CS 12347-PeCDD	96.8	
Total PeCDD	13.3		15.8		CS 12346-PeCDF	94.7	
Total HxCDD	88.5		88.5		CS 123469-HxCDF	98.3	
Total HpCDD	510		510		CS 1234689-HpCDF	99.3	
Total TCDF	1,460		1,460				
Total PeCDF	99.8		99.8				
Total HxCDF	117		118				
Total HpCDF	134		134				
Total PCDD/Fs	**5,420**		**5,420**				
WHO-2005 TEQs							
TEQ: ND=0	389		389				
TEQ: ND=DL/2	389	0.447	389				
TEQ: ND=DL	389	0.893	389				

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Sample ID: 1215131-020222-S-SB-NC-O-46 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6277	Date Received:	04-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.75 g	Lab Sample ID:	B6277_18913_DF_001	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	78.1 %	QC Batch No.:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:11:10

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	1.45		12479/12468D	2.93		124679/124689D	37.5		1234679D	295	
1379D	[0.539]		12469D	3.51		123468D	3.99		1234678D	215	
1369D	(0.332)		12368D	1.15	J	123679/123689D	27.3				
1469D	2.52		12478D	[1.06]	J	123469D	2.77				
1247D...[4]	0.816		12379D	[0.432]	J	123478D	2.51				
1378D	1.26		12369D...[3]	1.91	J	123678D	7.77				
1268D	(0.332)		12346/12347D	[0.45]	J	123467D	1.85	J			
1478D	0.82		12378D	3.75		123789D	4.8		**Conc.**	510	
1279D	(0.332)		12367D	[0.273]	J				**EMPC**	510	
1234/1269D	0.671		12389D	[0.366]	J						
1236D	(0.332)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	5.3										
1239D	(0.332)								OCDD	2500	
2378D	290										
1278D	27.3										
1267D	(0.332)										
1289D	(0.332)										
Conc.	331		**Conc.**	13.3		**Conc.**	88.5				
EMPC	331		**EMPC**	15.8		**EMPC**	88.5				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	389	389
TEQ: ND=DL/2	389	389
TEQ: ND=DL	389	389

	Conc.	EMPC
Total PCDD/Fs	5,420	5,420

Checkcode: 351-875-VQK

Report Created: 17-Feb-2022 13:42 Analyst: TF

Sample ID: 1215131-020222-S-SB-NC-O-46 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6277	Date Received:	04-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.75 g	Lab Sample ID:	B6277_18913_DF_001	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	78.1 %	QC Batch No.:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:11:10

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	0.715		13468/12468F	5.51		123468F	4.9		1234678F	49.2	
1468F	1.86		13678F...[3]	2.17	J	124678/134678F	18.9		1234679F	2.24	J
2468F	2.46		12368F...[3]	18.2		134679F	(0.446)		1234689F	73.5	
1346/1246F	(0.179)		14678F	(0.138)		124679F	0.784	J	1234789F	9.32	
1347F...[3]	11.8		13479F	(0.138)		124689F	17.7				
1348F	(0.179)		13469/12479F	(0.138)		123467F	[1.01]	J			
1248F...[3]	37.9		12346F	0.274	J	123478F	53				
1268F	12.9		23468/12469F	1.78	J	123678F	13.2				
1467F	2.28		12347F	1.12	J	123479F	(0.446)				
1478F	32.6		12348F	2.99		123469F	(0.446)				
1369/1237F	9.33		12378F	32.5		123679F	(0.446)				
2467F	[1.06]		12678/12367F	9.35		234678F	4.66		**Conc.**	134	
2368F	62.3		12379F	(0.138)		234678/123689F	0		**EMPC**	134	
1238F...[5]	(0.179)		12679F	(0.138)		123689F	(0.446)				
1278F	317		23467/12369F	0.936	J	123789F	(0.506)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.179)		23478F	23.7	PR	123789/123489F	0			**(pg/g)**	
1267F	21.9		23478/12489F	0		123489F	4.22		OCDF	161	
2346/1249F	2.36		12489F	(0.138)							
2347/1279F	10.2		12349F	(0.138)							
2348F	49.3		12389F	1.27	J						
2378F	744										
2367/3467F	72.5										
1269F	11.6										
1239F	(0.179)										
1289F	59.9										
Conc.	1,460		**Conc.**	99.8		**Conc.**	117				
EMPC	1,460		**EMPC**	99.8		**EMPC**	118				

Checkcode: 351-875-VQK

Report Created: 17-Feb-2022 13:42 Analyst: TF

Sample ID: 1215131-020222-S-SB-NC-O-46 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6277_18913_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.75 g	QC Batch No.:	18913
Date Collected:	02-Feb-2022	Split:	-	Date Extracted:	09-Feb-2022
Date Received:	04-Feb-2022	Dilution:	-	Date Analyzed:	15-Feb-2022 16:11
Lab Project No:	B6277	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	290		0.332	290	290	290
12378-PeCDD	3.75		0.23	1.88	3.75	3.75
123478-HxCDD	2.51		0.295	0.251	0.251	0.251
123678-HxCDD	7.77		0.25	0.777	0.777	0.777
123789-HxCDD	4.8		0.255	0.48	0.48	0.48
1234678-HpCDD	215		0.322	2.15	2.15	2.15
OCDD	2500		0.949	2.5	0.25	0.75
2378-TCDF	744		0.179	74.4	74.4	74.4
12378-PeCDF	32.5		0.138	1.62	1.62	0.974
23478-PeCDF	23.7	PR	0.138	11.9	11.9	7.11
123478-HxCDF	53		0.446	5.3	5.3	5.3
123678-HxCDF	13.2		0.393	1.32	1.32	1.32
234678-HxCDF	4.66		0.459	0.466	0.466	0.466
123789-HxCDF	(0.506)		0.506	(0.0506)	(0.0506)	(0.0506)
1234678-HpCDF	49.2		0.137	0.492	0.492	0.492
1234789-HpCDF	9.32		0.193	0.0932	0.0932	0.0932
OCDF	161		0.525	0.161	0.0161	0.0484

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TEQ Summaries			
EMPC = 0, ND = 0	394	394	389
EMPC = 0, ND = DL / 2	394	394	389
EMPC = 0, ND = DL	394	394	389
EMPC = 0, < J-level = 0	394	394	389
EMPC = EMPC, ND = 0	394	394	389
EMPC = EMPC, ND = DL / 2	394	394	389
EMPC = EMPC, ND = DL	394	394	389
EMPC = EMPC, < J-level = 0	394	394	389

Checkcode: 351-875-VQK

Sample ID: 1215131-020222-S-SB-NC-B-14 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6277	Date Received:	04-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.52 g	Lab Sample ID	B6277_18913_DF_002	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	77.1 %	QC Batch No:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:57:31

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	34.2				ES 2378-TCDD	85.1	
12378-PeCDD	0.992			J	ES 12378-PeCDD	98.8	
123478-HxCDD	1.04			J	ES 123478-HxCDD	85.5	
123678-HxCDD	2.75				ES 123678-HxCDD	91.9	
123789-HxCDD	2.51				ES 123789-HxCDD	83.8	
1234678-HpCDD	65.9				ES 1234678-HpCDD	89.6	
OCDD	1,210				ES OCDD	84.5	
2378-TCDF	105				ES 2378-TCDF	76.8	
12378-PeCDF	2.66				ES 12378-PeCDF	91	
23478-PeCDF	3.09			PR	ES 23478-PeCDF	91.5	
123478-HxCDF	4.1				ES 123478-HxCDF	88.1	
123678-HxCDF	1.32			J	ES 123678-HxCDF	100	
234678-HxCDF	1.05			J	ES 234678-HxCDF	97.4	
123789-HxCDF	ND	0.202			ES 123789-HxCDF	87	
1234678-HpCDF	49.9				ES 1234678-HpCDF	100	
1234789-HpCDF	3.4				ES 1234789-HpCDF	88.3	
OCDF	792				ES OCDF	88.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	85.4	
Total TCDD	54.6		54.6		CS 12347-PeCDD	105	
Total PeCDD	25.6		28.7		CS 12346-PeCDF	95.4	
Total HxCDD	118		118		CS 123469-HxCDF	99.8	
Total HpCDD	197		197		CS 1234689-HpCDF	103	
Total TCDF	165		170				
Total PeCDF	17.9		17.9				
Total HxCDF	20.7		21.5				
Total HpCDF	78.2		78.2				
Total PCDD/Fs	**2,670**		**2,680**				
WHO-2005 TEQs							
TEQ: ND=0	49.7		49.7				
TEQ: ND=DL/2	49.7	0.405	49.7				
TEQ: ND=DL	49.7	0.809	49.7				

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Sample ID: 1215131-020222-S-SB-NC-B-14 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6277	Date Received:	04-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.52 g	Lab Sample ID:	B6277_18913_DF_002	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	77.1 %	QC Batch No.:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:57:31

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	0.778		12479/12468D	2.68		124679/124689D	95.6		1234679D	131	
1379D	(0.314)		12469D	20.2		123468D	1.51	J	1234678D	65.9	
1369D	(0.314)		12368D	0.649	J	123679/123689D	12.7				
1469D	14.7		12478D	0.605	J	123469D	1.28	J			
1247D...[4]	(0.314)		12379D	0.42	J	123478D	1.04	J			
1378D	(0.314)		12369D...[3]	[3.08]		123678D	2.75				
1268D	(0.314)		12346/12347D	(0.266)		123467D	0.824	J			
1478D	(0.314)		12378D	0.992	J	123789D	2.51		**Conc.**	197	
1279D	(0.314)		12367D	(0.266)					**EMPC**	197	
1234/1269D	2.1		12389D	(0.266)							
1236D	(0.314)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.314)										
1239D	(0.314)								OCDD	1210	
2378D	34.2										
1278D	2.87										
1267D	(0.314)										
1289D	(0.314)										
Conc.	54.6		**Conc.**	25.6		**Conc.**	118				
EMPC	54.6		**EMPC**	28.7		**EMPC**	118				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	49.7	49.7
TEQ: ND=DL/2	49.7	49.7
TEQ: ND=DL	49.7	49.7

	Conc.	EMPC
Total PCDD/Fs	2,670	2,680

Checkcode: 805-821-YXW

Report Created: 17-Feb-2022 13:42 Analyst: TF

Sample ID: 1215131-020222-S-SB-NC-B-14 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6277	Date Received:	04-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.52 g	Lab Sample ID:	B6277_18913_DF_002	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	77.1 %	QC Batch No.:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:57:31

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.185)		13468/12468F	3.94		123468F	2.08	J	1234678F	49.9	
1468F	[0.628]		13678F...[3]	0.611	J	124678/134678F	5.8		1234679F	2.68	
2468F	1.9		12368F...[3]	4.17		134679F	(0.177)		1234689F	22.3	
1346/1246F	0.436	J	14678F	(0.147)		124679F	[0.31]	J	1234789F	3.4	
1347F...[3]	1.89		13479F	(0.147)		124689F	5.26				
1348F	(0.185)		13469/12479F	(0.147)		123467F	[0.476]	J			
1248F...[3]	3.59		12346F	(0.147)		123478F	4.1				
1268F	2.19		23468/12469F	1.41	J	123678F	1.32	J			
1467F	(0.185)		12347F	(0.147)		123479F	(0.177)				
1478F	[3.69]		12348F	0.676	J	123469F	0.451	J			
1369/1237F	1.68		12378F	2.66		123679F	(0.177)				
2467F	(0.185)		12678/12367F	1.35	J	234678F	1.05	J	**Conc.**	78.2	
2368F	6.28		12379F	(0.147)		234678/123689F	0		**EMPC**	78.2	
1238F...[5]	1.68		12679F	(0.147)		123689F	(0.177)				
1278F	17		23467/12369F	(0.147)		123789F	(0.202)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.185)		23478F	3.09	PR	123789/123489F	0			**(pg/g)**	
1267F	2.38		23478/12489F	0		123489F	0.619	J	OCDF	792	
2346/1249F	(0.185)		12489F	(0.147)							
2347/1279F	1.31		12349F	(0.147)							
2348F	3.06		12389F	(0.147)							
2378F	105										
2367/3467F	13.1										
1269F	[0.829]										
1239F	(0.185)										
1289F	3.33										
Conc.	165		**Conc.**	17.9		**Conc.**	20.7				
EMPC	170		**EMPC**	17.9		**EMPC**	21.5				

Checkcode: 805-821-YXW

Report Created: 17-Feb-2022 13:42 Analyst: TF

Sample ID: 1215131-020222-S-SB-NC-B-14 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6277_18913_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.52 g	QC Batch No.:	18913
Date Collected:	02-Feb-2022	Split:	-	Date Extracted:	09-Feb-2022
Date Received:	04-Feb-2022	Dilution:	-	Date Analyzed:	15-Feb-2022 16:57
Lab Project No:	B6277	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	34.2		0.314	34.2	34.2	34.2
12378-PeCDD	0.992	J	0.266	0.496	0.992	0.992
123478-HxCDD	1.04	J	0.292	0.104	0.104	0.104
123678-HxCDD	2.75		0.276	0.275	0.275	0.275
123789-HxCDD	2.51		0.276	0.251	0.251	0.251
1234678-HpCDD	65.9		0.284	0.659	0.659	0.659
OCDD	1210		0.464	1.21	0.121	0.362
2378-TCDF	105		0.185	10.5	10.5	10.5
12378-PeCDF	2.66		0.148	0.133	0.133	0.0798
23478-PeCDF	3.09	PR	0.146	1.55	1.55	0.928
123478-HxCDF	4.1		0.18	0.41	0.41	0.41
123678-HxCDF	1.32	J	0.158	0.132	0.132	0.132
234678-HxCDF	1.05	J	0.174	0.105	0.105	0.105
123789-HxCDF	(0.202)		0.202	(0.0202)	(0.0202)	(0.0202)
1234678-HpCDF	49.9		0.151	0.499	0.499	0.499
1234789-HpCDF	3.4		0.237	0.034	0.034	0.034
OCDF	792		0.399	0.792	0.0792	0.238

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TEQ Summaries			
EMPC = 0, ND = 0	51.3	50	49.7
EMPC = 0, ND = DL / 2	51.3	50	49.7
EMPC = 0, ND = DL	51.3	50	49.7
EMPC = 0, < J-level = 0	50.4	48.6	48.4
EMPC = EMPC, ND = 0	51.3	50	49.7
EMPC = EMPC, ND = DL / 2	51.3	50	49.7
EMPC = EMPC, ND = DL	51.3	50	49.7
EMPC = EMPC, < J-level = 0	50.4	48.6	48.4

Checkcode: 805-821-YXW

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Sample ID: 1215131-020222-S-SB-NC-O-44 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6277	Date Received:	04-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.52 g	Lab Sample ID	B6277_18913_DF_003	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	76.8 %	QC Batch No:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:43:52

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	437				ES 2378-TCDD	84.4	
12378-PeCDD	5.42				ES 12378-PeCDD	95.6	
123478-HxCDD	2.11			J	ES 123478-HxCDD	84	
123678-HxCDD	6.96				ES 123678-HxCDD	89.7	
123789-HxCDD	4.52				ES 123789-HxCDD	83.8	
1234678-HpCDD	192				ES 1234678-HpCDD	92.6	
OCDD	2,860				ES OCDD	88.9	
2378-TCDF	1,140			E	ES 2378-TCDF	80.9	
12378-PeCDF	39.4				ES 12378-PeCDF	90.6	
23478-PeCDF	32.4			PR	ES 23478-PeCDF	90.7	
123478-HxCDF	62.9				ES 123478-HxCDF	89	
123678-HxCDF	16.3				ES 123678-HxCDF	94.6	
234678-HxCDF	5.24				ES 234678-HxCDF	94	
123789-HxCDF	ND	0.278			ES 123789-HxCDF	90	
1234678-HpCDF	71.1				ES 1234678-HpCDF	102	
1234789-HpCDF	11.5				ES 1234789-HpCDF	94.2	
OCDF	387				ES OCDF	92.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	85	
Total TCDD	489		495		CS 12347-PeCDD	97.9	
Total PeCDD	15		17.4		CS 12346-PeCDF	93.5	
Total HxCDD	72.2		75.1		CS 123469-HxCDF	96.9	
Total HpCDD	436		436		CS 1234689-HpCDF	106	
Total TCDF	2,230		2,240				
Total PeCDF	124		126				
Total HxCDF	132		132				
Total HpCDF	161		161				
Total PCDD/Fs	**6,910**		**6,930**				
WHO-2005 TEQs							
TEQ: ND=0	581		581				
TEQ: ND=DL/2	581	0.552	581				
TEQ: ND=DL	581	1.1	581				

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Sample ID: 1215131-020222-S-SB-NC-O-44 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6277	Date Received:	04-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.52 g	Lab Sample ID:	B6277_18913_DF_003	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	76.8 %	QC Batch No.:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:43:52

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[1.31]		12479/12468D	2.79		124679/124689D	32.5		1234679D	244	
1379D	(0.506)		12469D	3.18		123468D	3.1		1234678D	192	
1369D	(0.506)		12368D	1.12	J	123679/123689D	23				
1469D	[2.93]		12478D	[1.1]	J	123469D	[1.74]	J			
1247D...[4]	[1.09]		12379D	[0.557]	J	123478D	2.11	J			
1378D	1.65		12369D...[3]	1.7	J	123678D	6.96				
1268D	(0.506)		12346/12347D	[0.453]	J	123467D	[1.1]	J			
1478D	1.2		12378D	5.42		123789D	4.52		**Conc.**	436	
1279D	(0.506)		12367D	[0.333]	J				**EMPC**	436	
1234/1269D	(0.506)		12389D	0.761	J						
1236D	(0.506)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	7.73										
1239D	(0.506)								OCDD	2860	
2378D	437										
1278D	40.3										
1267D	1.37										
1289D	(0.506)										
Conc.	489		**Conc.**	15		**Conc.**	72.2				
EMPC	495		**EMPC**	17.4		**EMPC**	75.1				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	581	581
TEQ: ND=DL/2	581	581
TEQ: ND=DL	581	581

	Conc.	EMPC
Total PCDD/Fs	6,910	6,930

Checkcode: 706-977-FWD

Report Created: 17-Feb-2022 13:42 Analyst: TF

Sample ID: 1215131-020222-S-SB-NC-O-44 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6277	Date Received:	04-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.52 g	Lab Sample ID:	B6277_18913_DF_003	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	76.8 %	QC Batch No.:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:43:52

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	0.705		13468/12468F	6.83		123468F	4.79		1234678F	71.1	
1468F	2.61		13678F...[3]	[1.62]	J	124678/134678F	19		1234679F	4.42	
2468F	3.3		12368F...[3]	22.3		134679F	(0.245)		1234689F	74.2	
1346/1246F	(0.159)		14678F	(0.236)		124679F	0.639	J	1234789F	11.5	
1347F...[3]	16		13479F	(0.236)		124689F	16.9				
1348F	(0.159)		13469/12479F	(0.236)		123467F	1.38	J			
1248F...[3]	58.6		12346F	(0.236)		123478F	62.9				
1268F	19.6		23468/12469F	2.14	J	123678F	16.3				
1467F	2.88		12347F	1.18	J	123479F	(0.245)				
1478F	50.2		12348F	4.37		123469F	(0.245)				
1369/1237F	13.6		12378F	39.4		123679F	(0.245)				
2467F	1.93		12678/12367F	12.5		234678F	5.24		**Conc.**	161	
2368F	95.3		12379F	(0.236)		234678/123689F	0		**EMPC**	161	
1238F...[5]	(0.159)		12679F	(0.236)		123689F	(0.245)				
1278F	492		23467/12369F	1.05	J	123789F	(0.278)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.159)		23478F	32.4	PR	123789/123489F	0				
1267F	30.7		23478/12489F	0		123489F	5.03		OCDF	387	
2346/1249F	3.57		12489F	(0.236)							
2347/1279F	15.6		12349F	(0.236)							
2348F	81.5		12389F	1.91	J						
2378F	1140	E									
2367/3467F	102										
1269F	18										
1239F	[1.45]										
1289F	88.6										
Conc.	2,230		**Conc.**	124		**Conc.**	132				
EMPC	2,240		**EMPC**	126		**EMPC**	132				

Checkcode: 706-977-FWD

Report Created: 17-Feb-2022 13:42 Analyst: TF

Sample ID: 1215131-020222-S-SB-NC-O-44 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6277_18913_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.52 g	QC Batch No.:	18913
Date Collected:	02-Feb-2022	Split:	-	Date Extracted:	09-Feb-2022
Date Received:	04-Feb-2022	Dilution:	-	Date Analyzed:	15-Feb-2022 17:43
Lab Project No:	B6277	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	437		0.506	437	437	437
12378-PeCDD	5.42		0.274	2.71	5.42	5.42
123478-HxCDD	2.11	J	0.422	0.211	0.211	0.211
123678-HxCDD	6.96		0.41	0.696	0.696	0.696
123789-HxCDD	4.52		0.395	0.452	0.452	0.452
1234678-HpCDD	192		0.266	1.92	1.92	1.92
OCDD	2860		0.598	2.86	0.286	0.858
2378-TCDF	1140	E	0.159	114	114	114
12378-PeCDF	39.4		0.239	1.97	1.97	1.18
23478-PeCDF	32.4	PR	0.234	16.2	16.2	9.73
123478-HxCDF	62.9		0.241	6.29	6.29	6.29
123678-HxCDF	16.3		0.226	1.63	1.63	1.63
234678-HxCDF	5.24		0.244	0.524	0.524	0.524
123789-HxCDF	(0.278)		0.278	(0.0278)	(0.0278)	(0.0278)
1234678-HpCDF	71.1		0.205	0.711	0.711	0.711
1234789-HpCDF	11.5		0.318	0.115	0.115	0.115
OCDF	387		0.393	0.387	0.0387	0.116

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TEQ Summaries			
EMPC = 0, ND = 0	588	587	581
EMPC = 0, ND = DL / 2	588	587	581
EMPC = 0, ND = DL	588	587	581
EMPC = 0, < J-level = 0	587	587	581
EMPC = EMPC, ND = 0	588	587	581
EMPC = EMPC, ND = DL / 2	588	587	581
EMPC = EMPC, ND = DL	588	587	581
EMPC = EMPC, < J-level = 0	587	587	581

Checkcode: 706-977-FWD

SGS North America - DF v0.99

Sample ID: 1215131-020222-S-SB-NC-B-13 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6277	Date Received:	04-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.90 g	Lab Sample ID	B6277_18913_DF_004	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	65.5 %	QC Batch No:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:30:12

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	748				ES 2378-TCDD	82.8	
12378-PeCDD	9.25				ES 12378-PeCDD	94.7	
123478-HxCDD	3.19				ES 123478-HxCDD	80.4	
123678-HxCDD	12.6				ES 123678-HxCDD	80.4	
123789-HxCDD	7.04				ES 123789-HxCDD	77.2	
1234678-HpCDD	294				ES 1234678-HpCDD	83.5	
OCDD	4,760				ES OCDD	83.8	
2378-TCDF	2,110			E	ES 2378-TCDF	81.8	
12378-PeCDF	66				ES 12378-PeCDF	86.8	
23478-PeCDF	59.7			PR	ES 23478-PeCDF	85.9	
123478-HxCDF	100				ES 123478-HxCDF	87.6	
123678-HxCDF	27.1				ES 123678-HxCDF	86	
234678-HxCDF	9.53				ES 234678-HxCDF	82.5	
123789-HxCDF	ND	0.392			ES 123789-HxCDF	87.7	
1234678-HpCDF	161				ES 1234678-HpCDF	89.3	
1234789-HpCDF	23				ES 1234789-HpCDF	90.5	
OCDF	4,460				ES OCDF	87.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	79.1	
Total TCDD	857		858		CS 12347-PeCDD	93.6	
Total PeCDD	35.3		35.3		CS 12346-PeCDF	86.1	
Total HxCDD	126		127		CS 123469-HxCDF	90.3	
Total HpCDD	661		661		CS 1234689-HpCDF	93.3	
Total TCDF	4,190		4,190				
Total PeCDF	251		254	DPE			
Total HxCDF	239		239				
Total HpCDF	324		324				
Total PCDD/Fs	**15,900**		**15,900**				
WHO-2005 TEQs							
TEQ: ND=0	1010		1010				
TEQ: ND=DL/2	1010	0.498	1010				
TEQ: ND=DL	1010	0.995	1010				

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Sample ID: 1215131-020222-S-SB-NC-B-13 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6277	Date Received:	04-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.90 g	Lab Sample ID:	B6277_18913_DF_004	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	65.5 %	QC Batch No.:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:30:12

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	6.06		12479/12468D	6.88		124679/124689D	54		1234679D	367	
1379D	1.82		12469D	4.35		123468D	7.24		1234678D	294	
1369D	0.733		12368D	4.08		123679/123689D	39.2				
1469D	4.73		12478D	2.7		123469D	2.28	J			
1247D...[4]	2.52		12379D	1.8	J	123478D	3.19				
1378D	3.29		12369D...[3]	3.87		123678D	12.6				
1268D	0.487		12346/12347D	0.726	J	123467D	[1.94]	J			
1478D	2.32		12378D	9.25		123789D	7.04		**Conc.**	661	
1279D	[0.609]		12367D	0.721	J				**EMPC**	661	
1234/1269D	1.56		12389D	0.908	J						
1236D	(0.252)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	12.5										
1239D	(0.252)								OCDD	4760	
2378D	748										
1278D	71										
1267D	(0.252)										
1289D	1.75										
Conc.	857		**Conc.**	35.3		**Conc.**	126				
EMPC	858		**EMPC**	35.3		**EMPC**	127				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	1,010	1,010
TEQ: ND=DL/2	1,010	1,010
TEQ: ND=DL	1,010	1,010

	Conc.	EMPC
Total PCDD/Fs	15,900	15,900

Checkcode: 182-667-LYH

Report Created: 17-Feb-2022 13:42 Analyst: TF

Sample ID: 1215131-020222-S-SB-NC-B-13 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6277	Date Received:	04-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.90 g	Lab Sample ID:	B6277_18913_DF_004	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	65.5 %	QC Batch No.:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:30:12

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.45		13468/12468F	26.1		123468F	10.5		1234678F	161	
1468F	5.76		13678F...[3]	3.85		124678/134678F	37.8		1234679F	8.84	
2468F	11.5		12368F...[3]	46.5		134679F	(0.382)		1234689F	132	
1346/1246F	(0.183)		14678F	(0.336)		124679F	1.89	J	1234789F	23	
1347F...[3]	28.6		13479F	(0.336)		124689F	37.4				
1348F	(0.183)		13469/12479F	1.44	J	123467F	3.09				
1248F...[3]	113		12346F	(0.336)		123478F	100				
1268F	41.4		23468/12469F	7.45		123678F	27.1				
1467F	5.9		12347F	2.56		123479F	(0.382)				
1478F	92.6		12348F	8.93		123469F	2.28	J			
1369/1237F	25.3		12378F	66		123679F	(0.382)				
2467F	2.43		12678/12367F	26.3	DPE	234678F	9.53		**Conc.**	324	
2368F	174		12379F	(0.336)		234678/123689F	0		**EMPC**	324	
1238F...[5]	(0.183)		12679F	(0.336)		123689F	(0.382)				
1278F	972	E	23467/12369F	1.87	J	123789F	(0.392)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.183)		23478F	59.7	PR	123789/123489F	0				
1267F	54.8		23478/12489F	0		123489F	9.33		OCDF	4460	
2346/1249F	6.76		12489F	(0.336)							
2347/1279F	23.1		12349F	(0.336)							
2348F	148		12389F	[3.58]							
2378F	2110	E									
2367/3467F	172										
1269F	33.5										
1239F	2.86										
1289F	169										
Conc.	4,190		**Conc.**	251		**Conc.**	239				
EMPC	4,190		**EMPC**	254		**EMPC**	239				

Checkcode: 182-667-LYH

Report Created: 17-Feb-2022 13:42 Analyst: TF

Sample ID: 1215131-020222-S-SB-NC-B-13 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6277_18913_DF_004
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.90 g	QC Batch No.:	18913
Date Collected:	02-Feb-2022	Split:	-	Date Extracted:	09-Feb-2022
Date Received:	04-Feb-2022	Dilution:	-	Date Analyzed:	15-Feb-2022 18:30
Lab Project No:	B6277	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	748		0.252	748	748	748
12378-PeCDD	9.25		0.285	4.63	9.25	9.25
123478-HxCDD	3.19		0.572	0.319	0.319	0.319
123678-HxCDD	12.6		0.574	1.26	1.26	1.26
123789-HxCDD	7.04		0.535	0.704	0.704	0.704
1234678-HpCDD	294		0.39	2.94	2.94	2.94
OCDD	4760		0.661	4.76	0.476	1.43
2378-TCDF	2110	E	0.183	211	211	211
12378-PeCDF	66		0.335	3.3	3.3	1.98
23478-PeCDF	59.7	PR	0.336	29.9	29.9	17.9
123478-HxCDF	100		0.351	10	10	10
123678-HxCDF	27.1		0.369	2.71	2.71	2.71
234678-HxCDF	9.53		0.42	0.953	0.953	0.953
123789-HxCDF	(0.392)		0.392	(0.0392)	(0.0392)	(0.0392)
1234678-HpCDF	161		0.16	1.61	1.61	1.61
1234789-HpCDF	23		0.23	0.23	0.23	0.23
OCDF	4460		0.515	4.46	0.446	1.34

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TEQ Summaries			
EMPC = 0, ND = 0	1030	1020	1010
EMPC = 0, ND = DL / 2	1030	1020	1010
EMPC = 0, ND = DL	1030	1020	1010
EMPC = 0, < J-level = 0	1030	1020	1010
EMPC = EMPC, ND = 0	1030	1020	1010
EMPC = EMPC, ND = DL / 2	1030	1020	1010
EMPC = EMPC, ND = DL	1030	1020	1010
EMPC = EMPC, < J-level = 0	1030	1020	1010

Checkcode: 182-667-LYH

SGS North America - DF v0.99

Sample ID: Method Blank B6277_18913 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6277	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18913_DF_SDS	Date Extracted:	09-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:52:08

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.28			ES 2378-TCDD	94	
12378-PeCDD	ND	0.184			ES 12378-PeCDD	107	
123478-HxCDD	ND	0.143			ES 123478-HxCDD	97.8	
123678-HxCDD	ND	0.129			ES 123678-HxCDD	105	
123789-HxCDD	ND	0.132			ES 123789-HxCDD	92.9	
1234678-HpCDD	ND	0.187			ES 1234678-HpCDD	98.7	
OCDD	ND	0.42			ES OCDD	78	
2378-TCDF	ND	0.156			ES 2378-TCDF	79.5	
12378-PeCDF	ND	0.142			ES 12378-PeCDF	98.6	
23478-PeCDF	ND	0.153			ES 23478-PeCDF	93.1	
123478-HxCDF	ND	0.116			ES 123478-HxCDF	101	
123678-HxCDF	ND	0.104			ES 123678-HxCDF	118	
234678-HxCDF	ND	0.117			ES 234678-HxCDF	109	
123789-HxCDF	ND	0.141			ES 123789-HxCDF	100	
1234678-HpCDF	ND	0.0785			ES 1234678-HpCDF	106	
1234789-HpCDF	ND	0.118			ES 1234789-HpCDF	94.7	
OCDF	ND	0.349			ES OCDF	81.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	96.1	
Total TCDD	ND	0.28	ND		CS 12347-PeCDD	115	
Total PeCDD	ND	0.184	ND		CS 12346-PeCDF	107	
Total HxCDD	ND	0.134	ND		CS 123469-HxCDF	119	
Total HpCDD	ND	0.187	ND		CS 1234689-HpCDF	112	
Total TCDF	ND	0.156	ND				
Total PeCDF	ND	0.147	ND				
Total HxCDF	ND	0.118	ND				
Total HpCDF	ND	0.0956	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	0.311	0.311	0.311				
TEQ: ND=DL	0.621	0.621	0.621				

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Sample ID: Method Blank B6277_18913 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6277	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18913_DF_SDS	Date Extracted:	09-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:52:08

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.28)		12479/12468D	(0.184)		124679/124689D	(0.134)		1234679D	(0.187)	
1379D	(0.28)		12469D	(0.184)		123468D	(0.134)		1234678D	(0.187)	
1369D	(0.28)		12368D	(0.184)		123679/123689D	(0.134)				
1469D	(0.28)		12478D	(0.184)		123469D	(0.134)				
1247D...[4]	(0.28)		12379D	(0.184)		123478D	(0.143)				
1378D	(0.28)		12369D...[3]	(0.184)		123678D	(0.129)				
1268D	(0.28)		12346/12347D	(0.184)		123467D	(0.134)				
1478D	(0.28)		12378D	(0.184)		123789D	(0.132)		**Conc.**	0	
1279D	(0.28)		12367D	(0.184)					**EMPC**	0	
1234/1269D	(0.28)		12389D	(0.184)							
1236D	(0.28)								**Octa-Dioxin**	**Conc**	**Qualifiers**
1237/1238D	(0.28)									**(pg/g)**	
1239D	(0.28)								OCDD	(0.42)	
2378D	(0.28)										
1278D	(0.28)										
1267D	(0.28)										
1289D	(0.28)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	0.311	0.311
TEQ: ND=DL	0.621	0.621

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 341-051-BYV

Report Created: 17-Feb-2022 13:45 Analyst: TF

Sample ID: Method Blank B6277_18913 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6277	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18913_DF_SDS	Date Extracted:	09-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:52:08

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.156)		13468/12468F	(0.121)		123468F	(0.118)		1234678F	(0.0785)	
1468F	(0.156)		13678F...[3]	(0.147)		124678/134678F	(0.118)		1234679F	(0.0956)	
2468F	(0.156)		12368F...[3]	(0.147)		134679F	(0.118)		1234689F	(0.0956)	
1346/1246F	(0.156)		14678F	(0.147)		124679F	(0.118)		1234789F	(0.118)	
1347F...[3]	(0.156)		13479F	(0.147)		124689F	(0.118)				
1348F	(0.156)		13469/12479F	(0.147)		123467F	(0.118)				
1248F...[3]	(0.156)		12346F	(0.147)		123478F	(0.116)				
1268F	(0.156)		23468/12469F	(0.147)		123678F	(0.104)				
1467F	(0.156)		12347F	(0.147)		123479F	(0.118)				
1478F	(0.156)		12348F	(0.147)		123469F	(0.118)				
1369/1237F	(0.156)		12378F	(0.142)		123679F	(0.118)				
2467F	(0.156)		12678/12367F	(0.147)		234678F	(0.117)		**Conc.**	0	
2368F	(0.156)		12379F	(0.147)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.156)		12679F	(0.147)		123689F	(0.118)				
1278F	(0.156)		23467/12369F	(0.147)		123789F	(0.141)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.156)		23478F	(0.153)		123789/123489F	0			**(pg/g)**	
1267F	(0.156)		23478/12489F	0		123489F	(0.118)		OCDF	(0.349)	
2346/1249F	(0.156)		12489F	(0.147)							
2347/1279F	(0.156)		12349F	(0.147)							
2348F	(0.156)		12389F	(0.147)							
2378F	(0.156)										
2367/3467F	(0.156)										
1269F	(0.156)										
1239F	(0.156)										
1289F	(0.156)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 341-051-BYV

Report Created: 17-Feb-2022 13:45 Analyst: TF

Sample ID: Method Blank B6277_18913 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18913_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18913
Date Collected:	n/a	Split:	-	Date Extracted:	09-Feb-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	15-Feb-2022 13:52
Lab Project No:	B6277	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.28)		0.28	(0.28)	(0.28)	(0.28)
12378-PeCDD	(0.184)		0.184	(0.0918)	(0.184)	(0.184)
123478-HxCDD	(0.143)		0.143	(0.0143)	(0.0143)	(0.0143)
123678-HxCDD	(0.129)		0.129	(0.0129)	(0.0129)	(0.0129)
123789-HxCDD	(0.132)		0.132	(0.0132)	(0.0132)	(0.0132)
1234678-HpCDD	(0.187)		0.187	(0.00187)	(0.00187)	(0.00187)
OCDD	(0.42)		0.42	(0.00042)	(0.000042)	(0.000126)
2378-TCDF	(0.156)		0.156	(0.0156)	(0.0156)	(0.0156)
12378-PeCDF	(0.142)		0.142	(0.00712)	(0.00712)	(0.00427)
23478-PeCDF	(0.153)		0.153	(0.0764)	(0.0764)	(0.0458)
123478-HxCDF	(0.116)		0.116	(0.0116)	(0.0116)	(0.0116)
123678-HxCDF	(0.104)		0.104	(0.0104)	(0.0104)	(0.0104)
234678-HxCDF	(0.117)		0.117	(0.0117)	(0.0117)	(0.0117)
123789-HxCDF	(0.141)		0.141	(0.0141)	(0.0141)	(0.0141)
1234678-HpCDF	(0.0785)		0.0785	(0.000785)	(0.000785)	(0.000785)
1234789-HpCDF	(0.118)		0.118	(0.00118)	(0.00118)	(0.00118)
OCDF	(0.349)		0.349	(0.000349)	(0.0000349)	(0.000105)

TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.282	0.327	0.311
EMPC = 0, ND = DL	0.563	0.654	0.621
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.282	0.327	0.311
EMPC = EMPC, ND = DL	0.563	0.654	0.621
EMPC = EMPC, < J-level = 0	0	0	0

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Checkcode: 341-051-BYV

Sample ID: 0_18913_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6277	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18913_DF	Date Extracted:	09-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:33:15

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	12.1				ES 2378-TCDD	87.3	
12378-PeCDD	50.2				ES 12378-PeCDD	103	
123478-HxCDD	55.4				ES 123478-HxCDD	95.4	
123678-HxCDD	55.4				ES 123678-HxCDD	102	
123789-HxCDD	52				ES 123789-HxCDD	91.3	
1234678-HpCDD	55.6				ES 1234678-HpCDD	93.7	
OCDD	112				ES OCDD	80.2	
2378-TCDF	11				ES 2378-TCDF	78.9	
12378-PeCDF	50.3				ES 12378-PeCDF	97.5	
23478-PeCDF	55.2				ES 23478-PeCDF	92.1	
123478-HxCDF	53				ES 123478-HxCDF	96.5	
123678-HxCDF	52.9				ES 123678-HxCDF	113	
234678-HxCDF	51.2				ES 234678-HxCDF	108	
123789-HxCDF	49.4				ES 123789-HxCDF	94.8	
1234678-HpCDF	51				ES 1234678-HpCDF	106	
1234789-HpCDF	50.7				ES 1234789-HpCDF	93.3	
OCDF	105				ES OCDF	84.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	93.5	
Total TCDD	58.4		58.4		CS 12347-PeCDD	116	
Total PeCDD	78.4		78.4		CS 12346-PeCDF	107	
Total HxCDD	180		180		CS 123469-HxCDF	118	
Total HpCDD	69.1		69.1		CS 1234689-HpCDF	113	
Total TCDF	65.7		65.7				
Total PeCDF	195		195				
Total HxCDF	330		330				
Total HpCDF	102		102				
Total PCDD/Fs	**1,290**		**1,290**				
WHO-2005 TEQs							
TEQ: ND=0	120		120				
TEQ: ND=DL/2	120	0.26	120				
TEQ: ND=DL	120	0.521	120				

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Sample ID: 0_18913_OPR002

Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6277	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18913_DF	Date Extracted:	09-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:19:29

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	12.5				ES 2378-TCDD	88.3	
12378-PeCDD	52.4				ES 12378-PeCDD	105	
123478-HxCDD	57.3				ES 123478-HxCDD	95.9	
123678-HxCDD	57.8				ES 123678-HxCDD	103	
123789-HxCDD	54.7				ES 123789-HxCDD	93.4	
1234678-HpCDD	57.7				ES 1234678-HpCDD	94	
OCDD	113				ES OCDD	78.7	
2378-TCDF	11.2				ES 2378-TCDF	81.8	
12378-PeCDF	52.6				ES 12378-PeCDF	99.4	
23478-PeCDF	56.3				ES 23478-PeCDF	96.5	
123478-HxCDF	53.6				ES 123478-HxCDF	99.5	
123678-HxCDF	52.2				ES 123678-HxCDF	119	
234678-HxCDF	52.5				ES 234678-HxCDF	113	
123789-HxCDF	52				ES 123789-HxCDF	96.3	
1234678-HpCDF	52.4				ES 1234678-HpCDF	109	
1234789-HpCDF	54				ES 1234789-HpCDF	92.3	
OCDF	108				ES OCDF	80.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	96.3	
Total TCDD	57.1		57.1		CS 12347-PeCDD	118	
Total PeCDD	80.7		80.7		CS 12346-PeCDF	113	
Total HxCDD	187		187		CS 123469-HxCDF	120	
Total HpCDD	72.5		72.5		CS 1234689-HpCDF	114	
Total TCDF	66		66				
Total PeCDF	200		200				
Total HxCDF	331		331				
Total HpCDF	106		106				
Total PCDD/Fs	**1,320**		**1,320**				
WHO-2005 TEQs							
TEQ: ND=0	124		124				
TEQ: ND=DL/2	124	0.263	124				
TEQ: ND=DL	124	0.527	124				

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Sample DUP

Method 1613B

Sample ID: 0_18913_OPR001

Analyte	OPR1_18913_DF pg/uL	OPR2_18913_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	12.1	12.5	3.0%
1,2,3,7,8-PeCDD	50.2	52.4	4.2%
1,2,3,4,7,8-HxCDD	55.4	57.3	3.4%
1,2,3,6,7,8-HxCDD	55.4	57.8	4.2%
1,2,3,7,8,9-HxCDD	52	54.7	5.0%
1,2,3,4,6,7,8-HpCDD	55.6	57.7	3.8%
OCDD	112	113	1.6%
2,3,7,8-TCDF	11	11.2	2.3%
1,2,3,7,8-PeCDF	50.3	52.6	4.4%
2,3,4,7,8-PeCDF	55.2	56.3	2.0%
1,2,3,4,7,8-HxCDF	53	53.6	1.0%
1,2,3,6,7,8-HxCDF	52.9	52.2	1.3%
2,3,4,6,7,8-HxCDF	51.2	52.5	2.6%
1,2,3,7,8,9-HxCDF	49.4	52	5.0%
1,2,3,4,6,7,8-HpCDF	51	52.4	2.7%
1,2,3,4,7,8,9-HpCDF	50.7	54	6.4%
OCDF	105	108	2.5%
Totals			
Total TCDD	58.4	57.1	2.3%
Total PeCDD	78.4	80.7	2.9%
Total HxCDD	180	187	4.3%
Total HpCDD	69.1	72.5	4.8%
Total TCDF	65.7	66	0.4%
Total PeCDF	195	200	2.5%
Total HxCDF	330	331	0.3%
Total HpCDF	102	106	4.5%

Sample Receipt Notification

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

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*04-Feb-22 at 14:49*
AP Project name:	*B6277*
Requested TAT:	*10 business days*
Projected due date:	*18-Feb-22*
Matrix:	*Solid*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

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

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
1215131-020222-S-SB-NC-O-46	B6277_001	Solid	1	4oz Clear Glass	02-Feb-22	09:50	1.3	1	4905 2704 5211
1215131-020222-S-SB-NC-B-14	B6277_002	Solid	1	4oz Clear Glass	02-Feb-22	10:00	1.3	1	4905 2704 5211
1215131-020222-S-SB-NC-O-44	B6277_003	Solid	1	4oz Clear Glass	02-Feb-22	11:15	1.3	1	4905 2704 5211
1215131-020222-S-SB-NC-B-13	B6277_004	Solid	1	4oz Clear Glass	02-Feb-22	11:30	1.3	1	4905 2704 5211

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact

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

Received by: Ashley Owens *Logged in by: Ashley Owens* *QC'ed by:* AK 7 Feb 22

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

SGS CHAIN OF CUSTODY

B16277

PROJECT INFO

PROJECT: 11215131-SJRWP - PCFSE

P.O. #:

QUOTE #: file

SITE REF: International Paper

TURN AROUND TIME:

REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV

SPECIAL DELIVERABLES:

☐ DoD ■ EDD/Version: GHD EQuIS 4-file

☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

PRESERVATIVE

None

SEND DOCUMENTATION / RESULTS TO

COMPANY: GHD Services Inc.

CONTACT: Meagan Willis

ADDRESS: 11451 Katy Fwy #400,Houston, T

PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (■ CHECK IF SAME)

COMPANY:

CONTACT:

ADDRESS:

PHONE: EMAIL:

ANALYSIS & METHOD

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B	~~M8260A~~ SB	~~M1668A~~	~~M1668C~~	~~NR-DAH~~	~~M1699~~	QC MS	QC MSD	QC DUP	QTY	REMARKS
1215131-020222-S-SB-NC-S-47	2/2/22	0940	C	S	4oz	X									1	RUSH
1215131-020222-S-SB-NC-O-46	2/2/22	0950	↓	↓	↓	X									1	*
215131-020222-S-SB-NC-B-14		1000	↓	↓	↓	X									1	*
215131-020222-S-SB-NC-S-42		1045	↓	↓	↓	X									1	RUSH
1215131-020222-S-SB-NC-S-43		1100	↓	↓	↓	X									1	RUSH
1215131-020222-S-SB-NC-O-44		1115	↓	↓	↓	X									1	*
215131-020222-S-SB-NC-B-13	↓	1130	↓	↓	↓	X									1	*

See SSOW

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:
Sarah Belanger	2-2-22	1455	Eddie Coats
RELINQUISHED BY (2): Eddie Coats	2-3-22	1647	RECEIVED BY: 2/3/22 1547
RELINQUISHED BY (3): Fedex	DATE:	TIME:	RECEIVED BY:

RECEIVED BY LABORATORY: DATE: 2/4/22 TIME: 14:49

COOLER SEAL: ☐ INTACT ☐ BROKEN ☑ ABSENT

CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☑ ABSENT

CARRIER: FedEx TEMP: °C 1.3°

TRACKING #: [illegible]

*= Samples in this project.

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Member of the SGS Group (SGS SA)



B6277

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

SHIP DATE: 02FEB22
ACTWGT: 45.00 LB MAN
CAD: 0317585/CAFE3313

BILL RECIPIENT

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903 REF:

INV:
PO#: DEPT:

2/4/2022
14:49
13°(T.B.)

SGSC2/027C/05A2

FedEx Express

J191219022001uv

THU - 03 FEB 10:30A
PRIORITY OVERNIGHT

TRK# 0201 4905 2704 5211

NL ILMA

28405
NC-US RDU

Part # 156146-434 MTW EXP 07/22

Project Initiation Form

Project Number:	B6277	Initiation Date:	07-Feb-22
Client Name:	GHD Services Inc.	Sample Matrix:	Solid
Analysis Method:	1613 PCDD/F	TAT:	10 days
		Project Manager:	Tamara

Special Instructions

M1613B w/ OPR & OPRD

10 g DWE extraction

Read and understood, initial and date: Prep Lab: KE JRH RBS 2/9/22 2/9/22 2/11/22 HRMS Lab:

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab:

PM Initials: akornegay Date: 07-Feb-2022

SGS

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

Batch# 18913 | Split: ~~1/2~~ ~~1/4~~ | Extract Initial/Date: JRH 2/9/22 | Clean-up Initial/Date: ~~RB~~ 2/11/22 | Transfer Init/Date: RB 2/14/22

Lab Sample ID	Extraction Position Solvent: TOL	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B6183_18913_001	4	13.48				black, clay-like
B6183_18913_002	5	13.76				black, clay-like fuel smell
B6277_18913_001	6	13.77				brown, clay-like
B6277_18913_002	7	13.65				black/gray, clay-like, moist
B6277_18913_003	8	13.70				brown/red, clay-like
B6277_18913_004	9	~~16.04~~ 16.63 JRH 2/9/22				black, clay-like, fuel smell
B6280_18913_001	10	15.02				black, moist, clay-like
B6280_18913_002	11	13.59				brown/red, clay-like
B6280_18913_003	12	13.04				brown/gray, clay-like
MB1_18913	1	10.00				Sodium sulfate
OPR1_18913	2	10.00				Sodium sulfate
OPR2_18913	3	10.00				Sodium sulfate

TB 2/18/2022

Supply IDs

Toluene STL14-24
MeCHL STL14-17
Florisil SPLS-77
Hexane STL14-28
Silica SPLS-69
S Nitrate N/A
Base Silica SPLS-86
HydroMatrix N/A
Tetradecane SPLS-73D
H_2SO_4 N/A
A Silica SPLS-87
Sodium Sulfate SPLS-808

Additional Cleanup

Acid Partition Date/Initial:
Mini-Acid Date/Initial:
Carbon Column Date/Initial:
GPC Date/Initial:
Bond-Elute Date/Initial:

TB 2/18/2022

RB 2/11/22

Cycle Time

TOL Start: 1600 Stop: 0900
HEX Start: Stop:
DCM Start: Stop:

TB 2/18/2022

SGS

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

Solid

Batch# 18913

Inter-Department Communication Sheet

TB
2/18/2022

SGS

Wt. Volume Results

Batch #: 18913 **Comments:**

AK 2/18/22

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6183_001	2.35	5.42	4.73	77.52%	77.52%			12.9	13.48	10.45
B6183_002	2.35	5.66	4.9	77.04%	77.04%			12.98	13.76	10.6
B6277_001	2.37	5.11	4.51	78.10%	78.10%			12.8	13.77	10.75
B6277_002	2.37	5.29	4.62	77.05%	77.05%			12.98	13.65	10.52
B6277_003	2.43	4.8	4.25	76.79%	76.79%			13.02	13.7	10.52
B6277_004	2.39	5.03	4.12	65.53%	65.53%			15.26	16.63	10.9
B6280_001	2.34	4.84	3.77	57.20%	57.20%			17.48	18.02	10.31
B6280_002	2.42	5.05	4.41	75.67%	75.67%			13.22	13.59	10.28
B6280_003	2.33	4.91	4.35	78.29%	78.29%			12.77	13.04	10.21

TB 2/18/2022

TB 2/18/2022

% Solid Determination WorkSheet

SGS

Batch: 18913

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	10g DNE	Comments
B6183_18913_001	2.35	5.42	4.73 /4.74	12.90	
B6183_18913_002	2.35	5.66	4.90 /4.90	12.98	
B6277_18913_001	2.37	5.11	4.51 /4.51	12.80	
B6277_18913_002	2.37	5.29	4.62 /4.62	12.98	
B6277_18913_003	2.43	4.80	4.25 /4.25	13.02	
B6277_18913_004	2.39	5.03	4.12 /4.12	15.26	
B6280_18913_001	2.34	4.84	3.77 /3.77	17.48	
B6280_18913_002	2.42	5.05	4.41 /4.41	13.22	
B6280_18913_003	2.33	4.91	4.36 /4.30	12.77	

RBS
4/12/22

Date/Initials:

SGS

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

Batch # 18913

Lab Sample ID	Spiker Initials/Date: JRH 2/9/22 DIFAy-A Amount: 20µL Observer Initials	JRH 2/9/22 DIFAy-B Amount: 20µL Observer Initials	JRH 2/9/22 DIFES Amount: 20µL Observer Initials	2/11/22 DIFCS Amount: 20µL Observer Initials	2/12/22 DIFJS Amount: 20µL Observer Initials	Amount: Observer Initials	Amount: Observer Initials
B6183_18913_001	—	—	KE	KE	CP		
B6183_18913_002	—	—	KE	KE	CP		
B6277_18913_001	—	—	KE	KE	CP		
B6277_18913_002	—	—	KE	KE	CP		
B6277_18913_003	—	—	KE	KE	CP		
B6277_18913_004	—	—	KE	KE	CP		
B6280_18913_001	—	—	KE	KE	CP		
B6280_18913_002	—	—	KE	KE	CP		
B6280_18913_003	—	—	KE	KE	CP CP 2/12/22		
MB1_18913	—	—	KE	KE	CP		
OPR1_18913	KE	KE	KE	KE	CP		
OPR2_18913	KE	KE	KE	KE	CP		

7/7/22

Standard Information

Pipette ID						
Spike ID	DIFAy-A	DIFAy-B	DIFES	DIFCS	DIFJS	
SIL #	26-2-8	25-187-2	26-2-9	25.338.1	25.384.1	
Concentration	10 pg/µL	10 pg/µL	100 pg/µL	100 pg/µL	100 pg/µL	
Expiration Date	7/9/28	6/22/28	7/9/28	11/16/22	1/28/23	

2/12/22

REVIEWED
Tamara Burkamper , 2/18/2022, 10:49:59 AM

SGS Environmental Services — Run Log **Project: B6277_18913_DF**

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

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	220215C01	3	CS3_220215_DF_CA	1.00	25-347-1	DTF	059-393	15-Feb-2022	10:30:50
2	220215C02	45	OPR1_18913_DF	1.00	0_18913_OPR001	DTF	247-990	15-Feb-2022	11:33:15
3	220215C03	46	OPR2_18913_DF	1.00	0_18913_OPR002	DTF	443-398	15-Feb-2022	12:19:29
4	220215C04	2	SBS_220215_DF_CA	1.00	30-61-1	DTF	808-304	15-Feb-2022	13:05:49
5	220215C05	44	MB1_18913_DF_SDS	10.00	Method Blank	DTF	341-051	15-Feb-2022	13:52:08
8	220215C08	49	B6277_18913_DF_001	10.75	1215131-020222-S-SB-NC-O-46	DTF	351-875	15-Feb-2022	16:11:10
9	220215C09	50	B6277_18913_DF_002	10.52	1215131-020222-S-SB-NC-B-14	DTF	805-821	15-Feb-2022	16:57:31
10	220215C10	51	B6277_18913_DF_003	10.52	1215131-020222-S-SB-NC-O-44	DTF	706-977	15-Feb-2022	17:43:52
11	220215C11	52	B6277_18913_DF_004	10.90	1215131-020222-S-SB-NC-B-13	DTF	182-667	15-Feb-2022	18:30:12

REVIEWED
Tyler_Fritz , 2/17/2022, 1:52:53 PM

Lab ID: MB1_18913_DF_SDS **Acq'd:** 15 Feb 2022 13:52 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6277_18913 **UTP:** 16-Feb-2022 17:11:00 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 341-051-BYV

Datafile: 220215C05 **Report:** 17 Feb 2022 13:45 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	5251.116	0.28
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	3466.669	0.184
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2445.291	0.143
123678-HxCDD	NotFnd		1.0036	-		-	-	-	1.15	-	2445.291	0.129
123789-HxCDD	NotFnd		1.0115	-		-	-	-	1.05	-	2445.291	0.132
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	2958.93	0.187
OCDD	NotFnd		1.0003	-		-	-	-	1.13	-	2771.878	0.42
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	3738.205	0.156
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	4063.818	0.142
23478-PeCDF	NotFnd		1.0006	-		-	-	-	1.02	-	4063.818	0.153
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	3258.977	0.116
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3258.977	0.104
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	3258.977	0.117
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3258.977	0.141
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2098.8674	0.0785
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2098.8674	0.118
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	2844.287	0.349

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.35	1.0239	1.0240	+0.2	3.38E+07	0.79	Y	1.05	94
ES 12378-PeCDD	33.72	1.2174	1.2181	+1.4	3.25E+07	1.60	Y	0.88	107
ES 123478-HxCDD	37.65	0.9917	0.9917	0	2.80E+07	1.31	Y	0.97	97.8
ES 123678-HxCDD	37.77	0.9948	0.9948	0	2.91E+07	1.29	Y	0.94	105
ES 123789-HxCDD	38.07	1.0027	1.0027	0	2.98E+07	1.29	Y	1.09	92.9
ES 1234678-HpCDD	40.77	1.0738	1.0739	+0.2	2.65E+07	1.04	Y	0.91	98.7
ES OCDD	43.47	1.1449	1.1450	+0.3	2.86E+07	0.93	Y	0.62	78
ES 2378-TCDF	27.49	1.0523	1.0525	+0.3	4.95E+07	0.79	Y	1.06	79.5
ES 12378-PeCDF	32.27	1.2346	1.2355	+1.7	5.27E+07	1.58	Y	0.91	98.6
ES 23478-PeCDF	33.39	1.2774	1.2783	+1.8	4.83E+07	1.61	Y	0.88	93.1
ES 123478-HxCDF	36.64	0.9651	0.9652	+0.2	3.57E+07	0.54	Y	1.20	101
ES 123678-HxCDF	36.79	0.9688	0.9689	+0.2	4.71E+07	0.53	Y	1.35	118
ES 234678-HxCDF	37.46	0.9867	0.9868	+0.2	3.99E+07	0.52	Y	1.24	109
ES 123789-HxCDF	38.43	1.0121	1.0122	+0.2	3.41E+07	0.54	Y	1.16	100
ES 1234678-HpCDF	39.83	1.0491	1.0491	0	3.02E+07	0.46	Y	0.97	106
ES 1234789-HpCDF	41.23	1.0858	1.0859	+0.2	2.37E+07	0.47	Y	0.85	94.7
ES OCDF	43.65	1.1495	1.1496	+0.3	3.89E+07	0.90	Y	0.81	81.7

Lab ID: MB1_18913_DF_SDS | **Acq'd:** 15 Feb 2022 13:52 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6277_18913 | **UTP:** 16-Feb-2022 17:11:00 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 341-051-BYV

Datafile: 220215C05 | **Report:** 17 Feb 2022 13:45 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.69		-	-	-	3.43E+07	0.81	Y	-	-
JS 1234-TCDF	26.12		-	-	-	5.88E+07	0.82	Y	-	-
JS 123467-HxCDD	37.97		-	-	-	1.47E+07	1.29	Y	-	-
CS 37Cl-2378-TCDD	28.37		1.0247	1.0248	+0.2	1.59E+07	n/a	-	1.20	96.1
CS 12347-PeCDD	33.22		1.1993	1.1999	+1.2	2.97E+07	1.57	Y	0.75	115
CS 12346-PeCDF	31.74		1.2144	1.2151	+1.3	5.34E+07	1.68	Y	0.85	107
CS 123469-HxCDF	37.10		0.9772	0.9772	0	3.92E+07	0.53	Y	1.12	119
CS 1234689-HpCDF	40.24		1.0597	1.0598	+0.2	2.92E+07	0.46	Y	0.89	112
~~SS 37Cl-2378-TCDD~~	~~28.37~~		~~1.0247~~	~~1.0248~~	~~+0.2~~	~~1.59E+07~~	~~n/a~~		~~1.15~~	~~102~~
~~SS 12347-PeCDD~~	~~33.22~~		~~1.1993~~	~~1.1999~~	~~+1.2~~	~~2.97E+07~~	~~1.57~~	~~Y~~	~~0.86~~	~~107~~
~~SS 12346-PeCDF~~	~~31.74~~		~~1.2144~~	~~1.2151~~	~~+1.3~~	~~5.34E+07~~	~~1.68~~	~~Y~~	~~0.94~~	~~100~~
~~SS 123469-HxCDF~~	~~37.10~~		~~0.9772~~	~~0.9772~~	~~0~~	~~3.92E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~100~~
~~SS 1234689-HpCDF~~	~~40.24~~		~~1.0597~~	~~1.0598~~	~~+0.2~~	~~2.92E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~105~~

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

Lab ID: MB1_18913_DF_SDS **Acq'd: 15 Feb 2022 13:52 DTF** **Wt/Vol: 10.00 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6277_18913 **UTP: 16-Feb-2022 17:11:00 DTF** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 341-051-BYV**

Datafile: 220215C05 **Report: 17 Feb 2022 13:45 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8719						1.18		5251.116	0.28
1379-TCDD	NotFnd		0.8845						1.18		5251.116	0.28
1369-TCDD	NotFnd		0.8996						1.18		5251.116	0.28
1469-TCDD	NotFnd		0.9271						1.18		5251.116	0.28
1247/1246/1248/1249-TCDD	NotFnd		0.9357						1.18		5251.116	0.28
1378-TCDD	NotFnd		0.9425						1.18		5251.116	0.28
1268-TCDD	NotFnd		0.9494						1.18		5251.116	0.28
1478-TCDD	NotFnd		0.9581						1.18		5251.116	0.28
1279-TCDD	NotFnd		0.9640						1.18		5251.116	0.28
1234/1269-TCDD	NotFnd		0.9765						1.18		5251.116	0.28
1236-TCDD	NotFnd		0.9816						1.18		5251.116	0.28
1237/1238-TCDD	NotFnd		0.9906						1.18		5251.116	0.28
1239-TCDD	NotFnd		0.9952						1.18		5251.116	0.28
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**5251.116**	**0.28**
1278-TCDD	NotFnd		1.0123						1.18		5251.116	0.28
1267-TCDD	NotFnd		1.0170						1.18		5251.116	0.28
1289-TCDD	NotFnd		1.0351						1.18		5251.116	0.28
12479/12468-PeCDD	NotFnd		0.9261						1.04		3466.669	0.184
12469-PeCDD	NotFnd		0.9420						1.04		3466.669	0.184
12368-PeCDD	NotFnd		0.9584						1.04		3466.669	0.184
12478-PeCDD	NotFnd		0.9641						1.04		3466.669	0.184
12379-PeCDD	NotFnd		0.9670						1.04		3466.669	0.184
12369/12467/12489-PeCDD	NotFnd		0.9747						1.04		3466.669	0.184
12346/12347-PeCDD	NotFnd		0.9857						1.04		3466.669	0.184
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**3466.669**	**0.184**
12367-PeCDD	NotFnd		1.0034						1.04		3466.669	0.184
12389-PeCDD	NotFnd		1.0136						1.04		3466.669	0.184
124679/124689-HxCDD	NotFnd		0.9540						1.10		2445.291	0.134
123468-HxCDD	NotFnd		0.9714						1.10		2445.291	0.134
123679/123689-HxCDD	NotFnd		0.9792						1.10		2445.291	0.134
123469-HxCDD	NotFnd		0.9828						1.10		2445.291	0.134
123478-HxCDD	NotFnd		**1.0004**						1.09		**2445.291**	**0.143**
123678-HxCDD	NotFnd		**1.0036**						1.15		**2445.291**	**0.129**
123467-HxCDD	NotFnd		1.0087						1.10		2445.291	0.134
123789-HxCDD	NotFnd		**1.0115**						1.05		**2445.291**	**0.132**

Lab ID: MB1_18913_DF_SDS | **Acq'd:** 15 Feb 2022 13:52 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6277_18913 | **UTP:** 16-Feb-2022 17:11:00 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 341-051-BYV

Datafile: 220215C05 | **Report:** 17 Feb 2022 13:45 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

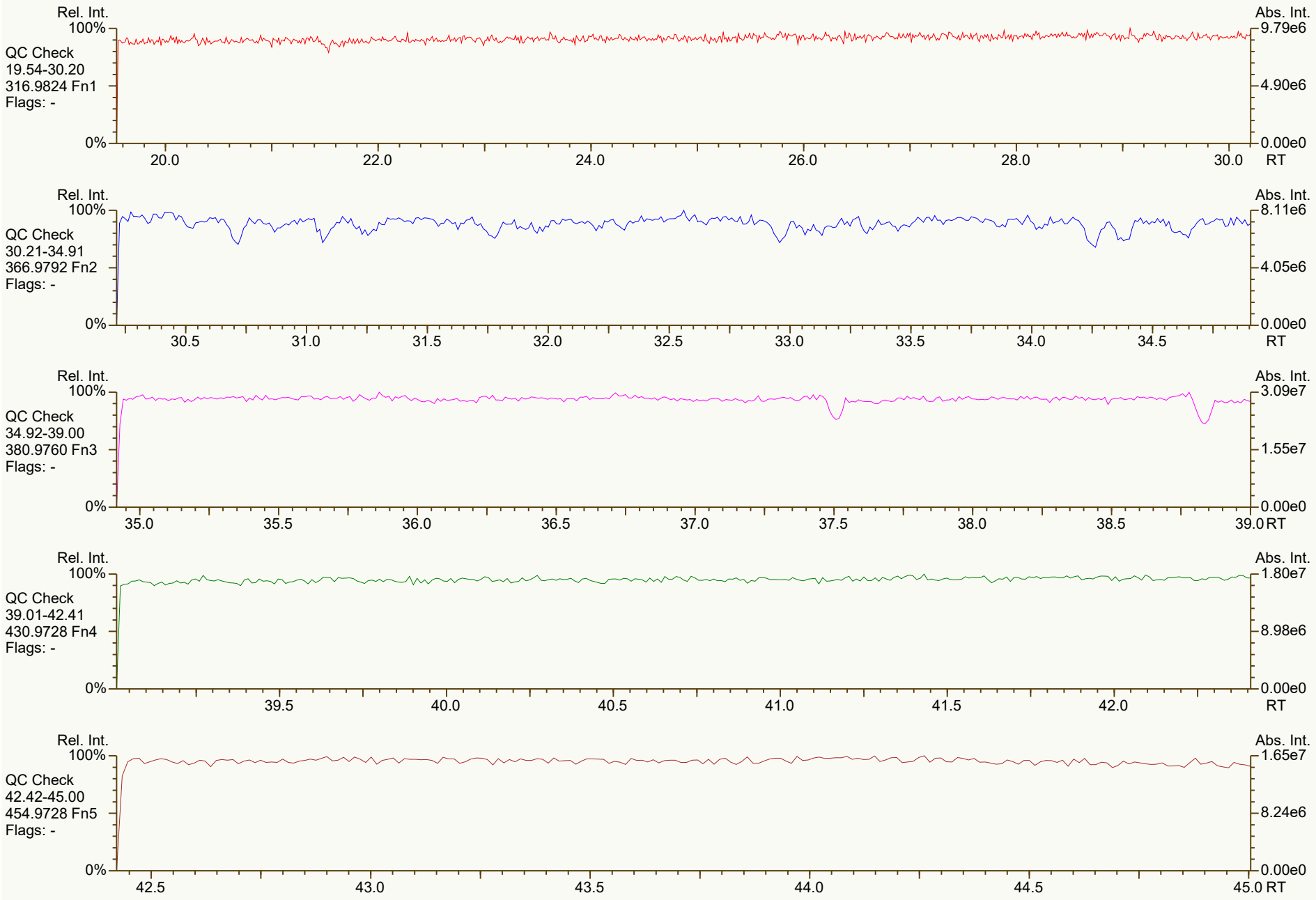
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9836						1.06		2958.93	0.187
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**2958.93**	**0.187**
OCDD	**NotFnd**		**1.0003**						**1.13**		**2771.878**	**0.42**
OCDD-a	NotFnd		1.0002						0.07		3930.484	9.31
1368-TCDF	NotFnd		0.8222						1.08		3738.205	0.156
1468-TCDF	NotFnd		0.8434						1.08		3738.205	0.156
2468-TCDF	NotFnd		0.8666						1.08		3738.205	0.156
1346/1246-TCDF	NotFnd		0.8789						1.08		3738.205	0.156
1347/1378/1247-TCDF	NotFnd		0.8848						1.08		3738.205	0.156
1348-TCDF	NotFnd		0.8947						1.08		3738.205	0.156
1248/1367/1379-TCDF	NotFnd		0.8995						1.08		3738.205	0.156
1268-TCDF	NotFnd		0.9131						1.08		3738.205	0.156
1467-TCDF	NotFnd		0.9181						1.08		3738.205	0.156
1478-TCDF	NotFnd		0.9244						1.08		3738.205	0.156
1369/1237-TCDF	NotFnd		0.9379						1.08		3738.205	0.156
2467-TCDF	NotFnd		0.9425						1.08		3738.205	0.156
2368-TCDF	NotFnd		0.9483						1.08		3738.205	0.156
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9514						1.08		3738.205	0.156
1278-TCDF	NotFnd		0.9681						1.08		3738.205	0.156
1349-TCDF	NotFnd		0.9722						1.08		3738.205	0.156
1267-TCDF	NotFnd		0.9780						1.08		3738.205	0.156
2346/1249-TCDF	NotFnd		0.9845						1.08		3738.205	0.156
2347/1279-TCDF	NotFnd		0.9927						1.08		3738.205	0.156
2348-TCDF	NotFnd		0.9970						1.08		3738.205	0.156
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**3738.205**	**0.156**
2367/3467-TCDF	NotFnd		1.0140						1.08		3738.205	0.156
1269-TCDF	NotFnd		1.0226						1.08		3738.205	0.156
1239-TCDF	NotFnd		1.0325						1.08		3738.205	0.156
1289-TCDF	NotFnd		1.0732						1.08		3738.205	0.156
13468/12468-PeCDF	NotFnd		0.9130						1.02		3336.466	0.121
13678/13467/12467-PeCDF	NotFnd		0.9610						1.02		4063.818	0.147
12368/13478/12478-PeCDF	NotFnd		0.9658						1.02		4063.818	0.147
14678-PeCDF	NotFnd		0.9688						1.02		4063.818	0.147
13479-PeCDF	NotFnd		0.9719						1.02		4063.818	0.147
13469/12479-PeCDF	NotFnd		0.9797						1.02		4063.818	0.147
12346-PeCDF	NotFnd		0.9841						1.02		4063.818	0.147

Lab ID: MB1_18913_DF_SDS **Acq'd: 15 Feb 2022 13:52 DTF** **Wt/Vol: 10.00 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6277_18913 **UTP: 16-Feb-2022 17:11:00 DTF** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 341-051-BYV**

Datafile: 220215C05 **Report: 17 Feb 2022 13:45 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9867						1.02		4063.818	0.147
12347-PeCDF	NotFnd		0.9892						1.02		4063.818	0.147
12348-PeCDF	NotFnd		0.9940						1.02		4063.818	0.147
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**4063.818**	**0.142**
12678/12367-PeCDF	NotFnd		1.0091						1.02		4063.818	0.147
12379-PeCDF	NotFnd		1.0144						1.02		4063.818	0.147
12679-PeCDF	NotFnd		0.9928						1.02		4063.818	0.147
23467/12369-PeCDF	NotFnd		0.9966						1.02		4063.818	0.147
23478-PeCDF	**NotFnd**		**1.0006**						**1.02**		**4063.818**	**0.153**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4063.818	0.147
12349-PeCDF	NotFnd		1.0101						1.02		4063.818	0.147
12389-PeCDF	NotFnd		1.0327						1.02		4063.818	0.147
123468-HxCDF	NotFnd		0.9624						1.19		3258.977	0.118
124678/134678-HxCDF	NotFnd		0.9679						1.19		3258.977	0.118
134679-HxCDF	NotFnd		0.9741						1.19		3258.977	0.118
124679-HxCDF	NotFnd		0.9796						1.19		3258.977	0.118
124689-HxCDF	NotFnd		0.9856						1.19		3258.977	0.118
123467-HxCDF	NotFnd		0.9972						1.19		3258.977	0.118
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**3258.977**	**0.116**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3258.977**	**0.104**
123479-HxCDF	NotFnd		1.0049						1.19		3258.977	0.118
123469-HxCDF	NotFnd		1.0090						1.19		3258.977	0.118
123679-HxCDF	NotFnd		0.9942						1.19		3258.977	0.118
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**3258.977**	**0.117**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3258.977	0.118
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3258.977**	**0.141**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		3258.977	0.118
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2098.8674**	**0.0785**
1234679-HpCDF	NotFnd		1.0069						1.34		2098.8674	0.0956
1234689-HpCDF	NotFnd		1.0104						1.34		2098.8674	0.0956
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2098.8674**	**0.118**
OCDF	**NotFnd**		**1.0002**						**1.07**		**2844.287**	**0.349**
OCDF-a	NotFnd		1.0002						0.07		3408.209	6.75

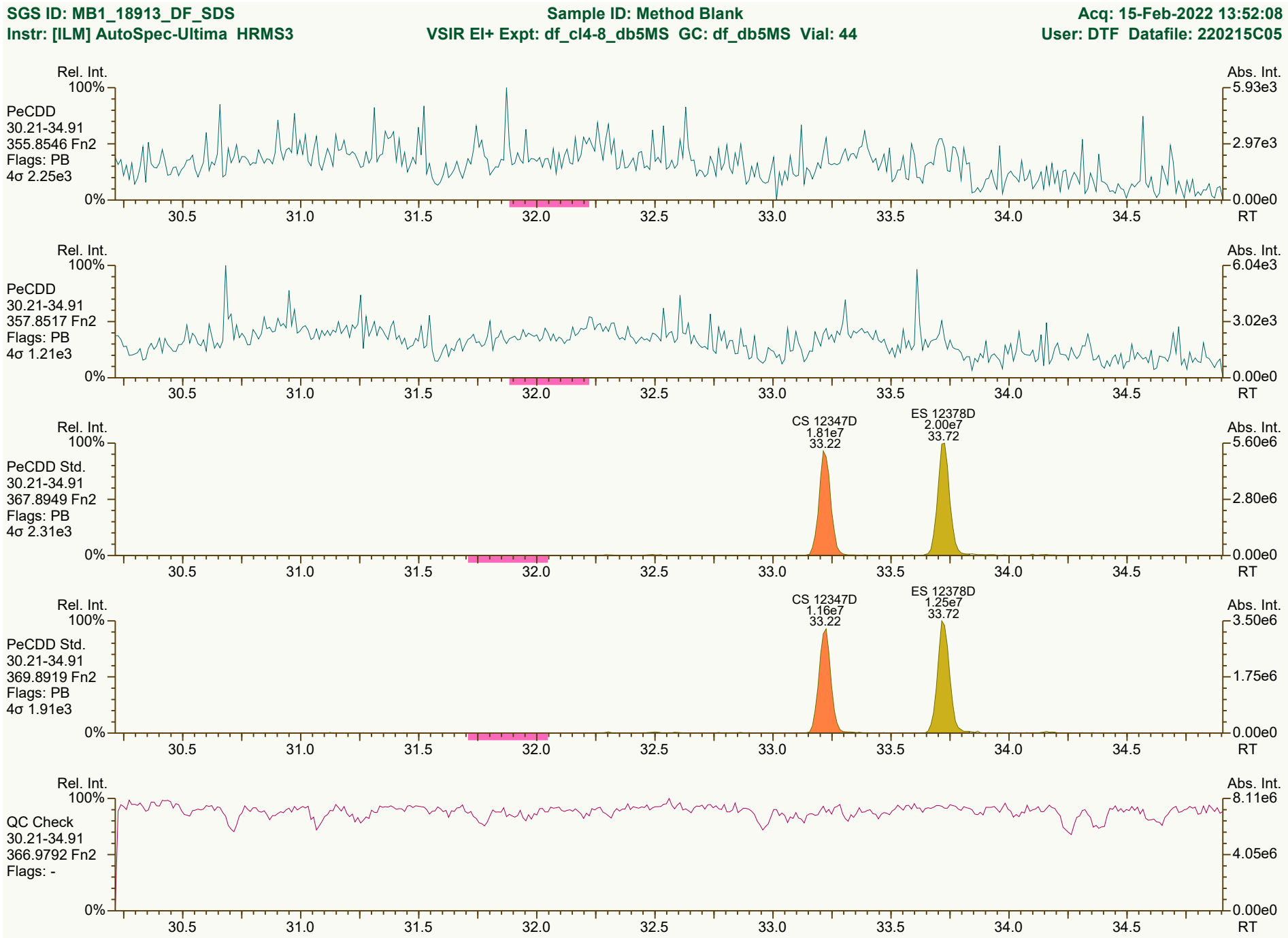

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
9.79e6
4.90e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.11e6
4.05e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.09e7
1.55e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.80e7
8.98e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 3.33e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.92e3
0%
Abs. Int.
1.09e4
5.46e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.41e3
0%
CS 37Cl-2378D
1.59e7
28.37
Abs. Int.
3.78e6
1.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 7.53e3
0%
JS 1234D
1.53e7
27.69
ES 2378D
1.49e7
28.35
Abs. Int.
3.55e6
1.78e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 6.69e3
0%
JS 1234D
1.90e7
27.68
ES 2378D
1.88e7
28.35
Abs. Int.
4.43e6
2.21e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: MB1_18913_DF_SDS
Instr: [ILM] AutoSpec-Ultima HRMS3

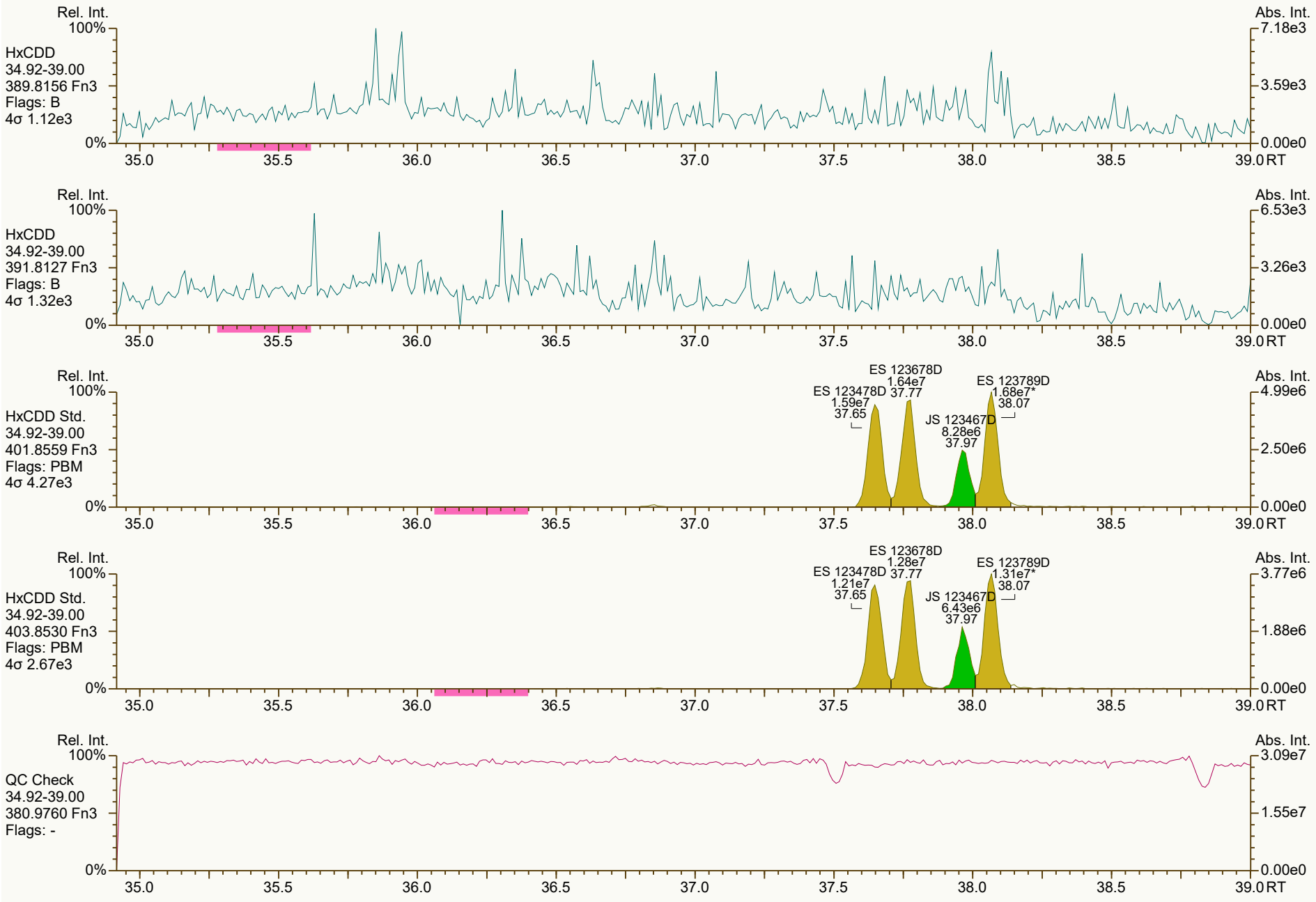
Sample ID: Method Blank
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 44

Acq: 15-Feb-2022 13:52:08
User: DTF Datafile: 220215C05



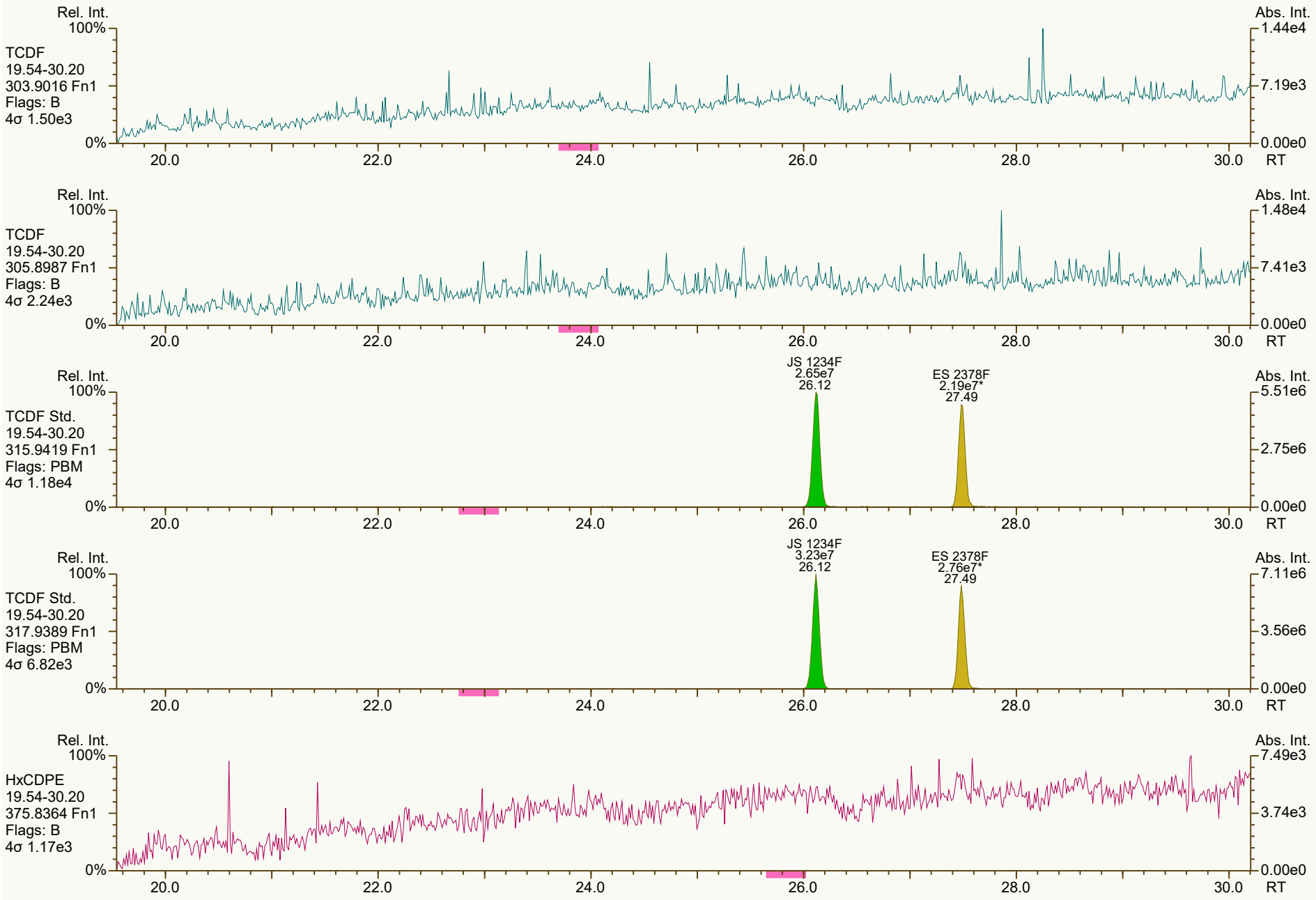
Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\MB1_18913_DF_SDS.utp_res, saved 16-Feb-2022 17:11 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9042, 6848 scc: 341-051

Peak annotation: Areas, Centroids
PKD: 15-Feb-2022 15:44 Printed: 17-Feb-2022 13:47 Page 3 of 12

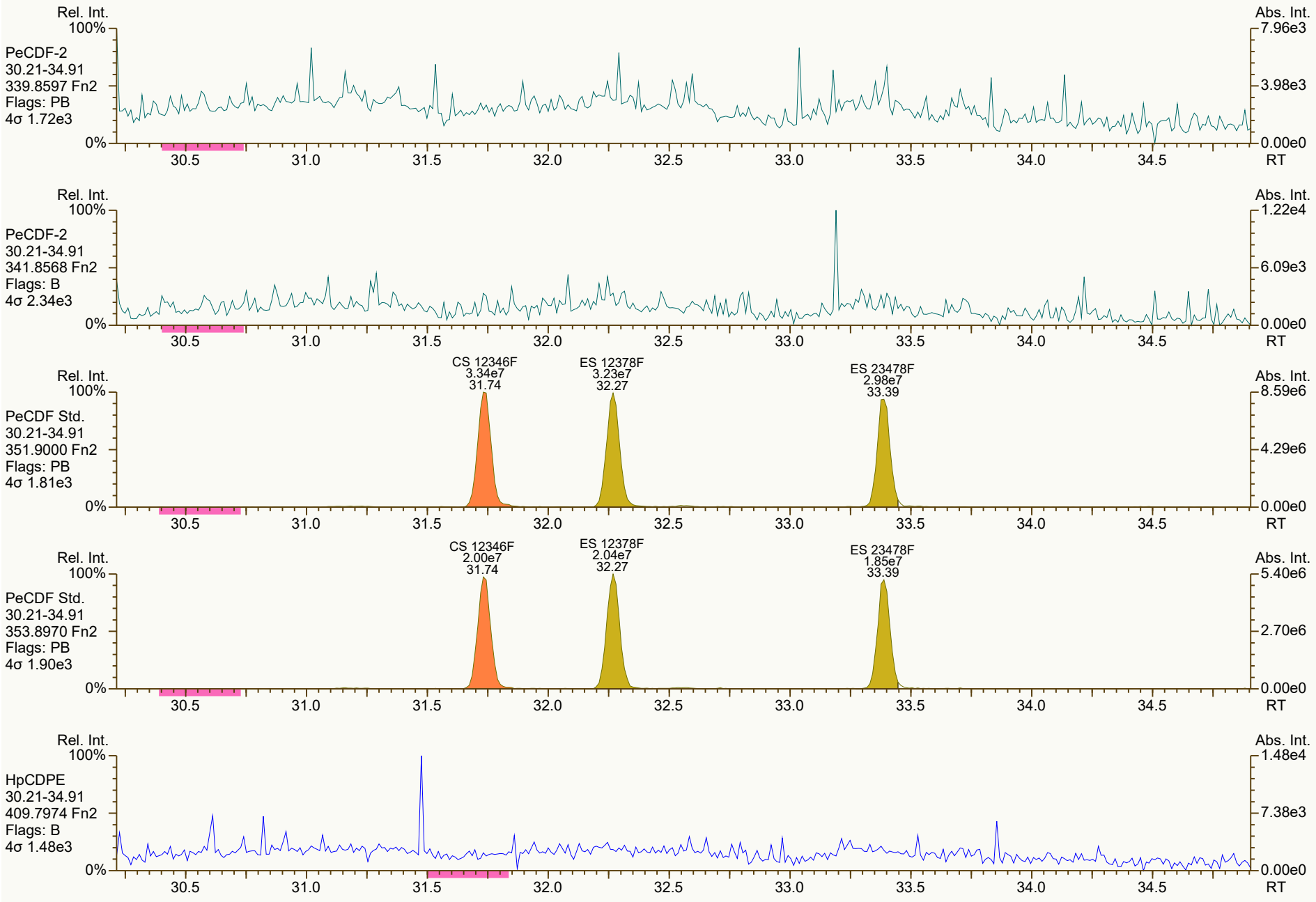

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: B
4σ 1.12e3
0%
Abs. Int.
7.18e3
3.59e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: B
4σ 1.32e3
0%
Abs. Int.
6.53e3
3.26e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 4.27e3
0%
ES 123678D
1.64e7
37.77
ES 123478D
1.59e7
37.65
ES 123789D
1.68e7*
38.07
JS 123467D
8.28e6
37.97
Abs. Int.
4.99e6
2.50e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 2.67e3
0%
ES 123678D
1.28e7
37.77
ES 123478D
1.21e7
37.65
ES 123789D
1.31e7*
38.07
JS 123467D
6.43e6
37.97
Abs. Int.
3.77e6
1.88e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.09e7
1.55e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.48e3
0%
Abs. Int.
6.85e3
3.42e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: B
4σ 1.48e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
1.35e7*
40.77
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 3.08e3
0%
Abs. Int.
3.80e6
1.90e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
1.30e7*
40.77
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 1.99e3
0%
Abs. Int.
3.90e6
1.95e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.80e7
8.98e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: B
4σ 1.34e3
0%
Abs. Int.
6.70e3
3.35e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: B
4σ 1.43e3
0%
Abs. Int.
1.20e4
5.99e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.38e7
43.47
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
2.82e6
1.41e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.48e7
43.47
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 2.54e3
0%
Abs. Int.
2.86e6
1.43e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: B
4σ 1.50e3
0%
Abs. Int.
1.44e4
7.19e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 2.24e3
0%
Abs. Int.
1.48e4
7.41e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PBM
4σ 1.18e4
0%
JS 1234F
2.65e7
26.12
ES 2378F
2.19e7*
27.49
Abs. Int.
5.51e6
2.75e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PBM
4σ 6.82e3
0%
JS 1234F
3.23e7
26.12
ES 2378F
2.76e7*
27.49
Abs. Int.
7.11e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.17e3
0%
Abs. Int.
7.49e3
3.74e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

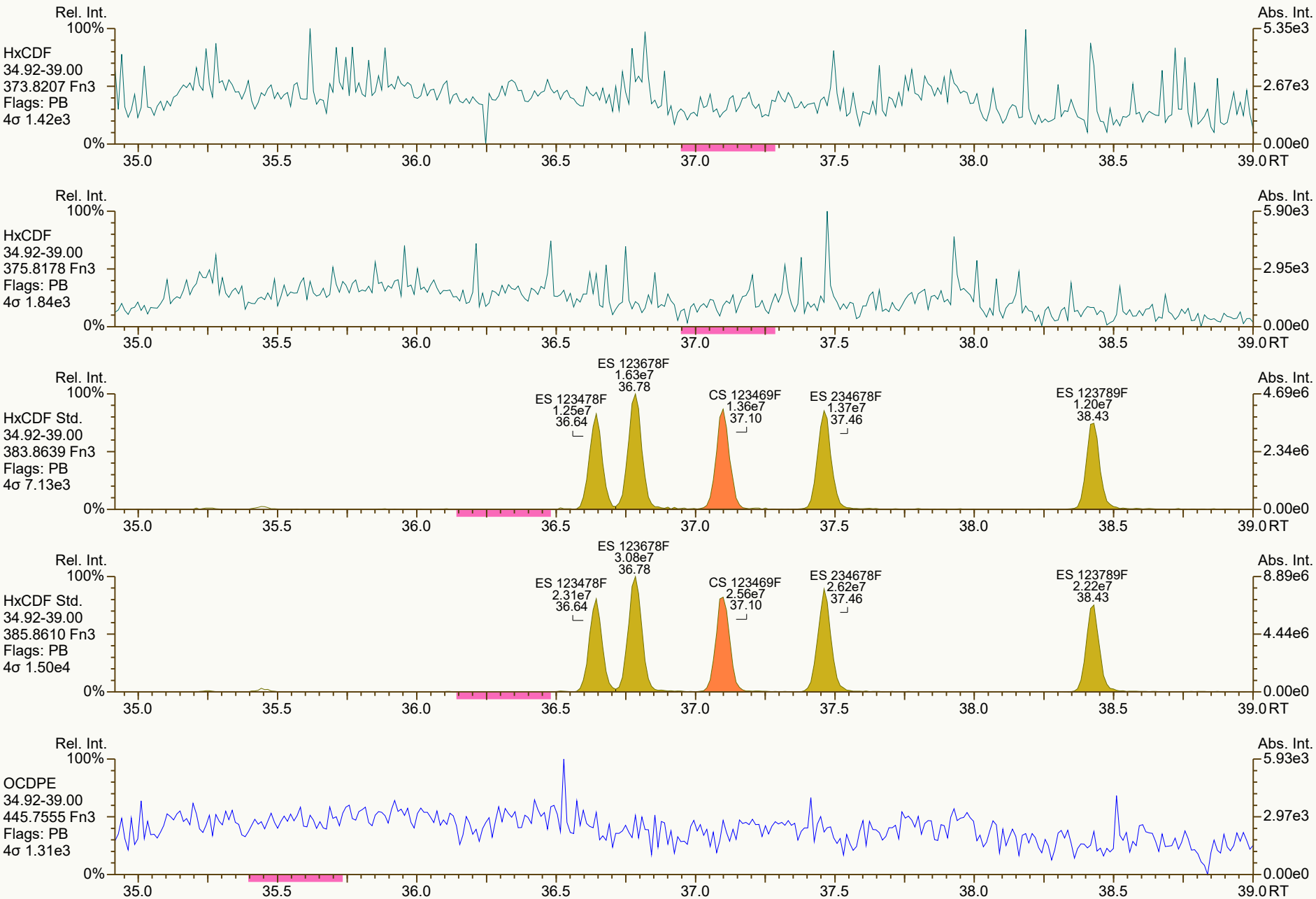

Rel. Int.
100%
0%
Abs. Int.
1.19e4
5.94e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.51e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.09e4
1.05e4
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.83e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.79e6
4.90e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PB
4σ 1.72e3
0%
Abs. Int.
7.96e3
3.98e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: B
4σ 2.34e3
1.22e4
6.09e3
CS 12346F
3.34e7
31.74
ES 12378F
3.23e7
32.27
ES 23478F
2.98e7
33.39
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 1.81e3
8.59e6
4.29e6
CS 12346F
2.00e7
31.74
ES 12378F
2.04e7
32.27
ES 23478F
1.85e7
33.39
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 1.90e3
5.40e6
2.70e6
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.48e3
1.48e4
7.38e3

SGS ID: MB1_18913_DF_SDS
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: Method Blank
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 44

Acq: 15-Feb-2022 13:52:08
User: DTF Datafile: 220215C05



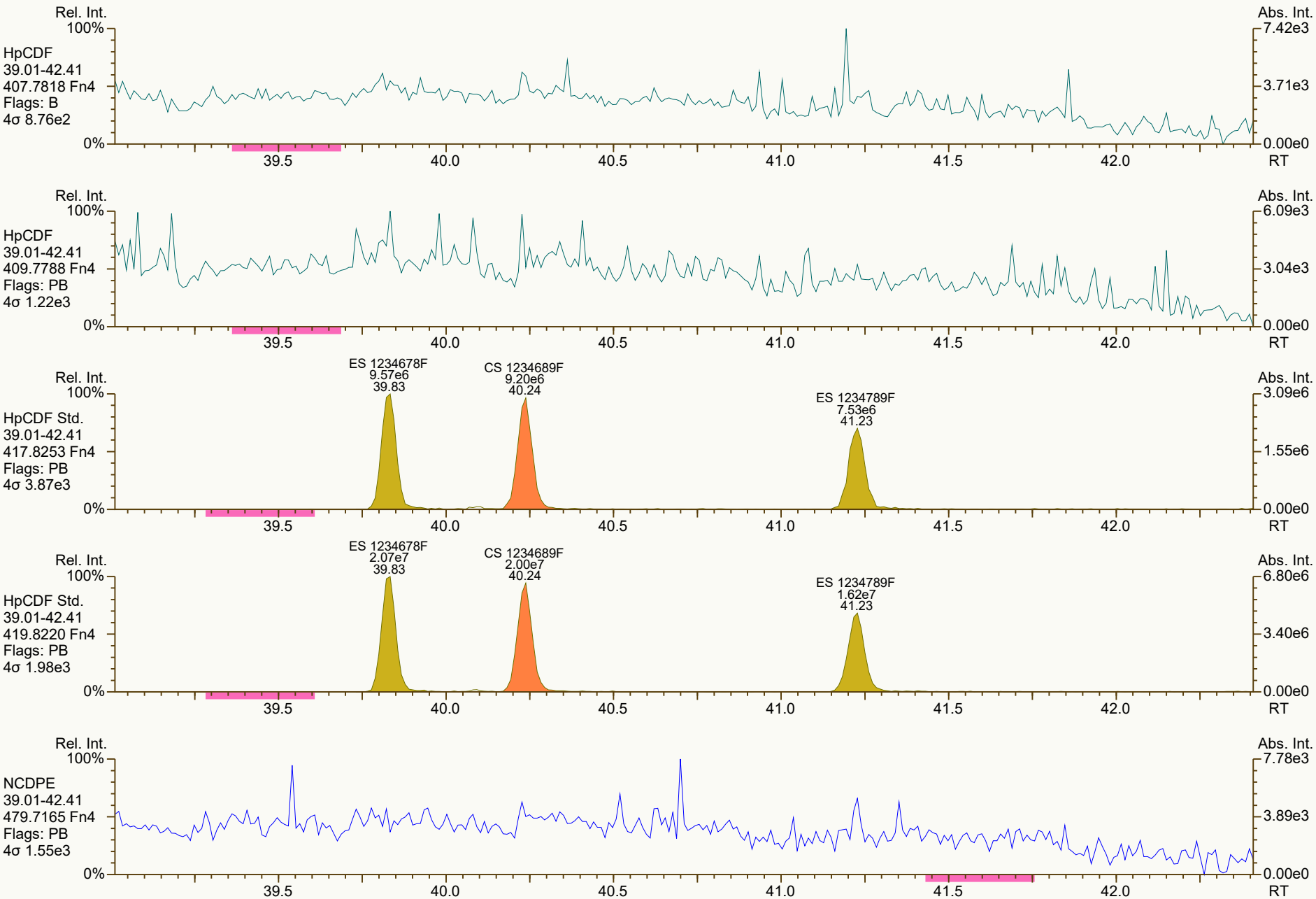
Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\MB1_18913_DF_SDS.utp_res, saved 16-Feb-2022 17:11 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2925, 3026, 0127 scc: 341-051

Peak annotation: Areas, Centroids
PKD: 15-Feb-2022 15:44 Printed: 17-Feb-2022 13:47 Page 10 of 12

SGS ID: MB1_18913_DF_SDS
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: Method Blank
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 44

Acq: 15-Feb-2022 13:52:08
User: DTF Datafile: 220215C05



Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\MB1_18913_DF_SDS.utp_res, saved 16-Feb-2022 17:11 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0657, 7204, 1238 scc: 341-051

Peak annotation: Areas, Centroids
PKD: 15-Feb-2022 15:44 Printed: 17-Feb-2022 13:47 Page 11 of 12


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: B
4σ 1.55e3
0%
Abs. Int.
1.18e4
5.88e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.30e3
0%
Abs. Int.
7.78e3
3.89e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.83e7
43.65
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.73e3
0%
Abs. Int.
3.59e6
1.80e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.05e7
43.64
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 2.34e3
0%
Abs. Int.
4.31e6
2.15e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.22e3
0%
Abs. Int.
6.47e3
3.23e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6277_18913_DF_001 **Acq'd: 15 Feb 2022 16:11 DTF** **Wt/Vol: 10.75 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 1215131-020222-S-SB-NC-O-46 **UTP: 16-Feb-2022 17:11:00 DTF** **J-level: 0.465 pg/g** **Split: 1** **Checkcode: 351-875-VQK**

Datafile: 220215C08 **Report: 17 Feb 2022 13:42 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.38		1.0008	1.0008	0	5.21E+07	0.81	Y	1.18	290	5530.72	0.332
12378-PeCDD	33.75		1.0006	1.0006	0	5.74E+05	1.70	Y	1.04	3.75	3994.545	0.23
123478-HxCDD	37.66		1.0004	1.0004	0	3.53E+05	1.40	Y	1.09	2.51	4597.192	0.295
123678-HxCDD	37.78		1.0036	1.0036	0	1.19E+06	1.33	Y	1.15	7.77	4597.192	0.25
123789-HxCDD	38.08		1.0115	1.0115	0	7.27E+05	1.37	Y	1.05	4.8	4597.192	0.255
1234678-HpCDD	40.78		1.0003	1.0003	0	2.88E+07	1.04	Y	1.06	215	4866.651	0.322
OCDD	43.48		1.0003	1.0003	0	2.18E+08	0.91	Y	1.13	2,500	6873.1	0.949
2378-TCDF	27.51		1.0008	1.0008	0	1.87E+08	0.78	Y	1.08	744	4116.689	0.179
12378-PeCDF	32.29		1.0005	1.0005	0	7.93E+06	1.57	Y	1.02	32.5	3529.308	0.138
23478-PeCDF	33.41	PR	1.0006	1.0007	+0.2	5.45E+06	1.57	Y	1.02	23.7	3529.308	0.138
123478-HxCDF	36.66		1.0004	1.0005	+0.2	1.15E+07	1.26	Y	1.27	53	11453.294	0.446
123678-HxCDF	36.80		1.0004	1.0005	+0.2	3.28E+06	1.27	Y	1.15	13.2	11453.294	0.393
234678-HxCDF	37.48		1.0005	1.0004	-0.2	1.01E+06	1.27	Y	1.19	4.66	11453.294	0.459
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	11453.294	0.506
1234678-HpCDF	39.84		1.0003	1.0003	0	9.88E+06	1.01	Y	1.37	49.2	3517.679	0.137
1234789-HpCDF	41.24		1.0003	1.0003	0	1.49E+06	1.04	Y	1.31	9.32	3517.679	0.193
OCDF	43.65		1.0002	1.0002	0	1.80E+07	0.91	Y	1.07	161	4863.448	0.525

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.35	1.0239	1.0240	+0.2	2.82E+07	0.82	Y	1.05	82.1
ES 12378-PeCDD	33.73	1.2174	1.2180	+1.2	2.74E+07	1.63	Y	0.88	95.1
ES 123478-HxCDD	37.65	0.9917	0.9917	0	2.40E+07	1.24	Y	0.97	85.7
ES 123678-HxCDD	37.77	0.9948	0.9949	+0.2	2.48E+07	1.25	Y	0.94	91.1
ES 123789-HxCDD	38.06	1.0027	1.0027	0	2.69E+07	1.25	Y	1.09	85.6
ES 1234678-HpCDD	40.77	1.0738	1.0739	+0.2	2.35E+07	1.09	Y	0.91	89.5
ES OCDD	43.46	1.1449	1.1448	-0.3	2.87E+07	0.94	Y	0.62	79.9
ES 2378-TCDF	27.49	1.0523	1.0524	+0.2	4.33E+07	0.79	Y	1.06	77.8
ES 12378-PeCDF	32.27	1.2346	1.2353	+1.4	4.43E+07	1.61	Y	0.91	92.7
ES 23478-PeCDF	33.39	1.2774	1.2781	+1.4	4.20E+07	1.58	Y	0.88	90.5
ES 123478-HxCDF	36.64	0.9651	0.9652	+0.2	3.17E+07	0.55	Y	1.20	91.7
ES 123678-HxCDF	36.78	0.9688	0.9689	+0.2	4.01E+07	0.53	Y	1.35	103
ES 234678-HxCDF	37.46	0.9867	0.9867	0	3.40E+07	0.52	Y	1.24	95
ES 123789-HxCDF	38.43	1.0121	1.0122	+0.2	3.01E+07	0.54	Y	1.16	90.4
ES 1234678-HpCDF	39.83	1.0491	1.0492	+0.2	2.72E+07	0.47	Y	0.97	97.7
ES 1234789-HpCDF	41.22	1.0858	1.0859	+0.2	2.28E+07	0.46	Y	0.85	93
ES OCDF	43.64	1.1495	1.1495	0	3.87E+07	0.91	Y	0.81	83.1

Lab ID: B6277_18913_DF_001 **Acq'd:** 15 Feb 2022 16:11 DTF **Wt/Vol:** 10.75 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 1215131-020222-S-SB-NC-O-46 **UTP:** 16-Feb-2022 17:11:00 DTF **J-level:** 0.465 pg/g **Split:** 1 **Checkcode:** 351-875-VQK

Datafile: 220215C08 **Report:** 17 Feb 2022 13:42 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.69		-	-	-	3.28E+07	0.83	Y	-	-
JS 1234-TCDF	26.12		-	-	-	5.25E+07	0.79	Y	-	-
JS 123467-HxCDD	37.96		-	-	-	1.44E+07	1.26	Y	-	-
CS 37Cl-2378-TCDD	28.37		1.0247	1.0248	+0.2	1.28E+07	n/a	-	1.20	80.9
CS 12347-PeCDD	33.22		1.1993	1.1998	+1.0	2.39E+07	1.58	Y	0.75	96.8
CS 12346-PeCDF	31.74		1.2144	1.2149	+1.0	4.23E+07	1.60	Y	0.85	94.7
CS 123469-HxCDF	37.10		0.9772	0.9772	0	3.16E+07	0.55	Y	1.12	98.3
CS 1234689-HpCDF	40.24		1.0597	1.0599	+0.5	2.54E+07	0.47	Y	0.89	99.3
~~SS 37Cl-2378-TCDD~~	~~28.37~~		~~1.0247~~	~~1.0248~~	~~+0.2~~	~~1.28E+07~~	~~n/a~~		~~1.15~~	~~98.8~~
~~SS 12347-PeCDD~~	~~33.22~~		~~1.1993~~	~~1.1998~~	~~+1.0~~	~~2.39E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~102~~
~~SS 12346-PeCDF~~	~~31.74~~		~~1.2144~~	~~1.2149~~	~~+1.0~~	~~4.23E+07~~	~~1.60~~	~~Y~~	~~0.94~~	~~102~~
~~SS 123469-HxCDF~~	~~37.10~~		~~0.9772~~	~~0.9772~~	~~0~~	~~3.16E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~95.2~~
~~SS 1234689-HpCDF~~	~~40.24~~		~~1.0597~~	~~1.0599~~	~~+0.5~~	~~2.54E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~101~~

Totals	Conc	EMPC
Total TCDD	331	331
Total PeCDD	13.3	15.8
Total HxCDD	88.5	88.5
Total HpCDD	510	510
Total Tetra-Octa Dioxins	3440	3440
Total TCDF	1,460	1460
Total PeCDF	99.8	99.8
Total HxCDF	117	118
Total HpCDF	134	134
Total Tetra-Octa Furans	1,970	1980
Total Tetra-Octa Dioxins & Furans	5420	5420

Lab ID: B6277_18913_DF_001 **Acq'd: 15 Feb 2022 16:11 DTF** **Wt/Vol: 10.75 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 1215131-020222-S-SB-NC-O-46 **UTP: 16-Feb-2022 17:11:00 DTF** **J-level: 0.465 pg/g** **Split: 1** **Checkcode: 351-875-VQK**

Datafile: 220215C08 **Report: 17 Feb 2022 13:42 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.71		0.8719	0.8714	-0.7	2.60E+05	0.76	Y	1.18	1.45	5530.72	0.332
1379-TCDD	25.05	EMPC	0.8845	0.8836	-1.4	9.67E+04	1.14	N	1.18	0.539	5530.72	0.332
1369-TCDD	NotFnd		0.8996						1.18		5530.72	0.332
1469-TCDD	26.28		0.9271	0.9270	-0.2	4.53E+05	0.85	Y	1.18	2.52	5530.72	0.332
1247/1246/1248/1249-TCDD	26.52		0.9357	0.9352	-0.8	1.46E+05	0.81	Y	1.18	0.816	5530.72	0.332
1378-TCDD	26.72		0.9425	0.9423	-0.3	2.27E+05	0.83	Y	1.18	1.26	5530.72	0.332
1268-TCDD	NotFnd		0.9494						1.18		5530.72	0.332
1478-TCDD	27.16		0.9581	0.9580	-0.2	1.47E+05	0.87	Y	1.18	0.82	5530.72	0.332
1279-TCDD	NotFnd		0.9640						1.18		5530.72	0.332
1234/1269-TCDD	27.67		0.9765	0.9760	-0.8	1.20E+05	0.75	Y	1.18	0.671	5530.72	0.332
1236-TCDD	NotFnd		0.9816						1.18		5530.72	0.332
1237/1238-TCDD	28.08		0.9906	0.9906	0	9.51E+05	0.84	Y	1.18	5.3	5530.72	0.332
1239-TCDD	NotFnd		0.9952						1.18		5530.72	0.332
2378-TCDD	**28.38**		**1.0008**	1.0008	**0**	5.21E+07	0.81	Y	**1.18**	**290**	**5530.72**	**0.332**
1278-TCDD	28.70		1.0123	1.0124	+0.2	4.91E+06	0.79	Y	1.18	27.3	5530.72	0.332
1267-TCDD	NotFnd		1.0170						1.18		5530.72	0.332
1289-TCDD	NotFnd		1.0351						1.18		5530.72	0.332
12479/12468-PeCDD	31.22		0.9261	0.9257	-0.7	4.48E+05	1.37	Y	1.04	2.93	3994.545	0.23
12469-PeCDD	31.76		0.9420	0.9417	-0.6	5.36E+05	1.37	Y	1.04	3.51	3994.545	0.23
12368-PeCDD	32.31	J	0.9584	0.9581	-0.6	1.76E+05	1.36	Y	1.04	1.15	3994.545	0.23
12478-PeCDD	32.51	J EMPC	0.9641	0.9640	-0.2	1.62E+05	1.29	N	1.04	1.06	3994.545	0.23
12379-PeCDD	32.61	J EMPC	0.9670	0.9670	0	6.61E+04	3.31	N	1.04	0.432	3994.545	0.23
12369/12467/12489-PeCDD	32.87	J	0.9747	0.9747	0	2.92E+05	1.59	Y	1.04	1.91	3994.545	0.23
12346/12347-PeCDD	33.24	J EMPC	0.9857	0.9856	-0.2	6.88E+04	1.29	N	1.04	0.45	3994.545	0.23
12378-PeCDD	33.75		**1.0006**	**1.0006**	**0**	**5.74E+05**	**1.70**	**Y**	**1.04**	**3.75**	**3994.545**	**0.23**
12367-PeCDD	33.84	J EMPC	1.0034	1.0034	0	4.17E+04	0.86	N	1.04	0.273	3994.545	0.23
12389-PeCDD	34.19	J EMPC	1.0136	1.0137	+0.2	5.60E+04	0.99	N	1.04	0.366	3994.545	0.23
124679/124689-HxCDD	35.92		0.9540	0.9540	0	5.57E+06	1.24	Y	1.10	37.5	4597.192	0.266
123468-HxCDD	36.57		0.9714	0.9714	0	5.93E+05	1.34	Y	1.10	3.99	4597.192	0.266
123679/123689-HxCDD	36.87		0.9792	0.9793	+0.2	4.05E+06	1.27	Y	1.10	27.3	4597.192	0.266
123469-HxCDD	37.00		0.9828	0.9828	0	4.12E+05	1.12	Y	1.10	2.77	4597.192	0.266
123478-HxCDD	37.66		**1.0004**	**1.0004**	**0**	**3.53E+05**	**1.40**	**Y**	1.09	**2.51**	**4597.192**	**0.295**
123678-HxCDD	37.78		**1.0036**	**1.0036**	**0**	**1.19E+06**	**1.33**	**Y**	1.15	**7.77**	**4597.192**	**0.25**
123467-HxCDD	37.98	J	1.0087	1.0088	+0.2	2.74E+05	1.28	Y	1.10	1.85	4597.192	0.266
123789-HxCDD	38.08		**1.0115**	**1.0115**	**0**	**7.27E+05**	**1.37**	**Y**	1.05	**4.8**	**4597.192**	**0.255**

Lab ID: B6277_18913_DF_001 **Acq'd: 15 Feb 2022 16:11 DTF** **Wt/Vol: 10.75 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 1215131-020222-S-SB-NC-O-46 **UTP: 16-Feb-2022 17:11:00 DTF** **J-level: 0.465 pg/g** **Split: 1** **Checkcode: 351-875-VQK**

Datafile: 220215C08 **Report: 17 Feb 2022 13:42 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

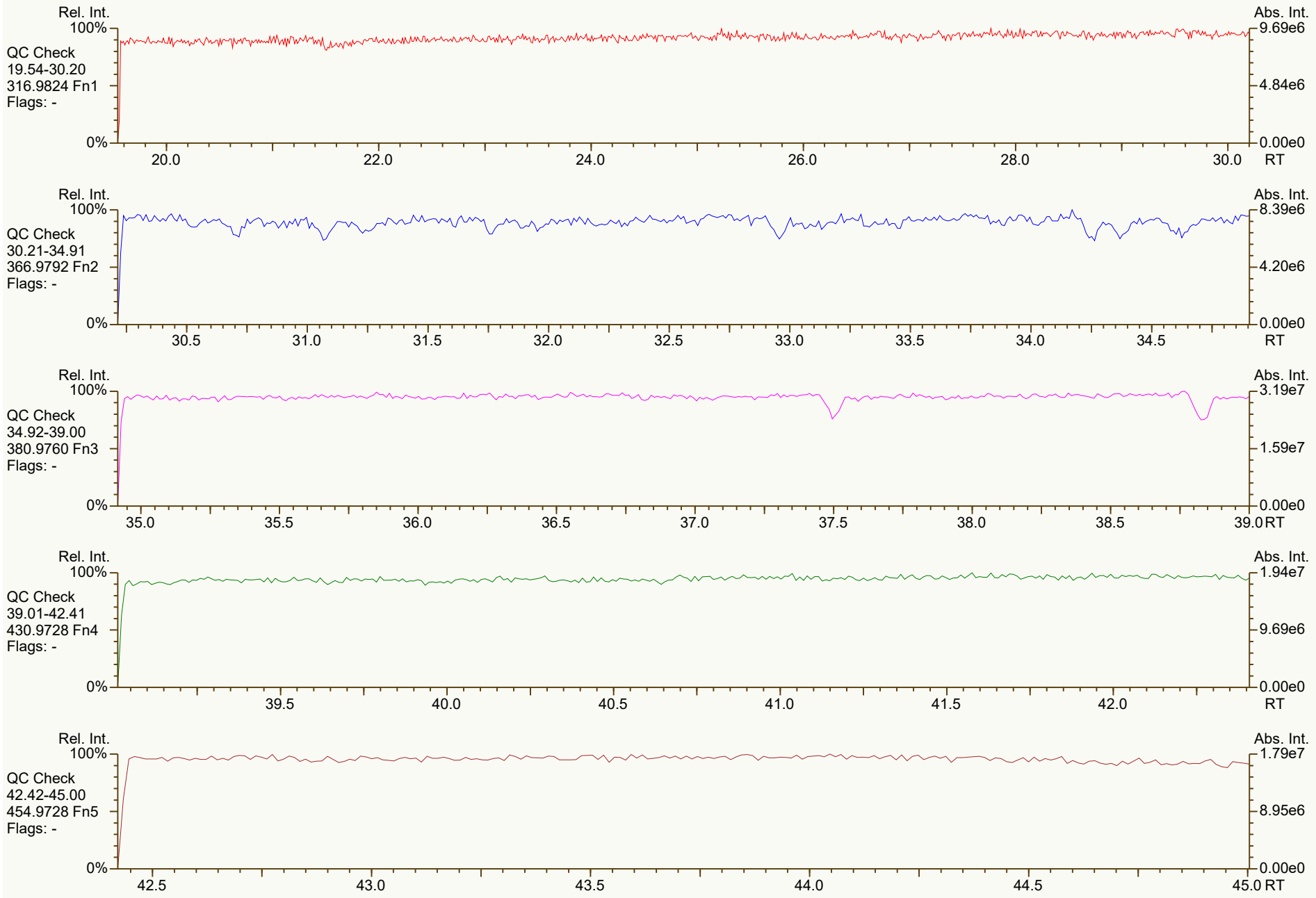
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.10		0.9836	0.9837	+0.2	3.96E+07	1.04	Y	1.06	295	4866.651	0.322
1234678-HpCDD	**40.78**		**1.0003**	**1.0003**	**0**	**2.88E+07**	**1.04**	**Y**	**1.06**	**215**	**4866.651**	**0.322**
OCDD	**43.48**		**1.0003**	**1.0003**	**0**	**2.18E+08**	**0.91**	**Y**	**1.13**	**2,500**	**6873.1**	**0.949**
OCDD-a	43.47		1.0002	1.0003	+0.3	1.37E+07	2.45	Y	0.07	2,450	5257.637	11.4
1368-TCDF	22.60		0.8222	0.8219	-0.4	1.80E+05	0.82	Y	1.08	0.715	4116.689	0.179
1468-TCDF	23.19		0.8434	0.8433	-0.1	4.66E+05	0.81	Y	1.08	1.86	4116.689	0.179
2468-TCDF	23.82		0.8666	0.8663	-0.4	6.17E+05	0.81	Y	1.08	2.46	4116.689	0.179
1346/1246-TCDF	NotFnd		0.8789						1.08		4116.689	0.179
1347/1378/1247-TCDF	24.33		0.8848	0.8850	+0.3	2.96E+06	0.81	Y	1.08	11.8	4116.689	0.179
1348-TCDF	NotFnd		0.8947						1.08		4116.689	0.179
1248/1367/1379-TCDF	24.68		0.8995	0.8978	-2.5	9.52E+06	0.81	Y	1.08	37.9	4116.689	0.179
1268-TCDF	25.11		0.9131	0.9132	+0.2	3.25E+06	0.85	Y	1.08	12.9	4116.689	0.179
1467-TCDF	25.24		0.9181	0.9180	-0.2	5.72E+05	0.79	Y	1.08	2.28	4116.689	0.179
1478-TCDF	25.41		0.9244	0.9242	-0.3	8.19E+06	0.76	Y	1.08	32.6	4116.689	0.179
1369/1237-TCDF	25.79		0.9379	0.9381	+0.3	2.34E+06	0.85	Y	1.08	9.33	4116.689	0.179
2467-TCDF	25.91	EMPC	0.9425	0.9426	+0.2	2.67E+05	0.61	N	1.08	1.06	4116.689	0.179
2368-TCDF	26.11		0.9483	0.9498	+2.3	1.56E+07	0.80	Y	1.08	62.3	4116.689	0.179
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9514						1.08		4116.689	0.179
1278-TCDF	26.61		0.9681	0.9679	-0.3	7.95E+07	0.80	Y	1.08	317	4116.689	0.179
1349-TCDF	NotFnd		0.9722						1.08		4116.689	0.179
1267-TCDF	26.89		0.9780	0.9779	-0.2	5.50E+06	0.77	Y	1.08	21.9	4116.689	0.179
2346/1249-TCDF	27.09		0.9845	0.9853	+1.3	5.92E+05	0.78	Y	1.08	2.36	4116.689	0.179
2347/1279-TCDF	27.29		0.9927	0.9925	-0.3	2.55E+06	0.76	Y	1.08	10.2	4116.689	0.179
2348-TCDF	27.40		0.9970	0.9965	-0.8	1.24E+07	0.76	Y	1.08	49.3	4116.689	0.179
2378-TCDF	**27.51**		**1.0008**	**1.0008**	**0**	**1.87E+08**	**0.78**	**Y**	**1.08**	**744**	**4116.689**	**0.179**
2367/3467-TCDF	27.87		1.0140	1.0136	-0.7	1.82E+07	0.78	Y	1.08	72.5	4116.689	0.179
1269-TCDF	28.12		1.0226	1.0228	+0.3	2.90E+06	0.80	Y	1.08	11.6	4116.689	0.179
1239-TCDF	NotFnd		1.0325						1.08		4116.689	0.179
1289-TCDF	29.53		1.0732	1.0740	+1.4	1.50E+07	0.76	Y	1.08	59.9	4116.689	0.179
13468/12468-PeCDF	29.47		0.9130	0.9133	+0.5	1.31E+06	1.58	Y	1.02	5.51	3657.62	0.143
13678/13467/12467-PeCDF	31.02	J	0.9610	0.9613	+0.6	5.14E+05	1.45	Y	1.02	2.17	3529.308	0.138
12368/13478/12478-PeCDF	31.19		0.9658	0.9664	+1.1	4.32E+06	1.60	Y	1.02	18.2	3529.308	0.138
14678-PeCDF	NotFnd		0.9688						1.02		3529.308	0.138
13479-PeCDF	NotFnd		0.9719						1.02		3529.308	0.138
13469/12479-PeCDF	NotFnd		0.9797						1.02		3529.308	0.138
12346-PeCDF	31.75	J	0.9841	0.9838	-0.6	6.49E+04	1.36	Y	1.02	0.274	3529.308	0.138

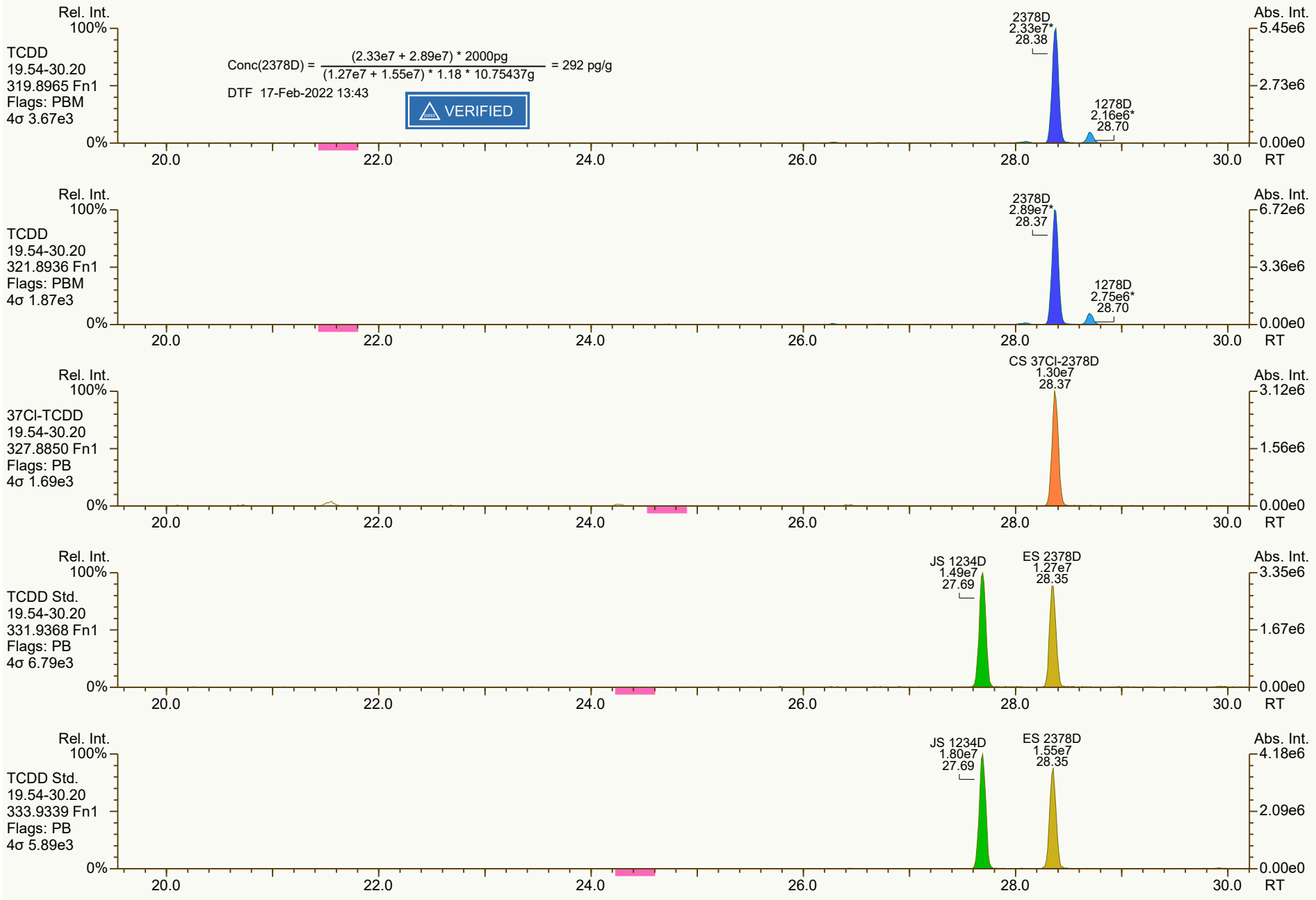
Lab ID: B6277_18913_DF_001 **Acq'd: 15 Feb 2022 16:11 DTF** **Wt/Vol: 10.75 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

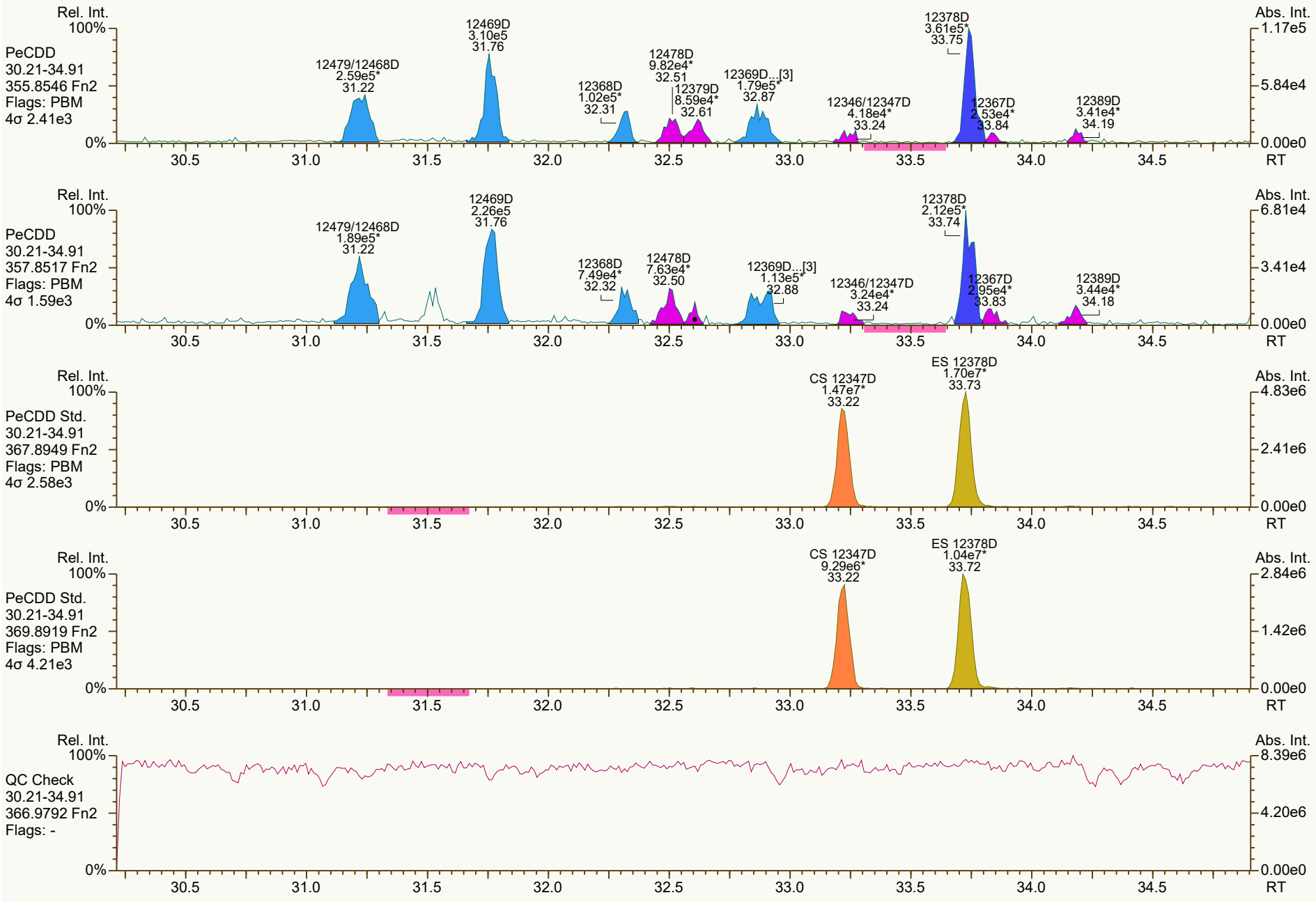
Client ID: 1215131-020222-S-SB-NC-O-46 **UTP: 16-Feb-2022 17:11:00 DTF** **J-level: 0.465 pg/g** **Split: 1** **Checkcode: 351-875-VQK**

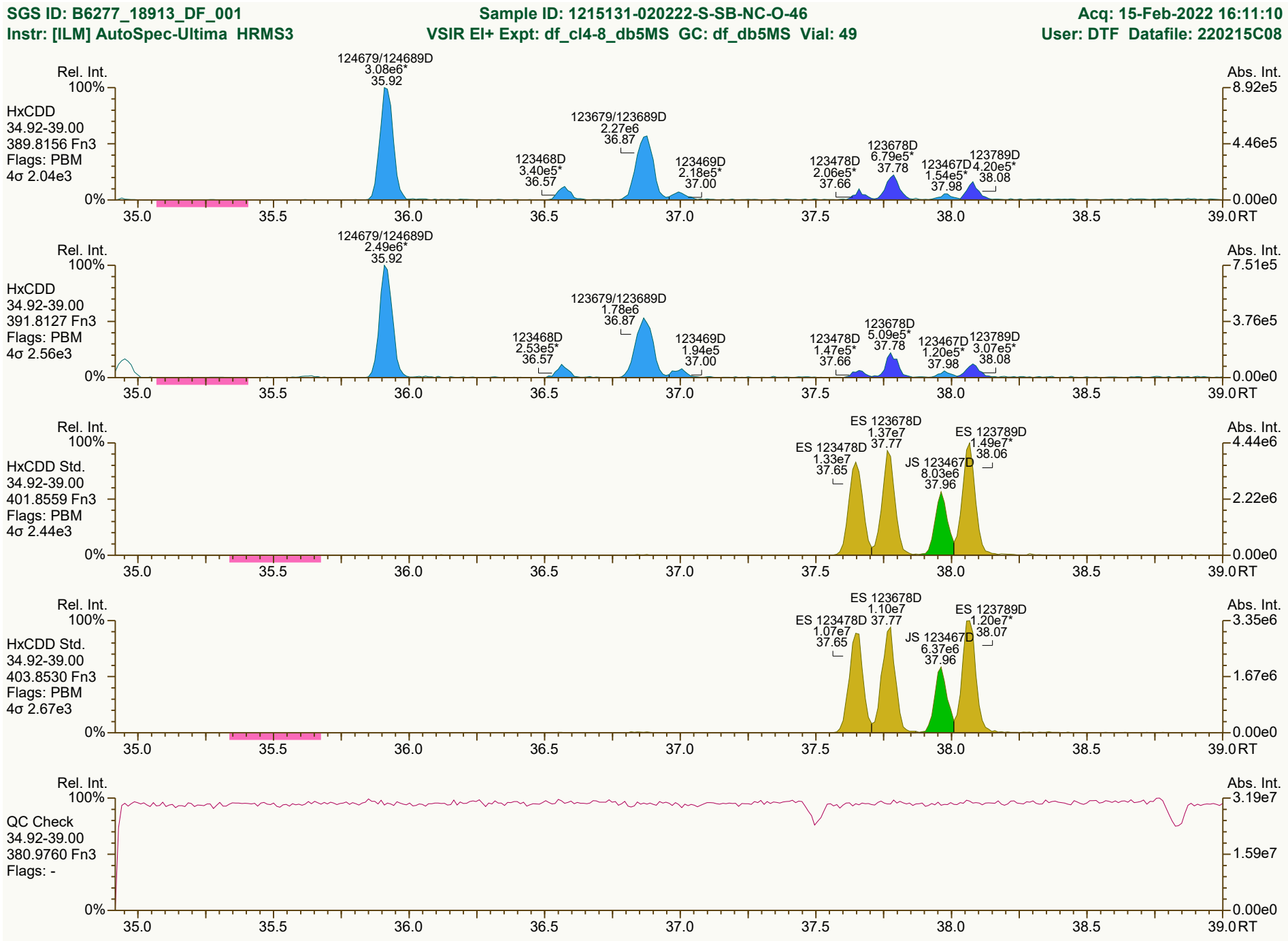
Datafile: 220215C08 **Report: 17 Feb 2022 13:42 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

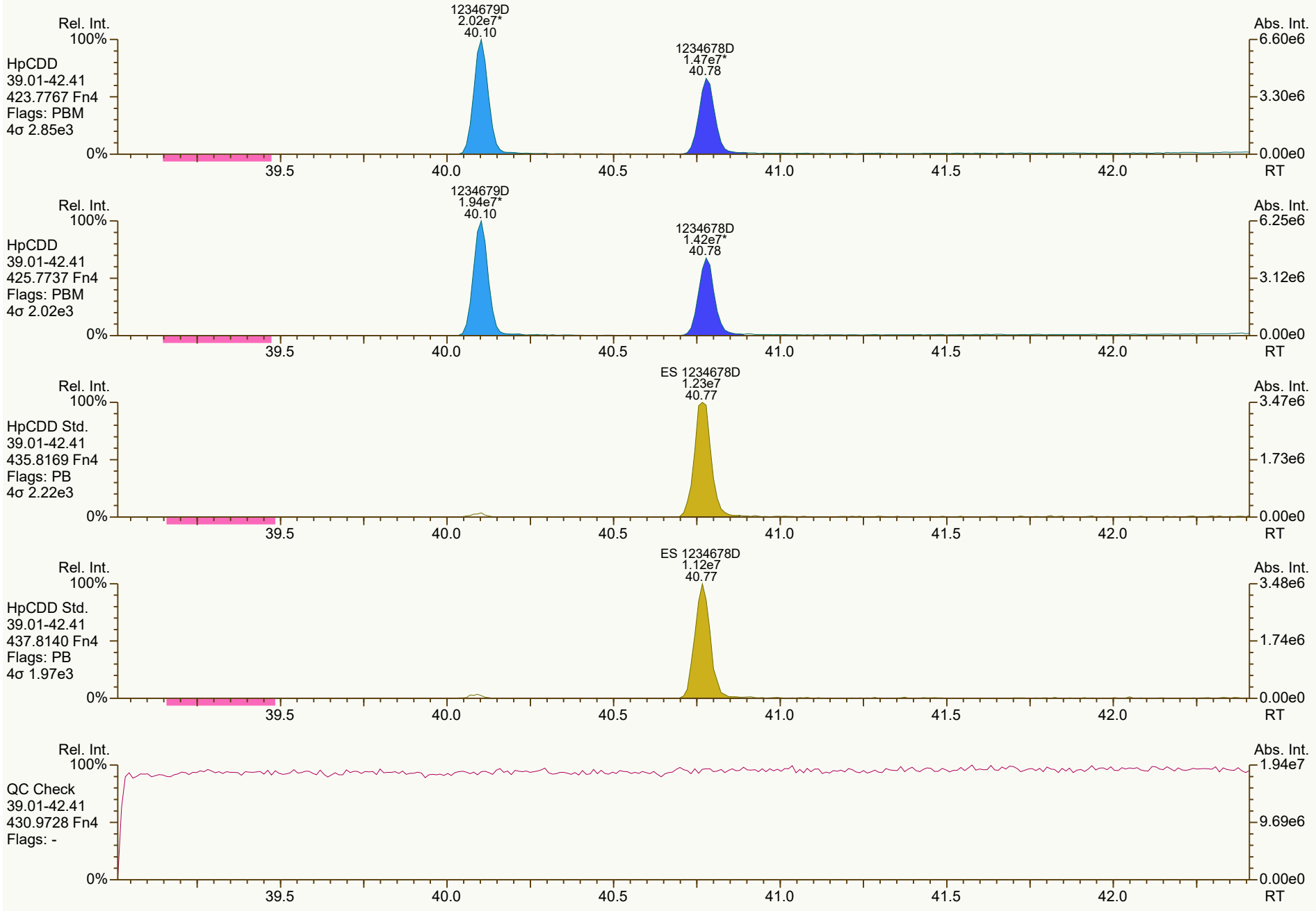
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.84	J	0.9867	0.9866	-0.2	4.22E+05	1.64	Y	1.02	1.78	3529.308	0.138
12347-PeCDF	31.91	J	0.9892	0.9890	-0.4	2.65E+05	1.37	Y	1.02	1.12	3529.308	0.138
12348-PeCDF	32.07		0.9940	0.9939	-0.2	7.08E+05	1.43	Y	1.02	2.99	3529.308	0.138
12378-PeCDF	**32.29**		**1.0005**	**1.0005**	**0**	**7.93E+06**	**1.57**	**Y**	**1.02**	**32.5**	**3529.308**	**0.138**
12678/12367-PeCDF	32.58		1.0091	1.0096	+1.0	2.22E+06	1.71	Y	1.02	9.35	3529.308	0.138
12379-PeCDF	NotFnd		1.0144						1.02		3529.308	0.138
12679-PeCDF	NotFnd		0.9928						1.02		3529.308	0.138
23467/12369-PeCDF	33.28	J	0.9966	0.9967	+0.2	2.22E+05	1.41	Y	1.02	0.936	3529.308	0.138
23478-PeCDF	**33.41**		**1.0006**	**1.0007**	**+0.2**	**5.45E+06**	**1.57**	**Y**	**1.02**	**23.7**	**3529.308**	**0.138**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3529.308	0.138
12349-PeCDF	NotFnd		1.0101						1.02		3529.308	0.138
12389-PeCDF	34.48	J	1.0327	1.0327	0	3.01E+05	1.33	Y	1.02	1.27	3529.308	0.138
123468-HxCDF	35.27		0.9624	0.9625	+0.2	1.07E+06	1.38	Y	1.19	4.9	11453.294	0.446
124678/134678-HxCDF	35.47		0.9679	0.9679	0	4.12E+06	1.22	Y	1.19	18.9	11453.294	0.446
134679-HxCDF	NotFnd		0.9741						1.19		11453.294	0.446
124679-HxCDF	35.89	J	0.9796	0.9796	0	1.71E+05	1.37	Y	1.19	0.784	11453.294	0.446
124689-HxCDF	36.12		0.9856	0.9858	+0.4	3.86E+06	1.26	Y	1.19	17.7	11453.294	0.446
123467-HxCDF	36.54	J EMPC	0.9972	0.9973	+0.2	2.20E+05	1.02	N	1.19	1.01	11453.294	0.446
123478-HxCDF	**36.66**		**1.0004**	**1.0005**	**+0.2**	**1.15E+07**	**1.26**	**Y**	**1.27**	**53**	**11453.294**	**0.446**
123678-HxCDF	**36.80**		**1.0004**	**1.0005**	**+0.2**	**3.28E+06**	**1.27**	**Y**	**1.15**	**13.2**	**11453.294**	**0.393**
123479-HxCDF	NotFnd		1.0049						1.19		11453.294	0.446
123469-HxCDF	NotFnd		1.0090						1.19		11453.294	0.446
123679-HxCDF	NotFnd		0.9942						1.19		11453.294	0.446
234678-HxCDF	**37.48**		**1.0005**	**1.0004**	**-0.2**	**1.01E+06**	**1.27**	**Y**	**1.19**	**4.66**	**11453.294**	**0.459**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		11453.294	0.446
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**11453.294**	**0.506**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.47		1.0007	1.0010	+0.7	9.20E+05	1.25	Y	1.19	4.22	11453.294	0.446
1234678-HpCDF	**39.84**		**1.0003**	**1.0003**	**0**	**9.88E+06**	**1.01**	**Y**	**1.37**	**49.2**	**3517.679**	**0.137**
1234679-HpCDF	40.10	**J**	1.0069	1.0068	-0.2	4.03E+05	1.12	Y	1.34	2.24	3517.679	0.162
1234689-HpCDF	40.25		1.0104	1.0104	0	1.32E+07	1.06	Y	1.34	73.5	3517.679	0.162
1234789-HpCDF	**41.24**		**1.0003**	**1.0003**	**0**	**1.49E+06**	**1.04**	**Y**	**1.31**	**9.32**	**3517.679**	**0.193**
OCDF	**43.65**		**1.0002**	**1.0002**	**0**	**1.80E+07**	**0.91**	**Y**	**1.07**	**161**	**4863.448**	**0.525**
OCDF-a	43.65		1.0002	1.0002	0	1.16E+06	2.27	Y	0.07	168	3888.077	6.78

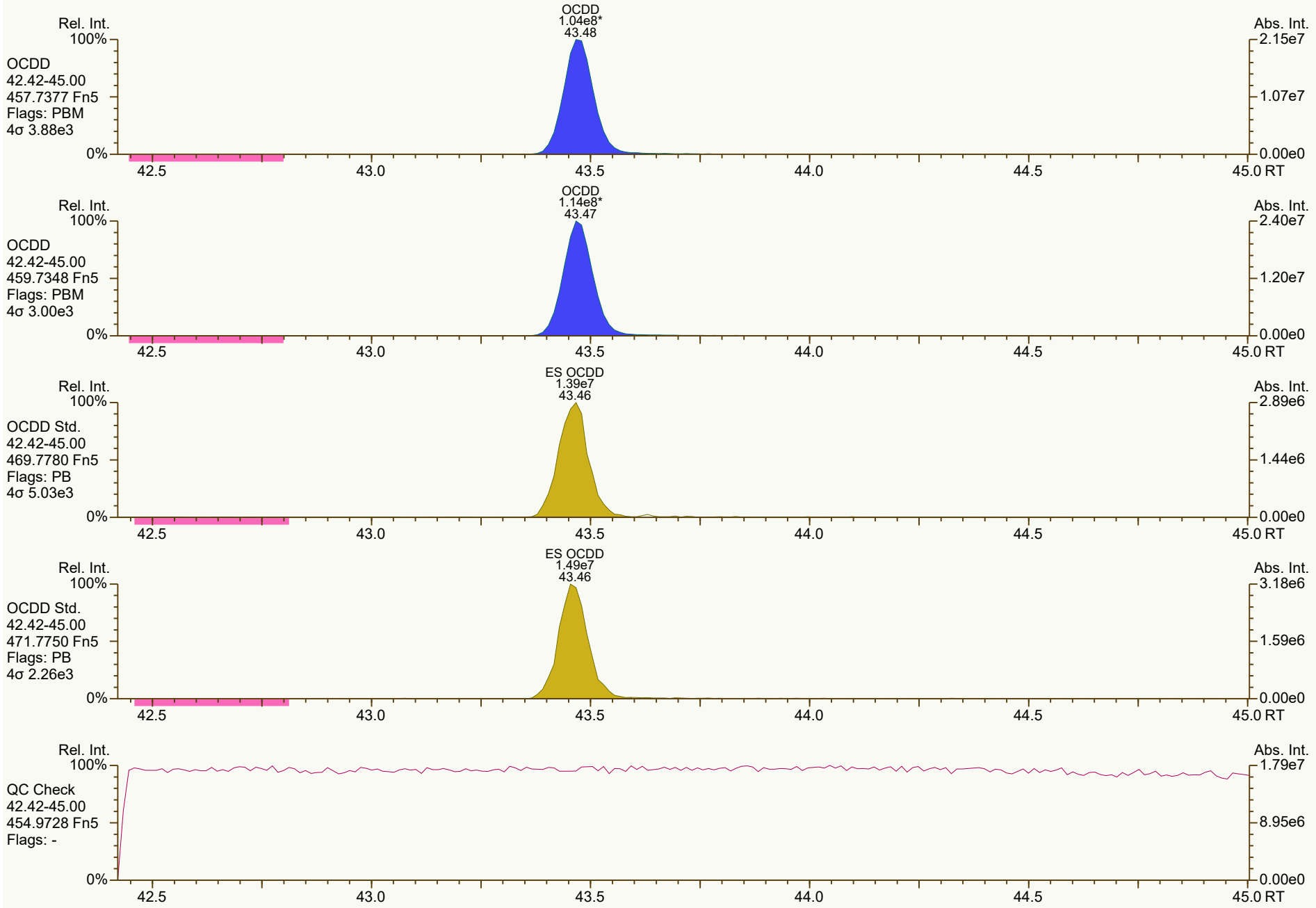

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
9.69e6
4.84e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.39e6
4.20e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.19e7
1.59e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.94e7
9.69e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.79e7
8.95e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 3.67e3
0%
Conc(2378D) = (2.33e7 + 2.89e7) * 2000pg / (1.27e7 + 1.55e7) * 1.18 * 10.75437g = 292 pg/g
DTF 17-Feb-2022 13:43
VERIFIED
2378D
2.33e7*
28.38
1278D
2.16e6*
28.70
Abs. Int.
5.45e6
2.73e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.87e3
2378D
2.89e7*
28.37
1278D
2.75e6*
28.70
6.72e6
3.36e6
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.69e3
CS 37Cl-2378D
1.30e7
28.37
3.12e6
1.56e6
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.79e3
JS 1234D
1.49e7
27.69
ES 2378D
1.27e7
28.35
3.35e6
1.67e6
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 5.89e3
JS 1234D
1.80e7
27.69
ES 2378D
1.55e7
28.35
4.18e6
2.09e6


Rel. Int.
100%
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PBM
4σ 2.41e3
12479/12468D
2.59e5*
31.22
12469D
3.10e5
31.76
12368D
1.02e5*
32.31
12478D
9.82e4*
32.51
12379D
8.59e4*
32.61
12369D...[3]
1.79e5*
32.87
12346/12347D
4.18e4*
33.24
12378D
3.61e5*
33.75
12367D
2.53e4*
33.84
12389D
3.41e4*
34.19
Abs. Int.
1.17e5
5.84e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PBM
4σ 1.59e3
12479/12468D
1.89e5*
31.22
12469D
2.26e5
31.76
12368D
7.49e4*
32.32
12478D
7.63e4*
32.50
12369D...[3]
1.13e5*
32.88
12346/12347D
3.24e4*
33.24
12378D
2.12e5*
33.74
12367D
2.95e4*
33.83
12389D
3.44e4*
34.18
Abs. Int.
6.81e4
3.41e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PBM
4σ 2.58e3
CS 12347D
1.47e7*
33.22
ES 12378D
1.70e7*
33.73
Abs. Int.
4.83e6
2.41e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PBM
4σ 4.21e3
CS 12347D
9.29e6*
33.22
ES 12378D
1.04e7*
33.72
Abs. Int.
2.84e6
1.42e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
Abs. Int.
8.39e6
4.20e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

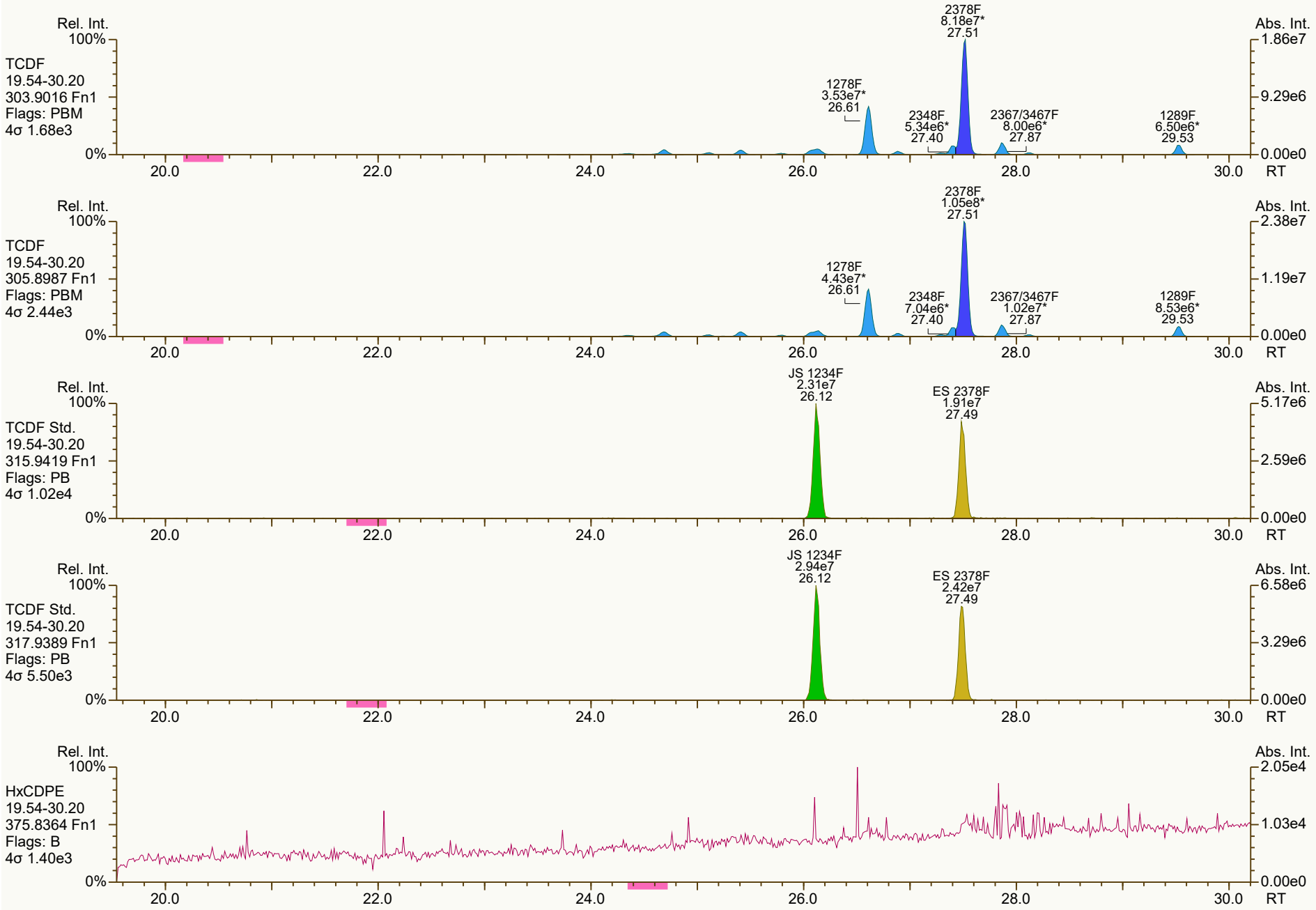

SGS ID: B6277_18913_DF_001
Sample ID: 1215131-020222-S-SB-NC-O-46
Acq: 15-Feb-2022 16:11:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 49
User: DTF Datafile: 220215C08
Rel. Int.
Abs. Int.
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 2.04e3
124679/124689D
3.08e6*
35.92
123679/123689D
2.27e6
36.87
123468D
3.40e5*
36.57
123469D
2.18e5*
37.00
123478D
2.06e5*
37.66
123678D
6.79e5*
37.78
123467D
1.54e5*
37.98
123789D
4.20e5*
38.08
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 2.56e3
124679/124689D
2.49e6*
35.92
123679/123689D
1.78e6
36.87
123468D
2.53e5*
36.57
123469D
1.94e5
37.00
123478D
1.47e5*
37.66
123678D
5.09e5*
37.78
123467D
1.20e5*
37.98
123789D
3.07e5*
38.08
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 2.44e3
ES 123678D
1.37e7
37.77
ES 123478D
1.33e7
37.65
JS 123467D
8.03e6
37.96
ES 123789D
1.49e7*
38.06
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 2.67e3
ES 123678D
1.10e7
37.77
ES 123478D
1.07e7
37.65
JS 123467D
6.37e6
37.96
ES 123789D
1.20e7*
38.07
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
8.92e5
4.46e5
0.00e0
7.51e5
3.76e5
4.44e6
2.22e6
3.35e6
1.67e6
3.19e7
1.59e7


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 2.85e3
1234679D
2.02e7*
40.10
1234678D
1.47e7*
40.78
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 2.02e3
1234679D
1.94e7*
40.10
1234678D
1.42e7*
40.78
Abs. Int.
6.25e6
3.12e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.22e3
ES 1234678D
1.23e7
40.77
Abs. Int.
3.47e6
1.73e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.97e3
ES 1234678D
1.12e7
40.77
Abs. Int.
3.48e6
1.74e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
1.94e7
9.69e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
1.04e8*
43.48
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 3.88e3
0%
Abs. Int.
2.15e7
1.07e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.14e8*
43.47
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 3.00e3
0%
Abs. Int.
2.40e7
1.20e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.39e7
43.46
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 5.03e3
0%
Abs. Int.
2.89e6
1.44e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.49e7
43.46
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 2.26e3
0%
Abs. Int.
3.18e6
1.59e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.79e7
8.95e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: B6277_18913_DF_001 | Sample ID: 1215131-020222-S-SB-NC-O-46 | Acq: 15-Feb-2022 16:11:10

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 49 | User: DTF Datafile: 220215C08



Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\B6277_18913_DF_001.utp_res, saved 17-Feb-2022 13:43 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3357, 4831, 5813 scc: 351-875 *Revised: 16-Feb-2022 16:47 (DTF) Printed: 17-Feb-2022 13:48 Page 7 of 12*

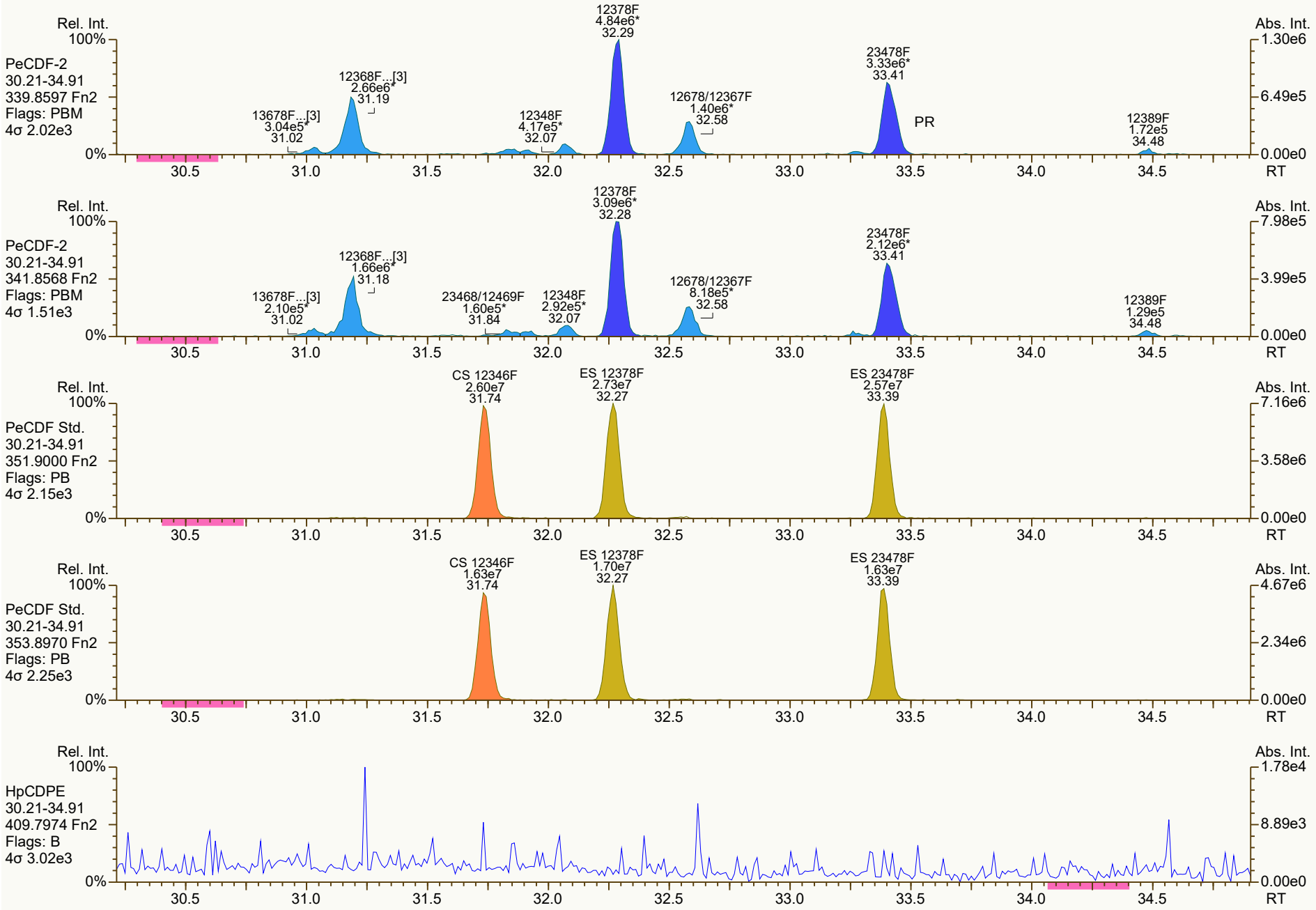
SGS ID: B6277_18913_DF_001 | Sample ID: 1215131-020222-S-SB-NC-O-46 | Acq: 15-Feb-2022 16:11:10

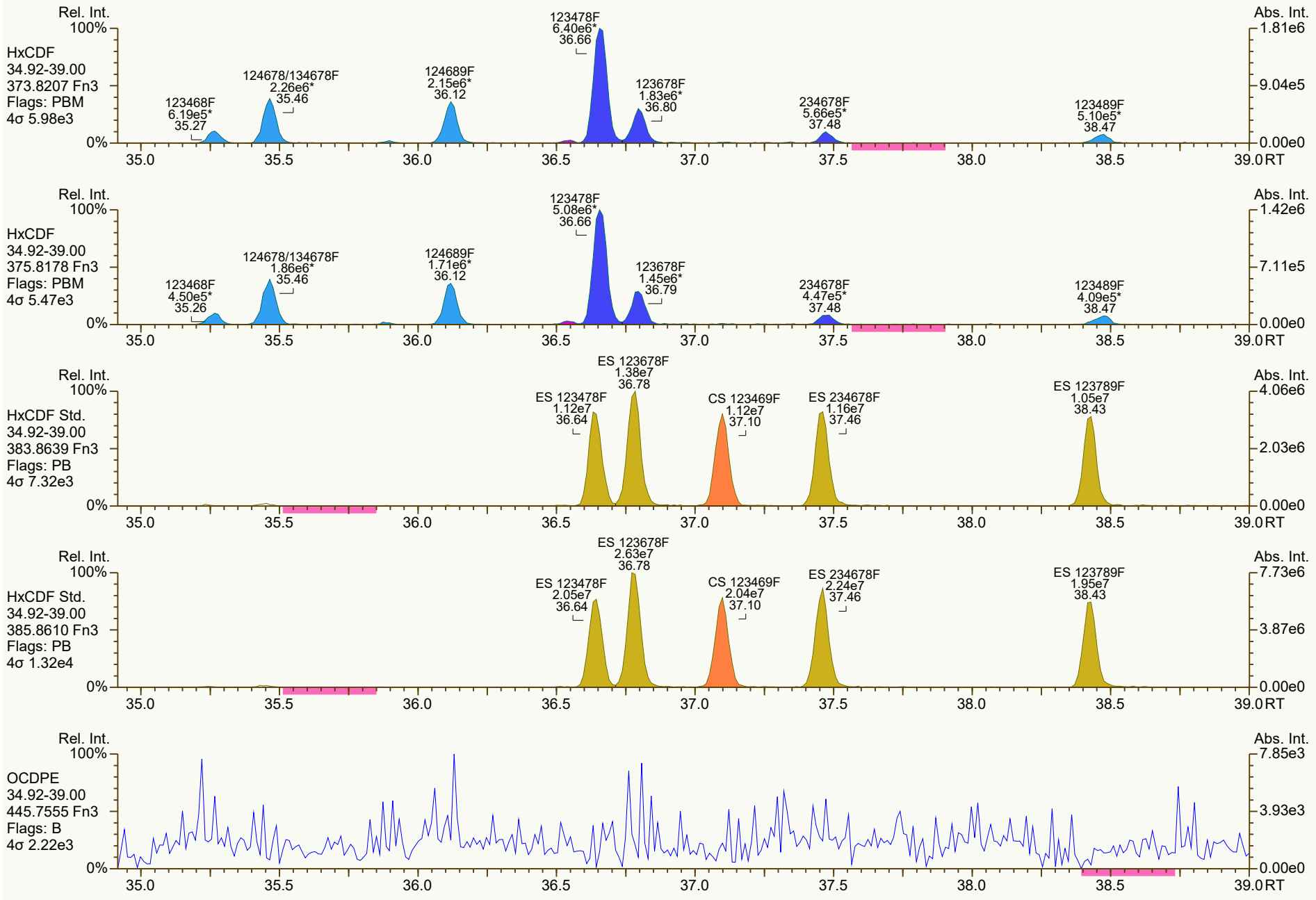
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 49 | User: DTF Datafile: 220215C08

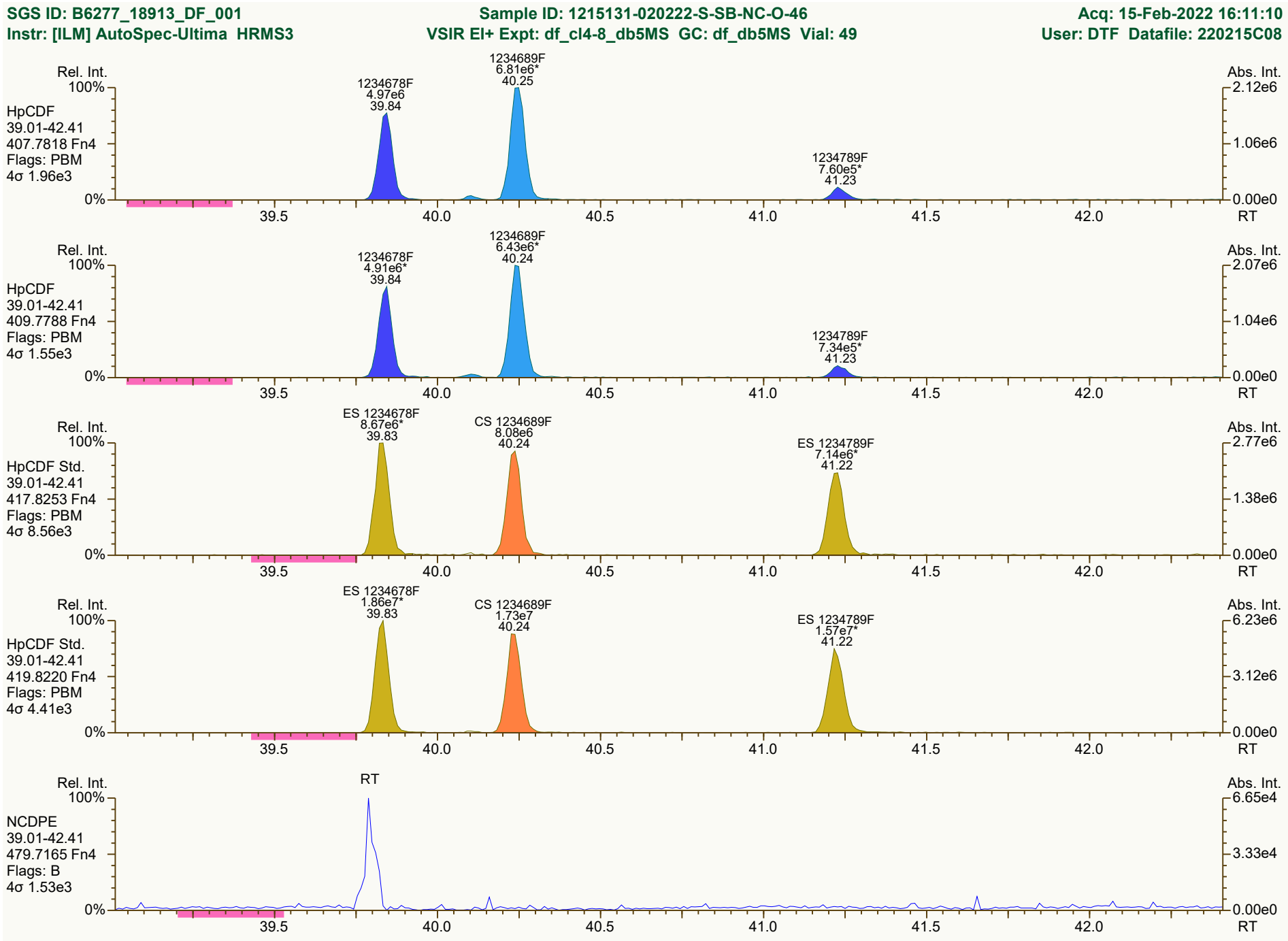


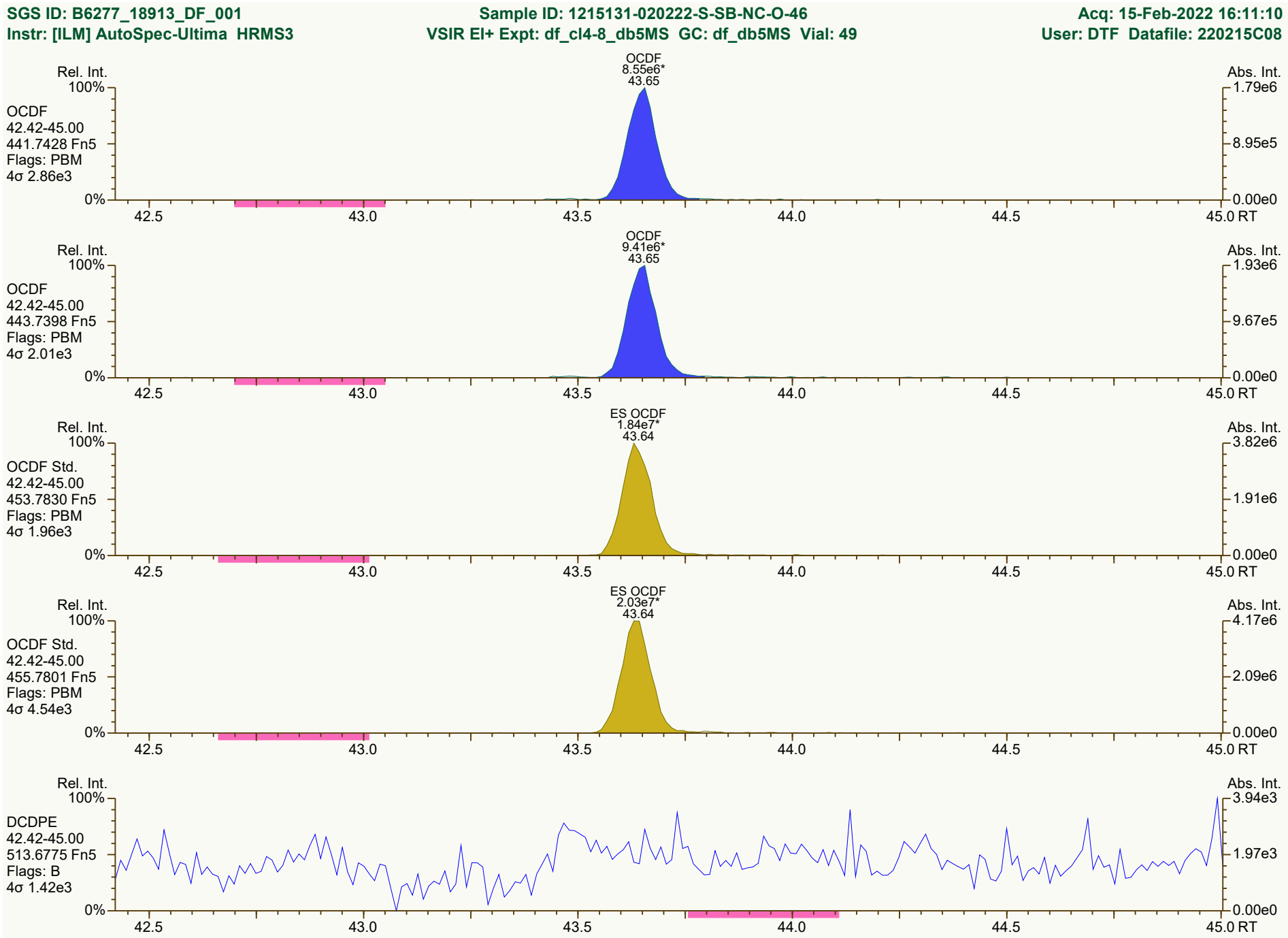
Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\B6277_18913_DF_001.utp_res, saved 17-Feb-2022 13:43 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0245 scc: 351-875 *Revised: 16-Feb-2022 16:47 (DTF) Printed: 17-Feb-2022 13:48 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PBM
4σ 2.02e3
0%
13678F...[3] 3.04e5* 31.02
12368F...[3] 2.66e6* 31.19
12348F 4.17e5* 32.07
12378F 4.84e6* 32.29
12678/12367F 1.40e6* 32.58
23478F 3.33e6* 33.41
PR
12389F 1.72e5 34.48
Abs. Int.
1.30e6
6.49e5
0.00e0
RT
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PBM
4σ 1.51e3
0%
13678F...[3] 2.10e5* 31.02
12368F...[3] 1.66e6* 31.18
23468/12469F 1.60e5* 31.84
12348F 2.92e5* 32.07
12378F 3.09e6* 32.28
12678/12367F 8.18e5* 32.58
23478F 2.12e6* 33.41
12389F 1.29e5 34.48
Abs. Int.
7.98e5
3.99e5
0.00e0
RT
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 2.15e3
0%
CS 12346F 2.60e7 31.74
ES 12378F 2.73e7 32.27
ES 23478F 2.57e7 33.39
Abs. Int.
7.16e6
3.58e6
0.00e0
RT
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 2.25e3
0%
CS 12346F 1.63e7 31.74
ES 12378F 1.70e7 32.27
ES 23478F 1.63e7 33.39
Abs. Int.
4.67e6
2.34e6
0.00e0
RT
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 3.02e3
0%
Abs. Int.
1.78e4
8.89e3
0.00e0
RT
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 5.98e3
123468F 6.19e5* 35.27
124678/134678F 2.26e6* 35.46
124689F 2.15e6* 36.12
123478F 6.40e6* 36.66
123678F 1.83e6* 36.80
234678F 5.66e5* 37.48
123489F 5.10e5* 38.47
Abs. Int.
1.81e6
9.04e5
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 5.47e3
123468F 4.50e5* 35.26
124678/134678F 1.86e6* 35.46
124689F 1.71e6* 36.12
123478F 5.08e6* 36.66
123678F 1.45e6* 36.79
234678F 4.47e5* 37.48
123489F 4.09e5* 38.47
Abs. Int.
1.42e6
7.11e5
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 7.32e3
ES 123478F 1.12e7 36.64
ES 123678F 1.38e7 36.78
CS 123469F 1.12e7 37.10
ES 234678F 1.16e7 37.46
ES 123789F 1.05e7 38.43
Abs. Int.
4.06e6
2.03e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 1.32e4
ES 123478F 2.05e7 36.64
ES 123678F 2.63e7 36.78
CS 123469F 2.04e7 37.10
ES 234678F 2.24e7 37.46
ES 123789F 1.95e7 38.43
Abs. Int.
7.73e6
3.87e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 2.22e3
Abs. Int.
7.85e3
3.93e3
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT


SGS ID: B6277_18913_DF_001
Sample ID: 1215131-020222-S-SB-NC-O-46
Acq: 15-Feb-2022 16:11:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 49
User: DTF Datafile: 220215C08
Rel. Int.
Abs. Int.
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 1.96e3
1234678F
4.97e6
39.84
1234689F
6.81e6*
40.25
1234789F
7.60e5*
41.23
2.12e6
1.06e6
0.00e0
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 1.55e3
1234678F
4.91e6*
39.84
1234689F
6.43e6*
40.24
1234789F
7.34e5*
41.23
2.07e6
1.04e6
0.00e0
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 8.56e3
ES 1234678F
8.67e6*
39.83
CS 1234689F
8.08e6
40.24
ES 1234789F
7.14e6*
41.22
2.77e6
1.38e6
0.00e0
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 4.41e3
ES 1234678F
1.86e7*
39.83
CS 1234689F
1.73e7
40.24
ES 1234789F
1.57e7*
41.22
6.23e6
3.12e6
0.00e0
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.53e3
RT
6.65e4
3.33e4
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\B6277_18913_DF_001.utp_res, saved 17-Feb-2022 13:43 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7846, 4251, 2659 scc: 351-875
PKD: 16-Feb-2022 16:50 Printed: 17-Feb-2022 13:48 Page 11 of 12


SGS ID: B6277_18913_DF_001
Sample ID: 1215131-020222-S-SB-NC-O-46
Acq: 15-Feb-2022 16:11:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 49
User: DTF Datafile: 220215C08
OCDF
8.55e6*
43.65
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PBM
4σ 2.86e3
0%
Abs. Int.
1.79e6
8.95e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
9.41e6*
43.65
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
1.93e6
9.67e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.84e7*
43.64
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 1.96e3
0%
Abs. Int.
3.82e6
1.91e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.03e7*
43.64
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 4.54e3
0%
Abs. Int.
4.17e6
2.09e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.42e3
0%
Abs. Int.
3.94e3
1.97e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\B6277_18913_DF_001.utp_res, saved 17-Feb-2022 13:43 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0770, 2564, 6300 scc: 351-875
Revised: 16-Feb-2022 16:49 (DTF) Printed: 17-Feb-2022 13:48 Page 12 of 12

Lab ID: B6277_18913_DF_002 **Acq'd:** 15 Feb 2022 16:57 DTF **Wt/Vol:** 10.52 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 1215131-020222-S-SB-NC-B-14 **UTP:** 16-Feb-2022 17:11:01 DTF **J-level:** 0.475 pg/g **Split:** 1 **Checkcode:** 805-821-YXW

Datafile: 220215C09 **Report:** 17 Feb 2022 13:42 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.38		1.0008	1.0008	0	6.81E+06	0.82	Y	1.18	34.2	6031.651	0.314
12378-PeCDD	33.74	J	1.0006	1.0005	-0.2	1.69E+05	1.33	Y	1.04	0.992	5164.558	0.266
123478-HxCDD	37.67	J	1.0004	1.0005	+0.2	1.70E+05	1.22	Y	1.09	1.04	5494.435	0.292
123678-HxCDD	37.78		1.0036	1.0036	0	4.92E+05	1.25	Y	1.15	2.75	5494.435	0.276
123789-HxCDD	38.08		1.0115	1.0115	0	4.32E+05	1.16	Y	1.05	2.51	5494.435	0.276
1234678-HpCDD	40.78		1.0003	1.0003	0	1.03E+07	1.03	Y	1.06	65.9	5492.201	0.284
OCDD	43.48		1.0003	1.0003	0	1.29E+08	0.91	Y	1.13	1,210	4086.548	0.464
2378-TCDF	27.52		1.0008	1.0008	0	2.95E+07	0.78	Y	1.08	105	4563.002	0.185
12378-PeCDF	32.29		1.0005	1.0005	0	7.24E+05	1.72	Y	1.02	2.66	4426.753	0.148
23478-PeCDF	33.41	PR	1.0006	1.0008	+0.4	8.17E+05	1.56	Y	1.02	3.09	4426.753	0.146
123478-HxCDF	36.66		1.0004	1.0004	0	9.88E+05	1.26	Y	1.27	4.1	5180.029	0.18
123678-HxCDF	36.80	J	1.0004	1.0004	0	3.70E+05	1.15	Y	1.15	1.32	5180.029	0.158
234678-HxCDF	37.48	J	1.0005	1.0005	0	2.70E+05	1.16	Y	1.19	1.05	5180.029	0.174
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	5180.029	0.202
1234678-HpCDF	39.84		1.0003	1.0003	0	1.19E+07	1.00	Y	1.37	49.9	4950.155	0.151
1234789-HpCDF	41.24		1.0003	1.0003	0	6.00E+05	1.11	Y	1.31	3.4	4950.155	0.237
OCDF	43.65		1.0002	1.0003	+0.3	1.09E+08	0.89	Y	1.07	792	4647.84	0.399

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.35	1.0239	1.0240	+0.2	3.20E+07	0.82	Y	1.05	85.1
ES 12378-PeCDD	33.72	1.2174	1.2179	+1.0	3.13E+07	1.62	Y	0.88	98.8
ES 123478-HxCDD	37.65	0.9917	0.9916	-0.2	2.84E+07	1.28	Y	0.97	85.5
ES 123678-HxCDD	37.77	0.9948	0.9948	0	2.96E+07	1.27	Y	0.94	91.9
ES 123789-HxCDD	38.07	1.0027	1.0027	0	3.13E+07	1.28	Y	1.09	83.8
ES 1234678-HpCDD	40.77	1.0738	1.0738	0	2.79E+07	1.04	Y	0.91	89.6
ES OCDD	43.47	1.1449	1.1449	0	3.61E+07	0.92	Y	0.62	84.5
ES 2378-TCDF	27.49	1.0523	1.0525	+0.3	4.96E+07	0.81	Y	1.06	76.8
ES 12378-PeCDF	32.27	1.2346	1.2353	+1.4	5.05E+07	1.62	Y	0.91	91
ES 23478-PeCDF	33.39	1.2774	1.2781	+1.4	4.93E+07	1.59	Y	0.88	91.5
ES 123478-HxCDF	36.64	0.9651	0.9651	0	3.61E+07	0.53	Y	1.20	88.1
ES 123678-HxCDF	36.78	0.9688	0.9688	0	4.63E+07	0.53	Y	1.35	100
ES 234678-HxCDF	37.46	0.9867	0.9868	+0.2	4.13E+07	0.52	Y	1.24	97.4
ES 123789-HxCDF	38.43	1.0121	1.0122	+0.2	3.44E+07	0.52	Y	1.16	87
ES 1234678-HpCDF	39.83	1.0491	1.0492	+0.2	3.31E+07	0.46	Y	0.97	100
ES 1234789-HpCDF	41.22	1.0858	1.0859	+0.2	2.57E+07	0.46	Y	0.85	88.3
ES OCDF	43.64	1.1495	1.1494	-0.3	4.88E+07	0.88	Y	0.81	88.4

Lab ID: B6277_18913_DF_002 **Acq'd:** 15 Feb 2022 16:57 DTF **Wt/Vol:** 10.52 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 1215131-020222-S-SB-NC-B-14 **UTP:** 16-Feb-2022 17:11:01 DTF **J-level:** 0.475 pg/g **Split:** 1 **Checkcode:** 805-821-YXW

Datafile: 220215C09 **Report:** 17 Feb 2022 13:42 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.69		-	-	-	3.60E+07	0.82	Y	-	-
JS 1234-TCDF	26.12		-	-	-	6.10E+07	0.80	Y	-	-
JS 123467-HxCDD	37.97		-	-	-	1.71E+07	1.32	Y	-	-
CS 37Cl-2378-TCDD	28.38		1.0247	1.0248	+0.2	1.48E+07	n/a	-	1.20	85.4
CS 12347-PeCDD	33.22		1.1993	1.1997	+0.8	2.85E+07	1.63	Y	0.75	105
CS 12346-PeCDF	31.74		1.2144	1.2149	+1.0	4.95E+07	1.59	Y	0.85	95.4
CS 123469-HxCDF	37.10		0.9772	0.9771	-0.2	3.81E+07	0.52	Y	1.12	99.8
CS 1234689-HpCDF	40.24		1.0597	1.0598	+0.2	3.12E+07	0.46	Y	0.89	103
~~SS 37Cl-2378-TCDD~~	~~28.38~~		~~1.0247~~	~~1.0248~~	~~+0.2~~	~~1.48E+07~~	~~n/a~~		~~1.15~~	~~101~~
~~SS 12347-PeCDD~~	~~33.22~~		~~1.1993~~	~~1.1997~~	~~+0.8~~	~~2.85E+07~~	~~1.63~~	~~Y~~	~~0.86~~	~~106~~
~~SS 12346-PeCDF~~	~~31.74~~		~~1.2144~~	~~1.2149~~	~~+1.0~~	~~4.95E+07~~	~~1.59~~	~~Y~~	~~0.94~~	~~105~~
~~SS 123469-HxCDF~~	~~37.10~~		~~0.9772~~	~~0.9771~~	~~-0.2~~	~~3.81E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~99.5~~
~~SS 1234689-HpCDF~~	~~40.24~~		~~1.0597~~	~~1.0598~~	~~+0.2~~	~~3.12E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~103~~

Totals	Conc	EMPC
Total TCDD	54.6	54.6
Total PeCDD	25.6	28.7
Total HxCDD	118	118
Total HpCDD	197	197
Total Tetra-Octa Dioxins	1600	1600
Total TCDF	165	170
Total PeCDF	17.9	17.9
Total HxCDF	20.7	21.5
Total HpCDF	78.2	78.2
Total Tetra-Octa Furans	1,070	1080
Total Tetra-Octa Dioxins & Furans	2670	2680

Lab ID: B6277_18913_DF_002 **Acq'd: 15 Feb 2022 16:57 DTF** **Wt/Vol: 10.52 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 1215131-020222-S-SB-NC-B-14 **UTP: 16-Feb-2022 17:11:01 DTF** **J-level: 0.475 pg/g** **Split: 1** **Checkcode: 805-821-YXW**

Datafile: 220215C09 **Report: 17 Feb 2022 13:42 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.73		0.8719	0.8720	+0.1	1.55E+05	0.87	Y	1.18	0.778	6031.651	0.314
1379-TCDD	NotFnd		0.8845						1.18		6031.651	0.314
1369-TCDD	NotFnd		0.8996						1.18		6031.651	0.314
1469-TCDD	26.28		0.9271	0.9270	-0.2	2.93E+06	0.82	Y	1.18	14.7	6031.651	0.314
1247/1246/1248/1249-TCDD	NotFnd		0.9357						1.18		6031.651	0.314
1378-TCDD	NotFnd		0.9425						1.18		6031.651	0.314
1268-TCDD	NotFnd		0.9494						1.18		6031.651	0.314
1478-TCDD	NotFnd		0.9581						1.18		6031.651	0.314
1279-TCDD	NotFnd		0.9640						1.18		6031.651	0.314
1234/1269-TCDD	27.68		0.9765	0.9762	-0.5	4.19E+05	0.84	Y	1.18	2.1	6031.651	0.314
1236-TCDD	NotFnd		0.9816						1.18		6031.651	0.314
1237/1238-TCDD	NotFnd		0.9906						1.18		6031.651	0.314
1239-TCDD	NotFnd		0.9952						1.18		6031.651	0.314
2378-TCDD	**28.38**		**1.0008**	1.0008	**0**	6.81E+06	0.82	Y	**1.18**	**34.2**	**6031.651**	**0.314**
1278-TCDD	28.71		1.0123	1.0125	+0.3	5.72E+05	0.78	Y	1.18	2.87	6031.651	0.314
1267-TCDD	NotFnd		1.0170						1.18		6031.651	0.314
1289-TCDD	NotFnd		1.0351						1.18		6031.651	0.314
12479/12468-PeCDD	31.22		0.9261	0.9258	-0.6	4.56E+05	1.59	Y	1.04	2.68	5164.558	0.266
12469-PeCDD	31.76		0.9420	0.9419	-0.2	3.45E+06	1.53	Y	1.04	20.2	5164.558	0.266
12368-PeCDD	32.31	J	0.9584	0.9581	-0.6	1.11E+05	1.44	Y	1.04	0.649	5164.558	0.266
12478-PeCDD	32.51	J	0.9641	0.9640	-0.2	1.03E+05	1.76	Y	1.04	0.605	5164.558	0.266
12379-PeCDD	32.61	J	0.9670	0.9670	0	7.16E+04	1.77	Y	1.04	0.42	5164.558	0.266
12369/12467/12489-PeCDD	32.89	EMPC	0.9747	0.9752	+1.0	5.25E+05	1.26	N	1.04	3.08	5164.558	0.266
12346/12347-PeCDD	NotFnd		0.9857						1.04		5164.558	0.266
12378-PeCDD	33.74	J	**1.0006**	**1.0005**	**-0.2**	**1.69E+05**	**1.33**	**Y**	**1.04**	**0.992**	**5164.558**	**0.266**
12367-PeCDD	NotFnd		1.0034						1.04		5164.558	0.266
12389-PeCDD	NotFnd		1.0136						1.04		5164.558	0.266
124679/124689-HxCDD	35.92		0.9540	0.9540	0	1.64E+07	1.27	Y	1.10	95.6	5494.435	0.281
123468-HxCDD	36.57	J	0.9714	0.9714	0	2.59E+05	1.13	Y	1.10	1.51	5494.435	0.281
123679/123689-HxCDD	36.87		0.9792	0.9793	+0.2	2.18E+06	1.24	Y	1.10	12.7	5494.435	0.281
123469-HxCDD	37.00	J	0.9828	0.9828	0	2.19E+05	1.20	Y	1.10	1.28	5494.435	0.281
123478-HxCDD	37.67	J	**1.0004**	**1.0005**	**+0.2**	**1.70E+05**	**1.22**	**Y**	1.09	**1.04**	**5494.435**	**0.292**
123678-HxCDD	37.78		**1.0036**	**1.0036**	**0**	**4.92E+05**	**1.25**	**Y**	1.15	**2.75**	**5494.435**	**0.276**
123467-HxCDD	37.98	J	1.0087	1.0088	+0.2	1.41E+05	1.32	Y	1.10	0.824	5494.435	0.281
123789-HxCDD	38.08		**1.0115**	**1.0115**	**0**	**4.32E+05**	**1.16**	**Y**	1.05	**2.51**	**5494.435**	**0.276**

Lab ID: B6277_18913_DF_002 **Acq'd: 15 Feb 2022 16:57 DTF** **Wt/Vol: 10.52 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 1215131-020222-S-SB-NC-B-14 **UTP: 16-Feb-2022 17:11:01 DTF** **J-level: 0.475 pg/g** **Split: 1** **Checkcode: 805-821-YXW**

Datafile: 220215C09 **Report: 17 Feb 2022 13:42 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

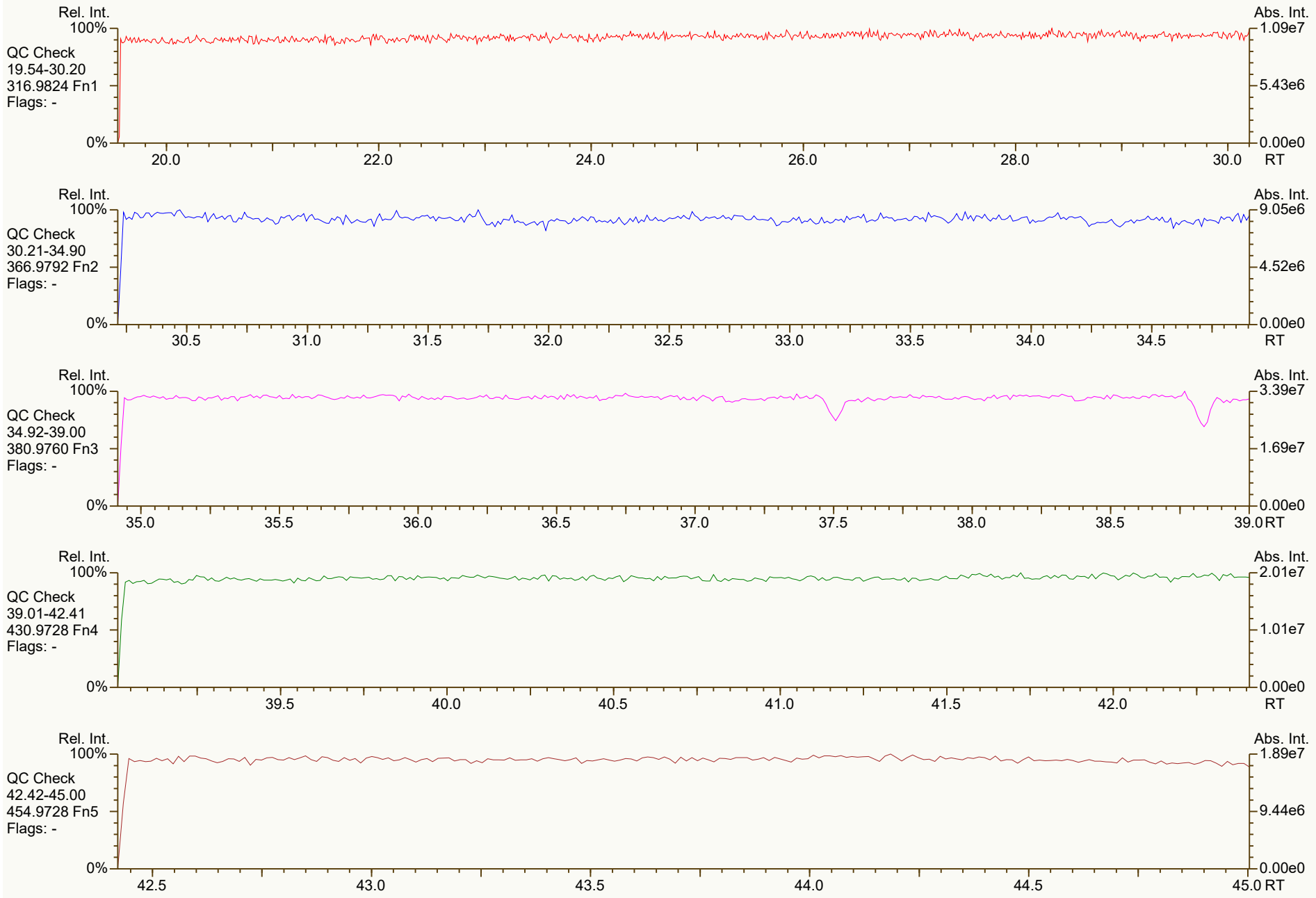
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.10		0.9836	0.9836	0	2.04E+07	1.06	Y	1.06	131	5492.201	0.284
1234678-HpCDD	**40.78**		**1.0003**	**1.0003**	**0**	**1.03E+07**	**1.03**	**Y**	**1.06**	**65.9**	**5492.201**	**0.284**
OCDD	**43.48**		**1.0003**	**1.0003**	**0**	**1.29E+08**	**0.91**	**Y**	**1.13**	**1,210**	**4086.548**	**0.464**
OCDD-a	43.47		1.0002	1.0002	0	8.08E+06	2.36	Y	0.07	1,180	4524.836	8.04
1368-TCDF	NotFnd		0.8222						1.08		4563.002	0.185
1468-TCDF	23.17	EMPC	0.8434	0.8427	-1.0	1.77E+05	0.98	N	1.08	0.628	4563.002	0.185
2468-TCDF	23.81		0.8666	0.8661	-0.7	5.34E+05	0.72	Y	1.08	1.9	4563.002	0.185
1346/1246-TCDF	24.22	J	0.8789	0.8808	+2.8	1.23E+05	0.69	Y	1.08	0.436	4563.002	0.185
1347/1378/1247-TCDF	24.35		0.8848	0.8855	+1.0	5.31E+05	0.82	Y	1.08	1.89	4563.002	0.185
1348-TCDF	NotFnd		0.8947						1.08		4563.002	0.185
1248/1367/1379-TCDF	24.68		0.8995	0.8976	-2.8	1.01E+06	0.84	Y	1.08	3.59	4563.002	0.185
1268-TCDF	25.10		0.9131	0.9131	0	6.16E+05	0.67	Y	1.08	2.19	4563.002	0.185
1467-TCDF	NotFnd		0.9181						1.08		4563.002	0.185
1478-TCDF	25.41	EMPC	0.9244	0.9241	-0.5	1.04E+06	0.90	N	1.08	3.69	4563.002	0.185
1369/1237-TCDF	25.79		0.9379	0.9381	+0.3	4.71E+05	0.71	Y	1.08	1.68	4563.002	0.185
2467-TCDF	NotFnd		0.9425						1.08		4563.002	0.185
2368-TCDF	26.08		0.9483	0.9486	+0.5	1.76E+06	0.78	Y	1.08	6.28	4563.002	0.185
1238/1234/1678/1469/1236-TCDF	26.17		0.9514	0.9519	+0.8	4.73E+05	0.81	Y	1.08	1.68	4563.002	0.185
1278-TCDF	26.61		0.9681	0.9680	-0.2	4.79E+06	0.82	Y	1.08	17	4563.002	0.185
1349-TCDF	NotFnd		0.9722						1.08		4563.002	0.185
1267-TCDF	26.89		0.9780	0.9780	0	6.69E+05	0.78	Y	1.08	2.38	4563.002	0.185
2346/1249-TCDF	NotFnd		0.9845						1.08		4563.002	0.185
2347/1279-TCDF	27.29		0.9927	0.9926	-0.2	3.68E+05	0.87	Y	1.08	1.31	4563.002	0.185
2348-TCDF	27.40		0.9970	0.9966	-0.7	8.61E+05	0.79	Y	1.08	3.06	4563.002	0.185
2378-TCDF	**27.52**		**1.0008**	**1.0008**	**0**	**2.95E+07**	**0.78**	**Y**	**1.08**	**105**	**4563.002**	**0.185**
2367/3467-TCDF	27.87		1.0140	1.0137	-0.5	3.67E+06	0.77	Y	1.08	13.1	4563.002	0.185
1269-TCDF	28.11	EMPC	1.0226	1.0225	-0.2	2.33E+05	0.97	N	1.08	0.829	4563.002	0.185
1239-TCDF	NotFnd		1.0325						1.08		4563.002	0.185
1289-TCDF	29.52		1.0732	1.0738	+1.1	9.37E+05	0.81	Y	1.08	3.33	4563.002	0.185
13468/12468-PeCDF	29.47		0.9130	0.9133	+0.5	1.06E+06	1.51	Y	1.02	3.94	3071.02	0.102
13678/13467/12467-PeCDF	31.03	J	0.9610	0.9615	+0.9	1.64E+05	1.39	Y	1.02	0.611	4426.753	0.147
12368/13478/12478-PeCDF	31.19		0.9658	0.9665	+1.3	1.12E+06	1.56	Y	1.02	4.17	4426.753	0.147
14678-PeCDF	NotFnd		0.9688						1.02		4426.753	0.147
13479-PeCDF	NotFnd		0.9719						1.02		4426.753	0.147
13469/12479-PeCDF	NotFnd		0.9797						1.02		4426.753	0.147
12346-PeCDF	NotFnd		0.9841						1.02		4426.753	0.147

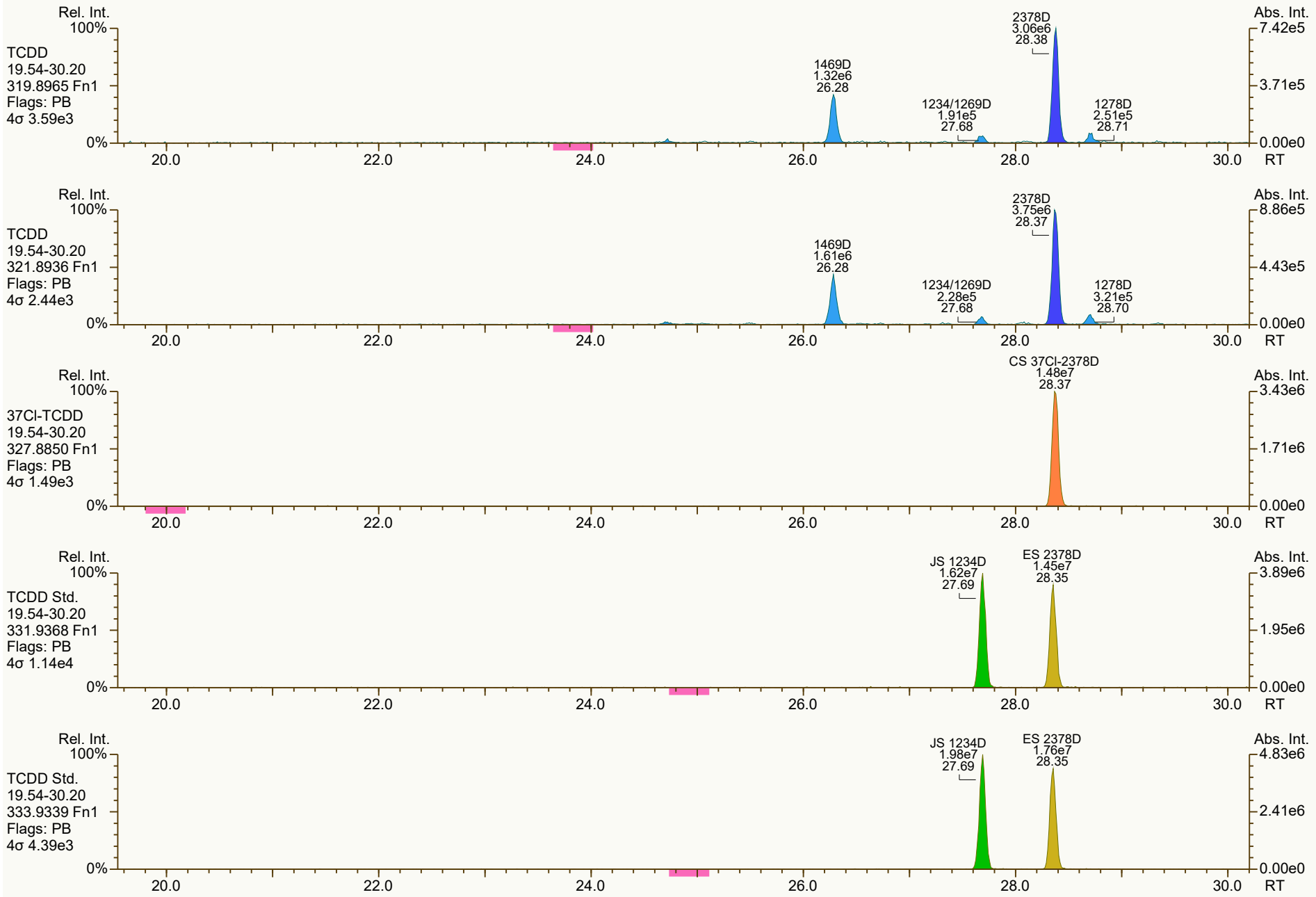
Lab ID: B6277_18913_DF_002 **Acq'd: 15 Feb 2022 16:57 DTF** **Wt/Vol: 10.52 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 1215131-020222-S-SB-NC-B-14 **UTP: 16-Feb-2022 17:11:01 DTF** **J-level: 0.475 pg/g** **Split: 1** **Checkcode: 805-821-YXW**

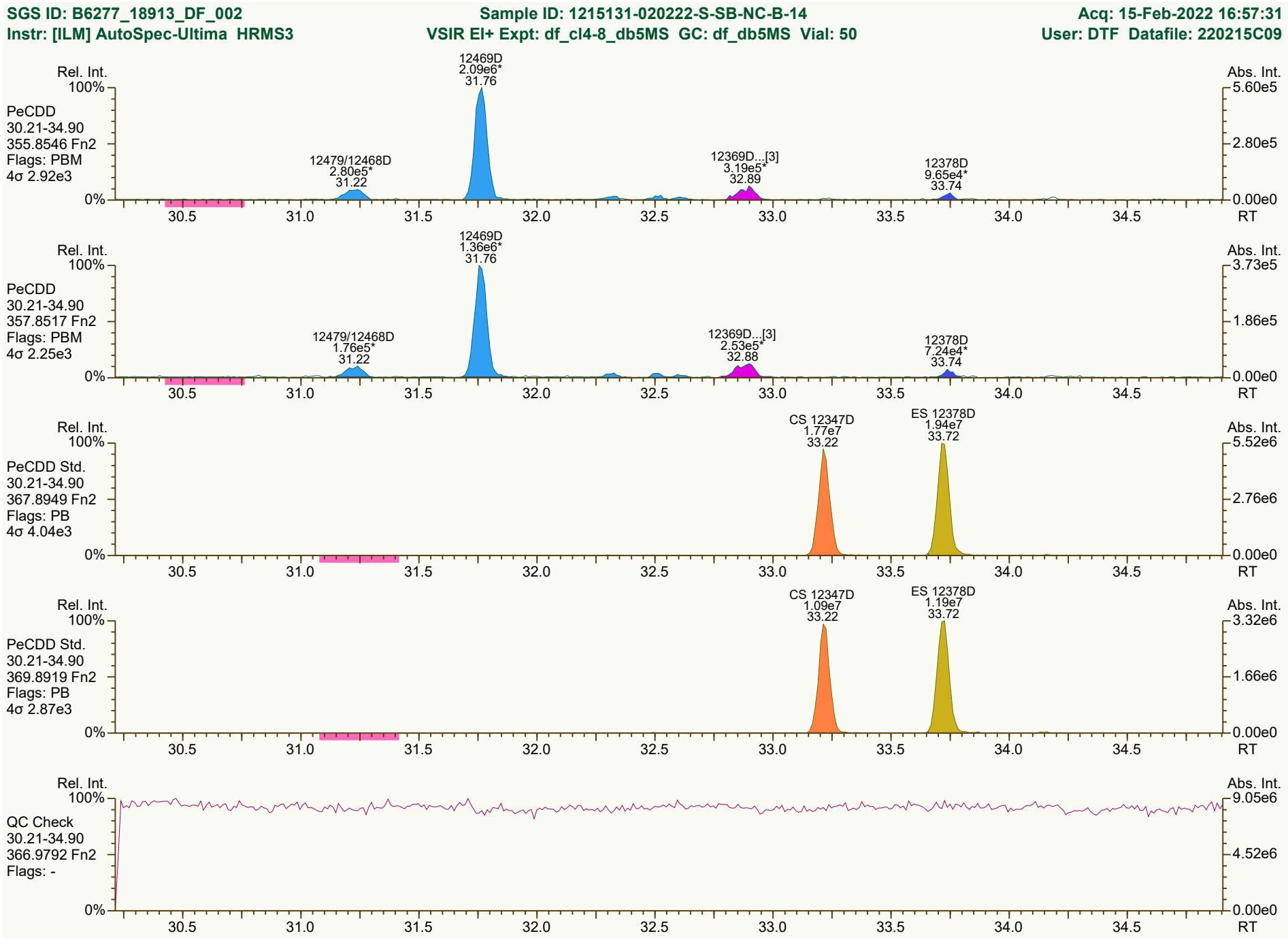
Datafile: 220215C09 **Report: 17 Feb 2022 13:42 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.83	J	0.9867	0.9864	-0.6	3.78E+05	1.36	Y	1.02	1.41	4426.753	0.147
12347-PeCDF	NotFnd		0.9892						1.02		4426.753	0.147
12348-PeCDF	32.08	J	0.9940	0.9941	+0.2	1.81E+05	1.67	Y	1.02	0.676	4426.753	0.147
12378-PeCDF	**32.29**		**1.0005**	**1.0005**	**0**	**7.24E+05**	**1.72**	**Y**	**1.02**	**2.66**	**4426.753**	**0.148**
12678/12367-PeCDF	32.58	J	1.0091	1.0097	+1.2	3.62E+05	1.45	Y	1.02	1.35	4426.753	0.147
12379-PeCDF	NotFnd		1.0144						1.02		4426.753	0.147
12679-PeCDF	NotFnd		0.9928						1.02		4426.753	0.147
23467/12369-PeCDF	NotFnd		0.9966						1.02		4426.753	0.147
23478-PeCDF	**33.41**		**1.0006**	**1.0008**	**+0.4**	**8.17E+05**	**1.56**	**Y**	**1.02**	**3.09**	**4426.753**	**0.146**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4426.753	0.147
12349-PeCDF	NotFnd		1.0101						1.02		4426.753	0.147
12389-PeCDF	NotFnd		1.0327						1.02		4426.753	0.147
123468-HxCDF	35.27	J	0.9624	0.9625	+0.2	5.16E+05	1.21	Y	1.19	2.08	5180.029	0.177
124678/134678-HxCDF	35.46		0.9679	0.9679	0	1.44E+06	1.15	Y	1.19	5.8	5180.029	0.177
134679-HxCDF	NotFnd		0.9741						1.19		5180.029	0.177
124679-HxCDF	35.90	J EMPC	0.9796	0.9797	+0.2	7.68E+04	1.48	N	1.19	0.31	5180.029	0.177
124689-HxCDF	36.12		0.9856	0.9857	+0.2	1.30E+06	1.23	Y	1.19	5.26	5180.029	0.177
123467-HxCDF	36.54	J EMPC	0.9972	0.9971	-0.2	1.18E+05	1.61	N	1.19	0.476	5180.029	0.177
123478-HxCDF	**36.66**		**1.0004**	**1.0004**	**0**	**9.88E+05**	**1.26**	**Y**	**1.27**	**4.1**	**5180.029**	**0.18**
123678-HxCDF	**36.80**	J	**1.0004**	**1.0004**	**0**	**3.70E+05**	**1.15**	**Y**	**1.15**	**1.32**	**5180.029**	**0.158**
123479-HxCDF	NotFnd		1.0049						1.19		5180.029	0.177
123469-HxCDF	37.11	J	1.0090	1.0090	0	1.12E+05	1.32	Y	1.19	0.451	5180.029	0.177
123679-HxCDF	NotFnd		0.9942						1.19		5180.029	0.177
234678-HxCDF	**37.48**	J	**1.0005**	**1.0005**	**0**	**2.70E+05**	**1.16**	**Y**	**1.19**	**1.05**	**5180.029**	**0.174**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		5180.029	0.177
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**5180.029**	**0.202**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.46	J	1.0007	1.0009	+0.5	1.53E+05	1.35	Y	1.19	0.619	5180.029	0.177
1234678-HpCDF	**39.84**		**1.0003**	**1.0003**	**0**	**1.19E+07**	**1.00**	**Y**	**1.37**	**49.9**	**4950.155**	**0.151**
1234679-HpCDF	40.10		1.0069	1.0067	-0.5	5.54E+05	1.13	Y	1.34	2.68	4950.155	0.188
1234689-HpCDF	40.25		1.0104	1.0104	0	4.60E+06	0.99	Y	1.34	22.3	4950.155	0.188
1234789-HpCDF	**41.24**		**1.0003**	**1.0003**	**0**	**6.00E+05**	**1.11**	**Y**	**1.31**	**3.4**	**4950.155**	**0.237**
OCDF	**43.65**		**1.0002**	**1.0003**	**+0.3**	**1.09E+08**	**0.89**	**Y**	**1.07**	**792**	**4647.84**	**0.399**
OCDF-a	43.65		1.0002	1.0002	0	7.26E+06	2.26	Y	0.07	853	4236.909	5.87


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
9.05e6
4.52e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.39e7
1.69e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
2.01e7
1.01e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.89e7
9.44e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT

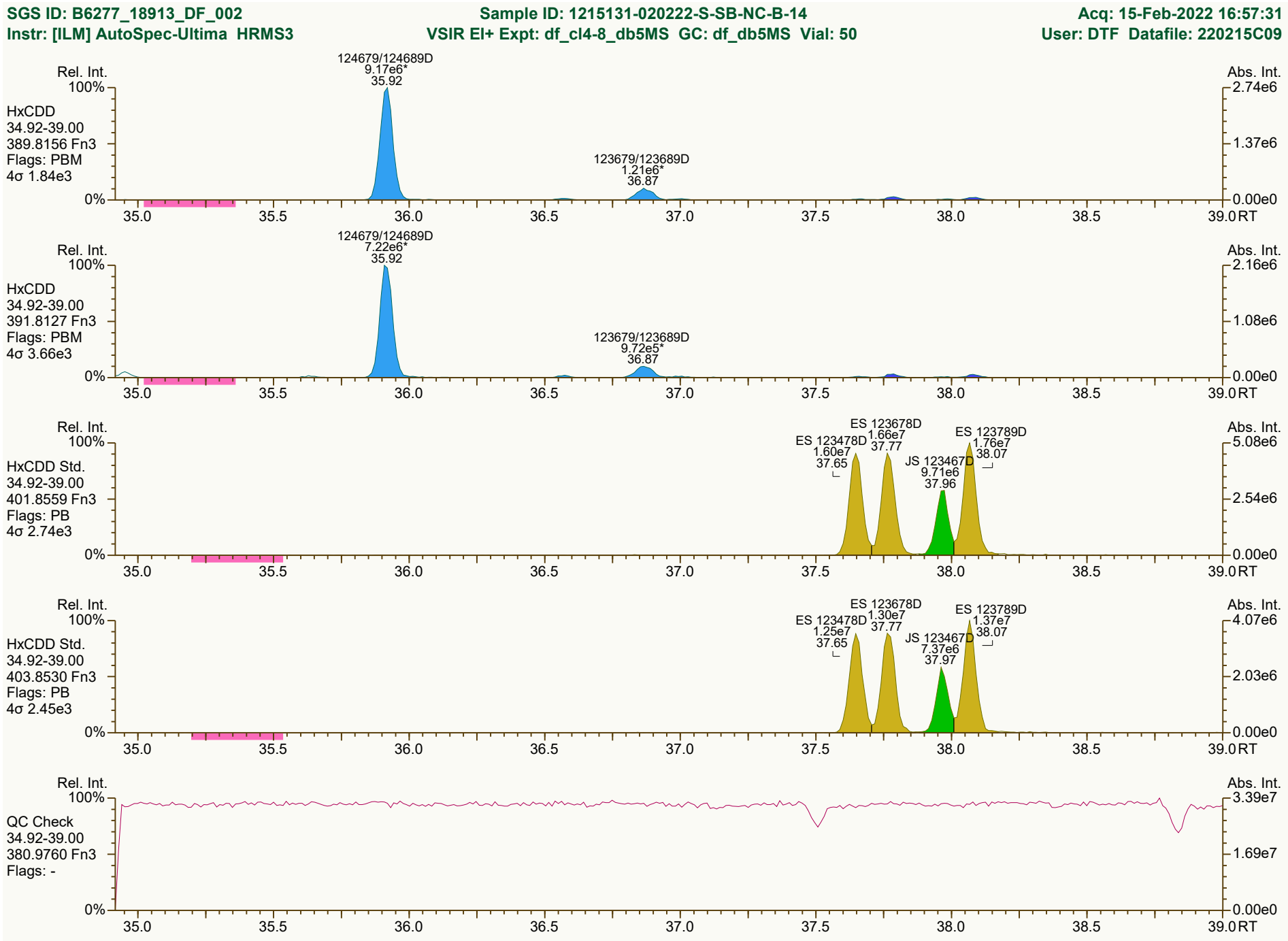

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 3.59e3
0%
1469D
1.32e6
26.28
1234/1269D
1.91e5
27.68
2378D
3.06e6
28.38
1278D
2.51e5
28.71
Abs. Int.
7.42e5
3.71e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 2.44e3
0%
1469D
1.61e6
26.28
1234/1269D
2.28e5
27.68
2378D
3.75e6
28.37
1278D
3.21e5
28.70
Abs. Int.
8.86e5
4.43e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.49e3
0%
CS 37Cl-2378D
1.48e7
28.37
Abs. Int.
3.43e6
1.71e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 1.14e4
0%
JS 1234D
1.62e7
27.69
ES 2378D
1.45e7
28.35
Abs. Int.
3.89e6
1.95e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.39e3
0%
JS 1234D
1.98e7
27.69
ES 2378D
1.76e7
28.35
Abs. Int.
4.83e6
2.41e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: B6277_18913_DF_002 | Sample ID: 1215131-020222-S-SB-NC-B-14 | Acq: 15-Feb-2022 16:57:31
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 50 | User: DTF Datafile: 220215C09

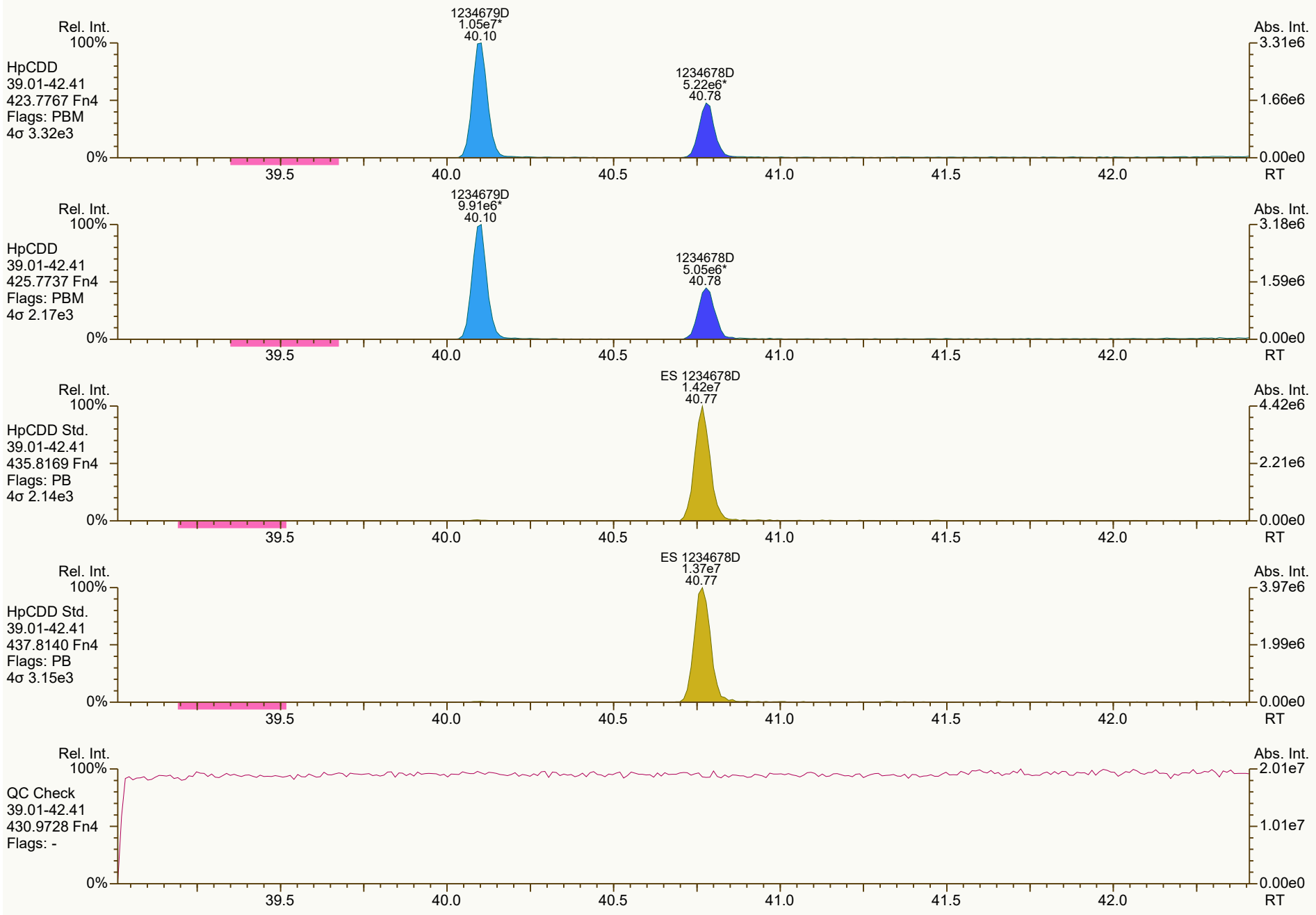


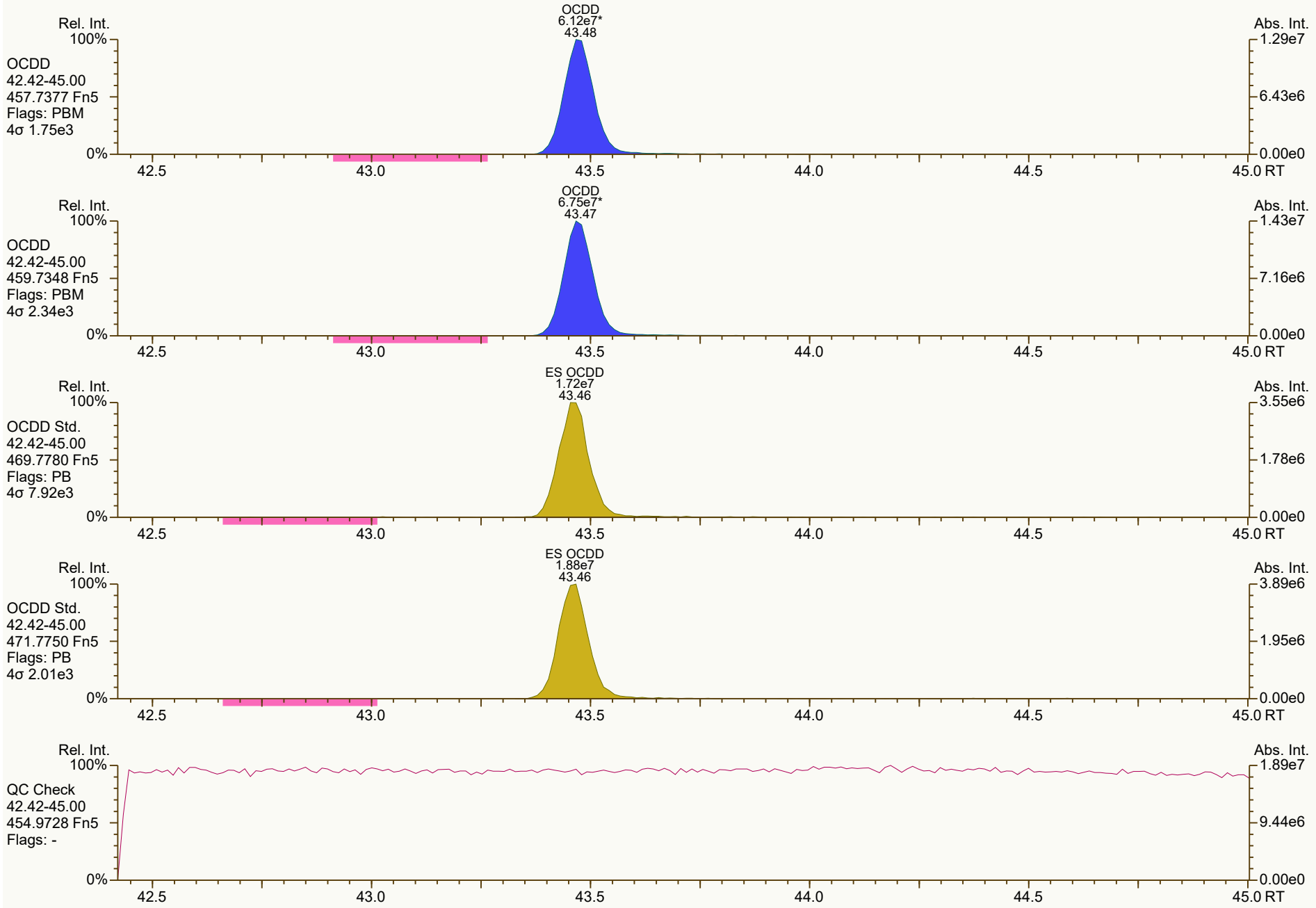
Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\B6277_18913_DF_002.utp_res, saved 16-Feb-2022 17:11 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7914, 7645 scc: 805-821 | Revised: 16-Feb-2022 16:55 (DTF) Printed: 17-Feb-2022 13:48 Page 3 of 12

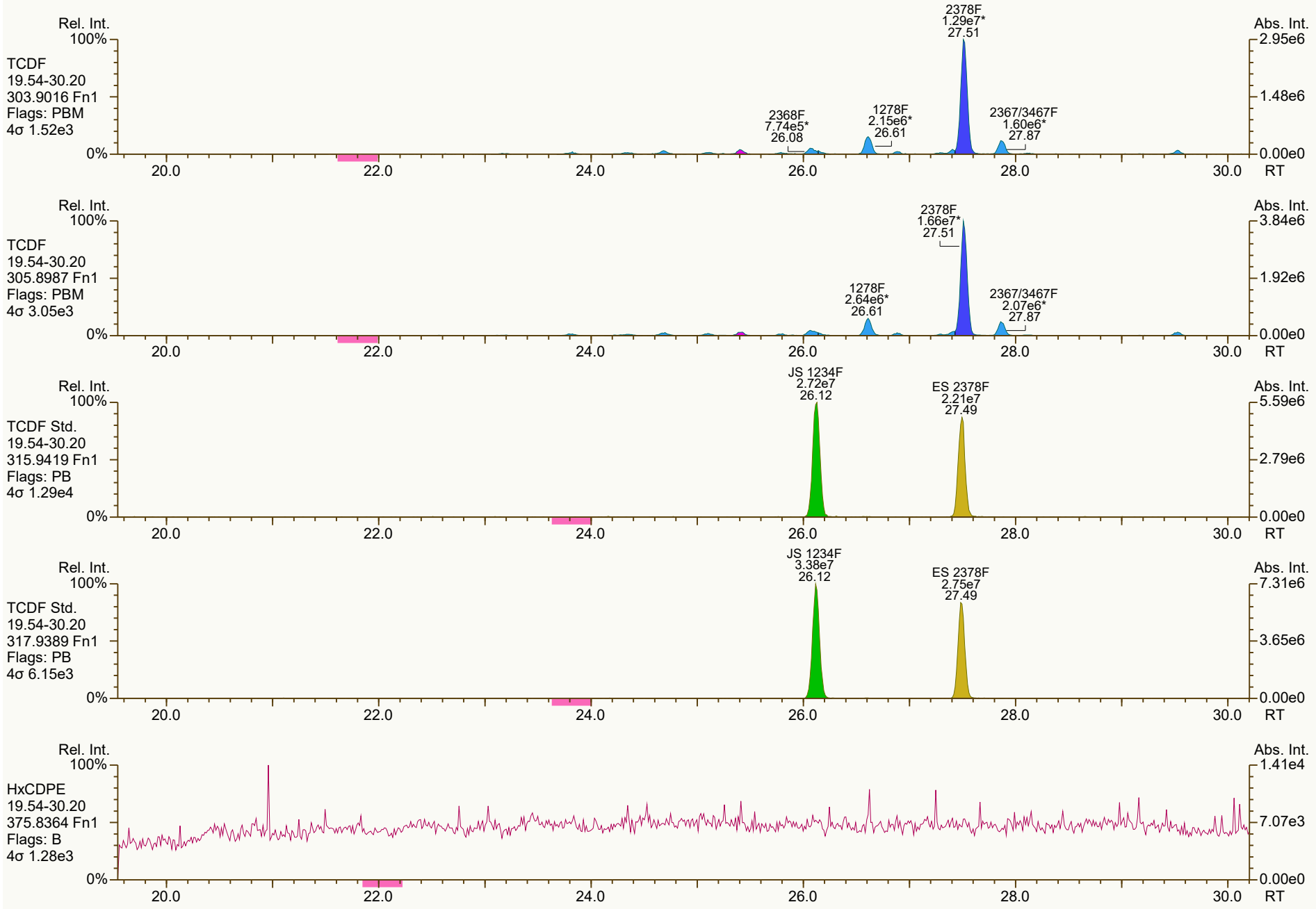
SGS ID: B6277_18913_DF_002 | Sample ID: 1215131-020222-S-SB-NC-B-14 | Acq: 15-Feb-2022 16:57:31
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 50 | User: DTF Datafile: 220215C09



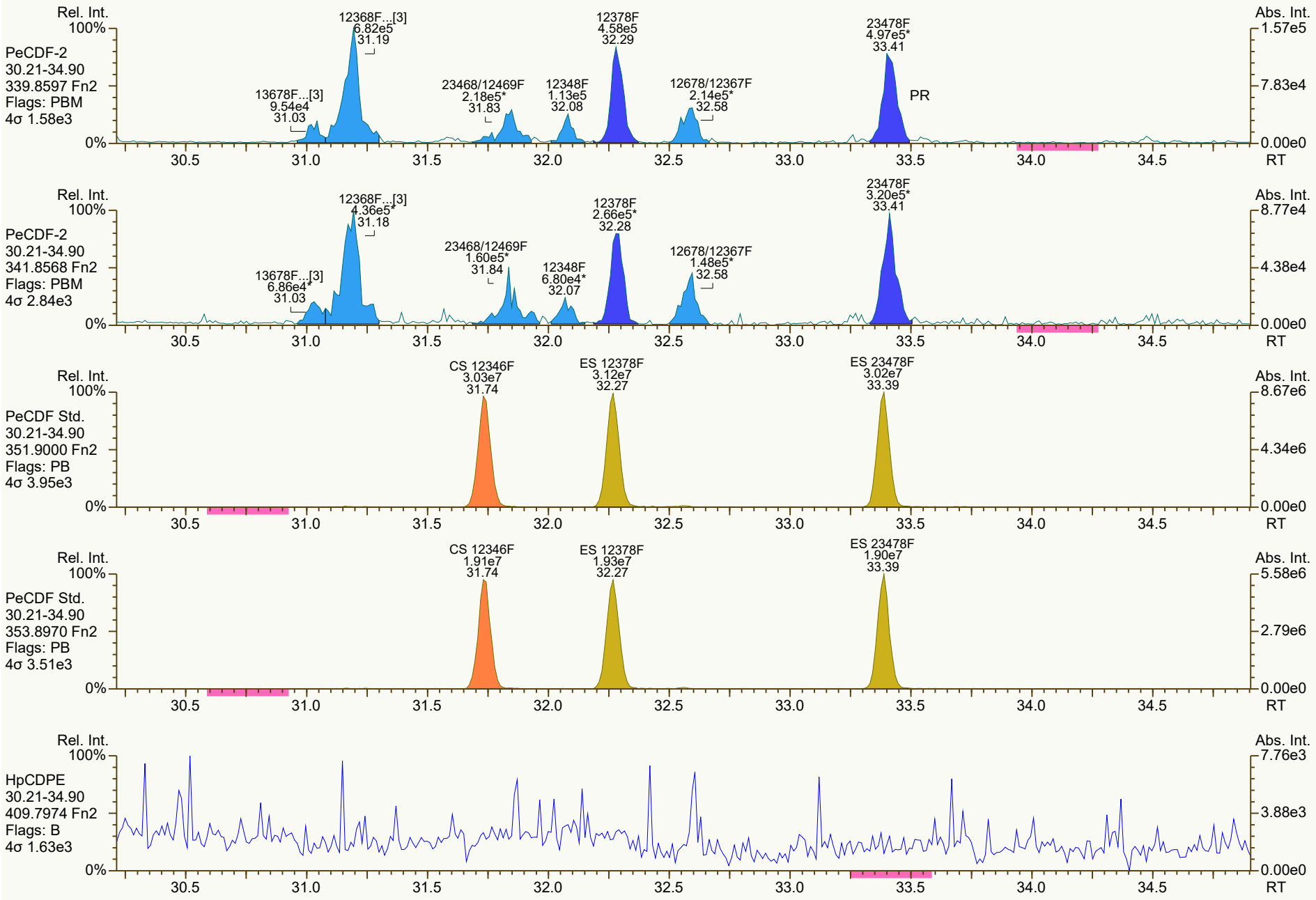
Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\B6277_18913_DF_002.utp_res, saved 16-Feb-2022 17:11 (DTF) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9517, 4380 scc: 805-821 | *Revised: 16-Feb-2022 16:56 (DTF) Printed: 17-Feb-2022 13:48 Page 4 of 12*

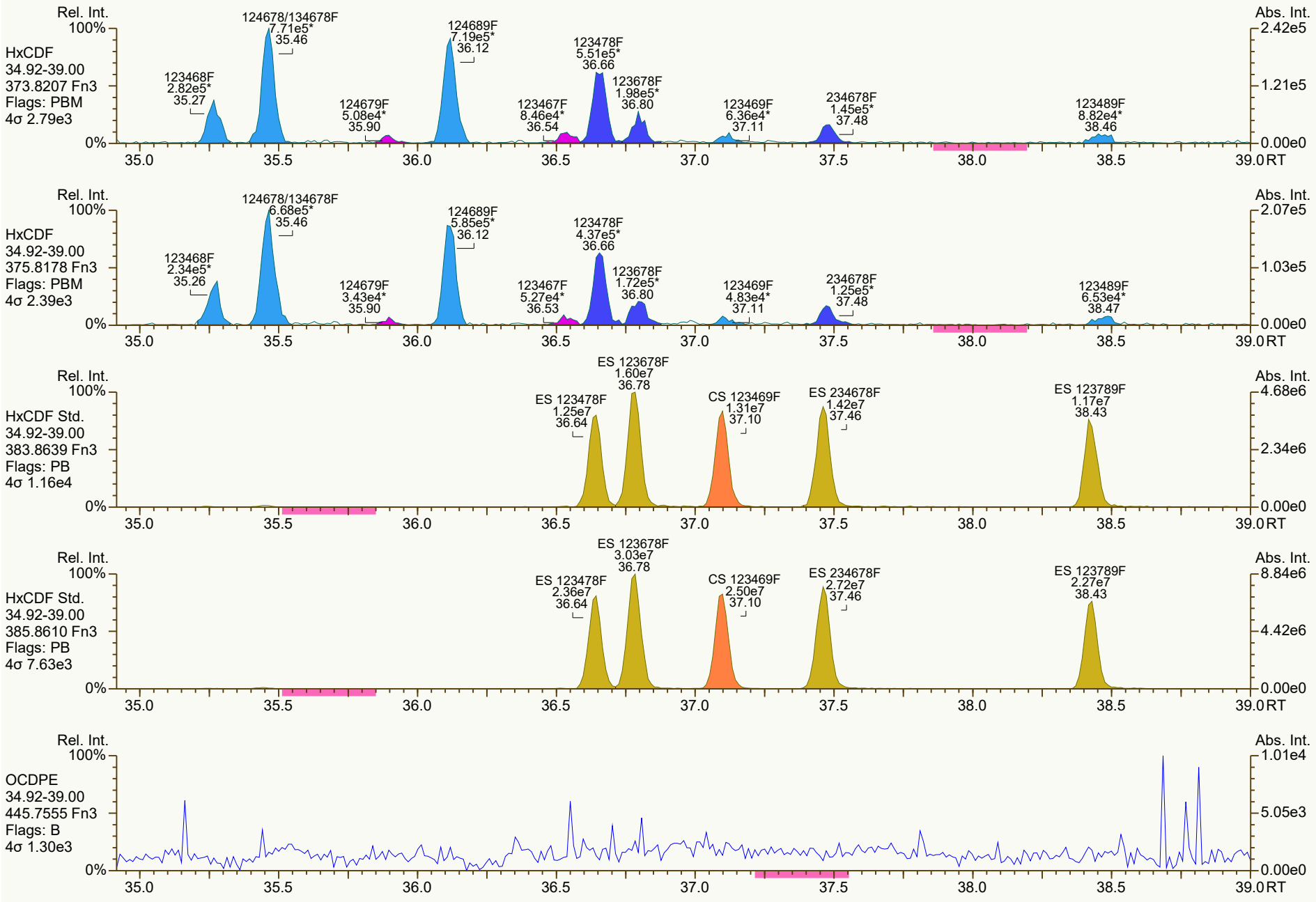

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 3.32e3
1234679D
1.05e7*
40.10
1234678D
5.22e6*
40.78
Abs. Int.
3.31e6
1.66e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 2.17e3
1234679D
9.91e6*
40.10
1234678D
5.05e6*
40.78
Abs. Int.
3.18e6
1.59e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.14e3
ES 1234678D
1.42e7
40.77
Abs. Int.
4.42e6
2.21e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 3.15e3
ES 1234678D
1.37e7
40.77
Abs. Int.
3.97e6
1.99e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
2.01e7
1.01e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

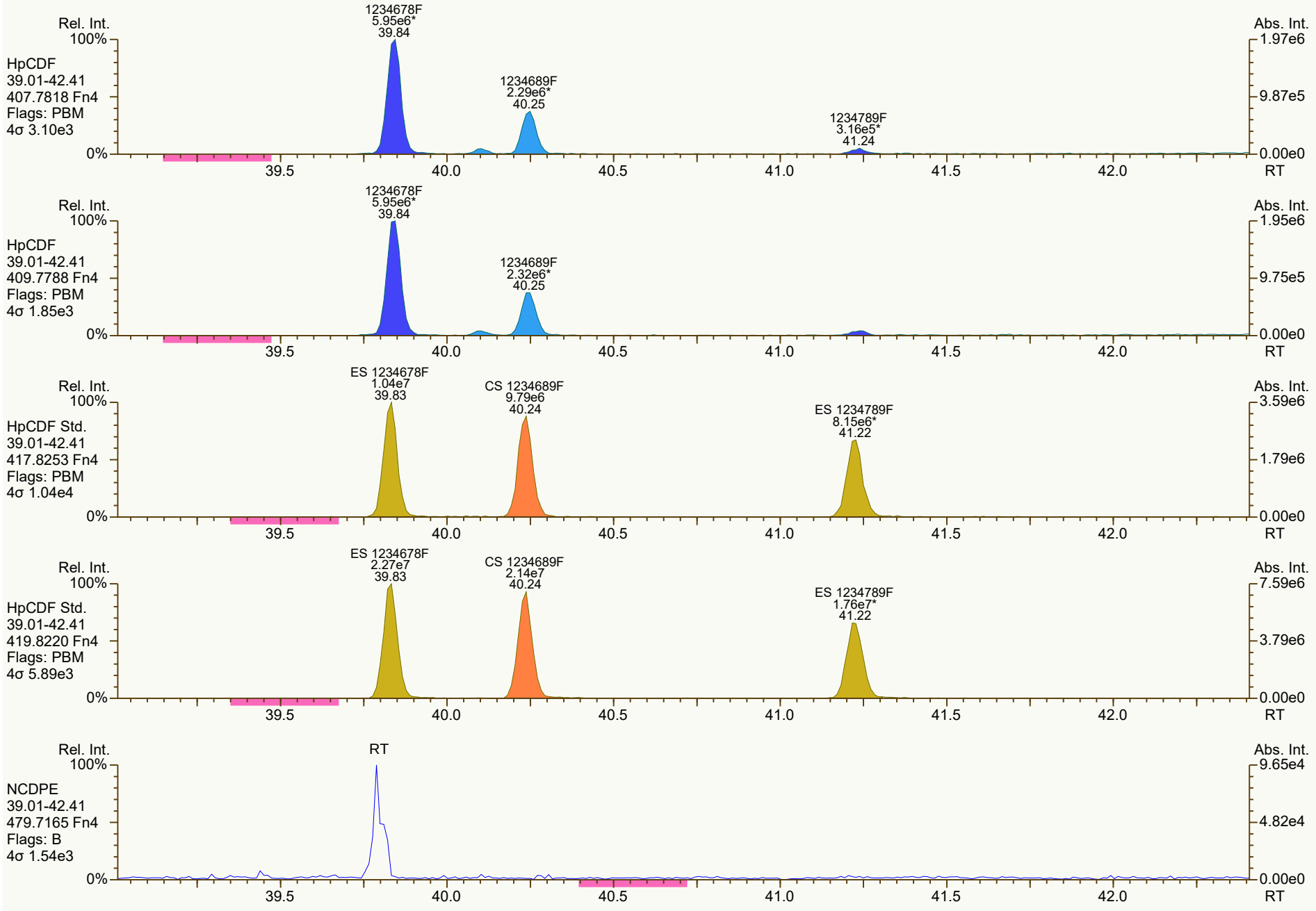

OCDD
6.12e7*
43.48
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.75e3
0%
Abs. Int.
1.29e7
6.43e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
6.75e7*
43.47
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
1.43e7
7.16e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.72e7
43.46
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 7.92e3
0%
Abs. Int.
3.55e6
1.78e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.88e7
43.46
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 2.01e3
0%
Abs. Int.
3.89e6
1.95e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.89e7
9.44e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

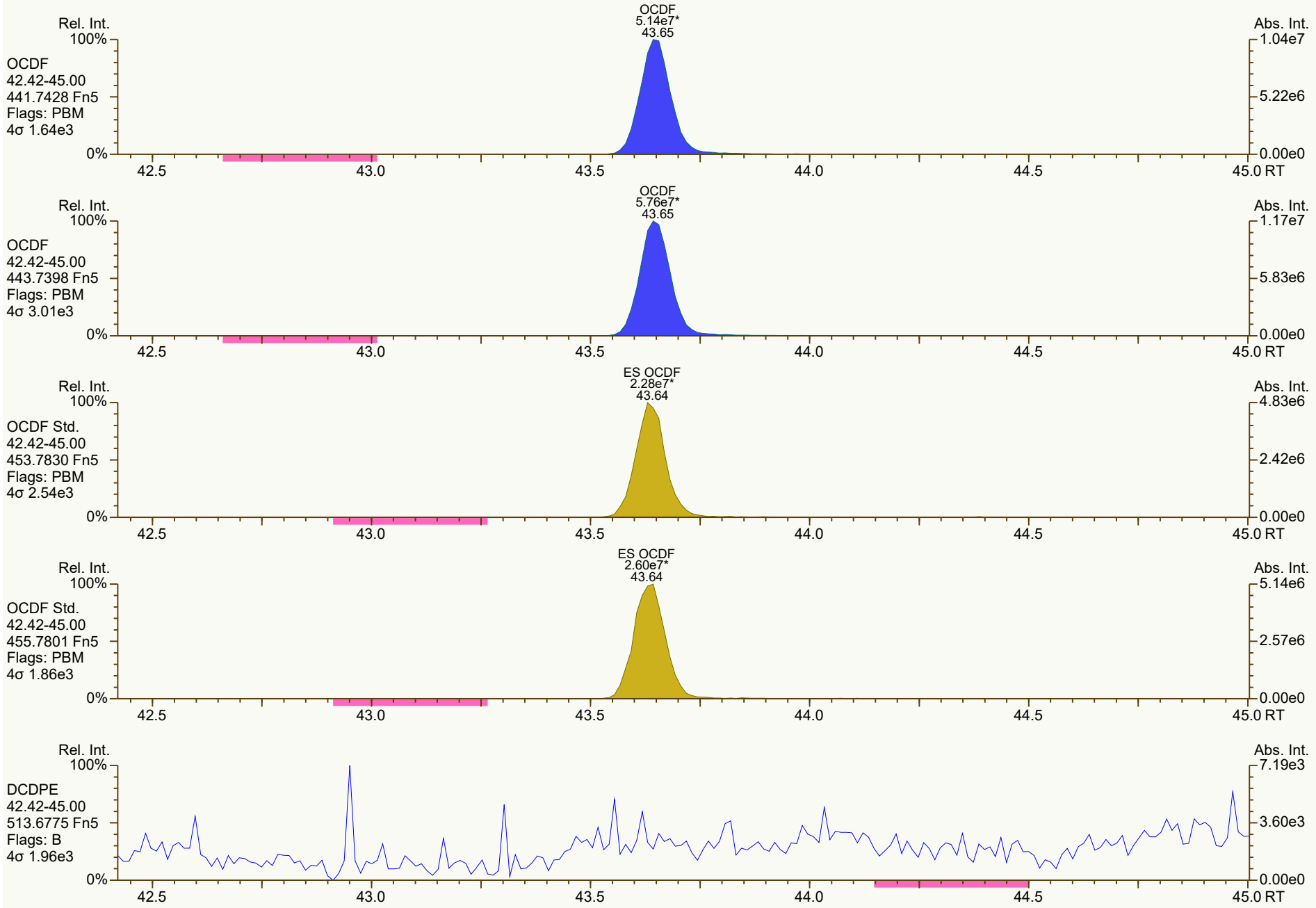

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.52e3
0%
2368F
7.74e5*
26.08
1278F
2.15e6*
26.61
2378F
1.29e7*
27.51
2367/3467F
1.60e6*
27.87
Abs. Int.
2.95e6
1.48e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 3.05e3
0%
1278F
2.64e6*
26.61
2378F
1.66e7*
27.51
2367/3467F
2.07e6*
27.87
Abs. Int.
3.84e6
1.92e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 1.29e4
0%
JS 1234F
2.72e7
26.12
ES 2378F
2.21e7
27.49
Abs. Int.
5.59e6
2.79e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 6.15e3
0%
JS 1234F
3.38e7
26.12
ES 2378F
2.75e7
27.49
Abs. Int.
7.31e6
3.65e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.28e3
0%
Abs. Int.
1.41e4
7.07e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.64e3
13468/12468F
6.35e5
29.47
Abs. Int.
1.52e5
7.61e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.43e3
13468/12468F
4.21e5
29.47
Abs. Int.
1.16e5
5.79e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
1.09e7
5.43e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 1.58e3
0%
12368F...[3]
6.82e5
31.19
13678F...[3]
9.54e4
31.03
23468/12469F
2.18e5*
31.83
12348F
1.13e5
32.08
12378F
4.58e5
32.29
12678/12367F
2.14e5*
32.58
23478F
4.97e5*
33.41
PR
Abs. Int.
1.57e5
7.83e4
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 2.84e3
0%
12368F...[3]
4.36e5*
31.18
13678F...[3]
6.86e4*
31.03
23468/12469F
1.60e5*
31.84
12348F
6.80e4*
32.07
12378F
2.66e5*
32.28
12678/12367F
1.48e5*
32.58
23478F
3.20e5*
33.41
Abs. Int.
8.77e4
4.38e4
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 3.95e3
0%
CS 12346F
3.03e7
31.74
ES 12378F
3.12e7
32.27
ES 23478F
3.02e7
33.39
Abs. Int.
8.67e6
4.34e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 3.51e3
0%
CS 12346F
1.91e7
31.74
ES 12378F
1.93e7
32.27
ES 23478F
1.90e7
33.39
Abs. Int.
5.58e6
2.79e6
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.63e3
0%
Abs. Int.
7.76e3
3.88e3
0.00e0
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 2.79e3
123468F 2.82e5* 35.27
124678/134678F 7.71e5* 35.46
124679F 5.08e4* 35.90
124689F 7.19e5* 36.12
123467F 8.46e4* 36.54
123478F 5.51e5* 36.66
123678F 1.98e5* 36.80
123469F 6.36e4* 37.11
234678F 1.45e5* 37.48
123489F 8.82e4* 38.46
0%
Abs. Int.
2.42e5
1.21e5
0.00e0
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 2.39e3
123468F 2.34e5* 35.26
124678/134678F 6.68e5* 35.46
124679F 3.43e4* 35.90
124689F 5.85e5* 36.12
123467F 5.27e4* 36.53
123478F 4.37e5* 36.66
123678F 1.72e5* 36.80
123469F 4.83e4* 37.11
234678F 1.25e5* 37.48
123489F 6.53e4* 38.47
0%
Abs. Int.
2.07e5
1.03e5
0.00e0
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 1.16e4
ES 123478F 1.25e7 36.64
ES 123678F 1.60e7 36.78
CS 123469F 1.31e7 37.10
ES 234678F 1.42e7 37.46
ES 123789F 1.17e7 38.43
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 7.63e3
ES 123478F 2.36e7 36.64
ES 123678F 3.03e7 36.78
CS 123469F 2.50e7 37.10
ES 234678F 2.72e7 37.46
ES 123789F 2.27e7 38.43
0%
Abs. Int.
8.84e6
4.42e6
0.00e0
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.30e3
0%
Abs. Int.
1.01e4
5.05e3
0.00e0
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 3.10e3
1234678F
5.95e6*
39.84
1234689F
2.29e6*
40.25
1234789F
3.16e5*
41.24
Abs. Int.
1.97e6
9.87e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 1.85e3
1234678F
5.95e6*
39.84
1234689F
2.32e6*
40.25
Abs. Int.
1.95e6
9.75e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 1.04e4
ES 1234678F
1.04e7
39.83
CS 1234689F
9.79e6
40.24
ES 1234789F
8.15e6*
41.22
Abs. Int.
3.59e6
1.79e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 5.89e3
ES 1234678F
2.27e7
39.83
CS 1234689F
2.14e7
40.24
ES 1234789F
1.76e7*
41.22
Abs. Int.
7.59e6
3.79e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.54e3
RT
Abs. Int.
9.65e4
4.82e4
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
5.14e7*
43.65
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PBM
4σ 1.64e3
0%
Abs. Int.
1.04e7
5.22e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
5.76e7*
43.65
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PBM
4σ 3.01e3
0%
Abs. Int.
1.17e7
5.83e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.28e7*
43.64
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 2.54e3
0%
Abs. Int.
4.83e6
2.42e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.60e7*
43.64
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 1.86e3
0%
Abs. Int.
5.14e6
2.57e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.96e3
0%
Abs. Int.
7.19e3
3.60e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6277_18913_DF_003 **Acq'd:** 15 Feb 2022 17:43 DTF **Wt/Vol:** 10.52 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 1215131-020222-S-SB-NC-O-44 **UTP:** 16-Feb-2022 17:11:02 DTF **J-level:** 0.475 pg/g **Split:** 1 **Checkcode:** 706-977-FWD

Datafile: 220215C10 **Report:** 17 Feb 2022 13:42 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.39		1.0008	1.0008	0	8.09E+07	0.80	Y	1.18	437	8898.962	0.506
12378-PeCDD	33.75		1.0006	1.0005	-0.2	8.35E+05	1.43	Y	1.04	5.42	4646.356	0.274
123478-HxCDD	37.67	J	1.0004	1.0004	0	3.02E+05	1.27	Y	1.09	2.11	7072.531	0.422
123678-HxCDD	37.80		1.0036	1.0036	0	1.09E+06	1.30	Y	1.15	6.96	7072.531	0.41
123789-HxCDD	38.09		1.0115	1.0115	0	6.95E+05	1.09	Y	1.05	4.52	7072.531	0.395
1234678-HpCDD	40.80		1.0003	1.0003	0	2.77E+07	1.05	Y	1.06	192	4349.464	0.266
OCDD	43.51		1.0003	1.0003	0	2.87E+08	0.90	Y	1.13	2,860	4688.734	0.598
2378-TCDF	27.52	E	1.0008	1.0008	0	2.98E+08	0.78	Y	1.08	1,140	3725.218	0.159
12378-PeCDF	32.29		1.0005	1.0005	0	9.44E+06	1.57	Y	1.02	39.4	6040.488	0.239
23478-PeCDF	33.42	PR	1.0006	1.0007	+0.2	7.50E+06	1.53	Y	1.02	32.4	6040.488	0.234
123478-HxCDF	36.67		1.0004	1.0005	+0.2	1.37E+07	1.20	Y	1.27	62.9	6169.828	0.241
123678-HxCDF	36.81		1.0004	1.0005	+0.2	3.87E+06	1.21	Y	1.15	16.3	6169.828	0.226
234678-HxCDF	37.49		1.0005	1.0004	-0.2	1.17E+06	1.25	Y	1.19	5.24	6169.828	0.244
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	6169.828	0.278
1234678-HpCDF	39.85		1.0003	1.0003	0	1.54E+07	1.03	Y	1.37	71.1	5956.771	0.205
1234789-HpCDF	41.26		1.0003	1.0002	-0.2	1.94E+06	1.05	Y	1.31	11.5	5956.771	0.318
OCDF	43.68		1.0002	1.0002	0	4.97E+07	0.88	Y	1.07	387	4051.523	0.393

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.36	1.0239	1.0239	0	2.97E+07	0.85	Y	1.05	84.4
ES 12378-PeCDD	33.73	1.2174	1.2178	+0.8	2.83E+07	1.63	Y	0.88	95.6
ES 123478-HxCDD	37.66	0.9917	0.9917	0	2.49E+07	1.29	Y	0.97	84
ES 123678-HxCDD	37.78	0.9948	0.9949	+0.2	2.59E+07	1.24	Y	0.94	89.7
ES 123789-HxCDD	38.08	1.0027	1.0027	0	2.79E+07	1.28	Y	1.09	83.8
ES 1234678-HpCDD	40.79	1.0738	1.0740	+0.5	2.58E+07	1.06	Y	0.91	92.6
ES OCDD	43.49	1.1449	1.1453	+1.0	3.39E+07	0.91	Y	0.62	88.9
ES 2378-TCDF	27.50	1.0523	1.0525	+0.3	4.62E+07	0.82	Y	1.06	80.9
ES 12378-PeCDF	32.28	1.2346	1.2352	+1.2	4.44E+07	1.61	Y	0.91	90.6
ES 23478-PeCDF	33.39	1.2774	1.2780	+1.2	4.31E+07	1.57	Y	0.88	90.7
ES 123478-HxCDF	36.65	0.9651	0.9651	0	3.26E+07	0.55	Y	1.20	89
ES 123678-HxCDF	36.79	0.9688	0.9688	0	3.91E+07	0.53	Y	1.35	94.6
ES 234678-HxCDF	37.47	0.9867	0.9868	+0.2	3.57E+07	0.54	Y	1.24	94
ES 123789-HxCDF	38.44	1.0121	1.0122	+0.2	3.17E+07	0.54	Y	1.16	90
ES 1234678-HpCDF	39.84	1.0491	1.0492	+0.2	3.01E+07	0.46	Y	0.97	102
ES 1234789-HpCDF	41.25	1.0858	1.0861	+0.7	2.45E+07	0.47	Y	0.85	94.2
ES OCDF	43.67	1.1495	1.1499	+1.0	4.55E+07	0.91	Y	0.81	92.4

Lab ID: B6277_18913_DF_003 **Acq'd:** 15 Feb 2022 17:43 DTF **Wt/Vol:** 10.52 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 1215131-020222-S-SB-NC-O-44 **UTP:** 16-Feb-2022 17:11:02 DTF **J-level:** 0.475 pg/g **Split:** 1 **Checkcode:** 706-977-FWD

Datafile: 220215C10 **Report:** 17 Feb 2022 13:42 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.70		-	-	-	3.36E+07	0.82	Y	-	-
JS 1234-TCDF	26.13		-	-	-	5.38E+07	0.80	Y	-	-
JS 123467-HxCDD	37.98		-	-	-	1.53E+07	1.23	Y	-	-
CS 37Cl-2378-TCDD	28.38		1.0247	1.0247	0	1.37E+07	n/a	-	1.20	85
CS 12347-PeCDD	33.23		1.1993	1.1996	+0.6	2.48E+07	1.66	Y	0.75	97.9
CS 12346-PeCDF	31.75		1.2144	1.2149	+1.0	4.28E+07	1.62	Y	0.85	93.5
CS 123469-HxCDF	37.11		0.9772	0.9771	-0.2	3.30E+07	0.54	Y	1.12	96.9
CS 1234689-HpCDF	40.25		1.0597	1.0599	+0.5	2.87E+07	0.46	Y	0.89	106
~~SS 37Cl-2378-TCDD~~	~~28.38~~		~~1.0247~~	~~1.0247~~	~~0~~	~~1.37E+07~~	~~n/a~~		~~1.15~~	~~101~~
~~SS 12347-PeCDD~~	~~33.23~~		~~1.1993~~	~~1.1996~~	~~+0.6~~	~~2.48E+07~~	~~1.66~~	~~Y~~	~~0.86~~	~~102~~
~~SS 12346-PeCDF~~	~~31.75~~		~~1.2144~~	~~1.2149~~	~~+1.0~~	~~4.28E+07~~	~~1.62~~	~~Y~~	~~0.94~~	~~103~~
~~SS 123469-HxCDF~~	~~37.11~~		~~0.9772~~	~~0.9771~~	~~-0.2~~	~~3.30E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~102~~
~~SS 1234689-HpCDF~~	~~40.25~~		~~1.0597~~	~~1.0599~~	~~+0.5~~	~~2.87E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~104~~

Totals	Conc	EMPC
Total TCDD	489	495
Total PeCDD	15	17.4
Total HxCDD	72.2	75.1
Total HpCDD	436	436
Total Tetra-Octa Dioxins	3870	3880
Total TCDF	2,230	2240
Total PeCDF	124	126
Total HxCDF	132	132
Total HpCDF	161	161
Total Tetra-Octa Furans	3,040	3040
Total Tetra-Octa Dioxins & Furans	6910	6930

Lab ID: B6277_18913_DF_003 **Acq'd: 15 Feb 2022 17:43 DTF** **Wt/Vol: 10.52 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 1215131-020222-S-SB-NC-O-44 **UTP: 16-Feb-2022 17:11:02 DTF** **J-level: 0.475 pg/g** **Split: 1** **Checkcode: 706-977-FWD**

Datafile: 220215C10 **Report: 17 Feb 2022 13:42 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.71	EMPC	0.8719	0.8713	-0.9	2.42E+05	1.04	N	1.18	1.31	8898.962	0.506
1379-TCDD	NotFnd		0.8845						1.18		8898.962	0.506
1369-TCDD	NotFnd		0.8996						1.18		8898.962	0.506
1469-TCDD	26.29	EMPC	0.9271	0.9268	-0.5	5.41E+05	0.90	N	1.18	2.93	8898.962	0.506
1247/1246/1248/1249-TCDD	26.53	EMPC	0.9357	0.9354	-0.5	2.02E+05	0.90	N	1.18	1.09	8898.962	0.506
1378-TCDD	26.73		0.9425	0.9423	-0.3	3.06E+05	0.88	Y	1.18	1.65	8898.962	0.506
1268-TCDD	NotFnd		0.9494						1.18		8898.962	0.506
1478-TCDD	27.17		0.9581	0.9580	-0.2	2.23E+05	0.72	Y	1.18	1.2	8898.962	0.506
1279-TCDD	NotFnd		0.9640						1.18		8898.962	0.506
1234/1269-TCDD	NotFnd		0.9765						1.18		8898.962	0.506
1236-TCDD	NotFnd		0.9816						1.18		8898.962	0.506
1237/1238-TCDD	28.09		0.9906	0.9906	0	1.43E+06	0.83	Y	1.18	7.73	8898.962	0.506
1239-TCDD	NotFnd		0.9952						1.18		8898.962	0.506
2378-TCDD	**28.39**		**1.0008**	1.0008	**0**	8.09E+07	0.80	Y	**1.18**	**437**	**8898.962**	**0.506**
1278-TCDD	28.71		1.0123	1.0124	+0.2	7.46E+06	0.81	Y	1.18	40.3	8898.962	0.506
1267-TCDD	28.84		1.0170	1.0168	-0.3	2.54E+05	0.86	Y	1.18	1.37	8898.962	0.506
1289-TCDD	NotFnd		1.0351						1.18		8898.962	0.506
12479/12468-PeCDD	31.24		0.9261	0.9260	-0.2	4.30E+05	1.58	Y	1.04	2.79	4646.356	0.274
12469-PeCDD	31.77		0.9420	0.9419	-0.2	4.90E+05	1.57	Y	1.04	3.18	4646.356	0.274
12368-PeCDD	32.32	J	0.9584	0.9583	-0.2	1.73E+05	1.60	Y	1.04	1.12	4646.356	0.274
12478-PeCDD	32.52	J EMPC	0.9641	0.9640	-0.2	1.70E+05	1.22	N	1.04	1.1	4646.356	0.274
12379-PeCDD	32.61	J EMPC	0.9670	0.9667	-0.6	8.59E+04	2.39	N	1.04	0.557	4646.356	0.274
12369/12467/12489-PeCDD	32.88	J	0.9747	0.9749	+0.4	2.62E+05	1.45	Y	1.04	1.7	4646.356	0.274
12346/12347-PeCDD	33.25	J EMPC	0.9857	0.9859	+0.4	6.98E+04	1.80	N	1.04	0.453	4646.356	0.274
12378-PeCDD	33.75		**1.0006**	**1.0005**	**-0.2**	**8.35E+05**	**1.43**	**Y**	**1.04**	**5.42**	**4646.356**	**0.274**
12367-PeCDD	33.84	J EMPC	1.0034	1.0033	-0.2	5.13E+04	1.93	N	1.04	0.333	4646.356	0.274
12389-PeCDD	34.20	J	1.0136	1.0138	+0.4	1.17E+05	1.33	Y	1.04	0.761	4646.356	0.274
124679/124689-HxCDD	35.93		0.9540	0.9540	0	4.92E+06	1.25	Y	1.10	32.5	7072.531	0.408
123468-HxCDD	36.58		0.9714	0.9714	0	4.68E+05	1.25	Y	1.10	3.1	7072.531	0.408
123679/123689-HxCDD	36.88		0.9792	0.9793	+0.2	3.48E+06	1.25	Y	1.10	23	7072.531	0.408
123469-HxCDD	37.01	J EMPC	0.9828	0.9827	-0.2	2.63E+05	1.56	N	1.10	1.74	7072.531	0.408
123478-HxCDD	37.67	J	**1.0004**	**1.0004**	**0**	**3.02E+05**	**1.27**	**Y**	1.09	**2.11**	**7072.531**	**0.422**
123678-HxCDD	37.80		**1.0036**	**1.0036**	**0**	**1.09E+06**	**1.30**	**Y**	1.15	**6.96**	**7072.531**	**0.41**
123467-HxCDD	37.99	J EMPC	1.0087	1.0089	+0.5	1.67E+05	1.61	N	1.10	1.1	7072.531	0.408
123789-HxCDD	38.09		**1.0115**	**1.0115**	**0**	**6.95E+05**	**1.09**	**Y**	1.05	**4.52**	**7072.531**	**0.395**

Lab ID: B6277_18913_DF_003 **Acq'd: 15 Feb 2022 17:43 DTF** **Wt/Vol: 10.52 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 1215131-020222-S-SB-NC-O-44 **UTP: 16-Feb-2022 17:11:02 DTF** **J-level: 0.475 pg/g** **Split: 1** **Checkcode: 706-977-FWD**

Datafile: 220215C10 **Report: 17 Feb 2022 13:42 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

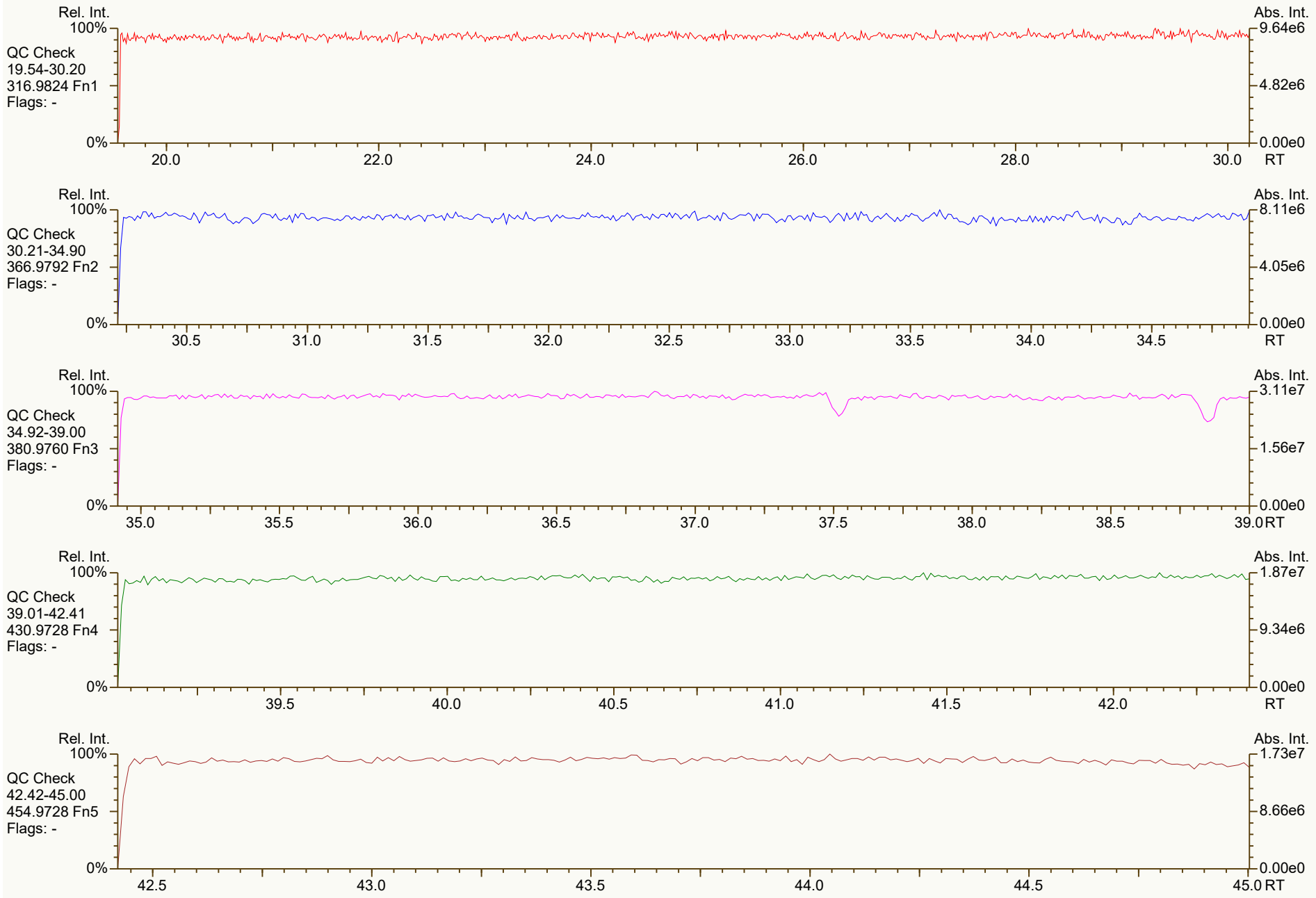
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.12		0.9836	0.9836	0	3.51E+07	1.04	Y	1.06	244	4349.464	0.266
1234678-HpCDD	**40.80**		**1.0003**	**1.0003**	**0**	**2.77E+07**	**1.05**	**Y**	**1.06**	**192**	**4349.464**	**0.266**
OCDD	**43.51**		**1.0003**	**1.0003**	**0**	**2.87E+08**	**0.90**	**Y**	**1.13**	**2,860**	**4688.734**	**0.598**
OCDD-a	43.50		1.0002	1.0002	0	1.80E+07	2.37	Y	0.07	2,810	4813.722	9.61
1368-TCDF	22.59		0.8222	0.8213	-1.2	1.85E+05	0.81	Y	1.08	0.705	3725.218	0.159
1468-TCDF	23.18		0.8434	0.8429	-0.7	6.84E+05	0.85	Y	1.08	2.61	3725.218	0.159
2468-TCDF	23.82		0.8666	0.8663	-0.4	8.64E+05	0.74	Y	1.08	3.3	3725.218	0.159
1346/1246-TCDF	NotFnd		0.8789						1.08		3725.218	0.159
1347/1378/1247-TCDF	24.34		0.8848	0.8851	+0.4	4.19E+06	0.81	Y	1.08	16	3725.218	0.159
1348-TCDF	NotFnd		0.8947						1.08		3725.218	0.159
1248/1367/1379-TCDF	24.69		0.8995	0.8977	-2.7	1.54E+07	0.80	Y	1.08	58.6	3725.218	0.159
1268-TCDF	25.11		0.9131	0.9131	0	5.13E+06	0.79	Y	1.08	19.6	3725.218	0.159
1467-TCDF	25.24		0.9181	0.9179	-0.3	7.54E+05	0.74	Y	1.08	2.88	3725.218	0.159
1478-TCDF	25.41		0.9244	0.9241	-0.5	1.31E+07	0.79	Y	1.08	50.2	3725.218	0.159
1369/1237-TCDF	25.79		0.9379	0.9378	-0.2	3.57E+06	0.80	Y	1.08	13.6	3725.218	0.159
2467-TCDF	25.91		0.9425	0.9421	-0.6	5.05E+05	0.78	Y	1.08	1.93	3725.218	0.159
2368-TCDF	26.12		0.9483	0.9498	+2.4	2.50E+07	0.79	Y	1.08	95.3	3725.218	0.159
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9514						1.08		3725.218	0.159
1278-TCDF	26.62		0.9681	0.9679	-0.3	1.29E+08	0.78	Y	1.08	492	3725.218	0.159
1349-TCDF	NotFnd		0.9722						1.08		3725.218	0.159
1267-TCDF	26.89		0.9780	0.9779	-0.2	8.05E+06	0.78	Y	1.08	30.7	3725.218	0.159
2346/1249-TCDF	27.09		0.9845	0.9849	+0.7	9.34E+05	0.73	Y	1.08	3.57	3725.218	0.159
2347/1279-TCDF	27.30		0.9927	0.9925	-0.3	4.10E+06	0.78	Y	1.08	15.6	3725.218	0.159
2348-TCDF	27.41		0.9970	0.9966	-0.7	2.13E+07	0.78	Y	1.08	81.5	3725.218	0.159
2378-TCDF	**27.52**	E	**1.0008**	**1.0008**	**0**	**2.98E+08**	**0.78**	**Y**	**1.08**	**1,140**	**3725.218**	**0.159**
2367/3467-TCDF	27.88		1.0140	1.0136	-0.7	2.67E+07	0.81	Y	1.08	102	3725.218	0.159
1269-TCDF	28.13		1.0226	1.0228	+0.3	4.70E+06	0.79	Y	1.08	18	3725.218	0.159
1239-TCDF	28.40	EMPC	1.0325	1.0326	+0.2	3.81E+05	0.63	N	1.08	1.45	3725.218	0.159
1289-TCDF	29.54		1.0732	1.0740	+1.4	2.32E+07	0.79	Y	1.08	88.6	3725.218	0.159
13468/12468-PeCDF	29.48		0.9130	0.9134	+0.7	1.61E+06	1.56	Y	1.02	6.83	2926.163	0.114
13678/13467/12467-PeCDF	31.03	J EMPC	0.9610	0.9613	+0.6	3.82E+05	1.82	N	1.02	1.62	6040.488	0.236
12368/13478/12478-PeCDF	31.20		0.9658	0.9665	+1.3	5.26E+06	1.61	Y	1.02	22.3	6040.488	0.236
14678-PeCDF	NotFnd		0.9688						1.02		6040.488	0.236
13479-PeCDF	NotFnd		0.9719						1.02		6040.488	0.236
13469/12479-PeCDF	NotFnd		0.9797						1.02		6040.488	0.236
12346-PeCDF	NotFnd		0.9841						1.02		6040.488	0.236

Lab ID: B6277_18913_DF_003 **Acq'd: 15 Feb 2022 17:43 DTF** **Wt/Vol: 10.52 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 1215131-020222-S-SB-NC-O-44 **UTP: 16-Feb-2022 17:11:02 DTF** **J-level: 0.475 pg/g** **Split: 1** **Checkcode: 706-977-FWD**

Datafile: 220215C10 **Report: 17 Feb 2022 13:42 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.85	J	0.9867	0.9867	0	5.03E+05	1.54	Y	1.02	2.14	6040.488	0.236
12347-PeCDF	31.92	J	0.9892	0.9891	-0.2	2.78E+05	1.46	Y	1.02	1.18	6040.488	0.236
12348-PeCDF	32.08		0.9940	0.9940	0	1.03E+06	1.61	Y	1.02	4.37	6040.488	0.236
12378-PeCDF	**32.29**		**1.0005**	**1.0005**	**0**	**9.44E+06**	**1.57**	**Y**	**1.02**	**39.4**	**6040.488**	**0.239**
12678/12367-PeCDF	32.59		1.0091	1.0097	+1.2	2.95E+06	1.57	Y	1.02	12.5	6040.488	0.236
12379-PeCDF	NotFnd		1.0144						1.02		6040.488	0.236
12679-PeCDF	NotFnd		0.9928						1.02		6040.488	0.236
23467/12369-PeCDF	33.27	J	0.9966	0.9964	-0.4	2.46E+05	1.43	Y	1.02	1.05	6040.488	0.236
23478-PeCDF	**33.42**		**1.0006**	**1.0007**	**+0.2**	**7.50E+06**	**1.53**	**Y**	**1.02**	**32.4**	**6040.488**	**0.234**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6040.488	0.236
12349-PeCDF	NotFnd		1.0101						1.02		6040.488	0.236
12389-PeCDF	34.49	J	1.0327	1.0328	+0.2	4.50E+05	1.78	Y	1.02	1.91	6040.488	0.236
123468-HxCDF	35.27		0.9624	0.9624	0	1.04E+06	1.28	Y	1.19	4.79	6169.828	0.245
124678/134678-HxCDF	35.47		0.9679	0.9679	0	4.16E+06	1.23	Y	1.19	19	6169.828	0.245
134679-HxCDF	NotFnd		0.9741						1.19		6169.828	0.245
124679-HxCDF	35.90	J	0.9796	0.9795	-0.2	1.40E+05	1.22	Y	1.19	0.639	6169.828	0.245
124689-HxCDF	36.13		0.9856	0.9857	+0.2	3.70E+06	1.26	Y	1.19	16.9	6169.828	0.245
123467-HxCDF	36.55	J	0.9972	0.9971	-0.2	3.02E+05	1.39	Y	1.19	1.38	6169.828	0.245
123478-HxCDF	**36.67**		**1.0004**	**1.0005**	**+0.2**	**1.37E+07**	**1.20**	**Y**	**1.27**	**62.9**	**6169.828**	**0.241**
123678-HxCDF	**36.81**		**1.0004**	**1.0005**	**+0.2**	**3.87E+06**	**1.21**	**Y**	**1.15**	**16.3**	**6169.828**	**0.226**
123479-HxCDF	NotFnd		1.0049						1.19		6169.828	0.245
123469-HxCDF	NotFnd		1.0090						1.19		6169.828	0.245
123679-HxCDF	NotFnd		0.9942						1.19		6169.828	0.245
234678-HxCDF	**37.49**		**1.0005**	**1.0004**	**-0.2**	**1.17E+06**	**1.25**	**Y**	**1.19**	**5.24**	**6169.828**	**0.244**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6169.828	0.245
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**6169.828**	**0.278**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.48		1.0007	1.0011	+0.9	1.10E+06	1.35	Y	1.19	5.03	6169.828	0.245
1234678-HpCDF	**39.85**		**1.0003**	**1.0003**	**0**	**1.54E+07**	**1.03**	**Y**	**1.37**	**71.1**	**5956.771**	**0.205**
1234679-HpCDF	40.12		1.0069	1.0069	0	8.50E+05	1.00	Y	1.34	4.42	5956.771	0.255
1234689-HpCDF	40.26		1.0104	1.0104	0	1.43E+07	1.02	Y	1.34	74.2	5956.771	0.255
1234789-HpCDF	**41.26**		**1.0003**	**1.0002**	**-0.2**	**1.94E+06**	**1.05**	**Y**	**1.31**	**11.5**	**5956.771**	**0.318**
OCDF	**43.68**		**1.0002**	**1.0002**	**0**	**4.97E+07**	**0.88**	**Y**	**1.07**	**387**	**4051.523**	**0.393**
OCDF-a	43.68		1.0002	1.0002	0	3.53E+06	2.58	Y	0.07	444	3289.089	5.16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19.54-30.20
316.9824 Fn1
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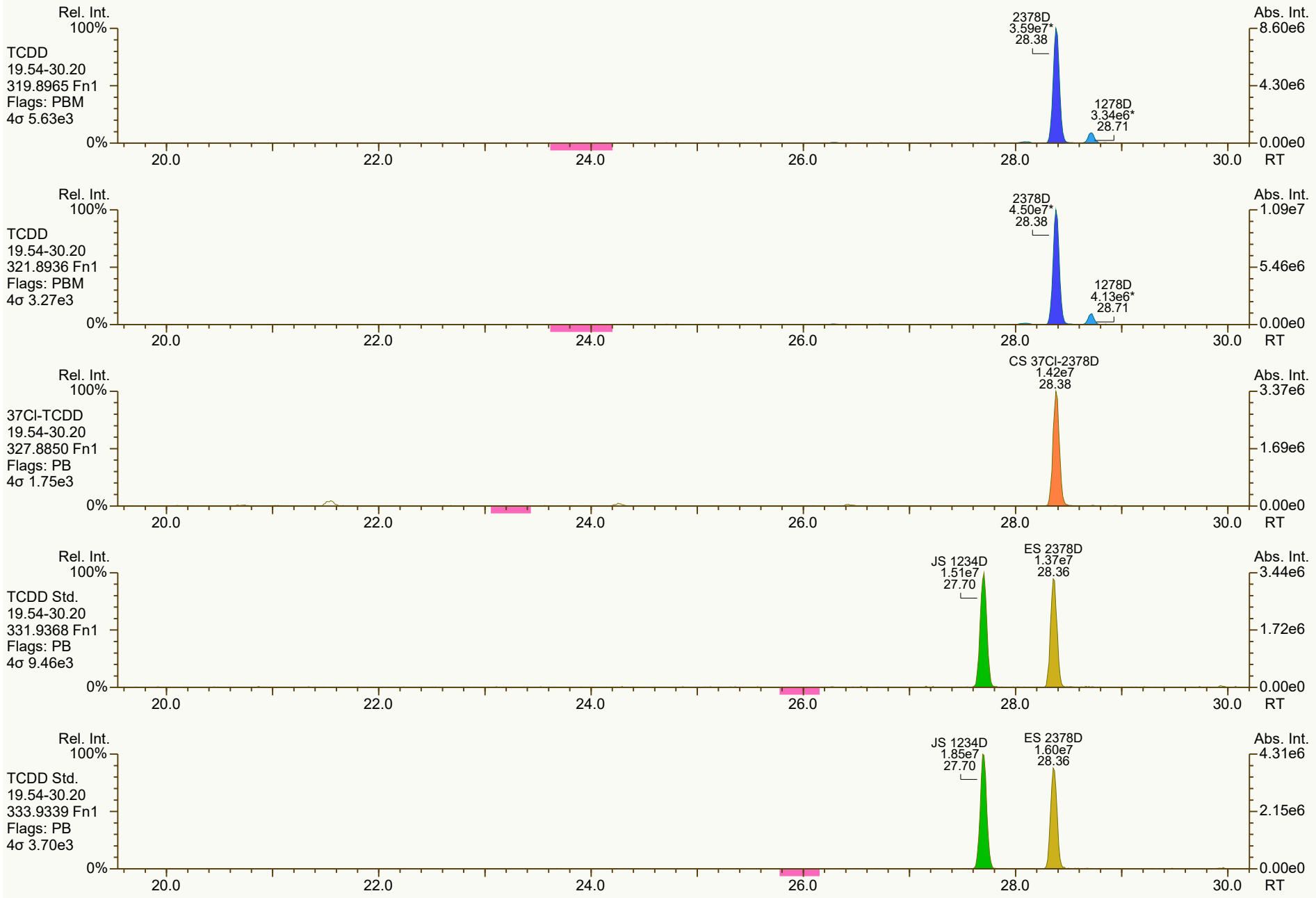
4.82e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.11e6
4.05e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.11e7
1.56e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.87e7
9.34e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.73e7
8.66e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
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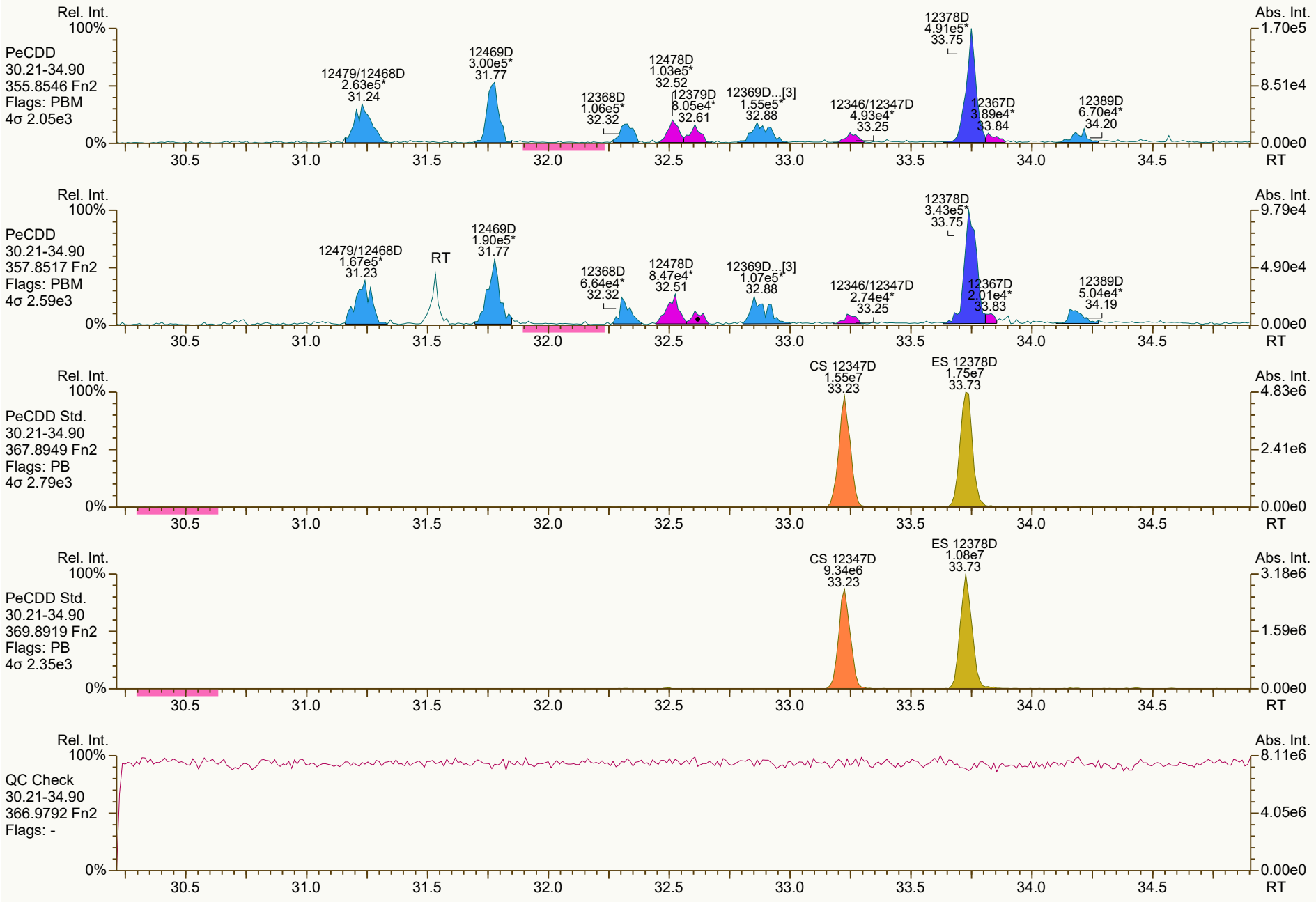
4σ 5.63e3
0%
2378D
3.59e7*
28.38
1278D
3.34e6*
28.71
Abs. Int.
8.60e6
4.30e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 3.27e3
0%
2378D
4.50e7*
28.38
1278D
4.13e6*
28.71
Abs. Int.
1.09e7
5.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.75e3
0%
CS 37Cl-2378D
1.42e7
28.38
Abs. Int.
3.37e6
1.69e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 9.46e3
0%
JS 1234D
1.51e7
27.70
ES 2378D
1.37e7
28.36
Abs. Int.
3.44e6
1.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.70e3
0%
JS 1234D
1.85e7
27.70
ES 2378D
1.60e7
28.36
Abs. Int.
4.31e6
2.15e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
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4σ 2.05e3
12479/12468D
2.63e5*
31.24
12469D
3.00e5*
31.77
12368D
1.06e5*
32.32
12478D
1.03e5*
32.52
12379D
8.05e4*
32.61
12369D...[3]
1.55e5*
32.88
12346/12347D
4.93e4*
33.25
12378D
4.91e5*
33.75
12367D
3.89e4*
33.84
12389D
6.70e4*
34.20
Abs. Int.
1.70e5
8.51e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PBM
4σ 2.59e3
12479/12468D
1.67e5*
31.23
RT
12469D
1.90e5*
31.77
12368D
6.64e4*
32.32
12478D
8.47e4*
32.51
12369D...[3]
1.07e5*
32.88
12346/12347D
2.74e4*
33.25
12378D
3.43e5*
33.75
12367D
2.01e4*
33.83
12389D
5.04e4*
34.19
Abs. Int.
9.79e4
4.90e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 2.79e3
CS 12347D
1.55e7
33.23
ES 12378D
1.75e7
33.73
Abs. Int.
4.83e6
2.41e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 2.35e3
CS 12347D
9.34e6
33.23
ES 12378D
1.08e7
33.73
Abs. Int.
3.18e6
1.59e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
Abs. Int.
8.11e6
4.05e6
0.00e0
0%
30.5
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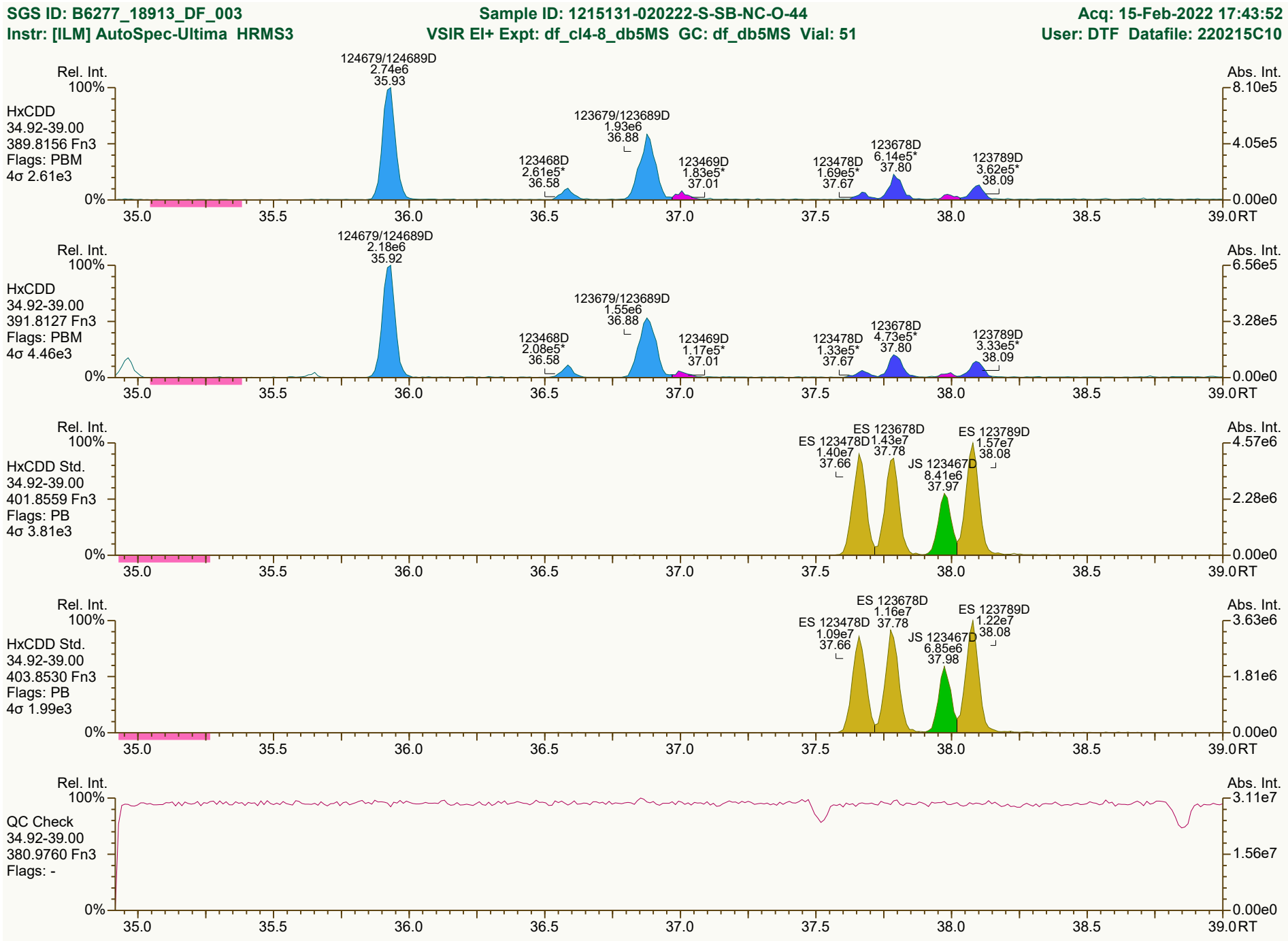
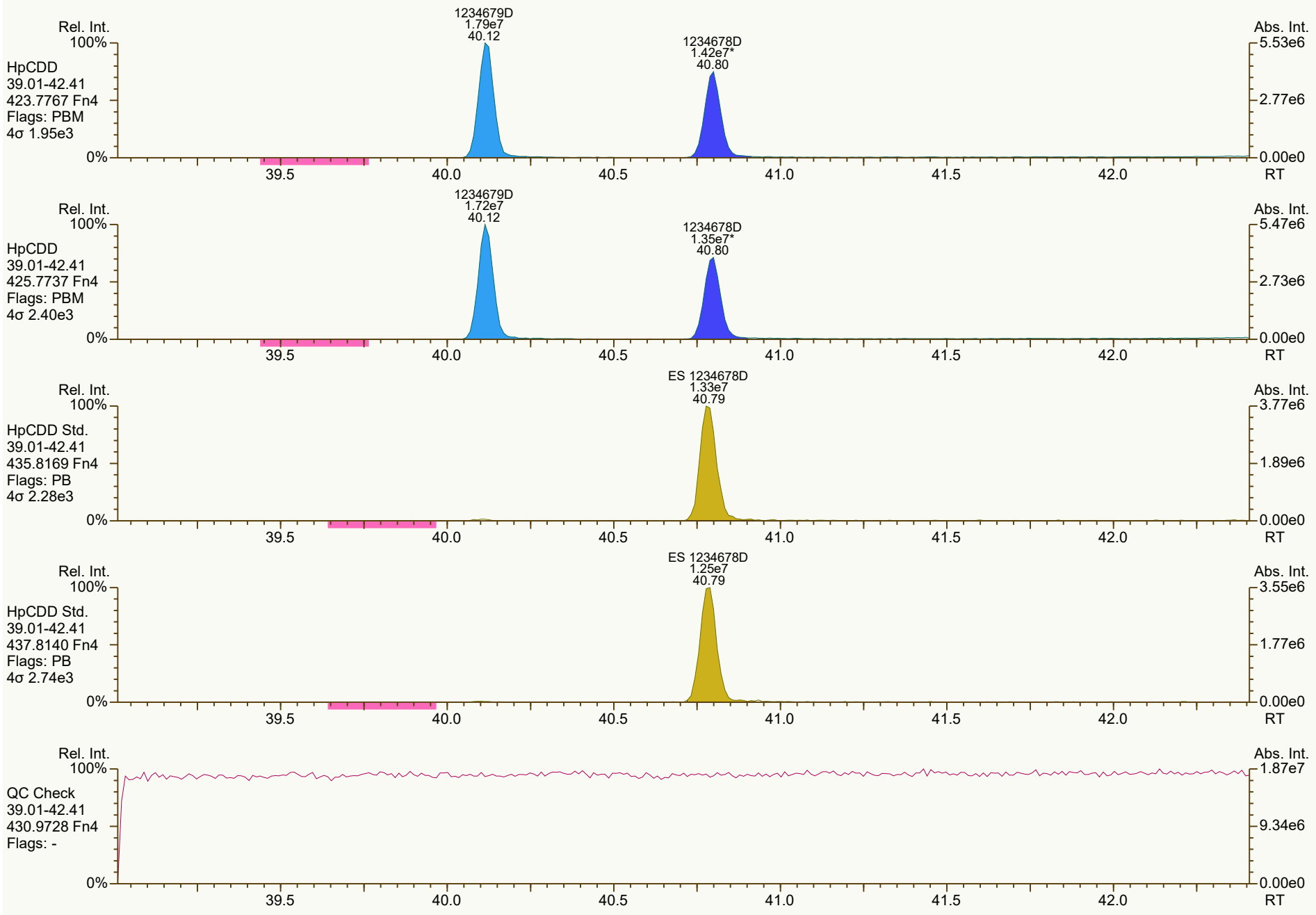
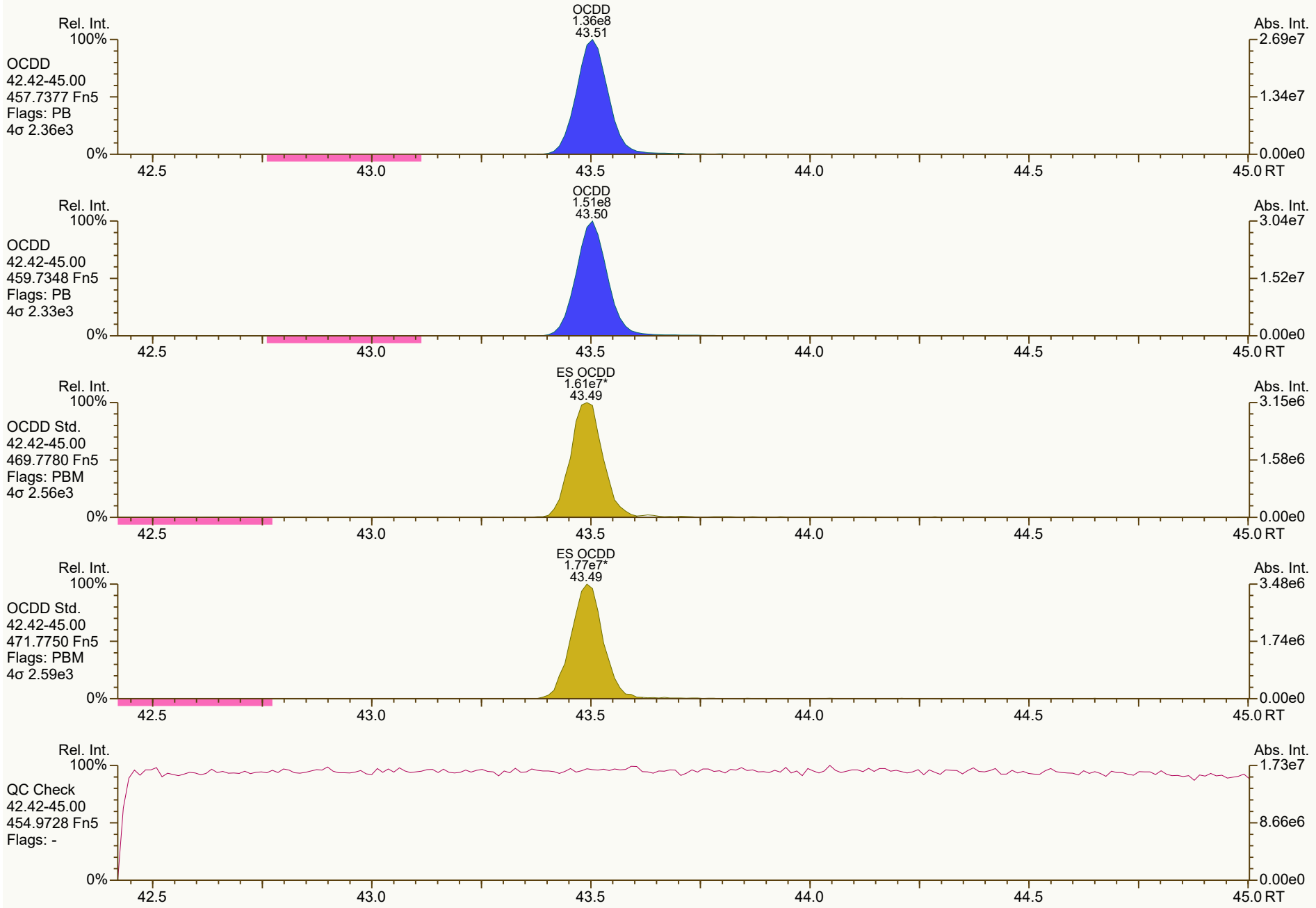
33.5
34.0
34.5
RT

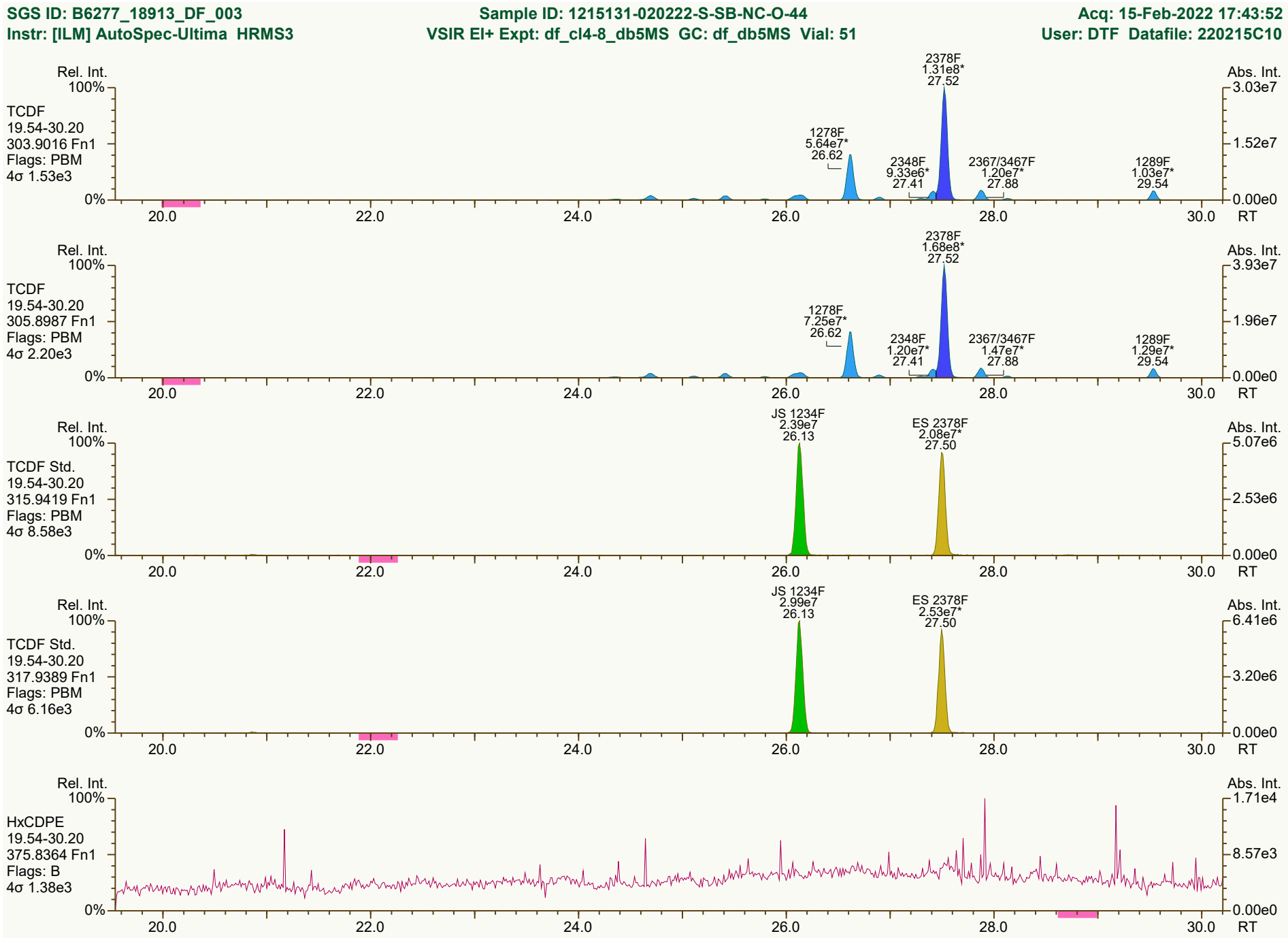


Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\B6277_18913_DF_003.utp_res, saved 16-Feb-2022 17:11 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7800, 9433 scc: 706-977
Revised: 16-Feb-2022 17:02 (DTF) Printed: 17-Feb-2022 13:48 Page 4 of 12


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 1.95e3
1234679D
1.79e7
40.12
1234678D
1.42e7*
40.80
Abs. Int.
5.53e6
2.77e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 2.40e3
1234679D
1.72e7
40.12
1234678D
1.35e7*
40.80
Abs. Int.
5.47e6
2.73e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.28e3
ES 1234678D
1.33e7
40.79
Abs. Int.
3.77e6
1.89e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 2.74e3
ES 1234678D
1.25e7
40.79
Abs. Int.
3.55e6
1.77e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
1.87e7
9.34e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 2.36e3
0%
OCDD
1.36e8
43.51
Abs. Int.
2.69e7
1.34e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 2.33e3
0%
OCDD
1.51e8
43.50
Abs. Int.
3.04e7
1.52e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 2.56e3
0%
ES OCDD
1.61e7*
43.49
Abs. Int.
3.15e6
1.58e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 2.59e3
0%
ES OCDD
1.77e7*
43.49
Abs. Int.
3.48e6
1.74e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.73e7
8.66e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: B6277_18913_DF_003 | Sample ID: 1215131-020222-S-SB-NC-O-44 | Acq: 15-Feb-2022 17:43:52
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 51 | User: DTF Datafile: 220215C10



Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\B6277_18913_DF_003.utp_res, saved 16-Feb-2022 17:11 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1799, 0357, 0372 scc: 706-977 | Revised: 16-Feb-2022 17:03 (DTF) Printed: 17-Feb-2022 13:48 Page 7 of 12

SGS ID: B6277_18913_DF_003 | Sample ID: 1215131-020222-S-SB-NC-O-44 | Acq: 15-Feb-2022 17:43:52

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 51 | User: DTF Datafile: 220215C10

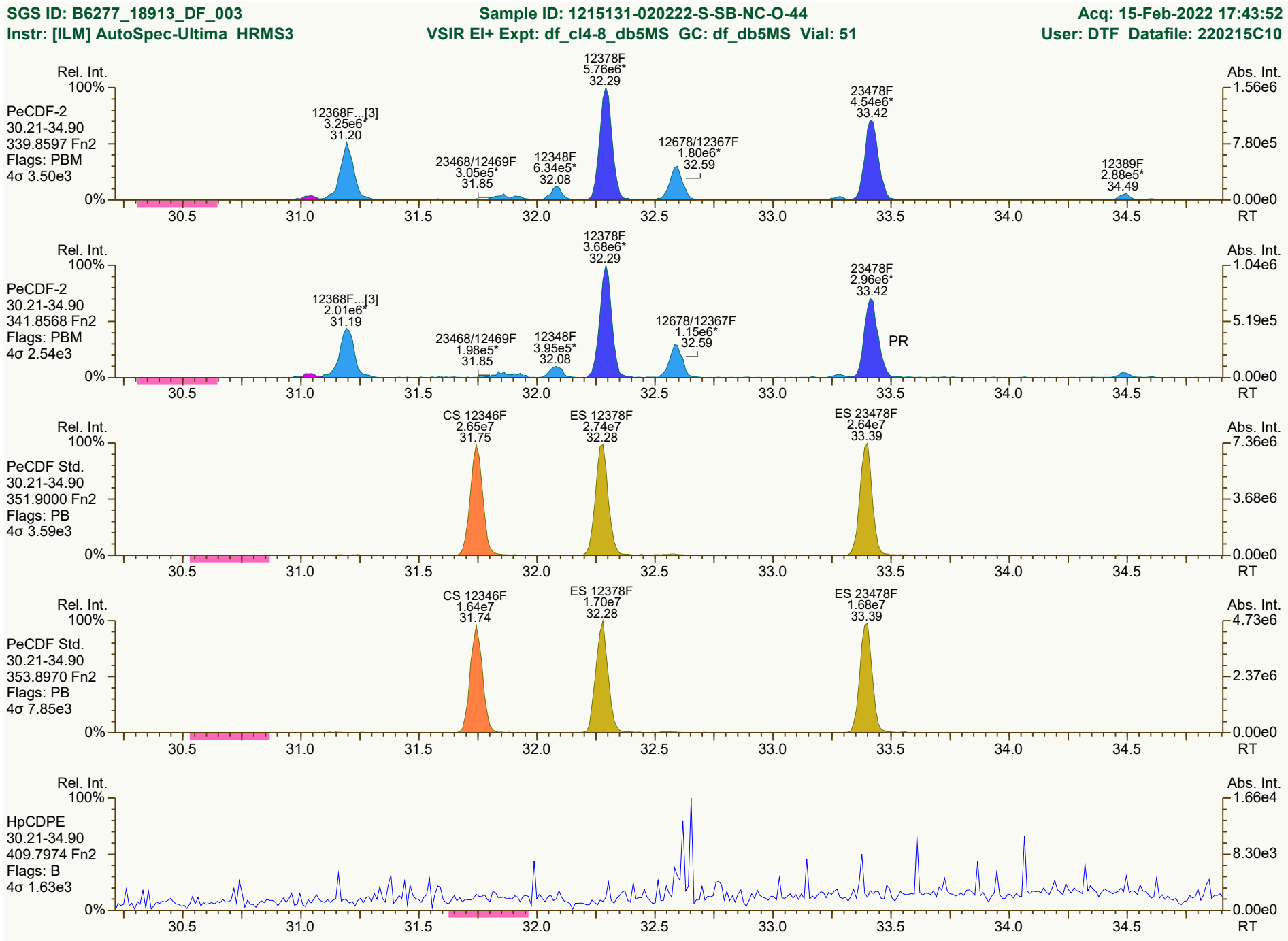


Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\B6277_18913_DF_003.utp_res, saved 16-Feb-2022 17:11 (DTF)

Peak annotation: Areas, Centroids

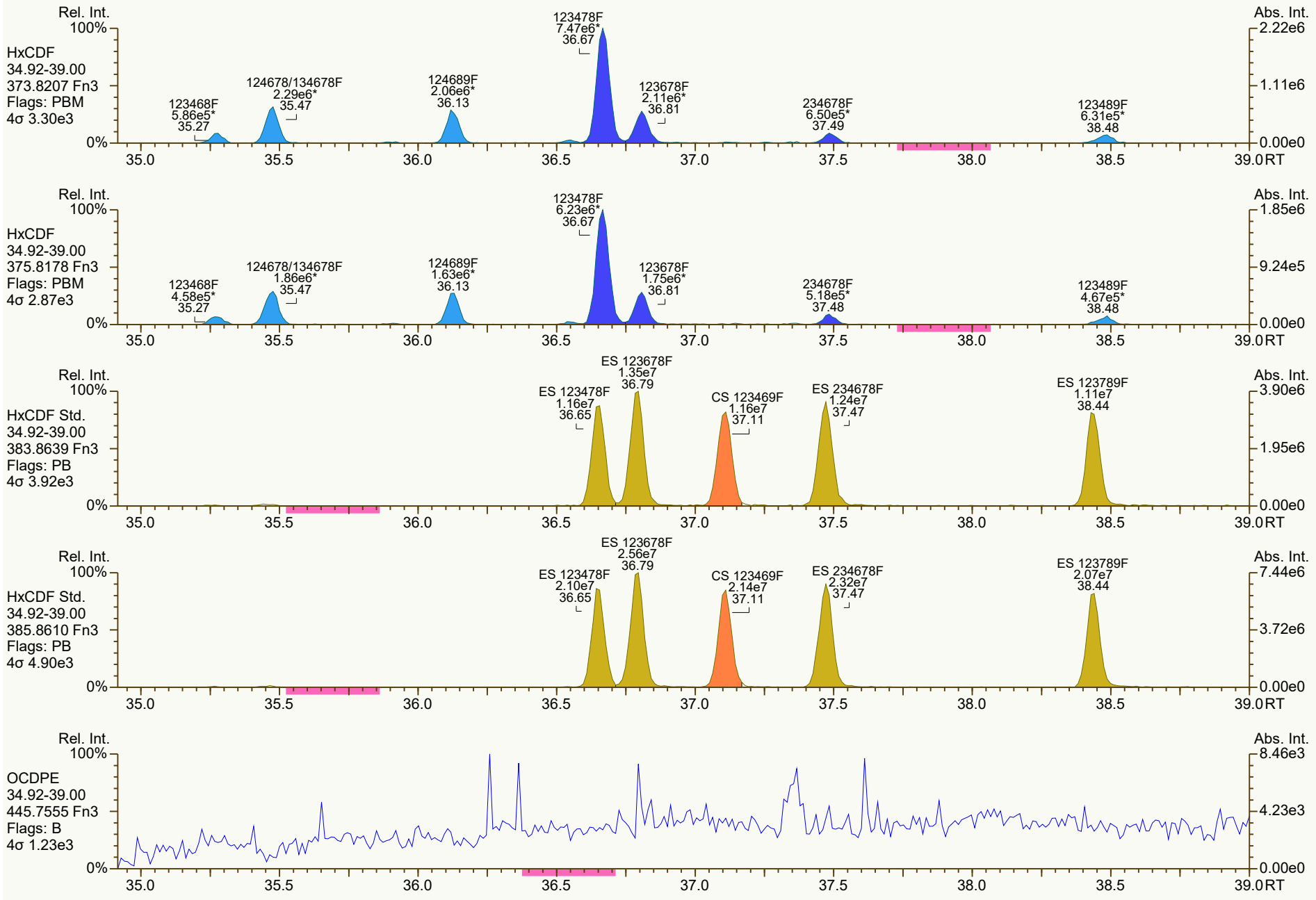
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4931 scc: 706-977

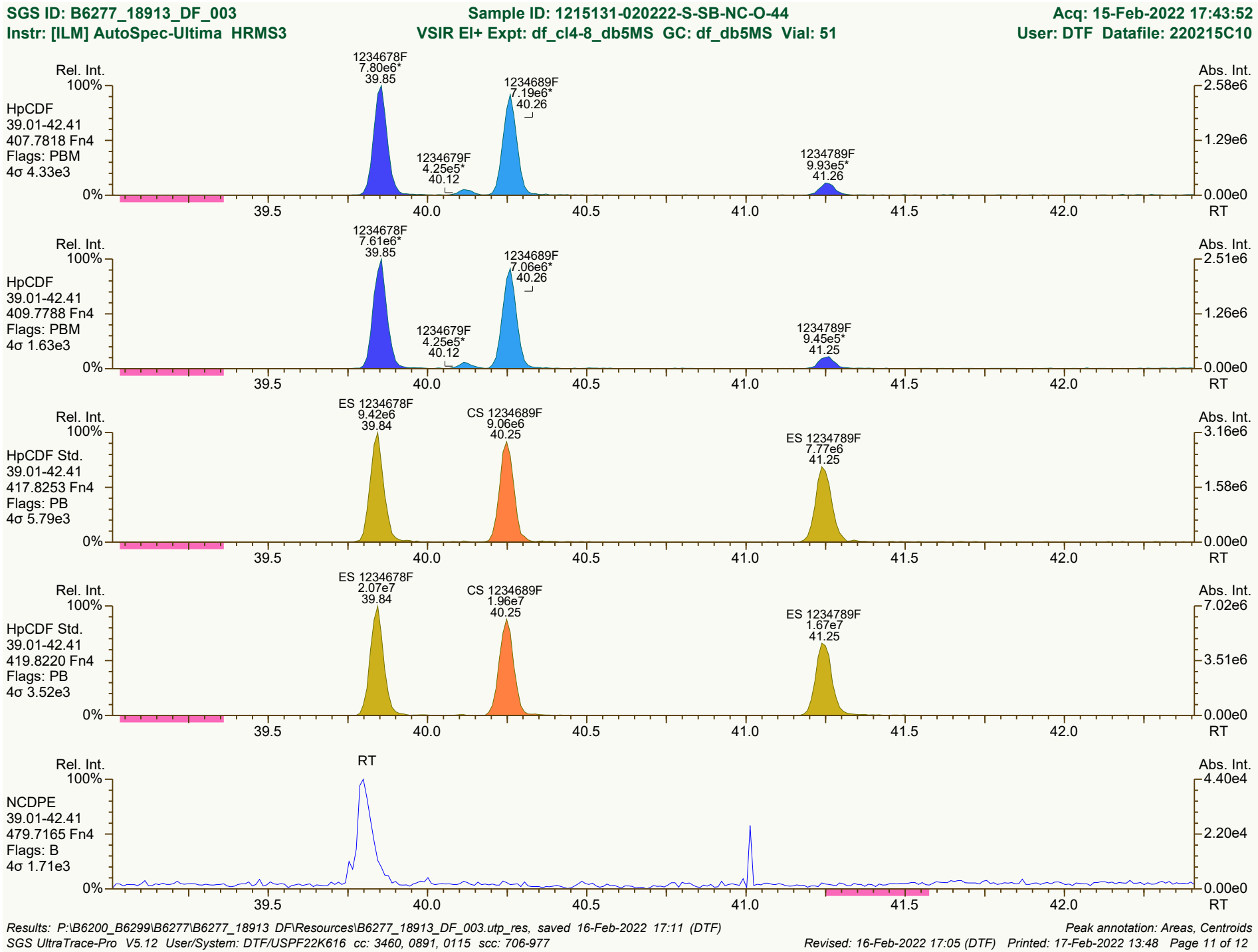
PKD: 16-Feb-2022 16:59 Printed: 17-Feb-2022 13:48 Page 8 of 12



Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\B6277_18913_DF_003.utp_res, saved 16-Feb-2022 17:11 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7367, 8508, 7386 scc: 706-977 *Revised: 16-Feb-2022 17:04 (DTF) Printed: 17-Feb-2022 13:48 Page 9 of 12*


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 3.30e3
123468F 5.86e5* 35.27
124678/134678F 2.29e6* 35.47
124689F 2.06e6* 36.13
123478F 7.47e6* 36.67
123678F 2.11e6* 36.81
234678F 6.50e5* 37.49
123489F 6.31e5* 38.48
Abs. Int.
2.22e6
1.11e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 2.87e3
123468F 4.58e5* 35.27
124678/134678F 1.86e6* 35.47
124689F 1.63e6* 36.13
123478F 6.23e6* 36.67
123678F 1.75e6* 36.81
234678F 5.18e5* 37.48
123489F 4.67e5* 38.48
Abs. Int.
1.85e6
9.24e5
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 3.92e3
ES 123478F 1.16e7 36.65
ES 123678F 1.35e7 36.79
CS 123469F 1.16e7 37.11
ES 234678F 1.24e7 37.47
ES 123789F 1.11e7 38.44
Abs. Int.
3.90e6
1.95e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 4.90e3
ES 123478F 2.10e7 36.65
ES 123678F 2.56e7 36.79
CS 123469F 2.14e7 37.11
ES 234678F 2.32e7 37.47
ES 123789F 2.07e7 38.44
Abs. Int.
7.44e6
3.72e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.23e3
Abs. Int.
8.46e3
4.23e3
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT


SGS ID: B6277_18913_DF_003
Sample ID: 1215131-020222-S-SB-NC-O-44
Acq: 15-Feb-2022 17:43:52
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 51
User: DTF Datafile: 220215C10
Rel. Int.
Abs. Int.
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 4.33e3
1234678F
7.80e6*
39.85
1234689F
7.19e6*
40.26
1234679F
4.25e5*
40.12
1234789F
9.93e5*
41.26
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 1.63e3
1234678F
7.61e6*
39.85
1234689F
7.06e6*
40.26
1234679F
4.25e5*
40.12
1234789F
9.45e5*
41.25
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 5.79e3
ES 1234678F
9.42e6
39.84
CS 1234689F
9.06e6
40.25
ES 1234789F
7.77e6
41.25
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 3.52e3
ES 1234678F
2.07e7
39.84
CS 1234689F
1.96e7
40.25
ES 1234789F
1.67e7
41.25
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.71e3
RT
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\B6277_18913_DF_003.utp_res, saved 16-Feb-2022 17:11 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3460, 0891, 0115 scc: 706-977
Revised: 16-Feb-2022 17:05 (DTF) Printed: 17-Feb-2022 13:48 Page 11 of 12


OCDF
2.32e7*
43.68
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.71e6
2.36e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.64e7*
43.68
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PBM
4σ 2.17e3
0%
Abs. Int.
5.33e6
2.66e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.17e7
43.67
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 3.01e3
0%
Abs. Int.
4.36e6
2.18e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.38e7
43.67
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 3.30e3
0%
Abs. Int.
4.99e6
2.49e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.54e3
0%
Abs. Int.
4.89e3
2.44e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6277_18913_DF_004 **Acq'd:** 15 Feb 2022 18:30 DTF **Wt/Vol:** 10.90 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 1215131-020222-S-SB-NC-B-13 **UTP:** 16-Feb-2022 17:11:03 DTF **J-level:** 0.459 pg/g **Split:** 1 **Checkcode:** 182-667-LYH

Datafile: 220215C11 **Report:** 17 Feb 2022 13:42 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.40		1.0008	1.0008	0	1.64E+08	0.80	Y	1.18	748	5302.428	0.252
12378-PeCDD	33.76		1.0006	1.0005	-0.2	1.71E+06	1.50	Y	1.04	9.25	5908.684	0.285
123478-HxCDD	37.68		1.0004	1.0004	0	5.51E+05	1.19	Y	1.09	3.19	11001.254	0.572
123678-HxCDD	37.80		1.0036	1.0036	0	2.23E+06	1.25	Y	1.15	12.6	11001.254	0.574
123789-HxCDD	38.10		1.0115	1.0115	0	1.26E+06	1.35	Y	1.05	7.04	11001.254	0.535
1234678-HpCDD	40.80		1.0003	1.0003	0	4.82E+07	1.05	Y	1.06	294	7521.699	0.39
OCDD	43.50		1.0003	1.0003	0	5.69E+08	0.91	Y	1.13	4,760	6010.179	0.661
2378-TCDF	27.54	E	1.0008	1.0008	0	6.86E+08	0.78	Y	1.08	2,110	5171.126	0.183
12378-PeCDF	32.31		1.0005	1.0005	0	1.86E+07	1.54	Y	1.02	66	10082.287	0.335
23478-PeCDF	33.43	PR	1.0006	1.0007	+0.2	1.61E+07	1.50	Y	1.02	59.7	10082.287	0.336
123478-HxCDF	36.67		1.0004	1.0005	+0.2	2.71E+07	1.25	Y	1.27	100	12012.11	0.351
123678-HxCDF	36.81		1.0004	1.0005	+0.2	7.37E+06	1.24	Y	1.15	27.1	12012.11	0.369
234678-HxCDF	37.49		1.0005	1.0004	-0.2	2.35E+06	1.20	Y	1.19	9.53	12012.11	0.42
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	12012.11	0.392
1234678-HpCDF	39.85		1.0003	1.0003	0	3.86E+07	1.03	Y	1.37	161	5333.635	0.16
1234789-HpCDF	41.26		1.0003	1.0003	0	4.70E+06	1.00	Y	1.31	23	5333.635	0.23
OCDF	43.69		1.0002	1.0003	+0.3	6.88E+08	0.89	Y	1.07	4,460	6243.796	0.515

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.38	1.0239	1.0239	0	3.40E+07	0.83	Y	1.05	82.8
ES 12378-PeCDD	33.74	1.2174	1.2172	-0.4	3.27E+07	1.57	Y	0.88	94.7
ES 123478-HxCDD	37.66	0.9917	0.9916	-0.2	2.91E+07	1.29	Y	0.97	80.4
ES 123678-HxCDD	37.79	0.9948	0.9948	0	2.83E+07	1.32	Y	0.94	80.4
ES 123789-HxCDD	38.08	1.0027	1.0026	-0.2	3.14E+07	1.30	Y	1.09	77.2
ES 1234678-HpCDD	40.79	1.0738	1.0739	+0.2	2.84E+07	1.09	Y	0.91	83.5
ES OCDD	43.49	1.1449	1.1450	+0.3	3.89E+07	0.92	Y	0.62	83.8
ES 2378-TCDF	27.52	1.0523	1.0523	0	5.53E+07	0.80	Y	1.06	81.8
ES 12378-PeCDF	32.29	1.2346	1.2347	+0.2	5.04E+07	1.60	Y	0.91	86.8
ES 23478-PeCDF	33.40	1.2774	1.2774	0	4.84E+07	1.58	Y	0.88	85.9
ES 123478-HxCDF	36.66	0.9651	0.9651	0	3.91E+07	0.54	Y	1.20	87.6
ES 123678-HxCDF	36.80	0.9688	0.9688	0	4.33E+07	0.53	Y	1.35	86
ES 234678-HxCDF	37.48	0.9867	0.9867	0	3.82E+07	0.55	Y	1.24	82.5
ES 123789-HxCDF	38.44	1.0121	1.0121	0	3.77E+07	0.53	Y	1.16	87.7
ES 1234678-HpCDF	39.84	1.0491	1.0490	-0.2	3.22E+07	0.46	Y	0.97	89.3
ES 1234789-HpCDF	41.25	1.0858	1.0859	+0.2	2.87E+07	0.46	Y	0.85	90.5
ES OCDF	43.67	1.1495	1.1498	+0.8	5.28E+07	0.89	Y	0.81	87.8

Lab ID: B6277_18913_DF_004 **Acq'd:** 15 Feb 2022 18:30 DTF **Wt/Vol:** 10.90 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 1215131-020222-S-SB-NC-B-13 **UTP:** 16-Feb-2022 17:11:03 DTF **J-level:** 0.459 pg/g **Split:** 1 **Checkcode:** 182-667-LYH

Datafile: 220215C11 **Report:** 17 Feb 2022 13:42 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.72		-	-	-	3.93E+07	0.81	Y	-	-
JS 1234-TCDF	26.15		-	-	-	6.38E+07	0.81	Y	-	-
JS 123467-HxCDD	37.98		-	-	-	1.86E+07	1.25	Y	-	-
CS 37Cl-2378-TCDD	28.40		1.0247	1.0247	0	1.49E+07	n/a	-	1.20	79.1
CS 12347-PeCDD	33.24		1.1993	1.1991	-0.4	2.77E+07	1.59	Y	0.75	93.6
CS 12346-PeCDF	31.76		1.2144	1.2144	0	4.67E+07	1.59	Y	0.85	86.1
CS 123469-HxCDF	37.11		0.9772	0.9771	-0.2	3.76E+07	0.54	Y	1.12	90.3
CS 1234689-HpCDF	40.25		1.0597	1.0598	+0.2	3.08E+07	0.45	Y	0.89	93.3
~~SS 37Cl-2378-TCDD~~	~~28.40~~		~~1.0247~~	~~1.0247~~	~~0~~	~~1.49E+07~~	~~n/a~~		~~1.15~~	~~95.8~~
~~SS 12347-PeCDD~~	~~33.24~~		~~1.1993~~	~~1.1991~~	~~-0.4~~	~~2.77E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~98.7~~
~~SS 12346-PeCDF~~	~~31.76~~		~~1.2144~~	~~1.2144~~	~~0~~	~~4.67E+07~~	~~1.59~~	~~Y~~	~~0.94~~	~~99~~
~~SS 123469-HxCDF~~	~~37.11~~		~~0.9772~~	~~0.9771~~	~~-0.2~~	~~3.76E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~105~~
~~SS 1234689-Hp~~CDF	40.25		1.0597	1.0598	+0.2	3.08E+07	0.45	Y	0.92	104

Totals	Conc		EMPC
Total TCDD	857		858
Total PeCDD	35.3		35.3
Total HxCDD	126		127
Total HpCDD	661		661
Total Tetra-Octa Dioxins	6430		6440
Total TCDF	4,190		4190
Total PeCDF	251	DPE	254
Total HxCDF	239		239
Total HpCDF	324		324
Total Tetra-Octa Furans	9,470		9470
Total Tetra-Octa Dioxins & Furans	15900		15900

Lab ID: B6277_18913_DF_004 **Acq'd: 15 Feb 2022 18:30 DTF** **Wt/Vol: 10.90 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 1215131-020222-S-SB-NC-B-13 **UTP: 16-Feb-2022 17:11:03 DTF** **J-level: 0.459 pg/g** **Split: 1** **Checkcode: 182-667-LYH**

Datafile: 220215C11 **Report: 17 Feb 2022 13:42 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.74		0.8719	0.8719	0	1.33E+06	0.80	Y	1.18	6.06	5302.428	0.252
1379-TCDD	25.10		0.8845	0.8846	+0.2	4.00E+05	0.82	Y	1.18	1.82	5302.428	0.252
1369-TCDD	25.53		0.8996	0.8997	+0.2	1.61E+05	0.76	Y	1.18	0.733	5302.428	0.252
1469-TCDD	26.31		0.9271	0.9272	+0.2	1.04E+06	0.72	Y	1.18	4.73	5302.428	0.252
1247/1246/1248/1249-TCDD	26.55		0.9357	0.9355	-0.3	5.53E+05	0.85	Y	1.18	2.52	5302.428	0.252
1378-TCDD	26.75		0.9425	0.9424	-0.2	7.23E+05	0.83	Y	1.18	3.29	5302.428	0.252
1268-TCDD	26.93		0.9494	0.9490	-0.6	1.07E+05	0.71	Y	1.18	0.487	5302.428	0.252
1478-TCDD	27.19		0.9581	0.9581	0	5.08E+05	0.72	Y	1.18	2.32	5302.428	0.252
1279-TCDD	27.36	EMPC	0.9640	0.9641	+0.2	1.34E+05	1.04	N	1.18	0.609	5302.428	0.252
1234/1269-TCDD	27.71		0.9765	0.9763	-0.3	3.43E+05	0.74	Y	1.18	1.56	5302.428	0.252
1236-TCDD	NotFnd		0.9816						1.18		5302.428	0.252
1237/1238-TCDD	28.11		0.9906	0.9906	0	2.74E+06	0.79	Y	1.18	12.5	5302.428	0.252
1239-TCDD	NotFnd		0.9952						1.18		5302.428	0.252
2378-TCDD	**28.40**		**1.0008**	1.0008	**0**	1.64E+08	0.80	Y	**1.18**	**748**	**5302.428**	**0.252**
1278-TCDD	28.73		1.0123	1.0123	0	1.56E+07	0.82	Y	1.18	71	5302.428	0.252
1267-TCDD	NotFnd		1.0170						1.18		5302.428	0.252
1289-TCDD	29.37		1.0351	1.0350	-0.2	3.83E+05	0.79	Y	1.18	1.75	5302.428	0.252
12479/12468-PeCDD	31.25		0.9261	0.9262	+0.2	1.27E+06	1.54	Y	1.04	6.88	5908.684	0.285
12469-PeCDD	31.79		0.9420	0.9422	+0.4	8.03E+05	1.43	Y	1.04	4.35	5908.684	0.285
12368-PeCDD	32.34		0.9584	0.9585	+0.2	7.53E+05	1.39	Y	1.04	4.08	5908.684	0.285
12478-PeCDD	32.53		0.9641	0.9643	+0.4	4.99E+05	1.50	Y	1.04	2.7	5908.684	0.285
12379-PeCDD	32.63	J	0.9670	0.9671	+0.2	3.33E+05	1.62	Y	1.04	1.8	5908.684	0.285
12369/12467/12489-PeCDD	32.89		0.9747	0.9750	+0.6	7.15E+05	1.35	Y	1.04	3.87	5908.684	0.285
12346/12347-PeCDD	33.26	J	0.9857	0.9859	+0.4	1.34E+05	1.40	Y	1.04	0.726	5908.684	0.285
12378-PeCDD	33.76		**1.0006**	**1.0005**	**-0.2**	**1.71E+06**	**1.50**	**Y**	**1.04**	**9.25**	**5908.684**	**0.285**
12367-PeCDD	33.85	J	1.0034	1.0034	0	1.33E+05	1.46	Y	1.04	0.721	5908.684	0.285
12389-PeCDD	34.20	J	1.0136	1.0138	+0.4	1.68E+05	1.71	Y	1.04	0.908	5908.684	0.285
124679/124689-HxCDD	35.93		0.9540	0.9540	0	9.53E+06	1.28	Y	1.10	54	11001.254	0.559
123468-HxCDD	36.59		0.9714	0.9714	0	1.28E+06	1.23	Y	1.10	7.24	11001.254	0.559
123679/123689-HxCDD	36.88		0.9792	0.9793	+0.2	6.91E+06	1.28	Y	1.10	39.2	11001.254	0.559
123469-HxCDD	37.01	J	0.9828	0.9827	-0.2	4.02E+05	1.20	Y	1.10	2.28	11001.254	0.559
123478-HxCDD	37.68		**1.0004**	**1.0004**	**0**	**5.51E+05**	**1.19**	**Y**	1.09	**3.19**	**11001.254**	**0.572**
123678-HxCDD	37.80		**1.0036**	**1.0036**	**0**	**2.23E+06**	**1.25**	**Y**	1.15	**12.6**	**11001.254**	**0.574**
123467-HxCDD	38.00	J EMPC	1.0087	1.0089	+0.5	3.43E+05	1.60	N	1.10	1.94	11001.254	0.559
123789-HxCDD	38.10		**1.0115**	**1.0115**	**0**	**1.26E+06**	**1.35**	**Y**	1.05	**7.04**	**11001.254**	**0.535**

Lab ID: B6277_18913_DF_004 **Acq'd: 15 Feb 2022 18:30 DTF** **Wt/Vol: 10.90 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 1215131-020222-S-SB-NC-B-13 **UTP: 16-Feb-2022 17:11:03 DTF** **J-level: 0.459 pg/g** **Split: 1** **Checkcode: 182-667-LYH**

Datafile: 220215C11 **Report: 17 Feb 2022 13:42 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

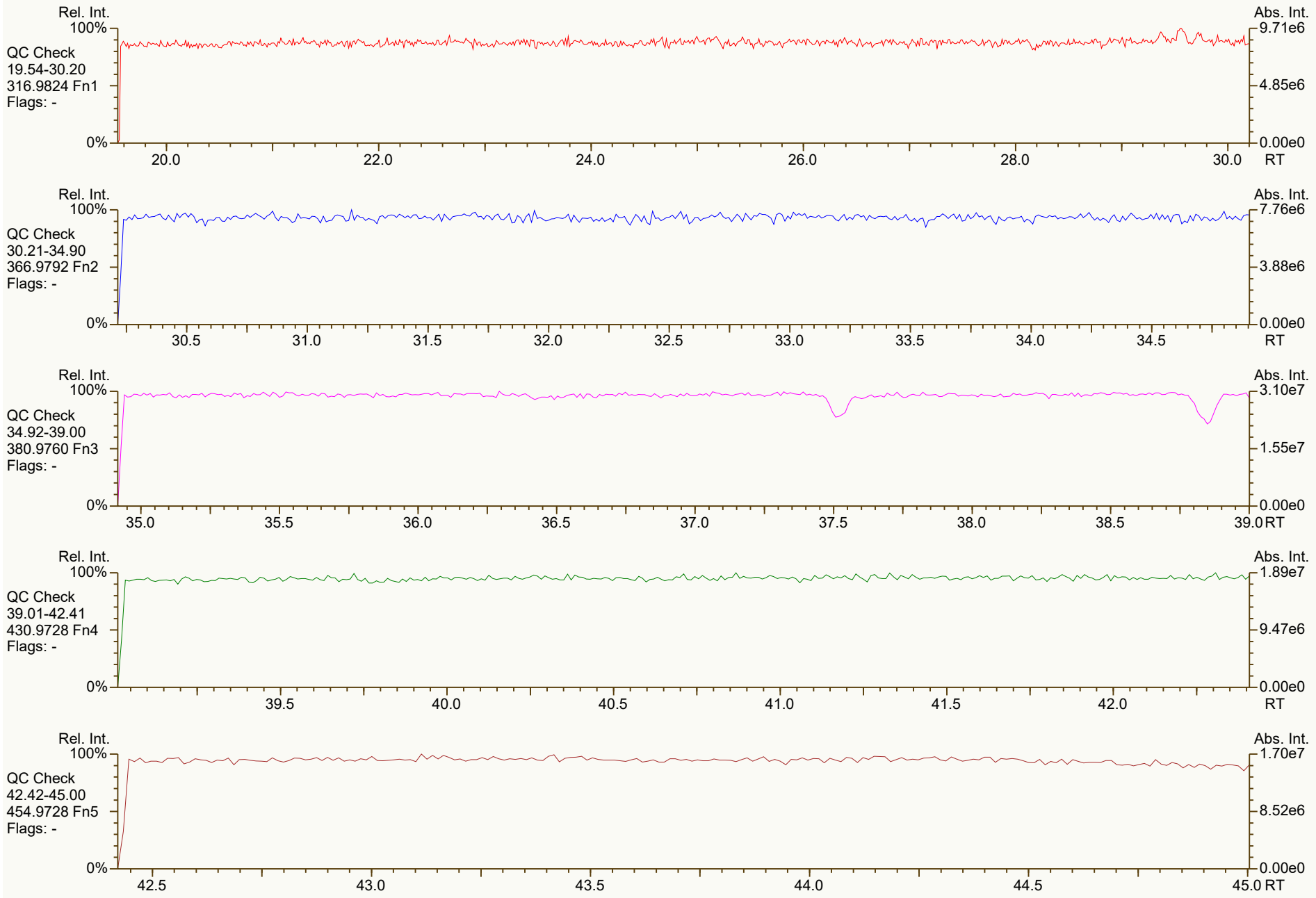
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.12		0.9836	0.9836	0	6.01E+07	1.03	Y	1.06	367	7521.699	0.39
1234678-HpCDD	**40.80**		**1.0003**	**1.0003**	**0**	**4.82E+07**	**1.05**	**Y**	**1.06**	**294**	**7521.699**	**0.39**
OCDD	**43.50**		**1.0003**	**1.0003**	**0**	**5.69E+08**	**0.91**	**Y**	**1.13**	**4,760**	**6010.179**	**0.661**
OCDD-a	43.50		1.0002	1.0002	0	3.40E+07	2.35	Y	0.07	4,450	6335.253	10.9
1368-TCDF	22.63		0.8222	0.8223	+0.1	4.73E+05	0.84	Y	1.08	1.45	5171.126	0.183
1468-TCDF	23.21		0.8434	0.8434	0	1.87E+06	0.84	Y	1.08	5.76	5171.126	0.183
2468-TCDF	23.85		0.8666	0.8667	+0.1	3.73E+06	0.82	Y	1.08	11.5	5171.126	0.183
1346/1246-TCDF	NotFnd		0.8789						1.08		5171.126	0.183
1347/1378/1247-TCDF	24.37		0.8848	0.8856	+1.2	9.30E+06	0.78	Y	1.08	28.6	5171.126	0.183
1348-TCDF	NotFnd		0.8947						1.08		5171.126	0.183
1248/1367/1379-TCDF	24.72		0.8995	0.8981	-2.1	3.68E+07	0.80	Y	1.08	113	5171.126	0.183
1268-TCDF	25.13		0.9131	0.9134	+0.5	1.35E+07	0.78	Y	1.08	41.4	5171.126	0.183
1467-TCDF	25.27		0.9181	0.9183	+0.3	1.92E+06	0.82	Y	1.08	5.9	5171.126	0.183
1478-TCDF	25.44		0.9244	0.9244	0	3.01E+07	0.79	Y	1.08	92.6	5171.126	0.183
1369/1237-TCDF	25.82		0.9379	0.9383	+0.6	8.21E+06	0.78	Y	1.08	25.3	5171.126	0.183
2467-TCDF	25.95		0.9425	0.9429	+0.6	7.89E+05	0.79	Y	1.08	2.43	5171.126	0.183
2368-TCDF	26.14		0.9483	0.9499	+2.5	5.64E+07	0.78	Y	1.08	174	5171.126	0.183
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9514						1.08		5171.126	0.183
1278-TCDF	26.64	E	0.9681	0.9679	-0.3	3.16E+08	0.78	Y	1.08	972	5171.126	0.183
1349-TCDF	NotFnd		0.9722						1.08		5171.126	0.183
1267-TCDF	26.91		0.9780	0.9779	-0.2	1.78E+07	0.79	Y	1.08	54.8	5171.126	0.183
2346/1249-TCDF	27.10		0.9845	0.9850	+0.8	2.20E+06	0.74	Y	1.08	6.76	5171.126	0.183
2347/1279-TCDF	27.31		0.9927	0.9923	-0.7	7.51E+06	0.76	Y	1.08	23.1	5171.126	0.183
2348-TCDF	27.42		0.9970	0.9964	-1.0	4.81E+07	0.78	Y	1.08	148	5171.126	0.183
2378-TCDF	**27.54**	E	**1.0008**	**1.0008**	**0**	**6.86E+08**	**0.78**	**Y**	**1.08**	**2,110**	**5171.126**	**0.183**
2367/3467-TCDF	27.89		1.0140	1.0137	-0.5	5.59E+07	0.78	Y	1.08	172	5171.126	0.183
1269-TCDF	28.15		1.0226	1.0230	+0.7	1.09E+07	0.80	Y	1.08	33.5	5171.126	0.183
1239-TCDF	28.41		1.0325	1.0325	0	9.30E+05	0.76	Y	1.08	2.86	5171.126	0.183
1289-TCDF	29.56		1.0732	1.0740	+1.4	5.49E+07	0.80	Y	1.08	169	5171.126	0.183
13468/12468-PeCDF	29.50		0.9130	0.9137	+1.2	7.19E+06	1.57	Y	1.02	26.1	4478.123	0.149
13678/13467/12467-PeCDF	31.05		0.9610	0.9616	+1.1	1.06E+06	1.62	Y	1.02	3.85	10082.287	0.336
12368/13478/12478-PeCDF	31.21		0.9658	0.9666	+1.5	1.28E+07	1.55	Y	1.02	46.5	10082.287	0.336
14678-PeCDF	NotFnd		0.9688						1.02		10082.287	0.336
13479-PeCDF	NotFnd		0.9719						1.02		10082.287	0.336
13469/12479-PeCDF	31.59	J	0.9797	0.9785	-2.3	3.95E+05	1.49	Y	1.02	1.44	10082.287	0.336
12346-PeCDF	NotFnd		0.9841						1.02		10082.287	0.336

Lab ID: B6277_18913_DF_004 **Acq'd: 15 Feb 2022 18:30 DTF** **Wt/Vol: 10.90 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 1215131-020222-S-SB-NC-B-13 **UTP: 16-Feb-2022 17:11:03 DTF** **J-level: 0.459 pg/g** **Split: 1** **Checkcode: 182-667-LYH**

Datafile: 220215C11 **Report: 17 Feb 2022 13:42 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.85		0.9867	0.9866	-0.2	2.05E+06	1.64	Y	1.02	7.45	10082.287	0.336
12347-PeCDF	31.94		0.9892	0.9891	-0.2	7.06E+05	1.53	Y	1.02	2.56	10082.287	0.336
12348-PeCDF	32.10		0.9940	0.9940	0	2.46E+06	1.62	Y	1.02	8.93	10082.287	0.336
12378-PeCDF	**32.31**		**1.0005**	**1.0005**	**0**	**1.86E+07**	**1.54**	**Y**	**1.02**	**66**	**10082.287**	**0.335**
12678/12367-PeCDF	32.60	DPE	1.0091	1.0098	+1.4	7.23E+06	1.52	Y	1.02	26.3	10082.287	0.336
12379-PeCDF	NotFnd		1.0144						1.02		10082.287	0.336
12679-PeCDF	NotFnd		0.9928						1.02		10082.287	0.336
23467/12369-PeCDF	33.29	J	0.9966	0.9966	0	5.16E+05	1.69	Y	1.02	1.87	10082.287	0.336
23478-PeCDF	**33.43**		**1.0006**	**1.0007**	**+0.2**	**1.61E+07**	**1.50**	**Y**	**1.02**	**59.7**	**10082.287**	**0.336**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		10082.287	0.336
12349-PeCDF	NotFnd		1.0101						1.02		10082.287	0.336
12389-PeCDF	34.50	EMPC	1.0327	1.0327	0	9.86E+05	1.32	N	1.02	3.58	10082.287	0.336
123468-HxCDF	35.28		0.9624	0.9625	+0.2	2.71E+06	1.24	Y	1.19	10.5	12012.11	0.382
124678/134678-HxCDF	35.48		0.9679	0.9679	0	9.73E+06	1.25	Y	1.19	37.8	12012.11	0.382
134679-HxCDF	NotFnd		0.9741						1.19		12012.11	0.382
124679-HxCDF	35.91	J	0.9796	0.9796	0	4.87E+05	1.19	Y	1.19	1.89	12012.11	0.382
124689-HxCDF	36.13		0.9856	0.9857	+0.2	9.64E+06	1.25	Y	1.19	37.4	12012.11	0.382
123467-HxCDF	36.55		0.9972	0.9971	-0.2	7.95E+05	1.26	Y	1.19	3.09	12012.11	0.382
123478-HxCDF	**36.67**		**1.0004**	**1.0005**	**+0.2**	**2.71E+07**	**1.25**	**Y**	**1.27**	**100**	**12012.11**	**0.351**
123678-HxCDF	**36.81**		**1.0004**	**1.0005**	**+0.2**	**7.37E+06**	**1.24**	**Y**	**1.15**	**27.1**	**12012.11**	**0.369**
123479-HxCDF	NotFnd		1.0049						1.19		12012.11	0.382
123469-HxCDF	37.13	J	1.0090	1.0090	0	5.86E+05	1.36	Y	1.19	2.28	12012.11	0.382
123679-HxCDF	NotFnd		0.9942						1.19		12012.11	0.382
234678-HxCDF	**37.49**		**1.0005**	**1.0004**	**-0.2**	**2.35E+06**	**1.20**	**Y**	**1.19**	**9.53**	**12012.11**	**0.42**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		12012.11	0.382
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**12012.11**	**0.392**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.48		1.0007	1.0011	+0.9	2.40E+06	1.19	Y	1.19	9.33	12012.11	0.382
1234678-HpCDF	**39.85**		**1.0003**	**1.0003**	**0**	**3.86E+07**	**1.03**	**Y**	**1.37**	**161**	**5333.635**	**0.16**
1234679-HpCDF	40.12		1.0069	1.0069	0	1.96E+06	0.98	Y	1.34	8.84	5333.635	0.193
1234689-HpCDF	40.26		1.0104	1.0106	+0.5	2.92E+07	1.04	Y	1.34	132	5333.635	0.193
1234789-HpCDF	**41.26**		**1.0003**	**1.0003**	**0**	**4.70E+06**	**1.00**	**Y**	**1.31**	**23**	**5333.635**	**0.23**
OCDF	**43.69**		**1.0002**	**1.0003**	**+0.3**	**6.88E+08**	**0.89**	**Y**	**1.07**	**4,460**	**6243.796**	**0.515**
OCDF-a	43.68		1.0002	1.0002	0	4.36E+07	2.42	Y	0.07	4,560	8716.072	11.6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20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.76e6
3.88e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.10e7
1.55e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.89e7
9.47e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
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43.5
44.0
44.5
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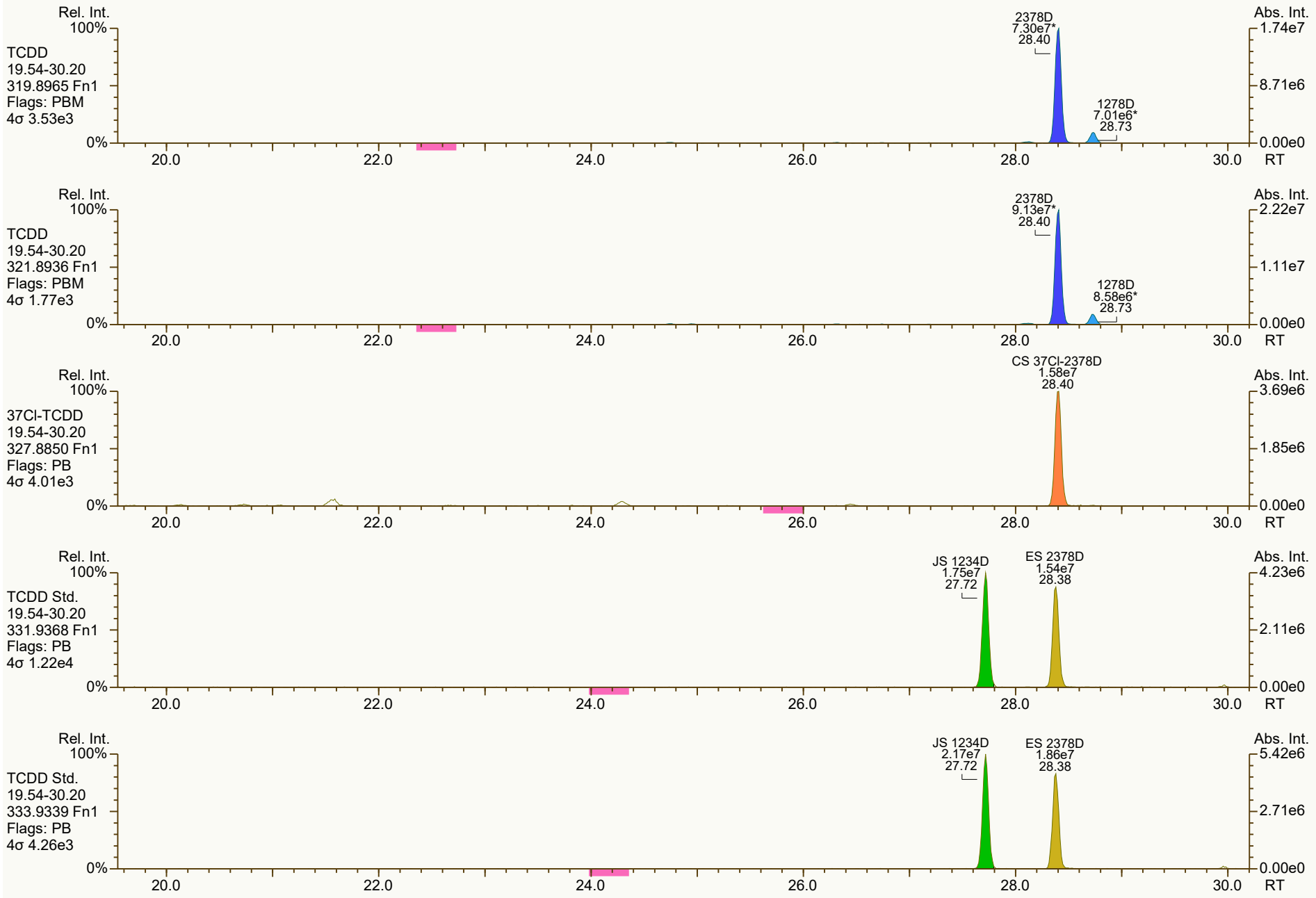
RT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TCDD
19.54-30.20
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2378D
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28.40
1278D
7.01e6*
28.73
Abs. Int.
1.74e7
8.71e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.77e3
0%
2378D
9.13e7*
28.40
1278D
8.58e6*
28.73
Abs. Int.
2.22e7
1.11e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 4.01e3
0%
CS 37Cl-2378D
1.58e7
28.40
Abs. Int.
3.69e6
1.85e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 1.22e4
0%
JS 1234D
1.75e7
27.72
ES 2378D
1.54e7
28.38
Abs. Int.
4.23e6
2.11e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.26e3
0%
JS 1234D
2.17e7
27.72
ES 2378D
1.86e7
28.38
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24.0
26.0
28.0
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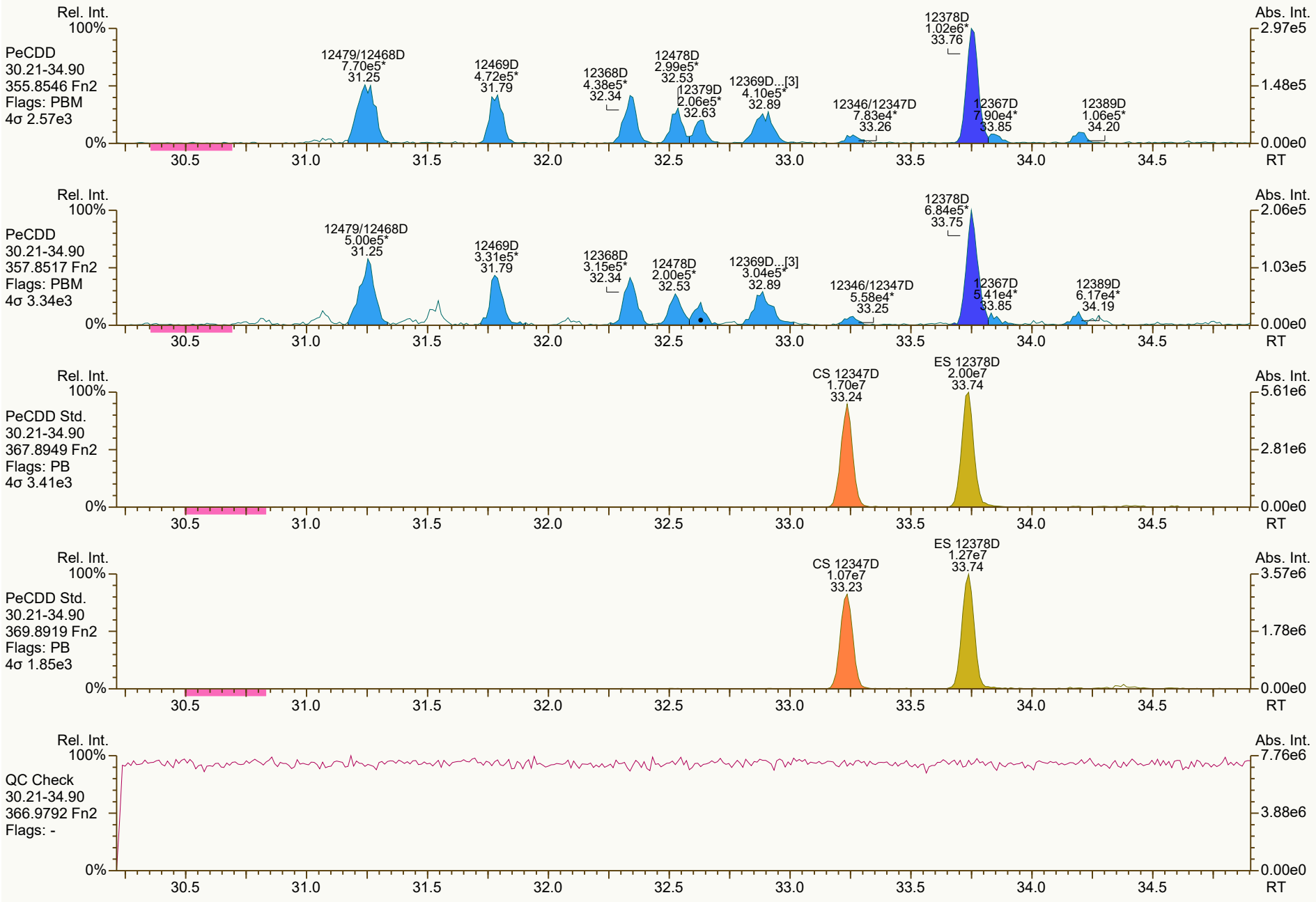
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355.8546 Fn2
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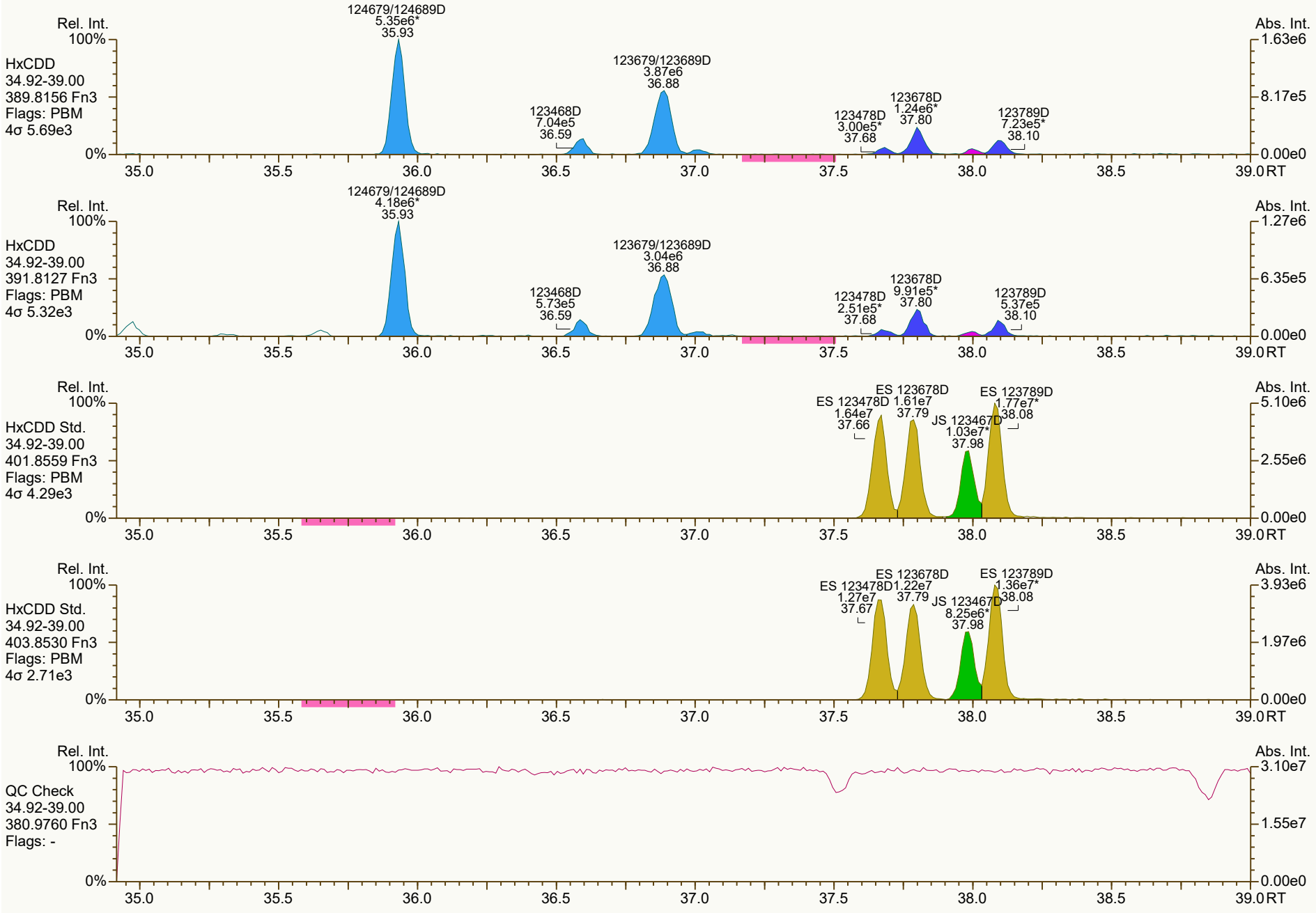
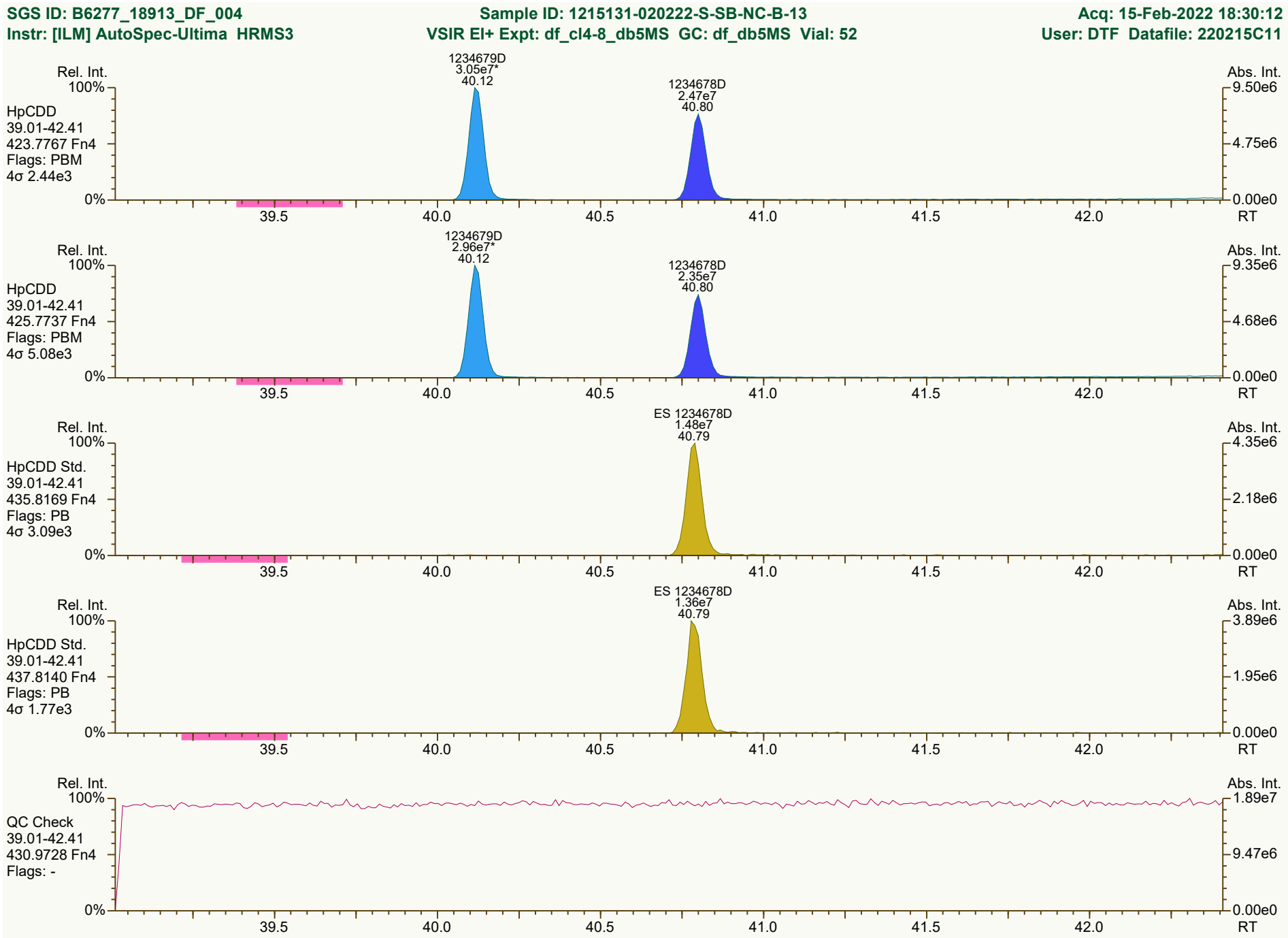
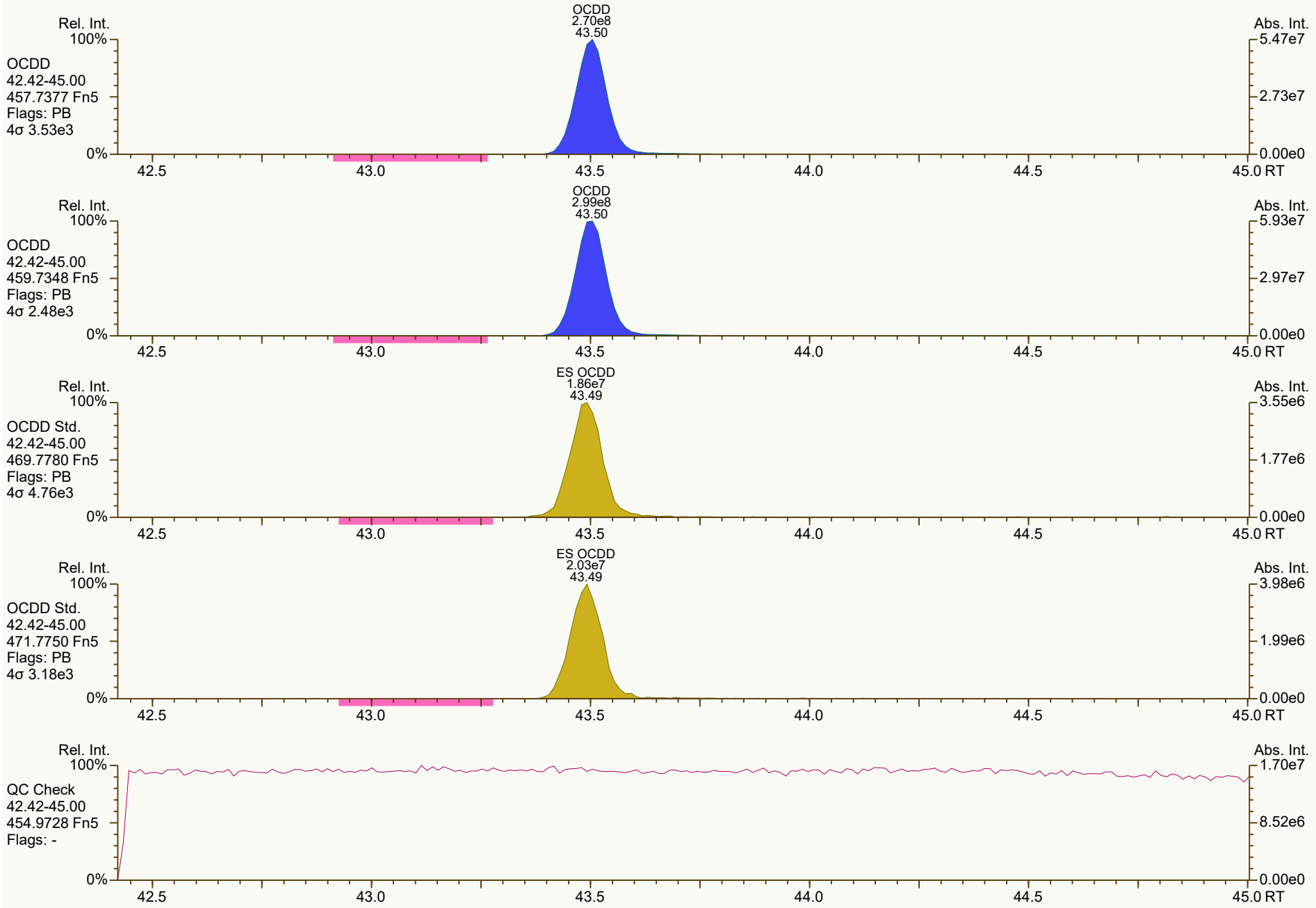
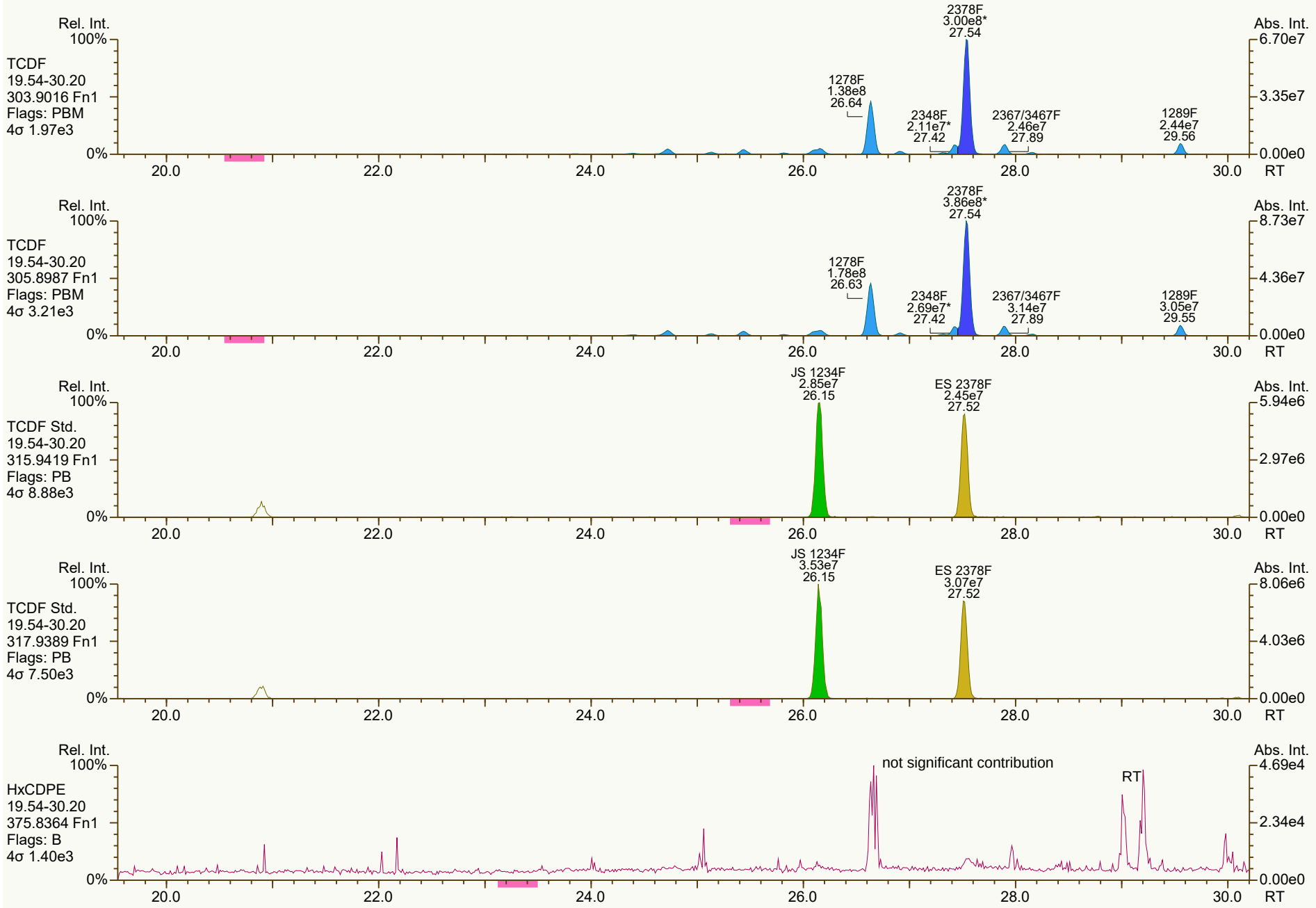
12469D 4.72e5* 31.79
12368D 4.38e5* 32.34
12478D 2.99e5* 32.53
12379D 2.06e5* 32.63
12369D...[3] 4.10e5* 32.89
12346/12347D 7.83e4* 33.26
12378D 1.02e6* 33.76
12367D 7.90e4* 33.85
12389D 1.06e5* 34.20
Abs. Int.
2.97e5
1.48e5
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PBM
4σ 3.34e3
12479/12468D 5.00e5* 31.25
12469D 3.31e5* 31.79
12368D 3.15e5* 32.34
12478D 2.00e5* 32.53
12369D...[3] 3.04e5* 32.89
12346/12347D 5.58e4* 33.25
12378D 6.84e5* 33.75
12367D 5.41e4* 33.85
12389D 6.17e4* 34.19
Abs. Int.
2.06e5
1.03e5
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 3.41e3
CS 12347D 1.70e7 33.24
ES 12378D 2.00e7 33.74
Abs. Int.
5.61e6
2.81e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.85e3
CS 12347D 1.07e7 33.23
ES 12378D 1.27e7 33.74
Abs. Int.
3.57e6
1.78e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
Abs. Int.
7.76e6
3.88e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 5.69e3
0%
124679/124689D
5.35e6*
35.93
123679/123689D
3.87e6
36.88
123468D
7.04e5
36.59
123478D
3.00e5*
37.68
123678D
1.24e6*
37.80
123789D
7.23e5*
38.10
Abs. Int.
1.63e6
8.17e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 5.32e3
0%
124679/124689D
4.18e6*
35.93
123679/123689D
3.04e6
36.88
123468D
5.73e5
36.59
123478D
2.51e5*
37.68
123678D
9.91e5*
37.80
123789D
5.37e5
38.10
Abs. Int.
1.27e6
6.35e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 4.29e3
0%
ES 123478D
1.64e7
37.66
ES 123678D
1.61e7
37.79
JS 123467D
1.03e7*
37.98
ES 123789D
1.77e7*
38.08
Abs. Int.
5.10e6
2.55e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 2.71e3
0%
ES 123478D
1.27e7
37.67
ES 123678D
1.22e7
37.79
JS 123467D
8.25e6*
37.98
ES 123789D
1.36e7*
38.08
Abs. Int.
3.93e6
1.97e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.10e7
1.55e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: B6277_18913_DF_004
Sample ID: 1215131-020222-S-SB-NC-B-13
Acq: 15-Feb-2022 18:30:12
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 52
User: DTF Datafile: 220215C11
Rel. Int.
Abs. Int.
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 2.44e3
1234679D
3.05e7*
40.12
1234678D
2.47e7
40.80
9.50e6
4.75e6
0.00e0
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 5.08e3
1234679D
2.96e7*
40.12
1234678D
2.35e7
40.80
9.35e6
4.68e6
0.00e0
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 3.09e3
ES 1234678D
1.48e7
40.79
4.35e6
2.18e6
0.00e0
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.77e3
ES 1234678D
1.36e7
40.79
3.89e6
1.95e6
0.00e0
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
1.89e7
9.47e6
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\B6277_18913_DF_004.utp_res, saved 16-Feb-2022 17:11 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5922, 9734 scc: 182-667
Revised: 16-Feb-2022 17:07 (DTF) Printed: 17-Feb-2022 13:48 Page 5 of 12


OCDD
2.70e8
43.50
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 3.53e3
0%
Abs. Int.
5.47e7
2.73e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.99e8
43.50
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 2.48e3
5.93e7
2.97e7
ES OCDD
1.86e7
43.49
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 4.76e3
3.55e6
1.77e6
ES OCDD
2.03e7
43.49
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 3.18e3
3.98e6
1.99e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
1.70e7
8.52e6


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.97e3
0%
2378F
3.00e8*
27.54
1278F
1.38e8
26.64
2348F
2.11e7*
27.42
2367/3467F
2.46e7
27.89
1289F
2.44e7
29.56
Abs. Int.
6.70e7
3.35e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 3.21e3
0%
2378F
3.86e8*
27.54
1278F
1.78e8
26.63
2348F
2.69e7*
27.42
2367/3467F
3.14e7
27.89
1289F
3.05e7
29.55
Abs. Int.
8.73e7
4.36e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 8.88e3
0%
JS 1234F
2.85e7
26.15
ES 2378F
2.45e7
27.52
Abs. Int.
5.94e6
2.97e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 7.50e3
0%
JS 1234F
3.53e7
26.15
ES 2378F
3.07e7
27.52
Abs. Int.
8.06e6
4.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.40e3
0%
not significant contribution
RT
Abs. Int.
4.69e4
2.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: B6277_18913_DF_004 | Sample ID: 1215131-020222-S-SB-NC-B-13 | Acq: 15-Feb-2022 18:30:12

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 52 | User: DTF Datafile: 220215C11

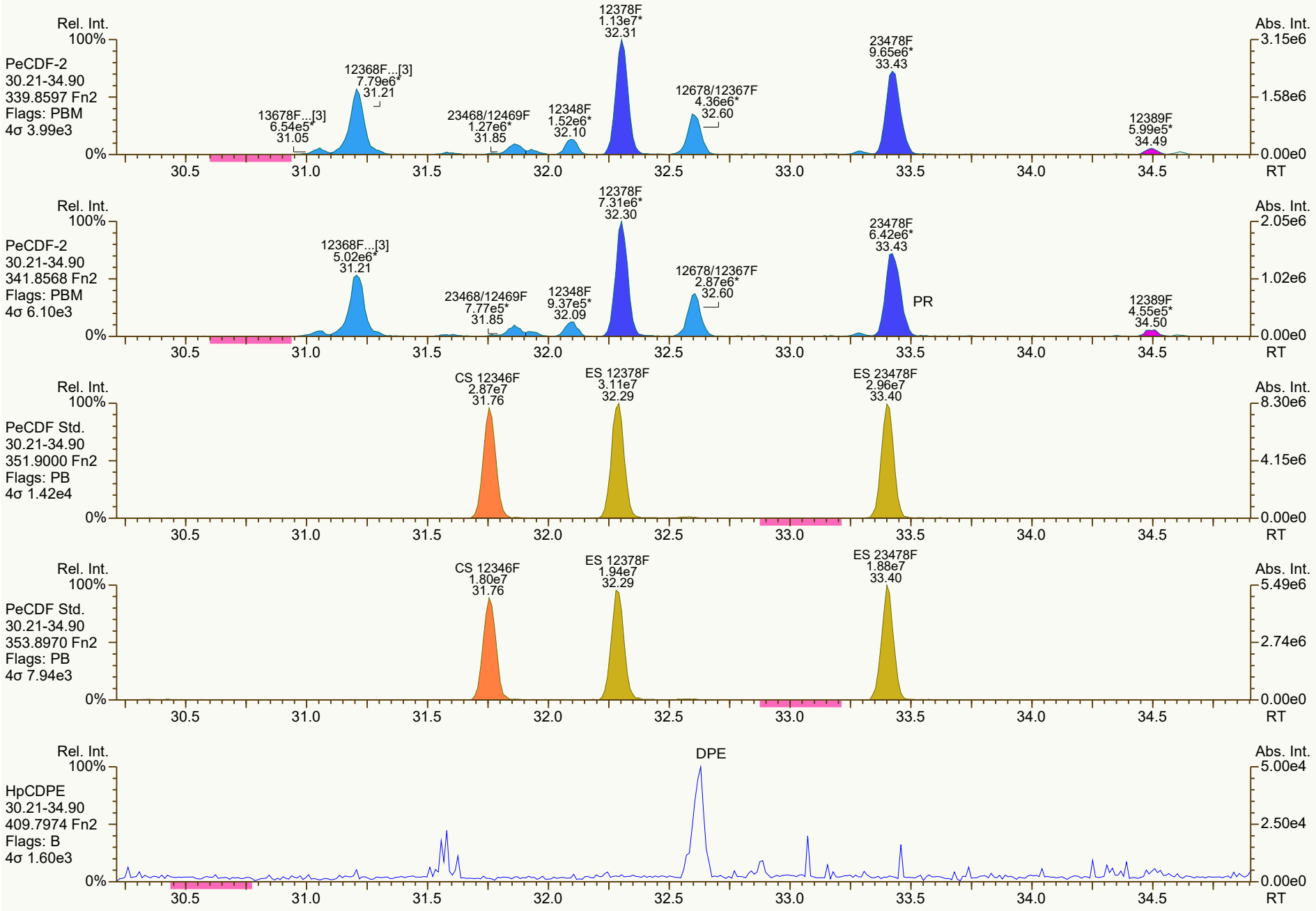


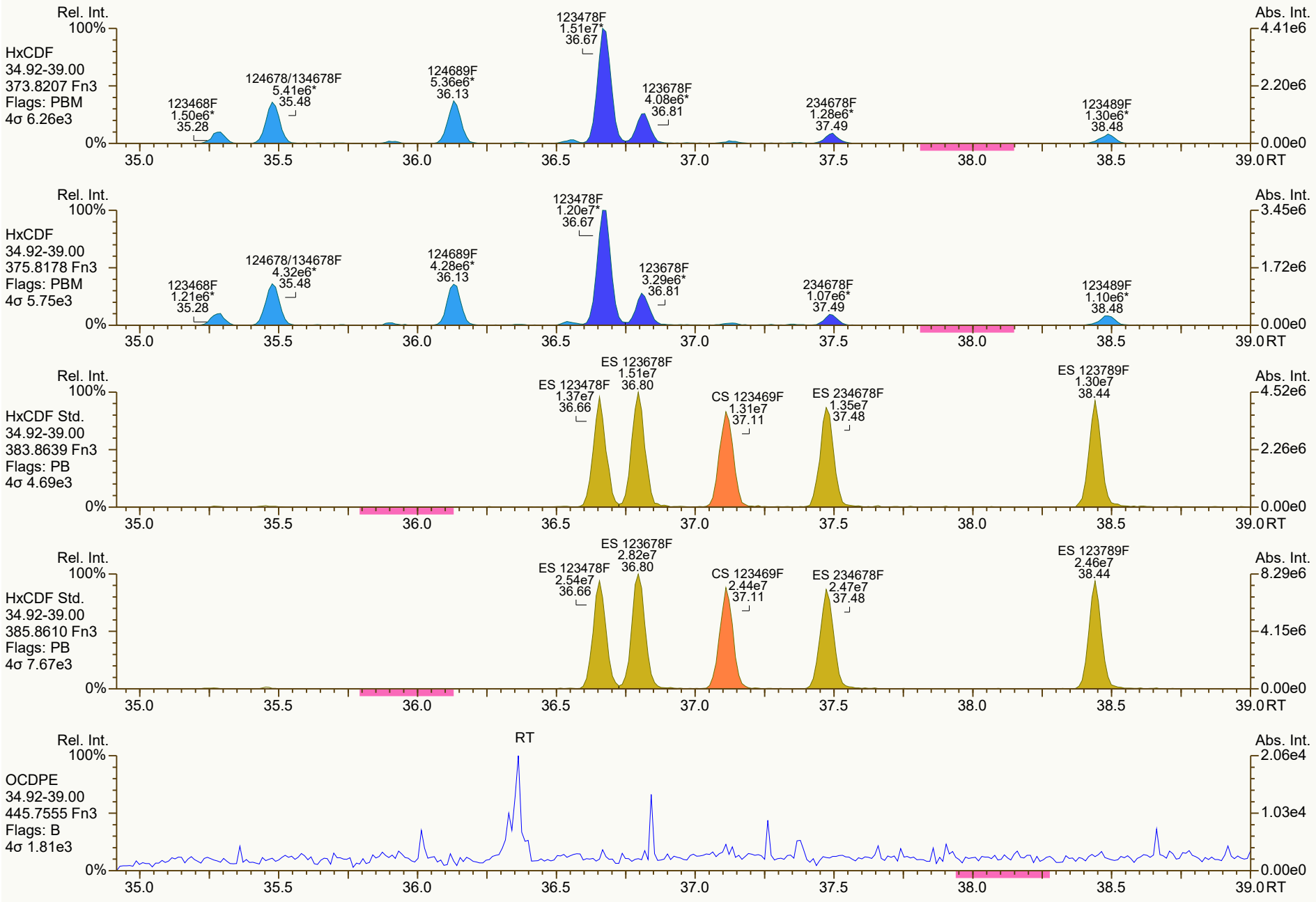
Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\B6277_18913_DF_004.utp_res, saved 16-Feb-2022 17:11 (DTF)

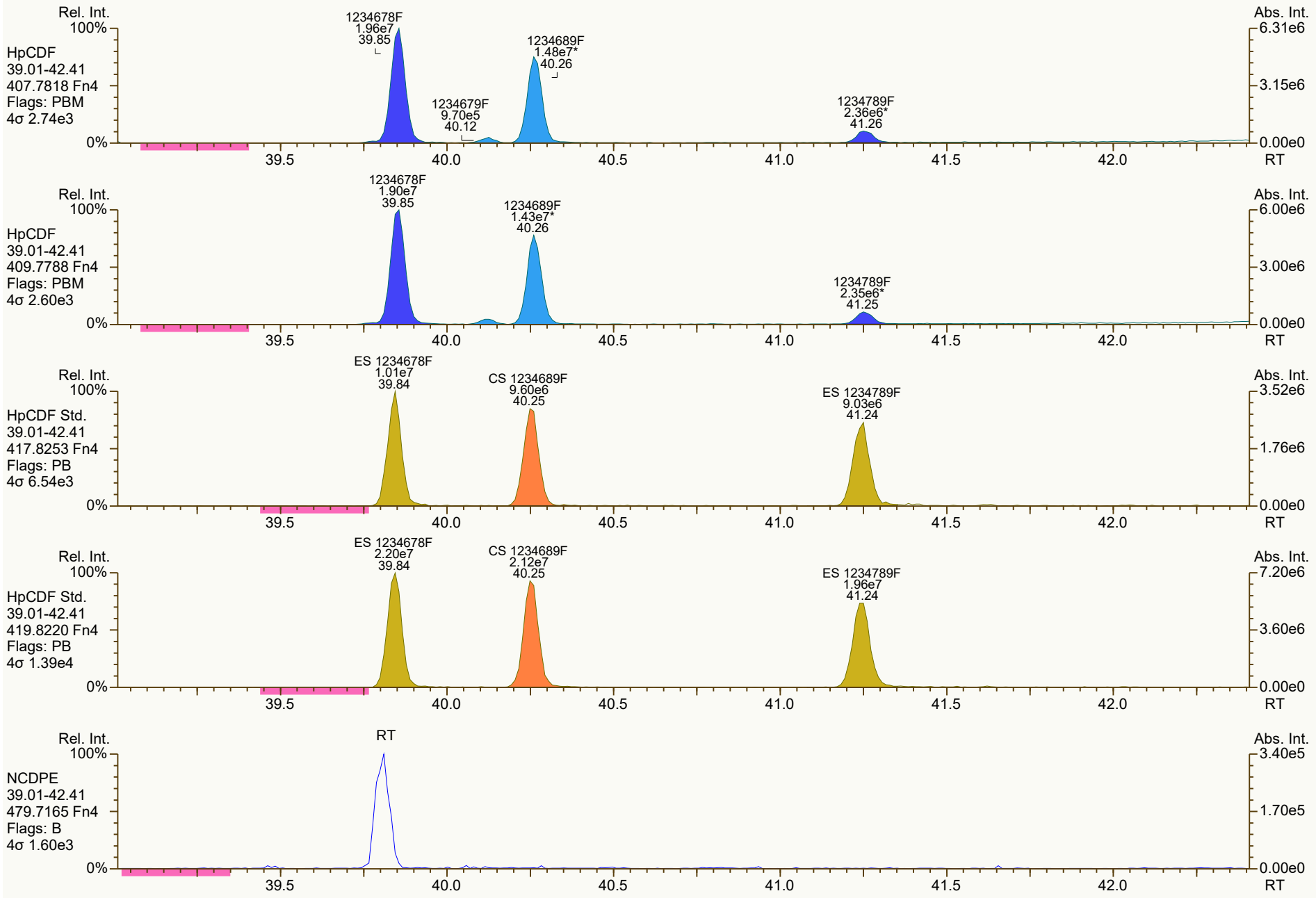
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8649 scc: 182-667

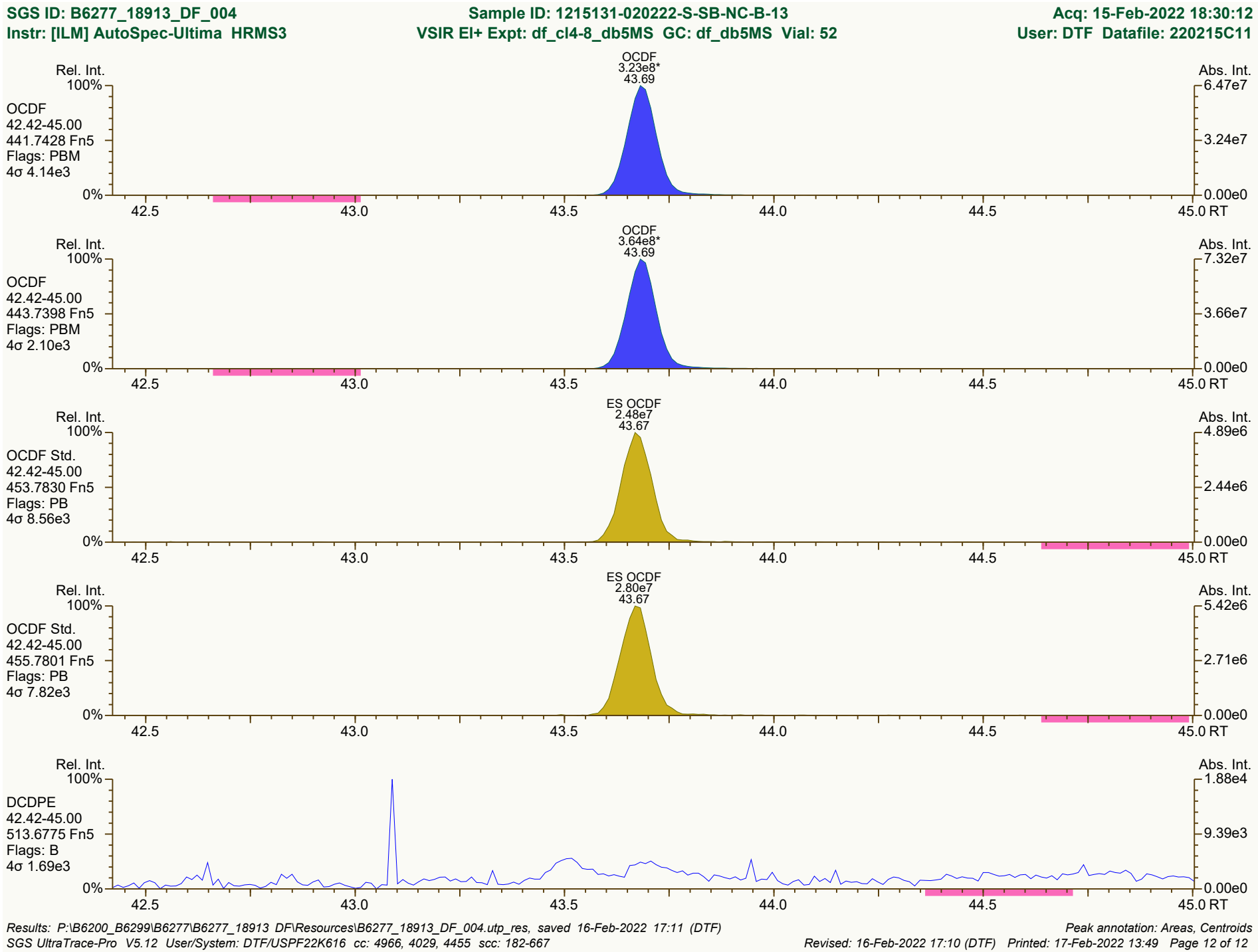
PKD: 16-Feb-2022 17:05 Printed: 17-Feb-2022 13:48 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 3.99e3
0%
13678F...[3]
6.54e5*
31.05
12368F...[3]
7.79e6*
31.21
23468/12469F
1.27e6*
31.85
12348F
1.52e6*
32.10
12378F
1.13e7*
32.31
12678/12367F
4.36e6*
32.60
23478F
9.65e6*
33.43
12389F
5.99e5*
34.49
Abs. Int.
3.15e6
1.58e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 6.10e3
0%
12368F...[3]
5.02e6*
31.21
23468/12469F
7.77e5*
31.85
12348F
9.37e5*
32.09
12378F
7.31e6*
32.30
12678/12367F
2.87e6*
32.60
23478F
6.42e6*
33.43
PR
12389F
4.55e5*
34.50
Abs. Int.
2.05e6
1.02e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 1.42e4
0%
CS 12346F
2.87e7
31.76
ES 12378F
3.11e7
32.29
ES 23478F
2.96e7
33.40
Abs. Int.
8.30e6
4.15e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 7.94e3
0%
CS 12346F
1.80e7
31.76
ES 12378F
1.94e7
32.29
ES 23478F
1.88e7
33.40
Abs. Int.
5.49e6
2.74e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.60e3
0%
DPE
Abs. Int.
5.00e4
2.50e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 6.26e3
123468F 1.50e6* 35.28
124678/134678F 5.41e6* 35.48
124689F 5.36e6* 36.13
123478F 1.51e7* 36.67
123678F 4.08e6* 36.81
234678F 1.28e6* 37.49
123489F 1.30e6* 38.48
Abs. Int.
4.41e6
2.20e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 5.75e3
123468F 1.21e6* 35.28
124678/134678F 4.32e6* 35.48
124689F 4.28e6* 36.13
123478F 1.20e7* 36.67
123678F 3.29e6* 36.81
234678F 1.07e6* 37.49
123489F 1.10e6* 38.48
Abs. Int.
3.45e6
1.72e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 4.69e3
ES 123478F 1.37e7 36.66
ES 123678F 1.51e7 36.80
CS 123469F 1.31e7 37.11
ES 234678F 1.35e7 37.48
ES 123789F 1.30e7 38.44
Abs. Int.
4.52e6
2.26e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 7.67e3
ES 123478F 2.54e7 36.66
ES 123678F 2.82e7 36.80
CS 123469F 2.44e7 37.11
ES 234678F 2.47e7 37.48
ES 123789F 2.46e7 38.44
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.81e3
RT
Abs. Int.
2.06e4
1.03e4
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 2.74e3
1234678F
1.96e7
39.85
1234679F
9.70e5
40.12
1234689F
1.48e7*
40.26
1234789F
2.36e6*
41.26
0%
Abs. Int.
6.31e6
3.15e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 2.60e3
1234678F
1.90e7
39.85
1234689F
1.43e7*
40.26
1234789F
2.35e6*
41.25
0%
Abs. Int.
6.00e6
3.00e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 6.54e3
ES 1234678F
1.01e7
39.84
CS 1234689F
9.60e6
40.25
ES 1234789F
9.03e6
41.24
0%
Abs. Int.
3.52e6
1.76e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 1.39e4
ES 1234678F
2.20e7
39.84
CS 1234689F
2.12e7
40.25
ES 1234789F
1.96e7
41.24
0%
Abs. Int.
7.20e6
3.60e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.60e3
RT
0%
Abs. Int.
3.40e5
1.70e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

SGS ID: B6277_18913_DF_004 | Sample ID: 1215131-020222-S-SB-NC-B-13 | Acq: 15-Feb-2022 18:30:12
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 52 | User: DTF Datafile: 220215C11



Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\B6277_18913_DF_004.utp_res, saved 16-Feb-2022 17:11 (DTF) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4966, 4029, 4455 scc: 182-667 | *Revised: 16-Feb-2022 17:10 (DTF) Printed: 17-Feb-2022 13:49 Page 12 of 12*

REVIEWED
Tamara Burkamper , 2/18/2022, 10:51:00 AM

SGS Environmental Services — Run Log **Project: B6277_18913_DF**

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

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	220215C01	3	CS3_220215_DF_CA	1.00	25-347-1	DTF	059-393	15-Feb-2022	10:30:50
2	220215C02	45	OPR1_18913_DF	1.00	0_18913_OPR001	DTF	247-990	15-Feb-2022	11:33:15
3	220215C03	46	OPR2_18913_DF	1.00	0_18913_OPR002	DTF	443-398	15-Feb-2022	12:19:29
4	220215C04	2	SBS_220215_DF_CA	1.00	30-61-1	DTF	808-304	15-Feb-2022	13:05:49
5	220215C05	44	MB1_18913_DF_SDS	10.00	Method Blank	DTF	341-051	15-Feb-2022	13:52:08
8	220215C08	49	B6277_18913_DF_001	10.75	1215131-020222-S-SB-NC-O-46	DTF	351-875	15-Feb-2022	16:11:10
9	220215C09	50	B6277_18913_DF_002	10.52	1215131-020222-S-SB-NC-B-14	DTF	805-821	15-Feb-2022	16:57:31
10	220215C10	51	B6277_18913_DF_003	10.52	1215131-020222-S-SB-NC-O-44	DTF	706-977	15-Feb-2022	17:43:52
11	220215C11	52	B6277_18913_DF_004	10.90	1215131-020222-S-SB-NC-B-13	DTF	182-667	15-Feb-2022	18:30:12

REVIEWED
Tyler_Fritz , 2/17/2022, 1:52:53 PM

Dioxin/Furan QC Summary		Acq'd: 15 Feb 2022 10:30 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_220215_DF_CA		UTP: 16-Feb-2022 17:10:58 DTF				Checkcode: 059-393-TLK	
Sample ID: 25-347-1		Report: 17 Feb 2022 13:41 TF				Datafile: 220215C01	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	28.39	4.06E+06	0.80	Y	1.18	1.23	4%
12378-PeCDD	33.75	1.62E+07	1.58	Y	1.04	1.08	4%
123478-HxCDD	37.67	1.50E+07	1.28	Y	1.09	1.09	1%
123678-HxCDD	37.79	1.52E+07	1.27	Y	1.15	1.16	1%
123789-HxCDD	38.09	1.60E+07	1.28	Y	1.05	1.06	1%
1234678-HpCDD	40.79	1.44E+07	1.07	Y	1.06	1.05	-1%
OCDD	43.49	2.29E+07	0.92	Y	1.13	1.16	3%
2378-TCDF	27.53	6.11E+06	0.80	Y	1.08	1.14	6%
12378-PeCDF	32.29	2.47E+07	1.52	Y	1.02	1.03	1%
23478-PeCDF	33.41	2.45E+07	1.53	Y	1.02	1.03	1%
123478-HxCDF	36.66	2.31E+07	1.26	Y	1.27	1.27	0%
123678-HxCDF	36.80	2.40E+07	1.25	Y	1.15	1.15	0%
234678-HxCDF	37.48	2.24E+07	1.24	Y	1.19	1.15	-3%
123789-HxCDF	38.45	2.05E+07	1.24	Y	1.16	1.16	0%
1234678-HpCDF	39.85	2.10E+07	1.04	Y	1.37	1.34	-2%
1234789-HpCDF	41.24	1.80E+07	1.03	Y	1.31	1.30	-1%
OCDF	43.66	2.97E+07	0.92	Y	1.07	1.08	1%
ES 2378-TCDD	28.36	3.29E+07	0.84	Y	1.05	1.02	-2%
ES 12378-PeCDD	33.728	3.00E+07	1.57	Y	0.88	0.93	6%
ES 123478-HxCDD	37.654	2.74E+07	1.28	Y	0.97	1.00	3%
ES 123678-HxCDD	37.773	2.63E+07	1.30	Y	0.94	0.96	2%
ES 123789-HxCDD	38.073	3.03E+07	1.24	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.772	2.74E+07	1.13	Y	0.91	1.00	9%
ES OCDD	43.478	3.96E+07	0.94	Y	0.62	0.72	16%
ES 2378-TCDF	27.502	5.37E+07	0.82	Y	1.06	1.02	-4%
ES 12378-PeCDF	32.274	4.79E+07	1.60	Y	0.91	0.91	0%
ES 23478-PeCDF	33.391	4.74E+07	1.57	Y	0.88	0.90	2%
ES 123478-HxCDF	36.644	3.63E+07	0.54	Y	1.20	1.33	11%
ES 123678-HxCDF	36.785	4.17E+07	0.55	Y	1.35	1.52	13%
ES 234678-HxCDF	37.465	3.88E+07	0.55	Y	1.24	1.42	14%
ES 123789-HxCDF	38.432	3.53E+07	0.53	Y	1.16	1.29	12%
ES 1234678-HpCDF	39.836	3.14E+07	0.44	Y	0.97	1.15	18%
ES 1234789-HpCDF	41.233	2.77E+07	0.46	Y	0.85	1.01	19%
ES OCDF	43.651	5.51E+07	0.90	Y	0.81	1.01	25%

Dioxin/Furan QC Summary	Acq'd: 15 Feb 2022 10:30 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220215_DF_CA	UTP: 16-Feb-2022 17:10:58 DTF	Checkcode: 059-393-TLK
Sample ID: 25-347-1	Report: 17 Feb 2022 13:41 TF	Datafile: 220215C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.70	3.22E+07	0.82	Y	-	-	-
JS 1234-TCDF	26.13	5.28E+07	0.80	Y	-	-	-
JS 123467-HxCDD	37.97	1.37E+07	1.34	Y	-	-	-
CS 37Cl-2378-TCDD	28.38	4.40E+06	n/a	-	1.20	1.37	14%
CS 12347-PeCDD	33.22	2.72E+07	1.65	Y	0.75	0.85	12%
CS 12346-PeCDF	31.74	4.65E+07	1.63	Y	0.85	0.88	4%
CS 123469-HxCDF	37.10	3.75E+07	0.55	Y	1.12	1.37	23%
CS 1234689-HpCDF	40.24	3.12E+07	0.46	Y	0.89	1.14	29%
~~SS 37Cl-2378-TCDD~~	~~28.38~~	~~4.40E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.34~~	~~16%~~
~~SS 12347-PeCDD~~	~~33.22~~	~~2.72E+07~~	~~1.65~~	~~Y~~	~~0.86~~	~~0.91~~	~~6%~~
~~SS 12346-PeCDF~~	~~31.74~~	~~4.65E+07~~	~~1.63~~	~~Y~~	~~0.94~~	~~0.97~~	~~4%~~
~~SS 123469-HxCDF~~	~~37.10~~	~~3.75E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~0.90~~	~~9%~~
~~SS 1234689-HpCDF~~	~~40.24~~	~~3.12E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~0.99~~	~~8%~~
~~OCDD-a~~	~~43.49~~	~~1.38E+06~~	~~2.57~~	~~Y~~	~~0.07~~	~~0.07~~	~~-4%~~
~~OCDF-a~~	~~43.66~~	~~1.90E+06~~	~~2.12~~	~~Y~~	~~0.07~~	~~0.07~~	~~4%~~

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

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220215C01 Analysis Date: 15-FEB-2022 10:30:50

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.80	0.65 - 0.89	Y	10.4	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32 - 1.78	Y	52.2	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	50.3	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	50.5	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	50.4	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88 - 1.20	Y	49.7	43 - 58	Y
OCDD	M+2/M+4	0.92	0.76 - 1.02	Y	103	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.80	0.65 - 0.89	Y	10.6	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.52	1.32 - 1.78	Y	50.3	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.53	1.32 - 1.78	Y	50.6	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	50.1	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	49.8	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	48.5	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	49.8	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88 - 1.20	Y	48.9	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	49.6	43 - 58	Y
OCDF	M+2/M+4	0.92	0.76 - 1.02	Y	101	63 - 159	Y

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

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

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

Processed: 17 Feb 2022 13:41 Analyst: TF

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

Lab Name: SGS North America

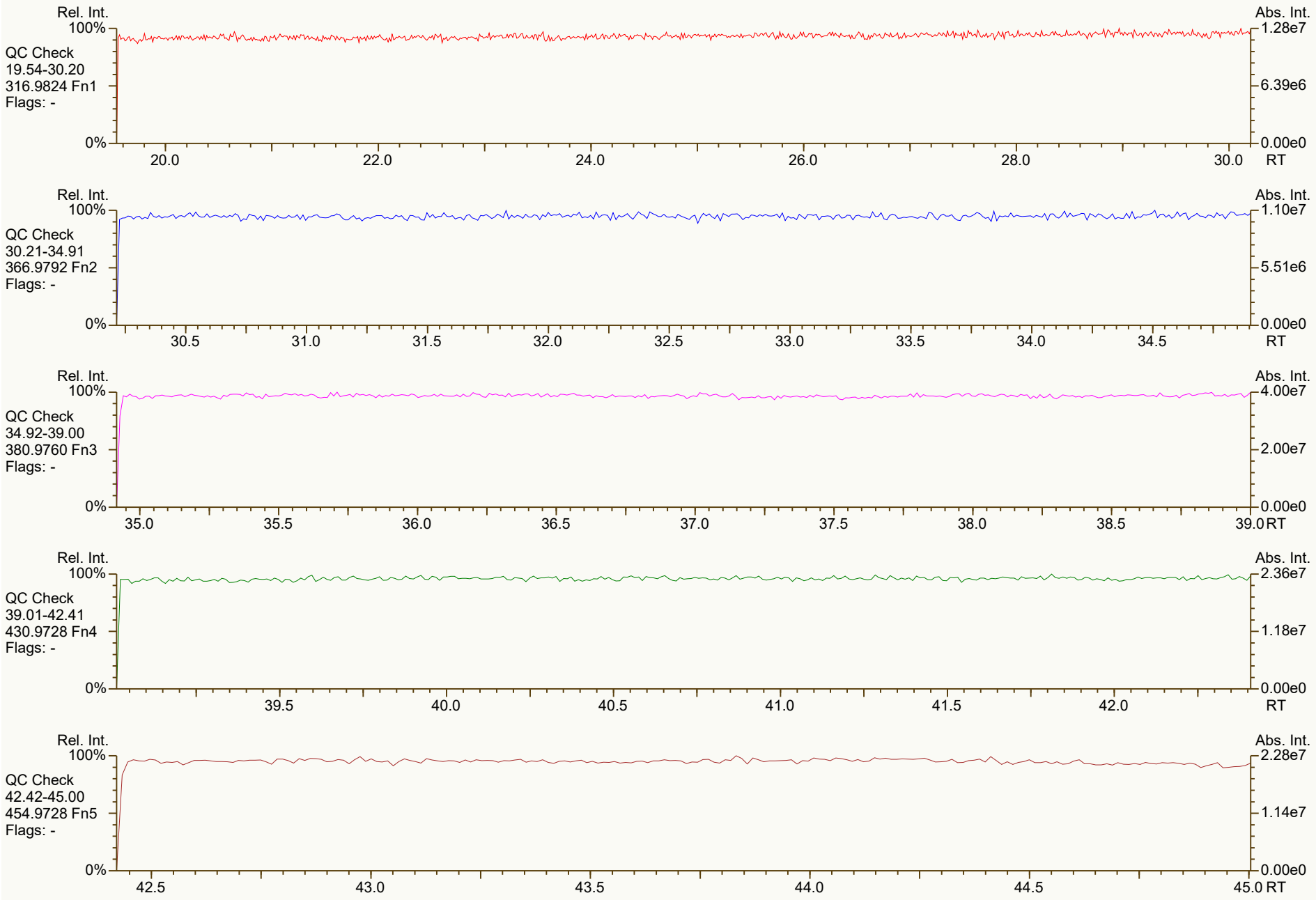
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220215C01 Analysis Date: 15-FEB-2022 10:30:50

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.84	0.65	-	0.89	Y	97.9	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32	-	1.78	Y	106	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05	-	1.43	Y	103	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.30	1.05	-	1.43	Y	102	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05	-	1.43	Y	101	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.13	0.88	-	1.20	Y	109	72	-	138	Y
13C-OCDD	M+2/M+4	0.94	0.76	-	1.02	Y	232	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.82	0.65	-	0.89	Y	96.1	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.60	1.32	-	1.78	Y	99.6	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32	-	1.78	Y	102	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	111	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	113	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	114	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	112	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37	-	0.51	Y	118	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.46	0.37	-	0.51	Y	119	77	-	129	Y
13C-OCDF	M+2/M+4	0.90	0.76	-	1.02	Y	249	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						11.4	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.65	1.32	-	1.78	Y	112	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.63	1.32	-	1.78	Y	104	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	123	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.46	0.37	-	0.51	Y	129	70	-	130	Y

Processed: 17 Feb 2022 13:41 Analyst: TF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QC Check
19.54-30.20
316.9824 Fn1
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0%
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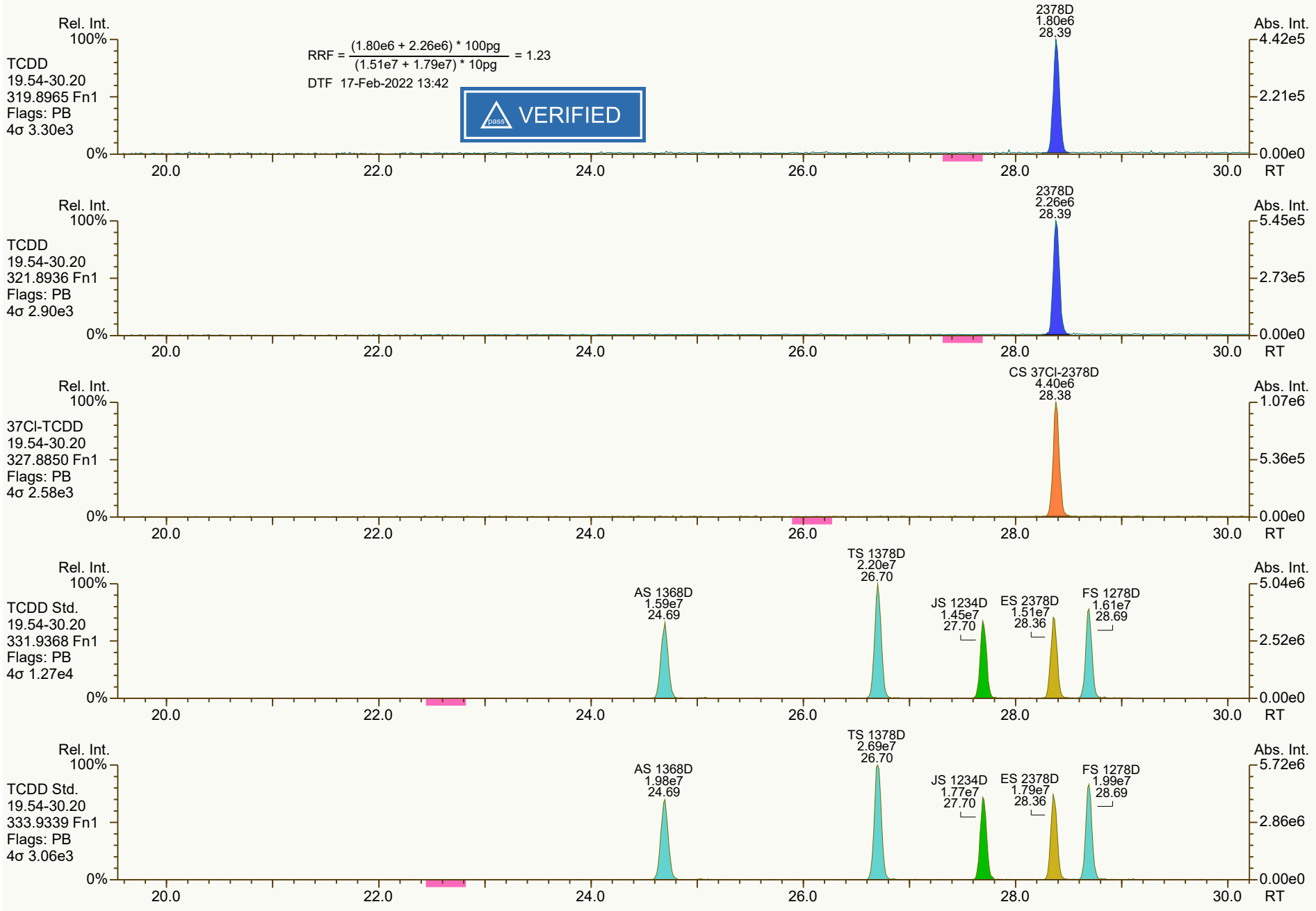
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.28e7
6.39e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
1.10e7
5.51e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
4.00e7
2.00e7
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
2.36e7
1.18e7
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
2.28e7
1.14e7
0.00e0


Rel. Int.
100%
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19.54-30.20
319.8965 Fn1
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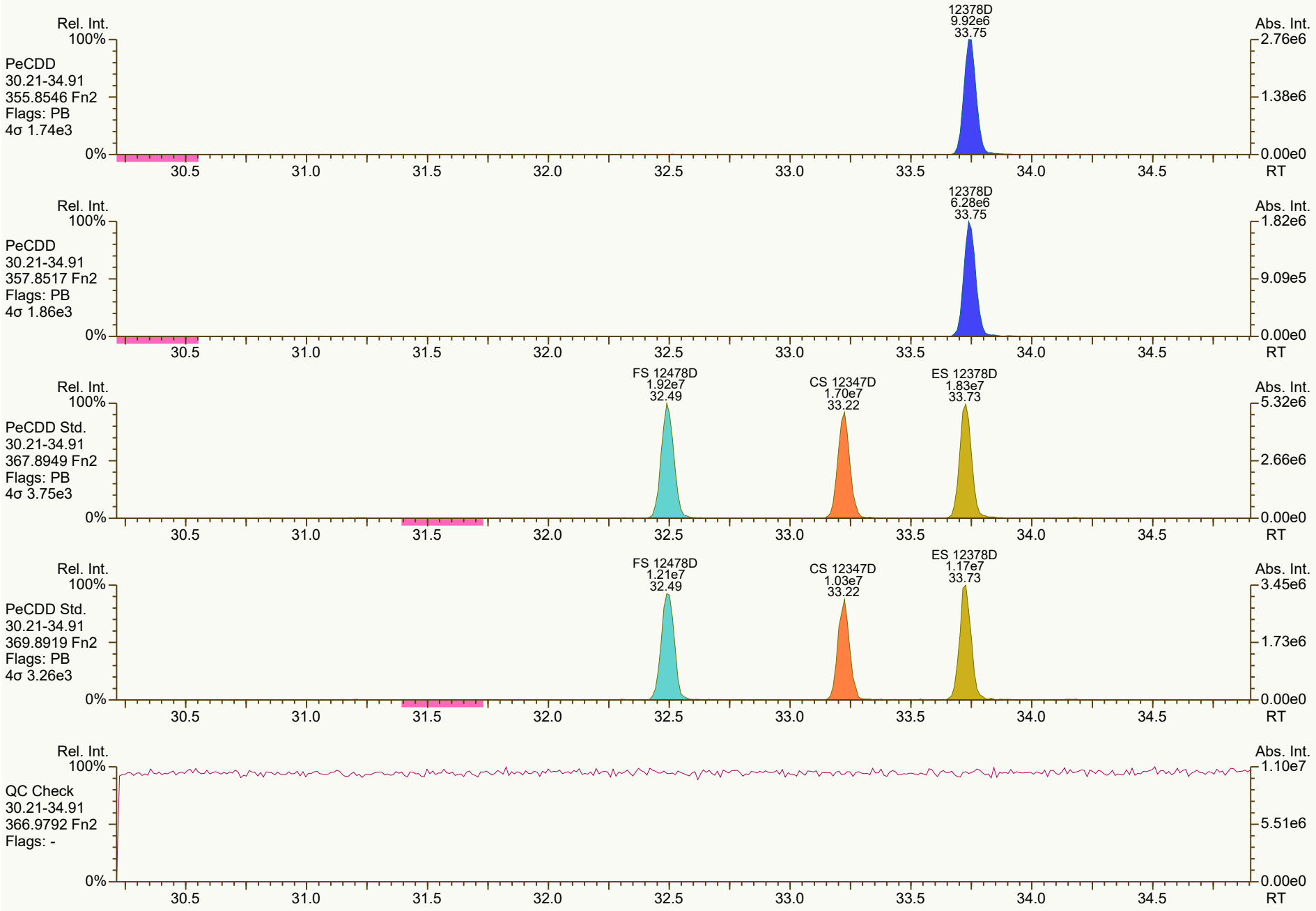
0%
RRF = (1.80e6 + 2.26e6) * 100pg / (1.51e7 + 1.79e7) * 10pg = 1.23
DTF 17-Feb-2022 13:42
VERIFIED
2378D
1.80e6
28.39
Abs. Int.
4.42e5
2.21e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 2.90e3
2378D
2.26e6
28.39
5.45e5
2.73e5
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.58e3
CS 37Cl-2378D
4.40e6
28.38
1.07e6
5.36e5
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 1.27e4
AS 1368D
1.59e7
24.69
TS 1378D
2.20e7
26.70
JS 1234D
1.45e7
27.70
ES 2378D
1.51e7
28.36
FS 1278D
1.61e7
28.69
5.04e6
2.52e6
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.06e3
AS 1368D
1.98e7
24.69
TS 1378D
2.69e7
26.70
JS 1234D
1.77e7
27.70
ES 2378D
1.79e7
28.36
FS 1278D
1.99e7
28.69
5.72e6
2.86e6


Rel. Int.
100%
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PB
4σ 1.74e3
0%
12378D
9.92e6
33.75
Abs. Int.
2.76e6
1.38e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PB
4σ 1.86e3
0%
12378D
6.28e6
33.75
Abs. Int.
1.82e6
9.09e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 3.75e3
0%
FS 12478D
1.92e7
32.49
CS 12347D
1.70e7
33.22
ES 12378D
1.83e7
33.73
Abs. Int.
5.32e6
2.66e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 3.26e3
0%
FS 12478D
1.21e7
32.49
CS 12347D
1.03e7
33.22
ES 12378D
1.17e7
33.73
Abs. Int.
3.45e6
1.73e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.10e7
5.51e6
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30.5
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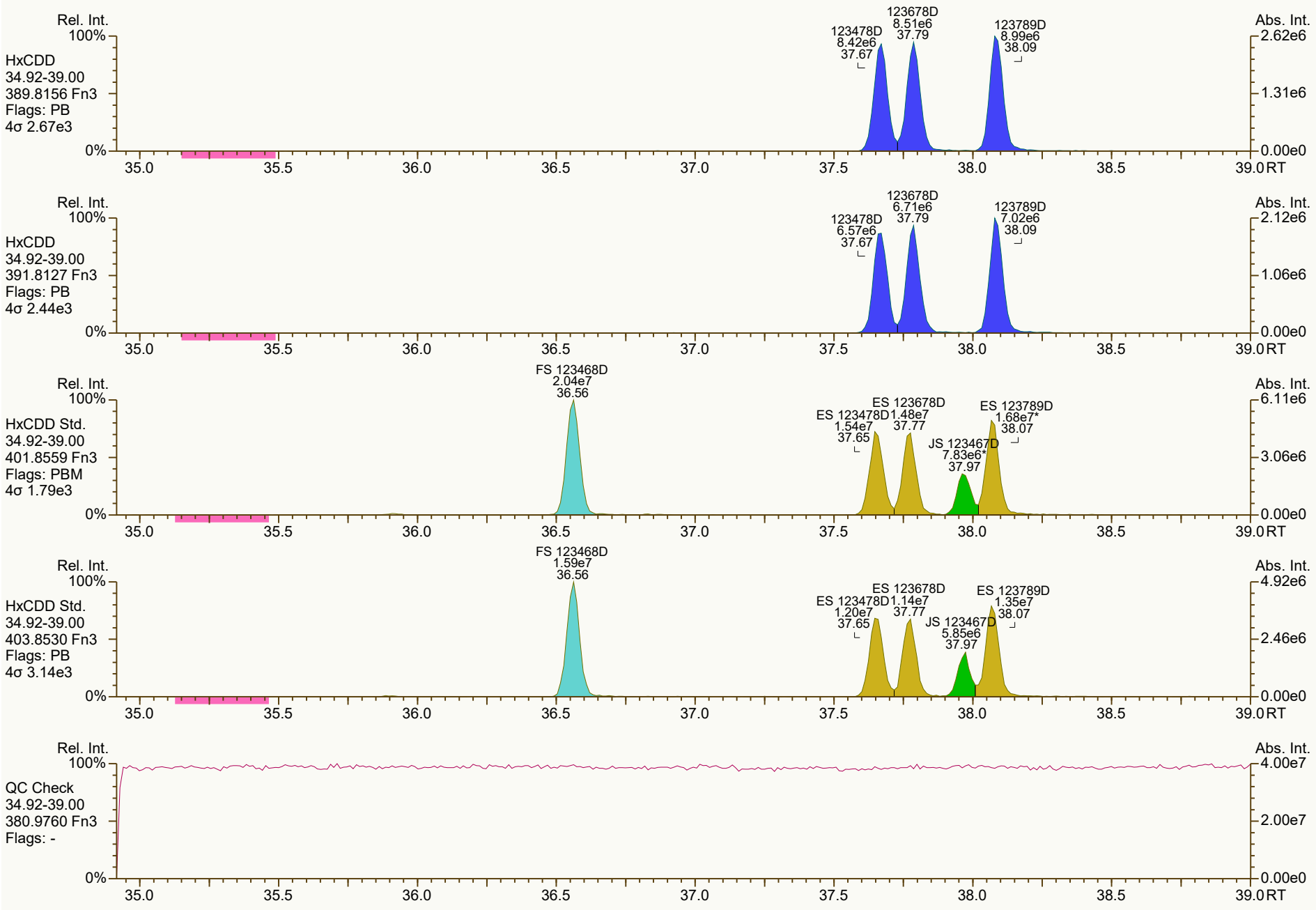
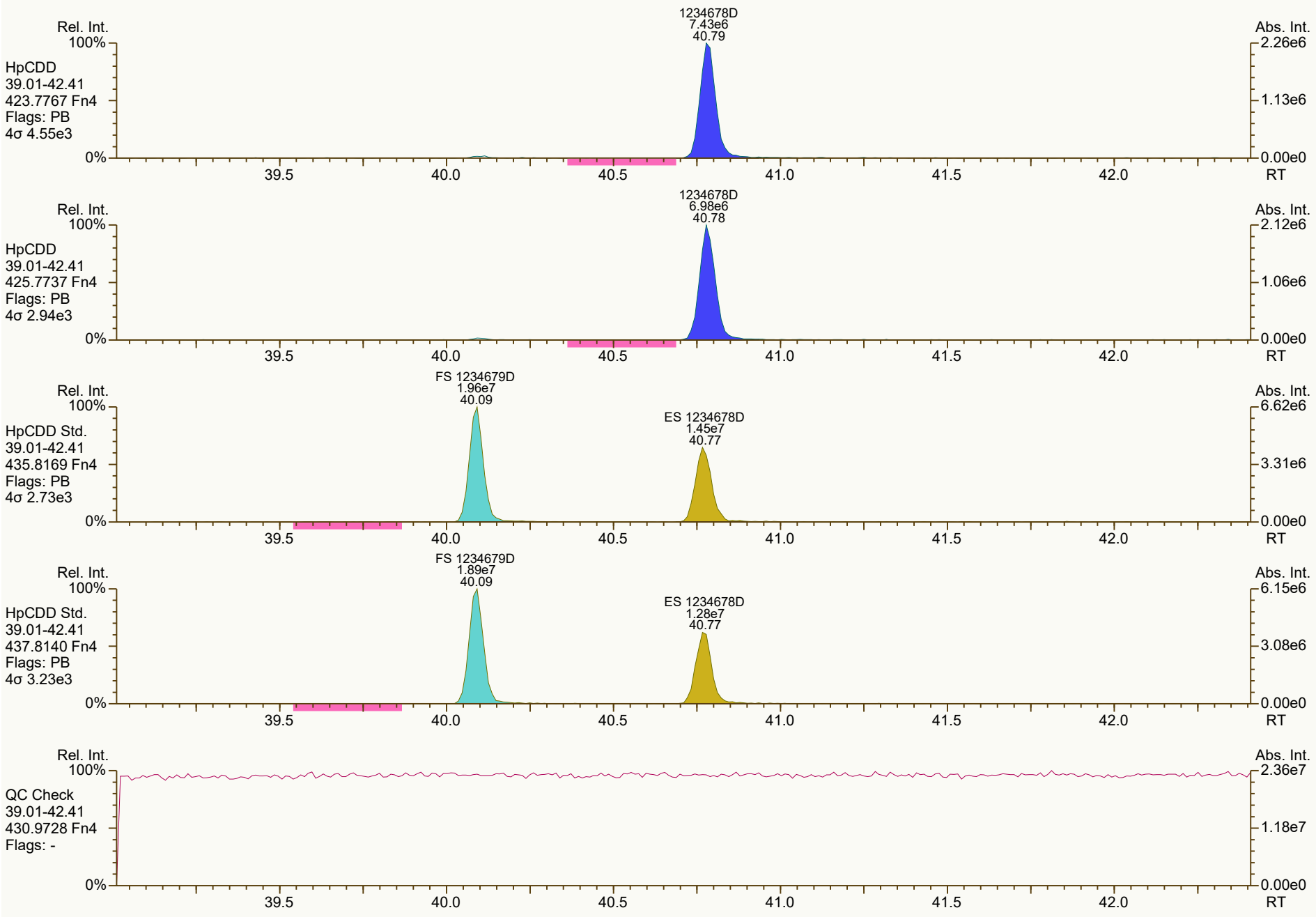
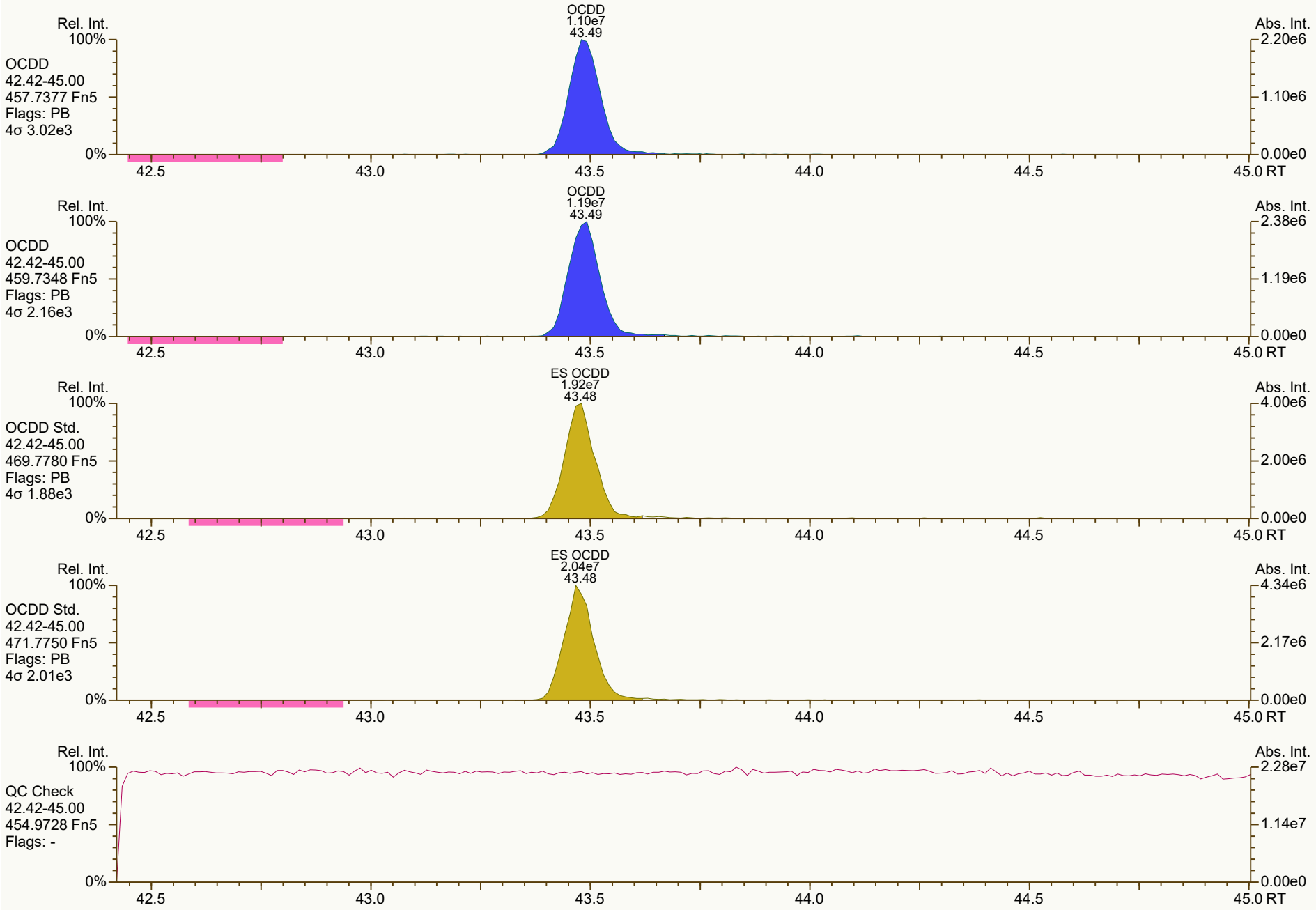
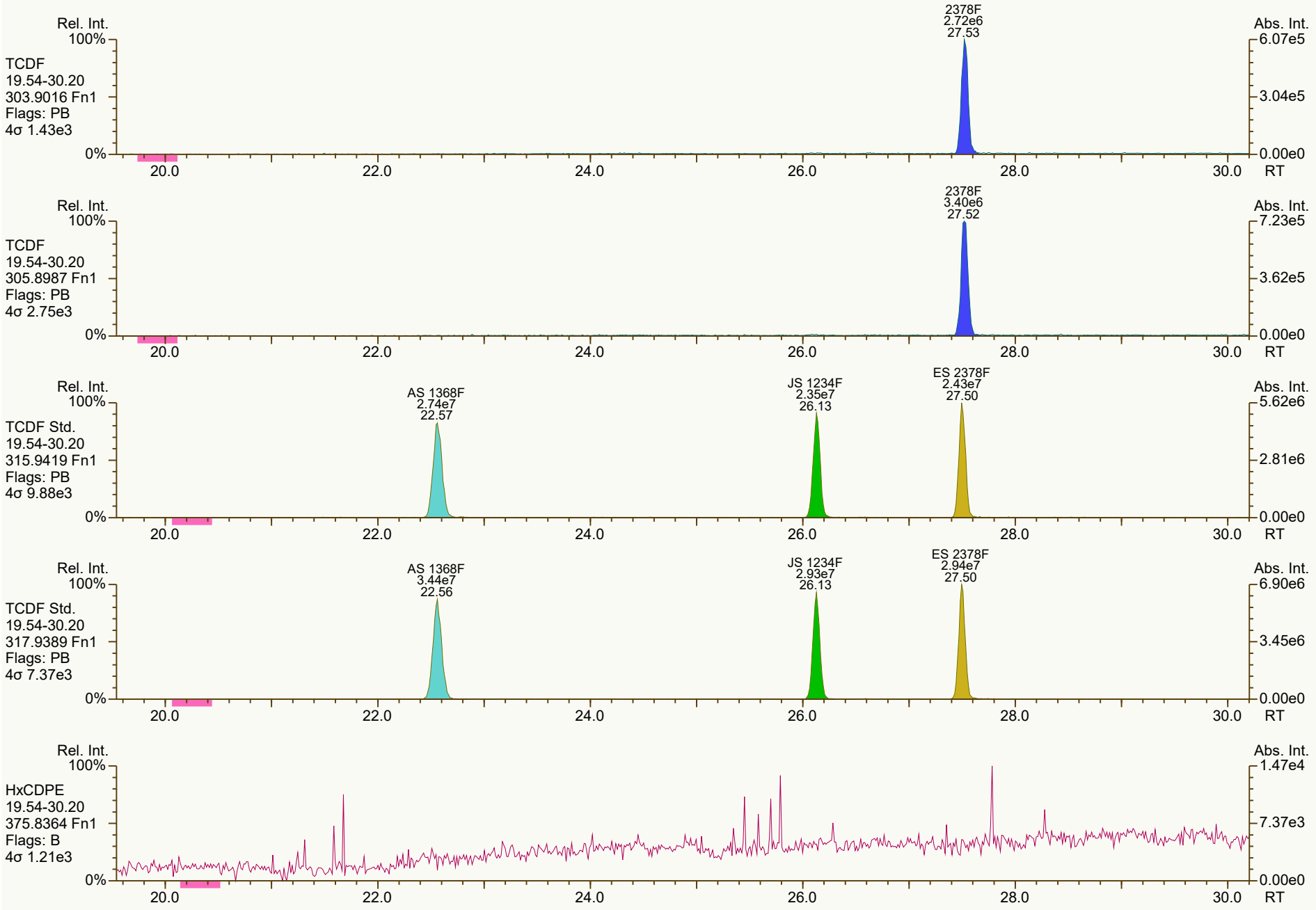
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 2.67e3
123478D 8.42e6 37.67
123678D 8.51e6 37.79
123789D 8.99e6 38.09
Abs. Int.
2.62e6
1.31e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 2.44e3
123478D 6.57e6 37.67
123678D 6.71e6 37.79
123789D 7.02e6 38.09
Abs. Int.
2.12e6
1.06e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 1.79e3
FS 123468D 2.04e7 36.56
ES 123478D 1.54e7 37.65
ES 123678D 1.48e7 37.77
JS 123467D 7.83e6* 37.97
ES 123789D 1.68e7* 38.07
Abs. Int.
6.11e6
3.06e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 3.14e3
FS 123468D 1.59e7 36.56
ES 123478D 1.20e7 37.65
ES 123678D 1.14e7 37.77
JS 123467D 5.85e6 37.97
ES 123789D 1.35e7 38.07
Abs. Int.
4.92e6
2.46e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
Abs. Int.
4.00e7
2.00e7
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 4.55e3
1234678D
7.43e6
40.79
Abs. Int.
2.26e6
1.13e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 2.94e3
1234678D
6.98e6
40.78
Abs. Int.
2.12e6
1.06e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.73e3
FS 1234679D
1.96e7
40.09
ES 1234678D
1.45e7
40.77
Abs. Int.
6.62e6
3.31e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 3.23e3
FS 1234679D
1.89e7
40.09
ES 1234678D
1.28e7
40.77
Abs. Int.
6.15e6
3.08e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
2.36e7
1.18e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

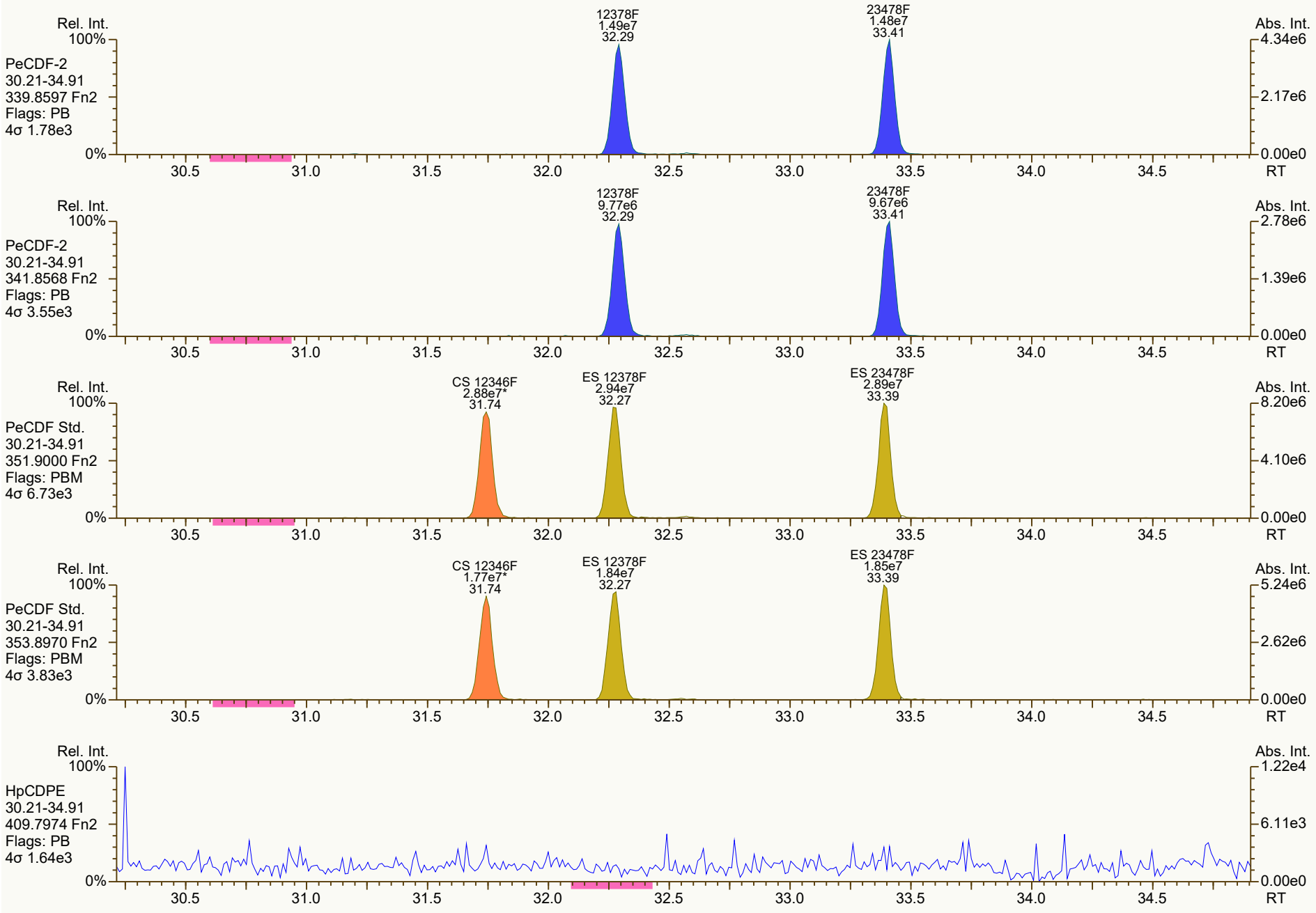

Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 3.02e3
0%
OCDD
1.10e7
43.49
Abs. Int.
2.20e6
1.10e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 2.16e3
0%
OCDD
1.19e7
43.49
Abs. Int.
2.38e6
1.19e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 1.88e3
0%
ES OCDD
1.92e7
43.48
Abs. Int.
4.00e6
2.00e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 2.01e3
0%
ES OCDD
2.04e7
43.48
Abs. Int.
4.34e6
2.17e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.28e7
1.14e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

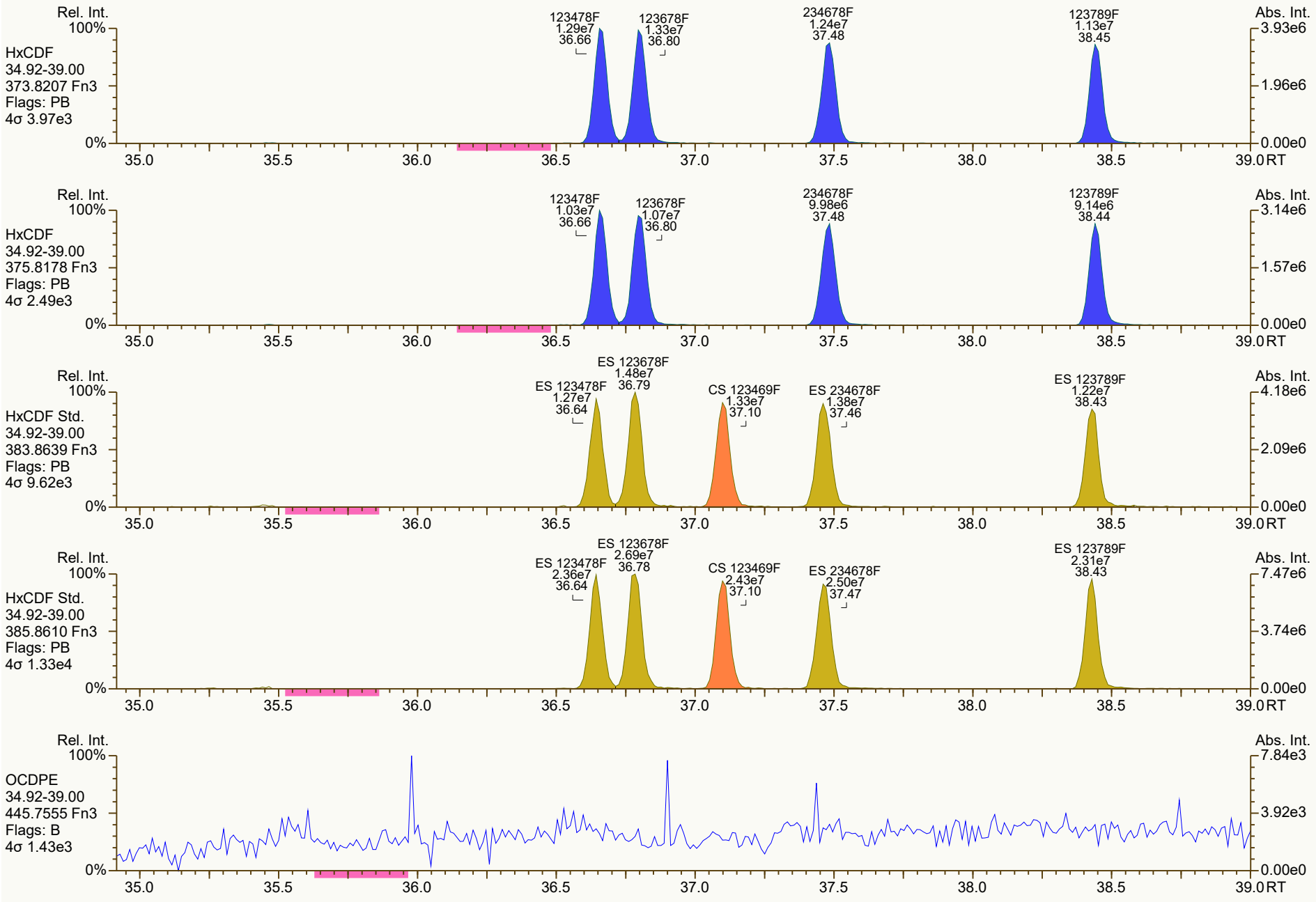

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.43e3
0%
2378F
2.72e6
27.53
Abs. Int.
6.07e5
3.04e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 2.75e3
0%
2378F
3.40e6
27.52
Abs. Int.
7.23e5
3.62e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 9.88e3
0%
AS 1368F
2.74e7
22.57
JS 1234F
2.35e7
26.13
ES 2378F
2.43e7
27.50
Abs. Int.
5.62e6
2.81e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 7.37e3
0%
AS 1368F
3.44e7
22.56
JS 1234F
2.93e7
26.13
ES 2378F
2.94e7
27.50
Abs. Int.
6.90e6
3.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.21e3
0%
Abs. Int.
1.47e4
7.37e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

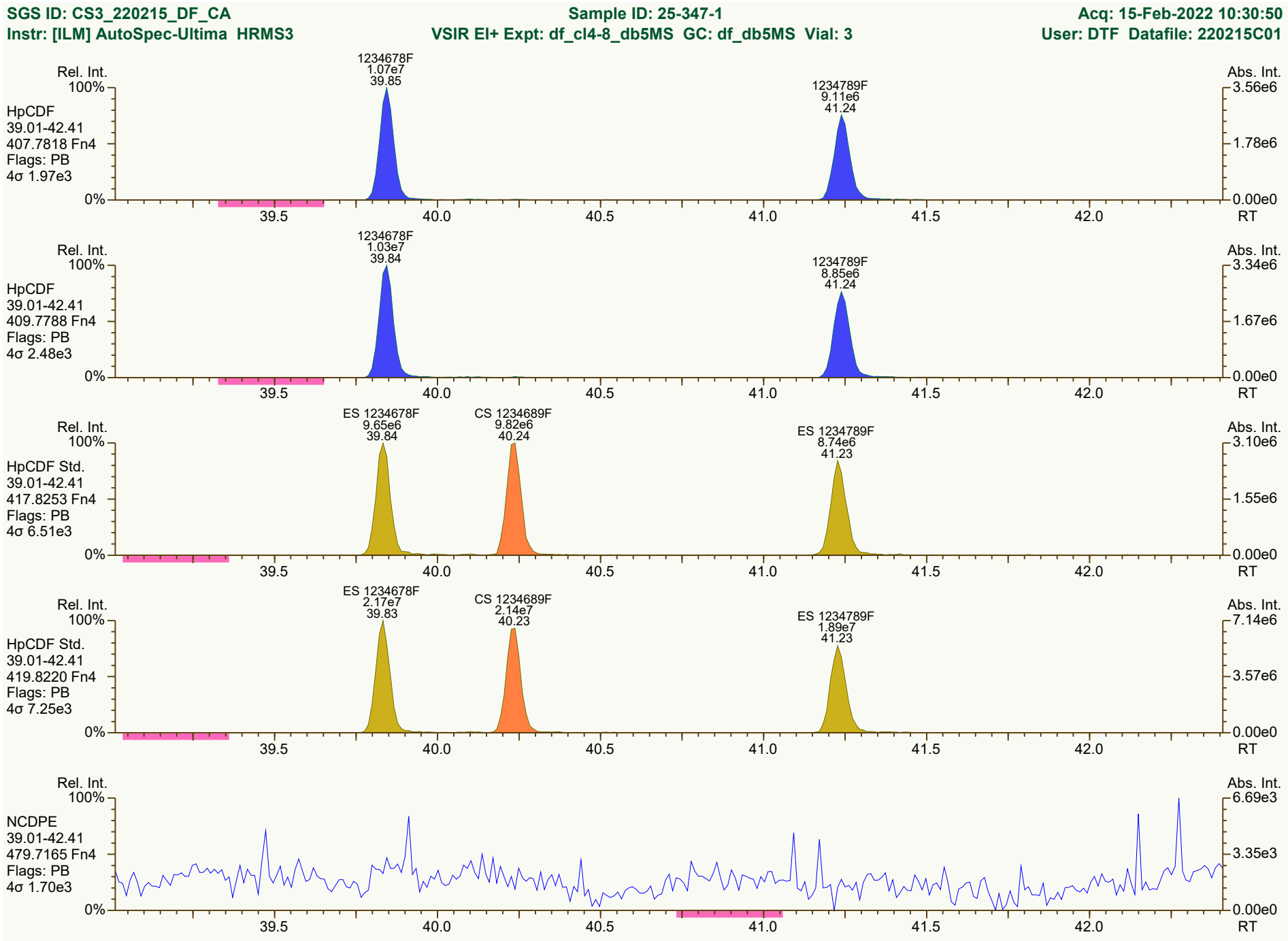
SGS ID: CS3_220215_DF_CA
Sample ID: 25-347-1
Acq: 15-Feb-2022 10:30:50
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220215C01

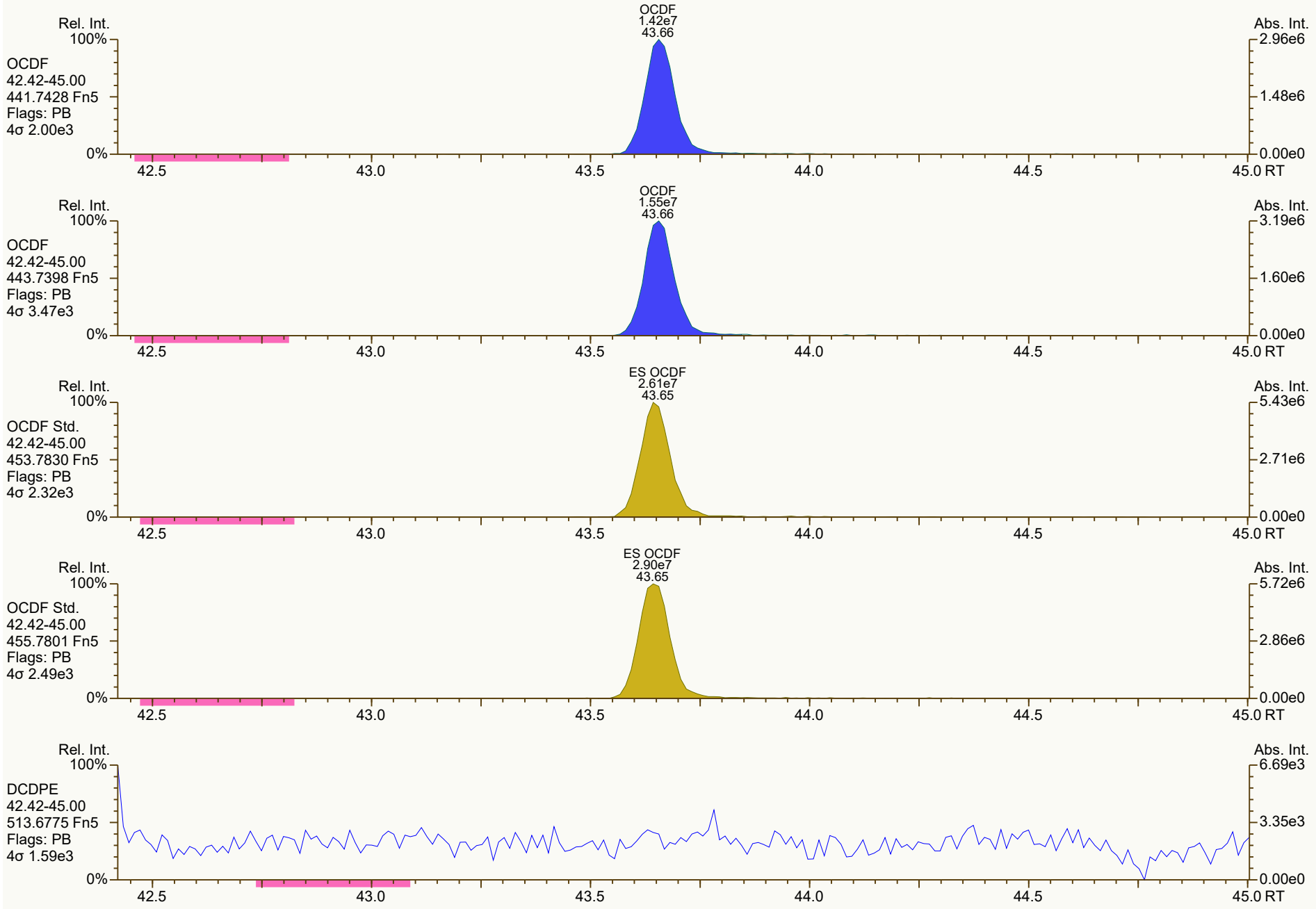


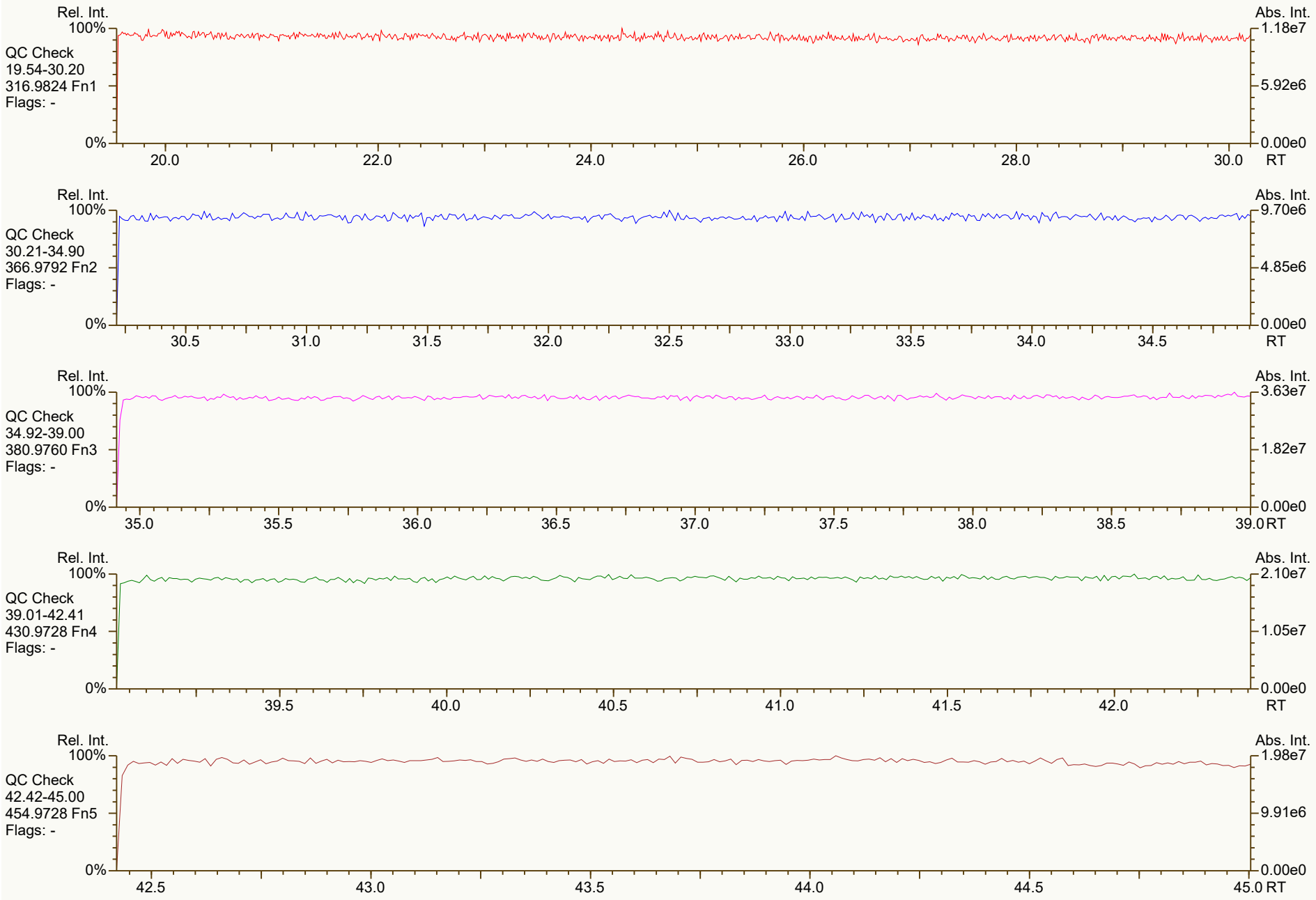
Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\CS3_220215_DF_CA.utp_res, saved 17-Feb-2022 13:43 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8242 scc: 059-393
PKD: 15-Feb-2022 11:26 Printed: 17-Feb-2022 13:46 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PB
4σ 1.78e3
12378F
1.49e7
32.29
23478F
1.48e7
33.41
Abs. Int.
4.34e6
2.17e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PB
4σ 3.55e3
12378F
9.77e6
32.29
23478F
9.67e6
33.41
Abs. Int.
2.78e6
1.39e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PBM
4σ 6.73e3
CS 12346F
2.88e7*
31.74
ES 12378F
2.94e7
32.27
ES 23478F
2.89e7
33.39
Abs. Int.
8.20e6
4.10e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PBM
4σ 3.83e3
CS 12346F
1.77e7*
31.74
ES 12378F
1.84e7
32.27
ES 23478F
1.85e7
33.39
Abs. Int.
5.24e6
2.62e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: PB
4σ 1.64e3
Abs. Int.
1.22e4
6.11e3
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PB
4σ 3.97e3
0%
123478F
1.29e7
36.66
123678F
1.33e7
36.80
234678F
1.24e7
37.48
123789F
1.13e7
38.45
Abs. Int.
3.93e6
1.96e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PB
4σ 2.49e3
0%
123478F
1.03e7
36.66
123678F
1.07e7
36.80
234678F
9.98e6
37.48
123789F
9.14e6
38.44
Abs. Int.
3.14e6
1.57e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 9.62e3
0%
ES 123678F
1.48e7
36.79
ES 123478F
1.27e7
36.64
CS 123469F
1.33e7
37.10
ES 234678F
1.38e7
37.46
ES 123789F
1.22e7
38.43
Abs. Int.
4.18e6
2.09e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 1.33e4
0%
ES 123678F
2.69e7
36.78
ES 123478F
2.36e7
36.64
CS 123469F
2.43e7
37.10
ES 234678F
2.50e7
37.47
ES 123789F
2.31e7
38.43
Abs. Int.
7.47e6
3.74e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.43e3
0%
Abs. Int.
7.84e3
3.92e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: CS3_220215_DF_CA
Sample ID: 25-347-1
Acq: 15-Feb-2022 10:30:50
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220215C01
Rel. Int.
Abs. Int.
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.97e3
1234678F
1.07e7
39.85
1234789F
9.11e6
41.24
3.56e6
1.78e6
0.00e0
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 2.48e3
1234678F
1.03e7
39.84
1234789F
8.85e6
41.24
3.34e6
1.67e6
0.00e0
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 6.51e3
ES 1234678F
9.65e6
39.84
CS 1234689F
9.82e6
40.24
ES 1234789F
8.74e6
41.23
3.10e6
1.55e6
0.00e0
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 7.25e3
ES 1234678F
2.17e7
39.83
CS 1234689F
2.14e7
40.23
ES 1234789F
1.89e7
41.23
7.14e6
3.57e6
0.00e0
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.70e3
6.69e3
3.35e3
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\CS3_220215_DF_CA.utp_res, saved 17-Feb-2022 13:43 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2384, 2129, 3761 scc: 059-393
PKD: 15-Feb-2022 11:26 Printed: 17-Feb-2022 13:46 Page 11 of 12

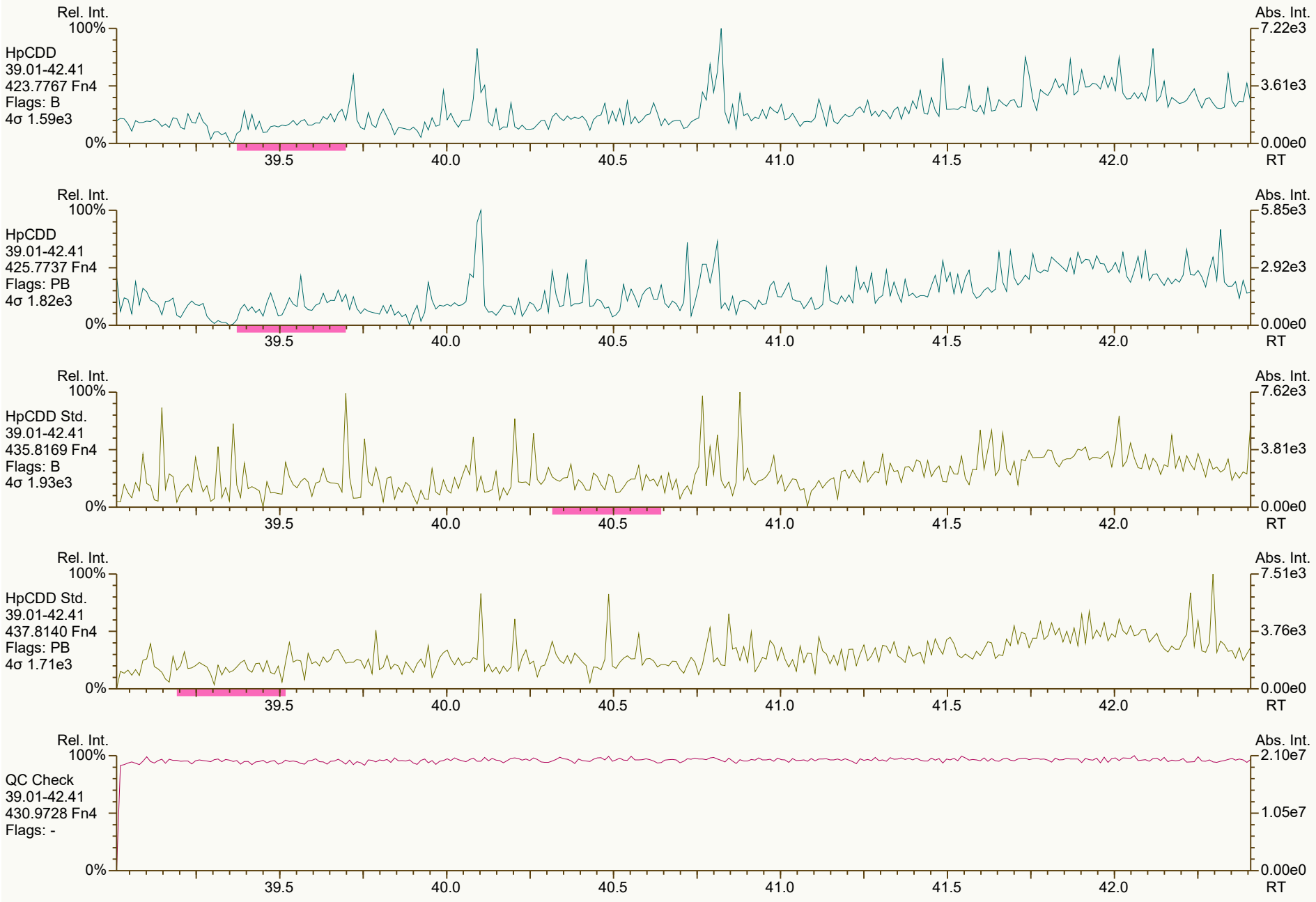

OCDF
1.42e7
43.66
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 2.00e3
0%
Abs. Int.
2.96e6
1.48e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.55e7
43.66
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 3.47e3
3.19e6
1.60e6
ES OCDF
2.61e7
43.65
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 2.32e3
5.43e6
2.71e6
ES OCDF
2.90e7
43.65
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 2.49e3
5.72e6
2.86e6
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.59e3
6.69e3
3.35e3


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.18e7
5.92e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
9.70e6
4.85e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
3.63e7
1.82e7
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
2.10e7
1.05e7
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.98e7
9.91e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 3.83e3
0%
Abs. Int.
1.26e4
6.31e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.53e3
0%
Abs. Int.
1.11e4
5.54e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: B
4σ 1.90e3
0%
Abs. Int.
2.88e4
1.44e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 8.20e3
0%
Abs. Int.
3.61e4
1.81e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 5.91e3
0%
Abs. Int.
3.38e4
1.69e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PB
4σ 1.81e3
0%
Abs. Int.
9.29e3
4.65e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 1.20e3
0%
Abs. Int.
5.10e3
2.55e3
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: B
4σ 2.31e3
0%
Abs. Int.
1.89e4
9.47e3
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 2.58e3
0%
Abs. Int.
8.08e3
4.04e3
0.00e0
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
9.70e6
4.85e6
0.00e0
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: B
4σ 1.26e3
0%
Abs. Int.
8.49e3
4.24e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: B
4σ 1.27e3
0%
Abs. Int.
6.46e3
3.23e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: B
4σ 2.12e3
0%
Abs. Int.
1.50e4
7.51e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: B
4σ 2.61e3
0%
Abs. Int.
1.42e4
7.12e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.63e7
1.82e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

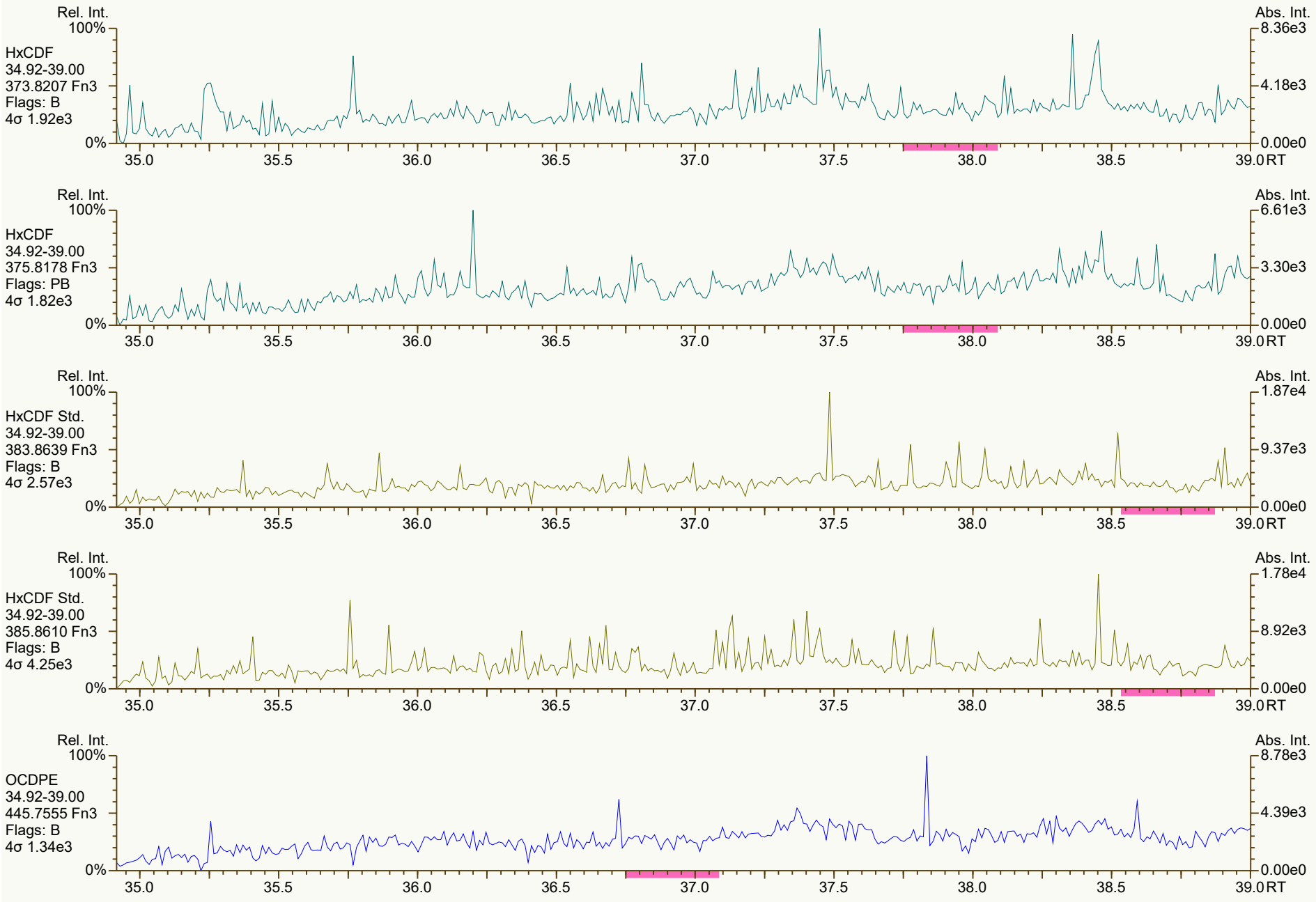

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.59e3
0%
Abs. Int.
7.22e3
3.61e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.82e3
0%
Abs. Int.
5.85e3
2.92e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: B
4σ 1.93e3
0%
Abs. Int.
7.62e3
3.81e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.71e3
0%
Abs. Int.
7.51e3
3.76e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
2.10e7
1.05e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: B
4σ 1.69e3
0%
Abs. Int.
1.39e4
6.93e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: B
4σ 2.58e3
0%
Abs. Int.
1.12e4
5.61e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.82e4
9.10e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: B
4σ 2.46e3
0%
Abs. Int.
1.40e4
7.02e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.98e7
9.91e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


2468F
4.02e5*
23.82
Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 2.31e3
0%
Abs. Int.
8.42e4
4.21e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
2468F
5.25e5*
23.82
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.69e3
1.19e5
5.94e4
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 1.32e4
3.49e4
1.74e4
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 6.40e3
2.55e4
1.28e4
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.46e3
1.18e4
5.91e3


Rel. Int.
100%
0%
Abs. Int.
1.19e4
5.96e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.77e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.33e4
6.65e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.61e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.18e7
5.92e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: B
4σ 1.66e3
0%
Abs. Int.
1.01e4
5.04e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
8.32e3
4.16e3
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.36e4
6.82e3
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: B
4σ 1.66e3
0%
Abs. Int.
1.70e4
8.49e3
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.63e3
0%
Abs. Int.
2.09e4
1.05e4
0.00e0
RT

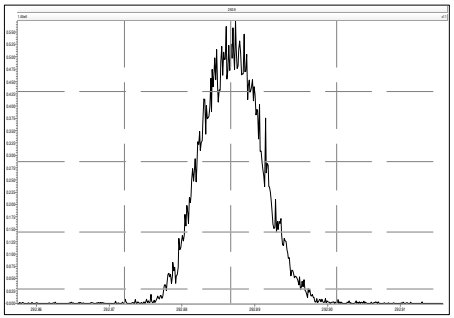

Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: B
4σ 1.92e3
0%
Abs. Int.
8.36e3
4.18e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PB
4σ 1.82e3
0%
Abs. Int.
6.61e3
3.30e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: B
4σ 2.57e3
0%
Abs. Int.
1.87e4
9.37e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: B
4σ 4.25e3
0%
Abs. Int.
1.78e4
8.92e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.34e3
0%
Abs. Int.
8.78e3
4.39e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: B
4σ 1.86e3
0%
Abs. Int.
7.82e3
3.91e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.18e3
0%
Abs. Int.
5.40e3
2.70e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: B
4σ 2.18e3
0%
Abs. Int.
1.84e4
9.21e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: B
4σ 2.24e3
0%
Abs. Int.
2.12e4
1.06e4
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.53e3
0%
Abs. Int.
5.63e3
2.81e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

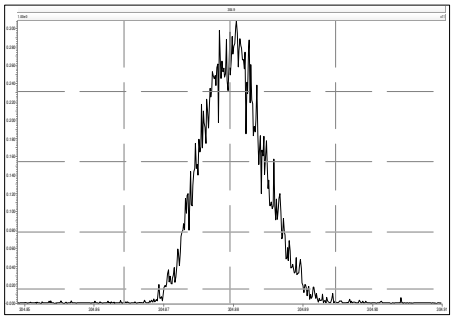

Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.46e3
0%
Abs. Int.
5.73e3
2.87e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: B
4σ 1.36e3
0%
Abs. Int.
1.43e4
7.14e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: B
4σ 2.41e3
0%
Abs. Int.
1.34e4
6.68e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: B
4σ 2.45e3
0%
Abs. Int.
1.94e4
9.70e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.34e3
0%
Abs. Int.
8.74e3
4.37e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Printed: Tuesday, February 15, 2022 09:46:21 Eastern Standard Time

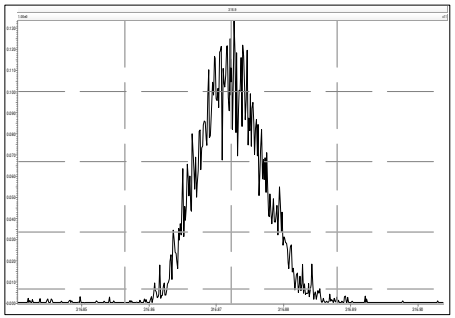
M 292.9824 R 15556



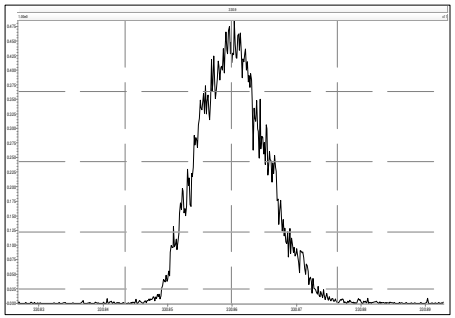
M 304.9824 R 15197



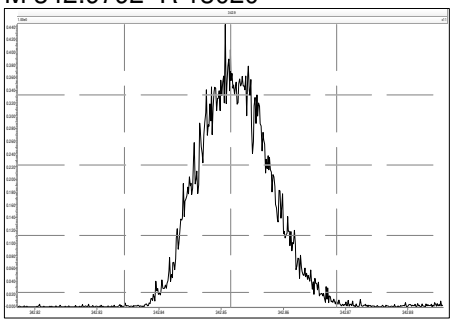
M 316.9824 R 15337



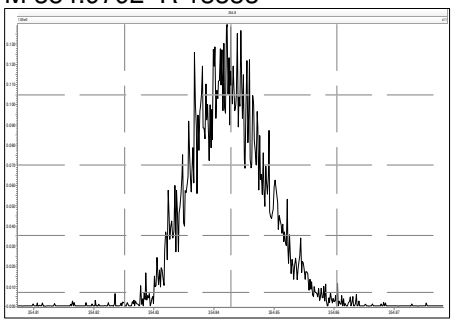
M 330.9792 R 14124



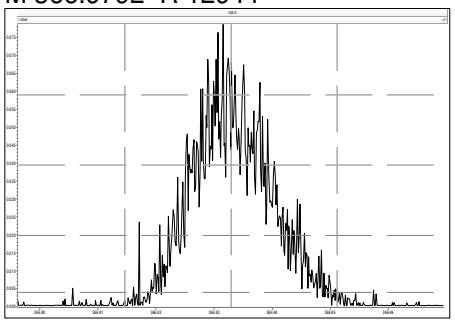
M 342.9792 R 13020



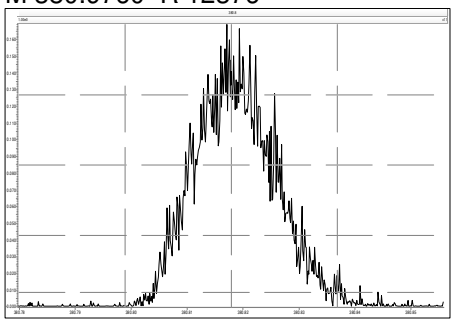
M 354.9792 R 13333



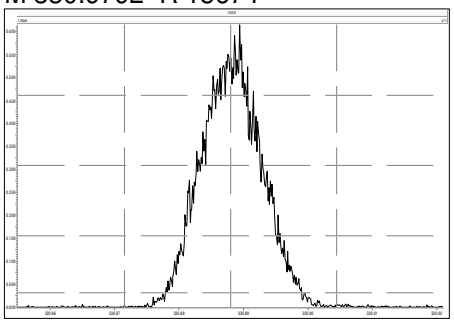
M 366.9792 R 12944



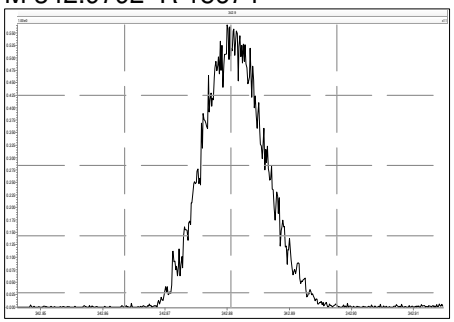
M 380.9760 R 12376



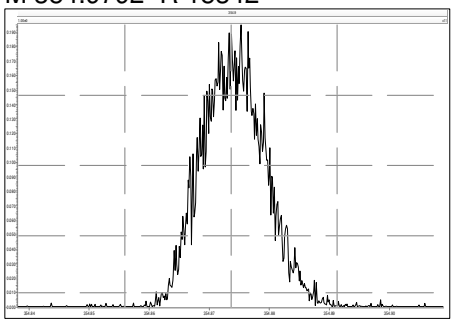
M 330.9792 R 15674



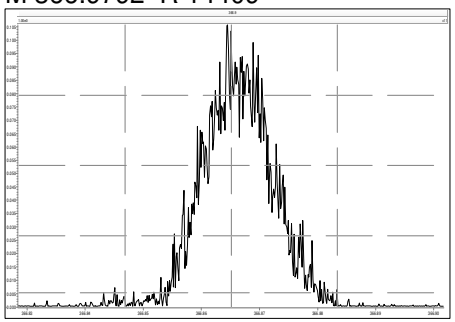
M 342.9792 R 15674



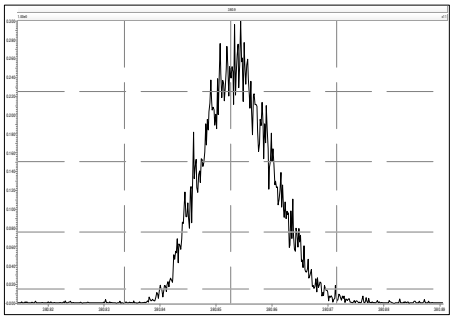
M 354.9792 R 15342



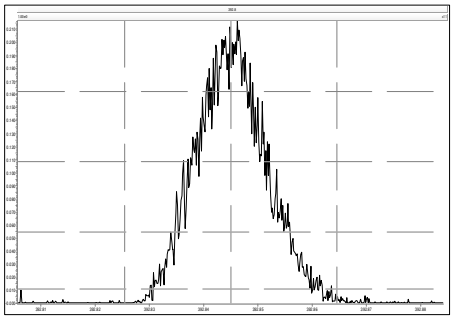
M 366.9792 R 14409



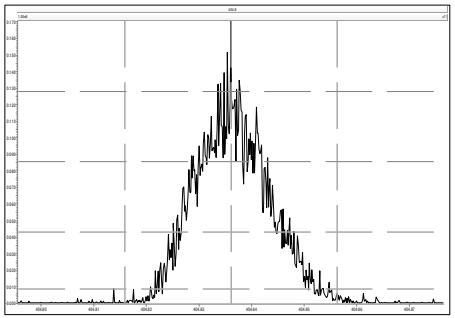
M 380.9760 R 13550



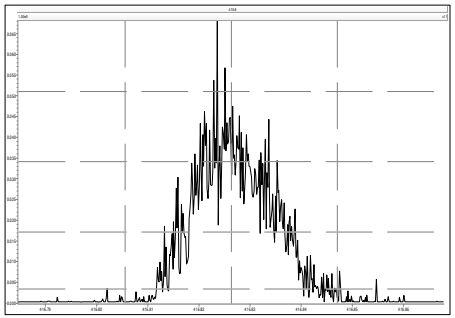
M 392.9760 R 13703



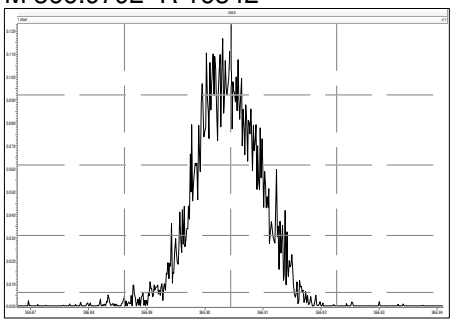
M 404.9760 R 13703



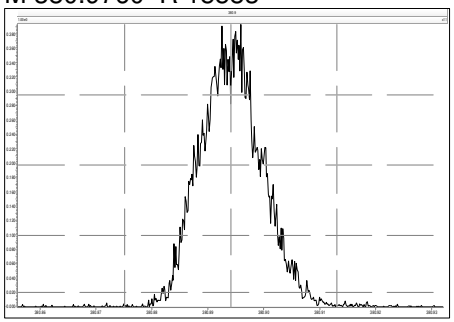
M 416.9760 R 14367



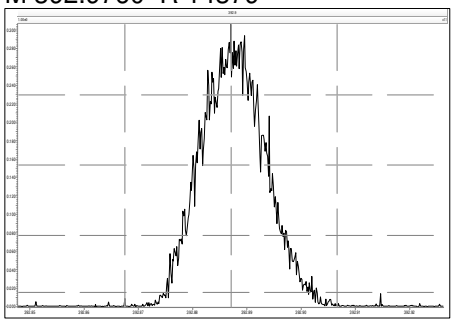
M 366.9792 R 16342



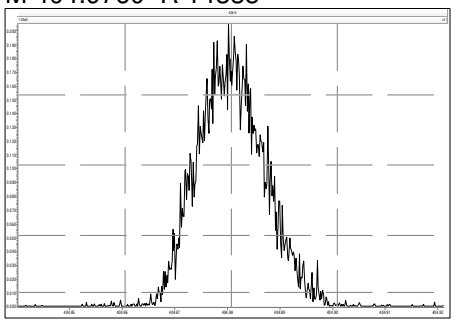
M 380.9760 R 15583



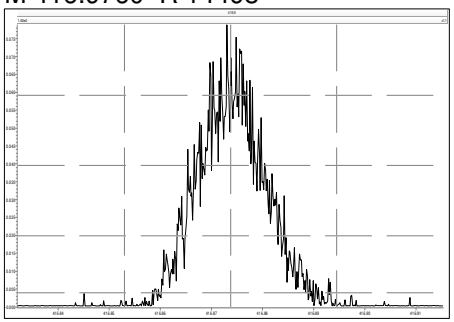
M 392.9760 R 14379



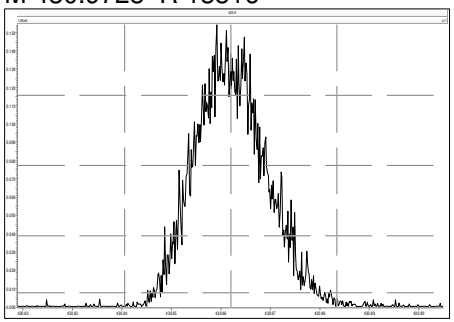
M 404.9760 R 14335



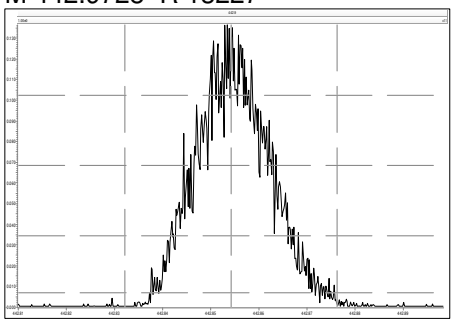
M 416.9760 R 14498



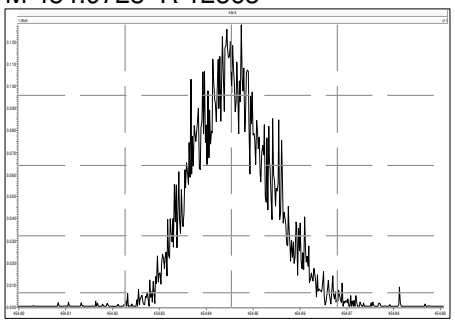
M 430.9728 R 13516



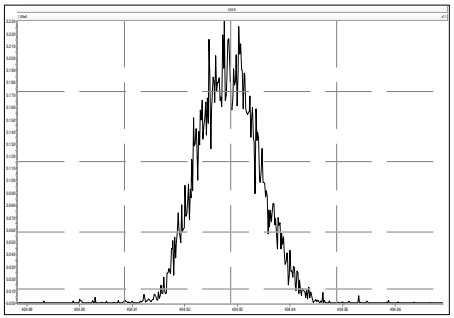
M 442.9728 R 13227



M 454.9728 R 12563



M 404.9760 R 16234



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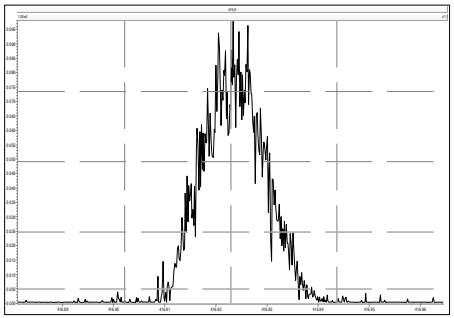

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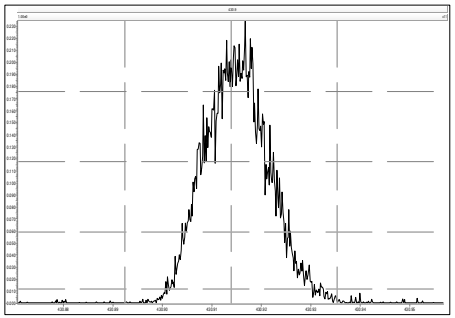

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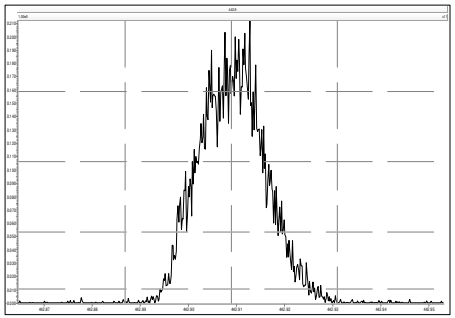

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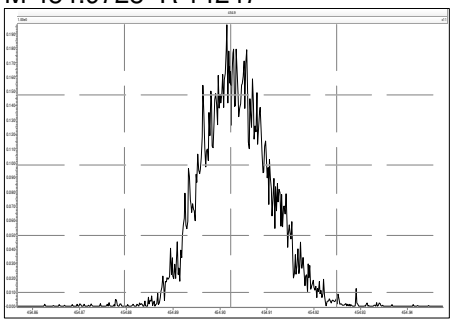

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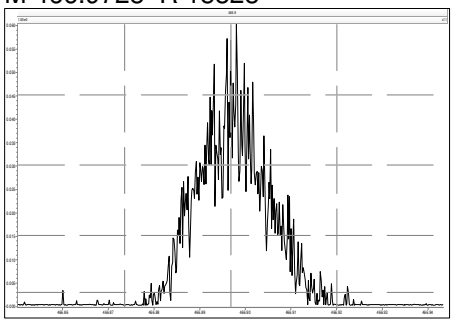

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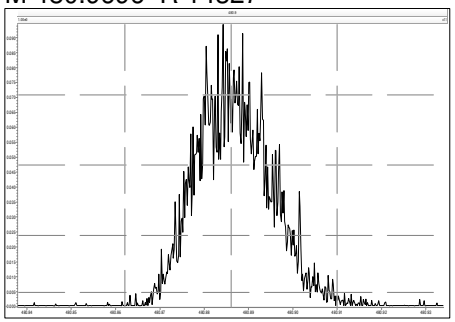

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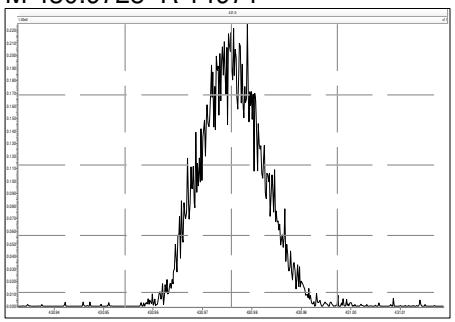

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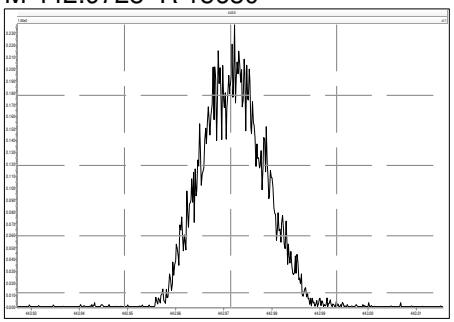

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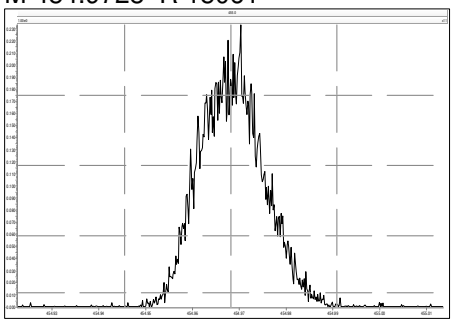

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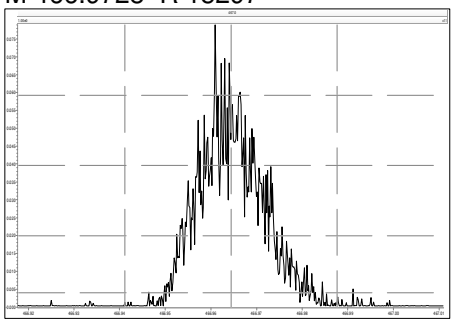

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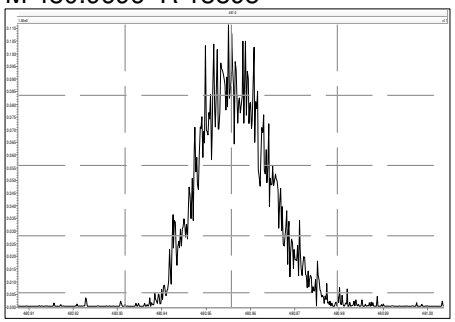

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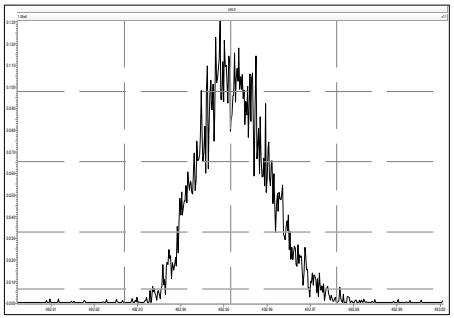

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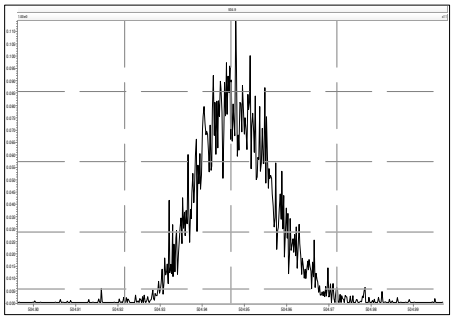

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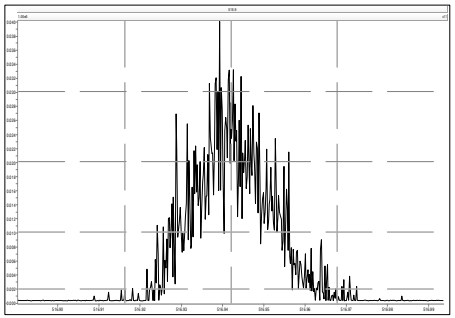

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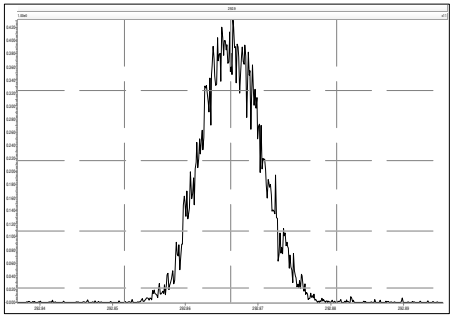

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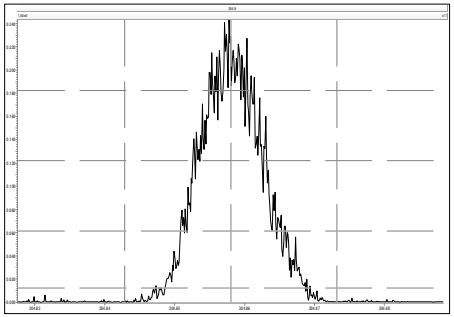

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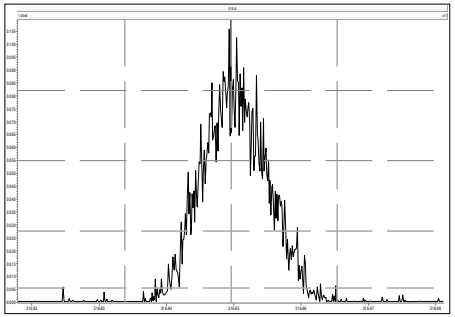

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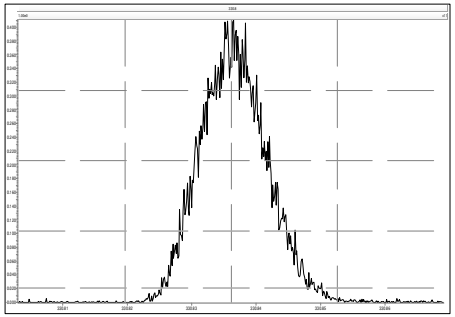

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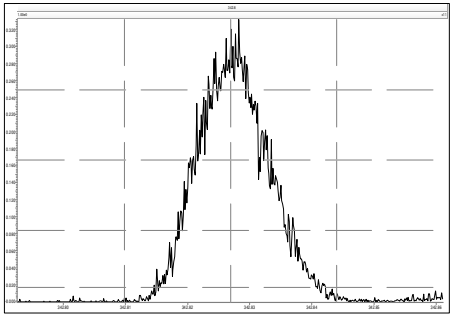

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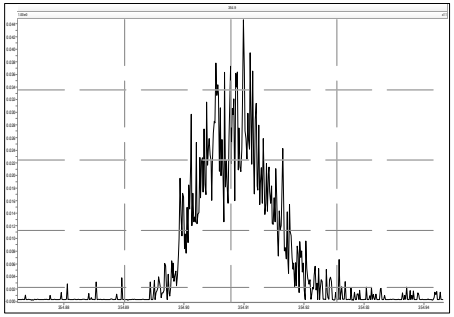

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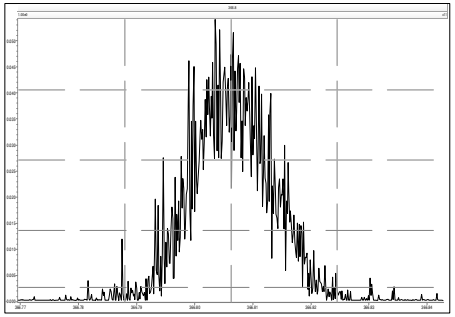

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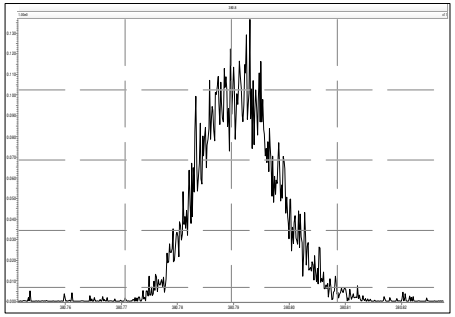

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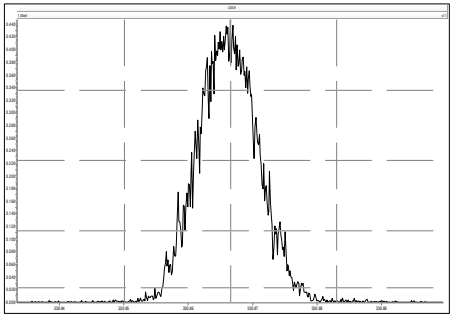

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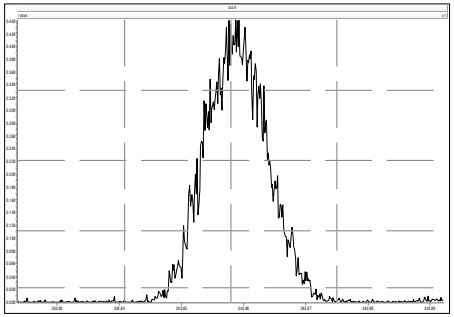

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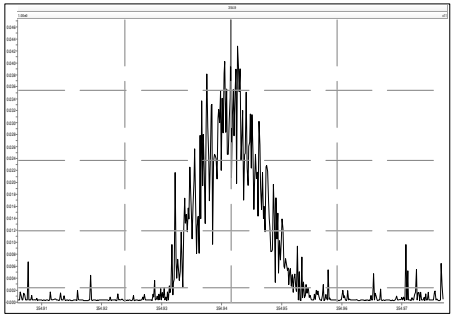

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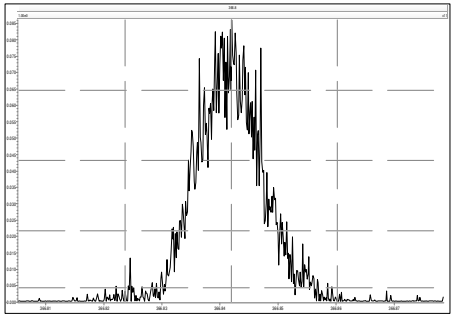

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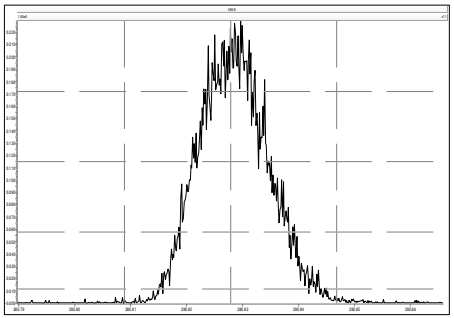

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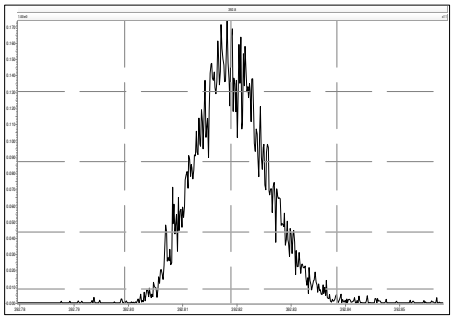

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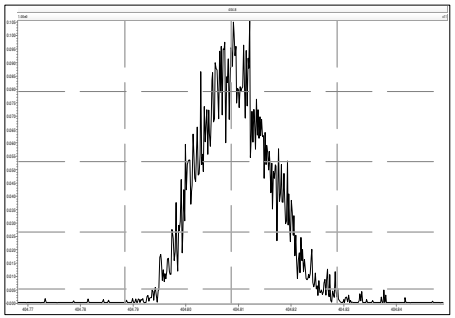

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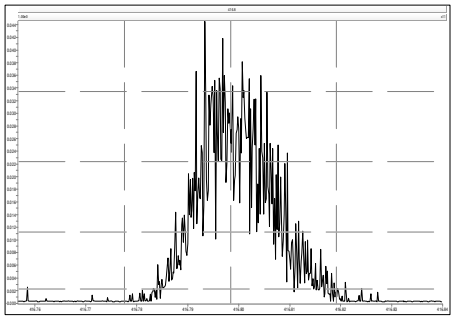

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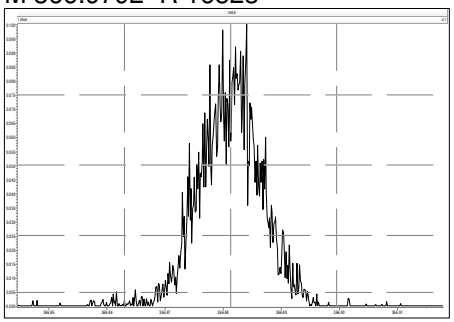

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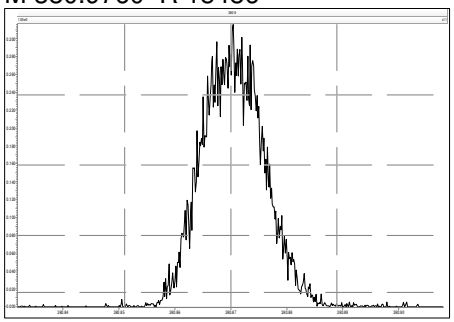

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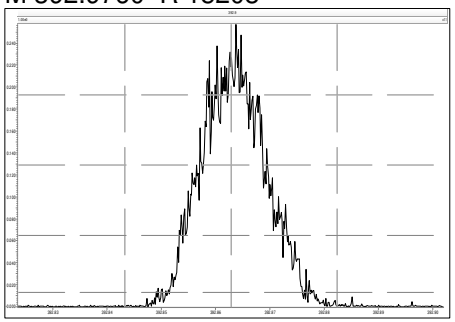

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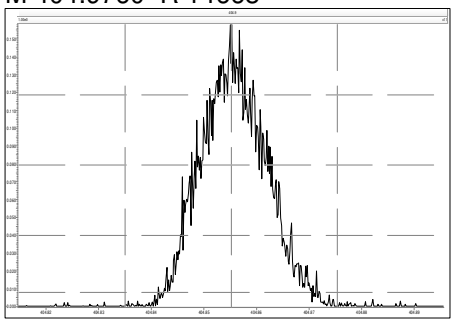

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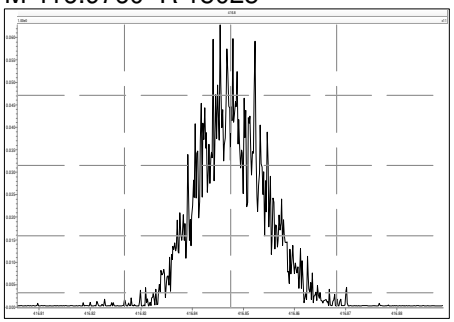

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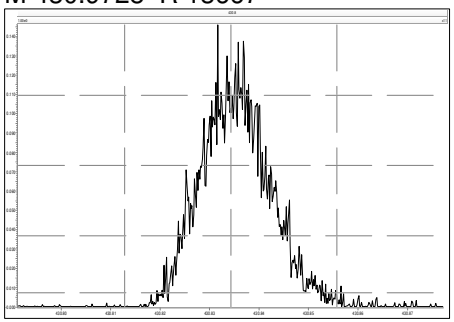

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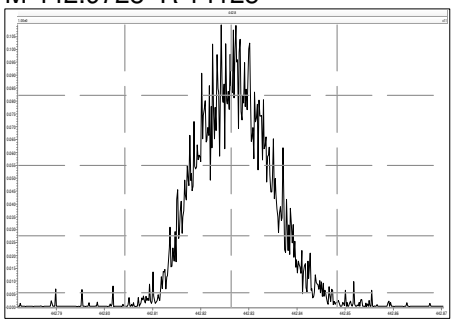

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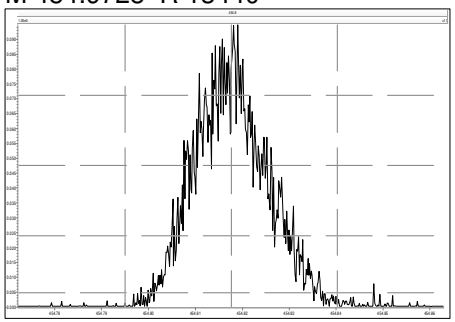

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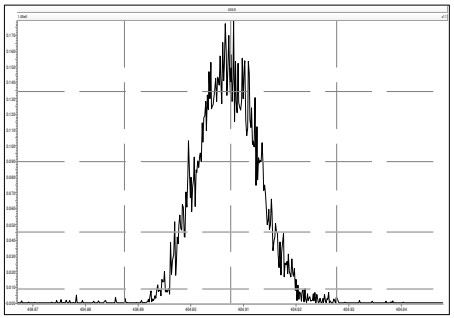

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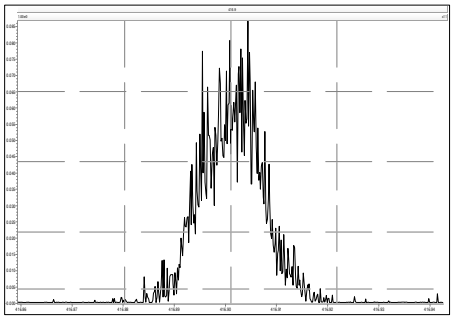

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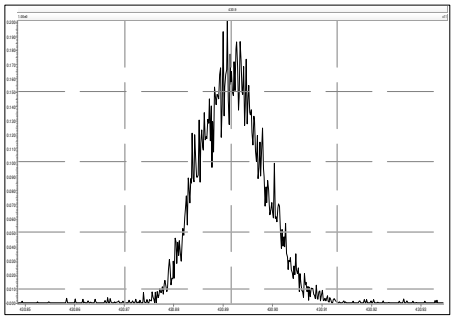

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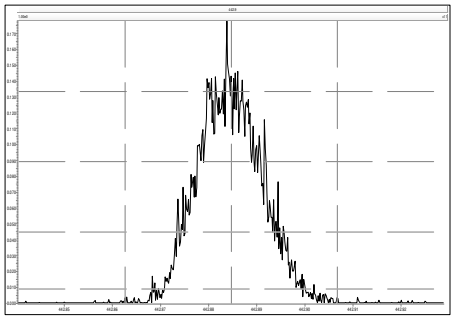

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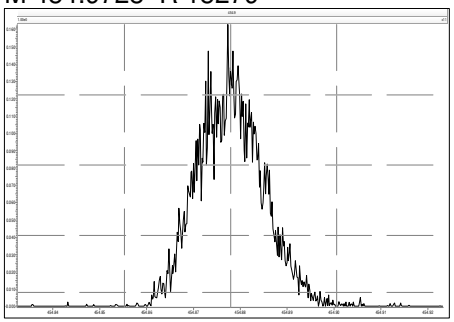

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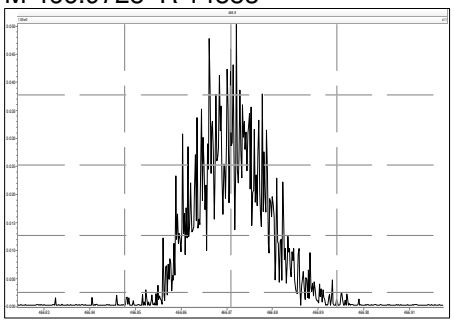

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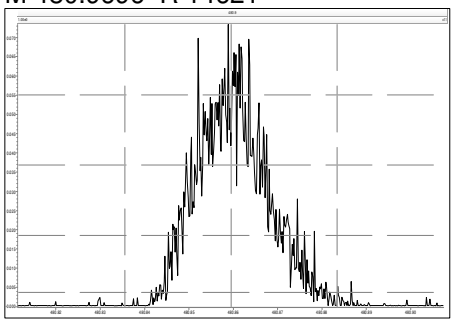

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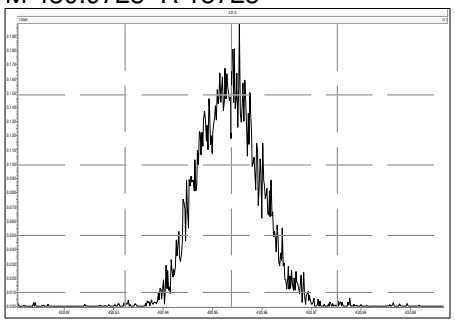

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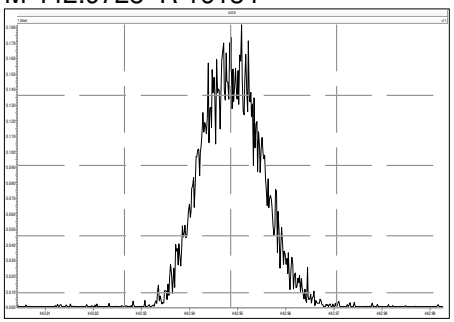

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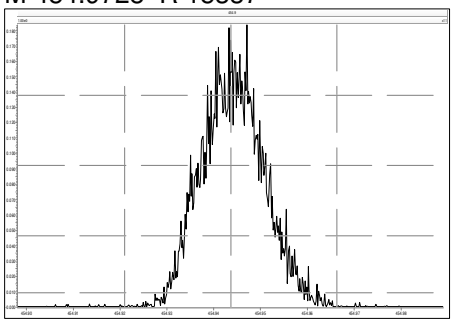

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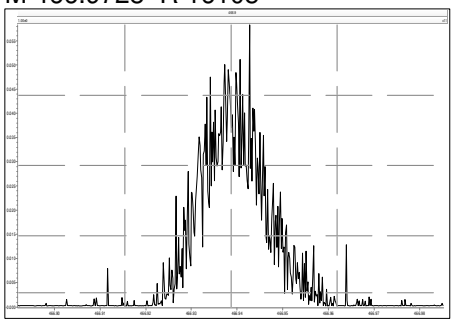

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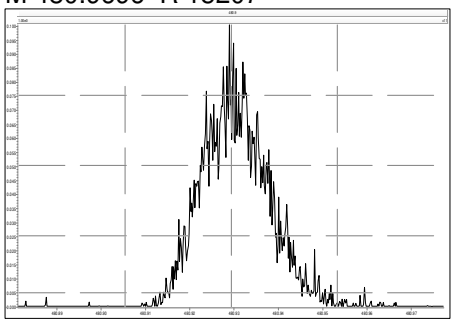

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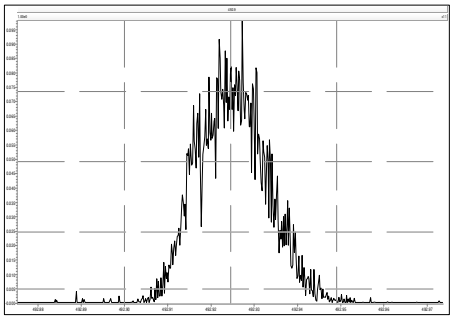

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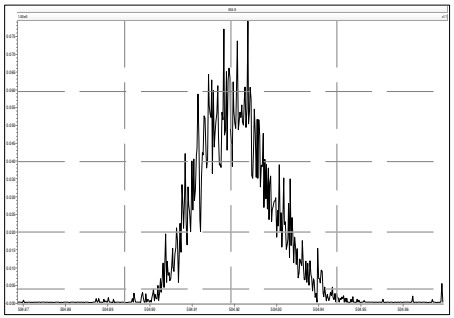

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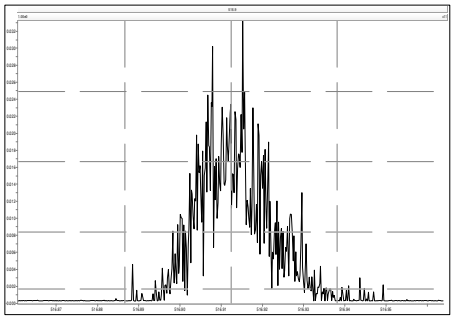
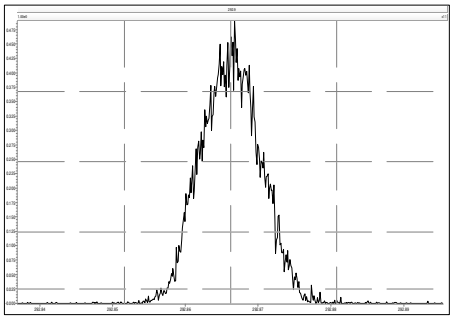
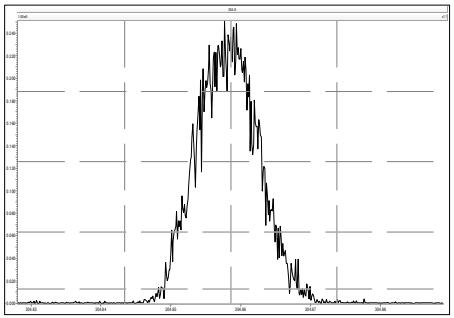


Printed: Tuesday, February 15, 2022 22:38:03 Eastern Standard Time

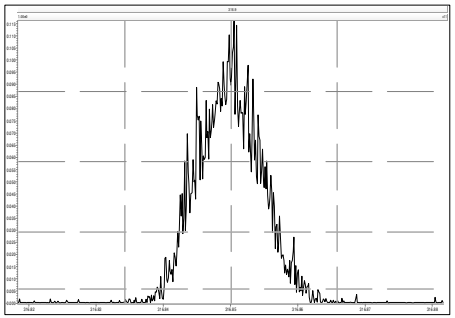
M 292.9824 R 15776



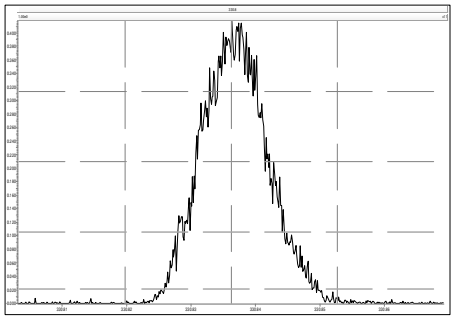
M 304.9824 R 15988



M 316.9824 R 15408



M 330.9792 R 14513



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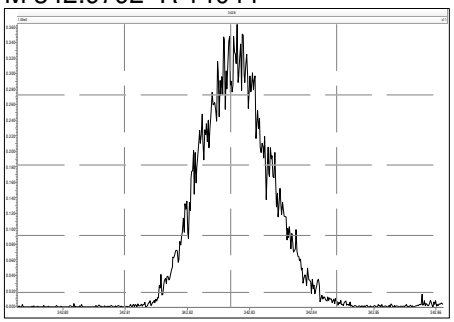
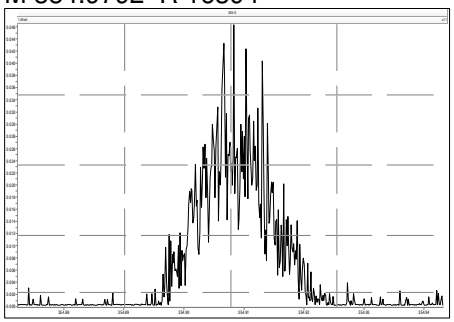
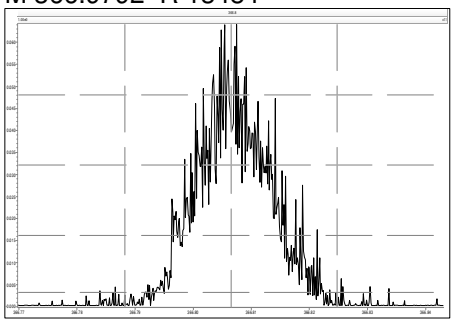


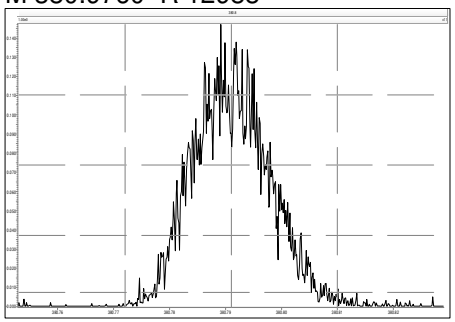
M 354.9792 R 16394



M 366.9792 R 13484



M 380.9760 R 12988



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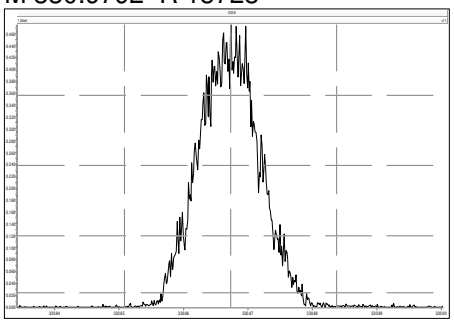

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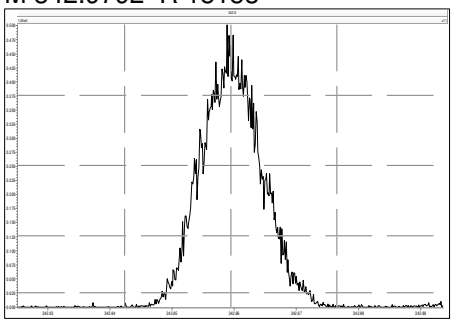
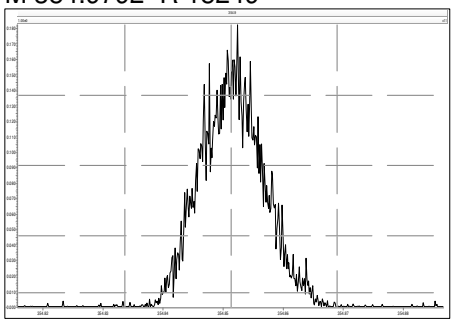
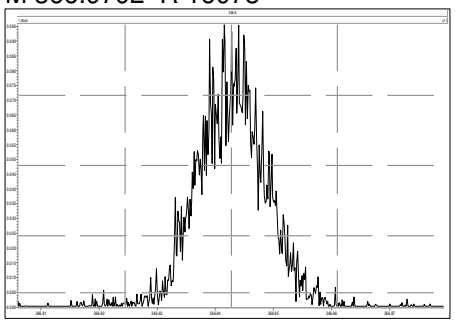


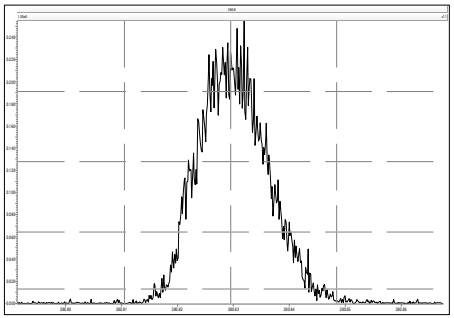
M 354.9792 R 15249



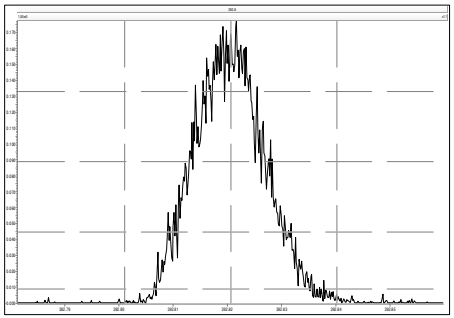
M 366.9792 R 16078



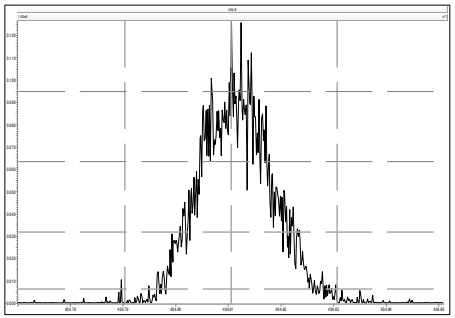
M 380.9760 R 14253



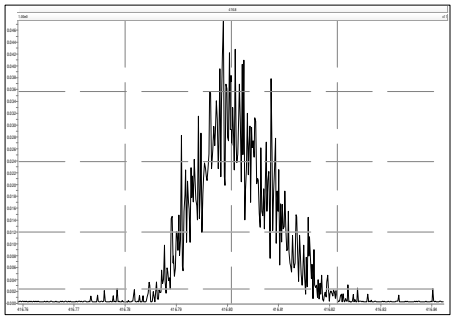
M 392.9760 R 13700



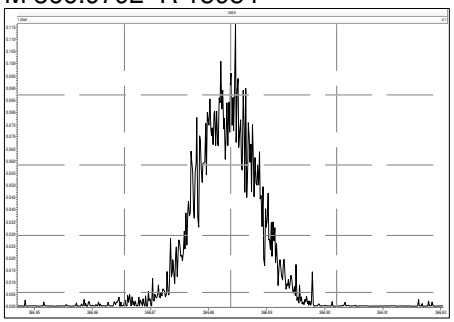
M 404.9760 R 14046



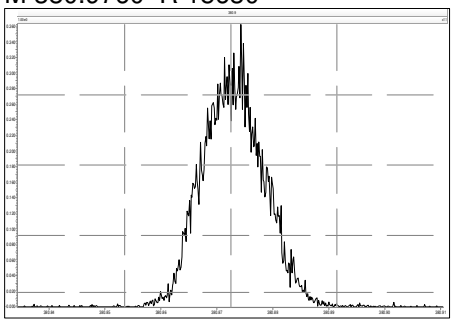
M 416.9760 R 13662



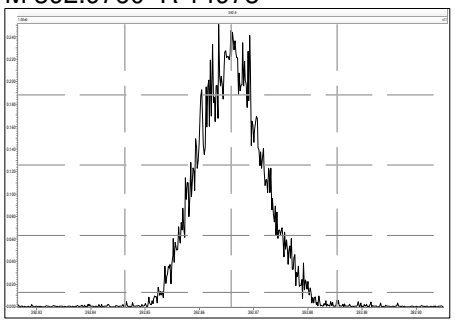
M 366.9792 R 15954



M 380.9760 R 15630



M 392.9760 R 14978



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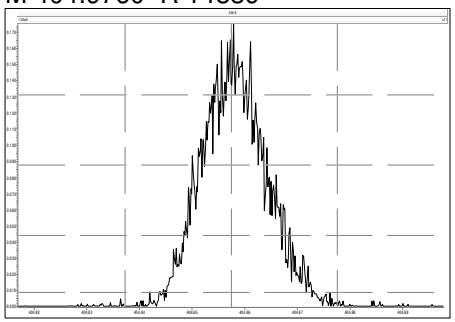

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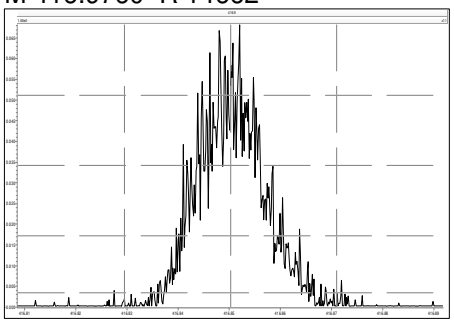
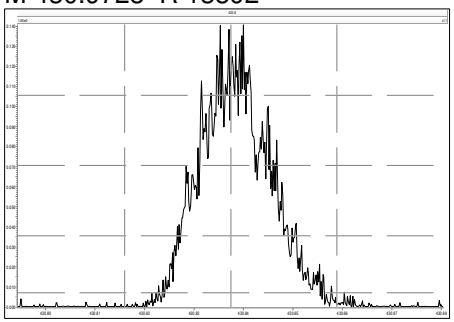


M 430.9728 R 13892



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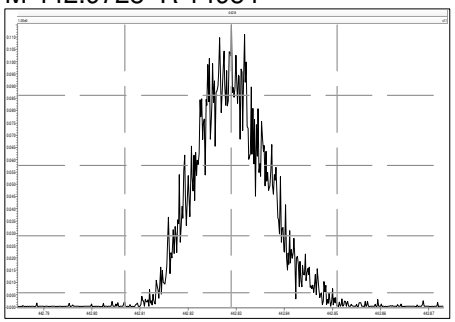
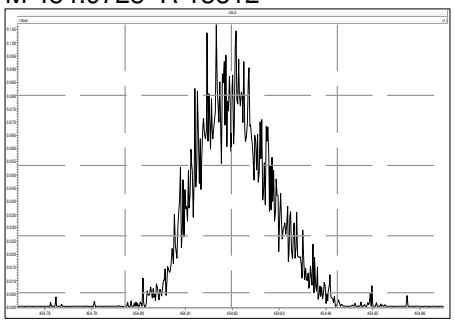
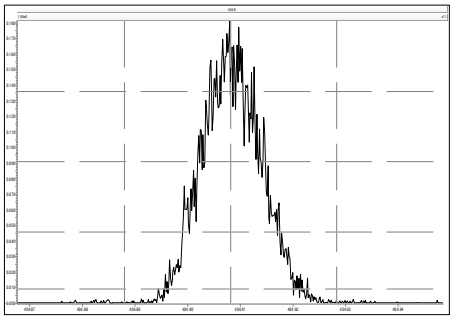


M 454.9728 R 13512



M 404.9760 R 16892



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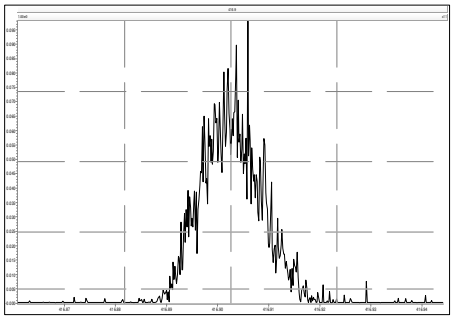

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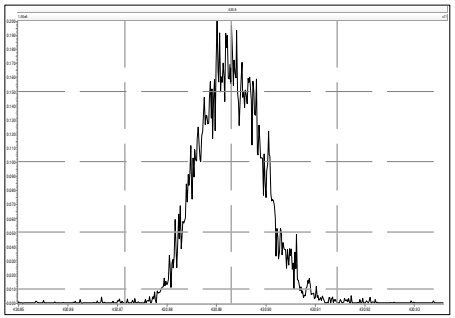

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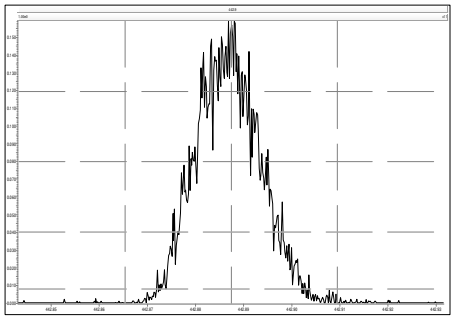

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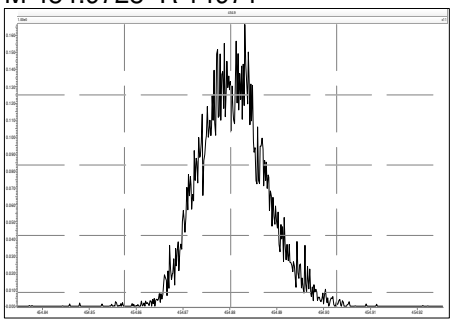

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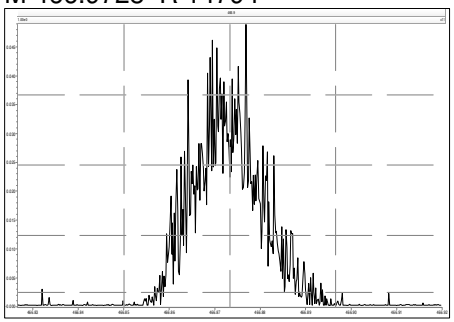

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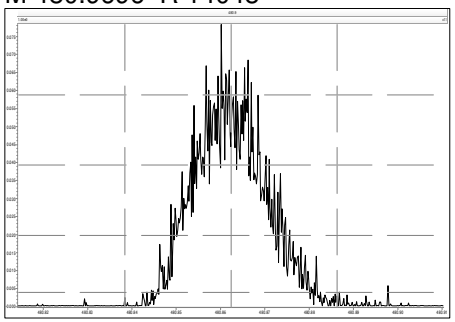

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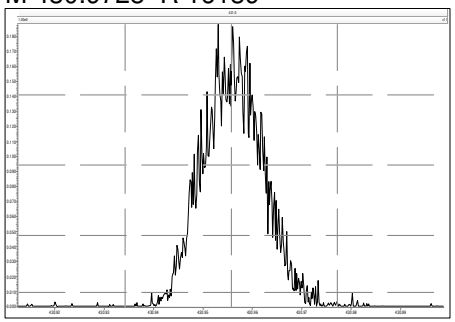

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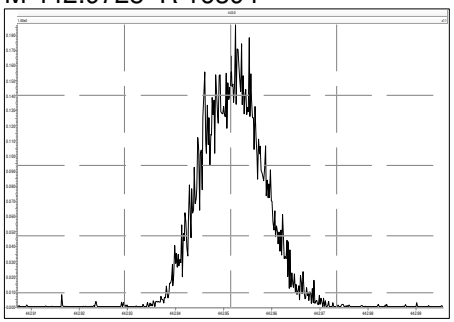

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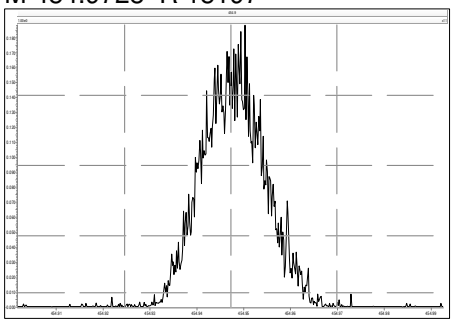

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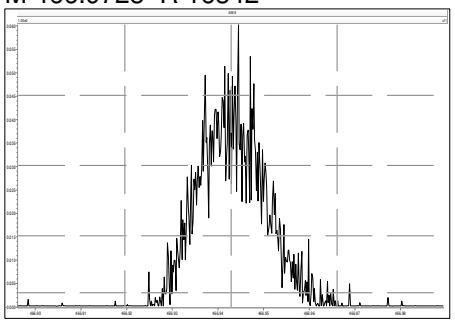

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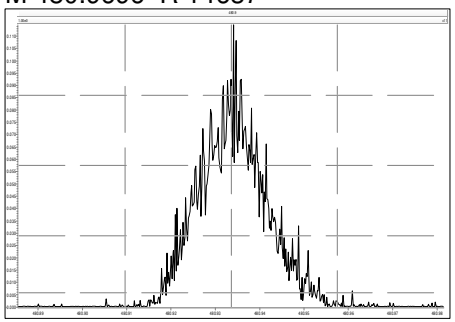

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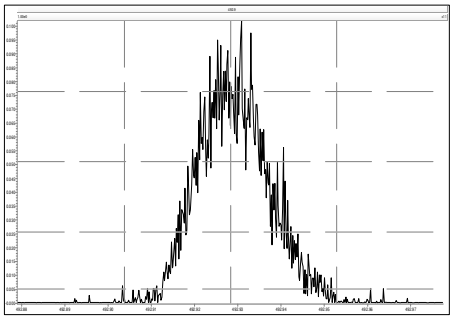

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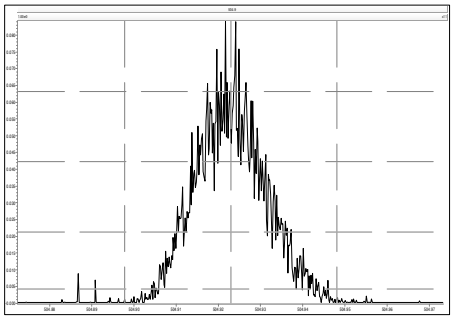

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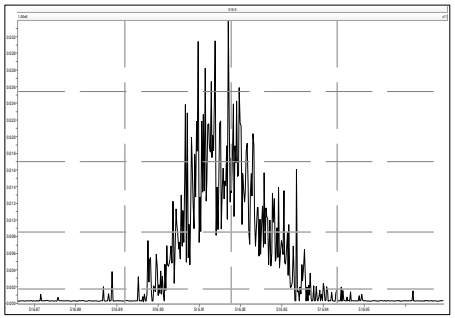


Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34 ✓	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98 ✓
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84 ✓	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86 ✓	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07 ✓	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10 ✓	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28 ✓	1.33

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

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
Tyler_Fritz , 11/11/2021, 4:44:03 PM

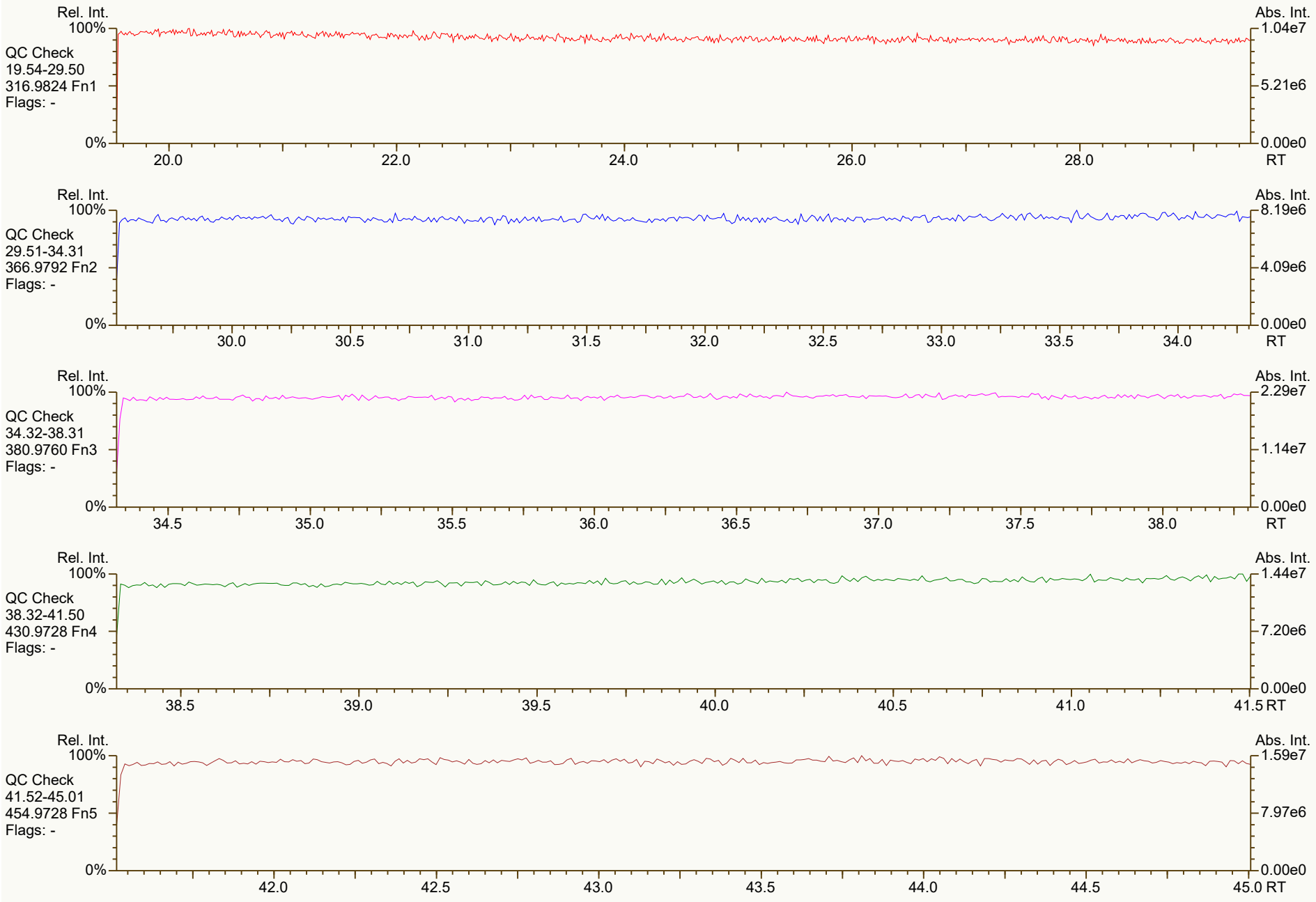
APPROVED
Amy_Boehm , 11/11/2021, 5:28:50 PM

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

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF					Checkcode: 245-007-QLD
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C04
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%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QC Check
19.54-29.50
316.9824 Fn1
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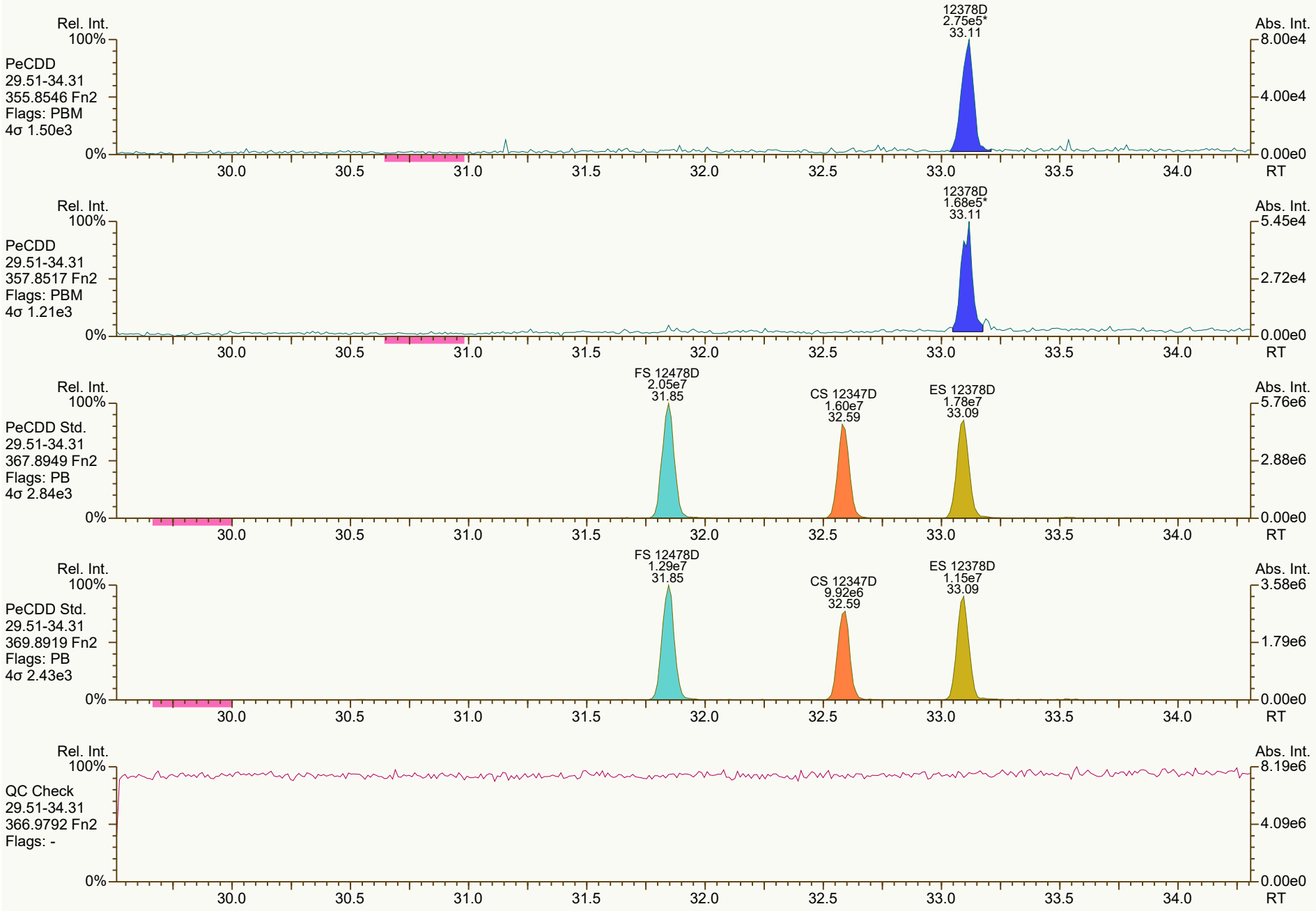
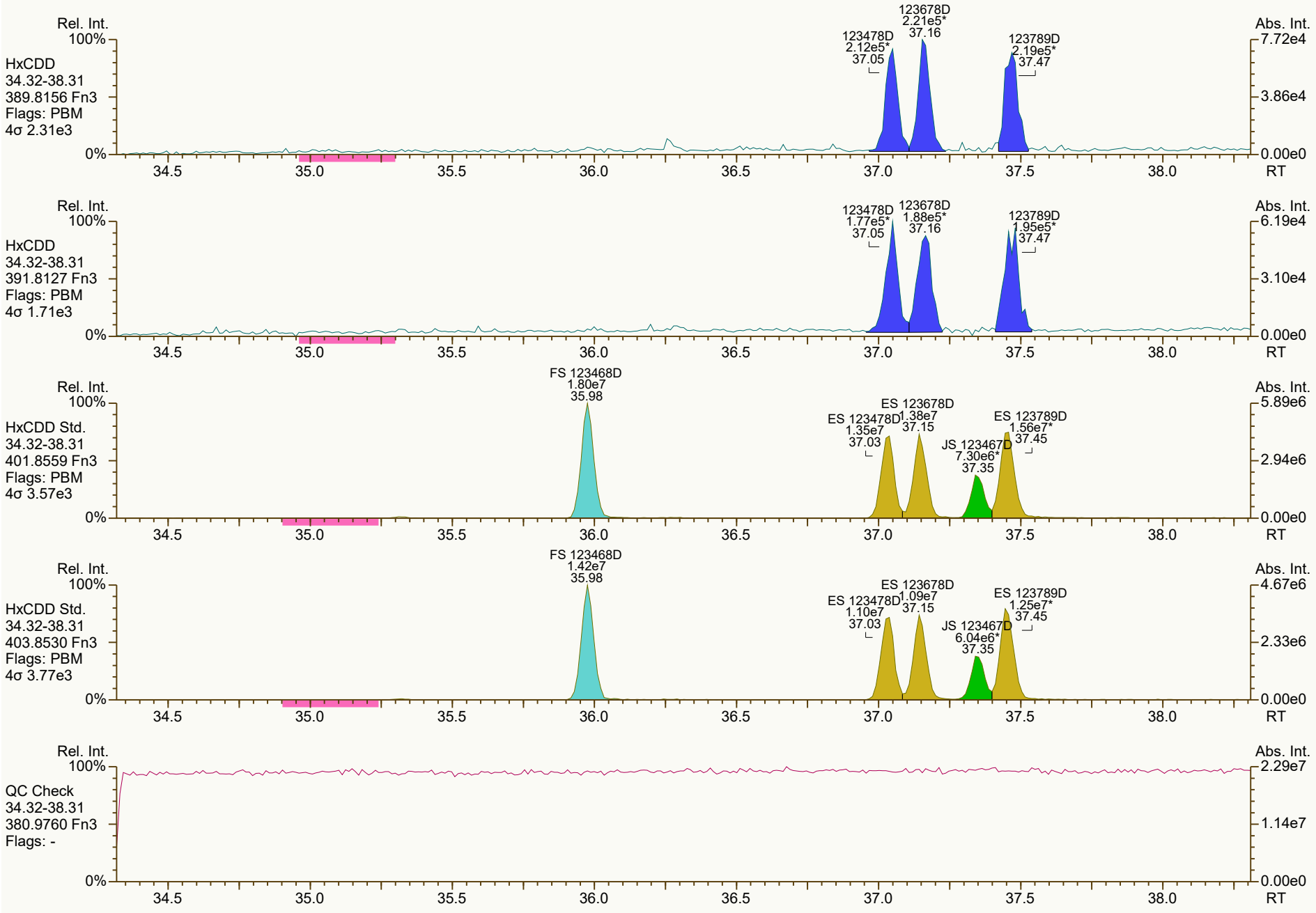
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
1.04e7
5.21e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
8.19e6
4.09e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
2.29e7
1.14e7
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.44e7
7.20e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.59e7
7.97e6
0.00e0
RT

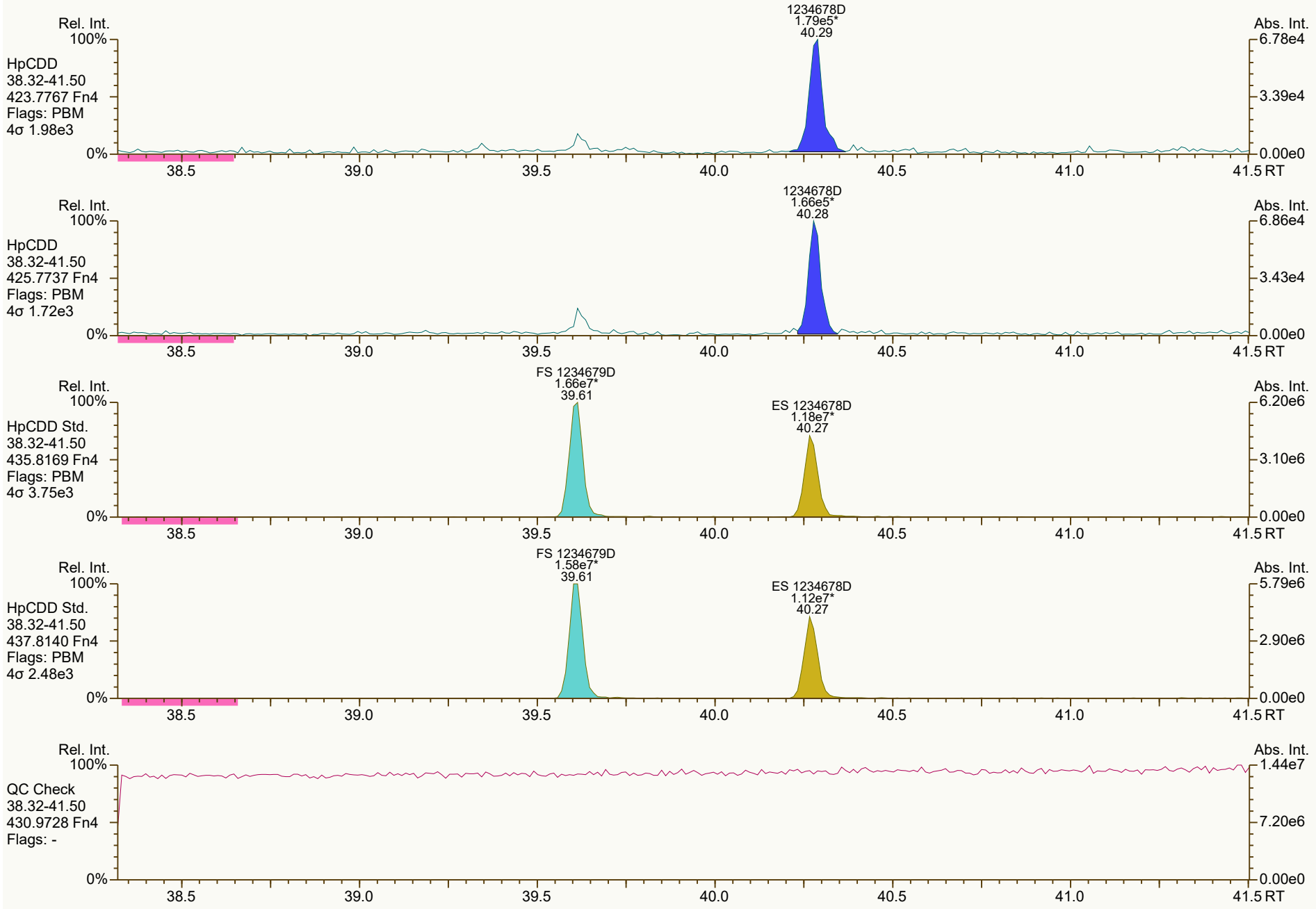


Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF) *Peak annotation: Areas, Centroids*

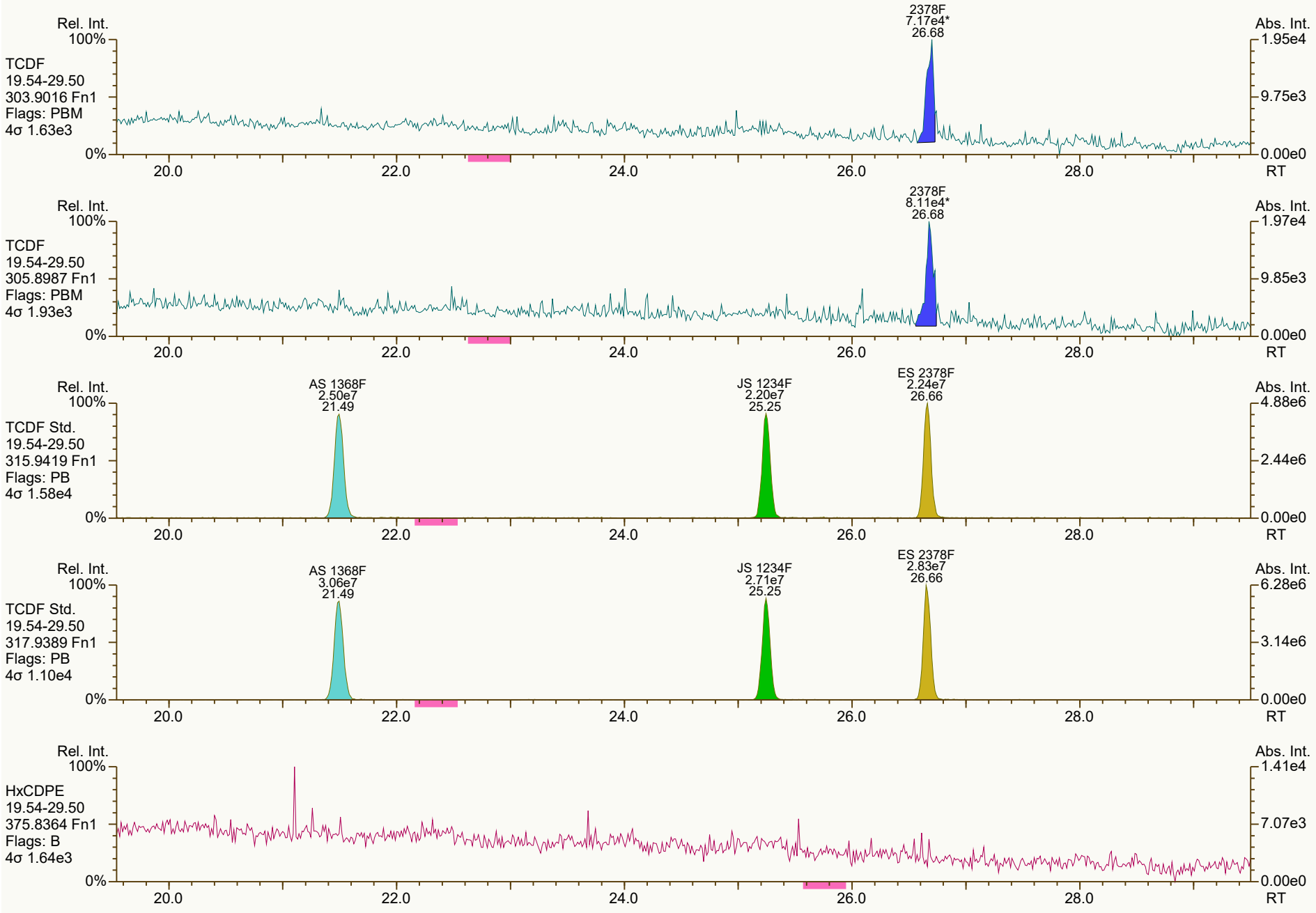
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3504, 1483, 2998 scc: 245-007 *Revised: 11-Nov-2021 16:18 (DTF)* *Printed: 11-Nov-2021 16:32 Page 2 of 12*


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
123478D
2.12e5*
37.05
123678D
2.21e5*
37.16
123789D
2.19e5*
37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
123478D
1.77e5*
37.05
123678D
1.88e5*
37.16
123789D
1.95e5*
37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
0%
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
FS 123468D
1.80e7
35.98
ES 123478D
1.35e7
37.03
ES 123678D
1.38e7
37.15
JS 123467D
7.30e6*
37.35
ES 123789D
1.56e7*
37.45
Abs. Int.
5.89e6
2.94e6
0.00e0
0%
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
FS 123468D
1.42e7
35.98
ES 123478D
1.10e7
37.03
ES 123678D
1.09e7
37.15
JS 123467D
6.04e6*
37.35
ES 123789D
1.25e7*
37.45
Abs. Int.
4.67e6
2.33e6
0.00e0
0%
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.29e7
1.14e7
0.00e0
0%
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

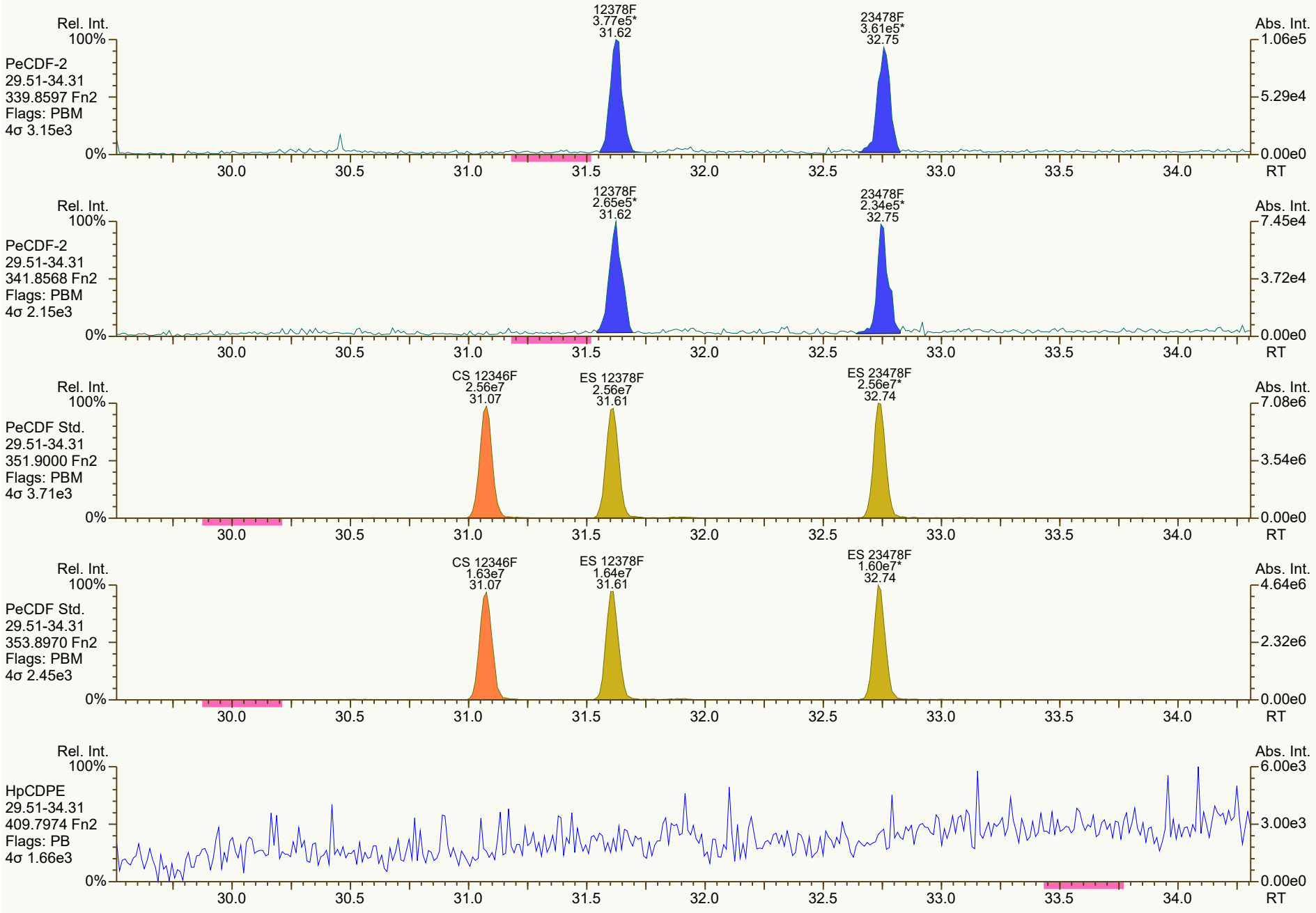

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

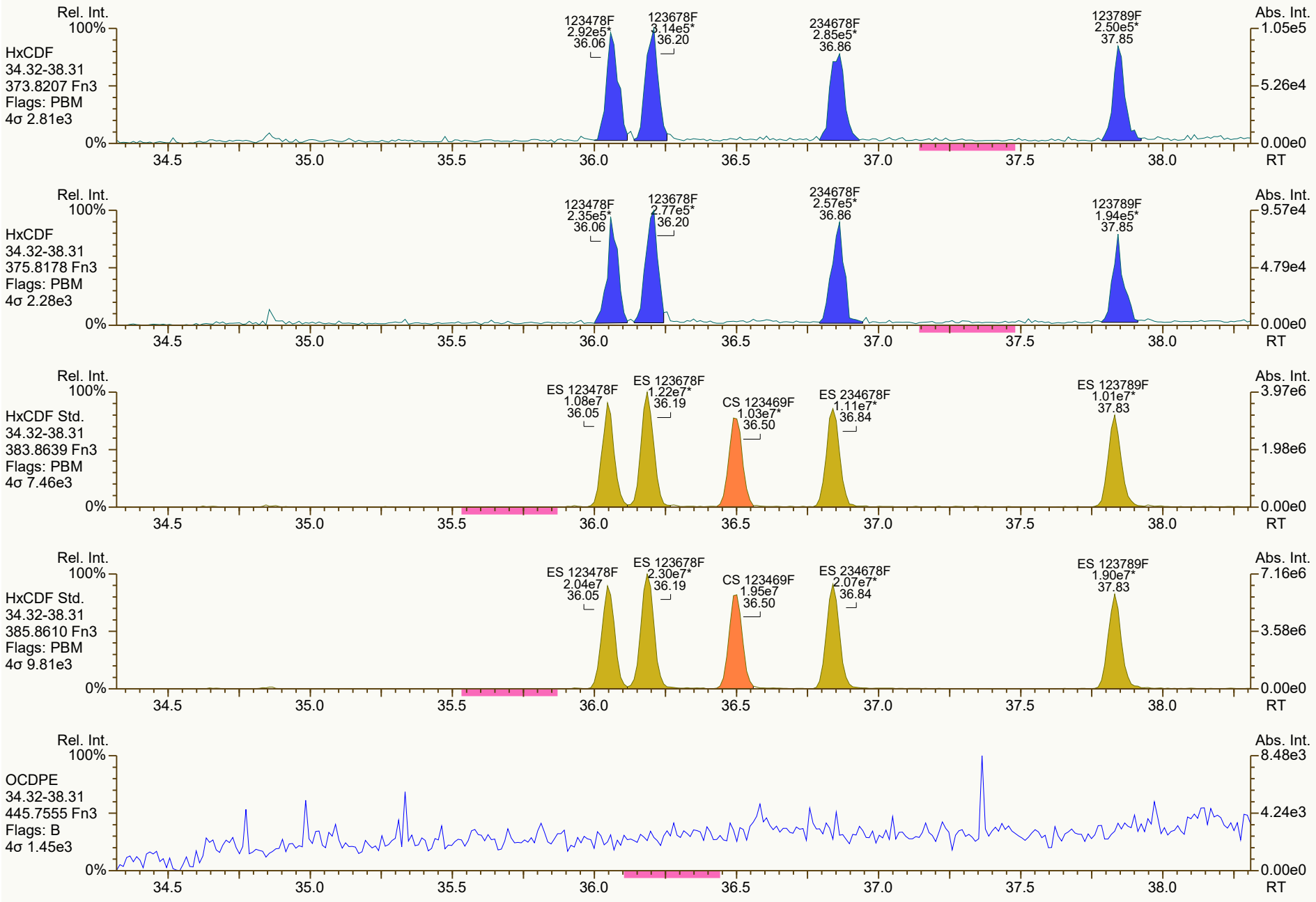

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
Abs. Int.
1.41e4
7.07e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT

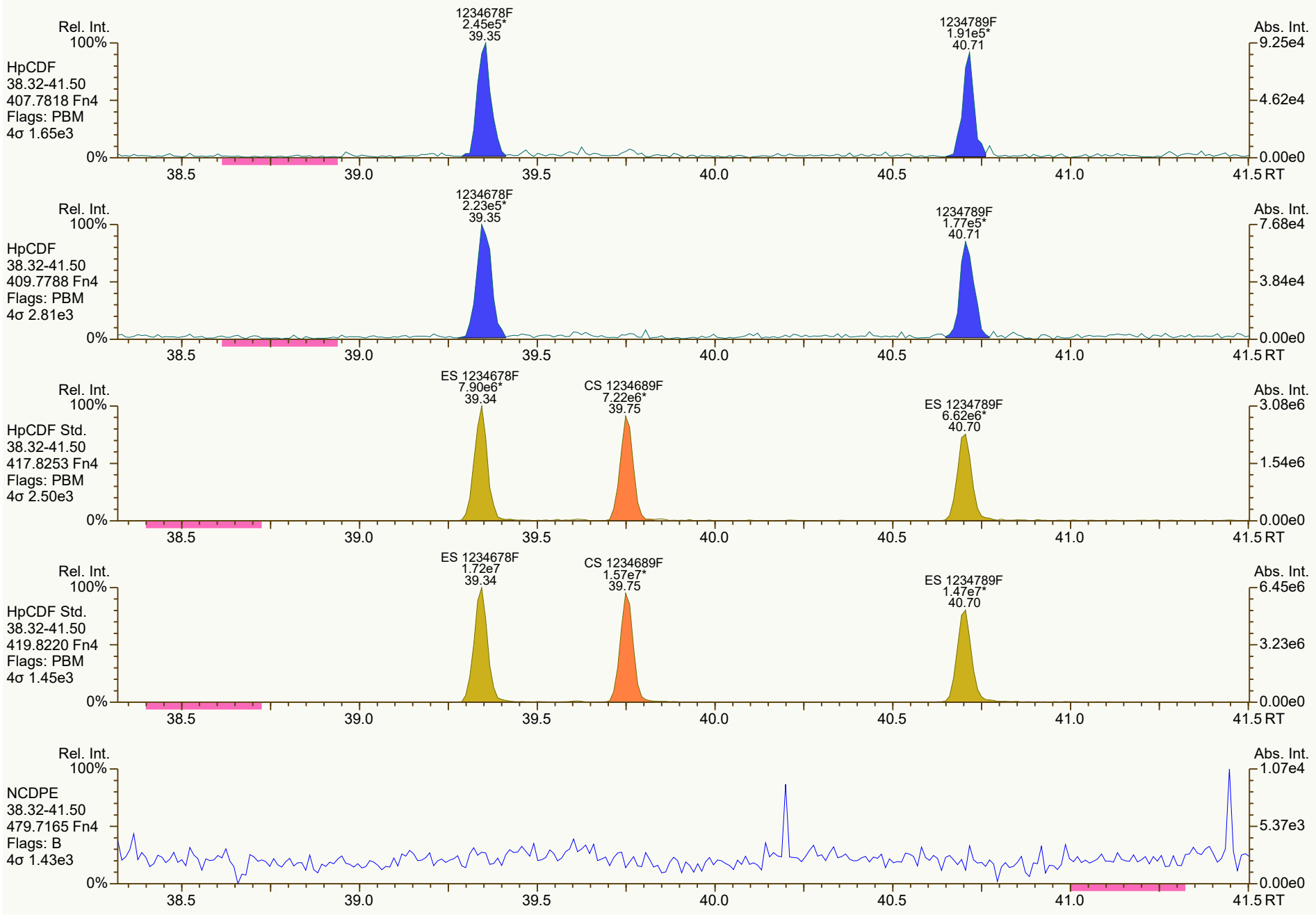
SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6412 scc: 245-007
PKD: 10-Nov-2021 13:30 Printed: 11-Nov-2021 16:32 Page 8 of 12


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
0%
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
0%
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
0%
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
0%
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

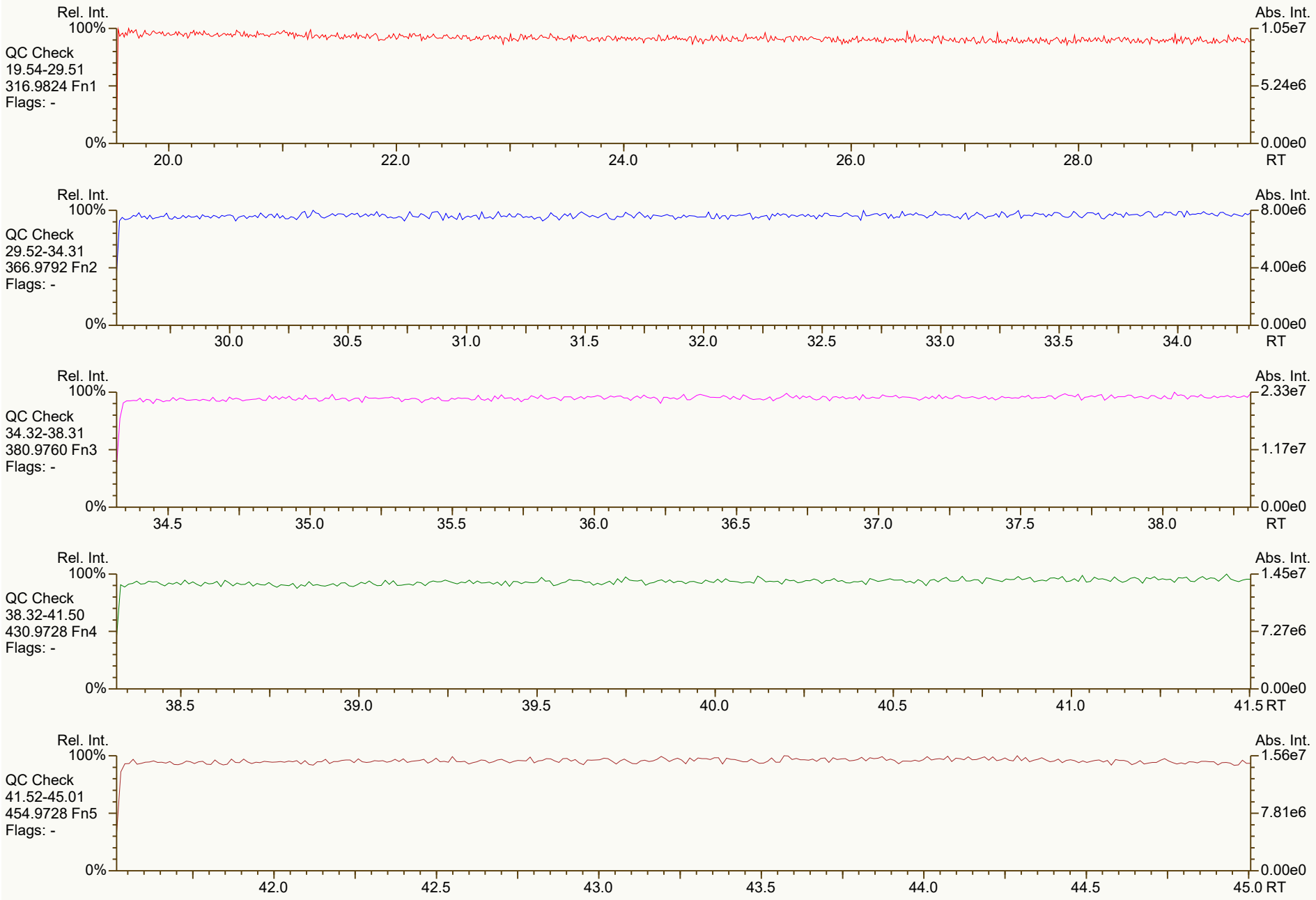

OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:48 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 419-111-CRN
Sample ID: 25-6-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C05

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

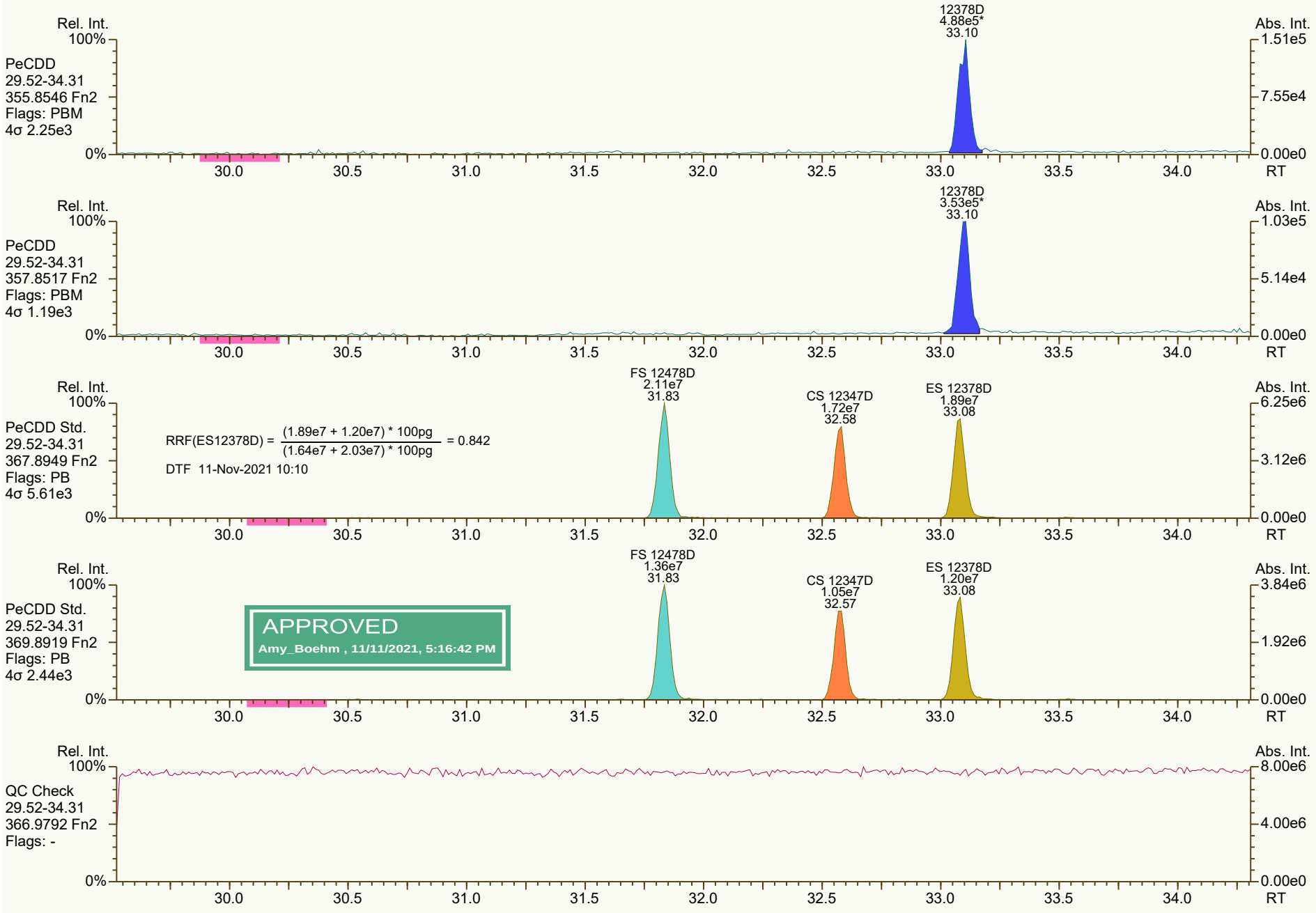
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF					Checkcode: 419-111-CRN
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C05
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

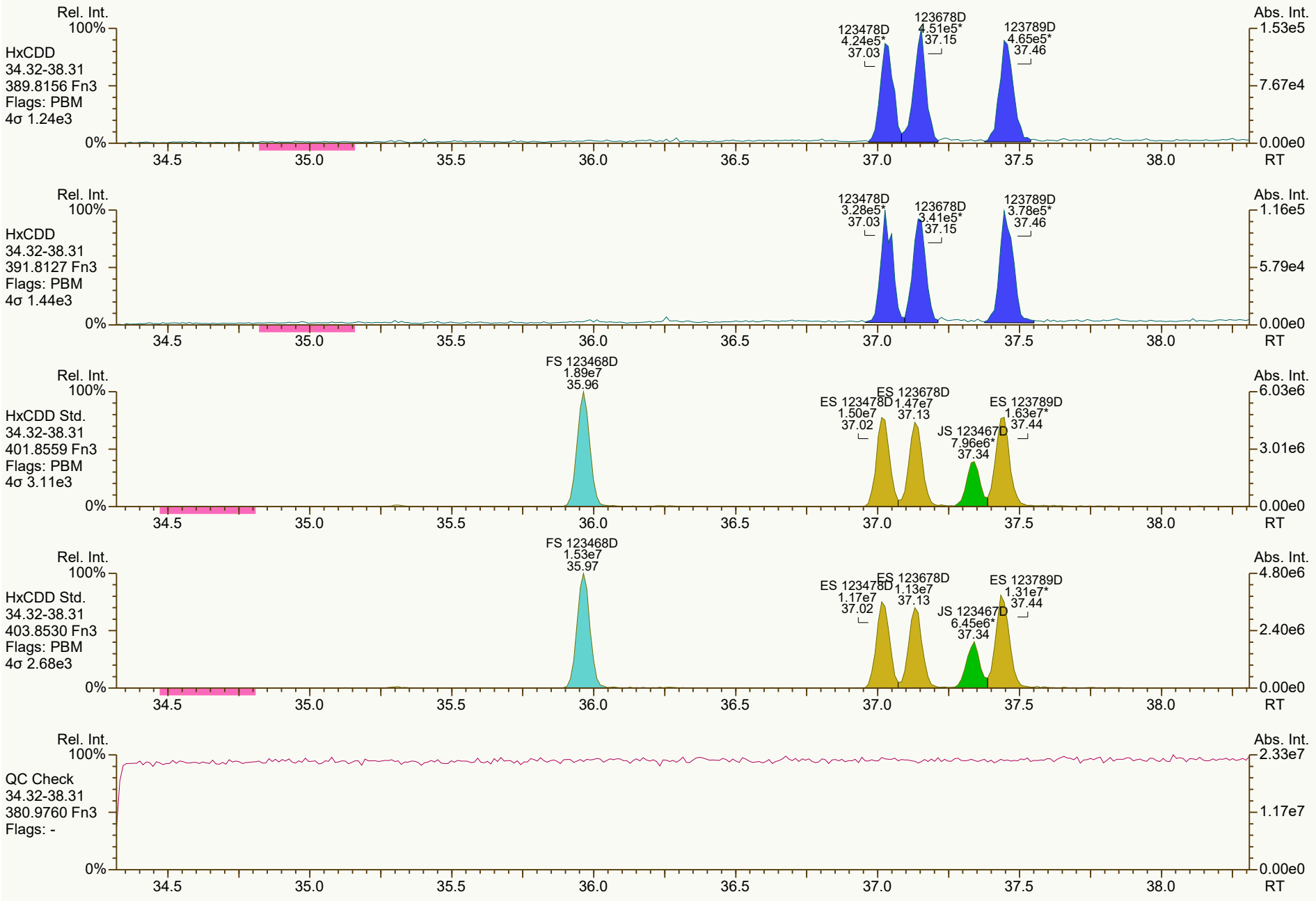
SGS ID: CS1_211110_DF_CA **Sample ID: 25-6-2** **Acq: 10-Nov-2021 11:48:34**
Instr: [ILM] AutoSpec-Ultima HRMS3 **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66** **User: DTF Datafile: 211110C05**

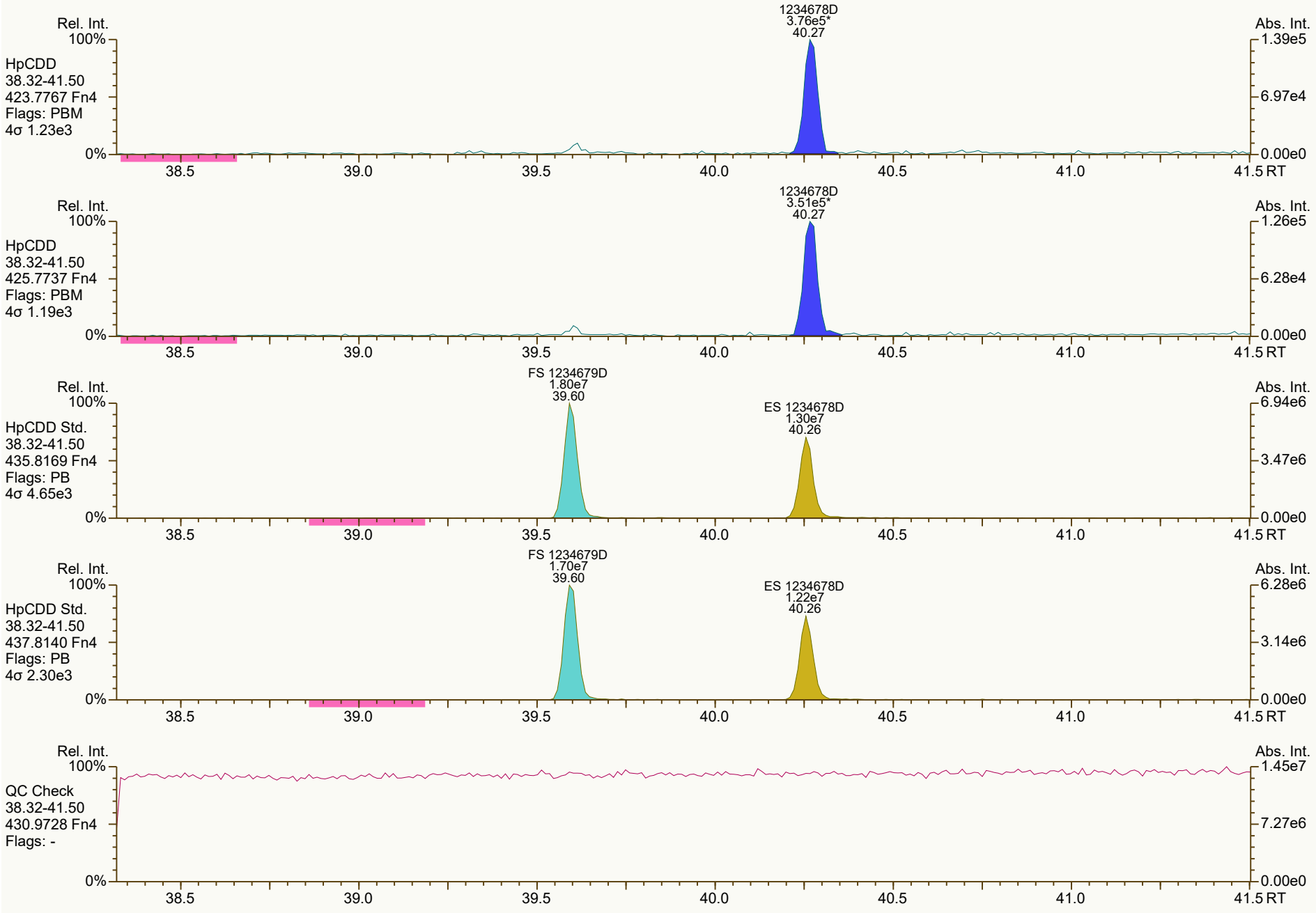


Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 scc: 419-111 *PKD: n/a Printed: 11-Nov-2021 10:40 Page 1 of 12*

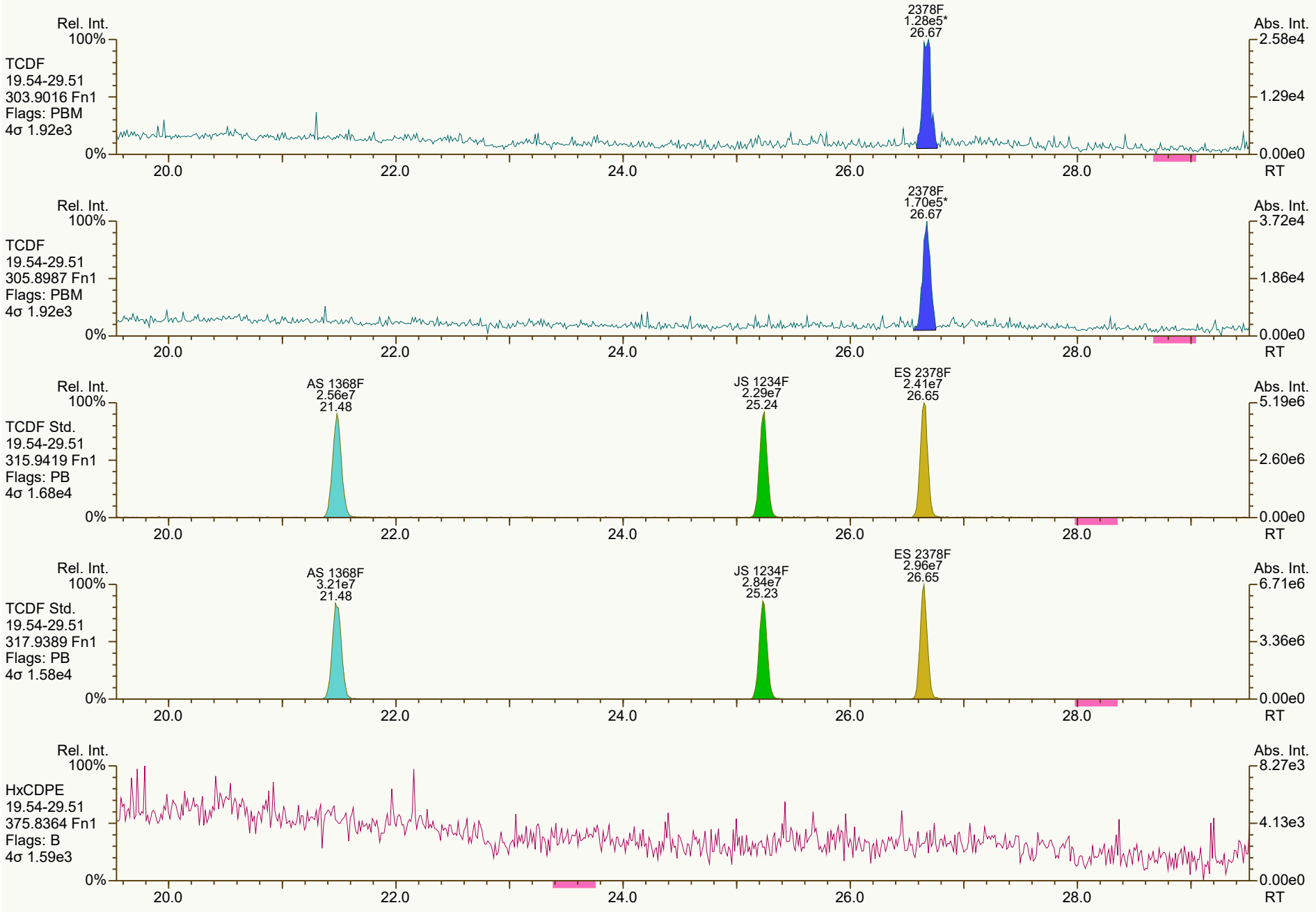

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

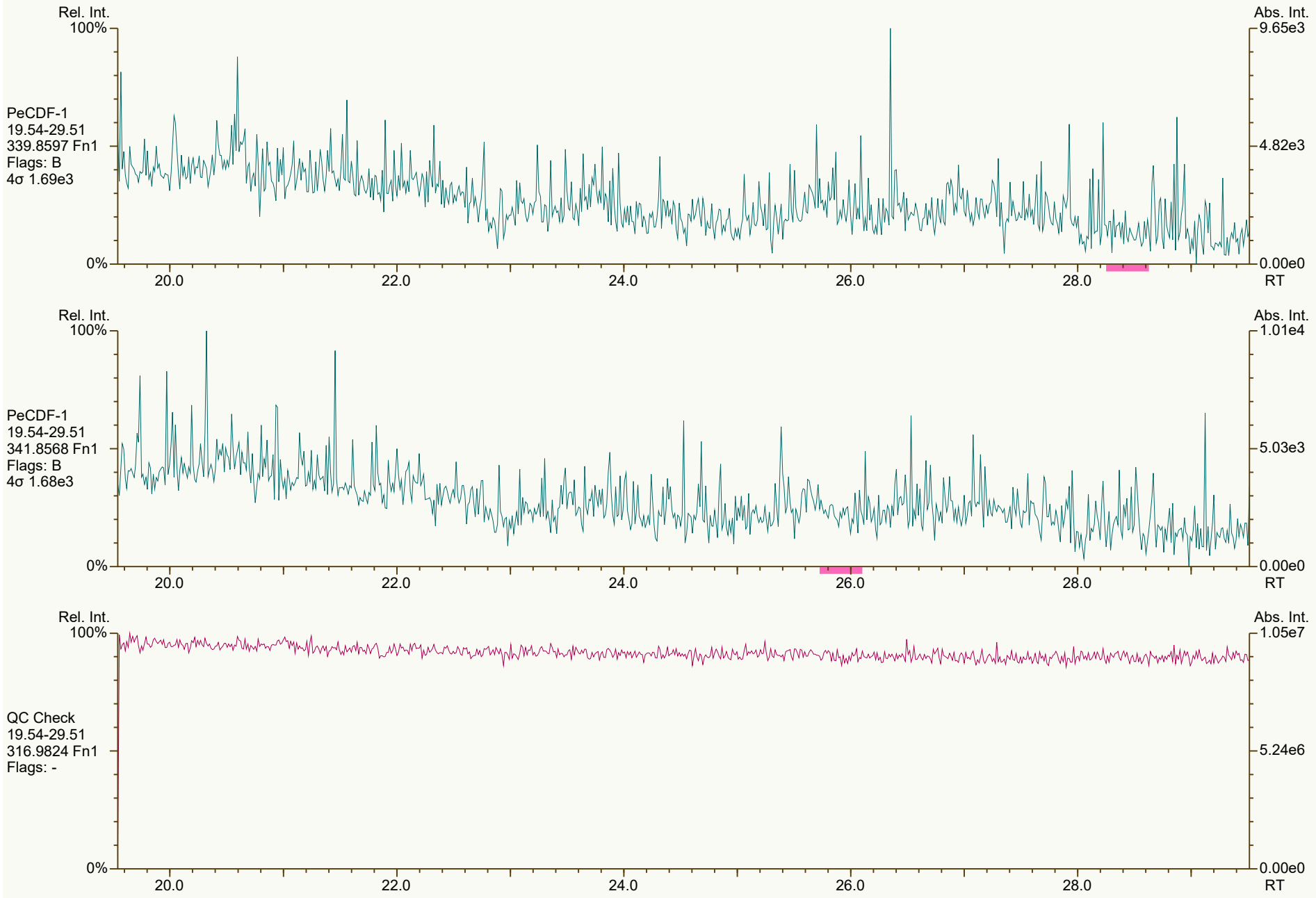

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6

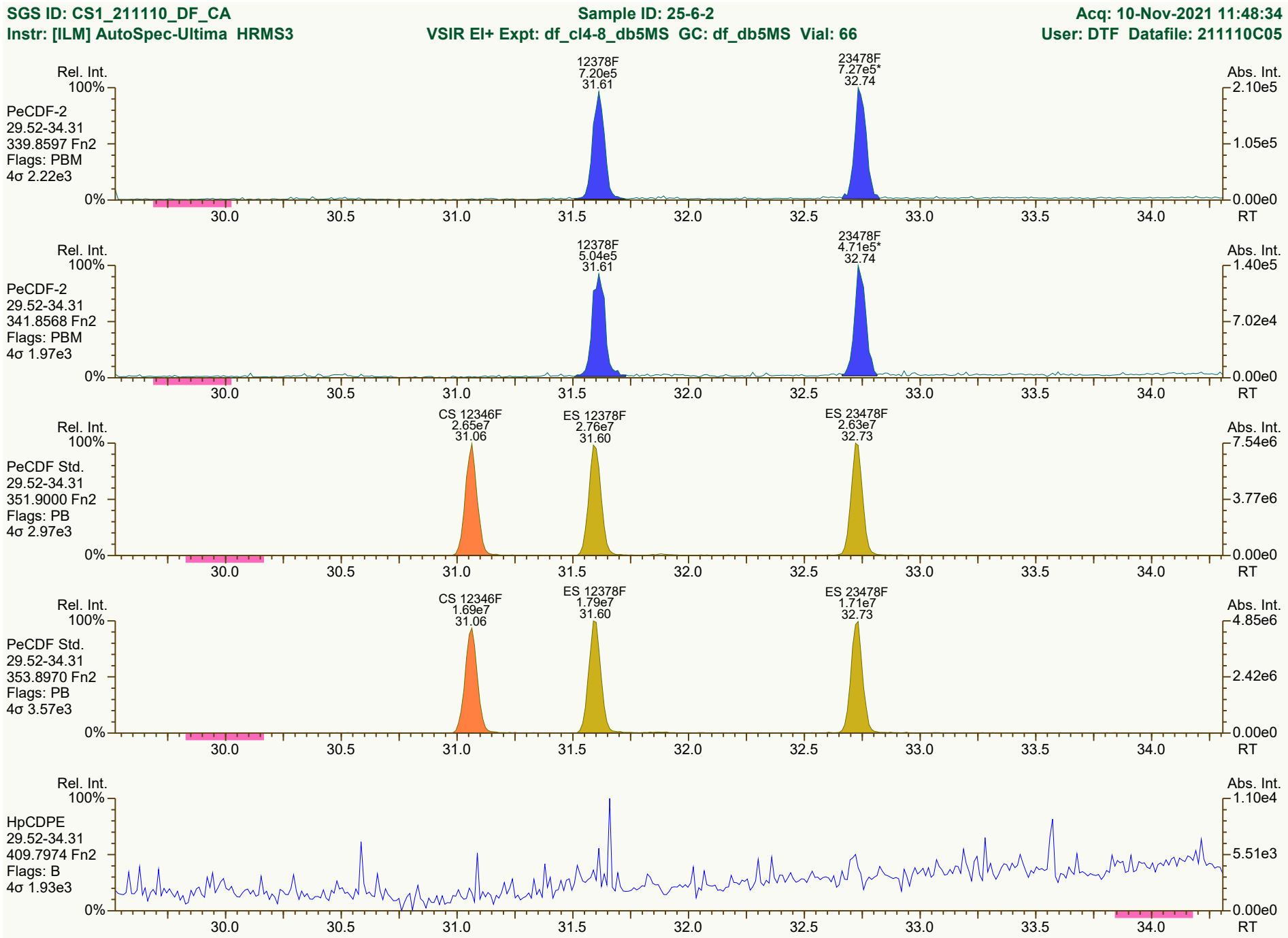

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123678D
1.47e7
37.13
ES 123478D
1.50e7
37.02
ES 123789D
1.63e7*
37.44
JS 123467D
7.96e6*
37.34
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123678D
1.13e7
37.13
ES 123478D
1.17e7
37.02
ES 123789D
1.31e7*
37.44
JS 123467D
6.45e6*
37.34
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

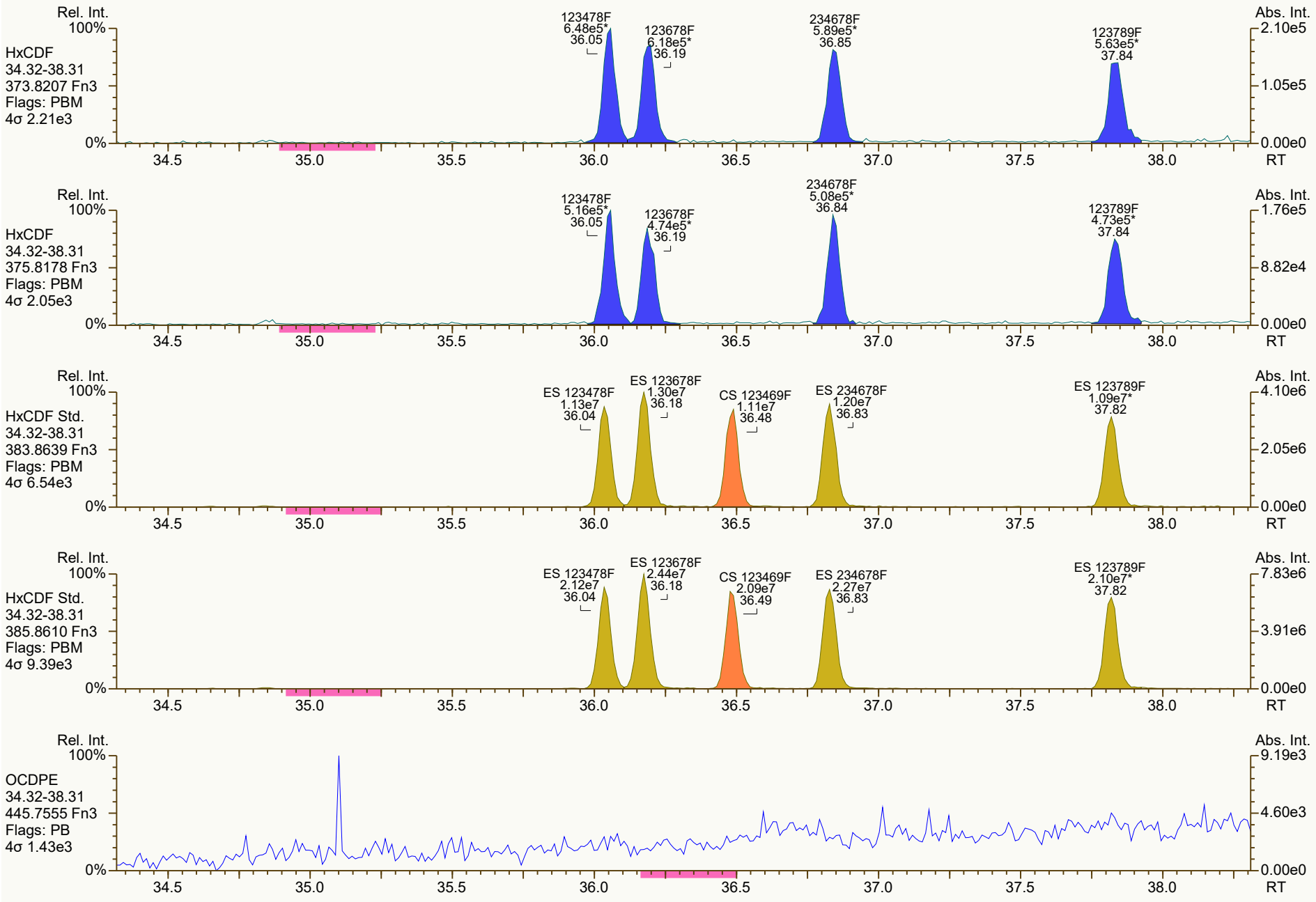

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

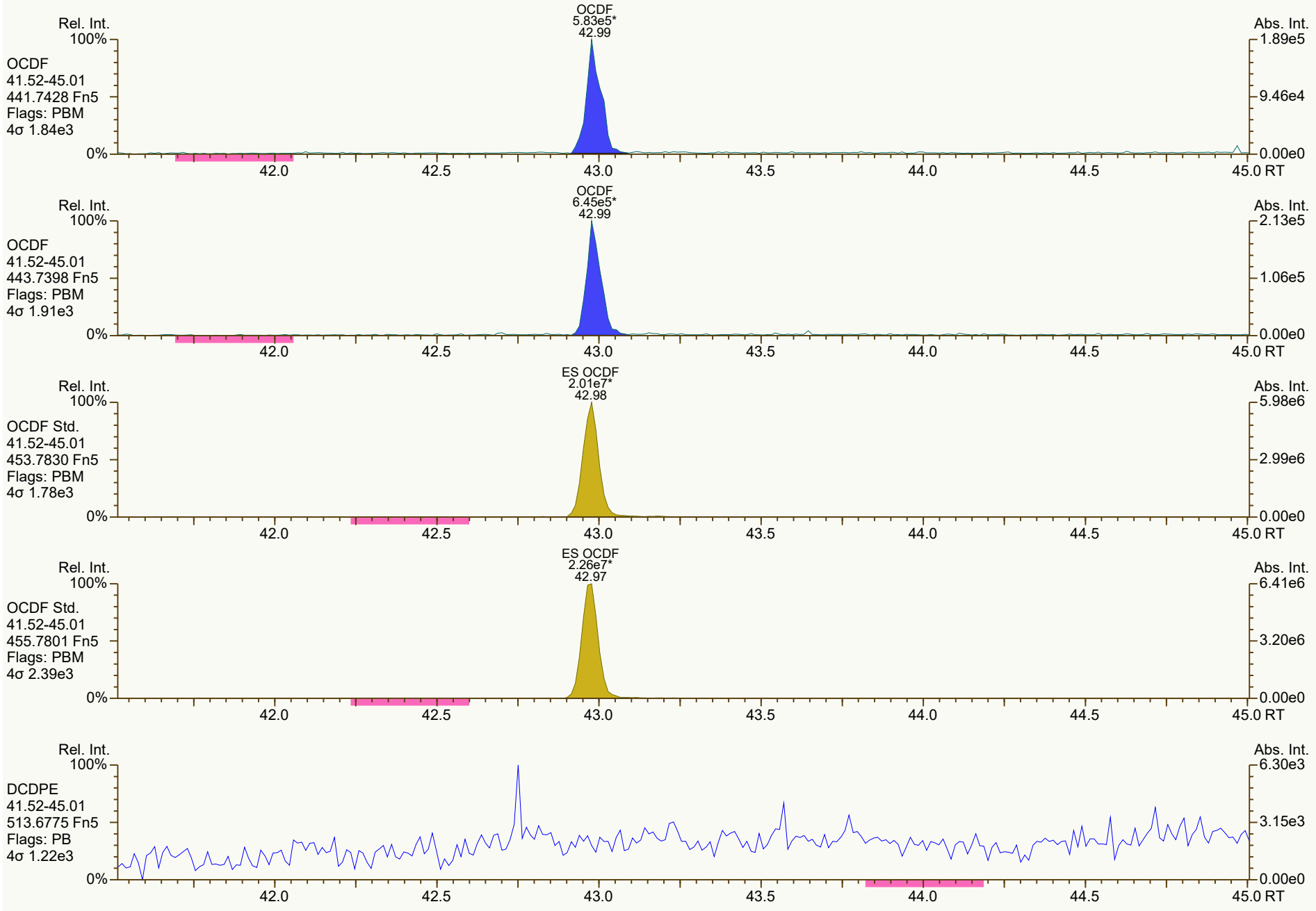

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
2.10e5
1.05e5
0.00e0
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
1.40e5
7.02e4
0.00e0
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
7.54e6
3.77e6
0.00e0
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
4.85e6
2.42e6
0.00e0
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
1.10e4
5.51e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9368, 4994, 0902 scc: 419-111
Revised: 10-Nov-2021 13:38 (DTF) Printed: 11-Nov-2021 10:40 Page 9 of 12


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
0%
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
0%
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
Abs. Int.
1.76e5
8.82e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
0%
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
Abs. Int.
4.10e6
2.05e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
0%
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
Abs. Int.
7.83e6
3.91e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
0%
Abs. Int.
9.19e3
4.60e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

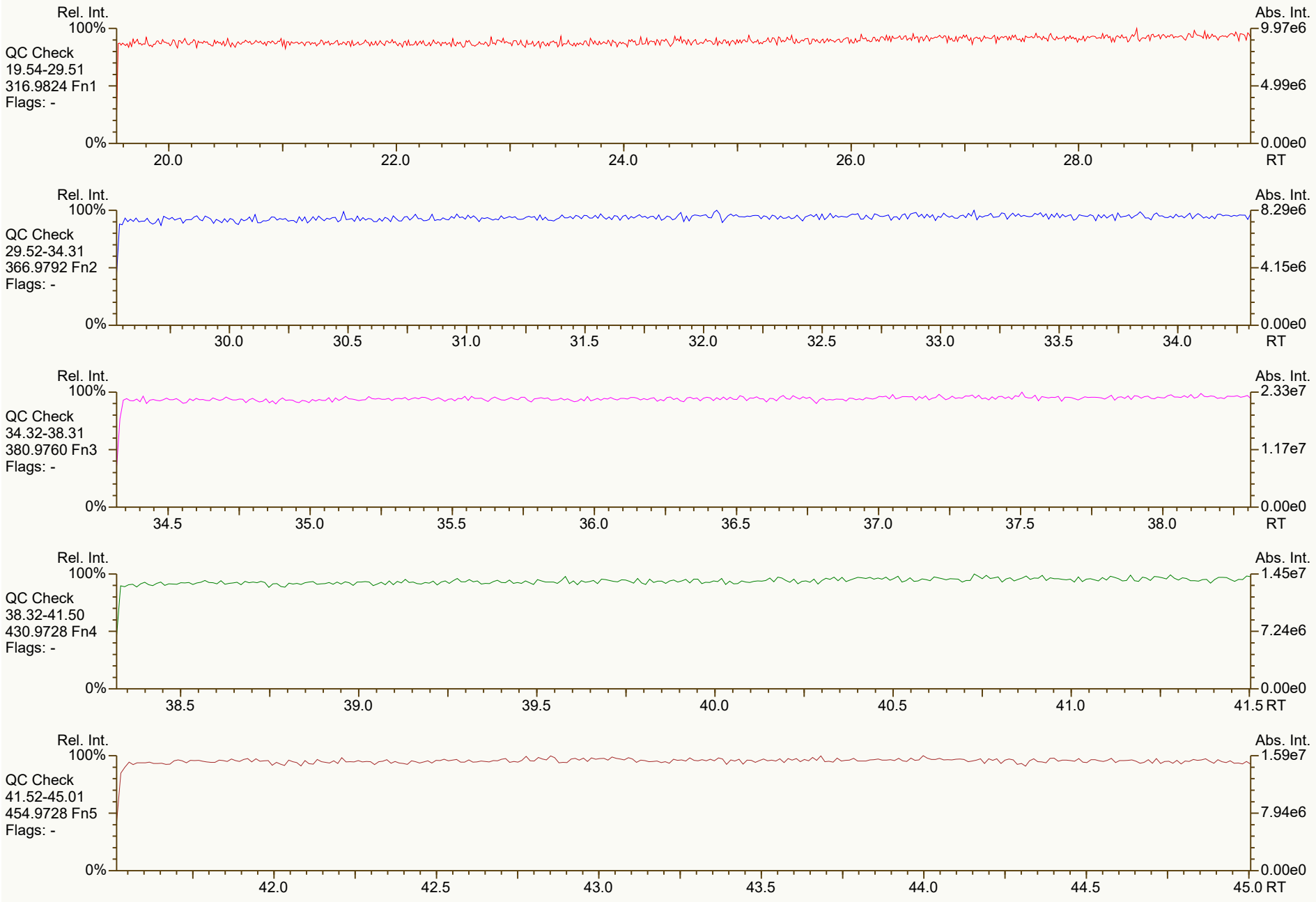

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
0%
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
Abs. Int.
2.00e5
9.99e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
0%
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
Abs. Int.
1.67e5
8.36e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
0%
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
Abs. Int.
3.13e6
1.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
0%
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
Abs. Int.
6.42e6
3.21e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
0%
Abs. Int.
3.72e3
1.86e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

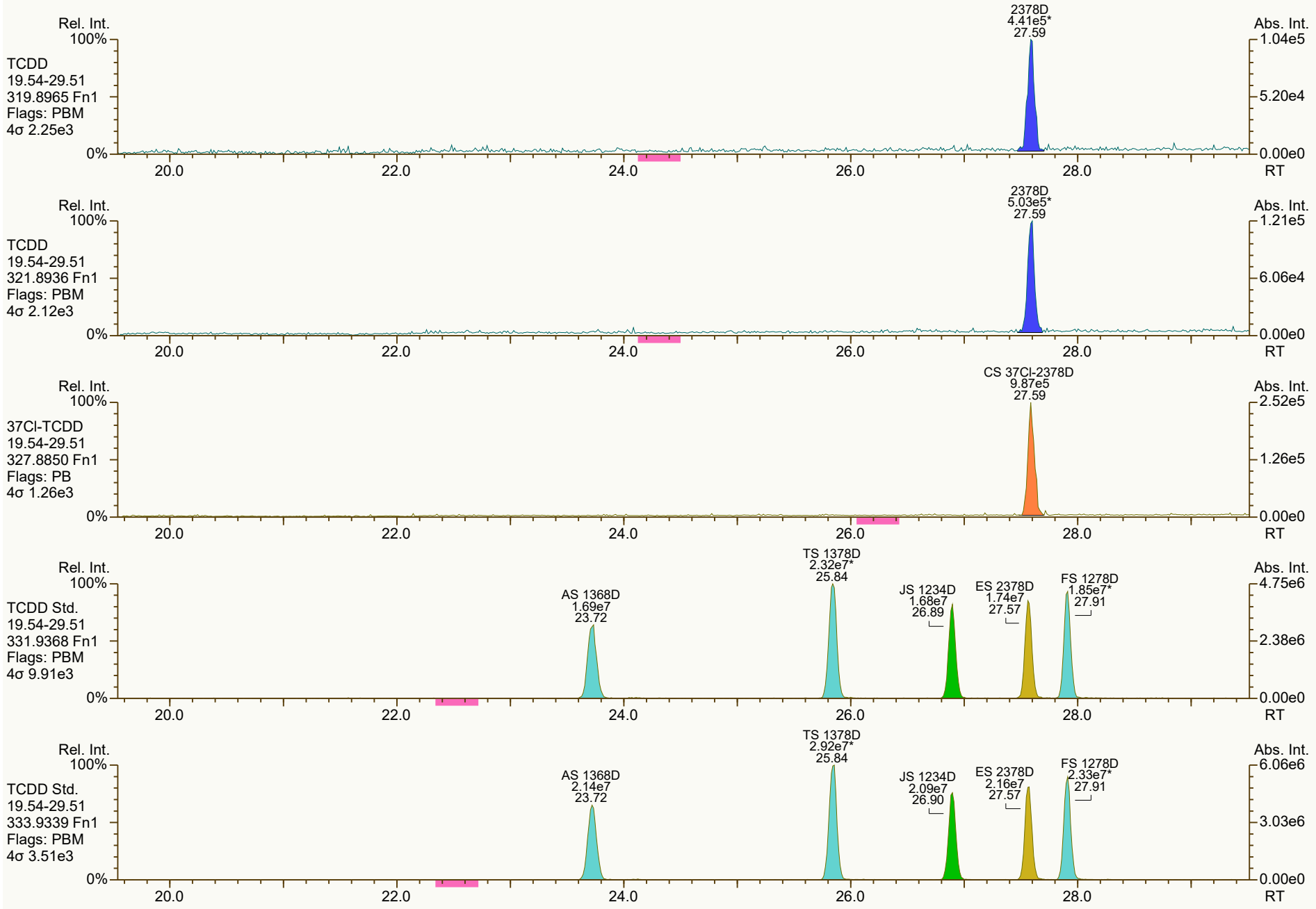

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
OCDF
5.83e5*
42.99
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
OCDF
6.45e5*
42.99
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
ES OCDF
2.01e7*
42.98
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
ES OCDF
2.26e7*
42.97
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

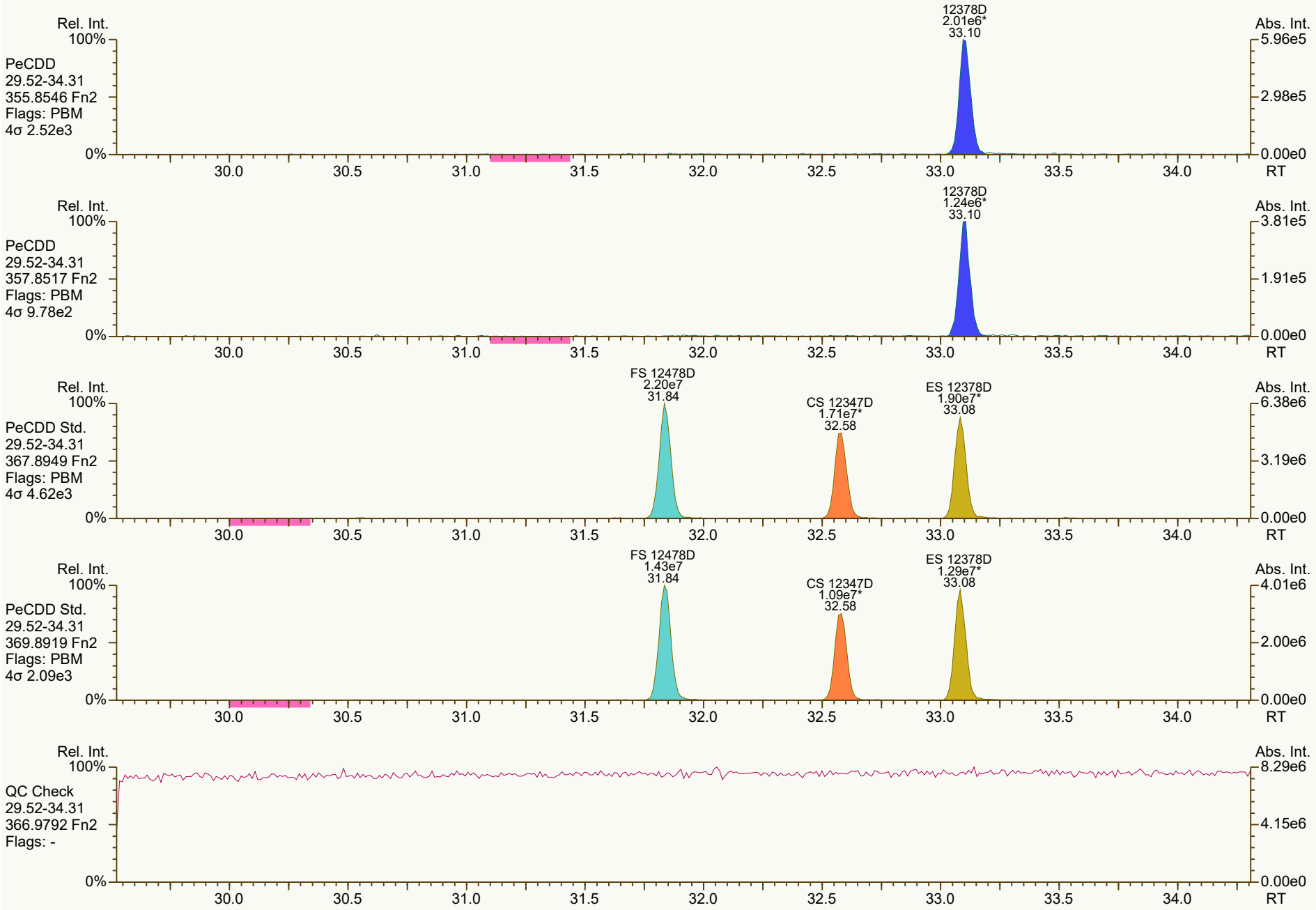
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 12:34 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS2_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 385-758-WQN	
Sample ID: 25-6-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C06	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

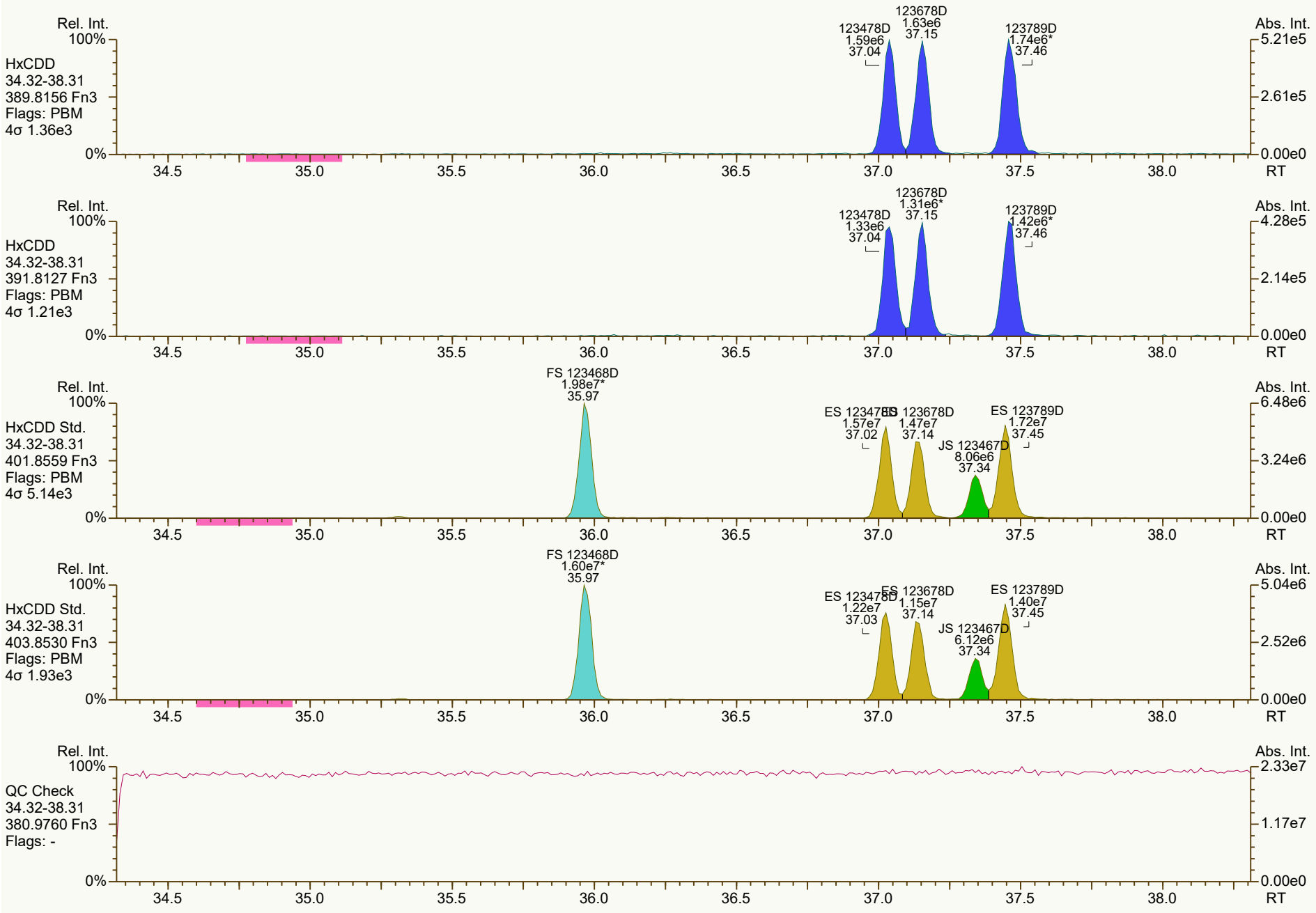
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

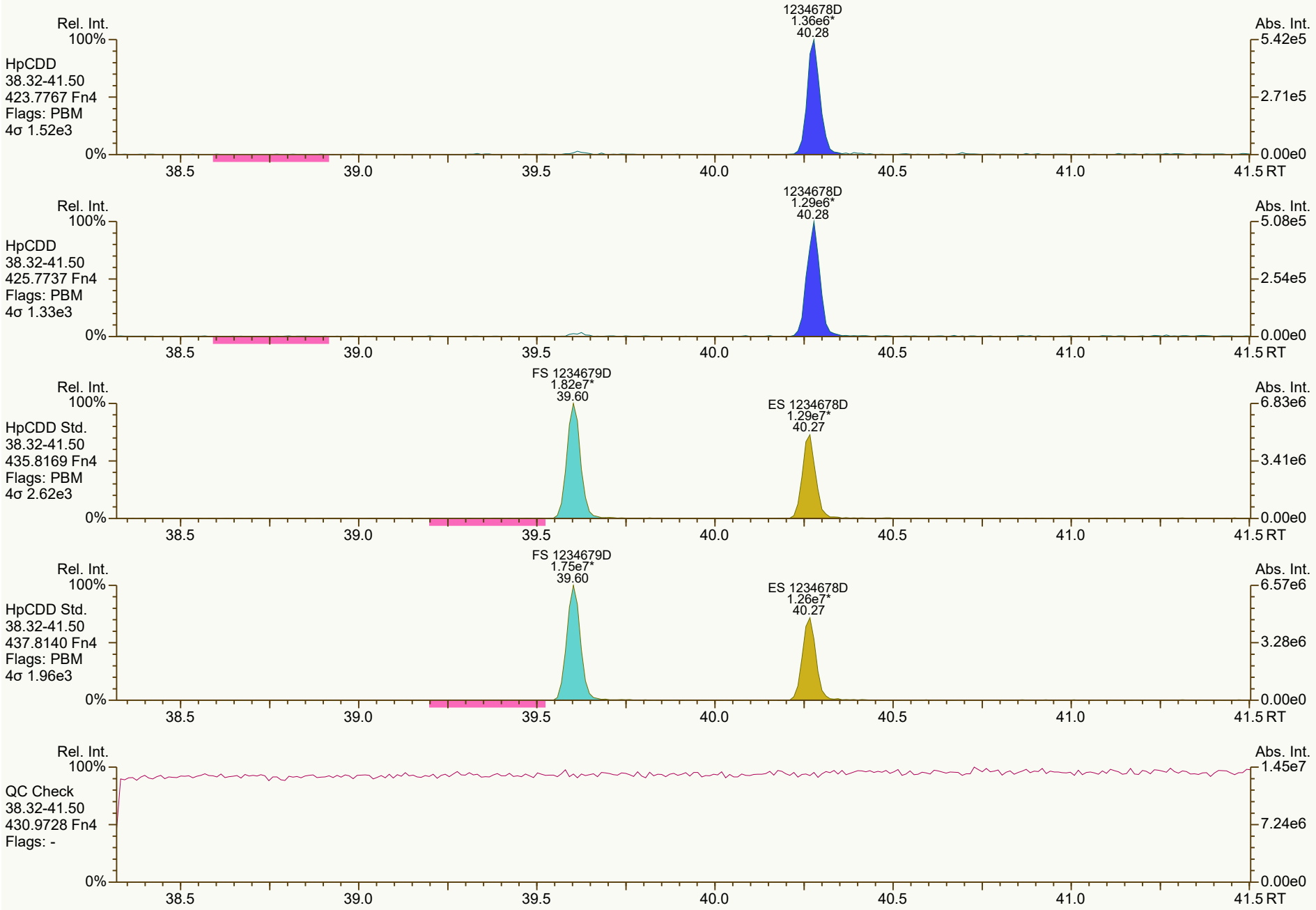
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%


Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0

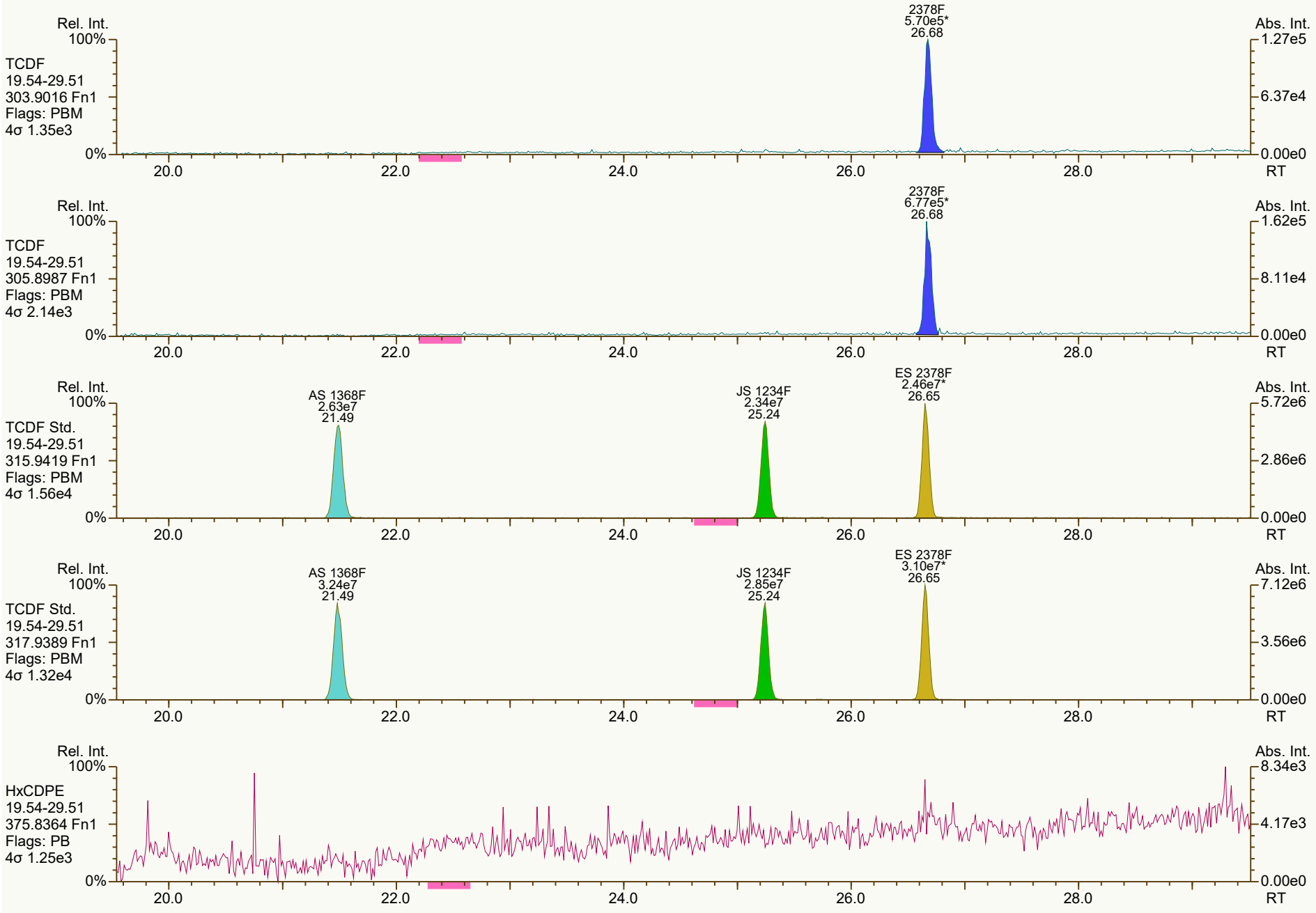

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
4.28e5
2.14e5
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
6.48e6
3.24e6
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
5.04e6
2.52e6
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.33e7
1.17e7

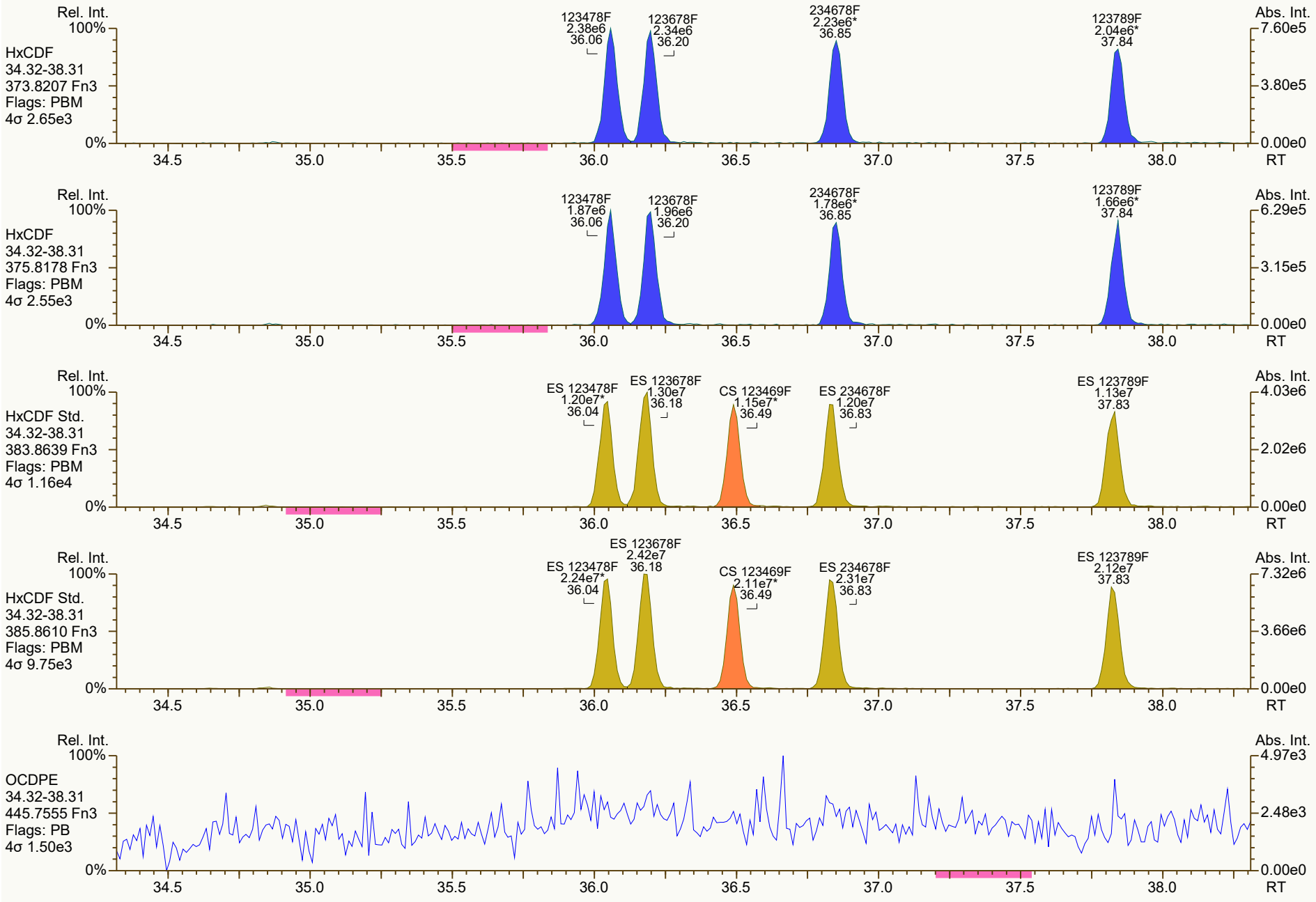

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

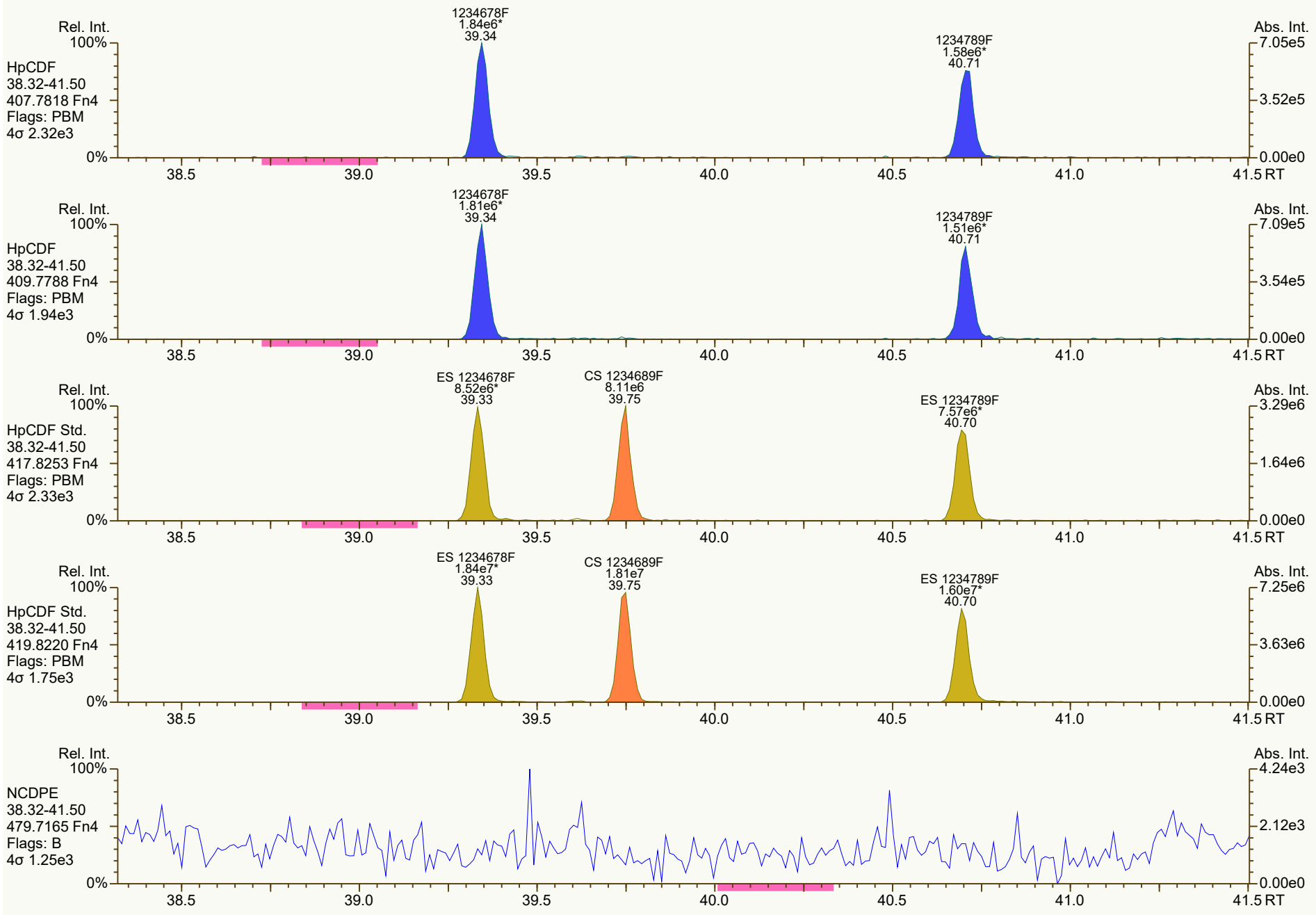

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

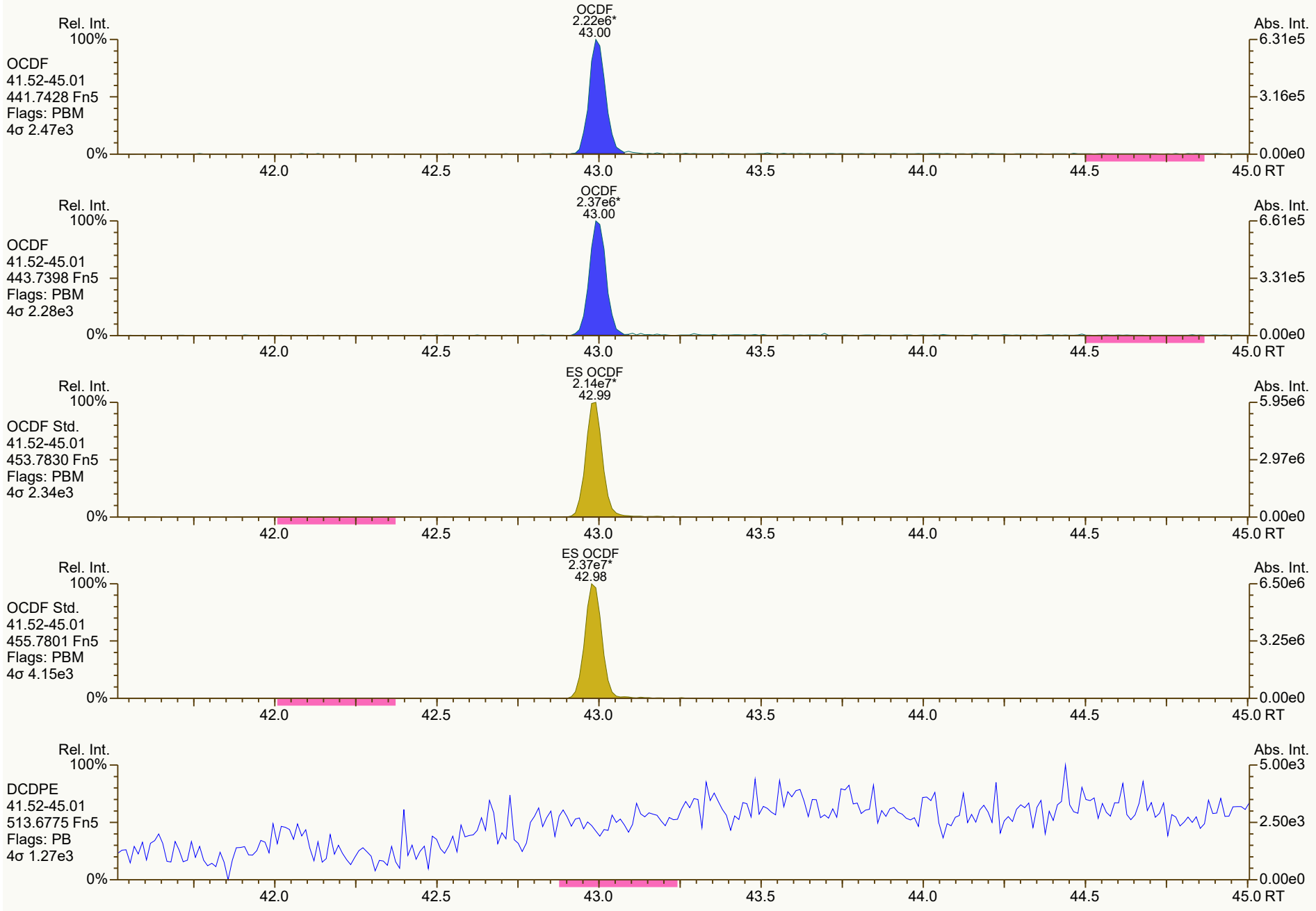

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
0%
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
0%
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
0%
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
0%
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
Abs. Int.
5.27e5
2.63e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
0%
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
Abs. Int.
8.01e6
4.01e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
0%
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
Abs. Int.
5.19e6
2.59e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
6.67e3
3.33e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
6.29e5
3.15e5
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
4.03e6
2.02e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
ES 123478F
2.24e7*
36.04
ES 123678F
2.42e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
7.32e6
3.66e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
4.97e3
2.48e3

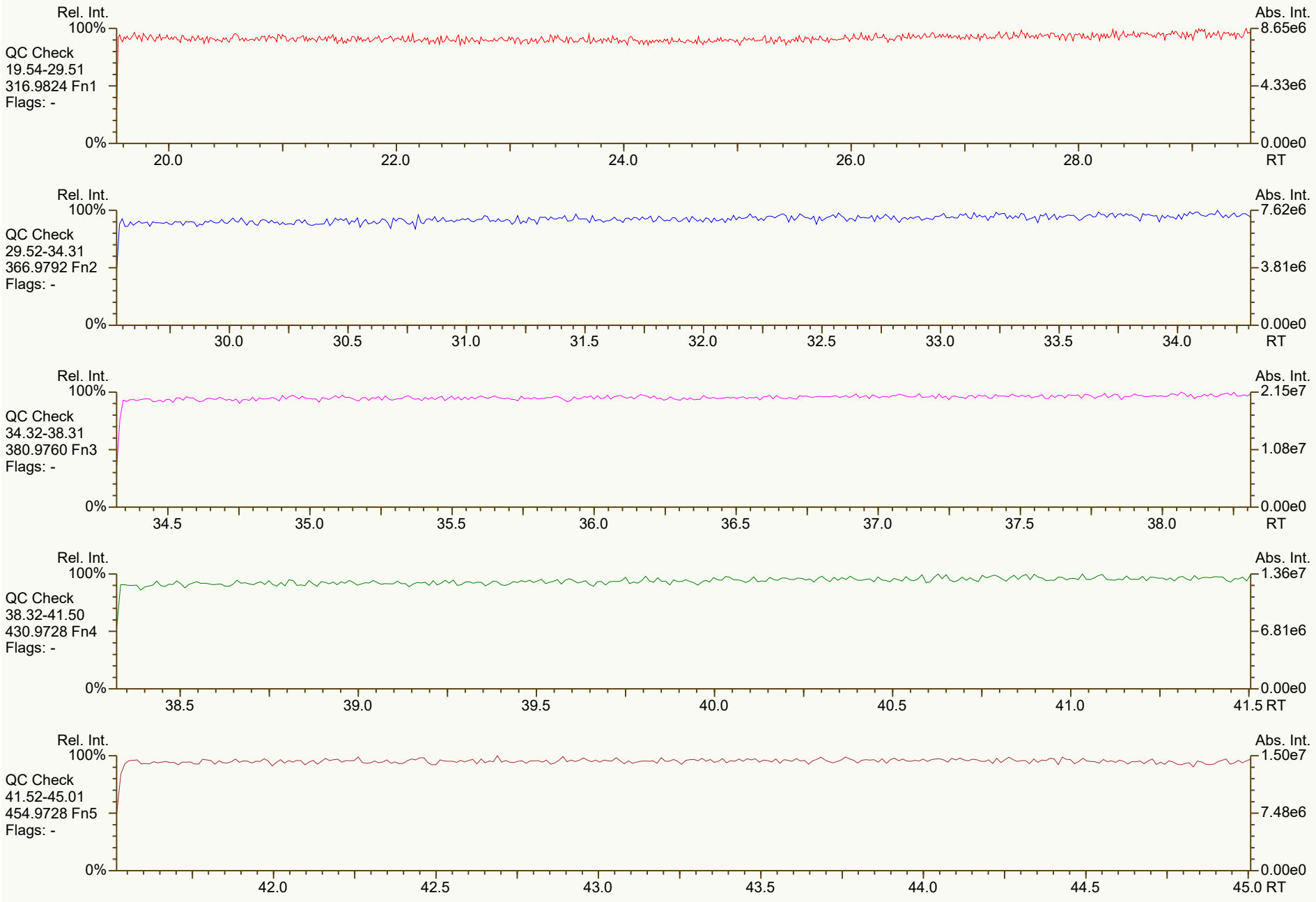

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
Abs. Int.
4.24e3
2.12e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
2.22e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
0%
Abs. Int.
6.31e5
3.16e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.37e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
0%
Abs. Int.
6.61e5
3.31e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.14e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
5.95e6
2.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.37e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
0%
Abs. Int.
6.50e6
3.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

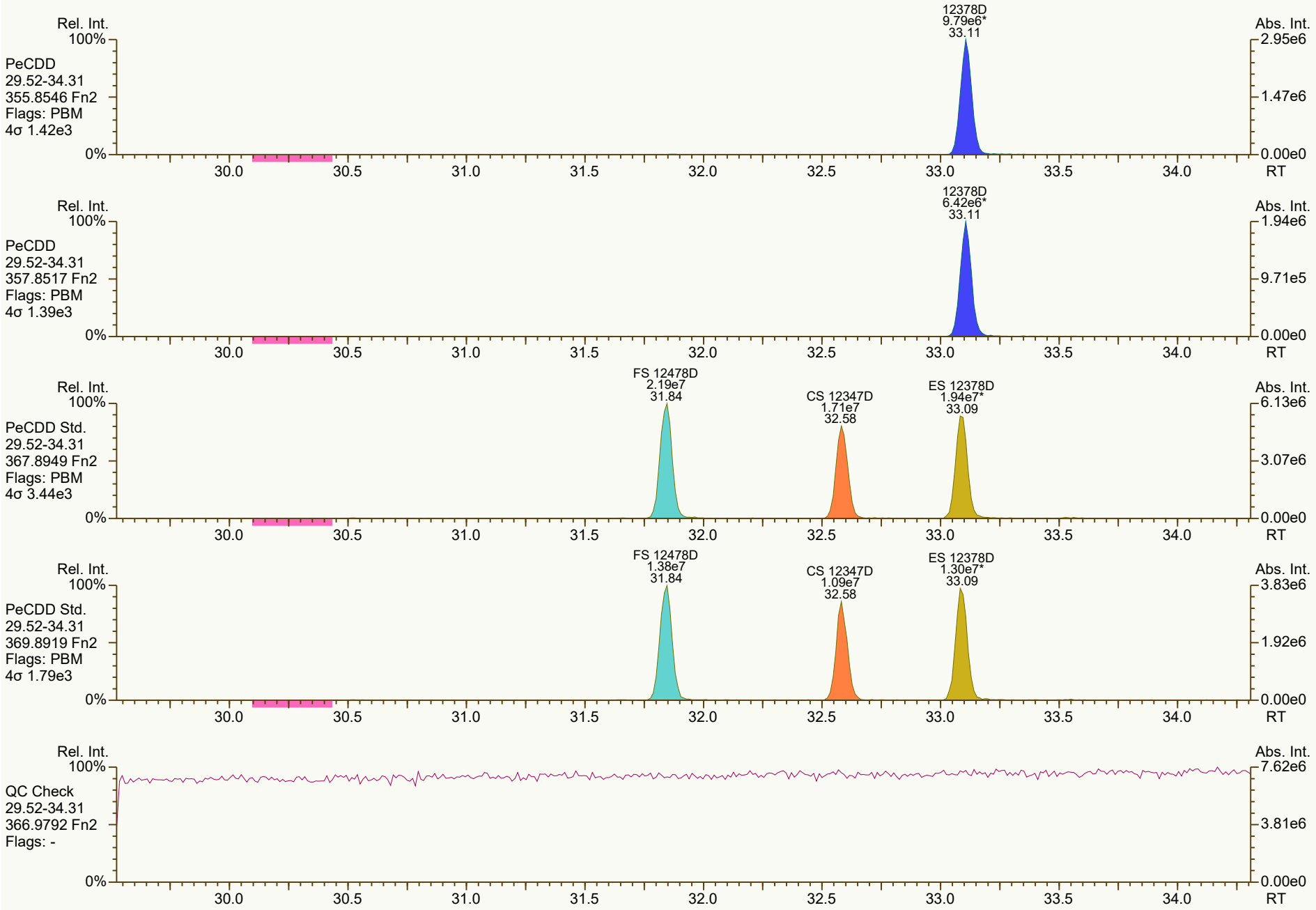
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

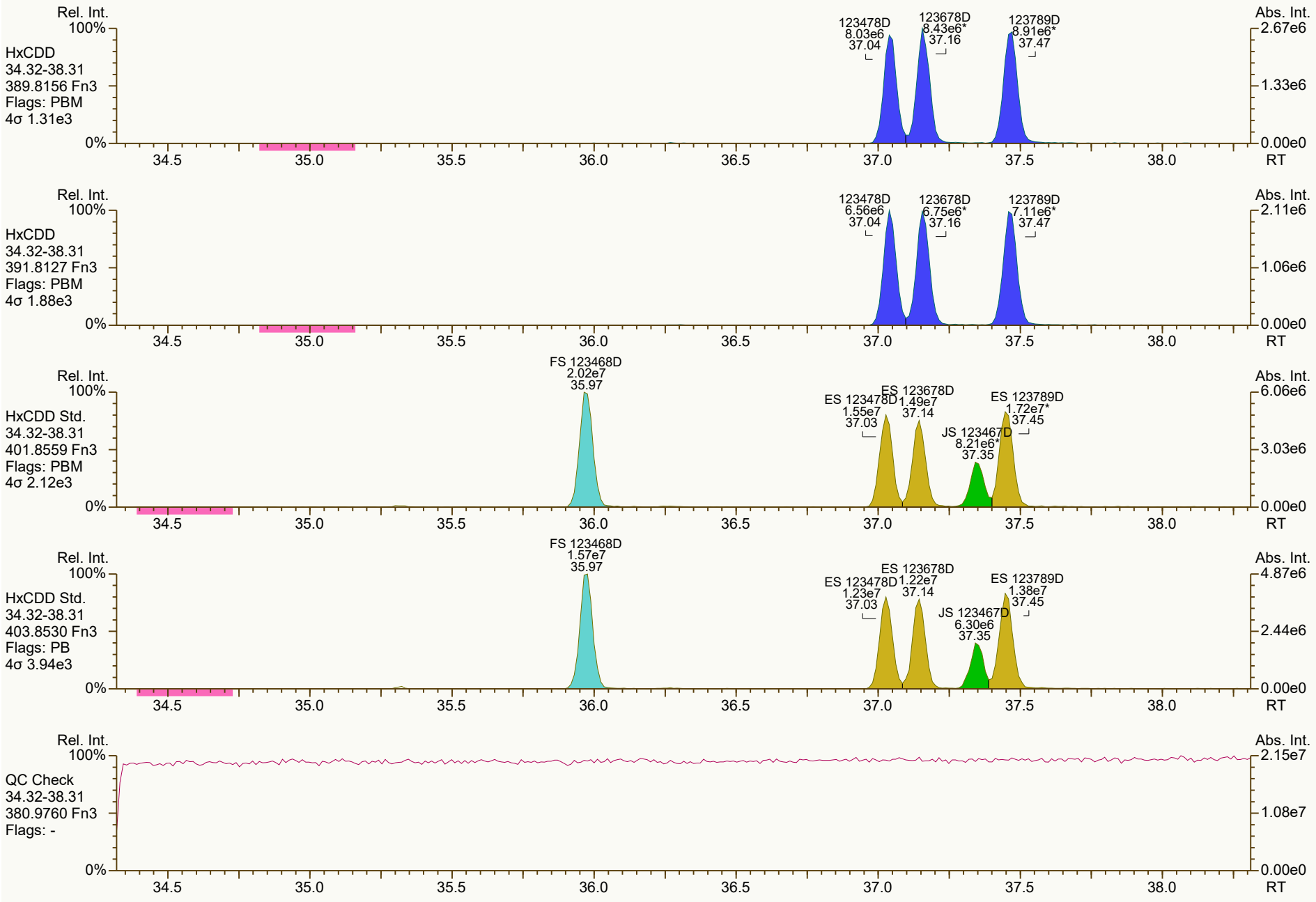
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

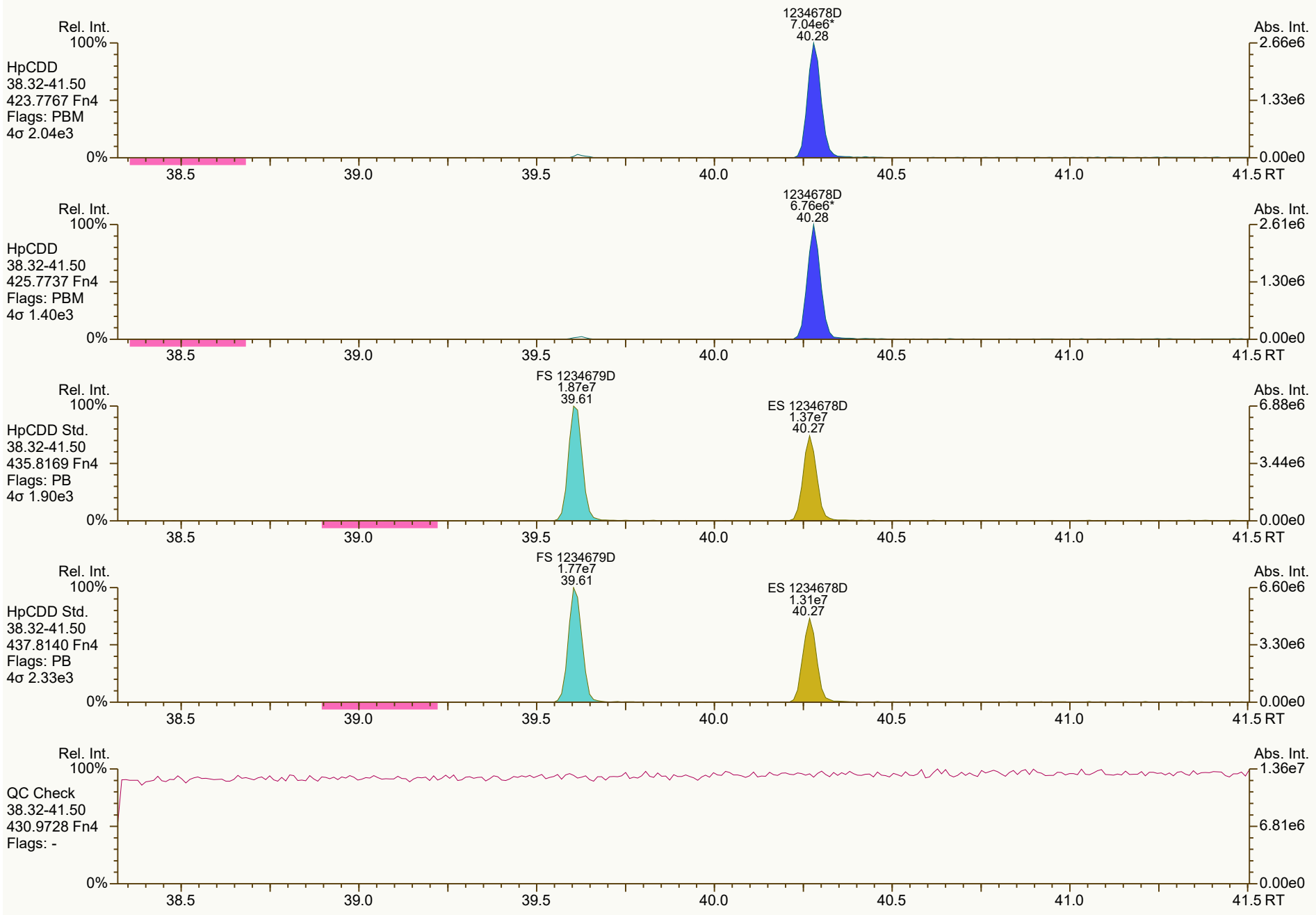
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%


Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
0%
2378D
1.99e6
27.60
Abs. Int.
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
0%
2378D
2.55e6
27.60
Abs. Int.
5.98e5
2.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
Abs. Int.
1.03e6
5.16e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
0%
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
Abs. Int.
4.80e6
2.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
0%
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.62e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
0%
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
0%
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
0%
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
0%
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.15e7
1.08e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
9.25e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.02e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.70e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.86e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

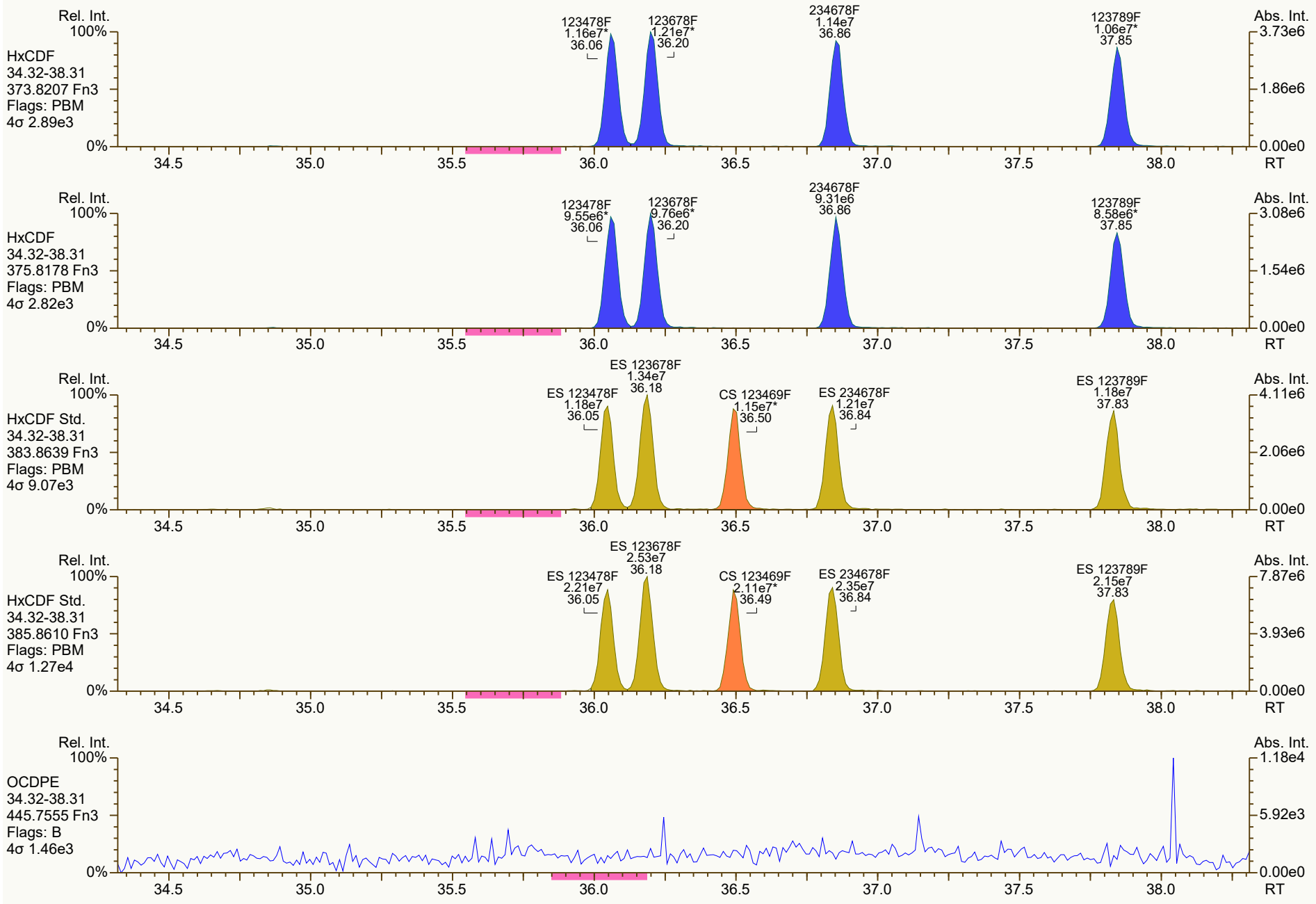

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
0%
2378F
2.58e6
26.68
Abs. Int.
5.81e5
2.91e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
0%
2378F
3.32e6
26.68
Abs. Int.
7.66e5
3.83e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
0%
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
Abs. Int.
5.45e6
2.73e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
0%
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
Abs. Int.
6.76e6
3.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
0%
Abs. Int.
6.84e3
3.42e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
Abs. Int.
3.85e6
1.93e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
Abs. Int.
2.59e6
1.29e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
Abs. Int.
7.61e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
Abs. Int.
5.00e6
2.50e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
Abs. Int.
1.17e4
5.86e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

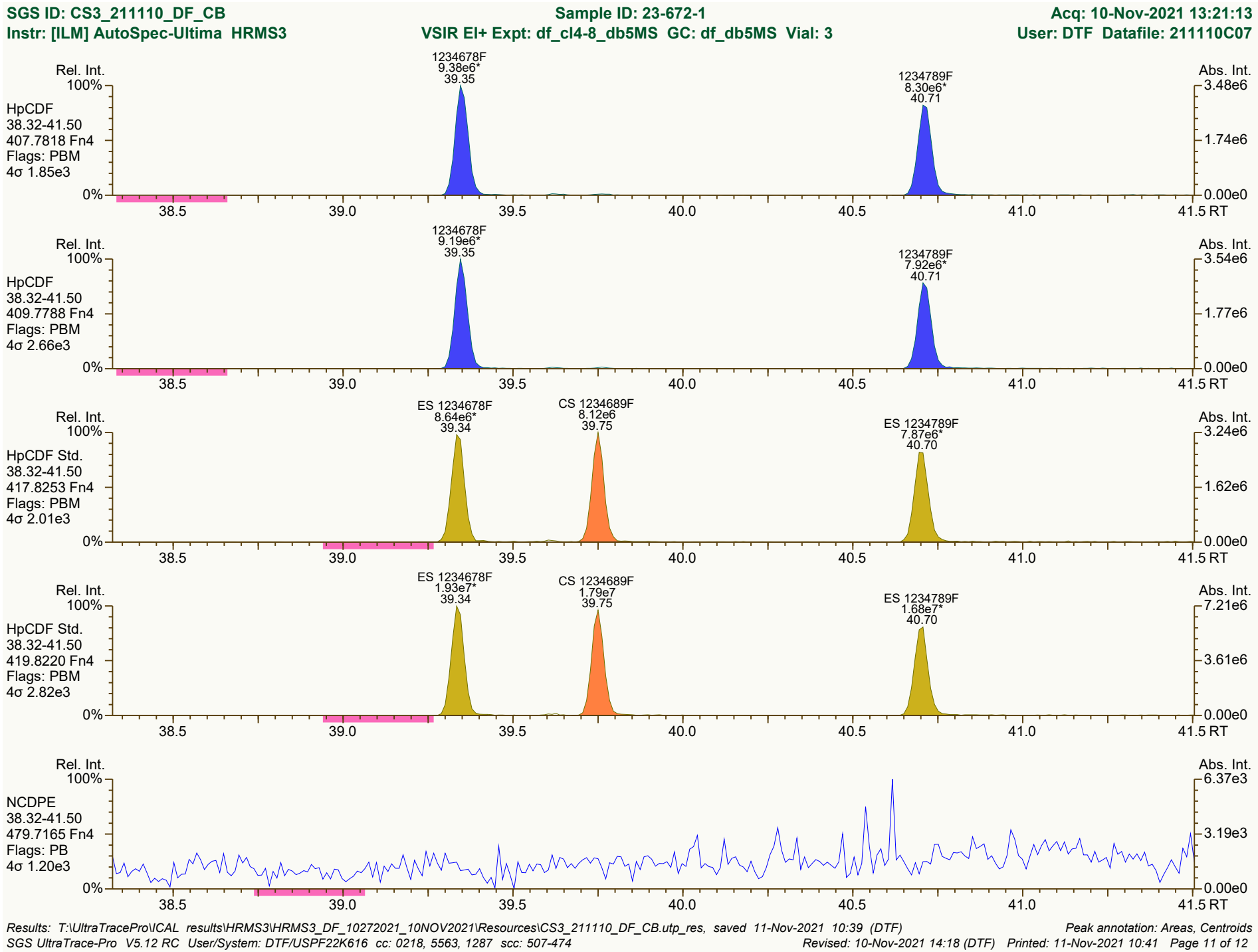
SGS ID: CS3_211110_DF_CB | Sample ID: 23-672-1 | Acq: 10-Nov-2021 13:21:13

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3 | User: DTF Datafile: 211110C07



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0985, 9027, 6556 scc: 507-474 *Revised: 10-Nov-2021 14:18 (DTF)* *Printed: 11-Nov-2021 10:41* *Page 10 of 12*


SGS ID: CS3_211110_DF_CB
Instr: [ILM] AutoSpec-Ultima HRMS3
Sample ID: 23-672-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
Acq: 10-Nov-2021 13:21:13
User: DTF Datafile: 211110C07
Rel. Int.
100%
0%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
Abs. Int.
3.48e6
1.74e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
3.54e6
1.77e6
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
3.24e6
1.62e6
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
7.21e6
3.61e6
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
6.37e3
3.19e3
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0218, 5563, 1287 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

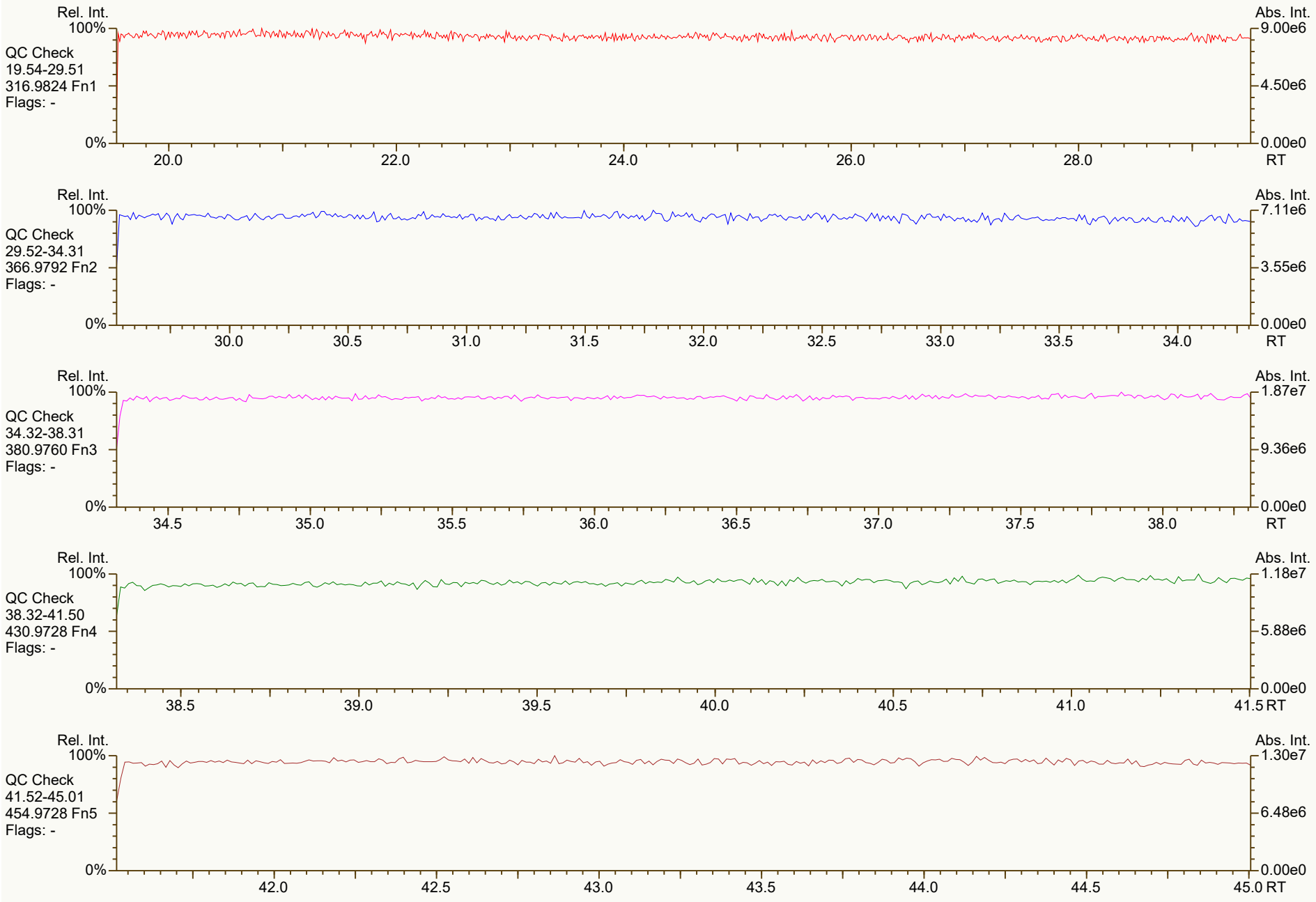

OCDF
1.15e7*
43.00
Rel. Int.
Abs. Int.
100%
3.25e6
1.62e6
0.00e0
0%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
Rel. Int.
Abs. Int.
100%
3.53e6
1.76e6
0.00e0
0%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.21e7*
42.99
Rel. Int.
Abs. Int.
100%
6.08e6
3.04e6
0.00e0
0%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.39e7*
42.99
Rel. Int.
Abs. Int.
100%
6.65e6
3.32e6
0.00e0
0%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
Abs. Int.
100%
4.82e3
2.41e3
0.00e0
0%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

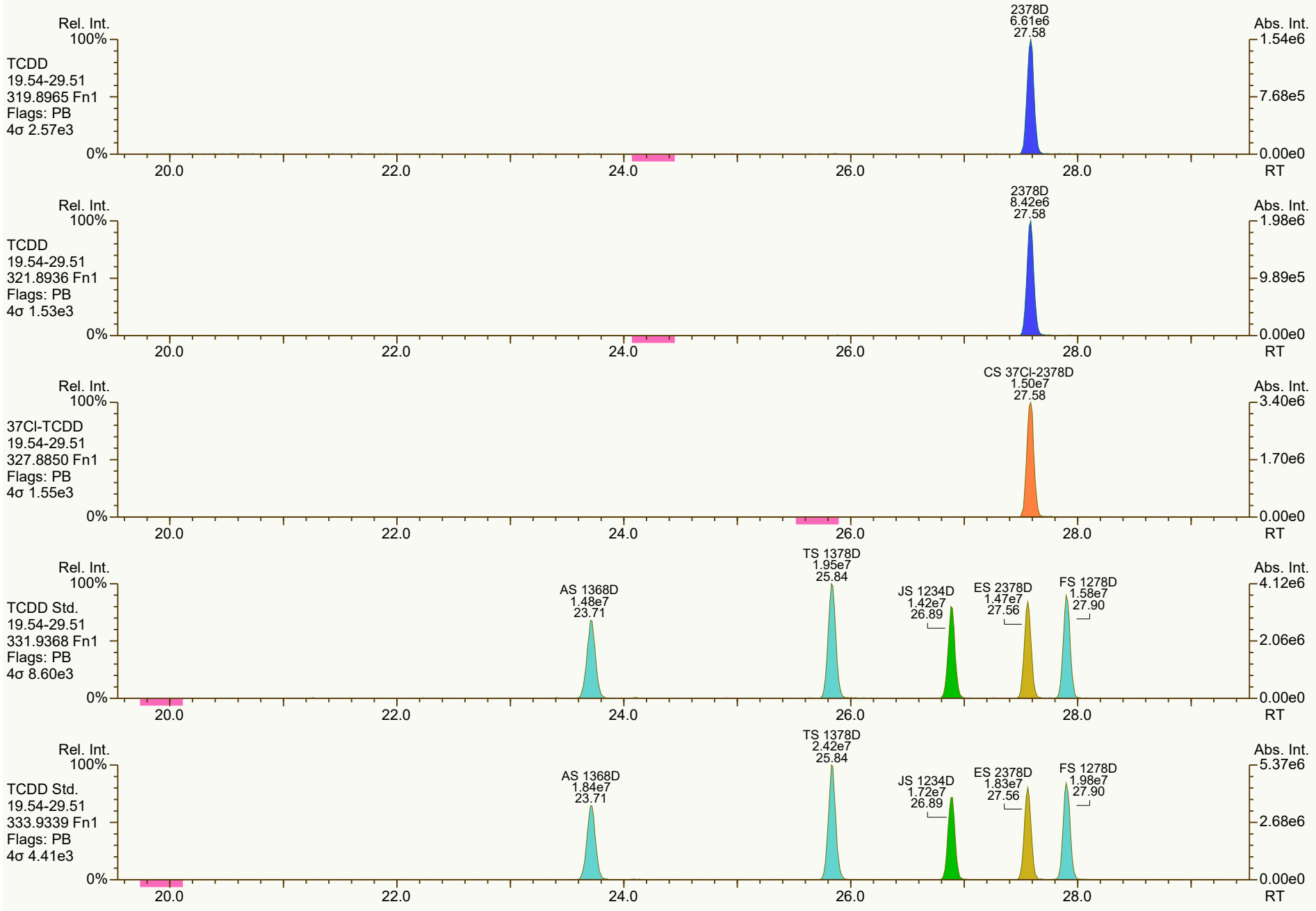
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

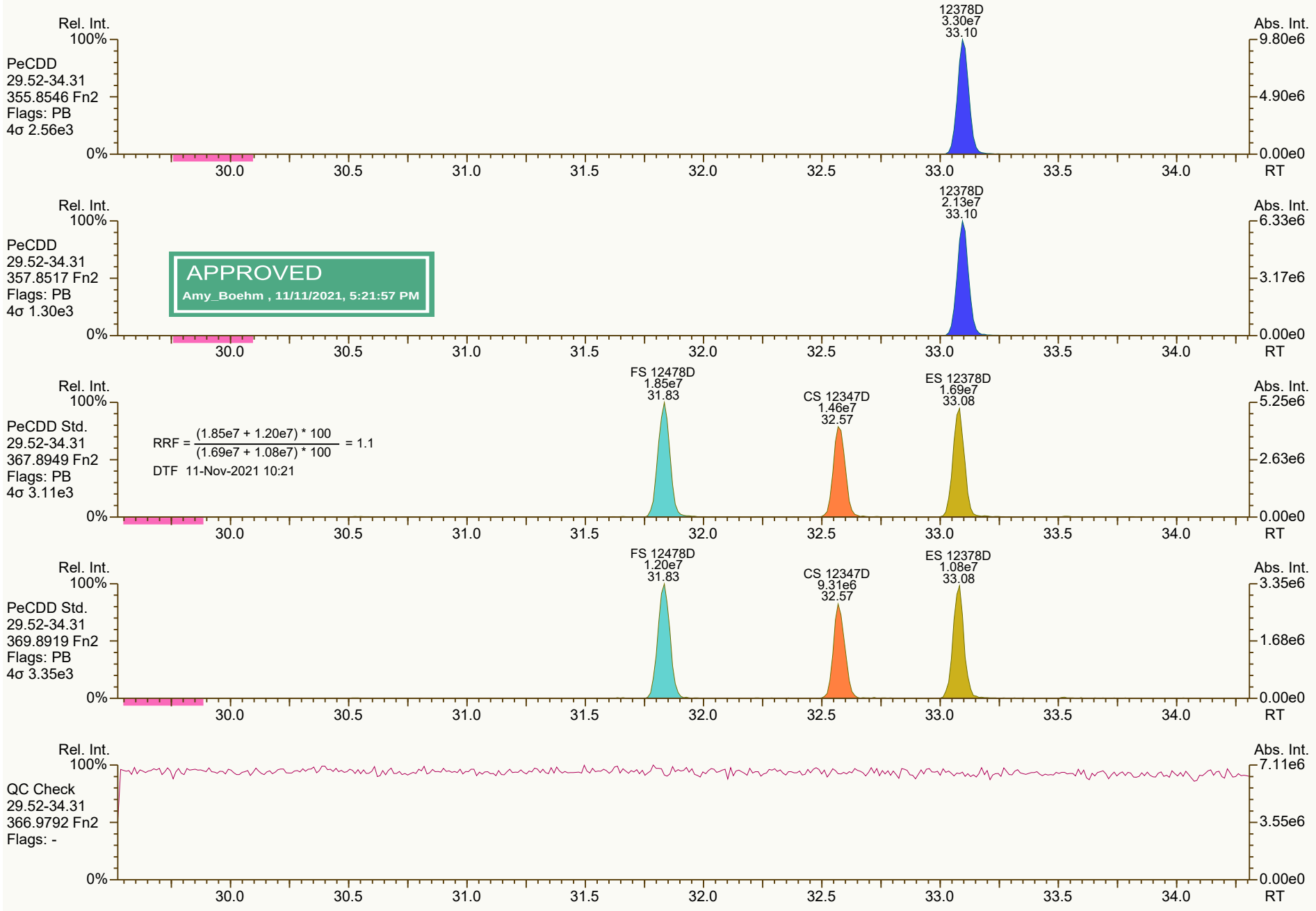
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

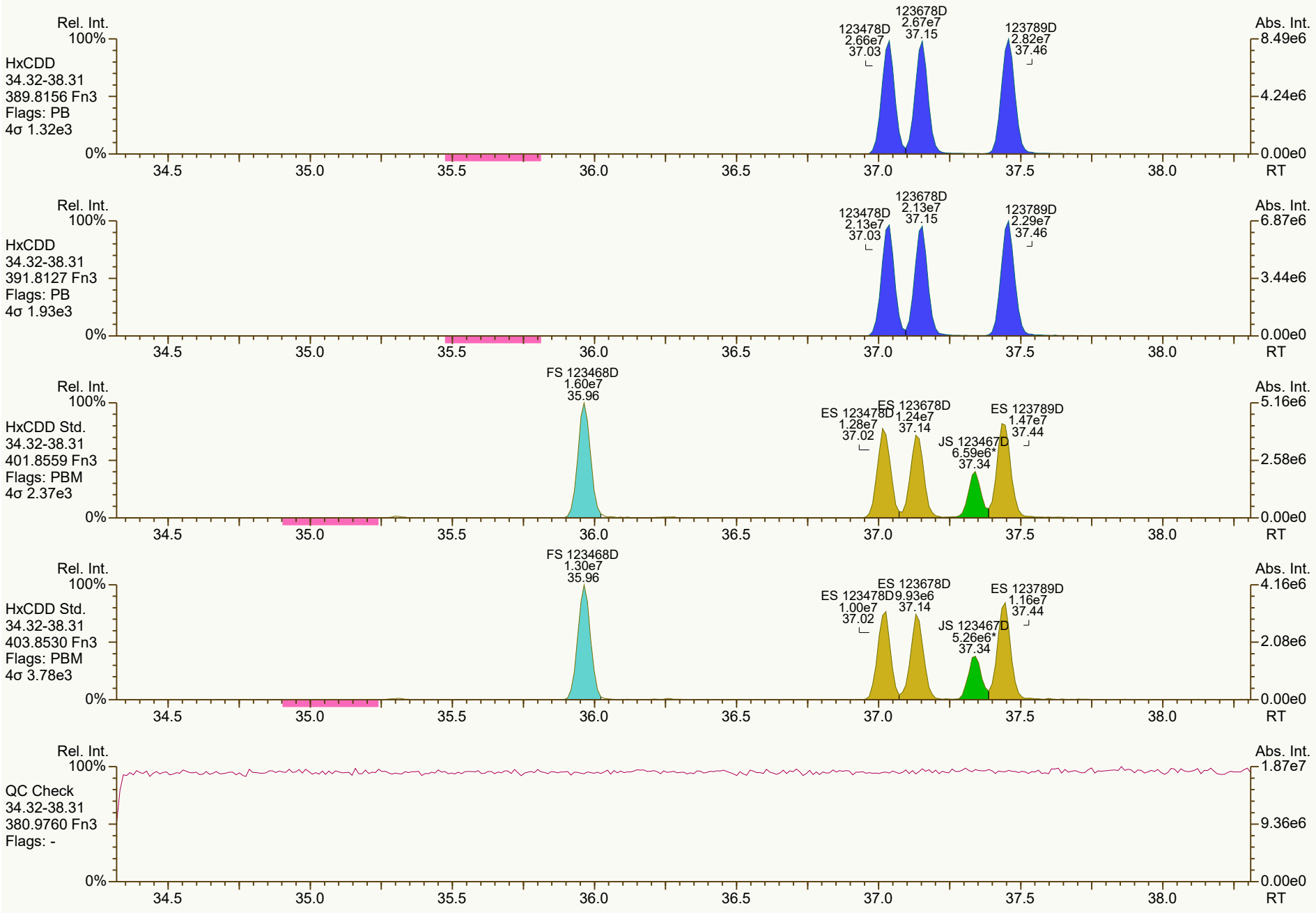
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

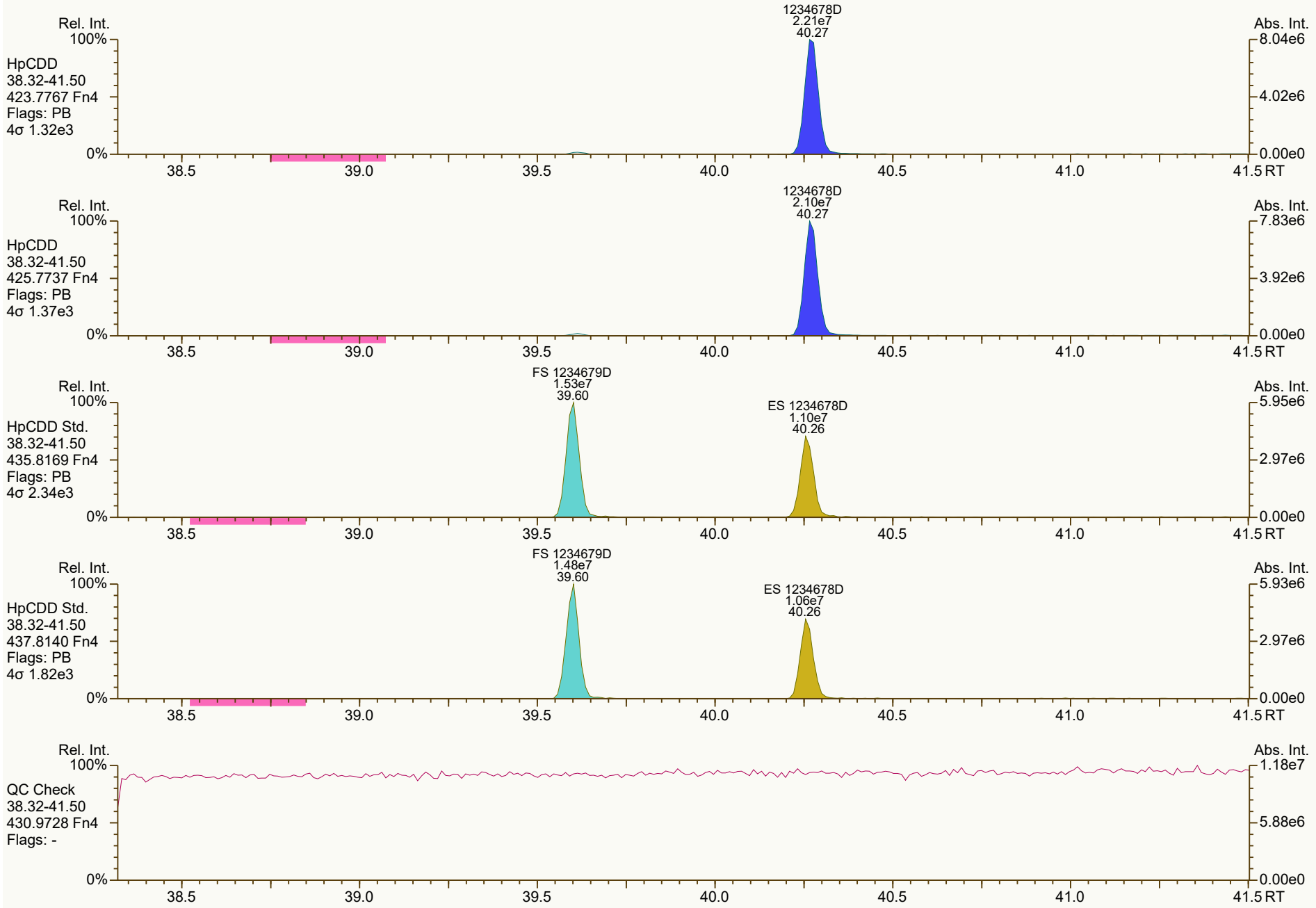
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

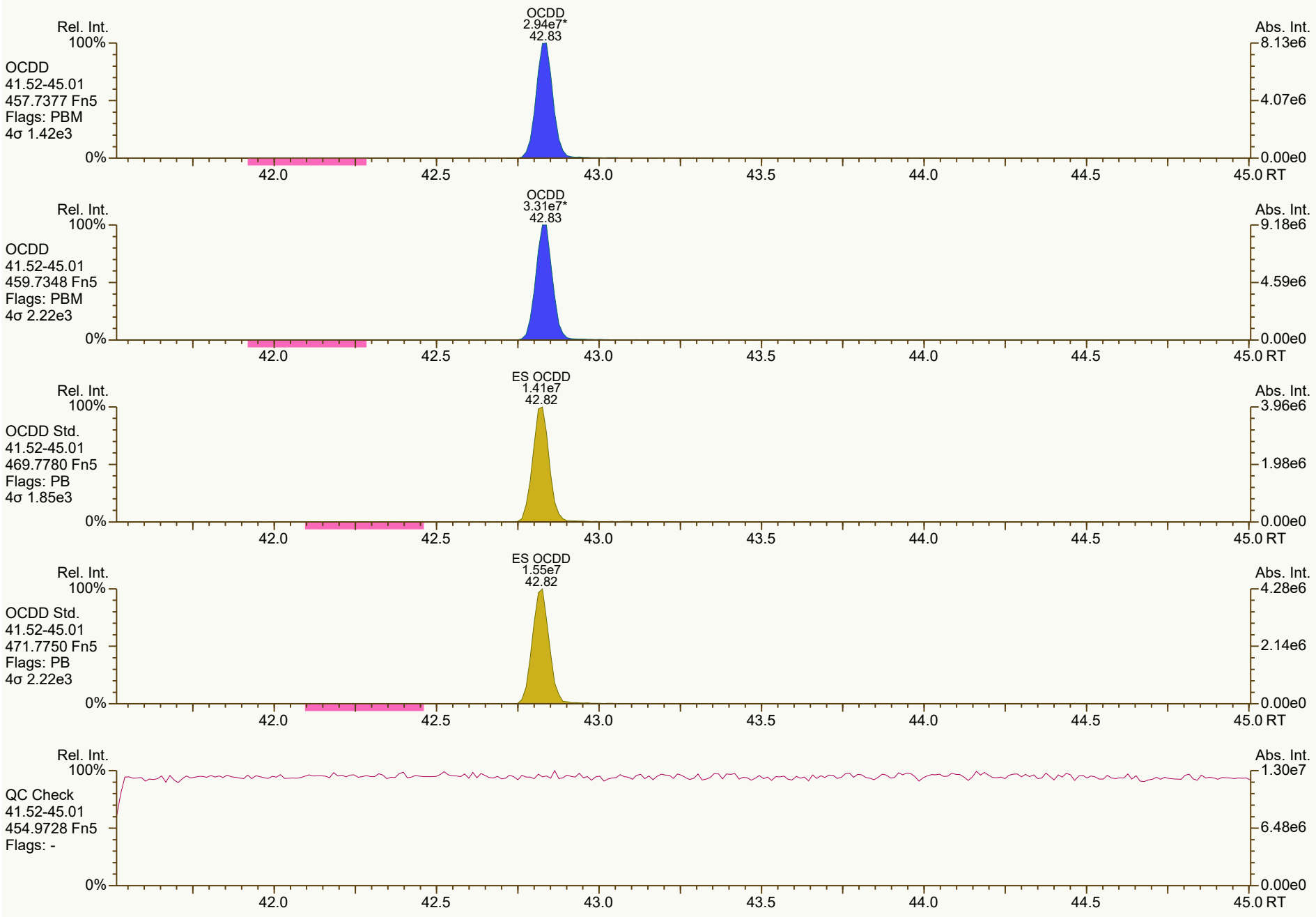

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.00e6
4.50e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.11e6
3.55e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.87e7
9.36e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.18e7
5.88e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.30e7
6.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
12378D
2.13e7
33.10
6.33e6
3.17e6
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
5.25e6
2.63e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
3.35e6
1.68e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
7.11e6
3.55e6

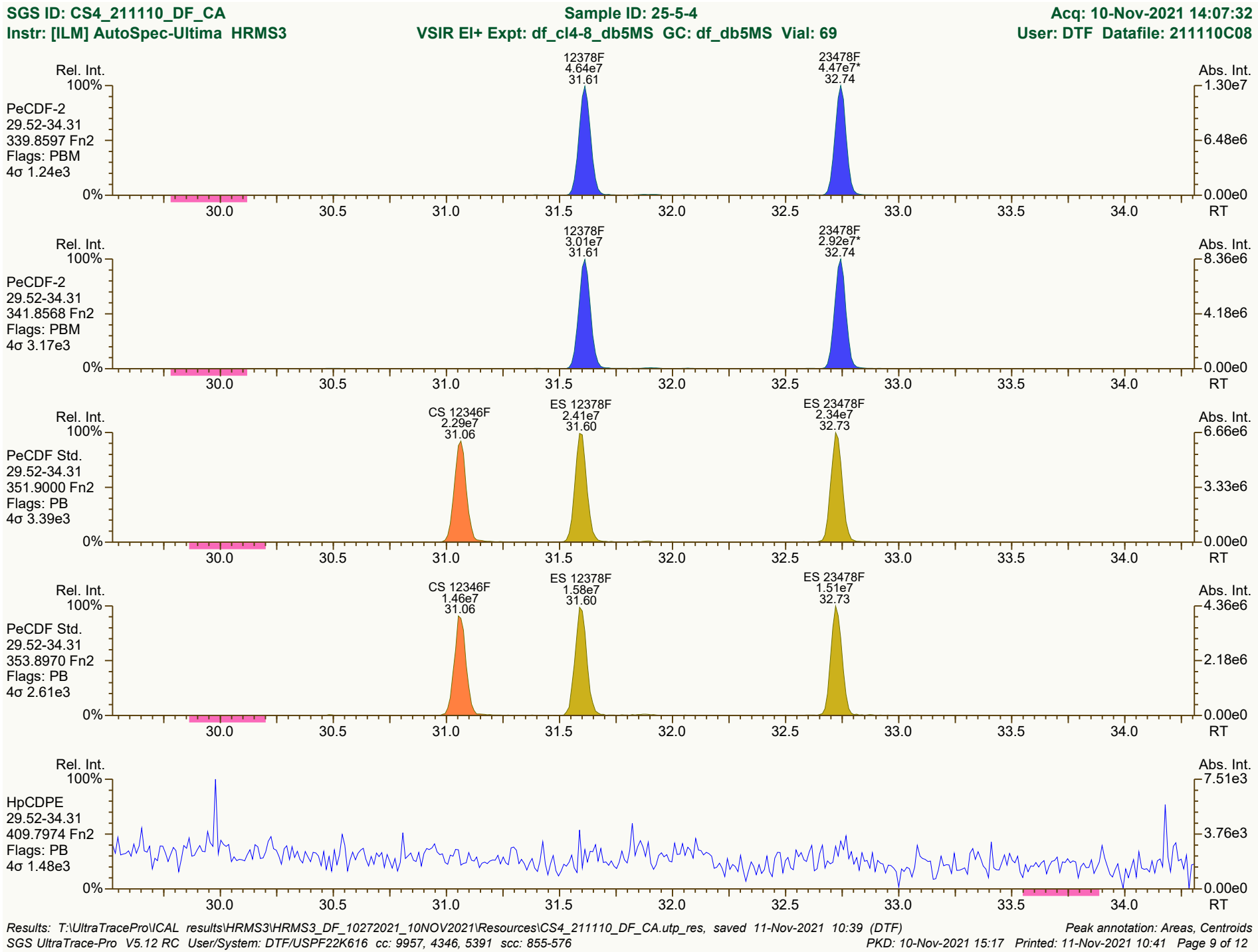

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

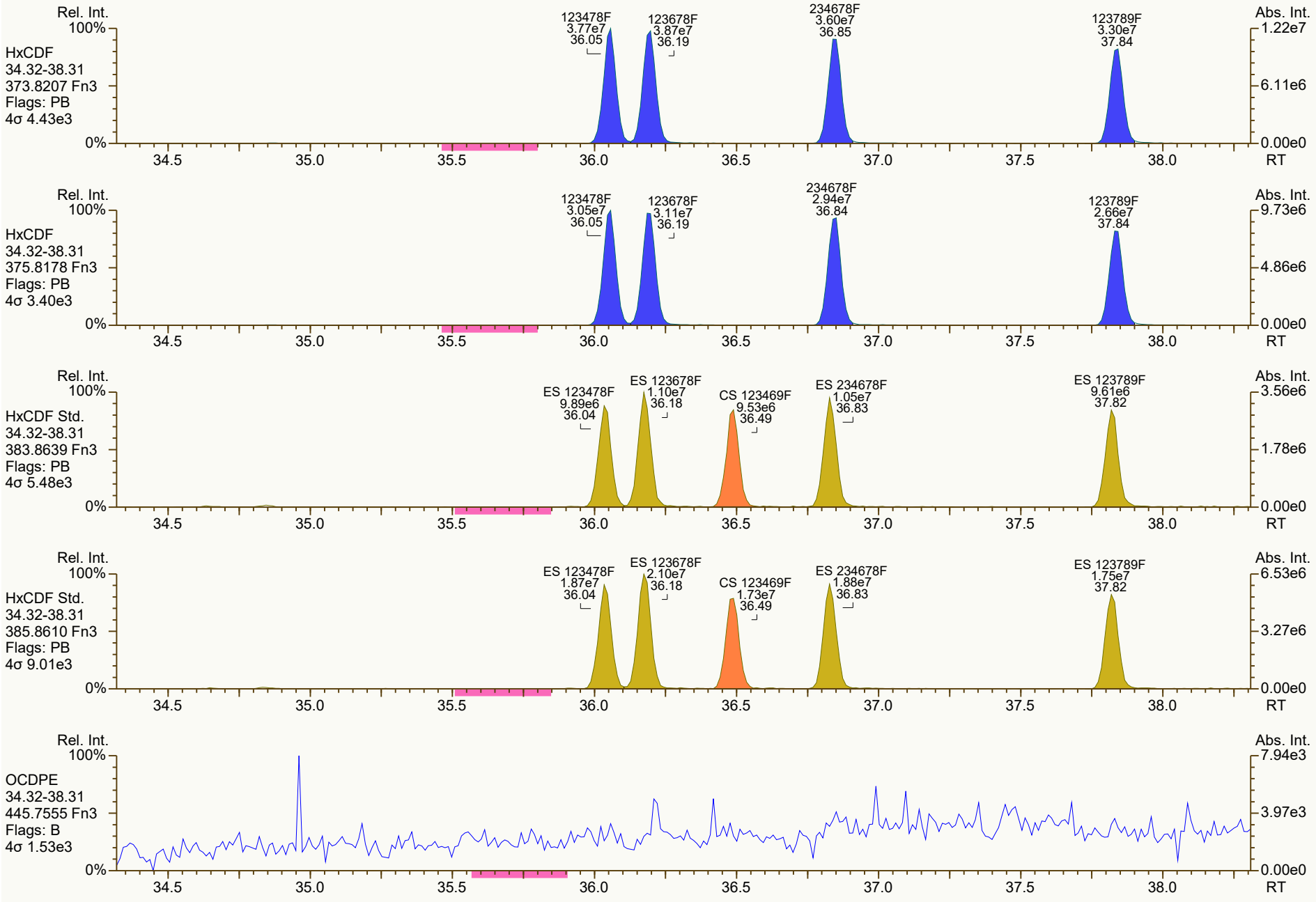

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

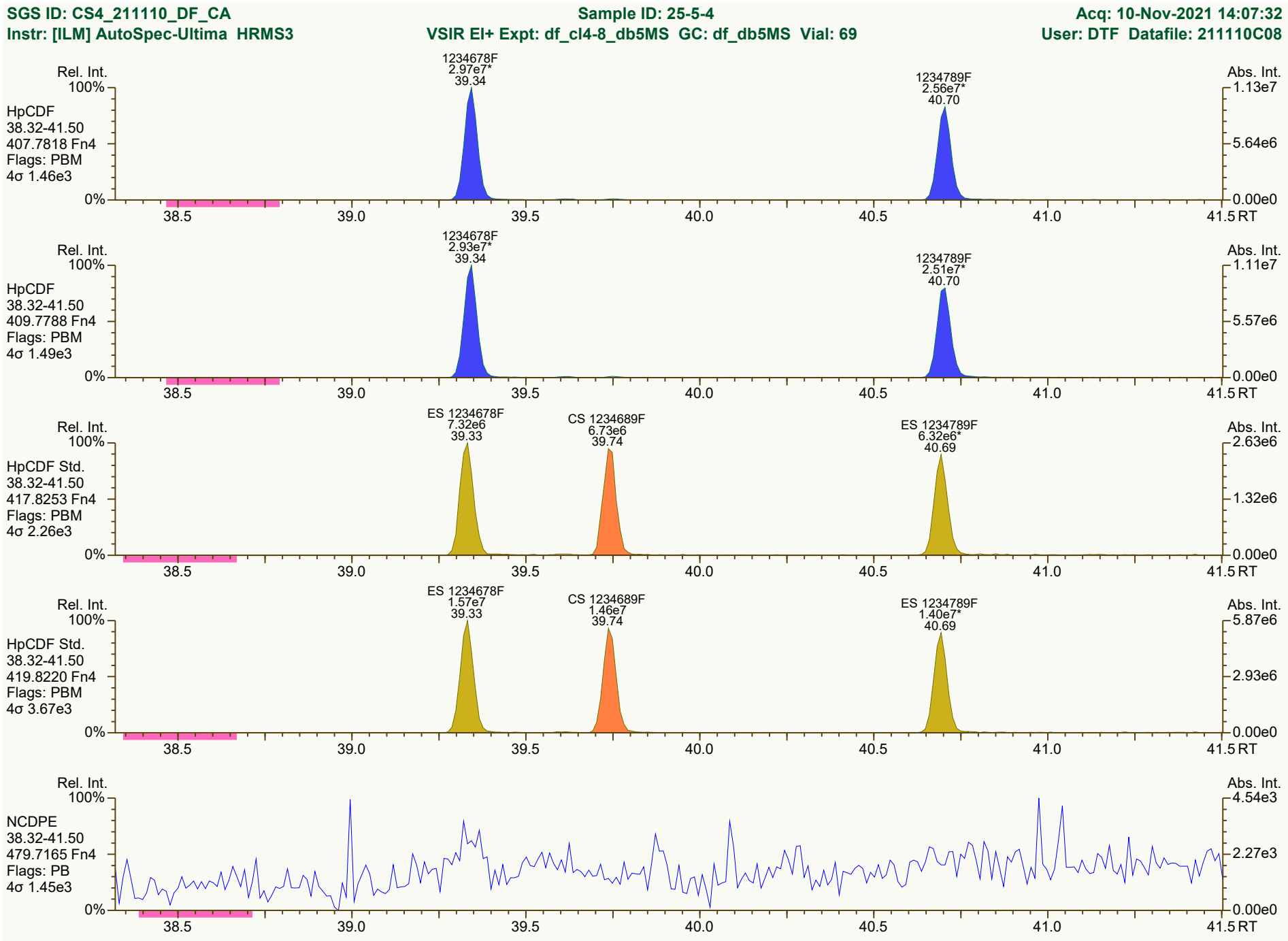

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
OCDD
2.94e7*
42.83
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
OCDD
3.31e7*
42.83
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
ES OCDD
1.41e7
42.82
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
ES OCDD
1.55e7
42.82
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

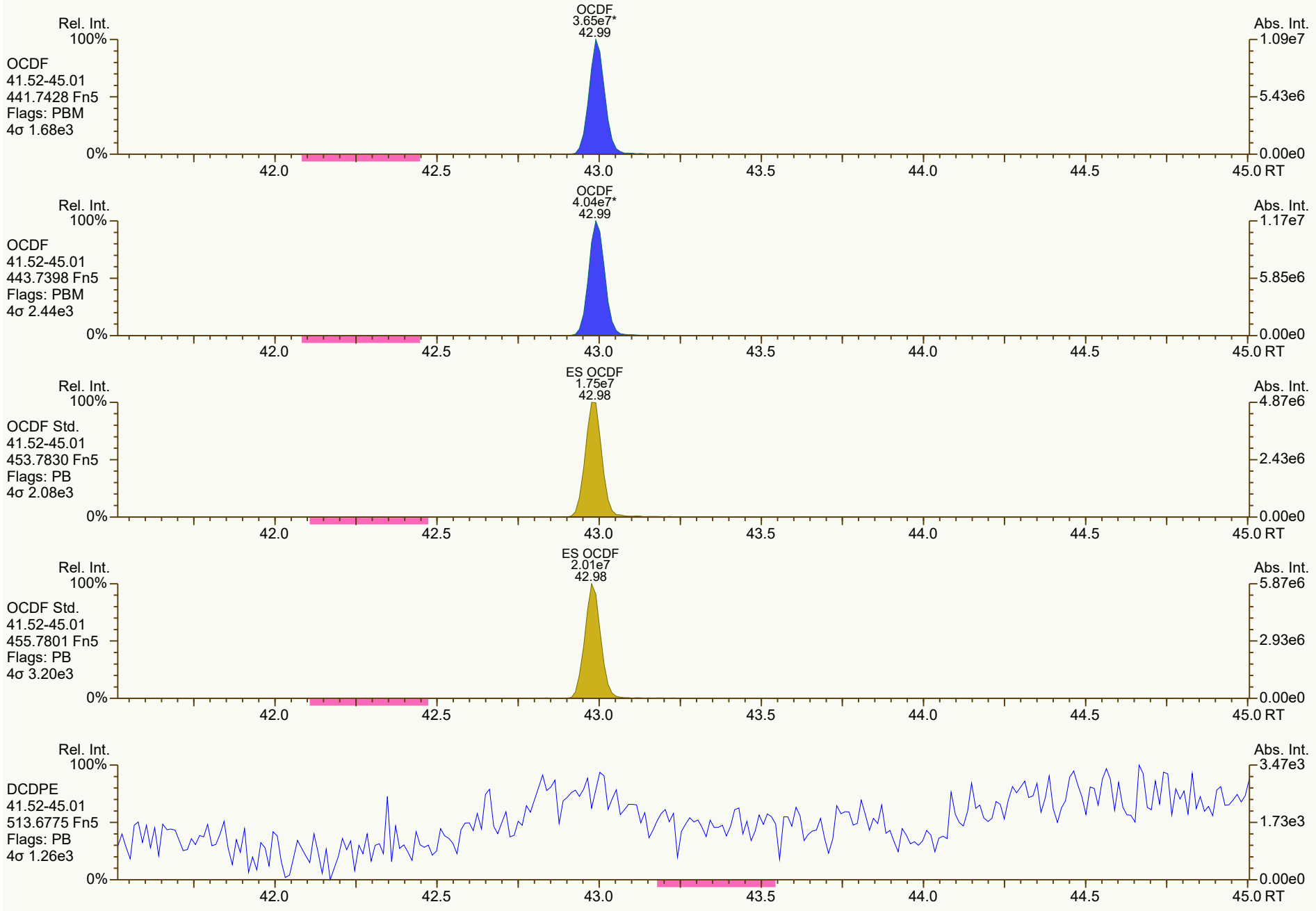

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
RT
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
8.94e3
4.47e3
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
9.00e6
4.50e6
20.0
22.0
24.0
26.0
28.0


SGS ID: CS4_211110_DF_CA
Sample ID: 25-5-4
Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 211110C08
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
1.30e7
6.48e6
0.00e0
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
8.36e6
4.18e6
0.00e0
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
6.66e6
3.33e6
0.00e0
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
4.36e6
2.18e6
0.00e0
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
7.51e3
3.76e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9957, 4346, 5391 scc: 855-576
PKD: 10-Nov-2021 15:17 Printed: 11-Nov-2021 10:41 Page 9 of 12


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
123478F 3.77e7 36.05
123678F 3.87e7 36.19
234678F 3.60e7 36.85
123789F 3.30e7 37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F 3.05e7 36.05
123678F 3.11e7 36.19
234678F 2.94e7 36.84
123789F 2.66e7 37.84
Abs. Int.
9.73e6
4.86e6
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F 9.89e6 36.04
ES 123678F 1.10e7 36.18
CS 123469F 9.53e6 36.49
ES 234678F 1.05e7 36.83
ES 123789F 9.61e6 37.82
Abs. Int.
3.56e6
1.78e6
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F 1.87e7 36.04
ES 123678F 2.10e7 36.18
CS 123469F 1.73e7 36.49
ES 234678F 1.88e7 36.83
ES 123789F 1.75e7 37.82
Abs. Int.
6.53e6
3.27e6
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
Abs. Int.
7.94e3
3.97e3
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0
RT


SGS ID: CS4_211110_DF_CA
Sample ID: 25-5-4
Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 211110C08
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
1.13e7
5.64e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
1.11e7
5.57e6
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
2.63e6
1.32e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
5.87e6
2.93e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
4.54e3
2.27e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 2764, 9565, 4492 scc: 855-576
Revised: 10-Nov-2021 15:17 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

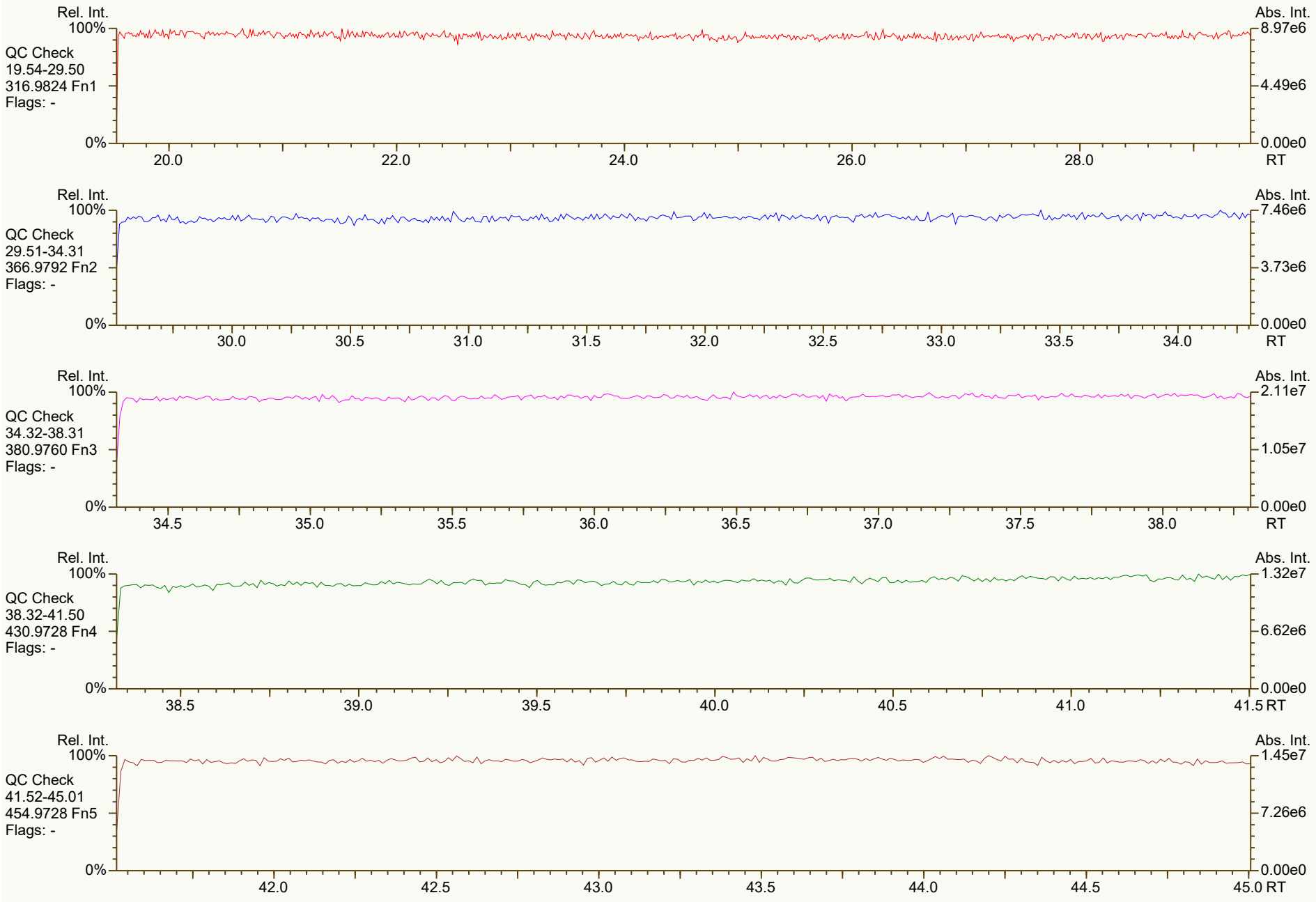

OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

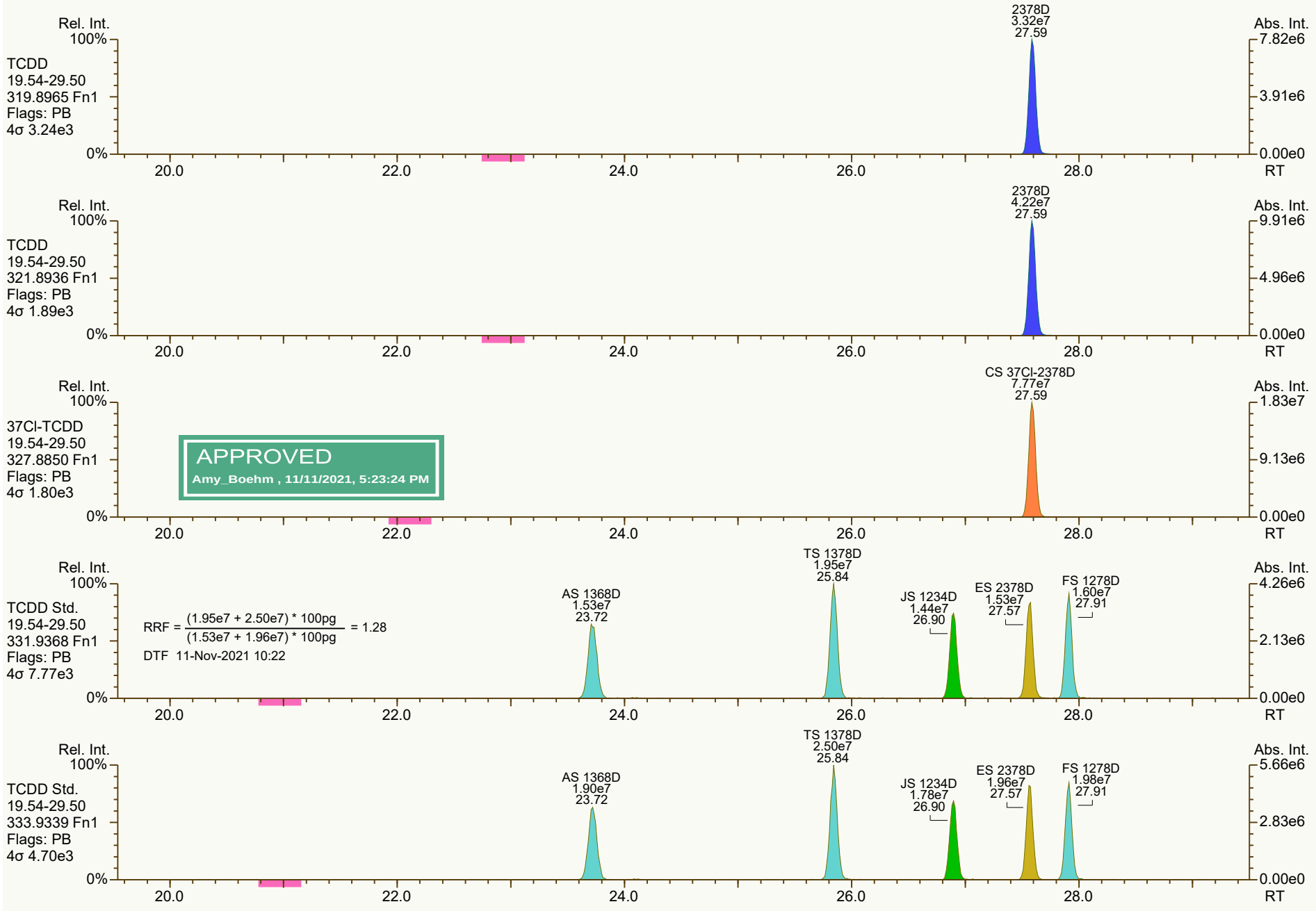
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

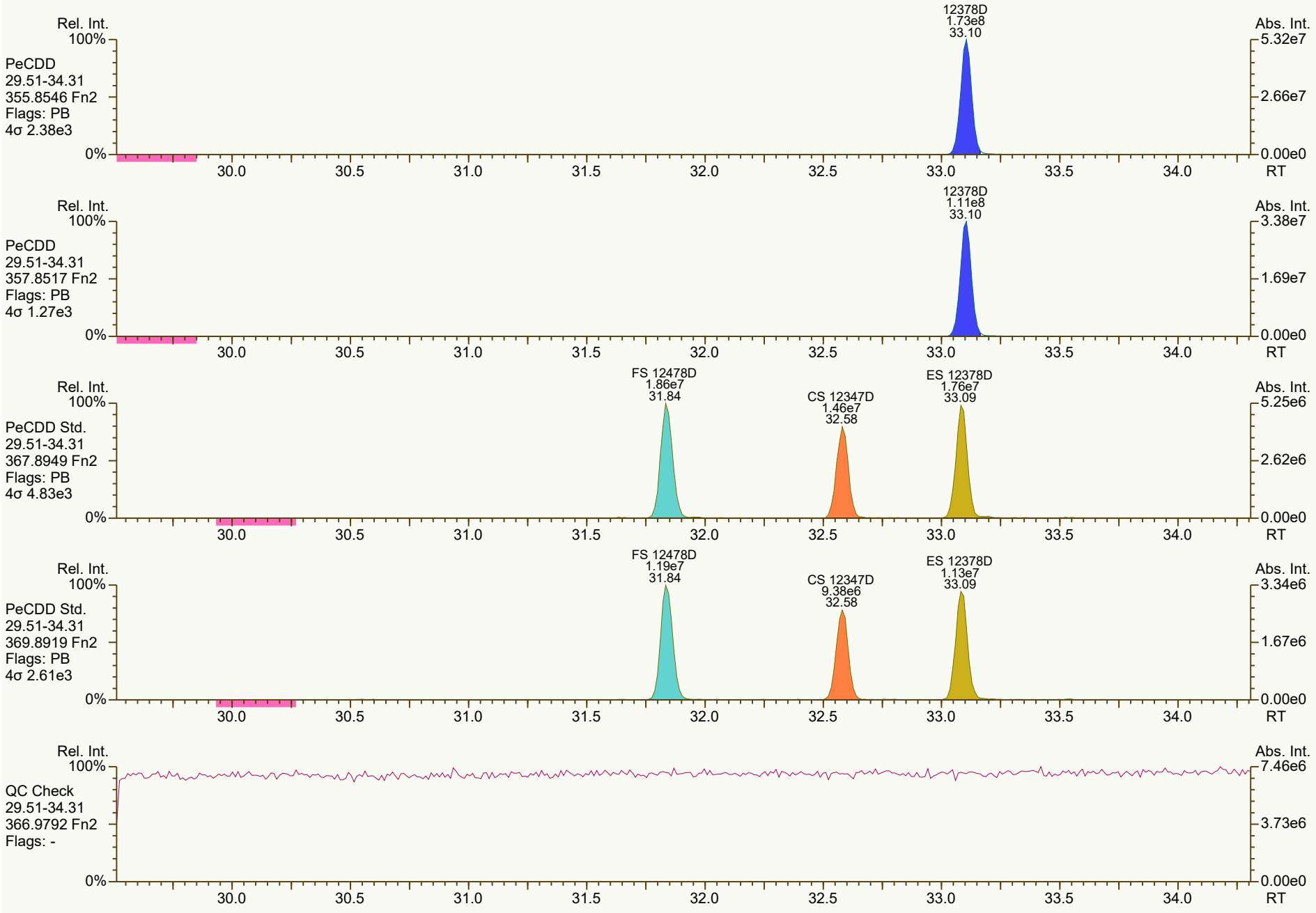
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

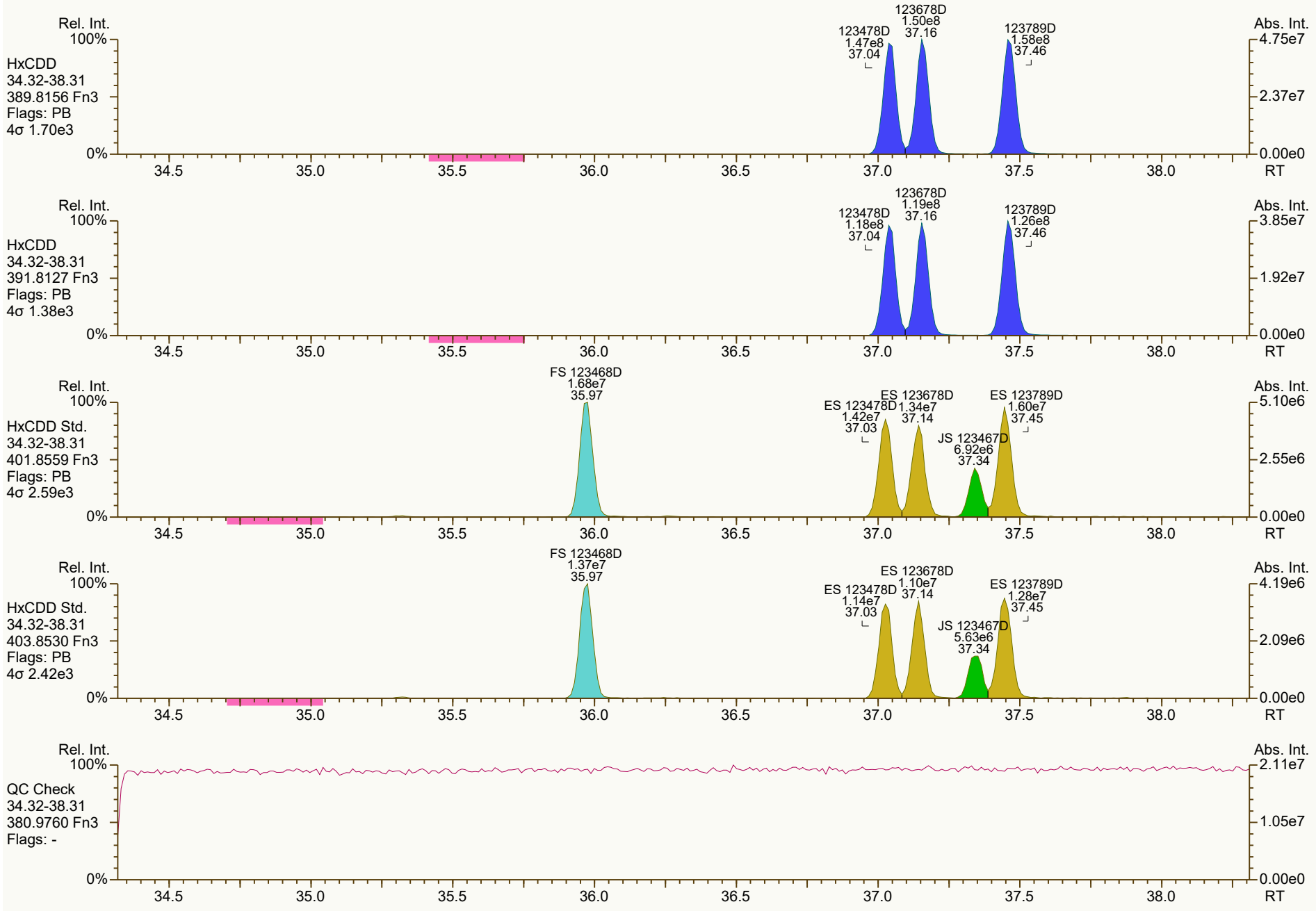
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

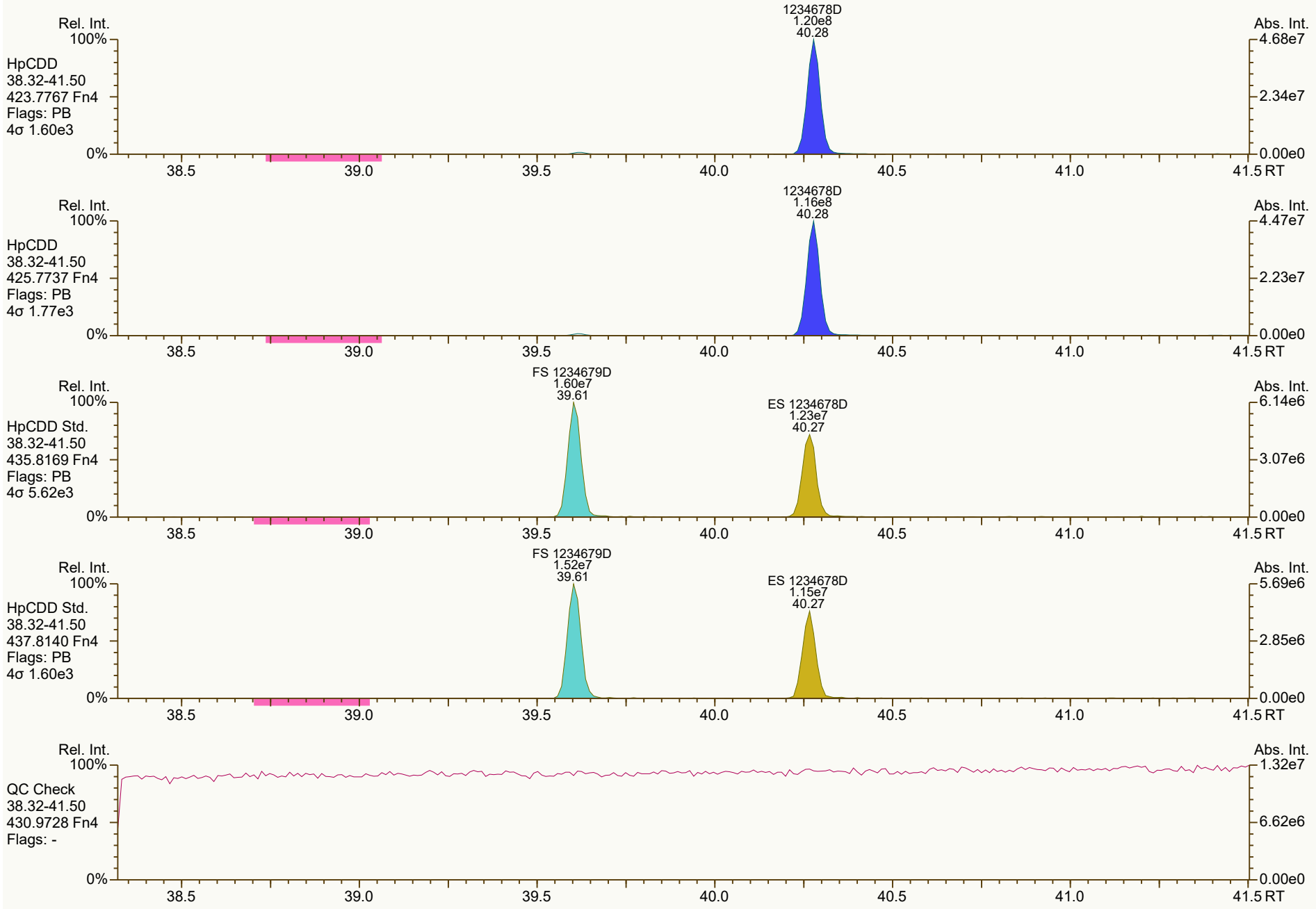
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

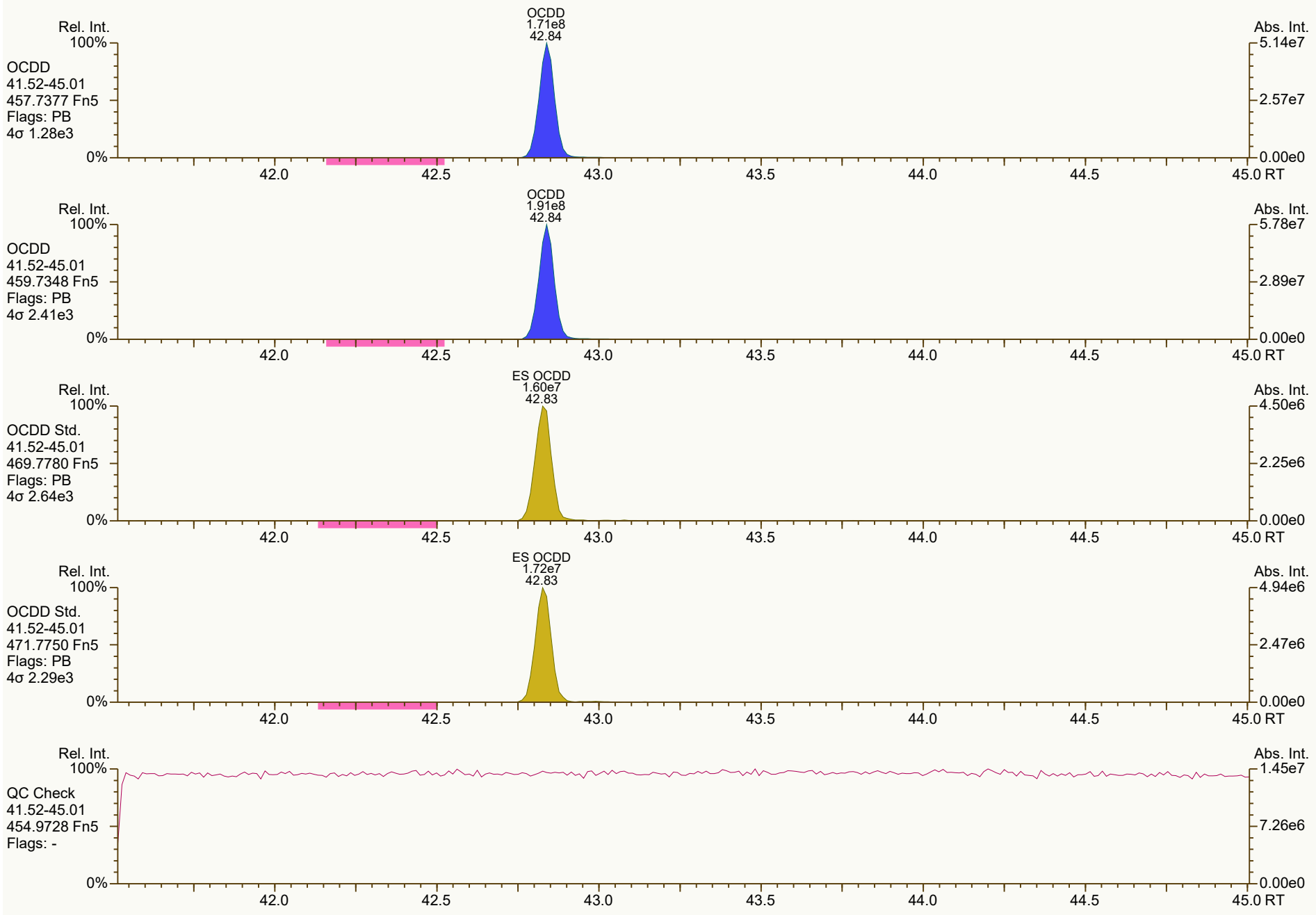

Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
RT
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
7.46e6
3.73e6
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.11e7
1.05e7
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
1.32e7
6.62e6
38.5
39.0
39.5
40.0
40.5
41.0
41.5
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6
42.0
42.5
43.0
43.5
44.0
44.5
45.0


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
0%
2378D
4.22e7
27.59
Abs. Int.
9.91e6
4.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
Abs. Int.
1.83e7
9.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
0%
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
Abs. Int.
4.26e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
0%
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
Abs. Int.
5.66e6
2.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.46e6
3.73e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

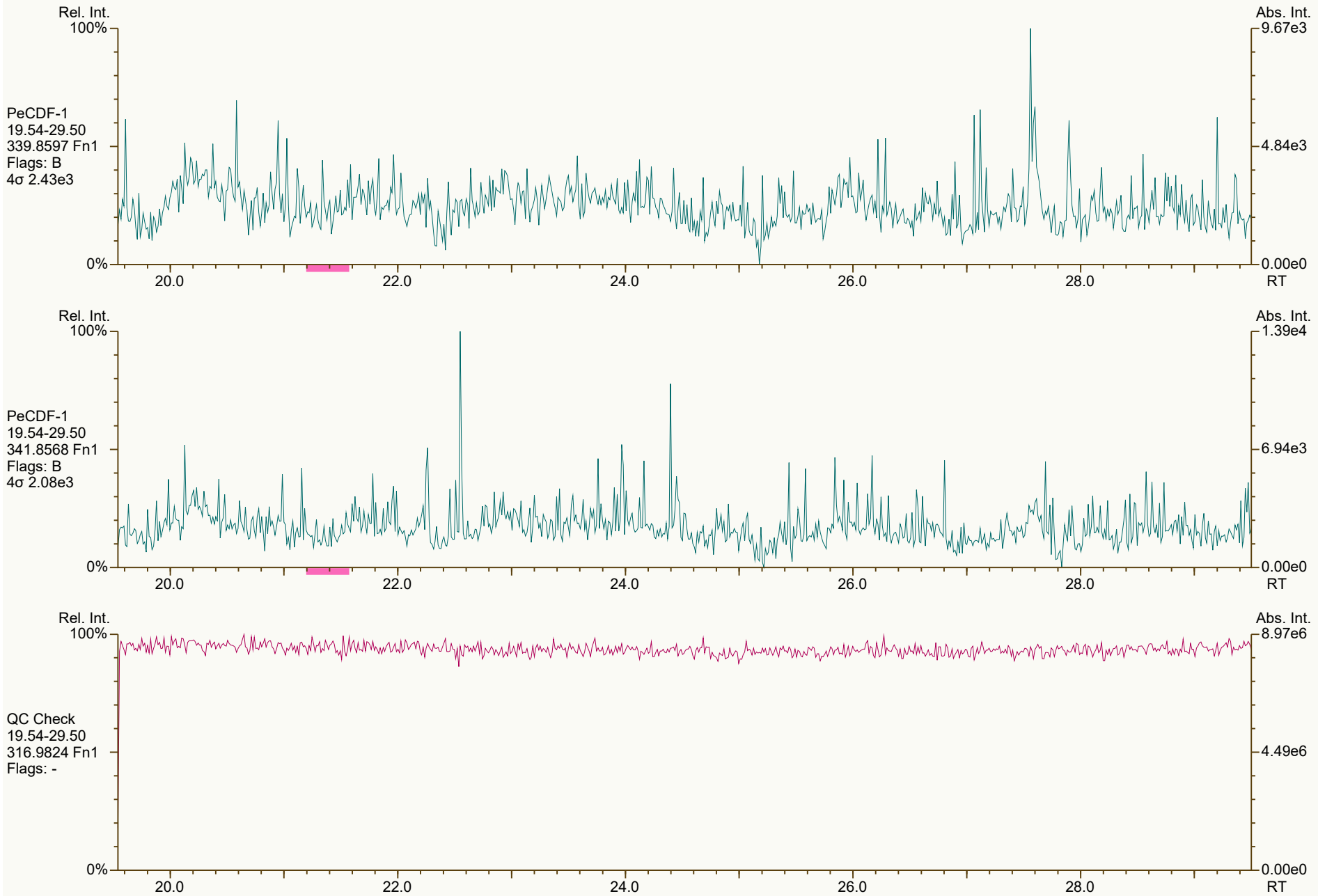

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123678D
1.50e8
37.16
123478D
1.47e8
37.04
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123678D
1.19e8
37.16
123478D
1.18e8
37.04
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123678D
1.34e7
37.14
ES 123478D
1.42e7
37.03
ES 123789D
1.60e7
37.45
JS 123467D
6.92e6
37.34
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123678D
1.10e7
37.14
ES 123478D
1.14e7
37.03
ES 123789D
1.28e7
37.45
JS 123467D
5.63e6
37.34
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

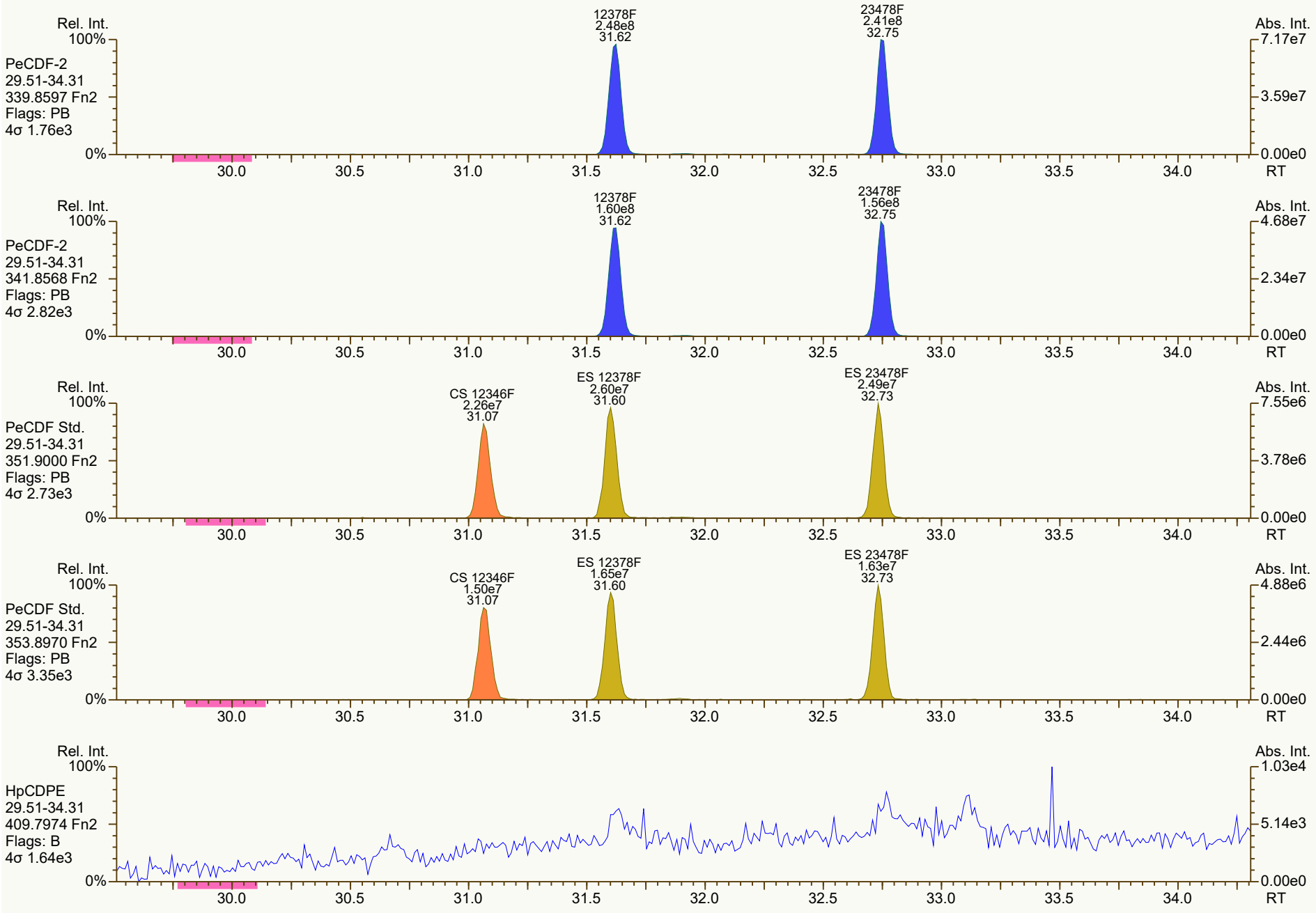

OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6

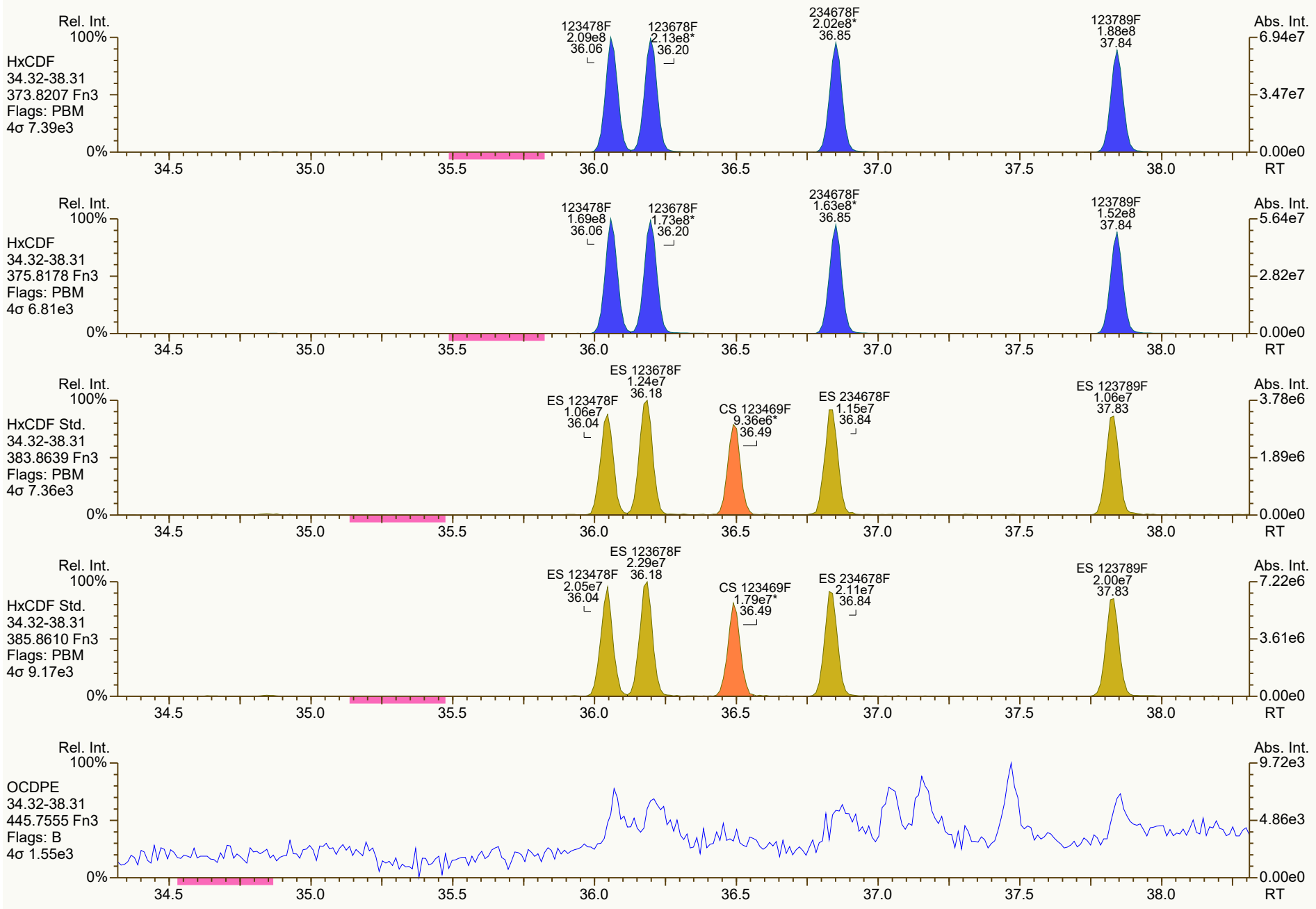

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

SGS ID: CS5_211110_DF_CA
Sample ID: 25-5-3
Acq: 10-Nov-2021 14:53:51
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 211110C09



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 1231 scc: 573-489
PKD: 10-Nov-2021 15:53 Printed: 11-Nov-2021 10:41 Page 8 of 12

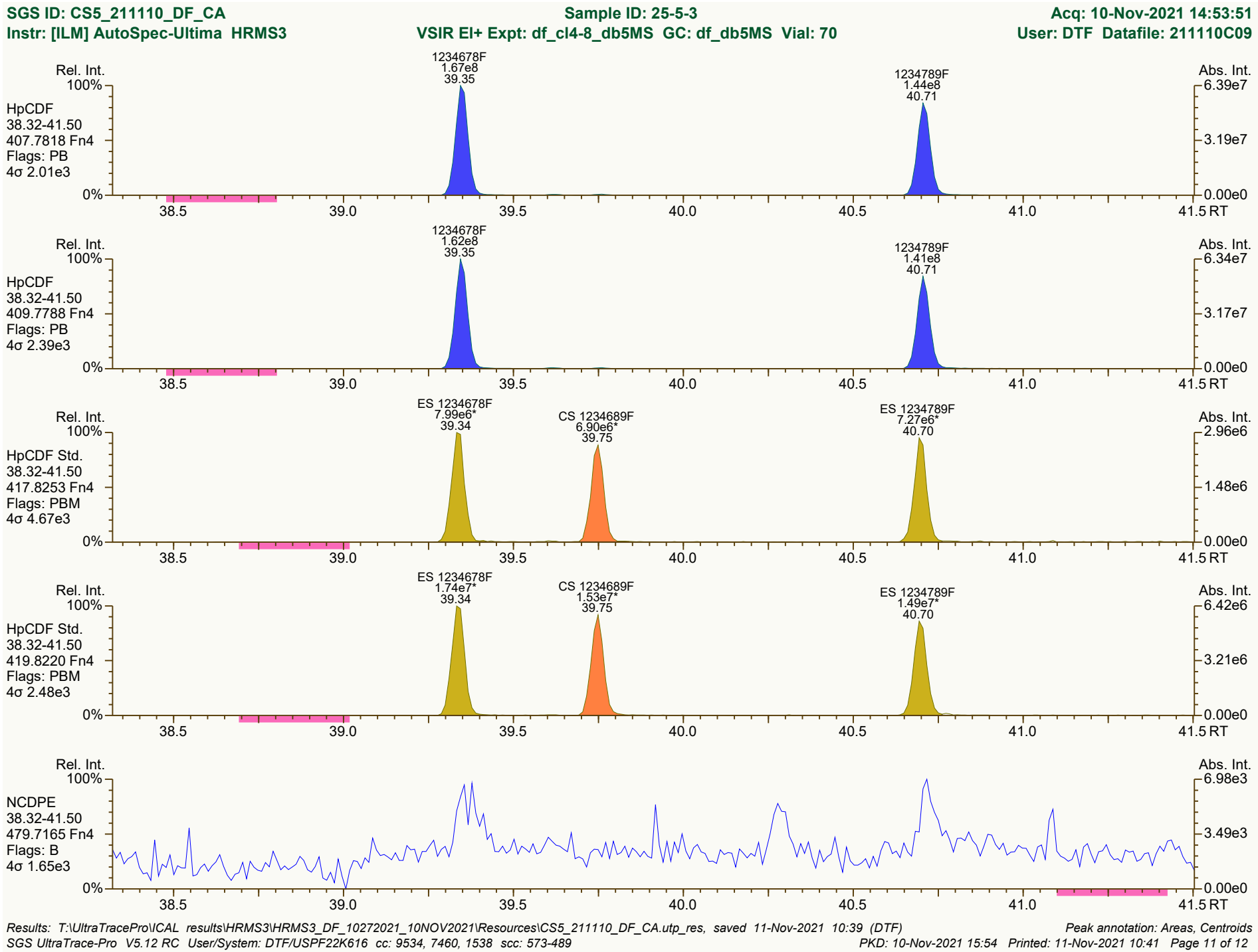

Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
0%
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
0%
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
0%
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
0%
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.03e4
5.14e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
0%
123478F
2.09e8
36.06
123678F
2.13e8*
36.20
234678F
2.02e8*
36.85
123789F
1.88e8
37.84
Abs. Int.
6.94e7
3.47e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
0%
123478F
1.69e8
36.06
123678F
1.73e8*
36.20
234678F
1.63e8*
36.85
123789F
1.52e8
37.84
Abs. Int.
5.64e7
2.82e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
0%
ES 123478F
1.06e7
36.04
ES 123678F
1.24e7
36.18
CS 123469F
9.36e6*
36.49
ES 234678F
1.15e7
36.84
ES 123789F
1.06e7
37.83
Abs. Int.
3.78e6
1.89e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
0%
ES 123478F
2.05e7
36.04
ES 123678F
2.29e7
36.18
CS 123469F
1.79e7*
36.49
ES 234678F
2.11e7
36.84
ES 123789F
2.00e7
37.83
Abs. Int.
7.22e6
3.61e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
0%
Abs. Int.
9.72e3
4.86e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

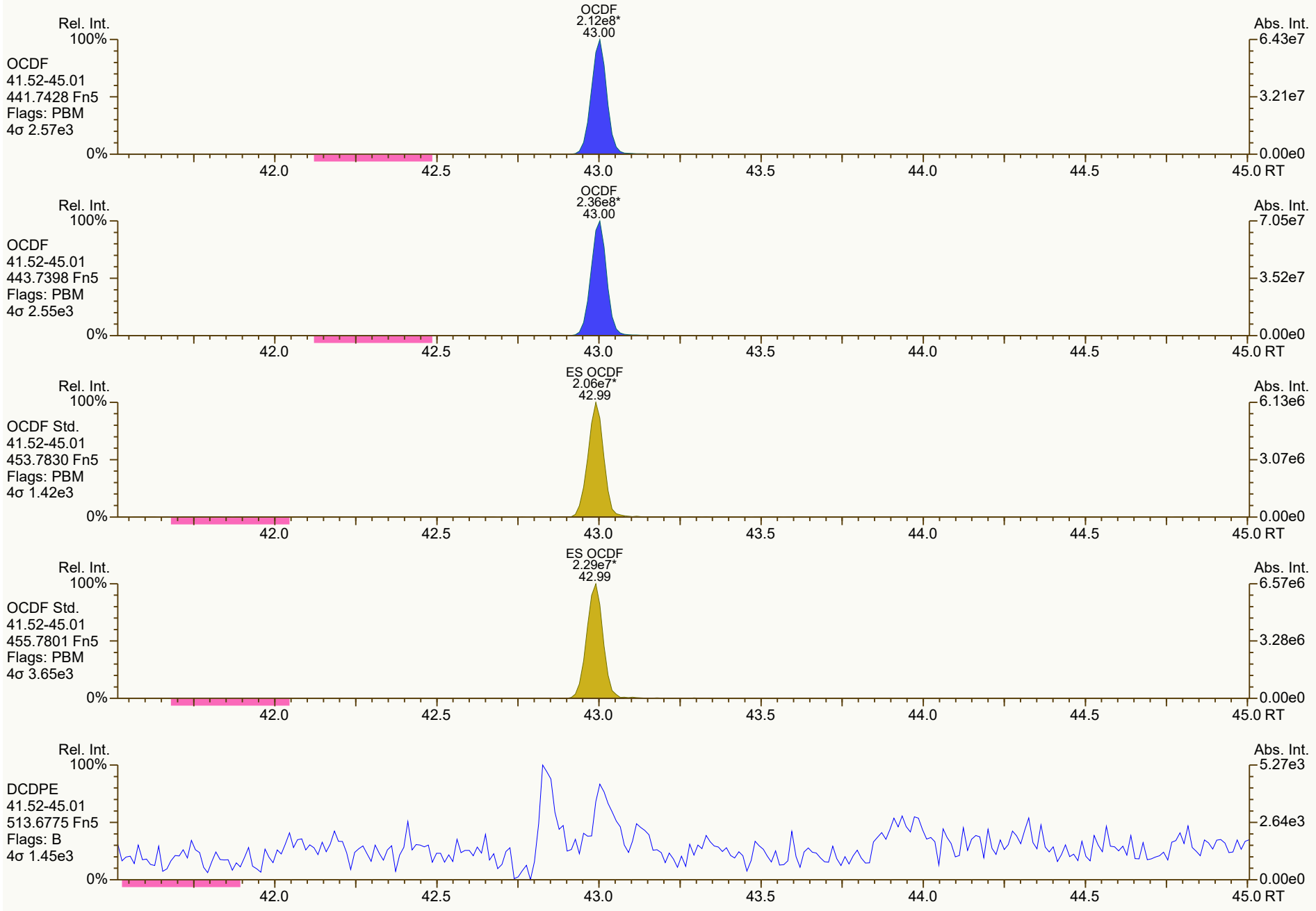
SGS ID: CS5_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 25-5-3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70

Acq: 10-Nov-2021 14:53:51
User: DTF Datafile: 211110C09



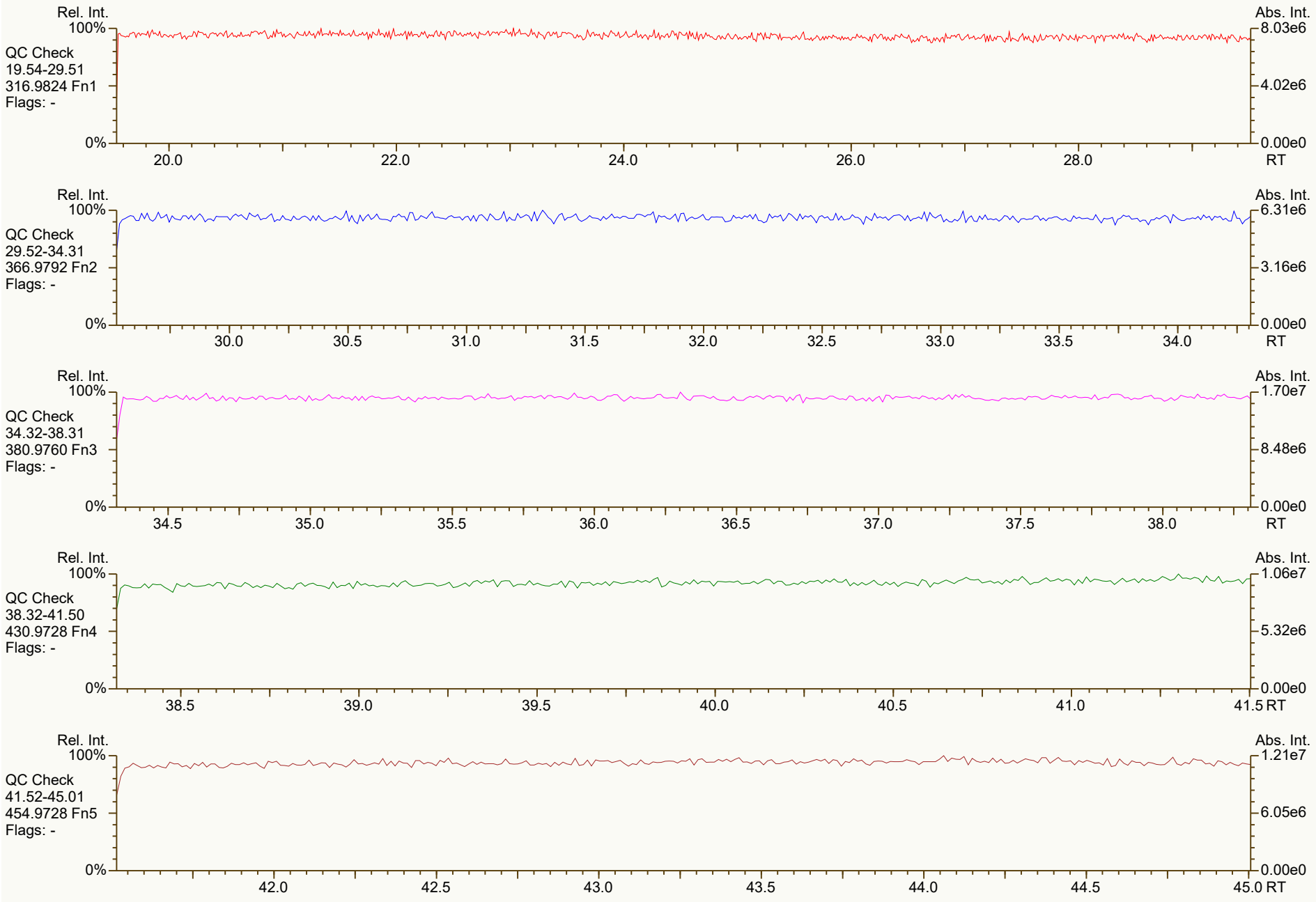
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9534, 7460, 1538 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 11 of 12

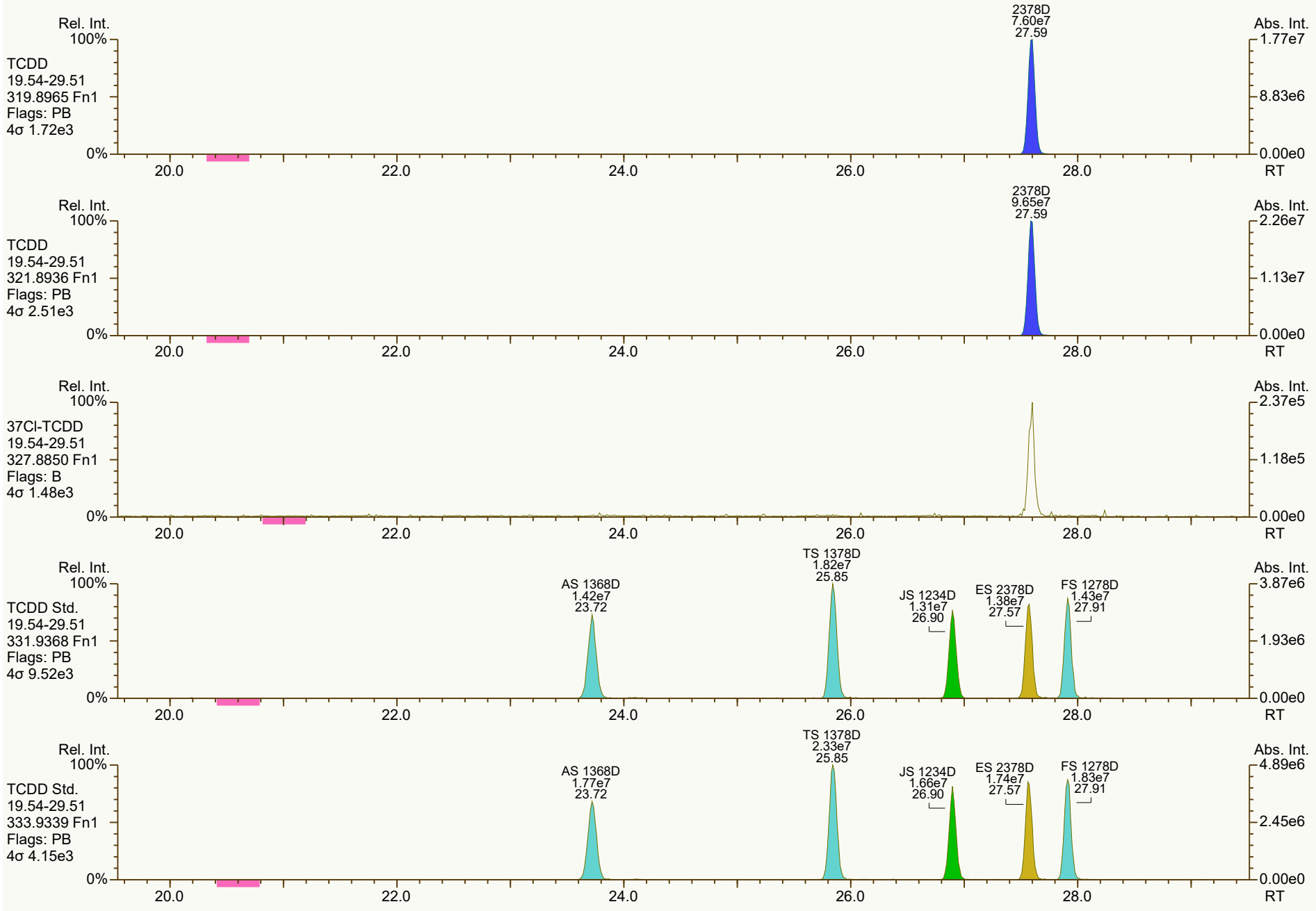

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

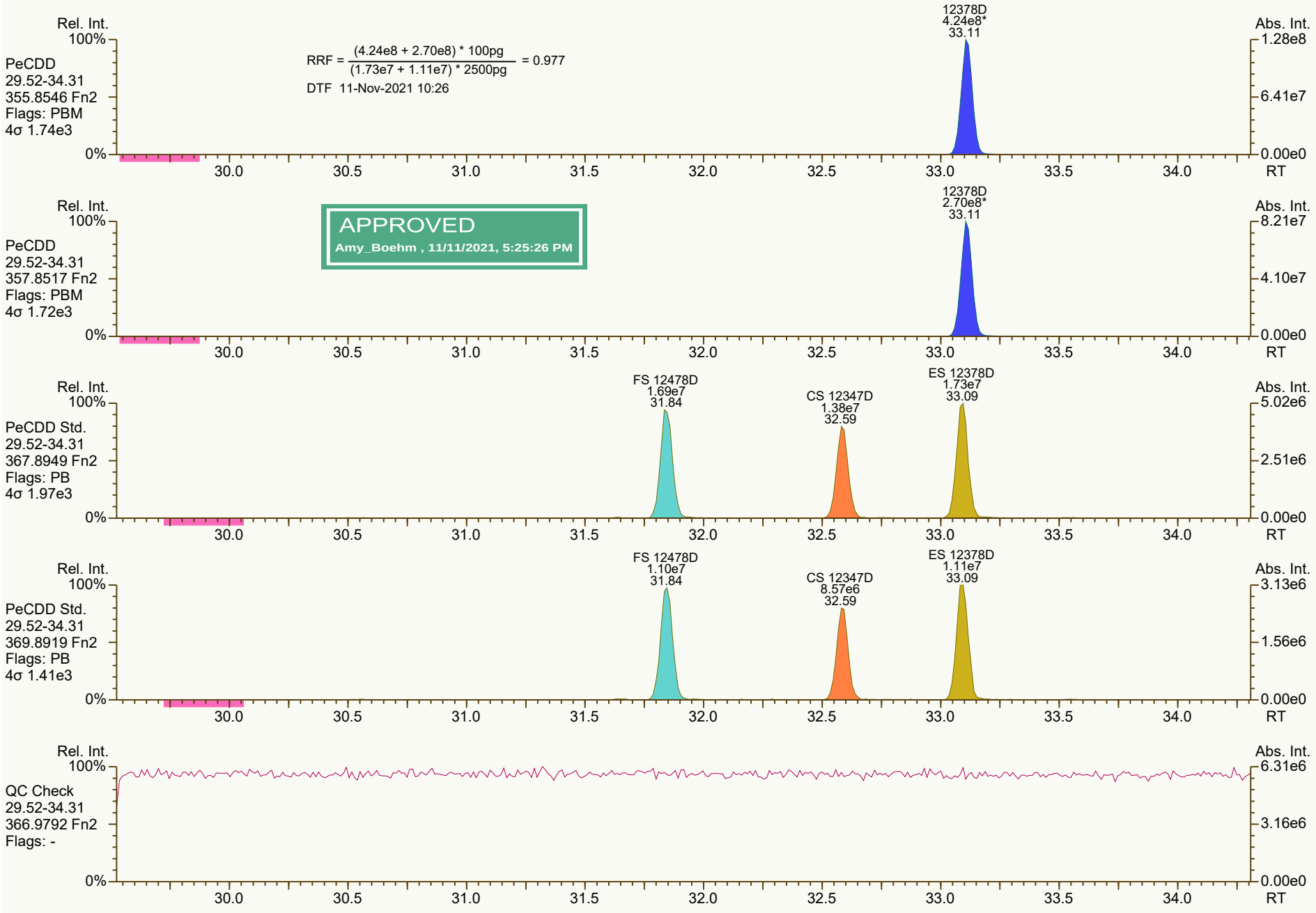
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

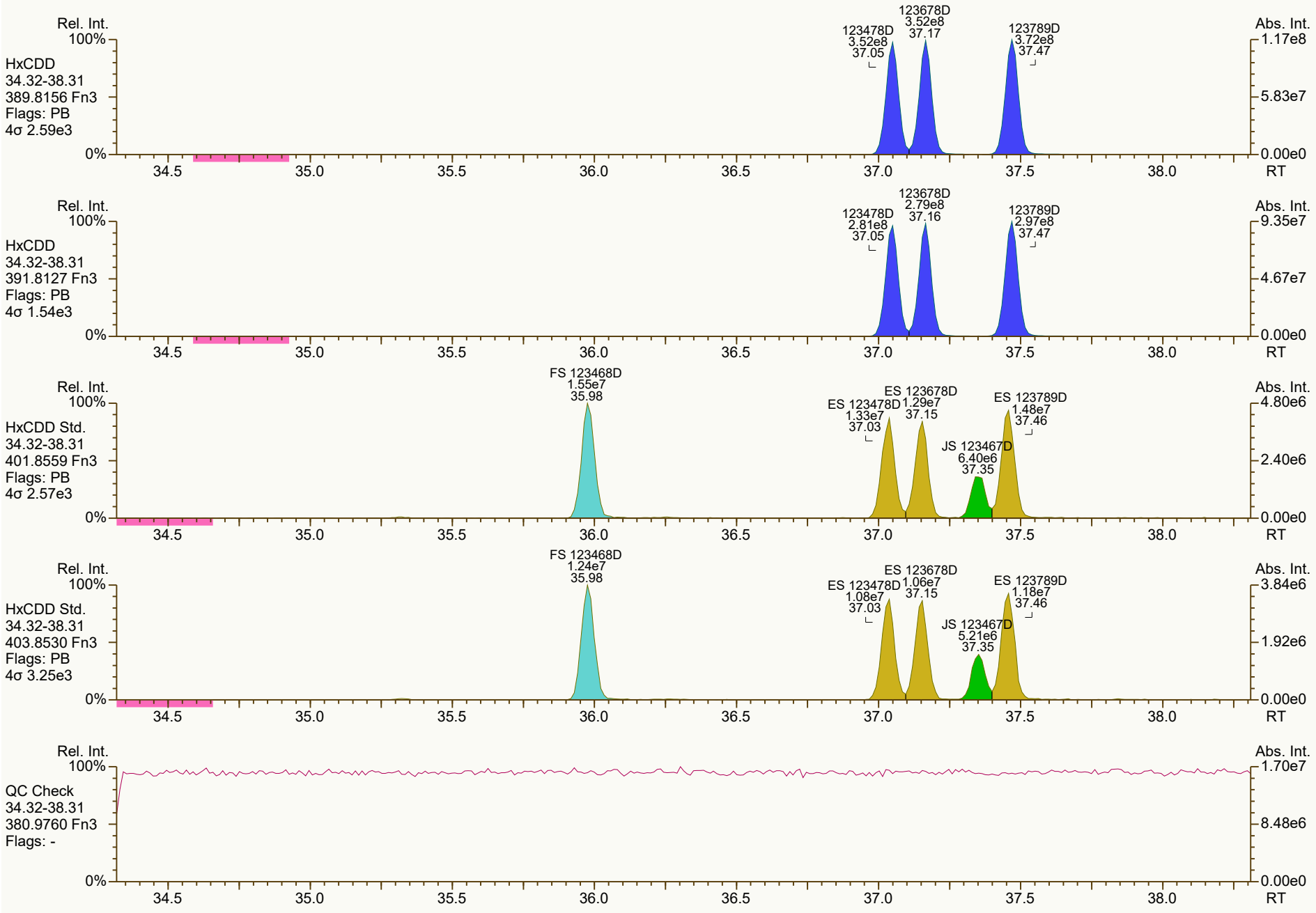
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

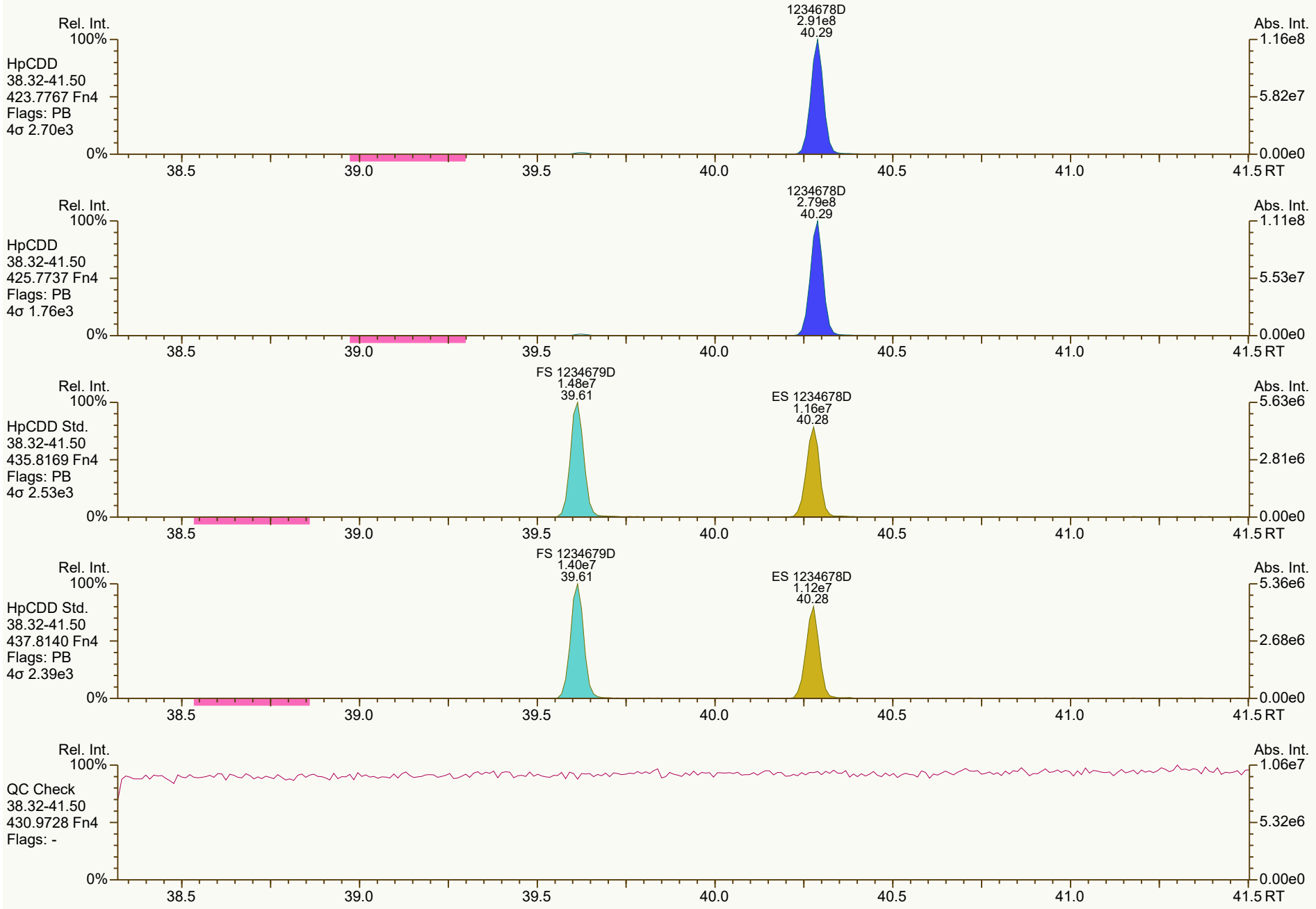
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 15:40 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS6_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 172-736-WQL	
Sample ID: 25-5-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C10	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

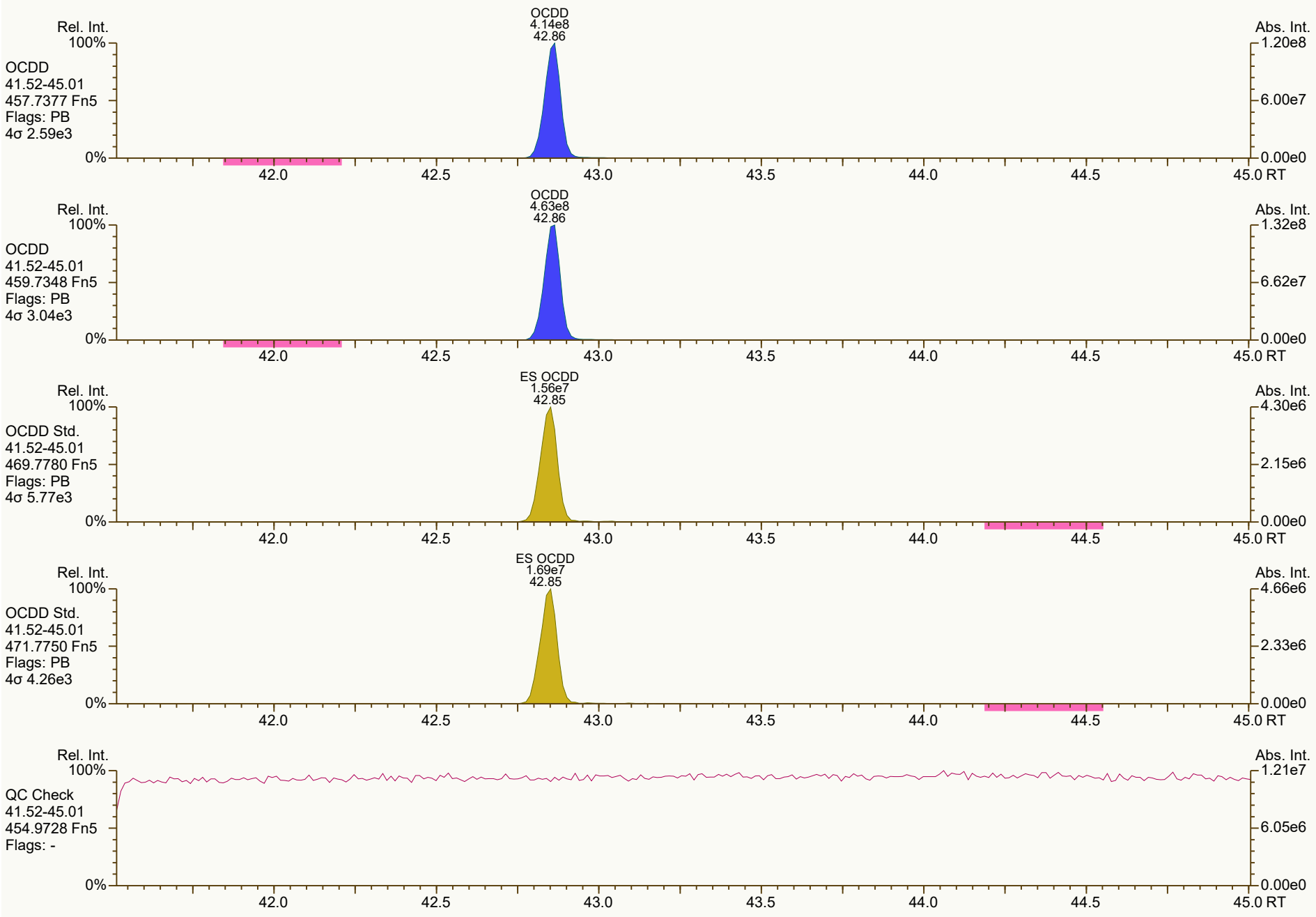

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
0%
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
0%
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.31e6
3.16e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

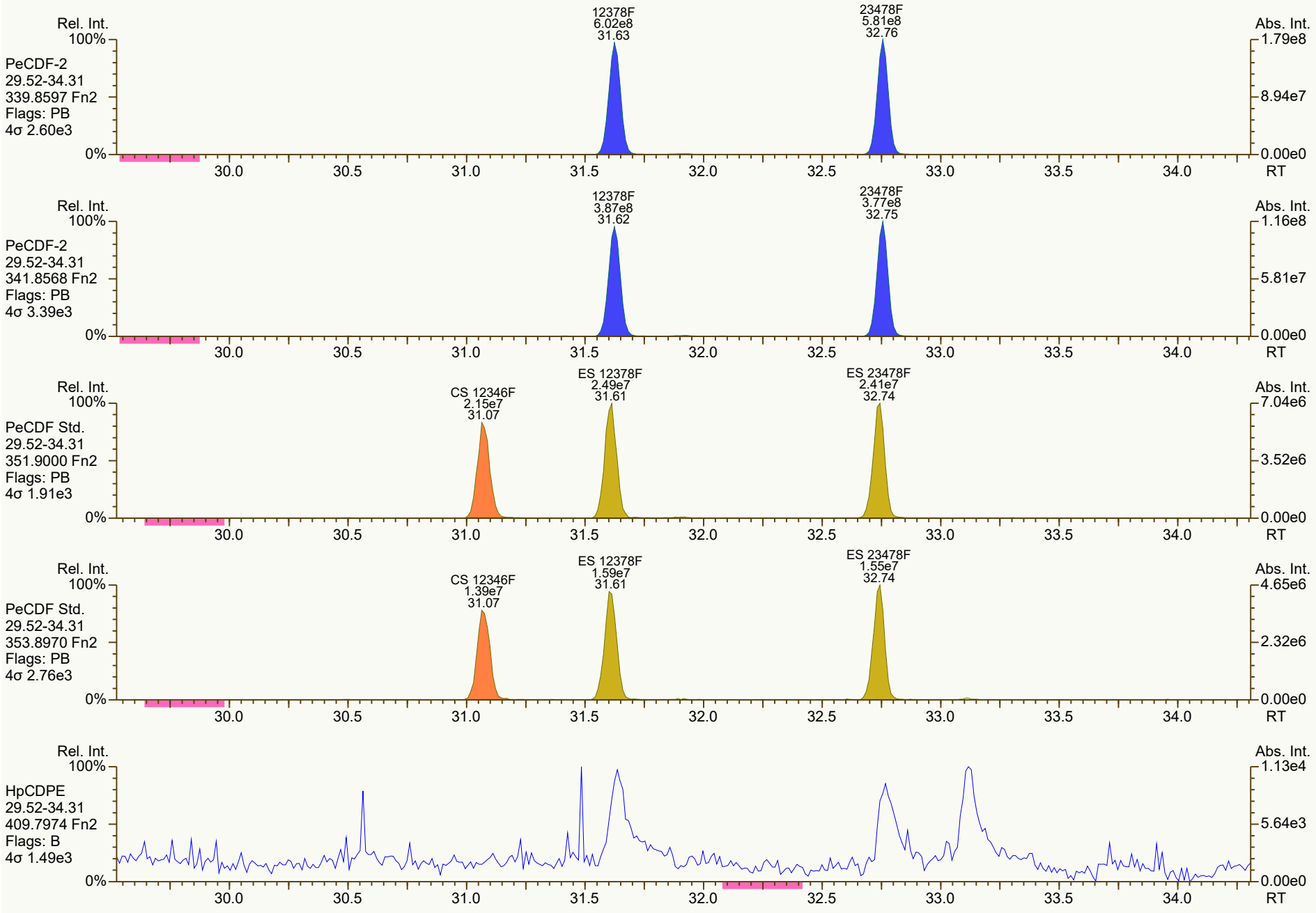

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
0%
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
0%
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
0%
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
0%
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.70e7
8.48e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

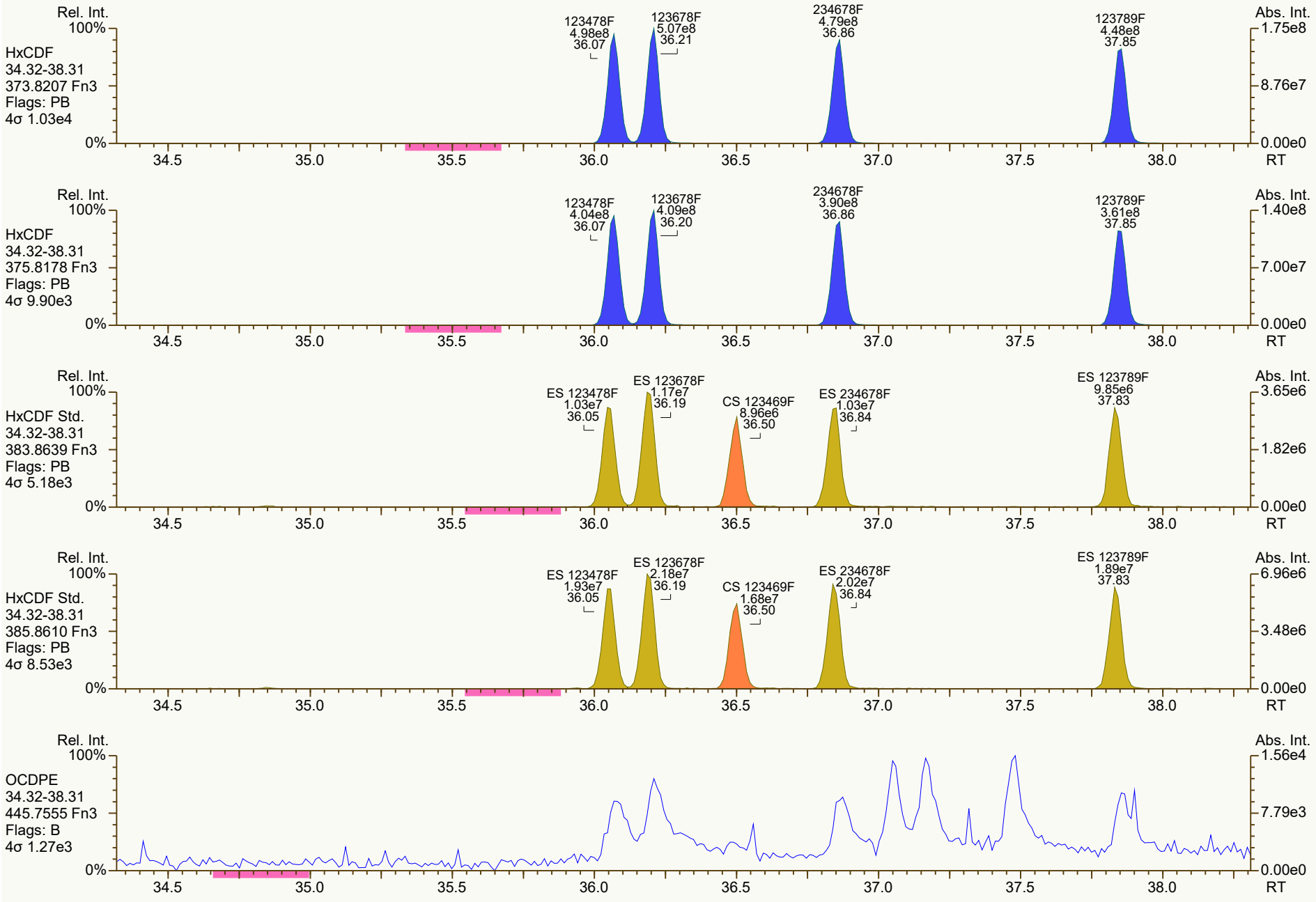

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

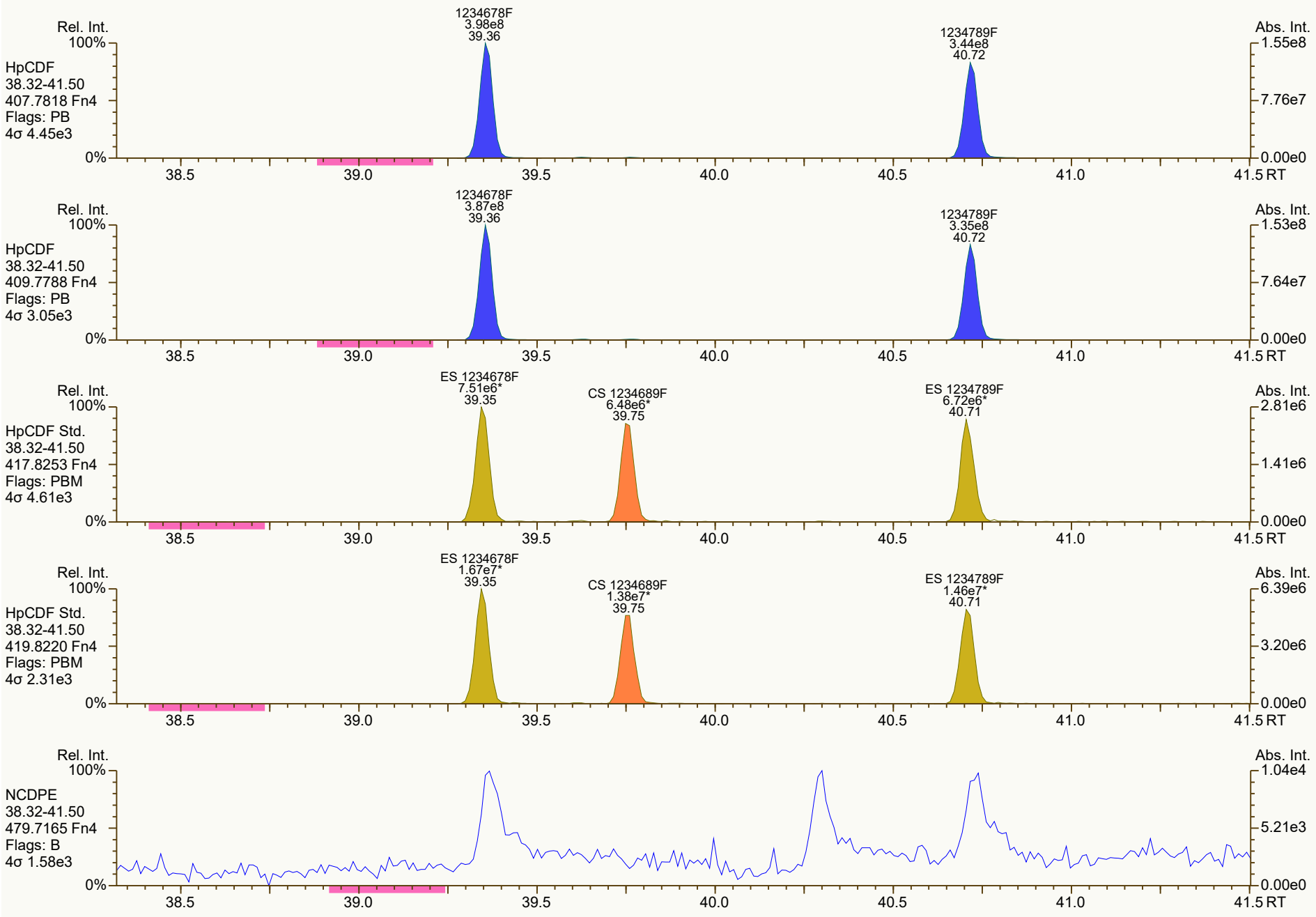

OCDD
4.14e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.63e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.56e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.69e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

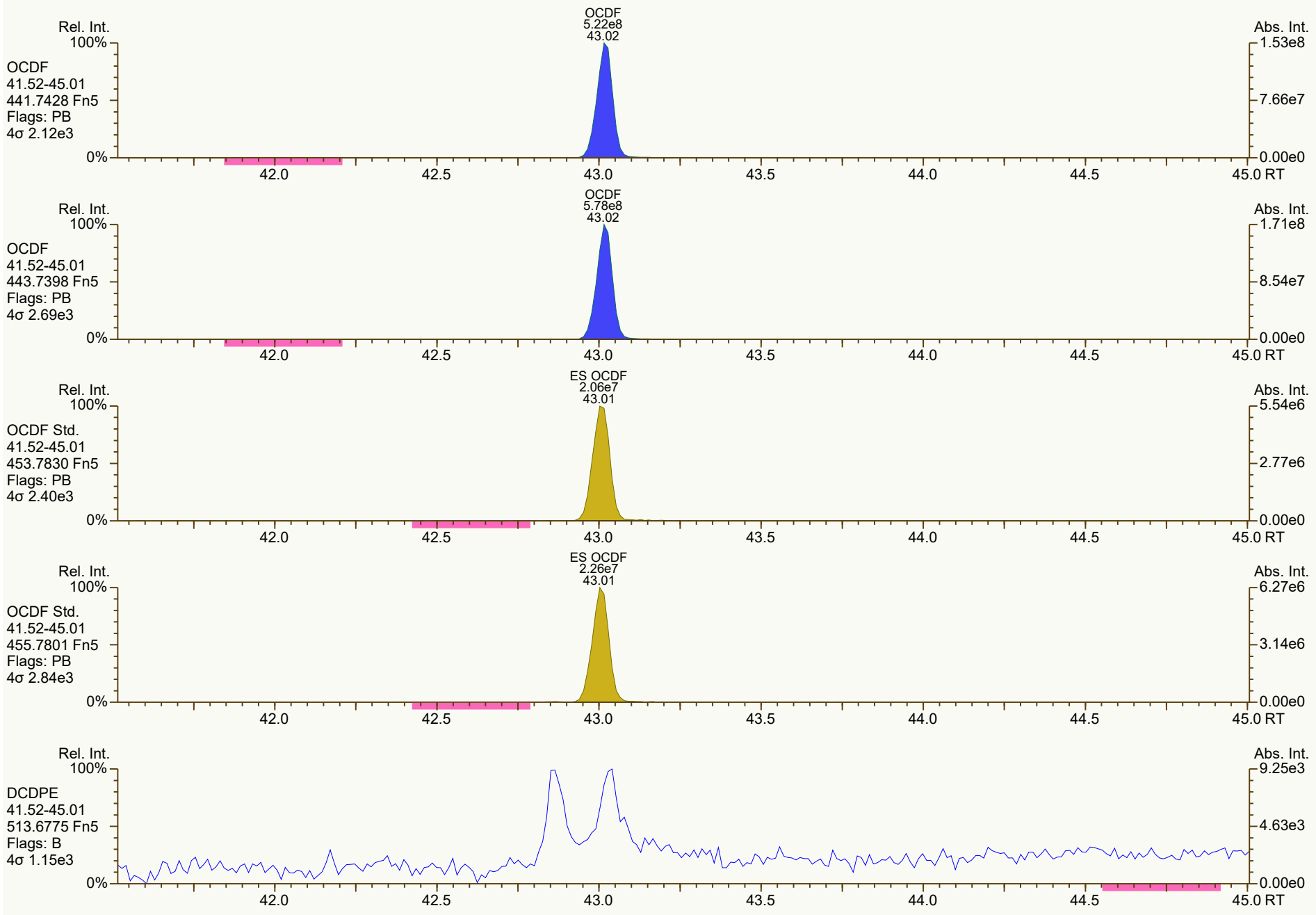

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

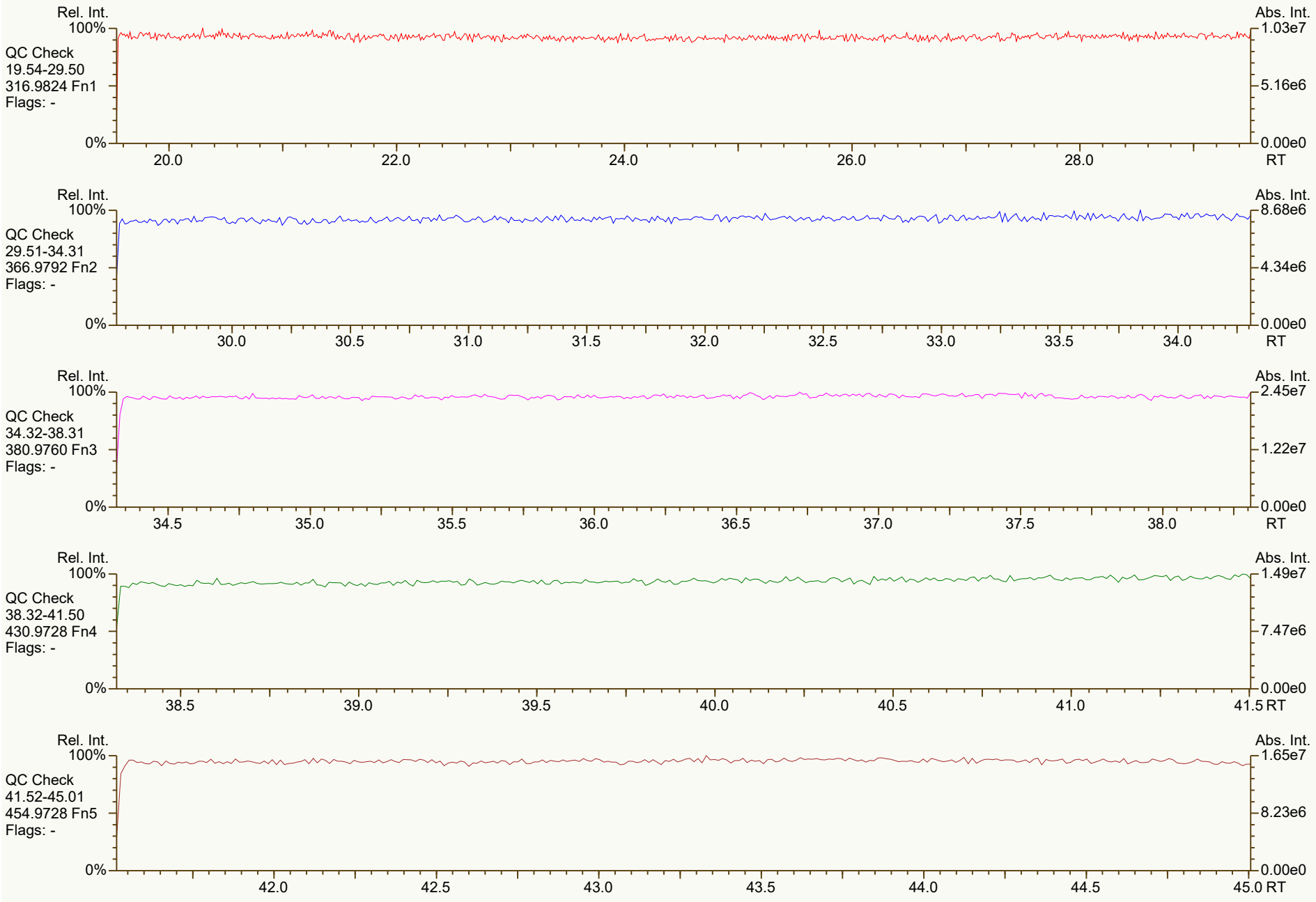

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
0%
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
0%
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
0%
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
0%
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
0%
Abs. Int.
1.13e4
5.64e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.65e7
8.23e6
0.00e0

SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

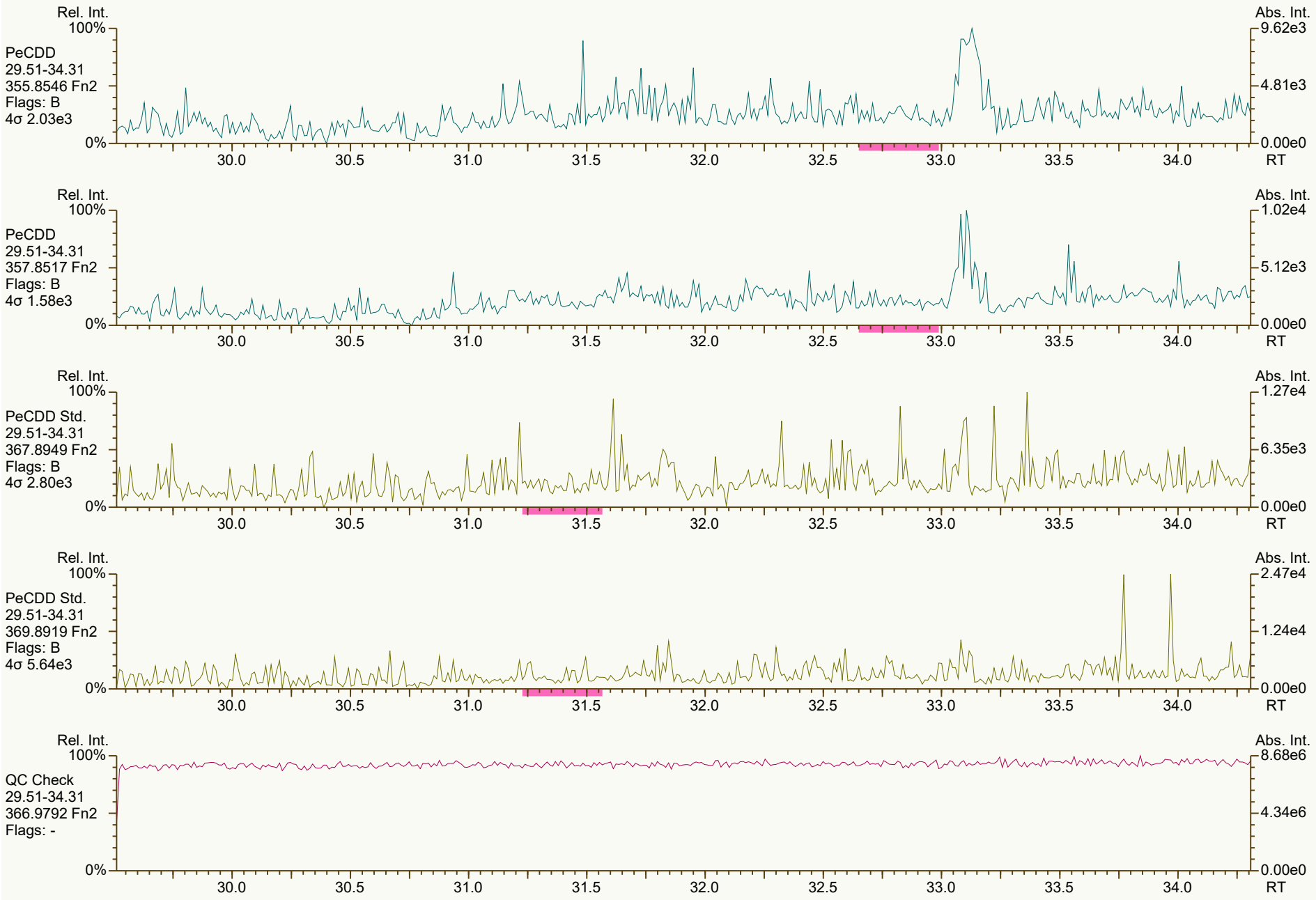
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF) *Peak annotation: Areas, Centroids*

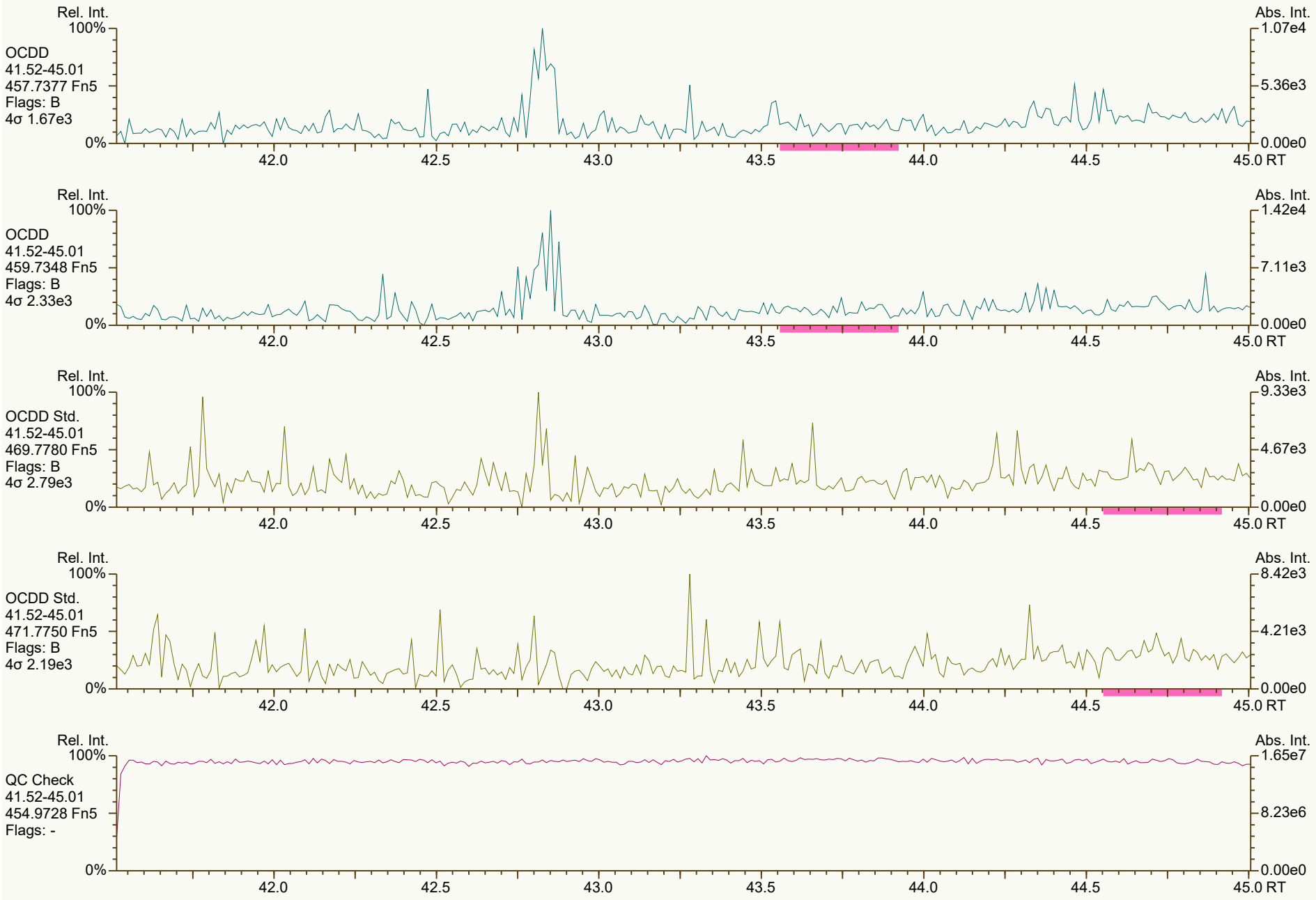
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1*


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

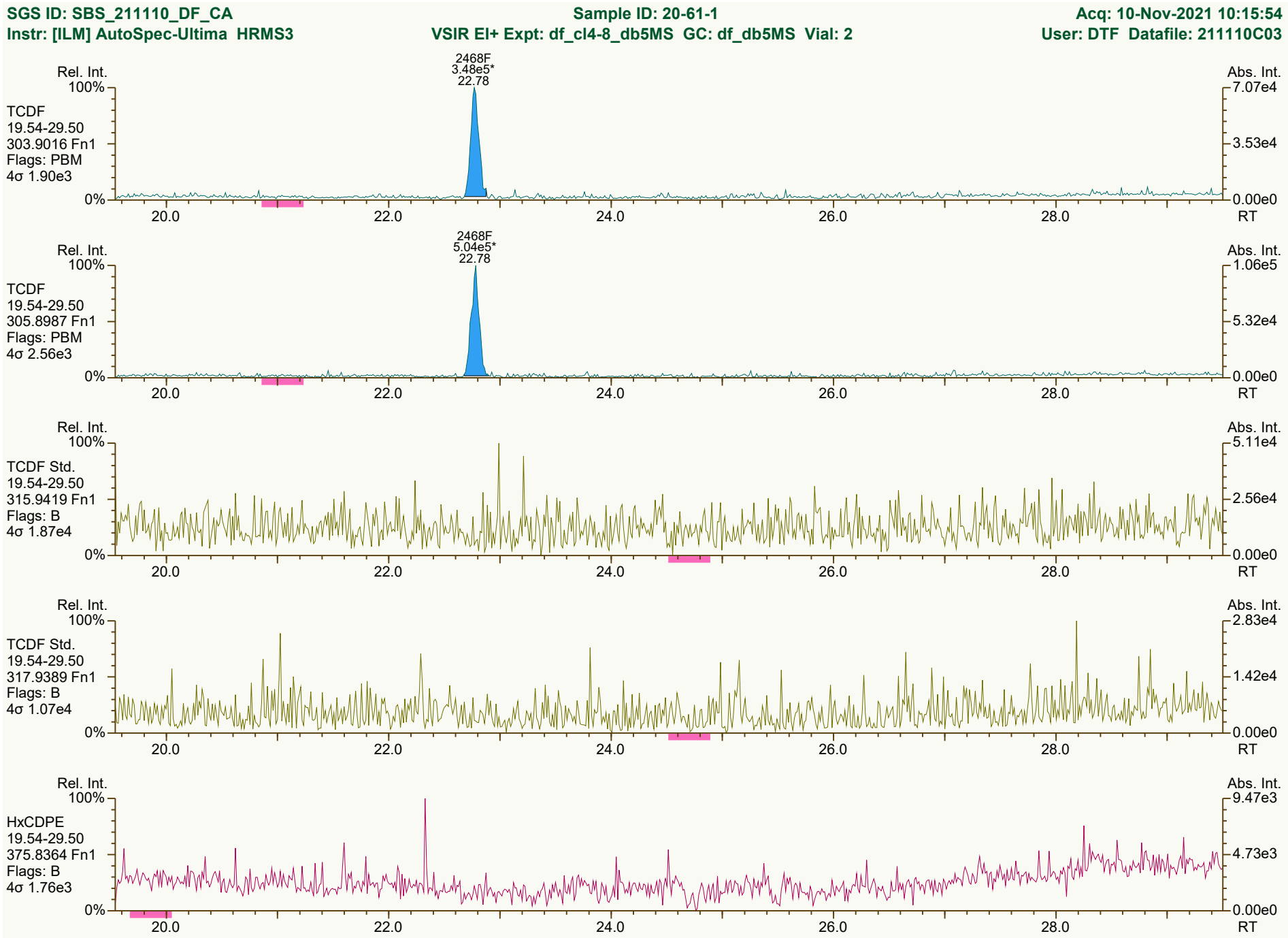

Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

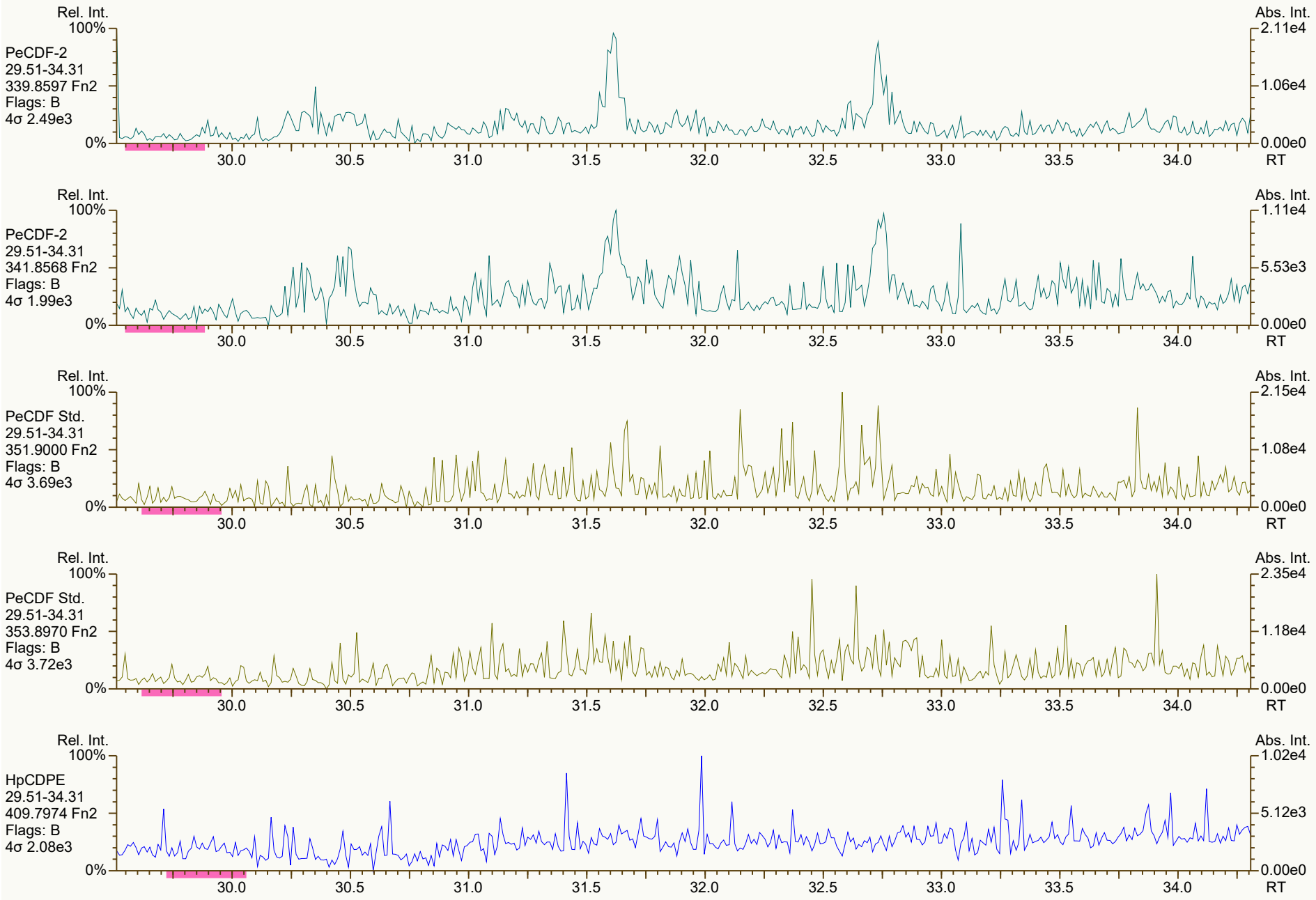

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

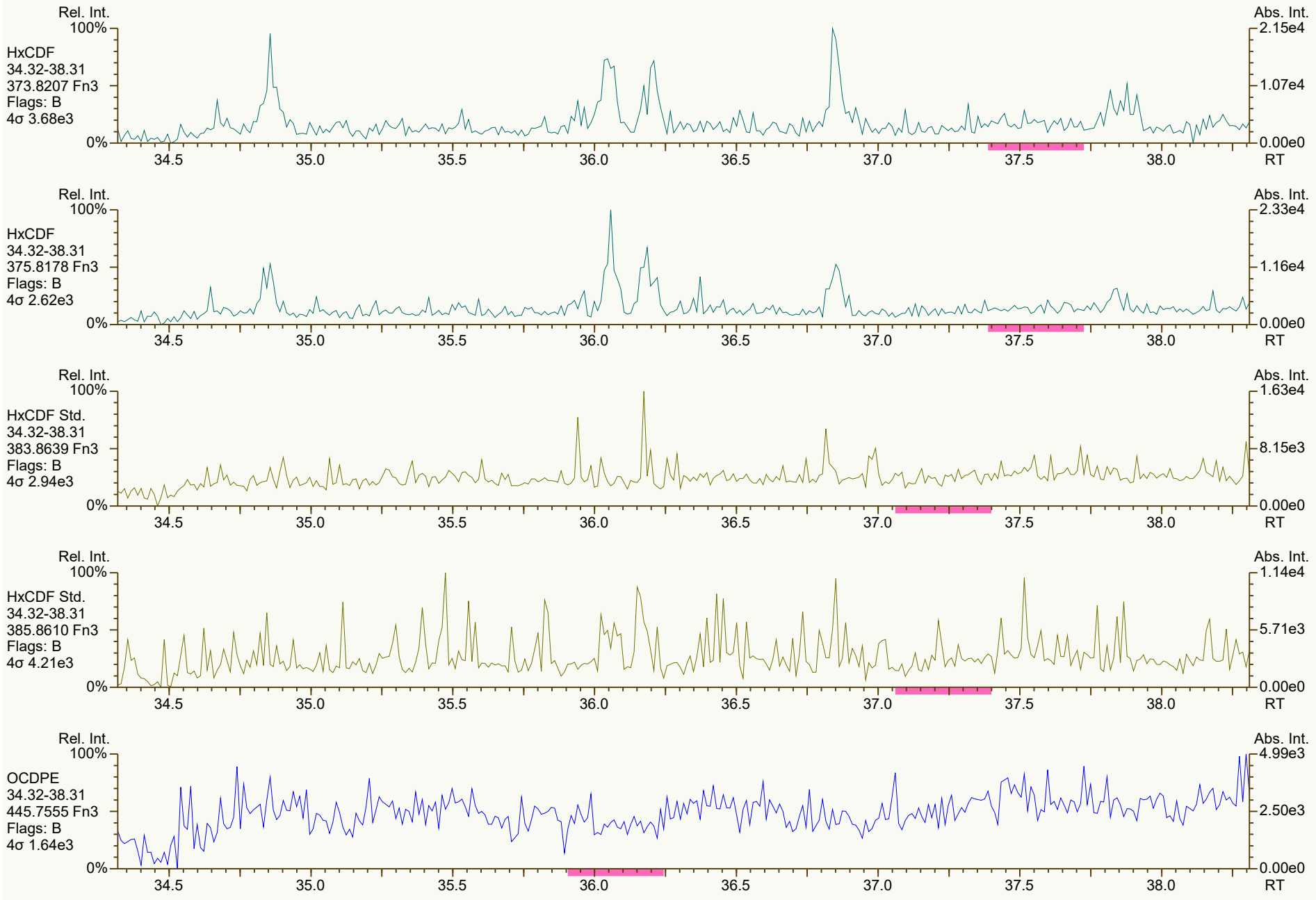

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: SBS_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3
Sample ID: 20-61-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
Acq: 10-Nov-2021 10:15:54
User: DTF Datafile: 211110C03




Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

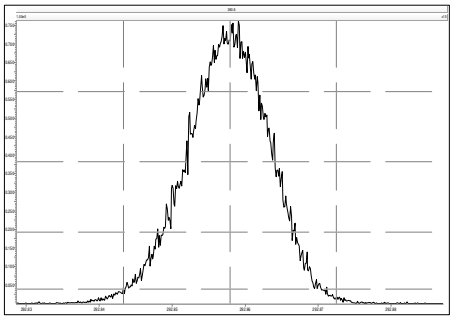

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

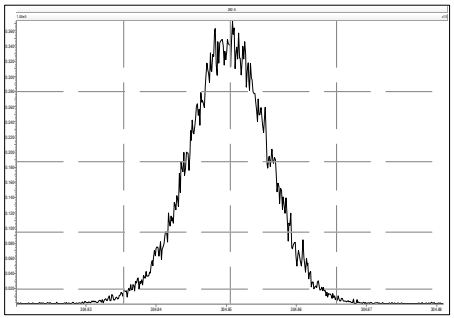
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

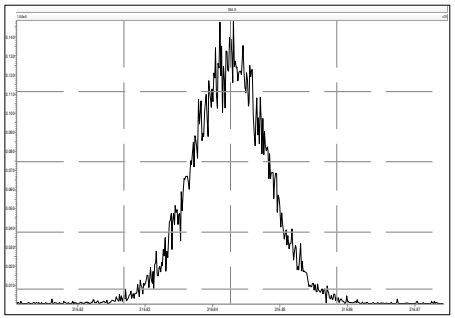
M 292.9824 R 10731



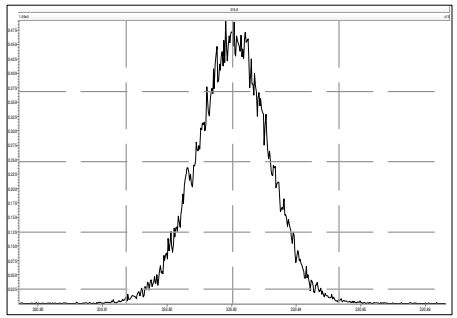
M 304.9824 R 11311



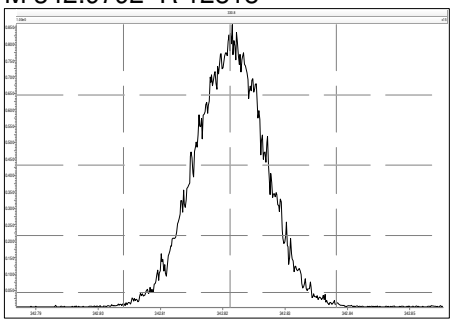
M 316.9824 R 12373



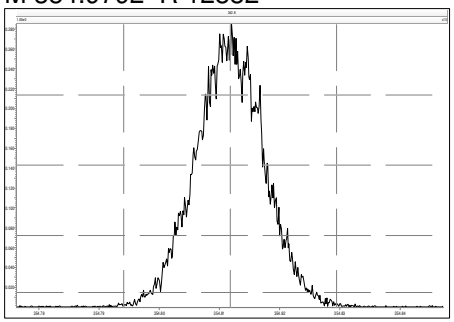
M 330.9792 R 12887



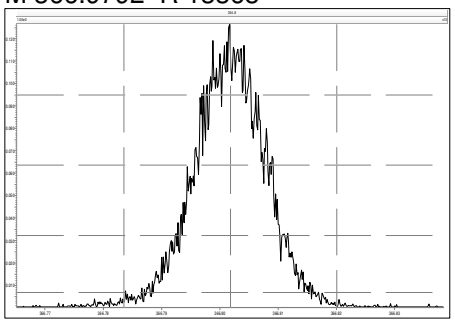
M 342.9792 R 12818



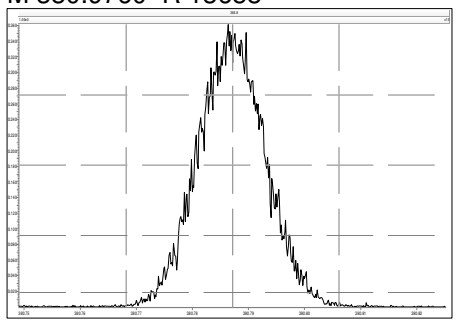
M 354.9792 R 12882



M 366.9792 R 13368



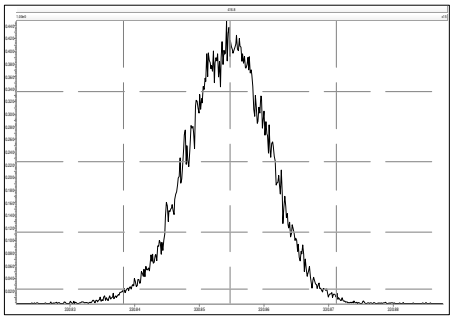
M 380.9760 R 13658



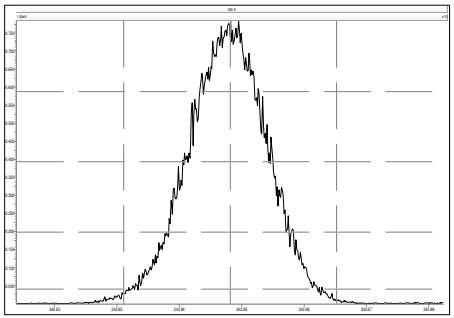
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

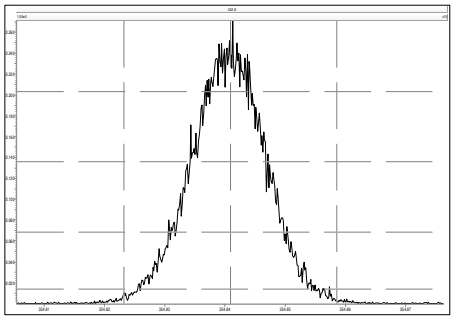
M 330.9792 R 11112



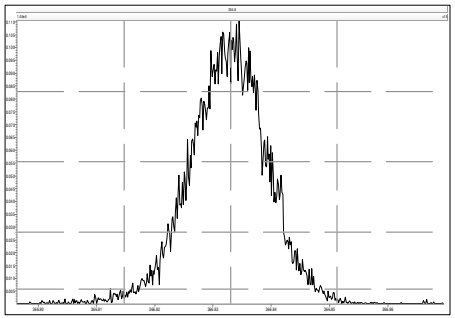
M 342.9792 R 11909



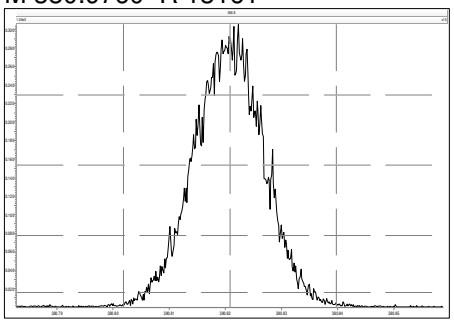
M 354.9792 R 11684



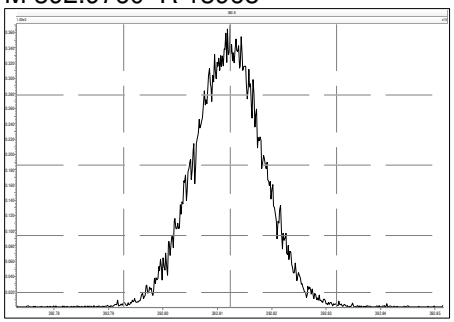
M 366.9792 R 11962



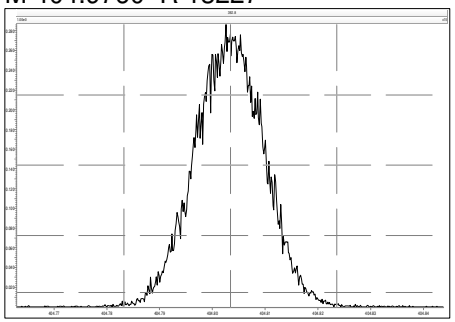
M 380.9760 R 13161



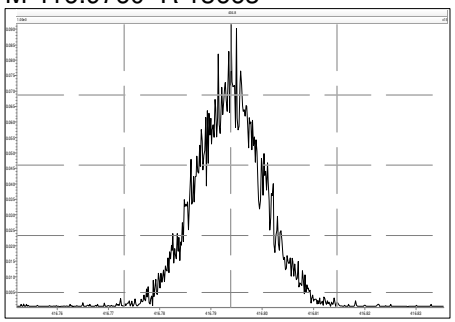
M 392.9760 R 13968



M 404.9760 R 13227



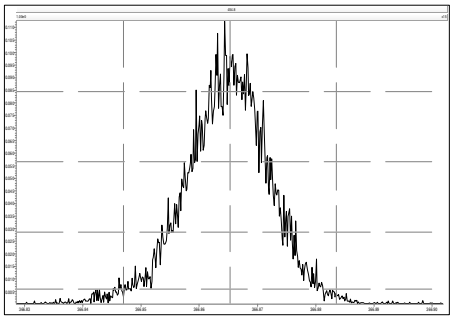
M 416.9760 R 13663



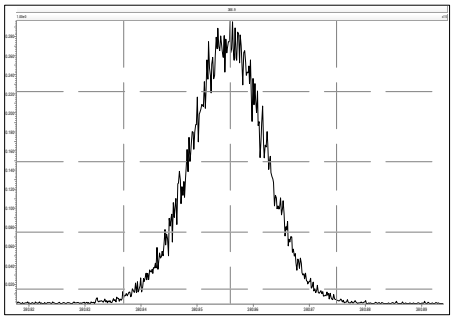
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

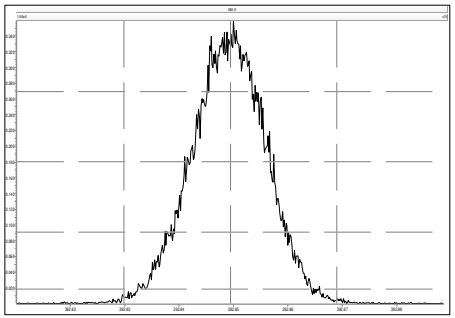
M 366.9792 R 10680



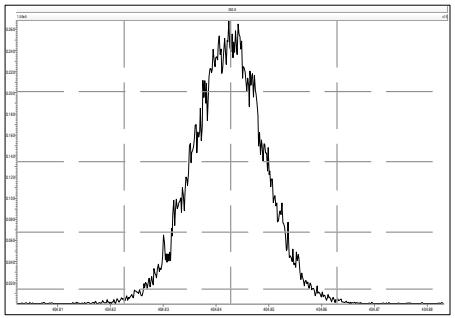
M 380.9760 R 12315



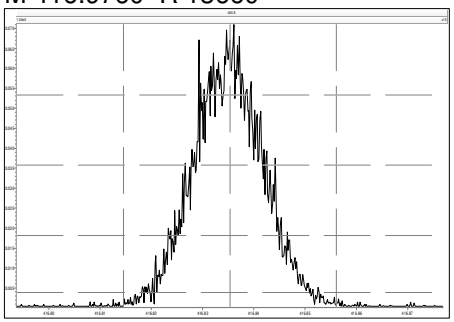
M 392.9760 R 12197



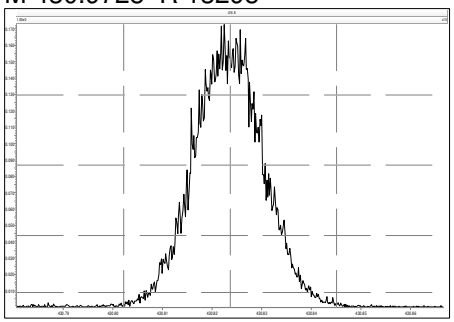
M 404.9760 R 12433



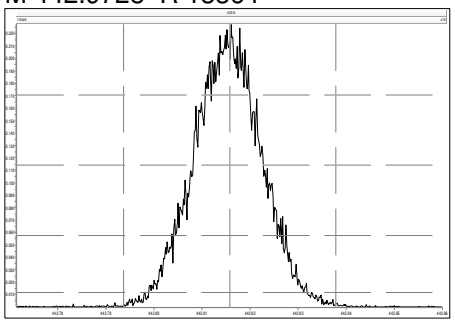
M 416.9760 R 13660



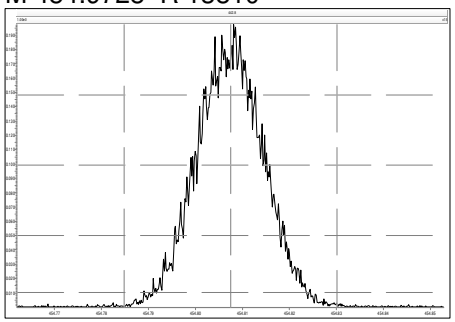
M 430.9728 R 13295



M 442.9728 R 13364



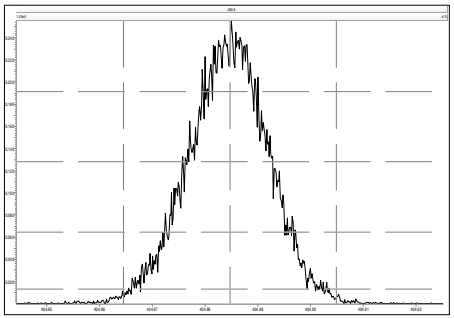
M 454.9728 R 13810



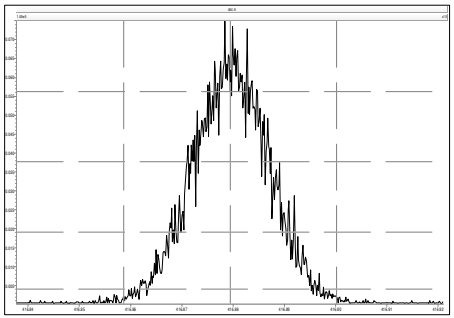
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

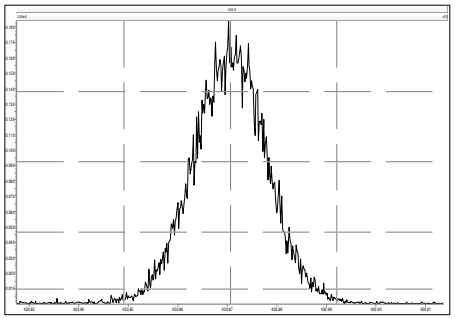
M 404.9760 R 11679



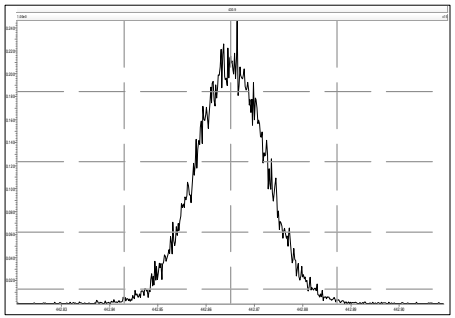
M 416.9760 R 12886



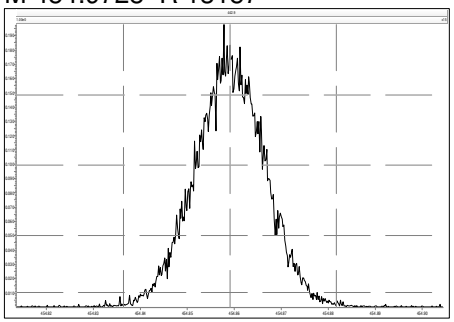
M 430.9728 R 12253



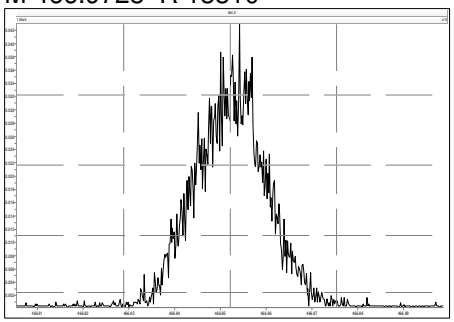
M 442.9728 R 12756



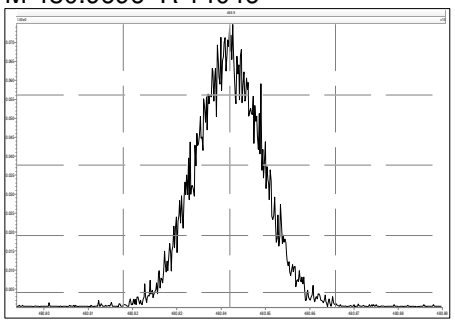
M 454.9728 R 13157



M 466.9728 R 13810



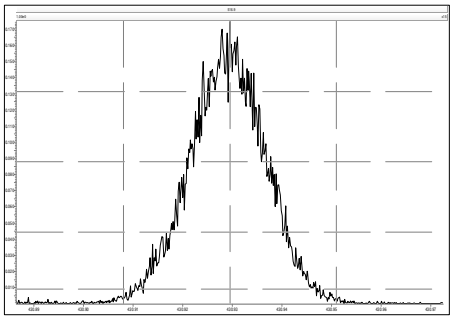
M 480.9696 R 14046



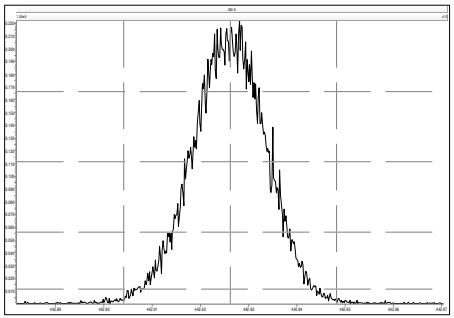
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

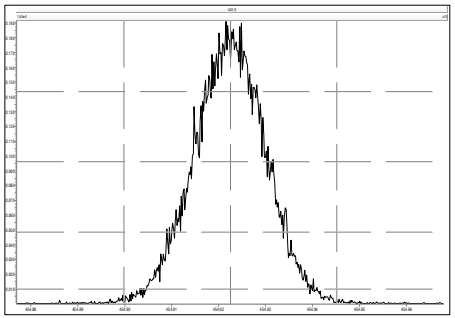
M 430.9728 R 11574



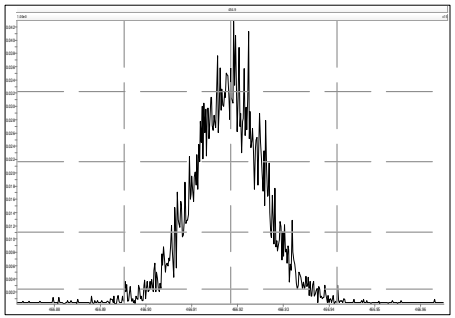
M 442.9728 R 12198



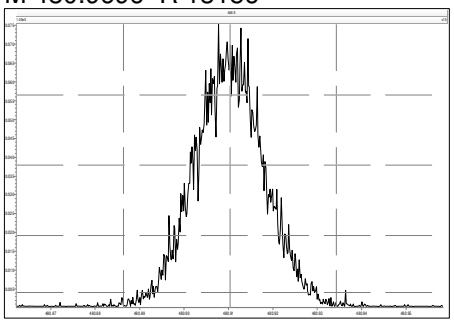
M 454.9728 R 12950



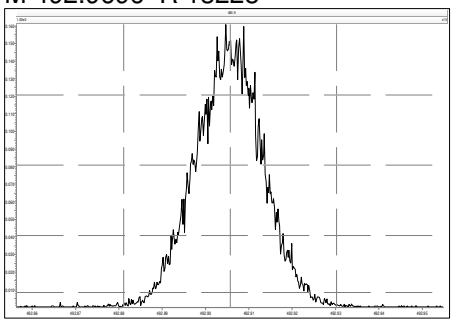
M 466.9728 R 13088



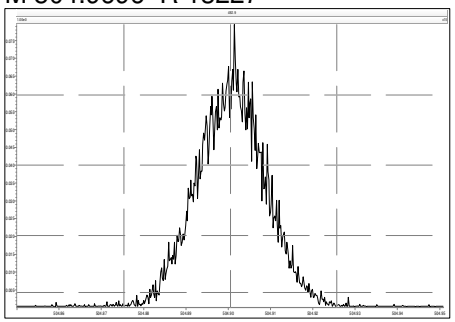
M 480.9696 R 13156



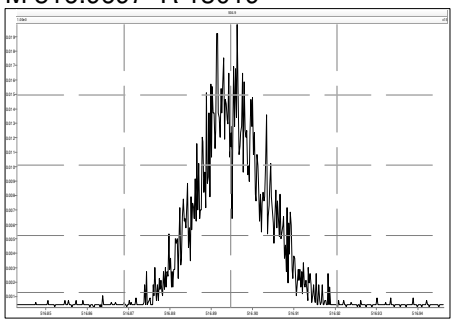
M 492.9696 R 13228



M 504.9696 R 13227



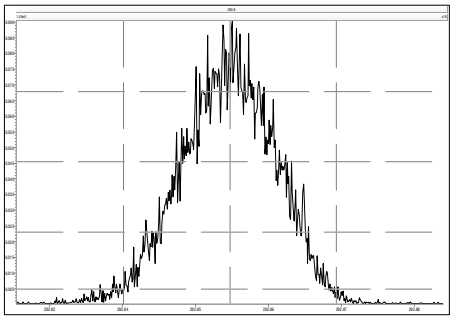
M 516.9697 R 13019



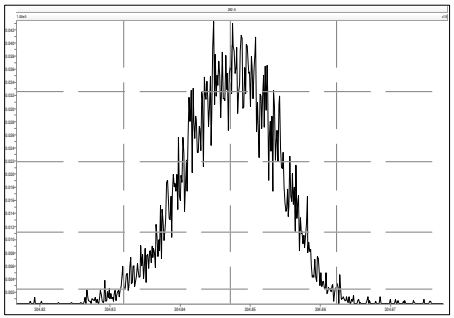
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

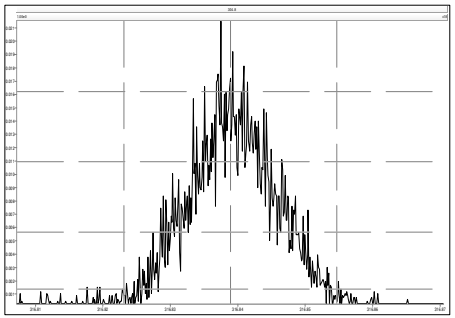
M 292.9824 R 10122



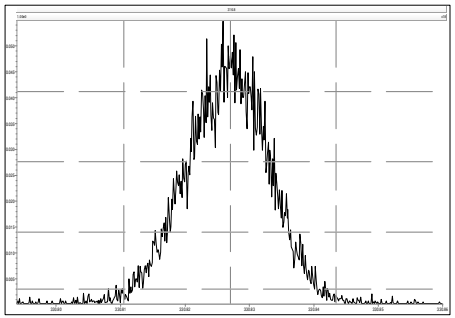
M 304.9824 R 10329



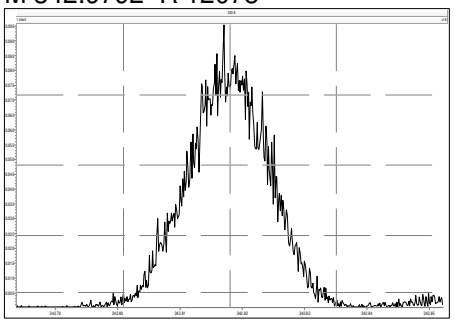
M 316.9824 R 11964



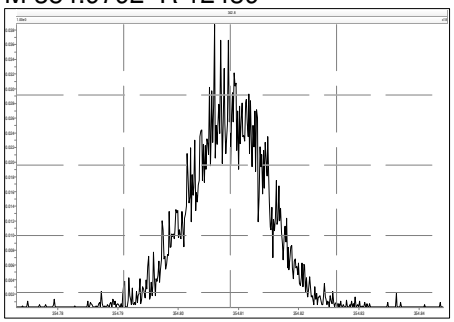
M 330.9792 R 11062



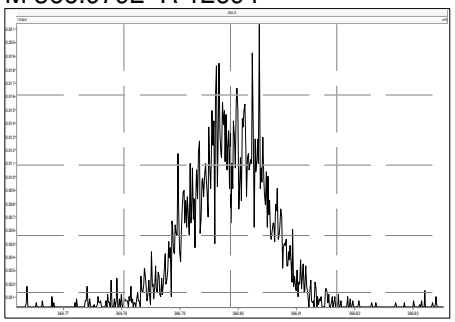
M 342.9792 R 12075



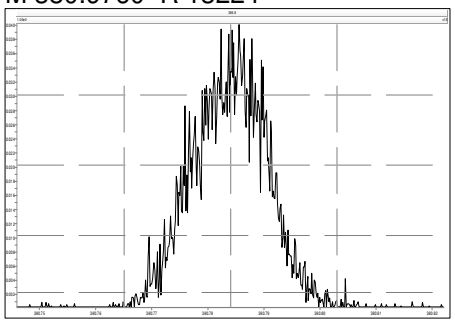
M 354.9792 R 12439



M 366.9792 R 12694



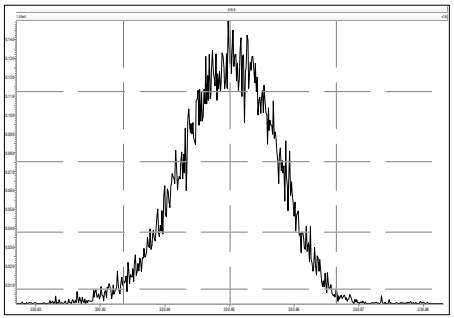
M 380.9760 R 13224



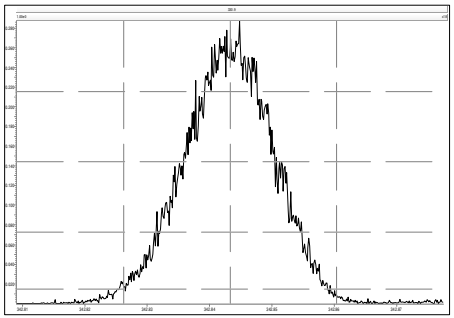
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

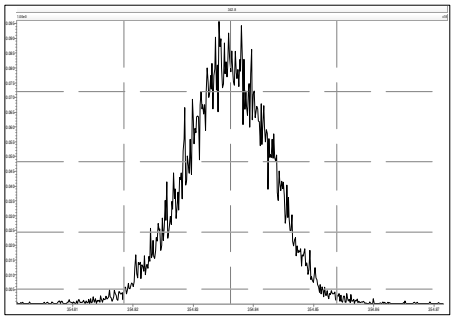
M 330.9792 R 10730



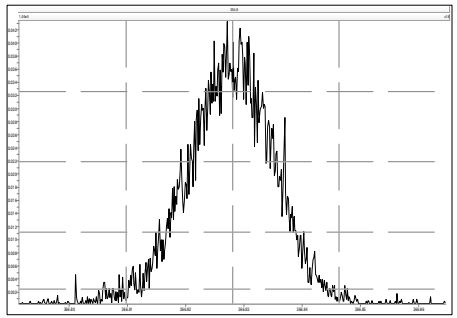
M 342.9792 R 10039



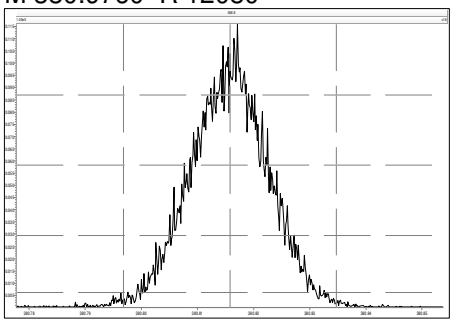
M 354.9792 R 11108



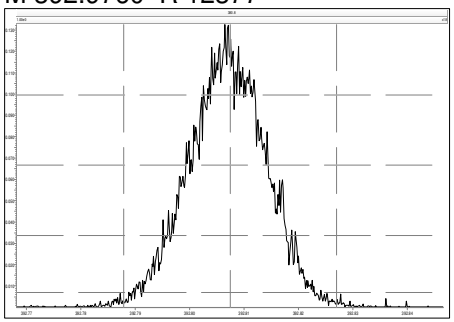
M 366.9792 R 11520



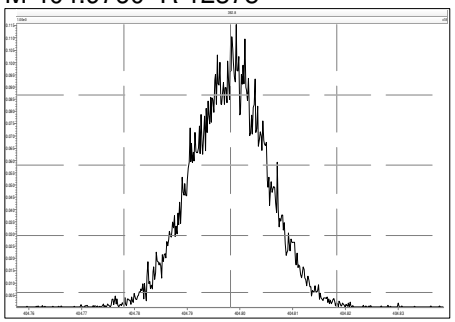
M 380.9760 R 12080



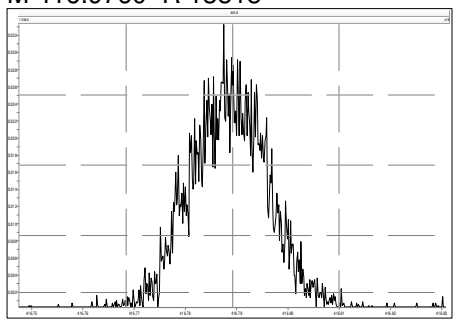
M 392.9760 R 12377



M 404.9760 R 12375



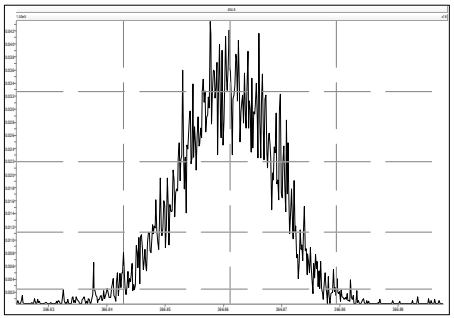
M 416.9760 R 13515



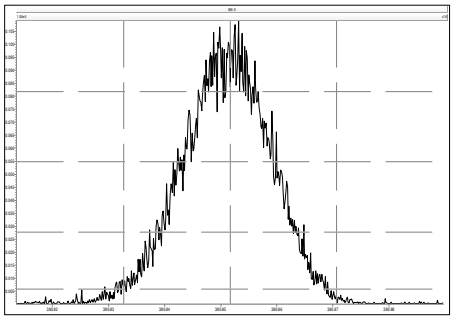
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

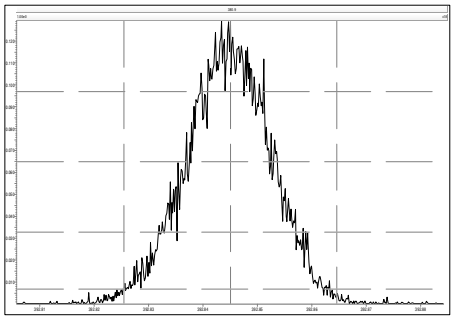
M 366.9792 R 10866



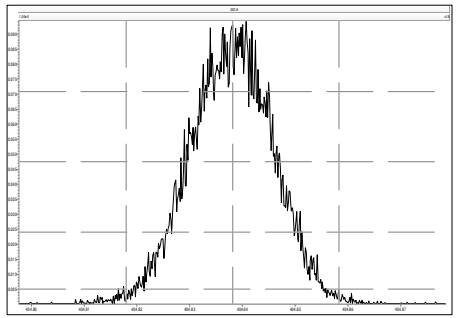
M 380.9760 R 10416



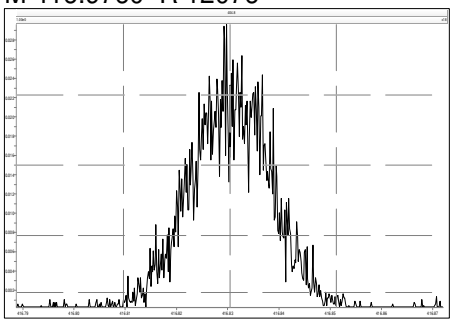
M 392.9760 R 10640



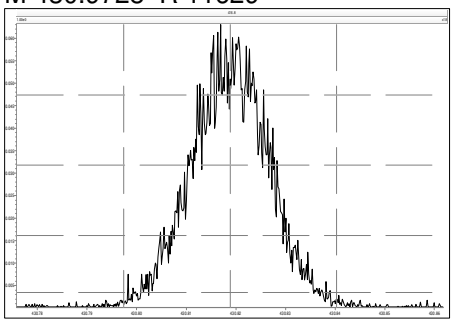
M 404.9760 R 11957



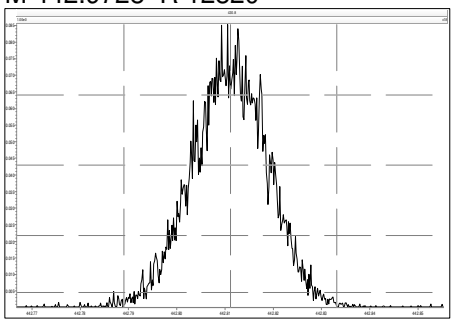
M 416.9760 R 12076



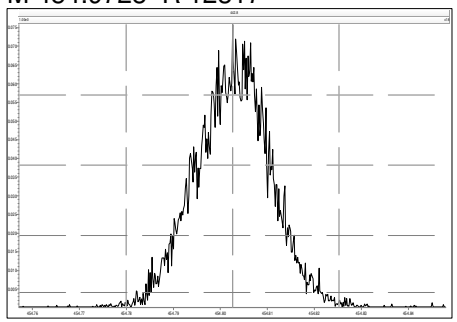
M 430.9728 R 11629



M 442.9728 R 12820



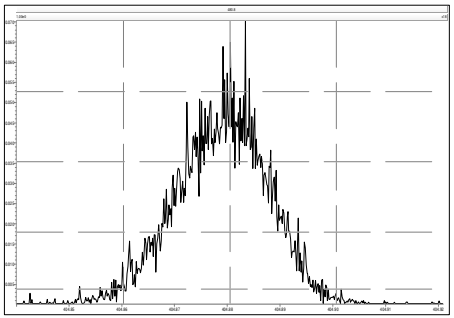
M 454.9728 R 12317



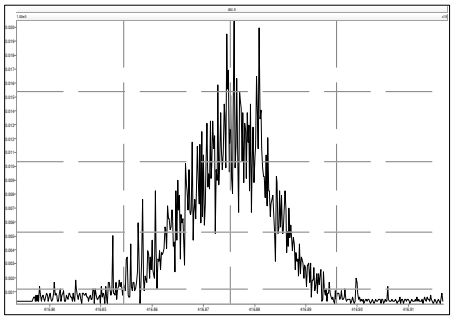
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

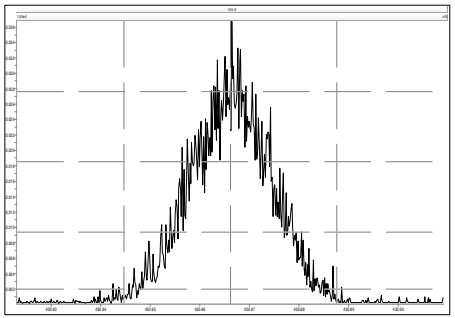
M 404.9760 R 10505



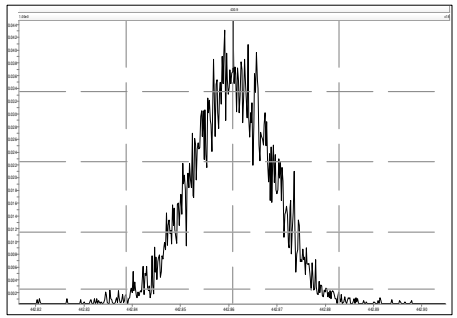
M 416.9760 R 12500



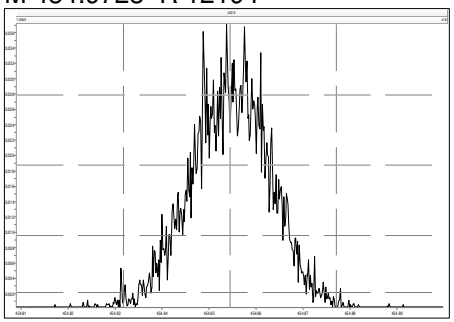
M 430.9728 R 11362



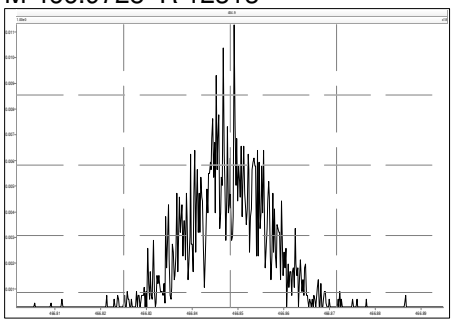
M 442.9728 R 12756



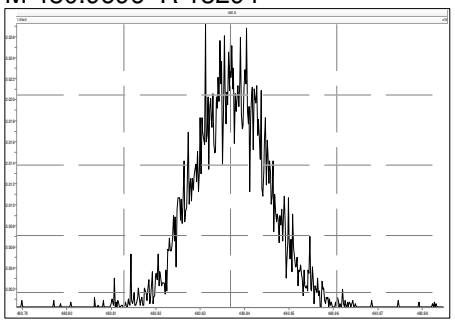
M 454.9728 R 12194



M 466.9728 R 12313



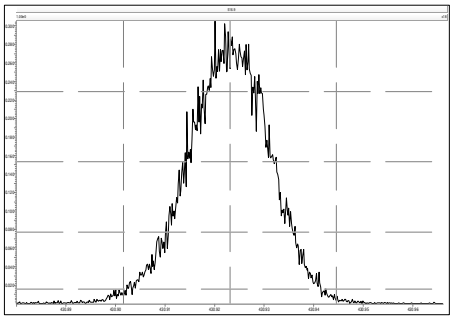
M 480.9696 R 13294



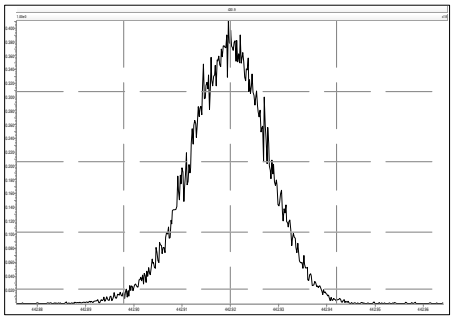
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

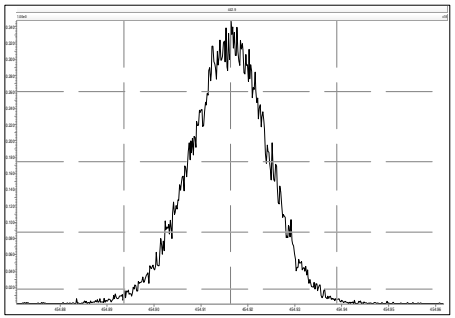
M 430.9728 R 11312



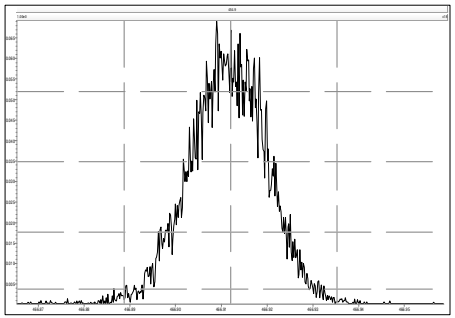
M 442.9728 R 11110



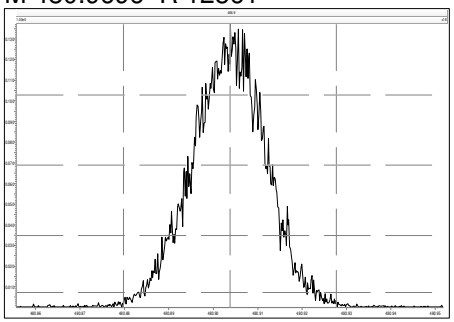
M 454.9728 R 11906



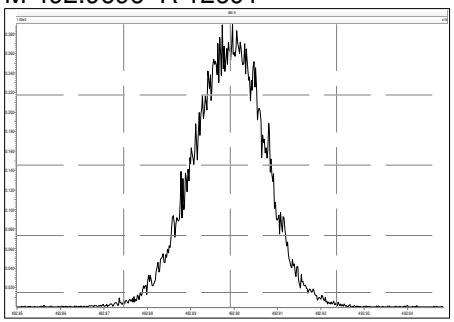
M 466.9728 R 12562



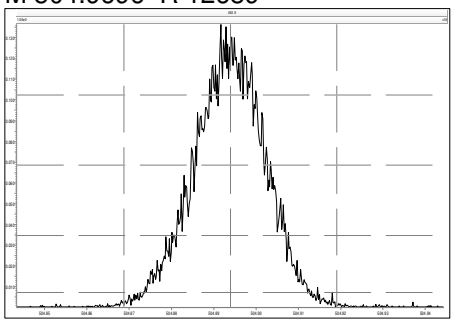
M 480.9696 R 12561



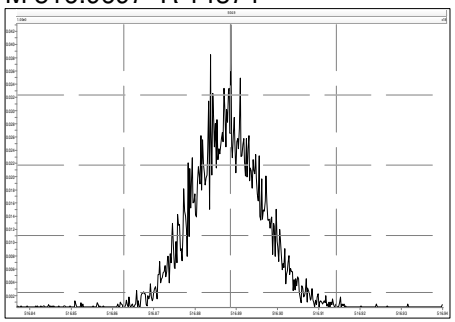
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



Lab ID: OPR1_18913_DF

REVIEWED
Tamara Burkamper , 2/18/2022, 10:33:45 AM

Acq'd: 15 Feb 2022 11:33 DTF

Wt/Vol: 1 uL

ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18913_OPR001

UTP: 16-Feb-2022 17:10:58 DTF

J-level: 0.25 pg/uL Split: 1

Checkcode: 247-990-DTM

Datafile: 220215C02

Report: 17 Feb 2022 13:41 TF

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

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.39		1.0008	1.0008	0	4.18E+06	0.80	Y	1.18	12.1	6942.248	0.207
12378-PeCDD	33.76		1.0006	1.0006	0	1.50E+07	1.53	Y	1.04	50.2	3829.816	0.111
123478-HxCDD	37.68		1.0004	1.0004	0	1.55E+07	1.31	Y	1.09	55.4	4678.223	0.147
123678-HxCDD	37.80		1.0036	1.0036	0	1.69E+07	1.23	Y	1.15	55.4	4678.223	0.134
123789-HxCDD	38.09		1.0115	1.0115	0	1.51E+07	1.26	Y	1.05	52	4678.223	0.14
1234678-HpCDD	40.79		1.0003	1.0004	+0.2	1.40E+07	1.07	Y	1.06	55.6	3876.7	0.129
OCDD	43.48		1.0003	1.0003	0	1.74E+07	0.91	Y	1.13	112	3200.554	0.243
2378-TCDF	27.53		1.0008	1.0008	0	5.41E+06	0.79	Y	1.08	11	4755.5	0.104
12378-PeCDF	32.31		1.0005	1.0005	0	2.50E+07	1.53	Y	1.02	50.3	9546.594	0.179
23478-PeCDF	33.42		1.0006	1.0005	-0.2	2.50E+07	1.52	Y	1.02	55.2	9546.594	0.198
123478-HxCDF	36.67		1.0004	1.0005	+0.2	2.16E+07	1.25	Y	1.27	53	10303.761	0.211
123678-HxCDF	36.81		1.0004	1.0005	+0.2	2.58E+07	1.23	Y	1.15	52.9	10303.761	0.176
234678-HxCDF	37.49		1.0005	1.0004	-0.2	2.25E+07	1.19	Y	1.19	51.2	10303.761	0.195
123789-HxCDF	38.45		1.0004	1.0004	0	1.75E+07	1.23	Y	1.16	49.4	10303.761	0.239
1234678-HpCDF	39.85		1.0003	1.0003	0	1.98E+07	1.03	Y	1.37	51	4071.159	0.0777
1234789-HpCDF	41.25		1.0003	1.0003	0	1.46E+07	1.05	Y	1.31	50.7	4071.159	0.125
OCDF	43.66		1.0002	1.0002	0	2.13E+07	0.94	Y	1.07	105	3463.95	0.212

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.37	1.0239	1.0240	+0.2	2.91E+07	0.78	Y	1.05	87.3
ES 12378-PeCDD	33.74	1.2174	1.2178	+0.8	2.89E+07	1.55	Y	0.88	103
ES 123478-HxCDD	37.66	0.9917	0.9917	0	2.57E+07	1.31	Y	0.97	95.4
ES 123678-HxCDD	37.78	0.9948	0.9949	+0.2	2.66E+07	1.29	Y	0.94	102
ES 123789-HxCDD	38.08	1.0027	1.0027	0	2.76E+07	1.28	Y	1.09	91.3
ES 1234678-HpCDD	40.77	1.0738	1.0737	-0.2	2.37E+07	1.08	Y	0.91	93.7
ES OCDD	43.47	1.1449	1.1447	-0.5	2.78E+07	0.91	Y	0.62	80.2
ES 2378-TCDF	27.51	1.0523	1.0524	+0.2	4.56E+07	0.79	Y	1.06	78.9
ES 12378-PeCDF	32.29	1.2346	1.2352	+1.2	4.85E+07	1.61	Y	0.91	97.5
ES 23478-PeCDF	33.41	1.2774	1.2780	+1.2	4.44E+07	1.61	Y	0.88	92.1
ES 123478-HxCDF	36.66	0.9651	0.9653	+0.4	3.21E+07	0.54	Y	1.20	96.5
ES 123678-HxCDF	36.80	0.9688	0.9689	+0.2	4.23E+07	0.53	Y	1.35	113
ES 234678-HxCDF	37.47	0.9867	0.9868	+0.2	3.70E+07	0.54	Y	1.24	108
ES 123789-HxCDF	38.44	1.0121	1.0122	+0.2	3.04E+07	0.52	Y	1.16	94.8
ES 1234678-HpCDF	39.84	1.0491	1.0490	-0.2	2.84E+07	0.46	Y	0.97	106
ES 1234789-HpCDF	41.23	1.0858	1.0858	0	2.20E+07	0.46	Y	0.85	93.3
ES OCDF	43.65	1.1495	1.1494	-0.3	3.78E+07	0.93	Y	0.81	84.3

Lab ID: OPR1_18913_DF **Acq'd:** 15 Feb 2022 11:33 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18913_OPR001 **UTP:** 16-Feb-2022 17:10:58 DTF **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 247-990-DTM

Datafile: 220215C02 **Report:** 17 Feb 2022 13:41 TF **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.71		-	-	-	3.19E+07	0.83	Y	-	-
JS 1234-TCDF	26.14		-	-	-	5.46E+07	0.81	Y	-	-
JS 123467-HxCDD	37.98		-	-	-	1.39E+07	1.28	Y	-	-
CS 37Cl-2378-TCDD	28.39		1.0247	1.0248	+0.2	1.43E+07	n/a	-	1.20	93.5
CS 12347-PeCDD	33.24		1.1993	1.1997	+0.8	2.79E+07	1.57	Y	0.75	116
CS 12346-PeCDF	31.76		1.2144	1.2148	+0.8	4.98E+07	1.66	Y	0.85	107
CS 123469-HxCDF	37.11		0.9772	0.9773	+0.2	3.65E+07	0.54	Y	1.12	118
CS 1234689-HpCDF	40.24		1.0597	1.0597	0	2.77E+07	0.46	Y	0.89	113
~~SS 37Cl-2378-TCDD~~	~~28.39~~		~~1.0247~~	~~1.0248~~	~~+0.2~~	~~1.43E+07~~	~~n/a~~		~~1.15~~	~~107~~
~~SS 12347-PeCDD~~	~~33.24~~		~~1.1993~~	~~1.1997~~	~~+0.8~~	~~2.79E+07~~	~~1.57~~	~~Y~~	~~0.86~~	~~113~~
~~SS 12346-PeCDF~~	~~31.76~~		~~1.2144~~	~~1.2148~~	~~+0.8~~	~~4.98E+07~~	~~1.66~~	~~Y~~	~~0.94~~	~~110~~
~~SS 123469-HxCDF~~	~~37.11~~		~~0.9772~~	~~0.9773~~	~~+0.2~~	~~3.65E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~104~~
~~SS 1234689-HpCDF~~	~~40.24~~		~~1.0597~~	~~1.0597~~	~~0~~	~~2.77E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~106~~

Totals	Conc	EMPC
Total TCDD	58.4	58.4
Total PeCDD	78.4	78.4
Total HxCDD	180	180
Total HpCDD	69.1	69.1
Total Tetra-Octa Dioxins	497	497
Total TCDF	65.7	65.7
Total PeCDF	195	195
Total HxCDF	330	330
Total HpCDF	102	102
Total Tetra-Octa Furans	798	798
Total Tetra-Octa Dioxins & Furans	1290	1290

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.798	0.80
Response	4.19E+06	4.18E+06

Lab ID: OPR1_18913_DF **Acq'd: 15 Feb 2022 11:33 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18913_OPR001 **UTP: 16-Feb-2022 17:10:58 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 247-990-DTM**

Datafile: 220215C02 **Report: 17 Feb 2022 13:41 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.73		0.8719	0.8718	-0.1	5.81E+06	0.77	Y	1.18	16.9	6942.248	0.207
1379-TCDD	NotFnd		0.8845						1.18		6942.248	0.207
1369-TCDD	NotFnd		0.8996						1.18		6942.248	0.207
1469-TCDD	NotFnd		0.9271						1.18		6942.248	0.207
1247/1246/1248/1249-TCDD	NotFnd		0.9357						1.18		6942.248	0.207
1378-TCDD	NotFnd		0.9425						1.18		6942.248	0.207
1268-TCDD	NotFnd		0.9494						1.18		6942.248	0.207
1478-TCDD	NotFnd		0.9581						1.18		6942.248	0.207
1279-TCDD	NotFnd		0.9640						1.18		6942.248	0.207
1234/1269-TCDD	NotFnd		0.9765						1.18		6942.248	0.207
1236-TCDD	NotFnd		0.9816						1.18		6942.248	0.207
1237/1238-TCDD	NotFnd		0.9906						1.18		6942.248	0.207
1239-TCDD	28.23		0.9952	0.9952	0	4.22E+06	0.78	Y	1.18	12.3	6942.248	0.207
2378-TCDD	**28.39**		**1.0008**	1.0008	**0**	4.18E+06	0.80	Y	**1.18**	**12.1**	**6942.248**	**0.207**
1278-TCDD	NotFnd		1.0123						1.18		6942.248	0.207
1267-TCDD	NotFnd		1.0170						1.18		6942.248	0.207
1289-TCDD	29.37		1.0351	1.0351	0	5.91E+06	0.78	Y	1.18	17.2	6942.248	0.207
12479/12468-PeCDD	31.25		0.9261	0.9261	0	4.19E+06	1.65	Y	1.04	14	3829.816	0.111
12469-PeCDD	NotFnd		0.9420						1.04		3829.816	0.111
12368-PeCDD	NotFnd		0.9584						1.04		3829.816	0.111
12478-PeCDD	NotFnd		0.9641						1.04		3829.816	0.111
12379-PeCDD	NotFnd		0.9670						1.04		3829.816	0.111
12369/12467/12489-PeCDD	NotFnd		0.9747						1.04		3829.816	0.111
12346/12347-PeCDD	NotFnd		0.9857						1.04		3829.816	0.111
12378-PeCDD	33.76		**1.0006**	**1.0006**	**0**	**1.50E+07**	**1.53**	**Y**	**1.04**	**50.2**	**3829.816**	**0.111**
12367-PeCDD	NotFnd		1.0034						1.04		3829.816	0.111
12389-PeCDD	34.20		1.0136	1.0136	0	4.26E+06	1.59	Y	1.04	14.2	3829.816	0.111
124679/124689-HxCDD	35.93		0.9540	0.9541	+0.2	4.89E+06	1.24	Y	1.10	16.8	4678.223	0.14
123468-HxCDD	NotFnd		0.9714						1.10		4678.223	0.14
123679/123689-HxCDD	NotFnd		0.9792						1.10		4678.223	0.14
123469-HxCDD	NotFnd		0.9828						1.10		4678.223	0.14
123478-HxCDD	37.68		**1.0004**	**1.0004**	**0**	**1.55E+07**	**1.31**	**Y**	1.09	**55.4**	**4678.223**	**0.147**
123678-HxCDD	37.80		**1.0036**	**1.0036**	**0**	**1.69E+07**	**1.23**	**Y**	1.15	**55.4**	**4678.223**	**0.134**
123467-HxCDD	NotFnd		1.0087						1.10		4678.223	0.14
123789-HxCDD	38.09		**1.0115**	**1.0115**	**0**	**1.51E+07**	**1.26**	**Y**	1.05	**52**	**4678.223**	**0.14**

Lab ID: OPR1_18913_DF **Acq'd: 15 Feb 2022 11:33 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18913_OPR001 **UTP: 16-Feb-2022 17:10:58 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 247-990-DTM**

Datafile: 220215C02 **Report: 17 Feb 2022 13:41 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.11		0.9836	0.9837	+0.2	3.40E+06	1.07	Y	1.06	13.5	3876.7	0.129
1234678-HpCDD	**40.79**		**1.0003**	**1.0004**	**+0.2**	**1.40E+07**	**1.07**	**Y**	**1.06**	**55.6**	**3876.7**	**0.129**
OCDD	**43.48**		**1.0003**	**1.0003**	**0**	**1.74E+07**	**0.91**	**Y**	**1.13**	**112**	**3200.554**	**0.243**
OCDD-a	43.48		1.0002	1.0002	0	1.09E+06	2.69	Y	0.07	109	3704.925	4.39
1368-TCDF	22.61		0.8222	0.8219	-0.4	7.75E+06	0.77	Y	1.08	15.7	4755.5	0.104
1468-TCDF	NotFnd		0.8434						1.08		4755.5	0.104
2468-TCDF	23.83		0.8666	0.8663	-0.4	2.10E+06	0.81	Y	1.08	4.27	4755.5	0.104
1346/1246-TCDF	NotFnd		0.8789						1.08		4755.5	0.104
1347/1378/1247-TCDF	NotFnd		0.8848						1.08		4755.5	0.104
1348-TCDF	NotFnd		0.8947						1.08		4755.5	0.104
1248/1367/1379-TCDF	NotFnd		0.8995						1.08		4755.5	0.104
1268-TCDF	NotFnd		0.9131						1.08		4755.5	0.104
1467-TCDF	NotFnd		0.9181						1.08		4755.5	0.104
1478-TCDF	NotFnd		0.9244						1.08		4755.5	0.104
1369/1237-TCDF	NotFnd		0.9379						1.08		4755.5	0.104
2467-TCDF	NotFnd		0.9425						1.08		4755.5	0.104
2368-TCDF	NotFnd		0.9483						1.08		4755.5	0.104
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9514						1.08		4755.5	0.104
1278-TCDF	NotFnd		0.9681						1.08		4755.5	0.104
1349-TCDF	NotFnd		0.9722						1.08		4755.5	0.104
1267-TCDF	NotFnd		0.9780						1.08		4755.5	0.104
2346/1249-TCDF	NotFnd		0.9845						1.08		4755.5	0.104
2347/1279-TCDF	NotFnd		0.9927						1.08		4755.5	0.104
2348-TCDF	27.42		0.9970	0.9968	-0.3	8.09E+06	0.75	Y	1.08	16.4	4755.5	0.104
2378-TCDF	**27.53**		**1.0008**	**1.0008**	**0**	**5.41E+06**	**0.79**	**Y**	**1.08**	**11**	**4755.5**	**0.104**
2367/3467-TCDF	NotFnd		1.0140						1.08		4755.5	0.104
1269-TCDF	NotFnd		1.0226						1.08		4755.5	0.104
1239-TCDF	NotFnd		1.0325						1.08		4755.5	0.104
1289-TCDF	29.54		1.0732	1.0737	+0.9	9.01E+06	0.78	Y	1.08	18.3	4755.5	0.104
13468/12468-PeCDF	29.46		0.9130	0.9123	-1.2	3.72E+07	1.52	Y	1.02	78.3	3419.891	0.0673
13678/13467/12467-PeCDF	NotFnd		0.9610						1.02		9546.594	0.188
12368/13478/12478-PeCDF	NotFnd		0.9658						1.02		9546.594	0.188
14678-PeCDF	NotFnd		0.9688						1.02		9546.594	0.188
13479-PeCDF	NotFnd		0.9719						1.02		9546.594	0.188
13469/12479-PeCDF	NotFnd		0.9797						1.02		9546.594	0.188
12346-PeCDF	NotFnd		0.9841						1.02		9546.594	0.188

Lab ID: OPR1_18913_DF | **Acq'd: 15 Feb 2022 11:33 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18913_OPR001 | **UTP: 16-Feb-2022 17:10:58 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 247-990-DTM**

Datafile: 220215C02 | **Report: 17 Feb 2022 13:41 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9867						1.02		9546.594	0.188
12347-PeCDF	NotFnd		0.9892						1.02		9546.594	0.188
12348-PeCDF	NotFnd		0.9940						1.02		9546.594	0.188
12378-PeCDF	**32.31**		**1.0005**	**1.0005**	**0**	**2.50E+07**	**1.53**	**Y**	**1.02**	**50.3**	**9546.594**	**0.179**
12678/12367-PeCDF	NotFnd		1.0091						1.02		9546.594	0.188
12379-PeCDF	NotFnd		1.0144						1.02		9546.594	0.188
12679-PeCDF	NotFnd		0.9928						1.02		9546.594	0.188
23467/12369-PeCDF	NotFnd		0.9966						1.02		9546.594	0.188
23478-PeCDF	**33.42**		**1.0006**	**1.0005**	**-0.2**	**2.50E+07**	**1.52**	**Y**	**1.02**	**55.2**	**9546.594**	**0.198**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		9546.594	0.188
12349-PeCDF	NotFnd		1.0101						1.02		9546.594	0.188
12389-PeCDF	34.50		1.0327	1.0327	0	5.36E+06	1.65	Y	1.02	11.3	9546.594	0.188
123468-HxCDF	35.28		0.9624	0.9625	+0.2	5.24E+07	1.23	Y	1.19	124	10303.761	0.202
124678/134678-HxCDF	NotFnd		0.9679						1.19		10303.761	0.202
134679-HxCDF	NotFnd		0.9741						1.19		10303.761	0.202
124679-HxCDF	NotFnd		0.9796						1.19		10303.761	0.202
124689-HxCDF	NotFnd		0.9856						1.19		10303.761	0.202
123467-HxCDF	NotFnd		0.9972						1.19		10303.761	0.202
123478-HxCDF	**36.67**		**1.0004**	**1.0005**	**+0.2**	**2.16E+07**	**1.25**	**Y**	**1.27**	**53**	**10303.761**	**0.211**
123678-HxCDF	**36.81**		**1.0004**	**1.0005**	**+0.2**	**2.58E+07**	**1.23**	**Y**	**1.15**	**52.9**	**10303.761**	**0.176**
123479-HxCDF	NotFnd		1.0049						1.19		10303.761	0.202
123469-HxCDF	NotFnd		1.0090						1.19		10303.761	0.202
123679-HxCDF	NotFnd		0.9942						1.19		10303.761	0.202
234678-HxCDF	**37.49**		**1.0005**	**1.0004**	**-0.2**	**2.25E+07**	**1.19**	**Y**	**1.19**	**51.2**	**10303.761**	**0.195**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		10303.761	0.202
123789-HxCDF	**38.45**		**1.0004**	**1.0004**	**0**	**1.75E+07**	**1.23**	**Y**	**1.16**	**49.4**	**10303.761**	**0.239**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		10303.761	0.202
1234678-HpCDF	**39.85**		**1.0003**	**1.0003**	**0**	**1.98E+07**	**1.03**	**Y**	**1.37**	**51**	**4071.159**	**0.0777**
1234679-HpCDF	NotFnd		1.0069						1.34		4071.159	0.098
1234689-HpCDF	NotFnd		1.0104						1.34		4071.159	0.098
1234789-HpCDF	**41.25**		**1.0003**	**1.0003**	**0**	**1.46E+07**	**1.05**	**Y**	**1.31**	**50.7**	**4071.159**	**0.125**
OCDF	**43.66**		**1.0002**	**1.0002**	**0**	**2.13E+07**	**0.94**	**Y**	**1.07**	**105**	**3463.95**	**0.212**
OCDF-a	43.66		1.0002	1.0002	0	1.31E+06	2.72	Y	0.07	104	4210.794	4.16

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220215C02	Analysis Date:	15-FEB-2022 11:33:15
Lab ID:	OPR1_18913_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	12.1	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	50.2	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	55.4	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	55.4	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	52	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	55.6	35	-	70	Y
OCDD	100	112	78	-	144	Y
2,3,7,8-TCDF	10	11	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	50.3	40	-	67	Y
2,3,4,7,8-PeCDF	50	55.2	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	53	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	52.9	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	51.2	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	49.4	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	51	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	50.7	39	-	69	Y
OCDF	100	105	63	-	170	Y

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

Processed: 17 Feb 2022 13:41 Analyst: TF

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220215C02	Analysis Date:	15-FEB-2022 11:33:15
Lab ID:	OPR1_18913_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	87.3	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	103	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	95.4	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	102	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	91.3	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	93.7	26	-	166	Y
13C-OCDD	200	160	26	-	397	Y
13C-2,3,7,8-TCDF	100	78.9	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	97.5	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	92.1	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	96.5	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	113	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	108	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	94.8	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	106	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	93.3	20	-	186	Y
13C-OCDF	200	169	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	37.4	12.4	-	76.4	Y

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

Processed: 17 Feb 2022 13:41 Analyst: TF

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220215C02	Analysis Date:	15-FEB-2022 11:33:15
Lab ID:	OPR1_18913_DF		

Window Defining Standards Results

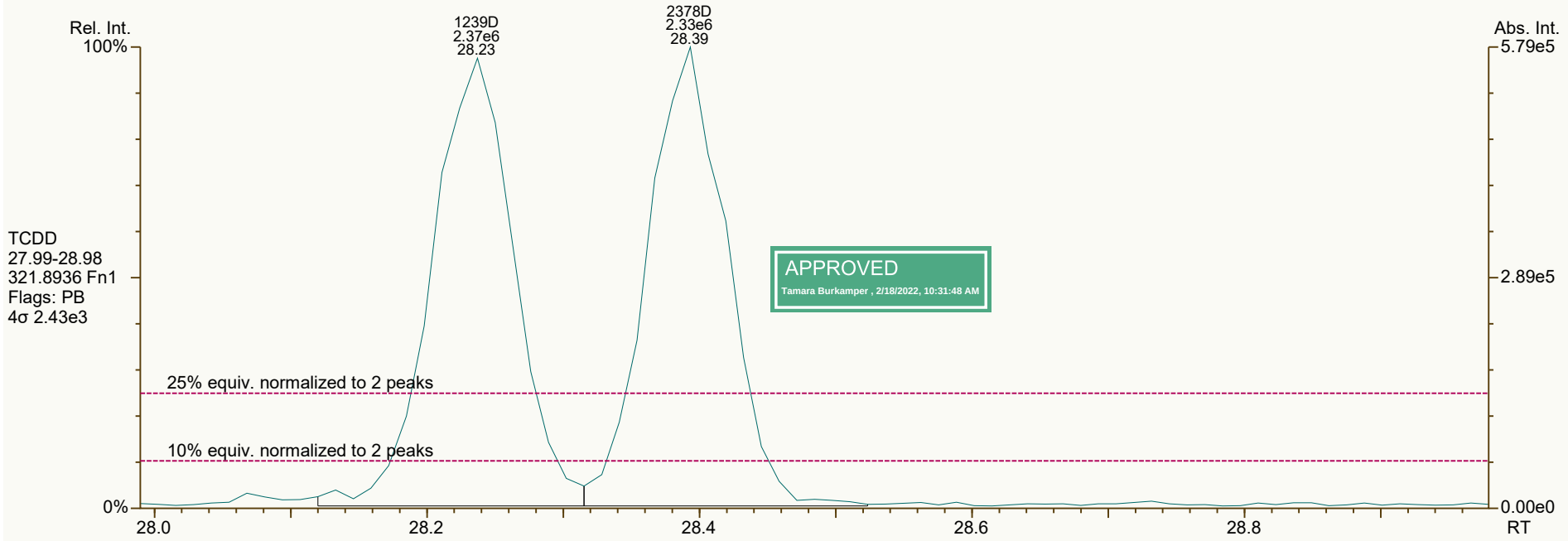
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.73	1289-TCDD	29.37
12479/12468-PeCDD	31.25	12389-PeCDD	34.20
124679/124689-HxCDD	35.93	123789-HxCDD	38.09
1234679-HpCDD	40.11	1234678-HpCDD	40.79
1368-TCDF	22.61	1289-TCDF	29.54
13468/12468-PeCDF	29.46	12389-PeCDF	34.50
123468-HxCDF	35.28	123789-HxCDF	38.45
1234678-HpCDF	39.85	1234789-HpCDF	41.25

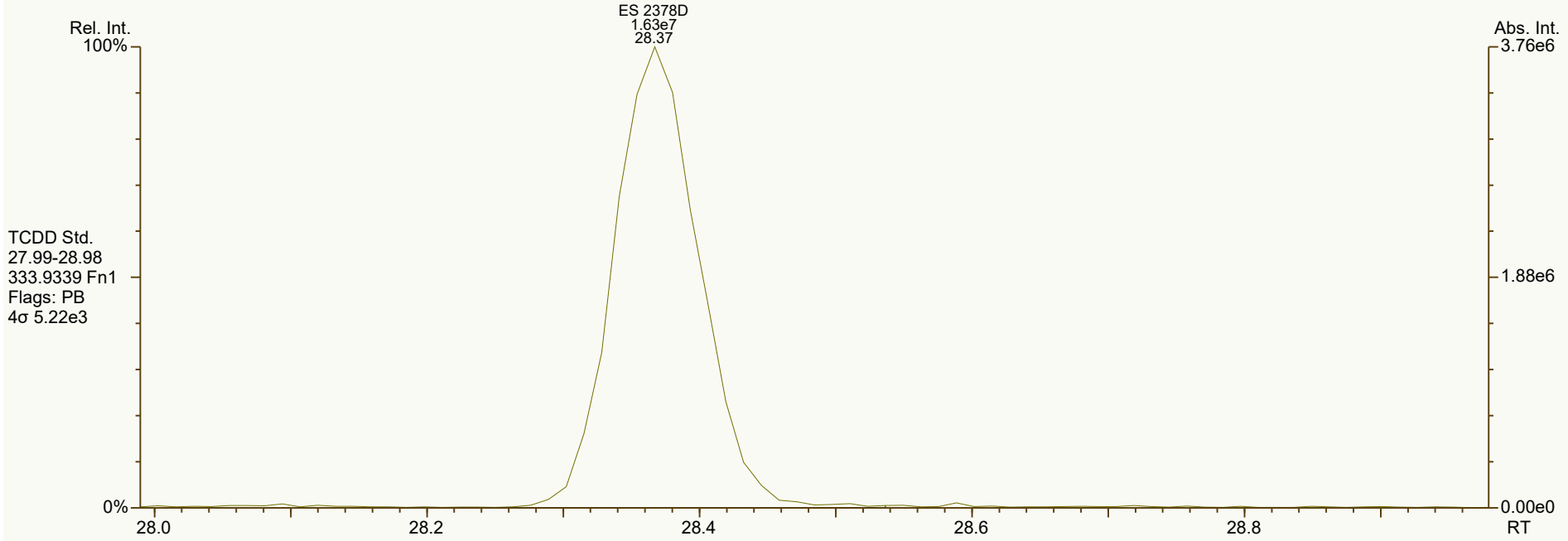
Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.23	2378-TCDD	28.39
2348-TCDF	27.42	2378-TCDF	27.53

Processed: 17 Feb 2022 13:41 Analyst: TF

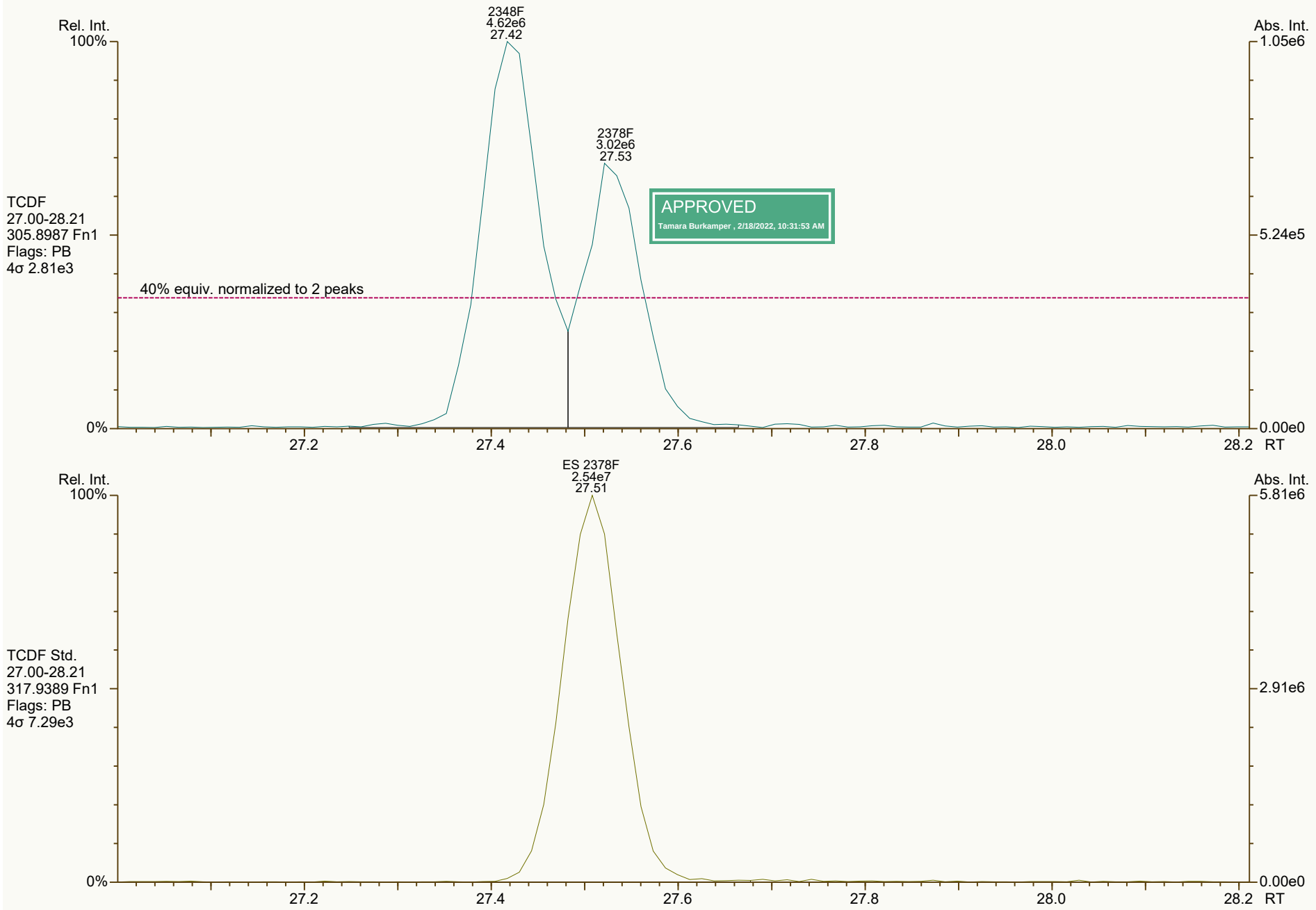
SGS ID: OPR1_18913_DF
Sample ID: 0_18913_OPR001
Acq: 15-Feb-2022 11:33:15
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 45
User: DTF Datafile: 220215C02



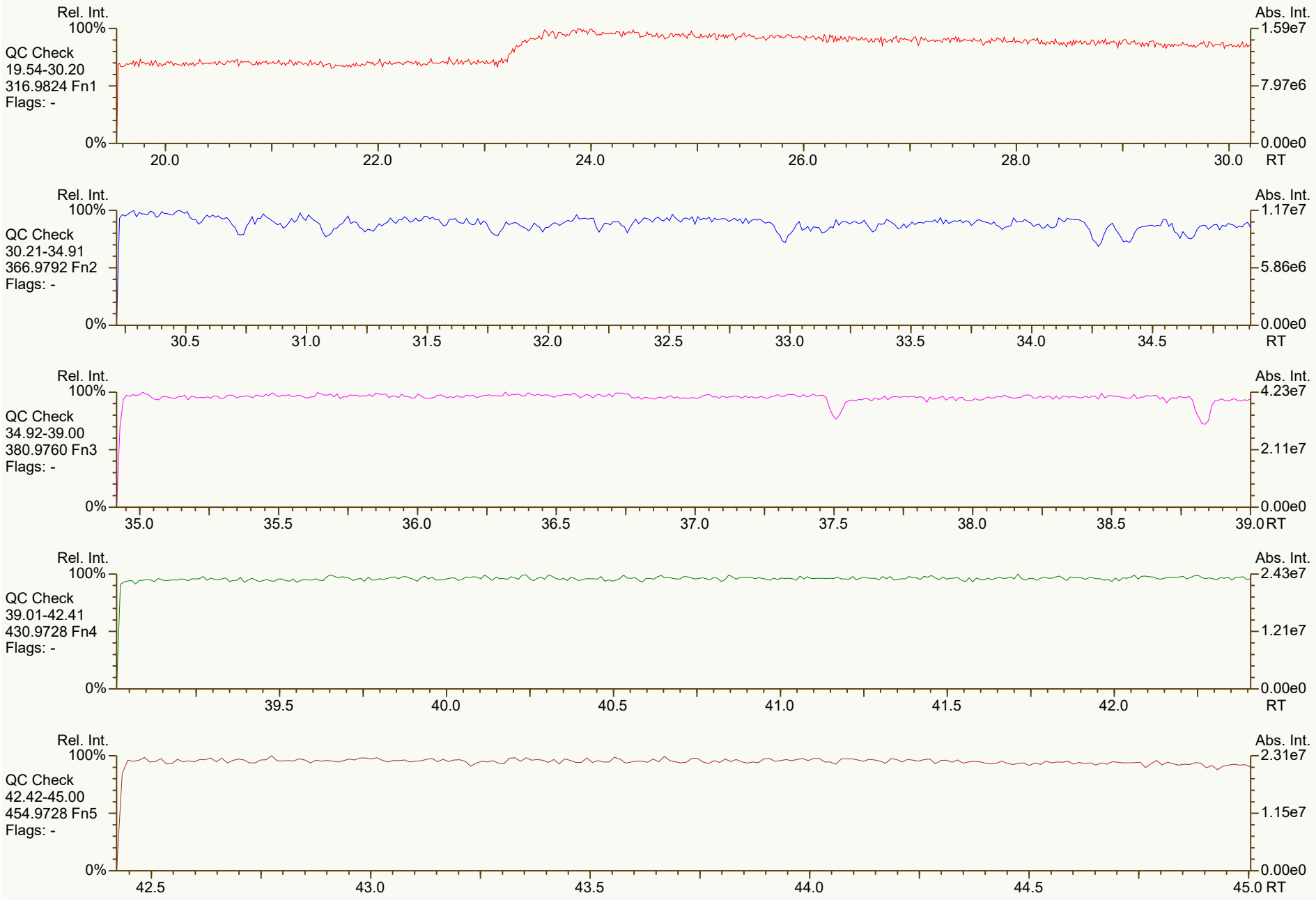


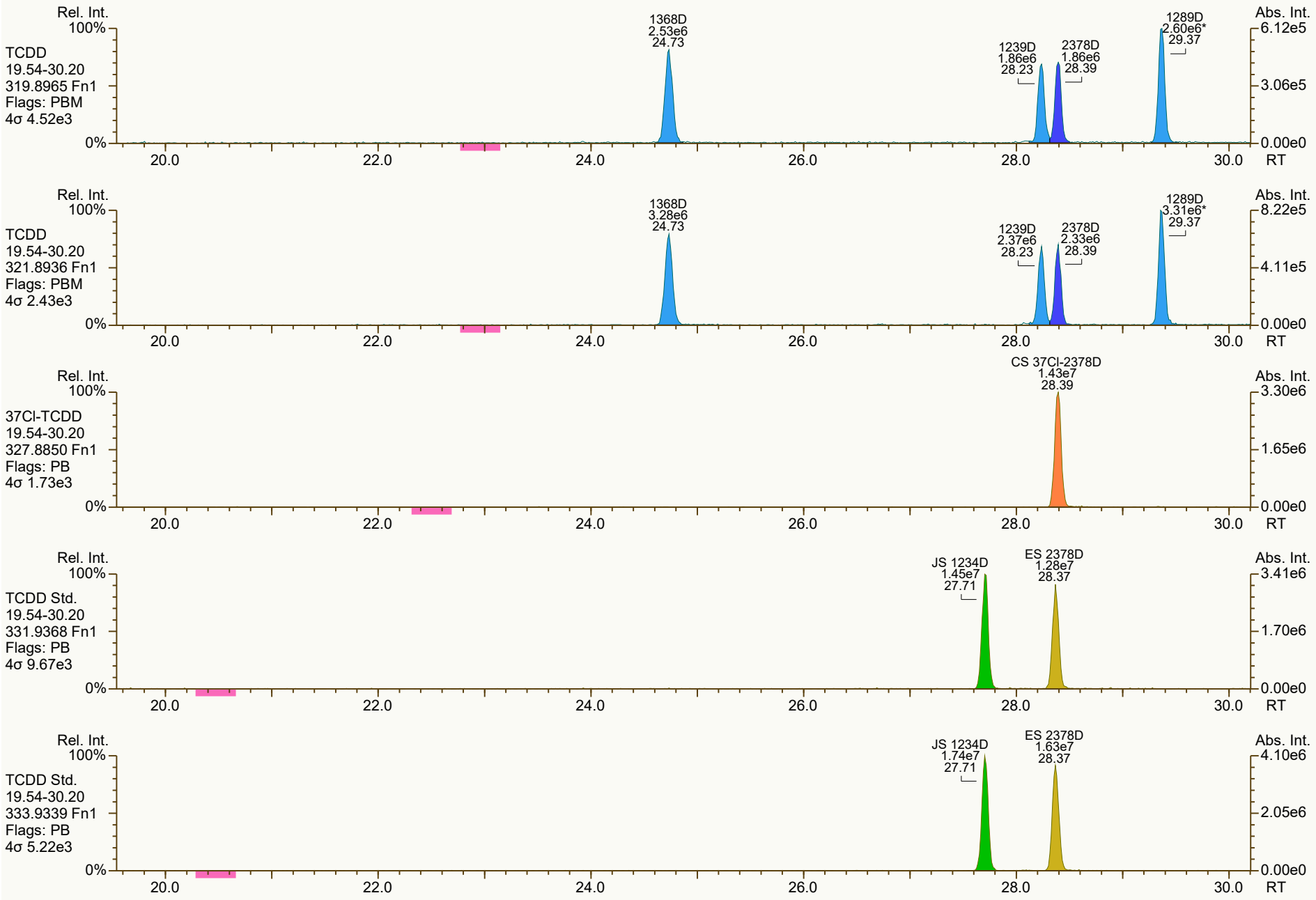
Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\OPR1_18913_DF.utp_res, saved 16-Feb-2022 17:10 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
PKD: 15-Feb-2022 15:41 Printed: 17-Feb-2022 13:45

SGS ID: OPR1_18913_DF
Sample ID: 0_18913_OPR001
Acq: 15-Feb-2022 11:33:15
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 45
User: DTF Datafile: 220215C02

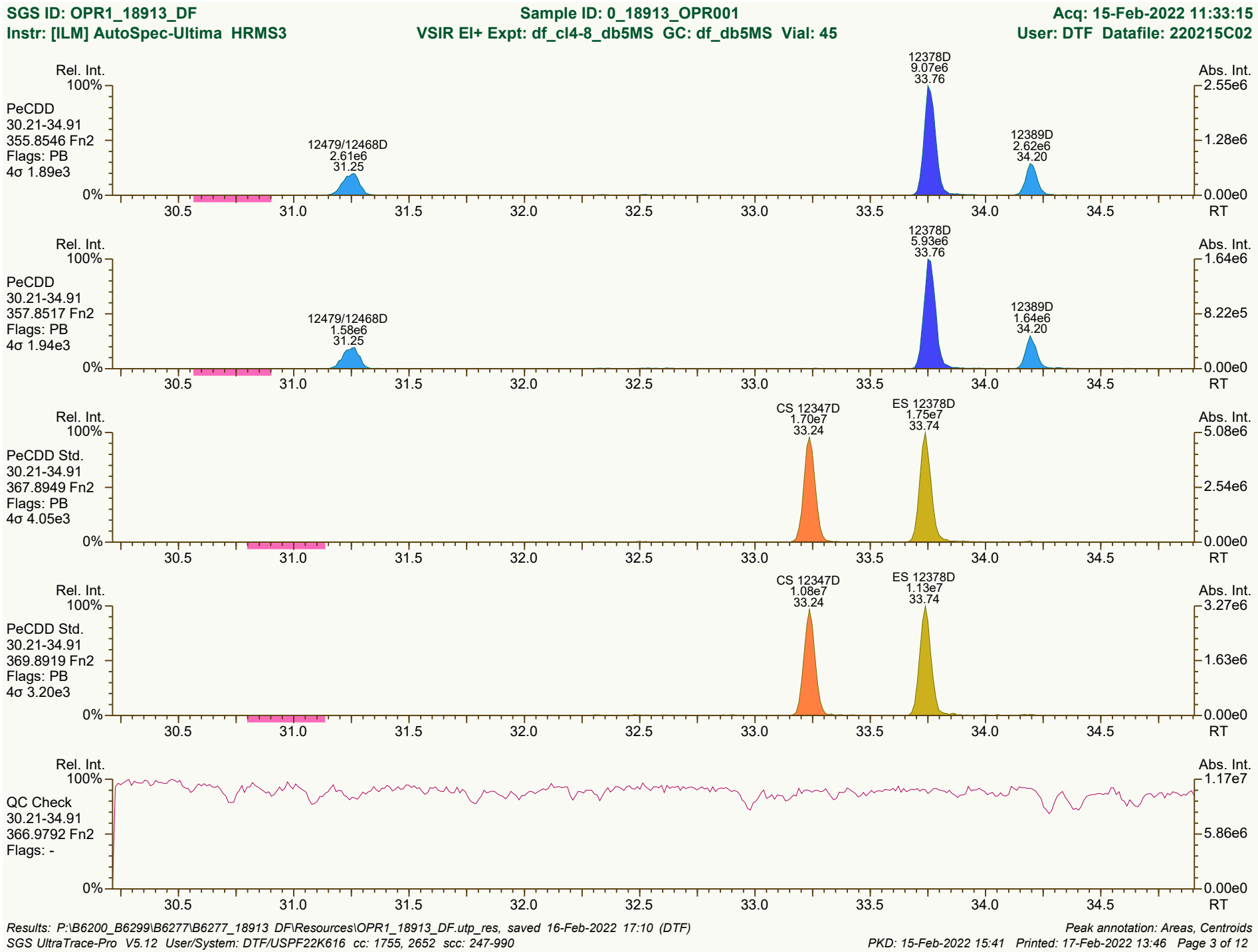


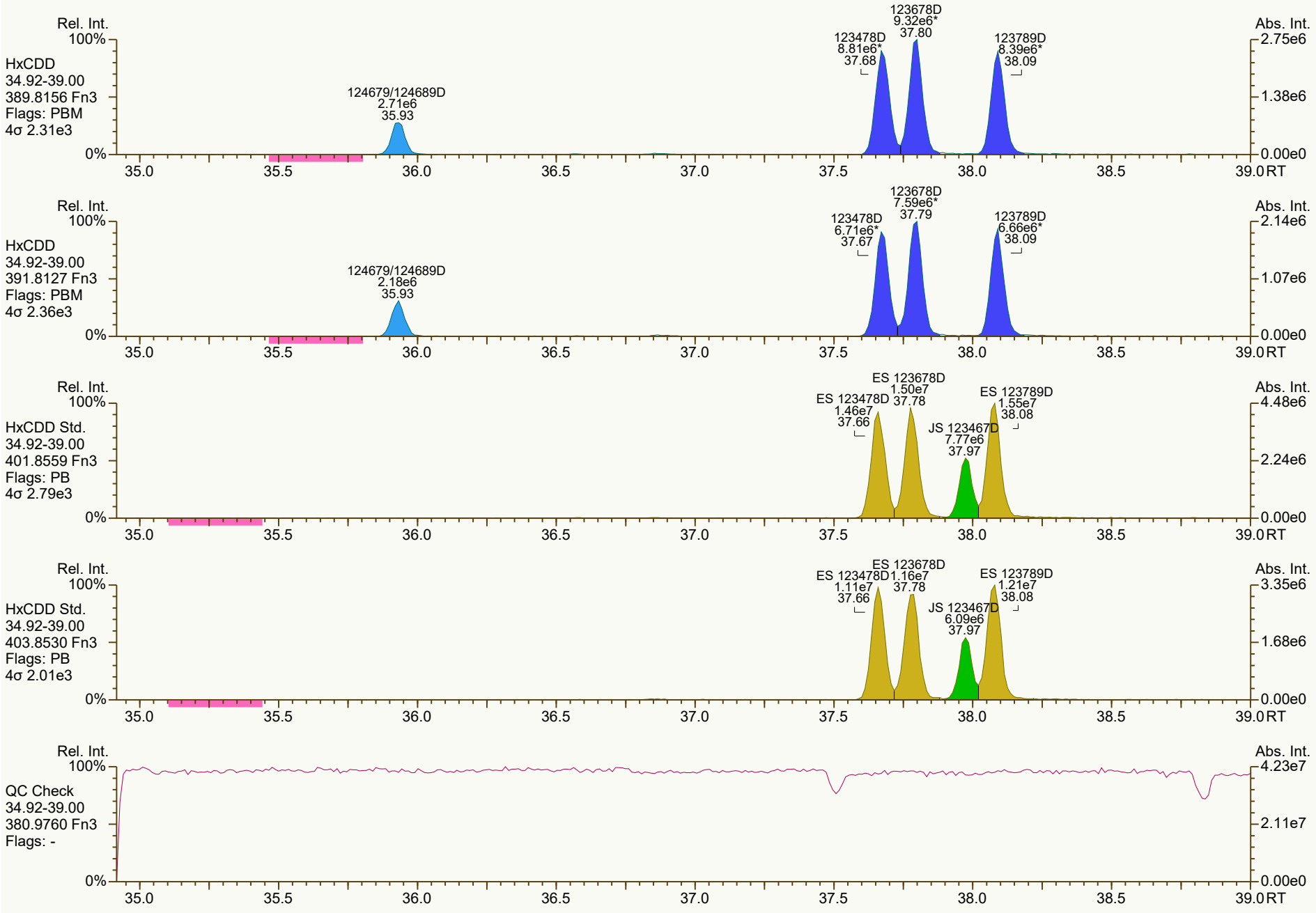
Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\OPR1_18913_DF.utp_res, saved 16-Feb-2022 17:10 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
PKD: 15-Feb-2022 15:41 Printed: 17-Feb-2022 13:45

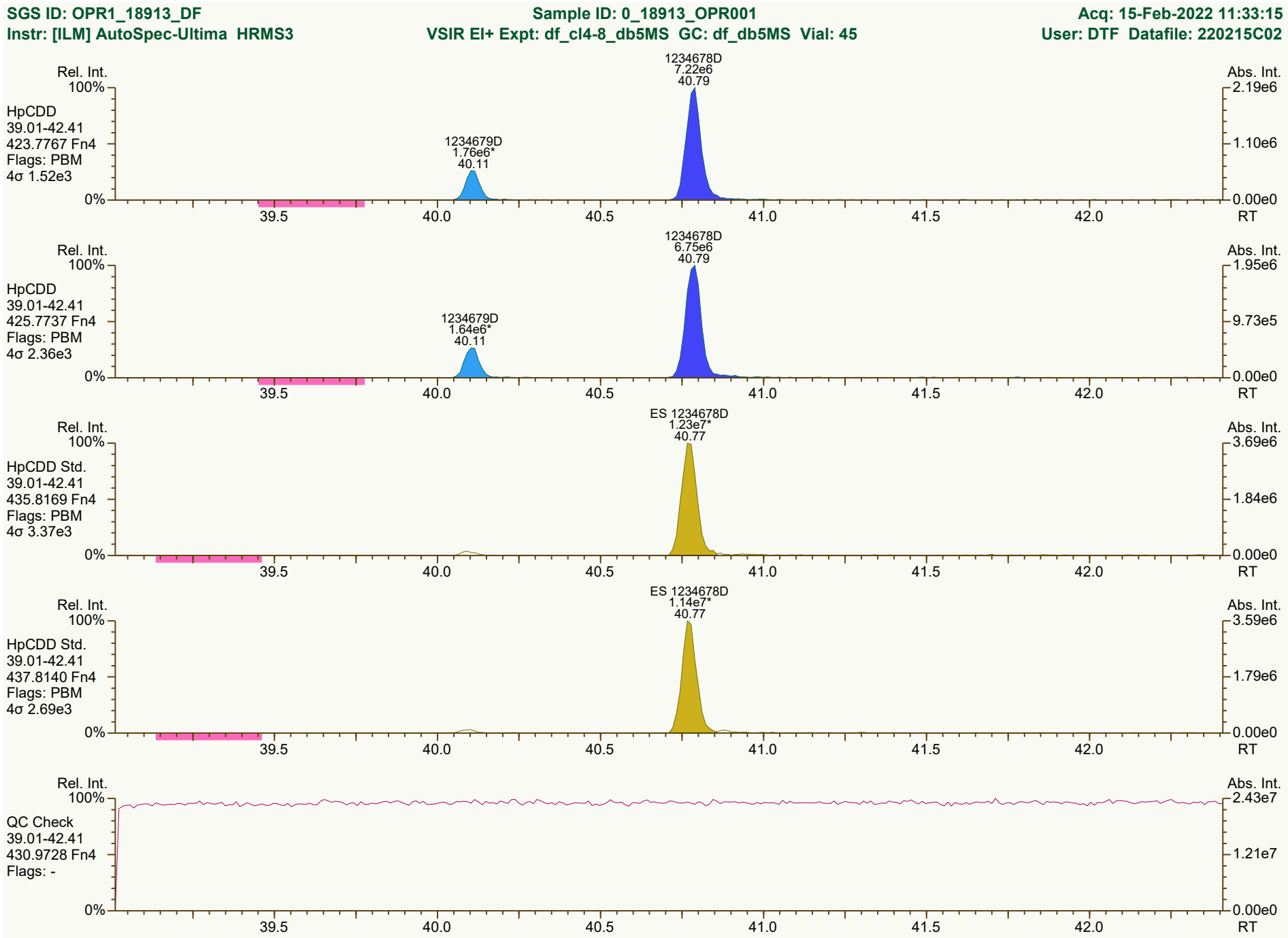

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.59e7
7.97e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
1.17e7
5.86e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
4.23e7
2.11e7
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
2.43e7
1.21e7
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
2.31e7
1.15e7
0.00e0

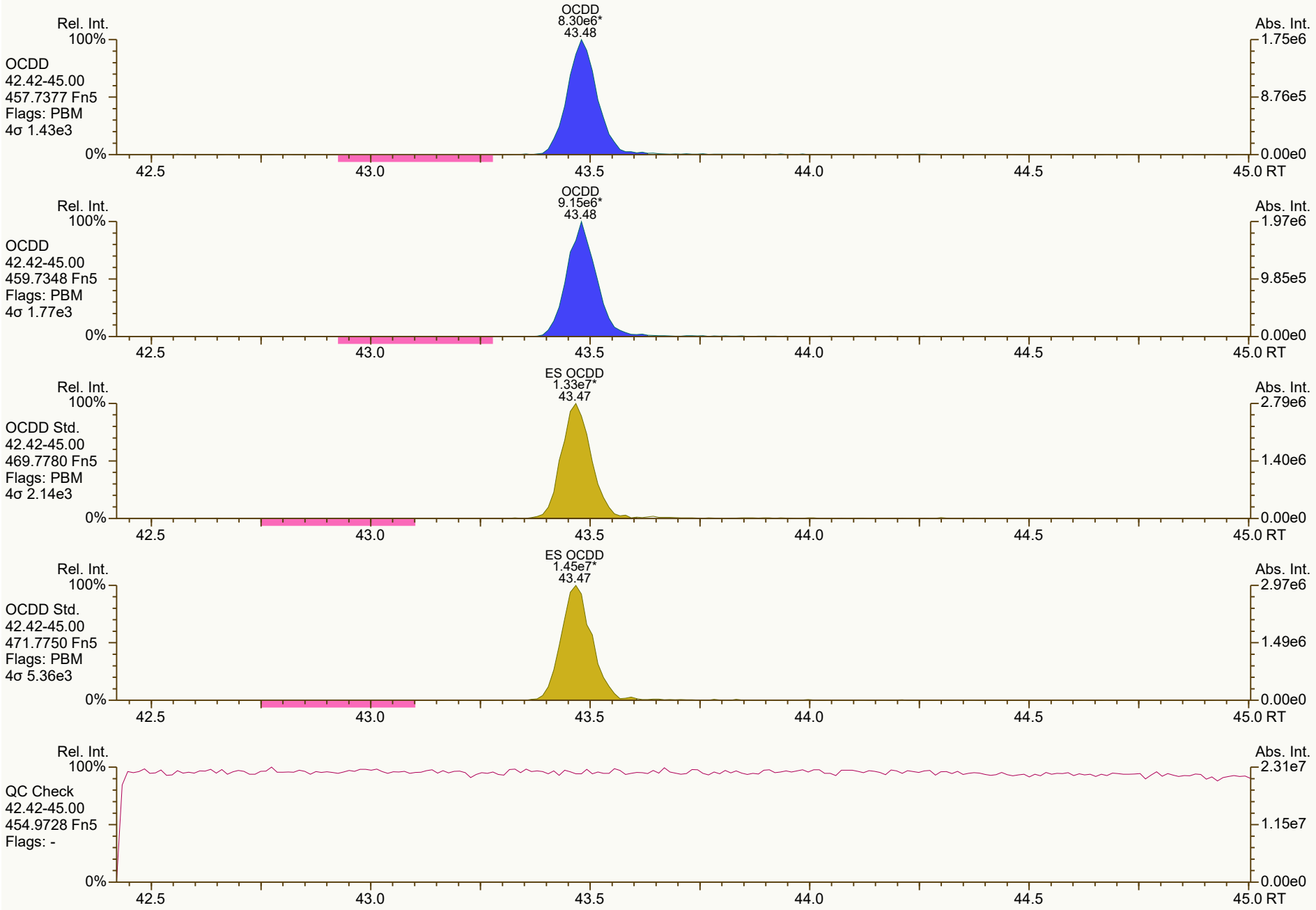


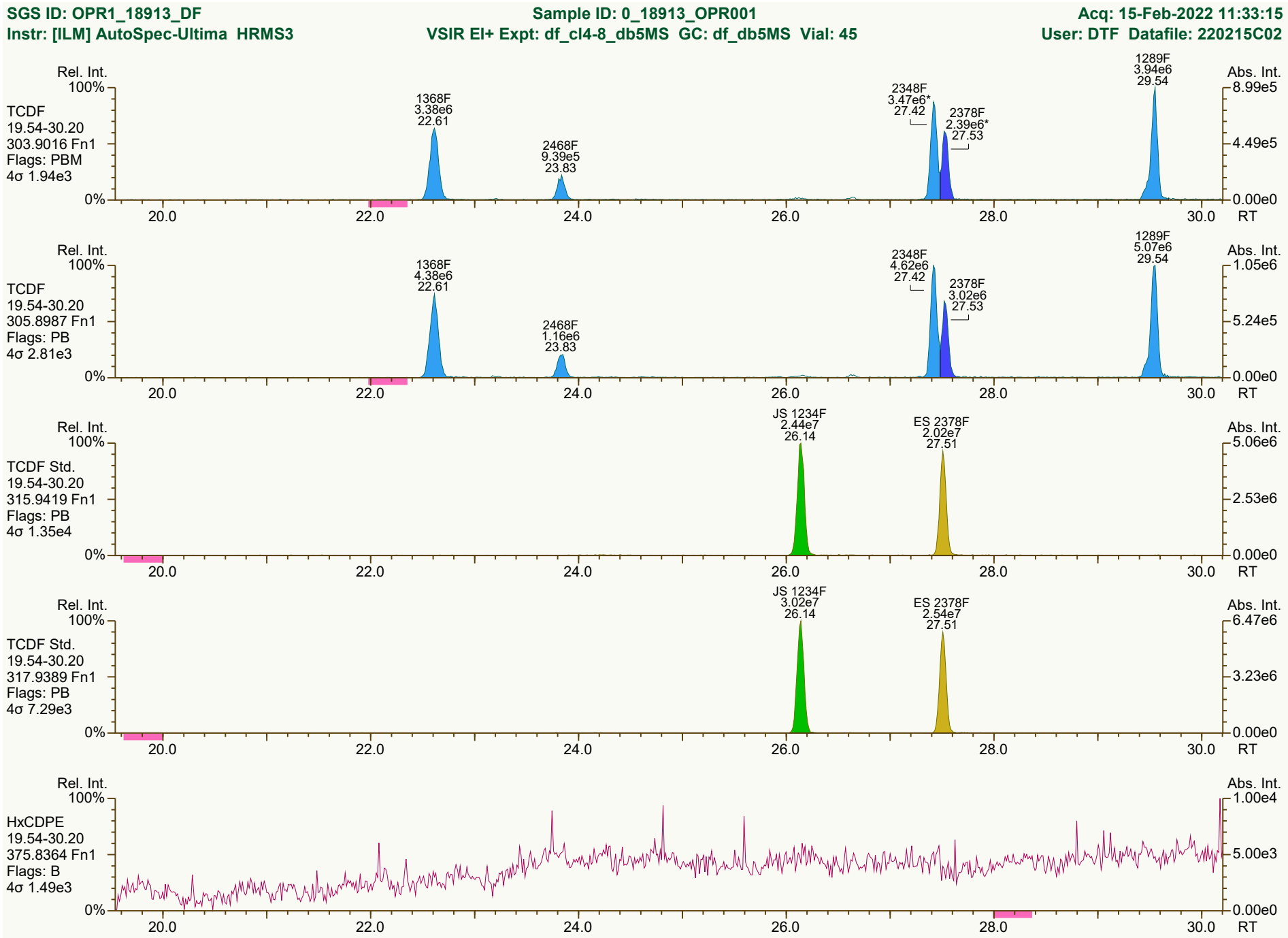
Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\OPR1_18913_DF.utp_res, saved 16-Feb-2022 17:10 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2950, 5663, 1406 scc: 247-990
PKD: 15-Feb-2022 15:41 Printed: 17-Feb-2022 13:46 Page 2 of 12


SGS ID: OPR1_18913_DF
Sample ID: 0_18913_OPR001
Acq: 15-Feb-2022 11:33:15
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 45
User: DTF Datafile: 220215C02
Rel. Int.
Abs. Int.
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PB
4σ 1.89e3
12479/12468D
2.61e6
31.25
12378D
9.07e6
33.76
12389D
2.62e6
34.20
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PB
4σ 1.94e3
12479/12468D
1.58e6
31.25
12378D
5.93e6
33.76
12389D
1.64e6
34.20
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 4.05e3
CS 12347D
1.70e7
33.24
ES 12378D
1.75e7
33.74
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 3.20e3
CS 12347D
1.08e7
33.24
ES 12378D
1.13e7
33.74
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
RT
Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\OPR1_18913_DF.utp_res, saved 16-Feb-2022 17:10 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1755, 2652 scc: 247-990
PKD: 15-Feb-2022 15:41 Printed: 17-Feb-2022 13:46 Page 3 of 12

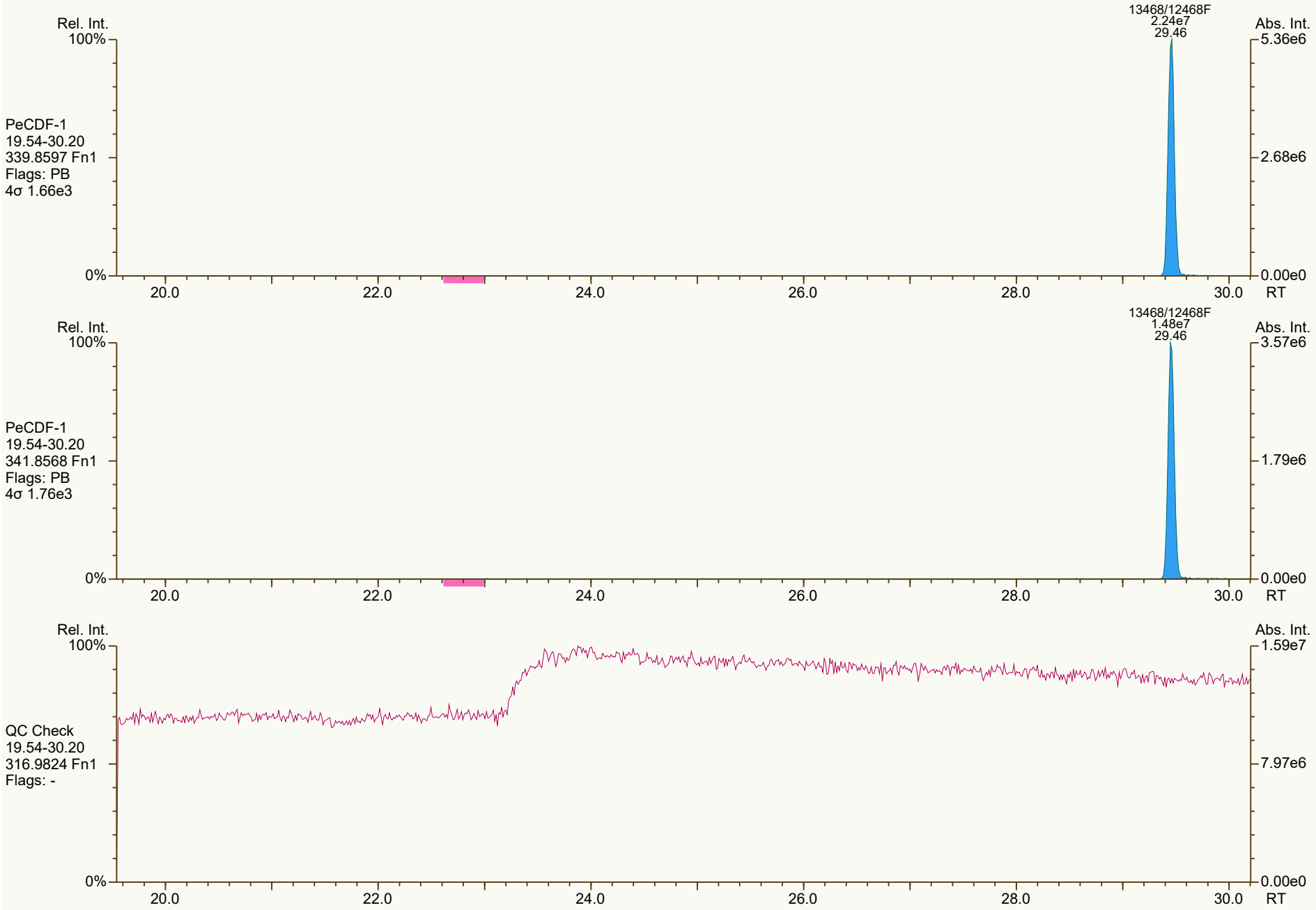

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 2.31e3
124679/124689D
2.71e6
35.93
123478D
8.81e6*
37.68
123678D
9.32e6*
37.80
123789D
8.39e6*
38.09
Abs. Int.
2.75e6
1.38e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 2.36e3
124679/124689D
2.18e6
35.93
123478D
6.71e6*
37.67
123678D
7.59e6*
37.79
123789D
6.66e6*
38.09
Abs. Int.
2.14e6
1.07e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 2.79e3
ES 123478D
1.46e7
37.66
ES 123678D
1.50e7
37.78
JS 123467D
7.77e6
37.97
ES 123789D
1.55e7
38.08
Abs. Int.
4.48e6
2.24e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 2.01e3
ES 123478D
1.11e7
37.66
ES 123678D
1.16e7
37.78
JS 123467D
6.09e6
37.97
ES 123789D
1.21e7
38.08
Abs. Int.
3.35e6
1.68e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
Abs. Int.
4.23e7
2.11e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

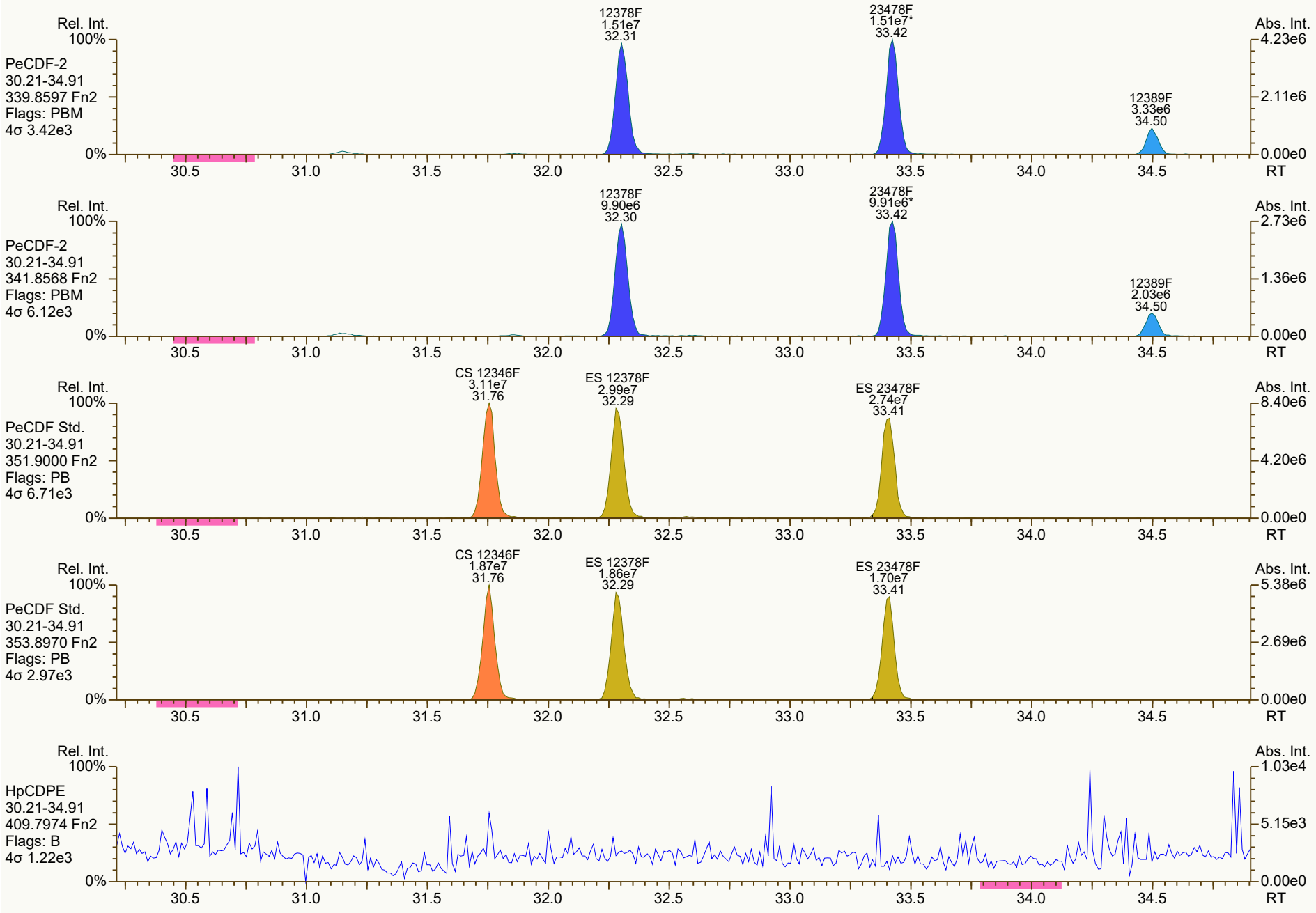

SGS ID: OPR1_18913_DF
Sample ID: 0_18913_OPR001
Acq: 15-Feb-2022 11:33:15
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 45
User: DTF Datafile: 220215C02
Rel. Int.
Abs. Int.
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
7.22e6
40.79
1234679D
1.76e6*
40.11
2.19e6
1.10e6
0.00e0
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 2.36e3
1234678D
6.75e6
40.79
1234679D
1.64e6*
40.11
1.95e6
9.73e5
0.00e0
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 3.37e3
ES 1234678D
1.23e7*
40.77
3.69e6
1.84e6
0.00e0
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 2.69e3
ES 1234678D
1.14e7*
40.77
3.59e6
1.79e6
0.00e0
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
2.43e7
1.21e7
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\OPR1_18913_DF.utp_res, saved 16-Feb-2022 17:10 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0726, 5104 scc: 247-990
Revised: 15-Feb-2022 15:40 (DTF) Printed: 17-Feb-2022 13:46 Page 5 of 12

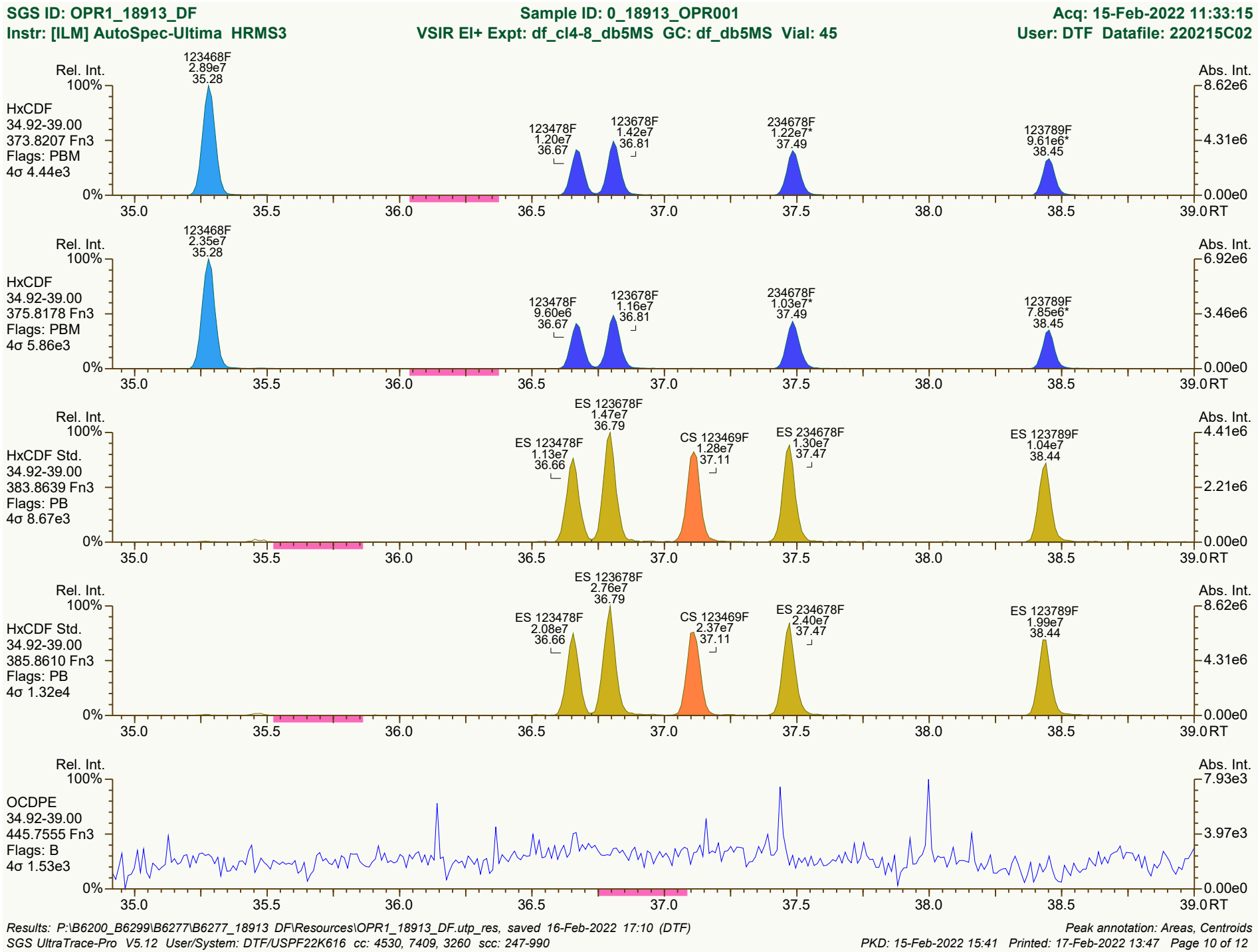

OCDD
8.30e6*
43.48
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
1.75e6
8.76e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
9.15e6*
43.48
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 1.77e3
0%
Abs. Int.
1.97e6
9.85e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.33e7*
43.47
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 2.14e3
0%
Abs. Int.
2.79e6
1.40e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.45e7*
43.47
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 5.36e3
0%
Abs. Int.
2.97e6
1.49e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.31e7
1.15e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

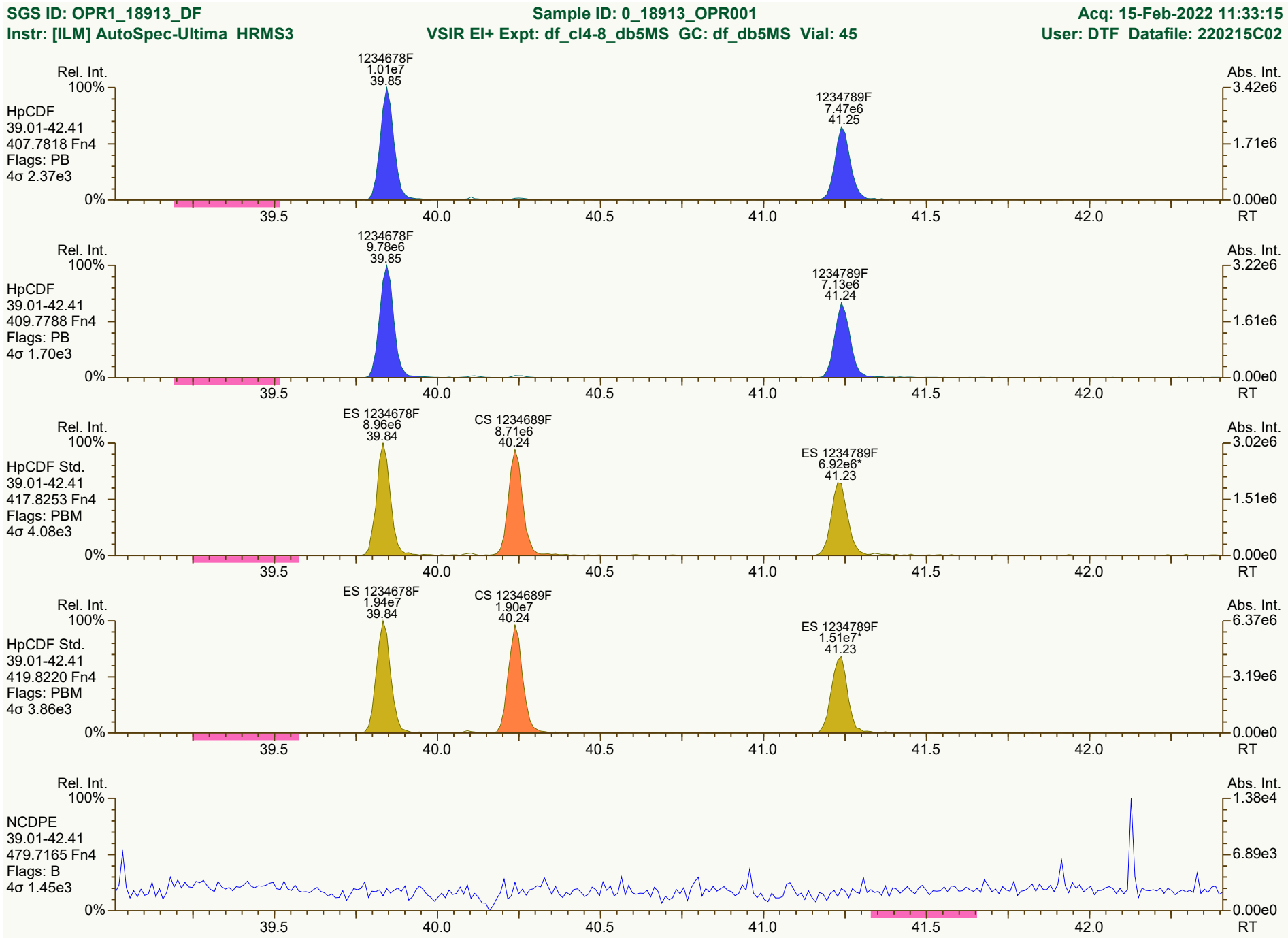


Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\OPR1_18913_DF.utp_res, saved 16-Feb-2022 17:10 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2408, 6386, 1162 scc: 247-990
PKD: 15-Feb-2022 15:41 Printed: 17-Feb-2022 13:46 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
5.36e6
2.68e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
13468/12468F
2.24e7
29.46
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.66e3
13468/12468F
1.48e7
29.46
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.76e3
Abs. Int.
3.57e6
1.79e6
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
1.59e7
7.97e6


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PBM
4σ 3.42e3
0%
12378F
1.51e7
32.31
23478F
1.51e7*
33.42
12389F
3.33e6
34.50
Abs. Int.
4.23e6
2.11e6
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PBM
4σ 6.12e3
0%
12378F
9.90e6
32.30
23478F
9.91e6*
33.42
12389F
2.03e6
34.50
Abs. Int.
2.73e6
1.36e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 6.71e3
0%
CS 12346F
3.11e7
31.76
ES 12378F
2.99e7
32.29
ES 23478F
2.74e7
33.41
Abs. Int.
8.40e6
4.20e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 2.97e3
0%
CS 12346F
1.87e7
31.76
ES 12378F
1.86e7
32.29
ES 23478F
1.70e7
33.41
Abs. Int.
5.38e6
2.69e6
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.22e3
0%
Abs. Int.
1.03e4
5.15e3
0.00e0
RT

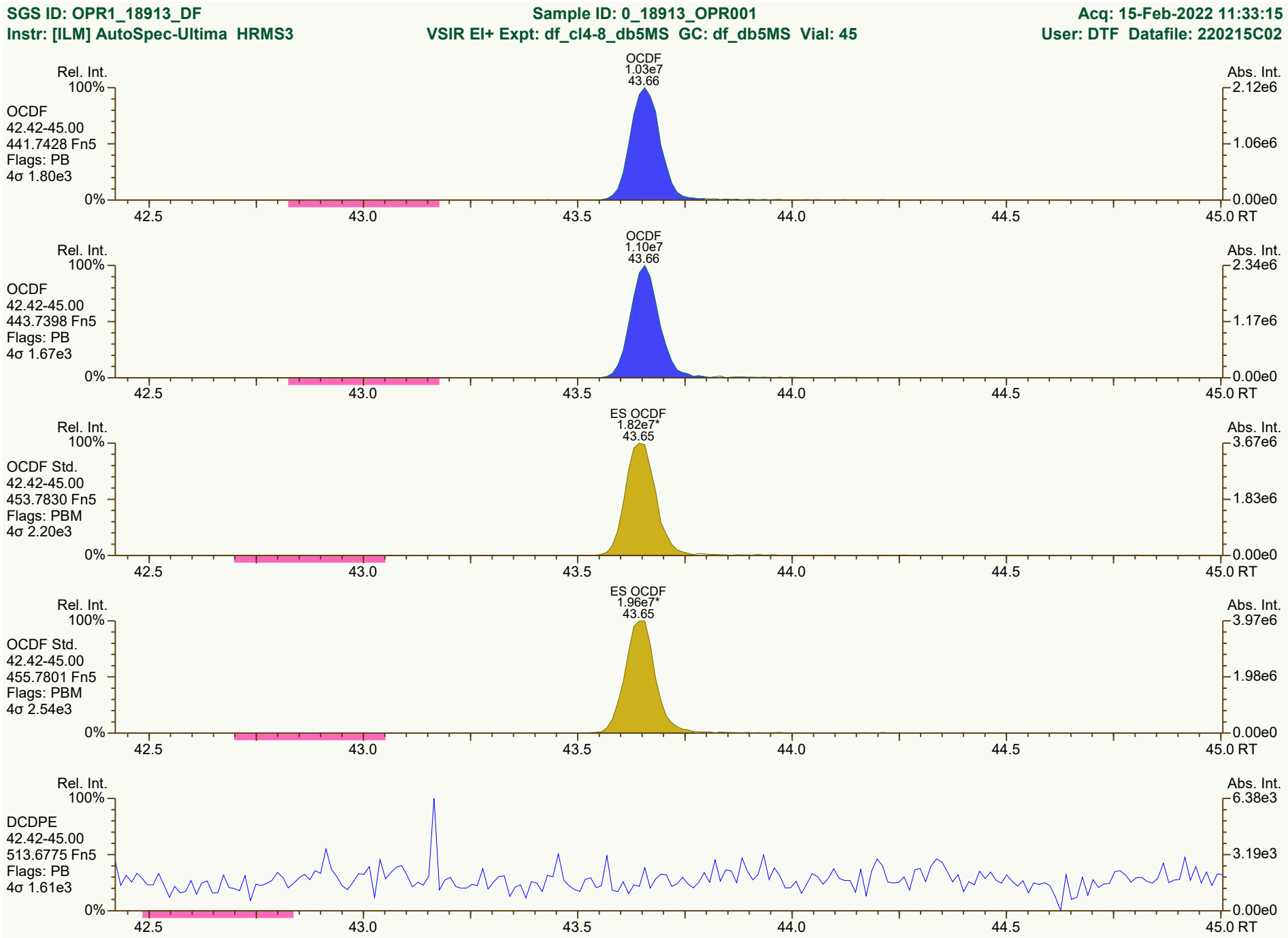

SGS ID: OPR1_18913_DF
Sample ID: 0_18913_OPR001
Acq: 15-Feb-2022 11:33:15
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 45
User: DTF Datafile: 220215C02
Rel. Int.
Abs. Int.
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 4.44e3
123468F
2.89e7
35.28
123478F
1.20e7
36.67
123678F
1.42e7
36.81
234678F
1.22e7*
37.49
123789F
9.61e6*
38.45
8.62e6
4.31e6
0.00e0
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 5.86e3
123468F
2.35e7
35.28
123478F
9.60e6
36.67
123678F
1.16e7
36.81
234678F
1.03e7*
37.49
123789F
7.85e6*
38.45
6.92e6
3.46e6
0.00e0
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 8.67e3
ES 123678F
1.47e7
36.79
ES 123478F
1.13e7
36.66
CS 123469F
1.28e7
37.11
ES 234678F
1.30e7
37.47
ES 123789F
1.04e7
38.44
4.41e6
2.21e6
0.00e0
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 1.32e4
ES 123678F
2.76e7
36.79
ES 123478F
2.08e7
36.66
CS 123469F
2.37e7
37.11
ES 234678F
2.40e7
37.47
ES 123789F
1.99e7
38.44
8.62e6
4.31e6
0.00e0
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.53e3
7.93e3
3.97e3
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\OPR1_18913_DF.utp_res, saved 16-Feb-2022 17:10 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4530, 7409, 3260 scc: 247-990
PKD: 15-Feb-2022 15:41 Printed: 17-Feb-2022 13:47 Page 10 of 12


SGS ID: OPR1_18913_DF
Sample ID: 0_18913_OPR001
Acq: 15-Feb-2022 11:33:15
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 45
User: DTF Datafile: 220215C02
Rel. Int.
Abs. Int.
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 2.37e3
1234678F
1.01e7
39.85
1234789F
7.47e6
41.25
3.42e6
1.71e6
0.00e0
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.70e3
1234678F
9.78e6
39.85
1234789F
7.13e6
41.24
3.22e6
1.61e6
0.00e0
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 4.08e3
ES 1234678F
8.96e6
39.84
CS 1234689F
8.71e6
40.24
ES 1234789F
6.92e6*
41.23
3.02e6
1.51e6
0.00e0
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 3.86e3
ES 1234678F
1.94e7
39.84
CS 1234689F
1.90e7
40.24
ES 1234789F
1.51e7*
41.23
6.37e6
3.19e6
0.00e0
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.45e3
1.38e4
6.89e3
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\OPR1_18913_DF.utp_res, saved 16-Feb-2022 17:10 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1679, 5020, 9556 scc: 247-990
Revised: 15-Feb-2022 15:40 (DTF) Printed: 17-Feb-2022 13:47 Page 11 of 12

SGS ID: OPR1_18913_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18913_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 45

Acq: 15-Feb-2022 11:33:15
User: DTF Datafile: 220215C02



Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\OPR1_18913_DF.utp_res, saved 16-Feb-2022 17:10 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7034, 6266, 9288 scc: 247-990

Peak annotation: Areas, Centroids
Revised: 15-Feb-2022 15:40 (DTF) Printed: 17-Feb-2022 13:47 Page 12 of 12

Lab ID: OPR2_18913_DF **Acq'd: 15 Feb 2022 12:19 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18913_OPR002 **UTP: 16-Feb-2022 17:10:59 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 443-398-HTR**

Datafile: 220215C03 **Report: 17 Feb 2022 13:41 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.37		1.0008	1.0008	0	3.87E+06	0.80	Y	1.18	12.5	5654.625	0.185
12378-PeCDD	33.75		1.0006	1.0006	0	1.42E+07	1.58	Y	1.04	52.4	4969.355	0.149
123478-HxCDD	37.67		1.0004	1.0004	0	1.40E+07	1.30	Y	1.09	57.3	3259.466	0.111
123678-HxCDD	37.79		1.0036	1.0037	+0.2	1.55E+07	1.27	Y	1.15	57.8	3259.466	0.105
123789-HxCDD	38.08		1.0115	1.0115	0	1.41E+07	1.30	Y	1.05	54.7	3259.466	0.112
1234678-HpCDD	40.78		1.0003	1.0003	0	1.27E+07	1.06	Y	1.06	57.7	3511.956	0.136
OCDD	43.49		1.0003	1.0002	-0.3	1.51E+07	0.93	Y	1.13	113	3518.807	0.316
2378-TCDF	27.51		1.0008	1.0009	+0.2	5.03E+06	0.72	Y	1.08	11.2	4549.941	0.118
12378-PeCDF	32.29		1.0005	1.0005	0	2.34E+07	1.57	Y	1.02	52.6	10072.458	0.214
23478-PeCDF	33.41		1.0006	1.0005	-0.2	2.34E+07	1.53	Y	1.02	56.3	10072.458	0.217
123478-HxCDF	36.66		1.0004	1.0005	+0.2	1.96E+07	1.24	Y	1.27	53.6	8153.461	0.192
123678-HxCDF	36.80		1.0004	1.0005	+0.2	2.33E+07	1.27	Y	1.15	52.2	8153.461	0.152
234678-HxCDF	37.48		1.0005	1.0004	-0.2	2.11E+07	1.23	Y	1.19	52.5	8153.461	0.178
123789-HxCDF	38.44		1.0004	1.0004	0	1.62E+07	1.27	Y	1.16	52	8153.461	0.214
1234678-HpCDF	39.84		1.0003	1.0003	0	1.83E+07	1.06	Y	1.37	52.4	2485.012	0.0515
1234789-HpCDF	41.24		1.0003	1.0003	0	1.34E+07	1.03	Y	1.31	54	2485.012	0.0872
OCDF	43.66		1.0002	1.0003	+0.3	1.81E+07	0.88	Y	1.07	108	3252.803	0.233

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.35	1.0239	1.0240	+0.2	2.62E+07	0.81	Y	1.05	88.3
ES 12378-PeCDD	33.73	1.2174	1.2181	+1.4	2.63E+07	1.55	Y	0.88	105
ES 123478-HxCDD	37.65	0.9917	0.9917	0	2.25E+07	1.29	Y	0.97	95.9
ES 123678-HxCDD	37.77	0.9948	0.9949	+0.2	2.34E+07	1.28	Y	0.94	103
ES 123789-HxCDD	38.07	1.0027	1.0027	0	2.46E+07	1.26	Y	1.09	93.4
ES 1234678-HpCDD	40.77	1.0738	1.0739	+0.2	2.07E+07	1.08	Y	0.91	94
ES OCDD	43.48	1.1449	1.1452	+0.8	2.37E+07	0.91	Y	0.62	78.7
ES 2378-TCDF	27.49	1.0523	1.0525	+0.3	4.15E+07	0.81	Y	1.06	81.8
ES 12378-PeCDF	32.27	1.2346	1.2355	+1.7	4.33E+07	1.53	Y	0.91	99.4
ES 23478-PeCDF	33.39	1.2774	1.2783	+1.8	4.08E+07	1.58	Y	0.88	96.5
ES 123478-HxCDF	36.64	0.9651	0.9652	+0.2	2.87E+07	0.56	Y	1.20	99.5
ES 123678-HxCDF	36.78	0.9688	0.9689	+0.2	3.86E+07	0.55	Y	1.35	119
ES 234678-HxCDF	37.46	0.9867	0.9868	+0.2	3.38E+07	0.53	Y	1.24	113
ES 123789-HxCDF	38.43	1.0121	1.0122	+0.2	2.68E+07	0.52	Y	1.16	96.3
ES 1234678-HpCDF	39.83	1.0491	1.0491	0	2.54E+07	0.47	Y	0.97	109
ES 1234789-HpCDF	41.23	1.0858	1.0859	+0.2	1.89E+07	0.48	Y	0.85	92.3
ES OCDF	43.65	1.1495	1.1497	+0.5	3.14E+07	0.94	Y	0.81	80.6

Lab ID: OPR2_18913_DF | Acq'd: 15 Feb 2022 12:19 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18913_OPR002 | UTP: 16-Feb-2022 17:10:59 DTF | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 443-398-HTR

Datafile: 220215C03 | Report: 17 Feb 2022 13:41 TF | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.69		-	-	-	2.83E+07	0.83	Y	-	-
JS 1234-TCDF	26.12		-	-	-	4.79E+07	0.81	Y	-	-
JS 123467-HxCDD	37.96		-	-	-	1.20E+07	1.28	Y	-	-
CS 37Cl-2378-TCDD	28.37		1.0247	1.0248	+0.2	1.31E+07	n/a	-	1.20	96.3
CS 12347-PeCDD	33.22		1.1993	1.1999	+1.2	2.52E+07	1.63	Y	0.75	118
CS 12346-PeCDF	31.74		1.2144	1.2151	+1.3	4.59E+07	1.57	Y	0.85	113
CS 123469-HxCDF	37.10		0.9772	0.9772	0	3.23E+07	0.54	Y	1.12	120
CS 1234689-HpCDF	40.23		1.0597	1.0598	+0.2	2.43E+07	0.48	Y	0.89	114
~~SS 37Cl-2378-TCDD~~	~~28.37~~		~~1.0247~~	~~1.0248~~	~~+0.2~~	~~1.31E+07~~	~~n/a~~		~~1.15~~	~~109~~
~~SS 12347-PeCDD~~	~~33.22~~		~~1.1993~~	~~1.1999~~	~~+1.2~~	~~2.52E+07~~	~~1.63~~	~~Y~~	~~0.86~~	~~112~~
~~SS 12346-PeCDF~~	~~31.74~~		~~1.2144~~	~~1.2151~~	~~+1.3~~	~~4.59E+07~~	~~1.57~~	~~Y~~	~~0.94~~	~~113~~
~~SS 123469-HxCDF~~	~~37.10~~		~~0.9772~~	~~0.9772~~	~~0~~	~~3.23E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~101~~
~~SS 1234689-HpCDF~~	~~40.23~~		~~1.0597~~	~~1.0598~~	~~+0.2~~	~~2.43E+07~~	~~0.48~~	~~Y~~	~~0.92~~	~~104~~

Totals	Conc	EMPC
Total TCDD	57.1	57.1
Total PeCDD	80.7	80.7
Total HxCDD	187	187
Total HpCDD	72.5	72.5
Total Tetra-Octa Dioxins	511	511
Total TCDF	66	66
Total PeCDF	200	200
Total HxCDF	331	331
Total HpCDF	106	106
Total Tetra-Octa Furans	812	812
Total Tetra-Octa Dioxins & Furans	1320	1320

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.799	0.80
Response	3.88E+06	3.87E+06

Lab ID: OPR2_18913_DF **Acq'd: 15 Feb 2022 12:19 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18913_OPR002 **UTP: 16-Feb-2022 17:10:59 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 443-398-HTR**

Datafile: 220215C03 **Report: 17 Feb 2022 13:41 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.71		0.8719	0.8715	-0.6	5.04E+06	0.78	Y	1.18	16.2	5654.625	0.185
1379-TCDD	NotFnd		0.8845						1.18		5654.625	0.185
1369-TCDD	NotFnd		0.8996						1.18		5654.625	0.185
1469-TCDD	NotFnd		0.9271						1.18		5654.625	0.185
1247/1246/1248/1249-TCDD	NotFnd		0.9357						1.18		5654.625	0.185
1378-TCDD	NotFnd		0.9425						1.18		5654.625	0.185
1268-TCDD	NotFnd		0.9494						1.18		5654.625	0.185
1478-TCDD	NotFnd		0.9581						1.18		5654.625	0.185
1279-TCDD	NotFnd		0.9640						1.18		5654.625	0.185
1234/1269-TCDD	NotFnd		0.9765						1.18		5654.625	0.185
1236-TCDD	NotFnd		0.9816						1.18		5654.625	0.185
1237/1238-TCDD	NotFnd		0.9906						1.18		5654.625	0.185
1239-TCDD	28.22		0.9952	0.9952	0	3.57E+06	0.76	Y	1.18	11.5	5654.625	0.185
2378-TCDD	**28.37**		**1.0008**	1.0008	**0**	3.87E+06	0.80	Y	**1.18**	**12.5**	**5654.625**	**0.185**
1278-TCDD	NotFnd		1.0123						1.18		5654.625	0.185
1267-TCDD	NotFnd		1.0170						1.18		5654.625	0.185
1289-TCDD	29.35		1.0351	1.0352	+0.2	5.22E+06	0.80	Y	1.18	16.8	5654.625	0.185
12479/12468-PeCDD	31.23		0.9261	0.9260	-0.2	3.82E+06	1.60	Y	1.04	14.1	4969.355	0.149
12469-PeCDD	NotFnd		0.9420						1.04		4969.355	0.149
12368-PeCDD	NotFnd		0.9584						1.04		4969.355	0.149
12478-PeCDD	NotFnd		0.9641						1.04		4969.355	0.149
12379-PeCDD	NotFnd		0.9670						1.04		4969.355	0.149
12369/12467/12489-PeCDD	NotFnd		0.9747						1.04		4969.355	0.149
12346/12347-PeCDD	NotFnd		0.9857						1.04		4969.355	0.149
12378-PeCDD	33.75		**1.0006**	**1.0006**	**0**	**1.42E+07**	**1.58**	**Y**	**1.04**	**52.4**	**4969.355**	**0.149**
12367-PeCDD	NotFnd		1.0034						1.04		4969.355	0.149
12389-PeCDD	34.19		1.0136	1.0137	+0.2	3.89E+06	1.62	Y	1.04	14.3	4969.355	0.149
124679/124689-HxCDD	35.92		0.9540	0.9541	+0.2	4.54E+06	1.37	Y	1.10	17.6	3259.466	0.109
123468-HxCDD	NotFnd		0.9714						1.10		3259.466	0.109
123679/123689-HxCDD	NotFnd		0.9792						1.10		3259.466	0.109
123469-HxCDD	NotFnd		0.9828						1.10		3259.466	0.109
123478-HxCDD	37.67		**1.0004**	**1.0004**	**0**	**1.40E+07**	**1.30**	**Y**	1.09	**57.3**	**3259.466**	**0.111**
123678-HxCDD	37.79		**1.0036**	**1.0037**	**+0.2**	**1.55E+07**	**1.27**	**Y**	1.15	**57.8**	**3259.466**	**0.105**
123467-HxCDD	NotFnd		1.0087						1.10		3259.466	0.109
123789-HxCDD	38.08		**1.0115**	**1.0115**	**0**	**1.41E+07**	**1.30**	**Y**	1.05	**54.7**	**3259.466**	**0.112**

Lab ID: OPR2_18913_DF **Acq'd: 15 Feb 2022 12:19 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18913_OPR002 **UTP: 16-Feb-2022 17:10:59 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 443-398-HTR**

Datafile: 220215C03 **Report: 17 Feb 2022 13:41 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.10		0.9836	0.9836	0	3.24E+06	1.05	Y	1.06	14.8	3511.956	0.136
1234678-HpCDD	**40.78**		**1.0003**	**1.0003**	**0**	**1.27E+07**	**1.06**	**Y**	**1.06**	**57.7**	**3511.956**	**0.136**
OCDD	**43.49**		**1.0003**	**1.0002**	**-0.3**	**1.51E+07**	**0.93**	**Y**	**1.13**	**113**	**3518.807**	**0.316**
OCDD-a	43.48		1.0002	1.0002	0	9.82E+05	2.84	Y	0.07	115	3261.774	4.58
1368-TCDF	22.59		0.8222	0.8216	-0.8	7.29E+06	0.79	Y	1.08	16.3	4549.941	0.118
1468-TCDF	NotFnd		0.8434						1.08		4549.941	0.118
2468-TCDF	23.81		0.8666	0.8662	-0.6	1.75E+06	0.79	Y	1.08	3.92	4549.941	0.118
1346/1246-TCDF	NotFnd		0.8789						1.08		4549.941	0.118
1347/1378/1247-TCDF	NotFnd		0.8848						1.08		4549.941	0.118
1348-TCDF	NotFnd		0.8947						1.08		4549.941	0.118
1248/1367/1379-TCDF	NotFnd		0.8995						1.08		4549.941	0.118
1268-TCDF	NotFnd		0.9131						1.08		4549.941	0.118
1467-TCDF	NotFnd		0.9181						1.08		4549.941	0.118
1478-TCDF	NotFnd		0.9244						1.08		4549.941	0.118
1369/1237-TCDF	NotFnd		0.9379						1.08		4549.941	0.118
2467-TCDF	NotFnd		0.9425						1.08		4549.941	0.118
2368-TCDF	NotFnd		0.9483						1.08		4549.941	0.118
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9514						1.08		4549.941	0.118
1278-TCDF	NotFnd		0.9681						1.08		4549.941	0.118
1349-TCDF	NotFnd		0.9722						1.08		4549.941	0.118
1267-TCDF	NotFnd		0.9780						1.08		4549.941	0.118
2346/1249-TCDF	NotFnd		0.9845						1.08		4549.941	0.118
2347/1279-TCDF	NotFnd		0.9927						1.08		4549.941	0.118
2348-TCDF	27.40		0.9970	0.9969	-0.2	7.21E+06	0.80	Y	1.08	16.1	4549.941	0.118
2378-TCDF	**27.51**		**1.0008**	**1.0009**	**+0.2**	**5.03E+06**	**0.72**	**Y**	**1.08**	**11.2**	**4549.941**	**0.118**
2367/3467-TCDF	NotFnd		1.0140						1.08		4549.941	0.118
1269-TCDF	NotFnd		1.0226						1.08		4549.941	0.118
1239-TCDF	NotFnd		1.0325						1.08		4549.941	0.118
1289-TCDF	29.52		1.0732	1.0738	+1.1	8.25E+06	0.79	Y	1.08	18.4	4549.941	0.118
13468/12468-PeCDF	29.44		0.9130	0.9123	-1.2	3.43E+07	1.53	Y	1.02	79.7	2903.155	0.0622
13678/13467/12467-PeCDF	NotFnd		0.9610						1.02		10072.458	0.216
12368/13478/12478-PeCDF	NotFnd		0.9658						1.02		10072.458	0.216
14678-PeCDF	NotFnd		0.9688						1.02		10072.458	0.216
13479-PeCDF	NotFnd		0.9719						1.02		10072.458	0.216
13469/12479-PeCDF	NotFnd		0.9797						1.02		10072.458	0.216
12346-PeCDF	NotFnd		0.9841						1.02		10072.458	0.216

Lab ID: OPR2_18913_DF | **Acq'd: 15 Feb 2022 12:19 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18913_OPR002 | **UTP: 16-Feb-2022 17:10:59 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 443-398-HTR**

Datafile: 220215C03 | **Report: 17 Feb 2022 13:41 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9867						1.02		10072.458	0.216
12347-PeCDF	NotFnd		0.9892						1.02		10072.458	0.216
12348-PeCDF	NotFnd		0.9940						1.02		10072.458	0.216
12378-PeCDF	**32.29**		**1.0005**	**1.0005**	**0**	**2.34E+07**	**1.57**	**Y**	**1.02**	**52.6**	**10072.458**	**0.214**
12678/12367-PeCDF	NotFnd		1.0091						1.02		10072.458	0.216
12379-PeCDF	NotFnd		1.0144						1.02		10072.458	0.216
12679-PeCDF	NotFnd		0.9928						1.02		10072.458	0.216
23467/12369-PeCDF	NotFnd		0.9966						1.02		10072.458	0.216
23478-PeCDF	**33.41**		**1.0006**	**1.0005**	**-0.2**	**2.34E+07**	**1.53**	**Y**	**1.02**	**56.3**	**10072.458**	**0.217**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		10072.458	0.216
12349-PeCDF	NotFnd		1.0101						1.02		10072.458	0.216
12389-PeCDF	34.48		1.0327	1.0328	+0.2	4.94E+06	1.57	Y	1.02	11.5	10072.458	0.216
123468-HxCDF	35.27		0.9624	0.9625	+0.2	4.62E+07	1.25	Y	1.19	121	8153.461	0.181
124678/134678-HxCDF	NotFnd		0.9679						1.19		8153.461	0.181
134679-HxCDF	NotFnd		0.9741						1.19		8153.461	0.181
124679-HxCDF	NotFnd		0.9796						1.19		8153.461	0.181
124689-HxCDF	NotFnd		0.9856						1.19		8153.461	0.181
123467-HxCDF	NotFnd		0.9972						1.19		8153.461	0.181
123478-HxCDF	**36.66**		**1.0004**	**1.0005**	**+0.2**	**1.96E+07**	**1.24**	**Y**	**1.27**	**53.6**	**8153.461**	**0.192**
123678-HxCDF	**36.80**		**1.0004**	**1.0005**	**+0.2**	**2.33E+07**	**1.27**	**Y**	**1.15**	**52.2**	**8153.461**	**0.152**
123479-HxCDF	NotFnd		1.0049						1.19		8153.461	0.181
123469-HxCDF	NotFnd		1.0090						1.19		8153.461	0.181
123679-HxCDF	NotFnd		0.9942						1.19		8153.461	0.181
234678-HxCDF	**37.48**		**1.0005**	**1.0004**	**-0.2**	**2.11E+07**	**1.23**	**Y**	**1.19**	**52.5**	**8153.461**	**0.178**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		8153.461	0.181
123789-HxCDF	**38.44**		**1.0004**	**1.0004**	**0**	**1.62E+07**	**1.27**	**Y**	**1.16**	**52**	**8153.461**	**0.214**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		8153.461	0.181
1234678-HpCDF	**39.84**		**1.0003**	**1.0003**	**0**	**1.83E+07**	**1.06**	**Y**	**1.37**	**52.4**	**2485.012**	**0.0515**
1234679-HpCDF	NotFnd		1.0069						1.34		2485.012	0.0666
1234689-HpCDF	NotFnd		1.0104						1.34		2485.012	0.0666
1234789-HpCDF	**41.24**		**1.0003**	**1.0003**	**0**	**1.34E+07**	**1.03**	**Y**	**1.31**	**54**	**2485.012**	**0.0872**
OCDF	**43.66**		**1.0002**	**1.0003**	**+0.3**	**1.81E+07**	**0.88**	**Y**	**1.07**	**108**	**3252.803**	**0.233**
OCDF-a	43.65		1.0002	1.0001	-0.3	1.12E+06	2.84	Y	0.07	107	4074.167	4.7

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220215C03	Analysis Date:	15-FEB-2022 12:19:29
Lab ID:	OPR2_18913_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	12.5	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	52.4	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	57.3	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	57.8	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	54.7	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	57.7	35	-	70	Y
OCDD	100	113	78	-	144	Y
2,3,7,8-TCDF	10	11.2	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	52.6	40	-	67	Y
2,3,4,7,8-PeCDF	50	56.3	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	53.6	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	52.2	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	52.5	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	52	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	52.4	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	54	39	-	69	Y
OCDF	100	108	63	-	170	Y

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

Processed: 17 Feb 2022 13:41 Analyst: TF

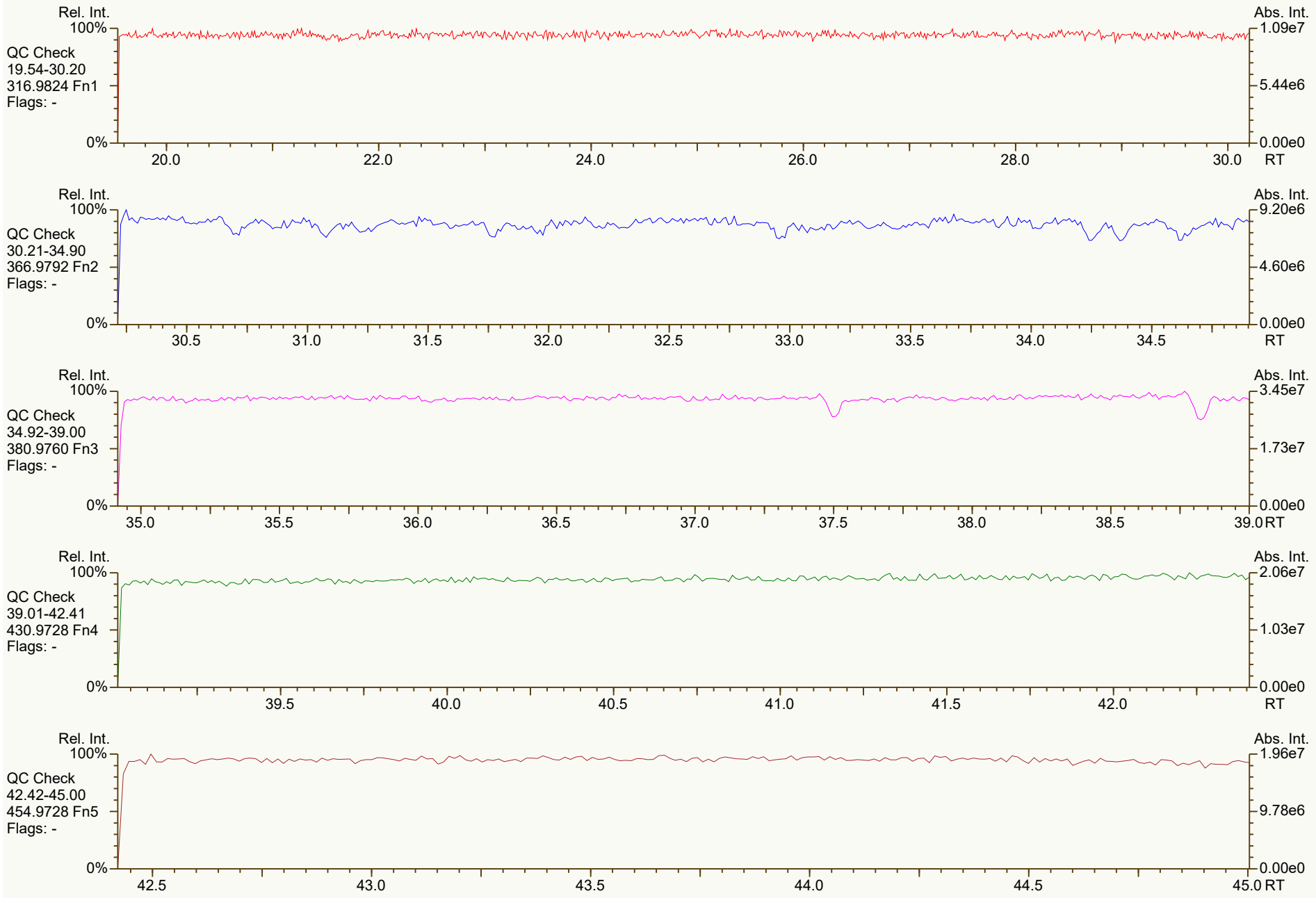
METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

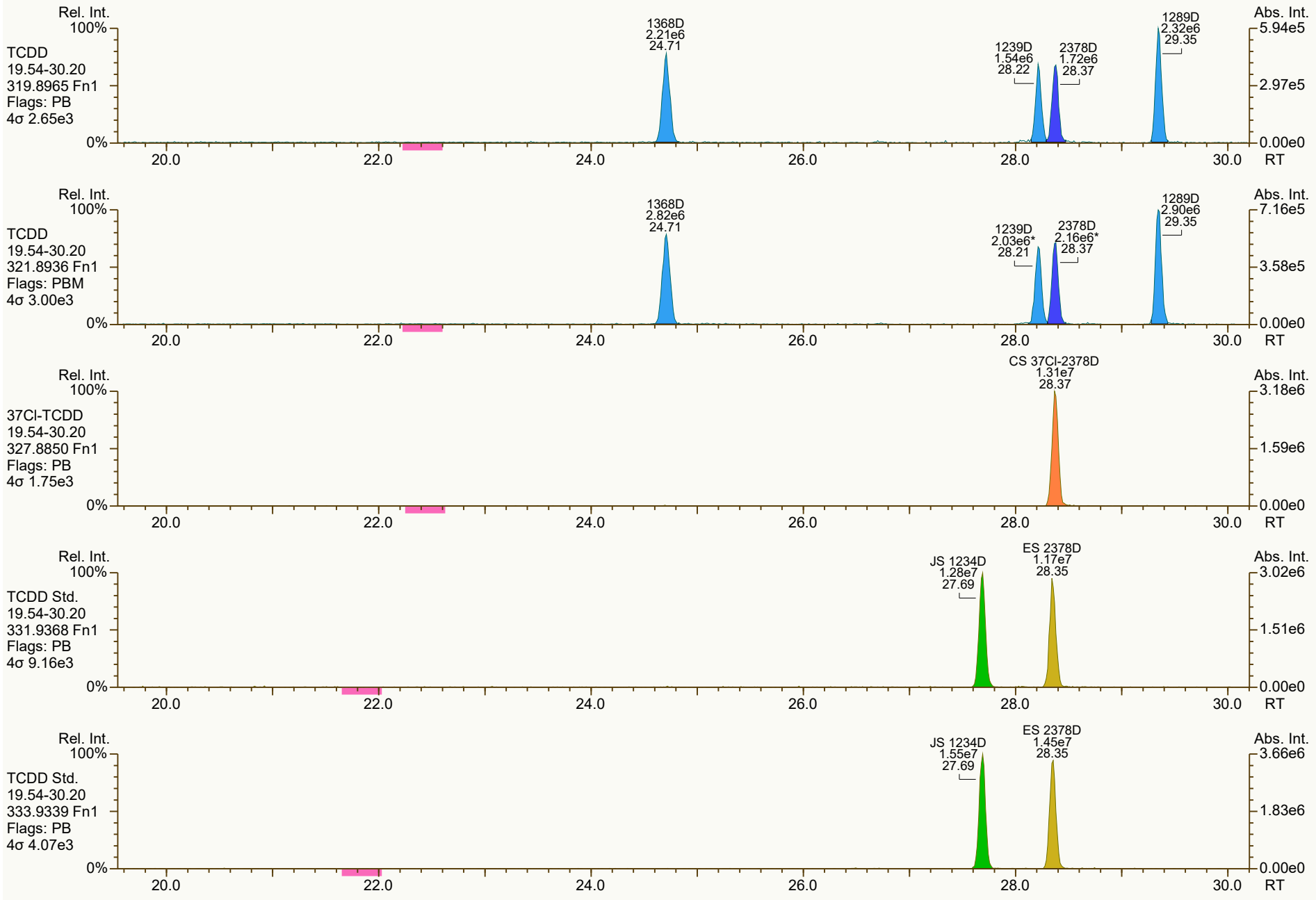
Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220215C03	Analysis Date:	15-FEB-2022 12:19:29
Lab ID:	OPR2_18913_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	88.3	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	105	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	95.9	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	103	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	93.4	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	94	26	-	166	Y
13C-OCDD	200	157	26	-	397	Y
13C-2,3,7,8-TCDF	100	81.8	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	99.4	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	96.5	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	99.5	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	119	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	113	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	96.3	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	109	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	92.3	20	-	186	Y
13C-OCDF	200	161	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	38.5	12.4	-	76.4	Y

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

Processed: 17 Feb 2022 13:41 Analyst: TF


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.09e7
5.44e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
9.20e6
4.60e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
3.45e7
1.73e7
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
2.06e7
1.03e7
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.96e7
9.78e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.65e3
0%
1368D
2.21e6
24.71
1239D
1.54e6
28.22
2378D
1.72e6
28.37
1289D
2.32e6
29.35
Abs. Int.
5.94e5
2.97e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 3.00e3
0%
1368D
2.82e6
24.71
1239D
2.03e6*
28.21
2378D
2.16e6*
28.37
1289D
2.90e6
29.35
Abs. Int.
7.16e5
3.58e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.75e3
0%
CS 37Cl-2378D
1.31e7
28.37
Abs. Int.
3.18e6
1.59e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 9.16e3
0%
JS 1234D
1.28e7
27.69
ES 2378D
1.17e7
28.35
Abs. Int.
3.02e6
1.51e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.07e3
0%
JS 1234D
1.55e7
27.69
ES 2378D
1.45e7
28.35
Abs. Int.
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1.83e6
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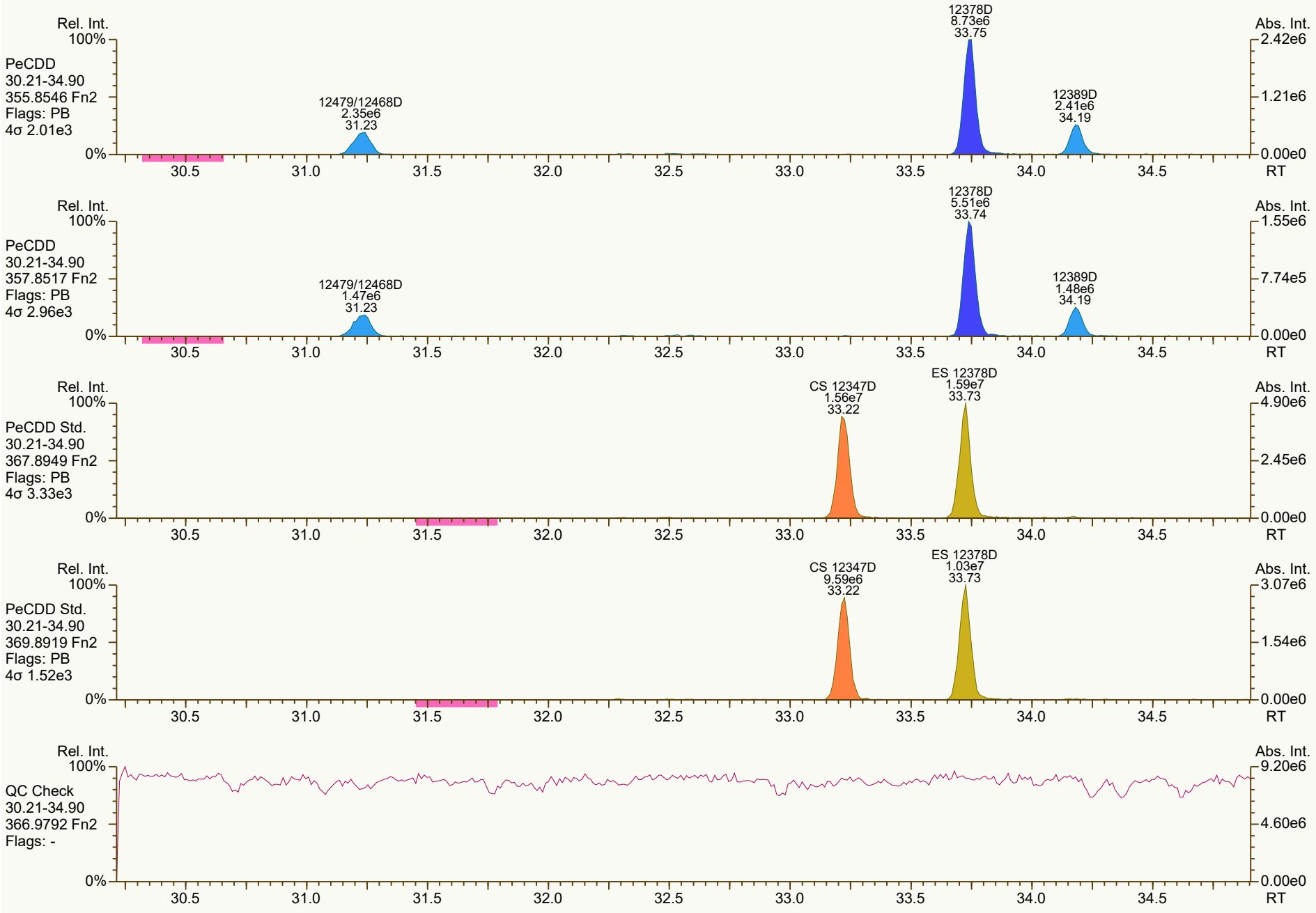
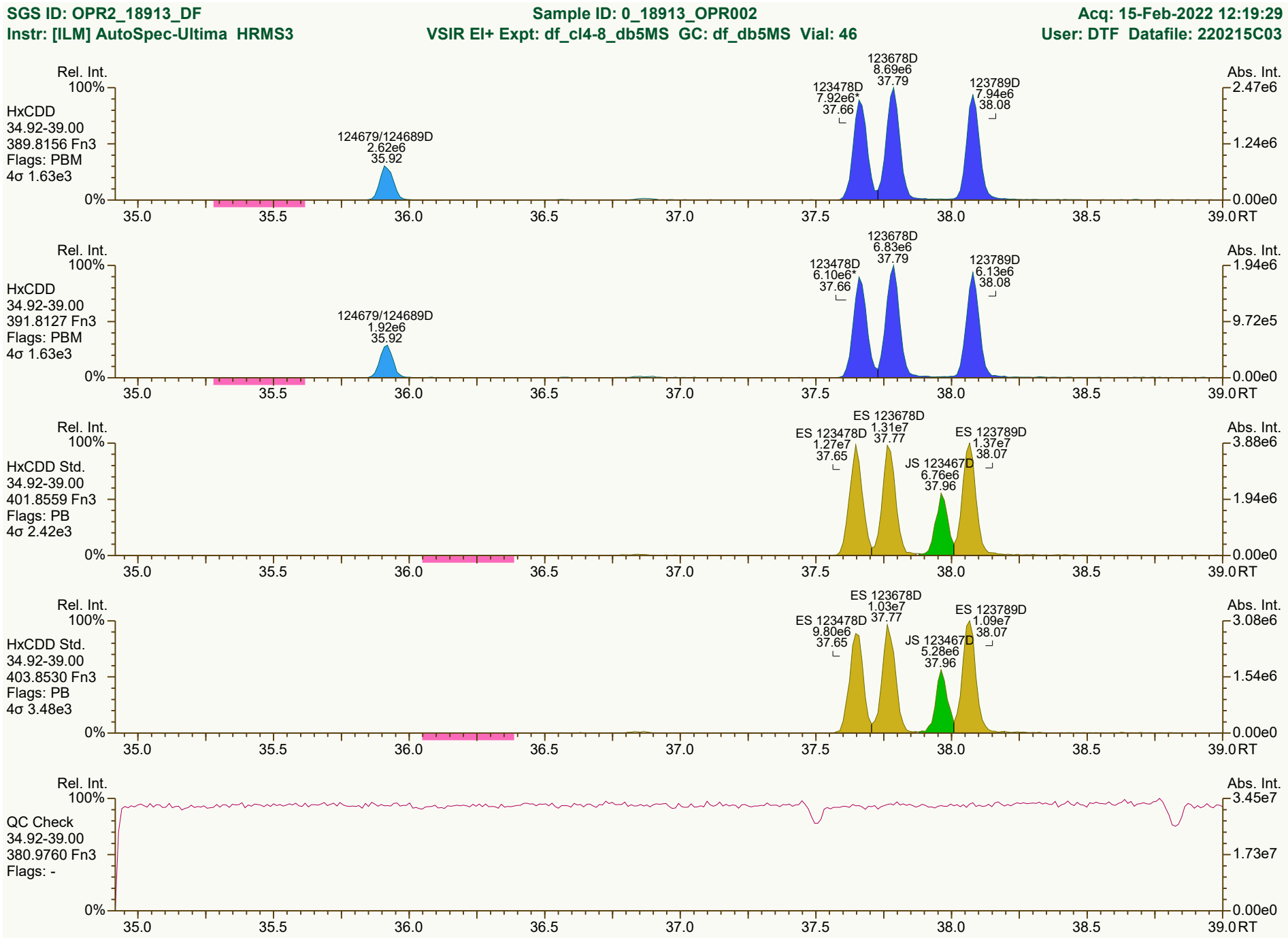
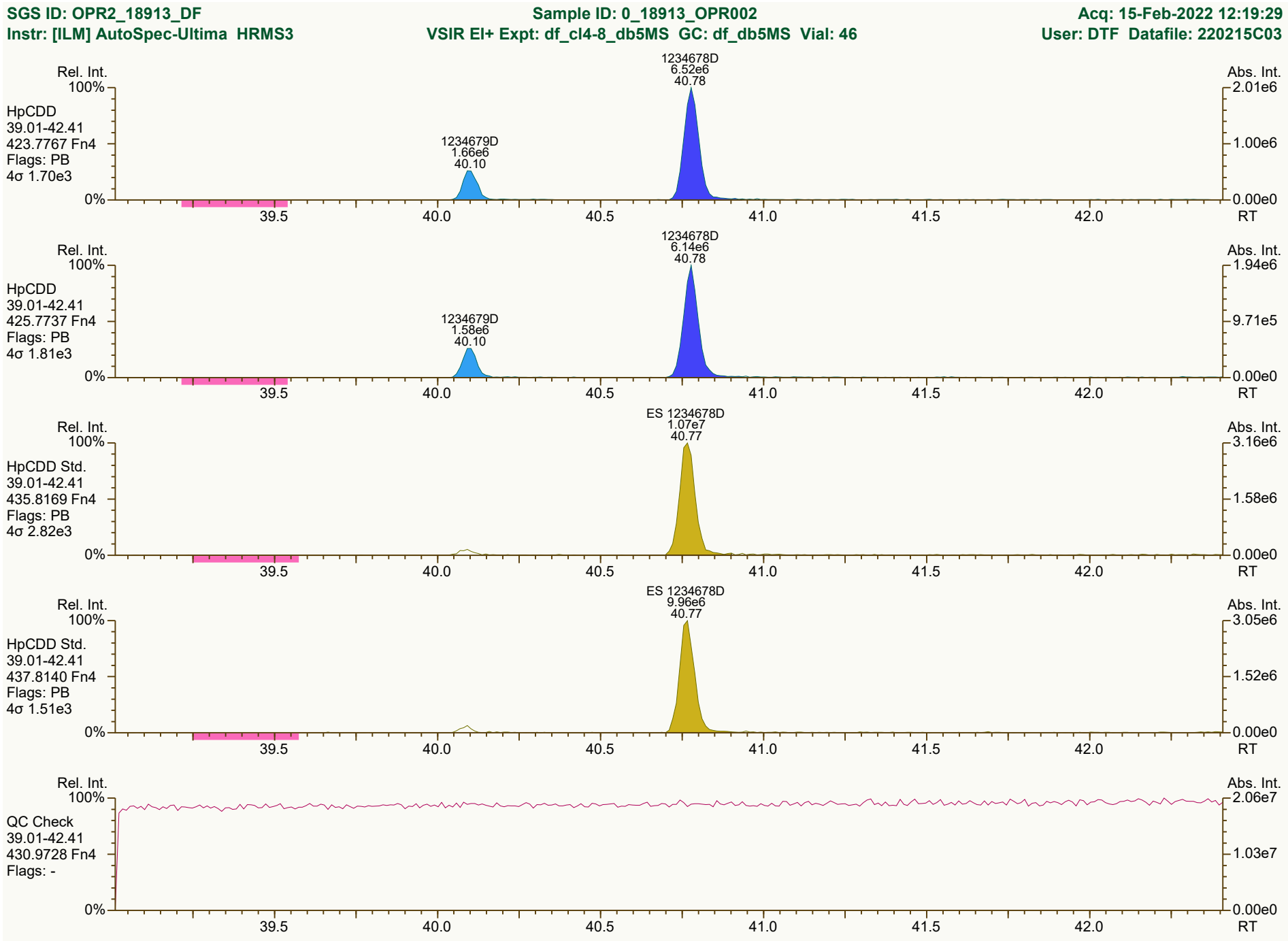
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PB
4σ 2.01e3
12479/12468D
2.35e6
31.23
12378D
8.73e6
33.75
12389D
2.41e6
34.19
Abs. Int.
2.42e6
1.21e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 2.96e3
12479/12468D
1.47e6
31.23
12378D
5.51e6
33.74
12389D
1.48e6
34.19
Abs. Int.
1.55e6
7.74e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 3.33e3
CS 12347D
1.56e7
33.22
ES 12378D
1.59e7
33.73
Abs. Int.
4.90e6
2.45e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.52e3
CS 12347D
9.59e6
33.22
ES 12378D
1.03e7
33.73
Abs. Int.
3.07e6
1.54e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
Abs. Int.
9.20e6
4.60e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT



Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\OPR2_18913_DF.utp_res, saved 16-Feb-2022 17:10 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7623, 1066 scc: 443-398
PKD: 15-Feb-2022 15:43 Printed: 17-Feb-2022 13:47 Page 4 of 12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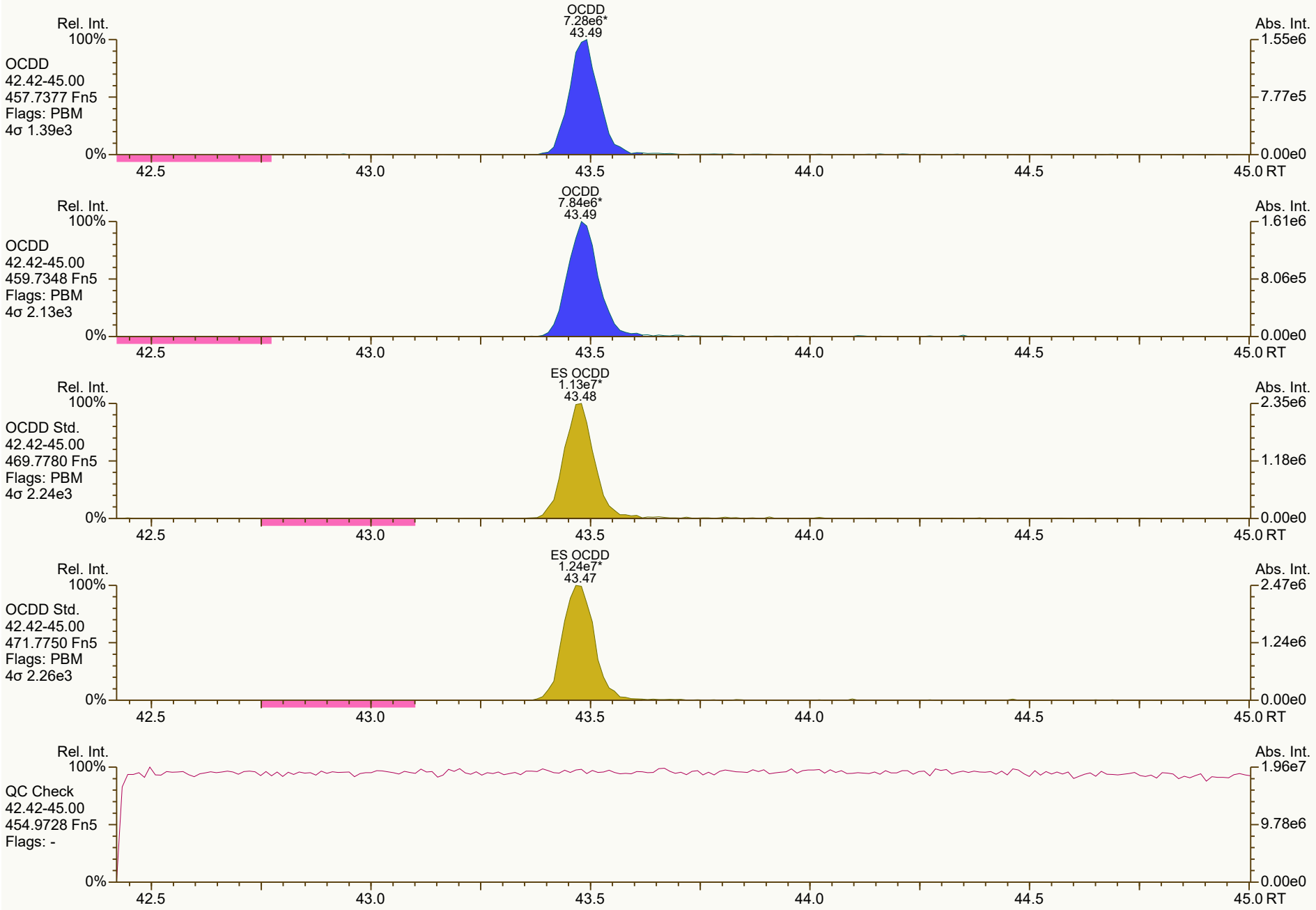
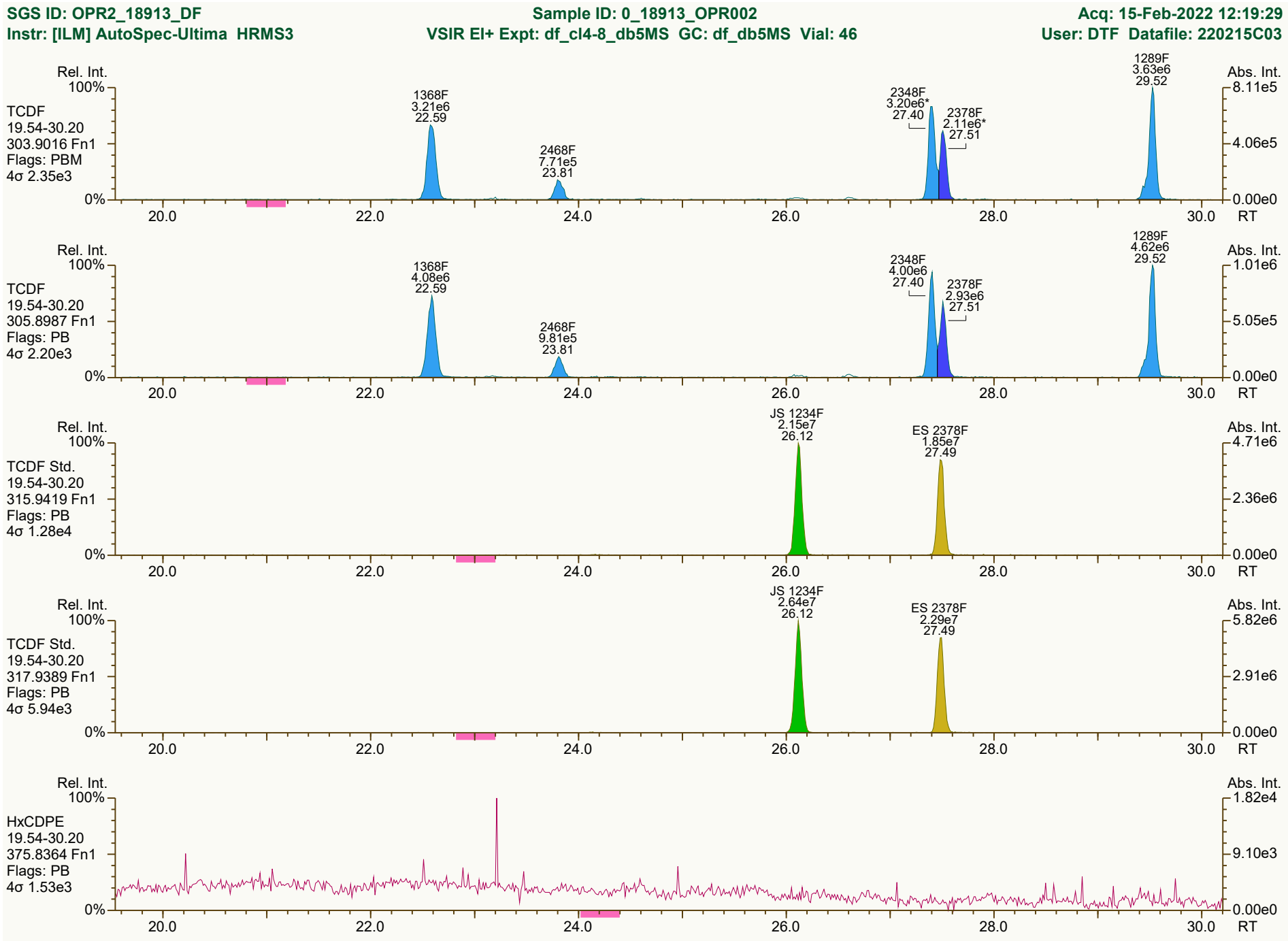
Sample ID: 0_18913_OPR002
Acq: 15-Feb-2022 12:19:29
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46
User: DTF Datafile: 220215C03
Rel. Int.
Abs. Int.
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 1.70e3
1234678D
6.52e6
40.78
1234679D
1.66e6
40.10
2.01e6
1.00e6
0.00e0
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.81e3
1234678D
6.14e6
40.78
1234679D
1.58e6
40.10
1.94e6
9.71e5
0.00e0
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.82e3
ES 1234678D
1.07e7
40.77
3.16e6
1.58e6
0.00e0
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.51e3
ES 1234678D
9.96e6
40.77
3.05e6
1.52e6
0.00e0
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
2.06e7
1.03e7
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\OPR2_18913_DF.utp_res, saved 16-Feb-2022 17:10 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5819, 3074 scc: 443-398
Revised: 15-Feb-2022 15:41 (DTF) Printed: 17-Feb-2022 13:47 Page 5 of 12


OCDD
7.28e6*
43.49
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.39e3
0%
Abs. Int.
1.55e6
7.77e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
7.84e6*
43.49
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 2.13e3
1.61e6
8.06e5
ES OCDD
1.13e7*
43.48
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 2.24e3
2.35e6
1.18e6
ES OCDD
1.24e7*
43.47
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 2.26e3
2.47e6
1.24e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
1.96e7
9.78e6



Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\OPR2_18913_DF.utp_res, saved 16-Feb-2022 17:10 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6168, 4933, 5567 scc: 443-398
PKD: 15-Feb-2022 15:43 Printed: 17-Feb-2022 13:47 Page 7 of 12

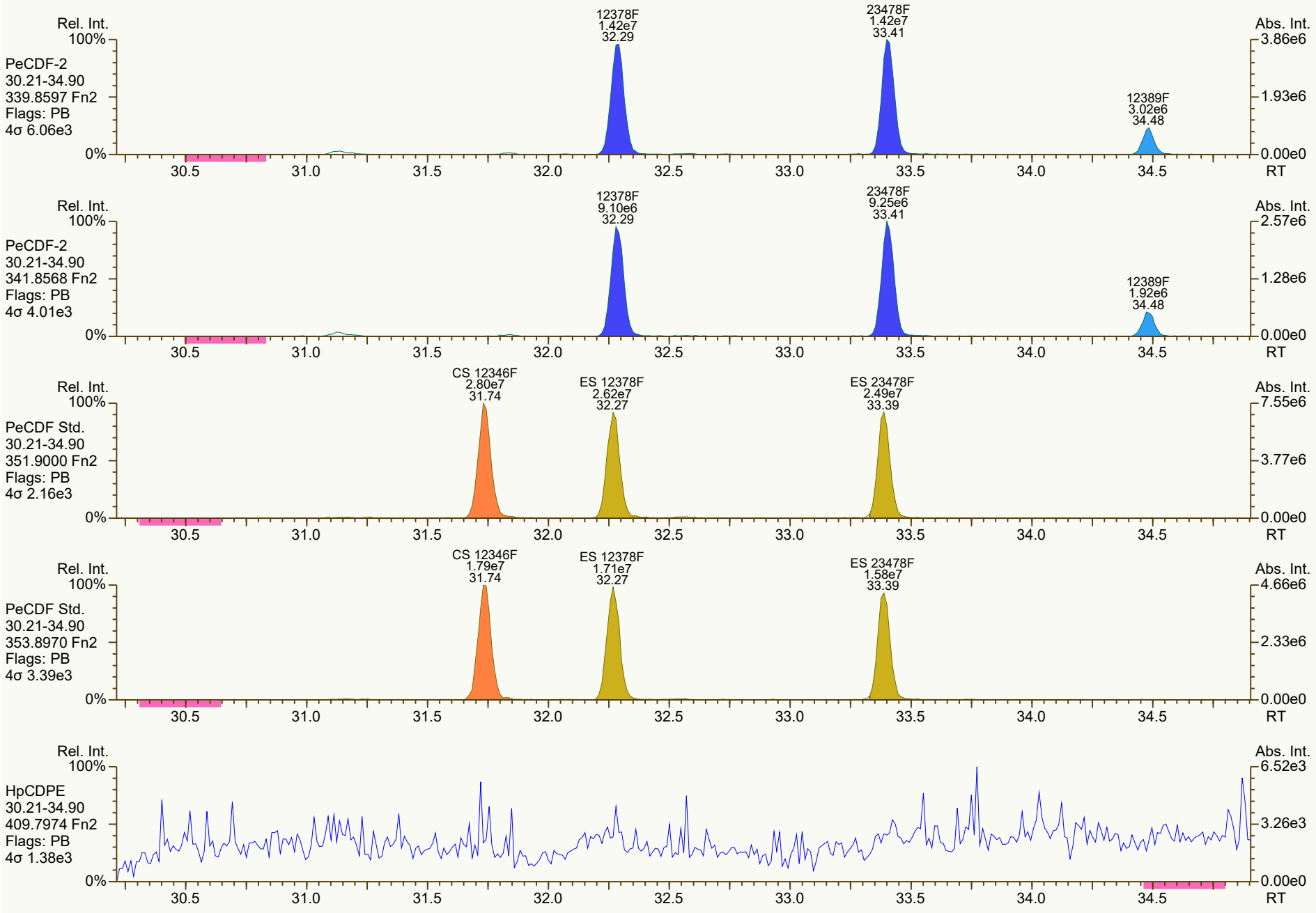
SGS ID: OPR2_18913_DF
Sample ID: 0_18913_OPR002
Acq: 15-Feb-2022 12:19:29
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46
User: DTF Datafile: 220215C03



Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\OPR2_18913_DF.utp_res, saved 16-Feb-2022 17:10 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2215 scc: 443-398
PKD: 15-Feb-2022 15:41 Printed: 17-Feb-2022 13:47 Page 8 of 12

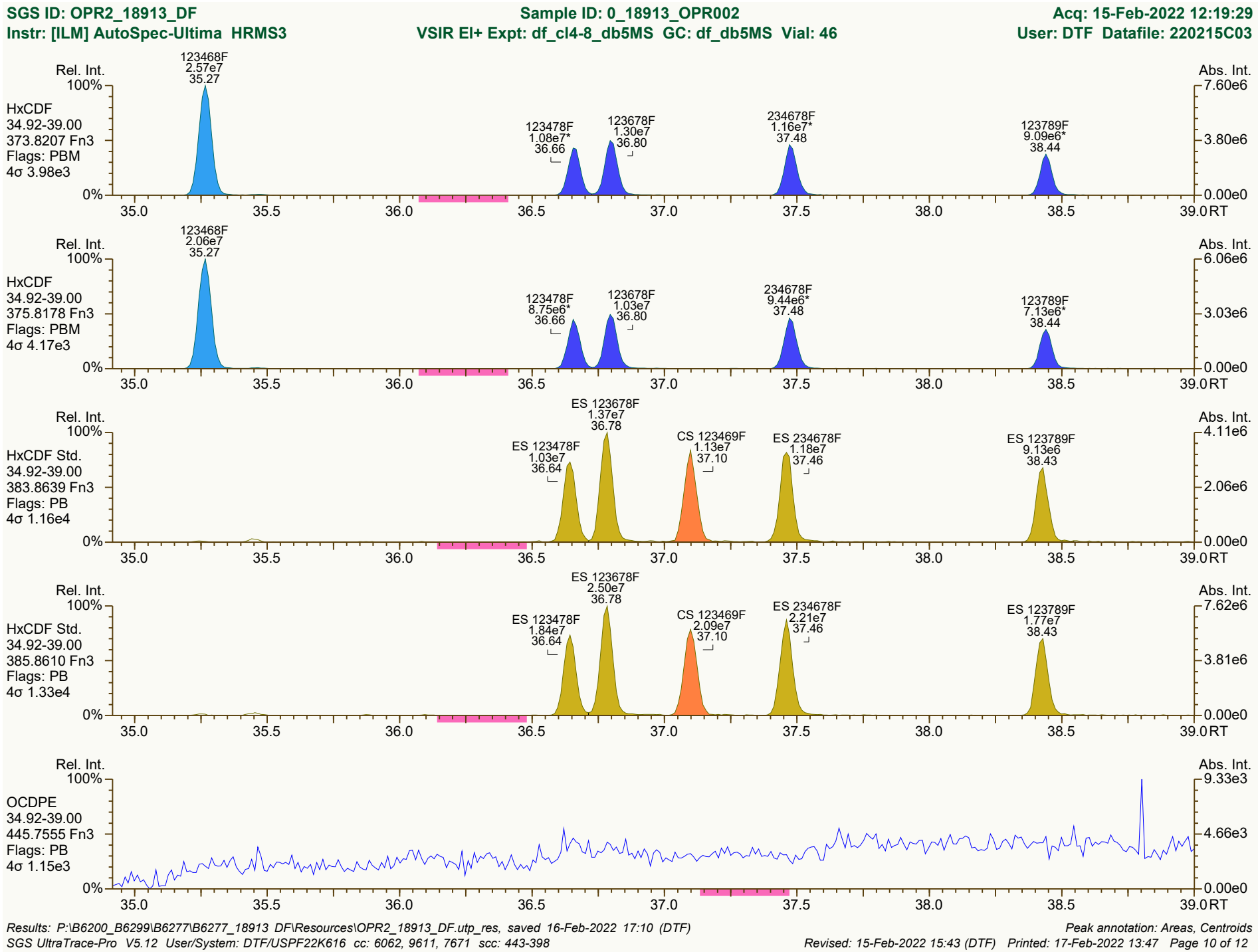
SGS ID: OPR2_18913_DF | Sample ID: 0_18913_OPR002 | Acq: 15-Feb-2022 12:19:29

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46 | User: DTF Datafile: 220215C03



Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\OPR2_18913_DF.utp_res, saved 16-Feb-2022 17:10 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2526, 8207, 1805 scc: 443-398 | *PKD: 15-Feb-2022 15:43 Printed: 17-Feb-2022 13:47 Page 9 of 12*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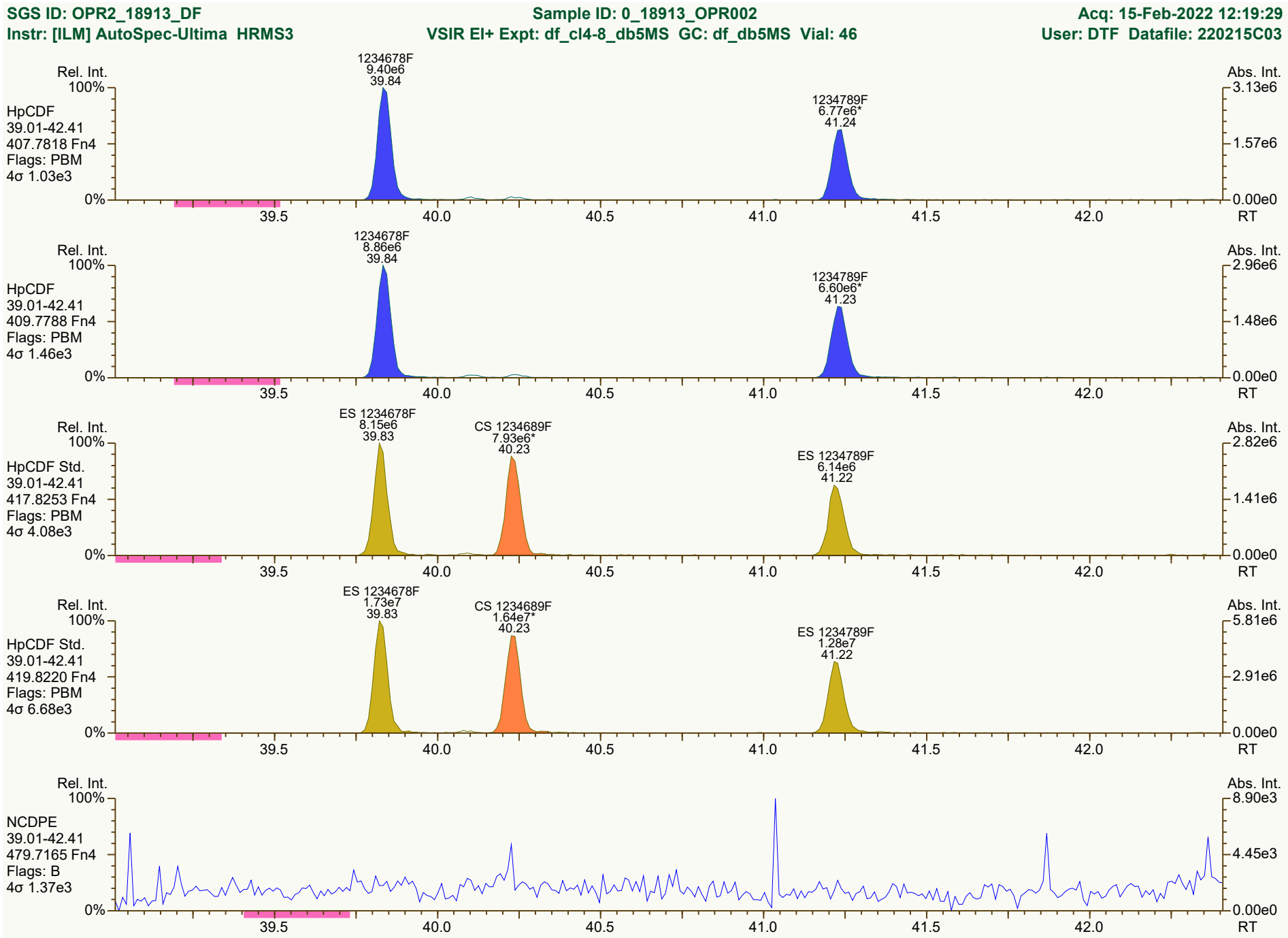
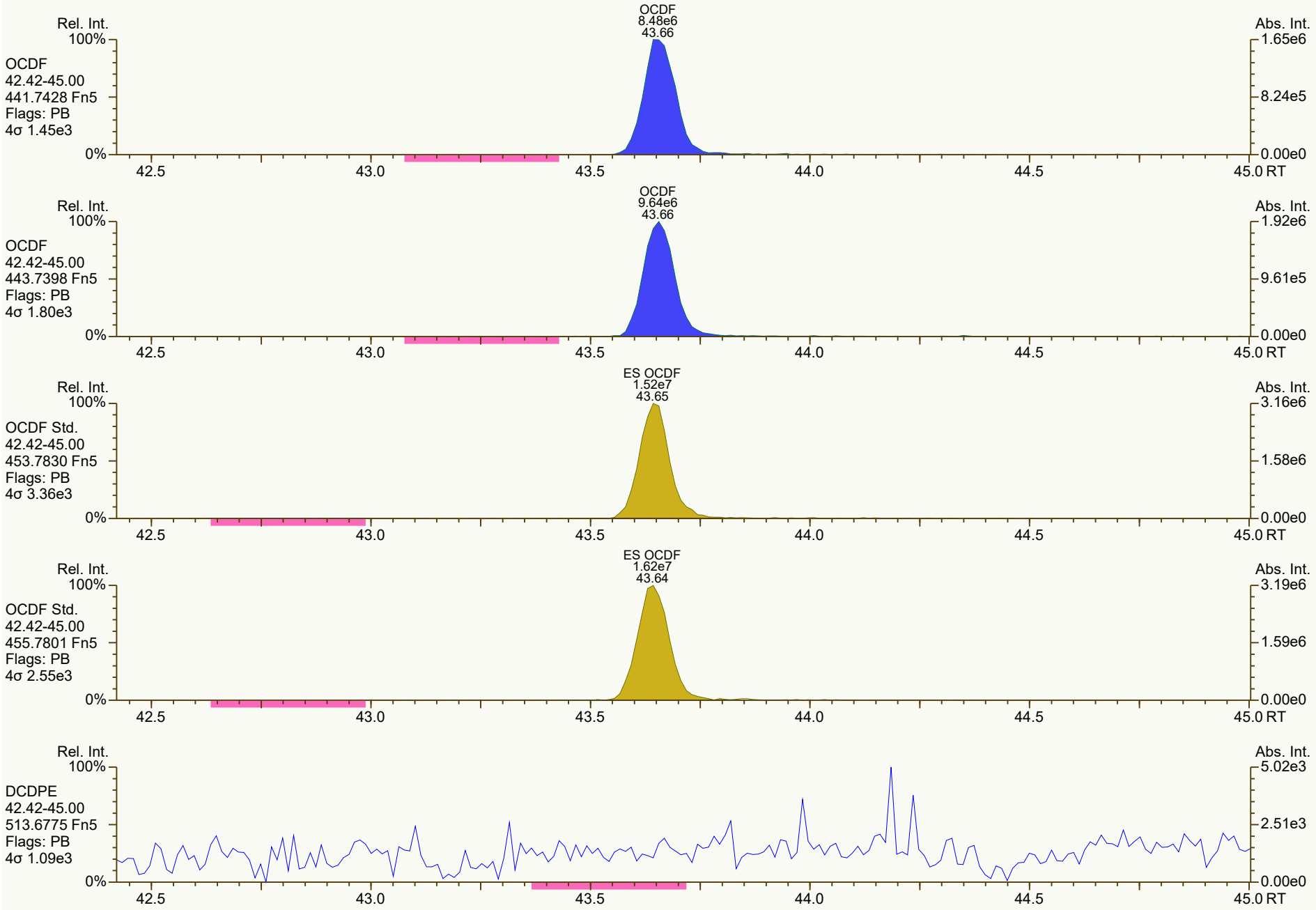
Sample ID: 0_18913_OPR002
Acq: 15-Feb-2022 12:19:29
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46
User: DTF Datafile: 220215C03
Rel. Int.
Abs. Int.
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 3.98e3
123468F
2.57e7
35.27
123478F
1.08e7*
36.66
123678F
1.30e7
36.80
234678F
1.16e7*
37.48
123789F
9.09e6*
38.44
7.60e6
3.80e6
0.00e0
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 4.17e3
123468F
2.06e7
35.27
123478F
8.75e6*
36.66
123678F
1.03e7
36.80
234678F
9.44e6*
37.48
123789F
7.13e6*
38.44
6.06e6
3.03e6
0.00e0
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 1.16e4
ES 123678F
1.37e7
36.78
ES 123478F
1.03e7
36.64
CS 123469F
1.13e7
37.10
ES 234678F
1.18e7
37.46
ES 123789F
9.13e6
38.43
4.11e6
2.06e6
0.00e0
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 1.33e4
ES 123678F
2.50e7
36.78
ES 123478F
1.84e7
36.64
CS 123469F
2.09e7
37.10
ES 234678F
2.21e7
37.46
ES 123789F
1.77e7
38.43
7.62e6
3.81e6
0.00e0
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.15e3
9.33e3
4.66e3
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\OPR2_18913_DF.utp_res, saved 16-Feb-2022 17:10 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6062, 9611, 7671 scc: 443-398
Revised: 15-Feb-2022 15:43 (DTF) Printed: 17-Feb-2022 13:47 Page 10 of 12



Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\OPR2_18913_DF.utp_res, saved 16-Feb-2022 17:10 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6486, 3017, 4338 scc: 443-398
Revised: 15-Feb-2022 15:43 (DTF) Printed: 17-Feb-2022 13:47 Page 11 of 12

SGS ID: OPR2_18913_DF | Sample ID: 0_18913_OPR002 | Acq: 15-Feb-2022 12:19:29
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46 | User: DTF Datafile: 220215C03



Results: P:\B6200_B6299\B6277\B6277_18913 DF\Resources\OPR2_18913_DF.utp_res, saved 16-Feb-2022 17:10 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3462, 5764, 4716 scc: 443-398
PKD: 15-Feb-2022 15:41 Printed: 17-Feb-2022 13:47 Page 12 of 12



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6234

28-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

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This report is approved by

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Senior Project Manager

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Results reported relate only to the items tested.

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

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6234
Analytical Protocol(s)	1613B
No. Samples Submitted	9
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	26-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	0.2, 0.0
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

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

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

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.14.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

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

Data processing uses proprietary software.

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

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

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

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

Continuing Calibration meets requirements, except for the following: the reported percent deviation of CS 1,2,3,4,6,8,9-HpCDF is above SOP criteria. There is no method specified criteria for these standards and no adverse impact on results.

No re-extractions or dilutions were required.

B6234_005: the reported ion ratio of labeled standard ES 1,2,3,7,8,9-HxCDD is outside method criteria.

OPR1/OPR2_18872 meet accuracy and precision criteria, except for the following: RPD of 2,3,7,8-TCDF is >20%.

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

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

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

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

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

APPENDIX C: LAB IDENTIFIERS

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

SGS CERTIFICATIONS

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

Rev. 12-Oct-2021

Sample ID: 11215131-020222-S-SB-NC-S-46 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6279	Date Received:	07-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	Lab Sample ID	B6279_18902_DF_001	Date Extracted:	07-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	74.4 %	QC Batch No:	18902	Date Analyzed:	08-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:02:10

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	213				ES 2378-TCDD	86.8	
12378-PeCDD	EMPC		2.2	J	ES 12378-PeCDD	76.4	
123478-HxCDD	ND	0.932			ES 123478-HxCDD	86.2	
123678-HxCDD	4.29				ES 123678-HxCDD	89.6	
123789-HxCDD	EMPC		2.42	J	ES 123789-HxCDD	85.3	
1234678-HpCDD	125				ES 1234678-HpCDD	79.5	
OCDD	2,000				ES OCDD	73.6	
2378-TCDF	775				ES 2378-TCDF	84.5	
12378-PeCDF	23.3				ES 12378-PeCDF	85.4	
23478-PeCDF	20.9			PR	ES 23478-PeCDF	85.6	
123478-HxCDF	39.4				ES 123478-HxCDF	89	
123678-HxCDF	9.75				ES 123678-HxCDF	88	
234678-HxCDF	3.45				ES 234678-HxCDF	91.1	
123789-HxCDF	ND	0.776			ES 123789-HxCDF	89.8	
1234678-HpCDF	51.1				ES 1234678-HpCDF	93.1	
1234789-HpCDF	7.56				ES 1234789-HpCDF	84.8	
OCDF	1,230				ES OCDF	75.1	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	76	
Total TCDD	239		240		CS 12347-PeCDD	77.9	
Total PeCDD	6.35		11.6		CS 12346-PeCDF	89.3	
Total HxCDD	66.6		69		CS 123469-HxCDF	96.8	
Total HpCDD	301		301		CS 1234689-HpCDF	95	
Total TCDF	1,470		1,480				
Total PeCDF	80.2		85.4				
Total HxCDF	82		82				
Total HpCDF	99		99				
Total PCDD/Fs	**5,580**		**5,600**				
WHO-2005 TEQs							
TEQ: ND=0	306		308				
TEQ: ND=DL/2	306	1.34	308				
TEQ: ND=DL	306	2.68	308				

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Sample ID: 11215131-020222-S-SB-NC-S-46 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6279	Date Received:	07-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	Lab Sample ID:	B6279_18902_DF_001	Date Extracted:	07-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	74.4 %	QC Batch No.:	18902	Date Analyzed:	08-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:02:10

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.747)		12479/12468D	3.38		124679/124689D	41		1234679D	176	
1379D	(0.747)		12469D	[3.08]		123468D	2.84		1234678D	125	
1369D	(0.747)		12368D	1.16	J	123679/123689D	16.9				
1469D	2.45		12478D	(0.984)		123469D	1.6	J			
1247D...[4]	(0.747)		12379D	(0.984)		123478D	(0.932)				
1378D	1.19		12369D...[3]	1.81	J	123678D	4.29				
1268D	(0.747)		12346/12347D	(0.984)		123467D	(0.923)				
1478D	(0.747)		12378D	[2.2]	J	123789D	[2.42]	J	**Conc.**	301	
1279D	(0.747)		12367D	(0.984)					**EMPC**	301	
1234/1269D	[0.525]		12389D	(0.984)							
1236D	(0.747)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	3.1										
1239D	(0.747)								OCDD	2000	
2378D	213										
1278D	19.6										
1267D	(0.747)										
1289D	(0.747)										
Conc.	239		**Conc.**	6.35		**Conc.**	66.6				
EMPC	240		**EMPC**	11.6		**EMPC**	69				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	306	308
TEQ: ND=DL/2	306	308
TEQ: ND=DL	306	308

	Conc.	EMPC
Total PCDD/Fs	5,580	5,600

Checkcode: 320-704-HHQ

Report Created: 09-Feb-2022 09:01 Analyst: gd

Sample ID: 11215131-020222-S-SB-NC-S-46 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6279	Date Received:	07-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	Lab Sample ID:	B6279_18902_DF_001	Date Extracted:	07-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	74.4 %	QC Batch No.:	18902	Date Analyzed:	08-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:02:10

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.78)		13468/12468F	9.15		123468F	3.05		1234678F	51.1	
1468F	1.64		13678F...[3]	[1.34]	J	124678/134678F	11.8		1234679F	2.8	
2468F	3.3		12368F...[3]	15		134679F	(0.753)		1234689F	37.6	
1346/1246F	0.748		14678F	(0.805)		124679F	(0.753)		1234789F	7.56	
1347F...[3]	8.76		13479F	(0.805)		124689F	10.7				
1348F	[2.12]		13469/12479F	(0.805)		123467F	1.02	J			
1248F...[3]	35.2		12346F	(0.805)		123478F	39.4				
1268F	12.8		23468/12469F	2.31	J	123678F	9.75				
1467F	[1.98]		12347F	0.854	J	123479F	(0.753)				
1478F	32		12348F	[2.83]		123469F	(0.753)				
1369/1237F	7.67		12378F	23.3		123679F	(0.753)				
2467F	1.39		12678/12367F	8.67		234678F	3.45		**Conc.**	99	
2368F	22.3		12379F	(0.805)		234678/123689F	0		**EMPC**	99	
1238F...[5]	32.7		12679F	(0.805)		123689F	(0.753)				
1278F	340		23467/12369F	(0.805)		123789F	(0.776)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.78)		23478F	20.9	PR	123789/123489F	0			**(pg/g)**	
1267F	18.1		23478/12489F	0		123489F	2.95		OCDF	1230	
2346/1249F	[1.96]		12489F	(0.805)							
2347/1279F	8.43		12349F	(0.805)							
2348F	43.1		12389F	[1.11]	J						
2378F	775										
2367/3467F	63.1										
1269F	10.8										
1239F	(0.78)										
1289F	56.9										
Conc.	1,470		**Conc.**	80.2		**Conc.**	82				
EMPC	1,480		**EMPC**	85.4		**EMPC**	82				

Checkcode: 320-704-HHQ

Report Created: 09-Feb-2022 09:01 Analyst: gd

Sample ID: 11215131-020222-S-SB-NC-S-46 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6279_18902_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	QC Batch No.:	18902
Date Collected:	02-Feb-2022	Split:	-	Date Extracted:	07-Feb-2022
Date Received:	07-Feb-2022	Dilution:	-	Date Analyzed:	08-Feb-2022 22:02
Lab Project No:	B6279	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	213		0.747	213	213	213
12378-PeCDD	[2.2]	J	0.984	[1.1]	[2.2]	[2.2]
123478-HxCDD	(0.932)		0.932	(0.0932)	(0.0932)	(0.0932)
123678-HxCDD	4.29		0.969	0.429	0.429	0.429
123789-HxCDD	[2.42]	J	0.874	[0.242]	[0.242]	[0.242]
1234678-HpCDD	125		0.928	1.25	1.25	1.25
OCDD	2000		1.44	2	0.2	0.6
2378-TCDF	775		0.78	77.5	77.5	77.5
12378-PeCDF	23.3		0.787	1.16	1.16	0.699
23478-PeCDF	20.9	PR	0.824	10.4	10.4	6.26
123478-HxCDF	39.4		0.765	3.94	3.94	3.94
123678-HxCDF	9.75		0.754	0.975	0.975	0.975
234678-HxCDF	3.45		0.72	0.345	0.345	0.345
123789-HxCDF	(0.776)		0.776	(0.0776)	(0.0776)	(0.0776)
1234678-HpCDF	51.1		0.631	0.511	0.511	0.511
1234789-HpCDF	7.56		0.638	0.0756	0.0756	0.0756
OCDF	1230		1.13	1.23	0.123	0.369

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TEQ Summaries			
EMPC = 0, ND = 0	313	310	306
EMPC = 0, ND = DL / 2	313	310	306
EMPC = 0, ND = DL	313	310	306
EMPC = 0, < J-level = 0	313	310	306
EMPC = EMPC, ND = 0	314	312	308
EMPC = EMPC, ND = DL / 2	314	312	308
EMPC = EMPC, ND = DL	314	312	308
EMPC = EMPC, < J-level = 0	313	310	306

Checkcode: 320-704-HHQ

Sample ID: 11215131-020222-S-SB-NC-S-45 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6279	Date Received:	07-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID	B6279_18902_DF_002	Date Extracted:	07-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	58.3 %	QC Batch No:	18902	Date Analyzed:	08-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:49:43

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	88.7				ES 2378-TCDD	80.5	
12378-PeCDD	1.9			J	ES 12378-PeCDD	71.7	
123478-HxCDD	2.12			J	ES 123478-HxCDD	77.2	
123678-HxCDD	7.11				ES 123678-HxCDD	77.3	
123789-HxCDD	4.28				ES 123789-HxCDD	74	
1234678-HpCDD	279				ES 1234678-HpCDD	65.2	
OCDD	3,390				ES OCDD	50.9	
2378-TCDF	339				ES 2378-TCDF	76	
12378-PeCDF	14.4				ES 12378-PeCDF	76	
23478-PeCDF	12			PR	ES 23478-PeCDF	76.4	
123478-HxCDF	23.2				ES 123478-HxCDF	77.7	
123678-HxCDF	6.5				ES 123678-HxCDF	75.7	
234678-HxCDF	3.52				ES 234678-HxCDF	74.7	
123789-HxCDF	ND	0.66			ES 123789-HxCDF	72.9	
1234678-HpCDF	40.7				ES 1234678-HpCDF	73.5	
1234789-HpCDF	4.22				ES 1234789-HpCDF	72.5	
OCDF	170				ES OCDF	52.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	69.7	
Total TCDD	92		101		CS 12347-PeCDD	73.5	
Total PeCDD	8.34		11.7		CS 12346-PeCDF	80.9	
Total HxCDD	82.4		83.7		CS 123469-HxCDF	82.3	
Total HpCDD	663		663		CS 1234689-HpCDF	76.7	
Total TCDF	656		663				
Total PeCDF	59.3		62.3				
Total HxCDF	70.8		72.8				
Total HpCDF	115		115				
Total PCDD/Fs	**5,310**		**5,330**				
WHO-2005 TEQs							
TEQ: ND=0	137		137				
TEQ: ND=DL/2	138	1.19	138				
TEQ: ND=DL	138	2.38	138				

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Sample ID: 11215131-020222-S-SB-NC-S-45 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6279	Date Received:	07-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6279_18902_DF_002	Date Extracted:	07-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	58.3 %	QC Batch No.:	18902	Date Analyzed:	08-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:49:43

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[1.01]		12479/12468D	[2.57]		124679/124689D	35		1234679D	384	
1379D	(0.687)		12469D	1.97	J	123468D	3.67		1234678D	279	
1369D	(0.687)		12368D	1.32	J	123679/123689D	27.1				
1469D	1.49		12478D	1.31	J	123469D	3.03				
1247D...[4]	(0.687)		12379D	[0.807]	J	123478D	2.12	J			
1378D	(0.687)		12369D...[3]	1.85	J	123678D	7.11				
1268D	(0.687)		12346/12347D	(0.848)		123467D	[1.28]	J			
1478D	(0.687)		12378D	1.9	J	123789D	4.28		**Conc.**	663	
1279D	(0.687)		12367D	(0.848)					**EMPC**	663	
1234/1269D	(0.687)		12389D	(0.848)							
1236D	(0.687)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	1.89										
1239D	(0.687)								OCDD	3390	
2378D	88.7										
1278D	[7.92]										
1267D	(0.687)										
1289D	(0.687)										
Conc.	92		**Conc.**	8.34		**Conc.**	82.4				
EMPC	101		**EMPC**	11.7		**EMPC**	83.7				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	137	137
TEQ: ND=DL/2	138	138
TEQ: ND=DL	138	138

	Conc.	EMPC
Total PCDD/Fs	5,310	5,330

Checkcode: 252-399-BZY

Report Created: 09-Feb-2022 09:01 Analyst: gd

Sample ID: 11215131-020222-S-SB-NC-S-45 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6279	Date Received:	07-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6279_18902_DF_002	Date Extracted:	07-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	58.3 %	QC Batch No.:	18902	Date Analyzed:	08-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:49:43

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.831)		13468/12468F	13.2		123468F	4.21		1234678F	40.7	
1468F	[1.13]		13678F...[3]	1.83	J	124678/134678F	15.9		1234679F	1.4	J
2468F	3.21		12368F...[3]	13		134679F	(0.551)		1234689F	68.8	
1346/1246F	[0.887]		14678F	(0.79)		124679F	0.865	J	1234789F	4.22	
1347F...[3]	4.72		13479F	(0.79)		124689F	15.6				
1348F	1.37		13469/12479F	(0.79)		123467F	1.11	J			
1248F...[3]	15.2		12346F	(0.79)		123478F	23.2				
1268F	6.19		23468/12469F	[1.76]	J	123678F	6.5				
1467F	[0.812]		12347F	(0.79)		123479F	(0.551)				
1478F	13.5		12348F	[1.18]	J	123469F	(0.551)				
1369/1237F	3.1		12378F	14.4		123679F	(0.551)				
2467F	0.933		12678/12367F	4.96		234678F	3.52		**Conc.**	115	
2368F	14		12379F	(0.79)		234678/123689F	0		**EMPC**	115	
1238F...[5]	13.1		12679F	(0.79)		123689F	(0.551)				
1278F	147		23467/12369F	(0.79)		123789F	(0.66)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.831)		23478F	12	PR	123789/123489F	0				
1267F	8.43		23478/12489F	0		123489F	[1.96]	J	OCDF	170	
2346/1249F	(0.831)		12489F	(0.79)							
2347/1279F	3.99		12349F	(0.79)							
2348F	25.9		12389F	(0.79)							
2378F	339										
2367/3467F	29.2										
1269F	[4.18]										
1239F	(0.831)										
1289F	26.8										
Conc.	656		**Conc.**	59.3		**Conc.**	70.8				
EMPC	663		**EMPC**	62.3		**EMPC**	72.8				

Checkcode: 252-399-BZY

Report Created: 09-Feb-2022 09:01 Analyst: gd

Sample ID: 11215131-020222-S-SB-NC-S-45 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6279_18902_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	QC Batch No.:	18902
Date Collected:	02-Feb-2022	Split:	-	Date Extracted:	07-Feb-2022
Date Received:	07-Feb-2022	Dilution:	-	Date Analyzed:	08-Feb-2022 22:49
Lab Project No:	B6279	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	88.7		0.687	88.7	88.7	88.7
12378-PeCDD	1.9	J	0.848	0.948	1.9	1.9
123478-HxCDD	2.12	J	0.946	0.212	0.212	0.212
123678-HxCDD	7.11		0.888	0.711	0.711	0.711
123789-HxCDD	4.28		0.847	0.428	0.428	0.428
1234678-HpCDD	279		0.904	2.79	2.79	2.79
OCDD	3390		1.46	3.39	0.339	1.02
2378-TCDF	339		0.831	33.9	33.9	33.9
12378-PeCDF	14.4		0.812	0.718	0.718	0.431
23478-PeCDF	12	PR	0.768	6.02	6.02	3.61
123478-HxCDF	23.2		0.534	2.32	2.32	2.32
123678-HxCDF	6.5		0.5	0.65	0.65	0.65
234678-HxCDF	3.52		0.527	0.352	0.352	0.352
123789-HxCDF	(0.66)		0.66	(0.066)	(0.066)	(0.066)
1234678-HpCDF	40.7		0.538	0.407	0.407	0.407
1234789-HpCDF	4.22		0.596	0.0422	0.0422	0.0422
OCDF	170		1.24	0.17	0.017	0.051

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TEQ Summaries			
EMPC = 0, ND = 0	142	139	137
EMPC = 0, ND = DL / 2	142	140	138
EMPC = 0, ND = DL	142	140	138
EMPC = 0, < J-level = 0	141	137	135
EMPC = EMPC, ND = 0	142	139	137
EMPC = EMPC, ND = DL / 2	142	140	138
EMPC = EMPC, ND = DL	142	140	138
EMPC = EMPC, < J-level = 0	141	137	135

Checkcode: 252-399-BZY

Sample ID: 11215131-020222-S-SB-NC-S-44 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6279	Date Received:	07-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID	B6279_18902_DF_003	Date Extracted:	07-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	78.5 %	QC Batch No:	18902	Date Analyzed:	08-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:37:14

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	743				ES 2378-TCDD	81.9	
12378-PeCDD	9.29				ES 12378-PeCDD	71.9	
123478-HxCDD	ND	0.841			ES 123478-HxCDD	79.8	
123678-HxCDD	3.48				ES 123678-HxCDD	76.8	
123789-HxCDD	1.81			J	ES 123789-HxCDD	76.9	
1234678-HpCDD	116				ES 1234678-HpCDD	69.8	
OCDD	1,900				ES OCDD	62.6	
2378-TCDF	2,540			E	ES 2378-TCDF	83.3	
12378-PeCDF	201				ES 12378-PeCDF	81.9	
23478-PeCDF	109			PR	ES 23478-PeCDF	84.9	
123478-HxCDF	406				ES 123478-HxCDF	77.6	
123678-HxCDF	88.8				ES 123678-HxCDF	76.3	
234678-HxCDF	18.8				ES 234678-HxCDF	76.3	
123789-HxCDF	ND	0.867			ES 123789-HxCDF	78.1	
1234678-HpCDF	120				ES 1234678-HpCDF	79.8	
1234789-HpCDF	48				ES 1234789-HpCDF	73.9	
OCDF	118				ES OCDF	63.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	75.1	
Total TCDD	820		824		CS 12347-PeCDD	78.7	
Total PeCDD	9.29		11.1		CS 12346-PeCDF	83.9	
Total HxCDD	33.1		33.1		CS 123469-HxCDF	87.4	
Total HpCDD	276		276		CS 1234689-HpCDF	83.8	
Total TCDF	4,940		4,950				
Total PeCDF	468		469				
Total HxCDF	599		599				
Total HpCDF	221		223				
Total PCDD/Fs	**9,390**		**9,400**				
WHO-2005 TEQs							
TEQ: ND=0	1100		1100				
TEQ: ND=DL/2	1100	1.38	1100				
TEQ: ND=DL	1100	2.75	1100				

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Sample ID: 11215131-020222-S-SB-NC-S-44 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6279	Date Received:	07-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID:	B6279_18902_DF_003	Date Extracted:	07-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	78.5 %	QC Batch No.:	18902	Date Analyzed:	08-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:37:14

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.758)		12479/12468D	[1.79]	J	124679/124689D	16.2		1234679D	160	
1379D	(0.758)		12469D	(1.09)		123468D	1.76	J	1234678D	116	
1369D	(0.758)		12368D	(1.09)		123679/123689D	9.89				
1469D	1.39		12478D	(1.09)		123469D	(0.817)				
1247D...[4]	[1.23]		12379D	(1.09)		123478D	(0.841)				
1378D	[1.57]		12369D...[3]	(1.09)		123678D	3.48				
1268D	(0.758)		12346/12347D	(1.09)		123467D	(0.817)				
1478D	1.71		12378D	9.29		123789D	1.81	J	**Conc.**	276	
1279D	(0.758)		12367D	(1.09)					**EMPC**	276	
1234/1269D	(0.758)		12389D	(1.09)							
1236D	(0.758)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	10.8										
1239D	(0.758)								OCDD	1900	
2378D	743										
1278D	63.1										
1267D	(0.758)										
1289D	[1.17]										
Conc.	820		**Conc.**	9.29		**Conc.**	33.1				
EMPC	824		**EMPC**	11.1		**EMPC**	33.1				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	1,100	1,100
TEQ: ND=DL/2	1,100	1,100
TEQ: ND=DL	1,100	1,100

	Conc.	EMPC
Total PCDD/Fs	9,390	9,400

Checkcode: 667-591-QDH

Report Created: 09-Feb-2022 09:01 Analyst: gd

Sample ID: 11215131-020222-S-SB-NC-S-44 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6279	Date Received:	07-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID:	B6279_18902_DF_003	Date Extracted:	07-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	78.5 %	QC Batch No.:	18902	Date Analyzed:	08-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:37:14

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.866)		13468/12468F	7.31		123468F	3.43		1234678F	120	
1468F	2.99		13678F...[3]	1.99	J	124678/134678F	31.6		1234679F	[1.85]	J
2468F	3.31		12368F...[3]	74.9		134679F	(0.768)		1234689F	53.7	
1346/1246F	2.15		14678F	[1.52]	J	124679F	(0.768)		1234789F	48	
1347F...[3]	24.4		13479F	(0.768)		124689F	17.5				
1348F	6.29		13469/12479F	(0.768)		123467F	1.85	J			
1248F...[3]	111		12346F	(0.768)		123478F	406				
1268F	36.5		23468/12469F	4.46		123678F	88.8				
1467F	[4.49]		12347F	(0.768)		123479F	(0.768)				
1478F	95.8		12348F	11.9		123469F	(0.768)				
1369/1237F	24.6		12378F	201		123679F	(0.768)				
2467F	3.05		12678/12367F	49.6		234678F	18.8		**Conc.**	221	
2368F	70.8		12379F	(0.768)		234678/123689F	0		**EMPC**	223	
1238F...[5]	115		12679F	(0.768)		123689F	(0.768)				
1278F	1170	E	23467/12369F	1.8	J	123789F	(0.867)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.866)		23478F	109	PR	123789/123489F	0				
1267F	58.6		23478/12489F	0		123489F	31		OCDF	118	
2346/1249F	6.8		12489F	(0.768)							
2347/1279F	26.1		12349F	(0.768)							
2348F	220		12389F	5.12							
2378F	2540	E									
2367/3467F	191										
1269F	34.9										
1239F	2.72										
1289F	198										
Conc.	4,940		**Conc.**	468		**Conc.**	599				
EMPC	4,950		**EMPC**	469		**EMPC**	599				

Checkcode: 667-591-QDH

Report Created: 09-Feb-2022 09:01 Analyst: gd

Sample ID: 11215131-020222-S-SB-NC-S-44 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6279_18902_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	QC Batch No.:	18902
Date Collected:	02-Feb-2022	Split:	-	Date Extracted:	07-Feb-2022
Date Received:	07-Feb-2022	Dilution:	-	Date Analyzed:	08-Feb-2022 23:37
Lab Project No:	B6279	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	743		0.758	743	743	743
12378-PeCDD	9.29		1.09	4.65	9.29	9.29
123478-HxCDD	(0.841)		0.841	(0.0841)	(0.0841)	(0.0841)
123678-HxCDD	3.48		0.853	0.348	0.348	0.348
123789-HxCDD	1.81	J	0.763	0.181	0.181	0.181
1234678-HpCDD	116		0.774	1.16	1.16	1.16
OCDD	1900		1.71	1.9	0.19	0.569
2378-TCDF	2540	E	0.866	254	254	254
12378-PeCDF	201		0.789	10.1	10.1	6.04
23478-PeCDF	109	PR	0.747	54.6	54.6	32.7
123478-HxCDF	406		0.746	40.6	40.6	40.6
123678-HxCDF	88.8		0.698	8.88	8.88	8.88
234678-HxCDF	18.8		0.774	1.88	1.88	1.88
123789-HxCDF	(0.867)		0.867	(0.0867)	(0.0867)	(0.0867)
1234678-HpCDF	120		0.613	1.2	1.2	1.2
1234789-HpCDF	48		0.742	0.48	0.48	0.48
OCDF	118		1.15	0.118	0.0118	0.0354

TEQ Summaries

EMPC = 0, ND = 0	1120	1130	1100
EMPC = 0, ND = DL / 2	1120	1130	1100
EMPC = 0, ND = DL	1120	1130	1100
EMPC = 0, < J-level = 0	1120	1130	1100
EMPC = EMPC, ND = 0	1120	1130	1100
EMPC = EMPC, ND = DL / 2	1120	1130	1100
EMPC = EMPC, ND = DL	1120	1130	1100
EMPC = EMPC, < J-level = 0	1120	1130	1100

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Checkcode: 667-591-QDH

Sample ID: Method Blank B6279_18902

Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6279	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18902_DF_SDS	Date Extracted:	07-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18902	Date Analyzed:	08-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:27:11

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.571			ES 2378-TCDD	88.3	
12378-PeCDD	ND	0.475			ES 12378-PeCDD	79.2	
123478-HxCDD	ND	0.513			ES 123478-HxCDD	93.7	
123678-HxCDD	ND	0.519			ES 123678-HxCDD	91	
123789-HxCDD	ND	0.481			ES 123789-HxCDD	93.3	
1234678-HpCDD	ND	0.393			ES 1234678-HpCDD	83.9	
OCDD	ND	1.09			ES OCDD	71.2	
2378-TCDF	ND	0.477			ES 2378-TCDF	87.4	
12378-PeCDF	ND	0.366			ES 12378-PeCDF	88.2	
23478-PeCDF	ND	0.387			ES 23478-PeCDF	87.4	
123478-HxCDF	ND	0.408			ES 123478-HxCDF	97.3	
123678-HxCDF	ND	0.407			ES 123678-HxCDF	98	
234678-HxCDF	ND	0.448			ES 234678-HxCDF	95	
123789-HxCDF	ND	0.522			ES 123789-HxCDF	93.5	
1234678-HpCDF	ND	0.344			ES 1234678-HpCDF	97.3	
1234789-HpCDF	ND	0.397			ES 1234789-HpCDF	85.1	
OCDF	ND	0.97			ES OCDF	71.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	78.5	
Total TCDD	ND	0.571	ND		CS 12347-PeCDD	82.1	
Total PeCDD	ND	0.475	ND		CS 12346-PeCDF	89.6	
Total HxCDD	ND	0.503	ND		CS 123469-HxCDF	104	
Total HpCDD	ND	0.393	ND		CS 1234689-HpCDF	102	
Total TCDF	ND	0.477	ND				
Total PeCDF	ND	0.376	ND				
Total HxCDF	ND	0.443	ND				
Total HpCDF	ND	0.368	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	0.781	0.781	0.781				
TEQ: ND=DL	1.56	1.56	1.56				

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Sample ID: Method Blank B6279_18902 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6279	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18902_DF_SDS	Date Extracted:	07-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18902	Date Analyzed:	08-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:27:11

Tetra-Dioxins	Conc. (pg/g)	Qualifiers
1368D	(0.571)	
1379D	(0.571)	
1369D	(0.571)	
1469D	(0.571)	
1247D...[4]	(0.571)	
1378D	(0.571)	
1268D	(0.571)	
1478D	(0.571)	
1279D	(0.571)	
1234/1269D	(0.571)	
1236D	(0.571)	
1237/1238D	(0.571)	
1239D	(0.571)	
2378D	(0.571)	
1278D	(0.571)	
1267D	(0.571)	
1289D	(0.571)	
Conc.	0	
EMPC	0	

Penta-Dioxins	Conc. (pg/g)	Qualifiers
12479/12468D	(0.475)	
12469D	(0.475)	
12368D	(0.475)	
12478D	(0.475)	
12379D	(0.475)	
12369D...[3]	(0.475)	
12346/12347D	(0.475)	
12378D	(0.475)	
12367D	(0.475)	
12389D	(0.475)	
Conc.	0	
EMPC	0	

Hexa-Dioxins	Conc (pg/g)	Qualifiers
124679/124689D	(0.503)	
123468D	(0.503)	
123679/123689D	(0.503)	
123469D	(0.503)	
123478D	(0.513)	
123678D	(0.519)	
123467D	(0.503)	
123789D	(0.481)	
Conc.	0	
EMPC	0	

Hepta-Dioxins	Conc (pg/g)	Qualifiers
1234679D	(0.393)	
1234678D	(0.393)	
Conc.	0	
EMPC	0	

Octa-Dioxin	Conc (pg/g)	Qualifiers
OCDD	(1.09)	

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	0.781	0.781
TEQ: ND=DL	1.56	1.56

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 299-949-KRC

Report Created: 09-Feb-2022 09:01 Analyst: gd

Sample ID: Method Blank B6279_18902 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6279	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18902_DF_SDS	Date Extracted:	07-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18902	Date Analyzed:	08-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:27:11

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.477)		13468/12468F	(0.633)		123468F	(0.443)		1234678F	(0.344)	
1468F	(0.477)		13678F...[3]	(0.376)		124678/134678F	(0.443)		1234679F	(0.368)	
2468F	(0.477)		12368F...[3]	(0.376)		134679F	(0.443)		1234689F	(0.368)	
1346/1246F	(0.477)		14678F	(0.376)		124679F	(0.443)		1234789F	(0.397)	
1347F...[3]	(0.477)		13479F	(0.376)		124689F	(0.443)				
1348F	(0.477)		13469/12479F	(0.376)		123467F	(0.443)				
1248F...[3]	(0.477)		12346F	(0.376)		123478F	(0.408)				
1268F	(0.477)		23468/12469F	(0.376)		123678F	(0.407)				
1467F	(0.477)		12347F	(0.376)		123479F	(0.443)				
1478F	(0.477)		12348F	(0.376)		123469F	(0.443)				
1369/1237F	(0.477)		12378F	(0.366)		123679F	(0.443)				
2467F	(0.477)		12678/12367F	(0.376)		234678F	(0.448)		**Conc.**	0	
2368F	(0.477)		12379F	(0.376)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.477)		12679F	(0.376)		123689F	(0.443)				
1278F	(0.477)		23467/12369F	(0.376)		123789F	(0.522)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.477)		23478F	(0.387)		123789/123489F	0				
1267F	(0.477)		23478/12489F	0		123489F	(0.443)		OCDF	(0.97)	
2346/1249F	(0.477)		12489F	(0.376)							
2347/1279F	(0.477)		12349F	(0.376)							
2348F	(0.477)		12389F	(0.376)							
2378F	(0.477)										
2367/3467F	(0.477)										
1269F	(0.477)										
1239F	(0.477)										
1289F	(0.477)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 299-949-KRC

Report Created: 09-Feb-2022 09:01 Analyst: gd

Sample ID: Method Blank B6279_18902

TEQ Summary

Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18902_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18902
Date Collected:	n/a	Split:	-	Date Extracted:	07-Feb-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	08-Feb-2022 20:27
Lab Project No:	B6279	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.571)		0.571	(0.571)	(0.571)	(0.571)
12378-PeCDD	(0.475)		0.475	(0.237)	(0.475)	(0.475)
123478-HxCDD	(0.513)		0.513	(0.0513)	(0.0513)	(0.0513)
123678-HxCDD	(0.519)		0.519	(0.0519)	(0.0519)	(0.0519)
123789-HxCDD	(0.481)		0.481	(0.0481)	(0.0481)	(0.0481)
1234678-HpCDD	(0.393)		0.393	(0.00393)	(0.00393)	(0.00393)
OCDD	(1.09)		1.09	(0.00109)	(0.000109)	(0.000326)
2378-TCDF	(0.477)		0.477	(0.0477)	(0.0477)	(0.0477)
12378-PeCDF	(0.366)		0.366	(0.0183)	(0.0183)	(0.011)
23478-PeCDF	(0.387)		0.387	(0.193)	(0.193)	(0.116)
123478-HxCDF	(0.408)		0.408	(0.0408)	(0.0408)	(0.0408)
123678-HxCDF	(0.407)		0.407	(0.0407)	(0.0407)	(0.0407)
234678-HxCDF	(0.448)		0.448	(0.0448)	(0.0448)	(0.0448)
123789-HxCDF	(0.522)		0.522	(0.0522)	(0.0522)	(0.0522)
1234678-HpCDF	(0.344)		0.344	(0.00344)	(0.00344)	(0.00344)
1234789-HpCDF	(0.397)		0.397	(0.00397)	(0.00397)	(0.00397)
OCDF	(0.97)		0.97	(0.00097)	(0.000097)	(0.000291)

TEQ Summaries

EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.706	0.823	0.781
EMPC = 0, ND = DL	1.41	1.65	1.56
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.706	0.823	0.781
EMPC = EMPC, ND = DL	1.41	1.65	1.56
EMPC = EMPC, < J-level = 0	0	0	0

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Checkcode: 299-949-KRC

Sample ID: 0_18902_OPR001

Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6279	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18902_DF	Date Extracted:	07-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18902	Date Analyzed:	08-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:17:06

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	8.63				ES 2378-TCDD	84.8	
12378-PeCDD	44.5				ES 12378-PeCDD	73	
123478-HxCDD	50.1				ES 123478-HxCDD	85.7	
123678-HxCDD	53.5				ES 123678-HxCDD	82.1	
123789-HxCDD	48.5				ES 123789-HxCDD	85.5	
1234678-HpCDD	53.7				ES 1234678-HpCDD	73.1	
OCDD	103				ES OCDD	61.5	
2378-TCDF	10.1				ES 2378-TCDF	80.1	
12378-PeCDF	51.5				ES 12378-PeCDF	80.2	
23478-PeCDF	55.9				ES 23478-PeCDF	78.5	
123478-HxCDF	52.2				ES 123478-HxCDF	96.3	
123678-HxCDF	51.1				ES 123678-HxCDF	97	
234678-HxCDF	50.9				ES 234678-HxCDF	89.9	
123789-HxCDF	48.4				ES 123789-HxCDF	88.6	
1234678-HpCDF	51.3				ES 1234678-HpCDF	91.1	
1234789-HpCDF	51.9				ES 1234789-HpCDF	72.9	
OCDF	102				ES OCDF	61.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	76.3	
Total TCDD	39		39		CS 12347-PeCDD	77.7	
Total PeCDD	64.9		64.9		CS 12346-PeCDF	85.7	
Total HxCDD	166		166		CS 123469-HxCDF	104	
Total HpCDD	66.2		66.2		CS 1234689-HpCDF	92	
Total TCDF	56.8		56.8				
Total PeCDF	231		231				
Total HxCDF	335		335				
Total HpCDF	103		103				
Total PCDD/Fs	**1,270**		**1,270**				
WHO-2005 TEQs							
TEQ: ND=0	110		110				
TEQ: ND=DL/2	110	0.218	110				
TEQ: ND=DL	110	0.436	110				

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Sample ID: 0_18902_OPR002

Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6279	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18902_DF	Date Extracted:	07-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18902	Date Analyzed:	08-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:04:33

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	8.43				ES 2378-TCDD	86.3	
12378-PeCDD	44.5				ES 12378-PeCDD	74.3	
123478-HxCDD	50.6				ES 123478-HxCDD	86.6	
123678-HxCDD	52.4				ES 123678-HxCDD	85	
123789-HxCDD	48.6				ES 123789-HxCDD	87.2	
1234678-HpCDD	53.5				ES 1234678-HpCDD	74.6	
OCDD	105				ES OCDD	66.5	
2378-TCDF	11.2				ES 2378-TCDF	81.2	
12378-PeCDF	52				ES 12378-PeCDF	83.4	
23478-PeCDF	55.7				ES 23478-PeCDF	80.6	
123478-HxCDF	51.1				ES 123478-HxCDF	96.9	
123678-HxCDF	52.2				ES 123678-HxCDF	94.8	
234678-HxCDF	52.2				ES 234678-HxCDF	89.4	
123789-HxCDF	50				ES 123789-HxCDF	87	
1234678-HpCDF	52				ES 1234678-HpCDF	91.1	
1234789-HpCDF	51.3				ES 1234789-HpCDF	76.5	
OCDF	107				ES OCDF	63.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	76.4	
Total TCDD	39.1		39.1		CS 12347-PeCDD	77.9	
Total PeCDD	65.1		65.1		CS 12346-PeCDF	86	
Total HxCDD	166		166		CS 123469-HxCDF	101	
Total HpCDD	65.7		65.7		CS 1234689-HpCDF	90	
Total TCDF	58.9		58.9				
Total PeCDF	234		234				
Total HxCDF	338		338				
Total HpCDF	103		103				
Total PCDD/Fs	**1,280**		**1,280**				
WHO-2005 TEQs							
TEQ: ND=0	110		110				
TEQ: ND=DL/2	110	0.283	110				
TEQ: ND=DL	110	0.566	110				

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Sample DUP

Method 1613B

Sample ID: 0_18902_OPR001

Analyte	OPR1_18902_DF pg/uL	OPR2_18902_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	8.63	8.43	2.3%
1,2,3,7,8-PeCDD	44.5	44.5	0.0%
1,2,3,4,7,8-HxCDD	50.1	50.6	1.0%
1,2,3,6,7,8-HxCDD	53.5	52.4	2.1%
1,2,3,7,8,9-HxCDD	48.5	48.6	0.2%
1,2,3,4,6,7,8-HpCDD	53.7	53.5	0.2%
OCDD	103	105	2.1%
2,3,7,8-TCDF	10.1	11.2	9.8%
1,2,3,7,8-PeCDF	51.5	52	0.8%
2,3,4,7,8-PeCDF	55.9	55.7	0.3%
1,2,3,4,7,8-HxCDF	52.2	51.1	2.1%
1,2,3,6,7,8-HxCDF	51.1	52.2	2.2%
2,3,4,6,7,8-HxCDF	50.9	52.2	2.7%
1,2,3,7,8,9-HxCDF	48.4	50	3.3%
1,2,3,4,6,7,8-HpCDF	51.3	52	1.4%
1,2,3,4,7,8,9-HpCDF	51.9	51.3	1.1%
OCDF	102	107	4.6%
Totals			
Total TCDD	39	39.1	0.3%
Total PeCDD	64.9	65.1	0.3%
Total HxCDD	166	166	0.3%
Total HpCDD	66.2	65.7	0.8%
Total TCDF	56.8	58.9	3.6%
Total PeCDF	231	234	1.5%
Total HxCDF	335	338	1.0%
Total HpCDF	103	103	0.1%

Sample Receipt Notification

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

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*07-Feb-22 at 08:54*
AP Project name:	*B6279*
Requested TAT:	*3 business days*
Projected due date:	*9-Feb-22*
Matrix:	*Soil*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

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

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-020222-S-SB-NC-S-46	B6279_001	Solid	1	4 oz amber	02-Feb-22	14:30	3.8	1	490527045255
11215131-020222-S-SB-NC-S-45	B6279_002	Solid	1	4 oz amber	02-Feb-22	15:10	3.8	1	490527045255
11215131-020222-S-SB-NC-S-44	B6279_003	Solid	1	4 oz amber	02-Feb-22	16:00	3.8	1	490527045255

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact

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

Received by: Amy Boehm *Logged in by: Amy Boehm* *QC'ed by:* AK 7 Feb 22

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

SGS CHAIN OF CUSTODY

B6279 1/1

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

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400, Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

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

PRESERVATIVE: None

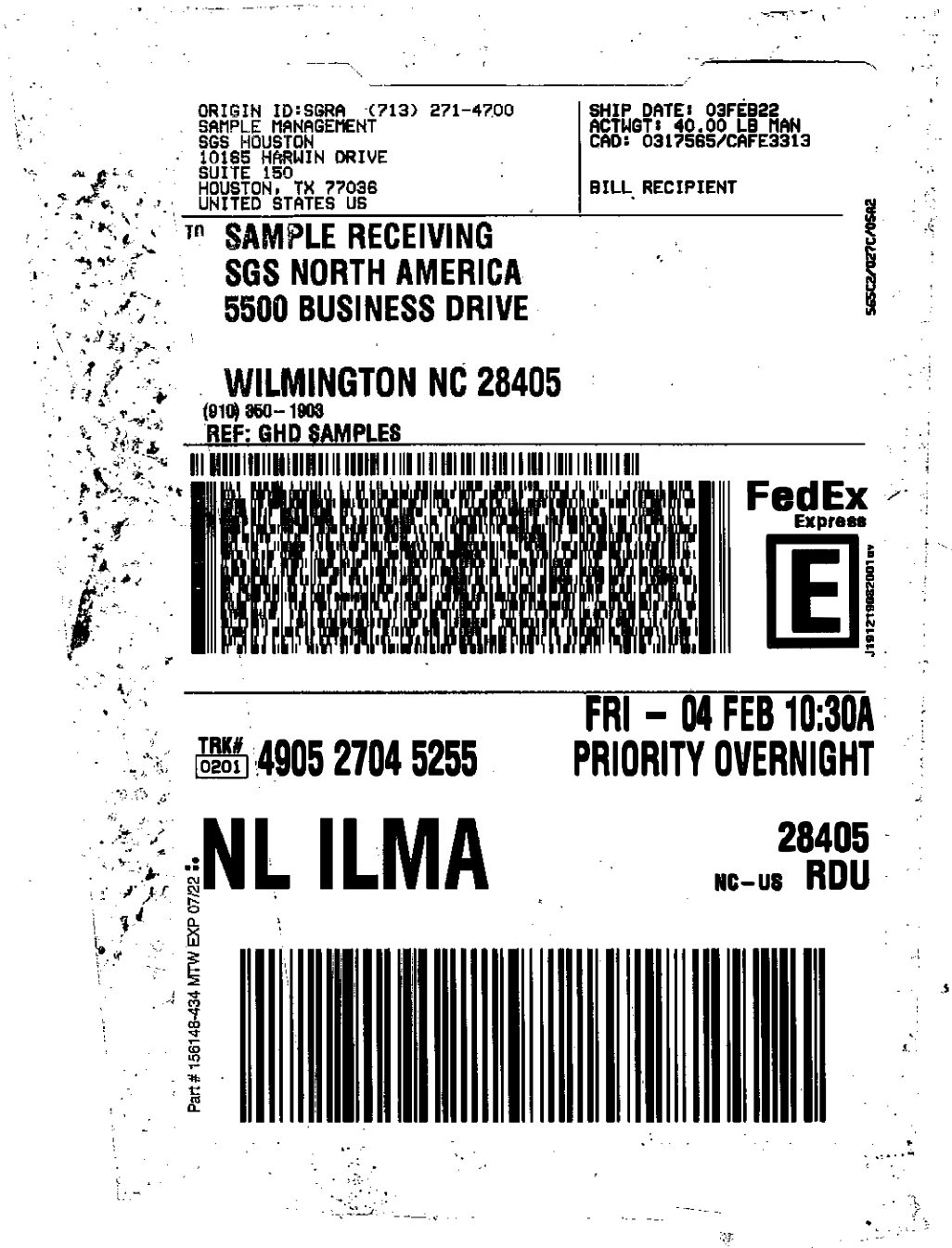
ANALYSIS & METHOD: M1613B, M8290A, M1668A, M1668C, HRPAH, M1699

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	QC MS	QC MSD	QC DUP	QTY	REMARKS
11215131-020222-S-SB-NC-S-46	2/2/22	1430	C	S	40Z				1	RUSH
11215131-020222-S-SB-NC-0-48		1445							1	
11215131-020222-S-SB-NC-S-45		1510							1	RUSH
11215131-020222-S-SB-NC-0-47		1520							1	
11215131-020222-S-SB-NC-S-44		1600							1	RUSH
11215131-020222-S-SB-NC-0-45	↓	1610	↓	↓	↓				1	

REMARKS: See SSOW

	DATE:	TIME:	RECEIVED BY:
COLLECTED/RELINQUISHED BY (1): Sarah Belanger	2/3/22	0930	RECEIVED BY: 2-3-22 9:40
RELINQUISHED BY (2):	2-3-22	1400	RECEIVED BY: 2/3/22 1905
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:

RECEIVED BY LABORATORY: SGS DATE: 2/7/22 TIME: 854
COOLER SEAL: ☐ INTACT ☐ BROKEN ☐ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT
CARRIER: FedEx TEMP: °C 3.8 0.6
TRACKING #: on ice



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

SHIP DATE: 03FEB22
ACTWGT: 40.00 LB MAN
CAD: 0317565/CAFE3313

BILL RECIPIENT

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

FedEx Express

FRI - 04 FEB 10:30A
PRIORITY OVERNIGHT

TRK# 0201 4905 2704 5255

NL ILMA

28405
NC-US RDU

Part # 156148-434 MTW EXP 07/22

SGS

Project Initiation Form

Project Number: B6279

Initiation Date: 07-Feb-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Soil

TAT: 3 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR & OPRD

10 g DWE extraction

Read and understood, initial and date: Prep Lab: JRH 2/8/22 2/8/22

HRMS Lab:

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab:

PM Initials: akornegay Date: 07-Feb-2022

SGS

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

Batch# 18902 | Split: ~~1/2~~ ~~1/4~~ | Extract Initial/Date: YF 2/7/22 | Clean-up Initial/Date: TB 2/8/22 | Transfer Init/Date: TB 2/8/22

Lab Sample ID	Extraction Position (Solvent: TOL)	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B6279_18902_001	9	13.51				gray, wet, clay-like, oil smell
B6279_18902_002	10	17.36				brown-gray, sandy/clay-like
B6279_18902_003	11	12.88				gray, clay-like
MB1_18902	6	10.00				sodium sulfate
OPR1_18902	7	10.00				sodium sulfate
OPR2_18902	8	10.00				sodium sulfate

TB 2/9/22

TB 2/8/22

Supply IDs

Toluene	STL 14.24
MeCHL	STL14.17
Florisil	SPLS.77
Hexane	STL14.22
Silica	SPLS.69
S Nitrate	N/A
Base Silica	SPLS.86
HydroMatrix	N/A
Tetradecane	SPLS-73D
H_2SO_4	N/A
A Silica	SPLS.82
Sodium Sulfate	SPLS-80B

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	TB 2/9/22
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start: 1630
	Stop: 0830
HEX	Start:
	Stop:
DCM	Start:
	Stop:

TB 2/9/22

SGS

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

Solid

Batch# 18902

Inter-Department Communication Sheet

JB 2/9/88

SGS

Wt. Volume Results

Batch #: 18902 Comments:

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6279_001	2.39	5.28	4.54	74.39%	74.39%			13.44	13.51	10.05
B6279_002	2.31	5.62	4.24	58.31%	58.31%			17.15	17.36	10.12
B6279_003	2.33	6.01	5.22	78.53%	78.53%			12.73	12.88	10.11

TB 2/9/22

TB 2/9/22

% Solid Determination WorkSheet

SGS

Batch: 18902

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	10g DWE	Comments
B6279_18902_001	2.39	5.28	4.54/4.54	13.44	
B6279_18902_002	2.31	5.62	4.24/4.24	17.15	
B6279_18902_003	2.33	6.01	5.22/5.22	12.73	

SGS

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

Batch # 18902

Spiker Initials/Date: RDB 2/7/22 | RDB 2/7/22 | RDB 2/7/22 | DG 2/8/22 | RDB 2/8/22

Lab Sample ID	D/F Ax-A Amount: 20µL Observer Initials	D/F Ax-B Amount: 20µL Observer Initials	D/F ES Amount: 20µL Observer Initials	D/F CS Amount: 20µL Observer Initials	D/F JS Amount: 20µL Observer Initials	Amount: Observer Initials	Amount: Observer Initials
B6279_18902_001	—	—	KE	KE	KE		
B6279_18902_002	—	—	KE	KE	KE		
B6279_18902_003	—	—	KE	KE	KE		
MB1_18902	—	—	KE	KE	KE		
OPR1_18902	KE	KE	KE	KE	KE		
OPR2_18902	KE	KE	KE	KE	KE		

RDB 2/8/22

Standard Information

	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS		
Pipette ID							RDB 2/8/22
Spike ID	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS		
SIL #	26-2-8	25-187-2	26-2-9	25-338-1	25-384-1		
Concentration	10pg/µL	10pg/µL	100pg/µL	100 P/µL	100 P/µL		
Expiration Date	7/9/25	6/22/22	8/2028	11/16/22	1/28/23		

REVIEWED
Tamara Burkamper , 2/9/2022, 1:05:41 PM

SGS Environmental Services — Run Log

Project: B6279_18902_DF

Instrument: MM3 (AutoSpec-Ultima)

MS Experiment: df_cl4-8_db5MS

GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
4	220208R04	3	CS3_220208_DF_RA ✓	1.00	SIL 25-347-1	PSW	569-493	08-Feb-2022	15:38:36
6	220208R06	7	OPR1_18902_DF	1.00	0_18902_OPR001	PSW	364-604	08-Feb-2022	17:17:06
7	220208R07	8	OPR2_18902_DF	1.00	0_18902_OPR002	PSW	064-027	08-Feb-2022	18:04:33
9	220208R09	2	SBS_220208_DF_RA	1.00	SIL 20-61-1	PSW	984-039	08-Feb-2022	19:39:38
10	220208R10	6	MB1_18902_DF_SDS	10.00	Method Blank	PSW	299-949	08-Feb-2022	20:27:11
12	220208R12	9	B6279_18902_DF_001	10.05	11215131-020222-S-SB-NC-S-46	PSW	320-704	08-Feb-2022	22:02:10
13	220208R13	10	B6279_18902_DF_002	10.12	11215131-020222-S-SB-NC-S-45	PSW	252-399	08-Feb-2022	22:49:43
14	220208R14	11	B6279_18902_DF_003 ✓	10.11	11215131-020222-S-SB-NC-S-44	PSW	667-591	08-Feb-2022	23:37:14

REVIEWED
paul_walton , 2/9/2022, 9:09:34 AM

Lab ID: MB1_18902_DF_SDS **Acq'd:** 08 Feb 2022 20:27 PSW **Wt/Vol:** 10.00 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: Method Blank B6279_18902 **UTP:** 09-Feb-2022 09:00:15 PSW **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 299-949-KRC

Datafile: 220208R10 **Report:** 09 Feb 2022 09:01 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.34	-	11767.676	0.571
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.06	-	8738.616	0.475
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.06	-	8330.404	0.513
123678-HxCDD	NotFnd		1.0036	-		-	-	-	1.08	-	8330.404	0.519
123789-HxCDD	NotFnd		1.0117	-		-	-	-	1.02	-	8330.404	0.481
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	0.97	-	7979.166	0.393
OCDD	NotFnd		1.0003	-		-	-	-	1.07	-	13463.157	1.09
2378-TCDF	NotFnd		1.0007	-		-	-	-	0.96	-	9704.704	0.477
12378-PeCDF	NotFnd		1.0006	-		-	-	-	0.95	-	8248.35	0.366
23478-PeCDF	NotFnd		1.0006	-		-	-	-	0.94	-	8248.35	0.387
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.23	-	9745.783	0.408
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.13	-	9745.783	0.407
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	9745.783	0.448
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	9745.783	0.522
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.36	-	9070.967	0.344
1234789-HpCDF	NotFnd		1.0002	-		-	-	-	1.30	-	9070.967	0.397
OCDF	NotFnd		1.0002	-		-	-	-	1.03	-	13280.612	0.97

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	27.38	1.0259	1.0261	+0.3	3.26E+07	0.75	Y	1.03	88.3
ES 12378-PeCDD	32.89	1.2310	1.2326	+3.2	2.93E+07	1.54	Y	1.03	79.2
ES 123478-HxCDD	36.79	0.9915	0.9915	0	2.49E+07	1.25	Y	0.99	93.7
ES 123678-HxCDD	36.91	0.9947	0.9947	0	2.37E+07	1.32	Y	0.97	91
ES 123789-HxCDD	37.21	1.0027	1.0028	+0.2	2.81E+07	1.26	Y	1.12	93.3
ES 1234678-HpCDD	40.01	1.0776	1.0783	+1.7	2.23E+07	1.04	Y	0.99	83.9
ES OCDD	42.45	1.1435	1.1440	+1.3	2.96E+07	0.93	Y	0.78	71.2
ES 2378-TCDF	26.48	1.0583	1.0585	+0.3	4.73E+07	0.77	Y	1.08	87.4
ES 12378-PeCDF	31.39	1.2530	1.2552	+4.1	4.11E+07	1.61	Y	0.93	88.2
ES 23478-PeCDF	32.55	1.2990	1.3013	+4.5	4.02E+07	1.62	Y	0.92	87.4
ES 123478-HxCDF	35.81	0.9652	0.9652	0	2.98E+07	0.51	Y	1.14	97.3
ES 123678-HxCDF	35.95	0.9689	0.9689	0	3.40E+07	0.51	Y	1.30	98
ES 234678-HxCDF	36.62	0.9868	0.9868	0	3.06E+07	0.50	Y	1.20	95
ES 123789-HxCDF	37.60	1.0131	1.0133	+0.5	2.84E+07	0.52	Y	1.14	93.5
ES 1234678-HpCDF	39.09	1.0529	1.0535	+1.4	2.48E+07	0.46	Y	0.95	97.3
ES 1234789-HpCDF	40.44	1.0891	1.0898	+1.7	1.93E+07	0.45	Y	0.85	85.1
ES OCDF	42.62	1.1480	1.1486	+1.5	3.53E+07	0.91	Y	0.93	71.2

Lab ID: MB1_18902_DF_SDS | **Acq'd:** 08 Feb 2022 20:27 PSW | **Wt/Vol:** 10.00 g | **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: Method Blank B6279_18902 | **UTP:** 09-Feb-2022 09:00:15 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 299-949-KRC

Datafile: 220208R10 | **Report:** 09 Feb 2022 09:01 gd | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.68		-	-	-	3.57E+07	0.76	Y	-	-
JS 1234-TCDF	25.01		-	-	-	4.99E+07	0.79	Y	-	-
JS 123467-HxCDD	37.11		-	-	-	1.34E+07	1.24	Y	-	-
CS 37Cl-2378-TCDD	27.40		1.0267	1.0270	+0.5	1.47E+07	n/a	-	1.31	78.5
CS 12347-PeCDD	32.38		1.2119	1.2135	+3.1	2.62E+07	1.54	Y	0.89	82.1
CS 12346-PeCDF	30.85		1.2314	1.2334	+3.7	3.88E+07	1.59	Y	0.87	89.6
CS 123469-HxCDF	36.27		0.9773	0.9773	0	3.03E+07	0.52	Y	1.09	104
CS 1234689-HpCDF	39.51		1.0640	1.0647	+1.7	2.36E+07	0.45	Y	0.86	102
~~SS 37Cl-2378-TCDD~~	~~27.40~~		~~1.0267~~	~~1.0270~~	~~+0.5~~	~~1.47E+07~~	~~n/a~~		~~1.26~~	~~89.4~~
~~SS 12347-PeCDD~~	~~32.38~~		~~1.2119~~	~~1.2135~~	~~+3.1~~	~~2.62E+07~~	~~1.54~~	~~Y~~	~~0.86~~	~~104~~
~~SS 12346-PeCDF~~	~~30.85~~		~~1.2314~~	~~1.2334~~	~~+3.7~~	~~3.88E+07~~	~~1.59~~	~~Y~~	~~0.93~~	~~101~~
~~SS 123469-HxCDF~~	~~36.27~~		~~0.9773~~	~~0.9773~~	~~0~~	~~3.03E+07~~	~~0.52~~	~~Y~~	~~0.84~~	~~106~~
~~SS 1234689-HpCDF~~	~~39.51~~		~~1.0640~~	~~1.0647~~	~~+1.7~~	~~2.36E+07~~	~~0.45~~	~~Y~~	~~0.91~~	~~104~~

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

Lab ID: MB1_18902_DF_SDS **Acq'd: 08 Feb 2022 20:27 PSW** **Wt/Vol: 10.00 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: Method Blank B6279_18902 **UTP: 09-Feb-2022 09:00:15 PSW** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 299-949-KRC**

Datafile: 220208R10 **Report: 09 Feb 2022 09:01 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8600						1.34		11767.676	0.571
1379-TCDD	NotFnd		0.8739						1.34		11767.676	0.571
1369-TCDD	NotFnd		0.8911						1.34		11767.676	0.571
1469-TCDD	NotFnd		0.9214						1.34		11767.676	0.571
1247/1246/1248/1249-TCDD	NotFnd		0.9305						1.34		11767.676	0.571
1378-TCDD	NotFnd		0.9377						1.34		11767.676	0.571
1268-TCDD	NotFnd		0.9455						1.34		11767.676	0.571
1478-TCDD	NotFnd		0.9552						1.34		11767.676	0.571
1279-TCDD	NotFnd		0.9613						1.34		11767.676	0.571
1234/1269-TCDD	NotFnd		0.9750						1.34		11767.676	0.571
1236-TCDD	NotFnd		0.9802						1.34		11767.676	0.571
1237/1238-TCDD	NotFnd		0.9898						1.34		11767.676	0.571
1239-TCDD	NotFnd		0.9948						1.34		11767.676	0.571
2378-TCDD	**NotFnd**		**1.0008**						**1.34**		**11767.676**	**0.571**
1278-TCDD	NotFnd		1.0135						1.34		11767.676	0.571
1267-TCDD	NotFnd		1.0188						1.34		11767.676	0.571
1289-TCDD	NotFnd		1.0379						1.34		11767.676	0.571
12479/12468-PeCDD	NotFnd		0.9227						1.06		8738.616	0.475
12469-PeCDD	NotFnd		0.9396						1.06		8738.616	0.475
12368-PeCDD	NotFnd		0.9567						1.06		8738.616	0.475
12478-PeCDD	NotFnd		0.9626						1.06		8738.616	0.475
12379-PeCDD	NotFnd		0.9655						1.06		8738.616	0.475
12369/12467/12489-PeCDD	NotFnd		0.9738						1.06		8738.616	0.475
12346/12347-PeCDD	NotFnd		0.9852						1.06		8738.616	0.475
12378-PeCDD	NotFnd		**1.0006**						**1.06**		**8738.616**	**0.475**
12367-PeCDD	NotFnd		1.0036						1.06		8738.616	0.475
12389-PeCDD	NotFnd		1.0141						1.06		8738.616	0.475
124679/124689-HxCDD	NotFnd		0.9540						1.05		8330.404	0.503
123468-HxCDD	NotFnd		0.9718						1.05		8330.404	0.503
123679/123689-HxCDD	NotFnd		0.9797						1.05		8330.404	0.503
123469-HxCDD	NotFnd		0.9833						1.05		8330.404	0.503
123478-HxCDD	NotFnd		**1.0004**						1.06		**8330.404**	**0.513**
123678-HxCDD	NotFnd		**1.0036**						1.08		**8330.404**	**0.519**
123467-HxCDD	NotFnd		1.0090						1.05		8330.404	0.503
123789-HxCDD	NotFnd		**1.0117**						1.02		**8330.404**	**0.481**

Lab ID: MB1_18902_DF_SDS **Acq'd:** 08 Feb 2022 20:27 PSW **Wt/Vol:** 10.00 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: Method Blank B6279_18902 **UTP:** 09-Feb-2022 09:00:15 PSW **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 299-949-KRC

Datafile: 220208R10 **Report:** 09 Feb 2022 09:01 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

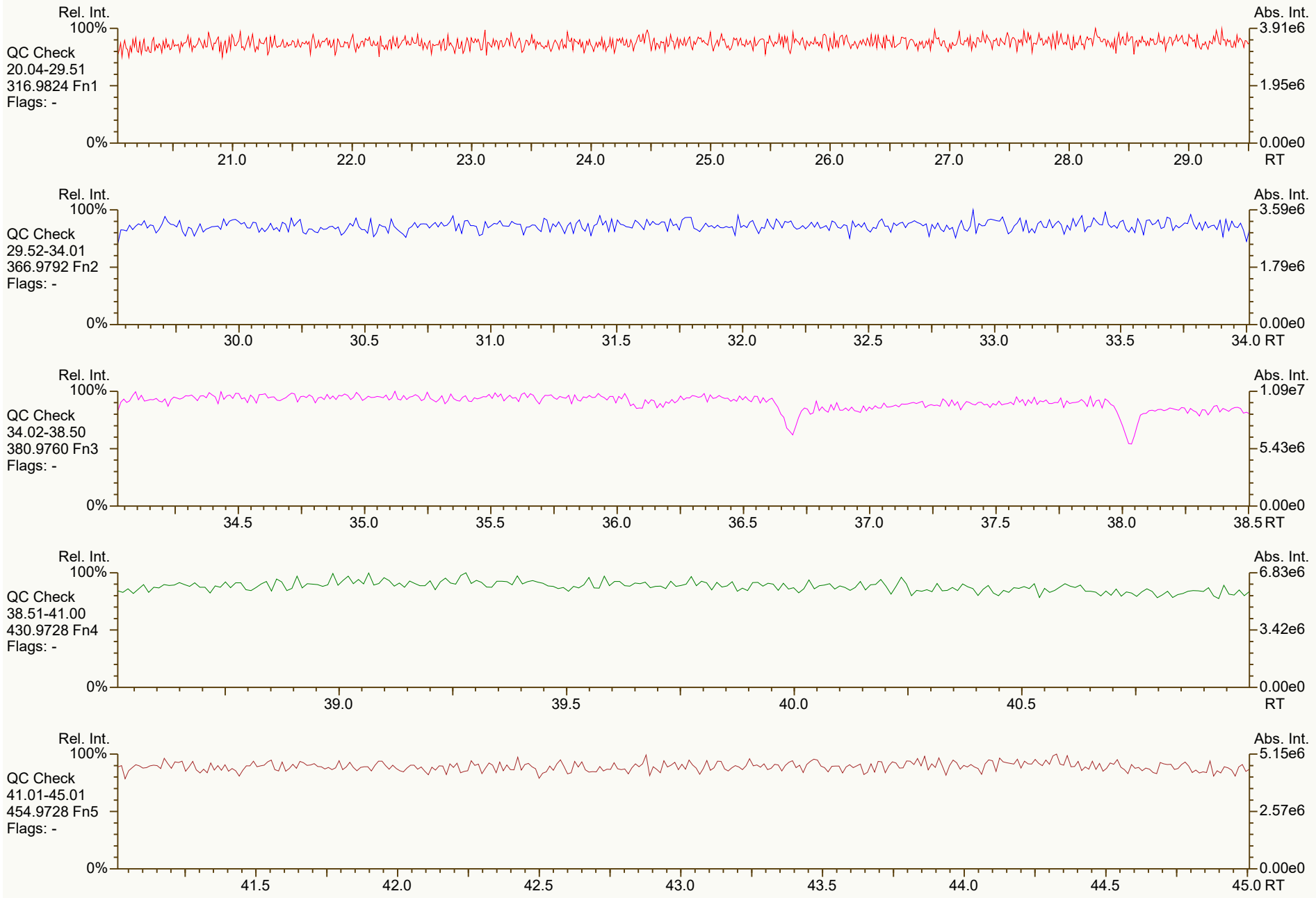
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9841						0.97		7979.166	0.393
1234678-HpCDD	**NotFnd**		**1.0003**						**0.97**		**7979.166**	**0.393**
OCDD	**NotFnd**		**1.0003**						**1.07**		**13463.157**	**1.09**
OCDD-a	NotFnd		1.0002						0.07		18239.423	23.9
1368-TCDF	NotFnd		0.8043						0.96		9704.704	0.477
1468-TCDF	NotFnd		0.8264						0.96		9704.704	0.477
2468-TCDF	NotFnd		0.8524						0.96		9704.704	0.477
1346/1246-TCDF	NotFnd		0.8658						0.96		9704.704	0.477
1347/1378/1247-TCDF	NotFnd		0.8723						0.96		9704.704	0.477
1348-TCDF	NotFnd		0.8836						0.96		9704.704	0.477
1248/1367/1379-TCDF	NotFnd		0.8890						0.96		9704.704	0.477
1268-TCDF	NotFnd		0.9044						0.96		9704.704	0.477
1467-TCDF	NotFnd		0.9099						0.96		9704.704	0.477
1478-TCDF	NotFnd		0.9167						0.96		9704.704	0.477
1369/1237-TCDF	NotFnd		0.9315						0.96		9704.704	0.477
2467-TCDF	NotFnd		0.9372						0.96		9704.704	0.477
2368-TCDF	NotFnd		0.9434						0.96		9704.704	0.477
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9464						0.96		9704.704	0.477
1278-TCDF	NotFnd		0.9647						0.96		9704.704	0.477
1349-TCDF	NotFnd		0.9695						0.96		9704.704	0.477
1267-TCDF	NotFnd		0.9758						0.96		9704.704	0.477
2346/1249-TCDF	NotFnd		0.9831						0.96		9704.704	0.477
2347/1279-TCDF	NotFnd		0.9919						0.96		9704.704	0.477
2348-TCDF	NotFnd		0.9964						0.96		9704.704	0.477
2378-TCDF	**NotFnd**		**1.0007**						**0.96**		**9704.704**	**0.477**
2367/3467-TCDF	NotFnd		1.0153						0.96		9704.704	0.477
1269-TCDF	NotFnd		1.0246						0.96		9704.704	0.477
1239-TCDF	NotFnd		1.0345						0.96		9704.704	0.477
1289-TCDF	NotFnd		1.0779						0.96		9704.704	0.477
13468/12468-PeCDF	NotFnd		0.9082						0.94		13870.746	0.633
13678/13467/12467-PeCDF	NotFnd		0.9590						0.94		8248.35	0.376
12368/13478/12478-PeCDF	NotFnd		0.9641						0.94		8248.35	0.376
14678-PeCDF	NotFnd		0.9674						0.94		8248.35	0.376
13479-PeCDF	NotFnd		0.9704						0.94		8248.35	0.376
13469/12479-PeCDF	NotFnd		0.9787						0.94		8248.35	0.376
12346-PeCDF	NotFnd		0.9832						0.94		8248.35	0.376

Lab ID: MB1_18902_DF_SDS | **Acq'd:** 08 Feb 2022 20:27 PSW | **Wt/Vol:** 10.00 g | **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: Method Blank B6279_18902 | **UTP:** 09-Feb-2022 09:00:15 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 299-949-KRC

Datafile: 220208R10 | **Report:** 09 Feb 2022 09:01 gd | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9865						0.94		8248.35	0.376
12347-PeCDF	NotFnd		0.9886						0.94		8248.35	0.376
12348-PeCDF	NotFnd		0.9937						0.94		8248.35	0.376
12378-PeCDF	**NotFnd**		**1.0006**						**0.95**		**8248.35**	**0.366**
12678/12367-PeCDF	NotFnd		1.0096						0.94		8248.35	0.376
12379-PeCDF	NotFnd		1.0149						0.94		8248.35	0.376
12679-PeCDF	NotFnd		0.9922						0.94		8248.35	0.376
23467/12369-PeCDF	NotFnd		0.9965						0.94		8248.35	0.376
23478-PeCDF	**NotFnd**		**1.0006**						**0.94**		**8248.35**	**0.387**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		8248.35	0.376
12349-PeCDF	NotFnd		1.0101						0.94		8248.35	0.376
12389-PeCDF	NotFnd		1.0335						0.94		8248.35	0.376
123468-HxCDF	NotFnd		0.9614						1.16		9745.783	0.443
124678/134678-HxCDF	NotFnd		0.9671						1.16		9745.783	0.443
134679-HxCDF	NotFnd		0.9734						1.16		9745.783	0.443
124679-HxCDF	NotFnd		0.9791						1.16		9745.783	0.443
124689-HxCDF	NotFnd		0.9853						1.16		9745.783	0.443
123467-HxCDF	NotFnd		0.9971						1.16		9745.783	0.443
123478-HxCDF	**NotFnd**		**1.0004**						**1.23**		**9745.783**	**0.408**
123678-HxCDF	**NotFnd**		**1.0004**						**1.13**		**9745.783**	**0.407**
123479-HxCDF	NotFnd		1.0048						1.16		9745.783	0.443
123469-HxCDF	NotFnd		1.0090						1.16		9745.783	0.443
123679-HxCDF	NotFnd		0.9940						1.16		9745.783	0.443
234678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**9745.783**	**0.448**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		9745.783	0.443
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**9745.783**	**0.522**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	NotFnd		1.0008						1.16		9745.783	0.443
1234678-HpCDF	**NotFnd**		**1.0003**						**1.36**		**9070.967**	**0.344**
1234679-HpCDF	NotFnd		1.0072						1.33		9070.967	0.368
1234689-HpCDF	NotFnd		1.0108						1.33		9070.967	0.368
1234789-HpCDF	**NotFnd**		**1.0002**						**1.30**		**9070.967**	**0.397**
OCDF	**NotFnd**		**1.0002**						**1.03**		**13280.612**	**0.97**
OCDF-a	NotFnd		1.0002						0.06		17475.812	22.1


Rel. Int.
100%
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.91e6
1.95e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.59e6
1.79e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
QC Check
34.02-38.50
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
QC Check
38.51-41.00
430.9728 Fn4
Flags: -
0%
Abs. Int.
6.83e6
3.42e6
0.00e0
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
QC Check
41.01-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.15e6
2.57e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: MB1_18902_DF_SDS
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: Method Blank
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 6

Acq: 08-Feb-2022 20:27:11
User: PSW Datafile: 220208R10



Results: P:\B6200_B6299\B6279\B6279_18902 DF\Resources\MB1_18902_DF_SDS.utp_res, saved 09-Feb-2022 09:00 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8742, 5463, 7204 scc: 299-949

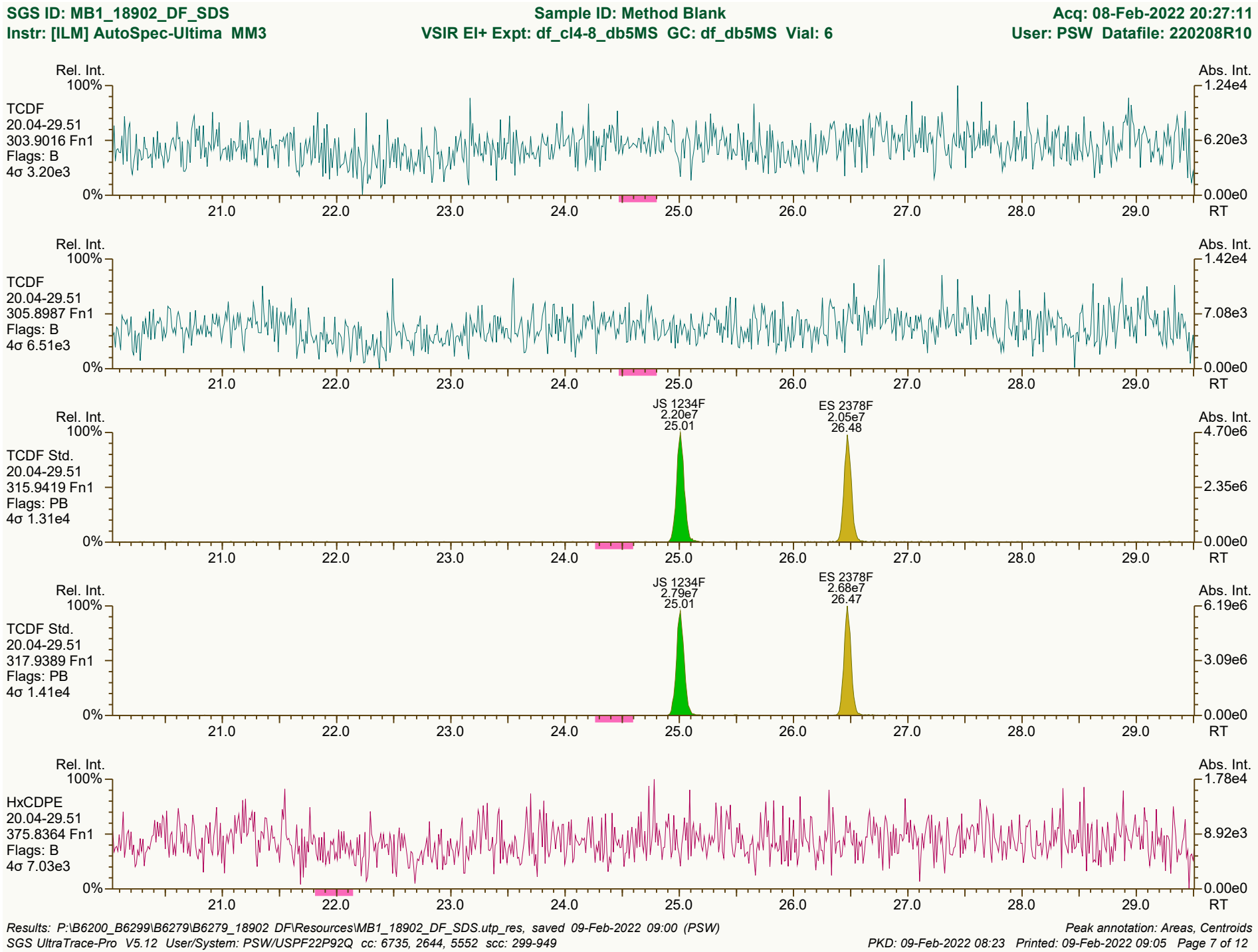
Peak annotation: Areas, Centroids
PKD: 09-Feb-2022 08:23 Printed: 09-Feb-2022 09:05 Page 2 of 12


Rel. Int.
100%
PeCDD
29.52-34.01
355.8546 Fn2
Flags: B
4σ 4.70e3
0%
Abs. Int.
1.93e4
9.66e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD
29.52-34.01
357.8517 Fn2
Flags: B
4σ 4.03e3
0%
Abs. Int.
9.38e3
4.69e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD Std.
29.52-34.01
367.8949 Fn2
Flags: PB
4σ 5.63e3
0%
CS 12347D
1.59e7
32.38
ES 12378D
1.77e7
32.89
Abs. Int.
5.26e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD Std.
29.52-34.01
369.8919 Fn2
Flags: PB
4σ 9.31e3
0%
CS 12347D
1.03e7
32.38
ES 12378D
1.15e7
32.89
Abs. Int.
3.72e6
1.86e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.59e6
1.79e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT

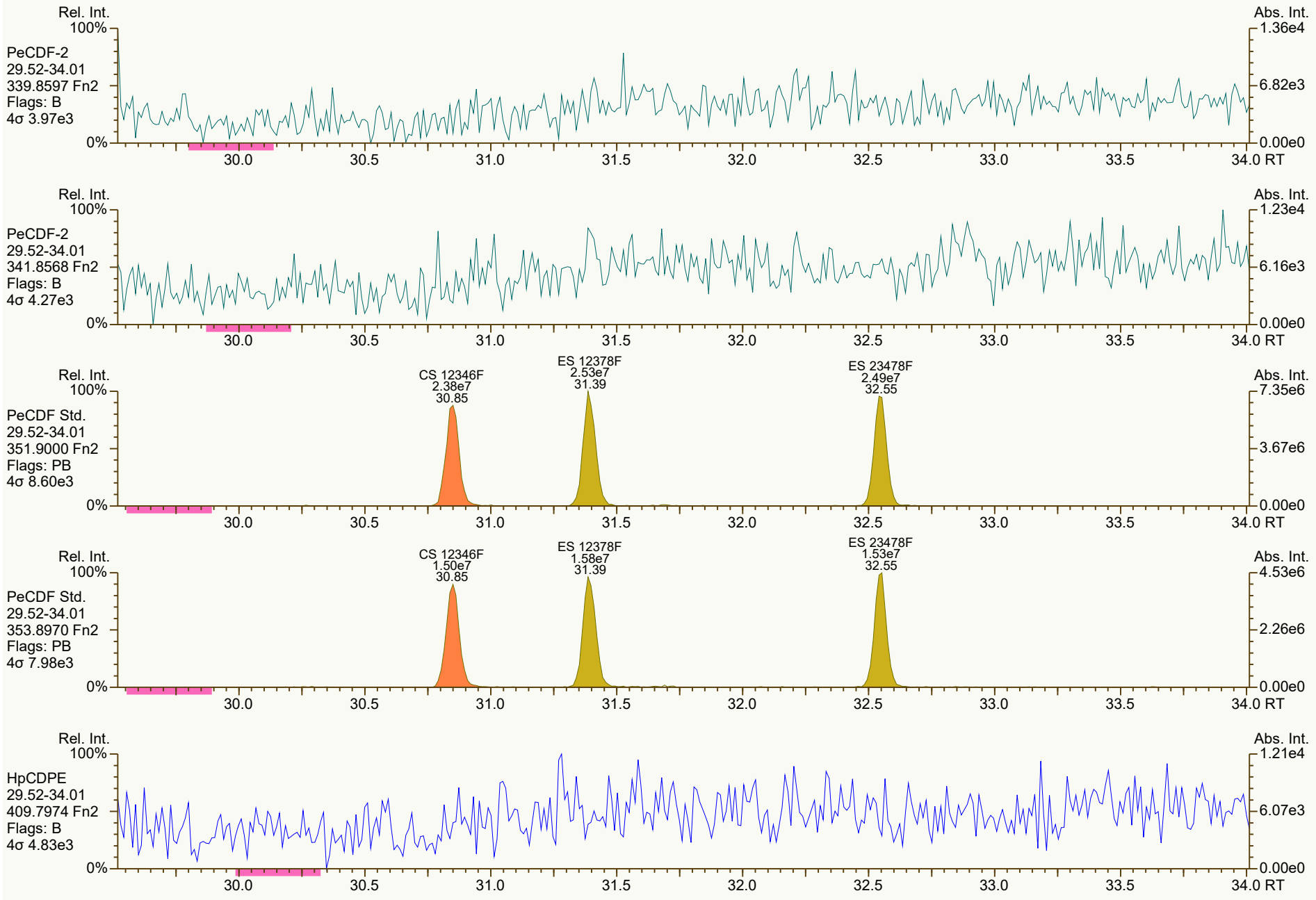

Rel. Int.
100%
HxCDD
34.02-38.50
389.8156 Fn3
Flags: B
4σ 4.70e3
0%
Abs. Int.
1.01e4
5.06e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDD
34.02-38.50
391.8127 Fn3
Flags: B
4σ 3.64e3
0%
Abs. Int.
8.39e3
4.19e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDD Std.
34.02-38.50
401.8559 Fn3
Flags: PB
4σ 1.09e4
0%
ES 123478D
1.39e7
36.79
ES 123678D
1.35e7
36.91
JS 123467D
7.40e6
37.11
ES 123789D
1.56e7
37.21
Abs. Int.
4.75e6
2.37e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDD Std.
34.02-38.50
403.8530 Fn3
Flags: PB
4σ 9.38e3
0%
ES 123478D
1.11e7
36.79
ES 123678D
1.02e7
36.91
JS 123467D
5.98e6
37.11
ES 123789D
1.24e7
37.21
Abs. Int.
3.62e6
1.81e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
QC Check
34.02-38.50
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT


Rel. Int.
100%
HpCDD
38.51-41.00
423.7767 Fn4
Flags: B
4σ 4.05e3
0%
Abs. Int.
1.40e4
6.99e3
0.00e0
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD
38.51-41.00
425.7737 Fn4
Flags: B
4σ 3.93e3
0%
Abs. Int.
8.94e3
4.47e3
0.00e0
39.0
39.5
40.0
40.5
RT
ES 1234678D
1.14e7
40.01
Rel. Int.
100%
HpCDD Std.
38.51-41.00
435.8169 Fn4
Flags: PB
4σ 6.89e3
0%
Abs. Int.
5.32e6
2.66e6
0.00e0
39.0
39.5
40.0
40.5
RT
ES 1234678D
1.09e7
40.01
Rel. Int.
100%
HpCDD Std.
38.51-41.00
437.8140 Fn4
Flags: PB
4σ 9.34e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
QC Check
38.51-41.00
430.9728 Fn4
Flags: -
0%
Abs. Int.
6.83e6
3.42e6
0.00e0
39.0
39.5
40.0
40.5
RT

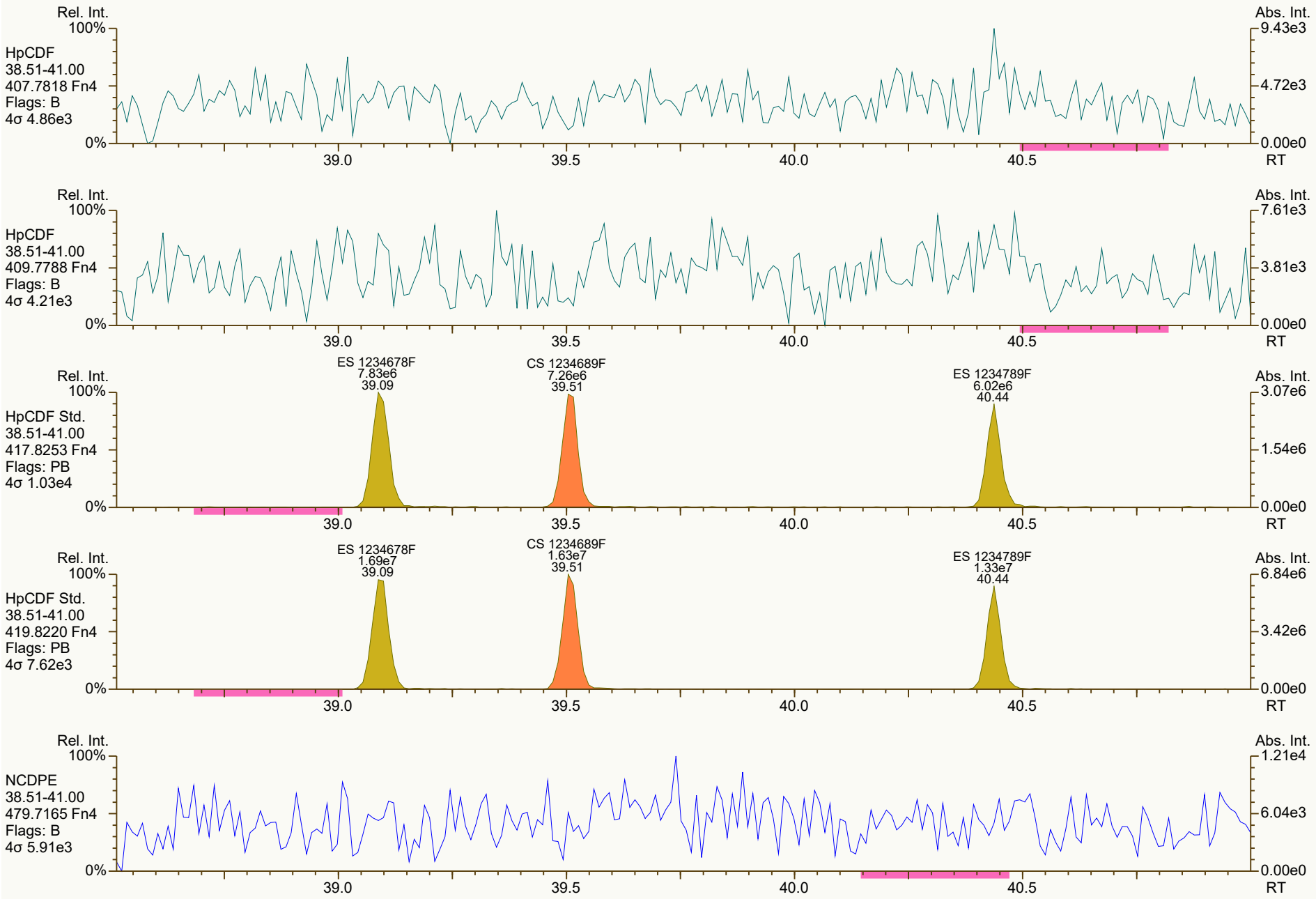

Rel. Int.
100%
OCDD
41.01-45.01
457.7377 Fn5
Flags: B
4σ 6.89e3
0%
Abs. Int.
1.36e4
6.78e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.01-45.01
459.7348 Fn5
Flags: B
4σ 6.57e3
0%
Abs. Int.
1.35e4
6.77e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.42e7
42.45
Rel. Int.
100%
OCDD Std.
41.01-45.01
469.7780 Fn5
Flags: PB
4σ 6.79e3
0%
Abs. Int.
5.57e6
2.79e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.54e7
42.45
Rel. Int.
100%
OCDD Std.
41.01-45.01
471.7750 Fn5
Flags: PB
4σ 8.06e3
0%
Abs. Int.
6.26e6
3.13e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.01-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.15e6
2.57e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: MB1_18902_DF_SDS
Sample ID: Method Blank
Acq: 08-Feb-2022 20:27:11
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 6
User: PSW Datafile: 220208R10
Rel. Int.
Abs. Int.
TCDF
20.04-29.51
303.9016 Fn1
Flags: B
4σ 3.20e3
1.24e4
6.20e3
0.00e0
TCDF
20.04-29.51
305.8987 Fn1
Flags: B
4σ 6.51e3
1.42e4
7.08e3
TCDF Std.
20.04-29.51
315.9419 Fn1
Flags: PB
4σ 1.31e4
JS 1234F
2.20e7
25.01
ES 2378F
2.05e7
26.48
4.70e6
2.35e6
TCDF Std.
20.04-29.51
317.9389 Fn1
Flags: PB
4σ 1.41e4
JS 1234F
2.79e7
25.01
ES 2378F
2.68e7
26.47
6.19e6
3.09e6
HxCDPE
20.04-29.51
375.8364 Fn1
Flags: B
4σ 7.03e3
1.78e4
8.92e3
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6200_B6299\B6279\B6279_18902 DF\Resources\MB1_18902_DF_SDS.utp_res, saved 09-Feb-2022 09:00 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6735, 2644, 5552 scc: 299-949
PKD: 09-Feb-2022 08:23 Printed: 09-Feb-2022 09:05 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.33e4
6.65e3
0.00e0
PeCDF-1
20.04-29.51
339.8597 Fn1
Flags: B
4σ 7.81e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.02e4
1.01e4
0.00e0
PeCDF-1
20.04-29.51
341.8568 Fn1
Flags: B
4σ 6.06e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.91e6
1.95e6
0.00e0
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.01
339.8597 Fn2
Flags: B
4σ 3.97e3
0%
Abs. Int.
1.36e4
6.82e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF-2
29.52-34.01
341.8568 Fn2
Flags: B
4σ 4.27e3
0%
Abs. Int.
1.23e4
6.16e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF Std.
29.52-34.01
351.9000 Fn2
Flags: PB
4σ 8.60e3
0%
CS 12346F
2.38e7
30.85
ES 12378F
2.53e7
31.39
ES 23478F
2.49e7
32.55
Abs. Int.
7.35e6
3.67e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF Std.
29.52-34.01
353.8970 Fn2
Flags: PB
4σ 7.98e3
0%
CS 12346F
1.50e7
30.85
ES 12378F
1.58e7
31.39
ES 23478F
1.53e7
32.55
Abs. Int.
4.53e6
2.26e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
HpCDPE
29.52-34.01
409.7974 Fn2
Flags: B
4σ 4.83e3
0%
Abs. Int.
1.21e4
6.07e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT


Rel. Int.
100%
HxCDF
34.02-38.50
373.8207 Fn3
Flags: B
4σ 4.81e3
0%
Abs. Int.
1.35e4
6.73e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDF
34.02-38.50
375.8178 Fn3
Flags: B
4σ 4.93e3
0%
Abs. Int.
9.10e3
4.55e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDF Std.
34.02-38.50
383.8639 Fn3
Flags: PB
4σ 7.86e3
0%
ES 123478F
9.98e6
35.81
ES 123678F
1.15e7
35.95
CS 123469F
1.04e7
36.27
ES 234678F
1.02e7
36.62
ES 123789F
9.74e6
37.60
Abs. Int.
3.59e6
1.80e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDF Std.
34.02-38.50
385.8610 Fn3
Flags: PB
4σ 9.10e3
0%
ES 123478F
1.98e7
35.81
ES 123678F
2.25e7
35.95
CS 123469F
1.99e7
36.27
ES 234678F
2.04e7
36.62
ES 123789F
1.87e7
37.60
Abs. Int.
7.14e6
3.57e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
OCDPE
34.02-38.50
445.7555 Fn3
Flags: B
4σ 6.11e3
0%
Abs. Int.
1.49e4
7.47e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT


Rel. Int.
100%
HpCDF
38.51-41.00
407.7818 Fn4
Flags: B
4σ 4.86e3
0%
Abs. Int.
9.43e3
4.72e3
0.00e0
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDF
38.51-41.00
409.7788 Fn4
Flags: B
4σ 4.21e3
0%
Abs. Int.
7.61e3
3.81e3
0.00e0
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDF Std.
38.51-41.00
417.8253 Fn4
Flags: PB
4σ 1.03e4
0%
ES 1234678F
7.83e6
39.09
CS 1234689F
7.26e6
39.51
ES 1234789F
6.02e6
40.44
Abs. Int.
3.07e6
1.54e6
0.00e0
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDF Std.
38.51-41.00
419.8220 Fn4
Flags: PB
4σ 7.62e3
0%
ES 1234678F
1.69e7
39.09
CS 1234689F
1.63e7
39.51
ES 1234789F
1.33e7
40.44
Abs. Int.
6.84e6
3.42e6
0.00e0
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
NCDPE
38.51-41.00
479.7165 Fn4
Flags: B
4σ 5.91e3
0%
Abs. Int.
1.21e4
6.04e3
0.00e0
39.0
39.5
40.0
40.5
RT


Rel. Int.
100%
OCDF
41.01-45.01
441.7428 Fn5
Flags: B
4σ 5.64e3
0%
Abs. Int.
1.16e4
5.82e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.01-45.01
443.7398 Fn5
Flags: B
4σ 7.64e3
0%
Abs. Int.
1.26e4
6.28e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.68e7
42.62
Rel. Int.
100%
OCDF Std.
41.01-45.01
453.7830 Fn5
Flags: PB
4σ 9.33e3
0%
Abs. Int.
6.35e6
3.18e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.85e7
42.62
Rel. Int.
100%
OCDF Std.
41.01-45.01
455.7801 Fn5
Flags: PB
4σ 7.71e3
0%
Abs. Int.
6.86e6
3.43e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.01-45.01
513.6775 Fn5
Flags: B
4σ 6.82e3
0%
Abs. Int.
1.54e4
7.71e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6279_18902_DF_001 **Acq'd:** 08 Feb 2022 22:02 PSW **Wt/Vol:** 10.05 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-020222-S-SB-NC-S-46 **UTP:** 09-Feb-2022 09:00:15 PSW **J-level:** 0.498 pg/g **Split:** 1 **Checkcode:** 320-704-HHQ

Datafile: 220208R12 **Report:** 09 Feb 2022 09:01 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	27.39		1.0008	1.0009	+0.2	3.23E+07	0.78	Y	1.34	213	10755.035	0.747
12378-PeCDD	32.90	J EMPC	1.0006	1.0006	0	2.32E+05	2.13	N	1.06	2.2	12118.712	0.984
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.06	-	11098.471	0.932
123678-HxCDD	36.92		1.0036	1.0036	0	4.05E+05	1.25	Y	1.08	4.29	11098.471	0.969
123789-HxCDD	37.22	J EMPC	1.0117	1.0119	+0.4	2.35E+05	1.02	N	1.02	2.42	11098.471	0.874
1234678-HpCDD	40.02		1.0003	1.0003	0	9.63E+06	1.00	Y	0.97	125	12470.957	0.928
OCDD	42.46		1.0003	1.0003	0	1.22E+08	0.88	Y	1.07	2,000	13559.18	1.44
2378-TCDF	26.48		1.0007	1.0008	+0.2	1.18E+08	0.77	Y	0.96	775	10762.722	0.78
12378-PeCDF	31.40		1.0006	1.0006	0	3.05E+06	1.50	Y	0.95	23.3	11489.624	0.787
23478-PeCDF	32.56	PR	1.0006	1.0008	+0.4	2.69E+06	1.63	Y	0.94	20.9	11489.624	0.824
123478-HxCDF	35.82		1.0004	1.0005	+0.2	4.94E+06	1.15	Y	1.23	39.4	11758.127	0.765
123678-HxCDF	35.96		1.0004	1.0005	+0.2	1.26E+06	1.32	Y	1.13	9.75	11758.127	0.754
234678-HxCDF	36.62		1.0004	1.0003	-0.2	4.35E+05	1.41	Y	1.15	3.45	11758.127	0.72
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	11758.127	0.776
1234678-HpCDF	39.10		1.0003	1.0003	0	6.15E+06	1.04	Y	1.36	51.1	10814.029	0.631
1234789-HpCDF	40.44		1.0002	1.0004	+0.5	7.06E+05	1.14	Y	1.30	7.56	10814.029	0.638
OCDF	42.62		1.0002	1.0003	+0.3	8.79E+07	0.88	Y	1.03	1,230	12666.682	1.13

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	27.36	1.0259	1.0262	+0.5	2.25E+07	0.74	Y	1.03	86.8
ES 12378-PeCDD	32.88	1.2310	1.2329	+3.7	1.98E+07	1.68	Y	1.03	76.4
ES 123478-HxCDD	36.78	0.9915	0.9915	0	1.71E+07	1.28	Y	0.99	86.2
ES 123678-HxCDD	36.90	0.9947	0.9947	0	1.74E+07	1.21	Y	0.97	89.6
ES 123789-HxCDD	37.20	1.0027	1.0027	0	1.91E+07	1.29	Y	1.12	85.3
ES 1234678-HpCDD	40.00	1.0776	1.0784	+1.9	1.57E+07	1.08	Y	0.99	79.5
ES OCDD	42.44	1.1435	1.1442	+1.8	2.28E+07	0.92	Y	0.78	73.6
ES 2378-TCDF	26.46	1.0583	1.0588	+0.8	3.17E+07	0.78	Y	1.08	84.5
ES 12378-PeCDF	31.38	1.2530	1.2557	+5.1	2.76E+07	1.53	Y	0.93	85.4
ES 23478-PeCDF	32.54	1.2990	1.3019	+5.7	2.73E+07	1.60	Y	0.92	85.6
ES 123478-HxCDF	35.81	0.9652	0.9652	0	2.02E+07	0.56	Y	1.14	89
ES 123678-HxCDF	35.95	0.9689	0.9690	+0.2	2.27E+07	0.54	Y	1.30	88
ES 234678-HxCDF	36.61	0.9868	0.9868	0	2.18E+07	0.53	Y	1.20	91.1
ES 123789-HxCDF	37.59	1.0131	1.0133	+0.5	2.03E+07	0.53	Y	1.14	89.8
ES 1234678-HpCDF	39.09	1.0529	1.0536	+1.6	1.76E+07	0.45	Y	0.95	93.1
ES 1234789-HpCDF	40.43	1.0891	1.0898	+1.7	1.43E+07	0.43	Y	0.85	84.8
ES OCDF	42.61	1.1480	1.1487	+1.8	2.77E+07	0.93	Y	0.93	75.1

Lab ID: B6279_18902_DF_001 **Acq'd:** 08 Feb 2022 22:02 PSW **Wt/Vol:** 10.05 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-020222-S-SB-NC-S-46 **UTP:** 09-Feb-2022 09:00:15 PSW **J-level:** 0.498 pg/g **Split:** 1 **Checkcode:** 320-704-HHQ

Datafile: 220208R12 **Report:** 09 Feb 2022 09:01 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.67		-	-	-	2.51E+07	0.75	Y	-	-
JS 1234-TCDF	24.99		-	-	-	3.46E+07	0.74	Y	-	-
JS 123467-HxCDD	37.10		-	-	-	9.96E+06	1.35	Y	-	-
CS 37Cl-2378-TCDD	27.39		1.0267	1.0270	+0.5	9.98E+06	n/a	-	1.31	76
CS 12347-PeCDD	32.36		1.2119	1.2137	+3.5	1.74E+07	1.58	Y	0.89	77.9
CS 12346-PeCDF	30.84		1.2314	1.2341	+5.0	2.68E+07	1.61	Y	0.87	89.3
CS 123469-HxCDF	36.26		0.9773	0.9773	0	2.10E+07	0.52	Y	1.09	96.8
CS 1234689-HpCDF	39.50		1.0640	1.0648	+1.9	1.63E+07	0.45	Y	0.86	95
~~SS 37Cl-2378-TCDD~~	~~27.39~~		~~1.0267~~	~~1.0270~~	~~+0.5~~	~~9.98E+06~~	~~n/a~~		~~1.26~~	~~88.1~~
~~SS 12347-PeCDD~~	~~32.36~~		~~1.2119~~	~~1.2137~~	~~+3.5~~	~~1.74E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~102~~
~~SS 12346-PeCDF~~	~~30.84~~		~~1.2314~~	~~1.2341~~	~~+5.0~~	~~2.68E+07~~	~~1.61~~	~~Y~~	~~0.93~~	~~104~~
~~SS 123469-HxCDF~~	~~36.26~~		~~0.9773~~	~~0.9773~~	~~0~~	~~2.10E+07~~	~~0.52~~	~~Y~~	~~0.84~~	~~110~~
~~SS 1234689-HpCDF~~	~~39.50~~		~~1.0640~~	~~1.0648~~	~~+1.9~~	~~1.63E+07~~	~~0.45~~	~~Y~~	~~0.91~~	~~102~~

Totals	Conc	EMPC
Total TCDD	239	240
Total PeCDD	6.35	11.6
Total HxCDD	66.6	69
Total HpCDD	301	301
Total Tetra-Octa Dioxins	2610	2620
Total TCDF	1,470	1480
Total PeCDF	80.2	85.4
Total HxCDF	82	82
Total HpCDF	99	99
Total Tetra-Octa Furans	2,970	2980
Total Tetra-Octa Dioxins & Furans	5580	5600

Lab ID: B6279_18902_DF_001 **Acq'd: 08 Feb 2022 22:02 PSW** **Wt/Vol: 10.05 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-020222-S-SB-NC-S-46 **UTP: 09-Feb-2022 09:00:15 PSW** **J-level: 0.498 pg/g** **Split: 1** **Checkcode: 320-704-HHQ**

Datafile: 220208R12 **Report: 09 Feb 2022 09:01 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8600						1.34		10755.035	0.747
1379-TCDD	NotFnd		0.8739						1.34		10755.035	0.747
1369-TCDD	NotFnd		0.8911						1.34		10755.035	0.747
1469-TCDD	25.18		0.9214	0.9202	-1.8	3.72E+05	0.75	Y	1.34	2.45	10755.035	0.747
1247/1246/1248/1249-TCDD	NotFnd		0.9305						1.34		10755.035	0.747
1378-TCDD	25.64		0.9377	0.9369	-1.2	1.82E+05	0.84	Y	1.34	1.19	10755.035	0.747
1268-TCDD	NotFnd		0.9455						1.34		10755.035	0.747
1478-TCDD	NotFnd		0.9552						1.34		10755.035	0.747
1279-TCDD	NotFnd		0.9613						1.34		10755.035	0.747
1234/1269-TCDD	26.67	EMPC	0.9750	0.9746	-0.6	7.98E+04	1.43	N	1.34	0.525	10755.035	0.747
1236-TCDD	NotFnd		0.9802						1.34		10755.035	0.747
1237/1238-TCDD	27.08		0.9898	0.9897	-0.2	4.71E+05	0.74	Y	1.34	3.1	10755.035	0.747
1239-TCDD	NotFnd		0.9948						1.34		10755.035	0.747
2378-TCDD	**27.39**		**1.0008**	1.0009	**+0.2**	3.23E+07	0.78	Y	**1.34**	**213**	**10755.035**	**0.747**
1278-TCDD	27.73		1.0135	1.0136	+0.2	2.97E+06	0.80	Y	1.34	19.6	10755.035	0.747
1267-TCDD	NotFnd		1.0188						1.34		10755.035	0.747
1289-TCDD	NotFnd		1.0379						1.34		10755.035	0.747
12479/12468-PeCDD	30.32		0.9227	0.9223	-0.7	3.56E+05	1.41	Y	1.06	3.38	12118.712	0.984
12469-PeCDD	30.88	EMPC	0.9396	0.9393	-0.6	3.25E+05	1.85	N	1.06	3.08	12118.712	0.984
12368-PeCDD	31.45	J	0.9567	0.9566	-0.2	1.23E+05	1.33	Y	1.06	1.16	12118.712	0.984
12478-PeCDD	NotFnd		0.9626						1.06		12118.712	0.984
12379-PeCDD	NotFnd		0.9655						1.06		12118.712	0.984
12369/12467/12489-PeCDD	32.01	J	0.9738	0.9737	-0.2	1.91E+05	1.67	Y	1.06	1.81	12118.712	0.984
12346/12347-PeCDD	NotFnd		0.9852						1.06		12118.712	0.984
12378-PeCDD	32.90	J EMPC	**1.0006**	**1.0006**	**0**	**2.32E+05**	**2.13**	**N**	**1.06**	**2.2**	**12118.712**	**0.984**
12367-PeCDD	NotFnd		1.0036						1.06		12118.712	0.984
12389-PeCDD	NotFnd		1.0141						1.06		12118.712	0.984
124679/124689-HxCDD	35.08		0.9540	0.9538	-0.4	3.86E+06	1.26	Y	1.05	41	11098.471	0.923
123468-HxCDD	35.74		0.9718	0.9716	-0.4	2.67E+05	1.07	Y	1.05	2.84	11098.471	0.923
123679/123689-HxCDD	36.04		0.9797	0.9797	0	1.59E+06	1.23	Y	1.05	16.9	11098.471	0.923
123469-HxCDD	36.18	J	0.9833	0.9836	+0.7	1.51E+05	1.11	Y	1.05	1.6	11098.471	0.923
123478-HxCDD	NotFnd		**1.0004**						1.06		**11098.471**	**0.932**
123678-HxCDD	36.92		**1.0036**	**1.0036**	**0**	**4.05E+05**	**1.25**	**Y**	1.08	**4.29**	**11098.471**	**0.969**
123467-HxCDD	NotFnd		1.0090						1.05		11098.471	0.923
123789-HxCDD	37.22	J EMPC	**1.0117**	**1.0119**	**+0.4**	**2.35E+05**	**1.02**	**N**	1.02	**2.42**	**11098.471**	**0.874**

Lab ID: B6279_18902_DF_001 **Acq'd:** 08 Feb 2022 22:02 PSW **Wt/Vol:** 10.05 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-020222-S-SB-NC-S-46 **UTP:** 09-Feb-2022 09:00:15 PSW **J-level:** 0.498 pg/g **Split:** 1 **Checkcode:** 320-704-HHQ

Datafile: 220208R12 **Report:** 09 Feb 2022 09:01 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

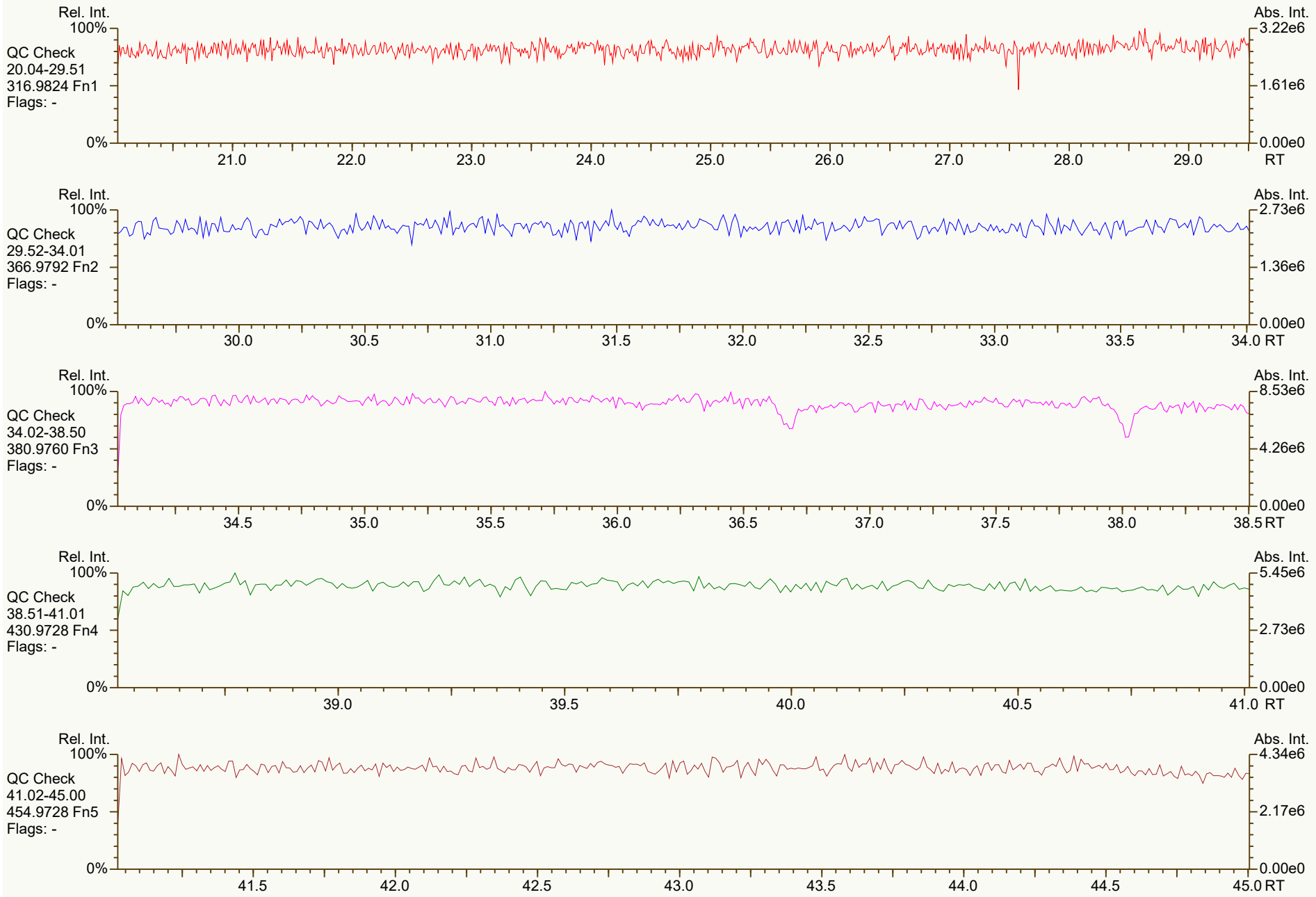
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.37		0.9841	0.9840	-0.2	1.35E+07	1.02	Y	0.97	176	12470.957	0.928
1234678-HpCDD	**40.02**		**1.0003**	**1.0003**	**0**	**9.63E+06**	**1.00**	**Y**	**0.97**	**125**	**12470.957**	**0.928**
OCDD	**42.46**		**1.0003**	**1.0003**	**0**	**1.22E+08**	**0.88**	**Y**	**1.07**	**2,000**	**13559.18**	**1.44**
OCDD-a	42.45		1.0002	1.0001	-0.3	7.82E+06	2.49	Y	0.07	2,070	18384.403	31.7
1368-TCDF	NotFnd		0.8043						0.96		10762.722	0.78
1468-TCDF	21.81		0.8264	0.8242	-2.9	2.51E+05	0.83	Y	0.96	1.64	10762.722	0.78
2468-TCDF	22.49		0.8524	0.8500	-3.2	5.04E+05	0.73	Y	0.96	3.3	10762.722	0.78
1346/1246-TCDF	22.92		0.8658	0.8660	+0.3	1.14E+05	0.78	Y	0.96	0.748	10762.722	0.78
1347/1378/1247-TCDF	23.07		0.8723	0.8717	-0.8	1.34E+06	0.88	Y	0.96	8.76	10762.722	0.78
1348-TCDF	23.33	EMPC	0.8836	0.8818	-2.5	3.24E+05	0.92	N	0.96	2.12	10762.722	0.78
1248/1367/1379-TCDF	23.45		0.8890	0.8862	-3.9	5.39E+06	0.79	Y	0.96	35.2	10762.722	0.78
1268-TCDF	23.90		0.9044	0.9033	-1.6	1.95E+06	0.77	Y	0.96	12.8	10762.722	0.78
1467-TCDF	24.05	EMPC	0.9099	0.9087	-1.7	3.03E+05	1.03	N	0.96	1.98	10762.722	0.78
1478-TCDF	24.23		0.9167	0.9158	-1.3	4.90E+06	0.80	Y	0.96	32	10762.722	0.78
1369/1237-TCDF	24.63		0.9315	0.9308	-1.0	1.17E+06	0.80	Y	0.96	7.67	10762.722	0.78
2467-TCDF	24.77		0.9372	0.9361	-1.6	2.13E+05	0.86	Y	0.96	1.39	10762.722	0.78
2368-TCDF	24.94		0.9434	0.9427	-1.0	3.41E+06	0.75	Y	0.96	22.3	10762.722	0.78
1238/1234/1678/1469/1236-TCDF	25.02		0.9464	0.9455	-1.4	5.00E+06	0.79	Y	0.96	32.7	10762.722	0.78
1278-TCDF	25.52		0.9647	0.9644	-0.5	5.19E+07	0.78	Y	0.96	340	10762.722	0.78
1349-TCDF	NotFnd		0.9695						0.96		10762.722	0.78
1267-TCDF	25.81		0.9758	0.9756	-0.3	2.76E+06	0.79	Y	0.96	18.1	10762.722	0.78
2346/1249-TCDF	26.03	EMPC	0.9831	0.9836	+0.8	2.99E+05	0.90	N	0.96	1.96	10762.722	0.78
2347/1279-TCDF	26.24		0.9919	0.9918	-0.2	1.29E+06	0.71	Y	0.96	8.43	10762.722	0.78
2348-TCDF	26.36		0.9964	0.9961	-0.5	6.59E+06	0.77	Y	0.96	43.1	10762.722	0.78
2378-TCDF	**26.48**		**1.0007**	**1.0008**	**+0.2**	**1.18E+08**	**0.77**	**Y**	**0.96**	**775**	**10762.722**	**0.78**
2367/3467-TCDF	26.86		1.0153	1.0150	-0.5	9.65E+06	0.78	Y	0.96	63.1	10762.722	0.78
1269-TCDF	27.12		1.0246	1.0250	+0.7	1.65E+06	0.79	Y	0.96	10.8	10762.722	0.78
1239-TCDF	NotFnd		1.0345						0.96		10762.722	0.78
1289-TCDF	28.58		1.0779	1.0803	+4.1	8.69E+06	0.80	Y	0.96	56.9	10762.722	0.78
13468/12468-PeCDF	28.50		0.9082	0.9083	+0.2	1.19E+06	1.53	Y	0.94	9.15	12671.034	0.888
13678/13467/12467-PeCDF	30.11	J EMPC	0.9590	0.9593	+0.5	1.73E+05	1.31	N	0.94	1.34	11489.624	0.805
12368/13478/12478-PeCDF	30.27		0.9641	0.9646	+0.9	1.95E+06	1.52	Y	0.94	15	11489.624	0.805
14678-PeCDF	NotFnd		0.9674						0.94		11489.624	0.805
13479-PeCDF	NotFnd		0.9704						0.94		11489.624	0.805
13469/12479-PeCDF	NotFnd		0.9787						0.94		11489.624	0.805
12346-PeCDF	NotFnd		0.9832						0.94		11489.624	0.805

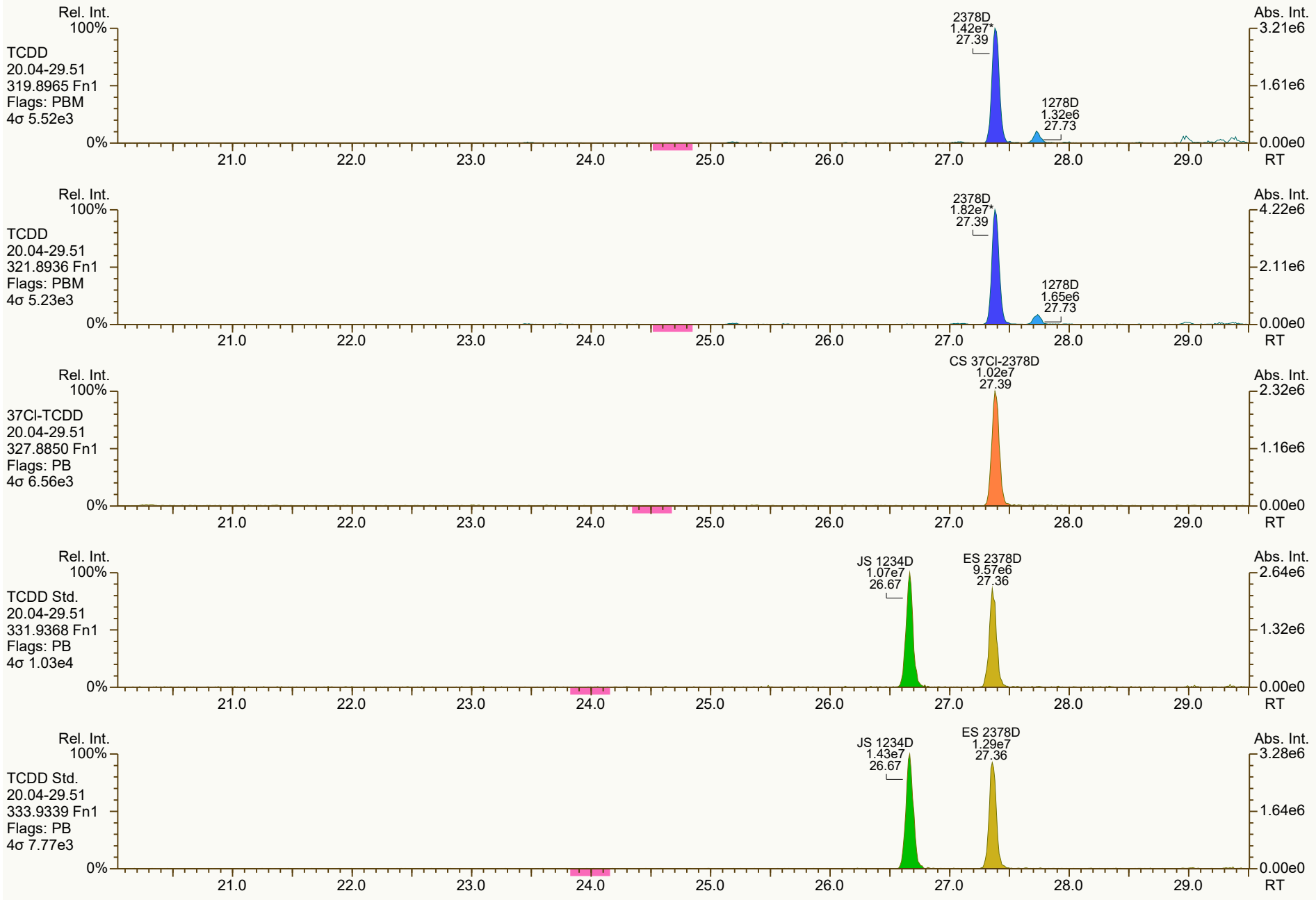
Lab ID: B6279_18902_DF_001 **Acq'd: 08 Feb 2022 22:02 PSW** **Wt/Vol: 10.05 g** **ICAL: MM3_DF_10272021_27JUL2021**

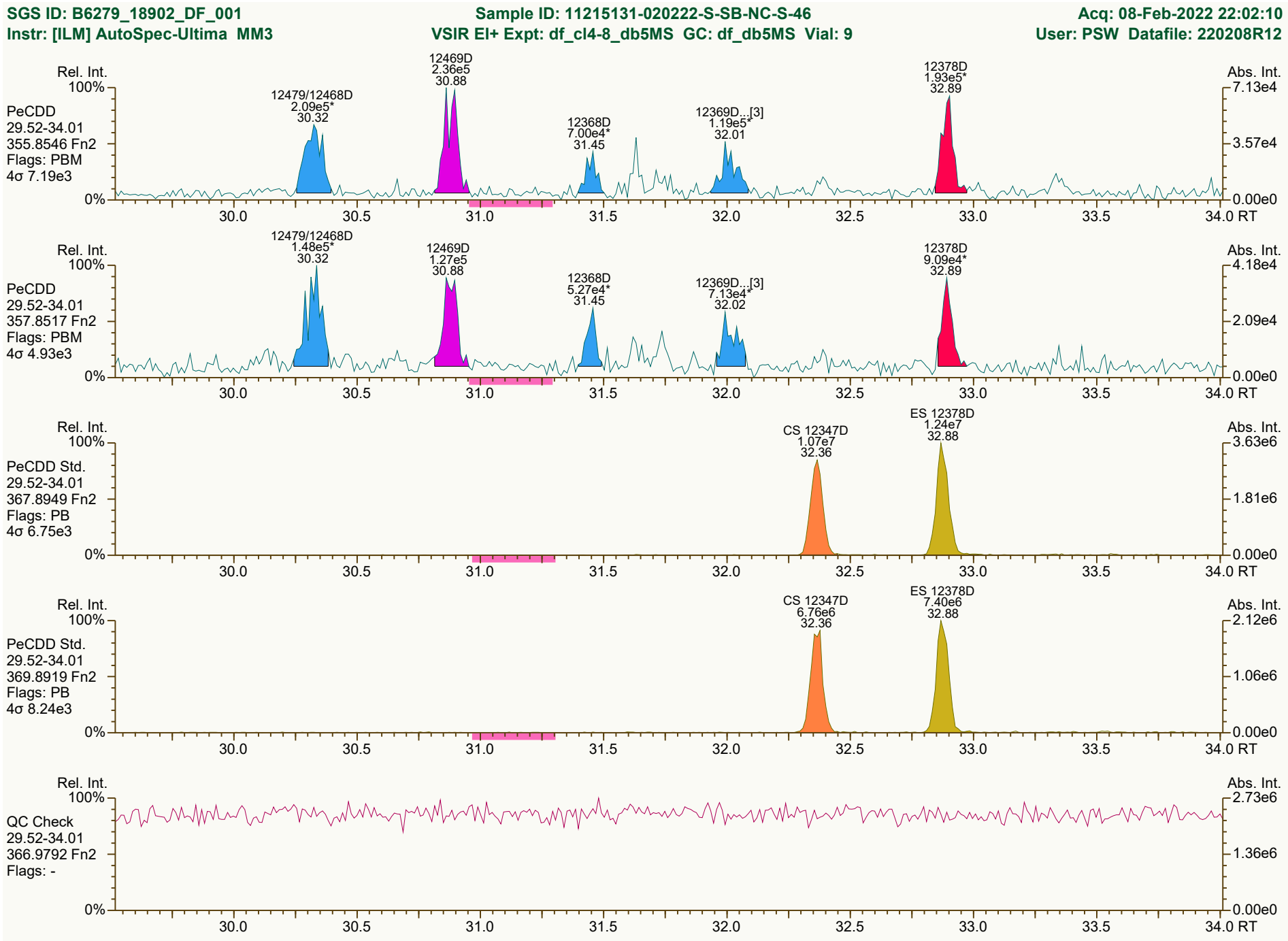
Client ID: 11215131-020222-S-SB-NC-S-46 **UTP: 09-Feb-2022 09:00:15 PSW** **J-level: 0.498 pg/g** **Split: 1** **Checkcode: 320-704-HHQ**

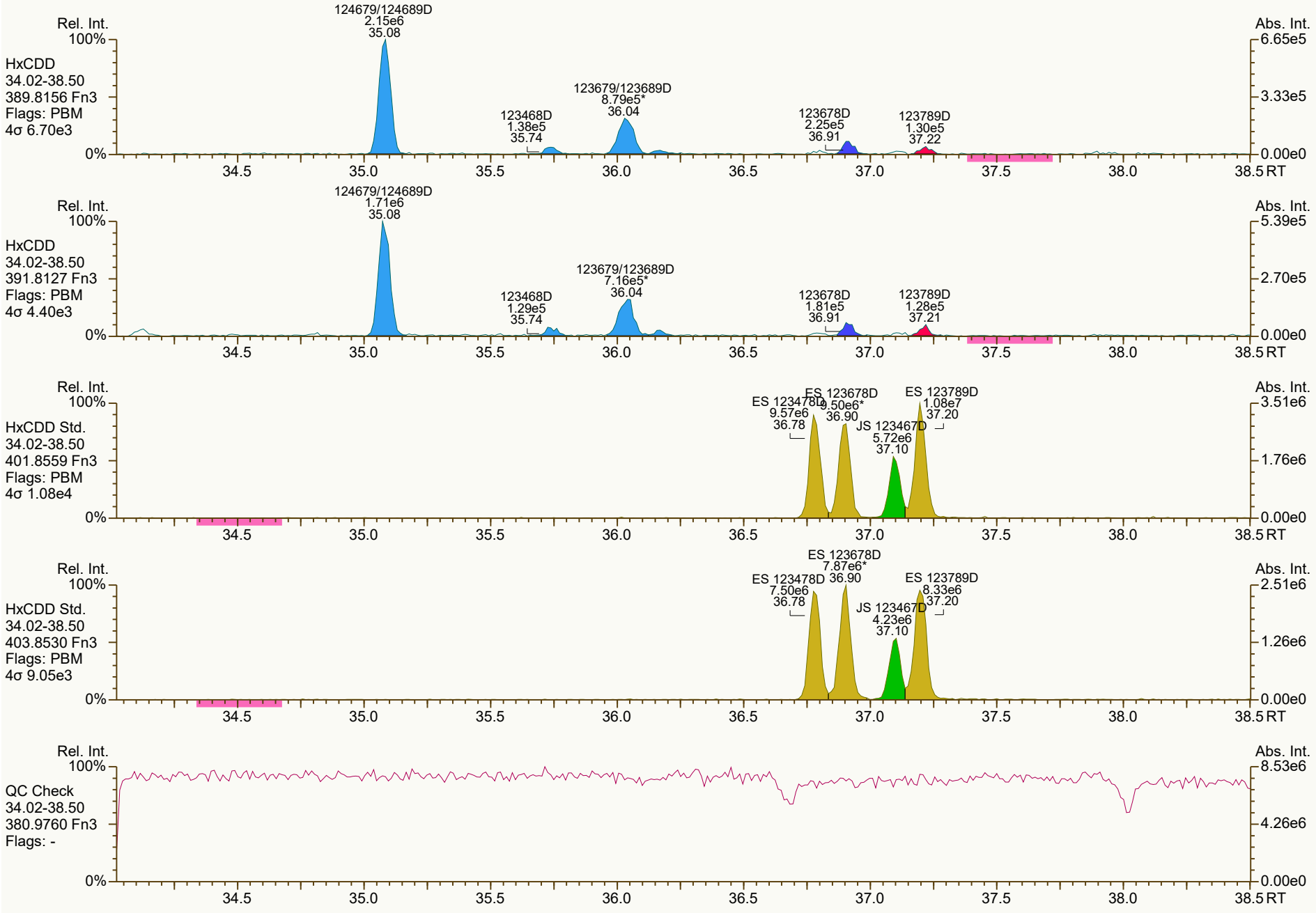
Datafile: 220208R12 **Report: 09 Feb 2022 09:01 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	30.96	J	0.9865	0.9864	-0.2	3.00E+05	1.54	Y	0.94	2.31	11489.624	0.805
12347-PeCDF	31.03	J	0.9886	0.9888	+0.4	1.11E+05	1.61	Y	0.94	0.854	11489.624	0.805
12348-PeCDF	31.19	EMPC	0.9937	0.9938	+0.2	3.68E+05	1.79	N	0.94	2.83	11489.624	0.805
12378-PeCDF	**31.40**		**1.0006**	**1.0006**	**0**	**3.05E+06**	**1.50**	**Y**	**0.95**	**23.3**	**11489.624**	**0.787**
12678/12367-PeCDF	31.71		1.0096	1.0103	+1.3	1.13E+06	1.62	Y	0.94	8.67	11489.624	0.805
12379-PeCDF	NotFnd		1.0149						0.94		11489.624	0.805
12679-PeCDF	NotFnd		0.9922						0.94		11489.624	0.805
23467/12369-PeCDF	NotFnd		0.9965						0.94		11489.624	0.805
23478-PeCDF	**32.56**		**1.0006**	**1.0008**	**+0.4**	**2.69E+06**	**1.63**	**Y**	**0.94**	**20.9**	**11489.624**	**0.824**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		11489.624	0.805
12349-PeCDF	NotFnd		1.0101						0.94		11489.624	0.805
12389-PeCDF	33.64	J EMPC	1.0335	1.0339	+0.8	1.45E+05	1.10	N	0.94	1.11	11489.624	0.805
123468-HxCDF	34.41		0.9614	0.9611	-0.6	3.79E+05	1.23	Y	1.16	3.05	11758.127	0.753
124678/134678-HxCDF	34.62		0.9671	0.9669	-0.4	1.46E+06	1.27	Y	1.16	11.8	11758.127	0.753
134679-HxCDF	NotFnd		0.9734						1.16		11758.127	0.753
124679-HxCDF	NotFnd		0.9791						1.16		11758.127	0.753
124689-HxCDF	35.28		0.9853	0.9853	0	1.33E+06	1.12	Y	1.16	10.7	11758.127	0.753
123467-HxCDF	35.70	J	0.9971	0.9970	-0.2	1.27E+05	1.24	Y	1.16	1.02	11758.127	0.753
123478-HxCDF	**35.82**		**1.0004**	**1.0005**	**+0.2**	**4.94E+06**	**1.15**	**Y**	**1.23**	**39.4**	**11758.127**	**0.765**
123678-HxCDF	**35.96**		**1.0004**	**1.0005**	**+0.2**	**1.26E+06**	**1.32**	**Y**	**1.13**	**9.75**	**11758.127**	**0.754**
123479-HxCDF	NotFnd		1.0048						1.16		11758.127	0.753
123469-HxCDF	NotFnd		1.0090						1.16		11758.127	0.753
123679-HxCDF	NotFnd		0.9940						1.16		11758.127	0.753
234678-HxCDF	**36.62**		**1.0004**	**1.0003**	**-0.2**	**4.35E+05**	**1.41**	**Y**	**1.15**	**3.45**	**11758.127**	**0.72**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		11758.127	0.753
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**11758.127**	**0.776**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.64		1.0008	1.0014	+1.4	3.67E+05	1.12	Y	1.16	2.95	11758.127	0.753
1234678-HpCDF	**39.10**		**1.0003**	**1.0003**	**0**	**6.15E+06**	**1.04**	**Y**	**1.36**	**51.1**	**10814.029**	**0.631**
1234679-HpCDF	39.37		1.0072	1.0072	0	2.99E+05	1.03	Y	1.33	2.8	10814.029	0.635
1234689-HpCDF	39.51		1.0108	1.0109	+0.2	4.01E+06	1.05	Y	1.33	37.6	10814.029	0.635
1234789-HpCDF	**40.44**		**1.0002**	**1.0004**	**+0.5**	**7.06E+05**	**1.14**	**Y**	**1.30**	**7.56**	**10814.029**	**0.638**
OCDF	**42.62**		**1.0002**	**1.0003**	**+0.3**	**8.79E+07**	**0.88**	**Y**	**1.03**	**1,230**	**12666.682**	**1.13**
OCDF-a	42.62		1.0002	1.0002	0	5.24E+06	2.34	Y	0.06	1,270	17556.843	27.2


Rel. Int.
100%
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.22e6
1.61e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.73e6
1.36e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
QC Check
34.02-38.50
380.9760 Fn3
Flags: -
0%
Abs. Int.
8.53e6
4.26e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
QC Check
38.51-41.01
430.9728 Fn4
Flags: -
0%
Abs. Int.
5.45e6
2.73e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
QC Check
41.02-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.34e6
2.17e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
20.04-29.51
319.8965 Fn1
Flags: PBM
4σ 5.52e3
0%
2378D
1.42e7*
27.39
1278D
1.32e6
27.73
Abs. Int.
3.21e6
1.61e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD
20.04-29.51
321.8936 Fn1
Flags: PBM
4σ 5.23e3
0%
2378D
1.82e7*
27.39
1278D
1.65e6
27.73
Abs. Int.
4.22e6
2.11e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
37Cl-TCDD
20.04-29.51
327.8850 Fn1
Flags: PB
4σ 6.56e3
0%
CS 37Cl-2378D
1.02e7
27.39
Abs. Int.
2.32e6
1.16e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.04-29.51
331.9368 Fn1
Flags: PB
4σ 1.03e4
0%
JS 1234D
1.07e7
26.67
ES 2378D
9.57e6
27.36
Abs. Int.
2.64e6
1.32e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.04-29.51
333.9339 Fn1
Flags: PB
4σ 7.77e3
0%
JS 1234D
1.43e7
26.67
ES 2378D
1.29e7
27.36
Abs. Int.
3.28e6
1.64e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT

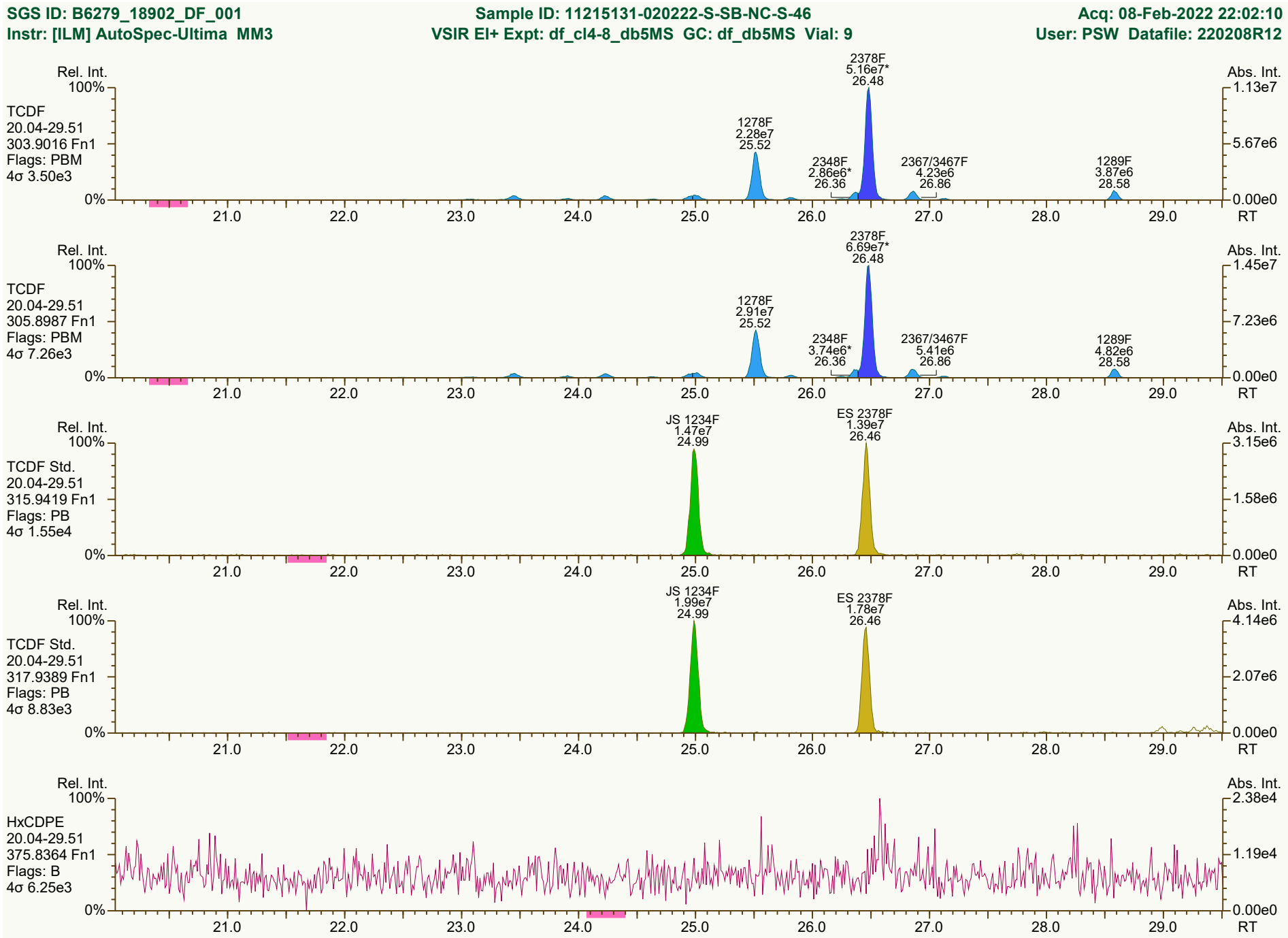

SGS ID: B6279_18902_DF_001
Sample ID: 11215131-020222-S-SB-NC-S-46
Acq: 08-Feb-2022 22:02:10
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 9
User: PSW Datafile: 220208R12
Rel. Int.
Abs. Int.
PeCDD
29.52-34.01
355.8546 Fn2
Flags: PBM
4σ 7.19e3
12479/12468D
2.09e5*
30.32
12469D
2.36e5
30.88
12368D
7.00e4*
31.45
12369D...[3]
1.19e5*
32.01
12378D
1.93e5*
32.89
7.13e4
3.57e4
0.00e0
PeCDD
29.52-34.01
357.8517 Fn2
Flags: PBM
4σ 4.93e3
12479/12468D
1.48e5*
30.32
12469D
1.27e5
30.88
12368D
5.27e4*
31.45
12369D...[3]
7.13e4*
32.02
12378D
9.09e4*
32.89
4.18e4
2.09e4
0.00e0
PeCDD Std.
29.52-34.01
367.8949 Fn2
Flags: PB
4σ 6.75e3
CS 12347D
1.07e7
32.36
ES 12378D
1.24e7
32.88
3.63e6
1.81e6
0.00e0
PeCDD Std.
29.52-34.01
369.8919 Fn2
Flags: PB
4σ 8.24e3
CS 12347D
6.76e6
32.36
ES 12378D
7.40e6
32.88
2.12e6
1.06e6
0.00e0
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
2.73e6
1.36e6
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Results: P:\B6200_B6299\B6279\B6279_18902 DF\Resources\B6279_18902_DF_001.utp_res, saved 09-Feb-2022 09:00 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2871, 1672 scc: 320-704
PKD: 09-Feb-2022 08:28 Printed: 09-Feb-2022 09:05 Page 3 of 12


Rel. Int.
100%
HxCDD
34.02-38.50
389.8156 Fn3
Flags: PBM
4σ 6.70e3
0%
124679/124689D
2.15e6
35.08
123468D
1.38e5
35.74
123679/123689D
8.79e5*
36.04
123678D
2.25e5
36.91
123789D
1.30e5
37.22
Abs. Int.
6.65e5
3.33e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDD
34.02-38.50
391.8127 Fn3
Flags: PBM
4σ 4.40e3
0%
124679/124689D
1.71e6
35.08
123468D
1.29e5
35.74
123679/123689D
7.16e5*
36.04
123678D
1.81e5
36.91
123789D
1.28e5
37.21
Abs. Int.
5.39e5
2.70e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDD Std.
34.02-38.50
401.8559 Fn3
Flags: PBM
4σ 1.08e4
0%
ES 123478D
9.57e6
36.78
ES 123678D
9.50e6*
36.90
JS 123467D
5.72e6
37.10
ES 123789D
1.08e7
37.20
Abs. Int.
3.51e6
1.76e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDD Std.
34.02-38.50
403.8530 Fn3
Flags: PBM
4σ 9.05e3
0%
ES 123678D
7.87e6*
ES 123478D
7.50e6
36.78
36.90
JS 123467D
4.23e6
37.10
ES 123789D
8.33e6
37.20
Abs. Int.
2.51e6
1.26e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
QC Check
34.02-38.50
380.9760 Fn3
Flags: -
0%
Abs. Int.
8.53e6
4.26e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT


Rel. Int.
100%
HpCDD
38.51-41.01
423.7767 Fn4
Flags: PB
4σ 5.62e3
0%
1234679D
6.84e6
39.37
1234678D
4.82e6
40.02
Abs. Int.
2.65e6
1.33e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD
38.51-41.01
425.7737 Fn4
Flags: PB
4σ 6.85e3
0%
1234679D
6.70e6
39.36
1234678D
4.81e6
40.01
Abs. Int.
2.62e6
1.31e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.51-41.01
435.8169 Fn4
Flags: PB
4σ 9.49e3
0%
ES 1234678D
8.16e6
40.00
Abs. Int.
3.57e6
1.79e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.51-41.01
437.8140 Fn4
Flags: PB
4σ 8.71e3
0%
ES 1234678D
7.54e6
40.00
Abs. Int.
3.42e6
1.71e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
QC Check
38.51-41.01
430.9728 Fn4
Flags: -
0%
Abs. Int.
5.45e6
2.73e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT


OCDD
5.74e7
42.46
Rel. Int.
100%
OCDD
41.02-45.00
457.7377 Fn5
Flags: PB
4σ 7.43e3
0%
Abs. Int.
2.05e7
1.02e7
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
6.49e7
42.45
Rel. Int.
100%
OCDD
41.02-45.00
459.7348 Fn5
Flags: PB
4σ 6.13e3
0%
Abs. Int.
2.28e7
1.14e7
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.09e7
42.44
Rel. Int.
100%
OCDD Std.
41.02-45.00
469.7780 Fn5
Flags: PB
4σ 7.65e3
0%
Abs. Int.
4.19e6
2.10e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.19e7
42.44
Rel. Int.
100%
OCDD Std.
41.02-45.00
471.7750 Fn5
Flags: PB
4σ 9.73e3
0%
Abs. Int.
4.08e6
2.04e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.02-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.34e6
2.17e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: B6279_18902_DF_001 | Sample ID: 11215131-020222-S-SB-NC-S-46 | Acq: 08-Feb-2022 22:02:10
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 9 | User: PSW Datafile: 220208R12



Results: P:\B6200_B6299\B6279\B6279_18902 DF\Resources\B6279_18902_DF_001.utp_res, saved 09-Feb-2022 09:00 (PSW) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7107, 2244, 6015 scc: 320-704 | PKD: 09-Feb-2022 08:28 Printed: 09-Feb-2022 09:05 Page 7 of 12

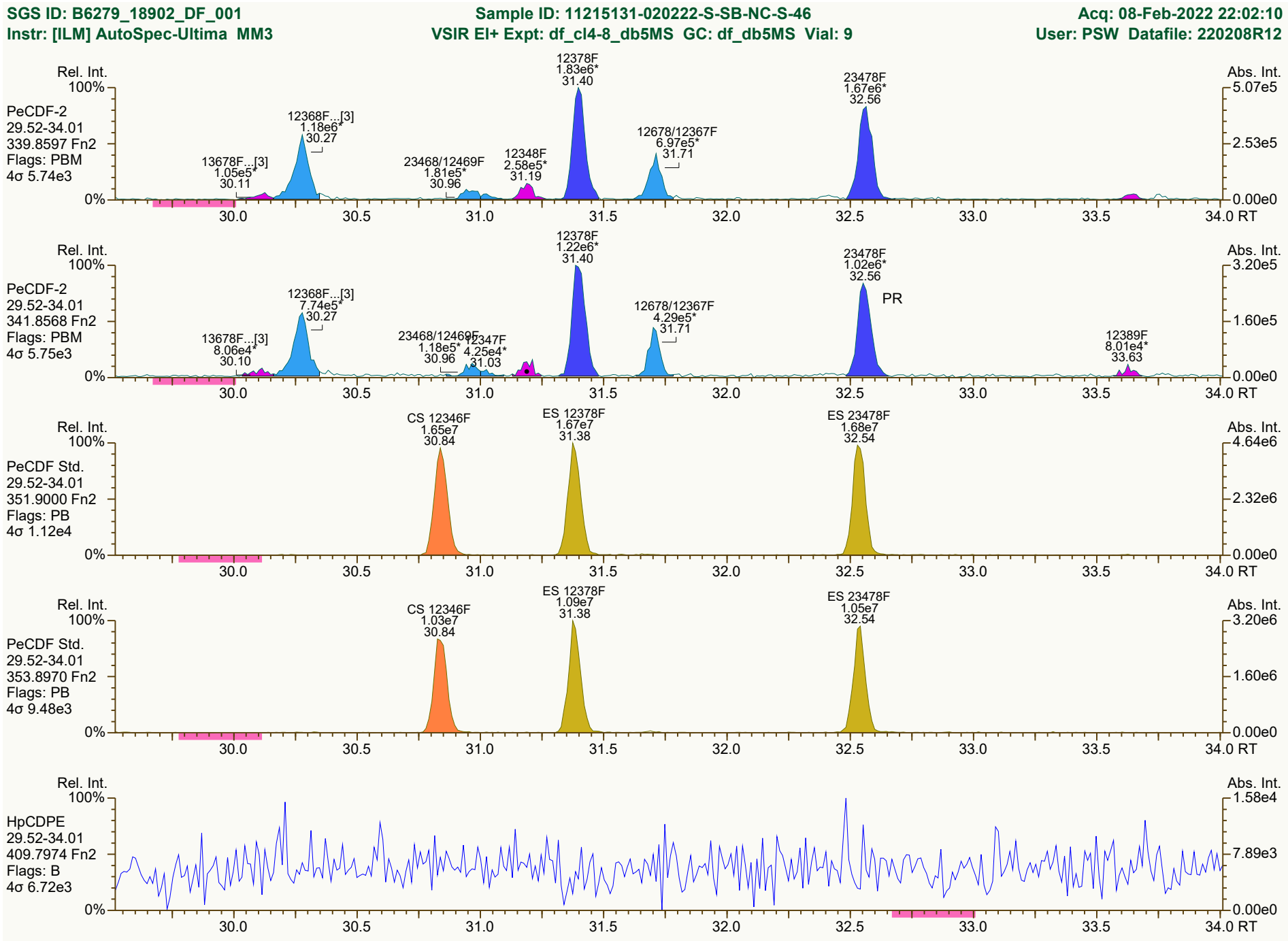
SGS ID: B6279_18902_DF_001 | Sample ID: 11215131-020222-S-SB-NC-S-46 | Acq: 08-Feb-2022 22:02:10

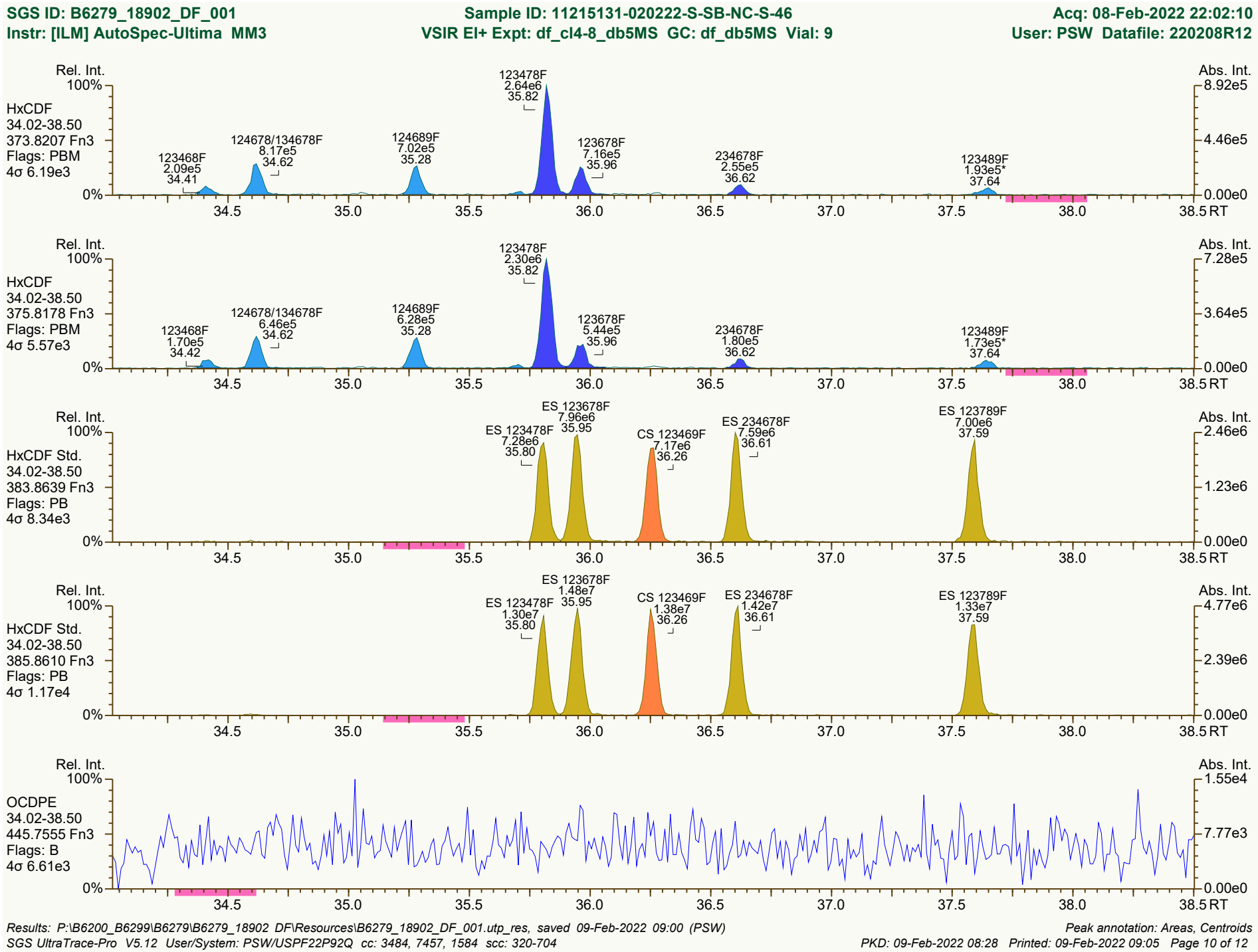
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 9 | User: PSW Datafile: 220208R12



Results: P:\B6200_B6299\B6279\B6279_18902 DF\Resources\B6279_18902_DF_001.utp_res, saved 09-Feb-2022 09:00 (PSW) | *Peak annotation: Areas, Centroids*

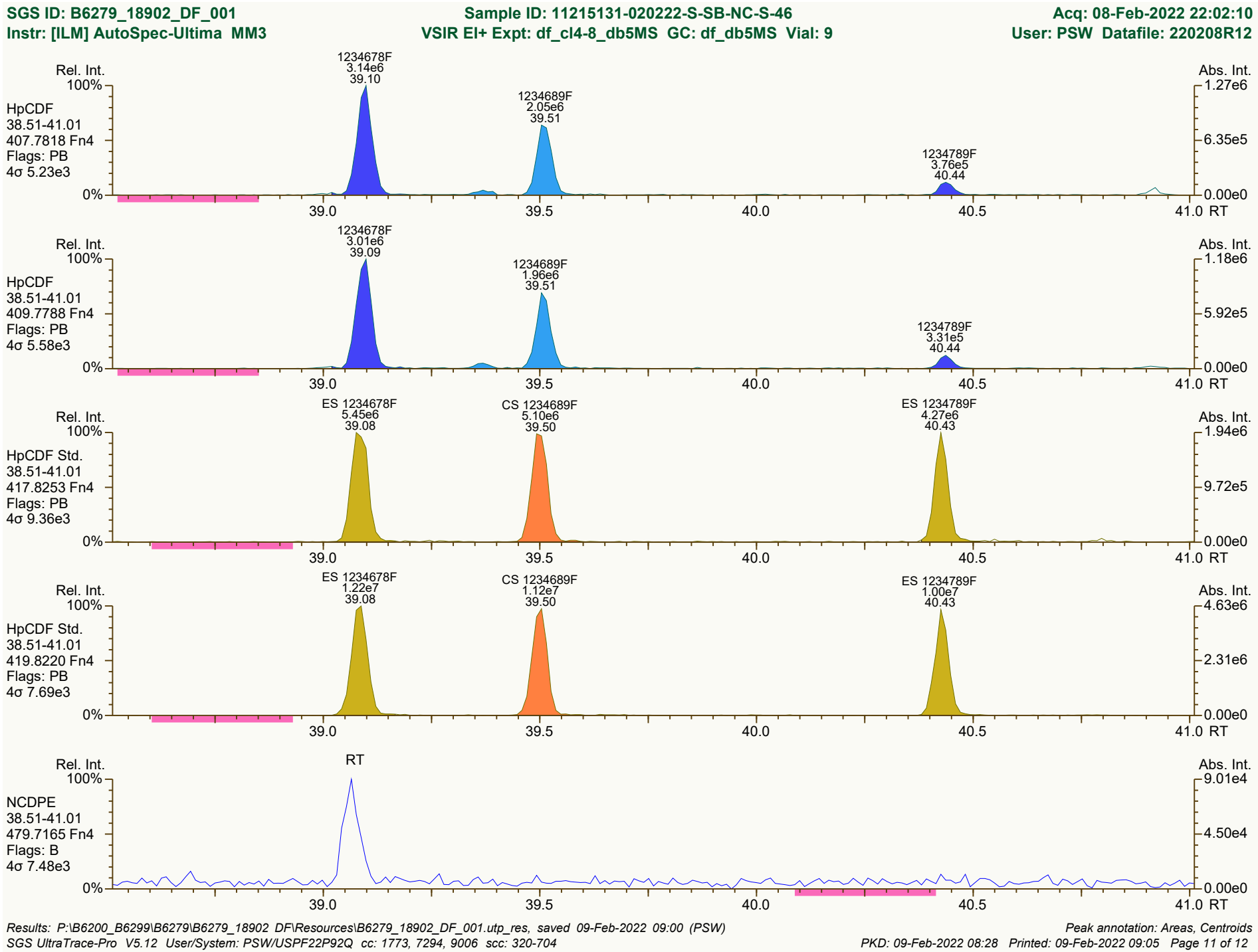
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4858 scc: 320-704 | *PKD: 09-Feb-2022 08:28 Printed: 09-Feb-2022 09:05 Page 8 of 12*


SGS ID: B6279_18902_DF_001
Sample ID: 11215131-020222-S-SB-NC-S-46
Acq: 08-Feb-2022 22:02:10
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 9
User: PSW Datafile: 220208R12
PeCDF-2
29.52-34.01
339.8597 Fn2
Flags: PBM
4σ 5.74e3
13678F...[3] 1.05e5* 30.11
12368F...[3] 1.18e6* 30.27
23468/12469F 1.81e5* 30.96
12348F 2.58e5* 31.19
12378F 1.83e6* 31.40
12678/12367F 6.97e5* 31.71
23478F 1.67e6* 32.56
PeCDF-2
29.52-34.01
341.8568 Fn2
Flags: PBM
4σ 5.75e3
13678F...[3] 8.06e4* 30.10
12368F...[3] 7.74e5* 30.27
23468/12469F 1.18e5* 30.96
12347F 4.25e4* 31.03
12378F 1.22e6* 31.40
12678/12367F 4.29e5* 31.71
23478F 1.02e6* 32.56
PR
12389F 8.01e4* 33.63
PeCDF Std.
29.52-34.01
351.9000 Fn2
Flags: PB
4σ 1.12e4
CS 12346F 1.65e7 30.84
ES 12378F 1.67e7 31.38
ES 23478F 1.68e7 32.54
PeCDF Std.
29.52-34.01
353.8970 Fn2
Flags: PB
4σ 9.48e3
CS 12346F 1.03e7 30.84
ES 12378F 1.09e7 31.38
ES 23478F 1.05e7 32.54
HpCDPE
29.52-34.01
409.7974 Fn2
Flags: B
4σ 6.72e3
Rel. Int.
Abs. Int.
RT
Results: P:\B6200_B6299\B6279\B6279_18902 DF\Resources\B6279_18902_DF_001.utp_res, saved 09-Feb-2022 09:00 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8218, 6847, 6198 scc: 320-704
PKD: 09-Feb-2022 08:28 Printed: 09-Feb-2022 09:05 Page 9 of 12



Results: P:\B6200_B6299\B6279\B6279_18902 DF\Resources\B6279_18902_DF_001.utp_res, saved 09-Feb-2022 09:00 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3484, 7457, 1584 scc: 320-704
PKD: 09-Feb-2022 08:28 Printed: 09-Feb-2022 09:05 Page 10 of 12

SGS ID: B6279_18902_DF_001 | Sample ID: 11215131-020222-S-SB-NC-S-46 | Acq: 08-Feb-2022 22:02:10
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 9 | User: PSW Datafile: 220208R12



Results: P:\B6200_B6299\B6279\B6279_18902 DF\Resources\B6279_18902_DF_001.utp_res, saved 09-Feb-2022 09:00 (PSW) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1773, 7294, 9006 scc: 320-704 | PKD: 09-Feb-2022 08:28 Printed: 09-Feb-2022 09:05 Page 11 of 12


Rel. Int.
100%
OCDF
41.02-45.00
441.7428 Fn5
Flags: PB
4σ 5.93e3
0%
OCDF
4.11e7
42.62
Abs. Int.
1.54e7
7.68e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.02-45.00
443.7398 Fn5
Flags: PB
4σ 6.74e3
0%
OCDF
4.68e7
42.62
Abs. Int.
1.70e7
8.51e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.02-45.00
453.7830 Fn5
Flags: PB
4σ 8.33e3
0%
ES OCDF
1.34e7
42.61
Abs. Int.
5.23e6
2.62e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.02-45.00
455.7801 Fn5
Flags: PB
4σ 1.09e4
0%
ES OCDF
1.43e7
42.61
Abs. Int.
5.35e6
2.67e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.02-45.00
513.6775 Fn5
Flags: B
4σ 5.04e3
0%
Abs. Int.
1.14e4
5.70e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6279_18902_DF_002 **Acq'd:** 08 Feb 2022 22:49 PSW **Wt/Vol:** 10.12 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-020222-S-SB-NC-S-45 **UTP:** 09-Feb-2022 09:00:16 PSW **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 252-399-BZY

Datafile: 220208R13 **Report:** 09 Feb 2022 09:01 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	27.39		1.0008	1.0008	0	1.49E+07	0.78	Y	1.34	88.7	11214.587	0.687
12378-PeCDD	32.89	J	1.0006	1.0006	0	2.24E+05	1.36	Y	1.06	1.9	11332.051	0.848
123478-HxCDD	36.80	J	1.0004	1.0005	+0.2	2.24E+05	1.40	Y	1.06	2.12	11727.316	0.946
123678-HxCDD	36.91		1.0036	1.0036	0	7.55E+05	1.34	Y	1.08	7.11	11727.316	0.888
123789-HxCDD	37.21		1.0117	1.0117	0	4.71E+05	1.35	Y	1.02	4.28	11727.316	0.847
1234678-HpCDD	40.02		1.0003	1.0003	0	2.29E+07	1.03	Y	0.97	279	11969.897	0.904
OCDD	42.46		1.0003	1.0003	0	1.87E+08	0.91	Y	1.07	3,390	12831.652	1.46
2378-TCDF	26.49		1.0007	1.0009	+0.3	5.67E+07	0.79	Y	0.96	339	11817.671	0.831
12378-PeCDF	31.40		1.0006	1.0006	0	2.04E+06	1.50	Y	0.95	14.4	12391.337	0.812
23478-PeCDF	32.56	PR	1.0006	1.0007	+0.2	1.68E+06	1.73	Y	0.94	12	12391.337	0.768
123478-HxCDF	35.82		1.0004	1.0005	+0.2	3.31E+06	1.26	Y	1.23	23.2	9477.163	0.534
123678-HxCDF	35.96		1.0004	1.0005	+0.2	9.40E+05	1.28	Y	1.13	6.5	9477.163	0.5
234678-HxCDF	36.62		1.0004	1.0004	0	4.74E+05	1.41	Y	1.15	3.52	9477.163	0.527
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	9477.163	0.66
1234678-HpCDF	39.10		1.0003	1.0003	0	5.05E+06	1.05	Y	1.36	40.7	10804.271	0.538
1234789-HpCDF	40.44		1.0002	1.0003	+0.2	4.40E+05	1.09	Y	1.30	4.22	10804.271	0.596
OCDF	42.63		1.0002	1.0003	+0.3	1.11E+07	0.87	Y	1.03	170	12736.607	1.24

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	27.36	1.0259	1.0262	+0.5	2.48E+07	0.75	Y	1.03	80.5
ES 12378-PeCDD	32.87	1.2310	1.2328	+3.6	2.21E+07	1.64	Y	1.03	71.7
ES 123478-HxCDD	36.78	0.9915	0.9915	0	1.98E+07	1.29	Y	0.99	77.2
ES 123678-HxCDD	36.90	0.9947	0.9947	0	1.94E+07	1.24	Y	0.97	77.3
ES 123789-HxCDD	37.20	1.0027	1.0027	0	2.14E+07	1.26	Y	1.12	74
ES 1234678-HpCDD	40.01	1.0776	1.0784	+1.9	1.67E+07	1.01	Y	0.99	65.2
ES OCDD	42.45	1.1435	1.1442	+1.8	2.04E+07	0.88	Y	0.78	50.9
ES 2378-TCDF	26.46	1.0583	1.0584	+0.2	3.44E+07	0.80	Y	1.08	76
ES 12378-PeCDF	31.38	1.2530	1.2551	+4.0	2.96E+07	1.63	Y	0.93	76
ES 23478-PeCDF	32.53	1.2990	1.3013	+4.5	2.94E+07	1.57	Y	0.92	76.4
ES 123478-HxCDF	35.80	0.9652	0.9651	-0.2	2.29E+07	0.52	Y	1.14	77.7
ES 123678-HxCDF	35.95	0.9689	0.9690	+0.2	2.53E+07	0.55	Y	1.30	75.7
ES 234678-HxCDF	36.61	0.9868	0.9868	0	2.31E+07	0.51	Y	1.20	74.7
ES 123789-HxCDF	37.59	1.0131	1.0132	+0.2	2.13E+07	0.50	Y	1.14	72.9
ES 1234678-HpCDF	39.09	1.0529	1.0536	+1.6	1.80E+07	0.46	Y	0.95	73.5
ES 1234789-HpCDF	40.43	1.0891	1.0899	+1.9	1.58E+07	0.45	Y	0.85	72.5
ES OCDF	42.62	1.1480	1.1487	+1.8	2.51E+07	0.94	Y	0.93	52.7

Lab ID: B6279_18902_DF_002 **Acq'd:** 08 Feb 2022 22:49 PSW **Wt/Vol:** 10.12 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-020222-S-SB-NC-S-45 **UTP:** 09-Feb-2022 09:00:16 PSW **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 252-399-BZY

Datafile: 220208R13 **Report:** 09 Feb 2022 09:01 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.67		-	-	-	2.98E+07	0.78	Y	-	-
JS 1234-TCDF	25.00		-	-	-	4.17E+07	0.77	Y	-	-
JS 123467-HxCDD	37.10		-	-	-	1.29E+07	1.22	Y	-	-
CS 37Cl-2378-TCDD	27.39		1.0267	1.0270	+0.5	1.09E+07	n/a	-	1.31	69.7
CS 12347-PeCDD	32.36		1.2119	1.2136	+3.3	1.95E+07	1.60	Y	0.89	73.5
CS 12346-PeCDF	30.84		1.2314	1.2334	+3.7	2.93E+07	1.54	Y	0.87	80.9
CS 123469-HxCDF	36.26		0.9773	0.9773	0	2.31E+07	0.53	Y	1.09	82.3
CS 1234689-HpCDF	39.50		1.0640	1.0648	+1.9	1.71E+07	0.44	Y	0.86	76.7
~~SS 37Cl-2378-TCDD~~	~~27.39~~		~~1.0267~~	~~1.0270~~	~~+0.5~~	~~1.09E+07~~	~~n/a~~		~~1.26~~	~~87~~
~~SS 12347-PeCDD~~	~~32.36~~		~~1.2119~~	~~1.2136~~	~~+3.3~~	~~1.95E+07~~	~~1.60~~	~~Y~~	~~0.86~~	~~102~~
~~SS 12346-PeCDF~~	~~30.84~~		~~1.2314~~	~~1.2334~~	~~+3.7~~	~~2.93E+07~~	~~1.54~~	~~Y~~	~~0.93~~	~~106~~
~~SS 123469-HxCDF~~	~~36.26~~		~~0.9773~~	~~0.9773~~	~~0~~	~~2.31E+07~~	~~0.53~~	~~Y~~	~~0.84~~	~~109~~
~~SS 1234689-HpCDF~~	~~39.50~~		~~1.0640~~	~~1.0648~~	~~+1.9~~	~~1.71E+07~~	~~0.44~~	~~Y~~	~~0.91~~	~~104~~

Totals	Conc	EMPC
Total TCDD	92	101
Total PeCDD	8.34	11.7
Total HxCDD	82.4	83.7
Total HpCDD	663	663
Total Tetra-Octa Dioxins	4240	4250
Total TCDF	656	663
Total PeCDF	59.3	62.3
Total HxCDF	70.8	72.8
Total HpCDF	115	115
Total Tetra-Octa Furans	1,070	1080
Total Tetra-Octa Dioxins & Furans	5310	5330

Lab ID: B6279_18902_DF_002 **Acq'd: 08 Feb 2022 22:49 PSW** **Wt/Vol: 10.12 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-020222-S-SB-NC-S-45 **UTP: 09-Feb-2022 09:00:16 PSW** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 252-399-BZY**

Datafile: 220208R13 **Report: 09 Feb 2022 09:01 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	23.49	EMPC	0.8600	0.8586	-2.0	1.71E+05	0.99	N	1.34	1.01	11214.587	0.687
1379-TCDD	NotFnd		0.8739						1.34		11214.587	0.687
1369-TCDD	NotFnd		0.8911						1.34		11214.587	0.687
1469-TCDD	25.19		0.9214	0.9204	-1.5	2.51E+05	0.81	Y	1.34	1.49	11214.587	0.687
1247/1246/1248/1249-TCDD	NotFnd		0.9305						1.34		11214.587	0.687
1378-TCDD	NotFnd		0.9377						1.34		11214.587	0.687
1268-TCDD	NotFnd		0.9455						1.34		11214.587	0.687
1478-TCDD	NotFnd		0.9552						1.34		11214.587	0.687
1279-TCDD	NotFnd		0.9613						1.34		11214.587	0.687
1234/1269-TCDD	NotFnd		0.9750						1.34		11214.587	0.687
1236-TCDD	NotFnd		0.9802						1.34		11214.587	0.687
1237/1238-TCDD	27.09		0.9898	0.9900	+0.3	3.19E+05	0.72	Y	1.34	1.89	11214.587	0.687
1239-TCDD	NotFnd		0.9948						1.34		11214.587	0.687
2378-TCDD	**27.39**		**1.0008**	1.0008	**0**	1.49E+07	0.78	Y	**1.34**	**88.7**	**11214.587**	**0.687**
1278-TCDD	27.74	EMPC	1.0135	1.0136	+0.2	1.33E+06	0.94	N	1.34	7.92	11214.587	0.687
1267-TCDD	NotFnd		1.0188						1.34		11214.587	0.687
1289-TCDD	NotFnd		1.0379						1.34		11214.587	0.687
12479/12468-PeCDD	30.32	EMPC	0.9227	0.9223	-0.7	3.05E+05	1.85	N	1.06	2.57	11332.051	0.848
12469-PeCDD	30.88	J	0.9396	0.9392	-0.7	2.33E+05	1.52	Y	1.06	1.97	11332.051	0.848
12368-PeCDD	31.45	J	0.9567	0.9565	-0.4	1.56E+05	1.72	Y	1.06	1.32	11332.051	0.848
12478-PeCDD	31.64	J	0.9626	0.9624	-0.4	1.55E+05	1.46	Y	1.06	1.31	11332.051	0.848
12379-PeCDD	31.74	J EMPC	0.9655	0.9654	-0.2	9.55E+04	2.04	N	1.06	0.807	11332.051	0.848
12369/12467/12489-PeCDD	32.01	J	0.9738	0.9737	-0.2	2.19E+05	1.54	Y	1.06	1.85	11332.051	0.848
12346/12347-PeCDD	NotFnd		0.9852						1.06		11332.051	0.848
12378-PeCDD	32.89	J	**1.0006**	**1.0006**	**0**	**2.24E+05**	**1.36**	**Y**	**1.06**	**1.9**	**11332.051**	**0.848**
12367-PeCDD	NotFnd		1.0036						1.06		11332.051	0.848
12389-PeCDD	NotFnd		1.0141						1.06		11332.051	0.848
124679/124689-HxCDD	35.08		0.9540	0.9537	-0.6	3.76E+06	1.20	Y	1.05	35	11727.316	0.892
123468-HxCDD	35.74		0.9718	0.9717	-0.2	3.94E+05	1.42	Y	1.05	3.67	11727.316	0.892
123679/123689-HxCDD	36.04		0.9797	0.9798	+0.2	2.92E+06	1.23	Y	1.05	27.1	11727.316	0.892
123469-HxCDD	36.16		0.9833	0.9831	-0.4	3.26E+05	1.13	Y	1.05	3.03	11727.316	0.892
123478-HxCDD	36.80	J	**1.0004**	**1.0005**	**+0.2**	**2.24E+05**	**1.40**	**Y**	1.06	**2.12**	**11727.316**	**0.946**
123678-HxCDD	36.91		**1.0036**	**1.0036**	**0**	**7.55E+05**	**1.34**	**Y**	1.08	**7.11**	**11727.316**	**0.888**
123467-HxCDD	37.11	J EMPC	1.0090	1.0090	0	1.38E+05	1.67	N	1.05	1.28	11727.316	0.892
123789-HxCDD	37.21		**1.0117**	**1.0117**	**0**	**4.71E+05**	**1.35**	**Y**	1.02	**4.28**	**11727.316**	**0.847**

Lab ID: B6279_18902_DF_002 | **Acq'd: 08 Feb 2022 22:49 PSW** | **Wt/Vol: 10.12 g** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-020222-S-SB-NC-S-45 | **UTP: 09-Feb-2022 09:00:16 PSW** | **J-level: 0.494 pg/g** | **Split: 1** | **Checkcode: 252-399-BZY**

Datafile: 220208R13 | **Report: 09 Feb 2022 09:01 gd** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

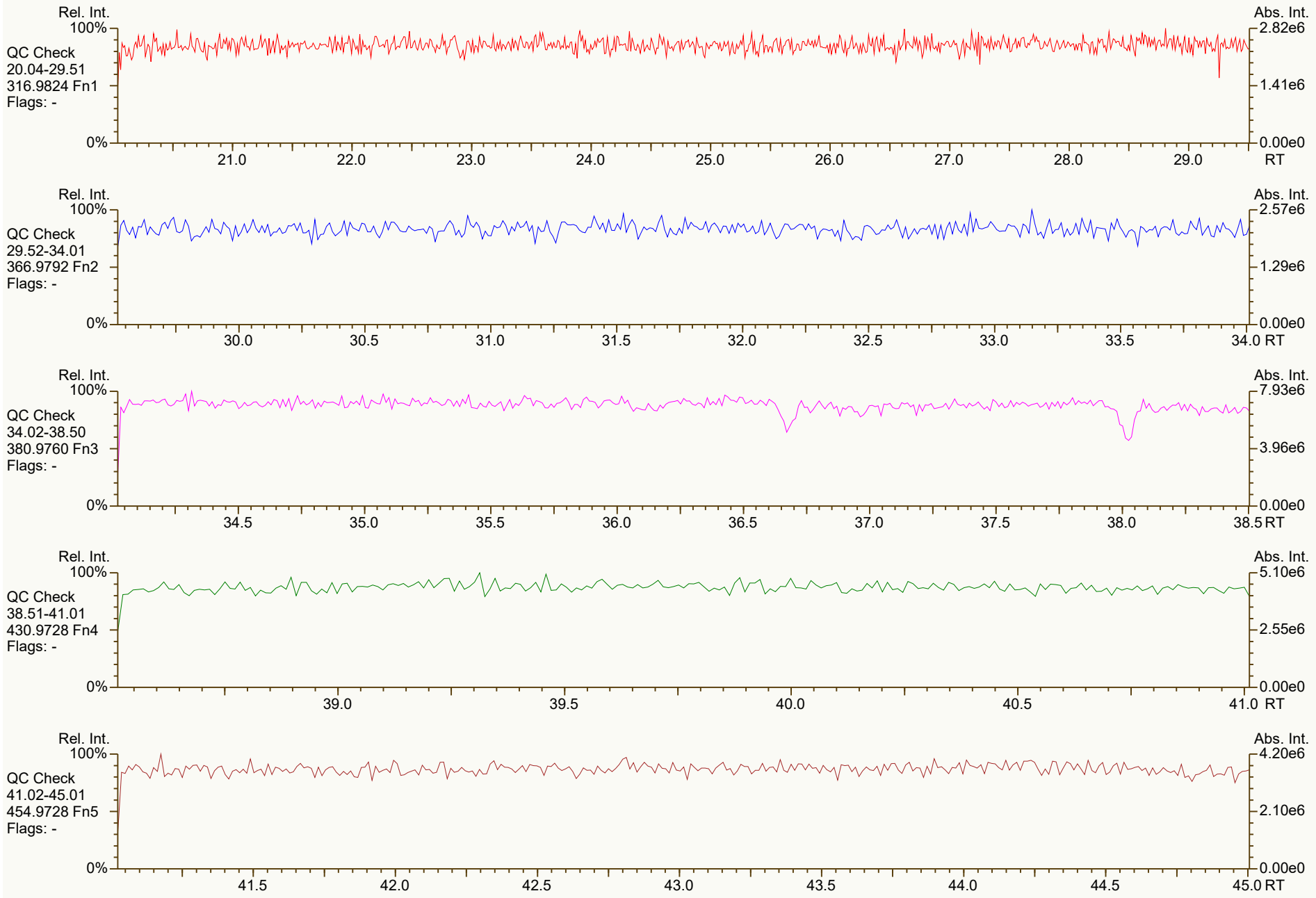
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.37		0.9841	0.9840	-0.2	3.15E+07	1.04	Y	0.97	384	11969.897	0.904
1234678-HpCDD	**40.02**		**1.0003**	**1.0003**	**0**	**2.29E+07**	**1.03**	**Y**	**0.97**	**279**	**11969.897**	**0.904**
OCDD	**42.46**		**1.0003**	**1.0003**	**0**	**1.87E+08**	**0.91**	**Y**	**1.07**	**3,390**	**12831.652**	**1.46**
OCDD-a	42.46		1.0002	1.0002	0	1.18E+07	2.50	Y	0.07	3,460	16329.995	30.1
1368-TCDF	NotFnd		0.8043						0.96		11817.671	0.831
1468-TCDF	21.83	EMPC	0.8264	0.8247	-2.2	1.89E+05	1.24	N	0.96	1.13	11817.671	0.831
2468-TCDF	22.51		0.8524	0.8507	-2.3	5.36E+05	0.85	Y	0.96	3.21	11817.671	0.831
1346/1246-TCDF	22.95	EMPC	0.8658	0.8673	+2.1	1.48E+05	0.89	N	0.96	0.887	11817.671	0.831
1347/1378/1247-TCDF	23.08		0.8723	0.8721	-0.3	7.89E+05	0.77	Y	0.96	4.72	11817.671	0.831
1348-TCDF	23.35		0.8836	0.8823	-1.8	2.29E+05	0.81	Y	0.96	1.37	11817.671	0.831
1248/1367/1379-TCDF	23.46		0.8890	0.8865	-3.5	2.55E+06	0.78	Y	0.96	15.2	11817.671	0.831
1268-TCDF	23.92		0.9044	0.9038	-0.9	1.03E+06	0.86	Y	0.96	6.19	11817.671	0.831
1467-TCDF	24.06	EMPC	0.9099	0.9092	-1.0	1.36E+05	0.50	N	0.96	0.812	11817.671	0.831
1478-TCDF	24.24		0.9167	0.9160	-1.0	2.25E+06	0.68	Y	0.96	13.5	11817.671	0.831
1369/1237-TCDF	24.64		0.9315	0.9311	-0.6	5.19E+05	0.68	Y	0.96	3.1	11817.671	0.831
2467-TCDF	24.79		0.9372	0.9369	-0.4	1.56E+05	0.73	Y	0.96	0.933	11817.671	0.831
2368-TCDF	24.96		0.9434	0.9433	-0.1	2.34E+06	0.71	Y	0.96	14	11817.671	0.831
1238/1234/1678/1469/1236-TCDF	25.03		0.9464	0.9460	-0.6	2.19E+06	0.77	Y	0.96	13.1	11817.671	0.831
1278-TCDF	25.53		0.9647	0.9646	-0.2	2.46E+07	0.76	Y	0.96	147	11817.671	0.831
1349-TCDF	NotFnd		0.9695						0.96		11817.671	0.831
1267-TCDF	25.83		0.9758	0.9759	+0.2	1.41E+06	0.77	Y	0.96	8.43	11817.671	0.831
2346/1249-TCDF	NotFnd		0.9831						0.96		11817.671	0.831
2347/1279-TCDF	26.25		0.9919	0.9918	-0.2	6.66E+05	0.81	Y	0.96	3.99	11817.671	0.831
2348-TCDF	26.37		0.9964	0.9965	+0.2	4.32E+06	0.73	Y	0.96	25.9	11817.671	0.831
2378-TCDF	**26.49**		**1.0007**	**1.0009**	**+0.3**	**5.67E+07**	**0.79**	**Y**	**0.96**	**339**	**11817.671**	**0.831**
2367/3467-TCDF	26.86		1.0153	1.0151	-0.3	4.88E+06	0.78	Y	0.96	29.2	11817.671	0.831
1269-TCDF	27.12	EMPC	1.0246	1.0248	+0.3	6.98E+05	0.61	N	0.96	4.18	11817.671	0.831
1239-TCDF	NotFnd		1.0345						0.96		11817.671	0.831
1289-TCDF	28.58		1.0779	1.0800	+3.6	4.48E+06	0.85	Y	0.96	26.8	11817.671	0.831
13468/12468-PeCDF	28.50		0.9082	0.9082	0	1.86E+06	1.50	Y	0.94	13.2	14377.269	0.917
13678/13467/12467-PeCDF	30.11	J	0.9590	0.9594	+0.7	2.57E+05	1.46	Y	0.94	1.83	12391.337	0.79
12368/13478/12478-PeCDF	30.27		0.9641	0.9647	+1.1	1.83E+06	1.43	Y	0.94	13	12391.337	0.79
14678-PeCDF	NotFnd		0.9674						0.94		12391.337	0.79
13479-PeCDF	NotFnd		0.9704						0.94		12391.337	0.79
13469/12479-PeCDF	NotFnd		0.9787						0.94		12391.337	0.79
12346-PeCDF	NotFnd		0.9832						0.94		12391.337	0.79

Lab ID: B6279_18902_DF_002 **Acq'd: 08 Feb 2022 22:49 PSW** **Wt/Vol: 10.12 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-020222-S-SB-NC-S-45 **UTP: 09-Feb-2022 09:00:16 PSW** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 252-399-BZY**

Datafile: 220208R13 **Report: 09 Feb 2022 09:01 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	30.95	J EMPC	0.9865	0.9863	-0.4	2.48E+05	1.31	N	0.94	1.76	12391.337	0.79
12347-PeCDF	NotFnd		0.9886						0.94		12391.337	0.79
12348-PeCDF	31.19	J EMPC	0.9937	0.9939	+0.4	1.67E+05	2.08	N	0.94	1.18	12391.337	0.79
12378-PeCDF	**31.40**		**1.0006**	**1.0006**	**0**	**2.04E+06**	**1.50**	**Y**	**0.95**	**14.4**	**12391.337**	**0.812**
12678/12367-PeCDF	31.71		1.0096	1.0104	+1.5	6.99E+05	1.57	Y	0.94	4.96	12391.337	0.79
12379-PeCDF	NotFnd		1.0149						0.94		12391.337	0.79
12679-PeCDF	NotFnd		0.9922						0.94		12391.337	0.79
23467/12369-PeCDF	NotFnd		0.9965						0.94		12391.337	0.79
23478-PeCDF	**32.56**		**1.0006**	**1.0007**	**+0.2**	**1.68E+06**	**1.73**	**Y**	**0.94**	**12**	**12391.337**	**0.768**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		12391.337	0.79
12349-PeCDF	NotFnd		1.0101						0.94		12391.337	0.79
12389-PeCDF	NotFnd		1.0335						0.94		12391.337	0.79
123468-HxCDF	34.42		0.9614	0.9612	-0.4	5.73E+05	1.29	Y	1.16	4.21	9477.163	0.551
124678/134678-HxCDF	34.62		0.9671	0.9669	-0.4	2.17E+06	1.17	Y	1.16	15.9	9477.163	0.551
134679-HxCDF	NotFnd		0.9734						1.16		9477.163	0.551
124679-HxCDF	35.05	J	0.9791	0.9790	-0.2	1.18E+05	1.33	Y	1.16	0.865	9477.163	0.551
124689-HxCDF	35.28		0.9853	0.9853	0	2.12E+06	1.25	Y	1.16	15.6	9477.163	0.551
123467-HxCDF	35.70	J	0.9971	0.9971	0	1.52E+05	1.39	Y	1.16	1.11	9477.163	0.551
123478-HxCDF	**35.82**		**1.0004**	**1.0005**	**+0.2**	**3.31E+06**	**1.26**	**Y**	**1.23**	**23.2**	**9477.163**	**0.534**
123678-HxCDF	**35.96**		**1.0004**	**1.0005**	**+0.2**	**9.40E+05**	**1.28**	**Y**	**1.13**	**6.5**	**9477.163**	**0.5**
123479-HxCDF	NotFnd		1.0048						1.16		9477.163	0.551
123469-HxCDF	NotFnd		1.0090						1.16		9477.163	0.551
123679-HxCDF	NotFnd		0.9940						1.16		9477.163	0.551
234678-HxCDF	**36.62**		**1.0004**	**1.0004**	**0**	**4.74E+05**	**1.41**	**Y**	**1.15**	**3.52**	**9477.163**	**0.527**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		9477.163	0.551
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**9477.163**	**0.66**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.64	J EMPC	1.0008	1.0013	+1.1	2.67E+05	1.02	N	1.16	1.96	9477.163	0.551
1234678-HpCDF	**39.10**		**1.0003**	**1.0003**	**0**	**5.05E+06**	**1.05**	**Y**	**1.36**	**40.7**	**10804.271**	**0.538**
1234679-HpCDF	39.37	**J**	1.0072	1.0072	0	1.60E+05	1.14	Y	1.33	1.4	10804.271	0.565
1234689-HpCDF	39.51		1.0108	1.0109	+0.2	7.83E+06	1.05	Y	1.33	68.8	10804.271	0.565
1234789-HpCDF	**40.44**		**1.0002**	**1.0003**	**+0.2**	**4.40E+05**	**1.09**	**Y**	**1.30**	**4.22**	**10804.271**	**0.596**
OCDF	**42.63**		**1.0002**	**1.0003**	**+0.3**	**1.11E+07**	**0.87**	**Y**	**1.03**	**170**	**12736.607**	**1.24**
OCDF-a	42.62		1.0002	1.0001	-0.3	7.21E+05	2.76	Y	0.06	191	16363.79	27.7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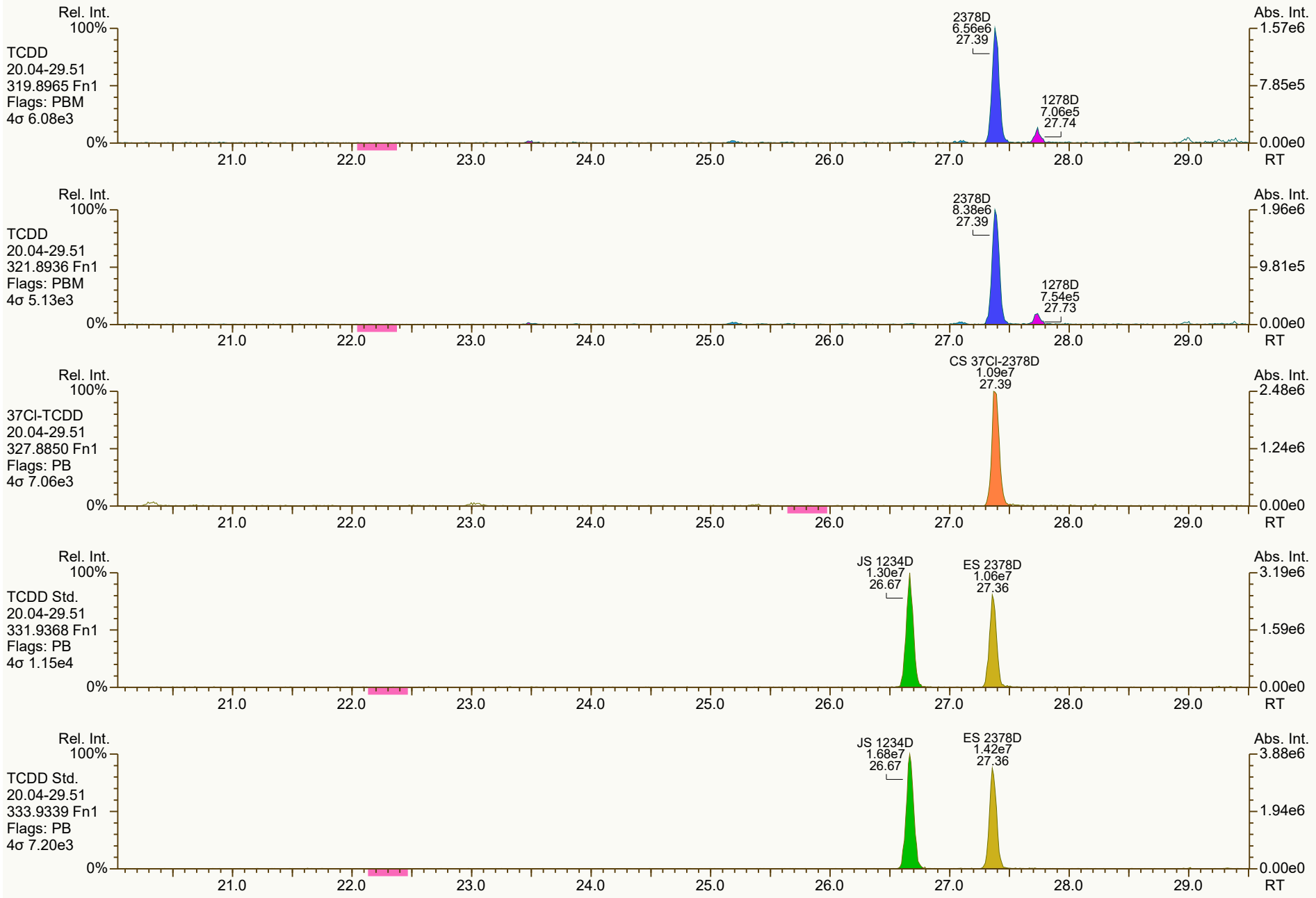
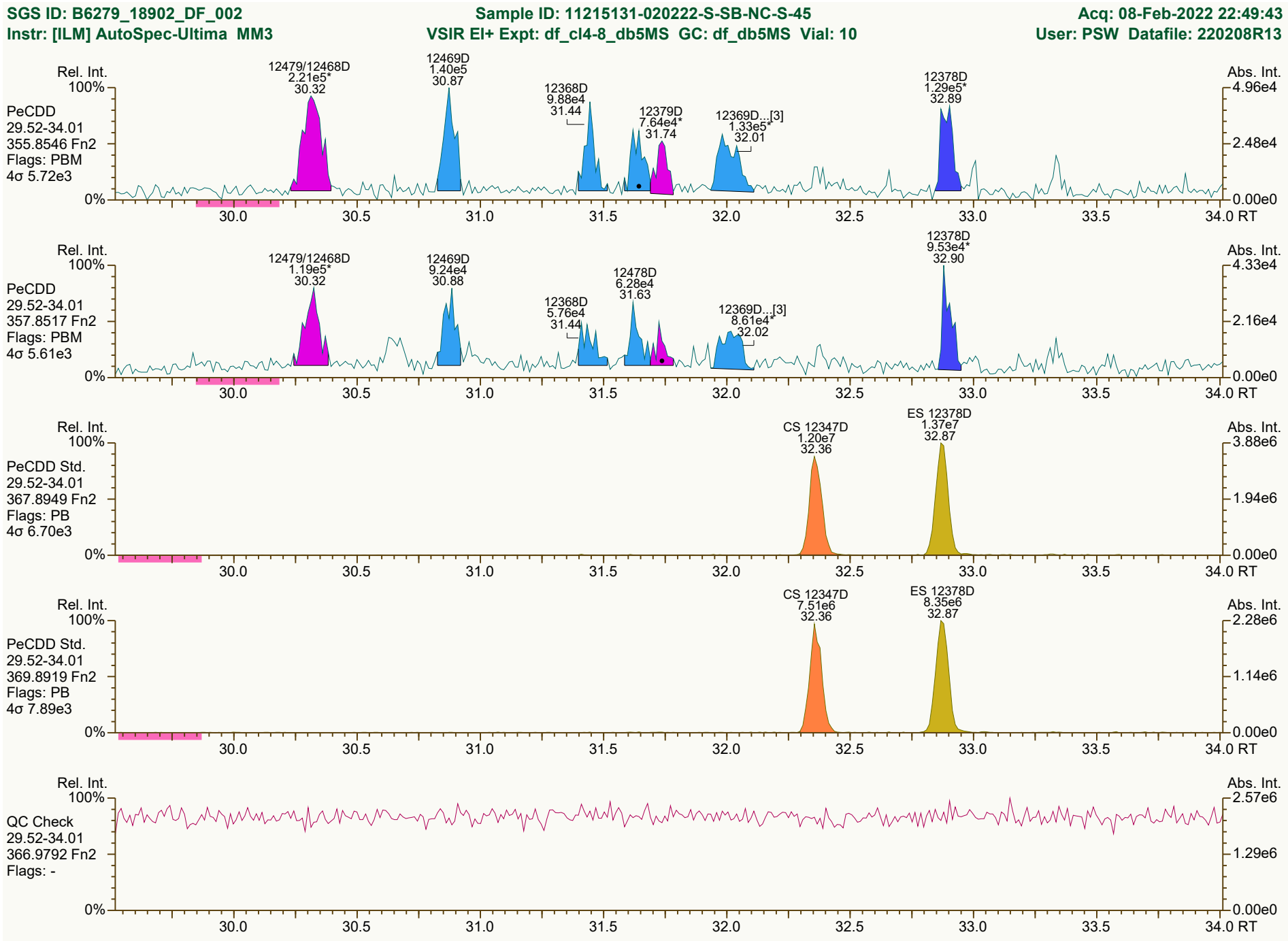
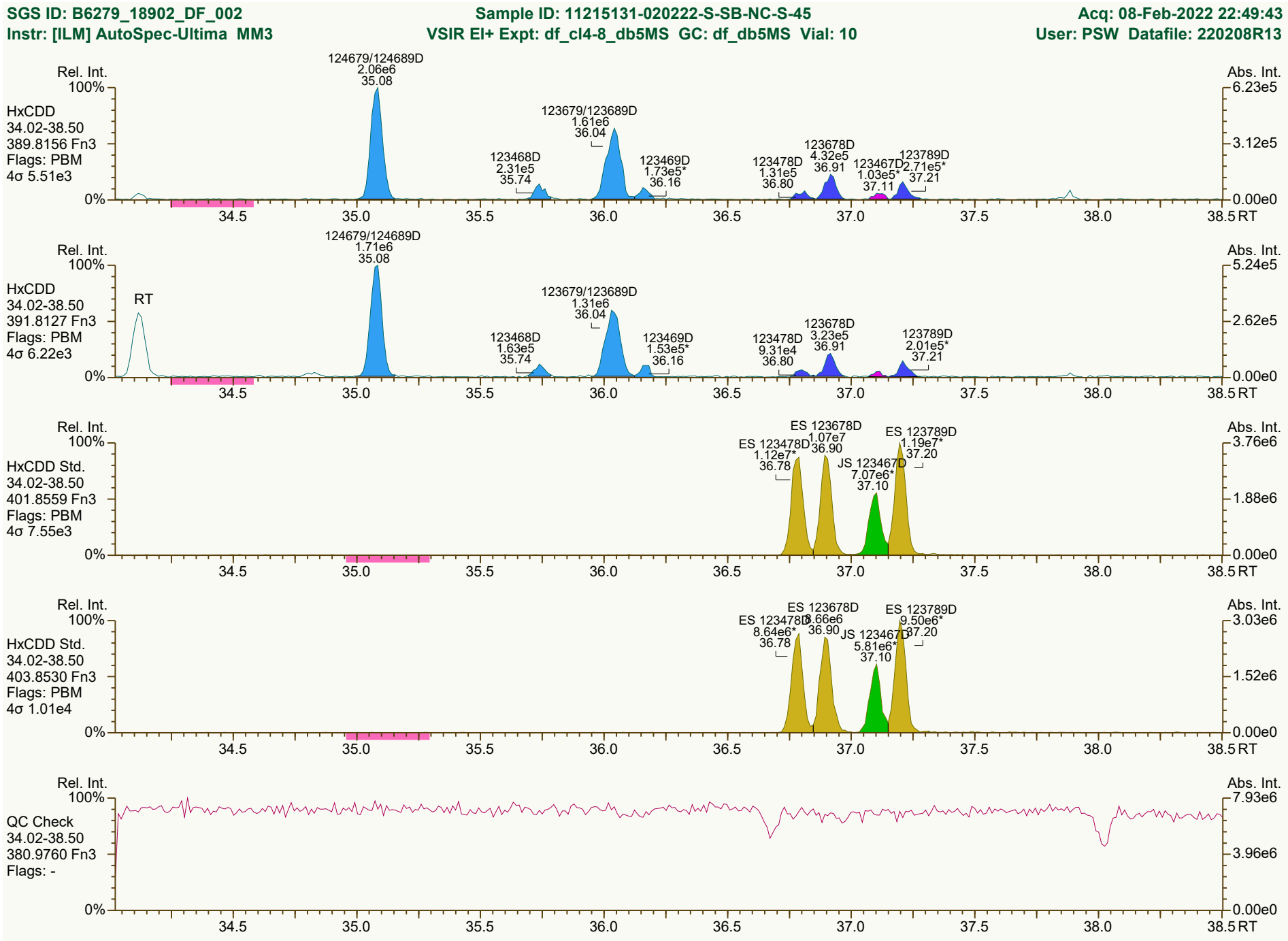
100%
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
0%
Abs. Int.
2.82e6
1.41e6
0.00e0
21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0 RT
Rel. Int.
100%
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.57e6
1.29e6
0.00e0
30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 RT
Rel. Int.
100%
QC Check
34.02-38.50
380.9760 Fn3
Flags: -
0%
Abs. Int.
7.93e6
3.96e6
0.00e0
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
QC Check
38.51-41.01
430.9728 Fn4
Flags: -
0%
Abs. Int.
5.10e6
2.55e6
0.00e0
39.0 39.5 40.0 40.5 41.0 RT
Rel. Int.
100%
QC Check
41.02-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.20e6
2.10e6
0.00e0
41.5 42.0 42.5 43.0 43.5 44.0 44.5 45.0 RT


Rel. Int.
100%
TCDD
20.04-29.51
319.8965 Fn1
Flags: PBM
4σ 6.08e3
0%
2378D
6.56e6
27.39
1278D
7.06e5
27.74
Abs. Int.
1.57e6
7.85e5
0.00e0
21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0
RT
Rel. Int.
100%
TCDD
20.04-29.51
321.8936 Fn1
Flags: PBM
4σ 5.13e3
0%
2378D
8.38e6
27.39
1278D
7.54e5
27.73
Abs. Int.
1.96e6
9.81e5
0.00e0
21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0
RT
Rel. Int.
100%
37Cl-TCDD
20.04-29.51
327.8850 Fn1
Flags: PB
4σ 7.06e3
0%
CS 37Cl-2378D
1.09e7
27.39
Abs. Int.
2.48e6
1.24e6
0.00e0
21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0
RT
Rel. Int.
100%
TCDD Std.
20.04-29.51
331.9368 Fn1
Flags: PB
4σ 1.15e4
0%
JS 1234D
1.30e7
26.67
ES 2378D
1.06e7
27.36
Abs. Int.
3.19e6
1.59e6
0.00e0
21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0
RT
Rel. Int.
100%
TCDD Std.
20.04-29.51
333.9339 Fn1
Flags: PB
4σ 7.20e3
0%
JS 1234D
1.68e7
26.67
ES 2378D
1.42e7
27.36
Abs. Int.
3.88e6
1.94e6
0.00e0
21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0
RT

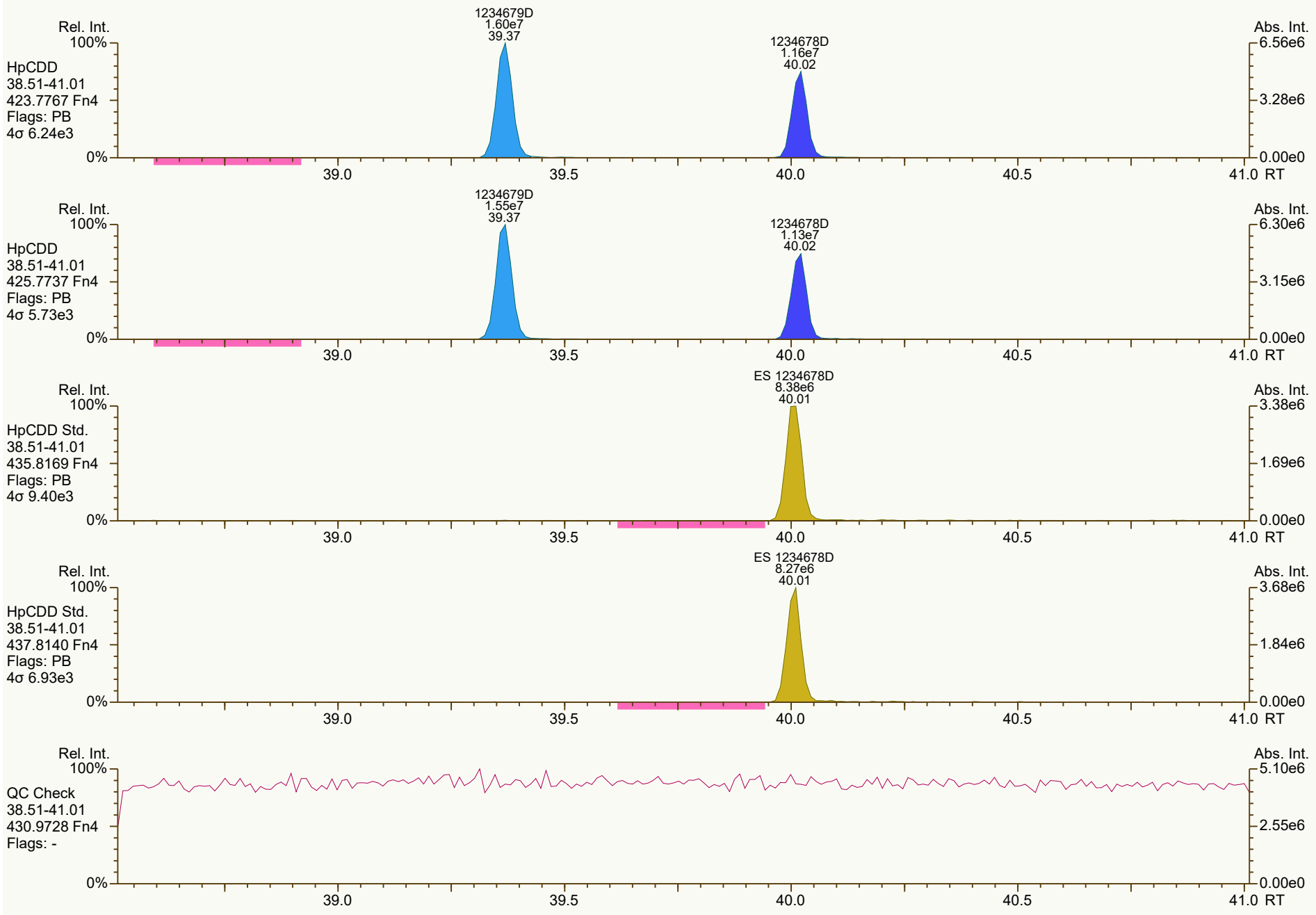


Results: P:\B6200_B6299\B6279\B6279_18902 DF\Resources\B6279_18902_DF_002.utp_res, saved 09-Feb-2022 09:00 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2730, 9018 scc: 252-399
PKD: 09-Feb-2022 08:31 Printed: 09-Feb-2022 09:05 Page 3 of 12

SGS ID: B6279_18902_DF_002 | Sample ID: 11215131-020222-S-SB-NC-S-45 | Acq: 08-Feb-2022 22:49:43
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 10 | User: PSW Datafile: 220208R13



Results: P:\B6200_B6299\B6279\B6279_18902 DF\Resources\B6279_18902_DF_002.utp_res, saved 09-Feb-2022 09:00 (PSW) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4316, 6262 scc: 252-399 | PKD: 09-Feb-2022 08:31 Printed: 09-Feb-2022 09:05 Page 4 of 12


Rel. Int.
100%
HpCDD
38.51-41.01
423.7767 Fn4
Flags: PB
4σ 6.24e3
1234679D
1.60e7
39.37
1234678D
1.16e7
40.02
Abs. Int.
6.56e6
3.28e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD
38.51-41.01
425.7737 Fn4
Flags: PB
4σ 5.73e3
1234679D
1.55e7
39.37
1234678D
1.13e7
40.02
Abs. Int.
6.30e6
3.15e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.51-41.01
435.8169 Fn4
Flags: PB
4σ 9.40e3
ES 1234678D
8.38e6
40.01
Abs. Int.
3.38e6
1.69e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.51-41.01
437.8140 Fn4
Flags: PB
4σ 6.93e3
ES 1234678D
8.27e6
40.01
Abs. Int.
3.68e6
1.84e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
QC Check
38.51-41.01
430.9728 Fn4
Flags: -
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT


OCDD
8.92e7
42.46
Rel. Int.
100%
OCDD
41.02-45.01
457.7377 Fn5
Flags: PB
4σ 6.31e3
0%
Abs. Int.
3.31e7
1.65e7
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
9.81e7
42.46
Rel. Int.
100%
OCDD
41.02-45.01
459.7348 Fn5
Flags: PB
4σ 6.52e3
0%
Abs. Int.
3.55e7
1.78e7
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
9.57e6
42.45
Rel. Int.
100%
OCDD Std.
41.02-45.01
469.7780 Fn5
Flags: PB
4σ 9.89e3
0%
Abs. Int.
3.81e6
1.91e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.08e7
42.45
Rel. Int.
100%
OCDD Std.
41.02-45.01
471.7750 Fn5
Flags: PB
4σ 7.79e3
0%
Abs. Int.
4.01e6
2.00e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.02-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.20e6
2.10e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
20.04-29.51
303.9016 Fn1
Flags: PBM
4σ 5.46e3
0%
2378F
2.50e7
26.49
1278F
1.06e7
25.53
2368F
9.69e5*
24.96
1238F...[5]
9.54e5
25.03
2348F
1.82e6
26.37
2367/3467F
2.13e6
26.86
1289F
2.05e6
28.58
Abs. Int.
5.35e6
2.68e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDF
20.04-29.51
305.8987 Fn1
Flags: PBM
4σ 6.35e3
0%
2378F
3.17e7
26.48
1278F
1.40e7
25.53
2348F
2.50e6
26.37
2367/3467F
2.75e6
26.86
1289F
2.43e6
28.58
Abs. Int.
7.12e6
3.56e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDF Std.
20.04-29.51
315.9419 Fn1
Flags: PB
4σ 1.96e4
0%
JS 1234F
1.82e7
25.00
ES 2378F
1.53e7
26.46
Abs. Int.
3.64e6
1.82e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDF Std.
20.04-29.51
317.9389 Fn1
Flags: PB
4σ 8.90e3
0%
JS 1234F
2.35e7
25.00
ES 2378F
1.91e7
26.46
Abs. Int.
4.63e6
2.32e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
HxCDPE
20.04-29.51
375.8364 Fn1
Flags: B
4σ 7.37e3
0%
Abs. Int.
4.87e4
2.43e4
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT

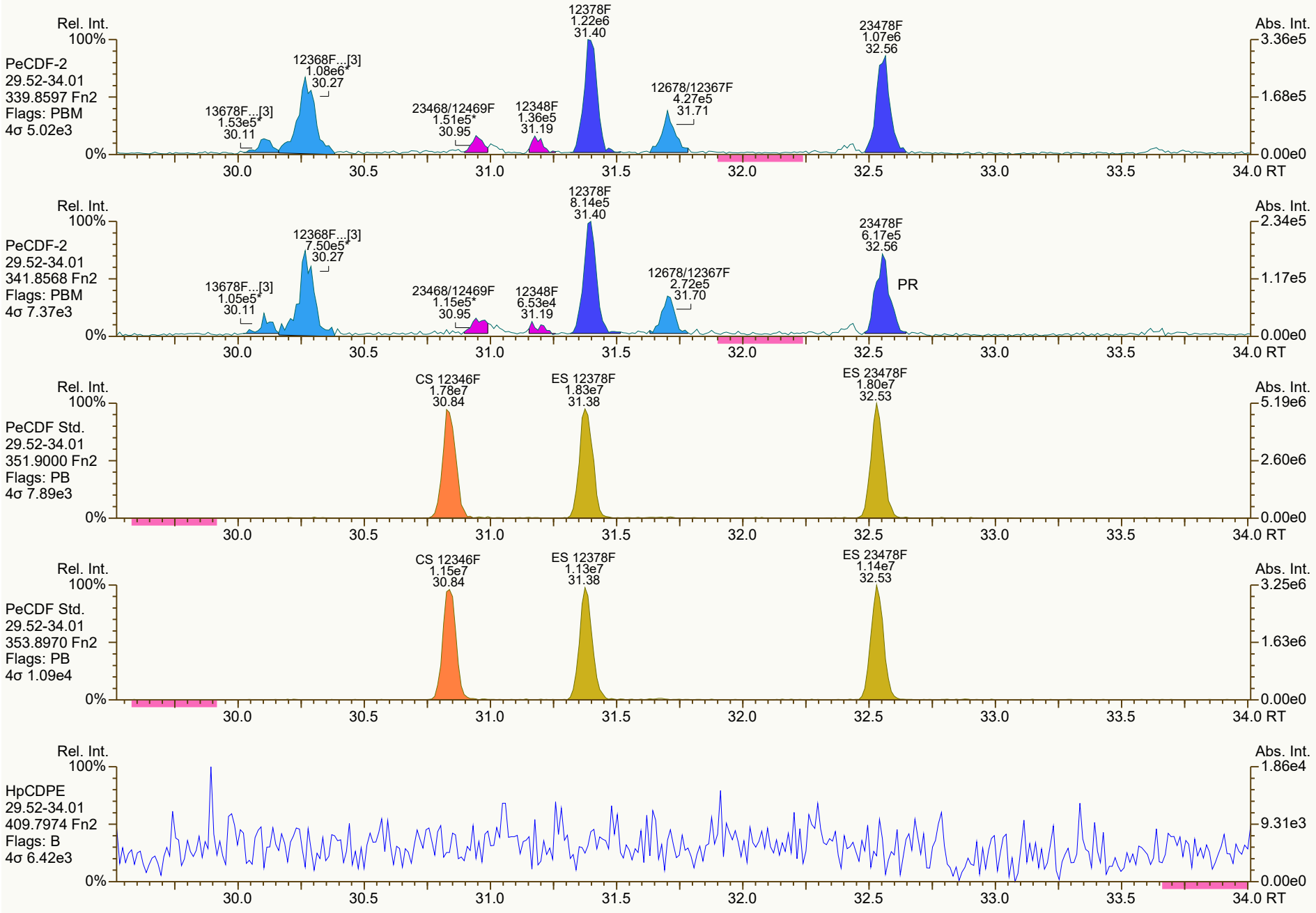
SGS ID: B6279_18902_DF_002 | Sample ID: 11215131-020222-S-SB-NC-S-45 | Acq: 08-Feb-2022 22:49:43

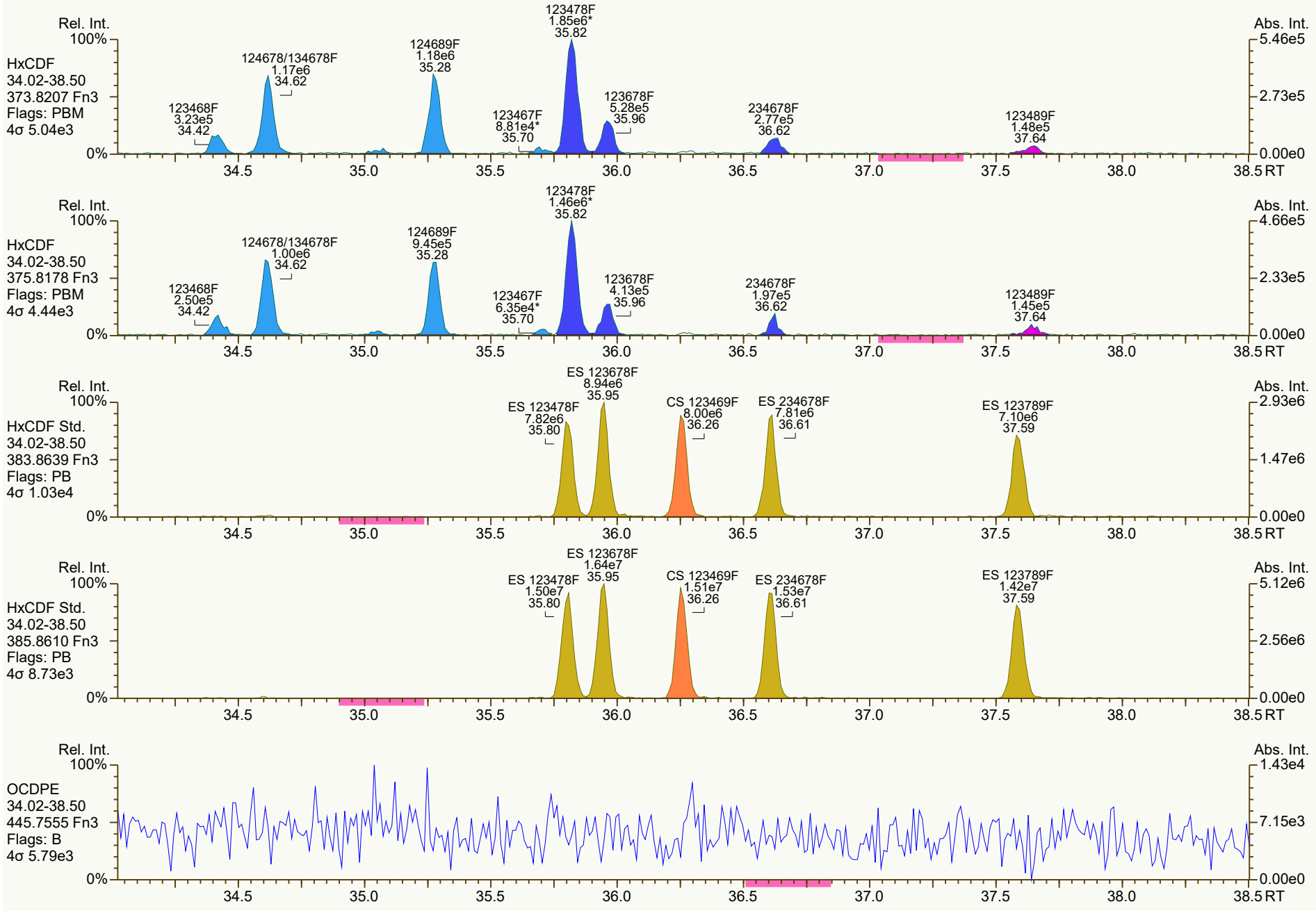
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 10 | User: PSW Datafile: 220208R13

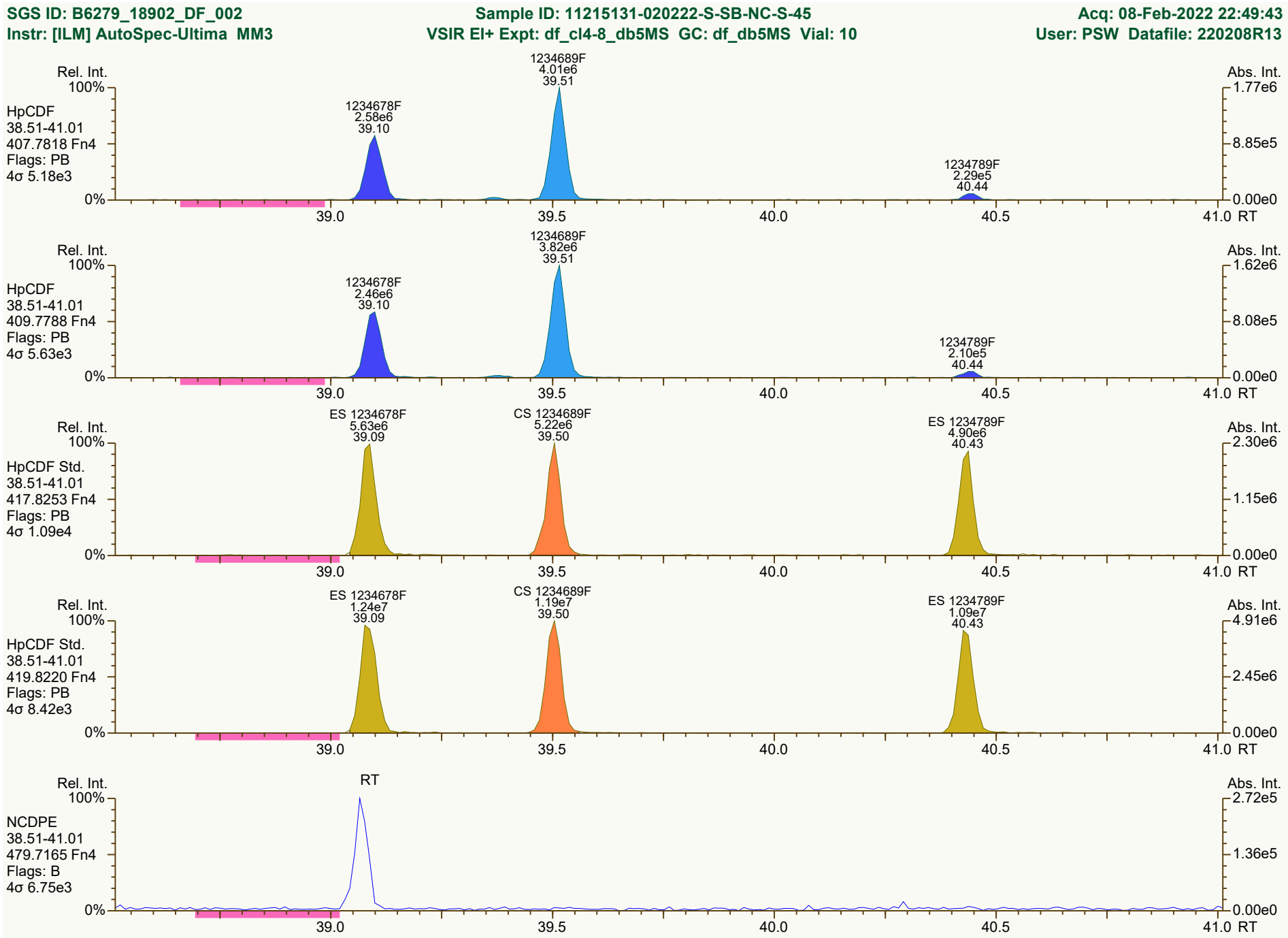


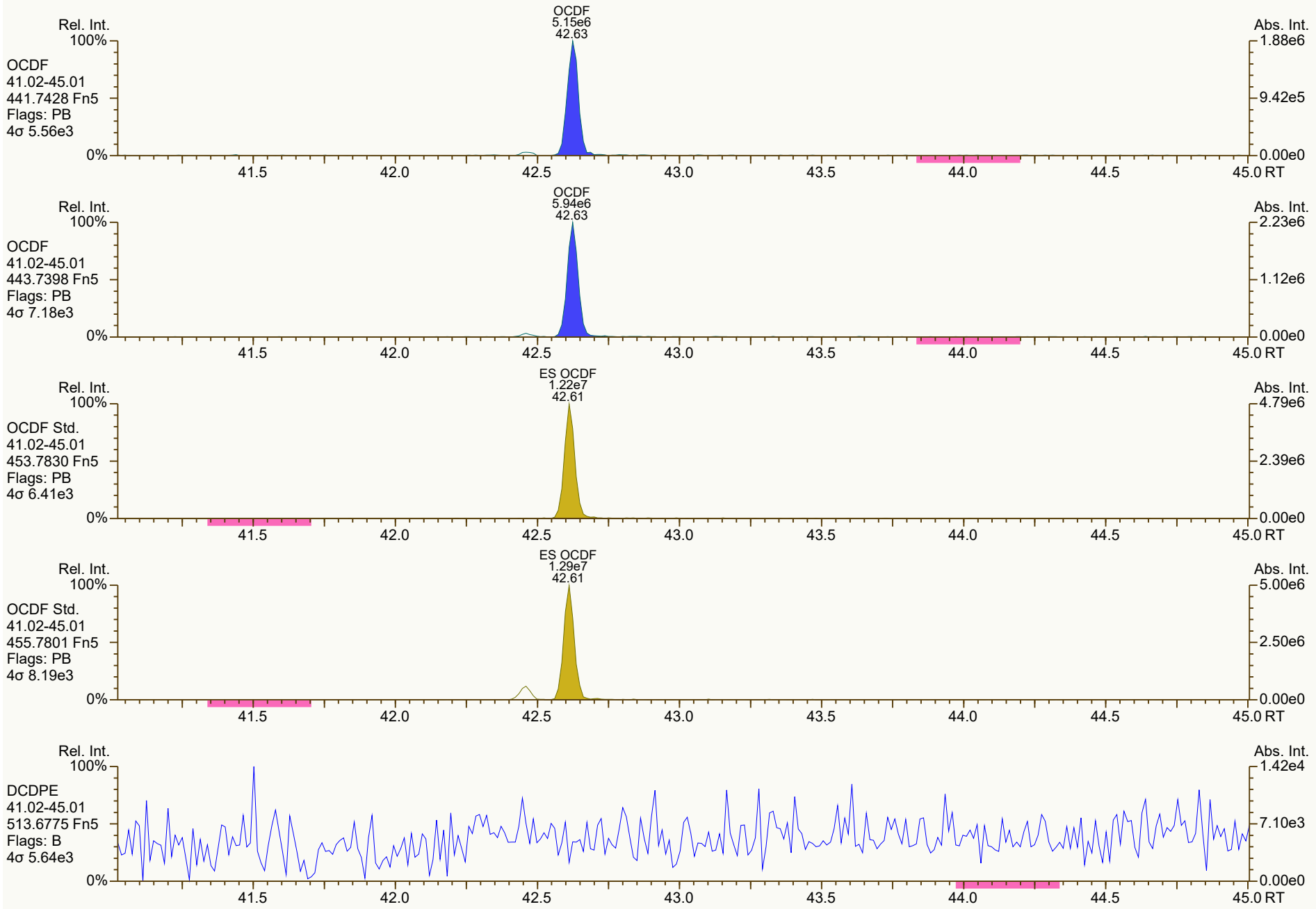
Results: P:\B6200_B6299\B6279\B6279_18902 DF\Resources\B6279_18902_DF_002.utp_res, saved 09-Feb-2022 09:00 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5438 scc: 252-399 | *PKD: 09-Feb-2022 08:31 Printed: 09-Feb-2022 09:06 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
29.52-34.01
339.8597 Fn2
Flags: PBM
4σ 5.02e3
0%
13678F...[3] 1.53e5* 30.11
12368F...[3] 1.08e6* 30.27
23468/12469F 1.51e5* 30.95
12348F 1.36e5 31.19
12378F 1.22e6 31.40
12678/12367F 4.27e5 31.71
23478F 1.07e6 32.56
Abs. Int.
3.36e5
1.68e5
0.00e0
30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 RT
Rel. Int.
100%
PeCDF-2
29.52-34.01
341.8568 Fn2
Flags: PBM
4σ 7.37e3
0%
13678F...[3] 1.05e5* 30.11
12368F...[3] 7.50e5* 30.27
23468/12469F 1.15e5* 30.95
12348F 6.53e4 31.19
12378F 8.14e5 31.40
12678/12367F 2.72e5 31.70
23478F 6.17e5 32.56
PR
Abs. Int.
2.34e5
1.17e5
0.00e0
30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 RT
Rel. Int.
100%
PeCDF Std.
29.52-34.01
351.9000 Fn2
Flags: PB
4σ 7.89e3
0%
CS 12346F 1.78e7 30.84
ES 12378F 1.83e7 31.38
ES 23478F 1.80e7 32.53
Abs. Int.
5.19e6
2.60e6
0.00e0
30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 RT
Rel. Int.
100%
PeCDF Std.
29.52-34.01
353.8970 Fn2
Flags: PB
4σ 1.09e4
0%
CS 12346F 1.15e7 30.84
ES 12378F 1.13e7 31.38
ES 23478F 1.14e7 32.53
Abs. Int.
3.25e6
1.63e6
0.00e0
30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 RT
Rel. Int.
100%
HpCDPE
29.52-34.01
409.7974 Fn2
Flags: B
4σ 6.42e3
0%
Abs. Int.
1.86e4
9.31e3
0.00e0
30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 RT


Rel. Int.
100%
HxCDF
34.02-38.50
373.8207 Fn3
Flags: PBM
4σ 5.04e3
123468F 3.23e5 34.42
124678/134678F 1.17e6 34.62
124689F 1.18e6 35.28
123467F 8.81e4* 35.70
123478F 1.85e6* 35.82
123678F 5.28e5 35.96
234678F 2.77e5 36.62
123489F 1.48e5 37.64
Abs. Int.
5.46e5
2.73e5
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF
34.02-38.50
375.8178 Fn3
Flags: PBM
4σ 4.44e3
123468F 2.50e5 34.42
124678/134678F 1.00e6 34.62
124689F 9.45e5 35.28
123467F 6.35e4* 35.70
123478F 1.46e6* 35.82
123678F 4.13e5 35.96
234678F 1.97e5 36.62
123489F 1.45e5 37.64
Abs. Int.
4.66e5
2.33e5
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF Std.
34.02-38.50
383.8639 Fn3
Flags: PB
4σ 1.03e4
ES 123478F 7.82e6 35.80
ES 123678F 8.94e6 35.95
CS 123469F 8.00e6 36.26
ES 234678F 7.81e6 36.61
ES 123789F 7.10e6 37.59
Abs. Int.
2.93e6
1.47e6
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF Std.
34.02-38.50
385.8610 Fn3
Flags: PB
4σ 8.73e3
ES 123478F 1.50e7 35.80
ES 123678F 1.64e7 35.95
CS 123469F 1.51e7 36.26
ES 234678F 1.53e7 36.61
ES 123789F 1.42e7 37.59
Abs. Int.
5.12e6
2.56e6
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
OCDPE
34.02-38.50
445.7555 Fn3
Flags: B
4σ 5.79e3
Abs. Int.
1.43e4
7.15e3
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT


SGS ID: B6279_18902_DF_002
Sample ID: 11215131-020222-S-SB-NC-S-45
Acq: 08-Feb-2022 22:49:43
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 10
User: PSW Datafile: 220208R13
Rel. Int.
Abs. Int.
HpCDF
38.51-41.01
407.7818 Fn4
Flags: PB
4σ 5.18e3
1234678F
2.58e6
39.10
1234689F
4.01e6
39.51
1234789F
2.29e5
40.44
1.77e6
8.85e5
0.00e0
HpCDF
38.51-41.01
409.7788 Fn4
Flags: PB
4σ 5.63e3
1234678F
2.46e6
39.10
1234689F
3.82e6
39.51
1234789F
2.10e5
40.44
1.62e6
8.08e5
0.00e0
HpCDF Std.
38.51-41.01
417.8253 Fn4
Flags: PB
4σ 1.09e4
ES 1234678F
5.63e6
39.09
CS 1234689F
5.22e6
39.50
ES 1234789F
4.90e6
40.43
2.30e6
1.15e6
0.00e0
HpCDF Std.
38.51-41.01
419.8220 Fn4
Flags: PB
4σ 8.42e3
ES 1234678F
1.24e7
39.09
CS 1234689F
1.19e7
39.50
ES 1234789F
1.09e7
40.43
4.91e6
2.45e6
0.00e0
NCDPE
38.51-41.01
479.7165 Fn4
Flags: B
4σ 6.75e3
RT
2.72e5
1.36e5
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0 RT
Results: P:\B6200_B6299\B6279\B6279_18902 DF\Resources\B6279_18902_DF_002.utp_res, saved 09-Feb-2022 09:00 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7256, 7120, 0069 scc: 252-399
PKD: 09-Feb-2022 08:31 Printed: 09-Feb-2022 09:06 Page 11 of 12


Rel. Int.
100%
OCDF
41.02-45.01
441.7428 Fn5
Flags: PB
4σ 5.56e3
0%
OCDF
5.15e6
42.63
Abs. Int.
1.88e6
9.42e5
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.02-45.01
443.7398 Fn5
Flags: PB
4σ 7.18e3
0%
OCDF
5.94e6
42.63
Abs. Int.
2.23e6
1.12e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.02-45.01
453.7830 Fn5
Flags: PB
4σ 6.41e3
0%
ES OCDF
1.22e7
42.61
Abs. Int.
4.79e6
2.39e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.02-45.01
455.7801 Fn5
Flags: PB
4σ 8.19e3
0%
ES OCDF
1.29e7
42.61
Abs. Int.
5.00e6
2.50e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.02-45.01
513.6775 Fn5
Flags: B
4σ 5.64e3
0%
Abs. Int.
1.42e4
7.10e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6279_18902_DF_003 **Acq'd:** 08 Feb 2022 23:37 PSW **Wt/Vol:** 10.11 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-020222-S-SB-NC-S-44 **UTP:** 09-Feb-2022 09:00:16 PSW **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 667-591-QDH

Datafile: 220208R14 **Report:** 09 Feb 2022 09:01 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	27.39		1.0008	1.0009	+0.2	1.05E+08	0.79	Y	1.34	743	10755.467	0.758
12378-PeCDD	32.90		1.0006	1.0006	0	9.10E+05	1.67	Y	1.06	9.29	12047.517	1.09
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.06	-	9731.946	0.841
123678-HxCDD	36.92		1.0036	1.0037	+0.2	3.06E+05	1.39	Y	1.08	3.48	9731.946	0.853
123789-HxCDD	37.21	J	1.0117	1.0116	-0.2	1.73E+05	1.42	Y	1.02	1.81	9731.946	0.763
1234678-HpCDD	40.02		1.0003	1.0003	0	8.53E+06	1.04	Y	0.97	116	9865.697	0.774
OCDD	42.46		1.0003	1.0003	0	1.07E+08	0.90	Y	1.07	1,900	13998.174	1.71
2378-TCDF	26.49	E	1.0007	1.0009	+0.3	3.80E+08	0.79	Y	0.96	2,540	11161.209	0.866
12378-PeCDF	31.40		1.0006	1.0006	0	2.51E+07	1.55	Y	0.95	201	10923.061	0.789
23478-PeCDF	32.56	PR	1.0006	1.0007	+0.2	1.38E+07	1.55	Y	0.94	109	10923.061	0.747
123478-HxCDF	35.83		1.0004	1.0005	+0.2	4.83E+07	1.26	Y	1.23	406	11808.894	0.746
123678-HxCDF	35.97		1.0004	1.0005	+0.2	1.08E+07	1.25	Y	1.13	88.8	11808.894	0.698
234678-HxCDF	36.62		1.0004	1.0003	-0.2	2.15E+06	1.29	Y	1.15	18.8	11808.894	0.774
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	11808.894	0.867
1234678-HpCDF	39.10		1.0003	1.0003	0	1.34E+07	1.01	Y	1.36	120	11074.989	0.613
1234789-HpCDF	40.45		1.0002	1.0002	0	4.24E+06	1.08	Y	1.30	48	11074.989	0.742
OCDF	42.63		1.0002	1.0003	+0.3	7.77E+06	0.90	Y	1.03	118	11320.245	1.15

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	27.37	1.0259	1.0260	+0.2	2.08E+07	0.77	Y	1.03	81.9
ES 12378-PeCDD	32.88	1.2310	1.2325	+3.0	1.83E+07	1.56	Y	1.03	71.9
ES 123478-HxCDD	36.79	0.9915	0.9915	0	1.71E+07	1.31	Y	0.99	79.8
ES 123678-HxCDD	36.90	0.9947	0.9947	0	1.61E+07	1.36	Y	0.97	76.8
ES 123789-HxCDD	37.20	1.0027	1.0027	0	1.86E+07	1.33	Y	1.12	76.9
ES 1234678-HpCDD	40.01	1.0776	1.0784	+1.9	1.49E+07	1.04	Y	0.99	69.8
ES OCDD	42.45	1.1435	1.1442	+1.8	2.09E+07	0.93	Y	0.78	62.6
ES 2378-TCDF	26.47	1.0583	1.0585	+0.3	3.07E+07	0.79	Y	1.08	83.3
ES 12378-PeCDF	31.39	1.2530	1.2552	+4.1	2.60E+07	1.62	Y	0.93	81.9
ES 23478-PeCDF	32.54	1.2990	1.3014	+4.7	2.67E+07	1.64	Y	0.92	84.9
ES 123478-HxCDF	35.81	0.9652	0.9652	0	1.90E+07	0.53	Y	1.14	77.6
ES 123678-HxCDF	35.95	0.9689	0.9689	0	2.13E+07	0.52	Y	1.30	76.3
ES 234678-HxCDF	36.61	0.9868	0.9868	0	1.97E+07	0.54	Y	1.20	76.3
ES 123789-HxCDF	37.59	1.0131	1.0132	+0.2	1.91E+07	0.49	Y	1.14	78.1
ES 1234678-HpCDF	39.09	1.0529	1.0536	+1.6	1.63E+07	0.48	Y	0.95	79.8
ES 1234789-HpCDF	40.44	1.0891	1.0899	+1.9	1.35E+07	0.45	Y	0.85	73.9
ES OCDF	42.62	1.1480	1.1487	+1.8	2.54E+07	0.89	Y	0.93	63.9

Lab ID: B6279_18902_DF_003 **Acq'd:** 08 Feb 2022 23:37 PSW **Wt/Vol:** 10.11 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-020222-S-SB-NC-S-44 **UTP:** 09-Feb-2022 09:00:16 PSW **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 667-591-QDH

Datafile: 220208R14 **Report:** 09 Feb 2022 09:01 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.68		-	-	-	2.46E+07	0.77	Y	-	-
JS 1234-TCDF	25.01		-	-	-	3.41E+07	0.76	Y	-	-
JS 123467-HxCDD	37.10		-	-	-	1.07E+07	1.25	Y	-	-
CS 37Cl-2378-TCDD	27.39		1.0267	1.0269	+0.3	9.66E+06	n/a	-	1.31	75.1
CS 12347-PeCDD	32.37		1.2119	1.2134	+2.9	1.72E+07	1.59	Y	0.89	78.7
CS 12346-PeCDF	30.84		1.2314	1.2335	+3.9	2.48E+07	1.57	Y	0.87	83.9
CS 123469-HxCDF	36.26		0.9773	0.9773	0	2.05E+07	0.52	Y	1.09	87.4
CS 1234689-HpCDF	39.51		1.0640	1.0648	+1.9	1.56E+07	0.47	Y	0.86	83.8
~~SS 37Cl-2378-TCDD~~	~~27.39~~		~~1.0267~~	~~1.0269~~	~~+0.3~~	~~9.66E+06~~	~~n/a~~		~~1.26~~	~~92.1~~
~~SS 12347-PeCDD~~	~~32.37~~		~~1.2119~~	~~1.2134~~	~~+2.9~~	~~1.72E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~109~~
~~SS 12346-PeCDF~~	~~30.84~~		~~1.2314~~	~~1.2335~~	~~+3.9~~	~~2.48E+07~~	~~1.57~~	~~Y~~	~~0.93~~	~~102~~
~~SS 123469-HxCDF~~	~~36.26~~		~~0.9773~~	~~0.9773~~	~~0~~	~~2.05E+07~~	~~0.52~~	~~Y~~	~~0.84~~	~~114~~
~~SS 1234689-HpCDF~~	~~39.51~~		~~1.0640~~	~~1.0648~~	~~+1.9~~	~~1.56E+07~~	~~0.47~~	~~Y~~	~~0.91~~	~~105~~

Totals	Conc	EMPC
Total TCDD	820	824
Total PeCDD	9.29	11.1
Total HxCDD	33.1	33.1
Total HpCDD	276	276
Total Tetra-Octa Dioxins	3040	3040
Total TCDF	4,940	4950
Total PeCDF	468	469
Total HxCDF	599	599
Total HpCDF	221	223
Total Tetra-Octa Furans	6,350	6360
Total Tetra-Octa Dioxins & Furans	9390	9400

Lab ID: B6279_18902_DF_003 **Acq'd: 08 Feb 2022 23:37 PSW** **Wt/Vol: 10.11 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-020222-S-SB-NC-S-44 **UTP: 09-Feb-2022 09:00:16 PSW** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 667-591-QDH**

Datafile: 220208R14 **Report: 09 Feb 2022 09:01 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8600						1.34		10755.467	0.758
1379-TCDD	NotFnd		0.8739						1.34		10755.467	0.758
1369-TCDD	NotFnd		0.8911						1.34		10755.467	0.758
1469-TCDD	25.20		0.9214	0.9207	-1.1	1.97E+05	0.76	Y	1.34	1.39	10755.467	0.758
1247/1246/1248/1249-TCDD	25.45	EMPC	0.9305	0.9300	-0.8	1.75E+05	0.61	N	1.34	1.23	10755.467	0.758
1378-TCDD	25.64	EMPC	0.9377	0.9369	-1.2	2.22E+05	0.61	N	1.34	1.57	10755.467	0.758
1268-TCDD	NotFnd		0.9455						1.34		10755.467	0.758
1478-TCDD	26.13		0.9552	0.9547	-0.8	2.42E+05	0.78	Y	1.34	1.71	10755.467	0.758
1279-TCDD	NotFnd		0.9613						1.34		10755.467	0.758
1234/1269-TCDD	NotFnd		0.9750						1.34		10755.467	0.758
1236-TCDD	NotFnd		0.9802						1.34		10755.467	0.758
1237/1238-TCDD	27.08		0.9898	0.9895	-0.5	1.53E+06	0.85	Y	1.34	10.8	10755.467	0.758
1239-TCDD	NotFnd		0.9948						1.34		10755.467	0.758
2378-TCDD	**27.39**		**1.0008**	1.0009	**+0.2**	1.05E+08	0.79	Y	**1.34**	**743**	**10755.467**	**0.758**
1278-TCDD	27.74		1.0135	1.0136	+0.2	8.92E+06	0.80	Y	1.34	63.1	10755.467	0.758
1267-TCDD	NotFnd		1.0188						1.34		10755.467	0.758
1289-TCDD	28.42	EMPC	1.0379	1.0386	+1.2	1.65E+05	1.03	N	1.34	1.17	10755.467	0.758
12479/12468-PeCDD	30.33	J EMPC	0.9227	0.9225	-0.4	1.75E+05	1.28	N	1.06	1.79	12047.517	1.09
12469-PeCDD	NotFnd		0.9396						1.06		12047.517	1.09
12368-PeCDD	NotFnd		0.9567						1.06		12047.517	1.09
12478-PeCDD	NotFnd		0.9626						1.06		12047.517	1.09
12379-PeCDD	NotFnd		0.9655						1.06		12047.517	1.09
12369/12467/12489-PeCDD	NotFnd		0.9738						1.06		12047.517	1.09
12346/12347-PeCDD	NotFnd		0.9852						1.06		12047.517	1.09
12378-PeCDD	32.90		**1.0006**	**1.0006**	**0**	**9.10E+05**	**1.67**	**Y**	**1.06**	**9.29**	**12047.517**	**1.09**
12367-PeCDD	NotFnd		1.0036						1.06		12047.517	1.09
12389-PeCDD	NotFnd		1.0141						1.06		12047.517	1.09
124679/124689-HxCDD	35.08		0.9540	0.9538	-0.4	1.48E+06	1.22	Y	1.05	16.2	9731.946	0.817
123468-HxCDD	35.75	J	0.9718	0.9717	-0.2	1.62E+05	1.41	Y	1.05	1.76	9731.946	0.817
123679/123689-HxCDD	36.04		0.9797	0.9798	+0.2	9.07E+05	1.16	Y	1.05	9.89	9731.946	0.817
123469-HxCDD	NotFnd		0.9833						1.05		9731.946	0.817
123478-HxCDD	NotFnd		**1.0004**						1.06		**9731.946**	**0.841**
123678-HxCDD	36.92		**1.0036**	**1.0037**	**+0.2**	**3.06E+05**	**1.39**	**Y**	1.08	**3.48**	**9731.946**	**0.853**
123467-HxCDD	NotFnd		1.0090						1.05		9731.946	0.817
123789-HxCDD	37.21	J	**1.0117**	**1.0116**	**-0.2**	**1.73E+05**	**1.42**	**Y**	1.02	**1.81**	**9731.946**	**0.763**

Lab ID: B6279_18902_DF_003 **Acq'd:** 08 Feb 2022 23:37 PSW **Wt/Vol:** 10.11 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-020222-S-SB-NC-S-44 **UTP:** 09-Feb-2022 09:00:16 PSW **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 667-591-QDH

Datafile: 220208R14 **Report:** 09 Feb 2022 09:01 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

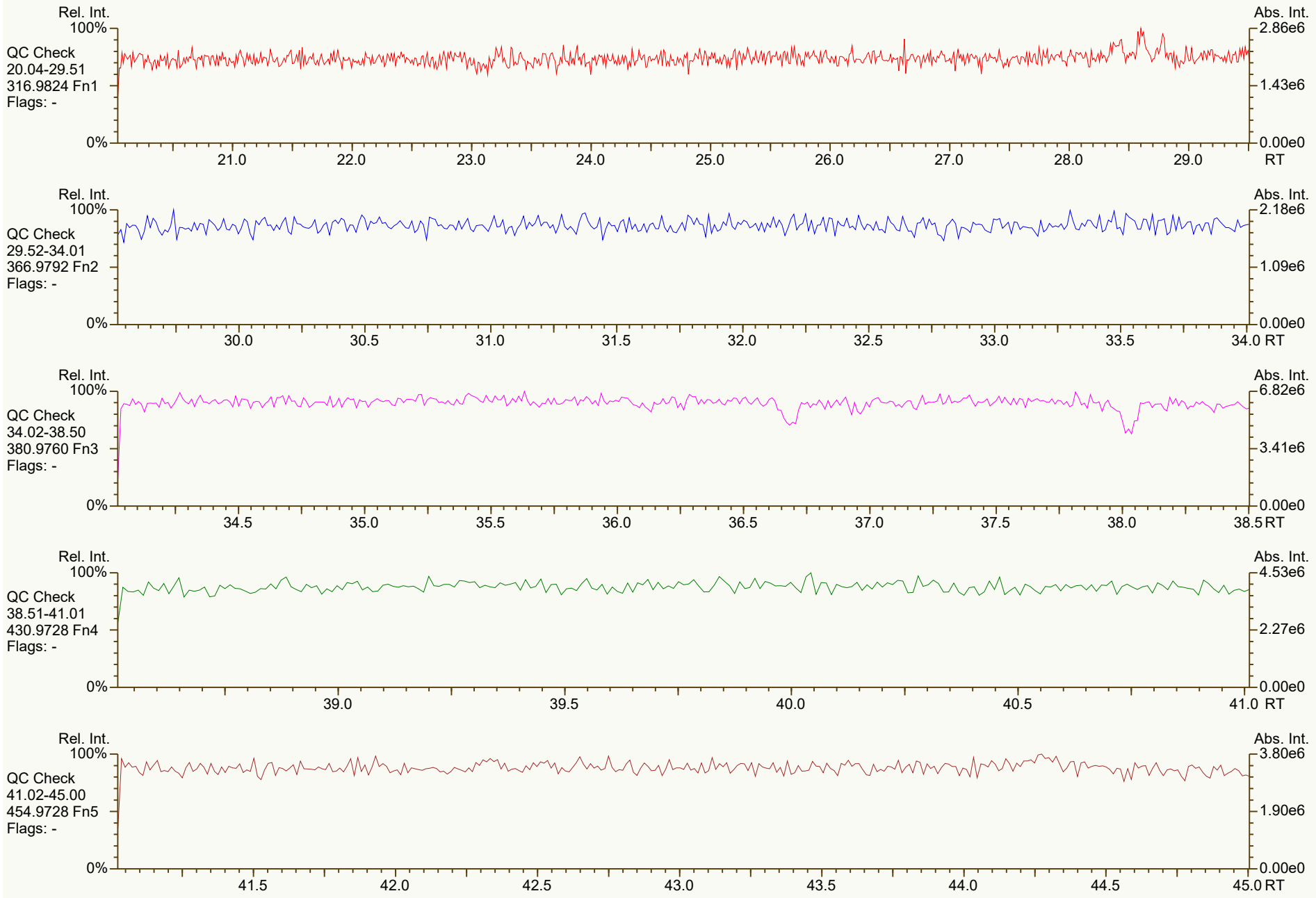
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.37		0.9841	0.9840	-0.2	1.17E+07	1.03	Y	0.97	160	9865.697	0.774
1234678-HpCDD	**40.02**		**1.0003**	**1.0003**	**0**	**8.53E+06**	**1.04**	**Y**	**0.97**	**116**	**9865.697**	**0.774**
OCDD	**42.46**		**1.0003**	**1.0003**	**0**	**1.07E+08**	**0.90**	**Y**	**1.07**	**1,900**	**13998.174**	**1.71**
OCDD-a	42.46		1.0002	1.0002	0	6.54E+06	2.65	Y	0.07	1,870	17807.446	35.2
1368-TCDF	NotFnd		0.8043						0.96		11161.209	0.866
1468-TCDF	21.84		0.8264	0.8249	-2.0	4.47E+05	0.69	Y	0.96	2.99	11161.209	0.866
2468-TCDF	22.52		0.8524	0.8509	-2.0	4.95E+05	0.67	Y	0.96	3.31	11161.209	0.866
1346/1246-TCDF	22.96		0.8658	0.8674	+2.2	3.21E+05	0.69	Y	0.96	2.15	11161.209	0.866
1347/1378/1247-TCDF	23.10		0.8723	0.8728	+0.7	3.64E+06	0.76	Y	0.96	24.4	11161.209	0.866
1348-TCDF	23.35		0.8836	0.8822	-2.0	9.40E+05	0.74	Y	0.96	6.29	11161.209	0.866
1248/1367/1379-TCDF	23.47		0.8890	0.8867	-3.2	1.66E+07	0.76	Y	0.96	111	11161.209	0.866
1268-TCDF	23.92		0.9044	0.9037	-1.0	5.44E+06	0.80	Y	0.96	36.5	11161.209	0.866
1467-TCDF	24.07	EMPC	0.9099	0.9094	-0.7	6.70E+05	1.02	N	0.96	4.49	11161.209	0.866
1478-TCDF	24.25		0.9167	0.9161	-0.9	1.43E+07	0.79	Y	0.96	95.8	11161.209	0.866
1369/1237-TCDF	24.65		0.9315	0.9311	-0.6	3.67E+06	0.76	Y	0.96	24.6	11161.209	0.866
2467-TCDF	24.79		0.9372	0.9368	-0.6	4.56E+05	0.80	Y	0.96	3.05	11161.209	0.866
2368-TCDF	24.96		0.9434	0.9428	-0.9	1.06E+07	0.78	Y	0.96	70.8	11161.209	0.866
1238/1234/1678/1469/1236-TCDF	25.03		0.9464	0.9457	-1.1	1.72E+07	0.78	Y	0.96	115	11161.209	0.866
1278-TCDF	25.53	E	0.9647	0.9645	-0.3	1.74E+08	0.79	Y	0.96	1,170	11161.209	0.866
1349-TCDF	NotFnd		0.9695						0.96		11161.209	0.866
1267-TCDF	25.83		0.9758	0.9757	-0.2	8.75E+06	0.81	Y	0.96	58.6	11161.209	0.866
2346/1249-TCDF	26.05		0.9831	0.9840	+1.4	1.02E+06	0.78	Y	0.96	6.8	11161.209	0.866
2347/1279-TCDF	26.25		0.9919	0.9917	-0.3	3.90E+06	0.79	Y	0.96	26.1	11161.209	0.866
2348-TCDF	26.38		0.9964	0.9967	+0.5	3.29E+07	0.78	Y	0.96	220	11161.209	0.866
2378-TCDF	**26.49**	E	**1.0007**	**1.0009**	**+0.3**	**3.80E+08**	**0.79**	**Y**	**0.96**	**2,540**	**11161.209**	**0.866**
2367/3467-TCDF	26.87		1.0153	1.0150	-0.5	2.85E+07	0.76	Y	0.96	191	11161.209	0.866
1269-TCDF	27.12		1.0246	1.0247	+0.2	5.22E+06	0.77	Y	0.96	34.9	11161.209	0.866
1239-TCDF	27.40		1.0345	1.0351	+1.0	4.06E+05	0.77	Y	0.96	2.72	11161.209	0.866
1289-TCDF	28.59		1.0779	1.0802	+3.9	2.95E+07	0.78	Y	0.96	198	11161.209	0.866
13468/12468-PeCDF	28.51		0.9082	0.9084	+0.3	9.18E+05	1.36	Y	0.94	7.31	12573.047	0.884
13678/13467/12467-PeCDF	30.10	J	0.9590	0.9592	+0.4	2.50E+05	1.50	Y	0.94	1.99	10923.061	0.768
12368/13478/12478-PeCDF	30.28		0.9641	0.9648	+1.3	9.42E+06	1.53	Y	0.94	74.9	10923.061	0.768
14678-PeCDF	30.36	J EMPC	0.9674	0.9674	0	1.91E+05	1.30	N	0.94	1.52	10923.061	0.768
13479-PeCDF	NotFnd		0.9704						0.94		10923.061	0.768
13469/12479-PeCDF	NotFnd		0.9787						0.94		10923.061	0.768
12346-PeCDF	NotFnd		0.9832						0.94		10923.061	0.768

Lab ID: B6279_18902_DF_003 | **Acq'd: 08 Feb 2022 23:37 PSW** | **Wt/Vol: 10.11 g** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-020222-S-SB-NC-S-44 | **UTP: 09-Feb-2022 09:00:16 PSW** | **J-level: 0.494 pg/g** | **Split: 1** | **Checkcode: 667-591-QDH**

Datafile: 220208R14 | **Report: 09 Feb 2022 09:01 gd** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	30.99		0.9865	0.9874	+1.7	5.60E+05	1.59	Y	0.94	4.46	10923.061	0.768
12347-PeCDF	NotFnd		0.9886						0.94		10923.061	0.768
12348-PeCDF	31.19		0.9937	0.9937	0	1.49E+06	1.46	Y	0.94	11.9	10923.061	0.768
12378-PeCDF	**31.40**		**1.0006**	**1.0006**	**0**	**2.51E+07**	**1.55**	**Y**	**0.95**	**201**	**10923.061**	**0.789**
12678/12367-PeCDF	31.71		1.0096	1.0104	+1.5	6.23E+06	1.62	Y	0.94	49.6	10923.061	0.768
12379-PeCDF	NotFnd		1.0149						0.94		10923.061	0.768
12679-PeCDF	NotFnd		0.9922						0.94		10923.061	0.768
23467/12369-PeCDF	32.42	J	0.9965	0.9962	-0.6	2.26E+05	1.53	Y	0.94	1.8	10923.061	0.768
23478-PeCDF	**32.56**		**1.0006**	**1.0007**	**+0.2**	**1.38E+07**	**1.55**	**Y**	**0.94**	**109**	**10923.061**	**0.747**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		10923.061	0.768
12349-PeCDF	NotFnd		1.0101						0.94		10923.061	0.768
12389-PeCDF	33.64		1.0335	1.0338	+0.6	6.44E+05	1.61	Y	0.94	5.12	10923.061	0.768
123468-HxCDF	34.42		0.9614	0.9612	-0.4	3.99E+05	1.21	Y	1.16	3.43	11808.894	0.768
124678/134678-HxCDF	34.62		0.9671	0.9669	-0.4	3.68E+06	1.33	Y	1.16	31.6	11808.894	0.768
134679-HxCDF	NotFnd		0.9734						1.16		11808.894	0.768
124679-HxCDF	NotFnd		0.9791						1.16		11808.894	0.768
124689-HxCDF	35.28		0.9853	0.9853	0	2.03E+06	1.33	Y	1.16	17.5	11808.894	0.768
123467-HxCDF	35.70	J	0.9971	0.9971	0	2.15E+05	1.08	Y	1.16	1.85	11808.894	0.768
123478-HxCDF	**35.83**		**1.0004**	**1.0005**	**+0.2**	**4.83E+07**	**1.26**	**Y**	**1.23**	**406**	**11808.894**	**0.746**
123678-HxCDF	**35.97**		**1.0004**	**1.0005**	**+0.2**	**1.08E+07**	**1.25**	**Y**	**1.13**	**88.8**	**11808.894**	**0.698**
123479-HxCDF	NotFnd		1.0048						1.16		11808.894	0.768
123469-HxCDF	NotFnd		1.0090						1.16		11808.894	0.768
123679-HxCDF	NotFnd		0.9940						1.16		11808.894	0.768
234678-HxCDF	**36.62**		**1.0004**	**1.0003**	**-0.2**	**2.15E+06**	**1.29**	**Y**	**1.15**	**18.8**	**11808.894**	**0.774**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		11808.894	0.768
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**11808.894**	**0.867**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.64		1.0008	1.0014	+1.4	3.61E+06	1.35	Y	1.16	31	11808.894	0.768
1234678-HpCDF	**39.10**		**1.0003**	**1.0003**	**0**	**1.34E+07**	**1.01**	**Y**	**1.36**	**120**	**11074.989**	**0.613**
1234679-HpCDF	39.37	**J EMPC**	1.0072	1.0072	0	1.85E+05	0.87	N	1.33	1.85	11074.989	0.671
1234689-HpCDF	39.52		1.0108	1.0109	+0.2	5.37E+06	1.06	Y	1.33	53.7	11074.989	0.671
1234789-HpCDF	**40.45**		**1.0002**	**1.0002**	**0**	**4.24E+06**	**1.08**	**Y**	**1.30**	**48**	**11074.989**	**0.742**
OCDF	**42.63**		**1.0002**	**1.0003**	**+0.3**	**7.77E+06**	**0.90**	**Y**	**1.03**	**118**	**11320.245**	**1.15**
OCDF-a	42.62		1.0002	1.0001	-0.3	4.81E+05	2.54	Y	0.06	126	14727.94	26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22.0
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24.0
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26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.18e6
1.09e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
QC Check
34.02-38.50
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35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
QC Check
38.51-41.01
430.9728 Fn4
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39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
QC Check
41.02-45.00
454.9728 Fn5
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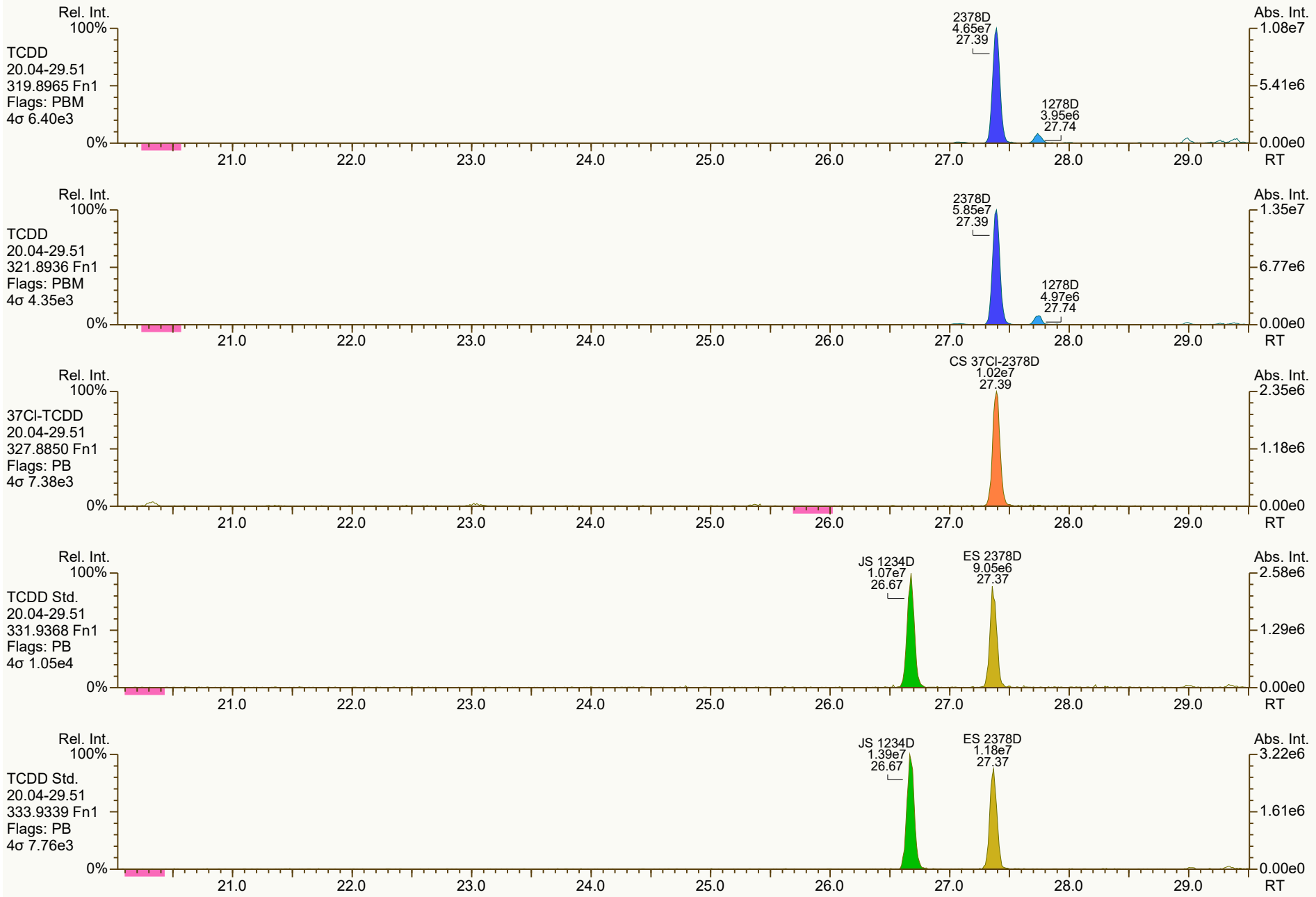
45.0 RT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319.8965 Fn1
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2378D
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27.39
1278D
3.95e6
27.74
Abs. Int.
1.08e7
5.41e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD
20.04-29.51
321.8936 Fn1
Flags: PBM
4σ 4.35e3
0%
2378D
5.85e7
27.39
1278D
4.97e6
27.74
Abs. Int.
1.35e7
6.77e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
37Cl-TCDD
20.04-29.51
327.8850 Fn1
Flags: PB
4σ 7.38e3
0%
CS 37Cl-2378D
1.02e7
27.39
Abs. Int.
2.35e6
1.18e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.04-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
JS 1234D
1.07e7
26.67
ES 2378D
9.05e6
27.37
Abs. Int.
2.58e6
1.29e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.04-29.51
333.9339 Fn1
Flags: PB
4σ 7.76e3
0%
JS 1234D
1.39e7
26.67
ES 2378D
1.18e7
27.37
Abs. Int.
3.22e6
1.61e6
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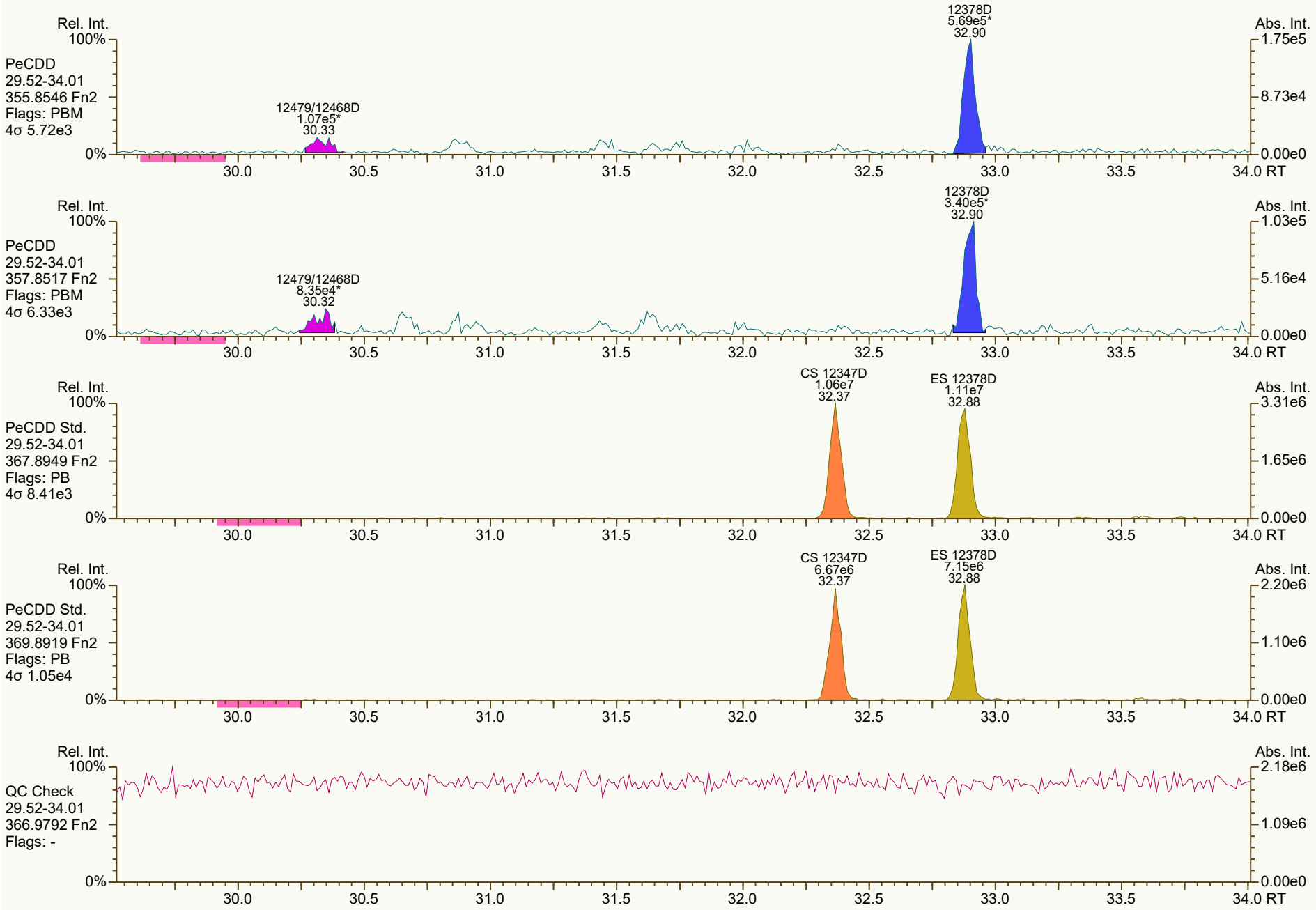
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30.33
12378D
5.69e5*
32.90
Abs. Int.
1.75e5
8.73e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD
29.52-34.01
357.8517 Fn2
Flags: PBM
4σ 6.33e3
12479/12468D
8.35e4*
30.32
12378D
3.40e5*
32.90
Abs. Int.
1.03e5
5.16e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD Std.
29.52-34.01
367.8949 Fn2
Flags: PB
4σ 8.41e3
CS 12347D
1.06e7
32.37
ES 12378D
1.11e7
32.88
Abs. Int.
3.31e6
1.65e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD Std.
29.52-34.01
369.8919 Fn2
Flags: PB
4σ 1.05e4
CS 12347D
6.67e6
32.37
ES 12378D
7.15e6
32.88
Abs. Int.
2.20e6
1.10e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
Abs. Int.
2.18e6
1.09e6
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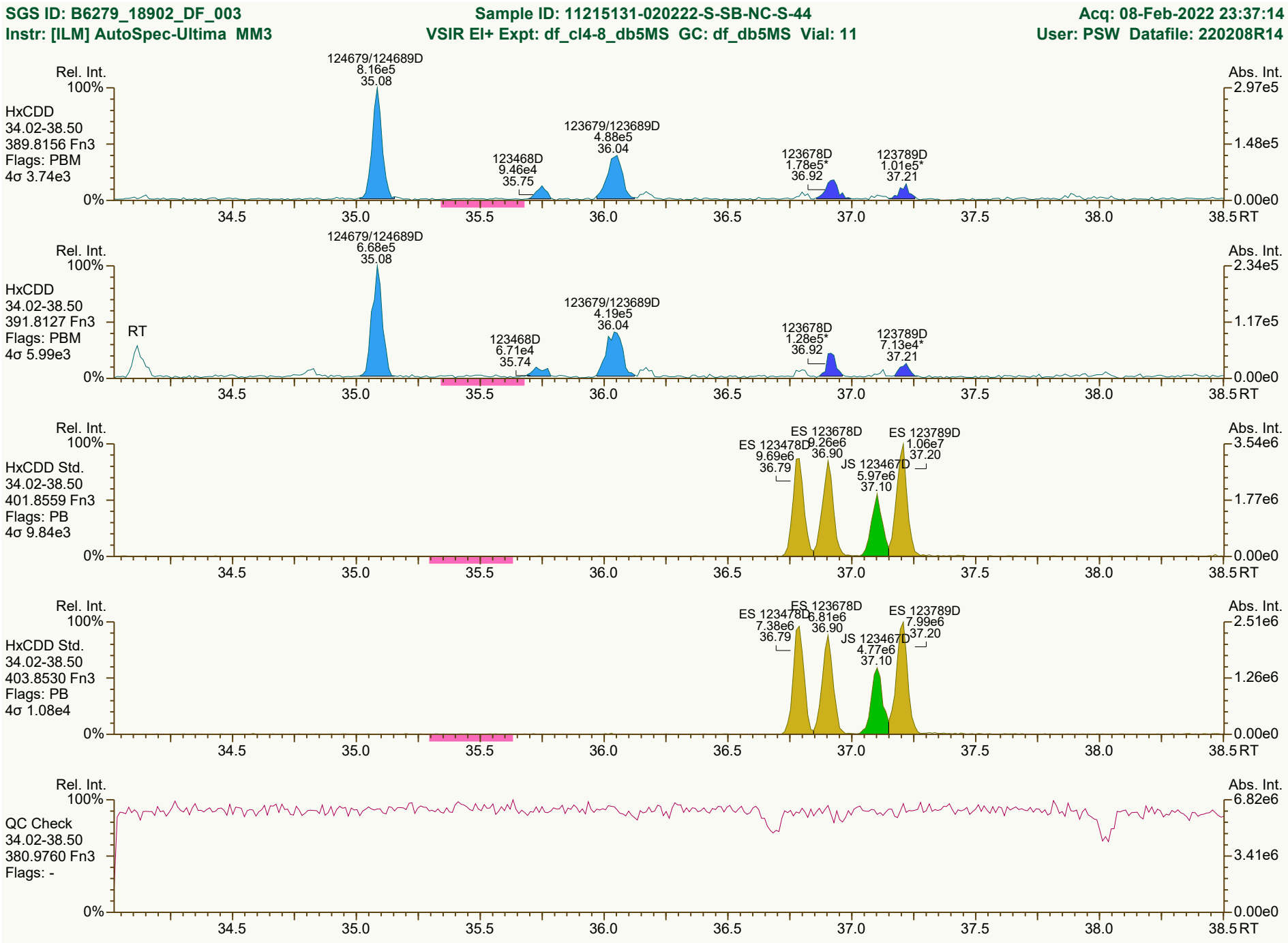
33.0
33.5
34.0 RT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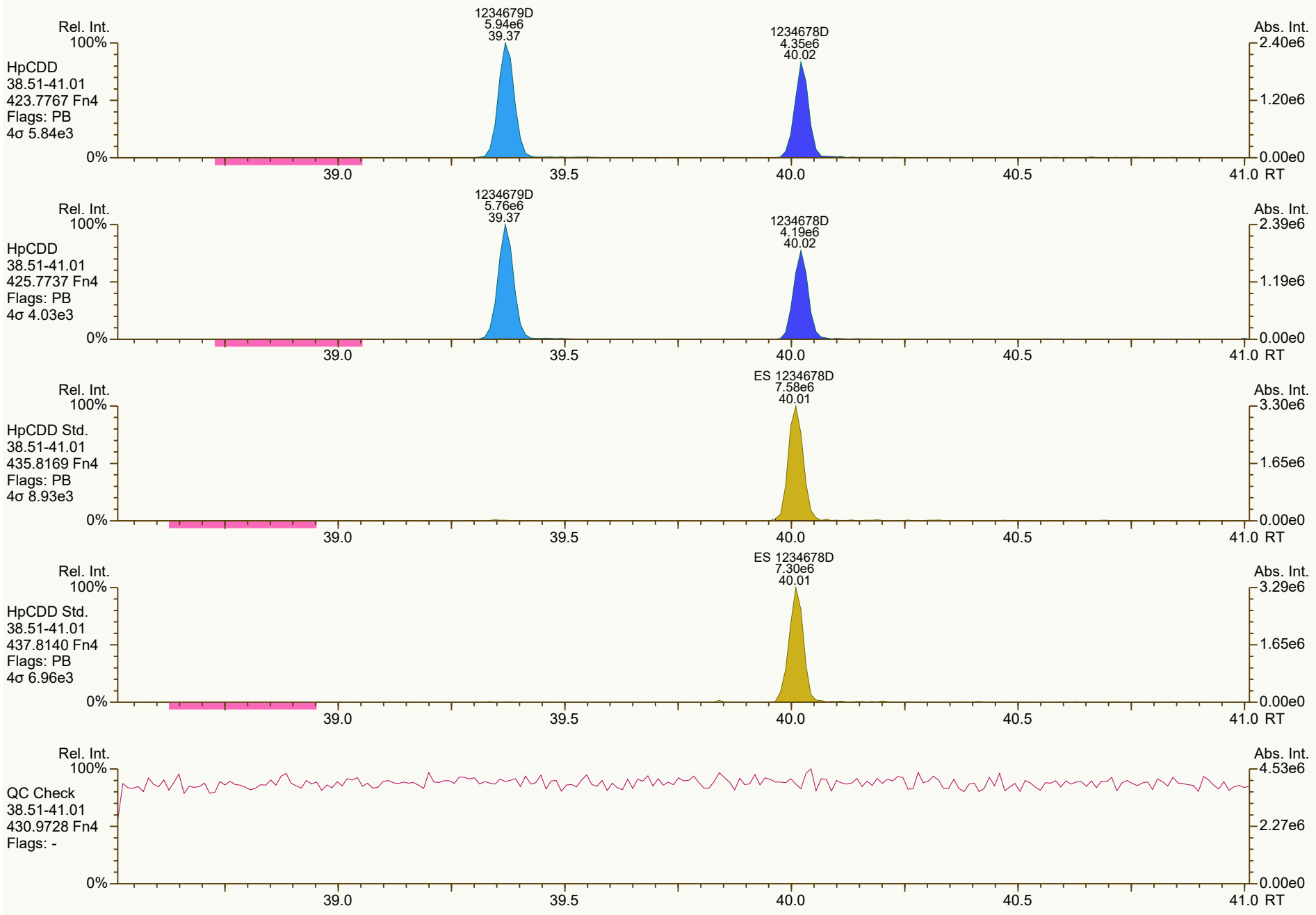
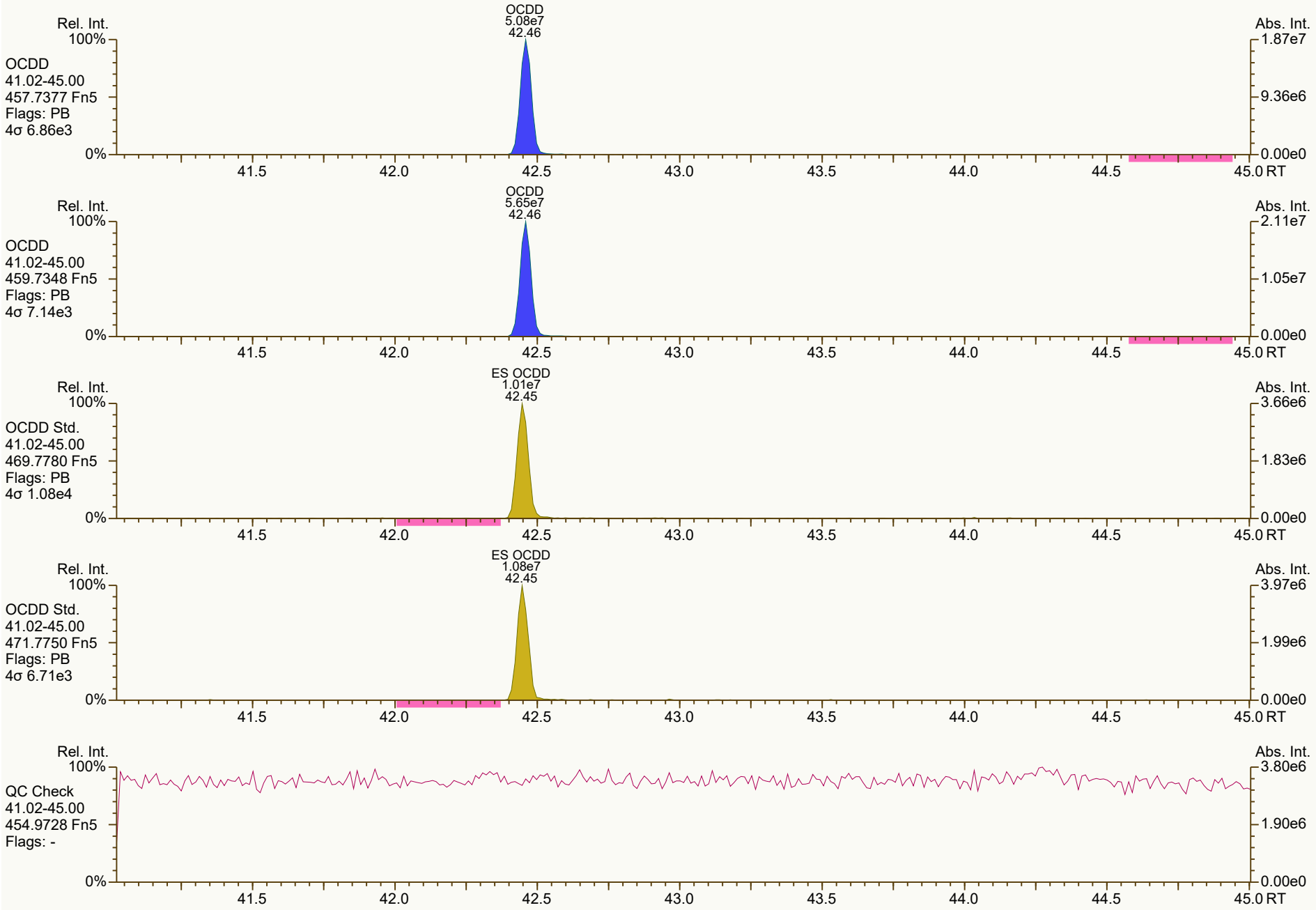
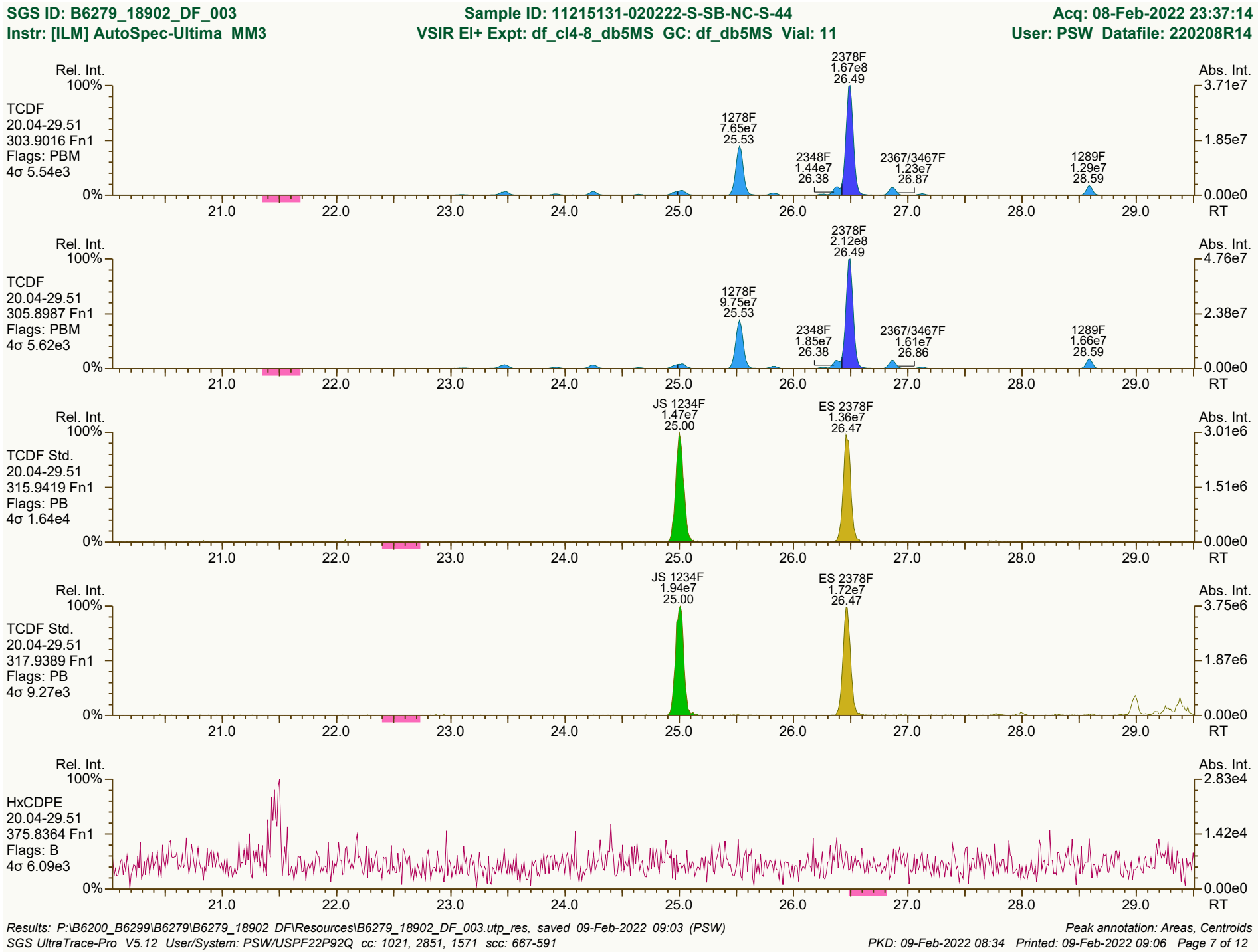
Sample ID: 11215131-020222-S-SB-NC-S-44
Acq: 08-Feb-2022 23:37:14
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11
User: PSW Datafile: 220208R14
Rel. Int.
Abs. Int.
HxCDD
34.02-38.50
389.8156 Fn3
Flags: PBM
4σ 3.74e3
124679/124689D
8.16e5
35.08
123679/123689D
4.88e5
36.04
123468D
9.46e4
35.75
123678D
1.78e5*
36.92
123789D
1.01e5*
37.21
HxCDD
34.02-38.50
391.8127 Fn3
Flags: PBM
4σ 5.99e3
RT
124679/124689D
6.68e5
35.08
123679/123689D
4.19e5
36.04
123468D
6.71e4
35.74
123678D
1.28e5*
36.92
123789D
7.13e4*
37.21
HxCDD Std.
34.02-38.50
401.8559 Fn3
Flags: PB
4σ 9.84e3
ES 123478D
9.69e6
36.79
ES 123678D
9.26e6
36.90
JS 123467D
5.97e6
37.10
ES 123789D
1.06e7
37.20
HxCDD Std.
34.02-38.50
403.8530 Fn3
Flags: PB
4σ 1.08e4
ES 123478D
7.38e6
36.79
ES 123678D
6.81e6
36.90
JS 123467D
4.77e6
37.10
ES 123789D
7.99e6
37.20
QC Check
34.02-38.50
380.9760 Fn3
Flags: -
RT


Rel. Int.
100%
HpCDD
38.51-41.01
423.7767 Fn4
Flags: PB
4σ 5.84e3
1234679D
5.94e6
39.37
1234678D
4.35e6
40.02
Abs. Int.
2.40e6
1.20e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD
38.51-41.01
425.7737 Fn4
Flags: PB
4σ 4.03e3
1234679D
5.76e6
39.37
1234678D
4.19e6
40.02
Abs. Int.
2.39e6
1.19e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.51-41.01
435.8169 Fn4
Flags: PB
4σ 8.93e3
ES 1234678D
7.58e6
40.01
Abs. Int.
3.30e6
1.65e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.51-41.01
437.8140 Fn4
Flags: PB
4σ 6.96e3
ES 1234678D
7.30e6
40.01
Abs. Int.
3.29e6
1.65e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
QC Check
38.51-41.01
430.9728 Fn4
Flags: -
Abs. Int.
4.53e6
2.27e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT


OCDD
5.08e7
42.46
Rel. Int.
100%
OCDD
41.02-45.00
457.7377 Fn5
Flags: PB
4σ 6.86e3
0%
Abs. Int.
1.87e7
9.36e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.65e7
42.46
Rel. Int.
100%
OCDD
41.02-45.00
459.7348 Fn5
Flags: PB
4σ 7.14e3
0%
Abs. Int.
2.11e7
1.05e7
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.01e7
42.45
Rel. Int.
100%
OCDD Std.
41.02-45.00
469.7780 Fn5
Flags: PB
4σ 1.08e4
0%
Abs. Int.
3.66e6
1.83e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.08e7
42.45
Rel. Int.
100%
OCDD Std.
41.02-45.00
471.7750 Fn5
Flags: PB
4σ 6.71e3
0%
Abs. Int.
3.97e6
1.99e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.02-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
3.80e6
1.90e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: B6279_18902_DF_003 | Sample ID: 11215131-020222-S-SB-NC-S-44 | Acq: 08-Feb-2022 23:37:14
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11 | User: PSW Datafile: 220208R14



Results: P:\B6200_B6299\B6279\B6279_18902 DF\Resources\B6279_18902_DF_003.utp_res, saved 09-Feb-2022 09:03 (PSW) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1021, 2851, 1571 scc: 667-591 | PKD: 09-Feb-2022 08:34 Printed: 09-Feb-2022 09:06 Page 7 of 12

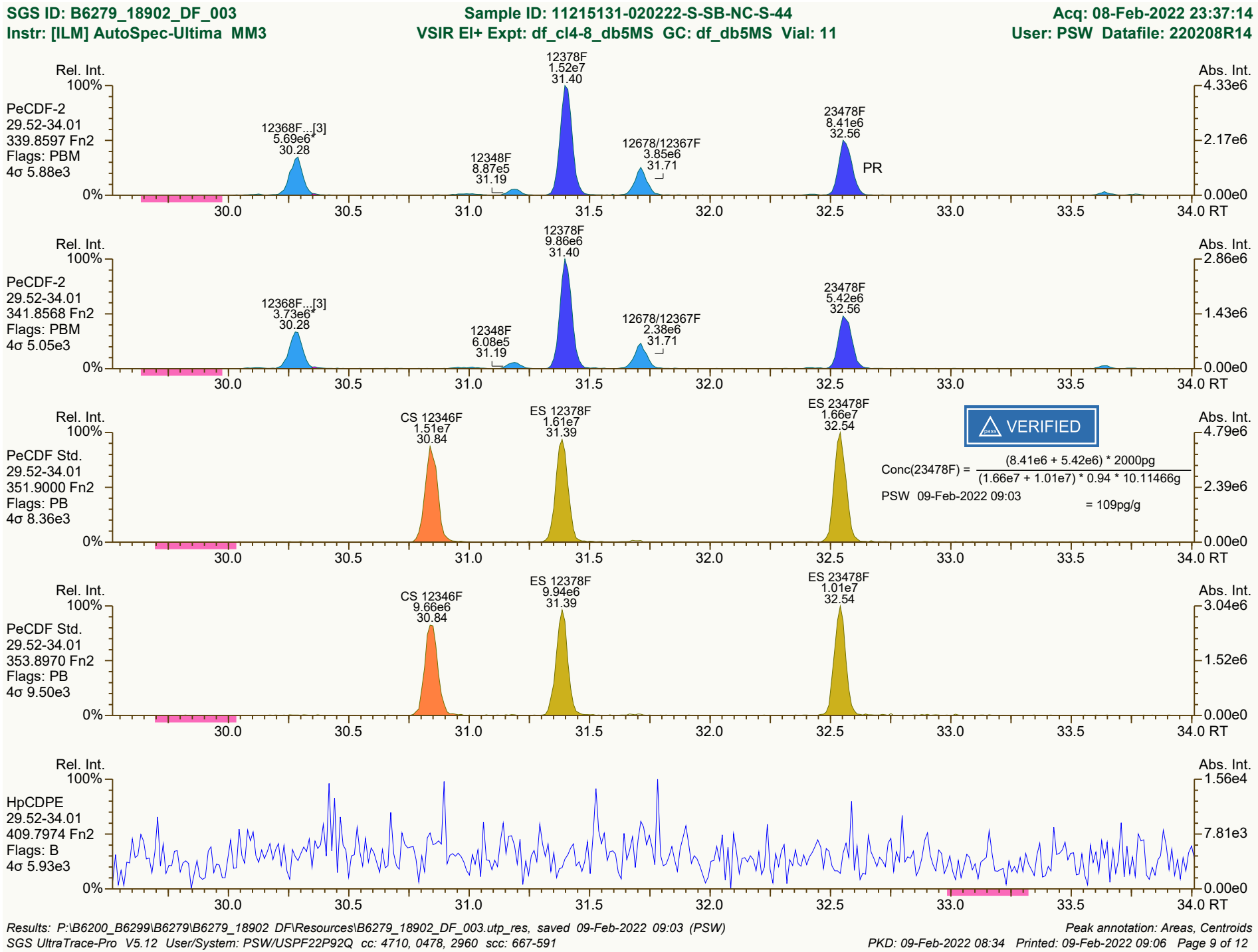
SGS ID: B6279_18902_DF_003 | Sample ID: 11215131-020222-S-SB-NC-S-44 | Acq: 08-Feb-2022 23:37:14

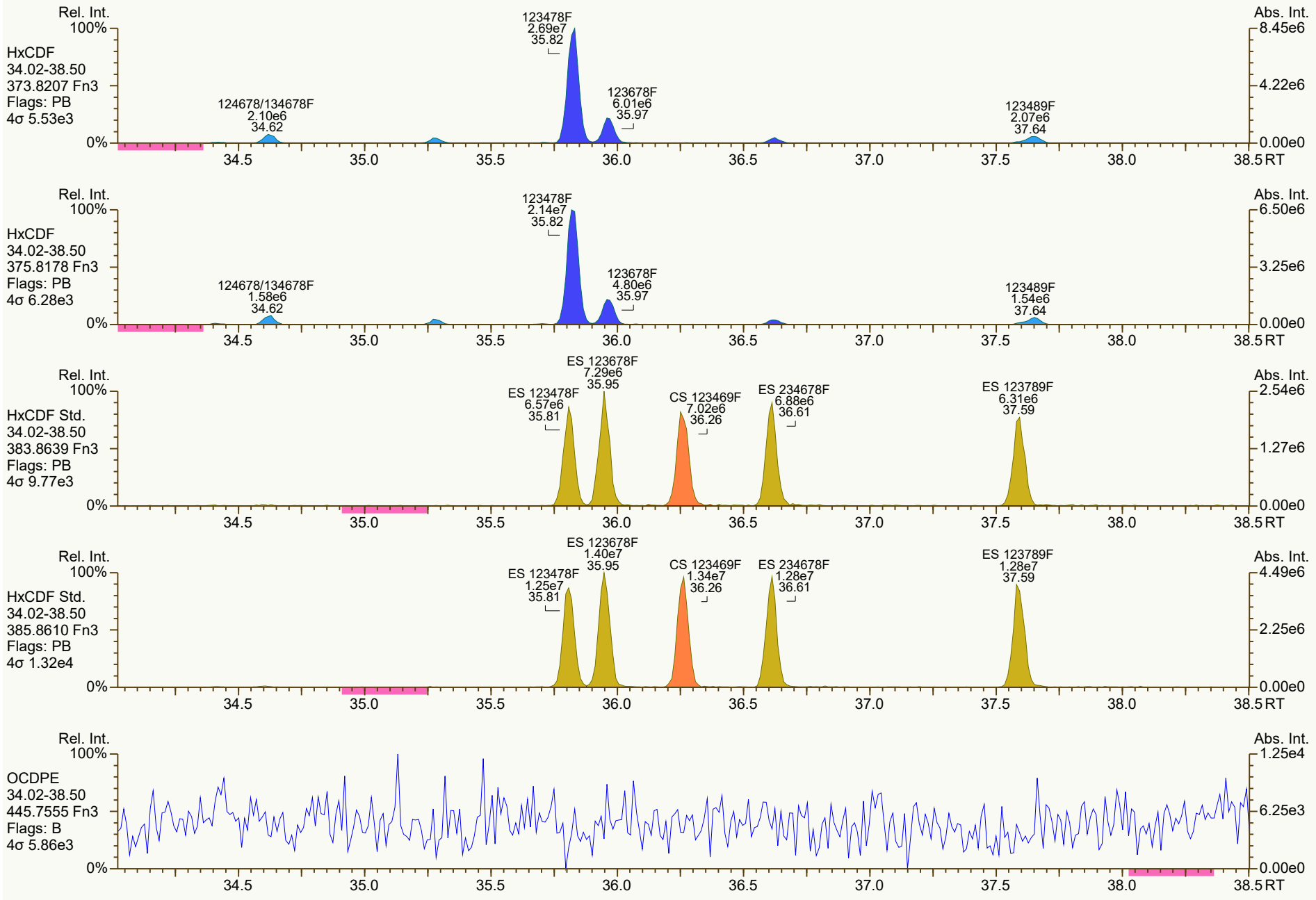
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11 | User: PSW Datafile: 220208R14

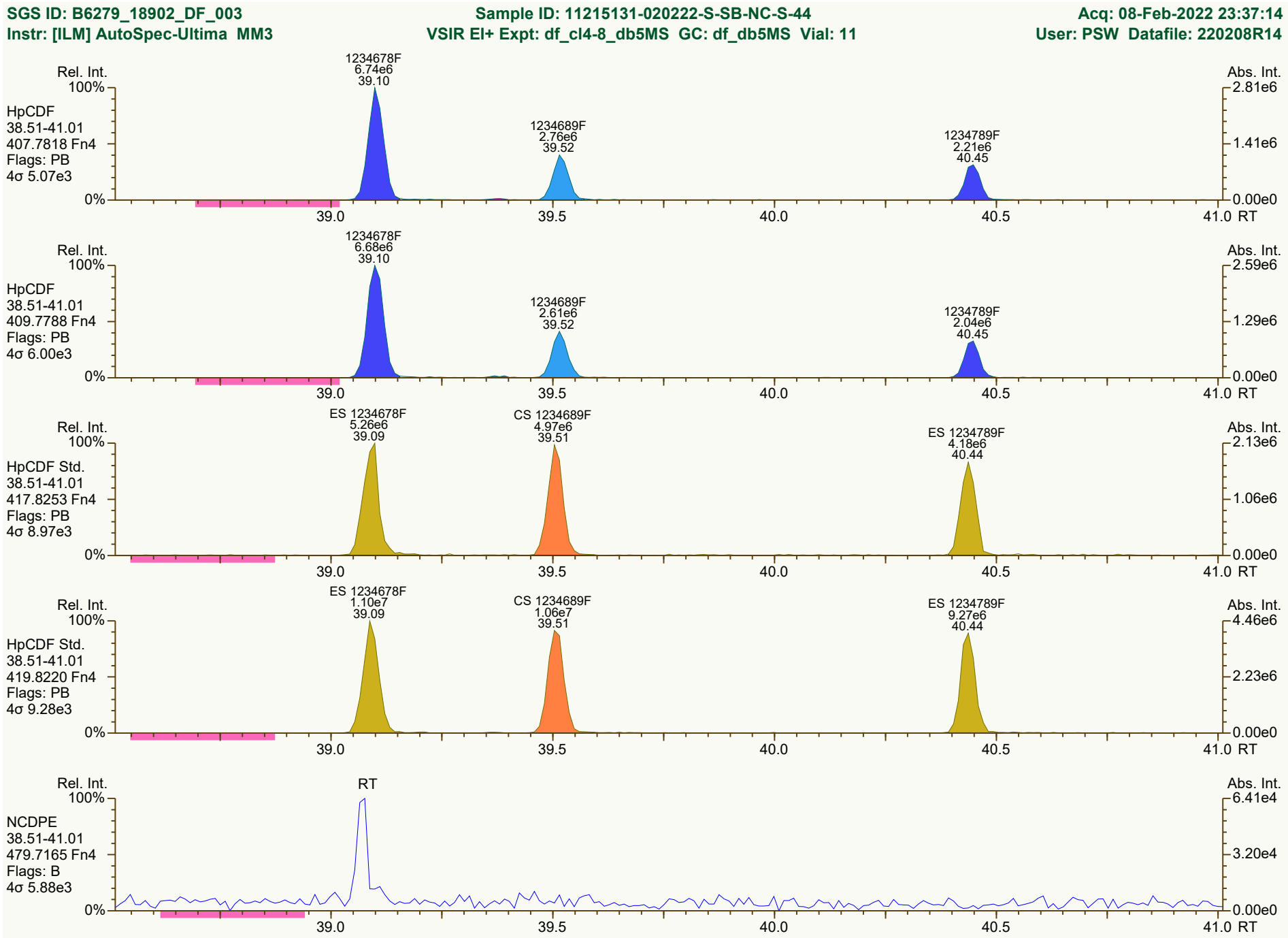


Results: P:\B6200_B6299\B6279\B6279_18902 DF\Resources\B6279_18902_DF_003.utp_res, saved 09-Feb-2022 09:03 (PSW) | *Peak annotation: Areas, Centroids*

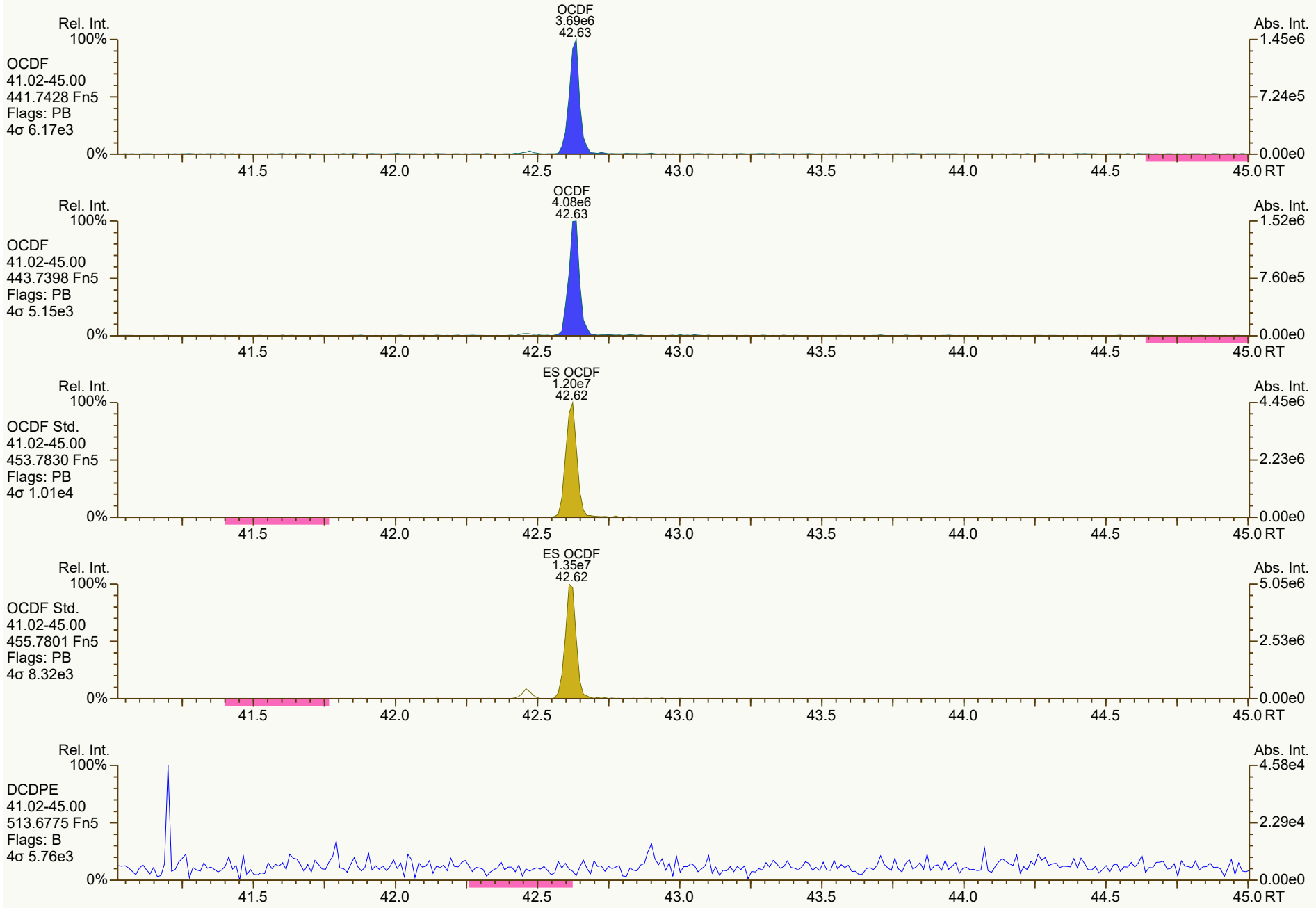
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3265 scc: 667-591 | *PKD: 09-Feb-2022 08:34 Printed: 09-Feb-2022 09:06 Page 8 of 12*


SGS ID: B6279_18902_DF_003
Instr: [ILM] AutoSpec-Ultima MM3
Sample ID: 11215131-020222-S-SB-NC-S-44
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11
Acq: 08-Feb-2022 23:37:14
User: PSW Datafile: 220208R14
PeCDF-2
29.52-34.01
339.8597 Fn2
Flags: PBM
4σ 5.88e3
12368F...[3]
5.69e6*
30.28
12348F
8.87e5
31.19
12378F
1.52e7
31.40
12678/12367F
3.85e6
31.71
23478F
8.41e6
32.56
PR
PeCDF-2
29.52-34.01
341.8568 Fn2
Flags: PBM
4σ 5.05e3
12368F...[3]
3.73e6*
30.28
12348F
6.08e5
31.19
12378F
9.86e6
31.40
12678/12367F
2.38e6
31.71
23478F
5.42e6
32.56
PeCDF Std.
29.52-34.01
351.9000 Fn2
Flags: PB
4σ 8.36e3
CS 12346F
1.51e7
30.84
ES 12378F
1.61e7
31.39
ES 23478F
1.66e7
32.54
VERIFIED
Conc(23478F) = (8.41e6 + 5.42e6) * 2000pg / (1.66e7 + 1.01e7) * 0.94 * 10.11466g
PSW 09-Feb-2022 09:03
= 109pg/g
PeCDF Std.
29.52-34.01
353.8970 Fn2
Flags: PB
4σ 9.50e3
CS 12346F
9.66e6
30.84
ES 12378F
9.94e6
31.39
ES 23478F
1.01e7
32.54
HpCDPE
29.52-34.01
409.7974 Fn2
Flags: B
4σ 5.93e3
Rel. Int.
Abs. Int.
RT
Results: P:\B6200_B6299\B6279\B6279_18902 DF\Resources\B6279_18902_DF_003.utp_res, saved 09-Feb-2022 09:03 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4710, 0478, 2960 scc: 667-591
Peak annotation: Areas, Centroids
PKD: 09-Feb-2022 08:34 Printed: 09-Feb-2022 09:06 Page 9 of 12


Rel. Int.
100%
HxCDF
34.02-38.50
373.8207 Fn3
Flags: PB
4σ 5.53e3
123478F
2.69e7
35.82
123678F
6.01e6
35.97
124678/134678F
2.10e6
34.62
123489F
2.07e6
37.64
Abs. Int.
8.45e6
4.22e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDF
34.02-38.50
375.8178 Fn3
Flags: PB
4σ 6.28e3
123478F
2.14e7
35.82
123678F
4.80e6
35.97
124678/134678F
1.58e6
34.62
123489F
1.54e6
37.64
Abs. Int.
6.50e6
3.25e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDF Std.
34.02-38.50
383.8639 Fn3
Flags: PB
4σ 9.77e3
ES 123678F
7.29e6
35.95
ES 123478F
6.57e6
35.81
CS 123469F
7.02e6
36.26
ES 234678F
6.88e6
36.61
ES 123789F
6.31e6
37.59
Abs. Int.
2.54e6
1.27e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDF Std.
34.02-38.50
385.8610 Fn3
Flags: PB
4σ 1.32e4
ES 123678F
1.40e7
35.95
ES 123478F
1.25e7
35.81
CS 123469F
1.34e7
36.26
ES 234678F
1.28e7
36.61
ES 123789F
1.28e7
37.59
Abs. Int.
4.49e6
2.25e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
OCDPE
34.02-38.50
445.7555 Fn3
Flags: B
4σ 5.86e3
Abs. Int.
1.25e4
6.25e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT



Results: P:\B6200_B6299\B6279\B6279_18902 DF\Resources\B6279_18902_DF_003.utp_res, saved 09-Feb-2022 09:03 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2383, 6396, 1430 scc: 667-591
PKD: 09-Feb-2022 08:34 Printed: 09-Feb-2022 09:06 Page 11 of 12


OCDF
3.69e6
42.63
Rel. Int.
100%
OCDF
41.02-45.00
441.7428 Fn5
Flags: PB
4σ 6.17e3
0%
Abs. Int.
1.45e6
7.24e5
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.08e6
42.63
Rel. Int.
100%
OCDF
41.02-45.00
443.7398 Fn5
Flags: PB
4σ 5.15e3
0%
Abs. Int.
1.52e6
7.60e5
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.20e7
42.62
Rel. Int.
100%
OCDF Std.
41.02-45.00
453.7830 Fn5
Flags: PB
4σ 1.01e4
0%
Abs. Int.
4.45e6
2.23e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.35e7
42.62
Rel. Int.
100%
OCDF Std.
41.02-45.00
455.7801 Fn5
Flags: PB
4σ 8.32e3
0%
Abs. Int.
5.05e6
2.53e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.02-45.00
513.6775 Fn5
Flags: B
4σ 5.76e3
0%
Abs. Int.
4.58e4
2.29e4
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

REVIEWED
Tamara Burkamper , 2/9/2022, 12:52:18 PM

SGS Environmental Services — Run Log

Project: B6279_18902_DF

Instrument: MM3 (AutoSpec-Ultima)

MS Experiment: df_cl4-8_db5MS

GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
4	220208R04	3	CS3_220208_DF_RA ✓	1.00	SIL 25-347-1	PSW	569-493	08-Feb-2022	15:38:36
6	220208R06	7	OPR1_18902_DF	1.00	0_18902_OPR001	PSW	364-604	08-Feb-2022	17:17:06
7	220208R07	8	OPR2_18902_DF	1.00	0_18902_OPR002	PSW	064-027	08-Feb-2022	18:04:33
9	220208R09	2	SBS_220208_DF_RA	1.00	SIL 20-61-1	PSW	984-039	08-Feb-2022	19:39:38
10	220208R10	6	MB1_18902_DF_SDS	10.00	Method Blank	PSW	299-949	08-Feb-2022	20:27:11
12	220208R12	9	B6279_18902_DF_001	10.05	11215131-020222-S-SB-NC-S-46	PSW	320-704	08-Feb-2022	22:02:10
13	220208R13	10	B6279_18902_DF_002	10.12	11215131-020222-S-SB-NC-S-45	PSW	252-399	08-Feb-2022	22:49:43
14	220208R14	11	B6279_18902_DF_003 ✓	10.11	11215131-020222-S-SB-NC-S-44	PSW	667-591	08-Feb-2022	23:37:14

REVIEWED
paul_walton , 2/9/2022, 9:09:34 AM

Dioxin/Furan QC Summary	Acq'd: 08 Feb 2022 15:38 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_220208_DF_RA	UTP: 09-Feb-2022 09:00:13 PSW	Checkcode: 569-493-NKV
Sample ID: SIL 25-347-1	Report: 09 Feb 2022 09:00 gd	Datafile: 220208R04

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.46	8.70E+06	0.79	Y	1.34	1.06	-21% *
12378-PeCDD	32.95	3.51E+07	1.58	Y	1.06	0.97	-9%
123478-HxCDD	36.84	2.80E+07	1.26	Y	1.06	1.00	-5%
123678-HxCDD	36.96	2.77E+07	1.26	Y	1.08	1.04	-4%
123789-HxCDD	37.26	2.97E+07	1.28	Y	1.02	0.97	-5%
1234678-HpCDD	40.05	2.06E+07	1.06	Y	0.97	0.98	0%
OCDD	42.49	2.80E+07	0.89	Y	1.07	1.02	-5%
2378-TCDF	26.56	1.14E+07	0.77	Y	0.96	0.95	-1%
12378-PeCDF	31.45	5.02E+07	1.58	Y	0.95	0.98	4%
23478-PeCDF	32.61	4.94E+07	1.54	Y	0.94	0.98	4%
123478-HxCDF	35.86	4.18E+07	1.25	Y	1.23	1.22	-1%
123678-HxCDF	36.01	4.26E+07	1.25	Y	1.13	1.15	2%
234678-HxCDF	36.67	3.92E+07	1.25	Y	1.15	1.16	1%
123789-HxCDF	37.65	3.55E+07	1.26	Y	1.14	1.13	0%
1234678-HpCDF	39.13	3.14E+07	1.02	Y	1.36	1.31	-4%
1234789-HpCDF	40.47	2.51E+07	1.09	Y	1.30	1.31	1%
OCDF	42.66	3.38E+07	0.92	Y	1.03	1.03	0%
ES 2378-TCDD	27.43	8.20E+07	0.77	Y	1.03	1.01	-3%
ES 12378-PeCDD	32.927	7.27E+07	1.55	Y	1.03	0.89	-14%
ES 123478-HxCDD	36.828	5.62E+07	1.27	Y	0.99	1.05	6%
ES 123678-HxCDD	36.946	5.32E+07	1.29	Y	0.97	1.00	2%
ES 123789-HxCDD	37.245	6.15E+07	1.25	Y	1.12	1.15	3%
ES 1234678-HpCDD	40.032	4.20E+07	1.05	Y	0.99	0.79	-21%
ES OCDD	42.482	5.50E+07	0.92	Y	0.78	0.51	-34% *
ES 2378-TCDF	26.537	1.20E+08	0.76	Y	1.08	1.03	-5%
ES 12378-PeCDF	31.435	1.02E+08	1.55	Y	0.93	0.88	-6%
ES 23478-PeCDF	32.59	1.01E+08	1.58	Y	0.92	0.87	-6%
ES 123478-HxCDF	35.847	6.85E+07	0.53	Y	1.14	1.28	12%
ES 123678-HxCDF	35.988	7.39E+07	0.52	Y	1.30	1.38	7%
ES 234678-HxCDF	36.654	6.75E+07	0.52	Y	1.20	1.26	5%
ES 123789-HxCDF	37.631	6.27E+07	0.51	Y	1.14	1.17	3%
ES 1234678-HpCDF	39.114	4.81E+07	0.45	Y	0.95	0.90	-5%
ES 1234789-HpCDF	40.459	3.81E+07	0.46	Y	0.85	0.71	-16%
ES OCDF	42.65	6.56E+07	0.91	Y	0.93	0.61	-34% *

*meets M1613B criteria
TB 2/9/2022

Dioxin/Furan QC Summary	Acq'd: 08 Feb 2022 15:38 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_220208_DF_RA	UTP: 09-Feb-2022 09:00:13 PSW	Checkcode: 569-493-NKV
Sample ID: SIL 25-347-1	Report: 09 Feb 2022 09:00 gd	Datafile: 220208R04

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.74	8.15E+07	0.75	Y	-	-	-
JS 1234-TCDF	25.08	1.17E+08	0.76	Y	-	-	-
JS 123467-HxCDD	37.14	2.67E+07	1.27	Y	-	-	-
CS 37Cl-2378-TCDD	27.46	1.05E+07	n/a	-	1.31	1.29	-1%
CS 12347-PeCDD	32.42	6.75E+07	1.61	Y	0.89	0.83	-7%
CS 12346-PeCDF	30.89	1.01E+08	1.58	Y	0.87	0.86	-1%
CS 123469-HxCDF	36.30	6.94E+07	0.54	Y	1.09	1.30	19%
CS 1234689-HpCDF	39.53	4.62E+07	0.46	Y	0.86	0.87	0%
~~SS 37Cl-2378-TCDD~~	~~27.46~~	~~1.05E+07~~	~~n/a~~	~~-~~	~~1.26~~	~~1.29~~	~~2%~~
~~SS 12347-PeCDD~~	~~32.42~~	~~6.75E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~0.93~~	~~8%~~
~~SS 12346-PeCDF~~	~~30.89~~	~~1.01E+08~~	~~1.58~~	~~Y~~	~~0.93~~	~~0.90~~	~~6%~~
~~SS 123469-HxCDF~~	~~36.30~~	~~6.94E+07~~	~~0.54~~	~~Y~~	~~0.84~~	~~0.94~~	~~12%~~
~~SS 1234689-HpCDF~~	~~39.53~~	~~4.62E+07~~	~~0.46~~	~~Y~~	~~0.91~~	~~0.96~~	~~5%~~
~~OCDD-a~~	~~42.49~~	~~1.87E+06~~	~~2.70~~	~~Y~~	~~0.07~~	~~0.07~~	~~3%~~
~~OCDF-a~~	~~42.66~~	~~1.78E+06~~	~~2.75~~	~~Y~~	~~0.06~~	~~0.05~~	~~-8%~~

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

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

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

VER Data Filename: 220208R04 Analysis Date: 08-FEB-2022 15:38:36

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	M/M+2	0.79	0.65	-	0.89	Y	7.89	7.8	-	12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32	-	1.78	Y	45.6	39	-	65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05	-	1.43	Y	47.3	39	-	64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05	-	1.43	Y	48.1	39	-	64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.28	1.05	-	1.43	Y	47.6	41	-	61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88	-	1.20	Y	50.2	43	-	58	Y
OCDD	M+2/M+4	0.89	0.76	-	1.02	Y	95.2	79	-	126	Y
2,3,7,8-TCDF	M/M+2	0.77	0.65	-	0.89	Y	9.87	8.4	-	12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	51.8	41	-	60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.54	1.32	-	1.78	Y	52	41	-	61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05	-	1.43	Y	49.3	45	-	56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.25	1.05	-	1.43	Y	51.1	44	-	57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05	-	1.43	Y	50.5	44	-	57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05	-	1.43	Y	49.8	45	-	56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.02	0.88	-	1.20	Y	48.1	45	-	55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.09	0.88	-	1.20	Y	50.6	43	-	58	Y
OCDF	M+2/M+4	0.92	0.76	-	1.02	Y	100	63	-	159	Y

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

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

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

Processed: 09 Feb 2022 09:00 Analyst: gd

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

Lab Name: SGS North America

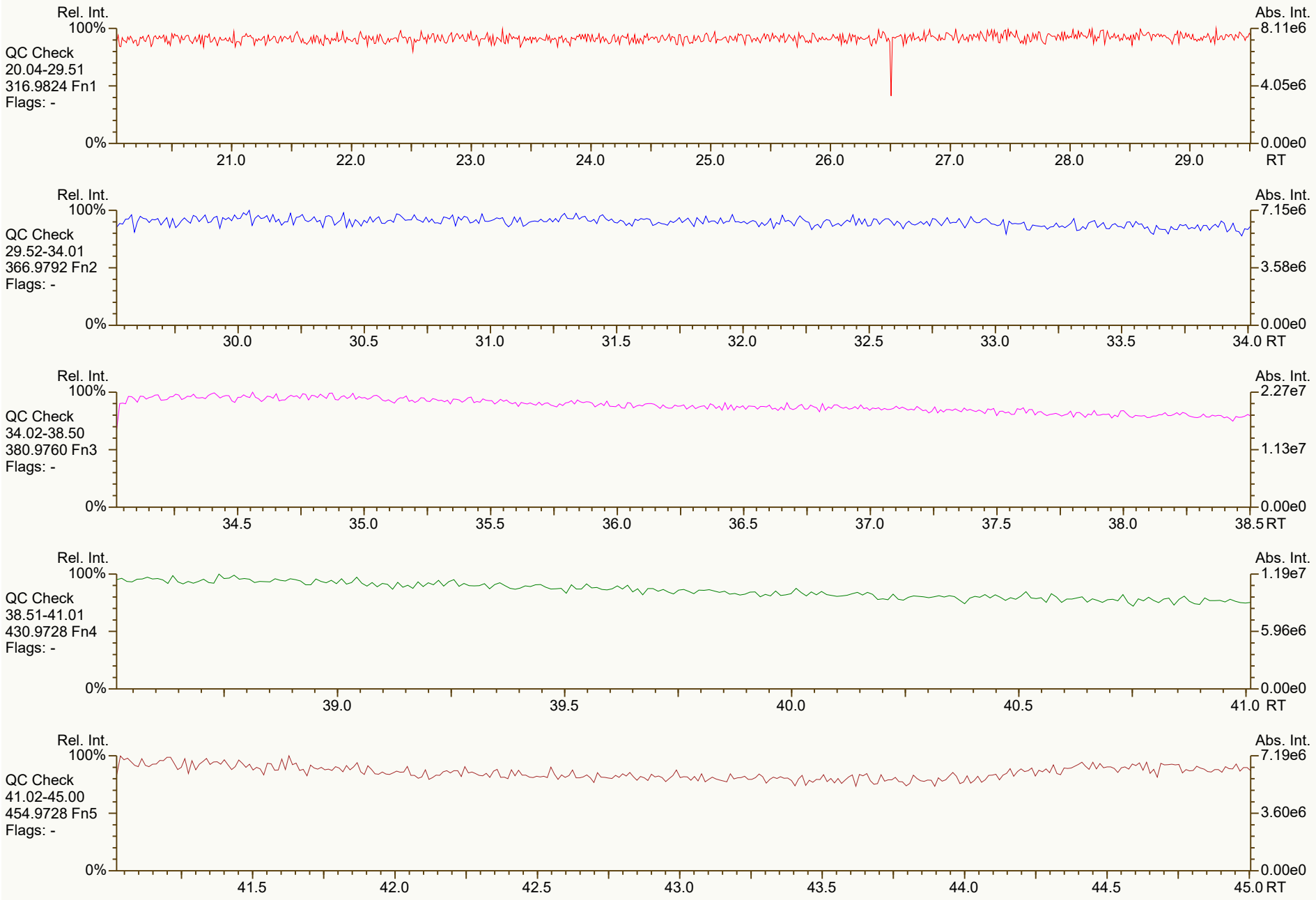
Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

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

VER Data Filename: 220208R04 Analysis Date: 08-FEB-2022 15:38:36

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.77	0.65	-	0.89	Y	97.2	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32	-	1.78	Y	86.2	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05	-	1.43	Y	106	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05	-	1.43	Y	102	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	103	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88	-	1.20	Y	79.4	72	-	138	Y
13C-OCDD	M+2/M+4	0.92	0.76	-	1.02	Y	133	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.76	0.65	-	0.89	Y	94.8	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32	-	1.78	Y	93.9	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	94	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	112	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	107	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	105	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.51	0.43	-	0.59	Y	103	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	94.9	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.46	0.37	-	0.51	Y	84.4	77	-	129	Y
13C-OCDF	M+2/M+4	0.91	0.76	-	1.02	Y	133	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						9.86	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.61	1.32	-	1.78	Y	92.8	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	99.4	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	119	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.46	0.37	-	0.51	Y	100	70	-	130	Y

Processed: 09 Feb 2022 09:00 Analyst: gd


Rel. Int.
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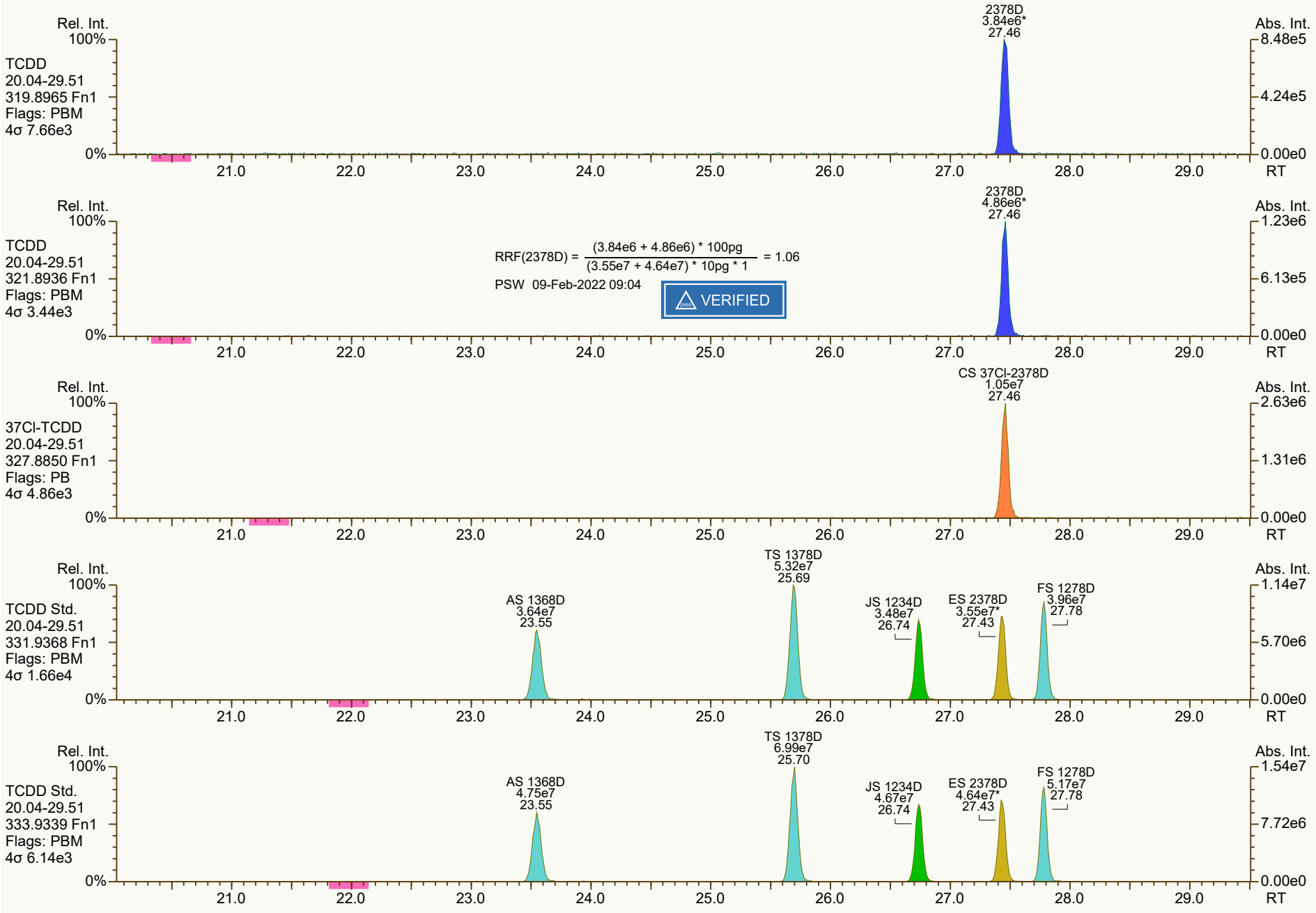
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
0%
Abs. Int.
8.11e6
4.05e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.15e6
3.58e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
QC Check
34.02-38.50
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.27e7
1.13e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
QC Check
38.51-41.01
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.19e7
5.96e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
QC Check
41.02-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.19e6
3.60e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
20.04-29.51
319.8965 Fn1
Flags: PBM
4σ 7.66e3
0%
2378D
3.84e6*
27.46
Abs. Int.
8.48e5
4.24e5
0.00e0
21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0
RT
Rel. Int.
100%
TCDD
20.04-29.51
321.8936 Fn1
Flags: PBM
4σ 3.44e3
0%
2378D
4.86e6*
27.46
RRF(2378D) = (3.84e6 + 4.86e6) * 100pg / (3.55e7 + 4.64e7) * 10pg * 1 = 1.06
PSW 09-Feb-2022 09:04
VERIFIED
Abs. Int.
1.23e6
6.13e5
0.00e0
21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0
RT
Rel. Int.
100%
37Cl-TCDD
20.04-29.51
327.8850 Fn1
Flags: PB
4σ 4.86e3
0%
CS 37Cl-2378D
1.05e7
27.46
Abs. Int.
2.63e6
1.31e6
0.00e0
21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0
RT
Rel. Int.
100%
TCDD Std.
20.04-29.51
331.9368 Fn1
Flags: PBM
4σ 1.66e4
0%
AS 1368D
3.64e7
23.55
TS 1378D
5.32e7
25.69
JS 1234D
3.48e7
26.74
ES 2378D
3.55e7*
27.43
FS 1278D
3.96e7
27.78
Abs. Int.
1.14e7
5.70e6
0.00e0
21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0
RT
Rel. Int.
100%
TCDD Std.
20.04-29.51
333.9339 Fn1
Flags: PBM
4σ 6.14e3
0%
AS 1368D
4.75e7
23.55
TS 1378D
6.99e7
25.70
JS 1234D
4.67e7
26.74
ES 2378D
4.64e7*
27.43
FS 1278D
5.17e7
27.78
Abs. Int.
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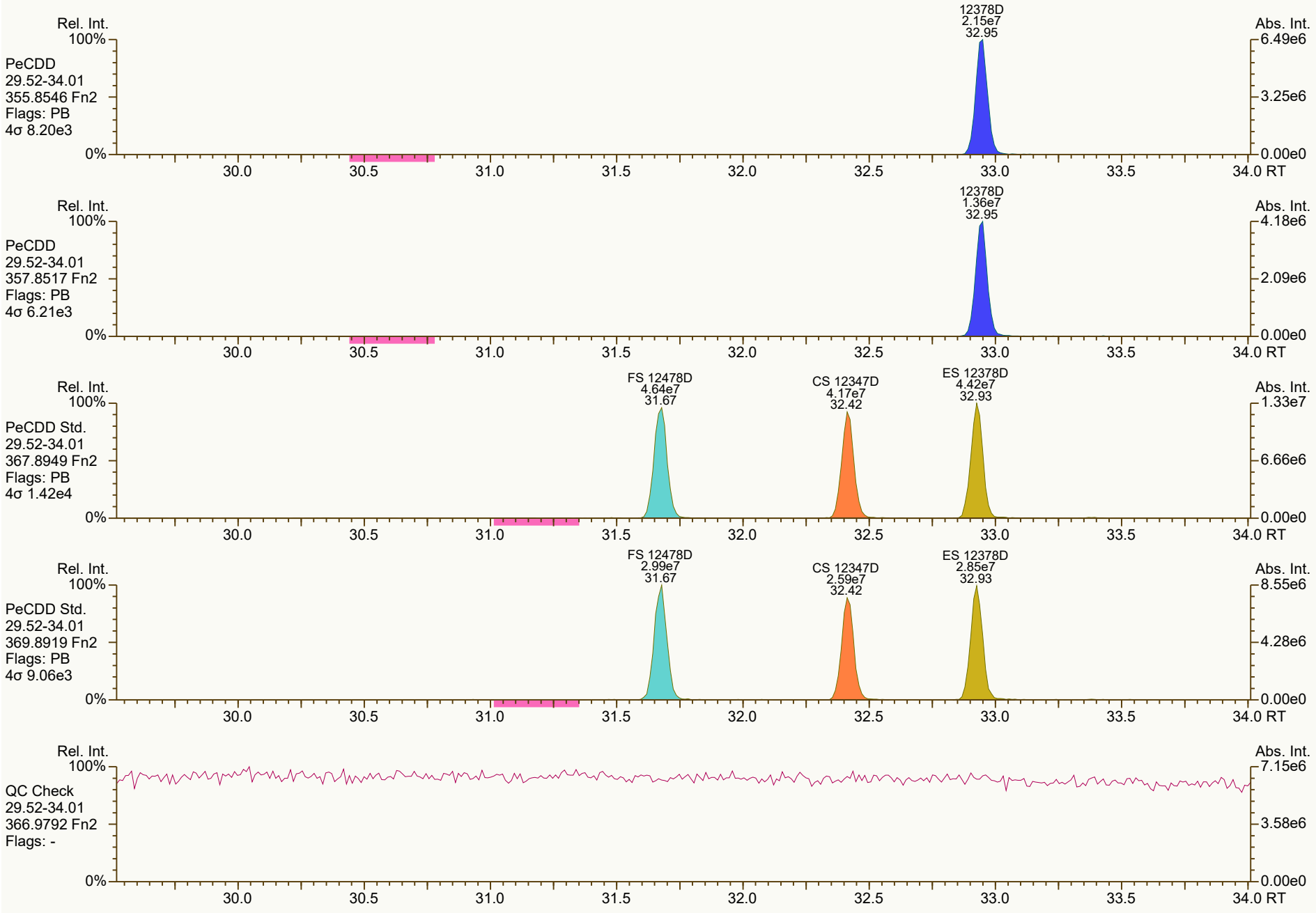
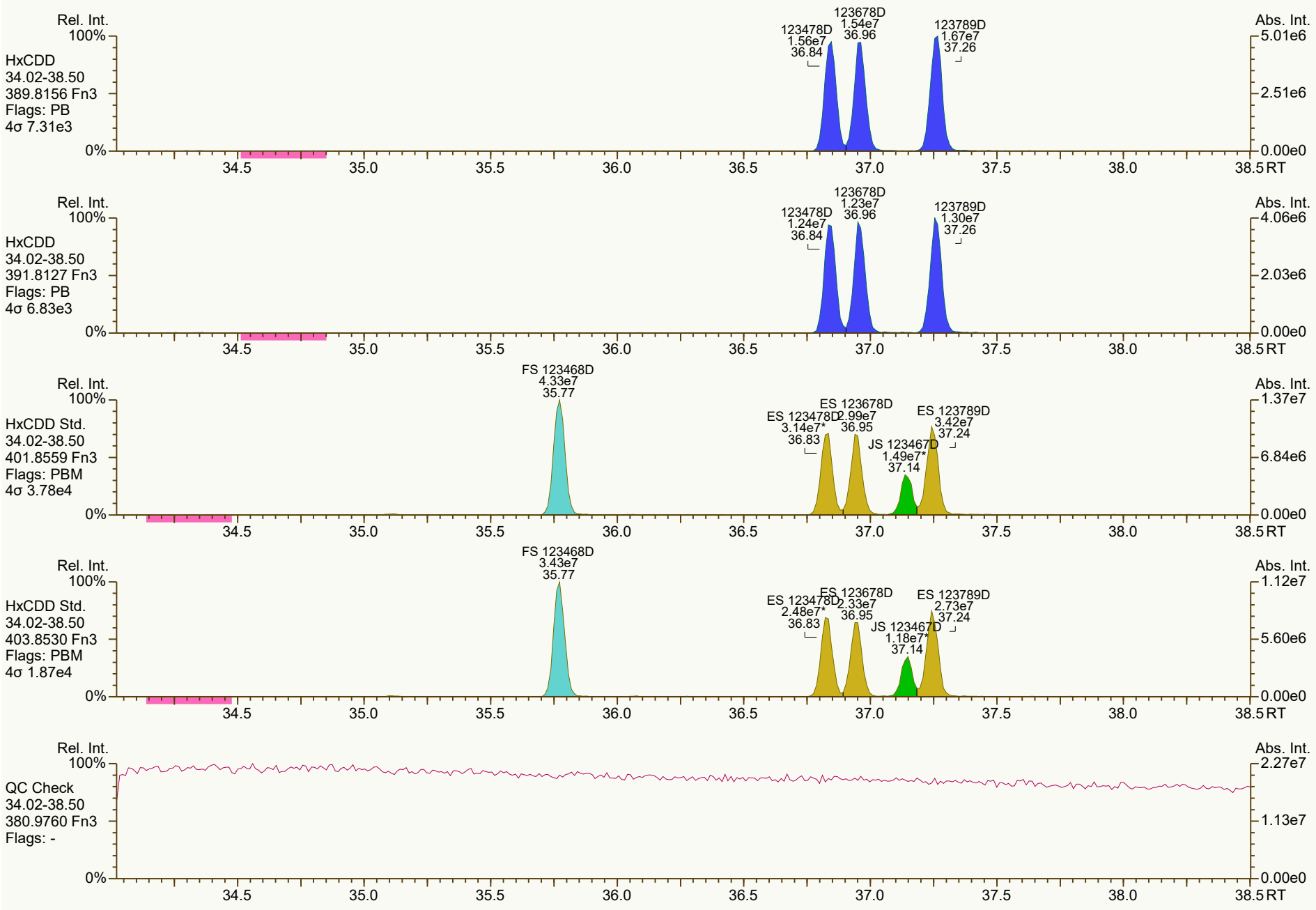
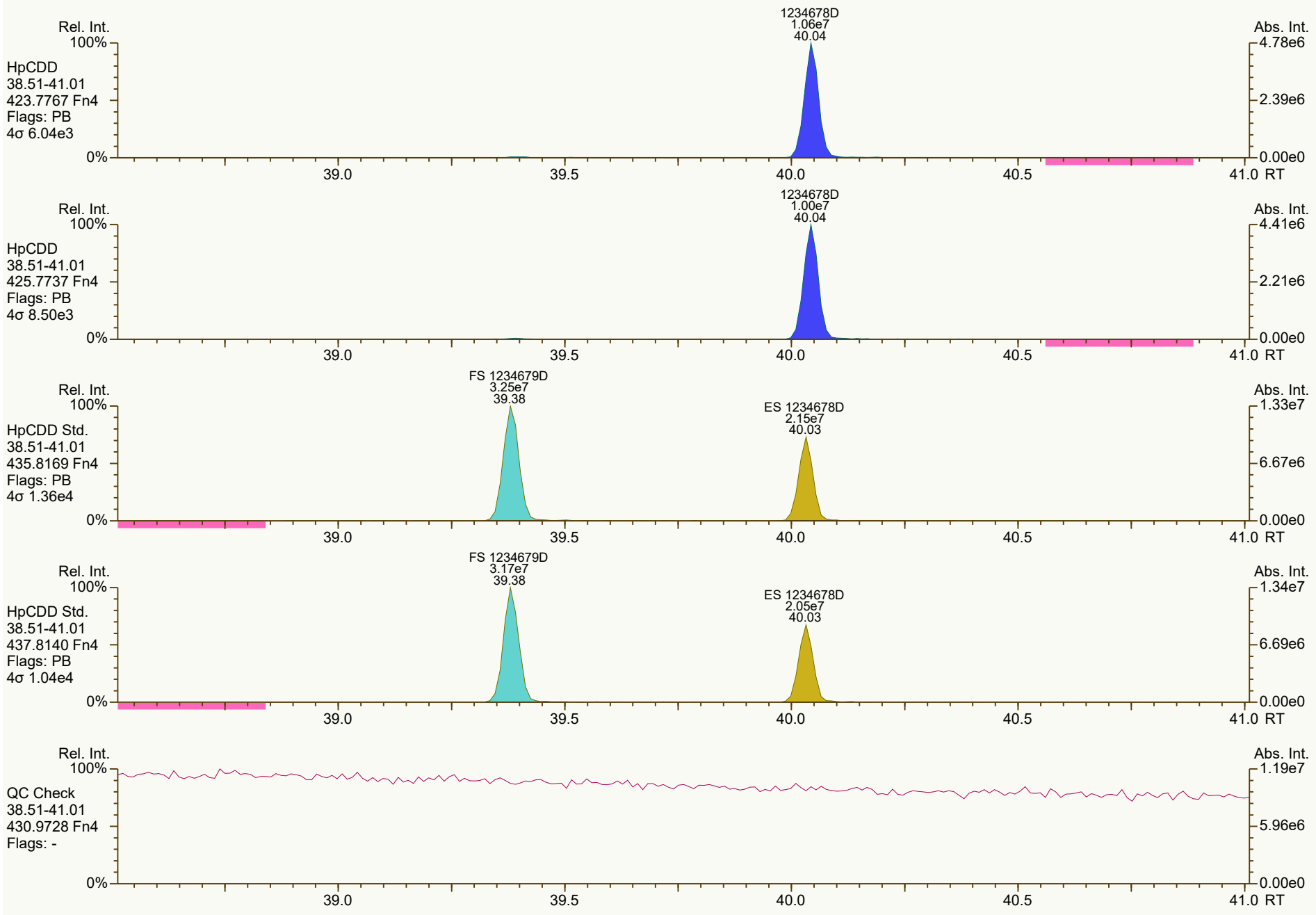
7.72e6
0.00e0
21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0
RT


Rel. Int.
100%
PeCDD
29.52-34.01
355.8546 Fn2
Flags: PB
4σ 8.20e3
12378D
2.15e7
32.95
Abs. Int.
6.49e6
3.25e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD
29.52-34.01
357.8517 Fn2
Flags: PB
4σ 6.21e3
12378D
1.36e7
32.95
Abs. Int.
4.18e6
2.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD Std.
29.52-34.01
367.8949 Fn2
Flags: PB
4σ 1.42e4
FS 12478D
4.64e7
31.67
CS 12347D
4.17e7
32.42
ES 12378D
4.42e7
32.93
Abs. Int.
1.33e7
6.66e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD Std.
29.52-34.01
369.8919 Fn2
Flags: PB
4σ 9.06e3
FS 12478D
2.99e7
31.67
CS 12347D
2.59e7
32.42
ES 12378D
2.85e7
32.93
Abs. Int.
8.55e6
4.28e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
Abs. Int.
7.15e6
3.58e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT

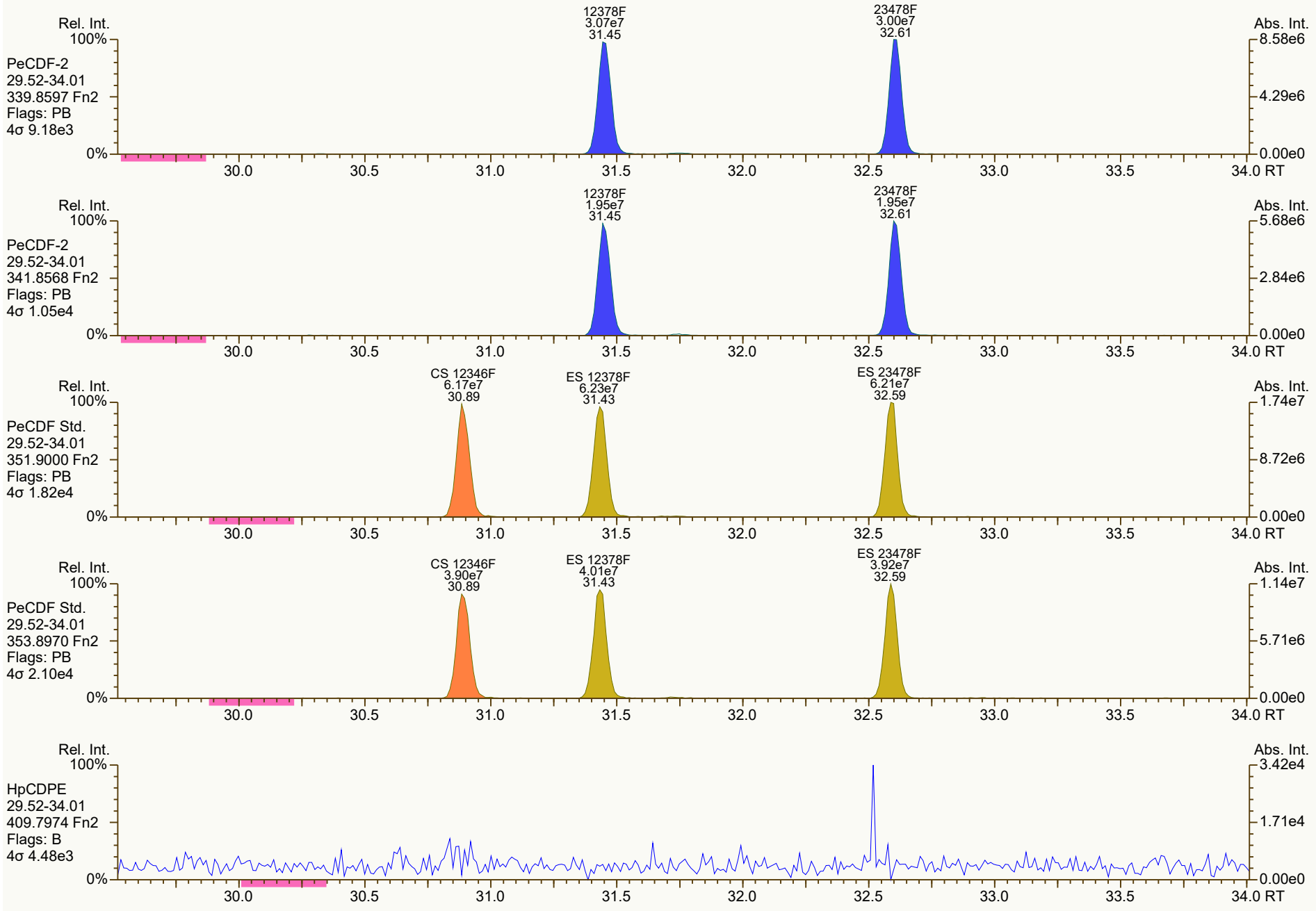

Rel. Int.
Abs. Int.
HxCDD
34.02-38.50
389.8156 Fn3
Flags: PB
4σ 7.31e3
123478D 1.56e7 36.84
123678D 1.54e7 36.96
123789D 1.67e7 37.26
5.01e6
2.51e6
0.00e0
HxCDD
34.02-38.50
391.8127 Fn3
Flags: PB
4σ 6.83e3
123478D 1.24e7 36.84
123678D 1.23e7 36.96
123789D 1.30e7 37.26
4.06e6
2.03e6
0.00e0
HxCDD Std.
34.02-38.50
401.8559 Fn3
Flags: PBM
4σ 3.78e4
FS 123468D 4.33e7 35.77
ES 123478D 3.14e7* 36.83
ES 123678D 2.99e7 36.95
JS 123467D 1.49e7* 37.14
ES 123789D 3.42e7 37.24
1.37e7
6.84e6
0.00e0
HxCDD Std.
34.02-38.50
403.8530 Fn3
Flags: PBM
4σ 1.87e4
FS 123468D 3.43e7 35.77
ES 123478D 2.48e7* 36.83
ES 123678D 2.33e7 36.95
JS 123467D 1.18e7* 37.14
ES 123789D 2.73e7 37.24
1.12e7
5.60e6
0.00e0
QC Check
34.02-38.50
380.9760 Fn3
Flags: -
2.27e7
1.13e7
0.00e0
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT

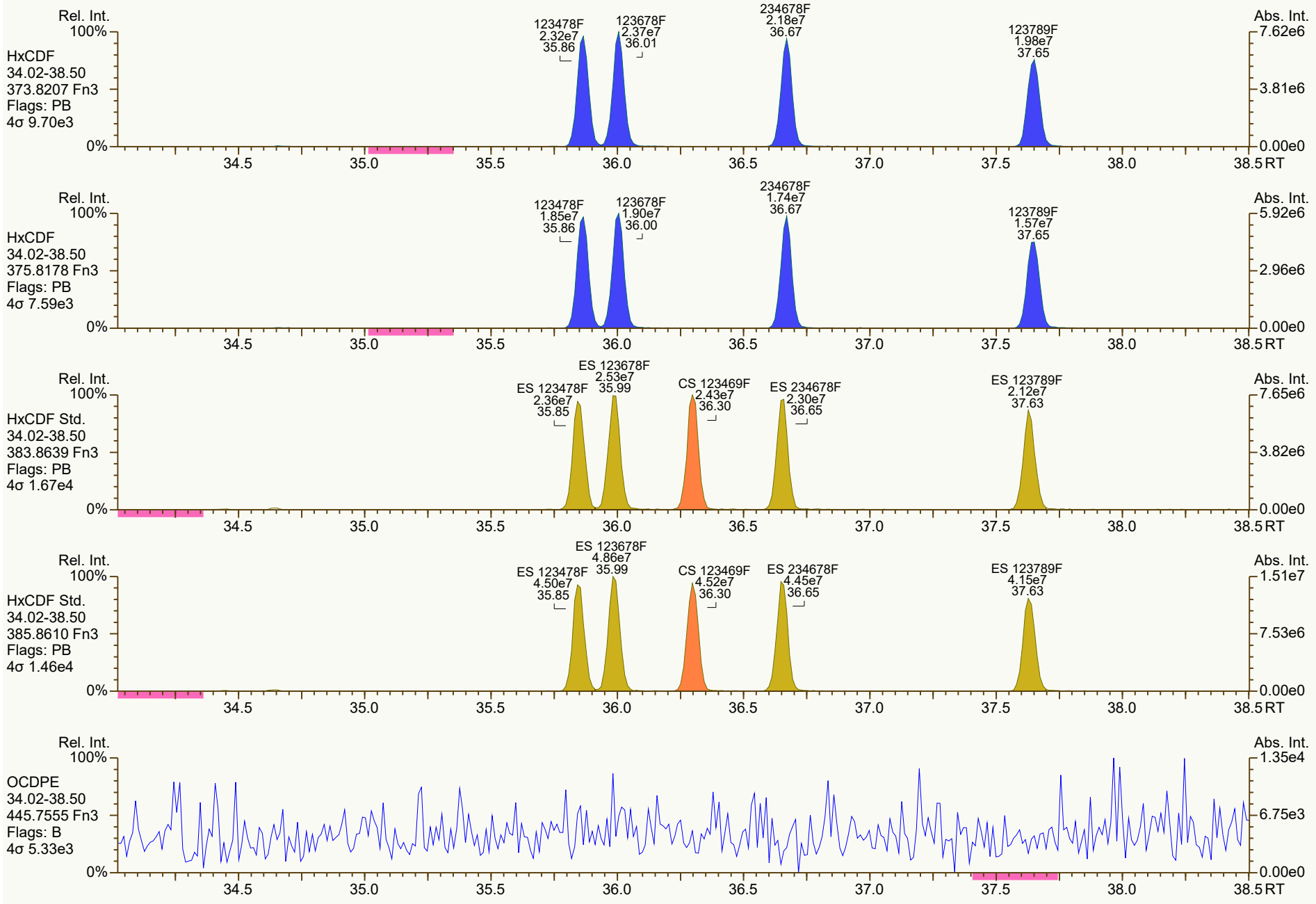

Rel. Int.
100%
HpCDD
38.51-41.01
423.7767 Fn4
Flags: PB
4σ 6.04e3
1234678D
1.06e7
40.04
Abs. Int.
4.78e6
2.39e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD
38.51-41.01
425.7737 Fn4
Flags: PB
4σ 8.50e3
1234678D
1.00e7
40.04
Abs. Int.
4.41e6
2.21e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.51-41.01
435.8169 Fn4
Flags: PB
4σ 1.36e4
FS 1234679D
3.25e7
39.38
ES 1234678D
2.15e7
40.03
Abs. Int.
1.33e7
6.67e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.51-41.01
437.8140 Fn4
Flags: PB
4σ 1.04e4
FS 1234679D
3.17e7
39.38
ES 1234678D
2.05e7
40.03
Abs. Int.
1.34e7
6.69e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
QC Check
38.51-41.01
430.9728 Fn4
Flags: -
Abs. Int.
1.19e7
5.96e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT

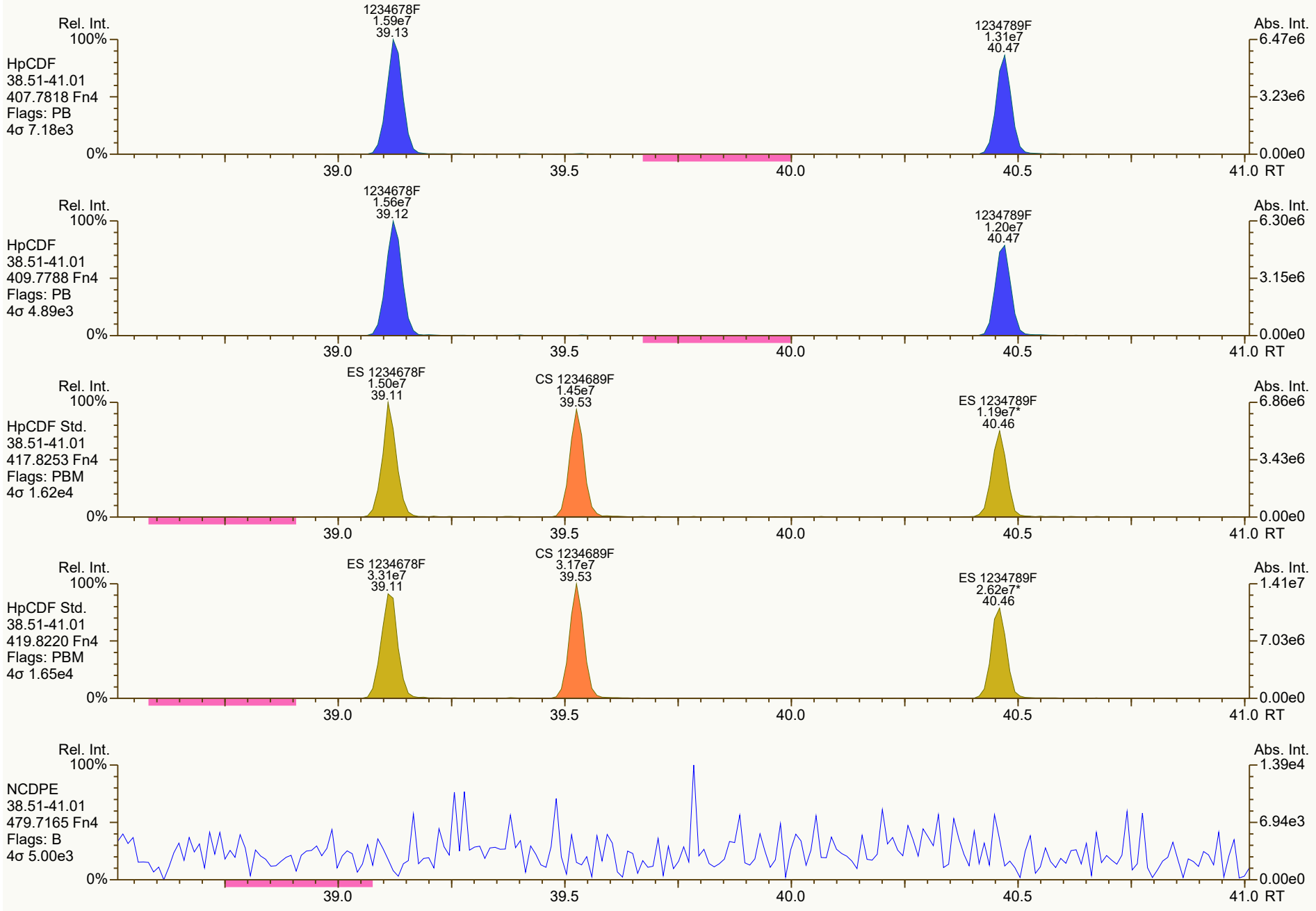

OCDD
1.31e7
42.49
Rel. Int.
Abs. Int.
OCDD
41.02-45.00
457.7377 Fn5
Flags: PB
4σ 4.66e3
OCDD
1.49e7
42.49
OCDD
41.02-45.00
459.7348 Fn5
Flags: PB
4σ 7.47e3
ES OCDD
2.63e7*
42.48
OCDD Std.
41.02-45.00
469.7780 Fn5
Flags: PBM
4σ 9.47e3
ES OCDD
2.87e7*
42.48
OCDD Std.
41.02-45.00
471.7750 Fn5
Flags: PBM
4σ 9.20e3
QC Check
41.02-45.00
454.9728 Fn5
Flags: -
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

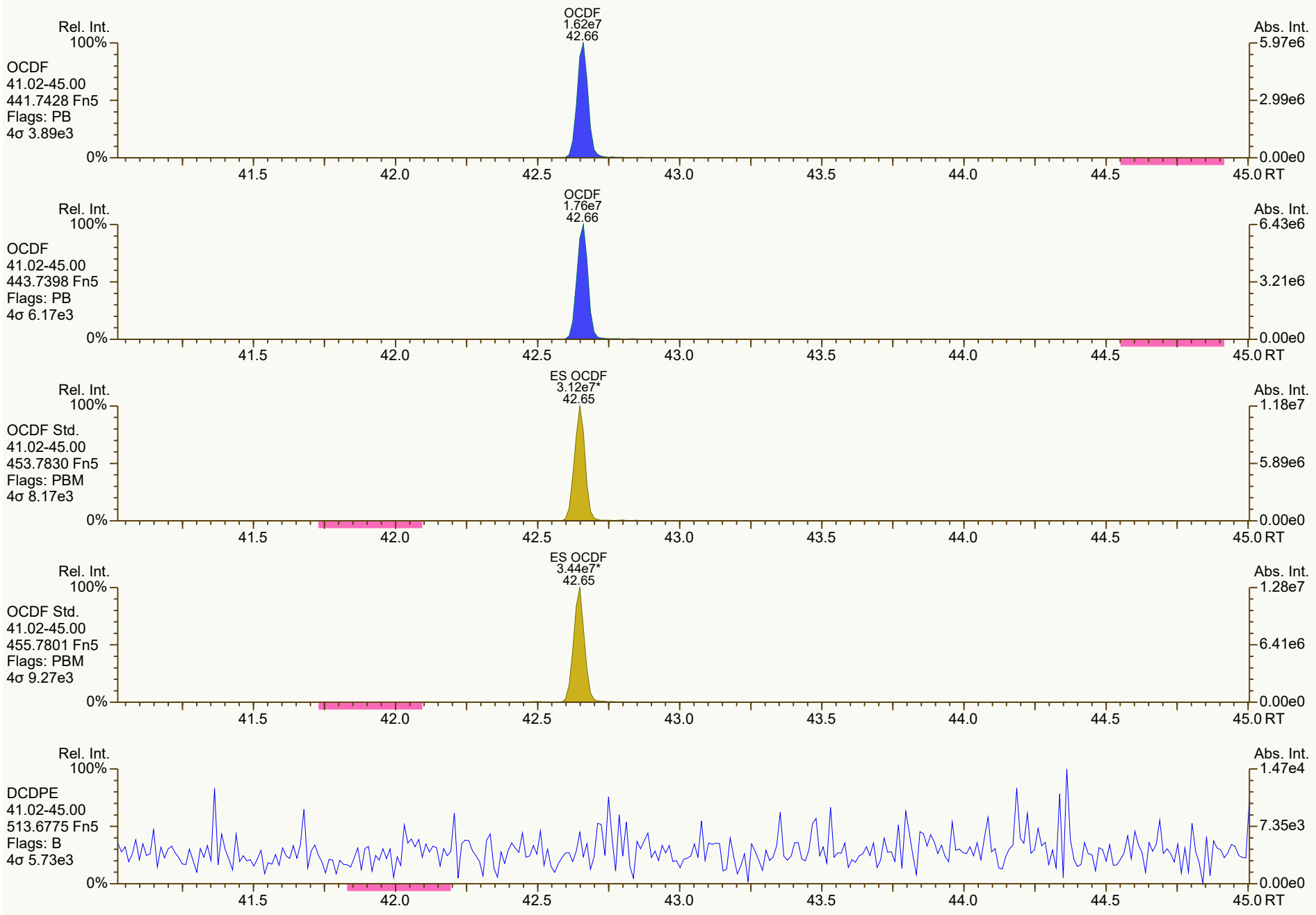

Rel. Int.
100%
TCDF
20.04-29.51
303.9016 Fn1
Flags: PB
4σ 6.24e3
0%
2378F
4.96e6
26.56
Abs. Int.
1.16e6
5.79e5
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDF
20.04-29.51
305.8987 Fn1
Flags: PB
4σ 4.09e3
0%
2378F
6.42e6
26.56
Abs. Int.
1.50e6
7.50e5
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDF Std.
20.04-29.51
315.9419 Fn1
Flags: PB
4σ 2.55e4
0%
AS 1368F
5.71e7
21.30
JS 1234F
5.05e7
25.08
ES 2378F
5.20e7
26.54
Abs. Int.
1.15e7
5.73e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDF Std.
20.04-29.51
317.9389 Fn1
Flags: PB
4σ 1.72e4
0%
AS 1368F
7.22e7
21.30
JS 1234F
6.63e7
25.07
ES 2378F
6.81e7
26.54
Abs. Int.
1.51e7
7.54e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
HxCDPE
20.04-29.51
375.8364 Fn1
Flags: B
4σ 5.39e3
0%
Abs. Int.
1.64e4
8.21e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT

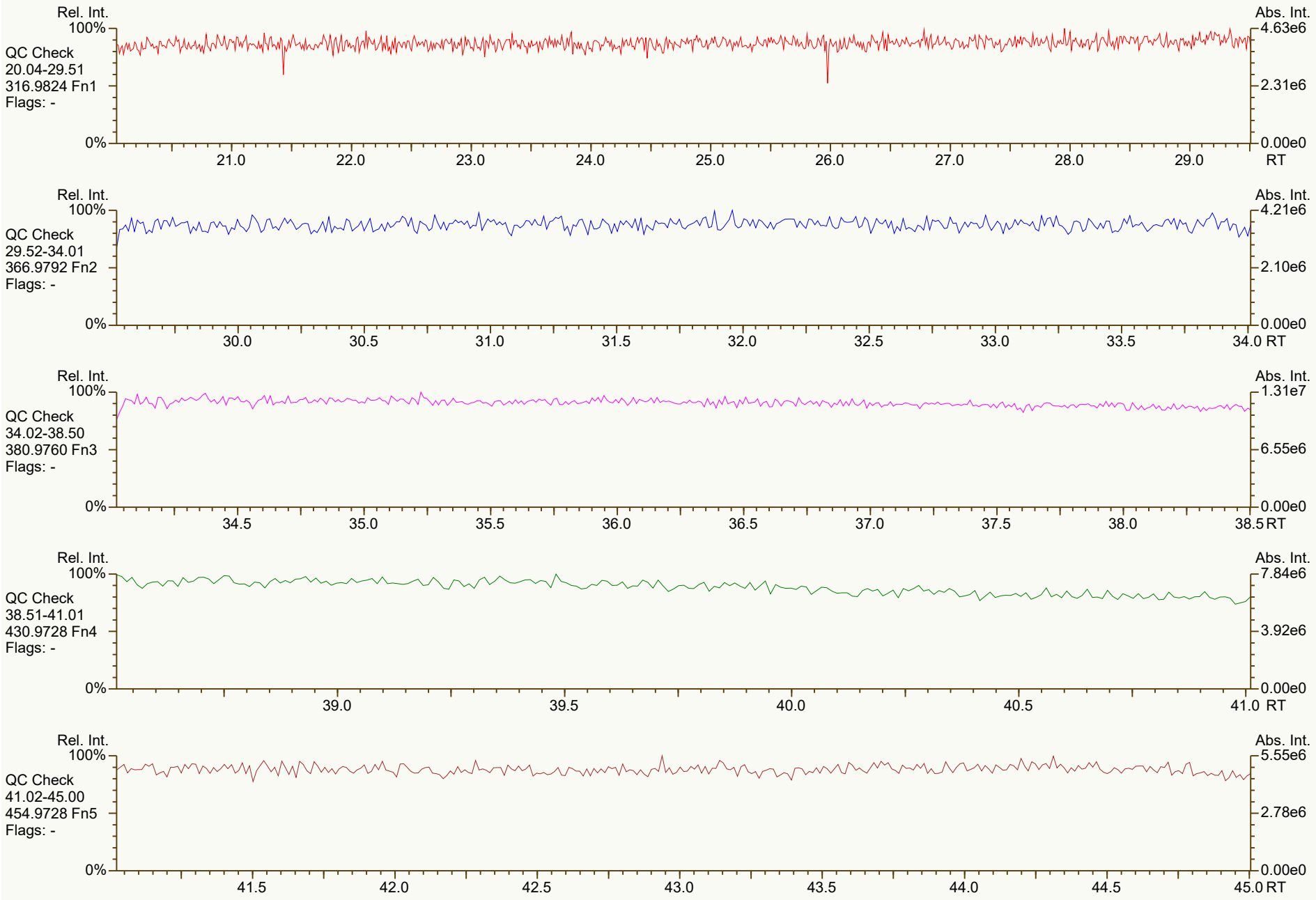

Rel. Int.
100%
0%
Abs. Int.
2.24e4
1.12e4
0.00e0
PeCDF-1
20.04-29.51
339.8597 Fn1
Flags: B
4σ 6.23e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.64e4
1.32e4
0.00e0
PeCDF-1
20.04-29.51
341.8568 Fn1
Flags: B
4σ 8.02e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.11e6
4.05e6
0.00e0
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.01
339.8597 Fn2
Flags: PB
4σ 9.18e3
0%
12378F
3.07e7
31.45
23478F
3.00e7
32.61
Abs. Int.
8.58e6
4.29e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF-2
29.52-34.01
341.8568 Fn2
Flags: PB
4σ 1.05e4
0%
12378F
1.95e7
31.45
23478F
1.95e7
32.61
Abs. Int.
5.68e6
2.84e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF Std.
29.52-34.01
351.9000 Fn2
Flags: PB
4σ 1.82e4
0%
CS 12346F
6.17e7
30.89
ES 12378F
6.23e7
31.43
ES 23478F
6.21e7
32.59
Abs. Int.
1.74e7
8.72e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF Std.
29.52-34.01
353.8970 Fn2
Flags: PB
4σ 2.10e4
0%
CS 12346F
3.90e7
30.89
ES 12378F
4.01e7
31.43
ES 23478F
3.92e7
32.59
Abs. Int.
1.14e7
5.71e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
HpCDPE
29.52-34.01
409.7974 Fn2
Flags: B
4σ 4.48e3
0%
Abs. Int.
3.42e4
1.71e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT


Rel. Int.
100%
HxCDF
34.02-38.50
373.8207 Fn3
Flags: PB
4σ 9.70e3
0%
123478F 2.32e7 35.86
123678F 2.37e7 36.01
234678F 2.18e7 36.67
123789F 1.98e7 37.65
Abs. Int.
7.62e6
3.81e6
0.00e0
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF
34.02-38.50
375.8178 Fn3
Flags: PB
4σ 7.59e3
0%
123478F 1.85e7 35.86
123678F 1.90e7 36.00
234678F 1.74e7 36.67
123789F 1.57e7 37.65
Abs. Int.
5.92e6
2.96e6
0.00e0
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF Std.
34.02-38.50
383.8639 Fn3
Flags: PB
4σ 1.67e4
0%
ES 123478F 2.36e7 35.85
ES 123678F 2.53e7 35.99
CS 123469F 2.43e7 36.30
ES 234678F 2.30e7 36.65
ES 123789F 2.12e7 37.63
Abs. Int.
7.65e6
3.82e6
0.00e0
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF Std.
34.02-38.50
385.8610 Fn3
Flags: PB
4σ 1.46e4
0%
ES 123478F 4.50e7 35.85
ES 123678F 4.86e7 35.99
CS 123469F 4.52e7 36.30
ES 234678F 4.45e7 36.65
ES 123789F 4.15e7 37.63
Abs. Int.
1.51e7
7.53e6
0.00e0
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
OCDPE
34.02-38.50
445.7555 Fn3
Flags: B
4σ 5.33e3
0%
Abs. Int.
1.35e4
6.75e3
0.00e0
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT

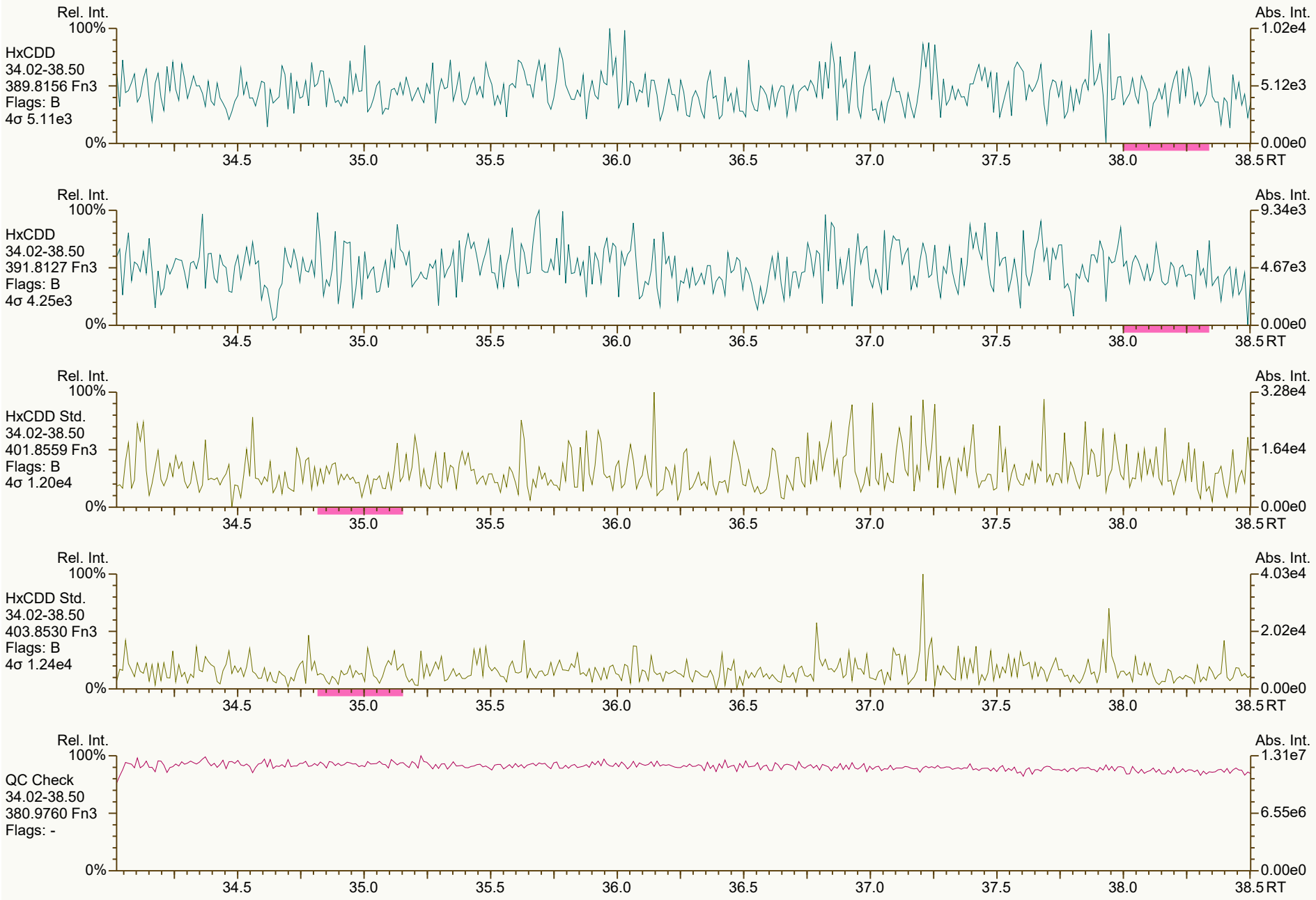

Rel. Int.
100%
HpCDF
38.51-41.01
407.7818 Fn4
Flags: PB
4σ 7.18e3
1234678F
1.59e7
39.13
1234789F
1.31e7
40.47
Abs. Int.
6.47e6
3.23e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
HpCDF
38.51-41.01
409.7788 Fn4
Flags: PB
4σ 4.89e3
1234678F
1.56e7
39.12
1234789F
1.20e7
40.47
6.30e6
3.15e6
HpCDF Std.
38.51-41.01
417.8253 Fn4
Flags: PBM
4σ 1.62e4
ES 1234678F
1.50e7
39.11
CS 1234689F
1.45e7
39.53
ES 1234789F
1.19e7*
40.46
6.86e6
3.43e6
HpCDF Std.
38.51-41.01
419.8220 Fn4
Flags: PBM
4σ 1.65e4
ES 1234678F
3.31e7
39.11
CS 1234689F
3.17e7
39.53
ES 1234789F
2.62e7*
40.46
1.41e7
7.03e6
NCDPE
38.51-41.01
479.7165 Fn4
Flags: B
4σ 5.00e3
1.39e4
6.94e3


OCDF
1.62e7
42.66
Rel. Int.
Abs. Int.
OCDF
41.02-45.00
441.7428 Fn5
Flags: PB
4σ 3.89e3
OCDF
1.76e7
42.66
OCDF
41.02-45.00
443.7398 Fn5
Flags: PB
4σ 6.17e3
ES OCDF
3.12e7*
42.65
OCDF Std.
41.02-45.00
453.7830 Fn5
Flags: PBM
4σ 8.17e3
ES OCDF
3.44e7*
42.65
OCDF Std.
41.02-45.00
455.7801 Fn5
Flags: PBM
4σ 9.27e3
DCDPE
41.02-45.00
513.6775 Fn5
Flags: B
4σ 5.73e3
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
0%
Abs. Int.
4.63e6
2.31e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.21e6
2.10e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
QC Check
34.02-38.50
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.31e7
6.55e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
QC Check
38.51-41.01
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.84e6
3.92e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
QC Check
41.02-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.55e6
2.78e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
20.04-29.51
319.8965 Fn1
Flags: B
4σ 5.35e3
0%
Abs. Int.
1.43e4
7.17e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD
20.04-29.51
321.8936 Fn1
Flags: B
4σ 5.90e3
0%
Abs. Int.
1.43e4
7.16e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
37Cl-TCDD
20.04-29.51
327.8850 Fn1
Flags: B
4σ 5.96e3
0%
Abs. Int.
3.03e4
1.51e4
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.04-29.51
331.9368 Fn1
Flags: B
4σ 1.24e4
0%
Abs. Int.
3.52e4
1.76e4
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.04-29.51
333.9339 Fn1
Flags: B
4σ 7.39e3
0%
Abs. Int.
2.46e4
1.23e4
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


Rel. Int.
100%
PeCDD
29.52-34.01
355.8546 Fn2
Flags: B
4σ 5.56e3
0%
Abs. Int.
1.36e4
6.82e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD
29.52-34.01
357.8517 Fn2
Flags: B
4σ 5.16e3
0%
Abs. Int.
1.04e4
5.18e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD Std.
29.52-34.01
367.8949 Fn2
Flags: B
4σ 8.91e3
0%
Abs. Int.
2.03e4
1.02e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD Std.
29.52-34.01
369.8919 Fn2
Flags: B
4σ 7.08e3
0%
Abs. Int.
1.84e4
9.21e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.21e6
2.10e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT

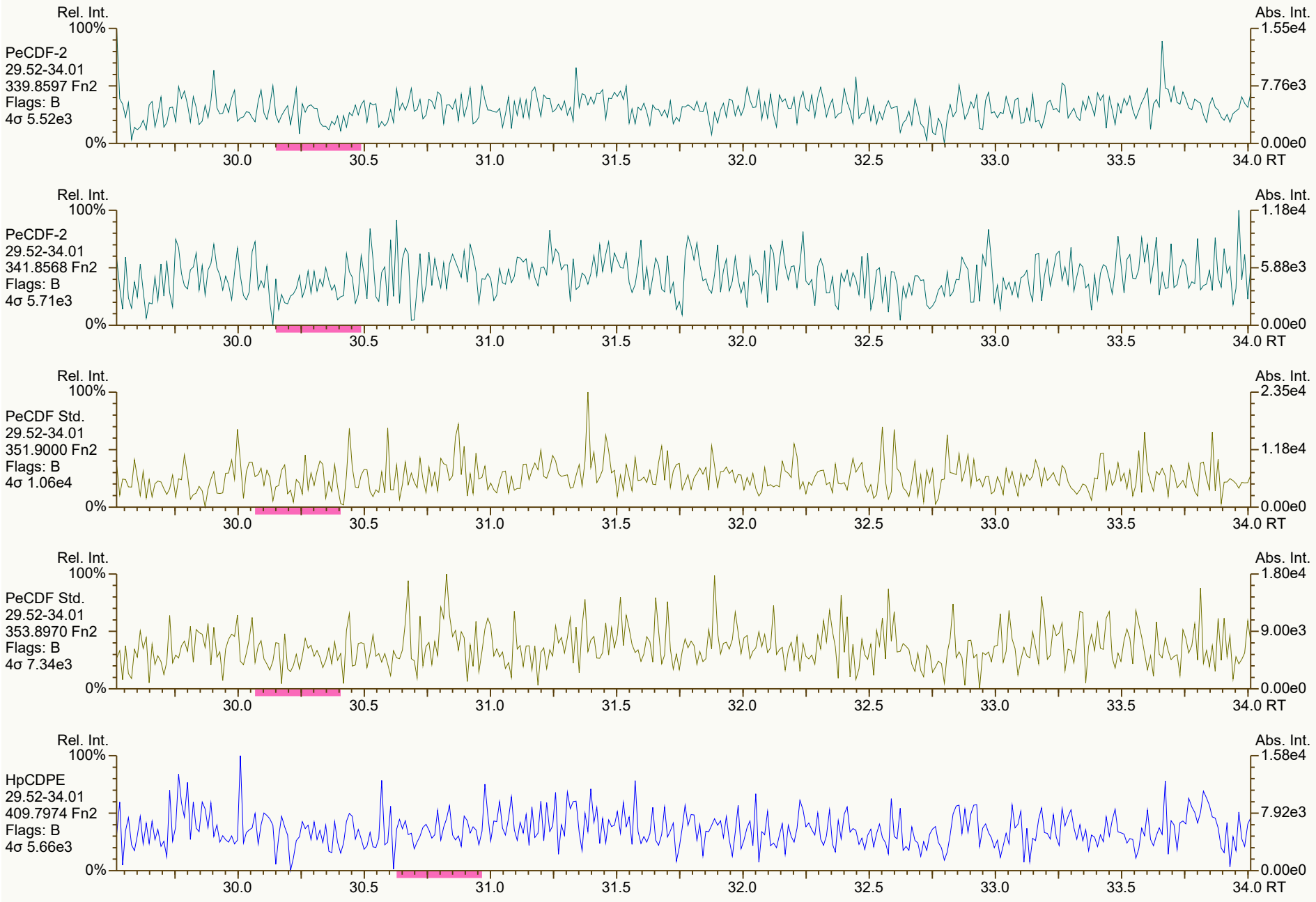

Rel. Int.
100%
HxCDD
34.02-38.50
389.8156 Fn3
Flags: B
4σ 5.11e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDD
34.02-38.50
391.8127 Fn3
Flags: B
4σ 4.25e3
0%
Abs. Int.
9.34e3
4.67e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDD Std.
34.02-38.50
401.8559 Fn3
Flags: B
4σ 1.20e4
0%
Abs. Int.
3.28e4
1.64e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDD Std.
34.02-38.50
403.8530 Fn3
Flags: B
4σ 1.24e4
0%
Abs. Int.
4.03e4
2.02e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
QC Check
34.02-38.50
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.31e7
6.55e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT


Rel. Int.
100%
HpCDD
38.51-41.01
423.7767 Fn4
Flags: B
4σ 4.18e3
0%
Abs. Int.
1.14e4
5.69e3
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD
38.51-41.01
425.7737 Fn4
Flags: B
4σ 5.73e3
0%
Abs. Int.
9.48e3
4.74e3
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.51-41.01
435.8169 Fn4
Flags: B
4σ 7.53e3
0%
Abs. Int.
2.90e4
1.45e4
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.51-41.01
437.8140 Fn4
Flags: B
4σ 8.23e3
0%
Abs. Int.
2.06e4
1.03e4
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
QC Check
38.51-41.01
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.84e6
3.92e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT


Rel. Int.
100%
OCDD
41.02-45.00
457.7377 Fn5
Flags: B
4σ 4.14e3
0%
Abs. Int.
1.60e4
8.00e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.02-45.00
459.7348 Fn5
Flags: B
4σ 7.71e3
0%
Abs. Int.
1.69e4
8.47e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.02-45.00
469.7780 Fn5
Flags: B
4σ 7.51e3
0%
Abs. Int.
1.98e4
9.90e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.02-45.00
471.7750 Fn5
Flags: B
4σ 7.74e3
0%
Abs. Int.
1.44e4
7.19e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.02-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.55e6
2.78e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

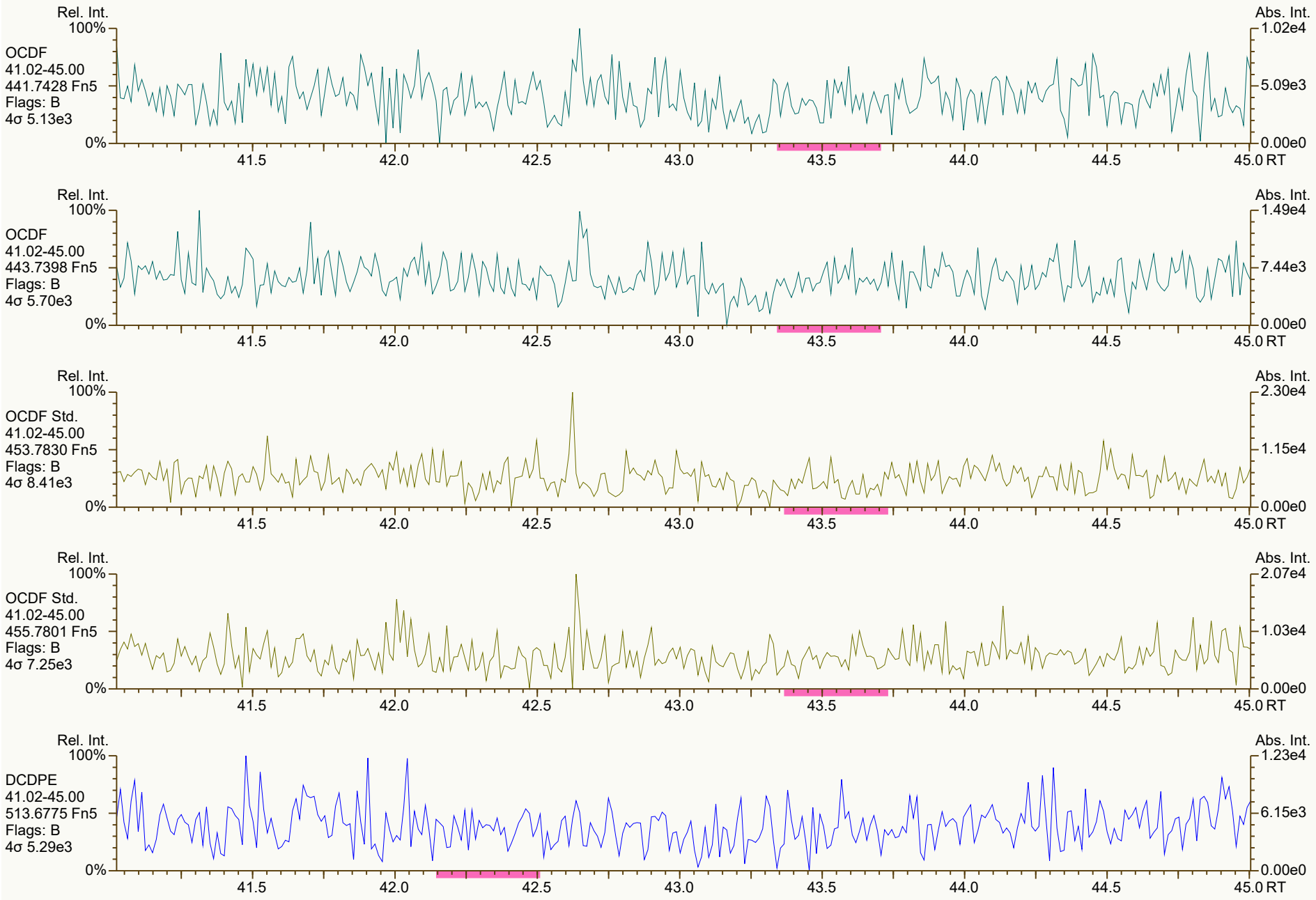

2468F; SPIKED
3.35e5
22.55
Rel. Int.
100%
0%
TCDF
20.04-29.51
303.9016 Fn1
Flags: PB
4σ 4.87e3
Abs. Int.
6.27e4
3.14e4
0.00e0
RT
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
2468F
4.63e5
22.55
TCDF
20.04-29.51
305.8987 Fn1
Flags: PB
4σ 4.93e3
8.15e4
4.08e4
TCDF Std.
20.04-29.51
315.9419 Fn1
Flags: B
4σ 1.71e4
6.28e4
TCDF Std.
20.04-29.51
317.9389 Fn1
Flags: B
4σ 1.31e4
2.89e4
1.44e4
HxCDPE
20.04-29.51
375.8364 Fn1
Flags: B
4σ 7.06e3
1.79e4
8.95e3


Rel. Int.
100%
0%
Abs. Int.
1.57e4
7.84e3
0.00e0
PeCDF-1
20.04-29.51
339.8597 Fn1
Flags: B
4σ 6.96e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.50e4
1.25e4
0.00e0
PeCDF-1
20.04-29.51
341.8568 Fn1
Flags: B
4σ 6.26e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.63e6
2.31e6
0.00e0
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.01
339.8597 Fn2
Flags: B
4σ 5.52e3
0%
Abs. Int.
1.55e4
7.76e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF-2
29.52-34.01
341.8568 Fn2
Flags: B
4σ 5.71e3
0%
Abs. Int.
1.18e4
5.88e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF Std.
29.52-34.01
351.9000 Fn2
Flags: B
4σ 1.06e4
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF Std.
29.52-34.01
353.8970 Fn2
Flags: B
4σ 7.34e3
0%
Abs. Int.
1.80e4
9.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
HpCDPE
29.52-34.01
409.7974 Fn2
Flags: B
4σ 5.66e3
0%
Abs. Int.
1.58e4
7.92e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT


Rel. Int.
100%
HxCDF
34.02-38.50
373.8207 Fn3
Flags: B
4σ 5.60e3
0%
Abs. Int.
1.36e4
6.78e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDF
34.02-38.50
375.8178 Fn3
Flags: B
4σ 4.07e3
0%
Abs. Int.
9.73e3
4.86e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDF Std.
34.02-38.50
383.8639 Fn3
Flags: B
4σ 7.98e3
0%
Abs. Int.
1.90e4
9.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDF Std.
34.02-38.50
385.8610 Fn3
Flags: B
4σ 6.65e3
0%
Abs. Int.
2.62e4
1.31e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
OCDPE
34.02-38.50
445.7555 Fn3
Flags: B
4σ 5.85e3
0%
Abs. Int.
1.93e4
9.64e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT

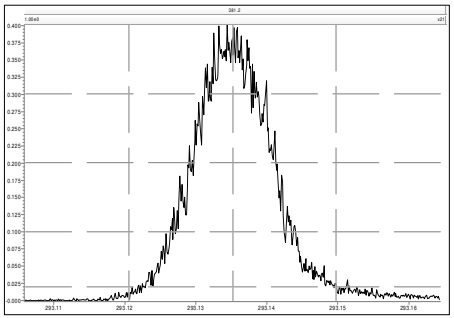

Rel. Int.
100%
HpCDF
38.51-41.01
407.7818 Fn4
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.22e4
6.12e3
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDF
38.51-41.01
409.7788 Fn4
Flags: B
4σ 4.61e3
0%
Abs. Int.
1.30e4
6.50e3
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDF Std.
38.51-41.01
417.8253 Fn4
Flags: B
4σ 8.64e3
0%
Abs. Int.
3.95e4
1.97e4
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDF Std.
38.51-41.01
419.8220 Fn4
Flags: B
4σ 1.02e4
0%
Abs. Int.
3.52e4
1.76e4
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
NCDPE
38.51-41.01
479.7165 Fn4
Flags: B
4σ 6.19e3
0%
Abs. Int.
1.17e4
5.86e3
0.00e0
39.0
39.5
40.0
40.5
41.0 RT


Rel. Int.
100%
OCDF
41.02-45.00
441.7428 Fn5
Flags: B
4σ 5.13e3
0%
Abs. Int.
1.02e4
5.09e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.02-45.00
443.7398 Fn5
Flags: B
4σ 5.70e3
0%
Abs. Int.
1.49e4
7.44e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.02-45.00
453.7830 Fn5
Flags: B
4σ 8.41e3
0%
Abs. Int.
2.30e4
1.15e4
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.02-45.00
455.7801 Fn5
Flags: B
4σ 7.25e3
0%
Abs. Int.
2.07e4
1.03e4
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.02-45.00
513.6775 Fn5
Flags: B
4σ 5.29e3
0%
Abs. Int.
1.23e4
6.15e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

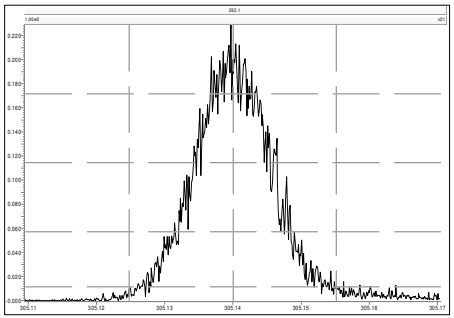
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, February 08, 2022 15:35:43 Eastern Standard Time

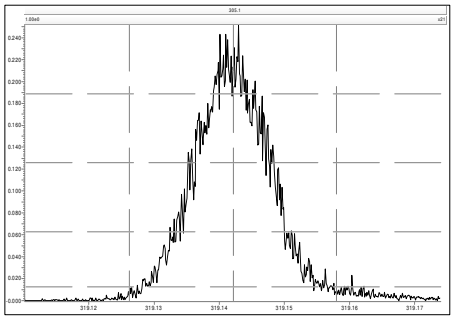
M 292.9824 R 10638



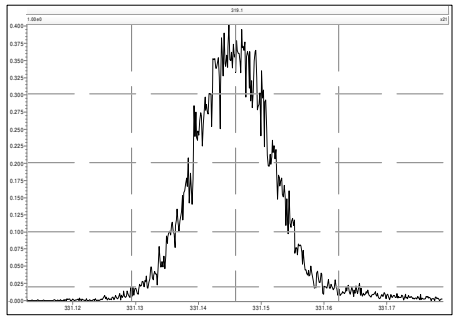
M 304.9824 R 12075



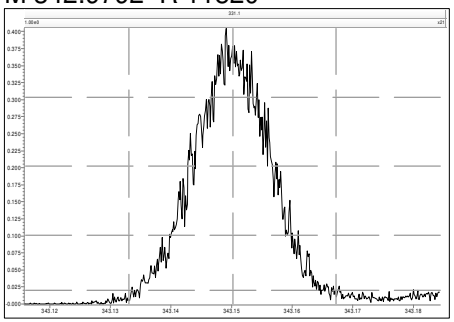
M 318.9792 R 11571



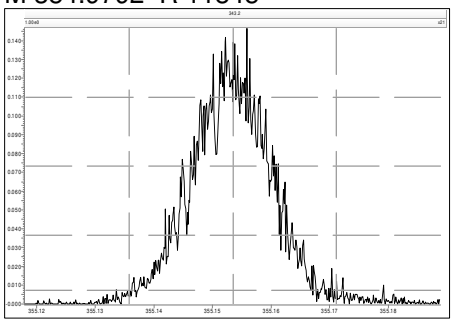
M 330.9792 R 11957



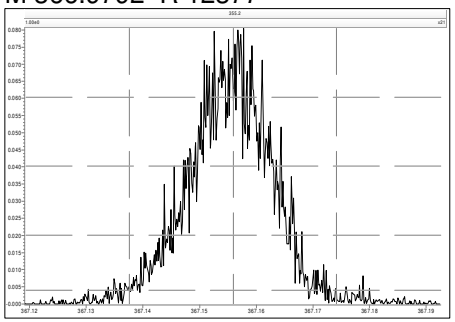
M 342.9792 R 11520



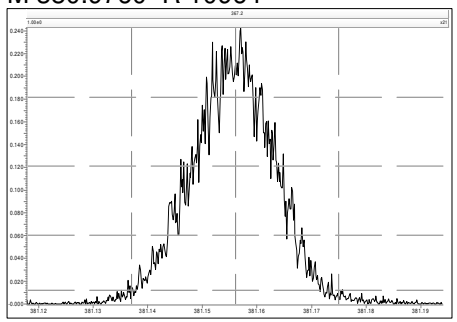
M 354.9792 R 11845



M 366.9792 R 12377



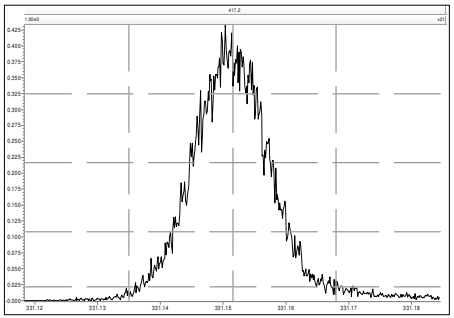
M 380.9760 R 10964



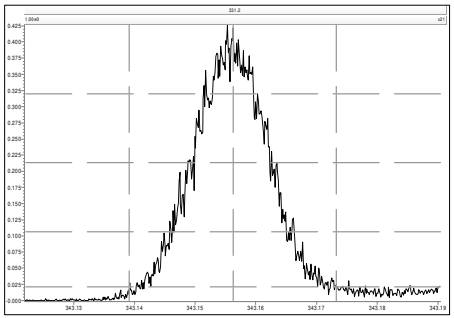
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Tuesday, February 08, 2022 15:36:34 Eastern Standard Time

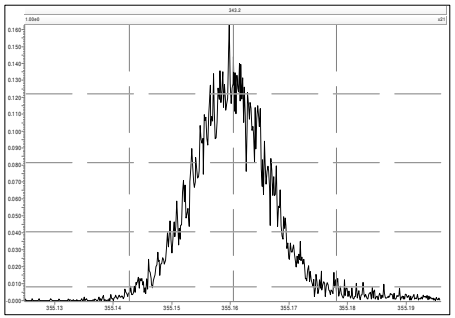
M 330.9792 R 11257



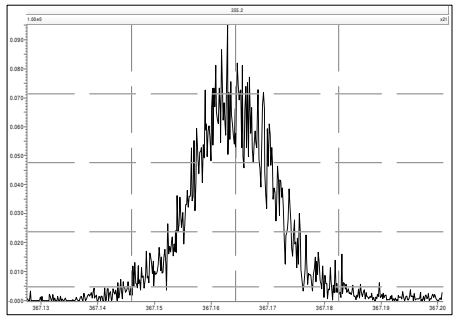
M 342.9792 R 11573



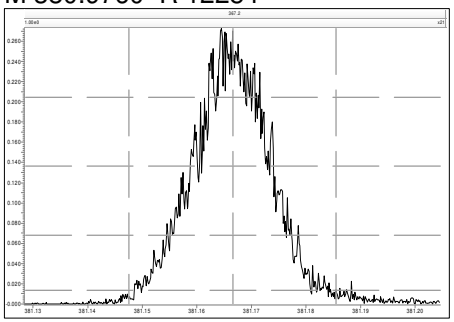
M 354.9792 R 12379



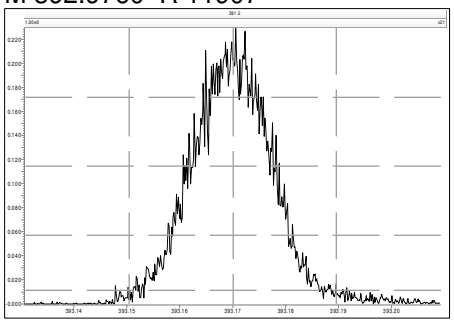
M 366.9792 R 10870



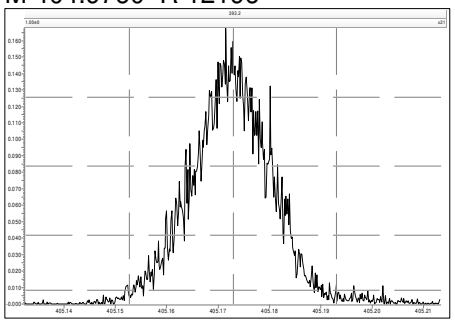
M 380.9760 R 12254



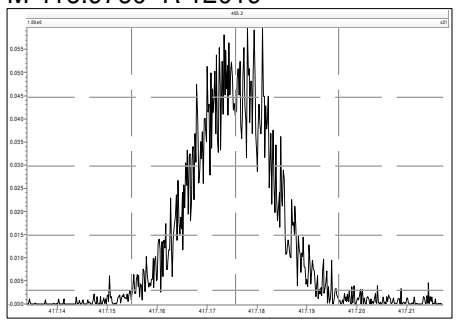
M 392.9760 R 11907



M 404.9760 R 12196



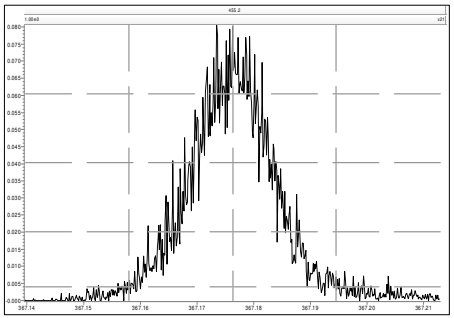
M 416.9760 R 12019



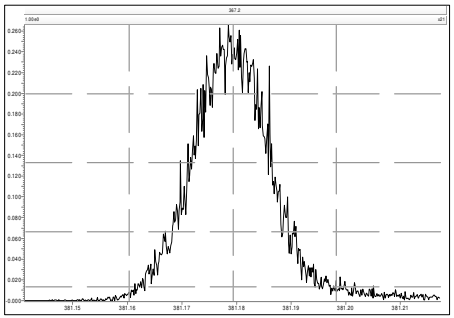
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Tuesday, February 08, 2022 15:37:07 Eastern Standard Time

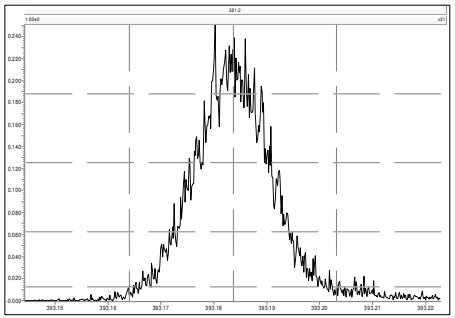
M 366.9792 R 11309



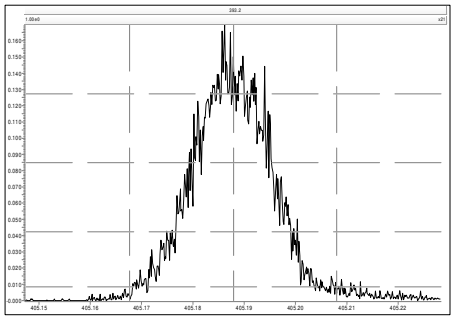
M 380.9760 R 11962



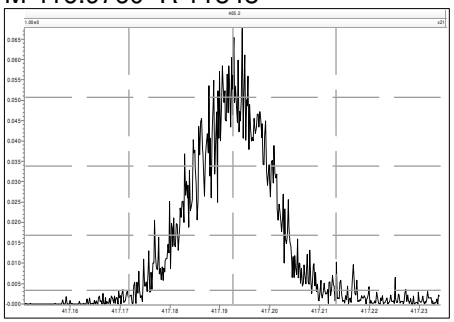
M 392.9760 R 11159



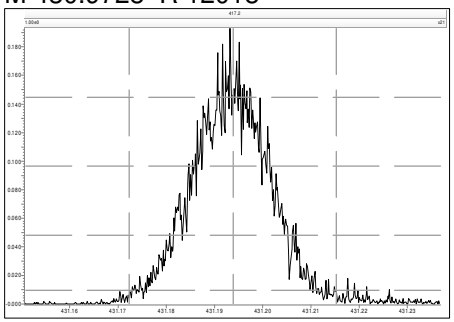
M 404.9760 R 12435



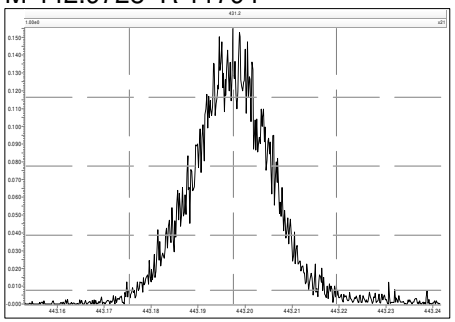
M 416.9760 R 11848



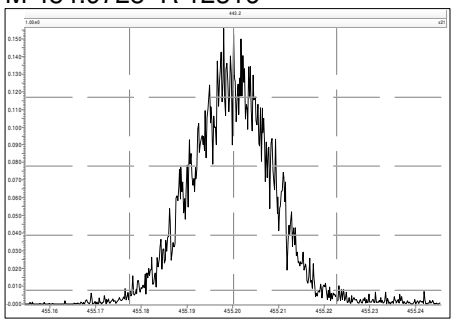
M 430.9728 R 12018



M 442.9728 R 11794



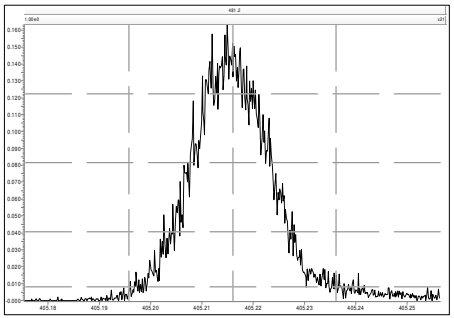
M 454.9728 R 12316



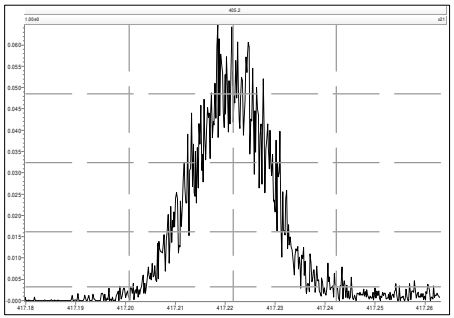
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Tuesday, February 08, 2022 15:37:37 Eastern Standard Time

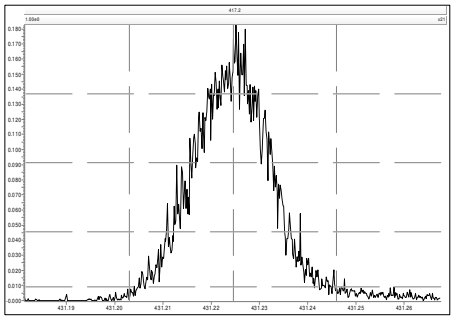
M 404.9760 R 11362



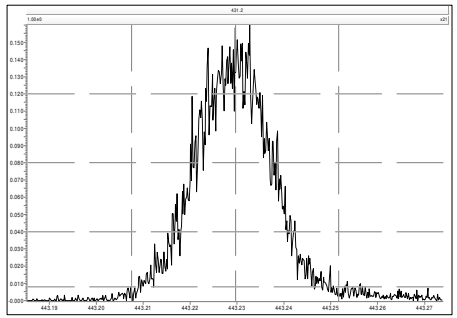
M 416.9760 R 13022



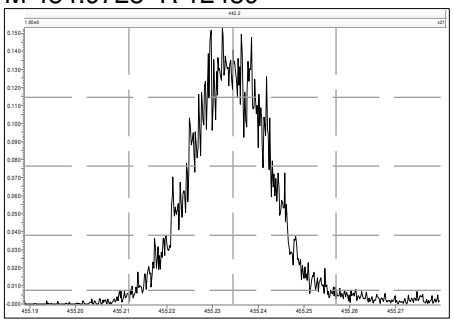
M 430.9728 R 10776



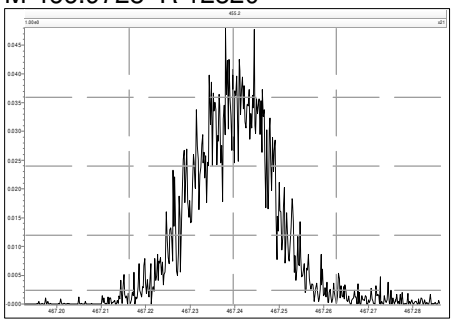
M 442.9728 R 11466



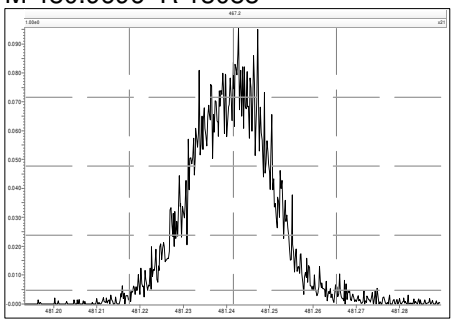
M 454.9728 R 12439



M 466.9728 R 12820



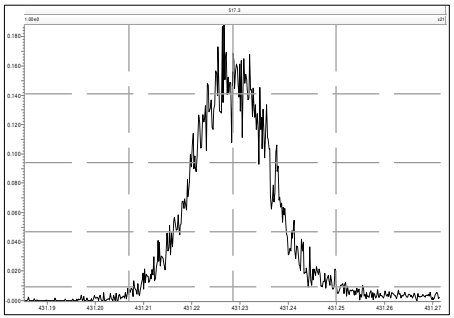
M 480.9696 R 13088



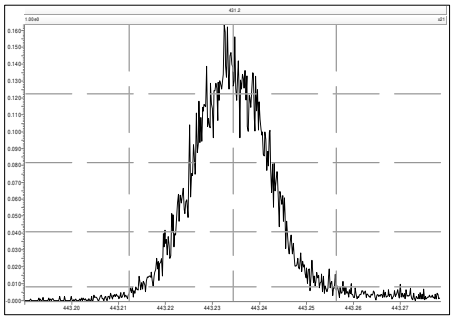
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed: Tuesday, February 08, 2022 15:38:10 Eastern Standard Time

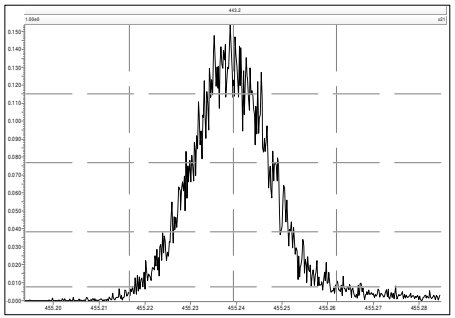
M 430.9728 R 10504



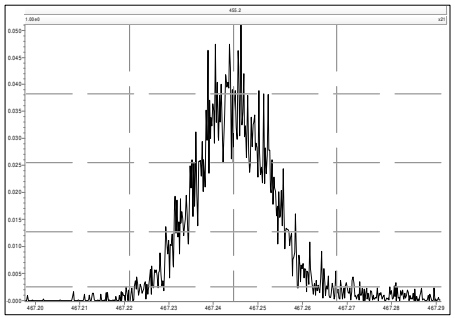
M 442.9728 R 12693



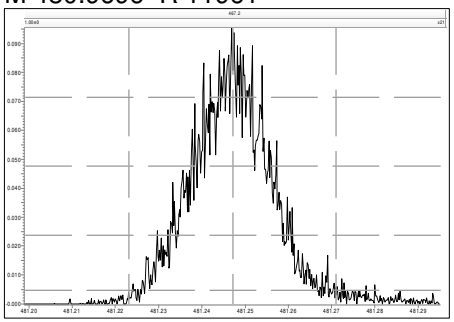
M 454.9728 R 11738



M 466.9728 R 14620



M 480.9696 R 11961



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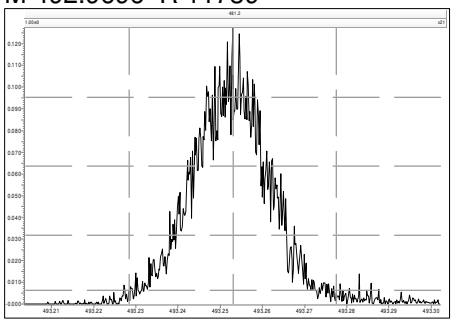

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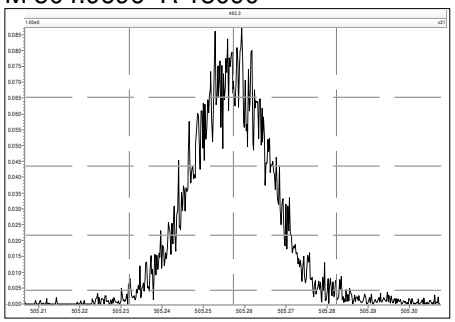

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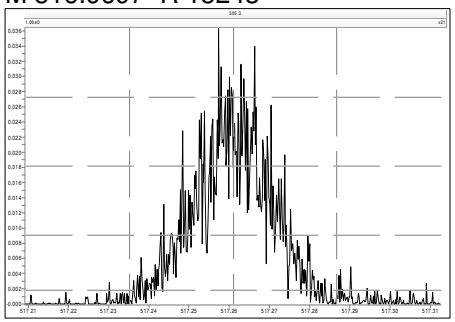
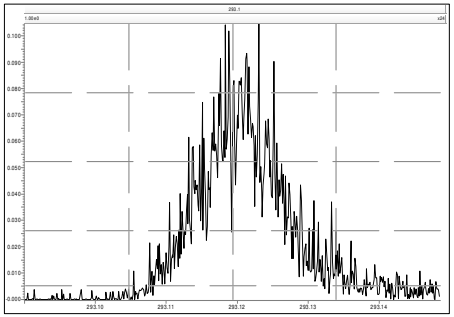


M 292.9824 R 12112



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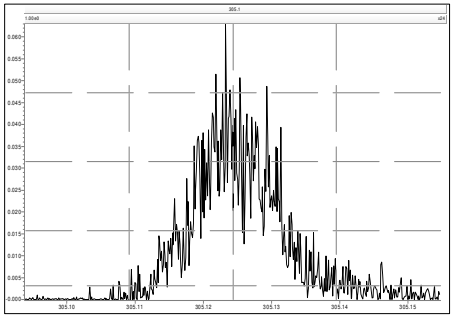

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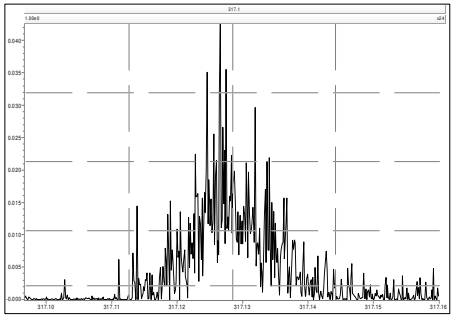

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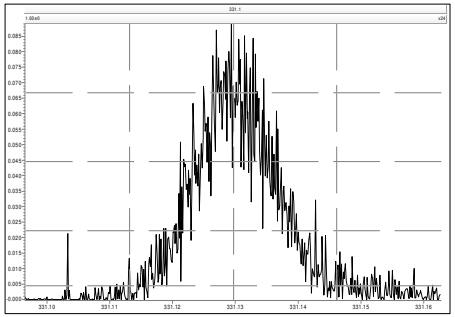

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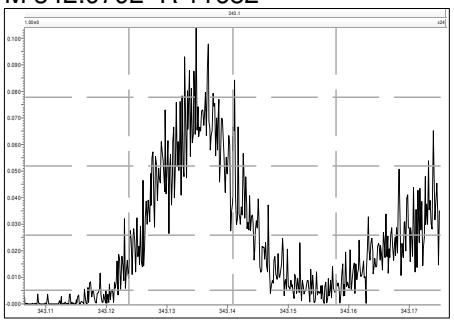

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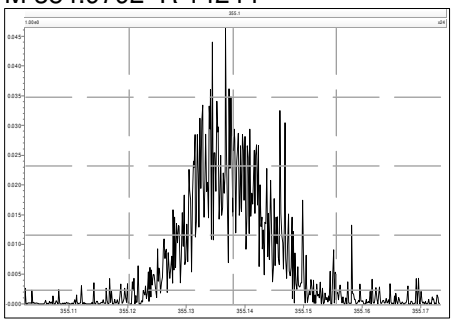

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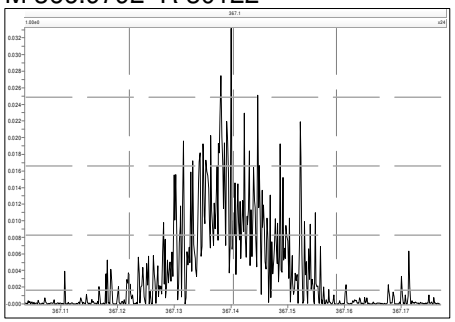

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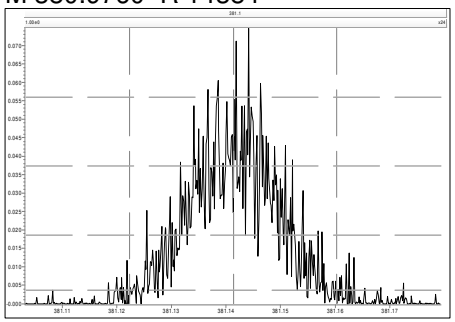

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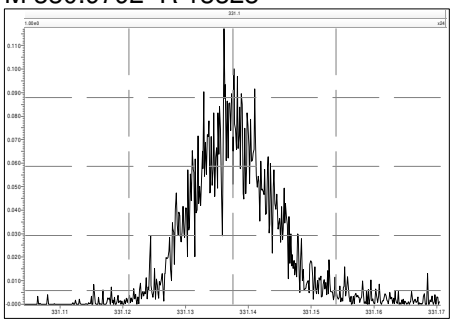

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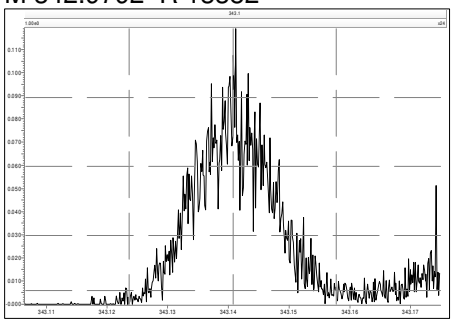

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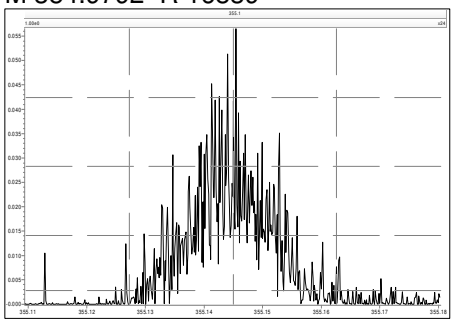

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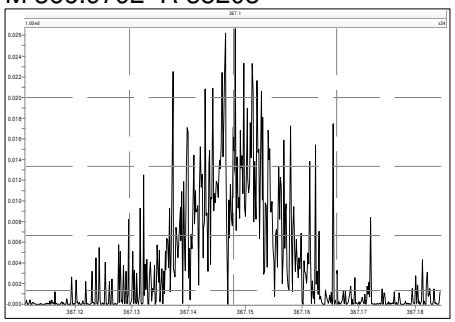

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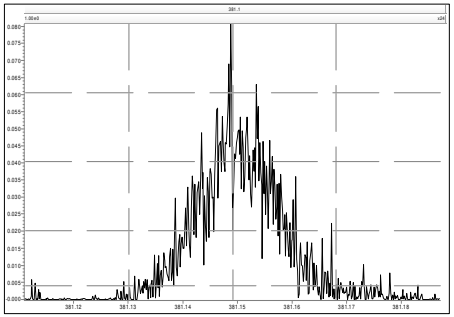

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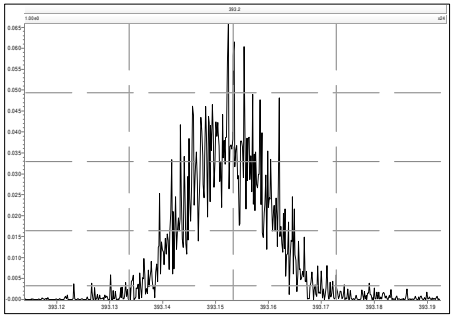

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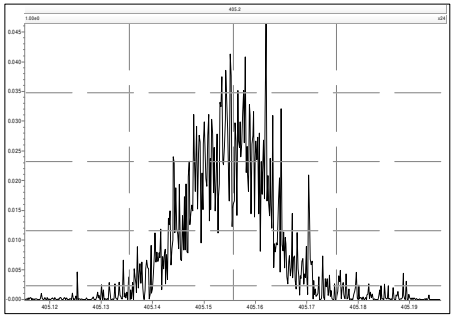

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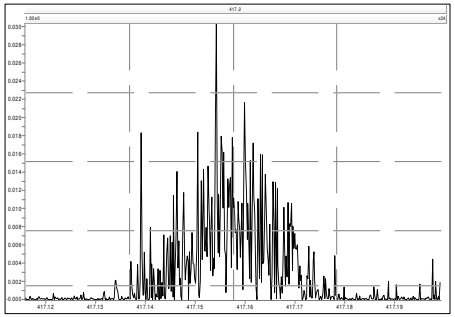

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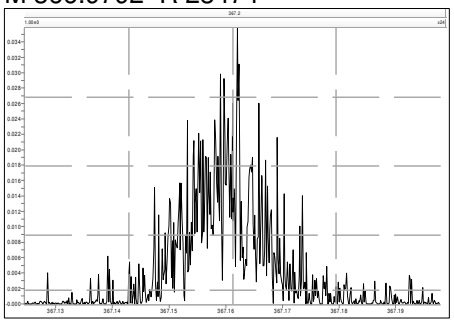

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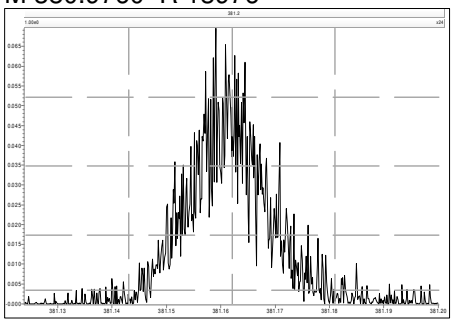

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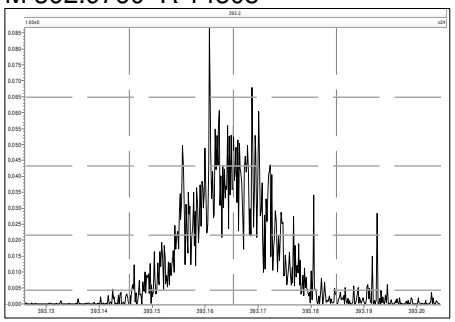

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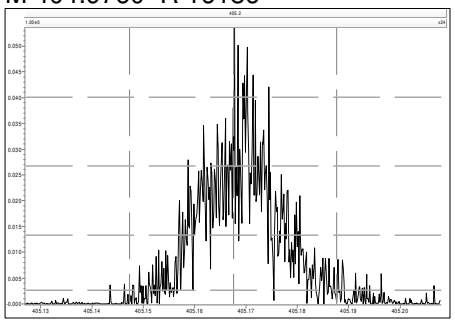

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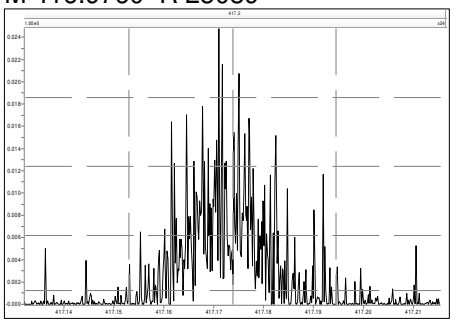

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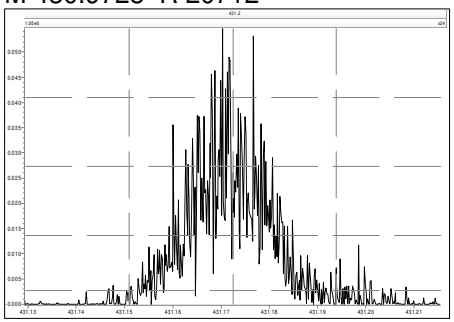

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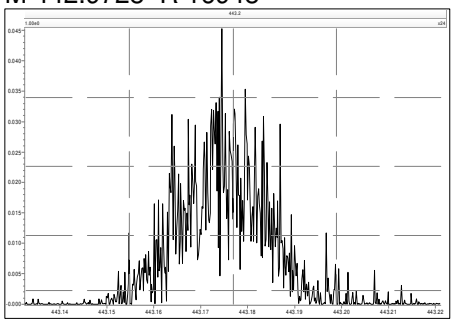

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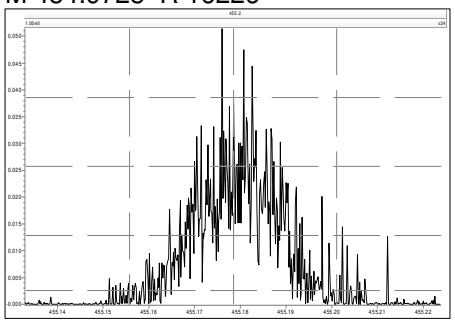

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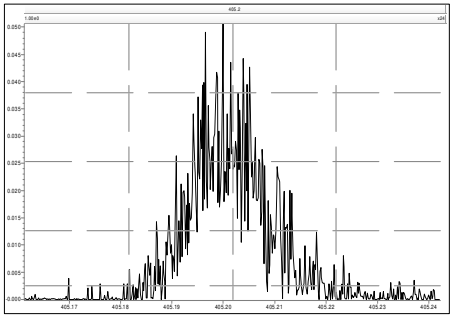

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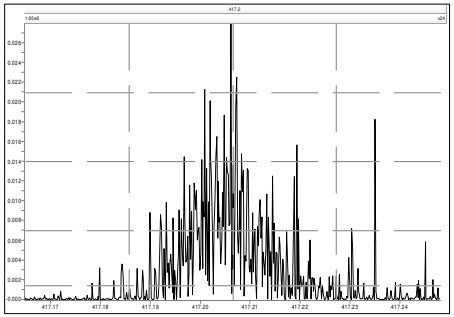

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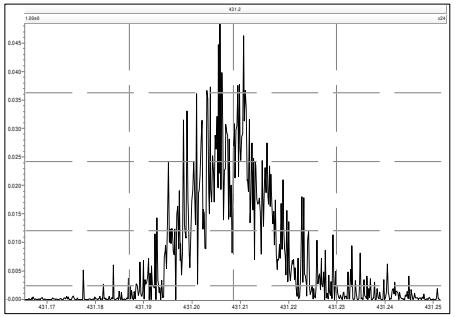

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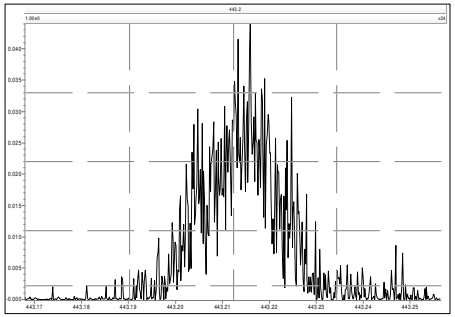

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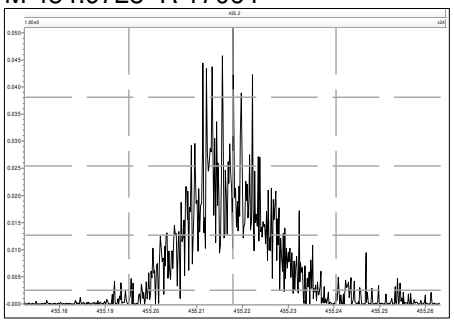

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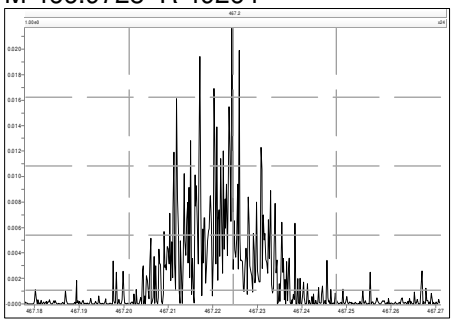
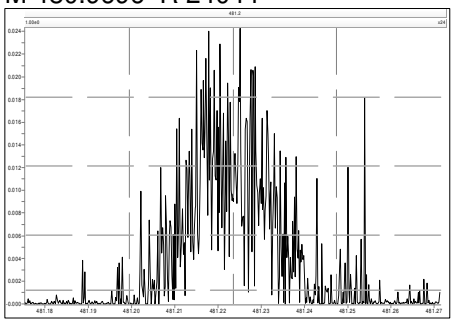


M 480.9696 R 24044



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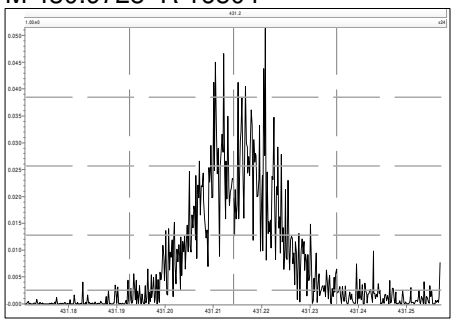

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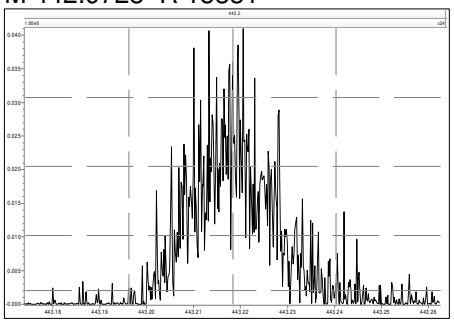
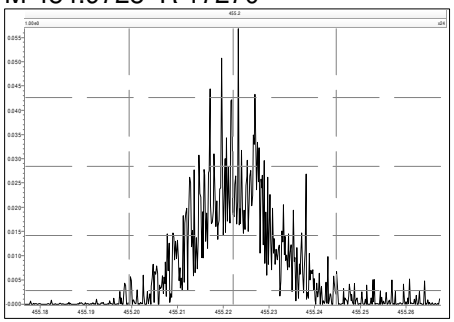
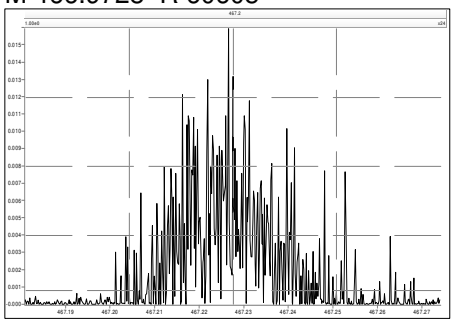


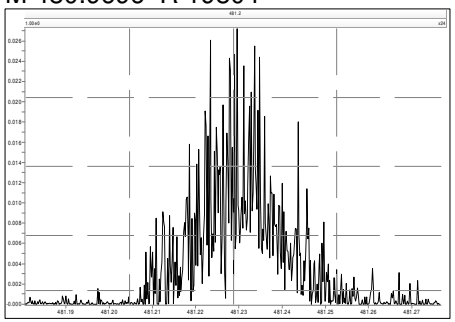
M 454.9728 R 17270



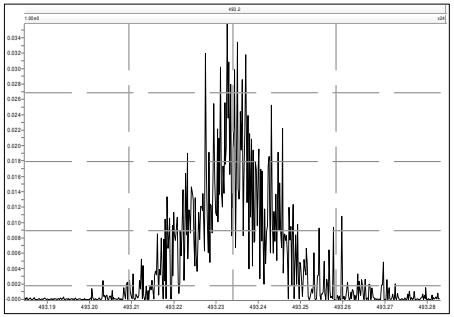
M 466.9728 R 60605



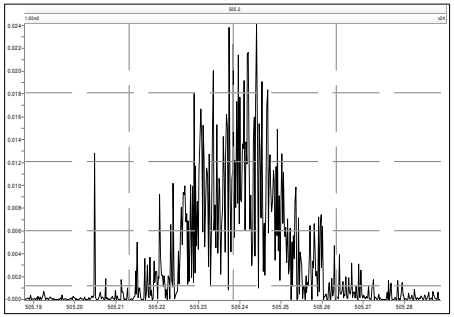
M 480.9696 R 19804



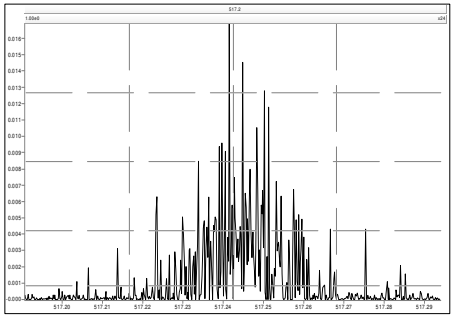
M 492.9696 R 17163



M 504.9696 R 26180



M 516.9697 R 52425



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

ICAL: MM3_DF_10272021_27JUL2021
Data Acquired: 27-Jul-2021

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

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

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

ICAL: MM3_DF_10272021_27JUL2021
Data Acquired: 27-Jul-2021

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

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

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

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

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

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

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

Dioxin/Furan STD Association	SGS Environmental Services

Individual Native Standards

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

Cleanup/Sampling Standards

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

Alternate Standards

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

Shipping Standards

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

Extraction Standards

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

Injection Standards

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

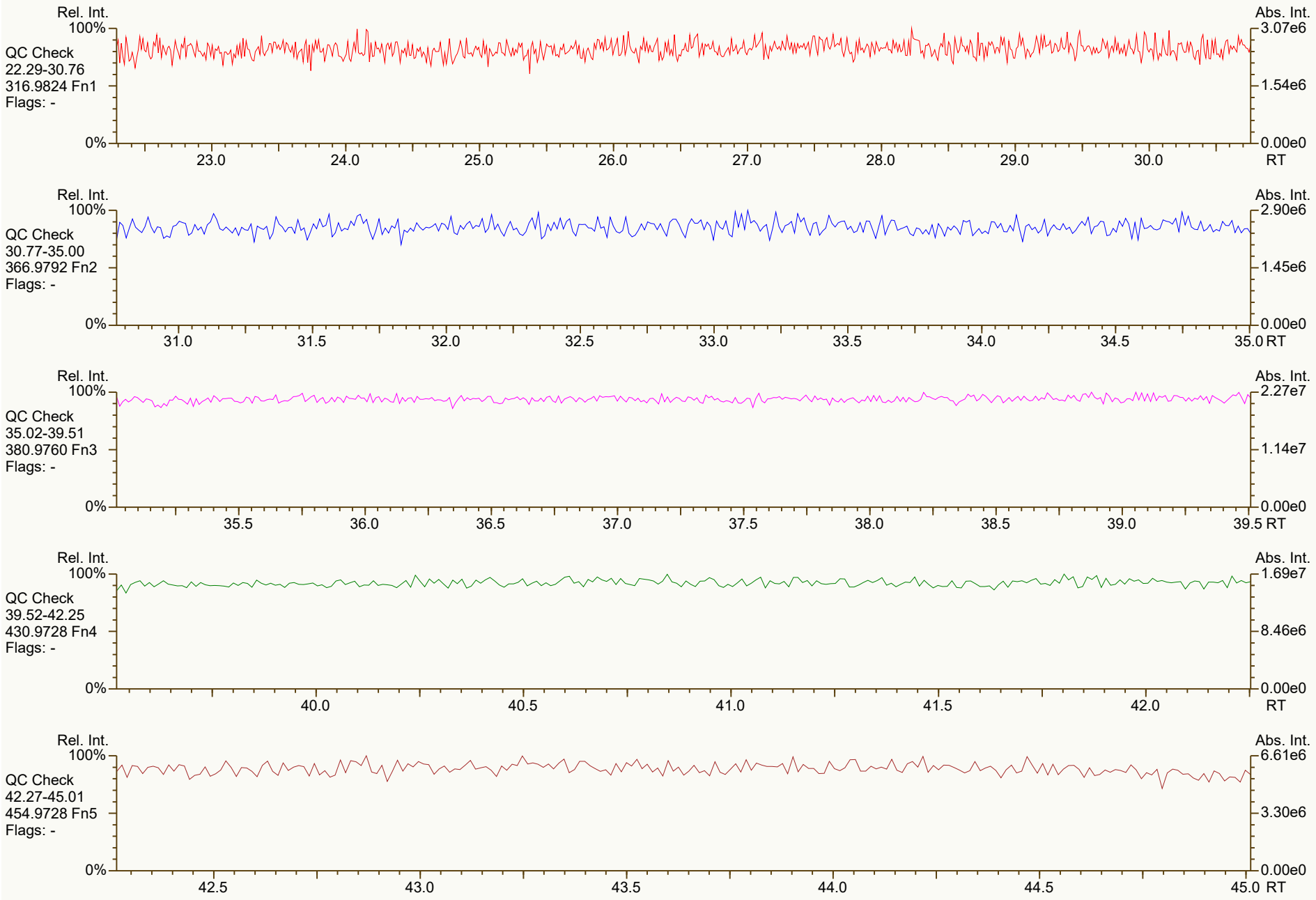
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 09:04 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS0_210727_DF_RA	UTP: 27-Jul-2021 15:00:19 PSW	Checkcode: 693-472-SFB
Sample ID: SIL 25-6-3	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R02

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

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

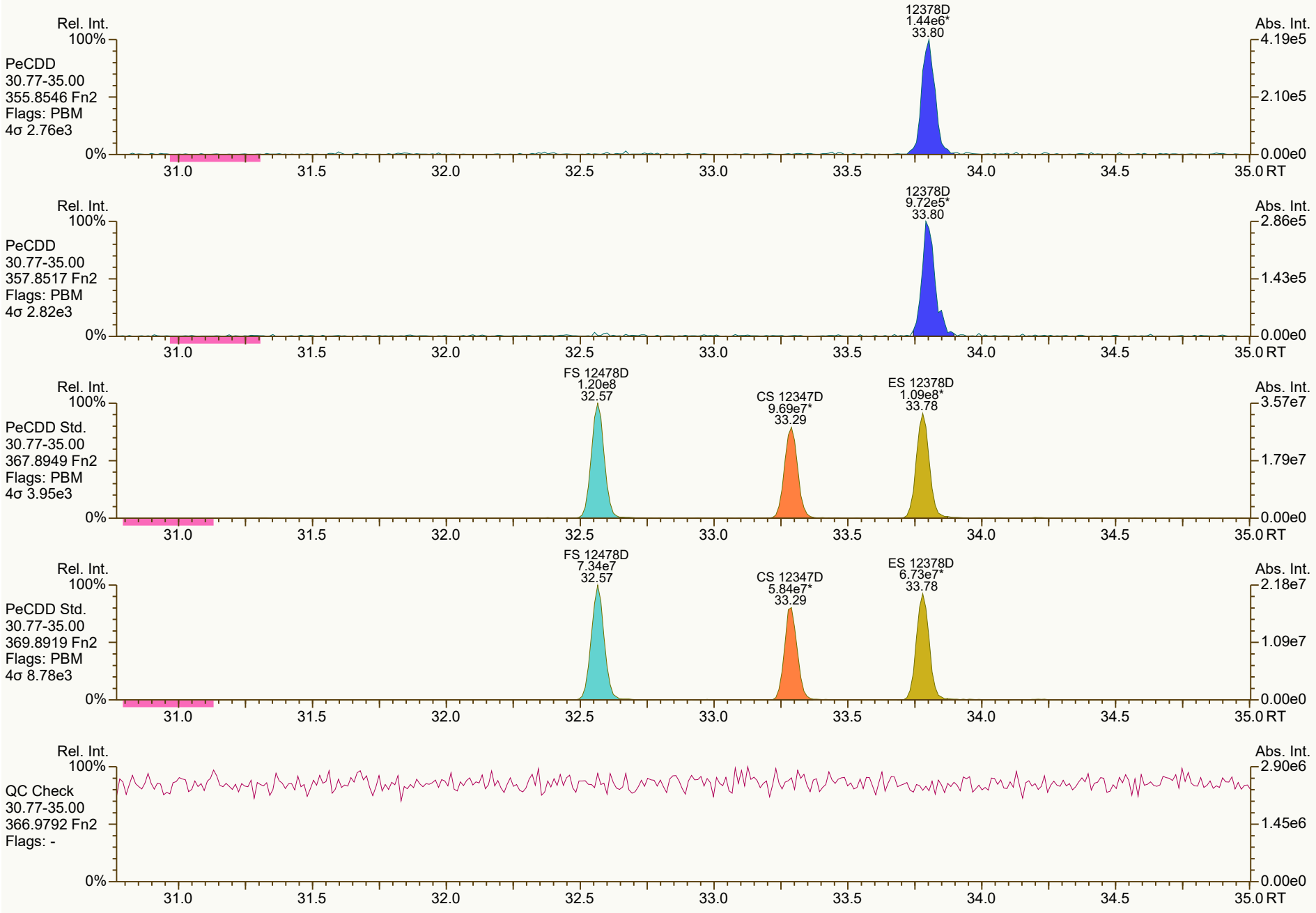
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.86	1.74E+08	0.80	Y	-	-	-
JS 1234-TCDF	26.33	2.80E+08	0.79	Y	-	-	-
JS 123467-HxCDD	37.96	8.38E+07	1.33	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.31		
CS 12347-PeCDD	33.29	1.55E+08	1.66	Y	0.89	0.89	0%
CS 12346-PeCDF	31.84	2.41E+08	1.54	Y	0.87	0.86	-1%
CS 123469-HxCDF	37.12	1.78E+08	0.52	Y	1.09	1.06	-2%
CS 1234689-HpCDF	40.13	1.44E+08	0.45	Y	0.86	0.86	-1%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.26		
SS 12347-PeCDD	33.29	1.55E+08	1.66	Y	0.86	0.88	2%
SS 12346-PeCDF	31.84	2.41E+08	1.54	Y	0.93	0.94	2%
SS 123469-HxCDF	37.12	1.78E+08	0.52	Y	0.84	0.86	2%
SS 1234689-HpCDF	40.13	1.44E+08	0.45	Y	0.91	0.96	5%
AS 1368-TCDD	24.91	1.76E+08	0.79	Y	1.02	1.01	-1%
AS 1368-TCDF	22.86	2.95E+08	0.78	Y	1.08	1.05	-2%
FS 1278-TCDD	28.82	1.91E+08	0.78	Y	1.08	1.08	0%
FS 12478-PeCDD	32.57	1.94E+08	1.64	Y	1.09	1.10	0%
FS 123468-HxCDD	36.58	2.07E+08	1.26	Y	1.26	1.27	0%
FS 1234679-HpCDD	39.99	2.24E+08	1.06	Y	1.36	1.41	4%
TS 1378-TCDD	26.87	2.41E+08	0.79	Y	1.35	1.36	1%
~~OCDD-a~~	~~43.22~~	~~1.80E+05~~	~~0.99~~	~~N~~	~~0.07~~	~~0.06~~	~~-11%~~
~~OCDF-a~~	~~43.41~~	~~1.98E+05~~	~~2.81~~	~~Y~~	~~0.06~~	~~0.05~~	~~-7%~~

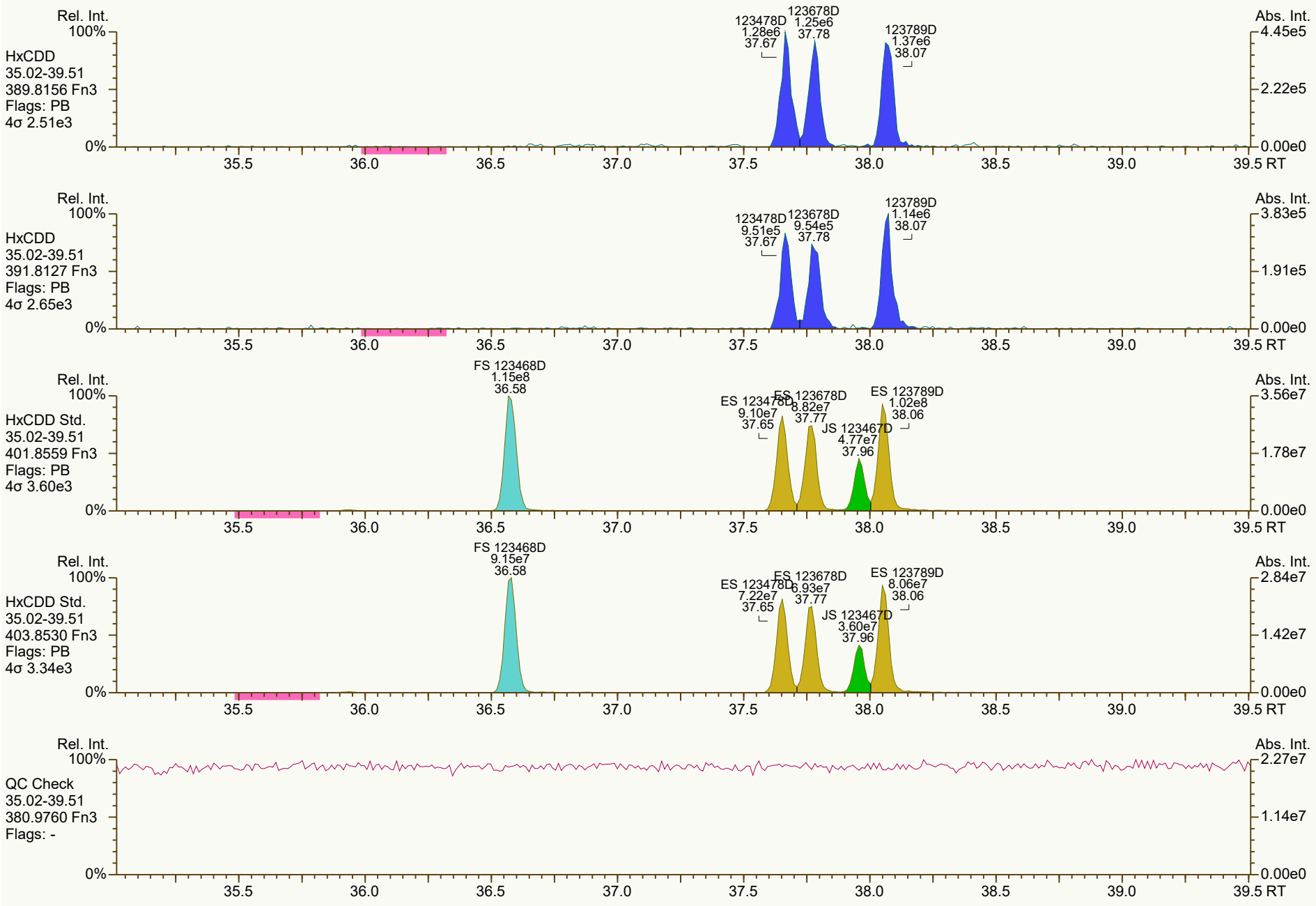
Not reported from this ICAL - CL 28Jul21

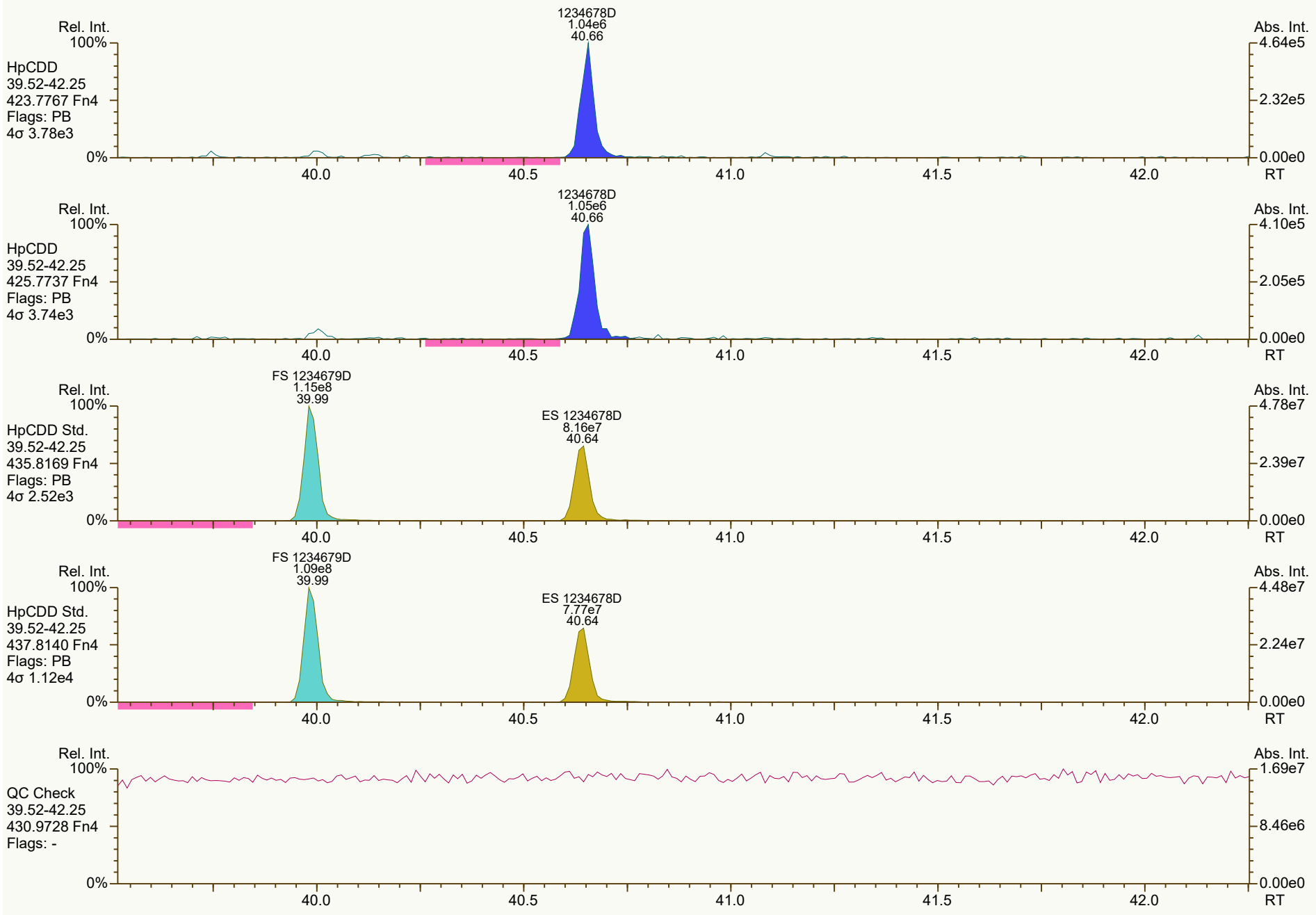


Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q scc: 693-472
PKD: n/a Printed: 27-Jul-2021 15:30 Page 1 of 12

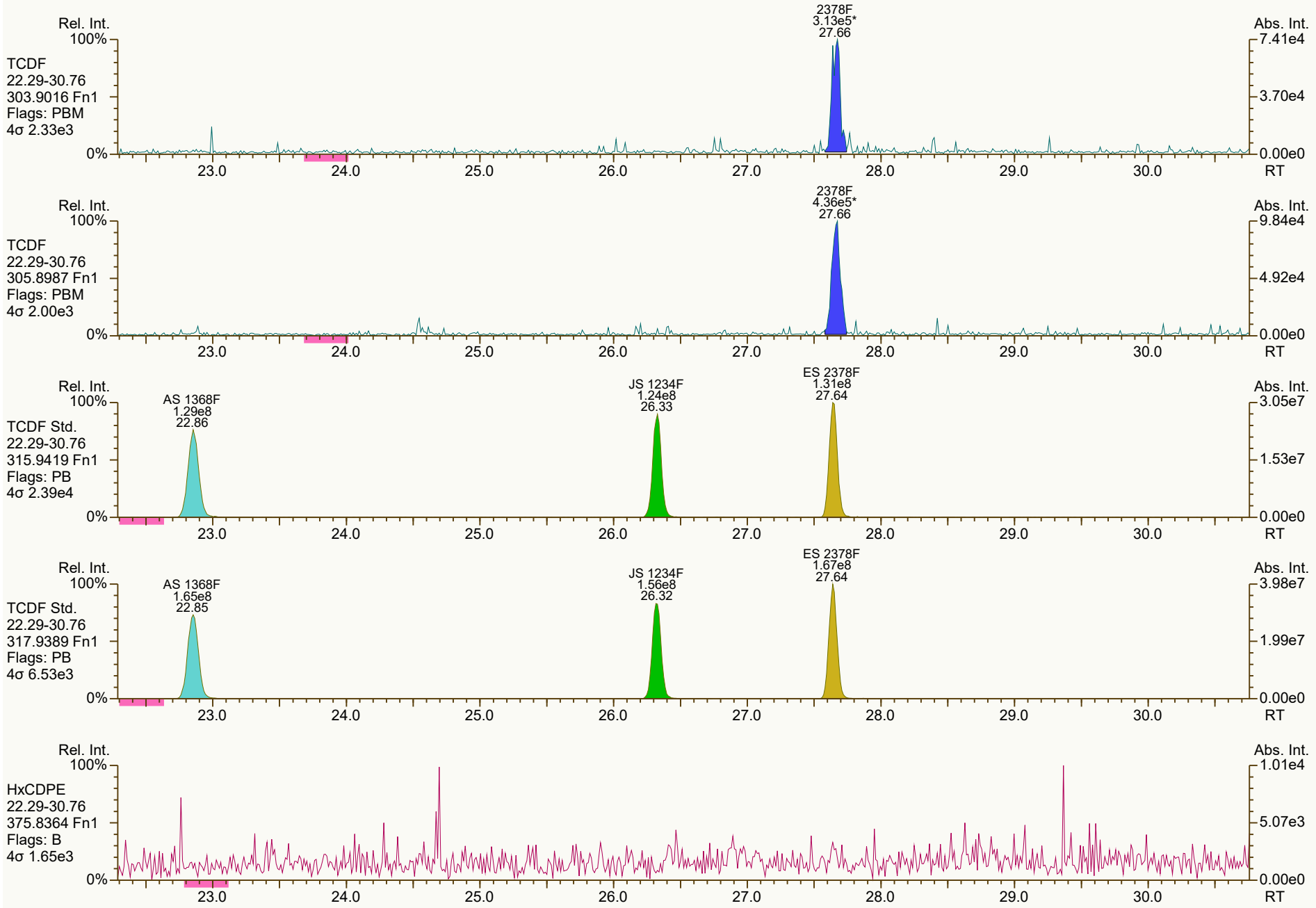

Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: PBM
4σ 2.21e3
0%
2378D
2.70e5*
28.52
Abs. Int.
6.87e4
3.43e4
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
TCDD
22.29-30.76
321.8936 Fn1
Flags: PBM
4σ 2.34e3
RRF(2378D) = (2.70e5 + 3.73e5) * 100pg / (7.81e7 + 9.89e7) * 0.25pg = 1.45
PSW 27-Jul-2021 15:08
OK
CL 28Jul21
2378D
3.73e5*
28.52
9.52e4
4.76e4
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: B
4σ 1.84e3
1.43e4
7.14e3
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 5.61e3
AS 1368D
7.76e7
24.91
TS 1378D
1.07e8
26.87
JS 1234D
7.74e7
27.86
ES 2378D
7.81e7
28.50
FS 1278D
8.37e7
28.82
2.55e7
1.28e7
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 4.86e3
RRF(TS 1378D) = (1.07e8 + 1.34e8) * 100pg / (7.81e7 + 9.89e7) * 100pg = 1.36
PSW 27-Jul-2021 15:11
OK - CL 28Jul21
AS 1368D
9.87e7
24.91
TS 1378D
1.34e8
26.87
JS 1234D
9.66e7
27.86
ES 2378D
9.89e7
28.50
FS 1278D
1.08e8
28.82
3.19e7
1.59e7


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PBM
4σ 2.76e3
0%
12378D
1.44e6*
33.80
Abs. Int.
4.19e5
2.10e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PBM
4σ 2.82e3
0%
12378D
9.72e5*
33.80
Abs. Int.
2.86e5
1.43e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PBM
4σ 3.95e3
0%
FS 12478D
1.20e8
32.57
CS 12347D
9.69e7*
33.29
ES 12378D
1.09e8*
33.78
Abs. Int.
3.57e7
1.79e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PBM
4σ 8.78e3
0%
FS 12478D
7.34e7
32.57
CS 12347D
5.84e7*
33.29
ES 12378D
6.73e7*
33.78
Abs. Int.
2.18e7
1.09e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.90e6
1.45e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


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


Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 3.78e3
1234678D
1.04e6
40.66
Abs. Int.
4.64e5
2.32e5
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 3.74e3
1234678D
1.05e6
40.66
Abs. Int.
4.10e5
2.05e5
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 2.52e3
FS 1234679D
1.15e8
39.99
ES 1234678D
8.16e7
40.64
Abs. Int.
4.78e7
2.39e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 1.12e4
FS 1234679D
1.09e8
39.99
ES 1234678D
7.77e7
40.64
Abs. Int.
4.48e7
2.24e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
Abs. Int.
1.69e7
8.46e6
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT

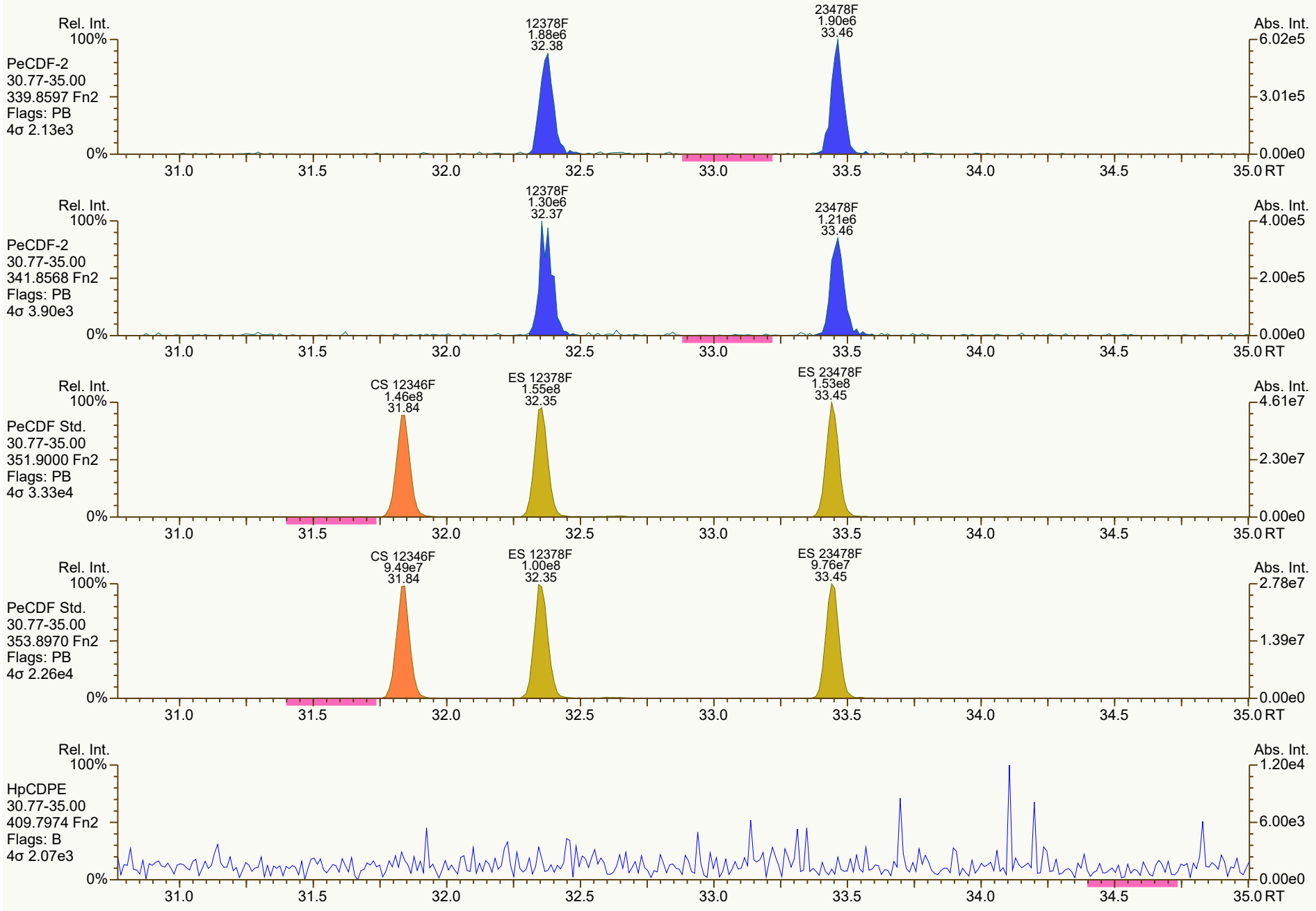

OCDD
1.61e6
43.21
Rel. Int.
100%
OCDD
42.27-45.01
457.7377 Fn5
Flags: PB
4σ 2.80e3
0%
Abs. Int.
5.57e5
2.78e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e6
43.22
Rel. Int.
100%
OCDD
42.27-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
Abs. Int.
5.93e5
2.96e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES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

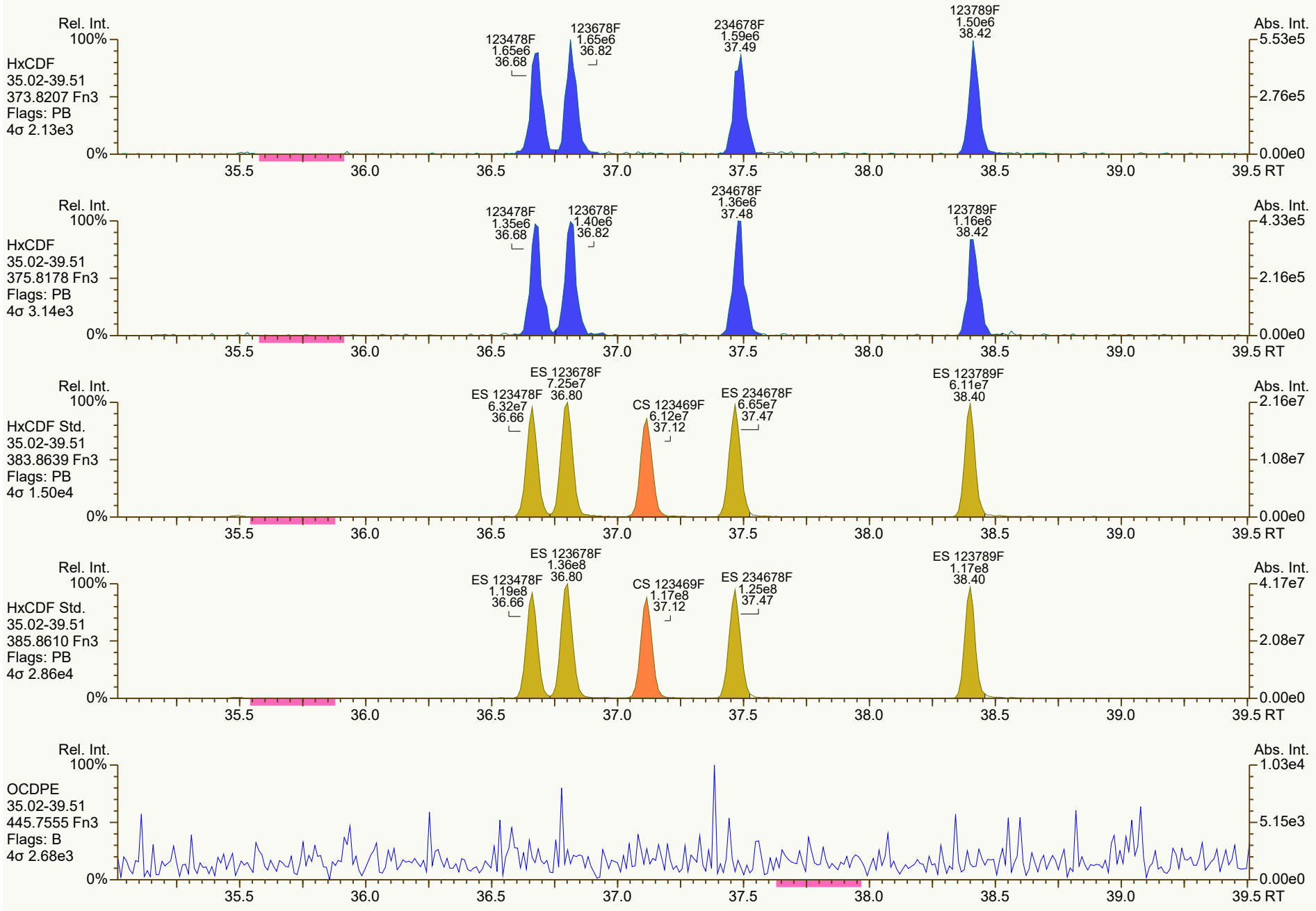

Rel. Int.
100%
TCDF
22.29-30.76
303.9016 Fn1
Flags: PBM
4σ 2.33e3
2378F
3.13e5*
27.66
Abs. Int.
7.41e4
3.70e4
0.00e0
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF
22.29-30.76
305.8987 Fn1
Flags: PBM
4σ 2.00e3
2378F
4.36e5*
27.66
Abs. Int.
9.84e4
4.92e4
0.00e0
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 2.39e4
AS 1368F
1.29e8
22.86
JS 1234F
1.24e8
26.33
ES 2378F
1.31e8
27.64
Abs. Int.
3.05e7
1.53e7
0.00e0
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 6.53e3
AS 1368F
1.65e8
22.85
JS 1234F
1.56e8
26.32
ES 2378F
1.67e8
27.64
Abs. Int.
3.98e7
1.99e7
0.00e0
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 1.65e3
Abs. Int.
1.01e4
5.07e3
0.00e0
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT

SGS ID: CS0_210727_DF_RA | Sample ID: SIL 25-6-3 | Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85 | User: PSW Datafile: 210727R02



Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1474 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 8 of 12

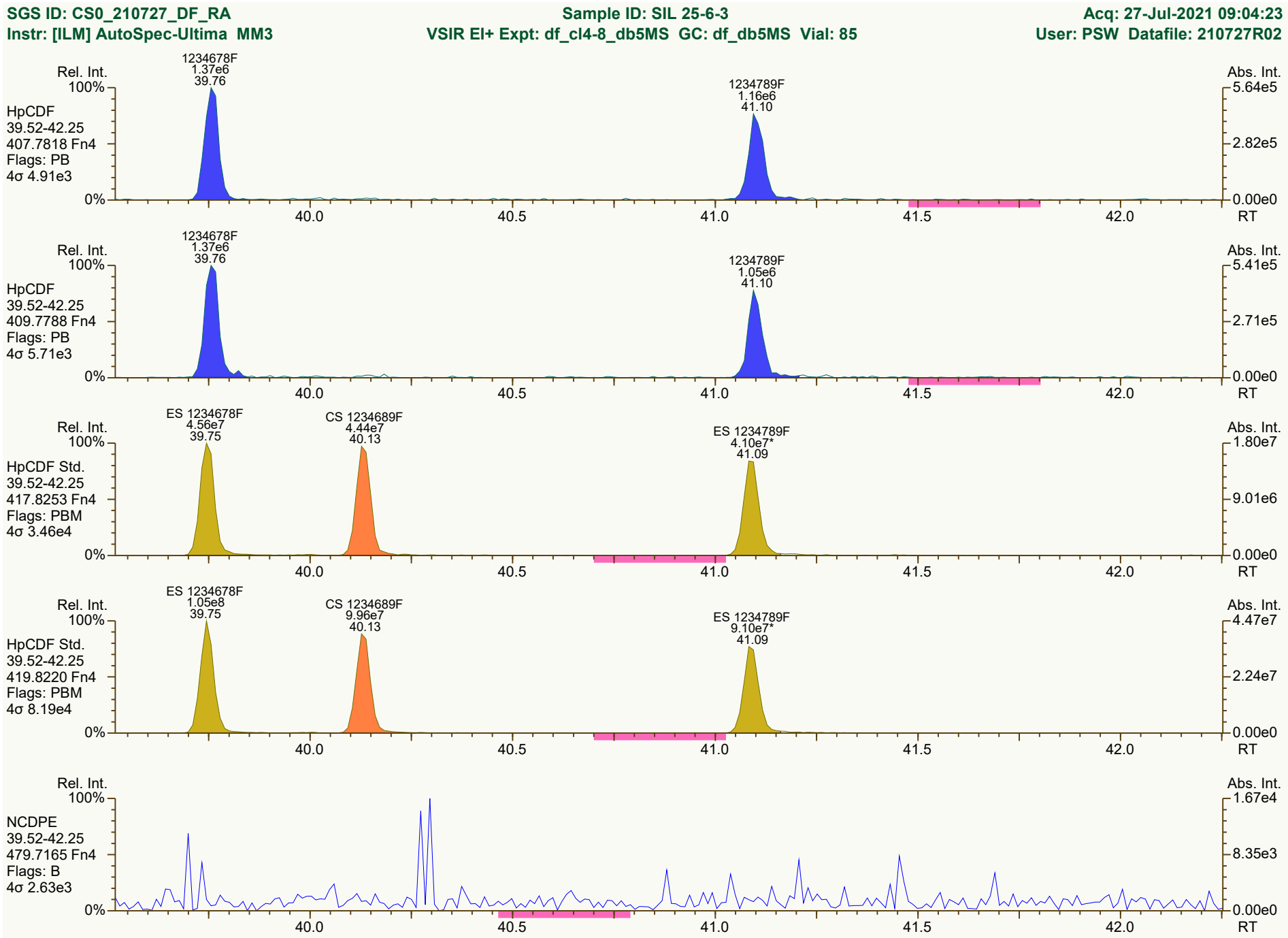

Rel. Int.
100%
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 2.13e3
0%
12378F
1.88e6
32.38
23478F
1.90e6
33.46
Abs. Int.
6.02e5
3.01e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 3.90e3
0%
12378F
1.30e6
32.37
23478F
1.21e6
33.46
Abs. Int.
4.00e5
2.00e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PB
4σ 3.33e4
0%
CS 12346F
1.46e8
31.84
ES 12378F
1.55e8
32.35
ES 23478F
1.53e8
33.45
Abs. Int.
4.61e7
2.30e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PB
4σ 2.26e4
0%
CS 12346F
9.49e7
31.84
ES 12378F
1.00e8
32.35
ES 23478F
9.76e7
33.45
Abs. Int.
2.78e7
1.39e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.07e3
0%
Abs. Int.
1.20e4
6.00e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PB
4σ 2.13e3
0%
123478F
1.65e6
36.68
123678F
1.65e6
36.82
234678F
1.59e6
37.49
123789F
1.50e6
38.42
Abs. Int.
5.53e5
2.76e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PB
4σ 3.14e3
0%
123478F
1.35e6
36.68
123678F
1.40e6
36.82
234678F
1.36e6
37.48
123789F
1.16e6
38.42
Abs. Int.
4.33e5
2.16e5
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 1.50e4
0%
ES 123478F
6.32e7
36.66
ES 123678F
7.25e7
36.80
CS 123469F
6.12e7
37.12
ES 234678F
6.65e7
37.47
ES 123789F
6.11e7
38.40
Abs. Int.
2.16e7
1.08e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 2.86e4
0%
ES 123478F
1.19e8
36.66
ES 123678F
1.36e8
36.80
CS 123469F
1.17e8
37.12
ES 234678F
1.25e8
37.47
ES 123789F
1.17e8
38.40
Abs. Int.
4.17e7
2.08e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.68e3
0%
Abs. Int.
1.03e4
5.15e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT

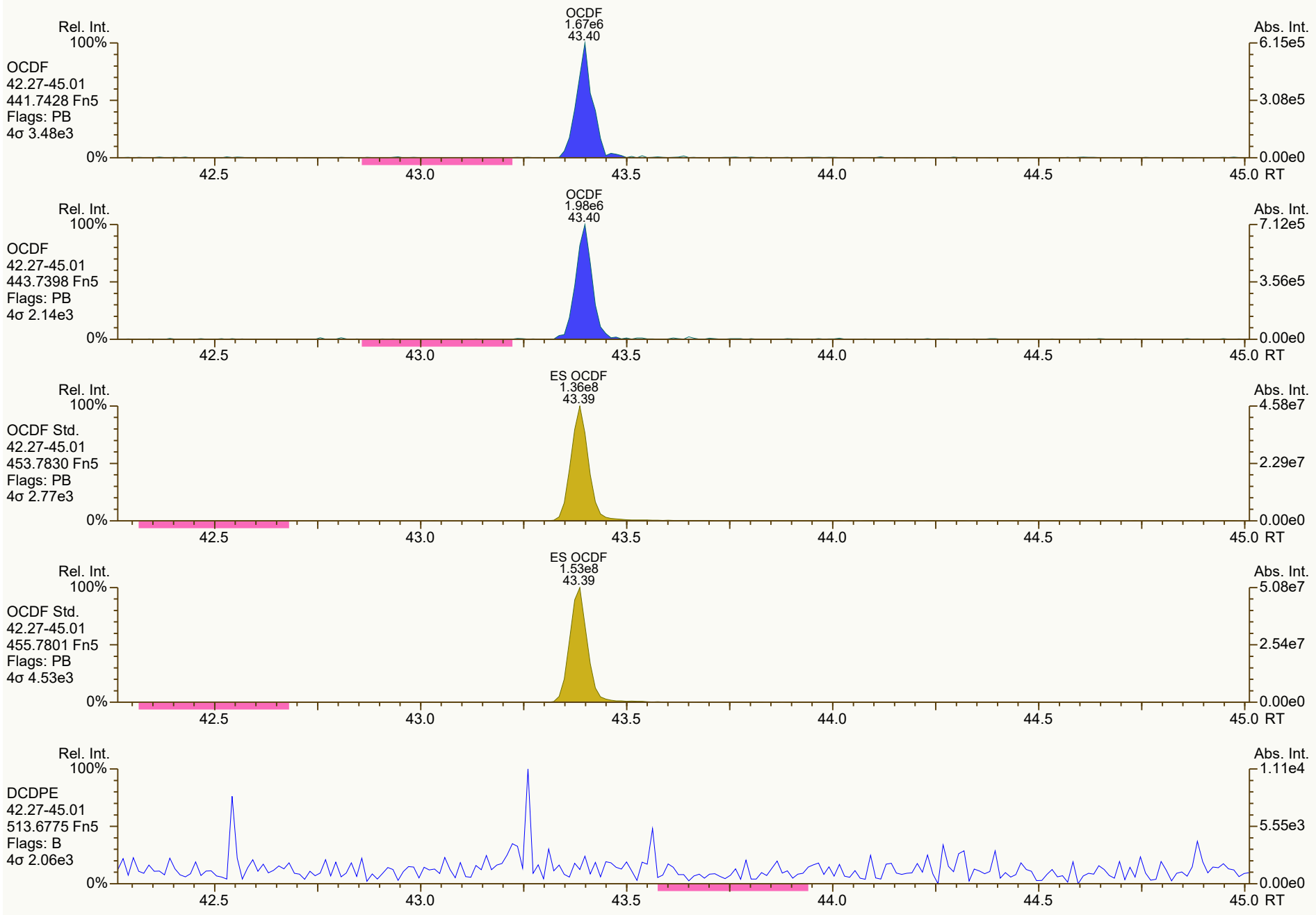
SGS ID: CS0_210727_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: SIL 25-6-3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85

Acq: 27-Jul-2021 09:04:23
User: PSW Datafile: 210727R02



Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 7550, 7798, 0516 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 11 of 12


Rel. Int.
100%
OCDF
42.27-45.01
441.7428 Fn5
Flags: PB
4σ 3.48e3
0%
OCDF
1.67e6
43.40
Abs. Int.
6.15e5
3.08e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.27-45.01
443.7398 Fn5
Flags: PB
4σ 2.14e3
0%
OCDF
1.98e6
43.40
Abs. Int.
7.12e5
3.56e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.27-45.01
453.7830 Fn5
Flags: PB
4σ 2.77e3
0%
ES OCDF
1.36e8
43.39
Abs. Int.
4.58e7
2.29e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.27-45.01
455.7801 Fn5
Flags: PB
4σ 4.53e3
0%
ES OCDF
1.53e8
43.39
Abs. Int.
5.08e7
2.54e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.27-45.01
513.6775 Fn5
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.11e4
5.55e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

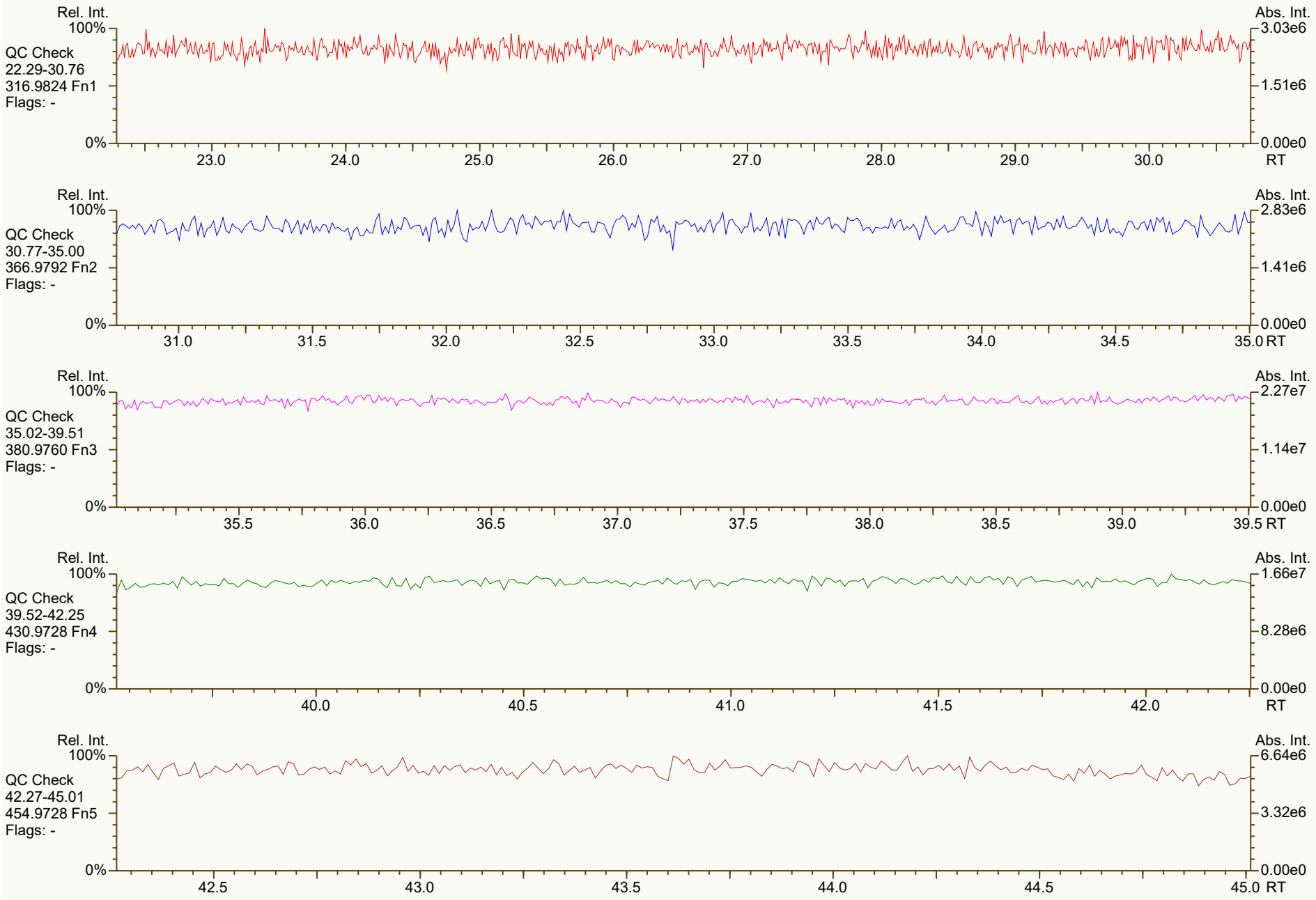
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 09:54 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS1_210727_DF_RA	UTP: 27-Jul-2021 15:00:19 PSW	Checkcode: 554-132-FHC
Sample ID: SIL 25-6-2	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R03

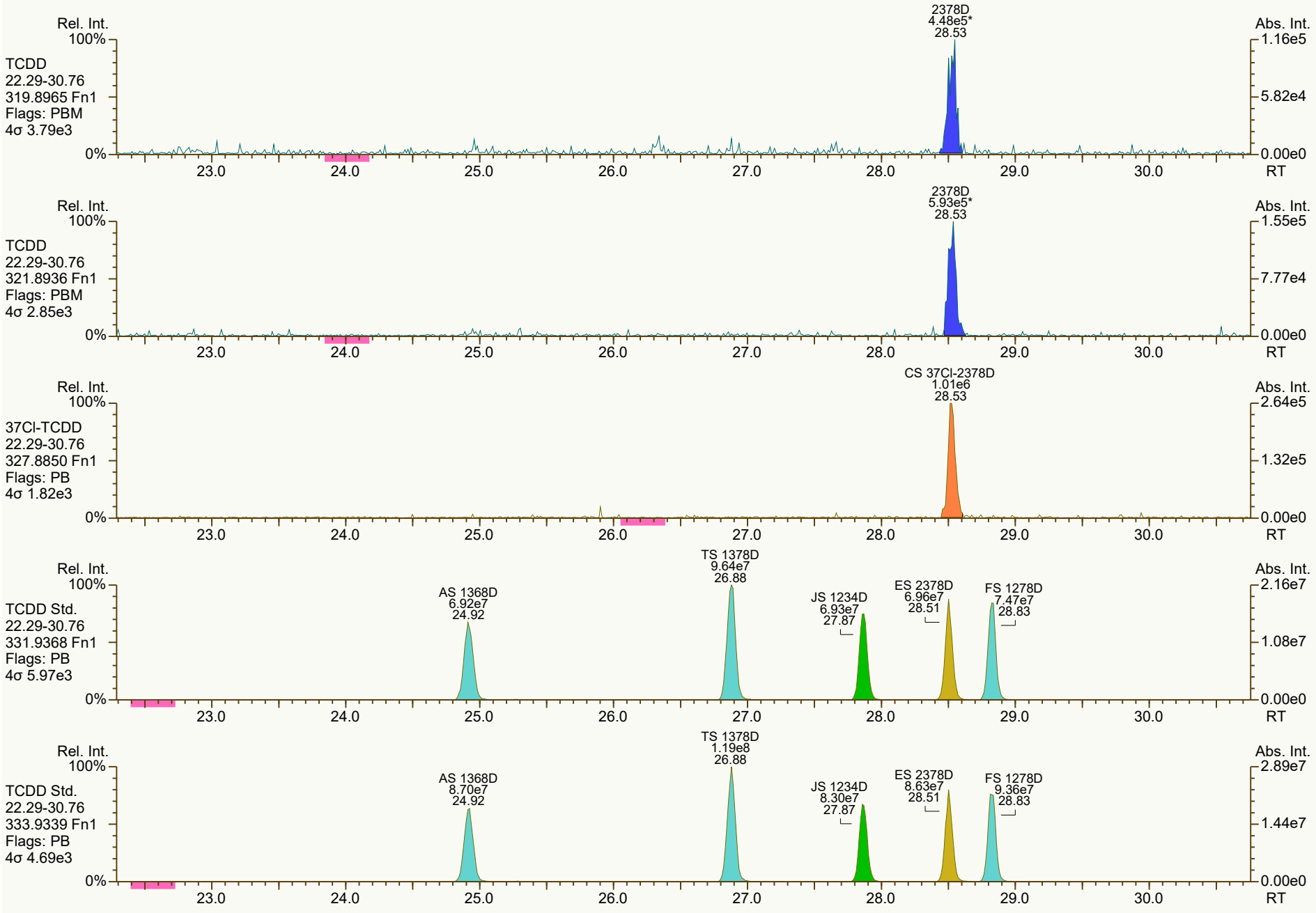
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	1.04E+06	0.76	Y	1.34	1.34	-1%
12378-PeCDD	33.81	4.16E+06	1.48	Y	1.06	1.07	1%
123478-HxCDD	37.68	3.92E+06	1.22	Y	1.06	1.10	4%
123678-HxCDD	37.79	3.74E+06	1.22	Y	1.08	1.07	-1%
123789-HxCDD	38.08	4.22E+06	1.33	Y	1.02	1.05	4%
1234678-HpCDD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

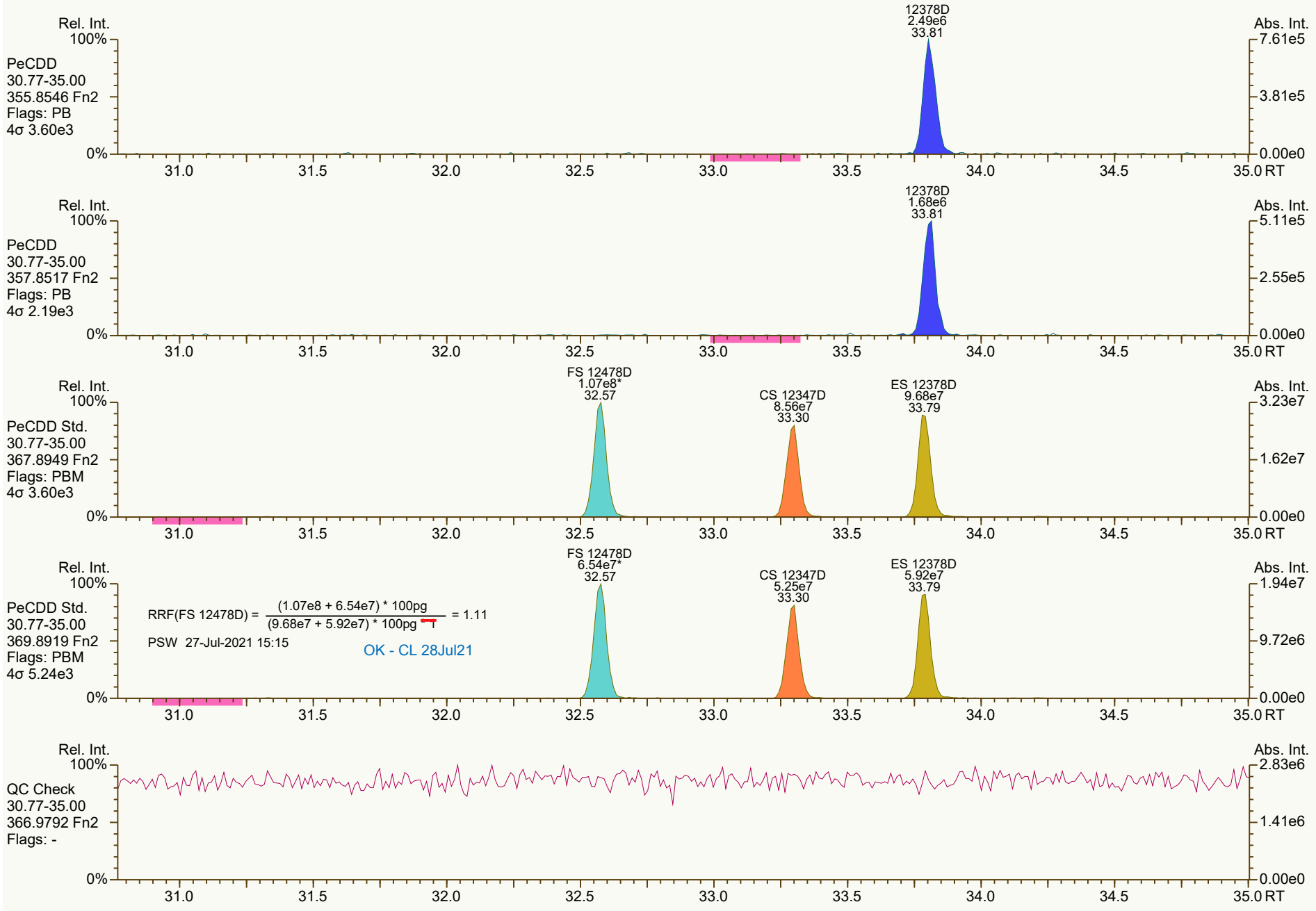
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 09:54 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS1_210727_DF_RA	UTP: 27-Jul-2021 15:00:19 PSW	Checkcode: 554-132-FHC
Sample ID: SIL 25-6-2	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R03

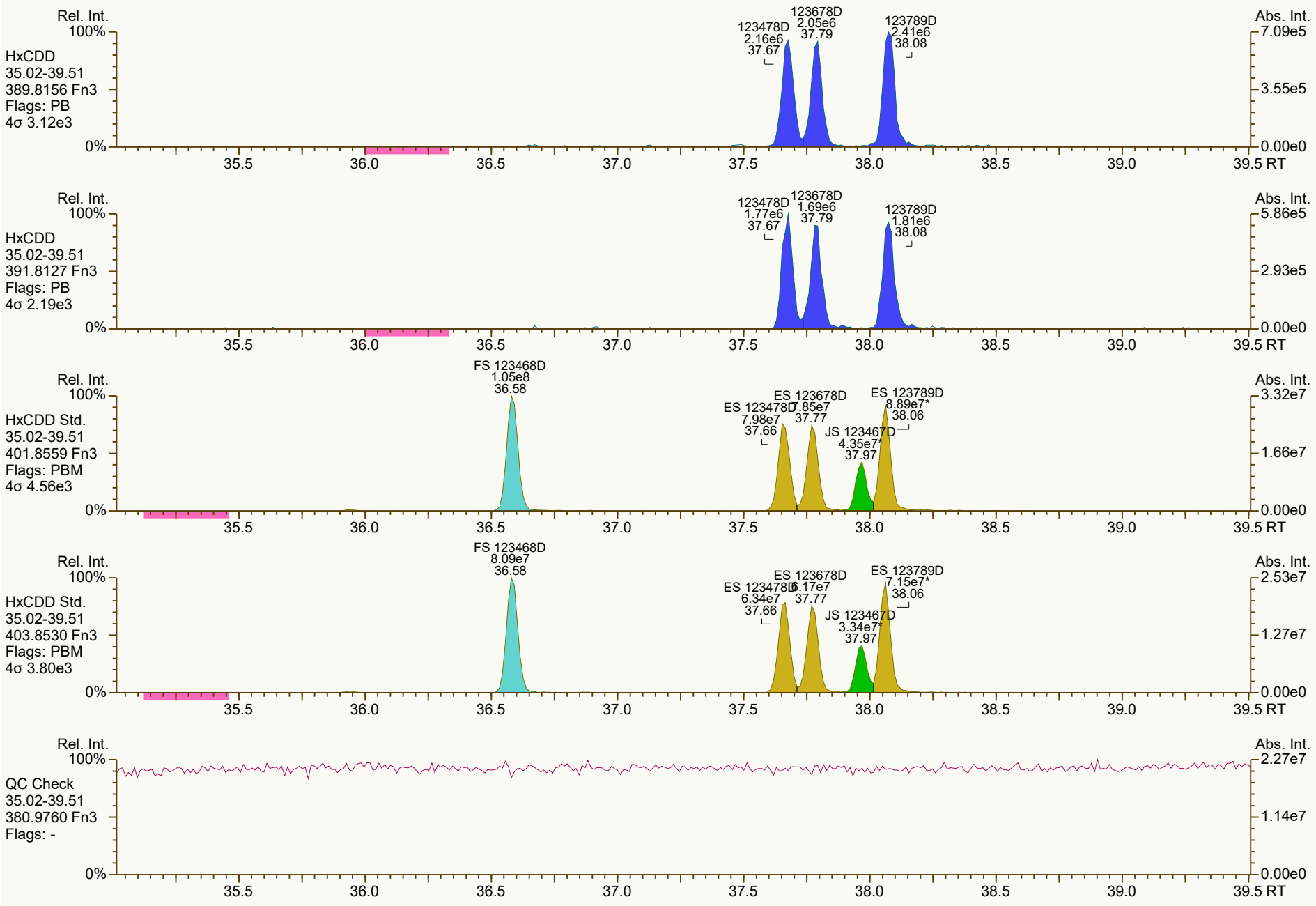
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.87	1.52E+08	0.83	Y	-	-	-
JS 1234-TCDF	26.33	2.45E+08	0.77	Y	-	-	-
JS 123467-HxCDD	37.97	7.69E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	1.01E+06	n/a	-	1.31	1.32	1%
CS 12347-PeCDD	33.30	1.38E+08	1.63	Y	0.89	0.91	2%
CS 12346-PeCDF	31.85	2.15E+08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

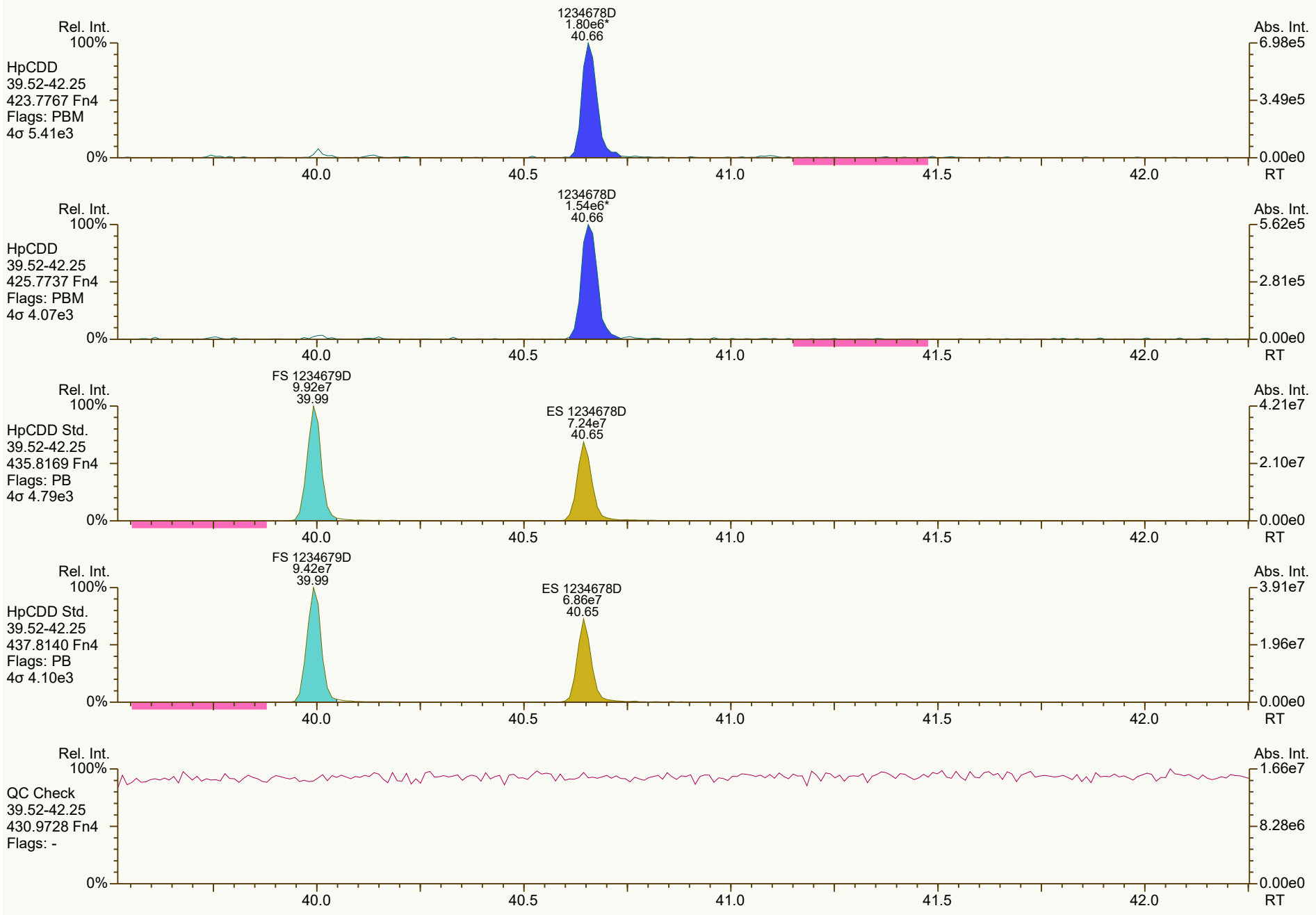
Not reported from this ICAL - CL 28Jul21


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


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


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 3.60e3
0%
12378D
2.49e6
33.81
Abs. Int.
7.61e5
3.81e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.19e3
0%
12378D
1.68e6
33.81
Abs. Int.
5.11e5
2.55e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PBM
4σ 3.60e3
0%
FS 12478D
1.07e8*
32.57
CS 12347D
8.56e7
33.30
ES 12378D
9.68e7
33.79
Abs. Int.
3.23e7
1.62e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PBM
4σ 5.24e3
0%
RRF(FS 12478D) = (1.07e8 + 6.54e7) * 100pg / (9.68e7 + 5.92e7) * 100pg * 1 = 1.11
PSW 27-Jul-2021 15:15
OK - CL 28Jul21
FS 12478D
6.54e7*
32.57
CS 12347D
5.25e7
33.30
ES 12378D
5.92e7
33.79
Abs. Int.
1.94e7
9.72e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.83e6
1.41e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


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


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


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

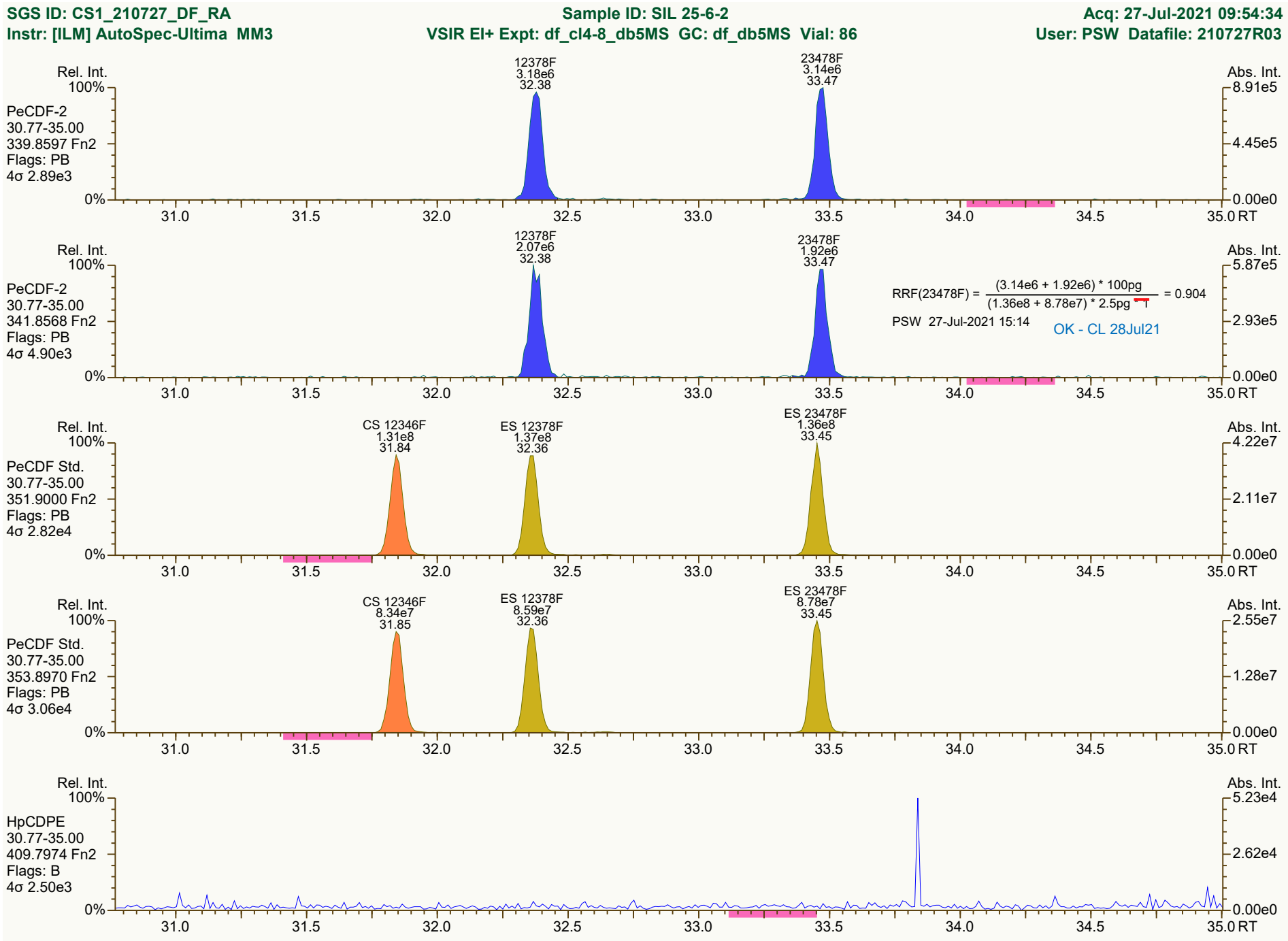

Rel. Int.
100%
TCDF
22.29-30.76
303.9016 Fn1
Flags: PBM
4σ 2.05e3
0%
2378F
5.24e5*
27.67
Abs. Int.
1.26e5
6.32e4
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
Rel. Int.
100%
TCDF
22.29-30.76
305.8987 Fn1
Flags: PBM
4σ 2.29e3
0%
2378F
7.27e5*
27.67
Abs. Int.
1.69e5
8.46e4
0.00e0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.48e4
0%
AS 1368F
1.12e8
22.86
JS 1234F
1.07e8
26.33
ES 2378F
1.15e8
27.65
Abs. Int.
2.79e7
1.39e7
0.00e0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
1.47e8
22.86
JS 1234F
1.39e8
26.33
ES 2378F
1.50e8
27.65
Abs. Int.
3.54e7
1.77e7
0.00e0
RT
Rel. Int.
100%
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.16e3
4.58e3
0.00e0
RT


Rel. Int.
100%
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 2.43e3
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 2.60e3
1.13e4
5.66e3
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
3.03e6
1.51e6

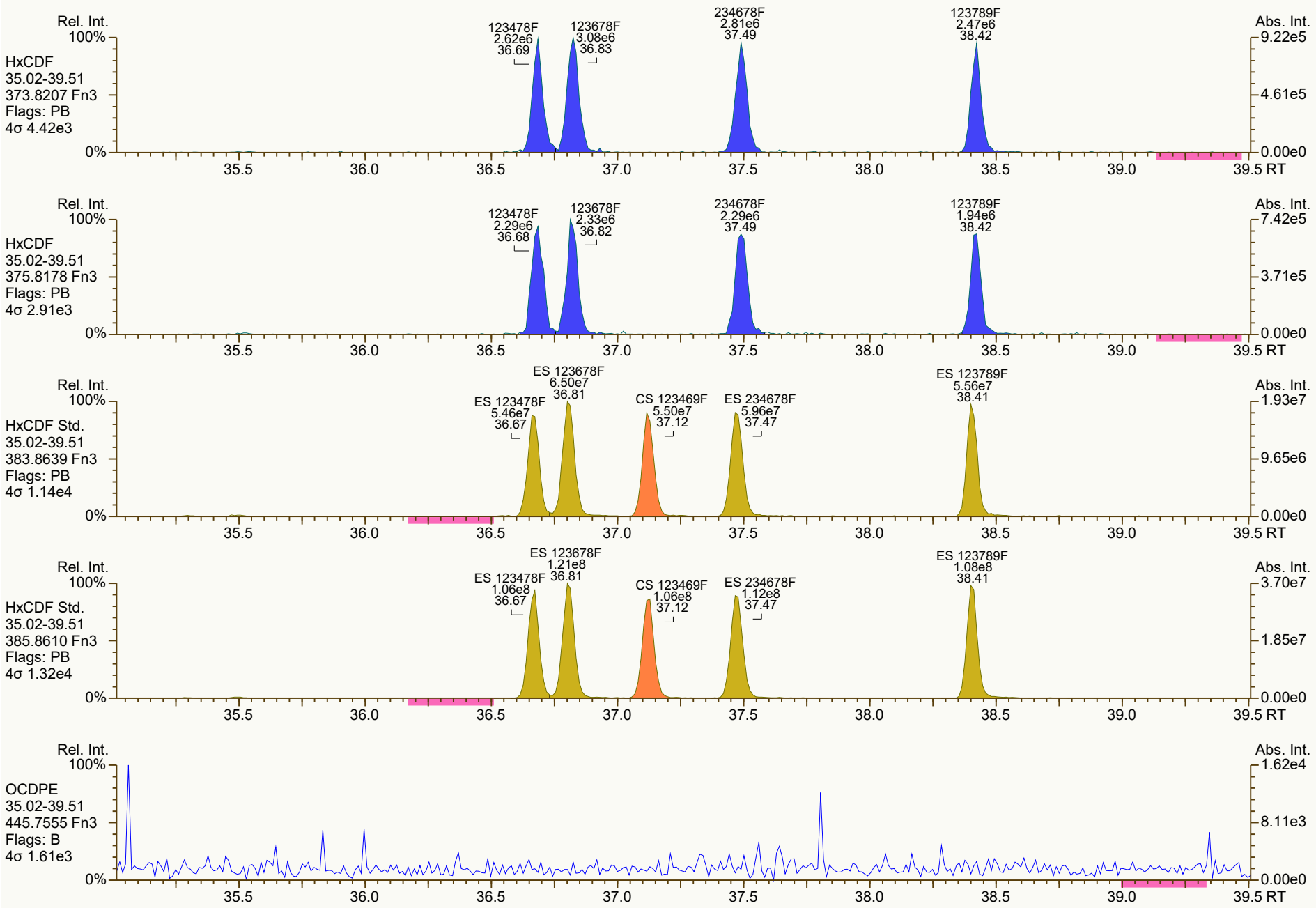
SGS ID: CS1_210727_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

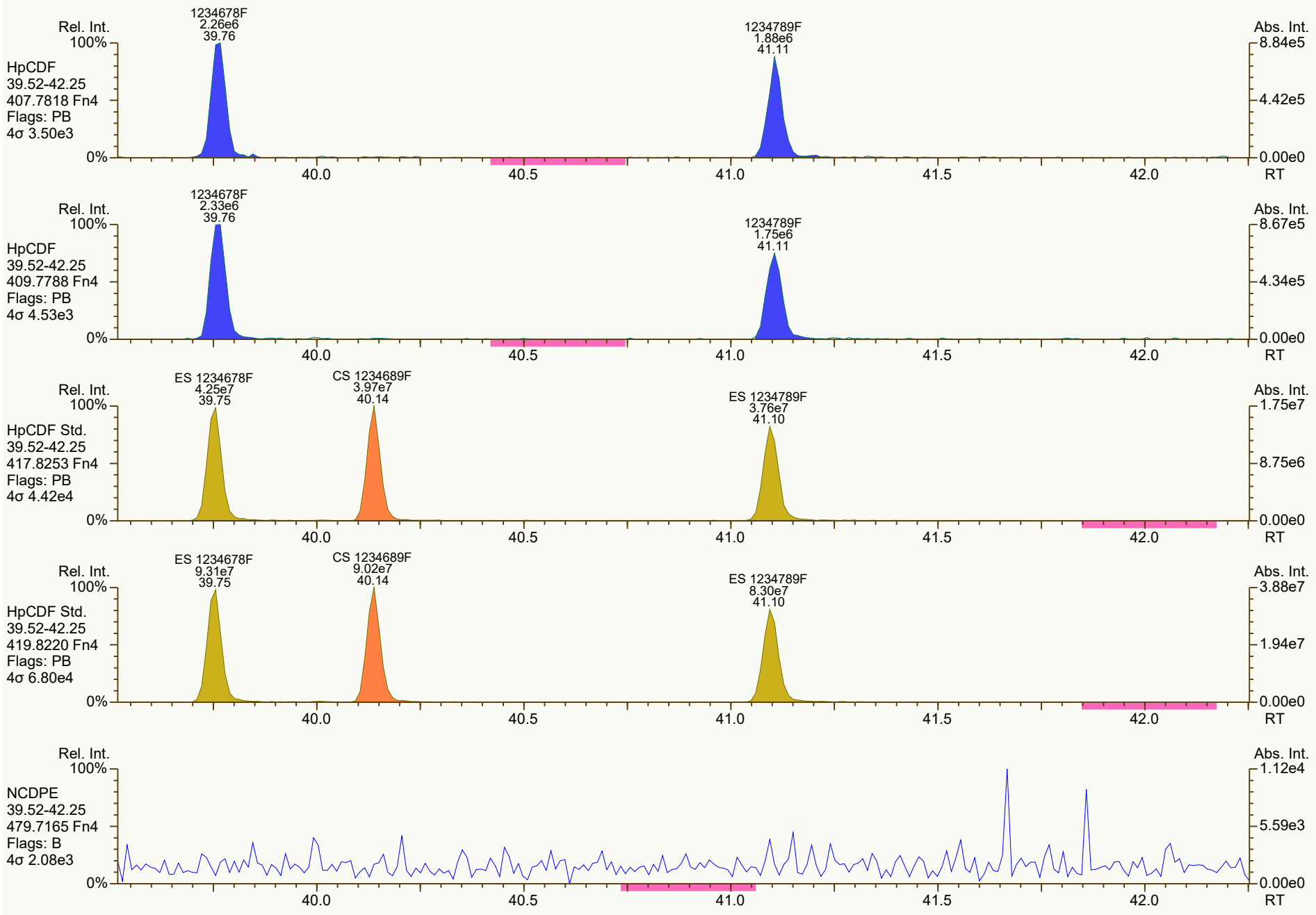
Sample ID: SIL 25-6-2
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86

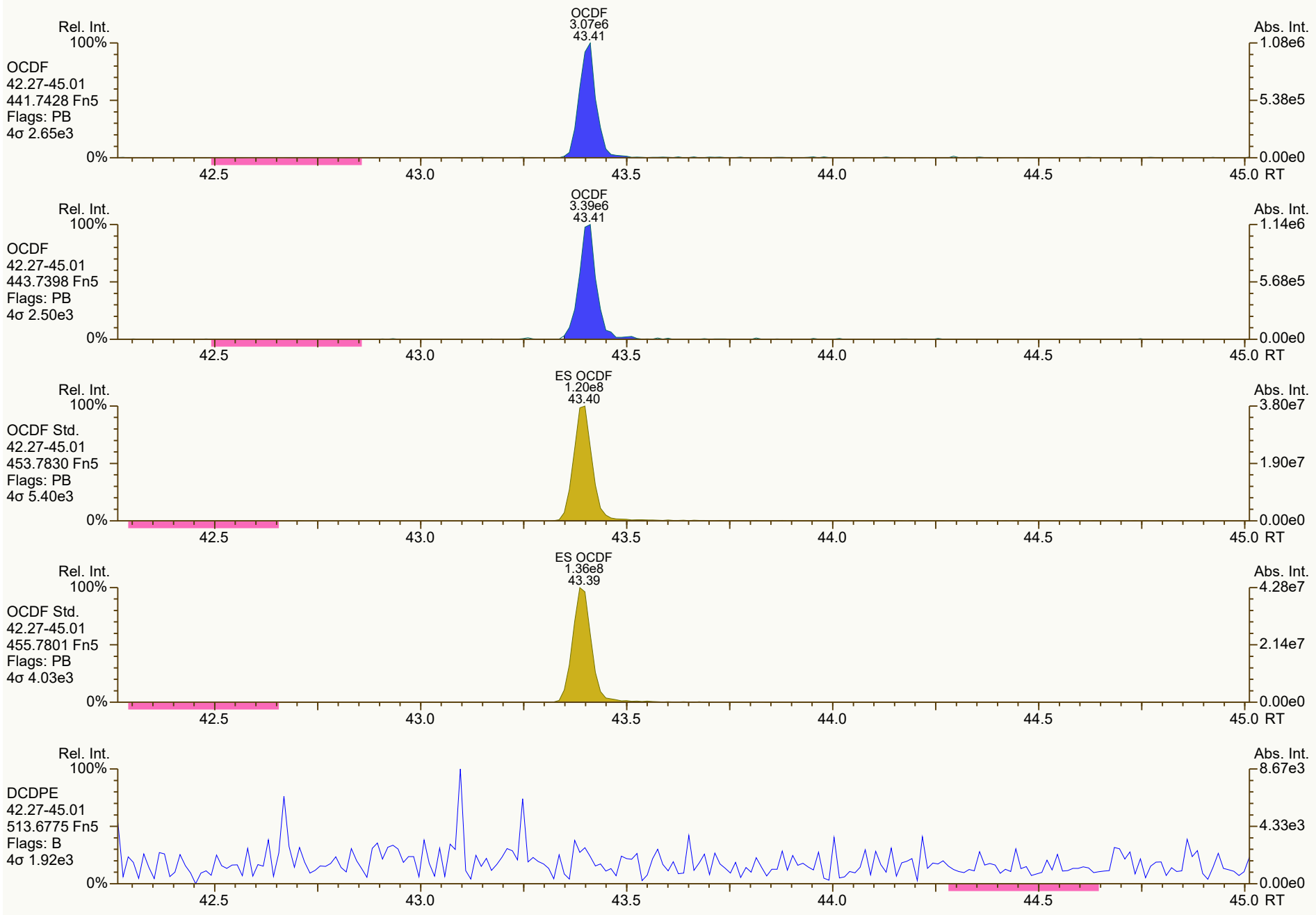
Acq: 27-Jul-2021 09:54:34
User: PSW Datafile: 210727R03



Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0783, 1661, 1108 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PB
4σ 4.42e3
123478F 2.62e6 36.69
123678F 3.08e6 36.83
234678F 2.81e6 37.49
123789F 2.47e6 38.42
Abs. Int.
9.22e5
4.61e5
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PB
4σ 2.91e3
123478F 2.29e6 36.68
123678F 2.33e6 36.82
234678F 2.29e6 37.49
123789F 1.94e6 38.42
Abs. Int.
7.42e5
3.71e5
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 1.14e4
ES 123478F 5.46e7 36.67
ES 123678F 6.50e7 36.81
CS 123469F 5.50e7 37.12
ES 234678F 5.96e7 37.47
ES 123789F 5.56e7 38.41
Abs. Int.
1.93e7
9.65e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 1.32e4
ES 123478F 1.06e8 36.67
ES 123678F 1.21e8 36.81
CS 123469F 1.06e8 37.12
ES 234678F 1.12e8 37.47
ES 123789F 1.08e8 38.41
Abs. Int.
3.70e7
1.85e7
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 1.61e3
Abs. Int.
1.62e4
8.11e3
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT


Rel. Int.
100%
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 3.50e3
1234678F
2.26e6
39.76
1234789F
1.88e6
41.11
Abs. Int.
8.84e5
4.42e5
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 4.53e3
1234678F
2.33e6
39.76
1234789F
1.75e6
41.11
Abs. Int.
8.67e5
4.34e5
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PB
4σ 4.42e4
ES 1234678F
4.25e7
39.75
CS 1234689F
3.97e7
40.14
ES 1234789F
3.76e7
41.10
Abs. Int.
1.75e7
8.75e6
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PB
4σ 6.80e4
ES 1234678F
9.31e7
39.75
CS 1234689F
9.02e7
40.14
ES 1234789F
8.30e7
41.10
Abs. Int.
3.88e7
1.94e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.08e3
Abs. Int.
1.12e4
5.59e3
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.27-45.01
441.7428 Fn5
Flags: PB
4σ 2.65e3
0%
OCDF
3.07e6
43.41
Abs. Int.
1.08e6
5.38e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.27-45.01
443.7398 Fn5
Flags: PB
4σ 2.50e3
0%
OCDF
3.39e6
43.41
Abs. Int.
1.14e6
5.68e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.27-45.01
453.7830 Fn5
Flags: PB
4σ 5.40e3
0%
ES OCDF
1.20e8
43.40
Abs. Int.
3.80e7
1.90e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.27-45.01
455.7801 Fn5
Flags: PB
4σ 4.03e3
0%
ES OCDF
1.36e8
43.39
Abs. Int.
4.28e7
2.14e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.27-45.01
513.6775 Fn5
Flags: B
4σ 1.92e3
0%
Abs. Int.
8.67e3
4.33e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

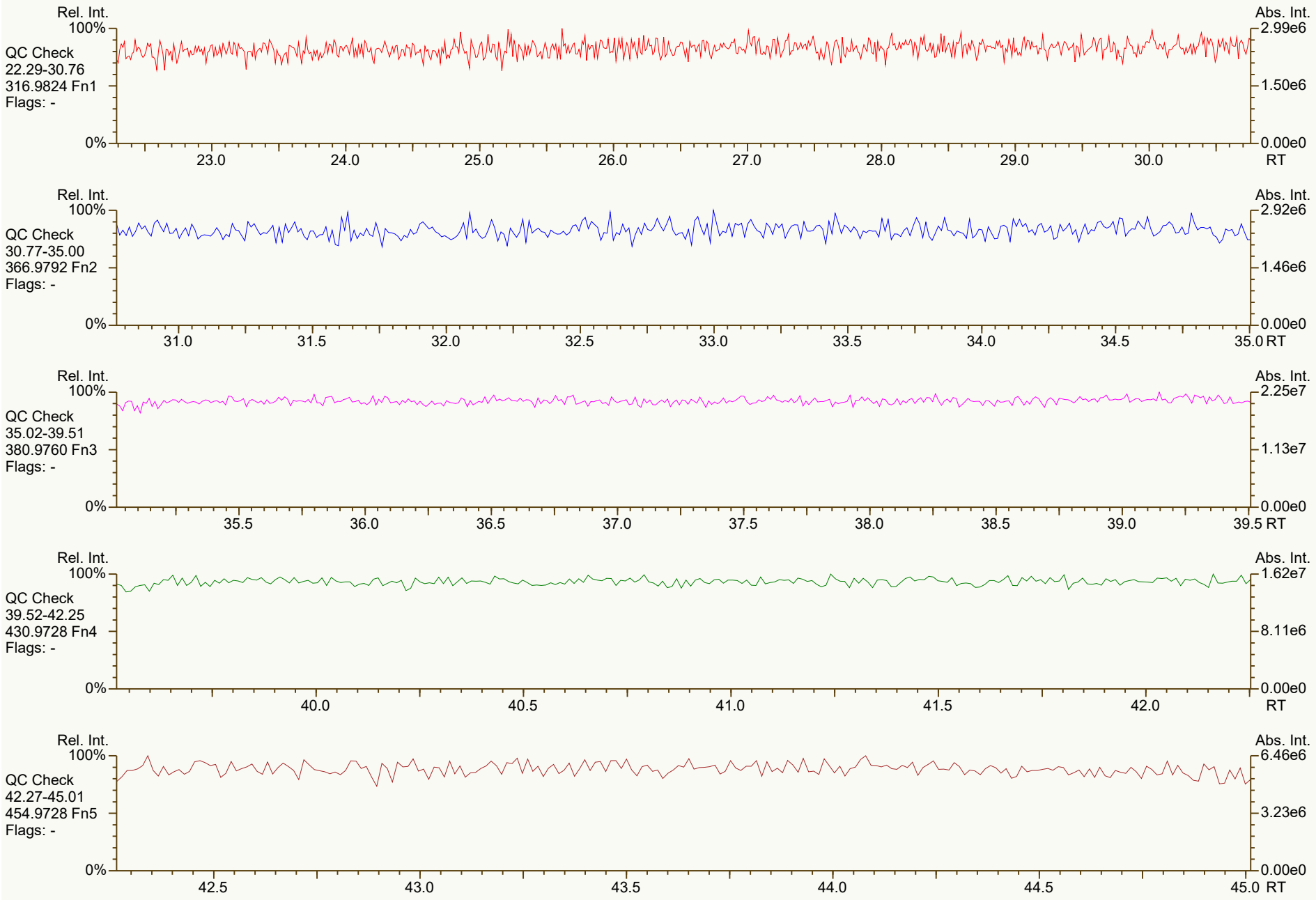
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 10:44 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS2_210727_DF_RA	UTP: 27-Jul-2021 15:00:20 PSW	Checkcode: 377-233-TNL
Sample ID: SIL 25-6-1	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R04

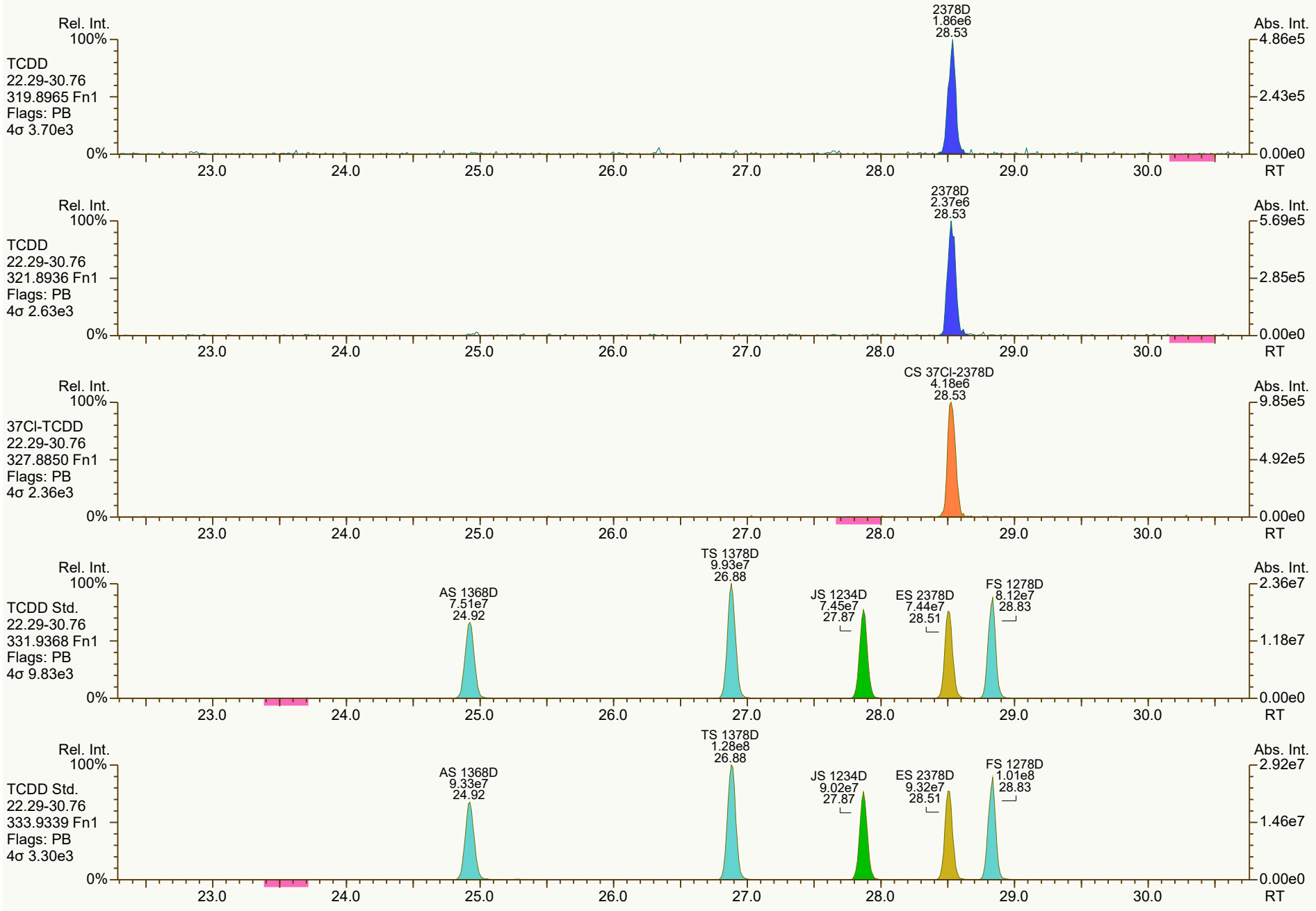
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	4.23E+06	0.79	Y	1.34	1.26	-6%
12378-PeCDD	33.81	1.67E+07	1.63	Y	1.06	1.02	-4%
123478-HxCDD	37.68	1.53E+07	1.32	Y	1.06	0.99	-6%
123678-HxCDD	37.80	1.52E+07	1.22	Y	1.08	1.02	-5%
123789-HxCDD	38.08	1.66E+07	1.25	Y	1.02	0.95	-6%
1234678-HpCDD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

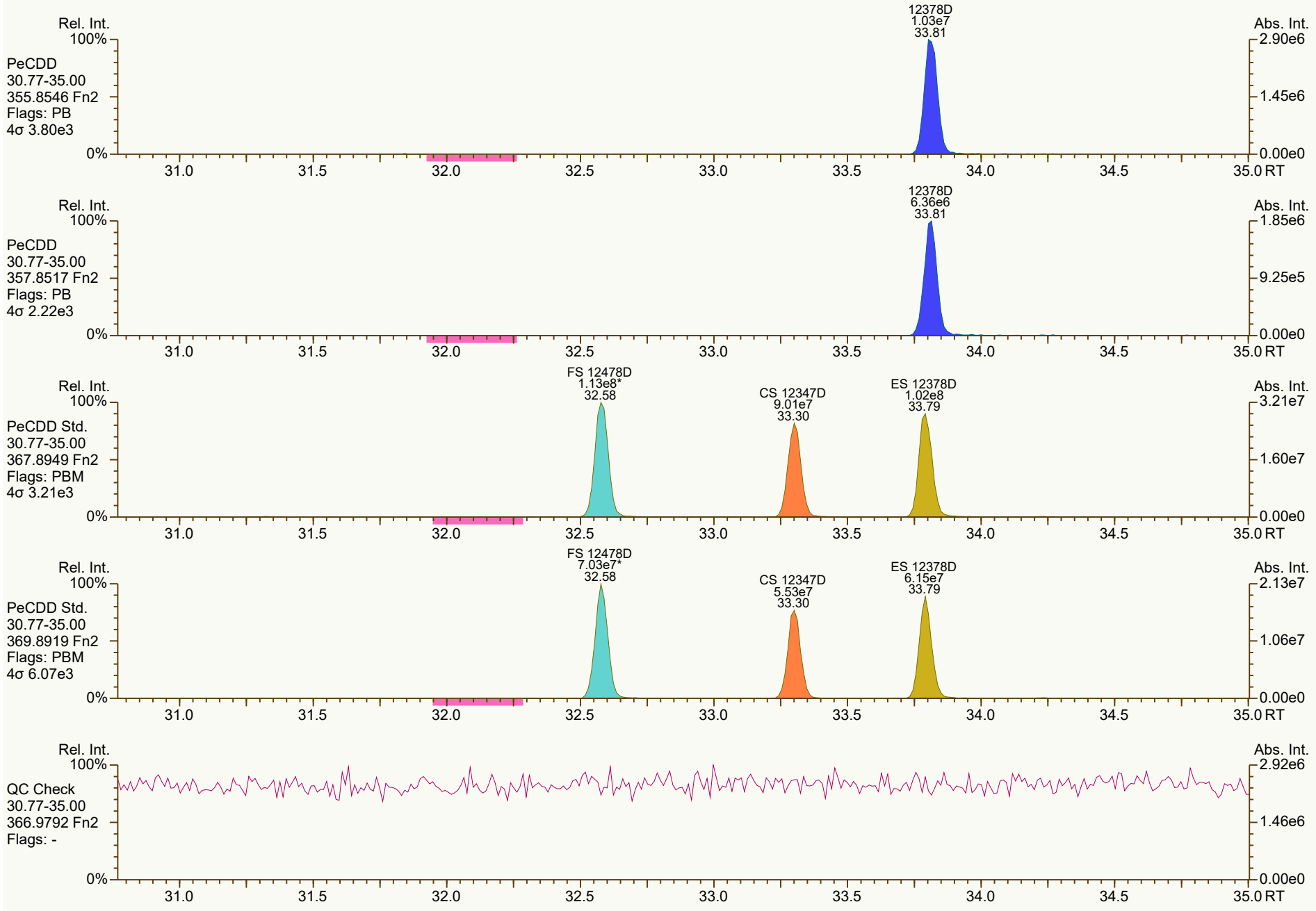
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 10:44 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS2_210727_DF_RA	UTP: 27-Jul-2021 15:00:20 PSW	Checkcode: 377-233-TNL
Sample ID: SIL 25-6-1	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R04

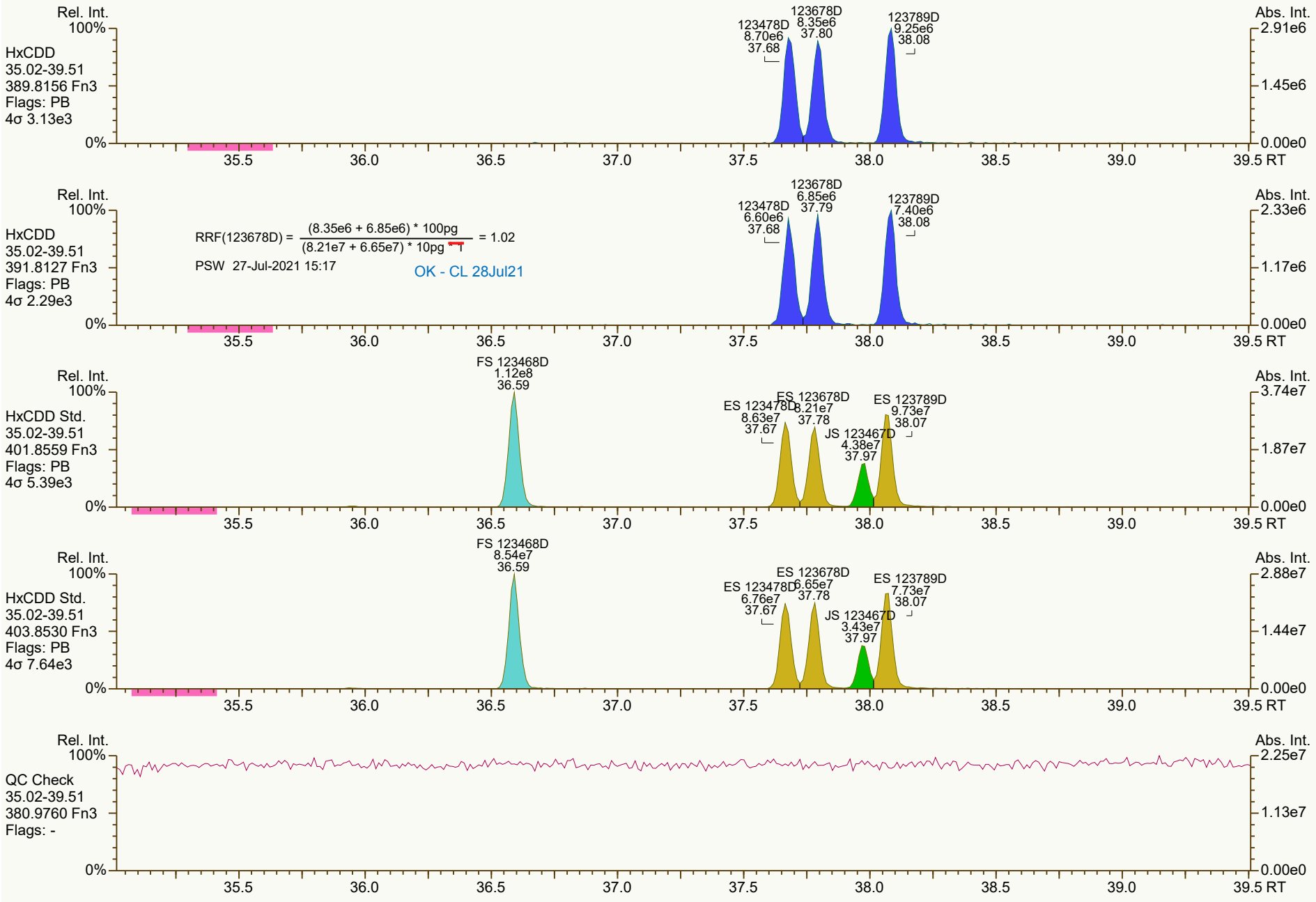
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.87	1.65E+08	0.83	Y	-	-	-
JS 1234-TCDF	26.34	2.62E+08	0.75	Y	-	-	-
JS 123467-HxCDD	37.97	7.80E+07	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	4.18E+06	n/a	-	1.31	1.27	-3%
CS 12347-PeCDD	33.30	1.45E+08	1.63	Y	0.89	0.88	-1%
CS 12346-PeCDF	31.85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

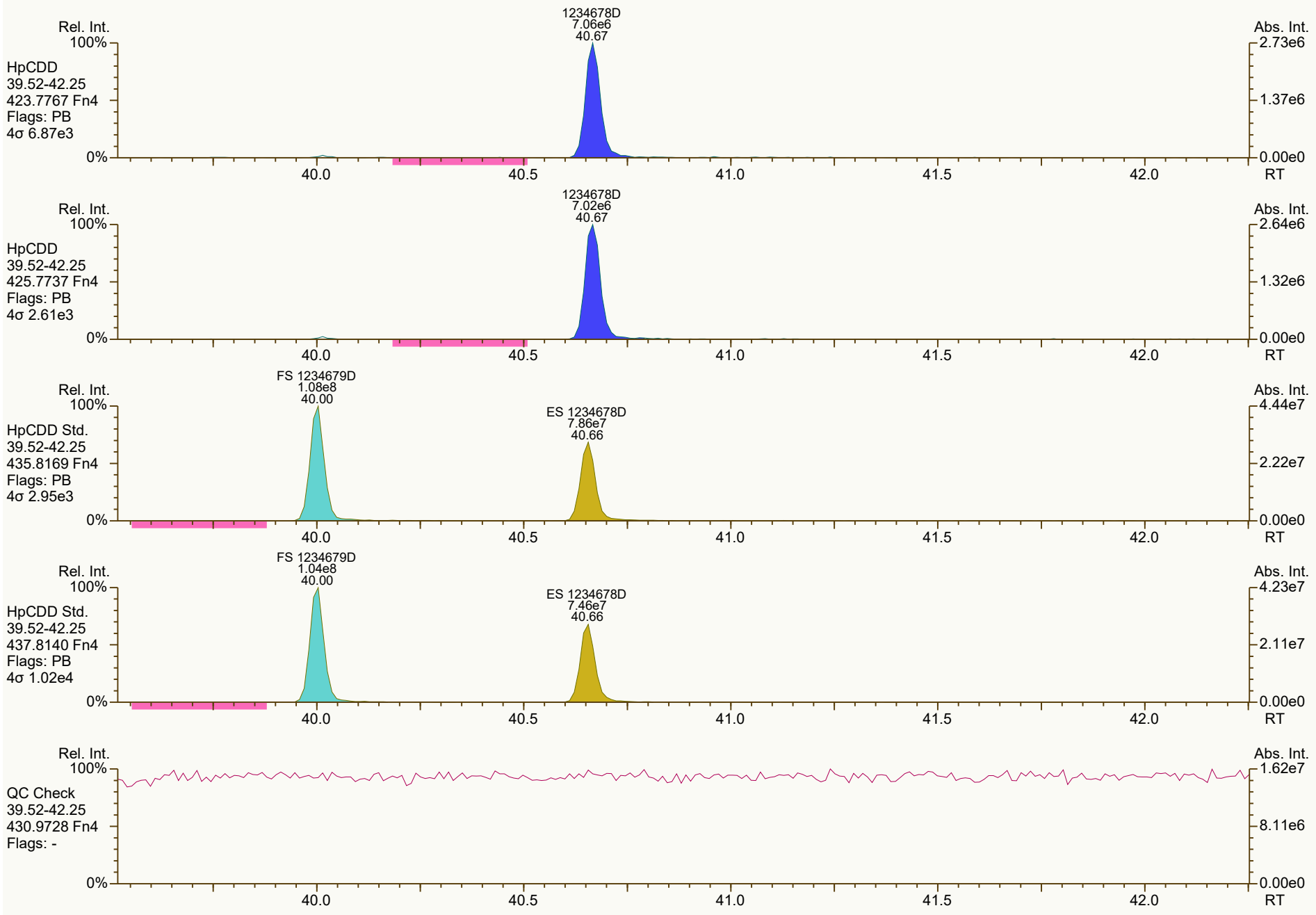
Not reported from this ICAL - CL 28Jul21


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

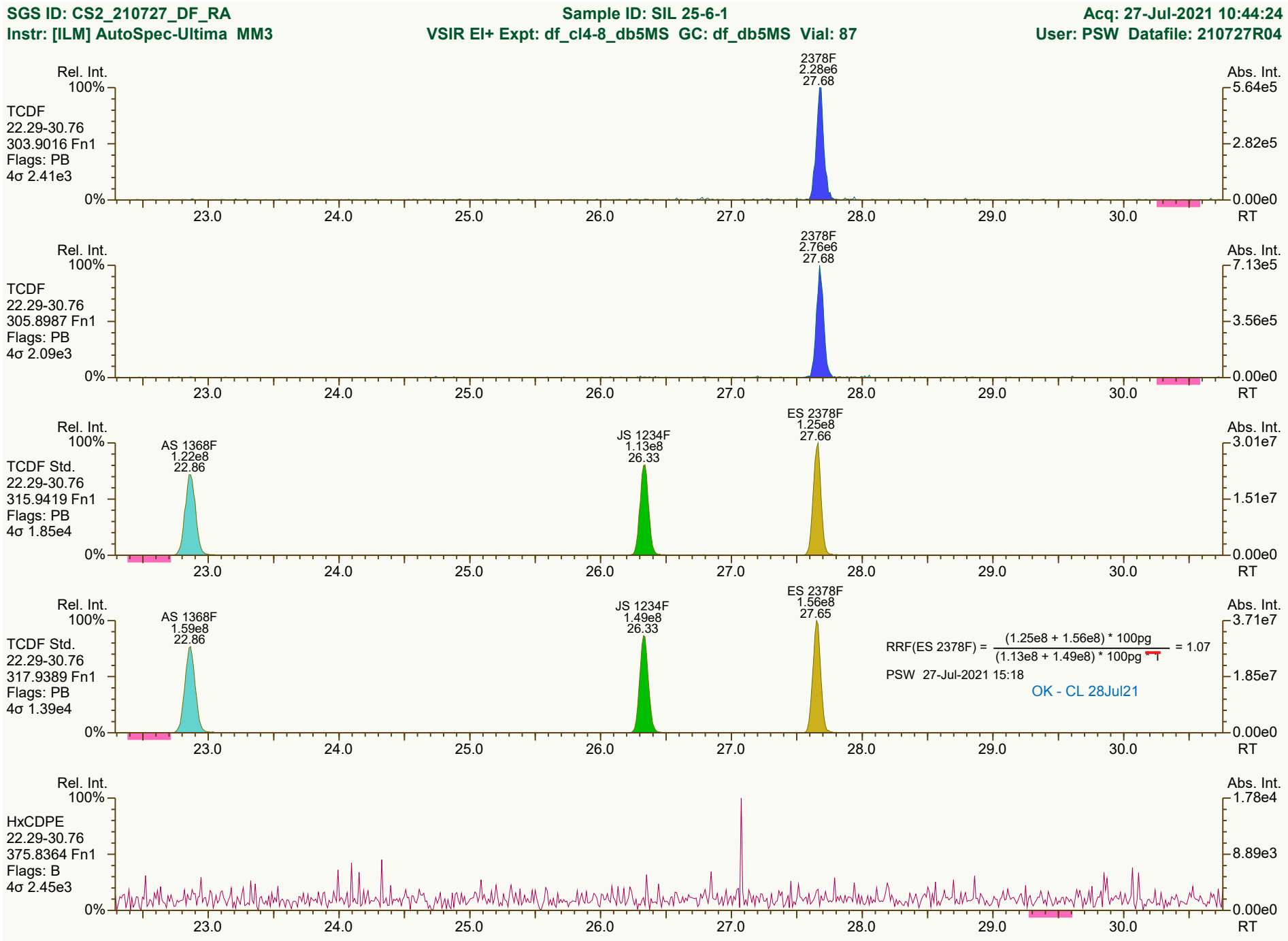

Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 3.70e3
0%
2378D
1.86e6
28.53
Abs. Int.
4.86e5
2.43e5
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.63e3
0%
2378D
2.37e6
28.53
Abs. Int.
5.69e5
2.85e5
0.00e0
23.0
24.0
25.0
26.0
27.0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


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

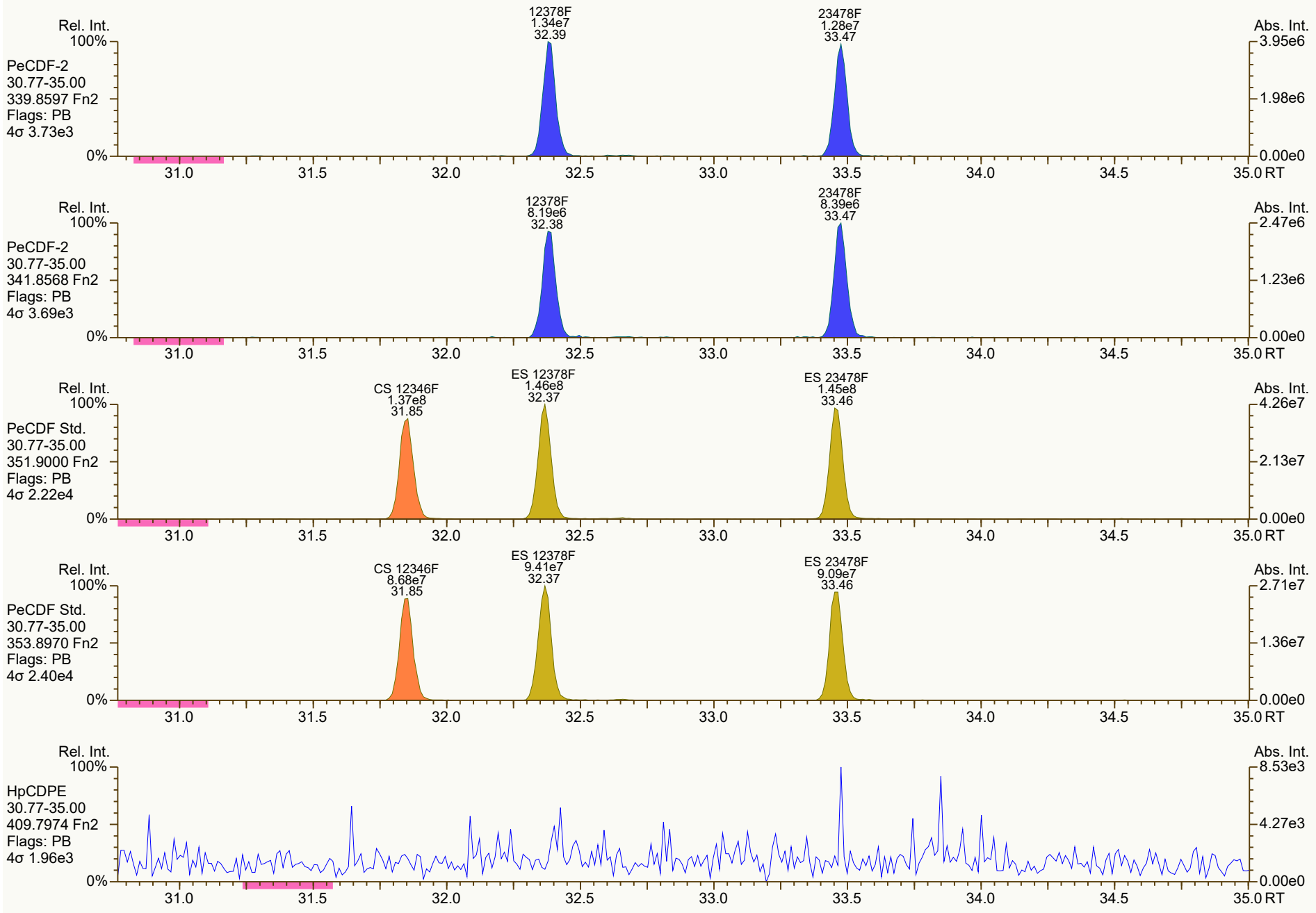

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 3.13e3
123478D 8.70e6 37.68
123678D 8.35e6 37.80
123789D 9.25e6 38.08
Abs. Int.
2.91e6
1.45e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.29e3
RRF(123678D) = (8.35e6 + 6.85e6) * 100pg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


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


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


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

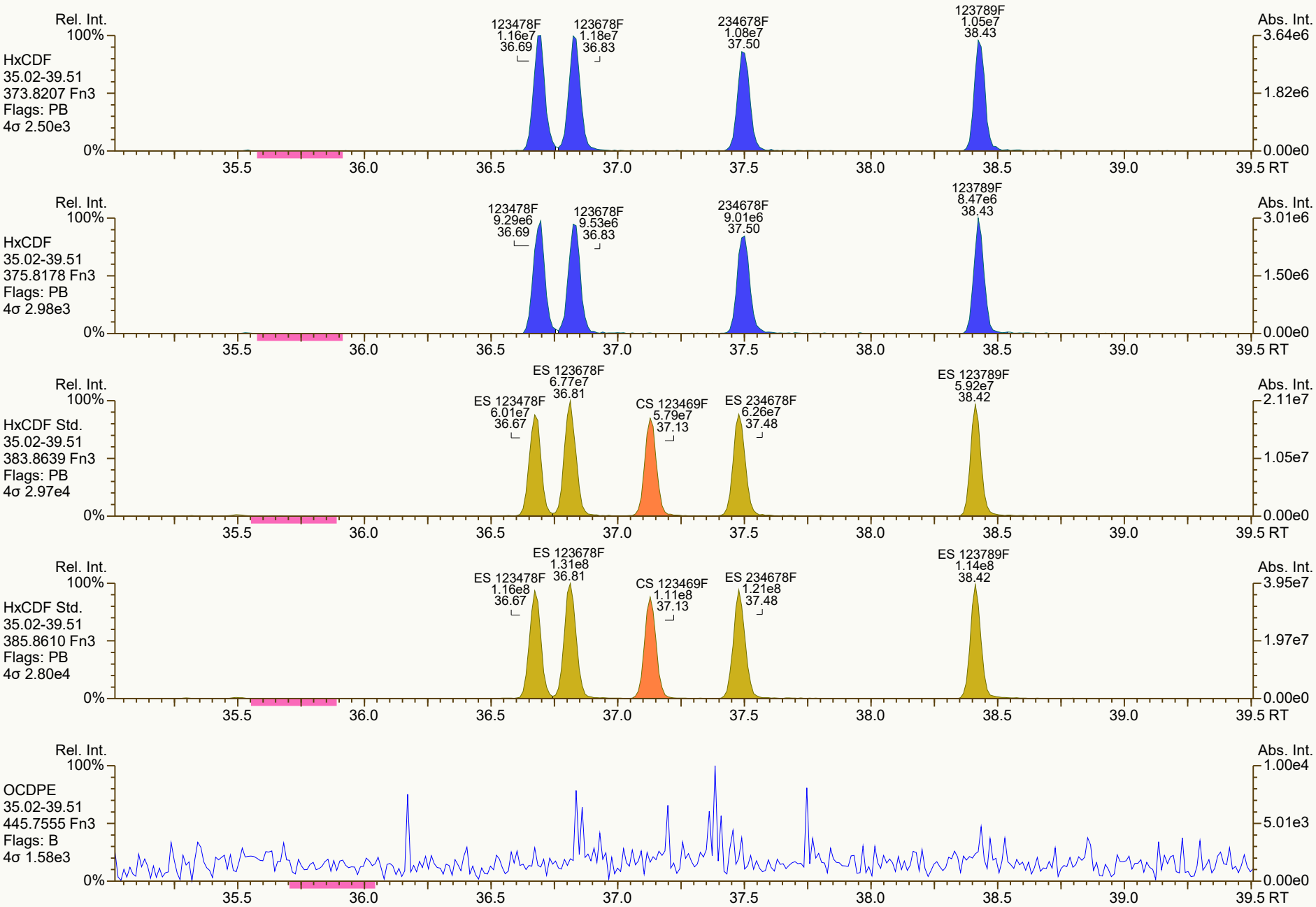

Rel. Int.
100%
0%
Abs. Int.
1.66e4
8.28e3
0.00e0
RT
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 3.30e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
Rel. Int.
100%
0%
Abs. Int.
2.64e4
1.32e4
0.00e0
RT
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 2.23e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
Rel. Int.
100%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


Rel. Int.
100%
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 3.73e3
0%
12378F
1.34e7
32.39
23478F
1.28e7
33.47
Abs. Int.
3.95e6
1.98e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 3.69e3
0%
12378F
8.19e6
32.38
23478F
8.39e6
33.47
Abs. Int.
2.47e6
1.23e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PB
4σ 2.22e4
0%
CS 12346F
1.37e8
31.85
ES 12378F
1.46e8
32.37
ES 23478F
1.45e8
33.46
Abs. Int.
4.26e7
2.13e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PB
4σ 2.40e4
0%
CS 12346F
8.68e7
31.85
ES 12378F
9.41e7
32.37
ES 23478F
9.09e7
33.46
Abs. Int.
2.71e7
1.36e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: PB
4σ 1.96e3
0%
Abs. Int.
8.53e3
4.27e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

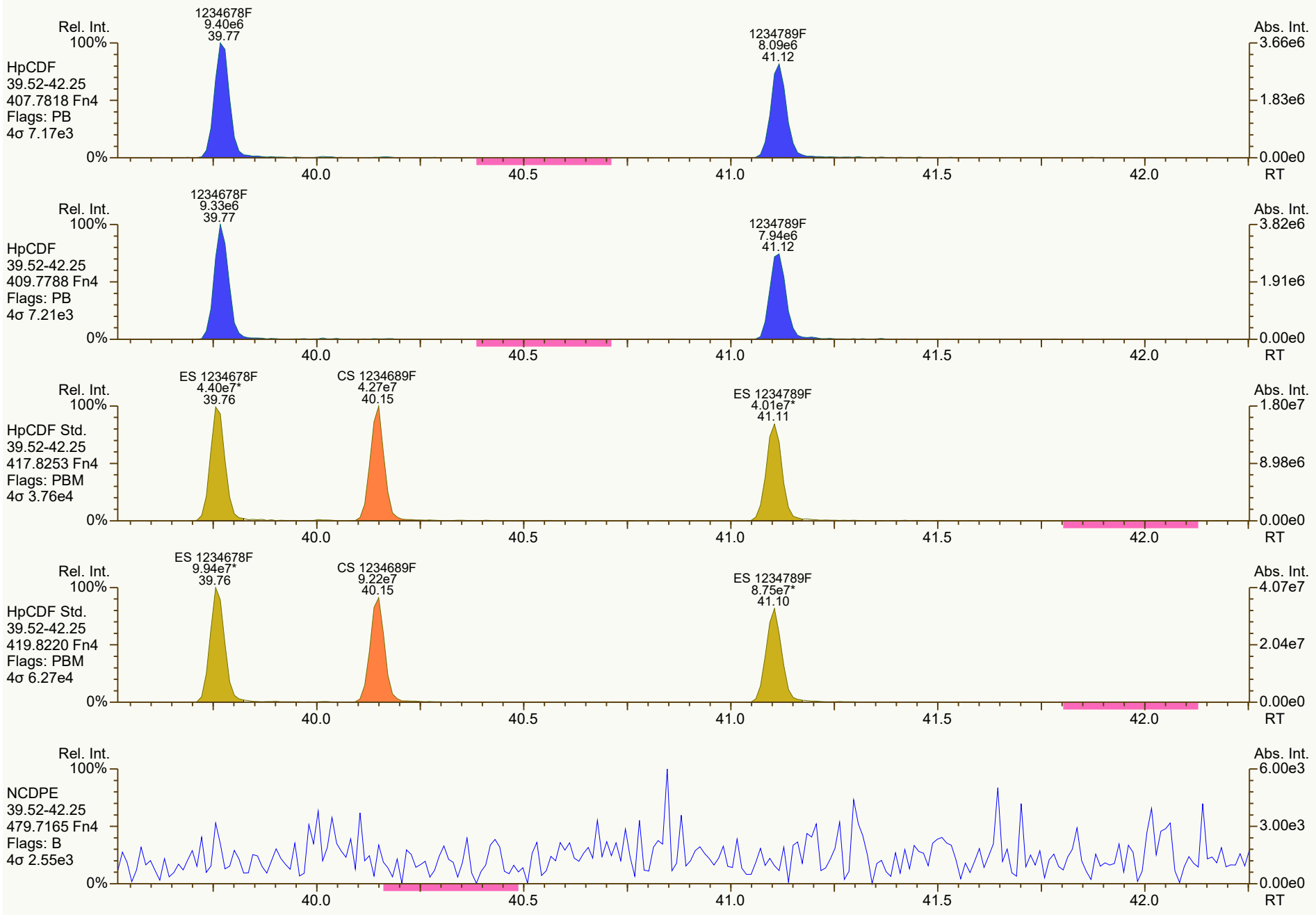
SGS ID: CS2_210727_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

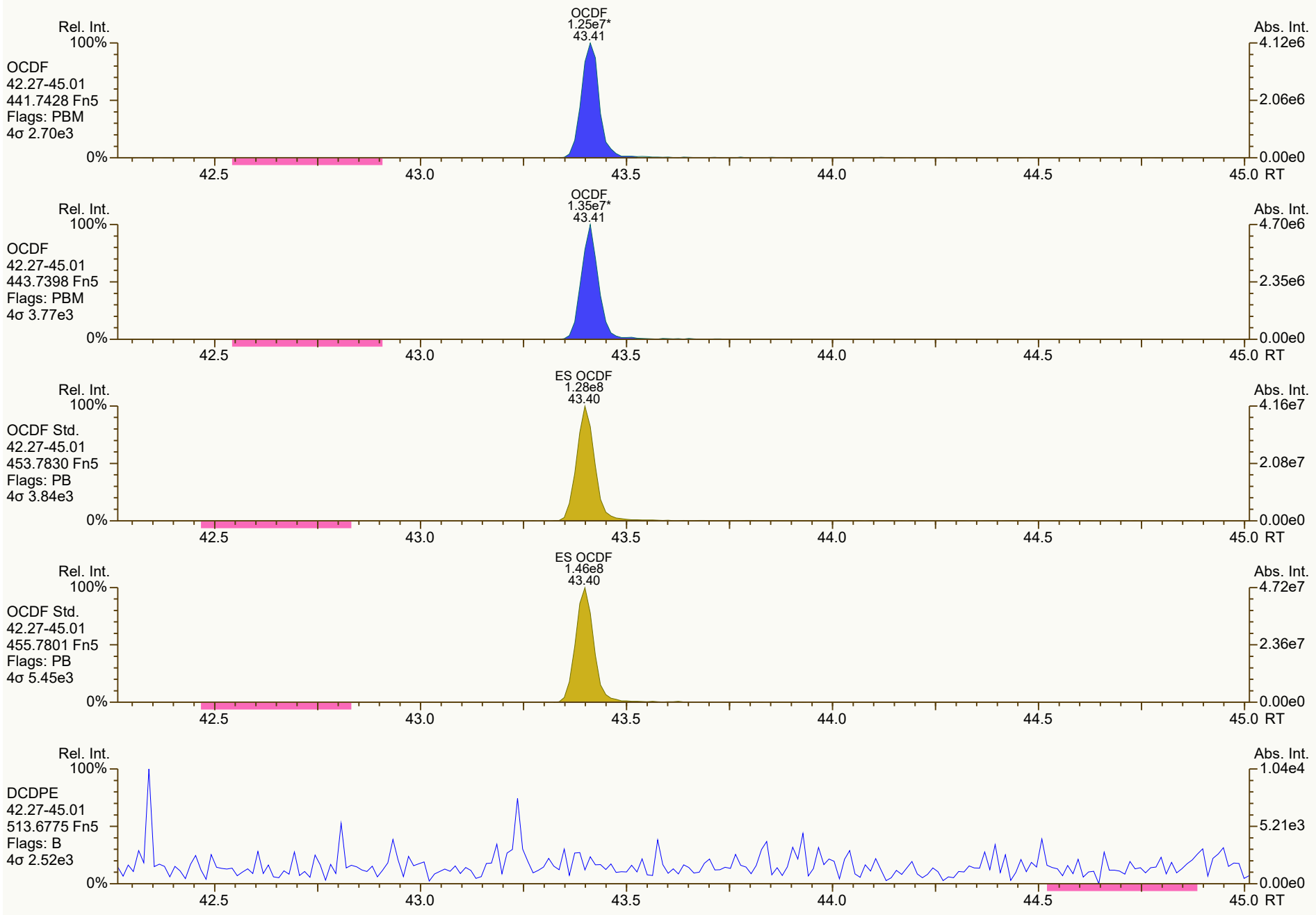
Sample ID: SIL 25-6-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87

Acq: 27-Jul-2021 10:44:24
User: PSW Datafile: 210727R04



Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 3365, 0373, 6521 scc: 377-233
PKD: 27-Jul-2021 11:30 Printed: 27-Jul-2021 15:30 Page 10 of 12


Rel. Int.
100%
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 7.17e3
1234678F
9.40e6
39.77
1234789F
8.09e6
41.12
Abs. Int.
3.66e6
1.83e6
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 7.21e3
1234678F
9.33e6
39.77
1234789F
7.94e6
41.12
Abs. Int.
3.82e6
1.91e6
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PBM
4σ 3.76e4
ES 1234678F
4.40e7*
39.76
CS 1234689F
4.27e7
40.15
ES 1234789F
4.01e7*
41.11
Abs. Int.
1.80e7
8.98e6
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PBM
4σ 6.27e4
ES 1234678F
9.94e7*
39.76
CS 1234689F
9.22e7
40.15
ES 1234789F
8.75e7*
41.10
Abs. Int.
4.07e7
2.04e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.55e3
Abs. Int.
6.00e3
3.00e3
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.27-45.01
441.7428 Fn5
Flags: PBM
4σ 2.70e3
0%
OCDF
1.25e7*
43.41
Abs. Int.
4.12e6
2.06e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.27-45.01
443.7398 Fn5
Flags: PBM
4σ 3.77e3
0%
OCDF
1.35e7*
43.41
Abs. Int.
4.70e6
2.35e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.27-45.01
453.7830 Fn5
Flags: PB
4σ 3.84e3
0%
ES OCDF
1.28e8
43.40
Abs. Int.
4.16e7
2.08e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.27-45.01
455.7801 Fn5
Flags: PB
4σ 5.45e3
0%
ES OCDF
1.46e8
43.40
Abs. Int.
4.72e7
2.36e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.27-45.01
513.6775 Fn5
Flags: B
4σ 2.52e3
0%
Abs. Int.
1.04e4
5.21e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

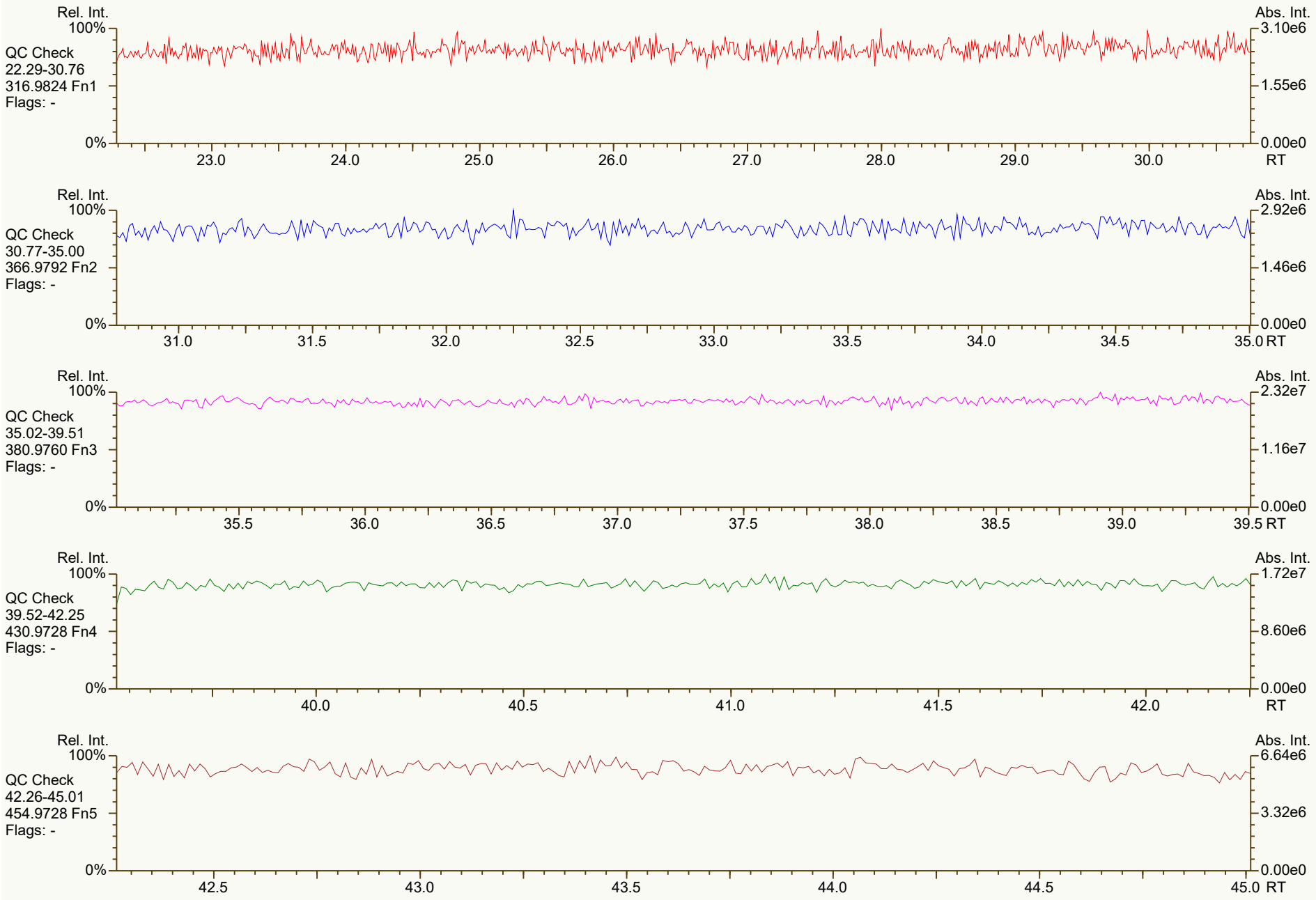
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 11:32 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_210727_DF_RA	UTP: 27-Jul-2021 15:00:20 PSW	Checkcode: 230-891-PQT
Sample ID: SIL 23-672-1	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R05

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

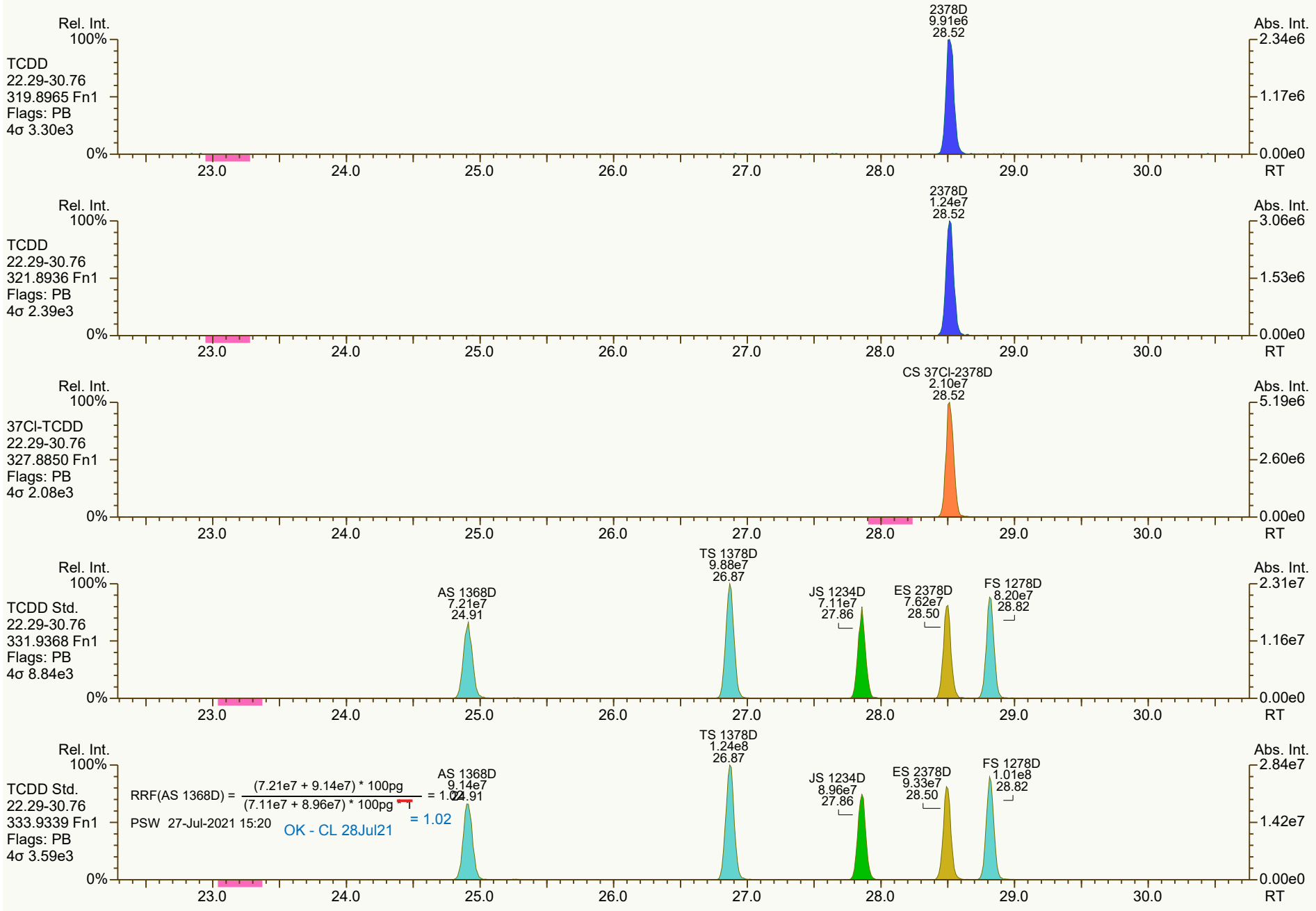
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 11:32 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_210727_DF_RA	UTP: 27-Jul-2021 15:00:20 PSW	Checkcode: 230-891-PQT
Sample ID: SIL 23-672-1	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R05

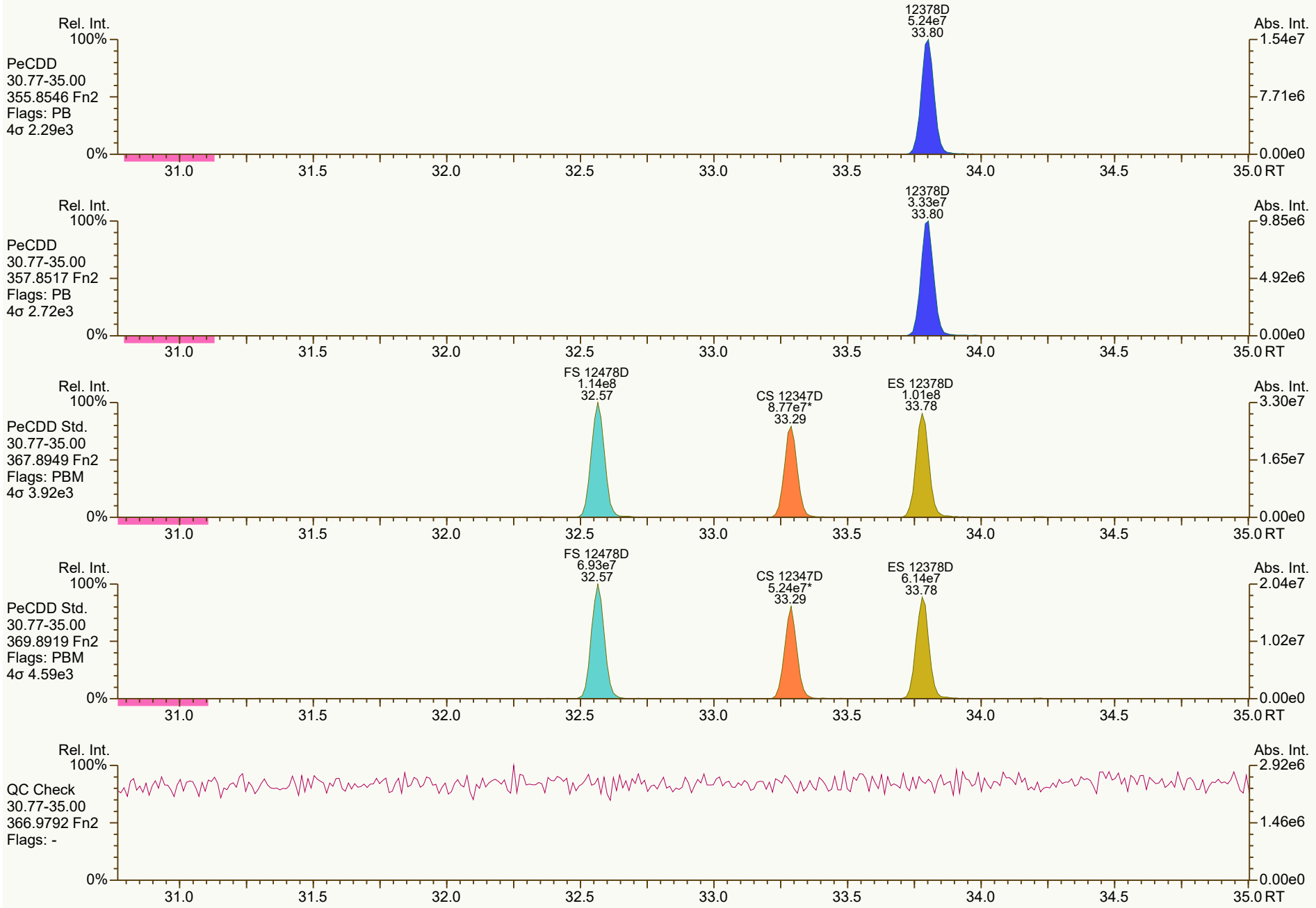
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.86	1.61E+08	0.79	Y	-	-	-
JS 1234-TCDF	26.32	2.56E+08	0.77	Y	-	-	-
JS 123467-HxCDD	37.96	7.28E+07	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	28.52	2.10E+07	n/a	-	1.31	1.30	0%
CS 12347-PeCDD	33.29	1.40E+08	1.67	Y	0.89	0.87	-2%
CS 12346-PeCDF	31.84	2.28E+08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

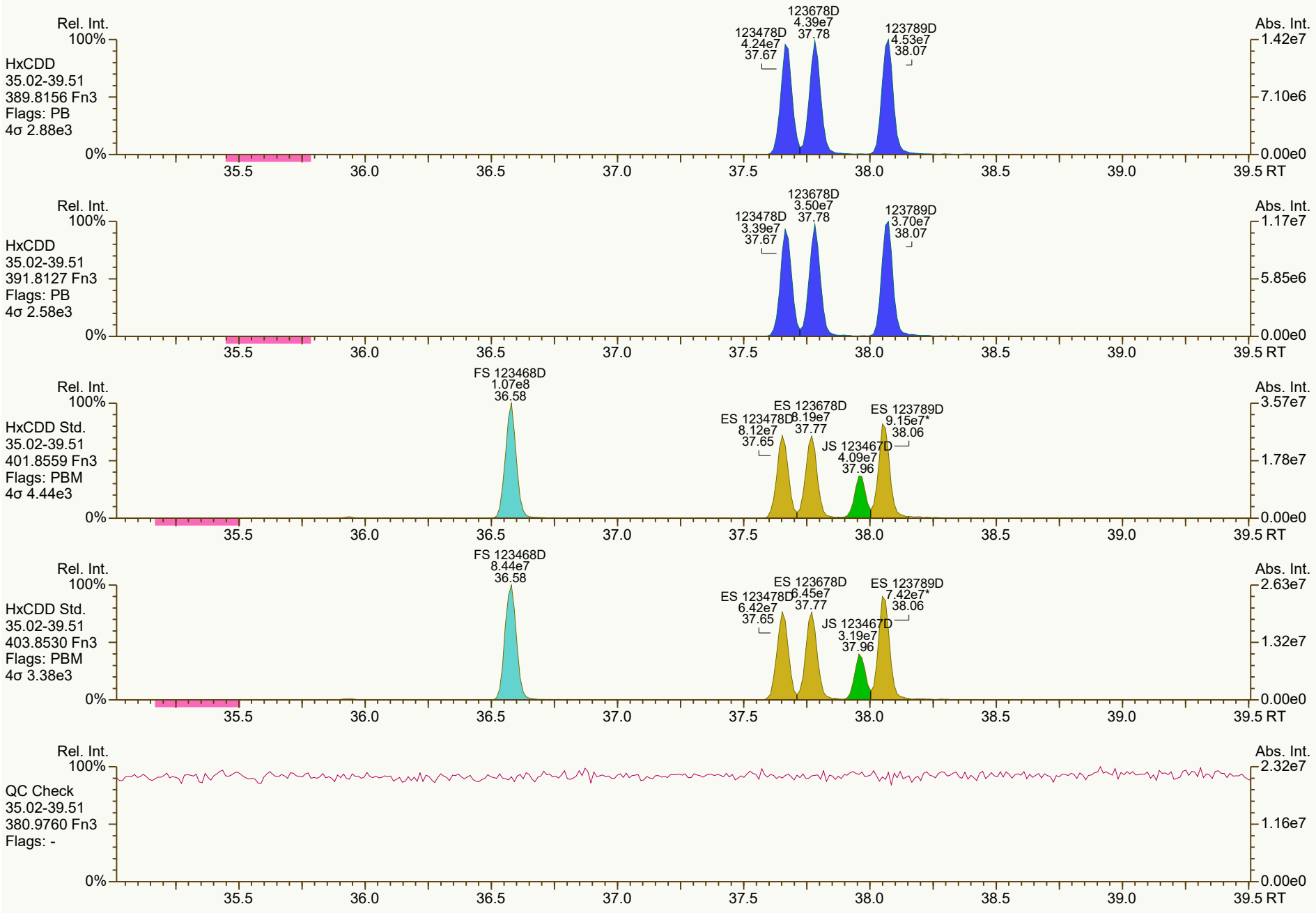
Not reported from this ICAL - CL 28Jul21

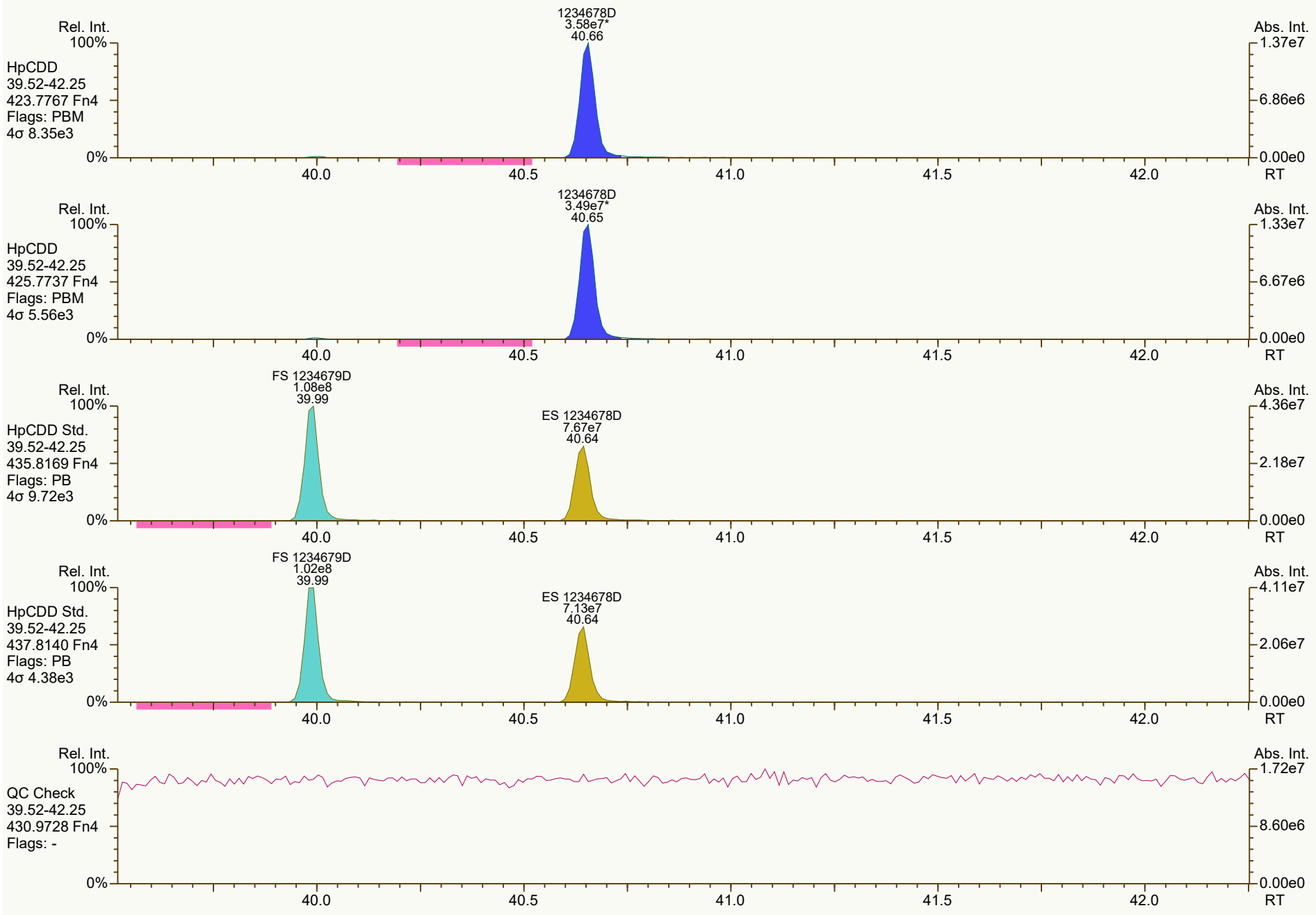


Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RA.utp_res, saved 27-Jul-2021 15:22 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q scc: 230-891
PKD: n/a Printed: 27-Jul-2021 15:30 Page 1 of 12

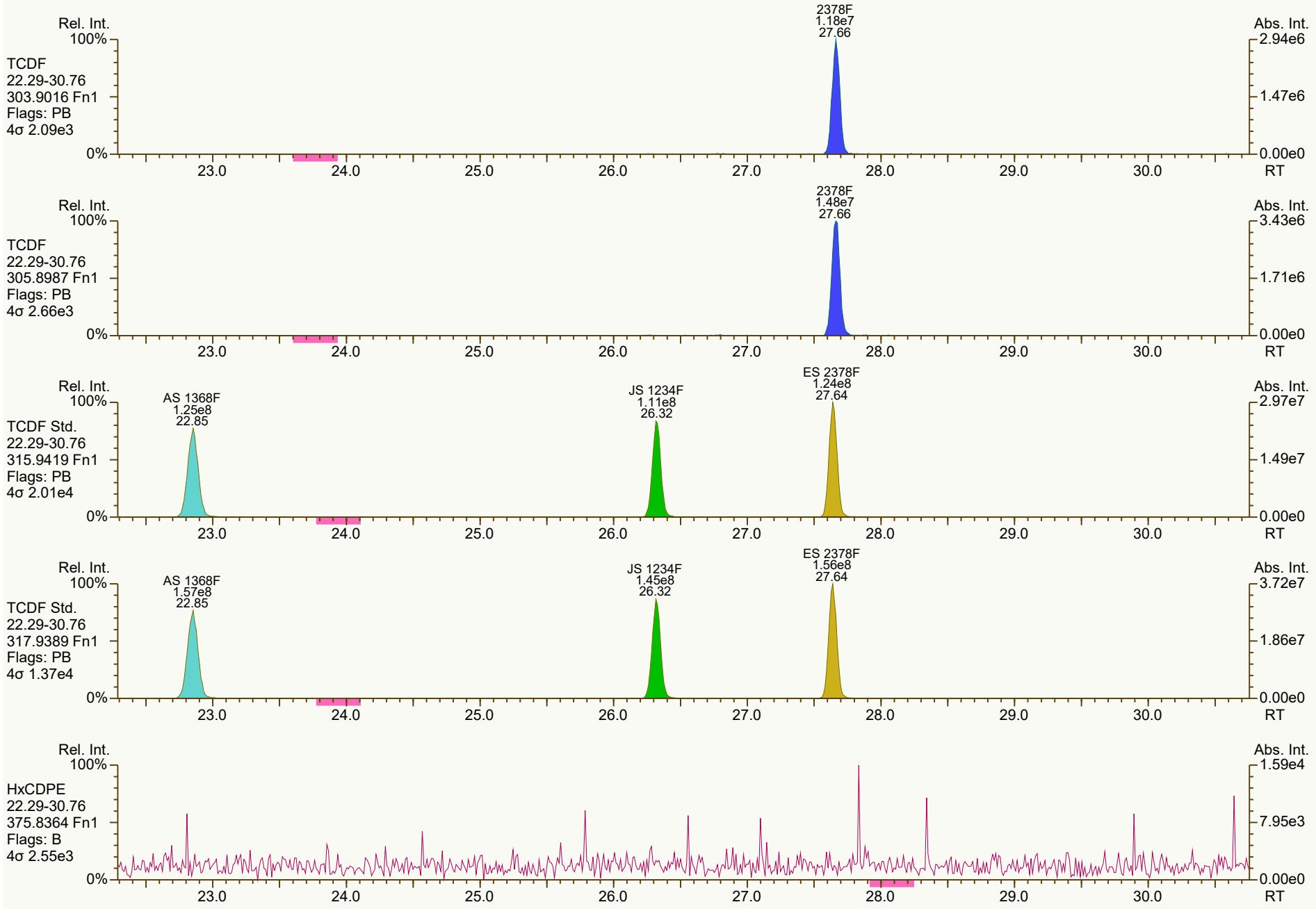

Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 3.30e3
0%
2378D
9.91e6
28.52
Abs. Int.
2.34e6
1.17e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.39e3
0%
2378D
1.24e7
28.52
Abs. Int.
3.06e6
1.53e6
0.00e0
23.0
24.0
25.0
26.0
27.0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


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 2.29e3
0%
12378D
5.24e7
33.80
Abs. Int.
1.54e7
7.71e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.72e3
0%
12378D
3.33e7
33.80
Abs. Int.
9.85e6
4.92e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PBM
4σ 3.92e3
0%
FS 12478D
1.14e8
32.57
CS 12347D
8.77e7*
33.29
ES 12378D
1.01e8
33.78
Abs. Int.
3.30e7
1.65e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PBM
4σ 4.59e3
0%
FS 12478D
6.93e7
32.57
CS 12347D
5.24e7*
33.29
ES 12378D
6.14e7
33.78
Abs. Int.
2.04e7
1.02e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.92e6
1.46e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

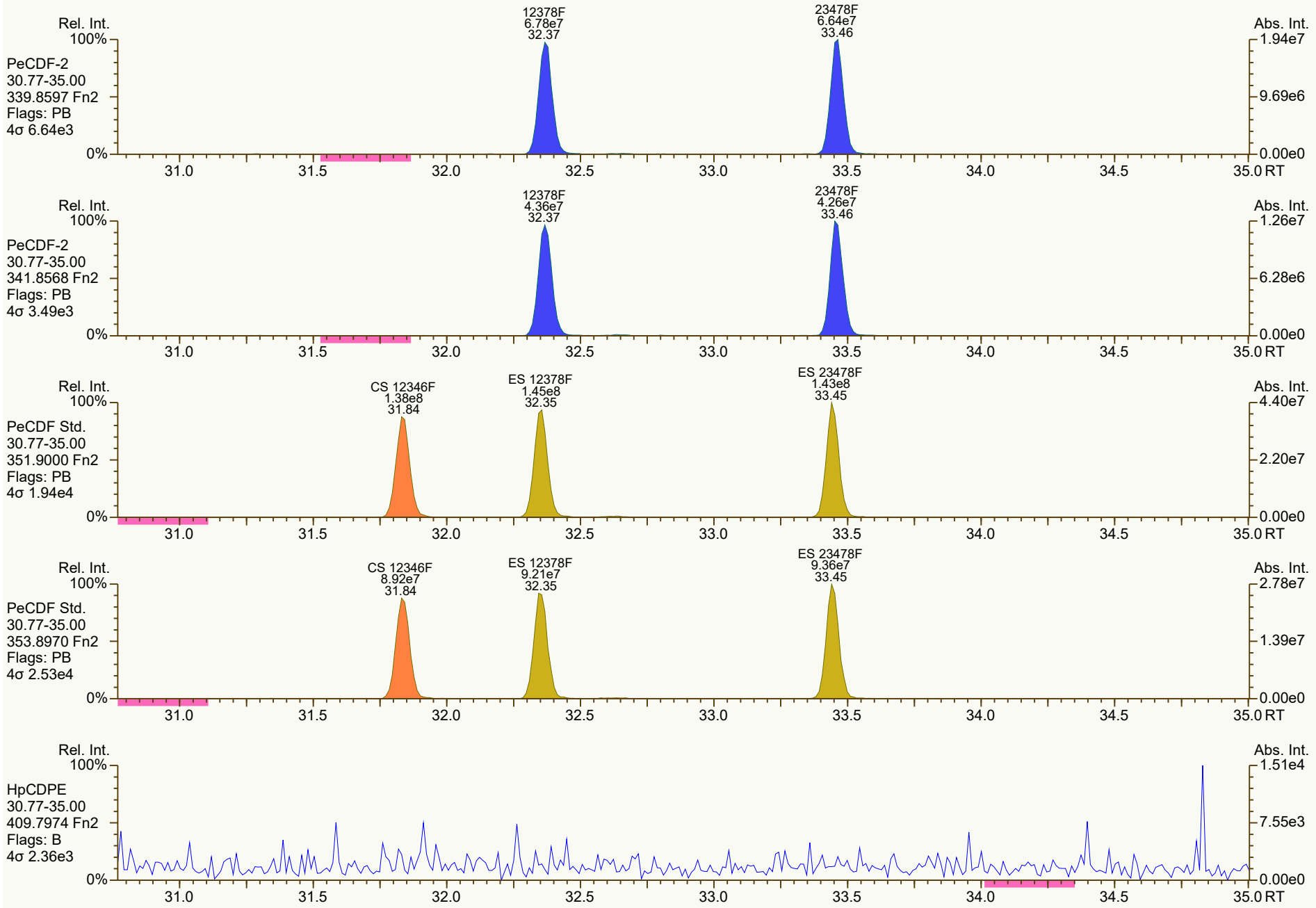

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.88e3
123678D
4.39e7
37.78
123478D
4.24e7
37.67
123789D
4.53e7
38.07
Abs. Int.
1.42e7
7.10e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.58e3
123678D
3.50e7
37.78
123478D
3.39e7
37.67
123789D
3.70e7
38.07
Abs. Int.
1.17e7
5.85e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 4.44e3
FS 123468D
1.07e8
36.58
ES 123678D
8.19e7
37.77
ES 123478D
8.12e7
37.65
ES 123789D
9.15e7*
38.06
JS 123467D
4.09e7
37.96
Abs. Int.
3.57e7
1.78e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 3.38e3
FS 123468D
8.44e7
36.58
ES 123678D
6.45e7
37.77
ES 123478D
6.42e7
37.65
ES 123789D
7.42e7*
38.06
JS 123467D
3.19e7
37.96
Abs. Int.
2.63e7
1.32e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
Abs. Int.
2.32e7
1.16e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT

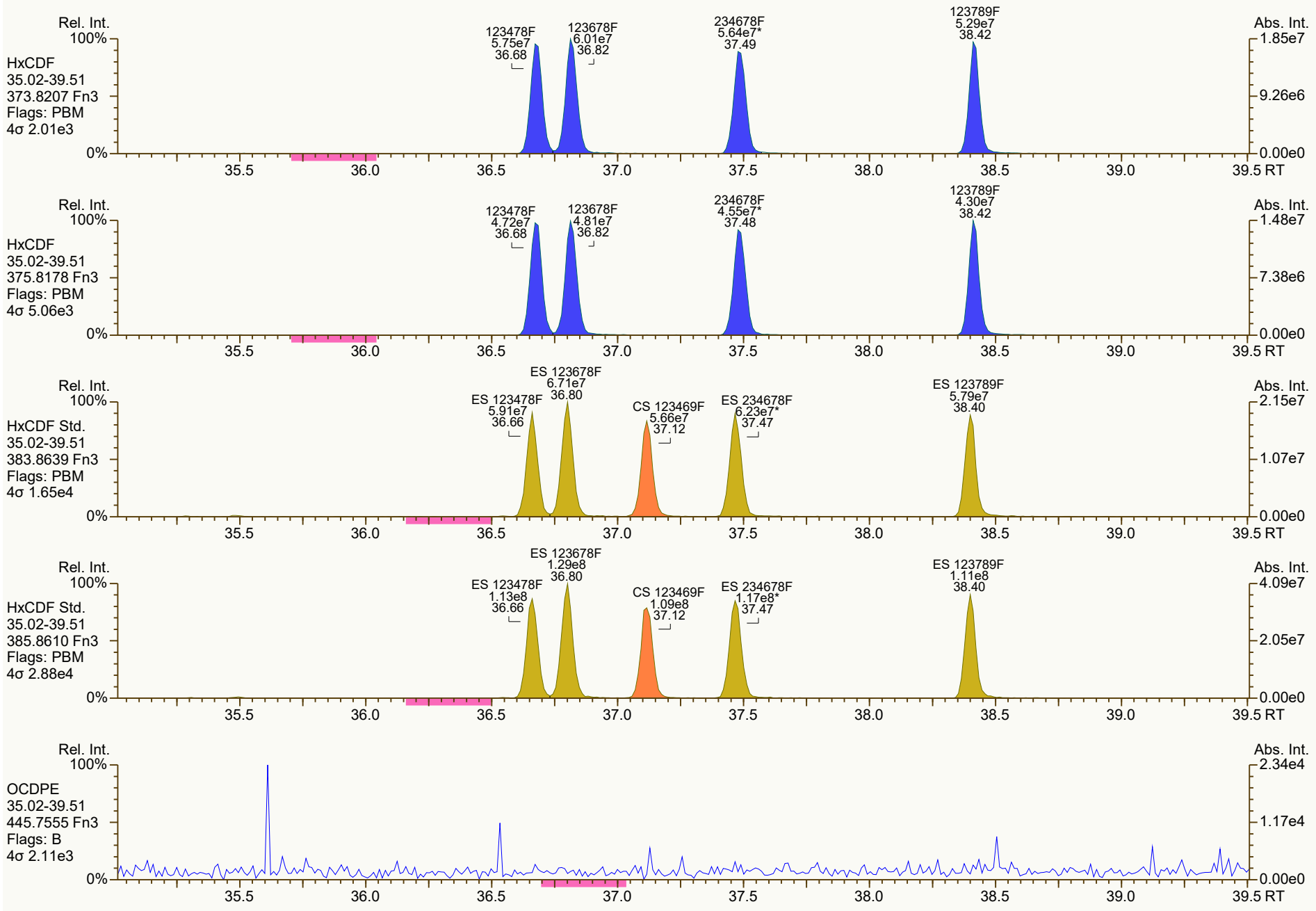

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PBM
4σ 8.35e3
0%
1234678D
3.58e7*
40.66
Abs. Int.
1.37e7
6.86e6
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PBM
4σ 5.56e3
1234678D
3.49e7*
40.65
1.33e7
6.67e6
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 9.72e3
FS 1234679D
1.08e8
39.99
ES 1234678D
7.67e7
40.64
4.36e7
2.18e7
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 4.38e3
FS 1234679D
1.02e8
39.99
ES 1234678D
7.13e7
40.64
4.11e7
2.06e7
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
1.72e7
8.60e6

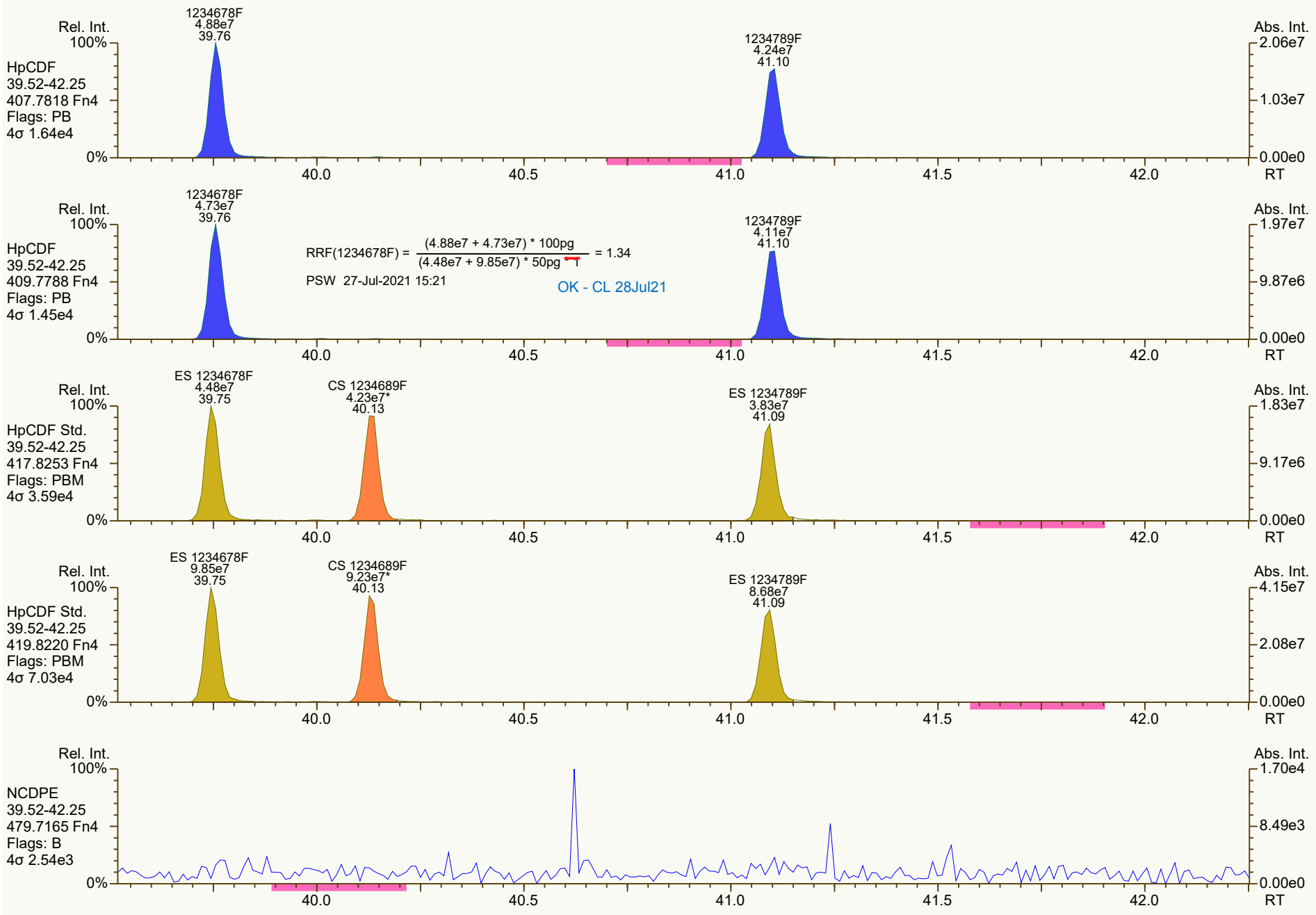

OCDD
5.68e7*
43.22
Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: PBM
4σ 3.46e3
0%
Abs. Int.
2.00e7
1.00e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
6.38e7*
43.22
OCDD
42.26-45.01
459.7348 Fn5
Flags: PBM
4σ 3.66e3
2.18e7
1.09e7
ES OCDD
1.05e8*
43.21
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PBM
4σ 6.38e3
3.38e7
1.69e7
ES OCDD
1.20e8*
43.21
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PBM
4σ 5.59e3
3.96e7
1.98e7
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
6.64e6
3.32e6

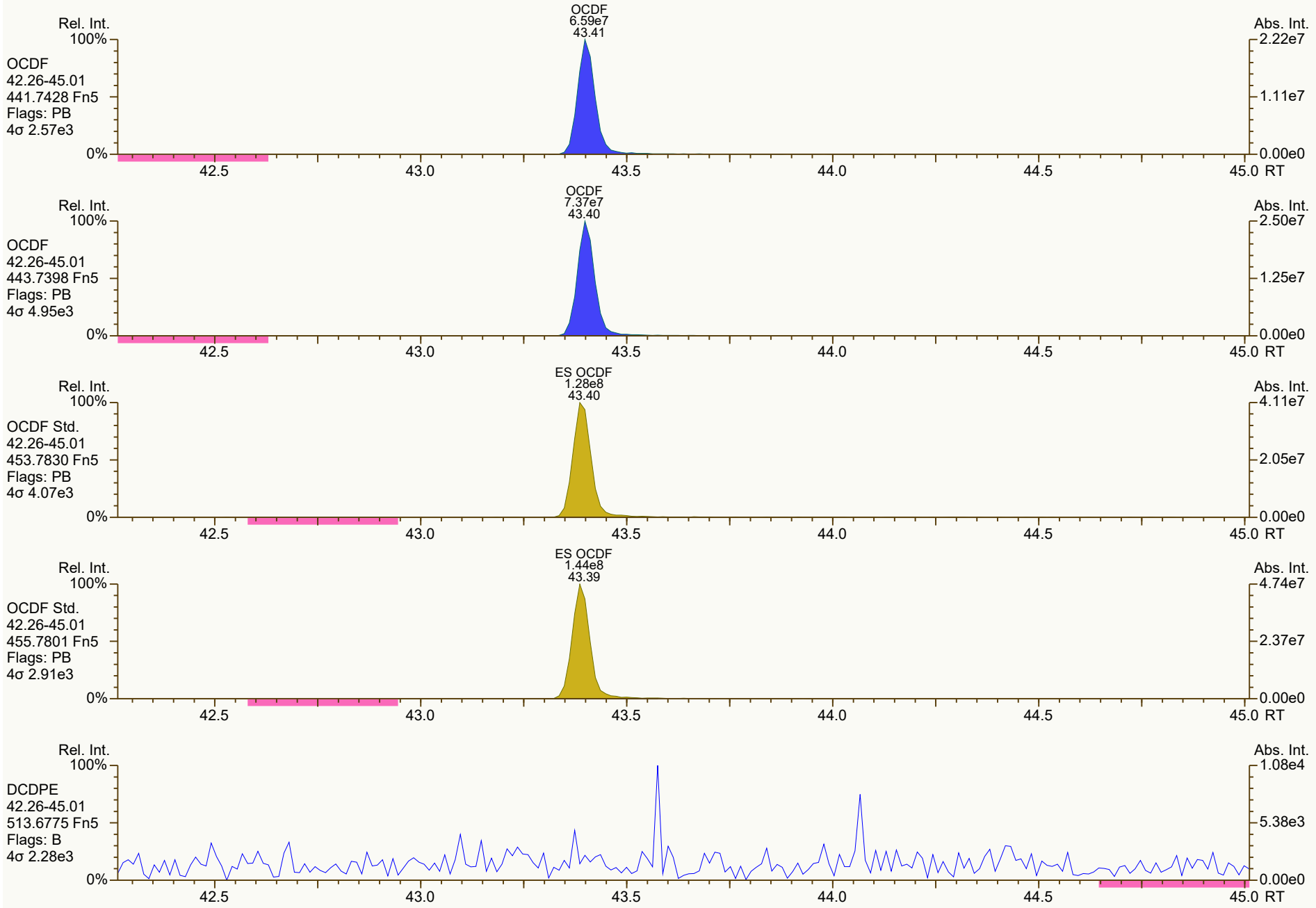

Rel. Int.
100%
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.09e3
0%
2378F
1.18e7
27.66
Abs. Int.
2.94e6
1.47e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.66e3
0%
2378F
1.48e7
27.66
Abs. Int.
3.43e6
1.71e6
0.00e0
23.0
24.0
25.0
26.0
27.0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


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


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


Rel. Int.
100%
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 2.01e3
0%
123478F
5.75e7
36.68
123678F
6.01e7
36.82
234678F
5.64e7*
37.49
123789F
5.29e7
38.42
Abs. Int.
1.85e7
9.26e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 5.06e3
0%
123478F
4.72e7
36.68
123678F
4.81e7
36.82
234678F
4.55e7*
37.48
123789F
4.30e7
38.42
Abs. Int.
1.48e7
7.38e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PBM
4σ 1.65e4
0%
ES 123678F
6.71e7
36.80
ES 123478F
5.91e7
36.66
CS 123469F
5.66e7
37.12
ES 234678F
6.23e7*
37.47
ES 123789F
5.79e7
38.40
Abs. Int.
2.15e7
1.07e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PBM
4σ 2.88e4
0%
ES 123678F
1.29e8
36.80
ES 123478F
1.13e8
36.66
CS 123469F
1.09e8
37.12
ES 234678F
1.17e8*
37.47
ES 123789F
1.11e8
38.40
Abs. Int.
4.09e7
2.05e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.11e3
0%
Abs. Int.
2.34e4
1.17e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


Rel. Int.
100%
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 1.64e4
1234678F
4.88e7
39.76
1234789F
4.24e7
41.10
Abs. Int.
2.06e7
1.03e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 1.45e4
1234678F
4.73e7
39.76
RRF(1234678F) = (4.88e7 + 4.73e7) * 100pg / (4.48e7 + 9.85e7) * 50pg = 1.34
PSW 27-Jul-2021 15:21
OK - CL 28Jul21
1234789F
4.11e7
41.10
1.97e7
9.87e6
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PBM
4σ 3.59e4
ES 1234678F
4.48e7
39.75
CS 1234689F
4.23e7*
40.13
ES 1234789F
3.83e7
41.09
1.83e7
9.17e6
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PBM
4σ 7.03e4
ES 1234678F
9.85e7
39.75
CS 1234689F
9.23e7*
40.13
ES 1234789F
8.68e7
41.09
4.15e7
2.08e7
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.54e3
1.70e4
8.49e3


OCDF
6.59e7
43.41
Rel. Int.
100%
OCDF
42.26-45.01
441.7428 Fn5
Flags: PB
4σ 2.57e3
0%
Abs. Int.
2.22e7
1.11e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
7.37e7
43.40
Rel. Int.
100%
OCDF
42.26-45.01
443.7398 Fn5
Flags: PB
4σ 4.95e3
0%
Abs. Int.
2.50e7
1.25e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.28e8
43.40
Rel. Int.
100%
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PB
4σ 4.07e3
0%
Abs. Int.
4.11e7
2.05e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.44e8
43.39
Rel. Int.
100%
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PB
4σ 2.91e3
0%
Abs. Int.
4.74e7
2.37e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.26-45.01
513.6775 Fn5
Flags: B
4σ 2.28e3
0%
Abs. Int.
1.08e4
5.38e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

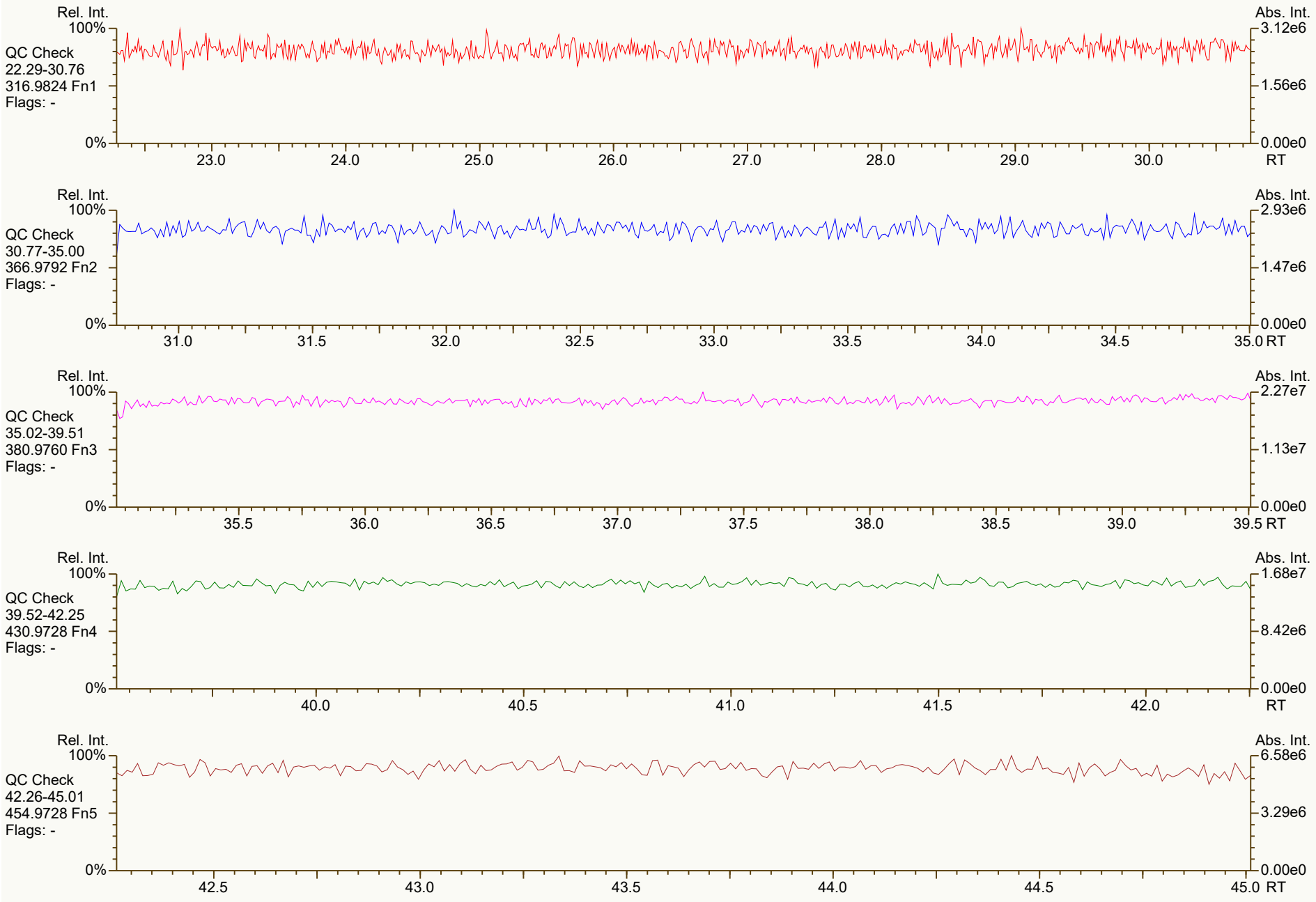
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 12:19 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS4_210727_DF_RA	UTP: 27-Jul-2021 15:00:21 PSW	Checkcode: 602-590-JSF
Sample ID: SIL 25-5-4	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R06

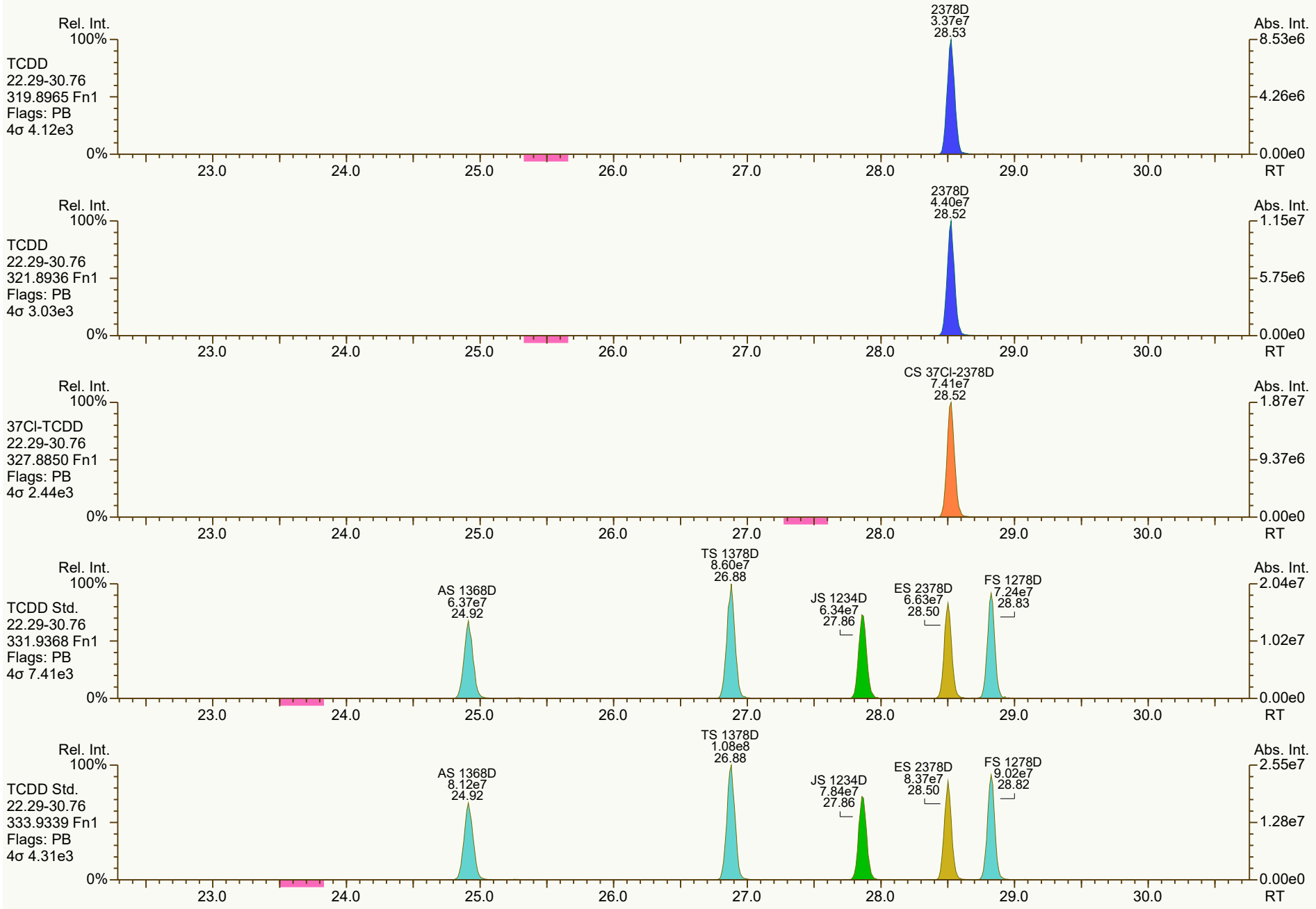
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	7.77E+07	0.76	Y	1.34	1.30	-4%
12378-PeCDD	33.81	3.10E+08	1.55	Y	1.06	1.06	0%
123478-HxCDD	37.68	2.82E+08	1.23	Y	1.06	1.05	-1%
123678-HxCDD	37.79	2.84E+08	1.24	Y	1.08	1.10	2%
123789-HxCDD	38.08	2.99E+08	1.23	Y	1.02	0.99	-2%
1234678-HpCDD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

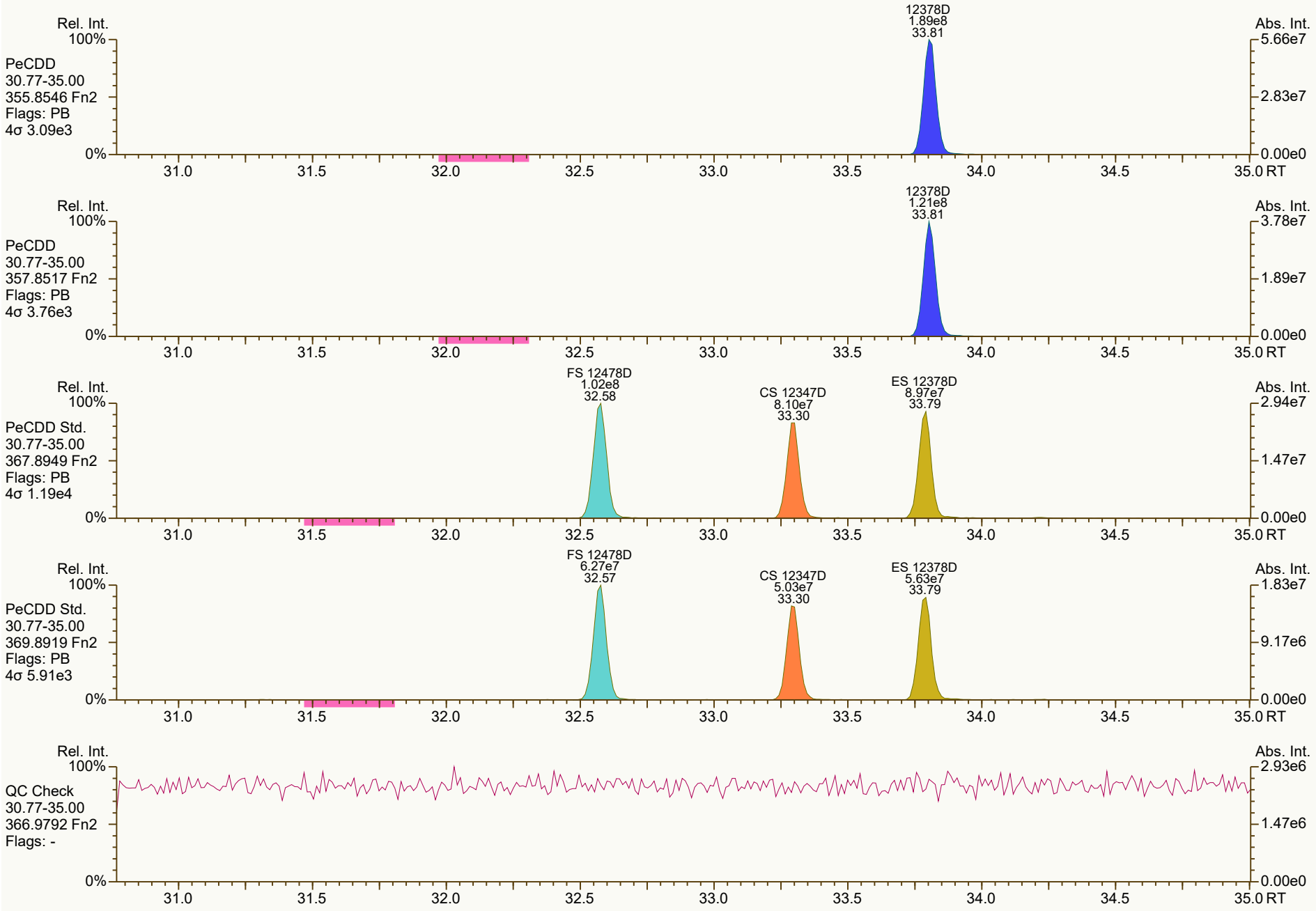
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 12:19 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS4_210727_DF_RA	UTP: 27-Jul-2021 15:00:21 PSW	Checkcode: 602-590-JSF
Sample ID: SIL 25-5-4	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R06

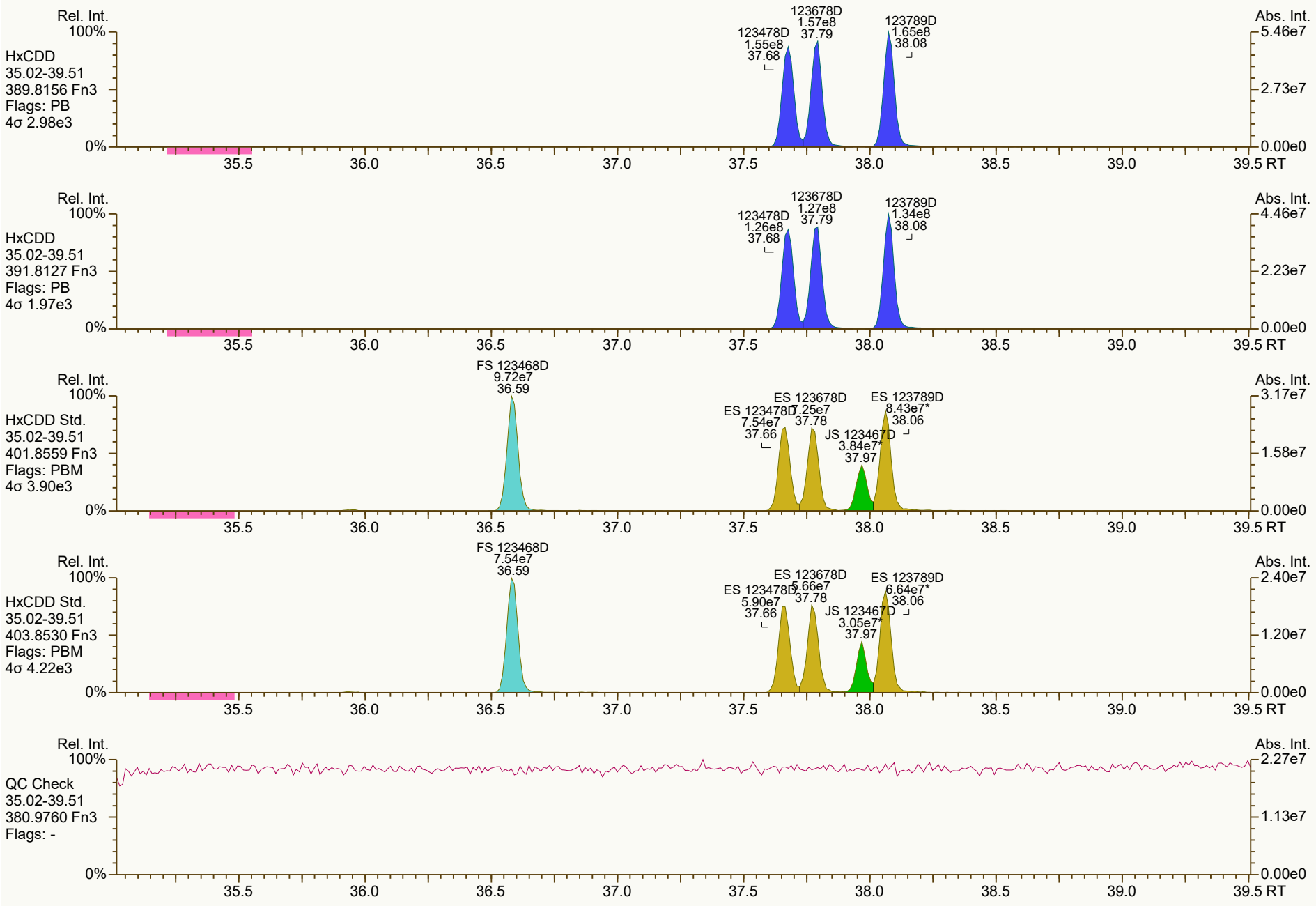
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.86	1.42E+08	0.81	Y	-	-	-
JS 1234-TCDF	26.33	2.27E+08	0.77	Y	-	-	-
JS 123467-HxCDD	37.97	6.89E+07	1.26	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	7.41E+07	n/a	-	1.31	1.31	0%
CS 12347-PeCDD	33.30	1.31E+08	1.61	Y	0.89	0.93	4%
CS 12346-PeCDF	31.84	2.01E+08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

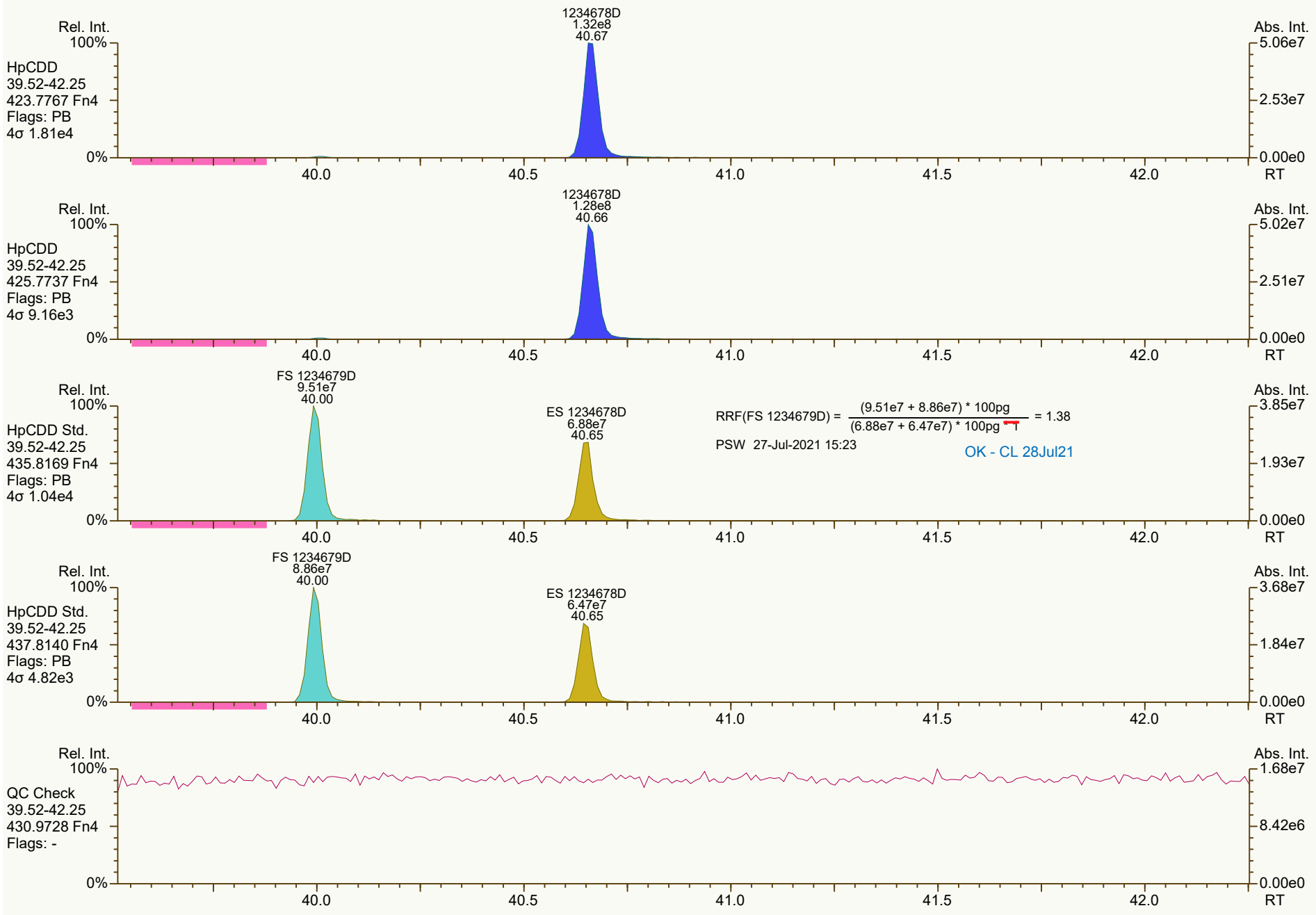
Not reported from this ICAL - CL 28Jul21

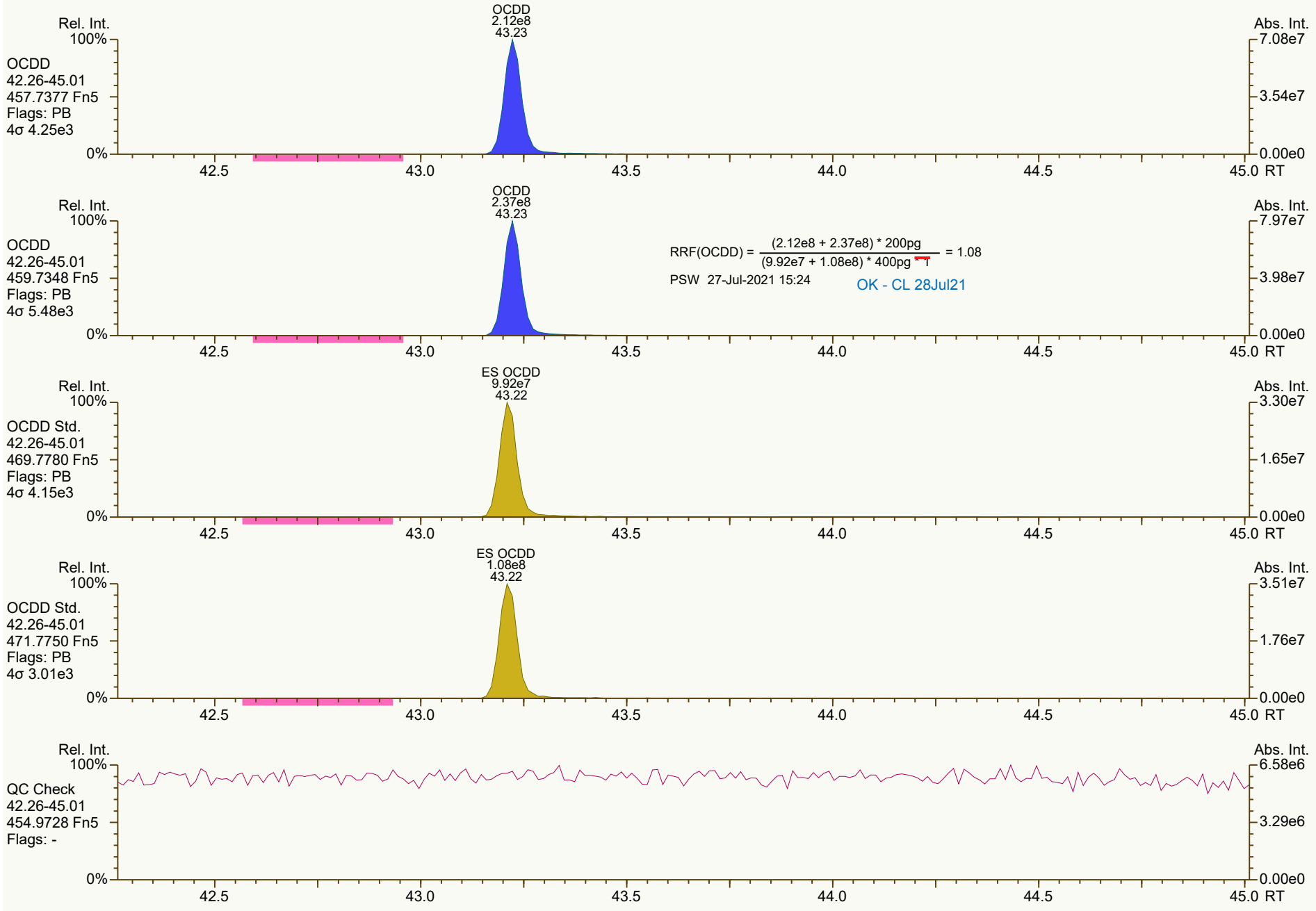

Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.12e6
1.56e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.93e6
1.47e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.27e7
1.13e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.68e7
8.42e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.58e6
3.29e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


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


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 3.09e3
12378D
1.89e8
33.81
Abs. Int.
5.66e7
2.83e7
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 3.76e3
12378D
1.21e8
33.81
Abs. Int.
3.78e7
1.89e7
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PB
4σ 1.19e4
FS 12478D
1.02e8
32.58
CS 12347D
8.10e7
33.30
ES 12378D
8.97e7
33.79
Abs. Int.
2.94e7
1.47e7
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PB
4σ 5.91e3
FS 12478D
6.27e7
32.57
CS 12347D
5.03e7
33.30
ES 12378D
5.63e7
33.79
Abs. Int.
1.83e7
9.17e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
Abs. Int.
2.93e6
1.47e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

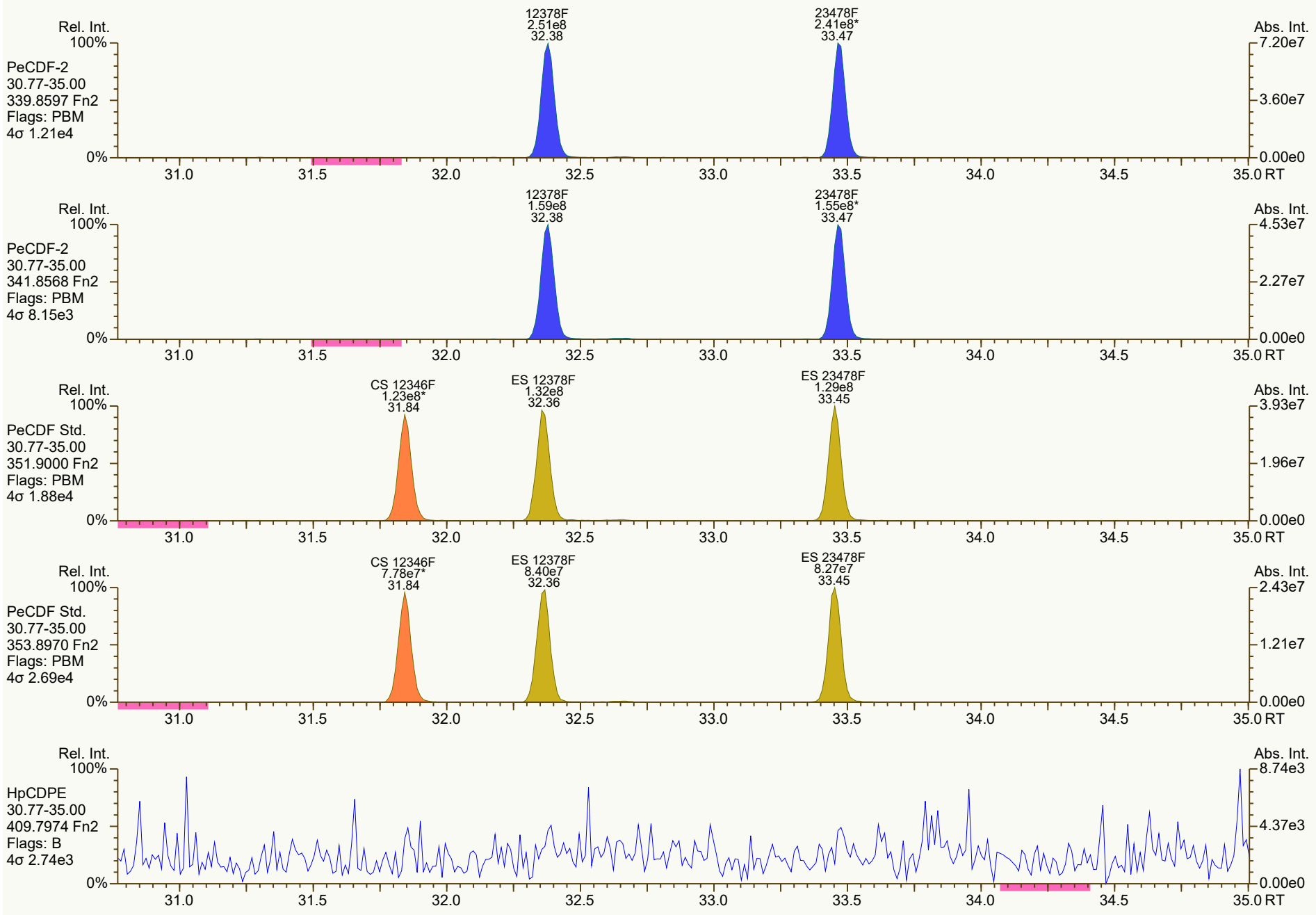

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.98e3
123678D
1.57e8
37.79
123478D
1.55e8
37.68
123789D
1.65e8
38.08
Abs. Int.
5.46e7
2.73e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 1.97e3
123678D
1.27e8
37.79
123478D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

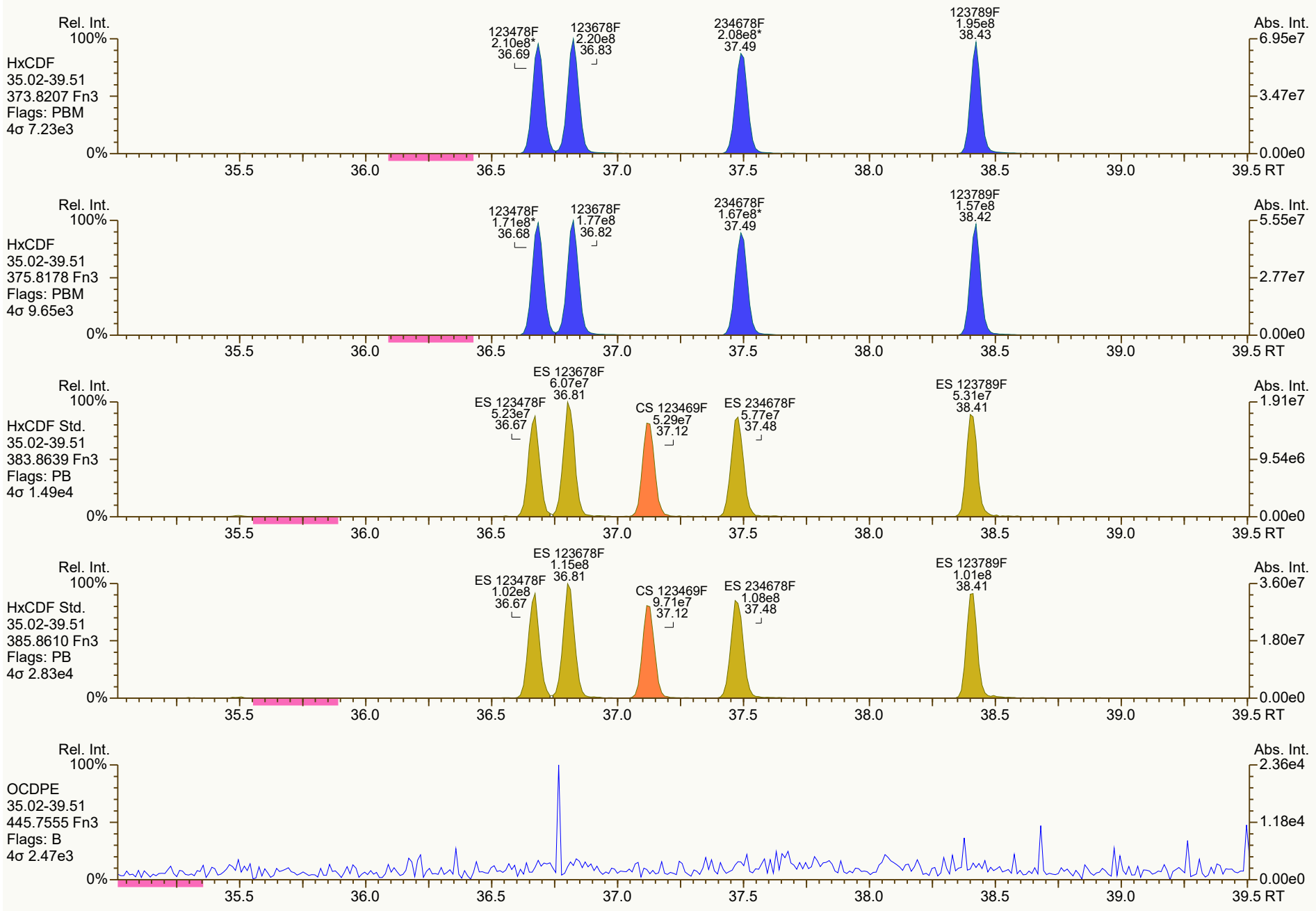

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 1.81e4
1234678D
1.32e8
40.67
Abs. Int.
5.06e7
2.53e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 9.16e3
1234678D
1.28e8
40.66
Abs. Int.
5.02e7
2.51e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel.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

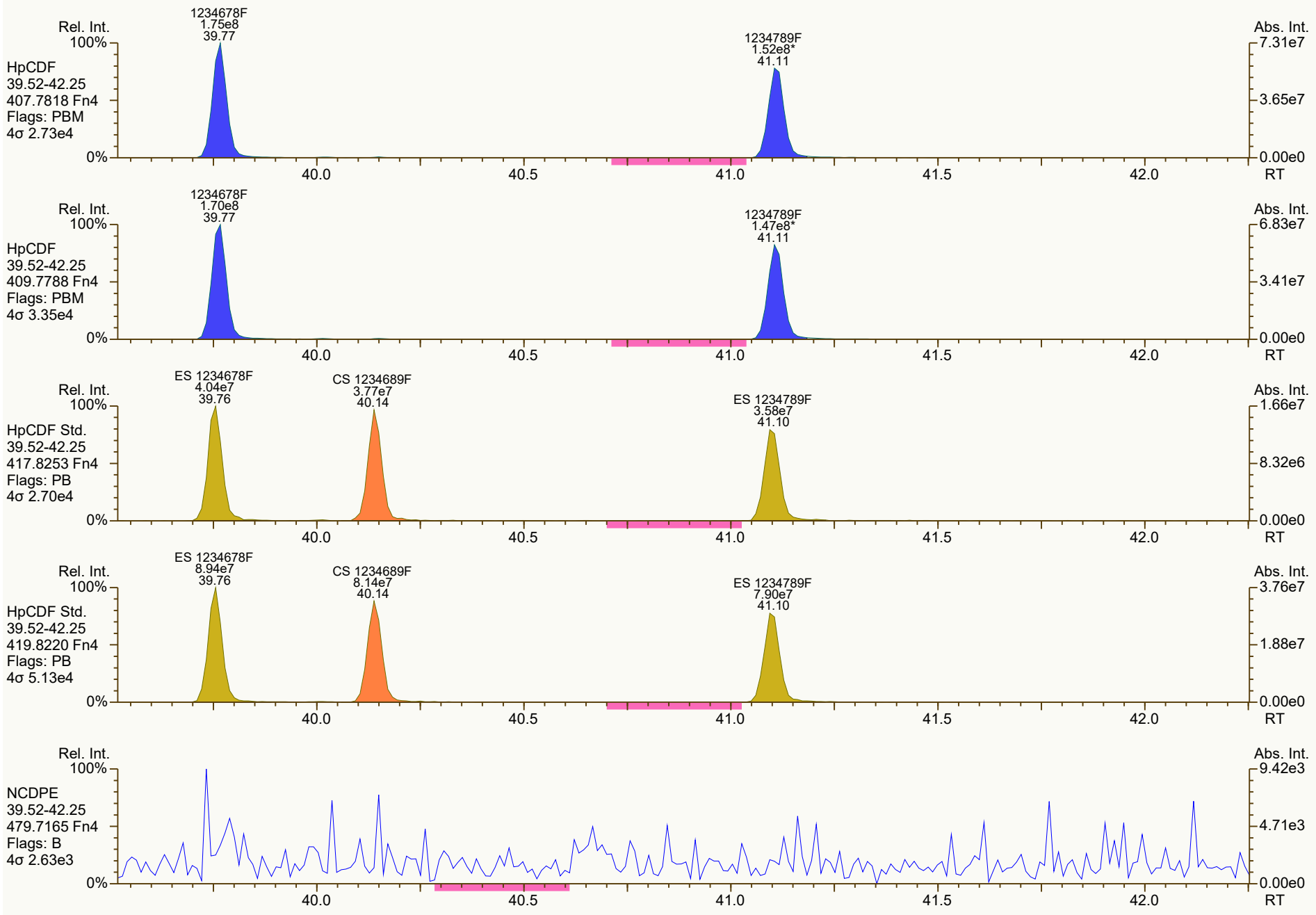

OCDD
2.12e8
43.23
Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: PB
4σ 4.25e3
0%
Abs. Int.
7.08e7
3.54e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.37e8
43.23
OCDD
42.26-45.01
459.7348 Fn5
Flags: PB
4σ 5.48e3
7.97e7
3.98e7
RRF(OCDD) = (2.12e8 + 2.37e8) * 200pg / (9.92e7 + 1.08e8) * 400pg = 1.08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


Rel. Int.
100%
0%
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.95e3
2378F
4.17e7
27.67
9.81e6
4.91e6
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.51e3
2378F
5.43e7
27.67
1.28e7
6.42e6
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 2.36e4
AS 1368F
1.10e8
22.86
JS 1234F
9.87e7
26.33
ES 2378F
1.10e8
27.65
2.69e7
1.34e7
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.34e4
AS 1368F
1.39e8
22.85
JS 1234F
1.29e8
26.33
ES 2378F
1.38e8
27.65
3.21e7
1.60e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.81e3
9.37e3
4.68e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


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


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


Rel. Int.
100%
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 7.23e3
0%
123478F
2.10e8*
36.69
123678F
2.20e8
36.83
234678F
2.08e8*
37.49
123789F
1.95e8
38.43
Abs. Int.
6.95e7
3.47e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 9.65e3
0%
123478F
1.71e8*
36.68
123678F
1.77e8
36.82
234678F
1.67e8*
37.49
123789F
1.57e8
38.42
Abs. Int.
5.55e7
2.77e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 1.49e4
0%
ES 123478F
5.23e7
36.67
ES 123678F
6.07e7
36.81
CS 123469F
5.29e7
37.12
ES 234678F
5.77e7
37.48
ES 123789F
5.31e7
38.41
Abs. Int.
1.91e7
9.54e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 2.83e4
0%
ES 123478F
1.02e8
36.67
ES 123678F
1.15e8
36.81
CS 123469F
9.71e7
37.12
ES 234678F
1.08e8
37.48
ES 123789F
1.01e8
38.41
Abs. Int.
3.60e7
1.80e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.47e3
0%
Abs. Int.
2.36e4
1.18e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


Rel. Int.
100%
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PBM
4σ 2.73e4
1234678F
1.75e8
39.77
1234789F
1.52e8*
41.11
Abs. Int.
7.31e7
3.65e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PBM
4σ 3.35e4
1234678F
1.70e8
39.77
1234789F
1.47e8*
41.11
Abs. Int.
6.83e7
3.41e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PB
4σ 2.70e4
ES 1234678F
4.04e7
39.76
CS 1234689F
3.77e7
40.14
ES 1234789F
3.58e7
41.10
Abs. Int.
1.66e7
8.32e6
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PB
4σ 5.13e4
ES 1234678F
8.94e7
39.76
CS 1234689F
8.14e7
40.14
ES 1234789F
7.90e7
41.10
Abs. Int.
3.76e7
1.88e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.63e3
Abs. Int.
9.42e3
4.71e3
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.26-45.01
441.7428 Fn5
Flags: PB
4σ 2.68e3
0%
OCDF
2.49e8
43.41
Abs. Int.
8.08e7
4.04e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.26-45.01
443.7398 Fn5
Flags: PB
4σ 2.81e3
0%
OCDF
2.73e8
43.41
Abs. Int.
8.85e7
4.43e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PB
4σ 5.20e3
0%
ES OCDF
1.18e8
43.40
Abs. Int.
3.94e7
1.97e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PB
4σ 5.23e3
0%
ES OCDF
1.31e8
43.40
Abs. Int.
4.16e7
2.08e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.26-45.01
513.6775 Fn5
Flags: B
4σ 2.11e3
0%
Abs. Int.
4.05e3
2.02e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

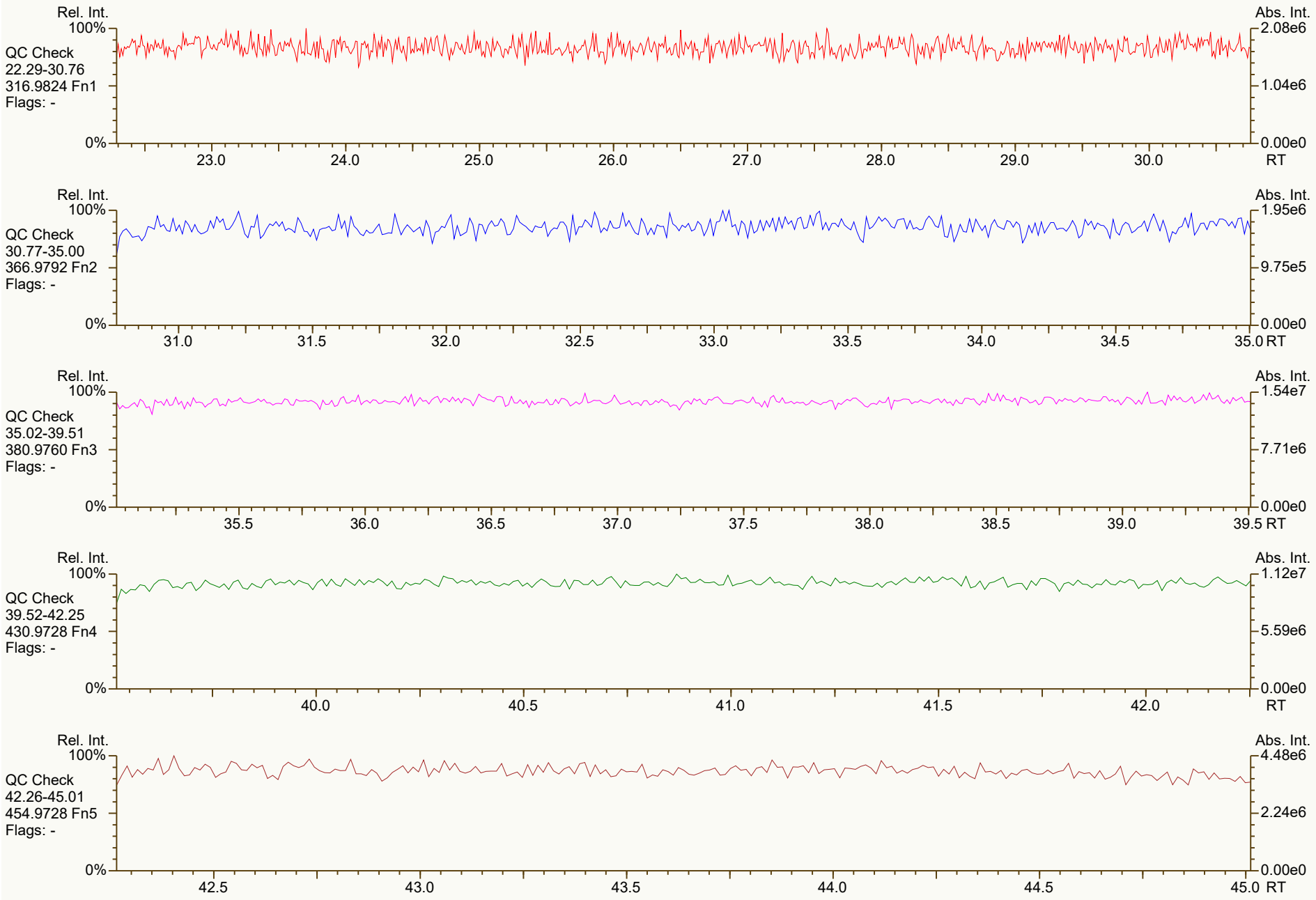
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 13:09 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS5_210727_DF_RA	UTP: 27-Jul-2021 15:00:22 PSW	Checkcode: 147-553-CLL
Sample ID: SIL 25-5-3	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R07

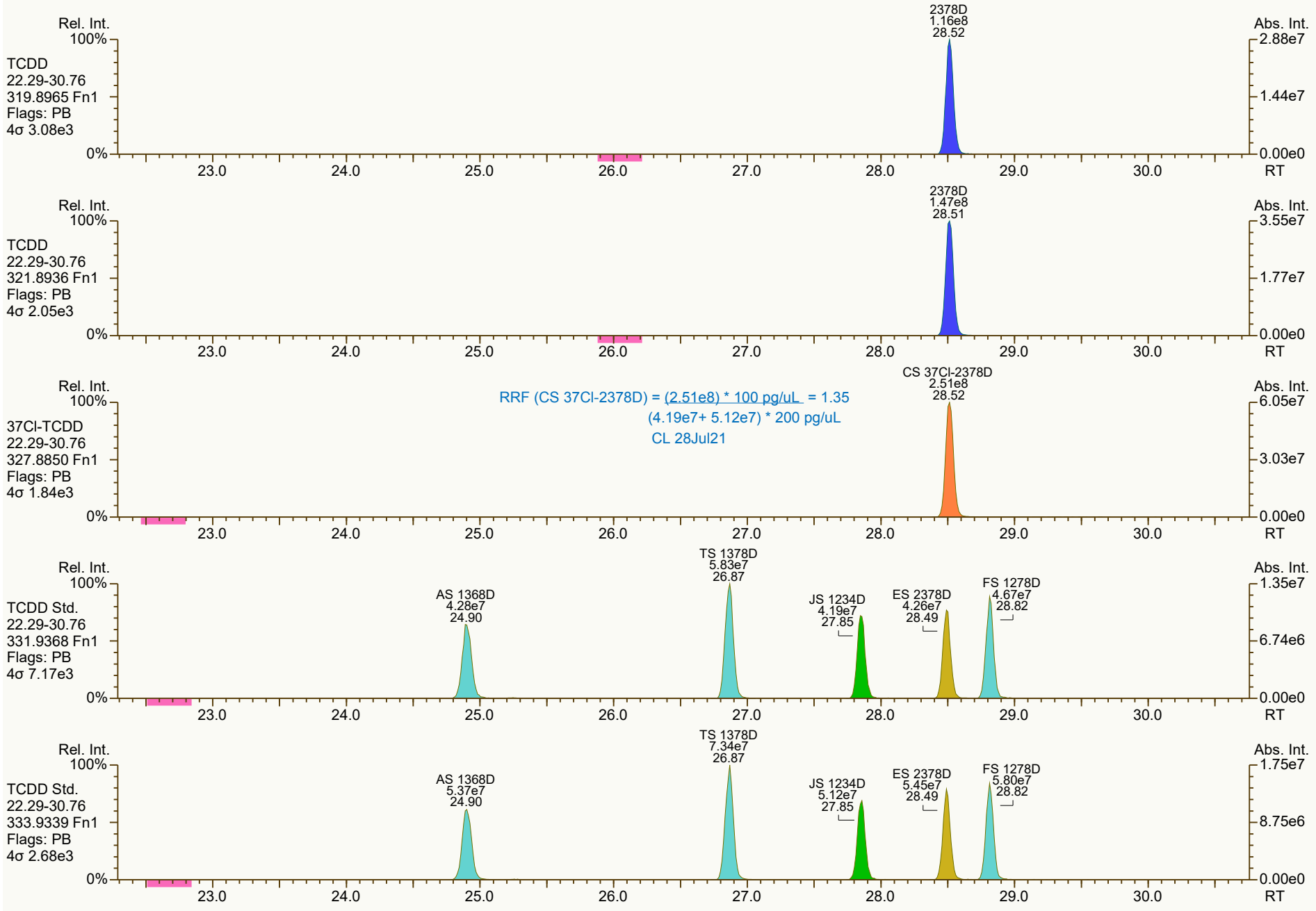
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.52	2.63E+08	0.78	Y	1.34	1.35	1%
12378-PeCDD	33.80	1.06E+09	1.56	Y	1.06	1.07	1%
123478-HxCDD	37.67	9.52E+08	1.24	Y	1.06	1.06	0%
123678-HxCDD	37.78	9.75E+08	1.25	Y	1.08	1.10	1%
123789-HxCDD	38.07	1.03E+09	1.25	Y	1.02	1.01	-1%
1234678-HpCDD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

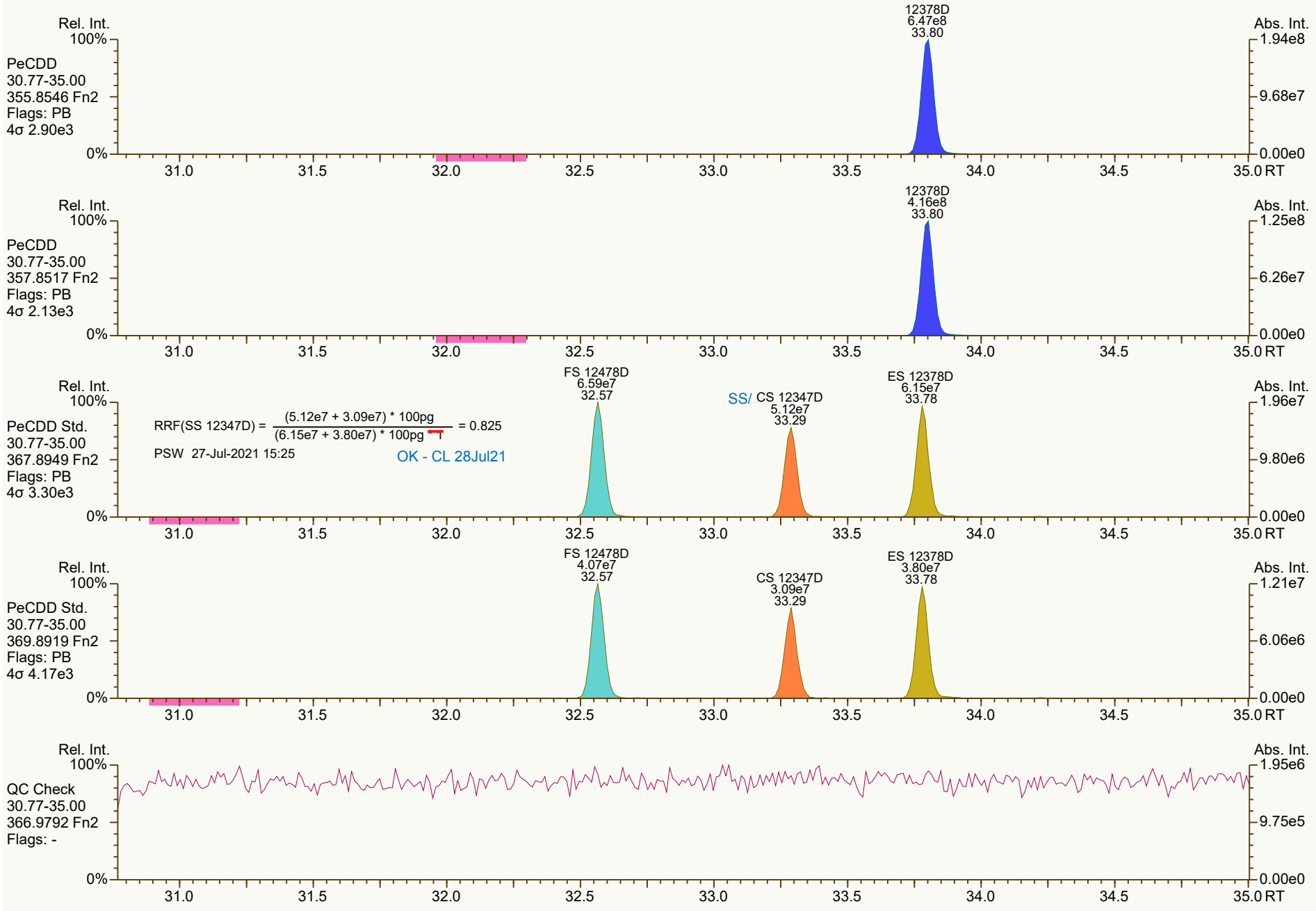
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 13:09 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS5_210727_DF_RA	UTP: 27-Jul-2021 15:00:22 PSW	Checkcode: 147-553-CLL
Sample ID: SIL 25-5-3	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R07

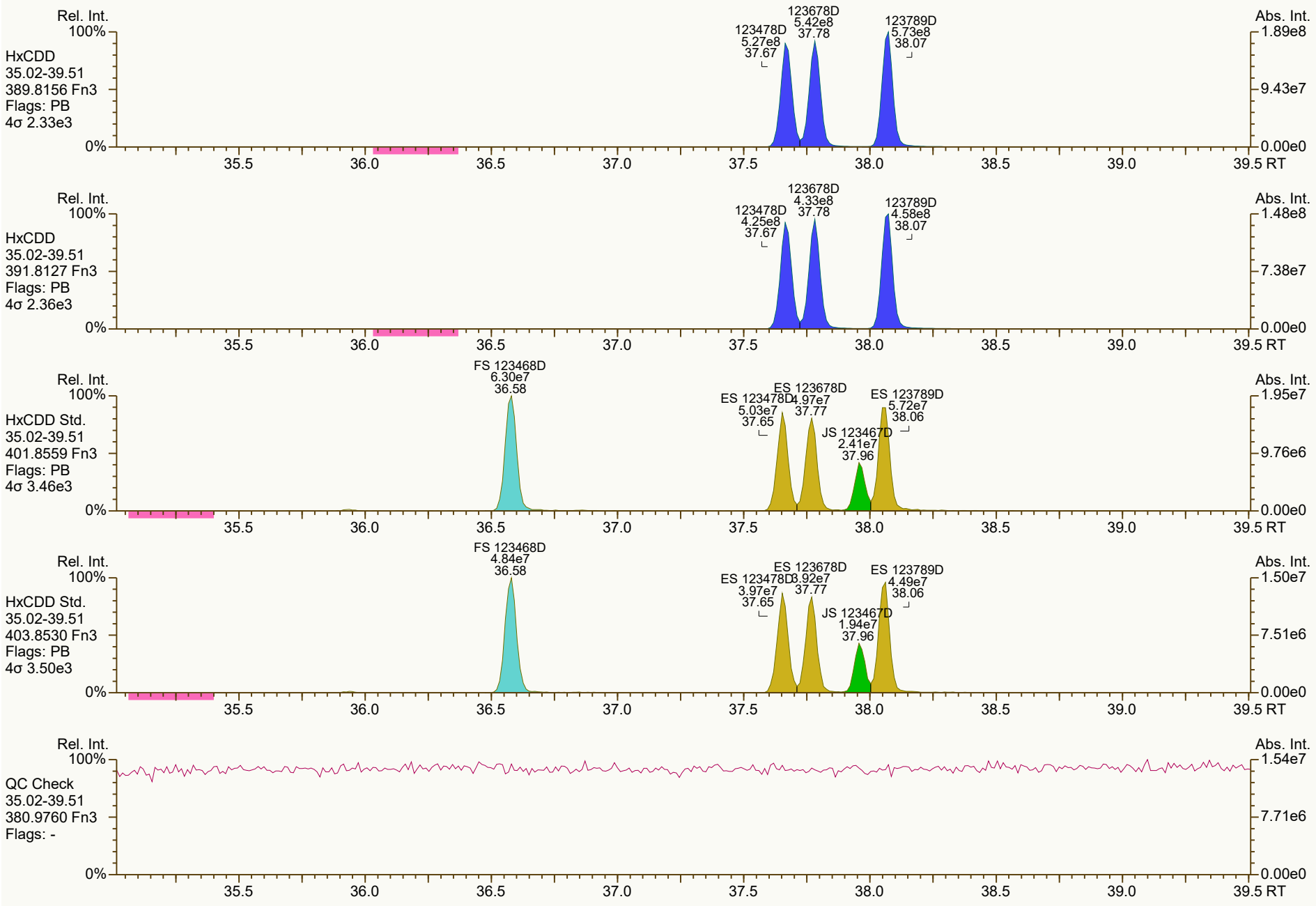
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.85	9.31E+07	0.82	Y	-	-	-
JS 1234-TCDF	26.32	1.51E+08	0.79	Y	-	-	-
JS 123467-HxCDD	37.96	4.35E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	28.52	2.51E+08	n/a	-	1.31	1.35	3%
CS 12347-PeCDD	33.29	8.21E+07	1.66	Y	0.89	0.88	-1%
CS 12346-PeCDF	31.84	1.30E+08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

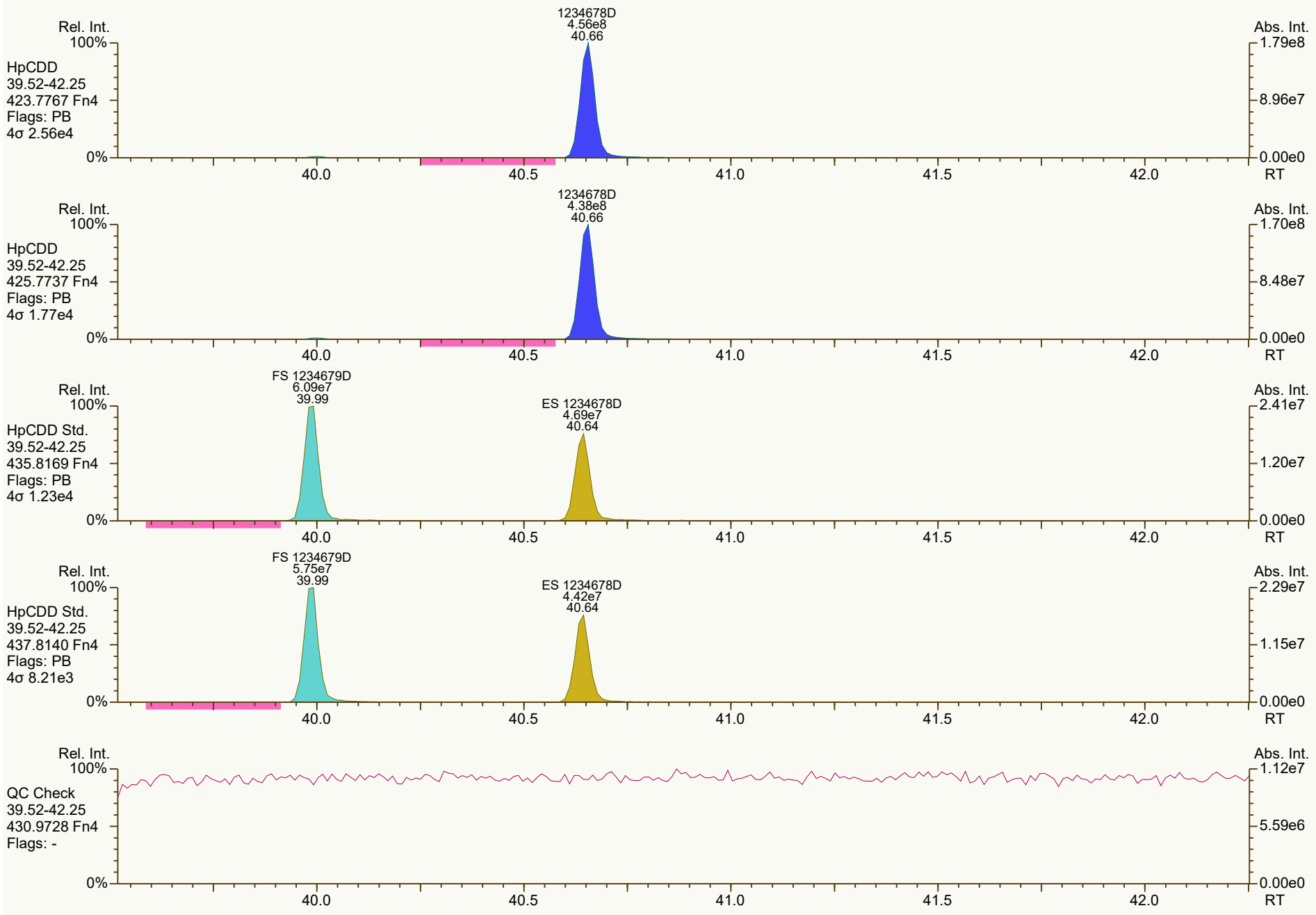
Not reported from this ICAL - CL 28Jul21


Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
2.08e6
1.04e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.95e6
9.75e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.54e7
7.71e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.12e7
5.59e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.48e6
2.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

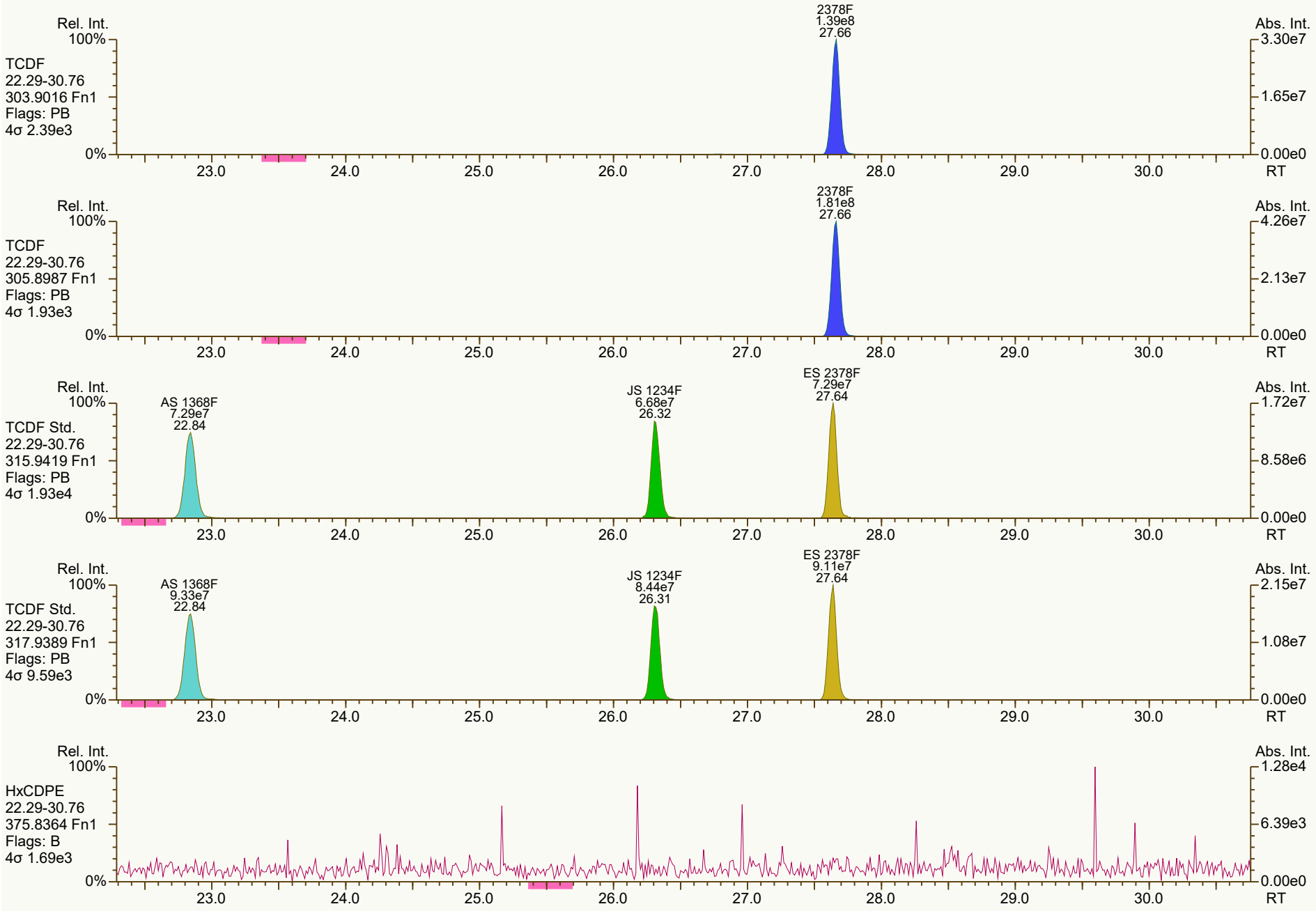

Rel. Int.
100%
0%
Abs. Int.
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 3.08e3
2378D
1.16e8
28.52
2.88e7
1.44e7
0.00e0
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.05e3
2378D
1.47e8
28.51
3.55e7
1.77e7
0.00e0
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 1.84e3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

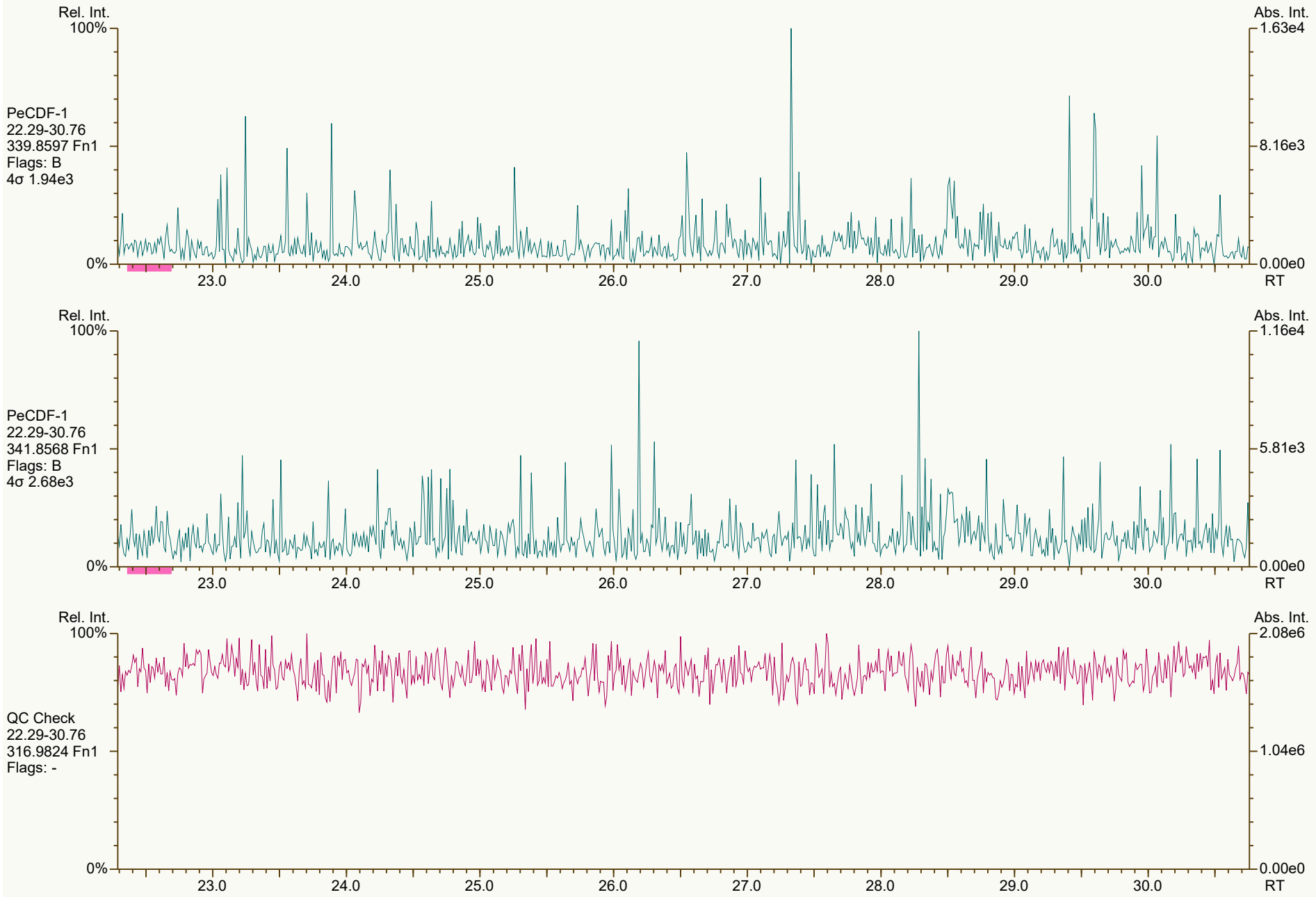

Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 2.90e3
0%
12378D
6.47e8
33.80
Abs. Int.
1.94e8
9.68e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.13e3
0%
12378D
4.16e8
33.80
Abs. Int.
1.25e8
6.26e7
0.00e0
31.0
31.5
32.0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

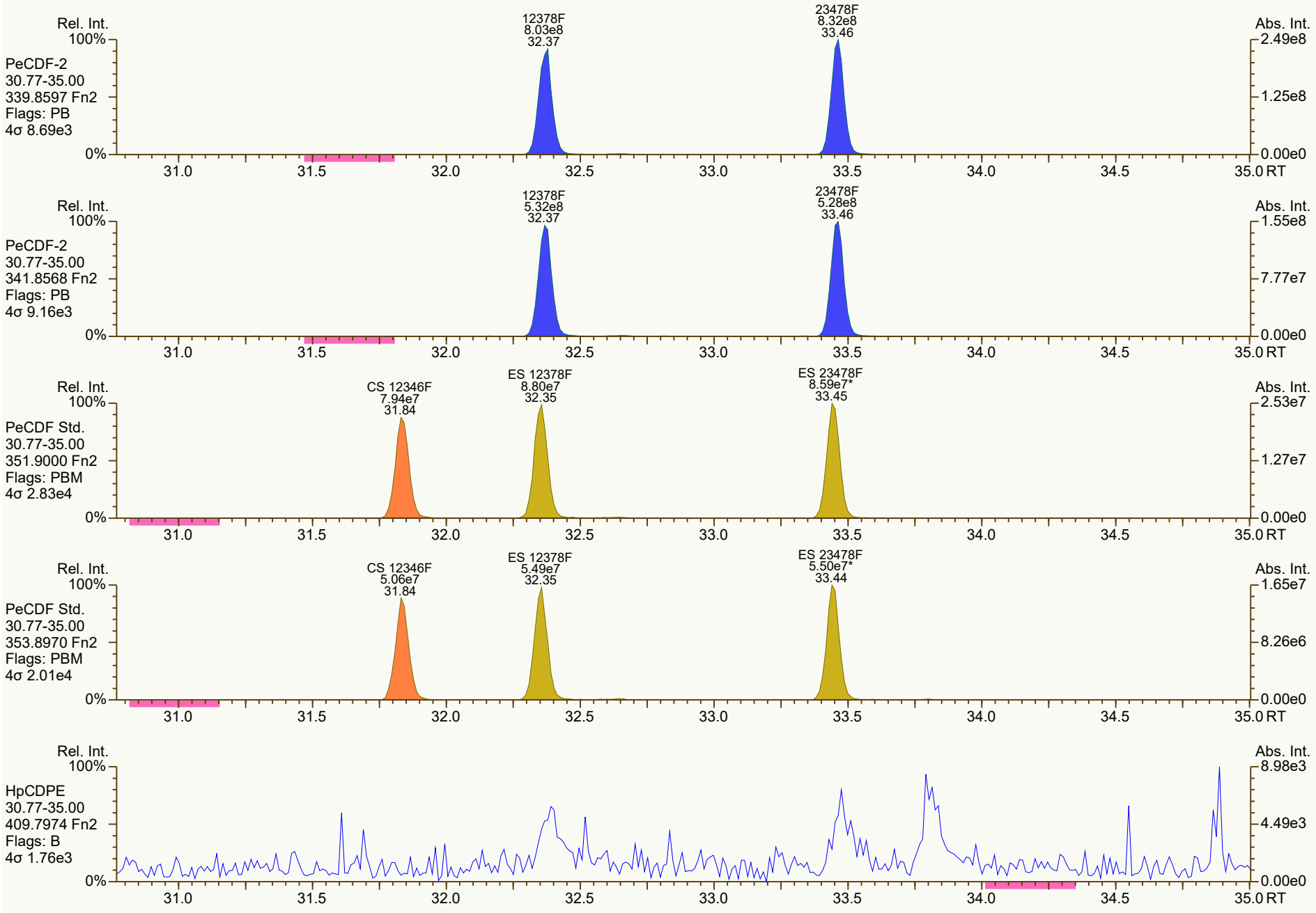

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.33e3
123478D 5.27e8 37.67
123678D 5.42e8 37.78
123789D 5.73e8 38.07
Abs. Int.
1.89e8
9.43e7
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.36e3
123478D 4.25e8 37.67
123678D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

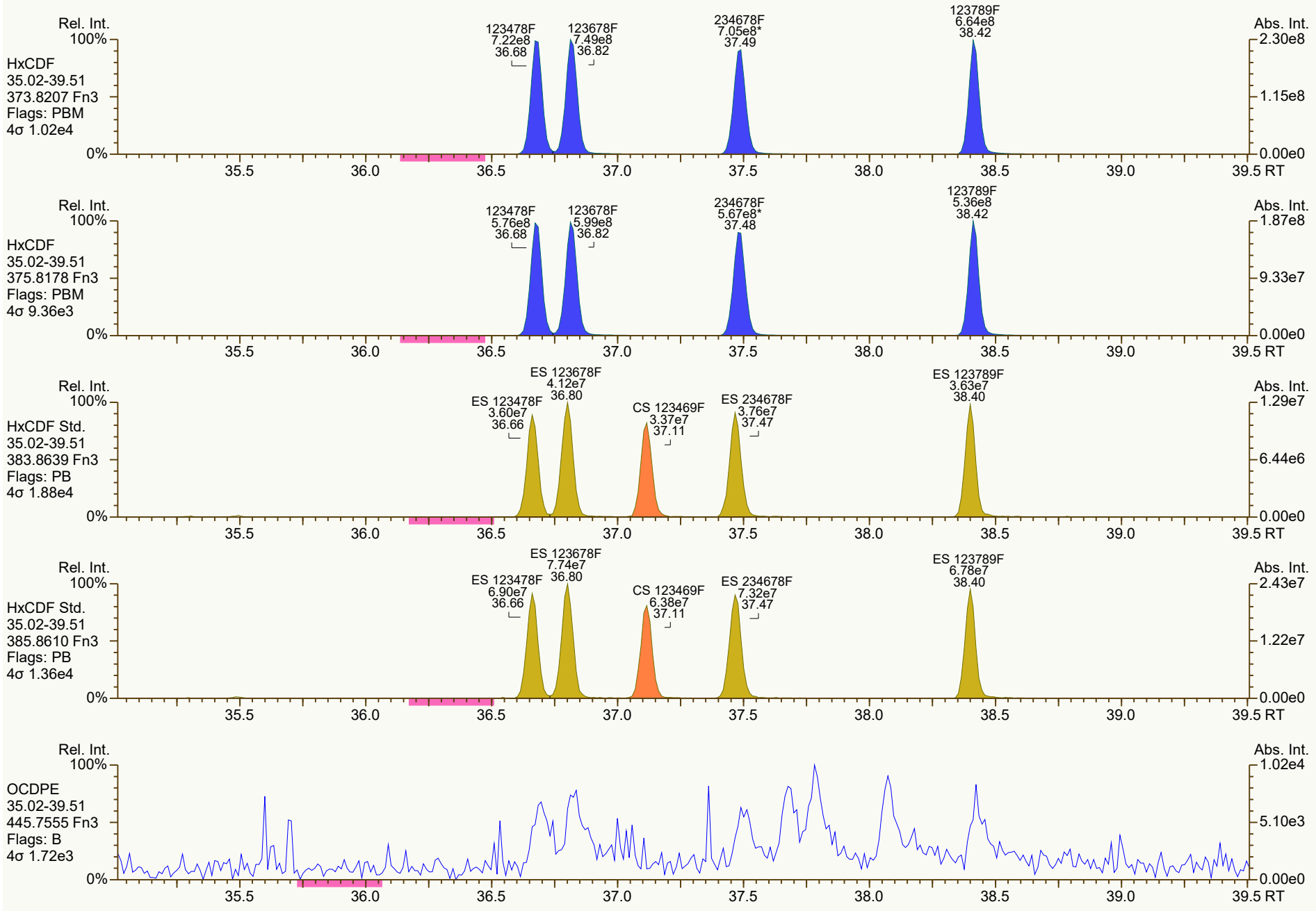

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 2.56e4
1234678D
4.56e8
40.66
Abs. Int.
1.79e8
8.96e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 1.77e4
1234678D
4.38e8
40.66
Abs. Int.
1.70e8
8.48e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 1.23e4
FS 1234679D
6.09e7
39.99
ES 1234678D
4.69e7
40.64
Abs. Int.
2.41e7
1.20e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 8.21e3
FS 1234679D
5.75e7
39.99
ES 1234678D
4.42e7
40.64
Abs. Int.
2.29e7
1.15e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
Abs. Int.
1.12e7
5.59e6
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT

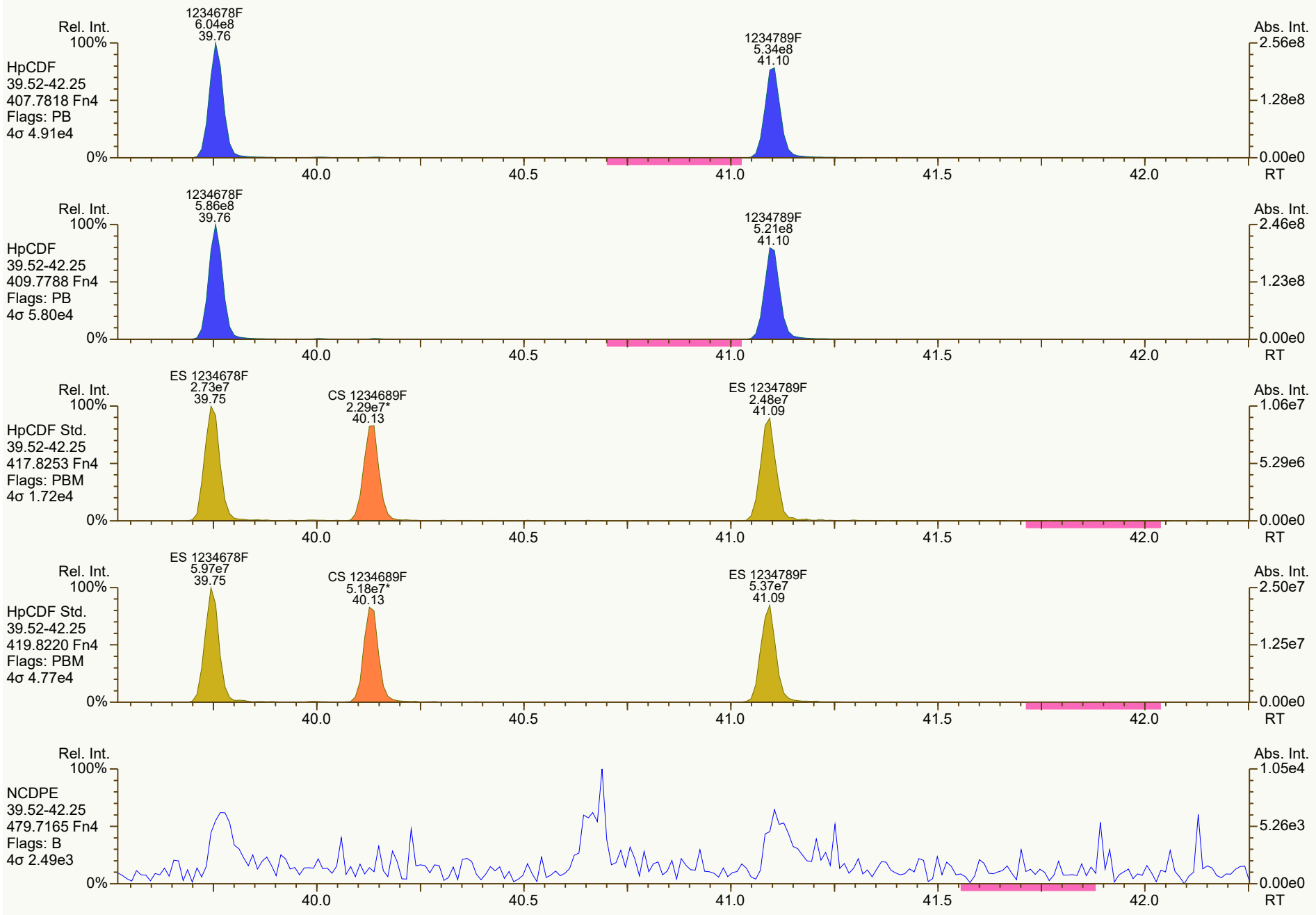

OCDD
7.34e8*
43.22
Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
2.52e8
1.26e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
8.31e8*
43.22
Rel. Int.
100%
OCDD
42.26-45.01
459.7348 Fn5
Flags: PBM
4σ 2.52e3
0%
Abs. Int.
2.81e8
1.40e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
6.94e7
43.21
Rel. Int.
100%
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PB
4σ 3.01e3
0%
Abs. Int.
2.31e7
1.16e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
7.81e7
43.21
Rel. Int.
100%
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PB
4σ 3.23e3
0%
Abs. Int.
2.71e7
1.35e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.48e6
2.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

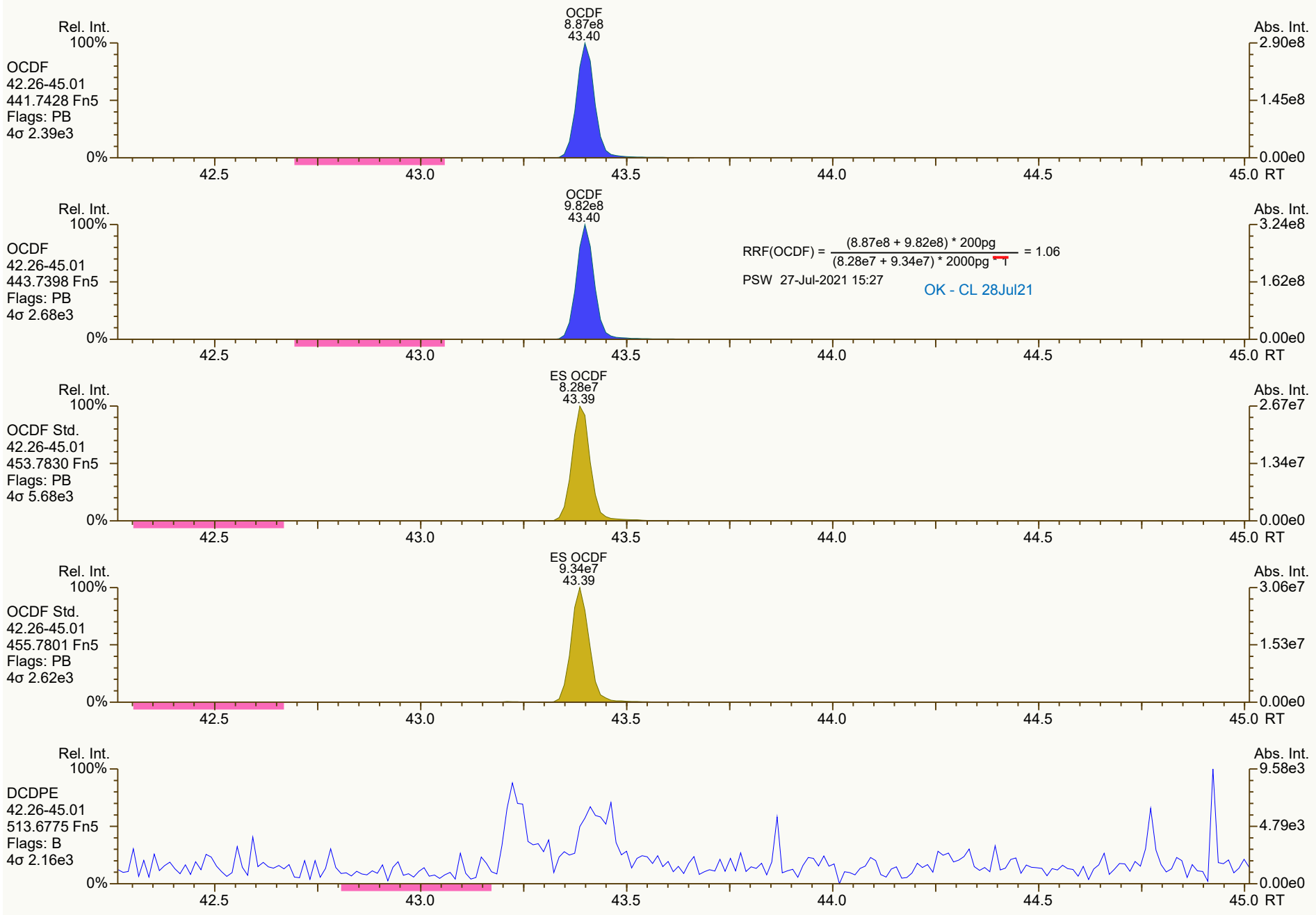

Rel. Int.
100%
0%
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.39e3
2378F
1.39e8
27.66
3.30e7
1.65e7
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 1.93e3
2378F
1.81e8
27.66
4.26e7
2.13e7
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.93e4
AS 1368F
7.29e7
22.84
JS 1234F
6.68e7
26.32
ES 2378F
7.29e7
27.64
1.72e7
8.58e6
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 9.59e3
AS 1368F
9.33e7
22.84
JS 1234F
8.44e7
26.31
ES 2378F
9.11e7
27.64
2.15e7
1.08e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 1.69e3
1.28e4
6.39e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


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


Rel. Int.
100%
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 8.69e3
0%
12378F
8.03e8
32.37
23478F
8.32e8
33.46
Abs. Int.
2.49e8
1.25e8
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 9.16e3
0%
12378F
5.32e8
32.37
23478F
5.28e8
33.46
Abs. Int.
1.55e8
7.77e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PBM
4σ 2.83e4
0%
CS 12346F
7.94e7
31.84
ES 12378F
8.80e7
32.35
ES 23478F
8.59e7*
33.45
Abs. Int.
2.53e7
1.27e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PBM
4σ 2.01e4
0%
CS 12346F
5.06e7
31.84
ES 12378F
5.49e7
32.35
ES 23478F
5.50e7*
33.44
Abs. Int.
1.65e7
8.26e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 1.76e3
0%
Abs. Int.
8.98e3
4.49e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 1.02e4
123478F
7.22e8
36.68
123678F
7.49e8
36.82
234678F
7.05e8*
37.49
123789F
6.64e8
38.42
Abs. Int.
2.30e8
1.15e8
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 9.36e3
123478F
5.76e8
36.68
123678F
5.99e8
36.82
234678F
5.67e8*
37.48
123789F
5.36e8
38.42
Abs. Int.
1.87e8
9.33e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 1.88e4
ES 123678F
4.12e7
36.80
ES 123478F
3.60e7
36.66
CS 123469F
3.37e7
37.11
ES 234678F
3.76e7
37.47
ES 123789F
3.63e7
38.40
Abs. Int.
1.29e7
6.44e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 1.36e4
ES 123678F
7.74e7
36.80
ES 123478F
6.90e7
36.66
CS 123469F
6.38e7
37.11
ES 234678F
7.32e7
37.47
ES 123789F
6.78e7
38.40
Abs. Int.
2.43e7
1.22e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 1.72e3
Abs. Int.
1.02e4
5.10e3
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT

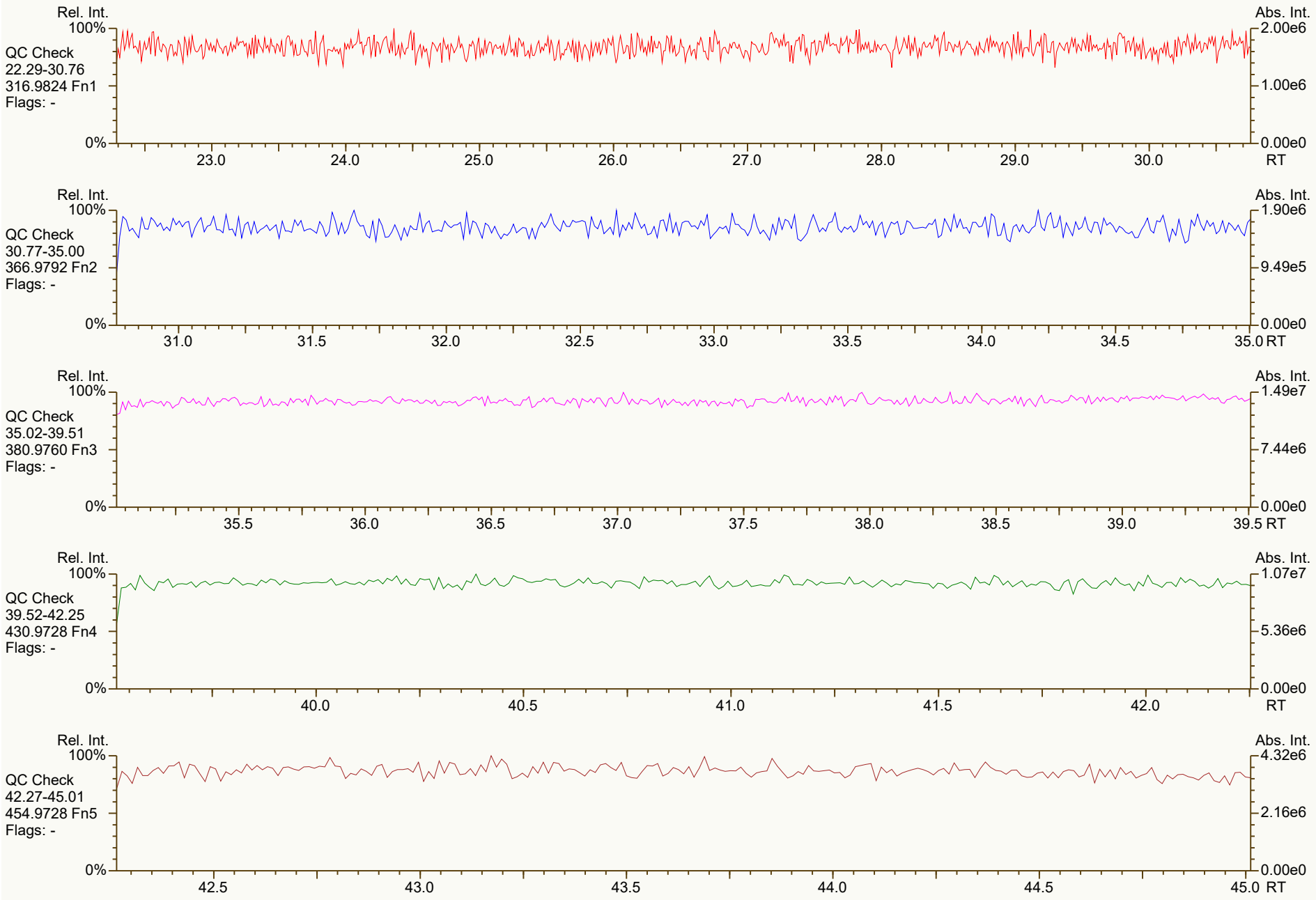

Rel. Int.
100%
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 4.91e4
1234678F
6.04e8
39.76
1234789F
5.34e8
41.10
Abs. Int.
2.56e8
1.28e8
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 5.80e4
1234678F
5.86e8
39.76
1234789F
5.21e8
41.10
Abs. Int.
2.46e8
1.23e8
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PBM
4σ 1.72e4
ES 1234678F
2.73e7
39.75
CS 1234689F
2.29e7*
40.13
ES 1234789F
2.48e7
41.09
Abs. Int.
1.06e7
5.29e6
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PBM
4σ 4.77e4
ES 1234678F
5.97e7
39.75
CS 1234689F
5.18e7*
40.13
ES 1234789F
5.37e7
41.09
Abs. Int.
2.50e7
1.25e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.49e3
Abs. Int.
1.05e4
5.26e3
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT


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

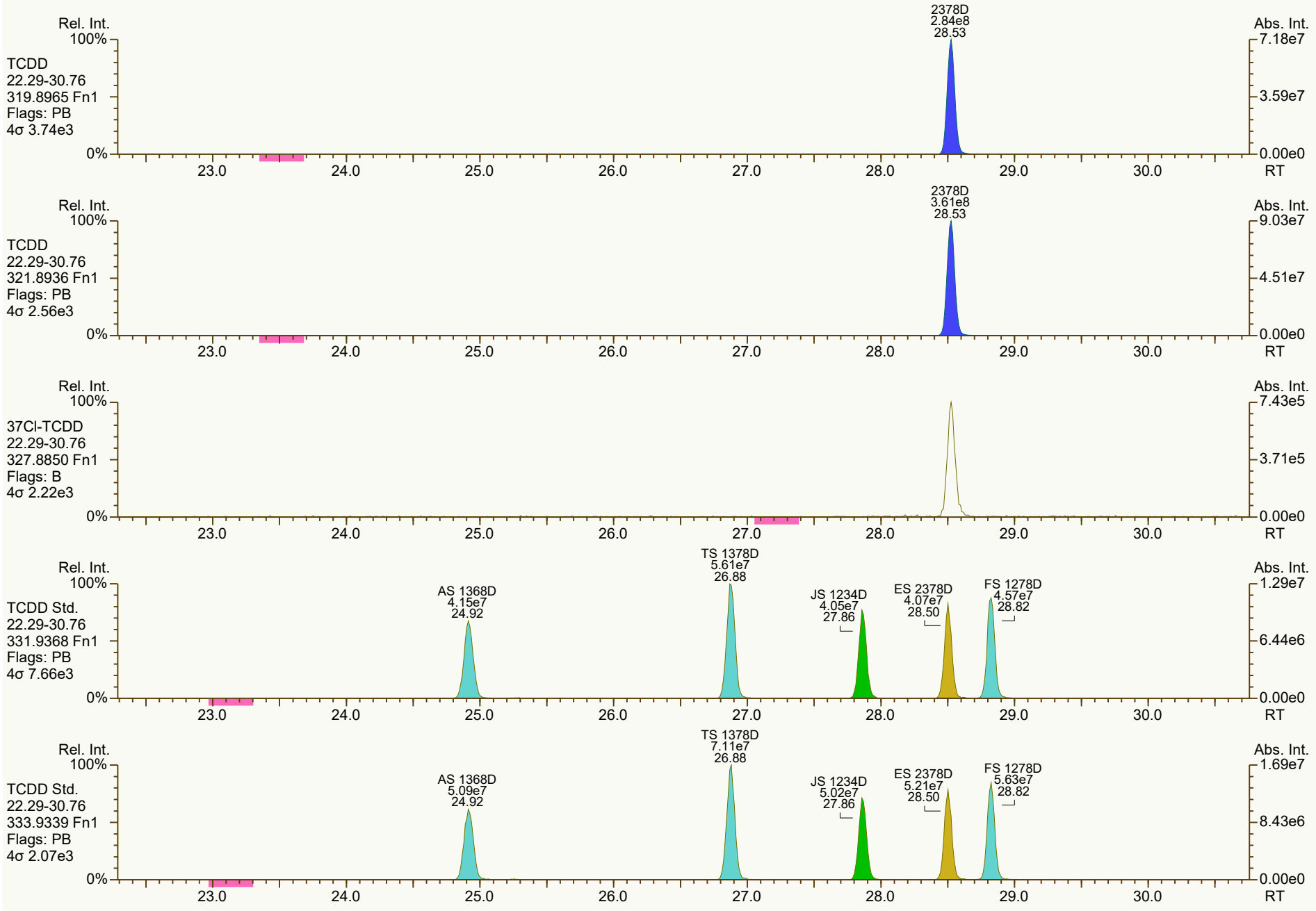
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 13:58 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS6_210727_DF_RA	UTP: 27-Jul-2021 15:00:22 PSW	Checkcode: 783-472-ZXK
Sample ID: SIL 25-5-2	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R08

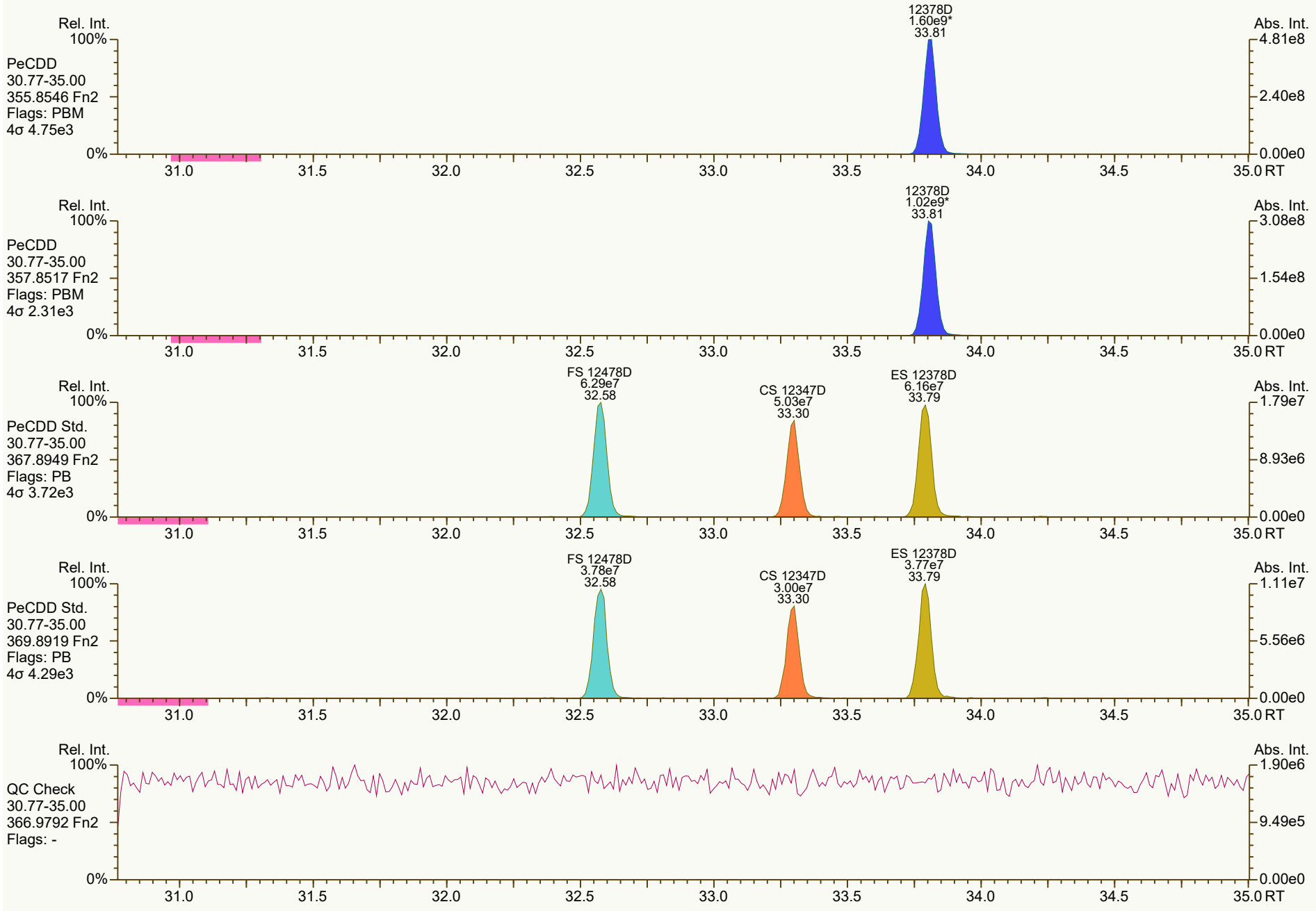
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	6.45E+08	0.79	Y	1.34	1.39	3%
12378-PeCDD	33.81	2.62E+09	1.57	Y	1.06	1.05	0%
123478-HxCDD	37.68	2.41E+09	1.26	Y	1.06	1.05	-1%
123678-HxCDD	37.79	2.46E+09	1.25	Y	1.08	1.09	1%
123789-HxCDD	38.08	2.63E+09	1.25	Y	1.02	1.00	-1%
1234678-HpCDD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

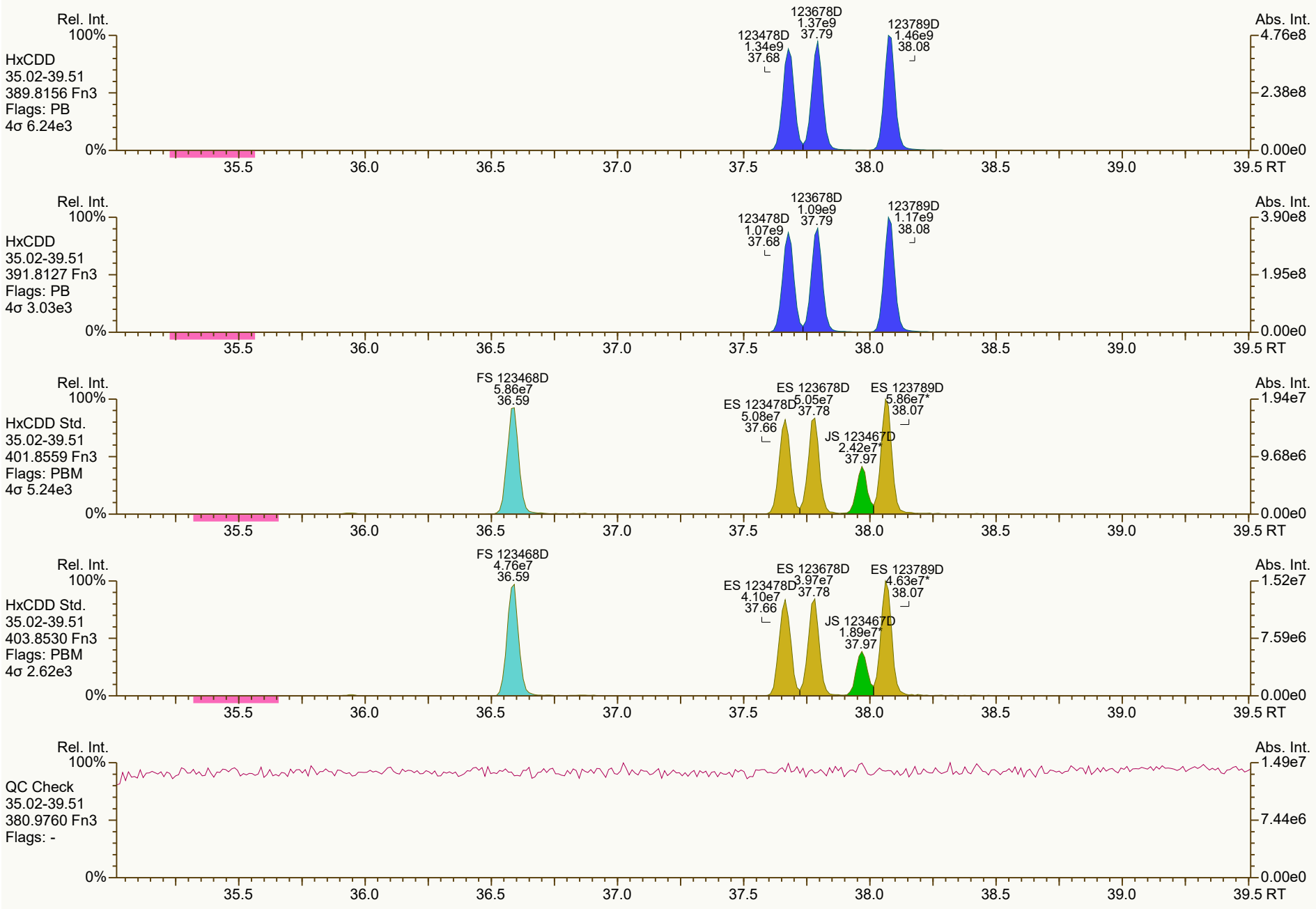
Dioxin/Furan QC Summary		Acq'd: 27 Jul 2021 13:58 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS6_210727_DF_RA		UTP: 27-Jul-2021 15:00:22 PSW				Checkcode: 783-472-ZXK	
Sample ID: SIL 25-5-2		Report: 27 Jul 2021 15:02 pw				Datafile: 210727R08	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	27.86	9.07E+07	0.81	Y	-	-	-
JS 1234-TCDF	26.33	1.47E+08	0.79	Y	-	-	-
JS 123467-HxCDD	37.97	4.31E+07	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.31		
CS 12347-PeCDD	33.30	8.03E+07	1.68	Y	0.89	0.89	-1%
CS 12346-PeCDF	31.84	1.25E+08	1.54	Y	0.87	0.85	-2%
CS 123469-HxCDF	37.12	9.43E+07	0.51	Y	1.09	1.09	0%
CS 1234689-HpCDF	40.14	7.21E+07	0.44	Y	0.86	0.84	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.26		
SS 12347-PeCDD	33.30	8.03E+07	1.68	Y	0.86	0.81	-6%
SS 12346-PeCDF	31.84	1.25E+08	1.54	Y	0.93	0.87	-7%
SS 123469-HxCDF	37.12	9.43E+07	0.51	Y	0.84	0.80	-5%
SS 1234689-HpCDF	40.14	7.21E+07	0.44	Y	0.91	0.81	-11%
AS 1368-TCDD	24.92	9.24E+07	0.82	Y	1.02	1.02	0%
AS 1368-TCDF	22.86	1.58E+08	0.79	Y	1.08	1.07	0%
FS 1278-TCDD	28.83	1.02E+08	0.81	Y	1.08	1.10	1%
FS 12478-PeCDD	32.58	1.01E+08	1.67	Y	1.09	1.01	-7%
FS 123468-HxCDD	36.59	1.06E+08	1.23	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.99	1.12E+08	1.07	Y	1.36	1.23	-9%
TS 1378-TCDD	26.88	1.27E+08	0.79	Y	1.35	1.37	2%
~~OCDD-a~~	~~43.23~~	~~2.53E+08~~	~~2.47~~	~~Y~~	~~0.07~~	~~0.07~~	~~0%~~
~~OCDF-a~~	~~43.42~~	~~2.93E+08~~	~~2.57~~	~~Y~~	~~0.06~~	~~0.06~~	~~8%~~
Not reported from this ICAL - CL 28Jul21							

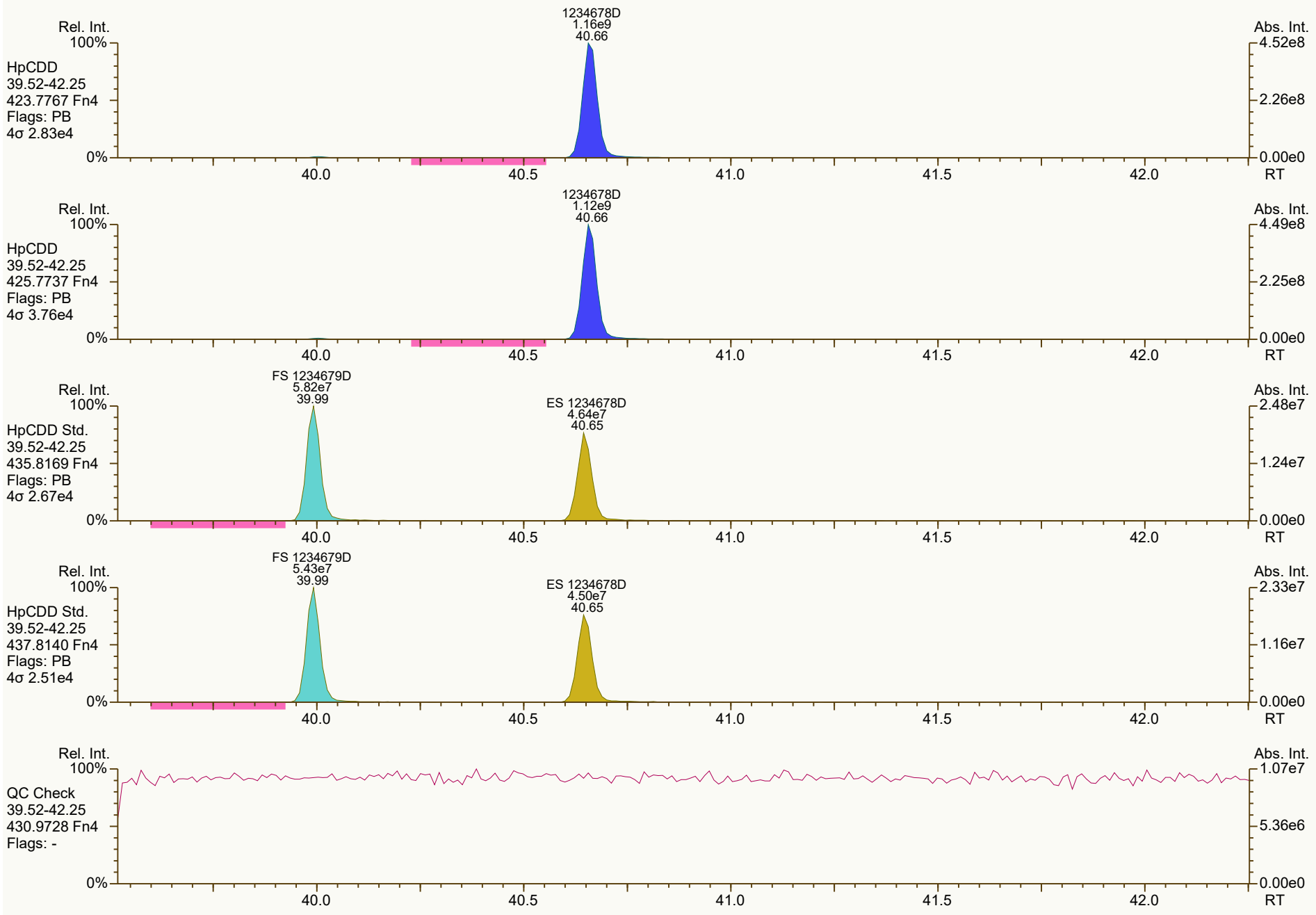


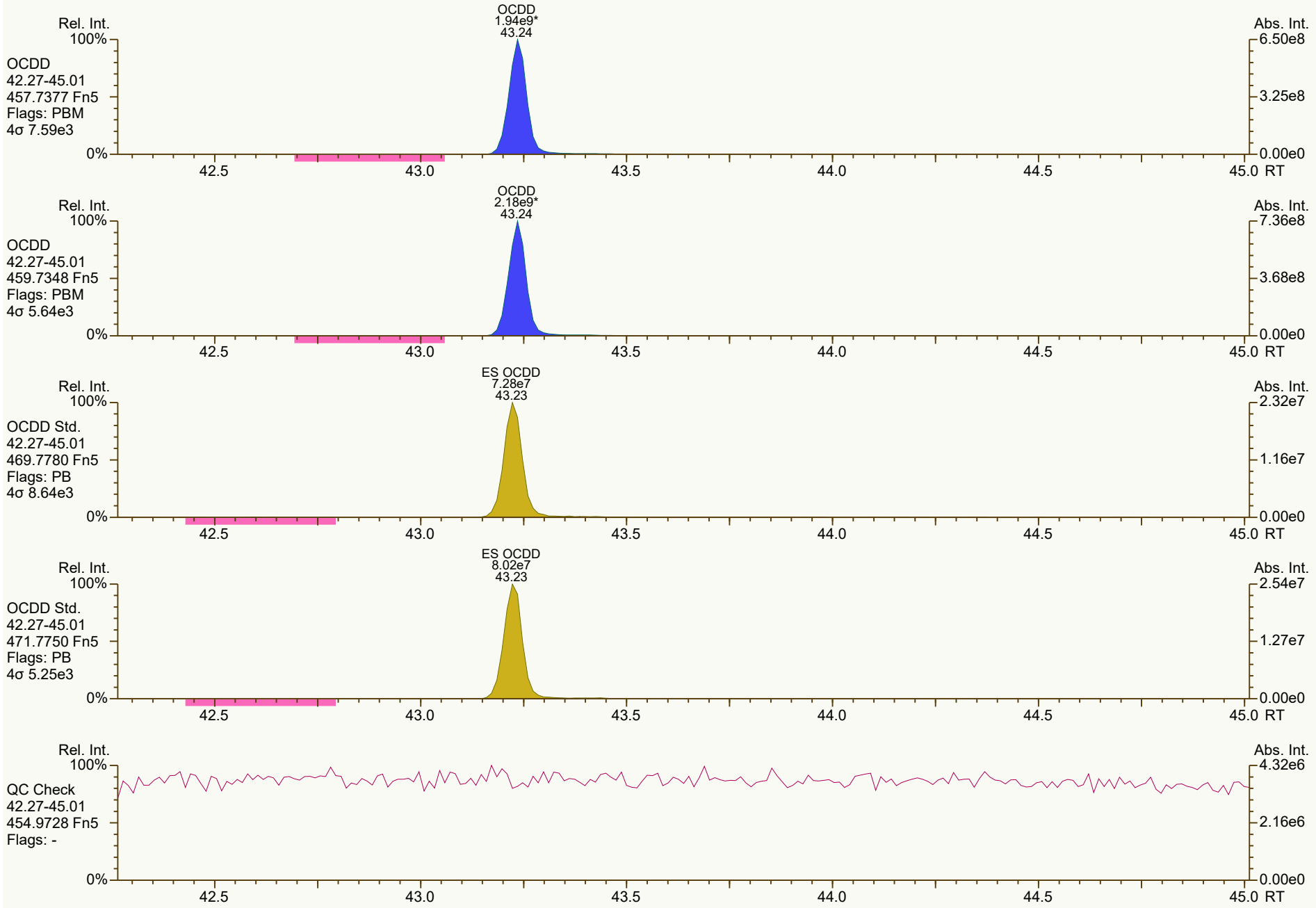
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q scc: 783-472
PKD: n/a Printed: 27-Jul-2021 15:31 Page 1 of 12


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


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PBM
4σ 4.75e3
0%
12378D
1.60e9*
33.81
Abs. Int.
4.81e8
2.40e8
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PBM
4σ 2.31e3
0%
12378D
1.02e9*
33.81
Abs. Int.
3.08e8
1.54e8
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PB
4σ 3.72e3
0%
FS 12478D
6.29e7
32.58
CS 12347D
5.03e7
33.30
ES 12378D
6.16e7
33.79
Abs. Int.
1.79e7
8.93e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PB
4σ 4.29e3
0%
FS 12478D
3.78e7
32.58
CS 12347D
3.00e7
33.30
ES 12378D
3.77e7
33.79
Abs. Int.
1.11e7
5.56e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.90e6
9.49e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

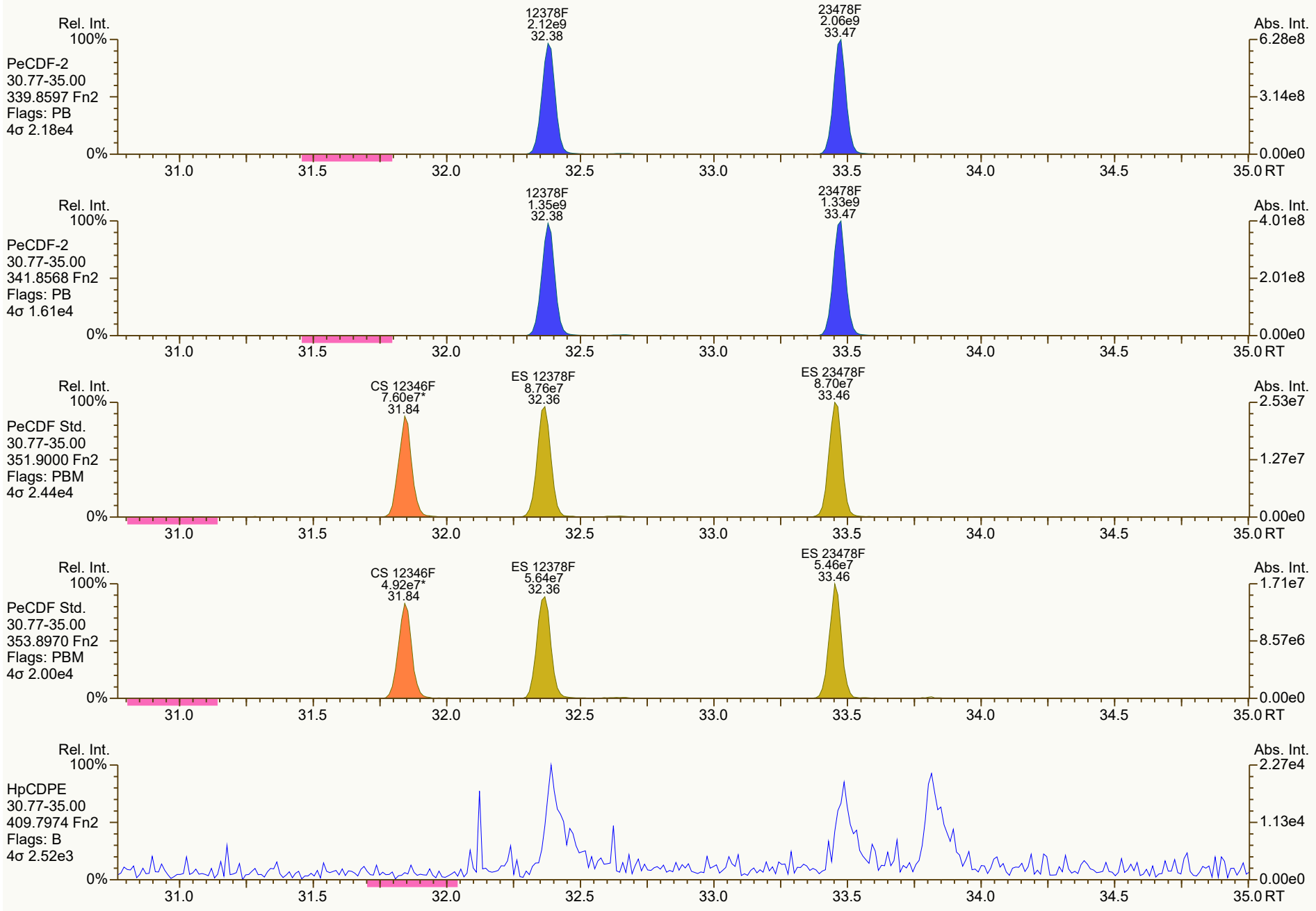

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 6.24e3
123678D
1.37e9
37.79
123478D
1.34e9
37.68
123789D
1.46e9
38.08
Abs. Int.
4.76e8
2.38e8
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 3.03e3
123678D
1.09e9
37.79
123478D
1.07e9
37.68
123789D
1.17e9
38.08
Abs. Int.
3.90e8
1.95e8
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 5.24e3
FS 123468D
5.86e7
36.59
ES 123678D
5.05e7
37.78
ES 123478D
5.08e7
37.66
ES 123789D
5.86e7*
38.07
JS 123467D
2.42e7*
37.97
Abs. Int.
1.94e7
9.68e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 2.62e3
FS 123468D
4.76e7
36.59
ES 123678D
3.97e7
37.78
ES 123478D
4.10e7
37.66
ES 123789D
4.63e7*
38.07
JS 123467D
1.89e7*
37.97
Abs. Int.
1.52e7
7.59e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
Abs. Int.
1.49e7
7.44e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT

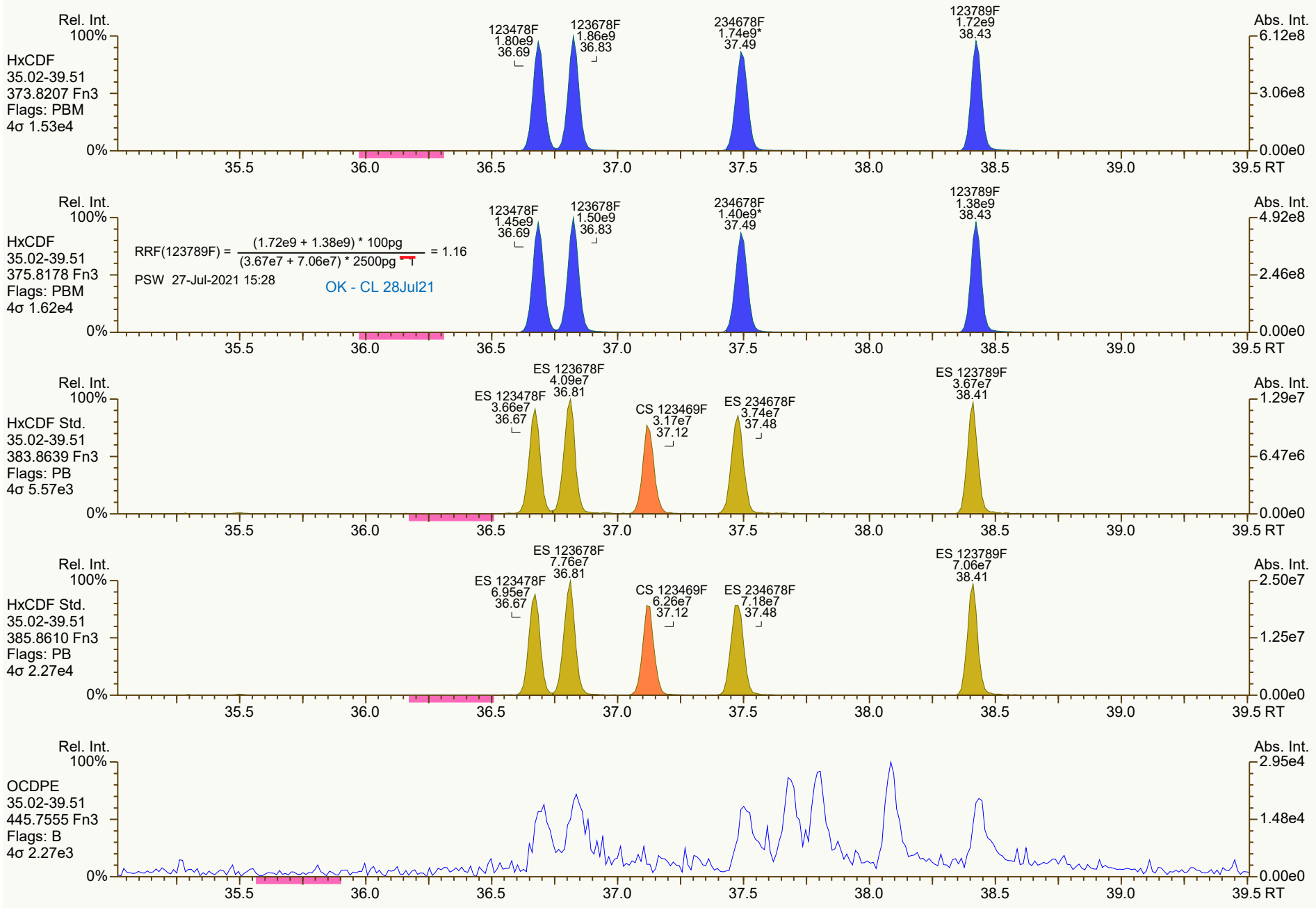

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 2.83e4
0%
1234678D
1.16e9
40.66
Abs. Int.
4.52e8
2.26e8
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 3.76e4
0%
1234678D
1.12e9
40.66
Abs. Int.
4.49e8
2.25e8
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
Rel.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


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


Rel. Int.
100%
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.81e3
2378F
3.47e8
27.67
Abs. Int.
8.18e7
4.09e7
0.00e0
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.63e3
2378F
4.52e8
27.67
Abs. Int.
1.06e8
5.31e7
0.00e0
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.51e4
AS 1368F
6.97e7
22.86
JS 1234F
6.51e7
26.33
ES 2378F
7.12e7
27.65
Abs. Int.
1.73e7
8.65e6
0.00e0
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 8.59e3
AS 1368F
8.87e7
22.85
JS 1234F
8.23e7
26.33
ES 2378F
9.09e7
27.65
Abs. Int.
2.19e7
1.09e7
0.00e0
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.16e3
Abs. Int.
1.85e4
9.24e3
0.00e0
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


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

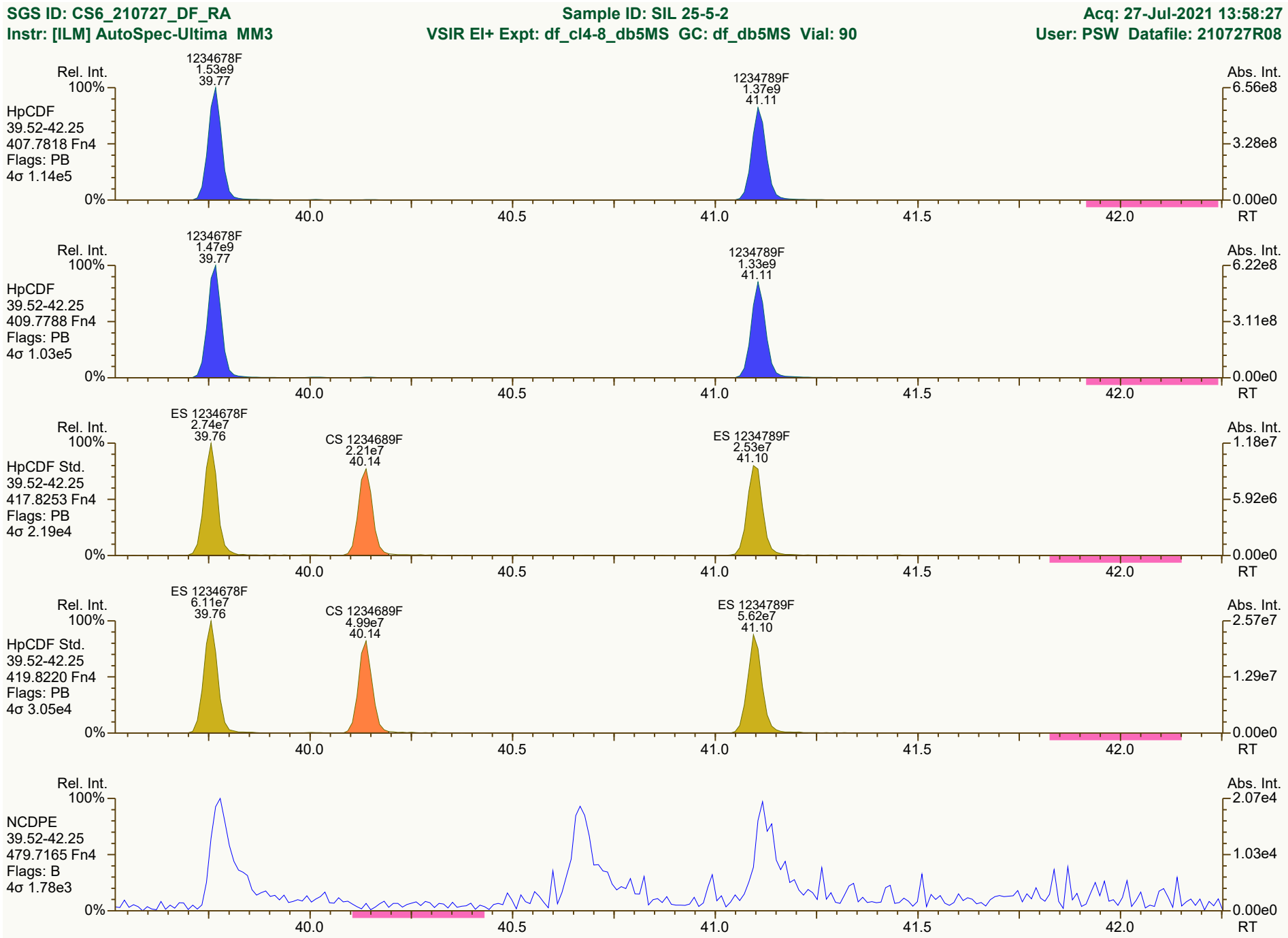

Rel. Int.
100%
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 2.18e4
0%
12378F
2.12e9
32.38
23478F
2.06e9
33.47
Abs. Int.
6.28e8
3.14e8
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 1.61e4
0%
12378F
1.35e9
32.38
23478F
1.33e9
33.47
Abs. Int.
4.01e8
2.01e8
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PBM
4σ 2.44e4
0%
CS 12346F
7.60e7*
31.84
ES 12378F
8.76e7
32.36
ES 23478F
8.70e7
33.46
Abs. Int.
2.53e7
1.27e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PBM
4σ 2.00e4
0%
CS 12346F
4.92e7*
31.84
ES 12378F
5.64e7
32.36
ES 23478F
5.46e7
33.46
Abs. Int.
1.71e7
8.57e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.52e3
0%
Abs. Int.
2.27e4
1.13e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 1.53e4
0%
123478F
1.80e9
36.69
123678F
1.86e9
36.83
234678F
1.74e9*
37.49
123789F
1.72e9
38.43
Abs. Int.
6.12e8
3.06e8
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 1.62e4
RRF(123789F) = (1.72e9 + 1.38e9) * 100pg / (3.67e7 + 7.06e7) * 2500pg = 1.16
PSW 27-Jul-2021 15:28
OK - CL 28Jul21
123478F
1.45e9
36.69
123678F
1.50e9
36.83
234678F
1.40e9*
37.49
123789F
1.38e9
38.43
4.92e8
2.46e8
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 5.57e3
ES 123678F
4.09e7
36.81
ES 123478F
3.66e7
36.67
CS 123469F
3.17e7
37.12
ES 234678F
3.74e7
37.48
ES 123789F
3.67e7
38.41
1.29e7
6.47e6
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 2.27e4
ES 123678F
7.76e7
36.81
ES 123478F
6.95e7
36.67
CS 123469F
6.26e7
37.12
ES 234678F
7.18e7
37.48
ES 123789F
7.06e7
38.41
2.50e7
1.25e7
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.27e3
2.95e4
1.48e4

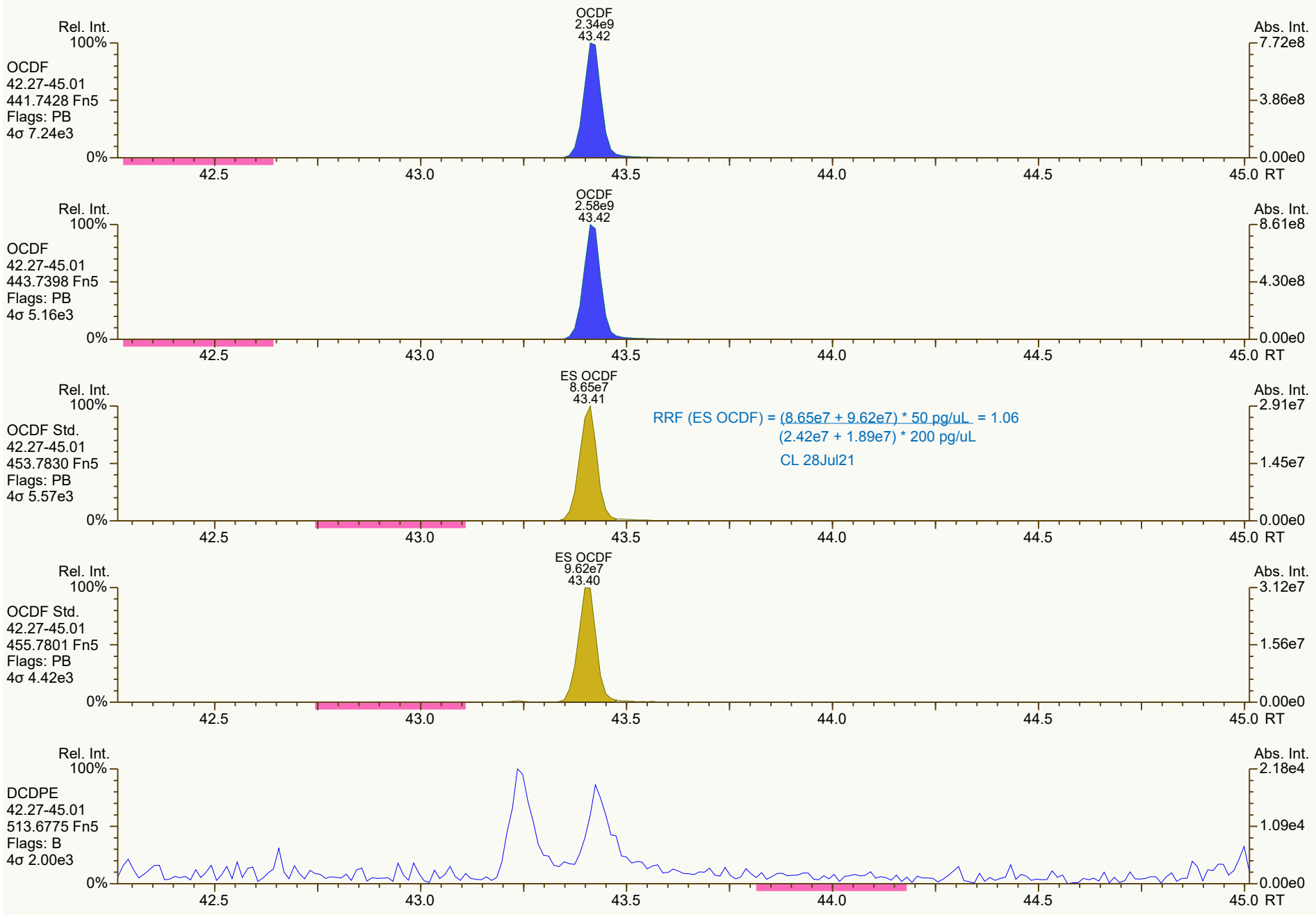
SGS ID: CS6_210727_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: SIL 25-5-2
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90

Acq: 27-Jul-2021 13:58:27
User: PSW Datafile: 210727R08



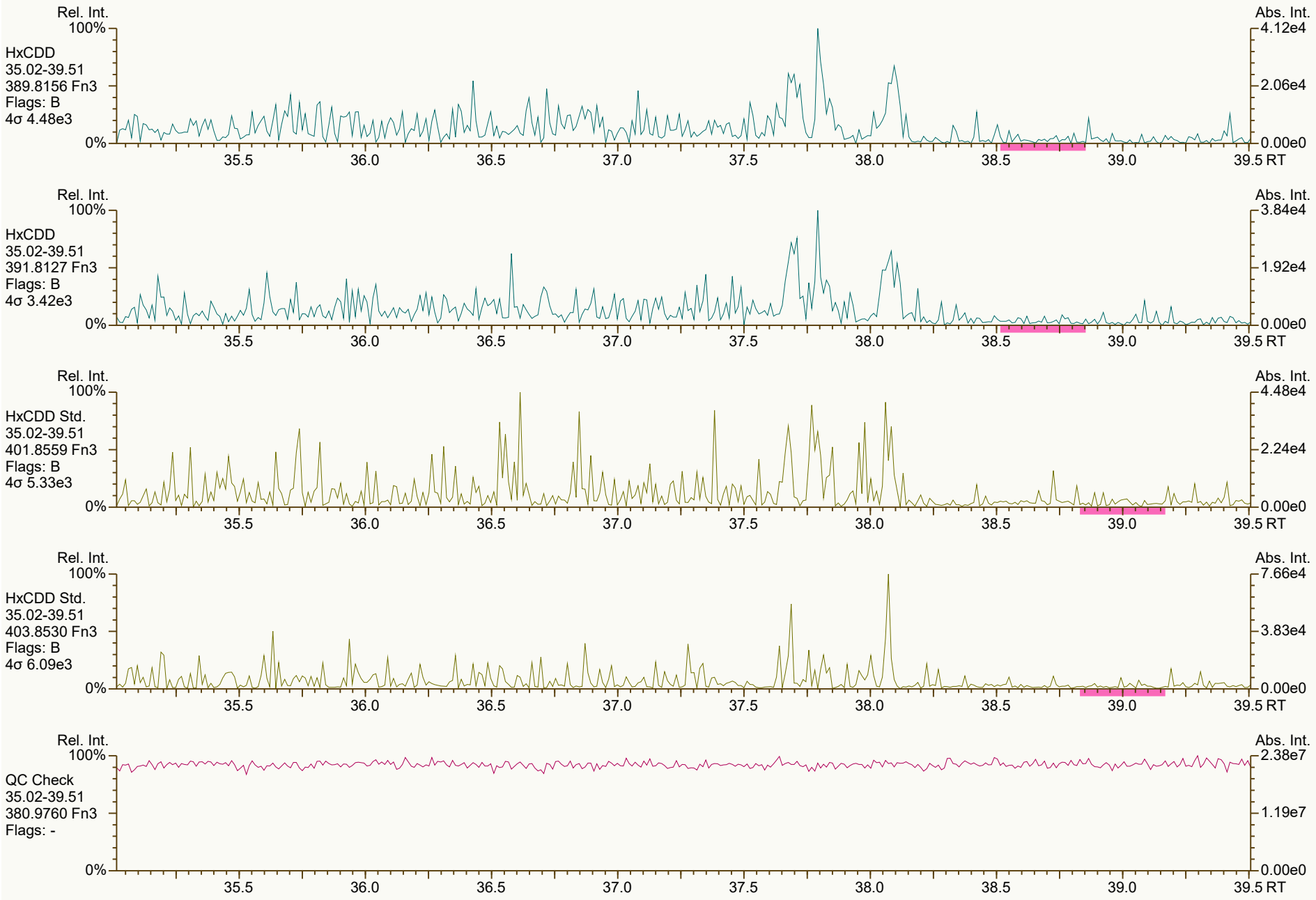
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0766, 6357, 1189 scc: 783-472
PKD: 27-Jul-2021 14:46 Printed: 27-Jul-2021 15:31 Page 11 of 12


Rel. Int.
100%
OCDF
42.27-45.01
441.7428 Fn5
Flags: PB
4σ 7.24e3
0%
OCDF
2.34e9
43.42
Abs. Int.
7.72e8
3.86e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.27-45.01
443.7398 Fn5
Flags: PB
4σ 5.16e3
0%
OCDF
2.58e9
43.42
Abs. Int.
8.61e8
4.30e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.27-45.01
453.7830 Fn5
Flags: PB
4σ 5.57e3
0%
ES OCDF
8.65e7
43.41
RRF (ES OCDF) = (8.65e7 + 9.62e7) * 50 pg/uL = 1.06
(2.42e7 + 1.89e7) * 200 pg/uL
CL 28Jul21
Abs. Int.
2.91e7
1.45e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.27-45.01
455.7801 Fn5
Flags: PB
4σ 4.42e3
0%
ES OCDF
9.62e7
43.40
Abs. Int.
3.12e7
1.56e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.27-45.01
513.6775 Fn5
Flags: B
4σ 2.00e3
0%
Abs. Int.
2.18e4
1.09e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

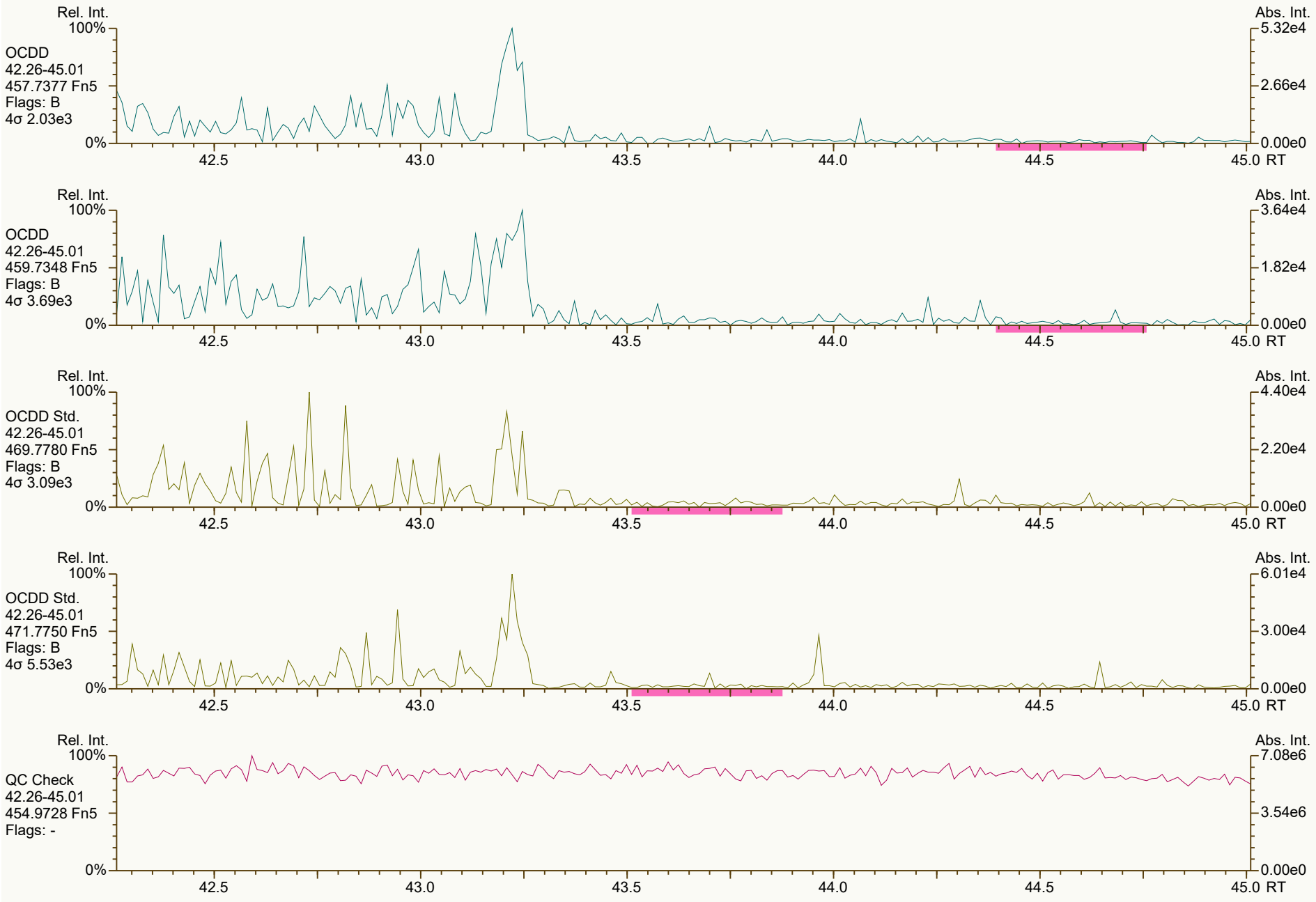

Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.23e6
1.61e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.06e6
1.53e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51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


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


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


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


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


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

SGS ID: SBS_210727_DF_RA | Sample ID: SIL 20-61-1 | Acq: 27-Jul-2021 08:17:39

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: PSW Datafile: 210727R01



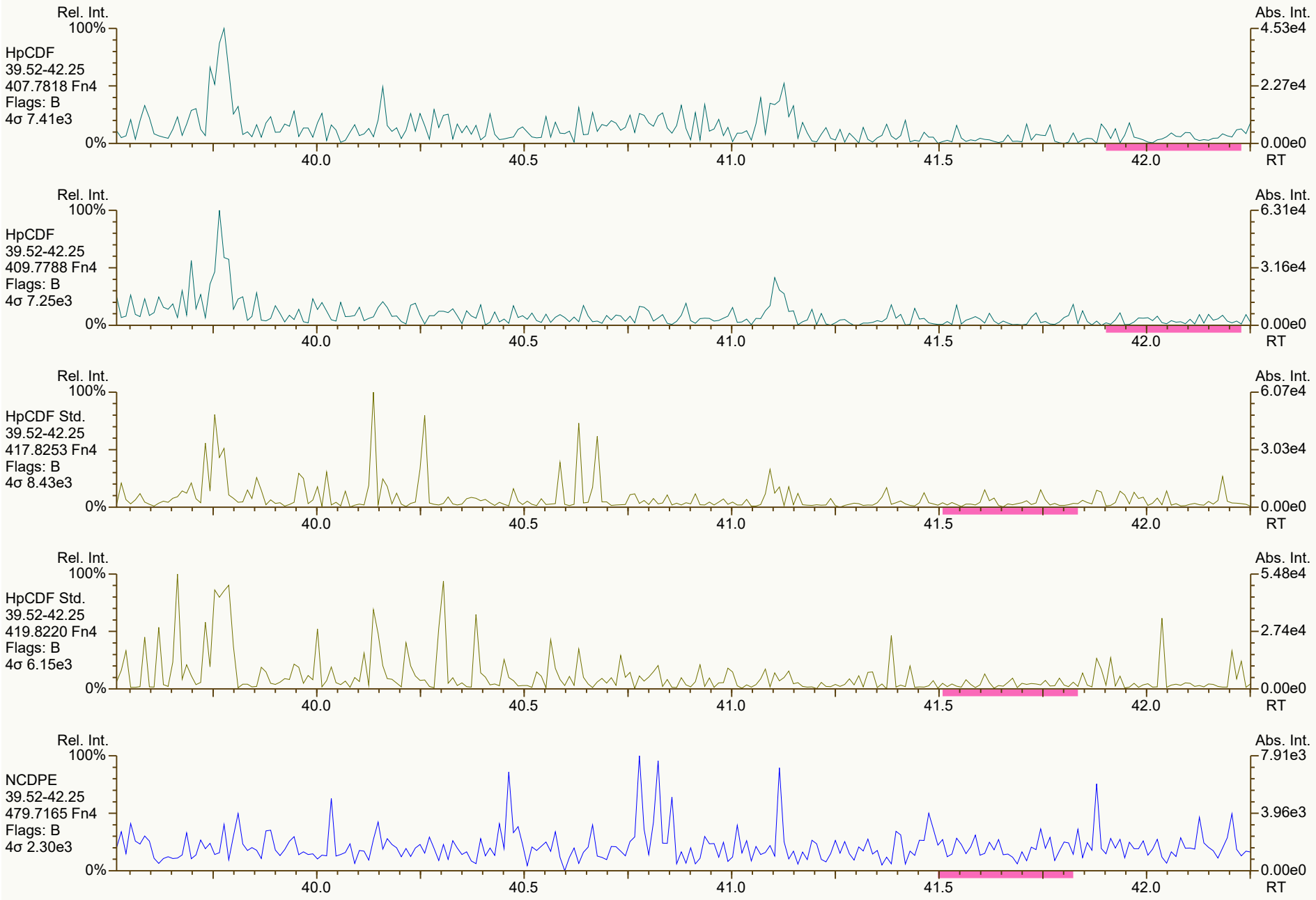
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\SBS_210727_DF_RA.utp_res, saved 27-Jul-2021 09:16 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 9293, 5161, 7483 scc: 638-037 *PKD: 27-Jul-2021 09:16 Printed: 27-Jul-2021 15:30 Page 7 of 12*


Rel. Int.
100%
0%
Abs. Int.
3.87e4
1.94e4
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 6.47e3
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 6.41e3
3.57e4
1.78e4
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
3.23e6
1.61e6


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


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


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


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

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

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

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

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

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

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

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

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

Not reported from this ICAL - CL 28Jul21

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

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

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

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

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

Processed: 28 Jul 2021 08:17 Analyst: pw

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

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

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

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

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

Processed: 28 Jul 2021 08:17 Analyst: pw

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

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

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

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

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

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

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

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

Processed: 28 Jul 2021 08:18 Analyst: pw

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

Lab Name: SGS North America

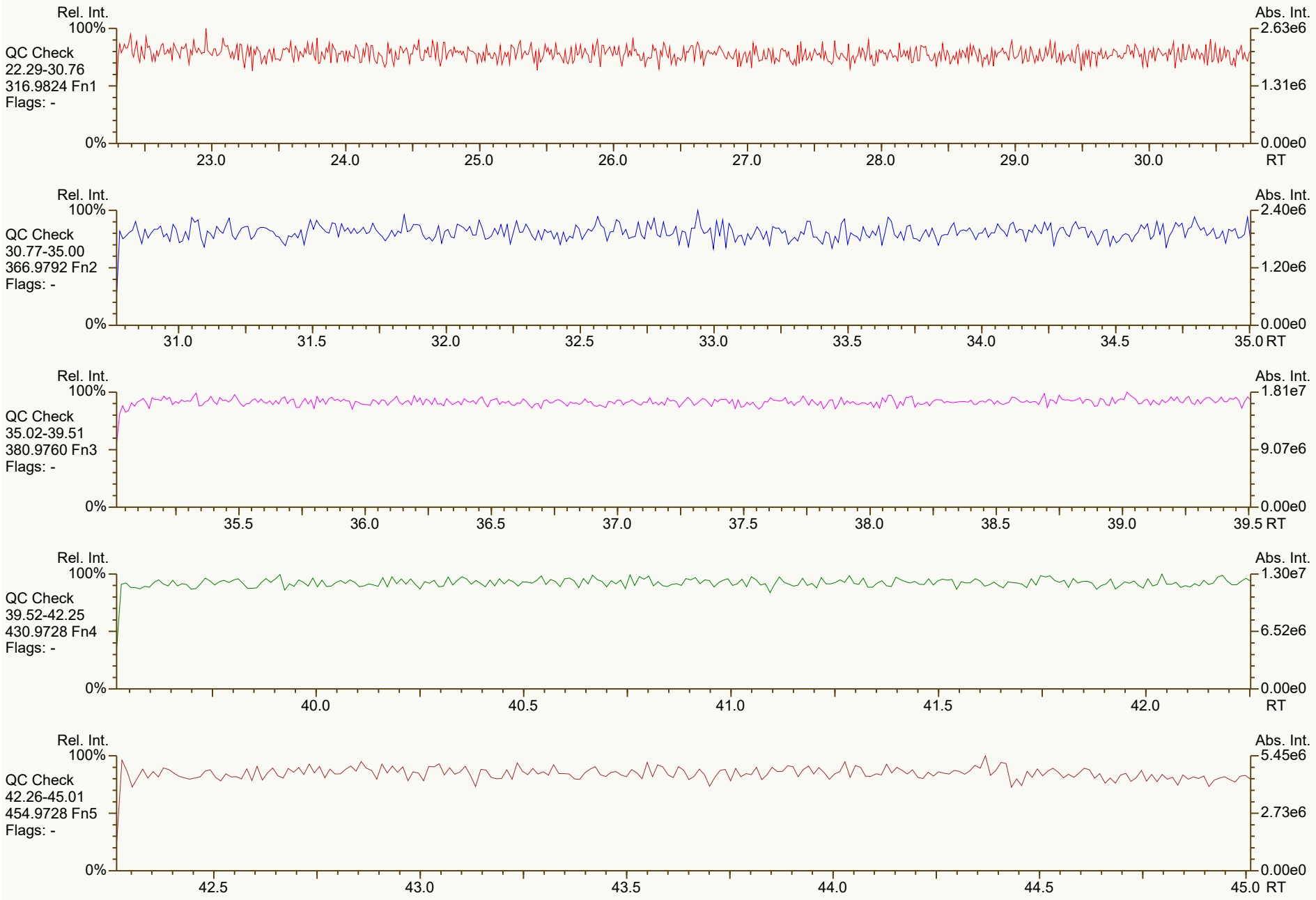
Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

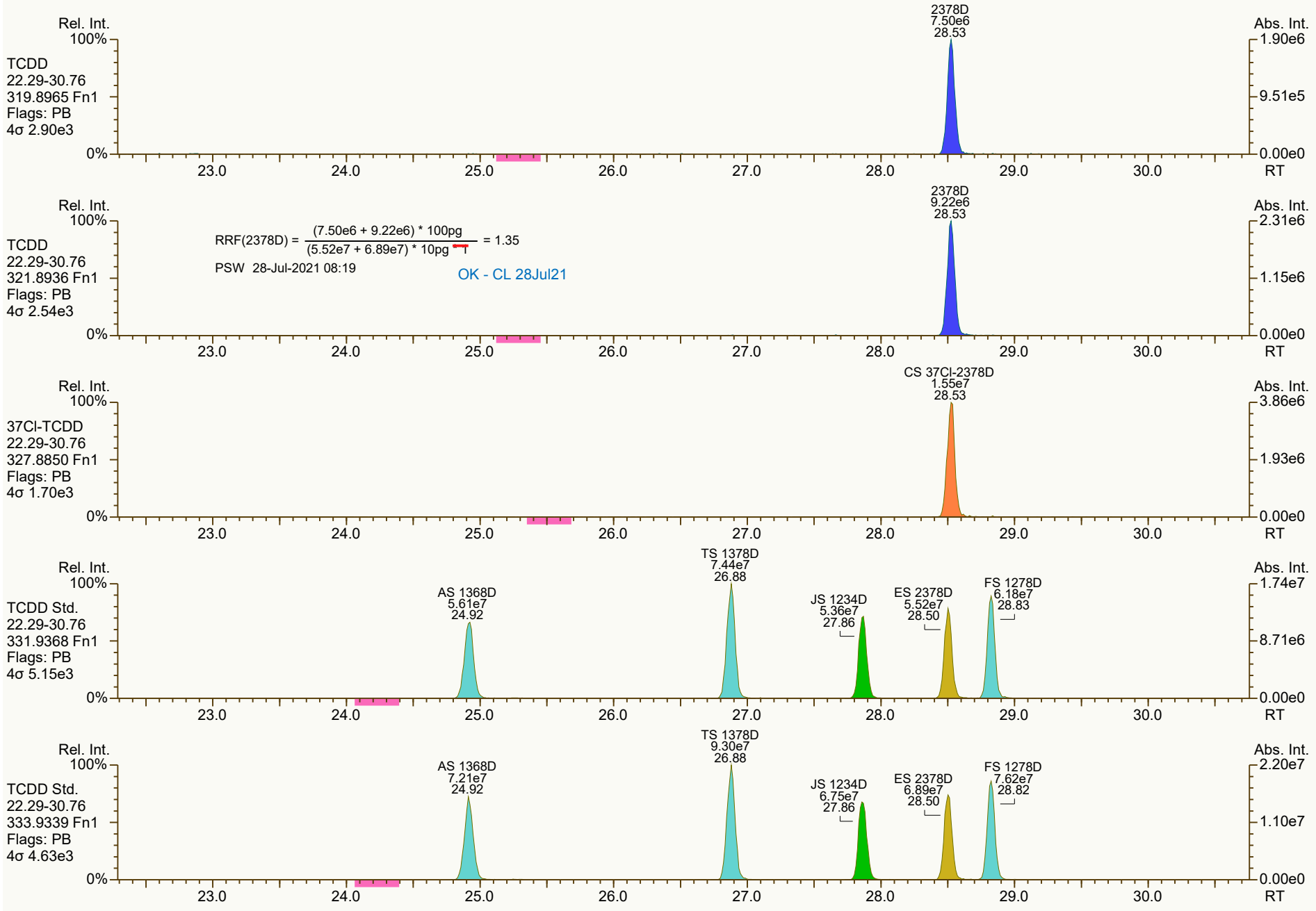
Instrument ID: MM3 GC Column ID: ZB-5ms

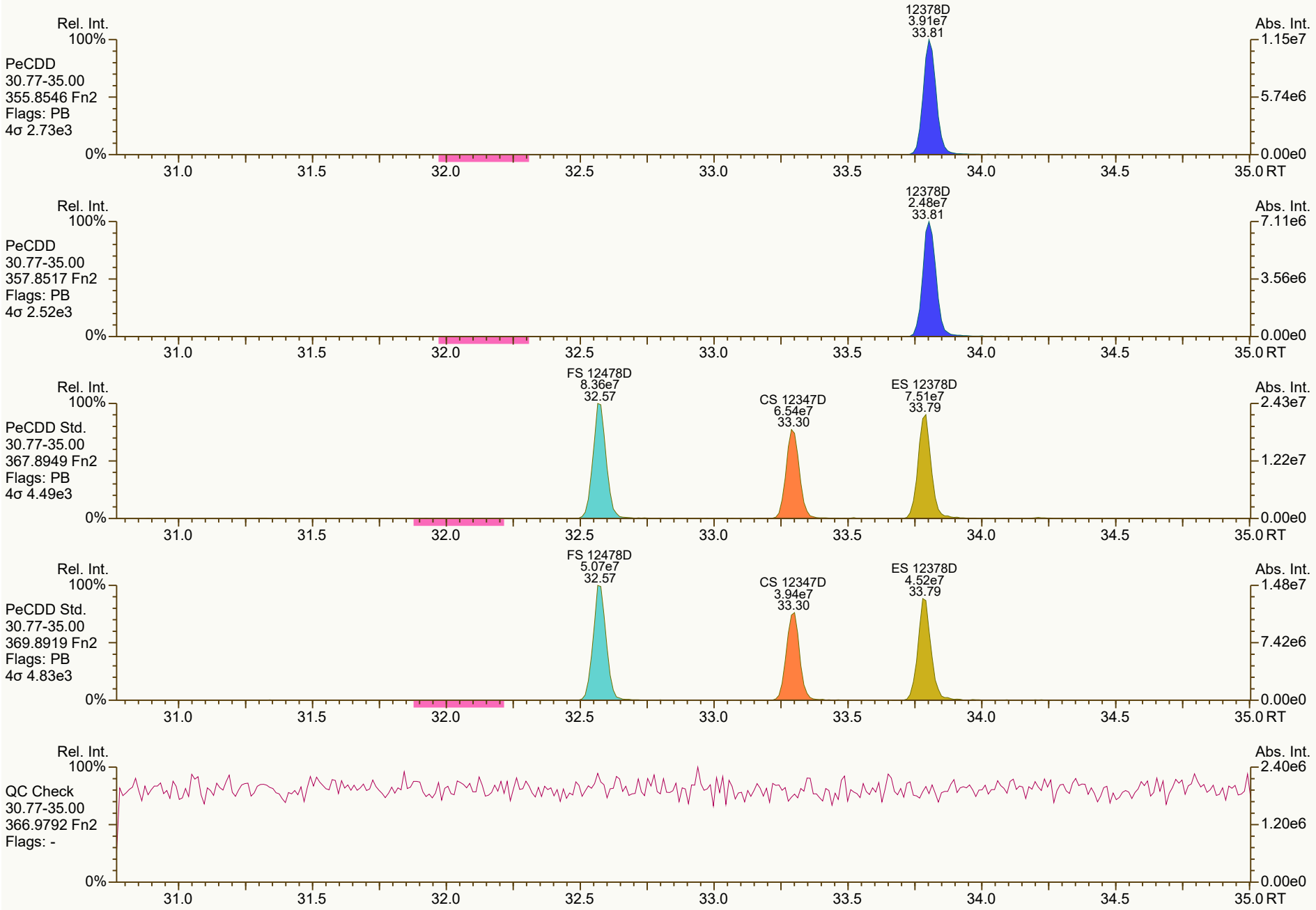
VER Data Filename: 210727R15 Analysis Date: 27-JUL-2021 19:43:55

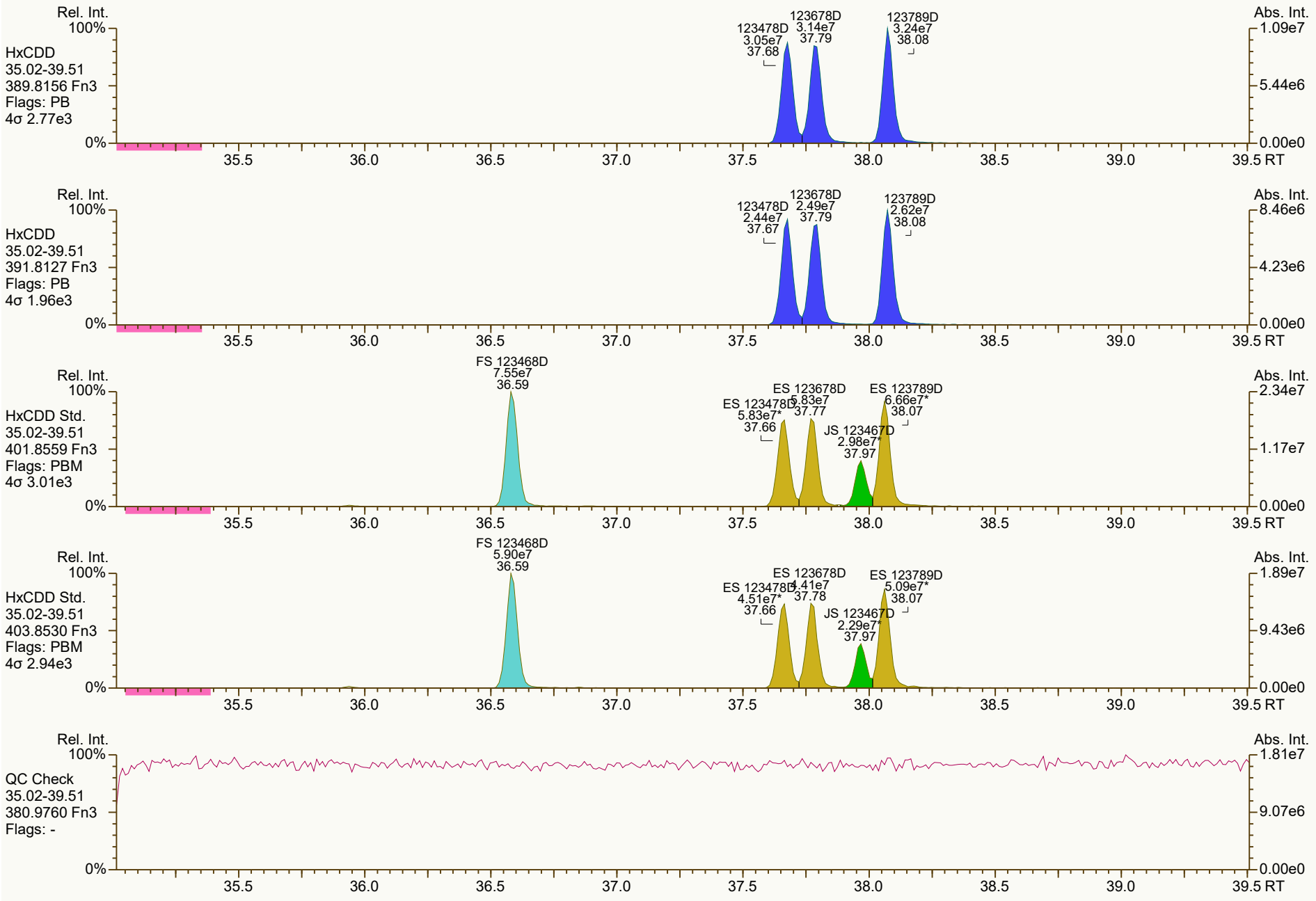
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65	-	0.89	Y	99.2	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.66	1.32	-	1.78	Y	96.1	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.29	1.05	-	1.43	Y	98.7	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD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

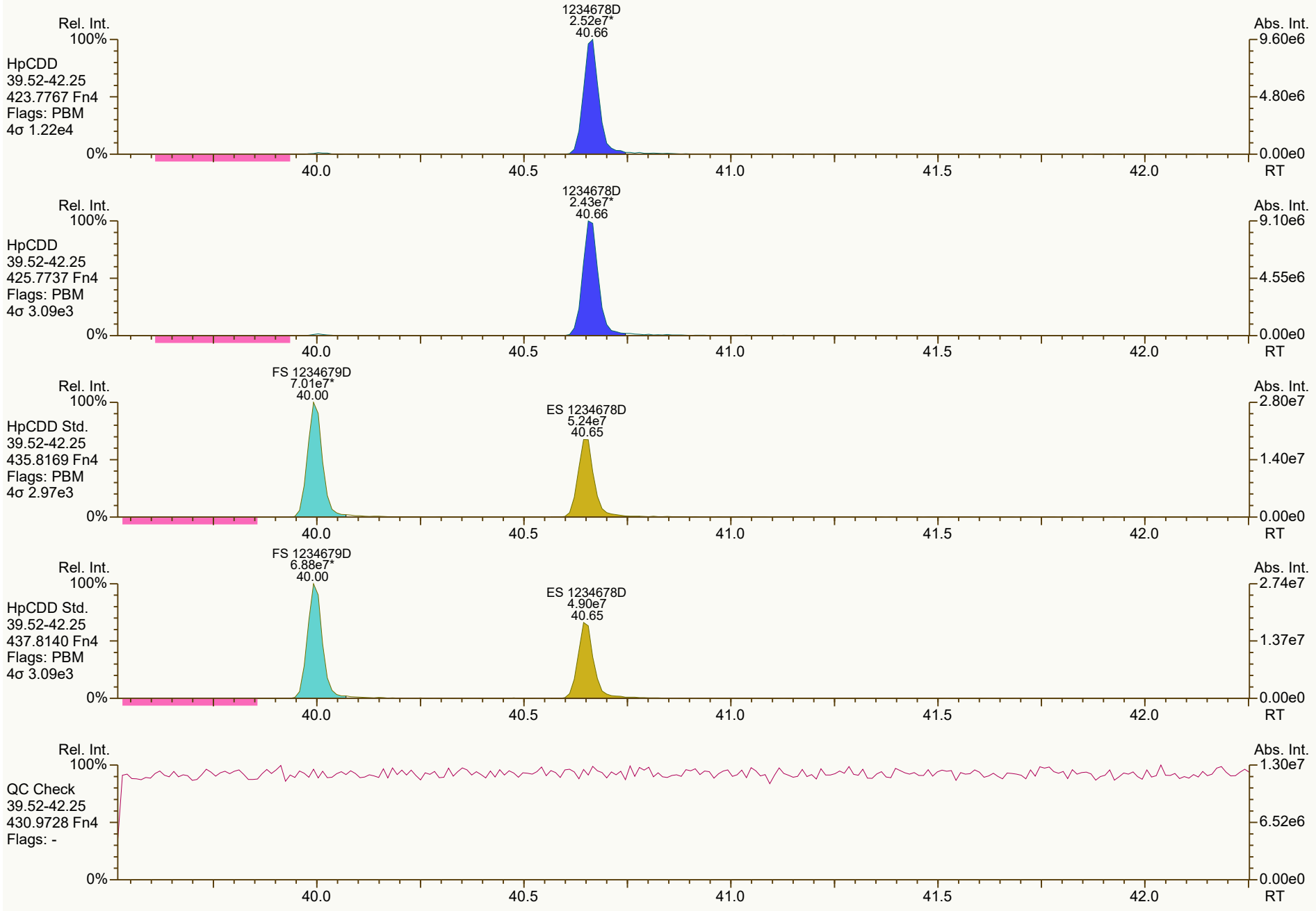
Processed: 28 Jul 2021 08:18 Analyst: pw

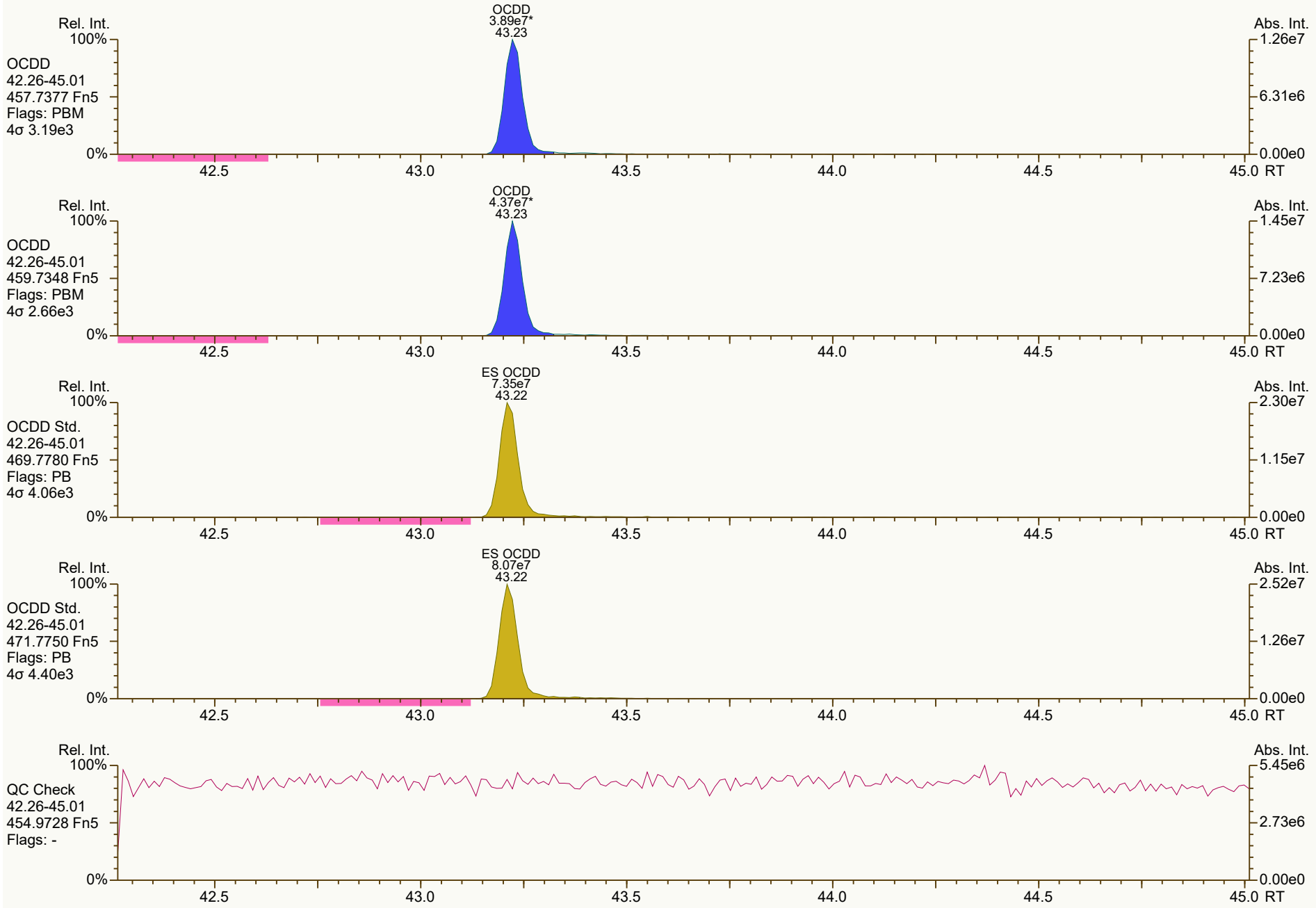

Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
2.63e6
1.31e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.40e6
1.20e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51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

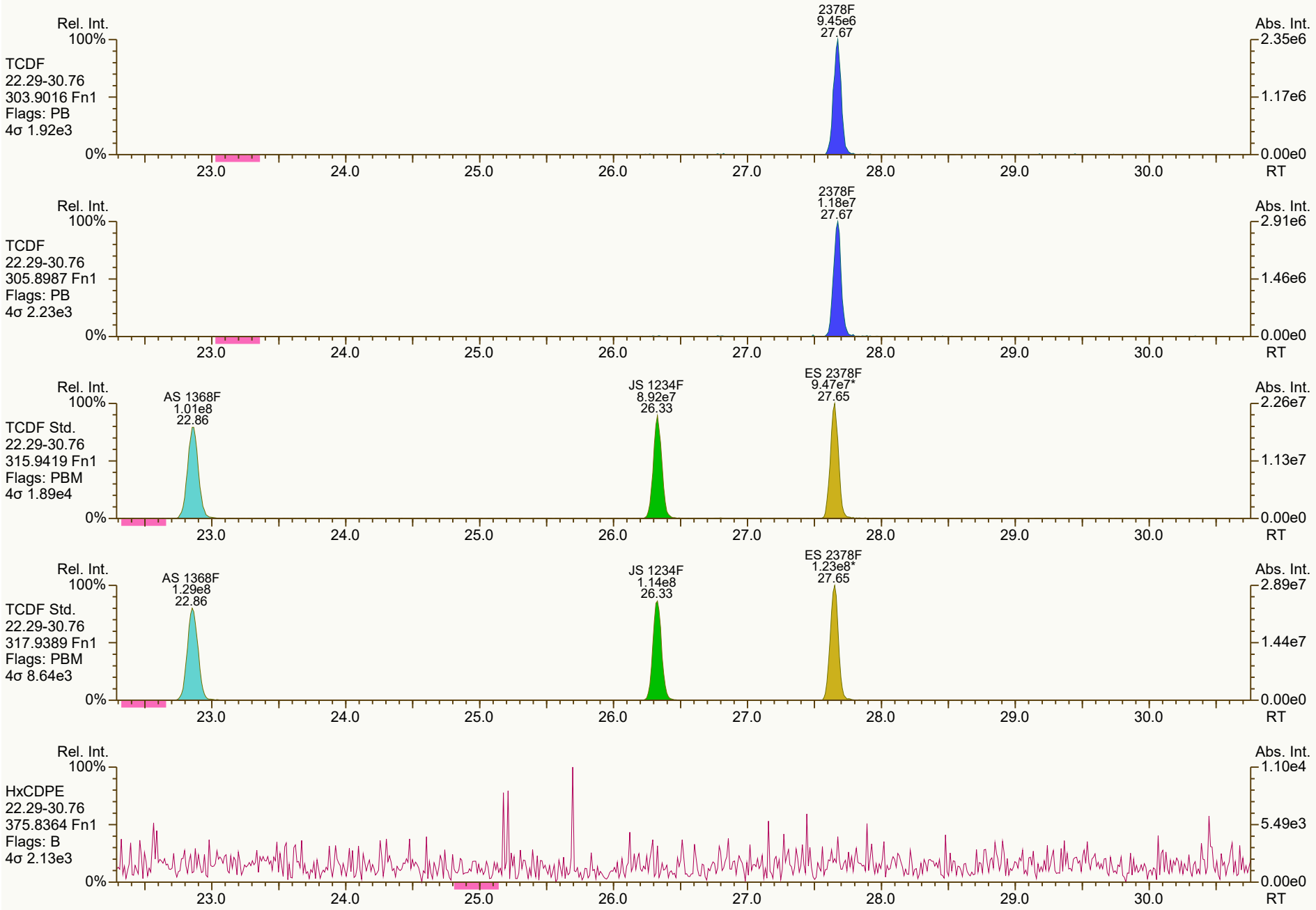

Rel. Int.
100%
0%
Abs. Int.
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 2.90e3
2378D
7.50e6
28.53
1.90e6
9.51e5
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.54e3
RRF(2378D) = (7.50e6 + 9.22e6) * 100pg / (5.52e7 + 6.89e7) * 10pg = 1.35
PSW 28-Jul-2021 08:19
OK - CL 28Jul21
2378D
9.22e6
28.53
2.31e6
1.15e6
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 1.70e3
CS 37Cl-2378D
1.55e7
28.53
3.86e6
1.93e6
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 5.15e3
AS 1368D
5.61e7
24.92
TS 1378D
7.44e7
26.88
JS 1234D
5.36e7
27.86
ES 2378D
5.52e7
28.50
FS 1278D
6.18e7
28.83
1.74e7
8.71e6
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 4.63e3
AS 1368D
7.21e7
24.92
TS 1378D
9.30e7
26.88
JS 1234D
6.75e7
27.86
ES 2378D
6.89e7
28.50
FS 1278D
7.62e7
28.82
2.20e7
1.10e7


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


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


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

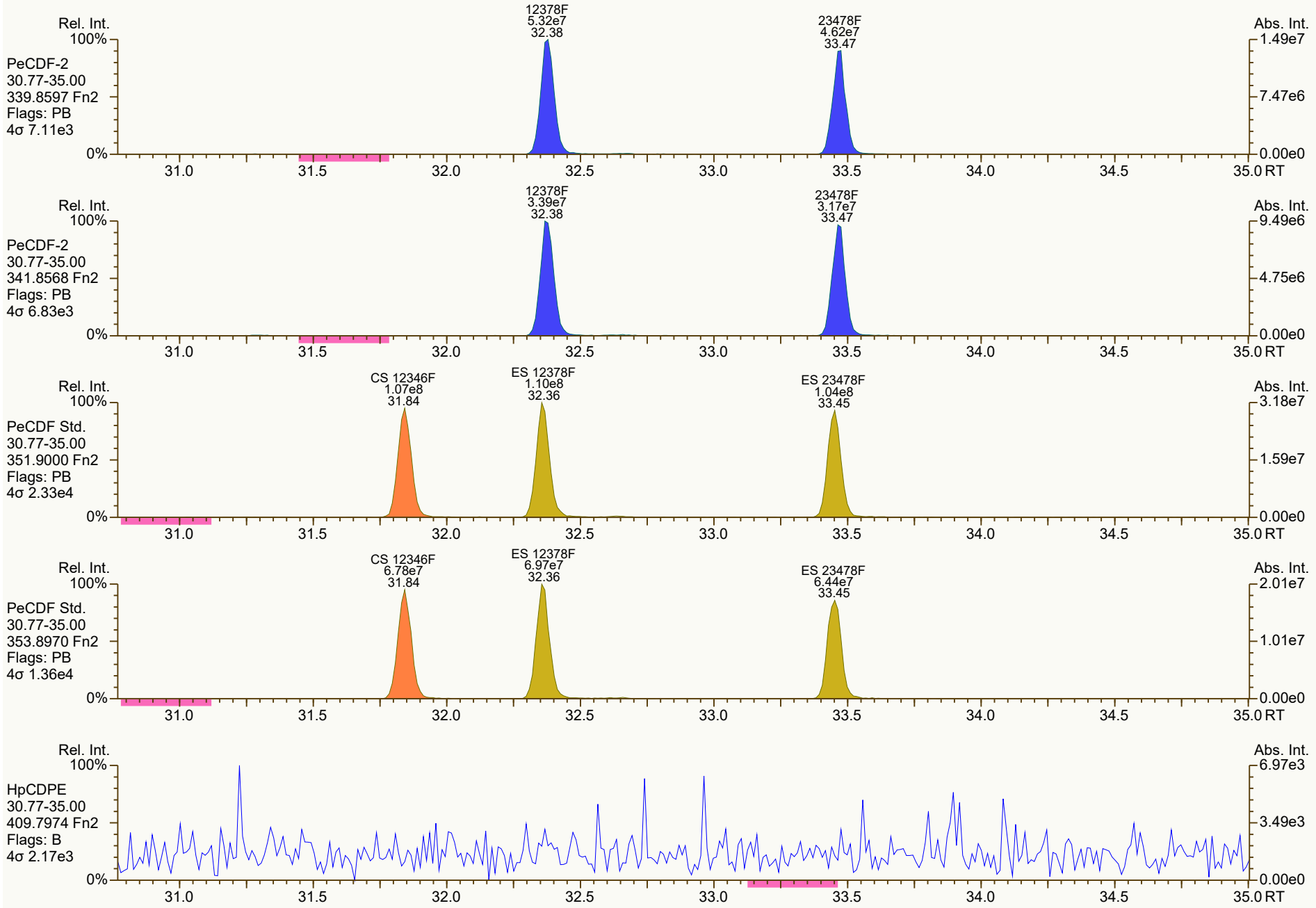

OCDD
3.89e7*
43.23
Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: PBM
4σ 3.19e3
0%
Abs. Int.
1.26e7
6.31e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.37e7*
43.23
OCDD
42.26-45.01
459.7348 Fn5
Flags: PBM
4σ 2.66e3
1.45e7
7.23e6
ES OCDD
7.35e7
43.22
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PB
4σ 4.06e3
2.30e7
1.15e7
ES OCDD
8.07e7
43.22
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PB
4σ 4.40e3
2.52e7
1.26e7
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
5.45e6
2.73e6


Rel. Int.
100%
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 1.92e3
2378F
9.45e6
27.67
Abs. Int.
2.35e6
1.17e6
0.00e0
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.23e3
2378F
1.18e7
27.67
Abs. Int.
2.91e6
1.46e6
0.00e0
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PBM
4σ 1.89e4
AS 1368F
1.01e8
22.86
JS 1234F
8.92e7
26.33
ES 2378F
9.47e7*
27.65
Abs. Int.
2.26e7
1.13e7
0.00e0
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PBM
4σ 8.64e3
AS 1368F
1.29e8
22.86
JS 1234F
1.14e8
26.33
ES 2378F
1.23e8*
27.65
Abs. Int.
2.89e7
1.44e7
0.00e0
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.13e3
Abs. Int.
1.10e4
5.49e3
0.00e0
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
2.70e4
1.35e4
0.00e0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 2.78e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.25e4
6.25e3
0.00e0
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 2.56e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.63e6
1.31e6
0.00e0
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT

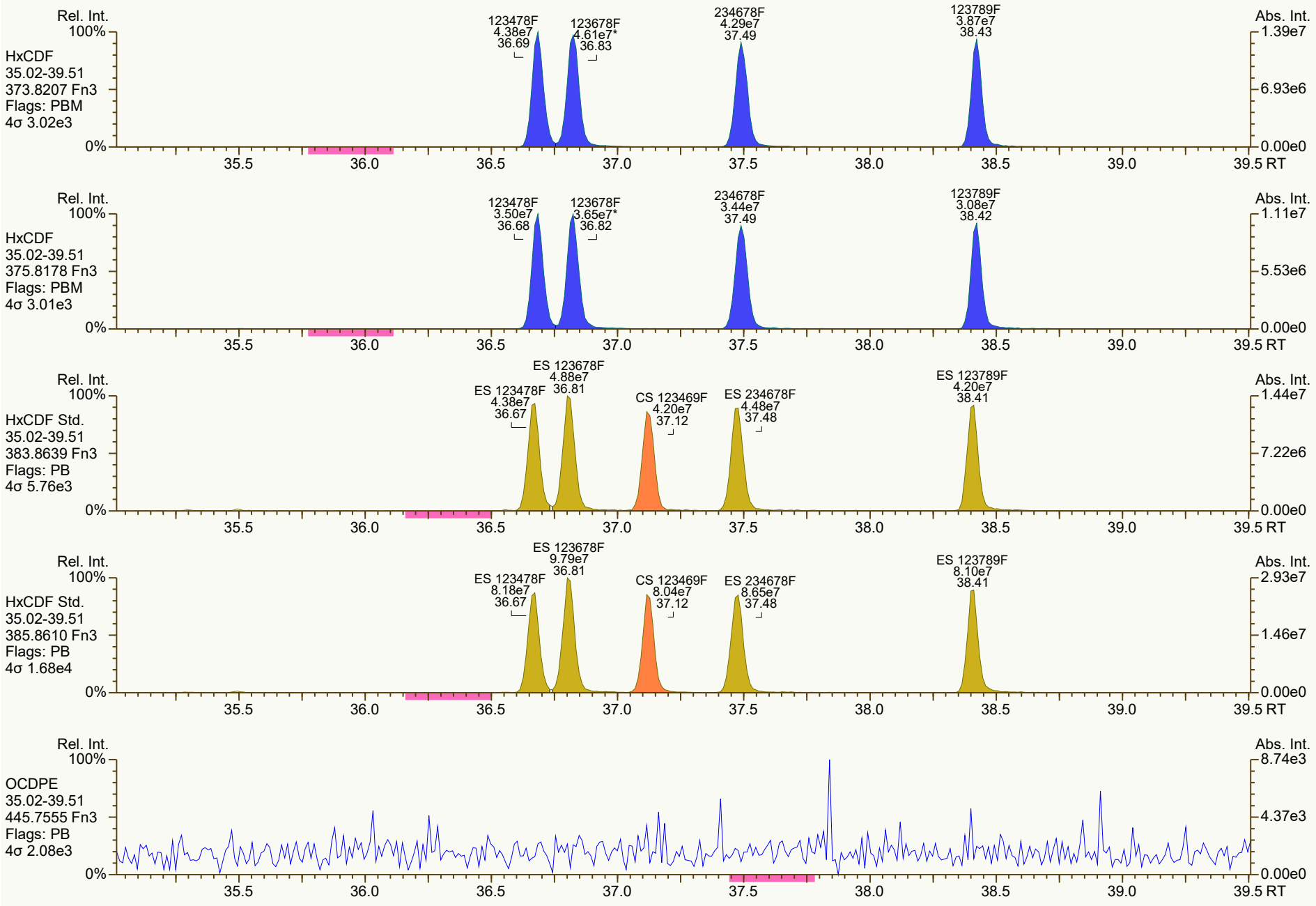
SGS ID: CS3_210727_DF_RB | Sample ID: SIL 23-672-1 | Acq: 27-Jul-2021 19:43:55

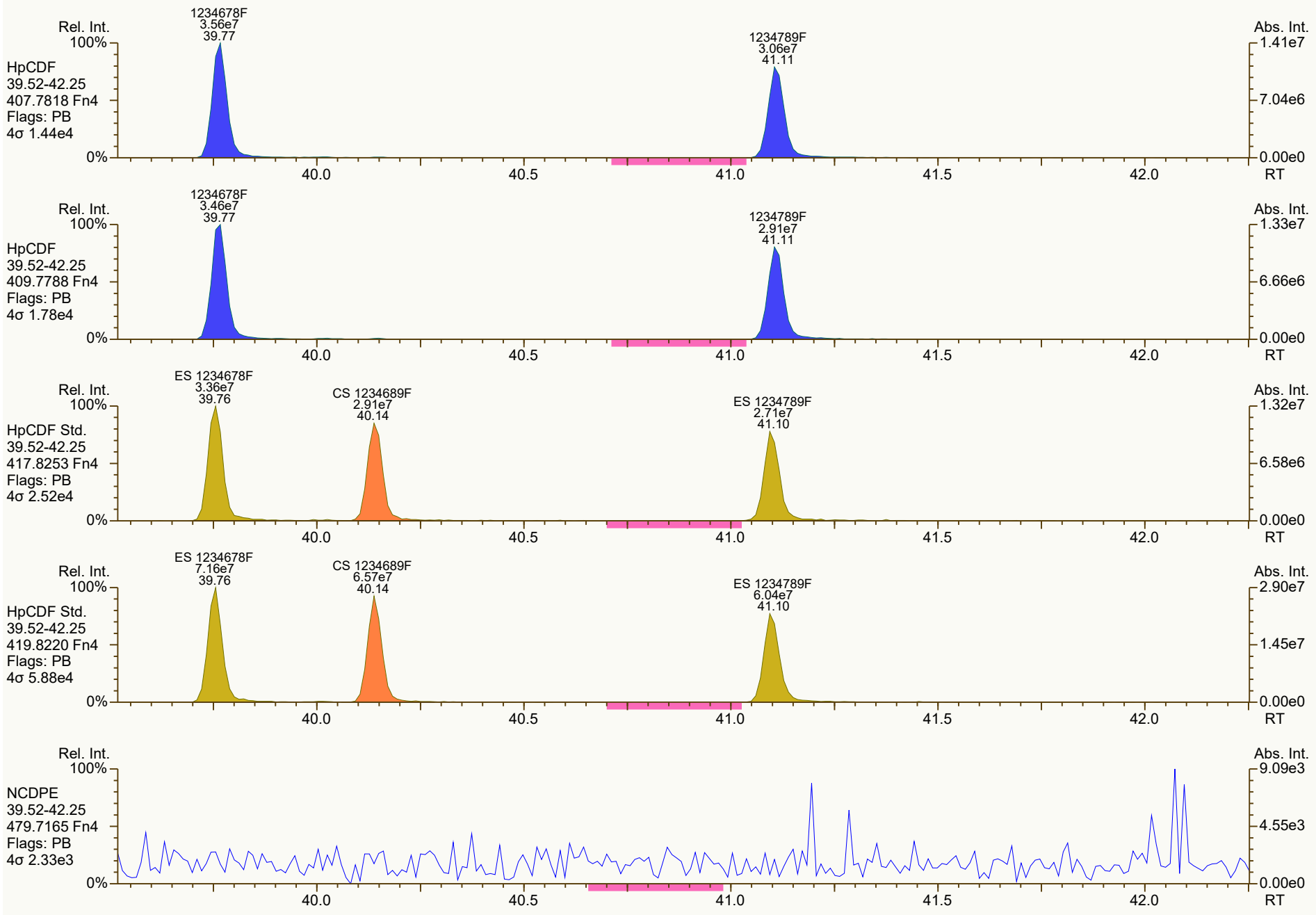
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3 | User: PSW Datafile: 210727R15

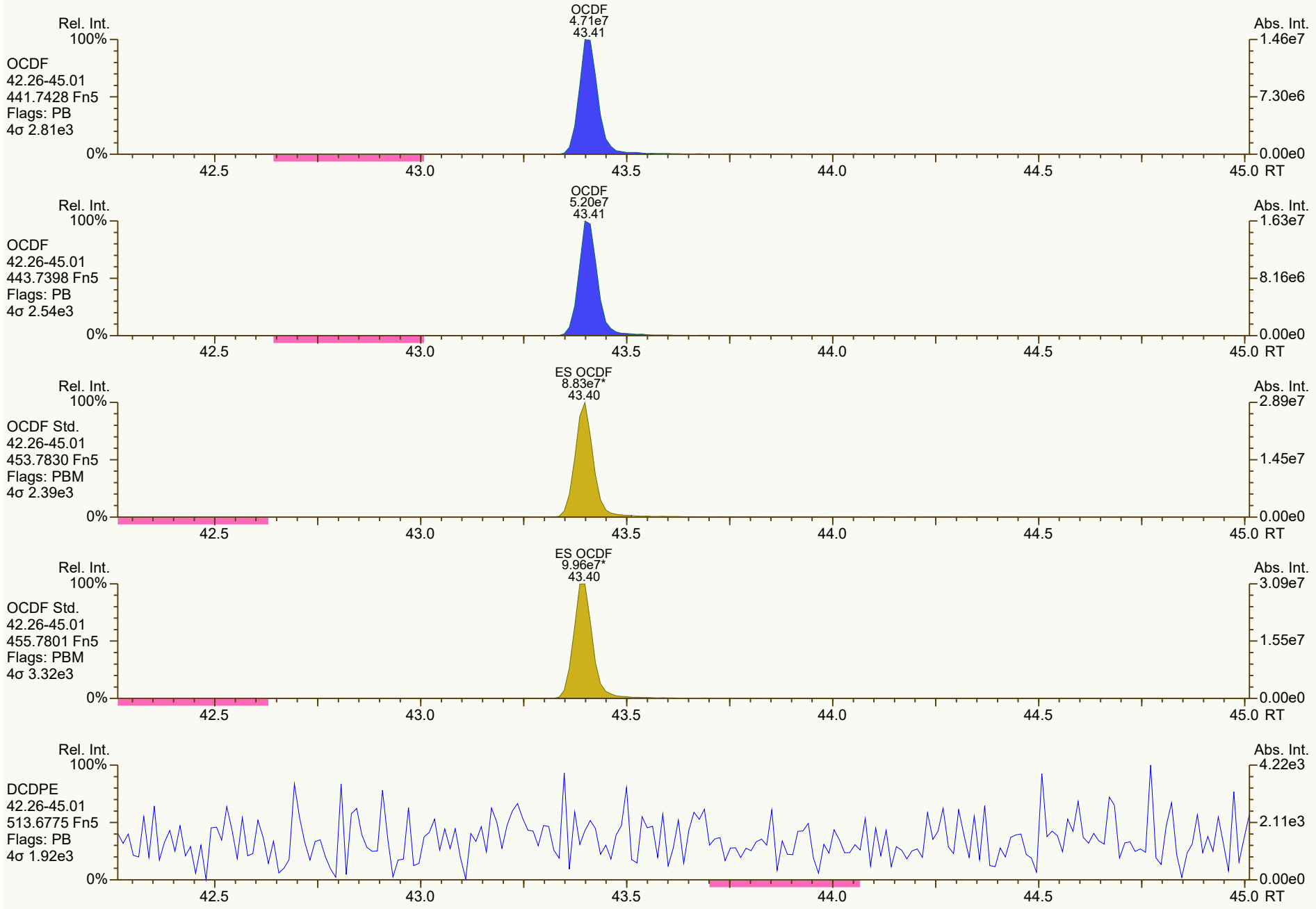


Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1037, 5263, 2332 scc: 320-816 | *PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:21 Page 9 of 12*


Rel. Int.
100%
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 3.02e3
123478F
4.38e7
36.69
123678F
4.61e7*
36.83
234678F
4.29e7
37.49
123789F
3.87e7
38.43
Abs. Int.
1.39e7
6.93e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 3.01e3
123478F
3.50e7
36.68
123678F
3.65e7*
36.82
234678F
3.44e7
37.49
123789F
3.08e7
38.42
Abs. Int.
1.11e7
5.53e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 5.76e3
ES 123678F
4.88e7
36.81
ES 123478F
4.38e7
36.67
CS 123469F
4.20e7
37.12
ES 234678F
4.48e7
37.48
ES 123789F
4.20e7
38.41
Abs. Int.
1.44e7
7.22e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 1.68e4
ES 123678F
9.79e7
36.81
ES 123478F
8.18e7
36.67
CS 123469F
8.04e7
37.12
ES 234678F
8.65e7
37.48
ES 123789F
8.10e7
38.41
Abs. Int.
2.93e7
1.46e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
OCDPE
35.02-39.51
445.7555 Fn3
Flags: PB
4σ 2.08e3
Abs. Int.
8.74e3
4.37e3
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


Rel. Int.
100%
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 1.44e4
1234678F
3.56e7
39.77
1234789F
3.06e7
41.11
Abs. Int.
1.41e7
7.04e6
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 1.78e4
1234678F
3.46e7
39.77
1234789F
2.91e7
41.11
1.33e7
6.66e6
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PB
4σ 2.52e4
ES 1234678F
3.36e7
39.76
CS 1234689F
2.91e7
40.14
ES 1234789F
2.71e7
41.10
1.32e7
6.58e6
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PB
4σ 5.88e4
ES 1234678F
7.16e7
39.76
CS 1234689F
6.57e7
40.14
ES 1234789F
6.04e7
41.10
2.90e7
1.45e7
NCDPE
39.52-42.25
479.7165 Fn4
Flags: PB
4σ 2.33e3
9.09e3
4.55e3


OCDF
4.71e7
43.41
Rel. Int.
100%
OCDF
42.26-45.01
441.7428 Fn5
Flags: PB
4σ 2.81e3
0%
Abs. Int.
1.46e7
7.30e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
5.20e7
43.41
Rel. Int.
100%
OCDF
42.26-45.01
443.7398 Fn5
Flags: PB
4σ 2.54e3
0%
Abs. Int.
1.63e7
8.16e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
8.83e7*
43.40
Rel. Int.
100%
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PBM
4σ 2.39e3
0%
Abs. Int.
2.89e7
1.45e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
9.96e7*
43.40
Rel. Int.
100%
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PBM
4σ 3.32e3
0%
Abs. Int.
3.09e7
1.55e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.26-45.01
513.6775 Fn5
Flags: PB
4σ 1.92e3
0%
Abs. Int.
4.22e3
2.11e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary		Acq'd: 27 Jul 2021 20:31 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS3_210727_DF_RC		UTP: 28-Jul-2021 08:16:59 PSW				Checkcode: 537-883-PJZ	
Sample ID: ICV SIL 24-11-9		Report: 28 Jul 2021 08:18 pw				Datafile: 210727R16	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	28.53	2.48E+07	0.79	Y	1.34	1.22	-9%
12378-PeCDD	33.81	9.55E+07	1.55	Y	1.06	0.98	-8%
123478-HxCDD	37.68	8.89E+07	1.25	Y	1.06	1.04	-1%
123678-HxCDD	37.80	9.70E+07	1.25	Y	1.08	1.14	5%
123789-HxCDD	38.09	9.52E+07	1.24	Y	1.02	0.95	-7%
1234678-HpCDD	40.67	8.40E+07	1.03	Y	0.97	0.99	1%
OCDD	43.24	1.45E+08	0.90	Y	1.07	1.07	0%
2378-TCDF	27.68	3.32E+07	0.79	Y	0.96	0.95	-1%
12378-PeCDF	32.38	1.28E+08	1.52	Y	0.95	0.87	-8%
23478-PeCDF	33.48	1.47E+08	1.58	Y	0.94	1.00	6%
123478-HxCDF	36.69	1.27E+08	1.27	Y	1.23	1.25	1%
123678-HxCDF	36.83	1.34E+08	1.26	Y	1.13	1.11	-2%
234678-HxCDF	37.50	1.26E+08	1.24	Y	1.15	1.17	1%
123789-HxCDF	38.43	1.13E+08	1.25	Y	1.14	1.10	-3%
1234678-HpCDF	39.77	1.18E+08	1.02	Y	1.36	1.34	-2%
1234789-HpCDF	41.12	9.93E+07	1.03	Y	1.30	1.29	-1%
OCDF	43.42	1.67E+08	0.90	Y	1.03	1.02	-1%
ES 2378-TCDD	28.51	2.04E+08	0.81	Y	1.03	0.96	-7%
ES 12378-PeCDD	33.795	1.95E+08	1.65	Y	1.03	0.92	-11%
ES 123478-HxCDD	37.667	1.70E+08	1.28	Y	0.99	0.98	-2%
ES 123678-HxCDD	37.781	1.70E+08	1.29	Y	0.97	0.97	0%
ES 123789-HxCDD	38.071	2.01E+08	1.25	Y	1.12	1.15	2%
ES 1234678-HpCDD	40.656	1.70E+08	1.05	Y	0.99	0.97	-2%
ES OCDD	43.225	2.69E+08	0.90	Y	0.78	0.77	-1%
ES 2378-TCDF	27.654	3.51E+08	0.77	Y	1.08	0.99	-9%
ES 12378-PeCDF	32.366	2.97E+08	1.58	Y	0.93	0.84	-10%
ES 23478-PeCDF	33.459	2.95E+08	1.56	Y	0.92	0.84	-9%
ES 123478-HxCDF	36.673	2.04E+08	0.52	Y	1.14	1.17	2%
ES 123678-HxCDF	36.814	2.41E+08	0.53	Y	1.30	1.38	7%
ES 234678-HxCDF	37.481	2.17E+08	0.52	Y	1.20	1.24	3%
ES 123789-HxCDF	38.414	2.06E+08	0.52	Y	1.14	1.18	4%
ES 1234678-HpCDF	39.764	1.76E+08	0.46	Y	0.95	1.01	6%
ES 1234789-HpCDF	41.106	1.54E+08	0.45	Y	0.85	0.88	4%
ES OCDF	43.408	3.28E+08	0.88	Y	0.93	0.94	2%

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

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

Not reported from this ICAL - CL 28Jul21

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

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

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

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

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

Processed: 28 Jul 2021 08:17 Analyst: pw

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

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

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

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

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

Processed: 28 Jul 2021 08:17 Analyst: pw

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

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

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

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

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

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

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

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

Processed: 28 Jul 2021 08:18 Analyst: pw

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

Lab Name: SGS North America

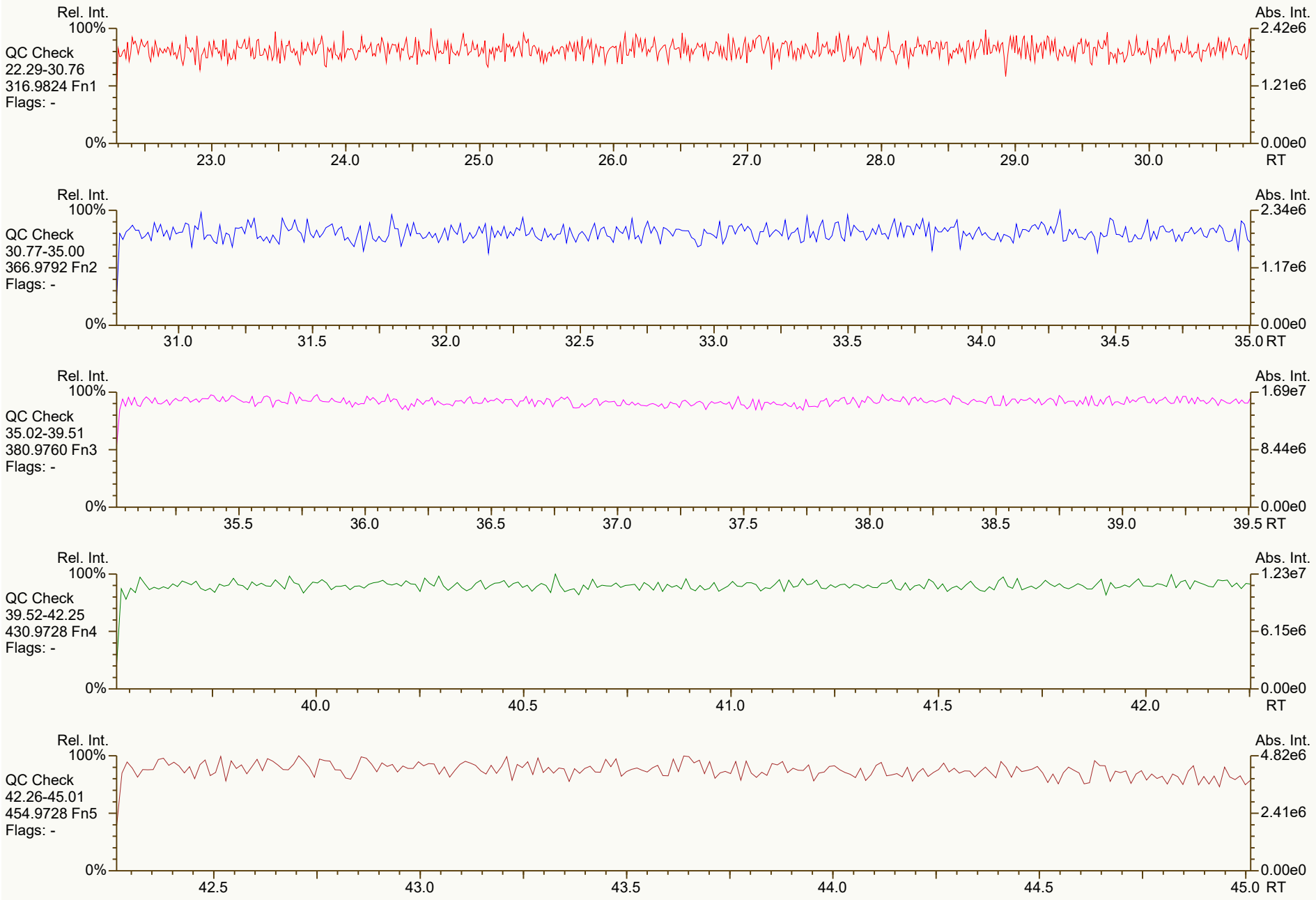
Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

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

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

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

Processed: 28 Jul 2021 08:18 Analyst: pw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316.9824 Fn1
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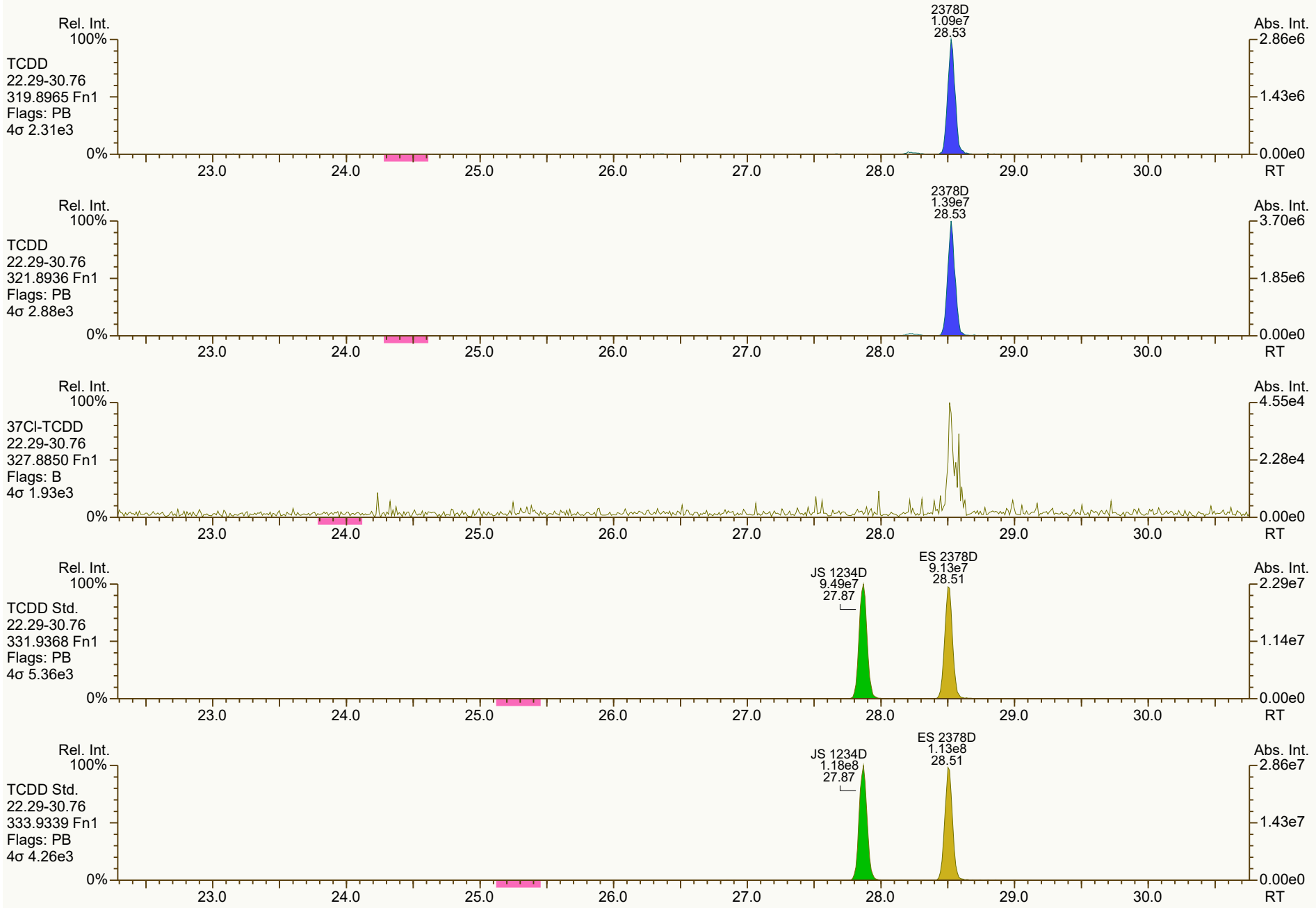
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.34e6
1.17e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.69e7
8.44e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.23e7
6.15e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.82e6
2.41e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


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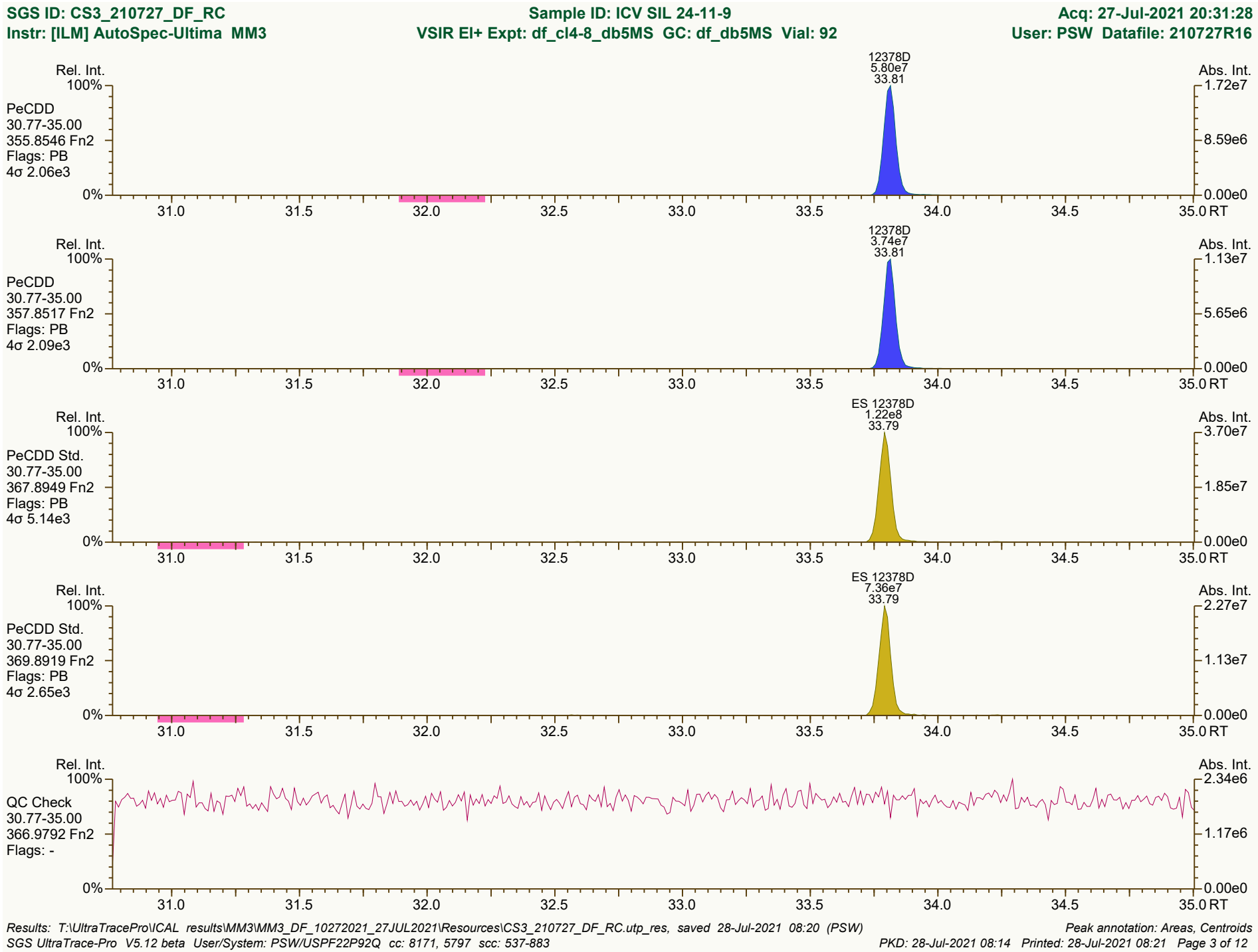
319.8965 Fn1
Flags: PB
4σ 2.31e3
0%
2378D
1.09e7
28.53
Abs. Int.
2.86e6
1.43e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.88e3
0%
2378D
1.39e7
28.53
Abs. Int.
3.70e6
1.85e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%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

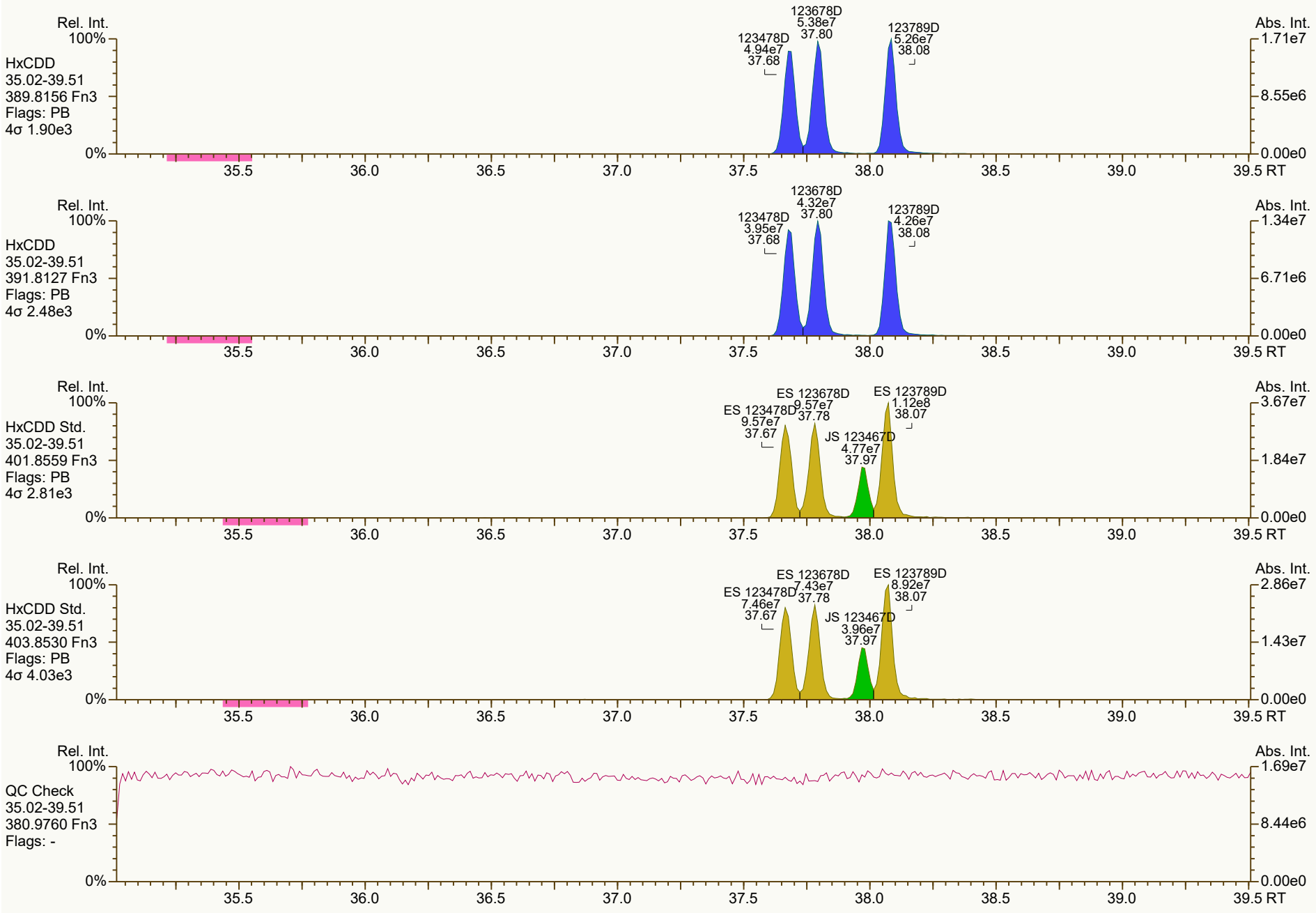
SGS ID: CS3_210727_DF_RC
Instr: [ILM] AutoSpec-Ultima MM3

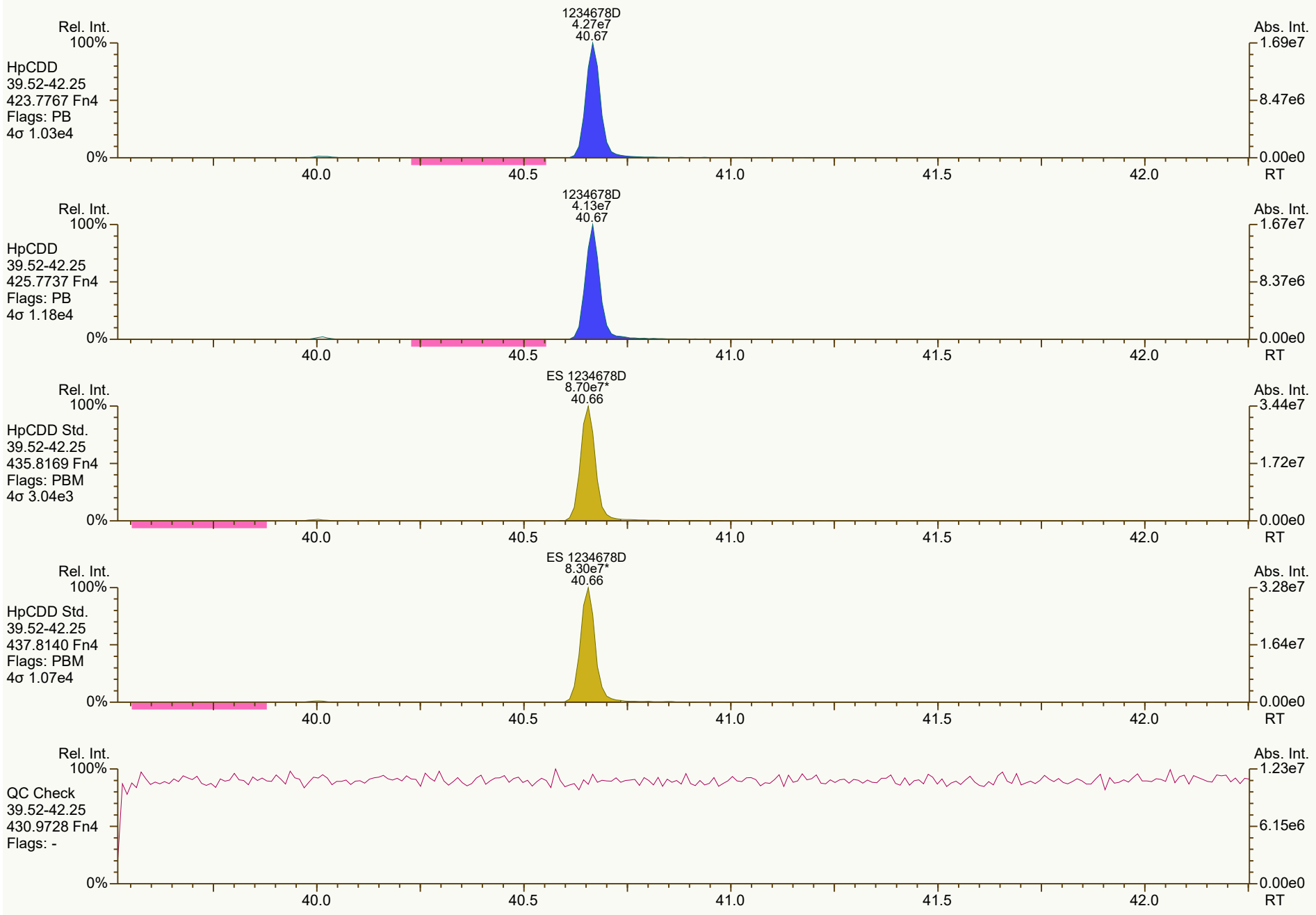
Sample ID: ICV SIL 24-11-9
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92

Acq: 27-Jul-2021 20:31:28
User: PSW Datafile: 210727R16

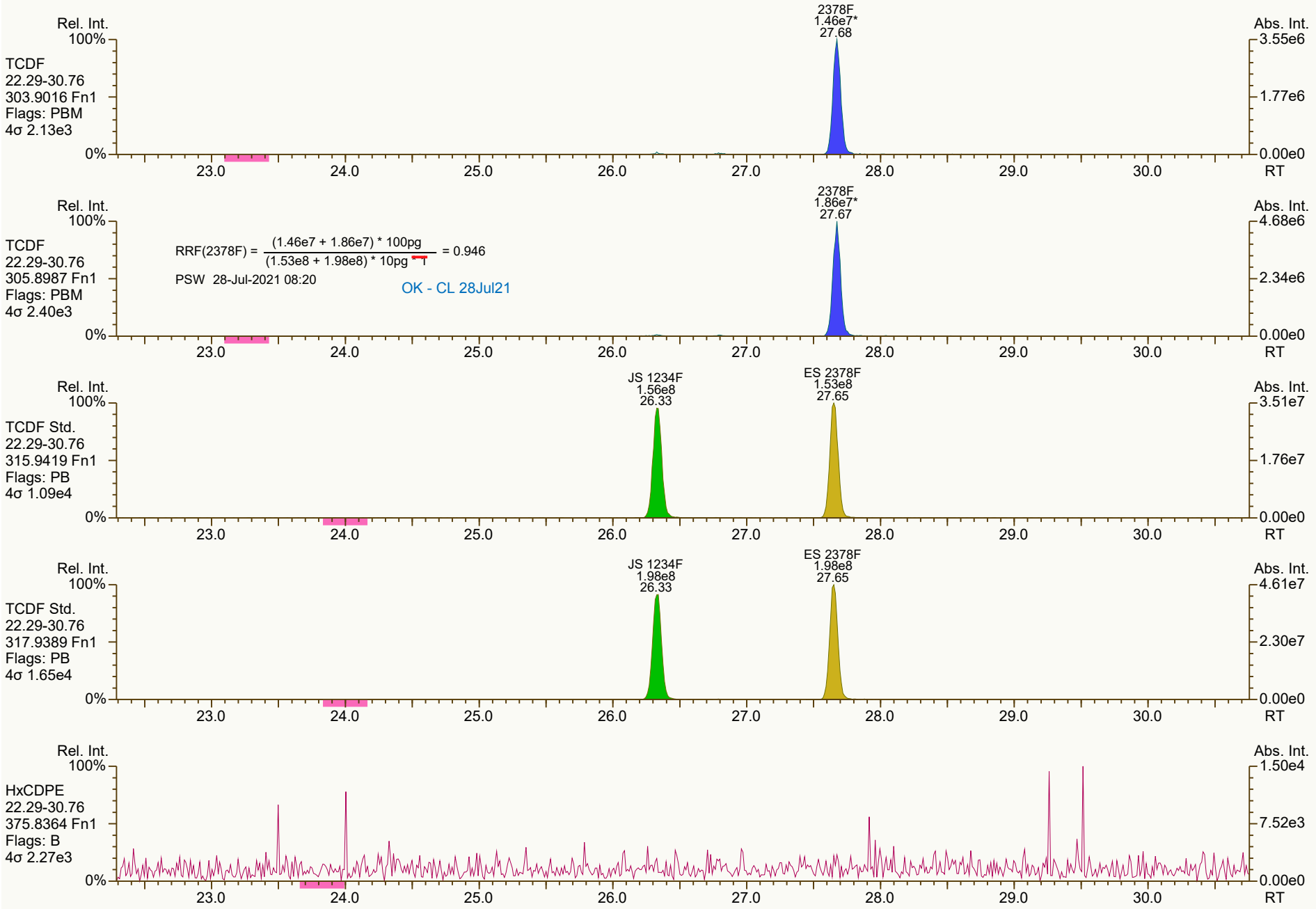


Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8171, 5797 scc: 537-883
PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 3 of 12


Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 1.90e3
123678D
5.38e7
37.80
123478D
4.94e7
37.68
123789D
5.26e7
38.08
Abs. Int.
1.71e7
8.55e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.48e3
123678D
4.32e7
37.80
123478D
3.95e7
37.68
123789D
4.26e7
38.08
Abs. Int.
1.34e7
6.71e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PB
4σ 2.81e3
ES 123678D
9.57e7
37.78
ES 123478D
9.57e7
37.67
ES 123789D
1.12e8
38.07
JS 123467D
4.77e7
37.97
Abs. Int.
3.67e7
1.84e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PB
4σ 4.03e3
ES 123678D
7.43e7
37.78
ES 123478D
7.46e7
37.67
ES 123789D
8.92e7
38.07
JS 123467D
3.96e7
37.97
Abs. Int.
2.86e7
1.43e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
Abs. Int.
1.69e7
8.44e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


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


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

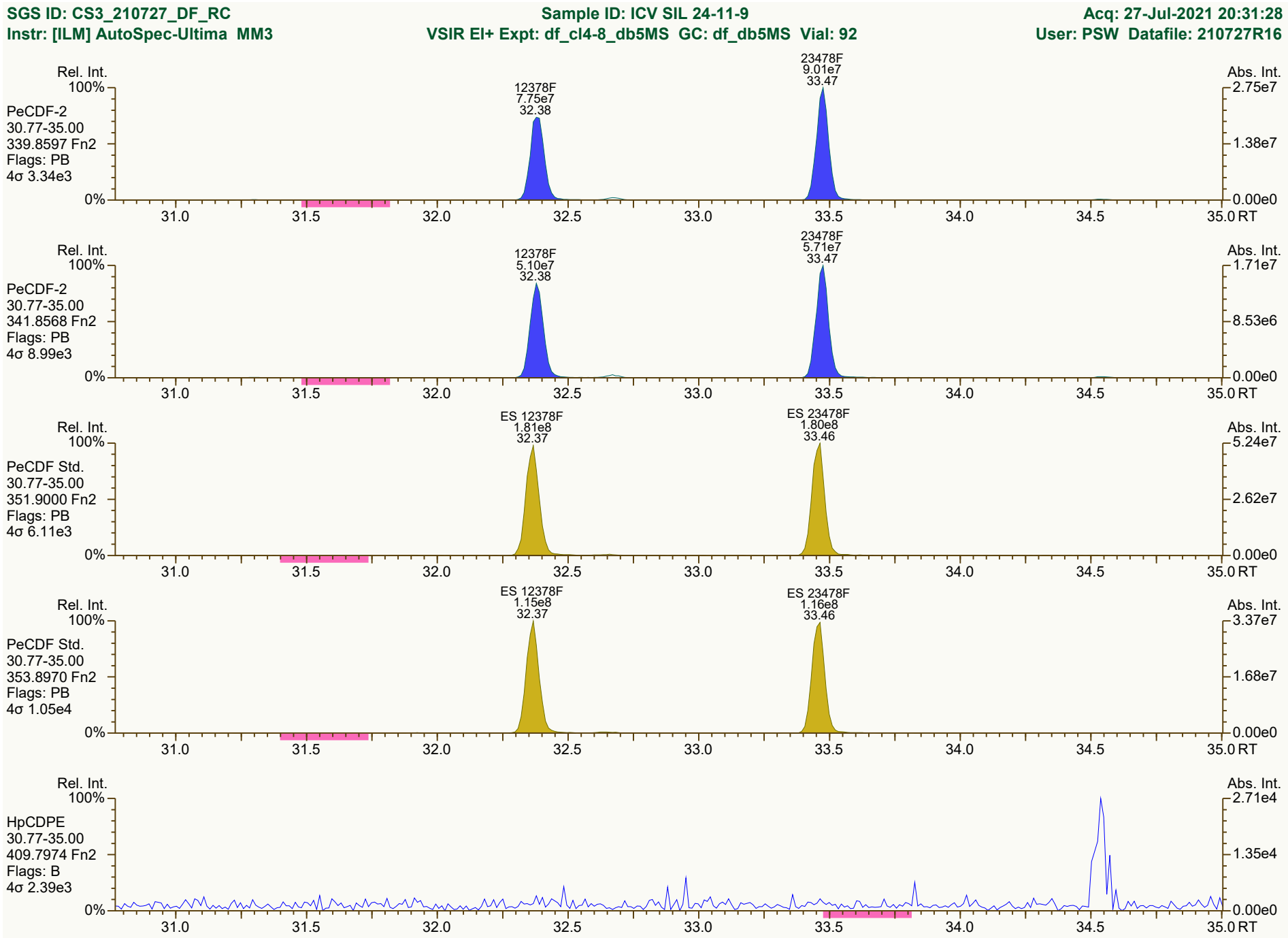

Rel. Int.
100%
TCDF
22.29-30.76
303.9016 Fn1
Flags: PBM
4σ 2.13e3
0%
2378F
1.46e7*
27.68
Abs. Int.
3.55e6
1.77e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF
22.29-30.76
305.8987 Fn1
Flags: PBM
4σ 2.40e3
0%
RRF(2378F) = (1.46e7 + 1.86e7) * 100pg / (1.53e8 + 1.98e8) * 10pg * 1 = 0.946
PSW 28-Jul-2021 08:20
OK - CL 28Jul21
2378F
1.86e7*
27.67
Abs. Int.
4.68e6
2.34e6
0.00e0
Rel. Int.
100%
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.09e4
0%
JS 1234F
1.56e8
26.33
ES 2378F
1.53e8
27.65
Abs. Int.
3.51e7
1.76e7
0.00e0
Rel. Int.
100%
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.65e4
0%
JS 1234F
1.98e8
26.33
ES 2378F
1.98e8
27.65
Abs. Int.
4.61e7
2.30e7
0.00e0
Rel. Int.
100%
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.27e3
0%
Abs. Int.
1.50e4
7.52e3
0.00e0


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

SGS ID: CS3_210727_DF_RC
Instr: [ILM] AutoSpec-Ultima MM3

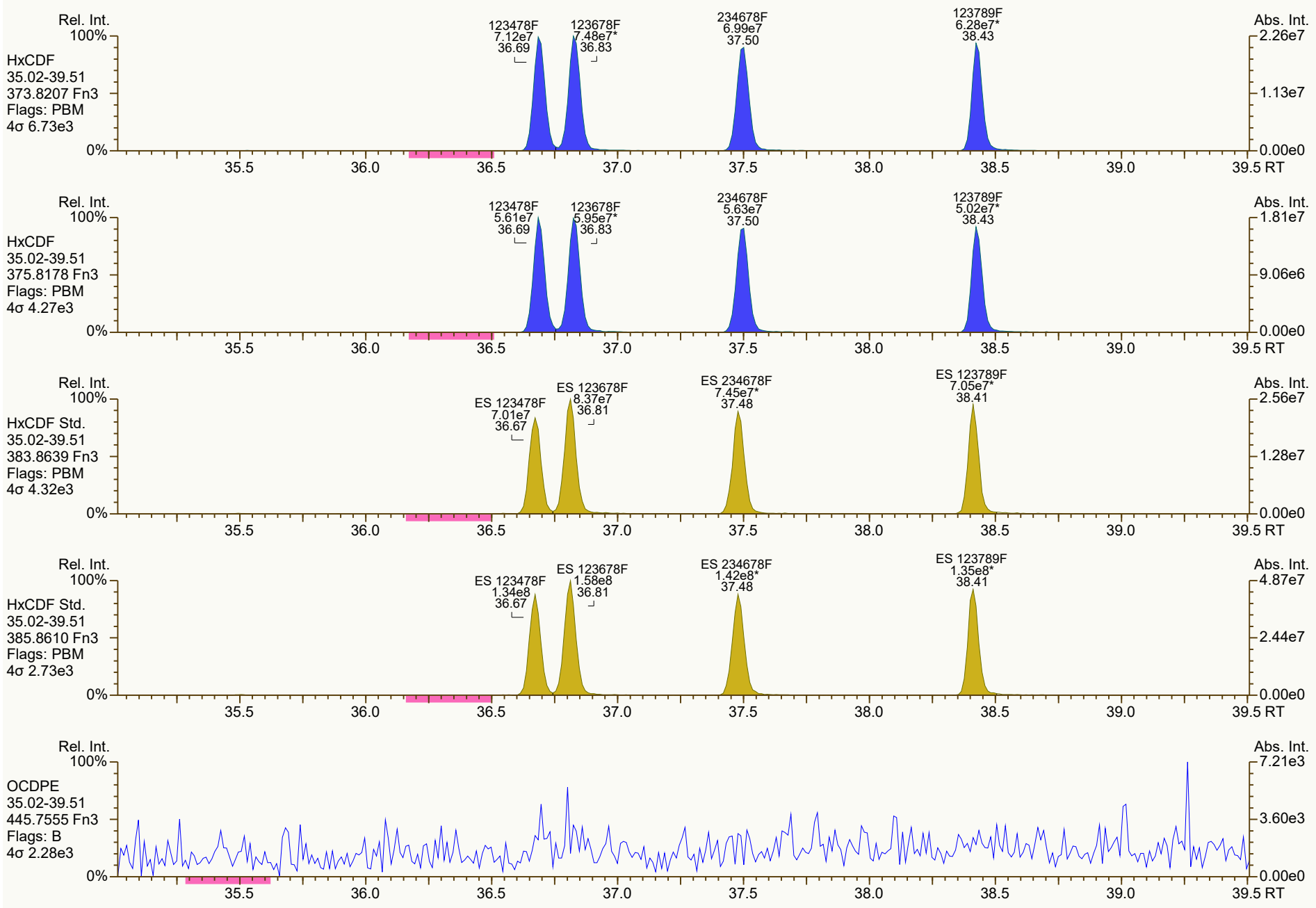
Sample ID: ICV SIL 24-11-9
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92

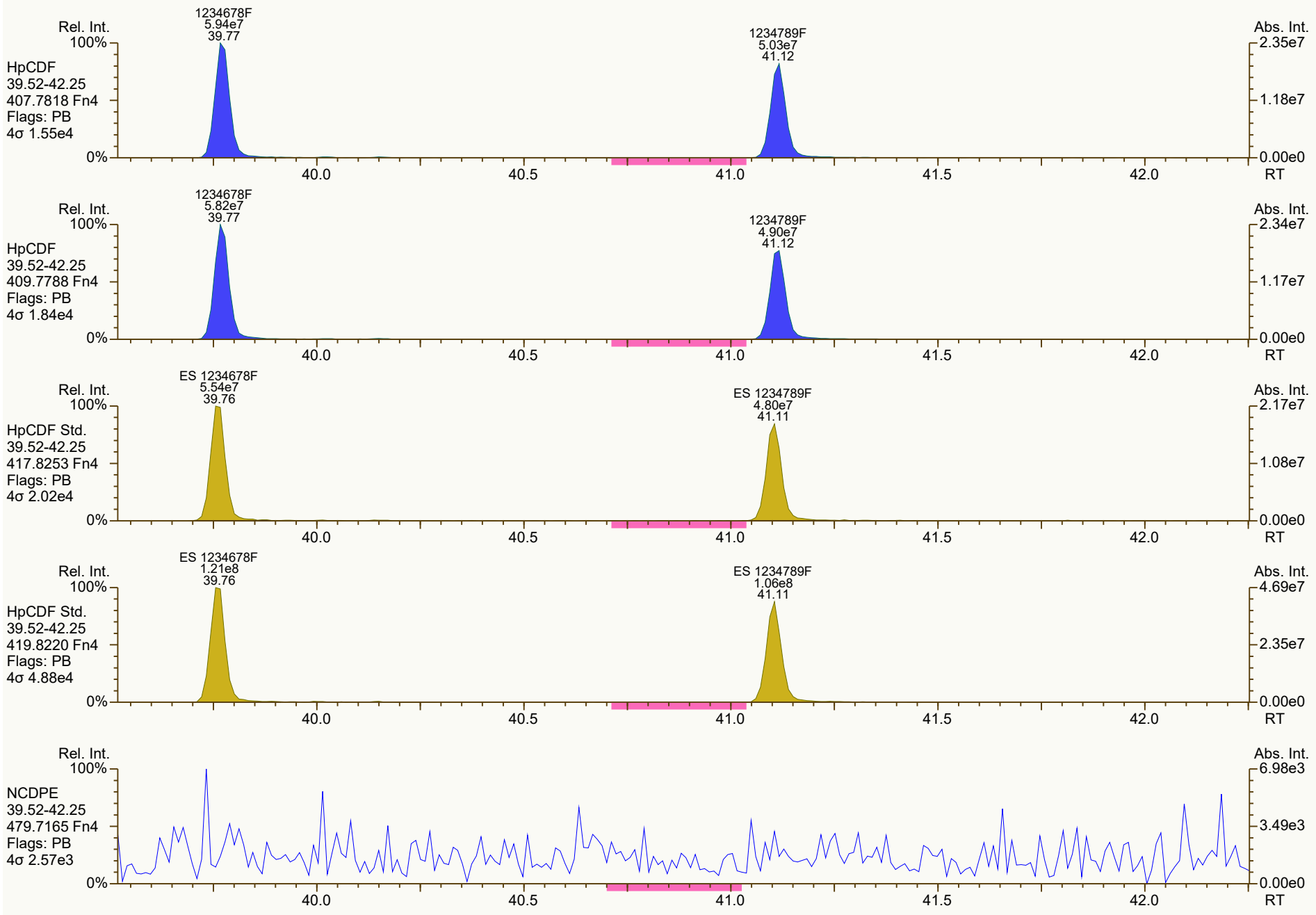
Acq: 27-Jul-2021 20:31:28
User: PSW Datafile: 210727R16

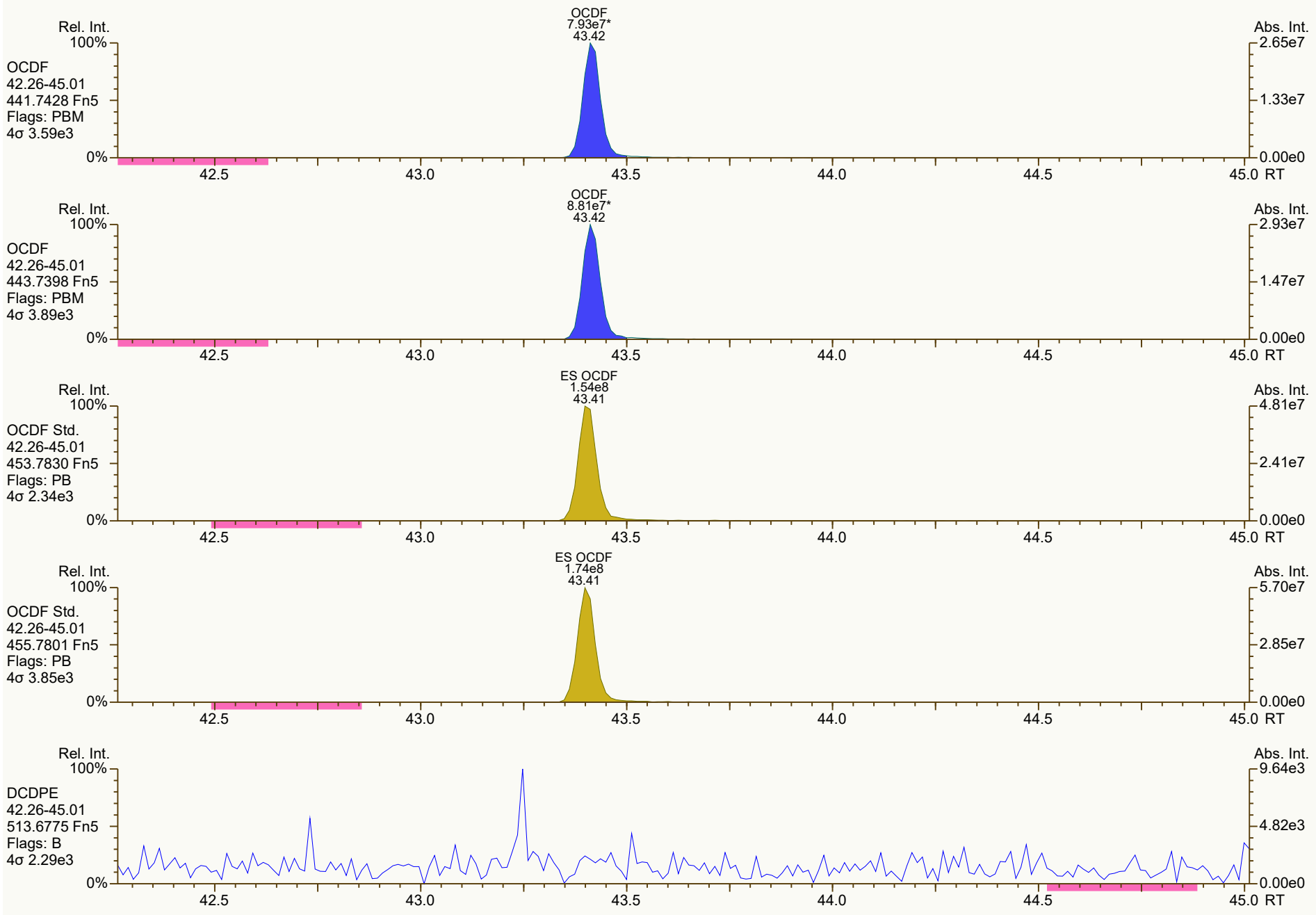


Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW)
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 5316, 2043, 4878 scc: 537-883

Peak annotation: Areas, Centroids
PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 6.73e3
0%
123478F
7.12e7
36.69
123678F
7.48e7*
36.83
234678F
6.99e7
37.50
123789F
6.28e7*
38.43
Abs. Int.
2.26e7
1.13e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 4.27e3
0%
123478F
5.61e7
36.69
123678F
5.95e7*
36.83
234678F
5.63e7
37.50
123789F
5.02e7*
38.43
Abs. Int.
1.81e7
9.06e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PBM
4σ 4.32e3
0%
ES 123478F
7.01e7
36.67
ES 123678F
8.37e7
36.81
ES 234678F
7.45e7*
37.48
ES 123789F
7.05e7*
38.41
Abs. Int.
2.56e7
1.28e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PBM
4σ 2.73e3
0%
ES 123478F
1.34e8
36.67
ES 123678F
1.58e8
36.81
ES 234678F
1.42e8*
37.48
ES 123789F
1.35e8*
38.41
Abs. Int.
4.87e7
2.44e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.28e3
0%
Abs. Int.
7.21e3
3.60e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT

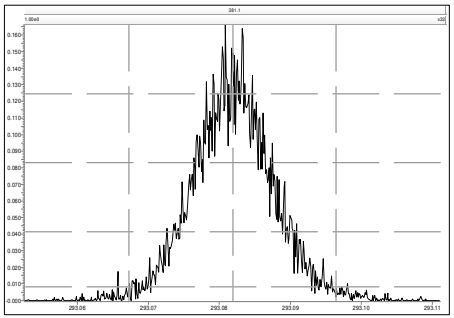

Rel. Int.
100%
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 1.55e4
0%
1234678F
5.94e7
39.77
1234789F
5.03e7
41.12
Abs. Int.
2.35e7
1.18e7
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 1.84e4
0%
1234678F
5.82e7
39.77
1234789F
4.90e7
41.12
Abs. Int.
2.34e7
1.17e7
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PB
4σ 2.02e4
0%
ES 1234678F
5.54e7
39.76
ES 1234789F
4.80e7
41.11
Abs. Int.
2.17e7
1.08e7
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PB
4σ 4.88e4
0%
ES 1234678F
1.21e8
39.76
ES 1234789F
1.06e8
41.11
Abs. Int.
4.69e7
2.35e7
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.52-42.25
479.7165 Fn4
Flags: PB
4σ 2.57e3
0%
Abs. Int.
6.98e3
3.49e3
0.00e0
40.0
40.5
41.0
41.5
42.0
RT


OCDF
7.93e7*
43.42
Rel. Int.
100%
OCDF
42.26-45.01
441.7428 Fn5
Flags: PBM
4σ 3.59e3
0%
Abs. Int.
2.65e7
1.33e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
8.81e7*
43.42
Rel. Int.
100%
OCDF
42.26-45.01
443.7398 Fn5
Flags: PBM
4σ 3.89e3
0%
Abs. Int.
2.93e7
1.47e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.54e8
43.41
Rel. Int.
100%
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PB
4σ 2.34e3
0%
Abs. Int.
4.81e7
2.41e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.74e8
43.41
Rel. Int.
100%
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PB
4σ 3.85e3
0%
Abs. Int.
5.70e7
2.85e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.26-45.01
513.6775 Fn5
Flags: B
4σ 2.29e3
0%
Abs. Int.
9.64e3
4.82e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

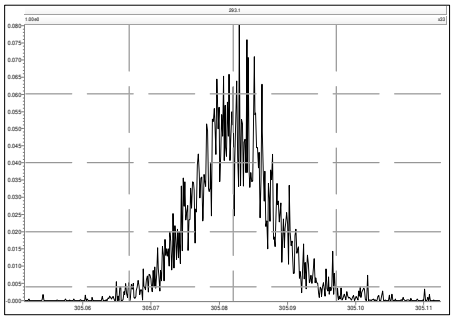
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

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

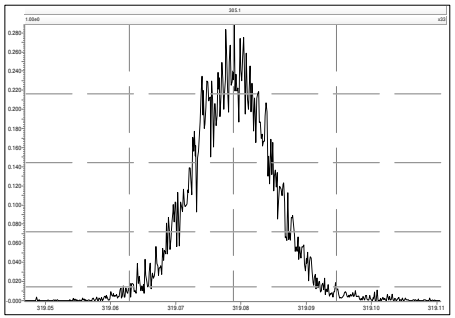
M 292.9824 R 12951



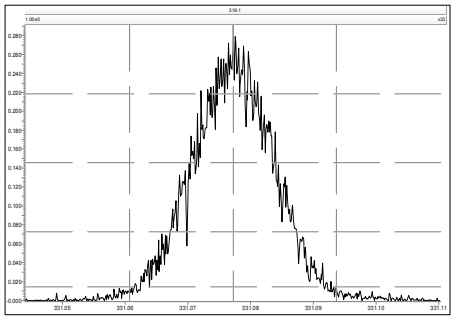
M 304.9824 R 13589



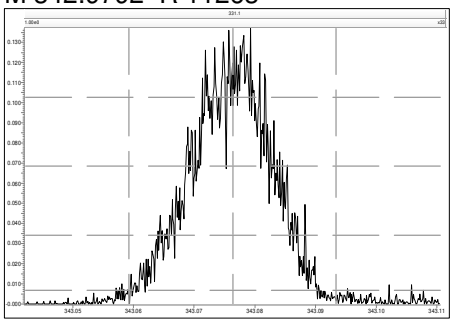
M 318.9792 R 11848



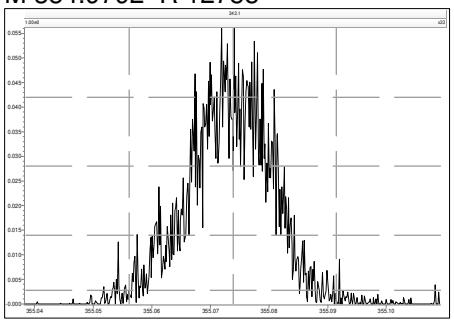
M 330.9792 R 11310



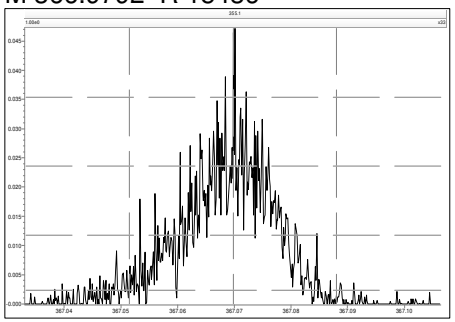
M 342.9792 R 11263



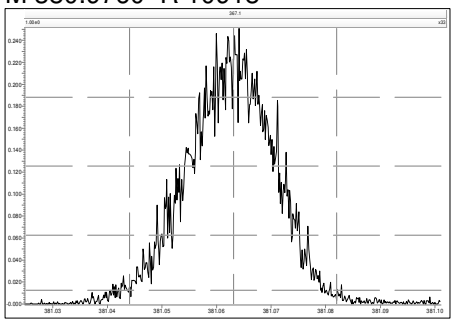
M 354.9792 R 12755



M 366.9792 R 15436



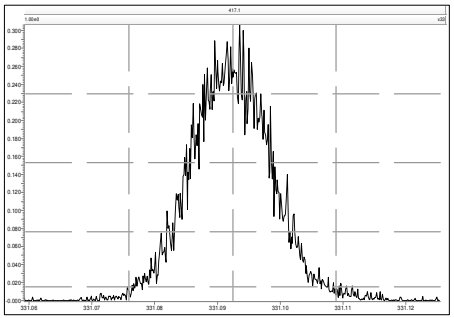
M 380.9760 R 10918



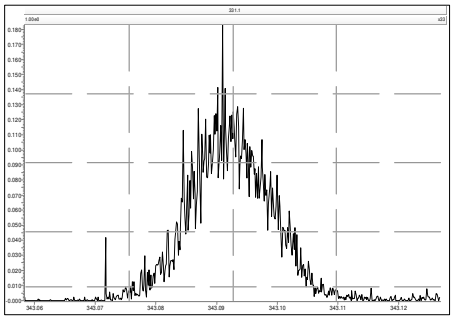
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

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

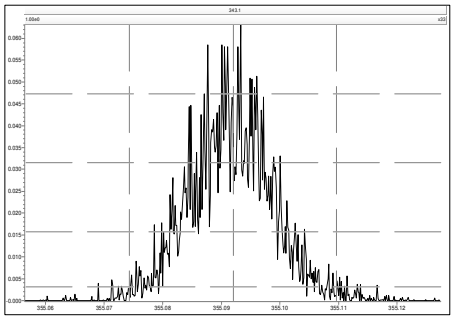
M 330.9792 R 11165



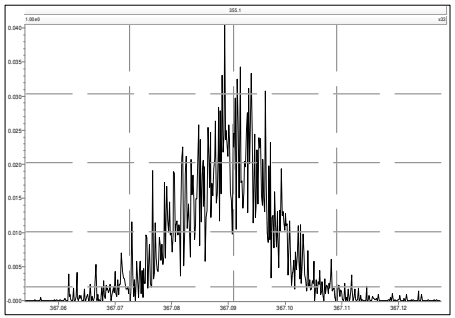
M 342.9792 R 12440



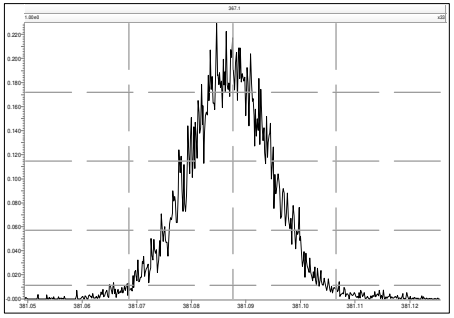
M 354.9792 R 12626



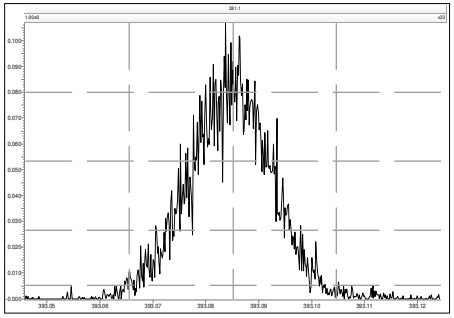
M 366.9792 R 12134



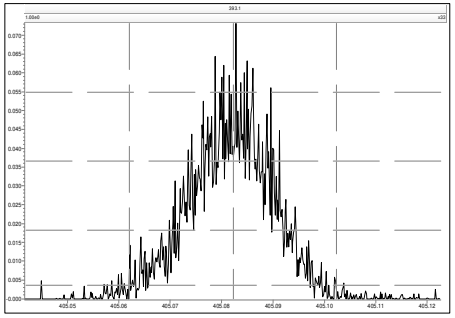
M 380.9760 R 10727



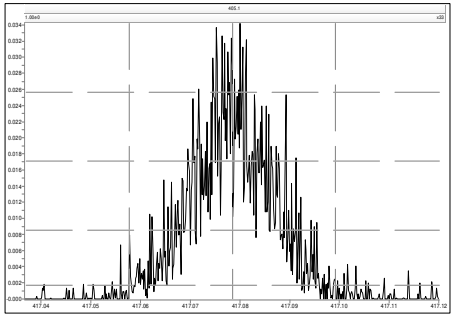
M 392.9760 R 12019



M 404.9760 R 11685



M 416.9760 R 14046



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

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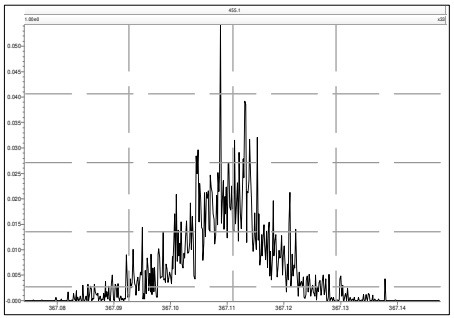
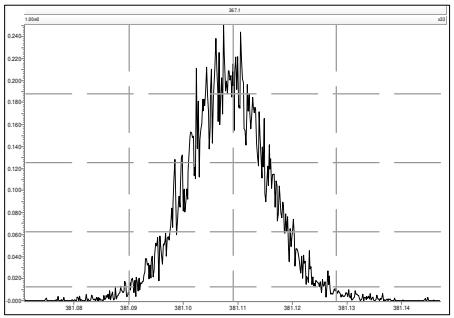
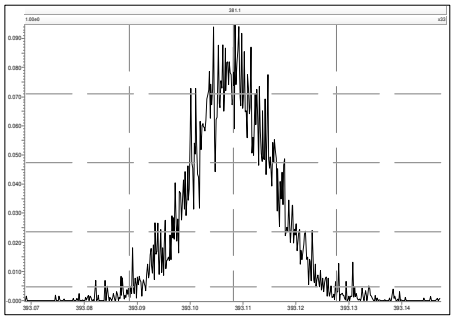
M 366.9792 R 13020



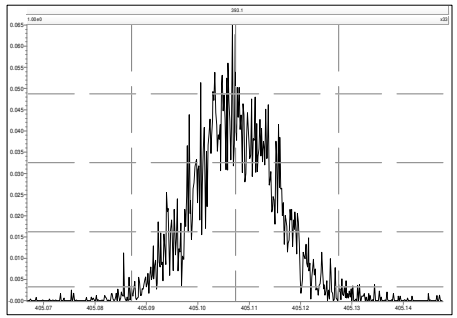
M 380.9760 R 11361



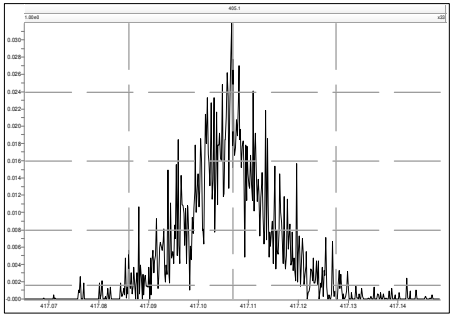
M 392.9760 R 11464



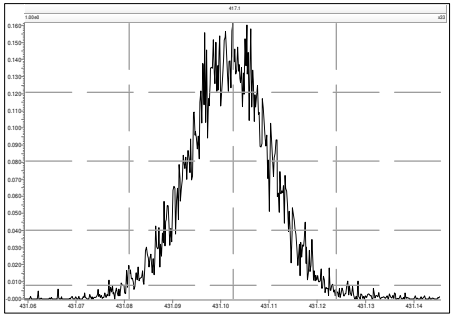
M 404.9760 R 12314



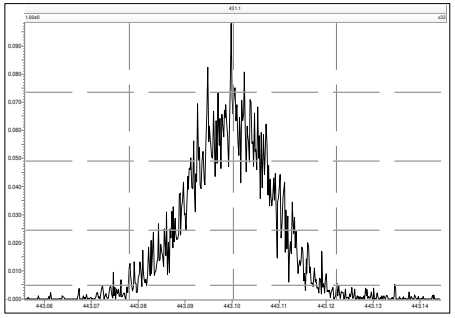
M 416.9760 R 17727



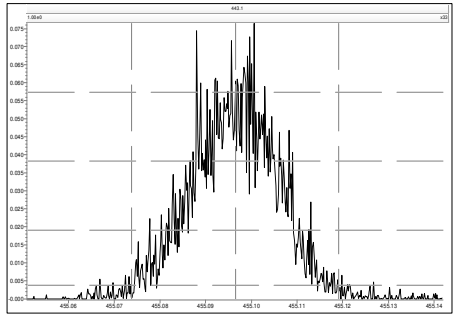
M 430.9728 R 11112



M 442.9728 R 13157



M 454.9728 R 12133



File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

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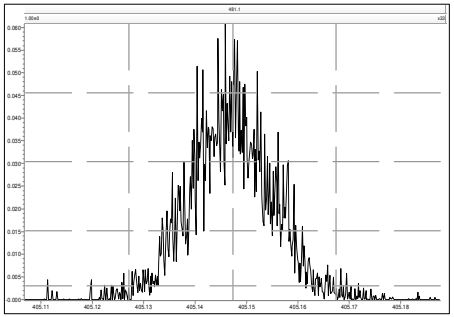
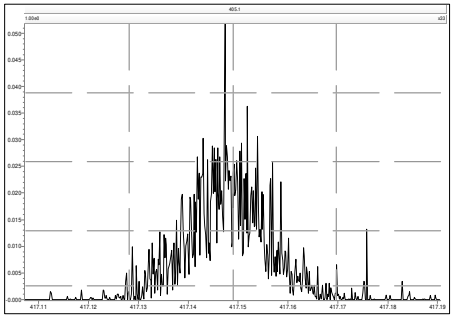
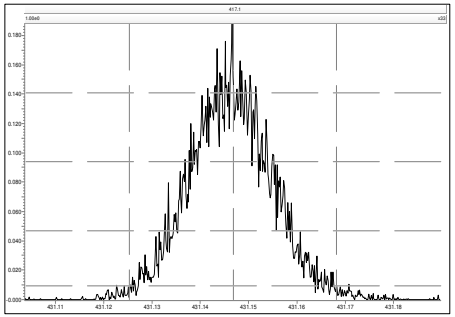
M 404.9760 R 12954



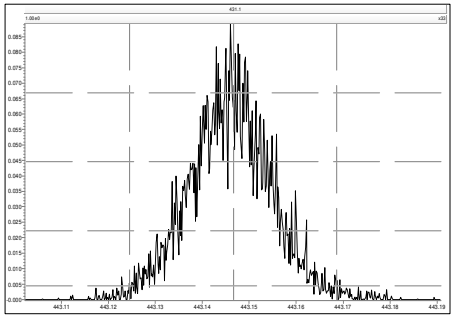
M 416.9760 R 17005



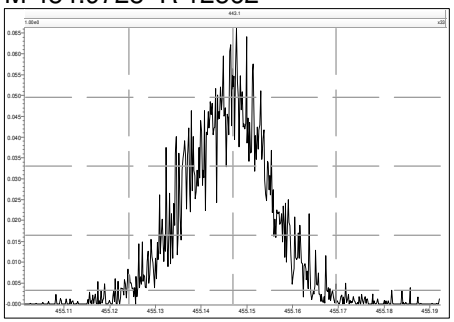
M 430.9728 R 11739



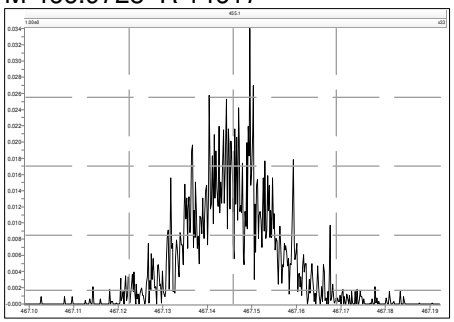
M 442.9728 R 11849



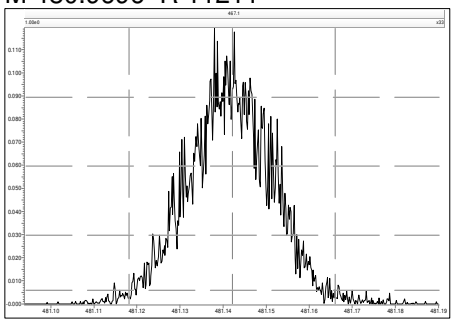
M 454.9728 R 12562



M 466.9728 R 14617



M 480.9696 R 11211



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

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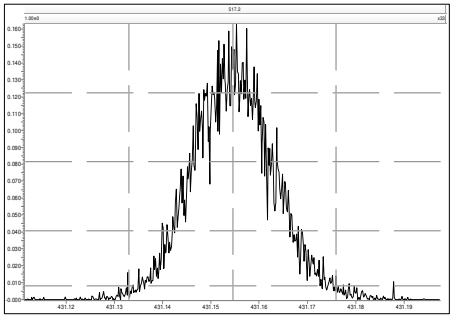
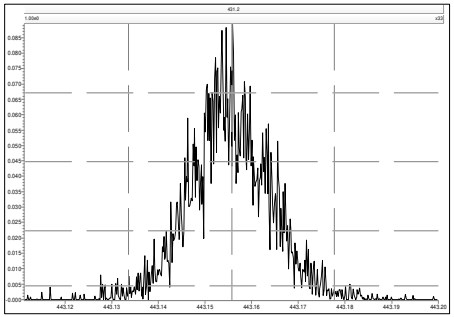
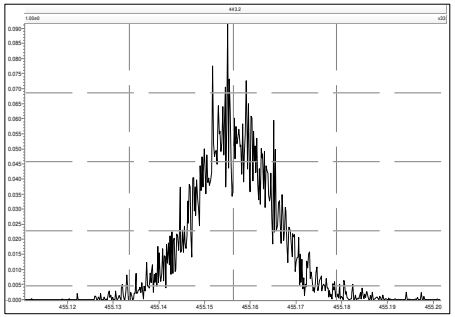
M 430.9728 R 11739



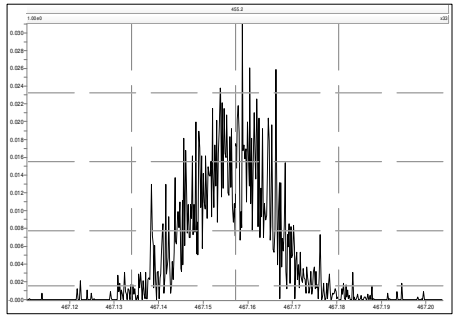
M 442.9728 R 12623



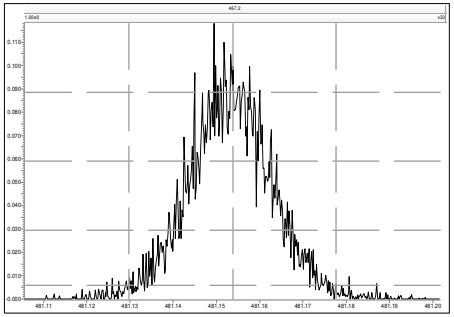
M 454.9728 R 12952



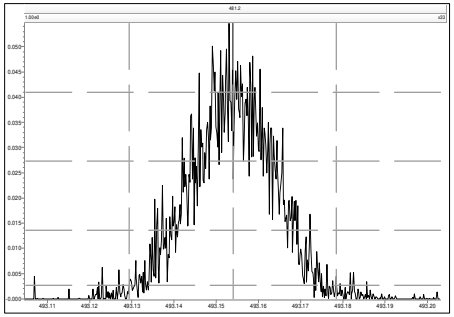
M 466.9728 R 17238



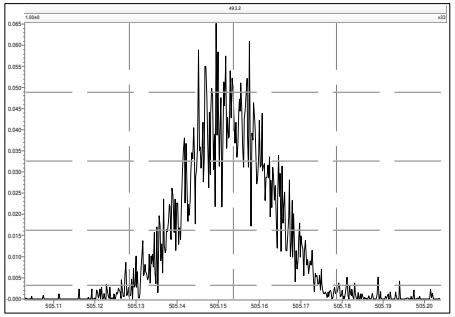
M 480.9696 R 11416



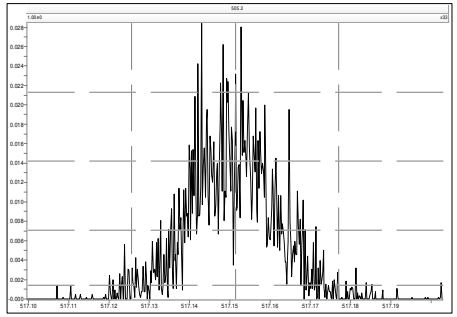
M 492.9696 R 12562



M 504.9696 R 13300



M 516.9697 R 15342



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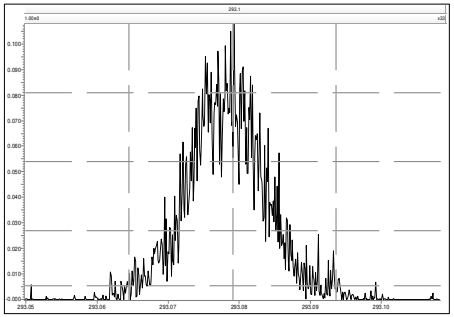
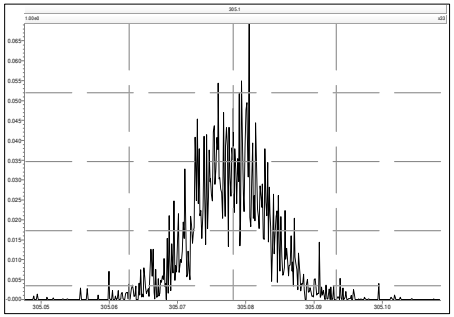
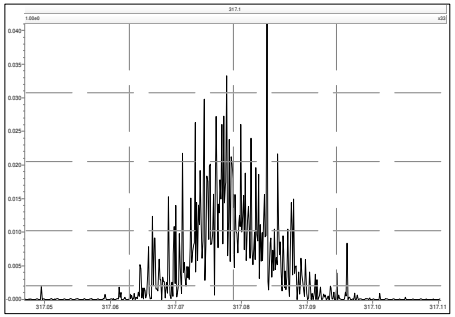
M 292.9824 R 13333



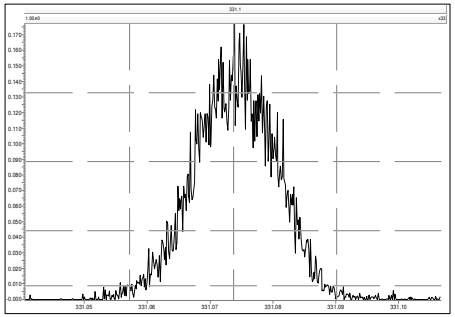
M 304.9824 R 14839



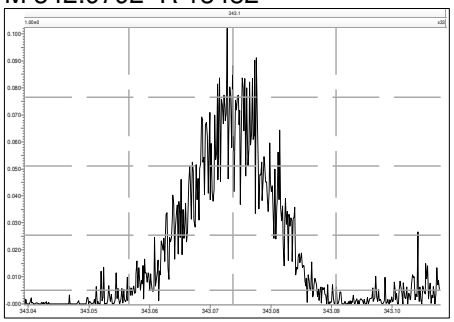
M 316.9824 R 17537



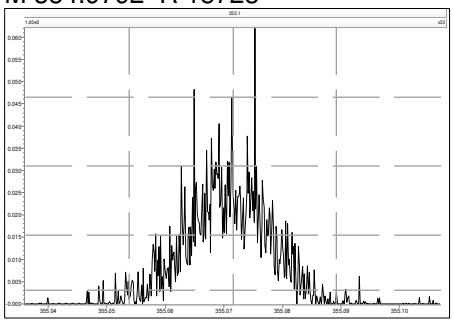
M 330.9792 R 11836



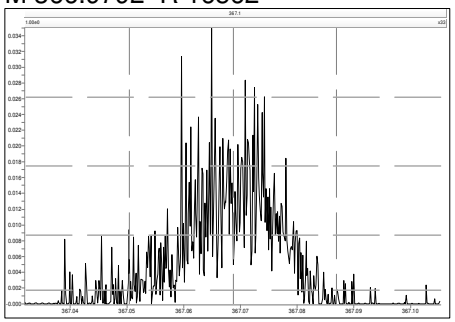
M 342.9792 R 13432



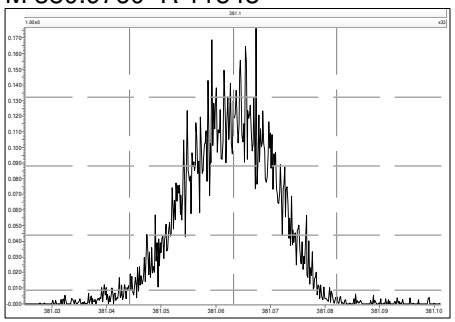
M 354.9792 R 15723



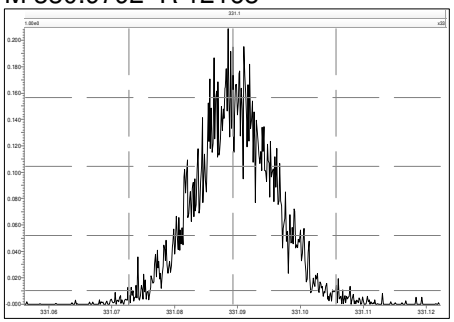
M 366.9792 R 16562



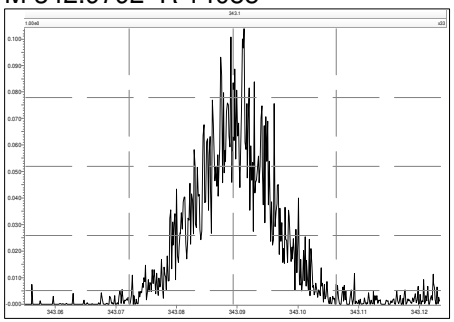
M 380.9760 R 11548



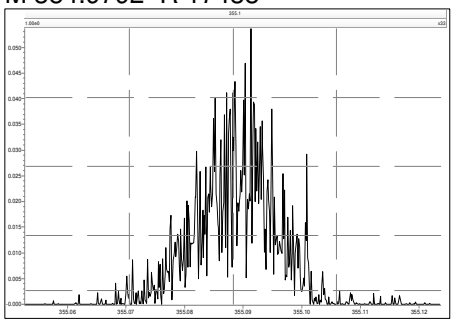
M 330.9792 R 12168



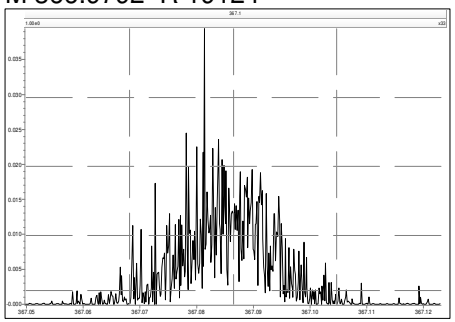
M 342.9792 R 14085



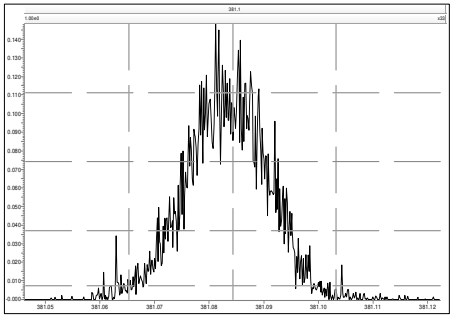
M 354.9792 R 17438



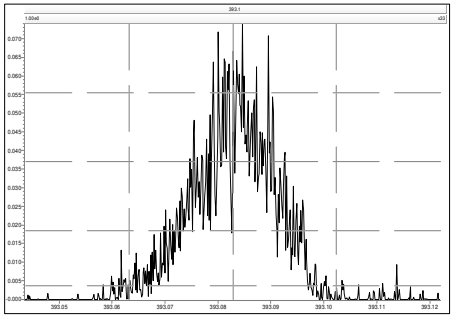
M 366.9792 R 19124



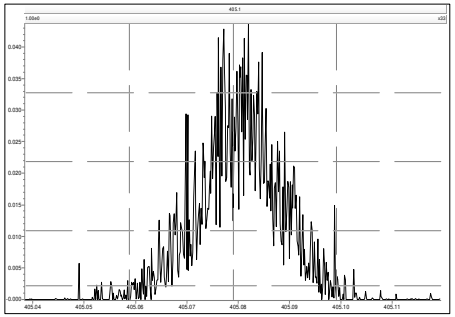
M 380.9760 R 12109



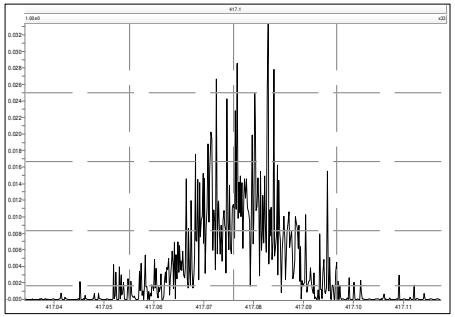
M 392.9760 R 12919



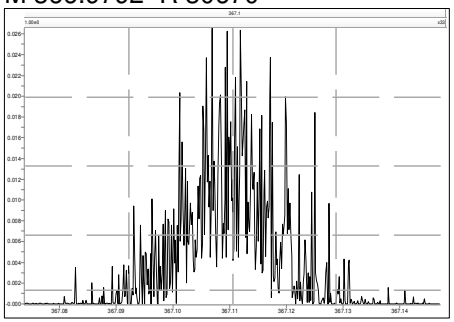
M 404.9760 R 13512



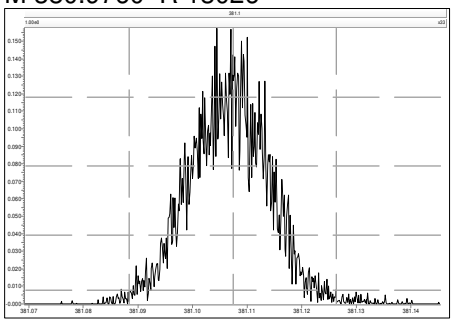
M 416.9760 R 18043



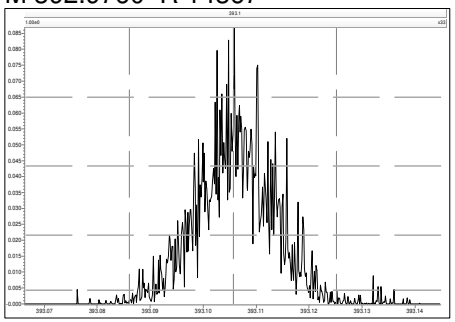
M 366.9792 R 30670



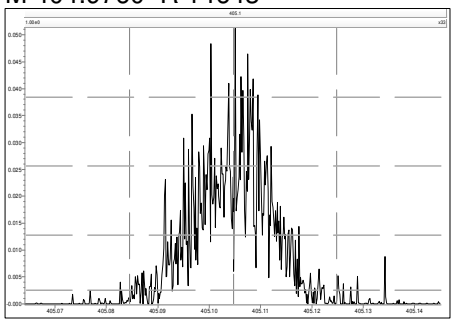
M 380.9760 R 13026



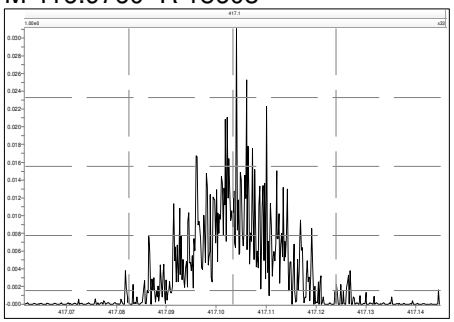
M 392.9760 R 14367



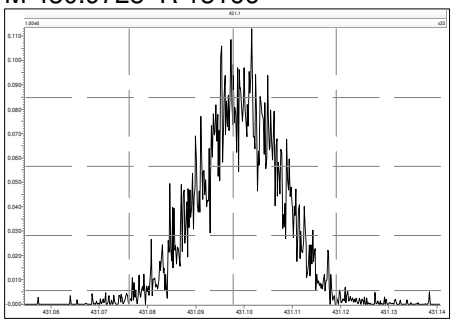
M 404.9760 R 14643



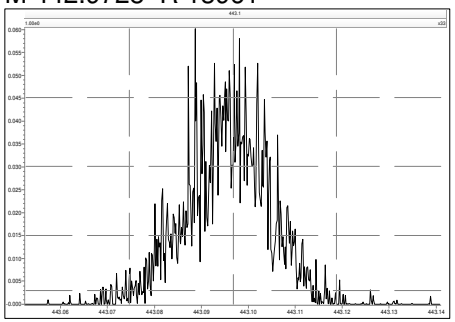
M 416.9760 R 18608



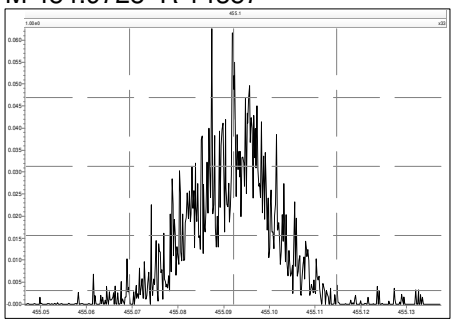
M 430.9728 R 13166



M 442.9728 R 13961



M 454.9728 R 14357



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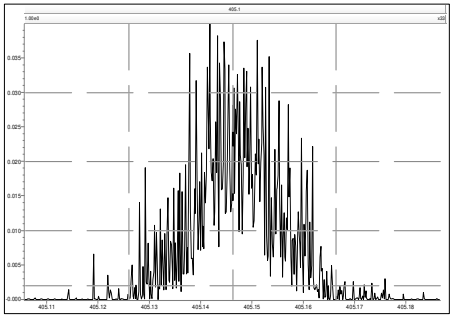

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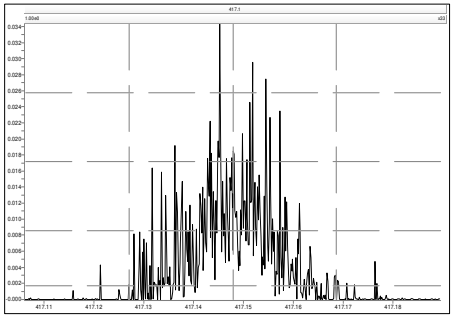

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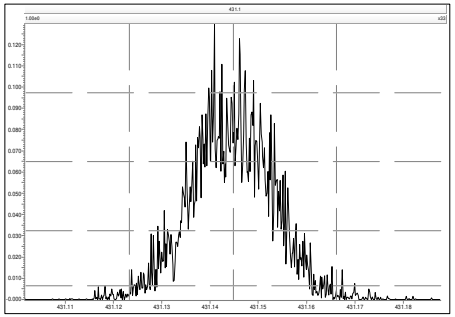

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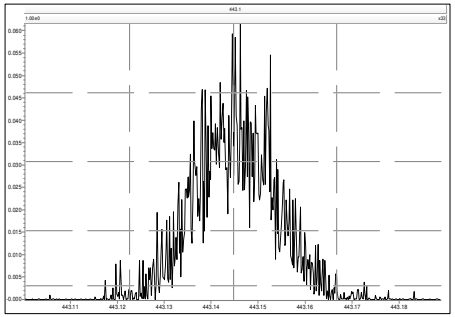

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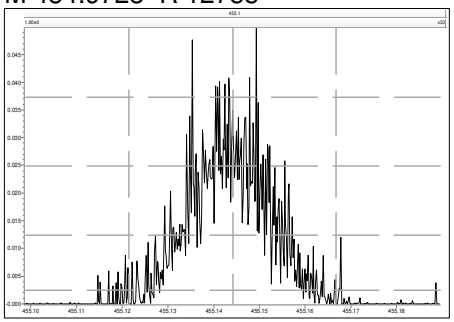

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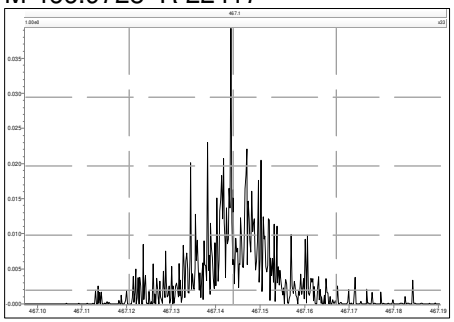

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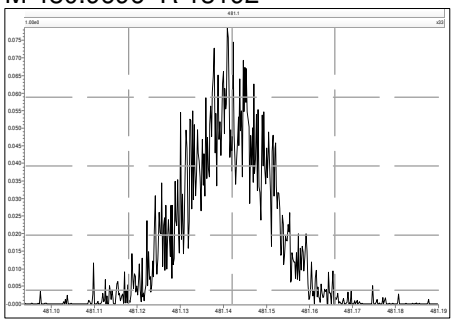

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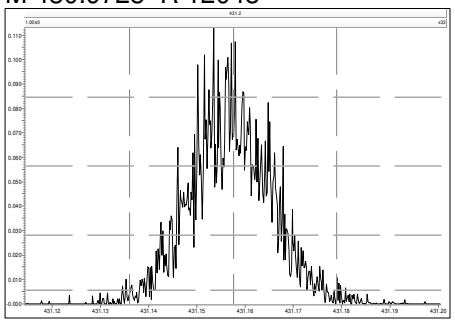

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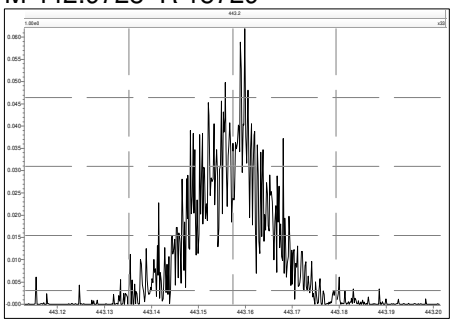

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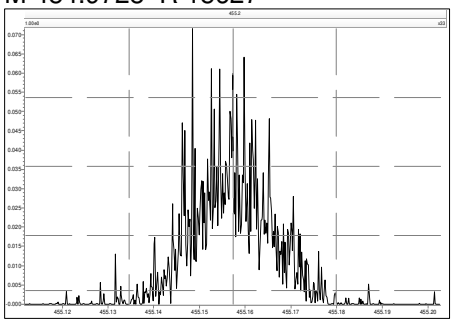

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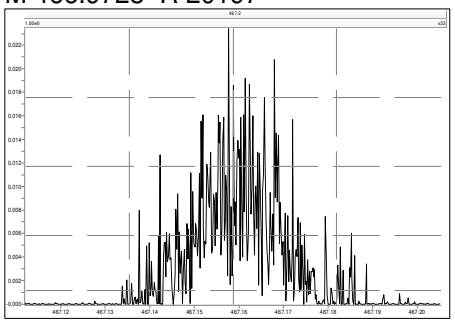

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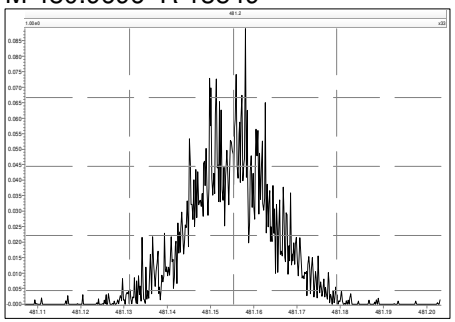

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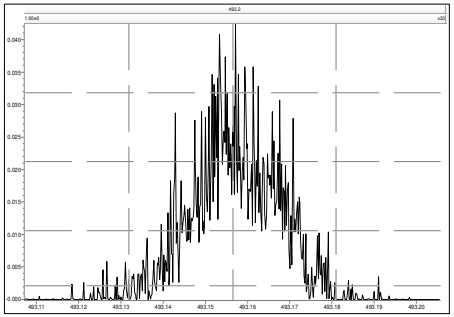

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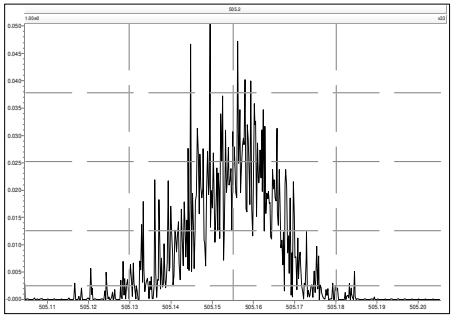

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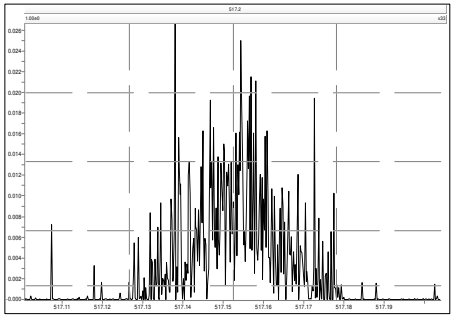

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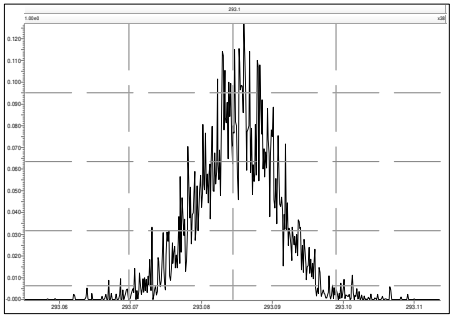

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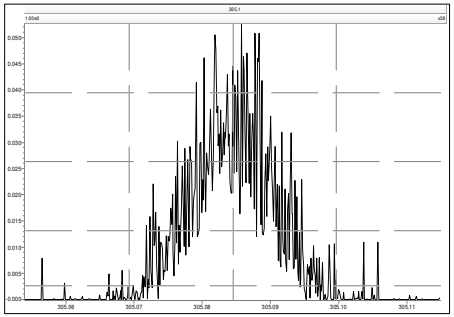

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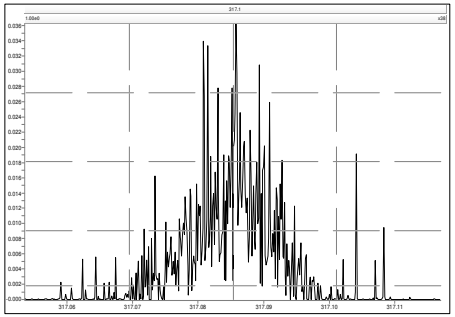

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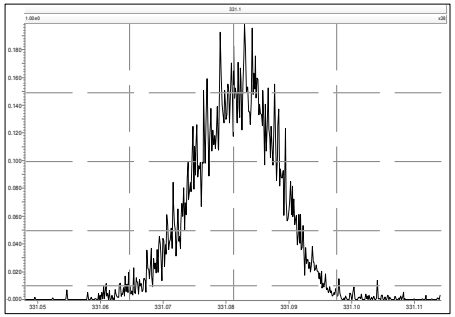

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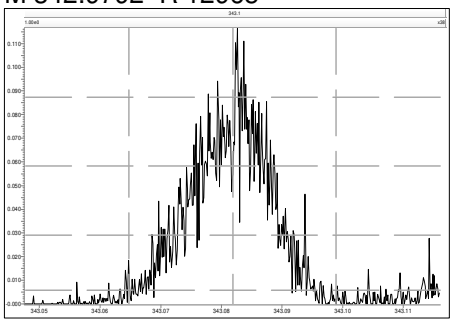

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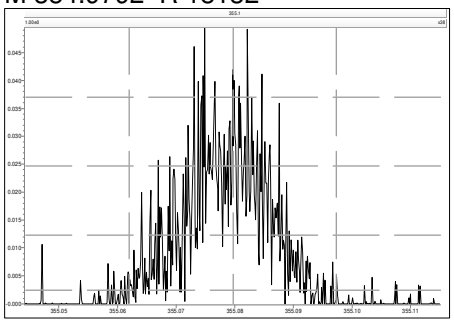

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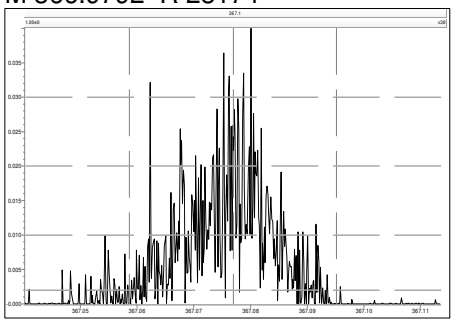

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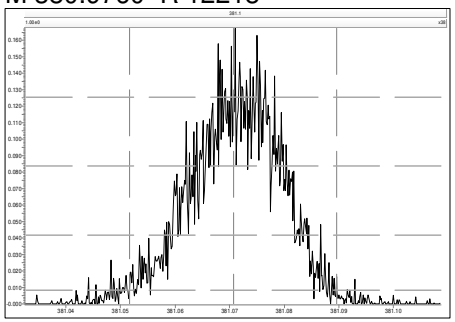

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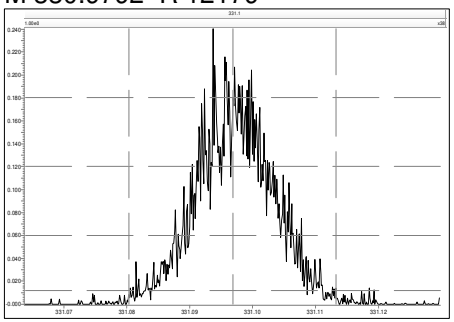

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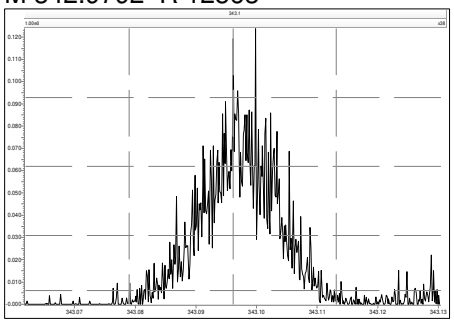

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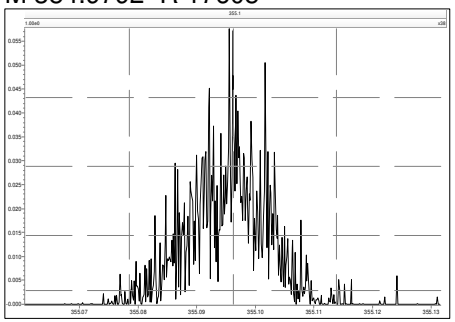

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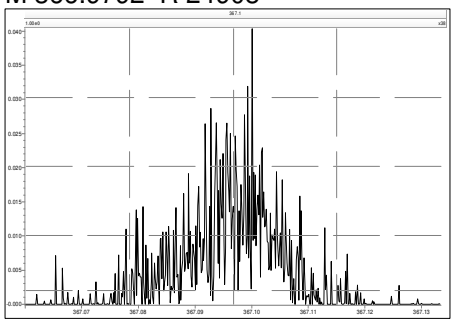

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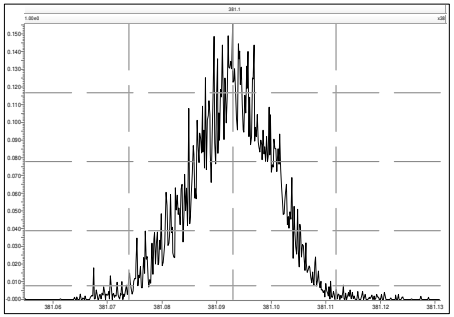

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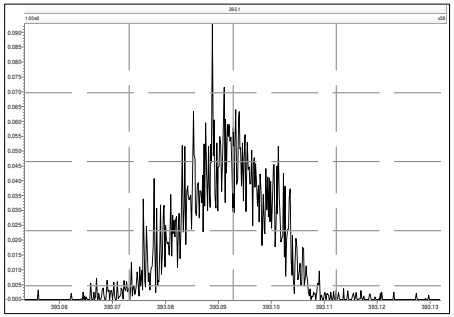

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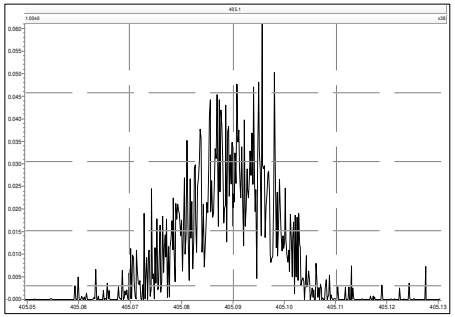

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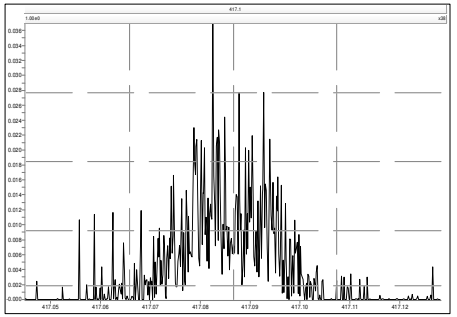

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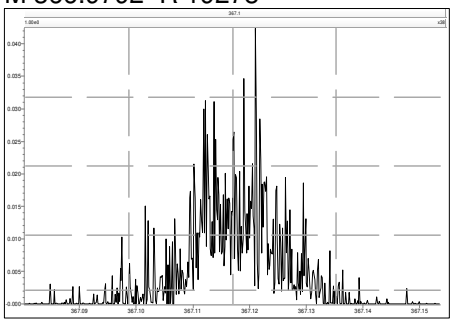

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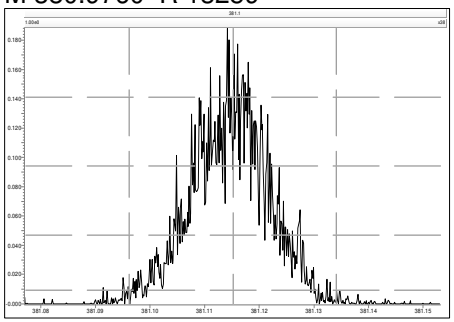

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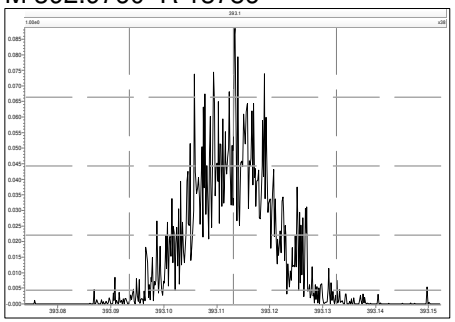

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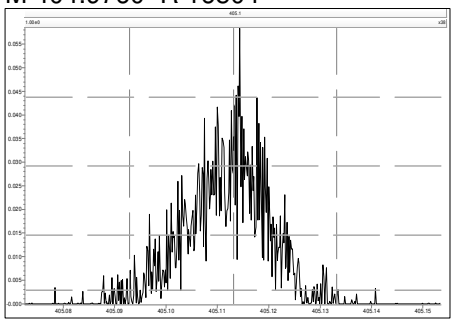

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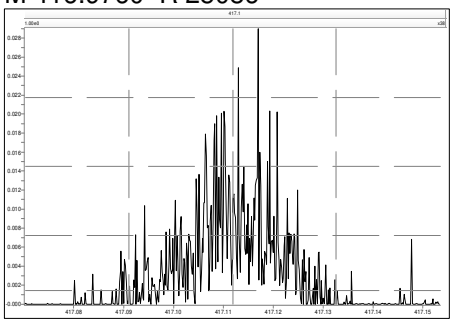

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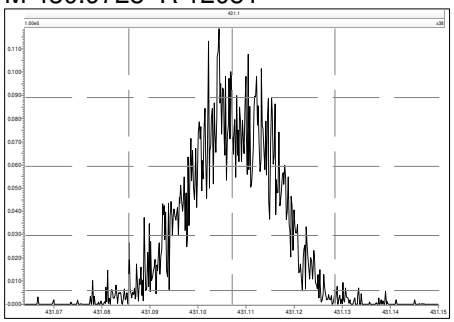

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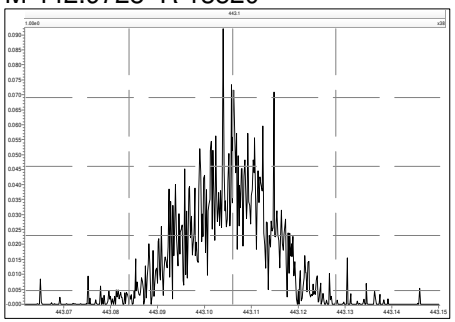

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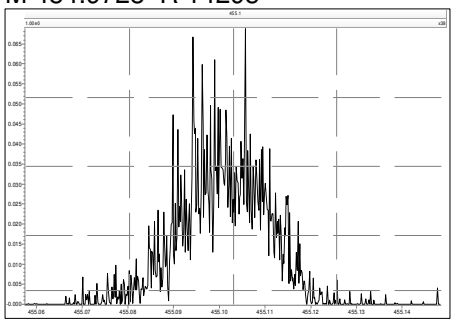

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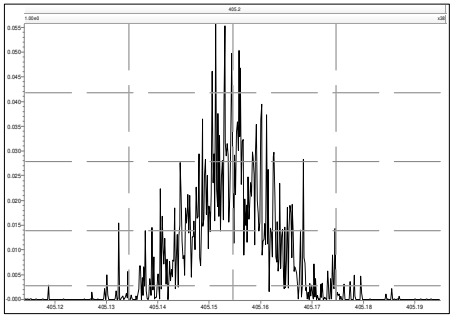

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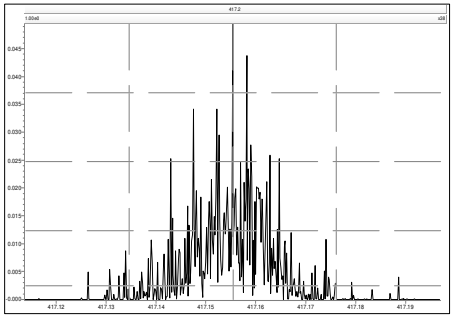

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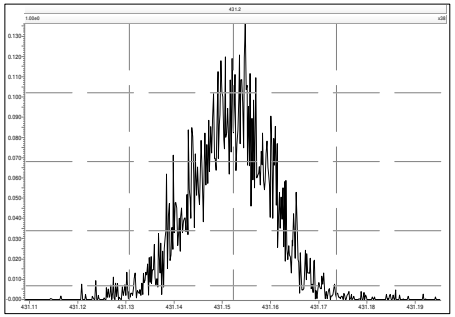

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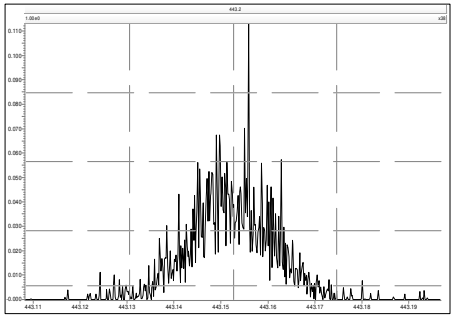

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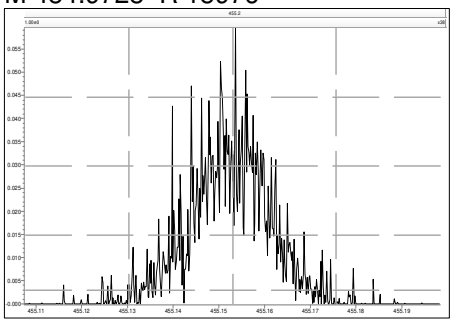

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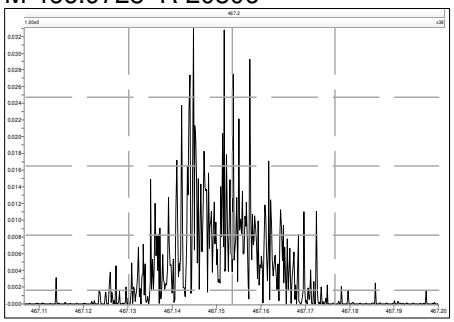

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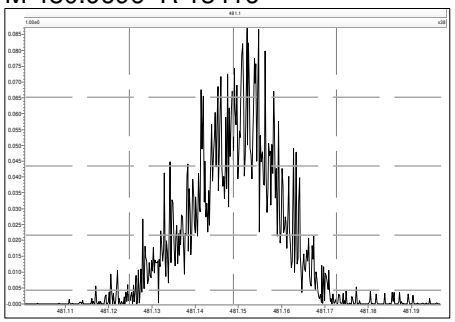

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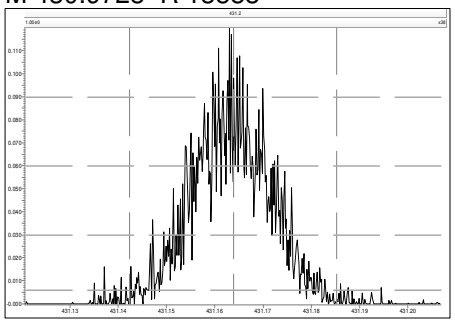

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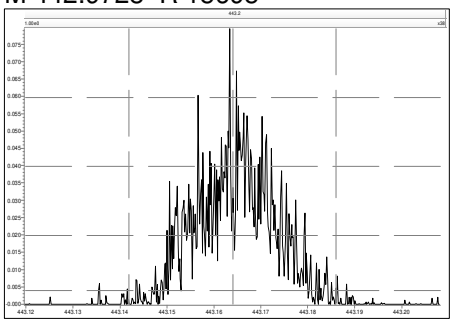

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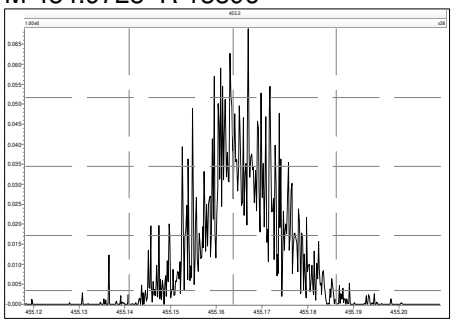

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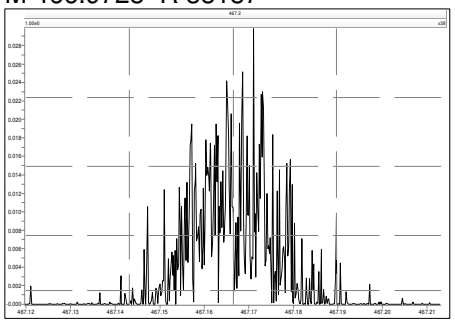

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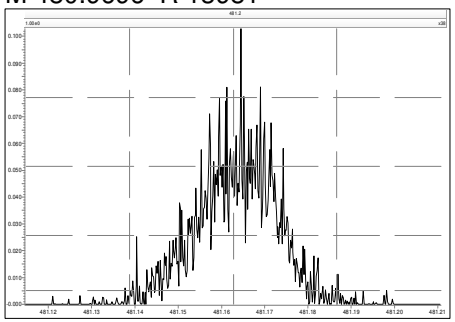

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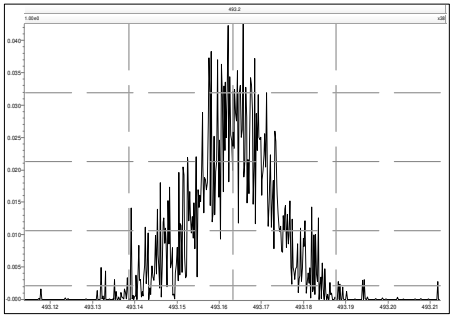

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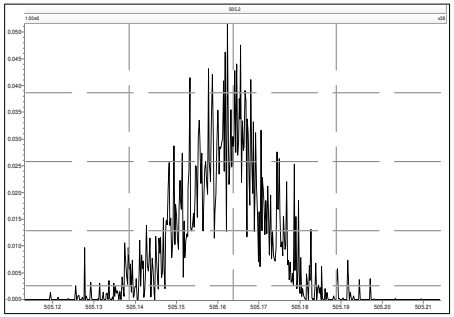
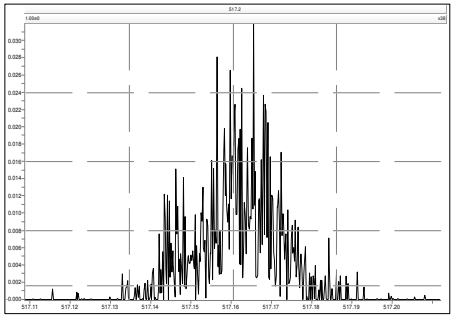


M 516.9697 R 27065



Lab ID: OPR1_18902_DF
Client ID: 0_18902_OPR001
Datafile: 220208R06

REVIEWED
Tamara Burkamper , 2/9/2022, 12:57:17 PM

Acq'd: 08 Feb 2022 17:17 PSW
UTP: 09-Feb-2022 09:00:13 PSW
Report: 09 Feb 2022 09:01 gd

Wt/Vol: 1 uL
J-level: 0.25 pg/uL **Split:** 1
Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

ICAL: MM3_DF_10272021_27JUL2021
Checkcode: 364-604-LGS

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	27.44		1.0008	1.0008	0	6.99E+06	0.85	Y	1.34	8.63	9068.159	0.116
12378-PeCDD	32.94		1.0006	1.0006	0	2.45E+07	1.55	Y	1.06	44.5	9773.02	0.151
123478-HxCDD	36.84		1.0004	1.0004	0	2.04E+07	1.23	Y	1.06	50.1	8148.562	0.151
123678-HxCDD	36.96		1.0036	1.0036	0	2.09E+07	1.26	Y	1.08	53.5	8148.562	0.171
123789-HxCDD	37.26		1.0117	1.0117	0	2.14E+07	1.29	Y	1.02	48.5	8148.562	0.159
1234678-HpCDD	40.05		1.0003	1.0003	0	1.71E+07	1.06	Y	0.97	53.7	7840.815	0.142
OCDD	42.49		1.0003	1.0003	0	2.38E+07	0.89	Y	1.07	103	11270.671	0.314
2378-TCDF	26.55		1.0007	1.0009	+0.3	8.26E+06	0.78	Y	0.96	10.1	9713.505	0.13
12378-PeCDF	31.45		1.0006	1.0005	-0.2	3.57E+07	1.52	Y	0.95	51.5	13587.13	0.175
23478-PeCDF	32.60		1.0006	1.0005	-0.2	3.71E+07	1.57	Y	0.94	55.9	13587.13	0.175
123478-HxCDF	35.86		1.0004	1.0005	+0.2	3.21E+07	1.24	Y	1.23	52.2	8672.307	0.108
123678-HxCDF	36.00		1.0004	1.0005	+0.2	3.29E+07	1.26	Y	1.13	51.1	8672.307	0.103
234678-HxCDF	36.67		1.0004	1.0005	+0.2	2.86E+07	1.26	Y	1.15	50.9	8672.307	0.113
123789-HxCDF	37.65		1.0005	1.0004	-0.2	2.50E+07	1.26	Y	1.14	48.4	8672.307	0.14
1234678-HpCDF	39.13		1.0003	1.0003	0	2.73E+07	1.03	Y	1.36	51.3	9889.701	0.126
1234789-HpCDF	40.48		1.0002	1.0003	+0.2	1.88E+07	1.04	Y	1.30	51.9	9889.701	0.164
OCDF	42.66		1.0002	1.0002	0	2.70E+07	0.87	Y	1.03	102	10651.83	0.276

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	27.42	1.0259	1.0260	+0.2	6.03E+07	0.76	Y	1.03	84.8
ES 12378-PeCDD	32.92	1.2310	1.2319	+1.8	5.19E+07	1.61	Y	1.03	73
ES 123478-HxCDD	36.83	0.9915	0.9915	0	3.86E+07	1.24	Y	0.99	85.7
ES 123678-HxCDD	36.94	0.9947	0.9947	0	3.61E+07	1.28	Y	0.97	82.1
ES 123789-HxCDD	37.24	1.0027	1.0028	+0.2	4.35E+07	1.29	Y	1.12	85.5
ES 1234678-HpCDD	40.04	1.0776	1.0780	+1.0	3.28E+07	1.09	Y	0.99	73.1
ES OCDD	42.48	1.1435	1.1438	+0.8	4.33E+07	0.89	Y	0.78	61.5
ES 2378-TCDF	26.52	1.0583	1.0583	0	8.49E+07	0.76	Y	1.08	80.1
ES 12378-PeCDF	31.43	1.2530	1.2541	+2.1	7.32E+07	1.60	Y	0.93	80.2
ES 23478-PeCDF	32.58	1.2990	1.3002	+2.3	7.08E+07	1.63	Y	0.92	78.5
ES 123478-HxCDF	35.85	0.9652	0.9651	-0.2	4.98E+07	0.54	Y	1.14	96.3
ES 123678-HxCDF	35.99	0.9689	0.9689	0	5.69E+07	0.53	Y	1.30	97
ES 234678-HxCDF	36.65	0.9868	0.9868	0	4.89E+07	0.51	Y	1.20	89.9
ES 123789-HxCDF	37.63	1.0131	1.0132	+0.2	4.55E+07	0.54	Y	1.14	88.6
ES 1234678-HpCDF	39.12	1.0529	1.0533	+0.9	3.91E+07	0.45	Y	0.95	91.1
ES 1234789-HpCDF	40.46	1.0891	1.0895	+1.0	2.79E+07	0.46	Y	0.85	72.9
ES OCDF	42.65	1.1480	1.1483	+0.8	5.16E+07	0.88	Y	0.93	61.6

Lab ID: OPR1_18902_DF | Acq'd: 08 Feb 2022 17:17 PSW | Wt/Vol: 1 uL | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 0_18902_OPR001 | UTP: 09-Feb-2022 09:00:13 PSW | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 364-604-LGS

Datafile: 220208R06 | Report: 09 Feb 2022 09:01 gd | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.72		-	-	-	6.88E+07	0.75	Y	-	-
JS 1234-TCDF	25.06		-	-	-	9.78E+07	0.79	Y	-	-
JS 123467-HxCDD	37.14		-	-	-	2.26E+07	1.27	Y	-	-
CS 37Cl-2378-TCDD	27.44		1.0267	1.0269	+0.3	2.75E+07	n/a	-	1.31	76.3
CS 12347-PeCDD	32.41		1.2119	1.2127	+1.6	4.77E+07	1.62	Y	0.89	77.7
CS 12346-PeCDF	30.88		1.2314	1.2324	+1.9	7.27E+07	1.56	Y	0.87	85.7
CS 123469-HxCDF	36.30		0.9773	0.9773	0	5.12E+07	0.52	Y	1.09	104
CS 1234689-HpCDF	39.54		1.0640	1.0645	+1.2	3.60E+07	0.44	Y	0.86	92
~~SS 37Cl-2378-TCDD~~	~~27.44~~		~~1.0267~~	~~1.0269~~	~~+0.3~~	~~2.75E+07~~	~~n/a~~		~~1.26~~	~~90.4~~
~~SS 12347-PeCDD~~	~~32.41~~		~~1.2119~~	~~1.2127~~	~~+1.6~~	~~4.77E+07~~	~~1.62~~	~~Y~~	~~0.86~~	~~106~~
~~SS 12346-PeCDF~~	~~30.88~~		~~1.2314~~	~~1.2324~~	~~+1.9~~	~~7.27E+07~~	~~1.56~~	~~Y~~	~~0.93~~	~~107~~
~~SS 123469-HxCDF~~	~~36.30~~		~~0.9773~~	~~0.9773~~	~~0~~	~~5.12E+07~~	~~0.52~~	~~Y~~	~~0.84~~	~~107~~
~~SS 1234689-HpCDF~~	~~39.54~~		~~1.0640~~	~~1.0645~~	~~+1.2~~	~~3.60E+07~~	~~0.44~~	~~Y~~	~~0.91~~	~~101~~

Totals	Conc	EMPC
Total TCDD	39	39
Total PeCDD	64.9	64.9
Total HxCDD	166	166
Total HpCDD	66.2	66.2
Total Tetra-Octa Dioxins	439	439
Total TCDF	56.8	56.8
Total PeCDF	231	231
Total HxCDF	335	335
Total HpCDF	103	103
Total Tetra-Octa Furans	828	828
Total Tetra-Octa Dioxins & Furans	1270	1270

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.845	0.85
Response	7.01E+06	6.99E+06

Lab ID: OPR1_18902_DF **Acq'd: 08 Feb 2022 17:17 PSW** **Wt/Vol: 1 uL** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18902_OPR001 **UTP: 09-Feb-2022 09:00:13 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 364-604-LGS**

Datafile: 220208R06 **Report: 09 Feb 2022 09:01 gd** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	23.56		0.8600	0.8592	-1.1	9.21E+06	0.77	Y	1.34	11.4	9068.159	0.116
1379-TCDD	NotFnd		0.8739						1.34		9068.159	0.116
1369-TCDD	NotFnd		0.8911						1.34		9068.159	0.116
1469-TCDD	NotFnd		0.9214						1.34		9068.159	0.116
1247/1246/1248/1249-TCDD	NotFnd		0.9305						1.34		9068.159	0.116
1378-TCDD	NotFnd		0.9377						1.34		9068.159	0.116
1268-TCDD	NotFnd		0.9455						1.34		9068.159	0.116
1478-TCDD	NotFnd		0.9552						1.34		9068.159	0.116
1279-TCDD	NotFnd		0.9613						1.34		9068.159	0.116
1234/1269-TCDD	NotFnd		0.9750						1.34		9068.159	0.116
1236-TCDD	NotFnd		0.9802						1.34		9068.159	0.116
1237/1238-TCDD	NotFnd		0.9898						1.34		9068.159	0.116
1239-TCDD	27.28		0.9948	0.9948	0	6.30E+06	0.76	Y	1.34	7.78	9068.159	0.116
2378-TCDD	**27.44**		**1.0008**	1.0008	**0**	6.99E+06	0.85	Y	**1.34**	**8.63**	**9068.159**	**0.116**
1278-TCDD	NotFnd		1.0135						1.34		9068.159	0.116
1267-TCDD	NotFnd		1.0188						1.34		9068.159	0.116
1289-TCDD	28.46		1.0379	1.0380	+0.2	9.13E+06	0.78	Y	1.34	11.3	9068.159	0.116
12479/12468-PeCDD	30.37		0.9227	0.9226	-0.2	5.40E+06	1.59	Y	1.06	9.8	9773.02	0.151
12469-PeCDD	NotFnd		0.9396						1.06		9773.02	0.151
12368-PeCDD	NotFnd		0.9567						1.06		9773.02	0.151
12478-PeCDD	NotFnd		0.9626						1.06		9773.02	0.151
12379-PeCDD	NotFnd		0.9655						1.06		9773.02	0.151
12369/12467/12489-PeCDD	NotFnd		0.9738						1.06		9773.02	0.151
12346/12347-PeCDD	NotFnd		0.9852						1.06		9773.02	0.151
12378-PeCDD	32.94		**1.0006**	**1.0006**	**0**	**2.45E+07**	**1.55**	**Y**	**1.06**	**44.5**	**9773.02**	**0.151**
12367-PeCDD	NotFnd		1.0036						1.06		9773.02	0.151
12389-PeCDD	33.39		1.0141	1.0142	+0.2	5.83E+06	1.54	Y	1.06	10.6	9773.02	0.151
124679/124689-HxCDD	35.12		0.9540	0.9538	-0.4	5.92E+06	1.22	Y	1.05	14.3	8148.562	0.16
123468-HxCDD	NotFnd		0.9718						1.05		8148.562	0.16
123679/123689-HxCDD	NotFnd		0.9797						1.05		8148.562	0.16
123469-HxCDD	NotFnd		0.9833						1.05		8148.562	0.16
123478-HxCDD	36.84		**1.0004**	**1.0004**	**0**	**2.04E+07**	**1.23**	**Y**	1.06	**50.1**	**8148.562**	**0.151**
123678-HxCDD	36.96		**1.0036**	**1.0036**	**0**	**2.09E+07**	**1.26**	**Y**	1.08	**53.5**	**8148.562**	**0.171**
123467-HxCDD	NotFnd		1.0090						1.05		8148.562	0.16
123789-HxCDD	37.26		**1.0117**	**1.0117**	**0**	**2.14E+07**	**1.29**	**Y**	1.02	**48.5**	**8148.562**	**0.159**

Lab ID: OPR1_18902_DF | **Acq'd: 08 Feb 2022 17:17 PSW** | **Wt/Vol: 1 uL** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18902_OPR001 | **UTP: 09-Feb-2022 09:00:13 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 364-604-LGS**

Datafile: 220208R06 | **Report: 09 Feb 2022 09:01 gd** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.40		0.9841	0.9841	0	4.00E+06	1.00	Y	0.97	12.5	7840.815	0.142
1234678-HpCDD	**40.05**		**1.0003**	**1.0003**	**0**	**1.71E+07**	**1.06**	**Y**	**0.97**	**53.7**	**7840.815**	**0.142**
OCDD	**42.49**		**1.0003**	**1.0003**	**0**	**2.38E+07**	**0.89**	**Y**	**1.07**	**103**	**11270.671**	**0.314**
OCDD-a	42.49		1.0002	1.0001	-0.3	1.42E+06	2.65	Y	0.07	99.3	17184.228	7.76
1368-TCDF	21.31		0.8043	0.8035	-1.0	1.14E+07	0.78	Y	0.96	13.9	9713.505	0.13
1468-TCDF	NotFnd		0.8264						0.96		9713.505	0.13
2468-TCDF	22.58		0.8524	0.8515	-1.2	2.79E+06	0.74	Y	0.96	3.42	9713.505	0.13
1346/1246-TCDF	NotFnd		0.8658						0.96		9713.505	0.13
1347/1378/1247-TCDF	NotFnd		0.8723						0.96		9713.505	0.13
1348-TCDF	NotFnd		0.8836						0.96		9713.505	0.13
1248/1367/1379-TCDF	NotFnd		0.8890						0.96		9713.505	0.13
1268-TCDF	NotFnd		0.9044						0.96		9713.505	0.13
1467-TCDF	NotFnd		0.9099						0.96		9713.505	0.13
1478-TCDF	NotFnd		0.9167						0.96		9713.505	0.13
1369/1237-TCDF	NotFnd		0.9315						0.96		9713.505	0.13
2467-TCDF	NotFnd		0.9372						0.96		9713.505	0.13
2368-TCDF	NotFnd		0.9434						0.96		9713.505	0.13
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9464						0.96		9713.505	0.13
1278-TCDF	NotFnd		0.9647						0.96		9713.505	0.13
1349-TCDF	NotFnd		0.9695						0.96		9713.505	0.13
1267-TCDF	NotFnd		0.9758						0.96		9713.505	0.13
2346/1249-TCDF	NotFnd		0.9831						0.96		9713.505	0.13
2347/1279-TCDF	NotFnd		0.9919						0.96		9713.505	0.13
2348-TCDF	26.43		0.9964	0.9966	+0.3	1.18E+07	0.76	Y	0.96	14.5	9713.505	0.13
2378-TCDF	**26.55**		**1.0007**	**1.0009**	**+0.3**	**8.26E+06**	**0.78**	**Y**	**0.96**	**10.1**	**9713.505**	**0.13**
2367/3467-TCDF	NotFnd		1.0153						0.96		9713.505	0.13
1269-TCDF	NotFnd		1.0246						0.96		9713.505	0.13
1239-TCDF	NotFnd		1.0345						0.96		9713.505	0.13
1289-TCDF	28.63		1.0779	1.0796	+2.9	1.21E+07	0.75	Y	0.96	14.9	9713.505	0.13
13468/12468-PeCDF	28.52		0.9082	0.9074	-1.4	7.63E+07	1.60	Y	0.94	112	11644.226	0.15
13678/13467/12467-PeCDF	NotFnd		0.9590						0.94		13587.13	0.175
12368/13478/12478-PeCDF	NotFnd		0.9641						0.94		13587.13	0.175
14678-PeCDF	NotFnd		0.9674						0.94		13587.13	0.175
13479-PeCDF	NotFnd		0.9704						0.94		13587.13	0.175
13469/12479-PeCDF	NotFnd		0.9787						0.94		13587.13	0.175
12346-PeCDF	NotFnd		0.9832						0.94		13587.13	0.175

Lab ID: OPR1_18902_DF **Acq'd: 08 Feb 2022 17:17 PSW** **Wt/Vol: 1 uL** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18902_OPR001 **UTP: 09-Feb-2022 09:00:13 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 364-604-LGS**

Datafile: 220208R06 **Report: 09 Feb 2022 09:01 gd** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9865						0.94		13587.13	0.175
12347-PeCDF	NotFnd		0.9886						0.94		13587.13	0.175
12348-PeCDF	NotFnd		0.9937						0.94		13587.13	0.175
12378-PeCDF	**31.45**		**1.0006**	**1.0005**	**-0.2**	**3.57E+07**	**1.52**	**Y**	**0.95**	**51.5**	**13587.13**	**0.175**
12678/12367-PeCDF	NotFnd		1.0096						0.94		13587.13	0.175
12379-PeCDF	NotFnd		1.0149						0.94		13587.13	0.175
12679-PeCDF	NotFnd		0.9922						0.94		13587.13	0.175
23467/12369-PeCDF	NotFnd		0.9965						0.94		13587.13	0.175
23478-PeCDF	**32.60**		**1.0006**	**1.0005**	**-0.2**	**3.71E+07**	**1.57**	**Y**	**0.94**	**55.9**	**13587.13**	**0.175**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		13587.13	0.175
12349-PeCDF	NotFnd		1.0101						0.94		13587.13	0.175
12389-PeCDF	33.68		1.0335	1.0337	+0.4	7.42E+06	1.58	Y	0.94	10.9	13587.13	0.175
123468-HxCDF	34.46		0.9614	0.9613	-0.2	7.74E+07	1.25	Y	1.16	132	8672.307	0.115
124678/134678-HxCDF	NotFnd		0.9671						1.16		8672.307	0.115
134679-HxCDF	NotFnd		0.9734						1.16		8672.307	0.115
124679-HxCDF	NotFnd		0.9791						1.16		8672.307	0.115
124689-HxCDF	NotFnd		0.9853						1.16		8672.307	0.115
123467-HxCDF	NotFnd		0.9971						1.16		8672.307	0.115
123478-HxCDF	**35.86**		**1.0004**	**1.0005**	**+0.2**	**3.21E+07**	**1.24**	**Y**	**1.23**	**52.2**	**8672.307**	**0.108**
123678-HxCDF	**36.00**		**1.0004**	**1.0005**	**+0.2**	**3.29E+07**	**1.26**	**Y**	**1.13**	**51.1**	**8672.307**	**0.103**
123479-HxCDF	NotFnd		1.0048						1.16		8672.307	0.115
123469-HxCDF	NotFnd		1.0090						1.16		8672.307	0.115
123679-HxCDF	NotFnd		0.9940						1.16		8672.307	0.115
234678-HxCDF	**36.67**		**1.0004**	**1.0005**	**+0.2**	**2.86E+07**	**1.26**	**Y**	**1.15**	**50.9**	**8672.307**	**0.113**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		8672.307	0.115
123789-HxCDF	**37.65**		**1.0005**	**1.0004**	**-0.2**	**2.50E+07**	**1.26**	**Y**	**1.14**	**48.4**	**8672.307**	**0.14**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	NotFnd		1.0008						1.16		8672.307	0.115
1234678-HpCDF	**39.13**		**1.0003**	**1.0003**	**0**	**2.73E+07**	**1.03**	**Y**	**1.36**	**51.3**	**9889.701**	**0.126**
1234679-HpCDF	NotFnd		1.0072						1.33		9889.701	0.142
1234689-HpCDF	NotFnd		1.0108						1.33		9889.701	0.142
1234789-HpCDF	**40.48**		**1.0002**	**1.0003**	**+0.2**	**1.88E+07**	**1.04**	**Y**	**1.30**	**51.9**	**9889.701**	**0.164**
OCDF	**42.66**		**1.0002**	**1.0002**	**0**	**2.70E+07**	**0.87**	**Y**	**1.03**	**102**	**10651.83**	**0.276**
OCDF-a	42.66		1.0002	1.0001	-0.3	1.54E+06	2.24	Y	0.06	101	14151.806	6.34

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
VER Data Filename:	220208R06	Analysis Date:	08-FEB-2022 17:17:06
Lab ID:	OPR1_18902_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	8.63	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	44.5	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	50.1	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	53.5	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	48.5	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	53.7	35	-	70	Y
OCDD	100	103	78	-	144	Y
2,3,7,8-TCDF	10	10.1	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	51.5	40	-	67	Y
2,3,4,7,8-PeCDF	50	55.9	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	52.2	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	51.1	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	50.9	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	48.4	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	51.3	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	51.9	39	-	69	Y
OCDF	100	102	63	-	170	Y

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

Processed: 09 Feb 2022 09:01 Analyst: gd

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
VER Data Filename:	220208R06	Analysis Date:	08-FEB-2022 17:17:06
Lab ID:	OPR1_18902_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	84.8	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	73	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	85.7	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	82.1	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	85.5	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	73.1	26	-	166	Y
13C-OCDD	200	123	26	-	397	Y
13C-2,3,7,8-TCDF	100	80.1	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	80.2	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	78.5	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	96.3	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	97	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	89.9	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	88.6	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	91.1	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	72.9	20	-	186	Y
13C-OCDF	200	123	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	30.5	12.4	-	76.4	Y

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

Processed: 09 Feb 2022 09:01 Analyst: gd

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220208R06	Analysis Date:	08-FEB-2022 17:17:06
Lab ID:	OPR1_18902_DF		

Window Defining Standards Results

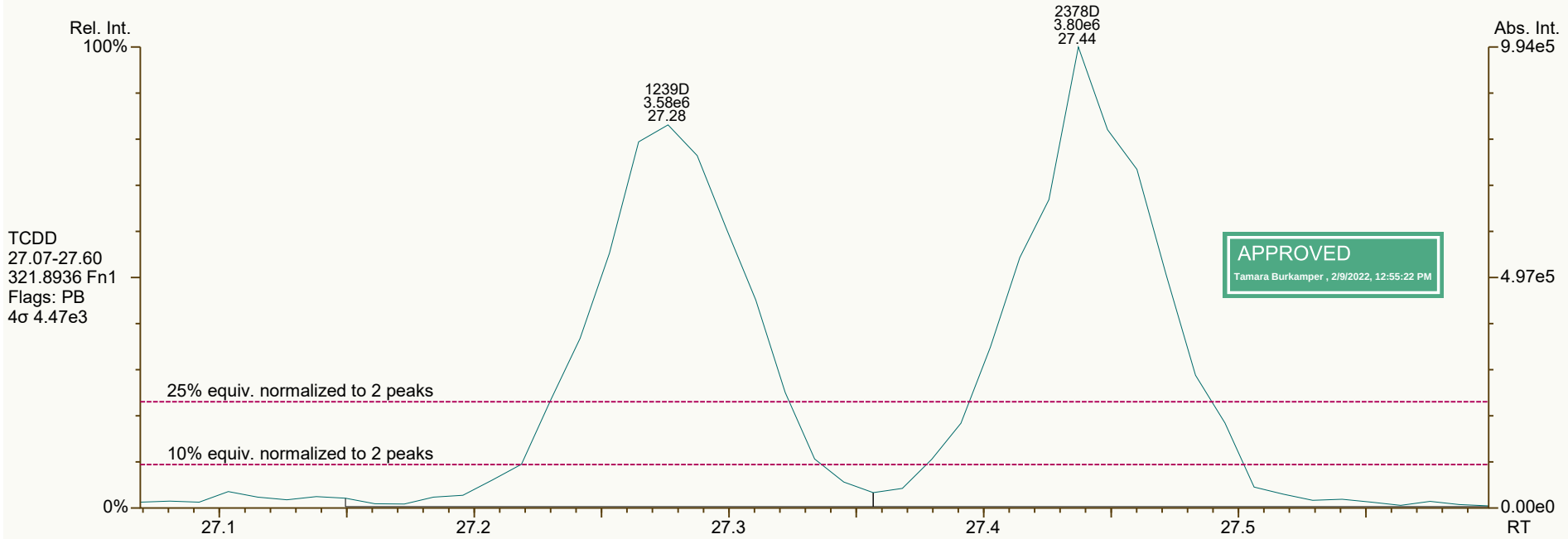
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	23.56	1289-TCDD	28.46
12479/12468-PeCDD	30.37	12389-PeCDD	33.39
124679/124689-HxCDD	35.12	123789-HxCDD	37.26
1234679-HpCDD	39.40	1234678-HpCDD	40.05
1368-TCDF	21.31	1289-TCDF	28.63
13468/12468-PeCDF	28.52	12389-PeCDF	33.68
123468-HxCDF	34.46	123789-HxCDF	37.65
1234678-HpCDF	39.13	1234789-HpCDF	40.48

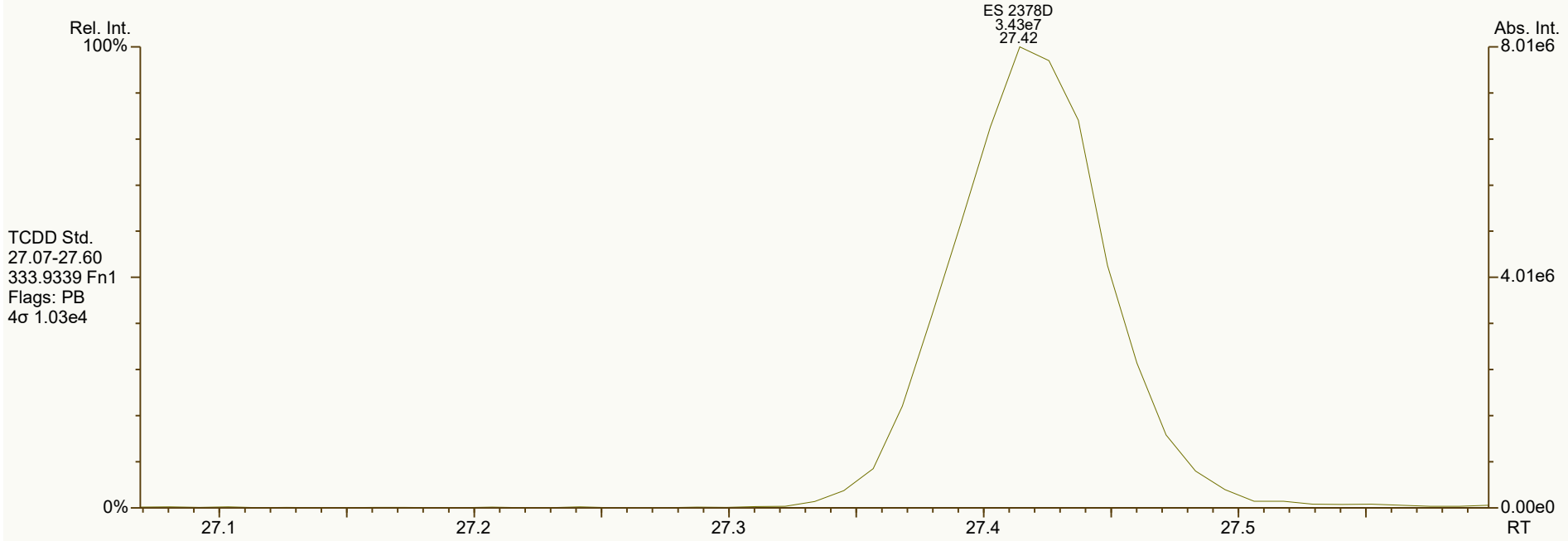
Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	27.28	2378-TCDD	27.44
2348-TCDF	26.43	2378-TCDF	26.55

Processed: 09 Feb 2022 09:01 Analyst: gd

SGS ID: OPR1_18902_DF
Sample ID: 0_18902_OPR001
Acq: 08-Feb-2022 17:17:06
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: PSW Datafile: 220208R06





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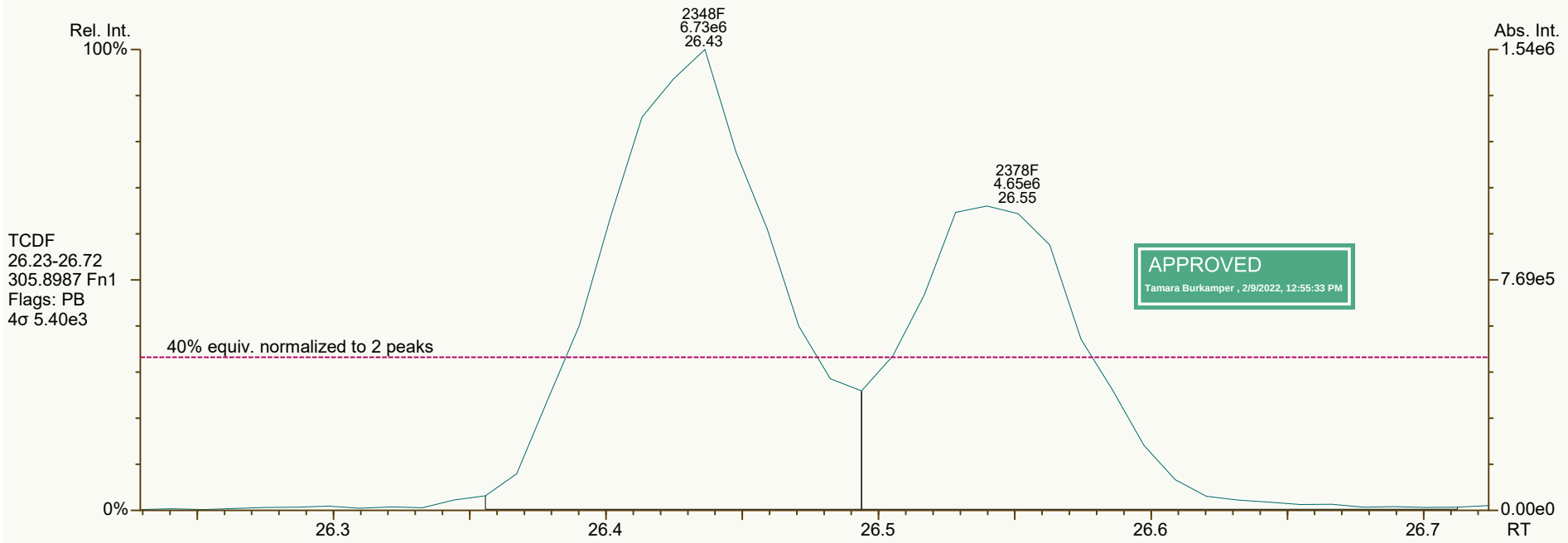
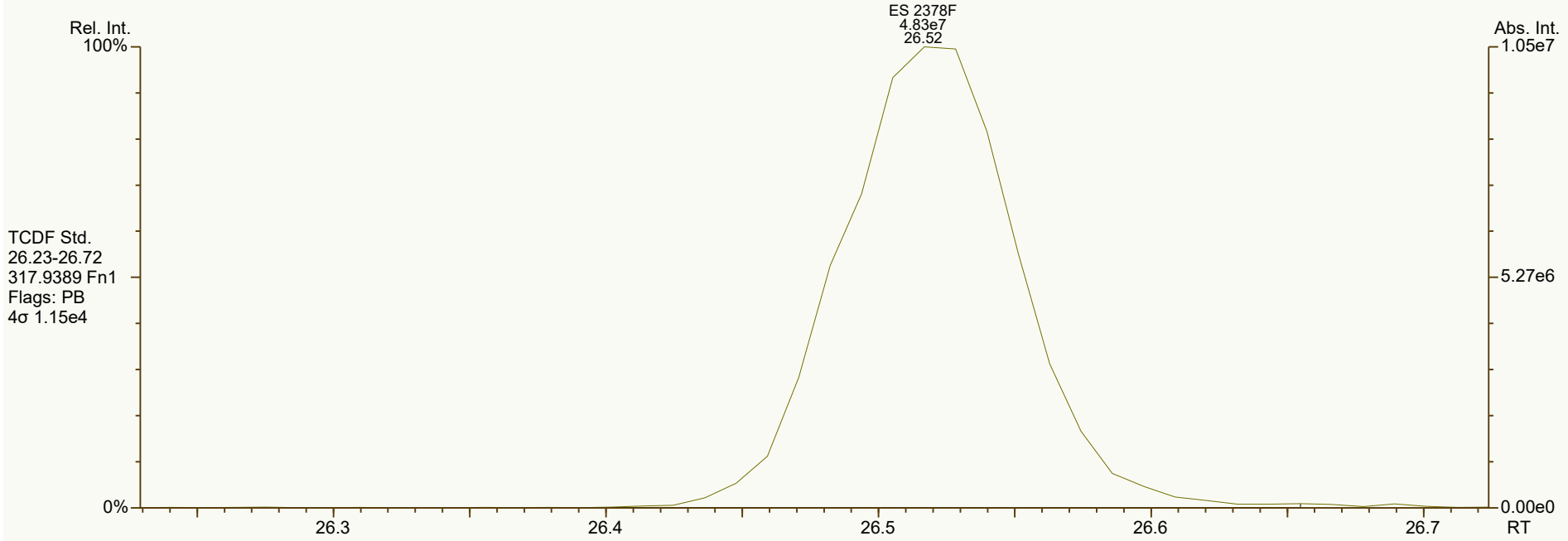
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
PKD: 09-Feb-2022 08:15 Printed: 09-Feb-2022 09:03

SGS ID: OPR1_18902_DF
Sample ID: 0_18902_OPR001
Acq: 08-Feb-2022 17:17:06
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: PSW Datafile: 220208R06





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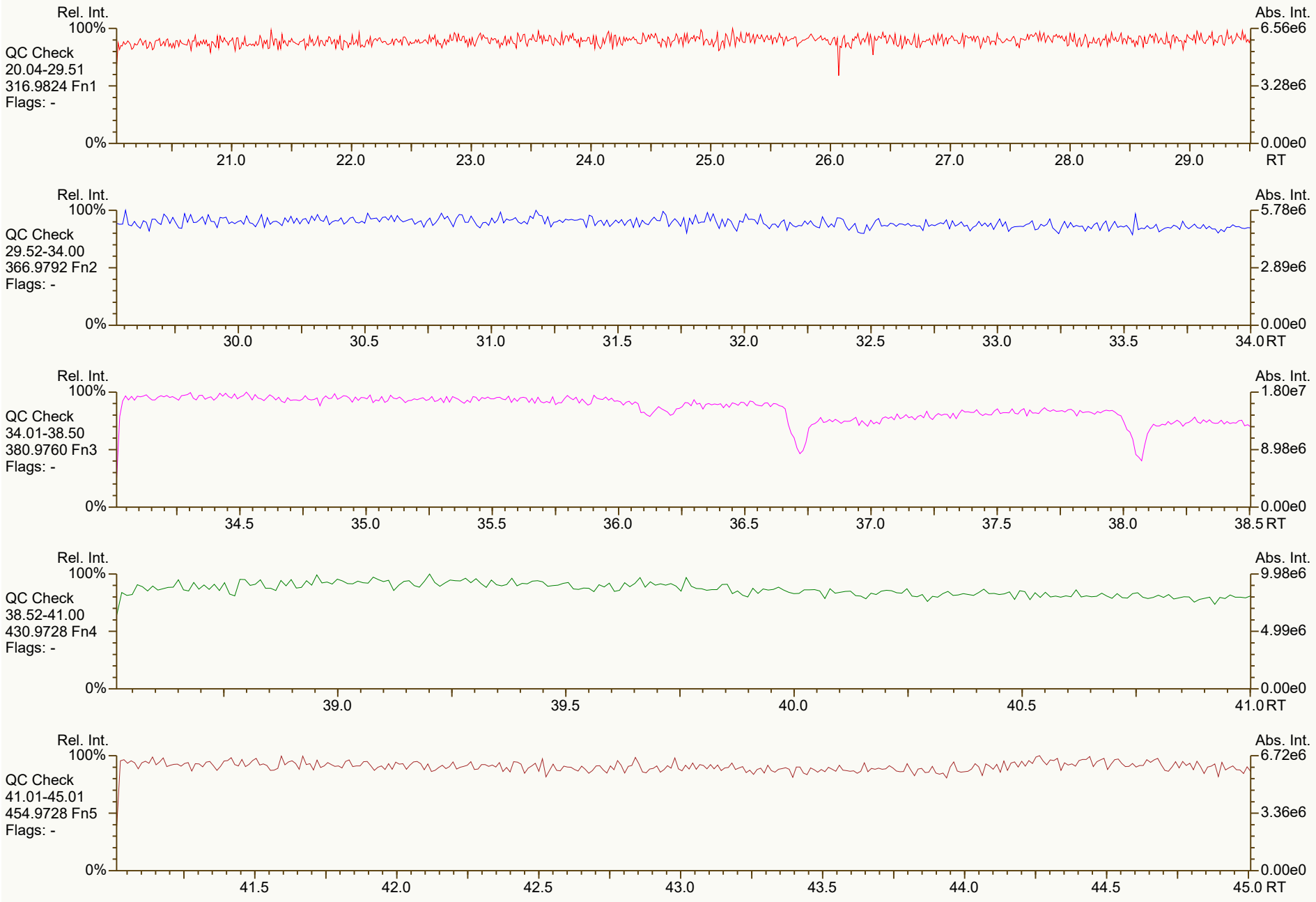
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
PKD: 09-Feb-2022 08:15 Printed: 09-Feb-2022 09:03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0%
Abs. Int.
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3.28e6
0.00e0
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
5.78e6
2.89e6
0.00e0
QC Check
29.52-34.00
366.9792 Fn2
Flags: -
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.80e7
8.98e6
0.00e0
QC Check
34.01-38.50
380.9760 Fn3
Flags: -
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
0%
Abs. Int.
9.98e6
4.99e6
0.00e0
QC Check
38.52-41.00
430.9728 Fn4
Flags: -
39.0
39.5
40.0
40.5
41.0
RT
Rel. Int.
100%
0%
Abs. Int.
6.72e6
3.36e6
0.00e0
QC Check
41.01-45.01
454.9728 Fn5
Flags: -
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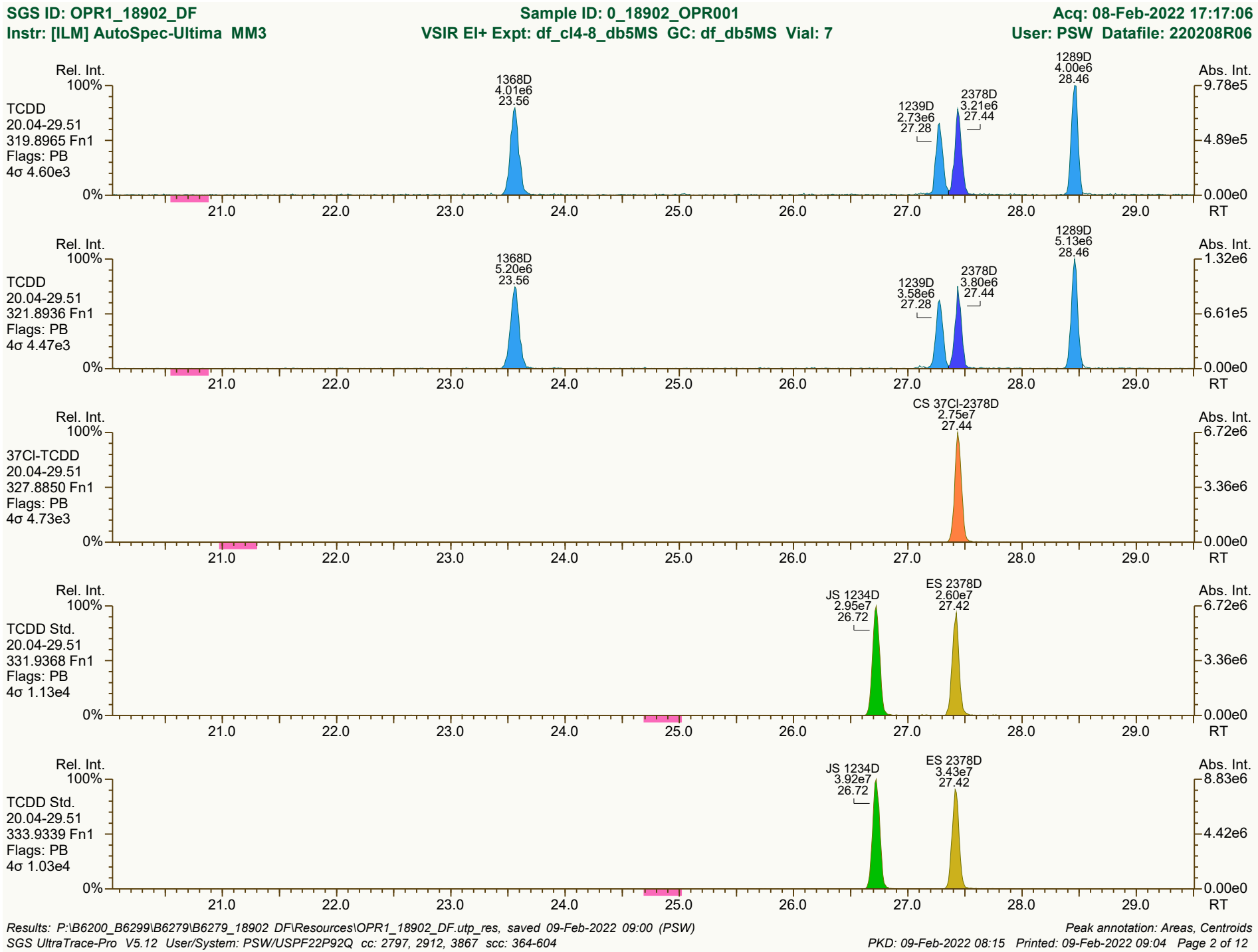
42.5
43.0
43.5
44.0
44.5
45.0
RT



Results: P:\B6200_B6299\B6279\B6279_18902 DF\Resources\OPR1_18902_DF.utp_res, saved 09-Feb-2022 09:00 (PSW)
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PKD: 09-Feb-2022 08:15 Printed: 09-Feb-2022 09:04 Page 2 of 12


Rel. Int.
100%
PeCDD
29.52-34.00
355.8546 Fn2
Flags: PB
4σ 5.38e3
12479/12468D
3.31e6
30.37
12378D
1.49e7
32.94
12389D
3.53e6
33.39
Abs. Int.
4.37e6
2.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD
29.52-34.00
357.8517 Fn2
Flags: PB
4σ 4.39e3
12479/12468D
2.08e6
30.37
12378D
9.59e6
32.94
12389D
2.30e6
33.39
Abs. Int.
3.00e6
1.50e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD Std.
29.52-34.00
367.8949 Fn2
Flags: PB
4σ 8.56e3
CS 12347D
2.95e7
32.41
ES 12378D
3.20e7
32.92
Abs. Int.
9.42e6
4.71e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD Std.
29.52-34.00
369.8919 Fn2
Flags: PB
4σ 5.53e3
CS 12347D
1.82e7
32.41
ES 12378D
1.99e7
32.92
Abs. Int.
5.61e6
2.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
QC Check
29.52-34.00
366.9792 Fn2
Flags: -
Abs. Int.
5.78e6
2.89e6
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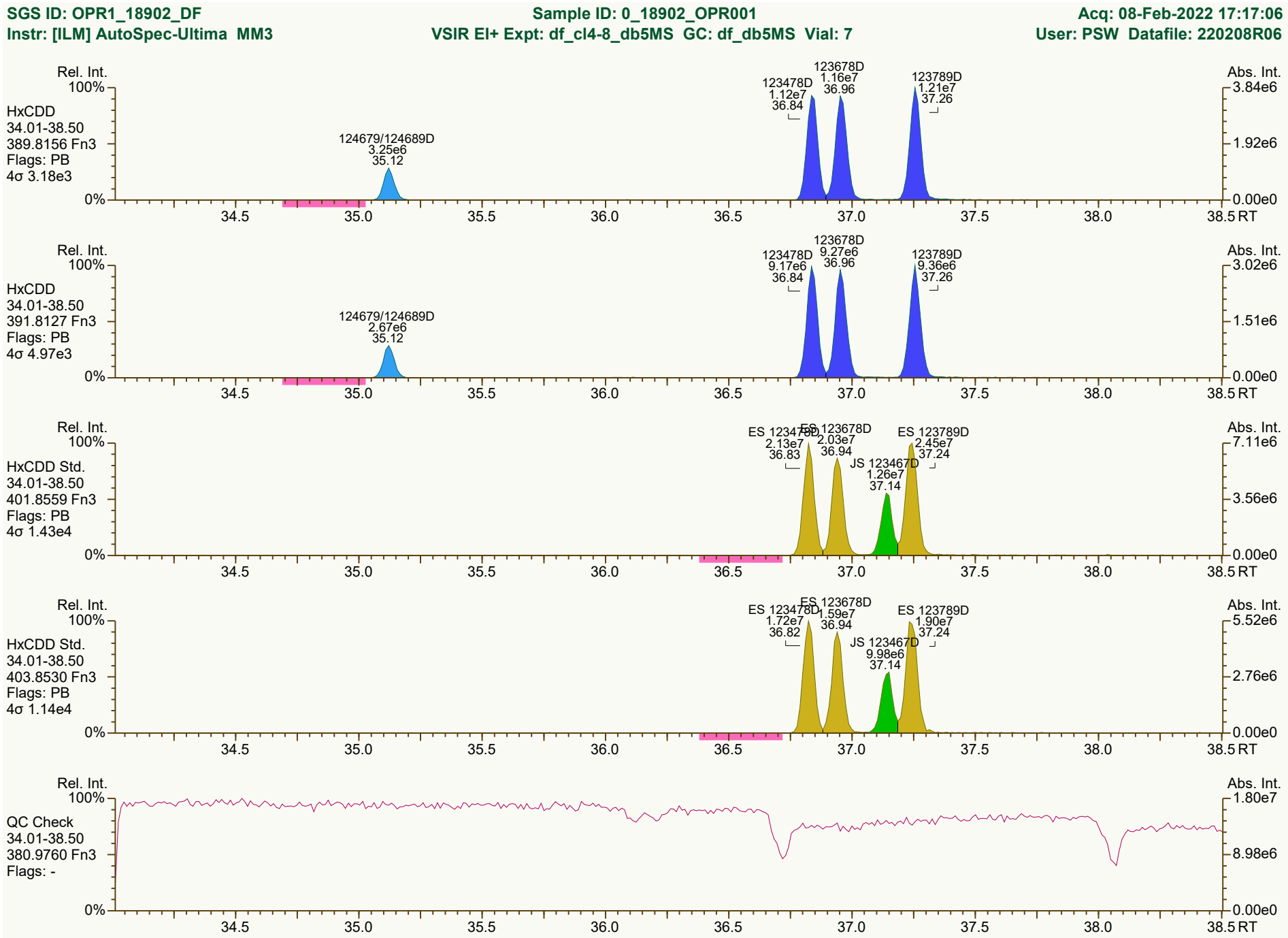
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT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Sample ID: 0_18902_OPR001
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Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: PSW Datafile: 220208R06
Rel. Int.
Abs. Int.
HxCDD
34.01-38.50
389.8156 Fn3
Flags: PB
4σ 3.18e3
124679/124689D
3.25e6
35.12
123478D
1.12e7
36.84
123678D
1.16e7
36.96
123789D
1.21e7
37.26
HxCDD
34.01-38.50
391.8127 Fn3
Flags: PB
4σ 4.97e3
124679/124689D
2.67e6
35.12
123478D
9.17e6
36.84
123678D
9.27e6
36.96
123789D
9.36e6
37.26
HxCDD Std.
34.01-38.50
401.8559 Fn3
Flags: PB
4σ 1.43e4
ES 123478D
2.13e7
36.83
ES 123678D
2.03e7
36.94
JS 123467D
1.26e7
37.14
ES 123789D
2.45e7
37.24
HxCDD Std.
34.01-38.50
403.8530 Fn3
Flags: PB
4σ 1.14e4
ES 123478D
1.72e7
36.82
ES 123678D
1.59e7
36.94
JS 123467D
9.98e6
37.14
ES 123789D
1.90e7
37.24
QC Check
34.01-38.50
380.9760 Fn3
Flags: -
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
3.84e6
1.92e6
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7.11e6
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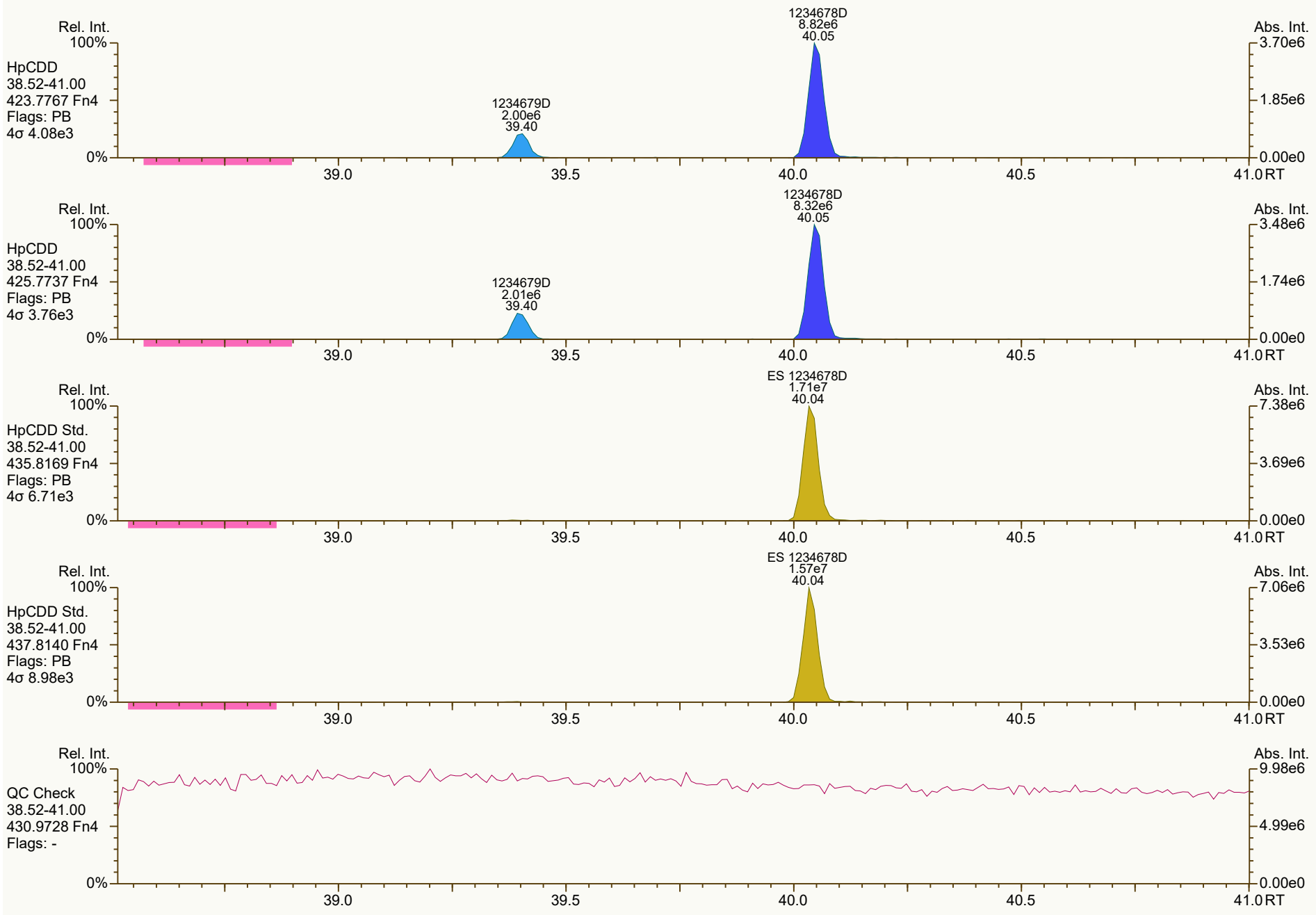
8.98e6


Rel. Int.
100%
HpCDD
38.52-41.00
423.7767 Fn4
Flags: PB
4σ 4.08e3
1234678D
8.82e6
40.05
1234679D
2.00e6
39.40
Abs. Int.
3.70e6
1.85e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD
38.52-41.00
425.7737 Fn4
Flags: PB
4σ 3.76e3
1234678D
8.32e6
40.05
1234679D
2.01e6
39.40
Abs. Int.
3.48e6
1.74e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.52-41.00
435.8169 Fn4
Flags: PB
4σ 6.71e3
ES 1234678D
1.71e7
40.04
Abs. Int.
7.38e6
3.69e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.52-41.00
437.8140 Fn4
Flags: PB
4σ 8.98e3
ES 1234678D
1.57e7
40.04
Abs. Int.
7.06e6
3.53e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
QC Check
38.52-41.00
430.9728 Fn4
Flags: -
Abs. Int.
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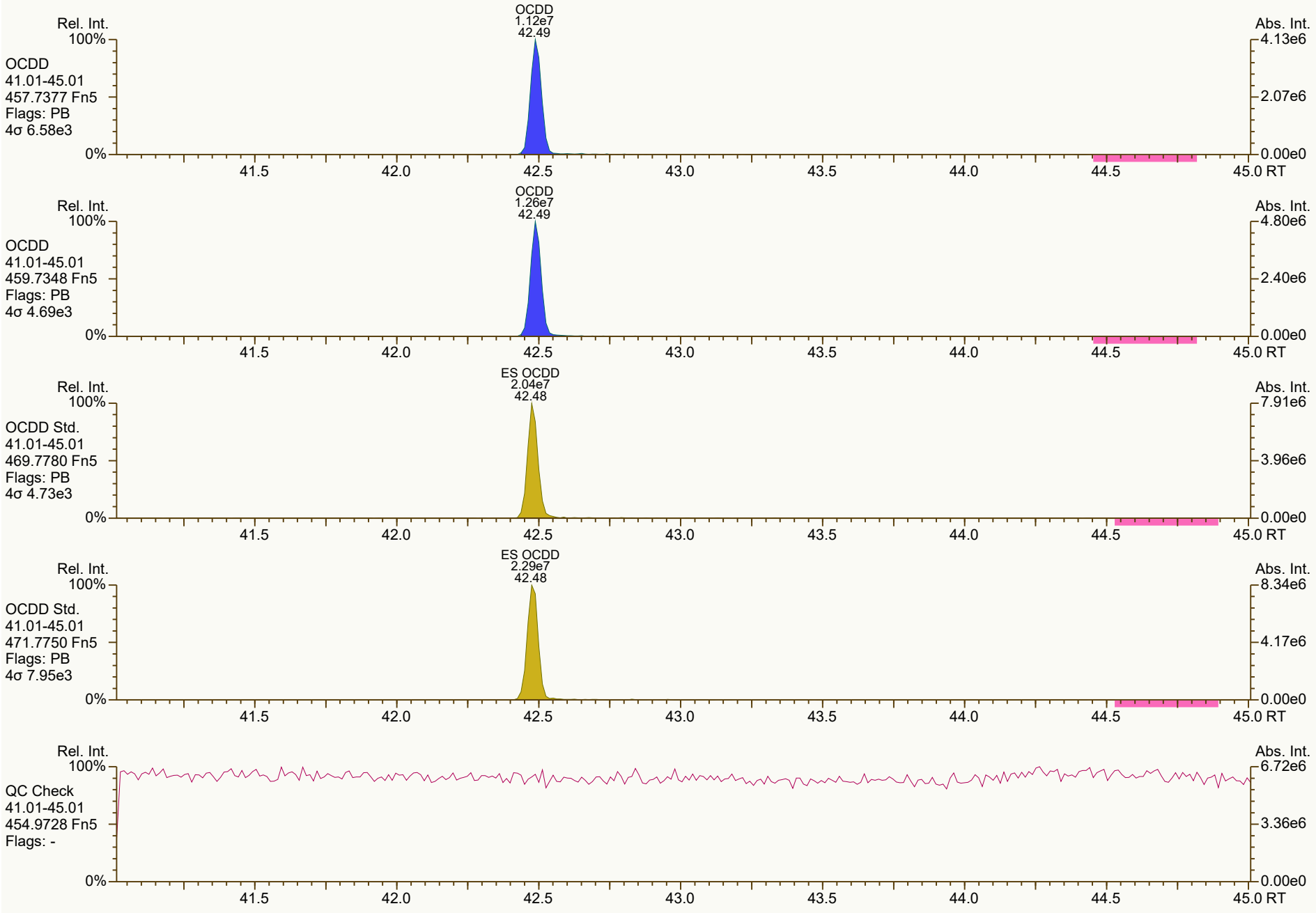
4.99e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT


Rel. Int.
100%
OCDD
41.01-45.01
457.7377 Fn5
Flags: PB
4σ 6.58e3
0%
OCDD
1.12e7
42.49
Abs. Int.
4.13e6
2.07e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.01-45.01
459.7348 Fn5
Flags: PB
4σ 4.69e3
0%
OCDD
1.26e7
42.49
Abs. Int.
4.80e6
2.40e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.01-45.01
469.7780 Fn5
Flags: PB
4σ 4.73e3
0%
ES OCDD
2.04e7
42.48
Abs. Int.
7.91e6
3.96e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.01-45.01
471.7750 Fn5
Flags: PB
4σ 7.95e3
0%
ES OCDD
2.29e7
42.48
Abs. Int.
8.34e6
4.17e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.01-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.72e6
3.36e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT



Results: P:\B6200_B6299\B6279\B6279_18902 DF\Resources\OPR1_18902_DF.utp_res, saved 09-Feb-2022 09:00 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7980, 9788, 1056 scc: 364-604
PKD: 09-Feb-2022 08:15 Printed: 09-Feb-2022 09:04 Page 7 of 12

SGS ID: OPR1_18902_DF
Sample ID: 0_18902_OPR001
Acq: 08-Feb-2022 17:17:06
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: PSW Datafile: 220208R06

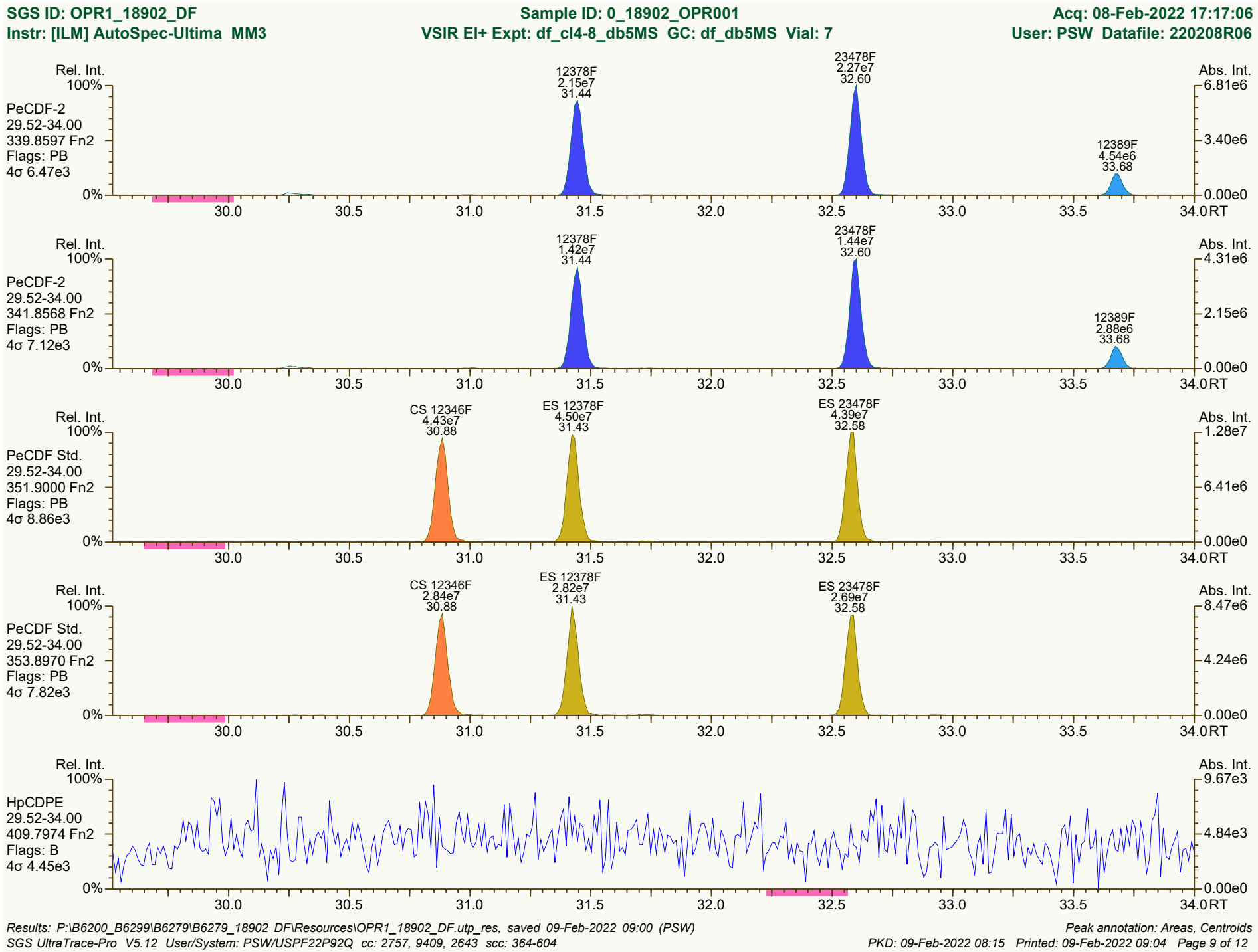


Results: P:\B6200_B6299\B6279\B6279_18902 DF\Resources\OPR1_18902_DF.utp_res, saved 09-Feb-2022 09:00 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7393 scc: 364-604
PKD: 09-Feb-2022 08:15 Printed: 09-Feb-2022 09:04 Page 8 of 12

SGS ID: OPR1_18902_DF
Instr: [ILM] AutoSpec-Ultima MM3

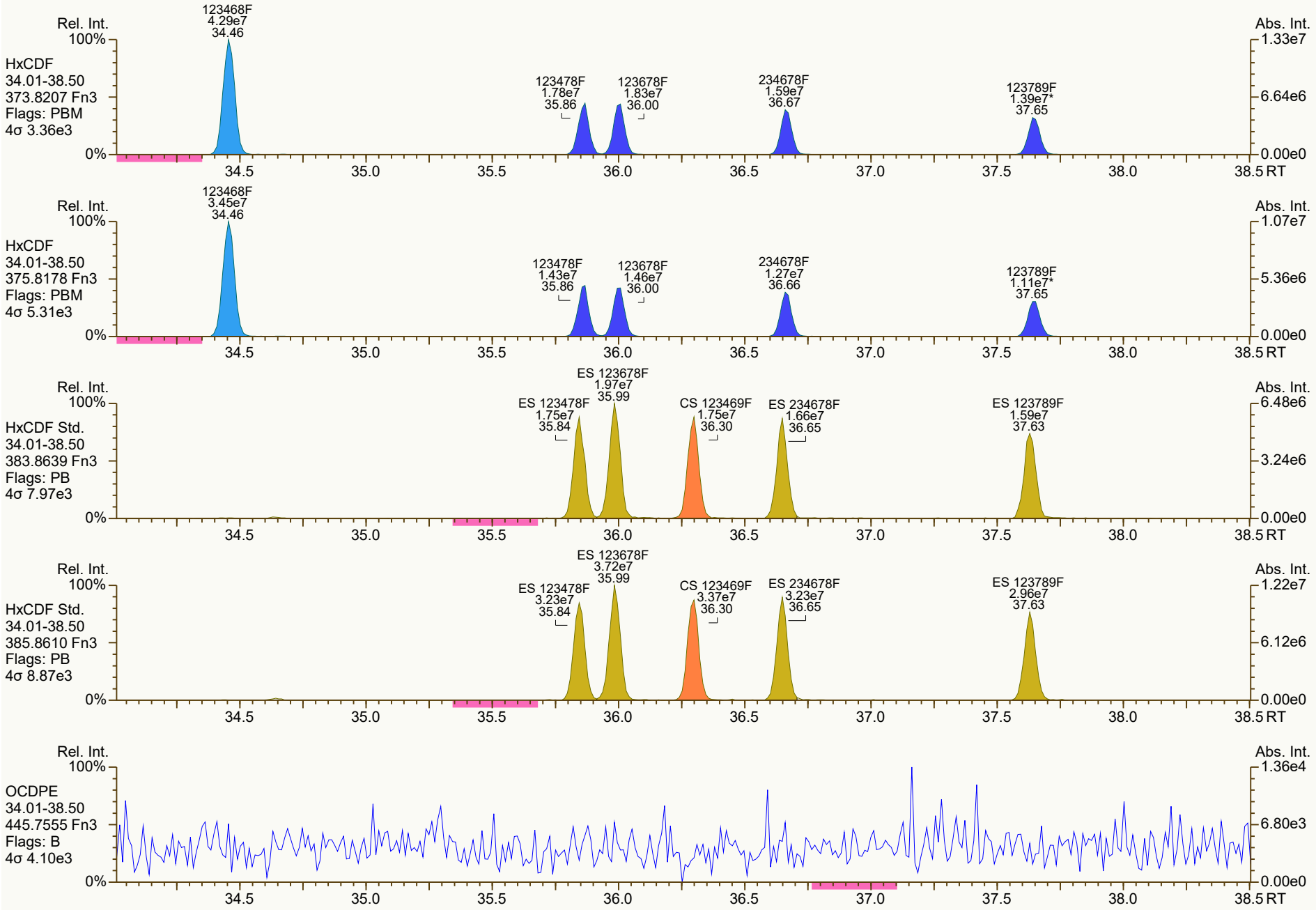
Sample ID: 0_18902_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7

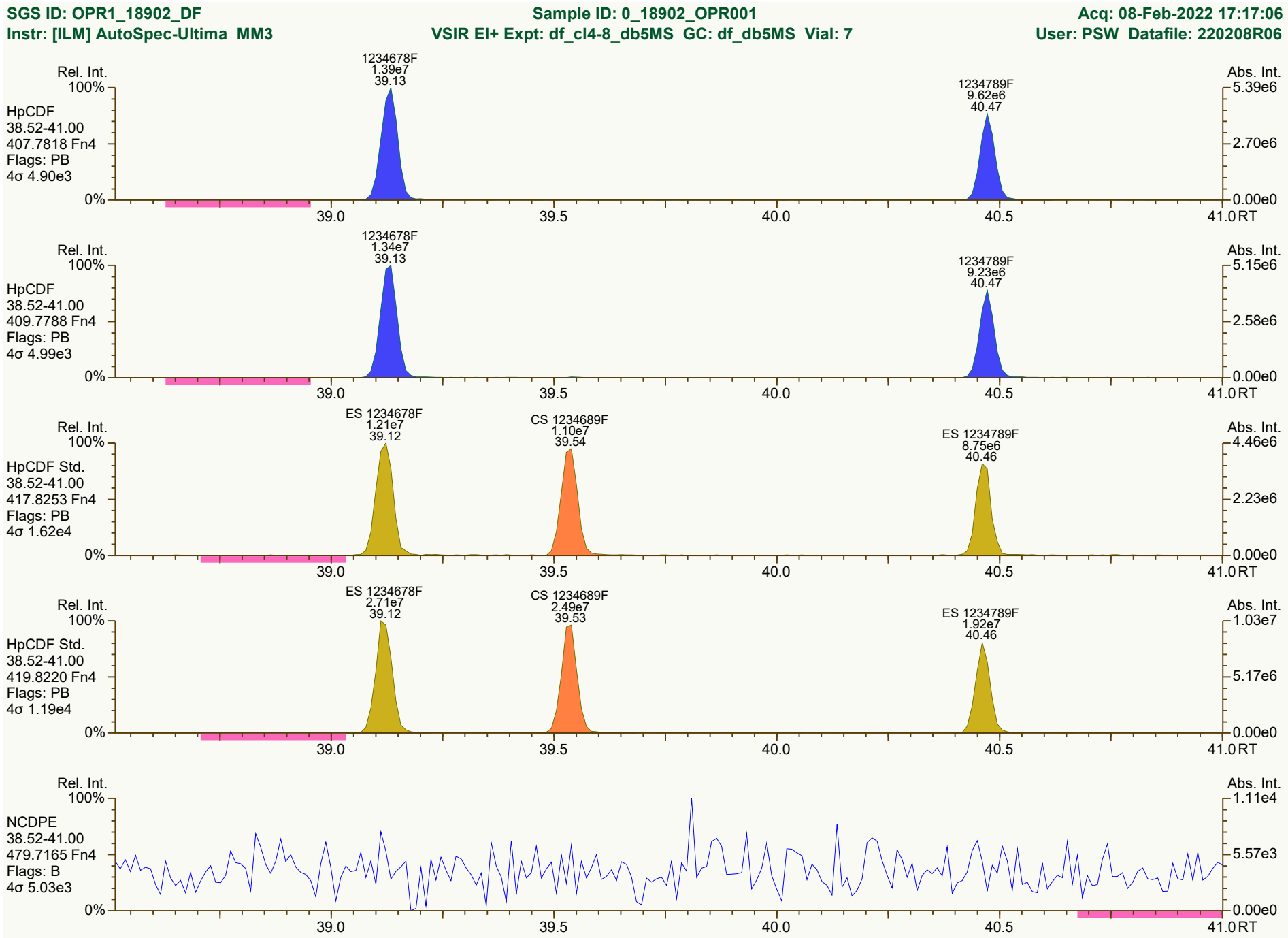
Acq: 08-Feb-2022 17:17:06
User: PSW Datafile: 220208R06



Results: P:\B6200_B6299\B6279\B6279_18902 DF\Resources\OPR1_18902_DF.utp_res, saved 09-Feb-2022 09:00 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2757, 9409, 2643 scc: 364-604

Peak annotation: Areas, Centroids
PKD: 09-Feb-2022 08:15 Printed: 09-Feb-2022 09:04 Page 9 of 12


Rel. Int.
Abs. Int.
HxCDF
34.01-38.50
373.8207 Fn3
Flags: PBM
4σ 3.36e3
123468F 4.29e7 34.46
123478F 1.78e7 35.86
123678F 1.83e7 36.00
234678F 1.59e7 36.67
123789F 1.39e7* 37.65
HxCDF
34.01-38.50
375.8178 Fn3
Flags: PBM
4σ 5.31e3
123468F 3.45e7 34.46
123478F 1.43e7 35.86
123678F 1.46e7 36.00
234678F 1.27e7 36.66
123789F 1.11e7* 37.65
HxCDF Std.
34.01-38.50
383.8639 Fn3
Flags: PB
4σ 7.97e3
ES 123678F 1.97e7 35.99
ES 123478F 1.75e7 35.84
CS 123469F 1.75e7 36.30
ES 234678F 1.66e7 36.65
ES 123789F 1.59e7 37.63
HxCDF Std.
34.01-38.50
385.8610 Fn3
Flags: PB
4σ 8.87e3
ES 123678F 3.72e7 35.99
ES 123478F 3.23e7 35.84
CS 123469F 3.37e7 36.30
ES 234678F 3.23e7 36.65
ES 123789F 2.96e7 37.63
OCDPE
34.01-38.50
445.7555 Fn3
Flags: B
4σ 4.10e3
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT

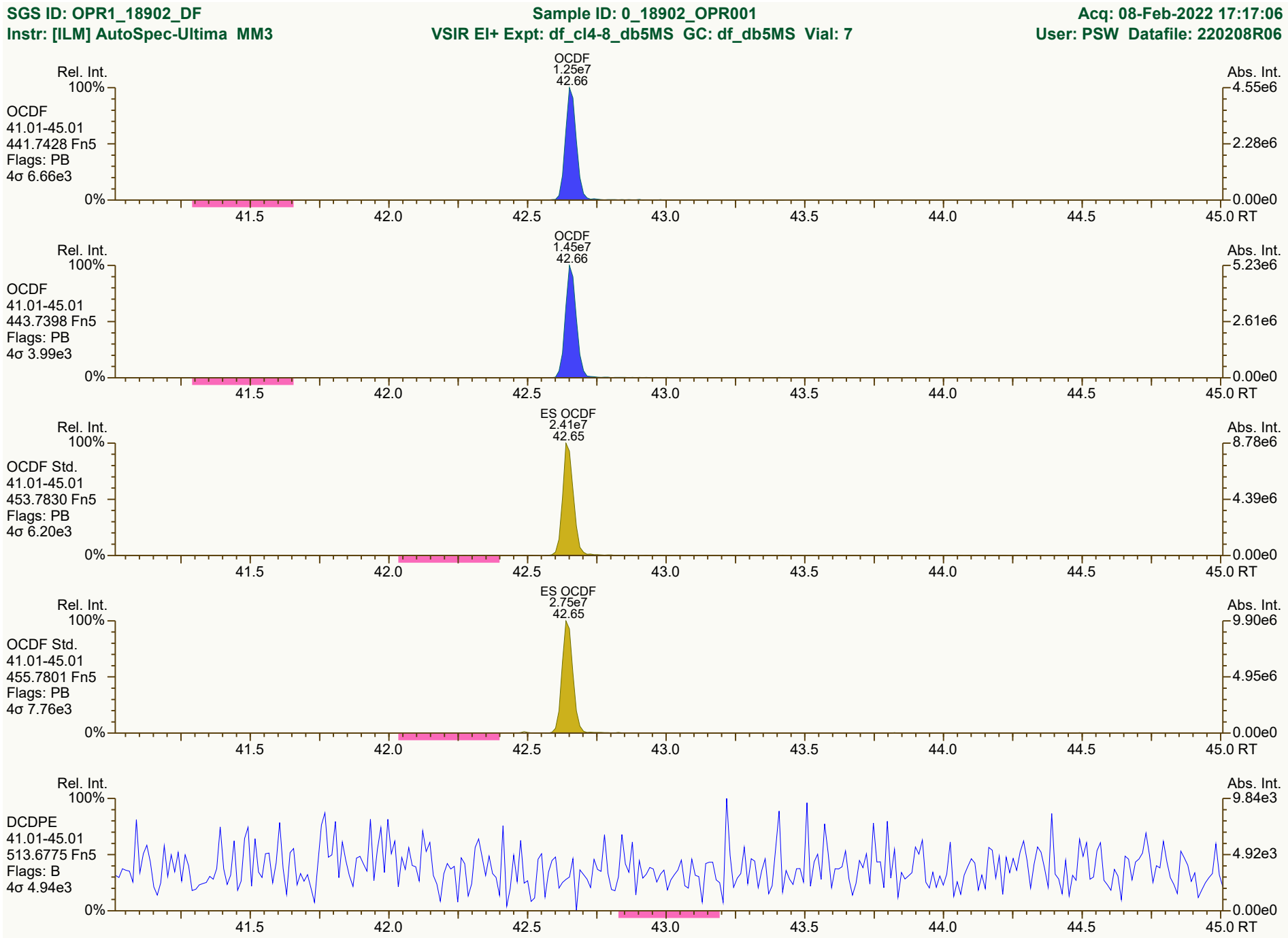


Results: P:\B6200_B6299\B6279\B6279_18902 DF\Resources\OPR1_18902_DF.utp_res, saved 09-Feb-2022 09:00 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6169, 4010, 3384 scc: 364-604
PKD: 09-Feb-2022 08:15 Printed: 09-Feb-2022 09:04 Page 11 of 12

SGS ID: OPR1_18902_DF
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: 0_18902_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7

Acq: 08-Feb-2022 17:17:06
User: PSW Datafile: 220208R06



Results: P:\B6200_B6299\B6279\B6279_18902 DF\Resources\OPR1_18902_DF.utp_res, saved 09-Feb-2022 09:00 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3137, 6156, 7249 scc: 364-604

Peak annotation: Areas, Centroids
PKD: 09-Feb-2022 08:15 Printed: 09-Feb-2022 09:04 Page 12 of 12

Lab ID: OPR2_18902_DF **Acq'd: 08 Feb 2022 18:04 PSW** **Wt/Vol: 1 uL** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18902_OPR002 **UTP: 09-Feb-2022 09:00:14 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 064-027-YRN**

Datafile: 220208R07 **Report: 09 Feb 2022 09:01 gd** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	27.42		1.0008	1.0008	0	5.94E+06	0.78	Y	1.34	8.43	9557.209	0.153
12378-PeCDD	32.92		1.0006	1.0006	0	2.13E+07	1.57	Y	1.06	44.5	10252.309	0.185
123478-HxCDD	36.82		1.0004	1.0004	0	1.86E+07	1.27	Y	1.06	50.6	8244.815	0.183
123678-HxCDD	36.94		1.0036	1.0036	0	1.90E+07	1.25	Y	1.08	52.4	8244.815	0.181
123789-HxCDD	37.24		1.0117	1.0118	+0.2	1.96E+07	1.27	Y	1.02	48.6	8244.815	0.171
1234678-HpCDD	40.03		1.0003	1.0003	0	1.56E+07	1.07	Y	0.97	53.5	6395.166	0.131
OCDD	42.48		1.0003	1.0002	-0.3	2.35E+07	0.88	Y	1.07	105	11494.867	0.353
2378-TCDF	26.52		1.0007	1.0007	0	7.71E+06	0.76	Y	0.96	11.2	8143.577	0.135
12378-PeCDF	31.43		1.0006	1.0006	0	3.12E+07	1.57	Y	0.95	52	12338.5	0.181
23478-PeCDF	32.58		1.0006	1.0005	-0.2	3.17E+07	1.53	Y	0.94	55.7	12338.5	0.19
123478-HxCDF	35.85		1.0004	1.0005	+0.2	2.82E+07	1.25	Y	1.23	51.1	15235.993	0.209
123678-HxCDF	35.99		1.0004	1.0005	+0.2	2.94E+07	1.26	Y	1.13	52.2	15235.993	0.216
234678-HxCDF	36.65		1.0004	1.0005	+0.2	2.62E+07	1.26	Y	1.15	52.2	15235.993	0.24
123789-HxCDF	37.63		1.0005	1.0005	0	2.27E+07	1.21	Y	1.14	50	15235.993	0.274
1234678-HpCDF	39.11		1.0003	1.0003	0	2.48E+07	1.02	Y	1.36	52	8032.896	0.107
1234789-HpCDF	40.46		1.0002	1.0003	+0.2	1.75E+07	1.05	Y	1.30	51.3	8032.896	0.145
OCDF	42.65		1.0002	1.0002	0	2.61E+07	0.92	Y	1.03	107	10359.012	0.298

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	27.40	1.0259	1.0260	+0.2	5.24E+07	0.77	Y	1.03	86.3
ES 12378-PeCDD	32.90	1.2310	1.2320	+2.0	4.51E+07	1.58	Y	1.03	74.3
ES 123478-HxCDD	36.81	0.9915	0.9915	0	3.49E+07	1.26	Y	0.99	86.6
ES 123678-HxCDD	36.93	0.9947	0.9947	0	3.35E+07	1.26	Y	0.97	85
ES 123789-HxCDD	37.23	1.0027	1.0028	+0.2	3.96E+07	1.26	Y	1.12	87.2
ES 1234678-HpCDD	40.02	1.0776	1.0781	+1.2	2.99E+07	1.05	Y	0.99	74.6
ES OCDD	42.47	1.1435	1.1439	+1.0	4.18E+07	0.90	Y	0.78	66.5
ES 2378-TCDF	26.50	1.0583	1.0584	+0.2	7.18E+07	0.81	Y	1.08	81.2
ES 12378-PeCDF	31.41	1.2530	1.2544	+2.6	6.35E+07	1.58	Y	0.93	83.4
ES 23478-PeCDF	32.56	1.2990	1.3005	+2.9	6.07E+07	1.59	Y	0.92	80.6
ES 123478-HxCDF	35.83	0.9652	0.9651	-0.2	4.48E+07	0.54	Y	1.14	96.9
ES 123678-HxCDF	35.97	0.9689	0.9689	0	4.98E+07	0.55	Y	1.30	94.8
ES 234678-HxCDF	36.63	0.9868	0.9867	-0.2	4.35E+07	0.54	Y	1.20	89.4
ES 123789-HxCDF	37.61	1.0131	1.0132	+0.2	4.00E+07	0.54	Y	1.14	87
ES 1234678-HpCDF	39.10	1.0529	1.0534	+1.2	3.50E+07	0.44	Y	0.95	91.1
ES 1234789-HpCDF	40.45	1.0891	1.0895	+1.0	2.62E+07	0.45	Y	0.85	76.5
ES OCDF	42.63	1.1480	1.1485	+1.3	4.76E+07	0.92	Y	0.93	63.6

Lab ID: OPR2_18902_DF | **Acq'd:** 08 Feb 2022 18:04 PSW | **Wt/Vol:** 1 uL | **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 0_18902_OPR002 | **UTP:** 09-Feb-2022 09:00:14 PSW | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 064-027-YRN

Datafile: 220208R07 | **Report:** 09 Feb 2022 09:01 gd | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.71		-	-	-	5.87E+07	0.77	Y	-	-
JS 1234-TCDF	25.04		-	-	-	8.15E+07	0.81	Y	-	-
JS 123467-HxCDD	37.12		-	-	-	2.02E+07	1.30	Y	-	-
CS 37Cl-2378-TCDD	27.42		1.0267	1.0269	+0.3	2.35E+07	n/a	-	1.31	76.4
CS 12347-PeCDD	32.39		1.2119	1.2129	+1.9	4.08E+07	1.65	Y	0.89	77.9
CS 12346-PeCDF	30.87		1.2314	1.2327	+2.4	6.09E+07	1.63	Y	0.87	86
CS 123469-HxCDF	36.28		0.9773	0.9773	0	4.44E+07	0.52	Y	1.09	101
CS 1234689-HpCDF	39.52		1.0640	1.0645	+1.2	3.15E+07	0.44	Y	0.86	90
~~SS 37Cl-2378-TCDD~~	~~27.42~~		~~1.0267~~	~~1.0269~~	~~+0.3~~	~~2.35E+07~~	~~n/a~~		~~1.26~~	~~88.9~~
~~SS 12347-PeCDD~~	~~32.39~~		~~1.2119~~	~~1.2129~~	~~+1.9~~	~~4.08E+07~~	~~1.65~~	~~Y~~	~~0.86~~	~~105~~
~~SS 12346-PeCDF~~	~~30.87~~		~~1.2314~~	~~1.2327~~	~~+2.4~~	~~6.09E+07~~	~~1.63~~	~~Y~~	~~0.93~~	~~103~~
~~SS 123469-HxCDF~~	~~36.28~~		~~0.9773~~	~~0.9773~~	~~0~~	~~4.44E+07~~	~~0.52~~	~~Y~~	~~0.84~~	~~106~~
~~SS 1234689-HpCDF~~	~~39.52~~		~~1.0640~~	~~1.0645~~	~~+1.2~~	~~3.15E+07~~	~~0.44~~	~~Y~~	~~0.91~~	~~98.6~~

Totals	Conc	EMPC
Total TCDD	39.1	39.1
Total PeCDD	65.1	65.1
Total HxCDD	166	166
Total HpCDD	65.7	65.7
Total Tetra-Octa Dioxins	441	441
Total TCDF	58.9	58.9
Total PeCDF	234	234
Total HxCDF	338	338
Total HpCDF	103	103
Total Tetra-Octa Furans	842	842
Total Tetra-Octa Dioxins & Furans	1280	1280

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.777	0.78
Response	5.95E+06	5.94E+06

Lab ID: OPR2_18902_DF **Acq'd: 08 Feb 2022 18:04 PSW** **Wt/Vol: 1 uL** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18902_OPR002 **UTP: 09-Feb-2022 09:00:14 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 064-027-YRN**

Datafile: 220208R07 **Report: 09 Feb 2022 09:01 gd** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	23.54		0.8600	0.8590	-1.4	7.80E+06	0.77	Y	1.34	11.1	9557.209	0.153
1379-TCDD	NotFnd		0.8739						1.34		9557.209	0.153
1369-TCDD	NotFnd		0.8911						1.34		9557.209	0.153
1469-TCDD	NotFnd		0.9214						1.34		9557.209	0.153
1247/1246/1248/1249-TCDD	NotFnd		0.9305						1.34		9557.209	0.153
1378-TCDD	NotFnd		0.9377						1.34		9557.209	0.153
1268-TCDD	NotFnd		0.9455						1.34		9557.209	0.153
1478-TCDD	NotFnd		0.9552						1.34		9557.209	0.153
1279-TCDD	NotFnd		0.9613						1.34		9557.209	0.153
1234/1269-TCDD	NotFnd		0.9750						1.34		9557.209	0.153
1236-TCDD	NotFnd		0.9802						1.34		9557.209	0.153
1237/1238-TCDD	NotFnd		0.9898						1.34		9557.209	0.153
1239-TCDD	27.26		0.9948	0.9948	0	5.61E+06	0.79	Y	1.34	7.97	9557.209	0.153
2378-TCDD	**27.42**		**1.0008**	1.0008	**0**	5.94E+06	0.78	Y	**1.34**	**8.43**	**9557.209**	**0.153**
1278-TCDD	NotFnd		1.0135						1.34		9557.209	0.153
1267-TCDD	NotFnd		1.0188						1.34		9557.209	0.153
1289-TCDD	28.44		1.0379	1.0381	+0.3	8.23E+06	0.77	Y	1.34	11.7	9557.209	0.153
12479/12468-PeCDD	30.36		0.9227	0.9226	-0.2	4.70E+06	1.56	Y	1.06	9.82	10252.309	0.185
12469-PeCDD	NotFnd		0.9396						1.06		10252.309	0.185
12368-PeCDD	NotFnd		0.9567						1.06		10252.309	0.185
12478-PeCDD	NotFnd		0.9626						1.06		10252.309	0.185
12379-PeCDD	NotFnd		0.9655						1.06		10252.309	0.185
12369/12467/12489-PeCDD	NotFnd		0.9738						1.06		10252.309	0.185
12346/12347-PeCDD	NotFnd		0.9852						1.06		10252.309	0.185
12378-PeCDD	32.92		**1.0006**	**1.0006**	**0**	**2.13E+07**	**1.57**	**Y**	**1.06**	**44.5**	**10252.309**	**0.185**
12367-PeCDD	NotFnd		1.0036						1.06		10252.309	0.185
12389-PeCDD	33.37		1.0141	1.0142	+0.2	5.14E+06	1.58	Y	1.06	10.7	10252.309	0.185
124679/124689-HxCDD	35.11		0.9540	0.9538	-0.4	5.40E+06	1.23	Y	1.05	14.3	8244.815	0.178
123468-HxCDD	NotFnd		0.9718						1.05		8244.815	0.178
123679/123689-HxCDD	NotFnd		0.9797						1.05		8244.815	0.178
123469-HxCDD	NotFnd		0.9833						1.05		8244.815	0.178
123478-HxCDD	36.82		**1.0004**	**1.0004**	**0**	**1.86E+07**	**1.27**	**Y**	1.06	**50.6**	**8244.815**	**0.183**
123678-HxCDD	36.94		**1.0036**	**1.0036**	**0**	**1.90E+07**	**1.25**	**Y**	1.08	**52.4**	**8244.815**	**0.181**
123467-HxCDD	NotFnd		1.0090						1.05		8244.815	0.178
123789-HxCDD	37.24		**1.0117**	**1.0118**	**+0.2**	**1.96E+07**	**1.27**	**Y**	1.02	**48.6**	**8244.815**	**0.171**

Lab ID: OPR2_18902_DF | **Acq'd: 08 Feb 2022 18:04 PSW** | **Wt/Vol: 1 uL** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18902_OPR002 | **UTP: 09-Feb-2022 09:00:14 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 064-027-YRN**

Datafile: 220208R07 | **Report: 09 Feb 2022 09:01 gd** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.38		0.9841	0.9841	0	3.54E+06	1.06	Y	0.97	12.1	6395.166	0.131
1234678-HpCDD	**40.03**		**1.0003**	**1.0003**	**0**	**1.56E+07**	**1.07**	**Y**	**0.97**	**53.5**	**6395.166**	**0.131**
OCDD	**42.48**		**1.0003**	**1.0002**	**-0.3**	**2.35E+07**	**0.88**	**Y**	**1.07**	**105**	**11494.867**	**0.353**
OCDD-a	42.47	**EMPC**	1.0002	1.0002	0	9.68E+05	3.86	N	0.07	70.1	13006.922	6.47
1368-TCDF	21.29		0.8043	0.8033	-1.3	9.92E+06	0.74	Y	0.96	14.4	8143.577	0.135
1468-TCDF	NotFnd		0.8264						0.96		8143.577	0.135
2468-TCDF	22.56		0.8524	0.8513	-1.5	2.52E+06	0.72	Y	0.96	3.65	8143.577	0.135
1346/1246-TCDF	NotFnd		0.8658						0.96		8143.577	0.135
1347/1378/1247-TCDF	NotFnd		0.8723						0.96		8143.577	0.135
1348-TCDF	NotFnd		0.8836						0.96		8143.577	0.135
1248/1367/1379-TCDF	NotFnd		0.8890						0.96		8143.577	0.135
1268-TCDF	NotFnd		0.9044						0.96		8143.577	0.135
1467-TCDF	NotFnd		0.9099						0.96		8143.577	0.135
1478-TCDF	NotFnd		0.9167						0.96		8143.577	0.135
1369/1237-TCDF	NotFnd		0.9315						0.96		8143.577	0.135
2467-TCDF	NotFnd		0.9372						0.96		8143.577	0.135
2368-TCDF	NotFnd		0.9434						0.96		8143.577	0.135
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9464						0.96		8143.577	0.135
1278-TCDF	NotFnd		0.9647						0.96		8143.577	0.135
1349-TCDF	NotFnd		0.9695						0.96		8143.577	0.135
1267-TCDF	NotFnd		0.9758						0.96		8143.577	0.135
2346/1249-TCDF	NotFnd		0.9831						0.96		8143.577	0.135
2347/1279-TCDF	NotFnd		0.9919						0.96		8143.577	0.135
2348-TCDF	26.41		0.9964	0.9964	0	9.91E+06	0.73	Y	0.96	14.4	8143.577	0.135
2378-TCDF	**26.52**		**1.0007**	**1.0007**	**0**	**7.71E+06**	**0.76**	**Y**	**0.96**	**11.2**	**8143.577**	**0.135**
2367/3467-TCDF	NotFnd		1.0153						0.96		8143.577	0.135
1269-TCDF	NotFnd		1.0246						0.96		8143.577	0.135
1239-TCDF	NotFnd		1.0345						0.96		8143.577	0.135
1289-TCDF	28.61		1.0779	1.0797	+3.1	1.06E+07	0.76	Y	0.96	15.3	8143.577	0.135
13468/12468-PeCDF	28.50		0.9082	0.9074	-1.4	6.74E+07	1.56	Y	0.94	115	12211.537	0.183
13678/13467/12467-PeCDF	NotFnd		0.9590						0.94		12338.5	0.185
12368/13478/12478-PeCDF	NotFnd		0.9641						0.94		12338.5	0.185
14678-PeCDF	NotFnd		0.9674						0.94		12338.5	0.185
13479-PeCDF	NotFnd		0.9704						0.94		12338.5	0.185
13469/12479-PeCDF	NotFnd		0.9787						0.94		12338.5	0.185
12346-PeCDF	NotFnd		0.9832						0.94		12338.5	0.185

Lab ID: OPR2_18902_DF **Acq'd: 08 Feb 2022 18:04 PSW** **Wt/Vol: 1 uL** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18902_OPR002 **UTP: 09-Feb-2022 09:00:14 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 064-027-YRN**

Datafile: 220208R07 **Report: 09 Feb 2022 09:01 gd** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9865						0.94		12338.5	0.185
12347-PeCDF	NotFnd		0.9886						0.94		12338.5	0.185
12348-PeCDF	NotFnd		0.9937						0.94		12338.5	0.185
12378-PeCDF	**31.43**		**1.0006**	**1.0006**	**0**	**3.12E+07**	**1.57**	**Y**	**0.95**	**52**	**12338.5**	**0.181**
12678/12367-PeCDF	NotFnd		1.0096						0.94		12338.5	0.185
12379-PeCDF	NotFnd		1.0149						0.94		12338.5	0.185
12679-PeCDF	NotFnd		0.9922						0.94		12338.5	0.185
23467/12369-PeCDF	NotFnd		0.9965						0.94		12338.5	0.185
23478-PeCDF	**32.58**		**1.0006**	**1.0005**	**-0.2**	**3.17E+07**	**1.53**	**Y**	**0.94**	**55.7**	**12338.5**	**0.19**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0055						0.94		12338.5	0.185
12349-PeCDF	NotFnd		1.0101						0.94		12338.5	0.185
12389-PeCDF	33.66		1.0335	1.0338	+0.6	6.61E+06	1.58	Y	0.94	11.3	12338.5	0.185
123468-HxCDF	34.44		0.9614	0.9612	-0.4	6.87E+07	1.24	Y	1.16	133	15235.993	0.233
124678/134678-HxCDF	NotFnd		0.9671						1.16		15235.993	0.233
134679-HxCDF	NotFnd		0.9734						1.16		15235.993	0.233
124679-HxCDF	NotFnd		0.9791						1.16		15235.993	0.233
124689-HxCDF	NotFnd		0.9853						1.16		15235.993	0.233
123467-HxCDF	NotFnd		0.9971						1.16		15235.993	0.233
123478-HxCDF	**35.85**		**1.0004**	**1.0005**	**+0.2**	**2.82E+07**	**1.25**	**Y**	**1.23**	**51.1**	**15235.993**	**0.209**
123678-HxCDF	**35.99**		**1.0004**	**1.0005**	**+0.2**	**2.94E+07**	**1.26**	**Y**	**1.13**	**52.2**	**15235.993**	**0.216**
123479-HxCDF	NotFnd		1.0048						1.16		15235.993	0.233
123469-HxCDF	NotFnd		1.0090						1.16		15235.993	0.233
123679-HxCDF	NotFnd		0.9940						1.16		15235.993	0.233
234678-HxCDF	**36.65**		**1.0004**	**1.0005**	**+0.2**	**2.62E+07**	**1.26**	**Y**	**1.15**	**52.2**	**15235.993**	**0.24**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		15235.993	0.233
123789-HxCDF	**37.63**		**1.0005**	**1.0005**	**0**	**2.27E+07**	**1.21**	**Y**	**1.14**	**50**	**15235.993**	**0.274**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	NotFnd		1.0008						1.16		15235.993	0.233
1234678-HpCDF	**39.11**		**1.0003**	**1.0003**	**0**	**2.48E+07**	**1.02**	**Y**	**1.36**	**52**	**8032.896**	**0.107**
1234679-HpCDF	NotFnd		1.0072						1.33		8032.896	0.123
1234689-HpCDF	NotFnd		1.0108						1.33		8032.896	0.123
1234789-HpCDF	**40.46**		**1.0002**	**1.0003**	**+0.2**	**1.75E+07**	**1.05**	**Y**	**1.30**	**51.3**	**8032.896**	**0.145**
OCDF	**42.65**		**1.0002**	**1.0002**	**0**	**2.61E+07**	**0.92**	**Y**	**1.03**	**107**	**10359.012**	**0.298**
OCDF-a	42.64		1.0002	1.0002	0	1.59E+06	2.52	Y	0.06	113	12759.064	6.35

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
VER Data Filename:	220208R07	Analysis Date:	08-FEB-2022 18:04:33
Lab ID:	OPR2_18902_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	8.43	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	44.5	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	50.6	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	52.4	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	48.6	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	53.5	35	-	70	Y
OCDD	100	105	78	-	144	Y
2,3,7,8-TCDF	10	11.2	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	52	40	-	67	Y
2,3,4,7,8-PeCDF	50	55.7	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	51.1	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	52.2	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	52.2	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	50	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	52	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	51.3	39	-	69	Y
OCDF	100	107	63	-	170	Y

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

Processed: 09 Feb 2022 09:01 Analyst: gd

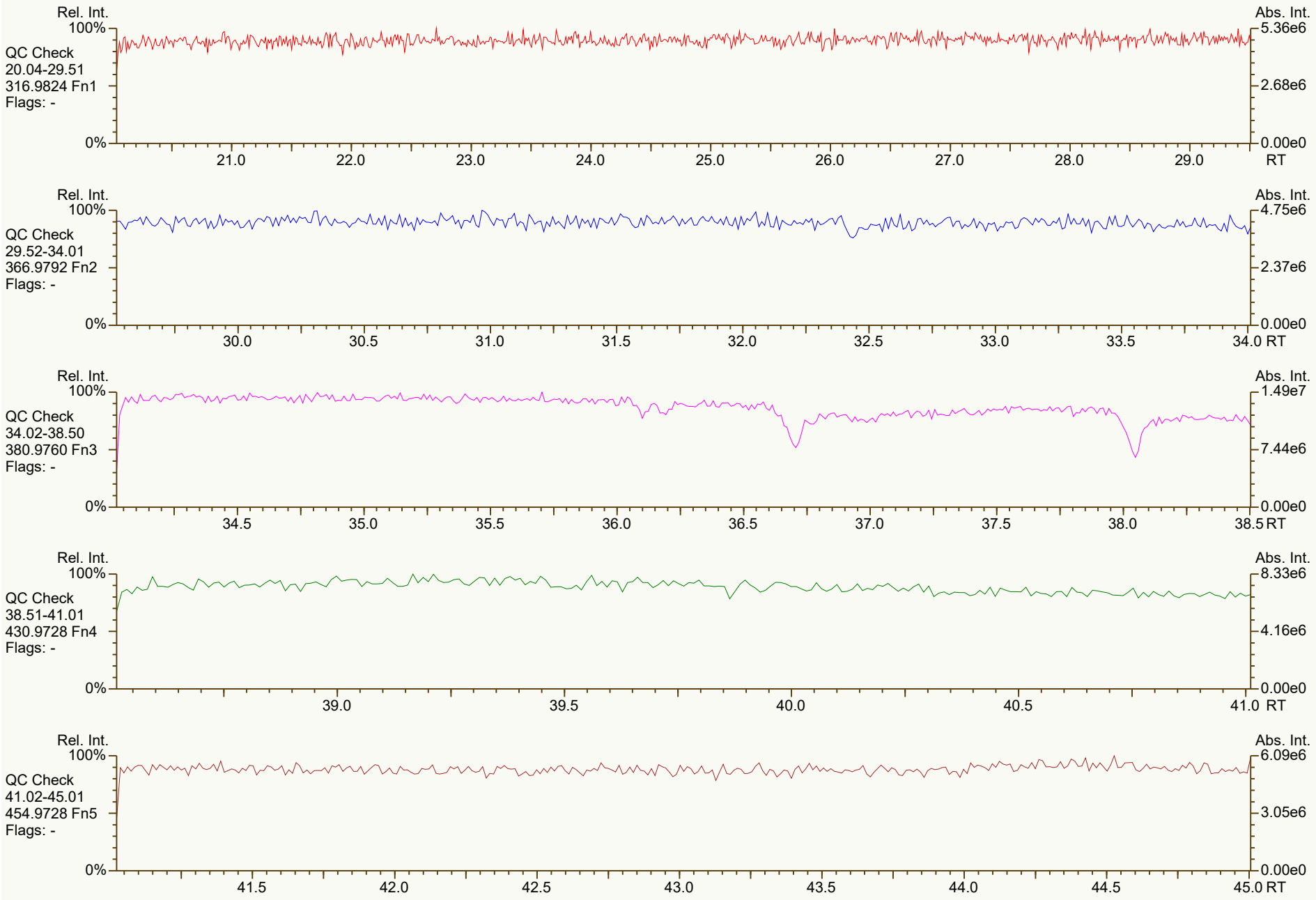
METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

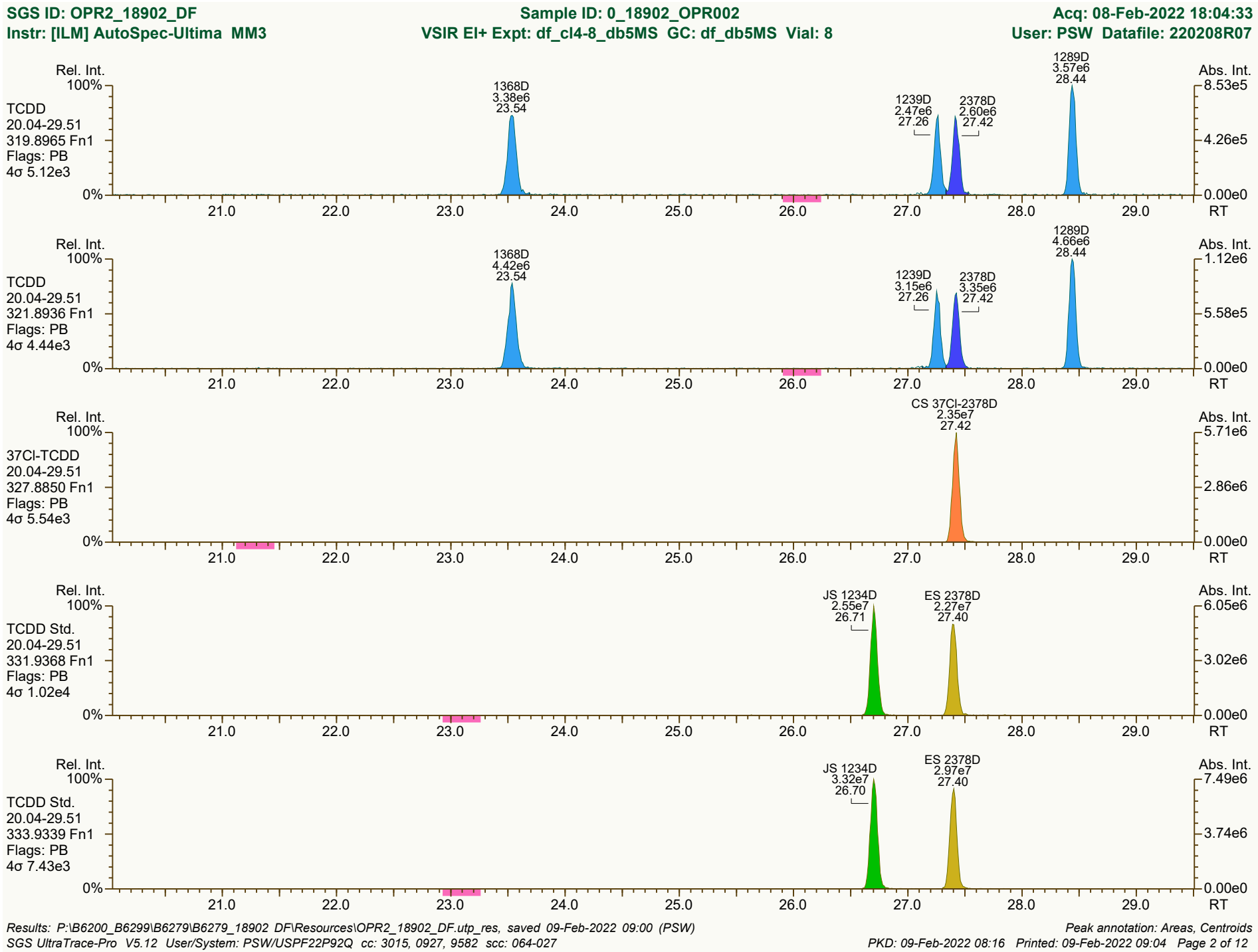
Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
VER Data Filename:	220208R07	Analysis Date:	08-FEB-2022 18:04:33
Lab ID:	OPR2_18902_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	86.3	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	74.3	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	86.6	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	85	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	87.2	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	74.6	26	-	166	Y
13C-OCDD	200	133	26	-	397	Y
13C-2,3,7,8-TCDF	100	81.2	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	83.4	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	80.6	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	96.9	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	94.8	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	89.4	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	87	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	91.1	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	76.5	20	-	186	Y
13C-OCDF	200	127	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	30.6	12.4	-	76.4	Y

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

Processed: 09 Feb 2022 09:01 Analyst: gd


Rel. Int.
100%
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
0%
Abs. Int.
5.36e6
2.68e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.75e6
2.37e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
QC Check
34.02-38.50
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.49e7
7.44e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
QC Check
38.51-41.01
430.9728 Fn4
Flags: -
0%
Abs. Int.
8.33e6
4.16e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
QC Check
41.02-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.09e6
3.05e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT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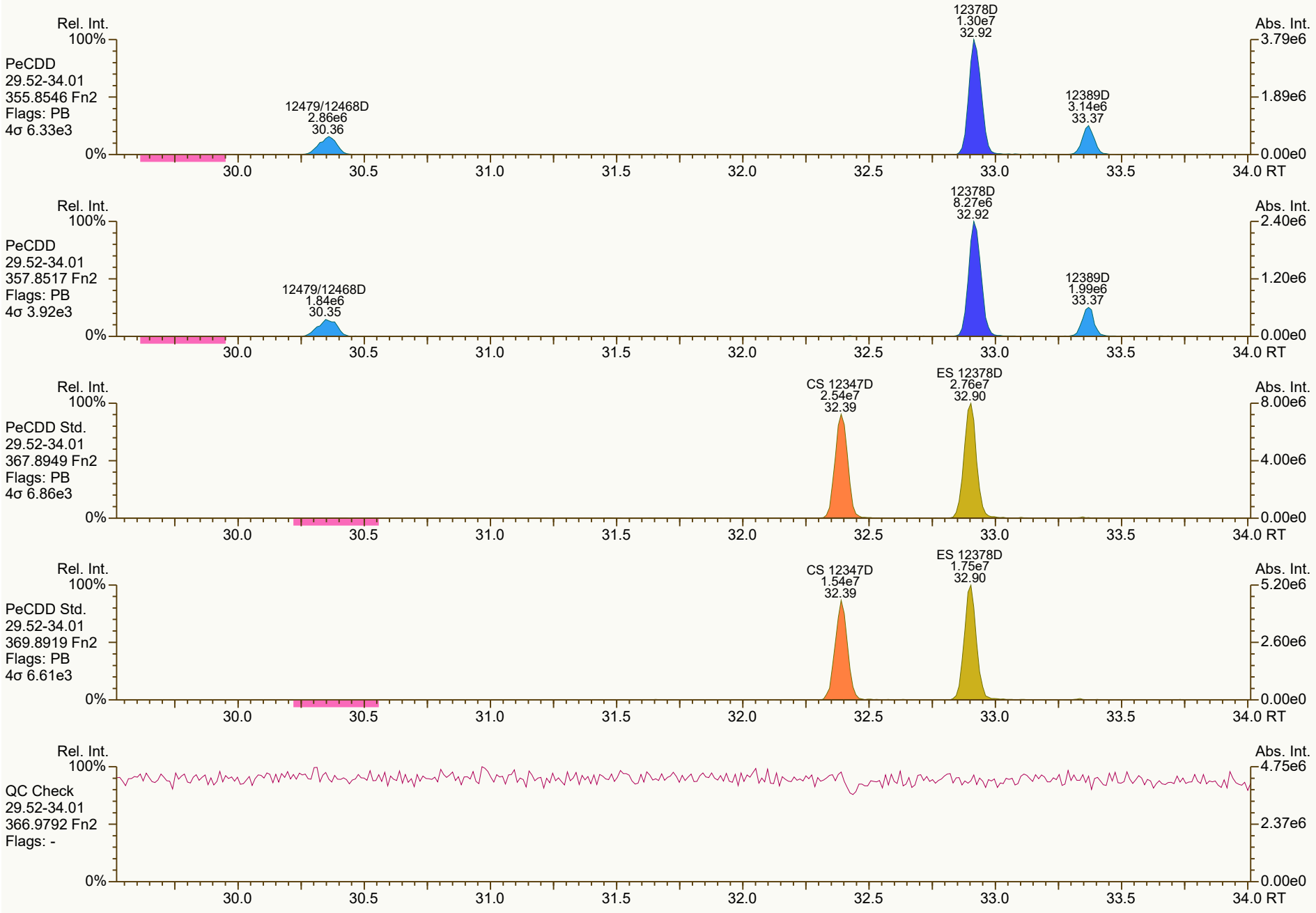
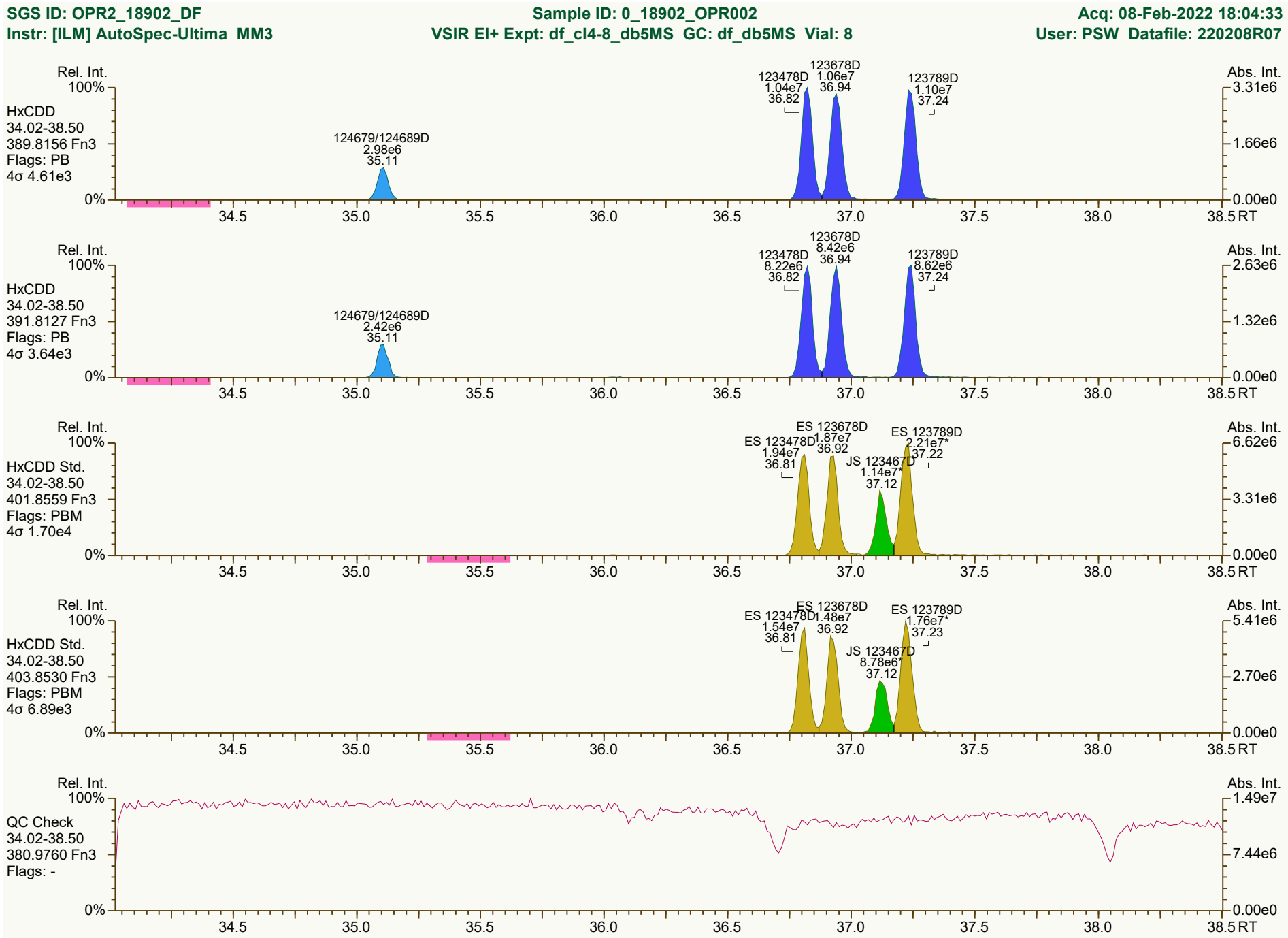
Sample ID: 0_18902_OPR002
Acq: 08-Feb-2022 18:04:33
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 8
User: PSW Datafile: 220208R07
Rel. Int.
Abs. Int.
TCDD
20.04-29.51
319.8965 Fn1
Flags: PB
4σ 5.12e3
1368D
3.38e6
23.54
1239D
2.47e6
27.26
2378D
2.60e6
27.42
1289D
3.57e6
28.44
8.53e5
4.26e5
0.00e0
TCDD
20.04-29.51
321.8936 Fn1
Flags: PB
4σ 4.44e3
1368D
4.42e6
23.54
1239D
3.15e6
27.26
2378D
3.35e6
27.42
1289D
4.66e6
28.44
1.12e6
5.58e5
0.00e0
37Cl-TCDD
20.04-29.51
327.8850 Fn1
Flags: PB
4σ 5.54e3
CS 37Cl-2378D
2.35e7
27.42
5.71e6
2.86e6
0.00e0
TCDD Std.
20.04-29.51
331.9368 Fn1
Flags: PB
4σ 1.02e4
JS 1234D
2.55e7
26.71
ES 2378D
2.27e7
27.40
6.05e6
3.02e6
0.00e0
TCDD Std.
20.04-29.51
333.9339 Fn1
Flags: PB
4σ 7.43e3
JS 1234D
3.32e7
26.70
ES 2378D
2.97e7
27.40
7.49e6
3.74e6
0.00e0
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6200_B6299\B6279\B6279_18902 DF\Resources\OPR2_18902_DF.utp_res, saved 09-Feb-2022 09:00 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3015, 0927, 9582 scc: 064-027
PKD: 09-Feb-2022 08:16 Printed: 09-Feb-2022 09:04 Page 2 of 12


Rel. Int.
100%
PeCDD
29.52-34.01
355.8546 Fn2
Flags: PB
4σ 6.33e3
12479/12468D
2.86e6
30.36
12378D
1.30e7
32.92
12389D
3.14e6
33.37
Abs. Int.
3.79e6
1.89e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD
29.52-34.01
357.8517 Fn2
Flags: PB
4σ 3.92e3
12479/12468D
1.84e6
30.35
12378D
8.27e6
32.92
12389D
1.99e6
33.37
Abs. Int.
2.40e6
1.20e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD Std.
29.52-34.01
367.8949 Fn2
Flags: PB
4σ 6.86e3
CS 12347D
2.54e7
32.39
ES 12378D
2.76e7
32.90
Abs. Int.
8.00e6
4.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD Std.
29.52-34.01
369.8919 Fn2
Flags: PB
4σ 6.61e3
CS 12347D
1.54e7
32.39
ES 12378D
1.75e7
32.90
Abs. Int.
5.20e6
2.60e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
Abs. Int.
4.75e6
2.37e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT

SGS ID: OPR2_18902_DF
Instr: [ILM] AutoSpec-Ultima MM3

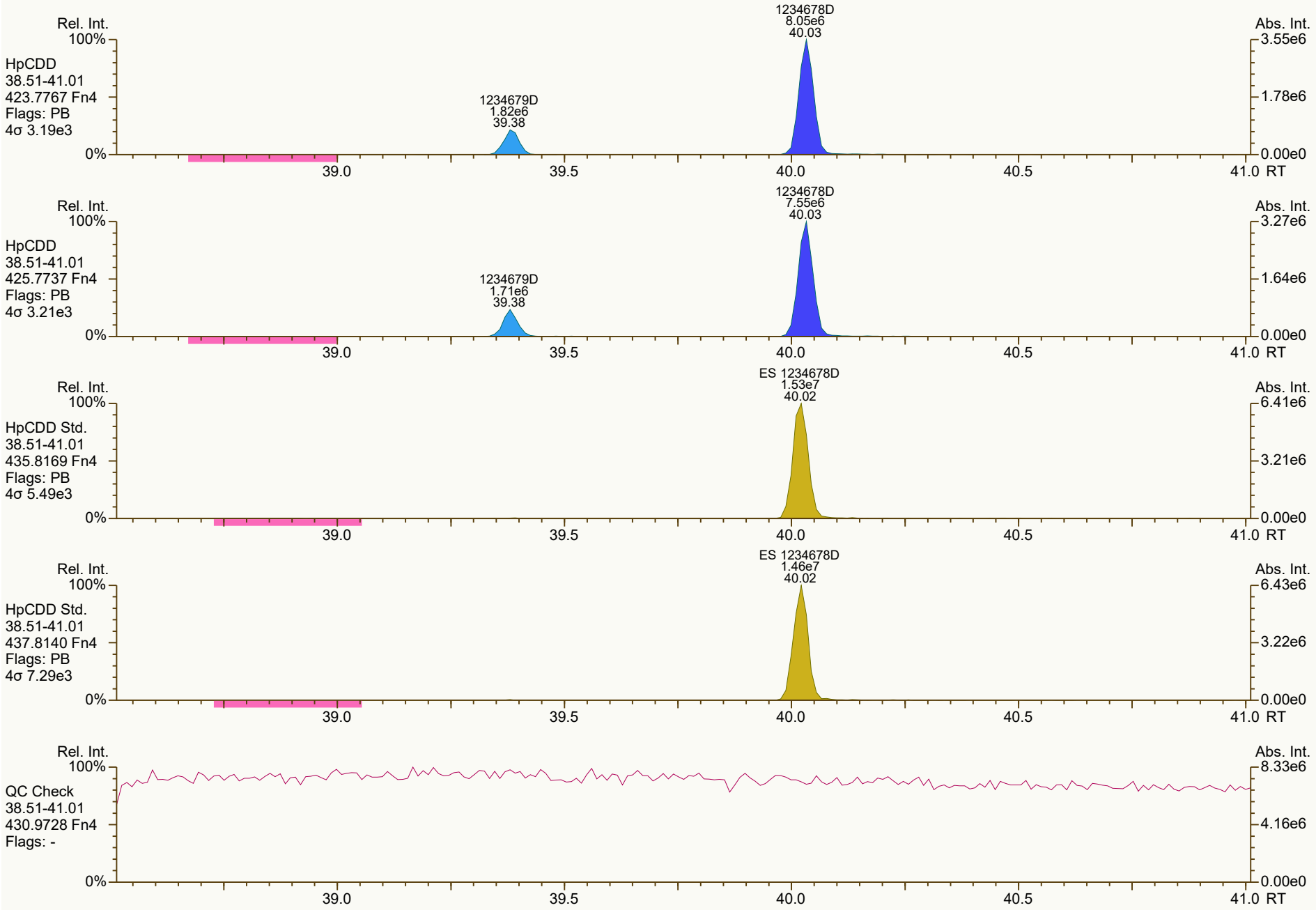
Sample ID: 0_18902_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 8

Acq: 08-Feb-2022 18:04:33
User: PSW Datafile: 220208R07



Results: P:\B6200_B6299\B6279\B6279_18902 DF\Resources\OPR2_18902_DF.utp_res, saved 09-Feb-2022 09:00 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3896, 3197 scc: 064-027

Peak annotation: Areas, Centroids
PKD: 09-Feb-2022 08:16 Printed: 09-Feb-2022 09:04 Page 4 of 12


Rel. Int.
100%
HpCDD
38.51-41.01
423.7767 Fn4
Flags: PB
4σ 3.19e3
1234678D
8.05e6
40.03
1234679D
1.82e6
39.38
Abs. Int.
3.55e6
1.78e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD
38.51-41.01
425.7737 Fn4
Flags: PB
4σ 3.21e3
1234678D
7.55e6
40.03
1234679D
1.71e6
39.38
Abs. Int.
3.27e6
1.64e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.51-41.01
435.8169 Fn4
Flags: PB
4σ 5.49e3
ES 1234678D
1.53e7
40.02
Abs. Int.
6.41e6
3.21e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.51-41.01
437.8140 Fn4
Flags: PB
4σ 7.29e3
ES 1234678D
1.46e7
40.02
Abs. Int.
6.43e6
3.22e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
QC Check
38.51-41.01
430.9728 Fn4
Flags: -
Abs. Int.
8.33e6
4.16e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT


OCDD
1.10e7
42.48
Rel. Int.
100%
OCDD
41.02-45.01
457.7377 Fn5
Flags: PB
4σ 6.42e3
0%
Abs. Int.
4.11e6
2.06e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.25e7
42.47
Rel. Int.
100%
OCDD
41.02-45.01
459.7348 Fn5
Flags: PB
4σ 5.08e3
0%
Abs. Int.
4.63e6
2.32e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.98e7
42.46
Rel. Int.
100%
OCDD Std.
41.02-45.01
469.7780 Fn5
Flags: PB
4σ 5.91e3
0%
Abs. Int.
7.20e6
3.60e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
2.21e7
42.46
Rel. Int.
100%
OCDD Std.
41.02-45.01
471.7750 Fn5
Flags: PB
4σ 7.01e3
0%
Abs. Int.
7.61e6
3.81e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.02-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.09e6
3.05e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: OPR2_18902_DF
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: 0_18902_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 8

Acq: 08-Feb-2022 18:04:33
User: PSW Datafile: 220208R07



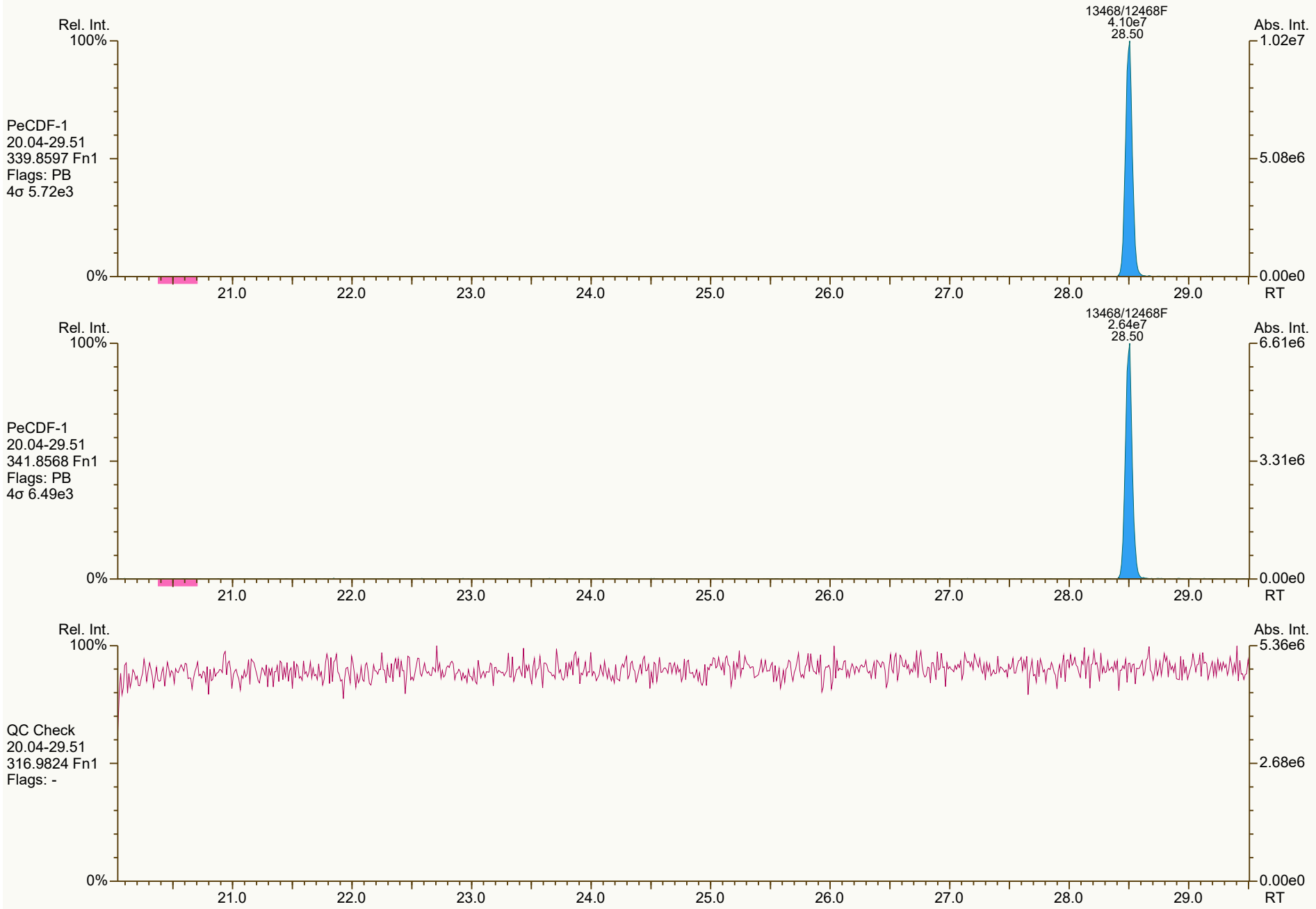
Results: P:\B6200_B6299\B6279\B6279_18902 DF\Resources\OPR2_18902_DF.utp_res, saved 09-Feb-2022 09:00 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0274, 9991, 4766 scc: 064-027

Peak annotation: Areas, Centroids
PKD: 09-Feb-2022 08:16 Printed: 09-Feb-2022 09:04 Page 7 of 12

SGS ID: OPR2_18902_DF
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: 0_18902_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 8

Acq: 08-Feb-2022 18:04:33
User: PSW Datafile: 220208R07



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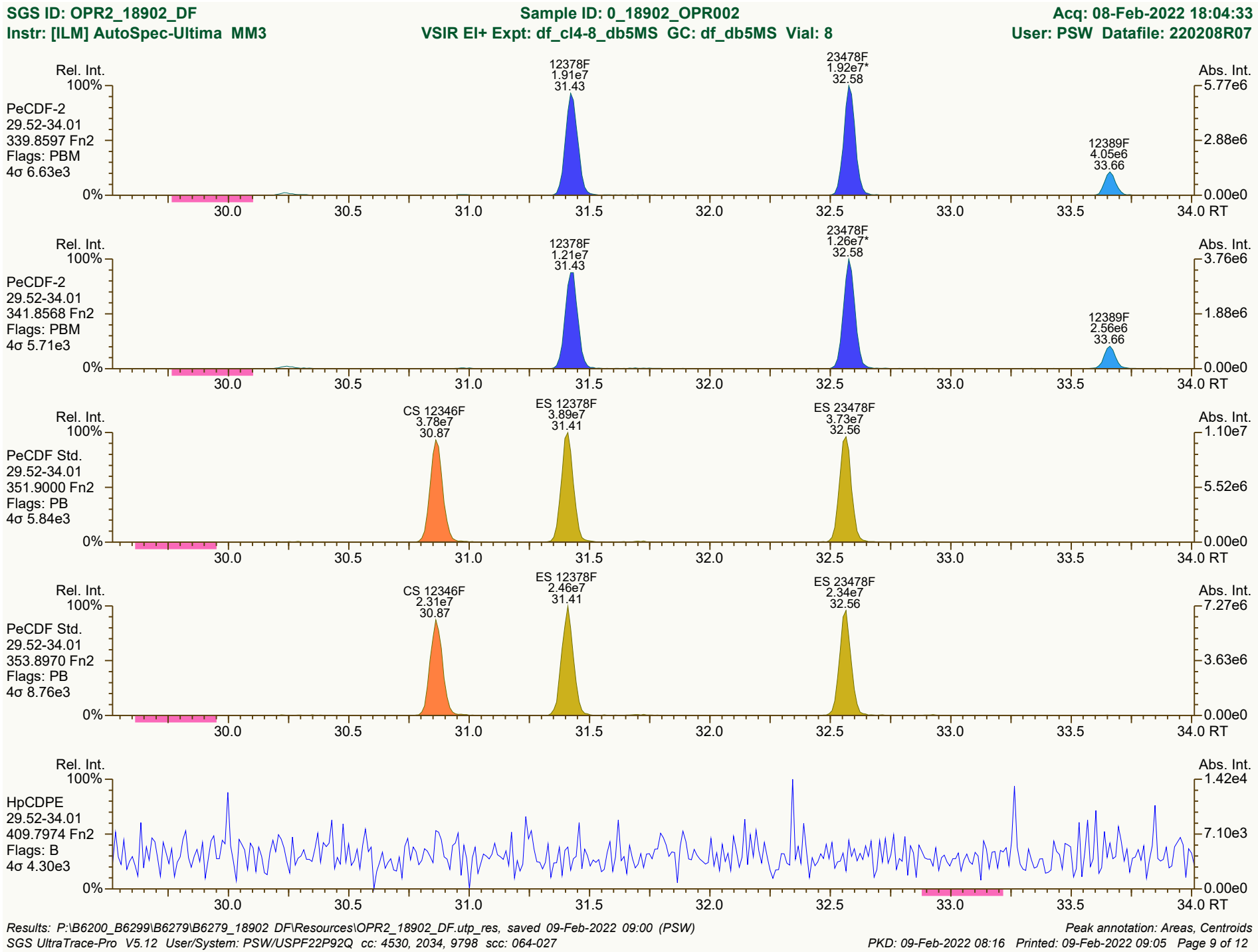
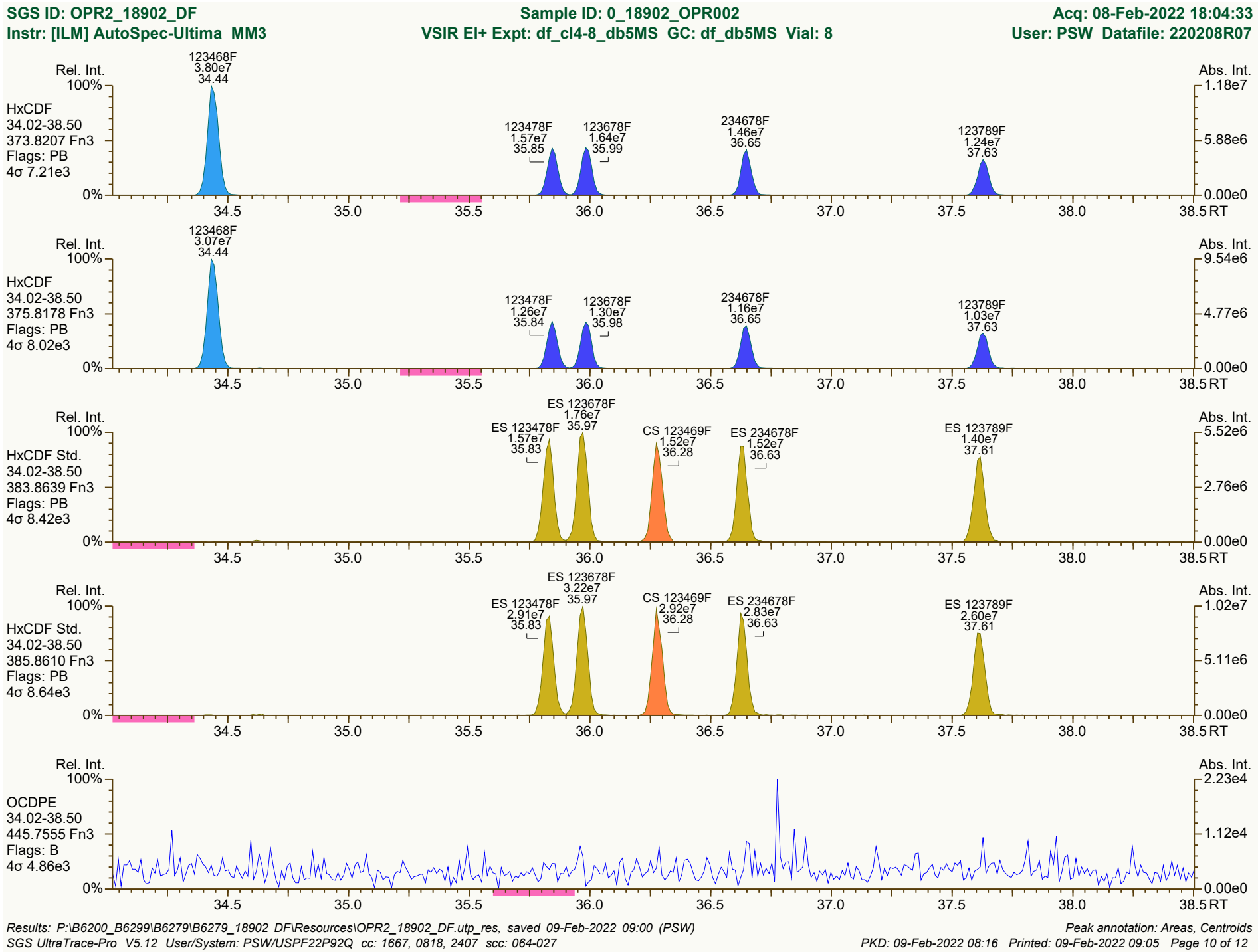
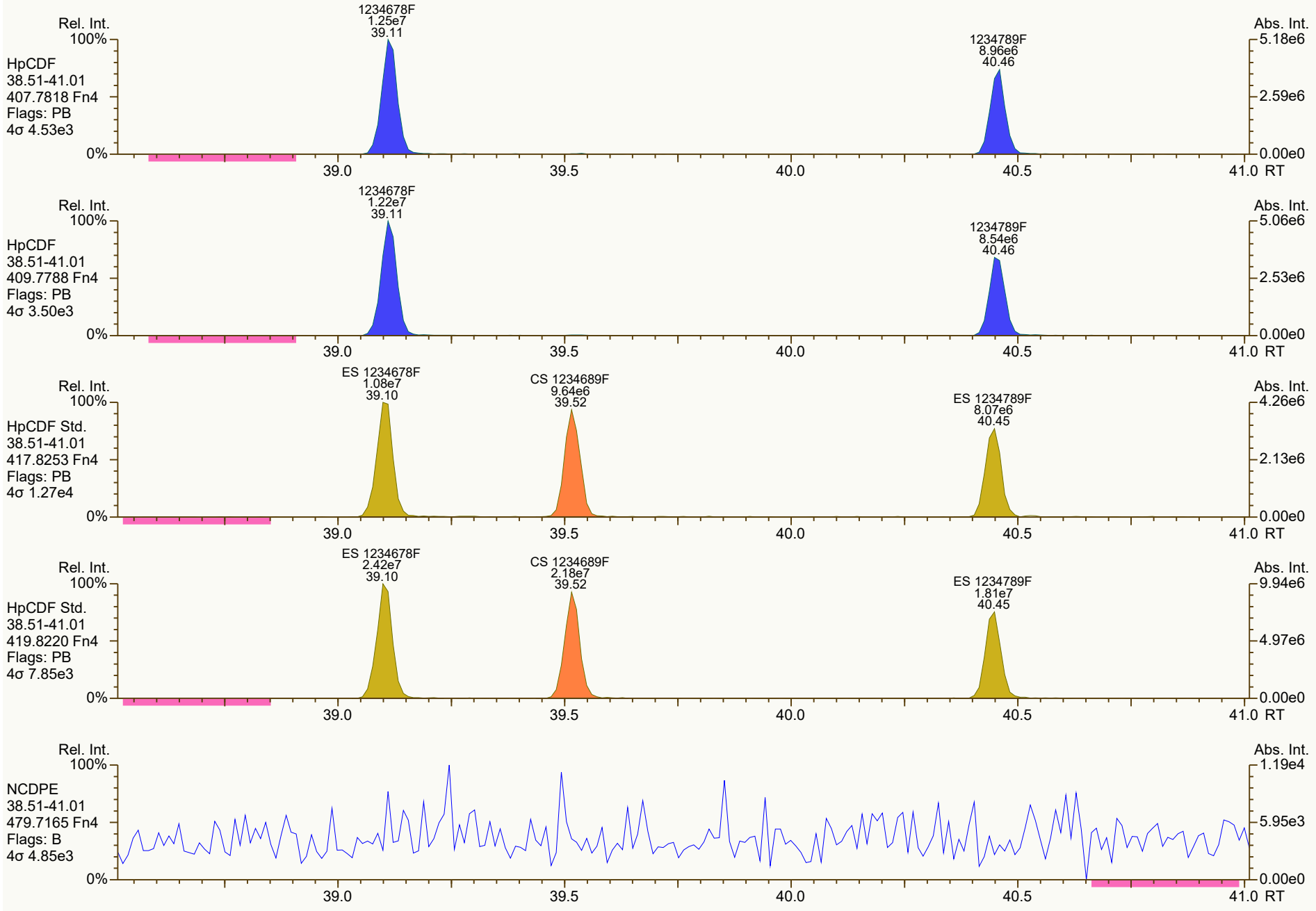
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6477 scc: 064-027
PKD: 09-Feb-2022 08:16 Printed: 09-Feb-2022 09:05 Page 8 of 12


SGS ID: OPR2_18902_DF
Sample ID: 0_18902_OPR002
Acq: 08-Feb-2022 18:04:33
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 8
User: PSW Datafile: 220208R07
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.01
339.8597 Fn2
Flags: PBM
4σ 6.63e3
12378F
1.91e7
31.43
23478F
1.92e7*
32.58
12389F
4.05e6
33.66
5.77e6
2.88e6
0.00e0
PeCDF-2
29.52-34.01
341.8568 Fn2
Flags: PBM
4σ 5.71e3
12378F
1.21e7
31.43
23478F
1.26e7*
32.58
12389F
2.56e6
33.66
3.76e6
1.88e6
0.00e0
PeCDF Std.
29.52-34.01
351.9000 Fn2
Flags: PB
4σ 5.84e3
CS 12346F
3.78e7
30.87
ES 12378F
3.89e7
31.41
ES 23478F
3.73e7
32.56
1.10e7
5.52e6
0.00e0
PeCDF Std.
29.52-34.01
353.8970 Fn2
Flags: PB
4σ 8.76e3
CS 12346F
2.31e7
30.87
ES 12378F
2.46e7
31.41
ES 23478F
2.34e7
32.56
7.27e6
3.63e6
0.00e0
HpCDPE
29.52-34.01
409.7974 Fn2
Flags: B
4σ 4.30e3
1.42e4
7.10e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Results: P:\B6200_B6299\B6279\B6279_18902 DF\Resources\OPR2_18902_DF.utp_res, saved 09-Feb-2022 09:00 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4530, 2034, 9798 scc: 064-027
PKD: 09-Feb-2022 08:16 Printed: 09-Feb-2022 09:05 Page 9 of 12


SGS ID: OPR2_18902_DF
Sample ID: 0_18902_OPR002
Acq: 08-Feb-2022 18:04:33
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 8
User: PSW Datafile: 220208R07
Rel. Int.
Abs. Int.
HxCDF
34.02-38.50
373.8207 Fn3
Flags: PB
4σ 7.21e3
123468F 3.80e7 34.44
123478F 1.57e7 35.85
123678F 1.64e7 35.99
234678F 1.46e7 36.65
123789F 1.24e7 37.63
HxCDF
34.02-38.50
375.8178 Fn3
Flags: PB
4σ 8.02e3
123468F 3.07e7 34.44
123478F 1.26e7 35.84
123678F 1.30e7 35.98
234678F 1.16e7 36.65
123789F 1.03e7 37.63
HxCDF Std.
34.02-38.50
383.8639 Fn3
Flags: PB
4σ 8.42e3
ES 123678F 1.76e7 35.97
ES 123478F 1.57e7 35.83
CS 123469F 1.52e7 36.28
ES 234678F 1.52e7 36.63
ES 123789F 1.40e7 37.61
HxCDF Std.
34.02-38.50
385.8610 Fn3
Flags: PB
4σ 8.64e3
ES 123678F 3.22e7 35.97
ES 123478F 2.91e7 35.83
CS 123469F 2.92e7 36.28
ES 234678F 2.83e7 36.63
ES 123789F 2.60e7 37.61
OCDPE
34.02-38.50
445.7555 Fn3
Flags: B
4σ 4.86e3
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
1.18e7
5.88e6
0.00e0
9.54e6
4.77e6
5.52e6
2.76e6
1.02e7
5.11e6
2.23e4
1.12e4
Results: P:\B6200_B6299\B6279\B6279_18902 DF\Resources\OPR2_18902_DF.utp_res, saved 09-Feb-2022 09:00 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1667, 0818, 2407 scc: 064-027
PKD: 09-Feb-2022 08:16 Printed: 09-Feb-2022 09:05 Page 10 of 12


Rel. Int.
100%
HpCDF
38.51-41.01
407.7818 Fn4
Flags: PB
4σ 4.53e3
0%
1234678F
1.25e7
39.11
1234789F
8.96e6
40.46
Abs. Int.
5.18e6
2.59e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDF
38.51-41.01
409.7788 Fn4
Flags: PB
4σ 3.50e3
0%
1234678F
1.22e7
39.11
1234789F
8.54e6
40.46
Abs. Int.
5.06e6
2.53e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDF Std.
38.51-41.01
417.8253 Fn4
Flags: PB
4σ 1.27e4
0%
ES 1234678F
1.08e7
39.10
CS 1234689F
9.64e6
39.52
ES 1234789F
8.07e6
40.45
Abs. Int.
4.26e6
2.13e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDF Std.
38.51-41.01
419.8220 Fn4
Flags: PB
4σ 7.85e3
0%
ES 1234678F
2.42e7
39.10
CS 1234689F
2.18e7
39.52
ES 1234789F
1.81e7
40.45
Abs. Int.
9.94e6
4.97e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
NCDPE
38.51-41.01
479.7165 Fn4
Flags: B
4σ 4.85e3
0%
Abs. Int.
1.19e4
5.95e3
0.00e0
39.0
39.5
40.0
40.5
41.0 RT


OCDF
1.25e7
42.64
Rel. Int.
100%
OCDF
41.02-45.01
441.7428 Fn5
Flags: PB
4σ 5.24e3
0%
Abs. Int.
4.42e6
2.21e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.36e7
42.64
Rel. Int.
100%
OCDF
41.02-45.01
443.7398 Fn5
Flags: PB
4σ 5.12e3
0%
Abs. Int.
4.73e6
2.36e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.27e7
42.63
Rel. Int.
100%
OCDF Std.
41.02-45.01
453.7830 Fn5
Flags: PB
4σ 6.57e3
0%
Abs. Int.
8.10e6
4.05e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.49e7
42.63
Rel. Int.
100%
OCDF Std.
41.02-45.01
455.7801 Fn5
Flags: PB
4σ 7.66e3
0%
Abs. Int.
8.70e6
4.35e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.02-45.01
513.6775 Fn5
Flags: B
4σ 4.99e3
0%
Abs. Int.
1.40e4
7.01e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6234

28-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

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This report is approved by

Tamara Burkamper

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Senior Project Manager

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Results reported relate only to the items tested.

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

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6234
Analytical Protocol(s)	1613B
No. Samples Submitted	9
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	26-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	0.2, 0.0
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

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

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

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.14.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

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

Data processing uses proprietary software.

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

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

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

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

Continuing Calibration meets requirements, except for the following: the reported percent deviation of CS 1,2,3,4,6,8,9-HpCDF is above SOP criteria. There is no method specified criteria for these standards and no adverse impact on results.

No re-extractions or dilutions were required.

B6234_005: the reported ion ratio of labeled standard ES 1,2,3,7,8,9-HxCDD is outside method criteria.

OPR1/OPR2_18872 meet accuracy and precision criteria, except for the following: RPD of 2,3,7,8-TCDF is >20%.

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

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

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

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

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

APPENDIX C: LAB IDENTIFIERS

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

SGS CERTIFICATIONS

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

Rev. 12-Oct-2021

Sample ID: 11215131-020222-S-SB-NC-O-48 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6280	Date Received:	07-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.31 g	Lab Sample ID	B6280_18913_DF_001	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	57.2 %	QC Batch No:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:16:34

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	711				ES 2378-TCDD	83.9	
12378-PeCDD	9.73				ES 12378-PeCDD	95.3	
123478-HxCDD	4.4				ES 123478-HxCDD	80.9	
123678-HxCDD	19.6				ES 123678-HxCDD	84.9	
123789-HxCDD	9.03				ES 123789-HxCDD	81.4	
1234678-HpCDD	496				ES 1234678-HpCDD	89.9	
OCDD	8,420				ES OCDD	89.1	
2378-TCDF	1,890			E	ES 2378-TCDF	75.5	
12378-PeCDF	67.7				ES 12378-PeCDF	84.5	
23478-PeCDF	56.9				ES 23478-PeCDF	84.8	
123478-HxCDF	118				ES 123478-HxCDF	89.1	
123678-HxCDF	31.2				ES 123678-HxCDF	91.1	
234678-HxCDF	12.3				ES 234678-HxCDF	84.7	
123789-HxCDF	ND	0.588			ES 123789-HxCDF	88	
1234678-HpCDF	180				ES 1234678-HpCDF	95.5	
1234789-HpCDF	26.6				ES 1234789-HpCDF	94.8	
OCDF	4,370				ES OCDF	93.1	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	81	
Total TCDD	805		812		CS 12347-PeCDD	95.5	
Total PeCDD	48.2		48.2		CS 12346-PeCDF	85.7	
Total HxCDD	217		217		CS 123469-HxCDF	92.6	
Total HpCDD	1,170		1,170		CS 1234689-HpCDF	103	
Total TCDF	3,770		3,770				
Total PeCDF	246		246	DPE			
Total HxCDF	290		290				
Total HpCDF	389		389				
Total PCDD/Fs	**19,700**		**19,700**				
WHO-2005 TEQs							
TEQ: ND=0	959		959				
TEQ: ND=DL/2	959	0.641	959				
TEQ: ND=DL	959	1.28	959				

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Wilmington, NC 28405, USA
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Sample ID: 11215131-020222-S-SB-NC-O-48 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6280	Date Received:	07-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.31 g	Lab Sample ID:	B6280_18913_DF_001	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	57.2 %	QC Batch No.:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:16:34

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	5.79		12479/12468D	12.5		124679/124689D	105		1234679D	675	
1379D	[1.86]		12469D	9.04		123468D	9.48		1234678D	496	
1369D	1.12		12368D	4.3		123679/123689D	60.7				
1469D	[3.29]		12478D	2.95		123469D	5.99				
1247D...[4]	2.43		12379D	2.03	J	123478D	4.4				
1378D	3.36		12369D...[3]	4.86		123678D	19.6				
1268D	[0.444]	J	12346/12347D	0.904	J	123467D	2.88				
1478D	2.24		12378D	9.73		123789D	9.03		**Conc.**	1,170	
1279D	0.711		12367D	0.812	J				**EMPC**	1,170	
1234/1269D	1.54		12389D	1.01	J						
1236D	(0.319)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	11.1										
1239D	(0.319)								OCDD	8420	
2378D	711										
1278D	64.6										
1267D	1.6										
1289D	[1.37]										
Conc.	805		**Conc.**	48.2		**Conc.**	217				
EMPC	812		**EMPC**	48.2		**EMPC**	217				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	959	959
TEQ: ND=DL/2	959	959
TEQ: ND=DL	959	959

	Conc.	EMPC
Total PCDD/Fs	19,700	19,700

Checkcode: 267-493-VNF

Report Created: 17-Feb-2022 16:49 Analyst: TF

Sample ID: 11215131-020222-S-SB-NC-O-48 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6280	Date Received:	07-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.31 g	Lab Sample ID:	B6280_18913_DF_001	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	57.2 %	QC Batch No.:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:16:34

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.64		13468/12468F	23.3		123468F	12.7		1234678F	180	
1468F	5.58		13678F...[3]	4.99		124678/134678F	44.7		1234679F	10.9	
2468F	9.69		12368F...[3]	45.6		134679F	(0.536)		1234689F	172	
1346/1246F	(0.172)		14678F	(0.46)		124679F	2.25	J	1234789F	26.6	
1347F...[3]	27.7		13479F	(0.46)		124689F	52.7				
1348F	(0.172)		13469/12479F	(0.46)		123467F	3.53				
1248F...[3]	106		12346F	(0.46)		123478F	118				
1268F	37.3		23468/12469F	6.7		123678F	31.2				
1467F	6.08		12347F	2.73		123479F	(0.536)				
1478F	86.2		12348F	8.48		123469F	2.23	J			
1369/1237F	22		12378F	67.7		123679F	(0.536)				
2467F	3.42		12678/12367F	24	DPE	234678F	12.3		**Conc.**	389	
2368F	158		12379F	(0.46)		234678/123689F	0		**EMPC**	389	
1238F...[5]	(0.172)		12679F	(0.46)		123689F	(0.536)				
1278F	873		23467/12369F	1.79	J	123789F	(0.588)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.172)		23478F	56.9		123789/123489F	0				
1267F	51.4		23478/12489F	0		123489F	10.3		OCDF	4370	
2346/1249F	5.63		12489F	(0.46)							
2347/1279F	23.8		12349F	(0.46)							
2348F	129		12389F	3.6							
2378F	1890	E									
2367/3467F	157										
1269F	30.1										
1239F	2.31										
1289F	147										
Conc.	3,770		**Conc.**	246		**Conc.**	290				
EMPC	3,770		**EMPC**	246		**EMPC**	290				

Checkcode: 267-493-VNF

Report Created: 17-Feb-2022 16:49 Analyst: TF

Sample ID: 11215131-020222-S-SB-NC-O-48 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6280_18913_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.31 g	QC Batch No.:	18913
Date Collected:	02-Feb-2022	Split:	-	Date Extracted:	09-Feb-2022
Date Received:	07-Feb-2022	Dilution:	-	Date Analyzed:	15-Feb-2022 19:16
Lab Project No:	B6280	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	711		0.319	711	711	711
12378-PeCDD	9.73		0.384	4.87	9.73	9.73
123478-HxCDD	4.4		0.699	0.44	0.44	0.44
123678-HxCDD	19.6		0.582	1.96	1.96	1.96
123789-HxCDD	9.03		0.584	0.903	0.903	0.903
1234678-HpCDD	496		0.442	4.96	4.96	4.96
OCDD	8420		0.538	8.42	0.842	2.53
2378-TCDF	1890	E	0.172	189	189	189
12378-PeCDF	67.7		0.467	3.39	3.39	2.03
23478-PeCDF	56.9		0.453	28.4	28.4	17.1
123478-HxCDF	118		0.505	11.8	11.8	11.8
123678-HxCDF	31.2		0.499	3.12	3.12	3.12
234678-HxCDF	12.3		0.564	1.23	1.23	1.23
123789-HxCDF	(0.588)		0.588	(0.0588)	(0.0588)	(0.0588)
1234678-HpCDF	180		0.169	1.8	1.8	1.8
1234789-HpCDF	26.6		0.269	0.266	0.266	0.266
OCDF	4370		0.645	4.37	0.437	1.31

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TEQ Summaries			
EMPC = 0, ND = 0	975	969	959
EMPC = 0, ND = DL / 2	975	969	959
EMPC = 0, ND = DL	975	969	959
EMPC = 0, < J-level = 0	975	969	959
EMPC = EMPC, ND = 0	975	969	959
EMPC = EMPC, ND = DL / 2	975	969	959
EMPC = EMPC, ND = DL	975	969	959
EMPC = EMPC, < J-level = 0	975	969	959

Checkcode: 267-493-VNF

Sample ID: 11215131-020222-S-SB-NC-O-47 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6280	Date Received:	07-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.28 g	Lab Sample ID	B6280_18913_DF_002	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	75.7 %	QC Batch No:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:02:54

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	8.57				ES 2378-TCDD	77.7	
12378-PeCDD	1.29			J	ES 12378-PeCDD	95.3	
123478-HxCDD	EMPC		2.32	J	ES 123478-HxCDD	80.5	
123678-HxCDD	7.55				ES 123678-HxCDD	83	
123789-HxCDD	4.85				ES 123789-HxCDD	80.2	
1234678-HpCDD	180				ES 1234678-HpCDD	85	
OCDD	2,400				ES OCDD	74.9	
2378-TCDF	23.5				ES 2378-TCDF	71.7	
12378-PeCDF	2.53				ES 12378-PeCDF	84.8	
23478-PeCDF	4			PR	ES 23478-PeCDF	82.5	
123478-HxCDF	6.12				ES 123478-HxCDF	86.7	
123678-HxCDF	3.26				ES 123678-HxCDF	90.9	
234678-HxCDF	3.21				ES 234678-HxCDF	83.2	
123789-HxCDF	ND	0.373			ES 123789-HxCDF	86.3	
1234678-HpCDF	31.4				ES 1234678-HpCDF	90.5	
1234789-HpCDF	2.96				ES 1234789-HpCDF	88.4	
OCDF	115				ES OCDF	79.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	82.6	
Total TCDD	25.1		31.3		CS 12347-PeCDD	96.9	
Total PeCDD	24.3		28.8		CS 12346-PeCDF	89.8	
Total HxCDD	93.7		96		CS 123469-HxCDF	97.8	
Total HpCDD	425		425		CS 1234689-HpCDF	103	
Total TCDF	78		81.1				
Total PeCDF	44.2		44.4				
Total HxCDF	50.7		51.4				
Total HpCDF	84		84				
Total PCDD/Fs	**3,340**		**3,360**				
WHO-2005 TEQs							
TEQ: ND=0	18.9		19.1				
TEQ: ND=DL/2	18.9	0.528	19.1				
TEQ: ND=DL	18.9	1.06	19.1				

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Sample ID: 11215131-020222-S-SB-NC-O-47 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6280	Date Received:	07-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.28 g	Lab Sample ID:	B6280_18913_DF_002	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	75.7 %	QC Batch No.:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:02:54

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	7.58		12479/12468D	9.45		124679/124689D	34.5		1234679D	245	
1379D	3.77		12469D	[2.71]		123468D	12.5		1234678D	180	
1369D	1.2		12368D	4		123679/123689D	29.2				
1469D	[1.25]		12478D	[1.86]	J	123469D	3.1				
1247D...[4]	2.25		12379D	2.64		123478D	[2.32]	J			
1378D	[0.884]		12369D...[3]	3.22		123678D	7.55				
1268D	0.838		12346/12347D	2.26	J	123467D	2.05	J			
1478D	(0.385)		12378D	1.29	J	123789D	4.85		**Conc.**	425	
1279D	[0.82]		12367D	0.666	J				**EMPC**	425	
1234/1269D	0.915		12389D	0.747	J						
1236D	(0.385)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	[2.14]										
1239D	(0.385)								OCDD	2400	
2378D	8.57										
1278D	[1.06]										
1267D	(0.385)										
1289D	(0.385)										
Conc.	25.1		**Conc.**	24.3		**Conc.**	93.7				
EMPC	31.3		**EMPC**	28.8		**EMPC**	96				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	18.9	19.1
TEQ: ND=DL/2	18.9	19.1
TEQ: ND=DL	18.9	19.1

	Conc.	EMPC
Total PCDD/Fs	3,340	3,360

Checkcode: 714-564-VBZ

Report Created: 17-Feb-2022 16:49 Analyst: TF

Sample ID: 11215131-020222-S-SB-NC-O-47 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6280	Date Received:	07-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.28 g	Lab Sample ID:	B6280_18913_DF_002	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	75.7 %	QC Batch No.:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:02:54

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.25		13468/12468F	8.36		123468F	4.7		1234678F	31.4	
1468F	2.08		13678F...[3]	(0.239)		124678/134678F	17.1		1234679F	1.68	J
2468F	3.4		12368F...[3]	17.1		134679F	(0.36)		1234689F	47.9	
1346/1246F	(0.214)		14678F	(0.239)		124679F	0.922	J	1234789F	2.96	
1347F...[3]	7.13		13479F	(0.239)		124689F	12.9				
1348F	1.18		13469/12479F	0.75	J	123467F	2.42	J			
1248F...[3]	3.7		12346F	0.727	J	123478F	6.12				
1268F	[2.32]		23468/12469F	3.06		123678F	3.26				
1467F	1.64		12347F	0.959	J	123479F	(0.36)				
1478F	2.44		12348F	1.19	J	123469F	(0.36)				
1369/1237F	[0.762]		12378F	2.53		123679F	(0.36)				
2467F	2.61		12678/12367F	3.5		234678F	3.21		**Conc.**	84	
2368F	3.47		12379F	(0.239)		234678/123689F	0		**EMPC**	84	
1238F...[5]	4.21		12679F	(0.239)		123689F	(0.36)				
1278F	6.49		23467/12369F	2.01	J	123789F	(0.373)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.214)		23478F	4	PR	123789/123489F	0				
1267F	2.15		23478/12489F	0		123489F	[0.716]	J	OCDF	115	
2346/1249F	1.61		12489F	(0.239)							
2347/1279F	1.93		12349F	(0.239)							
2348F	1.26		12389F	[0.255]	J						
2378F	23.5										
2367/3467F	6.45										
1269F	(0.214)										
1239F	(0.214)										
1289F	1.49										
Conc.	78		**Conc.**	44.2		**Conc.**	50.7				
EMPC	81.1		**EMPC**	44.4		**EMPC**	51.4				

Checkcode: 714-564-VBZ

Report Created: 17-Feb-2022 16:49 Analyst: TF

Sample ID: 11215131-020222-S-SB-NC-O-47 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6280_18913_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.28 g	QC Batch No.:	18913
Date Collected:	02-Feb-2022	Split:	-	Date Extracted:	09-Feb-2022
Date Received:	07-Feb-2022	Dilution:	-	Date Analyzed:	15-Feb-2022 20:02
Lab Project No:	B6280	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	8.57		0.385	8.57	8.57	8.57
12378-PeCDD	1.29	J	0.304	0.645	1.29	1.29
123478-HxCDD	[2.32]	J	0.37	[0.232]	[0.232]	[0.232]
123678-HxCDD	7.55		0.379	0.755	0.755	0.755
123789-HxCDD	4.85		0.348	0.485	0.485	0.485
1234678-HpCDD	180		0.399	1.8	1.8	1.8
OCDD	2400		1.25	2.4	0.24	0.72
2378-TCDF	23.5		0.214	2.35	2.35	2.35
12378-PeCDF	2.53		0.237	0.126	0.126	0.0759
23478-PeCDF	4	PR	0.241	2	2	1.2
123478-HxCDF	6.12		0.353	0.612	0.612	0.612
123678-HxCDF	3.26		0.331	0.326	0.326	0.326
234678-HxCDF	3.21		0.39	0.321	0.321	0.321
123789-HxCDF	(0.373)		0.373	(0.0373)	(0.0373)	(0.0373)
1234678-HpCDF	31.4		0.252	0.314	0.314	0.314
1234789-HpCDF	2.96		0.343	0.0296	0.0296	0.0296
OCDF	115		0.528	0.115	0.0115	0.0346

TEQ Summaries			
EMPC = 0, ND = 0	20.8	19.2	18.9
EMPC = 0, ND = DL / 2	20.9	19.2	18.9
EMPC = 0, ND = DL	20.9	19.3	18.9
EMPC = 0, < J-level = 0	20.2	17.9	17.6
EMPC = EMPC, ND = 0	21.1	19.5	19.1
EMPC = EMPC, ND = DL / 2	21.1	19.5	19.1
EMPC = EMPC, ND = DL	21.1	19.5	19.1
EMPC = EMPC, < J-level = 0	20.2	17.9	17.6

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Checkcode: 714-564-VBZ

Sample ID: 11215131-020222-S-SB-NC-O-45 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6280	Date Received:	07-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.21 g	Lab Sample ID	B6280_18913_DF_003	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	78.3 %	QC Batch No:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:49:13

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	2,430			E	ES 2378-TCDD	75.2	
12378-PeCDD	23.8				ES 12378-PeCDD	86.1	
123478-HxCDD	EMPC		1.64	J	ES 123478-HxCDD	71.8	
123678-HxCDD	5.59				ES 123678-HxCDD	77.8	
123789-HxCDD	EMPC		2.98		ES 123789-HxCDD	71.7	
1234678-HpCDD	193				ES 1234678-HpCDD	73.3	
OCDD	4,290				ES OCDD	69.6	
2378-TCDF	6,300			E	ES 2378-TCDF	70.2	
12378-PeCDF	391				ES 12378-PeCDF	82.6	
23478-PeCDF	248				ES 23478-PeCDF	79.6	
123478-HxCDF	736				ES 123478-HxCDF	79.2	
123678-HxCDF	178				ES 123678-HxCDF	88	
234678-HxCDF	36.5				ES 234678-HxCDF	80.6	
123789-HxCDF	ND	0.81			ES 123789-HxCDF	75.9	
1234678-HpCDF	228				ES 1234678-HpCDF	85.3	
1234789-HpCDF	91.3				ES 1234789-HpCDF	75.9	
OCDF	163				ES OCDF	71	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	80	
Total TCDD	2,710		2,710		CS 12347-PeCDD	97.9	
Total PeCDD	35		40.7		CS 12346-PeCDF	93.3	
Total HxCDD	63		68.7		CS 123469-HxCDF	94.7	
Total HpCDD	424		424		CS 1234689-HpCDF	95.8	
Total TCDF	12,400		12,400				
Total PeCDF	988		989				
Total HxCDF	1,110		1,110				
Total HpCDF	399		399				
Total PCDD/Fs	**22,600**		**22,600**				
WHO-2005 TEQs							
TEQ: ND=0	3270		3270				
TEQ: ND=DL/2	3270	0.702	3270				
TEQ: ND=DL	3270	1.4	3270				

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Sample ID: 11215131-020222-S-SB-NC-O-45 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6280	Date Received:	07-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.21 g	Lab Sample ID:	B6280_18913_DF_003	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	78.3 %	QC Batch No.:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:49:13

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	2.99		12479/12468D	3.13		124679/124689D	33.5		1234679D	231	
1379D	[1.37]		12469D	[3.4]		123468D	3.4		1234678D	193	
1369D	(0.49)		12368D	2.82		123679/123689D	18.9				
1469D	4.84		12478D	2.16	J	123469D	1.55	J			
1247D...[4]	[3.52]		12379D	1.29	J	123478D	[1.64]	J			
1378D	7.39		12369D...[3]	[1.39]	J	123678D	5.59				
1268D	(0.49)		12346/12347D	[0.869]	J	123467D	[1.09]	J			
1478D	6.05		12378D	23.8		123789D	[2.98]		**Conc.**	424	
1279D	(0.49)		12367D	1.21	J				**EMPC**	424	
1234/1269D	(0.49)		12389D	0.65	J						
1236D	(0.49)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	35.3										
1239D	(0.49)								OCDD	4290	
2378D	2430	E									
1278D	213										
1267D	5.53										
1289D	3.63										
Conc.	2,710		**Conc.**	35		**Conc.**	63				
EMPC	2,710		**EMPC**	40.7		**EMPC**	68.7				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	3,270	3,270
TEQ: ND=DL/2	3,270	3,270
TEQ: ND=DL	3,270	3,270

	Conc.	EMPC
Total PCDD/Fs	22,600	22,600

Checkcode: 745-975-QYW

Report Created: 17-Feb-2022 16:49 Analyst: TF

Sample ID: 11215131-020222-S-SB-NC-O-45 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6280	Date Received: 07-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.21 g	Lab Sample ID:	B6280_18913_DF_003	Date Extracted: 09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	78.3 %	QC Batch No.:	18913	Date Analyzed: 15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed: 20:49:13

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.59		13468/12468F	7.86		123468F	7.95		1234678F	228	
1468F	9.35		13678F...[3]	5.1		124678/134678F	63.5		1234679F	3.86	
2468F	7.03		12368F...[3]	171		134679F	(0.695)		1234689F	75.5	
1346/1246F	(0.262)		14678F	(0.388)		124679F	(0.695)		1234789F	91.3	
1347F...[3]	76		13479F	(0.388)		124689F	28.9				
1348F	(0.262)		13469/12479F	(0.388)		123467F	4.98				
1248F...[3]	328		12346F	0.839	J	123478F	736				
1268F	106		23468/12469F	5.52		123678F	178				
1467F	15.4		12347F	5.87		123479F	(0.695)				
1478F	266		12348F	29.4		123469F	(0.695)				
1369/1237F	70.8		12378F	391		123679F	(0.695)				
2467F	9.19		12678/12367F	106		234678F	36.5		**Conc.**	399	
2368F	495		12379F	(0.388)		234678/123689F	0		**EMPC**	399	
1238F...[5]	(0.262)		12679F	[1.04]	J	123689F	(0.695)				
1278F	3020	E	23467/12369F	4.15		123789F	(0.81)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.262)		23478F	248		123789/123489F	0				
1267F	167		23478/12489F	0		123489F	54.8		OCDF	163	
2346/1249F	18.7		12489F	(0.388)							
2347/1279F	75.9		12349F	(0.388)							
2348F	411		12389F	13							
2378F	6300	E									
2367/3467F	481										
1269F	95.8										
1239F	7.21										
1289F	490										
Conc.	12,400		**Conc.**	988		**Conc.**	1,110				
EMPC	12,400		**EMPC**	989		**EMPC**	1,110				

Checkcode: 745-975-QYW

Report Created: 17-Feb-2022 16:49 Analyst: TF

Sample ID: 11215131-020222-S-SB-NC-O-45 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6280_18913_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.21 g	QC Batch No.:	18913
Date Collected:	02-Feb-2022	Split:	-	Date Extracted:	09-Feb-2022
Date Received:	07-Feb-2022	Dilution:	-	Date Analyzed:	15-Feb-2022 20:49
Lab Project No:	B6280	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	2430	E	0.49	2430	2430	2430
12378-PeCDD	23.8		0.315	11.9	23.8	23.8
123478-HxCDD	[1.64]	J	0.568	[0.164]	[0.164]	[0.164]
123678-HxCDD	5.59		0.493	0.559	0.559	0.559
123789-HxCDD	[2.98]		0.477	[0.298]	[0.298]	[0.298]
1234678-HpCDD	193		0.391	1.93	1.93	1.93
OCDD	4290		0.941	4.29	0.429	1.29
2378-TCDF	6300	E	0.262	630	630	630
12378-PeCDF	391		0.393	19.6	19.6	11.7
23478-PeCDF	248		0.383	124	124	74.3
123478-HxCDF	736		0.699	73.6	73.6	73.6
123678-HxCDF	178		0.578	17.8	17.8	17.8
234678-HxCDF	36.5		0.731	3.65	3.65	3.65
123789-HxCDF	(0.81)		0.81	(0.081)	(0.081)	(0.081)
1234678-HpCDF	228		0.276	2.28	2.28	2.28
1234789-HpCDF	91.3		0.437	0.913	0.913	0.913
OCDF	163		0.737	0.163	0.0163	0.049

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TEQ Summaries			
EMPC = 0, ND = 0	3320	3330	3270
EMPC = 0, ND = DL / 2	3320	3330	3270
EMPC = 0, ND = DL	3320	3330	3270
EMPC = 0, < J-level = 0	3320	3330	3270
EMPC = EMPC, ND = 0	3320	3330	3270
EMPC = EMPC, ND = DL / 2	3320	3330	3270
EMPC = EMPC, ND = DL	3320	3330	3270
EMPC = EMPC, < J-level = 0	3320	3330	3270

Checkcode: 745-975-QYW

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Sample ID: Method Blank B6280_18913 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6280	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18913_DF_SDS	Date Extracted:	09-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:52:08

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.28			ES 2378-TCDD	94	
12378-PeCDD	ND	0.184			ES 12378-PeCDD	107	
123478-HxCDD	ND	0.143			ES 123478-HxCDD	97.8	
123678-HxCDD	ND	0.129			ES 123678-HxCDD	105	
123789-HxCDD	ND	0.132			ES 123789-HxCDD	92.9	
1234678-HpCDD	ND	0.187			ES 1234678-HpCDD	98.7	
OCDD	ND	0.42			ES OCDD	78	
2378-TCDF	ND	0.156			ES 2378-TCDF	79.5	
12378-PeCDF	ND	0.142			ES 12378-PeCDF	98.6	
23478-PeCDF	ND	0.153			ES 23478-PeCDF	93.1	
123478-HxCDF	ND	0.116			ES 123478-HxCDF	101	
123678-HxCDF	ND	0.104			ES 123678-HxCDF	118	
234678-HxCDF	ND	0.117			ES 234678-HxCDF	109	
123789-HxCDF	ND	0.141			ES 123789-HxCDF	100	
1234678-HpCDF	ND	0.0785			ES 1234678-HpCDF	106	
1234789-HpCDF	ND	0.118			ES 1234789-HpCDF	94.7	
OCDF	ND	0.349			ES OCDF	81.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	96.1	
Total TCDD	ND	0.28	ND		CS 12347-PeCDD	115	
Total PeCDD	ND	0.184	ND		CS 12346-PeCDF	107	
Total HxCDD	ND	0.134	ND		CS 123469-HxCDF	119	
Total HpCDD	ND	0.187	ND		CS 1234689-HpCDF	112	
Total TCDF	ND	0.156	ND				
Total PeCDF	ND	0.147	ND				
Total HxCDF	ND	0.118	ND				
Total HpCDF	ND	0.0956	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	0.311	0.311	0.311				
TEQ: ND=DL	0.621	0.621	0.621				

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Sample ID: Method Blank B6280_18913 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6280	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18913_DF_SDS	Date Extracted:	09-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:52:08

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.28)		12479/12468D	(0.184)		124679/124689D	(0.134)		1234679D	(0.187)	
1379D	(0.28)		12469D	(0.184)		123468D	(0.134)		1234678D	(0.187)	
1369D	(0.28)		12368D	(0.184)		123679/123689D	(0.134)				
1469D	(0.28)		12478D	(0.184)		123469D	(0.134)				
1247D...[4]	(0.28)		12379D	(0.184)		123478D	(0.143)				
1378D	(0.28)		12369D...[3]	(0.184)		123678D	(0.129)				
1268D	(0.28)		12346/12347D	(0.184)		123467D	(0.134)				
1478D	(0.28)		12378D	(0.184)		123789D	(0.132)		**Conc.**	0	
1279D	(0.28)		12367D	(0.184)					**EMPC**	0	
1234/1269D	(0.28)		12389D	(0.184)							
1236D	(0.28)								**Octa-Dioxin**	**Conc**	**Qualifiers**
1237/1238D	(0.28)									**(pg/g)**	
1239D	(0.28)								OCDD	(0.42)	
2378D	(0.28)										
1278D	(0.28)										
1267D	(0.28)										
1289D	(0.28)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	0.311	0.311
TEQ: ND=DL	0.621	0.621

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 341-051-BYV

Report Created: 17-Feb-2022 16:53 Analyst: TF

Sample ID: Method Blank B6280_18913 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6280	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18913_DF_SDS	Date Extracted:	09-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:52:08

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.156)		13468/12468F	(0.121)		123468F	(0.118)		1234678F	(0.0785)	
1468F	(0.156)		13678F...[3]	(0.147)		124678/134678F	(0.118)		1234679F	(0.0956)	
2468F	(0.156)		12368F...[3]	(0.147)		134679F	(0.118)		1234689F	(0.0956)	
1346/1246F	(0.156)		14678F	(0.147)		124679F	(0.118)		1234789F	(0.118)	
1347F...[3]	(0.156)		13479F	(0.147)		124689F	(0.118)				
1348F	(0.156)		13469/12479F	(0.147)		123467F	(0.118)				
1248F...[3]	(0.156)		12346F	(0.147)		123478F	(0.116)				
1268F	(0.156)		23468/12469F	(0.147)		123678F	(0.104)				
1467F	(0.156)		12347F	(0.147)		123479F	(0.118)				
1478F	(0.156)		12348F	(0.147)		123469F	(0.118)				
1369/1237F	(0.156)		12378F	(0.142)		123679F	(0.118)				
2467F	(0.156)		12678/12367F	(0.147)		234678F	(0.117)		**Conc.**	0	
2368F	(0.156)		12379F	(0.147)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.156)		12679F	(0.147)		123689F	(0.118)				
1278F	(0.156)		23467/12369F	(0.147)		123789F	(0.141)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.156)		23478F	(0.153)		123789/123489F	0				
1267F	(0.156)		23478/12489F	0		123489F	(0.118)		OCDF	(0.349)	
2346/1249F	(0.156)		12489F	(0.147)							
2347/1279F	(0.156)		12349F	(0.147)							
2348F	(0.156)		12389F	(0.147)							
2378F	(0.156)										
2367/3467F	(0.156)										
1269F	(0.156)										
1239F	(0.156)										
1289F	(0.156)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 341-051-BYV

Report Created: 17-Feb-2022 16:53 Analyst: TF

Sample ID: Method Blank B6280_18913 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18913_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18913
Date Collected:	n/a	Split:	-	Date Extracted:	09-Feb-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	15-Feb-2022 13:52
Lab Project No:	B6280	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.28)		0.28	(0.28)	(0.28)	(0.28)
12378-PeCDD	(0.184)		0.184	(0.0918)	(0.184)	(0.184)
123478-HxCDD	(0.143)		0.143	(0.0143)	(0.0143)	(0.0143)
123678-HxCDD	(0.129)		0.129	(0.0129)	(0.0129)	(0.0129)
123789-HxCDD	(0.132)		0.132	(0.0132)	(0.0132)	(0.0132)
1234678-HpCDD	(0.187)		0.187	(0.00187)	(0.00187)	(0.00187)
OCDD	(0.42)		0.42	(0.00042)	(0.000042)	(0.000126)
2378-TCDF	(0.156)		0.156	(0.0156)	(0.0156)	(0.0156)
12378-PeCDF	(0.142)		0.142	(0.00712)	(0.00712)	(0.00427)
23478-PeCDF	(0.153)		0.153	(0.0764)	(0.0764)	(0.0458)
123478-HxCDF	(0.116)		0.116	(0.0116)	(0.0116)	(0.0116)
123678-HxCDF	(0.104)		0.104	(0.0104)	(0.0104)	(0.0104)
234678-HxCDF	(0.117)		0.117	(0.0117)	(0.0117)	(0.0117)
123789-HxCDF	(0.141)		0.141	(0.0141)	(0.0141)	(0.0141)
1234678-HpCDF	(0.0785)		0.0785	(0.000785)	(0.000785)	(0.000785)
1234789-HpCDF	(0.118)		0.118	(0.00118)	(0.00118)	(0.00118)
OCDF	(0.349)		0.349	(0.000349)	(0.0000349)	(0.000105)

TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.282	0.327	0.311
EMPC = 0, ND = DL	0.563	0.654	0.621
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.282	0.327	0.311
EMPC = EMPC, ND = DL	0.563	0.654	0.621
EMPC = EMPC, < J-level = 0	0	0	0

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Checkcode: 341-051-BYV

Sample ID: 0_18913_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6280	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18913_DF	Date Extracted:	09-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:33:15

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	12.1				ES 2378-TCDD	87.3	
12378-PeCDD	50.2				ES 12378-PeCDD	103	
123478-HxCDD	55.4				ES 123478-HxCDD	95.4	
123678-HxCDD	55.4				ES 123678-HxCDD	102	
123789-HxCDD	52				ES 123789-HxCDD	91.3	
1234678-HpCDD	55.6				ES 1234678-HpCDD	93.7	
OCDD	112				ES OCDD	80.2	
2378-TCDF	11				ES 2378-TCDF	78.9	
12378-PeCDF	50.3				ES 12378-PeCDF	97.5	
23478-PeCDF	55.2				ES 23478-PeCDF	92.1	
123478-HxCDF	53				ES 123478-HxCDF	96.5	
123678-HxCDF	52.9				ES 123678-HxCDF	113	
234678-HxCDF	51.2				ES 234678-HxCDF	108	
123789-HxCDF	49.4				ES 123789-HxCDF	94.8	
1234678-HpCDF	51				ES 1234678-HpCDF	106	
1234789-HpCDF	50.7				ES 1234789-HpCDF	93.3	
OCDF	105				ES OCDF	84.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	93.5	
Total TCDD	58.4		58.4		CS 12347-PeCDD	116	
Total PeCDD	78.4		78.4		CS 12346-PeCDF	107	
Total HxCDD	180		180		CS 123469-HxCDF	118	
Total HpCDD	69.1		69.1		CS 1234689-HpCDF	113	
Total TCDF	65.7		65.7				
Total PeCDF	195		195				
Total HxCDF	330		330				
Total HpCDF	102		102				
Total PCDD/Fs	**1,290**		**1,290**				
WHO-2005 TEQs							
TEQ: ND=0	120		120				
TEQ: ND=DL/2	120	0.26	120				
TEQ: ND=DL	120	0.521	120				

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Sample ID: 0_18913_OPR002

Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6280	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18913_DF	Date Extracted:	09-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18913	Date Analyzed:	15-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:19:29

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	12.5				ES 2378-TCDD	88.3	
12378-PeCDD	52.4				ES 12378-PeCDD	105	
123478-HxCDD	57.3				ES 123478-HxCDD	95.9	
123678-HxCDD	57.8				ES 123678-HxCDD	103	
123789-HxCDD	54.7				ES 123789-HxCDD	93.4	
1234678-HpCDD	57.7				ES 1234678-HpCDD	94	
OCDD	113				ES OCDD	78.7	
2378-TCDF	11.2				ES 2378-TCDF	81.8	
12378-PeCDF	52.6				ES 12378-PeCDF	99.4	
23478-PeCDF	56.3				ES 23478-PeCDF	96.5	
123478-HxCDF	53.6				ES 123478-HxCDF	99.5	
123678-HxCDF	52.2				ES 123678-HxCDF	119	
234678-HxCDF	52.5				ES 234678-HxCDF	113	
123789-HxCDF	52				ES 123789-HxCDF	96.3	
1234678-HpCDF	52.4				ES 1234678-HpCDF	109	
1234789-HpCDF	54				ES 1234789-HpCDF	92.3	
OCDF	108				ES OCDF	80.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	96.3	
Total TCDD	57.1		57.1		CS 12347-PeCDD	118	
Total PeCDD	80.7		80.7		CS 12346-PeCDF	113	
Total HxCDD	187		187		CS 123469-HxCDF	120	
Total HpCDD	72.5		72.5		CS 1234689-HpCDF	114	
Total TCDF	66		66				
Total PeCDF	200		200				
Total HxCDF	331		331				
Total HpCDF	106		106				
Total PCDD/Fs	**1,320**		**1,320**				
WHO-2005 TEQs							
TEQ: ND=0	124		124				
TEQ: ND=DL/2	124	0.263	124				
TEQ: ND=DL	124	0.527	124				

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

Sample DUP

Method 1613B

Sample ID: 0_18913_OPR001

Analyte	OPR1_18913_DF pg/uL	OPR2_18913_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	12.1	12.5	3.0%
1,2,3,7,8-PeCDD	50.2	52.4	4.2%
1,2,3,4,7,8-HxCDD	55.4	57.3	3.4%
1,2,3,6,7,8-HxCDD	55.4	57.8	4.2%
1,2,3,7,8,9-HxCDD	52	54.7	5.0%
1,2,3,4,6,7,8-HpCDD	55.6	57.7	3.8%
OCDD	112	113	1.6%
2,3,7,8-TCDF	11	11.2	2.3%
1,2,3,7,8-PeCDF	50.3	52.6	4.4%
2,3,4,7,8-PeCDF	55.2	56.3	2.0%
1,2,3,4,7,8-HxCDF	53	53.6	1.0%
1,2,3,6,7,8-HxCDF	52.9	52.2	1.3%
2,3,4,6,7,8-HxCDF	51.2	52.5	2.6%
1,2,3,7,8,9-HxCDF	49.4	52	5.0%
1,2,3,4,6,7,8-HpCDF	51	52.4	2.7%
1,2,3,4,7,8,9-HpCDF	50.7	54	6.4%
OCDF	105	108	2.5%
Totals			
Total TCDD	58.4	57.1	2.3%
Total PeCDD	78.4	80.7	2.9%
Total HxCDD	180	187	4.3%
Total HpCDD	69.1	72.5	4.8%
Total TCDF	65.7	66	0.4%
Total PeCDF	195	200	2.5%
Total HxCDF	330	331	0.3%
Total HpCDF	102	106	4.5%

Sample Receipt Notification

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

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*07-Feb-22 at 08:54*
AP Project name:	*B6280*
Requested TAT:	*10 business days*
Projected due date:	*21-Feb-22*
Matrix:	*Soil*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

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

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-020222-S-SB-NC-O-48	B6280_001	Solid	1	4 oz amber	02-Feb-22	14:45	3.8	1	490527045255
11215131-020222-S-SB-NC-O-47	B6280_002	Solid	1	4 oz amber	02-Feb-22	15:20	3.8	1	490527045255
11215131-020222-S-SB-NC-O-45	B6280_003	Solid	1	4 oz amber	02-Feb-22	16:10	3.8	1	490527045255

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact

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

Received by: Amy Boehm *Logged in by: Amy Boehm* *QC'ed by:* AK 7 Feb 22

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

B6280

SGS CHAIN OF CUSTODY

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

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

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

PRESERVATIVE: None

ANALYSIS & METHOD: M1613B; ~~M8290A~~; M1668A (C10); ~~M1668C~~; ~~HRPAH~~; ~~M1699~~

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B	QC MS	QC MSD	QC DUP	QTY	REMARKS
215131-020222-S-SB-NC-S-46	2/2/22	1420	C	S	40Z	X				1	RUSH
215131-020222-S-SB-NC-0-48		1445				X				1	★
215131-020222-S-SB-NC-S-45		1510				X				1	RUSH
215131-020222-S-SB-NC-0-47		1520				X				1	★
215131-020222-S-SB-NC-S-44		1600				X				1	RUSH
215131-020222-S-SB-NC-0-45	↓	1610	↓	↓	↓	X				1	★

see SSOW

	DATE:	TIME:	RECEIVED BY:
COLLECTED/RELINQUISHED BY (1): Sarah Bellanger	2/3/22	0930	RECEIVED BY: 2-3-22 5:40
RELINQUISHED BY (2): CR CO	2-3-22	1400	RECEIVED BY: 2/3/22 1905
RELINQUISHED BY (3): Fedex	DATE:	TIME:	RECEIVED BY:

RECEIVED BY LABORATORY: SGS DATE: 2/7/22 TIME: 854
COOLER SEAL: ☐ INTACT ☐ BROKEN ☒ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☒ ABSENT
CARRIER: Fed Ex TEMP. °C 3.8 °C
TRACKING #: on ice
IR-4

B62801/1

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

SHIP DATE: 03FEB22
ACTWGT: 40.00 LB MAN
CAD: 0317565/CAFE3313

BILL RECIPIENT

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

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

FedEx Express

TRK# 0201 **4905 2704 5255**

FRI - 04 FEB 10:30A
PRIORITY OVERNIGHT

NL ILMA

28405
NC-US **RDU**

Part # 155148-434 MTW EXP 07/22

SGS

Project Initiation Form

Project Number: B6280

Initiation Date: 07-Feb-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Soil

TAT: 10 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR & OPRD

10 g DWE extraction

Read and understood, initial and date: Prep Lab: KE JRH RDB 2/9/22 2/9/22 2/11/22 HRMS Lab:

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab:

PM Initials: akornegay Date: 07-Feb-2022

SGS

Methods: PCB PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Extraction Type: SOS ELL | TALEX Carbon SPE | [Solid] | Final Volume: 2.0µL

Batch# 18913 | Split: ~~1/2~~ ~~1/4~~ | Extract Initial/Date: JRH 2/9/22 | Clean-up Initial/Date: ~~KRS~~ 2/11/22 | Transfer Init/Date: ~~KRS~~ 2/12/22

Lab Sample ID	Extraction Position Solvent: TOL	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations	Supply IDs
B6183_18913_001	4	13.48				black, clay-like	Toluene STL14-24
B6183_18913_002	5	13.76				black, clay-like, fuel smell	MeCHL STL14-17
B6277_18913_001	6	13.77				brown, clay-like	Florisil SPLS-77
B6277_18913_002	7	13.65				black/gray, clay-like, moist	Hexane STL14-28
B6277_18913_003	8	13.70				brown/red, clay-like	Silica SPLS-69
B6277_18913_004	9	~~16.04~~ 16.68 JRH 2/9/22				black, clay-like, fuel smell	S Nitrate N/A
B6280_18913_001	10	~~15.02~~				black, moist, clay-like	Base Silica SPLS-86
B6280_18913_002	11	13.59				brown/red, clay-like	HydroMatrix N/A
B6280_18913_003	12	13.84				brown/gray, clay-like	Tetradecane SPLS-73D
MB1_18913	1	10.00				Sodium sulfate	H_2SO_4 N/A
OPR1_18913	2	10.00				Sodium sulfate	A Silica SPLS-87
OPR2_18913	3	10.00				Sodium sulfate	Sodium Sulfate SPLS-808

TB 2/21/2022

Additional Cleanup

Acid Partition Date/Initial:

Mini-Acid Date/Initial:

Carbon Column Date/Initial:

GPC Date/Initial:

Bond-Elute Date/Initial:

TB 2/21/2022

2/12/22

Cycle Time

TOL Start: 1600 Stop: 0900

HEX Start: Stop:

DCM Start: Stop:

TB 2/21/2022

SGS

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

Solid

Batch# 18913

Inter-Department Communication Sheet

TB
2/21/2022

SGS

Wt. Volume Results

Batch #: 18913 Comments:

ac 2/21/22

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6183_001	2.35	5.42	4.73	77.52%	77.52%			12.9	13.48	10.45
B6183_002	2.35	5.66	4.9	77.04%	77.04%			12.98	13.76	10.6
B6277_001	2.37	5.11	4.51	78.10%	78.10%			12.8	13.77	10.75
B6277_002	2.37	5.29	4.62	77.05%	77.05%			12.98	13.65	10.52
B6277_003	2.43	4.8	4.25	76.79%	76.79%			13.02	13.7	10.52
B6277_004	2.39	5.03	4.12	65.53%	65.53%			15.26	16.63	10.9
B6280_001	2.34	4.84	3.77	57.20%	57.20%			17.48	18.02	10.31
B6280_002	2.42	5.05	4.41	75.67%	75.67%			13.22	13.59	10.28
B6280_003	2.33	4.91	4.35	78.29%	78.29%			12.77	13.04	10.21

TB 2/21/2022

TB 2/21/2022

% Solid Determination WorkSheet

SGS

Batch: 18913

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	105 DNE	Comments
B6183_18913_001	2.35	5.42	4.73 /4.74	12.90	
B6183_18913_002	2.35	5.66	4.90 /4.90	12.98	
B6277_18913_001	2.37	5.11	4.51 /4.51	12.80	
B6277_18913_002	2.37	5.29	4.62 /4.62	12.98	
B6277_18913_003	2.43	4.80	4.25 /4.25	13.09	
B6277_18913_004	2.39	5.03	4.12 /4.12	15.96	
B6280_18913_001	2.34	4.84	3.77 /3.77	17.48	
B6280_18913_002	2.42	5.06	4.41 /4.41	13.22	
B6280_18913_003	2.33	4.91	4.35 /4.30	12.77	

RBS
4/12/22

Date/Initials:

SGS

Methods: PCB, PAH, PCDD/F, WHO-2, QUANTICS, USV, DoD PCDD/F, PEST [Solid]

Batch # 18913

Lab Sample ID	Spiker Initials/Date: JRH 2/9/22	JRH 2/9/22	JRH 2/9/22	2/11/22	2/12/22		
	DIFAx-A	DIFAx-B	DIFES	DIFCS	DIFJS		
	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount:	Amount:
	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials
B6183_18913_001	—	—	KE	KE	CL		
B6183_18913_002	—	—	KE	KE	CL		
B6277_18913_001	—	—	KE	KE	CL		
B6277_18913_002	—	—	KE	KE	CL		
B6277_18913_003	—	—	KE	KE	CL		
B6277_18913_004	—	—	KE	KE	CL		
B6280_18913_001	—	—	KE	KE	CL		
B6280_18913_002	—	—	KE	KE	CL		
B6280_18913_003	—	—	KE	KE	CL CL 2/12/22		
MB1_18913	—	—	KE	KE	CL		
OPR1_18913	KE	KE	KE	KE	CL		
OPR2_18913	KE	KE	KE	KE	CL		

2/12/22

Standard Information

Pipette ID							2/12/22
Spike ID	DIFAx-A	DIFAx-B	DIFES	DIFCS	DIFJS		
SIL #	26-2-8	25-187-2	26-2-9	25.338.1	25.384.1		
Concentration	10 pg/µL	10 pg/µL	1000 pg/µL	100 pg/µL	100 pg/µL		
Expiration Date	7/9/28	6/22/28	8/2028	11/16/22	1/25/23		

REVIEWED
Tamara Burkamper , 2/21/2022, 9:22:47 AM

SGS Environmental Services — Run Log **Project: B6280_18913_DF**

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

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	220215C01	3	CS3_220215_DF_CA	1.00	25-347-1	DTF	059-393	15-Feb-2022	10:30:50
2	220215C02	45	OPR1_18913_DF	1.00	0_18913_OPR001	DTF	247-990	15-Feb-2022	11:33:15
3	220215C03	46	OPR2_18913_DF	1.00	0_18913_OPR002	DTF	443-398	15-Feb-2022	12:19:29
4	220215C04	2	SBS_220215_DF_CA	1.00	30-61-1	DTF	808-304	15-Feb-2022	13:05:49
5	220215C05	44	MB1_18913_DF_SDS	10.00	Method Blank	DTF	341-051	15-Feb-2022	13:52:08
6	220215C12	53	B6280_18913_DF_001	10.31	11215131-020222-S-SB-NC-O-48	DTF	267-493	15-Feb-2022	19:16:34
7	220215C13	54	B6280_18913_DF_002	10.28	11215131-020222-S-SB-NC-O-47	DTF	714-564	15-Feb-2022	20:02:54
8	220215C14	55	B6280_18913_DF_003	10.21	11215131-020222-S-SB-NC-O-45	DTF	745-975	15-Feb-2022	20:49:13

REVIEWED
Tyler_Fritz , 2/17/2022, 5:03:57 PM

Lab ID: MB1_18913_DF_SDS | **Acq'd:** 15 Feb 2022 13:52 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6280_18913 | **UTP:** 17-Feb-2022 16:46:11 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 341-051-BYV

Datafile: 220215C05 | **Report:** 17 Feb 2022 16:53 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	5251.116	0.28
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.04	-	3466.669	0.184
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2445.291	0.143
123678-HxCDD	NotFnd		1.0036	-		-	-	-	1.15	-	2445.291	0.129
123789-HxCDD	NotFnd		1.0115	-		-	-	-	1.05	-	2445.291	0.132
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	2958.93	0.187
OCDD	NotFnd		1.0003	-		-	-	-	1.13	-	2771.878	0.42
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	3738.205	0.156
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	4063.818	0.142
23478-PeCDF	NotFnd		1.0006	-		-	-	-	1.02	-	4063.818	0.153
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	3258.977	0.116
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3258.977	0.104
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	3258.977	0.117
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3258.977	0.141
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2098.8674	0.0785
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2098.8674	0.118
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	2844.287	0.349

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.35	1.0239	1.0240	+0.2	3.38E+07	0.79	Y	1.05	94
ES 12378-PeCDD	33.72	1.2174	1.2181	+1.4	3.25E+07	1.60	Y	0.88	107
ES 123478-HxCDD	37.65	0.9917	0.9917	0	2.80E+07	1.31	Y	0.97	97.8
ES 123678-HxCDD	37.77	0.9948	0.9948	0	2.91E+07	1.29	Y	0.94	105
ES 123789-HxCDD	38.07	1.0027	1.0027	0	2.98E+07	1.29	Y	1.09	92.9
ES 1234678-HpCDD	40.77	1.0738	1.0739	+0.2	2.65E+07	1.04	Y	0.91	98.7
ES OCDD	43.47	1.1449	1.1450	+0.3	2.86E+07	0.93	Y	0.62	78
ES 2378-TCDF	27.49	1.0523	1.0525	+0.3	4.95E+07	0.79	Y	1.06	79.5
ES 12378-PeCDF	32.27	1.2346	1.2355	+1.7	5.27E+07	1.58	Y	0.91	98.6
ES 23478-PeCDF	33.39	1.2774	1.2783	+1.8	4.83E+07	1.61	Y	0.88	93.1
ES 123478-HxCDF	36.64	0.9651	0.9652	+0.2	3.57E+07	0.54	Y	1.20	101
ES 123678-HxCDF	36.79	0.9688	0.9689	+0.2	4.71E+07	0.53	Y	1.35	118
ES 234678-HxCDF	37.46	0.9867	0.9868	+0.2	3.99E+07	0.52	Y	1.24	109
ES 123789-HxCDF	38.43	1.0121	1.0122	+0.2	3.41E+07	0.54	Y	1.16	100
ES 1234678-HpCDF	39.83	1.0491	1.0491	0	3.02E+07	0.46	Y	0.97	106
ES 1234789-HpCDF	41.23	1.0858	1.0859	+0.2	2.37E+07	0.47	Y	0.85	94.7
ES OCDF	43.65	1.1495	1.1496	+0.3	3.89E+07	0.90	Y	0.81	81.7

Lab ID: MB1_18913_DF_SDS | **Acq'd:** 15 Feb 2022 13:52 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6280_18913 | **UTP:** 17-Feb-2022 16:46:11 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 341-051-BYV

Datafile: 220215C05 | **Report:** 17 Feb 2022 16:53 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.69		-	-	-	3.43E+07	0.81	Y	-	-
JS 1234-TCDF	26.12		-	-	-	5.88E+07	0.82	Y	-	-
JS 123467-HxCDD	37.97		-	-	-	1.47E+07	1.29	Y	-	-
CS 37Cl-2378-TCDD	28.37		1.0247	1.0248	+0.2	1.59E+07	n/a	-	1.20	96.1
CS 12347-PeCDD	33.22		1.1993	1.1999	+1.2	2.97E+07	1.57	Y	0.75	115
CS 12346-PeCDF	31.74		1.2144	1.2151	+1.3	5.34E+07	1.68	Y	0.85	107
CS 123469-HxCDF	37.10		0.9772	0.9772	0	3.92E+07	0.53	Y	1.12	119
CS 1234689-HpCDF	40.24		1.0597	1.0598	+0.2	2.92E+07	0.46	Y	0.89	112
~~SS 37Cl-2378-TCDD~~	~~28.37~~		~~1.0247~~	~~1.0248~~	~~+0.2~~	~~1.59E+07~~	~~n/a~~		~~1.15~~	~~102~~
~~SS 12347-PeCDD~~	~~33.22~~		~~1.1993~~	~~1.1999~~	~~+1.2~~	~~2.97E+07~~	~~1.57~~	~~Y~~	~~0.86~~	~~107~~
~~SS 12346-PeCDF~~	~~31.74~~		~~1.2144~~	~~1.2151~~	~~+1.3~~	~~5.34E+07~~	~~1.68~~	~~Y~~	~~0.94~~	~~100~~
~~SS 123469-HxCDF~~	~~37.10~~		~~0.9772~~	~~0.9772~~	~~0~~	~~3.92E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~100~~
~~SS 1234689-HpCDF~~	~~40.24~~		~~1.0597~~	~~1.0598~~	~~+0.2~~	~~2.92E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~105~~

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

Lab ID: MB1_18913_DF_SDS **Acq'd: 15 Feb 2022 13:52 DTF** **Wt/Vol: 10.00 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6280_18913 **UTP: 17-Feb-2022 16:46:11 DTF** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 341-051-BYV**

Datafile: 220215C05 **Report: 17 Feb 2022 16:53 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8719						1.18		5251.116	0.28
1379-TCDD	NotFnd		0.8845						1.18		5251.116	0.28
1369-TCDD	NotFnd		0.8996						1.18		5251.116	0.28
1469-TCDD	NotFnd		0.9271						1.18		5251.116	0.28
1247/1246/1248/1249-TCDD	NotFnd		0.9357						1.18		5251.116	0.28
1378-TCDD	NotFnd		0.9425						1.18		5251.116	0.28
1268-TCDD	NotFnd		0.9494						1.18		5251.116	0.28
1478-TCDD	NotFnd		0.9581						1.18		5251.116	0.28
1279-TCDD	NotFnd		0.9640						1.18		5251.116	0.28
1234/1269-TCDD	NotFnd		0.9765						1.18		5251.116	0.28
1236-TCDD	NotFnd		0.9816						1.18		5251.116	0.28
1237/1238-TCDD	NotFnd		0.9906						1.18		5251.116	0.28
1239-TCDD	NotFnd		0.9952						1.18		5251.116	0.28
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**5251.116**	**0.28**
1278-TCDD	NotFnd		1.0123						1.18		5251.116	0.28
1267-TCDD	NotFnd		1.0170						1.18		5251.116	0.28
1289-TCDD	NotFnd		1.0351						1.18		5251.116	0.28
12479/12468-PeCDD	NotFnd		0.9261						1.04		3466.669	0.184
12469-PeCDD	NotFnd		0.9420						1.04		3466.669	0.184
12368-PeCDD	NotFnd		0.9584						1.04		3466.669	0.184
12478-PeCDD	NotFnd		0.9641						1.04		3466.669	0.184
12379-PeCDD	NotFnd		0.9670						1.04		3466.669	0.184
12369/12467/12489-PeCDD	NotFnd		0.9747						1.04		3466.669	0.184
12346/12347-PeCDD	NotFnd		0.9857						1.04		3466.669	0.184
12378-PeCDD	NotFnd		**1.0006**						**1.04**		**3466.669**	**0.184**
12367-PeCDD	NotFnd		1.0034						1.04		3466.669	0.184
12389-PeCDD	NotFnd		1.0136						1.04		3466.669	0.184
124679/124689-HxCDD	NotFnd		0.9540						1.10		2445.291	0.134
123468-HxCDD	NotFnd		0.9714						1.10		2445.291	0.134
123679/123689-HxCDD	NotFnd		0.9792						1.10		2445.291	0.134
123469-HxCDD	NotFnd		0.9828						1.10		2445.291	0.134
123478-HxCDD	NotFnd		**1.0004**						1.09		**2445.291**	**0.143**
123678-HxCDD	NotFnd		**1.0036**						1.15		**2445.291**	**0.129**
123467-HxCDD	NotFnd		1.0087						1.10		2445.291	0.134
123789-HxCDD	NotFnd		**1.0115**						1.05		**2445.291**	**0.132**

Lab ID: MB1_18913_DF_SDS | **Acq'd:** 15 Feb 2022 13:52 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6280_18913 | **UTP:** 17-Feb-2022 16:46:11 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 341-051-BYV

Datafile: 220215C05 | **Report:** 17 Feb 2022 16:53 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9836						1.06		2958.93	0.187
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**2958.93**	**0.187**
OCDD	**NotFnd**		**1.0003**						**1.13**		**2771.878**	**0.42**
OCDD-a	NotFnd		1.0002						0.07		3930.484	9.31
1368-TCDF	NotFnd		0.8222						1.08		3738.205	0.156
1468-TCDF	NotFnd		0.8434						1.08		3738.205	0.156
2468-TCDF	NotFnd		0.8666						1.08		3738.205	0.156
1346/1246-TCDF	NotFnd		0.8789						1.08		3738.205	0.156
1347/1378/1247-TCDF	NotFnd		0.8848						1.08		3738.205	0.156
1348-TCDF	NotFnd		0.8947						1.08		3738.205	0.156
1248/1367/1379-TCDF	NotFnd		0.8995						1.08		3738.205	0.156
1268-TCDF	NotFnd		0.9131						1.08		3738.205	0.156
1467-TCDF	NotFnd		0.9181						1.08		3738.205	0.156
1478-TCDF	NotFnd		0.9244						1.08		3738.205	0.156
1369/1237-TCDF	NotFnd		0.9379						1.08		3738.205	0.156
2467-TCDF	NotFnd		0.9425						1.08		3738.205	0.156
2368-TCDF	NotFnd		0.9483						1.08		3738.205	0.156
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9514						1.08		3738.205	0.156
1278-TCDF	NotFnd		0.9681						1.08		3738.205	0.156
1349-TCDF	NotFnd		0.9722						1.08		3738.205	0.156
1267-TCDF	NotFnd		0.9780						1.08		3738.205	0.156
2346/1249-TCDF	NotFnd		0.9845						1.08		3738.205	0.156
2347/1279-TCDF	NotFnd		0.9927						1.08		3738.205	0.156
2348-TCDF	NotFnd		0.9970						1.08		3738.205	0.156
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**3738.205**	**0.156**
2367/3467-TCDF	NotFnd		1.0140						1.08		3738.205	0.156
1269-TCDF	NotFnd		1.0226						1.08		3738.205	0.156
1239-TCDF	NotFnd		1.0325						1.08		3738.205	0.156
1289-TCDF	NotFnd		1.0732						1.08		3738.205	0.156
13468/12468-PeCDF	NotFnd		0.9130						1.02		3336.466	0.121
13678/13467/12467-PeCDF	NotFnd		0.9610						1.02		4063.818	0.147
12368/13478/12478-PeCDF	NotFnd		0.9658						1.02		4063.818	0.147
14678-PeCDF	NotFnd		0.9688						1.02		4063.818	0.147
13479-PeCDF	NotFnd		0.9719						1.02		4063.818	0.147
13469/12479-PeCDF	NotFnd		0.9797						1.02		4063.818	0.147
12346-PeCDF	NotFnd		0.9841						1.02		4063.818	0.147

Lab ID: MB1_18913_DF_SDS **Acq'd: 15 Feb 2022 13:52 DTF** **Wt/Vol: 10.00 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

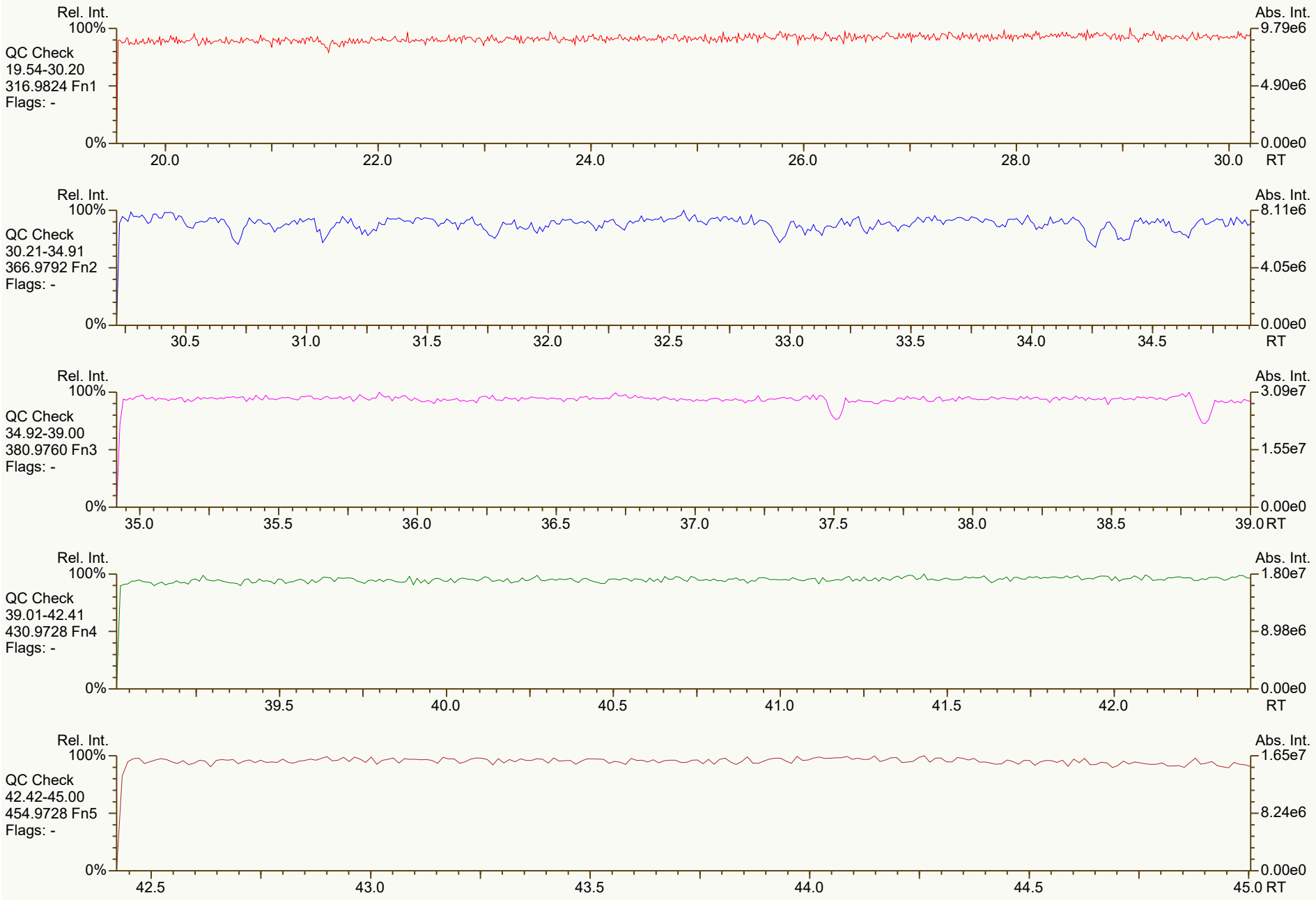
Client ID: Method Blank B6280_18913 **UTP: 17-Feb-2022 16:46:11 DTF** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 341-051-BYV**

Datafile: 220215C05 **Report: 17 Feb 2022 16:53 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9867						1.02		4063.818	0.147
12347-PeCDF	NotFnd		0.9892						1.02		4063.818	0.147
12348-PeCDF	NotFnd		0.9940						1.02		4063.818	0.147
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**4063.818**	**0.142**
12678/12367-PeCDF	NotFnd		1.0091						1.02		4063.818	0.147
12379-PeCDF	NotFnd		1.0144						1.02		4063.818	0.147
12679-PeCDF	NotFnd		0.9928						1.02		4063.818	0.147
23467/12369-PeCDF	NotFnd		0.9966						1.02		4063.818	0.147
23478-PeCDF	**NotFnd**		**1.0006**						**1.02**		**4063.818**	**0.153**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4063.818	0.147
12349-PeCDF	NotFnd		1.0101						1.02		4063.818	0.147
12389-PeCDF	NotFnd		1.0327						1.02		4063.818	0.147
123468-HxCDF	NotFnd		0.9624						1.19		3258.977	0.118
124678/134678-HxCDF	NotFnd		0.9679						1.19		3258.977	0.118
134679-HxCDF	NotFnd		0.9741						1.19		3258.977	0.118
124679-HxCDF	NotFnd		0.9796						1.19		3258.977	0.118
124689-HxCDF	NotFnd		0.9856						1.19		3258.977	0.118
123467-HxCDF	NotFnd		0.9972						1.19		3258.977	0.118
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**3258.977**	**0.116**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3258.977**	**0.104**
123479-HxCDF	NotFnd		1.0049						1.19		3258.977	0.118
123469-HxCDF	NotFnd		1.0090						1.19		3258.977	0.118
123679-HxCDF	NotFnd		0.9942						1.19		3258.977	0.118
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**3258.977**	**0.117**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3258.977	0.118
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3258.977**	**0.141**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		3258.977	0.118
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2098.8674**	**0.0785**
1234679-HpCDF	NotFnd		1.0069						1.34		2098.8674	0.0956
1234689-HpCDF	NotFnd		1.0104						1.34		2098.8674	0.0956
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2098.8674**	**0.118**
OCDF	**NotFnd**		**1.0002**						**1.07**		**2844.287**	**0.349**
OCDF-a	NotFnd		1.0002						0.07		3408.209	6.75

SGS ID: MB1_18913_DF_SDS | **Sample ID: Method Blank** | **Acq: 15-Feb-2022 13:52:08**

Instr: [ILM] AutoSpec-Ultima HRMS3 | **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 44** | **User: DTF Datafile: 220215C05**



Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\MB1_18913_DF_SDS.utp_res, saved 17-Feb-2022 16:46 (DTF)

Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 scc: 341-051

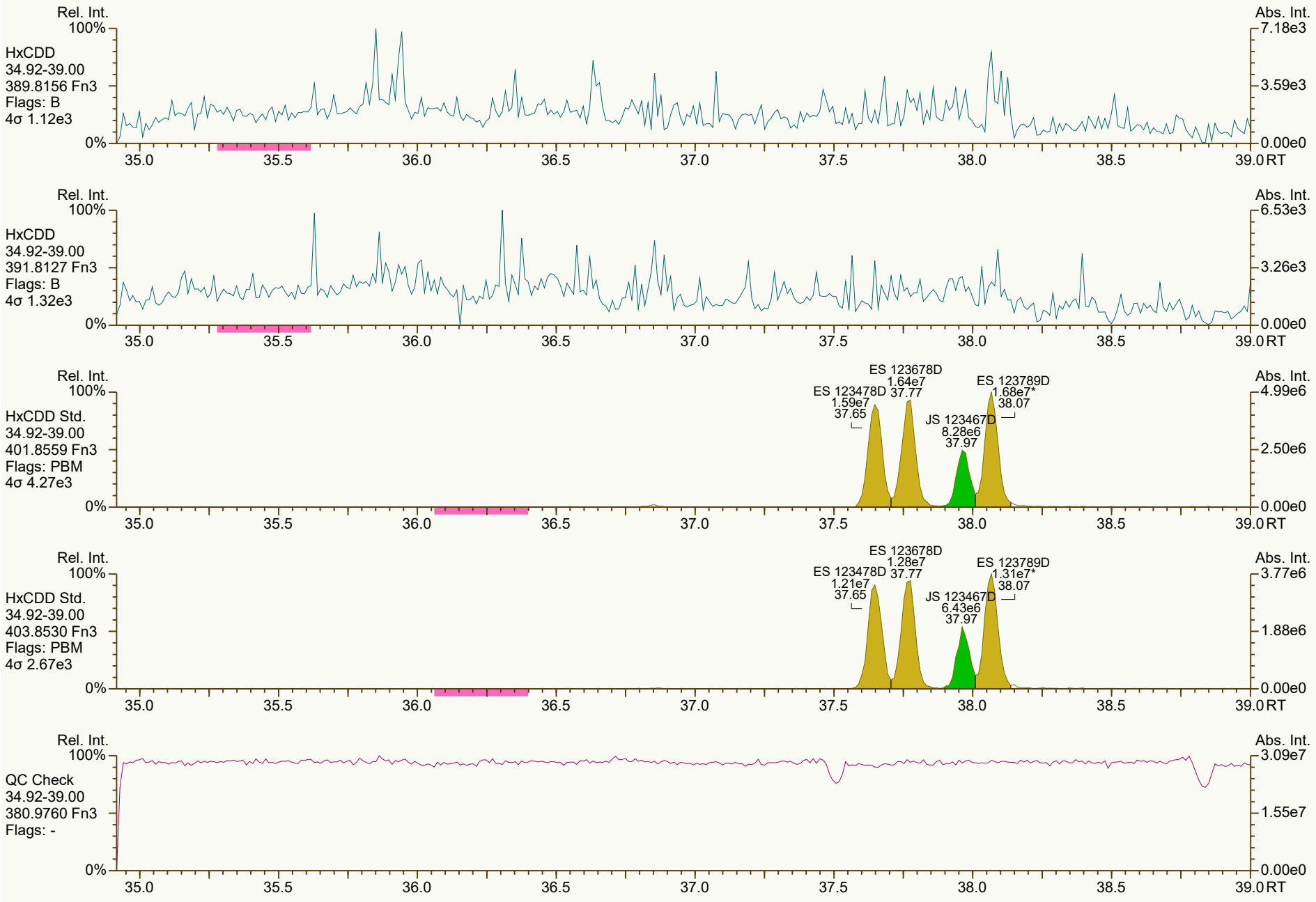
PKD: n/a Printed: 17-Feb-2022 16:55 Page 1 of 12

SGS ID: MB1_18913_DF_SDS | Sample ID: Method Blank | Acq: 15-Feb-2022 13:52:08
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 44 | User: DTF Datafile: 220215C05



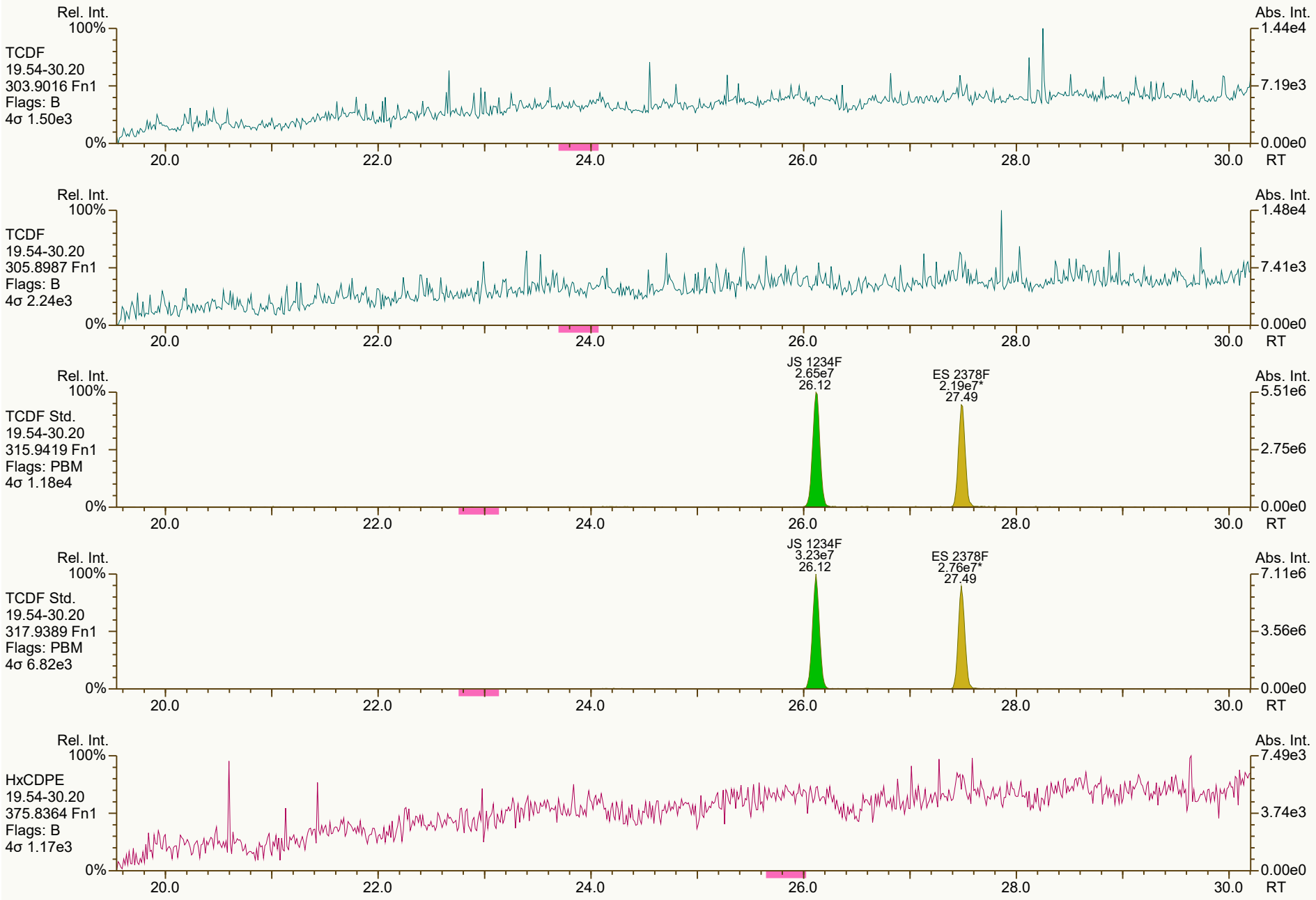
Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\MB1_18913_DF_SDS.utp_res, saved 17-Feb-2022 16:46 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6312, 1864, 3155 scc: 341-051 | Revised: 15-Feb-2022 15:44 (DTF) Printed: 17-Feb-2022 16:55 Page 2 of 12


Rel. Int.
100%
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PB
4σ 2.25e3
0%
Abs. Int.
5.93e3
2.97e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PB
4σ 1.21e3
0%
Abs. Int.
6.04e3
3.02e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 2.31e3
0%
CS 12347D
1.81e7
33.22
ES 12378D
2.00e7
33.72
Abs. Int.
5.60e6
2.80e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 1.91e3
0%
CS 12347D
1.16e7
33.22
ES 12378D
1.25e7
33.72
Abs. Int.
3.50e6
1.75e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.11e6
4.05e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

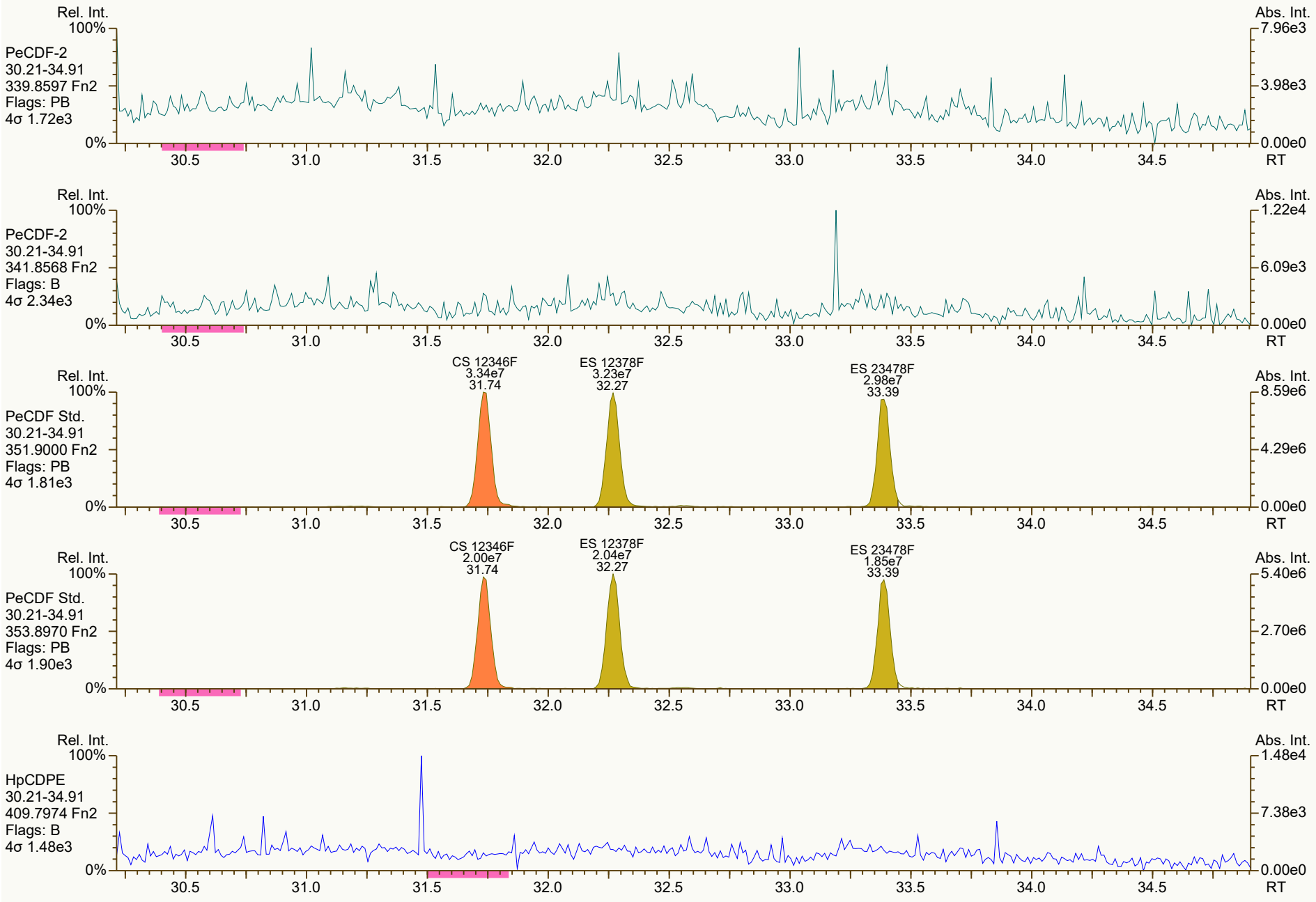

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: B
4σ 1.12e3
0%
Abs. Int.
7.18e3
3.59e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: B
4σ 1.32e3
0%
Abs. Int.
6.53e3
3.26e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 4.27e3
0%
ES 123678D
1.64e7
37.77
ES 123478D
1.59e7
37.65
ES 123789D
1.68e7*
38.07
JS 123467D
8.28e6
37.97
Abs. Int.
4.99e6
2.50e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 2.67e3
0%
ES 123678D
1.28e7
37.77
ES 123478D
1.21e7
37.65
ES 123789D
1.31e7*
38.07
JS 123467D
6.43e6
37.97
Abs. Int.
3.77e6
1.88e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.09e7
1.55e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

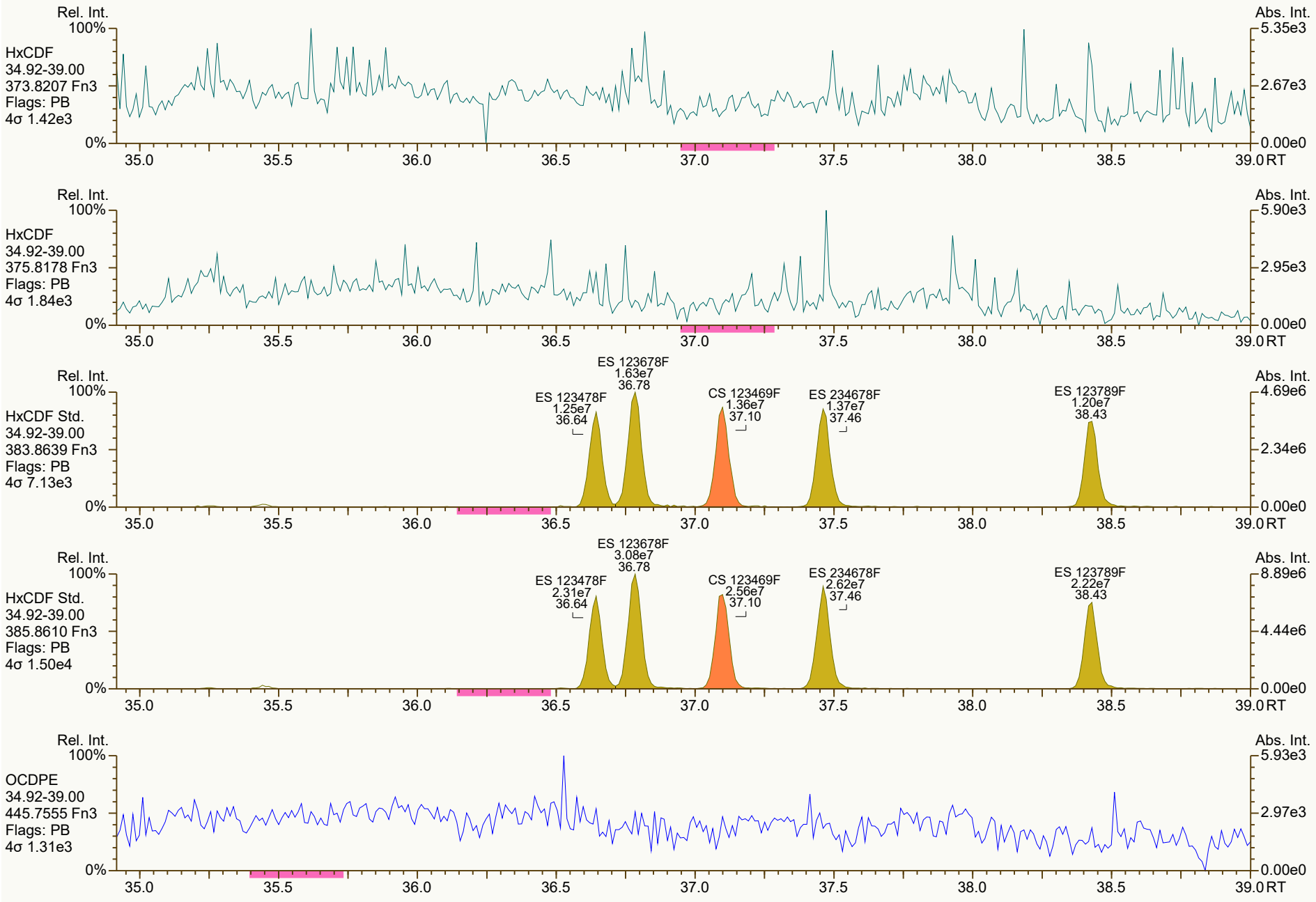

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.48e3
0%
Abs. Int.
6.85e3
3.42e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: B
4σ 1.48e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
1.35e7*
40.77
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 3.08e3
0%
Abs. Int.
3.80e6
1.90e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
1.30e7*
40.77
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 1.99e3
0%
Abs. Int.
3.90e6
1.95e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.80e7
8.98e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: B
4σ 1.34e3
0%
Abs. Int.
6.70e3
3.35e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: B
4σ 1.43e3
0%
Abs. Int.
1.20e4
5.99e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.38e7
43.47
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
2.82e6
1.41e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.48e7
43.47
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 2.54e3
0%
Abs. Int.
2.86e6
1.43e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: B
4σ 1.50e3
0%
Abs. Int.
1.44e4
7.19e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 2.24e3
0%
Abs. Int.
1.48e4
7.41e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PBM
4σ 1.18e4
0%
JS 1234F
2.65e7
26.12
ES 2378F
2.19e7*
27.49
Abs. Int.
5.51e6
2.75e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PBM
4σ 6.82e3
0%
JS 1234F
3.23e7
26.12
ES 2378F
2.76e7*
27.49
Abs. Int.
7.11e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.17e3
0%
Abs. Int.
7.49e3
3.74e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.19e4
5.94e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.51e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.09e4
1.05e4
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.83e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.79e6
4.90e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT

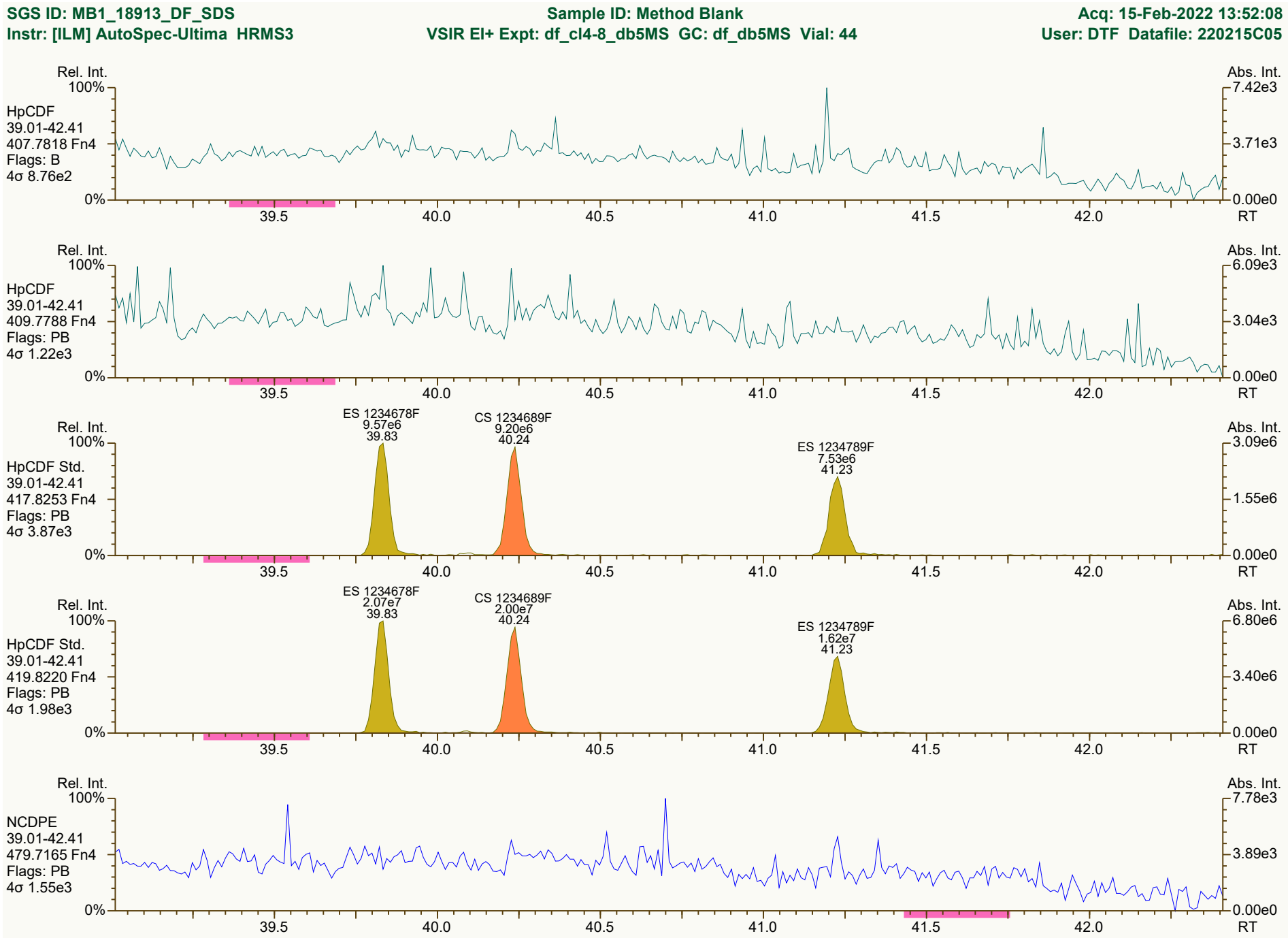

Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PB
4σ 1.72e3
0%
Abs. Int.
7.96e3
3.98e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: B
4σ 2.34e3
1.22e4
6.09e3
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 1.81e3
CS 12346F
3.34e7
31.74
ES 12378F
3.23e7
32.27
ES 23478F
2.98e7
33.39
8.59e6
4.29e6
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 1.90e3
CS 12346F
2.00e7
31.74
ES 12378F
2.04e7
32.27
ES 23478F
1.85e7
33.39
5.40e6
2.70e6
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.48e3
1.48e4
7.38e3


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PB
4σ 1.42e3
0%
Abs. Int.
5.35e3
2.67e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PB
4σ 1.84e3
0%
Abs. Int.
5.90e3
2.95e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 7.13e3
0%
ES 123678F
1.63e7
36.78
ES 123478F
1.25e7
36.64
CS 123469F
1.36e7
37.10
ES 234678F
1.37e7
37.46
ES 123789F
1.20e7
38.43
Abs. Int.
4.69e6
2.34e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 1.50e4
0%
ES 123678F
3.08e7
36.78
ES 123478F
2.31e7
36.64
CS 123469F
2.56e7
37.10
ES 234678F
2.62e7
37.46
ES 123789F
2.22e7
38.43
Abs. Int.
8.89e6
4.44e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.31e3
0%
Abs. Int.
5.93e3
2.97e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

SGS ID: MB1_18913_DF_SDS
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: Method Blank
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 44

Acq: 15-Feb-2022 13:52:08
User: DTF Datafile: 220215C05



Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\MB1_18913_DF_SDS.utp_res, saved 17-Feb-2022 16:46 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0657, 7204, 1238 scc: 341-051

Peak annotation: Areas, Centroids
PKD: 15-Feb-2022 15:44 Printed: 17-Feb-2022 16:55 Page 11 of 12


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: B
4σ 1.55e3
0%
Abs. Int.
1.18e4
5.88e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.30e3
0%
Abs. Int.
7.78e3
3.89e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.83e7
43.65
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.73e3
0%
Abs. Int.
3.59e6
1.80e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.05e7
43.64
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 2.34e3
0%
Abs. Int.
4.31e6
2.15e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.22e3
0%
Abs. Int.
6.47e3
3.23e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6280_18913_DF_001 **Acq'd:** 15 Feb 2022 19:16 DTF **Wt/Vol:** 10.31 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020222-S-SB-NC-O-48 **UTP:** 17-Feb-2022 16:46:12 DTF **J-level:** 0.485 pg/g **Split:** 1 **Checkcode:** 267-493-VNF

Datafile: 220215C12 **Report:** 17 Feb 2022 16:49 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.40		1.0008	1.0008	0	1.41E+08	0.80	Y	1.18	711	5961.643	0.319
12378-PeCDD	33.76		1.0006	1.0006	0	1.62E+06	1.63	Y	1.04	9.73	7075.565	0.384
123478-HxCDD	37.69		1.0004	1.0004	0	6.74E+05	1.20	Y	1.09	4.4	11834.892	0.699
123678-HxCDD	37.81		1.0036	1.0036	0	3.23E+06	1.20	Y	1.15	19.6	11834.892	0.582
123789-HxCDD	38.10		1.0115	1.0114	-0.2	1.50E+06	1.21	Y	1.05	9.03	11834.892	0.584
1234678-HpCDD	40.80		1.0003	1.0004	+0.2	7.71E+07	1.04	Y	1.06	496	8132.281	0.442
OCDD	43.52		1.0003	1.0003	0	9.43E+08	0.91	Y	1.13	8,420	4917.104	0.538
2378-TCDF	27.54	E	1.0008	1.0008	0	5.25E+08	0.79	Y	1.08	1,890	4464.803	0.172
12378-PeCDF	32.31		1.0005	1.0006	+0.2	1.72E+07	1.53	Y	1.02	67.7	12323.888	0.467
23478-PeCDF	33.43		1.0006	1.0007	+0.2	1.40E+07	1.54	Y	1.02	56.9	12323.888	0.453
123478-HxCDF	36.68		1.0004	1.0005	+0.2	2.86E+07	1.23	Y	1.27	118	14755.945	0.505
123678-HxCDF	36.82		1.0004	1.0005	+0.2	7.93E+06	1.21	Y	1.15	31.2	14755.945	0.499
234678-HxCDF	37.50		1.0005	1.0004	-0.2	2.76E+06	1.33	Y	1.19	12.3	14755.945	0.564
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	14755.945	0.588
1234678-HpCDF	39.86		1.0003	1.0003	0	4.07E+07	1.04	Y	1.37	180	5510.677	0.169
1234789-HpCDF	41.26		1.0003	1.0002	-0.2	5.01E+06	0.99	Y	1.31	26.6	5510.677	0.269
OCDF	43.69		1.0002	1.0003	+0.3	6.30E+08	0.89	Y	1.07	4,370	7214.169	0.645

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.38	1.0239	1.0240	+0.2	3.25E+07	0.82	Y	1.05	83.9
ES 12378-PeCDD	33.74	1.2174	1.2175	+0.2	3.11E+07	1.61	Y	0.88	95.3
ES 123478-HxCDD	37.67	0.9917	0.9917	0	2.73E+07	1.28	Y	0.97	80.9
ES 123678-HxCDD	37.79	0.9948	0.9948	0	2.78E+07	1.28	Y	0.94	84.9
ES 123789-HxCDD	38.09	1.0027	1.0026	-0.2	3.08E+07	1.30	Y	1.09	81.4
ES 1234678-HpCDD	40.79	1.0738	1.0737	-0.2	2.84E+07	1.12	Y	0.91	89.9
ES OCDD	43.50	1.1449	1.1452	+0.8	3.86E+07	0.93	Y	0.62	89.1
ES 2378-TCDF	27.52	1.0523	1.0524	+0.2	5.01E+07	0.81	Y	1.06	75.5
ES 12378-PeCDF	32.29	1.2346	1.2350	+0.8	4.81E+07	1.60	Y	0.91	84.5
ES 23478-PeCDF	33.41	1.2774	1.2778	+0.8	4.69E+07	1.55	Y	0.88	84.8
ES 123478-HxCDF	36.67	0.9651	0.9652	+0.2	3.71E+07	0.56	Y	1.20	89.1
ES 123678-HxCDF	36.81	0.9688	0.9689	+0.2	4.27E+07	0.53	Y	1.35	91.1
ES 234678-HxCDF	37.49	0.9867	0.9868	+0.2	3.65E+07	0.51	Y	1.24	84.7
ES 123789-HxCDF	38.44	1.0121	1.0120	-0.2	3.52E+07	0.53	Y	1.16	88
ES 1234678-HpCDF	39.85	1.0491	1.0489	-0.5	3.20E+07	0.48	Y	0.97	95.5
ES 1234789-HpCDF	41.25	1.0858	1.0858	0	2.80E+07	0.48	Y	0.85	94.8
ES OCDF	43.68	1.1495	1.1498	+0.8	5.21E+07	0.91	Y	0.81	93.1

Lab ID: B6280_18913_DF_001 **Acq'd:** 15 Feb 2022 19:16 DTF **Wt/Vol:** 10.31 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020222-S-SB-NC-O-48 **UTP:** 17-Feb-2022 16:46:12 DTF **J-level:** 0.485 pg/g **Split:** 1 **Checkcode:** 267-493-VNF

Datafile: 220215C12 **Report:** 17 Feb 2022 16:49 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.72		-	-	-	3.71E+07	0.81	Y	-	-
JS 1234-TCDF	26.15		-	-	-	6.26E+07	0.83	Y	-	-
JS 123467-HxCDD	37.99		-	-	-	1.73E+07	1.31	Y	-	-
CS 37Cl-2378-TCDD	28.40		1.0247	1.0248	+0.2	1.44E+07	n/a	-	1.20	81
CS 12347-PeCDD	33.24		1.1993	1.1993	0	2.67E+07	1.57	Y	0.75	95.5
CS 12346-PeCDF	31.76		1.2144	1.2147	+0.6	4.56E+07	1.61	Y	0.85	85.7
CS 123469-HxCDF	37.13		0.9772	0.9773	+0.2	3.59E+07	0.53	Y	1.12	92.6
CS 1234689-HpCDF	40.25		1.0597	1.0597	0	3.17E+07	0.46	Y	0.89	103
~~SS 37Cl-2378-TCDD~~	~~28.40~~		~~1.0247~~	~~1.0248~~	~~+0.2~~	~~1.44E+07~~	~~n/a~~		~~1.15~~	~~96.8~~
~~SS 12347-PeCDD~~	~~33.24~~		~~1.1993~~	~~1.1993~~	~~0~~	~~2.67E+07~~	~~1.57~~	~~Y~~	~~0.86~~	~~100~~
~~SS 12346-PeCDF~~	~~31.76~~		~~1.2144~~	~~1.2147~~	~~+0.6~~	~~4.56E+07~~	~~1.61~~	~~Y~~	~~0.94~~	~~101~~
~~SS 123469-HxCDF~~	~~37.13~~		~~0.9772~~	~~0.9773~~	~~+0.2~~	~~3.59E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~101~~
~~SS 1234689-HpCDF~~	~~40.25~~		~~1.0597~~	~~1.0597~~	~~0~~	~~3.17E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~108~~

Totals	Conc		EMPC
Total TCDD	805		812
Total PeCDD	48.2		48.2
Total HxCDD	217		217
Total HpCDD	1170		1170
Total Tetra-Octa Dioxins	10700		10700
Total TCDF	3,770		3770
Total PeCDF	246	DPE	246
Total HxCDF	290		290
Total HpCDF	389		389
Total Tetra-Octa Furans	9,070		9070
Total Tetra-Octa Dioxins & Furans	19700		19700

Lab ID: B6280_18913_DF_001 **Acq'd: 15 Feb 2022 19:16 DTF** **Wt/Vol: 10.31 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020222-S-SB-NC-O-48 **UTP: 17-Feb-2022 16:46:12 DTF** **J-level: 0.485 pg/g** **Split: 1** **Checkcode: 267-493-VNF**

Datafile: 220215C12 **Report: 17 Feb 2022 16:49 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.74		0.8719	0.8715	-0.6	1.15E+06	0.85	Y	1.18	5.79	5961.643	0.319
1379-TCDD	25.09	EMPC	0.8845	0.8841	-0.6	3.69E+05	0.91	N	1.18	1.86	5961.643	0.319
1369-TCDD	25.53		0.8996	0.8995	-0.2	2.22E+05	0.79	Y	1.18	1.12	5961.643	0.319
1469-TCDD	26.31	EMPC	0.9271	0.9269	-0.3	6.53E+05	0.93	N	1.18	3.29	5961.643	0.319
1247/1246/1248/1249-TCDD	26.54		0.9357	0.9350	-1.1	4.83E+05	0.86	Y	1.18	2.43	5961.643	0.319
1378-TCDD	26.74		0.9425	0.9421	-0.6	6.67E+05	0.81	Y	1.18	3.36	5961.643	0.319
1268-TCDD	26.94	J EMPC	0.9494	0.9491	-0.5	8.82E+04	1.01	N	1.18	0.444	5961.643	0.319
1478-TCDD	27.20		0.9581	0.9582	+0.2	4.46E+05	0.75	Y	1.18	2.24	5961.643	0.319
1279-TCDD	27.36		0.9640	0.9640	0	1.41E+05	0.68	Y	1.18	0.711	5961.643	0.319
1234/1269-TCDD	27.71		0.9765	0.9763	-0.3	3.06E+05	0.84	Y	1.18	1.54	5961.643	0.319
1236-TCDD	NotFnd		0.9816						1.18		5961.643	0.319
1237/1238-TCDD	28.11		0.9906	0.9906	0	2.20E+06	0.83	Y	1.18	11.1	5961.643	0.319
1239-TCDD	NotFnd		0.9952						1.18		5961.643	0.319
2378-TCDD	**28.40**		**1.0008**	1.0008	**0**	1.41E+08	0.80	Y	**1.18**	**711**	**5961.643**	**0.319**
1278-TCDD	28.73		1.0123	1.0123	0	1.28E+07	0.80	Y	1.18	64.6	5961.643	0.319
1267-TCDD	28.87		1.0170	1.0172	+0.3	3.19E+05	0.82	Y	1.18	1.6	5961.643	0.319
1289-TCDD	29.37	EMPC	1.0351	1.0348	-0.5	2.72E+05	0.95	N	1.18	1.37	5961.643	0.319
12479/12468-PeCDD	31.25		0.9261	0.9260	-0.2	2.08E+06	1.65	Y	1.04	12.5	7075.565	0.384
12469-PeCDD	31.79		0.9420	0.9420	0	1.50E+06	1.50	Y	1.04	9.04	7075.565	0.384
12368-PeCDD	32.34		0.9584	0.9585	+0.2	7.14E+05	1.49	Y	1.04	4.3	7075.565	0.384
12478-PeCDD	32.53		0.9641	0.9640	-0.2	4.89E+05	1.60	Y	1.04	2.95	7075.565	0.384
12379-PeCDD	32.63	J	0.9670	0.9670	0	3.37E+05	1.50	Y	1.04	2.03	7075.565	0.384
12369/12467/12489-PeCDD	32.89		0.9747	0.9748	+0.2	8.07E+05	1.47	Y	1.04	4.86	7075.565	0.384
12346/12347-PeCDD	33.26	J	0.9857	0.9857	0	1.50E+05	1.69	Y	1.04	0.904	7075.565	0.384
12378-PeCDD	33.76		**1.0006**	**1.0006**	**0**	**1.62E+06**	**1.63**	**Y**	**1.04**	**9.73**	**7075.565**	**0.384**
12367-PeCDD	33.87	J	1.0034	1.0037	+0.6	1.35E+05	1.56	Y	1.04	0.812	7075.565	0.384
12389-PeCDD	34.21	J	1.0136	1.0138	+0.4	1.68E+05	1.69	Y	1.04	1.01	7075.565	0.384
124679/124689-HxCDD	35.95		0.9540	0.9542	+0.4	1.69E+07	1.24	Y	1.10	105	11834.892	0.618
123468-HxCDD	36.60		0.9714	0.9715	+0.2	1.53E+06	1.23	Y	1.10	9.48	11834.892	0.618
123679/123689-HxCDD	36.90		0.9792	0.9794	+0.4	9.80E+06	1.27	Y	1.10	60.7	11834.892	0.618
123469-HxCDD	37.03		0.9828	0.9829	+0.2	9.68E+05	1.28	Y	1.10	5.99	11834.892	0.618
123478-HxCDD	37.69		**1.0004**	**1.0004**	**0**	**6.74E+05**	**1.20**	**Y**	1.09	**4.4**	**11834.892**	**0.699**
123678-HxCDD	37.81		**1.0036**	**1.0036**	**0**	**3.23E+06**	**1.20**	**Y**	1.15	**19.6**	**11834.892**	**0.582**
123467-HxCDD	38.00		1.0087	1.0088	+0.2	4.65E+05	1.24	Y	1.10	2.88	11834.892	0.618
123789-HxCDD	38.10		**1.0115**	**1.0114**	**-0.2**	**1.50E+06**	**1.21**	**Y**	1.05	**9.03**	**11834.892**	**0.584**

Lab ID: B6280_18913_DF_001 **Acq'd: 15 Feb 2022 19:16 DTF** **Wt/Vol: 10.31 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020222-S-SB-NC-O-48 **UTP: 17-Feb-2022 16:46:12 DTF** **J-level: 0.485 pg/g** **Split: 1** **Checkcode: 267-493-VNF**

Datafile: 220215C12 **Report: 17 Feb 2022 16:49 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.12		0.9836	0.9836	0	1.05E+08	1.06	Y	1.06	675	8132.281	0.442
1234678-HpCDD	**40.80**		**1.0003**	**1.0004**	**+0.2**	**7.71E+07**	**1.04**	**Y**	**1.06**	**496**	**8132.281**	**0.442**
OCDD	**43.52**		**1.0003**	**1.0003**	**0**	**9.43E+08**	**0.91**	**Y**	**1.13**	**8,420**	**4917.104**	**0.538**
OCDD-a	43.51		1.0002	1.0002	0	5.77E+07	2.45	Y	0.07	8,050	13260.608	22.7
1368-TCDF	22.61		0.8222	0.8218	-0.5	4.56E+05	0.80	Y	1.08	1.64	4464.803	0.172
1468-TCDF	23.21		0.8434	0.8434	0	1.55E+06	0.81	Y	1.08	5.58	4464.803	0.172
2468-TCDF	23.84		0.8666	0.8665	-0.1	2.70E+06	0.76	Y	1.08	9.69	4464.803	0.172
1346/1246-TCDF	NotFnd		0.8789						1.08		4464.803	0.172
1347/1378/1247-TCDF	24.36		0.8848	0.8854	+0.9	7.72E+06	0.78	Y	1.08	27.7	4464.803	0.172
1348-TCDF	NotFnd		0.8947						1.08		4464.803	0.172
1248/1367/1379-TCDF	24.71		0.8995	0.8979	-2.4	2.95E+07	0.78	Y	1.08	106	4464.803	0.172
1268-TCDF	25.13		0.9131	0.9132	+0.2	1.04E+07	0.80	Y	1.08	37.3	4464.803	0.172
1467-TCDF	25.26		0.9181	0.9181	0	1.69E+06	0.86	Y	1.08	6.08	4464.803	0.172
1478-TCDF	25.43		0.9244	0.9242	-0.3	2.40E+07	0.77	Y	1.08	86.2	4464.803	0.172
1369/1237-TCDF	25.81		0.9379	0.9381	+0.3	6.13E+06	0.78	Y	1.08	22	4464.803	0.172
2467-TCDF	25.93		0.9425	0.9425	0	9.53E+05	0.80	Y	1.08	3.42	4464.803	0.172
2368-TCDF	26.13		0.9483	0.9498	+2.4	4.39E+07	0.79	Y	1.08	158	4464.803	0.172
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9514						1.08		4464.803	0.172
1278-TCDF	26.63		0.9681	0.9678	-0.5	2.43E+08	0.78	Y	1.08	873	4464.803	0.172
1349-TCDF	NotFnd		0.9722						1.08		4464.803	0.172
1267-TCDF	26.91		0.9780	0.9779	-0.2	1.43E+07	0.77	Y	1.08	51.4	4464.803	0.172
2346/1249-TCDF	27.11		0.9845	0.9852	+1.1	1.57E+06	0.79	Y	1.08	5.63	4464.803	0.172
2347/1279-TCDF	27.31		0.9927	0.9926	-0.2	6.64E+06	0.77	Y	1.08	23.8	4464.803	0.172
2348-TCDF	27.42		0.9970	0.9966	-0.7	3.59E+07	0.77	Y	1.08	129	4464.803	0.172
2378-TCDF	**27.54**	E	**1.0008**	**1.0008**	**0**	**5.25E+08**	**0.79**	**Y**	**1.08**	**1,890**	**4464.803**	**0.172**
2367/3467-TCDF	27.89		1.0140	1.0137	-0.5	4.37E+07	0.78	Y	1.08	157	4464.803	0.172
1269-TCDF	28.15		1.0226	1.0231	+0.8	8.40E+06	0.81	Y	1.08	30.1	4464.803	0.172
1239-TCDF	28.41		1.0325	1.0326	+0.2	6.42E+05	0.82	Y	1.08	2.31	4464.803	0.172
1289-TCDF	29.56		1.0732	1.0741	+1.6	4.09E+07	0.80	Y	1.08	147	4464.803	0.172
13468/12468-PeCDF	29.50		0.9130	0.9136	+1.1	5.82E+06	1.62	Y	1.02	23.3	3904.7013	0.146
13678/13467/12467-PeCDF	31.05		0.9610	0.9616	+1.1	1.25E+06	1.48	Y	1.02	4.99	12323.888	0.46
12368/13478/12478-PeCDF	31.21		0.9658	0.9665	+1.3	1.14E+07	1.56	Y	1.02	45.6	12323.888	0.46
14678-PeCDF	NotFnd		0.9688						1.02		12323.888	0.46
13479-PeCDF	NotFnd		0.9719						1.02		12323.888	0.46
13469/12479-PeCDF	NotFnd		0.9797						1.02		12323.888	0.46
12346-PeCDF	NotFnd		0.9841						1.02		12323.888	0.46

Lab ID: B6280_18913_DF_001 | **Acq'd: 15 Feb 2022 19:16 DTF** | **Wt/Vol: 10.31 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

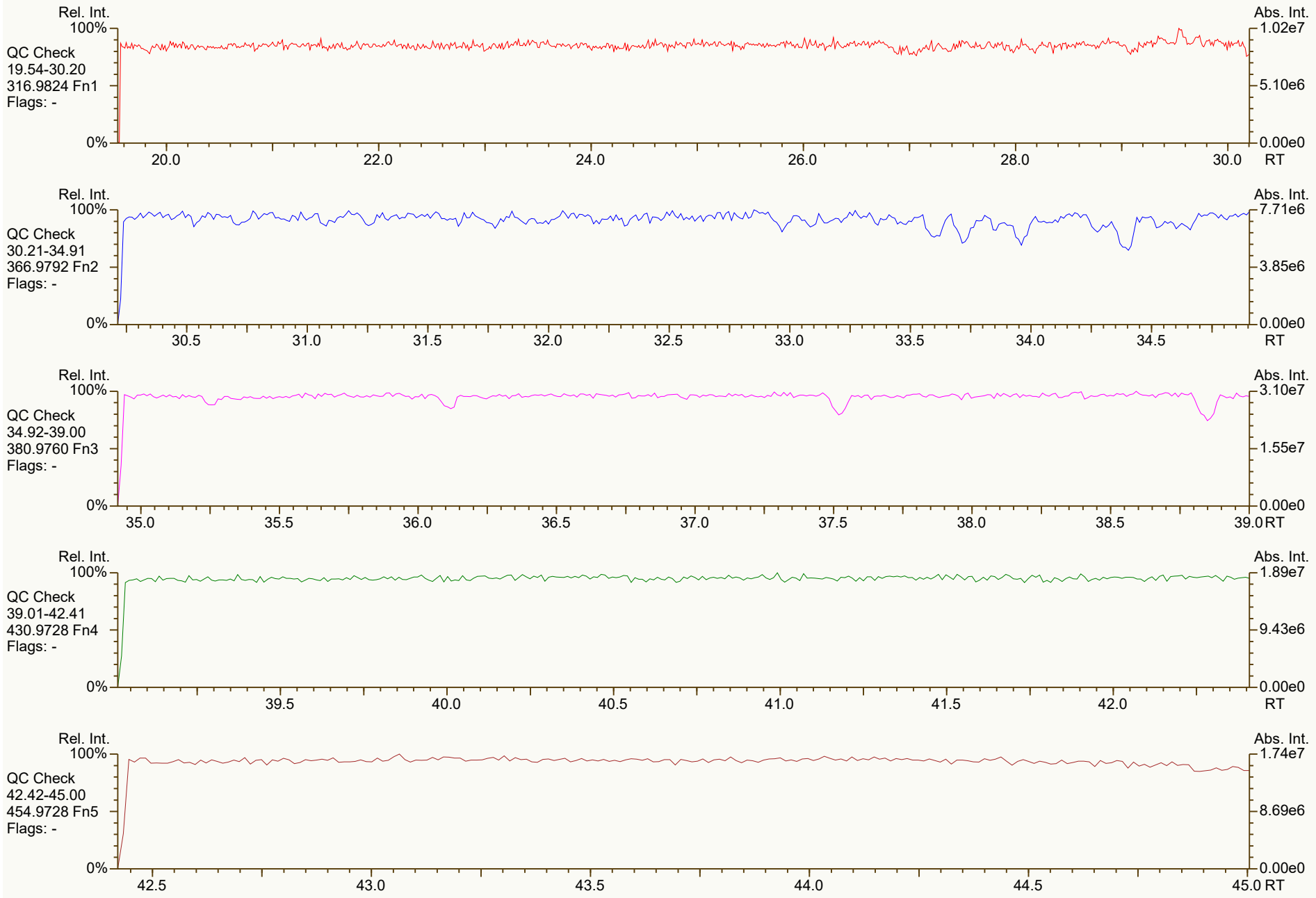
Client ID: 11215131-020222-S-SB-NC-O-48 | **UTP: 17-Feb-2022 16:46:12 DTF** | **J-level: 0.485 pg/g** | **Split: 1** | **Checkcode: 267-493-VNF**

Datafile: 220215C12 | **Report: 17 Feb 2022 16:49 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.86		0.9867	0.9867	0	1.68E+06	1.70	Y	1.02	6.7	12323.888	0.46
12347-PeCDF	31.94		0.9892	0.9890	-0.4	6.84E+05	1.51	Y	1.02	2.73	12323.888	0.46
12348-PeCDF	32.10		0.9940	0.9940	0	2.12E+06	1.60	Y	1.02	8.48	12323.888	0.46
12378-PeCDF	**32.31**		**1.0005**	**1.0006**	**+0.2**	**1.72E+07**	**1.53**	**Y**	**1.02**	**67.7**	**12323.888**	**0.467**
12678/12367-PeCDF	32.61	DPE	1.0091	1.0098	+1.4	6.01E+06	1.52	Y	1.02	24	12323.888	0.46
12379-PeCDF	NotFnd		1.0144						1.02		12323.888	0.46
12679-PeCDF	NotFnd		0.9928						1.02		12323.888	0.46
23467/12369-PeCDF	33.29	J	0.9966	0.9964	-0.4	4.47E+05	1.42	Y	1.02	1.79	12323.888	0.46
23478-PeCDF	**33.43**		**1.0006**	**1.0007**	**+0.2**	**1.40E+07**	**1.54**	**Y**	**1.02**	**56.9**	**12323.888**	**0.453**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		12323.888	0.46
12349-PeCDF	NotFnd		1.0101						1.02		12323.888	0.46
12389-PeCDF	34.51		1.0327	1.0329	+0.4	9.00E+05	1.55	Y	1.02	3.6	12323.888	0.46
123468-HxCDF	35.30		0.9624	0.9628	+0.8	2.96E+06	1.24	Y	1.19	12.7	14755.945	0.536
124678/134678-HxCDF	35.50		0.9679	0.9681	+0.4	1.04E+07	1.25	Y	1.19	44.7	14755.945	0.536
134679-HxCDF	NotFnd		0.9741						1.19		14755.945	0.536
124679-HxCDF	35.92	J	0.9796	0.9797	+0.2	5.24E+05	1.21	Y	1.19	2.25	14755.945	0.536
124689-HxCDF	36.15		0.9856	0.9859	+0.7	1.23E+07	1.20	Y	1.19	52.7	14755.945	0.536
123467-HxCDF	36.56		0.9972	0.9971	-0.2	8.21E+05	1.13	Y	1.19	3.53	14755.945	0.536
123478-HxCDF	**36.68**		**1.0004**	**1.0005**	**+0.2**	**2.86E+07**	**1.23**	**Y**	**1.27**	**118**	**14755.945**	**0.505**
123678-HxCDF	**36.82**		**1.0004**	**1.0005**	**+0.2**	**7.93E+06**	**1.21**	**Y**	**1.15**	**31.2**	**14755.945**	**0.499**
123479-HxCDF	NotFnd		1.0049						1.19		14755.945	0.536
123469-HxCDF	37.14	J	1.0090	1.0091	+0.2	5.19E+05	1.12	Y	1.19	2.23	14755.945	0.536
123679-HxCDF	NotFnd		0.9942						1.19		14755.945	0.536
234678-HxCDF	**37.50**		**1.0005**	**1.0004**	**-0.2**	**2.76E+06**	**1.33**	**Y**	**1.19**	**12.3**	**14755.945**	**0.564**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		14755.945	0.536
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**14755.945**	**0.588**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.49		1.0007	1.0011	+0.9	2.40E+06	1.28	Y	1.19	10.3	14755.945	0.536
1234678-HpCDF	**39.86**		**1.0003**	**1.0003**	**0**	**4.07E+07**	**1.04**	**Y**	**1.37**	**180**	**5510.677**	**0.169**
1234679-HpCDF	40.12		1.0069	1.0068	-0.2	2.26E+06	1.07	Y	1.34	10.9	5510.677	0.215
1234689-HpCDF	40.26		1.0104	1.0105	+0.2	3.56E+07	1.03	Y	1.34	172	5510.677	0.215
1234789-HpCDF	**41.26**		**1.0003**	**1.0002**	**-0.2**	**5.01E+06**	**0.99**	**Y**	**1.31**	**26.6**	**5510.677**	**0.269**
OCDF	**43.69**		**1.0002**	**1.0003**	**+0.3**	**6.30E+08**	**0.89**	**Y**	**1.07**	**4,370**	**7214.169**	**0.645**
OCDF-a	43.69		1.0002	1.0002	0	4.07E+07	2.42	Y	0.07	4,570	5340.2	7.71

SGS ID: B6280_18913_DF_001 | **Sample ID: 11215131-020222-S-SB-NC-O-48** | **Acq: 15-Feb-2022 19:16:34**

Instr: [ILM] AutoSpec-Ultima HRMS3 | **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 53** | **User: DTF Datafile: 220215C12**

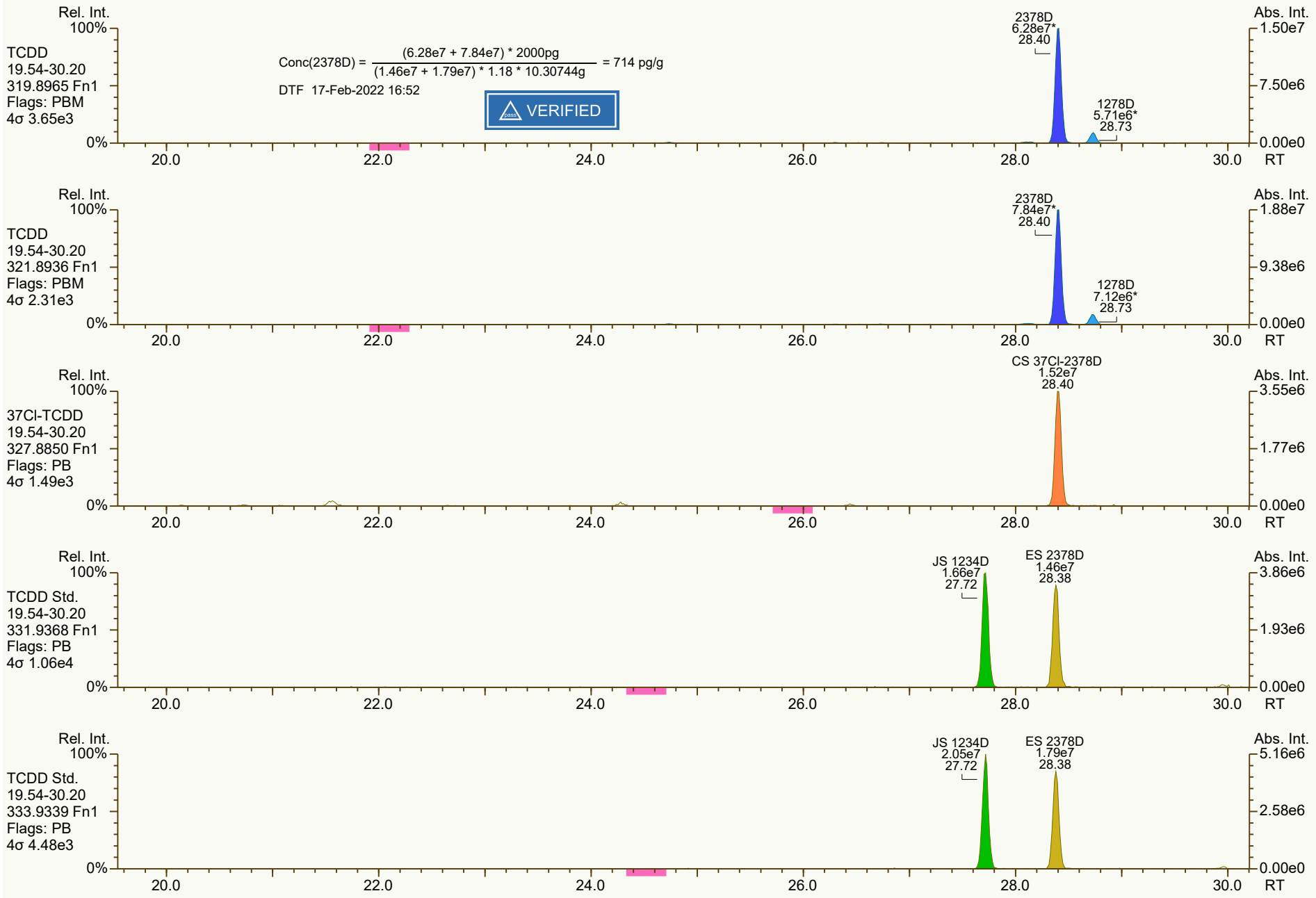


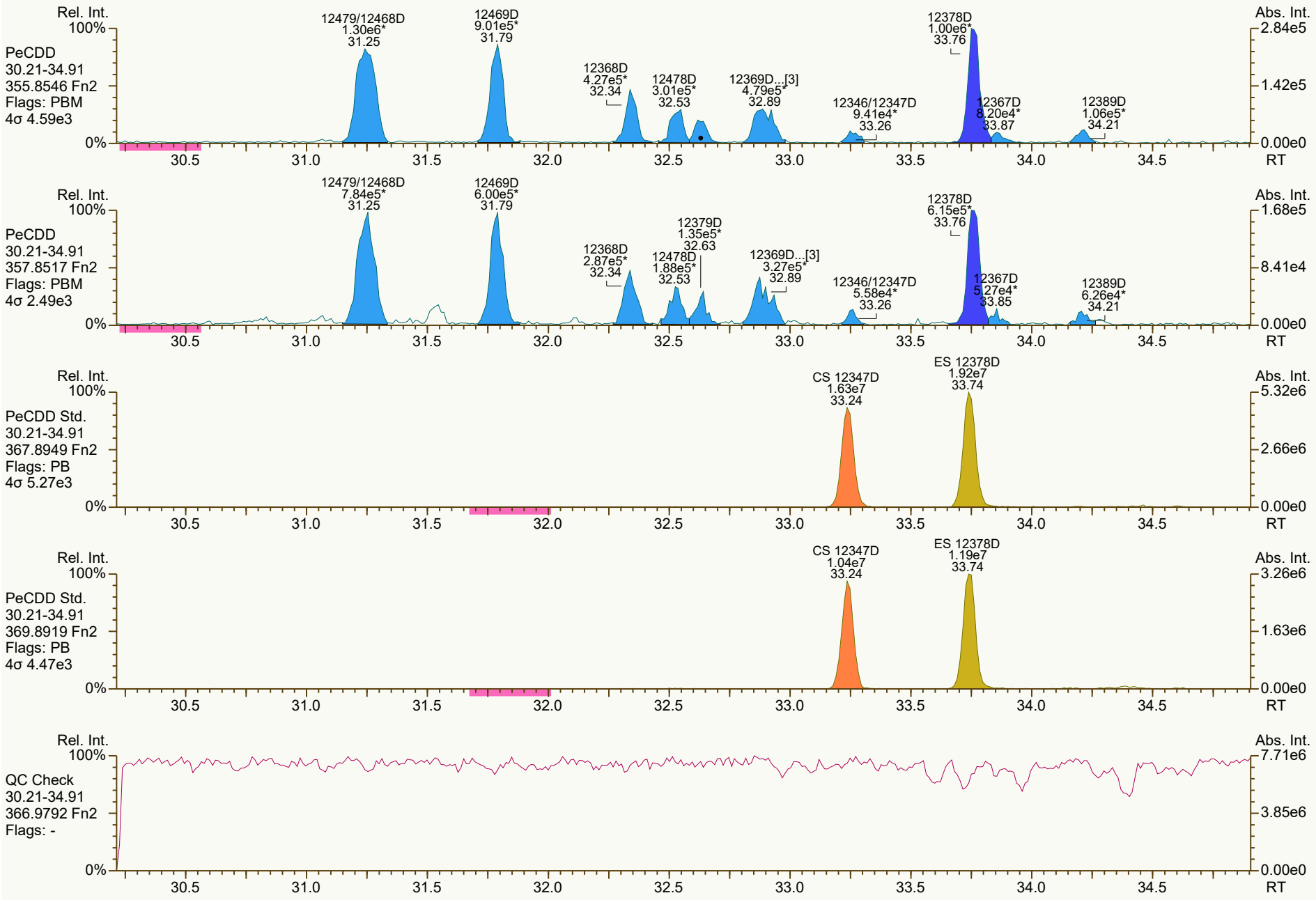
Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\B6280_18913_DF_001.utp_res, saved 17-Feb-2022 16:52 (DTF)

Peak annotation: Areas, Centroids

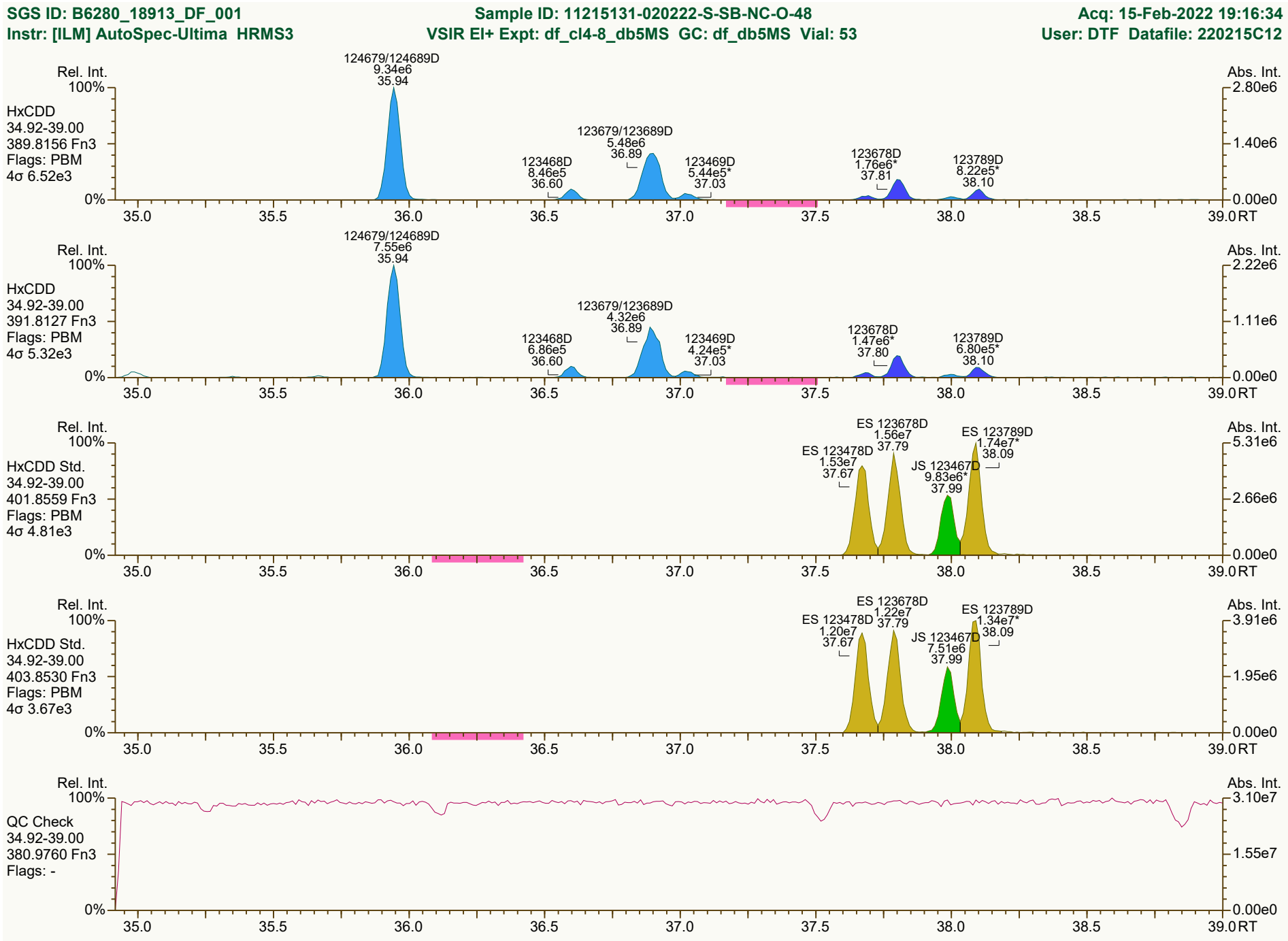
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 scc: 267-493

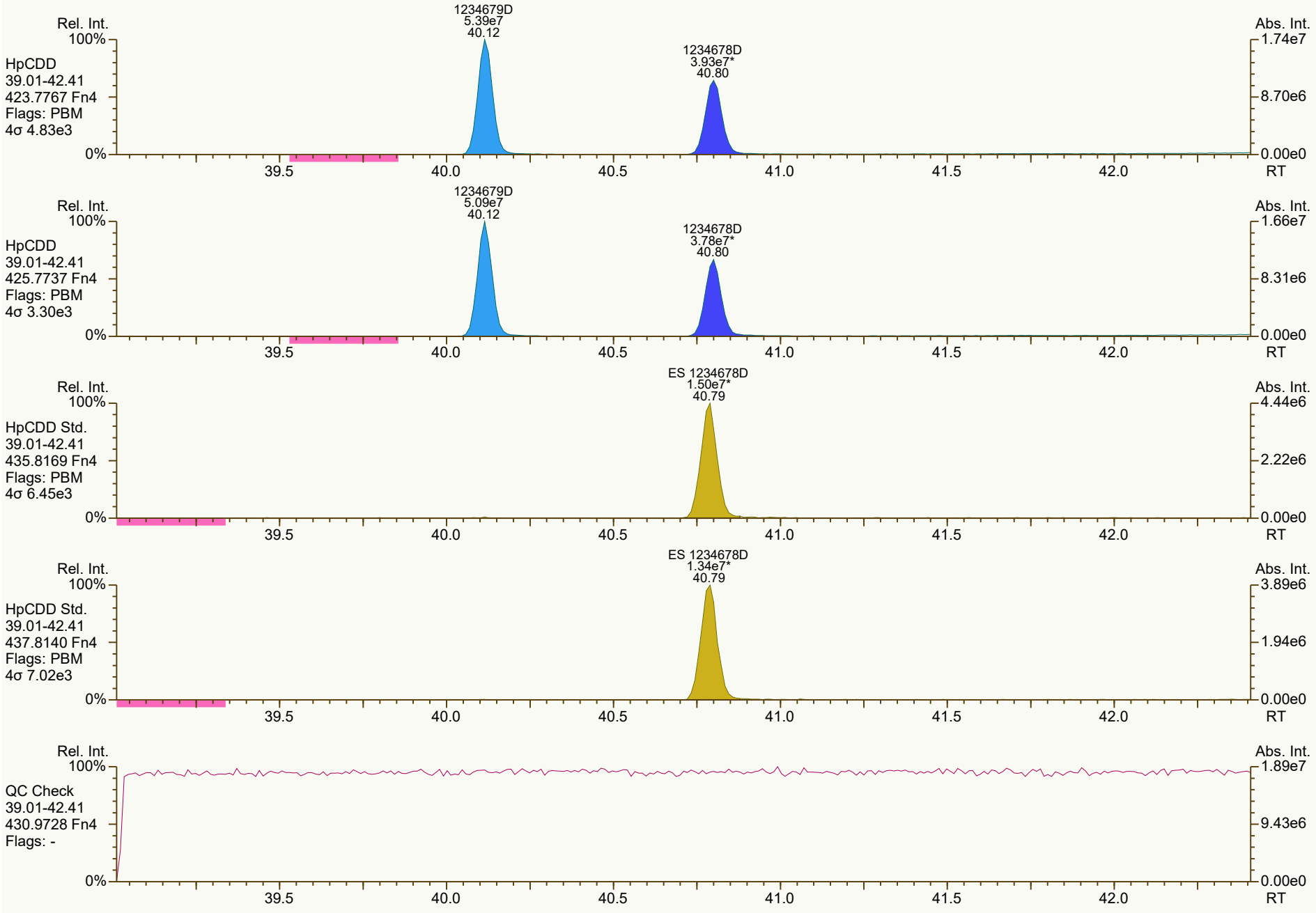
PKD: n/a Printed: 17-Feb-2022 16:55 Page 1 of 12

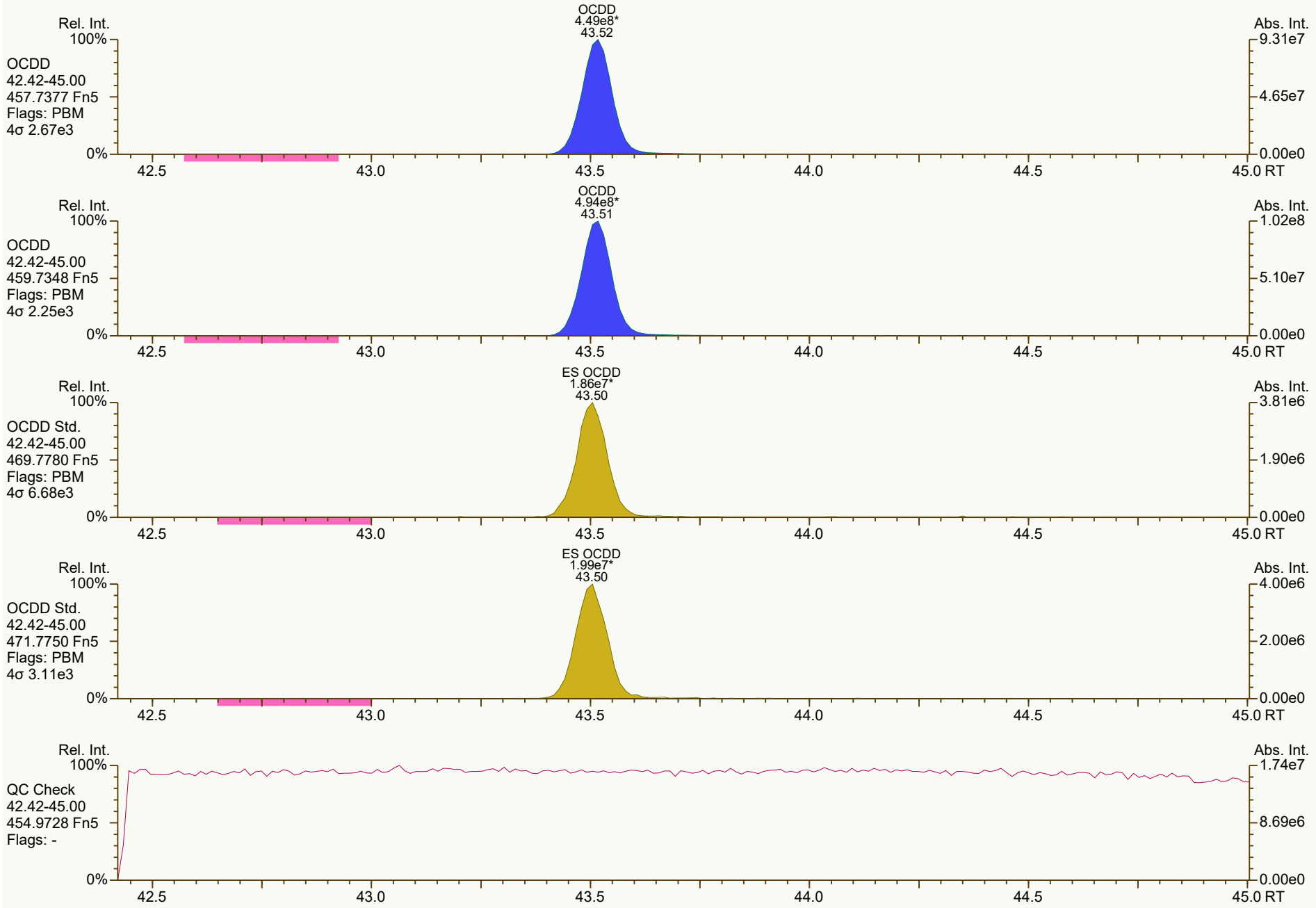

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 3.65e3
0%
Conc(2378D) = (6.28e7 + 7.84e7) * 2000pg / (1.46e7 + 1.79e7) * 1.18 * 10.30744g = 714 pg/g
DTF 17-Feb-2022 16:52
VERIFIED
2378D
6.28e7*
28.40
1278D
5.71e6*
28.73
Abs. Int.
1.50e7
7.50e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.31e3
0%
2378D
7.84e7*
28.40
1278D
7.12e6*
28.73
Abs. Int.
1.88e7
9.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.49e3
0%
CS 37Cl-2378D
1.52e7
28.40
Abs. Int.
3.55e6
1.77e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 1.06e4
0%
JS 1234D
1.66e7
27.72
ES 2378D
1.46e7
28.38
Abs. Int.
3.86e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.48e3
0%
JS 1234D
2.05e7
27.72
ES 2378D
1.79e7
28.38
Abs. Int.
5.16e6
2.58e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

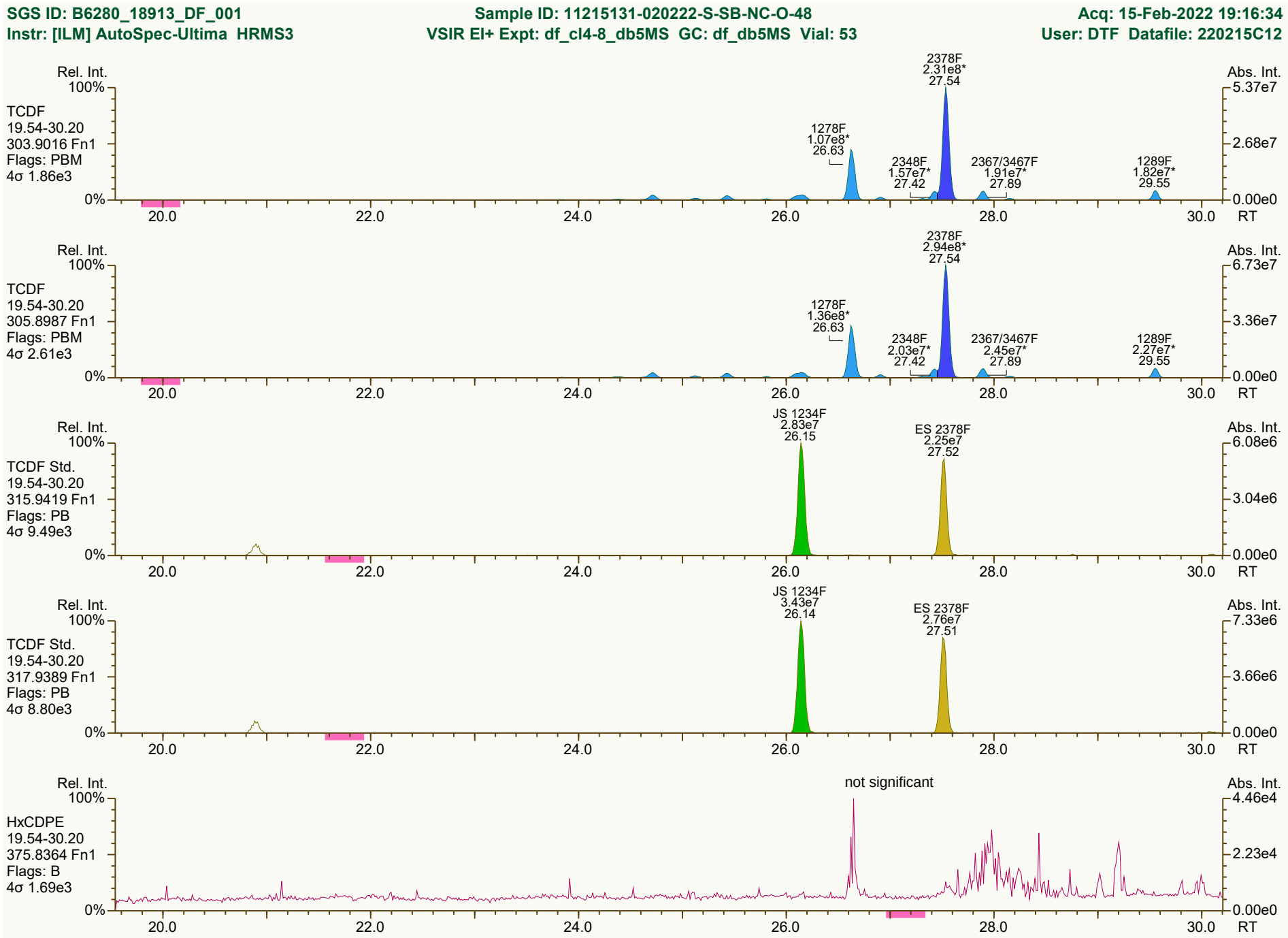


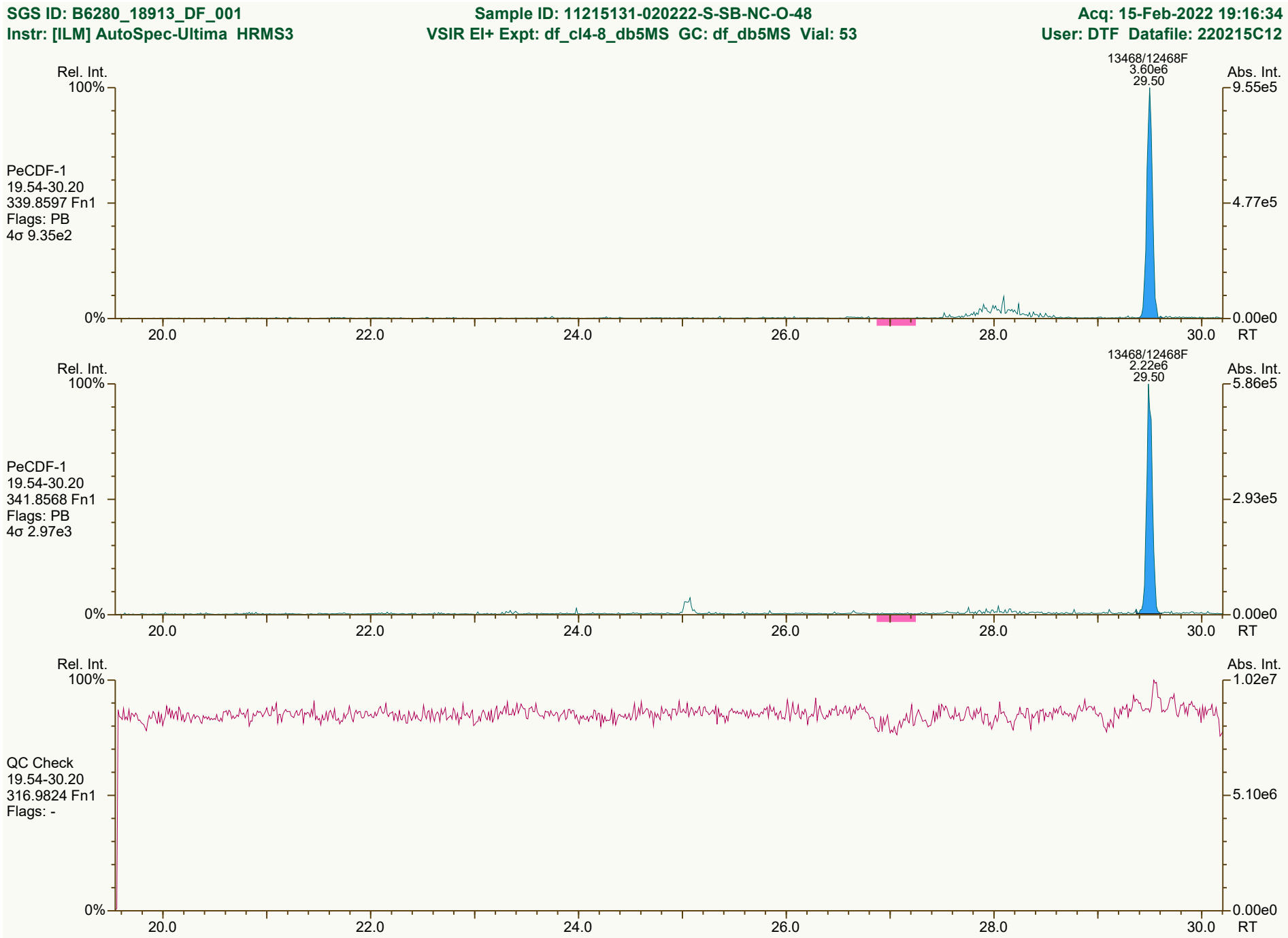
Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\B6280_18913_DF_001.utp_res, saved 17-Feb-2022 16:52 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0197, 6851 scc: 267-493 *PKD: 17-Feb-2022 15:55 Printed: 17-Feb-2022 16:55 Page 3 of 12*

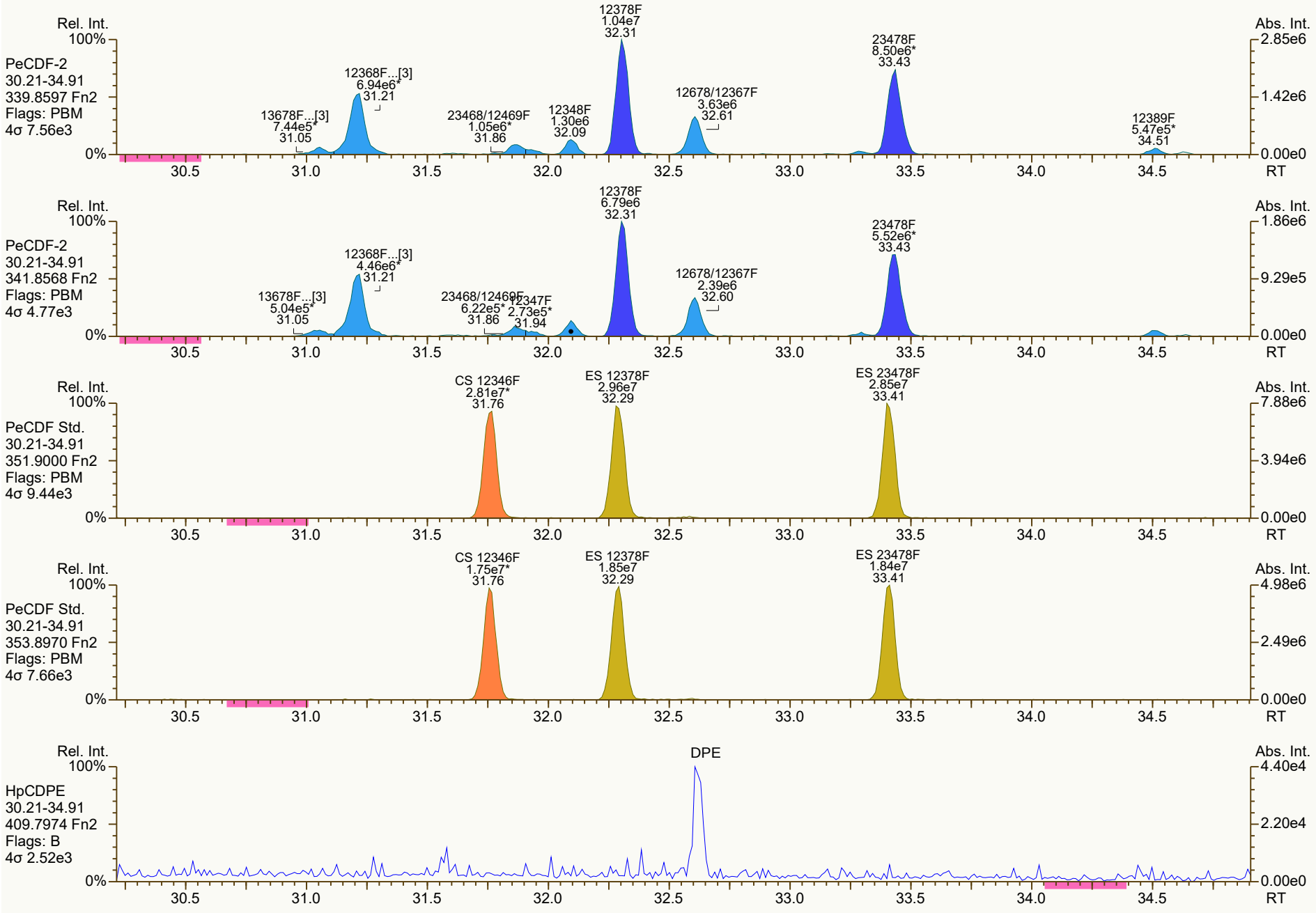

SGS ID: B6280_18913_DF_001
Sample ID: 11215131-020222-S-SB-NC-O-48
Acq: 15-Feb-2022 19:16:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 53
User: DTF Datafile: 220215C12
Rel. Int.
Abs. Int.
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 6.52e3
124679/124689D
9.34e6
35.94
123468D
8.46e5
36.60
123679/123689D
5.48e6
36.89
123469D
5.44e5*
37.03
123678D
1.76e6*
37.81
123789D
8.22e5*
38.10
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 5.32e3
124679/124689D
7.55e6
35.94
123468D
6.86e5
36.60
123679/123689D
4.32e6
36.89
123469D
4.24e5*
37.03
123678D
1.47e6*
37.80
123789D
6.80e5*
38.10
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 4.81e3
ES 123678D
1.56e7
37.79
ES 123478D
1.53e7
37.67
ES 123789D
1.74e7*
38.09
JS 123467D
9.83e6*
37.99
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 3.67e3
ES 123678D
1.22e7
37.79
ES 123478D
1.20e7
37.67
ES 123789D
1.34e7*
38.09
JS 123467D
7.51e6
37.99
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
2.80e6
1.40e6
0.00e0
2.22e6
1.11e6
5.31e6
2.66e6
3.91e6
1.95e6
3.10e7
1.55e7
Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\B6280_18913_DF_001.utp_res, saved 17-Feb-2022 16:52 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5396, 7394 scc: 267-493
Revised: 17-Feb-2022 15:52 (DTF) Printed: 17-Feb-2022 16:55 Page 4 of 12

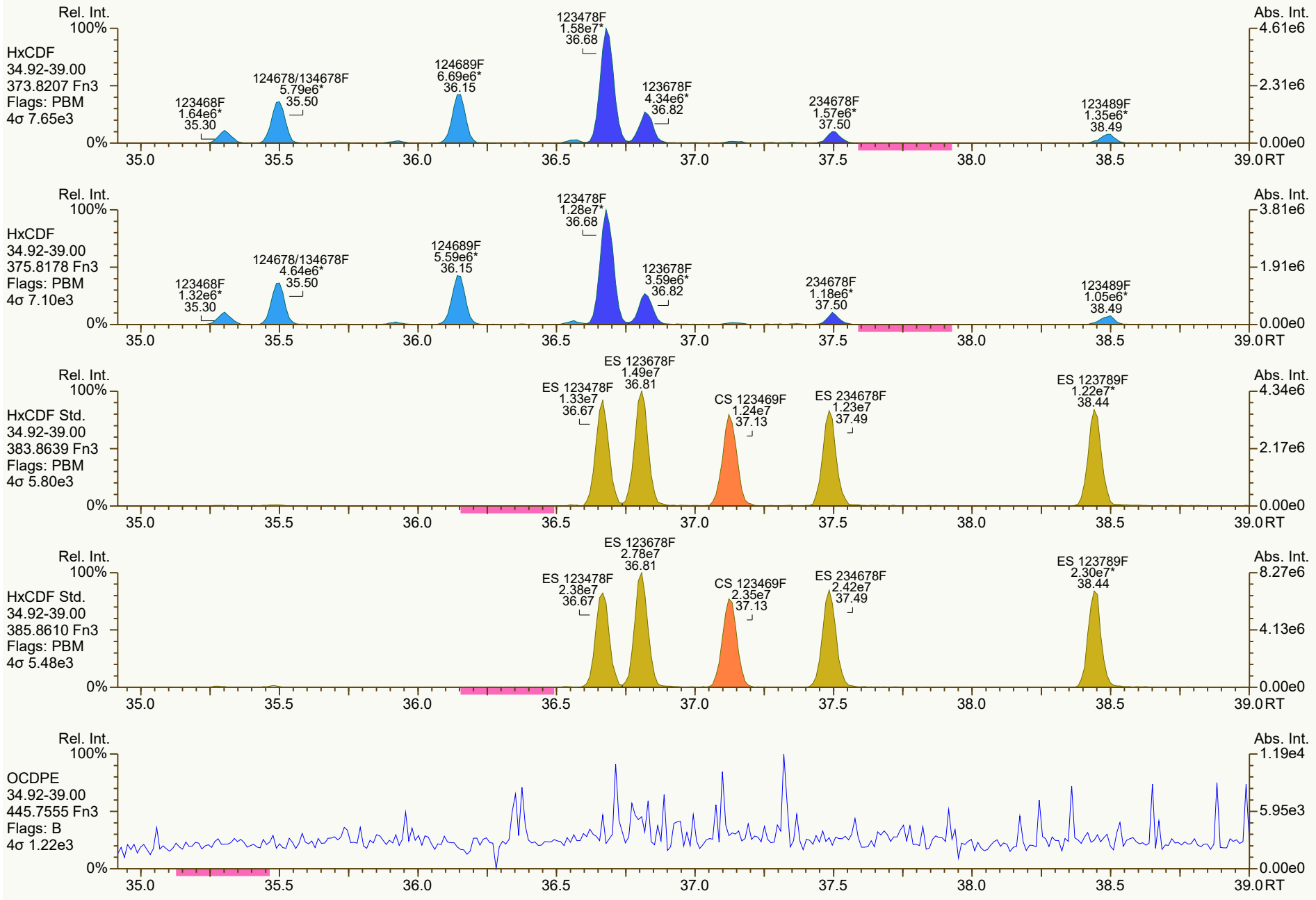

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 4.83e3
1234679D
5.39e7
40.12
1234678D
3.93e7*
40.80
Abs. Int.
1.74e7
8.70e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 3.30e3
1234679D
5.09e7
40.12
1234678D
3.78e7*
40.80
Abs. Int.
1.66e7
8.31e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 6.45e3
ES 1234678D
1.50e7*
40.79
Abs. Int.
4.44e6
2.22e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 7.02e3
ES 1234678D
1.34e7*
40.79
Abs. Int.
3.89e6
1.94e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
1.89e7
9.43e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

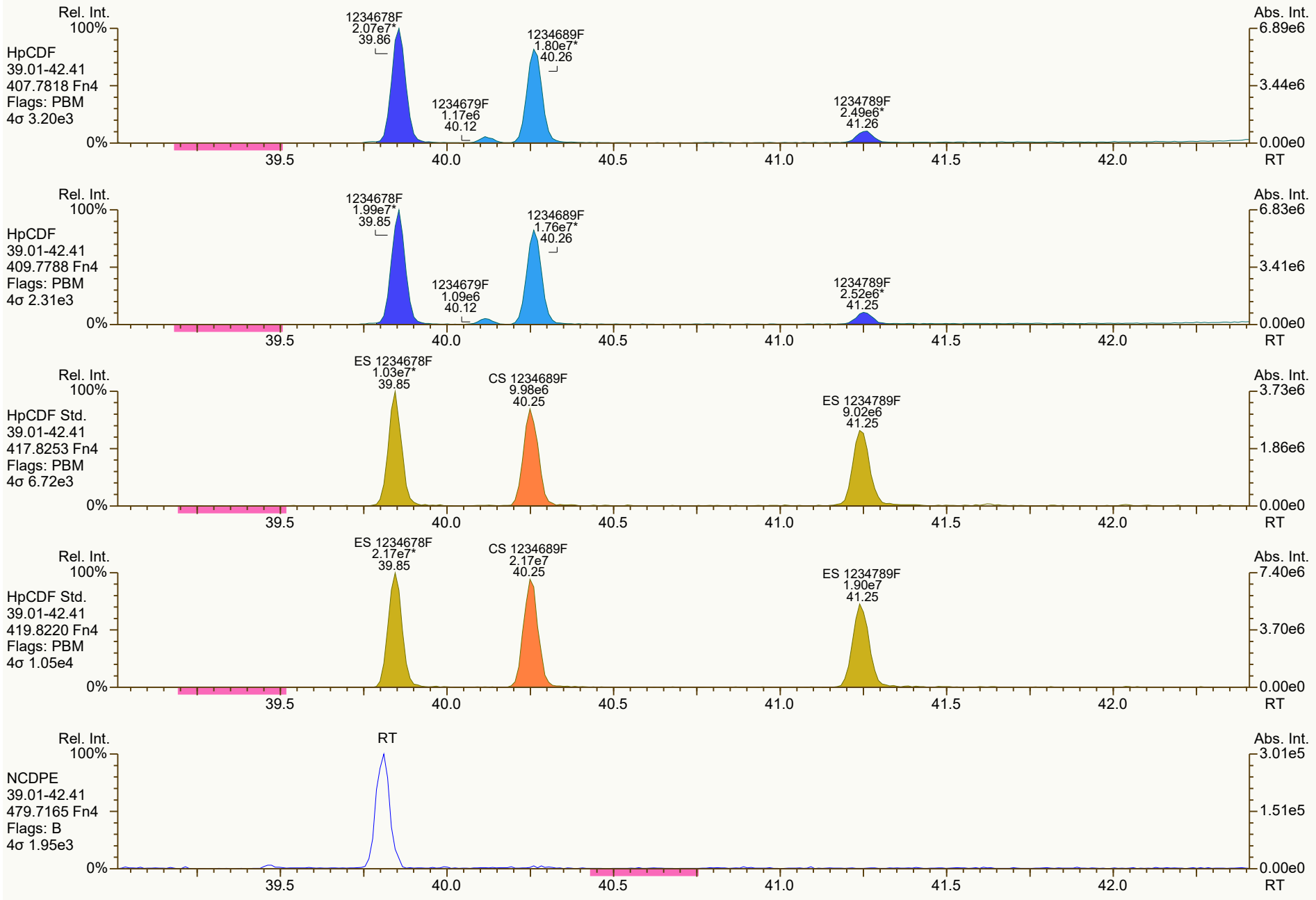

OCDD
4.49e8*
43.52
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 2.67e3
0%
Abs. Int.
9.31e7
4.65e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.94e8*
43.51
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 2.25e3
0%
Abs. Int.
1.02e8
5.10e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.86e7*
43.50
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 6.68e3
0%
Abs. Int.
3.81e6
1.90e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.99e7*
43.50
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 3.11e3
0%
Abs. Int.
4.00e6
2.00e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.74e7
8.69e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: B6280_18913_DF_001
Sample ID: 11215131-020222-S-SB-NC-O-48
Acq: 15-Feb-2022 19:16:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 53
User: DTF Datafile: 220215C12
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.86e3
2378F
2.31e8*
27.54
1278F
1.07e8*
26.63
2348F
1.57e7*
27.42
2367/3467F
1.91e7*
27.89
1289F
1.82e7*
29.55
5.37e7
2.68e7
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.61e3
2378F
2.94e8*
27.54
1278F
1.36e8*
26.63
2348F
2.03e7*
27.42
2367/3467F
2.45e7*
27.89
1289F
2.27e7*
29.55
6.73e7
3.36e7
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 9.49e3
JS 1234F
2.83e7
26.15
ES 2378F
2.25e7
27.52
6.08e6
3.04e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 8.80e3
JS 1234F
3.43e7
26.14
ES 2378F
2.76e7
27.51
7.33e6
3.66e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.69e3
not significant
4.46e4
2.23e4
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\B6280_18913_DF_001.utp_res, saved 17-Feb-2022 16:52 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8487, 0630, 2594 scc: 267-493
Revised: 17-Feb-2022 15:53 (DTF) Printed: 17-Feb-2022 16:55 Page 7 of 12

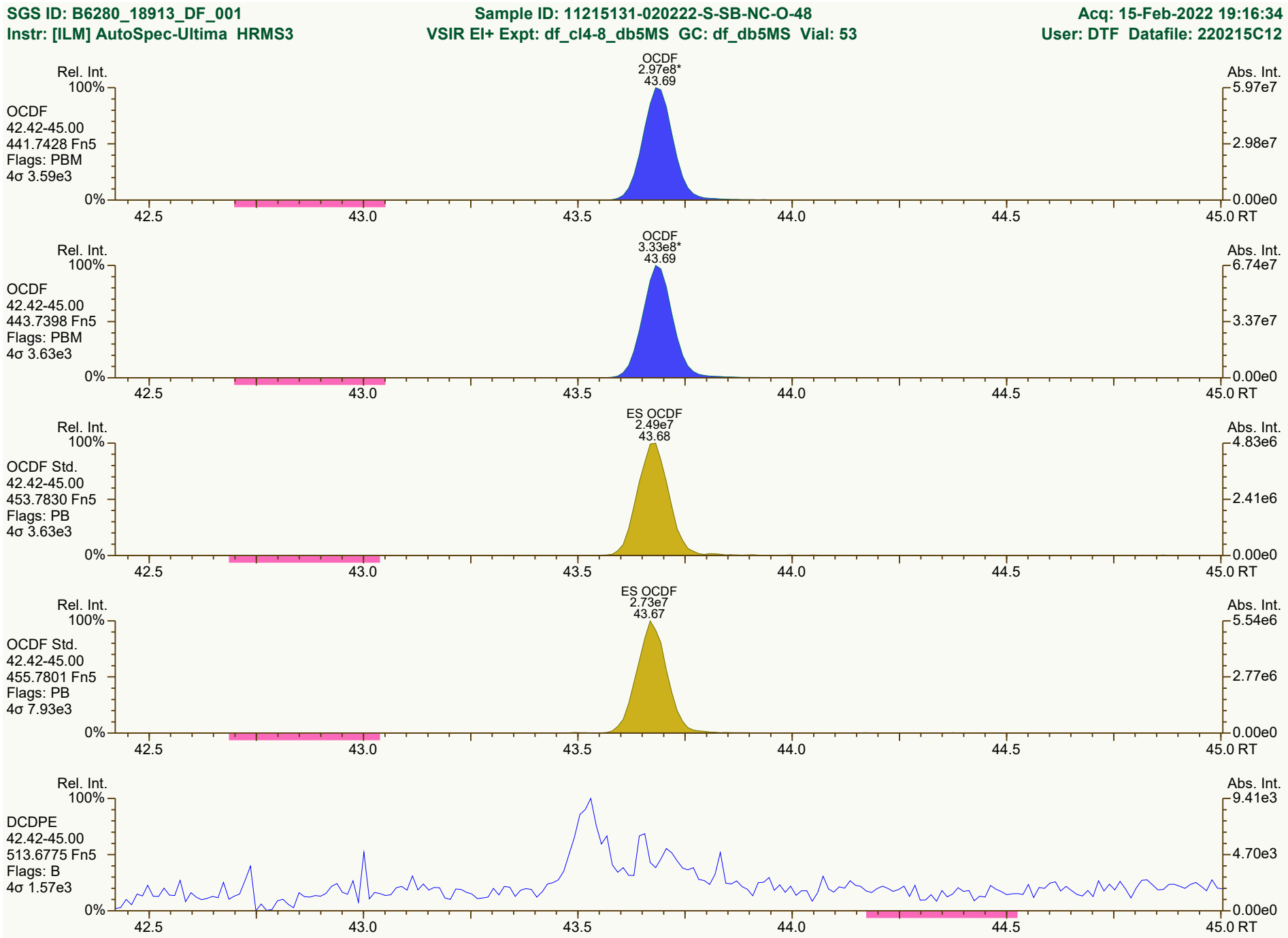

SGS ID: B6280_18913_DF_001
Sample ID: 11215131-020222-S-SB-NC-O-48
Acq: 15-Feb-2022 19:16:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 53
User: DTF Datafile: 220215C12
Rel. Int.
100%
0%
Abs. Int.
9.55e5
4.77e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
13468/12468F
3.60e6
29.50
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 9.35e2
13468/12468F
2.22e6
29.50
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 2.97e3
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
1.02e7
5.10e6
Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\B6280_18913_DF_001.utp_res, saved 17-Feb-2022 16:52 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2120 scc: 267-493
PKD: 17-Feb-2022 15:49 Printed: 17-Feb-2022 16:55 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PBM
4σ 7.56e3
0%
13678F...[3]
7.44e5*
31.05
12368F...[3]
6.94e6*
31.21
23468/12469F
1.05e6*
31.86
12348F
1.30e6
32.09
12378F
1.04e7
32.31
12678/12367F
3.63e6
32.61
23478F
8.50e6*
33.43
12389F
5.47e5*
34.51
Abs. Int.
2.85e6
1.42e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PBM
4σ 4.77e3
0%
13678F...[3]
5.04e5*
31.05
12368F...[3]
4.46e6*
31.21
23468/12469F
6.22e5*
31.86
12347F
2.73e5*
31.94
12378F
6.79e6
32.31
12678/12367F
2.39e6
32.60
23478F
5.52e6*
33.43
Abs. Int.
1.86e6
9.29e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PBM
4σ 9.44e3
0%
CS 12346F
2.81e7*
31.76
ES 12378F
2.96e7
32.29
ES 23478F
2.85e7
33.41
Abs. Int.
7.88e6
3.94e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PBM
4σ 7.66e3
0%
CS 12346F
1.75e7*
31.76
ES 12378F
1.85e7
32.29
ES 23478F
1.84e7
33.41
Abs. Int.
4.98e6
2.49e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 2.52e3
0%
DPE
Abs. Int.
4.40e4
2.20e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 7.65e3
123468F 1.64e6* 35.30
124678/134678F 5.79e6* 35.50
124689F 6.69e6* 36.15
123478F 1.58e7* 36.68
123678F 4.34e6* 36.82
234678F 1.57e6* 37.50
123489F 1.35e6* 38.49
Abs. Int.
4.61e6
2.31e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 7.10e3
123468F 1.32e6* 35.30
124678/134678F 4.64e6* 35.50
124689F 5.59e6* 36.15
123478F 1.28e7* 36.68
123678F 3.59e6* 36.82
234678F 1.18e6* 37.50
123489F 1.05e6* 38.49
3.81e6
1.91e6
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 5.80e3
ES 123478F 1.33e7 36.67
ES 123678F 1.49e7 36.81
CS 123469F 1.24e7 37.13
ES 234678F 1.23e7 37.49
ES 123789F 1.22e7* 38.44
4.34e6
2.17e6
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 5.48e3
ES 123478F 2.38e7 36.67
ES 123678F 2.78e7 36.81
CS 123469F 2.35e7 37.13
ES 234678F 2.42e7 37.49
ES 123789F 2.30e7* 38.44
8.27e6
4.13e6
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.22e3
1.19e4
5.95e3


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 3.20e3
1234678F
2.07e7*
39.86
1234679F
1.17e6
40.12
1234689F
1.80e7*
40.26
1234789F
2.49e6*
41.26
0%
Abs. Int.
6.89e6
3.44e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 2.31e3
1234678F
1.99e7*
39.85
1234679F
1.09e6
40.12
1234689F
1.76e7*
40.26
1234789F
2.52e6*
41.25
0%
Abs. Int.
6.83e6
3.41e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 6.72e3
ES 1234678F
1.03e7*
39.85
CS 1234689F
9.98e6
40.25
ES 1234789F
9.02e6
41.25
0%
Abs. Int.
3.73e6
1.86e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 1.05e4
ES 1234678F
2.17e7*
39.85
CS 1234689F
2.17e7
40.25
ES 1234789F
1.90e7
41.25
0%
Abs. Int.
7.40e6
3.70e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.95e3
RT
0%
Abs. Int.
3.01e5
1.51e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

SGS ID: B6280_18913_DF_001 | Sample ID: 11215131-020222-S-SB-NC-O-48 | Acq: 15-Feb-2022 19:16:34
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 53 | User: DTF Datafile: 220215C12



Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\B6280_18913_DF_001.utp_res, saved 17-Feb-2022 16:52 (DTF) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3757, 9555, 7555 scc: 267-493 | *Revised: 17-Feb-2022 15:55 (DTF) Printed: 17-Feb-2022 16:55 Page 12 of 12*

Lab ID: B6280_18913_DF_002 **Acq'd:** 15 Feb 2022 20:02 DTF **Wt/Vol:** 10.28 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020222-S-SB-NC-O-47 **UTP:** 17-Feb-2022 16:46:13 DTF **J-level:** 0.486 pg/g **Split:** 1 **Checkcode:** 714-564-VBZ

Datafile: 220215C13 **Report:** 17 Feb 2022 16:49 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.40		1.0008	1.0008	0	1.35E+06	0.82	Y	1.18	8.57	5595.12	0.385
12378-PeCDD	33.76	J	1.0006	1.0005	-0.2	1.83E+05	1.46	Y	1.04	1.29	4981.587	0.304
123478-HxCDD	37.69	J EMPC	1.0004	1.0005	+0.2	2.88E+05	1.50	N	1.09	2.32	5395.96	0.37
123678-HxCDD	37.81		1.0036	1.0035	-0.2	9.90E+05	1.20	Y	1.15	7.55	5395.96	0.379
123789-HxCDD	38.10		1.0115	1.0114	-0.2	6.48E+05	1.39	Y	1.05	4.85	5395.96	0.348
1234678-HpCDD	40.80		1.0003	1.0003	0	2.15E+07	1.02	Y	1.06	180	5684.602	0.399
OCDD	43.51		1.0003	1.0003	0	1.84E+08	0.90	Y	1.13	2,400	7146.201	1.25
2378-TCDF	27.53		1.0008	1.0007	-0.2	5.17E+06	0.81	Y	1.08	23.5	4331.268	0.214
12378-PeCDF	32.31		1.0005	1.0005	0	5.36E+05	1.77	Y	1.02	2.53	5268.582	0.237
23478-PeCDF	33.44	PR	1.0006	1.0008	+0.4	7.96E+05	1.48	Y	1.02	4	5268.582	0.241
123478-HxCDF	36.68		1.0004	1.0004	0	1.18E+06	1.37	Y	1.27	6.12	8135.444	0.353
123678-HxCDF	36.82		1.0004	1.0005	+0.2	6.74E+05	1.42	Y	1.15	3.26	8135.444	0.331
234678-HxCDF	37.50		1.0005	1.0005	0	5.76E+05	1.23	Y	1.19	3.21	8135.444	0.39
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	8135.444	0.373
1234678-HpCDF	39.86		1.0003	1.0003	0	5.49E+06	1.06	Y	1.37	31.4	5581.464	0.252
1234789-HpCDF	41.26		1.0003	1.0002	-0.2	4.24E+05	0.93	Y	1.31	2.96	5581.464	0.343
OCDF	43.68		1.0002	1.0002	0	1.16E+07	0.90	Y	1.07	115	4111.892	0.528

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.37	1.0239	1.0239	0	2.58E+07	0.83	Y	1.05	77.7
ES 12378-PeCDD	33.75	1.2174	1.2178	+0.8	2.67E+07	1.56	Y	0.88	95.3
ES 123478-HxCDD	37.67	0.9917	0.9918	+0.2	2.22E+07	1.26	Y	0.97	80.5
ES 123678-HxCDD	37.79	0.9948	0.9948	0	2.22E+07	1.26	Y	0.94	83
ES 123789-HxCDD	38.09	1.0027	1.0027	0	2.48E+07	1.18	Y	1.09	80.2
ES 1234678-HpCDD	40.79	1.0738	1.0738	0	2.20E+07	1.06	Y	0.91	85
ES OCDD	43.50	1.1449	1.1452	+0.8	2.65E+07	0.91	Y	0.62	74.9
ES 2378-TCDF	27.51	1.0523	1.0523	0	3.96E+07	0.81	Y	1.06	71.7
ES 12378-PeCDF	32.29	1.2346	1.2350	+0.8	4.02E+07	1.59	Y	0.91	84.8
ES 23478-PeCDF	33.41	1.2774	1.2778	+0.8	3.80E+07	1.60	Y	0.88	82.5
ES 123478-HxCDF	36.67	0.9651	0.9653	+0.4	2.95E+07	0.55	Y	1.20	86.7
ES 123678-HxCDF	36.81	0.9688	0.9690	+0.4	3.48E+07	0.55	Y	1.35	90.9
ES 234678-HxCDF	37.49	0.9867	0.9868	+0.2	2.93E+07	0.54	Y	1.24	83.2
ES 123789-HxCDF	38.45	1.0121	1.0122	+0.2	2.82E+07	0.53	Y	1.16	86.3
ES 1234678-HpCDF	39.85	1.0491	1.0490	-0.2	2.48E+07	0.46	Y	0.97	90.5
ES 1234789-HpCDF	41.25	1.0858	1.0858	0	2.13E+07	0.47	Y	0.85	88.4
ES OCDF	43.67	1.1495	1.1497	+0.5	3.63E+07	0.90	Y	0.81	79.4

Lab ID: B6280_18913_DF_002 **Acq'd:** 15 Feb 2022 20:02 DTF **Wt/Vol:** 10.28 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020222-S-SB-NC-O-47 **UTP:** 17-Feb-2022 16:46:13 DTF **J-level:** 0.486 pg/g **Split:** 1 **Checkcode:** 714-564-VBZ

Datafile: 220215C13 **Report:** 17 Feb 2022 16:49 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.71		-	-	-	3.18E+07	0.81	Y	-	-
JS 1234-TCDF	26.15		-	-	-	5.21E+07	0.82	Y	-	-
JS 123467-HxCDD	37.99		-	-	-	1.42E+07	1.35	Y	-	-
CS 37Cl-2378-TCDD	28.40		1.0247	1.0247	0	1.26E+07	n/a	-	1.20	82.6
CS 12347-PeCDD	33.24		1.1993	1.1996	+0.6	2.32E+07	1.59	Y	0.75	96.9
CS 12346-PeCDF	31.76		1.2144	1.2146	+0.4	3.98E+07	1.66	Y	0.85	89.8
CS 123469-HxCDF	37.13		0.9772	0.9773	+0.2	3.10E+07	0.56	Y	1.12	97.8
CS 1234689-HpCDF	40.25		1.0597	1.0597	0	2.59E+07	0.47	Y	0.89	103
~~SS 37Cl-2378-TCDD~~	~~28.40~~		~~1.0247~~	~~1.0247~~	~~0~~	~~1.26E+07~~	~~n/a~~		~~1.15~~	~~107~~
~~SS 12347-PeCDD~~	~~33.24~~		~~1.1993~~	~~1.1996~~	~~+0.6~~	~~2.32E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~102~~
~~SS 12346-PeCDF~~	~~31.76~~		~~1.2144~~	~~1.2146~~	~~+0.4~~	~~3.98E+07~~	~~1.66~~	~~Y~~	~~0.94~~	~~106~~
~~SS 123469-HxCDF~~	~~37.13~~		~~0.9772~~	~~0.9773~~	~~+0.2~~	~~3.10E+07~~	~~0.56~~	~~Y~~	~~0.83~~	~~107~~
~~SS 1234689-HpCDF~~	~~40.25~~		~~1.0597~~	~~1.0597~~	~~0~~	~~2.59E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~114~~

Totals	Conc	EMPC
Total TCDD	25.1	31.3
Total PeCDD	24.3	28.8
Total HxCDD	93.7	96
Total HpCDD	425	425
Total Tetra-Octa Dioxins	2970	2980
Total TCDF	78	81.1
Total PeCDF	44.2	44.4
Total HxCDF	50.7	51.4
Total HpCDF	84	84
Total Tetra-Octa Furans	372	376
Total Tetra-Octa Dioxins & Furans	3340	3360

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.812	0.82
Response	1.36E+06	1.35E+06

Lab ID: B6280_18913_DF_002 **Acq'd: 15 Feb 2022 20:02 DTF** **Wt/Vol: 10.28 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020222-S-SB-NC-O-47 **UTP: 17-Feb-2022 16:46:13 DTF** **J-level: 0.486 pg/g** **Split: 1** **Checkcode: 714-564-VBZ**

Datafile: 220215C13 **Report: 17 Feb 2022 16:49 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.74		0.8719	0.8720	+0.1	1.19E+06	0.83	Y	1.18	7.58	5595.12	0.385
1379-TCDD	25.09		0.8845	0.8844	-0.2	5.93E+05	0.84	Y	1.18	3.77	5595.12	0.385
1369-TCDD	25.53		0.8996	0.8996	0	1.89E+05	0.70	Y	1.18	1.2	5595.12	0.385
1469-TCDD	26.30	EMPC	0.9271	0.9270	-0.2	1.96E+05	0.90	N	1.18	1.25	5595.12	0.385
1247/1246/1248/1249-TCDD	26.55		0.9357	0.9357	0	3.54E+05	0.81	Y	1.18	2.25	5595.12	0.385
1378-TCDD	26.75	EMPC	0.9425	0.9428	+0.5	1.39E+05	0.95	N	1.18	0.884	5595.12	0.385
1268-TCDD	26.94		0.9494	0.9494	0	1.32E+05	0.70	Y	1.18	0.838	5595.12	0.385
1478-TCDD	NotFnd		0.9581						1.18		5595.12	0.385
1279-TCDD	27.37	EMPC	0.9640	0.9644	+0.7	1.29E+05	0.98	N	1.18	0.82	5595.12	0.385
1234/1269-TCDD	27.72		0.9765	0.9769	+0.7	1.44E+05	0.79	Y	1.18	0.915	5595.12	0.385
1236-TCDD	NotFnd		0.9816						1.18		5595.12	0.385
1237/1238-TCDD	28.10	EMPC	0.9906	0.9905	-0.2	3.36E+05	0.89	N	1.18	2.14	5595.12	0.385
1239-TCDD	NotFnd		0.9952						1.18		5595.12	0.385
2378-TCDD	**28.40**		**1.0008**	1.0008	**0**	1.35E+06	0.82	Y	**1.18**	**8.57**	**5595.12**	**0.385**
1278-TCDD	28.73	EMPC	1.0123	1.0125	+0.3	1.66E+05	0.91	N	1.18	1.06	5595.12	0.385
1267-TCDD	NotFnd		1.0170						1.18		5595.12	0.385
1289-TCDD	NotFnd		1.0351						1.18		5595.12	0.385
12479/12468-PeCDD	31.24		0.9261	0.9258	-0.6	1.34E+06	1.51	Y	1.04	9.45	4981.587	0.304
12469-PeCDD	31.79	EMPC	0.9420	0.9419	-0.2	3.85E+05	0.81	N	1.04	2.71	4981.587	0.304
12368-PeCDD	32.34		0.9584	0.9584	0	5.68E+05	1.53	Y	1.04	4	4981.587	0.304
12478-PeCDD	32.53	J EMPC	0.9641	0.9639	-0.4	2.64E+05	1.10	N	1.04	1.86	4981.587	0.304
12379-PeCDD	32.64		0.9670	0.9671	+0.2	3.75E+05	1.61	Y	1.04	2.64	4981.587	0.304
12369/12467/12489-PeCDD	32.89		0.9747	0.9747	0	4.57E+05	1.63	Y	1.04	3.22	4981.587	0.304
12346/12347-PeCDD	33.26	J	0.9857	0.9856	-0.2	3.21E+05	1.60	Y	1.04	2.26	4981.587	0.304
12378-PeCDD	33.76	J	**1.0006**	**1.0005**	**-0.2**	**1.83E+05**	**1.46**	**Y**	**1.04**	**1.29**	**4981.587**	**0.304**
12367-PeCDD	33.85	J	1.0034	1.0031	-0.6	9.46E+04	1.72	Y	1.04	0.666	4981.587	0.304
12389-PeCDD	34.21	J	1.0136	1.0137	+0.2	1.06E+05	1.45	Y	1.04	0.747	4981.587	0.304
124679/124689-HxCDD	35.95		0.9540	0.9542	+0.4	4.48E+06	1.24	Y	1.10	34.5	5395.96	0.365
123468-HxCDD	36.60		0.9714	0.9715	+0.2	1.62E+06	1.21	Y	1.10	12.5	5395.96	0.365
123679/123689-HxCDD	36.89		0.9792	0.9793	+0.2	3.79E+06	1.24	Y	1.10	29.2	5395.96	0.365
123469-HxCDD	37.03		0.9828	0.9829	+0.2	4.02E+05	1.31	Y	1.10	3.1	5395.96	0.365
123478-HxCDD	37.69	J EMPC	**1.0004**	**1.0005**	**+0.2**	**2.88E+05**	**1.50**	**N**	1.09	**2.32**	**5395.96**	**0.37**
123678-HxCDD	37.81		**1.0036**	**1.0035**	**-0.2**	**9.90E+05**	**1.20**	**Y**	1.15	**7.55**	**5395.96**	**0.379**
123467-HxCDD	38.00	J	1.0087	1.0087	0	2.67E+05	1.20	Y	1.10	2.05	5395.96	0.365
123789-HxCDD	38.10		**1.0115**	**1.0114**	**-0.2**	**6.48E+05**	**1.39**	**Y**	1.05	**4.85**	**5395.96**	**0.348**

Lab ID: B6280_18913_DF_002 **Acq'd: 15 Feb 2022 20:02 DTF** **Wt/Vol: 10.28 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020222-S-SB-NC-O-47 **UTP: 17-Feb-2022 16:46:13 DTF** **J-level: 0.486 pg/g** **Split: 1** **Checkcode: 714-564-VBZ**

Datafile: 220215C13 **Report: 17 Feb 2022 16:49 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

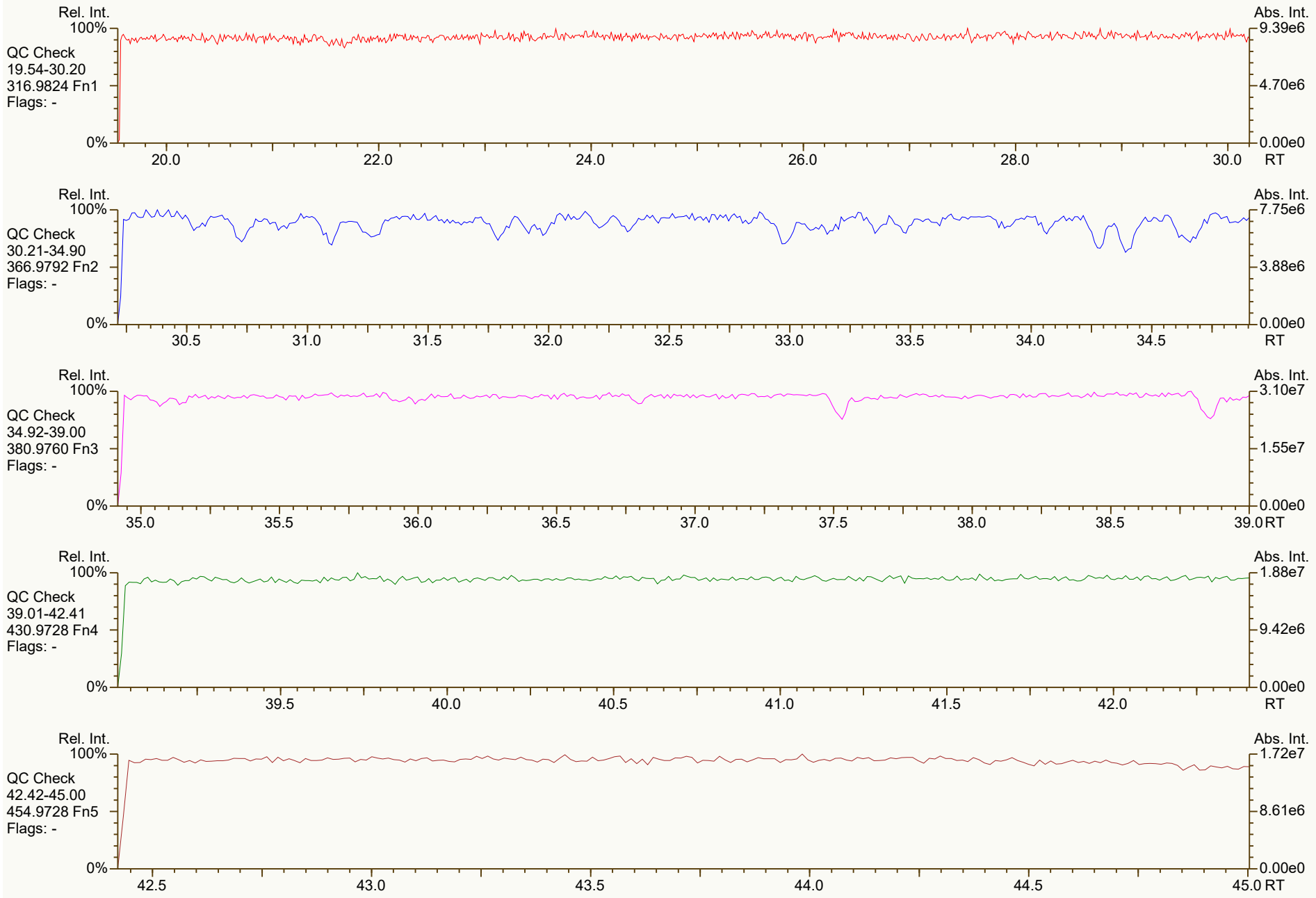
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.12		0.9836	0.9836	0	2.94E+07	1.03	Y	1.06	245	5684.602	0.399
1234678-HpCDD	**40.80**		**1.0003**	**1.0003**	**0**	**2.15E+07**	**1.02**	**Y**	**1.06**	**180**	**5684.602**	**0.399**
OCDD	**43.51**		**1.0003**	**1.0003**	**0**	**1.84E+08**	**0.90**	**Y**	**1.13**	**2,400**	**7146.201**	**1.25**
OCDD-a	43.51		1.0002	1.0001	-0.3	1.12E+07	2.50	Y	0.07	2,280	5962.471	16.4
1368-TCDF	22.62		0.8222	0.8222	0	2.75E+05	0.75	Y	1.08	1.25	4331.268	0.214
1468-TCDF	23.21		0.8434	0.8435	+0.1	4.56E+05	0.67	Y	1.08	2.08	4331.268	0.214
2468-TCDF	23.85		0.8666	0.8667	+0.1	7.47E+05	0.78	Y	1.08	3.4	4331.268	0.214
1346/1246-TCDF	NotFnd		0.8789						1.08		4331.268	0.214
1347/1378/1247-TCDF	24.33		0.8848	0.8841	-1.0	1.57E+06	0.78	Y	1.08	7.13	4331.268	0.214
1348-TCDF	24.63		0.8947	0.8952	+0.7	2.59E+05	0.82	Y	1.08	1.18	4331.268	0.214
1248/1367/1379-TCDF	24.74		0.8995	0.8990	-0.7	8.12E+05	0.71	Y	1.08	3.7	4331.268	0.214
1268-TCDF	25.13	EMPC	0.9131	0.9133	+0.3	5.10E+05	0.92	N	1.08	2.32	4331.268	0.214
1467-TCDF	25.27		0.9181	0.9184	+0.5	3.60E+05	0.82	Y	1.08	1.64	4331.268	0.214
1478-TCDF	25.44		0.9244	0.9246	+0.3	5.35E+05	0.80	Y	1.08	2.44	4331.268	0.214
1369/1237-TCDF	25.81	EMPC	0.9379	0.9379	0	1.67E+05	0.56	N	1.08	0.762	4331.268	0.214
2467-TCDF	25.93		0.9425	0.9425	0	5.74E+05	0.71	Y	1.08	2.61	4331.268	0.214
2368-TCDF	26.09		0.9483	0.9483	0	7.62E+05	0.77	Y	1.08	3.47	4331.268	0.214
1238/1234/1678/1469/1236-TCDF	26.18		0.9514	0.9514	0	9.26E+05	0.78	Y	1.08	4.21	4331.268	0.214
1278-TCDF	26.64		0.9681	0.9682	+0.2	1.42E+06	0.76	Y	1.08	6.49	4331.268	0.214
1349-TCDF	NotFnd		0.9722						1.08		4331.268	0.214
1267-TCDF	26.91		0.9780	0.9781	+0.2	4.71E+05	0.67	Y	1.08	2.15	4331.268	0.214
2346/1249-TCDF	27.09		0.9845	0.9846	+0.2	3.54E+05	0.87	Y	1.08	1.61	4331.268	0.214
2347/1279-TCDF	27.32		0.9927	0.9929	+0.3	4.24E+05	0.75	Y	1.08	1.93	4331.268	0.214
2348-TCDF	27.42		0.9970	0.9965	-0.8	2.76E+05	0.69	Y	1.08	1.26	4331.268	0.214
2378-TCDF	**27.53**		**1.0008**	**1.0007**	**-0.2**	**5.17E+06**	**0.81**	**Y**	**1.08**	**23.5**	**4331.268**	**0.214**
2367/3467-TCDF	27.90		1.0140	1.0139	-0.2	1.42E+06	0.84	Y	1.08	6.45	4331.268	0.214
1269-TCDF	NotFnd		1.0226						1.08		4331.268	0.214
1239-TCDF	NotFnd		1.0325						1.08		4331.268	0.214
1289-TCDF	29.54		1.0732	1.0735	+0.5	3.27E+05	0.83	Y	1.08	1.49	4331.268	0.214
13468/12468-PeCDF	29.49		0.9130	0.9132	+0.4	1.72E+06	1.48	Y	1.02	8.36	3249.188	0.147
13678/13467/12467-PeCDF	NotFnd		0.9610						1.02		5268.582	0.239
12368/13478/12478-PeCDF	31.15		0.9658	0.9648	-1.9	3.51E+06	1.50	Y	1.02	17.1	5268.582	0.239
14678-PeCDF	NotFnd		0.9688						1.02		5268.582	0.239
13479-PeCDF	NotFnd		0.9719						1.02		5268.582	0.239
13469/12479-PeCDF	31.61	J	0.9797	0.9790	-1.3	1.54E+05	1.67	Y	1.02	0.75	5268.582	0.239
12346-PeCDF	31.77	J	0.9841	0.9839	-0.4	1.49E+05	1.77	Y	1.02	0.727	5268.582	0.239

Lab ID: B6280_18913_DF_002 **Acq'd: 15 Feb 2022 20:02 DTF** **Wt/Vol: 10.28 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

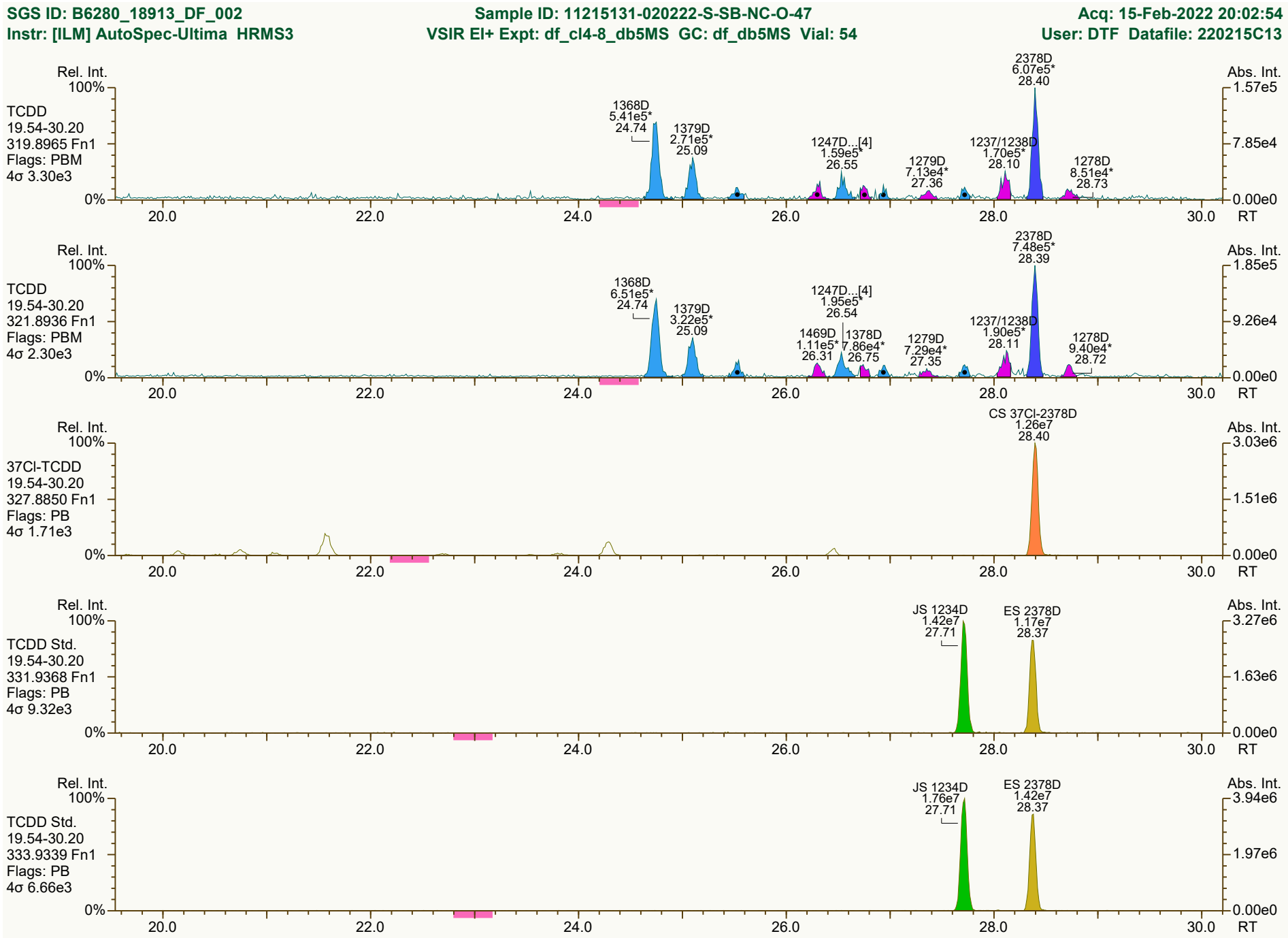
Client ID: 11215131-020222-S-SB-NC-O-47 **UTP: 17-Feb-2022 16:46:13 DTF** **J-level: 0.486 pg/g** **Split: 1** **Checkcode: 714-564-VBZ**

Datafile: 220215C13 **Report: 17 Feb 2022 16:49 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.86		0.9867	0.9868	+0.2	6.29E+05	1.59	Y	1.02	3.06	5268.582	0.239
12347-PeCDF	31.95	J	0.9892	0.9894	+0.4	1.97E+05	1.58	Y	1.02	0.959	5268.582	0.239
12348-PeCDF	32.09	J	0.9940	0.9939	-0.2	2.45E+05	1.32	Y	1.02	1.19	5268.582	0.239
12378-PeCDF	**32.31**		**1.0005**	**1.0005**	**0**	**5.36E+05**	**1.77**	**Y**	**1.02**	**2.53**	**5268.582**	**0.237**
12678/12367-PeCDF	32.60		1.0091	1.0095	+0.8	7.20E+05	1.51	Y	1.02	3.5	5268.582	0.239
12379-PeCDF	NotFnd		1.0144						1.02		5268.582	0.239
12679-PeCDF	NotFnd		0.9928						1.02		5268.582	0.239
23467/12369-PeCDF	33.30	J	0.9966	0.9968	+0.4	4.12E+05	1.53	Y	1.02	2.01	5268.582	0.239
23478-PeCDF	**33.44**	PR	**1.0006**	**1.0008**	**+0.4**	**7.96E+05**	**1.48**	**Y**	**1.02**	**4**	**5268.582**	**0.241**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5268.582	0.239
12349-PeCDF	NotFnd		1.0101						1.02		5268.582	0.239
12389-PeCDF	34.51	J EMPC	1.0327	1.0331	+0.8	5.24E+04	0.97	N	1.02	0.255	5268.582	0.239
123468-HxCDF	35.29		0.9624	0.9626	+0.4	8.80E+05	1.21	Y	1.19	4.7	8135.444	0.36
124678/134678-HxCDF	35.50		0.9679	0.9680	+0.2	3.20E+06	1.18	Y	1.19	17.1	8135.444	0.36
134679-HxCDF	NotFnd		0.9741						1.19		8135.444	0.36
124679-HxCDF	35.93	J	0.9796	0.9799	+0.6	1.72E+05	1.41	Y	1.19	0.922	8135.444	0.36
124689-HxCDF	36.14		0.9856	0.9857	+0.2	2.41E+06	1.17	Y	1.19	12.9	8135.444	0.36
123467-HxCDF	36.57	J	0.9972	0.9972	0	4.52E+05	1.14	Y	1.19	2.42	8135.444	0.36
123478-HxCDF	**36.68**		**1.0004**	**1.0004**	**0**	**1.18E+06**	**1.37**	**Y**	**1.27**	**6.12**	**8135.444**	**0.353**
123678-HxCDF	**36.82**		**1.0004**	**1.0005**	**+0.2**	**6.74E+05**	**1.42**	**Y**	**1.15**	**3.26**	**8135.444**	**0.331**
123479-HxCDF	NotFnd		1.0049						1.19		8135.444	0.36
123469-HxCDF	NotFnd		1.0090						1.19		8135.444	0.36
123679-HxCDF	NotFnd		0.9942						1.19		8135.444	0.36
234678-HxCDF	**37.50**		**1.0005**	**1.0005**	**0**	**5.76E+05**	**1.23**	**Y**	**1.19**	**3.21**	**8135.444**	**0.39**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		8135.444	0.36
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**8135.444**	**0.373**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.49	J EMPC	1.0007	1.0010	+0.7	1.34E+05	1.01	N	1.19	0.716	8135.444	0.36
1234678-HpCDF	**39.86**		**1.0003**	**1.0003**	**0**	**5.49E+06**	**1.06**	**Y**	**1.37**	**31.4**	**5581.464**	**0.252**
1234679-HpCDF	40.12	**J**	1.0069	1.0069	0	2.67E+05	0.95	Y	1.34	1.68	5581.464	0.293
1234689-HpCDF	40.26		1.0104	1.0104	0	7.61E+06	0.98	Y	1.34	47.9	5581.464	0.293
1234789-HpCDF	**41.26**		**1.0003**	**1.0002**	**-0.2**	**4.24E+05**	**0.93**	**Y**	**1.31**	**2.96**	**5581.464**	**0.343**
OCDF	**43.68**		**1.0002**	**1.0002**	**0**	**1.16E+07**	**0.90**	**Y**	**1.07**	**115**	**4111.892**	**0.528**
OCDF-a	43.68	**EMPC**	1.0002	1.0002	0	5.63E+05	4.43	N	0.07	90.8	5043.493	10.5

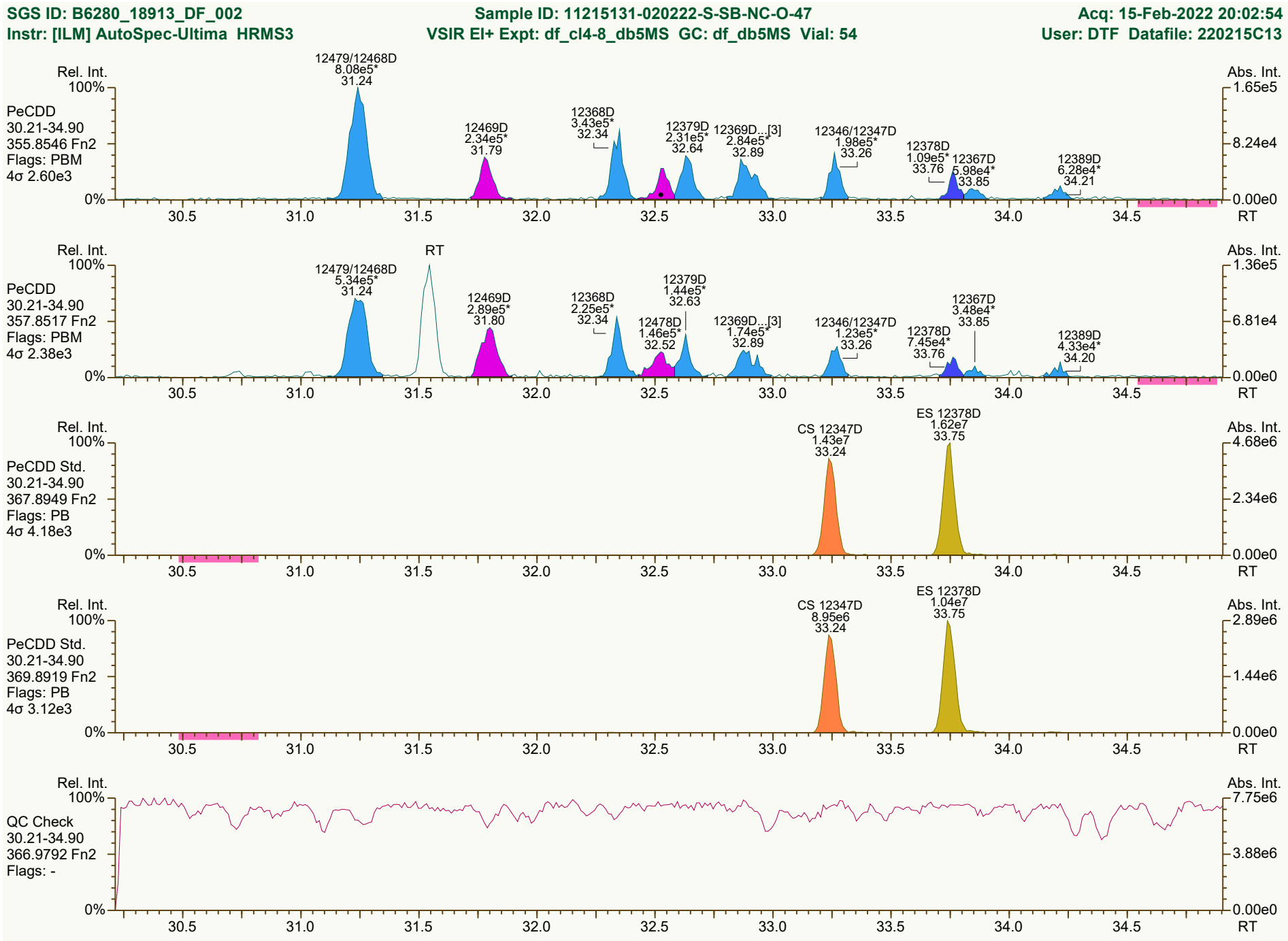

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
9.39e6
4.70e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
7.75e6
3.88e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
3.10e7
1.55e7
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.88e7
9.42e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.72e7
8.61e6
0.00e0

SGS ID: B6280_18913_DF_002 | Sample ID: 11215131-020222-S-SB-NC-O-47 | Acq: 15-Feb-2022 20:02:54
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 54 | User: DTF Datafile: 220215C13

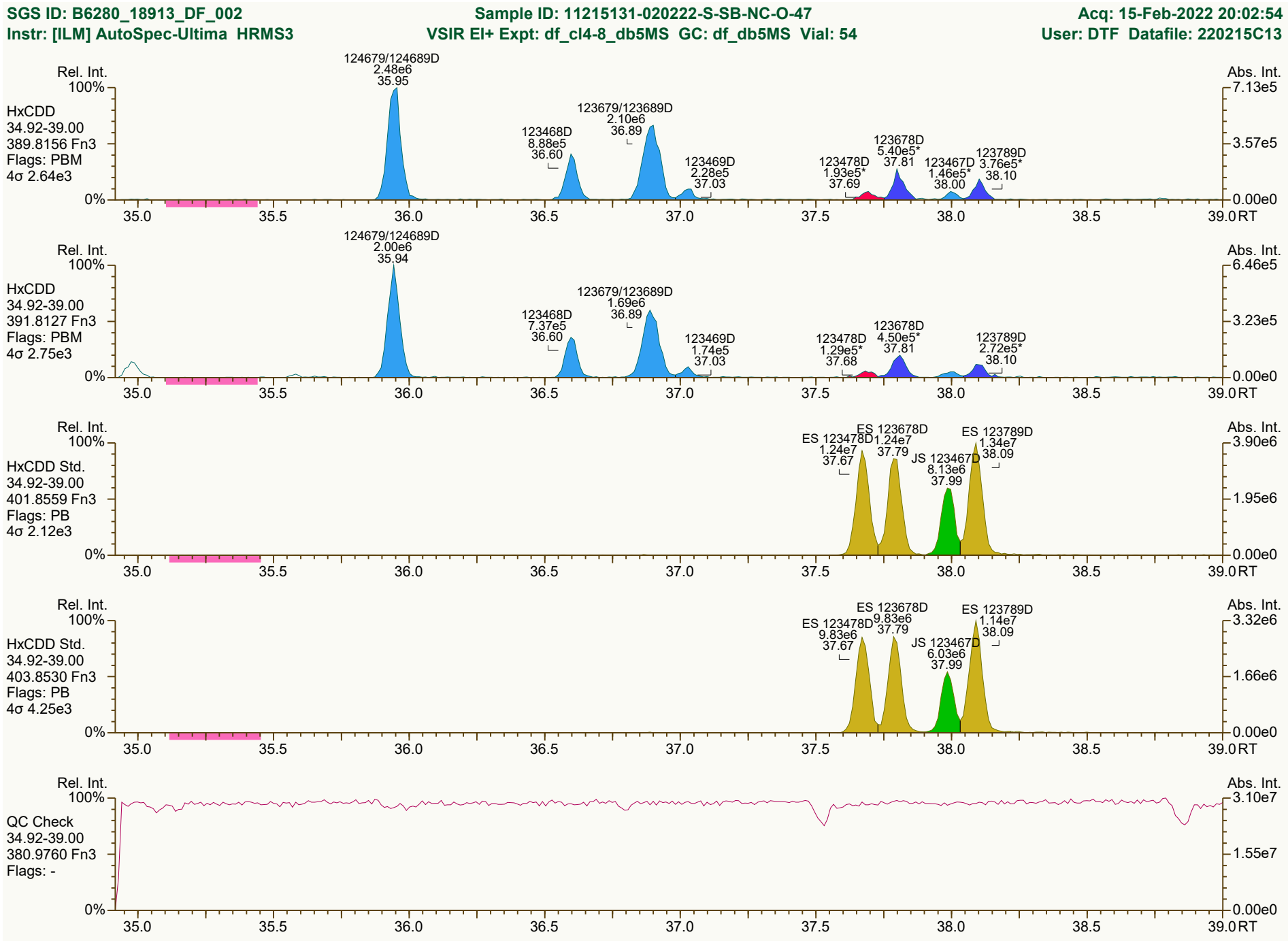


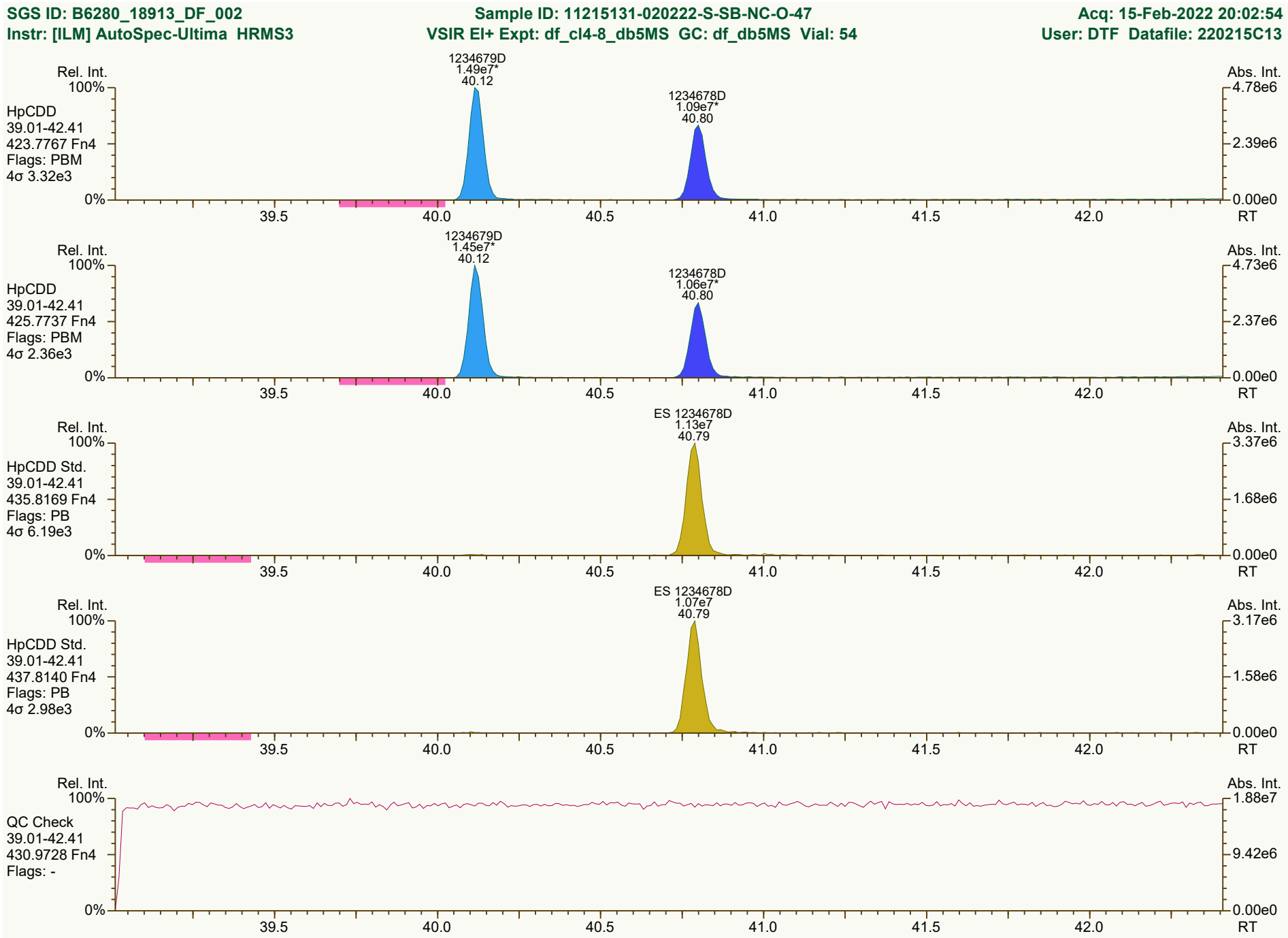
Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\B6280_18913_DF_002.utp_res, saved 17-Feb-2022 16:46 (DTF) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9735, 1487, 2876 scc: 714-564 | *PKD: 17-Feb-2022 16:39 Printed: 17-Feb-2022 16:56 Page 2 of 12*

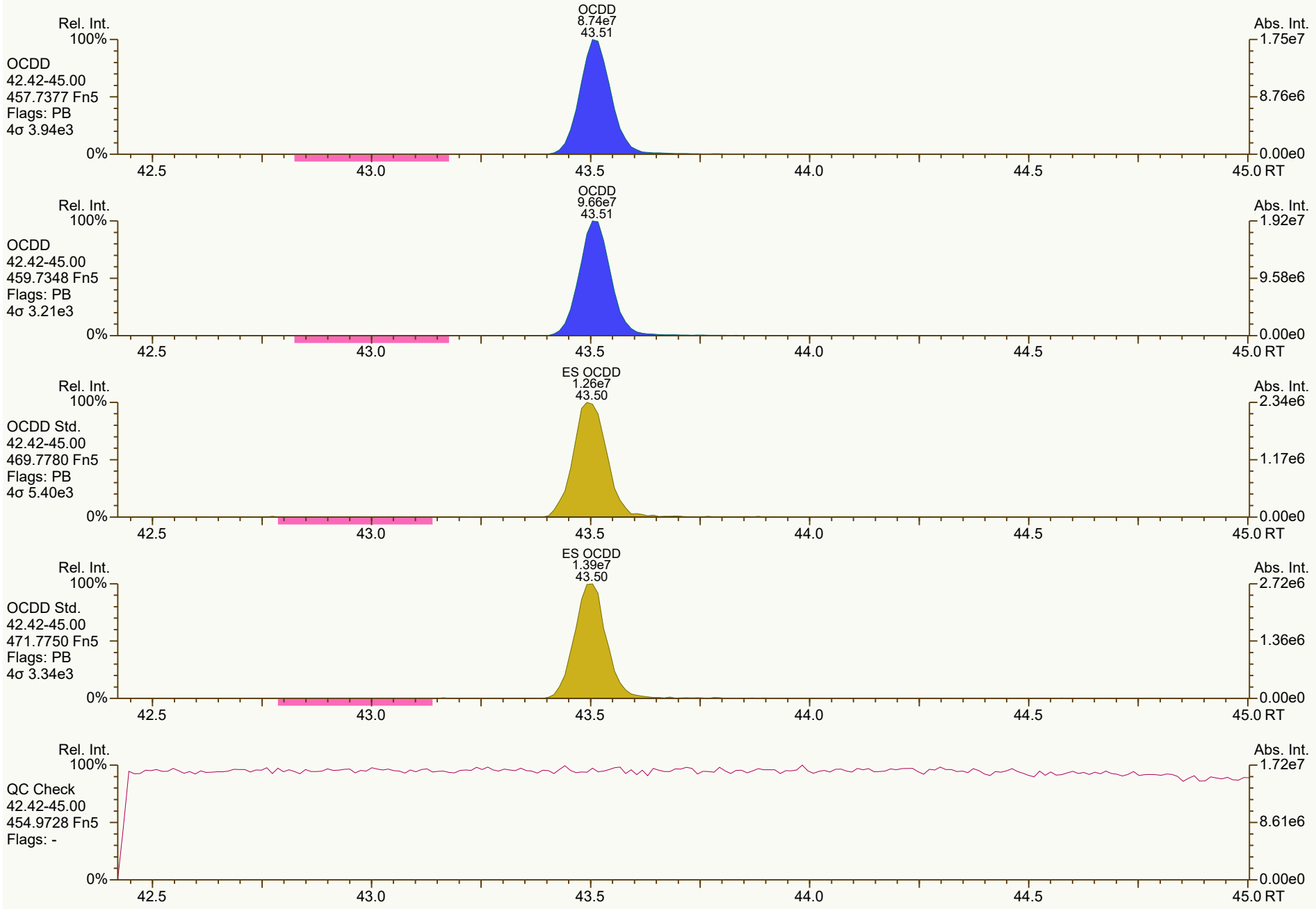
SGS ID: B6280_18913_DF_002 Sample ID: 11215131-020222-S-SB-NC-O-47 Acq: 15-Feb-2022 20:02:54
Instr: [ILM] AutoSpec-Ultima HRMS3 VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 54 User: DTF Datafile: 220215C13

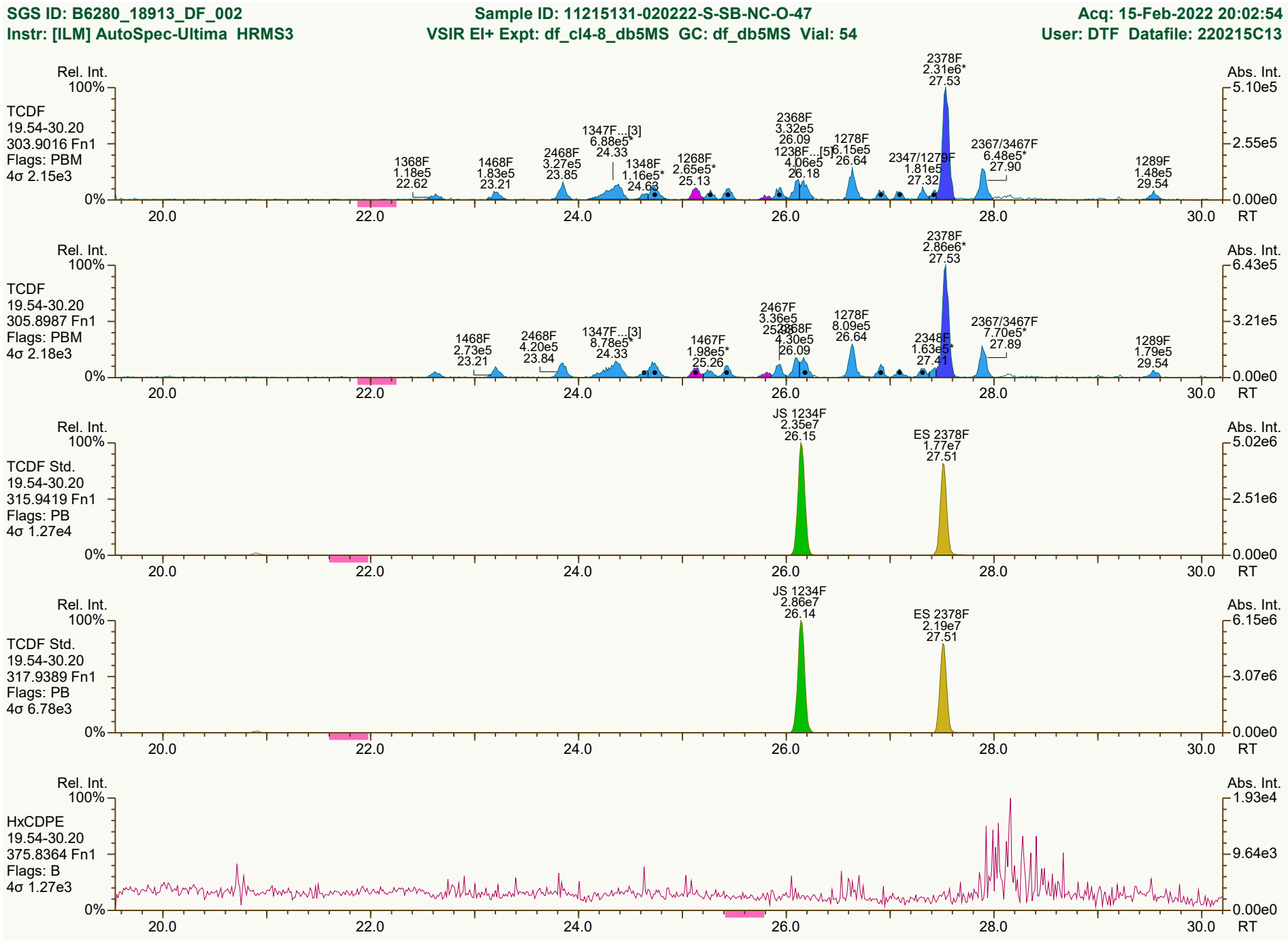


Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\B6280_18913_DF_002.utp_res, saved 17-Feb-2022 16:46 (DTF) Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9225, 9319 scc: 714-564 Revised: 17-Feb-2022 16:34 (DTF) Printed: 17-Feb-2022 16:56 Page 3 of 12

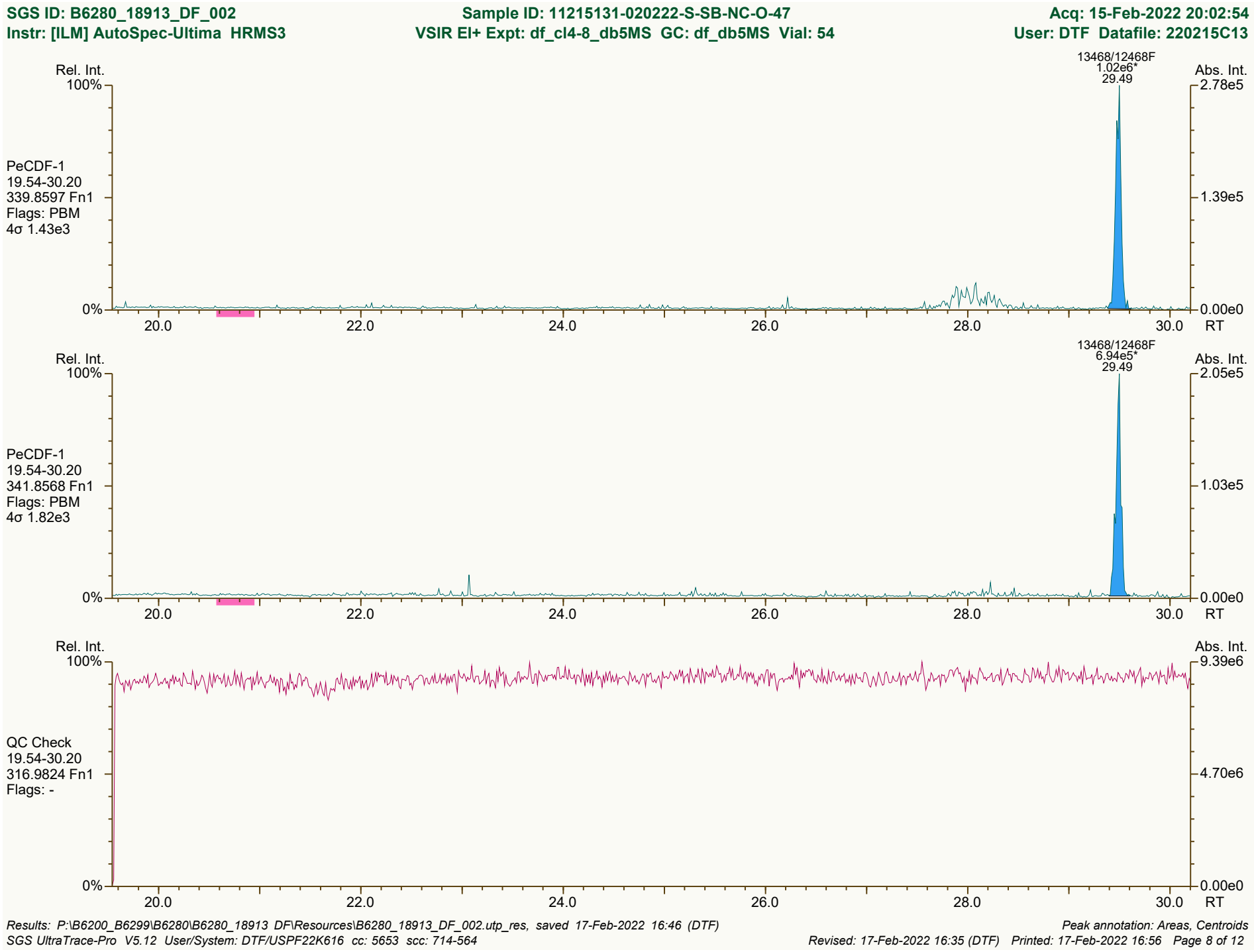

SGS ID: B6280_18913_DF_002
Sample ID: 11215131-020222-S-SB-NC-O-47
Acq: 15-Feb-2022 20:02:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 54
User: DTF Datafile: 220215C13
Rel. Int.
Abs. Int.
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 2.64e3
124679/124689D
2.48e6
35.95
123679/123689D
2.10e6
36.89
123468D
8.88e5
36.60
123469D
2.28e5
37.03
123478D
1.93e5*
37.69
123678D
5.40e5*
37.81
123467D
1.46e5*
38.00
123789D
3.76e5*
38.10
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 2.75e3
124679/124689D
2.00e6
35.94
123679/123689D
1.69e6
36.89
123468D
7.37e5
36.60
123469D
1.74e5
37.03
123478D
1.29e5*
37.68
123678D
4.50e5*
37.81
123789D
2.72e5*
38.10
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 2.12e3
ES 123478D
1.24e7
37.67
ES 123678D
1.24e7
37.79
JS 123467D
8.13e6
37.99
ES 123789D
1.34e7
38.09
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 4.25e3
ES 123478D
9.83e6
37.67
ES 123678D
9.83e6
37.79
JS 123467D
6.03e6
37.99
ES 123789D
1.14e7
38.09
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
7.13e5
3.57e5
0.00e0
6.46e5
3.23e5
3.90e6
1.95e6
3.32e6
1.66e6
3.10e7
1.55e7


SGS ID: B6280_18913_DF_002
Sample ID: 11215131-020222-S-SB-NC-O-47
Acq: 15-Feb-2022 20:02:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 54
User: DTF Datafile: 220215C13
Rel. Int.
Abs. Int.
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 3.32e3
1234679D
1.49e7*
40.12
1234678D
1.09e7*
40.80
4.78e6
2.39e6
0.00e0
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 2.36e3
1234679D
1.45e7*
40.12
1234678D
1.06e7*
40.80
4.73e6
2.37e6
0.00e0
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 6.19e3
ES 1234678D
1.13e7
40.79
3.37e6
1.68e6
0.00e0
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 2.98e3
ES 1234678D
1.07e7
40.79
3.17e6
1.58e6
0.00e0
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
1.88e7
9.42e6
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\B6280_18913_DF_002.utp_res, saved 17-Feb-2022 16:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8403, 4398 scc: 714-564
Revised: 17-Feb-2022 16:34 (DTF) Printed: 17-Feb-2022 16:56 Page 5 of 12

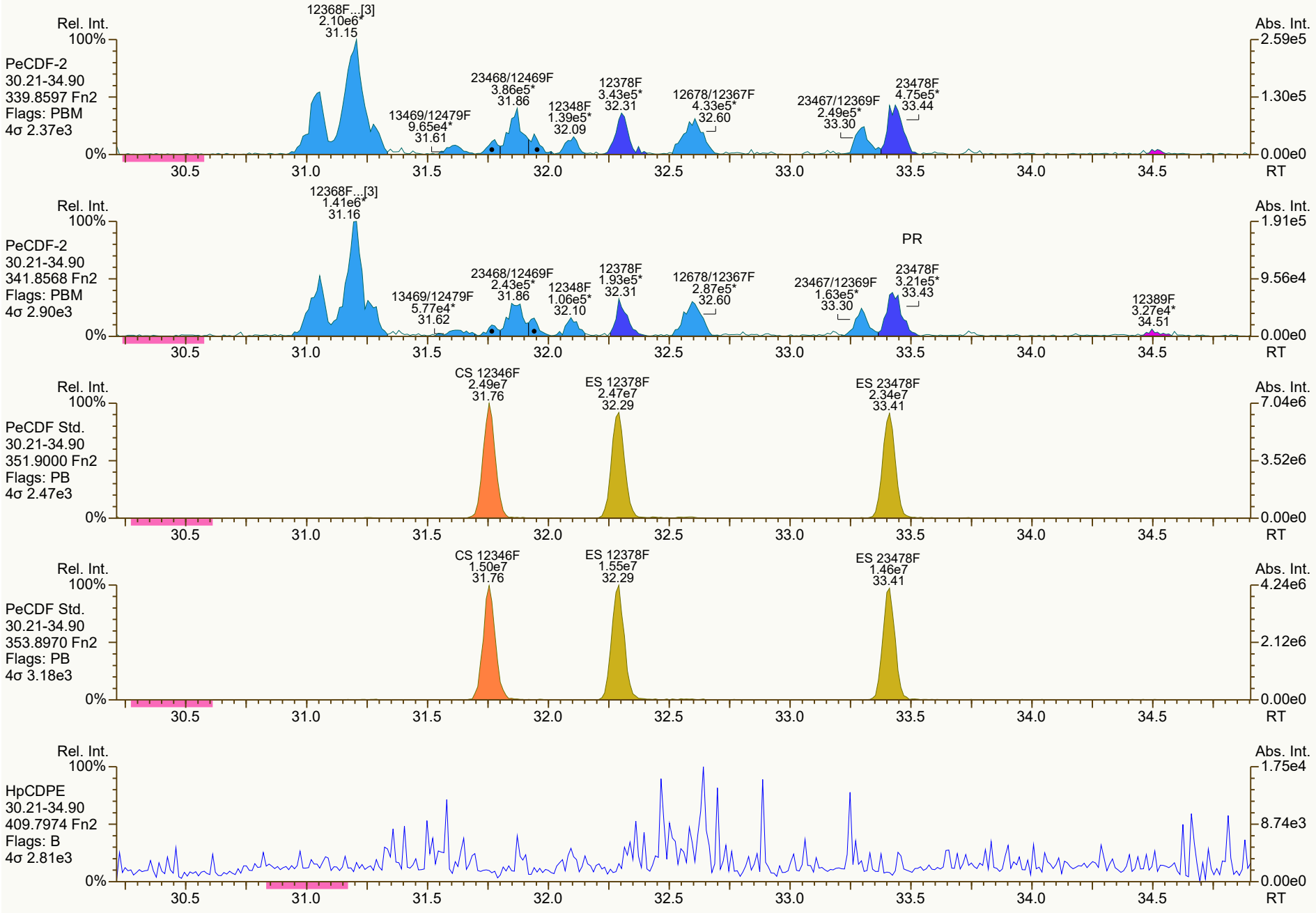

Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 3.94e3
0%
OCDD
8.74e7
43.51
Abs. Int.
1.75e7
8.76e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 3.21e3
0%
OCDD
9.66e7
43.51
Abs. Int.
1.92e7
9.58e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 5.40e3
0%
ES OCDD
1.26e7
43.50
Abs. Int.
2.34e6
1.17e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 3.34e3
0%
ES OCDD
1.39e7
43.50
Abs. Int.
2.72e6
1.36e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.72e7
8.61e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: B6280_18913_DF_002
Sample ID: 11215131-020222-S-SB-NC-O-47
Acq: 15-Feb-2022 20:02:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 54
User: DTF Datafile: 220215C13
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 2.15e3
2378F 2.31e6* 27.53
1368F 1.18e5 22.62
1468F 1.83e5 23.21
2468F 3.27e5 23.85
1347F...[3] 6.88e5* 24.33
1348F 1.16e5* 24.63
1268F 2.65e5* 25.13
2368F 3.32e5 26.09
1238F...[5] 4.06e5 26.18
1278F 6.15e5 26.64
2347/1279F 1.81e5 27.32
2367/3467F 6.48e5* 27.90
1289F 1.48e5 29.54
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.18e3
2378F 2.86e6* 27.53
1468F 2.73e5 23.21
2468F 4.20e5 23.84
1347F...[3] 8.78e5* 24.33
1467F 1.98e5* 25.26
2467F 3.36e5
2368F 4.30e5 26.09
1278F 8.09e5 26.64
2348F 1.63e5* 27.41
2367/3467F 7.70e5* 27.89
1289F 1.79e5 29.54
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 1.27e4
JS 1234F 2.35e7 26.15
ES 2378F 1.77e7 27.51
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 6.78e3
JS 1234F 2.86e7 26.14
ES 2378F 2.19e7 27.51
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.27e3
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
5.10e5
2.55e5
0.00e0
6.43e5
3.21e5
5.02e6
2.51e6
6.15e6
3.07e6
1.93e4
9.64e3
Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\B6280_18913_DF_002.utp_res, saved 17-Feb-2022 16:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1083, 2379, 5381 scc: 714-564
PKD: 17-Feb-2022 16:39 Printed: 17-Feb-2022 16:56 Page 7 of 12

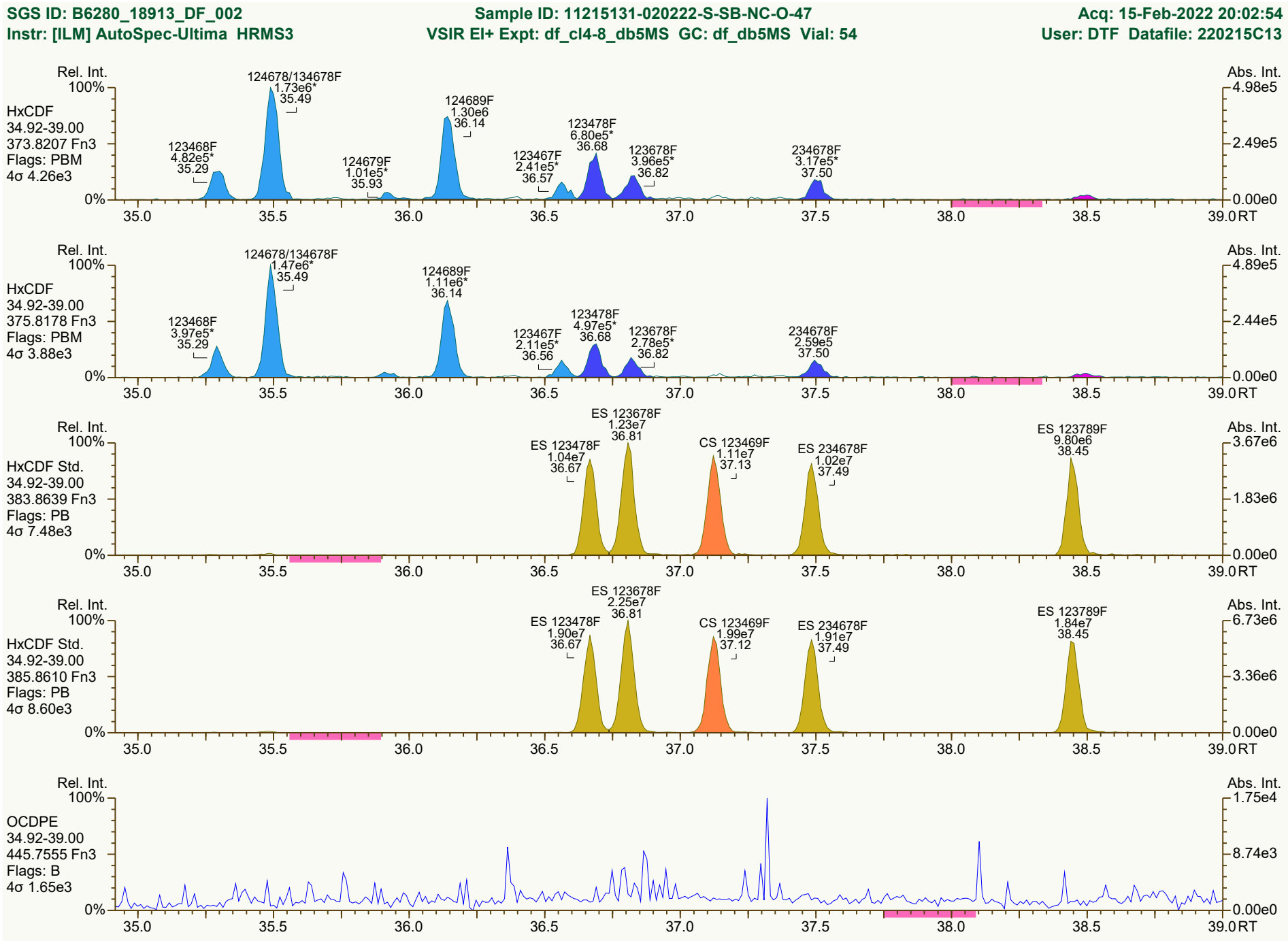
SGS ID: B6280_18913_DF_002 | Sample ID: 11215131-020222-S-SB-NC-O-47 | Acq: 15-Feb-2022 20:02:54
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 54 | User: DTF Datafile: 220215C13



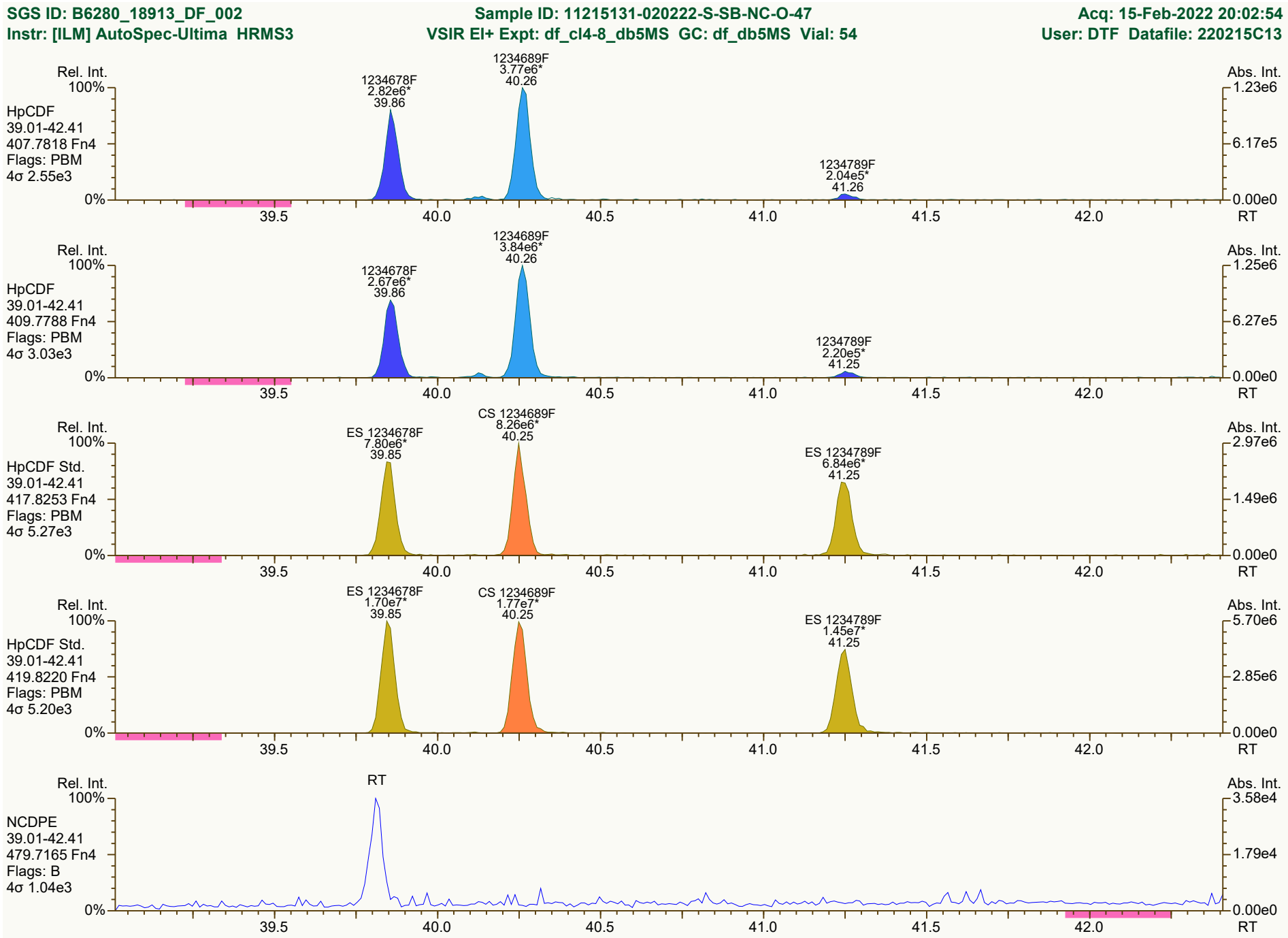
Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\B6280_18913_DF_002.utp_res, saved 17-Feb-2022 16:46 (DTF) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5653 scc: 714-564 | *Revised: 17-Feb-2022 16:35 (DTF) Printed: 17-Feb-2022 16:56 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 2.37e3
0%
12368F...[3]
2.10e6*
31.15
13469/12479F
9.65e4*
31.61
23468/12469F
3.86e5*
31.86
12348F
1.39e5*
32.09
12378F
3.43e5*
32.31
12678/12367F
4.33e5*
32.60
23467/12369F
2.49e5*
33.30
23478F
4.75e5*
33.44
Abs. Int.
2.59e5
1.30e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 2.90e3
0%
12368F...[3]
1.41e6*
31.16
13469/12479F
5.77e4*
31.62
23468/12469F
2.43e5*
31.86
12348F
1.06e5*
32.10
12378F
1.93e5*
32.31
12678/12367F
2.87e5*
32.60
PR
23467/12369F
1.63e5*
33.30
23478F
3.21e5*
33.43
12389F
3.27e4*
34.51
Abs. Int.
1.91e5
9.56e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 2.47e3
0%
CS 12346F
2.49e7
31.76
ES 12378F
2.47e7
32.29
ES 23478F
2.34e7
33.41
Abs. Int.
7.04e6
3.52e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 3.18e3
0%
CS 12346F
1.50e7
31.76
ES 12378F
1.55e7
32.29
ES 23478F
1.46e7
33.41
Abs. Int.
4.24e6
2.12e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 2.81e3
0%
Abs. Int.
1.75e4
8.74e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

SGS ID: B6280_18913_DF_002 | Sample ID: 11215131-020222-S-SB-NC-O-47 | Acq: 15-Feb-2022 20:02:54
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 54 | User: DTF Datafile: 220215C13



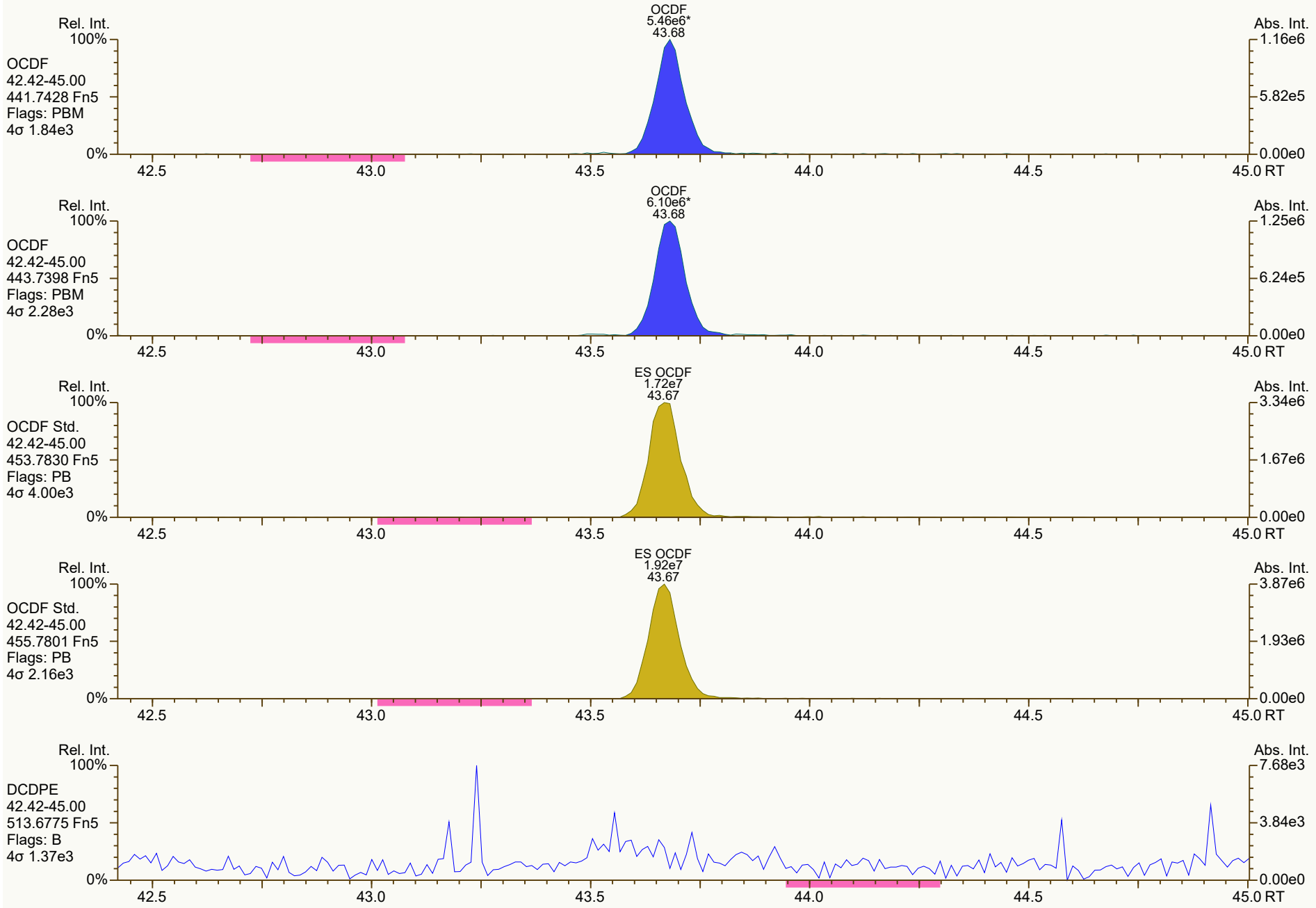
Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\B6280_18913_DF_002.utp_res, saved 17-Feb-2022 16:46 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4415, 5029, 4777 scc: 714-564 | Revised: 17-Feb-2022 16:38 (DTF) Printed: 17-Feb-2022 16:56 Page 10 of 12



Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\B6280_18913_DF_002.utp_res, saved 17-Feb-2022 16:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7983, 3325, 7533 scc: 714-564
Revised: 17-Feb-2022 16:38 (DTF) Printed: 17-Feb-2022 16:56 Page 11 of 12

SGS ID: B6280_18913_DF_002 | Sample ID: 11215131-020222-S-SB-NC-O-47 | Acq: 15-Feb-2022 20:02:54

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 54 | User: DTF Datafile: 220215C13



Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\B6280_18913_DF_002.utp_res, saved 17-Feb-2022 16:46 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1948, 2644, 1969 scc: 714-564 | *Revised: 17-Feb-2022 16:39 (DTF) Printed: 17-Feb-2022 16:56 Page 12 of 12*

Lab ID: B6280_18913_DF_003 **Acq'd:** 15 Feb 2022 20:49 DTF **Wt/Vol:** 10.21 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020222-S-SB-NC-O-45 **UTP:** 17-Feb-2022 16:46:14 DTF **J-level:** 0.49 pg/g **Split:** 1 **Checkcode:** 745-975-QYW

Datafile: 220215C14 **Report:** 17 Feb 2022 16:49 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.38	E	1.0008	1.0008	0	3.12E+08	0.80	Y	1.18	2,430	6319.546	0.49
12378-PeCDD	33.75		1.0006	1.0005	-0.2	2.57E+06	1.51	Y	1.04	23.8	3763.527	0.315
123478-HxCDD	37.67	J EMPC	1.0004	1.0004	0	1.60E+05	1.82	N	1.09	1.64	6263.866	0.568
123678-HxCDD	37.78		1.0036	1.0035	-0.2	6.04E+05	1.24	Y	1.15	5.59	6263.866	0.493
123789-HxCDD	38.08	EMPC	1.0115	1.0115	0	3.13E+05	0.99	N	1.05	2.98	6263.866	0.477
1234678-HpCDD	40.78		1.0003	1.0004	+0.2	1.76E+07	1.01	Y	1.06	193	4102.86	0.391
OCDD	43.49		1.0003	1.0003	0	2.69E+08	0.91	Y	1.13	4,290	4801.32	0.941
2378-TCDF	27.52	E	1.0008	1.0008	0	1.16E+09	0.78	Y	1.08	6,300	4454.879	0.262
12378-PeCDF	32.29		1.0005	1.0006	+0.2	6.91E+07	1.53	Y	1.02	391	7222.361	0.393
23478-PeCDF	33.42		1.0006	1.0007	+0.2	4.07E+07	1.53	Y	1.02	248	7222.361	0.383
123478-HxCDF	36.66		1.0004	1.0005	+0.2	1.14E+08	1.24	Y	1.27	736	12935.238	0.699
123678-HxCDF	36.80		1.0004	1.0004	0	3.12E+07	1.24	Y	1.15	178	12935.238	0.578
234678-HxCDF	37.48		1.0005	1.0004	-0.2	5.57E+06	1.27	Y	1.19	36.5	12935.238	0.731
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	12935.238	0.81
1234678-HpCDF	39.84		1.0003	1.0003	0	3.31E+07	1.02	Y	1.37	228	5608.897	0.276
1234789-HpCDF	41.24		1.0003	1.0003	0	9.88E+06	1.08	Y	1.31	91.3	5608.897	0.437
OCDF	43.66		1.0002	1.0002	0	1.29E+07	0.91	Y	1.07	163	4613.919	0.737

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.35	1.0239	1.0239	0	2.12E+07	0.82	Y	1.05	75.2
ES 12378-PeCDD	33.73	1.2174	1.2180	+1.2	2.04E+07	1.58	Y	0.88	86.1
ES 123478-HxCDD	37.65	0.9917	0.9917	0	1.75E+07	1.32	Y	0.97	71.8
ES 123678-HxCDD	37.77	0.9948	0.9948	0	1.84E+07	1.22	Y	0.94	77.8
ES 123789-HxCDD	38.07	1.0027	1.0026	-0.2	1.96E+07	1.29	Y	1.09	71.7
ES 1234678-HpCDD	40.77	1.0738	1.0737	-0.2	1.68E+07	1.06	Y	0.91	73.3
ES OCDD	43.47	1.1449	1.1450	+0.3	2.18E+07	0.93	Y	0.62	69.6
ES 2378-TCDF	27.50	1.0523	1.0526	+0.5	3.34E+07	0.83	Y	1.06	70.2
ES 12378-PeCDF	32.28	1.2346	1.2356	+1.9	3.38E+07	1.56	Y	0.91	82.6
ES 23478-PeCDF	33.40	1.2774	1.2785	+2.2	3.16E+07	1.56	Y	0.88	79.6
ES 123478-HxCDF	36.65	0.9651	0.9652	+0.2	2.38E+07	0.53	Y	1.20	79.2
ES 123678-HxCDF	36.79	0.9688	0.9689	+0.2	2.99E+07	0.56	Y	1.35	88
ES 234678-HxCDF	37.46	0.9867	0.9867	0	2.51E+07	0.53	Y	1.24	80.6
ES 123789-HxCDF	38.43	1.0121	1.0121	0	2.20E+07	0.54	Y	1.16	75.9
ES 1234678-HpCDF	39.83	1.0491	1.0490	-0.2	2.07E+07	0.46	Y	0.97	85.3
ES 1234789-HpCDF	41.23	1.0858	1.0858	0	1.62E+07	0.46	Y	0.85	75.9
ES OCDF	43.65	1.1495	1.1497	+0.5	2.88E+07	0.89	Y	0.81	71

Lab ID: B6280_18913_DF_003 **Acq'd:** 15 Feb 2022 20:49 DTF **Wt/Vol:** 10.21 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020222-S-SB-NC-O-45 **UTP:** 17-Feb-2022 16:46:14 DTF **J-level:** 0.49 pg/g **Split:** 1 **Checkcode:** 745-975-QYW

Datafile: 220215C14 **Report:** 17 Feb 2022 16:49 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.69		-	-	-	2.70E+07	0.81	Y	-	-
JS 1234-TCDF	26.12		-	-	-	4.49E+07	0.82	Y	-	-
JS 123467-HxCDD	37.97		-	-	-	1.25E+07	1.32	Y	-	-
CS 37Cl-2378-TCDD	28.38		1.0247	1.0246	-0.2	1.04E+07	n/a	-	1.20	80
CS 12347-PeCDD	33.23		1.1993	1.1998	+1.0	1.99E+07	1.65	Y	0.75	97.9
CS 12346-PeCDF	31.74		1.2144	1.2152	+1.5	3.57E+07	1.63	Y	0.85	93.3
CS 123469-HxCDF	37.10		0.9772	0.9772	0	2.66E+07	0.56	Y	1.12	94.7
CS 1234689-HpCDF	40.23		1.0597	1.0596	-0.2	2.13E+07	0.45	Y	0.89	95.8
~~SS 37Cl-2378-TCDD~~	~~28.38~~		~~1.0247~~	~~1.0246~~	~~-0.2~~	~~1.04E+07~~	~~n/a~~		~~1.15~~	~~107~~
~~SS 12347-PeCDD~~	~~33.23~~		~~1.1993~~	~~1.1998~~	~~+1.0~~	~~1.99E+07~~	~~1.65~~	~~Y~~	~~0.86~~	~~114~~
~~SS 12346-PeCDF~~	~~31.74~~		~~1.2144~~	~~1.2152~~	~~+1.5~~	~~3.57E+07~~	~~1.63~~	~~Y~~	~~0.94~~	~~113~~
~~SS 123469-HxCDF~~	~~37.10~~		~~0.9772~~	~~0.9772~~	~~0~~	~~2.66E+07~~	~~0.56~~	~~Y~~	~~0.83~~	~~107~~
~~SS 1234689-HpCDF~~	~~40.23~~		~~1.0597~~	~~1.0596~~	~~-0.2~~	~~2.13E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~112~~

Totals	Conc	EMPC
Total TCDD	2710	2710
Total PeCDD	35	40.7
Total HxCDD	63	68.7
Total HpCDD	424	424
Total Tetra-Octa Dioxins	7520	7530
Total TCDF	12,400	12400
Total PeCDF	988	989
Total HxCDF	1,110	1110
Total HpCDF	399	399
Total Tetra-Octa Furans	15,100	15100
Total Tetra-Octa Dioxins & Furans	22600	22600

Lab ID: B6280_18913_DF_003 **Acq'd:** 15 Feb 2022 20:49 DTF **Wt/Vol:** 10.21 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020222-S-SB-NC-O-45 **UTP:** 17-Feb-2022 16:46:14 DTF **J-level:** 0.49 pg/g **Split:** 1 **Checkcode:** 745-975-QYW

Datafile: 220215C14 **Report:** 17 Feb 2022 16:49 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.72		0.8719	0.8718	-0.1	3.84E+05	0.86	Y	1.18	2.99	6319.546	0.49
1379-TCDD	25.07	EMPC	0.8845	0.8842	-0.5	1.76E+05	0.90	N	1.18	1.37	6319.546	0.49
1369-TCDD	NotFnd		0.8996						1.18		6319.546	0.49
1469-TCDD	26.28		0.9271	0.9270	-0.2	6.21E+05	0.79	Y	1.18	4.84	6319.546	0.49
1247/1246/1248/1249-TCDD	26.52	EMPC	0.9357	0.9352	-0.8	4.52E+05	0.90	N	1.18	3.52	6319.546	0.49
1378-TCDD	26.71		0.9425	0.9421	-0.6	9.49E+05	0.88	Y	1.18	7.39	6319.546	0.49
1268-TCDD	NotFnd		0.9494						1.18		6319.546	0.49
1478-TCDD	27.17		0.9581	0.9582	+0.2	7.77E+05	0.74	Y	1.18	6.05	6319.546	0.49
1279-TCDD	NotFnd		0.9640						1.18		6319.546	0.49
1234/1269-TCDD	NotFnd		0.9765						1.18		6319.546	0.49
1236-TCDD	NotFnd		0.9816						1.18		6319.546	0.49
1237/1238-TCDD	28.08		0.9906	0.9905	-0.2	4.53E+06	0.81	Y	1.18	35.3	6319.546	0.49
1239-TCDD	NotFnd		0.9952						1.18		6319.546	0.49
2378-TCDD	**28.38**	E	**1.0008**	1.0008	**0**	3.12E+08	0.80	Y	**1.18**	**2,430**	**6319.546**	**0.49**
1278-TCDD	28.71		1.0123	1.0125	+0.3	2.73E+07	0.82	Y	1.18	213	6319.546	0.49
1267-TCDD	28.85		1.0170	1.0175	+0.9	7.10E+05	0.78	Y	1.18	5.53	6319.546	0.49
1289-TCDD	29.35		1.0351	1.0352	+0.2	4.66E+05	0.82	Y	1.18	3.63	6319.546	0.49
12479/12468-PeCDD	31.23		0.9261	0.9257	-0.7	3.38E+05	1.64	Y	1.04	3.13	3763.527	0.315
12469-PeCDD	31.77	EMPC	0.9420	0.9419	-0.2	3.67E+05	1.08	N	1.04	3.4	3763.527	0.315
12368-PeCDD	32.33		0.9584	0.9584	0	3.05E+05	1.47	Y	1.04	2.82	3763.527	0.315
12478-PeCDD	32.52	J	0.9641	0.9641	0	2.33E+05	1.59	Y	1.04	2.16	3763.527	0.315
12379-PeCDD	32.62	J	0.9670	0.9670	0	1.39E+05	1.60	Y	1.04	1.29	3763.527	0.315
12369/12467/12489-PeCDD	32.89	J EMPC	0.9747	0.9750	+0.6	1.51E+05	1.26	N	1.04	1.39	3763.527	0.315
12346/12347-PeCDD	33.25	J EMPC	0.9857	0.9857	0	9.39E+04	2.12	N	1.04	0.869	3763.527	0.315
12378-PeCDD	33.75		**1.0006**	**1.0005**	**-0.2**	**2.57E+06**	**1.51**	**Y**	**1.04**	**23.8**	**3763.527**	**0.315**
12367-PeCDD	33.84	J	1.0034	1.0033	-0.2	1.31E+05	1.67	Y	1.04	1.21	3763.527	0.315
12389-PeCDD	34.19	J	1.0136	1.0136	0	7.02E+04	1.77	Y	1.04	0.65	3763.527	0.315
124679/124689-HxCDD	35.93		0.9540	0.9542	+0.4	3.47E+06	1.24	Y	1.10	33.5	6263.866	0.511
123468-HxCDD	36.58		0.9714	0.9714	0	3.53E+05	1.17	Y	1.10	3.4	6263.866	0.511
123679/123689-HxCDD	36.87		0.9792	0.9793	+0.2	1.96E+06	1.35	Y	1.10	18.9	6263.866	0.511
123469-HxCDD	37.00	J	0.9828	0.9827	-0.2	1.60E+05	1.29	Y	1.10	1.55	6263.866	0.511
123478-HxCDD	37.67	J EMPC	**1.0004**	**1.0004**	**0**	**1.60E+05**	**1.82**	**N**	1.09	**1.64**	**6263.866**	**0.568**
123678-HxCDD	37.78		**1.0036**	**1.0035**	**-0.2**	**6.04E+05**	**1.24**	**Y**	1.15	**5.59**	**6263.866**	**0.493**
123467-HxCDD	37.98	J EMPC	1.0087	1.0088	+0.2	1.13E+05	1.72	N	1.10	1.09	6263.866	0.511
123789-HxCDD	38.08	EMPC	**1.0115**	**1.0115**	**0**	**3.13E+05**	**0.99**	**N**	1.05	**2.98**	**6263.866**	**0.477**

Lab ID: B6280_18913_DF_003 **Acq'd:** 15 Feb 2022 20:49 DTF **Wt/Vol:** 10.21 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020222-S-SB-NC-O-45 **UTP:** 17-Feb-2022 16:46:14 DTF **J-level:** 0.49 pg/g **Split:** 1 **Checkcode:** 745-975-QYW

Datafile: 220215C14 **Report:** 17 Feb 2022 16:49 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.10		0.9836	0.9838	+0.5	2.10E+07	1.05	Y	1.06	231	4102.86	0.391
1234678-HpCDD	**40.78**		**1.0003**	**1.0004**	**+0.2**	**1.76E+07**	**1.01**	**Y**	**1.06**	**193**	**4102.86**	**0.391**
OCDD	**43.49**		**1.0003**	**1.0003**	**0**	**2.69E+08**	**0.91**	**Y**	**1.13**	**4,290**	**4801.32**	**0.941**
OCDD-a	43.48		1.0002	1.0002	0	1.70E+07	2.44	Y	0.07	4,240	3348.333	10.3
1368-TCDF	22.59		0.8222	0.8216	-0.8	2.92E+05	0.67	Y	1.08	1.59	4454.879	0.262
1468-TCDF	23.18		0.8434	0.8430	-0.6	1.72E+06	0.71	Y	1.08	9.35	4454.879	0.262
2468-TCDF	23.82		0.8666	0.8662	-0.6	1.29E+06	0.73	Y	1.08	7.03	4454.879	0.262
1346/1246-TCDF	NotFnd		0.8789						1.08		4454.879	0.262
1347/1378/1247-TCDF	24.35		0.8848	0.8856	+1.2	1.40E+07	0.77	Y	1.08	76	4454.879	0.262
1348-TCDF	NotFnd		0.8947						1.08		4454.879	0.262
1248/1367/1379-TCDF	24.69		0.8995	0.8979	-2.4	6.04E+07	0.80	Y	1.08	328	4454.879	0.262
1268-TCDF	25.11		0.9131	0.9131	0	1.94E+07	0.79	Y	1.08	106	4454.879	0.262
1467-TCDF	25.24		0.9181	0.9179	-0.3	2.83E+06	0.79	Y	1.08	15.4	4454.879	0.262
1478-TCDF	25.41		0.9244	0.9241	-0.5	4.89E+07	0.79	Y	1.08	266	4454.879	0.262
1369/1237-TCDF	25.79		0.9379	0.9379	0	1.30E+07	0.78	Y	1.08	70.8	4454.879	0.262
2467-TCDF	25.90		0.9425	0.9419	-0.9	1.69E+06	0.80	Y	1.08	9.19	4454.879	0.262
2368-TCDF	26.11		0.9483	0.9498	+2.4	9.10E+07	0.80	Y	1.08	495	4454.879	0.262
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9514						1.08		4454.879	0.262
1278-TCDF	26.61	E	0.9681	0.9678	-0.5	5.56E+08	0.78	Y	1.08	3,020	4454.879	0.262
1349-TCDF	NotFnd		0.9722						1.08		4454.879	0.262
1267-TCDF	26.89		0.9780	0.9779	-0.2	3.08E+07	0.78	Y	1.08	167	4454.879	0.262
2346/1249-TCDF	27.09		0.9845	0.9851	+1.0	3.44E+06	0.77	Y	1.08	18.7	4454.879	0.262
2347/1279-TCDF	27.29		0.9927	0.9924	-0.5	1.40E+07	0.79	Y	1.08	75.9	4454.879	0.262
2348-TCDF	27.40		0.9970	0.9964	-1.0	7.56E+07	0.77	Y	1.08	411	4454.879	0.262
2378-TCDF	**27.52**	E	**1.0008**	**1.0008**	**0**	**1.16E+09**	**0.78**	**Y**	**1.08**	**6,300**	**4454.879**	**0.262**
2367/3467-TCDF	27.87		1.0140	1.0136	-0.7	8.85E+07	0.78	Y	1.08	481	4454.879	0.262
1269-TCDF	28.12		1.0226	1.0228	+0.3	1.76E+07	0.79	Y	1.08	95.8	4454.879	0.262
1239-TCDF	28.38		1.0325	1.0322	-0.5	1.33E+06	0.84	Y	1.08	7.21	4454.879	0.262
1289-TCDF	29.53		1.0732	1.0741	+1.6	9.01E+07	0.79	Y	1.08	490	4454.879	0.262
13468/12468-PeCDF	29.48		0.9130	0.9133	+0.5	1.34E+06	1.64	Y	1.02	7.86	3266.987	0.176
13678/13467/12467-PeCDF	31.03		0.9610	0.9614	+0.7	8.70E+05	1.46	Y	1.02	5.1	7222.361	0.388
12368/13478/12478-PeCDF	31.19		0.9658	0.9665	+1.3	2.91E+07	1.53	Y	1.02	171	7222.361	0.388
14678-PeCDF	NotFnd		0.9688						1.02		7222.361	0.388
13479-PeCDF	NotFnd		0.9719						1.02		7222.361	0.388
13469/12479-PeCDF	NotFnd		0.9797						1.02		7222.361	0.388
12346-PeCDF	31.75	J	0.9841	0.9837	-0.8	1.43E+05	1.50	Y	1.02	0.839	7222.361	0.388

Lab ID: B6280_18913_DF_003 **Acq'd: 15 Feb 2022 20:49 DTF** **Wt/Vol: 10.21 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

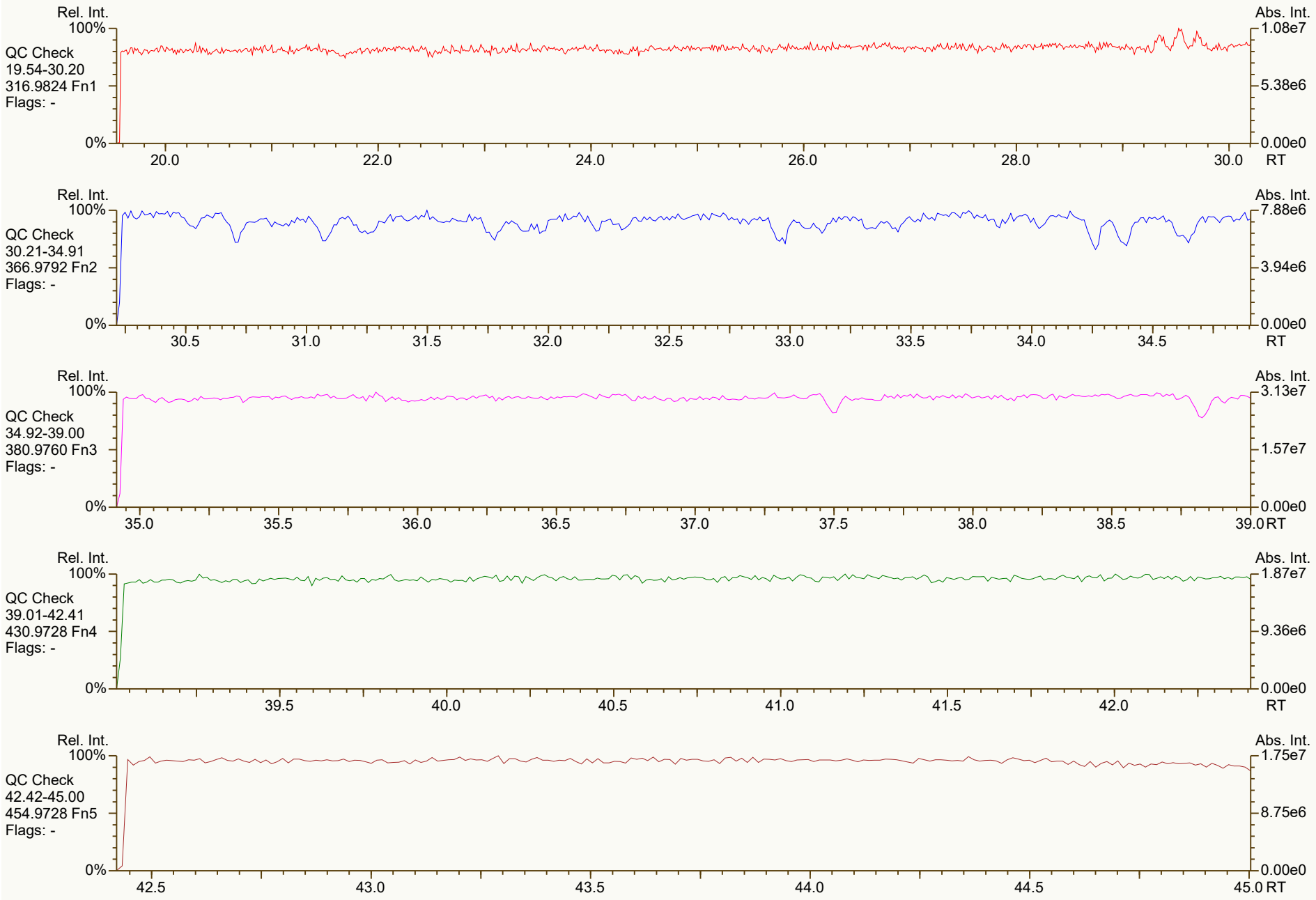
Client ID: 11215131-020222-S-SB-NC-O-45 **UTP: 17-Feb-2022 16:46:14 DTF** **J-level: 0.49 pg/g** **Split: 1** **Checkcode: 745-975-QYW**

Datafile: 220215C14 **Report: 17 Feb 2022 16:49 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.84		0.9867	0.9867	0	9.41E+05	1.47	Y	1.02	5.52	7222.361	0.388
12347-PeCDF	31.92		0.9892	0.9891	-0.2	1.00E+06	1.56	Y	1.02	5.87	7222.361	0.388
12348-PeCDF	32.08		0.9940	0.9940	0	5.02E+06	1.51	Y	1.02	29.4	7222.361	0.388
12378-PeCDF	**32.29**		**1.0005**	**1.0006**	**+0.2**	**6.91E+07**	**1.53**	**Y**	**1.02**	**391**	**7222.361**	**0.393**
12678/12367-PeCDF	32.59		1.0091	1.0098	+1.4	1.81E+07	1.57	Y	1.02	106	7222.361	0.388
12379-PeCDF	NotFnd		1.0144						1.02		7222.361	0.388
12679-PeCDF	33.16	J EMPC	0.9928	0.9928	0	1.78E+05	1.95	N	1.02	1.04	7222.361	0.388
23467/12369-PeCDF	33.28		0.9966	0.9965	-0.2	7.08E+05	1.65	Y	1.02	4.15	7222.361	0.388
23478-PeCDF	**33.42**		**1.0006**	**1.0007**	**+0.2**	**4.07E+07**	**1.53**	**Y**	**1.02**	**248**	**7222.361**	**0.383**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7222.361	0.388
12349-PeCDF	NotFnd		1.0101						1.02		7222.361	0.388
12389-PeCDF	34.49		1.0327	1.0326	-0.2	2.22E+06	1.46	Y	1.02	13	7222.361	0.388
123468-HxCDF	35.27		0.9624	0.9625	+0.2	1.22E+06	1.21	Y	1.19	7.95	12935.238	0.695
124678/134678-HxCDF	35.47		0.9679	0.9680	+0.2	9.76E+06	1.23	Y	1.19	63.5	12935.238	0.695
134679-HxCDF	NotFnd		0.9741						1.19		12935.238	0.695
124679-HxCDF	NotFnd		0.9796						1.19		12935.238	0.695
124689-HxCDF	36.12		0.9856	0.9857	+0.2	4.44E+06	1.27	Y	1.19	28.9	12935.238	0.695
123467-HxCDF	36.54		0.9972	0.9972	0	7.66E+05	1.27	Y	1.19	4.98	12935.238	0.695
123478-HxCDF	**36.66**		**1.0004**	**1.0005**	**+0.2**	**1.14E+08**	**1.24**	**Y**	**1.27**	**736**	**12935.238**	**0.699**
123678-HxCDF	**36.80**		**1.0004**	**1.0004**	**0**	**3.12E+07**	**1.24**	**Y**	**1.15**	**178**	**12935.238**	**0.578**
123479-HxCDF	NotFnd		1.0049						1.19		12935.238	0.695
123469-HxCDF	NotFnd		1.0090						1.19		12935.238	0.695
123679-HxCDF	NotFnd		0.9942						1.19		12935.238	0.695
234678-HxCDF	**37.48**		**1.0005**	**1.0004**	**-0.2**	**5.57E+06**	**1.27**	**Y**	**1.19**	**36.5**	**12935.238**	**0.731**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		12935.238	0.695
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**12935.238**	**0.81**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.47		1.0007	1.0011	+0.9	8.42E+06	1.24	Y	1.19	54.8	12935.238	0.695
1234678-HpCDF	**39.84**		**1.0003**	**1.0003**	**0**	**3.31E+07**	**1.02**	**Y**	**1.37**	**228**	**5608.897**	**0.276**
1234679-HpCDF	40.10		1.0069	1.0068	-0.2	4.87E+05	0.92	Y	1.34	3.86	5608.897	0.346
1234689-HpCDF	40.24		1.0104	1.0104	0	9.53E+06	1.05	Y	1.34	75.5	5608.897	0.346
1234789-HpCDF	**41.24**		**1.0003**	**1.0003**	**0**	**9.88E+06**	**1.08**	**Y**	**1.31**	**91.3**	**5608.897**	**0.437**
OCDF	**43.66**		**1.0002**	**1.0002**	**0**	**1.29E+07**	**0.91**	**Y**	**1.07**	**163**	**4613.919**	**0.737**
OCDF-a	43.66		1.0002	1.0002	0	8.91E+05	2.83	Y	0.07	183	3595.642	9.28

SGS ID: B6280_18913_DF_003 | Sample ID: 11215131-020222-S-SB-NC-O-45 | Acq: 15-Feb-2022 20:49:13

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 55 | User: DTF Datafile: 220215C14

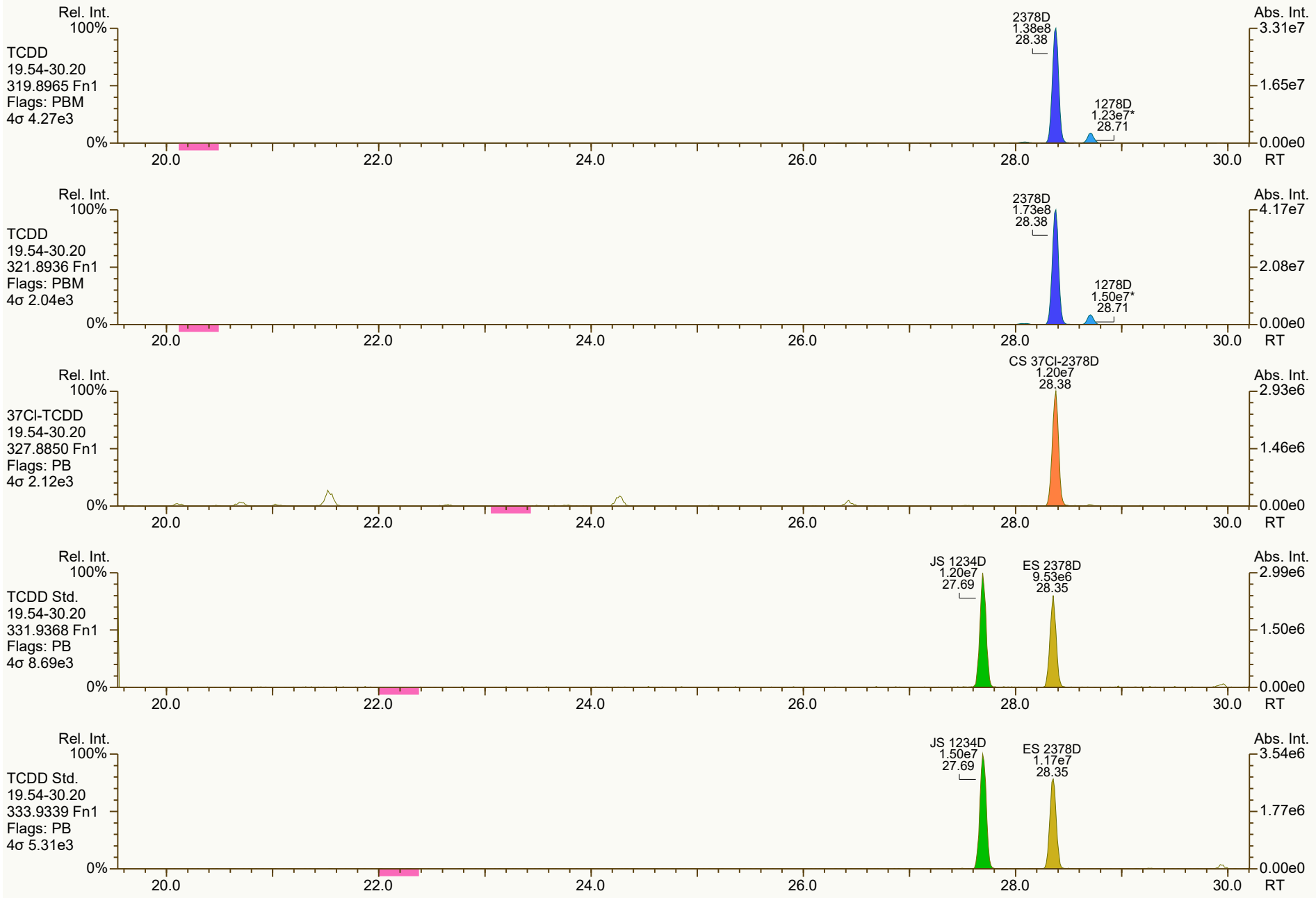


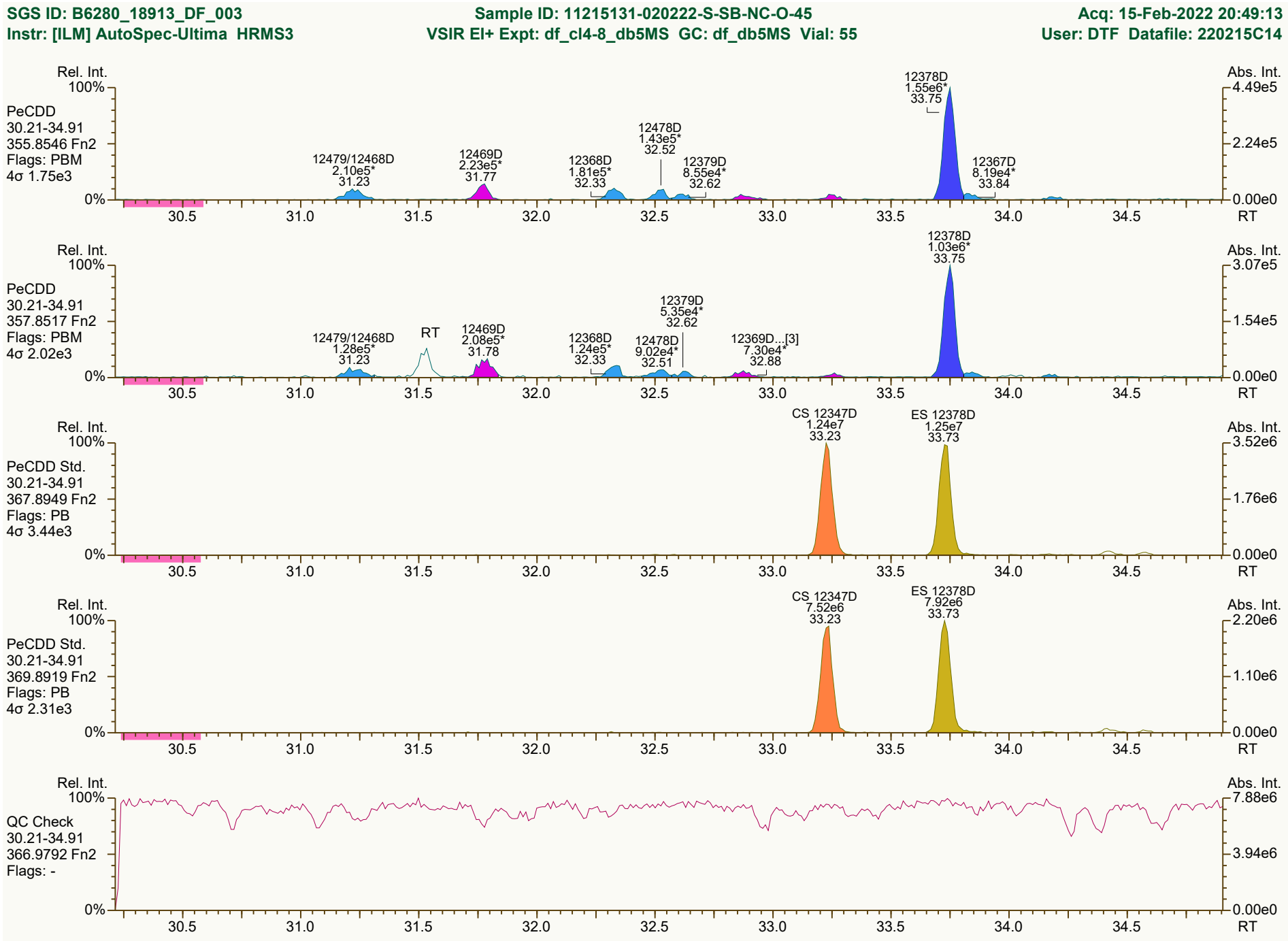
Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\B6280_18913_DF_003.utp_res, saved 17-Feb-2022 16:46 (DTF)

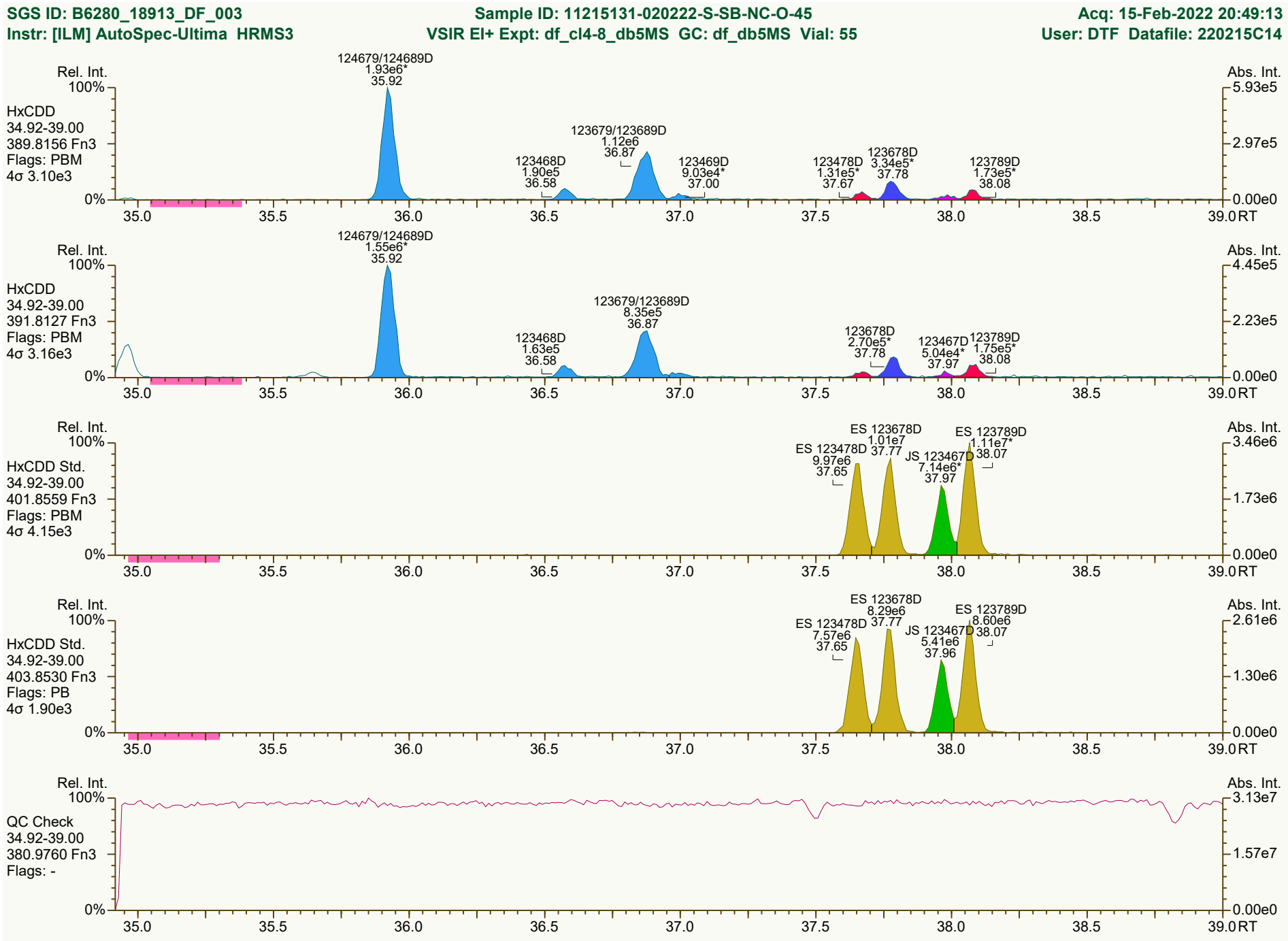
Peak annotation: Areas, Centroids

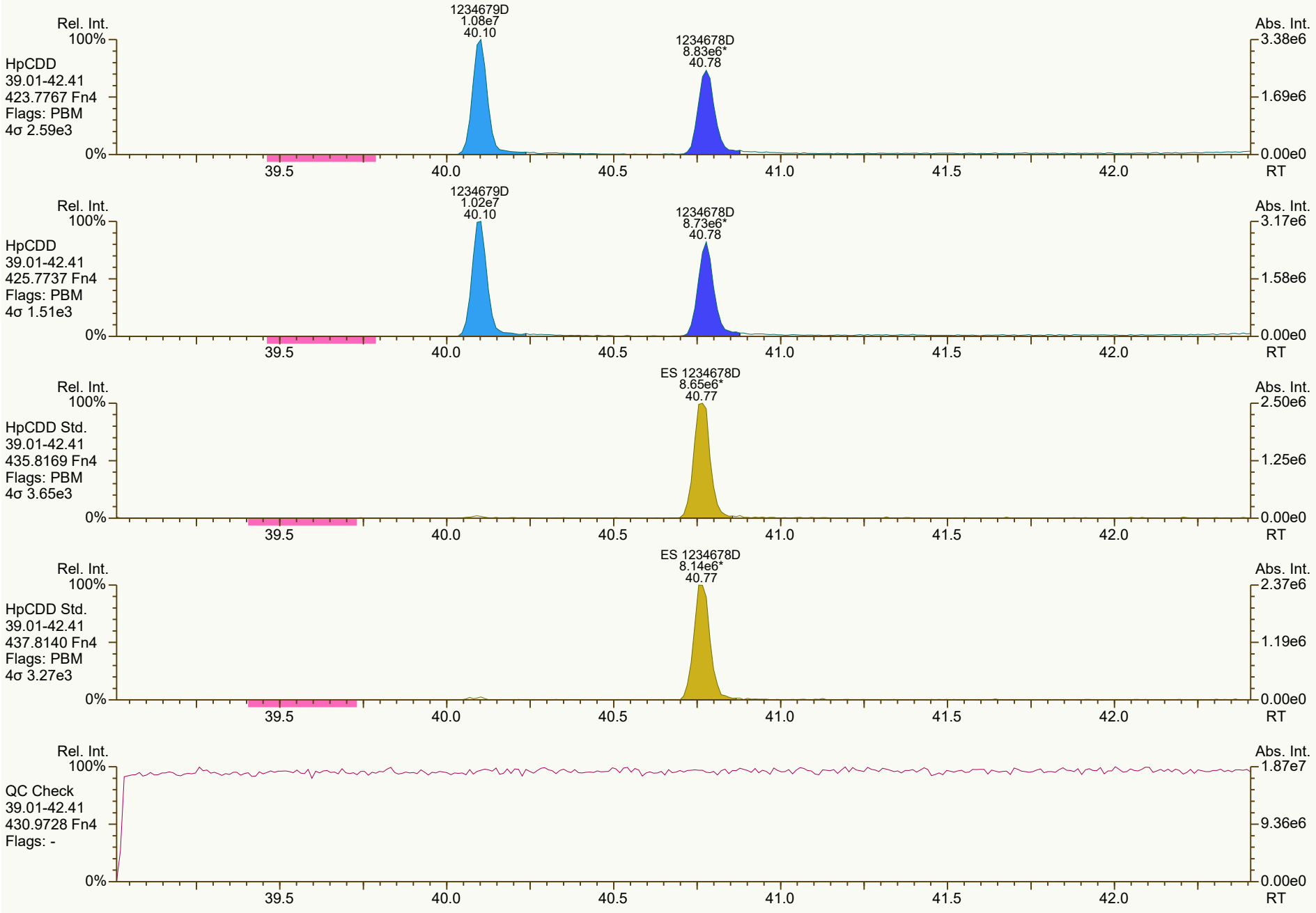
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 scc: 745-975

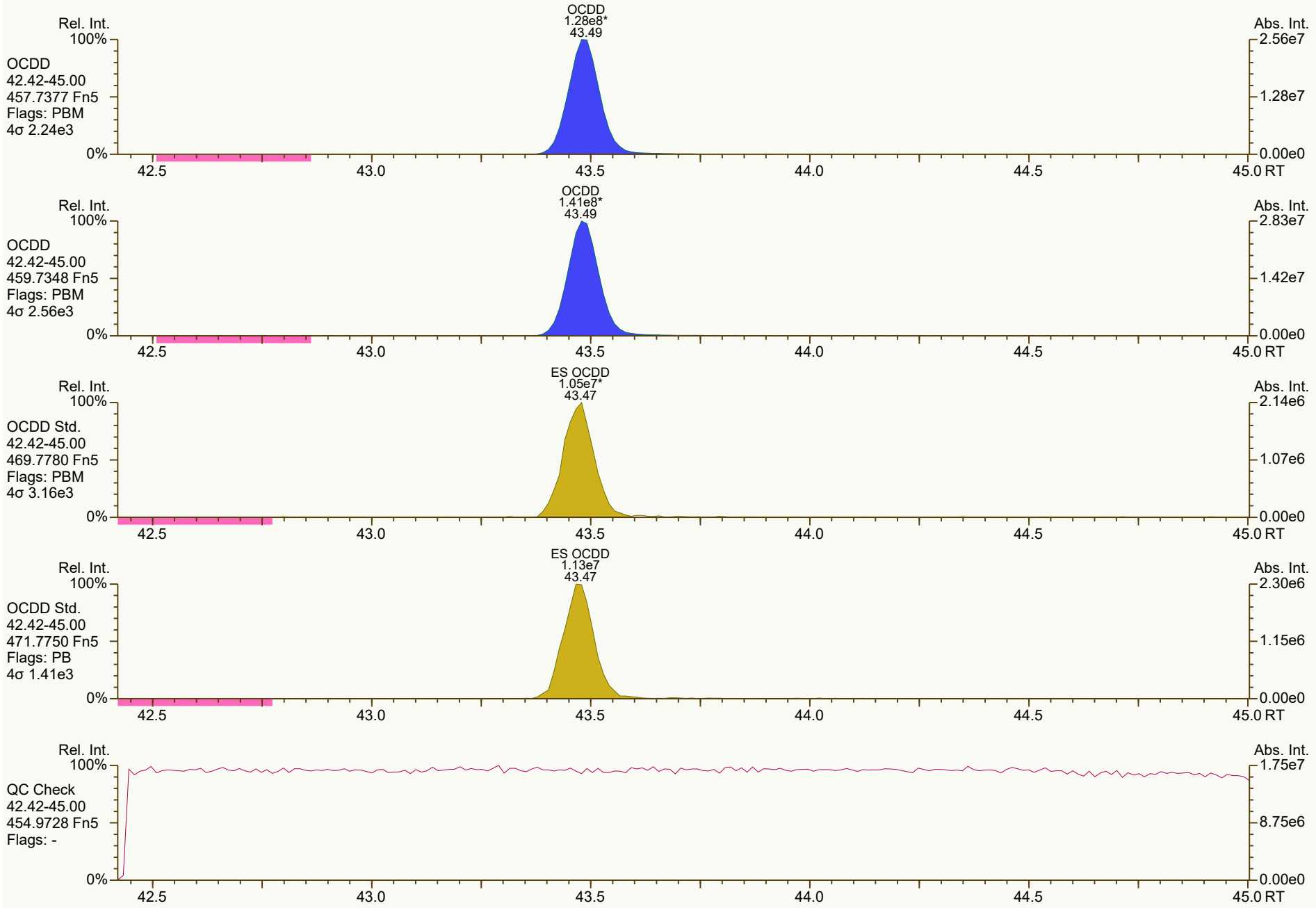
PKD: n/a Printed: 17-Feb-2022 17:01 Page 1 of 12


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 4.27e3
0%
2378D
1.38e8
28.38
1278D
1.23e7*
28.71
Abs. Int.
3.31e7
1.65e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.04e3
0%
2378D
1.73e8
28.38
1278D
1.50e7*
28.71
Abs. Int.
4.17e7
2.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.12e3
0%
CS 37Cl-2378D
1.20e7
28.38
Abs. Int.
2.93e6
1.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 8.69e3
0%
JS 1234D
1.20e7
27.69
ES 2378D
9.53e6
28.35
Abs. Int.
2.99e6
1.50e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 5.31e3
0%
JS 1234D
1.50e7
27.69
ES 2378D
1.17e7
28.35
Abs. Int.
3.54e6
1.77e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

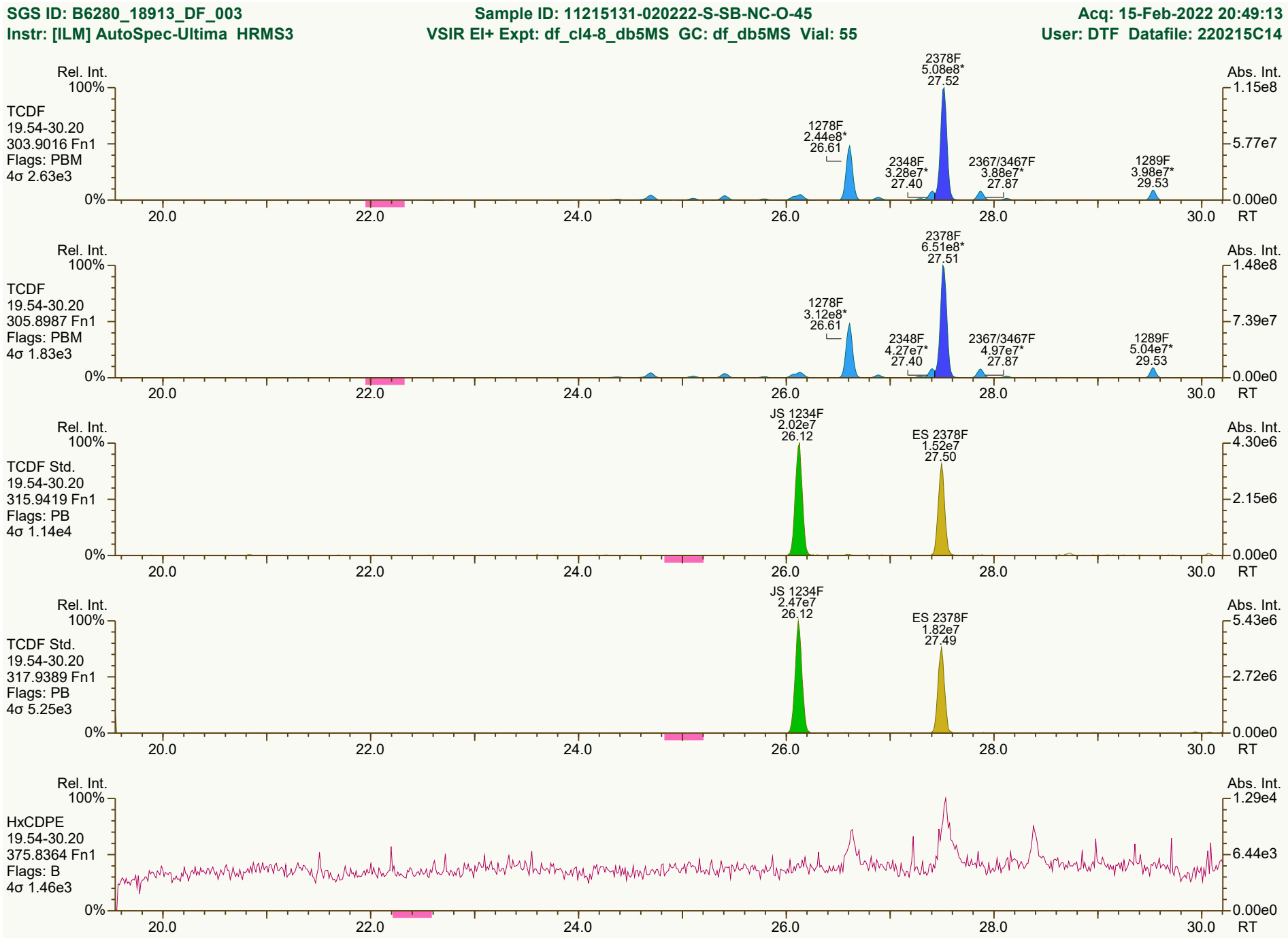

SGS ID: B6280_18913_DF_003
Sample ID: 11215131-020222-S-SB-NC-O-45
Acq: 15-Feb-2022 20:49:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 55
User: DTF Datafile: 220215C14
Rel. Int.
Abs. Int.
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PBM
4σ 1.75e3
12479/12468D
2.10e5*
31.23
12469D
2.23e5*
31.77
12368D
1.81e5*
32.33
12478D
1.43e5*
32.52
12379D
8.55e4*
32.62
12378D
1.55e6*
33.75
12367D
8.19e4*
33.84
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PBM
4σ 2.02e3
12479/12468D
1.28e5*
31.23
RT
12469D
2.08e5*
31.78
12368D
1.24e5*
32.33
12379D
5.35e4*
32.62
12478D
9.02e4*
32.51
12369D...[3]
7.30e4*
32.88
12378D
1.03e6*
33.75
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 3.44e3
CS 12347D
1.24e7
33.23
ES 12378D
1.25e7
33.73
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 2.31e3
CS 12347D
7.52e6
33.23
ES 12378D
7.92e6
33.73
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
4.49e5
2.24e5
0.00e0
3.07e5
1.54e5
3.52e6
1.76e6
2.20e6
1.10e6
7.88e6
3.94e6
Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\B6280_18913_DF_003.utp_res, saved 17-Feb-2022 16:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5055, 8289 scc: 745-975
Revised: 17-Feb-2022 16:43 (DTF) Printed: 17-Feb-2022 17:01 Page 3 of 12


SGS ID: B6280_18913_DF_003
Sample ID: 11215131-020222-S-SB-NC-O-45
Acq: 15-Feb-2022 20:49:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 55
User: DTF Datafile: 220215C14
Rel. Int.
Abs. Int.
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 3.10e3
124679/124689D
1.93e6*
35.92
123679/123689D
1.12e6
36.87
123468D
1.90e5
36.58
123469D
9.03e4*
37.00
123478D
1.31e5*
37.67
123678D
3.34e5*
37.78
123789D
1.73e5*
38.08
5.93e5
2.97e5
0.00e0
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 3.16e3
124679/124689D
1.55e6*
35.92
123679/123689D
8.35e5
36.87
123468D
1.63e5
36.58
123678D
2.70e5*
37.78
123467D
5.04e4*
37.97
123789D
1.75e5*
38.08
4.45e5
2.23e5
0.00e0
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 4.15e3
ES 123678D
1.01e7
37.77
ES 123478D
9.97e6
37.65
JS 123467D
7.14e6*
37.97
ES 123789D
1.11e7*
38.07
3.46e6
1.73e6
0.00e0
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 1.90e3
ES 123678D
8.29e6
37.77
ES 123478D
7.57e6
37.65
JS 123467D
5.41e6
37.96
ES 123789D
8.60e6
38.07
2.61e6
1.30e6
0.00e0
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
3.13e7
1.57e7
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\B6280_18913_DF_003.utp_res, saved 17-Feb-2022 16:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9092, 2555 scc: 745-975
Revised: 17-Feb-2022 16:43 (DTF) Printed: 17-Feb-2022 17:01 Page 4 of 12

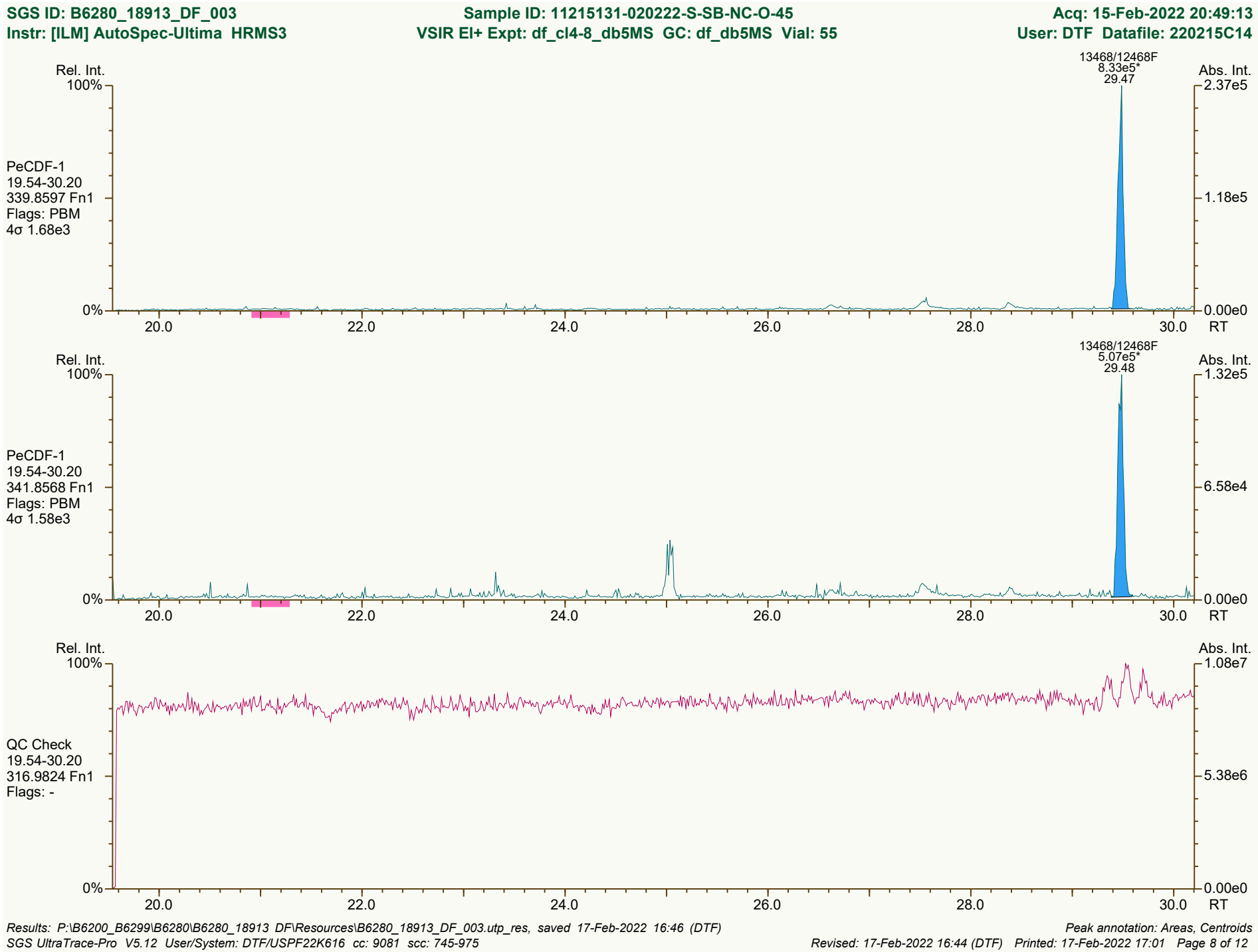

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 2.59e3
1234679D
1.08e7
40.10
1234678D
8.83e6*
40.78
Abs. Int.
3.38e6
1.69e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 1.51e3
1234679D
1.02e7
40.10
1234678D
8.73e6*
40.78
Abs. Int.
3.17e6
1.58e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 3.65e3
ES 1234678D
8.65e6*
40.77
Abs. Int.
2.50e6
1.25e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 3.27e3
ES 1234678D
8.14e6*
40.77
Abs. Int.
2.37e6
1.19e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 2.24e3
0%
OCDD
1.28e8*
43.49
Abs. Int.
2.56e7
1.28e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 2.56e3
0%
OCDD
1.41e8*
43.49
Abs. Int.
2.83e7
1.42e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 3.16e3
0%
ES OCDD
1.05e7*
43.47
Abs. Int.
2.14e6
1.07e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 1.41e3
0%
ES OCDD
1.13e7
43.47
Abs. Int.
2.30e6
1.15e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.75e7
8.75e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

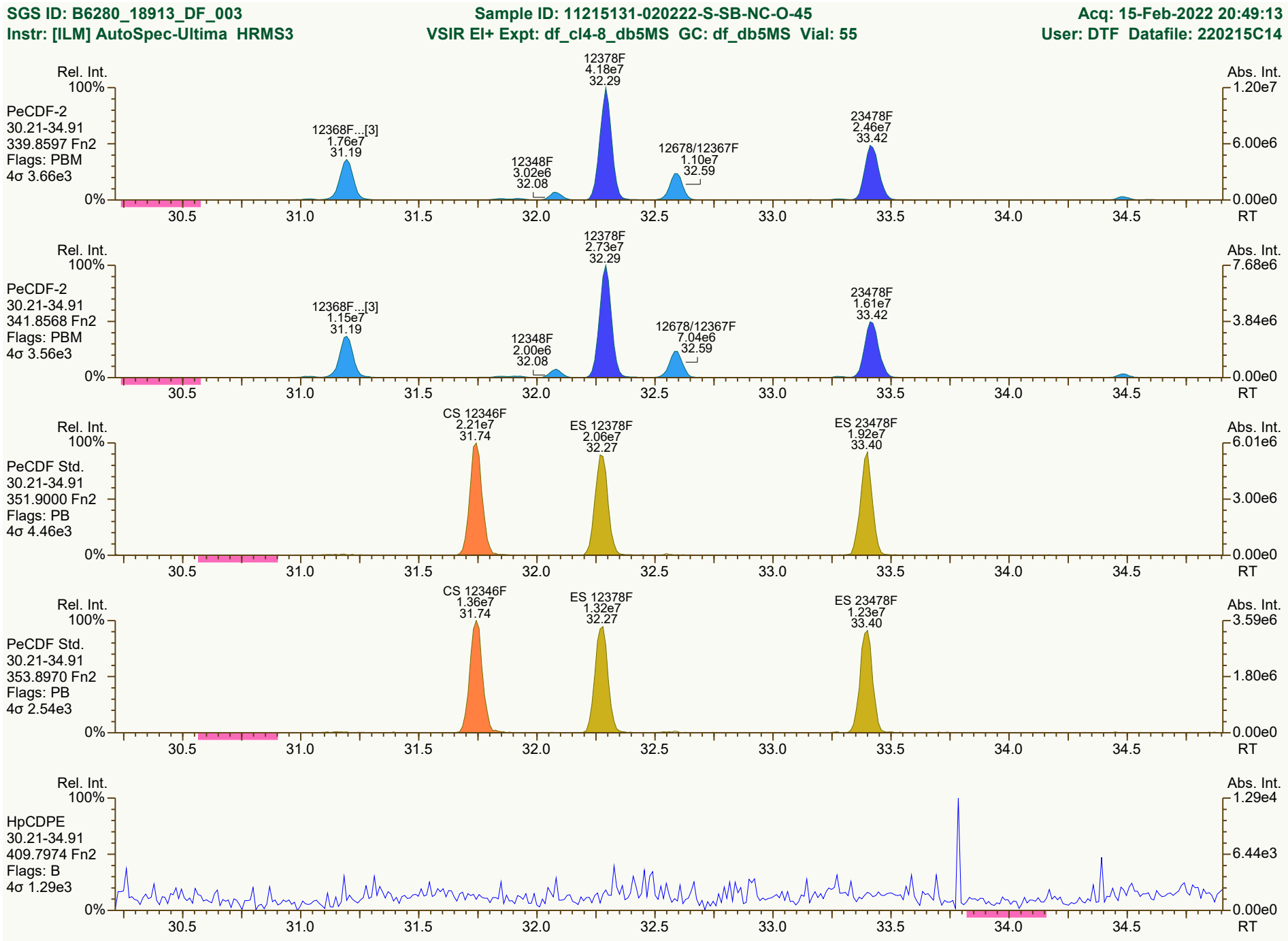
SGS ID: B6280_18913_DF_003 Sample ID: 11215131-020222-S-SB-NC-O-45 Acq: 15-Feb-2022 20:49:13
Instr: [ILM] AutoSpec-Ultima HRMS3 VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 55 User: DTF Datafile: 220215C14



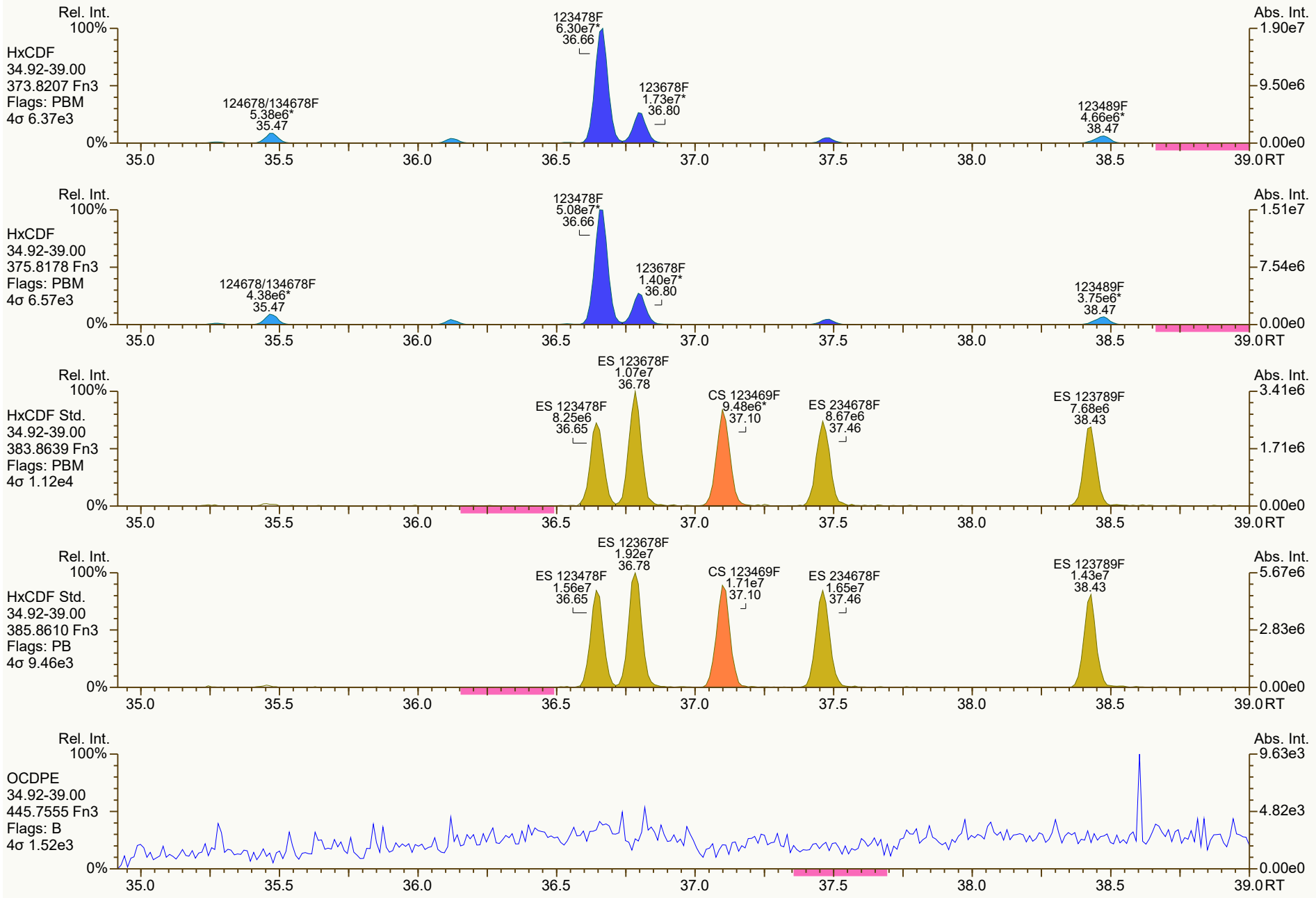
SGS ID: B6280_18913_DF_003 | Sample ID: 11215131-020222-S-SB-NC-O-45 | Acq: 15-Feb-2022 20:49:13
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 55 | User: DTF Datafile: 220215C14

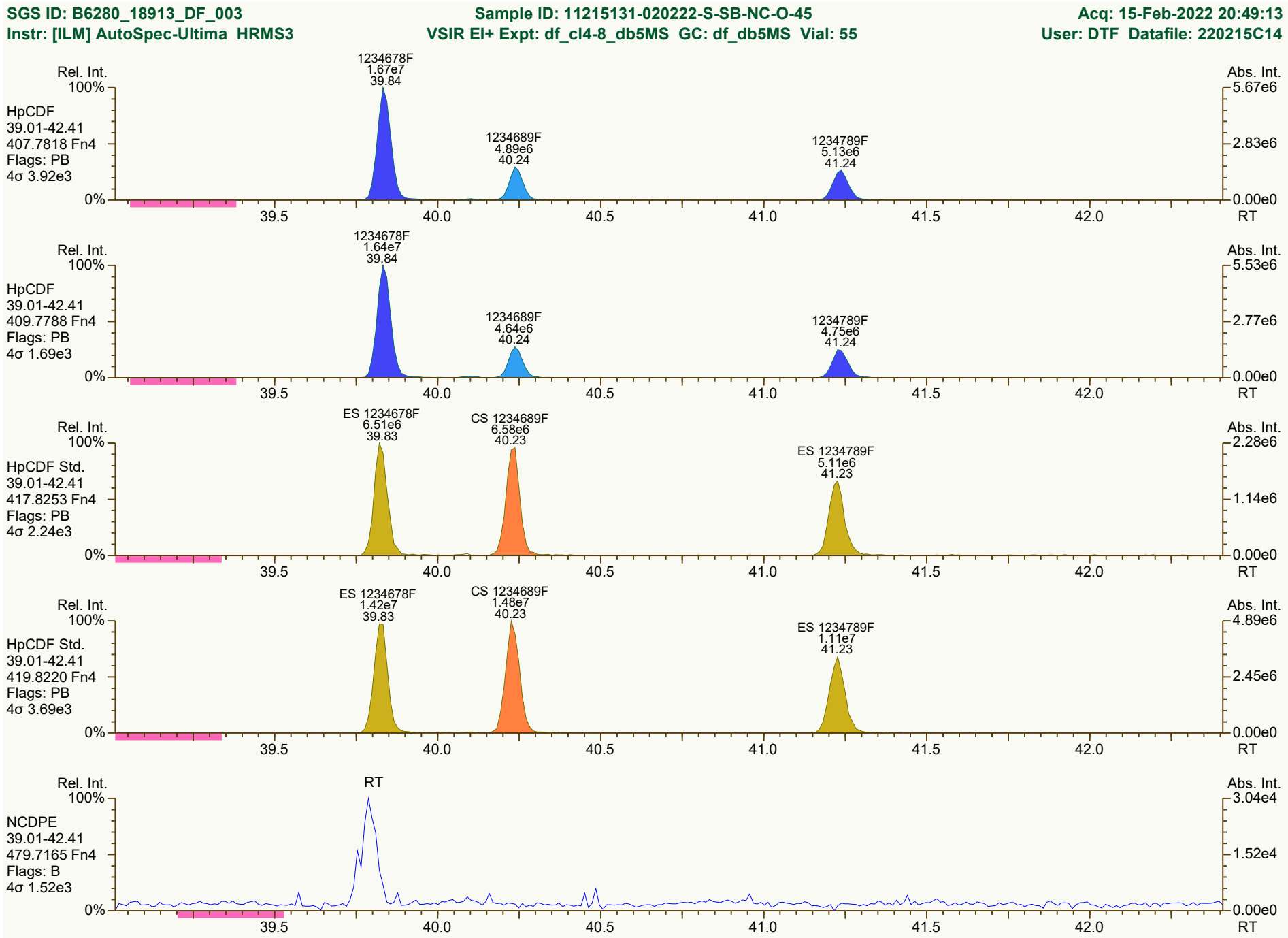


Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\B6280_18913_DF_003.utp_res, saved 17-Feb-2022 16:46 (DTF) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9081 scc: 745-975 | *Revised: 17-Feb-2022 16:44 (DTF) Printed: 17-Feb-2022 17:01 Page 8 of 12*



Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\B6280_18913_DF_003.utp_res, saved 17-Feb-2022 16:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3186, 9287, 5721 scc: 745-975
Revised: 17-Feb-2022 16:44 (DTF) Printed: 17-Feb-2022 17:01 Page 9 of 12

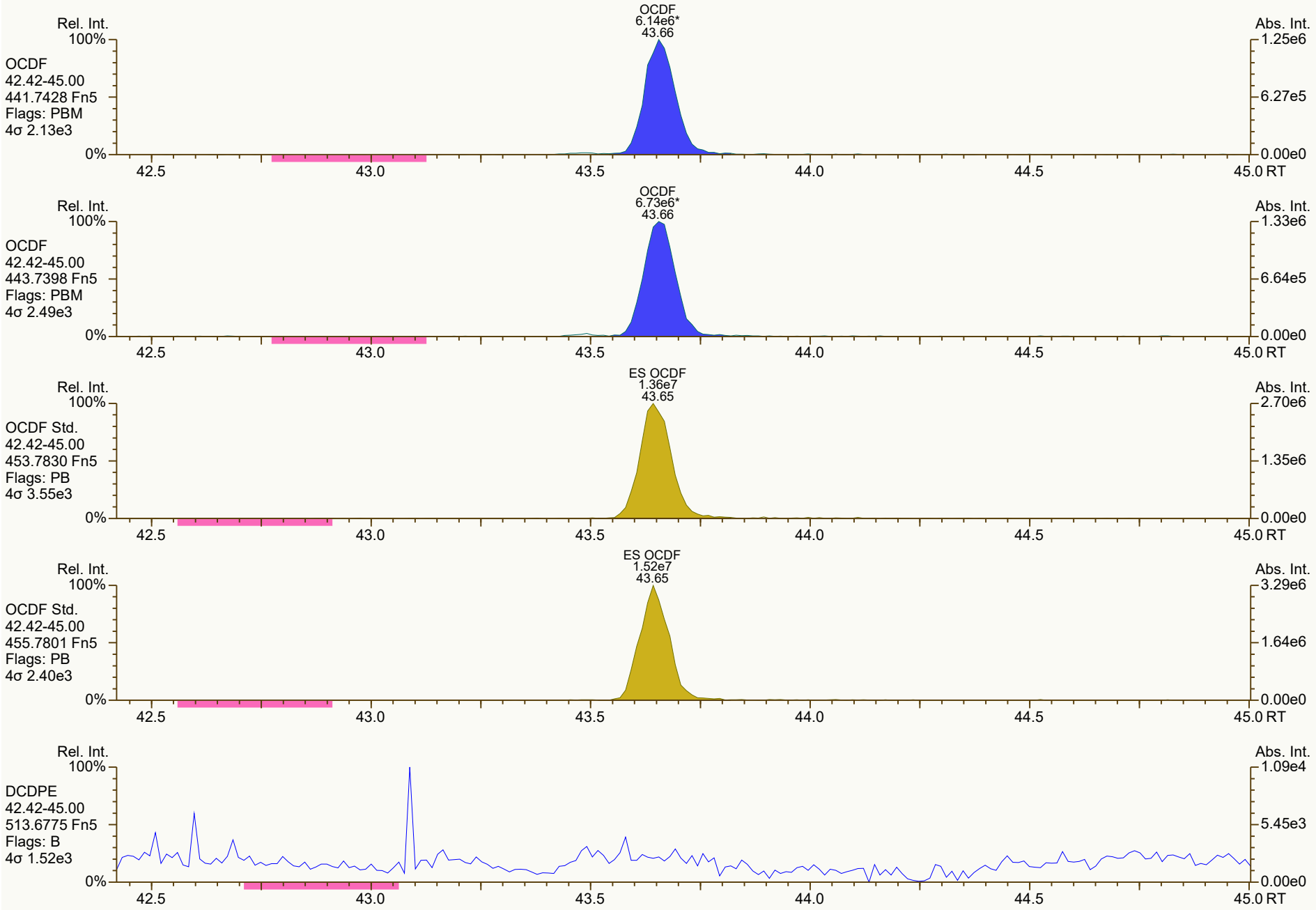

Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 6.37e3
0%
123478F
6.30e7*
36.66
123678F
1.73e7*
36.80
124678/134678F
5.38e6*
35.47
123489F
4.66e6*
38.47
Abs. Int.
1.90e7
9.50e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 6.57e3
0%
123478F
5.08e7*
36.66
123678F
1.40e7*
36.80
124678/134678F
4.38e6*
35.47
123489F
3.75e6*
38.47
Abs. Int.
1.51e7
7.54e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 1.12e4
0%
ES 123678F
1.07e7
36.78
ES 123478F
8.25e6
36.65
CS 123469F
9.48e6*
37.10
ES 234678F
8.67e6
37.46
ES 123789F
7.68e6
38.43
Abs. Int.
3.41e6
1.71e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 9.46e3
0%
ES 123678F
1.92e7
36.78
ES 123478F
1.56e7
36.65
CS 123469F
1.71e7
37.10
ES 234678F
1.65e7
37.46
ES 123789F
1.43e7
38.43
Abs. Int.
5.67e6
2.83e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.63e3
4.82e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT



Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\B6280_18913_DF_003.utp_res, saved 17-Feb-2022 16:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1393, 6848, 9647 scc: 745-975
PKD: 17-Feb-2022 16:41 Printed: 17-Feb-2022 17:01 Page 11 of 12

SGS ID: B6280_18913_DF_003 | Sample ID: 11215131-020222-S-SB-NC-O-45 | Acq: 15-Feb-2022 20:49:13

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 55 | User: DTF Datafile: 220215C14



Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\B6280_18913_DF_003.utp_res, saved 17-Feb-2022 16:46 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8379, 5583, 8136 scc: 745-975 | *Revised: 17-Feb-2022 16:45 (DTF) Printed: 17-Feb-2022 17:01 Page 12 of 12*

REVIEWED
Tamara Burkamper , 2/21/2022, 9:12:01 AM

SGS Environmental Services — Run Log **Project: B6280_18913_DF**

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

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	220215C01	3	CS3_220215_DF_CA	1.00	25-347-1	DTF	059-393	15-Feb-2022	10:30:50
2	220215C02	45	OPR1_18913_DF	1.00	0_18913_OPR001	DTF	247-990	15-Feb-2022	11:33:15
3	220215C03	46	OPR2_18913_DF	1.00	0_18913_OPR002	DTF	443-398	15-Feb-2022	12:19:29
4	220215C04	2	SBS_220215_DF_CA	1.00	30-61-1	DTF	808-304	15-Feb-2022	13:05:49
5	220215C05	44	MB1_18913_DF_SDS	10.00	Method Blank	DTF	341-051	15-Feb-2022	13:52:08
6	220215C12	53	B6280_18913_DF_001	10.31	11215131-020222-S-SB-NC-O-48	DTF	267-493	15-Feb-2022	19:16:34
7	220215C13	54	B6280_18913_DF_002	10.28	11215131-020222-S-SB-NC-O-47	DTF	714-564	15-Feb-2022	20:02:54
8	220215C14	55	B6280_18913_DF_003	10.21	11215131-020222-S-SB-NC-O-45	DTF	745-975	15-Feb-2022	20:49:13

REVIEWED
Tyler_Fritz , 2/17/2022, 5:03:57 PM

Dioxin/Furan QC Summary	Acq'd: 15 Feb 2022 10:30 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220215_DF_CA	UTP: 17-Feb-2022 16:46:09 DTF	Checkcode: 059-393-PZY
Sample ID: 25-347-1	Report: 17 Feb 2022 16:47 TF	Datafile: 220215C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.39	4.06E+06	0.80	Y	1.18	1.23	4%
12378-PeCDD	33.75	1.62E+07	1.58	Y	1.04	1.08	4%
123478-HxCDD	37.67	1.50E+07	1.28	Y	1.09	1.09	1%
123678-HxCDD	37.79	1.52E+07	1.27	Y	1.15	1.16	1%
123789-HxCDD	38.09	1.60E+07	1.28	Y	1.05	1.06	1%
1234678-HpCDD	40.79	1.44E+07	1.07	Y	1.06	1.05	-1%
OCDD	43.49	2.29E+07	0.92	Y	1.13	1.16	3%
2378-TCDF	27.53	6.11E+06	0.80	Y	1.08	1.14	6%
12378-PeCDF	32.29	2.47E+07	1.52	Y	1.02	1.03	1%
23478-PeCDF	33.41	2.45E+07	1.53	Y	1.02	1.03	1%
123478-HxCDF	36.66	2.31E+07	1.26	Y	1.27	1.27	0%
123678-HxCDF	36.80	2.40E+07	1.25	Y	1.15	1.15	0%
234678-HxCDF	37.48	2.24E+07	1.24	Y	1.19	1.15	-3%
123789-HxCDF	38.45	2.05E+07	1.24	Y	1.16	1.16	0%
1234678-HpCDF	39.85	2.10E+07	1.04	Y	1.37	1.34	-2%
1234789-HpCDF	41.24	1.80E+07	1.03	Y	1.31	1.30	-1%
OCDF	43.66	2.97E+07	0.92	Y	1.07	1.08	1%
ES 2378-TCDD	28.36	3.29E+07	0.84	Y	1.05	1.02	-2%
ES 12378-PeCDD	33.728	3.00E+07	1.57	Y	0.88	0.93	6%
ES 123478-HxCDD	37.654	2.74E+07	1.28	Y	0.97	1.00	3%
ES 123678-HxCDD	37.773	2.63E+07	1.30	Y	0.94	0.96	2%
ES 123789-HxCDD	38.073	3.03E+07	1.24	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.772	2.74E+07	1.13	Y	0.91	1.00	9%
ES OCDD	43.478	3.96E+07	0.94	Y	0.62	0.72	16%
ES 2378-TCDF	27.502	5.37E+07	0.82	Y	1.06	1.02	-4%
ES 12378-PeCDF	32.274	4.79E+07	1.60	Y	0.91	0.91	0%
ES 23478-PeCDF	33.391	4.74E+07	1.57	Y	0.88	0.90	2%
ES 123478-HxCDF	36.644	3.63E+07	0.54	Y	1.20	1.33	11%
ES 123678-HxCDF	36.785	4.17E+07	0.55	Y	1.35	1.52	13%
ES 234678-HxCDF	37.465	3.88E+07	0.55	Y	1.24	1.42	14%
ES 123789-HxCDF	38.432	3.53E+07	0.53	Y	1.16	1.29	12%
ES 1234678-HpCDF	39.836	3.14E+07	0.44	Y	0.97	1.15	18%
ES 1234789-HpCDF	41.233	2.77E+07	0.46	Y	0.85	1.01	19%
ES OCDF	43.651	5.51E+07	0.90	Y	0.81	1.01	25%

Dioxin/Furan QC Summary	Acq'd: 15 Feb 2022 10:30 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220215_DF_CA	UTP: 17-Feb-2022 16:46:09 DTF	Checkcode: 059-393-PZY
Sample ID: 25-347-1	Report: 17 Feb 2022 16:47 TF	Datafile: 220215C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.70	3.22E+07	0.82	Y	-	-	-
JS 1234-TCDF	26.13	5.28E+07	0.80	Y	-	-	-
JS 123467-HxCDD	37.97	1.37E+07	1.34	Y	-	-	-
CS 37Cl-2378-TCDD	28.38	4.40E+06	n/a	-	1.20	1.37	14%
CS 12347-PeCDD	33.22	2.72E+07	1.65	Y	0.75	0.85	12%
CS 12346-PeCDF	31.74	4.65E+07	1.63	Y	0.85	0.88	4%
CS 123469-HxCDF	37.10	3.75E+07	0.55	Y	1.12	1.37	23%
CS 1234689-HpCDF	40.24	3.12E+07	0.46	Y	0.89	1.14	29%
~~SS 37Cl-2378-TCDD~~	~~28.38~~	~~4.40E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.34~~	~~16%~~
~~SS 12347-PeCDD~~	~~33.22~~	~~2.72E+07~~	~~1.65~~	~~Y~~	~~0.86~~	~~0.91~~	~~6%~~
~~SS 12346-PeCDF~~	~~31.74~~	~~4.65E+07~~	~~1.63~~	~~Y~~	~~0.94~~	~~0.97~~	~~4%~~
~~SS 123469-HxCDF~~	~~37.10~~	~~3.75E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~0.90~~	~~9%~~
~~SS 1234689-HpCDF~~	~~40.24~~	~~3.12E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~0.99~~	~~8%~~
~~OCDD-a~~	~~43.49~~	~~1.30E+06~~	~~2.57~~	~~Y~~	~~0.07~~	~~0.07~~	~~-4%~~
~~OCDF-a~~	~~43.66~~	~~1.90E+06~~	~~2.12~~	~~Y~~	~~0.07~~	~~0.07~~	~~4%~~

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

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220215C01 Analysis Date: 15-FEB-2022 10:30:50

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.80	0.65 - 0.89	Y	10.4	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32 - 1.78	Y	52.2	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	50.3	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	50.5	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	50.4	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88 - 1.20	Y	49.7	43 - 58	Y
OCDD	M+2/M+4	0.92	0.76 - 1.02	Y	103	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.80	0.65 - 0.89	Y	10.6	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.52	1.32 - 1.78	Y	50.3	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.53	1.32 - 1.78	Y	50.6	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	50.1	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	49.8	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	48.5	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	49.8	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88 - 1.20	Y	48.9	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	49.6	43 - 58	Y
OCDF	M+2/M+4	0.92	0.76 - 1.02	Y	101	63 - 159	Y

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

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

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

Processed: 17 Feb 2022 16:47 Analyst: TF

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

Lab Name: SGS North America

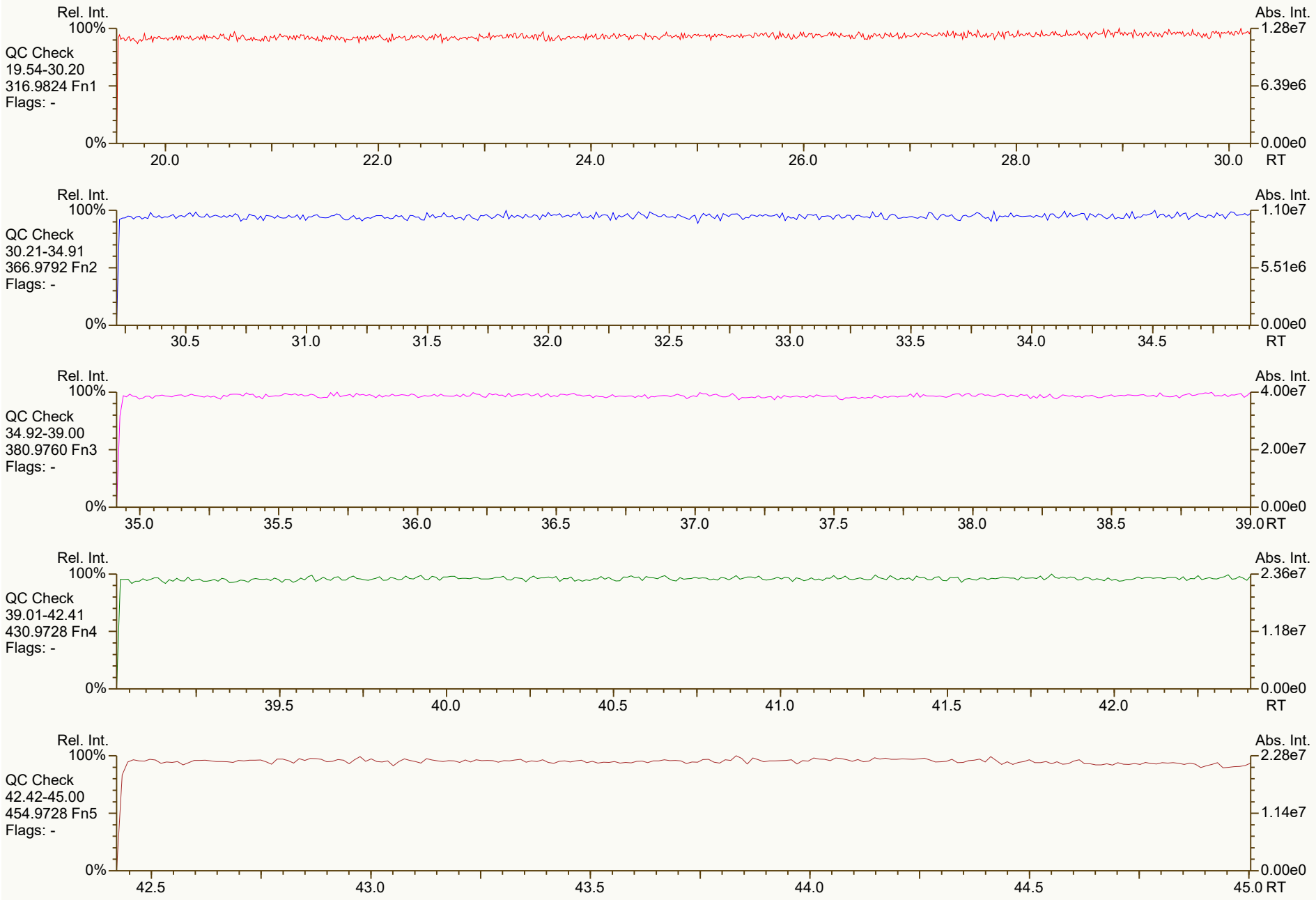
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

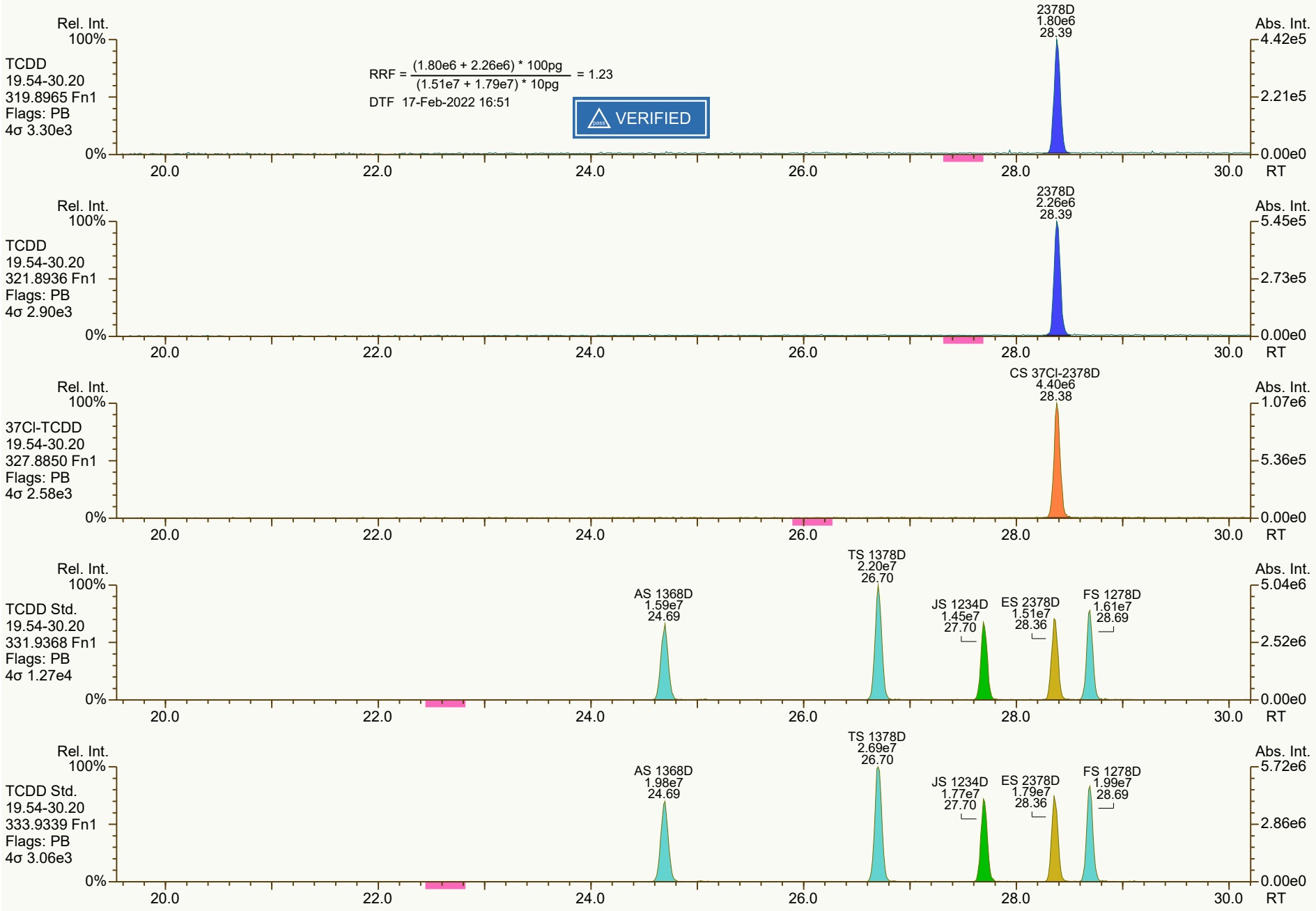
Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220215C01 Analysis Date: 15-FEB-2022 10:30:50

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
13C-2,3,7,8-TCDD	M/M+2	0.84	0.65 - 0.89	Y	97.9	82 - 121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32 - 1.78	Y	106	62 - 160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	103	85 - 117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.30	1.05 - 1.43	Y	102	85 - 118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	101	85 - 118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.13	0.88 - 1.20	Y	109	72 - 138	Y
13C-OCDD	M+2/M+4	0.94	0.76 - 1.02	Y	232	96 - 415	Y
13C-2,3,7,8-TCDF	M/M+2	0.82	0.65 - 0.89	Y	96.1	71 - 140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.60	1.32 - 1.78	Y	99.6	76 - 130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32 - 1.78	Y	102	77 - 130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	111	76 - 131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.55	0.43 - 0.59	Y	113	70 - 143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.55	0.43 - 0.59	Y	114	73 - 137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.53	0.43 - 0.59	Y	112	74 - 135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37 - 0.51	Y	118	78 - 129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.46	0.37 - 0.51	Y	119	77 - 129	Y
13C-OCDF	M+2/M+4	0.90	0.76 - 1.02	Y	249	96 - 415	Y
CLEANUP STANDARDS							
37Cl-2,3,7,8-TCDD	n/a				11.4	7.9 - 12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.65	1.32 - 1.78	Y	112	70 - 130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.63	1.32 - 1.78	Y	104	70 - 130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.55	0.43 - 0.59	Y	123	70 - 130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.46	0.37 - 0.51	Y	129	70 - 130	Y

Processed: 17 Feb 2022 16:47 Analyst: TF


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.28e7
6.39e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
1.10e7
5.51e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
4.00e7
2.00e7
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
2.36e7
1.18e7
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
2.28e7
1.14e7
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 3.30e3
0%
RRF = (1.80e6 + 2.26e6) * 100pg / (1.51e7 + 1.79e7) * 10pg = 1.23
DTF 17-Feb-2022 16:51
VERIFIED
2378D
1.80e6
28.39
Abs. Int.
4.42e5
2.21e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 2.90e3
0%
2378D
2.26e6
28.39
Abs. Int.
5.45e5
2.73e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.58e3
0%
CS 37Cl-2378D
4.40e6
28.38
Abs. Int.
1.07e6
5.36e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 1.27e4
0%
AS 1368D
1.59e7
24.69
TS 1378D
2.20e7
26.70
JS 1234D
1.45e7
27.70
ES 2378D
1.51e7
28.36
FS 1278D
1.61e7
28.69
Abs. Int.
5.04e6
2.52e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.06e3
0%
AS 1368D
1.98e7
24.69
TS 1378D
2.69e7
26.70
JS 1234D
1.77e7
27.70
ES 2378D
1.79e7
28.36
FS 1278D
1.99e7
28.69
Abs. Int.
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2.86e6
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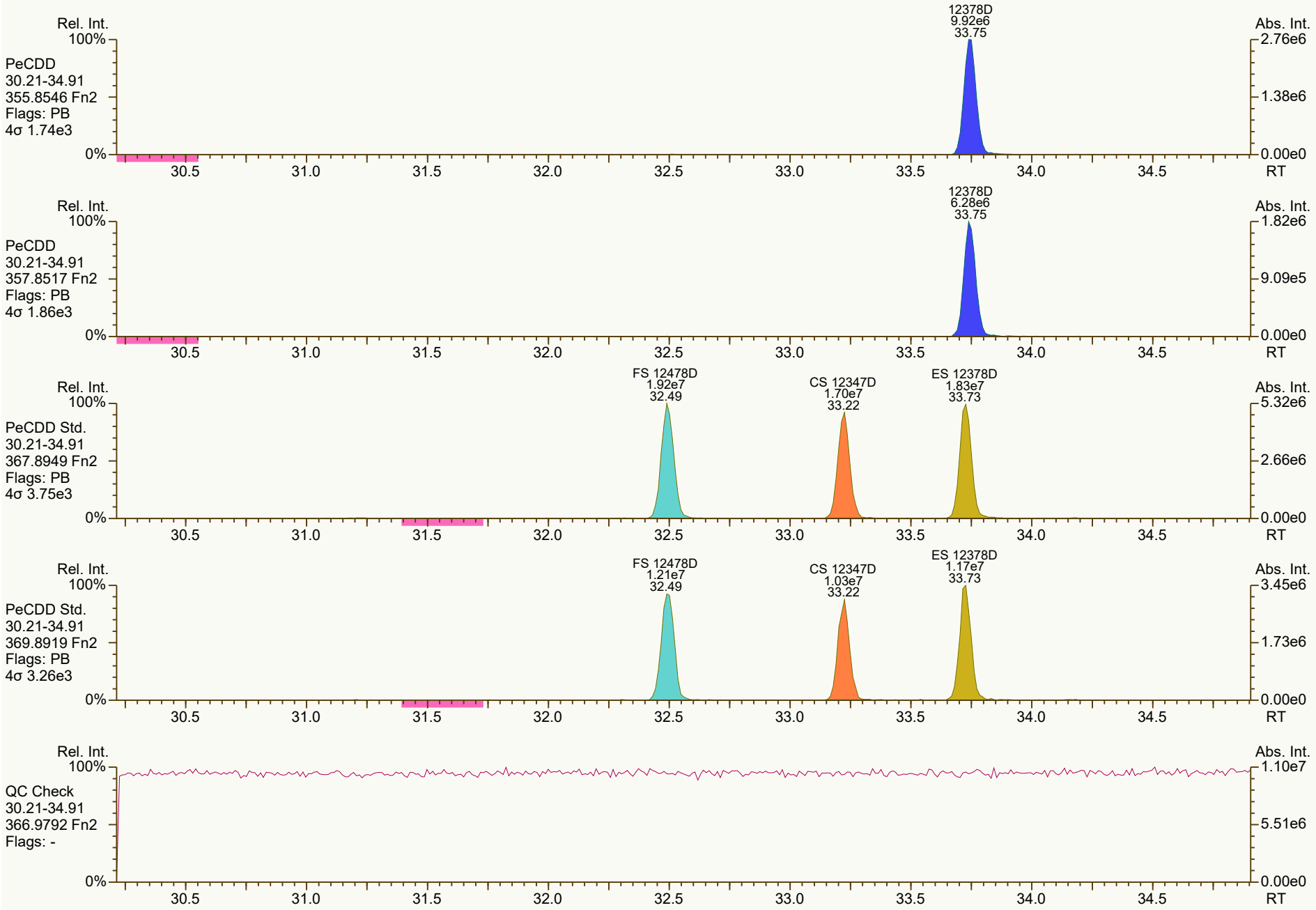
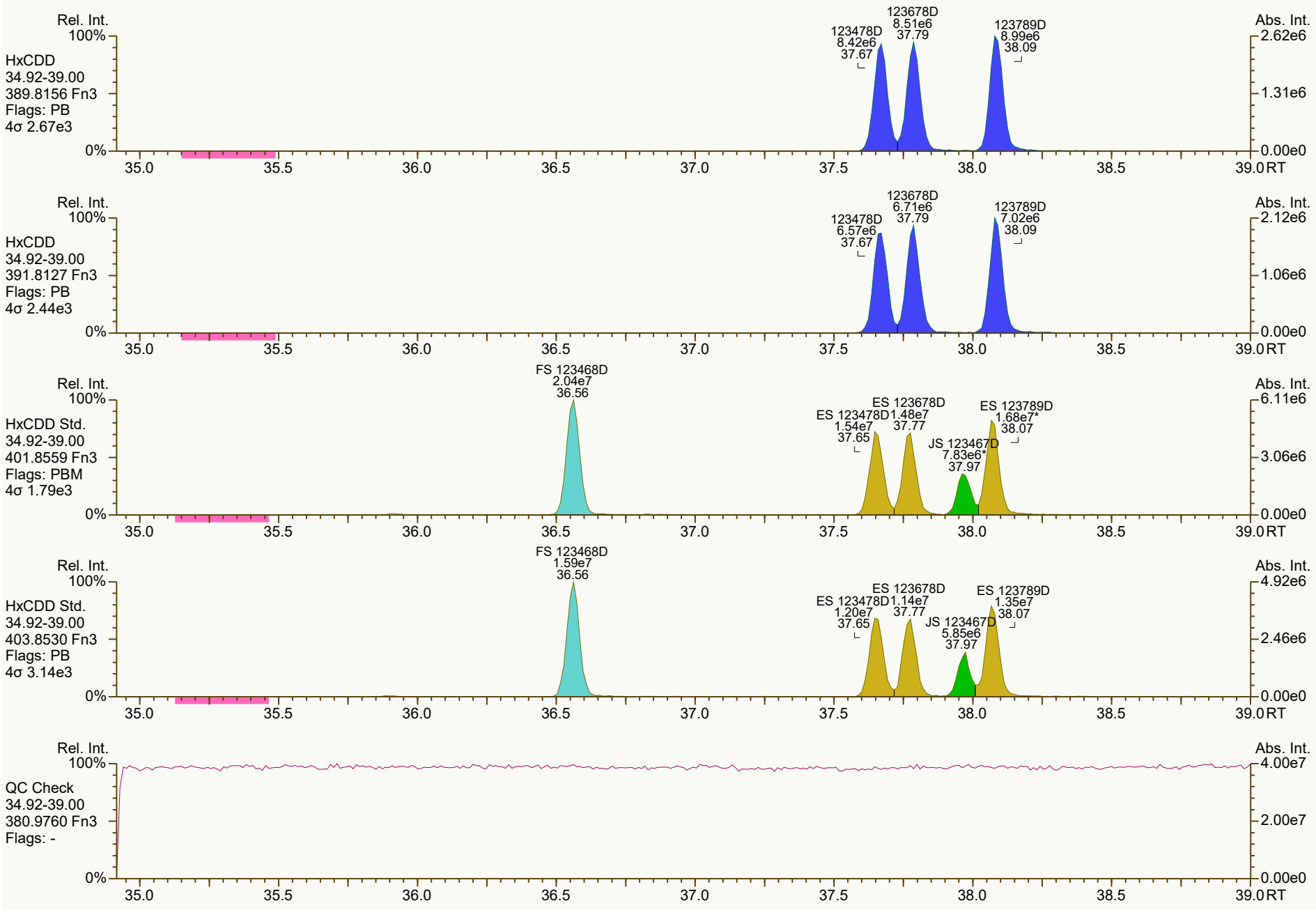
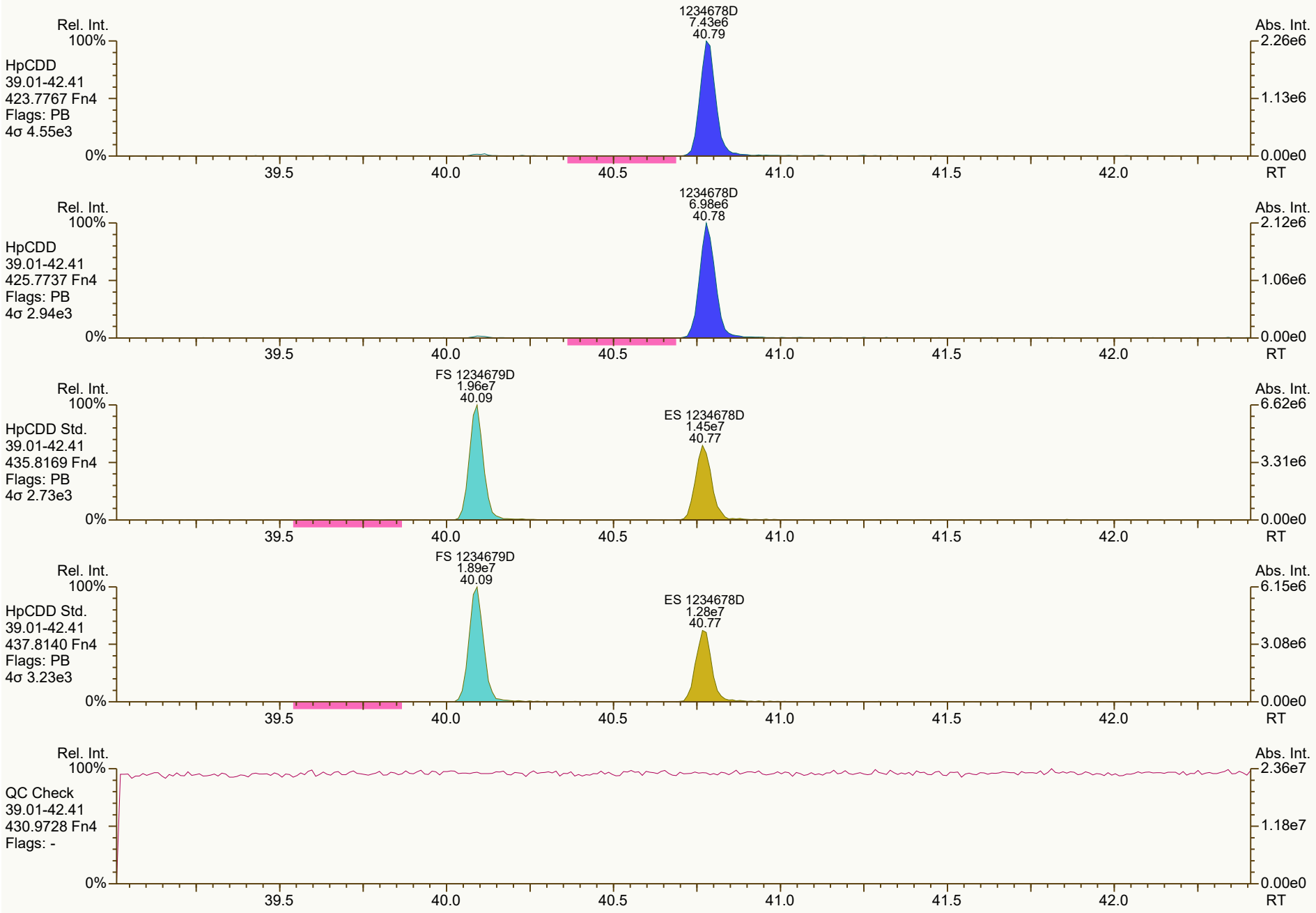
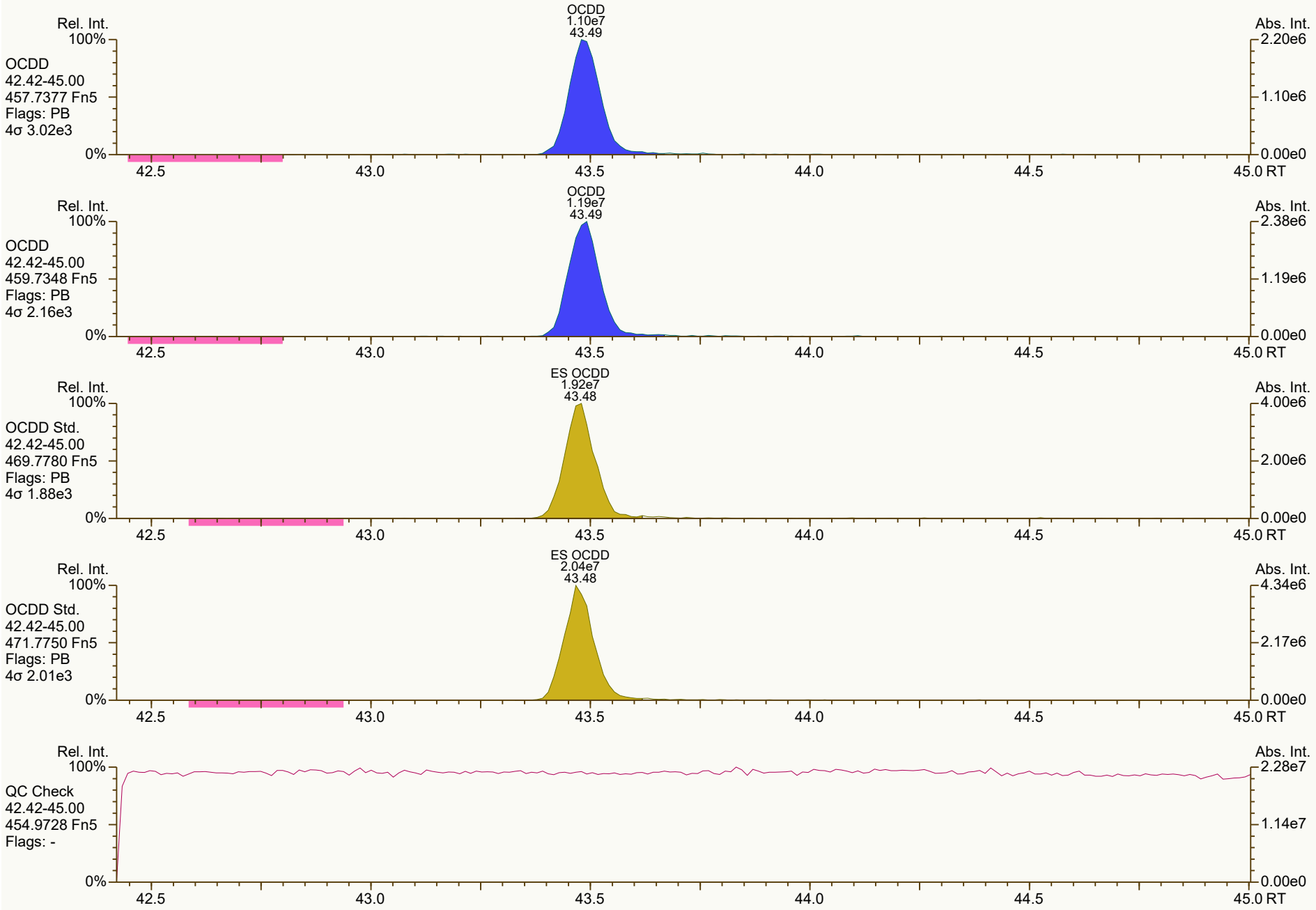
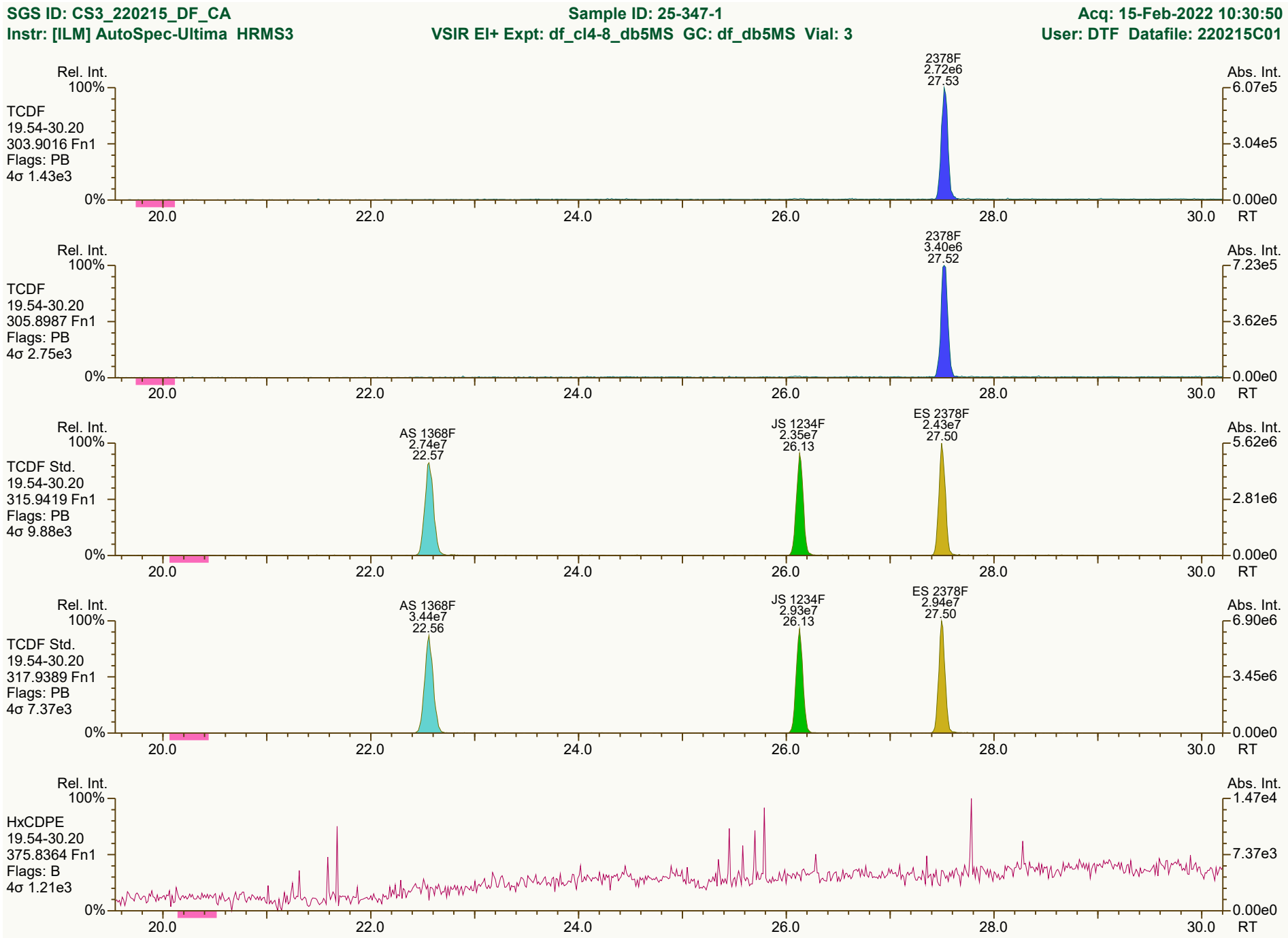
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PB
4σ 1.74e3
0%
12378D
9.92e6
33.75
Abs. Int.
2.76e6
1.38e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PB
4σ 1.86e3
0%
12378D
6.28e6
33.75
Abs. Int.
1.82e6
9.09e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 3.75e3
0%
FS 12478D
1.92e7
32.49
CS 12347D
1.70e7
33.22
ES 12378D
1.83e7
33.73
Abs. Int.
5.32e6
2.66e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 3.26e3
0%
FS 12478D
1.21e7
32.49
CS 12347D
1.03e7
33.22
ES 12378D
1.17e7
33.73
Abs. Int.
3.45e6
1.73e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.10e7
5.51e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

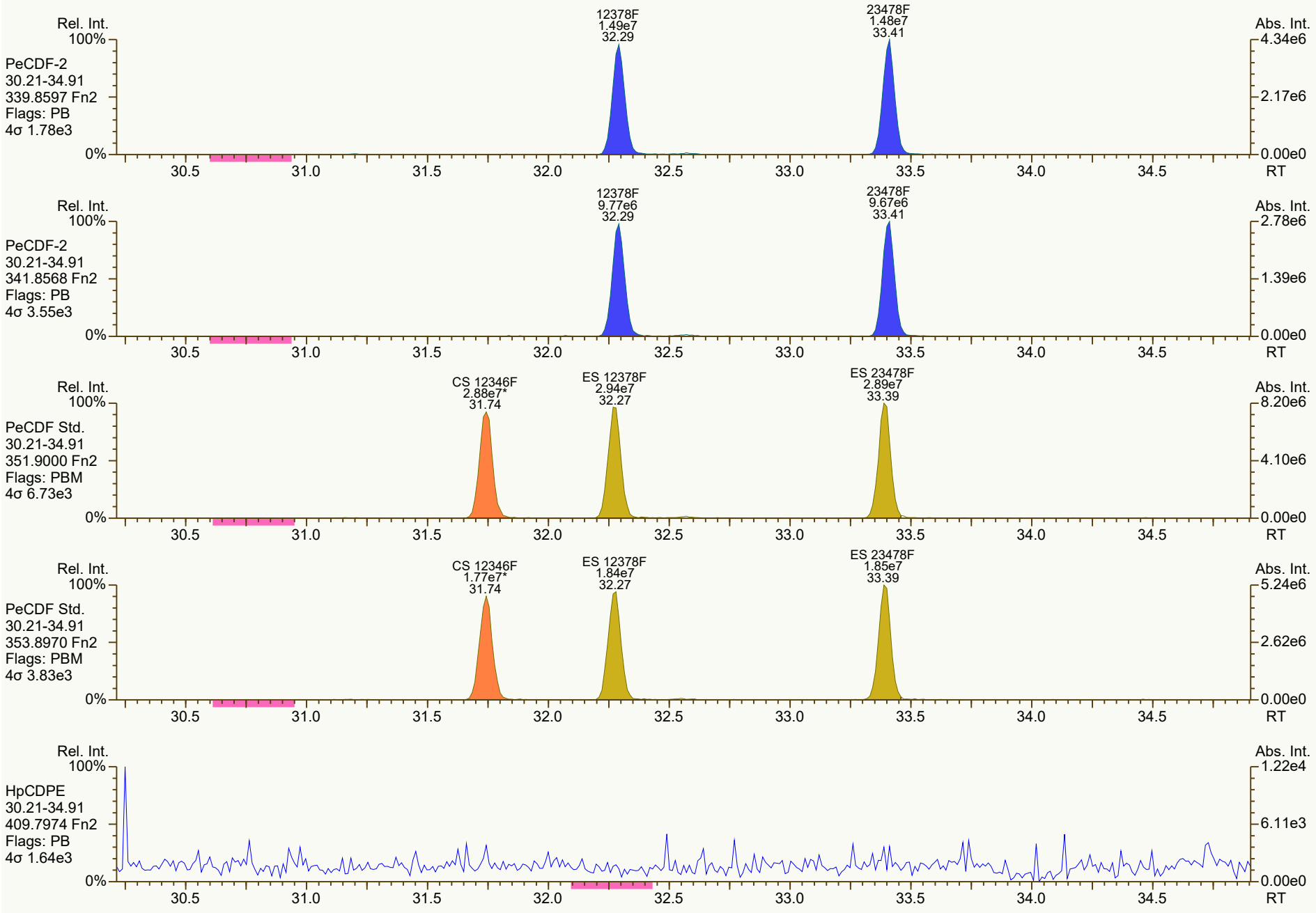

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 2.67e3
123478D
8.42e6
37.67
123678D
8.51e6
37.79
123789D
8.99e6
38.09
Abs. Int.
2.62e6
1.31e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 2.44e3
123478D
6.57e6
37.67
123678D
6.71e6
37.79
123789D
7.02e6
38.09
Abs. Int.
2.12e6
1.06e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 1.79e3
FS 123468D
2.04e7
36.56
ES 123478D
1.54e7
37.65
ES 123678D
1.48e7
37.77
JS 123467D
7.83e6*
37.97
ES 123789D
1.68e7*
38.07
Abs. Int.
6.11e6
3.06e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 3.14e3
FS 123468D
1.59e7
36.56
ES 123478D
1.20e7
37.65
ES 123678D
1.14e7
37.77
JS 123467D
5.85e6
37.97
ES 123789D
1.35e7
38.07
Abs. Int.
4.92e6
2.46e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
Abs. Int.
4.00e7
2.00e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

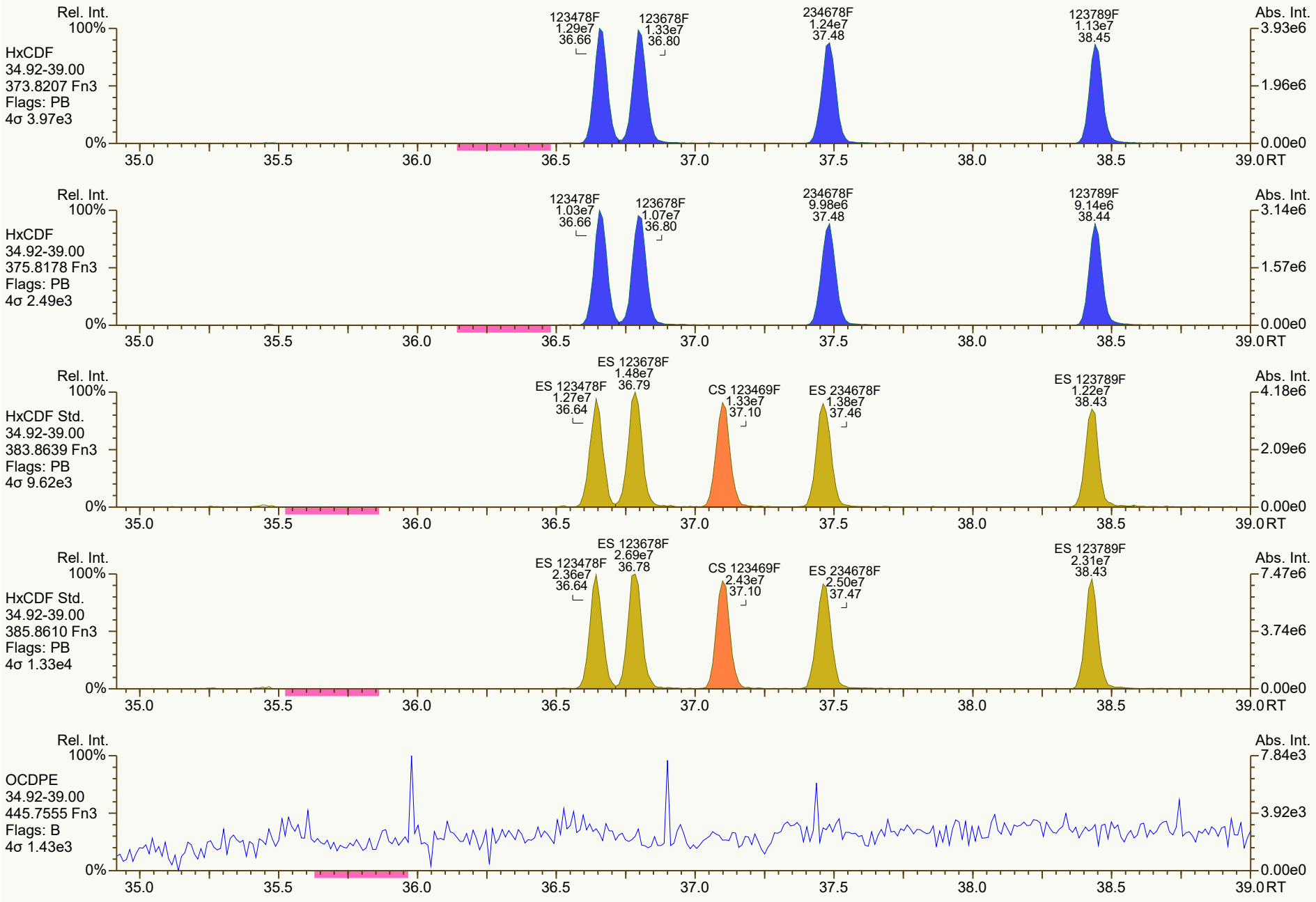

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 4.55e3
1234678D
7.43e6
40.79
Abs. Int.
2.26e6
1.13e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 2.94e3
1234678D
6.98e6
40.78
Abs. Int.
2.12e6
1.06e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.73e3
FS 1234679D
1.96e7
40.09
ES 1234678D
1.45e7
40.77
Abs. Int.
6.62e6
3.31e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 3.23e3
FS 1234679D
1.89e7
40.09
ES 1234678D
1.28e7
40.77
Abs. Int.
6.15e6
3.08e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
2.36e7
1.18e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

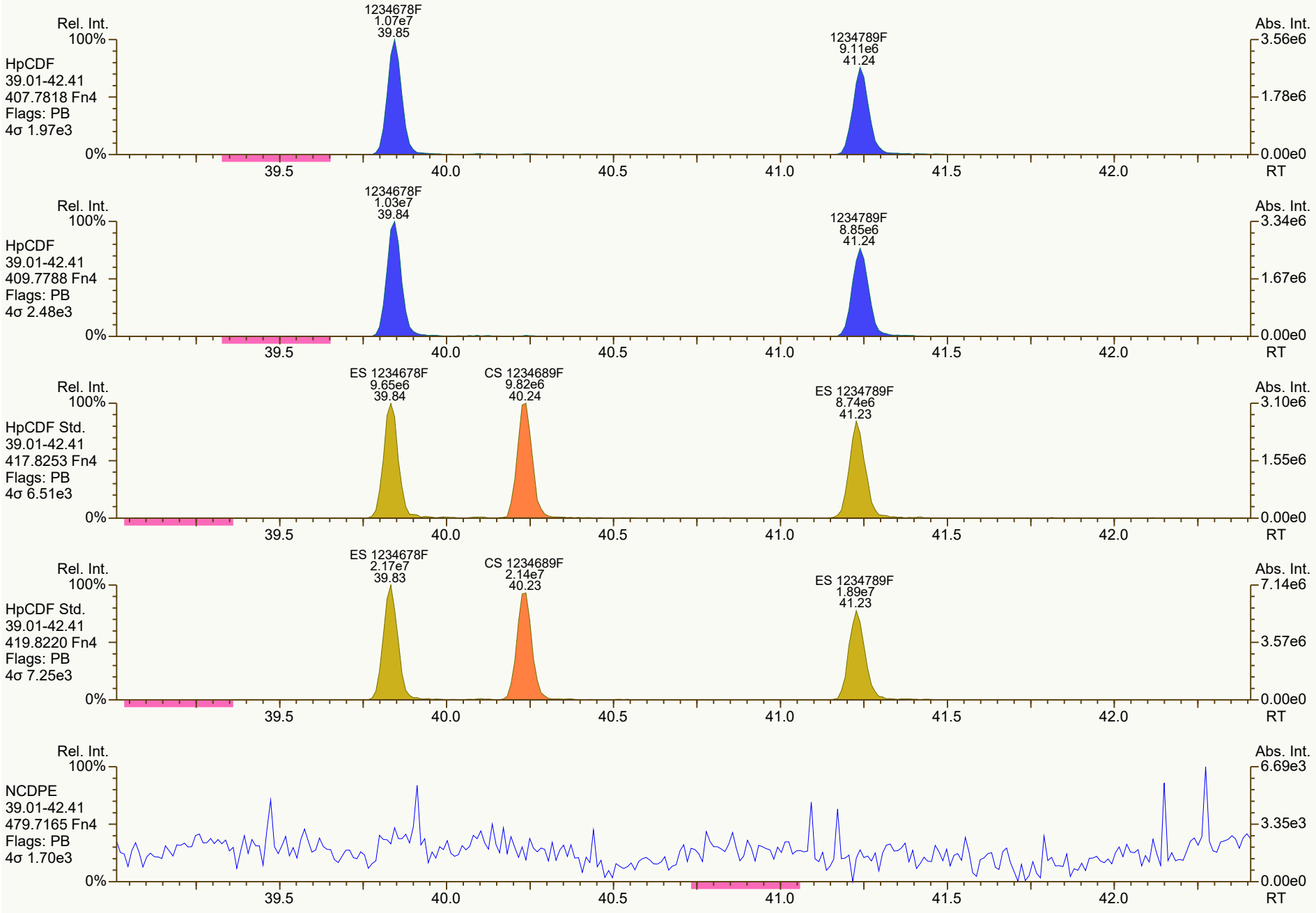

OCDD
1.10e7
43.49
Rel. Int.
Abs. Int.
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 3.02e3
OCDD
1.19e7
43.49
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 2.16e3
ES OCDD
1.92e7
43.48
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 1.88e3
ES OCDD
2.04e7
43.48
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 2.01e3
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: CS3_220215_DF_CA
Sample ID: 25-347-1
Acq: 15-Feb-2022 10:30:50
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220215C01
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.43e3
2378F
2.72e6
27.53
6.07e5
3.04e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 2.75e3
2378F
3.40e6
27.52
7.23e5
3.62e5
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 9.88e3
AS 1368F
2.74e7
22.57
JS 1234F
2.35e7
26.13
ES 2378F
2.43e7
27.50
5.62e6
2.81e6
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 7.37e3
AS 1368F
3.44e7
22.56
JS 1234F
2.93e7
26.13
ES 2378F
2.94e7
27.50
6.90e6
3.45e6
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.21e3
1.47e4
7.37e3
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\CS3_220215_DF_CA.utp_res, saved 17-Feb-2022 16:52 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7054, 9668, 2978 scc: 059-393
PKD: 15-Feb-2022 11:26 Printed: 17-Feb-2022 16:54 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.13e4
5.67e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.46e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.16e4
1.08e4
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 2.98e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.28e7
6.39e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PB
4σ 1.78e3
0%
12378F
1.49e7
32.29
23478F
1.48e7
33.41
Abs. Int.
4.34e6
2.17e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PB
4σ 3.55e3
0%
12378F
9.77e6
32.29
23478F
9.67e6
33.41
Abs. Int.
2.78e6
1.39e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PBM
4σ 6.73e3
0%
CS 12346F
2.88e7*
31.74
ES 12378F
2.94e7
32.27
ES 23478F
2.89e7
33.39
Abs. Int.
8.20e6
4.10e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PBM
4σ 3.83e3
0%
CS 12346F
1.77e7*
31.74
ES 12378F
1.84e7
32.27
ES 23478F
1.85e7
33.39
Abs. Int.
5.24e6
2.62e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: PB
4σ 1.64e3
0%
Abs. Int.
1.22e4
6.11e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

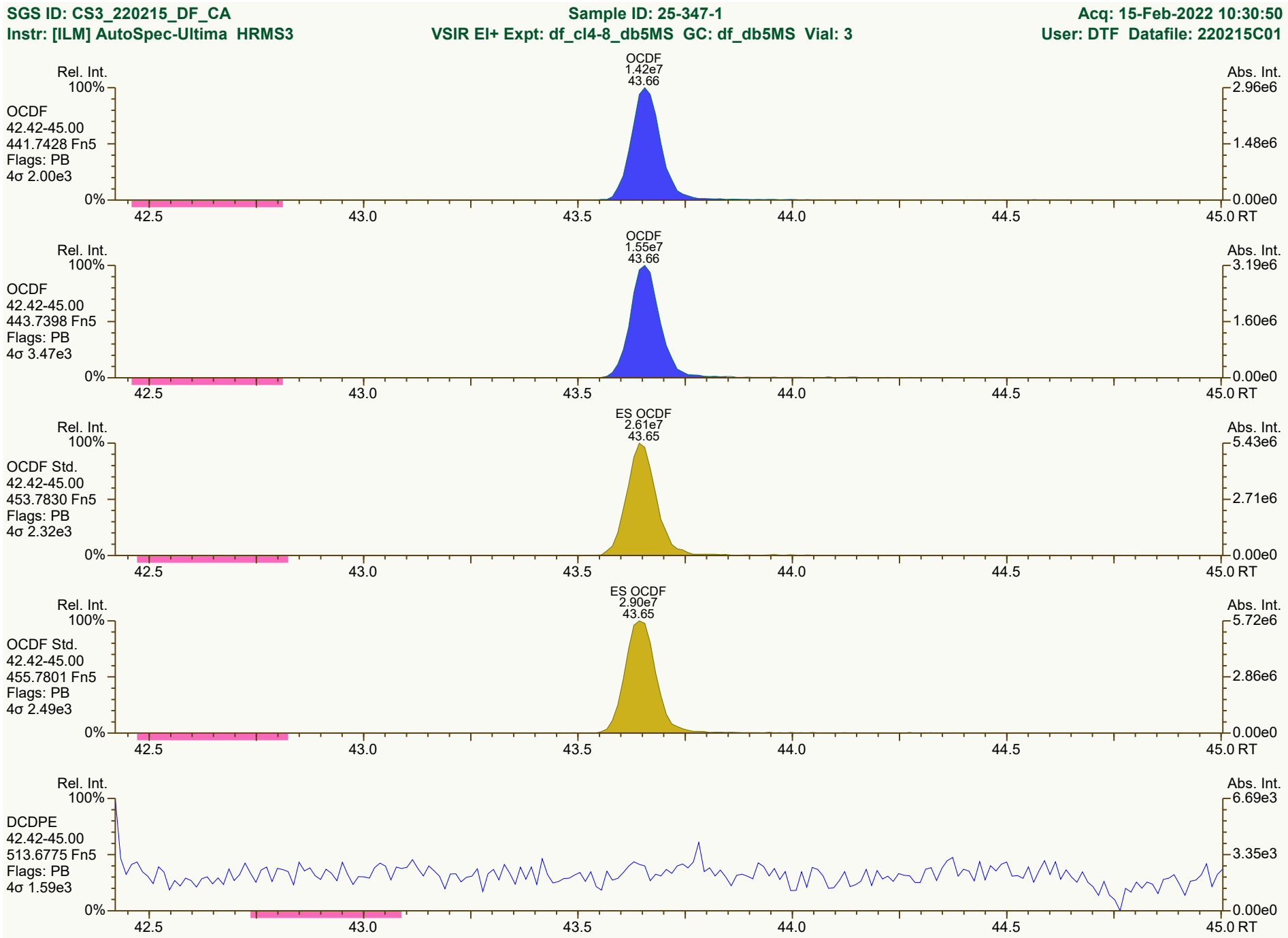

Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PB
4σ 3.97e3
0%
123478F
1.29e7
36.66
123678F
1.33e7
36.80
234678F
1.24e7
37.48
123789F
1.13e7
38.45
Abs. Int.
3.93e6
1.96e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PB
4σ 2.49e3
0%
123478F
1.03e7
36.66
123678F
1.07e7
36.80
234678F
9.98e6
37.48
123789F
9.14e6
38.44
Abs. Int.
3.14e6
1.57e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 9.62e3
0%
ES 123678F
1.48e7
36.79
ES 123478F
1.27e7
36.64
CS 123469F
1.33e7
37.10
ES 234678F
1.38e7
37.46
ES 123789F
1.22e7
38.43
Abs. Int.
4.18e6
2.09e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 1.33e4
0%
ES 123678F
2.69e7
36.78
ES 123478F
2.36e7
36.64
CS 123469F
2.43e7
37.10
ES 234678F
2.50e7
37.47
ES 123789F
2.31e7
38.43
Abs. Int.
7.47e6
3.74e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.43e3
0%
Abs. Int.
7.84e3
3.92e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.97e3
1234678F
1.07e7
39.85
1234789F
9.11e6
41.24
Abs. Int.
3.56e6
1.78e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 2.48e3
1234678F
1.03e7
39.84
1234789F
8.85e6
41.24
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 6.51e3
ES 1234678F
9.65e6
39.84
CS 1234689F
9.82e6
40.24
ES 1234789F
8.74e6
41.23
Abs. Int.
3.10e6
1.55e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 7.25e3
ES 1234678F
2.17e7
39.83
CS 1234689F
2.14e7
40.23
ES 1234789F
1.89e7
41.23
Abs. Int.
7.14e6
3.57e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.70e3
Abs. Int.
6.69e3
3.35e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

SGS ID: CS3_220215_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

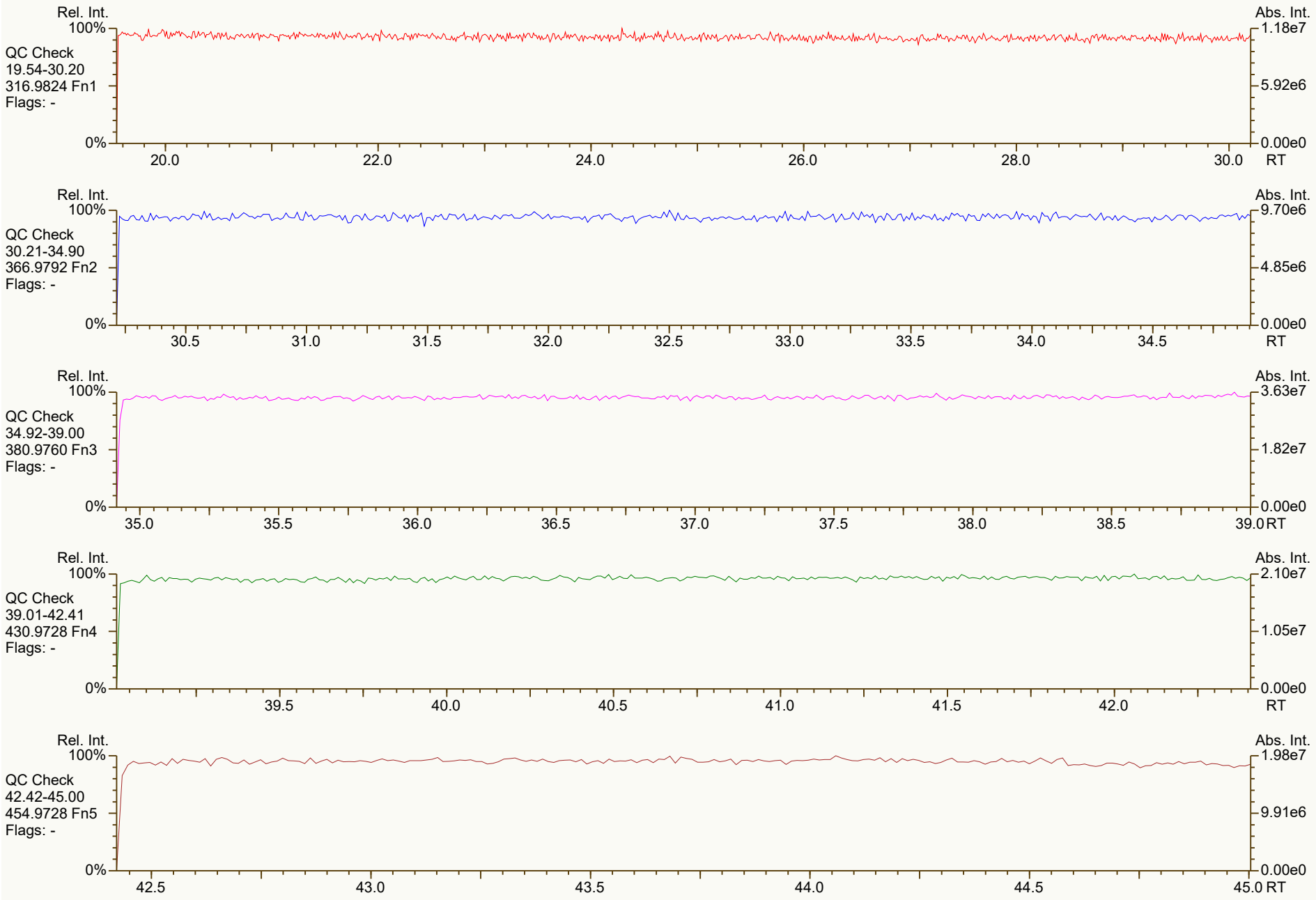
Sample ID: 25-347-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3

Acq: 15-Feb-2022 10:30:50
User: DTF Datafile: 220215C01



Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\CS3_220215_DF_CA.utp_res, saved 17-Feb-2022 16:52 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7157, 7934, 6125 scc: 059-393

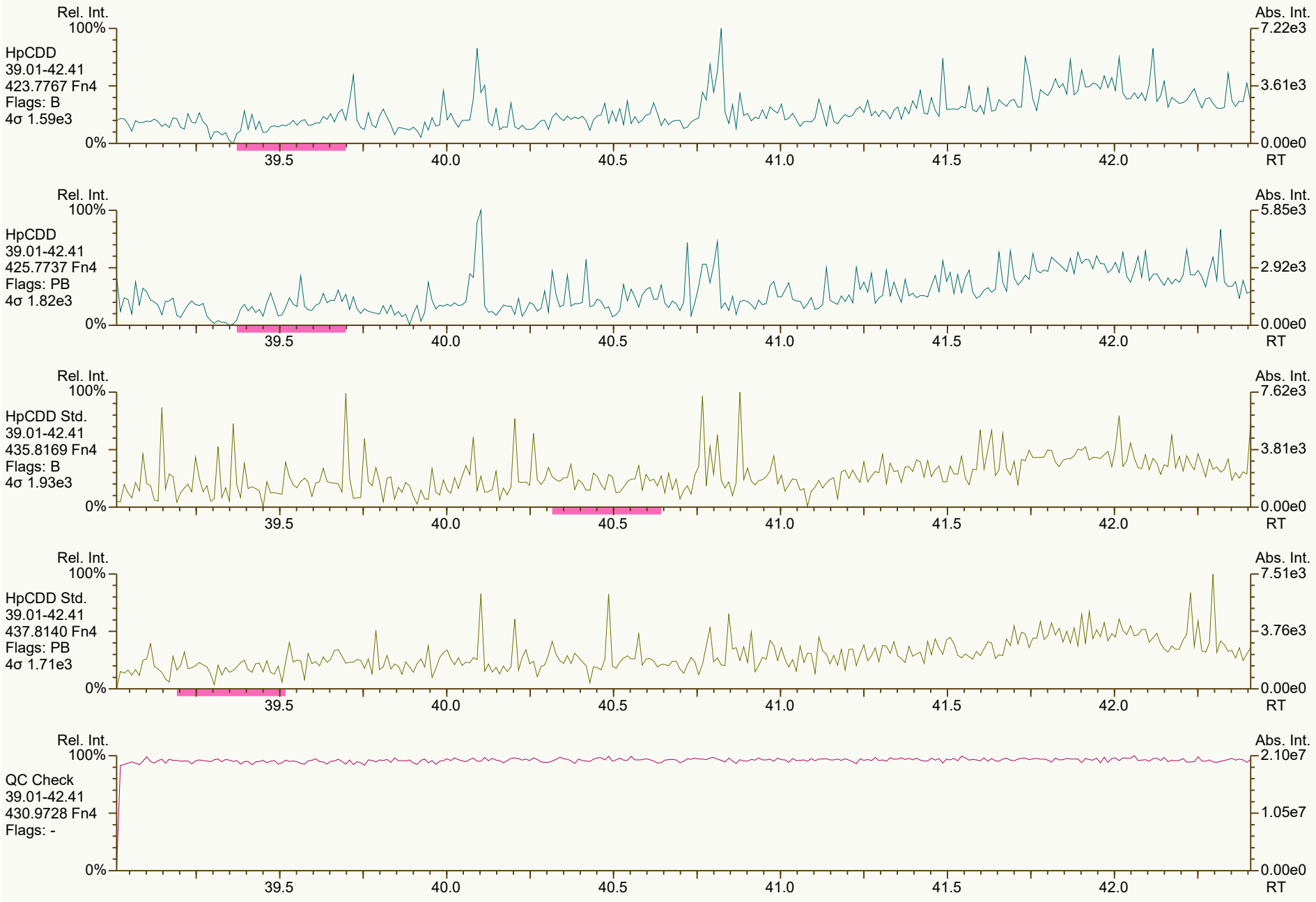
Peak annotation: Areas, Centroids
PKD: 15-Feb-2022 11:26 Printed: 17-Feb-2022 16:54 Page 12 of 12


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.18e7
5.92e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
9.70e6
4.85e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
3.63e7
1.82e7
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
2.10e7
1.05e7
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.98e7
9.91e6
0.00e0

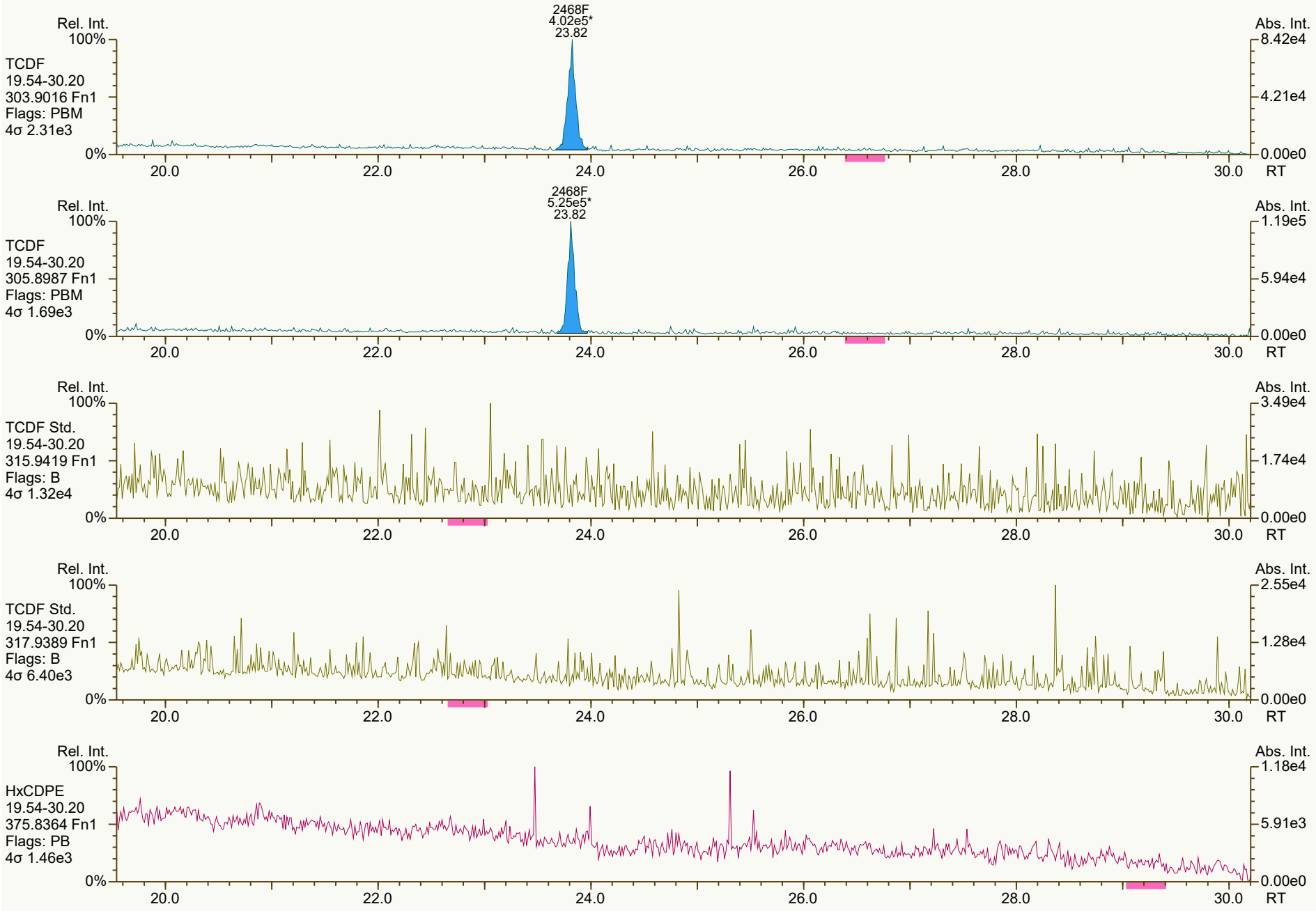

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 3.83e3
0%
Abs. Int.
1.26e4
6.31e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.53e3
0%
Abs. Int.
1.11e4
5.54e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: B
4σ 1.90e3
0%
Abs. Int.
2.88e4
1.44e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 8.20e3
0%
Abs. Int.
3.61e4
1.81e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 5.91e3
0%
Abs. Int.
3.38e4
1.69e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PB
4σ 1.81e3
0%
Abs. Int.
9.29e3
4.65e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 1.20e3
0%
Abs. Int.
5.10e3
2.55e3
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: B
4σ 2.31e3
0%
Abs. Int.
1.89e4
9.47e3
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 2.58e3
0%
Abs. Int.
8.08e3
4.04e3
0.00e0
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
9.70e6
4.85e6
0.00e0
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: B
4σ 1.26e3
0%
Abs. Int.
8.49e3
4.24e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: B
4σ 1.27e3
0%
Abs. Int.
6.46e3
3.23e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: B
4σ 2.12e3
0%
Abs. Int.
1.50e4
7.51e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: B
4σ 2.61e3
0%
Abs. Int.
1.42e4
7.12e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.63e7
1.82e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

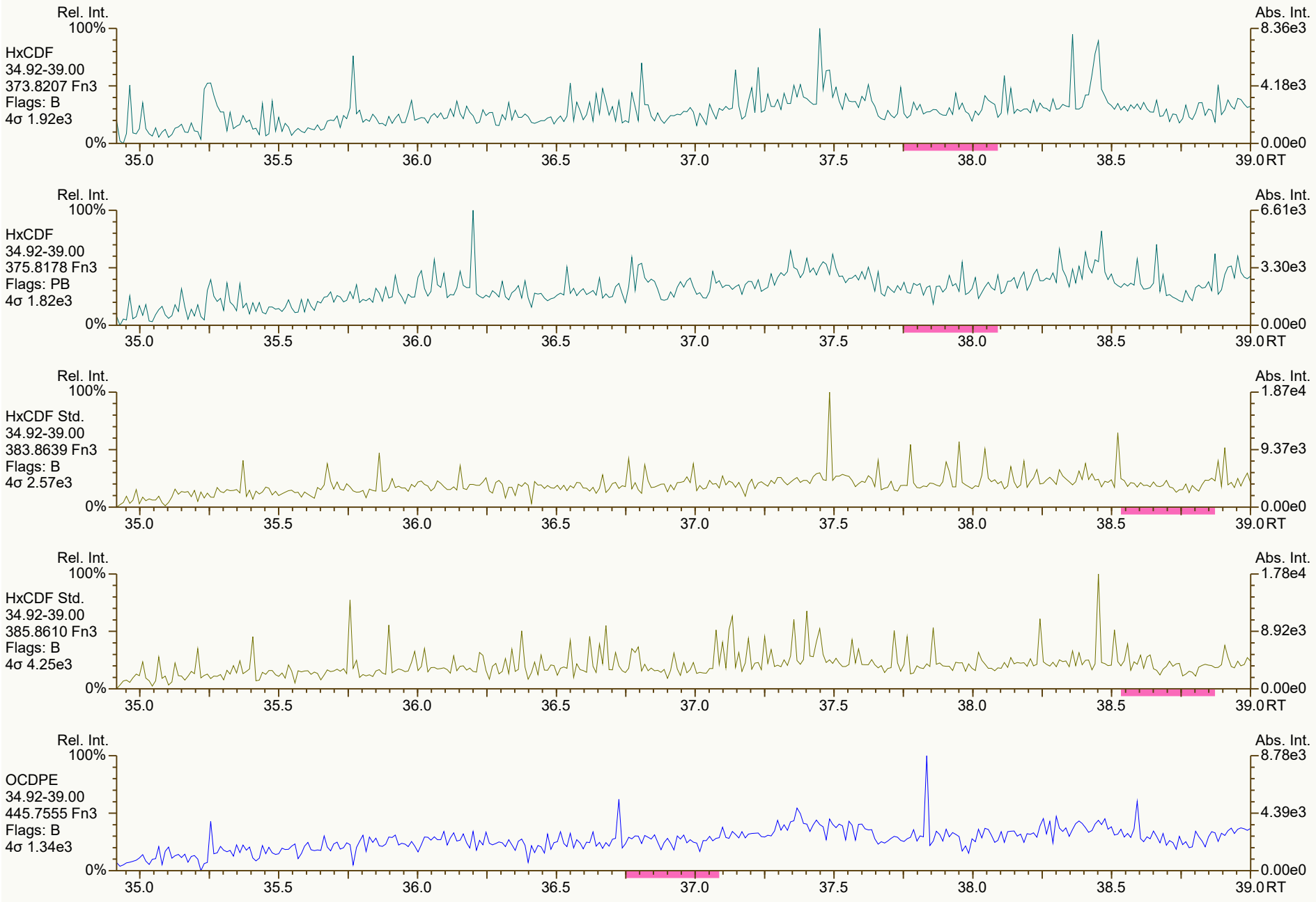

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.59e3
0%
Abs. Int.
7.22e3
3.61e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.82e3
0%
Abs. Int.
5.85e3
2.92e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: B
4σ 1.93e3
0%
Abs. Int.
7.62e3
3.81e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.71e3
0%
Abs. Int.
7.51e3
3.76e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
2.10e7
1.05e7
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: B
4σ 1.69e3
0%
Abs. Int.
1.39e4
6.93e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: B
4σ 2.58e3
0%
Abs. Int.
1.12e4
5.61e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.82e4
9.10e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: B
4σ 2.46e3
0%
Abs. Int.
1.40e4
7.02e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.98e7
9.91e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


2468F
4.02e5*
23.82
Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 2.31e3
0%
Abs. Int.
8.42e4
4.21e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
2468F
5.25e5*
23.82
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.69e3
1.19e5
5.94e4
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 1.32e4
3.49e4
1.74e4
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 6.40e3
2.55e4
1.28e4
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.46e3
1.18e4
5.91e3


Rel. Int.
100%
0%
Abs. Int.
1.19e4
5.96e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.77e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.33e4
6.65e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.61e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.18e7
5.92e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: B
4σ 1.66e3
0%
Abs. Int.
1.01e4
5.04e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
8.32e3
4.16e3
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.36e4
6.82e3
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: B
4σ 1.66e3
0%
Abs. Int.
1.70e4
8.49e3
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.63e3
0%
Abs. Int.
2.09e4
1.05e4
0.00e0
RT

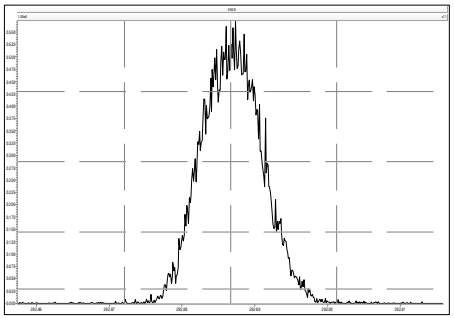

Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: B
4σ 1.92e3
0%
Abs. Int.
8.36e3
4.18e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PB
4σ 1.82e3
0%
Abs. Int.
6.61e3
3.30e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: B
4σ 2.57e3
0%
Abs. Int.
1.87e4
9.37e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: B
4σ 4.25e3
0%
Abs. Int.
1.78e4
8.92e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.34e3
0%
Abs. Int.
8.78e3
4.39e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: B
4σ 1.86e3
0%
Abs. Int.
7.82e3
3.91e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.18e3
0%
Abs. Int.
5.40e3
2.70e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: B
4σ 2.18e3
0%
Abs. Int.
1.84e4
9.21e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: B
4σ 2.24e3
0%
Abs. Int.
2.12e4
1.06e4
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.53e3
0%
Abs. Int.
5.63e3
2.81e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

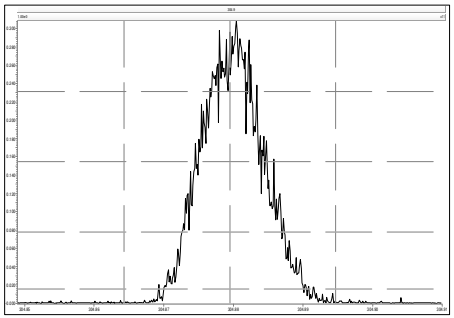

Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.46e3
0%
Abs. Int.
5.73e3
2.87e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: B
4σ 1.36e3
0%
Abs. Int.
1.43e4
7.14e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: B
4σ 2.41e3
0%
Abs. Int.
1.34e4
6.68e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: B
4σ 2.45e3
0%
Abs. Int.
1.94e4
9.70e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.34e3
0%
Abs. Int.
8.74e3
4.37e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Printed: Tuesday, February 15, 2022 09:46:21 Eastern Standard Time

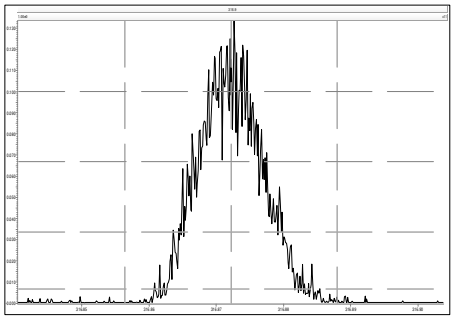
M 292.9824 R 15556



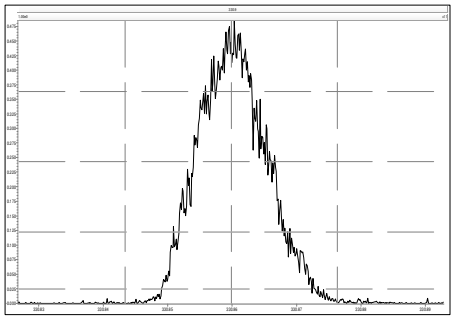
M 304.9824 R 15197



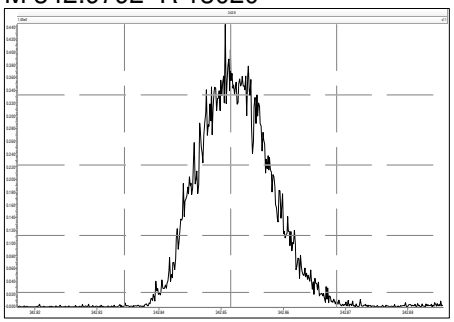
M 316.9824 R 15337



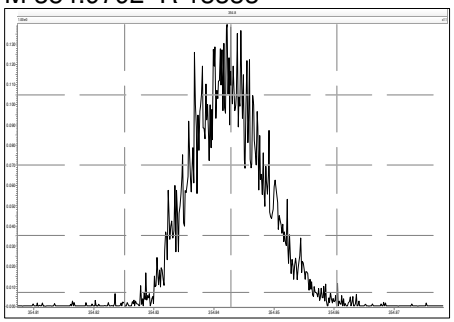
M 330.9792 R 14124



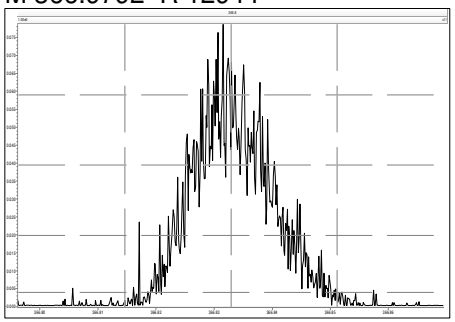
M 342.9792 R 13020



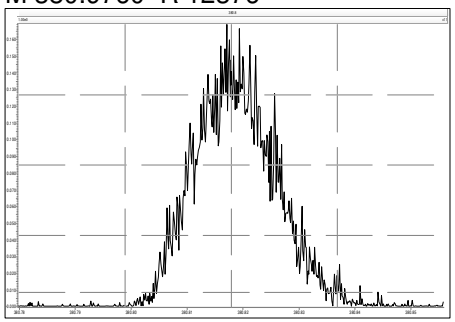
M 354.9792 R 13333



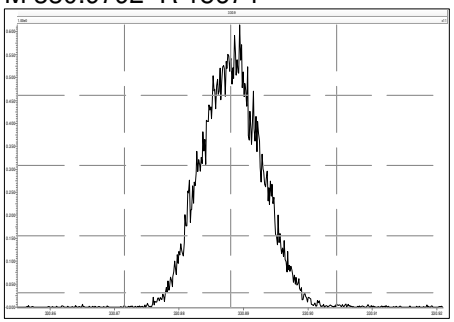
M 366.9792 R 12944



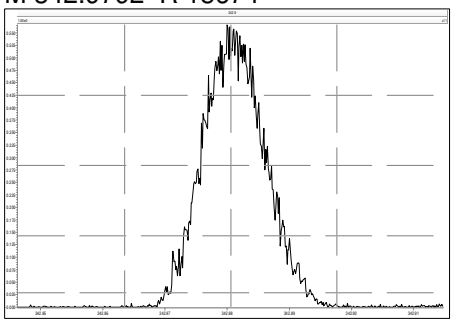
M 380.9760 R 12376



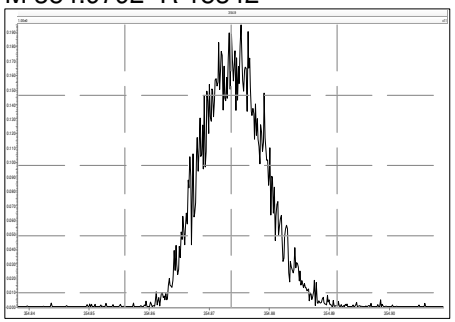
M 330.9792 R 15674



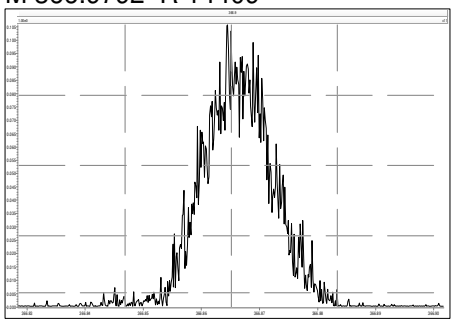
M 342.9792 R 15674



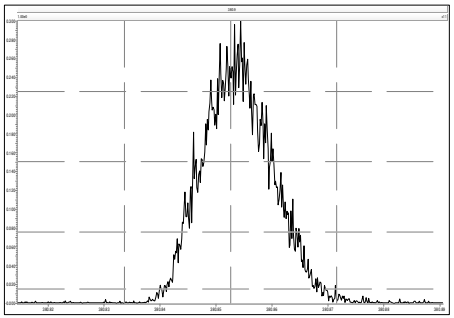
M 354.9792 R 15342



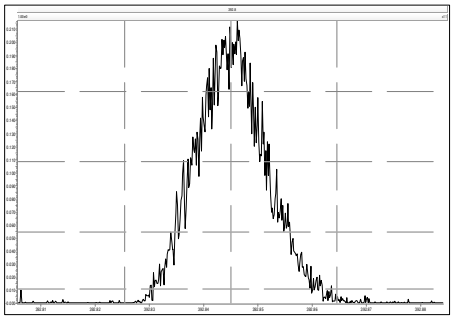
M 366.9792 R 14409



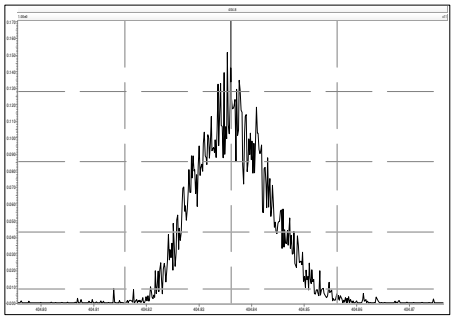
M 380.9760 R 13550



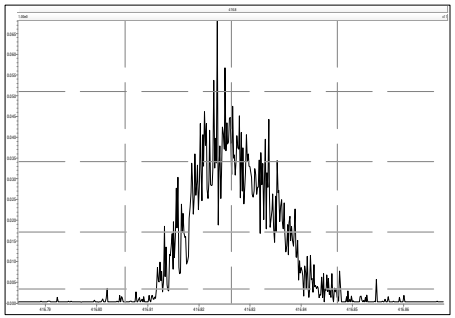
M 392.9760 R 13703



M 404.9760 R 13703



M 416.9760 R 14367



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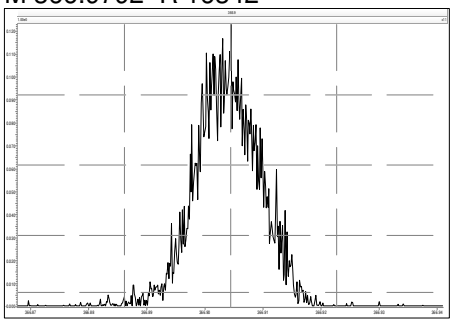

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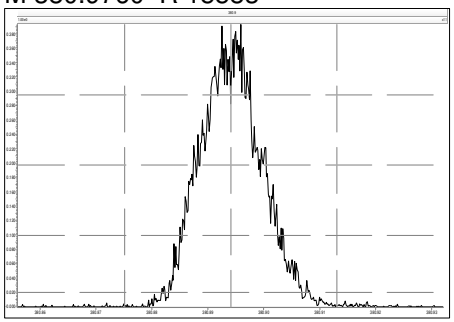

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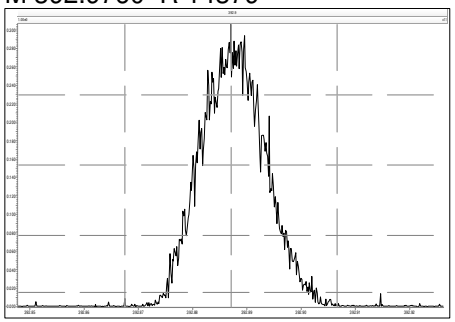

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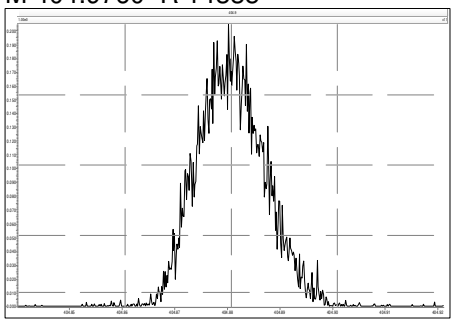

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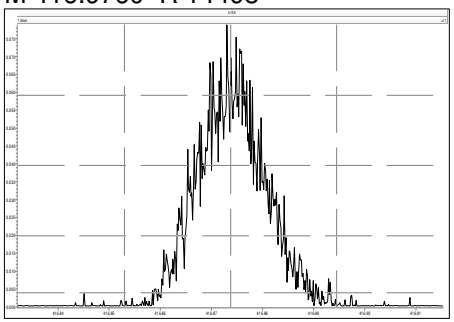

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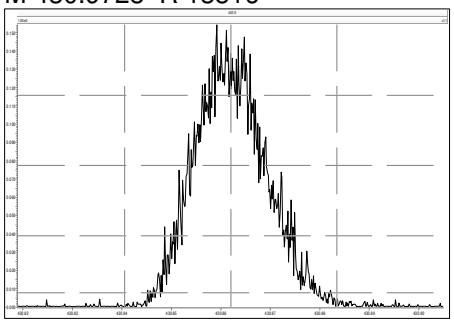

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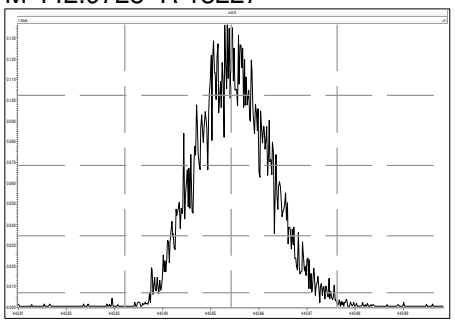

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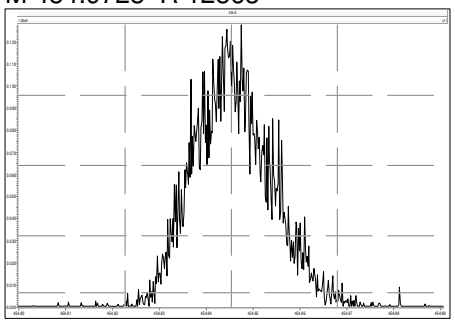

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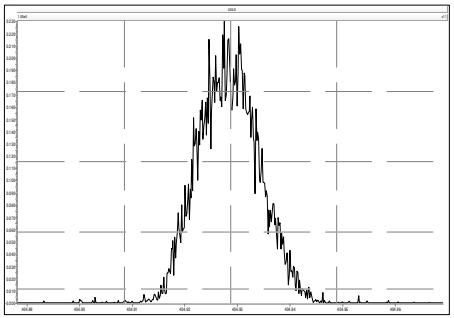

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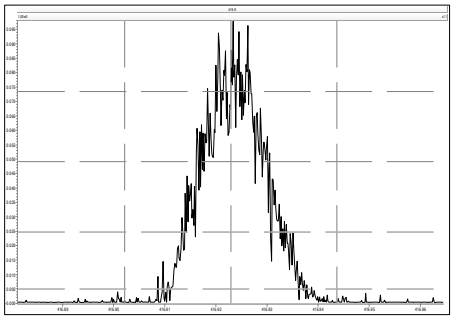

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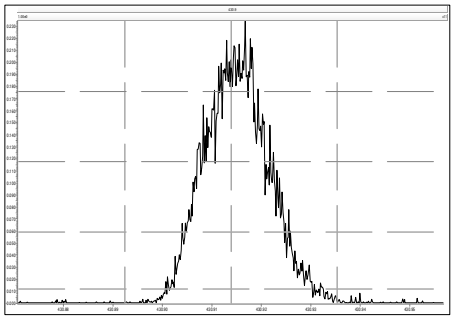

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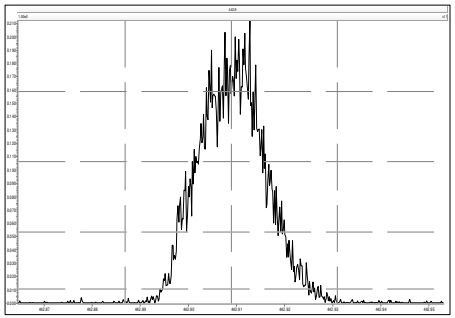

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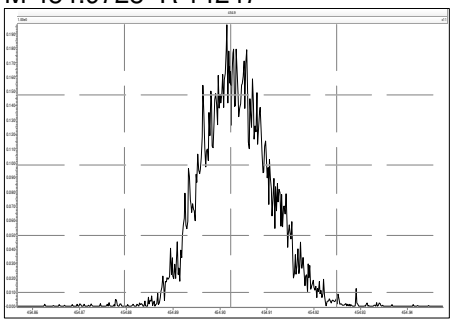

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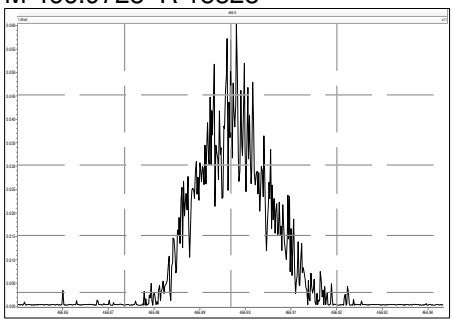

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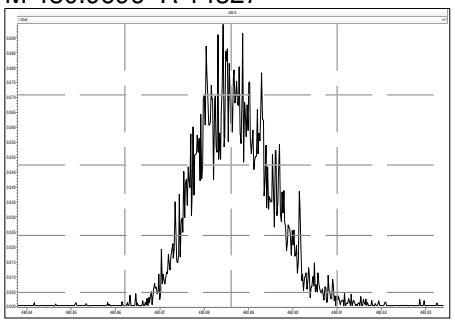

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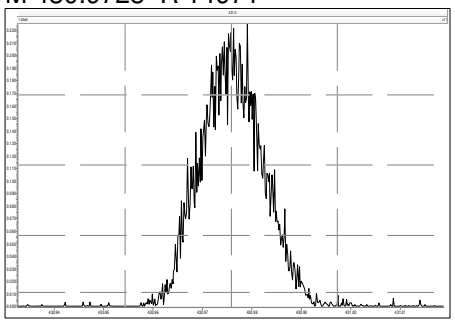

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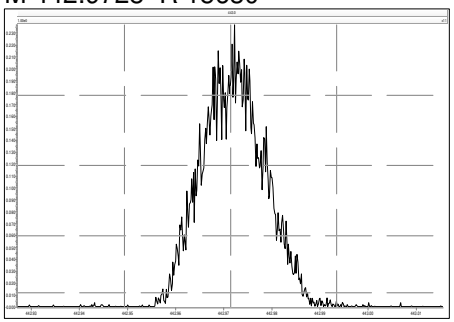

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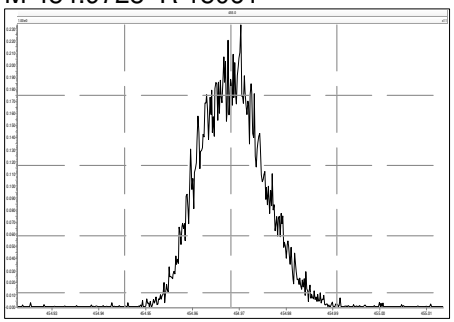

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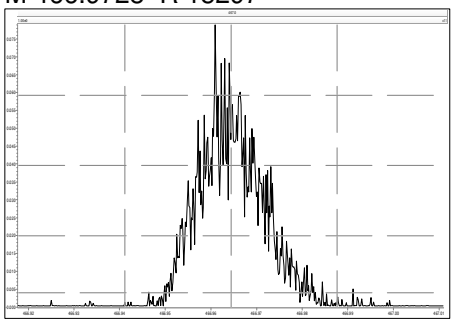

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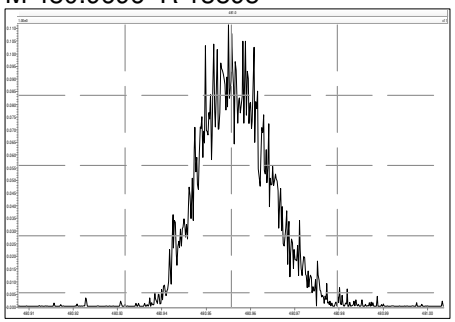

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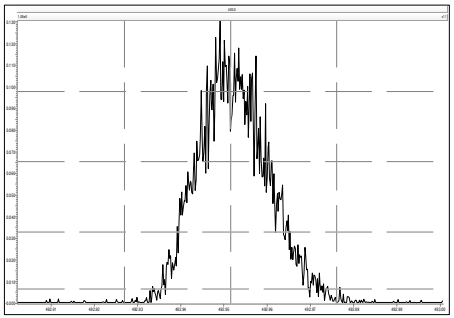

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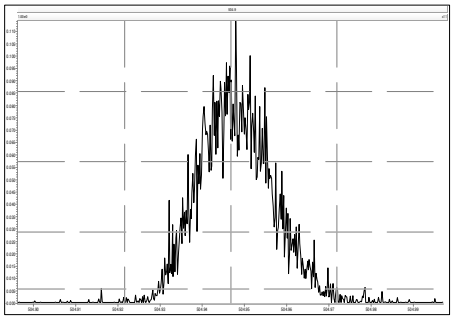

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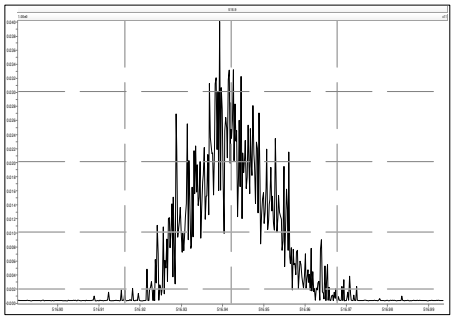

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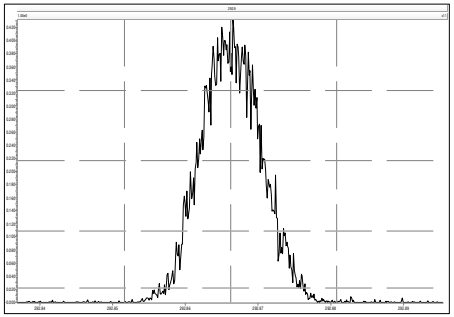

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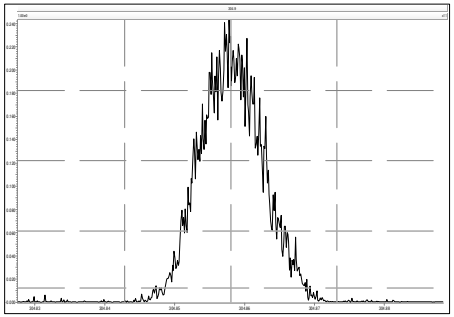

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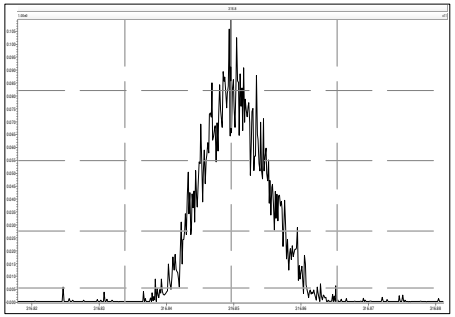

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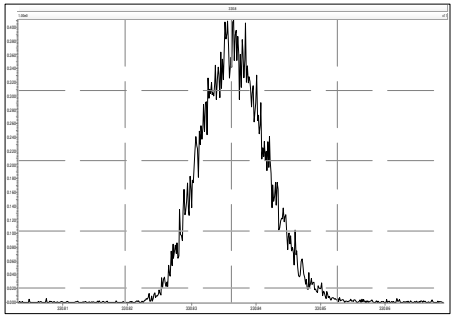

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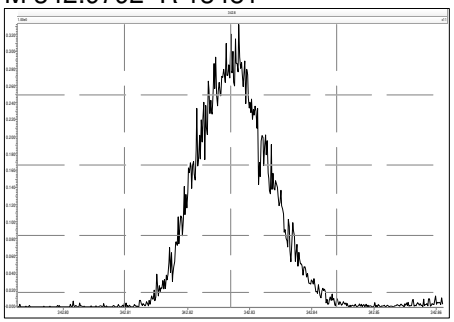

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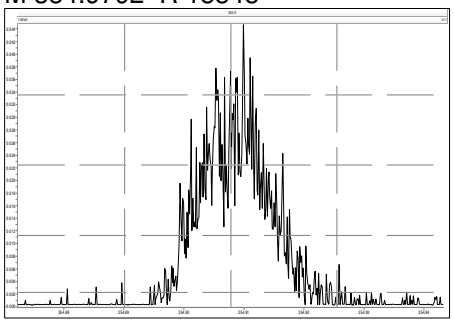

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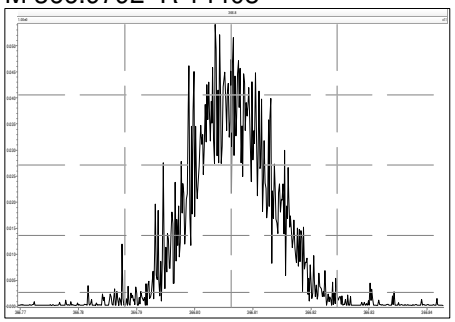

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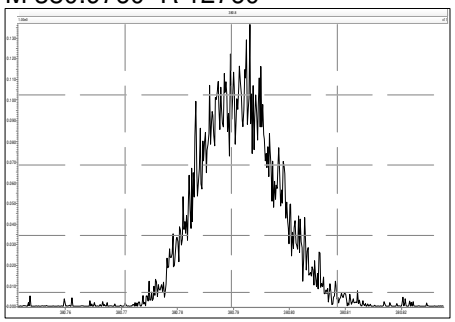

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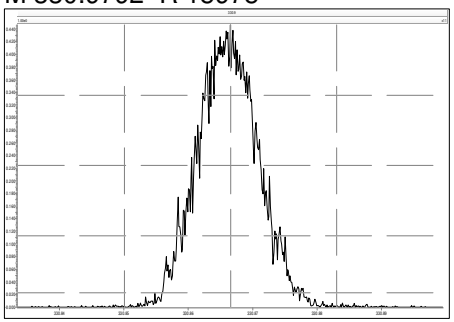

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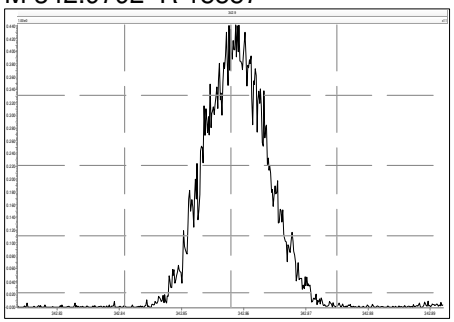

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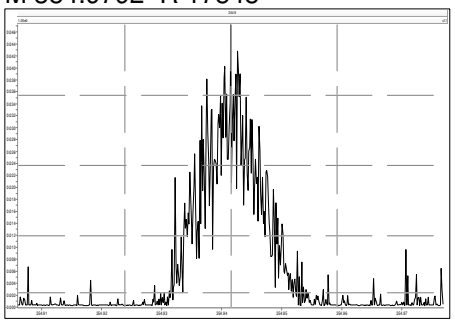

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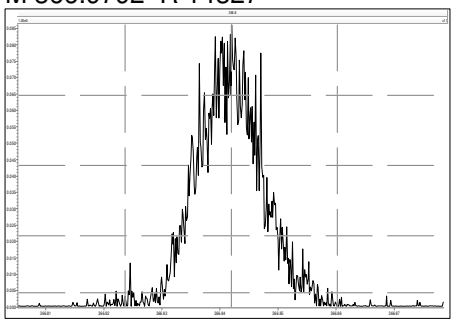

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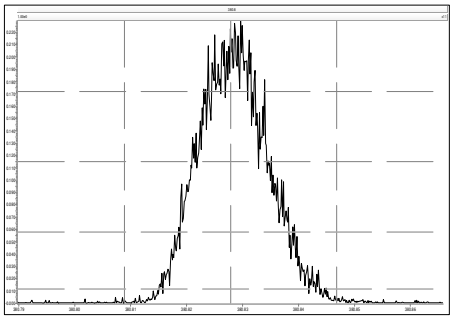

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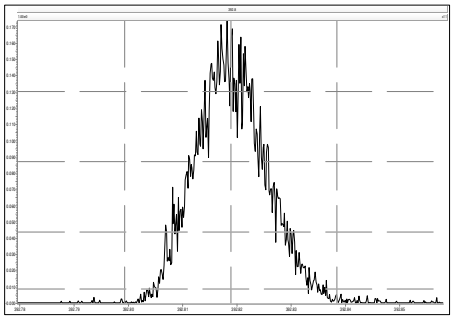

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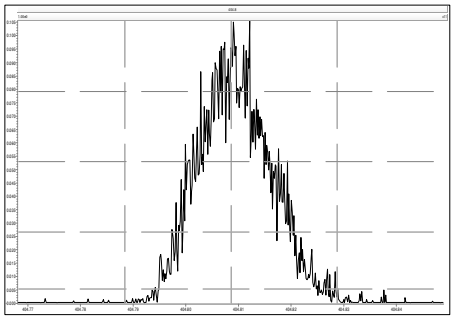

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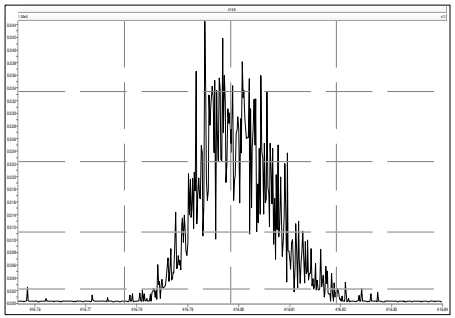

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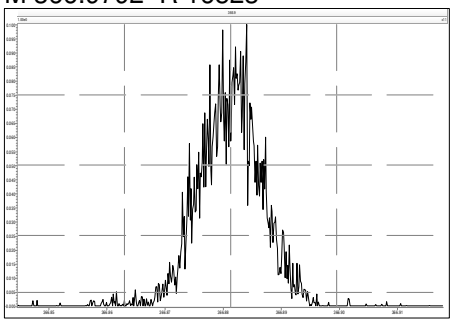

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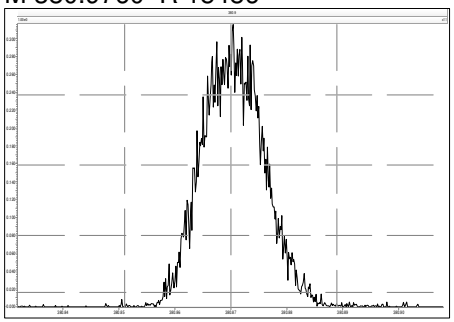

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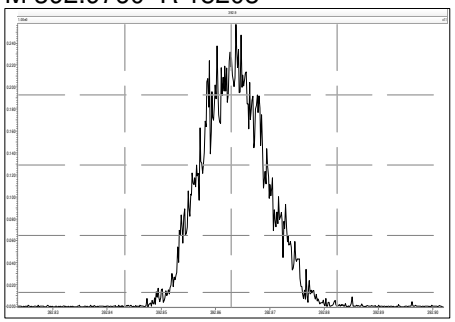

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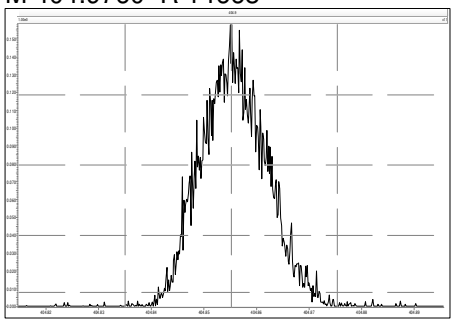

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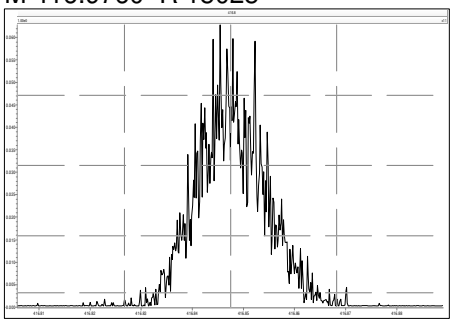

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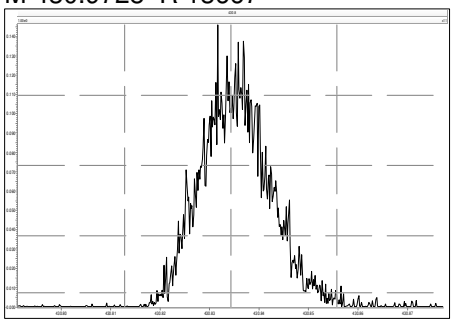

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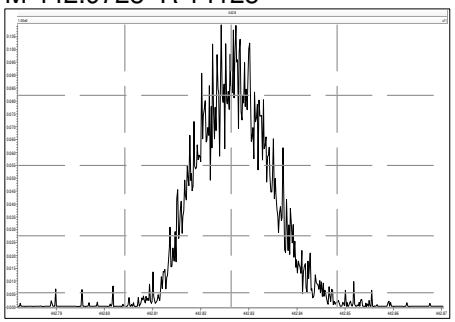

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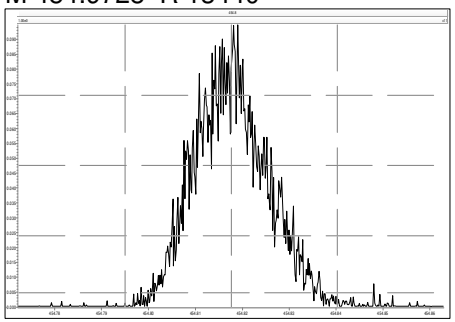

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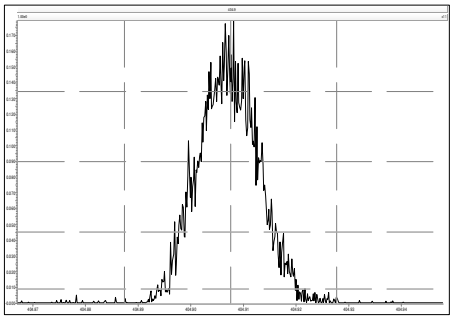

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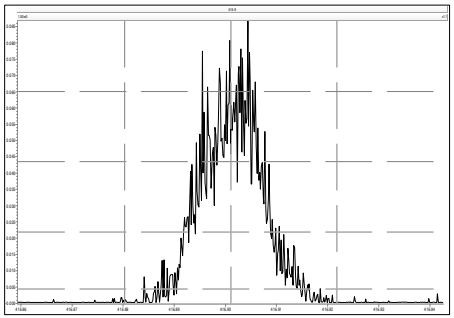

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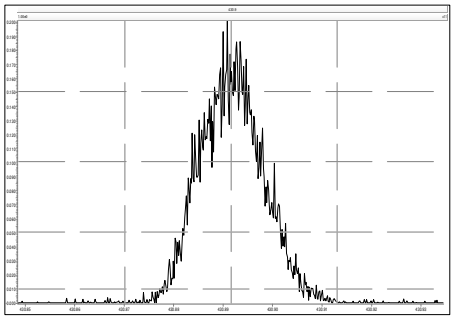

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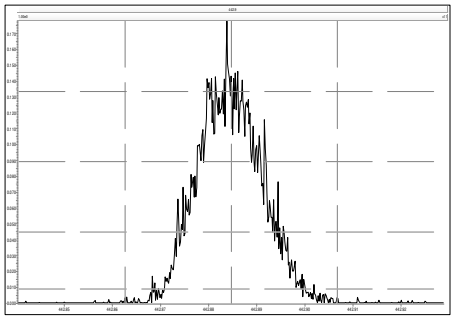

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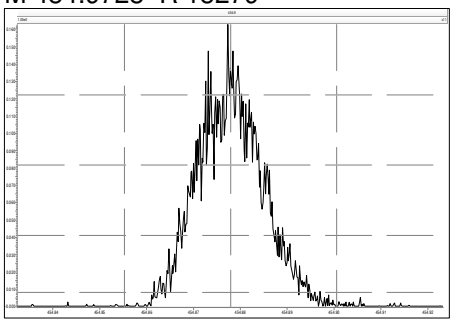

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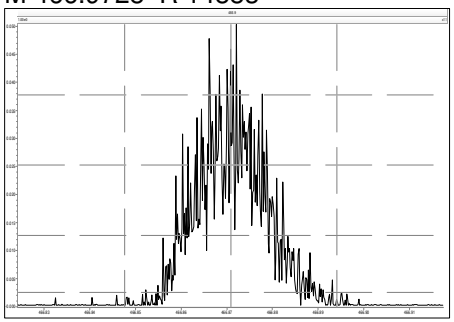
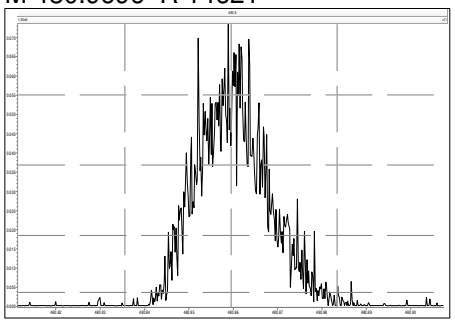


M 480.9696 R 14621



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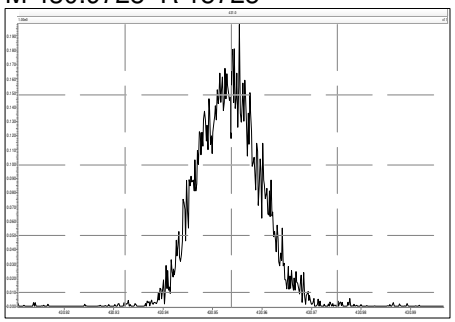

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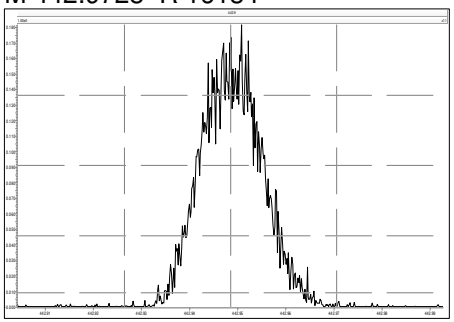

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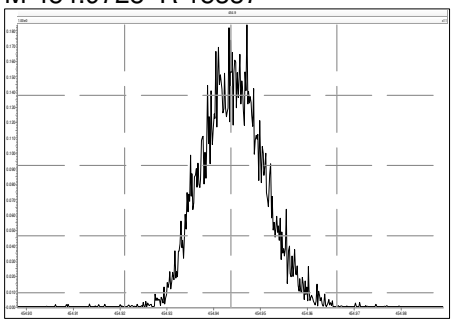

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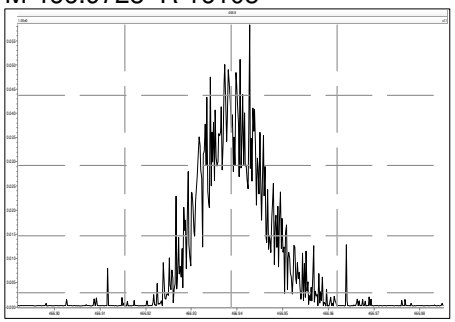

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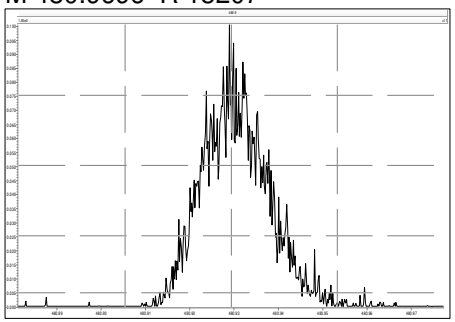

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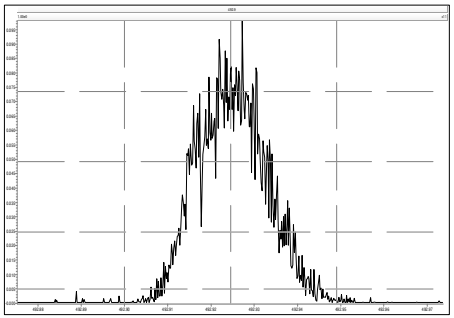

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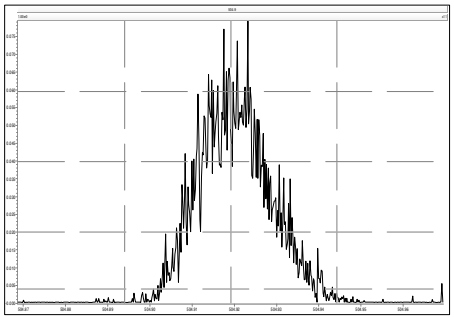

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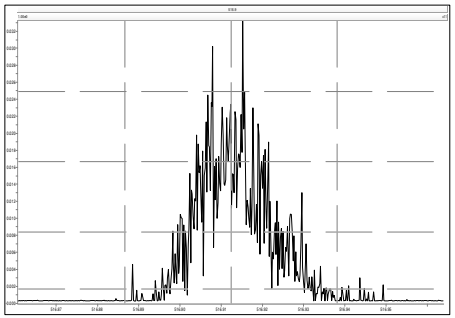

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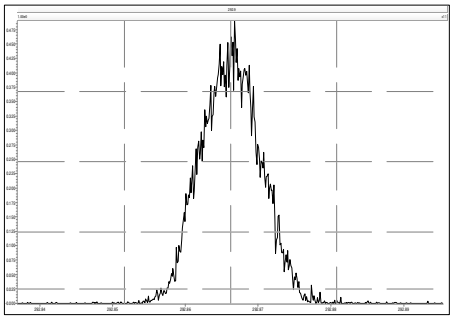

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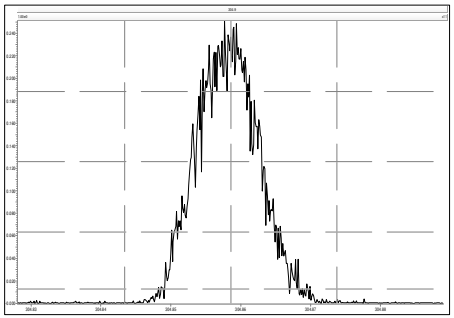

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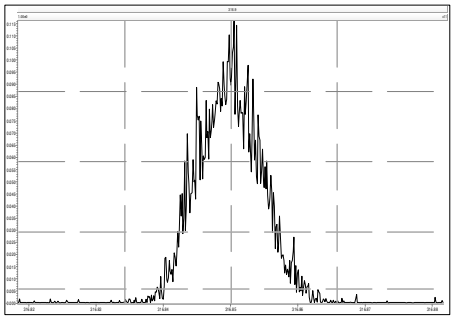

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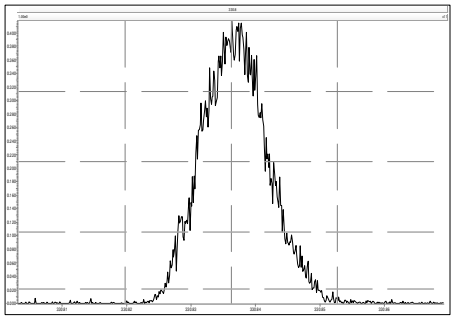

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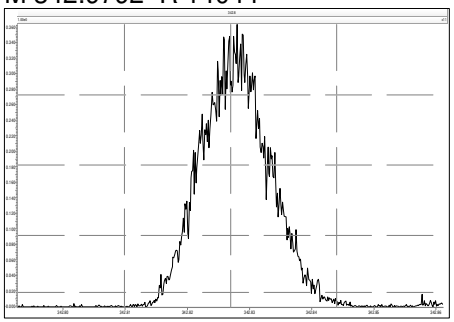

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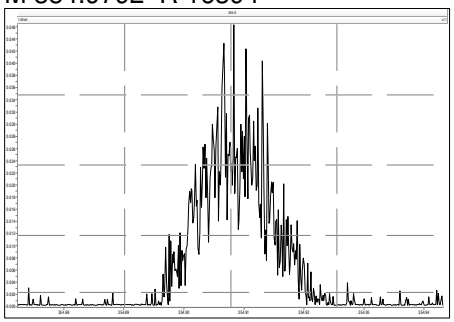

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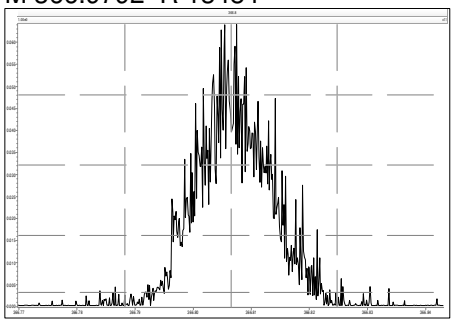

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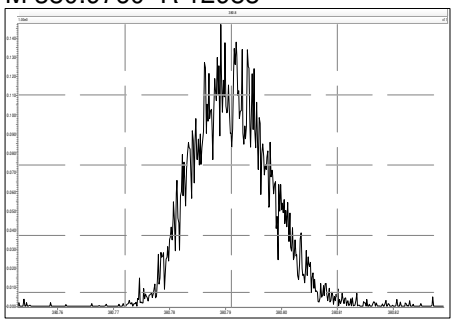

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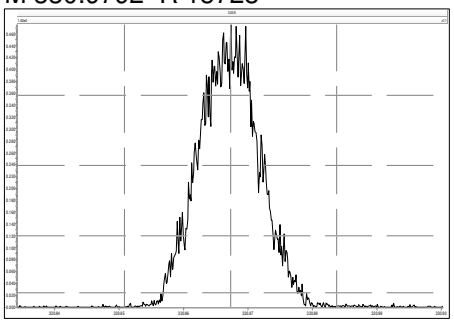

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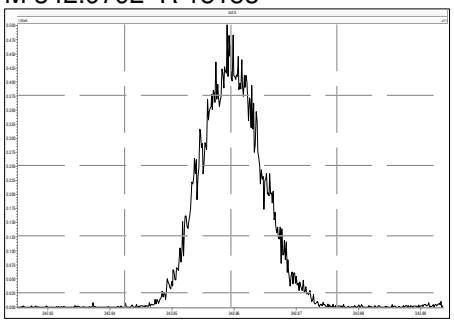

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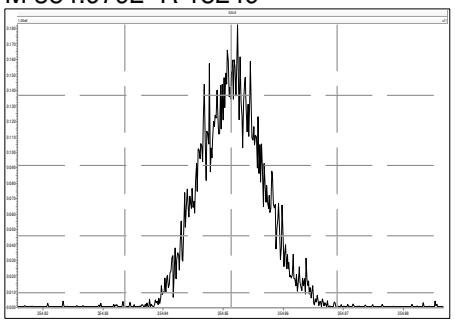

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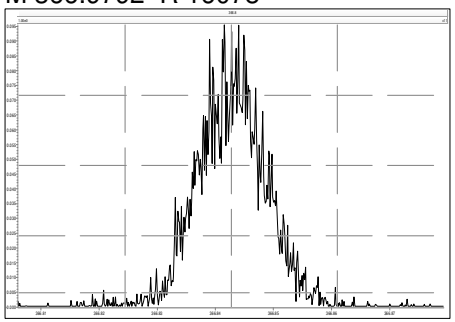

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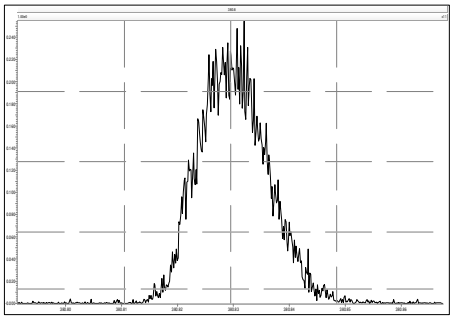

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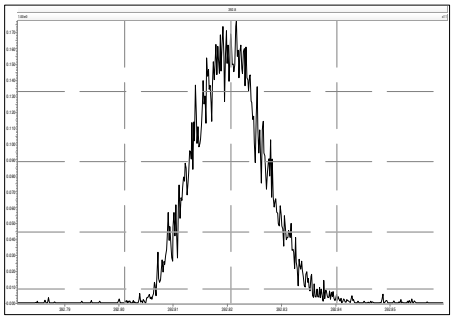

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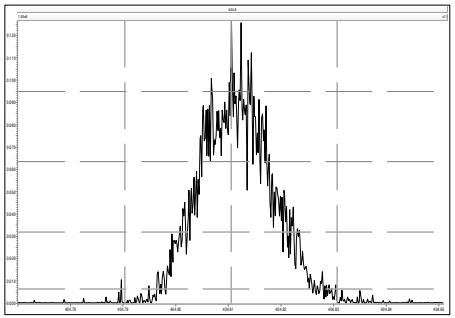

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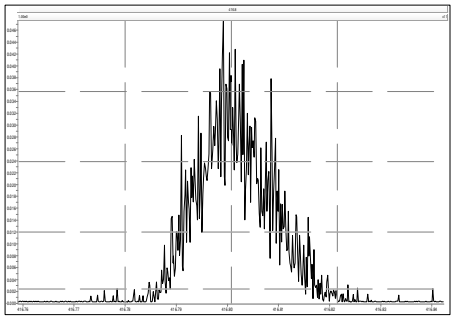

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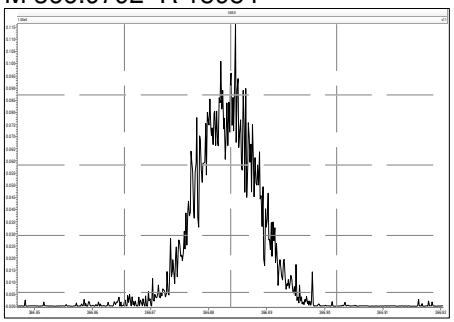

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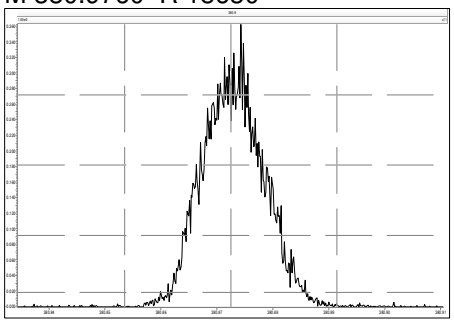

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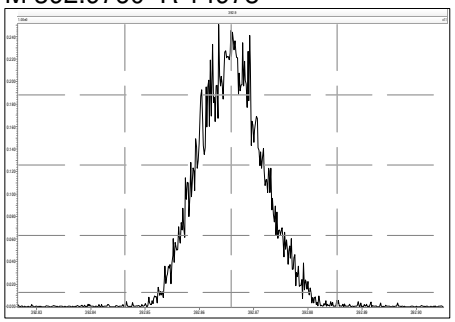

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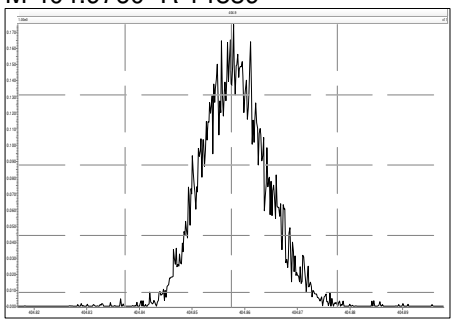

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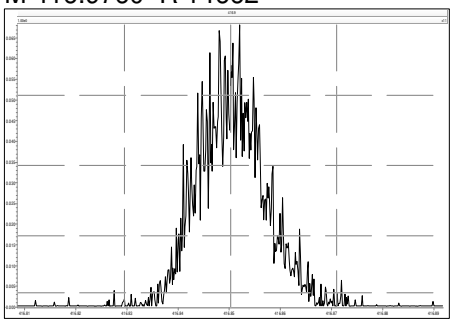

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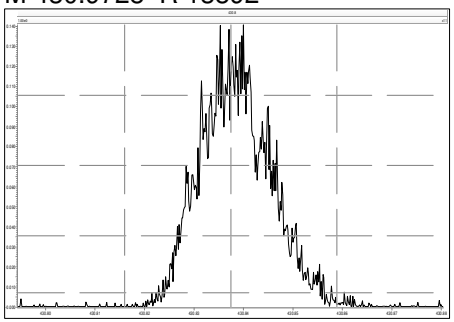

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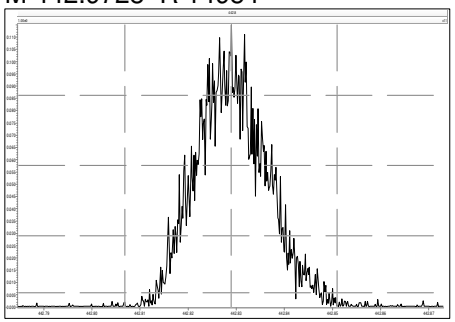

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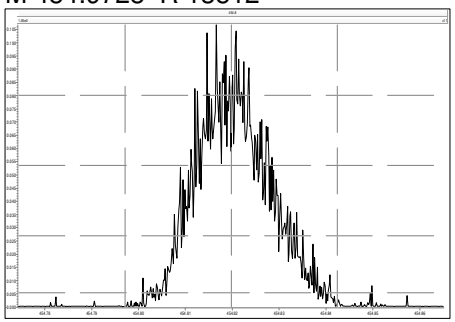

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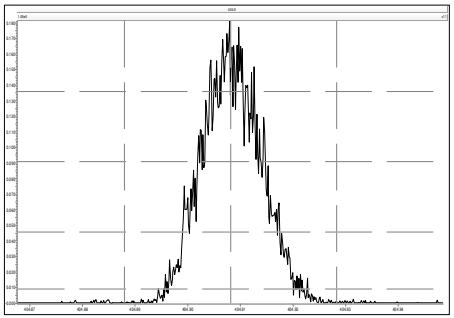

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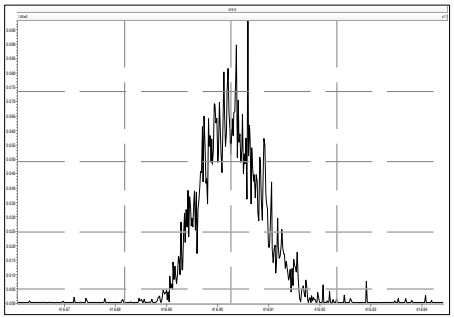

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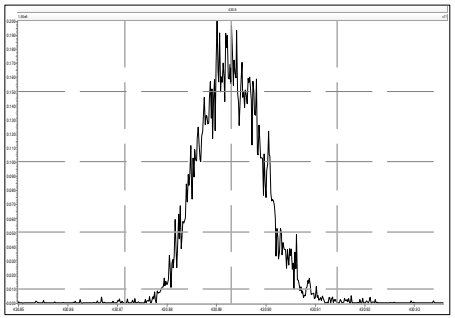

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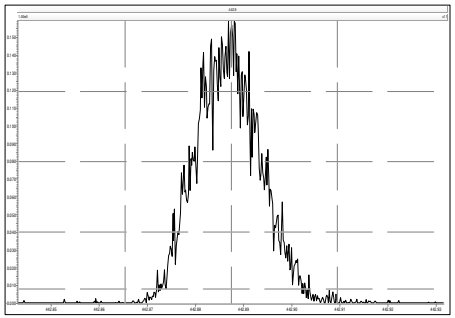

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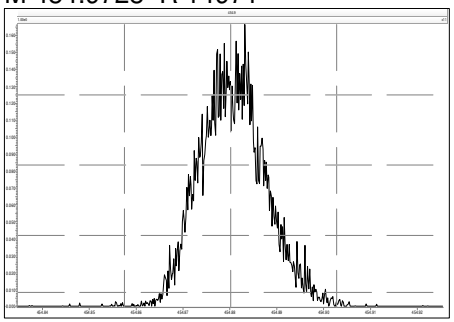

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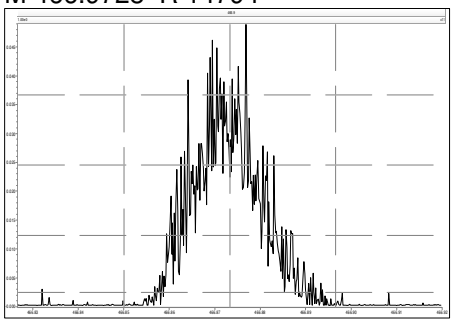

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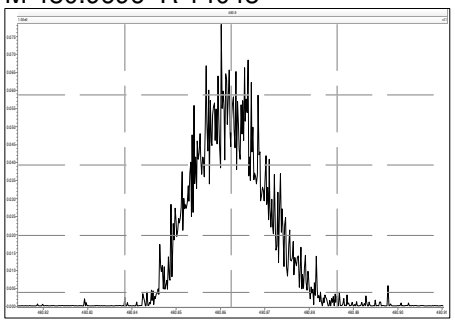

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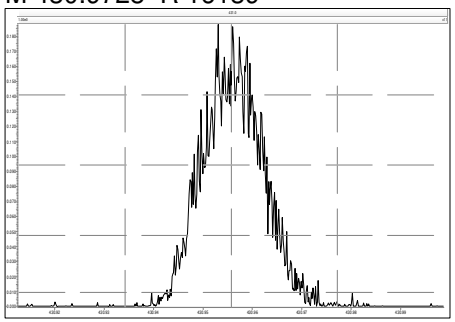

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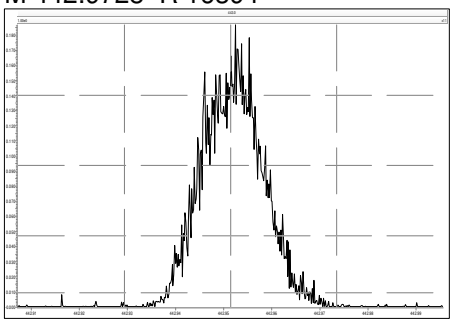

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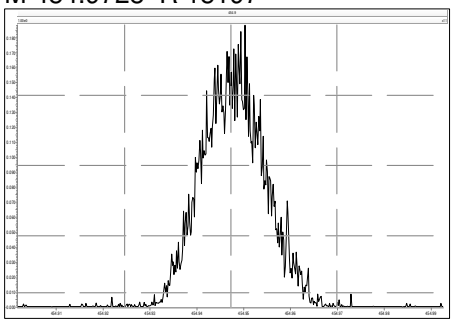

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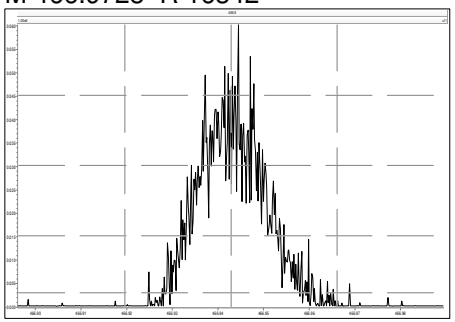

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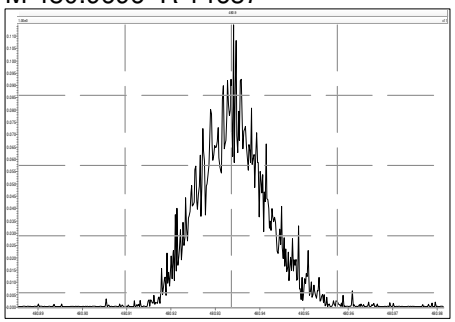

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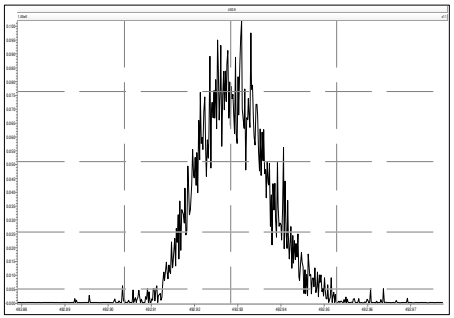

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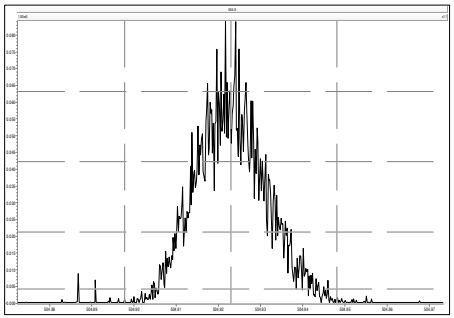

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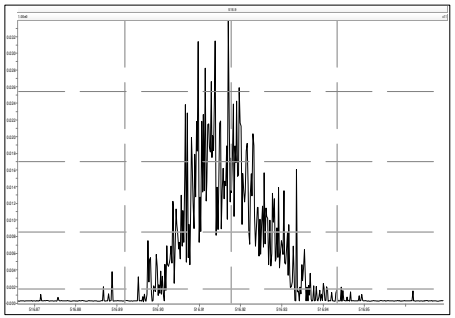


Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34 ✓	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98 ✓
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84 ✓	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86 ✓	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07 ✓	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10 ✓	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28 ✓	1.33

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

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
Tyler_Fritz , 11/11/2021, 4:44:03 PM

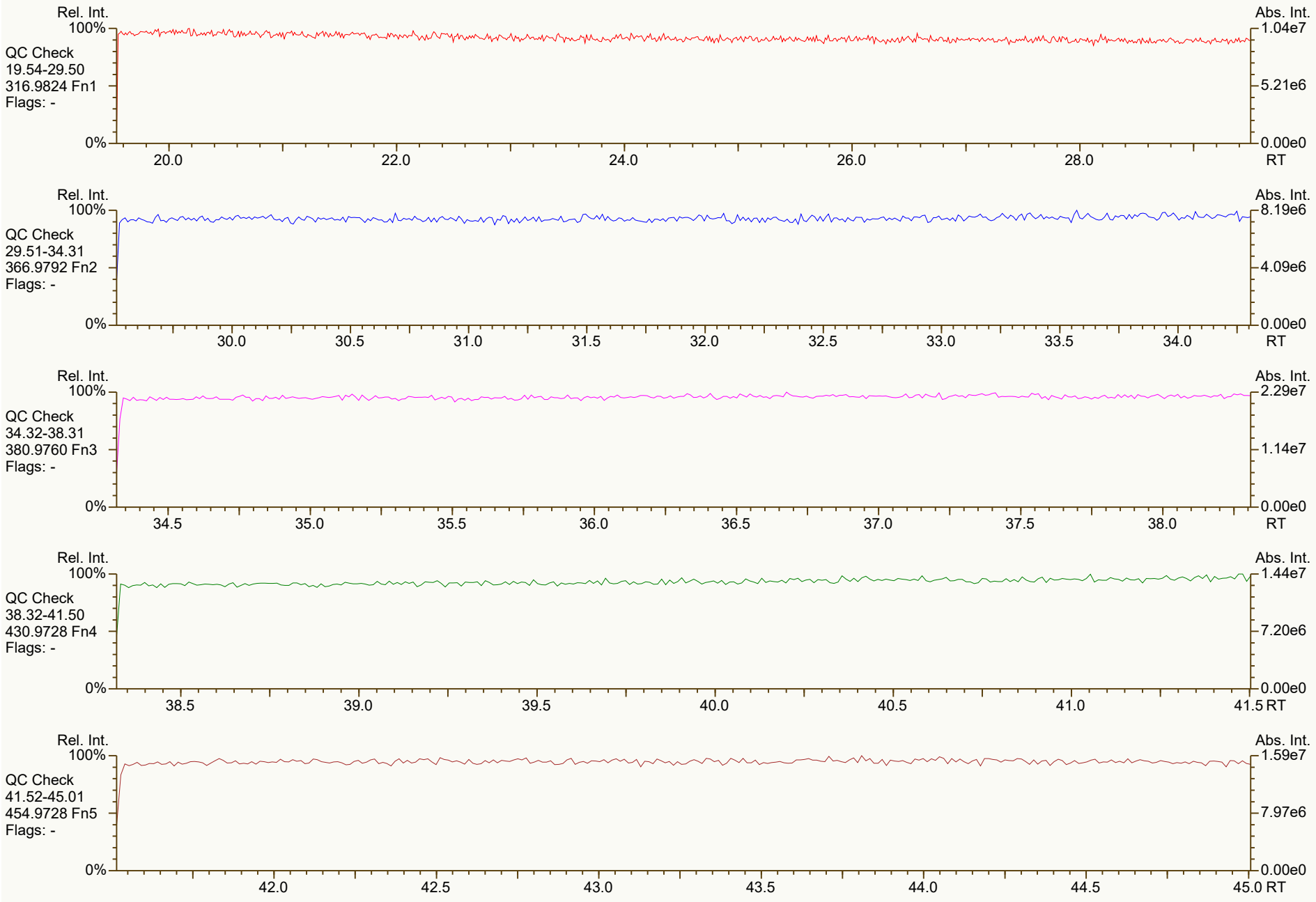
APPROVED
Amy_Boehm , 11/11/2021, 5:28:50 PM

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

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF					Checkcode: 245-007-QLD
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C04
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%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19.54-29.50
316.9824 Fn1
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22.0
24.0
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28.0
RT
Abs. Int.
1.04e7
5.21e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.19e6
4.09e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.29e7
1.14e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.44e7
7.20e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.97e6
0.00e0


SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
RT
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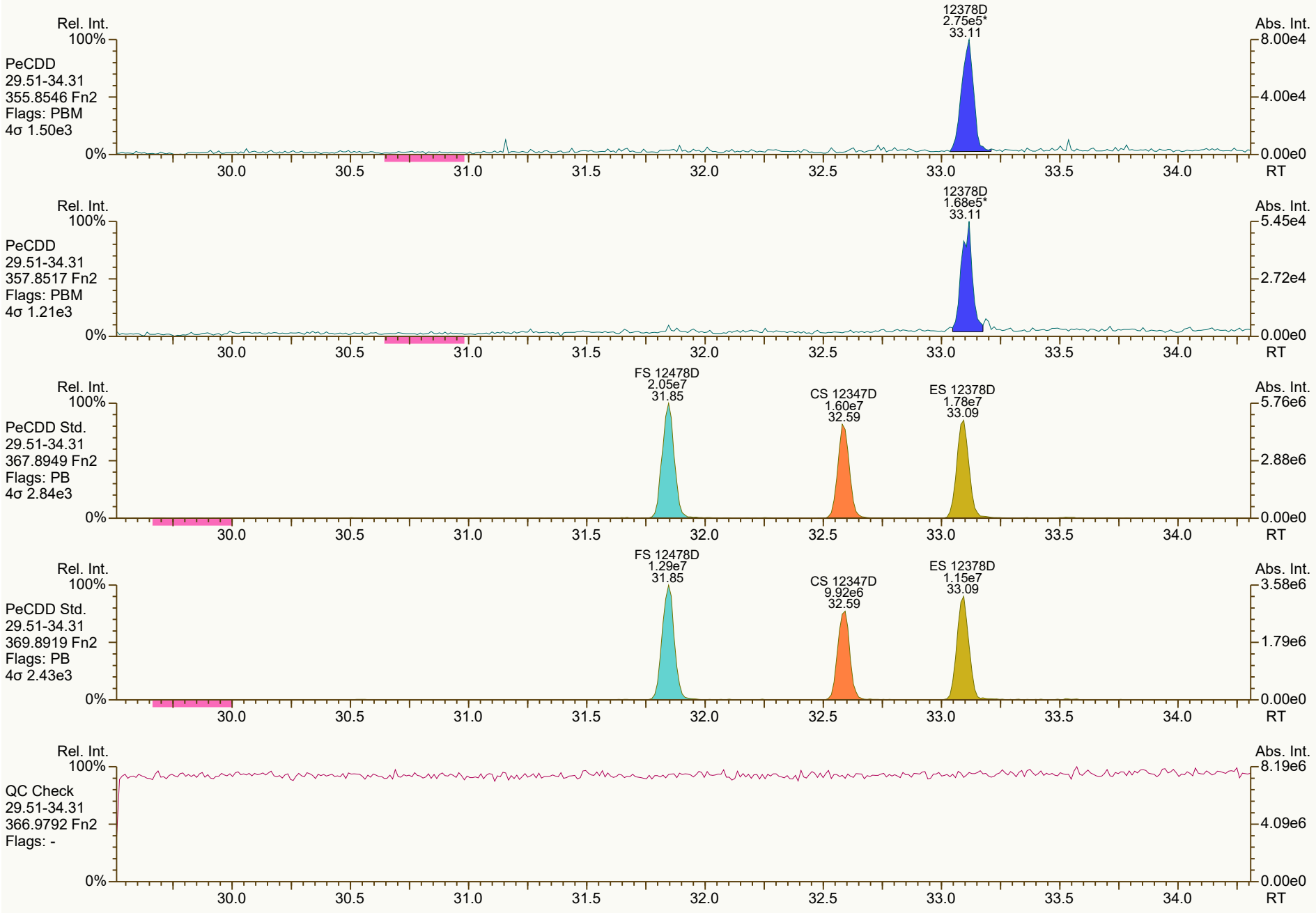
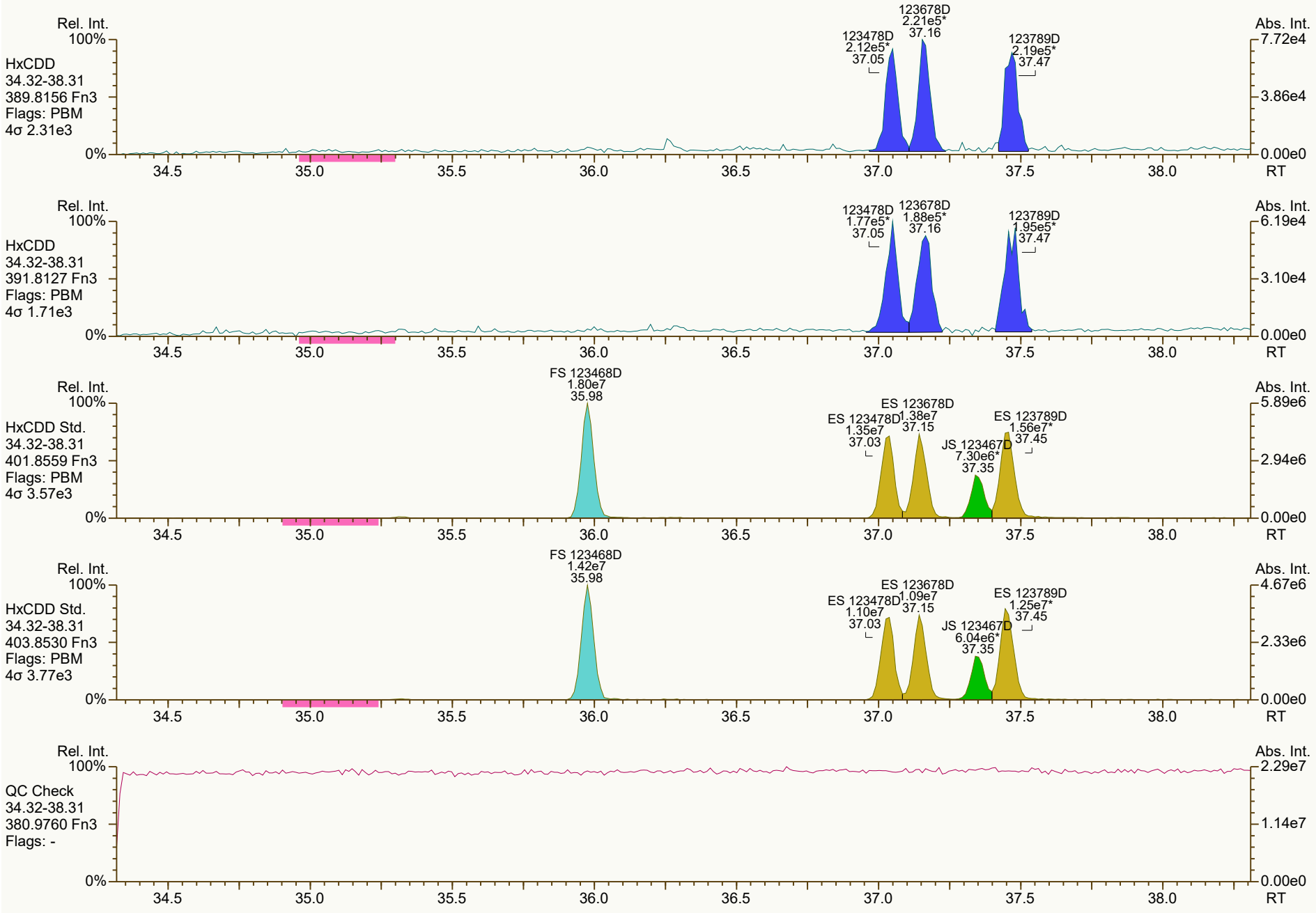
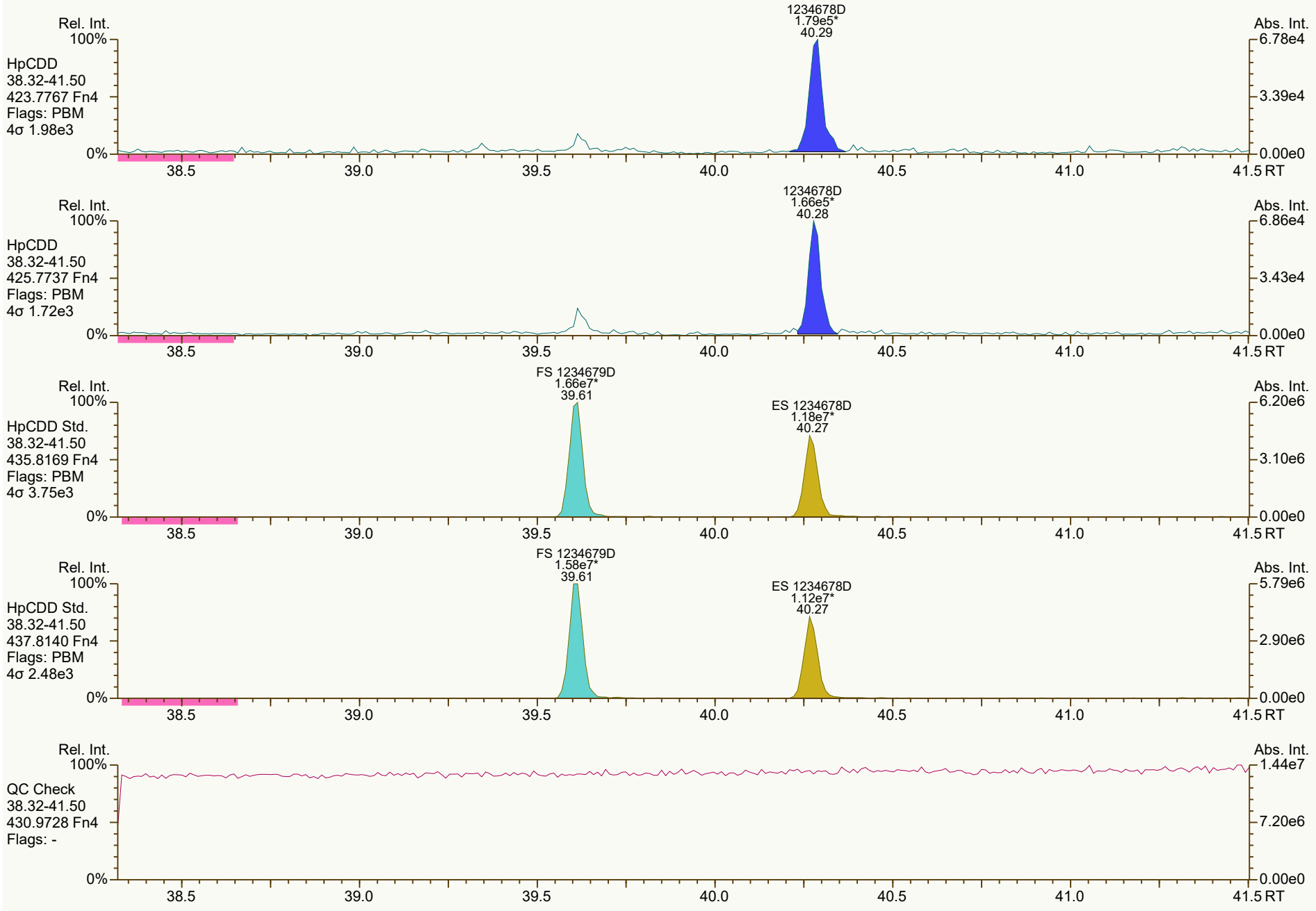
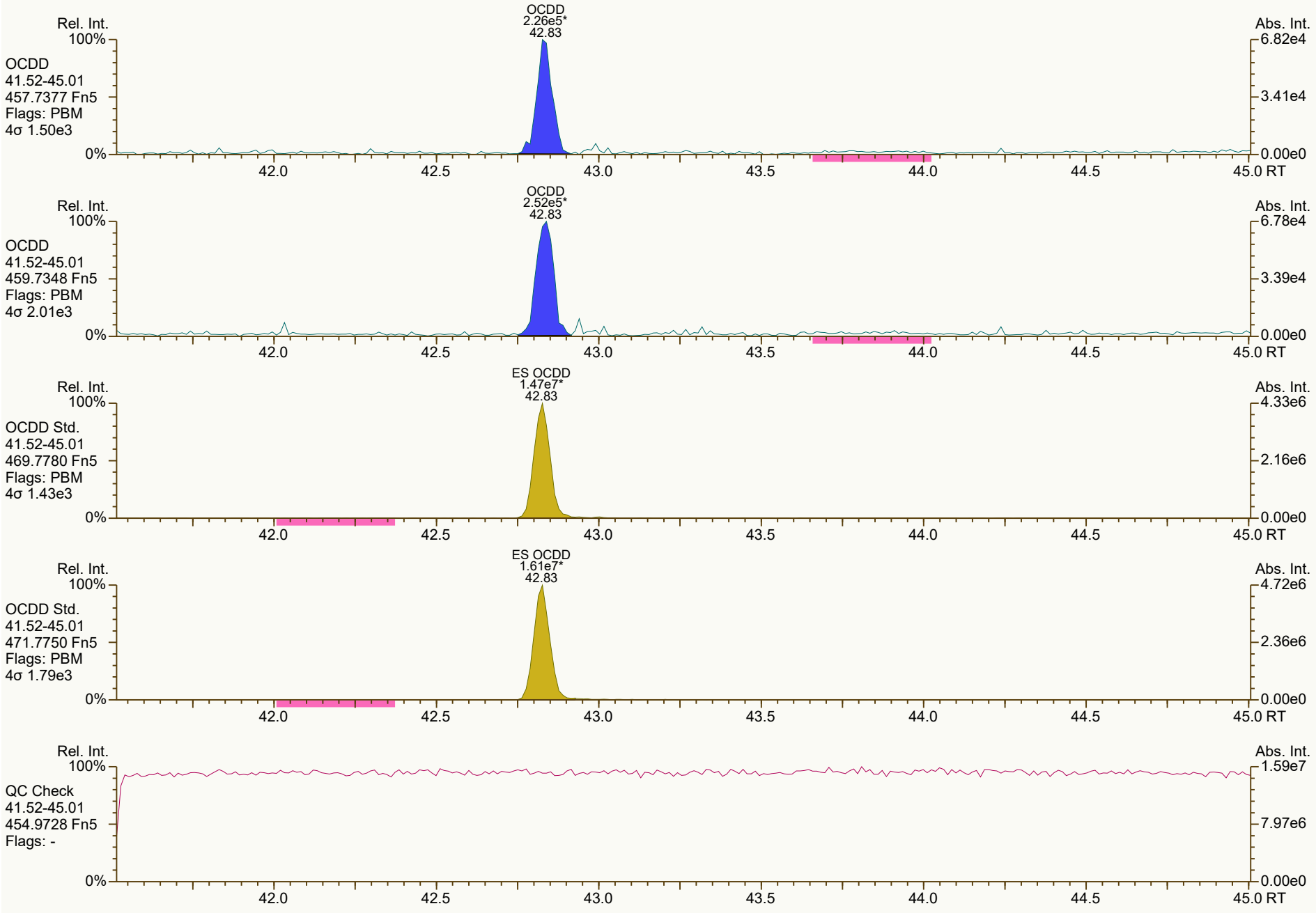
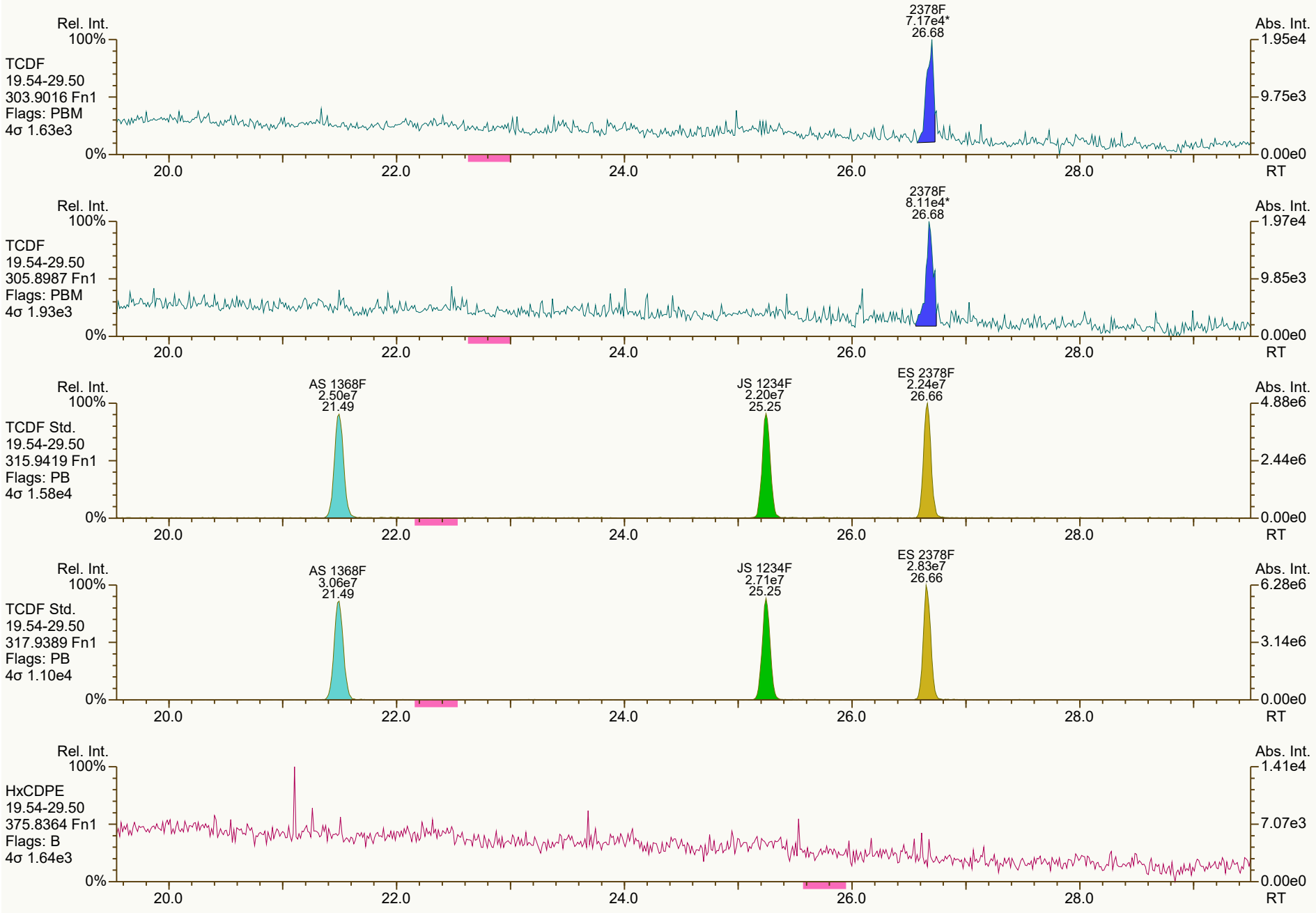
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3504, 1483, 2998 scc: 245-007
Revised: 11-Nov-2021 16:18 (DTF) Printed: 11-Nov-2021 16:32 Page 2 of 12


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
Abs. Int.
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
123478D 2.12e5* 37.05
123678D 2.21e5* 37.16
123789D 2.19e5* 37.47
7.72e4
3.86e4
0.00e0
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
123478D 1.77e5* 37.05
123678D 1.88e5* 37.16
123789D 1.95e5* 37.47
6.19e4
3.10e4
0.00e0
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
FS 123468D 1.80e7 35.98
ES 123478D 1.35e7 37.03
ES 123678D 1.38e7 37.15
JS 123467D 7.30e6* 37.35
ES 123789D 1.56e7* 37.45
5.89e6
2.94e6
0.00e0
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
FS 123468D 1.42e7 35.98
ES 123478D 1.10e7 37.03
ES 123678D 1.09e7 37.15
JS 123467D 6.04e6* 37.35
ES 123789D 1.25e7* 37.45
4.67e6
2.33e6
0.00e0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.29e7
1.14e7
0.00e0
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

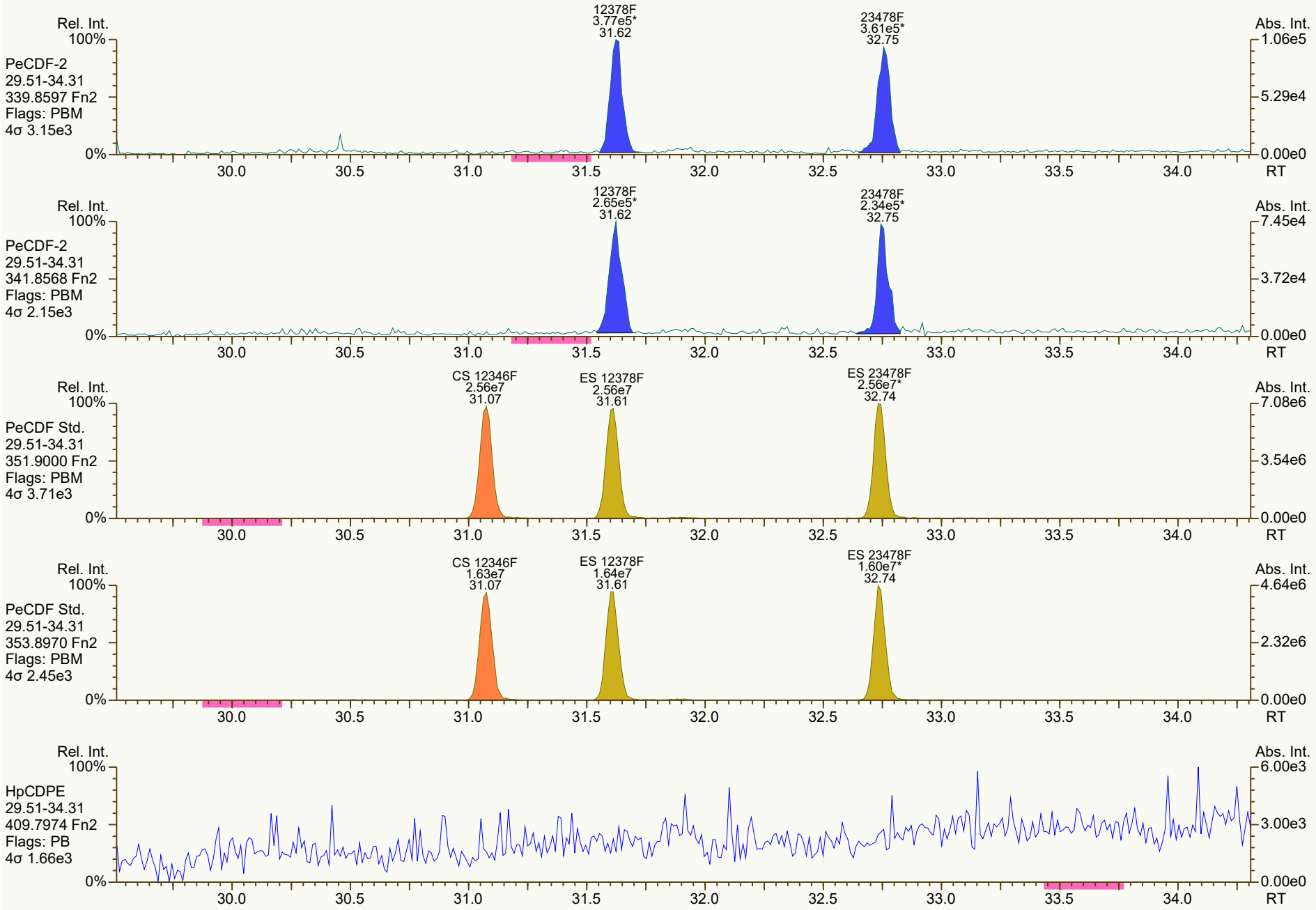

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

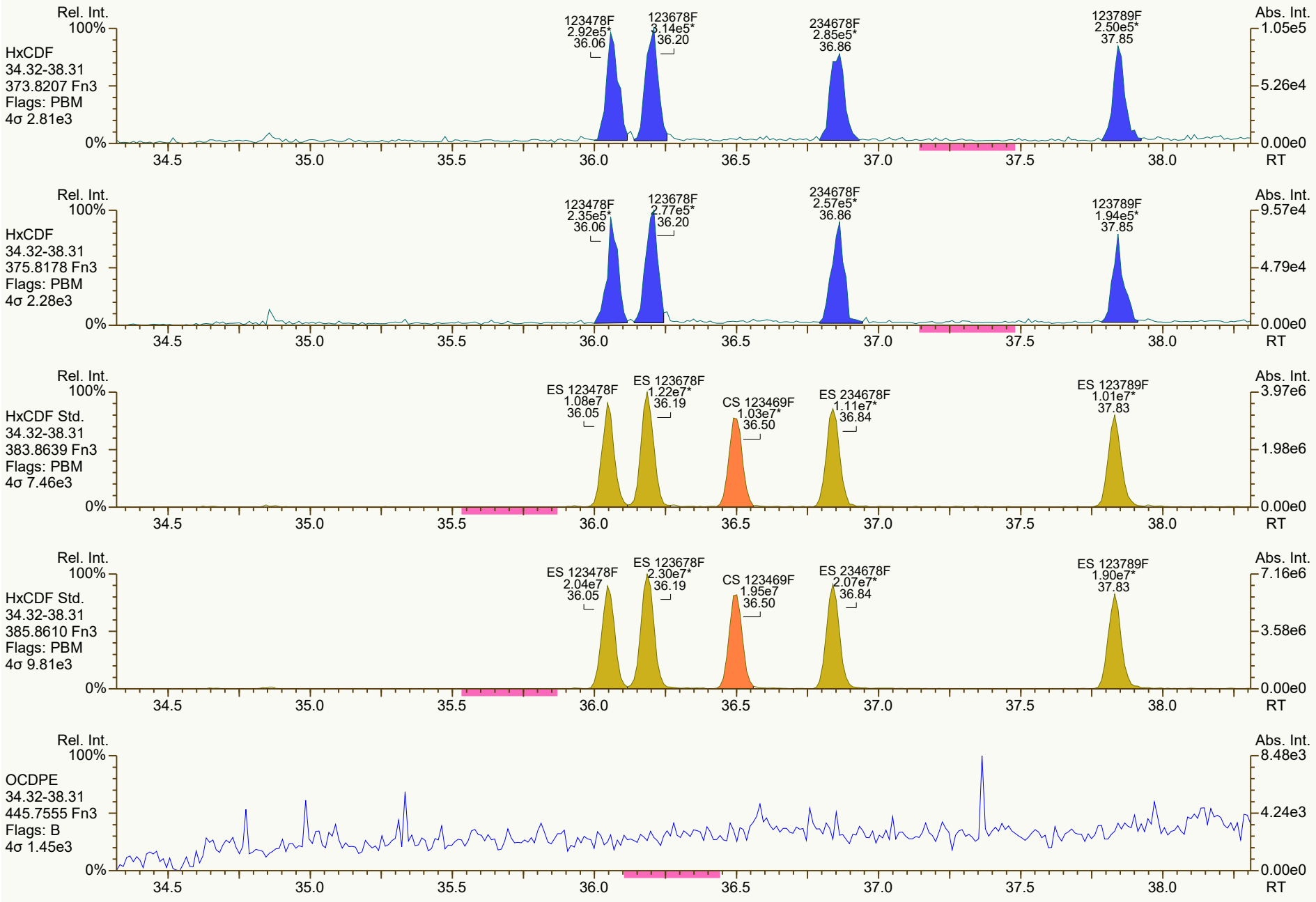

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
0%
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
0%
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
0%
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.41e4
7.07e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

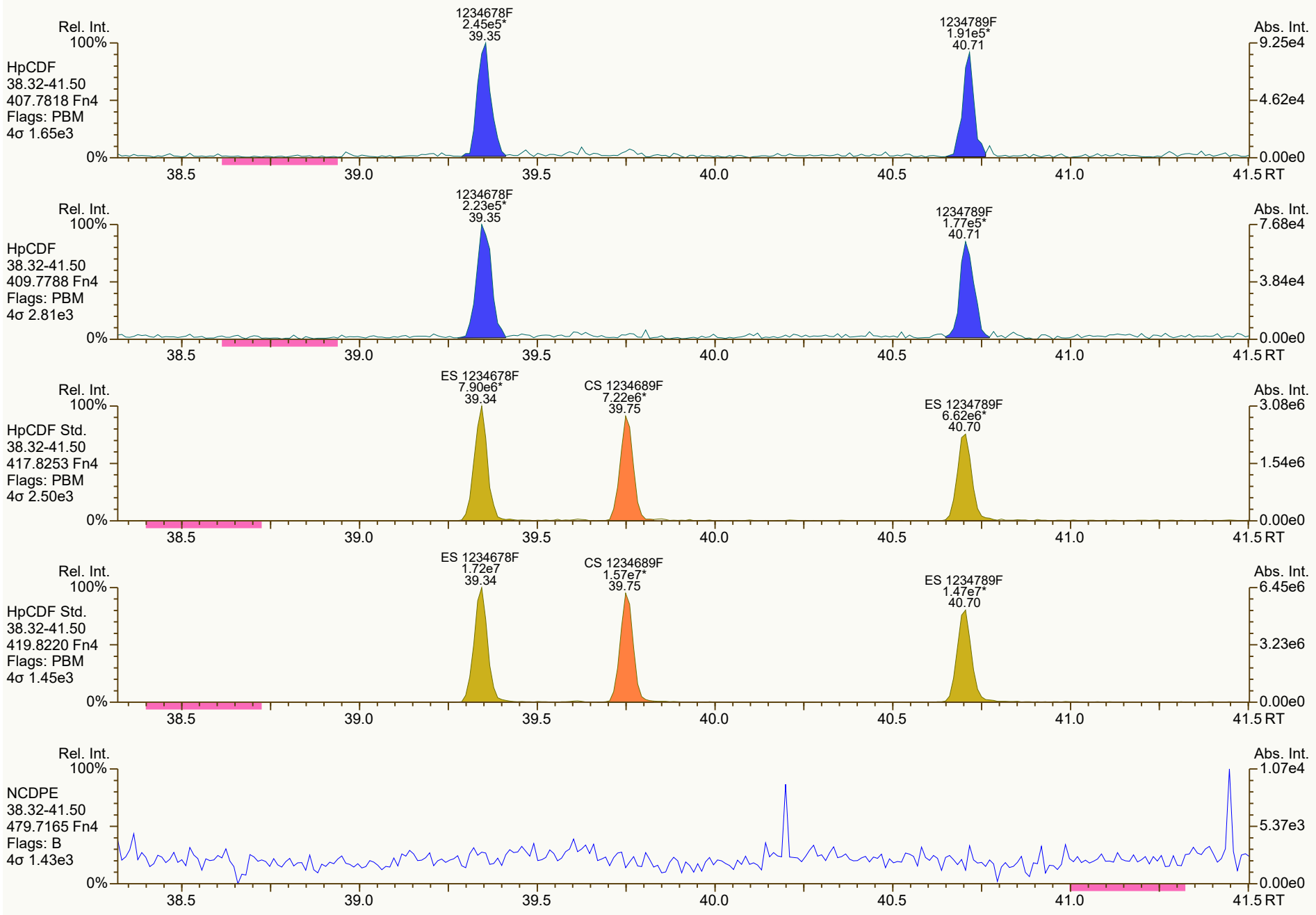
SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6412 scc: 245-007
PKD: 10-Nov-2021 13:30 Printed: 11-Nov-2021 16:32 Page 8 of 12


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
0%
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
0%
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
0%
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
0%
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

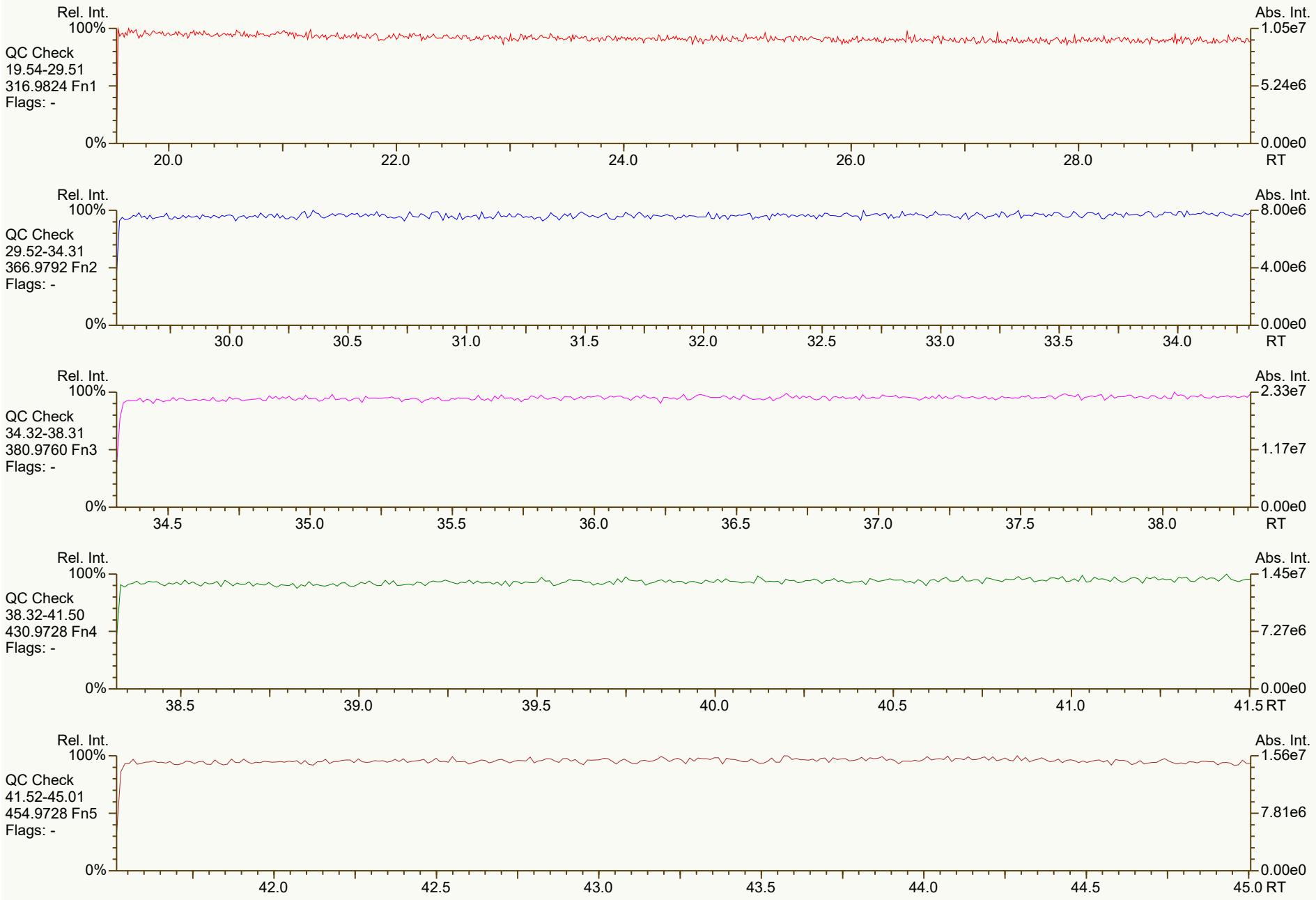

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

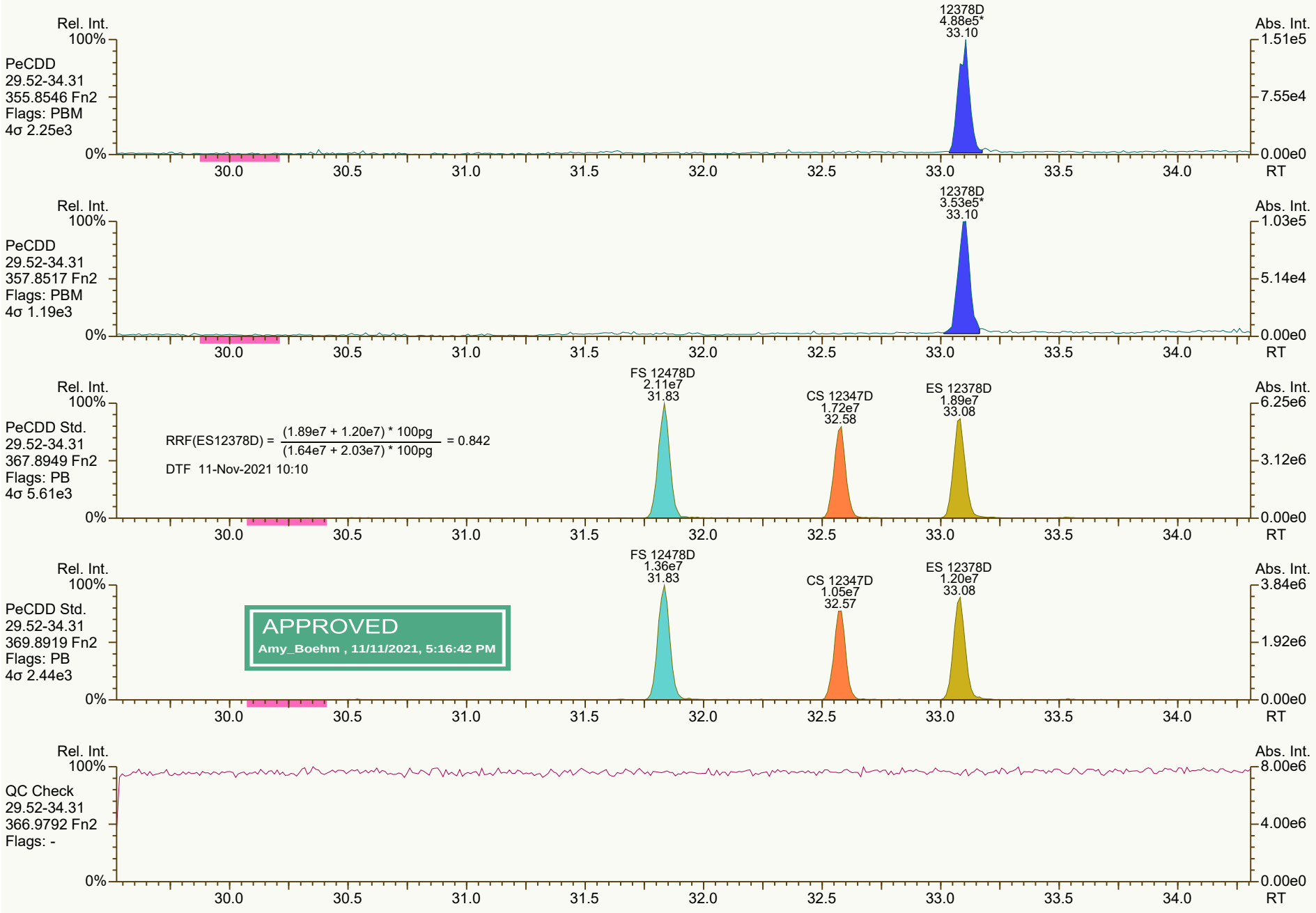
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF					Checkcode: 419-111-CRN
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C05
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

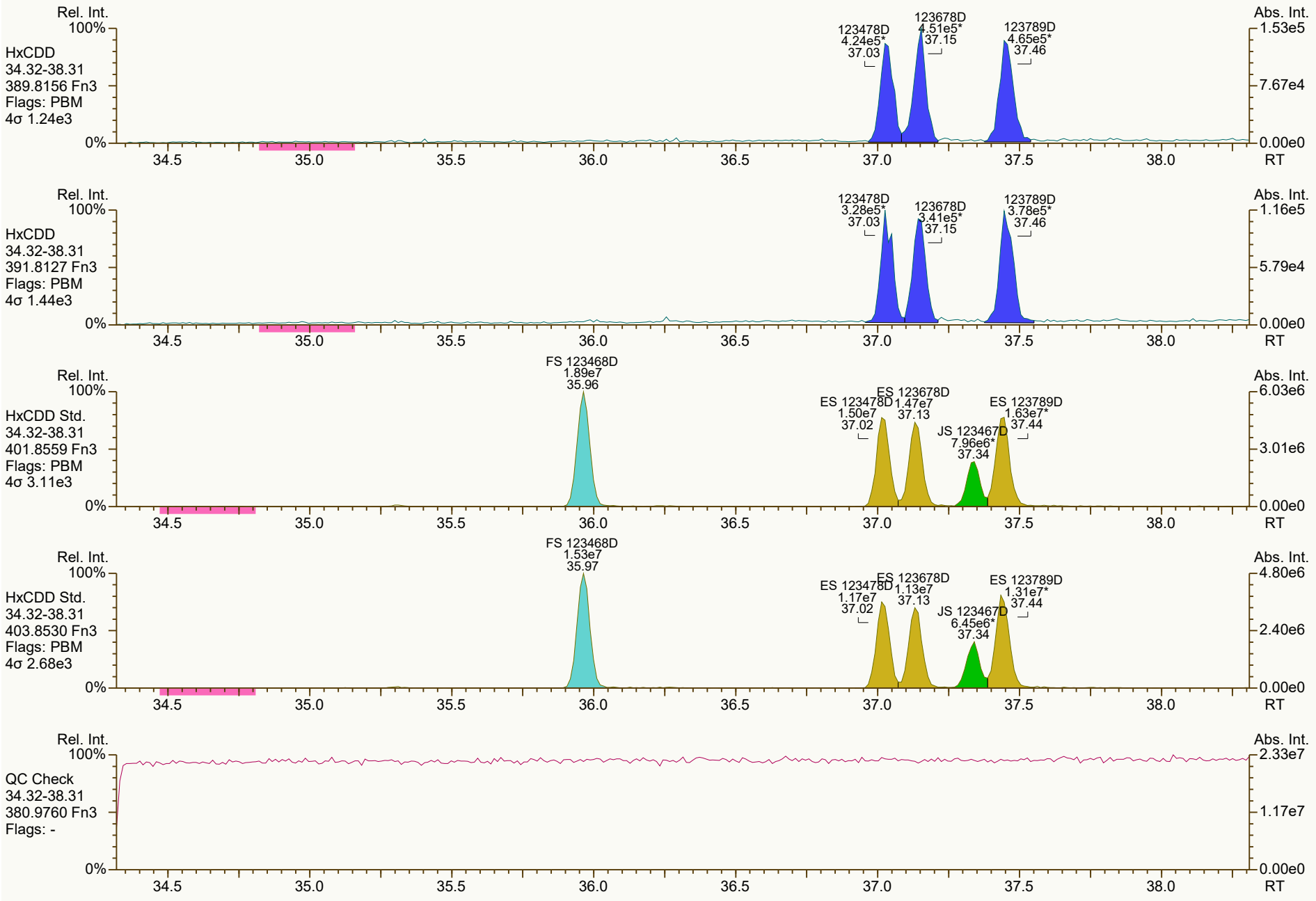
SGS ID: CS1_211110_DF_CA **Sample ID: 25-6-2** **Acq: 10-Nov-2021 11:48:34**
Instr: [ILM] AutoSpec-Ultima HRMS3 **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66** **User: DTF Datafile: 211110C05**

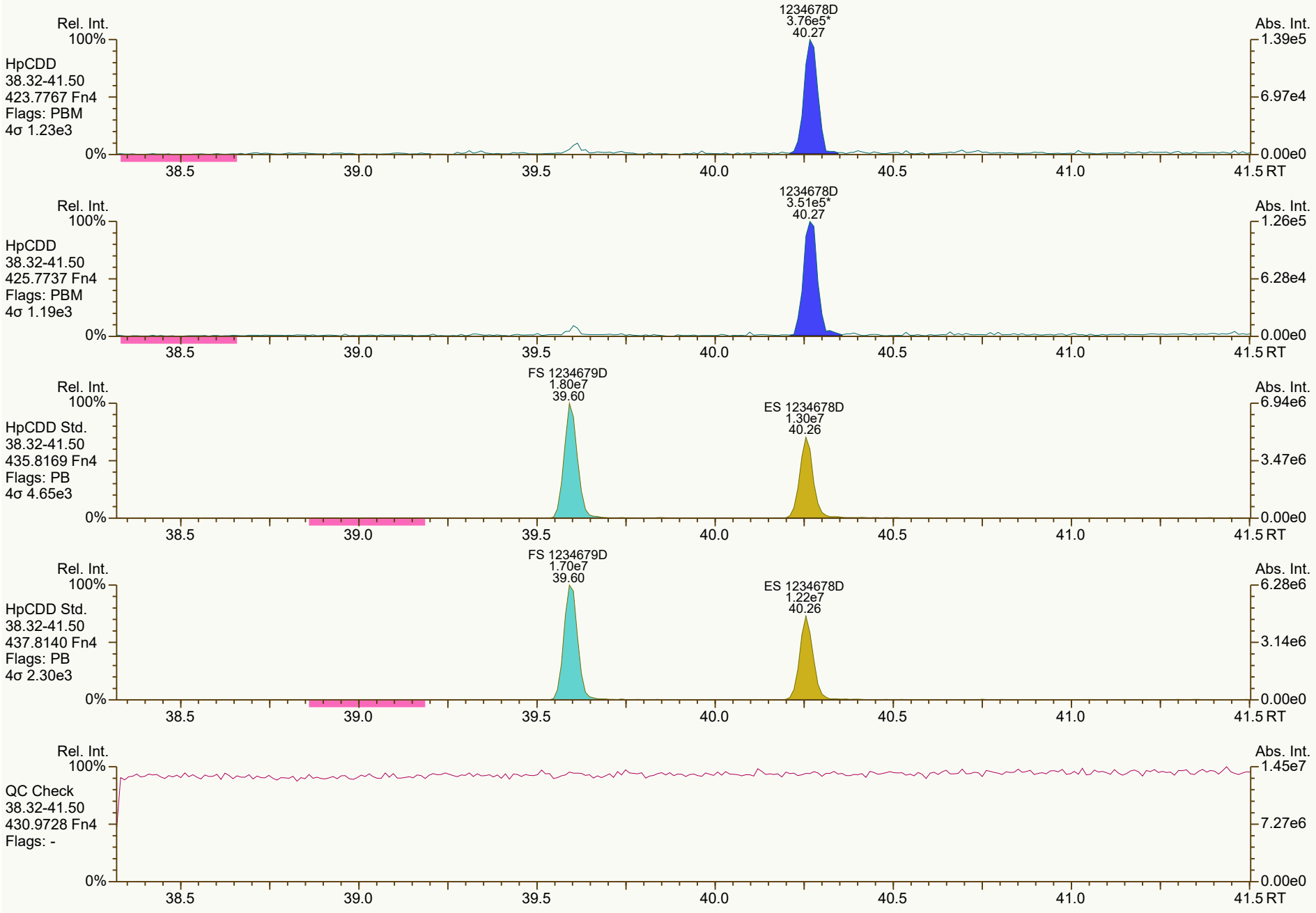


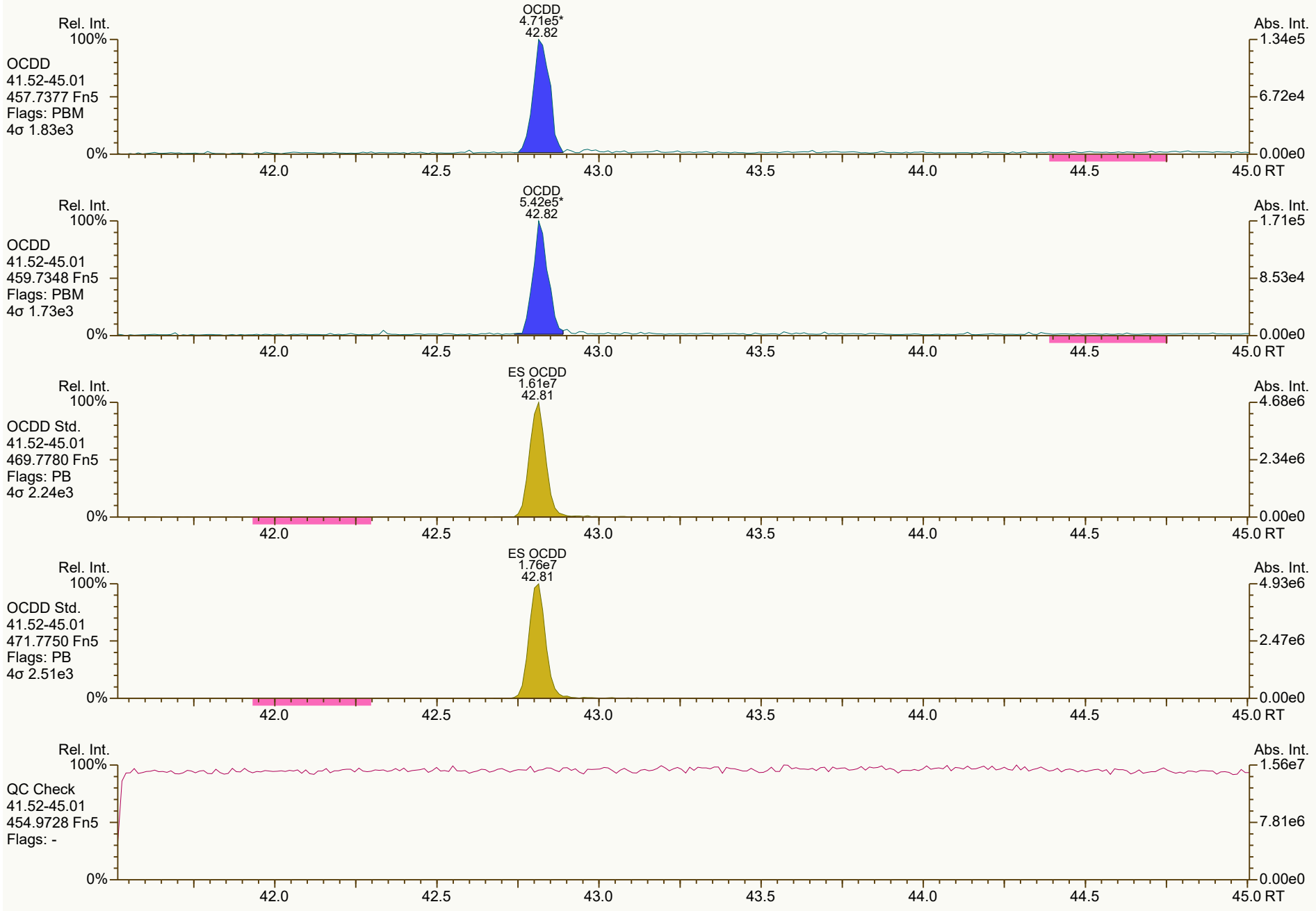
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 scc: 419-111 *PKD: n/a Printed: 11-Nov-2021 10:40 Page 1 of 12*

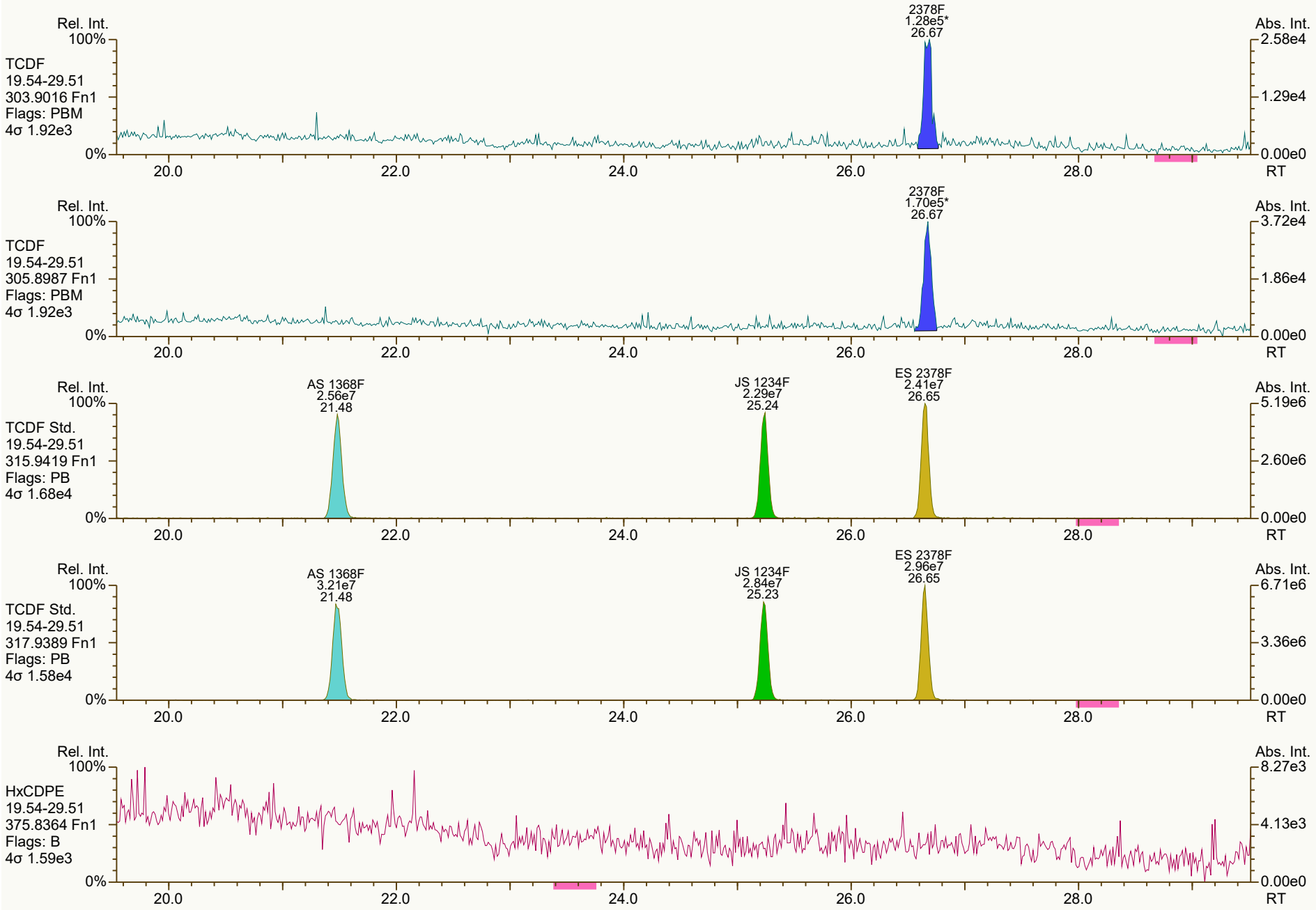

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

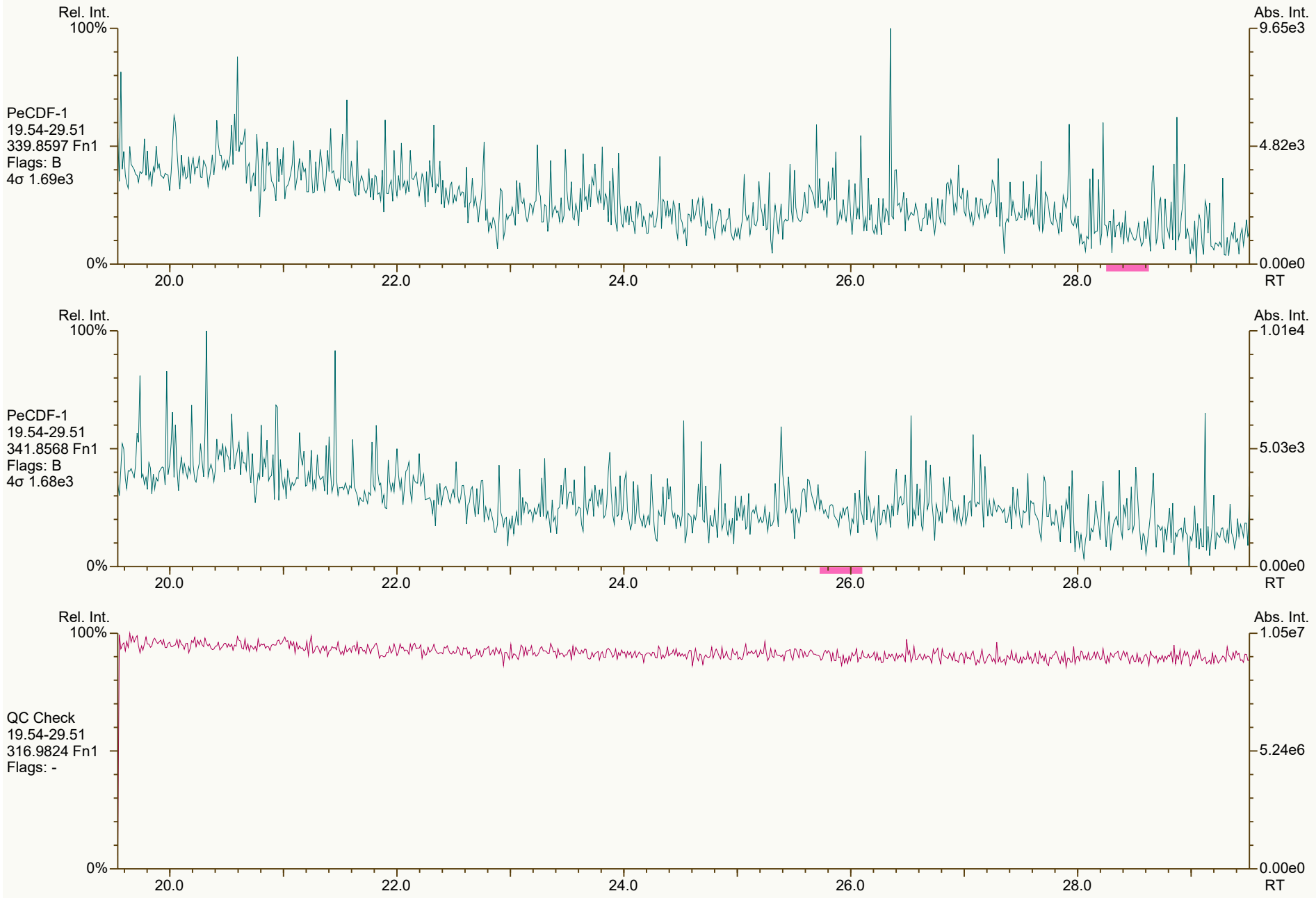

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123478D
1.50e7
37.02
ES 123678D
1.47e7
37.13
JS 123467D
7.96e6*
37.34
ES 123789D
1.63e7*
37.44
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123478D
1.17e7
37.02
ES 123678D
1.13e7
37.13
JS 123467D
6.45e6*
37.34
ES 123789D
1.31e7*
37.44
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

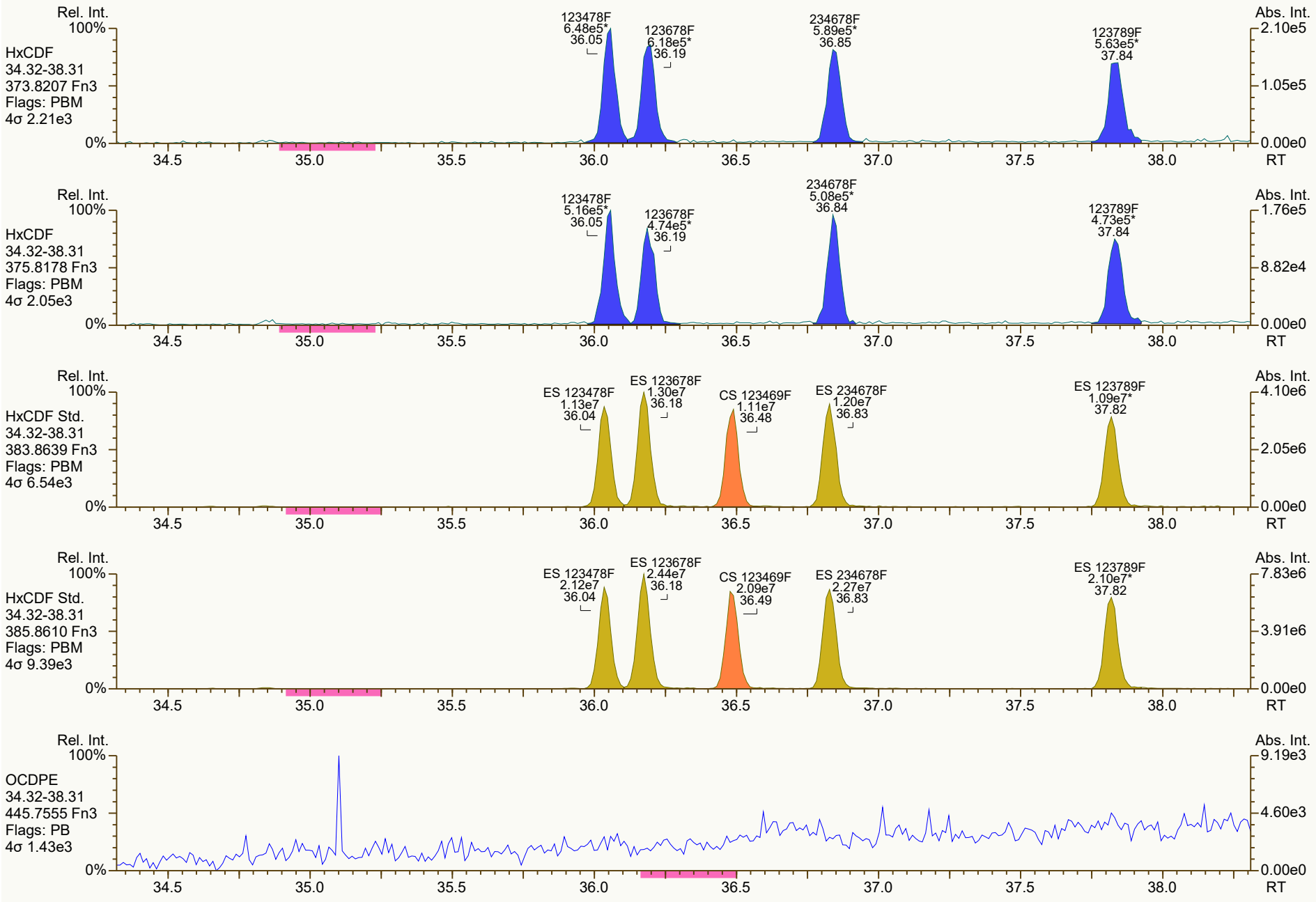

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

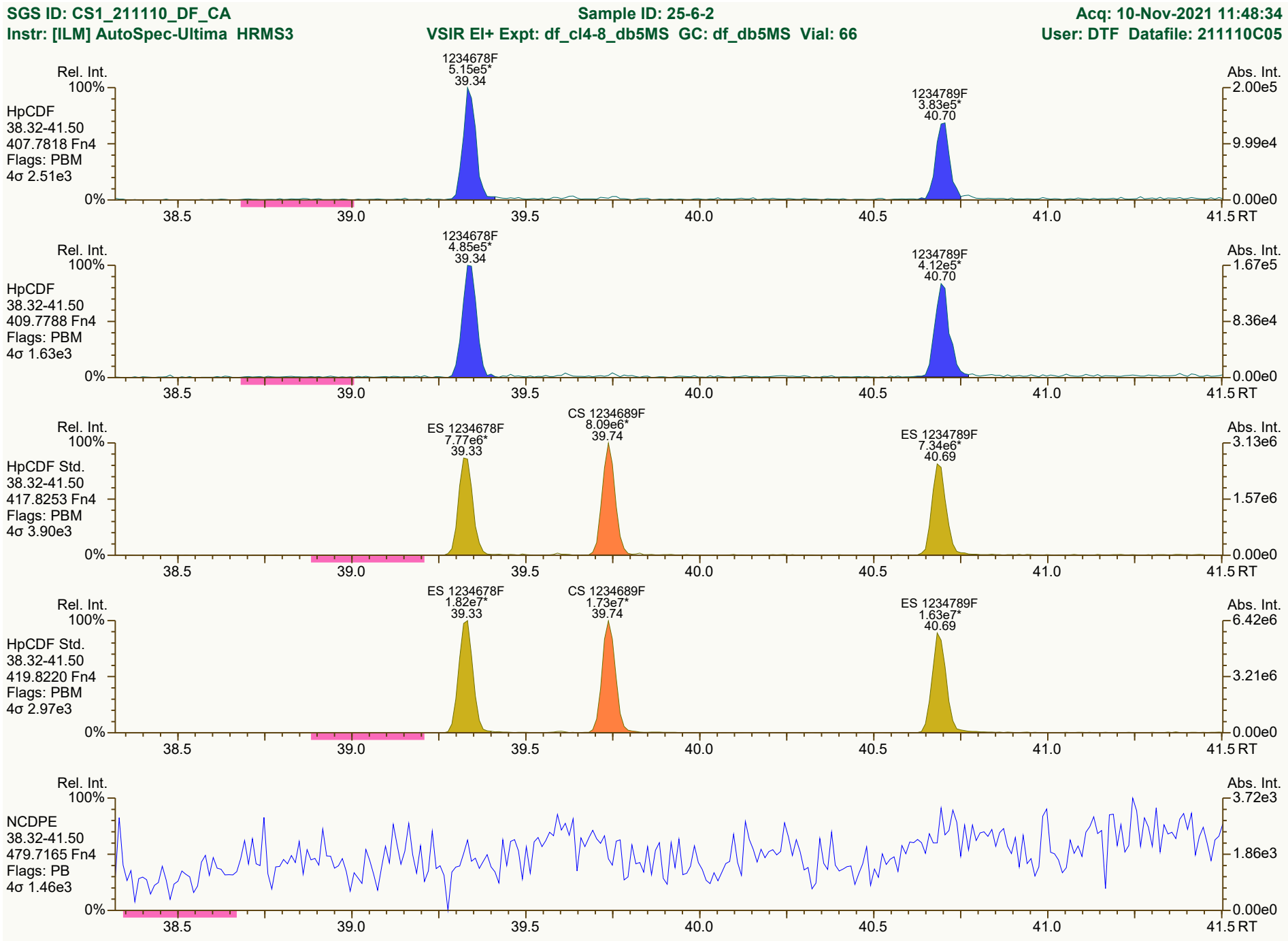

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT

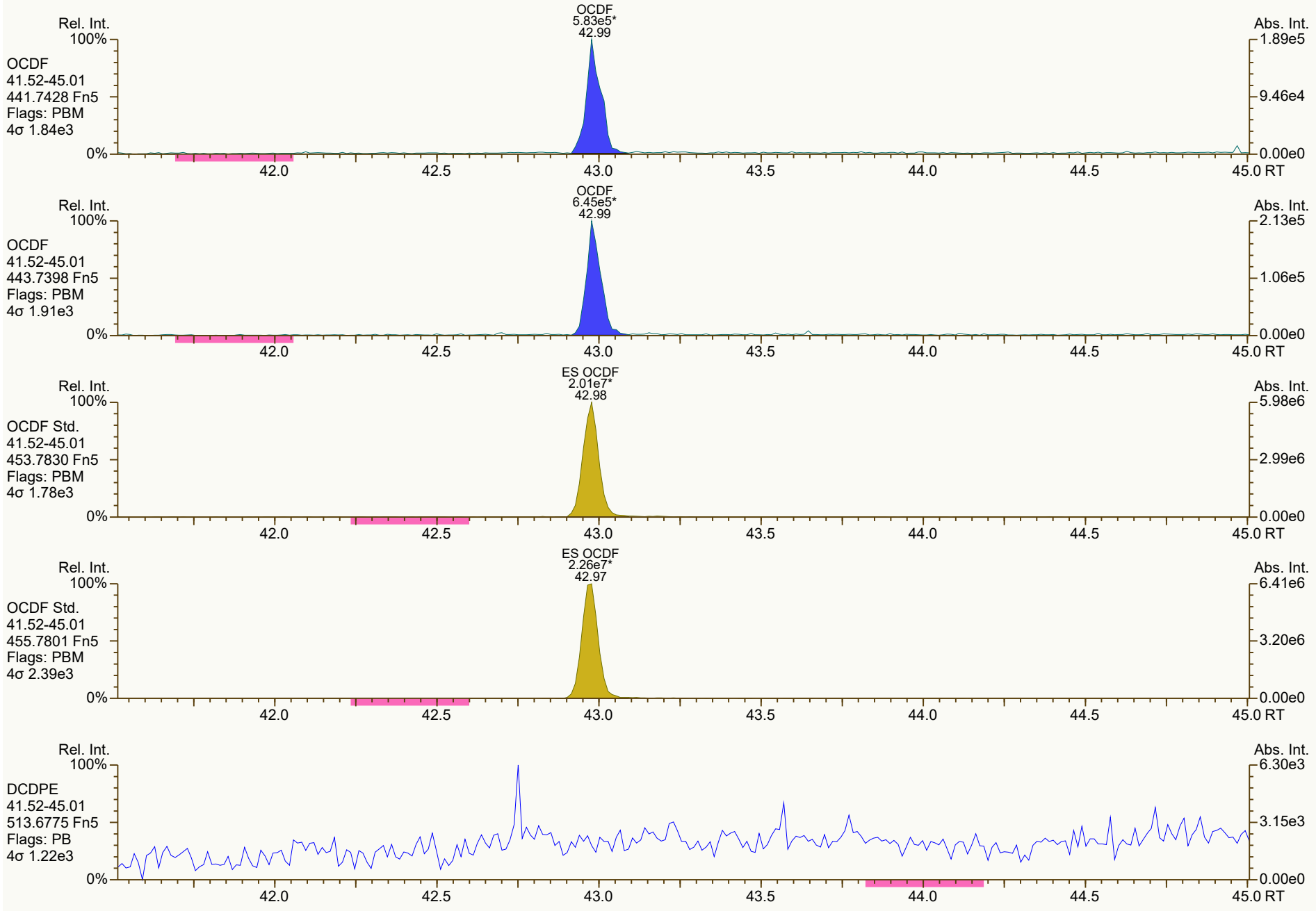

Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
Abs. Int.
1.40e5
7.02e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
Abs. Int.
7.54e6
3.77e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
Abs. Int.
4.85e6
2.42e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
Abs. Int.
1.10e4
5.51e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
Abs. Int.
1.76e5
8.82e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
Abs. Int.
4.10e6
2.05e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
Abs. Int.
7.83e6
3.91e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
Abs. Int.
9.19e3
4.60e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

SGS ID: CS1_211110_DF_CA | Sample ID: 25-6-2 | Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66 | User: DTF Datafile: 211110C05



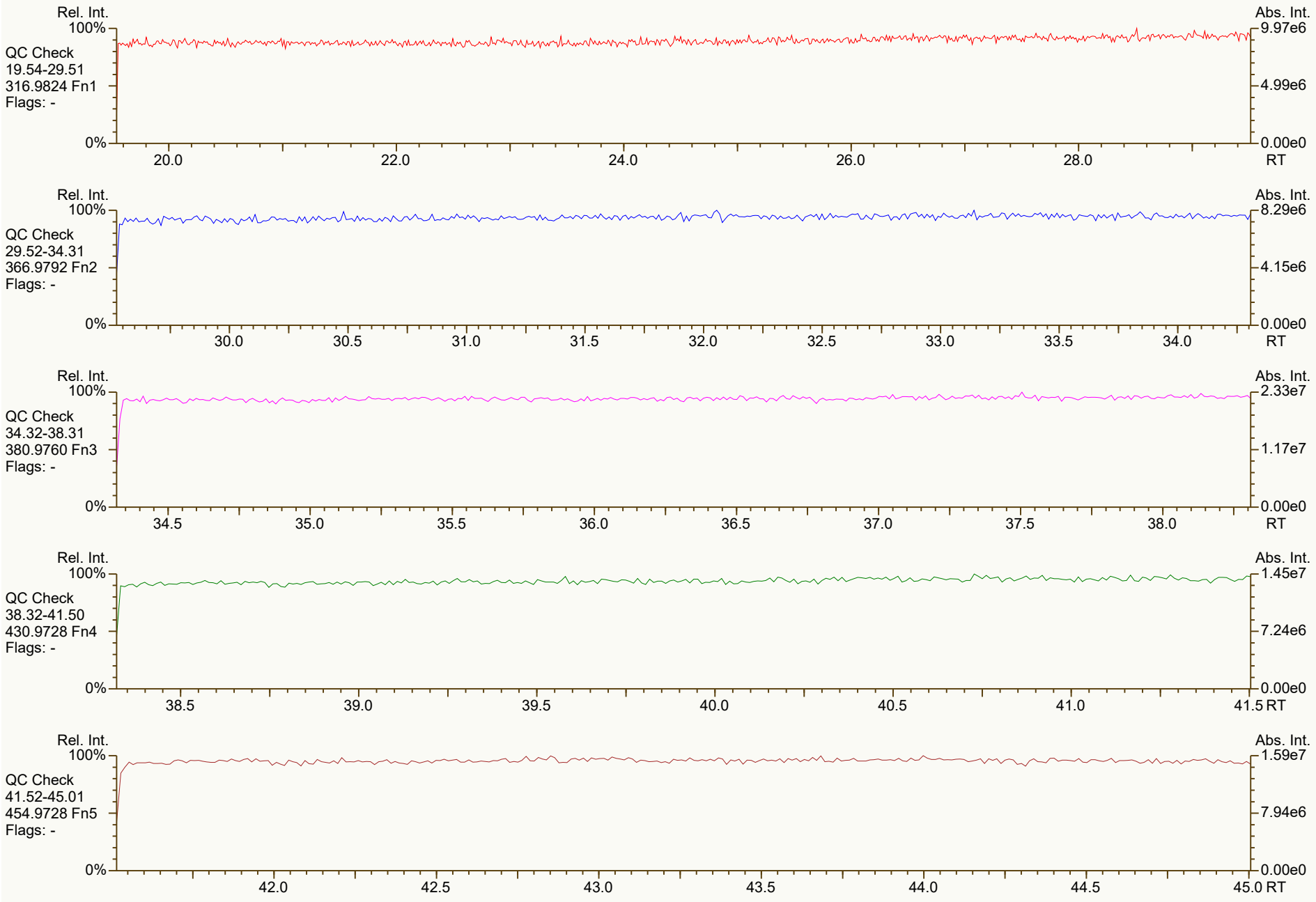
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3913, 8502, 2889 scc: 419-111 Revised: 10-Nov-2021 13:39 (DTF) Printed: 11-Nov-2021 10:40 Page 11 of 12

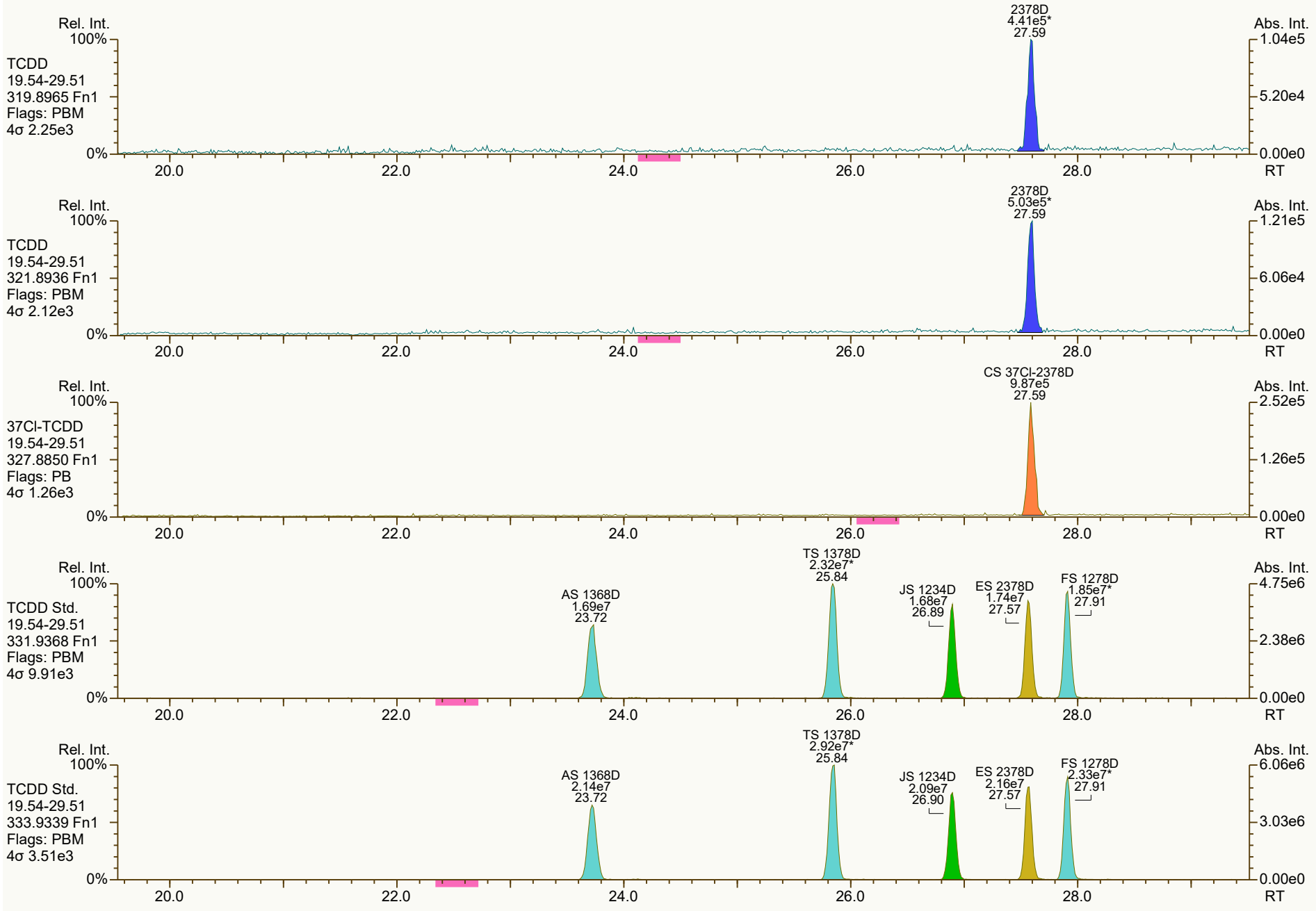

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
OCDF
5.83e5*
42.99
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
OCDF
6.45e5*
42.99
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
ES OCDF
2.01e7*
42.98
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
ES OCDF
2.26e7*
42.97
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

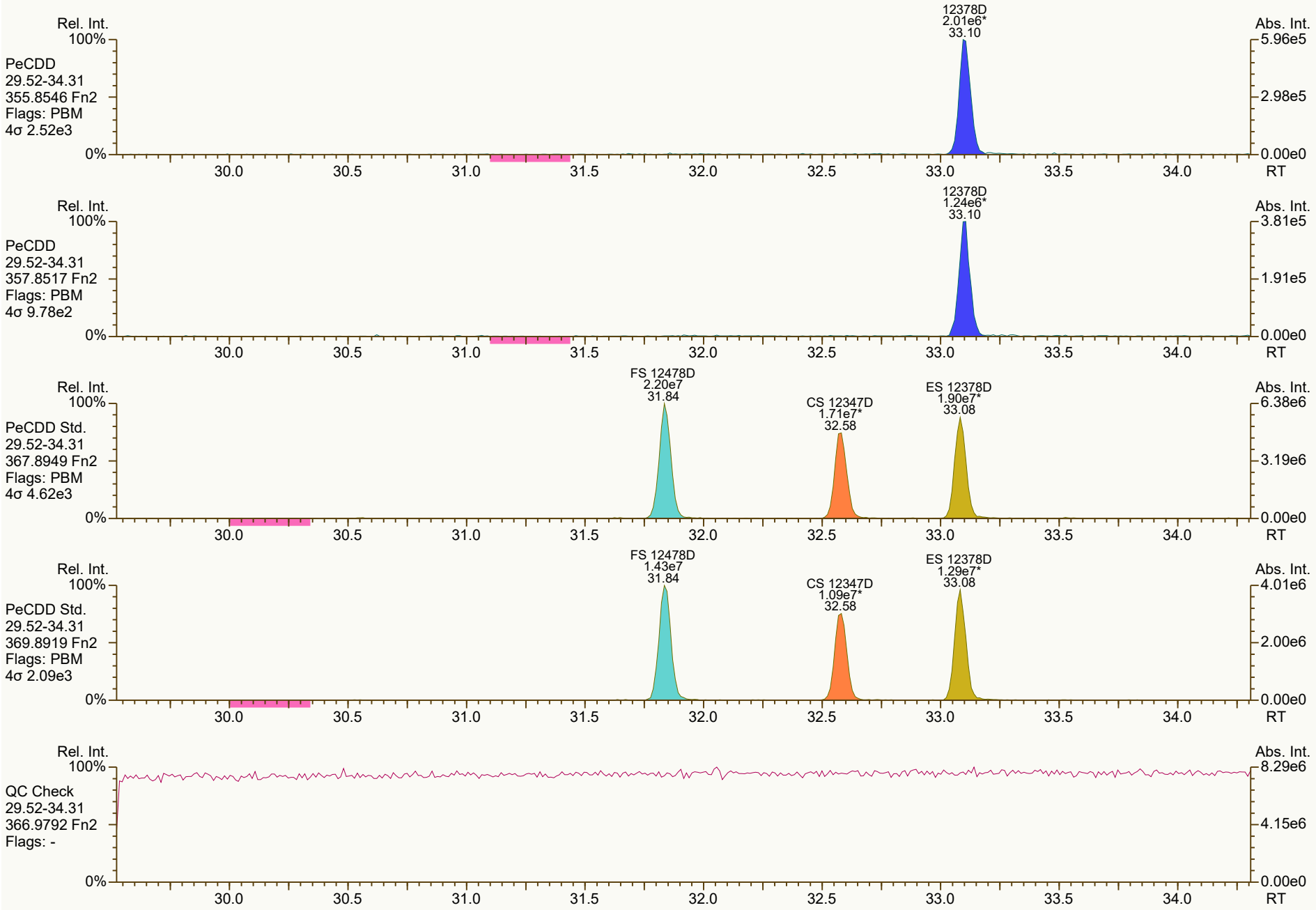
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

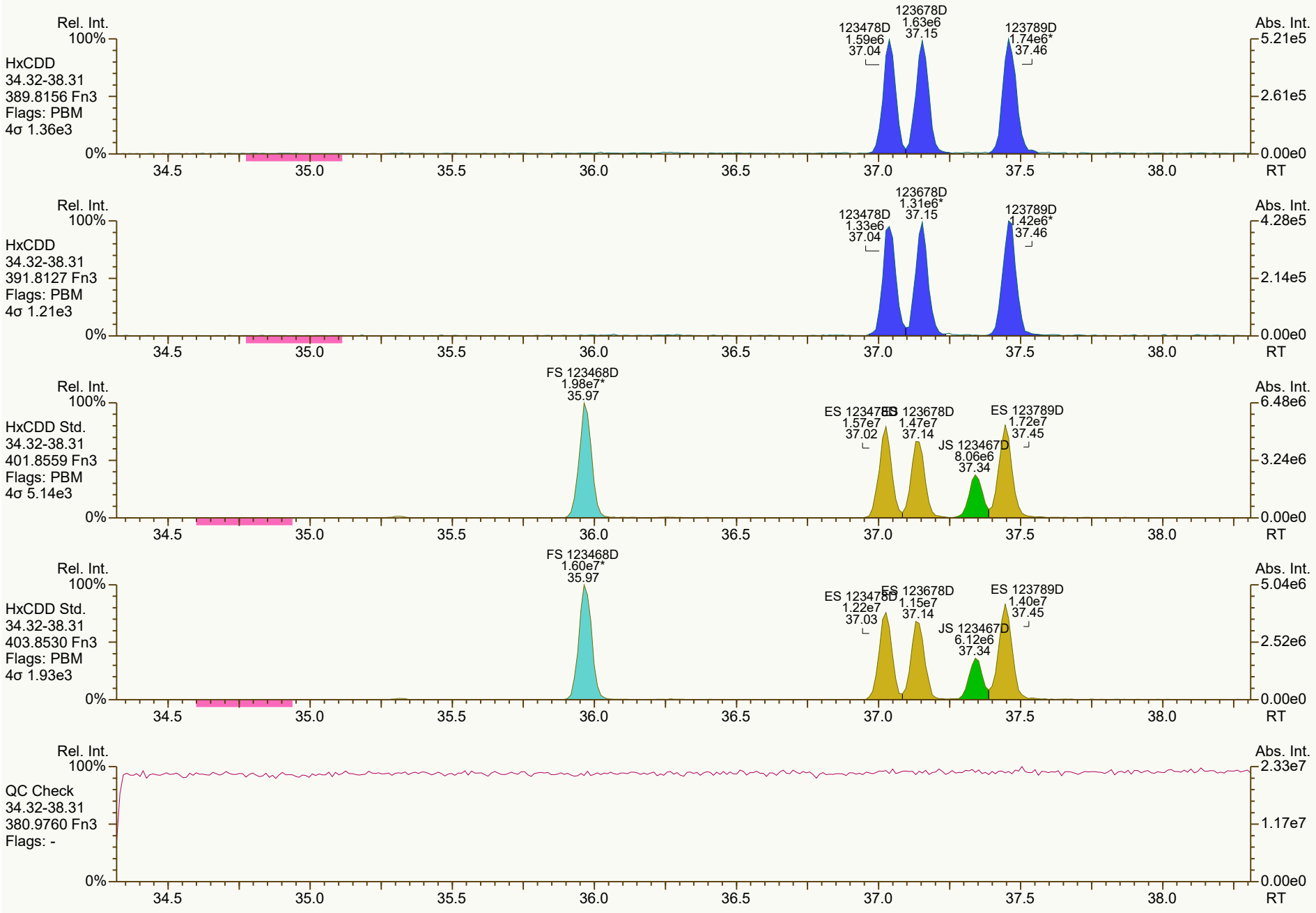
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

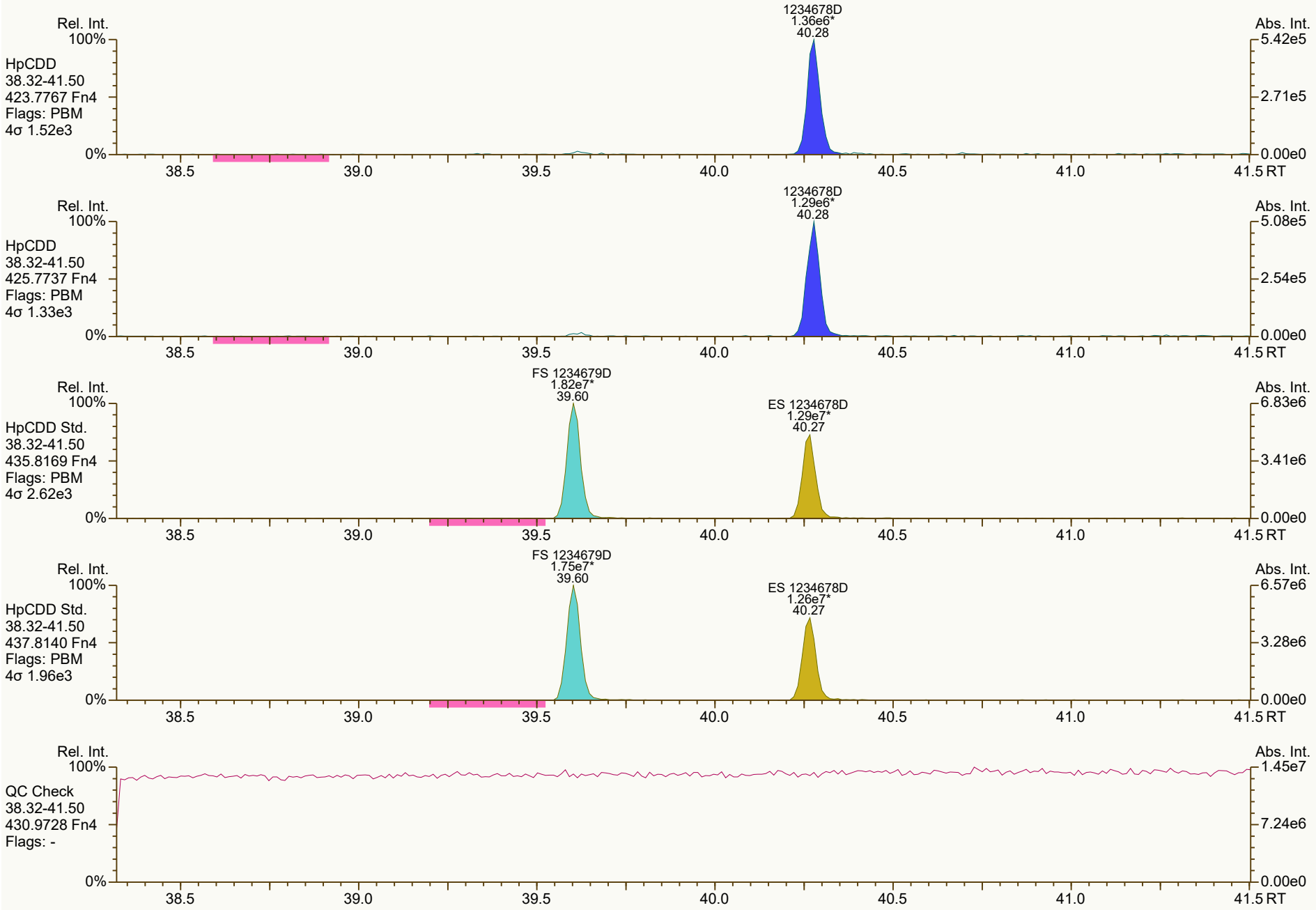
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 12:34 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF					Checkcode: 385-758-WQN
Sample ID: 25-6-1		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C06
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

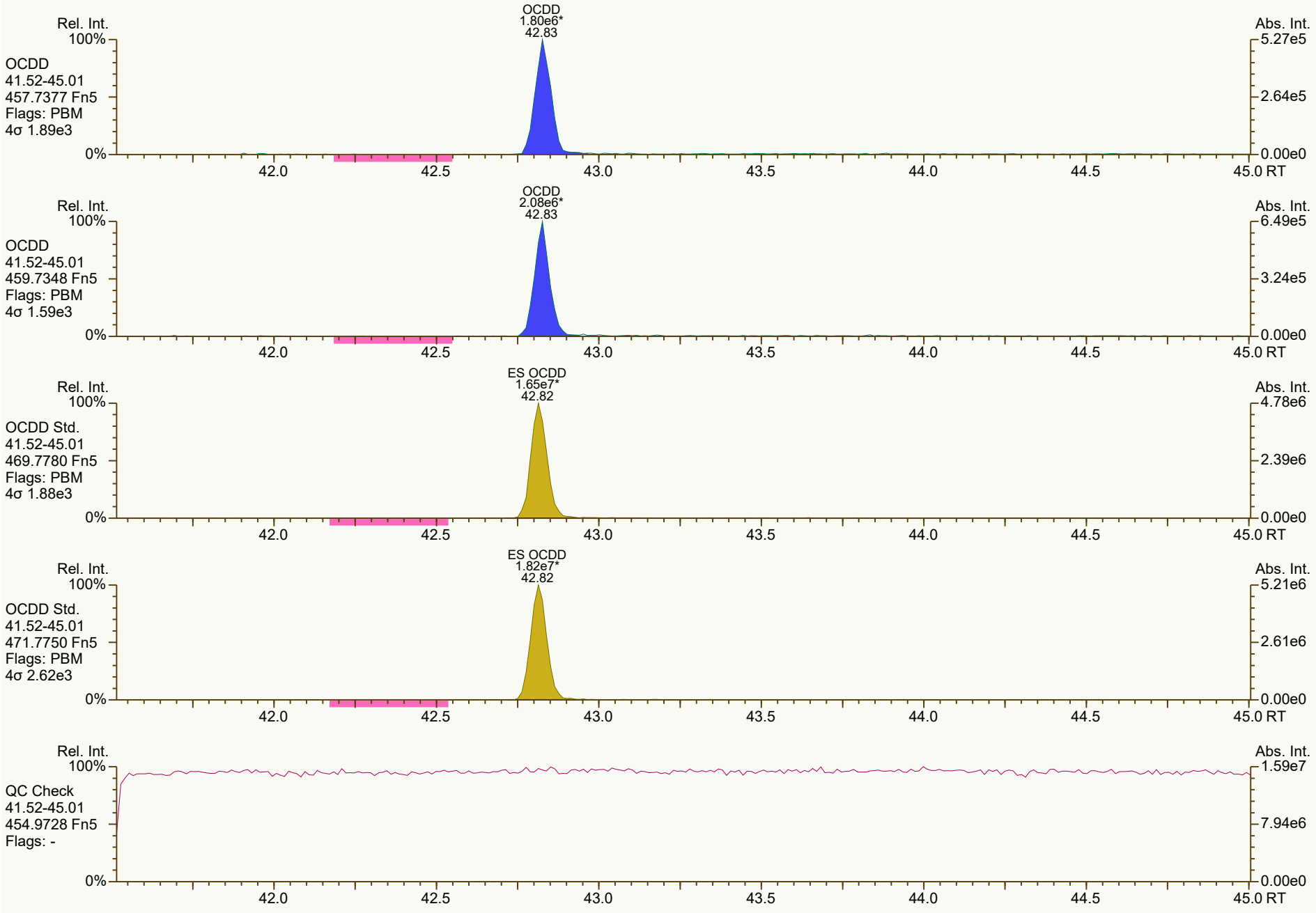

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0

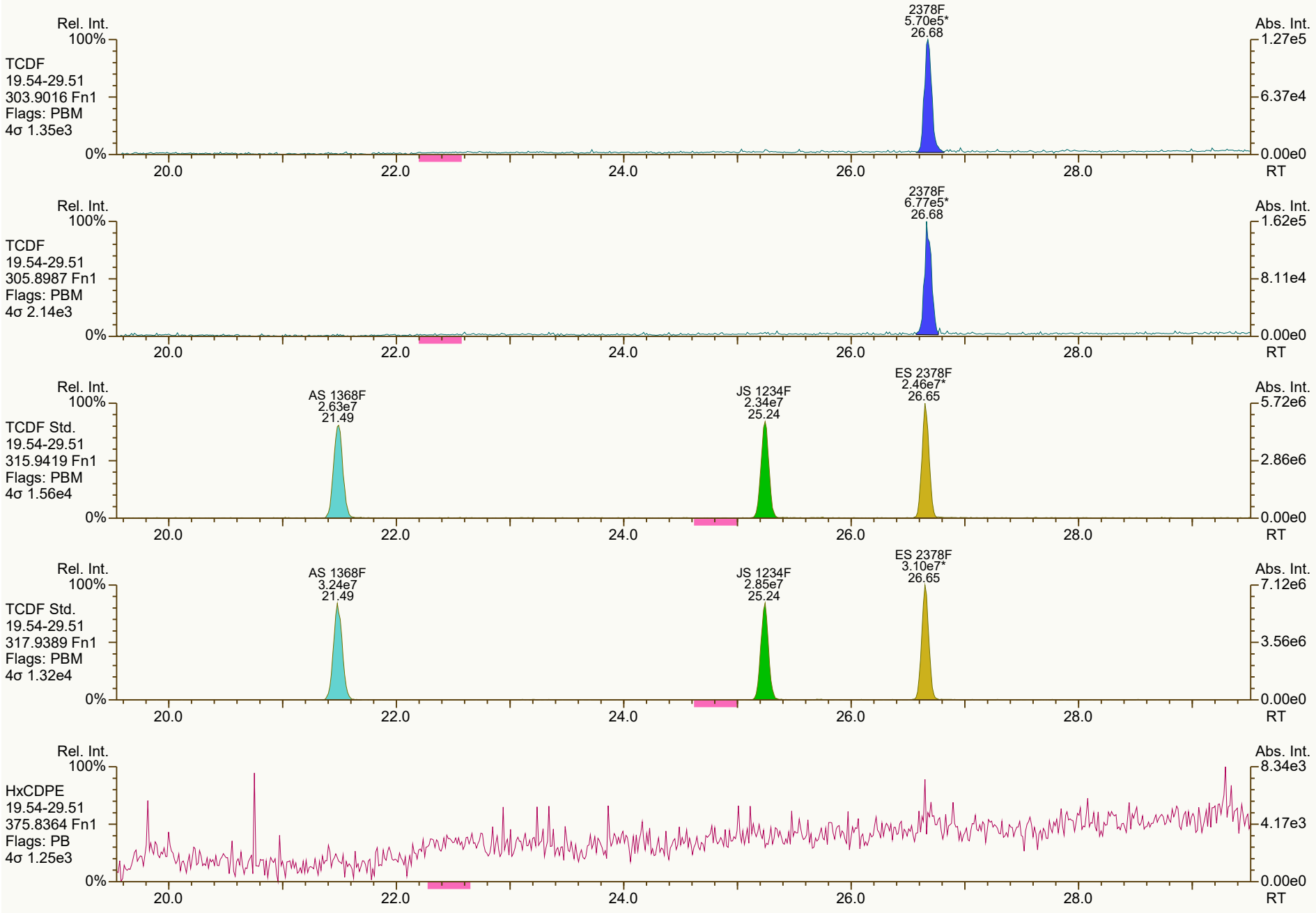

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
Abs. Int.
4.28e5
2.14e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
Abs. Int.
6.48e6
3.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
Abs. Int.
5.04e6
2.52e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

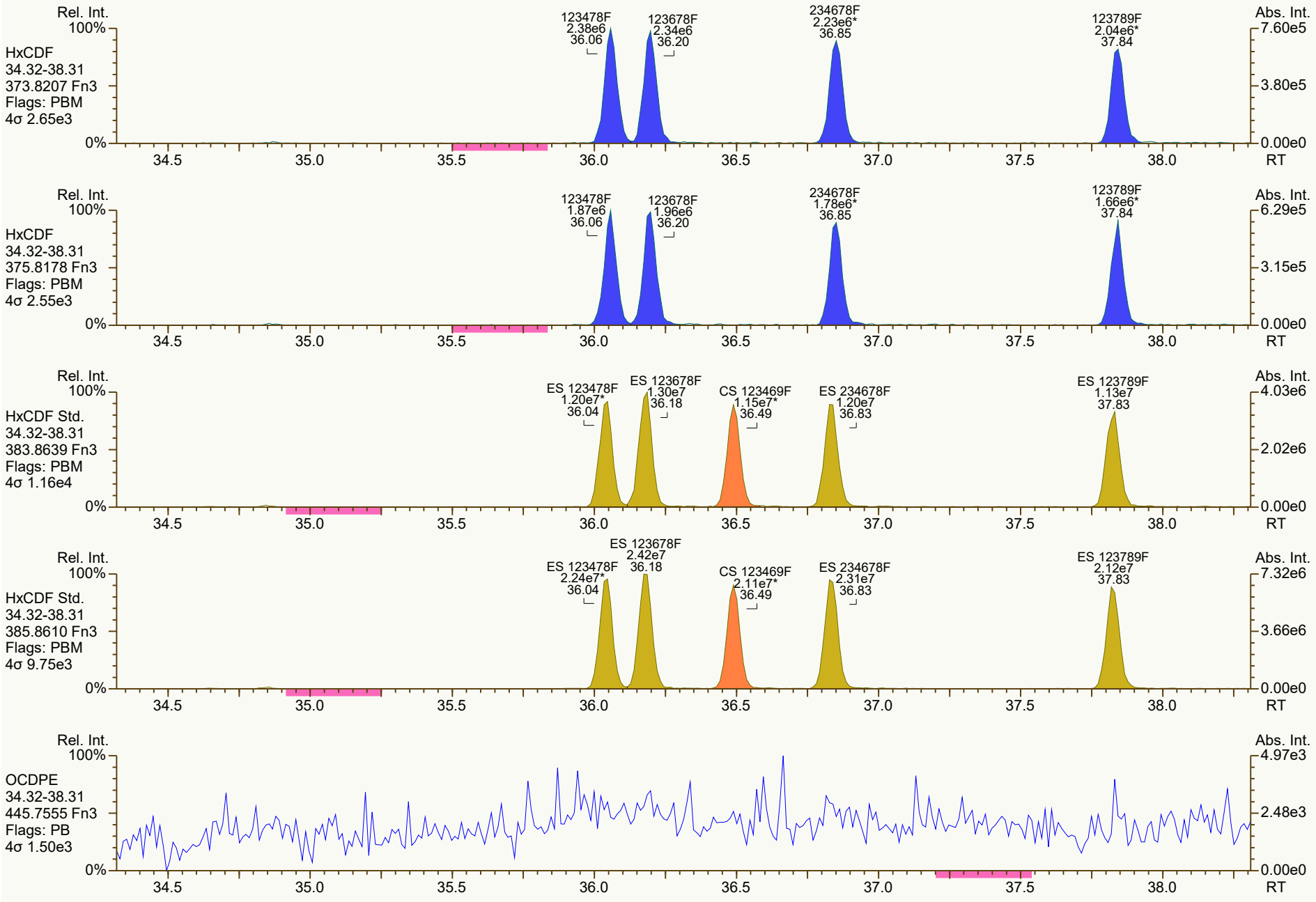

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

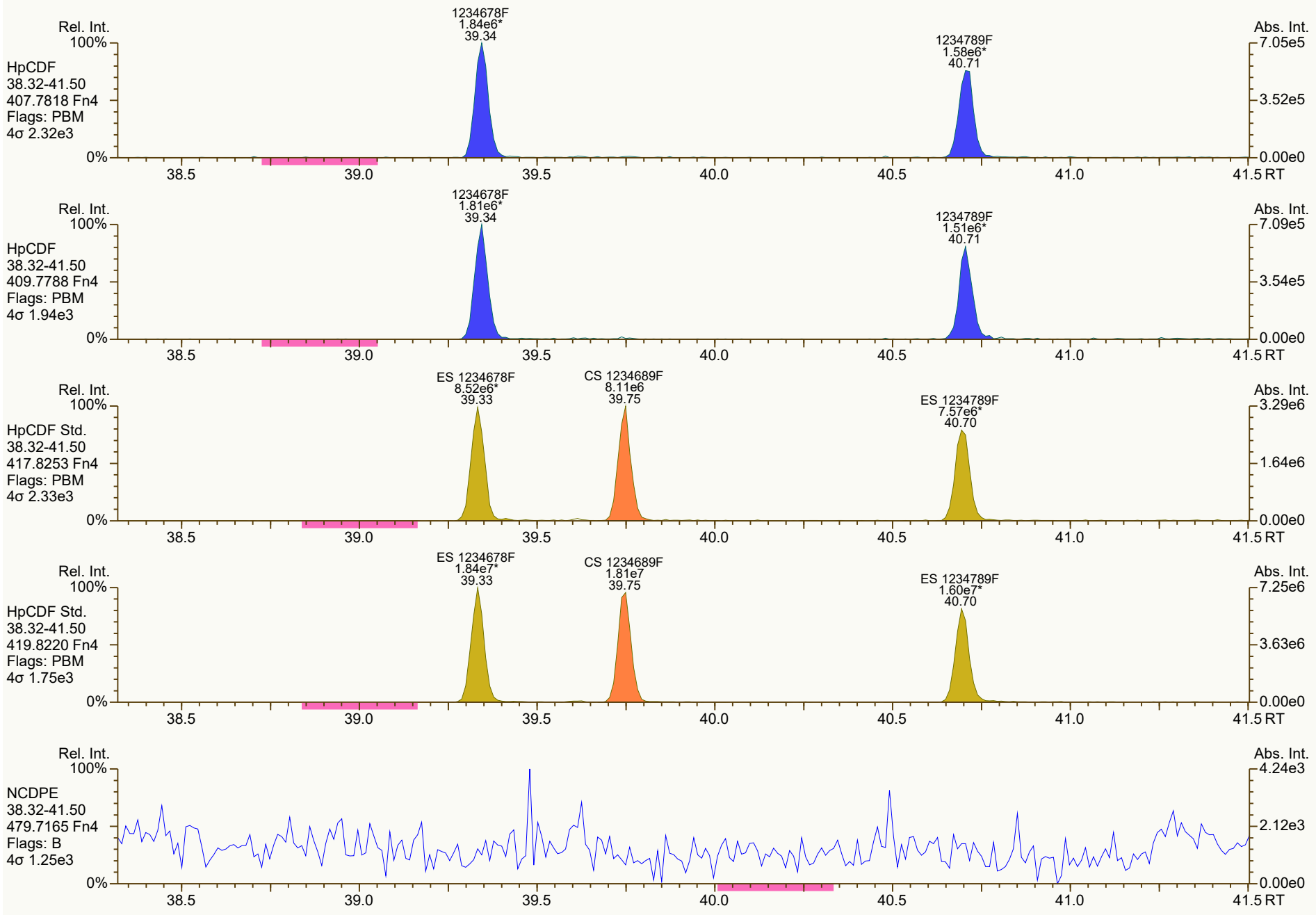

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

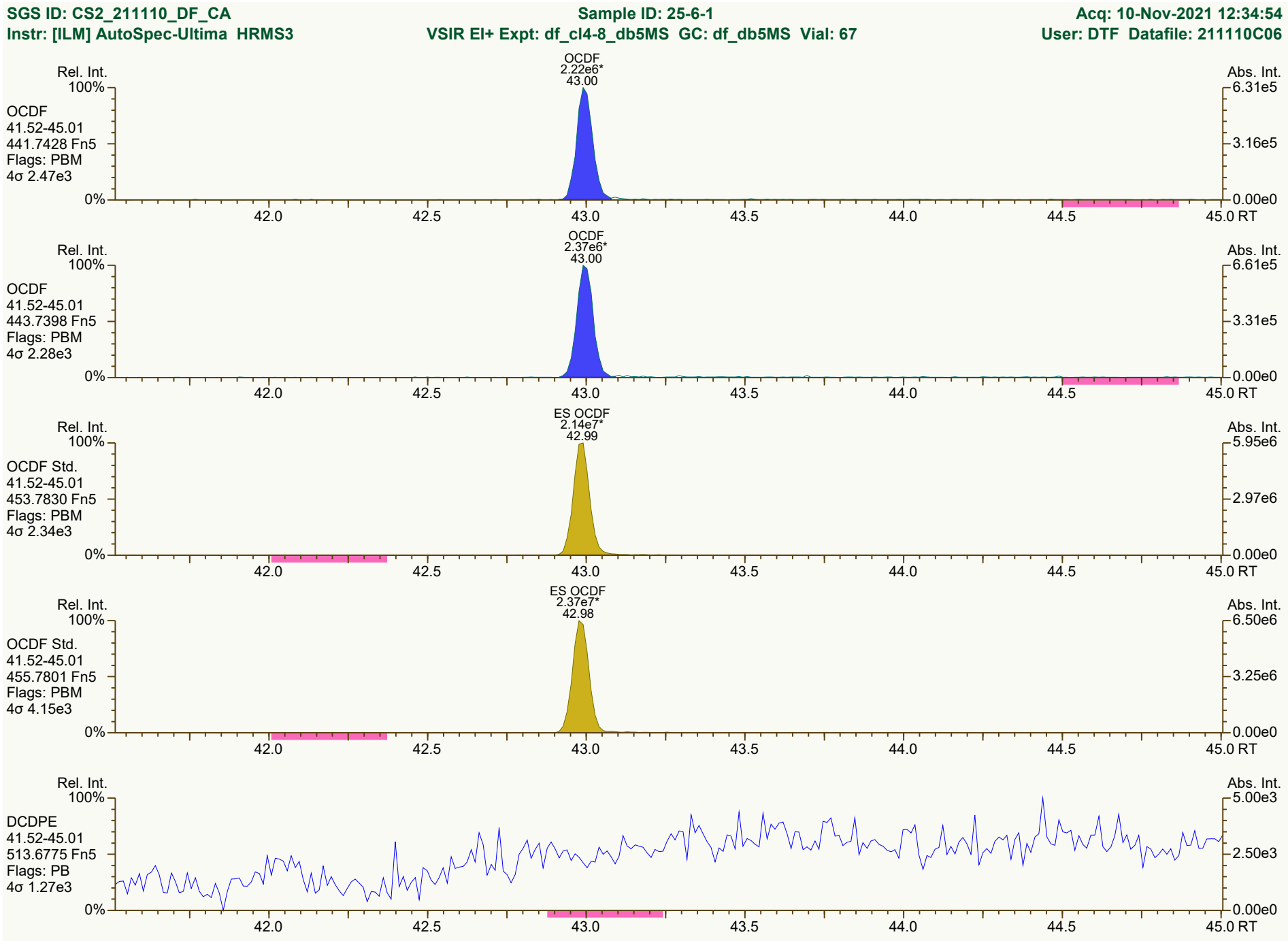

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
0%
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
0%
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
0%
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
0%
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
Abs. Int.
5.27e5
2.63e5
0.00e0
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
0%
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
Abs. Int.
8.01e6
4.01e6
0.00e0
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
0%
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
Abs. Int.
5.19e6
2.59e6
0.00e0
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
6.67e3
3.33e3
0.00e0


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
6.29e5
3.15e5
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
4.03e6
2.02e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
ES 123478F
2.24e7*
36.04
ES 123678F
2.42e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
7.32e6
3.66e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
4.97e3
2.48e3

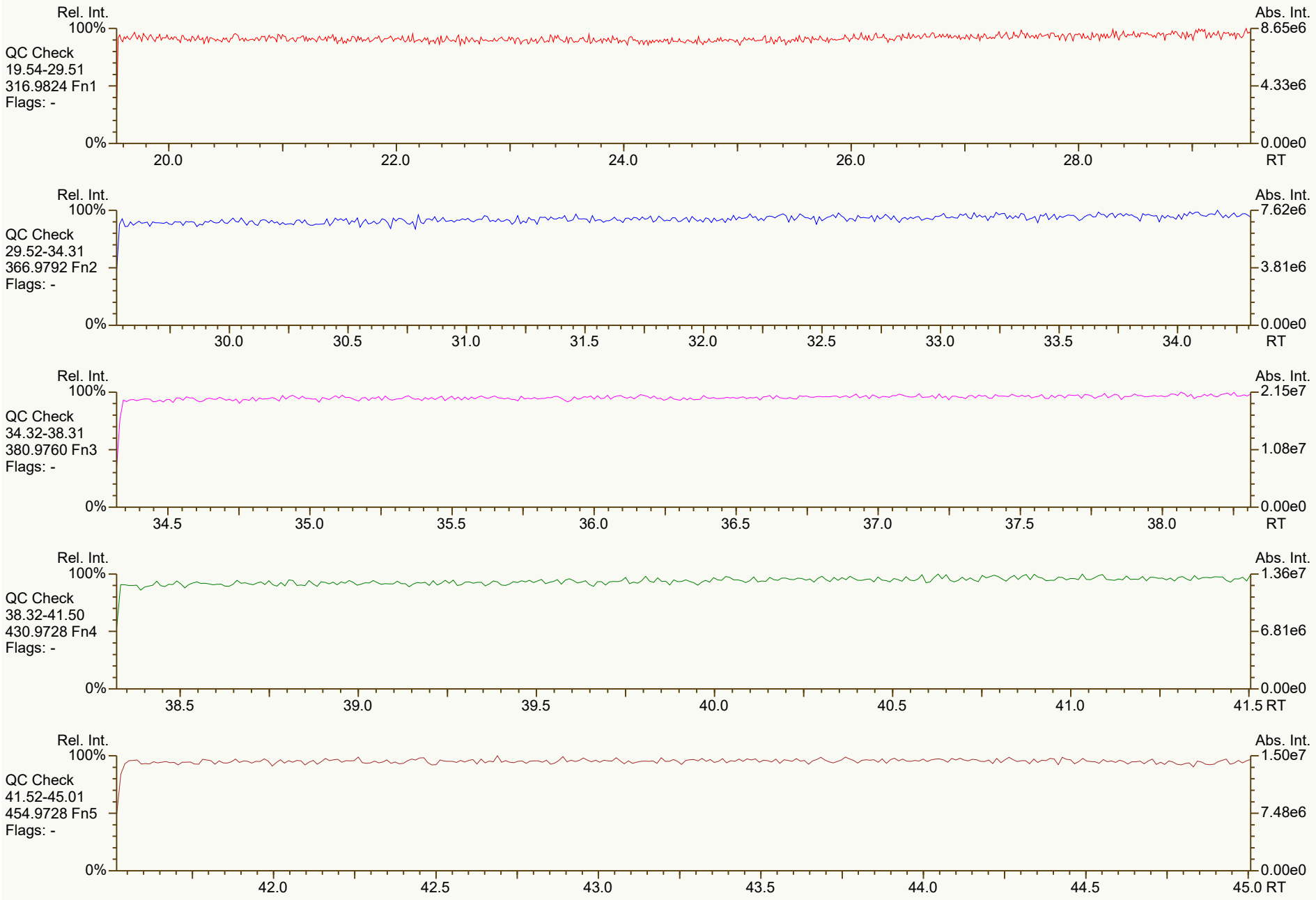

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
Abs. Int.
4.24e3
2.12e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
OCDF
2.22e6*
43.00
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
6.31e5
3.16e5
0.00e0
OCDF
2.37e6*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
6.61e5
3.31e5
0.00e0
ES OCDF
2.14e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
5.95e6
2.97e6
0.00e0
ES OCDF
2.37e7*
42.98
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
6.50e6
3.25e6
0.00e0
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
5.00e3
2.50e3
0.00e0
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 5547, 1929, 8450 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 12 of 12

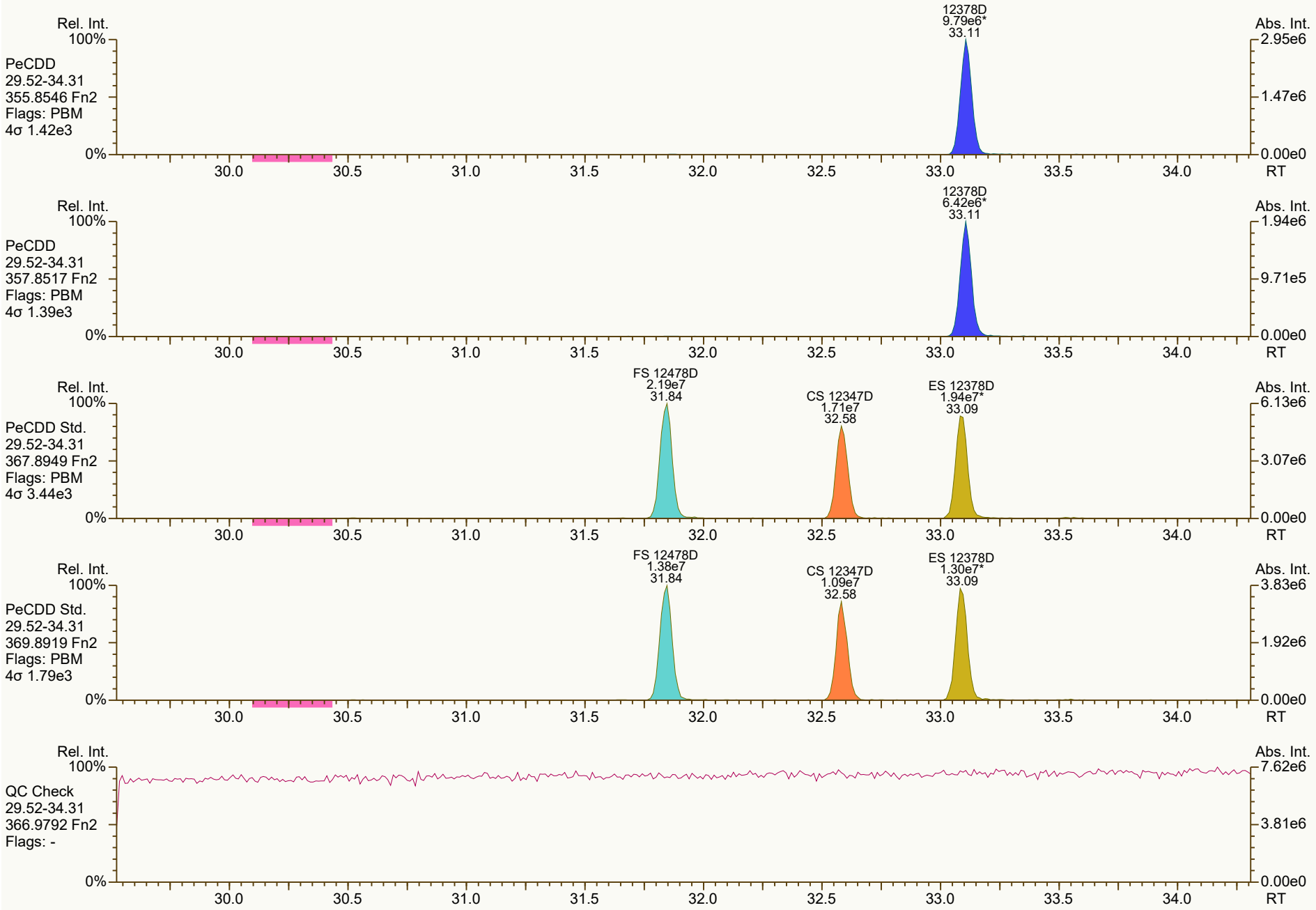
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

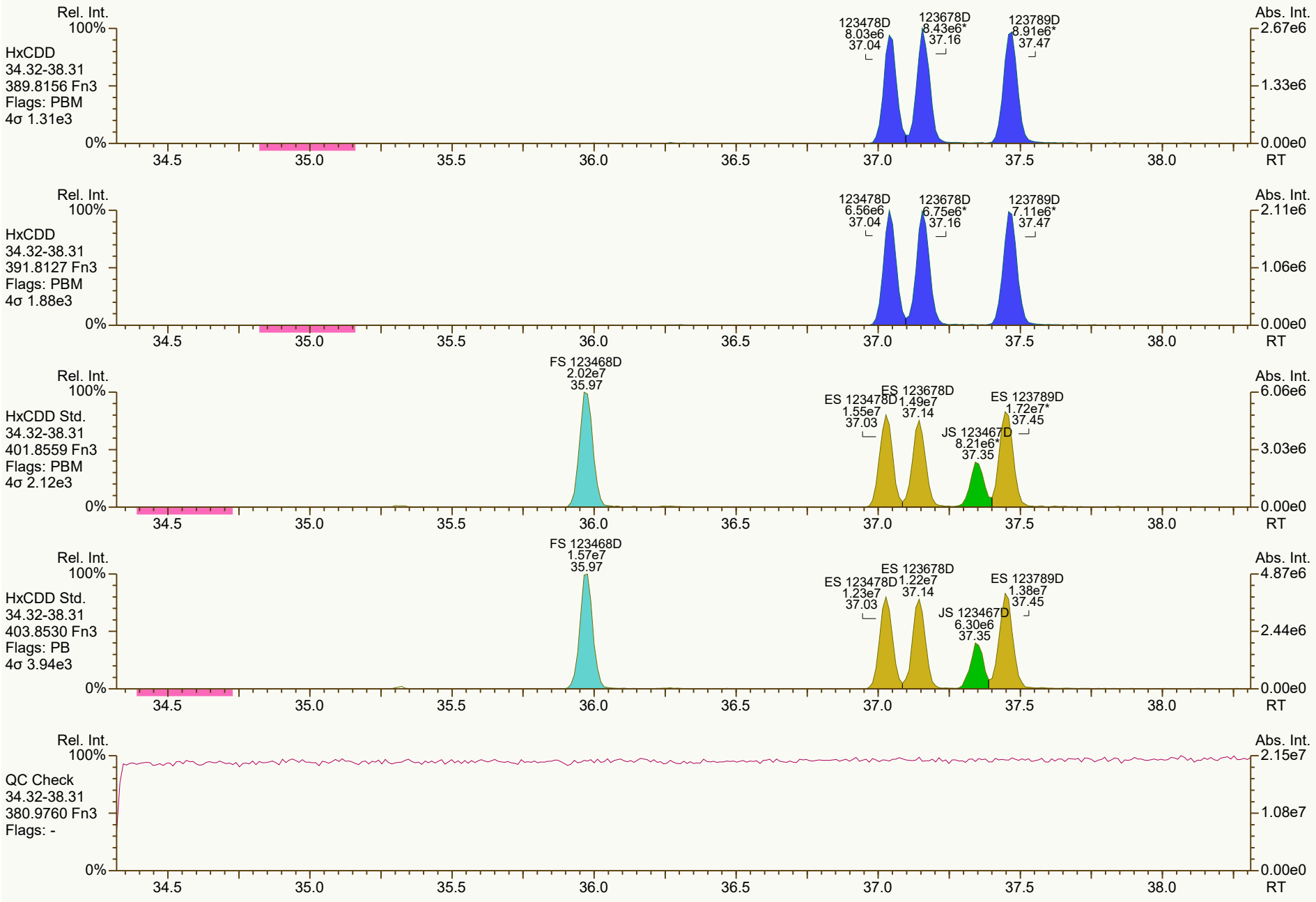
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

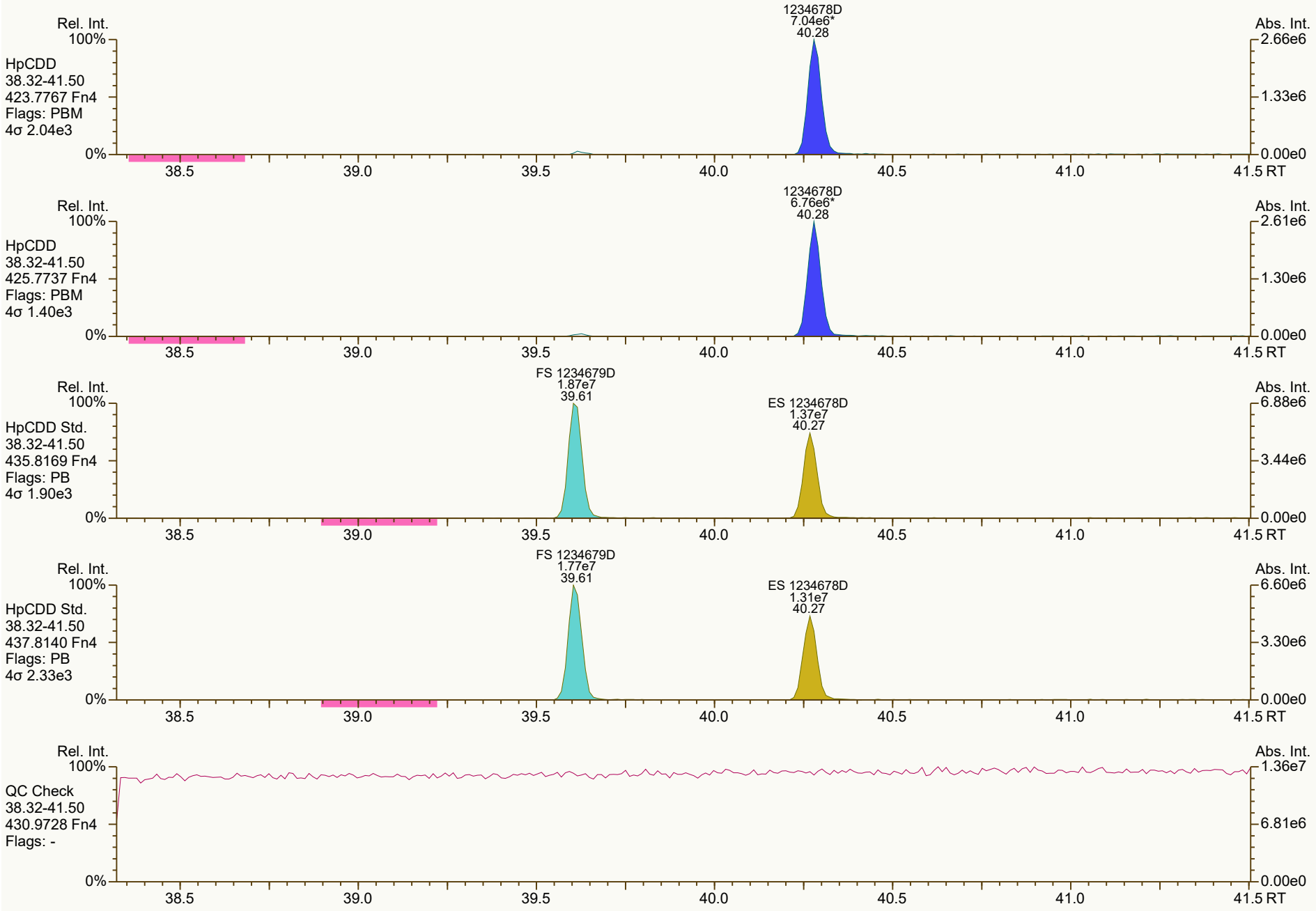
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%

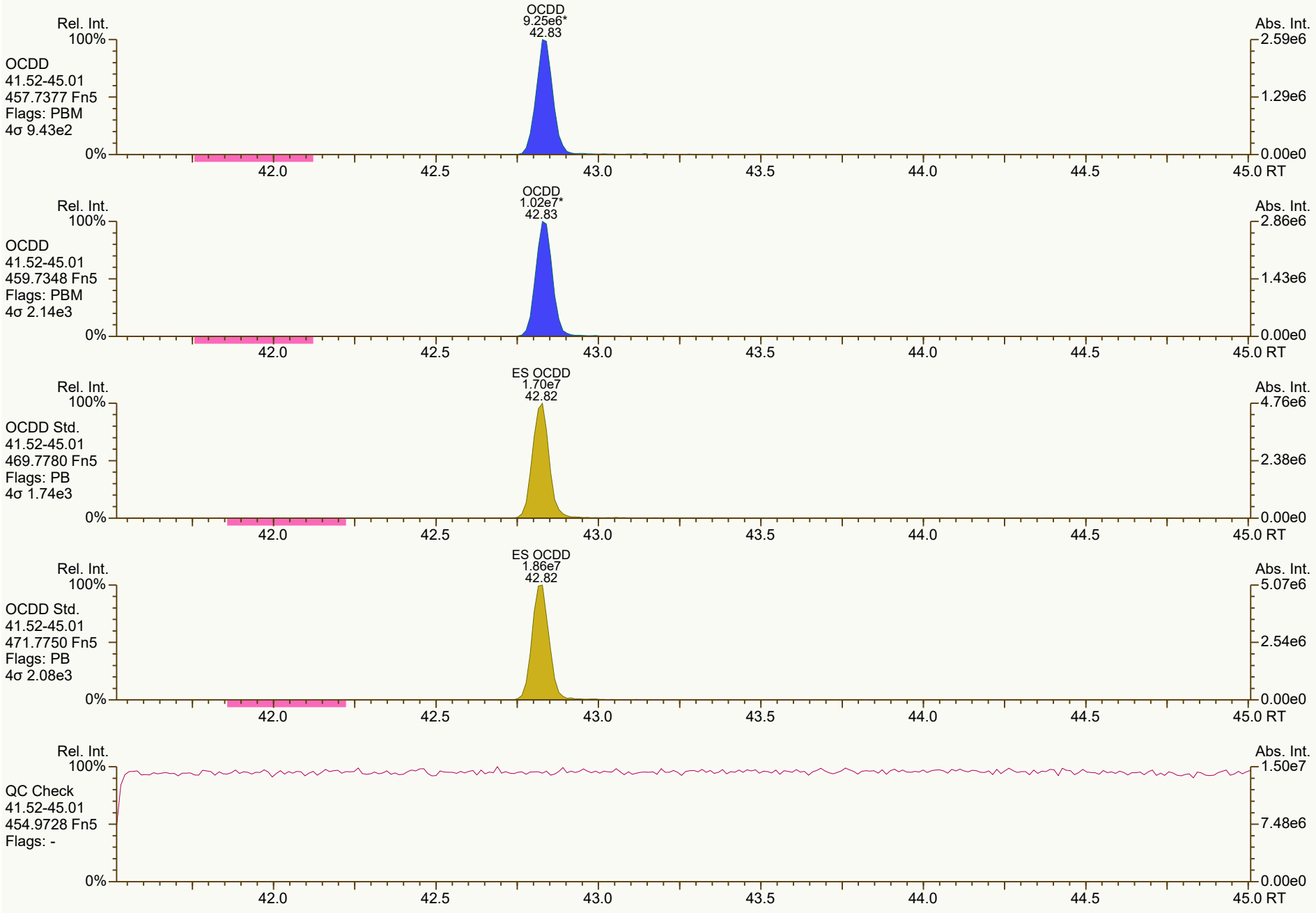

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
0%
2378D
1.99e6
27.60
Abs. Int.
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
0%
2378D
2.55e6
27.60
Abs. Int.
5.98e5
2.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
Abs. Int.
1.03e6
5.16e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
0%
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
Abs. Int.
4.80e6
2.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
0%
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
0%
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
0%
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
0%
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
0%
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.62e6
3.81e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

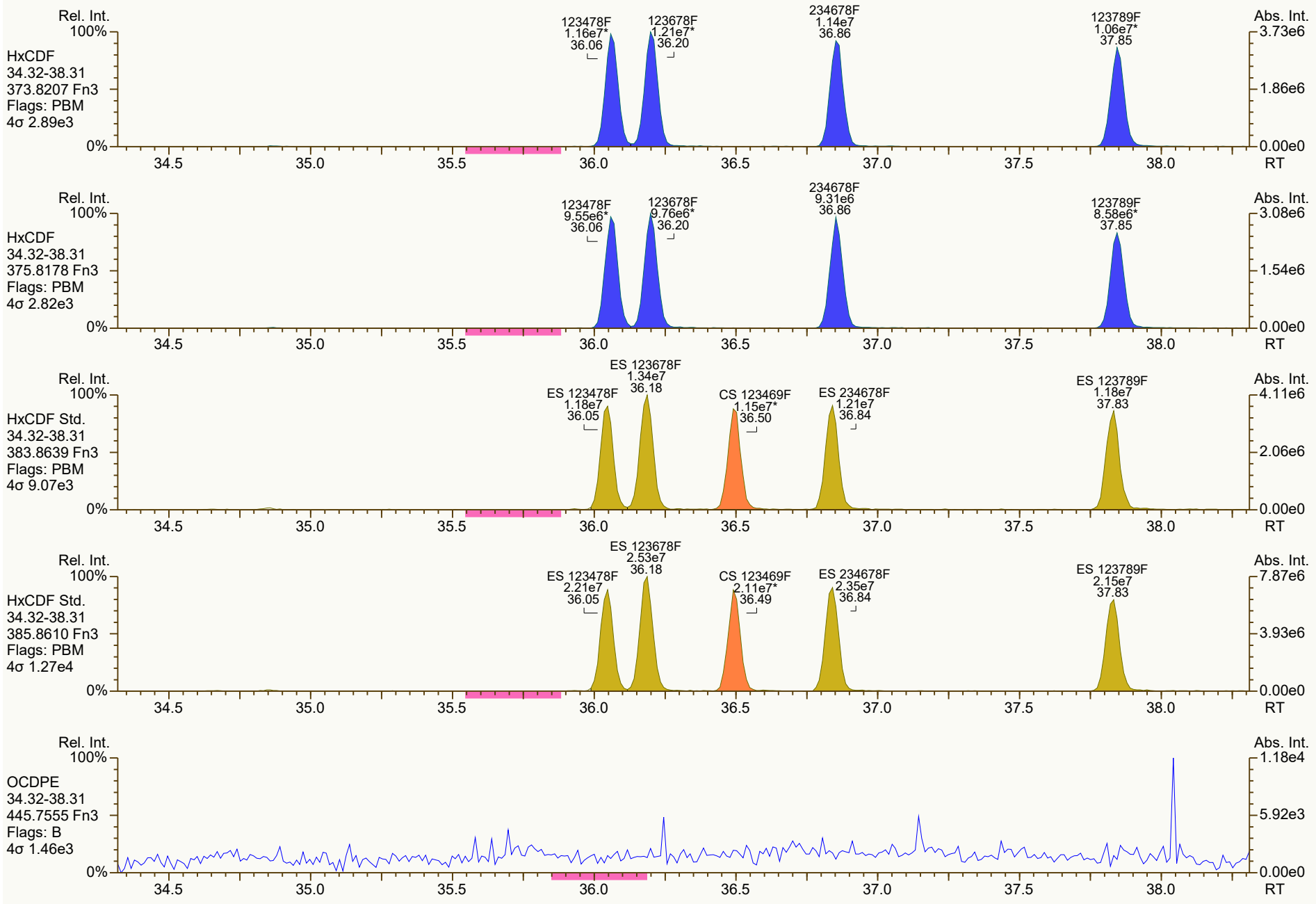

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

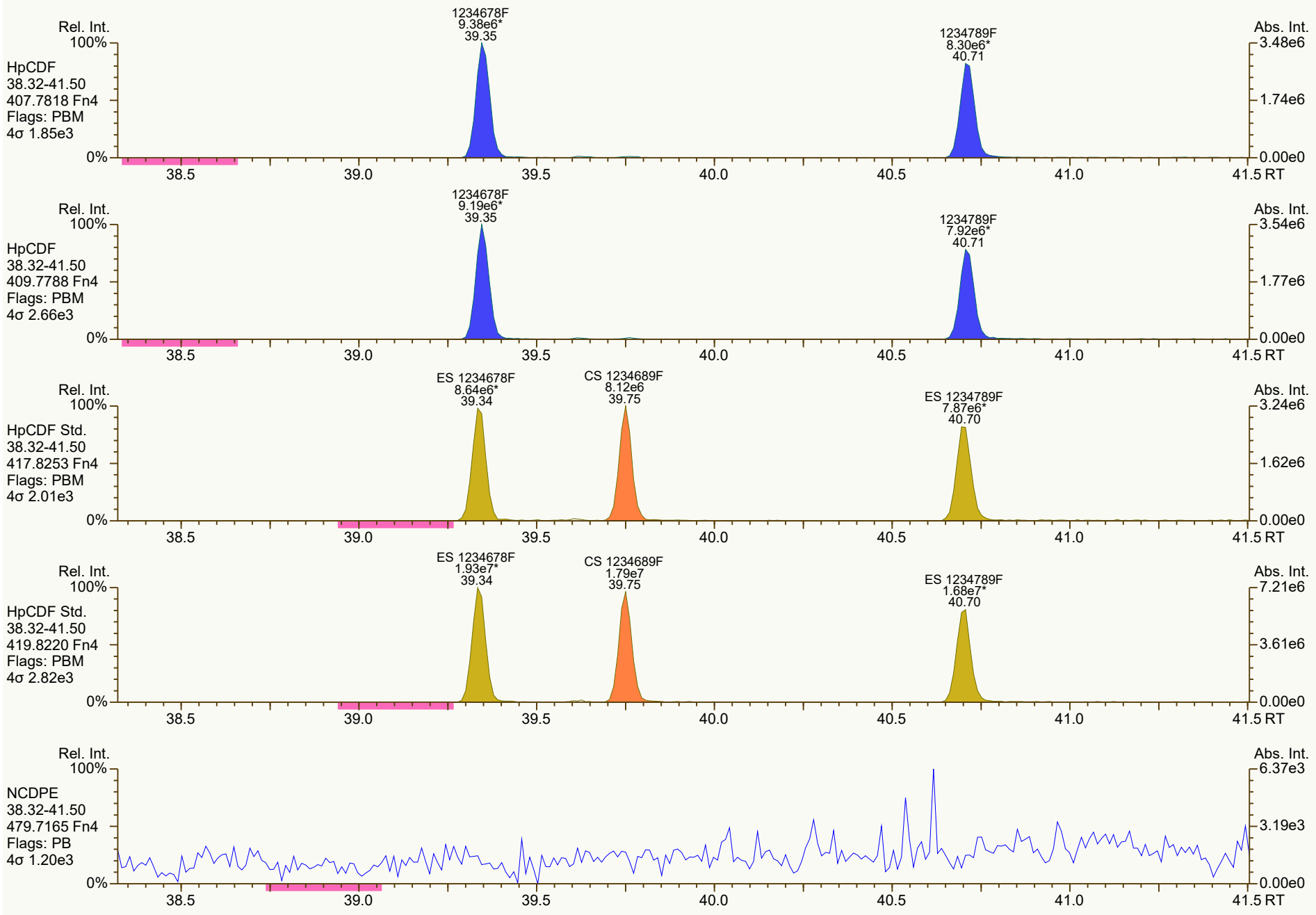

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
OCDD
9.25e6*
42.83
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
OCDD
1.02e7*
42.83
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
ES OCDD
1.70e7
42.82
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
ES OCDD
1.86e7
42.82
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
0%
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
2378F
2.58e6
26.68
5.81e5
2.91e5
0.00e0
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
2378F
3.32e6
26.68
7.66e5
3.83e5
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
5.45e6
2.73e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
6.76e6
3.38e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
6.84e3
3.42e3
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
Abs. Int.
3.85e6
1.93e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
Abs. Int.
2.59e6
1.29e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
Abs. Int.
7.61e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
Abs. Int.
5.00e6
2.50e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
Abs. Int.
1.17e4
5.86e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
0%
123478F
1.16e7*
36.06
123678F
1.21e7*
36.20
234678F
1.14e7
36.86
123789F
1.06e7*
37.85
Abs. Int.
3.73e6
1.86e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
0%
123478F
9.55e6*
36.06
123678F
9.76e6*
36.20
234678F
9.31e6
36.86
123789F
8.58e6*
37.85
Abs. Int.
3.08e6
1.54e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
0%
ES 123478F
1.18e7
36.05
ES 123678F
1.34e7
36.18
CS 123469F
1.15e7*
36.50
ES 234678F
1.21e7
36.84
ES 123789F
1.18e7
37.83
Abs. Int.
4.11e6
2.06e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
0%
ES 123478F
2.21e7
36.05
ES 123678F
2.53e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.35e7
36.84
ES 123789F
2.15e7
37.83
Abs. Int.
7.87e6
3.93e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
0%
Abs. Int.
1.18e4
5.92e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
0%
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
Abs. Int.
3.48e6
1.74e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
0%
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
Abs. Int.
3.54e6
1.77e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
0%
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
Abs. Int.
3.24e6
1.62e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
0%
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
Abs. Int.
7.21e6
3.61e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
0%
Abs. Int.
6.37e3
3.19e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

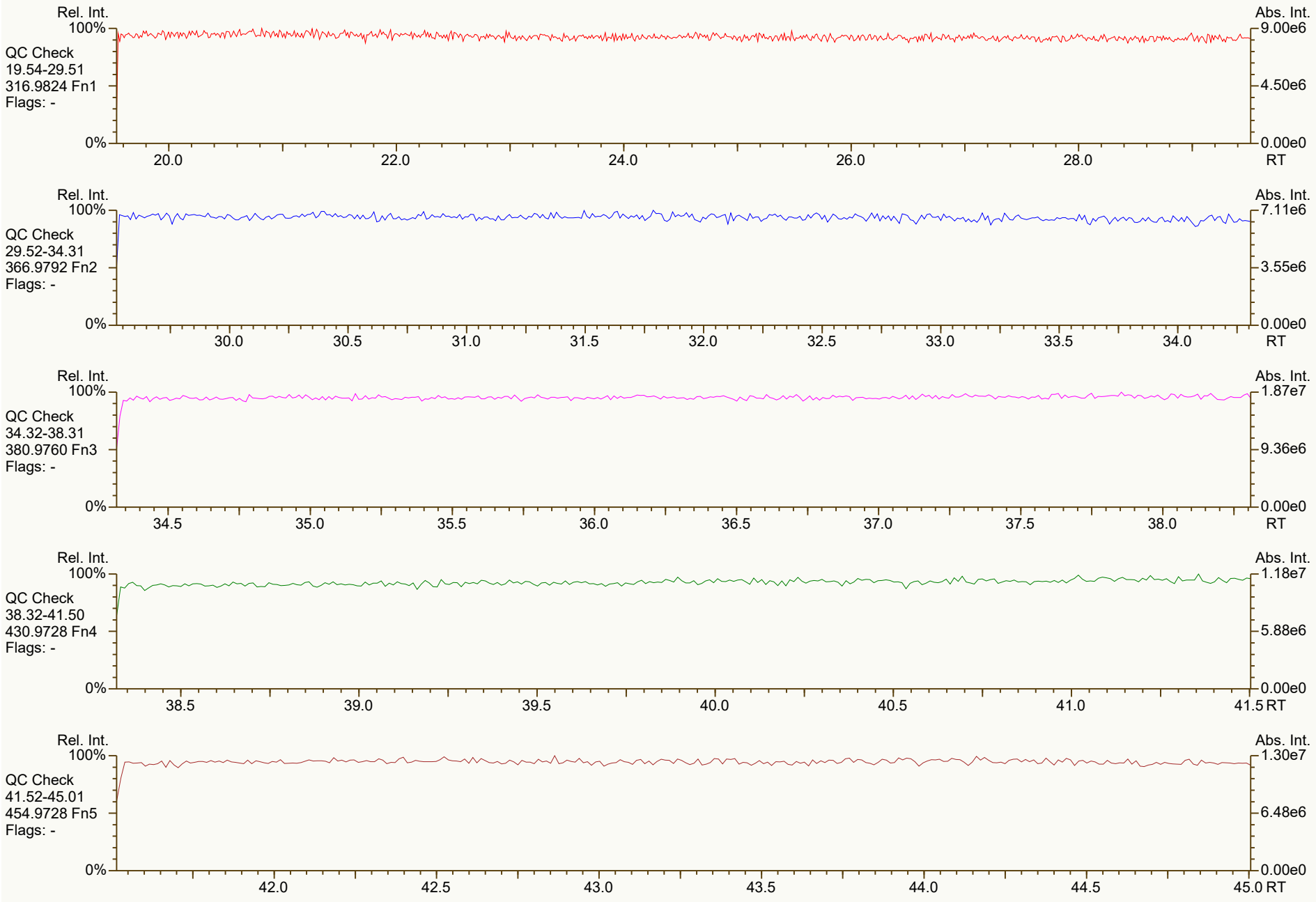

OCDF
1.15e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
3.25e6
1.62e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
0%
Abs. Int.
3.53e6
1.76e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.21e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
0%
Abs. Int.
6.08e6
3.04e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.39e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
0%
Abs. Int.
6.65e6
3.32e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
0%
Abs. Int.
4.82e3
2.41e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

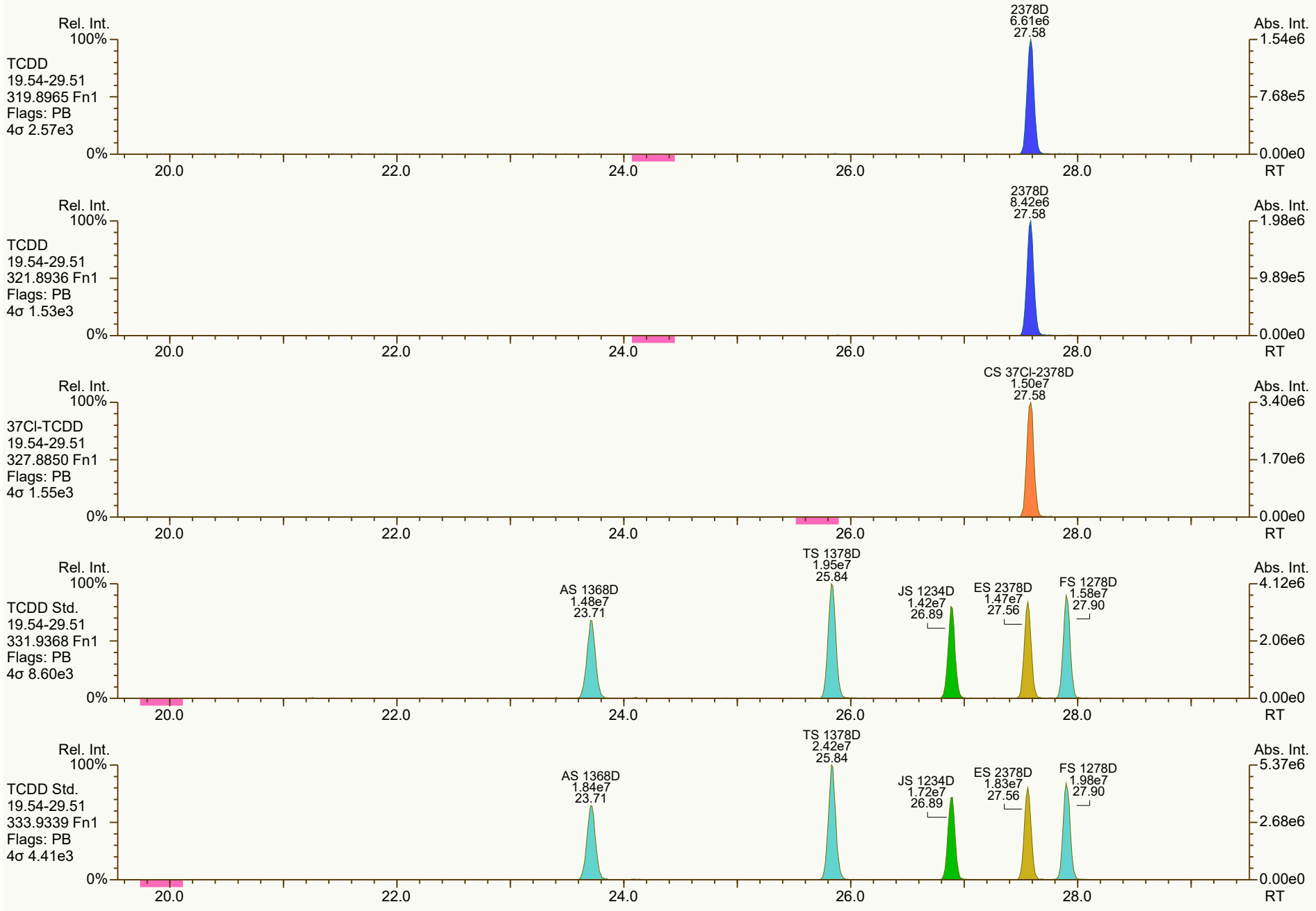
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

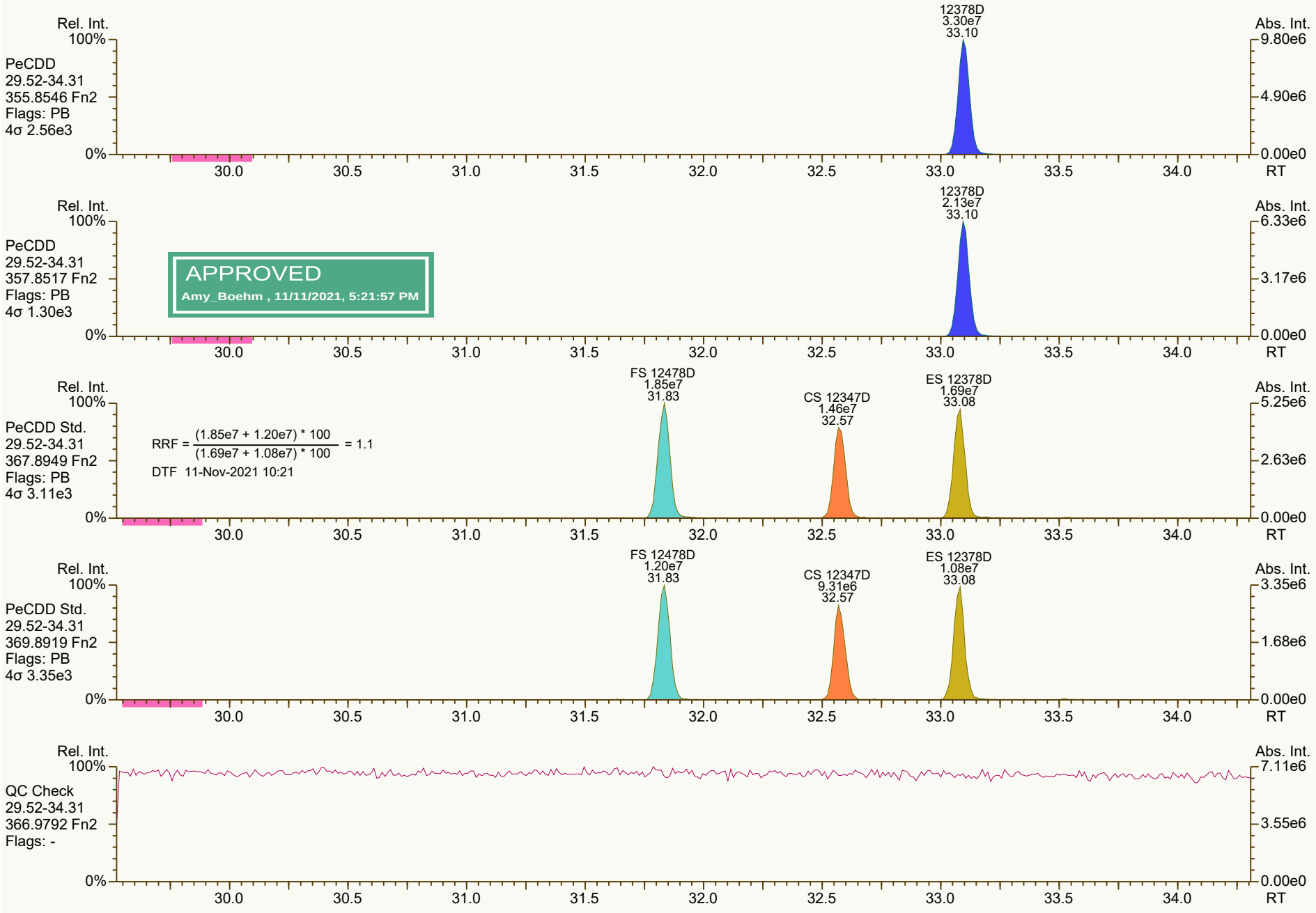
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

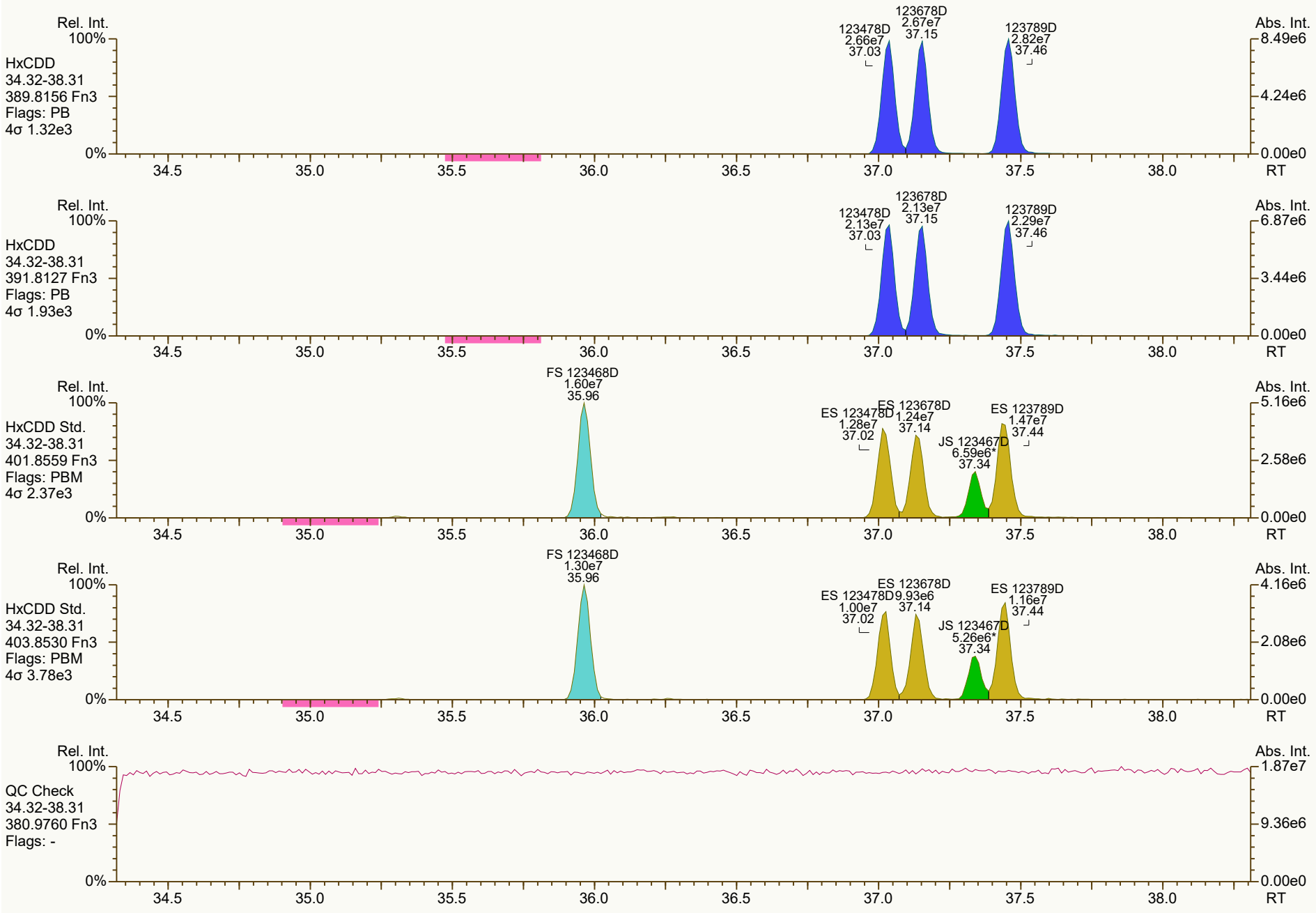
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

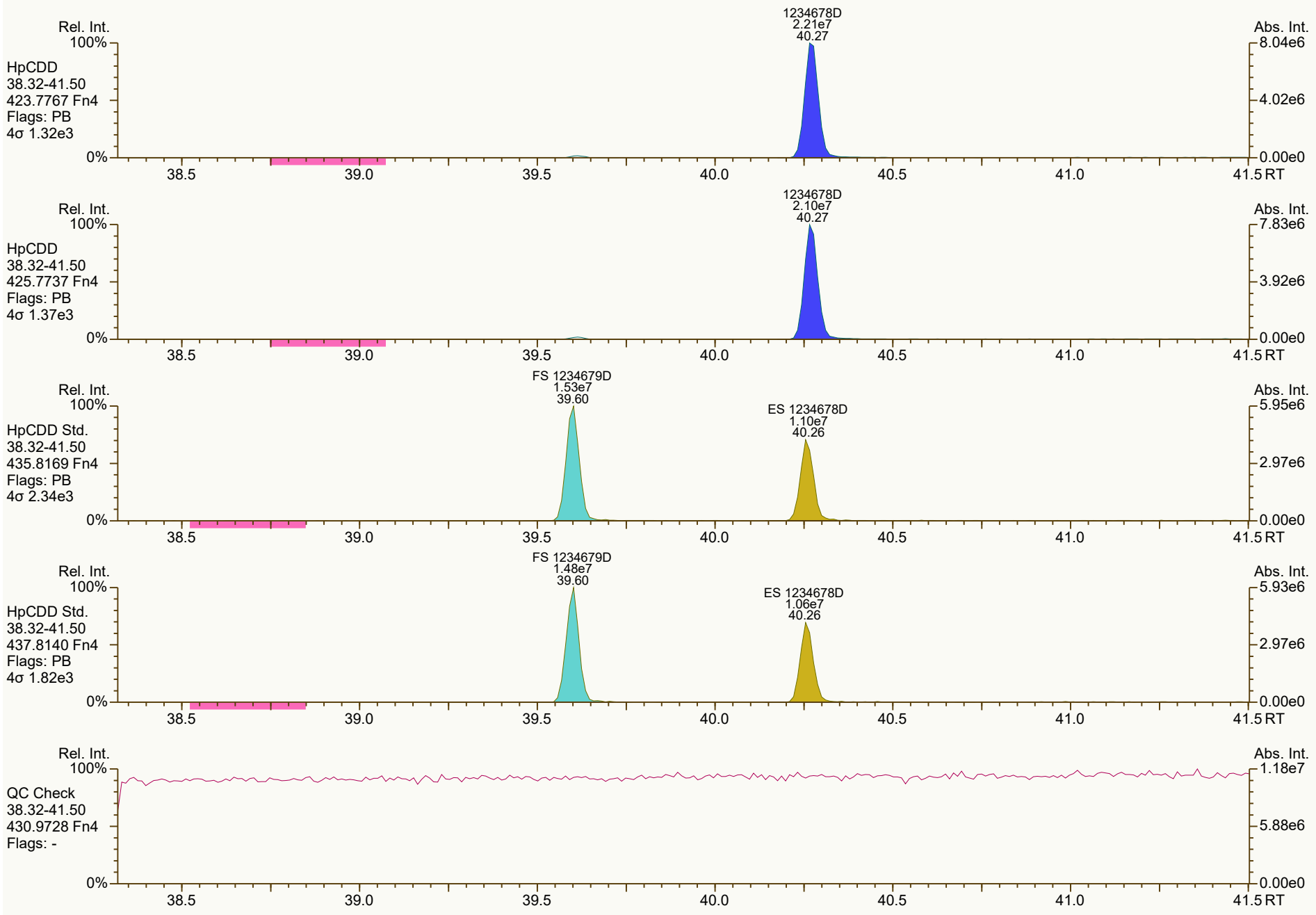
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

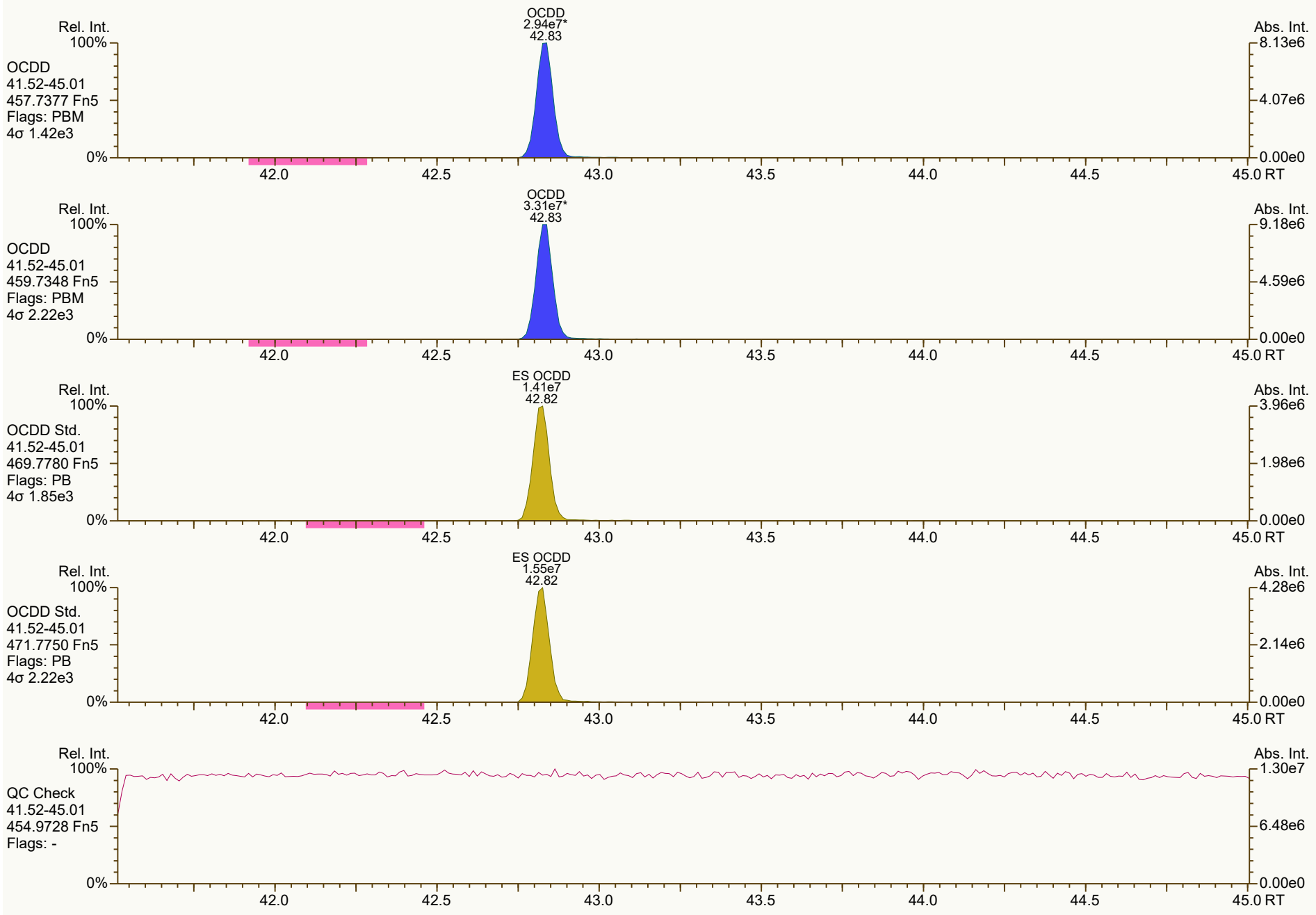

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.00e6
4.50e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.11e6
3.55e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.87e7
9.36e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.18e7
5.88e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.30e7
6.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
0%
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
0%
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

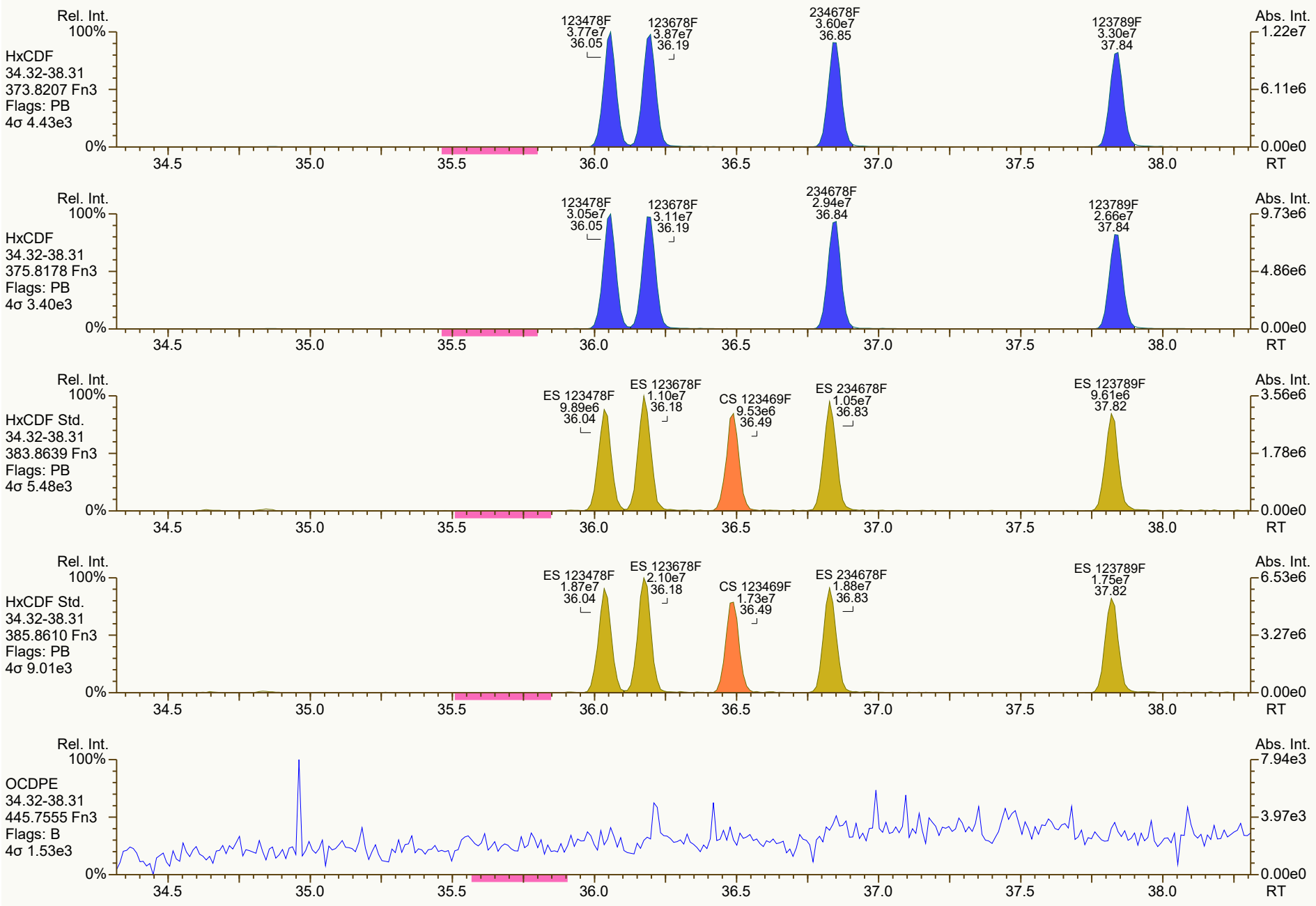

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

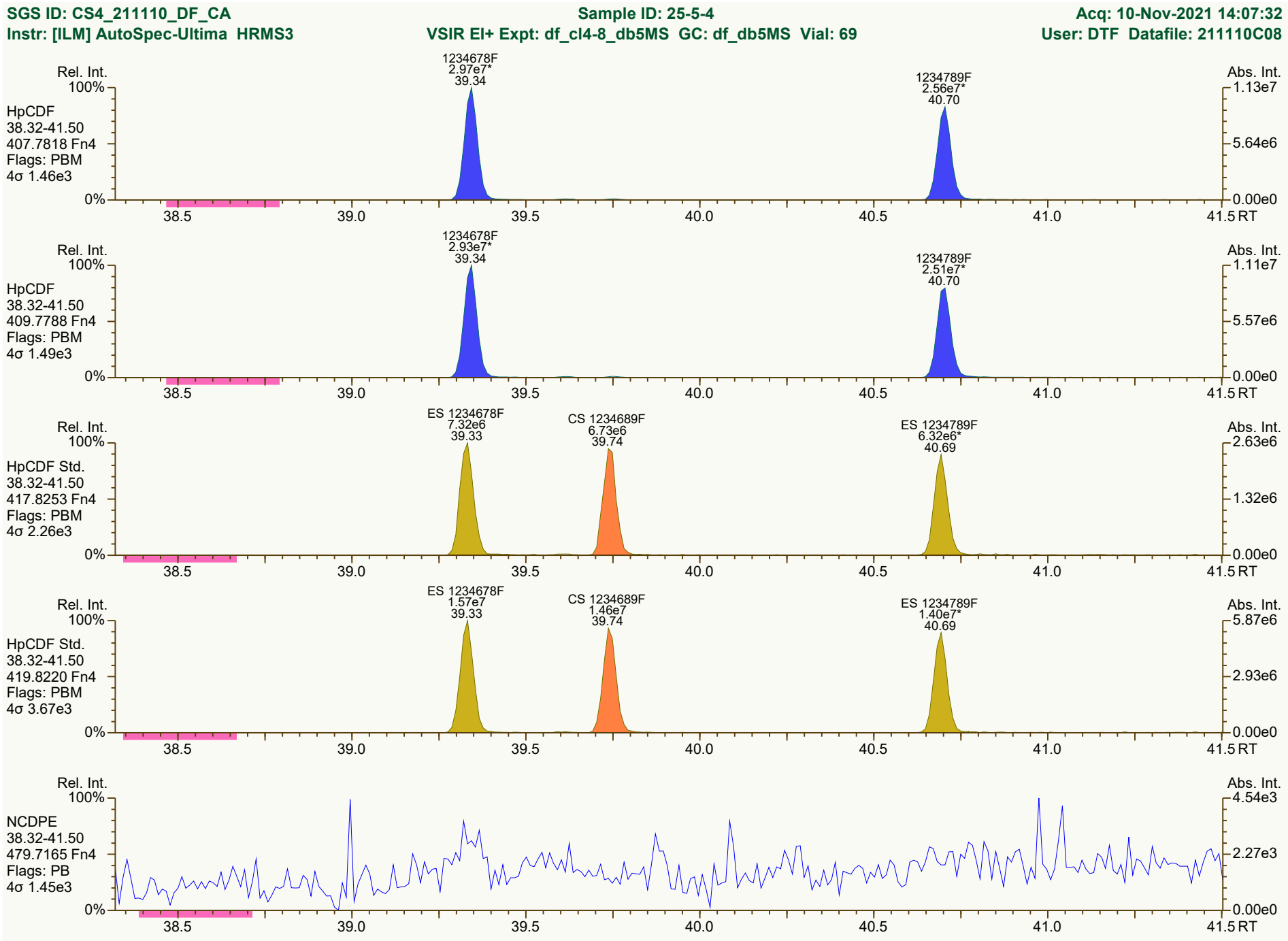

OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

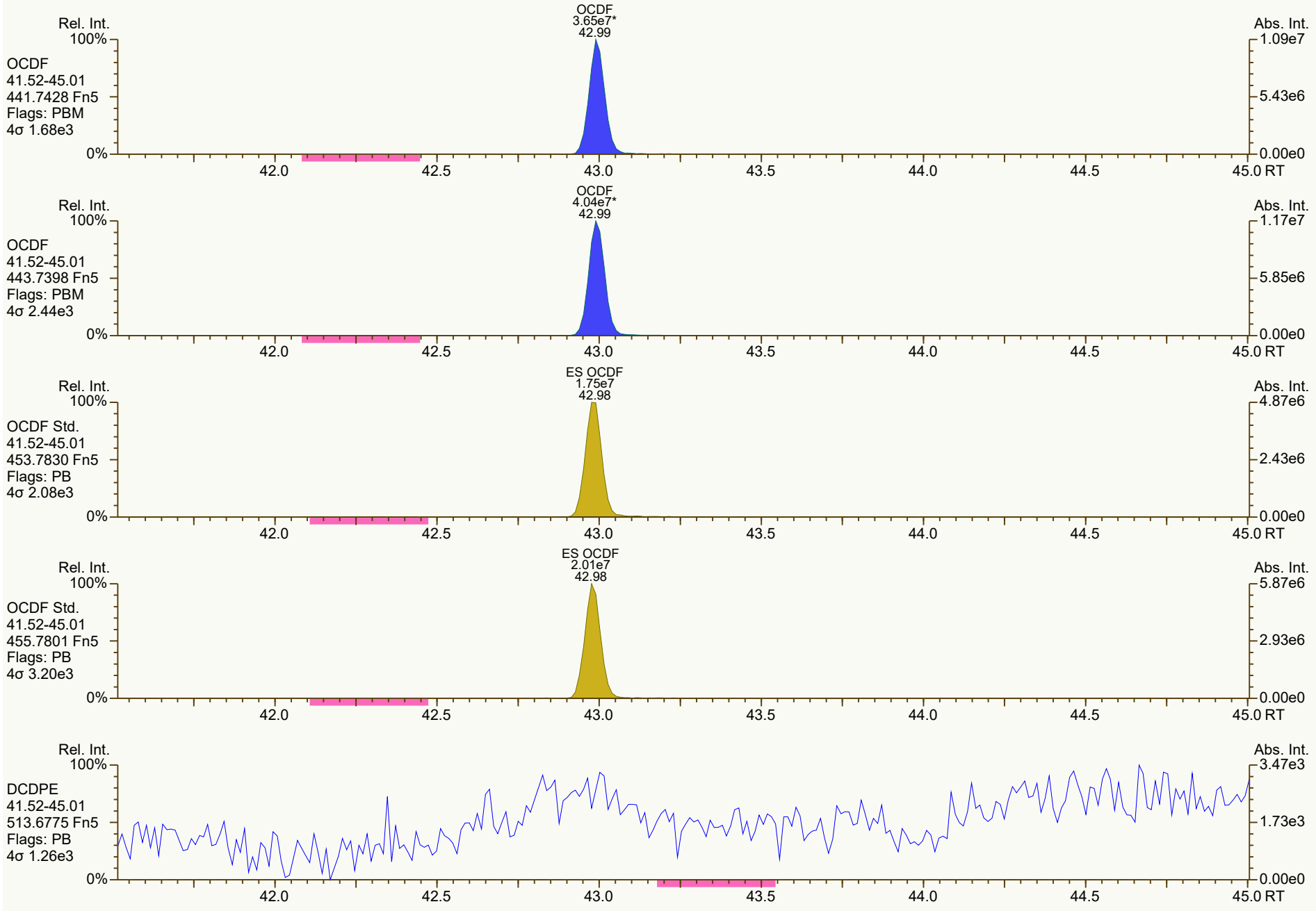

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
8.94e3
4.47e3
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
9.00e6
4.50e6


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
Abs. Int.
7.51e3
3.76e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3

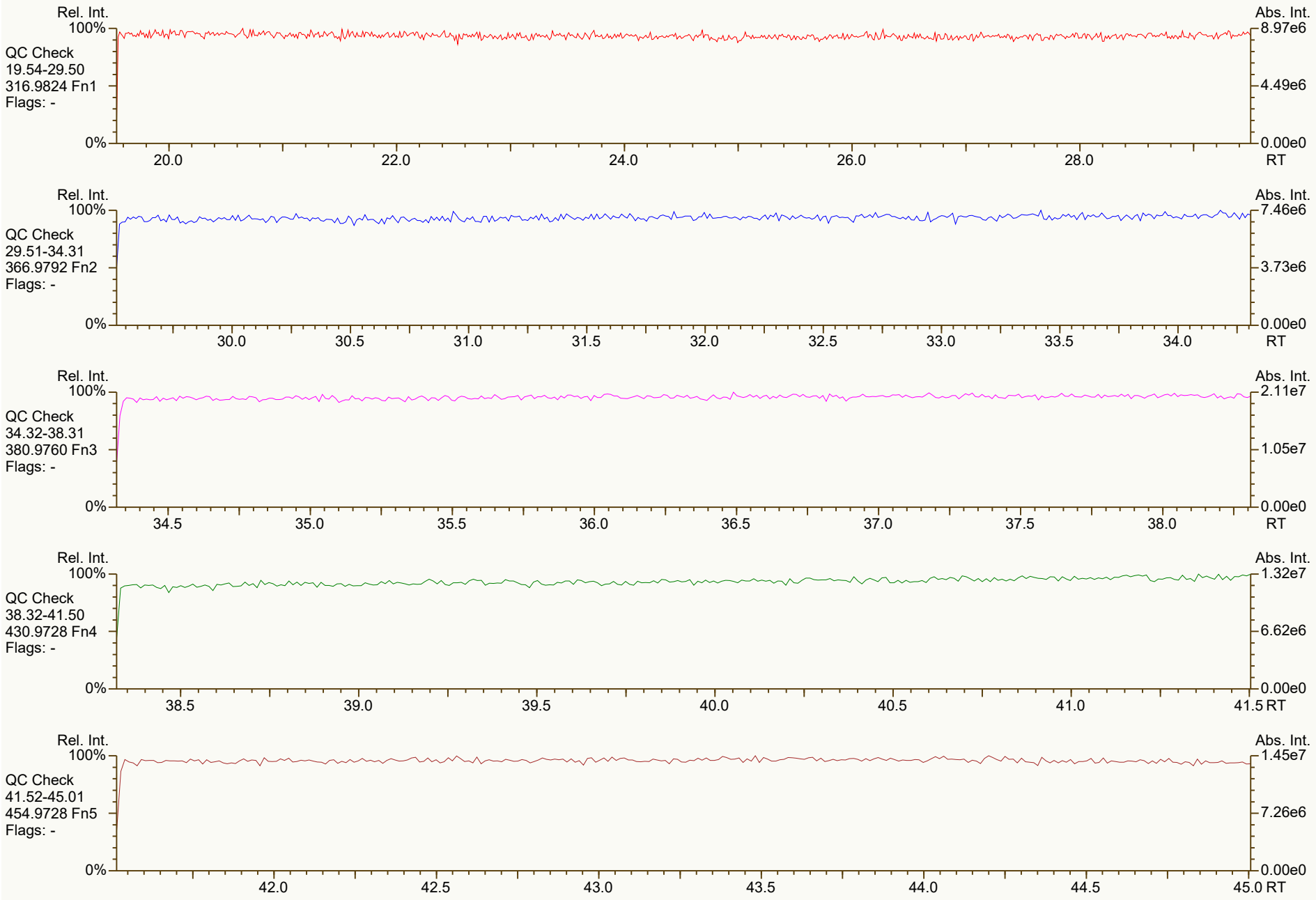

SGS ID: CS4_211110_DF_CA
Sample ID: 25-5-4
Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 211110C08
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
1.13e7
5.64e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
1.11e7
5.57e6
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
2.63e6
1.32e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
5.87e6
2.93e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
4.54e3
2.27e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 2764, 9565, 4492 scc: 855-576
Revised: 10-Nov-2021 15:17 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

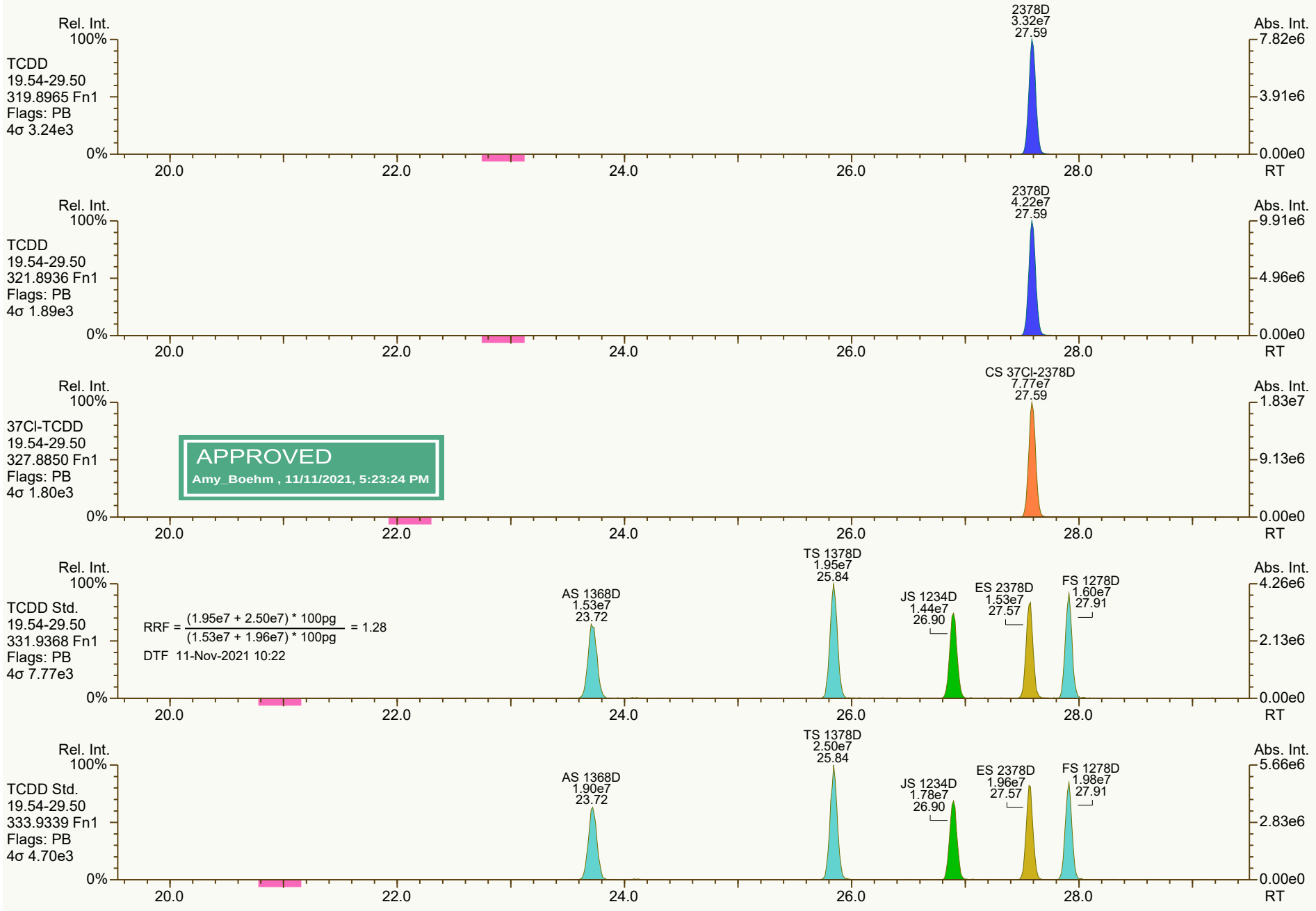

OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

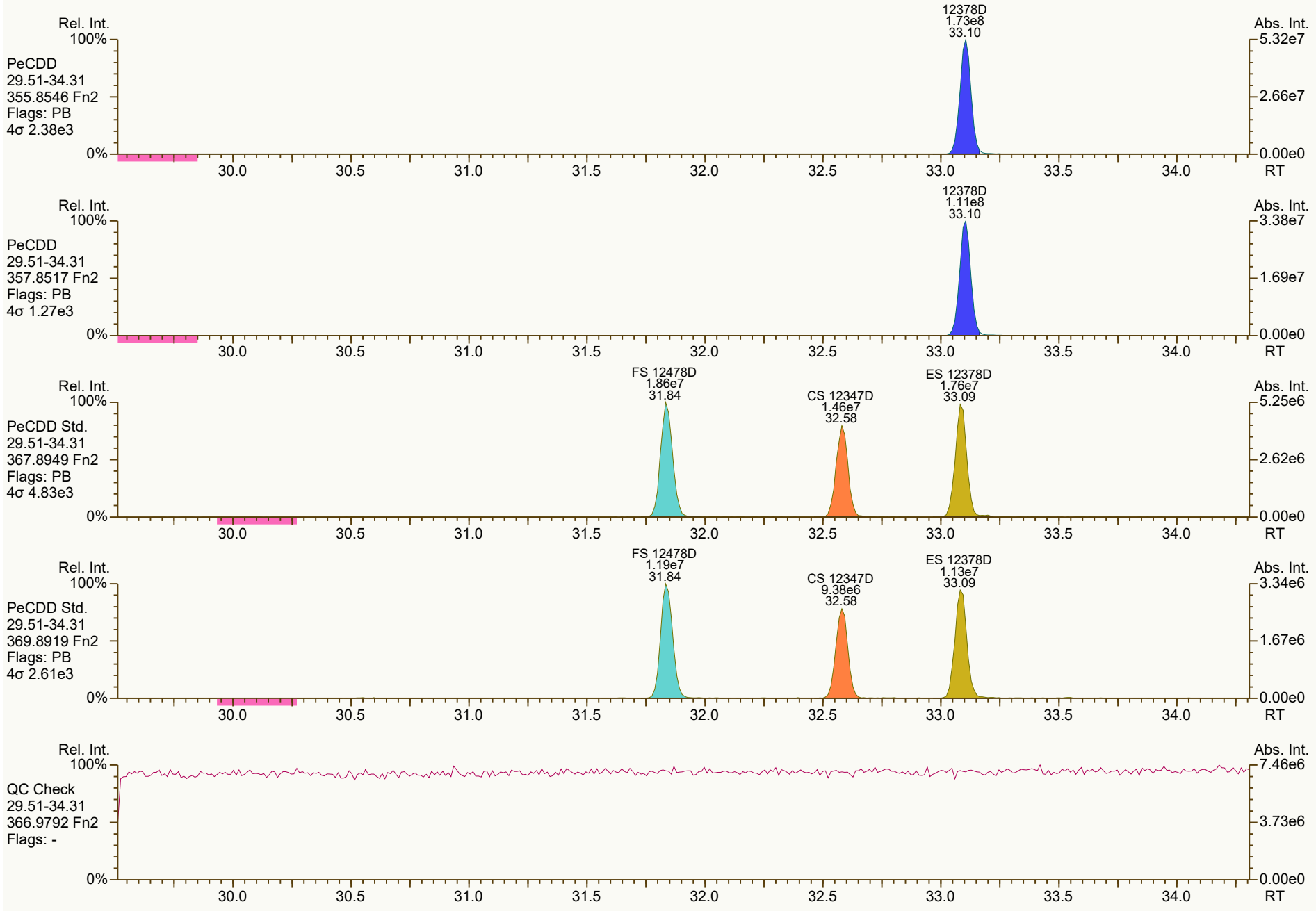
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

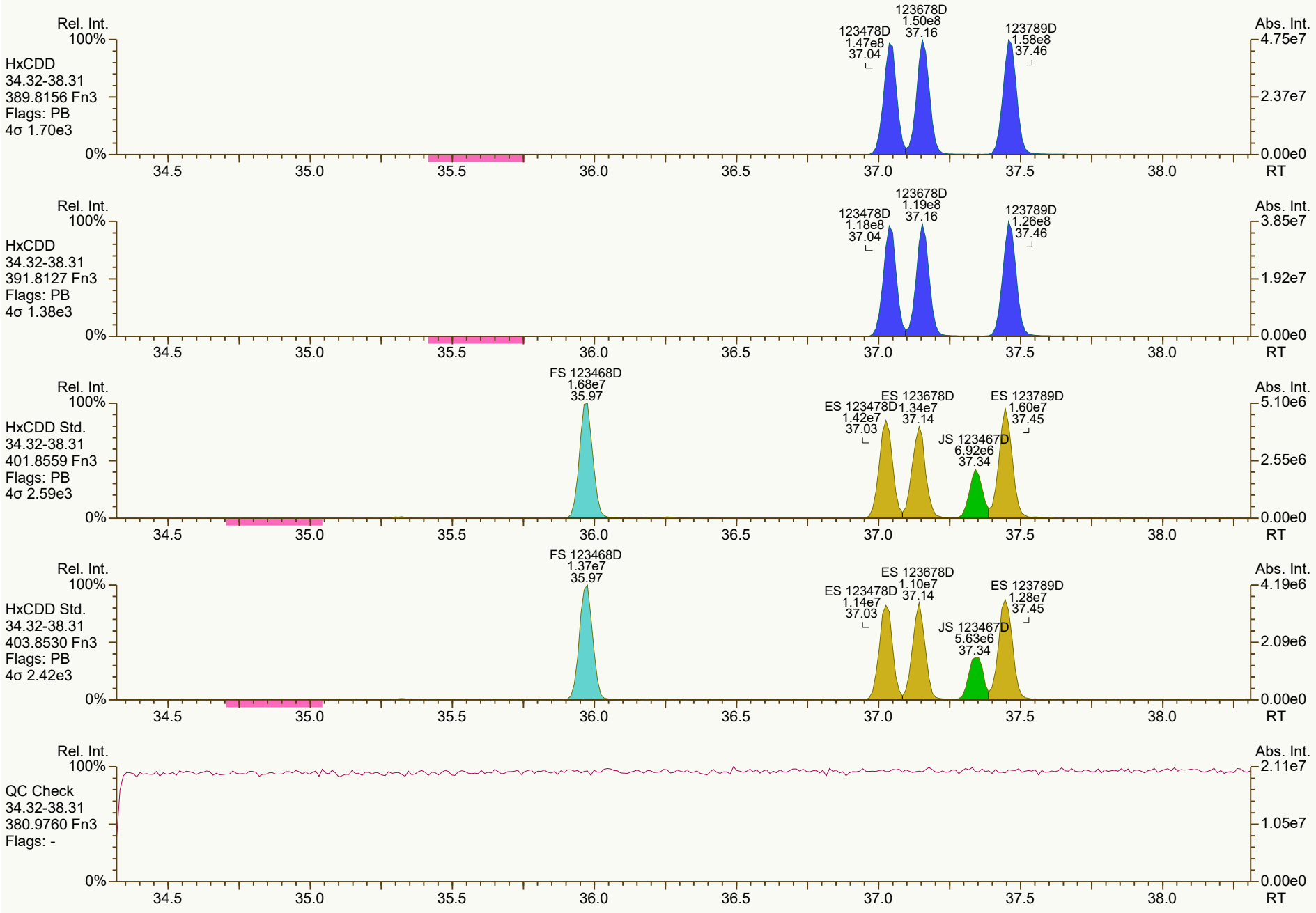
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

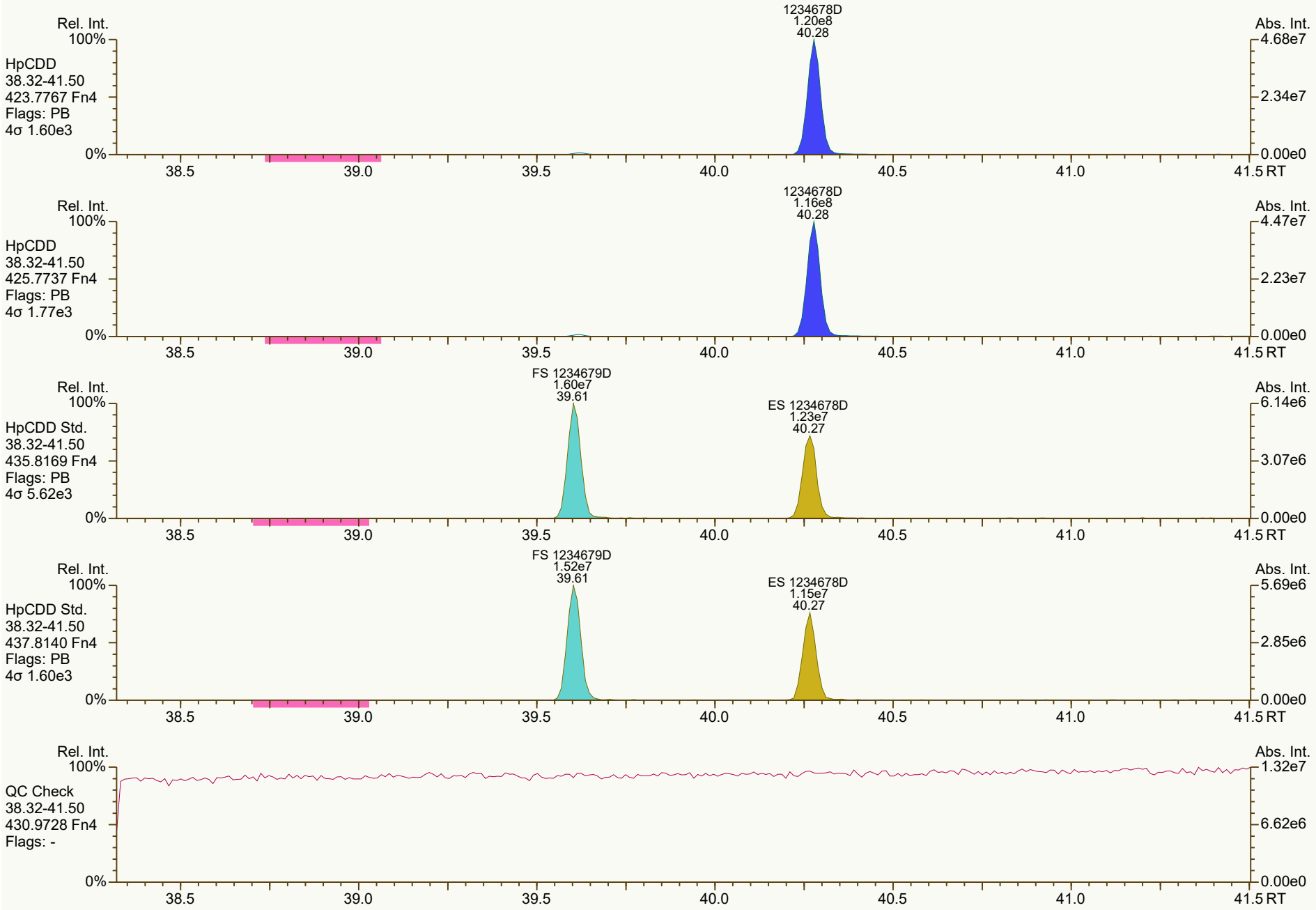
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:53 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS5_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 573-489-BMZ	
Sample ID: 25-5-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C09	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

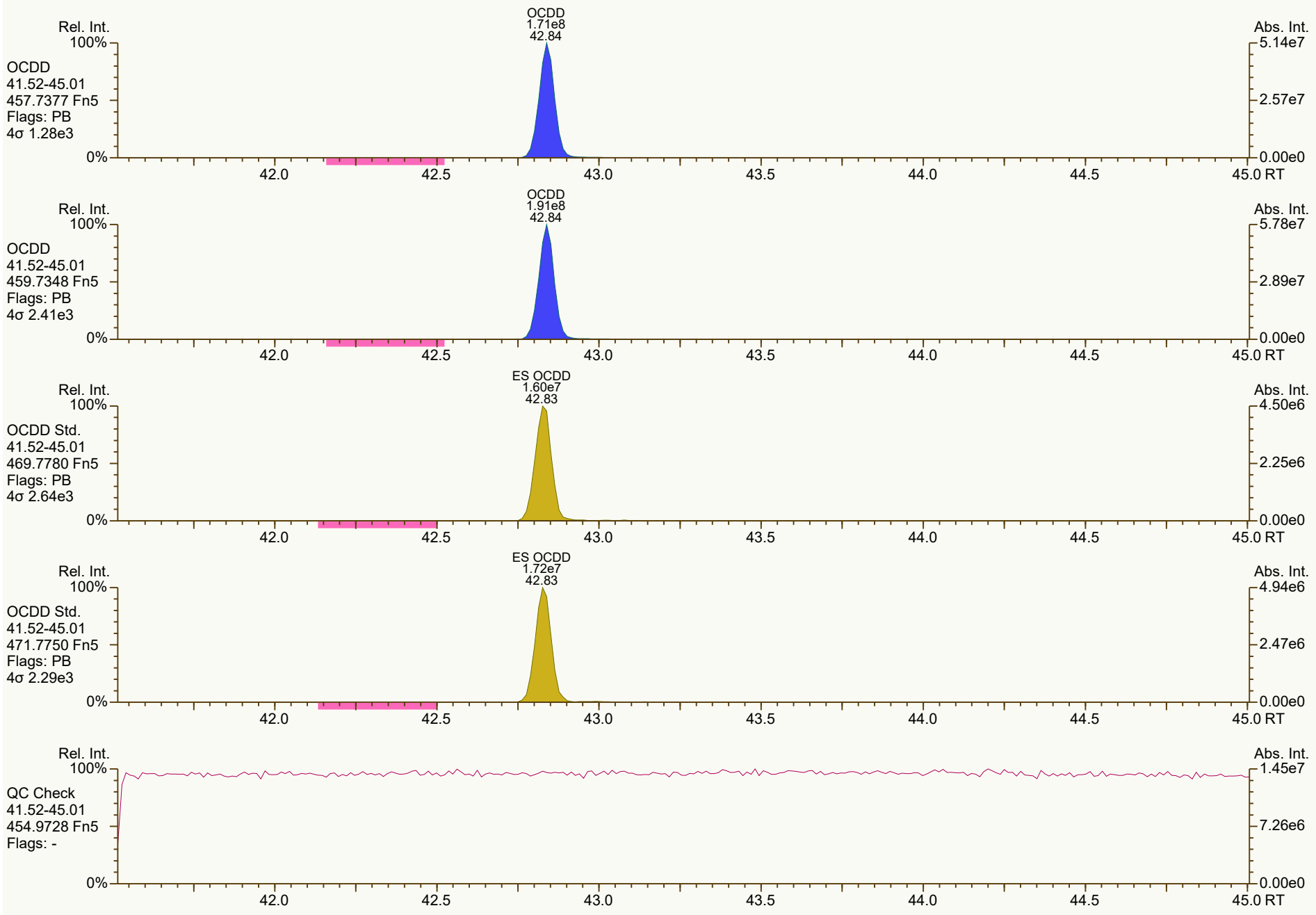

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.97e6
4.49e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.46e6
3.73e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.11e7
1.05e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.32e7
6.62e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.45e7
7.26e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
2378D
4.22e7
27.59
9.91e6
4.96e6
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
1.83e7
9.13e6
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
4.26e6
2.13e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
5.66e6
2.83e6


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
0%
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
0%
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
0%
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
0%
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

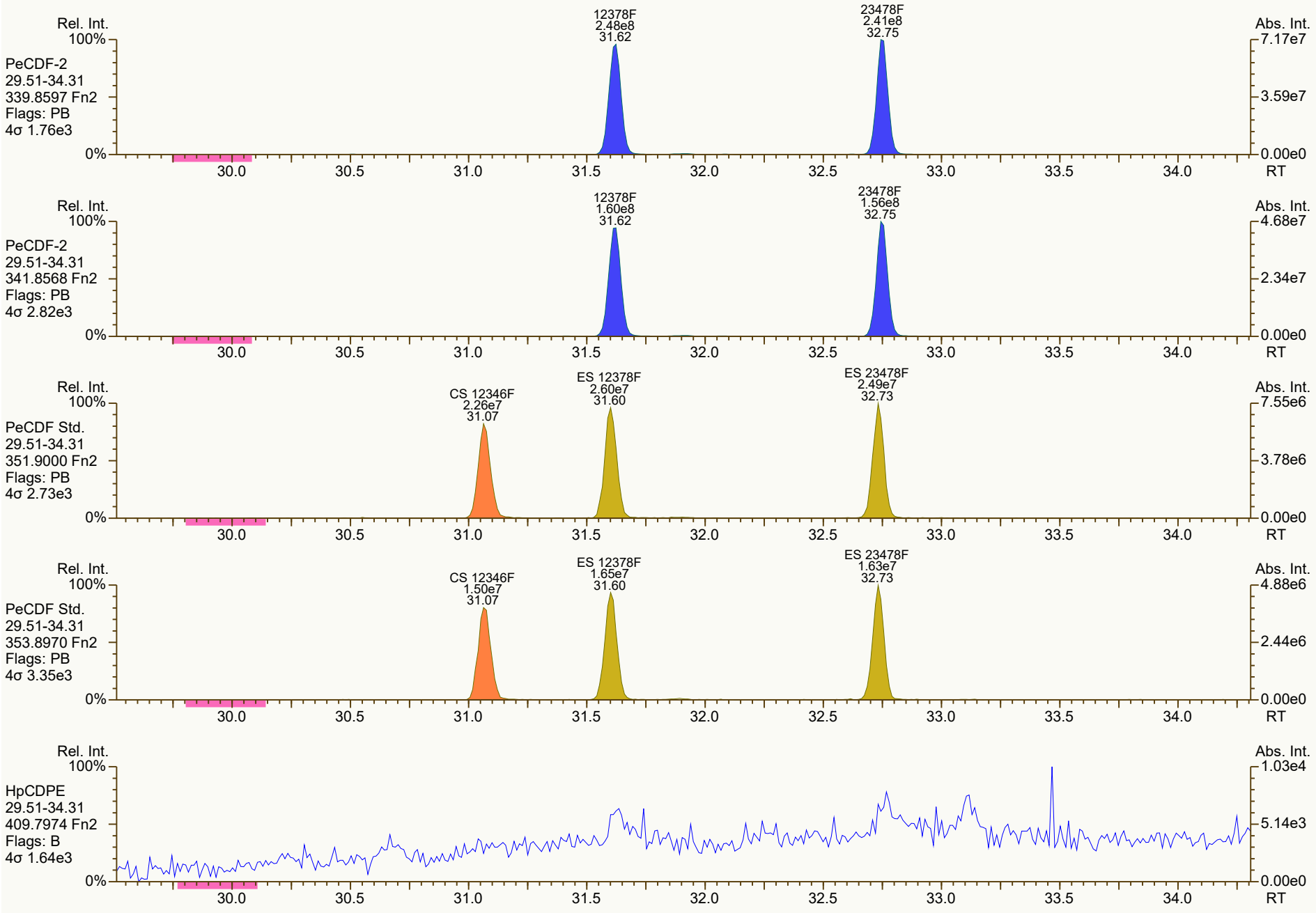

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

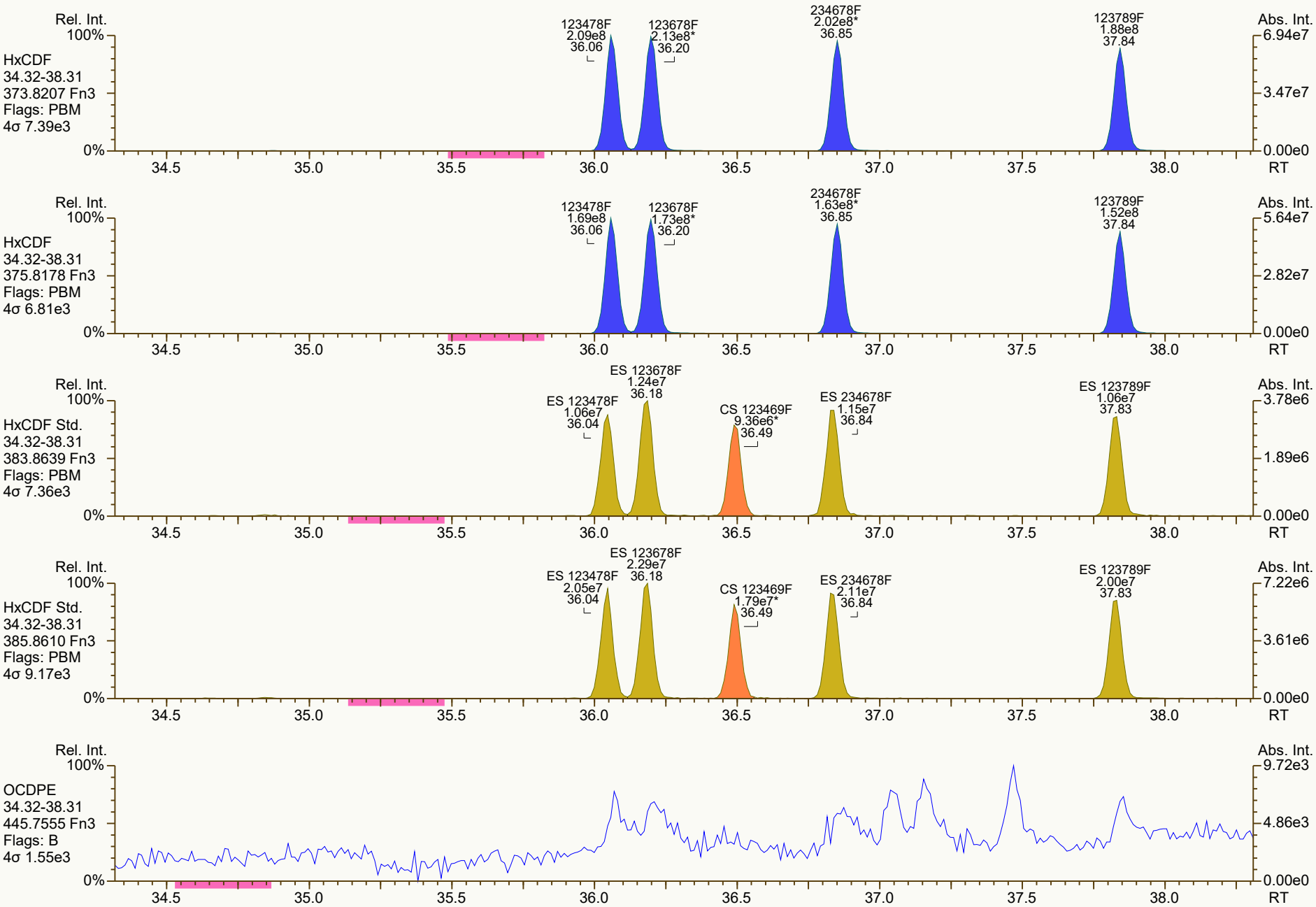

Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
0%
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
0%
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
0%
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
0%
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.03e4
5.14e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

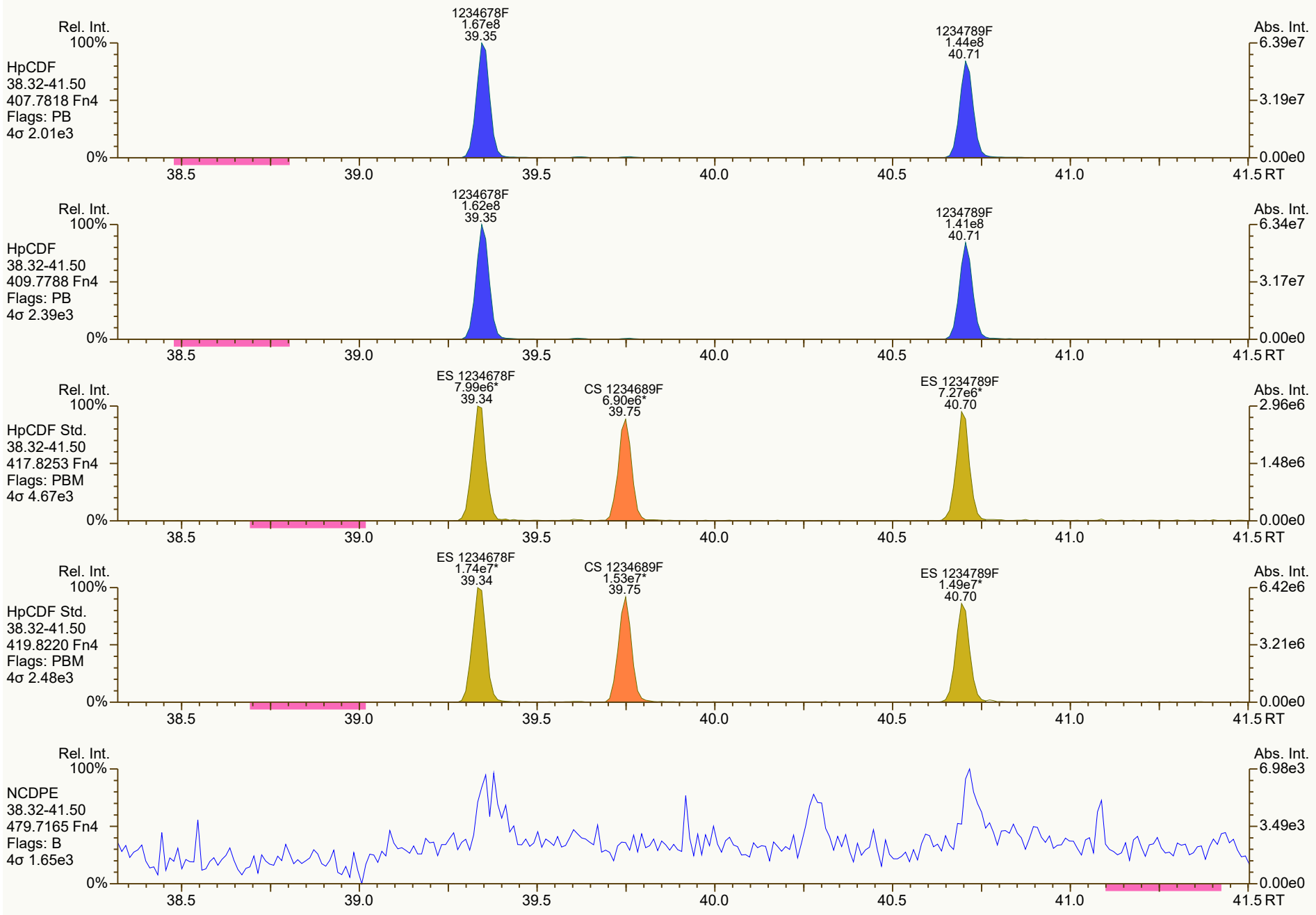
SGS ID: CS5_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

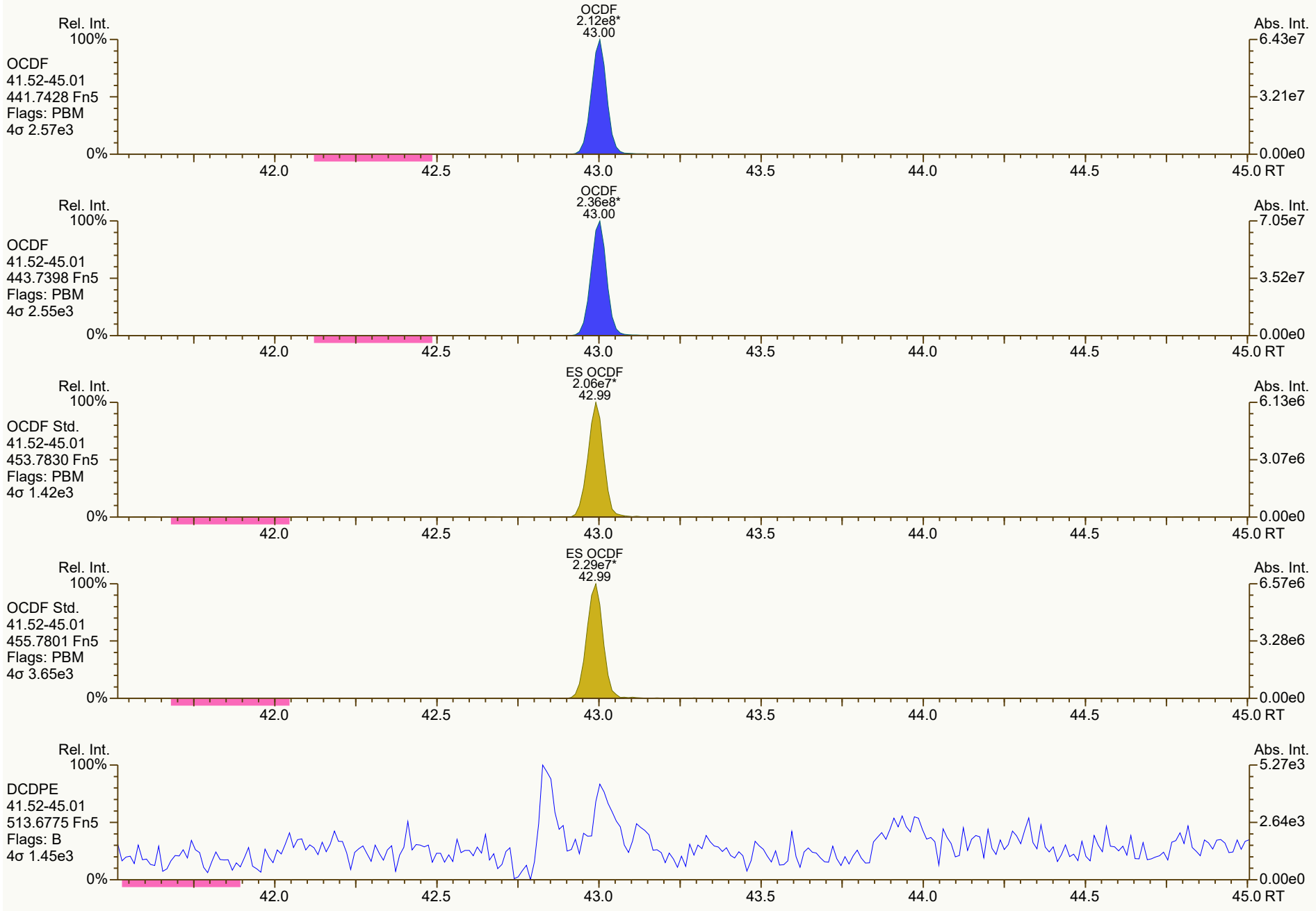
Sample ID: 25-5-3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70

Acq: 10-Nov-2021 14:53:51
User: DTF Datafile: 211110C09



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 7902, 6877, 1014 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 10 of 12

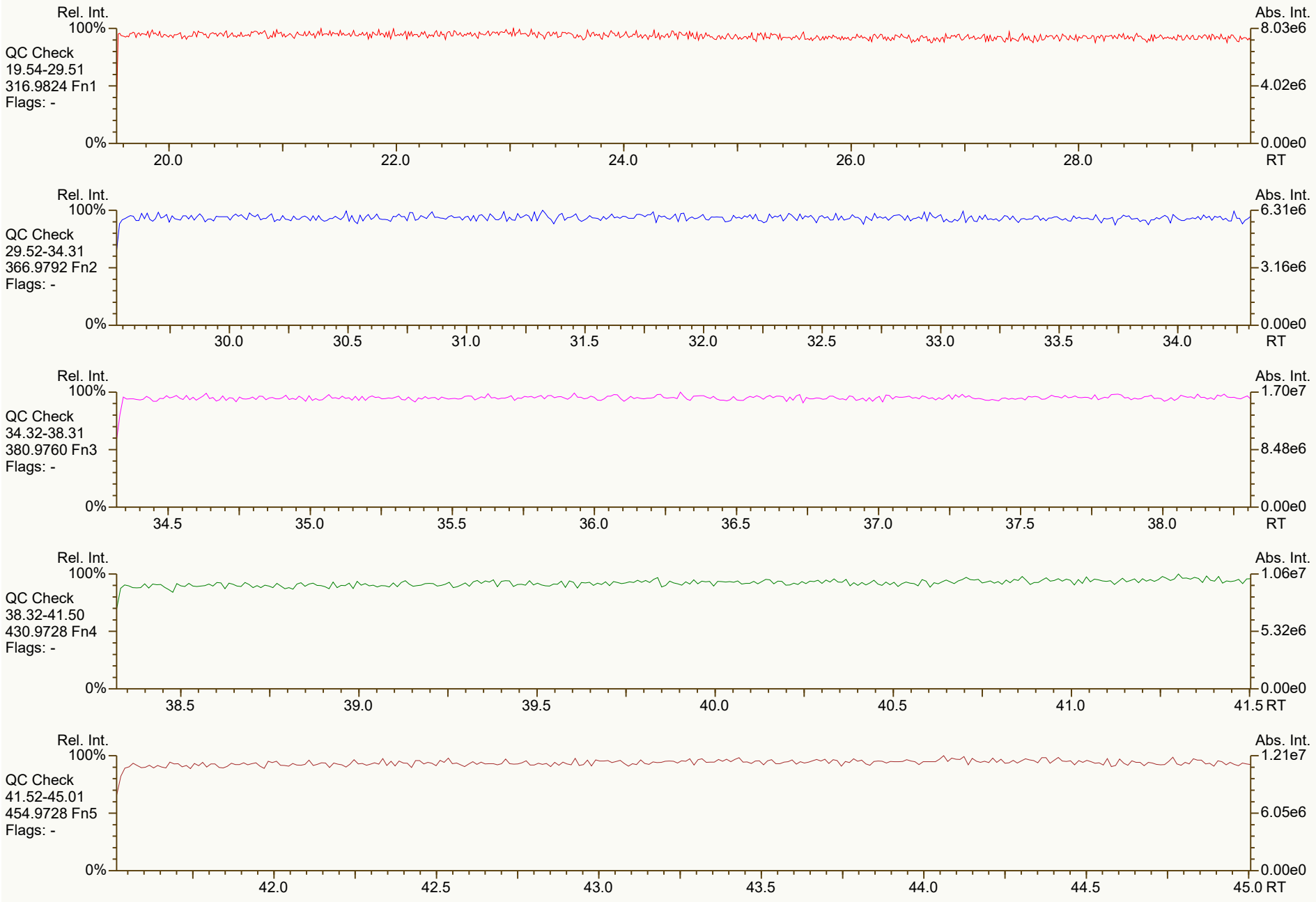

Rel. Int.
100%
0%
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

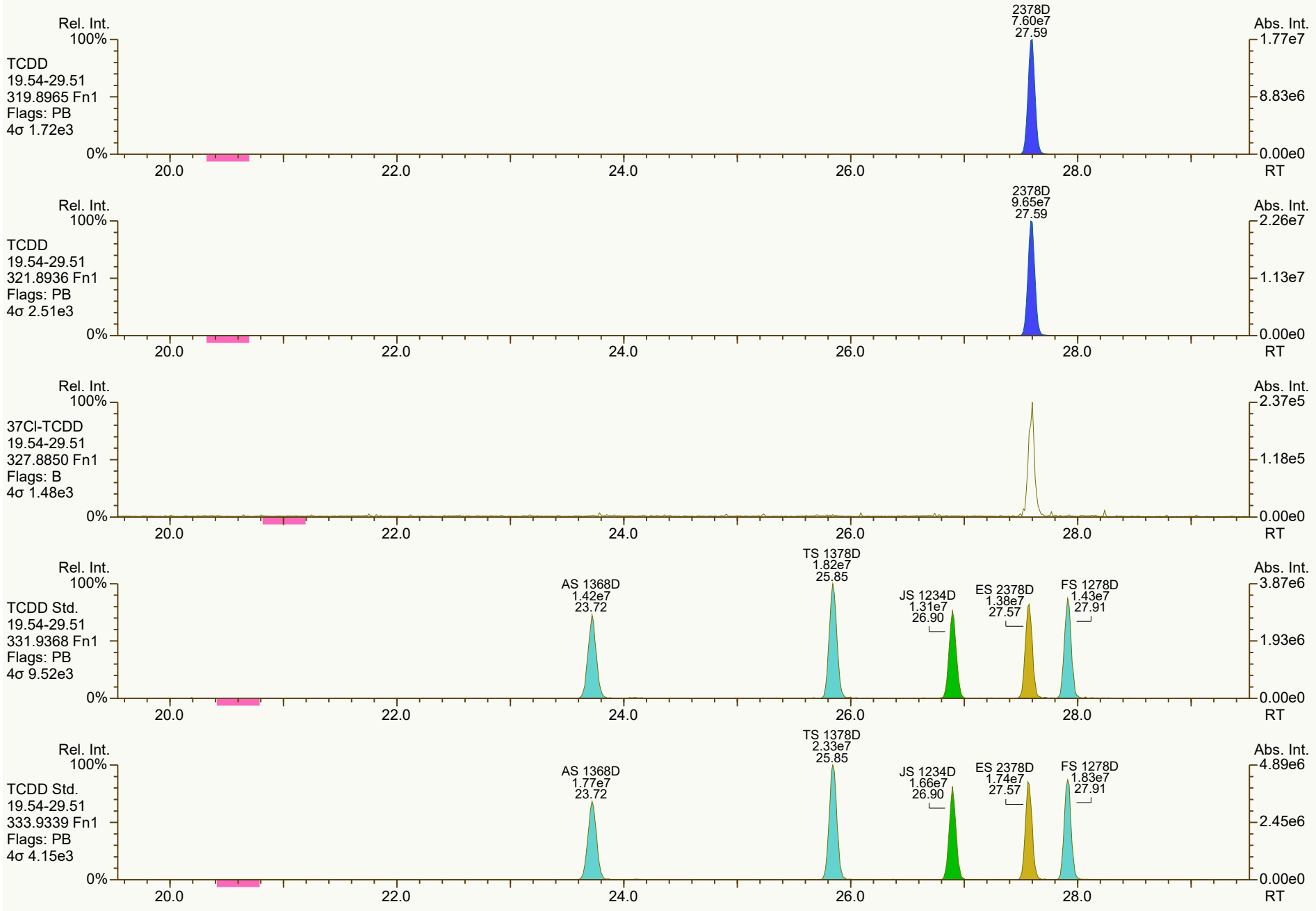

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

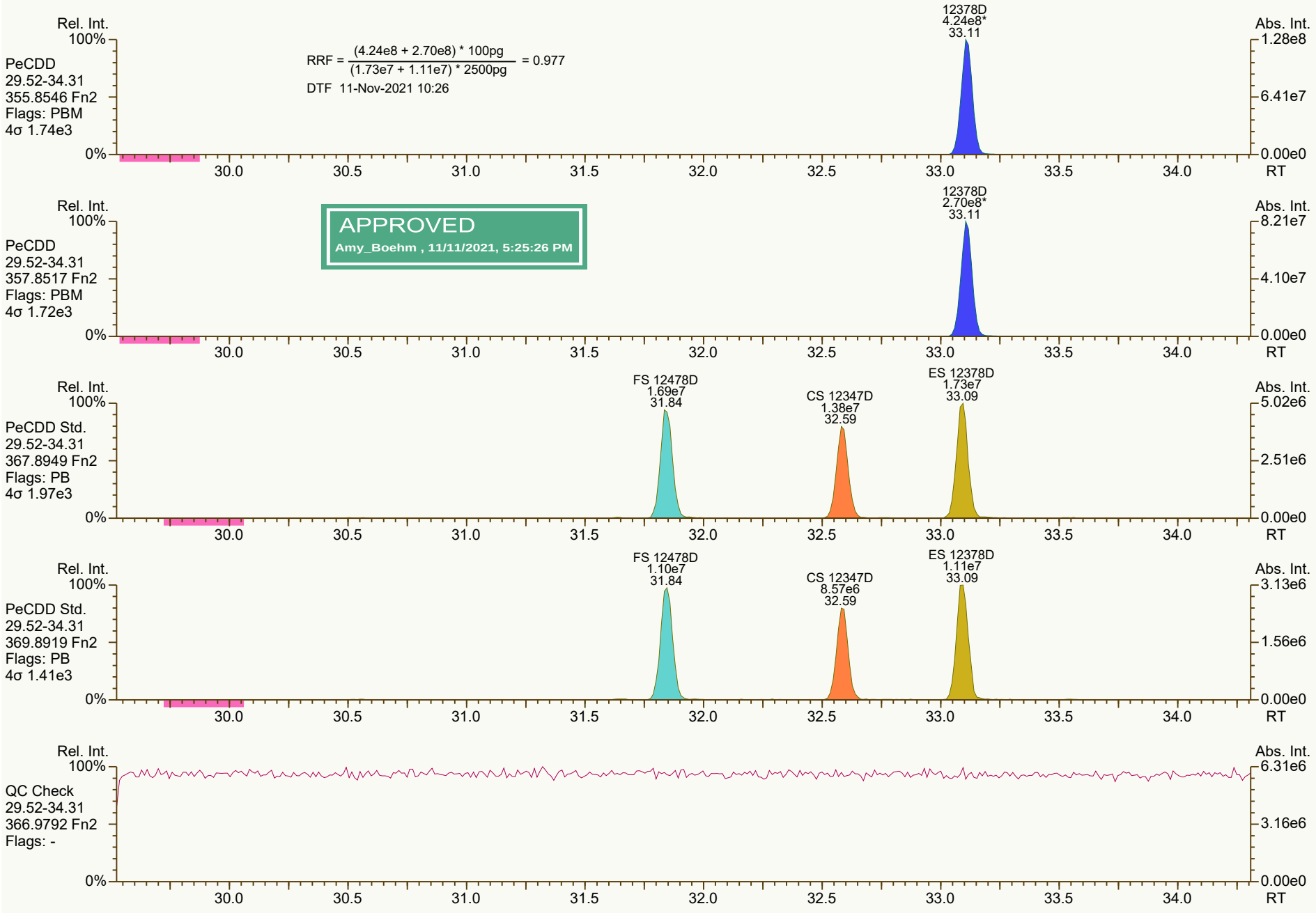
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

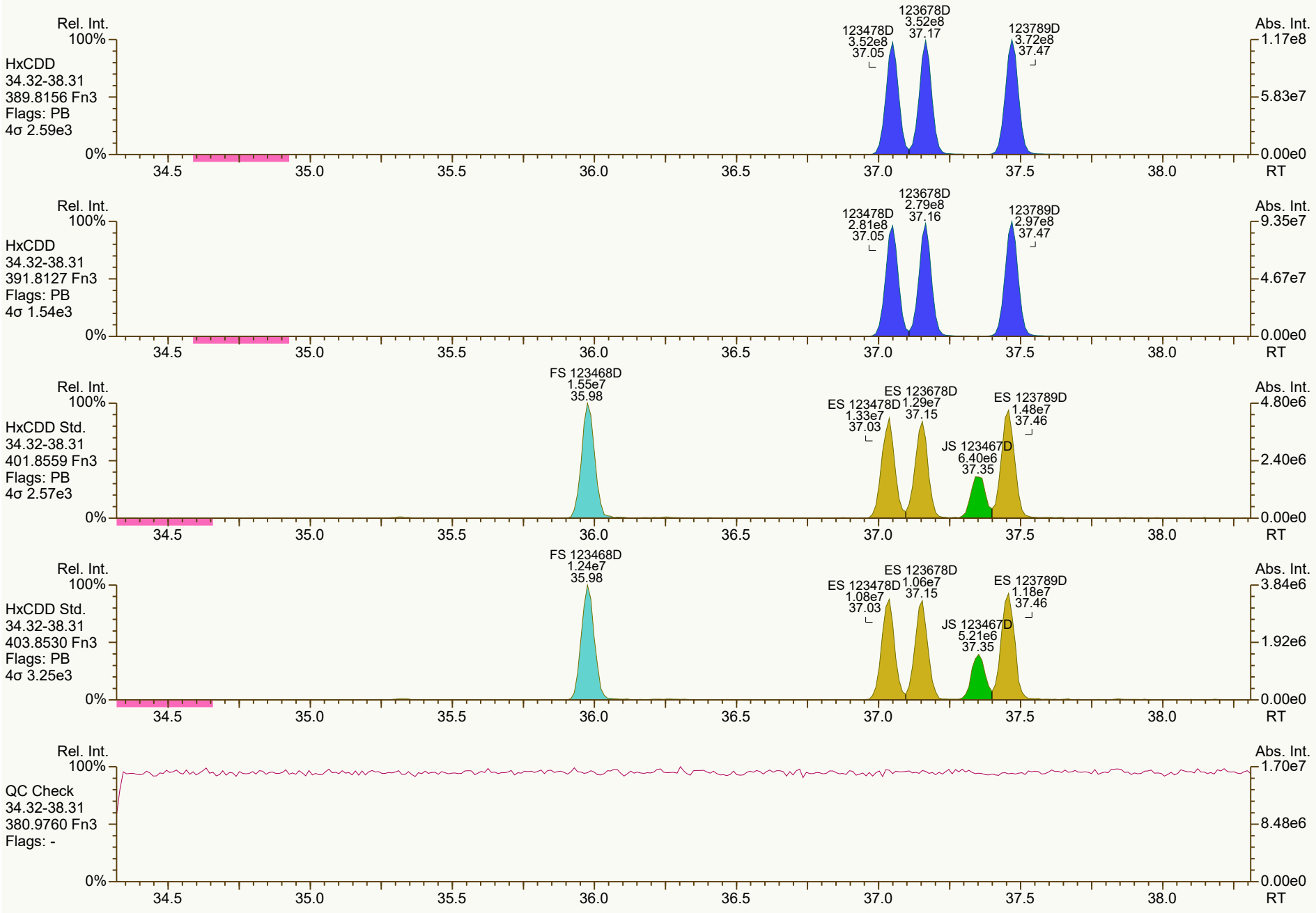
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

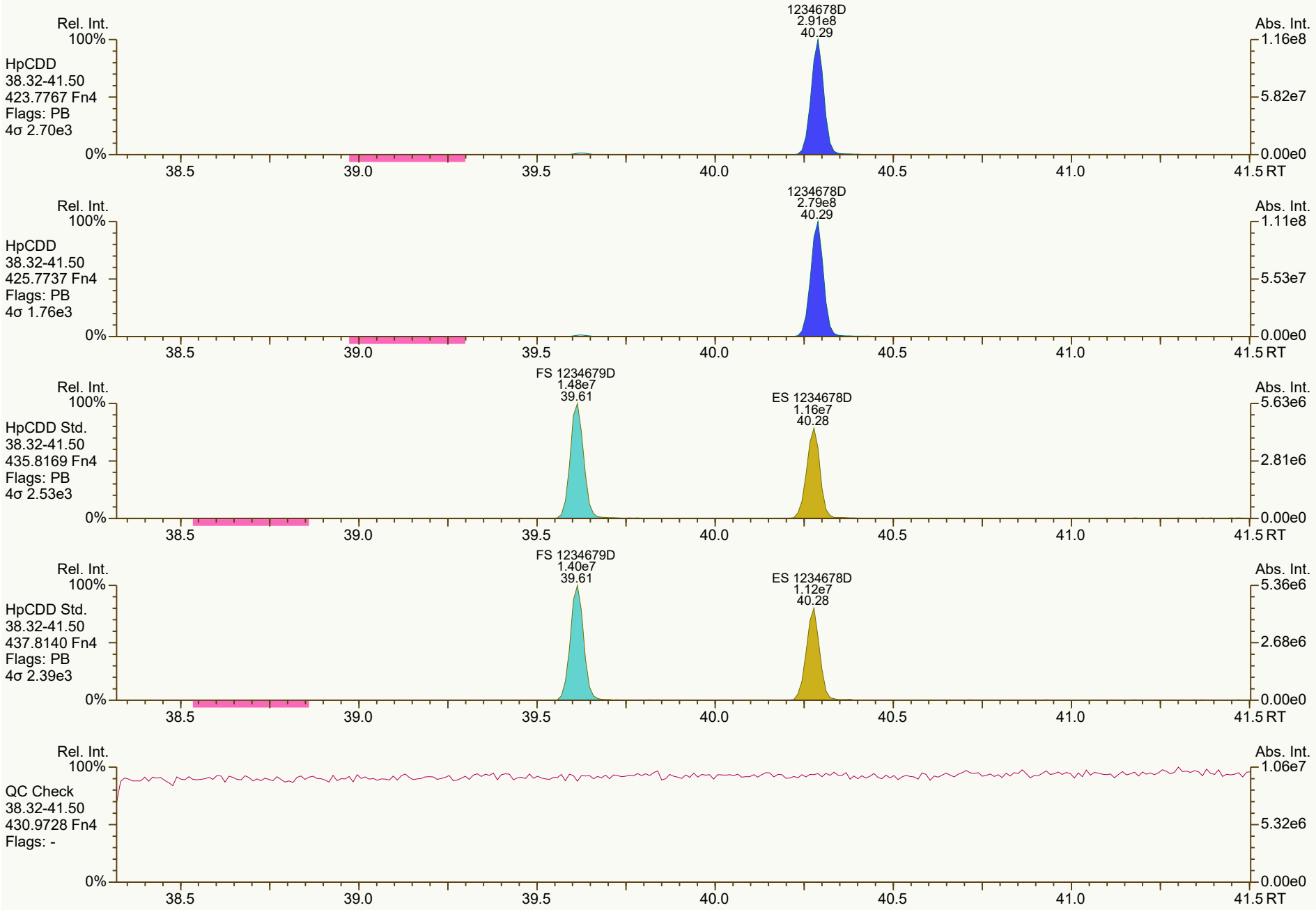
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 15:40 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS6_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 172-736-WQL	
Sample ID: 25-5-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C10	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

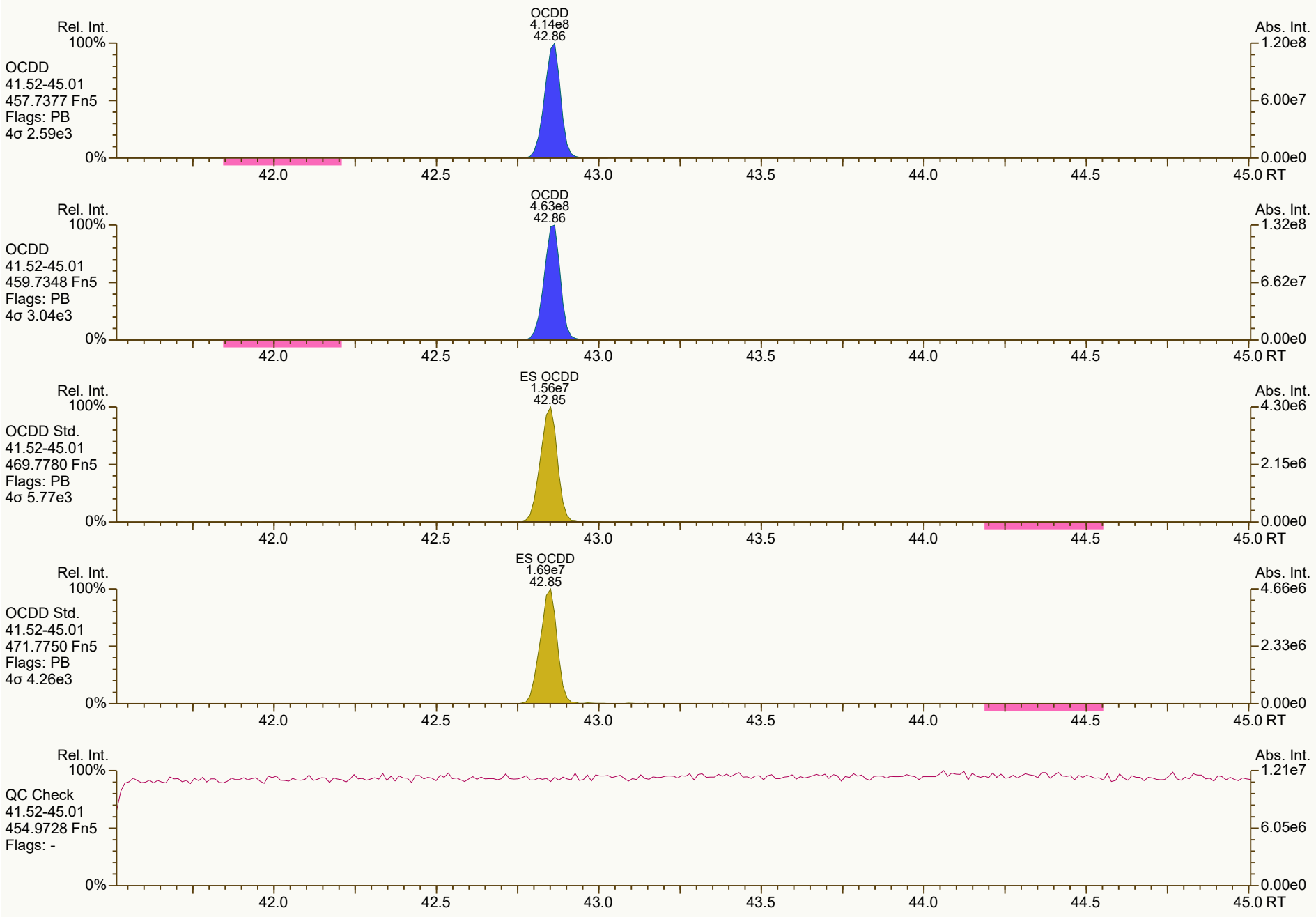

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
8.03e6
4.02e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
6.31e6
3.16e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
1.70e7
8.48e6
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.06e7
5.32e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.21e7
6.05e6
0.00e0
RT


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
6.31e6
3.16e6
0.00e0

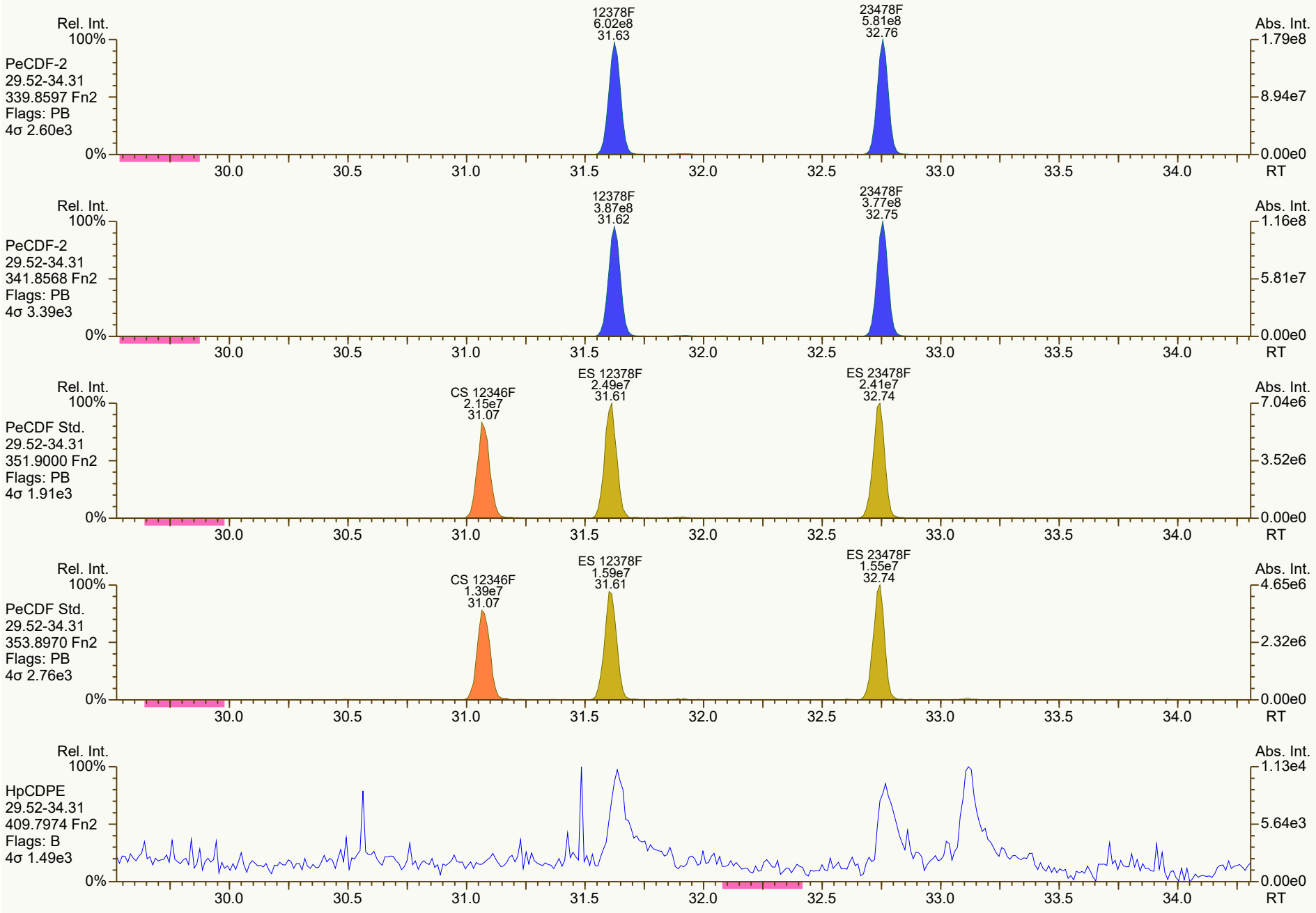

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.70e7
8.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

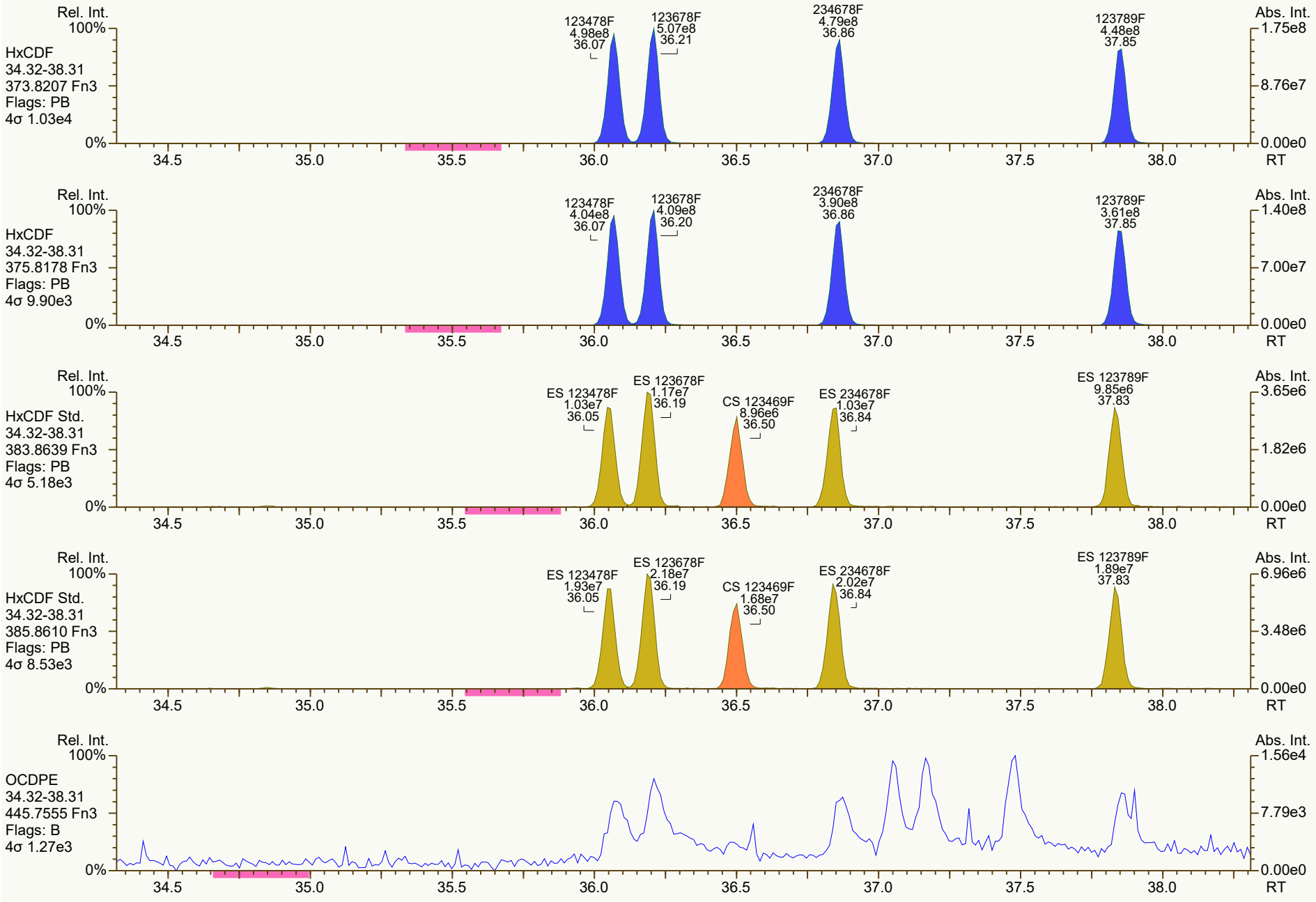

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

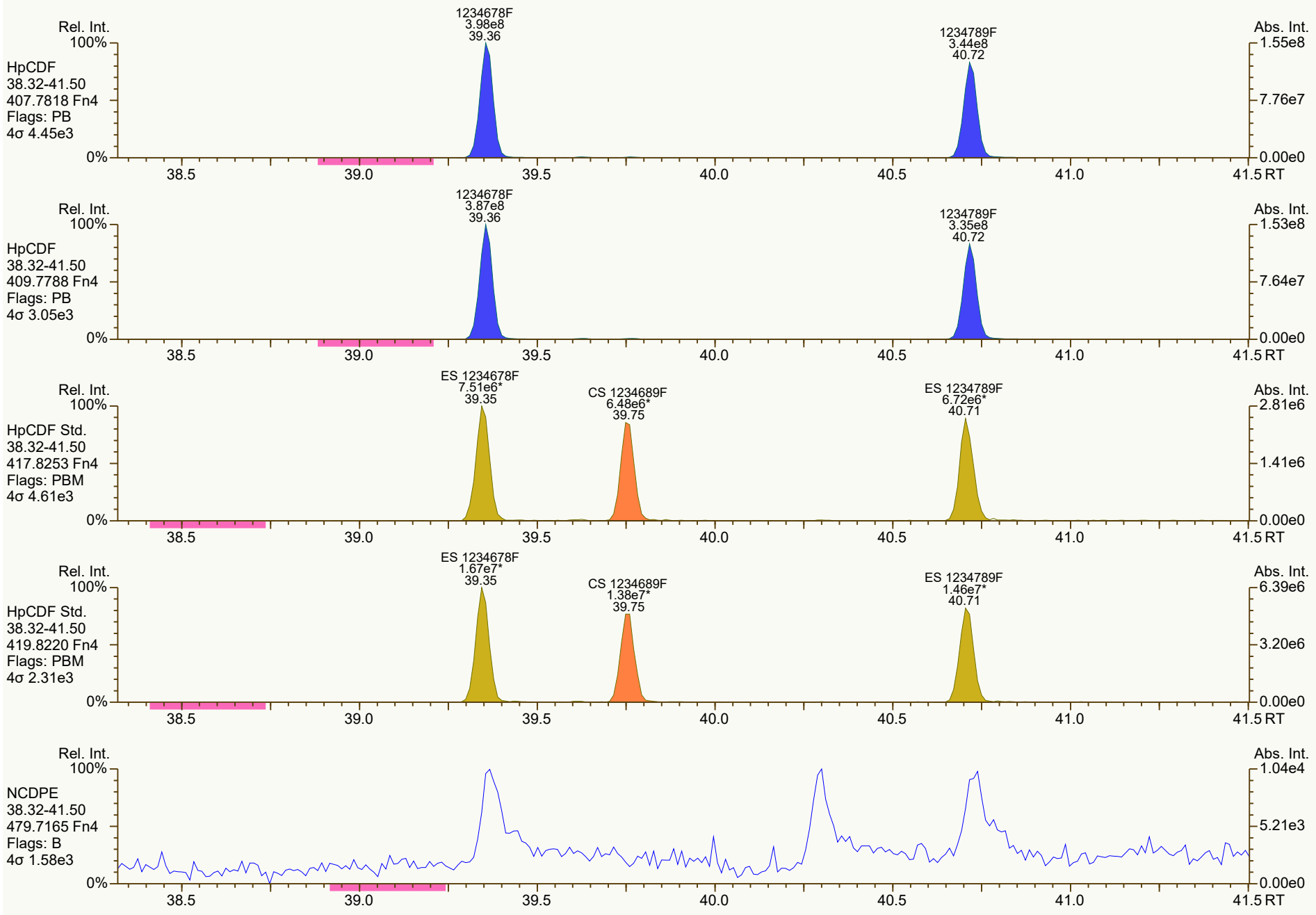

OCDD
4.14e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.63e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.56e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.69e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

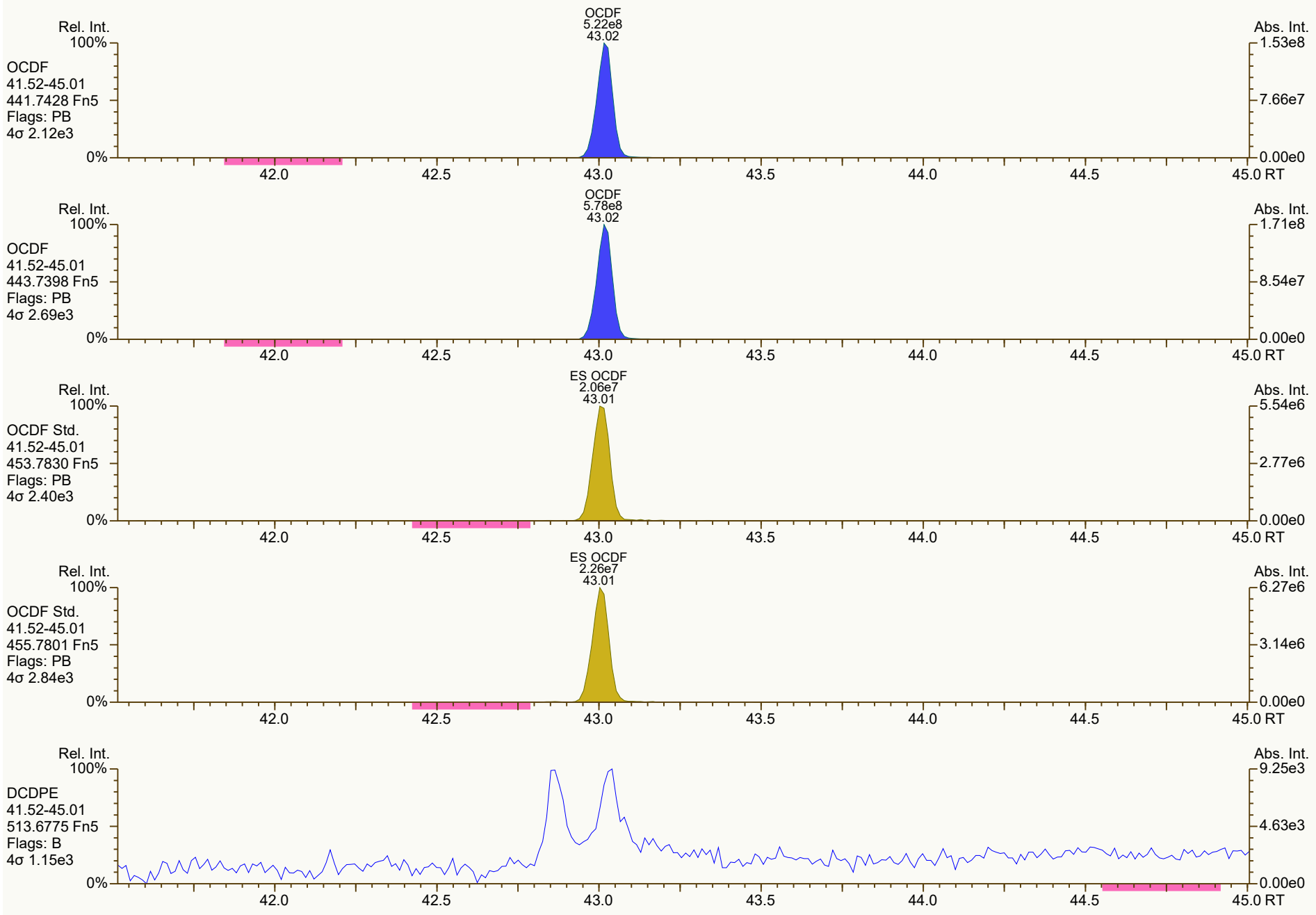

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

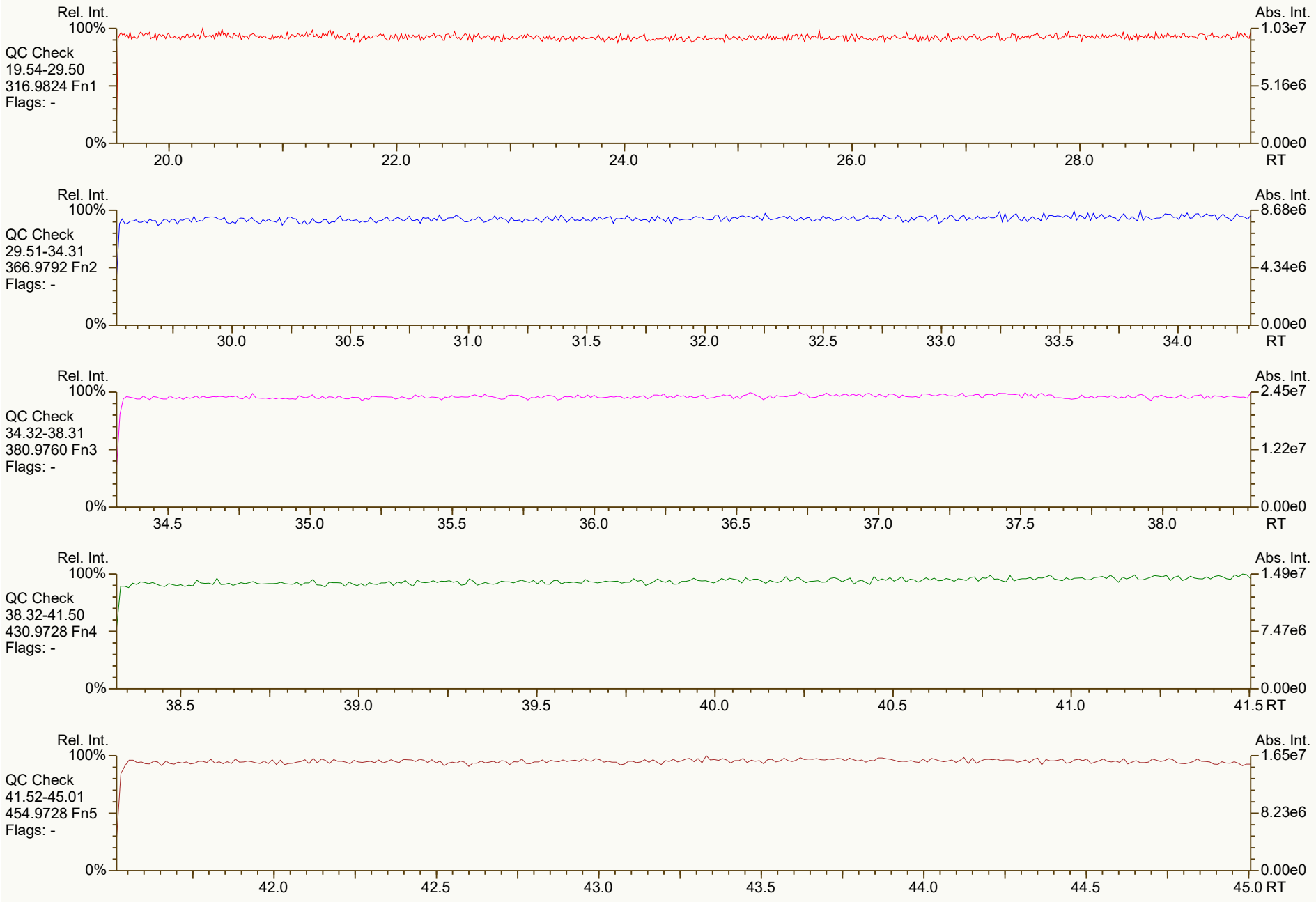

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
Abs. Int.
1.13e4
5.64e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.65e7
8.23e6
0.00e0

SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

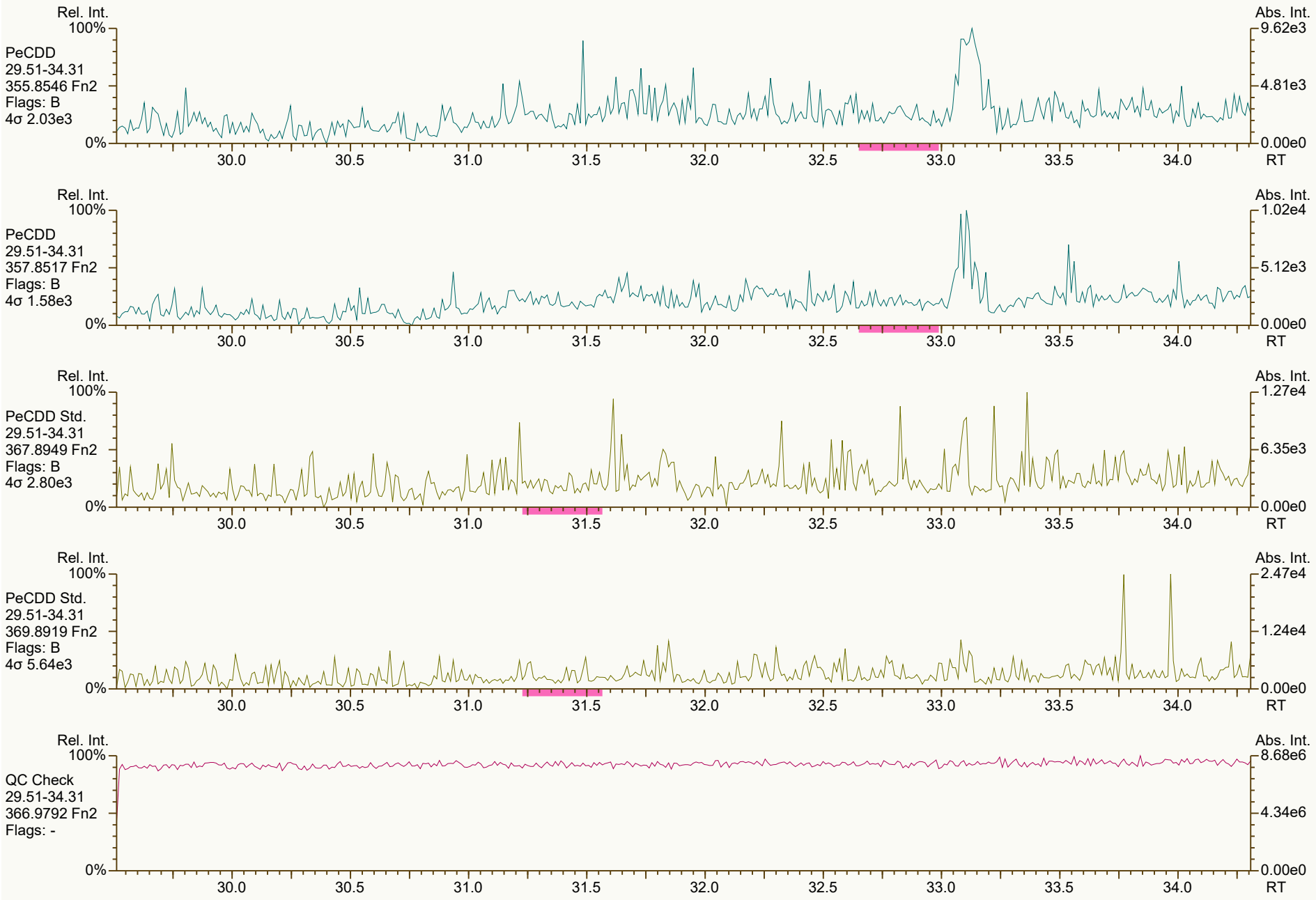
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF) *Peak annotation: Areas, Centroids*

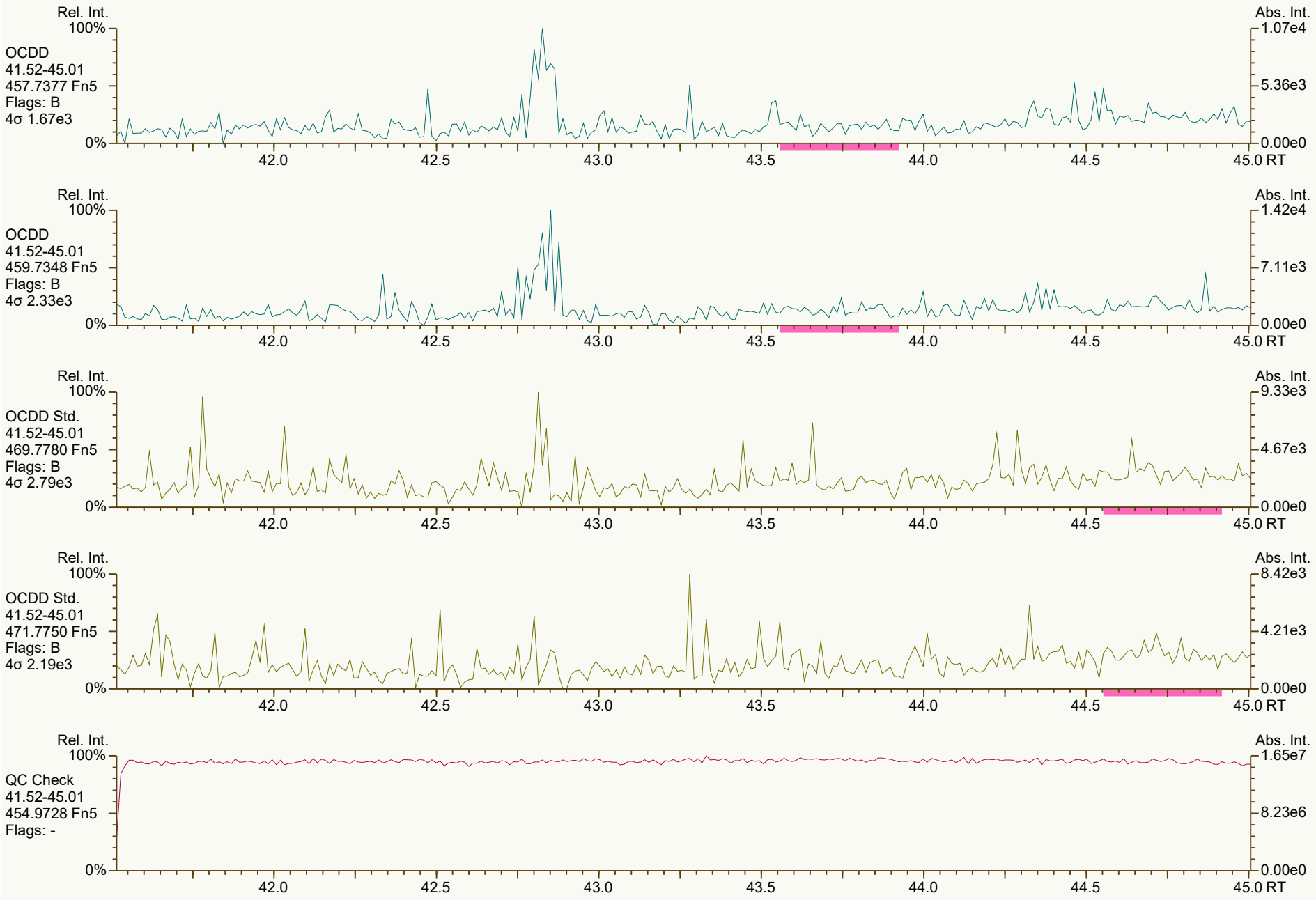
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1*


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

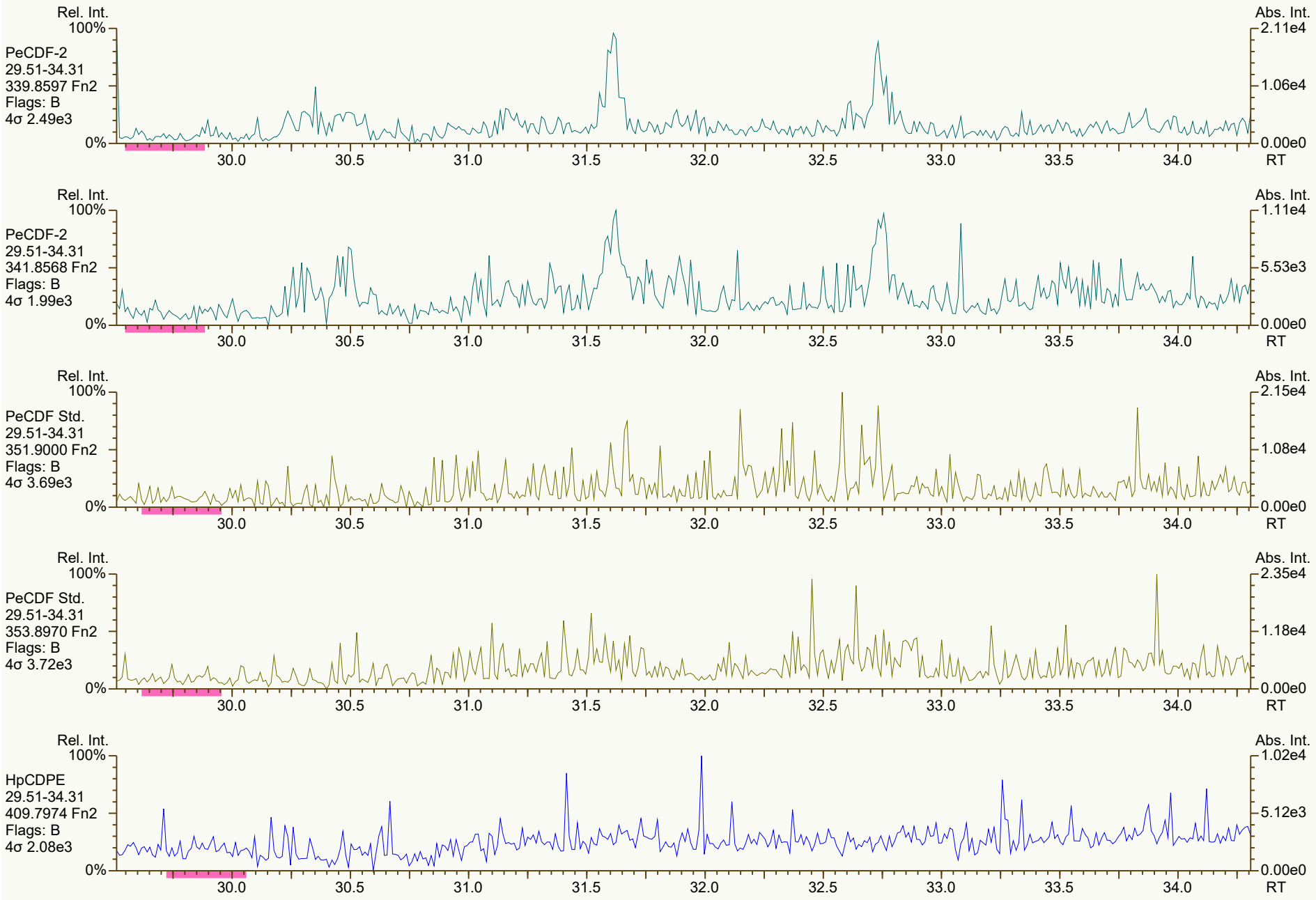

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

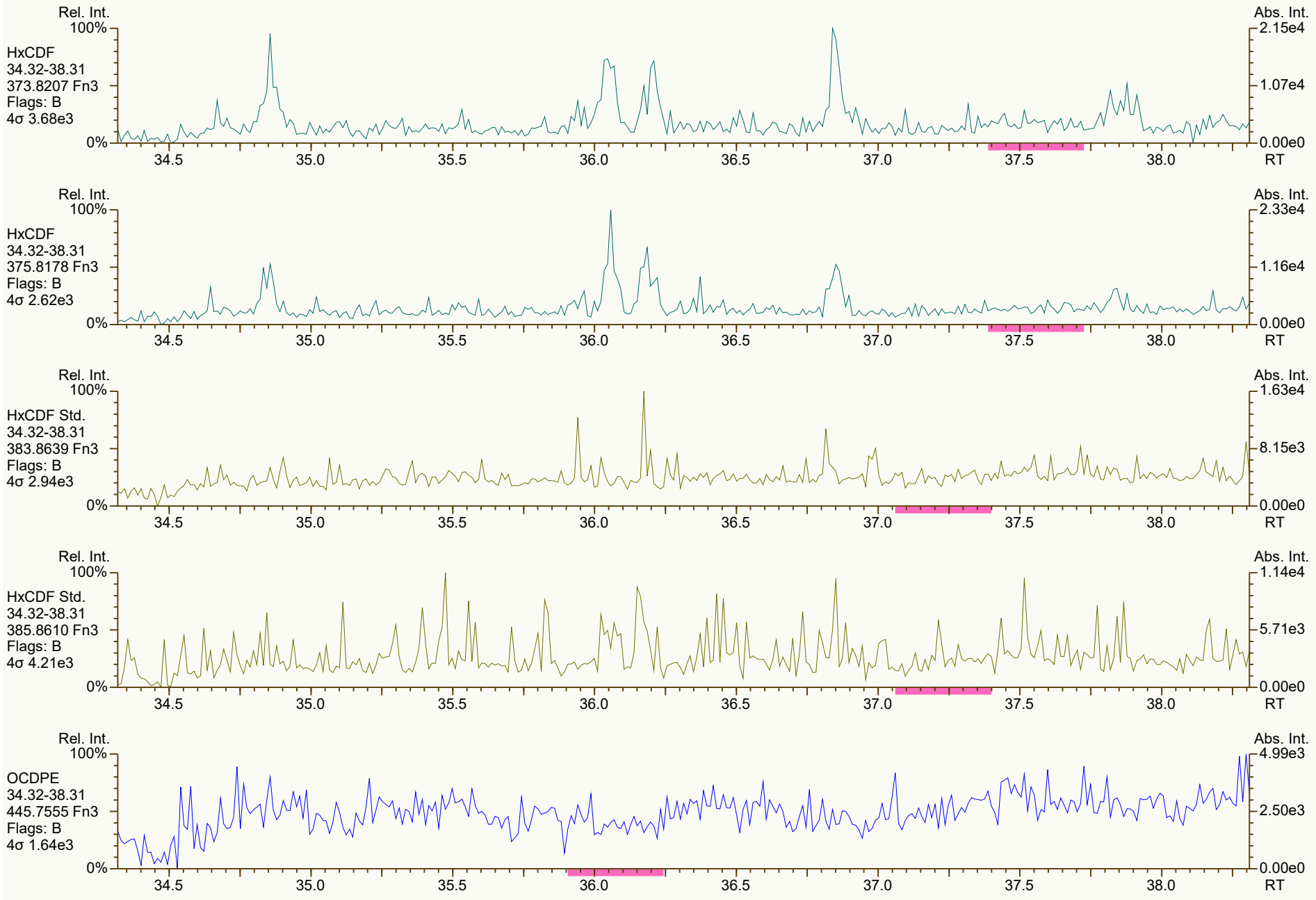

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
Abs. Int.
7.07e4
3.53e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
Abs. Int.
1.06e5
5.32e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
Abs. Int.
5.11e4
2.56e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
Abs. Int.
2.83e4
1.42e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
Abs. Int.
9.47e3
4.73e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

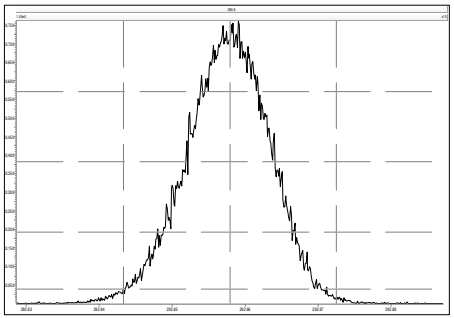

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

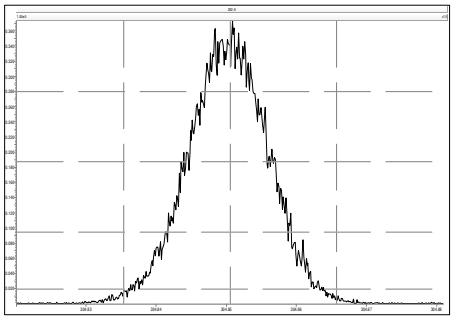
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

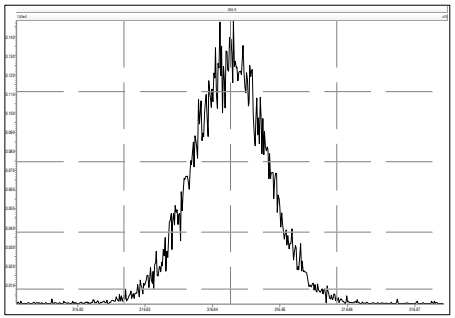
M 292.9824 R 10731



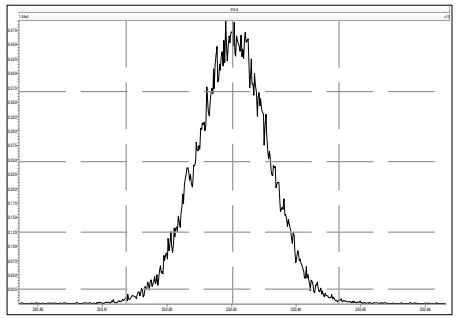
M 304.9824 R 11311



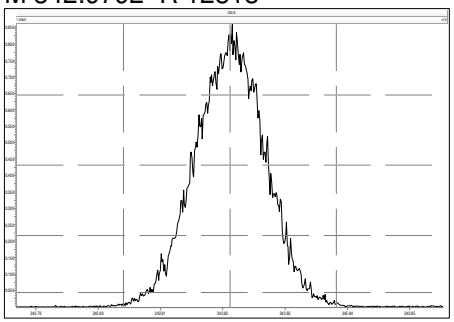
M 316.9824 R 12373



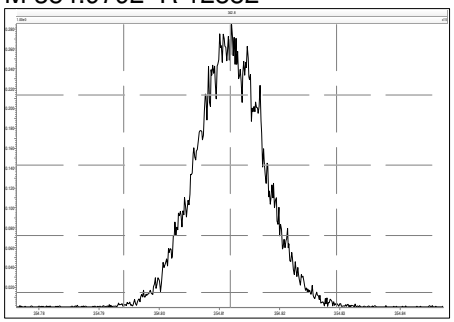
M 330.9792 R 12887



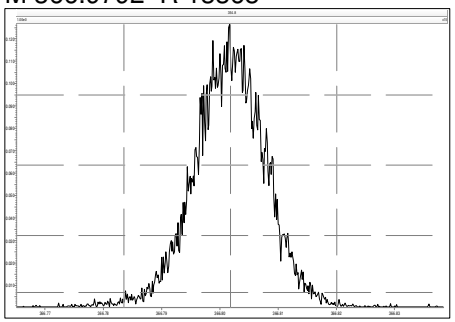
M 342.9792 R 12818



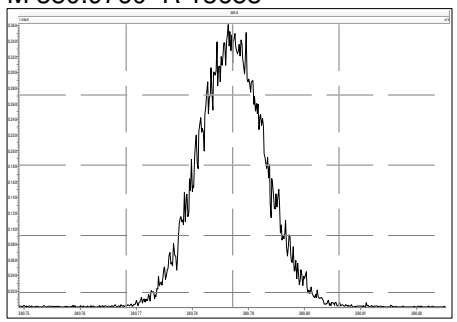
M 354.9792 R 12882



M 366.9792 R 13368



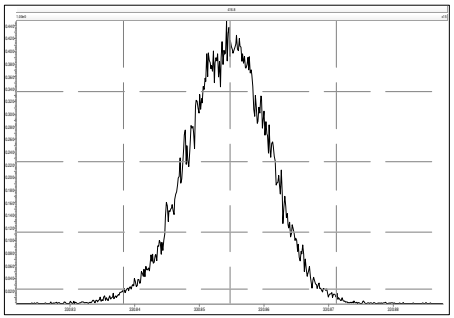
M 380.9760 R 13658



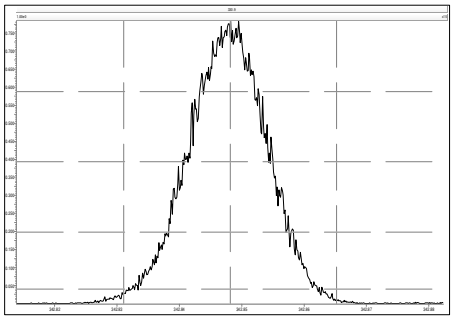
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

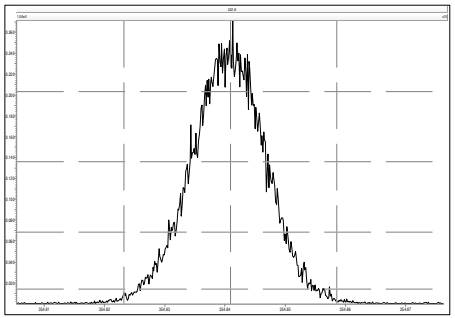
M 330.9792 R 11112



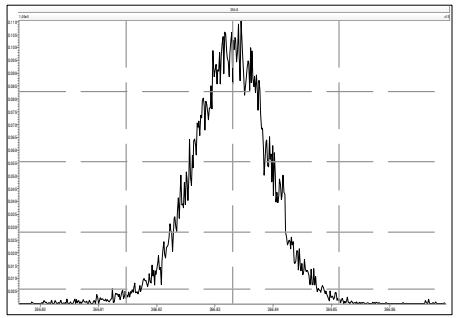
M 342.9792 R 11909



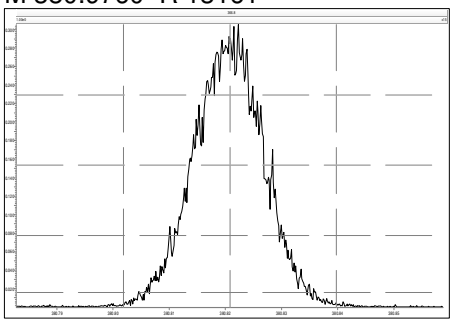
M 354.9792 R 11684



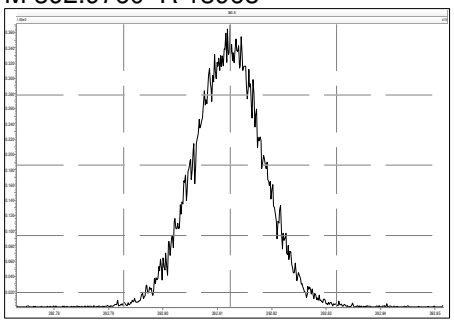
M 366.9792 R 11962



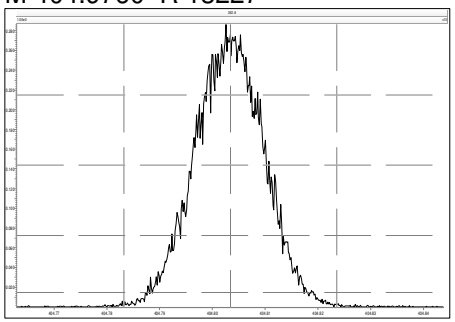
M 380.9760 R 13161



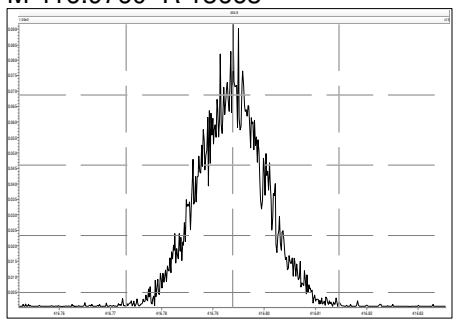
M 392.9760 R 13968



M 404.9760 R 13227



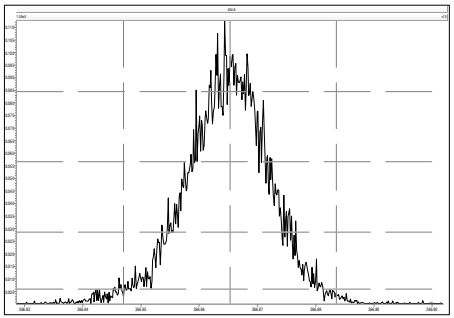
M 416.9760 R 13663



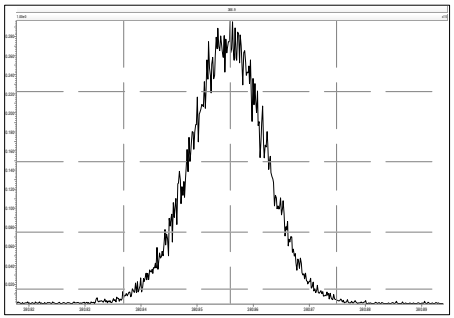
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

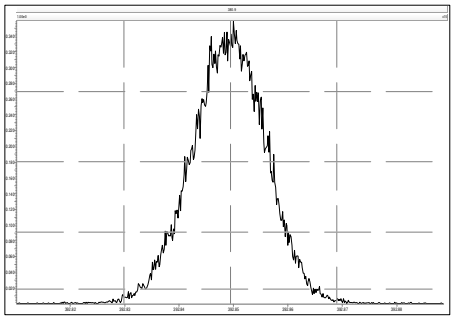
M 366.9792 R 10680



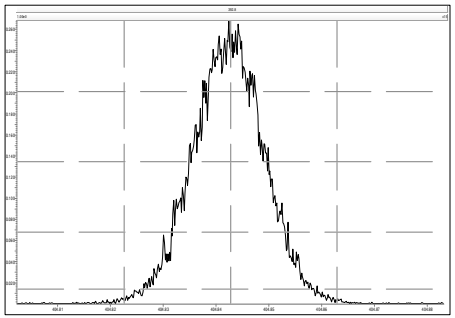
M 380.9760 R 12315



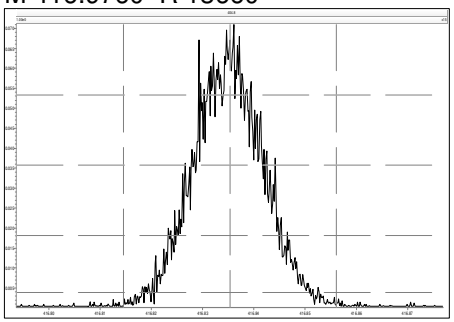
M 392.9760 R 12197



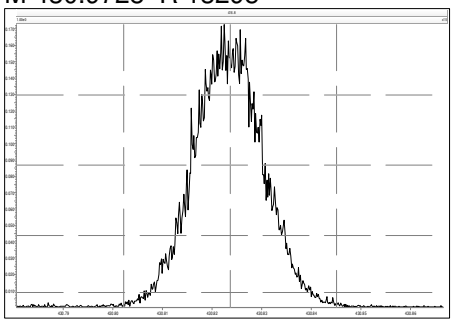
M 404.9760 R 12433



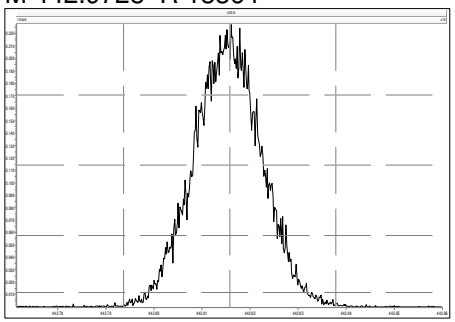
M 416.9760 R 13660



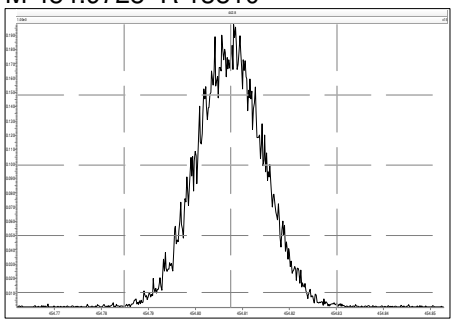
M 430.9728 R 13295



M 442.9728 R 13364



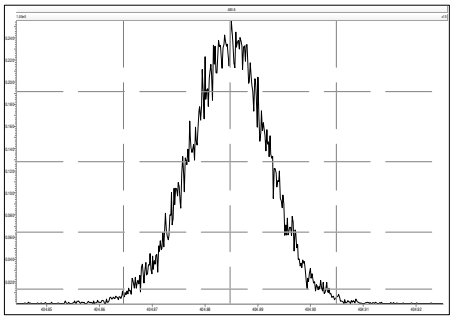
M 454.9728 R 13810



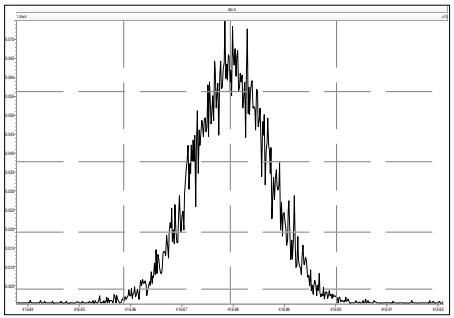
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

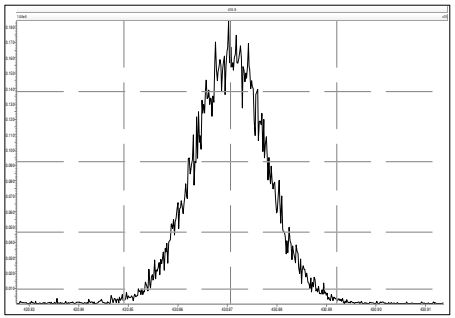
M 404.9760 R 11679



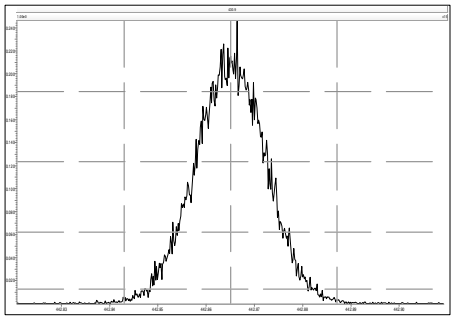
M 416.9760 R 12886



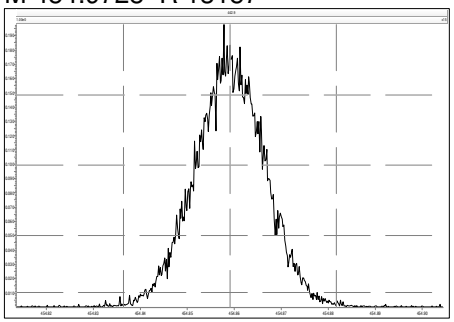
M 430.9728 R 12253



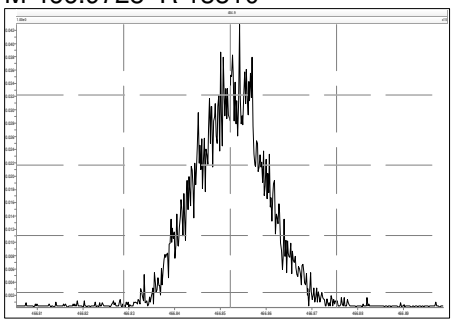
M 442.9728 R 12756



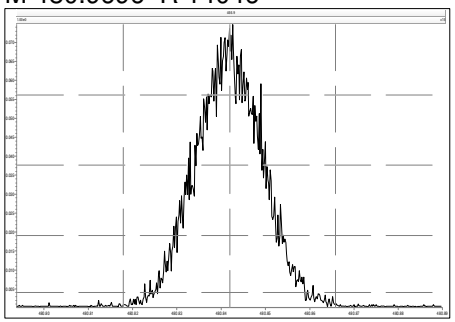
M 454.9728 R 13157



M 466.9728 R 13810



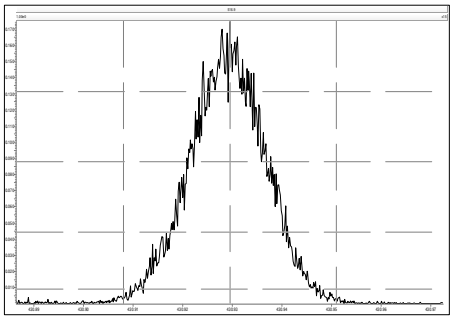
M 480.9696 R 14046



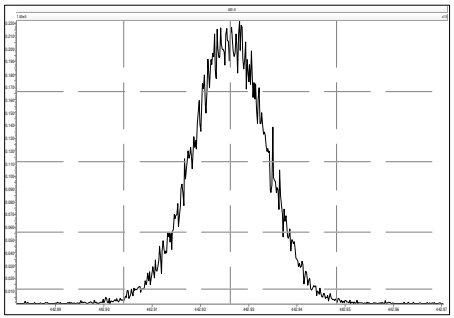
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

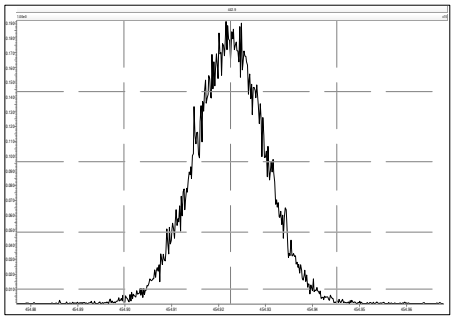
M 430.9728 R 11574



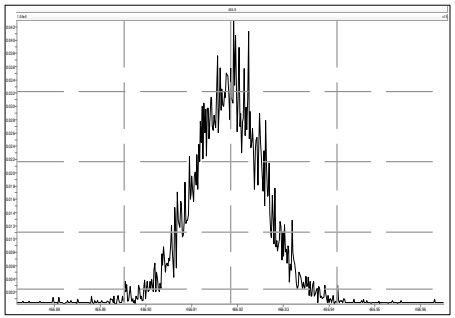
M 442.9728 R 12198



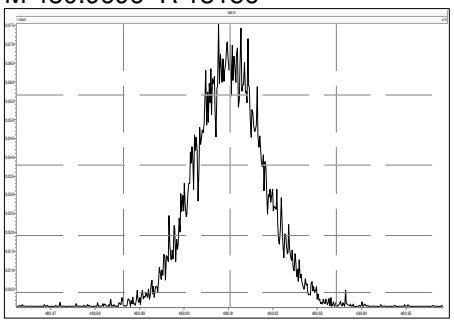
M 454.9728 R 12950



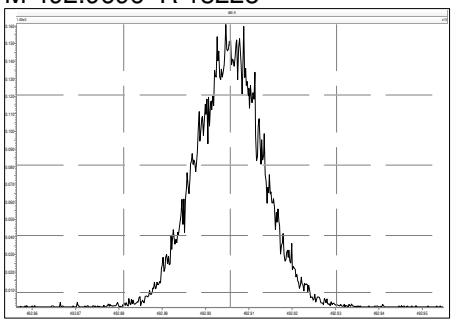
M 466.9728 R 13088



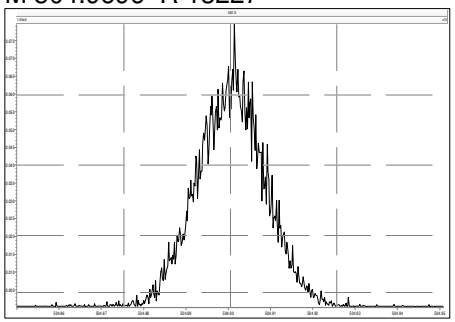
M 480.9696 R 13156



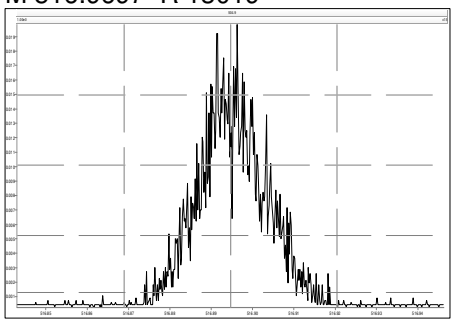
M 492.9696 R 13228



M 504.9696 R 13227



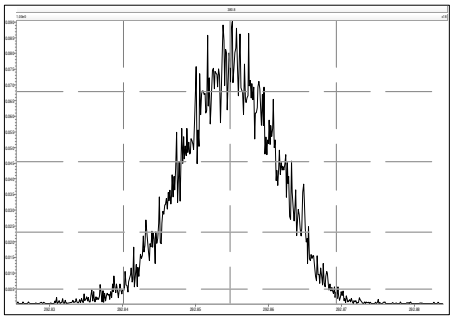
M 516.9697 R 13019



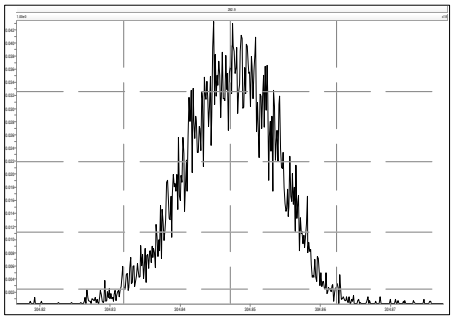
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

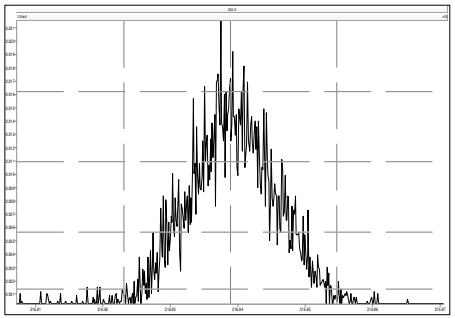
M 292.9824 R 10122



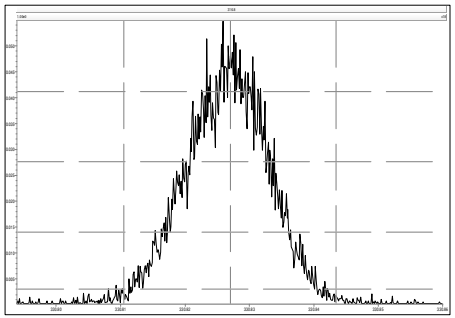
M 304.9824 R 10329



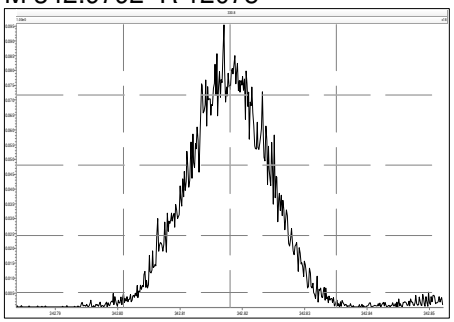
M 316.9824 R 11964



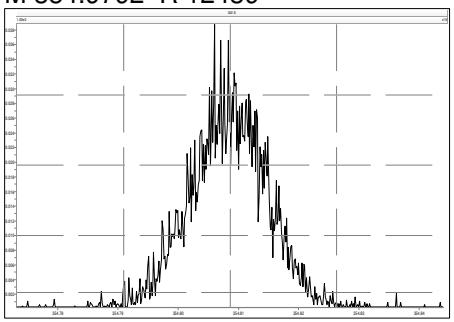
M 330.9792 R 11062



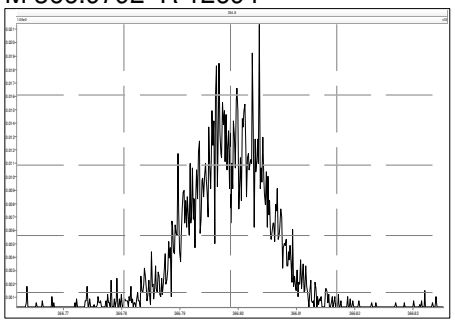
M 342.9792 R 12075



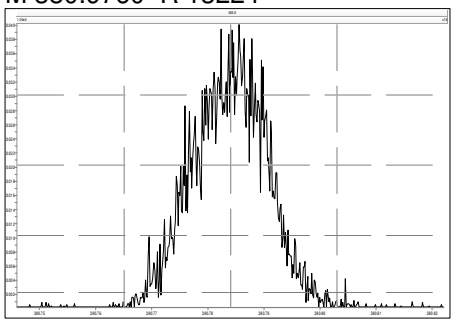
M 354.9792 R 12439



M 366.9792 R 12694



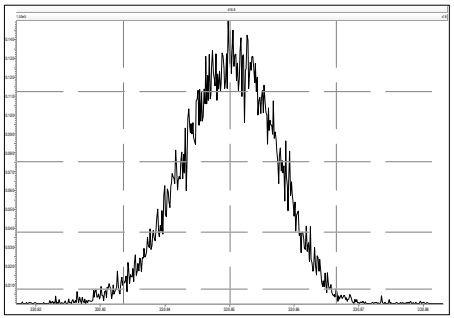
M 380.9760 R 13224



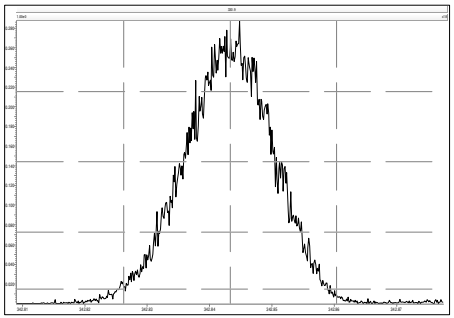
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

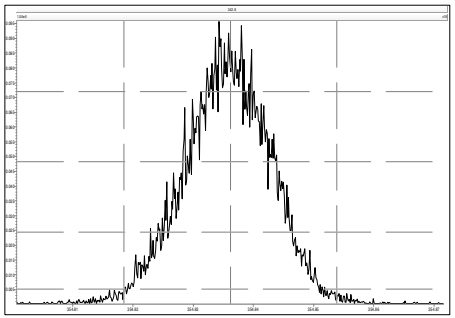
M 330.9792 R 10730



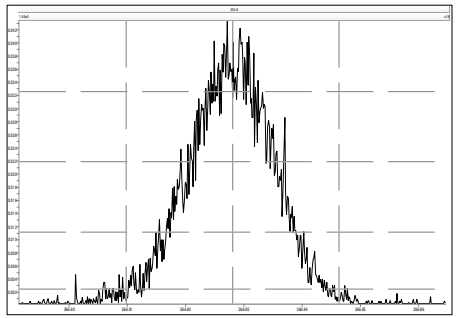
M 342.9792 R 10039



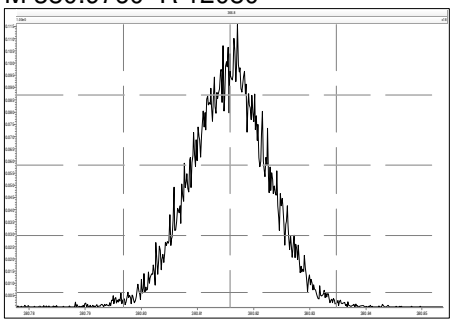
M 354.9792 R 11108



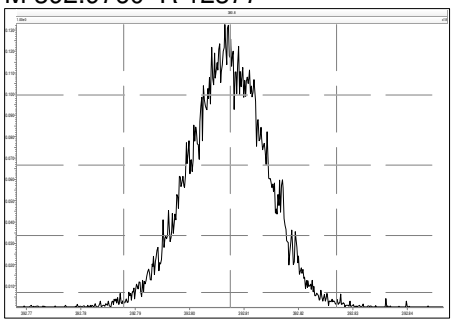
M 366.9792 R 11520



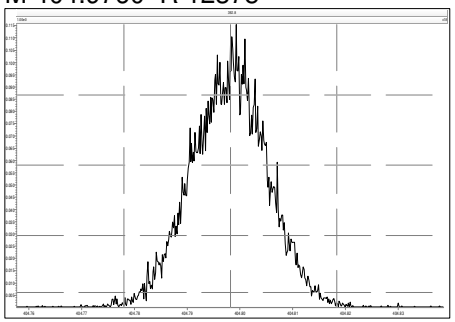
M 380.9760 R 12080



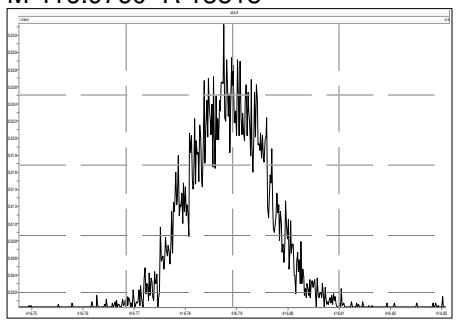
M 392.9760 R 12377



M 404.9760 R 12375



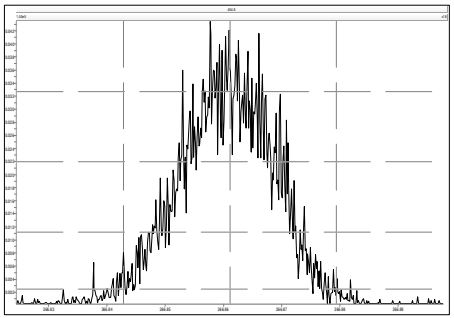
M 416.9760 R 13515



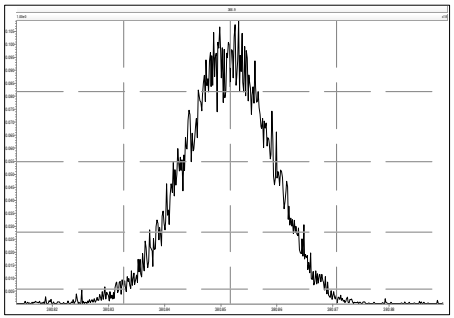
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

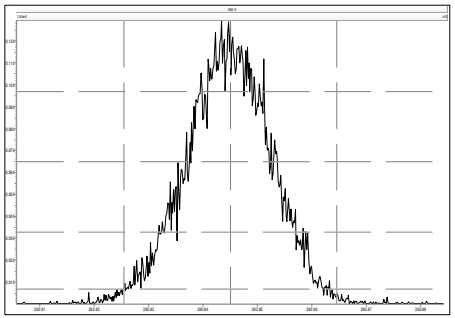
M 366.9792 R 10866



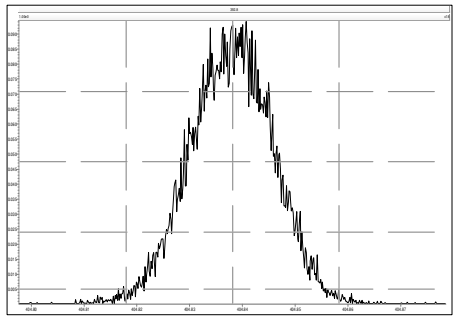
M 380.9760 R 10416



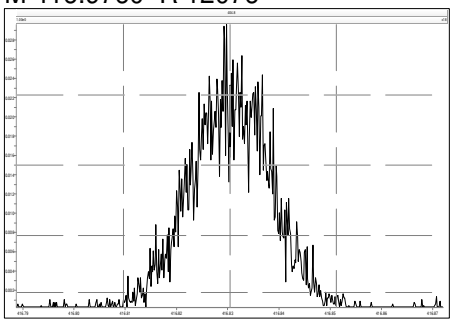
M 392.9760 R 10640



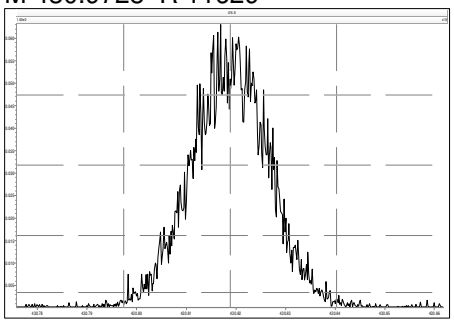
M 404.9760 R 11957



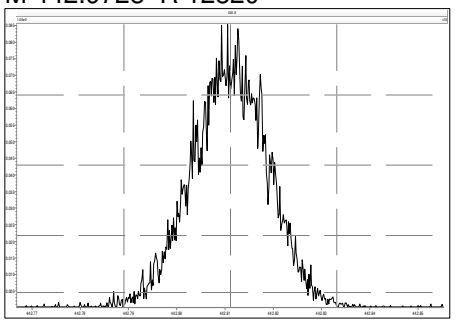
M 416.9760 R 12076



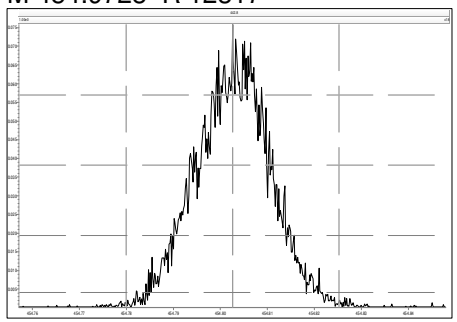
M 430.9728 R 11629



M 442.9728 R 12820



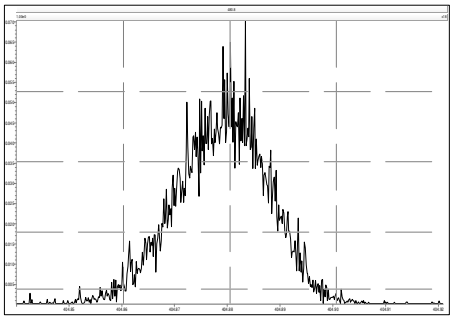
M 454.9728 R 12317



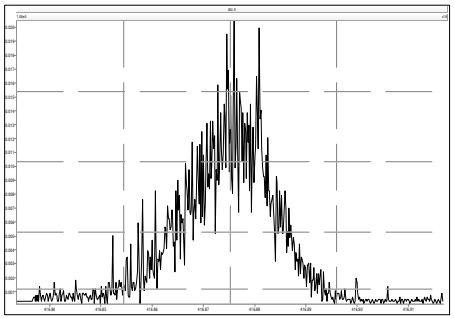
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

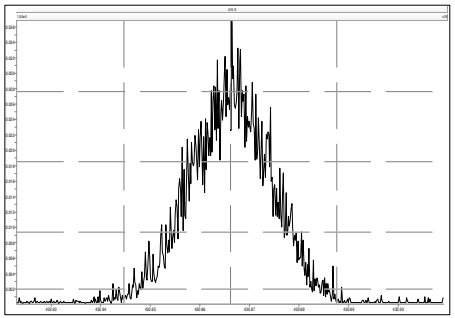
M 404.9760 R 10505



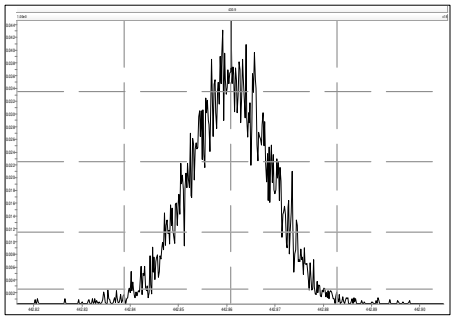
M 416.9760 R 12500



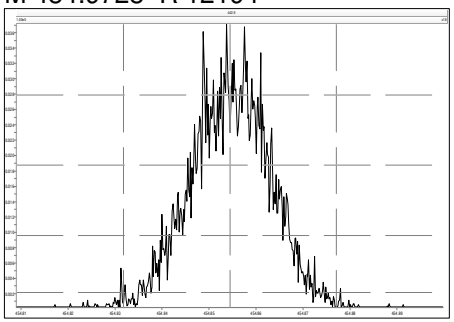
M 430.9728 R 11362



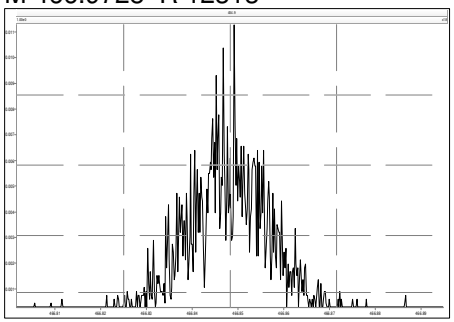
M 442.9728 R 12756



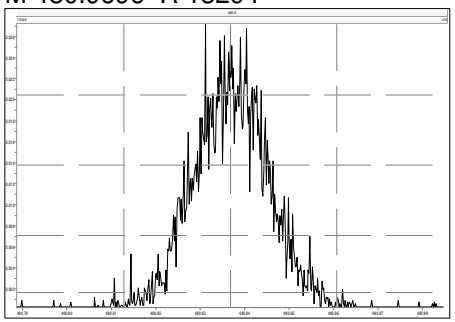
M 454.9728 R 12194



M 466.9728 R 12313



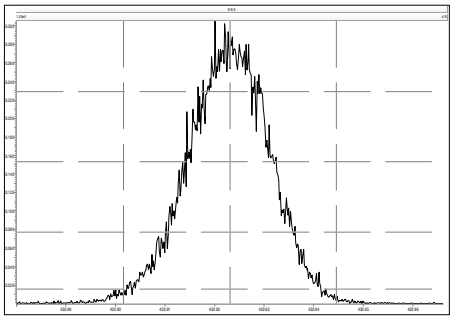
M 480.9696 R 13294



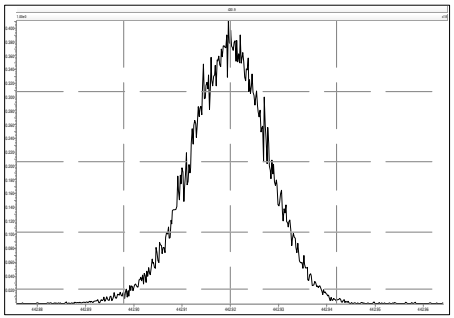
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

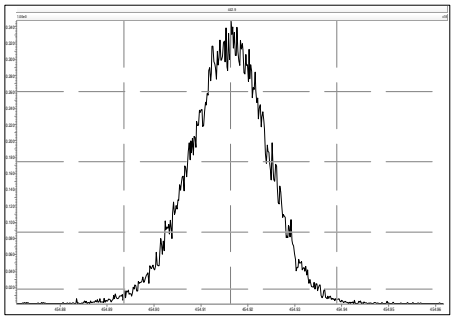
M 430.9728 R 11312



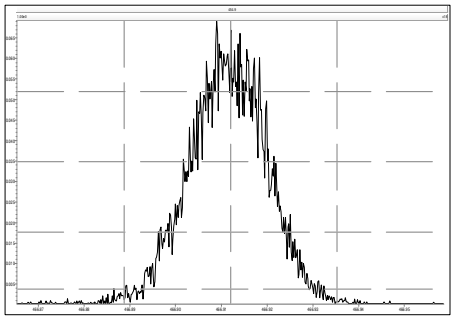
M 442.9728 R 11110



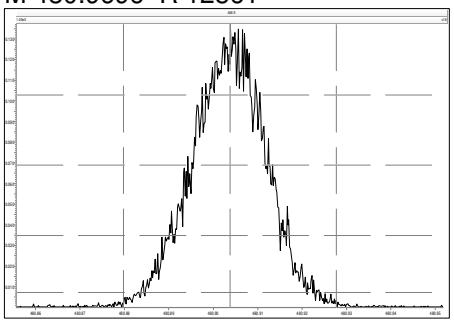
M 454.9728 R 11906



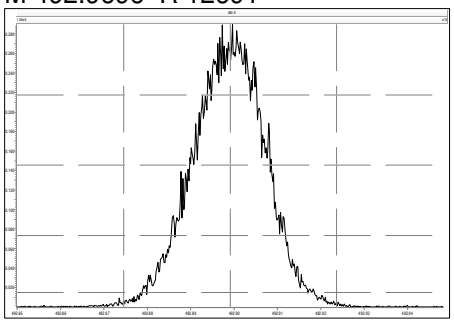
M 466.9728 R 12562



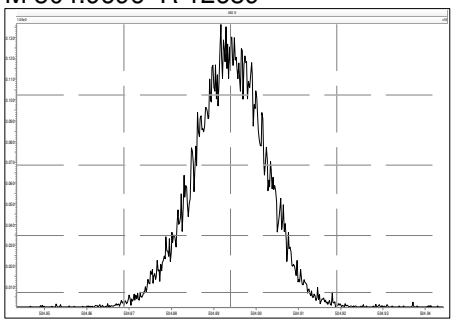
M 480.9696 R 12561



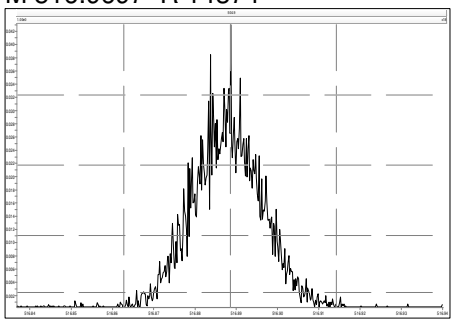
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



Lab ID: OPR1_18913_DF

REVIEWED
Tamara Burkamper , 2/21/2022, 9:15:07 AM

Acq'd: 15 Feb 2022 11:33 DTF

Wt/Vol: 1 uL

ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18913_OPR001

UTP: 17-Feb-2022 16:46:10 DTF

J-level: 0.25 pg/uL **Split:** 1

Checkcode: 247-990-DTM

Datafile: 220215C02

Report: 17 Feb 2022 16:48 TF

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

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12378-PeCDD	33.76		1.0006	1.0006	0	1.50E+07	1.53	Y	1.04	50.2	3829.816	0.111
123478-HxCDD	37.68		1.0004	1.0004	0	1.55E+07	1.31	Y	1.09	55.4	4678.223	0.147
123678-HxCDD	37.80		1.0036	1.0036	0	1.69E+07	1.23	Y	1.15	55.4	4678.223	0.134
123789-HxCDD	38.09		1.0115	1.0115	0	1.51E+07	1.26	Y	1.05	52	4678.223	0.14
1234678-HpCDD	40.79		1.0003	1.0004	+0.2	1.40E+07	1.07	Y	1.06	55.6	3876.7	0.129
OCDD	43.48		1.0003	1.0003	0	1.74E+07	0.91	Y	1.13	112	3200.554	0.243
2378-TCDF	27.53		1.0008	1.0008	0	5.41E+06	0.79	Y	1.08	11	4755.5	0.104
12378-PeCDF	32.31		1.0005	1.0005	0	2.50E+07	1.53	Y	1.02	50.3	9546.594	0.179
23478-PeCDF	33.42		1.0006	1.0005	-0.2	2.50E+07	1.52	Y	1.02	55.2	9546.594	0.198
123478-HxCDF	36.67		1.0004	1.0005	+0.2	2.16E+07	1.25	Y	1.27	53	10303.761	0.211
123678-HxCDF	36.81		1.0004	1.0005	+0.2	2.58E+07	1.23	Y	1.15	52.9	10303.761	0.176
234678-HxCDF	37.49		1.0005	1.0004	-0.2	2.25E+07	1.19	Y	1.19	51.2	10303.761	0.195
123789-HxCDF	38.45		1.0004	1.0004	0	1.75E+07	1.23	Y	1.16	49.4	10303.761	0.239
1234678-HpCDF	39.85		1.0003	1.0003	0	1.98E+07	1.03	Y	1.37	51	4071.159	0.0777
1234789-HpCDF	41.25		1.0003	1.0003	0	1.46E+07	1.05	Y	1.31	50.7	4071.159	0.125
OCDF	43.66		1.0002	1.0002	0	2.13E+07	0.94	Y	1.07	105	3463.95	0.212

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.37	1.0239	1.0240	+0.2	2.91E+07	0.78	Y	1.05	87.3
ES 12378-PeCDD	33.74	1.2174	1.2178	+0.8	2.89E+07	1.55	Y	0.88	103
ES 123478-HxCDD	37.66	0.9917	0.9917	0	2.57E+07	1.31	Y	0.97	95.4
ES 123678-HxCDD	37.78	0.9948	0.9949	+0.2	2.66E+07	1.29	Y	0.94	102
ES 123789-HxCDD	38.08	1.0027	1.0027	0	2.76E+07	1.28	Y	1.09	91.3
ES 1234678-HpCDD	40.77	1.0738	1.0737	-0.2	2.37E+07	1.08	Y	0.91	93.7
ES OCDD	43.47	1.1449	1.1447	-0.5	2.78E+07	0.91	Y	0.62	80.2
ES 2378-TCDF	27.51	1.0523	1.0524	+0.2	4.56E+07	0.79	Y	1.06	78.9
ES 12378-PeCDF	32.29	1.2346	1.2352	+1.2	4.85E+07	1.61	Y	0.91	97.5
ES 23478-PeCDF	33.41	1.2774	1.2780	+1.2	4.44E+07	1.61	Y	0.88	92.1
ES 123478-HxCDF	36.66	0.9651	0.9653	+0.4	3.21E+07	0.54	Y	1.20	96.5
ES 123678-HxCDF	36.80	0.9688	0.9689	+0.2	4.23E+07	0.53	Y	1.35	113
ES 234678-HxCDF	37.47	0.9867	0.9868	+0.2	3.70E+07	0.54	Y	1.24	108
ES 123789-HxCDF	38.44	1.0121	1.0122	+0.2	3.04E+07	0.52	Y	1.16	94.8
ES 1234678-HpCDF	39.84	1.0491	1.0490	-0.2	2.84E+07	0.46	Y	0.97	106
ES 1234789-HpCDF	41.23	1.0858	1.0858	0	2.20E+07	0.46	Y	0.85	93.3
ES OCDF	43.65	1.1495	1.1494	-0.3	3.78E+07	0.93	Y	0.81	84.3

Lab ID: OPR1_18913_DF | **Acq'd:** 15 Feb 2022 11:33 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18913_OPR001 | **UTP:** 17-Feb-2022 16:46:10 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 247-990-DTM

Datafile: 220215C02 | **Report:** 17 Feb 2022 16:48 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.71		-	-	-	3.19E+07	0.83	Y	-	-
JS 1234-TCDF	26.14		-	-	-	5.46E+07	0.81	Y	-	-
JS 123467-HxCDD	37.98		-	-	-	1.39E+07	1.28	Y	-	-
CS 37Cl-2378-TCDD	28.39		1.0247	1.0248	+0.2	1.43E+07	n/a	-	1.20	93.5
CS 12347-PeCDD	33.24		1.1993	1.1997	+0.8	2.79E+07	1.57	Y	0.75	116
CS 12346-PeCDF	31.76		1.2144	1.2148	+0.8	4.98E+07	1.66	Y	0.85	107
CS 123469-HxCDF	37.11		0.9772	0.9773	+0.2	3.65E+07	0.54	Y	1.12	118
CS 1234689-HpCDF	40.24		1.0597	1.0597	0	2.77E+07	0.46	Y	0.89	113
~~SS 37Cl-2378-TCDD~~	~~28.39~~		~~1.0247~~	~~1.0248~~	~~+0.2~~	~~1.43E+07~~	~~n/a~~		~~1.15~~	~~107~~
~~SS 12347-PeCDD~~	~~33.24~~		~~1.1993~~	~~1.1997~~	~~+0.8~~	~~2.79E+07~~	~~1.57~~	~~Y~~	~~0.86~~	~~113~~
~~SS 12346-PeCDF~~	~~31.76~~		~~1.2144~~	~~1.2148~~	~~+0.8~~	~~4.98E+07~~	~~1.66~~	~~Y~~	~~0.94~~	~~110~~
~~SS 123469-HxCDF~~	~~37.11~~		~~0.9772~~	~~0.9773~~	~~+0.2~~	~~3.65E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~104~~
~~SS 1234689-HpCDF~~	~~40.24~~		~~1.0597~~	~~1.0597~~	~~0~~	~~2.77E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~106~~

Totals	Conc	EMPC
Total TCDD	58.4	58.4
Total PeCDD	78.4	78.4
Total HxCDD	180	180
Total HpCDD	69.1	69.1
Total Tetra-Octa Dioxins	497	497
Total TCDF	65.7	65.7
Total PeCDF	195	195
Total HxCDF	330	330
Total HpCDF	102	102
Total Tetra-Octa Furans	798	798
Total Tetra-Octa Dioxins & Furans	1290	1290

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.798	0.80
Response	4.19E+06	4.18E+06

Lab ID: OPR1_18913_DF **Acq'd: 15 Feb 2022 11:33 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18913_OPR001 **UTP: 17-Feb-2022 16:46:10 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 247-990-DTM**

Datafile: 220215C02 **Report: 17 Feb 2022 16:48 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.73		0.8719	0.8718	-0.1	5.81E+06	0.77	Y	1.18	16.9	6942.248	0.207
1379-TCDD	NotFnd		0.8845						1.18		6942.248	0.207
1369-TCDD	NotFnd		0.8996						1.18		6942.248	0.207
1469-TCDD	NotFnd		0.9271						1.18		6942.248	0.207
1247/1246/1248/1249-TCDD	NotFnd		0.9357						1.18		6942.248	0.207
1378-TCDD	NotFnd		0.9425						1.18		6942.248	0.207
1268-TCDD	NotFnd		0.9494						1.18		6942.248	0.207
1478-TCDD	NotFnd		0.9581						1.18		6942.248	0.207
1279-TCDD	NotFnd		0.9640						1.18		6942.248	0.207
1234/1269-TCDD	NotFnd		0.9765						1.18		6942.248	0.207
1236-TCDD	NotFnd		0.9816						1.18		6942.248	0.207
1237/1238-TCDD	NotFnd		0.9906						1.18		6942.248	0.207
1239-TCDD	28.23		0.9952	0.9952	0	4.22E+06	0.78	Y	1.18	12.3	6942.248	0.207
2378-TCDD	**28.39**		**1.0008**	1.0008	**0**	4.18E+06	0.80	Y	**1.18**	**12.1**	**6942.248**	**0.207**
1278-TCDD	NotFnd		1.0123						1.18		6942.248	0.207
1267-TCDD	NotFnd		1.0170						1.18		6942.248	0.207
1289-TCDD	29.37		1.0351	1.0351	0	5.91E+06	0.78	Y	1.18	17.2	6942.248	0.207
12479/12468-PeCDD	31.25		0.9261	0.9261	0	4.19E+06	1.65	Y	1.04	14	3829.816	0.111
12469-PeCDD	NotFnd		0.9420						1.04		3829.816	0.111
12368-PeCDD	NotFnd		0.9584						1.04		3829.816	0.111
12478-PeCDD	NotFnd		0.9641						1.04		3829.816	0.111
12379-PeCDD	NotFnd		0.9670						1.04		3829.816	0.111
12369/12467/12489-PeCDD	NotFnd		0.9747						1.04		3829.816	0.111
12346/12347-PeCDD	NotFnd		0.9857						1.04		3829.816	0.111
12378-PeCDD	33.76		**1.0006**	**1.0006**	**0**	**1.50E+07**	**1.53**	**Y**	**1.04**	**50.2**	**3829.816**	**0.111**
12367-PeCDD	NotFnd		1.0034						1.04		3829.816	0.111
12389-PeCDD	34.20		1.0136	1.0136	0	4.26E+06	1.59	Y	1.04	14.2	3829.816	0.111
124679/124689-HxCDD	35.93		0.9540	0.9541	+0.2	4.89E+06	1.24	Y	1.10	16.8	4678.223	0.14
123468-HxCDD	NotFnd		0.9714						1.10		4678.223	0.14
123679/123689-HxCDD	NotFnd		0.9792						1.10		4678.223	0.14
123469-HxCDD	NotFnd		0.9828						1.10		4678.223	0.14
123478-HxCDD	37.68		**1.0004**	**1.0004**	**0**	**1.55E+07**	**1.31**	**Y**	1.09	**55.4**	**4678.223**	**0.147**
123678-HxCDD	37.80		**1.0036**	**1.0036**	**0**	**1.69E+07**	**1.23**	**Y**	1.15	**55.4**	**4678.223**	**0.134**
123467-HxCDD	NotFnd		1.0087						1.10		4678.223	0.14
123789-HxCDD	38.09		**1.0115**	**1.0115**	**0**	**1.51E+07**	**1.26**	**Y**	1.05	**52**	**4678.223**	**0.14**

Lab ID: OPR1_18913_DF **Acq'd: 15 Feb 2022 11:33 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18913_OPR001 **UTP: 17-Feb-2022 16:46:10 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 247-990-DTM**

Datafile: 220215C02 **Report: 17 Feb 2022 16:48 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.11		0.9836	0.9837	+0.2	3.40E+06	1.07	Y	1.06	13.5	3876.7	0.129
1234678-HpCDD	**40.79**		**1.0003**	**1.0004**	**+0.2**	**1.40E+07**	**1.07**	**Y**	**1.06**	**55.6**	**3876.7**	**0.129**
OCDD	**43.48**		**1.0003**	**1.0003**	**0**	**1.74E+07**	**0.91**	**Y**	**1.13**	**112**	**3200.554**	**0.243**
OCDD-a	43.48		1.0002	1.0002	0	1.09E+06	2.69	Y	0.07	109	3704.925	4.39
1368-TCDF	22.61		0.8222	0.8219	-0.4	7.75E+06	0.77	Y	1.08	15.7	4755.5	0.104
1468-TCDF	NotFnd		0.8434						1.08		4755.5	0.104
2468-TCDF	23.83		0.8666	0.8663	-0.4	2.10E+06	0.81	Y	1.08	4.27	4755.5	0.104
1346/1246-TCDF	NotFnd		0.8789						1.08		4755.5	0.104
1347/1378/1247-TCDF	NotFnd		0.8848						1.08		4755.5	0.104
1348-TCDF	NotFnd		0.8947						1.08		4755.5	0.104
1248/1367/1379-TCDF	NotFnd		0.8995						1.08		4755.5	0.104
1268-TCDF	NotFnd		0.9131						1.08		4755.5	0.104
1467-TCDF	NotFnd		0.9181						1.08		4755.5	0.104
1478-TCDF	NotFnd		0.9244						1.08		4755.5	0.104
1369/1237-TCDF	NotFnd		0.9379						1.08		4755.5	0.104
2467-TCDF	NotFnd		0.9425						1.08		4755.5	0.104
2368-TCDF	NotFnd		0.9483						1.08		4755.5	0.104
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9514						1.08		4755.5	0.104
1278-TCDF	NotFnd		0.9681						1.08		4755.5	0.104
1349-TCDF	NotFnd		0.9722						1.08		4755.5	0.104
1267-TCDF	NotFnd		0.9780						1.08		4755.5	0.104
2346/1249-TCDF	NotFnd		0.9845						1.08		4755.5	0.104
2347/1279-TCDF	NotFnd		0.9927						1.08		4755.5	0.104
2348-TCDF	27.42		0.9970	0.9968	-0.3	8.09E+06	0.75	Y	1.08	16.4	4755.5	0.104
2378-TCDF	**27.53**		**1.0008**	**1.0008**	**0**	**5.41E+06**	**0.79**	**Y**	**1.08**	**11**	**4755.5**	**0.104**
2367/3467-TCDF	NotFnd		1.0140						1.08		4755.5	0.104
1269-TCDF	NotFnd		1.0226						1.08		4755.5	0.104
1239-TCDF	NotFnd		1.0325						1.08		4755.5	0.104
1289-TCDF	29.54		1.0732	1.0737	+0.9	9.01E+06	0.78	Y	1.08	18.3	4755.5	0.104
13468/12468-PeCDF	29.46		0.9130	0.9123	-1.2	3.72E+07	1.52	Y	1.02	78.3	3419.891	0.0673
13678/13467/12467-PeCDF	NotFnd		0.9610						1.02		9546.594	0.188
12368/13478/12478-PeCDF	NotFnd		0.9658						1.02		9546.594	0.188
14678-PeCDF	NotFnd		0.9688						1.02		9546.594	0.188
13479-PeCDF	NotFnd		0.9719						1.02		9546.594	0.188
13469/12479-PeCDF	NotFnd		0.9797						1.02		9546.594	0.188
12346-PeCDF	NotFnd		0.9841						1.02		9546.594	0.188

Lab ID: OPR1_18913_DF | **Acq'd: 15 Feb 2022 11:33 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18913_OPR001 | **UTP: 17-Feb-2022 16:46:10 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 247-990-DTM**

Datafile: 220215C02 | **Report: 17 Feb 2022 16:48 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9867						1.02		9546.594	0.188
12347-PeCDF	NotFnd		0.9892						1.02		9546.594	0.188
12348-PeCDF	NotFnd		0.9940						1.02		9546.594	0.188
12378-PeCDF	**32.31**		**1.0005**	**1.0005**	**0**	**2.50E+07**	**1.53**	**Y**	**1.02**	**50.3**	**9546.594**	**0.179**
12678/12367-PeCDF	NotFnd		1.0091						1.02		9546.594	0.188
12379-PeCDF	NotFnd		1.0144						1.02		9546.594	0.188
12679-PeCDF	NotFnd		0.9928						1.02		9546.594	0.188
23467/12369-PeCDF	NotFnd		0.9966						1.02		9546.594	0.188
23478-PeCDF	**33.42**		**1.0006**	**1.0005**	**-0.2**	**2.50E+07**	**1.52**	**Y**	**1.02**	**55.2**	**9546.594**	**0.198**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		9546.594	0.188
12349-PeCDF	NotFnd		1.0101						1.02		9546.594	0.188
12389-PeCDF	34.50		1.0327	1.0327	0	5.36E+06	1.65	Y	1.02	11.3	9546.594	0.188
123468-HxCDF	35.28		0.9624	0.9625	+0.2	5.24E+07	1.23	Y	1.19	124	10303.761	0.202
124678/134678-HxCDF	NotFnd		0.9679						1.19		10303.761	0.202
134679-HxCDF	NotFnd		0.9741						1.19		10303.761	0.202
124679-HxCDF	NotFnd		0.9796						1.19		10303.761	0.202
124689-HxCDF	NotFnd		0.9856						1.19		10303.761	0.202
123467-HxCDF	NotFnd		0.9972						1.19		10303.761	0.202
123478-HxCDF	**36.67**		**1.0004**	**1.0005**	**+0.2**	**2.16E+07**	**1.25**	**Y**	**1.27**	**53**	**10303.761**	**0.211**
123678-HxCDF	**36.81**		**1.0004**	**1.0005**	**+0.2**	**2.58E+07**	**1.23**	**Y**	**1.15**	**52.9**	**10303.761**	**0.176**
123479-HxCDF	NotFnd		1.0049						1.19		10303.761	0.202
123469-HxCDF	NotFnd		1.0090						1.19		10303.761	0.202
123679-HxCDF	NotFnd		0.9942						1.19		10303.761	0.202
234678-HxCDF	**37.49**		**1.0005**	**1.0004**	**-0.2**	**2.25E+07**	**1.19**	**Y**	**1.19**	**51.2**	**10303.761**	**0.195**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		10303.761	0.202
123789-HxCDF	**38.45**		**1.0004**	**1.0004**	**0**	**1.75E+07**	**1.23**	**Y**	**1.16**	**49.4**	**10303.761**	**0.239**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		10303.761	0.202
1234678-HpCDF	**39.85**		**1.0003**	**1.0003**	**0**	**1.98E+07**	**1.03**	**Y**	**1.37**	**51**	**4071.159**	**0.0777**
1234679-HpCDF	NotFnd		1.0069						1.34		4071.159	0.098
1234689-HpCDF	NotFnd		1.0104						1.34		4071.159	0.098
1234789-HpCDF	**41.25**		**1.0003**	**1.0003**	**0**	**1.46E+07**	**1.05**	**Y**	**1.31**	**50.7**	**4071.159**	**0.125**
OCDF	**43.66**		**1.0002**	**1.0002**	**0**	**2.13E+07**	**0.94**	**Y**	**1.07**	**105**	**3463.95**	**0.212**
OCDF-a	43.66		1.0002	1.0002	0	1.31E+06	2.72	Y	0.07	104	4210.794	4.16

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220215C02	Analysis Date:	15-FEB-2022 11:33:15
Lab ID:	OPR1_18913_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	12.1	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	50.2	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	55.4	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	55.4	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	52	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	55.6	35	-	70	Y
OCDD	100	112	78	-	144	Y
2,3,7,8-TCDF	10	11	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	50.3	40	-	67	Y
2,3,4,7,8-PeCDF	50	55.2	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	53	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	52.9	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	51.2	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	49.4	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	51	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	50.7	39	-	69	Y
OCDF	100	105	63	-	170	Y

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

Processed: 17 Feb 2022 16:48 Analyst: TF

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

Lab Name: SGS North America
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021
Instrument ID: HRMS3 GC Column ID: ZB-5ms
VER Data Filename: 220215C02 Analysis Date: 15-FEB-2022 11:33:15
Lab ID: OPR1_18913_DF

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	87.3	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	103	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	95.4	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	102	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	91.3	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	93.7	26	-	166	Y
13C-OCDD	200	160	26	-	397	Y
13C-2,3,7,8-TCDF	100	78.9	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	97.5	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	92.1	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	96.5	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	113	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	108	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	94.8	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	106	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	93.3	20	-	186	Y
13C-OCDF	200	169	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	37.4	12.4	-	76.4	Y

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

Processed: 17 Feb 2022 16:48 Analyst: TF

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220215C02	Analysis Date:	15-FEB-2022 11:33:15
Lab ID:	OPR1_18913_DF		

Window Defining Standards Results

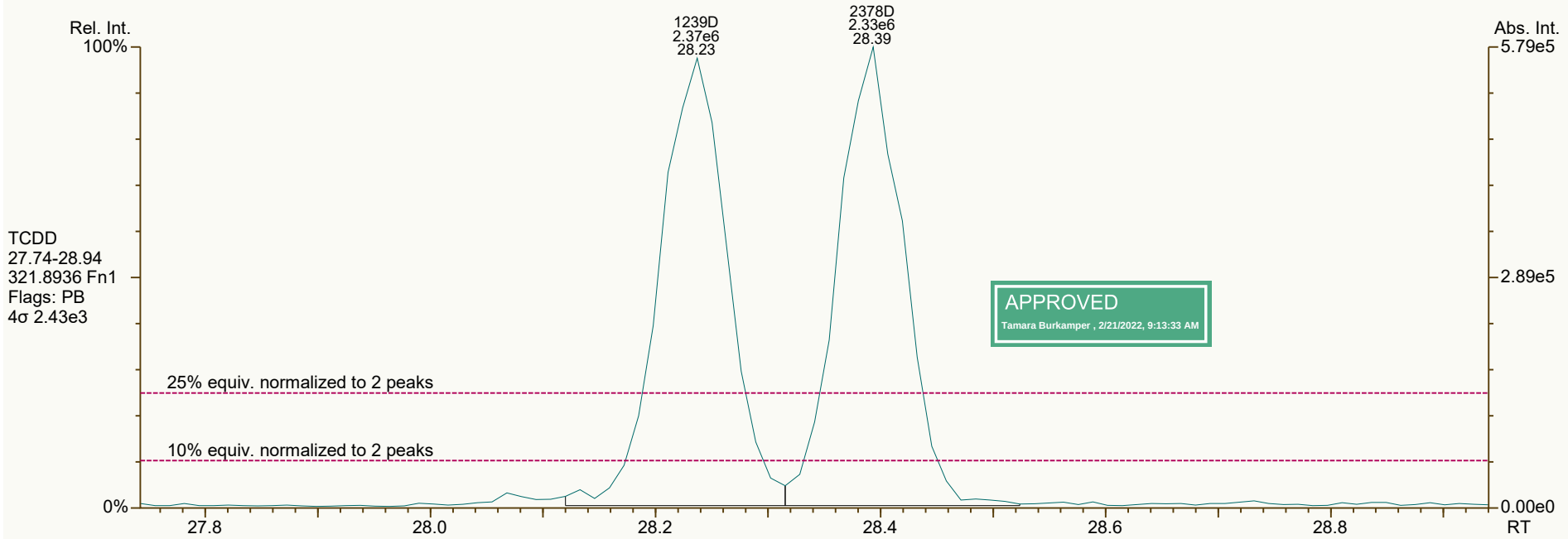
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.73	1289-TCDD	29.37
12479/12468-PeCDD	31.25	12389-PeCDD	34.20
124679/124689-HxCDD	35.93	123789-HxCDD	38.09
1234679-HpCDD	40.11	1234678-HpCDD	40.79
1368-TCDF	22.61	1289-TCDF	29.54
13468/12468-PeCDF	29.46	12389-PeCDF	34.50
123468-HxCDF	35.28	123789-HxCDF	38.45
1234678-HpCDF	39.85	1234789-HpCDF	41.25

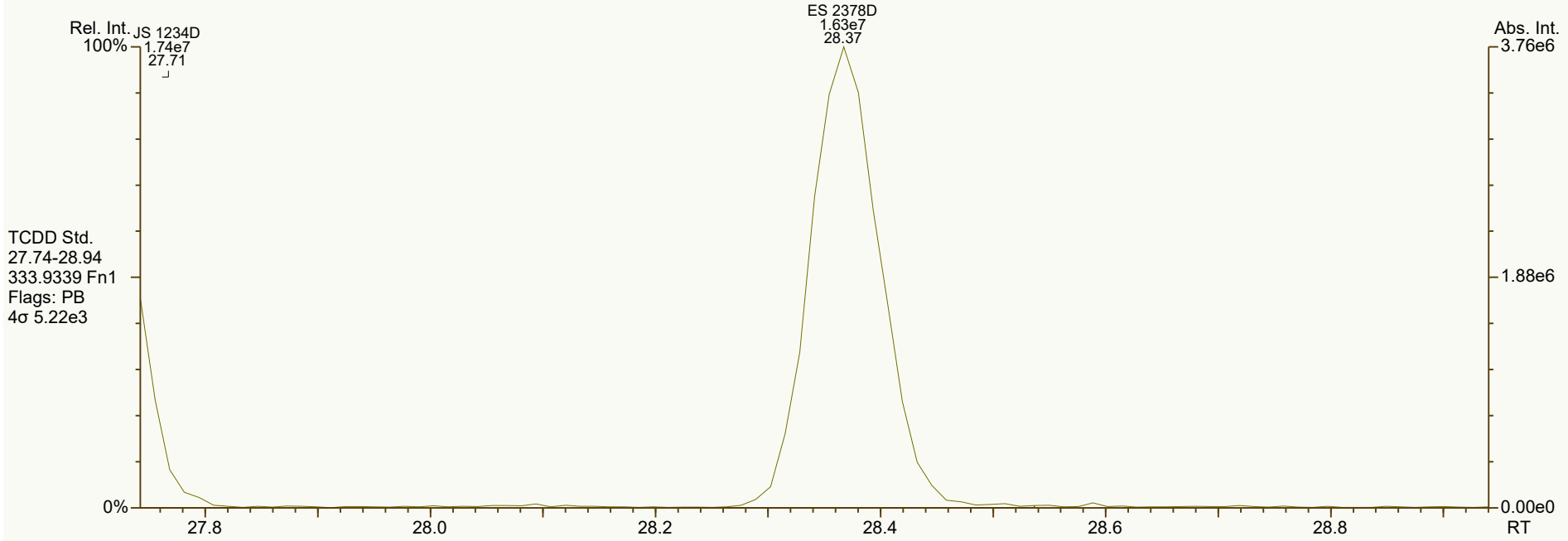
Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.23	2378-TCDD	28.39
2348-TCDF	27.42	2378-TCDF	27.53

Processed: 17 Feb 2022 16:48 Analyst: TF

SGS ID: OPR1_18913_DF
Sample ID: 0_18913_OPR001
Acq: 15-Feb-2022 11:33:15
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 45
User: DTF Datafile: 220215C02





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Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
PKD: 15-Feb-2022 15:41 Printed: 17-Feb-2022 16:53

SGS ID: OPR1_18913_DF
Sample ID: 0_18913_OPR001
Acq: 15-Feb-2022 11:33:15
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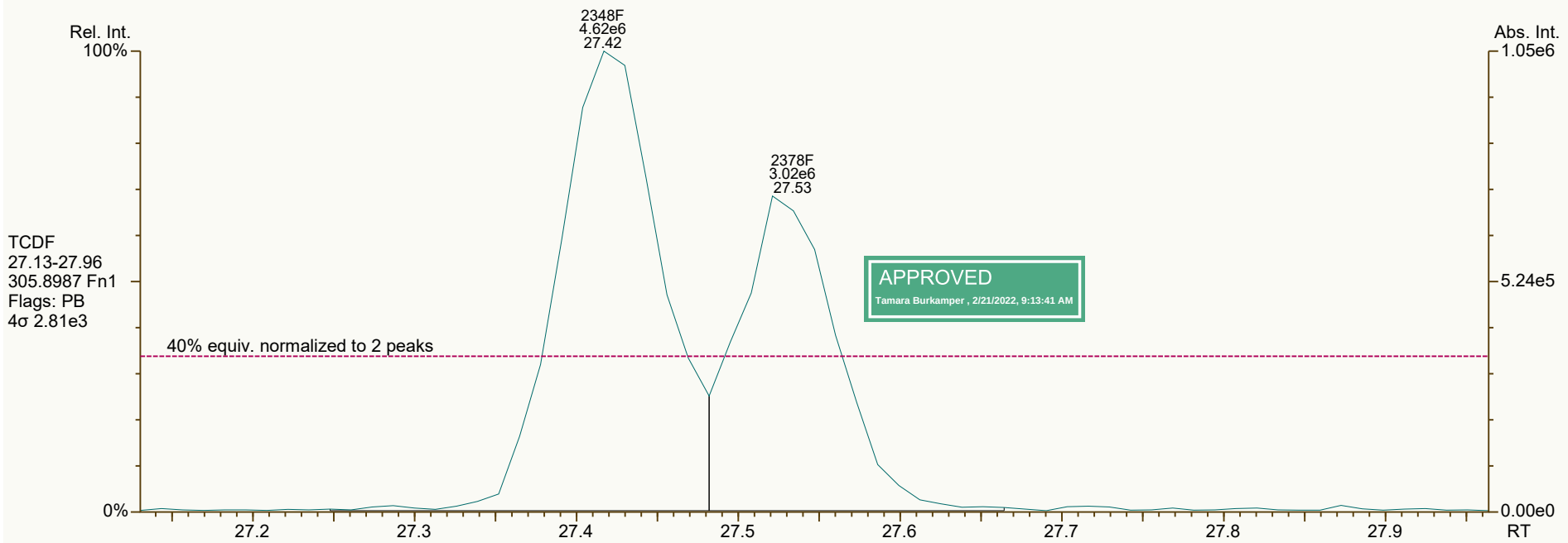
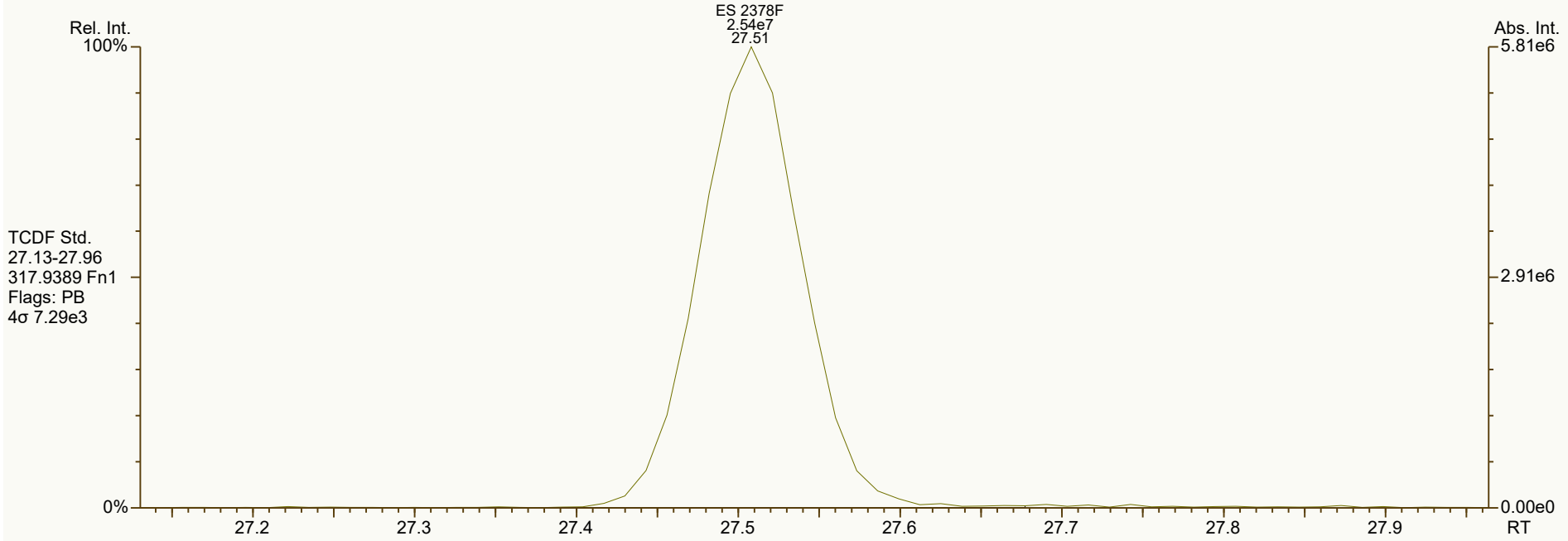
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 45
User: DTF Datafile: 220215C02





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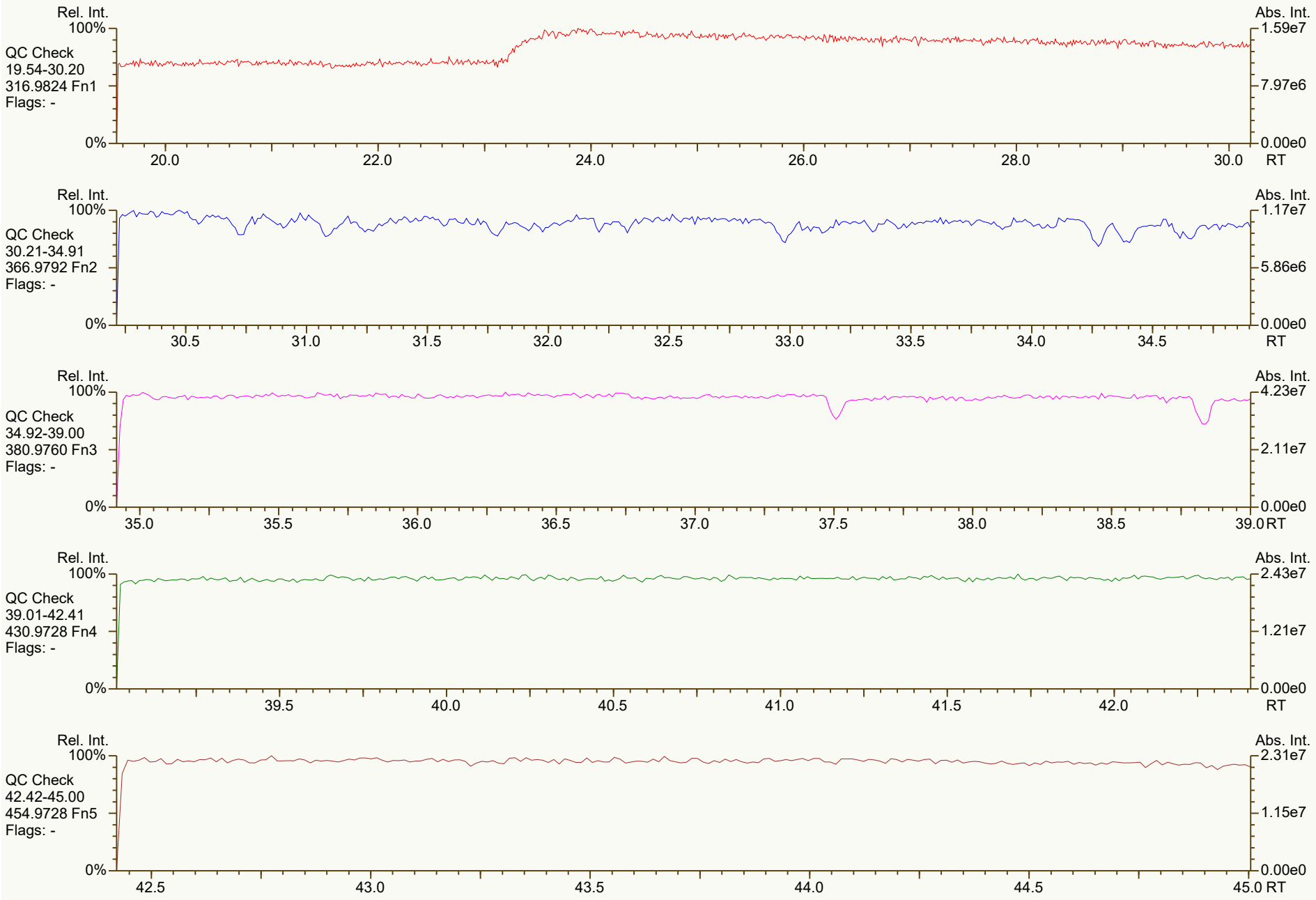
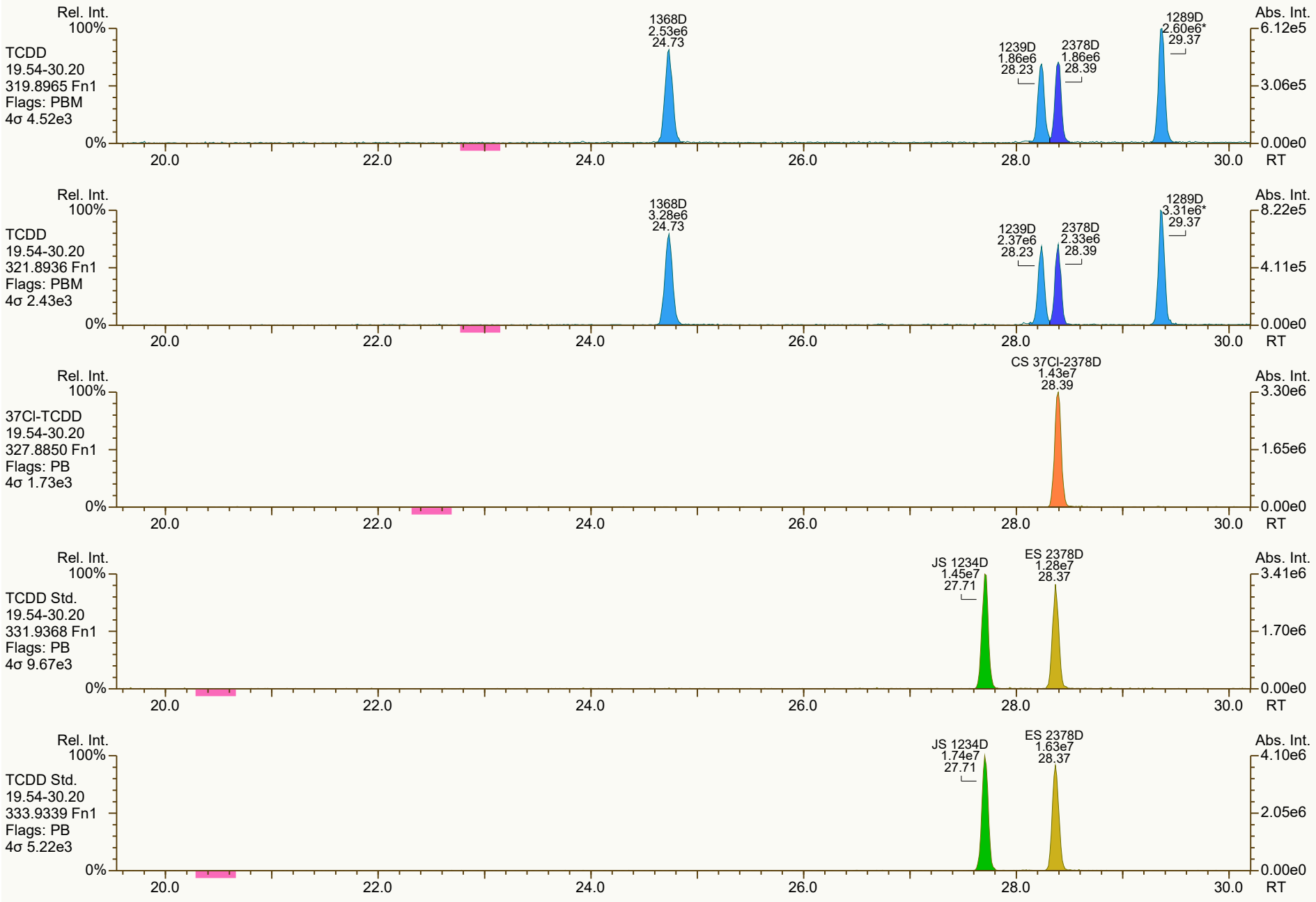
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
PKD: 15-Feb-2022 15:41 Printed: 17-Feb-2022 16:53


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.59e7
7.97e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
1.17e7
5.86e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
4.23e7
2.11e7
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
2.43e7
1.21e7
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
2.31e7
1.15e7
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 4.52e3
1368D
2.53e6
24.73
1239D
1.86e6
28.23
2378D
1.86e6
28.39
1289D
2.60e6*
29.37
Abs. Int.
6.12e5
3.06e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.43e3
1368D
3.28e6
24.73
1239D
2.37e6
28.23
2378D
2.33e6
28.39
1289D
3.31e6*
29.37
Abs. Int.
8.22e5
4.11e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.73e3
CS 37Cl-2378D
1.43e7
28.39
Abs. Int.
3.30e6
1.65e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 9.67e3
JS 1234D
1.45e7
27.71
ES 2378D
1.28e7
28.37
Abs. Int.
3.41e6
1.70e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 5.22e3
JS 1234D
1.74e7
27.71
ES 2378D
1.63e7
28.37
Abs. Int.
4.10e6
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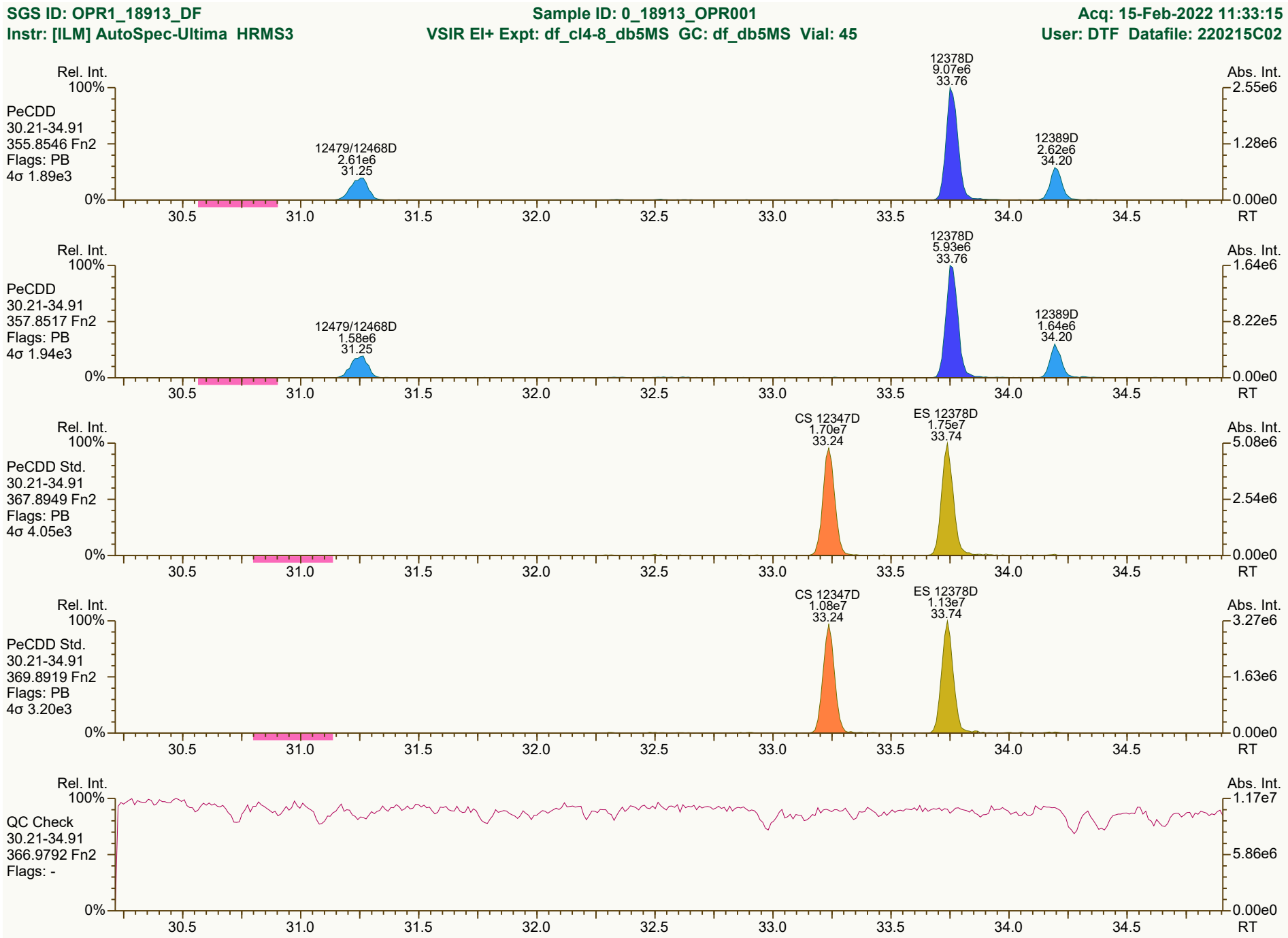
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT



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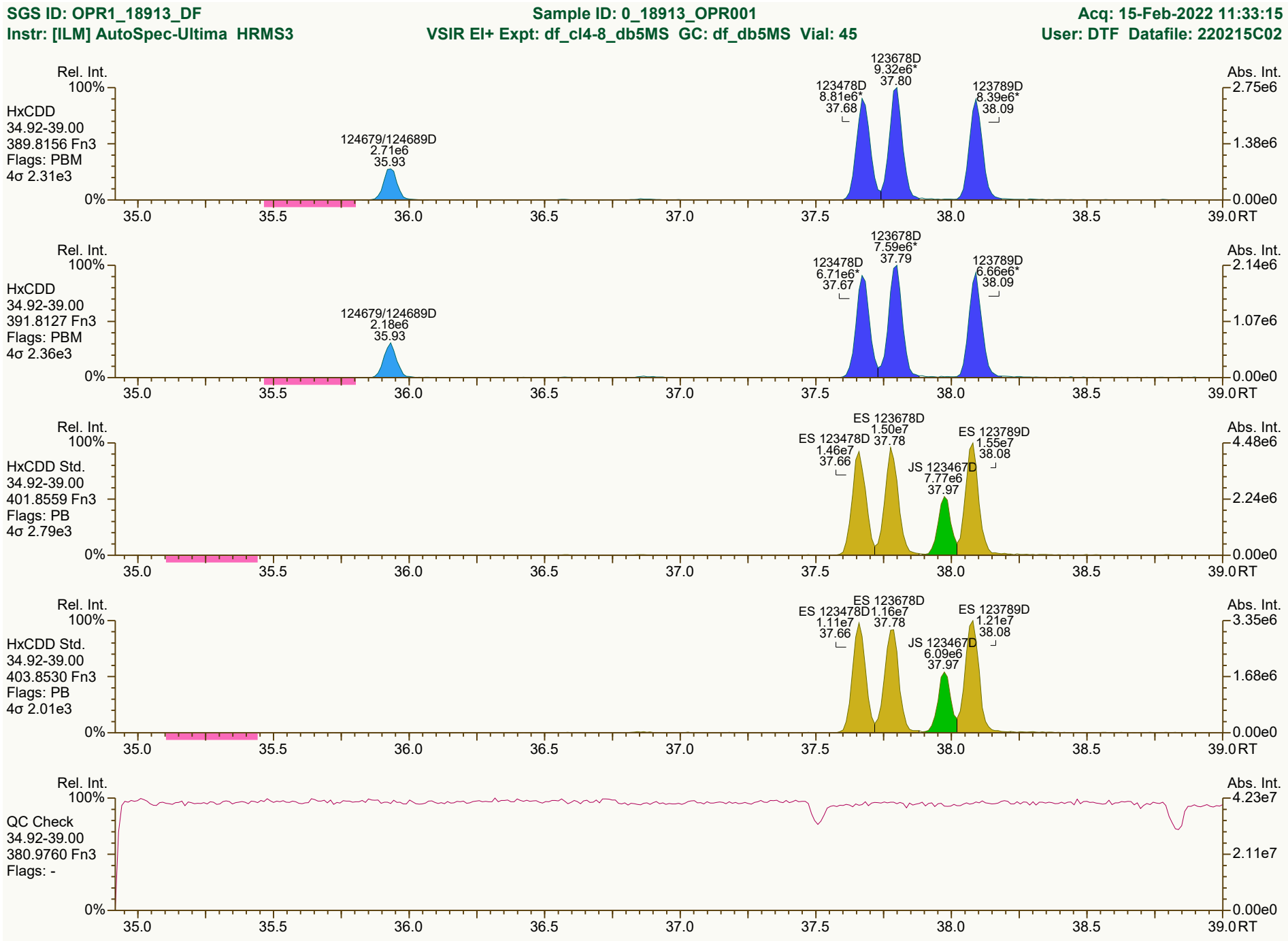
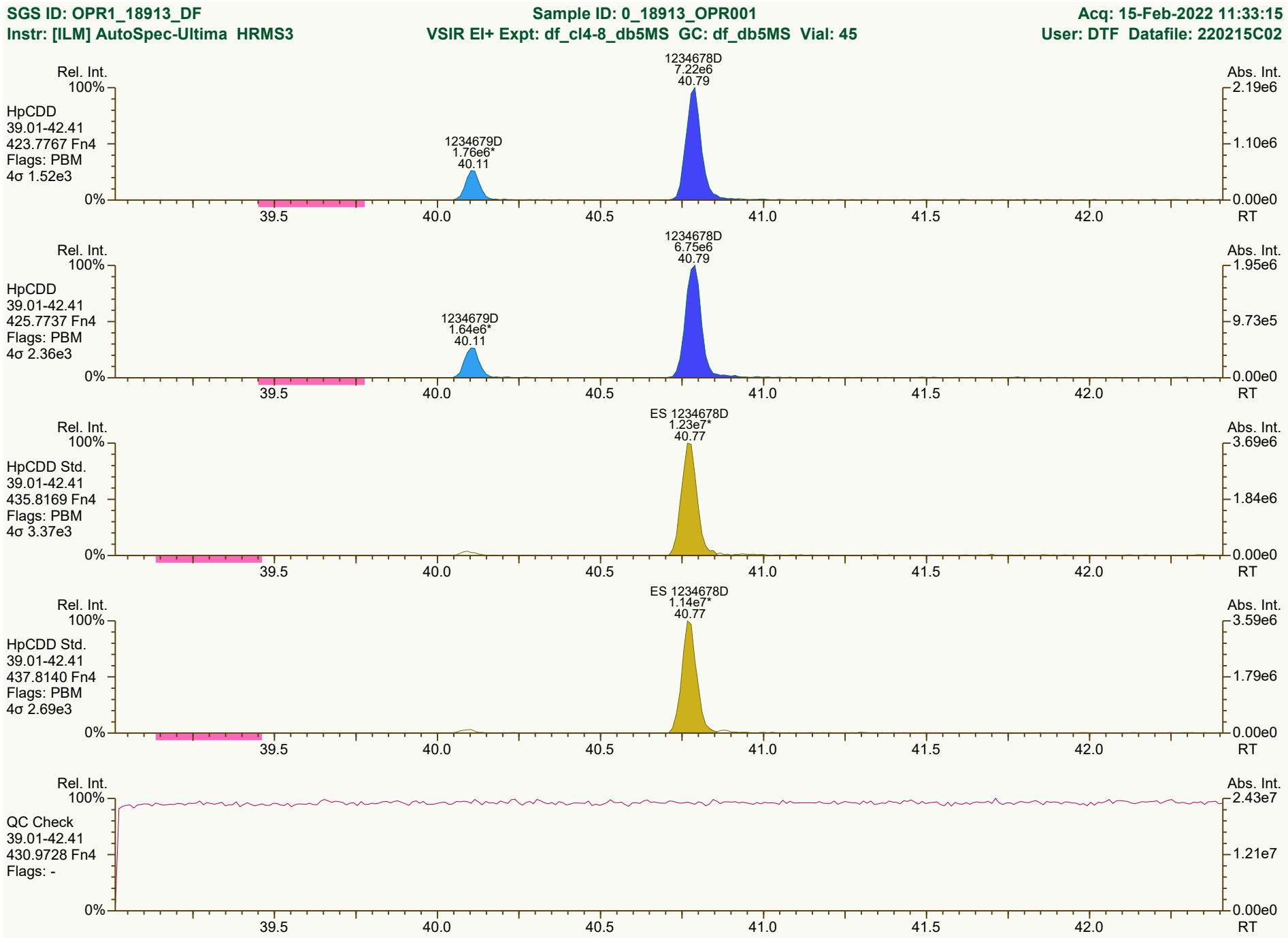
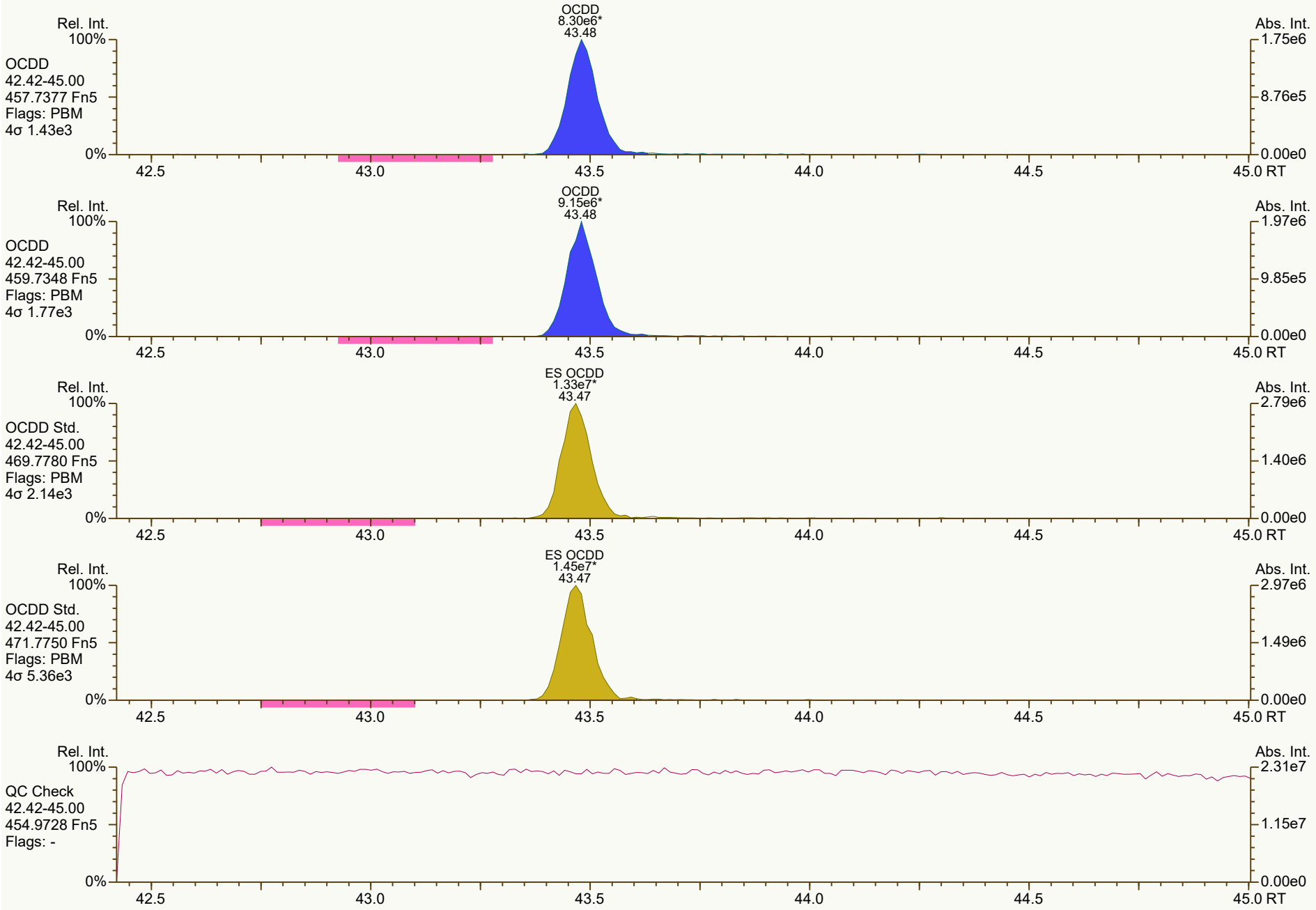
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1755, 2652 scc: 247-990
PKD: 15-Feb-2022 15:41 Printed: 17-Feb-2022 16:54 Page 3 of 12

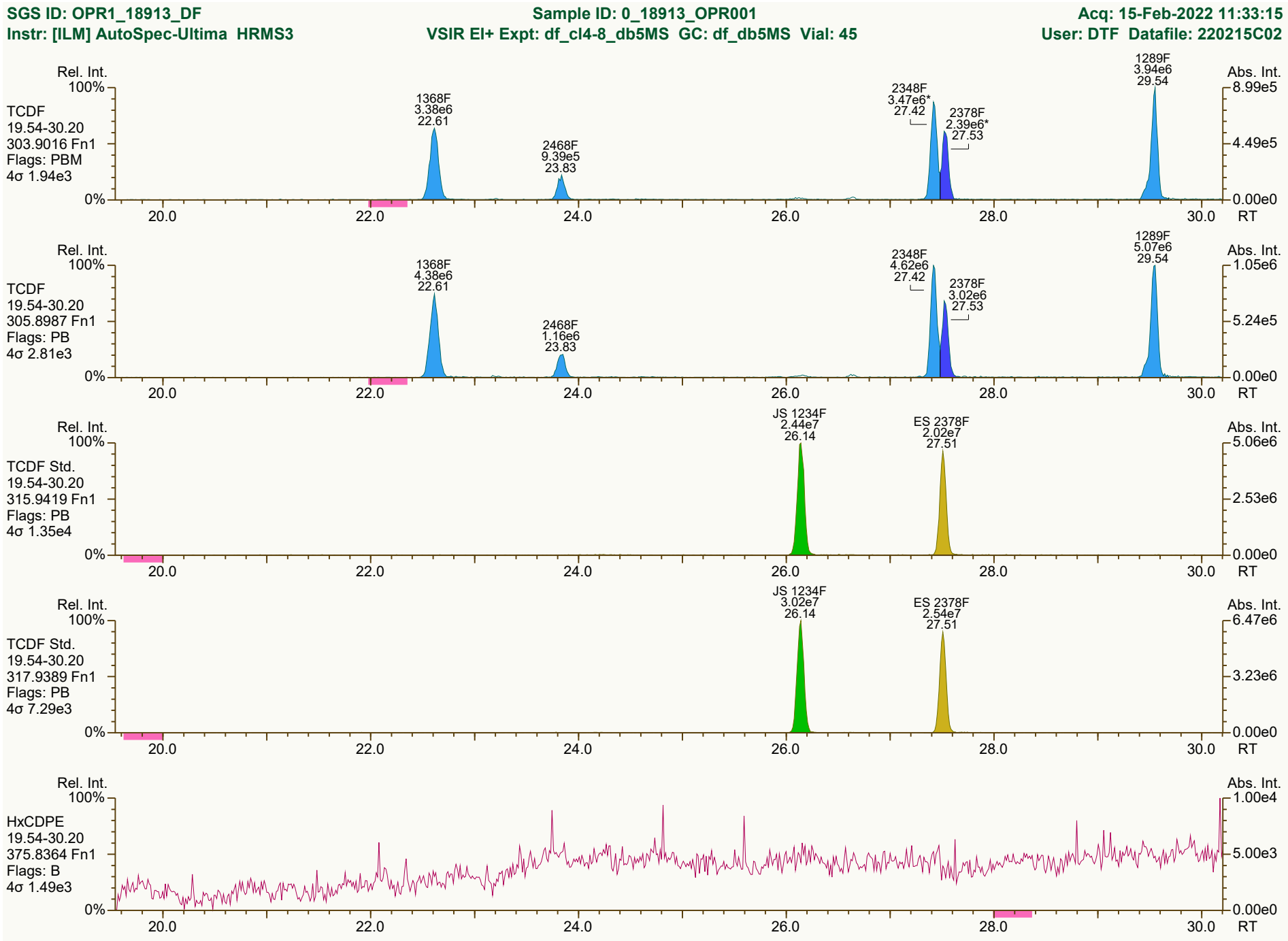
SGS ID: OPR1_18913_DF | Sample ID: 0_18913_OPR001 | Acq: 15-Feb-2022 11:33:15
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 45 | User: DTF Datafile: 220215C02



Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\OPR1_18913_DF.utp_res, saved 17-Feb-2022 16:46 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0922, 9217 scc: 247-990 | Revised: 15-Feb-2022 15:40 (DTF) Printed: 17-Feb-2022 16:54 Page 4 of 12


SGS ID: OPR1_18913_DF
Sample ID: 0_18913_OPR001
Acq: 15-Feb-2022 11:33:15
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 45
User: DTF Datafile: 220215C02
Rel. Int.
Abs. Int.
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
7.22e6
40.79
1234679D
1.76e6*
40.11
2.19e6
1.10e6
0.00e0
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 2.36e3
1234678D
6.75e6
40.79
1234679D
1.64e6*
40.11
1.95e6
9.73e5
0.00e0
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 3.37e3
ES 1234678D
1.23e7*
40.77
3.69e6
1.84e6
0.00e0
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 2.69e3
ES 1234678D
1.14e7*
40.77
3.59e6
1.79e6
0.00e0
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
2.43e7
1.21e7
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\OPR1_18913_DF.utp_res, saved 17-Feb-2022 16:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0726, 5104 scc: 247-990
Revised: 15-Feb-2022 15:40 (DTF) Printed: 17-Feb-2022 16:54 Page 5 of 12


OCDD
8.30e6*
43.48
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
1.75e6
8.76e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
9.15e6*
43.48
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 1.77e3
0%
Abs. Int.
1.97e6
9.85e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.33e7*
43.47
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 2.14e3
0%
Abs. Int.
2.79e6
1.40e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.45e7*
43.47
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 5.36e3
0%
Abs. Int.
2.97e6
1.49e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.31e7
1.15e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT



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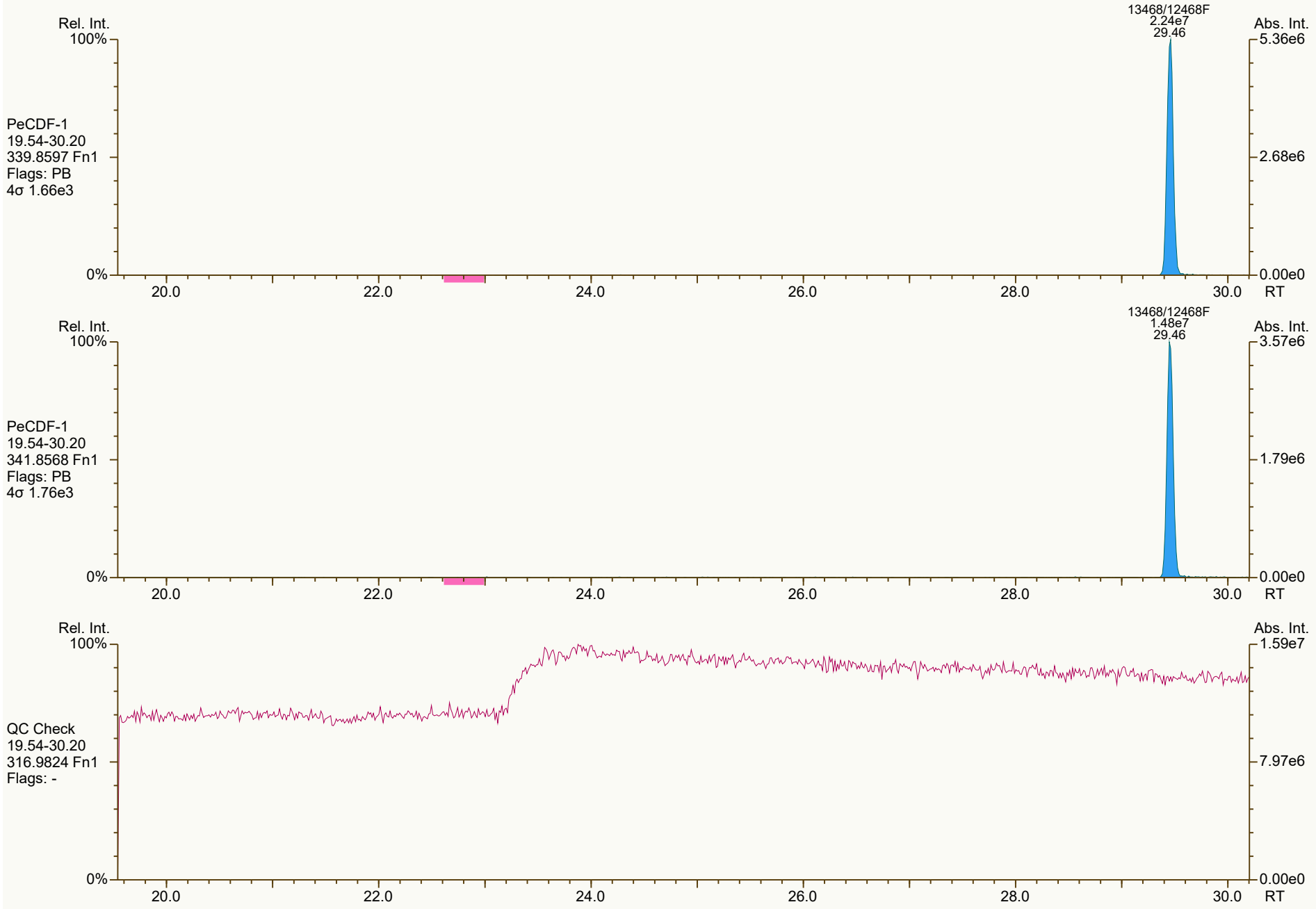
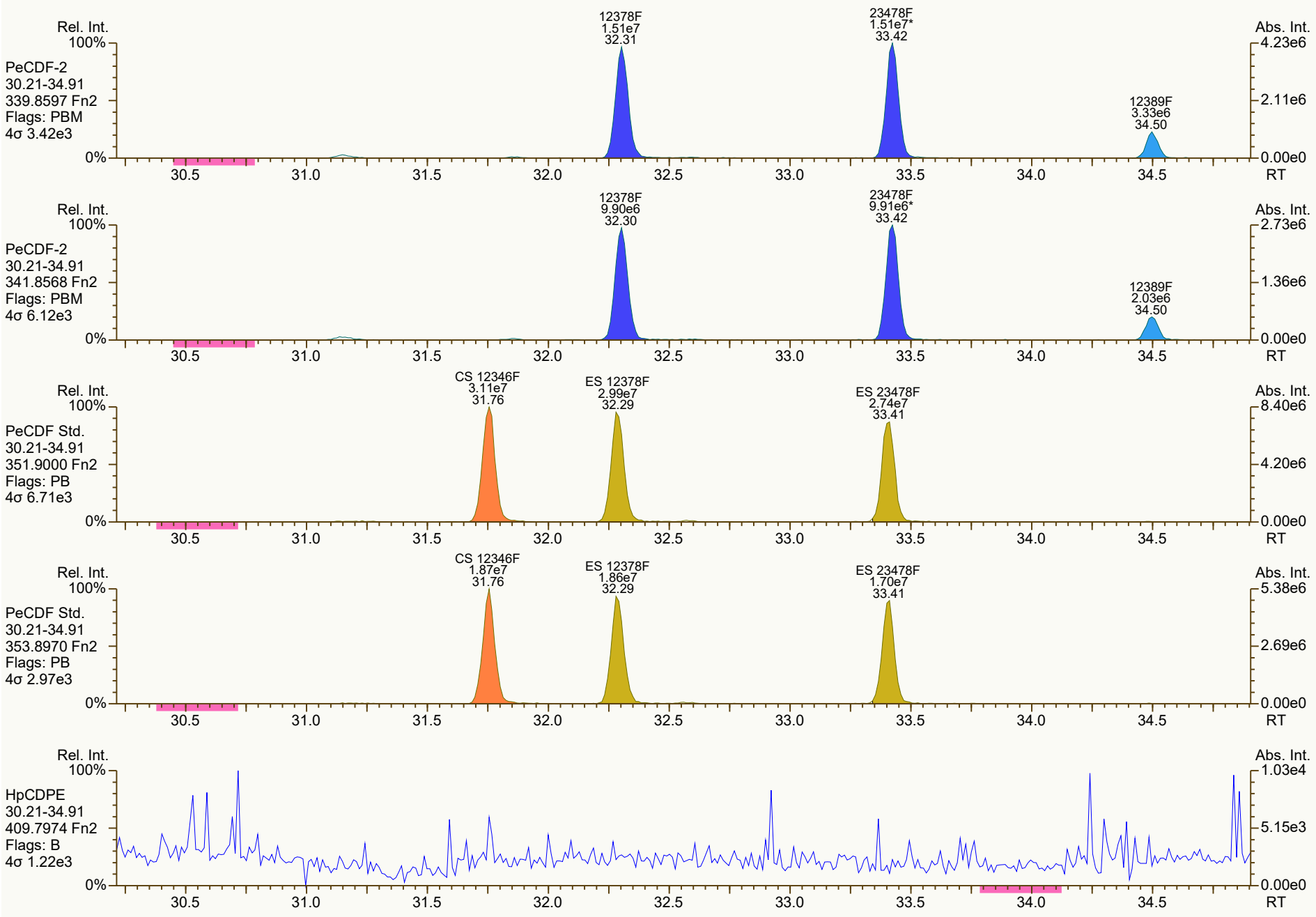
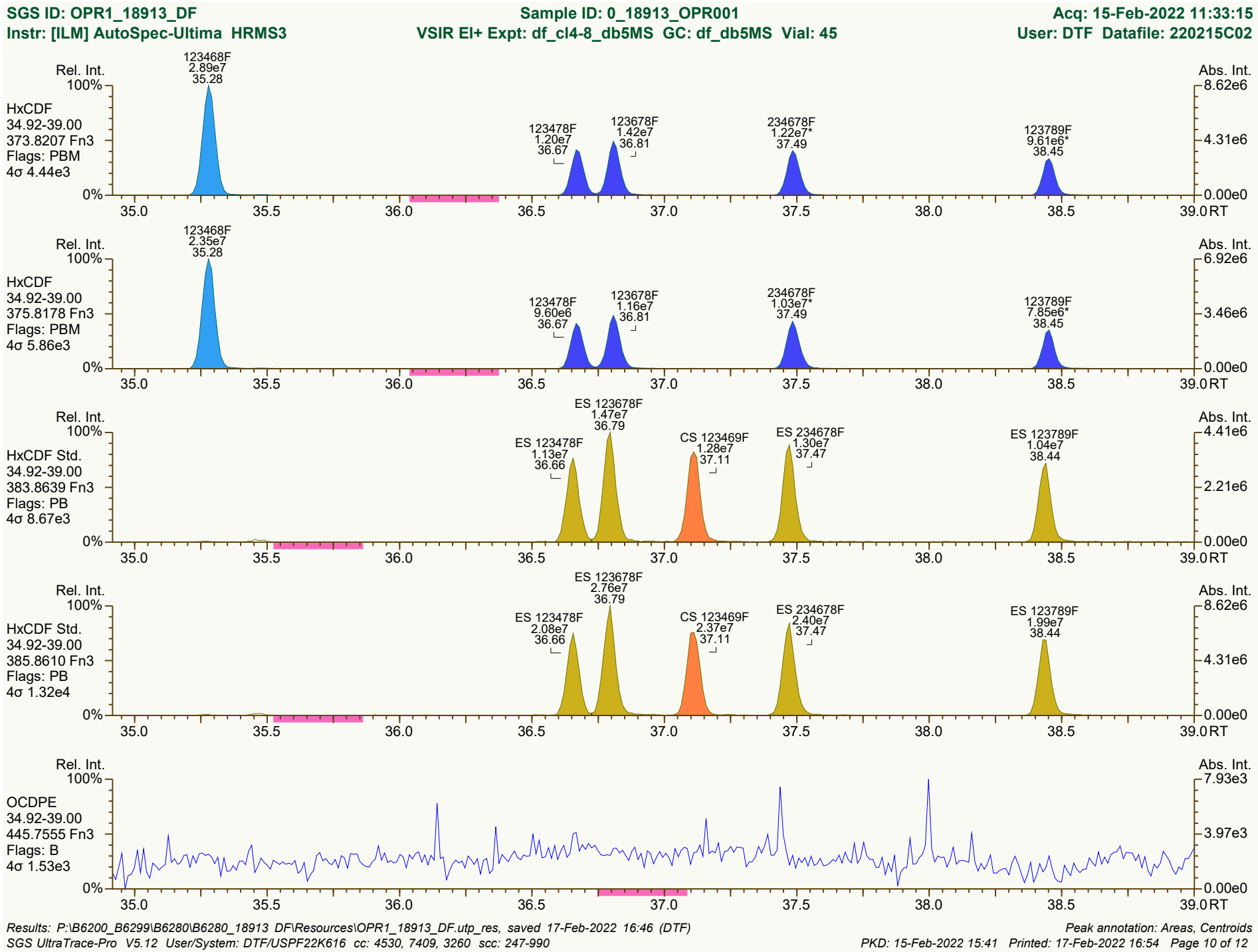
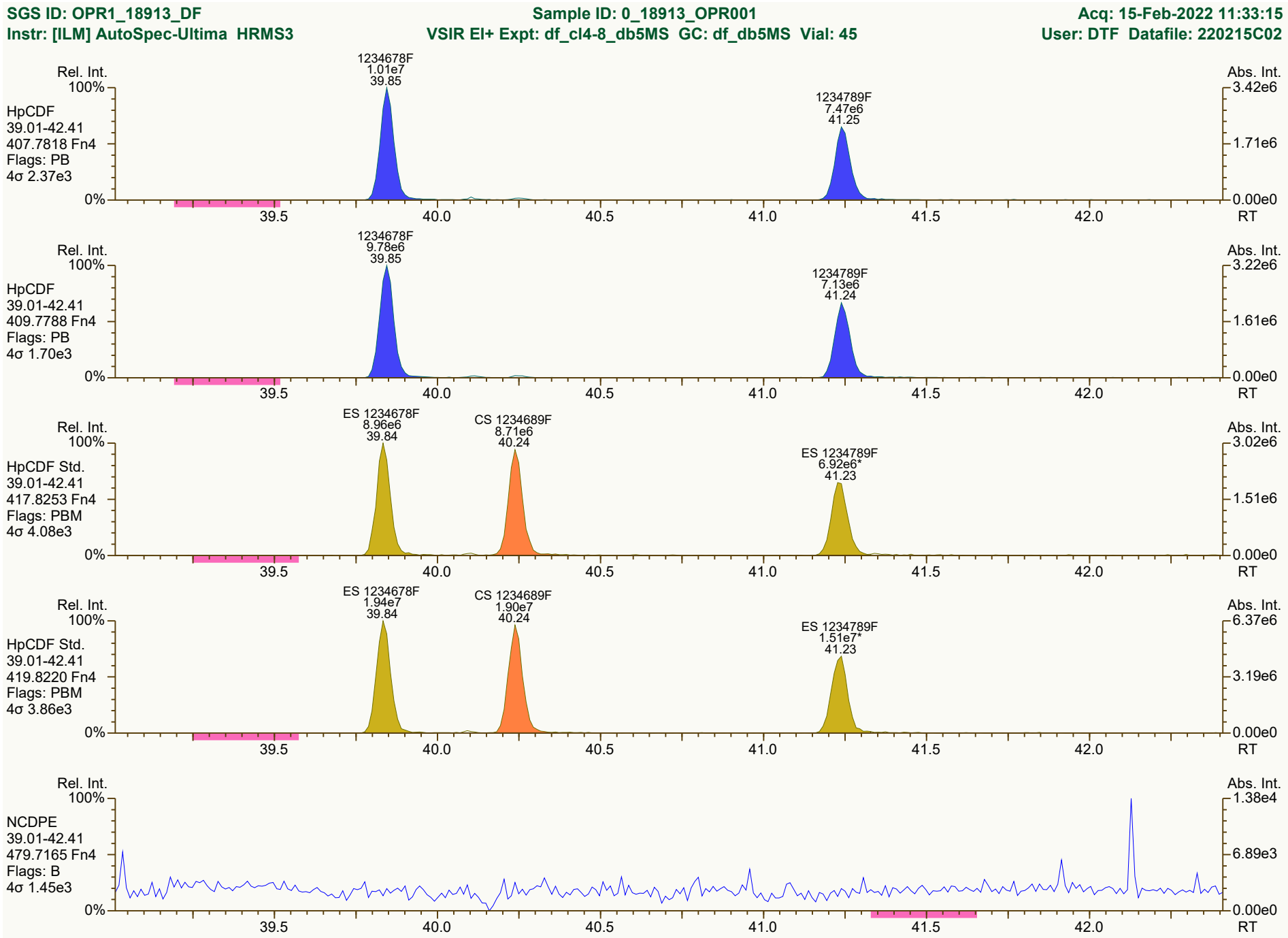
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2408, 6386, 1162 scc: 247-990
PKD: 15-Feb-2022 15:41 Printed: 17-Feb-2022 16:54 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
5.36e6
2.68e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
13468/12468F
2.24e7
29.46
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.66e3
13468/12468F
1.48e7
29.46
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.76e3
Abs. Int.
3.57e6
1.79e6
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
1.59e7
7.97e6


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PBM
4σ 3.42e3
0%
12378F
1.51e7
32.31
23478F
1.51e7*
33.42
12389F
3.33e6
34.50
Abs. Int.
4.23e6
2.11e6
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PBM
4σ 6.12e3
0%
12378F
9.90e6
32.30
23478F
9.91e6*
33.42
12389F
2.03e6
34.50
Abs. Int.
2.73e6
1.36e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 6.71e3
0%
CS 12346F
3.11e7
31.76
ES 12378F
2.99e7
32.29
ES 23478F
2.74e7
33.41
Abs. Int.
8.40e6
4.20e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 2.97e3
0%
CS 12346F
1.87e7
31.76
ES 12378F
1.86e7
32.29
ES 23478F
1.70e7
33.41
Abs. Int.
5.38e6
2.69e6
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.22e3
0%
Abs. Int.
1.03e4
5.15e3
0.00e0
RT


SGS ID: OPR1_18913_DF
Sample ID: 0_18913_OPR001
Acq: 15-Feb-2022 11:33:15
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 45
User: DTF Datafile: 220215C02
Rel. Int.
Abs. Int.
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 4.44e3
123468F
2.89e7
35.28
123478F
1.20e7
36.67
123678F
1.42e7
36.81
234678F
1.22e7*
37.49
123789F
9.61e6*
38.45
8.62e6
4.31e6
0.00e0
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 5.86e3
123468F
2.35e7
35.28
123478F
9.60e6
36.67
123678F
1.16e7
36.81
234678F
1.03e7*
37.49
123789F
7.85e6*
38.45
6.92e6
3.46e6
0.00e0
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 8.67e3
ES 123678F
1.47e7
36.79
ES 123478F
1.13e7
36.66
CS 123469F
1.28e7
37.11
ES 234678F
1.30e7
37.47
ES 123789F
1.04e7
38.44
4.41e6
2.21e6
0.00e0
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 1.32e4
ES 123678F
2.76e7
36.79
ES 123478F
2.08e7
36.66
CS 123469F
2.37e7
37.11
ES 234678F
2.40e7
37.47
ES 123789F
1.99e7
38.44
8.62e6
4.31e6
0.00e0
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.53e3
7.93e3
3.97e3
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\OPR1_18913_DF.utp_res, saved 17-Feb-2022 16:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4530, 7409, 3260 scc: 247-990
PKD: 15-Feb-2022 15:41 Printed: 17-Feb-2022 16:54 Page 10 of 12

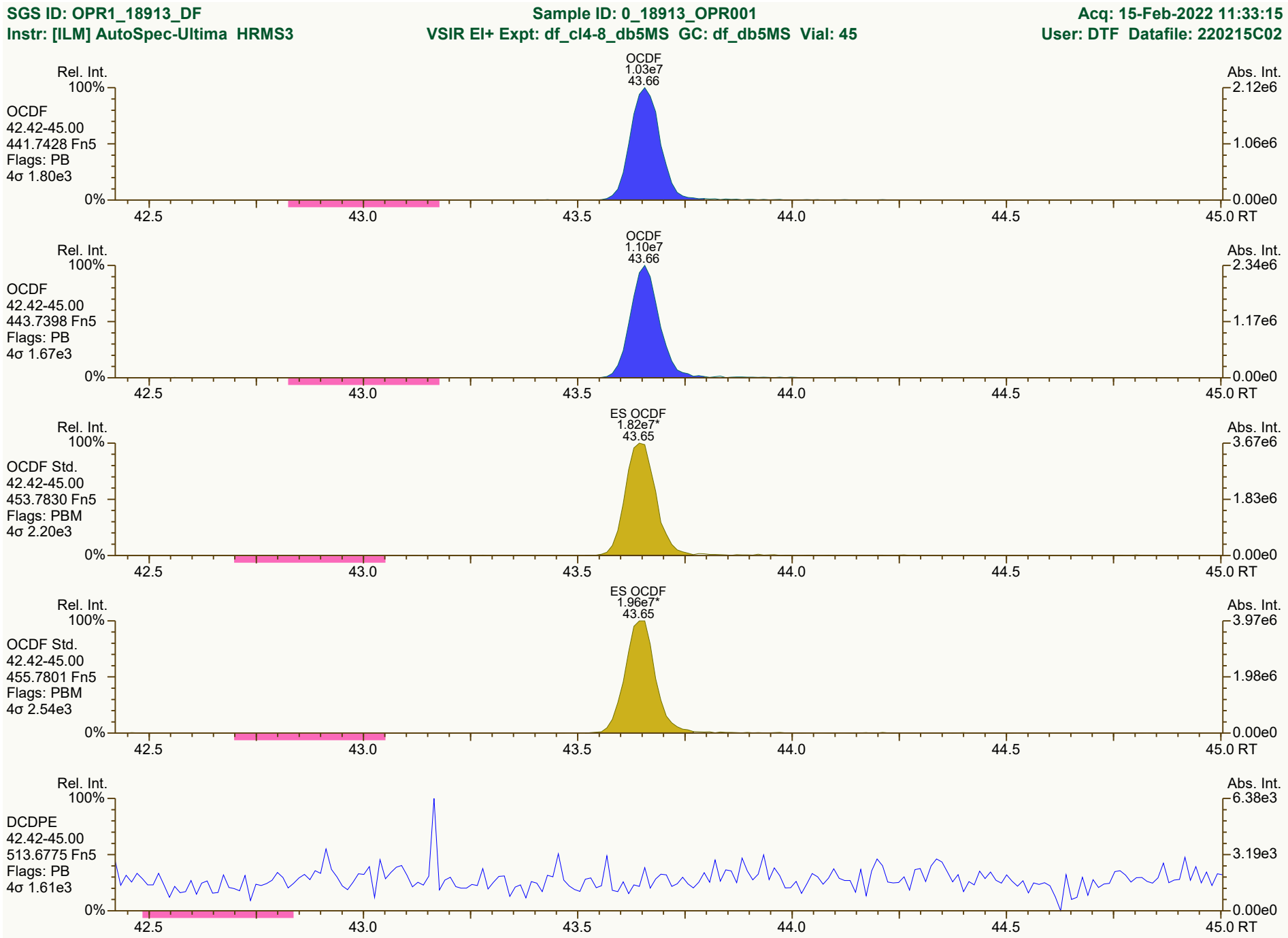


Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\OPR1_18913_DF.utp_res, saved 17-Feb-2022 16:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1679, 5020, 9556 scc: 247-990
Revised: 15-Feb-2022 15:40 (DTF) Printed: 17-Feb-2022 16:54 Page 11 of 12

SGS ID: OPR1_18913_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18913_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 45

Acq: 15-Feb-2022 11:33:15
User: DTF Datafile: 220215C02



Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\OPR1_18913_DF.utp_res, saved 17-Feb-2022 16:46 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7034, 6266, 9288 scc: 247-990

Peak annotation: Areas, Centroids
Revised: 15-Feb-2022 15:40 (DTF) Printed: 17-Feb-2022 16:54 Page 12 of 12

Lab ID: OPR2_18913_DF **Acq'd: 15 Feb 2022 12:19 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18913_OPR002 **UTP: 17-Feb-2022 16:46:11 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 443-398-HTR**

Datafile: 220215C03 **Report: 17 Feb 2022 16:48 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.37		1.0008	1.0008	0	3.87E+06	0.80	Y	1.18	12.5	5654.625	0.185
12378-PeCDD	33.75		1.0006	1.0006	0	1.42E+07	1.58	Y	1.04	52.4	4969.355	0.149
123478-HxCDD	37.67		1.0004	1.0004	0	1.40E+07	1.30	Y	1.09	57.3	3259.466	0.111
123678-HxCDD	37.79		1.0036	1.0037	+0.2	1.55E+07	1.27	Y	1.15	57.8	3259.466	0.105
123789-HxCDD	38.08		1.0115	1.0115	0	1.41E+07	1.30	Y	1.05	54.7	3259.466	0.112
1234678-HpCDD	40.78		1.0003	1.0003	0	1.27E+07	1.06	Y	1.06	57.7	3511.956	0.136
OCDD	43.49		1.0003	1.0002	-0.3	1.51E+07	0.93	Y	1.13	113	3518.807	0.316
2378-TCDF	27.51		1.0008	1.0009	+0.2	5.03E+06	0.72	Y	1.08	11.2	4549.941	0.118
12378-PeCDF	32.29		1.0005	1.0005	0	2.34E+07	1.57	Y	1.02	52.6	10072.458	0.214
23478-PeCDF	33.41		1.0006	1.0005	-0.2	2.34E+07	1.53	Y	1.02	56.3	10072.458	0.217
123478-HxCDF	36.66		1.0004	1.0005	+0.2	1.96E+07	1.24	Y	1.27	53.6	8153.461	0.192
123678-HxCDF	36.80		1.0004	1.0005	+0.2	2.33E+07	1.27	Y	1.15	52.2	8153.461	0.152
234678-HxCDF	37.48		1.0005	1.0004	-0.2	2.11E+07	1.23	Y	1.19	52.5	8153.461	0.178
123789-HxCDF	38.44		1.0004	1.0004	0	1.62E+07	1.27	Y	1.16	52	8153.461	0.214
1234678-HpCDF	39.84		1.0003	1.0003	0	1.83E+07	1.06	Y	1.37	52.4	2485.012	0.0515
1234789-HpCDF	41.24		1.0003	1.0003	0	1.34E+07	1.03	Y	1.31	54	2485.012	0.0872
OCDF	43.66		1.0002	1.0003	+0.3	1.81E+07	0.88	Y	1.07	108	3252.803	0.233

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.35	1.0239	1.0240	+0.2	2.62E+07	0.81	Y	1.05	88.3
ES 12378-PeCDD	33.73	1.2174	1.2181	+1.4	2.63E+07	1.55	Y	0.88	105
ES 123478-HxCDD	37.65	0.9917	0.9917	0	2.25E+07	1.29	Y	0.97	95.9
ES 123678-HxCDD	37.77	0.9948	0.9949	+0.2	2.34E+07	1.28	Y	0.94	103
ES 123789-HxCDD	38.07	1.0027	1.0027	0	2.46E+07	1.26	Y	1.09	93.4
ES 1234678-HpCDD	40.77	1.0738	1.0739	+0.2	2.07E+07	1.08	Y	0.91	94
ES OCDD	43.48	1.1449	1.1452	+0.8	2.37E+07	0.91	Y	0.62	78.7
ES 2378-TCDF	27.49	1.0523	1.0525	+0.3	4.15E+07	0.81	Y	1.06	81.8
ES 12378-PeCDF	32.27	1.2346	1.2355	+1.7	4.33E+07	1.53	Y	0.91	99.4
ES 23478-PeCDF	33.39	1.2774	1.2783	+1.8	4.08E+07	1.58	Y	0.88	96.5
ES 123478-HxCDF	36.64	0.9651	0.9652	+0.2	2.87E+07	0.56	Y	1.20	99.5
ES 123678-HxCDF	36.78	0.9688	0.9689	+0.2	3.86E+07	0.55	Y	1.35	119
ES 234678-HxCDF	37.46	0.9867	0.9868	+0.2	3.38E+07	0.53	Y	1.24	113
ES 123789-HxCDF	38.43	1.0121	1.0122	+0.2	2.68E+07	0.52	Y	1.16	96.3
ES 1234678-HpCDF	39.83	1.0491	1.0491	0	2.54E+07	0.47	Y	0.97	109
ES 1234789-HpCDF	41.23	1.0858	1.0859	+0.2	1.89E+07	0.48	Y	0.85	92.3
ES OCDF	43.65	1.1495	1.1497	+0.5	3.14E+07	0.94	Y	0.81	80.6

Lab ID: OPR2_18913_DF | **Acq'd:** 15 Feb 2022 12:19 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18913_OPR002 | **UTP:** 17-Feb-2022 16:46:11 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 443-398-HTR

Datafile: 220215C03 | **Report:** 17 Feb 2022 16:48 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.69		-	-	-	2.83E+07	0.83	Y	-	-
JS 1234-TCDF	26.12		-	-	-	4.79E+07	0.81	Y	-	-
JS 123467-HxCDD	37.96		-	-	-	1.20E+07	1.28	Y	-	-
CS 37Cl-2378-TCDD	28.37		1.0247	1.0248	+0.2	1.31E+07	n/a	-	1.20	96.3
CS 12347-PeCDD	33.22		1.1993	1.1999	+1.2	2.52E+07	1.63	Y	0.75	118
CS 12346-PeCDF	31.74		1.2144	1.2151	+1.3	4.59E+07	1.57	Y	0.85	113
CS 123469-HxCDF	37.10		0.9772	0.9772	0	3.23E+07	0.54	Y	1.12	120
CS 1234689-HpCDF	40.23		1.0597	1.0598	+0.2	2.43E+07	0.48	Y	0.89	114
~~SS 37Cl-2378-TCDD~~	~~28.37~~		~~1.0247~~	~~1.0248~~	~~+0.2~~	~~1.31E+07~~	~~n/a~~		~~1.15~~	~~109~~
~~SS 12347-PeCDD~~	~~33.22~~		~~1.1993~~	~~1.1999~~	~~+1.2~~	~~2.52E+07~~	~~1.63~~	~~Y~~	~~0.86~~	~~112~~
~~SS 12346-PeCDF~~	~~31.74~~		~~1.2144~~	~~1.2151~~	~~+1.3~~	~~4.59E+07~~	~~1.57~~	~~Y~~	~~0.94~~	~~113~~
~~SS 123469-HxCDF~~	~~37.10~~		~~0.9772~~	~~0.9772~~	~~0~~	~~3.23E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~101~~
~~SS 1234689-HpCDF~~	~~40.23~~		~~1.0597~~	~~1.0598~~	~~+0.2~~	~~2.43E+07~~	~~0.48~~	~~Y~~	~~0.92~~	~~104~~

Totals	Conc	EMPC
Total TCDD	57.1	57.1
Total PeCDD	80.7	80.7
Total HxCDD	187	187
Total HpCDD	72.5	72.5
Total Tetra-Octa Dioxins	511	511
Total TCDF	66	66
Total PeCDF	200	200
Total HxCDF	331	331
Total HpCDF	106	106
Total Tetra-Octa Furans	812	812
Total Tetra-Octa Dioxins & Furans	1320	1320

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.799	0.80
Response	3.88E+06	3.87E+06

Lab ID: OPR2_18913_DF **Acq'd: 15 Feb 2022 12:19 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18913_OPR002 **UTP: 17-Feb-2022 16:46:11 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 443-398-HTR**

Datafile: 220215C03 **Report: 17 Feb 2022 16:48 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.71		0.8719	0.8715	-0.6	5.04E+06	0.78	Y	1.18	16.2	5654.625	0.185
1379-TCDD	NotFnd		0.8845						1.18		5654.625	0.185
1369-TCDD	NotFnd		0.8996						1.18		5654.625	0.185
1469-TCDD	NotFnd		0.9271						1.18		5654.625	0.185
1247/1246/1248/1249-TCDD	NotFnd		0.9357						1.18		5654.625	0.185
1378-TCDD	NotFnd		0.9425						1.18		5654.625	0.185
1268-TCDD	NotFnd		0.9494						1.18		5654.625	0.185
1478-TCDD	NotFnd		0.9581						1.18		5654.625	0.185
1279-TCDD	NotFnd		0.9640						1.18		5654.625	0.185
1234/1269-TCDD	NotFnd		0.9765						1.18		5654.625	0.185
1236-TCDD	NotFnd		0.9816						1.18		5654.625	0.185
1237/1238-TCDD	NotFnd		0.9906						1.18		5654.625	0.185
1239-TCDD	28.22		0.9952	0.9952	0	3.57E+06	0.76	Y	1.18	11.5	5654.625	0.185
2378-TCDD	**28.37**		**1.0008**	1.0008	**0**	3.87E+06	0.80	Y	**1.18**	**12.5**	**5654.625**	**0.185**
1278-TCDD	NotFnd		1.0123						1.18		5654.625	0.185
1267-TCDD	NotFnd		1.0170						1.18		5654.625	0.185
1289-TCDD	29.35		1.0351	1.0352	+0.2	5.22E+06	0.80	Y	1.18	16.8	5654.625	0.185
12479/12468-PeCDD	31.23		0.9261	0.9260	-0.2	3.82E+06	1.60	Y	1.04	14.1	4969.355	0.149
12469-PeCDD	NotFnd		0.9420						1.04		4969.355	0.149
12368-PeCDD	NotFnd		0.9584						1.04		4969.355	0.149
12478-PeCDD	NotFnd		0.9641						1.04		4969.355	0.149
12379-PeCDD	NotFnd		0.9670						1.04		4969.355	0.149
12369/12467/12489-PeCDD	NotFnd		0.9747						1.04		4969.355	0.149
12346/12347-PeCDD	NotFnd		0.9857						1.04		4969.355	0.149
12378-PeCDD	33.75		**1.0006**	**1.0006**	**0**	**1.42E+07**	**1.58**	**Y**	**1.04**	**52.4**	**4969.355**	**0.149**
12367-PeCDD	NotFnd		1.0034						1.04		4969.355	0.149
12389-PeCDD	34.19		1.0136	1.0137	+0.2	3.89E+06	1.62	Y	1.04	14.3	4969.355	0.149
124679/124689-HxCDD	35.92		0.9540	0.9541	+0.2	4.54E+06	1.37	Y	1.10	17.6	3259.466	0.109
123468-HxCDD	NotFnd		0.9714						1.10		3259.466	0.109
123679/123689-HxCDD	NotFnd		0.9792						1.10		3259.466	0.109
123469-HxCDD	NotFnd		0.9828						1.10		3259.466	0.109
123478-HxCDD	37.67		**1.0004**	**1.0004**	**0**	**1.40E+07**	**1.30**	**Y**	1.09	**57.3**	**3259.466**	**0.111**
123678-HxCDD	37.79		**1.0036**	**1.0037**	**+0.2**	**1.55E+07**	**1.27**	**Y**	1.15	**57.8**	**3259.466**	**0.105**
123467-HxCDD	NotFnd		1.0087						1.10		3259.466	0.109
123789-HxCDD	38.08		**1.0115**	**1.0115**	**0**	**1.41E+07**	**1.30**	**Y**	1.05	**54.7**	**3259.466**	**0.112**

Lab ID: OPR2_18913_DF **Acq'd: 15 Feb 2022 12:19 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18913_OPR002 **UTP: 17-Feb-2022 16:46:11 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 443-398-HTR**

Datafile: 220215C03 **Report: 17 Feb 2022 16:48 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.10		0.9836	0.9836	0	3.24E+06	1.05	Y	1.06	14.8	3511.956	0.136
1234678-HpCDD	**40.78**		**1.0003**	**1.0003**	**0**	**1.27E+07**	**1.06**	**Y**	**1.06**	**57.7**	**3511.956**	**0.136**
OCDD	**43.49**		**1.0003**	**1.0002**	**-0.3**	**1.51E+07**	**0.93**	**Y**	**1.13**	**113**	**3518.807**	**0.316**
OCDD-a	43.48		1.0002	1.0002	0	9.82E+05	2.84	Y	0.07	115	3261.774	4.58
1368-TCDF	22.59		0.8222	0.8216	-0.8	7.29E+06	0.79	Y	1.08	16.3	4549.941	0.118
1468-TCDF	NotFnd		0.8434						1.08		4549.941	0.118
2468-TCDF	23.81		0.8666	0.8662	-0.6	1.75E+06	0.79	Y	1.08	3.92	4549.941	0.118
1346/1246-TCDF	NotFnd		0.8789						1.08		4549.941	0.118
1347/1378/1247-TCDF	NotFnd		0.8848						1.08		4549.941	0.118
1348-TCDF	NotFnd		0.8947						1.08		4549.941	0.118
1248/1367/1379-TCDF	NotFnd		0.8995						1.08		4549.941	0.118
1268-TCDF	NotFnd		0.9131						1.08		4549.941	0.118
1467-TCDF	NotFnd		0.9181						1.08		4549.941	0.118
1478-TCDF	NotFnd		0.9244						1.08		4549.941	0.118
1369/1237-TCDF	NotFnd		0.9379						1.08		4549.941	0.118
2467-TCDF	NotFnd		0.9425						1.08		4549.941	0.118
2368-TCDF	NotFnd		0.9483						1.08		4549.941	0.118
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9514						1.08		4549.941	0.118
1278-TCDF	NotFnd		0.9681						1.08		4549.941	0.118
1349-TCDF	NotFnd		0.9722						1.08		4549.941	0.118
1267-TCDF	NotFnd		0.9780						1.08		4549.941	0.118
2346/1249-TCDF	NotFnd		0.9845						1.08		4549.941	0.118
2347/1279-TCDF	NotFnd		0.9927						1.08		4549.941	0.118
2348-TCDF	27.40		0.9970	0.9969	-0.2	7.21E+06	0.80	Y	1.08	16.1	4549.941	0.118
2378-TCDF	**27.51**		**1.0008**	**1.0009**	**+0.2**	**5.03E+06**	**0.72**	**Y**	**1.08**	**11.2**	**4549.941**	**0.118**
2367/3467-TCDF	NotFnd		1.0140						1.08		4549.941	0.118
1269-TCDF	NotFnd		1.0226						1.08		4549.941	0.118
1239-TCDF	NotFnd		1.0325						1.08		4549.941	0.118
1289-TCDF	29.52		1.0732	1.0738	+1.1	8.25E+06	0.79	Y	1.08	18.4	4549.941	0.118
13468/12468-PeCDF	29.44		0.9130	0.9123	-1.2	3.43E+07	1.53	Y	1.02	79.7	2903.155	0.0622
13678/13467/12467-PeCDF	NotFnd		0.9610						1.02		10072.458	0.216
12368/13478/12478-PeCDF	NotFnd		0.9658						1.02		10072.458	0.216
14678-PeCDF	NotFnd		0.9688						1.02		10072.458	0.216
13479-PeCDF	NotFnd		0.9719						1.02		10072.458	0.216
13469/12479-PeCDF	NotFnd		0.9797						1.02		10072.458	0.216
12346-PeCDF	NotFnd		0.9841						1.02		10072.458	0.216

Lab ID: OPR2_18913_DF | **Acq'd: 15 Feb 2022 12:19 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18913_OPR002 | **UTP: 17-Feb-2022 16:46:11 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 443-398-HTR**

Datafile: 220215C03 | **Report: 17 Feb 2022 16:48 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9867						1.02		10072.458	0.216
12347-PeCDF	NotFnd		0.9892						1.02		10072.458	0.216
12348-PeCDF	NotFnd		0.9940						1.02		10072.458	0.216
12378-PeCDF	**32.29**		**1.0005**	**1.0005**	**0**	**2.34E+07**	**1.57**	**Y**	**1.02**	**52.6**	**10072.458**	**0.214**
12678/12367-PeCDF	NotFnd		1.0091						1.02		10072.458	0.216
12379-PeCDF	NotFnd		1.0144						1.02		10072.458	0.216
12679-PeCDF	NotFnd		0.9928						1.02		10072.458	0.216
23467/12369-PeCDF	NotFnd		0.9966						1.02		10072.458	0.216
23478-PeCDF	**33.41**		**1.0006**	**1.0005**	**-0.2**	**2.34E+07**	**1.53**	**Y**	**1.02**	**56.3**	**10072.458**	**0.217**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		10072.458	0.216
12349-PeCDF	NotFnd		1.0101						1.02		10072.458	0.216
12389-PeCDF	34.48		1.0327	1.0328	+0.2	4.94E+06	1.57	Y	1.02	11.5	10072.458	0.216
123468-HxCDF	35.27		0.9624	0.9625	+0.2	4.62E+07	1.25	Y	1.19	121	8153.461	0.181
124678/134678-HxCDF	NotFnd		0.9679						1.19		8153.461	0.181
134679-HxCDF	NotFnd		0.9741						1.19		8153.461	0.181
124679-HxCDF	NotFnd		0.9796						1.19		8153.461	0.181
124689-HxCDF	NotFnd		0.9856						1.19		8153.461	0.181
123467-HxCDF	NotFnd		0.9972						1.19		8153.461	0.181
123478-HxCDF	**36.66**		**1.0004**	**1.0005**	**+0.2**	**1.96E+07**	**1.24**	**Y**	**1.27**	**53.6**	**8153.461**	**0.192**
123678-HxCDF	**36.80**		**1.0004**	**1.0005**	**+0.2**	**2.33E+07**	**1.27**	**Y**	**1.15**	**52.2**	**8153.461**	**0.152**
123479-HxCDF	NotFnd		1.0049						1.19		8153.461	0.181
123469-HxCDF	NotFnd		1.0090						1.19		8153.461	0.181
123679-HxCDF	NotFnd		0.9942						1.19		8153.461	0.181
234678-HxCDF	**37.48**		**1.0005**	**1.0004**	**-0.2**	**2.11E+07**	**1.23**	**Y**	**1.19**	**52.5**	**8153.461**	**0.178**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		8153.461	0.181
123789-HxCDF	**38.44**		**1.0004**	**1.0004**	**0**	**1.62E+07**	**1.27**	**Y**	**1.16**	**52**	**8153.461**	**0.214**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0007						1.19		8153.461	0.181
1234678-HpCDF	**39.84**		**1.0003**	**1.0003**	**0**	**1.83E+07**	**1.06**	**Y**	**1.37**	**52.4**	**2485.012**	**0.0515**
1234679-HpCDF	NotFnd		1.0069						1.34		2485.012	0.0666
1234689-HpCDF	NotFnd		1.0104						1.34		2485.012	0.0666
1234789-HpCDF	**41.24**		**1.0003**	**1.0003**	**0**	**1.34E+07**	**1.03**	**Y**	**1.31**	**54**	**2485.012**	**0.0872**
OCDF	**43.66**		**1.0002**	**1.0003**	**+0.3**	**1.81E+07**	**0.88**	**Y**	**1.07**	**108**	**3252.803**	**0.233**
OCDF-a	43.65		1.0002	1.0001	-0.3	1.12E+06	2.84	Y	0.07	107	4074.167	4.7

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220215C03	Analysis Date:	15-FEB-2022 12:19:29
Lab ID:	OPR2_18913_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	12.5	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	52.4	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	57.3	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	57.8	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	54.7	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	57.7	35	-	70	Y
OCDD	100	113	78	-	144	Y
2,3,7,8-TCDF	10	11.2	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	52.6	40	-	67	Y
2,3,4,7,8-PeCDF	50	56.3	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	53.6	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	52.2	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	52.5	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	52	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	52.4	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	54	39	-	69	Y
OCDF	100	108	63	-	170	Y

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

Processed: 17 Feb 2022 16:48 Analyst: TF

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

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

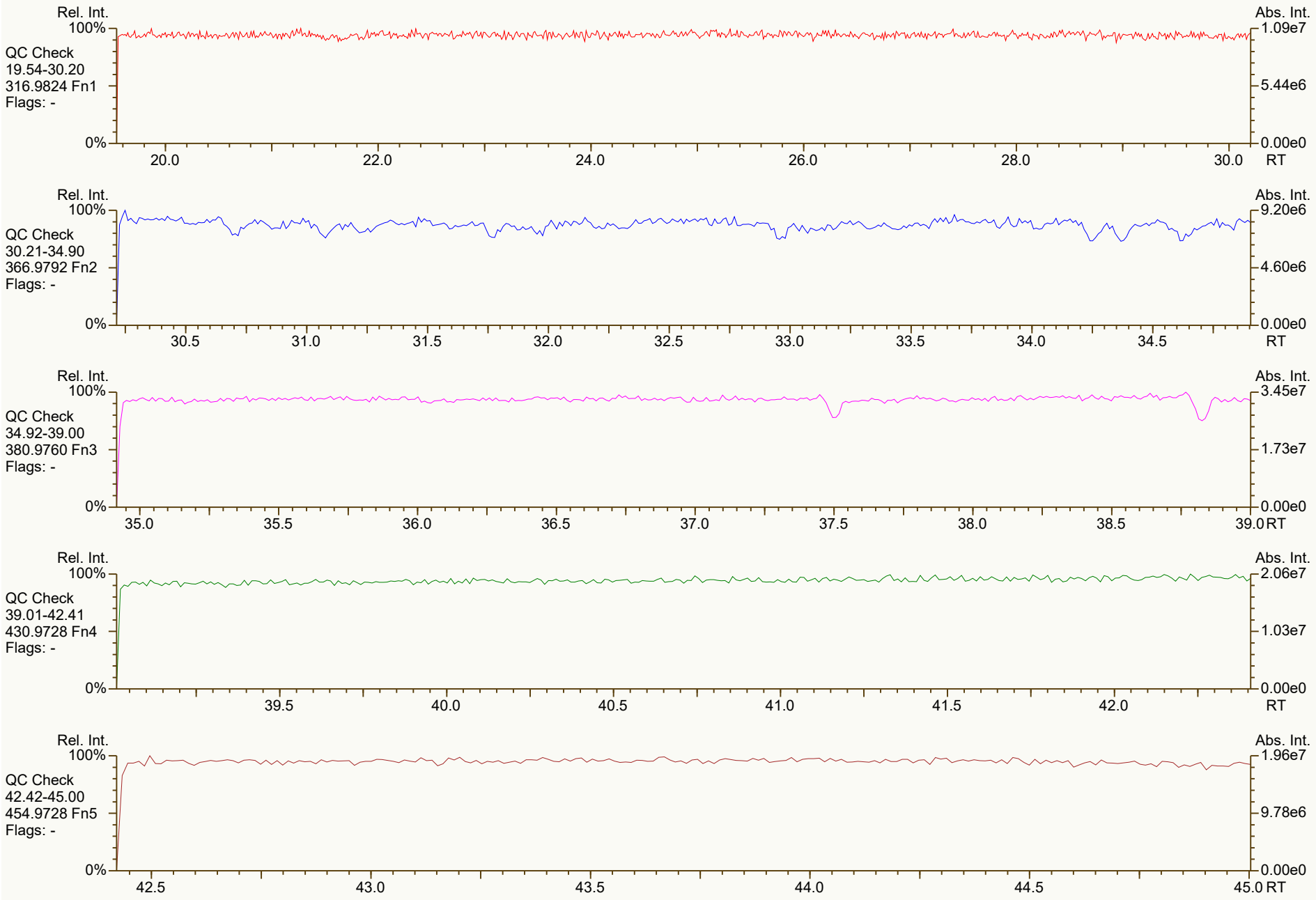
VER Data Filename: 220215C03 Analysis Date: 15-FEB-2022 12:19:29

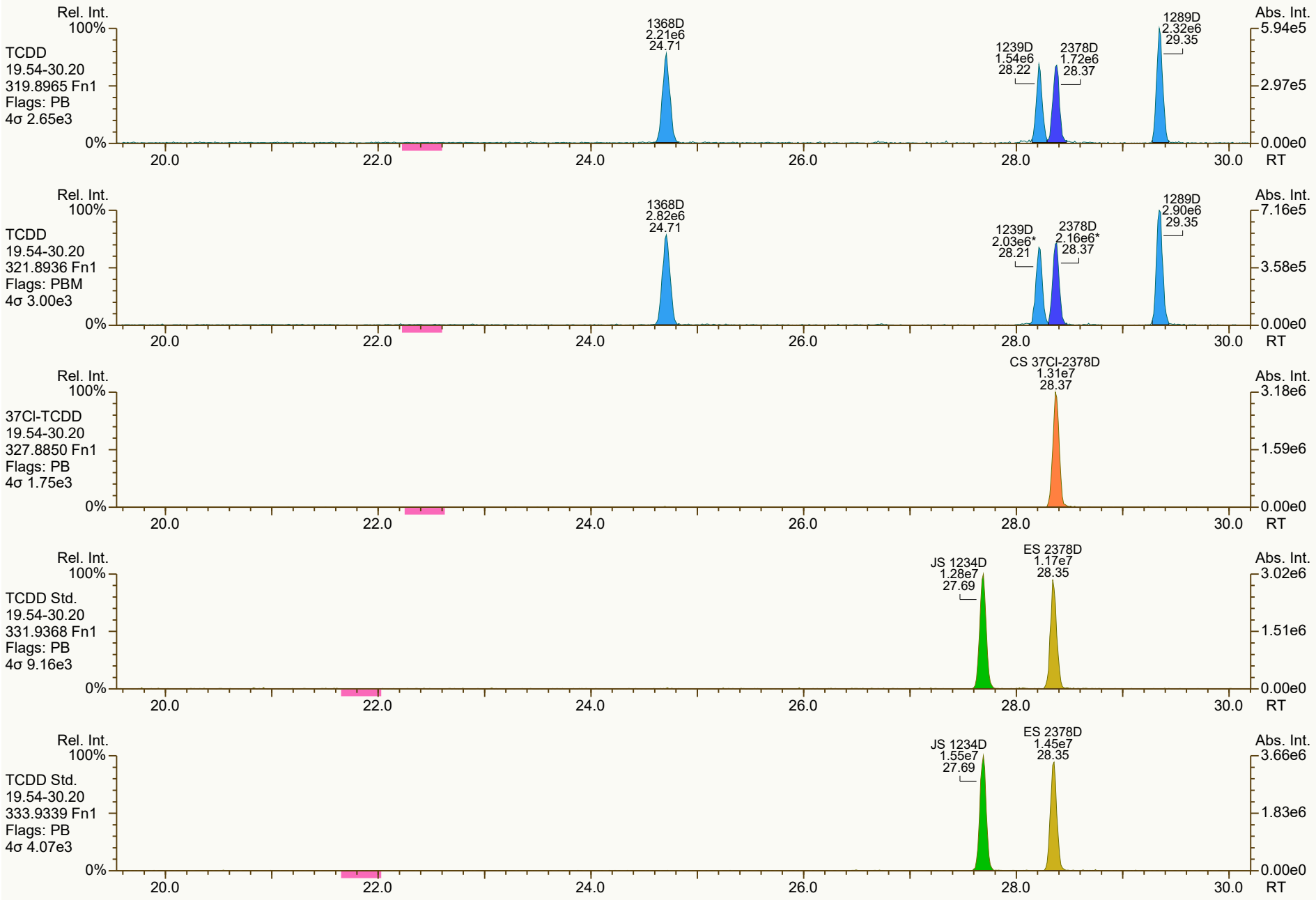
Lab ID: OPR2_18913_DF

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	88.3	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	105	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	95.9	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	103	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	93.4	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	94	26	-	166	Y
13C-OCDD	200	157	26	-	397	Y
13C-2,3,7,8-TCDF	100	81.8	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	99.4	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	96.5	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	99.5	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	119	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	113	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	96.3	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	109	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	92.3	20	-	186	Y
13C-OCDF	200	161	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	38.5	12.4	-	76.4	Y

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

Processed: 17 Feb 2022 16:48 Analyst: TF


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.09e7
5.44e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
9.20e6
4.60e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
3.45e7
1.73e7
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
2.06e7
1.03e7
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.96e7
9.78e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.65e3
0%
1368D
2.21e6
24.71
1239D
1.54e6
28.22
2378D
1.72e6
28.37
1289D
2.32e6
29.35
Abs. Int.
5.94e5
2.97e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 3.00e3
0%
1368D
2.82e6
24.71
1239D
2.03e6*
28.21
2378D
2.16e6*
28.37
1289D
2.90e6
29.35
Abs. Int.
7.16e5
3.58e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.75e3
0%
CS 37Cl-2378D
1.31e7
28.37
Abs. Int.
3.18e6
1.59e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 9.16e3
0%
JS 1234D
1.28e7
27.69
ES 2378D
1.17e7
28.35
Abs. Int.
3.02e6
1.51e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.07e3
0%
JS 1234D
1.55e7
27.69
ES 2378D
1.45e7
28.35
Abs. Int.
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1.83e6
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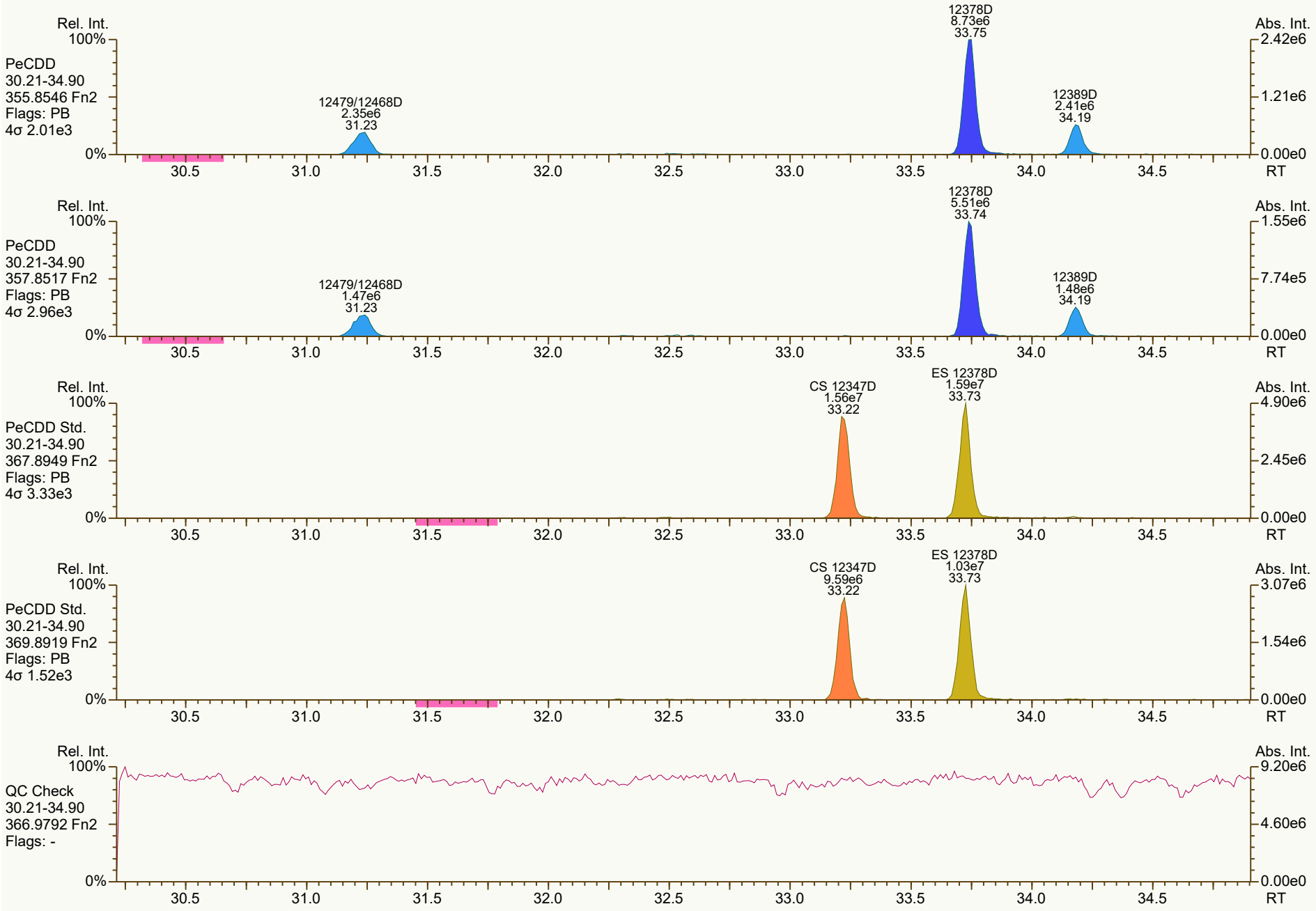
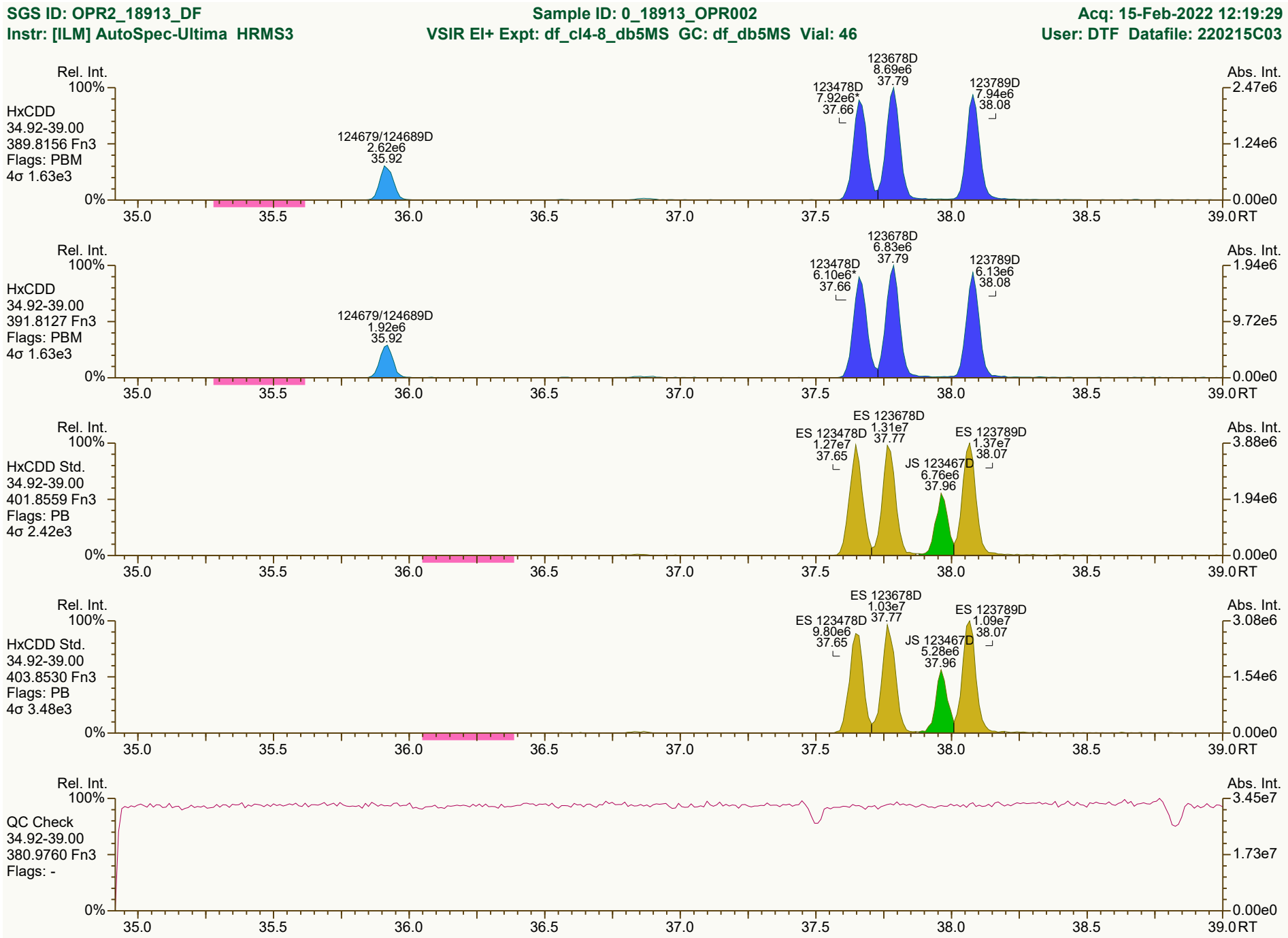
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PB
4σ 2.01e3
12479/12468D
2.35e6
31.23
12378D
8.73e6
33.75
12389D
2.41e6
34.19
Abs. Int.
2.42e6
1.21e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 2.96e3
12479/12468D
1.47e6
31.23
12378D
5.51e6
33.74
12389D
1.48e6
34.19
Abs. Int.
1.55e6
7.74e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 3.33e3
CS 12347D
1.56e7
33.22
ES 12378D
1.59e7
33.73
Abs. Int.
4.90e6
2.45e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.52e3
CS 12347D
9.59e6
33.22
ES 12378D
1.03e7
33.73
Abs. Int.
3.07e6
1.54e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
Abs. Int.
9.20e6
4.60e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT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Sample ID: 0_18913_OPR002
Acq: 15-Feb-2022 12:19:29
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46
User: DTF Datafile: 220215C03
Rel. Int.
Abs. Int.
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 1.63e3
124679/124689D
2.62e6
35.92
123478D
7.92e6*
37.66
123678D
8.69e6
37.79
123789D
7.94e6
38.08
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 1.63e3
124679/124689D
1.92e6
35.92
123478D
6.10e6*
37.66
123678D
6.83e6
37.79
123789D
6.13e6
38.08
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 2.42e3
ES 123478D
1.27e7
37.65
ES 123678D
1.31e7
37.77
JS 123467D
6.76e6
37.96
ES 123789D
1.37e7
38.07
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 3.48e3
ES 123478D
9.80e6
37.65
ES 123678D
1.03e7
37.77
JS 123467D
5.28e6
37.96
ES 123789D
1.09e7
38.07
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
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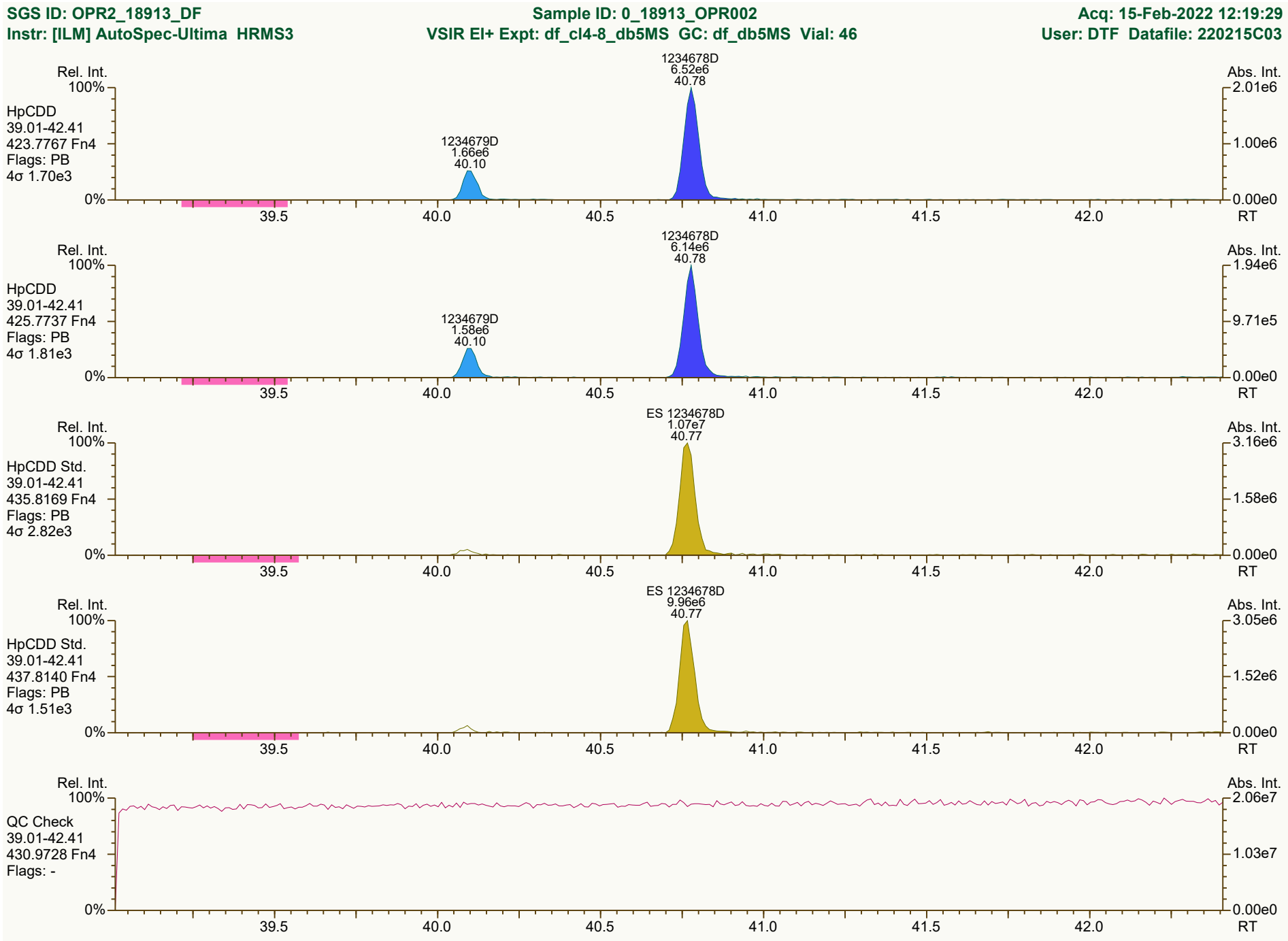
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7623, 1066 scc: 443-398
PKD: 15-Feb-2022 15:43 Printed: 17-Feb-2022 16:54 Page 4 of 12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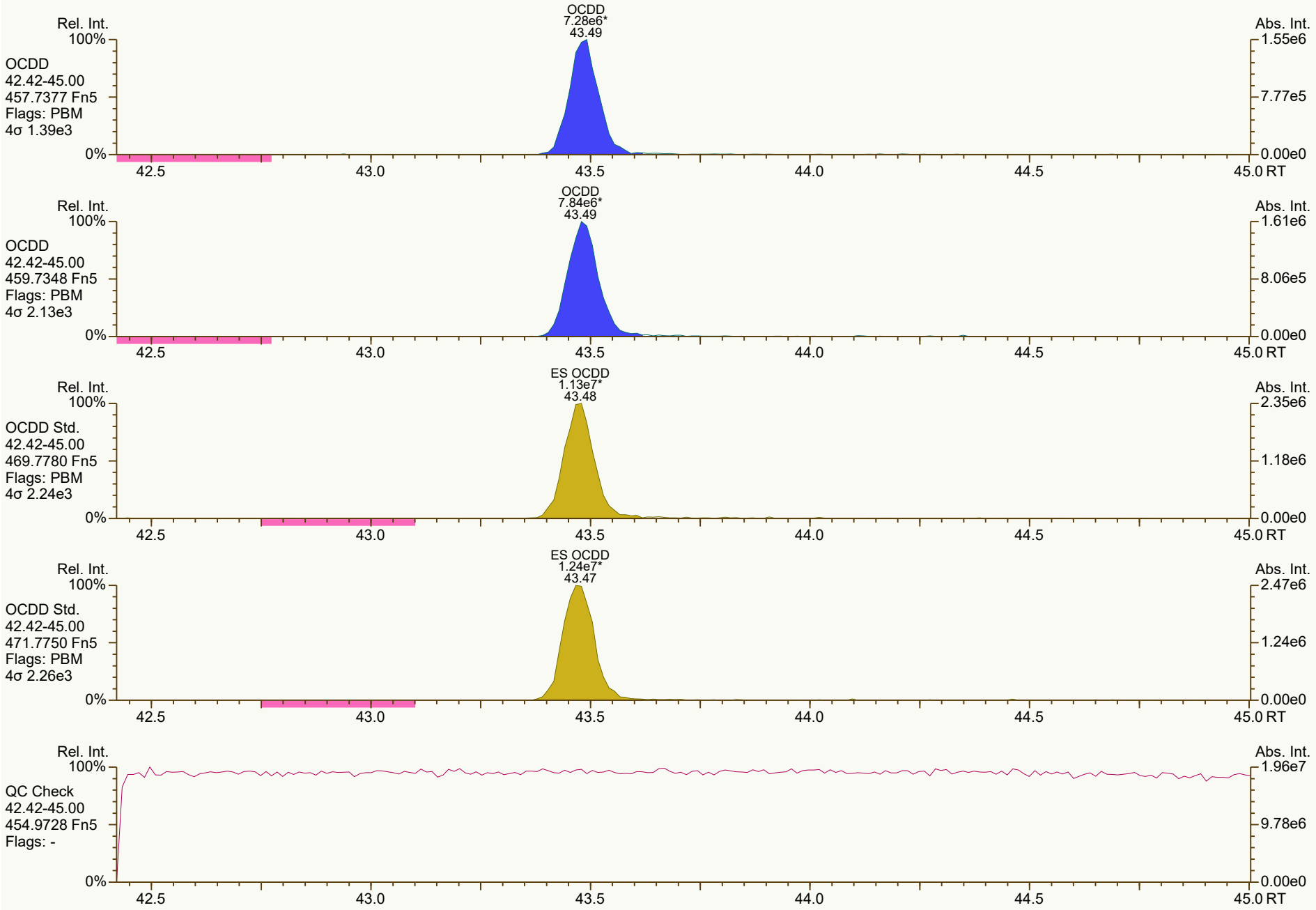
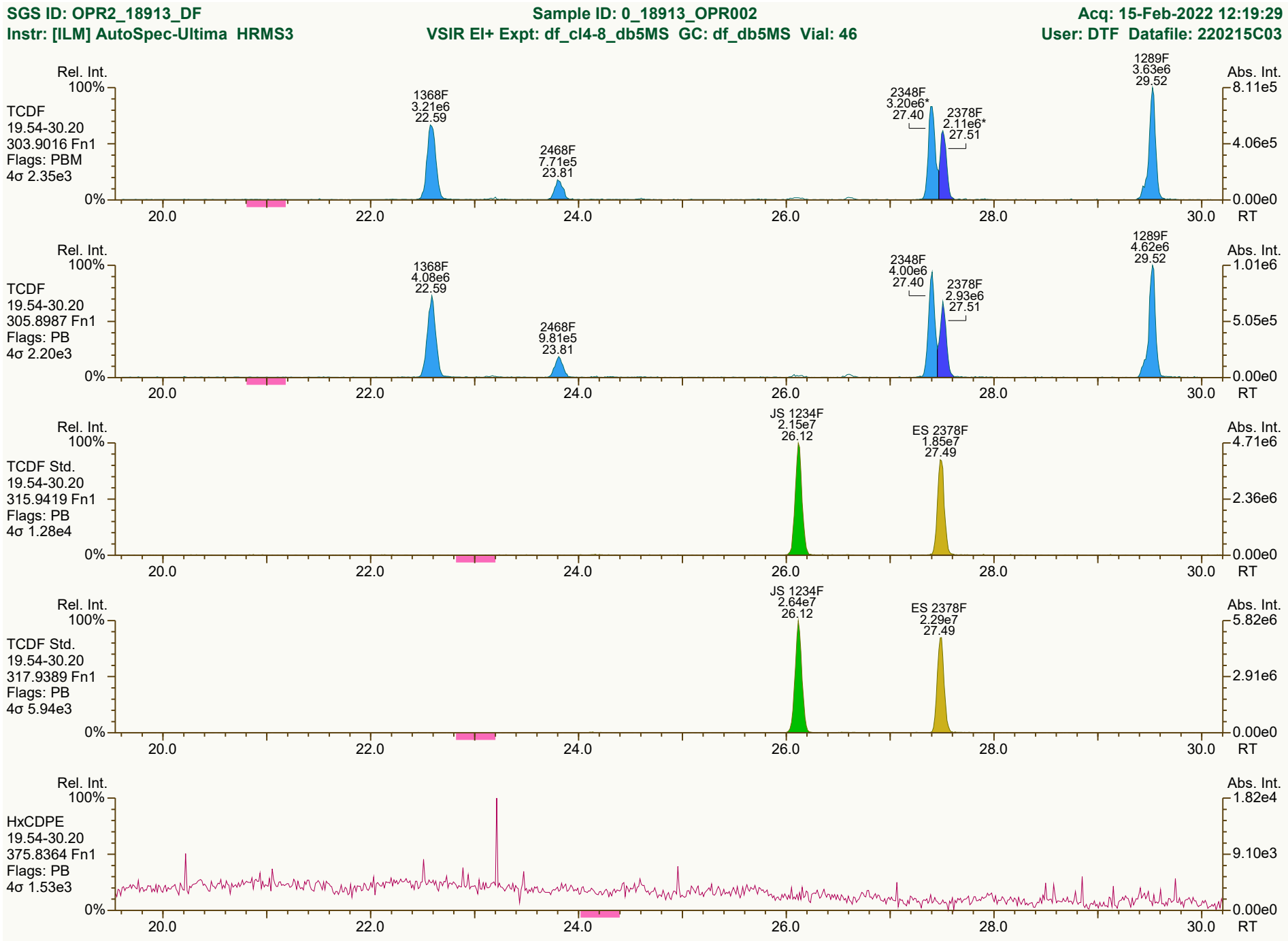
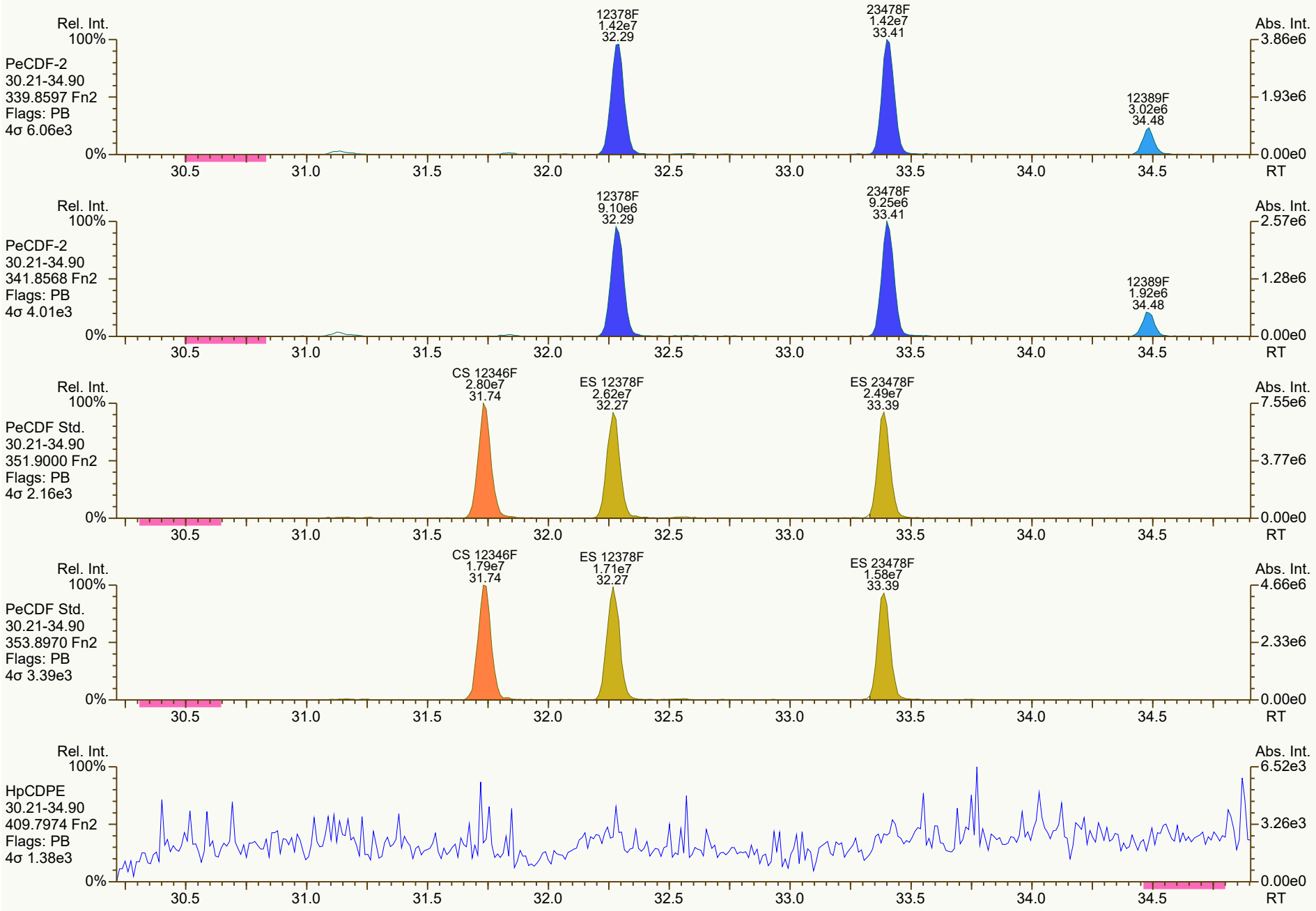
Sample ID: 0_18913_OPR002
Acq: 15-Feb-2022 12:19:29
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46
User: DTF Datafile: 220215C03
Rel. Int.
Abs. Int.
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 1.70e3
1234678D
6.52e6
40.78
1234679D
1.66e6
40.10
2.01e6
1.00e6
0.00e0
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.81e3
1234678D
6.14e6
40.78
1234679D
1.58e6
40.10
1.94e6
9.71e5
0.00e0
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.82e3
ES 1234678D
1.07e7
40.77
3.16e6
1.58e6
0.00e0
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.51e3
ES 1234678D
9.96e6
40.77
3.05e6
1.52e6
0.00e0
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
2.06e7
1.03e7
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\OPR2_18913_DF.utp_res, saved 17-Feb-2022 16:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5819, 3074 scc: 443-398
Revised: 15-Feb-2022 15:41 (DTF) Printed: 17-Feb-2022 16:55 Page 5 of 12

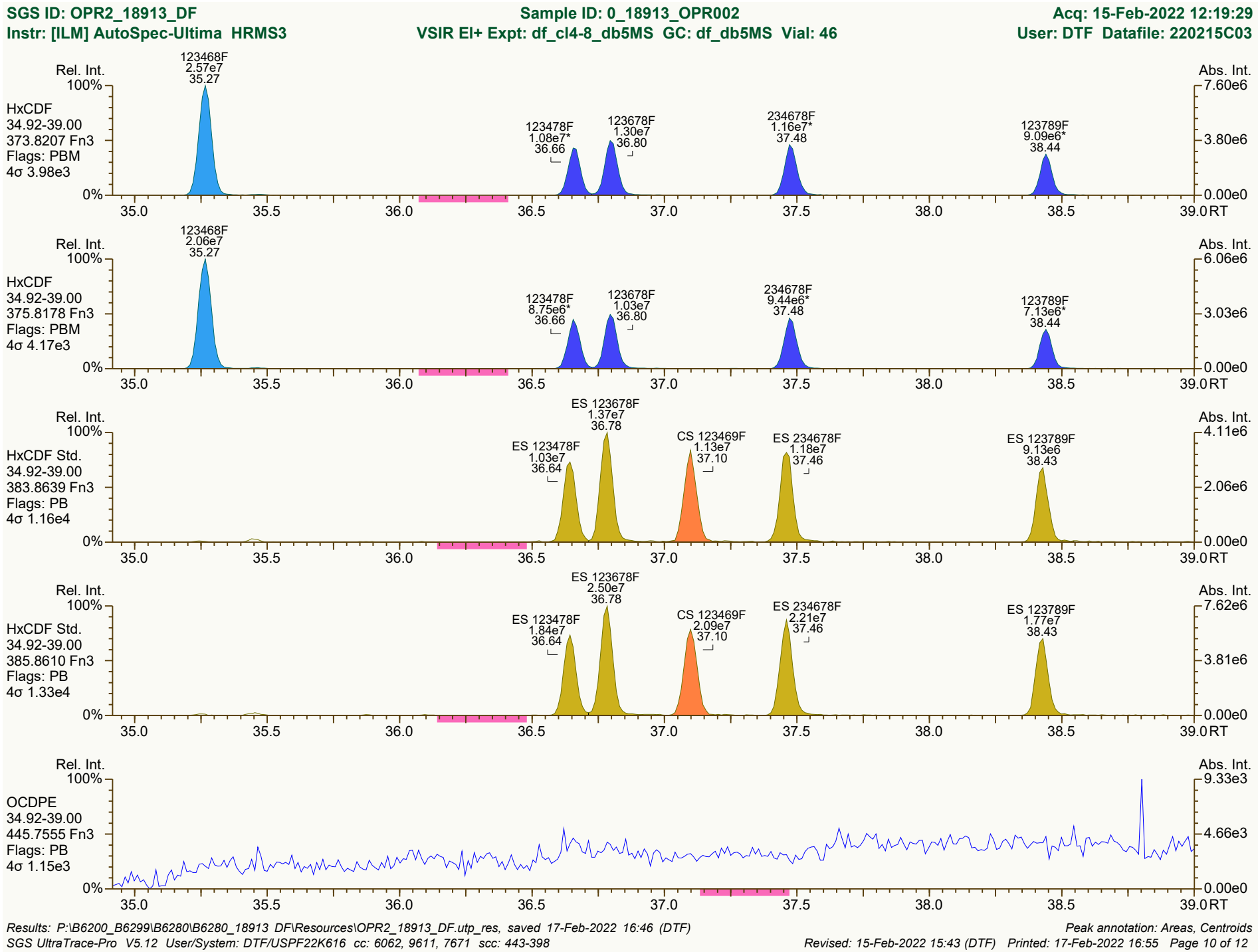

OCDD
7.28e6*
43.49
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.39e3
0%
Abs. Int.
1.55e6
7.77e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
7.84e6*
43.49
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 2.13e3
1.61e6
8.06e5
ES OCDD
1.13e7*
43.48
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 2.24e3
2.35e6
1.18e6
ES OCDD
1.24e7*
43.47
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 2.26e3
2.47e6
1.24e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
1.96e7
9.78e6

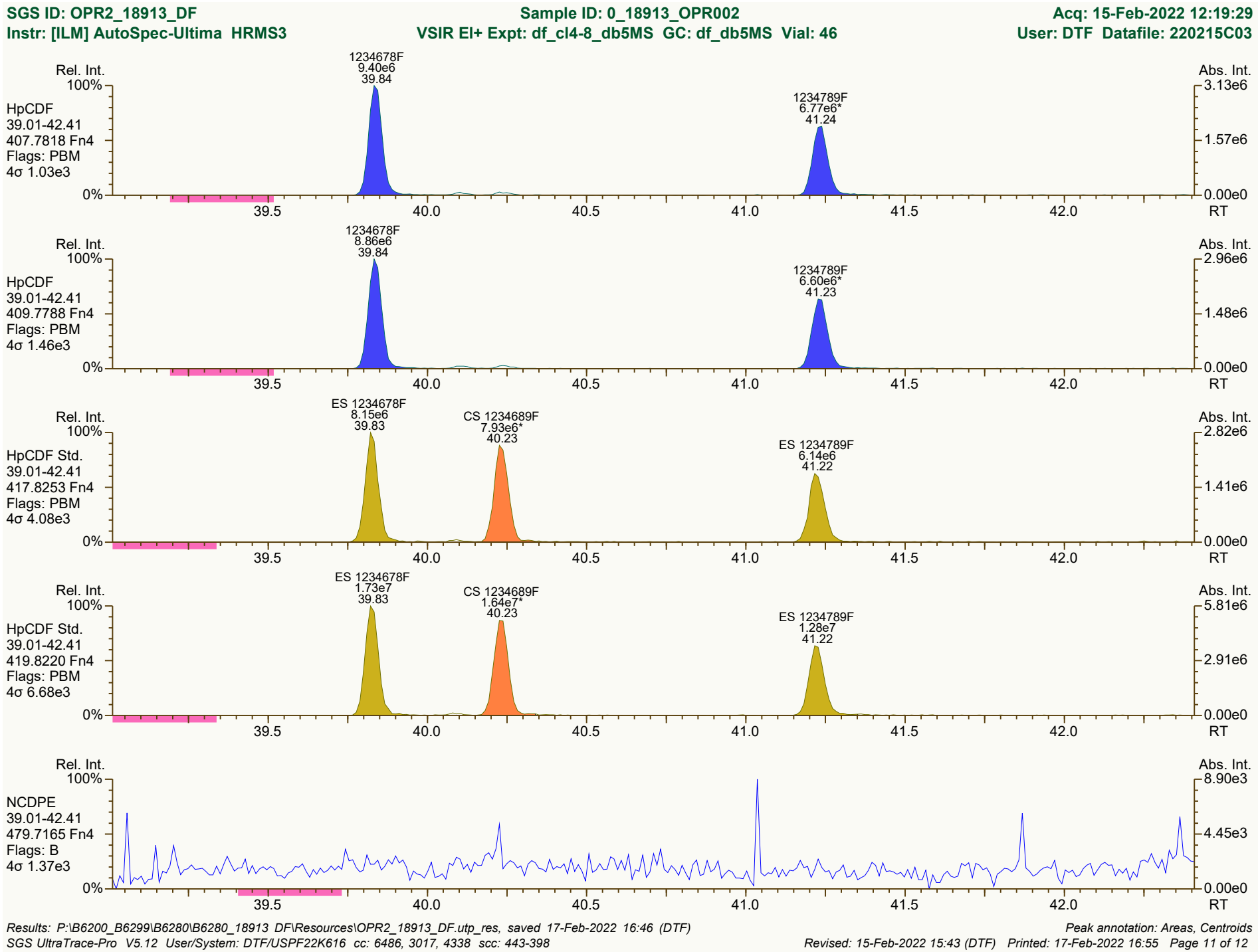


Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\OPR2_18913_DF.utp_res, saved 17-Feb-2022 16:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6168, 4933, 5567 scc: 443-398
PKD: 15-Feb-2022 15:43 Printed: 17-Feb-2022 16:55 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.55e3
13468/12468F
2.07e7
29.44
Abs. Int.
5.06e6
2.53e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.35e3
13468/12468F
1.35e7
29.44
Abs. Int.
3.37e6
1.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
1.09e7
5.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PB
4σ 6.06e3
0%
12378F
1.42e7
32.29
23478F
1.42e7
33.41
12389F
3.02e6
34.48
Abs. Int.
3.86e6
1.93e6
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PB
4σ 4.01e3
0%
12378F
9.10e6
32.29
23478F
9.25e6
33.41
12389F
1.92e6
34.48
Abs. Int.
2.57e6
1.28e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 2.16e3
0%
CS 12346F
2.80e7
31.74
ES 12378F
2.62e7
32.27
ES 23478F
2.49e7
33.39
Abs. Int.
7.55e6
3.77e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 3.39e3
0%
CS 12346F
1.79e7
31.74
ES 12378F
1.71e7
32.27
ES 23478F
1.58e7
33.39
Abs. Int.
4.66e6
2.33e6
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: PB
4σ 1.38e3
0%
Abs. Int.
6.52e3
3.26e3
0.00e0
RT

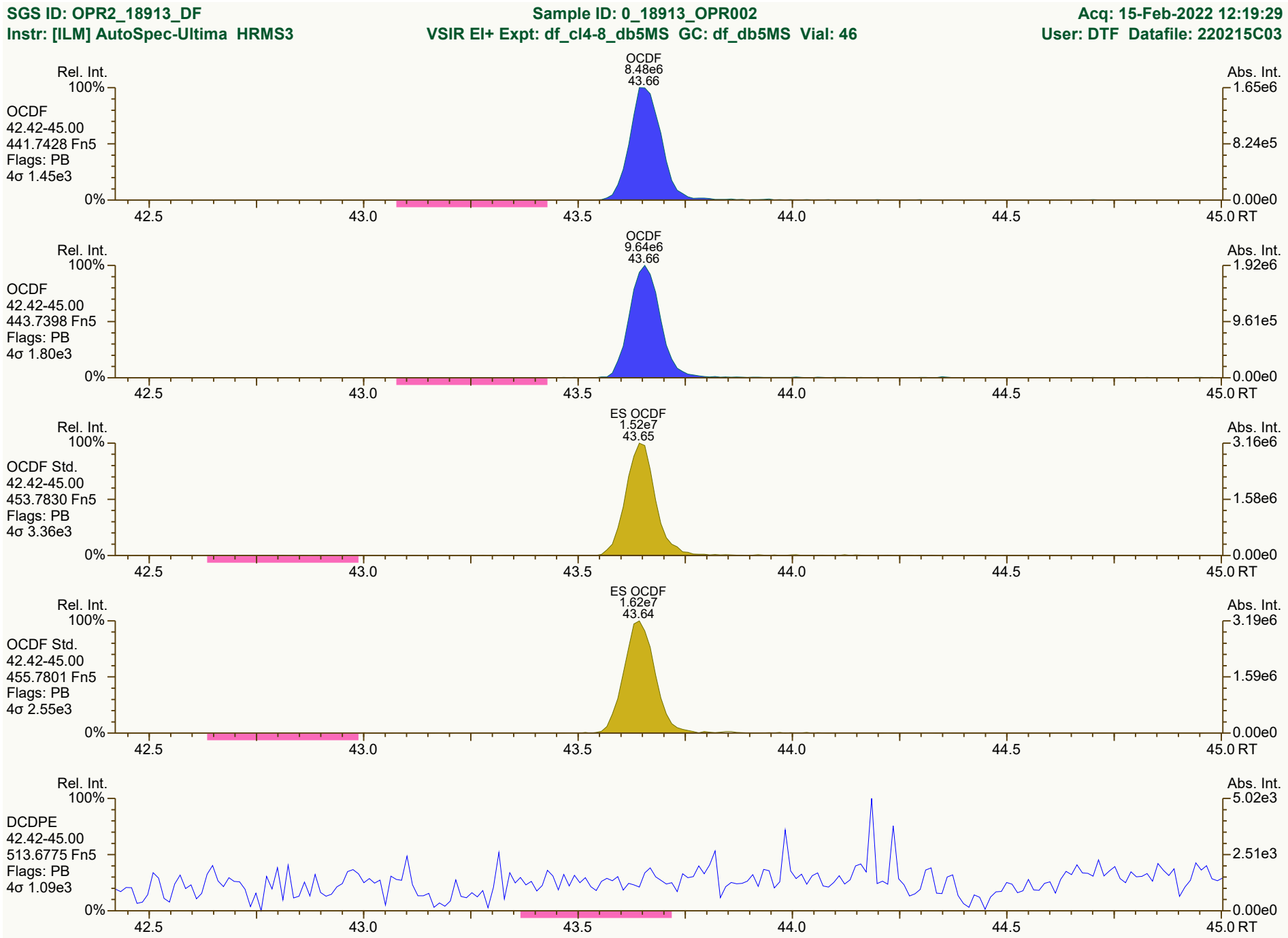

SGS ID: OPR2_18913_DF
Sample ID: 0_18913_OPR002
Acq: 15-Feb-2022 12:19:29
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46
User: DTF Datafile: 220215C03
Rel. Int.
Abs. Int.
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 3.98e3
123468F
2.57e7
35.27
123478F
1.08e7*
36.66
123678F
1.30e7
36.80
234678F
1.16e7*
37.48
123789F
9.09e6*
38.44
7.60e6
3.80e6
0.00e0
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 4.17e3
123468F
2.06e7
35.27
123478F
8.75e6*
36.66
123678F
1.03e7
36.80
234678F
9.44e6*
37.48
123789F
7.13e6*
38.44
6.06e6
3.03e6
0.00e0
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 1.16e4
ES 123678F
1.37e7
36.78
ES 123478F
1.03e7
36.64
CS 123469F
1.13e7
37.10
ES 234678F
1.18e7
37.46
ES 123789F
9.13e6
38.43
4.11e6
2.06e6
0.00e0
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 1.33e4
ES 123678F
2.50e7
36.78
ES 123478F
1.84e7
36.64
CS 123469F
2.09e7
37.10
ES 234678F
2.21e7
37.46
ES 123789F
1.77e7
38.43
7.62e6
3.81e6
0.00e0
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.15e3
9.33e3
4.66e3
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\OPR2_18913_DF.utp_res, saved 17-Feb-2022 16:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6062, 9611, 7671 scc: 443-398
Revised: 15-Feb-2022 15:43 (DTF) Printed: 17-Feb-2022 16:55 Page 10 of 12


SGS ID: OPR2_18913_DF
Sample ID: 0_18913_OPR002
Acq: 15-Feb-2022 12:19:29
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46
User: DTF Datafile: 220215C03
Rel. Int.
Abs. Int.
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 1.03e3
1234678F
9.40e6
39.84
1234789F
6.77e6*
41.24
3.13e6
1.57e6
0.00e0
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 1.46e3
1234678F
8.86e6
39.84
1234789F
6.60e6*
41.23
2.96e6
1.48e6
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 4.08e3
ES 1234678F
8.15e6
39.83
CS 1234689F
7.93e6*
40.23
ES 1234789F
6.14e6
41.22
2.82e6
1.41e6
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 6.68e3
ES 1234678F
1.73e7
39.83
CS 1234689F
1.64e7*
40.23
ES 1234789F
1.28e7
41.22
5.81e6
2.91e6
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.37e3
8.90e3
4.45e3
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\OPR2_18913_DF.utp_res, saved 17-Feb-2022 16:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6486, 3017, 4338 scc: 443-398
Revised: 15-Feb-2022 15:43 (DTF) Printed: 17-Feb-2022 16:55 Page 11 of 12

SGS ID: OPR2_18913_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18913_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46

Acq: 15-Feb-2022 12:19:29
User: DTF Datafile: 220215C03



Results: P:\B6200_B6299\B6280\B6280_18913 DF\Resources\OPR2_18913_DF.utp_res, saved 17-Feb-2022 16:46 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3462, 5764, 4716 scc: 443-398

Peak annotation: Areas, Centroids
PKD: 15-Feb-2022 15:41 Printed: 17-Feb-2022 16:55 Page 12 of 12



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6234

28-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

Meagan Willis

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This report is approved by

Tamara Burkamper

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Senior Project Manager

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Results reported relate only to the items tested.

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

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6234
Analytical Protocol(s)	1613B
No. Samples Submitted	9
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	26-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	0.2, 0.0
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

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

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

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.14.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

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

Data processing uses proprietary software.

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

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

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

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

Continuing Calibration meets requirements, except for the following: the reported percent deviation of CS 1,2,3,4,6,8,9-HpCDF is above SOP criteria. There is no method specified criteria for these standards and no adverse impact on results.

No re-extractions or dilutions were required.

B6234_005: the reported ion ratio of labeled standard ES 1,2,3,7,8,9-HxCDD is outside method criteria.

OPR1/OPR2_18872 meet accuracy and precision criteria, except for the following: RPD of 2,3,7,8-TCDF is >20%.

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

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

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

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

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

APPENDIX C: LAB IDENTIFIERS

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

SGS CERTIFICATIONS

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

Rev. 12-Oct-2021

Sample ID: 11215131-020422-S-SB-SW-S-54 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6283	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	14.16 g	Lab Sample ID	B6283_18915_DF_001	Date Extracted:	08-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	80.1 %	QC Batch No:	18915	Date Analyzed:	12-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	7:52:15

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.3				ES 2378-TCDD	86	
12378-PeCDD	0.599			J	ES 12378-PeCDD	90.4	
123478-HxCDD	0.671			J	ES 123478-HxCDD	90.4	
123678-HxCDD	1.69			J	ES 123678-HxCDD	90.1	
123789-HxCDD	1.42			J	ES 123789-HxCDD	92.7	
1234678-HpCDD	42.4				ES 1234678-HpCDD	88	
OCDD	717				ES OCDD	89.1	
2378-TCDF	50.1				ES 2378-TCDF	81.5	
12378-PeCDF	1.4			J	ES 12378-PeCDF	90.7	
23478-PeCDF	2.15				ES 23478-PeCDF	82.5	
123478-HxCDF	2.3				ES 123478-HxCDF	85.8	
123678-HxCDF	1.16			J	ES 123678-HxCDF	97.9	
234678-HxCDF	1.24			J	ES 234678-HxCDF	94.8	
123789-HxCDF	ND	0.232			ES 123789-HxCDF	78.4	
1234678-HpCDF	63.3				ES 1234678-HpCDF	121	
1234789-HpCDF	1.95				ES 1234789-HpCDF	77.1	
OCDF	462				ES OCDF	79.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	95.7	
Total TCDD	15		15.8		CS 12347-PeCDD	103	
Total PeCDD	4.75		5.67		CS 12346-PeCDF	98.9	
Total HxCDD	29.7		30.4		CS 123469-HxCDF	108	
Total HpCDD	132		132		CS 1234689-HpCDF	111	
Total TCDF	77.3		80				
Total PeCDF	13		13				
Total HxCDF	16.2		17.4				
Total HpCDF	77		77				
Total PCDD/Fs	**1,540**		**1,550**				
WHO-2005 TEQs							
TEQ: ND=0	19.9		19.9				
TEQ: ND=DL/2	19.9	0.33	19.9				
TEQ: ND=DL	19.9	0.66	19.9				

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

Sample ID: 11215131-020422-S-SB-SW-S-54 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6283	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	14.16 g	Lab Sample ID:	B6283_18915_DF_001	Date Extracted:	08-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	80.1 %	QC Batch No.:	18915	Date Analyzed:	12-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	7:52:15

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	0.398		12479/12468D	[0.688]	J	124679/124689D	17.4		1234679D	89.8	
1379D	(0.233)		12469D	2.49		123468D	1.14	J	1234678D	42.4	
1369D	(0.233)		12368D	0.332	J	123679/123689D	6.77				
1469D	3.28		12478D	0.478	J	123469D	[0.621]	J			
1247D...[4]	(0.233)		12379D	[0.232]	J	123478D	0.671	J			
1378D	(0.233)		12369D...[3]	0.85	J	123678D	1.69	J			
1268D	(0.233)		12346/12347D	(0.199)		123467D	0.684	J			
1478D	(0.233)		12378D	0.599	J	123789D	1.42	J	**Conc.**	132	
1279D	(0.233)		12367D	(0.199)					**EMPC**	132	
1234/1269D	(0.233)		12389D	(0.199)							
1236D	(0.233)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.233)										
1239D	(0.233)								OCDD	717	
2378D	11.3										
1278D	[0.773]										
1267D	(0.233)										
1289D	(0.233)										
Conc.	15		**Conc.**	4.75		**Conc.**	29.7				
EMPC	15.8		**EMPC**	5.67		**EMPC**	30.4				

5500 Business Drive
Wilmington, NC 28405, USA
Tel: +1 910 794-1613
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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	19.9	19.9
TEQ: ND=DL/2	19.9	19.9
TEQ: ND=DL	19.9	19.9

	Conc.	EMPC
Total PCDD/Fs	1,540	1,550

Checkcode: 757-464-XYM

Report Created: 14-Feb-2022 10:19 Analyst: TF

Sample ID: 11215131-020422-S-SB-SW-S-54 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6283	Date Received: 08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	14.16 g	Lab Sample ID:	B6283_18915_DF_001	Date Extracted: 08-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	80.1 %	QC Batch No.:	18915	Date Analyzed: 12-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed: 7:52:15

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[0.245]	J	13468/12468F	4.37		123468F	2.1		1234678F	63.3	
1468F	0.579		13678F...[3]	0.451	J	124678/134678F	5.86		1234679F	(0.152)	
2468F	1.2		12368F...[3]	2.92		134679F	(0.188)		1234689F	11.8	
1346/1246F	(0.112)		14678F	(0.144)		124679F	(0.188)		1234789F	1.95	
1347F...[3]	1.15		13479F	(0.144)		124689F	3.58				
1348F	(0.112)		13469/12479F	(0.144)		123467F	[0.434]	J			
1248F...[3]	1.03		12346F	(0.144)		123478F	2.3				
1268F	0.83		23468/12469F	0.885	J	123678F	1.16	J			
1467F	0.234	J	12347F	(0.144)		123479F	(0.188)				
1478F	1.23		12348F	(0.144)		123469F	[0.292]	J			
1369/1237F	[0.74]		12378F	1.4	J	123679F	(0.188)				
2467F	(0.112)		12678/12367F	0.836	J	234678F	1.24	J	**Conc.**	77	
2368F	2.77		12379F	(0.144)		234678/123689F	0		**EMPC**	77	
1238F...[5]	2.1		12679F	(0.144)		123689F	(0.188)				
1278F	5.67		23467/12369F	(0.144)		123789F	(0.232)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.112)		23478F	2.15		123789/123489F	0				
1267F	[1.02]		23478/12489F	0		123489F	[0.413]	J	OCDF	462	
2346/1249F	(0.112)		12489F	(0.144)							
2347/1279F	0.634		12349F	(0.144)							
2348F	[0.663]		12389F	(0.144)							
2378F	50.1										
2367/3467F	6.52										
1269F	1.51										
1239F	(0.112)										
1289F	1.81										
Conc.	77.3		**Conc.**	13		**Conc.**	16.2				
EMPC	80		**EMPC**	13		**EMPC**	17.4				

Checkcode: 757-464-XYM

Report Created: 14-Feb-2022 10:19 Analyst: TF

Sample ID: 11215131-020422-S-SB-SW-S-54 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Soil	Lab Sample ID:	B6283_18915_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	14.16 g	QC Batch No.:	18915
Date Collected:	04-Feb-2022	Split:	-	Date Extracted:	08-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	12-Feb-2022 07:52
Lab Project No:	B6283	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	11.3		0.233	11.3	11.3	11.3
12378-PeCDD	0.599	J	0.199	0.3	0.599	0.599
123478-HxCDD	0.671	J	0.283	0.0671	0.0671	0.0671
123678-HxCDD	1.69	J	0.29	0.169	0.169	0.169
123789-HxCDD	1.42	J	0.272	0.142	0.142	0.142
1234678-HpCDD	42.4		0.214	0.424	0.424	0.424
OCDD	717		0.576	0.717	0.0717	0.215
2378-TCDF	50.1		0.112	5.01	5.01	5.01
12378-PeCDF	1.4	J	0.138	0.0698	0.0698	0.0419
23478-PeCDF	2.15		0.151	1.08	1.08	0.646
123478-HxCDF	2.3		0.191	0.23	0.23	0.23
123678-HxCDF	1.16	J	0.163	0.116	0.116	0.116
234678-HxCDF	1.24	J	0.182	0.124	0.124	0.124
123789-HxCDF	(0.232)		0.232	(0.0232)	(0.0232)	(0.0232)
1234678-HpCDF	63.3		0.106	0.633	0.633	0.633
1234789-HpCDF	1.95		0.237	0.0195	0.0195	0.0195
OCDF	462		0.481	0.462	0.0462	0.139

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TEQ Summaries			
EMPC = 0, ND = 0	20.9	20.1	19.9
EMPC = 0, ND = DL / 2	20.9	20.1	19.9
EMPC = 0, ND = DL	20.9	20.1	19.9
EMPC = 0, < J-level = 0	19.9	18.8	18.6
EMPC = EMPC, ND = 0	20.9	20.1	19.9
EMPC = EMPC, ND = DL / 2	20.9	20.1	19.9
EMPC = EMPC, ND = DL	20.9	20.1	19.9
EMPC = EMPC, < J-level = 0	19.9	18.8	18.6

Checkcode: 757-464-XYM

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Sample ID: 11215131-020422-S-SB-SW-S-50 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6283	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	14.36 g	Lab Sample ID	B6283_18915_DF_002	Date Extracted:	08-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	80.8 %	QC Batch No:	18915	Date Analyzed:	12-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:38:35

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	EMPC		0.467		ES 2378-TCDD	91.6	
12378-PeCDD	0.375			J	ES 12378-PeCDD	99.5	
123478-HxCDD	EMPC		0.505	J	ES 123478-HxCDD	90.6	
123678-HxCDD	EMPC		0.628	J	ES 123678-HxCDD	95.7	
123789-HxCDD	1.19			J	ES 123789-HxCDD	95	
1234678-HpCDD	19.9				ES 1234678-HpCDD	88.5	
OCDD	428				ES OCDD	95.9	
2378-TCDF	EMPC		1.46		ES 2378-TCDF	84.8	
12378-PeCDF	EMPC		0.171	J	ES 12378-PeCDF	96.9	
23478-PeCDF	ND	0.18			ES 23478-PeCDF	90.8	
123478-HxCDF	EMPC		0.204	J	ES 123478-HxCDF	87.4	
123678-HxCDF	EMPC		0.197	J	ES 123678-HxCDF	102	
234678-HxCDF	ND	0.0823			ES 234678-HxCDF	105	
123789-HxCDF	EMPC		0.244	J	ES 123789-HxCDF	83.6	
1234678-HpCDF	1.32			J	ES 1234678-HpCDF	123	
1234789-HpCDF	ND	0.165			ES 1234789-HpCDF	79.9	
OCDF	9.32				ES OCDF	79.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	93.1	
Total TCDD	2.88		3.75		CS 12347-PeCDD	105	
Total PeCDD	3.58		3.85		CS 12346-PeCDF	103	
Total HxCDD	19.7		20.8		CS 123469-HxCDF	107	
Total HpCDD	69.9		69.9		CS 1234689-HpCDF	110	
Total TCDF	3.02		6.83				
Total PeCDF	ND		0.171				
Total HxCDF	0.191		1				
Total HpCDF	1.65		1.65				
Total PCDD/Fs	**539**		**546**				
WHO-2005 TEQs							
TEQ: ND=0	0.838		1.63				
TEQ: ND=DL/2	0.87	0.205	1.67				
TEQ: ND=DL	0.902	0.411	1.7				

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Sample ID: 11215131-020422-S-SB-SW-S-50 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6283	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	14.36 g	Lab Sample ID:	B6283_18915_DF_002	Date Extracted:	08-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	80.8 %	QC Batch No.:	18915	Date Analyzed:	12-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:38:35

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.13)		12479/12468D	0.598	J	124679/124689D	13.4		1234679D	50	
1379D	(0.13)		12469D	1.73	J	123468D	(0.178)		1234678D	19.9	
1369D	(0.13)		12368D	(0.122)		123679/123689D	4.06				
1469D	2.88		12478D	[0.276]	J	123469D	0.549	J			
1247D...[4]	(0.13)		12379D	(0.122)		123478D	[0.505]	J			
1378D	(0.13)		12369D...[3]	0.876	J	123678D	[0.628]	J			
1268D	(0.13)		12346/12347D	(0.122)		123467D	0.458	J			
1478D	(0.13)		12378D	0.375	J	123789D	1.19	J	**Conc.**	69.9	
1279D	(0.13)		12367D	(0.122)					**EMPC**	69.9	
1234/1269D	[0.401]		12389D	(0.122)							
1236D	(0.13)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.13)										
1239D	(0.13)								OCDD	428	
2378D	[0.467]										
1278D	(0.13)										
1267D	(0.13)										
1289D	(0.13)										
Conc.	2.88		**Conc.**	3.58		**Conc.**	19.7				
EMPC	3.75		**EMPC**	3.85		**EMPC**	20.8				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0.838	1.63
TEQ: ND=DL/2	0.87	1.67
TEQ: ND=DL	0.902	1.7

	Conc.	EMPC
Total PCDD/Fs	539	546

Checkcode: 862-586-ZFP

Report Created: 14-Feb-2022 11:19 Analyst: TF

Sample ID: 11215131-020422-S-SB-SW-S-50 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6283	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	14.36 g	Lab Sample ID:	B6283_18915_DF_002	Date Extracted:	08-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	80.8 %	QC Batch No.:	18915	Date Analyzed:	12-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:38:35

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	0.24	J	13468/12468F	(0.0788)		123468F	0.191	J	1234678F	1.32	J
1468F	(0.0743)		13678F...[3]	(0.171)		124678/134678F	[0.167]	J	1234679F	(0.113)	
2468F	0.782		12368F...[3]	(0.171)		134679F	(0.0846)		1234689F	0.322	J
1346/1246F	(0.0743)		14678F	(0.171)		124679F	(0.0846)		1234789F	(0.165)	
1347F...[3]	[0.348]		13479F	(0.171)		124689F	(0.0846)				
1348F	(0.0743)		13469/12479F	(0.171)		123467F	(0.0846)				
1248F...[3]	0.34	J	12346F	(0.171)		123478F	[0.204]	J			
1268F	0.182	J	23468/12469F	(0.171)		123678F	[0.197]	J			
1467F	0.174	J	12347F	(0.171)		123479F	(0.0846)				
1478F	[0.144]	J	12348F	(0.171)		123469F	(0.0846)				
1369/1237F	[0.182]	J	12378F	[0.171]	J	123679F	(0.0846)				
2467F	(0.0743)		12678/12367F	(0.171)		234678F	(0.0823)		**Conc.**	1.65	
2368F	(0.0743)		12379F	(0.171)		234678/123689F	0		**EMPC**	1.65	
1238F...[5]	0.828		12679F	(0.171)		123689F	(0.0846)				
1278F	[0.612]		23467/12369F	(0.171)		123789F	[0.244]	J	**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.0743)		23478F	(0.18)		123789/123489F	0				
1267F	(0.0743)		23478/12489F	0		123489F	(0.0846)		OCDF	9.32	
2346/1249F	(0.0743)		12489F	(0.171)							
2347/1279F	0.207	J	12349F	(0.171)							
2348F	[0.105]	J	12389F	(0.171)							
2378F	[1.46]										
2367/3467F	[0.376]										
1269F	[0.577]										
1239F	(0.0743)										
1289F	0.271	J									
Conc.	3.02		**Conc.**	0		**Conc.**	0.191				
EMPC	6.83		**EMPC**	0.171		**EMPC**	1				

Checkcode: 862-586-ZFP

Report Created: 14-Feb-2022 11:19 Analyst: TF

Sample ID: 11215131-020422-S-SB-SW-S-50 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Soil	Lab Sample ID:	B6283_18915_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	14.36 g	QC Batch No.:	18915
Date Collected:	04-Feb-2022	Split:	-	Date Extracted:	08-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	12-Feb-2022 08:38
Lab Project No:	B6283	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	[0.467]		0.13	[0.467]	[0.467]	[0.467]
12378-PeCDD	0.375	J	0.122	0.187	0.375	0.375
123478-HxCDD	[0.505]	J	0.192	[0.0505]	[0.0505]	[0.0505]
123678-HxCDD	[0.628]	J	0.178	[0.0628]	[0.0628]	[0.0628]
123789-HxCDD	1.19	J	0.166	0.119	0.119	0.119
1234678-HpCDD	19.9		0.195	0.199	0.199	0.199
OCDD	428		0.539	0.428	0.0428	0.129
2378-TCDF	[1.46]		0.0743	[0.146]	[0.146]	[0.146]
12378-PeCDF	[0.171]	J	0.162	[0.00855]	[0.00855]	[0.00513]
23478-PeCDF	(0.18)		0.18	(0.0902)	(0.0902)	(0.0541)
123478-HxCDF	[0.204]	J	0.0831	[0.0204]	[0.0204]	[0.0204]
123678-HxCDF	[0.197]	J	0.0768	[0.0197]	[0.0197]	[0.0197]
234678-HxCDF	(0.0823)		0.0823	(0.00823)	(0.00823)	(0.00823)
123789-HxCDF	[0.244]	J	0.101	[0.0244]	[0.0244]	[0.0244]
1234678-HpCDF	1.32	J	0.0839	0.0132	0.0132	0.0132
1234789-HpCDF	(0.165)		0.165	(0.00165)	(0.00165)	(0.00165)
OCDF	9.32		0.266	0.00932	0.000932	0.0028

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TEQ Summaries			
EMPC = 0, ND = 0	0.957	0.75	0.838
EMPC = 0, ND = DL / 2	1.01	0.8	0.87
EMPC = 0, ND = DL	1.06	0.85	0.902
EMPC = 0, < J-level = 0	0.637	0.243	0.331
EMPC = EMPC, ND = 0	1.76	1.55	1.63
EMPC = EMPC, ND = DL / 2	1.81	1.6	1.67
EMPC = EMPC, ND = DL	1.86	1.65	1.7
EMPC = EMPC, < J-level = 0	1.25	0.856	0.944

Checkcode: 862-586-ZFP

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Sample ID: 11215131-020422-S-SB-SW-S-49 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6283	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.25 g	Lab Sample ID	B6283_18915_DF_003	Date Extracted:	08-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	82.5 %	QC Batch No:	18915	Date Analyzed:	12-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	9:24:56

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	57.6				ES 2378-TCDD	82.3	
12378-PeCDD	1.02			J	ES 12378-PeCDD	90.7	
123478-HxCDD	0.562			J	ES 123478-HxCDD	78.5	
123678-HxCDD	EMPC		0.638	J	ES 123678-HxCDD	88.5	
123789-HxCDD	0.972			J	ES 123789-HxCDD	85.3	
1234678-HpCDD	22				ES 1234678-HpCDD	79.4	
OCDD	389				ES OCDD	81.2	
2378-TCDF	155				ES 2378-TCDF	78.6	
12378-PeCDF	12				ES 12378-PeCDF	88.4	
23478-PeCDF	7.94			PR	ES 23478-PeCDF	83.7	
123478-HxCDF	32.8				ES 123478-HxCDF	75.6	
123678-HxCDF	8.33				ES 123678-HxCDF	90	
234678-HxCDF	1.74			J	ES 234678-HxCDF	93.2	
123789-HxCDF	ND	0.21			ES 123789-HxCDF	72.9	
1234678-HpCDF	10.1				ES 1234678-HpCDF	113	
1234789-HpCDF	4.82				ES 1234789-HpCDF	69.6	
OCDF	11.3				ES OCDF	64.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	88.5	
Total TCDD	66.3		67		CS 12347-PeCDD	108	
Total PeCDD	2.99		3.52		CS 12346-PeCDF	97.4	
Total HxCDD	17.2		18.3		CS 123469-HxCDF	102	
Total HpCDD	70.4		70.4		CS 1234689-HpCDF	101	
Total TCDF	328		330				
Total PeCDF	31.1		31.7				
Total HxCDF	50.3		50.9				
Total HpCDF	19		19				
Total PCDD/Fs	**985**		**991**				
WHO-2005 TEQs							
TEQ: ND=0	81.8		81.9				
TEQ: ND=DL/2	81.8	0.286	81.9				
TEQ: ND=DL	81.8	0.572	81.9				

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Sample ID: 11215131-020422-S-SB-SW-S-49 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6283	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.25 g	Lab Sample ID:	B6283_18915_DF_003	Date Extracted:	08-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	82.5 %	QC Batch No.:	18915	Date Analyzed:	12-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	9:24:56

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.185)		12479/12468D	0.457	J	124679/124689D	11.9		1234679D	48.5	
1379D	(0.185)		12469D	1.51	J	123468D	(0.31)		1234678D	22	
1369D	(0.185)		12368D	(0.166)		123679/123689D	3.85				
1469D	2.57		12478D	(0.166)		123469D	[0.43]	J			
1247D...[4]	(0.185)		12379D	(0.166)		123478D	0.562	J			
1378D	(0.185)		12369D...[3]	[0.535]	J	123678D	[0.638]	J			
1268D	(0.185)		12346/12347D	(0.166)		123467D	(0.31)				
1478D	(0.185)		12378D	1.02	J	123789D	0.972	J	**Conc.**	70.4	
1279D	(0.185)		12367D	(0.166)					**EMPC**	70.4	
1234/1269D	0.401		12389D	(0.166)							
1236D	(0.185)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	[0.745]										
1239D	(0.185)								OCDD	389	
2378D	57.6										
1278D	5.64										
1267D	(0.185)										
1289D	(0.185)										
Conc.	66.3		**Conc.**	2.99		**Conc.**	17.2				
EMPC	67		**EMPC**	3.52		**EMPC**	18.3				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	81.8	81.9
TEQ: ND=DL/2	81.8	81.9
TEQ: ND=DL	81.8	81.9

	Conc.	EMPC
Total PCDD/Fs	985	991

Checkcode: 872-247-XTQ

Report Created: 14-Feb-2022 10:19 Analyst: TF

Sample ID: 11215131-020422-S-SB-SW-S-49 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6283	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.25 g	Lab Sample ID:	B6283_18915_DF_003	Date Extracted:	08-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	82.5 %	QC Batch No.:	18915	Date Analyzed:	12-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	9:24:56

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.123)		13468/12468F	[0.664]	J	123468F	[0.585]	J	1234678F	10.1	
1468F	[0.544]		13678F...[3]	(0.124)		124678/134678F	3.68		1234679F	(0.152)	
2468F	[0.449]		12368F...[3]	6.1		134679F	(0.163)		1234689F	4.03	
1346/1246F	(0.123)		14678F	(0.124)		124679F	(0.163)		1234789F	4.82	
1347F...[3]	2.08		13479F	(0.124)		124689F	1.27	J			
1348F	(0.123)		13469/12479F	(0.124)		123467F	(0.163)				
1248F...[3]	8.15		12346F	(0.124)		123478F	32.8				
1268F	2.87		23468/12469F	(0.124)		123678F	8.33				
1467F	[0.453]		12347F	(0.124)		123479F	(0.163)				
1478F	7		12348F	1.03	J	123469F	(0.163)				
1369/1237F	1.87		12378F	12		123679F	(0.163)				
2467F	(0.123)		12678/12367F	3.62		234678F	1.74	J	**Conc.**	19	
2368F	5.67		12379F	(0.124)		234678/123689F	0		**EMPC**	19	
1238F...[5]	19.6		12679F	(0.124)		123689F	(0.163)				
1278F	73.8		23467/12369F	(0.124)		123789F	(0.21)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.123)		23478F	7.94	PR	123789/123489F	0			**(pg/g)**	
1267F	4.06		23478/12489F	0		123489F	2.48		OCDF	11.3	
2346/1249F	(0.123)		12489F	(0.124)							
2347/1279F	2.24		12349F	(0.124)							
2348F	9.71		12389F	0.412	J						
2378F	155										
2367/3467F	13.2										
1269F	8.91										
1239F	[0.736]										
1289F	14.1										
Conc.	328		**Conc.**	31.1		**Conc.**	50.3				
EMPC	330		**EMPC**	31.7		**EMPC**	50.9				

Checkcode: 872-247-XTQ

Report Created: 14-Feb-2022 10:19 Analyst: TF

Sample ID: 11215131-020422-S-SB-SW-S-49 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Soil	Lab Sample ID:	B6283_18915_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	13.25 g	QC Batch No.:	18915
Date Collected:	04-Feb-2022	Split:	-	Date Extracted:	08-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	12-Feb-2022 09:24
Lab Project No:	B6283	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	57.6		0.185	57.6	57.6	57.6
12378-PeCDD	1.02	J	0.166	0.511	1.02	1.02
123478-HxCDD	0.562	J	0.34	0.0562	0.0562	0.0562
123678-HxCDD	[0.638]	J	0.297	[0.0638]	[0.0638]	[0.0638]
123789-HxCDD	0.972	J	0.299	0.0972	0.0972	0.0972
1234678-HpCDD	22		0.309	0.22	0.22	0.22
OCDD	389		0.423	0.389	0.0389	0.117
2378-TCDF	155		0.123	15.5	15.5	15.5
12378-PeCDF	12		0.121	0.598	0.598	0.359
23478-PeCDF	7.94	PR	0.127	3.97	3.97	2.38
123478-HxCDF	32.8		0.175	3.28	3.28	3.28
123678-HxCDF	8.33		0.142	0.833	0.833	0.833
234678-HxCDF	1.74	J	0.14	0.174	0.174	0.174
123789-HxCDF	(0.21)		0.21	(0.021)	(0.021)	(0.021)
1234678-HpCDF	10.1		0.107	0.101	0.101	0.101
1234789-HpCDF	4.82		0.236	0.0482	0.0482	0.0482
OCDF	11.3		0.455	0.0113	0.00113	0.0034

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TEQ Summaries			
EMPC = 0, ND = 0	83.4	83.6	81.8
EMPC = 0, ND = DL / 2	83.4	83.6	81.8
EMPC = 0, ND = DL	83.4	83.6	81.8
EMPC = 0, < J-level = 0	82.6	82.2	80.5
EMPC = EMPC, ND = 0	83.5	83.6	81.9
EMPC = EMPC, ND = DL / 2	83.5	83.6	81.9
EMPC = EMPC, ND = DL	83.5	83.7	81.9
EMPC = EMPC, < J-level = 0	82.6	82.2	80.5

Checkcode: 872-247-XTQ

SGS North America - DF v0.99

Sample ID: Method Blank B6283_18915

Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6283	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18915_DF_SDS	Date Extracted:	08-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18915	Date Analyzed:	12-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	6:19:35

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.224			ES 2378-TCDD	90.3	
12378-PeCDD	ND	0.208			ES 12378-PeCDD	97.6	
123478-HxCDD	ND	0.293			ES 123478-HxCDD	87.5	
123678-HxCDD	ND	0.262			ES 123678-HxCDD	92.4	
123789-HxCDD	ND	0.272			ES 123789-HxCDD	90.1	
1234678-HpCDD	ND	0.241			ES 1234678-HpCDD	80.2	
OCDD	ND	0.811			ES OCDD	78.4	
2378-TCDF	ND	0.148			ES 2378-TCDF	83.5	
12378-PeCDF	ND	0.148			ES 12378-PeCDF	95.3	
23478-PeCDF	ND	0.153			ES 23478-PeCDF	88.3	
123478-HxCDF	ND	0.157			ES 123478-HxCDF	80.9	
123678-HxCDF	ND	0.145			ES 123678-HxCDF	96.7	
234678-HxCDF	ND	0.133			ES 234678-HxCDF	104	
123789-HxCDF	ND	0.189			ES 123789-HxCDF	78.1	
1234678-HpCDF	ND	0.107			ES 1234678-HpCDF	120	
1234789-HpCDF	ND	0.248			ES 1234789-HpCDF	69.9	
OCDF	ND	0.5			ES OCDF	64.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	92.6	
Total TCDD	ND	0.224	ND		CS 12347-PeCDD	112	
Total PeCDD	ND	0.208	ND		CS 12346-PeCDF	98.4	
Total HxCDD	ND	0.274	ND		CS 123469-HxCDF	102	
Total HpCDD	ND	0.241	ND		CS 1234689-HpCDF	98.4	
Total TCDF	ND	0.148	ND				
Total PeCDF	ND	0.151	ND				
Total HxCDF	ND	0.153	ND				
Total HpCDF	ND	0.154	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	0.324	0.324	0.324				
TEQ: ND=DL	0.649	0.649	0.649				

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Sample ID: Method Blank B6283_18915 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6283	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18915_DF_SDS	Date Extracted:	08-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18915	Date Analyzed:	12-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	6:19:35

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.224)		12479/12468D	(0.208)		124679/124689D	(0.274)		1234679D	(0.241)	
1379D	(0.224)		12469D	(0.208)		123468D	(0.274)		1234678D	(0.241)	
1369D	(0.224)		12368D	(0.208)		123679/123689D	(0.274)				
1469D	(0.224)		12478D	(0.208)		123469D	(0.274)				
1247D...[4]	(0.224)		12379D	(0.208)		123478D	(0.293)				
1378D	(0.224)		12369D...[3]	(0.208)		123678D	(0.262)				
1268D	(0.224)		12346/12347D	(0.208)		123467D	(0.274)				
1478D	(0.224)		12378D	(0.208)		123789D	(0.272)		**Conc.**	0	
1279D	(0.224)		12367D	(0.208)					**EMPC**	0	
1234/1269D	(0.224)		12389D	(0.208)							
1236D	(0.224)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.224)										
1239D	(0.224)								OCDD	(0.811)	
2378D	(0.224)										
1278D	(0.224)										
1267D	(0.224)										
1289D	(0.224)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	0.324	0.324
TEQ: ND=DL	0.649	0.649

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 402-670-BBK

Report Created: 14-Feb-2022 10:18 Analyst: TF

Sample ID: Method Blank B6283_18915 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6283	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18915_DF_SDS	Date Extracted:	08-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18915	Date Analyzed:	12-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	6:19:35

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.148)		13468/12468F	(0.133)		123468F	(0.153)		1234678F	(0.107)	
1468F	(0.148)		13678F...[3]	(0.151)		124678/134678F	(0.153)		1234679F	(0.154)	
2468F	(0.148)		12368F...[3]	(0.151)		134679F	(0.153)		1234689F	(0.154)	
1346/1246F	(0.148)		14678F	(0.151)		124679F	(0.153)		1234789F	(0.248)	
1347F...[3]	(0.148)		13479F	(0.151)		124689F	(0.153)				
1348F	(0.148)		13469/12479F	(0.151)		123467F	(0.153)				
1248F...[3]	(0.148)		12346F	(0.151)		123478F	(0.157)				
1268F	(0.148)		23468/12469F	(0.151)		123678F	(0.145)				
1467F	(0.148)		12347F	(0.151)		123479F	(0.153)				
1478F	(0.148)		12348F	(0.151)		123469F	(0.153)				
1369/1237F	(0.148)		12378F	(0.148)		123679F	(0.153)				
2467F	(0.148)		12678/12367F	(0.151)		234678F	(0.133)		**Conc.**	0	
2368F	(0.148)		12379F	(0.151)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.148)		12679F	(0.151)		123689F	(0.153)				
1278F	(0.148)		23467/12369F	(0.151)		123789F	(0.189)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.148)		23478F	(0.153)		123789/123489F	0				
1267F	(0.148)		23478/12489F	0		123489F	(0.153)		OCDF	(0.5)	
2346/1249F	(0.148)		12489F	(0.151)							
2347/1279F	(0.148)		12349F	(0.151)							
2348F	(0.148)		12389F	(0.151)							
2378F	(0.148)										
2367/3467F	(0.148)										
1269F	(0.148)										
1239F	(0.148)										
1289F	(0.148)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 402-670-BBK

Report Created: 14-Feb-2022 10:18 Analyst: TF

Sample ID: Method Blank B6283_18915 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Soil	Lab Sample ID:	MB1_18915_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18915
Date Collected:	n/a	Split:	-	Date Extracted:	08-Feb-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	12-Feb-2022 06:19
Lab Project No:	B6283	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.224)		0.224	(0.224)	(0.224)	(0.224)
12378-PeCDD	(0.208)		0.208	(0.104)	(0.208)	(0.208)
123478-HxCDD	(0.293)		0.293	(0.0293)	(0.0293)	(0.0293)
123678-HxCDD	(0.262)		0.262	(0.0262)	(0.0262)	(0.0262)
123789-HxCDD	(0.272)		0.272	(0.0272)	(0.0272)	(0.0272)
1234678-HpCDD	(0.241)		0.241	(0.00241)	(0.00241)	(0.00241)
OCDD	(0.811)		0.811	(0.000811)	(0.0000811)	(0.000243)
2378-TCDF	(0.148)		0.148	(0.0148)	(0.0148)	(0.0148)
12378-PeCDF	(0.148)		0.148	(0.00741)	(0.00741)	(0.00445)
23478-PeCDF	(0.153)		0.153	(0.0765)	(0.0765)	(0.0459)
123478-HxCDF	(0.157)		0.157	(0.0157)	(0.0157)	(0.0157)
123678-HxCDF	(0.145)		0.145	(0.0145)	(0.0145)	(0.0145)
234678-HxCDF	(0.133)		0.133	(0.0133)	(0.0133)	(0.0133)
123789-HxCDF	(0.189)		0.189	(0.0189)	(0.0189)	(0.0189)
1234678-HpCDF	(0.107)		0.107	(0.00107)	(0.00107)	(0.00107)
1234789-HpCDF	(0.248)		0.248	(0.00248)	(0.00248)	(0.00248)
OCDF	(0.5)		0.5	(0.0005)	(0.00005)	(0.00015)

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TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.29	0.341	0.324
EMPC = 0, ND = DL	0.579	0.682	0.649
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.29	0.341	0.324
EMPC = EMPC, ND = DL	0.579	0.682	0.649
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 402-670-BBK

SGS North America - DF v0.99

Sample ID: 0_18915_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6283	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18915_DF	Date Extracted:	08-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18915	Date Analyzed:	12-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:14:03

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.8				ES 2378-TCDD	85	
12378-PeCDD	51.2				ES 12378-PeCDD	94.8	
123478-HxCDD	56.1				ES 123478-HxCDD	83.9	
123678-HxCDD	57.7				ES 123678-HxCDD	88.3	
123789-HxCDD	54.3				ES 123789-HxCDD	88.3	
1234678-HpCDD	55.6				ES 1234678-HpCDD	82.8	
OCDD	111				ES OCDD	83.5	
2378-TCDF	11.4				ES 2378-TCDF	76.1	
12378-PeCDF	51.2				ES 12378-PeCDF	88	
23478-PeCDF	55.1				ES 23478-PeCDF	82.7	
123478-HxCDF	52.9				ES 123478-HxCDF	79.3	
123678-HxCDF	52.5				ES 123678-HxCDF	93.4	
234678-HxCDF	52.6				ES 234678-HxCDF	96.5	
123789-HxCDF	50.8				ES 123789-HxCDF	77.8	
1234678-HpCDF	52.4				ES 1234678-HpCDF	115	
1234789-HpCDF	52.2				ES 1234789-HpCDF	73.5	
OCDF	106				ES OCDF	69.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	95.5	
Total TCDD	55.7		55.7		CS 12347-PeCDD	115	
Total PeCDD	76.3		76.3		CS 12346-PeCDF	102	
Total HxCDD	183		183		CS 123469-HxCDF	109	
Total HpCDD	69		69		CS 1234689-HpCDF	111	
Total TCDF	65.4		65.4				
Total PeCDF	211		211				
Total HxCDF	327		327				
Total HpCDF	105		105				
Total PCDD/Fs	**1,310**		**1,310**				
WHO-2005 TEQs							
TEQ: ND=0	122		122				
TEQ: ND=DL/2	122	0.154	122				
TEQ: ND=DL	122	0.308	122				

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

Sample ID: 0_18915_OPR002 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Soil	Lab Project ID:	B6283	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18915_DF	Date Extracted:	08-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18915	Date Analyzed:	12-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	4:00:24

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	10.5				ES 2378-TCDD	86	
12378-PeCDD	45.4				ES 12378-PeCDD	92	
123478-HxCDD	48.6				ES 123478-HxCDD	88.5	
123678-HxCDD	50.9				ES 123678-HxCDD	95.2	
123789-HxCDD	48.7				ES 123789-HxCDD	91.6	
1234678-HpCDD	50.2				ES 1234678-HpCDD	82.1	
OCDD	100				ES OCDD	80.4	
2378-TCDF	9.59				ES 2378-TCDF	81.3	
12378-PeCDF	44.6				ES 12378-PeCDF	88.3	
23478-PeCDF	48.3				ES 23478-PeCDF	82.9	
123478-HxCDF	46.8				ES 123478-HxCDF	80.6	
123678-HxCDF	46.7				ES 123678-HxCDF	94.9	
234678-HxCDF	46.6				ES 234678-HxCDF	102	
123789-HxCDF	45.5				ES 123789-HxCDF	80.5	
1234678-HpCDF	46.9				ES 1234678-HpCDF	115	
1234789-HpCDF	46.8				ES 1234789-HpCDF	72.6	
OCDF	93.5				ES OCDF	69.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	94.3	
Total TCDD	54.4		54.4		CS 12347-PeCDD	112	
Total PeCDD	70.9		70.9		CS 12346-PeCDF	99.7	
Total HxCDD	162		162		CS 123469-HxCDF	106	
Total HpCDD	63.4		63.4		CS 1234689-HpCDF	104	
Total TCDF	62.5		62.5				
Total PeCDF	198		198				
Total HxCDF	298		298				
Total HpCDF	93.7		93.7				
Total PCDD/Fs	**1,200**		**1,200**				
WHO-2005 TEQs							
TEQ: ND=0	108		108				
TEQ: ND=DL/2	108	0.21	108				
TEQ: ND=DL	108	0.421	108				

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Sample DUP

Method 1613B

Sample ID: 0_18915_OPR001

Analyte	OPR1_18915_DF pg/uL	OPR2_18915_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	11.8	10.5	11.9%
1,2,3,7,8-PeCDD	51.2	45.4	11.9%
1,2,3,4,7,8-HxCDD	56.1	48.6	14.3%
1,2,3,6,7,8-HxCDD	57.7	50.9	12.5%
1,2,3,7,8,9-HxCDD	54.3	48.7	10.8%
1,2,3,4,6,7,8-HpCDD	55.6	50.2	10.3%
OCDD	111	100	10.4%
2,3,7,8-TCDF	11.4	9.59	17.4%
1,2,3,7,8-PeCDF	51.2	44.6	13.9%
2,3,4,7,8-PeCDF	55.1	48.3	13.1%
1,2,3,4,7,8-HxCDF	52.9	46.8	12.2%
1,2,3,6,7,8-HxCDF	52.5	46.7	11.6%
2,3,4,6,7,8-HxCDF	52.6	46.6	12.1%
1,2,3,7,8,9-HxCDF	50.8	45.5	11.1%
1,2,3,4,6,7,8-HpCDF	52.4	46.9	11.0%
1,2,3,4,7,8,9-HpCDF	52.2	46.8	11.0%
OCDF	106	93.5	12.5%
Totals			
Total TCDD	55.7	54.4	2.2%
Total PeCDD	76.3	70.9	7.3%
Total HxCDD	183	162	12.5%
Total HpCDD	69	63.4	8.5%
Total TCDF	65.4	62.5	4.5%
Total PeCDF	211	198	6.4%
Total HxCDF	327	298	9.3%
Total HpCDF	105	93.7	11.0%

Sample Receipt Notification

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

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*08-Feb-22 at 11:48*
AP Project name:	*B6283*
Requested TAT:	*3 business days*
Projected due date:	*11-Feb-22*
Matrix:	*Soil*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

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

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-020422-S-SB-SW-S-54	B6283_001	Solid	1	4 oz amber	04-Feb-22	10:10	0.8	1	490527045266
11215131-020422-S-SB-SW-S-50	B6283_002	Solid	1	4 oz amber	04-Feb-22	10:30	0.8	1	490527045266
11215131-020422-S-SB-SW-S-49	B6283_003	Solid	1	4 oz amber	04-Feb-22	11:15	0.8	1	490527045266

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact

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

Received by: Amy Boehm *Logged in by: Amy Boehm* *QC'ed by:* AK 8 Feb 22

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

B6283

SGS CHAIN OF CUSTODY

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

SPECIAL INSTRUCTIONS / COMMENTS

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

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

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: None	ANALYSIS & METHOD: M1613B (D/F)	QC: MS	MSD	DUP	QTY	REMARKS
11215131-02 0422-S-SB-SW-B-27	2/4/22	0940	C	S	4 oz	X					1	See SOW
11215131-02 0422-S-SB-SW-B-27H		0950			4 oz	X					1	Hold
11215131-02 0422-S-SB-SW-C-25		1000			4 oz	X						
11215131-02 0422-S-SB-SW-S-54		1010			4 oz	X						RUSH
11215131-02 0422-S-SB-SW-S-50		1030			4 oz	X					1	RUSH
11215131-02 0422-S-SB-SW-S-49		1115			4 oz	X					1	RUSH
11215131-02 0422-S-SB-SW-C-23		1130			4 oz	X						
11215131-02 0422-S-SB-SW-B-25		1145			4 oz	X						
11215131-02 0422-S-SB-SW-B-25H		1200			4 oz	X					1	Hold
11215131-02 0422-S-SB-SW-B-25H2	✓	1230	✓	✓	4 oz	X					1	Hold

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:
Sarah Bellanger	2/4/22	1330	
RELINQUISHED BY (2):	DATE:	TIME:	RECEIVED BY:
	2/4/22	1430	2/4/22 1430
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:
Fedex			

RECEIVED BY LABORATORY: DATE: 2/8/22 TIME: 1140
COOLER SEAL: ☐ INTACT ☐ BROKEN ☒ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☒ ABSENT
CARRIER: FedEx TEMP °C 0.8 °C
TRACKING #: on ice IR-4

TB

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

B6283

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

SHIP DATE: 04FEB22
ACTWGT: 40.00 LB MAN
CAD: 0317565/CAFE3313

BILL RECIPIENT

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

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

FedEx Express

TRK# 0201 **4905 2704 5266**

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO ILMA

28405
NC-US **RDU**

Part # 156148-434 MTW EXP 07/22

SGS

Project Initiation Form

Project Number: B6283

Initiation Date: 08-Feb-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Soil

TAT: 3 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR & OPRD

10 g DWE extraction

Read and understood, initial and date: Prep Lab: KE 2/8/22 TAB 2/9/22 HRMS Lab:

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab:

PM Initials: akornegay Date: 08-Feb-2022

SGS

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

Extraction Type: SDS / CLL; TALEX Carbon SPE

Solid

Final Volume: 20 µL

Batch# 18915

Split: ~~1/2~~ ~~1/4~~

Extract Initial/Date: LE 2/8/22

Clean-up Initial/Date: [illegible] 2/9/22

Transfer Init/Date: [illegible] 2/10/22

Lab Sample ID	Extraction Position (Solvent: TDV)	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B6283_18915_001	28	17.68				gray, wet, sandy
B6283_18915_002	29	17.76				gray, clay-like
B6283_18915_003	30	16.06				gray-brown, wet, sandy
MB1_18915	25	10.00		YB		sodium sulfate
OPR1_18915	26	10.00		2/14/22		sodium sulfate
OPR2_18915	27	10.00				sodium sulfate

Supply IDs	
Toluene	STL14-24
MeCHL	STL14-17
Florisil	SPLS-77
Hexane	STL14-22
Silica	SPLS-69
S Nitrate	N/A
Base Silica	SPLS-86
HydroMatrix	N/A
Tetradecane	SPLS-730
H_2SO_4	N/A
A Silica	SPLS-87
Sodium Sulfate	SPLS-808

Additional Cleanup	
Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	
GPC Date/Initial:	YB 2/14/22
Bond-Elute Date/Initial:	

Cycle Time		
TOL	Start: 1530	
	Stop: 0900	
HEX	Start:	
	Stop:	
DCM	Start:	
	Stop:	

2/10/22

YB 2/14/22

SGS

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

Solid

Batch# 18915

Inter-Department Communication Sheet

2/14/22
TB

instrument arced during beginning resplots. Resplots from previous sequence are included.
TB 2/14/2022

SGS

Wt. Volume Results

Batch #: 18915

Comments:

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6283_001	2.31	4.82	4.32	80.08%	80.08%			12.49	17.68	14.16
B6283_002	2.3	4.96	4.45	80.83%	80.83%			12.37	17.76	14.36
B6283_003	2.32	5.18	4.68	82.52%	82.52%			12.12	16.06	13.25

% Solid Determination WorkSheet

SGS

Batch: 18915

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	Comments
B6283_18915_001	2.31	4.82	4.32/4.32	
B6283_18915_002	2.30	4.96	4.45/4.45	
B6283_18915_003	2.32	5.18	4.68/4.68	

2/10/22

Date/Initials: KE 2/10/22

SGS

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

Batch # 18915

Lab Sample ID	Spiker Initials/Date: JRH 2/3/22	JRH 2/8/22	JRH 2/8/22	2/9/22	2/9/22		
	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS		
	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount:	Amount:
	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials
B6283_18915_001	—	—	KE	JRH	KE		
B6283_18915_002	—	—	KE	JRH	KE		
B6283_18915_003	—	—	KE	JRH	KE		
MBI_18915	—	—	KE	JRH	KE		
OPR1_18915	KE	KE	KE	JRH	KE		
OPR2_18915	KE	KE	KE	JRH	KE		

RBB 2/10/22

Standard Information

Pipette ID							
Spike ID	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS		
SIL #	26-2-8	25-187-2	26-2-9	25-338-1	25-384-1		
Concentration	100 pg/µL	100 pg/µL	100 pg/µL	100 P/µL	100 P/µL		
Expiration Date	7/9/28	6/22/22	8/2028	11/16/22	1/28/23		

RBB 2/10/22

REVIEWED
Tamara Burkamper , 2/14/2022, 11:30:53 AM

SGS Environmental Services — Run Log **Project: B6283_18915_DF**

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

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
0	220212C01	3	CS3_220212_DF_CA	1.00	25-347-1	DTF	030-876	12-Feb-2022	02:27:48
1	220212C02	74	OPR1_18915_DF	1.00	0_18915_OPR001	DTF	251-322	12-Feb-2022	03:14:03
2	220212C03	75	OPR2_18915_DF	1.00	0_18915_OPR002	DTF	734-447	12-Feb-2022	04:00:24
5	220212C05	2	SBS_220212_DF_CA	1.00	20-61-1	DTF	419-080	12-Feb-2022	05:33:17
6	220212C06	73	MB1_18915_DF_SDS	10.00	Method Blank	DTF	402-670	12-Feb-2022	06:19:35
7	220212C08	76	B6283_18915_DF_001	14.16	11215131-020422-S-SB-SW-S-54	DTF	757-464	12-Feb-2022	07:52:15
8	220212C09	77	B6283_18915_DF_002	14.36	11215131-020422-S-SB-SW-S-50	DTF	~~480-859~~ 862-586	12-Feb-2022	08:38:35
9	220212C10	78	B6283_18915_DF_003	13.25	11215131-020422-S-SB-SW-S-49	DTF	872-247	12-Feb-2022	09:24:56

REVIEWED
Tyler_Fritz , 2/14/2022, 10:30:06 AM

Lab ID: MB1_18915_DF_SDS **Acq'd:** 12 Feb 2022 06:19 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6283_18915 **UTP:** 14-Feb-2022 10:17:01 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 402-670-BBK

Datafile: 220212C06 **Report:** 14 Feb 2022 10:18 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	3048.096	0.224
12378-PeCDD	NotFnd		1.0005	-		-	-	-	1.04	-	2562.2153	0.208
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	3668.665	0.293
123678-HxCDD	NotFnd		1.0035	-		-	-	-	1.15	-	3668.665	0.262
123789-HxCDD	NotFnd		1.0113	-		-	-	-	1.05	-	3668.665	0.272
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	2646.056	0.241
OCDD	NotFnd		1.0002	-		-	-	-	1.13	-	4422.427	0.811
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	2509.131	0.148
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2714.225	0.148
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2714.225	0.153
123478-HxCDF	NotFnd		1.0005	-		-	-	-	1.27	-	2727.239	0.157
123678-HxCDF	NotFnd		1.0005	-		-	-	-	1.15	-	2727.239	0.145
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2727.239	0.133
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2727.239	0.189
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2740.117	0.107
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2740.117	0.248
OCDF	NotFnd		1.0003	-		-	-	-	1.07	-	2728.228	0.5

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.45	1.0238	1.0239	+0.2	2.31E+07	0.81	Y	1.05	90.3
ES 12378-PeCDD	33.80	1.2160	1.2164	+0.8	2.10E+07	1.51	Y	0.88	97.6
ES 123478-HxCDD	37.72	0.9919	0.9918	-0.2	1.96E+07	1.28	Y	0.97	87.5
ES 123678-HxCDD	37.84	0.9950	0.9949	-0.2	2.01E+07	1.22	Y	0.94	92.4
ES 123789-HxCDD	38.13	1.0027	1.0027	0	2.26E+07	1.23	Y	1.09	90.1
ES 1234678-HpCDD	40.81	1.0730	1.0732	+0.5	1.68E+07	1.04	Y	0.91	80.2
ES OCDD	43.51	1.1437	1.1440	+0.8	2.25E+07	0.89	Y	0.62	78.4
ES 2378-TCDF	27.59	1.0520	1.0521	+0.2	3.43E+07	0.80	Y	1.06	83.5
ES 12378-PeCDF	32.35	1.2330	1.2335	+1.0	3.36E+07	1.63	Y	0.91	95.3
ES 23478-PeCDF	33.46	1.2754	1.2759	+1.0	3.02E+07	1.52	Y	0.88	88.3
ES 123478-HxCDF	36.71	0.9653	0.9652	-0.2	2.23E+07	0.53	Y	1.20	80.9
ES 123678-HxCDF	36.85	0.9691	0.9690	-0.2	3.01E+07	0.52	Y	1.35	96.7
ES 234678-HxCDF	37.54	0.9870	0.9870	0	2.98E+07	0.55	Y	1.24	104
ES 123789-HxCDF	38.49	1.0121	1.0121	0	2.08E+07	0.52	Y	1.16	78.1
ES 1234678-HpCDF	39.87	1.0484	1.0485	+0.2	2.67E+07	0.45	Y	0.97	120
ES 1234789-HpCDF	41.27	1.0851	1.0852	+0.2	1.37E+07	0.44	Y	0.85	69.9
ES OCDF	43.69	1.1483	1.1489	+1.6	2.41E+07	0.90	Y	0.81	64.8

Lab ID: MB1_18915_DF_SDS | **Acq'd:** 12 Feb 2022 06:19 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6283_18915 | **UTP:** 14-Feb-2022 10:17:01 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 402-670-BBK

Datafile: 220212C06 | **Report:** 14 Feb 2022 10:18 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.79		-	-	-	2.45E+07	0.82	Y	-	-
JS 1234-TCDF	26.23		-	-	-	3.88E+07	0.80	Y	-	-
JS 123467-HxCDD	38.03		-	-	-	1.15E+07	1.19	Y	-	-
CS 37Cl-2378-TCDD	28.47		1.0245	1.0247	+0.3	1.09E+07	n/a	-	1.20	92.6
CS 12347-PeCDD	33.29		1.1979	1.1983	+0.8	2.07E+07	1.58	Y	0.75	112
CS 12346-PeCDF	31.82		1.2128	1.2133	+1.0	3.24E+07	1.52	Y	0.85	98.4
CS 123469-HxCDF	37.17		0.9774	0.9773	-0.2	2.63E+07	0.52	Y	1.12	102
CS 1234689-HpCDF	40.28		1.0589	1.0592	+0.7	2.01E+07	0.46	Y	0.89	98.4
~~SS 37Cl-2378-TCDD~~	~~28.47~~		~~1.0245~~	~~1.0247~~	~~+0.3~~	~~1.09E+07~~	~~n/a~~		~~1.15~~	~~103~~
~~SS 12347-PeCDD~~	~~33.29~~		~~1.1979~~	~~1.1983~~	~~+0.8~~	~~2.07E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~115~~
~~SS 12346-PeCDF~~	~~31.82~~		~~1.2128~~	~~1.2133~~	~~+1.0~~	~~3.24E+07~~	~~1.52~~	~~Y~~	~~0.94~~	~~103~~
~~SS 123469-HxCDF~~	~~37.17~~		~~0.9774~~	~~0.9773~~	~~-0.2~~	~~2.63E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~106~~
~~SS 1234689-HpCDF~~	~~40.28~~		~~1.0589~~	~~1.0592~~	~~+0.7~~	~~2.01E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~81.9~~

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

Lab ID: MB1_18915_DF_SDS **Acq'd: 12 Feb 2022 06:19 DTF** **Wt/Vol: 10.00 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6283_18915 **UTP: 14-Feb-2022 10:17:01 DTF** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 402-670-BBK**

Datafile: 220212C06 **Report: 14 Feb 2022 10:18 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8737						1.18		3048.096	0.224
1379-TCDD	NotFnd		0.8860						1.18		3048.096	0.224
1369-TCDD	NotFnd		0.9009						1.18		3048.096	0.224
1469-TCDD	NotFnd		0.9281						1.18		3048.096	0.224
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3048.096	0.224
1378-TCDD	NotFnd		0.9432						1.18		3048.096	0.224
1268-TCDD	NotFnd		0.9500						1.18		3048.096	0.224
1478-TCDD	NotFnd		0.9586						1.18		3048.096	0.224
1279-TCDD	NotFnd		0.9645						1.18		3048.096	0.224
1234/1269-TCDD	NotFnd		0.9770						1.18		3048.096	0.224
1236-TCDD	NotFnd		0.9817						1.18		3048.096	0.224
1237/1238-TCDD	NotFnd		0.9905						1.18		3048.096	0.224
1239-TCDD	NotFnd		0.9952						1.18		3048.096	0.224
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**3048.096**	**0.224**
1278-TCDD	NotFnd		1.0121						1.18		3048.096	0.224
1267-TCDD	NotFnd		1.0167						1.18		3048.096	0.224
1289-TCDD	NotFnd		1.0345						1.18		3048.096	0.224
12479/12468-PeCDD	NotFnd		0.9267						1.04		2562.2153	0.208
12469-PeCDD	NotFnd		0.9425						1.04		2562.2153	0.208
12368-PeCDD	NotFnd		0.9588						1.04		2562.2153	0.208
12478-PeCDD	NotFnd		0.9643						1.04		2562.2153	0.208
12379-PeCDD	NotFnd		0.9673						1.04		2562.2153	0.208
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		2562.2153	0.208
12346/12347-PeCDD	NotFnd		0.9858						1.04		2562.2153	0.208
12378-PeCDD	NotFnd		**1.0005**						**1.04**		**2562.2153**	**0.208**
12367-PeCDD	NotFnd		1.0033						1.04		2562.2153	0.208
12389-PeCDD	NotFnd		1.0134						1.04		2562.2153	0.208
124679/124689-HxCDD	NotFnd		0.9542						1.10		3668.665	0.274
123468-HxCDD	NotFnd		0.9715						1.10		3668.665	0.274
123679/123689-HxCDD	NotFnd		0.9793						1.10		3668.665	0.274
123469-HxCDD	NotFnd		0.9828						1.10		3668.665	0.274
123478-HxCDD	NotFnd		**1.0004**						1.09		**3668.665**	**0.293**
123678-HxCDD	NotFnd		**1.0035**						1.15		**3668.665**	**0.262**
123467-HxCDD	NotFnd		1.0085						1.10		3668.665	0.274
123789-HxCDD	NotFnd		**1.0113**						1.05		**3668.665**	**0.272**

Lab ID: MB1_18915_DF_SDS **Acq'd:** 12 Feb 2022 06:19 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6283_18915 **UTP:** 14-Feb-2022 10:17:01 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 402-670-BBK

Datafile: 220212C06 **Report:** 14 Feb 2022 10:18 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9837						1.06		2646.056	0.241
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**2646.056**	**0.241**
OCDD	**NotFnd**		**1.0002**						**1.13**		**4422.427**	**0.811**
OCDD-a	NotFnd		1.0001						0.07		3534.658	10.1
1368-TCDF	NotFnd		0.8251						1.08		2509.131	0.148
1468-TCDF	NotFnd		0.8458						1.08		2509.131	0.148
2468-TCDF	NotFnd		0.8686						1.08		2509.131	0.148
1346/1246-TCDF	NotFnd		0.8814						1.08		2509.131	0.148
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2509.131	0.148
1348-TCDF	NotFnd		0.8962						1.08		2509.131	0.148
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2509.131	0.148
1268-TCDF	NotFnd		0.9145						1.08		2509.131	0.148
1467-TCDF	NotFnd		0.9193						1.08		2509.131	0.148
1478-TCDF	NotFnd		0.9254						1.08		2509.131	0.148
1369/1237-TCDF	NotFnd		0.9387						1.08		2509.131	0.148
2467-TCDF	NotFnd		0.9433						1.08		2509.131	0.148
2368-TCDF	NotFnd		0.9489						1.08		2509.131	0.148
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2509.131	0.148
1278-TCDF	NotFnd		0.9683						1.08		2509.131	0.148
1349-TCDF	NotFnd		0.9722						1.08		2509.131	0.148
1267-TCDF	NotFnd		0.9783						1.08		2509.131	0.148
2346/1249-TCDF	NotFnd		0.9850						1.08		2509.131	0.148
2347/1279-TCDF	NotFnd		0.9926						1.08		2509.131	0.148
2348-TCDF	NotFnd		0.9967						1.08		2509.131	0.148
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**2509.131**	**0.148**
2367/3467-TCDF	NotFnd		1.0137						1.08		2509.131	0.148
1269-TCDF	NotFnd		1.0223						1.08		2509.131	0.148
1239-TCDF	NotFnd		1.0321						1.08		2509.131	0.148
1289-TCDF	NotFnd		1.0722						1.08		2509.131	0.148
13468/12468-PeCDF	NotFnd		0.9139						1.02		2397.431	0.133
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		2714.225	0.151
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		2714.225	0.151
14678-PeCDF	NotFnd		0.9692						1.02		2714.225	0.151
13479-PeCDF	NotFnd		0.9723						1.02		2714.225	0.151
13469/12479-PeCDF	NotFnd		0.9797						1.02		2714.225	0.151
12346-PeCDF	NotFnd		0.9840						1.02		2714.225	0.151

Lab ID: MB1_18915_DF_SDS | **Acq'd:** 12 Feb 2022 06:19 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

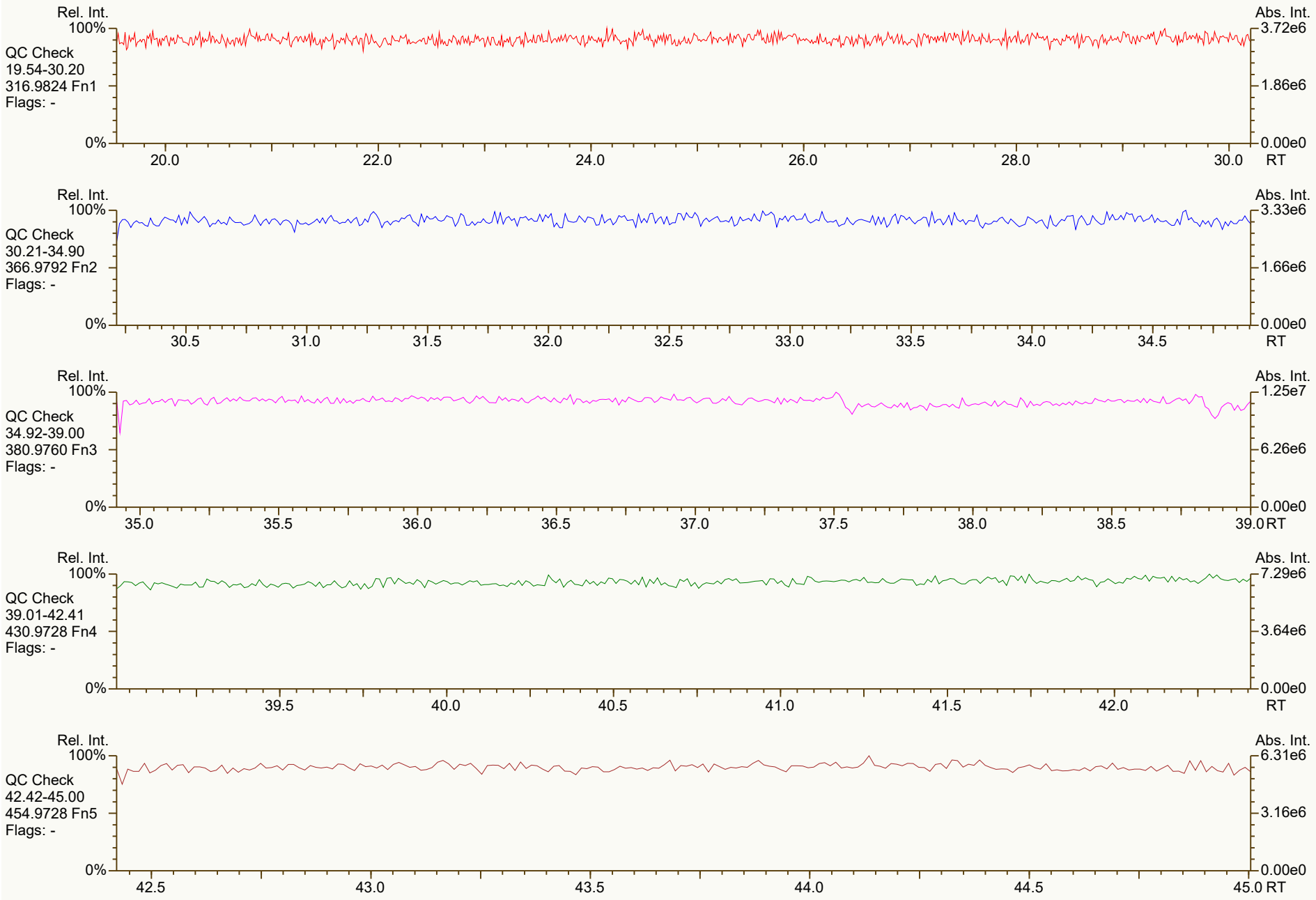
Client ID: Method Blank B6283_18915 | **UTP:** 14-Feb-2022 10:17:01 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 402-670-BBK

Datafile: 220212C06 | **Report:** 14 Feb 2022 10:18 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		2714.225	0.151
12347-PeCDF	NotFnd		0.9894						1.02		2714.225	0.151
12348-PeCDF	NotFnd		0.9940						1.02		2714.225	0.151
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2714.225**	**0.148**
12678/12367-PeCDF	NotFnd		1.0089						1.02		2714.225	0.151
12379-PeCDF	NotFnd		1.0142						1.02		2714.225	0.151
12679-PeCDF	NotFnd		0.9929						1.02		2714.225	0.151
23467/12369-PeCDF	NotFnd		0.9967						1.02		2714.225	0.151
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2714.225**	**0.153**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2714.225	0.151
12349-PeCDF	NotFnd		1.0100						1.02		2714.225	0.151
12389-PeCDF	NotFnd		1.0324						1.02		2714.225	0.151
123468-HxCDF	NotFnd		0.9627						1.19		2727.239	0.153
124678/134678-HxCDF	NotFnd		0.9682						1.19		2727.239	0.153
134679-HxCDF	NotFnd		0.9744						1.19		2727.239	0.153
124679-HxCDF	NotFnd		0.9798						1.19		2727.239	0.153
124689-HxCDF	NotFnd		0.9858						1.19		2727.239	0.153
123467-HxCDF	NotFnd		0.9972						1.19		2727.239	0.153
123478-HxCDF	**NotFnd**		**1.0005**						**1.27**		**2727.239**	**0.157**
123678-HxCDF	**NotFnd**		**1.0005**						**1.15**		**2727.239**	**0.145**
123479-HxCDF	NotFnd		1.0049						1.19		2727.239	0.153
123469-HxCDF	NotFnd		1.0090						1.19		2727.239	0.153
123679-HxCDF	NotFnd		0.9942						1.19		2727.239	0.153
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2727.239**	**0.133**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2727.239	0.153
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2727.239**	**0.189**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		2727.239	0.153
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2740.117**	**0.107**
1234679-HpCDF	NotFnd		1.0068						1.34		2740.117	0.154
1234689-HpCDF	NotFnd		1.0103						1.34		2740.117	0.154
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2740.117**	**0.248**
OCDF	**NotFnd**		**1.0003**						**1.07**		**2728.228**	**0.5**
OCDF-a	NotFnd		1.0002						0.07		2812.192	8.31

SGS ID: MB1_18915_DF_SDS | **Sample ID: Method Blank** | **Acq: 12-Feb-2022 06:19:35**

Instr: [ILM] AutoSpec-Ultima HRMS3 | **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 73** | **User: DTF Datafile: 220212C06**

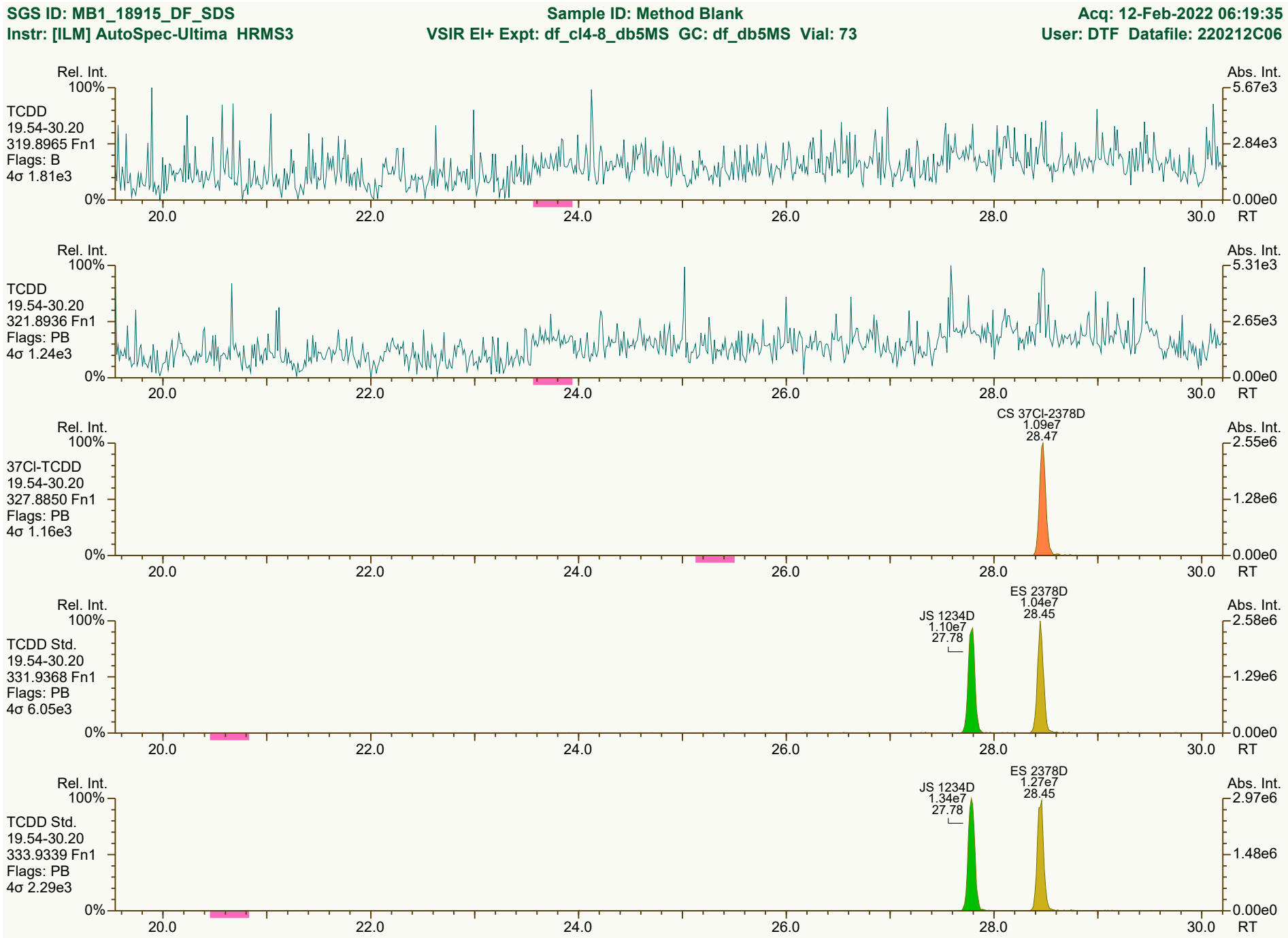


Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\MB1_18915_DF_SDS.utp_res, saved 14-Feb-2022 10:17 (DTF)

Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 scc: 402-670

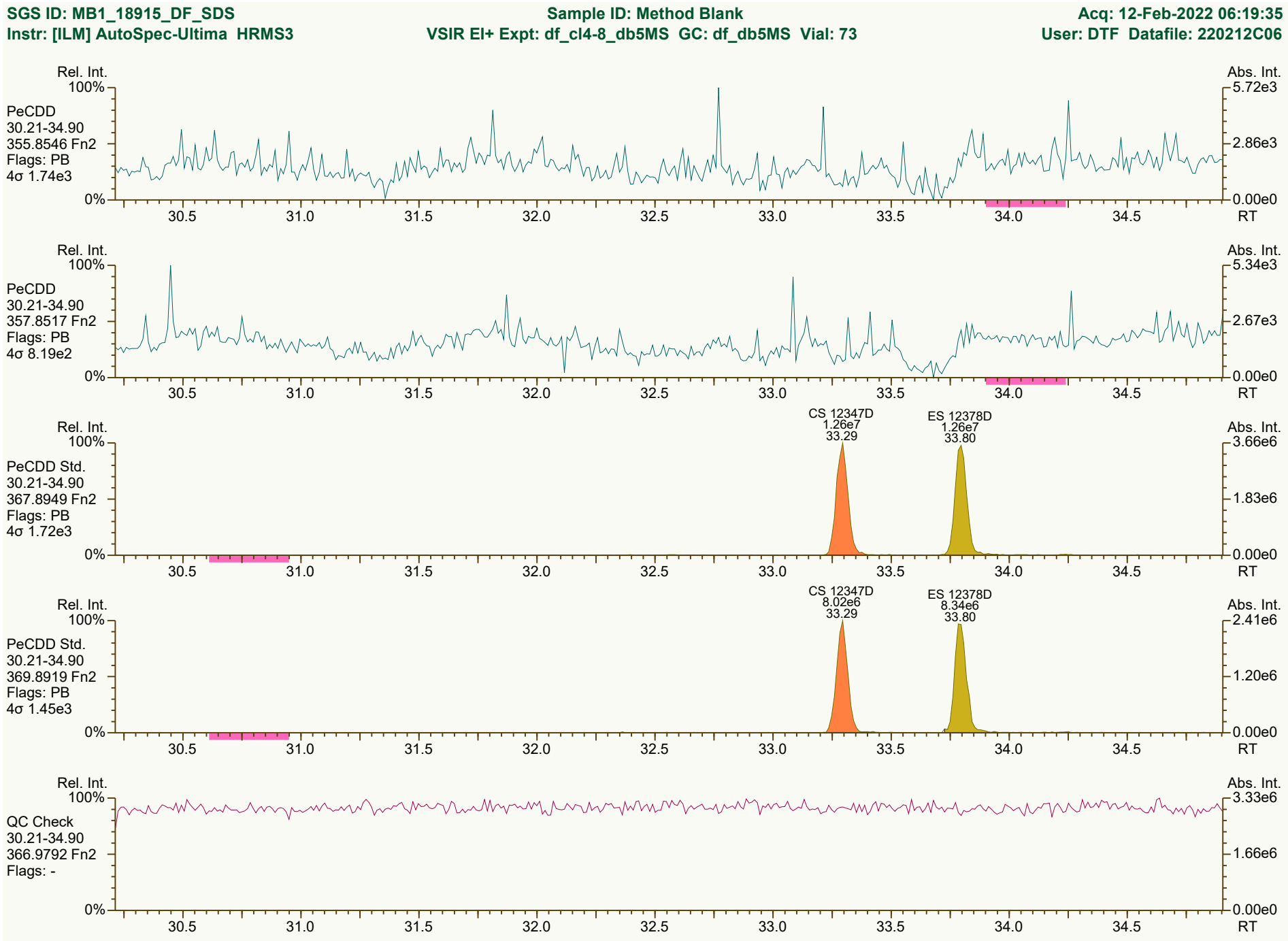
PKD: n/a Printed: 14-Feb-2022 10:23 Page 1 of 12


SGS ID: MB1_18915_DF_SDS
Sample ID: Method Blank
Acq: 12-Feb-2022 06:19:35
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 73
User: DTF Datafile: 220212C06
Rel. Int.
Abs. Int.
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 1.81e3
5.67e3
2.84e3
0.00e0
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.24e3
5.31e3
2.65e3
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.16e3
CS 37Cl-2378D
1.09e7
28.47
2.55e6
1.28e6
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.05e3
JS 1234D
1.10e7
27.78
ES 2378D
1.04e7
28.45
2.58e6
1.29e6
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.29e3
JS 1234D
1.34e7
27.78
ES 2378D
1.27e7
28.45
2.97e6
1.48e6
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\MB1_18915_DF_SDS.utp_res, saved 14-Feb-2022 10:17 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3995, 0282, 0026 scc: 402-670
PKD: 14-Feb-2022 09:54 Printed: 14-Feb-2022 10:23 Page 2 of 12

SGS ID: MB1_18915_DF_SDS
Instr: [ILM] AutoSpec-Ultima HRMS3

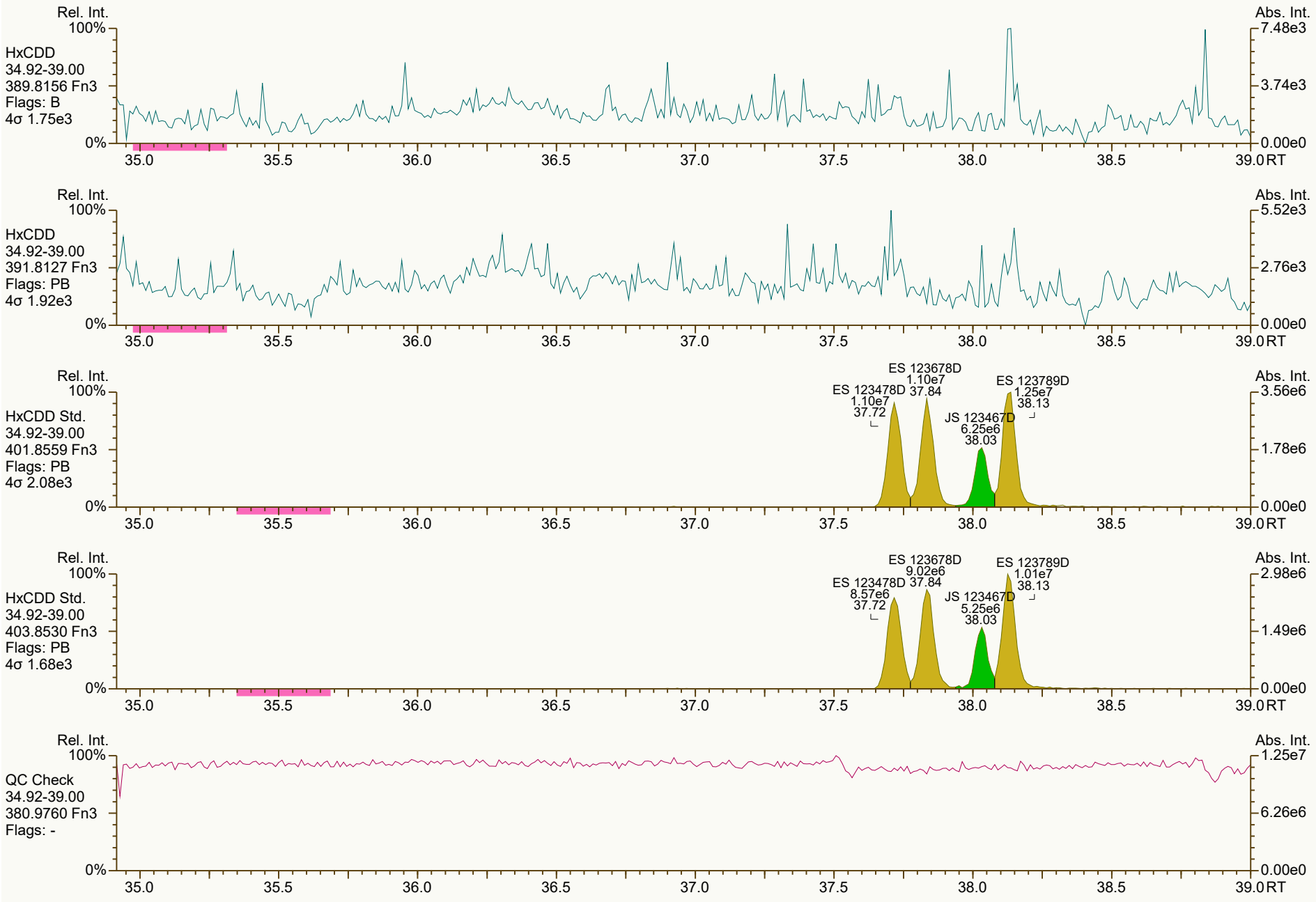
Sample ID: Method Blank
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 73

Acq: 12-Feb-2022 06:19:35
User: DTF Datafile: 220212C06



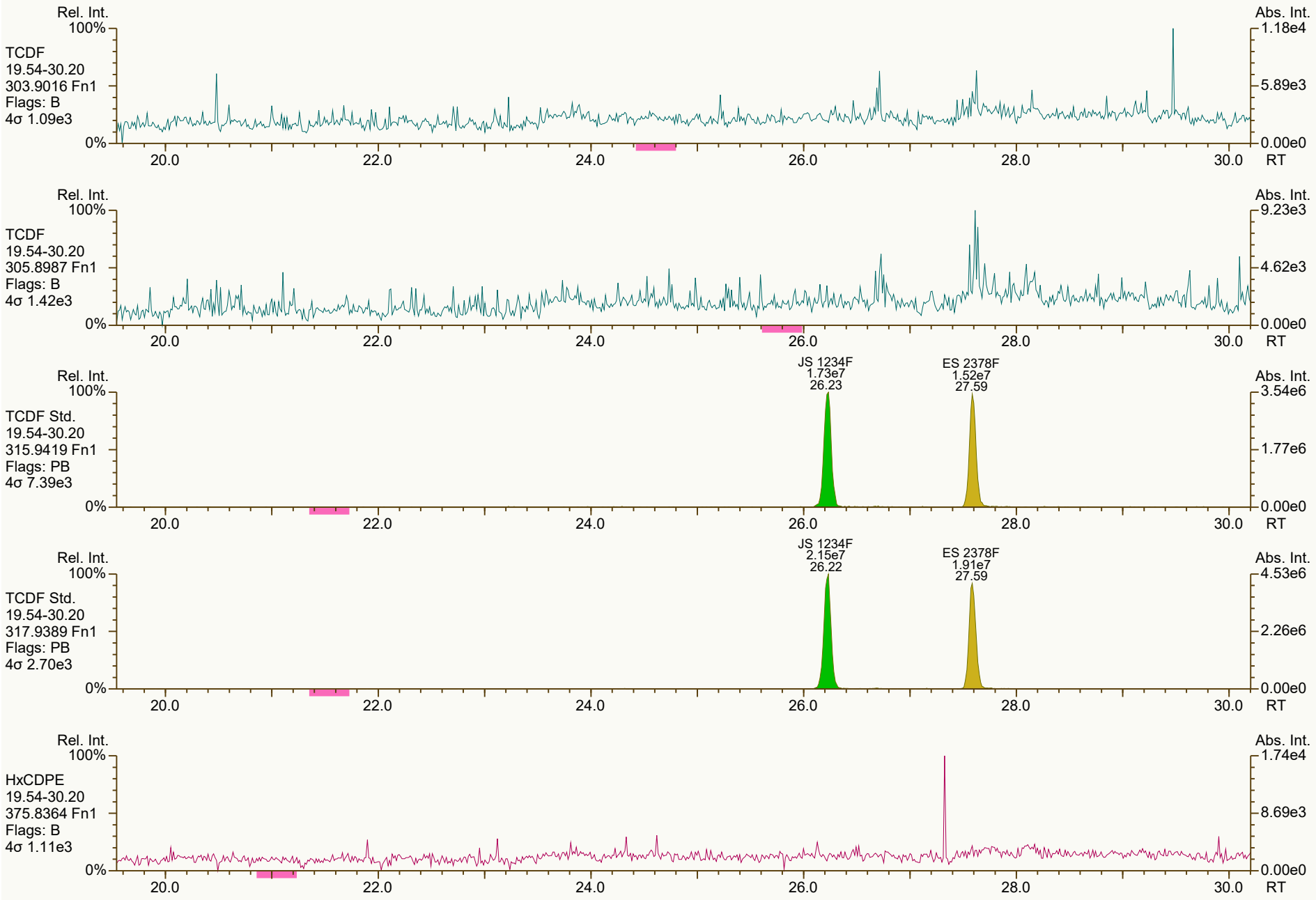
Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\MB1_18915_DF_SDS.utp_res, saved 14-Feb-2022 10:17 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4600, 4433 scc: 402-670

Peak annotation: Areas, Centroids
PKD: 14-Feb-2022 09:55 Printed: 14-Feb-2022 10:23 Page 3 of 12


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: B
4σ 1.75e3
0%
Abs. Int.
7.48e3
3.74e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 1.92e3
0%
Abs. Int.
5.52e3
2.76e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 2.08e3
0%
ES 123678D
1.10e7
37.84
ES 123478D
1.10e7
37.72
ES 123789D
1.25e7
38.13
JS 123467D
6.25e6
38.03
Abs. Int.
3.56e6
1.78e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 1.68e3
0%
ES 123678D
9.02e6
37.84
ES 123478D
8.57e6
37.72
ES 123789D
1.01e7
38.13
JS 123467D
5.25e6
38.03
Abs. Int.
2.98e6
1.49e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.25e7
6.26e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.63e3
0%
Abs. Int.
7.82e3
3.91e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: B
4σ 1.02e3
0%
Abs. Int.
1.03e4
5.15e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
8.59e6*
40.81
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 1.72e3
0%
Abs. Int.
2.65e6
1.32e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
8.24e6*
40.81
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 1.71e3
0%
Abs. Int.
2.47e6
1.24e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.29e6
3.64e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: B
4σ 2.30e3
0%
Abs. Int.
9.78e3
4.89e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: B
4σ 2.12e3
0%
Abs. Int.
9.13e3
4.56e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.06e7*
43.51
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
2.29e6
1.14e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.19e7*
43.51
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 2.85e3
0%
Abs. Int.
2.57e6
1.28e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.31e6
3.16e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: B
4σ 1.09e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 1.42e3
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 7.39e3
0%
JS 1234F
1.73e7
26.23
ES 2378F
1.52e7
27.59
Abs. Int.
3.54e6
1.77e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.70e3
0%
JS 1234F
2.15e7
26.22
ES 2378F
1.91e7
27.59
Abs. Int.
4.53e6
2.26e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.11e3
0%
Abs. Int.
1.74e4
8.69e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

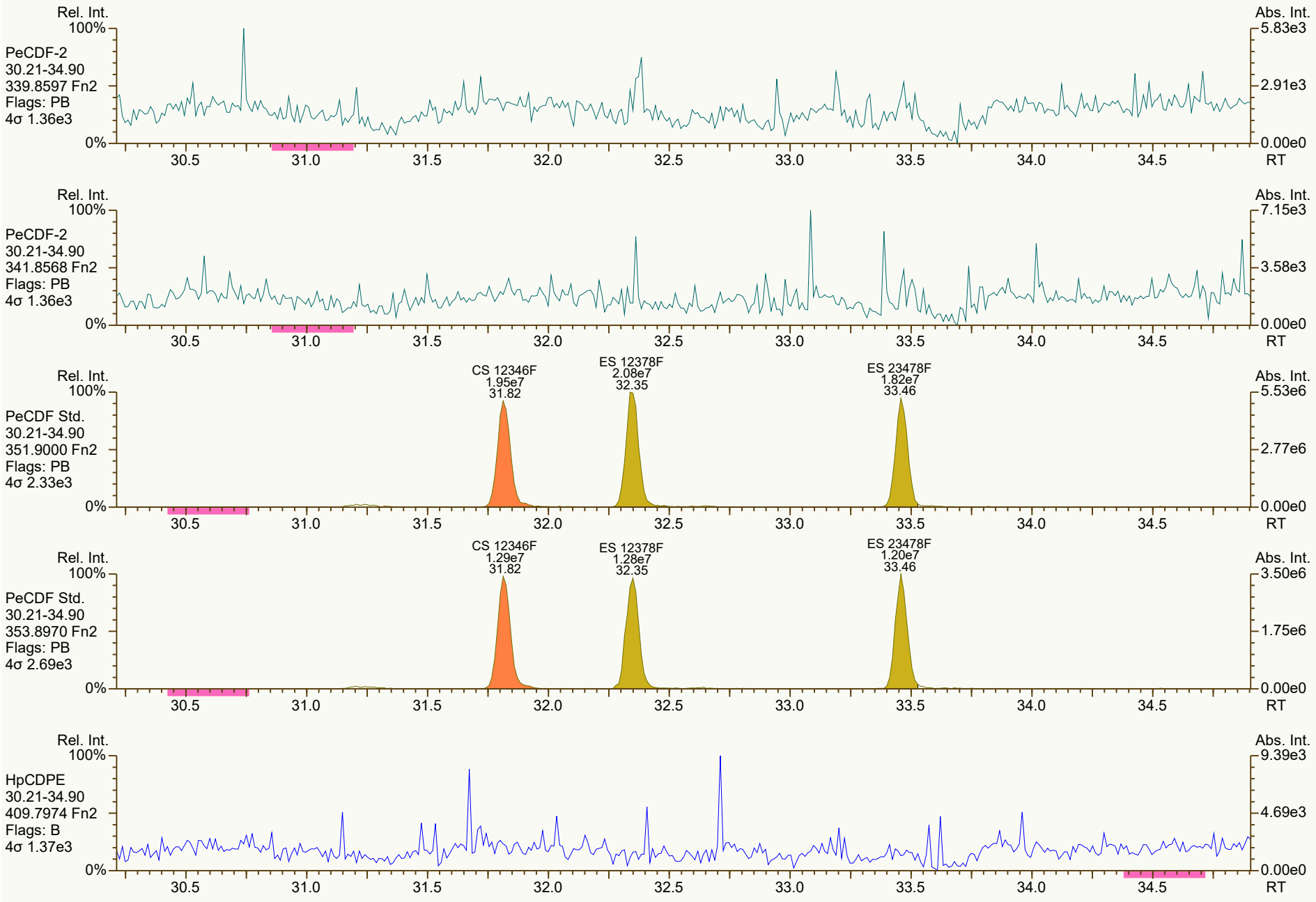
SGS ID: MB1_18915_DF_SDS | Sample ID: Method Blank | Acq: 12-Feb-2022 06:19:35

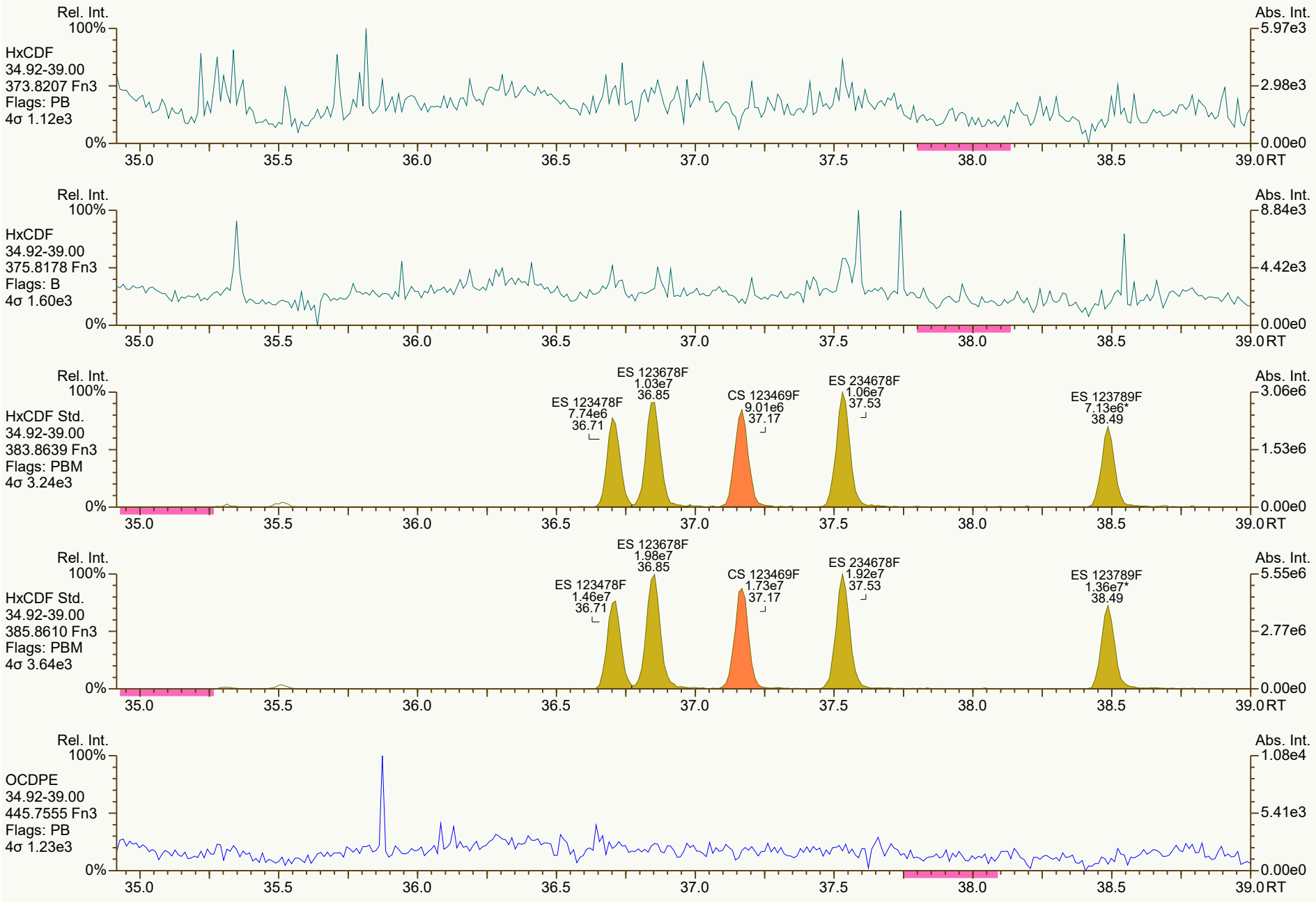
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 73 | User: DTF Datafile: 220212C06



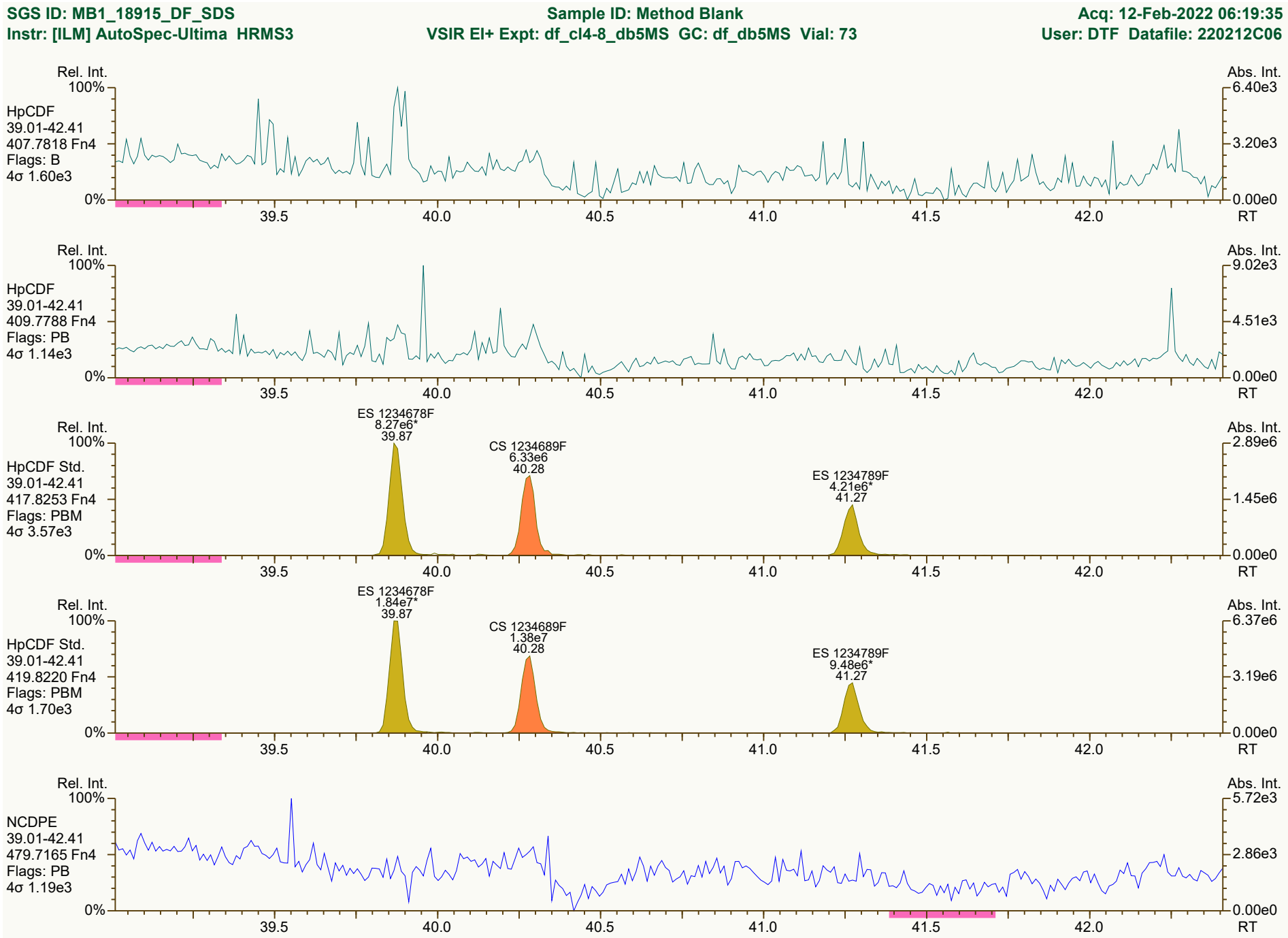
Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\MB1_18915_DF_SDS.utp_res, saved 14-Feb-2022 10:17 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6695 scc: 402-670 | *PKD: 14-Feb-2022 09:54 Printed: 14-Feb-2022 10:23 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PB
4σ 1.36e3
0%
Abs. Int.
5.83e3
2.91e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PB
4σ 1.36e3
7.15e3
3.58e3
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 2.33e3
CS 12346F
1.95e7
31.82
ES 12378F
2.08e7
32.35
ES 23478F
1.82e7
33.46
5.53e6
2.77e6
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 2.69e3
CS 12346F
1.29e7
31.82
ES 12378F
1.28e7
32.35
ES 23478F
1.20e7
33.46
3.50e6
1.75e6
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.37e3
9.39e3
4.69e3


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PB
4σ 1.12e3
0%
Abs. Int.
5.97e3
2.98e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: B
4σ 1.60e3
0%
Abs. Int.
8.84e3
4.42e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 3.24e3
0%
ES 123678F
1.03e7
36.85
ES 123478F
7.74e6
36.71
CS 123469F
9.01e6
37.17
ES 234678F
1.06e7
37.53
ES 123789F
7.13e6*
38.49
Abs. Int.
3.06e6
1.53e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 3.64e3
0%
ES 123678F
1.98e7
36.85
ES 123478F
1.46e7
36.71
CS 123469F
1.73e7
37.17
ES 234678F
1.92e7
37.53
ES 123789F
1.36e7*
38.49
Abs. Int.
5.55e6
2.77e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.23e3
0%
Abs. Int.
1.08e4
5.41e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

SGS ID: MB1_18915_DF_SDS
Instr: [ILM] AutoSpec-Ultima HRMS3
Sample ID: Method Blank
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 73
Acq: 12-Feb-2022 06:19:35
User: DTF Datafile: 220212C06




Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.18e3
0%
Abs. Int.
4.68e3
2.34e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: B
4σ 1.55e3
0%
Abs. Int.
7.81e3
3.91e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.14e7
43.69
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.59e3
0%
Abs. Int.
2.41e6
1.20e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.27e7
43.69
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 1.33e3
0%
Abs. Int.
2.76e6
1.38e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 9.75e2
0%
Abs. Int.
3.82e3
1.91e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6283_18915_DF_001 **Acq'd:** 12 Feb 2022 07:52 DTF **Wt/Vol:** 14.16 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020422-S-SB-SW-S-54 **UTP:** 14-Feb-2022 10:17:01 DTF **J-level:** 0.353 pg/g **Split:** 1 **Checkcode:** 757-464-XYM

Datafile: 220212C08 **Report:** 14 Feb 2022 10:19 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.48		1.0008	1.0009	+0.2	2.30E+06	0.78	Y	1.18	11.3	4488.985	0.233
12378-PeCDD	33.83	J	1.0005	1.0005	0	9.39E+04	1.53	Y	1.04	0.599	3408.306	0.199
123478-HxCDD	37.76	J	1.0004	1.0005	+0.2	1.01E+05	1.31	Y	1.09	0.671	5080.505	0.283
123678-HxCDD	37.87	J	1.0035	1.0035	0	2.60E+05	1.41	Y	1.15	1.69	5080.505	0.29
123789-HxCDD	38.16	J	1.0113	1.0113	0	2.37E+05	1.33	Y	1.05	1.42	5080.505	0.272
1234678-HpCDD	40.84		1.0003	1.0003	0	5.68E+06	1.08	Y	1.06	42.4	3692.433	0.214
OCDD	43.52		1.0002	1.0003	+0.3	7.07E+07	0.91	Y	1.13	717	4995.893	0.576
2378-TCDF	27.62		1.0008	1.0008	0	1.39E+07	0.81	Y	1.08	50.1	2829.352	0.112
12378-PeCDF	32.38	J	1.0005	1.0005	0	3.52E+05	1.48	Y	1.02	1.4	3618.682	0.138
23478-PeCDF	33.50		1.0005	1.0008	+0.6	4.76E+05	1.50	Y	1.02	2.15	3618.682	0.151
123478-HxCDF	36.74		1.0005	1.0004	-0.2	4.73E+05	1.25	Y	1.27	2.3	4661.252	0.191
123678-HxCDF	36.88	J	1.0005	1.0003	-0.4	2.77E+05	1.12	Y	1.15	1.16	4661.252	0.163
234678-HxCDF	37.56	J	1.0005	1.0004	-0.2	2.73E+05	1.06	Y	1.19	1.24	4661.252	0.182
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4661.252	0.232
1234678-HpCDF	39.90		1.0003	1.0002	-0.2	1.60E+07	1.00	Y	1.37	63.3	3898.75	0.106
1234789-HpCDF	41.29		1.0003	1.0003	0	2.64E+05	0.92	Y	1.31	1.95	3898.75	0.237
OCDF	43.70		1.0003	1.0002	-0.3	4.98E+07	0.89	Y	1.07	462	4303.386	0.481

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46		1.0238	1.0238	0	2.42E+07	0.85	Y	1.05	86
ES 12378-PeCDD	33.81		1.2160	1.2164	+0.8	2.14E+07	1.62	Y	0.88	90.4
ES 123478-HxCDD	37.74		0.9919	0.9919	0	1.95E+07	1.30	Y	0.97	90.4
ES 123678-HxCDD	37.85		0.9950	0.9949	-0.2	1.89E+07	1.24	Y	0.94	90.1
ES 123789-HxCDD	38.15		1.0027	1.0027	0	2.25E+07	1.23	Y	1.09	92.7
ES 1234678-HpCDD	40.82		1.0730	1.0730	0	1.78E+07	1.07	Y	0.91	88
ES OCDD	43.51		1.1437	1.1437	0	2.47E+07	0.93	Y	0.62	89.1
ES 2378-TCDF	27.60		1.0520	1.0522	+0.3	3.63E+07	0.81	Y	1.06	81.5
ES 12378-PeCDF	32.36		1.2330	1.2336	+1.2	3.47E+07	1.60	Y	0.91	90.7
ES 23478-PeCDF	33.48		1.2754	1.2761	+1.4	3.06E+07	1.54	Y	0.88	82.5
ES 123478-HxCDF	36.72		0.9653	0.9652	-0.2	2.28E+07	0.57	Y	1.20	85.8
ES 123678-HxCDF	36.87		0.9691	0.9690	-0.2	2.94E+07	0.55	Y	1.35	97.9
ES 234678-HxCDF	37.55		0.9870	0.9870	0	2.62E+07	0.53	Y	1.24	94.8
ES 123789-HxCDF	38.50		1.0121	1.0121	0	2.01E+07	0.52	Y	1.16	78.4
ES 1234678-HpCDF	39.89		1.0484	1.0485	+0.2	2.60E+07	0.46	Y	0.97	121
ES 1234789-HpCDF	41.28		1.0851	1.0850	-0.2	1.46E+07	0.46	Y	0.85	77.1
ES OCDF	43.69		1.1483	1.1485	+0.5	2.84E+07	0.90	Y	0.81	79.2

Lab ID: B6283_18915_DF_001 **Acq'd:** 12 Feb 2022 07:52 DTF **Wt/Vol:** 14.16 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020422-S-SB-SW-S-54 **UTP:** 14-Feb-2022 10:17:01 DTF **J-level:** 0.353 pg/g **Split:** 1 **Checkcode:** 757-464-XYM

Datafile: 220212C08 **Report:** 14 Feb 2022 10:19 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.80		-	-	-	2.69E+07	0.87	Y	-	-
JS 1234-TCDF	26.23		-	-	-	4.21E+07	0.80	Y	-	-
JS 123467-HxCDD	38.05		-	-	-	1.11E+07	1.28	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0245	1.0247	+0.3	1.24E+07	n/a	-	1.20	95.7
CS 12347-PeCDD	33.31		1.1979	1.1982	+0.6	2.09E+07	1.53	Y	0.75	103
CS 12346-PeCDF	31.83		1.2128	1.2134	+1.1	3.54E+07	1.53	Y	0.85	98.9
CS 123469-HxCDF	37.18		0.9774	0.9773	-0.2	2.69E+07	0.54	Y	1.12	108
CS 1234689-HpCDF	40.29		1.0589	1.0590	+0.2	2.19E+07	0.44	Y	0.89	111
~~SS 37Cl-2378-TCDD~~	~~28.48~~		~~1.0245~~	~~1.0247~~	~~+0.3~~	~~1.24E+07~~	~~n/a~~		~~1.15~~	~~111~~
~~SS 12347-PeCDD~~	~~33.31~~		~~1.1979~~	~~1.1982~~	~~+0.6~~	~~2.09E+07~~	~~1.53~~	~~Y~~	~~0.86~~	~~114~~
~~SS 12346-PeCDF~~	~~31.83~~		~~1.2128~~	~~1.2134~~	~~+1.1~~	~~3.54E+07~~	~~1.53~~	~~Y~~	~~0.94~~	~~109~~
~~SS 123469-HxCDF~~	~~37.18~~		~~0.9774~~	~~0.9773~~	~~-0.2~~	~~2.69E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~111~~
~~SS 1234689-HpCDF~~	~~40.29~~		~~1.0589~~	~~1.0590~~	~~+0.2~~	~~2.19E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~91.7~~

Totals	Conc	EMPC
Total TCDD	15	15.8
Total PeCDD	4.75	5.67
Total HxCDD	29.7	30.4
Total HpCDD	132	132
Total Tetra-Octa Dioxins	899	901
Total TCDF	77.3	80
Total PeCDF	13	13
Total HxCDF	16.2	17.4
Total HpCDF	77	77
Total Tetra-Octa Furans	645	649
Total Tetra-Octa Dioxins & Furans	1540	1550

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.773	0.78
Response	2.31E+06	2.30E+06

Lab ID: B6283_18915_DF_001 **Acq'd: 12 Feb 2022 07:52 DTF** **Wt/Vol: 14.16 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020422-S-SB-SW-S-54 **UTP: 14-Feb-2022 10:17:01 DTF** **J-level: 0.353 pg/g** **Split: 1** **Checkcode: 757-464-XYM**

Datafile: 220212C08 **Report: 14 Feb 2022 10:19 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.84		0.8737	0.8728	-1.3	8.06E+04	0.78	Y	1.18	0.398	4488.985	0.233
1379-TCDD	NotFnd		0.8860						1.18		4488.985	0.233
1369-TCDD	NotFnd		0.9009						1.18		4488.985	0.233
1469-TCDD	26.39		0.9281	0.9274	-1.1	6.66E+05	0.75	Y	1.18	3.28	4488.985	0.233
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		4488.985	0.233
1378-TCDD	NotFnd		0.9432						1.18		4488.985	0.233
1268-TCDD	NotFnd		0.9500						1.18		4488.985	0.233
1478-TCDD	NotFnd		0.9586						1.18		4488.985	0.233
1279-TCDD	NotFnd		0.9645						1.18		4488.985	0.233
1234/1269-TCDD	NotFnd		0.9770						1.18		4488.985	0.233
1236-TCDD	NotFnd		0.9817						1.18		4488.985	0.233
1237/1238-TCDD	NotFnd		0.9905						1.18		4488.985	0.233
1239-TCDD	NotFnd		0.9952						1.18		4488.985	0.233
2378-TCDD	**28.48**		**1.0008**	1.0009	**+0.2**	2.30E+06	0.78	Y	**1.18**	**11.3**	**4488.985**	**0.233**
1278-TCDD	28.81	EMPC	1.0121	1.0124	+0.5	1.57E+05	0.90	N	1.18	0.773	4488.985	0.233
1267-TCDD	NotFnd		1.0167						1.18		4488.985	0.233
1289-TCDD	NotFnd		1.0345						1.18		4488.985	0.233
12479/12468-PeCDD	31.32	J EMPC	0.9267	0.9264	-0.6	1.08E+05	2.14	N	1.04	0.688	3408.306	0.199
12469-PeCDD	31.86		0.9425	0.9422	-0.6	3.90E+05	1.43	Y	1.04	2.49	3408.306	0.199
12368-PeCDD	32.41	J	0.9588	0.9586	-0.4	5.20E+04	1.32	Y	1.04	0.332	3408.306	0.199
12478-PeCDD	32.60	J	0.9643	0.9641	-0.4	7.48E+04	1.45	Y	1.04	0.478	3408.306	0.199
12379-PeCDD	32.69	J EMPC	0.9673	0.9669	-0.8	3.64E+04	1.08	N	1.04	0.232	3408.306	0.199
12369/12467/12489-PeCDD	32.96	J	0.9750	0.9749	-0.2	1.33E+05	1.43	Y	1.04	0.85	3408.306	0.199
12346/12347-PeCDD	NotFnd		0.9858						1.04		3408.306	0.199
12378-PeCDD	33.83	J	**1.0005**	**1.0005**	**0**	**9.39E+04**	**1.53**	**Y**	**1.04**	**0.599**	**3408.306**	**0.199**
12367-PeCDD	NotFnd		1.0033						1.04		3408.306	0.199
12389-PeCDD	NotFnd		1.0134						1.04		3408.306	0.199
124679/124689-HxCDD	36.00		0.9542	0.9540	-0.4	2.73E+06	1.15	Y	1.10	17.4	5080.505	0.281
123468-HxCDD	36.66	J	0.9715	0.9714	-0.2	1.79E+05	1.37	Y	1.10	1.14	5080.505	0.281
123679/123689-HxCDD	36.95		0.9793	0.9792	-0.2	1.07E+06	1.19	Y	1.10	6.77	5080.505	0.281
123469-HxCDD	37.08	J EMPC	0.9828	0.9826	-0.4	9.77E+04	0.89	N	1.10	0.621	5080.505	0.281
123478-HxCDD	37.76	J	**1.0004**	**1.0005**	**+0.2**	**1.01E+05**	**1.31**	**Y**	1.09	**0.671**	**5080.505**	**0.283**
123678-HxCDD	37.87	J	**1.0035**	**1.0035**	**0**	**2.60E+05**	**1.41**	**Y**	1.15	**1.69**	**5080.505**	**0.29**
123467-HxCDD	38.06	J	1.0085	1.0086	+0.2	1.08E+05	1.31	Y	1.10	0.684	5080.505	0.281
123789-HxCDD	38.16	J	**1.0113**	**1.0113**	**0**	**2.37E+05**	**1.33**	**Y**	1.05	**1.42**	**5080.505**	**0.272**

Lab ID: B6283_18915_DF_001 **Acq'd: 12 Feb 2022 07:52 DTF** **Wt/Vol: 14.16 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020422-S-SB-SW-S-54 **UTP: 14-Feb-2022 10:17:01 DTF** **J-level: 0.353 pg/g** **Split: 1** **Checkcode: 757-464-XYM**

Datafile: 220212C08 **Report: 14 Feb 2022 10:19 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

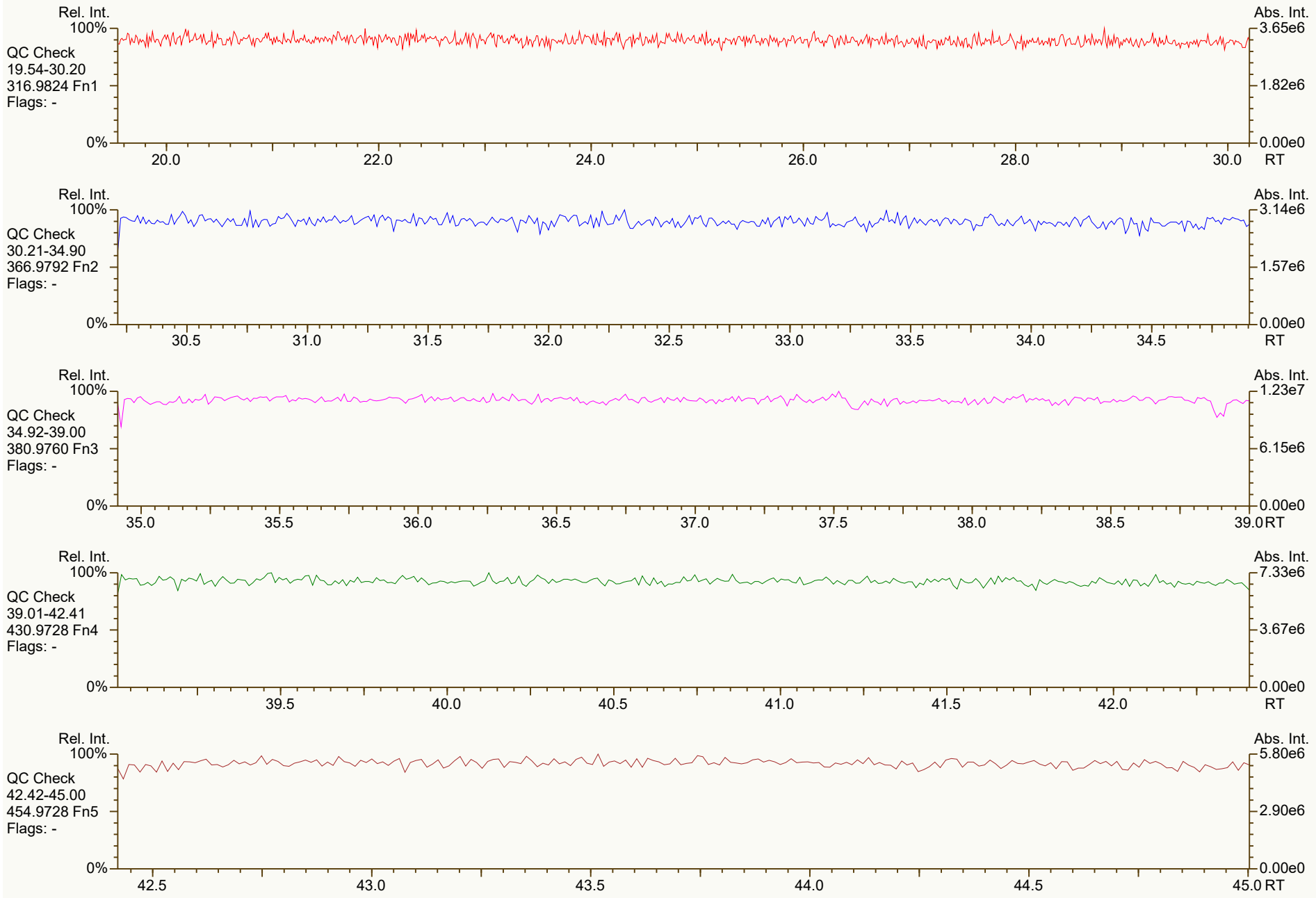
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16		0.9837	0.9837	0	1.20E+07	1.04	Y	1.06	89.8	3692.433	0.214
1234678-HpCDD	**40.84**		**1.0003**	**1.0003**	**0**	**5.68E+06**	**1.08**	**Y**	**1.06**	**42.4**	**3692.433**	**0.214**
OCDD	**43.52**		**1.0002**	**1.0003**	**+0.3**	**7.07E+07**	**0.91**	**Y**	**1.13**	**717**	**4995.893**	**0.576**
OCDD-a	43.52		1.0001	1.0002	+0.3	4.71E+06	2.23	Y	0.07	748	5472.274	9.87
1368-TCDF	22.74	J EMPC	0.8251	0.8238	-1.8	6.79E+04	0.59	N	1.08	0.245	2829.352	0.112
1468-TCDF	23.30		0.8458	0.8441	-2.4	1.61E+05	0.72	Y	1.08	0.579	2829.352	0.112
2468-TCDF	23.93		0.8686	0.8670	-2.3	3.33E+05	0.70	Y	1.08	1.2	2829.352	0.112
1346/1246-TCDF	NotFnd		0.8814						1.08		2829.352	0.112
1347/1378/1247-TCDF	24.45		0.8867	0.8858	-1.3	3.20E+05	0.84	Y	1.08	1.15	2829.352	0.112
1348-TCDF	NotFnd		0.8962						1.08		2829.352	0.112
1248/1367/1379-TCDF	24.82		0.9009	0.8990	-2.8	2.85E+05	0.72	Y	1.08	1.03	2829.352	0.112
1268-TCDF	25.23		0.9145	0.9142	-0.5	2.30E+05	0.71	Y	1.08	0.83	2829.352	0.112
1467-TCDF	25.35	J	0.9193	0.9184	-1.4	6.49E+04	0.72	Y	1.08	0.234	2829.352	0.112
1478-TCDF	25.53		0.9254	0.9249	-0.8	3.40E+05	0.86	Y	1.08	1.23	2829.352	0.112
1369/1237-TCDF	25.90	EMPC	0.9387	0.9384	-0.5	2.05E+05	0.90	N	1.08	0.74	2829.352	0.112
2467-TCDF	NotFnd		0.9433						1.08		2829.352	0.112
2368-TCDF	26.18		0.9489	0.9485	-0.6	7.67E+05	0.81	Y	1.08	2.77	2829.352	0.112
1238/1234/1678/1469/1236-TCDF	26.28		0.9523	0.9521	-0.3	5.82E+05	0.85	Y	1.08	2.1	2829.352	0.112
1278-TCDF	26.73		0.9683	0.9682	-0.2	1.57E+06	0.81	Y	1.08	5.67	2829.352	0.112
1349-TCDF	NotFnd		0.9722						1.08		2829.352	0.112
1267-TCDF	27.01	EMPC	0.9783	0.9784	+0.2	2.83E+05	0.92	N	1.08	1.02	2829.352	0.112
2346/1249-TCDF	NotFnd		0.9850						1.08		2829.352	0.112
2347/1279-TCDF	27.40		0.9926	0.9927	+0.2	1.76E+05	0.77	Y	1.08	0.634	2829.352	0.112
2348-TCDF	27.50	EMPC	0.9967	0.9963	-0.7	1.84E+05	0.63	N	1.08	0.663	2829.352	0.112
2378-TCDF	**27.62**		**1.0008**	**1.0008**	**0**	**1.39E+07**	**0.81**	**Y**	**1.08**	**50.1**	**2829.352**	**0.112**
2367/3467-TCDF	27.97		1.0137	1.0135	-0.3	1.81E+06	0.75	Y	1.08	6.52	2829.352	0.112
1269-TCDF	28.23		1.0223	1.0226	+0.5	4.20E+05	0.80	Y	1.08	1.51	2829.352	0.112
1239-TCDF	NotFnd		1.0321						1.08		2829.352	0.112
1289-TCDF	29.63		1.0722	1.0735	+2.3	5.01E+05	0.82	Y	1.08	1.81	2829.352	0.112
13468/12468-PeCDF	29.57		0.9139	0.9138	-0.2	1.03E+06	1.65	Y	1.02	4.37	2920.317	0.117
13678/13467/12467-PeCDF	31.11	J	0.9613	0.9614	+0.2	1.07E+05	1.71	Y	1.02	0.451	3618.682	0.144
12368/13478/12478-PeCDF	31.28		0.9662	0.9666	+0.8	6.90E+05	1.42	Y	1.02	2.92	3618.682	0.144
14678-PeCDF	NotFnd		0.9692						1.02		3618.682	0.144
13479-PeCDF	NotFnd		0.9723						1.02		3618.682	0.144
13469/12479-PeCDF	NotFnd		0.9797						1.02		3618.682	0.144
12346-PeCDF	NotFnd		0.9840						1.02		3618.682	0.144

Lab ID: B6283_18915_DF_001 **Acq'd: 12 Feb 2022 07:52 DTF** **Wt/Vol: 14.16 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020422-S-SB-SW-S-54 **UTP: 14-Feb-2022 10:17:01 DTF** **J-level: 0.353 pg/g** **Split: 1** **Checkcode: 757-464-XYM**

Datafile: 220212C08 **Report: 14 Feb 2022 10:19 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.95	J	0.9868	0.9873	+1.0	2.09E+05	1.50	Y	1.02	0.885	3618.682	0.144
12347-PeCDF	NotFnd		0.9894						1.02		3618.682	0.144
12348-PeCDF	NotFnd		0.9940						1.02		3618.682	0.144
12378-PeCDF	**32.38**	J	**1.0005**	**1.0005**	**0**	**3.52E+05**	**1.48**	**Y**	**1.02**	**1.4**	**3618.682**	**0.138**
12678/12367-PeCDF	32.67	J	1.0089	1.0095	+1.2	1.98E+05	1.42	Y	1.02	0.836	3618.682	0.144
12379-PeCDF	NotFnd		1.0142						1.02		3618.682	0.144
12679-PeCDF	NotFnd		0.9929						1.02		3618.682	0.144
23467/12369-PeCDF	NotFnd		0.9967						1.02		3618.682	0.144
23478-PeCDF	**33.50**		**1.0005**	**1.0008**	**+0.6**	**4.76E+05**	**1.50**	**Y**	**1.02**	**2.15**	**3618.682**	**0.151**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3618.682	0.144
12349-PeCDF	NotFnd		1.0100						1.02		3618.682	0.144
12389-PeCDF	NotFnd		1.0324						1.02		3618.682	0.144
123468-HxCDF	35.35		0.9627	0.9627	0	4.38E+05	1.21	Y	1.19	2.1	4661.252	0.188
124678/134678-HxCDF	35.55		0.9682	0.9680	-0.4	1.22E+06	1.20	Y	1.19	5.86	4661.252	0.188
134679-HxCDF	NotFnd		0.9744						1.19		4661.252	0.188
124679-HxCDF	NotFnd		0.9798						1.19		4661.252	0.188
124689-HxCDF	36.20		0.9858	0.9858	0	7.45E+05	1.27	Y	1.19	3.58	4661.252	0.188
123467-HxCDF	36.62	J EMPC	0.9972	0.9972	0	9.03E+04	0.88	N	1.19	0.434	4661.252	0.188
123478-HxCDF	**36.74**		**1.0005**	**1.0004**	**-0.2**	**4.73E+05**	**1.25**	**Y**	**1.27**	**2.3**	**4661.252**	**0.191**
123678-HxCDF	**36.88**	J	**1.0005**	**1.0003**	**-0.4**	**2.77E+05**	**1.12**	**Y**	**1.15**	**1.16**	**4661.252**	**0.163**
123479-HxCDF	NotFnd		1.0049						1.19		4661.252	0.188
123469-HxCDF	37.20	J EMPC	1.0090	1.0091	+0.2	6.07E+04	1.53	N	1.19	0.292	4661.252	0.188
123679-HxCDF	NotFnd		0.9942						1.19		4661.252	0.188
234678-HxCDF	**37.56**	J	**1.0005**	**1.0004**	**-0.2**	**2.73E+05**	**1.06**	**Y**	**1.19**	**1.24**	**4661.252**	**0.182**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4661.252	0.188
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4661.252**	**0.232**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.55	J EMPC	1.0009	1.0011	+0.5	8.61E+04	1.50	N	1.19	0.413	4661.252	0.188
1234678-HpCDF	**39.90**		**1.0003**	**1.0002**	**-0.2**	**1.60E+07**	**1.00**	**Y**	**1.37**	**63.3**	**3898.75**	**0.106**
1234679-HpCDF	NotFnd		1.0068						1.34		3898.75	0.152
1234689-HpCDF	40.30		1.0103	1.0103	0	2.26E+06	1.02	Y	1.34	11.8	3898.75	0.152
1234789-HpCDF	**41.29**		**1.0003**	**1.0003**	**0**	**2.64E+05**	**0.92**	**Y**	**1.31**	**1.95**	**3898.75**	**0.237**
OCDF	**43.70**		**1.0003**	**1.0002**	**-0.3**	**4.98E+07**	**0.89**	**Y**	**1.07**	**462**	**4303.386**	**0.481**
OCDF-a	43.70		1.0002	1.0001	-0.3	3.20E+06	2.58	Y	0.07	479	3788.576	6.83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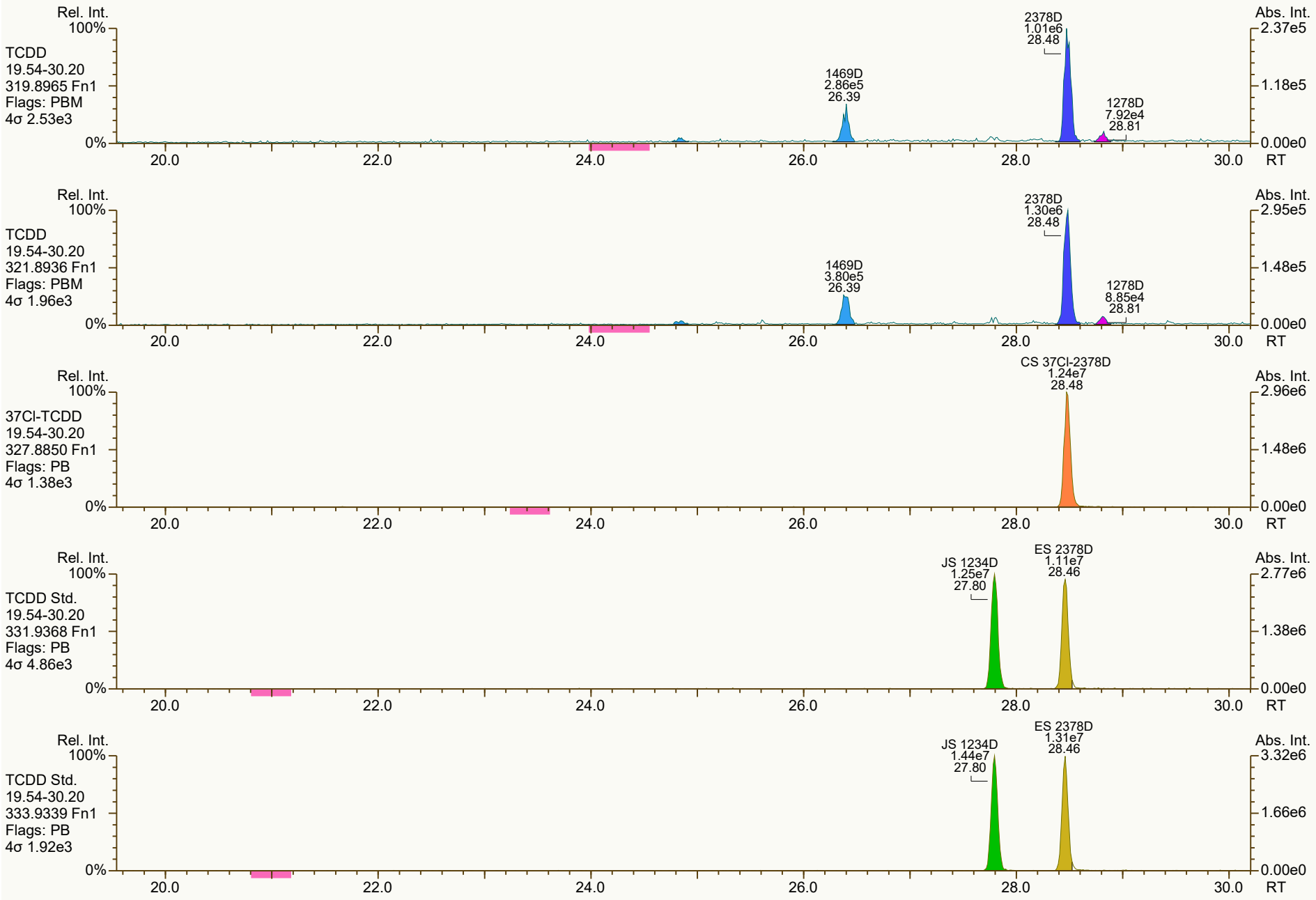
0%
Abs. Int.
3.65e6
1.82e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.14e6
1.57e6
0.00e0
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
0%
Abs. Int.
1.23e7
6.15e6
0.00e0
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
0%
Abs. Int.
7.33e6
3.67e6
0.00e0
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
0%
Abs. Int.
5.80e6
2.90e6
0.00e0
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0
RT

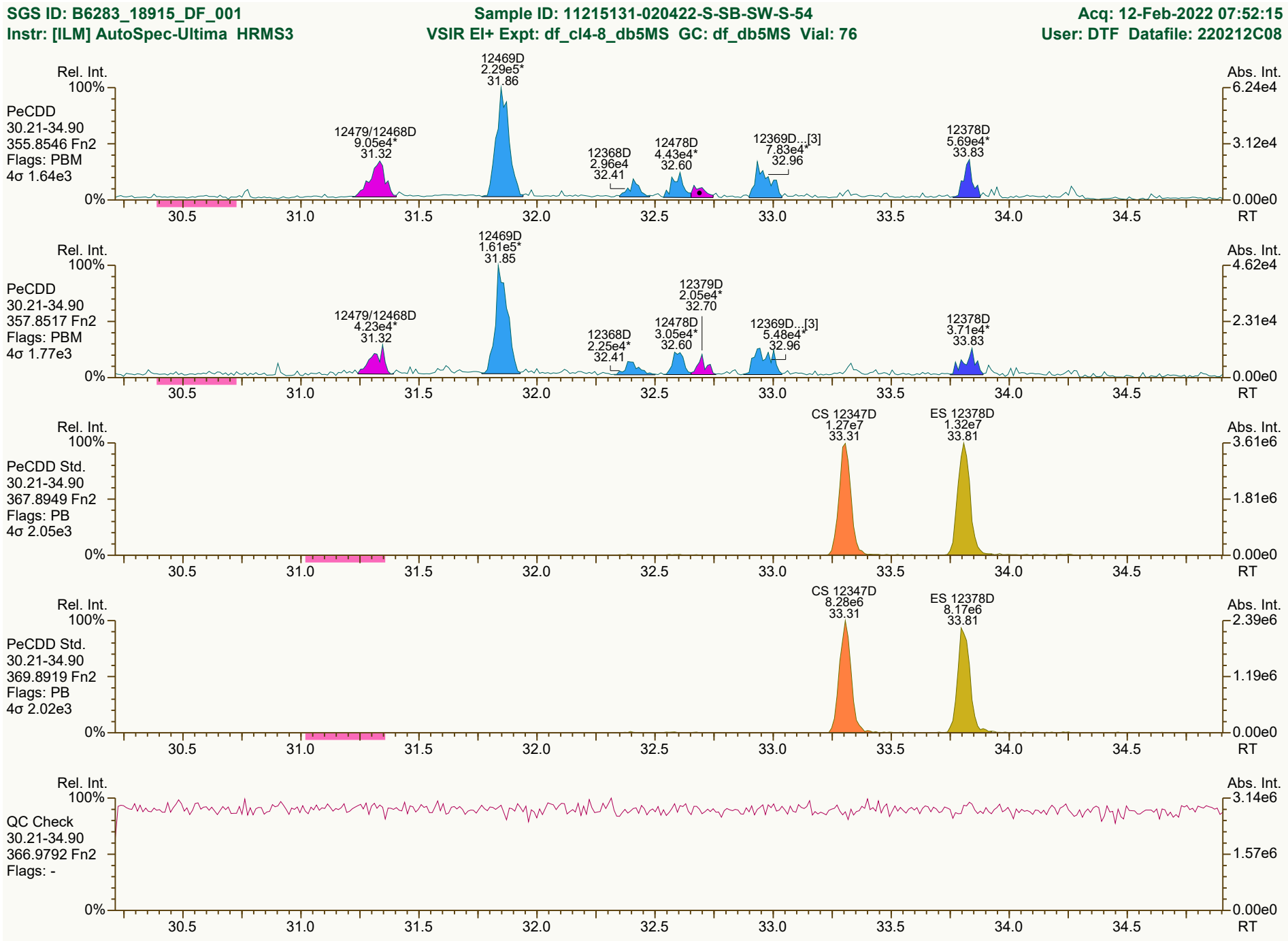
SGS ID: B6283_18915_DF_001 | Sample ID: 11215131-020422-S-SB-SW-S-54 | Acq: 12-Feb-2022 07:52:15

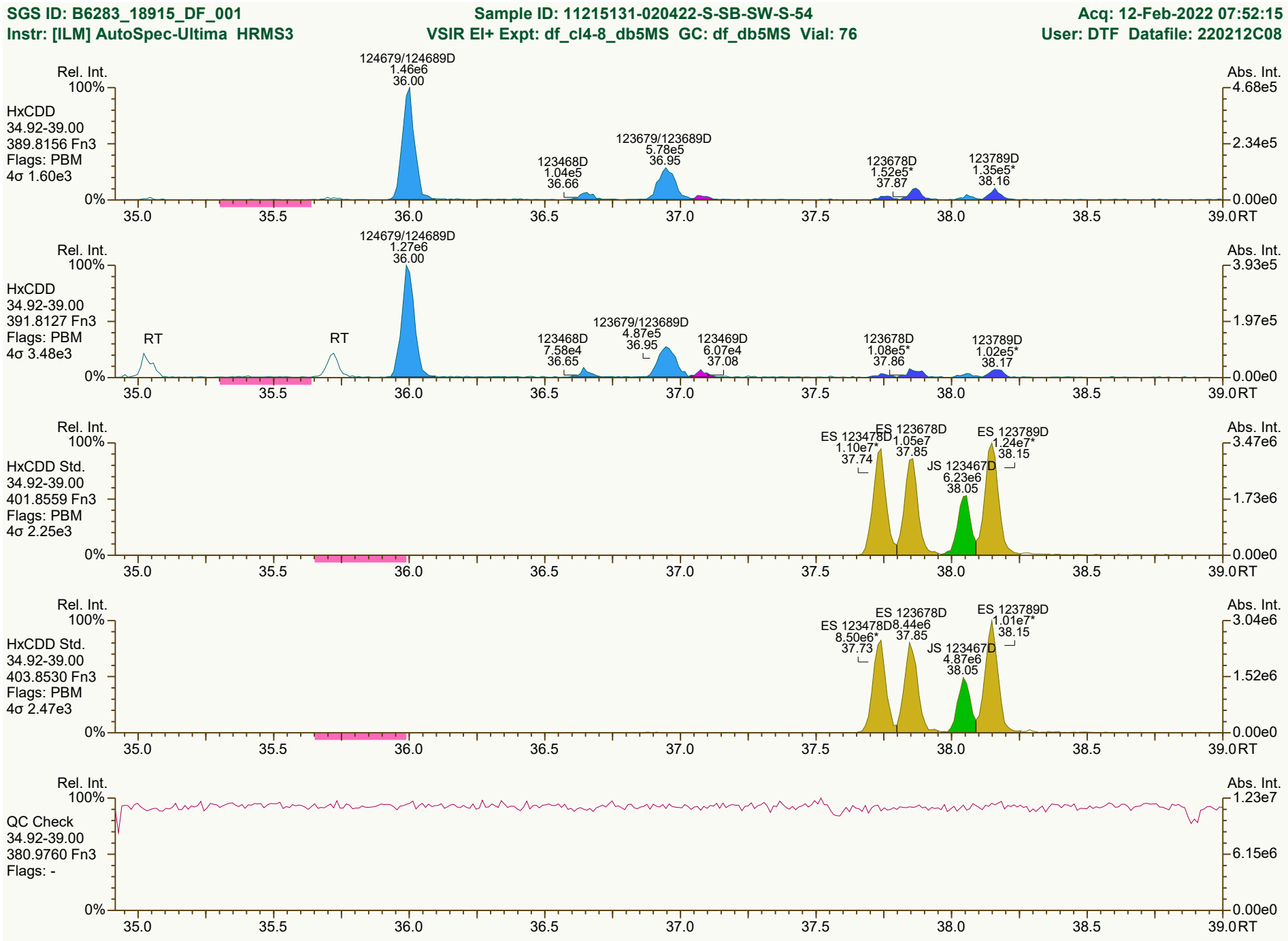
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 76 | User: DTF Datafile: 220212C08



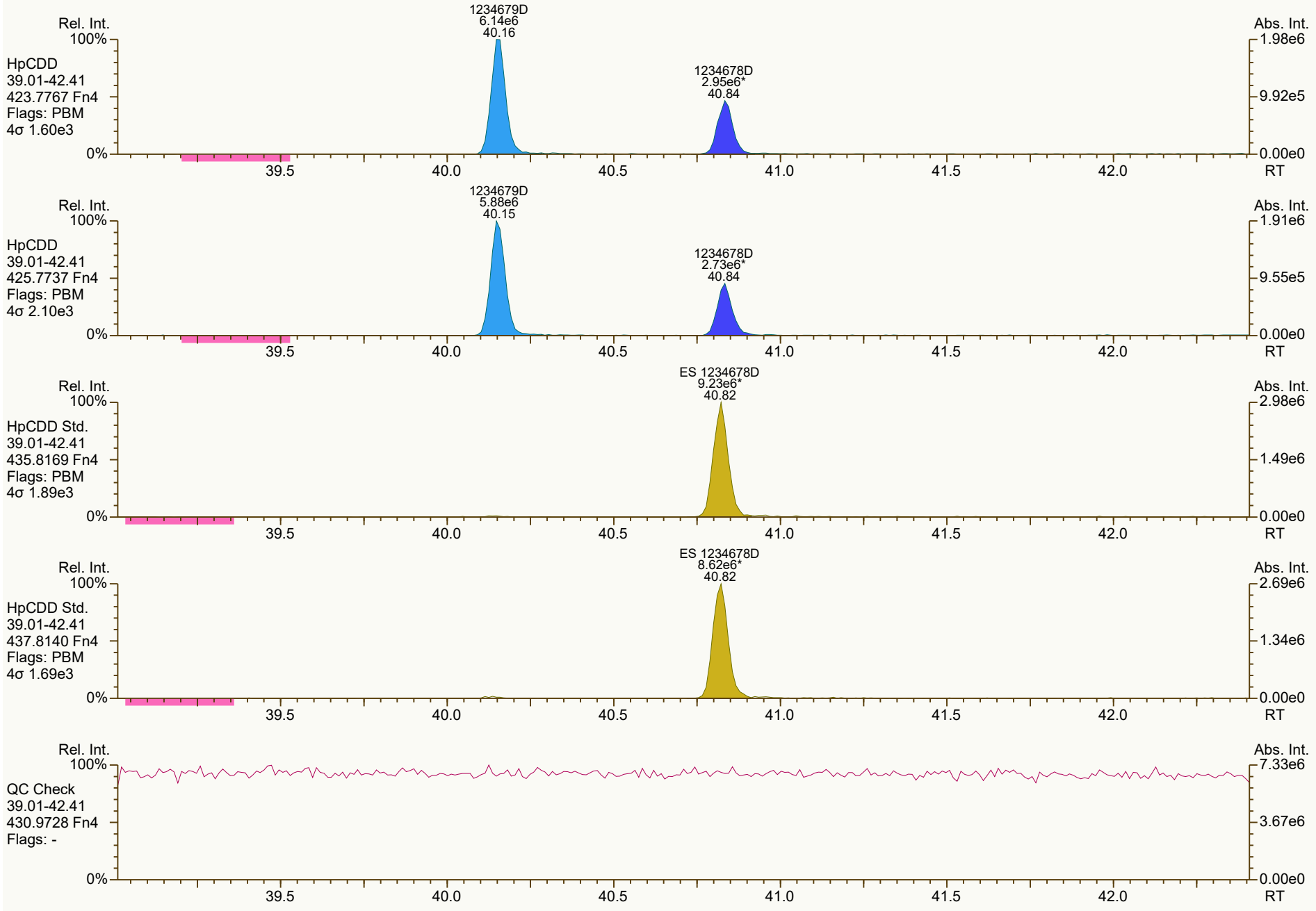
Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\B6283_18915_DF_001.utp_res, saved 14-Feb-2022 10:20 (DTF) *Peak annotation: Areas, Centroids*

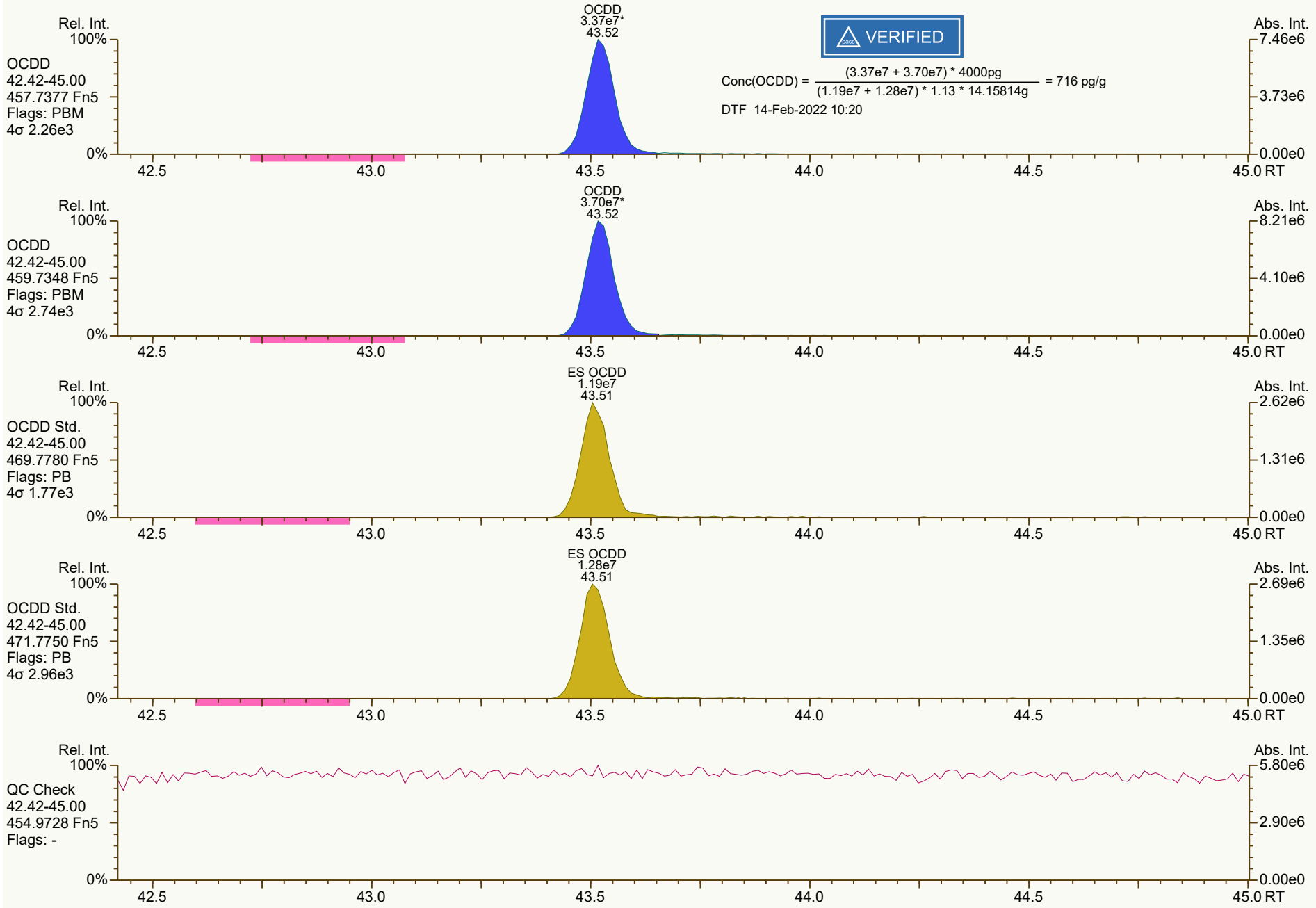
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3390, 9851, 3065 scc: 757-464 *Revised: 14-Feb-2022 09:56 (DTF) Printed: 14-Feb-2022 10:23 Page 2 of 12*

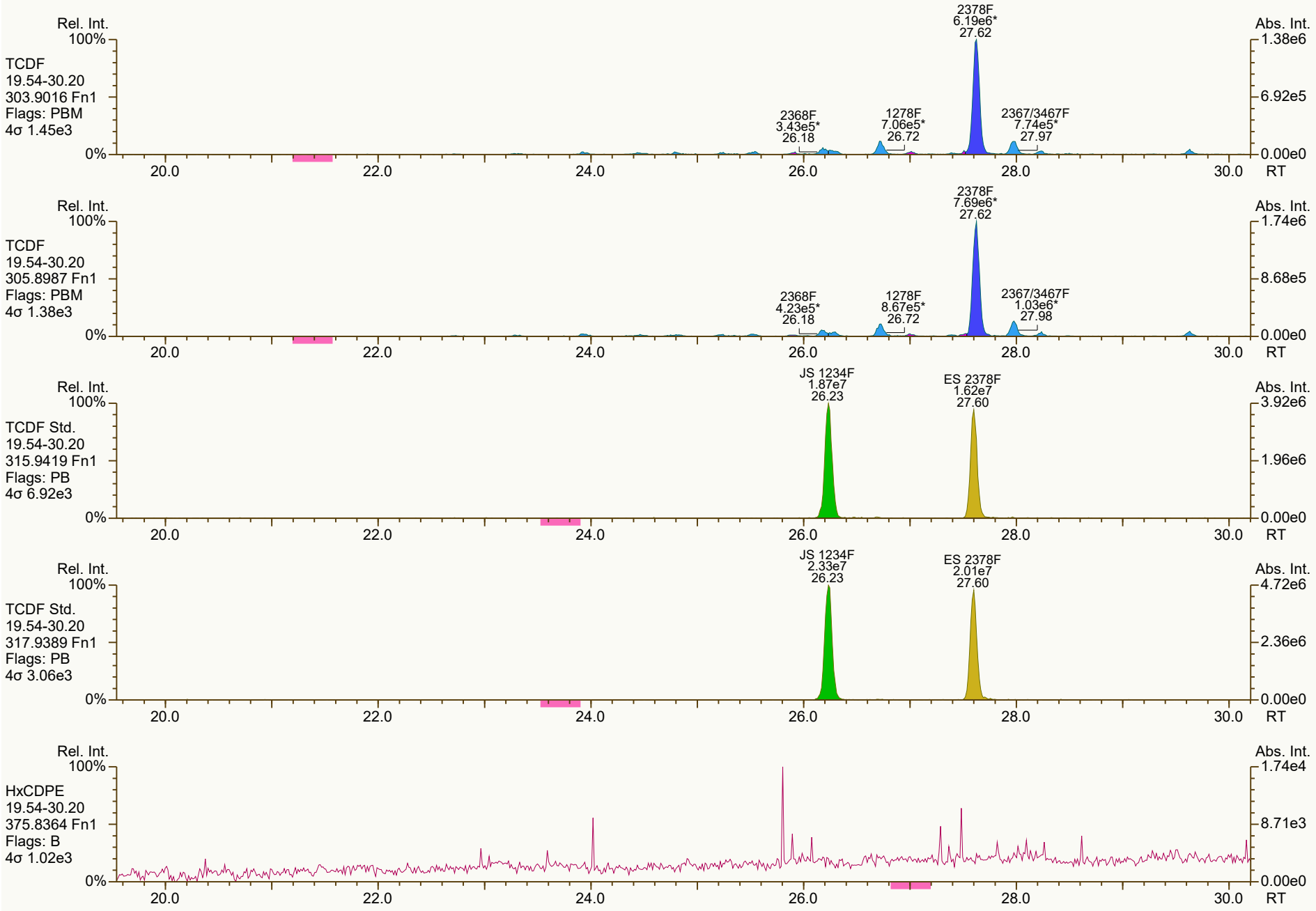

SGS ID: B6283_18915_DF_001
Sample ID: 11215131-020422-S-SB-SW-S-54
Acq: 12-Feb-2022 07:52:15
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 76
User: DTF Datafile: 220212C08
Rel. Int.
Abs. Int.
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PBM
4σ 1.64e3
12469D
2.29e5*
31.86
12479/12468D
9.05e4*
31.32
12368D
2.96e4
32.41
12478D
4.43e4*
32.60
12369D...[3]
7.83e4*
32.96
12378D
5.69e4*
33.83
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PBM
4σ 1.77e3
12469D
1.61e5*
31.85
12379D
2.05e4*
32.70
12479/12468D
4.23e4*
31.32
12368D
2.25e4*
32.41
12478D
3.05e4*
32.60
12369D...[3]
5.48e4*
32.96
12378D
3.71e4*
33.83
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 2.05e3
CS 12347D
1.27e7
33.31
ES 12378D
1.32e7
33.81
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 2.02e3
CS 12347D
8.28e6
33.31
ES 12378D
8.17e6
33.81
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
RT
Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\B6283_18915_DF_001.utp_res, saved 14-Feb-2022 10:20 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4036, 2430 scc: 757-464
Revised: 14-Feb-2022 09:57 (DTF) Printed: 14-Feb-2022 10:23 Page 3 of 12



Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\B6283_18915_DF_001.utp_res, saved 14-Feb-2022 10:20 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7599, 5827 scc: 757-464
Revised: 14-Feb-2022 09:57 (DTF) Printed: 14-Feb-2022 10:23 Page 4 of 12


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 1.60e3
1234679D
6.14e6
40.16
1234678D
2.95e6*
40.84
Abs. Int.
1.98e6
9.92e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 2.10e3
1234679D
5.88e6
40.15
1234678D
2.73e6*
40.84
Abs. Int.
1.91e6
9.55e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 1.89e3
ES 1234678D
9.23e6*
40.82
Abs. Int.
2.98e6
1.49e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 1.69e3
ES 1234678D
8.62e6*
40.82
Abs. Int.
2.69e6
1.34e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
7.33e6
3.67e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

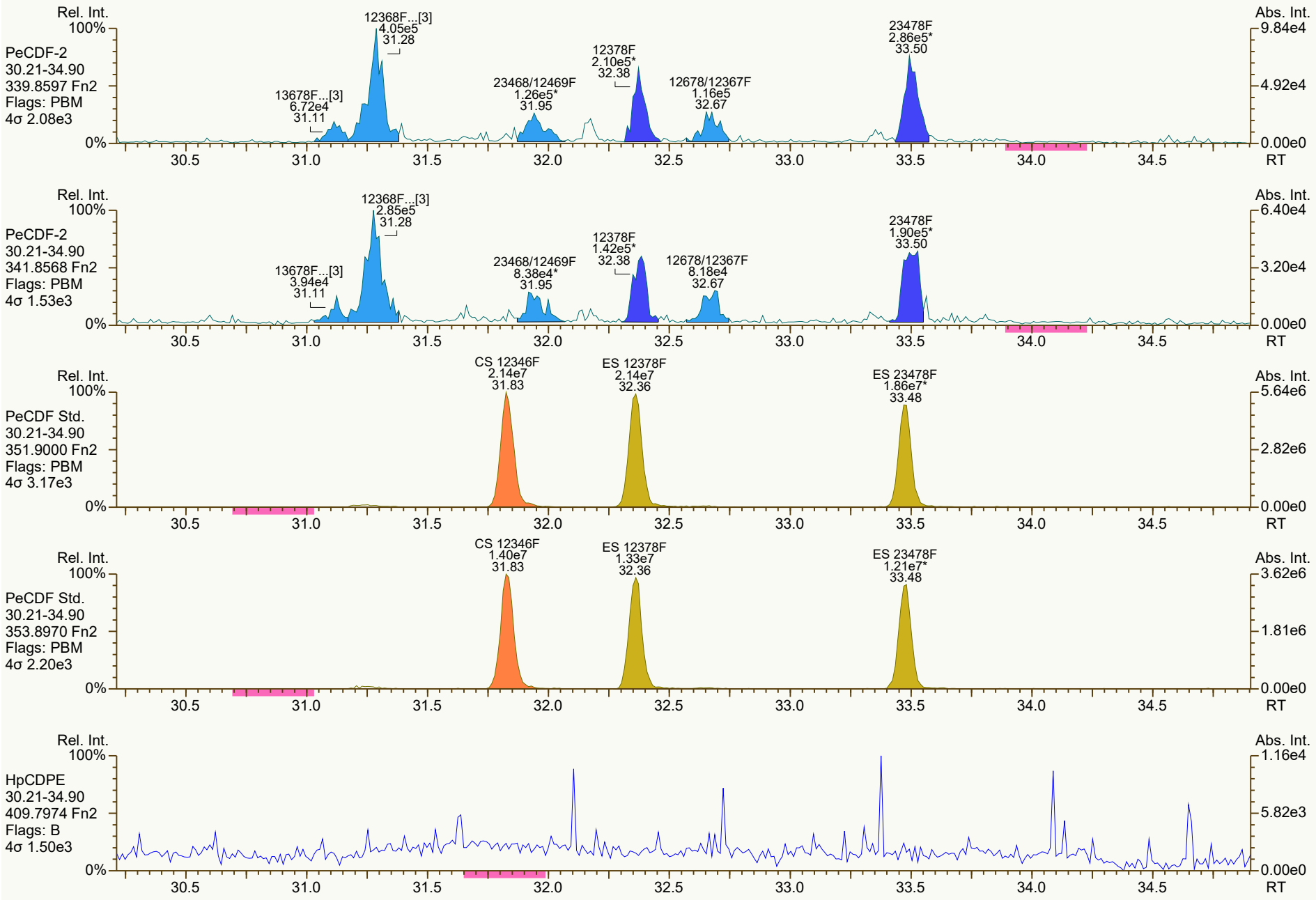

OCDD
3.37e7*
43.52
VERIFIED
Conc(OCDD) = (3.37e7 + 3.70e7) * 4000pg / (1.19e7 + 1.28e7) * 1.13 * 14.15814g = 716 pg/g
DTF 14-Feb-2022 10:20
Rel. Int.
Abs. Int.
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 2.26e3
OCDD
3.70e7*
43.52
459.7348 Fn5
Flags: PBM
4σ 2.74e3
ES OCDD
1.19e7
43.51
OCDD Std.
469.7780 Fn5
Flags: PB
4σ 1.77e3
ES OCDD
1.28e7
43.51
OCDD Std.
471.7750 Fn5
Flags: PB
4σ 2.96e3
QC Check
454.9728 Fn5
Flags: -
RT

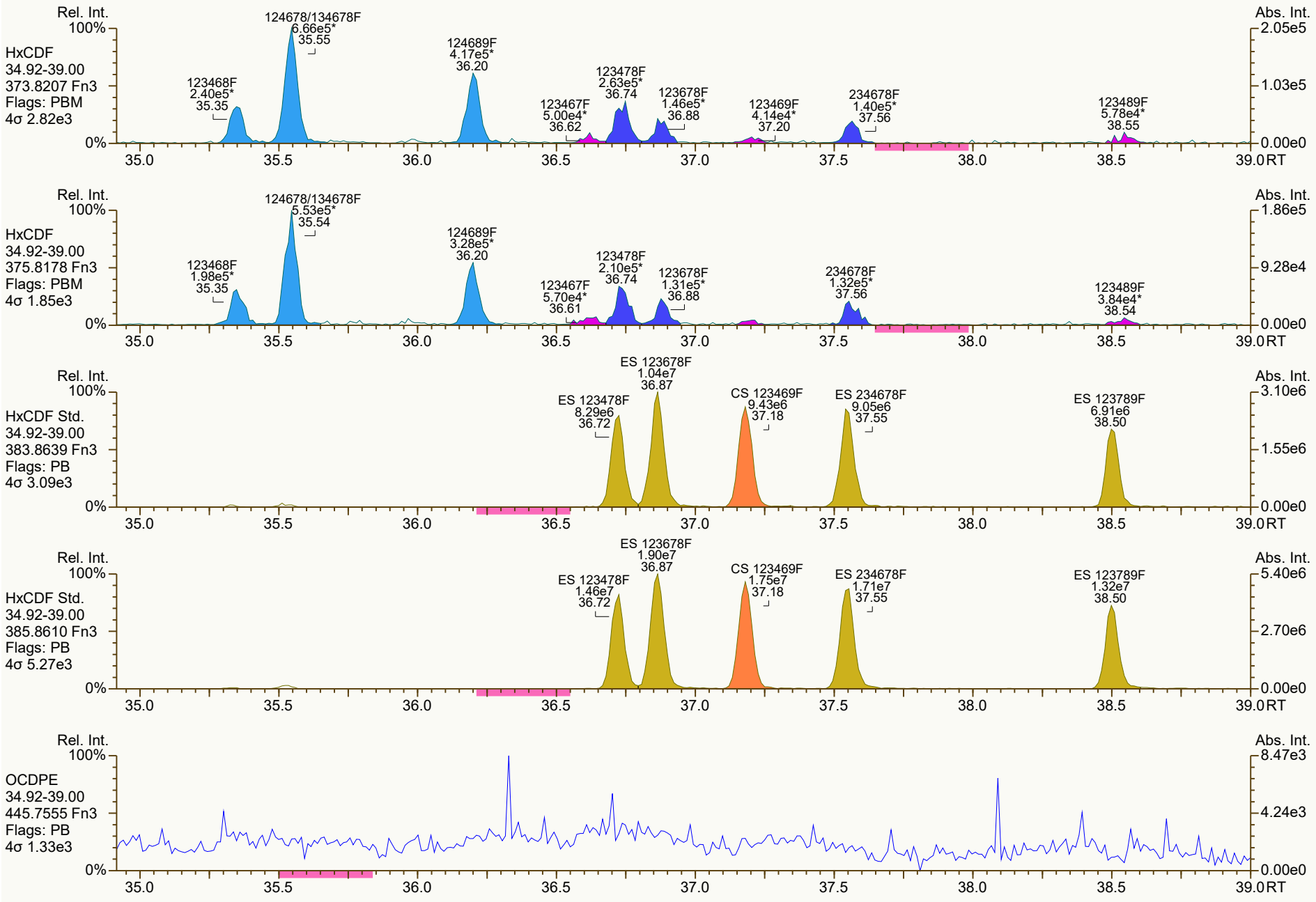

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.45e3
0%
2368F
3.43e5*
26.18
1278F
7.06e5*
26.72
2378F
6.19e6*
27.62
2367/3467F
7.74e5*
27.97
Abs. Int.
1.38e6
6.92e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.38e3
0%
2368F
4.23e5*
26.18
1278F
8.67e5*
26.72
2378F
7.69e6*
27.62
2367/3467F
1.03e6*
27.98
Abs. Int.
1.74e6
8.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 6.92e3
0%
JS 1234F
1.87e7
26.23
ES 2378F
1.62e7
27.60
Abs. Int.
3.92e6
1.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.06e3
0%
JS 1234F
2.33e7
26.23
ES 2378F
2.01e7
27.60
Abs. Int.
4.72e6
2.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.02e3
0%
Abs. Int.
1.74e4
8.71e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

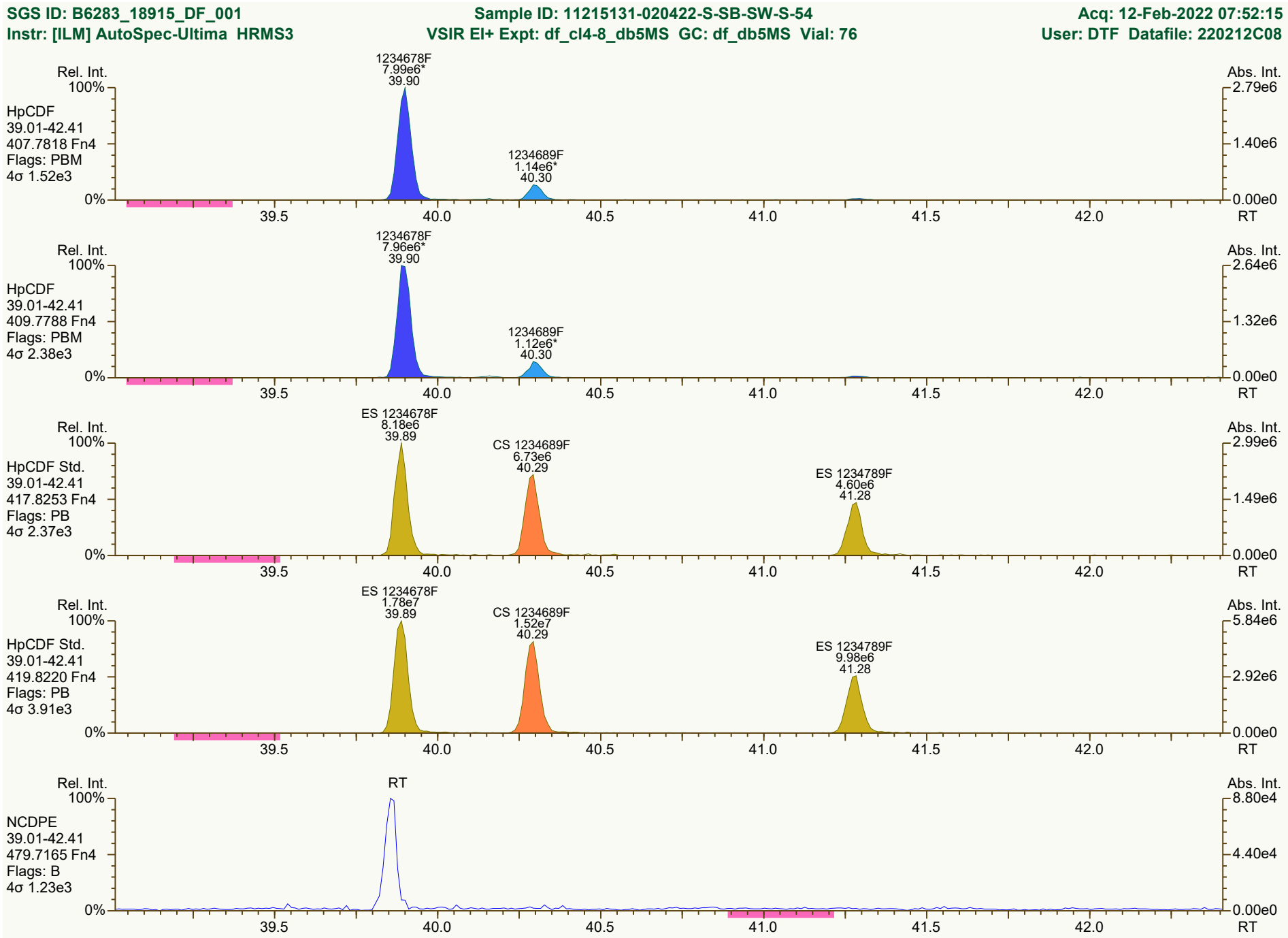
SGS ID: B6283_18915_DF_001 | Sample ID: 11215131-020422-S-SB-SW-S-54 | Acq: 12-Feb-2022 07:52:15
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 76 | User: DTF Datafile: 220212C08



Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\B6283_18915_DF_001.utp_res, saved 14-Feb-2022 10:20 (DTF) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8201 scc: 757-464 | *Revised: 14-Feb-2022 09:59 (DTF) Printed: 14-Feb-2022 10:23 Page 8 of 12*

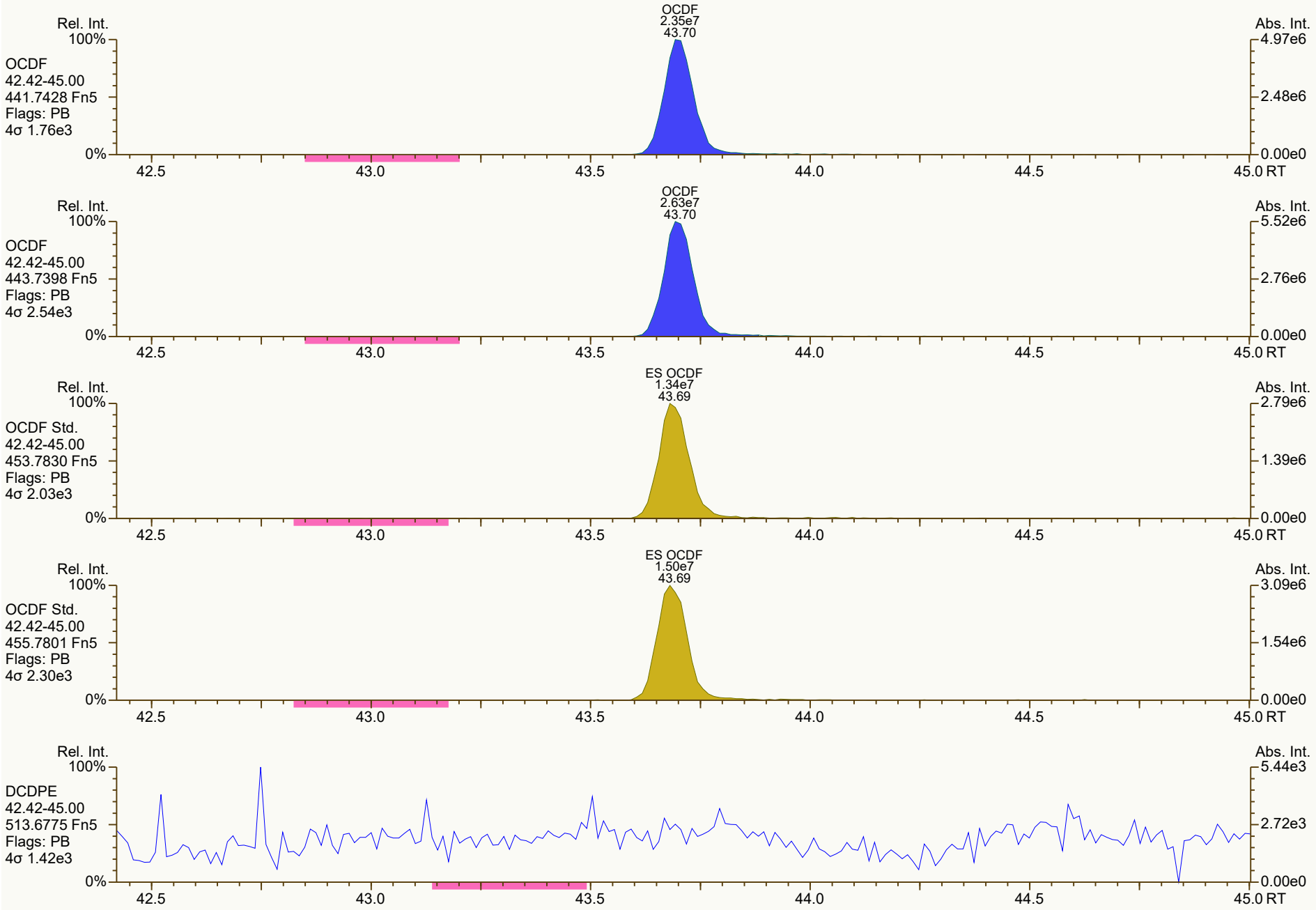

Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 2.08e3
0%
12368F...[3]
4.05e5
31.28
13678F...[3]
6.72e4
31.11
23468/12469F
1.26e5*
31.95
12378F
2.10e5*
32.38
12678/12367F
1.16e5
32.67
23478F
2.86e5*
33.50
Abs. Int.
9.84e4
4.92e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 1.53e3
0%
12368F...[3]
2.85e5
31.28
13678F...[3]
3.94e4
31.11
23468/12469F
8.38e4*
31.95
12378F
1.42e5*
32.38
12678/12367F
8.18e4
32.67
23478F
1.90e5*
33.50
Abs. Int.
6.40e4
3.20e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PBM
4σ 3.17e3
0%
CS 12346F
2.14e7
31.83
ES 12378F
2.14e7
32.36
ES 23478F
1.86e7*
33.48
Abs. Int.
5.64e6
2.82e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PBM
4σ 2.20e3
0%
CS 12346F
1.40e7
31.83
ES 12378F
1.33e7
32.36
ES 23478F
1.21e7*
33.48
Abs. Int.
3.62e6
1.81e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
1.16e4
5.82e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 2.82e3
123468F 2.40e5* 35.35
124678/134678F 6.66e5* 35.55
124689F 4.17e5* 36.20
123467F 5.00e4* 36.62
123478F 2.63e5* 36.74
123678F 1.46e5* 36.88
123469F 4.14e4* 37.20
234678F 1.40e5* 37.56
123489F 5.78e4* 38.55
Abs. Int.
2.05e5
1.03e5
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 1.85e3
123468F 1.98e5* 35.35
124678/134678F 5.53e5* 35.54
124689F 3.28e5* 36.20
123467F 5.70e4* 36.61
123478F 2.10e5* 36.74
123678F 1.31e5* 36.88
234678F 1.32e5* 37.56
123489F 3.84e4* 38.54
Abs. Int.
1.86e5
9.28e4
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 3.09e3
ES 123478F 8.29e6 36.72
ES 123678F 1.04e7 36.87
CS 123469F 9.43e6 37.18
ES 234678F 9.05e6 37.55
ES 123789F 6.91e6 38.50
Abs. Int.
3.10e6
1.55e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 5.27e3
ES 123478F 1.46e7 36.72
ES 123678F 1.90e7 36.87
CS 123469F 1.75e7 37.18
ES 234678F 1.71e7 37.55
ES 123789F 1.32e7 38.50
Abs. Int.
5.40e6
2.70e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.33e3
Abs. Int.
8.47e3
4.24e3
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT


SGS ID: B6283_18915_DF_001
Sample ID: 11215131-020422-S-SB-SW-S-54
Acq: 12-Feb-2022 07:52:15
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 76
User: DTF Datafile: 220212C08
Rel. Int.
Abs. Int.
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 1.52e3
1234678F
7.99e6*
39.90
1234689F
1.14e6*
40.30
2.79e6
1.40e6
0.00e0
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 2.38e3
1234678F
7.96e6*
39.90
1234689F
1.12e6*
40.30
2.64e6
1.32e6
0.00e0
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 2.37e3
ES 1234678F
8.18e6
39.89
CS 1234689F
6.73e6
40.29
ES 1234789F
4.60e6
41.28
2.99e6
1.49e6
0.00e0
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 3.91e3
ES 1234678F
1.78e7
39.89
CS 1234689F
1.52e7
40.29
ES 1234789F
9.98e6
41.28
5.84e6
2.92e6
0.00e0
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.23e3
RT
8.80e4
4.40e4
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\B6283_18915_DF_001.utp_res, saved 14-Feb-2022 10:20 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7222, 0318, 2875 scc: 757-464
Revised: 14-Feb-2022 10:01 (DTF) Printed: 14-Feb-2022 10:23 Page 11 of 12

SGS ID: B6283_18915_DF_001 | Sample ID: 11215131-020422-S-SB-SW-S-54 | Acq: 12-Feb-2022 07:52:15

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 76 | User: DTF Datafile: 220212C08



Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\B6283_18915_DF_001.utp_res, saved 14-Feb-2022 10:20 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8092, 9235, 0545 scc: 757-464 *PKD: 14-Feb-2022 09:55 Printed: 14-Feb-2022 10:23 Page 12 of 12*

Lab ID: B6283_18915_DF_002 **Acq'd:** 12 Feb 2022 08:38 DTF **Wt/Vol:** 14.36 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020422-S-SB-SW-S-50 **UTP:** 14-Feb-2022 11:19:11 DTF **J-level:** 0.348 pg/g **Split:** 1 **Checkcode:** 862-586-ZFP

Datafile: 220212C09 **Report:** 14 Feb 2022 11:19 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.47	EMPC	1.0008	1.0009	+0.2	1.32E+05	0.93	N	1.18	0.467	3508.417	0.13
12378-PeCDD	33.82	J	1.0005	1.0007	+0.4	8.43E+04	1.57	Y	1.04	0.375	3093.624	0.122
123478-HxCDD	37.73	J EMPC	1.0004	1.0003	-0.2	1.07E+05	1.70	N	1.09	0.505	4658.469	0.192
123678-HxCDD	37.84	J EMPC	1.0035	1.0034	-0.2	1.44E+05	1.63	N	1.15	0.628	4658.469	0.178
123789-HxCDD	38.14	J	1.0113	1.0113	0	2.86E+05	1.17	Y	1.05	1.19	4658.469	0.166
1234678-HpCDD	40.83		1.0003	1.0003	0	3.77E+06	1.06	Y	1.06	19.9	4385.145	0.195
OCDD	43.53		1.0002	1.0003	+0.3	6.38E+07	0.91	Y	1.13	428	7112.772	0.539
2378-TCDF	27.60	EMPC	1.0008	1.0005	-0.5	5.46E+05	0.63	N	1.08	1.46	2456.766	0.0743
12378-PeCDF	32.36	J EMPC	1.0005	1.0005	0	5.97E+04	2.33	N	1.02	0.171	6133.848	0.162
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	6133.848	0.18
123478-HxCDF	36.73	J EMPC	1.0005	1.0006	+0.2	6.00E+04	1.98	N	1.27	0.204	2991.237	0.0831
123678-HxCDF	36.86	J EMPC	1.0005	1.0003	-0.4	6.91E+04	1.47	N	1.15	0.197	2991.237	0.0768
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2991.237	0.0823
123789-HxCDF	38.50	J EMPC	1.0004	1.0004	0	6.06E+04	1.01	N	1.16	0.244	2991.237	0.101
1234678-HpCDF	39.89	J	1.0003	1.0002	-0.2	4.78E+05	1.09	Y	1.37	1.32	3959.205	0.0839
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	3959.205	0.165
OCDF	43.70		1.0003	1.0003	0	1.42E+06	0.99	Y	1.07	9.32	3393.721	0.266

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.45	1.0238	1.0239	+0.2	3.31E+07	0.80	Y	1.05	91.6
ES 12378-PeCDD	33.80	1.2160	1.2165	+1.0	3.02E+07	1.60	Y	0.88	99.5
ES 123478-HxCDD	37.72	0.9919	0.9918	-0.2	2.71E+07	1.34	Y	0.97	90.6
ES 123678-HxCDD	37.84	0.9950	0.9949	-0.2	2.78E+07	1.30	Y	0.94	95.7
ES 123789-HxCDD	38.13	1.0027	1.0027	0	3.19E+07	1.27	Y	1.09	95
ES 1234678-HpCDD	40.81	1.0730	1.0732	+0.5	2.49E+07	1.09	Y	0.91	88.5
ES OCDD	43.51	1.1437	1.1442	+1.3	3.68E+07	0.91	Y	0.62	95.9
ES 2378-TCDF	27.59	1.0520	1.0521	+0.2	4.83E+07	0.80	Y	1.06	84.8
ES 12378-PeCDF	32.34	1.2330	1.2335	+1.0	4.74E+07	1.58	Y	0.91	96.9
ES 23478-PeCDF	33.46	1.2754	1.2759	+1.0	4.31E+07	1.59	Y	0.88	90.8
ES 123478-HxCDF	36.70	0.9653	0.9651	-0.4	3.22E+07	0.55	Y	1.20	87.4
ES 123678-HxCDF	36.85	0.9691	0.9689	-0.4	4.23E+07	0.54	Y	1.35	102
ES 234678-HxCDF	37.53	0.9870	0.9869	-0.2	4.02E+07	0.52	Y	1.24	105
ES 123789-HxCDF	38.49	1.0121	1.0120	-0.2	2.97E+07	0.56	Y	1.16	83.6
ES 1234678-HpCDF	39.88	1.0484	1.0486	+0.5	3.67E+07	0.45	Y	0.97	123
ES 1234789-HpCDF	41.27	1.0851	1.0853	+0.5	2.09E+07	0.47	Y	0.85	79.9
ES OCDF	43.69	1.1483	1.1488	+1.3	3.95E+07	0.89	Y	0.81	79.3

Lab ID: B6283_18915_DF_002 **Acq'd:** 12 Feb 2022 08:38 DTF **Wt/Vol:** 14.36 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020422-S-SB-SW-S-50 **UTP:** 14-Feb-2022 11:19:11 DTF **J-level:** 0.348 pg/g **Split:** 1 **Checkcode:** 862-586-ZFP

Datafile: 220212C09 **Report:** 14 Feb 2022 11:19 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.78		-	-	-	3.46E+07	0.80	Y	-	-
JS 1234-TCDF	26.22		-	-	-	5.38E+07	0.80	Y	-	-
JS 123467-HxCDD	38.03		-	-	-	1.54E+07	1.27	Y	-	-
CS 37Cl-2378-TCDD	28.47		1.0245	1.0247	+0.3	1.55E+07	n/a	-	1.20	93.1
CS 12347-PeCDD	33.29		1.1979	1.1982	+0.6	2.74E+07	1.63	Y	0.75	105
CS 12346-PeCDF	31.82		1.2128	1.2133	+1.0	4.70E+07	1.57	Y	0.85	103
CS 123469-HxCDF	37.16		0.9774	0.9772	-0.4	3.67E+07	0.53	Y	1.12	107
CS 1234689-HpCDF	40.28		1.0589	1.0592	+0.7	3.02E+07	0.47	Y	0.89	110
~~SS 37Cl-2378-TCDD~~	~~28.47~~		~~1.0245~~	~~1.0247~~	~~+0.3~~	~~1.55E+07~~	~~n/a~~		~~1.15~~	~~102~~
~~SS 12347-PeCDD~~	~~33.29~~		~~1.1979~~	~~1.1982~~	~~+0.6~~	~~2.74E+07~~	~~1.63~~	~~Y~~	~~0.86~~	~~106~~
~~SS 12346-PeCDF~~	~~31.82~~		~~1.2128~~	~~1.2133~~	~~+1.0~~	~~4.70E+07~~	~~1.57~~	~~Y~~	~~0.94~~	~~106~~
~~SS 123469-HxCDF~~	~~37.16~~		~~0.9774~~	~~0.9772~~	~~-0.4~~	~~3.67E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~105~~
~~SS 1234689-HpCDF~~	~~40.28~~		~~1.0589~~	~~1.0592~~	~~+0.7~~	~~3.02E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~89.5~~

Totals	Conc	EMPC
Total TCDD	2.88	3.75
Total PeCDD	3.58	3.85
Total HxCDD	19.7	20.8
Total HpCDD	69.9	69.9
Total Tetra-Octa Dioxins	524	527
Total TCDF	3.02	6.83
Total PeCDF	0	0.171
Total HxCDF	0.191	1
Total HpCDF	1.65	1.65
Total Tetra-Octa Furans	14.2	19
Total Tetra-Octa Dioxins & Furans	539	546

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.822	0.93
Response	1.52E+05	1.43E+05

Lab ID: B6283_18915_DF_002 **Acq'd: 12 Feb 2022 08:38 DTF** **Wt/Vol: 14.36 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020422-S-SB-SW-S-50 **UTP: 14-Feb-2022 11:19:11 DTF** **J-level: 0.348 pg/g** **Split: 1** **Checkcode: 862-586-ZFP**

Datafile: 220212C09 **Report: 14 Feb 2022 11:19 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8737						1.18		3508.417	0.13
1379-TCDD	NotFnd		0.8860						1.18		3508.417	0.13
1369-TCDD	NotFnd		0.9009						1.18		3508.417	0.13
1469-TCDD	26.39		0.9281	0.9276	-0.8	8.11E+05	0.80	Y	1.18	2.88	3508.417	0.13
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3508.417	0.13
1378-TCDD	NotFnd		0.9432						1.18		3508.417	0.13
1268-TCDD	NotFnd		0.9500						1.18		3508.417	0.13
1478-TCDD	NotFnd		0.9586						1.18		3508.417	0.13
1279-TCDD	NotFnd		0.9645						1.18		3508.417	0.13
1234/1269-TCDD	27.78	EMPC	0.9770	0.9765	-0.8	1.13E+05	0.89	N	1.18	0.401	3508.417	0.13
1236-TCDD	NotFnd		0.9817						1.18		3508.417	0.13
1237/1238-TCDD	NotFnd		0.9905						1.18		3508.417	0.13
1239-TCDD	NotFnd		0.9952						1.18		3508.417	0.13
2378-TCDD	**28.47**	EMPC	**1.0008**	1.0009	**+0.2**	1.32E+05	0.93	N	**1.18**	**0.467**	**3508.417**	**0.13**
1278-TCDD	NotFnd		1.0121						1.18		3508.417	0.13
1267-TCDD	NotFnd		1.0167						1.18		3508.417	0.13
1289-TCDD	NotFnd		1.0345						1.18		3508.417	0.13
12479/12468-PeCDD	31.31	J	0.9267	0.9263	-0.8	1.35E+05	1.77	Y	1.04	0.598	3093.624	0.122
12469-PeCDD	31.84	J	0.9425	0.9421	-0.8	3.88E+05	1.44	Y	1.04	1.73	3093.624	0.122
12368-PeCDD	NotFnd		0.9588						1.04		3093.624	0.122
12478-PeCDD	32.57	J EMPC	0.9643	0.9638	-1.0	6.21E+04	1.16	N	1.04	0.276	3093.624	0.122
12379-PeCDD	NotFnd		0.9673						1.04		3093.624	0.122
12369/12467/12489-PeCDD	32.94	J	0.9750	0.9748	-0.4	1.97E+05	1.52	Y	1.04	0.876	3093.624	0.122
12346/12347-PeCDD	NotFnd		0.9858						1.04		3093.624	0.122
12378-PeCDD	33.82	J	**1.0005**	**1.0007**	**+0.4**	**8.43E+04**	**1.57**	**Y**	**1.04**	**0.375**	**3093.624**	**0.122**
12367-PeCDD	NotFnd		1.0033						1.04		3093.624	0.122
12389-PeCDD	NotFnd		1.0134						1.04		3093.624	0.122
124679/124689-HxCDD	35.98		0.9542	0.9539	-0.6	3.06E+06	1.29	Y	1.10	13.4	4658.469	0.178
123468-HxCDD	NotFnd		0.9715						1.10		4658.469	0.178
123679/123689-HxCDD	36.93		0.9793	0.9791	-0.4	9.24E+05	1.28	Y	1.10	4.06	4658.469	0.178
123469-HxCDD	37.06	J	0.9828	0.9825	-0.7	1.25E+05	1.40	Y	1.10	0.549	4658.469	0.178
123478-HxCDD	37.73	J EMPC	**1.0004**	**1.0003**	**-0.2**	**1.07E+05**	**1.70**	**N**	1.09	**0.505**	**4658.469**	**0.192**
123678-HxCDD	37.84	J EMPC	**1.0035**	**1.0034**	**-0.2**	**1.44E+05**	**1.63**	**N**	1.15	**0.628**	**4658.469**	**0.178**
123467-HxCDD	38.04	J	1.0085	1.0086	+0.2	1.04E+05	1.27	Y	1.10	0.458	4658.469	0.178
123789-HxCDD	38.14	J	**1.0113**	**1.0113**	**0**	**2.86E+05**	**1.17**	**Y**	1.05	**1.19**	**4658.469**	**0.166**

Lab ID: B6283_18915_DF_002 **Acq'd: 12 Feb 2022 08:38 DTF** **Wt/Vol: 14.36 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020422-S-SB-SW-S-50 **UTP: 14-Feb-2022 11:19:11 DTF** **J-level: 0.348 pg/g** **Split: 1** **Checkcode: 862-586-ZFP**

Datafile: 220212C09 **Report: 14 Feb 2022 11:19 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

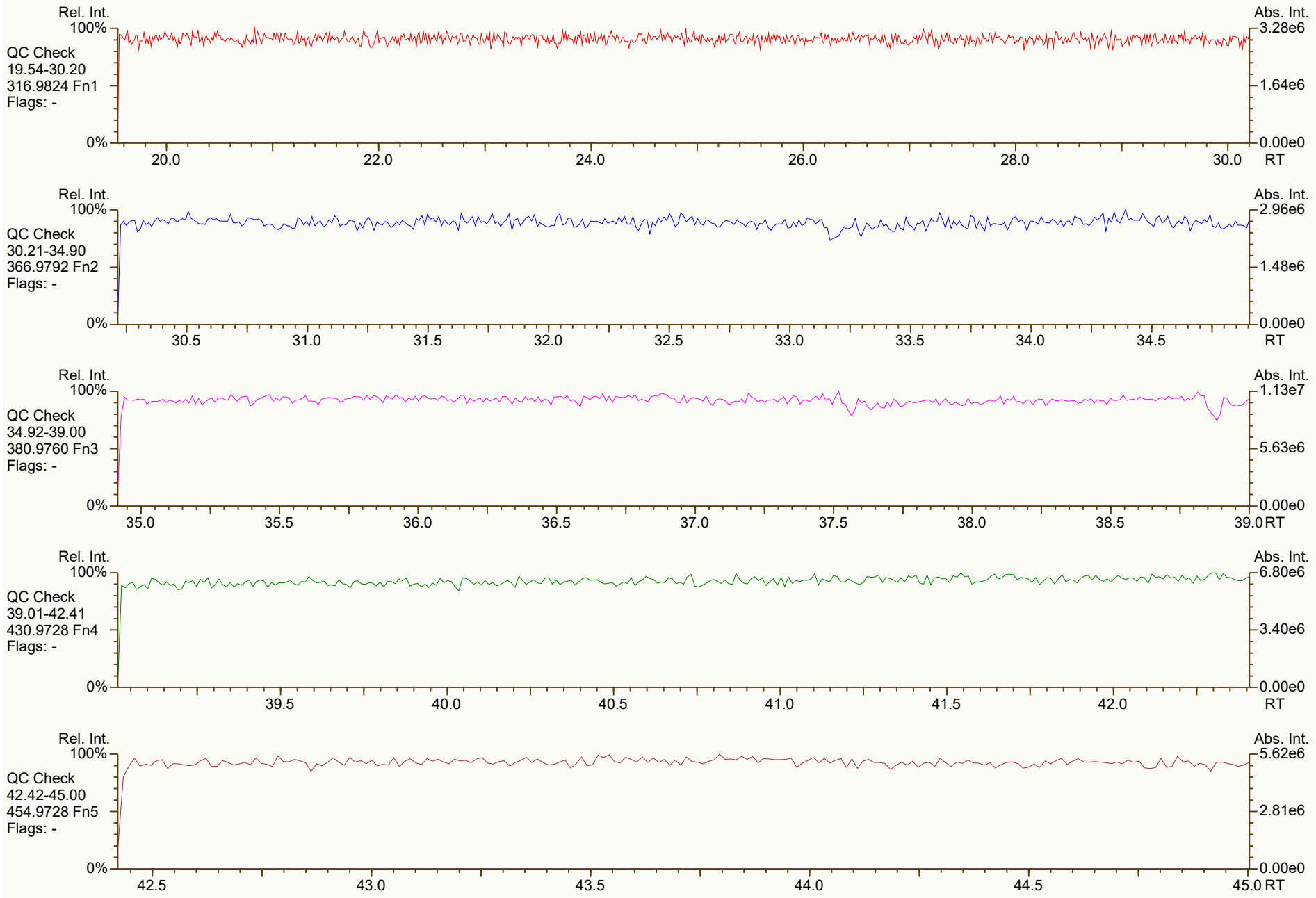
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.14		0.9837	0.9836	-0.2	9.45E+06	1.02	Y	1.06	50	4385.145	0.195
1234678-HpCDD	**40.83**		**1.0003**	**1.0003**	**0**	**3.77E+06**	**1.06**	**Y**	**1.06**	**19.9**	**4385.145**	**0.195**
OCDD	**43.53**		**1.0002**	**1.0003**	**+0.3**	**6.38E+07**	**0.91**	**Y**	**1.13**	**428**	**7112.772**	**0.539**
OCDD-a	43.52		1.0001	1.0002	+0.3	4.18E+06	2.33	Y	0.07	439	4010.336	4.76
1368-TCDF	22.70	J	0.8251	0.8229	-3.0	8.97E+04	0.72	Y	1.08	0.24	2456.766	0.0743
1468-TCDF	NotFnd		0.8458						1.08		2456.766	0.0743
2468-TCDF	23.93		0.8686	0.8672	-2.0	2.92E+05	0.77	Y	1.08	0.782	2456.766	0.0743
1346/1246-TCDF	NotFnd		0.8814						1.08		2456.766	0.0743
1347/1378/1247-TCDF	24.45	EMPC	0.8867	0.8862	-0.7	1.30E+05	0.57	N	1.08	0.348	2456.766	0.0743
1348-TCDF	NotFnd		0.8962						1.08		2456.766	0.0743
1248/1367/1379-TCDF	24.81	J	0.9009	0.8994	-2.2	1.27E+05	0.89	Y	1.08	0.34	2456.766	0.0743
1268-TCDF	25.21	J	0.9145	0.9139	-0.9	6.80E+04	0.84	Y	1.08	0.182	2456.766	0.0743
1467-TCDF	25.36	J	0.9193	0.9191	-0.3	6.52E+04	0.73	Y	1.08	0.174	2456.766	0.0743
1478-TCDF	25.52	J EMPC	0.9254	0.9249	-0.8	5.39E+04	0.61	N	1.08	0.144	2456.766	0.0743
1369/1237-TCDF	25.87	J EMPC	0.9387	0.9379	-1.2	6.82E+04	0.51	N	1.08	0.182	2456.766	0.0743
2467-TCDF	NotFnd		0.9433						1.08		2456.766	0.0743
2368-TCDF	NotFnd		0.9489						1.08		2456.766	0.0743
1238/1234/1678/1469/1236-TCDF	26.26		0.9523	0.9518	-0.8	3.10E+05	0.76	Y	1.08	0.828	2456.766	0.0743
1278-TCDF	26.71	EMPC	0.9683	0.9681	-0.3	2.29E+05	0.62	N	1.08	0.612	2456.766	0.0743
1349-TCDF	NotFnd		0.9722						1.08		2456.766	0.0743
1267-TCDF	NotFnd		0.9783						1.08		2456.766	0.0743
2346/1249-TCDF	NotFnd		0.9850						1.08		2456.766	0.0743
2347/1279-TCDF	27.38	J	0.9926	0.9926	0	7.73E+04	0.78	Y	1.08	0.207	2456.766	0.0743
2348-TCDF	27.50	J EMPC	0.9967	0.9968	+0.2	3.91E+04	1.23	N	1.08	0.105	2456.766	0.0743
2378-TCDF	**27.60**	EMPC	**1.0008**	**1.0005**	**-0.5**	**5.46E+05**	**0.63**	**N**	**1.08**	**1.46**	**2456.766**	**0.0743**
2367/3467-TCDF	27.97	EMPC	1.0137	1.0138	+0.2	1.41E+05	0.93	N	1.08	0.376	2456.766	0.0743
1269-TCDF	28.21	EMPC	1.0223	1.0225	+0.3	2.16E+05	0.55	N	1.08	0.577	2456.766	0.0743
1239-TCDF	NotFnd		1.0321						1.08		2456.766	0.0743
1289-TCDF	29.61	J	1.0722	1.0733	+2.0	1.01E+05	0.82	Y	1.08	0.271	2456.766	0.0743
13468/12468-PeCDF	NotFnd		0.9139						1.02		2830.8	0.0788
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		6133.848	0.171
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		6133.848	0.171
14678-PeCDF	NotFnd		0.9692						1.02		6133.848	0.171
13479-PeCDF	NotFnd		0.9723						1.02		6133.848	0.171
13469/12479-PeCDF	NotFnd		0.9797						1.02		6133.848	0.171
12346-PeCDF	NotFnd		0.9840						1.02		6133.848	0.171

Lab ID: B6283_18915_DF_002 **Acq'd: 12 Feb 2022 08:38 DTF** **Wt/Vol: 14.36 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020422-S-SB-SW-S-50 **UTP: 14-Feb-2022 11:19:11 DTF** **J-level: 0.348 pg/g** **Split: 1** **Checkcode: 862-586-ZFP**

Datafile: 220212C09 **Report: 14 Feb 2022 11:19 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		6133.848	0.171
12347-PeCDF	NotFnd		0.9894						1.02		6133.848	0.171
12348-PeCDF	NotFnd		0.9940						1.02		6133.848	0.171
12378-PeCDF	**32.36**	J EMPC	**1.0005**	**1.0005**	**0**	**5.97E+04**	**2.33**	**N**	**1.02**	**0.171**	**6133.848**	**0.162**
12678/12367-PeCDF	NotFnd		1.0089						1.02		6133.848	0.171
12379-PeCDF	NotFnd		1.0142						1.02		6133.848	0.171
12679-PeCDF	NotFnd		0.9929						1.02		6133.848	0.171
23467/12369-PeCDF	NotFnd		0.9967						1.02		6133.848	0.171
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**6133.848**	**0.18**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6133.848	0.171
12349-PeCDF	NotFnd		1.0100						1.02		6133.848	0.171
12389-PeCDF	NotFnd		1.0324						1.02		6133.848	0.171
123468-HxCDF	35.33	J	0.9627	0.9625	-0.4	5.91E+04	1.30	Y	1.19	0.191	2991.237	0.0846
124678/134678-HxCDF	35.52	J EMPC	0.9682	0.9678	-0.9	5.16E+04	1.78	N	1.19	0.167	2991.237	0.0846
134679-HxCDF	NotFnd		0.9744						1.19		2991.237	0.0846
124679-HxCDF	NotFnd		0.9798						1.19		2991.237	0.0846
124689-HxCDF	NotFnd		0.9858						1.19		2991.237	0.0846
123467-HxCDF	NotFnd		0.9972						1.19		2991.237	0.0846
123478-HxCDF	**36.73**	J EMPC	**1.0005**	**1.0006**	**+0.2**	**6.00E+04**	**1.98**	**N**	**1.27**	**0.204**	**2991.237**	**0.0831**
123678-HxCDF	**36.86**	J EMPC	**1.0005**	**1.0003**	**-0.4**	**6.91E+04**	**1.47**	**N**	**1.15**	**0.197**	**2991.237**	**0.0768**
123479-HxCDF	NotFnd		1.0049						1.19		2991.237	0.0846
123469-HxCDF	NotFnd		1.0090						1.19		2991.237	0.0846
123679-HxCDF	NotFnd		0.9942						1.19		2991.237	0.0846
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2991.237**	**0.0823**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2991.237	0.0846
123789-HxCDF	**38.50**	J EMPC	**1.0004**	**1.0004**	**0**	**6.06E+04**	**1.01**	**N**	**1.16**	**0.244**	**2991.237**	**0.101**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		2991.237	0.0846
1234678-HpCDF	**39.89**	**J**	**1.0003**	**1.0002**	**-0.2**	**4.78E+05**	**1.09**	**Y**	**1.37**	**1.32**	**3959.205**	**0.0839**
1234679-HpCDF	NotFnd		1.0068						1.34		3959.205	0.113
1234689-HpCDF	40.29	**J**	1.0103	1.0103	0	8.90E+04	0.89	Y	1.34	0.322	3959.205	0.113
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**3959.205**	**0.165**
OCDF	**43.70**		**1.0003**	**1.0003**	**0**	**1.42E+06**	**0.99**	**Y**	**1.07**	**9.32**	**3393.721**	**0.266**
OCDF-a	43.70	**EMPC**	1.0002	1.0004	+0.5	7.35E+04	3.88	N	0.07	7.82	3062.932	3.87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19.54-30.20
316.9824 Fn1
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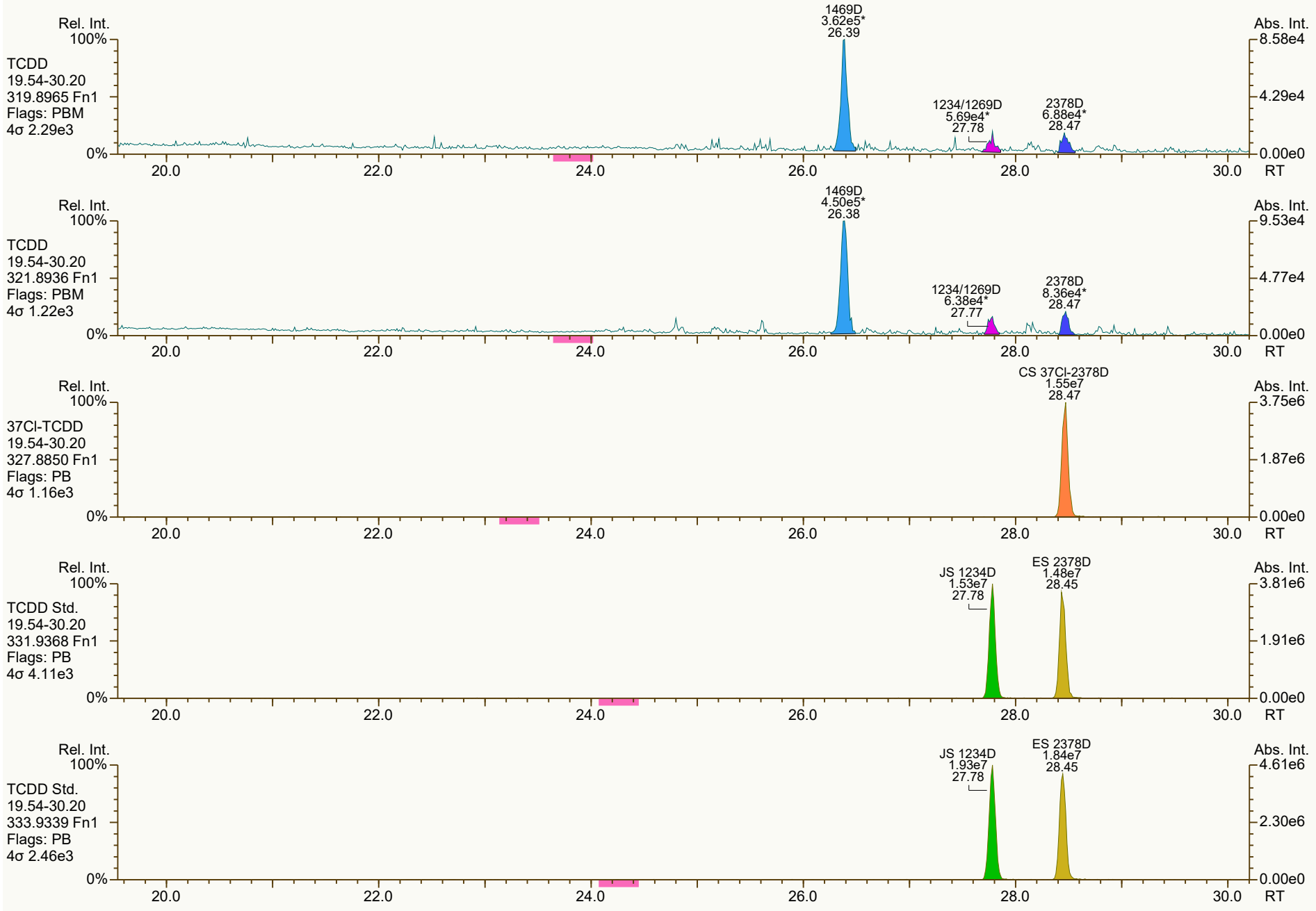
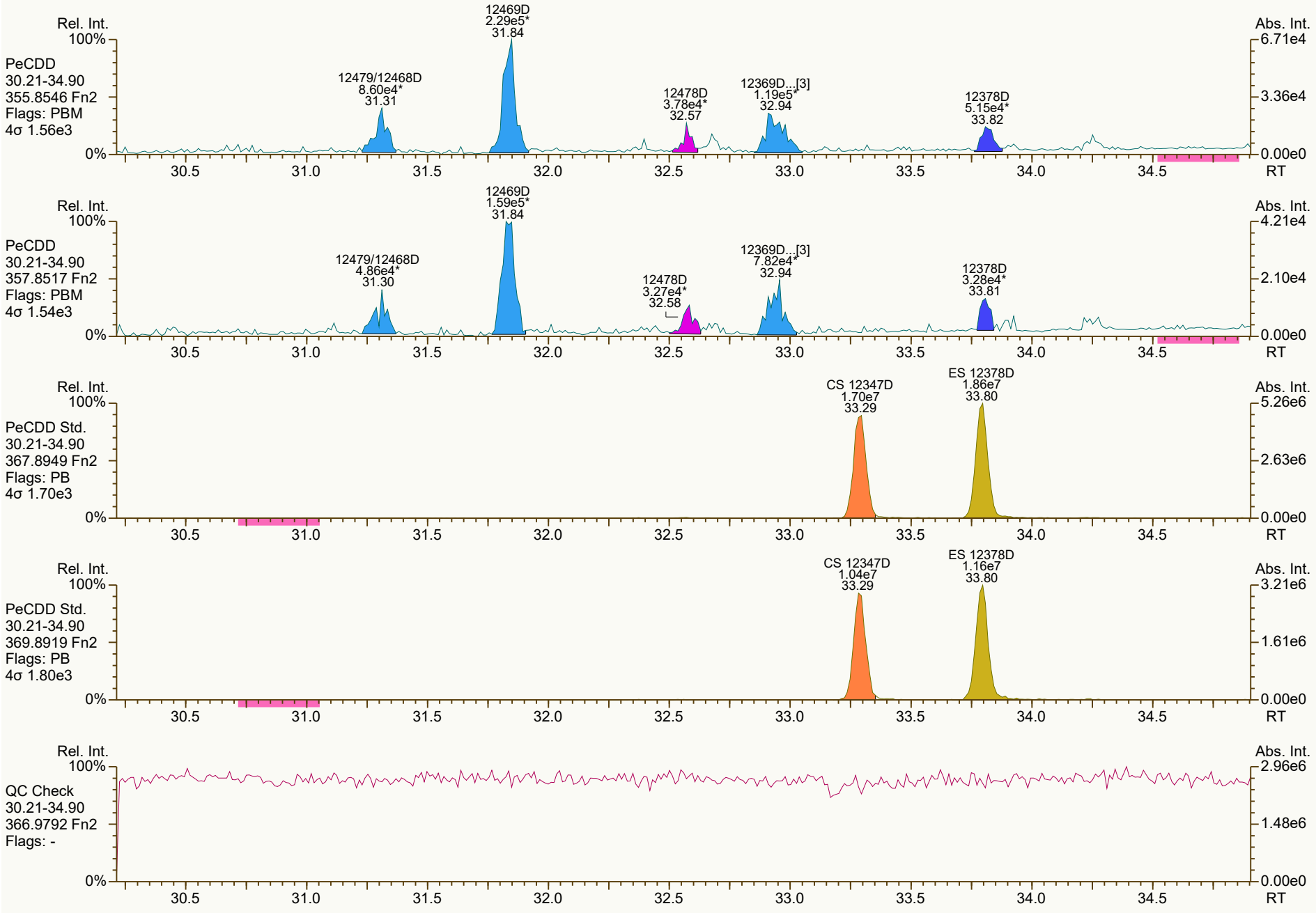
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.28e6
1.64e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
2.96e6
1.48e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.13e7
5.63e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
6.80e6
3.40e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.62e6
2.81e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.29e3
1469D
3.62e5*
26.39
1234/1269D
5.69e4*
27.78
2378D
6.88e4*
28.47
Abs. Int.
8.58e4
4.29e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.22e3
1469D
4.50e5*
26.38
1234/1269D
6.38e4*
27.77
2378D
8.36e4*
28.47
Abs. Int.
9.53e4
4.77e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.16e3
CS 37Cl-2378D
1.55e7
28.47
Abs. Int.
3.75e6
1.87e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.11e3
JS 1234D
1.53e7
27.78
ES 2378D
1.48e7
28.45
Abs. Int.
3.81e6
1.91e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.46e3
JS 1234D
1.93e7
27.78
ES 2378D
1.84e7
28.45
Abs. Int.
4.61e6
2.30e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT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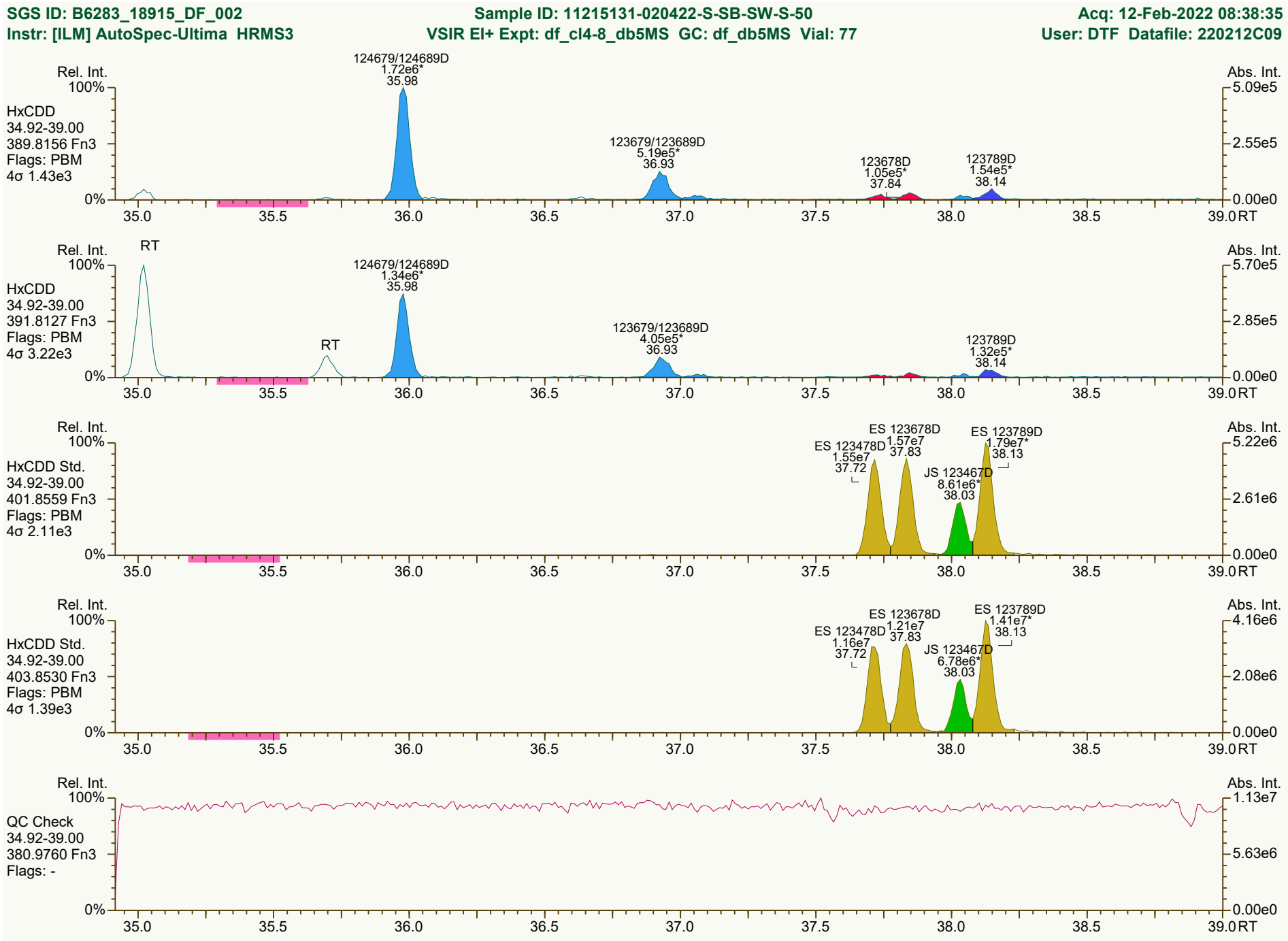
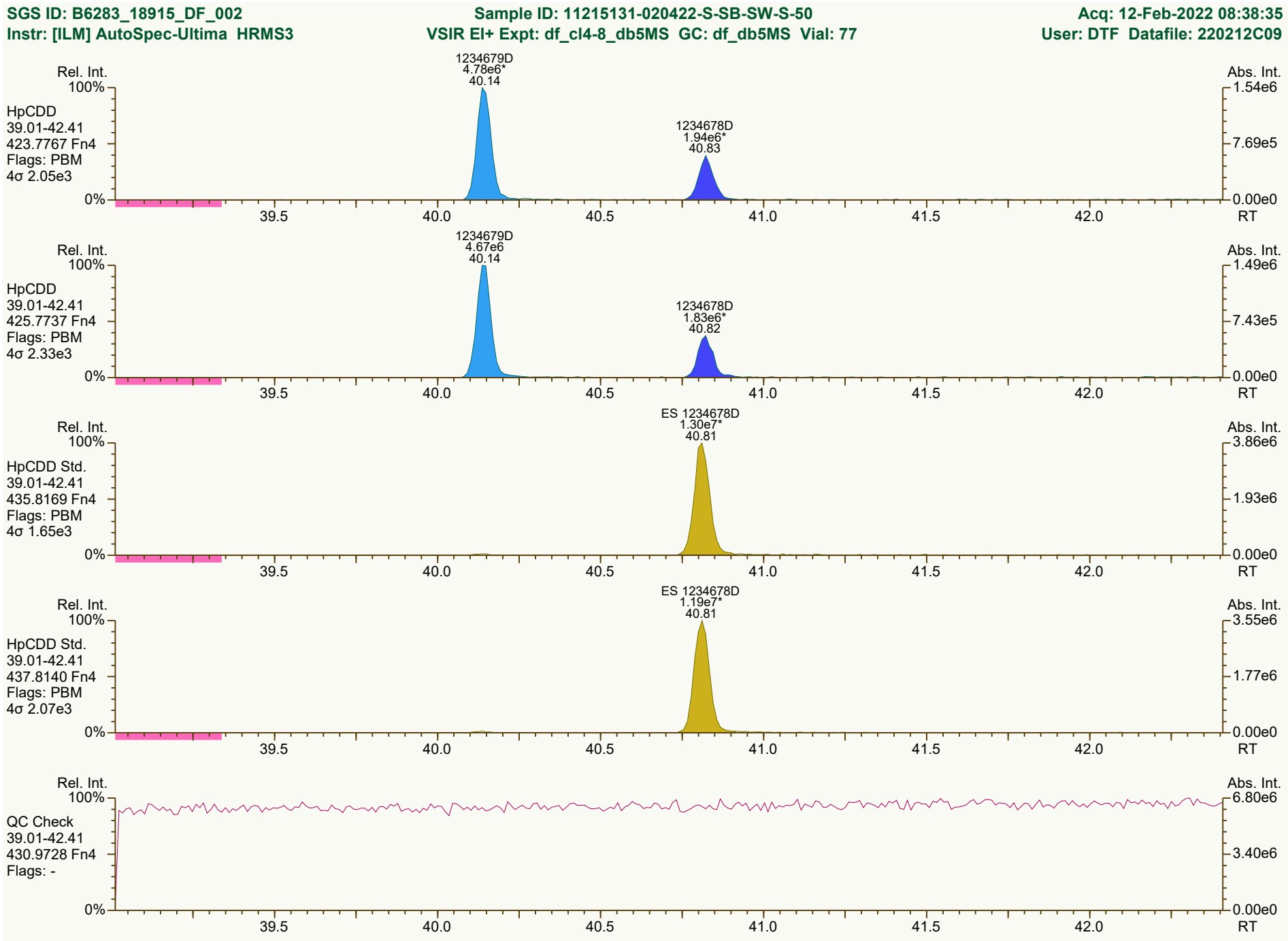
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PBM
4σ 1.56e3
12479/12468D
8.60e4*
31.31
12469D
2.29e5*
31.84
12478D
3.78e4*
32.57
12369D...[3]
1.19e5*
32.94
12378D
5.15e4*
33.82
Abs. Int.
6.71e4
3.36e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PBM
4σ 1.54e3
12479/12468D
4.86e4*
31.30
12469D
1.59e5*
31.84
12478D
3.27e4*
32.58
12369D...[3]
7.82e4*
32.94
12378D
3.28e4*
33.81
Abs. Int.
4.21e4
2.10e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 1.70e3
CS 12347D
1.70e7
33.29
ES 12378D
1.86e7
33.80
Abs. Int.
5.26e6
2.63e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.80e3
CS 12347D
1.04e7
33.29
ES 12378D
1.16e7
33.80
Abs. Int.
3.21e6
1.61e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
Abs. Int.
2.96e6
1.48e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

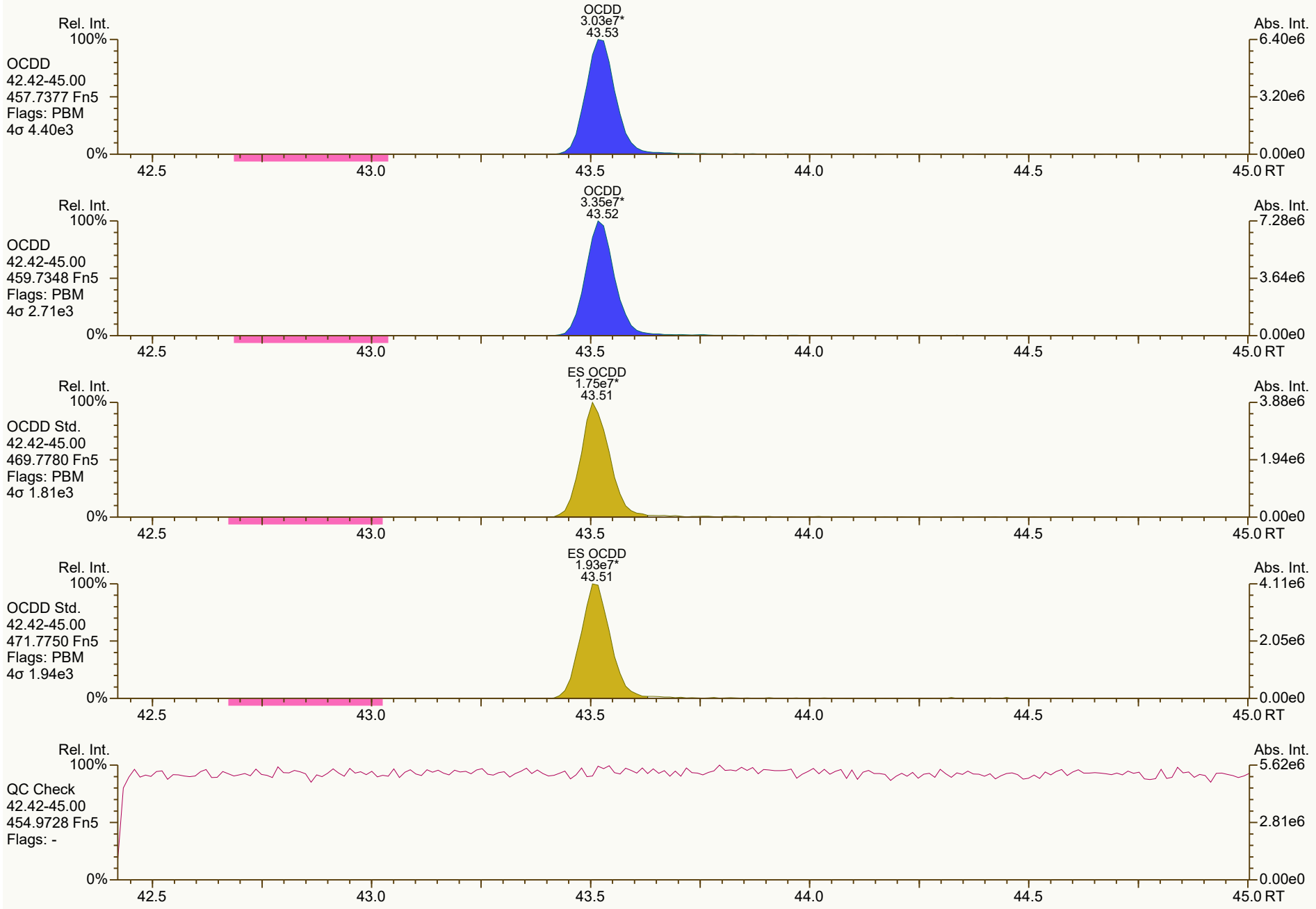


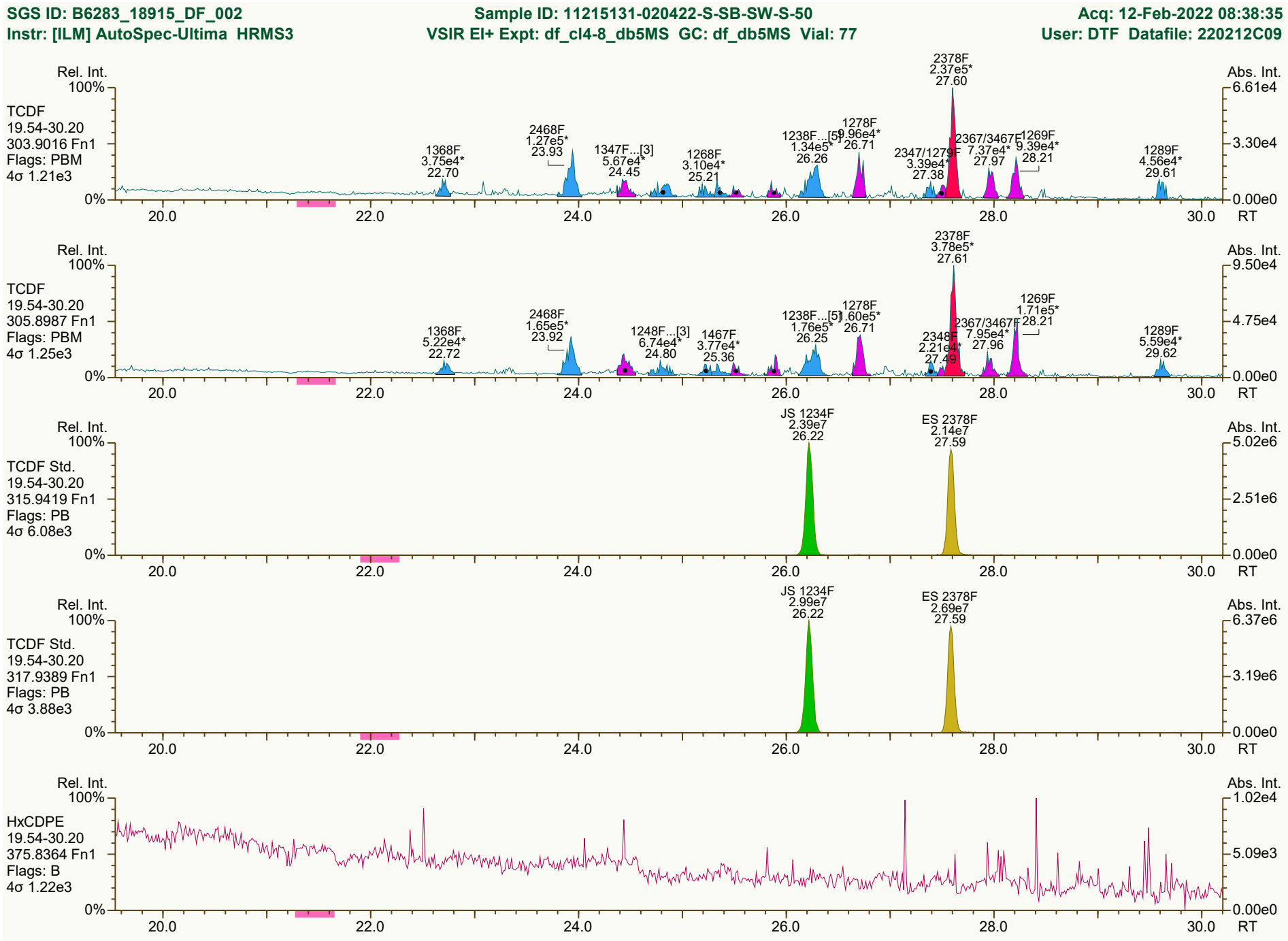
Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\B6283_18915_DF_002.utp_res, saved 14-Feb-2022 11:19 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7346, 8001 scc: 862-586
Revised: 14-Feb-2022 10:05 (DTF) Printed: 14-Feb-2022 11:21 Page 4 of 12

SGS ID: B6283_18915_DF_002 | Sample ID: 11215131-020422-S-SB-SW-S-50 | Acq: 12-Feb-2022 08:38:35
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 77 | User: DTF Datafile: 220212C09



Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\B6283_18915_DF_002.utp_res, saved 14-Feb-2022 11:19 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4801, 5772 scc: 862-586 | Revised: 14-Feb-2022 10:05 (DTF) Printed: 14-Feb-2022 11:21 Page 5 of 12


OCDD
3.03e7*
43.53
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 4.40e3
0%
Abs. Int.
6.40e6
3.20e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.35e7*
43.52
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 2.71e3
7.28e6
3.64e6
ES OCDD
1.75e7*
43.51
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 1.81e3
3.88e6
1.94e6
ES OCDD
1.93e7*
43.51
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 1.94e3
4.11e6
2.05e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
5.62e6
2.81e6


SGS ID: B6283_18915_DF_002
Sample ID: 11215131-020422-S-SB-SW-S-50
Acq: 12-Feb-2022 08:38:35
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 77
User: DTF Datafile: 220212C09
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.21e3
1368F 3.75e4* 22.70
2468F 1.27e5* 23.93
1347F...[3] 5.67e4* 24.45
1268F 3.10e4* 25.21
1238F...[5] 1.34e5* 26.26
1278F 9.96e4* 26.71
2378F 2.37e5* 27.60
2347/1279F 3.39e4* 27.38
2367/3467F 7.37e4* 27.97
1269F 9.39e4* 28.21
1289F 4.56e4* 29.61
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.25e3
1368F 5.22e4* 22.72
2468F 1.65e5* 23.92
1248F...[3] 6.74e4* 24.80
1467F 3.77e4* 25.36
1238F...[5] 1.76e5* 26.25
1278F 1.60e5* 26.71
2378F 3.78e5* 27.61
2348F 2.21e4* 27.49
2367/3467F 7.95e4* 27.96
1269F 1.71e5* 28.21
1289F 5.59e4* 29.62
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 6.08e3
JS 1234F 2.39e7 26.22
ES 2378F 2.14e7 27.59
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.88e3
JS 1234F 2.99e7 26.22
ES 2378F 2.69e7 27.59
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.22e3
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
6.61e4
3.30e4
0.00e0
9.50e4
4.75e4
5.02e6
2.51e6
6.37e6
3.19e6
1.02e4
5.09e3
Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\B6283_18915_DF_002.utp_res, saved 14-Feb-2022 11:19 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9365, 7580, 9621 scc: 862-586
Revised: 14-Feb-2022 10:07 (DTF) Printed: 14-Feb-2022 11:21 Page 7 of 12

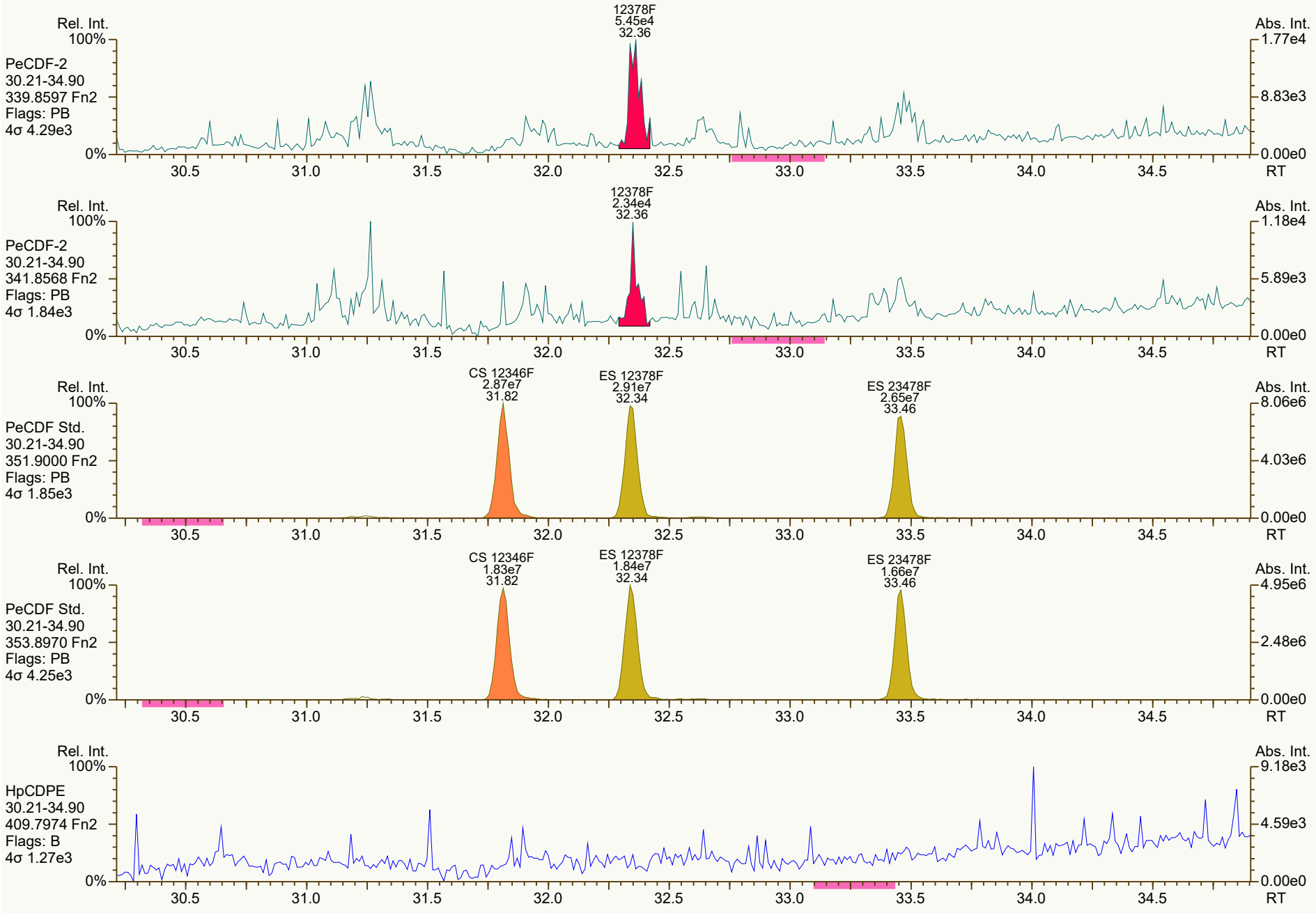
SGS ID: B6283_18915_DF_002 | Sample ID: 11215131-020422-S-SB-SW-S-50 | Acq: 12-Feb-2022 08:38:35

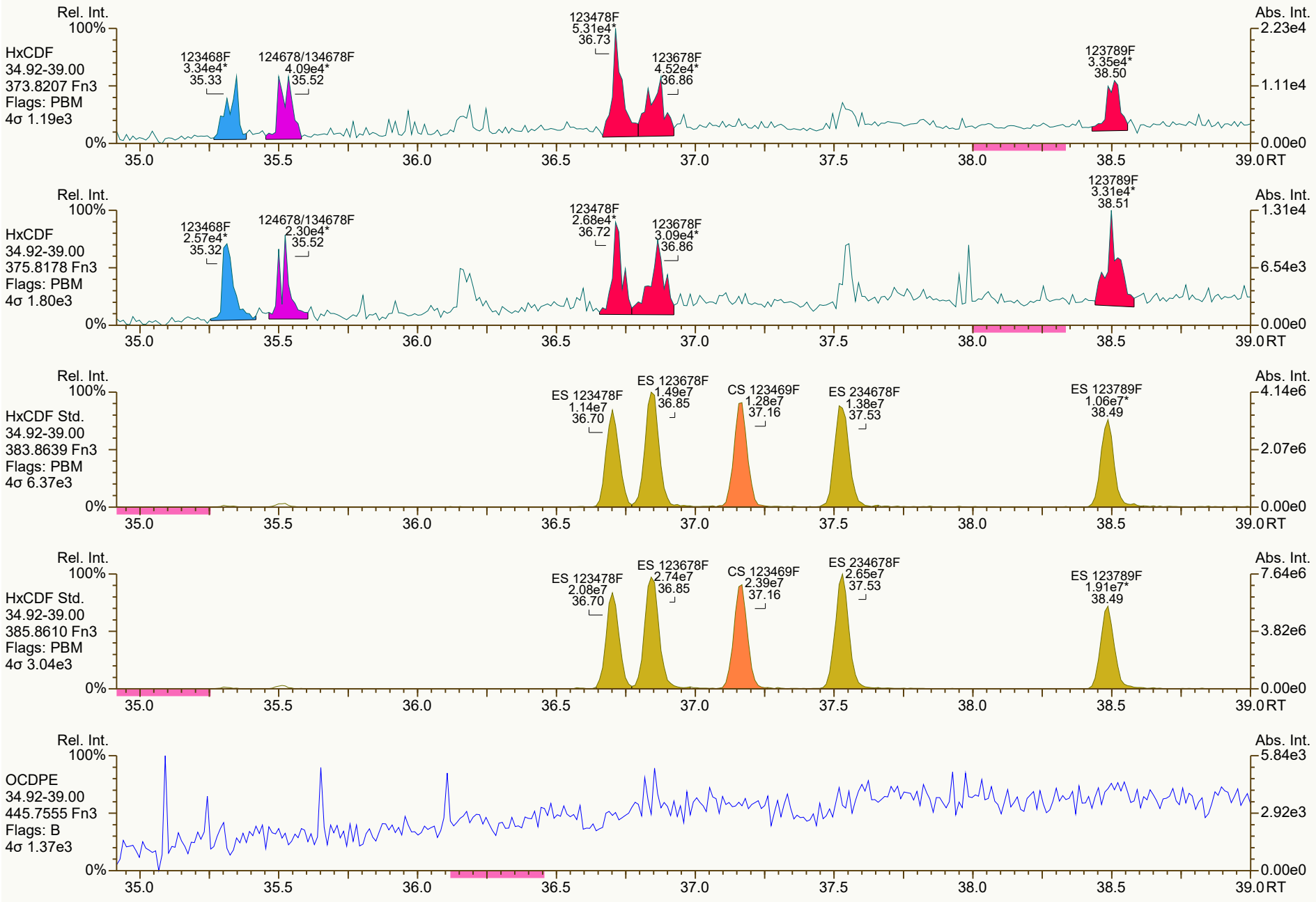
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 77 | User: DTF Datafile: 220212C09

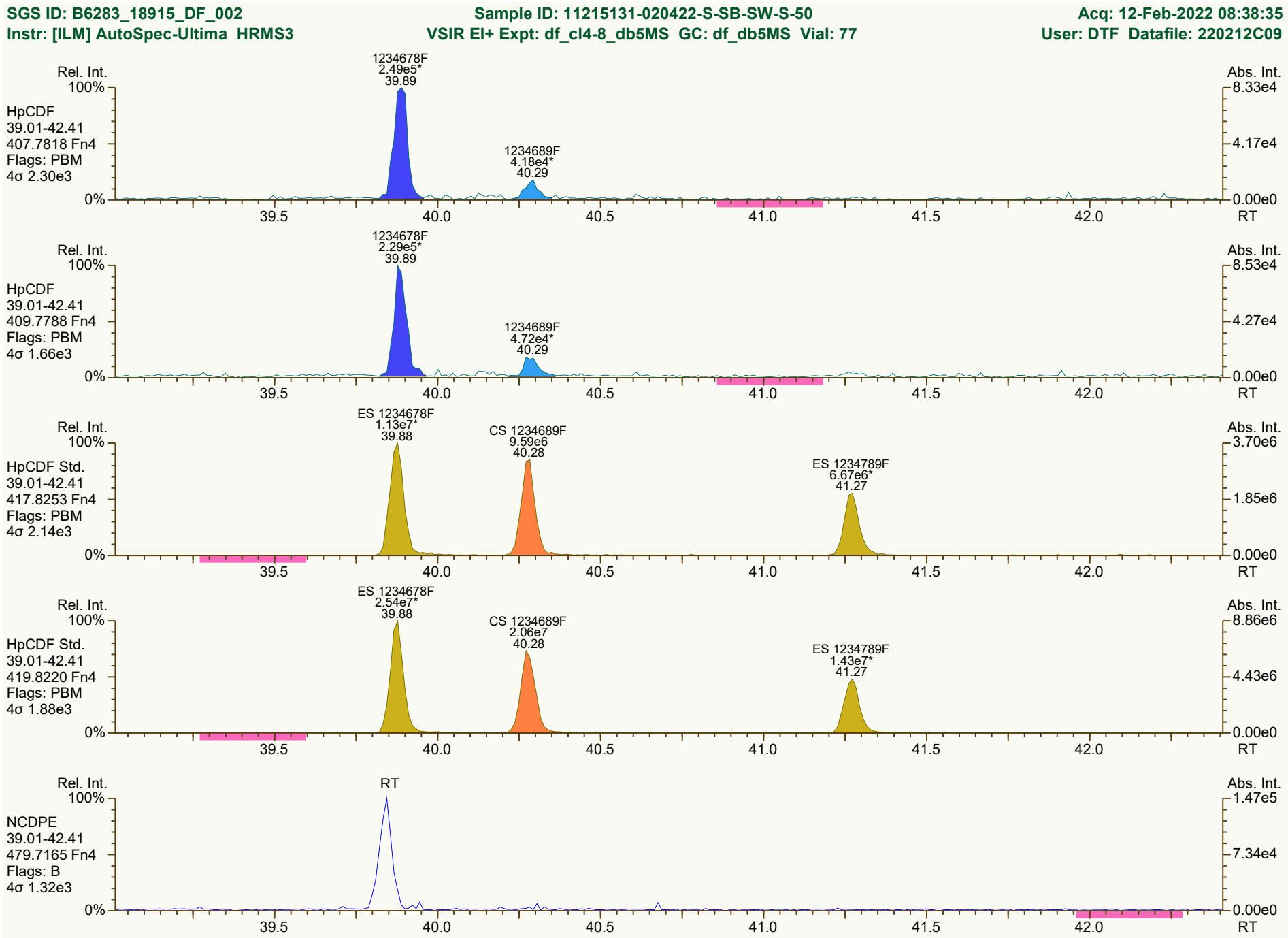


Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\B6283_18915_DF_002.utp_res, saved 14-Feb-2022 11:19 (DTF) | *Peak annotation: Areas, Centroids*

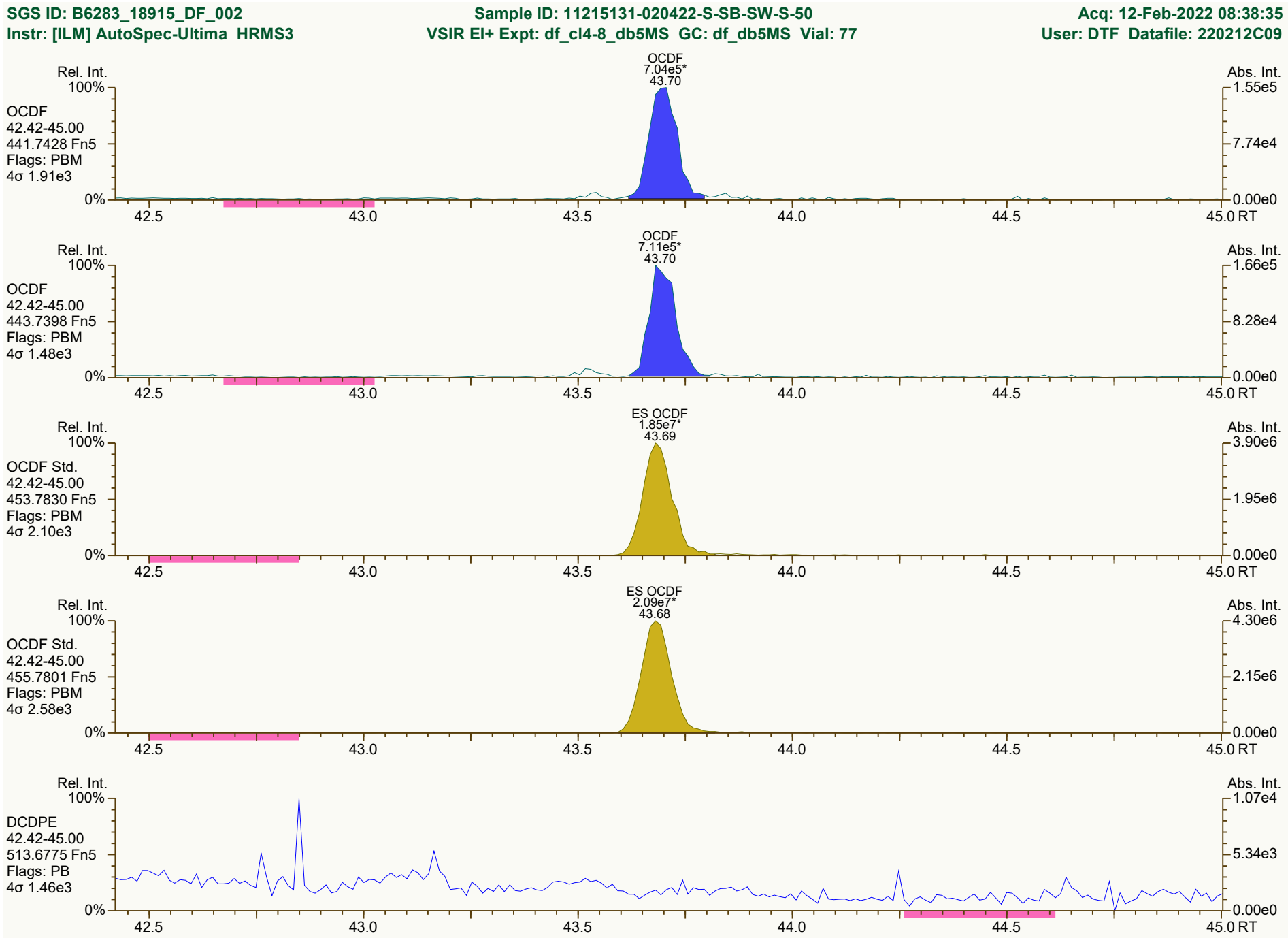
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0834 scc: 862-586 | *PKD: 14-Feb-2022 10:02 Printed: 14-Feb-2022 11:21 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PB
4σ 4.29e3
0%
12378F
5.45e4
32.36
Abs. Int.
1.77e4
8.83e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PB
4σ 1.84e3
0%
12378F
2.34e4
32.36
Abs. Int.
1.18e4
5.89e3
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 1.85e3
0%
CS 12346F
2.87e7
31.82
ES 12378F
2.91e7
32.34
ES 23478F
2.65e7
33.46
Abs. Int.
8.06e6
4.03e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 4.25e3
0%
CS 12346F
1.83e7
31.82
ES 12378F
1.84e7
32.34
ES 23478F
1.66e7
33.46
Abs. Int.
4.95e6
2.48e6
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.27e3
0%
Abs. Int.
9.18e3
4.59e3
0.00e0
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 1.19e3
123468F 3.34e4* 35.33
124678/134678F 4.09e4* 35.52
123478F 5.31e4* 36.73
123678F 4.52e4* 36.86
123789F 3.35e4* 38.50
Abs. Int.
2.23e4
1.11e4
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 1.80e3
123468F 2.57e4* 35.32
124678/134678F 2.30e4* 35.52
123478F 2.68e4* 36.72
123678F 3.09e4* 36.86
123789F 3.31e4* 38.51
Abs. Int.
1.31e4
6.54e3
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 6.37e3
ES 123478F 1.14e7 36.70
ES 123678F 1.49e7 36.85
CS 123469F 1.28e7 37.16
ES 234678F 1.38e7 37.53
ES 123789F 1.06e7* 38.49
Abs. Int.
4.14e6
2.07e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 3.04e3
ES 123478F 2.08e7 36.70
ES 123678F 2.74e7 36.85
CS 123469F 2.39e7 37.16
ES 234678F 2.65e7 37.53
ES 123789F 1.91e7* 38.49
Abs. Int.
7.64e6
3.82e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.37e3
Abs. Int.
5.84e3
2.92e3
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT


SGS ID: B6283_18915_DF_002
Sample ID: 11215131-020422-S-SB-SW-S-50
Acq: 12-Feb-2022 08:38:35
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 77
User: DTF Datafile: 220212C09
Rel. Int.
Abs. Int.
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 2.30e3
1234678F
2.49e5*
39.89
1234689F
4.18e4*
40.29
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 1.66e3
1234678F
2.29e5*
39.89
1234689F
4.72e4*
40.29
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 2.14e3
ES 1234678F
1.13e7*
39.88
CS 1234689F
9.59e6
40.28
ES 1234789F
6.67e6*
41.27
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 1.88e3
ES 1234678F
2.54e7*
39.88
CS 1234689F
2.06e7
40.28
ES 1234789F
1.43e7*
41.27
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.32e3
RT
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\B6283_18915_DF_002.utp_res, saved 14-Feb-2022 11:19 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0711, 0376, 4137 scc: 862-586
Revised: 14-Feb-2022 10:08 (DTF) Printed: 14-Feb-2022 11:21 Page 11 of 12

SGS ID: B6283_18915_DF_002 | Sample ID: 11215131-020422-S-SB-SW-S-50 | Acq: 12-Feb-2022 08:38:35
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 77 | User: DTF Datafile: 220212C09



Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\B6283_18915_DF_002.utp_res, saved 14-Feb-2022 11:19 (DTF) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8162, 2352, 3308 scc: 862-586 | *Revised: 14-Feb-2022 10:09 (DTF) Printed: 14-Feb-2022 11:21 Page 12 of 12*

Lab ID: B6283_18915_DF_003 **Acq'd:** 12 Feb 2022 09:24 DTF **Wt/Vol:** 13.25 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020422-S-SB-SW-S-49 **UTP:** 14-Feb-2022 10:17:03 DTF **J-level:** 0.377 pg/g **Split:** 1 **Checkcode:** 872-247-XTQ

Datafile: 220212C10 **Report:** 14 Feb 2022 10:19 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.47		1.0008	1.0008	0	1.03E+07	0.79	Y	1.18	57.6	3171.73	0.185
12378-PeCDD	33.82	J	1.0005	1.0006	+0.2	1.48E+05	1.73	Y	1.04	1.02	2725.618	0.166
123478-HxCDD	37.74	J	1.0004	1.0005	+0.2	7.42E+04	1.22	Y	1.09	0.562	5068.672	0.34
123678-HxCDD	37.85	J EMPC	1.0035	1.0035	0	9.72E+04	1.62	N	1.15	0.638	5068.672	0.297
123789-HxCDD	38.15	J	1.0113	1.0114	+0.2	1.51E+05	1.43	Y	1.05	0.972	5068.672	0.299
1234678-HpCDD	40.83		1.0003	1.0003	0	2.68E+06	1.04	Y	1.06	22	4507.555	0.309
OCDD	43.53		1.0002	1.0003	+0.3	3.52E+07	0.88	Y	1.13	389	3279.565	0.423
2378-TCDF	27.61		1.0008	1.0008	0	3.76E+07	0.79	Y	1.08	155	2702.325	0.123
12378-PeCDF	32.37		1.0005	1.0006	+0.2	2.67E+06	1.53	Y	1.02	12	2921.936	0.121
23478-PeCDF	33.48	PR	1.0005	1.0006	+0.2	1.62E+06	1.60	Y	1.02	7.94	2921.936	0.127
123478-HxCDF	36.73		1.0005	1.0005	0	6.01E+06	1.20	Y	1.27	32.8	3769.966	0.175
123678-HxCDF	36.87		1.0005	1.0004	-0.2	1.86E+06	1.22	Y	1.15	8.33	3769.966	0.142
234678-HxCDF	37.55	J	1.0005	1.0004	-0.2	3.80E+05	1.30	Y	1.19	1.74	3769.966	0.14
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3769.966	0.21
1234678-HpCDF	39.89		1.0003	1.0002	-0.2	2.41E+06	1.07	Y	1.37	10.1	3432.151	0.107
1234789-HpCDF	41.29		1.0003	1.0003	0	5.93E+05	0.91	Y	1.31	4.82	3432.151	0.236
OCDF	43.70		1.0003	1.0001	-0.5	1.00E+06	0.95	Y	1.07	11.3	3487.829	0.455

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.45	1.0238	1.0239	+0.2	2.27E+07	0.81	Y	1.05	82.3
ES 12378-PeCDD	33.80	1.2160	1.2165	+1.0	2.11E+07	1.58	Y	0.88	90.7
ES 123478-HxCDD	37.72	0.9919	0.9918	-0.2	1.83E+07	1.29	Y	0.97	78.5
ES 123678-HxCDD	37.84	0.9950	0.9949	-0.2	2.00E+07	1.25	Y	0.94	88.5
ES 123789-HxCDD	38.14	1.0027	1.0027	0	2.23E+07	1.29	Y	1.09	85.3
ES 1234678-HpCDD	40.82	1.0730	1.0732	+0.5	1.74E+07	1.02	Y	0.91	79.4
ES OCDD	43.52	1.1437	1.1442	+1.3	2.43E+07	0.91	Y	0.62	81.2
ES 2378-TCDF	27.59	1.0520	1.0521	+0.2	3.40E+07	0.82	Y	1.06	78.6
ES 12378-PeCDF	32.35	1.2330	1.2336	+1.2	3.28E+07	1.52	Y	0.91	88.4
ES 23478-PeCDF	33.46	1.2754	1.2762	+1.6	3.02E+07	1.59	Y	0.88	83.7
ES 123478-HxCDF	36.71	0.9653	0.9652	-0.2	2.17E+07	0.56	Y	1.20	75.6
ES 123678-HxCDF	36.85	0.9691	0.9689	-0.4	2.92E+07	0.55	Y	1.35	90
ES 234678-HxCDF	37.54	0.9870	0.9869	-0.2	2.78E+07	0.56	Y	1.24	93.2
ES 123789-HxCDF	38.49	1.0121	1.0121	0	2.02E+07	0.52	Y	1.16	72.9
ES 1234678-HpCDF	39.88	1.0484	1.0486	+0.5	2.62E+07	0.47	Y	0.97	113
ES 1234789-HpCDF	41.28	1.0851	1.0852	+0.2	1.42E+07	0.47	Y	0.85	69.6
ES OCDF	43.70	1.1483	1.1488	+1.3	2.49E+07	0.91	Y	0.81	64.2

Lab ID: B6283_18915_DF_003 **Acq'd:** 12 Feb 2022 09:24 DTF **Wt/Vol:** 13.25 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020422-S-SB-SW-S-49 **UTP:** 14-Feb-2022 10:17:03 DTF **J-level:** 0.377 pg/g **Split:** 1 **Checkcode:** 872-247-XTQ

Datafile: 220212C10 **Report:** 14 Feb 2022 10:19 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.78		-	-	-	2.64E+07	0.85	Y	-	-
JS 1234-TCDF	26.22		-	-	-	4.08E+07	0.80	Y	-	-
JS 123467-HxCDD	38.03		-	-	-	1.20E+07	1.28	Y	-	-
CS 37Cl-2378-TCDD	28.47		1.0245	1.0247	+0.3	1.12E+07	n/a	-	1.20	88.5
CS 12347-PeCDD	33.29		1.1979	1.1983	+0.8	2.14E+07	1.55	Y	0.75	108
CS 12346-PeCDF	31.82		1.2128	1.2134	+1.1	3.38E+07	1.60	Y	0.85	97.4
CS 123469-HxCDF	37.17		0.9774	0.9773	-0.2	2.73E+07	0.53	Y	1.12	102
CS 1234689-HpCDF	40.29		1.0589	1.0592	+0.7	2.15E+07	0.45	Y	0.89	101
~~SS 37Cl-2378-TCDD~~	~~28.47~~		~~1.0245~~	~~1.0247~~	~~+0.3~~	~~1.12E+07~~	~~n/a~~		~~1.15~~	~~108~~
~~SS 12347-PeCDD~~	~~33.29~~		~~1.1979~~	~~1.1983~~	~~+0.8~~	~~2.14E+07~~	~~1.55~~	~~Y~~	~~0.86~~	~~119~~
~~SS 12346-PeCDF~~	~~31.82~~		~~1.2128~~	~~1.2134~~	~~+1.1~~	~~3.38E+07~~	~~1.60~~	~~Y~~	~~0.94~~	~~110~~
~~SS 123469-HxCDF~~	~~37.17~~		~~0.9774~~	~~0.9773~~	~~-0.2~~	~~2.73E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~113~~
~~SS 1234689-HpCDF~~	~~40.29~~		~~1.0589~~	~~1.0592~~	~~+0.7~~	~~2.15E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~89~~

Totals	Conc	EMPC
Total TCDD	66.3	67
Total PeCDD	2.99	3.52
Total HxCDD	17.2	18.3
Total HpCDD	70.4	70.4
Total Tetra-Octa Dioxins	546	548
Total TCDF	328	330
Total PeCDF	31.1	31.7
Total HxCDF	50.3	50.9
Total HpCDF	19	19
Total Tetra-Octa Furans	440	443
Total Tetra-Octa Dioxins & Furans	985	991

Lab ID: B6283_18915_DF_003 **Acq'd: 12 Feb 2022 09:24 DTF** **Wt/Vol: 13.25 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020422-S-SB-SW-S-49 **UTP: 14-Feb-2022 10:17:03 DTF** **J-level: 0.377 pg/g** **Split: 1** **Checkcode: 872-247-XTQ**

Datafile: 220212C10 **Report: 14 Feb 2022 10:19 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8737						1.18		3171.73	0.185
1379-TCDD	NotFnd		0.8860						1.18		3171.73	0.185
1369-TCDD	NotFnd		0.9009						1.18		3171.73	0.185
1469-TCDD	26.38		0.9281	0.9275	-0.9	4.58E+05	0.85	Y	1.18	2.57	3171.73	0.185
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3171.73	0.185
1378-TCDD	NotFnd		0.9432						1.18		3171.73	0.185
1268-TCDD	NotFnd		0.9500						1.18		3171.73	0.185
1478-TCDD	NotFnd		0.9586						1.18		3171.73	0.185
1279-TCDD	NotFnd		0.9645						1.18		3171.73	0.185
1234/1269-TCDD	27.78		0.9770	0.9766	-0.7	7.16E+04	0.69	Y	1.18	0.401	3171.73	0.185
1236-TCDD	NotFnd		0.9817						1.18		3171.73	0.185
1237/1238-TCDD	28.18	EMPC	0.9905	0.9906	+0.2	1.33E+05	1.07	N	1.18	0.745	3171.73	0.185
1239-TCDD	NotFnd		0.9952						1.18		3171.73	0.185
2378-TCDD	**28.47**		**1.0008**	1.0008	**0**	1.03E+07	0.79	Y	**1.18**	**57.6**	**3171.73**	**0.185**
1278-TCDD	28.80		1.0121	1.0123	+0.3	1.01E+06	0.81	Y	1.18	5.64	3171.73	0.185
1267-TCDD	NotFnd		1.0167						1.18		3171.73	0.185
1289-TCDD	NotFnd		1.0345						1.18		3171.73	0.185
12479/12468-PeCDD	31.31	J	0.9267	0.9264	-0.6	6.62E+04	1.59	Y	1.04	0.457	2725.618	0.166
12469-PeCDD	31.84	J	0.9425	0.9421	-0.8	2.18E+05	1.74	Y	1.04	1.51	2725.618	0.166
12368-PeCDD	NotFnd		0.9588						1.04		2725.618	0.166
12478-PeCDD	NotFnd		0.9643						1.04		2725.618	0.166
12379-PeCDD	NotFnd		0.9673						1.04		2725.618	0.166
12369/12467/12489-PeCDD	32.95	J EMPC	0.9750	0.9749	-0.2	7.74E+04	2.12	N	1.04	0.535	2725.618	0.166
12346/12347-PeCDD	NotFnd		0.9858						1.04		2725.618	0.166
12378-PeCDD	33.82	J	**1.0005**	**1.0006**	**+0.2**	**1.48E+05**	**1.73**	**Y**	**1.04**	**1.02**	**2725.618**	**0.166**
12367-PeCDD	NotFnd		1.0033						1.04		2725.618	0.166
12389-PeCDD	NotFnd		1.0134						1.04		2725.618	0.166
124679/124689-HxCDD	35.99		0.9542	0.9540	-0.4	1.74E+06	1.30	Y	1.10	11.9	5068.672	0.31
123468-HxCDD	NotFnd		0.9715						1.10		5068.672	0.31
123679/123689-HxCDD	36.94		0.9793	0.9792	-0.2	5.65E+05	1.26	Y	1.10	3.85	5068.672	0.31
123469-HxCDD	37.06	J EMPC	0.9828	0.9825	-0.7	6.31E+04	1.48	N	1.10	0.43	5068.672	0.31
123478-HxCDD	37.74	J	**1.0004**	**1.0005**	**+0.2**	**7.42E+04**	**1.22**	**Y**	1.09	**0.562**	**5068.672**	**0.34**
123678-HxCDD	37.85	J EMPC	**1.0035**	**1.0035**	**0**	**9.72E+04**	**1.62**	**N**	1.15	**0.638**	**5068.672**	**0.297**
123467-HxCDD	NotFnd		1.0085						1.10		5068.672	0.31
123789-HxCDD	38.15	J	**1.0113**	**1.0114**	**+0.2**	**1.51E+05**	**1.43**	**Y**	1.05	**0.972**	**5068.672**	**0.299**

Lab ID: B6283_18915_DF_003 **Acq'd: 12 Feb 2022 09:24 DTF** **Wt/Vol: 13.25 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020422-S-SB-SW-S-49 **UTP: 14-Feb-2022 10:17:03 DTF** **J-level: 0.377 pg/g** **Split: 1** **Checkcode: 872-247-XTQ**

Datafile: 220212C10 **Report: 14 Feb 2022 10:19 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

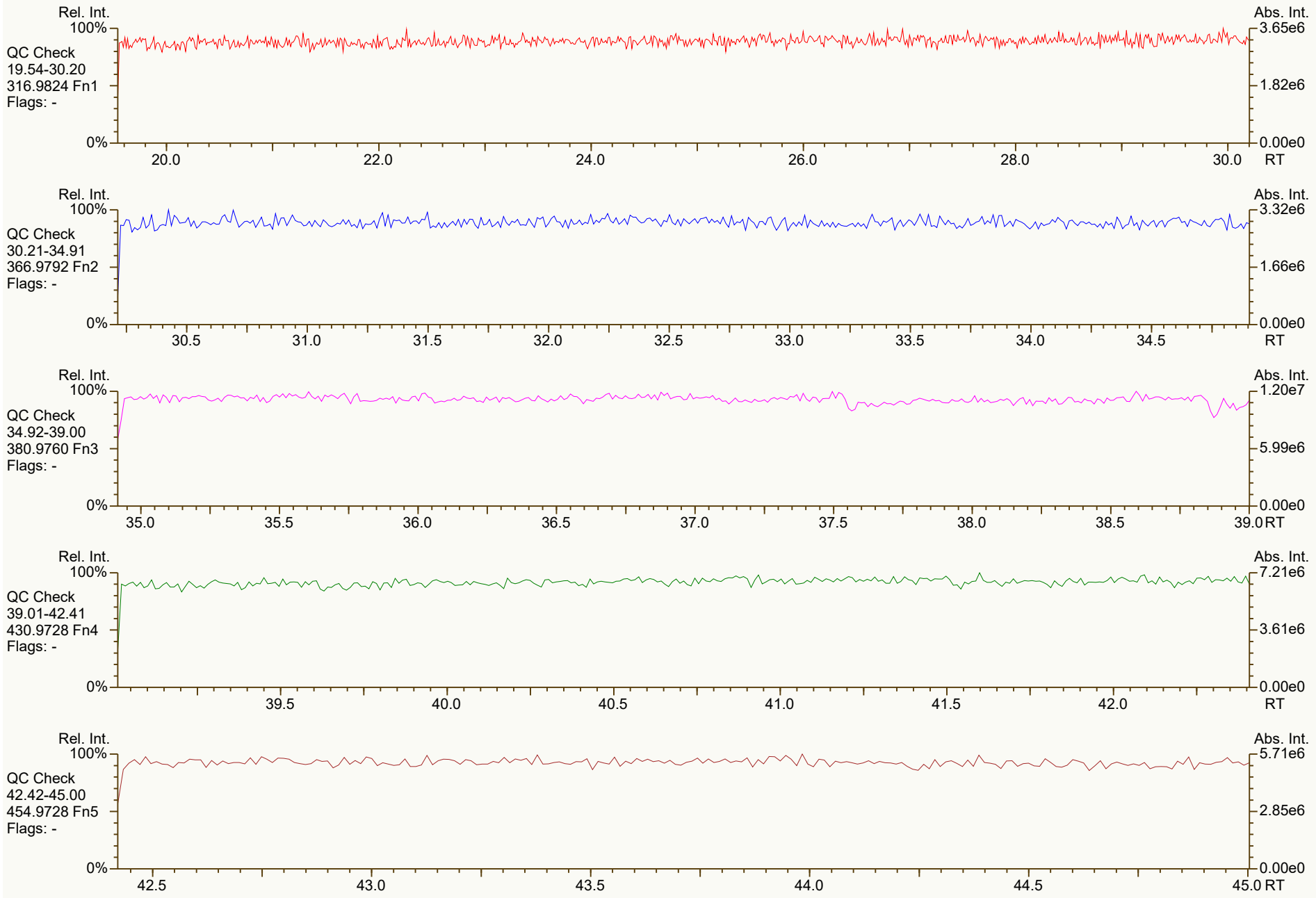
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.15		0.9837	0.9836	-0.2	5.92E+06	1.07	Y	1.06	48.5	4507.555	0.309
1234678-HpCDD	**40.83**		**1.0003**	**1.0003**	**0**	**2.68E+06**	**1.04**	**Y**	**1.06**	**22**	**4507.555**	**0.309**
OCDD	**43.53**		**1.0002**	**1.0003**	**+0.3**	**3.52E+07**	**0.88**	**Y**	**1.13**	**389**	**3279.565**	**0.423**
OCDD-a	43.52		1.0001	1.0001	0	2.28E+06	2.74	Y	0.07	392	3631.356	7.32
1368-TCDF	NotFnd		0.8251						1.08		2702.325	0.123
1468-TCDF	23.29	EMPC	0.8458	0.8443	-2.1	1.32E+05	0.62	N	1.08	0.544	2702.325	0.123
2468-TCDF	23.93	EMPC	0.8686	0.8672	-2.0	1.09E+05	0.60	N	1.08	0.449	2702.325	0.123
1346/1246-TCDF	NotFnd		0.8814						1.08		2702.325	0.123
1347/1378/1247-TCDF	24.45		0.8867	0.8862	-0.7	5.06E+05	0.80	Y	1.08	2.08	2702.325	0.123
1348-TCDF	NotFnd		0.8962						1.08		2702.325	0.123
1248/1367/1379-TCDF	24.79		0.9009	0.8984	-3.7	1.98E+06	0.73	Y	1.08	8.15	2702.325	0.123
1268-TCDF	25.21		0.9145	0.9139	-0.9	6.96E+05	0.66	Y	1.08	2.87	2702.325	0.123
1467-TCDF	25.34	EMPC	0.9193	0.9186	-1.1	1.10E+05	1.22	N	1.08	0.453	2702.325	0.123
1478-TCDF	25.51		0.9254	0.9247	-1.1	1.70E+06	0.80	Y	1.08	7	2702.325	0.123
1369/1237-TCDF	25.89		0.9387	0.9384	-0.5	4.54E+05	0.72	Y	1.08	1.87	2702.325	0.123
2467-TCDF	NotFnd		0.9433						1.08		2702.325	0.123
2368-TCDF	26.18		0.9489	0.9488	-0.2	1.38E+06	0.77	Y	1.08	5.67	2702.325	0.123
1238/1234/1678/1469/1236-TCDF	26.27		0.9523	0.9521	-0.3	4.76E+06	0.77	Y	1.08	19.6	2702.325	0.123
1278-TCDF	26.71		0.9683	0.9682	-0.2	1.79E+07	0.79	Y	1.08	73.8	2702.325	0.123
1349-TCDF	NotFnd		0.9722						1.08		2702.325	0.123
1267-TCDF	26.99		0.9783	0.9781	-0.3	9.85E+05	0.74	Y	1.08	4.06	2702.325	0.123
2346/1249-TCDF	NotFnd		0.9850						1.08		2702.325	0.123
2347/1279-TCDF	27.39		0.9926	0.9927	+0.2	5.44E+05	0.72	Y	1.08	2.24	2702.325	0.123
2348-TCDF	27.49		0.9967	0.9965	-0.3	2.36E+06	0.78	Y	1.08	9.71	2702.325	0.123
2378-TCDF	**27.61**		**1.0008**	**1.0008**	**0**	**3.76E+07**	**0.79**	**Y**	**1.08**	**155**	**2702.325**	**0.123**
2367/3467-TCDF	27.96		1.0137	1.0136	-0.2	3.20E+06	0.78	Y	1.08	13.2	2702.325	0.123
1269-TCDF	28.22		1.0223	1.0228	+0.8	2.17E+06	0.77	Y	1.08	8.91	2702.325	0.123
1239-TCDF	28.48	EMPC	1.0321	1.0324	+0.5	1.79E+05	0.64	N	1.08	0.736	2702.325	0.123
1289-TCDF	29.62		1.0722	1.0736	+2.5	3.42E+06	0.82	Y	1.08	14.1	2702.325	0.123
13468/12468-PeCDF	29.56	J EMPC	0.9139	0.9136	-0.5	1.42E+05	1.20	N	1.02	0.664	2484.1	0.105
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		2921.936	0.124
12368/13478/12478-PeCDF	31.27		0.9662	0.9668	+1.1	1.30E+06	1.45	Y	1.02	6.1	2921.936	0.124
14678-PeCDF	NotFnd		0.9692						1.02		2921.936	0.124
13479-PeCDF	NotFnd		0.9723						1.02		2921.936	0.124
13469/12479-PeCDF	NotFnd		0.9797						1.02		2921.936	0.124
12346-PeCDF	NotFnd		0.9840						1.02		2921.936	0.124

Lab ID: B6283_18915_DF_003 **Acq'd:** 12 Feb 2022 09:24 DTF **Wt/Vol:** 13.25 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020422-S-SB-SW-S-49 **UTP:** 14-Feb-2022 10:17:03 DTF **J-level:** 0.377 pg/g **Split:** 1 **Checkcode:** 872-247-XTQ

Datafile: 220212C10 **Report:** 14 Feb 2022 10:19 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		2921.936	0.124
12347-PeCDF	NotFnd		0.9894						1.02		2921.936	0.124
12348-PeCDF	32.16	J	0.9940	0.9942	+0.4	2.20E+05	1.51	Y	1.02	1.03	2921.936	0.124
12378-PeCDF	**32.37**		**1.0005**	**1.0006**	**+0.2**	**2.67E+06**	**1.53**	**Y**	**1.02**	**12**	**2921.936**	**0.121**
12678/12367-PeCDF	32.66		1.0089	1.0096	+1.4	7.73E+05	1.44	Y	1.02	3.62	2921.936	0.124
12379-PeCDF	NotFnd		1.0142						1.02		2921.936	0.124
12679-PeCDF	NotFnd		0.9929						1.02		2921.936	0.124
23467/12369-PeCDF	NotFnd		0.9967						1.02		2921.936	0.124
23478-PeCDF	**33.48**		**1.0005**	**1.0006**	**+0.2**	**1.62E+06**	**1.60**	**Y**	**1.02**	**7.94**	**2921.936**	**0.127**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2921.936	0.124
12349-PeCDF	NotFnd		1.0100						1.02		2921.936	0.124
12389-PeCDF	34.56	J	1.0324	1.0327	+0.6	8.79E+04	1.65	Y	1.02	0.412	2921.936	0.124
123468-HxCDF	35.34	J EMPC	0.9627	0.9627	0	1.14E+05	1.48	N	1.19	0.585	3769.966	0.163
124678/134678-HxCDF	35.53		0.9682	0.9680	-0.4	7.20E+05	1.39	Y	1.19	3.68	3769.966	0.163
134679-HxCDF	NotFnd		0.9744						1.19		3769.966	0.163
124679-HxCDF	NotFnd		0.9798						1.19		3769.966	0.163
124689-HxCDF	36.18	J	0.9858	0.9857	-0.2	2.49E+05	1.42	Y	1.19	1.27	3769.966	0.163
123467-HxCDF	NotFnd		0.9972						1.19		3769.966	0.163
123478-HxCDF	**36.73**		**1.0005**	**1.0005**	**0**	**6.01E+06**	**1.20**	**Y**	**1.27**	**32.8**	**3769.966**	**0.175**
123678-HxCDF	**36.87**		**1.0005**	**1.0004**	**-0.2**	**1.86E+06**	**1.22**	**Y**	**1.15**	**8.33**	**3769.966**	**0.142**
123479-HxCDF	NotFnd		1.0049						1.19		3769.966	0.163
123469-HxCDF	NotFnd		1.0090						1.19		3769.966	0.163
123679-HxCDF	NotFnd		0.9942						1.19		3769.966	0.163
234678-HxCDF	**37.55**	J	**1.0005**	**1.0004**	**-0.2**	**3.80E+05**	**1.30**	**Y**	**1.19**	**1.74**	**3769.966**	**0.14**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3769.966	0.163
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3769.966**	**0.21**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.54		1.0009	1.0011	+0.5	4.85E+05	1.07	Y	1.19	2.48	3769.966	0.163
1234678-HpCDF	**39.89**		**1.0003**	**1.0002**	**-0.2**	**2.41E+06**	**1.07**	**Y**	**1.37**	**10.1**	**3432.151**	**0.107**
1234679-HpCDF	NotFnd		1.0068						1.34		3432.151	0.152
1234689-HpCDF	40.30		1.0103	1.0104	+0.2	7.24E+05	1.06	Y	1.34	4.03	3432.151	0.152
1234789-HpCDF	**41.29**		**1.0003**	**1.0003**	**0**	**5.93E+05**	**0.91**	**Y**	**1.31**	**4.82**	**3432.151**	**0.236**
OCDF	**43.70**		**1.0003**	**1.0001**	**-0.5**	**1.00E+06**	**0.95**	**Y**	**1.07**	**11.3**	**3487.829**	**0.455**
OCDF-a	NotFnd		1.0002						0.07		3007.768	6.34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QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
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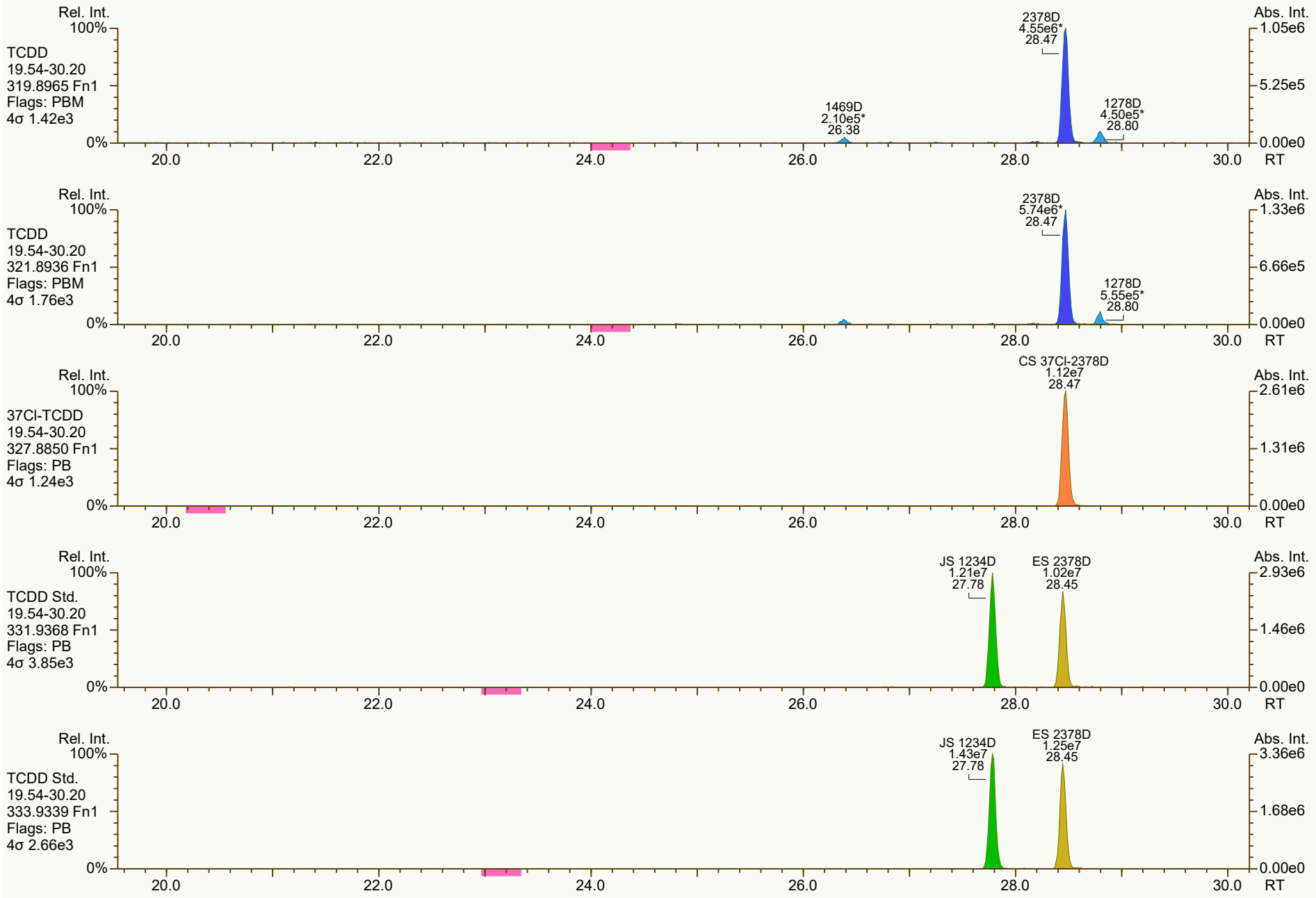
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.65e6
1.82e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.32e6
1.66e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.20e7
5.99e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
7.21e6
3.61e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.71e6
2.85e6
0.00e0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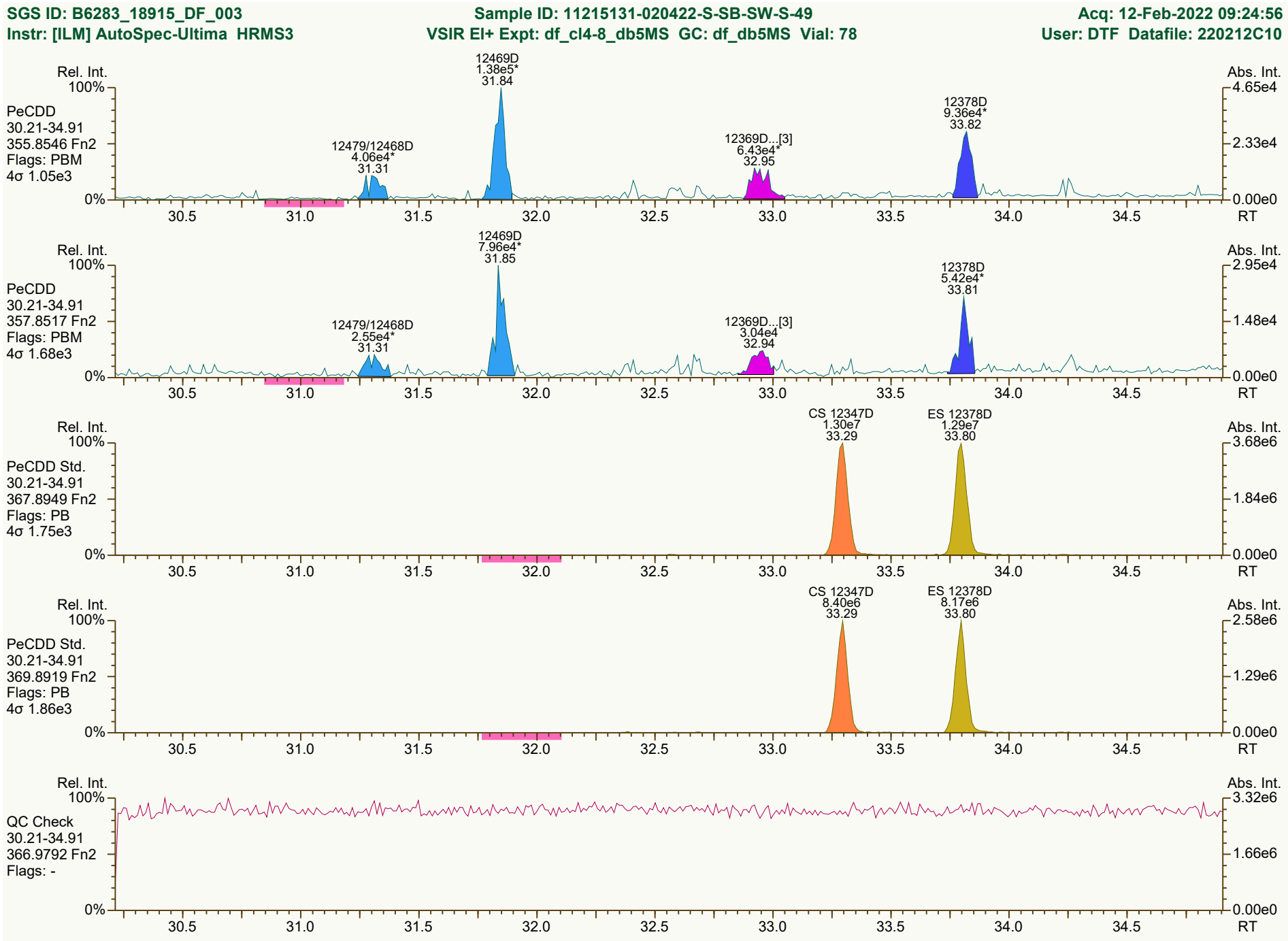
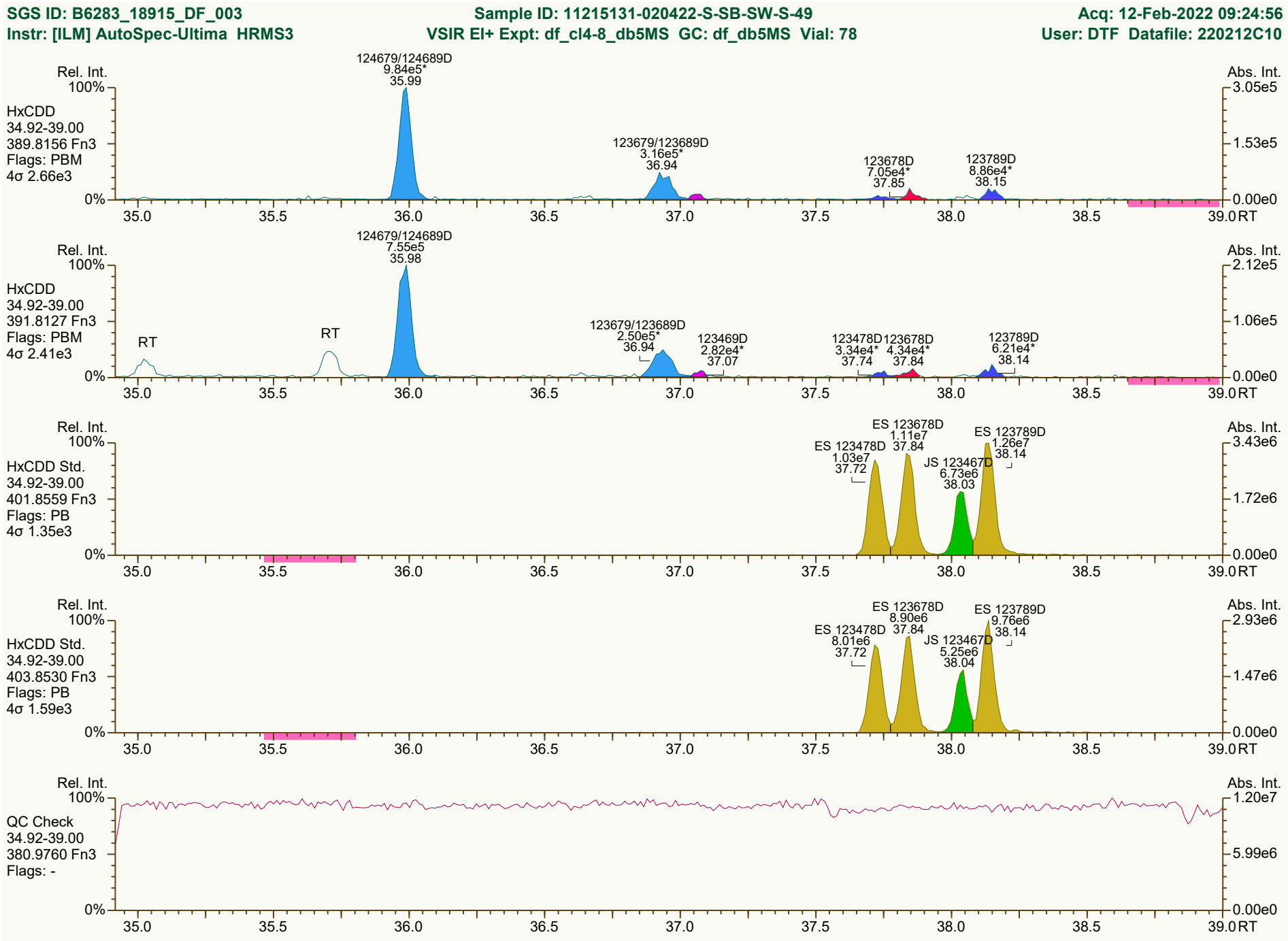
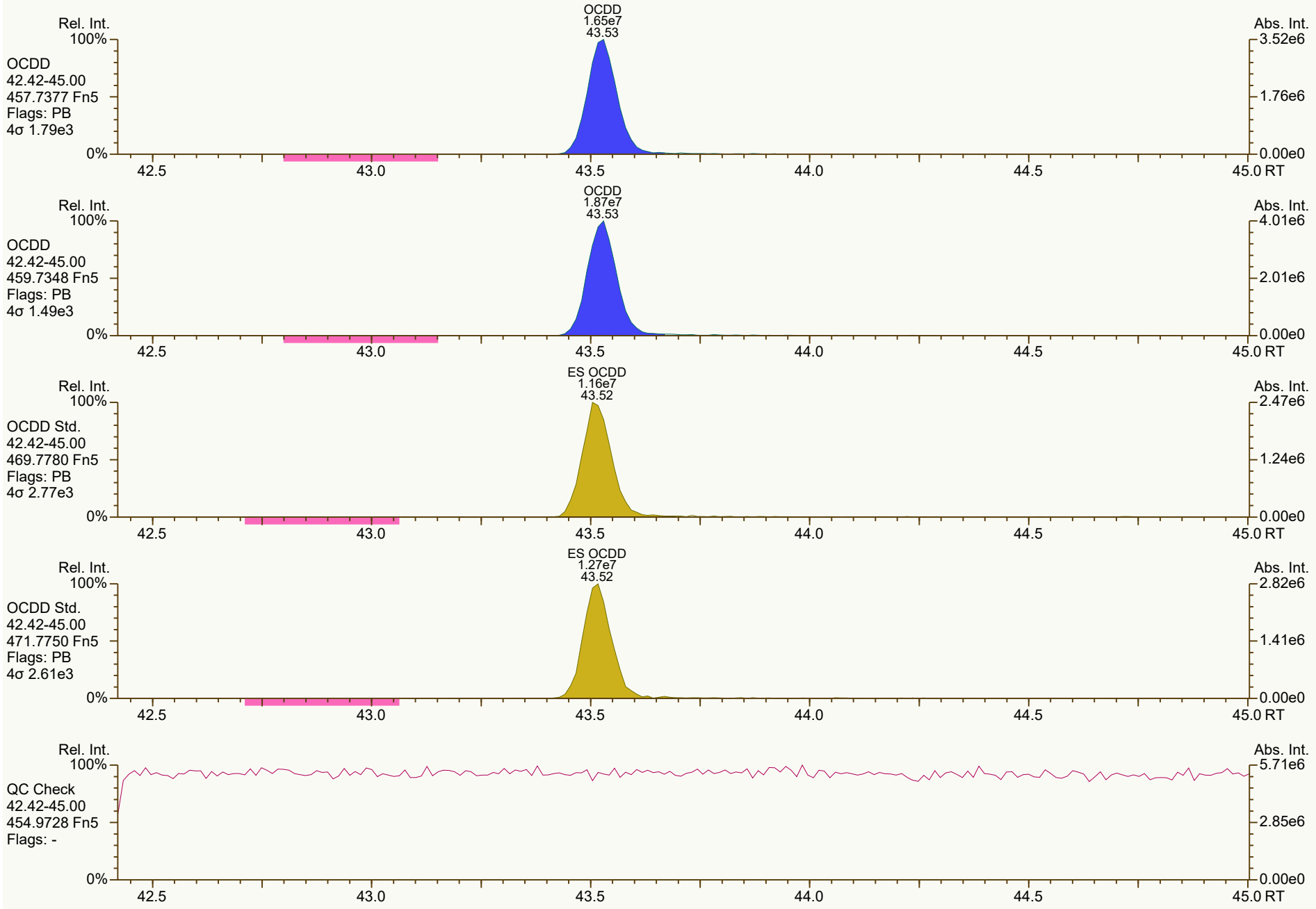
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.42e3
0%
2378D
4.55e6*
28.47
1469D
2.10e5*
26.38
1278D
4.50e5*
28.80
Abs. Int.
1.05e6
5.25e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.76e3
0%
2378D
5.74e6*
28.47
1278D
5.55e5*
28.80
Abs. Int.
1.33e6
6.66e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.24e3
0%
CS 37Cl-2378D
1.12e7
28.47
Abs. Int.
2.61e6
1.31e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 3.85e3
0%
JS 1234D
1.21e7
27.78
ES 2378D
1.02e7
28.45
Abs. Int.
2.93e6
1.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.66e3
0%
JS 1234D
1.43e7
27.78
ES 2378D
1.25e7
28.45
Abs. Int.
3.36e6
1.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6283_18915_DF_003
Sample ID: 11215131-020422-S-SB-SW-S-49
Acq: 12-Feb-2022 09:24:56
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 78
User: DTF Datafile: 220212C10
Rel. Int.
Abs. Int.
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PBM
4σ 1.05e3
12469D
1.38e5*
31.84
12479/12468D
4.06e4*
31.31
12369D...[3]
6.43e4*
32.95
12378D
9.36e4*
33.82
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PBM
4σ 1.68e3
12469D
7.96e4*
31.85
12479/12468D
2.55e4*
31.31
12369D...[3]
3.04e4
32.94
12378D
5.42e4*
33.81
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 1.75e3
CS 12347D
1.30e7
33.29
ES 12378D
1.29e7
33.80
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 1.86e3
CS 12347D
8.40e6
33.29
ES 12378D
8.17e6
33.80
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
RT
Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\B6283_18915_DF_003.utp_res, saved 14-Feb-2022 10:17 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1807, 3921 scc: 872-247
Revised: 14-Feb-2022 10:10 (DTF) Printed: 14-Feb-2022 10:23 Page 3 of 12

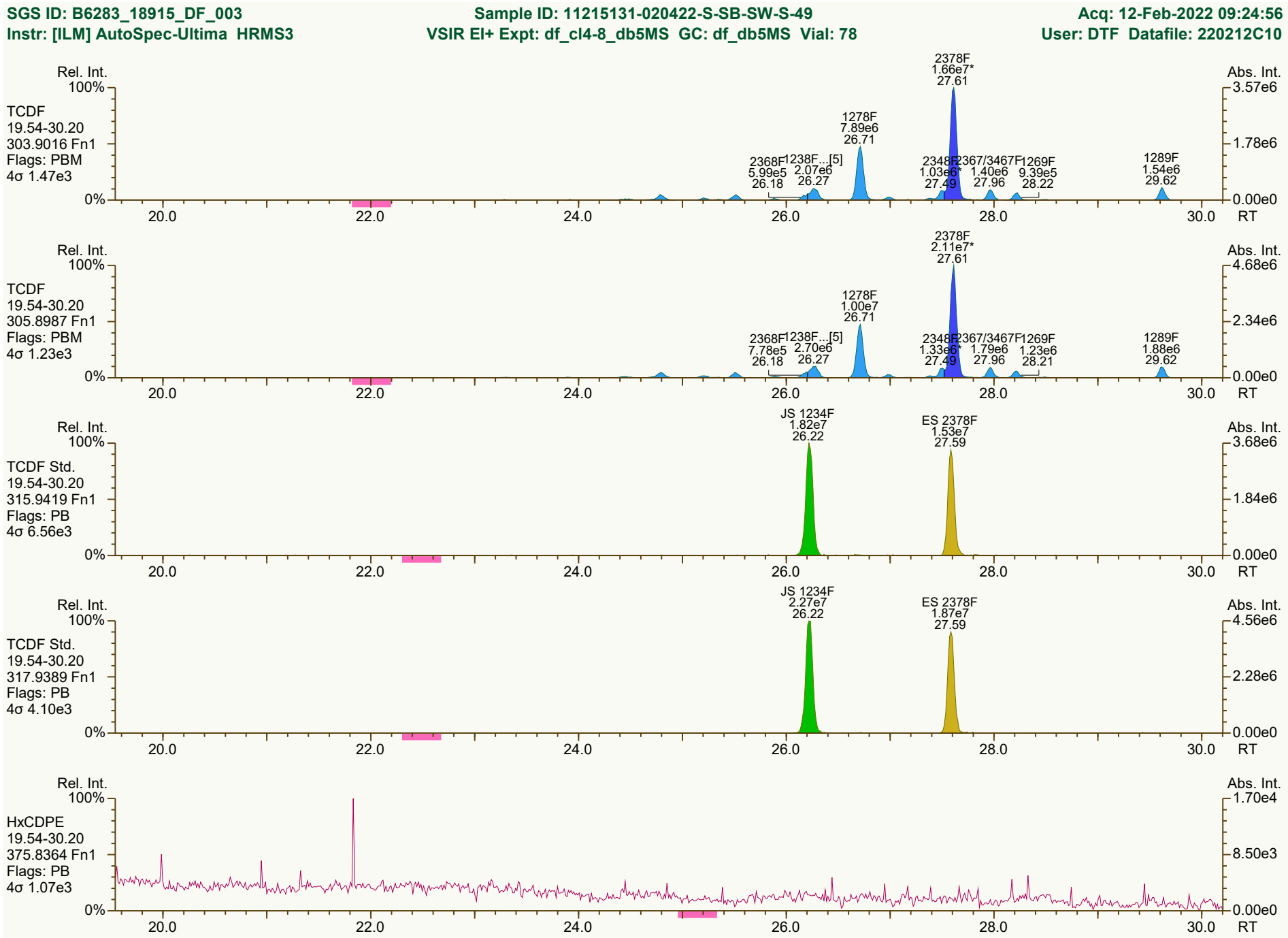


Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\B6283_18915_DF_003.utp_res, saved 14-Feb-2022 10:17 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5988, 1787 scc: 872-247
Revised: 14-Feb-2022 10:10 (DTF) Printed: 14-Feb-2022 10:23 Page 4 of 12


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 1.97e3
1234679D
3.06e6*
40.15
1234678D
1.37e6*
40.83
Abs. Int.
1.01e6
5.07e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 2.53e3
1234679D
2.86e6*
40.15
1234678D
1.31e6*
40.83
Abs. Int.
9.16e5
4.58e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.45e3
ES 1234678D
8.76e6
40.82
Abs. Int.
2.62e6
1.31e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.77e3
ES 1234678D
8.62e6
40.82
Abs. Int.
2.61e6
1.31e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
7.21e6
3.61e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
1.65e7
43.53
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 1.79e3
0%
Abs. Int.
3.52e6
1.76e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.87e7
43.53
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 1.49e3
4.01e6
2.01e6
ES OCDD
1.16e7
43.52
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 2.77e3
2.47e6
1.24e6
ES OCDD
1.27e7
43.52
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 2.61e3
2.82e6
1.41e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
5.71e6
2.85e6

SGS ID: B6283_18915_DF_003 | Sample ID: 11215131-020422-S-SB-SW-S-49 | Acq: 12-Feb-2022 09:24:56
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 78 | User: DTF Datafile: 220212C10



Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\B6283_18915_DF_003.utp_res, saved 14-Feb-2022 10:17 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4519, 5834, 8364 scc: 872-247 | Revised: 14-Feb-2022 10:12 (DTF) Printed: 14-Feb-2022 10:24 Page 7 of 12

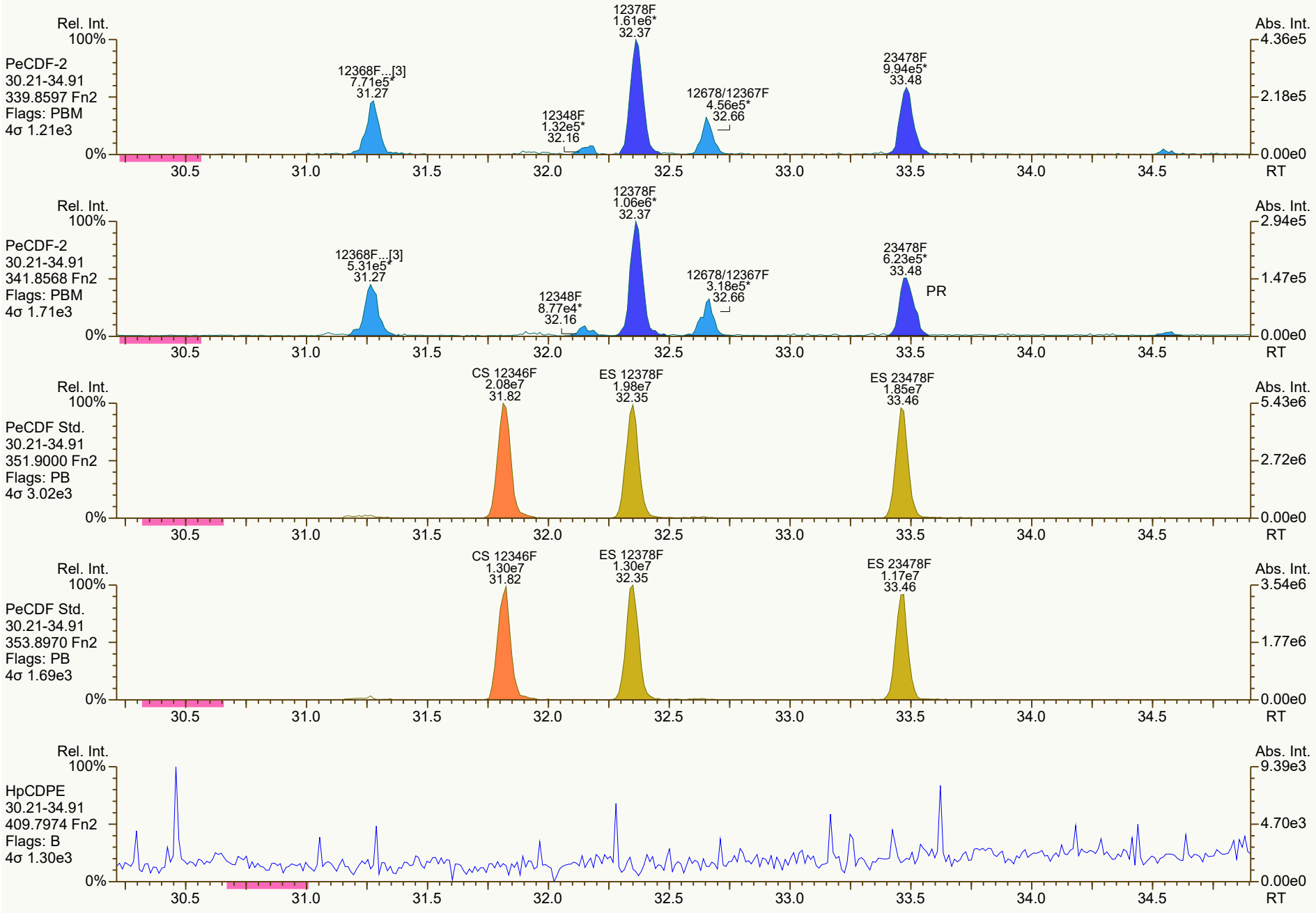
SGS ID: B6283_18915_DF_003 | Sample ID: 11215131-020422-S-SB-SW-S-49 | Acq: 12-Feb-2022 09:24:56

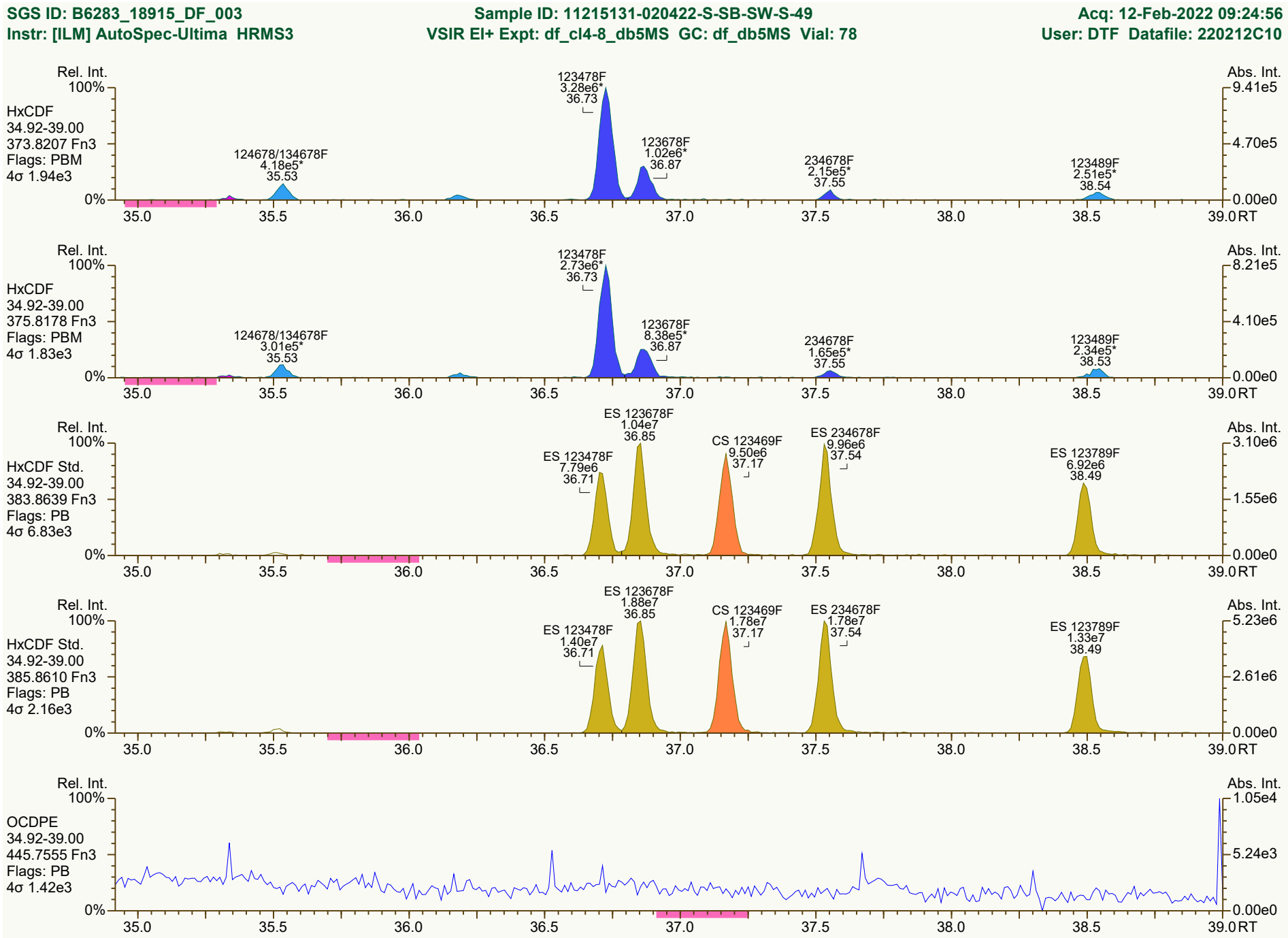
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 78 | User: DTF Datafile: 220212C10

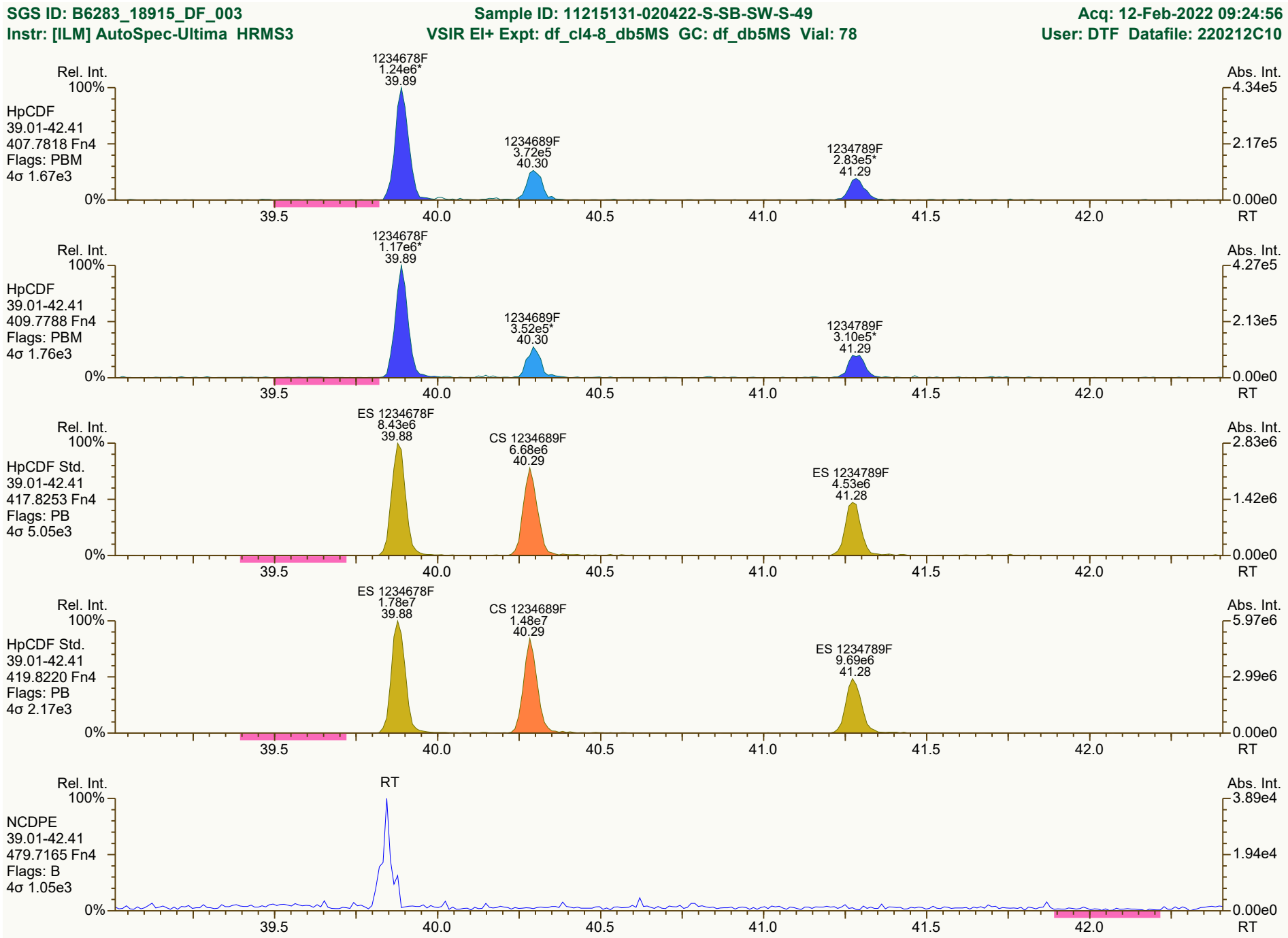


Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\B6283_18915_DF_003.utp_res, saved 14-Feb-2022 10:17 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3580 scc: 872-247 *Revised: 14-Feb-2022 10:12 (DTF) Printed: 14-Feb-2022 10:24 Page 8 of 12*

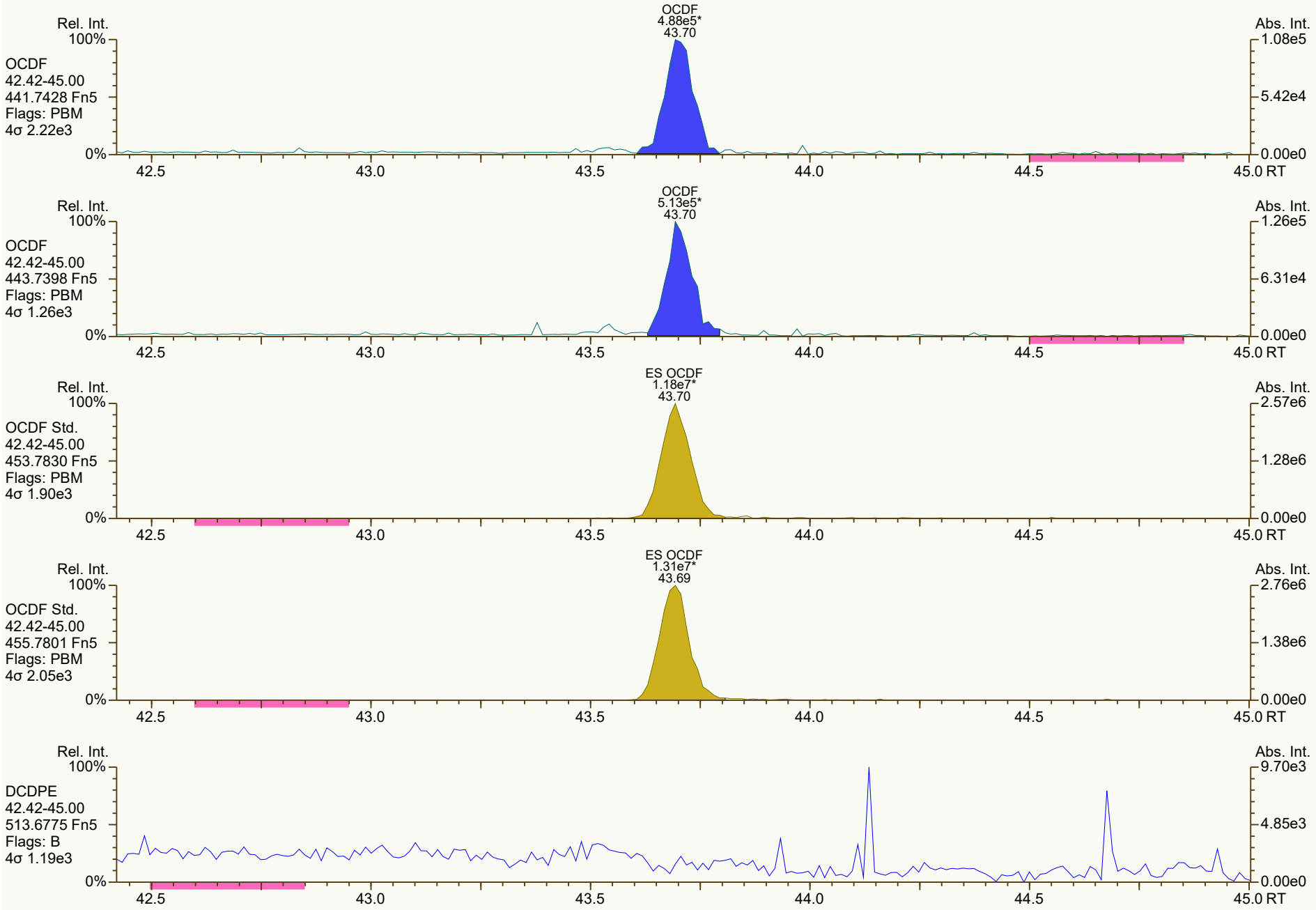

Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PBM
4σ 1.21e3
12368F...[3]
7.71e5*
31.27
12348F
1.32e5*
32.16
12378F
1.61e6*
32.37
12678/12367F
4.56e5*
32.66
23478F
9.94e5*
33.48
Abs. Int.
4.36e5
2.18e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PBM
4σ 1.71e3
12368F...[3]
5.31e5*
31.27
12348F
8.77e4*
32.16
12378F
1.06e6*
32.37
12678/12367F
3.18e5*
32.66
23478F
6.23e5*
33.48
PR
Abs. Int.
2.94e5
1.47e5
0.00e0
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 3.02e3
CS 12346F
2.08e7
31.82
ES 12378F
1.98e7
32.35
ES 23478F
1.85e7
33.46
Abs. Int.
5.43e6
2.72e6
0.00e0
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 1.69e3
CS 12346F
1.30e7
31.82
ES 12378F
1.30e7
32.35
ES 23478F
1.17e7
33.46
Abs. Int.
3.54e6
1.77e6
0.00e0
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.30e3
Abs. Int.
9.39e3
4.70e3
0.00e0


SGS ID: B6283_18915_DF_003
Sample ID: 11215131-020422-S-SB-SW-S-49
Acq: 12-Feb-2022 09:24:56
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 78
User: DTF Datafile: 220212C10
Rel. Int.
Abs. Int.
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 1.94e3
123478F
3.28e6*
36.73
124678/134678F
4.18e5*
35.53
123678F
1.02e6*
36.87
234678F
2.15e5*
37.55
123489F
2.51e5*
38.54
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 1.83e3
123478F
2.73e6*
36.73
124678/134678F
3.01e5*
35.53
123678F
8.38e5*
36.87
234678F
1.65e5*
37.55
123489F
2.34e5*
38.53
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 6.83e3
ES 123678F
1.04e7
36.85
ES 123478F
7.79e6
36.71
CS 123469F
9.50e6
37.17
ES 234678F
9.96e6
37.54
ES 123789F
6.92e6
38.49
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 2.16e3
ES 123678F
1.88e7
36.85
ES 123478F
1.40e7
36.71
CS 123469F
1.78e7
37.17
ES 234678F
1.78e7
37.54
ES 123789F
1.33e7
38.49
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.42e3
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
9.41e5
4.70e5
0.00e0
8.21e5
4.10e5
3.10e6
1.55e6
5.23e6
2.61e6
1.05e4
5.24e3
Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\B6283_18915_DF_003.utp_res, saved 14-Feb-2022 10:17 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1350, 4078, 2680 scc: 872-247
Revised: 14-Feb-2022 10:14 (DTF) Printed: 14-Feb-2022 10:24 Page 10 of 12



Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\B6283_18915_DF_003.utp_res, saved 14-Feb-2022 10:17 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6625, 8513, 1588 scc: 872-247 *Revised: 14-Feb-2022 10:15 (DTF) Printed: 14-Feb-2022 10:24 Page 11 of 12*


OCDF
4.88e5*
43.70
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
1.08e5
5.42e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
5.13e5*
43.70
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PBM
4σ 1.26e3
0%
Abs. Int.
1.26e5
6.31e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.18e7*
43.70
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
2.57e6
1.28e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.31e7*
43.69
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 2.05e3
0%
Abs. Int.
2.76e6
1.38e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.19e3
0%
Abs. Int.
9.70e3
4.85e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

REVIEWED
Tamara Burkamper , 2/14/2022, 10:59:29 AM

SGS Environmental Services — Run Log **Project: B6283_18915_DF**

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

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
0	220212C01	3	CS3_220212_DF_CA	1.00	25-347-1	DTF	030-876	12-Feb-2022	02:27:48
1	220212C02	74	OPR1_18915_DF	1.00	0_18915_OPR001	DTF	251-322	12-Feb-2022	03:14:03
2	220212C03	75	OPR2_18915_DF	1.00	0_18915_OPR002	DTF	734-447	12-Feb-2022	04:00:24
5	220212C05	2	SBS_220212_DF_CA	1.00	20-61-1	DTF	419-080	12-Feb-2022	05:33:17
6	220212C06	73	MB1_18915_DF_SDS	10.00	Method Blank	DTF	402-670	12-Feb-2022	06:19:35
7	220212C08	76	B6283_18915_DF_001	14.16	11215131-020422-S-SB-SW-S-54	DTF	757-464	12-Feb-2022	07:52:15
8	220212C09	77	B6283_18915_DF_002	14.36	11215131-020422-S-SB-SW-S-50	DTF	~~480-859~~ 862-586	12-Feb-2022	08:38:35
9	220212C10	78	B6283_18915_DF_003	13.25	11215131-020422-S-SB-SW-S-49	DTF	872-247	12-Feb-2022	09:24:56

REVIEWED
Tyler_Fritz , 2/14/2022, 10:30:06 AM

Dioxin/Furan QC Summary		Acq'd: 12 Feb 2022 02:27 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_220212_DF_CA		UTP: 14-Feb-2022 10:16:58 DTF				Checkcode: 030-876-QWK	
Sample ID: 25-347-1		Report: 14 Feb 2022 10:18 TF				Datafile: 220212C01	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	28.48	2.74E+06	0.83	Y	1.18	1.19	0%
12378-PeCDD	33.83	1.02E+07	1.57	Y	1.04	1.06	2%
123478-HxCDD	37.74	9.05E+06	1.25	Y	1.09	1.09	0%
123678-HxCDD	37.86	9.01E+06	1.24	Y	1.15	1.09	-5%
123789-HxCDD	38.15	9.73E+06	1.28	Y	1.05	1.03	-1%
1234678-HpCDD	40.83	8.09E+06	1.04	Y	1.06	1.07	1%
OCDD	43.54	1.28E+07	0.88	Y	1.13	1.14	1%
2378-TCDF	27.62	3.96E+06	0.76	Y	1.08	1.10	2%
12378-PeCDF	32.38	1.52E+07	1.55	Y	1.02	0.98	-4%
23478-PeCDF	33.49	1.48E+07	1.57	Y	1.02	0.99	-3%
123478-HxCDF	36.73	1.34E+07	1.25	Y	1.27	1.21	-5%
123678-HxCDF	36.87	1.35E+07	1.20	Y	1.15	1.07	-7%
234678-HxCDF	37.56	1.30E+07	1.24	Y	1.19	1.13	-5%
123789-HxCDF	38.51	1.13E+07	1.23	Y	1.16	1.10	-5%
1234678-HpCDF	39.89	1.15E+07	1.02	Y	1.37	1.31	-4%
1234789-HpCDF	41.29	9.54E+06	1.03	Y	1.31	1.24	-5%
OCDF	43.71	1.61E+07	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	28.46	2.30E+07	0.82	Y	1.05	0.99	-5%
ES 12378-PeCDD	33.806	1.93E+07	1.60	Y	0.88	0.83	-5%
ES 123478-HxCDD	37.726	1.66E+07	1.26	Y	0.97	1.02	5%
ES 123678-HxCDD	37.844	1.65E+07	1.27	Y	0.94	1.01	7%
ES 123789-HxCDD	38.139	1.88E+07	1.22	Y	1.09	1.15	6%
ES 1234678-HpCDD	40.817	1.52E+07	1.04	Y	0.91	0.93	2%
ES OCDD	43.523	2.25E+07	0.91	Y	0.62	0.69	10%
ES 2378-TCDF	27.602	3.60E+07	0.79	Y	1.06	1.01	-4%
ES 12378-PeCDF	32.359	3.10E+07	1.66	Y	0.91	0.87	-4%
ES 23478-PeCDF	33.471	2.99E+07	1.59	Y	0.88	0.84	-5%
ES 123478-HxCDF	36.715	2.22E+07	0.53	Y	1.20	1.36	14%
ES 123678-HxCDF	36.857	2.54E+07	0.55	Y	1.35	1.55	15%
ES 234678-HxCDF	37.54	2.30E+07	0.56	Y	1.24	1.41	13%
ES 123789-HxCDF	38.493	2.05E+07	0.53	Y	1.16	1.25	9%
ES 1234678-HpCDF	39.883	1.76E+07	0.47	Y	0.97	1.08	11%
ES 1234789-HpCDF	41.279	1.53E+07	0.48	Y	0.85	0.94	10%
ES OCDF	43.696	3.13E+07	0.94	Y	0.81	0.96	19%

Dioxin/Furan QC Summary	Acq'd: 12 Feb 2022 02:27 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220212_DF_CA	UTP: 14-Feb-2022 10:16:58 DTF	Checkcode: 030-876-QWK
Sample ID: 25-347-1	Report: 14 Feb 2022 10:18 TF	Datafile: 220212C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.80	2.31E+07	0.84	Y	-	-	-
JS 1234-TCDF	26.24	3.55E+07	0.79	Y	-	-	-
JS 123467-HxCDD	38.04	8.16E+06	1.18	Y	-	-	-
CS 37Cl-2378-TCDD	28.48	3.02E+06	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	33.30	1.74E+07	1.63	Y	0.75	0.75	0%
CS 12346-PeCDF	31.83	3.01E+07	1.56	Y	0.85	0.85	0%
CS 123469-HxCDF	37.17	2.26E+07	0.54	Y	1.12	1.39	24%
CS 1234689-HpCDF	40.28	1.74E+07	0.48	Y	0.89	1.07	20%
~~SS 37Cl-2378-TCDD~~	~~28.48~~	~~3.02E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.31~~	~~15%~~
~~SS 12347-PeCDD~~	~~33.30~~	~~1.74E+07~~	~~1.63~~	~~Y~~	~~0.86~~	~~0.91~~	~~6%~~
~~SS 12346-PeCDF~~	~~31.83~~	~~3.01E+07~~	~~1.56~~	~~Y~~	~~0.94~~	~~0.97~~	~~4%~~
~~SS 123469-HxCDF~~	~~37.17~~	~~2.26E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~0.89~~	~~8%~~
~~SS 1234689-HpCDF~~	~~40.28~~	~~1.74E+07~~	~~0.48~~	~~Y~~	~~0.92~~	~~0.99~~	~~8%~~
~~OCDD-a~~	~~43.53~~	~~7.27E+05~~	~~2.77~~	~~Y~~	~~0.07~~	~~0.06~~	~~-10%~~
~~OCDF-a~~	~~43.70~~	~~7.92E+05~~	~~3.28~~	~~N~~	~~0.07~~	~~0.05~~	~~-24%~~

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

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220212C01 Analysis Date: 12-FEB-2022 02:27:48

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.83	0.65 - 0.89	Y	10	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32 - 1.78	Y	51	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	50	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	47.6	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	49.3	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88 - 1.20	Y	50.3	43 - 58	Y
OCDD	M+2/M+4	0.88	0.76 - 1.02	Y	101	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.76	0.65 - 0.89	Y	10.2	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32 - 1.78	Y	47.8	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32 - 1.78	Y	48.6	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	47.6	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.20	1.05 - 1.43	Y	46.3	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	47.7	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	47.4	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.02	0.88 - 1.20	Y	47.8	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	47.6	43 - 58	Y
OCDF	M+2/M+4	0.90	0.76 - 1.02	Y	95.9	63 - 159	Y

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

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

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

Processed: 14 Feb 2022 10:18 Analyst: TF

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

Lab Name: SGS North America

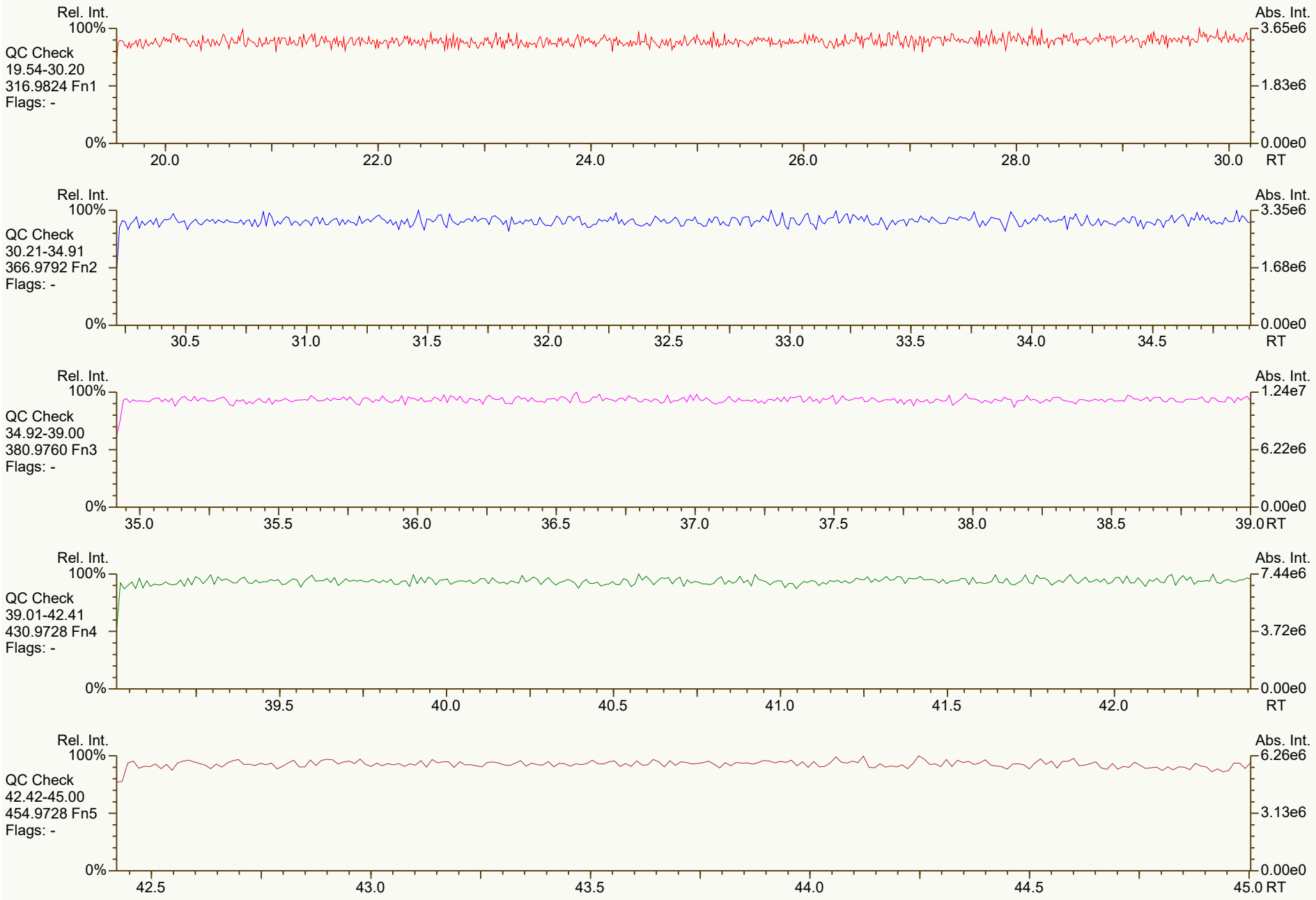
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

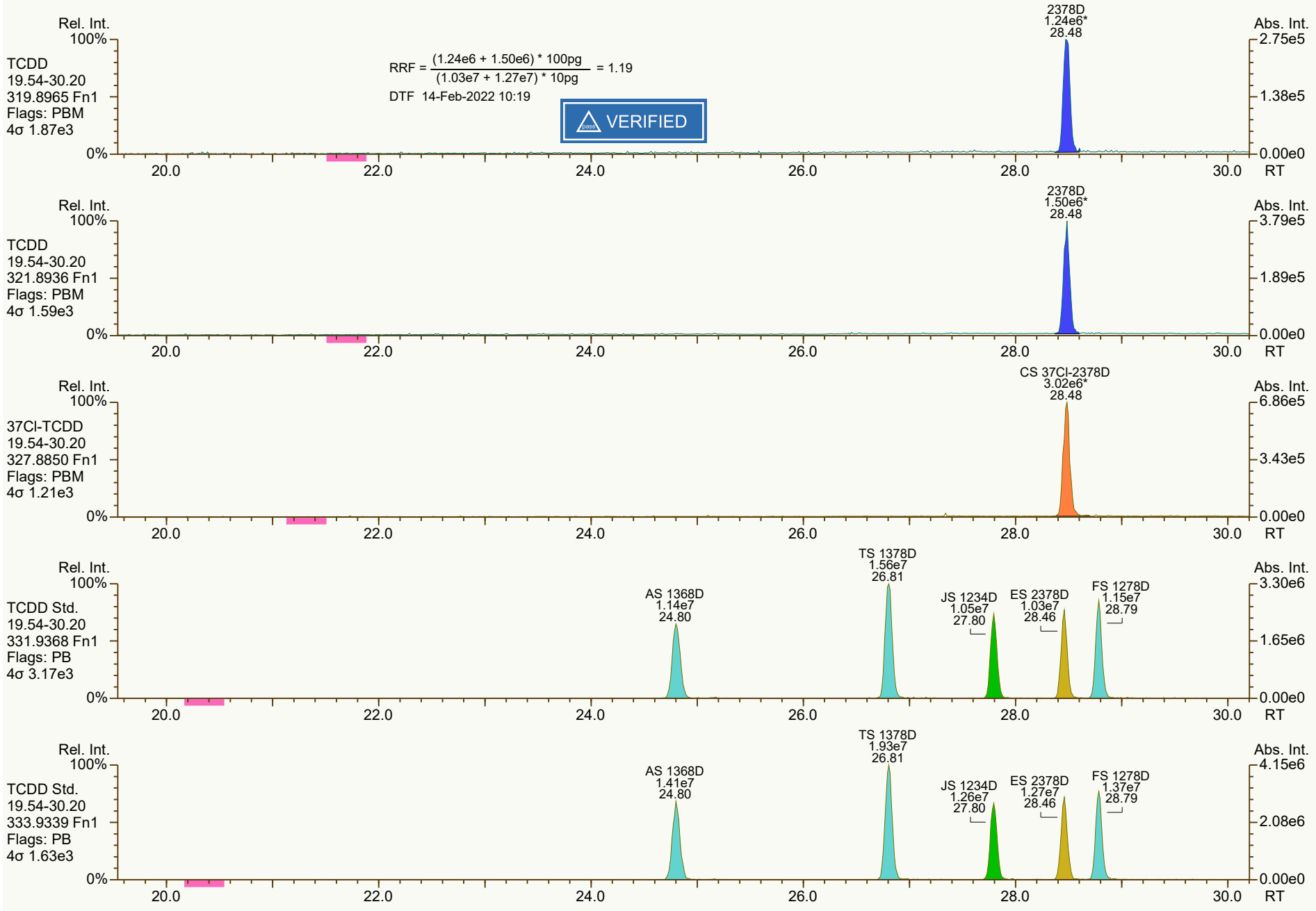
Instrument ID: HRMS3 GC Column ID: ZB-5ms

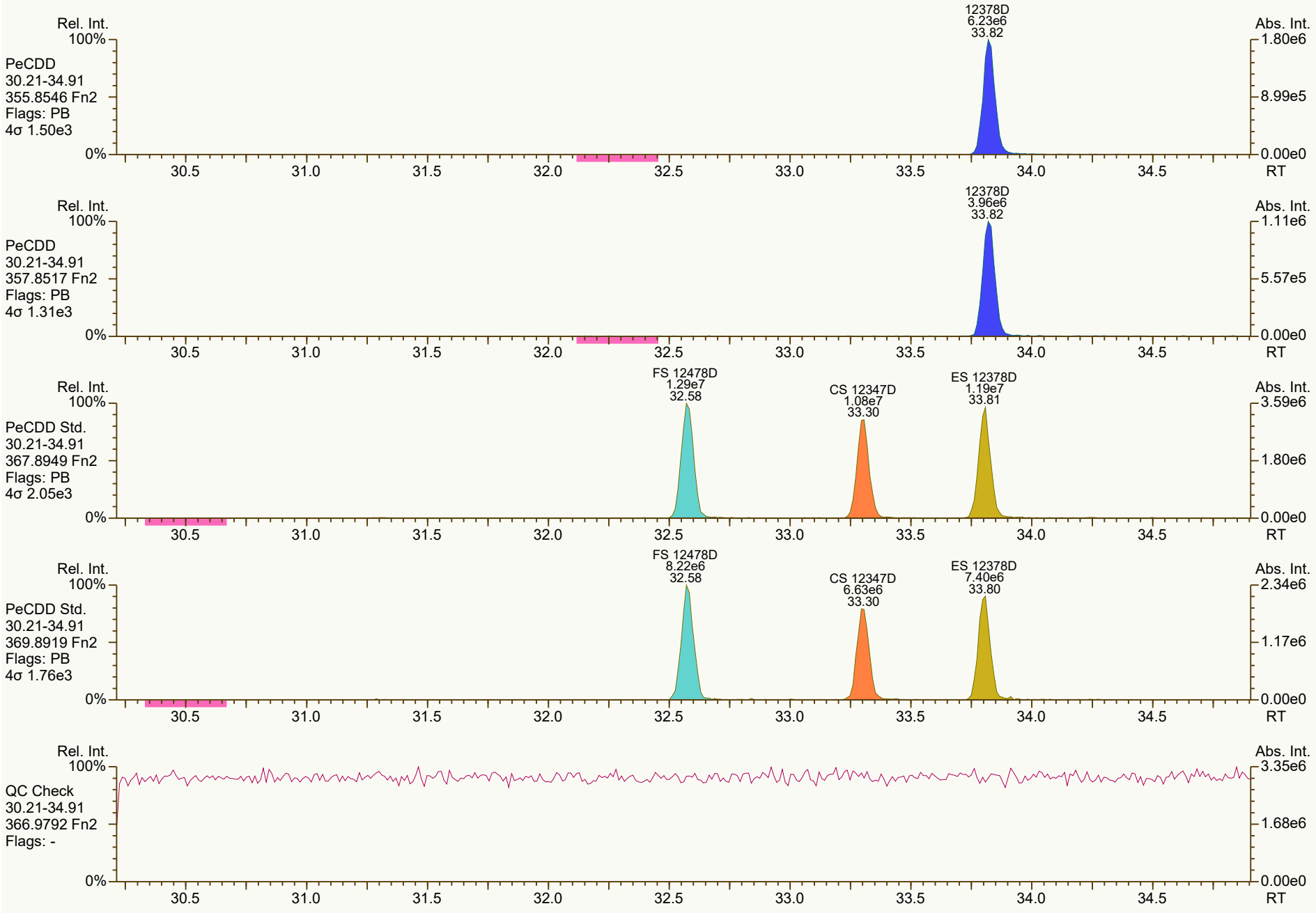
VER Data Filename: 220212C01 Analysis Date: 12-FEB-2022 02:27:48

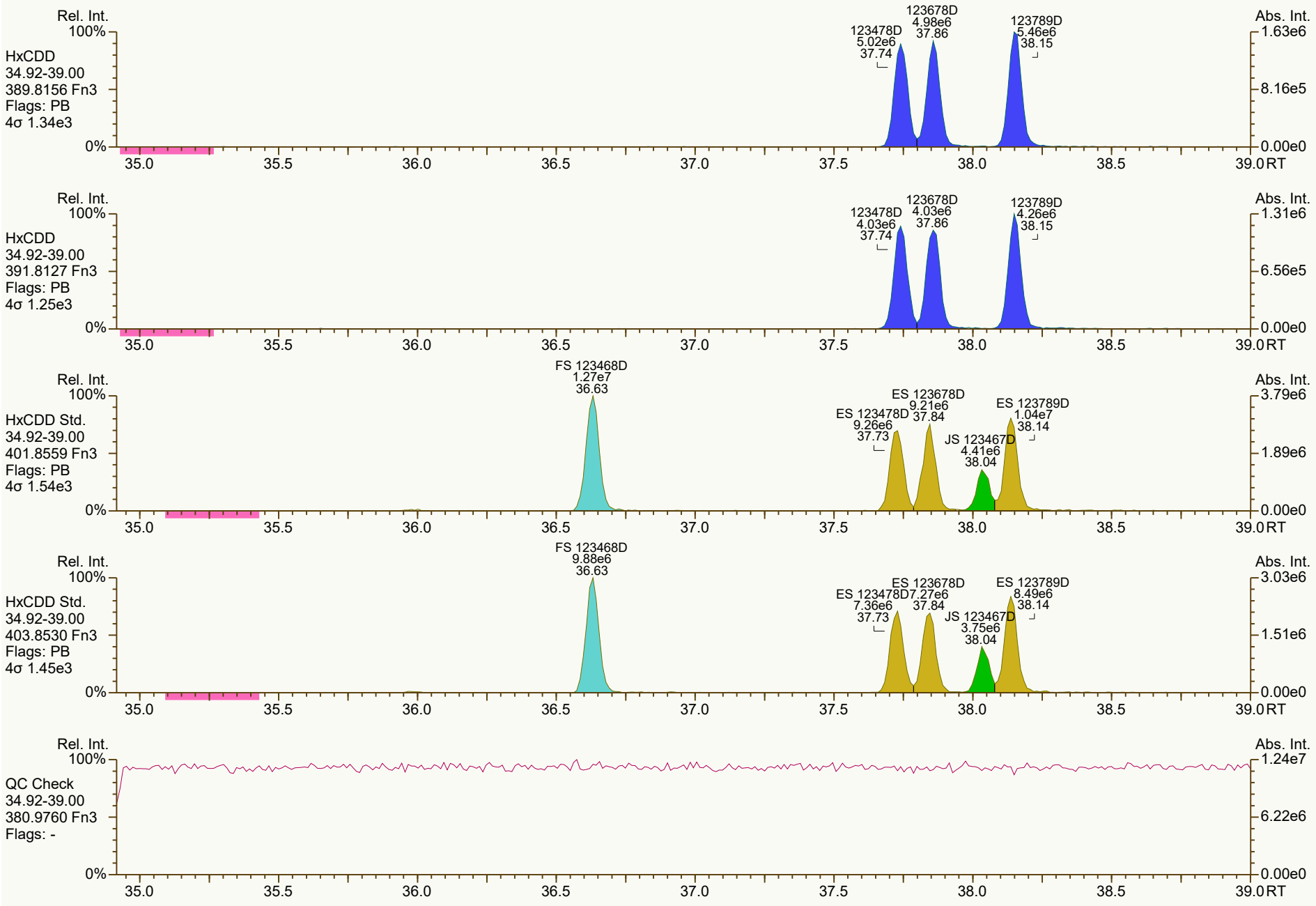
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.82	0.65	-	0.89	Y	95.1	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.60	1.32	-	1.78	Y	94.8	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05	-	1.43	Y	105	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05	-	1.43	Y	107	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.22	1.05	-	1.43	Y	106	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88	-	1.20	Y	102	72	-	138	Y
13C-OCDD	M+2/M+4	0.91	0.76	-	1.02	Y	221	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65	-	0.89	Y	95.7	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.66	1.32	-	1.78	Y	95.8	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32	-	1.78	Y	95.3	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	114	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	115	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.56	0.43	-	0.59	Y	113	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	109	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.47	0.37	-	0.51	Y	111	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.48	0.37	-	0.51	Y	110	77	-	129	Y
13C-OCDF	M+2/M+4	0.94	0.76	-	1.02	Y	238	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						10.9	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.63	1.32	-	1.78	Y	100	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.56	1.32	-	1.78	Y	99.5	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	124	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.48	0.37	-	0.51	Y	120	70	-	130	Y

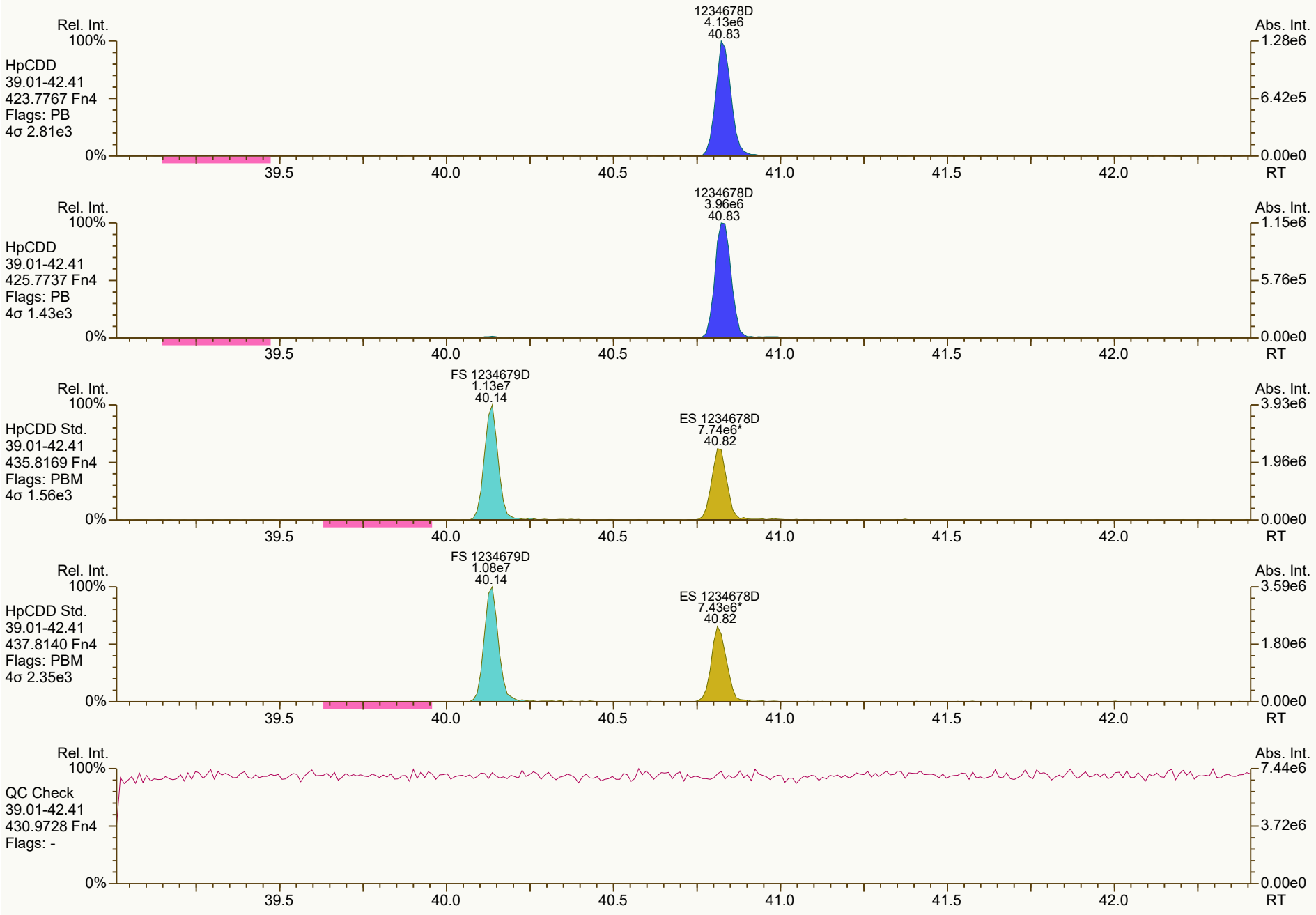
Processed: 14 Feb 2022 10:18 Analyst: TF

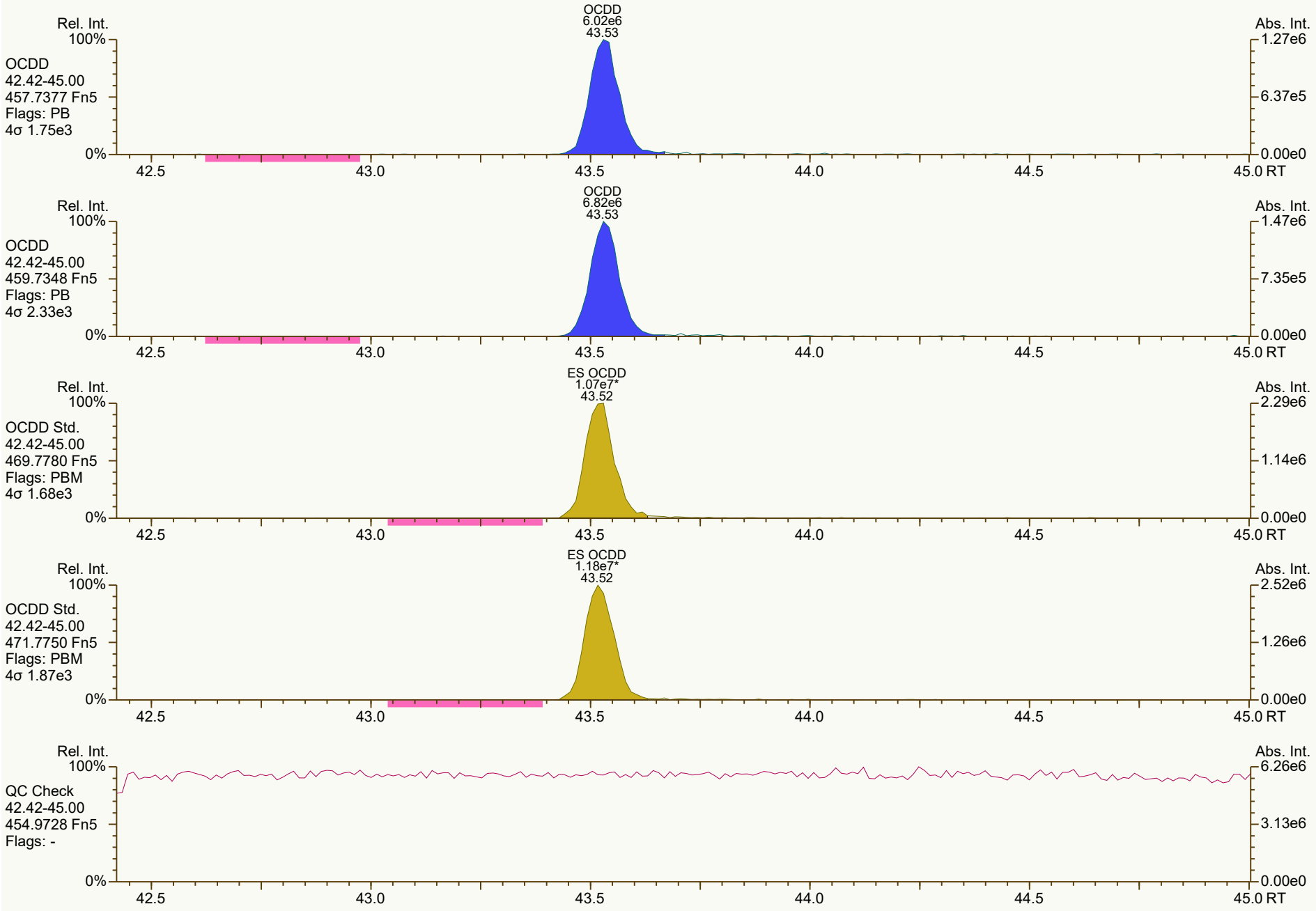

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.65e6
1.83e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.35e6
1.68e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.24e7
6.22e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
7.44e6
3.72e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
6.26e6
3.13e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.87e3
0%
RRF = (1.24e6 + 1.50e6) * 100pg / (1.03e7 + 1.27e7) * 10pg = 1.19
DTF 14-Feb-2022 10:19
VERIFIED
2378D
1.24e6*
28.48
Abs. Int.
2.75e5
1.38e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.59e3
0%
2378D
1.50e6*
28.48
Abs. Int.
3.79e5
1.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PBM
4σ 1.21e3
0%
CS 37Cl-2378D
3.02e6*
28.48
Abs. Int.
6.86e5
3.43e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 3.17e3
0%
AS 1368D
1.14e7
24.80
TS 1378D
1.56e7
26.81
JS 1234D
1.05e7
27.80
ES 2378D
1.03e7
28.46
FS 1278D
1.15e7
28.79
Abs. Int.
3.30e6
1.65e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 1.63e3
0%
AS 1368D
1.41e7
24.80
TS 1378D
1.93e7
26.81
JS 1234D
1.26e7
27.80
ES 2378D
1.27e7
28.46
FS 1278D
1.37e7
28.79
Abs. Int.
4.15e6
2.08e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PB
4σ 1.50e3
0%
12378D
6.23e6
33.82
Abs. Int.
1.80e6
8.99e5
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PB
4σ 1.31e3
0%
12378D
3.96e6
33.82
Abs. Int.
1.11e6
5.57e5
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 2.05e3
0%
FS 12478D
1.29e7
32.58
CS 12347D
1.08e7
33.30
ES 12378D
1.19e7
33.81
Abs. Int.
3.59e6
1.80e6
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 1.76e3
0%
FS 12478D
8.22e6
32.58
CS 12347D
6.63e6
33.30
ES 12378D
7.40e6
33.80
Abs. Int.
2.34e6
1.17e6
0.00e0
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.35e6
1.68e6
0.00e0
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 1.34e3
123478D
5.02e6
37.74
123678D
4.98e6
37.86
123789D
5.46e6
38.15
Abs. Int.
1.63e6
8.16e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 1.25e3
123478D
4.03e6
37.74
123678D
4.03e6
37.86
123789D
4.26e6
38.15
Abs. Int.
1.31e6
6.56e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 1.54e3
FS 123468D
1.27e7
36.63
ES 123478D
9.26e6
37.73
ES 123678D
9.21e6
37.84
JS 123467D
4.41e6
38.04
ES 123789D
1.04e7
38.14
Abs. Int.
3.79e6
1.89e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 1.45e3
FS 123468D
9.88e6
36.63
ES 123478D
7.36e6
37.73
ES 123678D
7.27e6
37.84
JS 123467D
3.75e6
38.04
ES 123789D
8.49e6
38.14
Abs. Int.
3.03e6
1.51e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
Abs. Int.
1.24e7
6.22e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

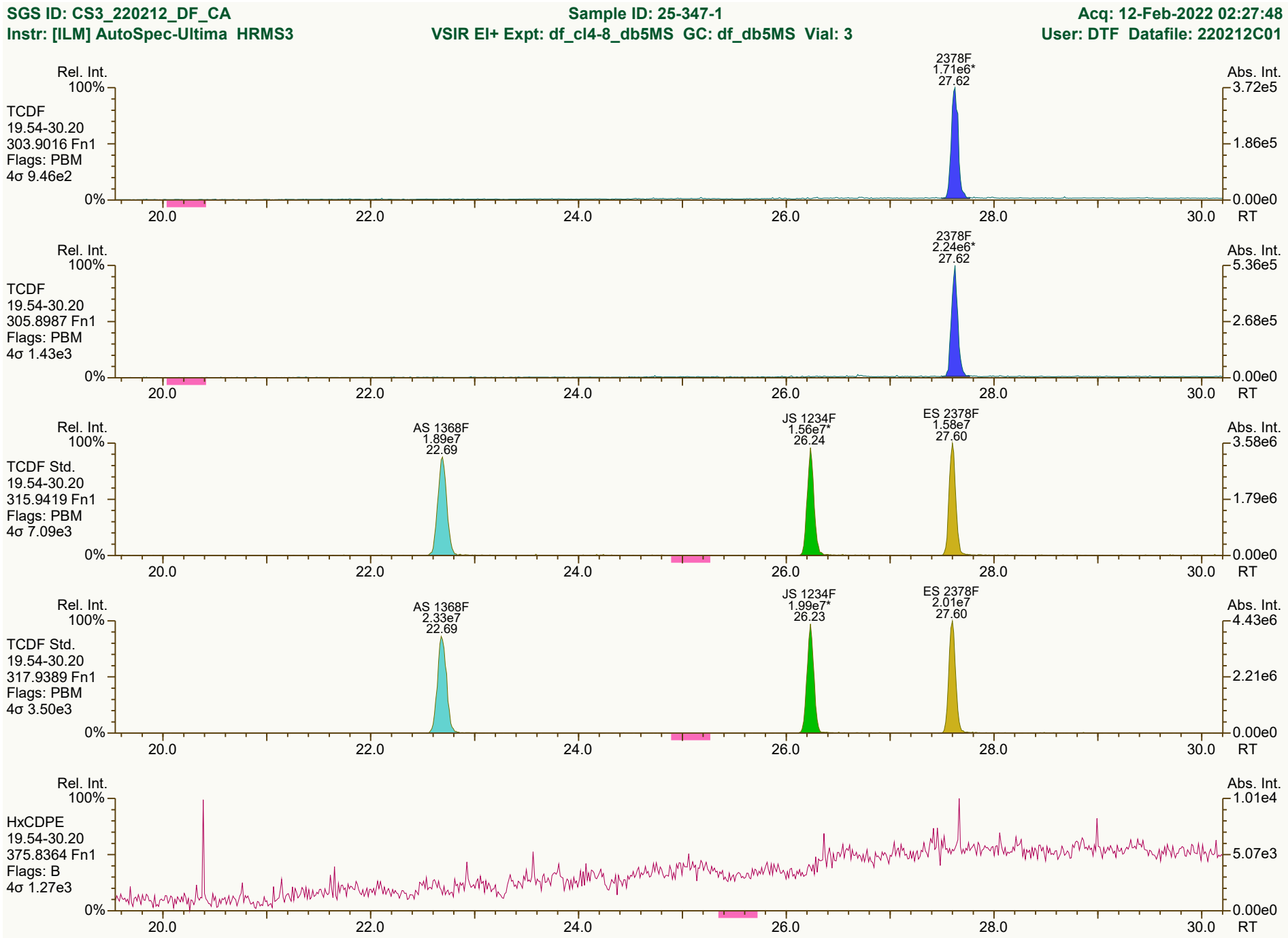

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 2.81e3
0%
1234678D
4.13e6
40.83
Abs. Int.
1.28e6
6.42e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.43e3
0%
1234678D
3.96e6
40.83
Abs. Int.
1.15e6
5.76e5
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 1.56e3
0%
FS 1234679D
1.13e7
40.14
ES 1234678D
7.74e6*
40.82
Abs. Int.
3.93e6
1.96e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 2.35e3
0%
FS 1234679D
1.08e7
40.14
ES 1234678D
7.43e6*
40.82
Abs. Int.
3.59e6
1.80e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.44e6
3.72e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
6.02e6
43.53
Rel. Int.
Abs. Int.
100%
0%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 1.75e3
1.27e6
6.37e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
6.82e6
43.53
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 2.33e3
1.47e6
7.35e5
ES OCDD
1.07e7*
43.52
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 1.68e3
2.29e6
1.14e6
ES OCDD
1.18e7*
43.52
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 1.87e3
2.52e6
1.26e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
6.26e6
3.13e6

SGS ID: CS3_220212_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 25-347-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3

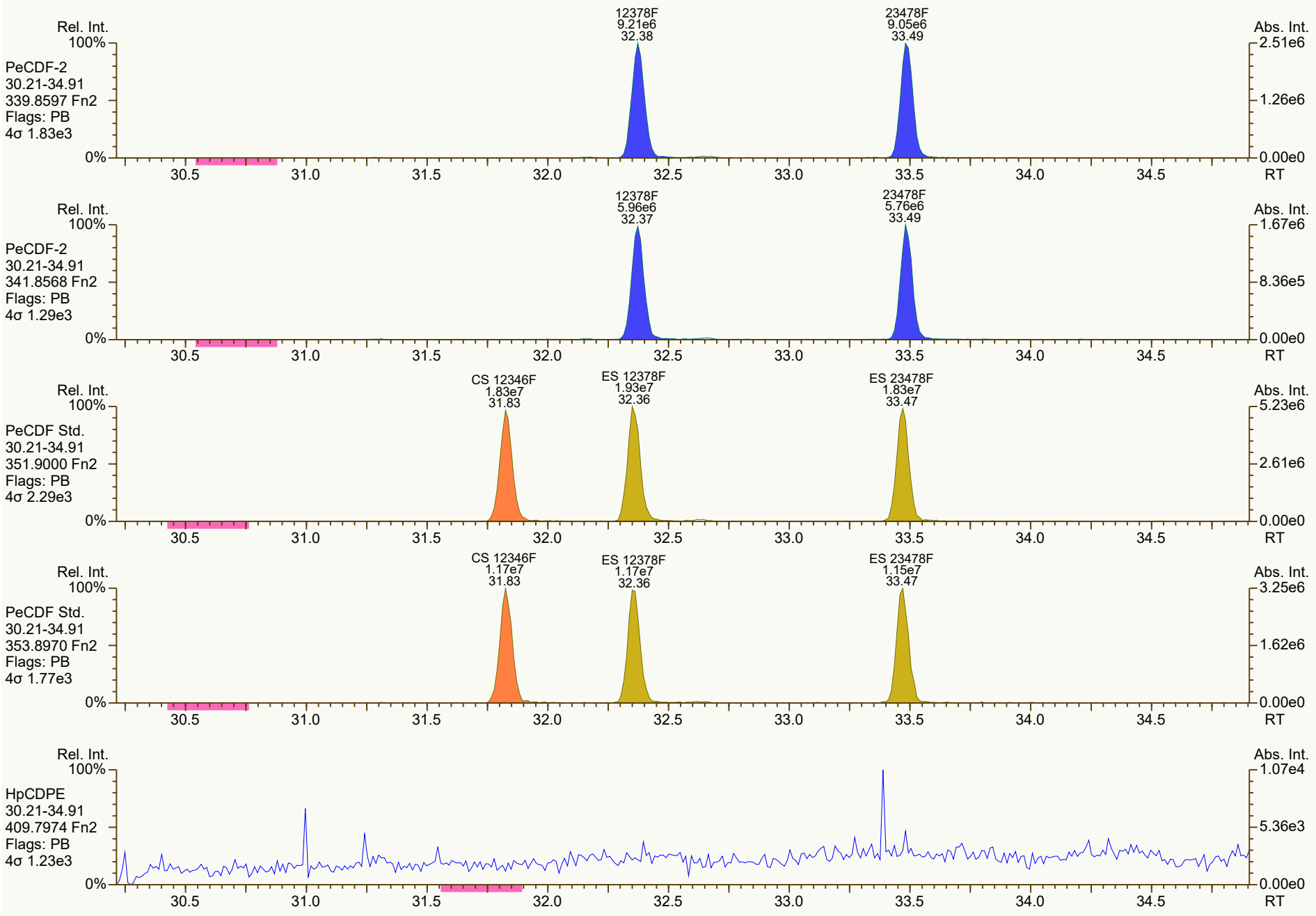
Acq: 12-Feb-2022 02:27:48
User: DTF Datafile: 220212C01

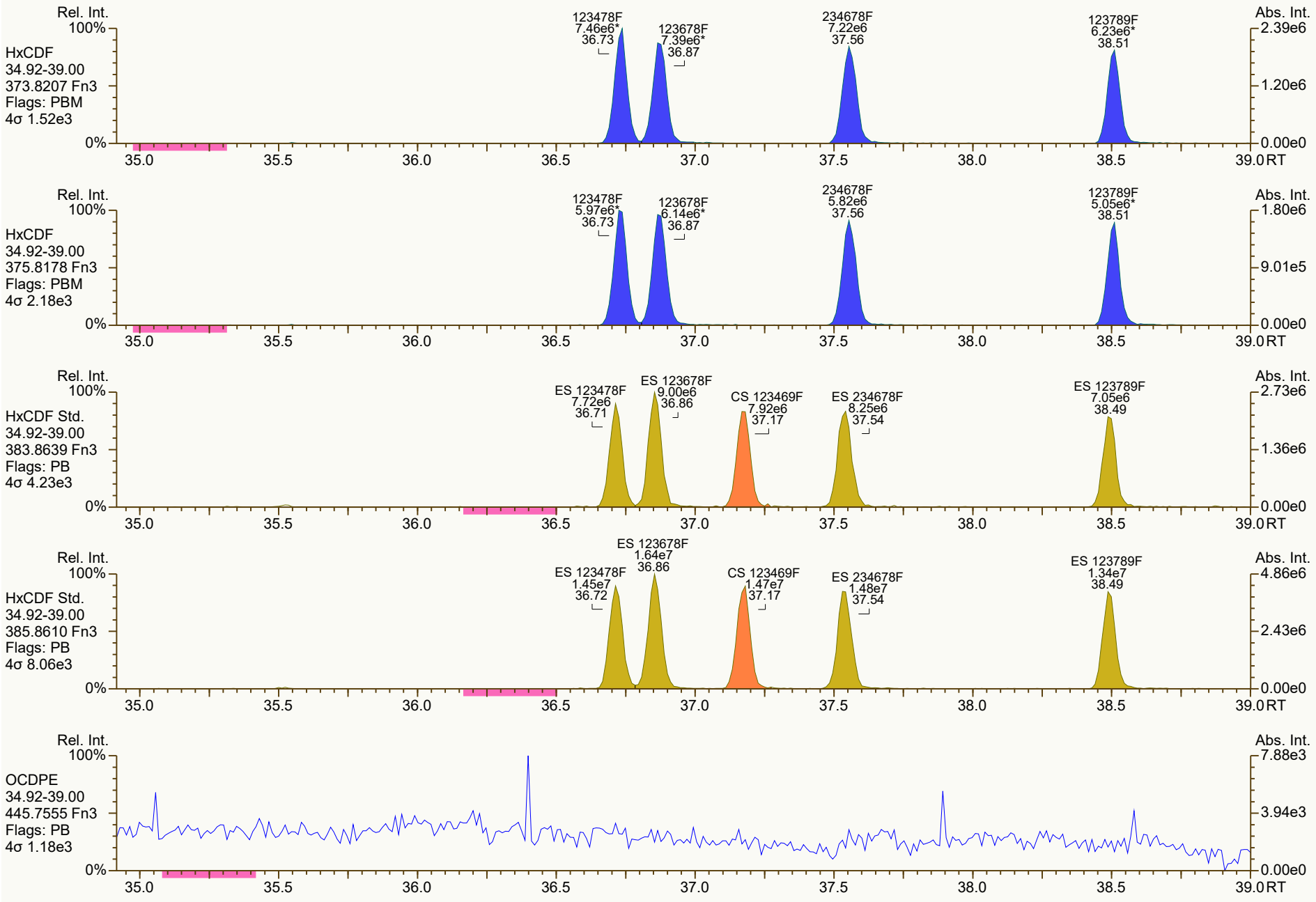


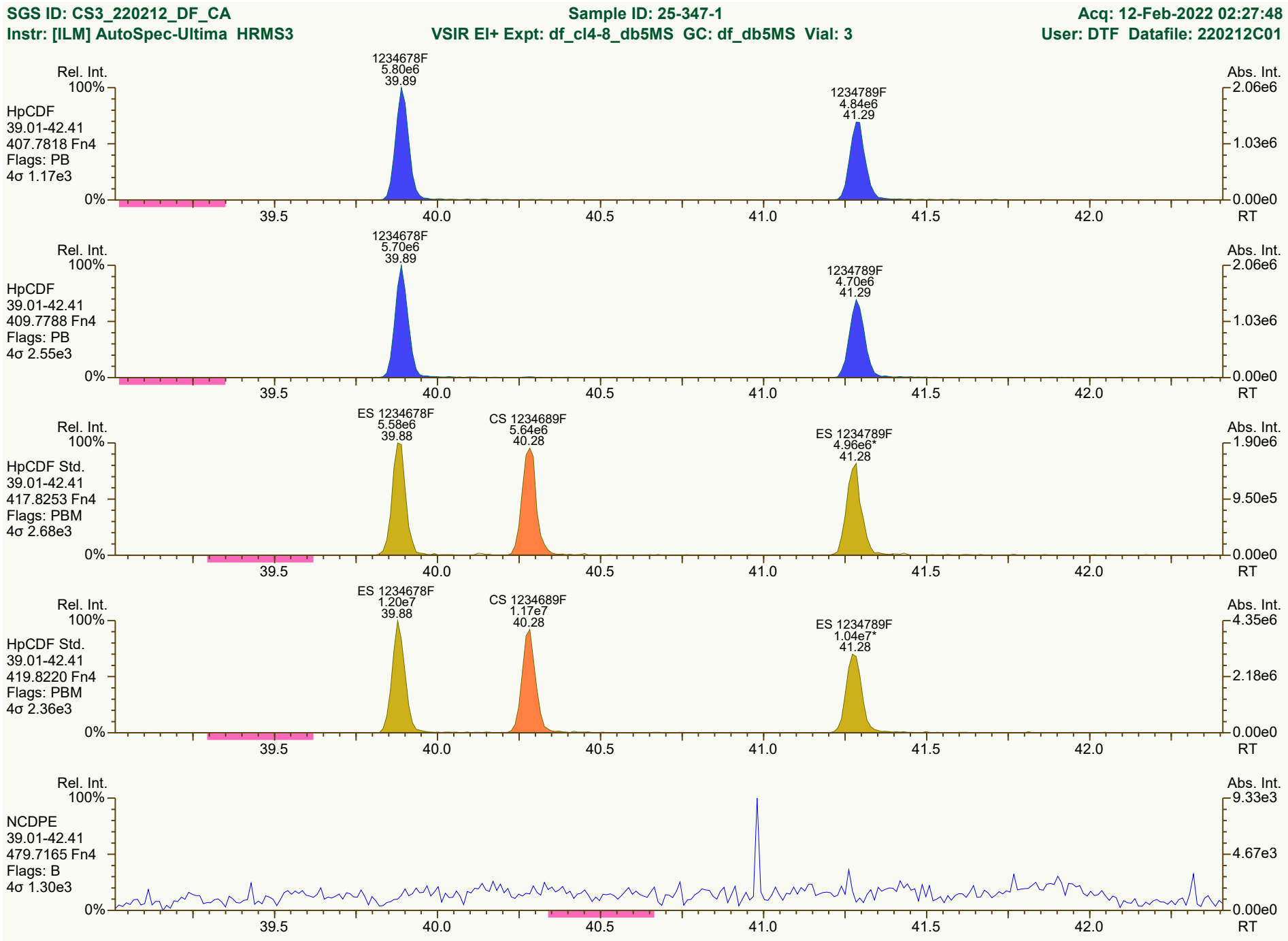
Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\CS3_220212_DF_CA.utp_res, saved 14-Feb-2022 10:19 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9882, 4269, 2230 scc: 030-876

Peak annotation: Areas, Centroids
Revised: 14-Feb-2022 08:50 (DTF) Printed: 14-Feb-2022 10:22 Page 7 of 12

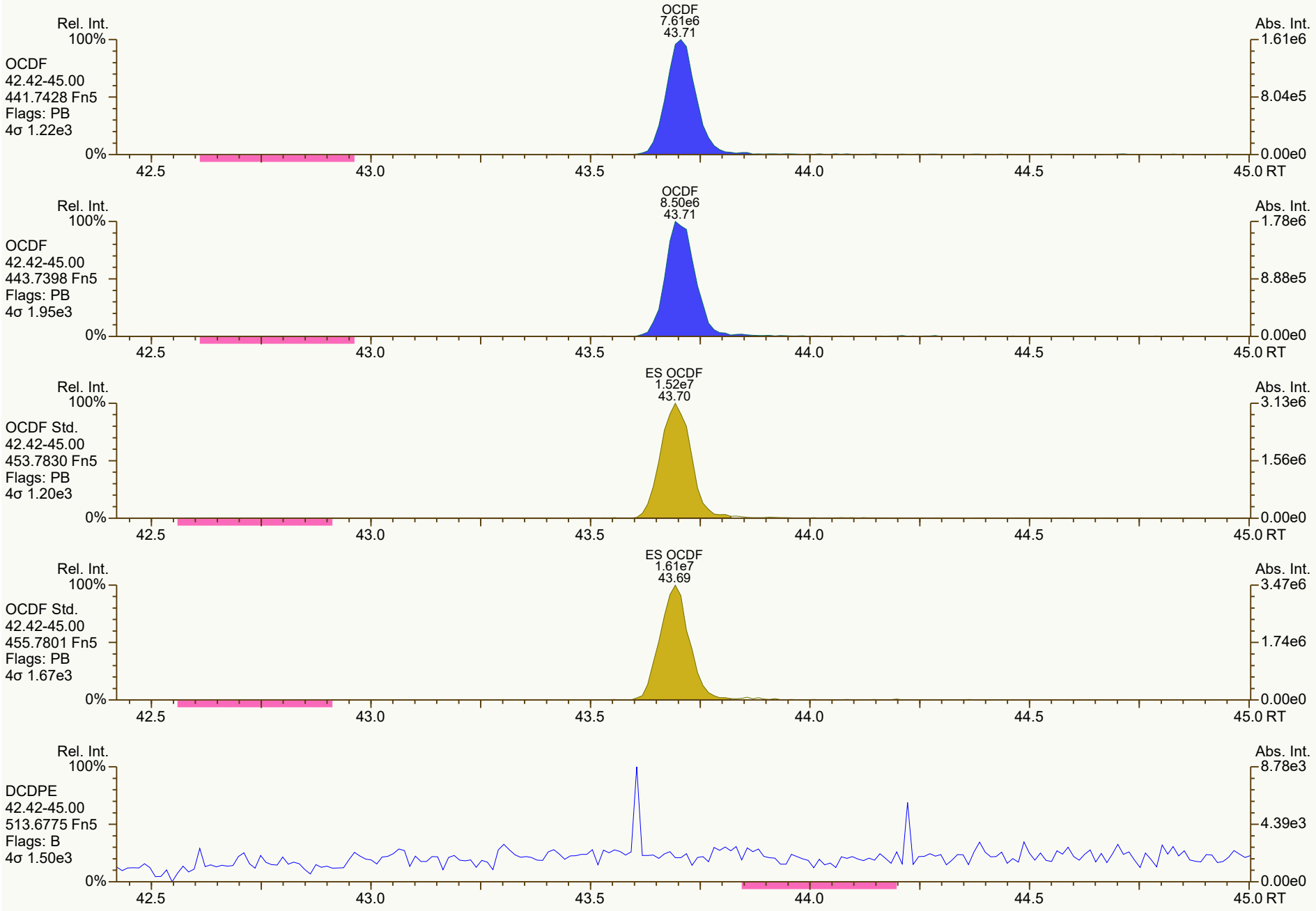

Rel. Int.
100%
0%
Abs. Int.
1.22e4
6.10e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.37e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.31e4
6.55e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.23e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.65e6
1.83e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT

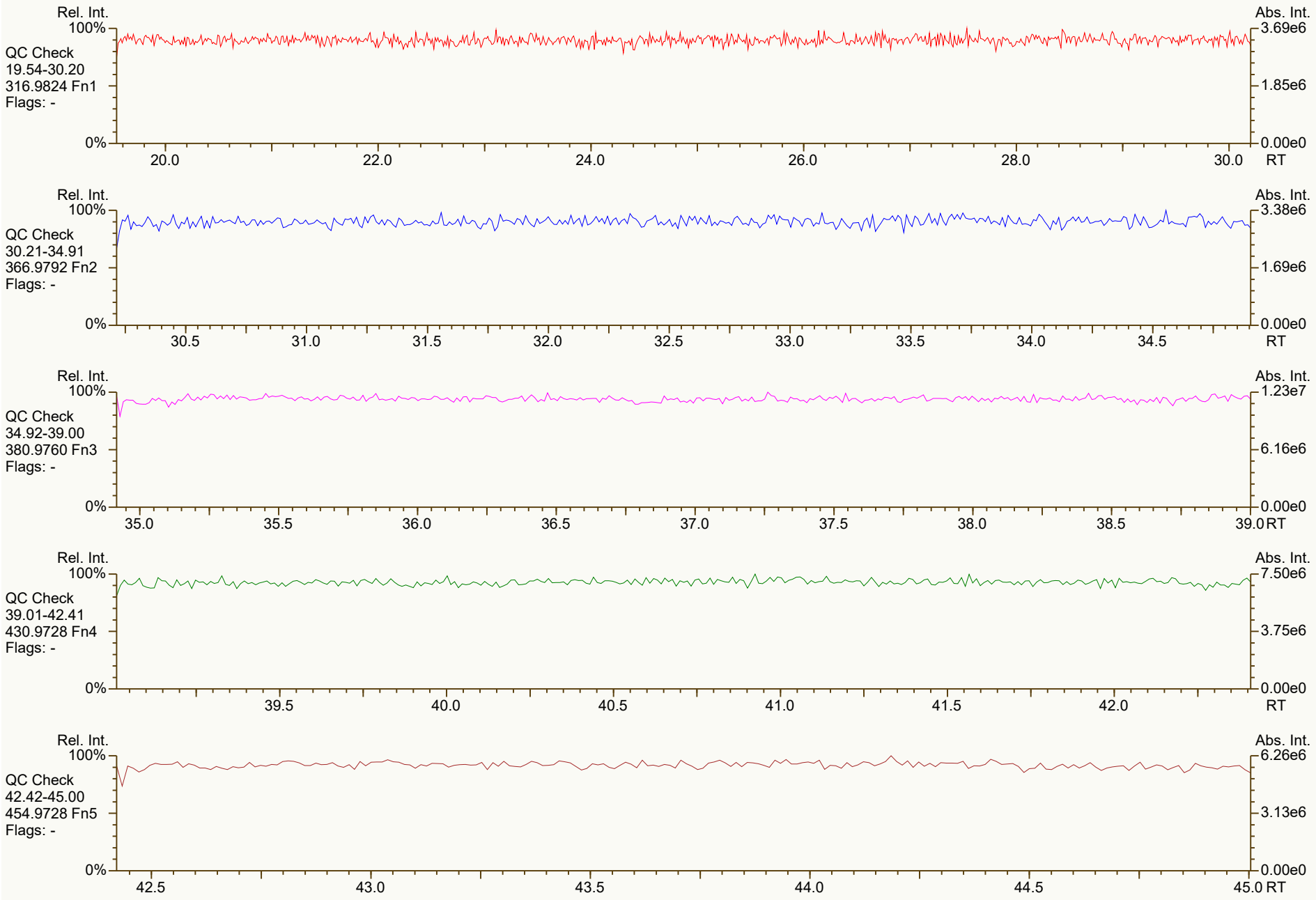

Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PB
4σ 1.83e3
0%
12378F
9.21e6
32.38
23478F
9.05e6
33.49
Abs. Int.
2.51e6
1.26e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PB
4σ 1.29e3
0%
12378F
5.96e6
32.37
23478F
5.76e6
33.49
Abs. Int.
1.67e6
8.36e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 2.29e3
0%
CS 12346F
1.83e7
31.83
ES 12378F
1.93e7
32.36
ES 23478F
1.83e7
33.47
Abs. Int.
5.23e6
2.61e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 1.77e3
0%
CS 12346F
1.17e7
31.83
ES 12378F
1.17e7
32.36
ES 23478F
1.15e7
33.47
Abs. Int.
3.25e6
1.62e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: PB
4σ 1.23e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 1.52e3
0%
123478F
7.46e6*
36.73
123678F
7.39e6*
36.87
234678F
7.22e6
37.56
123789F
6.23e6*
38.51
Abs. Int.
2.39e6
1.20e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 2.18e3
0%
123478F
5.97e6*
36.73
123678F
6.14e6*
36.87
234678F
5.82e6
37.56
123789F
5.05e6*
38.51
Abs. Int.
1.80e6
9.01e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 4.23e3
0%
ES 123478F
7.72e6
36.71
ES 123678F
9.00e6
36.86
CS 123469F
7.92e6
37.17
ES 234678F
8.25e6
37.54
ES 123789F
7.05e6
38.49
Abs. Int.
2.73e6
1.36e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 8.06e3
0%
ES 123678F
1.64e7
36.86
ES 123478F
1.45e7
36.72
CS 123469F
1.47e7
37.17
ES 234678F
1.48e7
37.54
ES 123789F
1.34e7
38.49
Abs. Int.
4.86e6
2.43e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.18e3
0%
Abs. Int.
7.88e3
3.94e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT



Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\CS3_220212_DF_CA.utp_res, saved 14-Feb-2022 10:19 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5801, 6639, 2849 scc: 030-876
PKD: 14-Feb-2022 08:51 Printed: 14-Feb-2022 10:22 Page 11 of 12

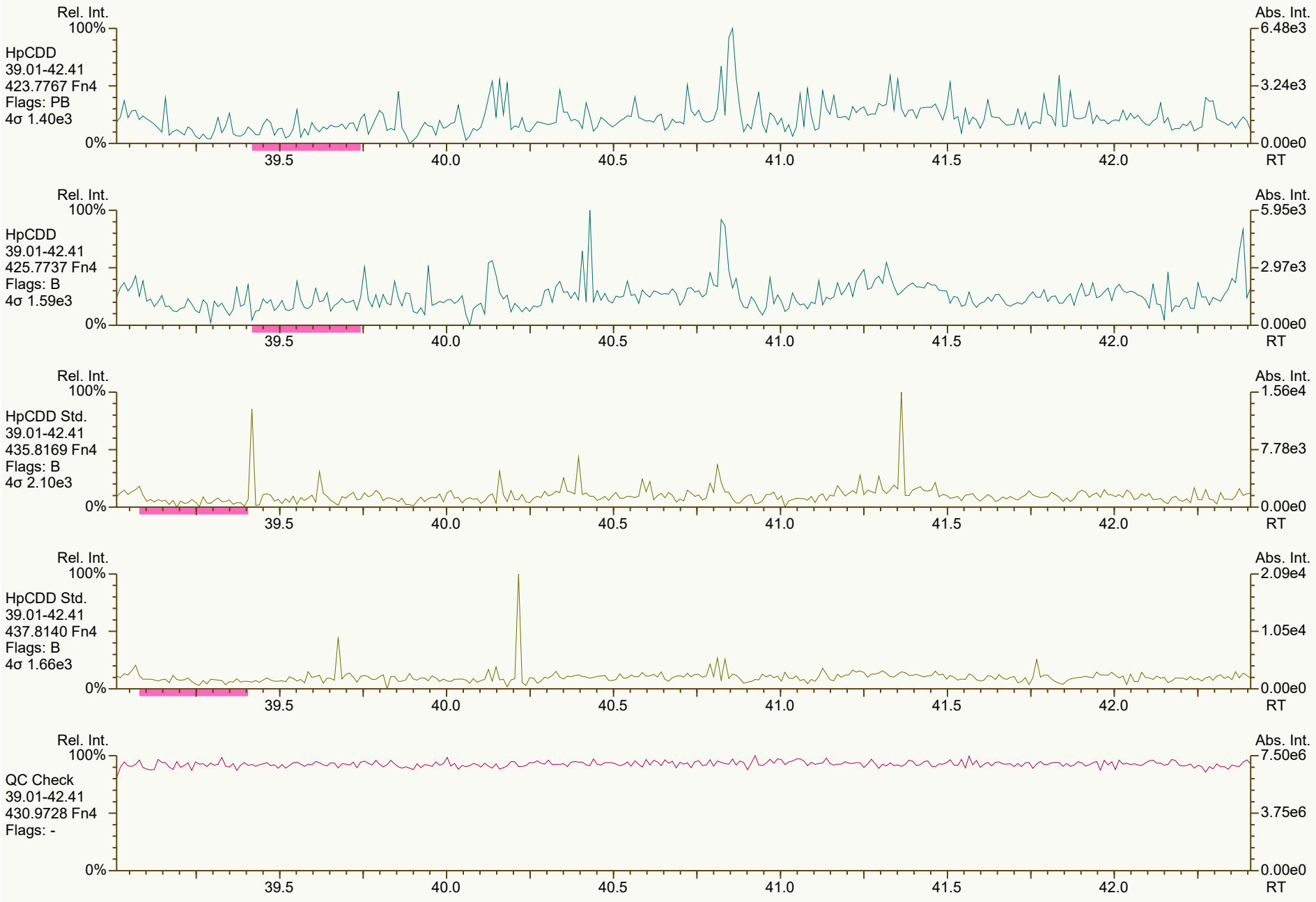

Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.22e3
0%
OCDF
7.61e6
43.71
Abs. Int.
1.61e6
8.04e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.95e3
0%
OCDF
8.50e6
43.71
Abs. Int.
1.78e6
8.88e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.20e3
0%
ES OCDF
1.52e7
43.70
Abs. Int.
3.13e6
1.56e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 1.67e3
0%
ES OCDF
1.61e7
43.69
Abs. Int.
3.47e6
1.74e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.50e3
0%
Abs. Int.
8.78e3
4.39e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.69e6
1.85e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.38e6
1.69e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.23e7
6.16e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
7.50e6
3.75e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
6.26e6
3.13e6
0.00e0

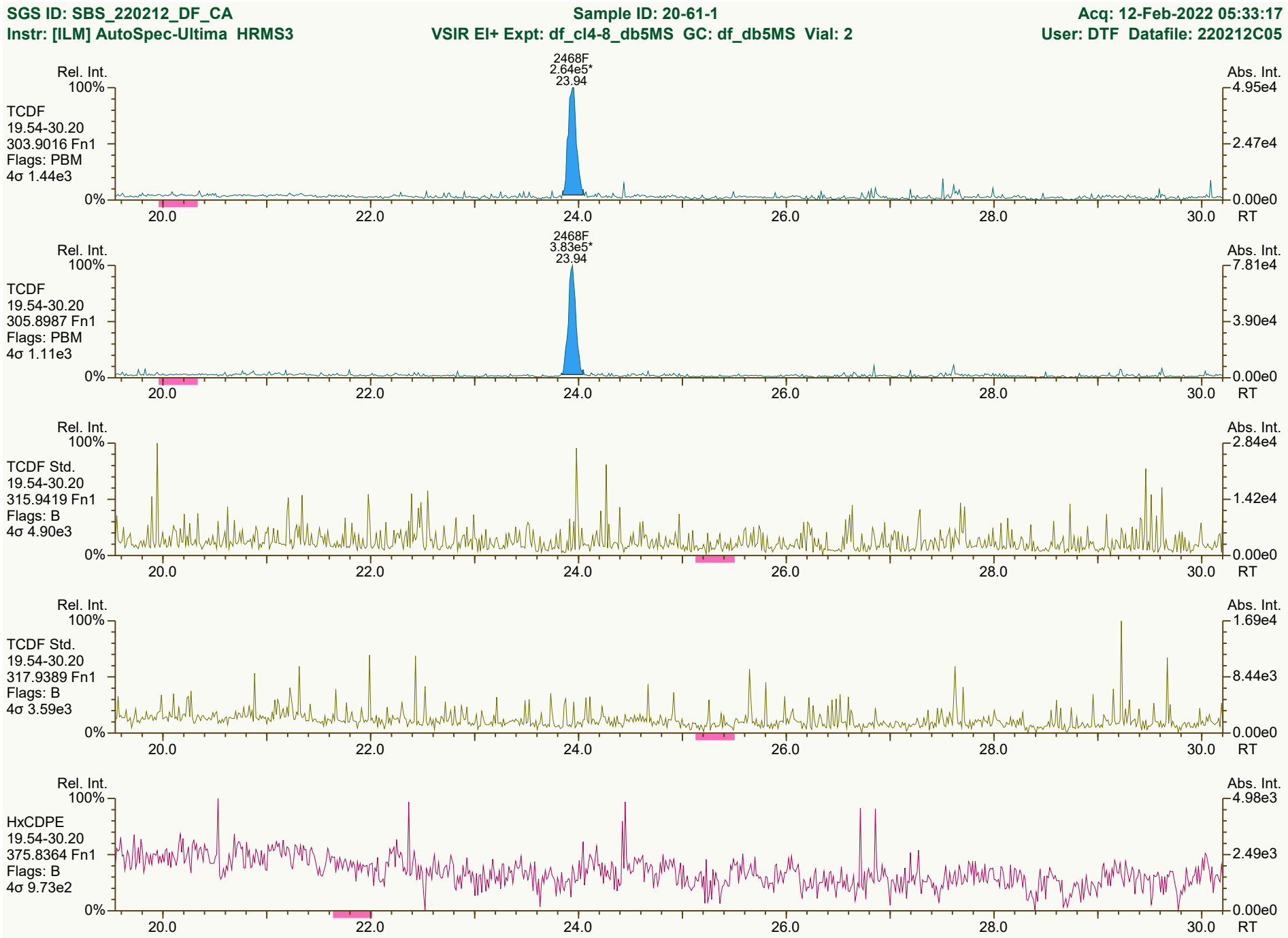

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 1.63e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.39e3
0%
Abs. Int.
6.38e3
3.19e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.08e3
0%
Abs. Int.
6.17e3
3.09e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 5.48e3
0%
Abs. Int.
2.87e4
1.44e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 2.26e3
0%
Abs. Int.
2.82e4
1.41e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PB
4σ 1.45e3
0%
Abs. Int.
4.59e3
2.29e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.91
357.8517 Fn2
Flags: B
4σ 1.24e3
0%
Abs. Int.
6.69e3
3.35e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: B
4σ 1.46e3
0%
Abs. Int.
1.67e4
8.37e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: B
4σ 1.44e3
0%
Abs. Int.
1.50e4
7.51e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.38e6
1.69e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

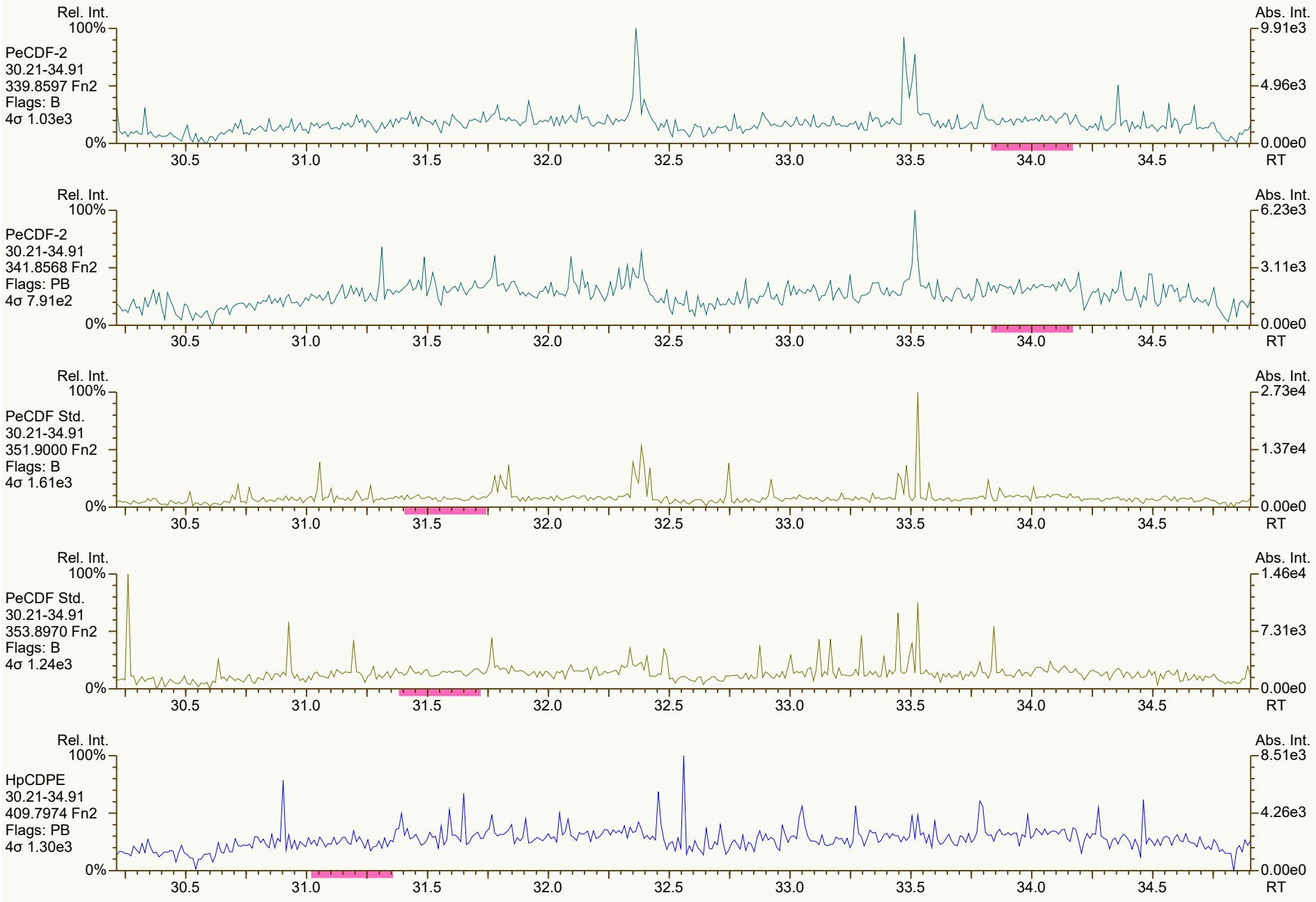

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: B
4σ 9.21e2
0%
Abs. Int.
4.59e3
2.30e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 1.84e3
0%
Abs. Int.
5.23e3
2.61e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: B
4σ 1.38e3
0%
Abs. Int.
9.24e3
4.62e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: B
4σ 1.77e3
0%
Abs. Int.
1.57e4
7.83e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.23e7
6.16e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

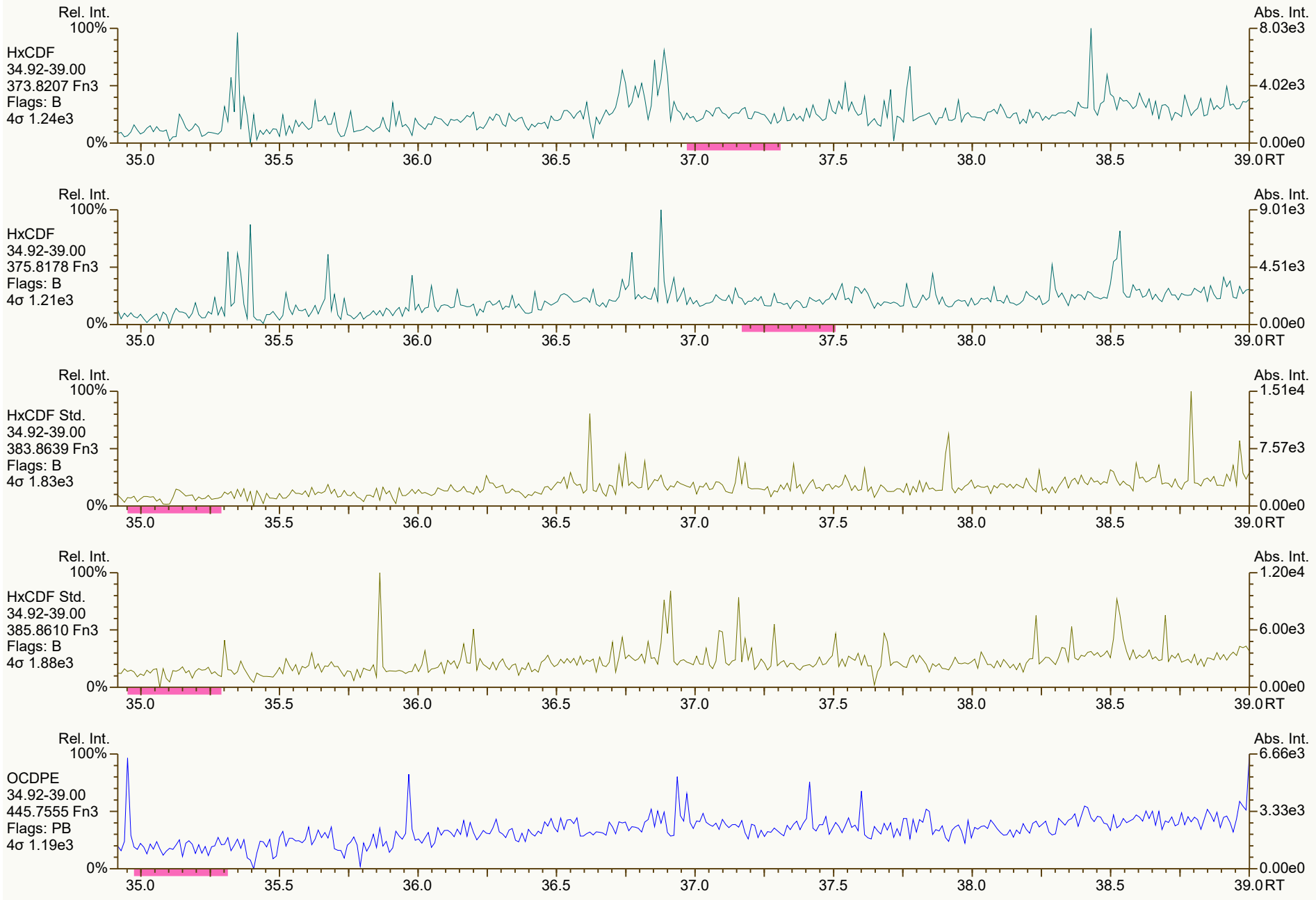

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 1.40e3
0%
Abs. Int.
6.48e3
3.24e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: B
4σ 1.59e3
0%
Abs. Int.
5.95e3
2.97e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: B
4σ 2.10e3
0%
Abs. Int.
1.56e4
7.78e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: B
4σ 1.66e3
0%
Abs. Int.
2.09e4
1.05e4
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.50e6
3.75e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: B
4σ 1.55e3
0%
Abs. Int.
1.10e4
5.52e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: B
4σ 1.46e3
0%
Abs. Int.
5.92e3
2.96e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: B
4σ 1.69e3
0%
Abs. Int.
4.75e3
2.37e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
9.76e3
4.88e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.26e6
3.13e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: SBS_220212_DF_CA
Sample ID: 20-61-1
Acq: 12-Feb-2022 05:33:17
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: DTF Datafile: 220212C05
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.44e3
2468F
2.64e5*
23.94
4.95e4
2.47e4
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.11e3
2468F
3.83e5*
23.94
7.81e4
3.90e4
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 4.90e3
2.84e4
1.42e4
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 3.59e3
1.69e4
8.44e3
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 9.73e2
4.98e3
2.49e3
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\SBS_220212_DF_CA.utp_res, saved 14-Feb-2022 09:00 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9567, 9299, 8603 scc: 419-080
Revised: 14-Feb-2022 09:00 (DTF) Printed: 14-Feb-2022 10:22 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
3.19e4
1.60e4
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.56e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.30e4
6.48e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.28e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.69e6
1.85e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: B
4σ 1.03e3
0%
Abs. Int.
9.91e3
4.96e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PB
4σ 7.91e2
0%
Abs. Int.
6.23e3
3.11e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: B
4σ 1.61e3
0%
Abs. Int.
2.73e4
1.37e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: B
4σ 1.24e3
0%
Abs. Int.
1.46e4
7.31e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: PB
4σ 1.30e3
0%
Abs. Int.
8.51e3
4.26e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: B
4σ 1.24e3
0%
Abs. Int.
8.03e3
4.02e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: B
4σ 1.21e3
0%
Abs. Int.
9.01e3
4.51e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: B
4σ 1.83e3
0%
Abs. Int.
1.51e4
7.57e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: B
4σ 1.88e3
0%
Abs. Int.
1.20e4
6.00e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.19e3
0%
Abs. Int.
6.66e3
3.33e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.54e3
0%
Abs. Int.
4.23e3
2.12e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.21e3
0%
Abs. Int.
5.14e3
2.57e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: B
4σ 1.36e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: B
4σ 2.17e3
0%
Abs. Int.
2.27e4
1.14e4
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.14e3
0%
Abs. Int.
4.95e3
2.48e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.92e3
0%
Abs. Int.
4.52e3
2.26e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.14e3
0%
Abs. Int.
5.72e3
2.86e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: B
4σ 1.31e3
0%
Abs. Int.
2.00e4
9.99e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: B
4σ 2.15e3
0%
Abs. Int.
1.57e4
7.83e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.23e3
0%
Abs. Int.
4.07e3
2.03e3
0.00e0
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44.0
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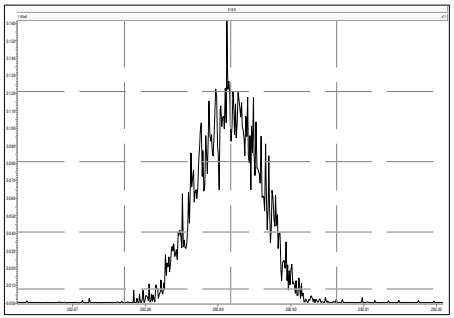
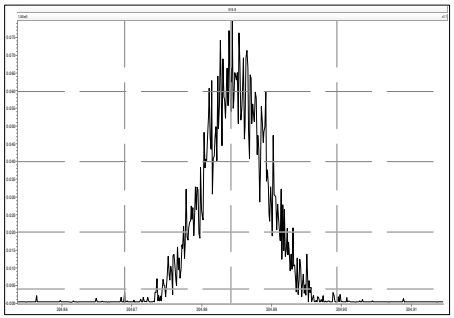
45.0 RT

Printed: Friday, February 11, 2022 15:13:03 Eastern Standard Time

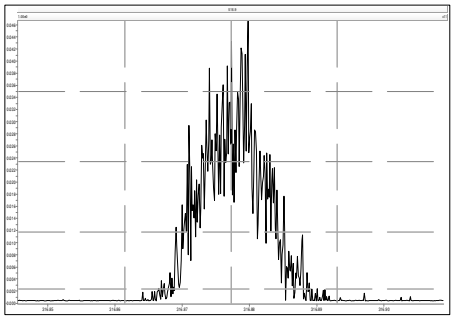
M 292.9824 R 15876



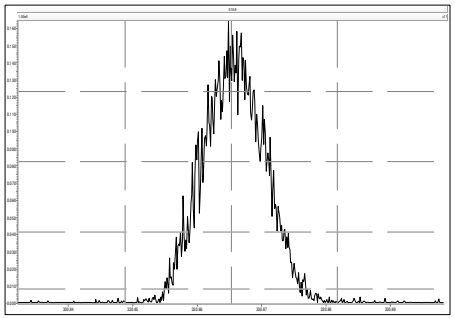
M 304.9824 R 16219



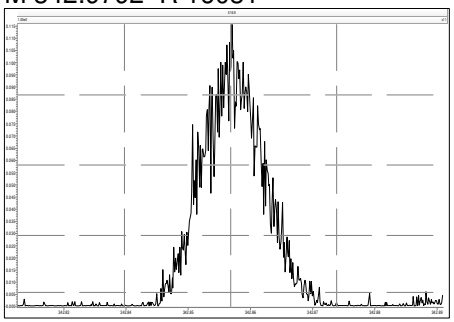
M 316.9824 R 18295



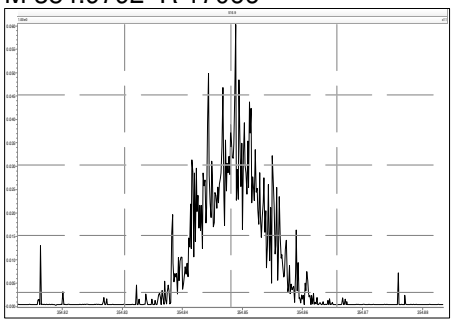
M 330.9792 R 16340



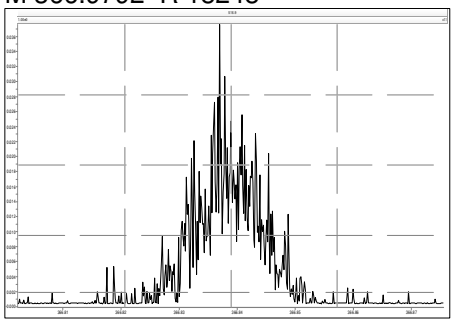
M 342.9792 R 16031



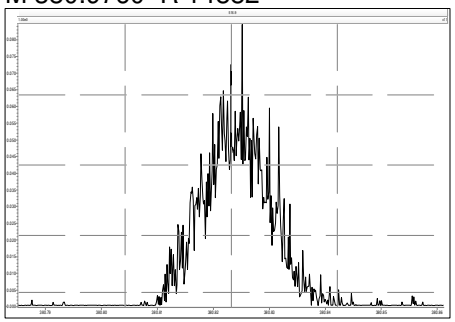
M 354.9792 R 17066



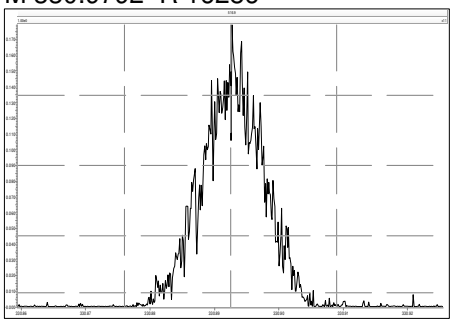
M 366.9792 R 18248



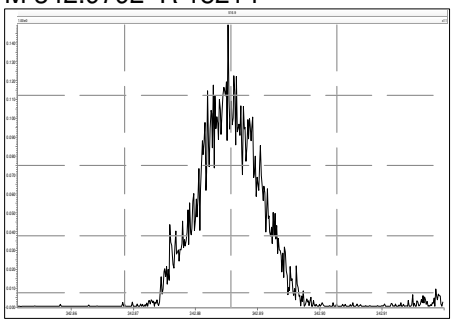
M 380.9760 R 14882



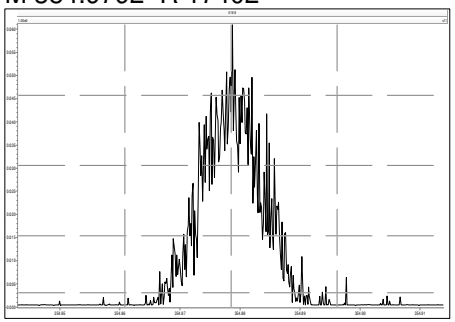
M 330.9792 R 16286



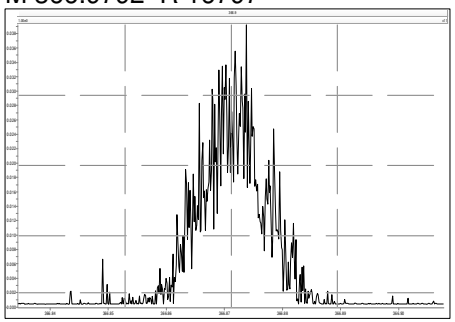
M 342.9792 R 15214



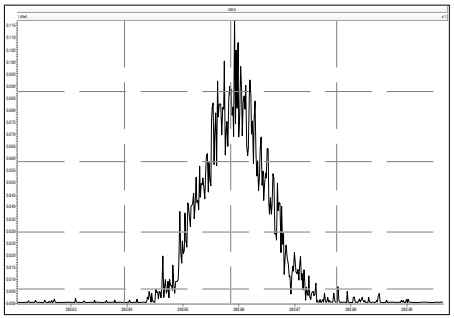
M 354.9792 R 17402



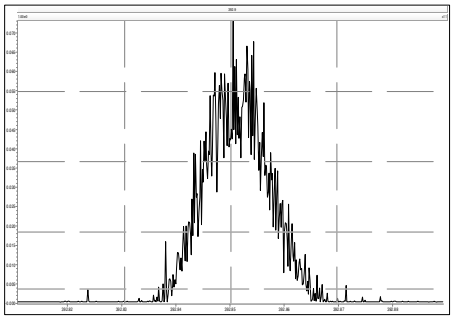
M 366.9792 R 16797



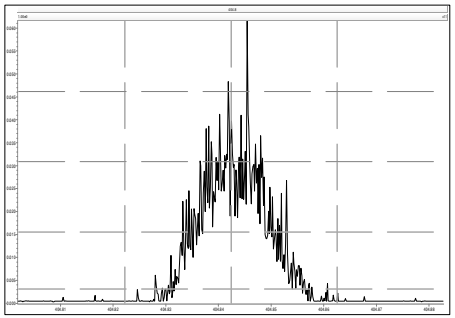
M 380.9760 R 15863



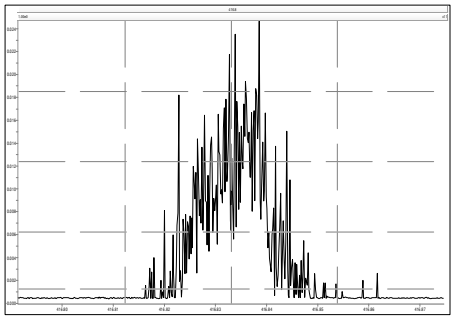
M 392.9760 R 15733



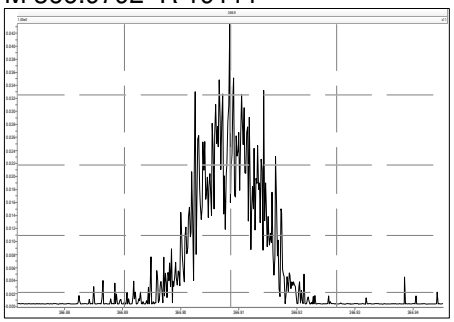
M 404.9760 R 16602



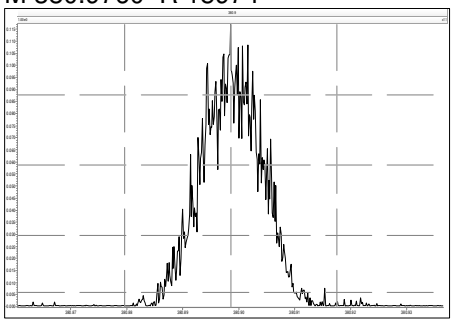
M 416.9760 R 0



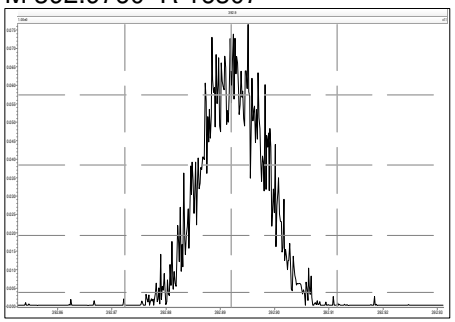
M 366.9792 R 19111



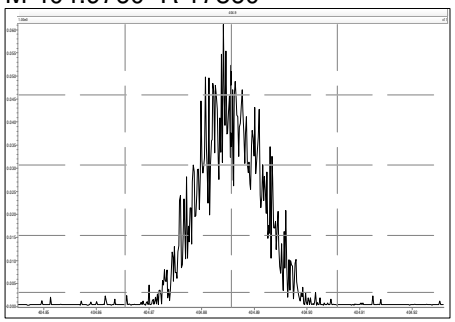
M 380.9760 R 15974



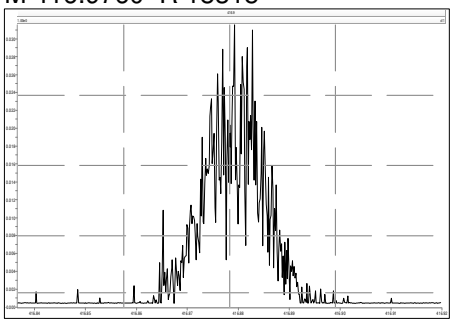
M 392.9760 R 16307



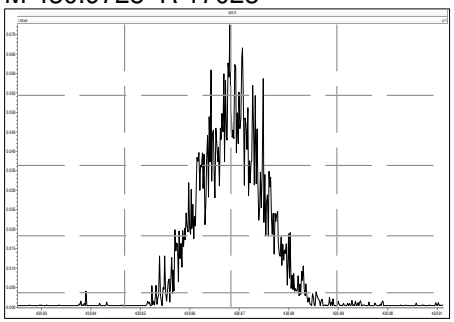
M 404.9760 R 17860



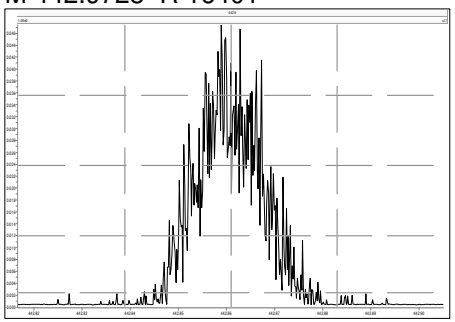
M 416.9760 R 18315



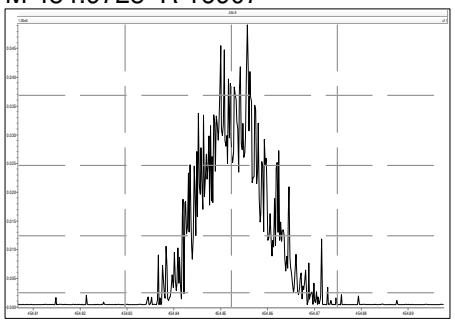
M 430.9728 R 17023



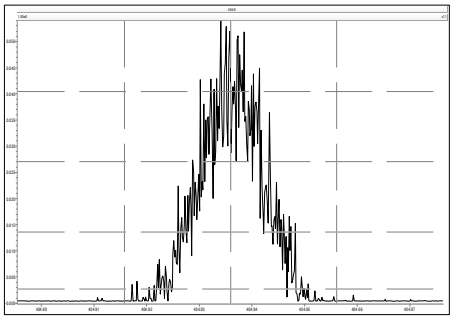
M 442.9728 R 16401



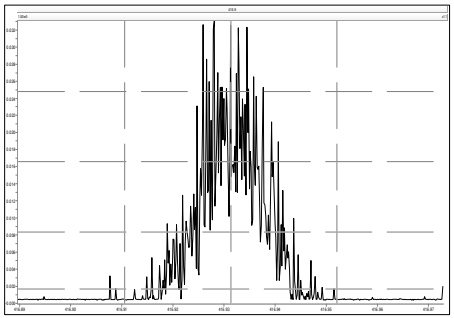
M 454.9728 R 16907



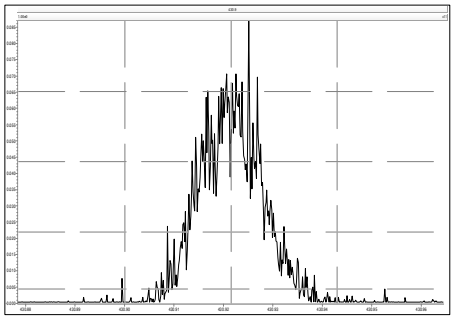
M 404.9760 R 17985



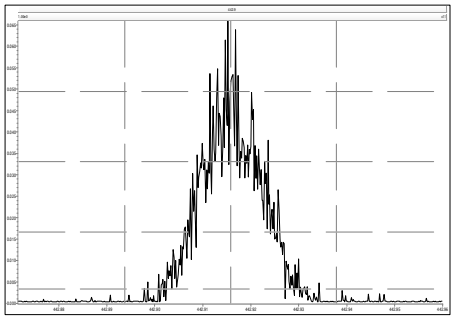
M 416.9760 R 19017



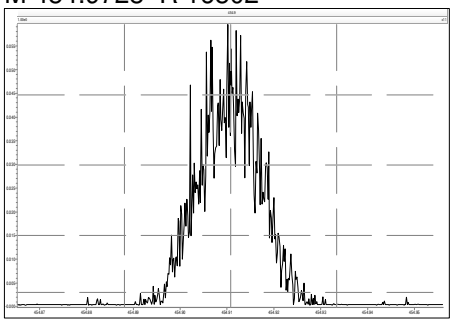
M 430.9728 R 16464



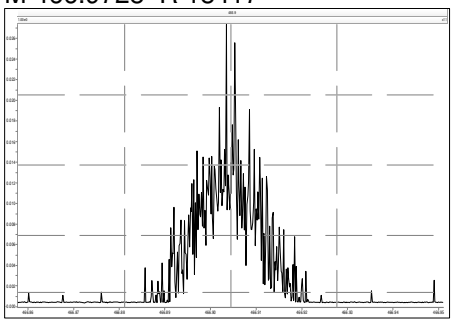
M 442.9728 R 17206



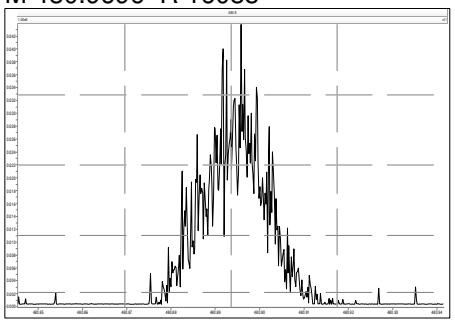
M 454.9728 R 16502



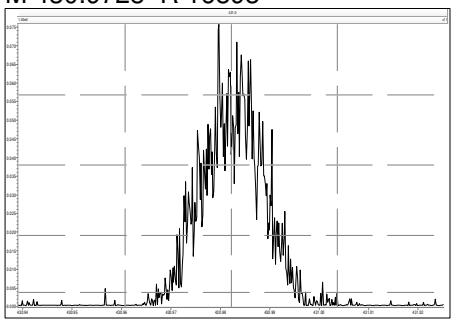
M 466.9728 R 18417



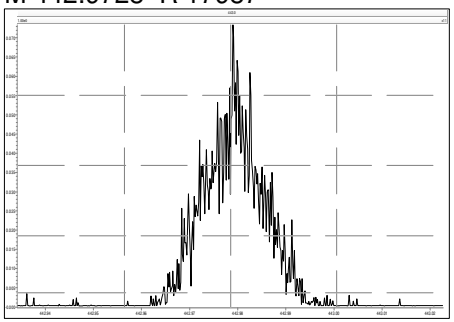
M 480.9696 R 16085



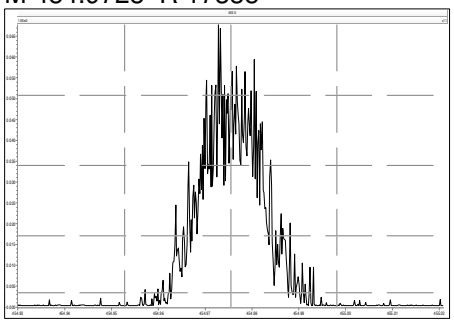
M 430.9728 R 16898



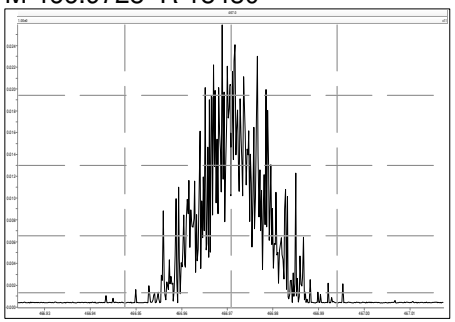
M 442.9728 R 17987



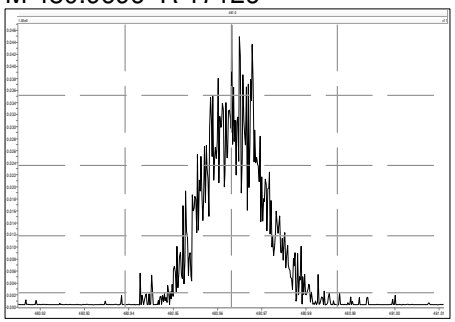
M 454.9728 R 17335



M 466.9728 R 18430



M 480.9696 R 17126



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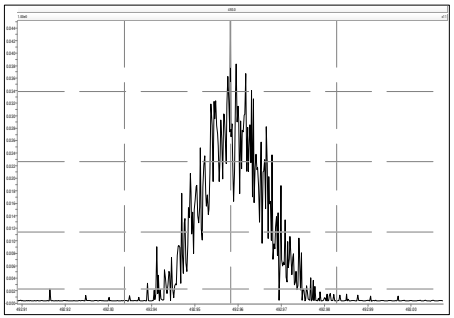
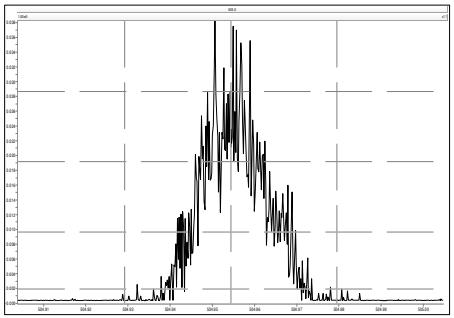
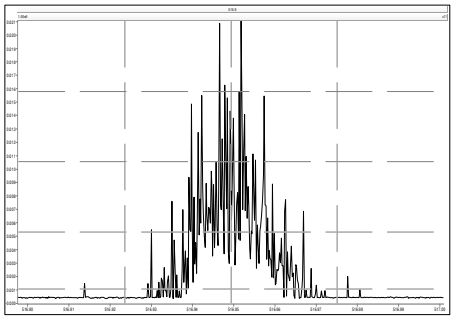
M 492.9696 R 19091



M 504.9696 R 17569



M 516.9697 R 18481



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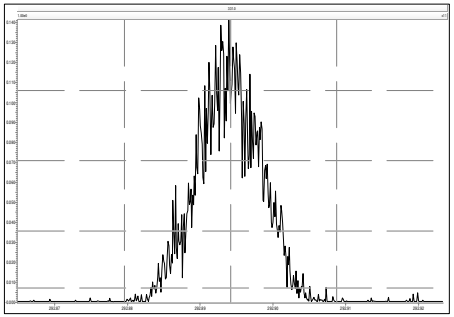

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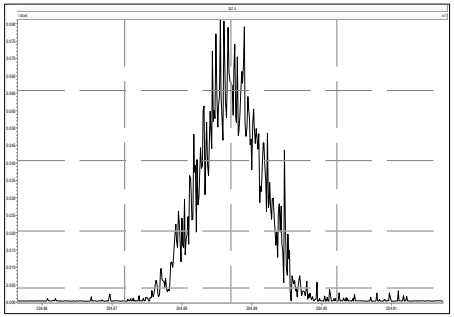
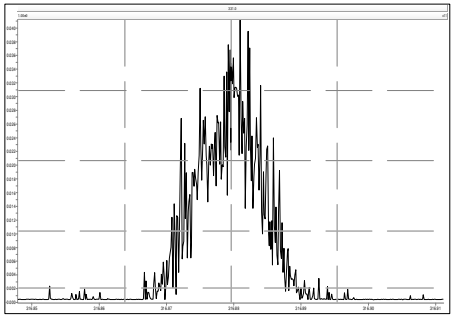
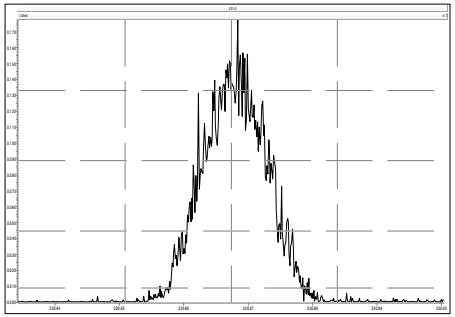


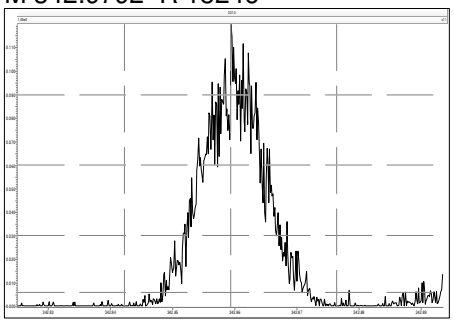
M 316.9824 R 19608



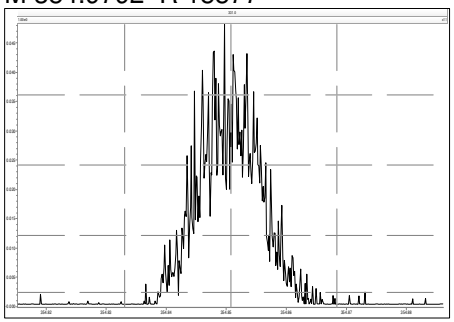
M 330.9792 R 15674



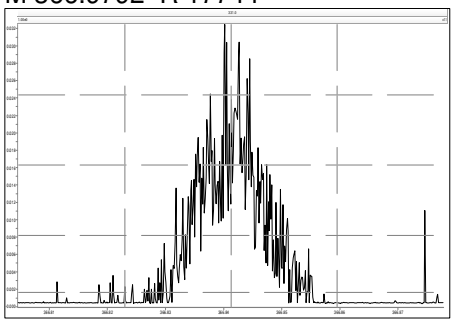
M 342.9792 R 15246



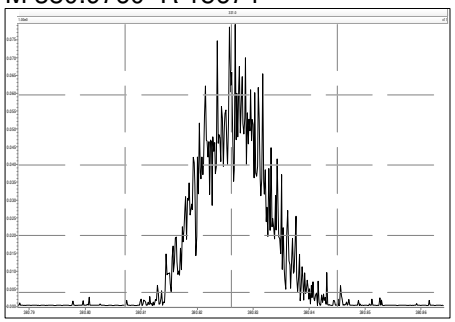
M 354.9792 R 15577



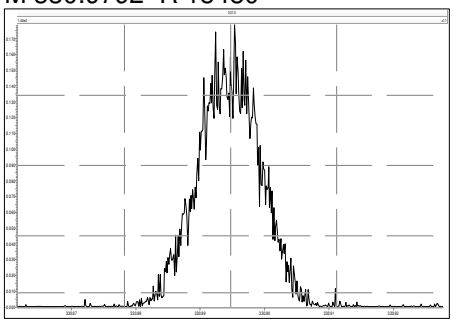
M 366.9792 R 17744



M 380.9760 R 15674



M 330.9792 R 15480



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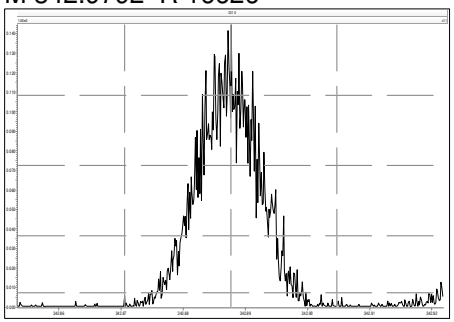
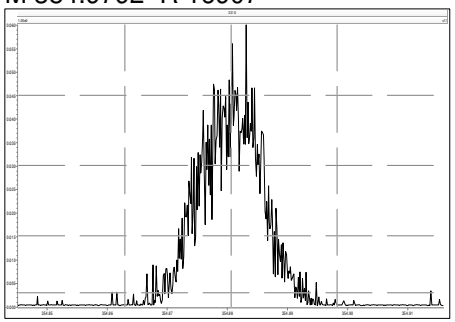


M 354.9792 R 16907



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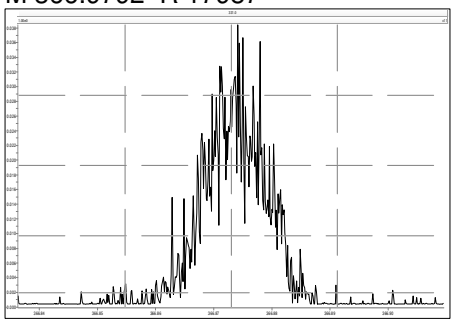

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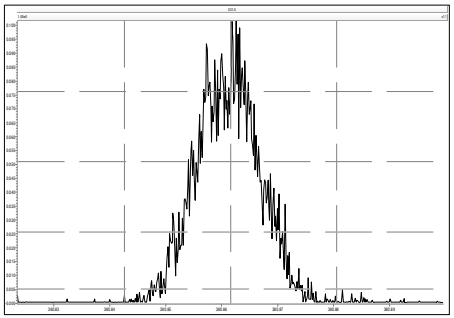
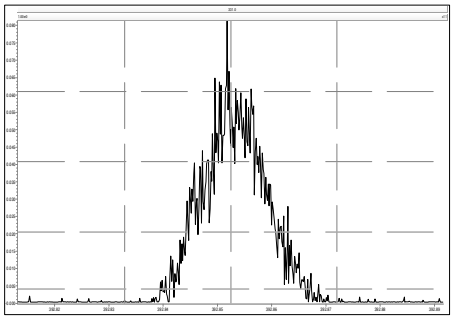
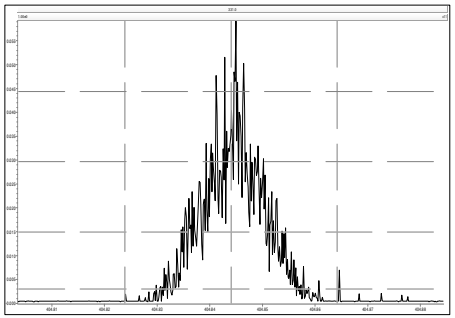


M 392.9760 R 15738



M 404.9760 R 16447



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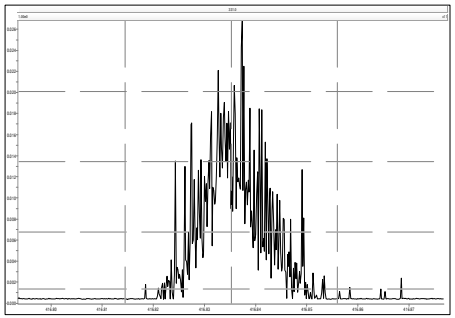
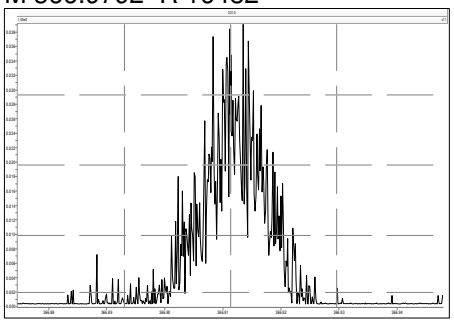
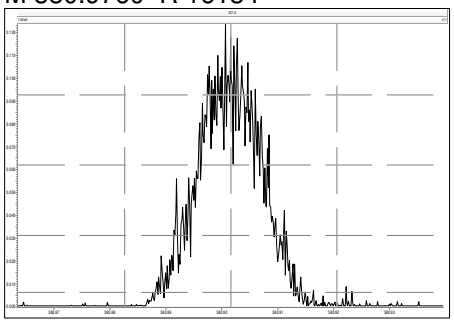


M 366.9792 R 16482



M 380.9760 R 16134



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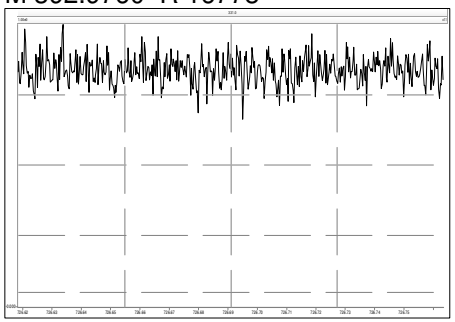
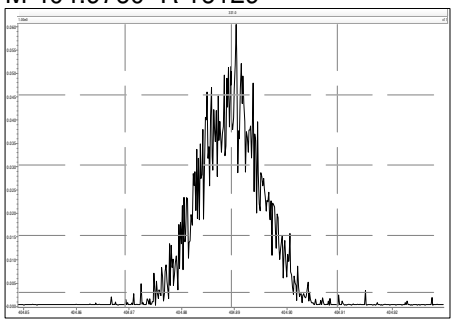


M 404.9760 R 16129



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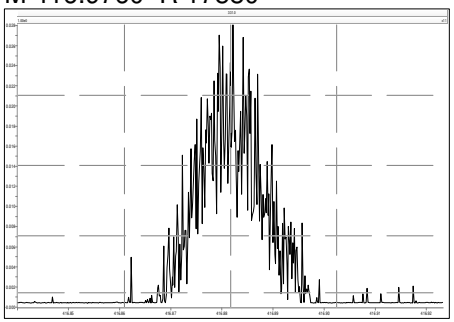
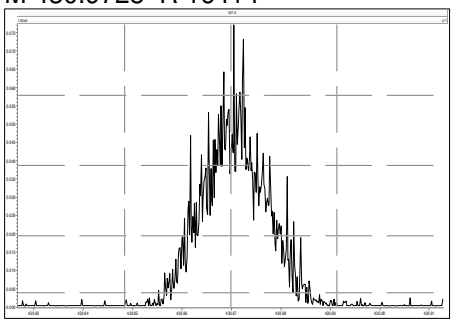
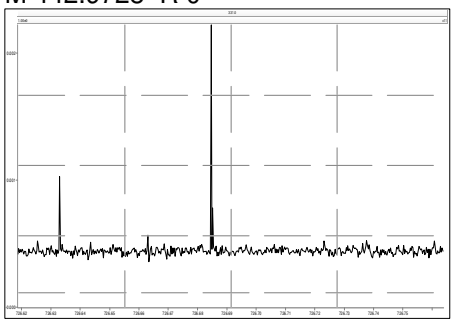


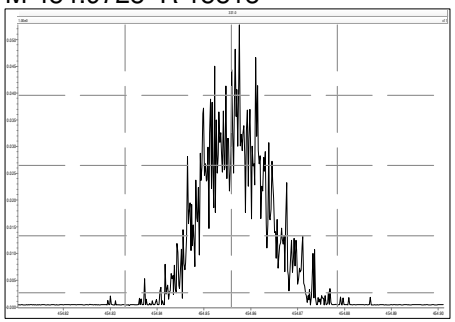
M 430.9728 R 16414



M 442.9728 R 0



M 454.9728 R 15818



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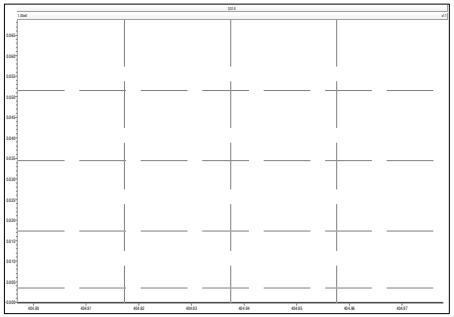

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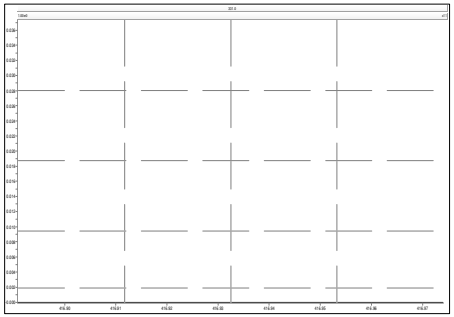

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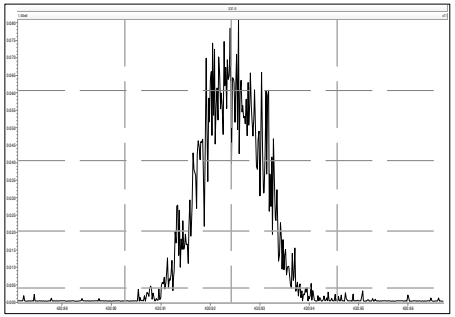

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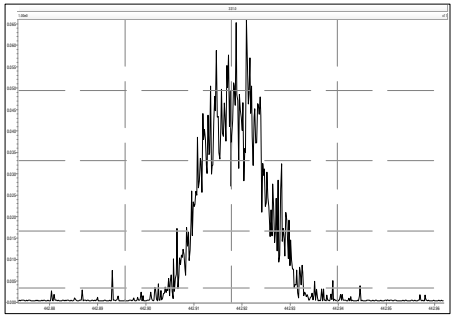
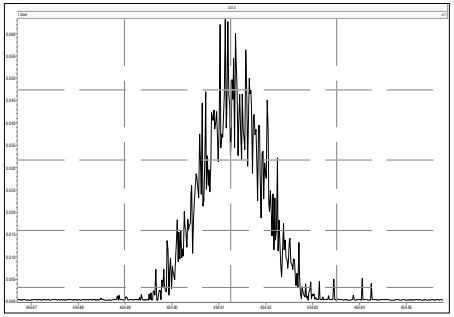
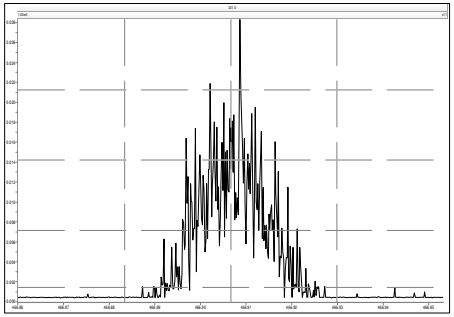


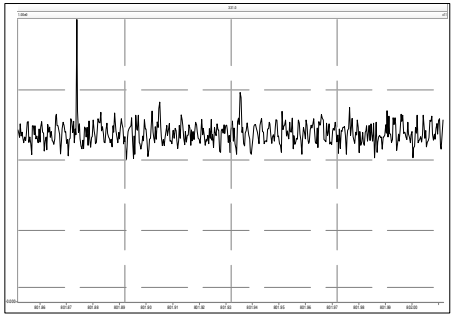
M 454.9728 R 15692



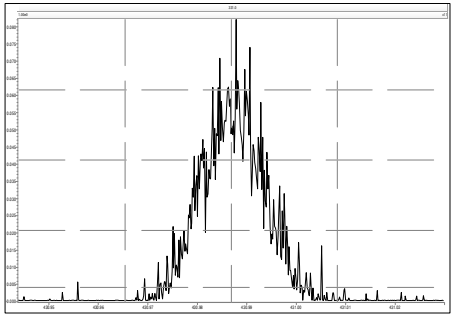
M 466.9728 R 17261



M 480.9696 R 0



M 430.9728 R 15677



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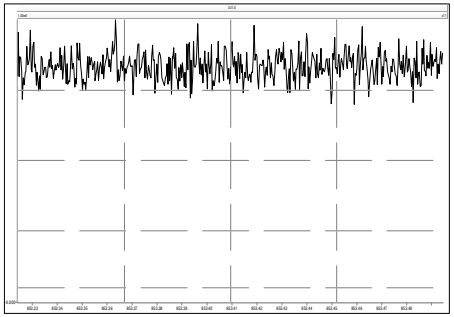
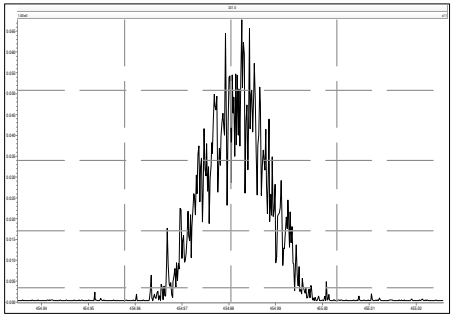
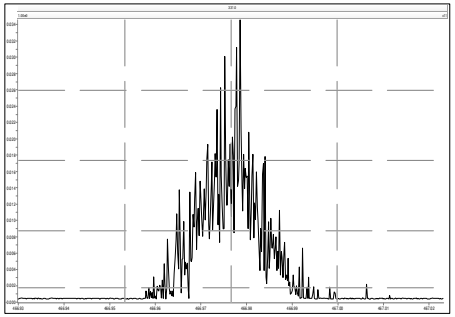


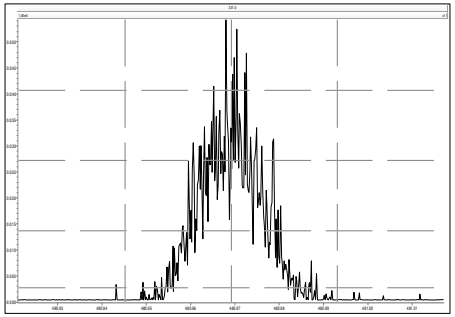
M 454.9728 R 16892



M 466.9728 R 18739



M 480.9696 R 16131



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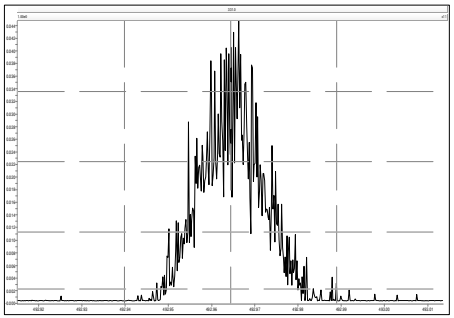
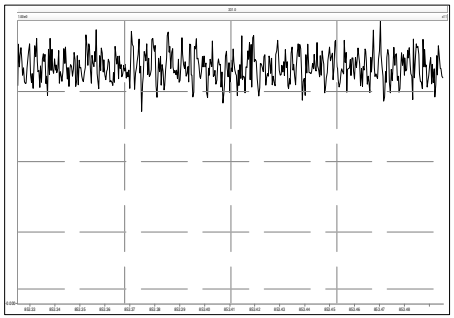
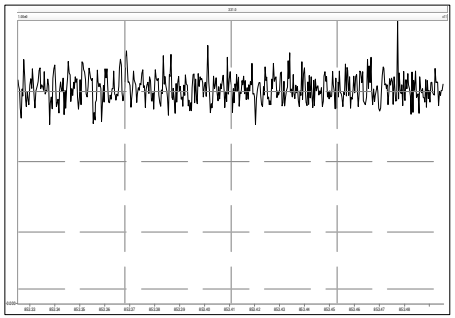


M 504.9696 R 16129



M 516.9697 R 20491



Insturment arced during resplots collection. samples not affected. previous resplots added

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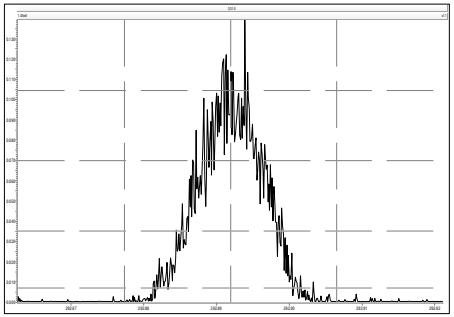
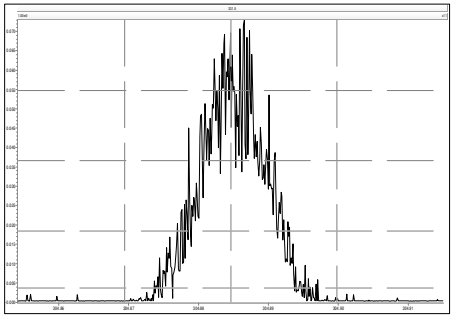
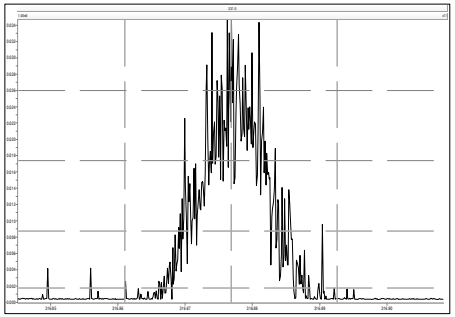
M 292.9824 R 15987



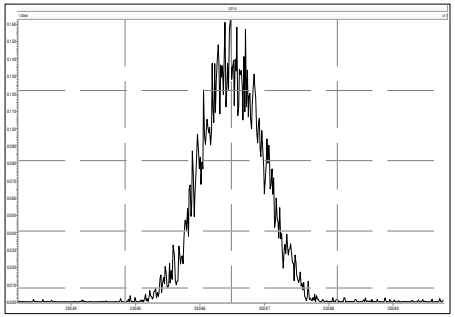
M 304.9824 R 17325



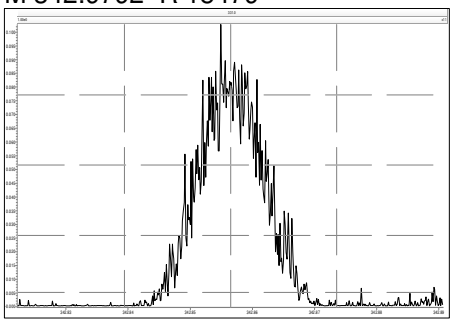
M 316.9824 R 16797



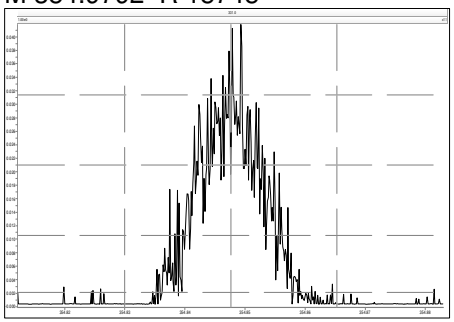
M 330.9792 R 14925



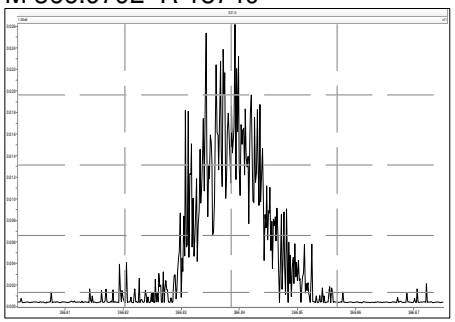
M 342.9792 R 15479



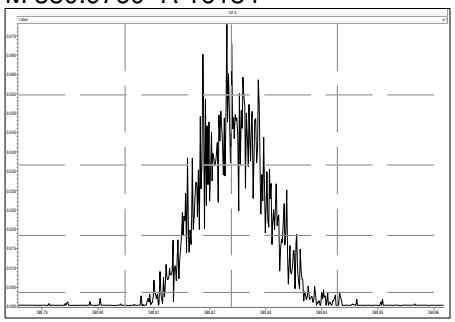
M 354.9792 R 15745



M 366.9792 R 18740



M 380.9760 R 16134



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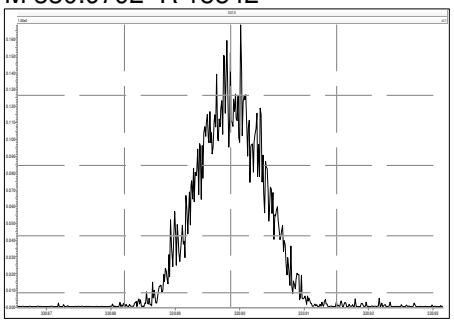
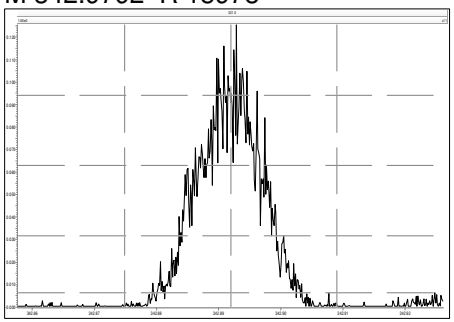
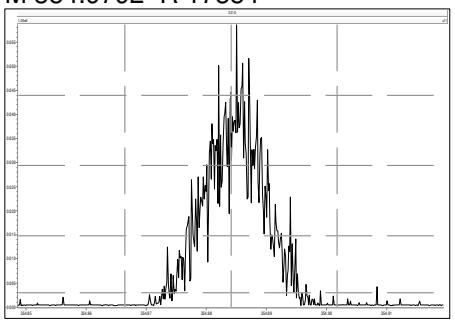


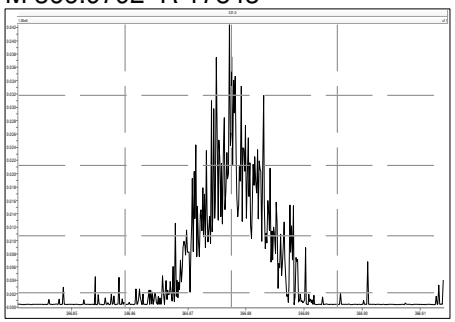
M 342.9792 R 15978



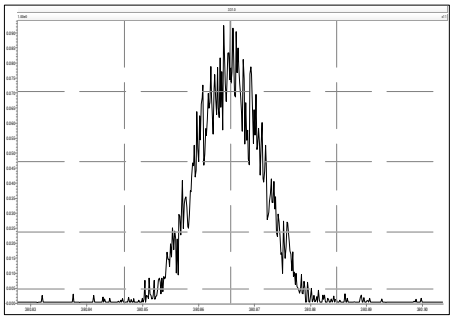
M 354.9792 R 17554



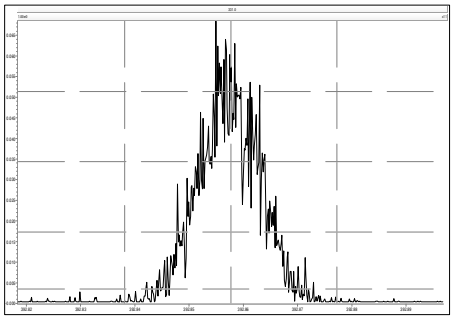
M 366.9792 R 17843



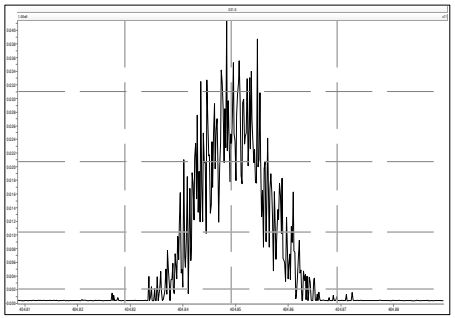
M 380.9760 R 15928



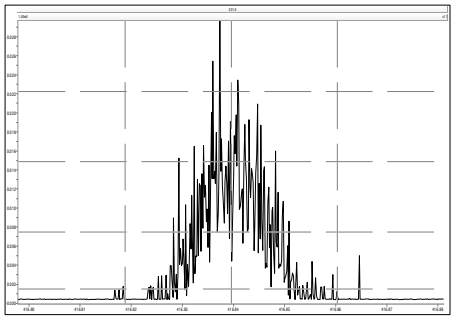
M 392.9760 R 16414



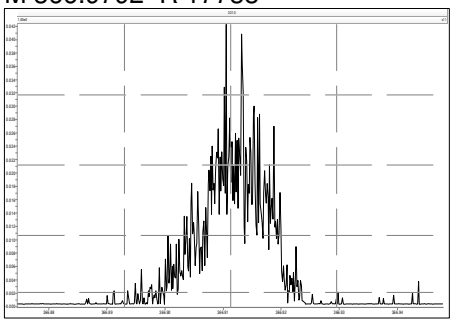
M 404.9760 R 17183



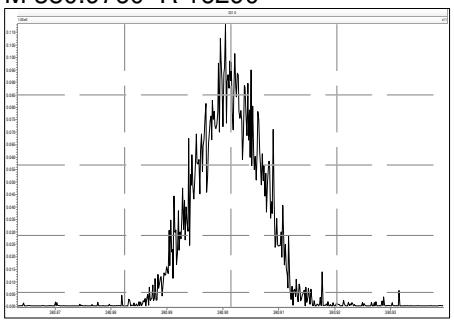
M 416.9760 R 10775



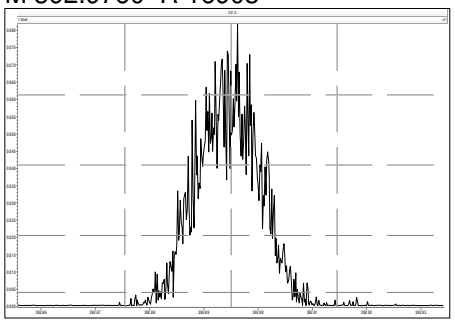
M 366.9792 R 17738



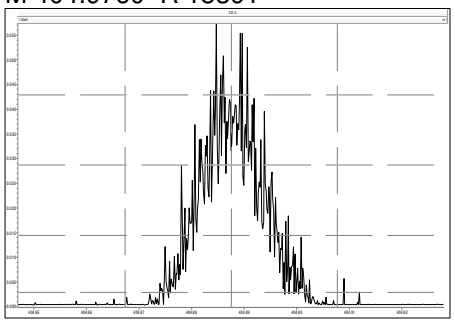
M 380.9760 R 16290



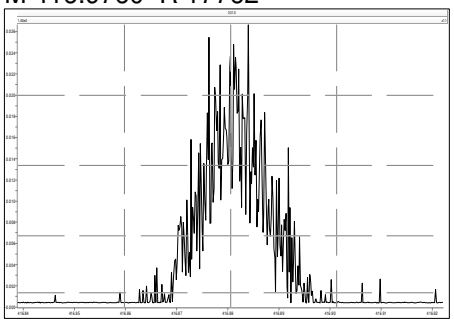
M 392.9760 R 16903



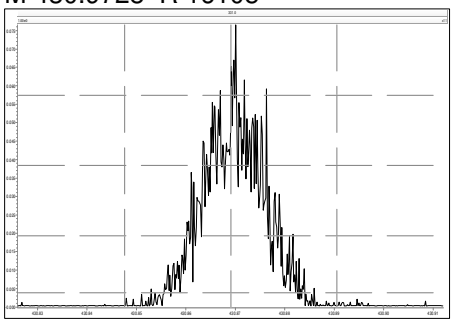
M 404.9760 R 15391



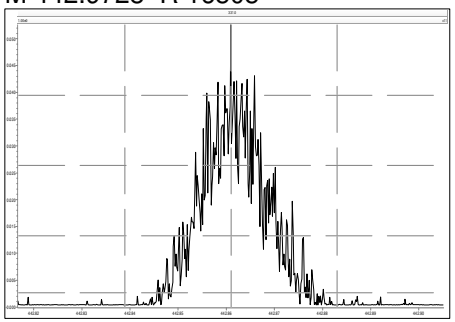
M 416.9760 R 17762



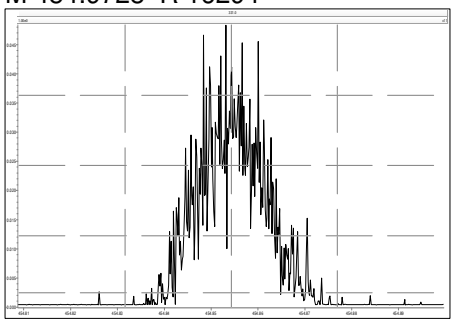
M 430.9728 R 16105



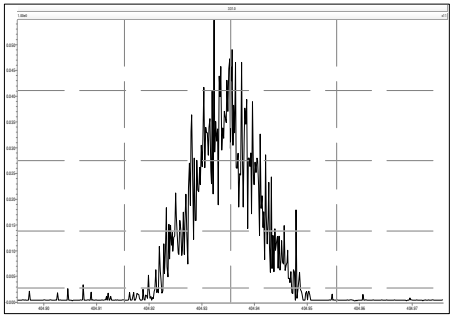
M 442.9728 R 16505



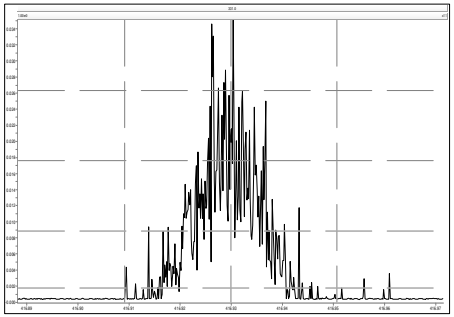
M 454.9728 R 16294



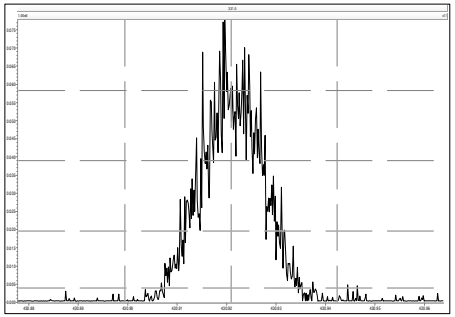
M 404.9760 R 15892



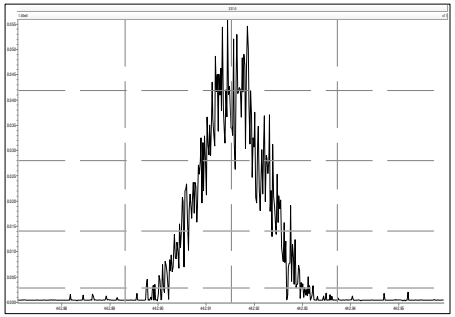
M 416.9760 R 18482



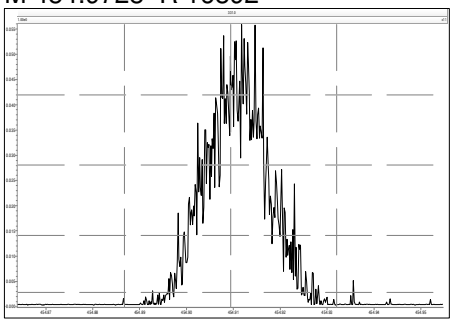
M 430.9728 R 15337



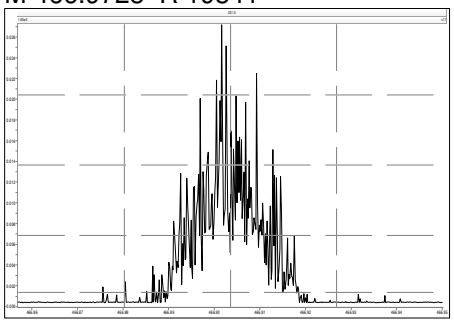
M 442.9728 R 17227



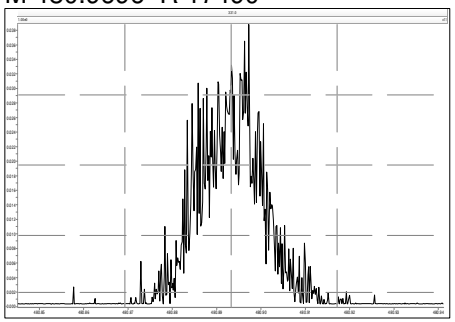
M 454.9728 R 16892



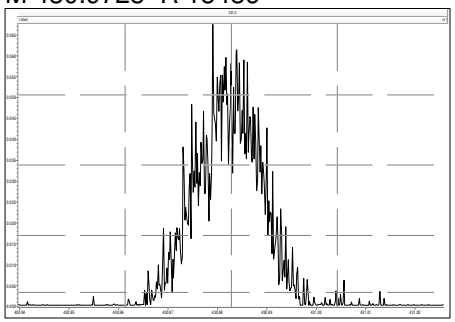
M 466.9728 R 19841



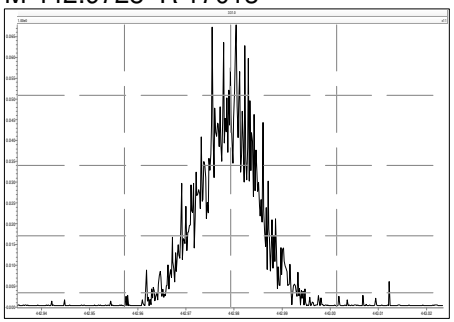
M 480.9696 R 17490



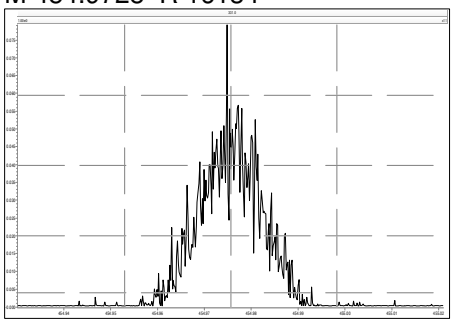
M 430.9728 R 15486



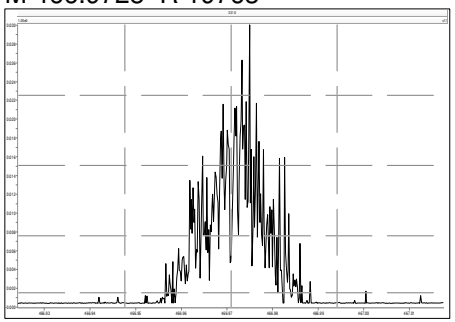
M 442.9728 R 17013



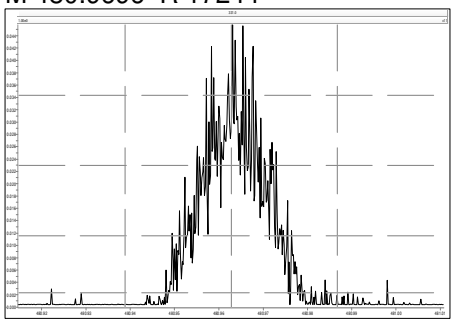
M 454.9728 R 16134



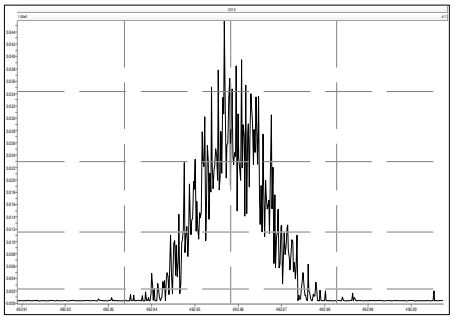
M 466.9728 R 19763



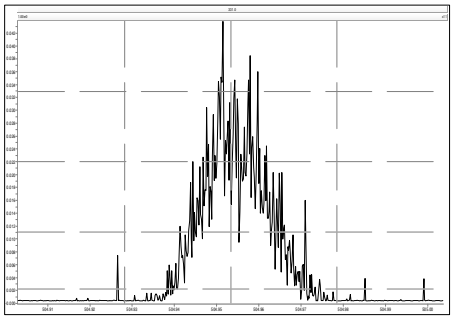
M 480.9696 R 17244



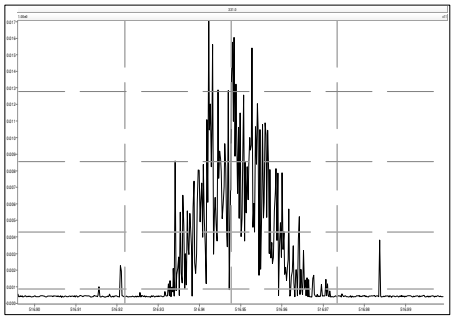
M 492.9696 R 17057



M 504.9696 R 17013



M 516.9697 R 24752



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34 ✓	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98 ✓
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84 ✓	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86 ✓	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07 ✓	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10 ✓	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28 ✓	1.33

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

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
Tyler_Fritz , 11/11/2021, 4:44:03 PM

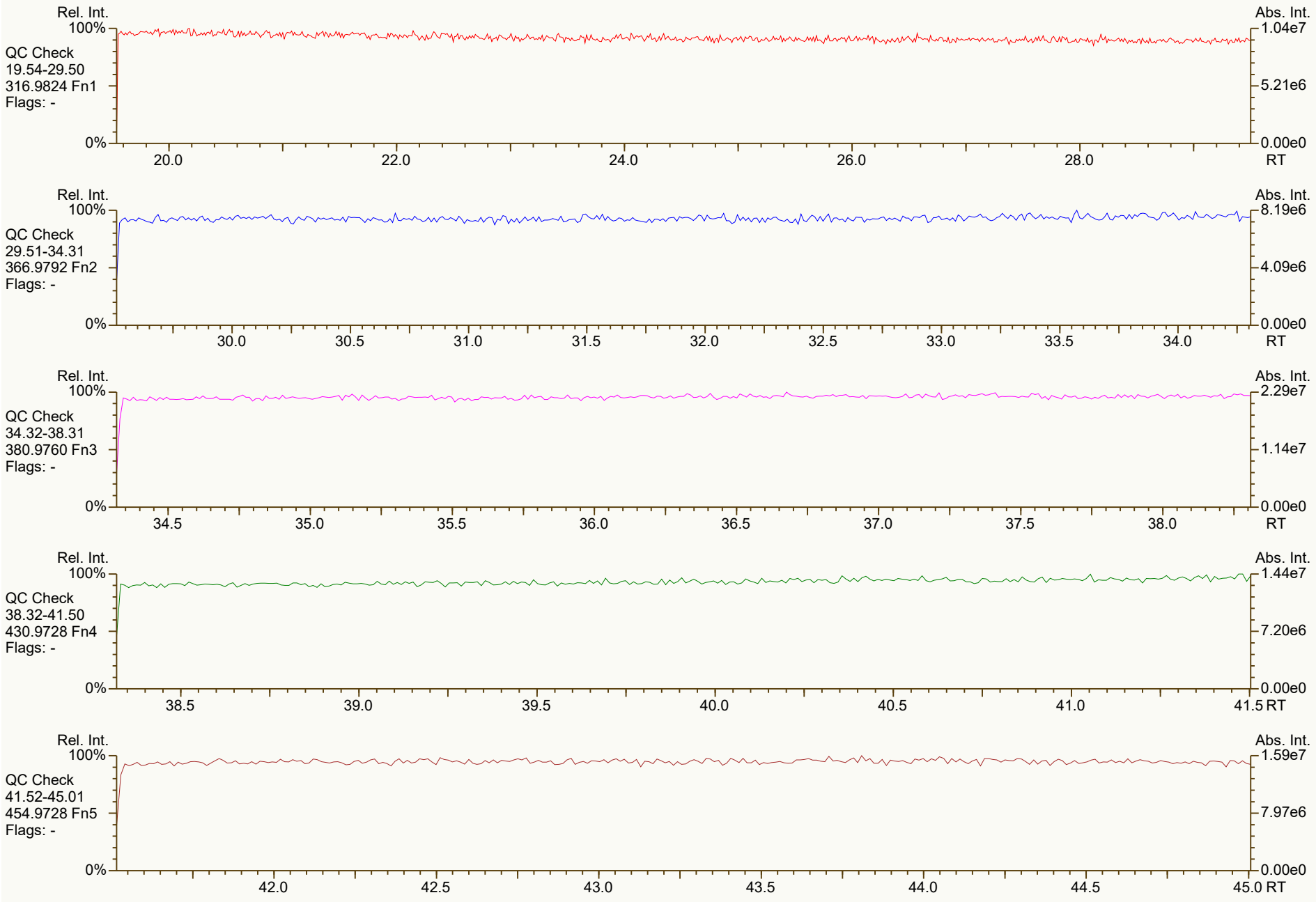
APPROVED
Amy_Boehm , 11/11/2021, 5:28:50 PM

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

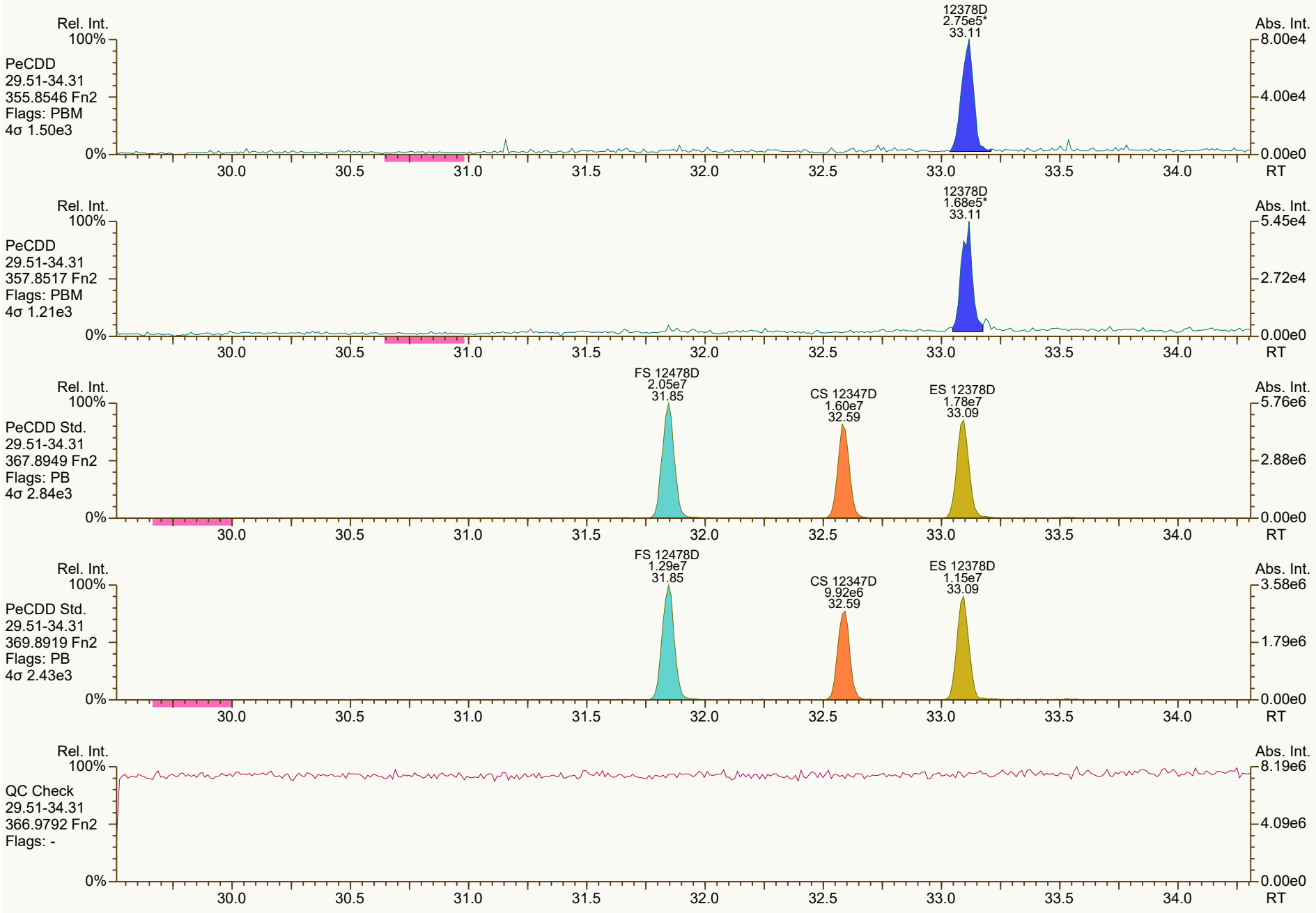
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

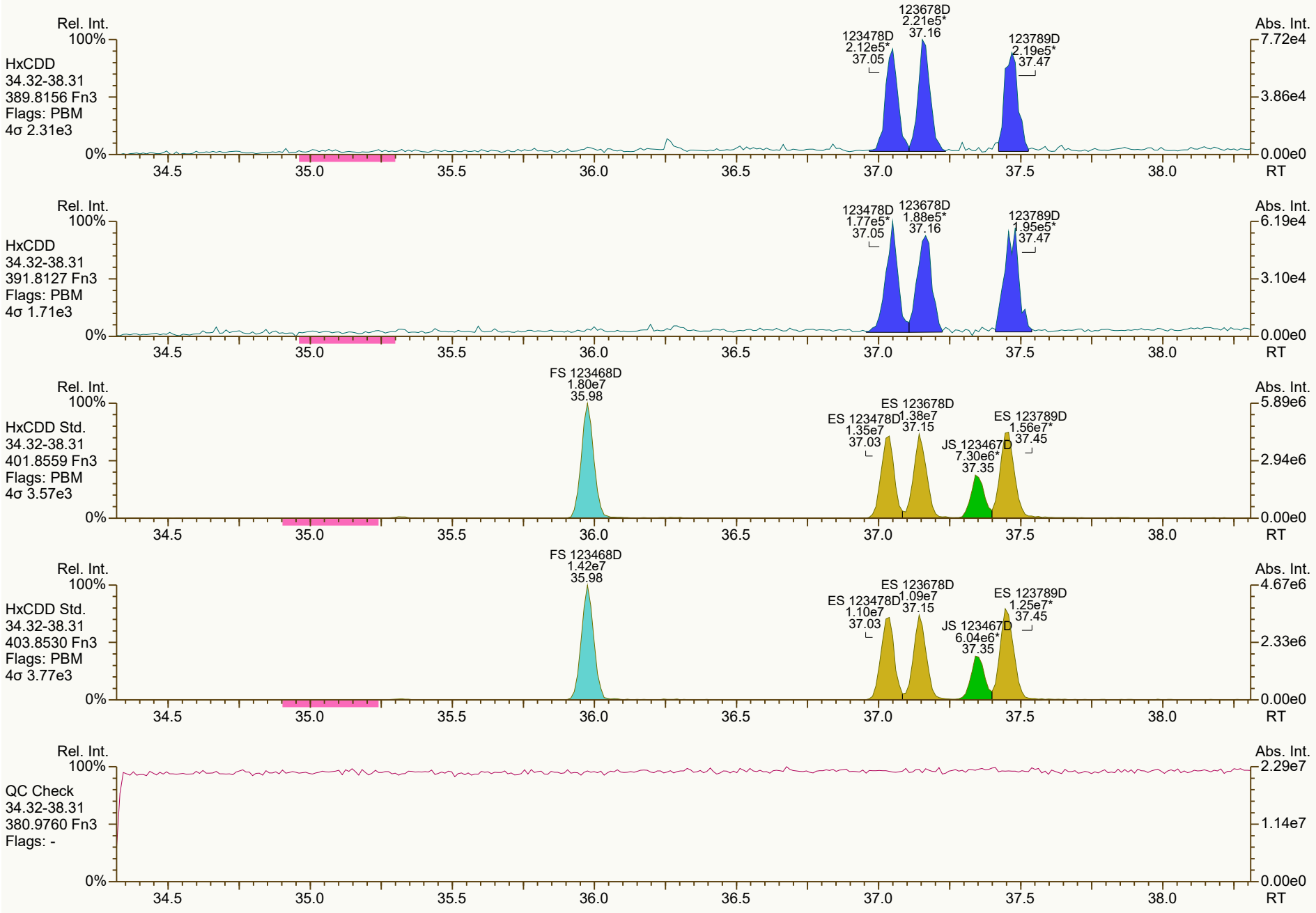
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

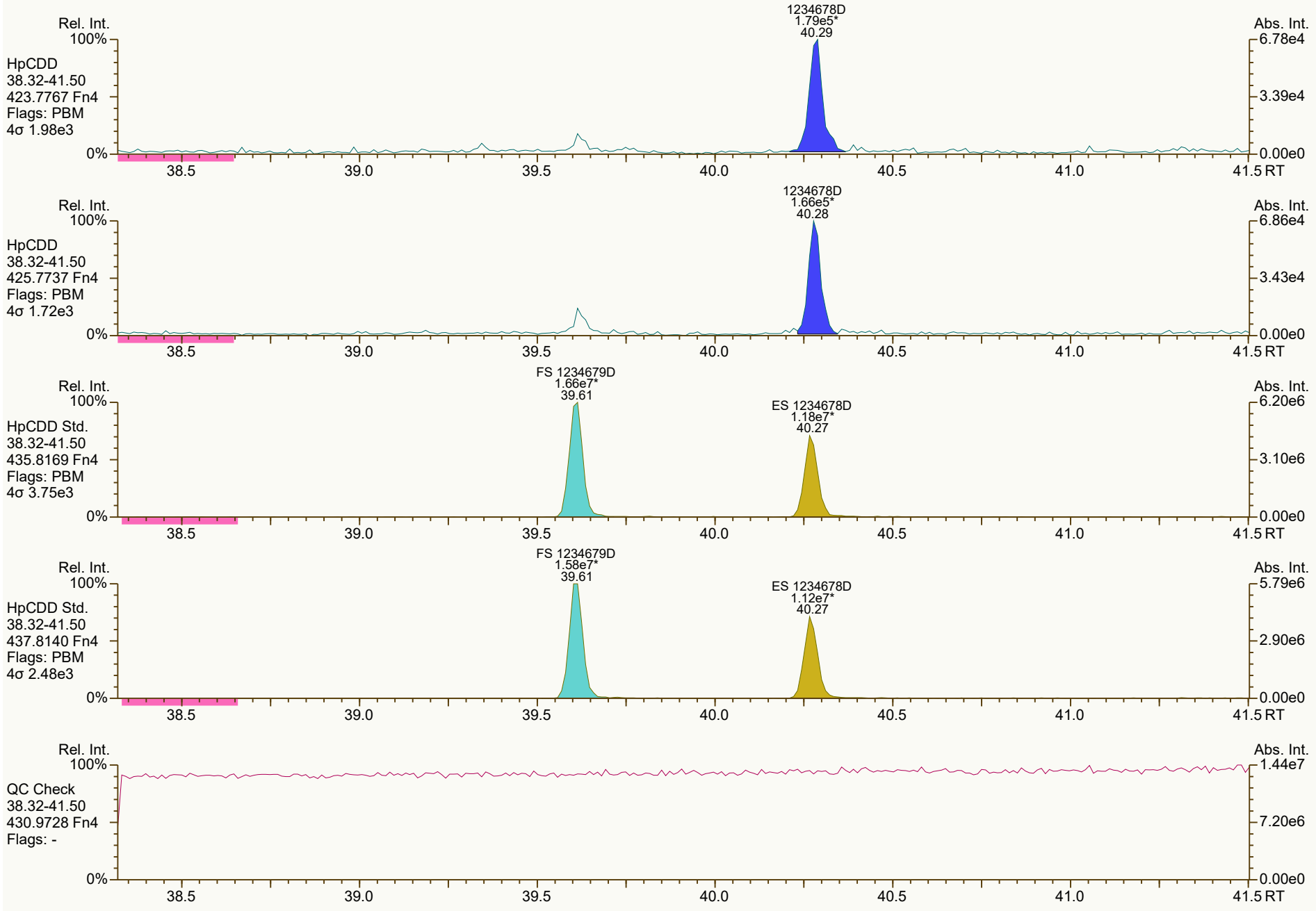
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF					Checkcode: 245-007-QLD
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C04
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%

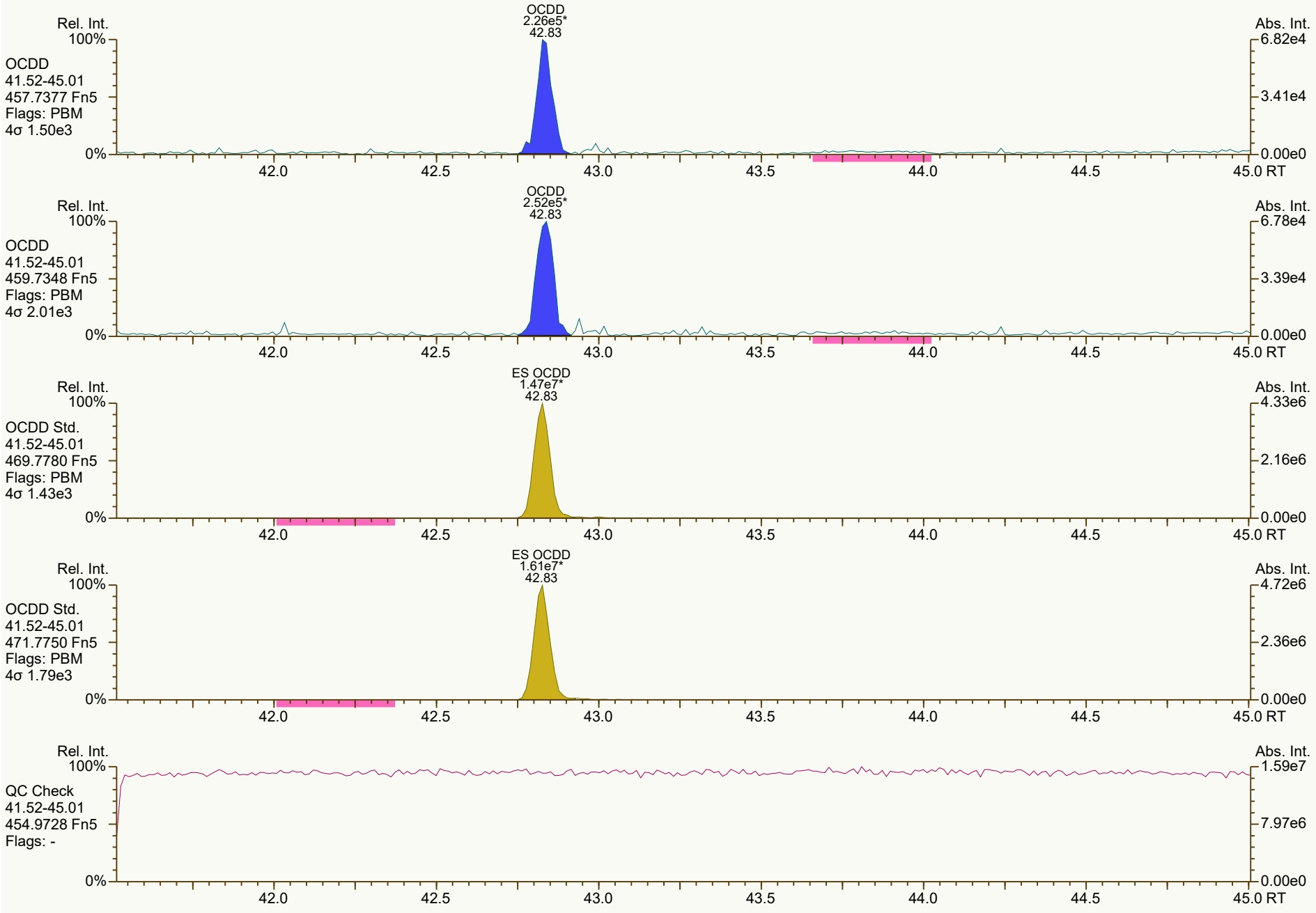

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.04e7
5.21e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.19e6
4.09e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.29e7
1.14e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.44e7
7.20e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.97e6
0.00e0

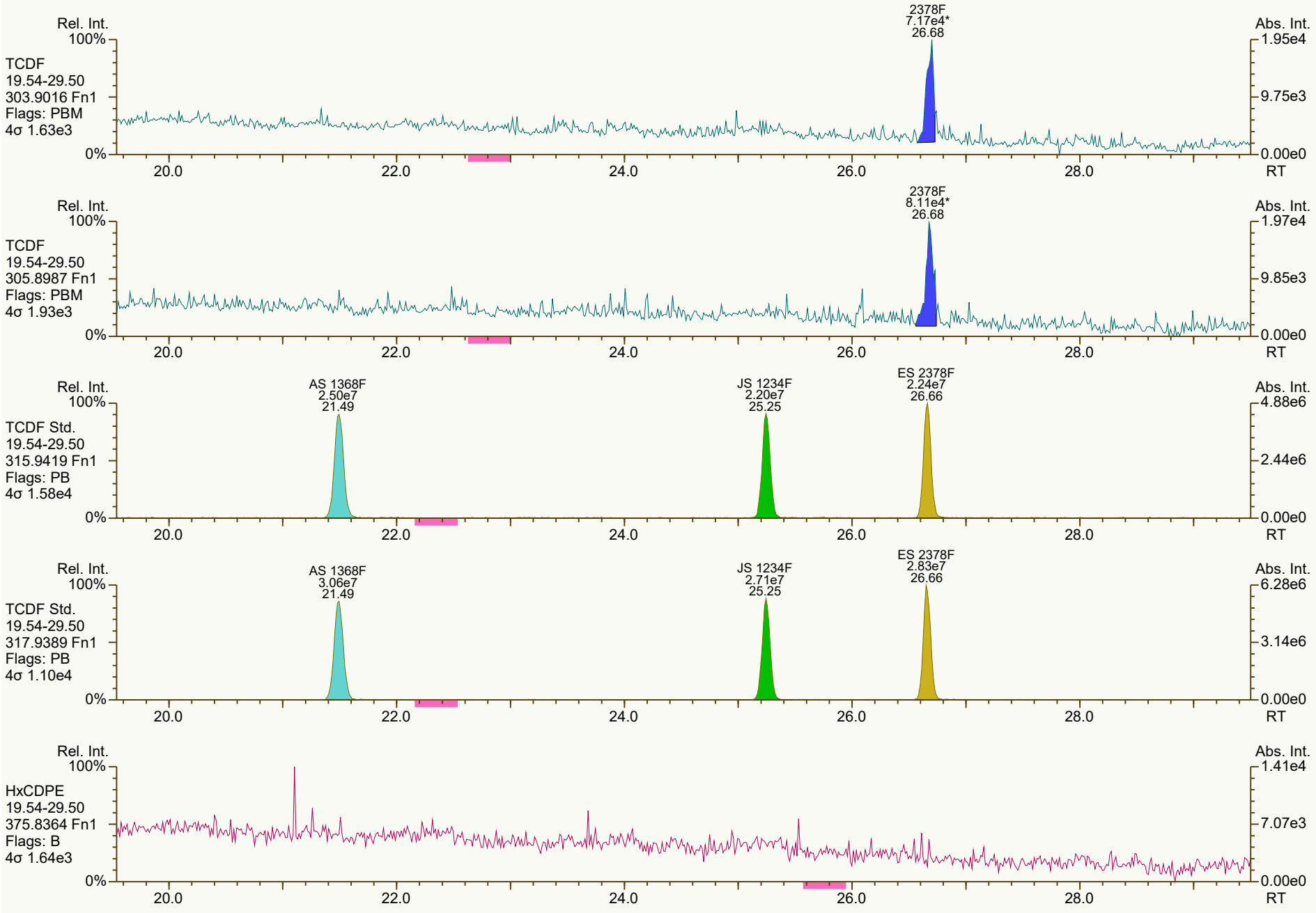

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3504, 1483, 2998 scc: 245-007
Revised: 11-Nov-2021 16:18 (DTF) Printed: 11-Nov-2021 16:32 Page 2 of 12


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
Abs. Int.
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
123478D 2.12e5* 37.05
123678D 2.21e5* 37.16
123789D 2.19e5* 37.47
7.72e4
3.86e4
0.00e0
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
123478D 1.77e5* 37.05
123678D 1.88e5* 37.16
123789D 1.95e5* 37.47
6.19e4
3.10e4
0.00e0
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
FS 123468D 1.80e7 35.98
ES 123478D 1.35e7 37.03
ES 123678D 1.38e7 37.15
JS 123467D 7.30e6* 37.35
ES 123789D 1.56e7* 37.45
5.89e6
2.94e6
0.00e0
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
FS 123468D 1.42e7 35.98
ES 123478D 1.10e7 37.03
ES 123678D 1.09e7 37.15
JS 123467D 6.04e6* 37.35
ES 123789D 1.25e7* 37.45
4.67e6
2.33e6
0.00e0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.29e7
1.14e7
0.00e0
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

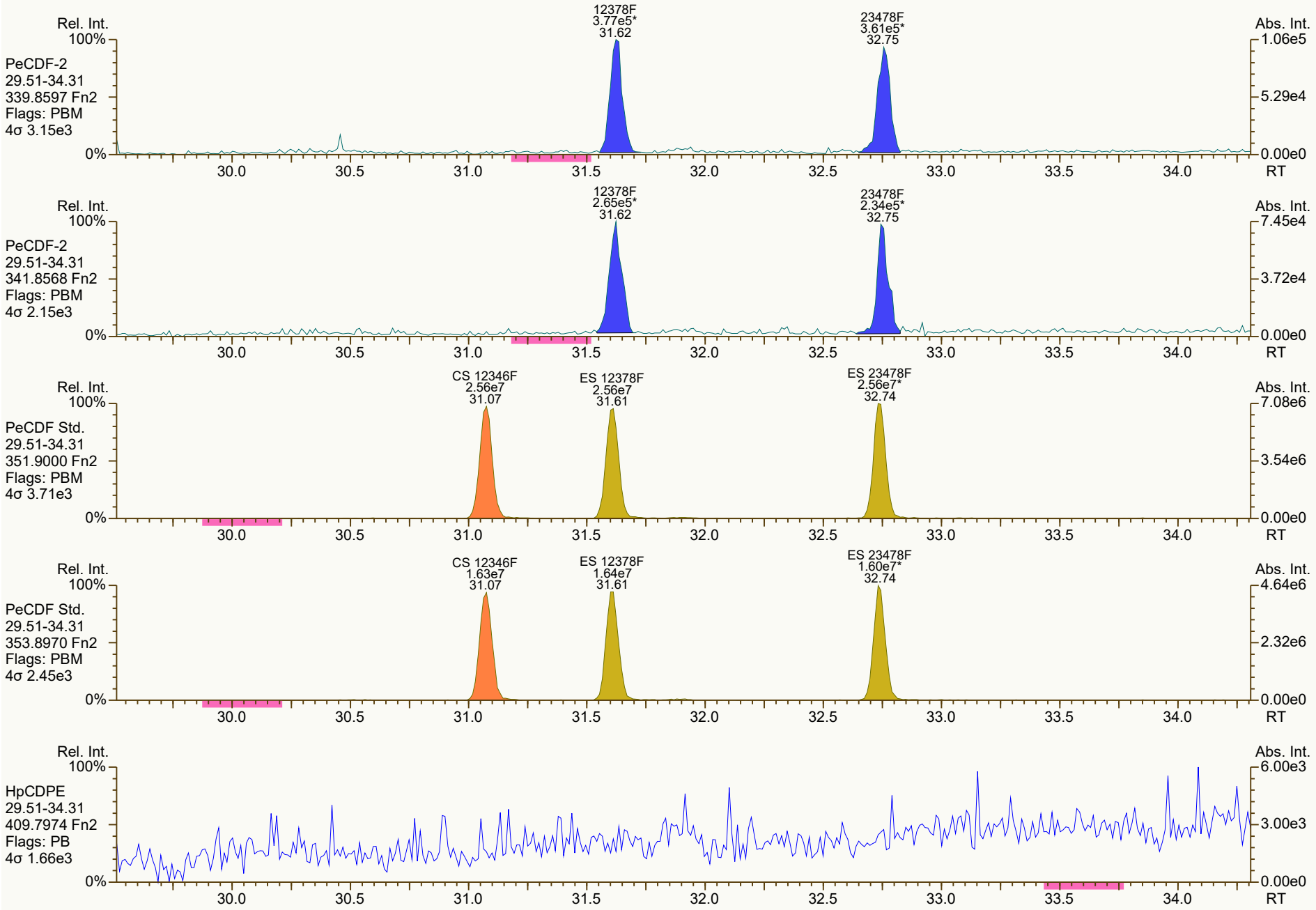

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

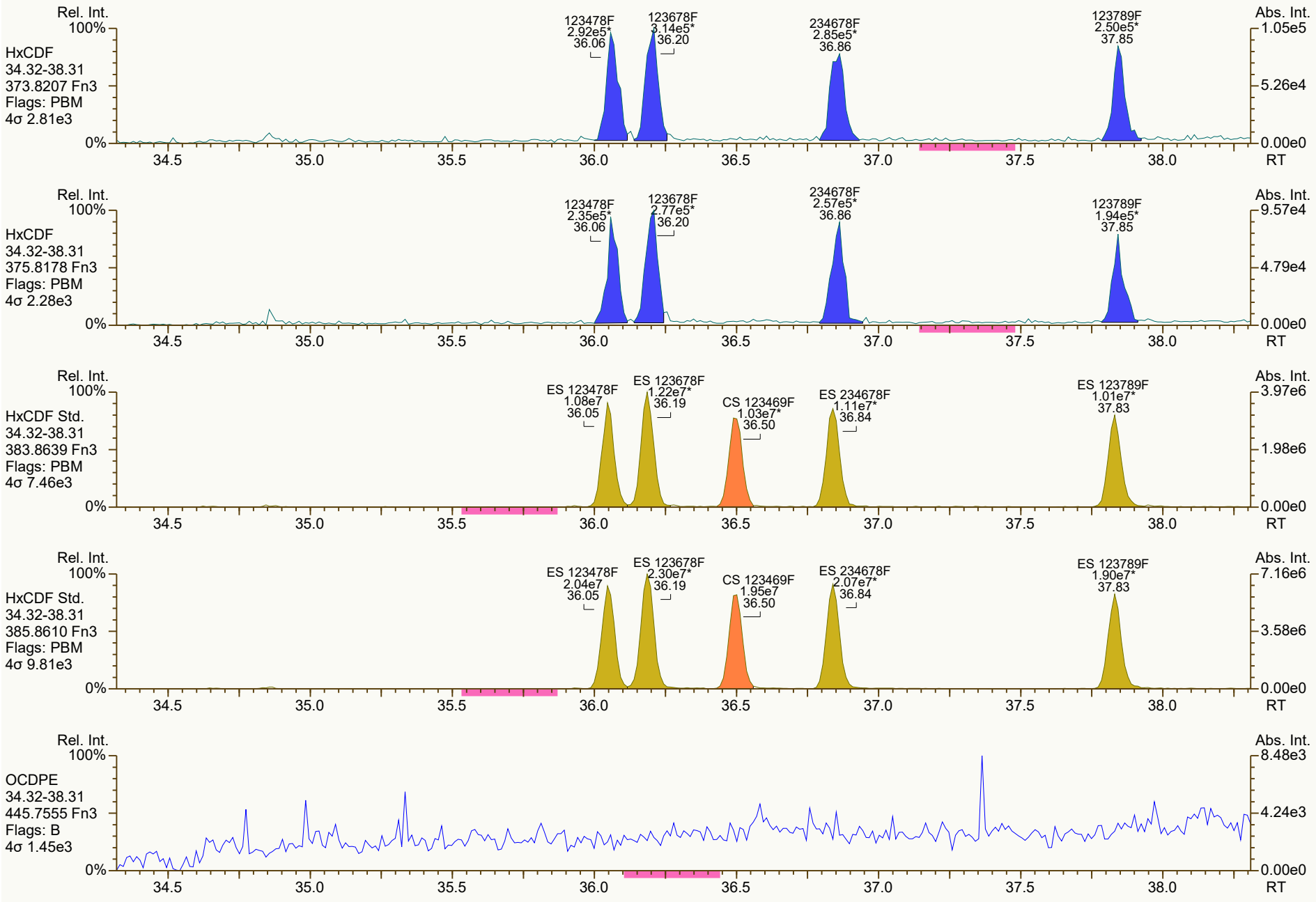

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
0%
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
0%
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
0%
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.41e4
7.07e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

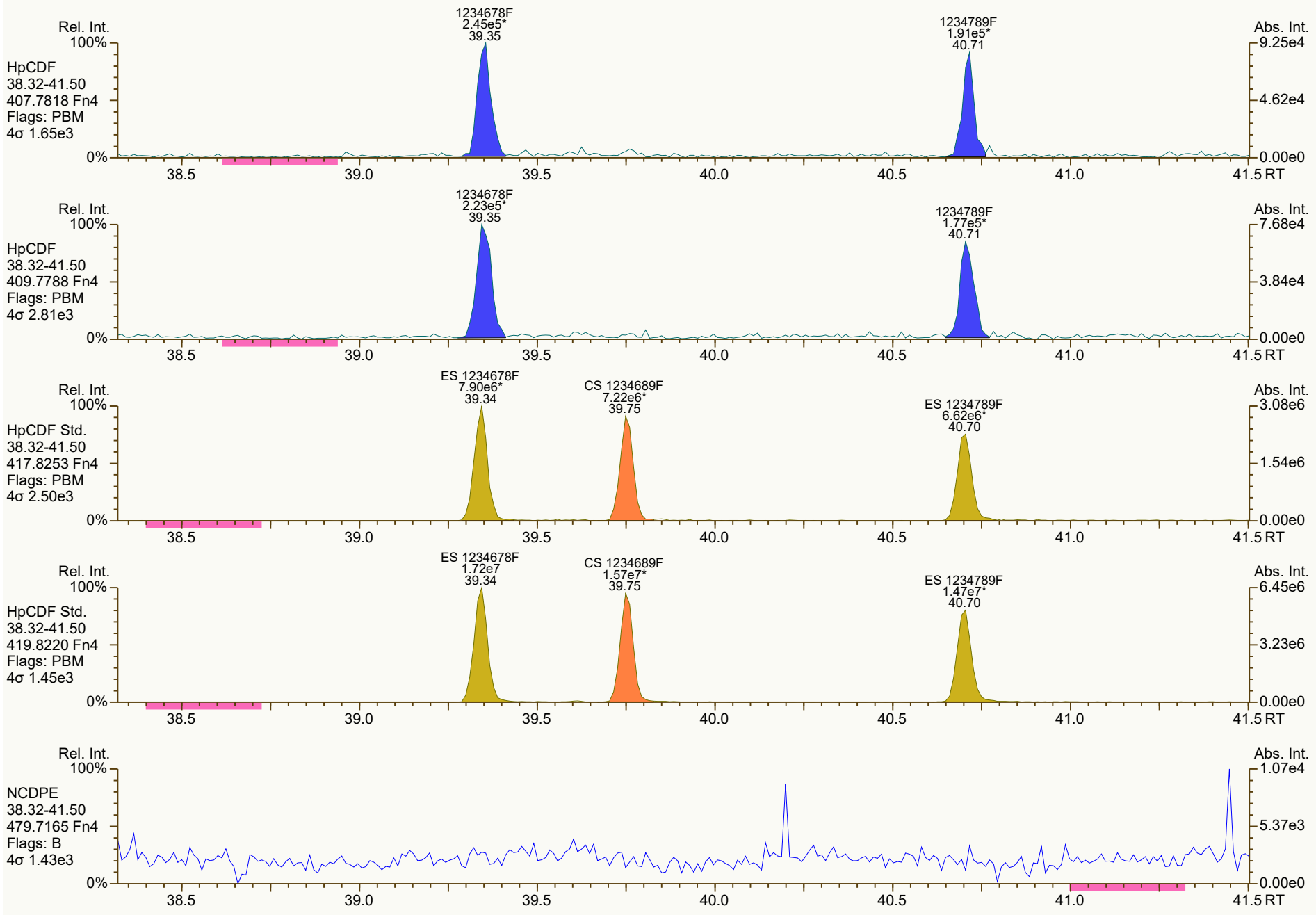
SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6412 scc: 245-007
PKD: 10-Nov-2021 13:30 Printed: 11-Nov-2021 16:32 Page 8 of 12


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
0%
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
0%
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
0%
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
0%
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

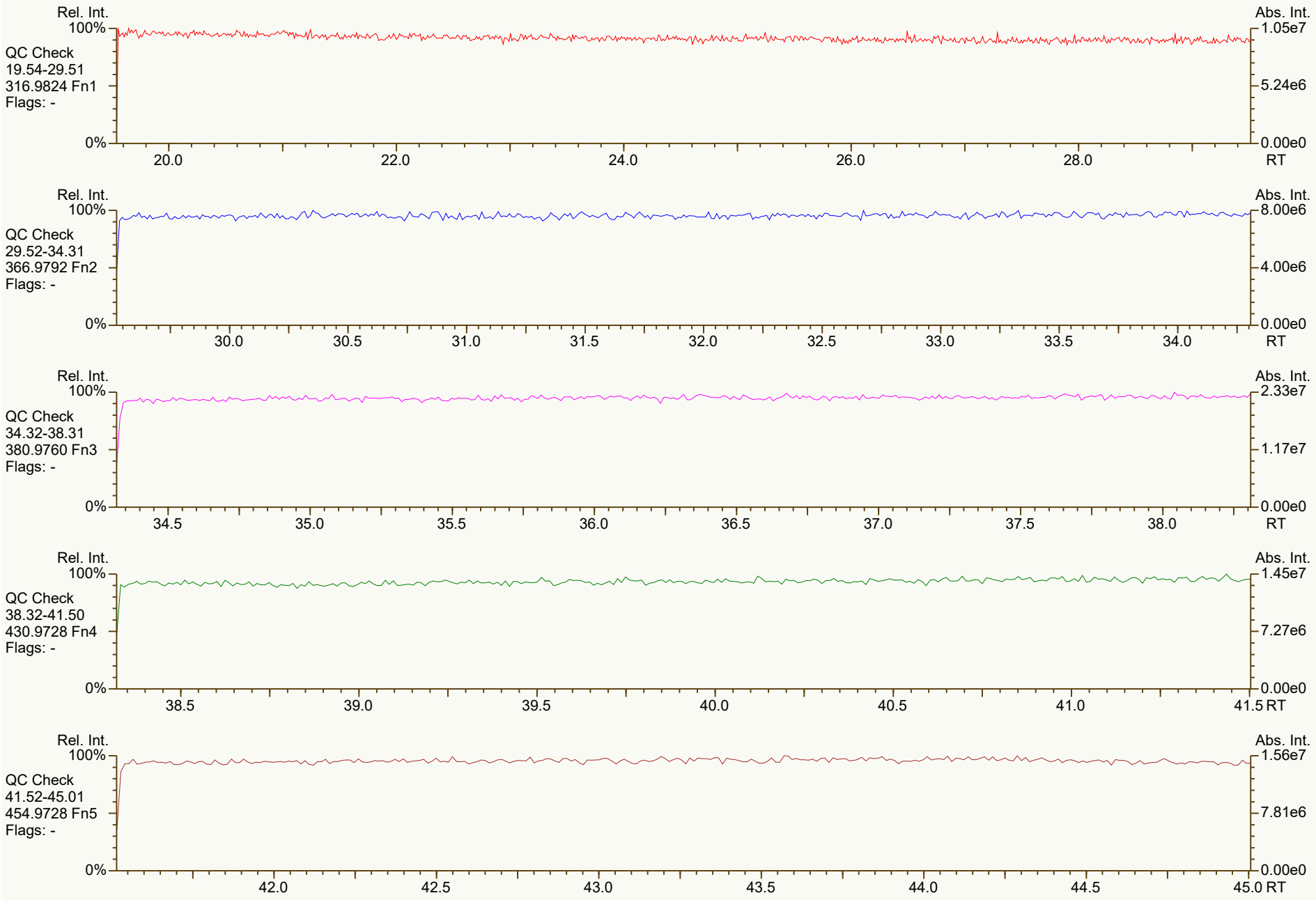

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

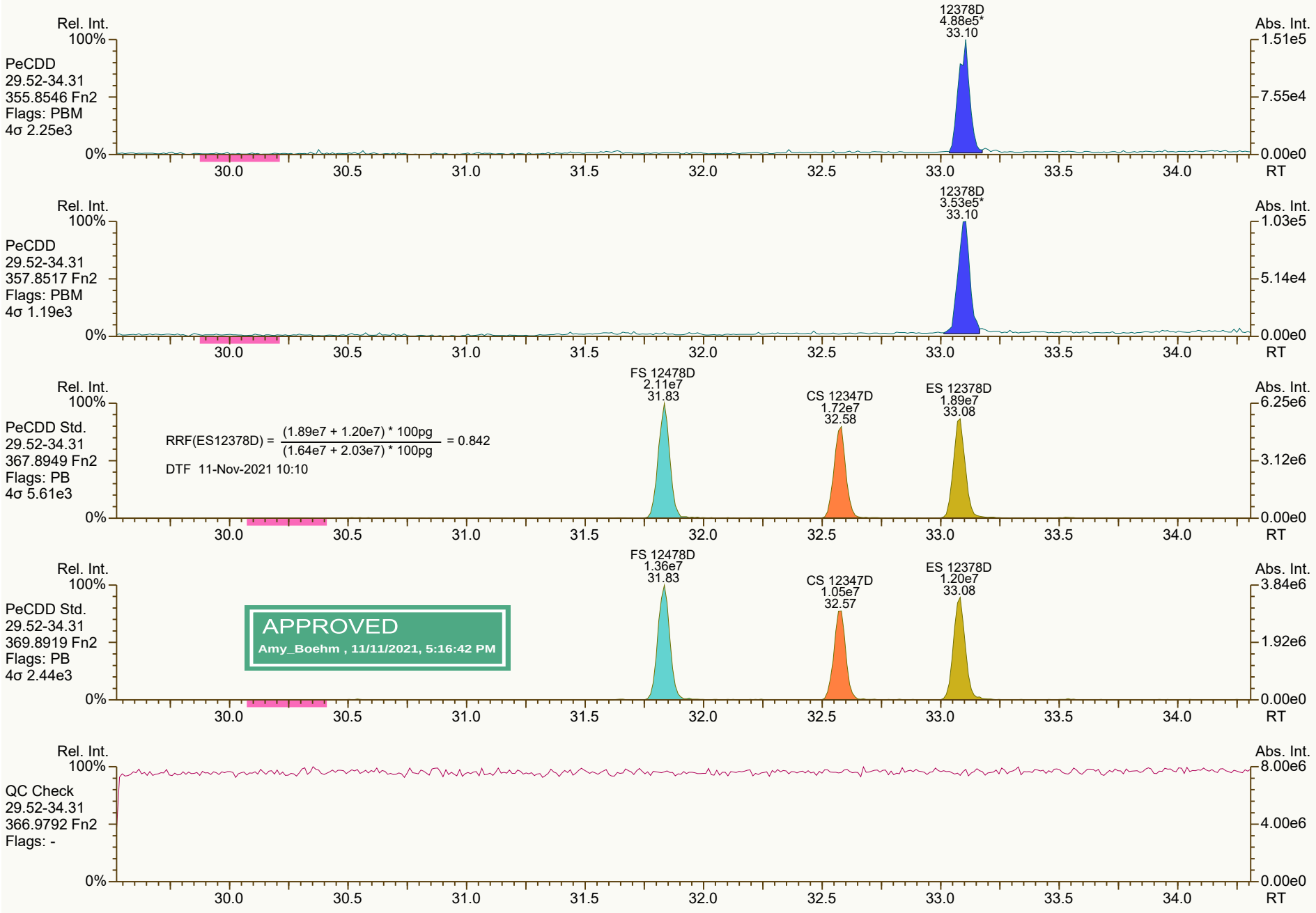
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF					Checkcode: 419-111-CRN
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C05
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

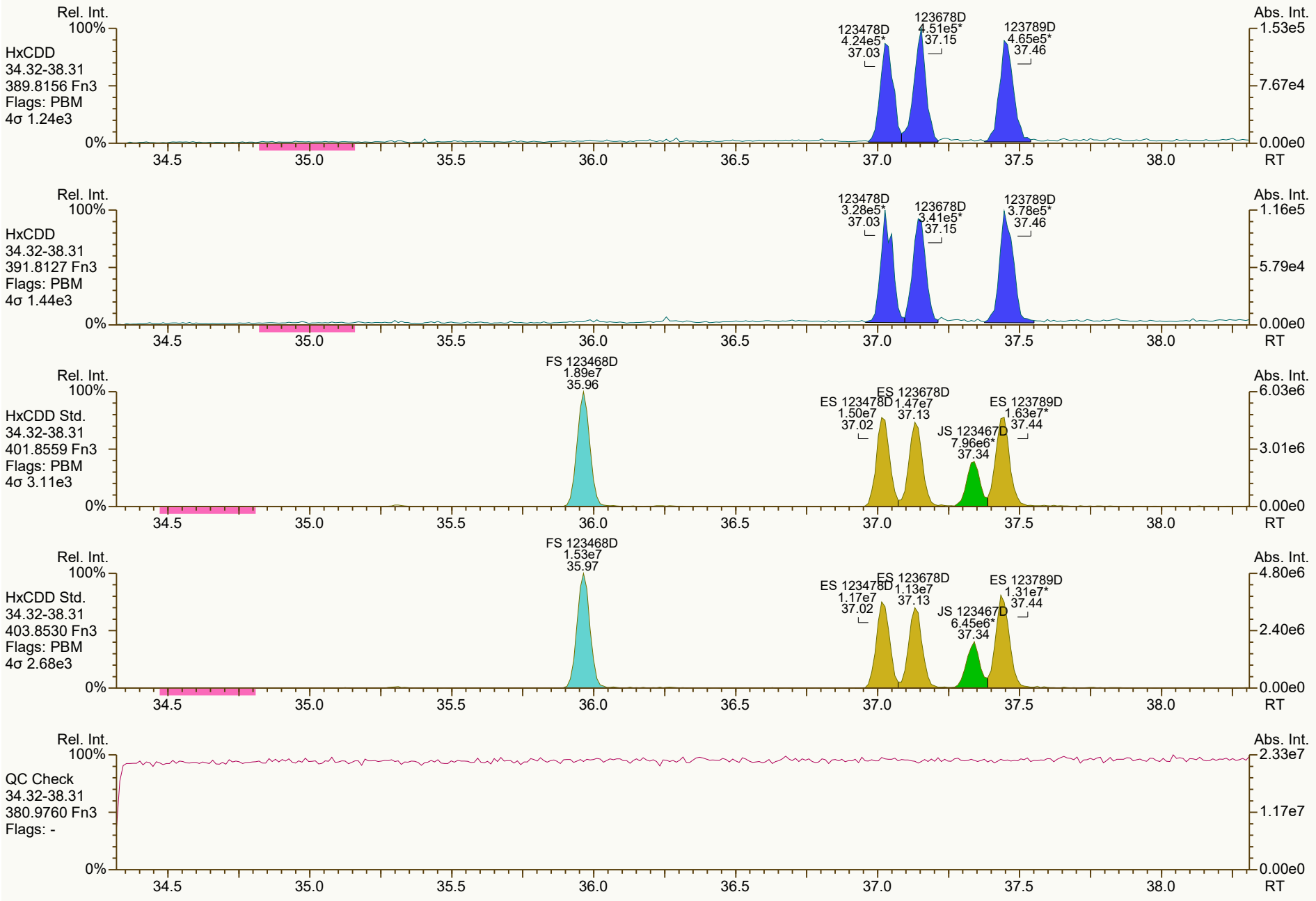
SGS ID: CS1_211110_DF_CA **Sample ID: 25-6-2** **Acq: 10-Nov-2021 11:48:34**
Instr: [ILM] AutoSpec-Ultima HRMS3 **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66** **User: DTF Datafile: 211110C05**

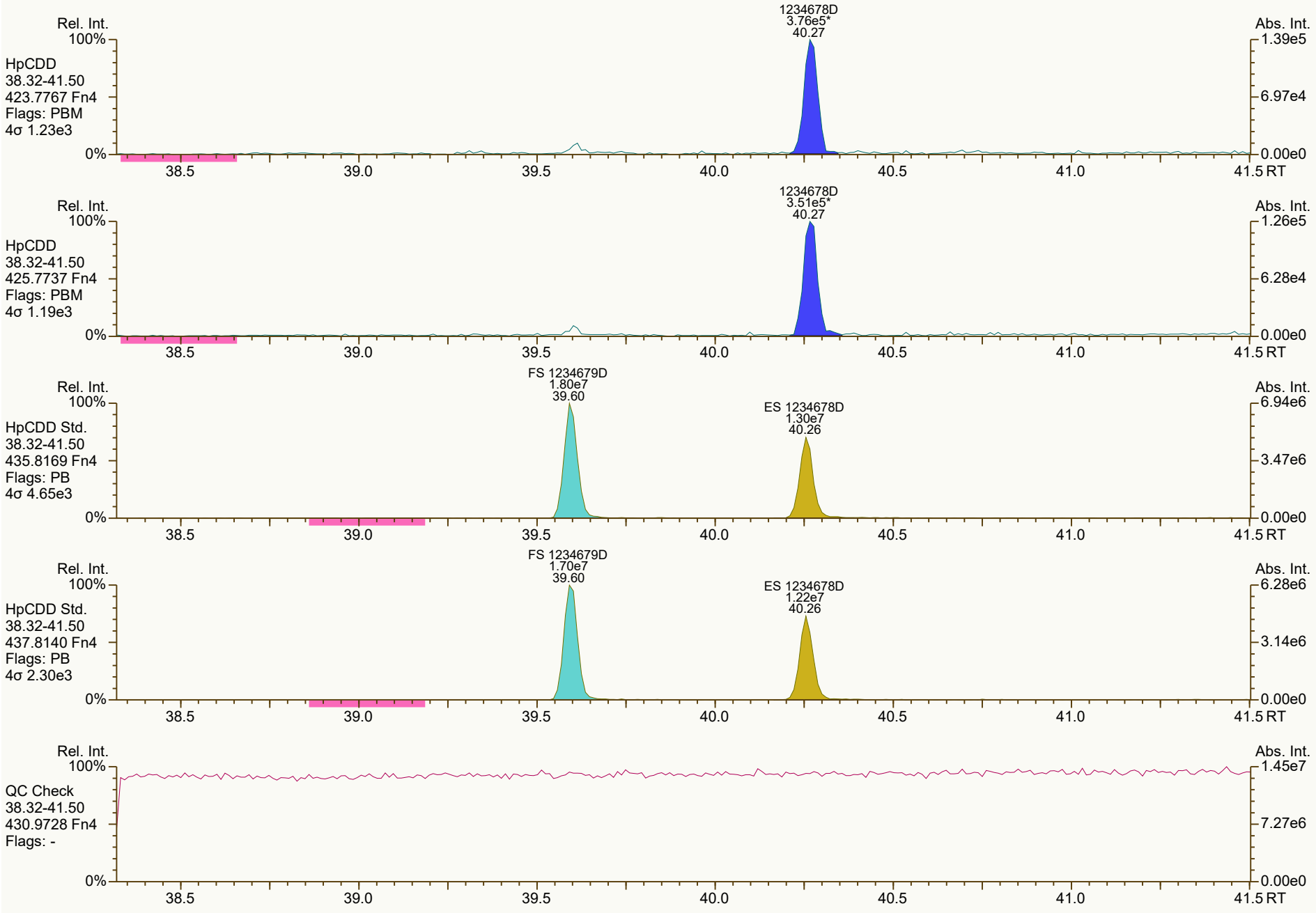


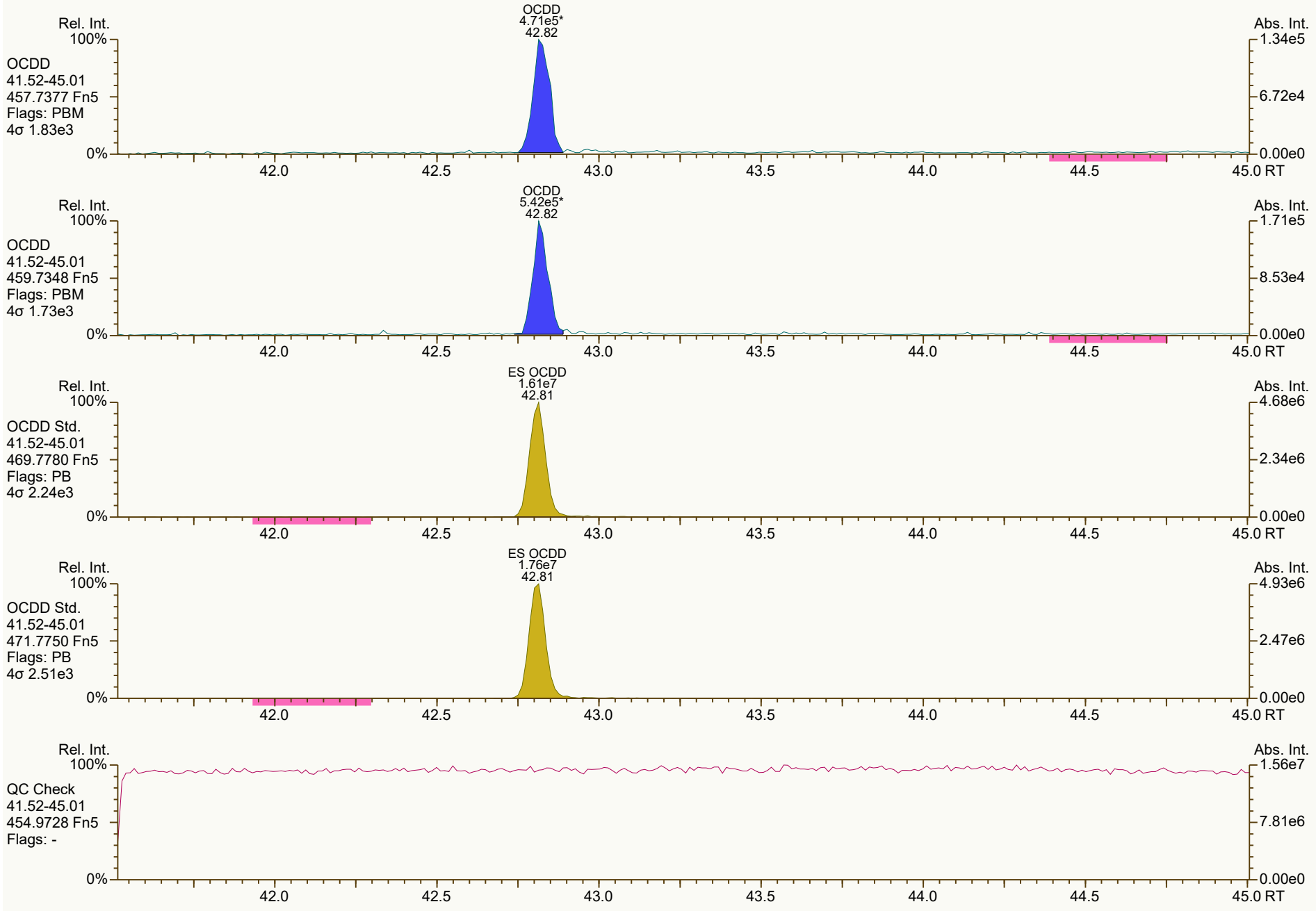
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 scc: 419-111 *PKD: n/a Printed: 11-Nov-2021 10:40 Page 1 of 12*

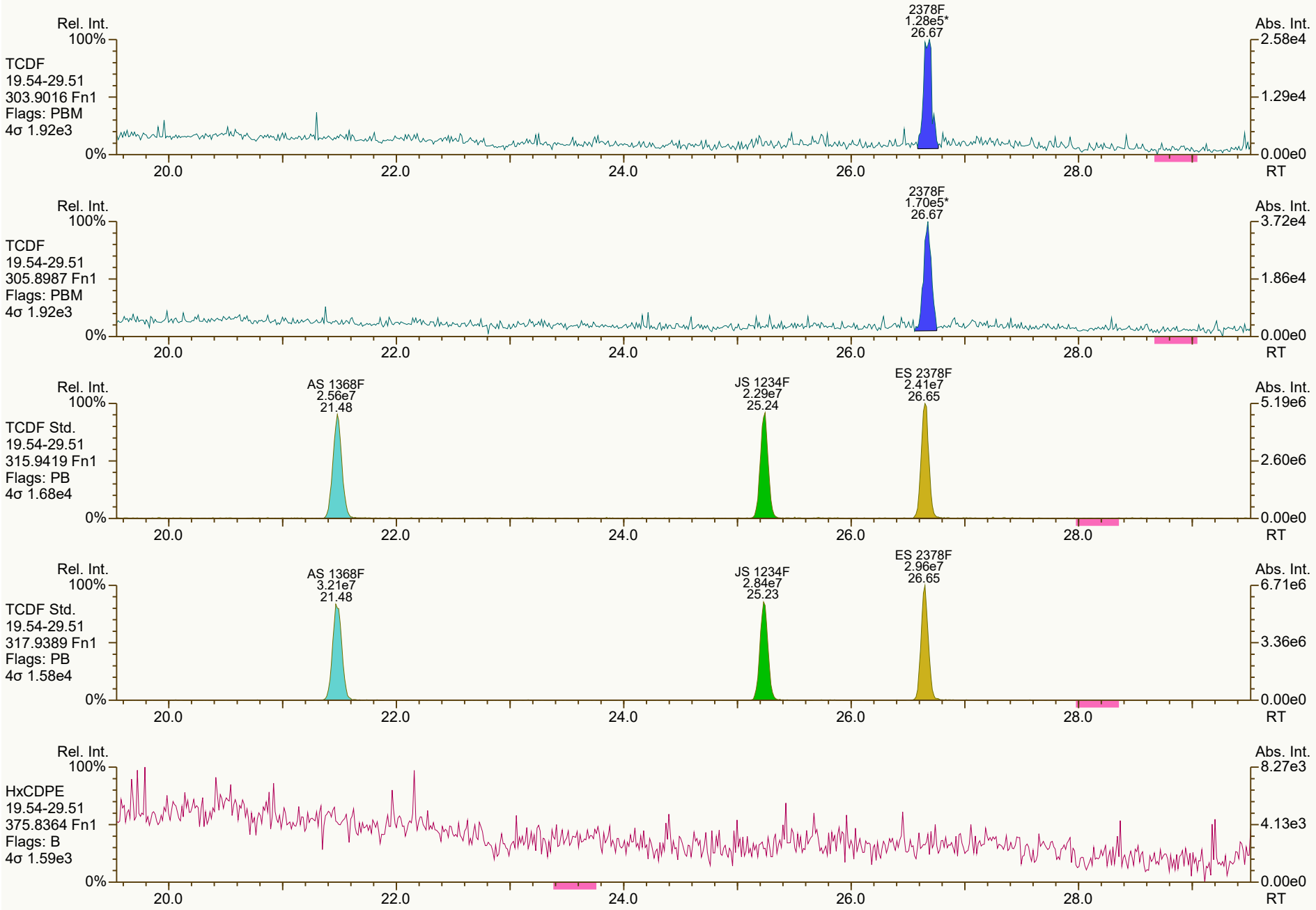

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

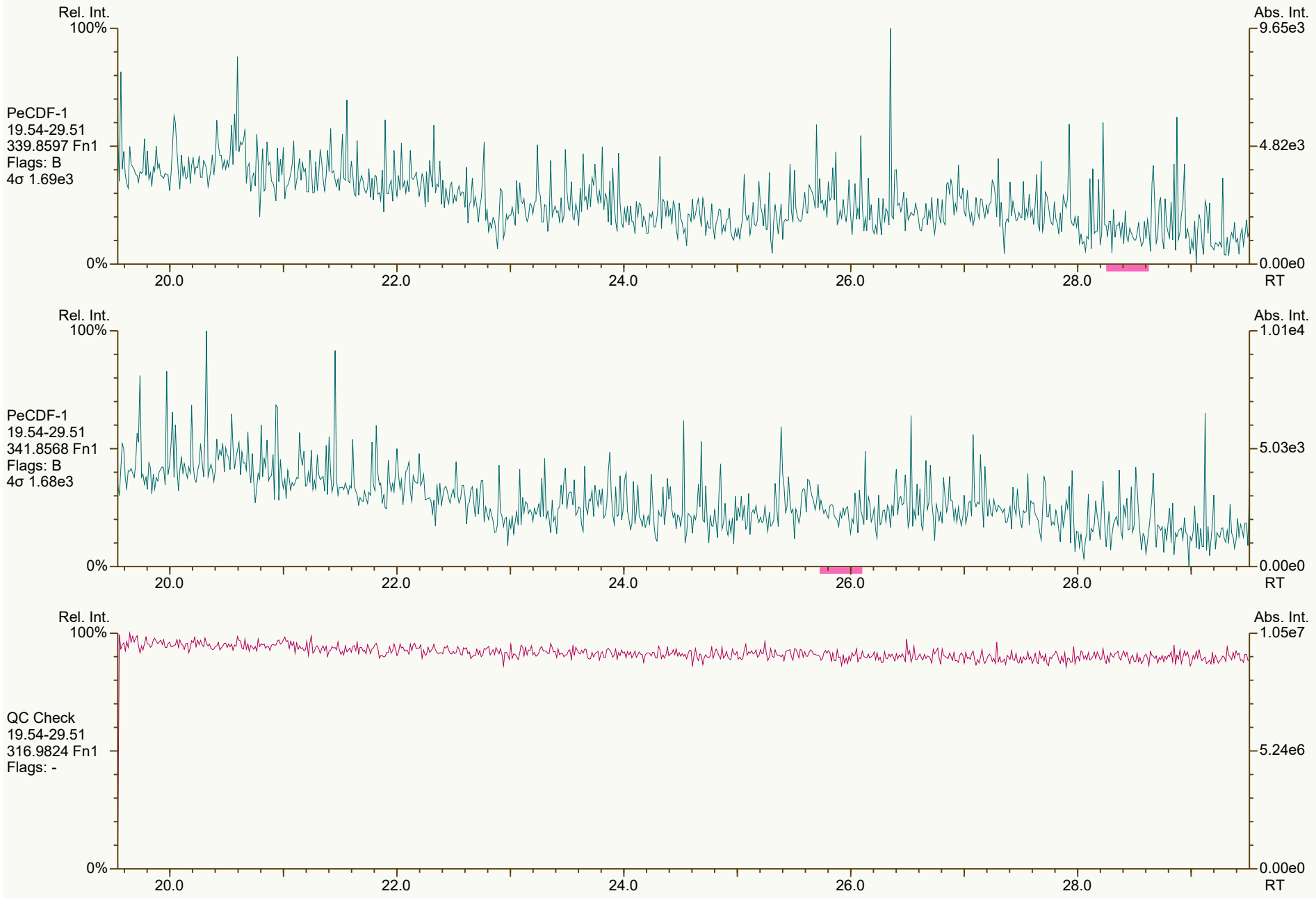

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123478D
1.50e7
37.02
ES 123678D
1.47e7
37.13
JS 123467D
7.96e6*
37.34
ES 123789D
1.63e7*
37.44
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123478D
1.17e7
37.02
ES 123678D
1.13e7
37.13
JS 123467D
6.45e6*
37.34
ES 123789D
1.31e7*
37.44
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

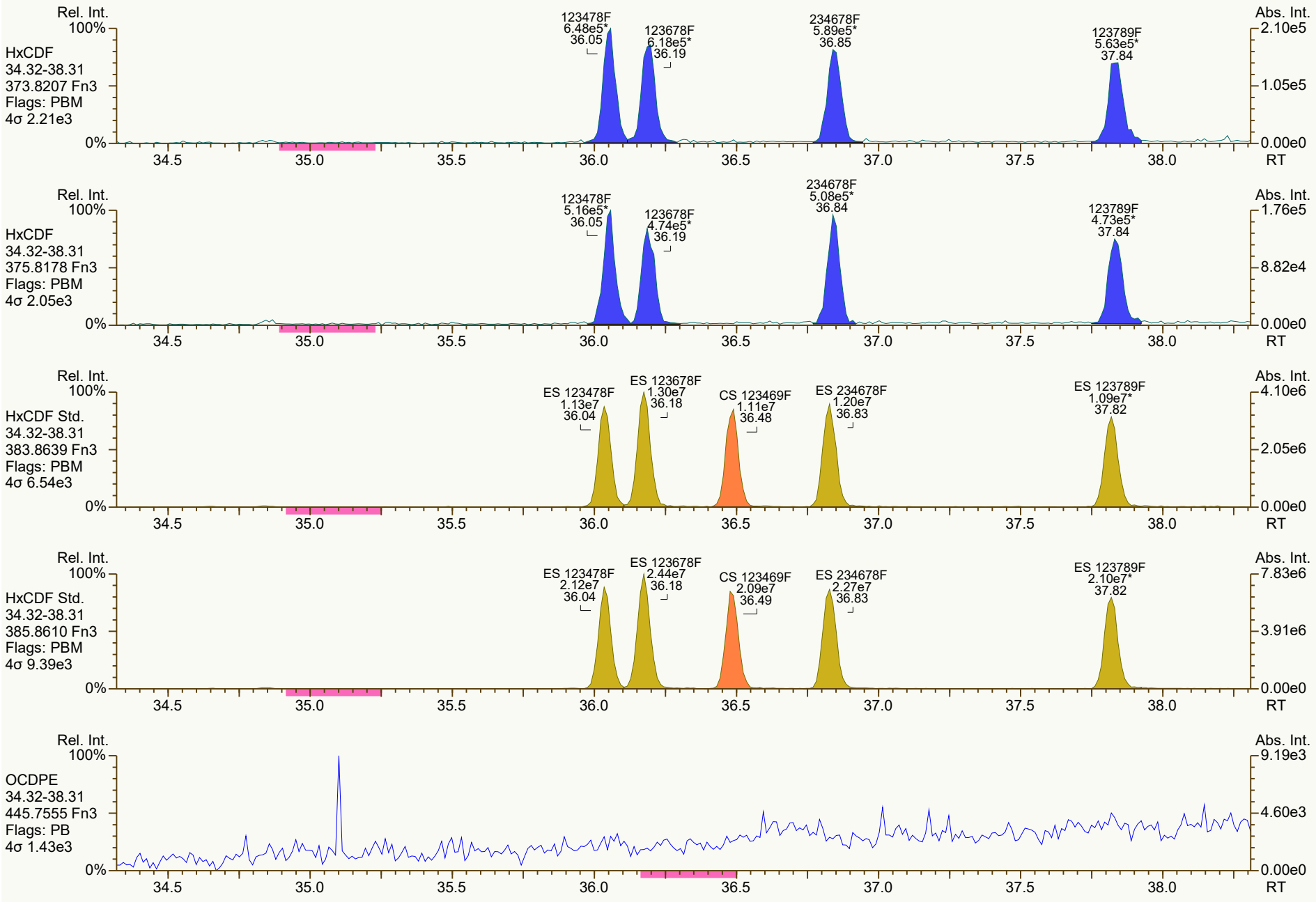

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

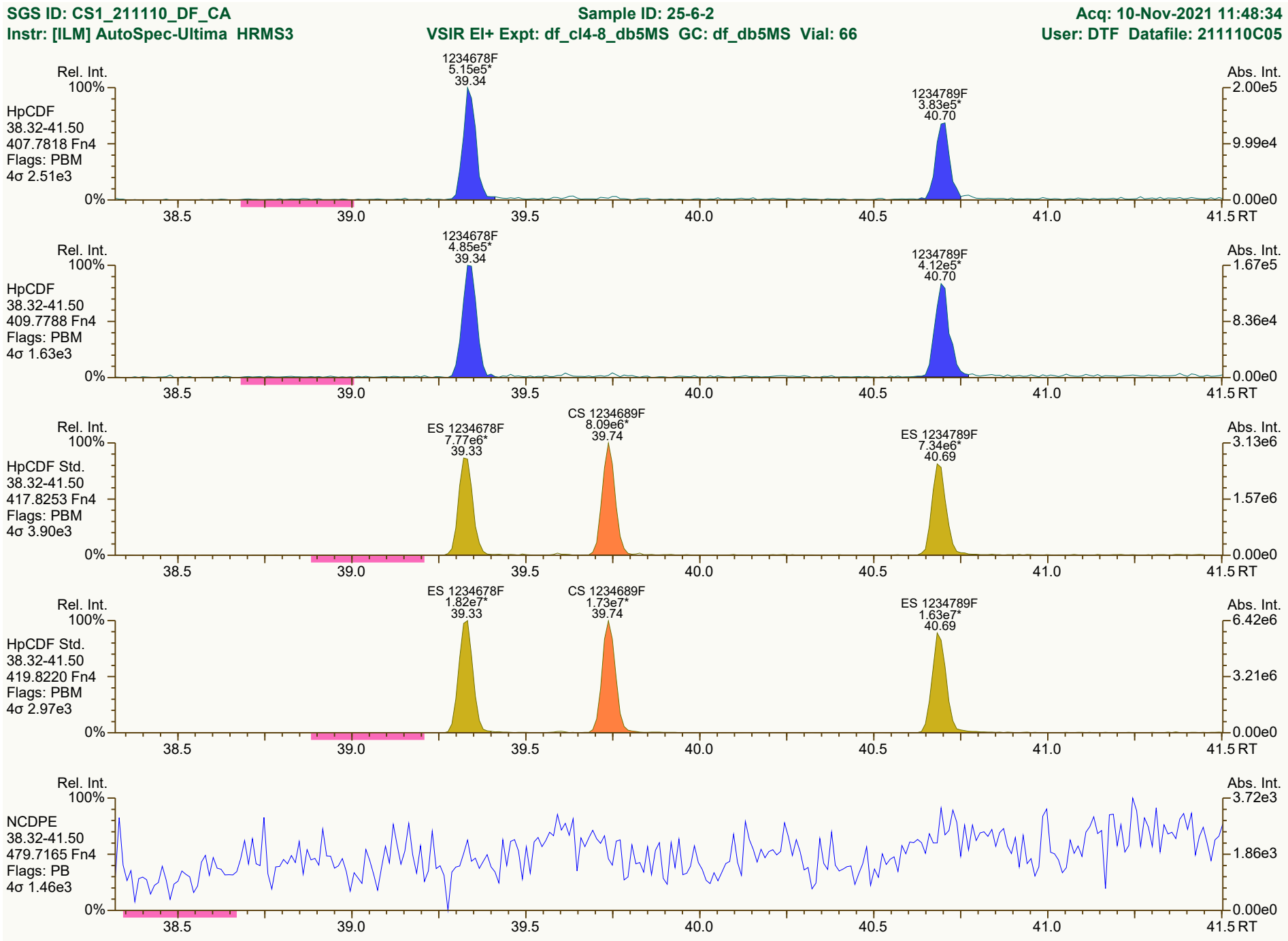

OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

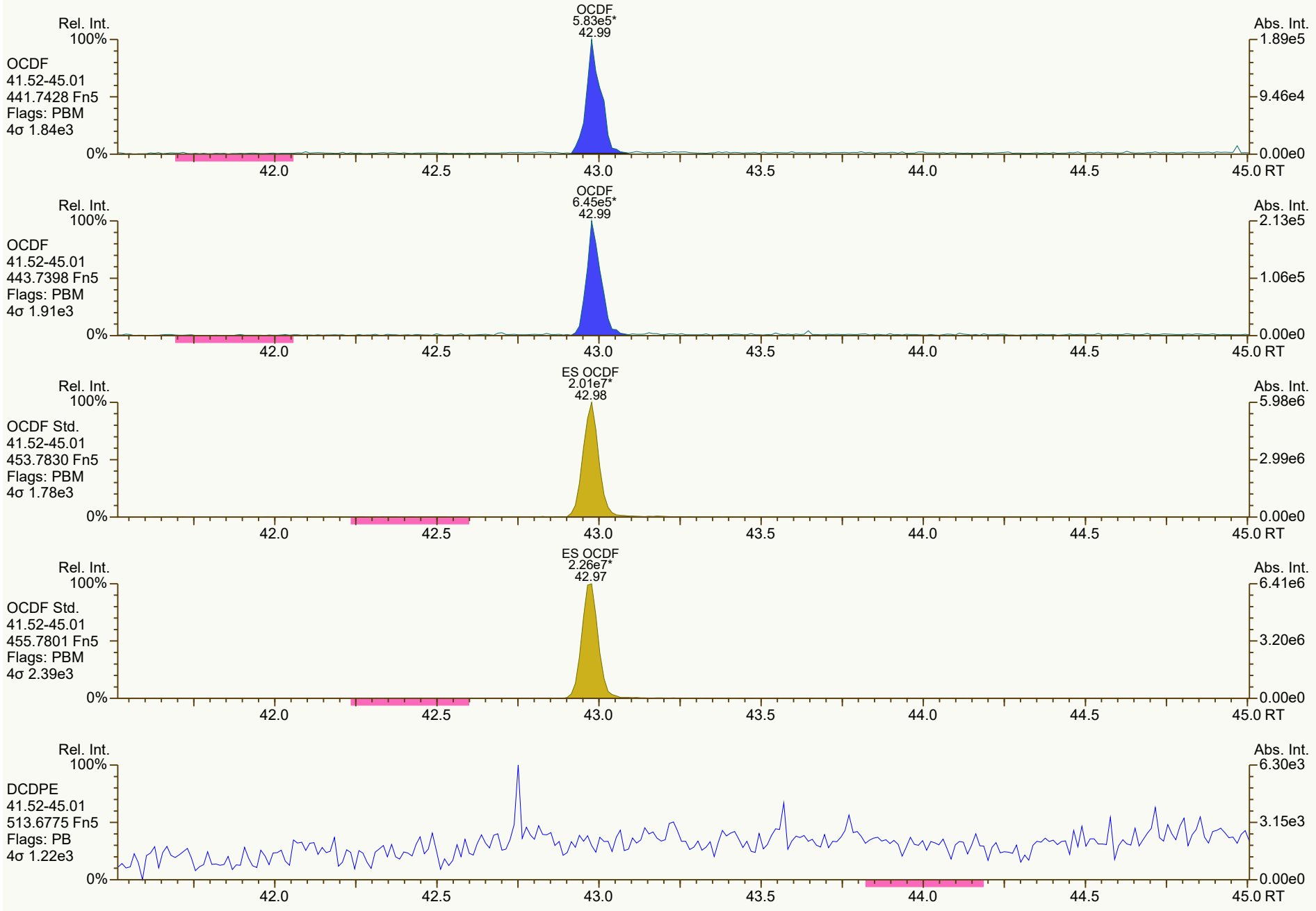

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
Abs. Int.
1.40e5
7.02e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
Abs. Int.
7.54e6
3.77e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
Abs. Int.
4.85e6
2.42e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
Abs. Int.
1.10e4
5.51e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
Abs. Int.
1.76e5
8.82e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
Abs. Int.
4.10e6
2.05e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
Abs. Int.
7.83e6
3.91e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
Abs. Int.
9.19e3
4.60e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

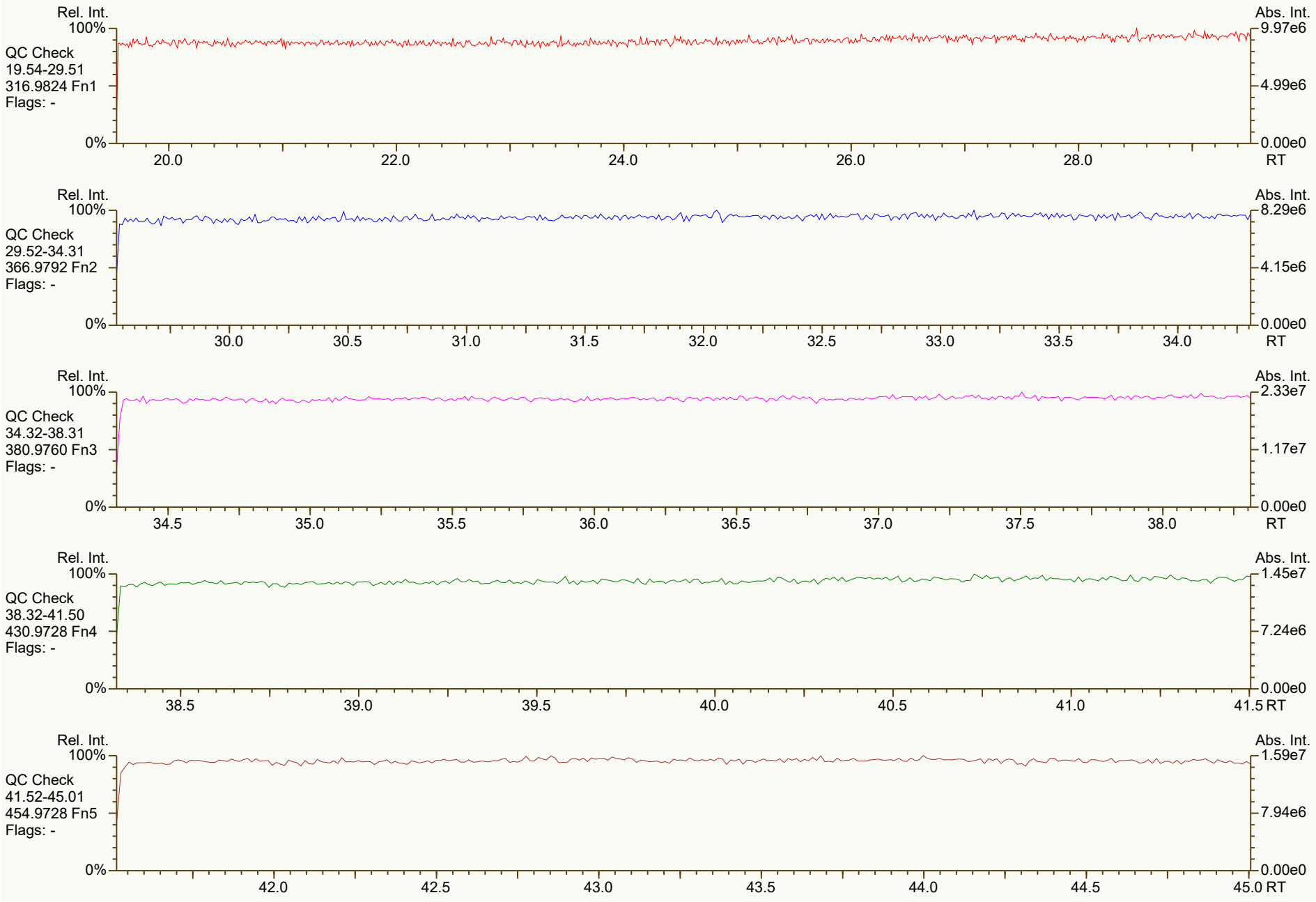

SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
2.00e5
9.99e4
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
1.67e5
8.36e4
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
3.13e6
1.57e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
3.72e3
1.86e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3913, 8502, 2889 scc: 419-111
Revised: 10-Nov-2021 13:39 (DTF) Printed: 11-Nov-2021 10:40 Page 11 of 12

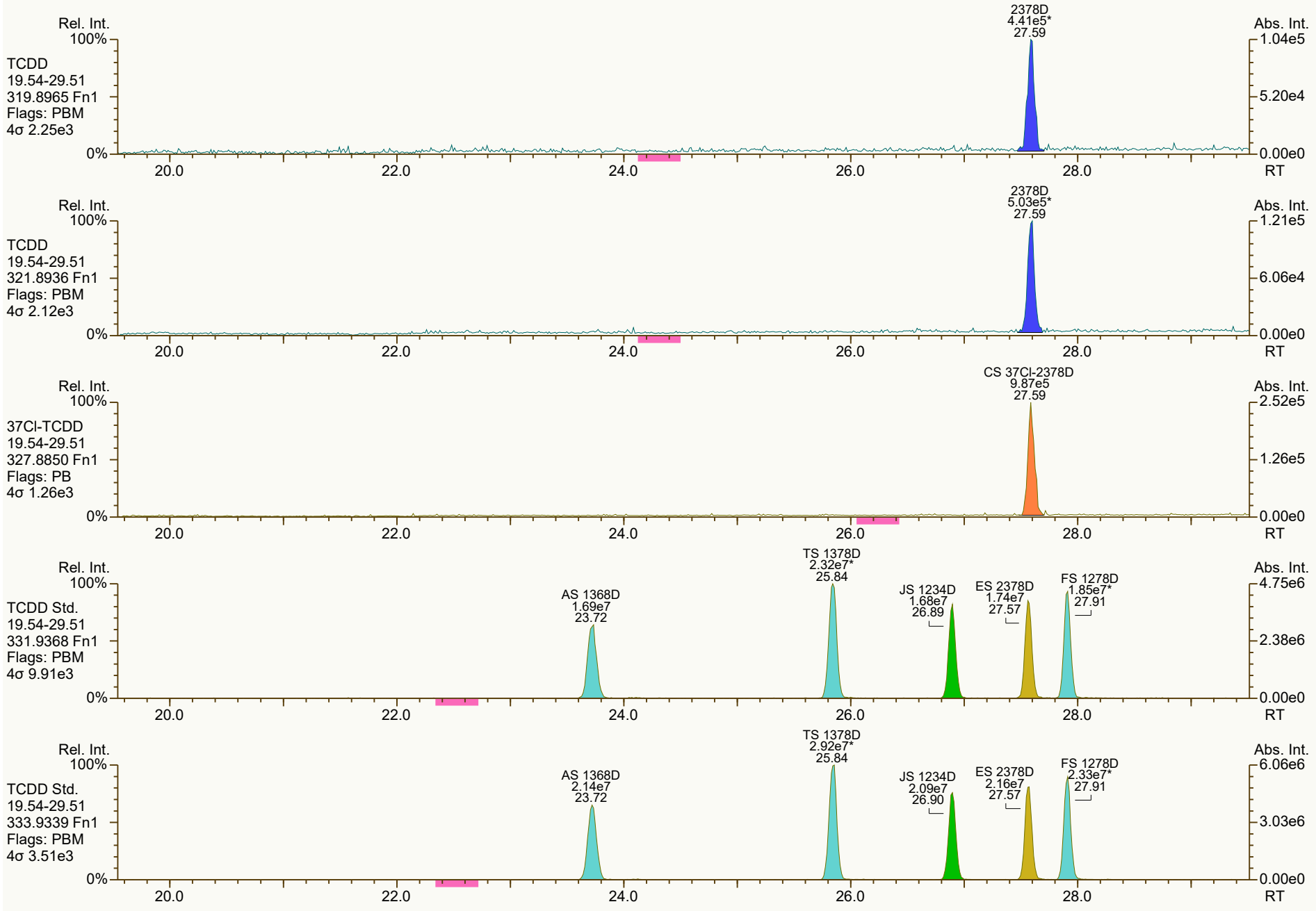

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
OCDF
5.83e5*
42.99
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
OCDF
6.45e5*
42.99
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
ES OCDF
2.01e7*
42.98
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
ES OCDF
2.26e7*
42.97
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

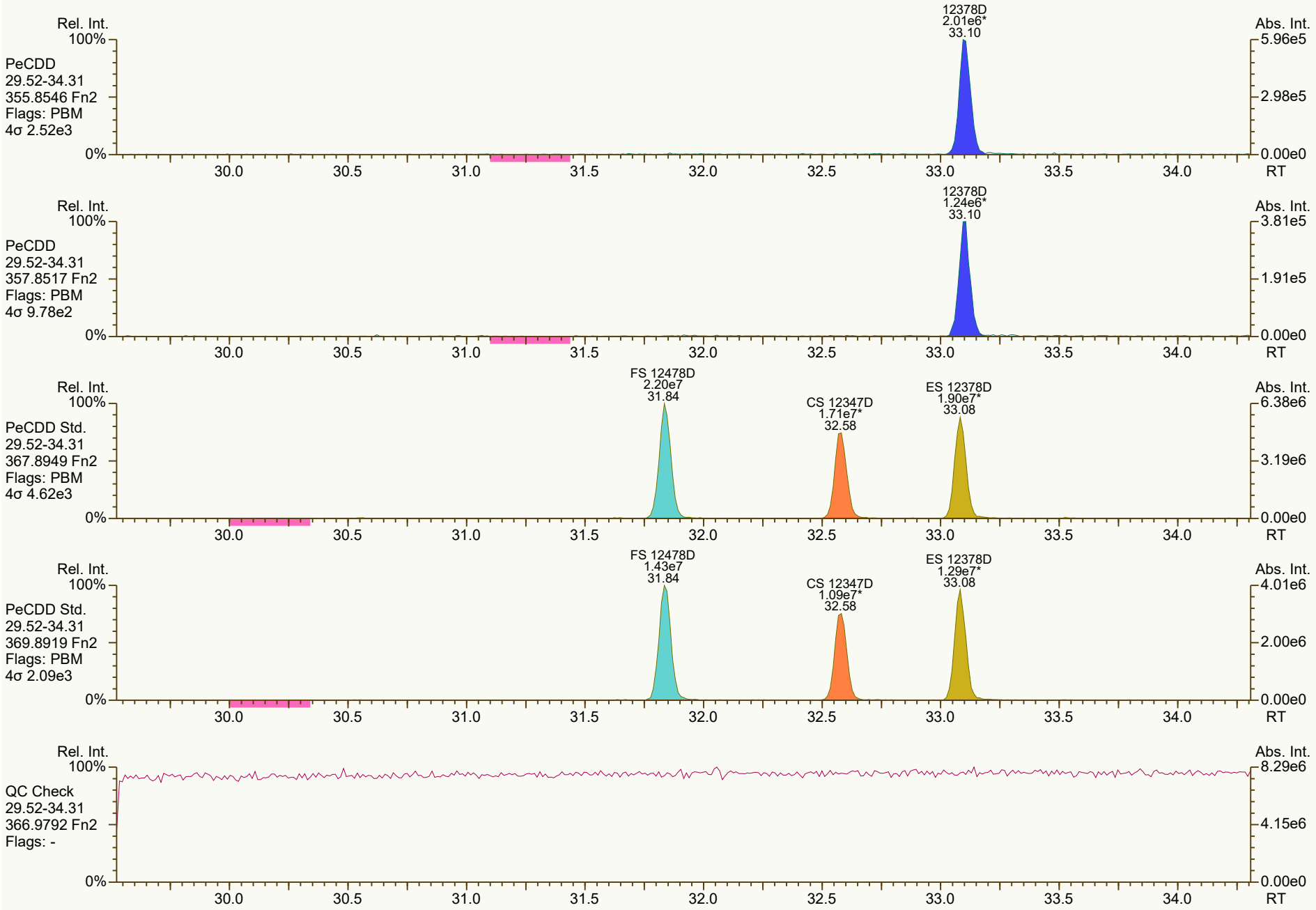
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

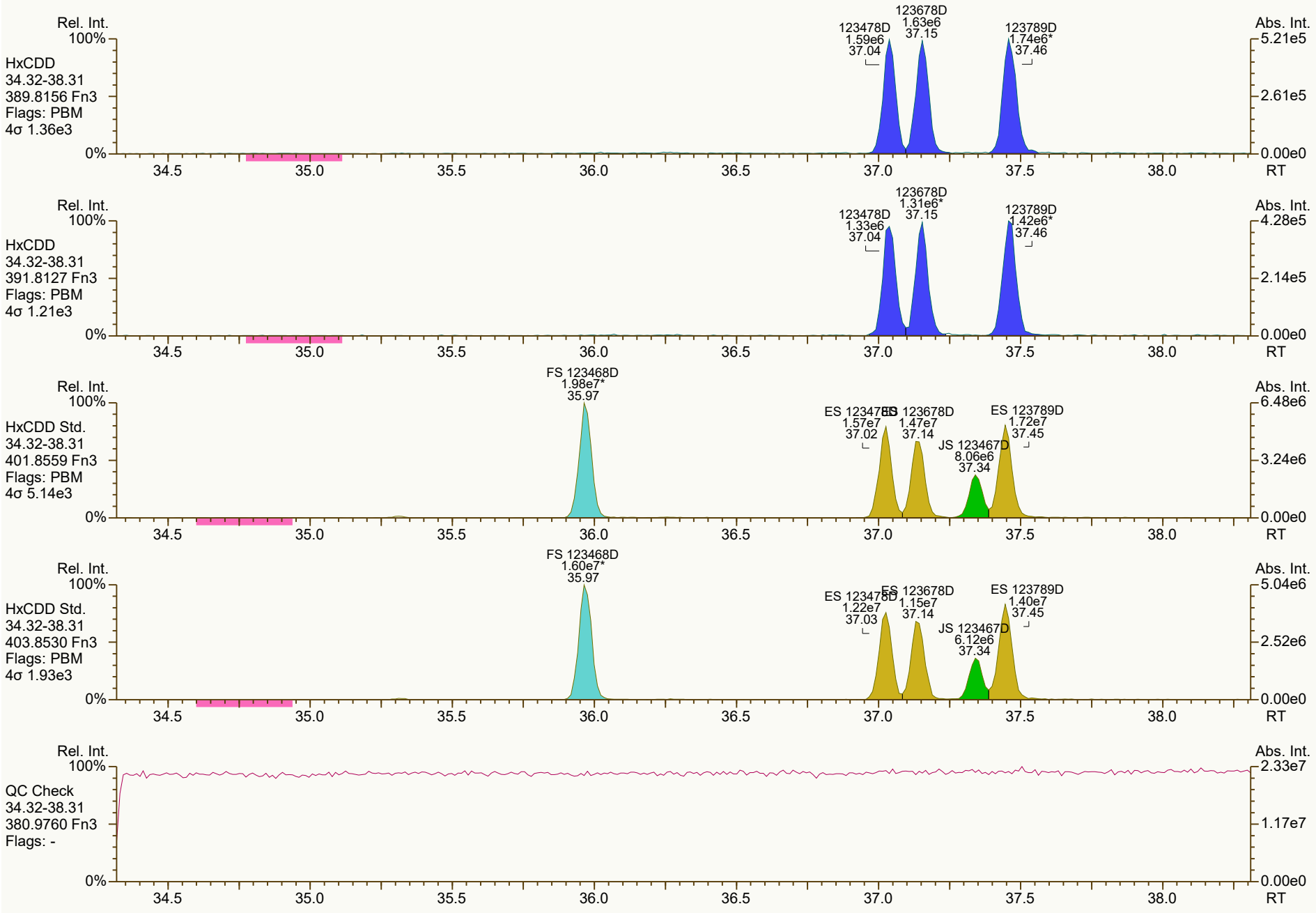
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

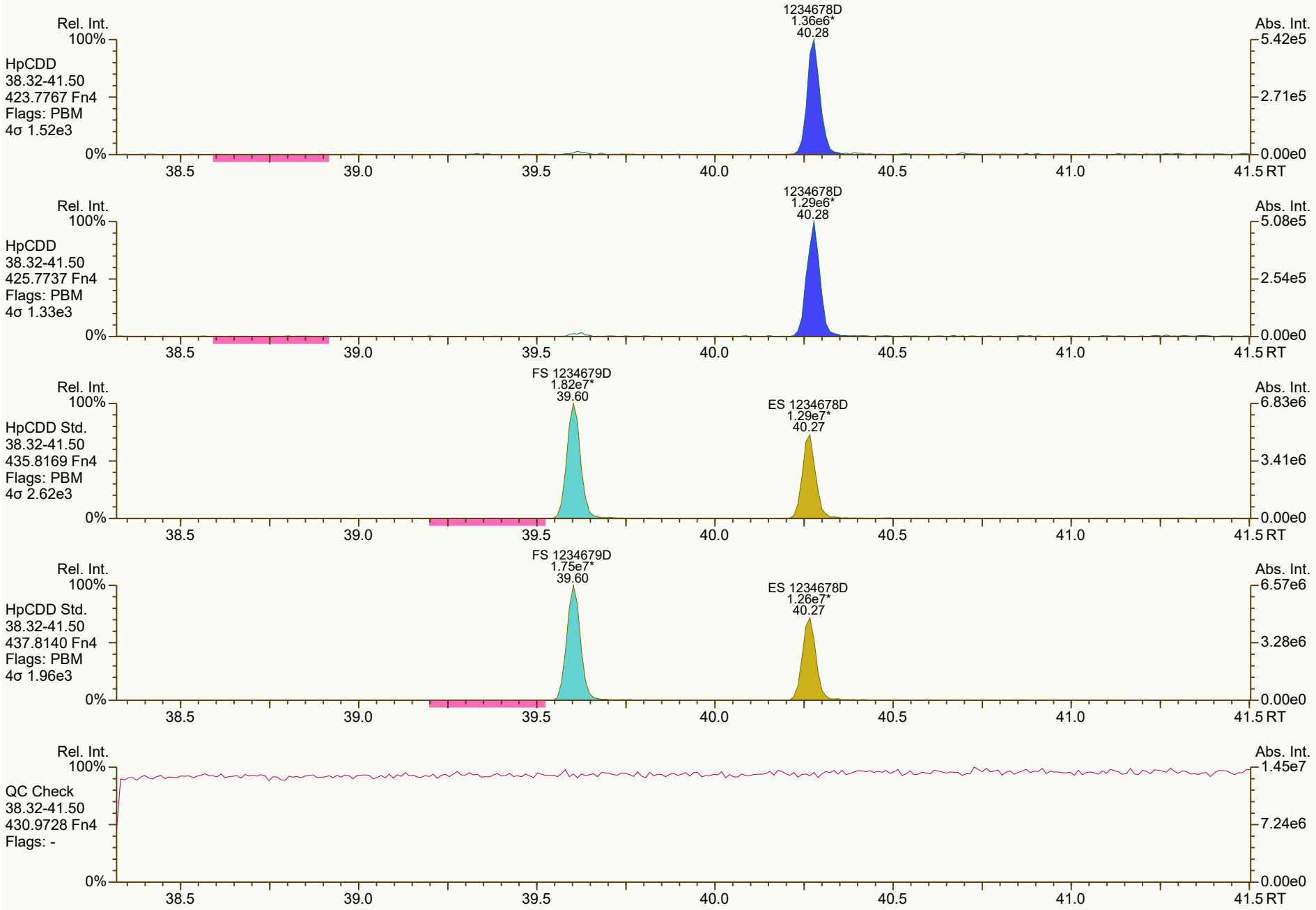
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 12:34 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF					Checkcode: 385-758-WQN
Sample ID: 25-6-1		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C06
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

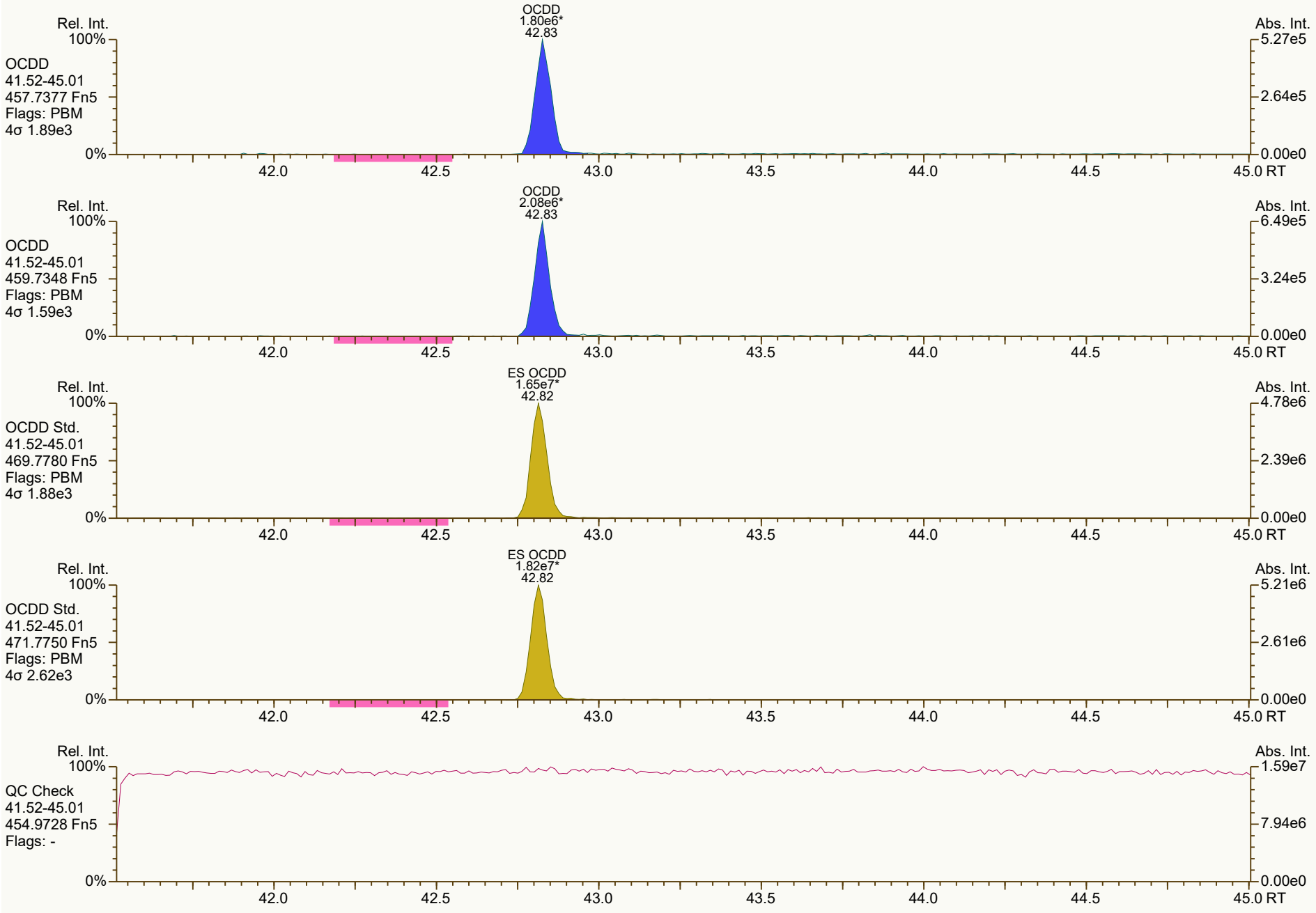

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0

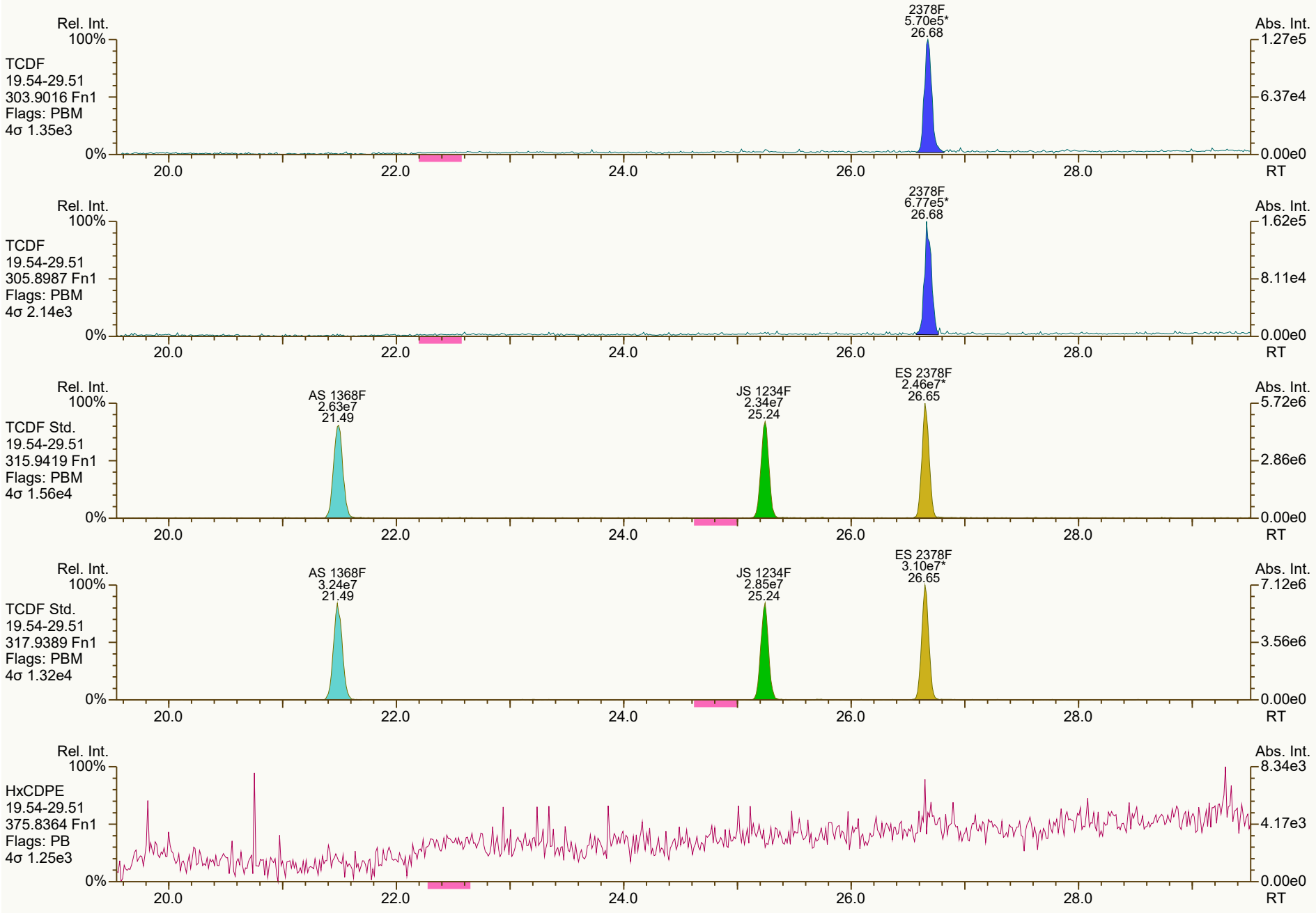

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
Abs. Int.
4.28e5
2.14e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
Abs. Int.
6.48e6
3.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
Abs. Int.
5.04e6
2.52e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

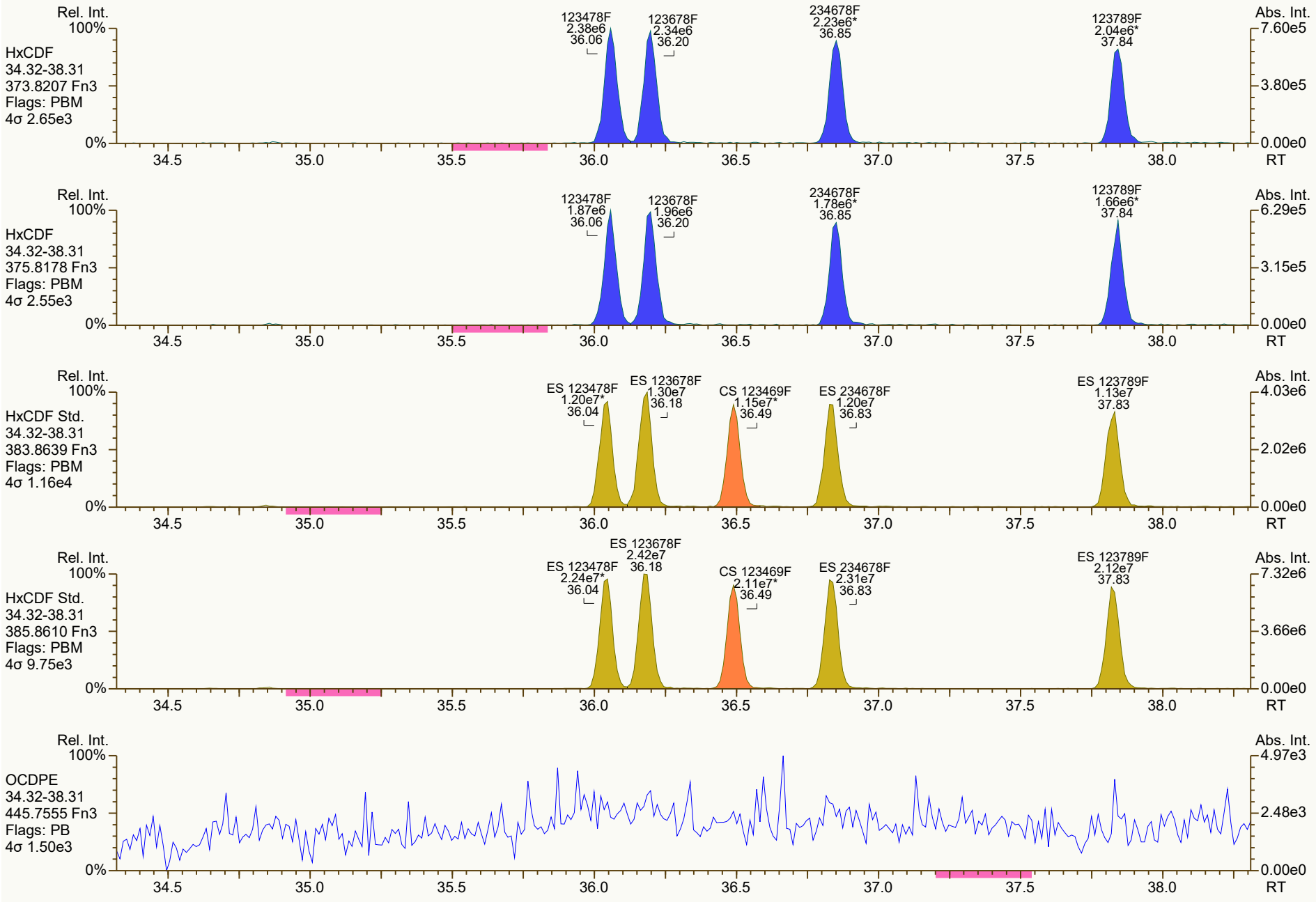

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

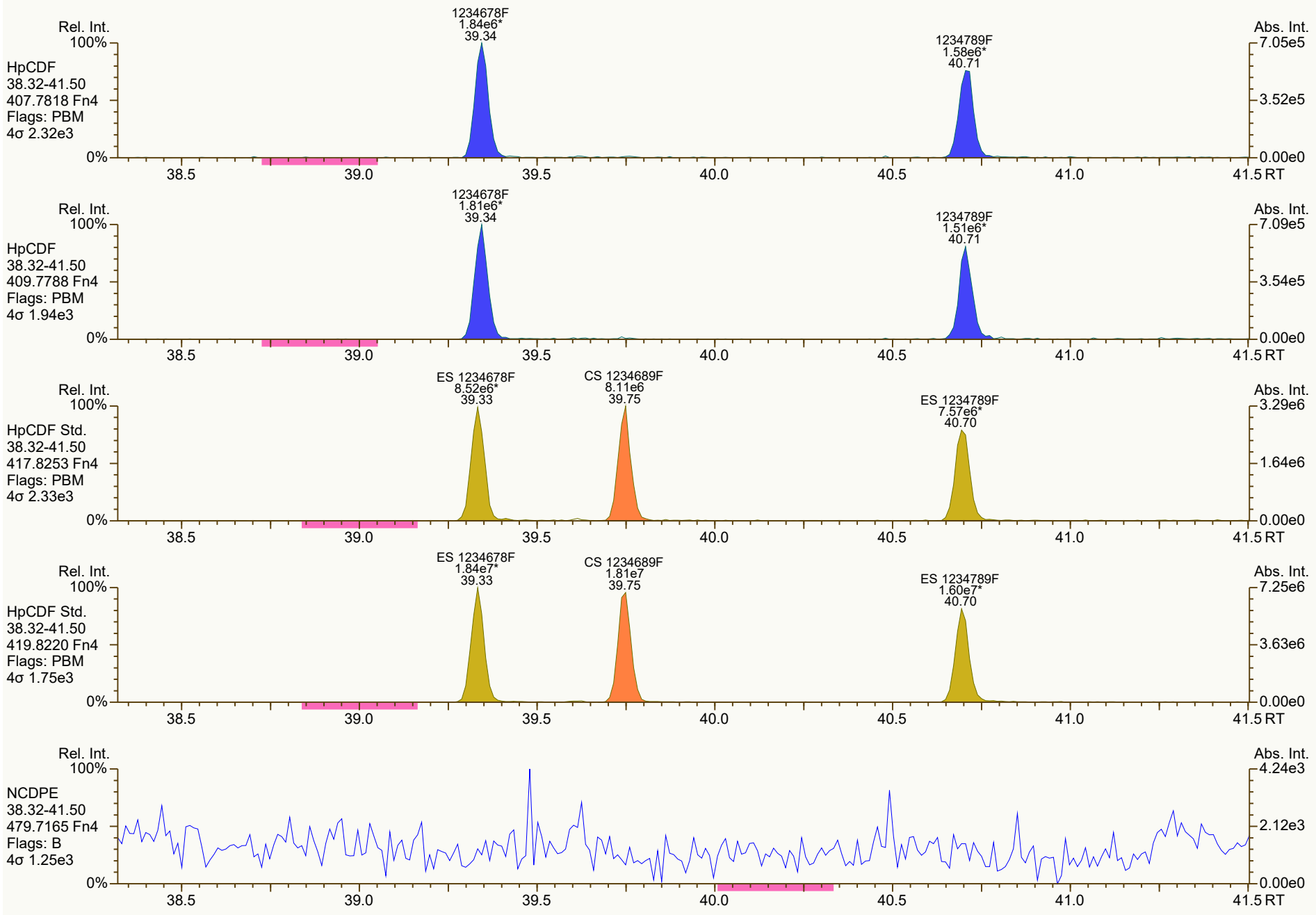

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

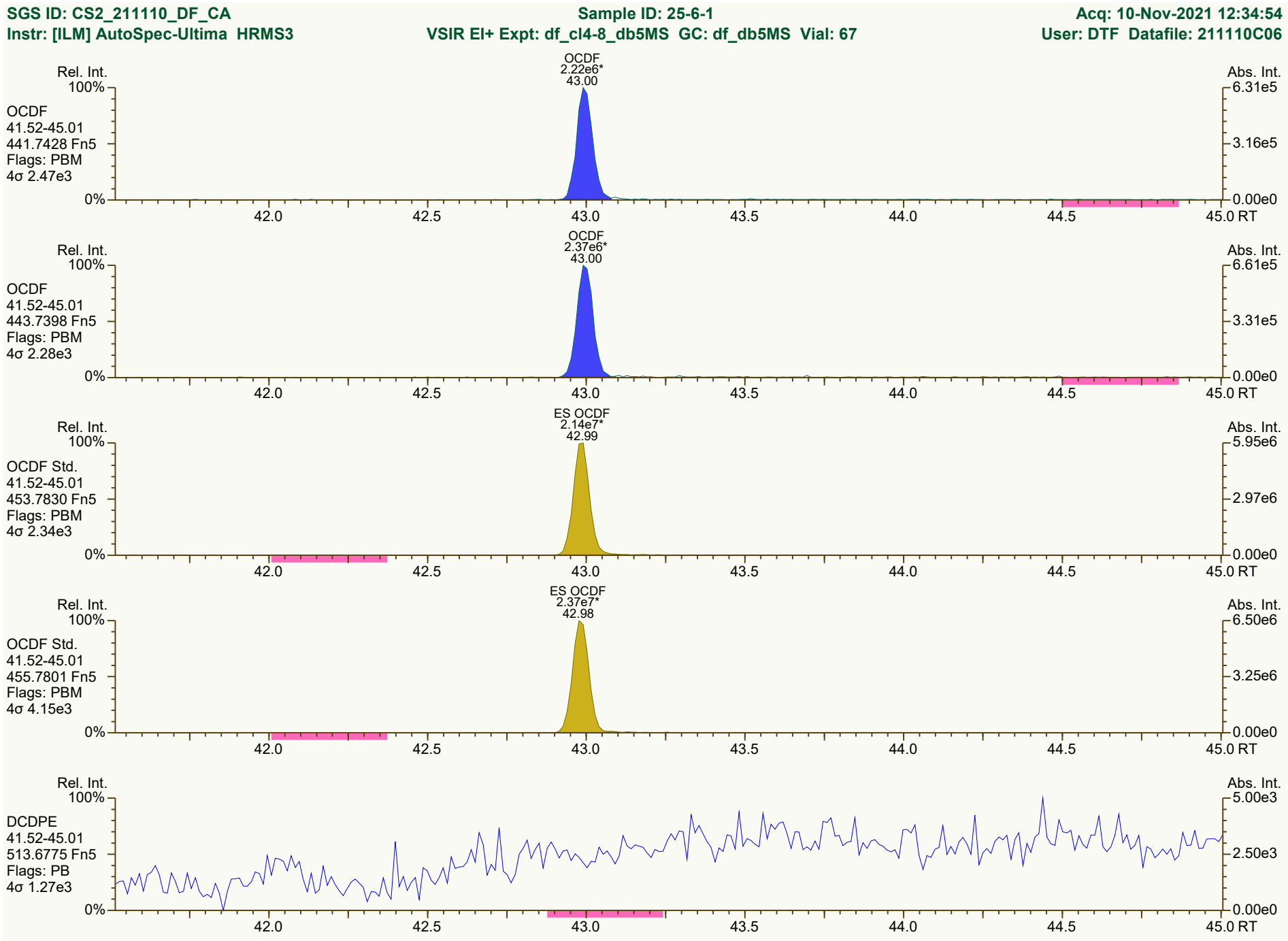

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
0%
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
0%
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
0%
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
0%
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
Abs. Int.
5.27e5
2.63e5
0.00e0
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
0%
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
Abs. Int.
8.01e6
4.01e6
0.00e0
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
0%
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
Abs. Int.
5.19e6
2.59e6
0.00e0
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
6.67e3
3.33e3
0.00e0


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
6.29e5
3.15e5
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
4.03e6
2.02e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
ES 123478F
2.24e7*
36.04
ES 123678F
2.42e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
7.32e6
3.66e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
4.97e3
2.48e3

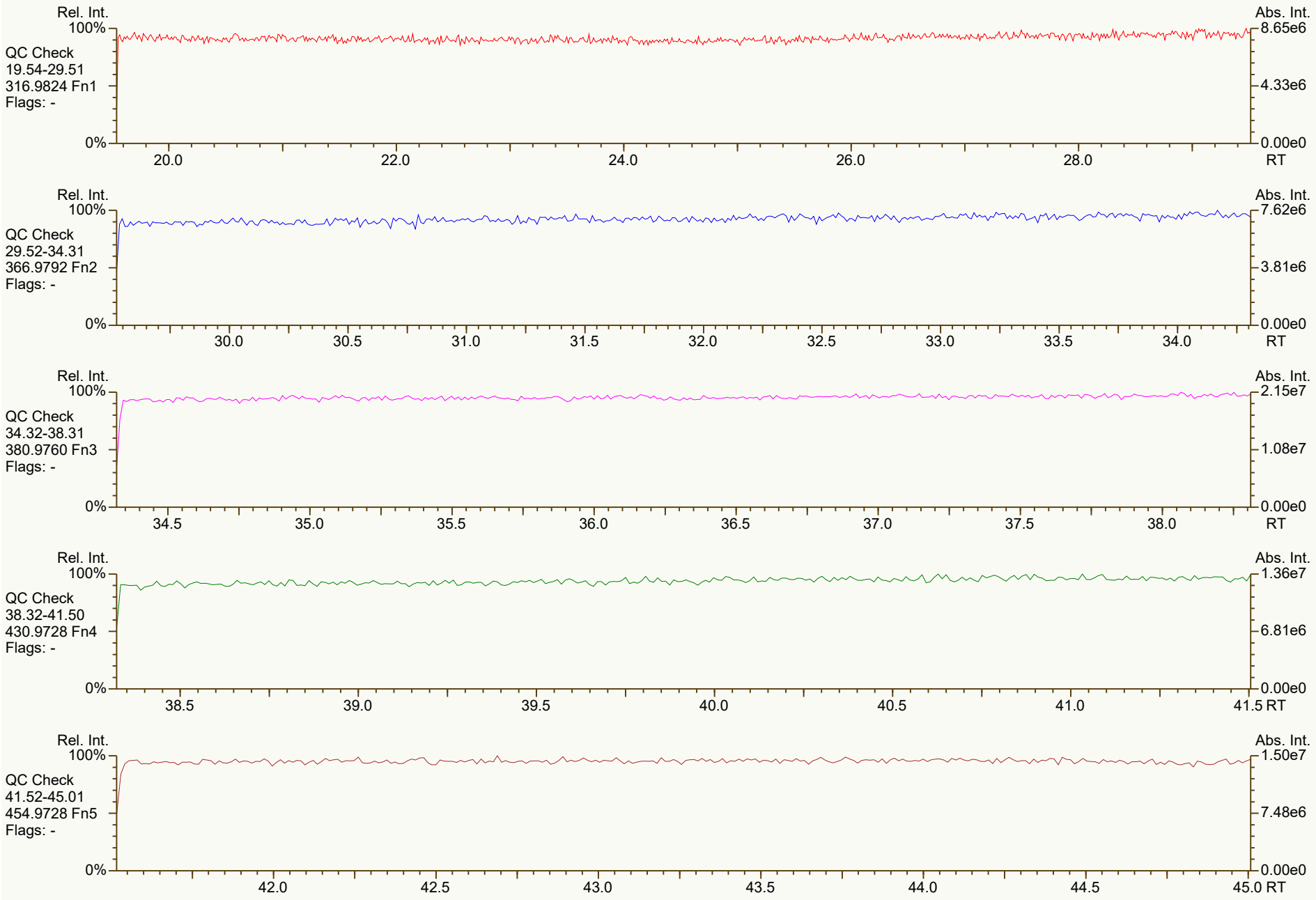

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
Abs. Int.
4.24e3
2.12e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
OCDF
2.22e6*
43.00
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
6.31e5
3.16e5
0.00e0
OCDF
2.37e6*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
6.61e5
3.31e5
0.00e0
ES OCDF
2.14e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
5.95e6
2.97e6
0.00e0
ES OCDF
2.37e7*
42.98
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
6.50e6
3.25e6
0.00e0
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
5.00e3
2.50e3
0.00e0
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 5547, 1929, 8450 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 12 of 12

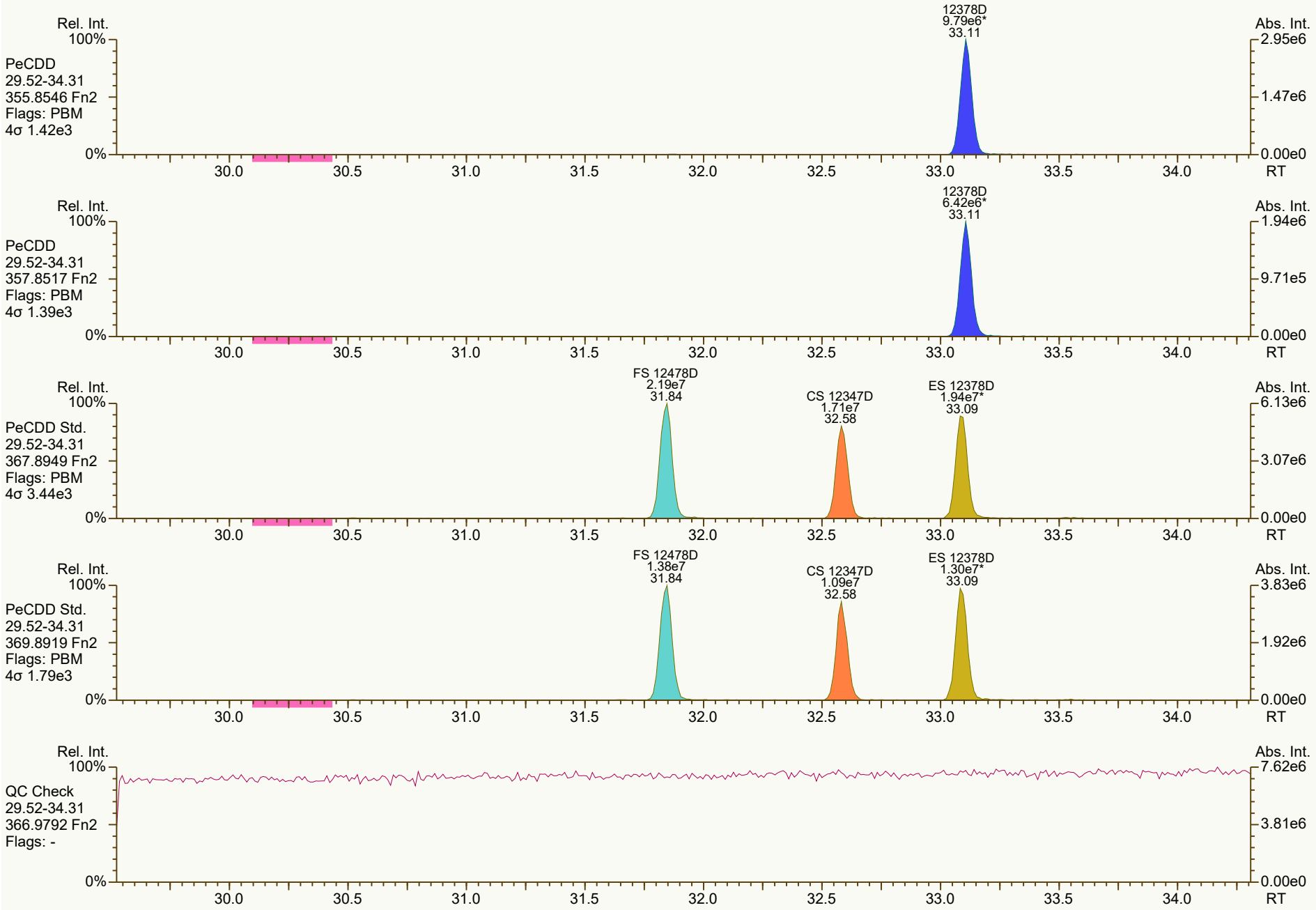
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

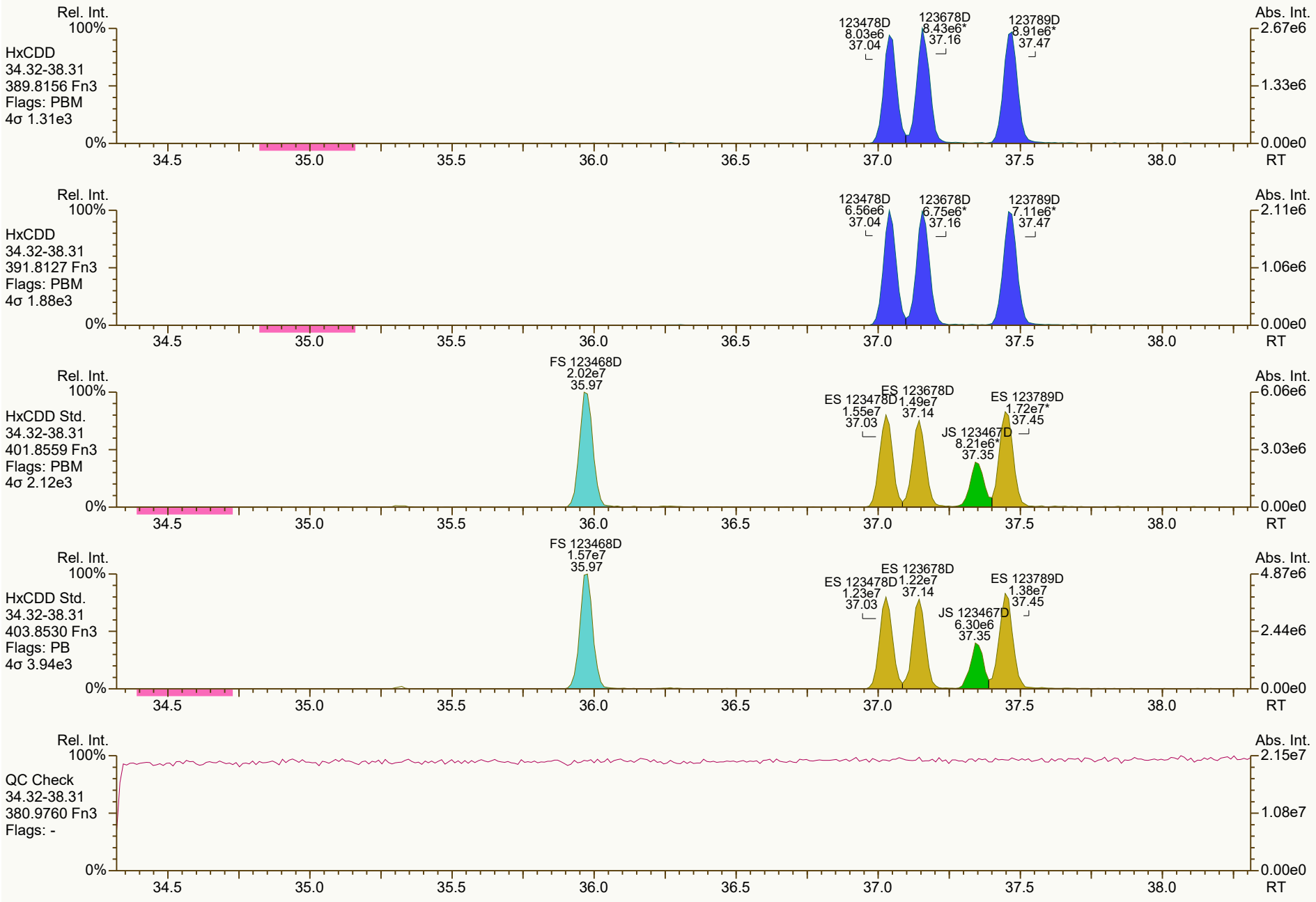
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

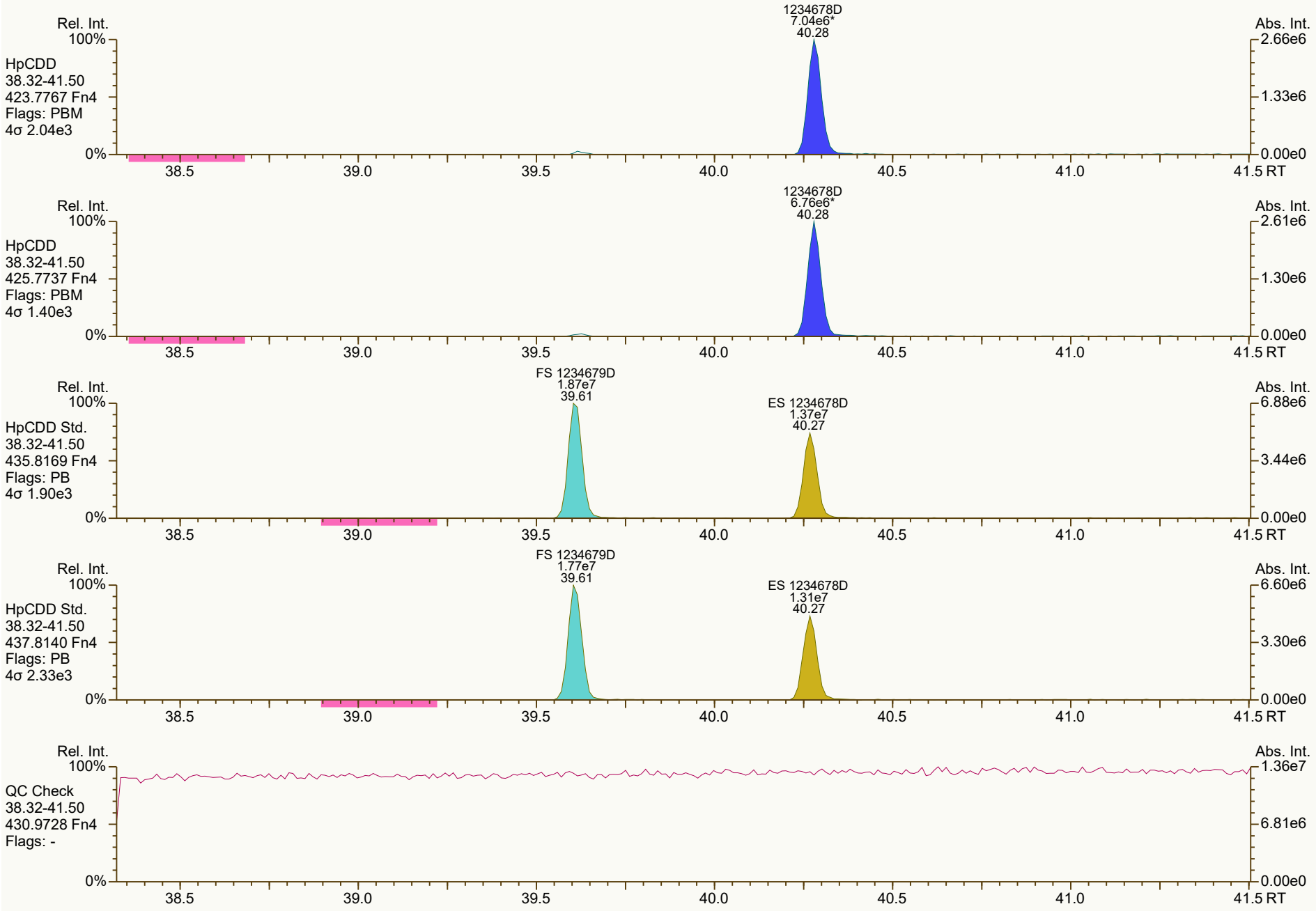
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%

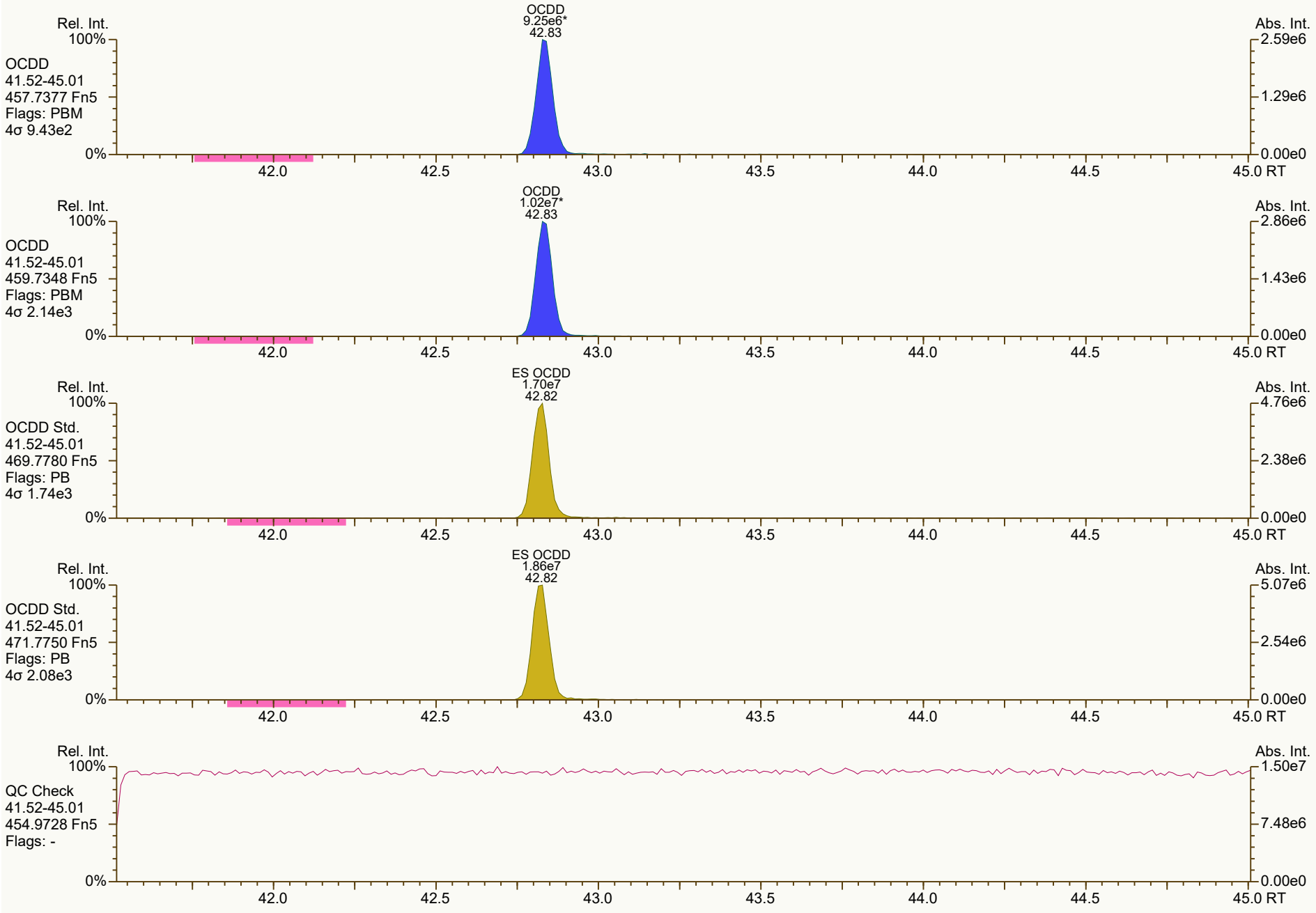

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
0%
2378D
1.99e6
27.60
Abs. Int.
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
0%
2378D
2.55e6
27.60
Abs. Int.
5.98e5
2.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
Abs. Int.
1.03e6
5.16e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
0%
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
Abs. Int.
4.80e6
2.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
0%
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
0%
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
0%
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
0%
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
0%
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.62e6
3.81e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

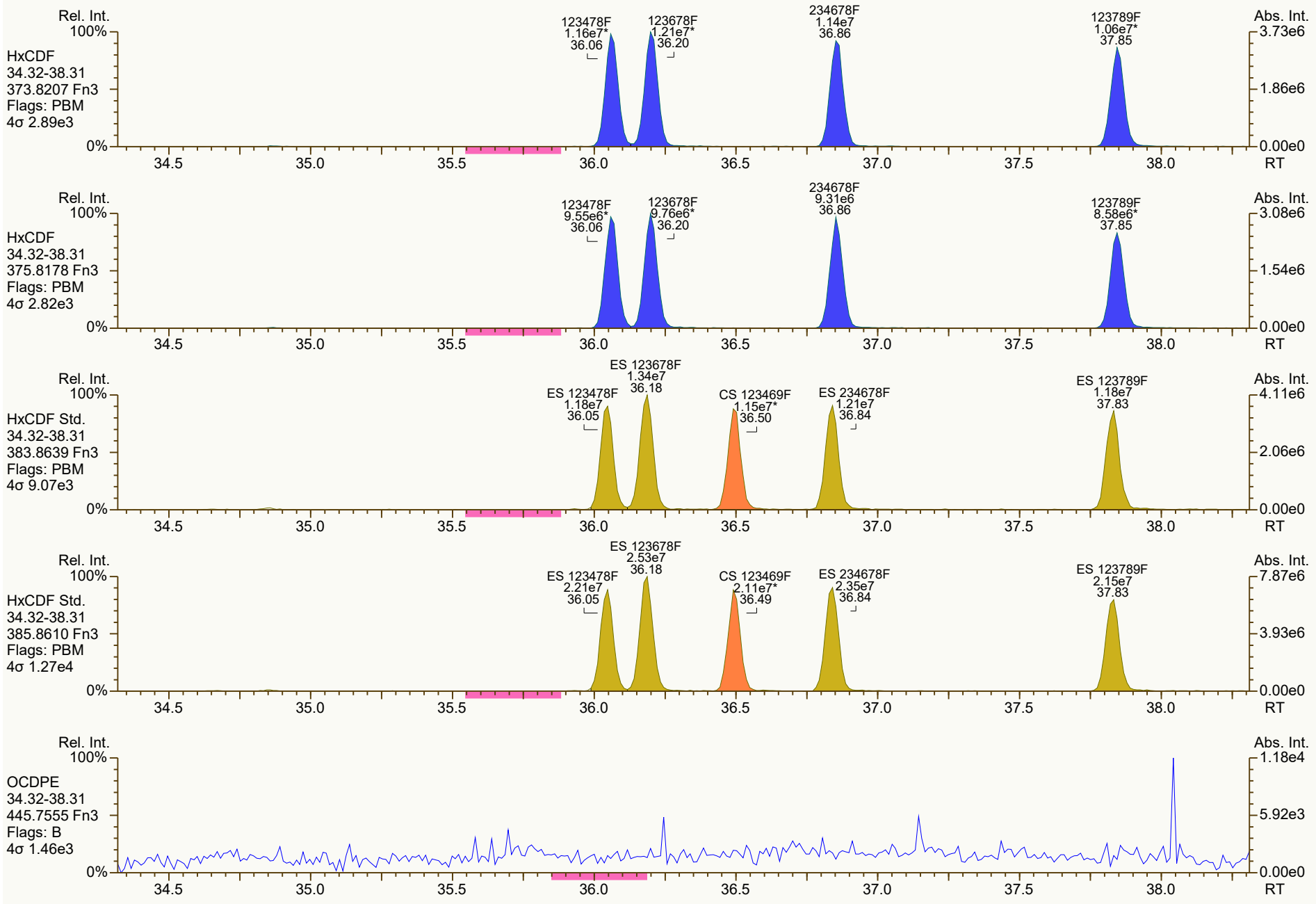

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

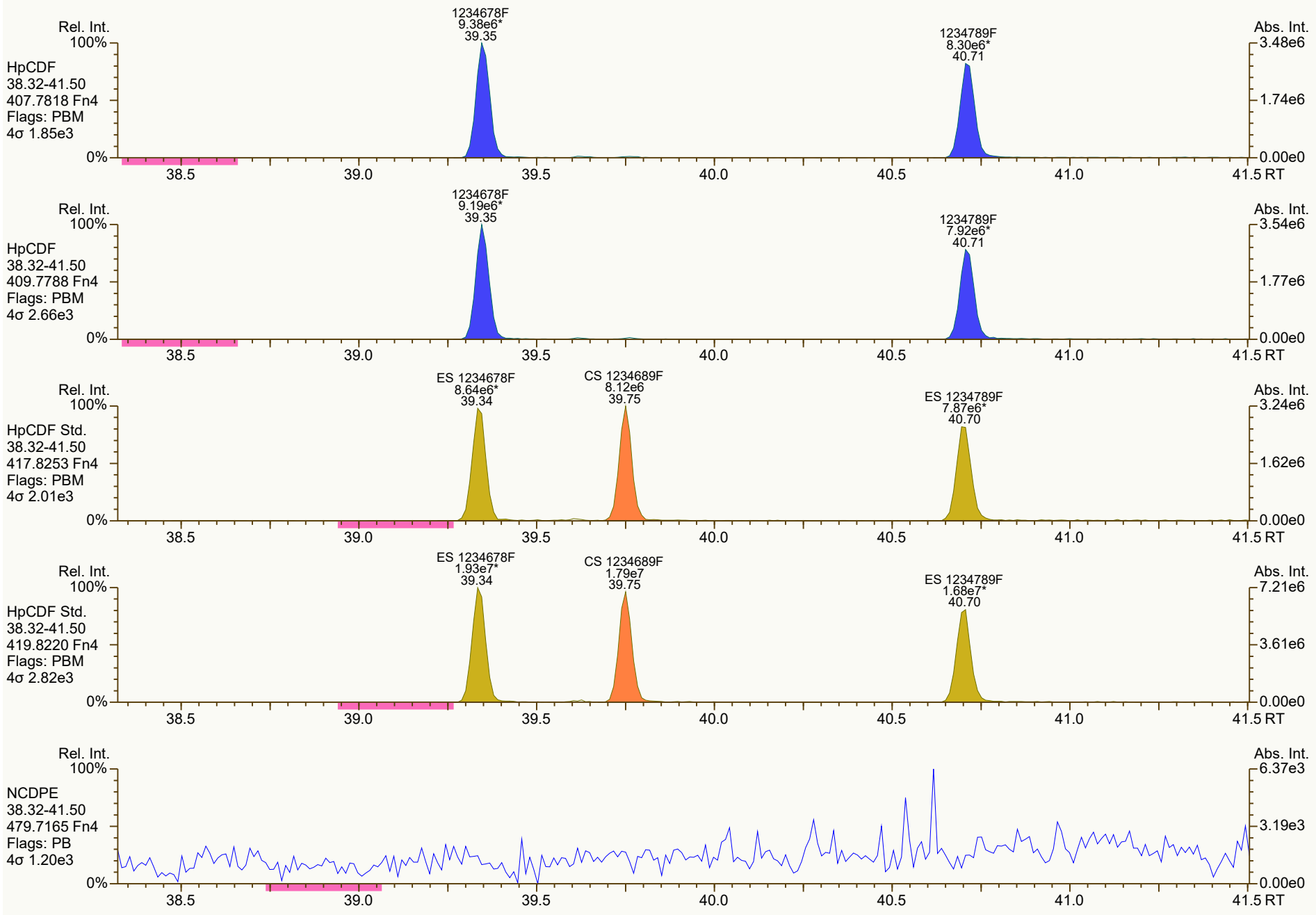

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
OCDD
9.25e6*
42.83
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
OCDD
1.02e7*
42.83
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
ES OCDD
1.70e7
42.82
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
ES OCDD
1.86e7
42.82
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
0%
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
2378F
2.58e6
26.68
5.81e5
2.91e5
0.00e0
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
2378F
3.32e6
26.68
7.66e5
3.83e5
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
5.45e6
2.73e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
6.76e6
3.38e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
6.84e3
3.42e3
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
Abs. Int.
3.85e6
1.93e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
Abs. Int.
2.59e6
1.29e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
Abs. Int.
7.61e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
Abs. Int.
5.00e6
2.50e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
Abs. Int.
1.17e4
5.86e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
0%
123478F
1.16e7*
36.06
123678F
1.21e7*
36.20
234678F
1.14e7
36.86
123789F
1.06e7*
37.85
Abs. Int.
3.73e6
1.86e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
0%
123478F
9.55e6*
36.06
123678F
9.76e6*
36.20
234678F
9.31e6
36.86
123789F
8.58e6*
37.85
Abs. Int.
3.08e6
1.54e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
0%
ES 123478F
1.18e7
36.05
ES 123678F
1.34e7
36.18
CS 123469F
1.15e7*
36.50
ES 234678F
1.21e7
36.84
ES 123789F
1.18e7
37.83
Abs. Int.
4.11e6
2.06e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
0%
ES 123478F
2.21e7
36.05
ES 123678F
2.53e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.35e7
36.84
ES 123789F
2.15e7
37.83
Abs. Int.
7.87e6
3.93e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
0%
Abs. Int.
1.18e4
5.92e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
0%
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
Abs. Int.
3.48e6
1.74e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
0%
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
Abs. Int.
3.54e6
1.77e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
0%
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
Abs. Int.
3.24e6
1.62e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
0%
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
Abs. Int.
7.21e6
3.61e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
0%
Abs. Int.
6.37e3
3.19e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

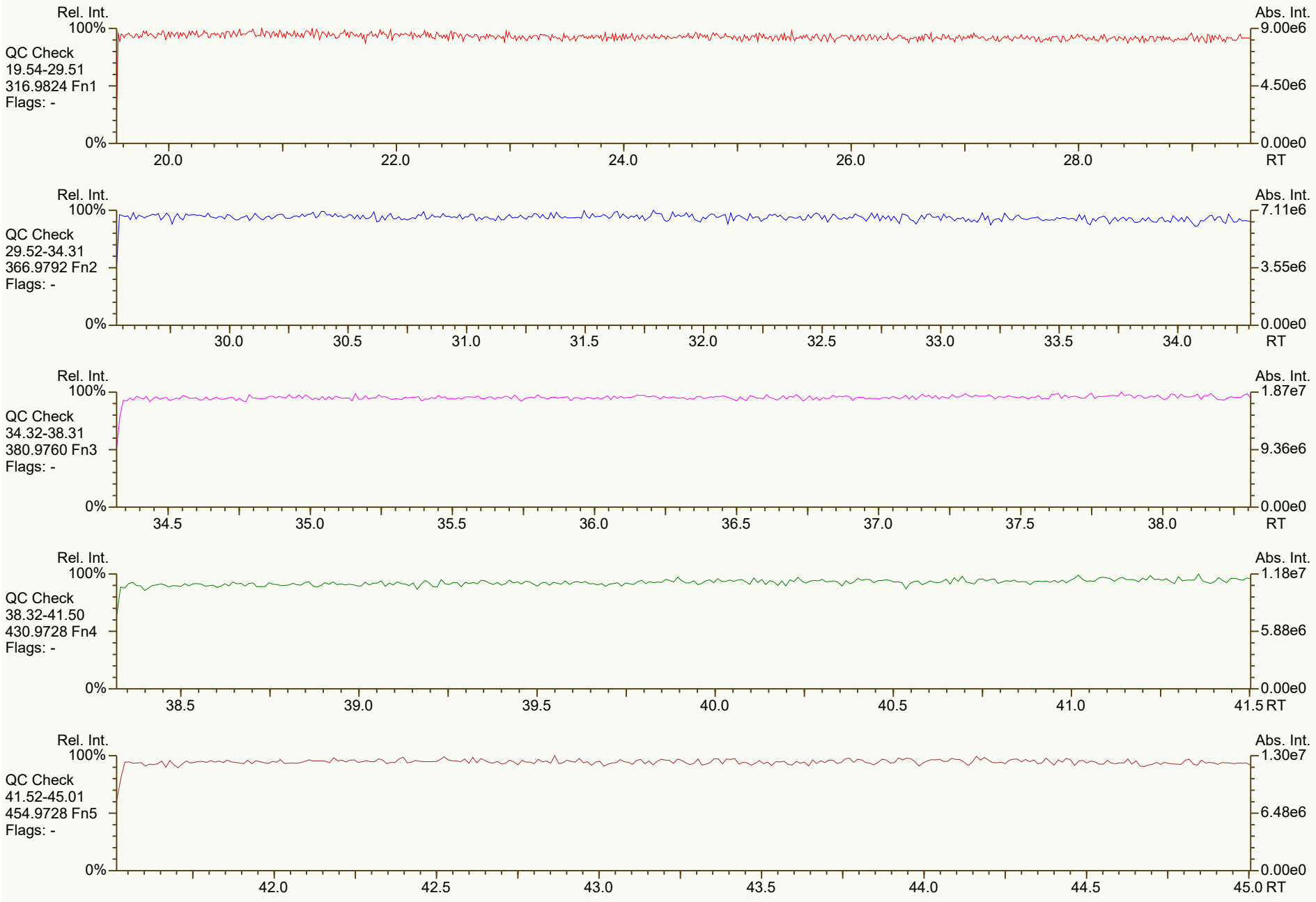

OCDF
1.15e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
3.25e6
1.62e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
0%
Abs. Int.
3.53e6
1.76e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.21e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
0%
Abs. Int.
6.08e6
3.04e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.39e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
0%
Abs. Int.
6.65e6
3.32e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
0%
Abs. Int.
4.82e3
2.41e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

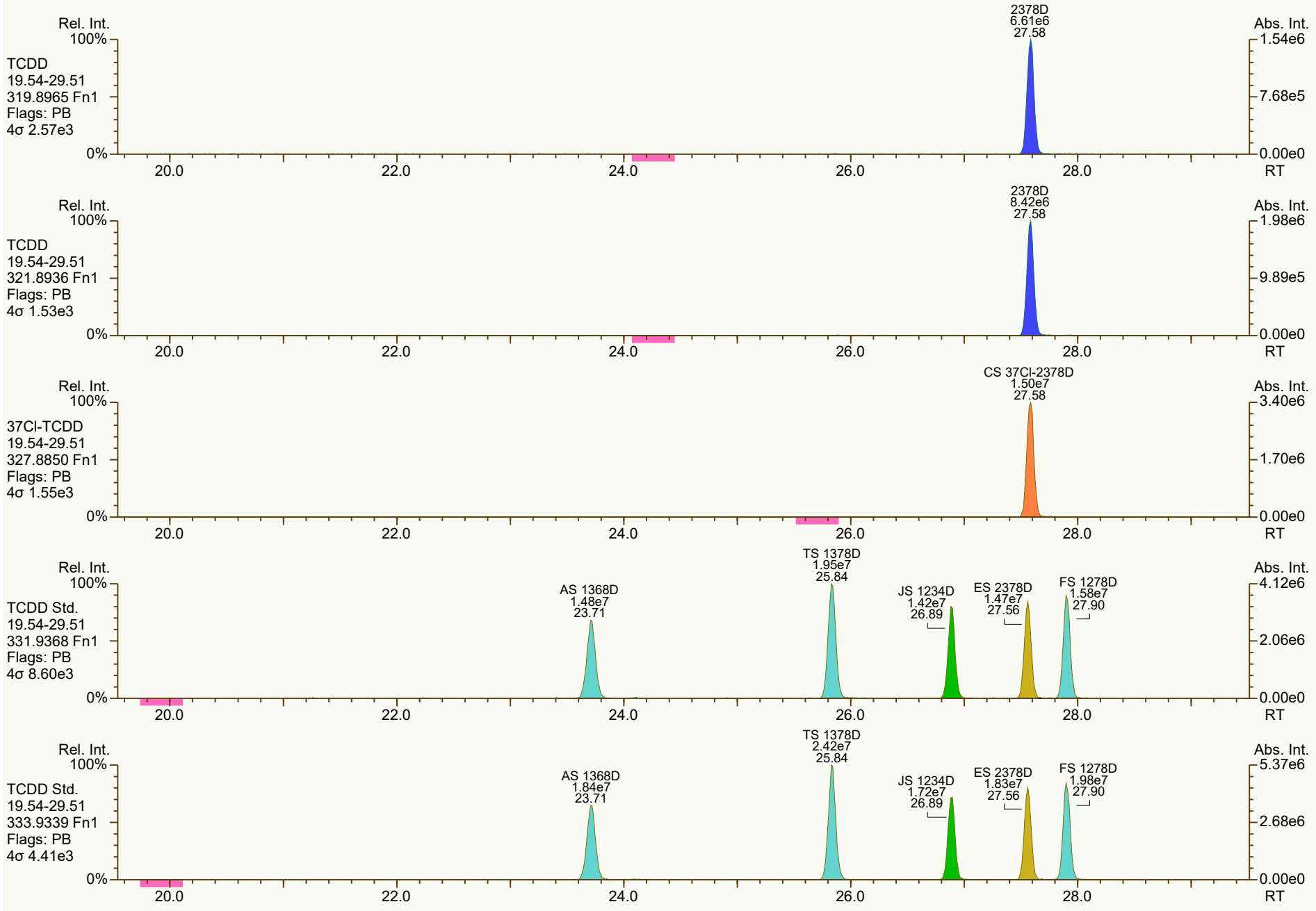
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

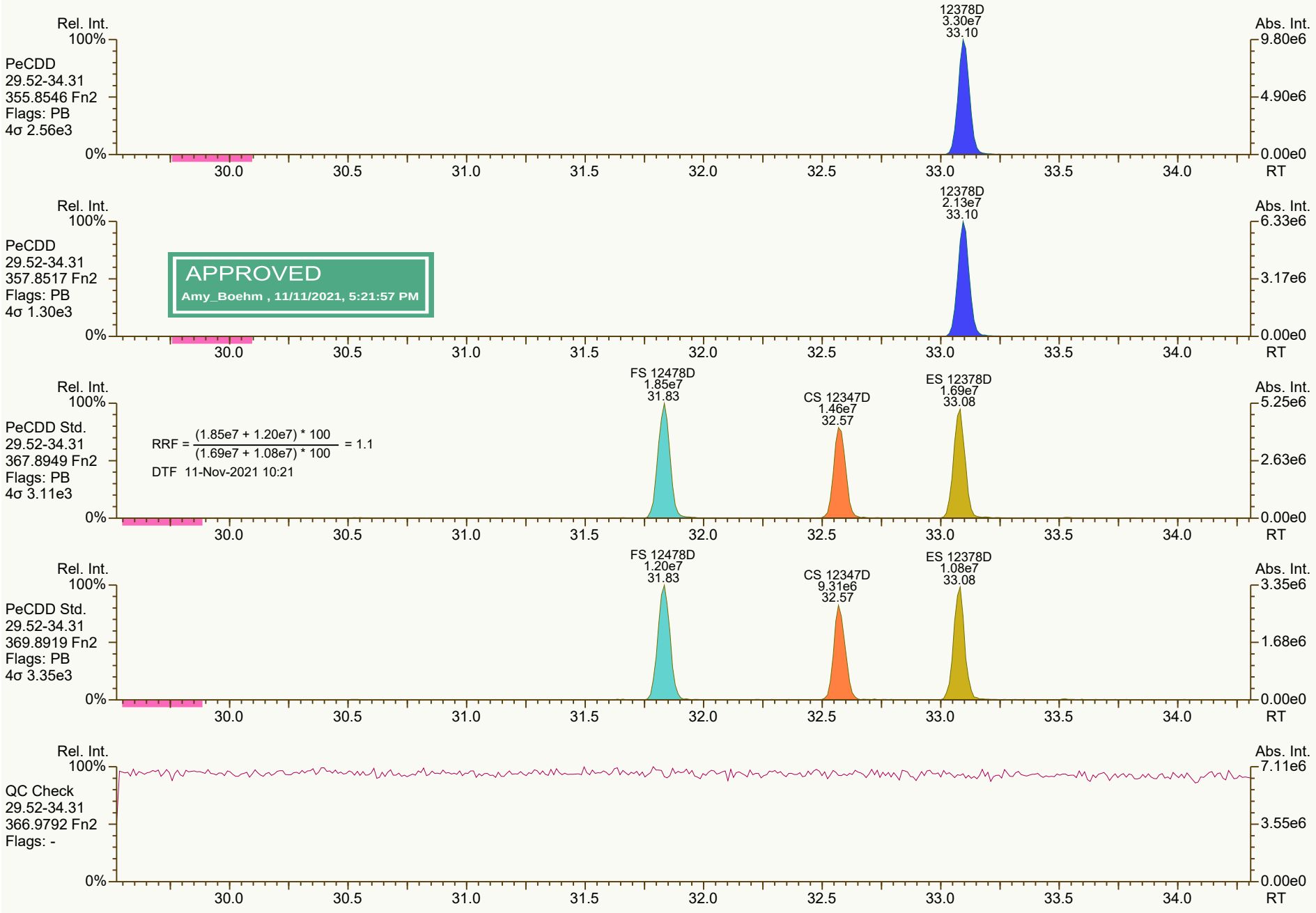
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

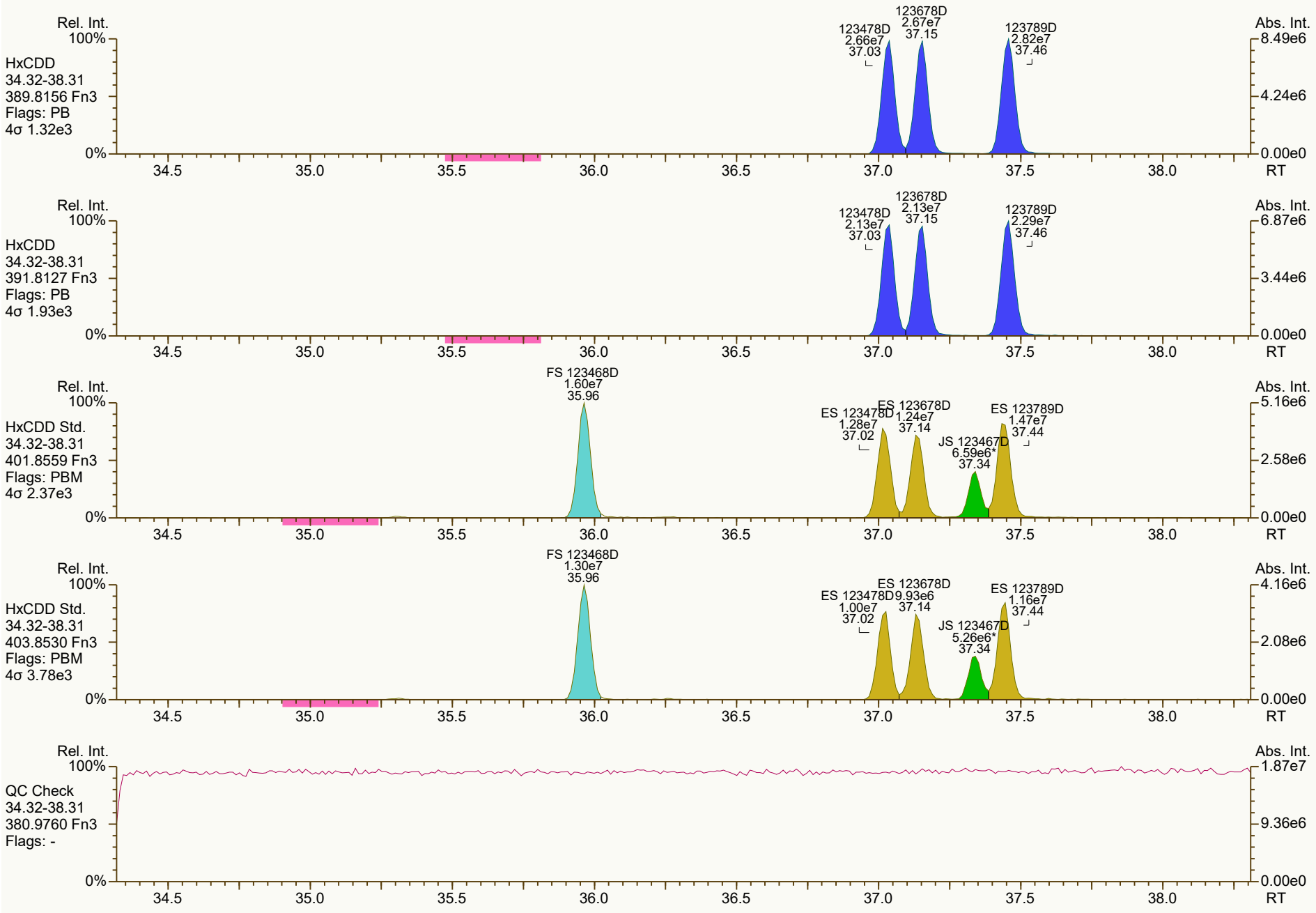
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

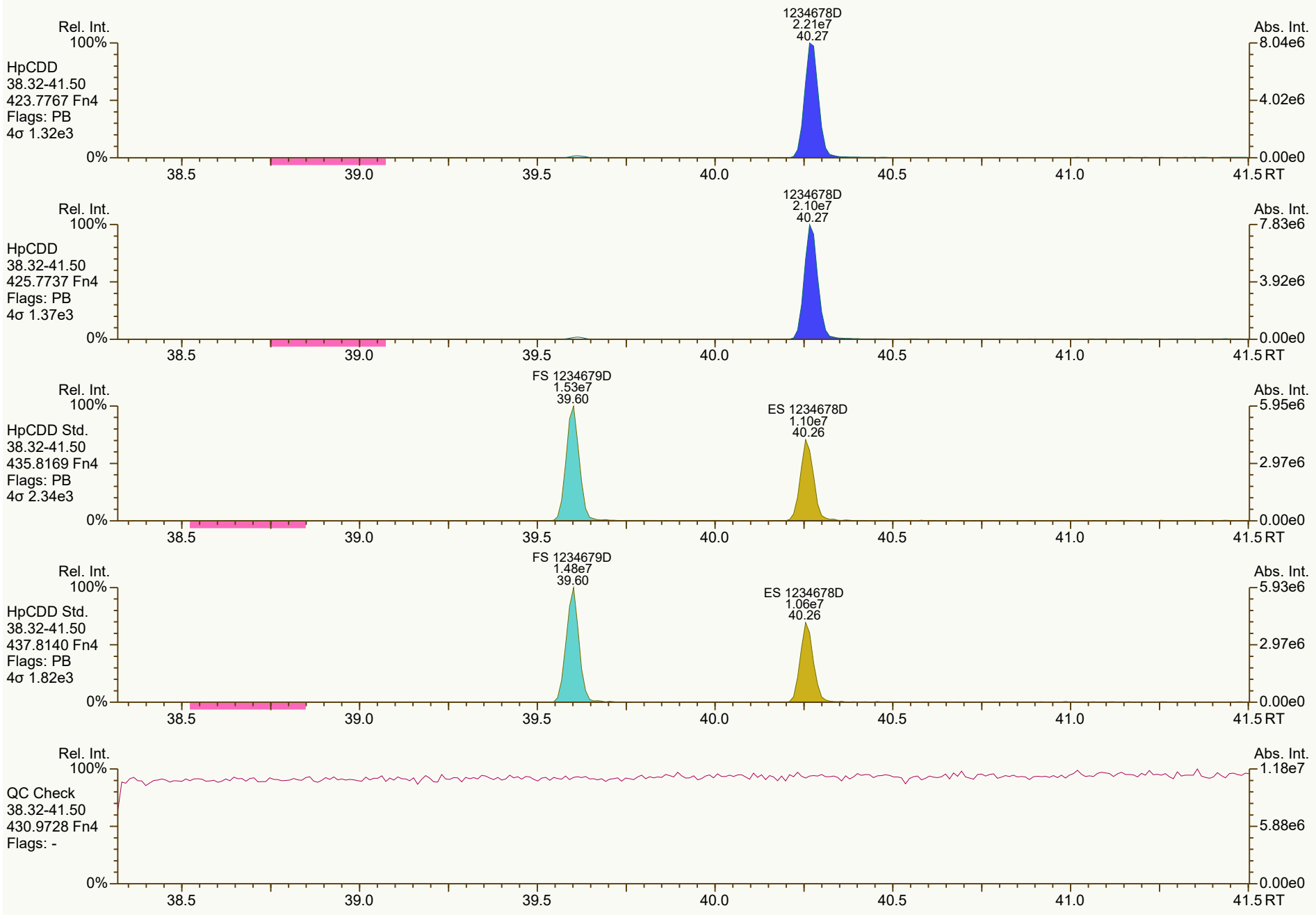
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

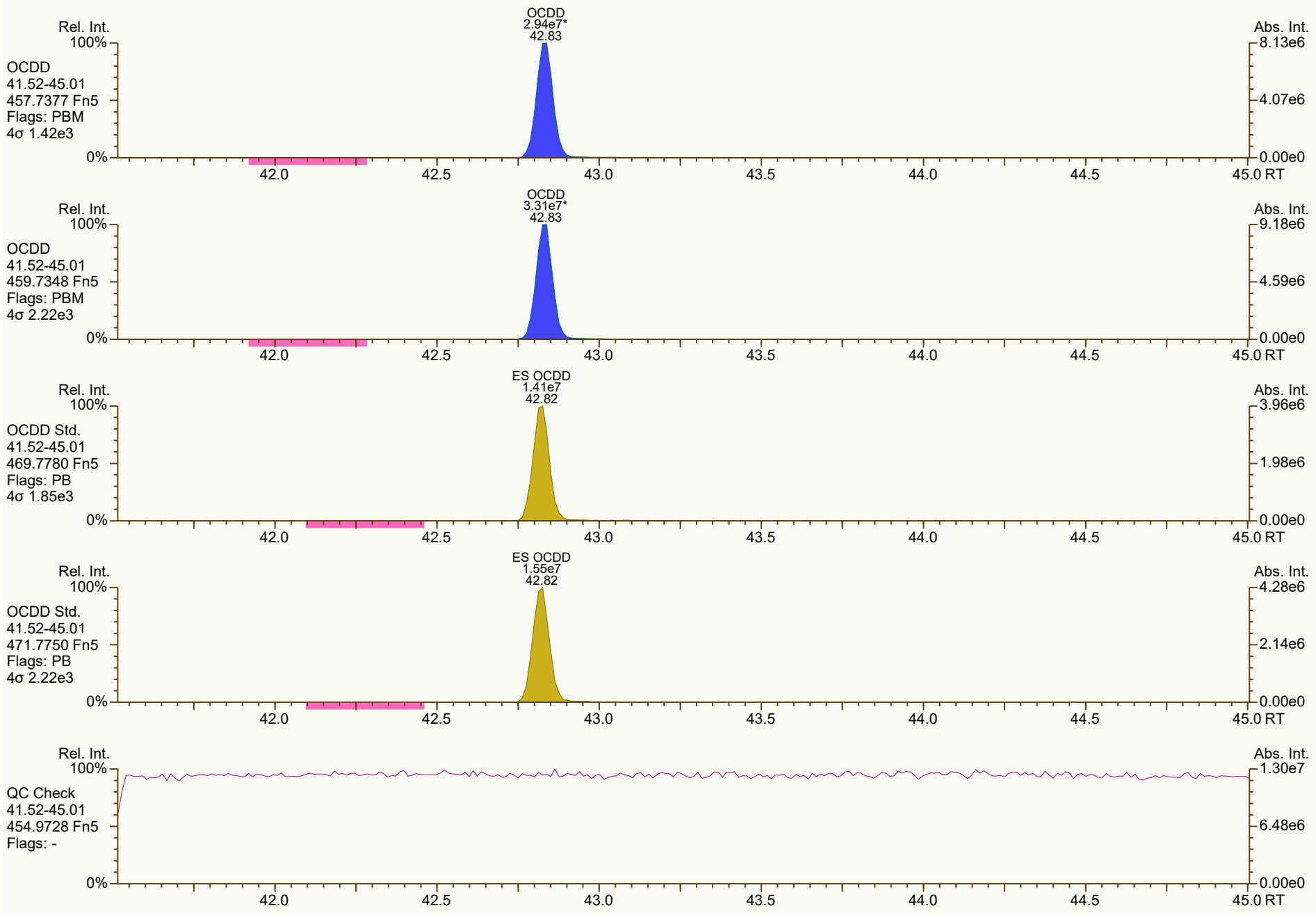

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.00e6
4.50e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.11e6
3.55e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.87e7
9.36e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.18e7
5.88e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.30e7
6.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
0%
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
0%
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

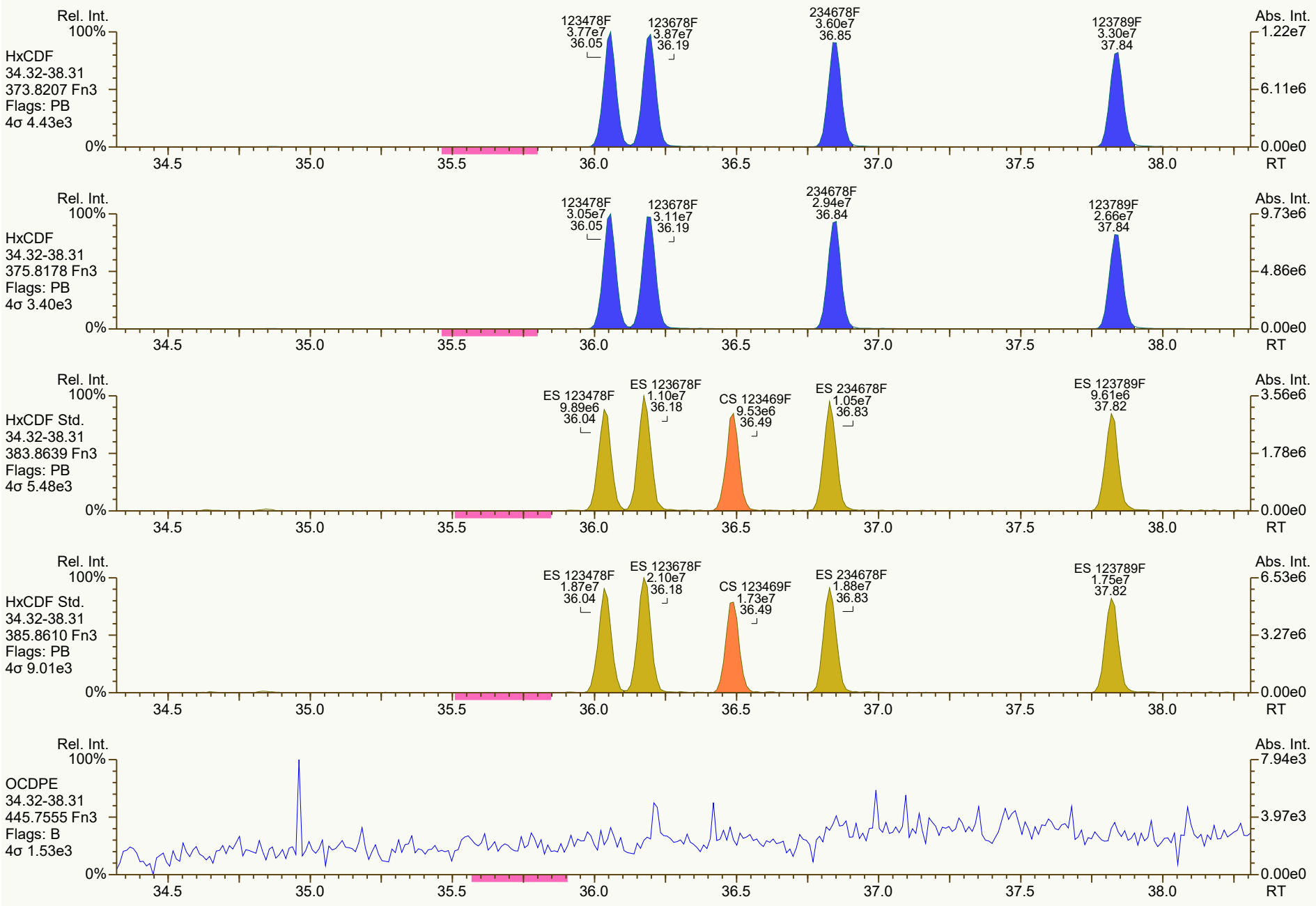

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
8.94e3
4.47e3
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
9.00e6
4.50e6

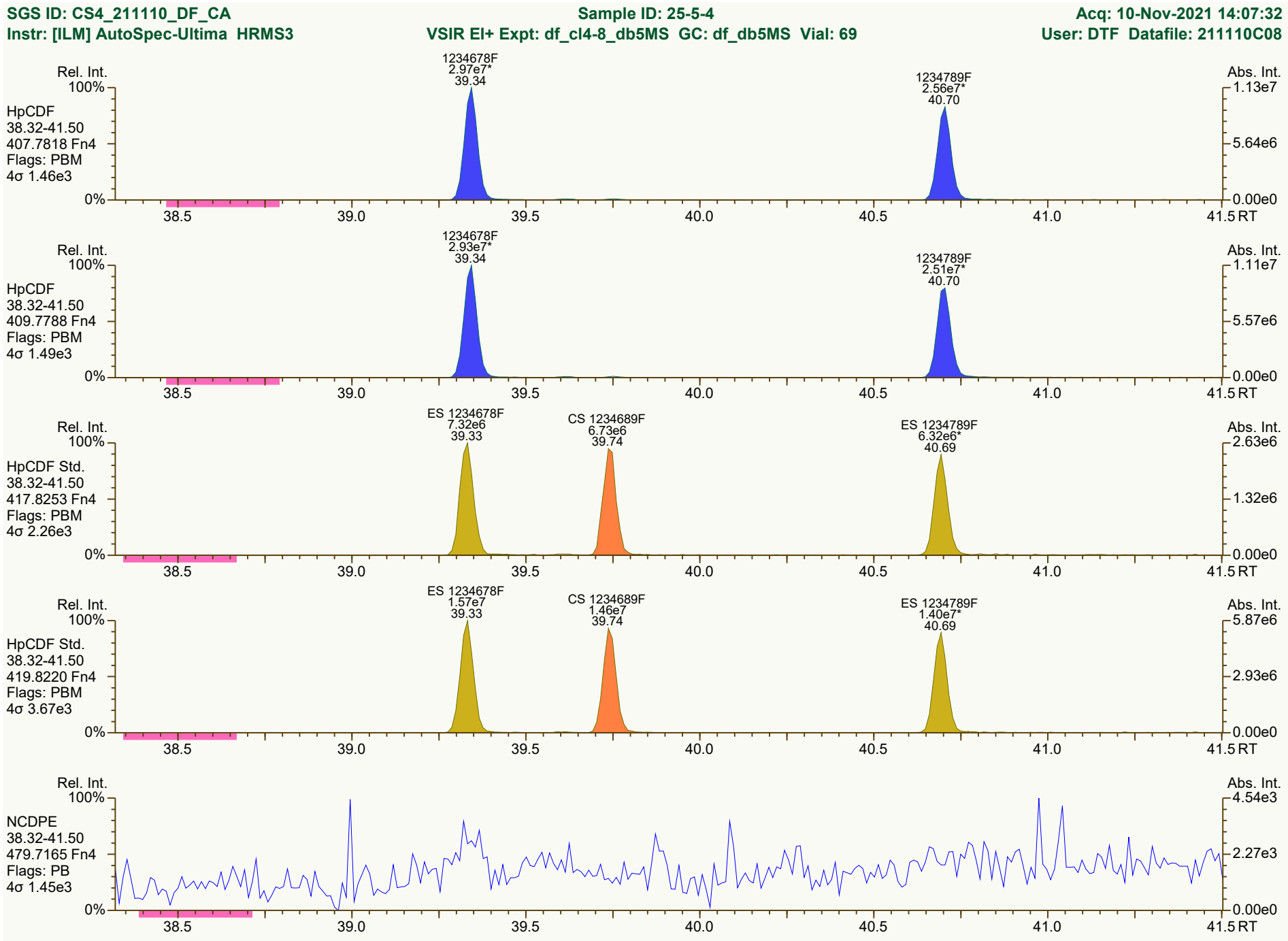

Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
Abs. Int.
7.51e3
3.76e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3

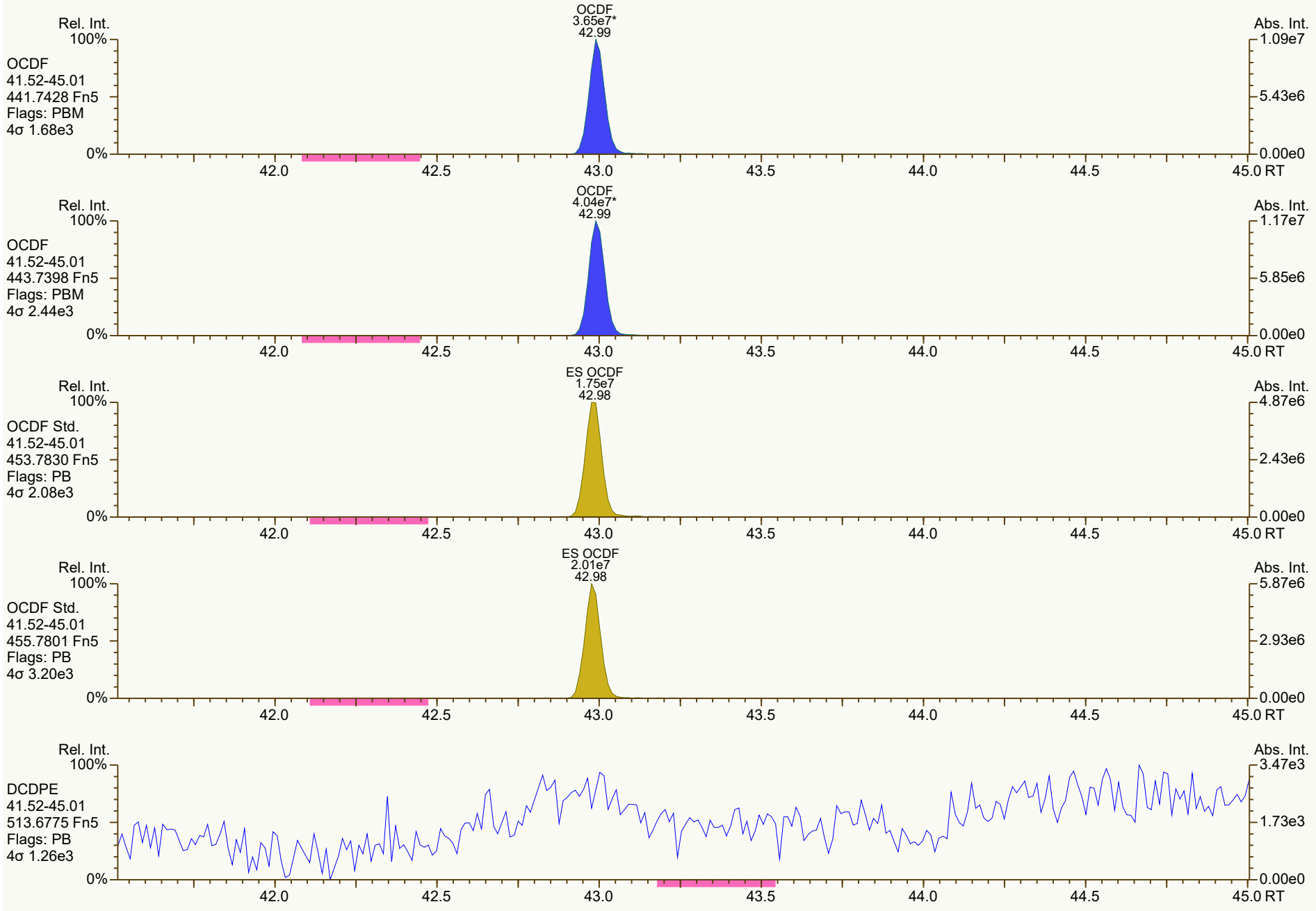
SGS ID: CS4_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 25-5-4
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69

Acq: 10-Nov-2021 14:07:32
User: DTF Datafile: 211110C08



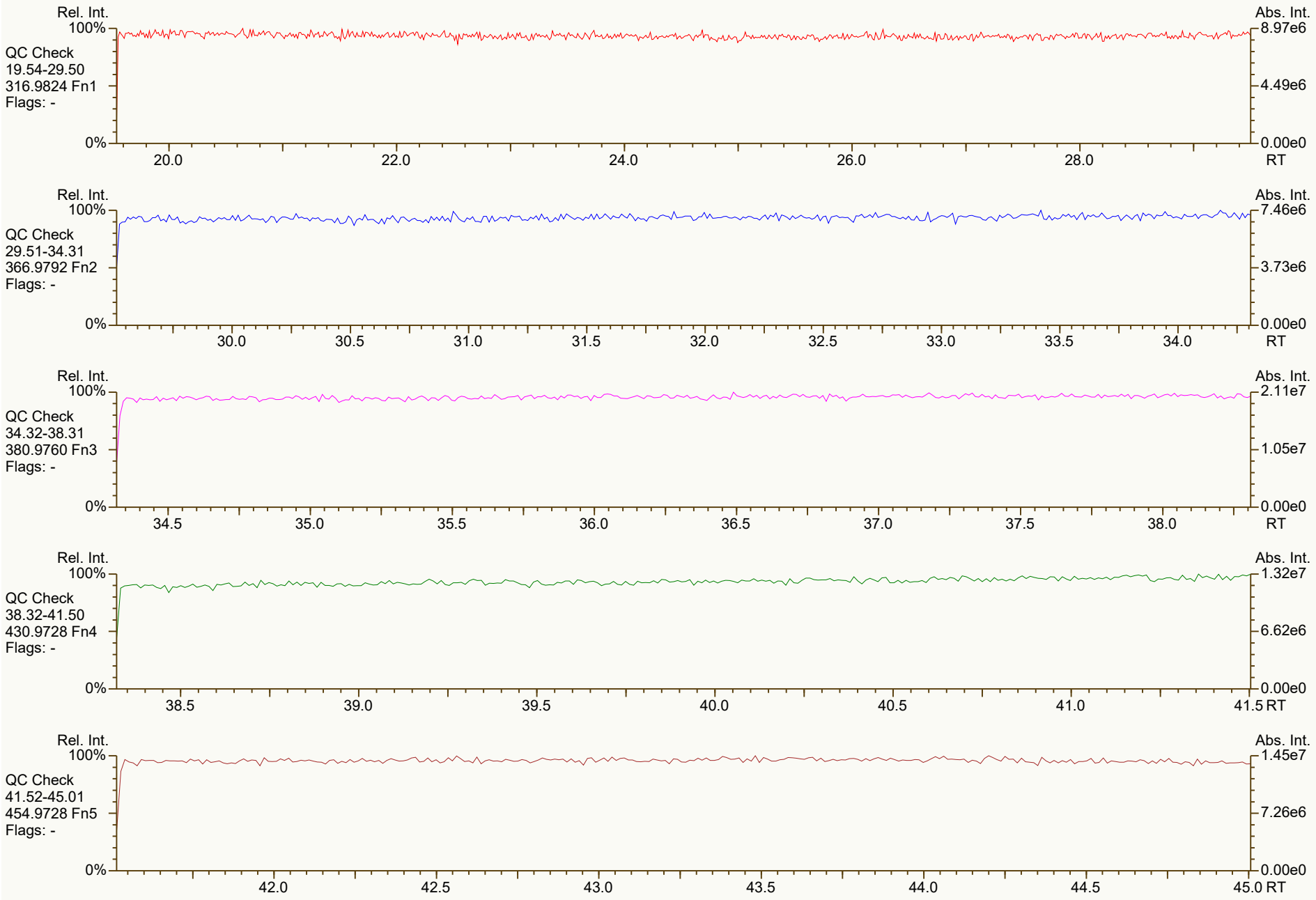
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 2764, 9565, 4492 scc: 855-576
Revised: 10-Nov-2021 15:17 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

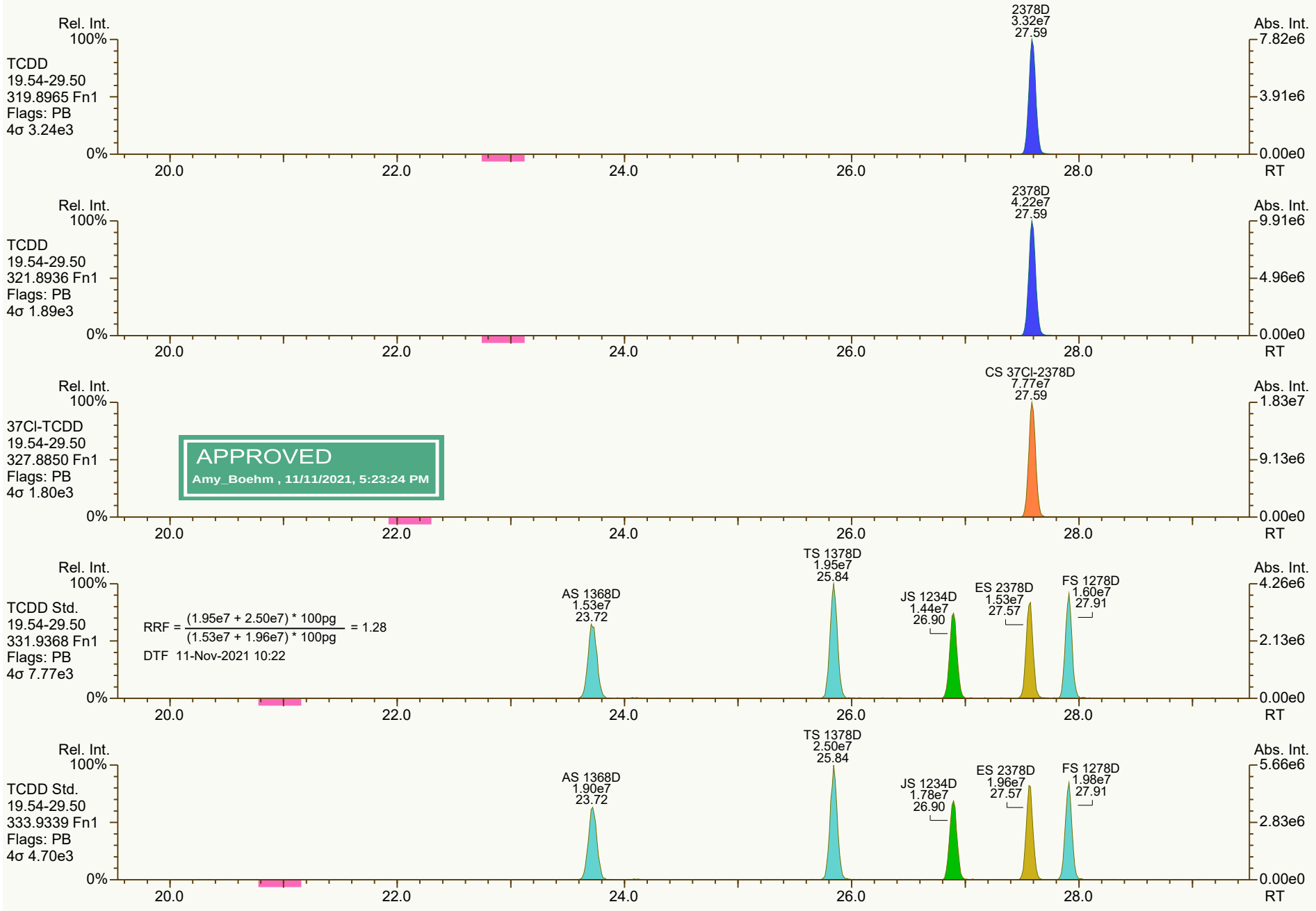

OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

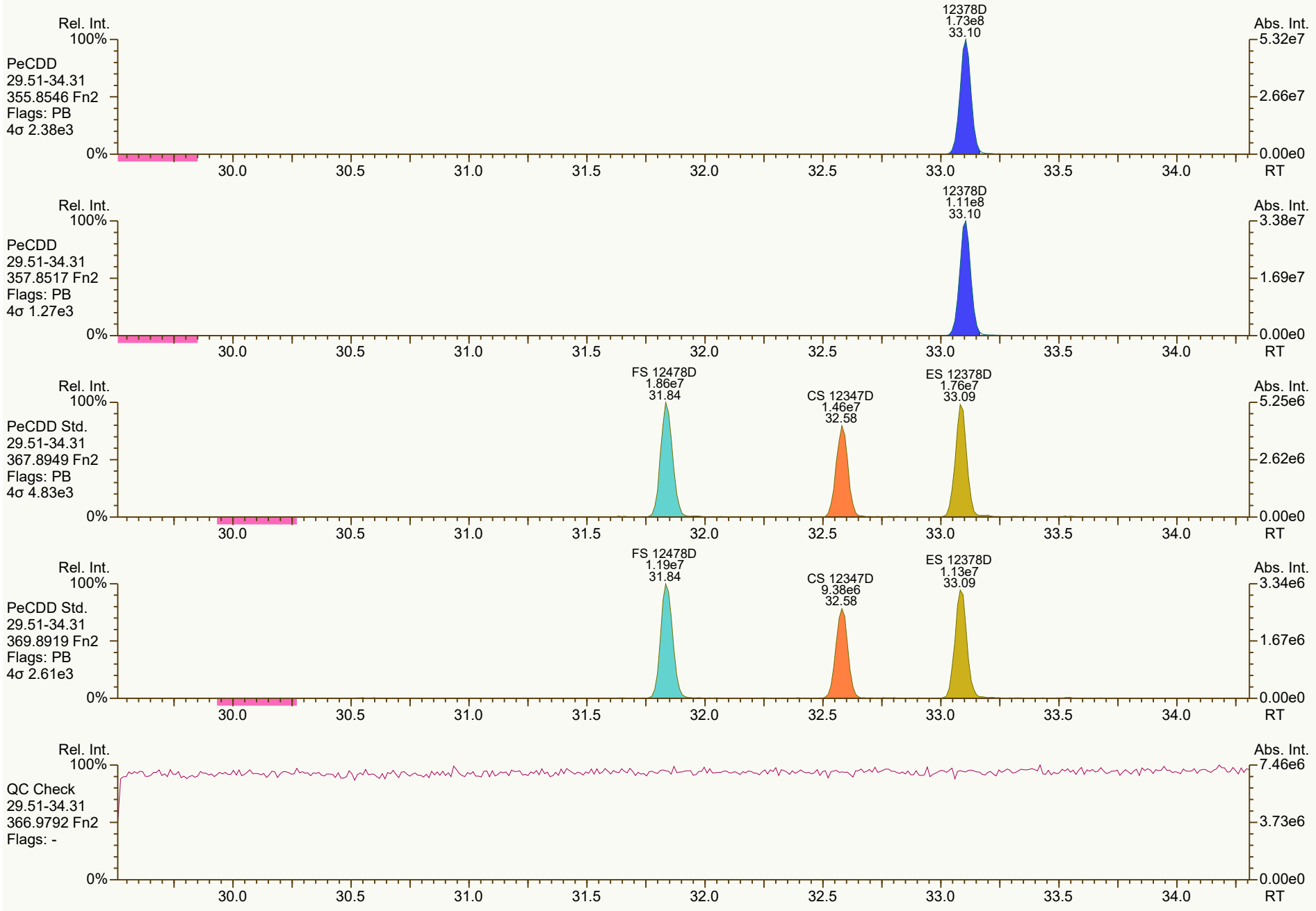
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

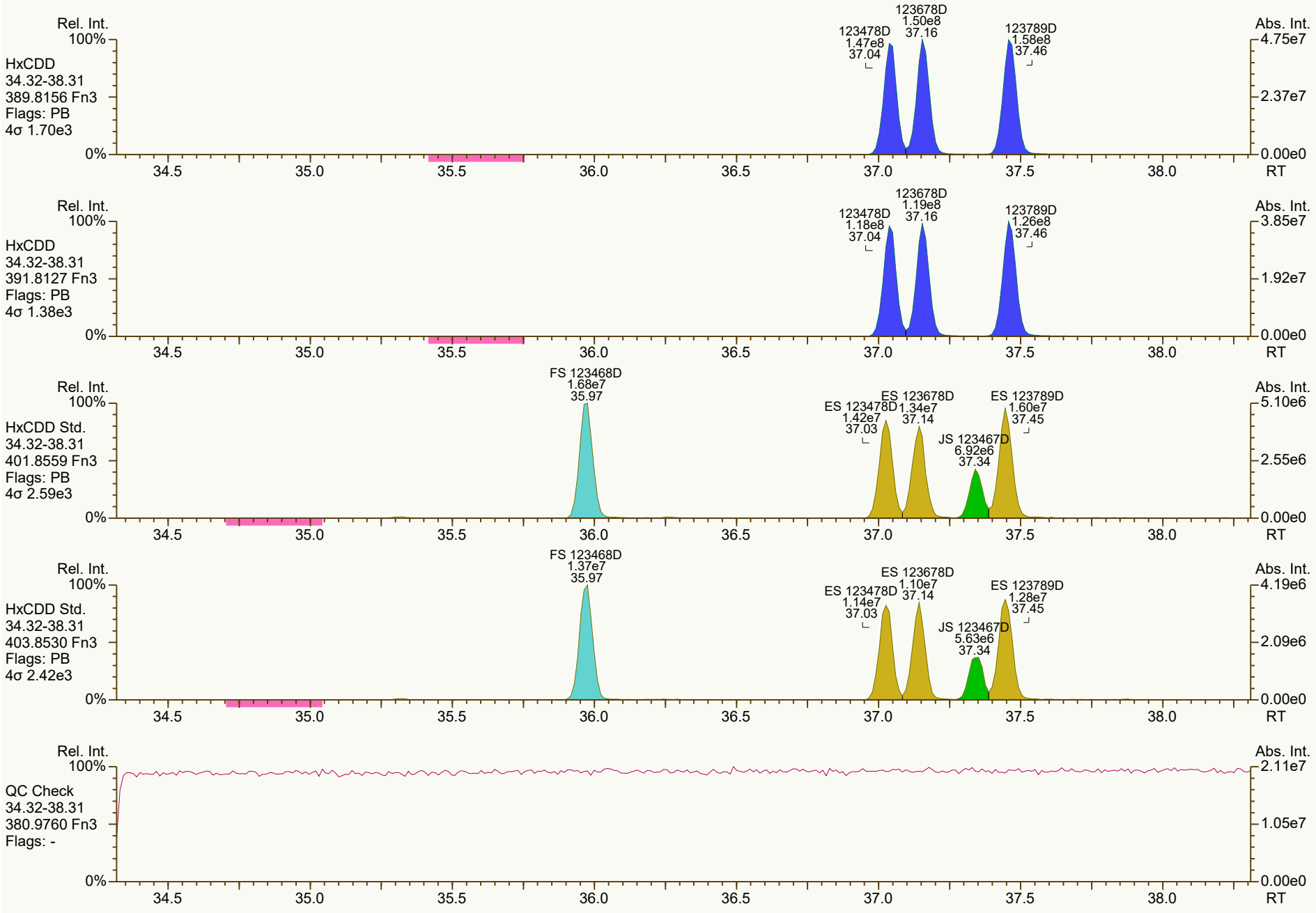
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

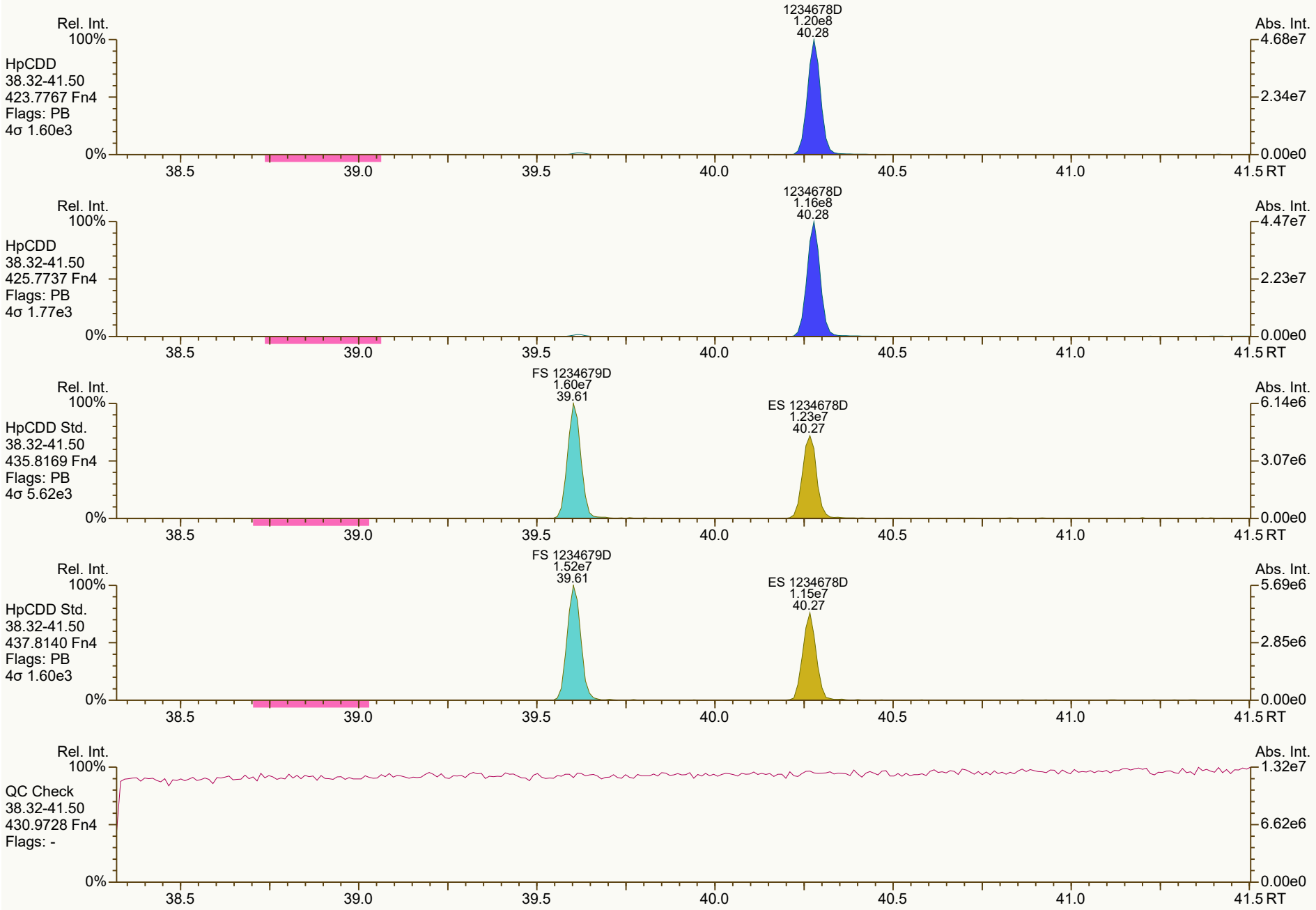
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:53 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS5_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 573-489-BMZ	
Sample ID: 25-5-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C09	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

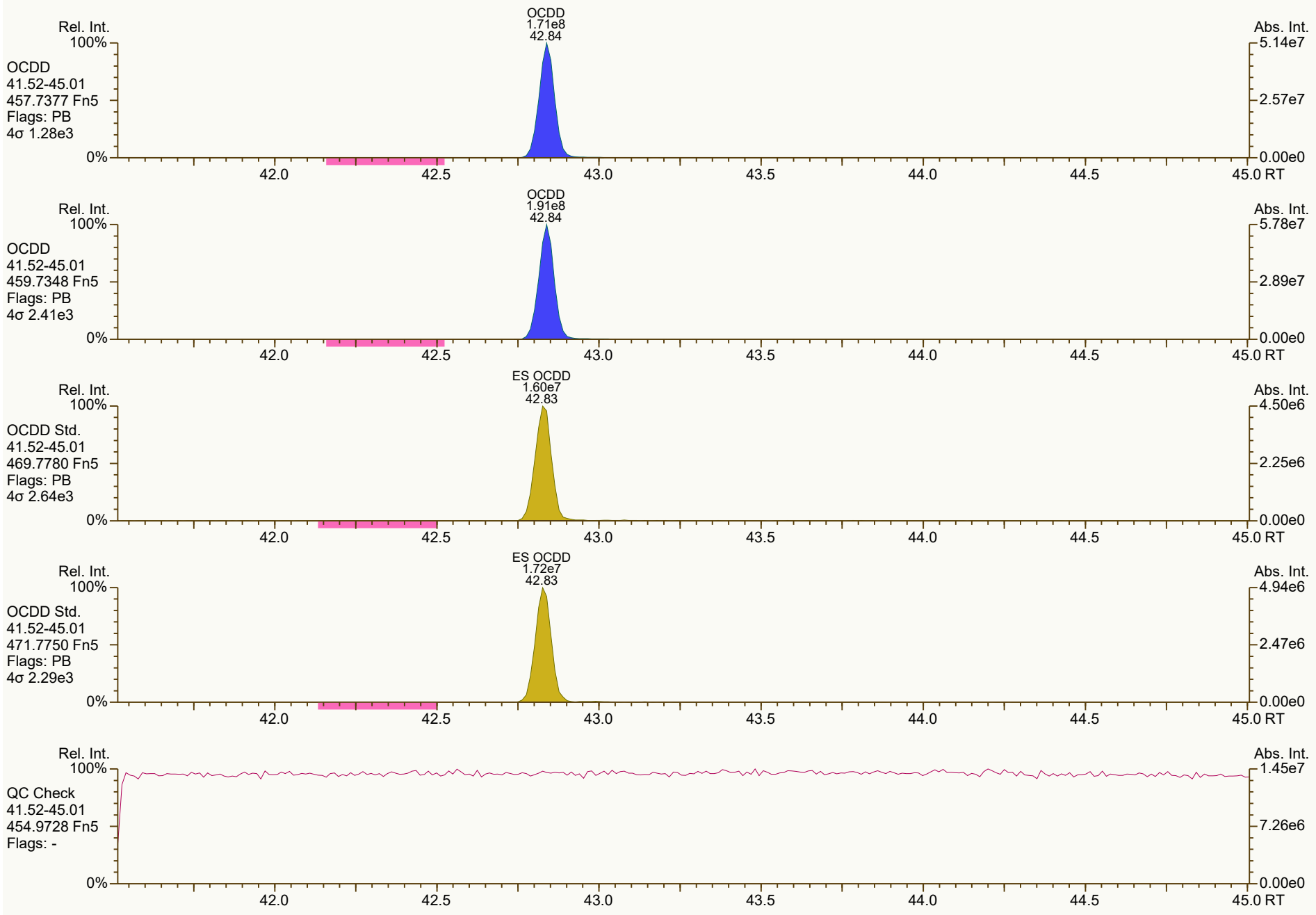

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.97e6
4.49e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.46e6
3.73e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.11e7
1.05e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.32e7
6.62e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.45e7
7.26e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
2378D
4.22e7
27.59
9.91e6
4.96e6
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
1.83e7
9.13e6
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
4.26e6
2.13e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
5.66e6
2.83e6


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
0%
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
0%
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
0%
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
0%
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

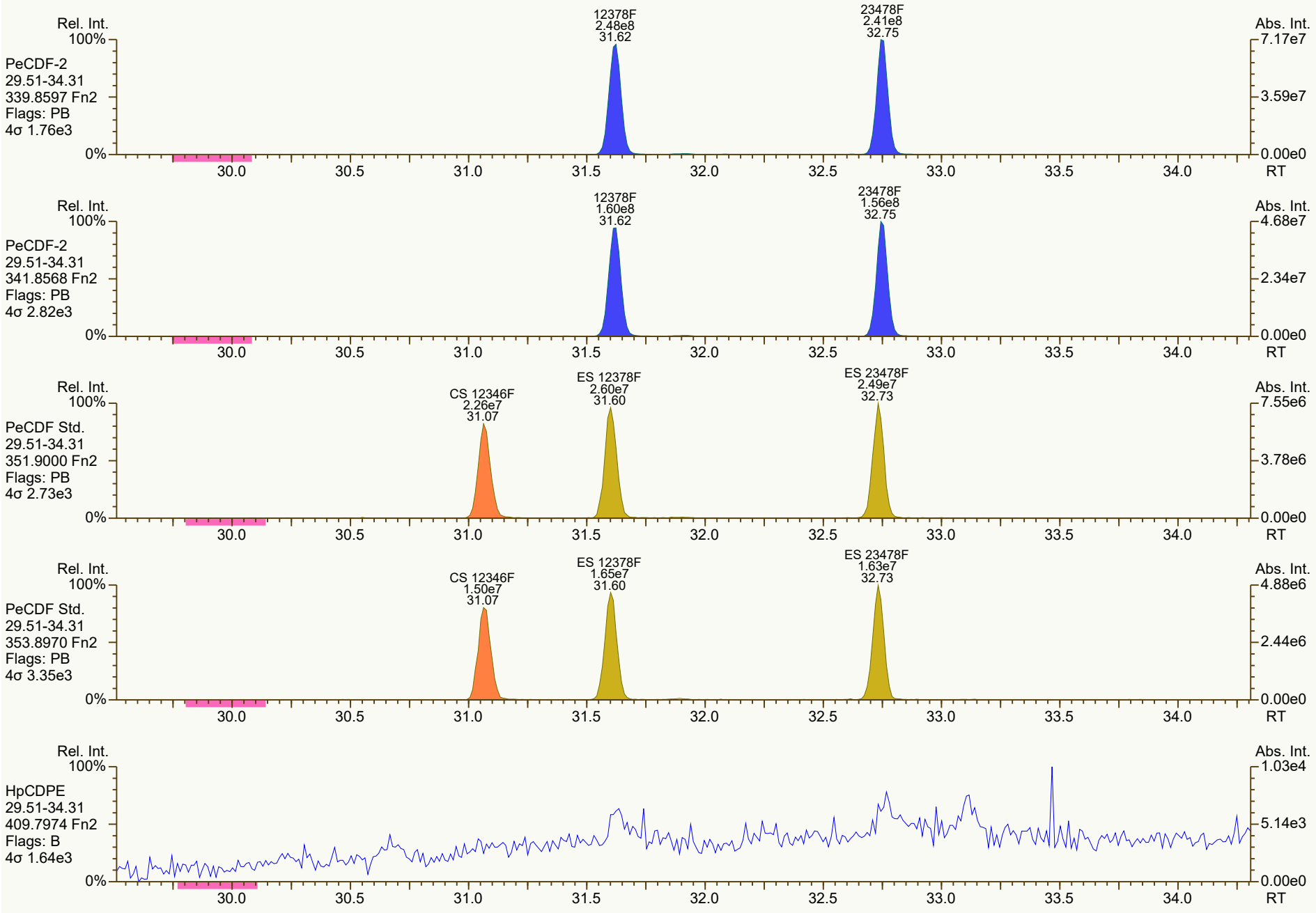

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

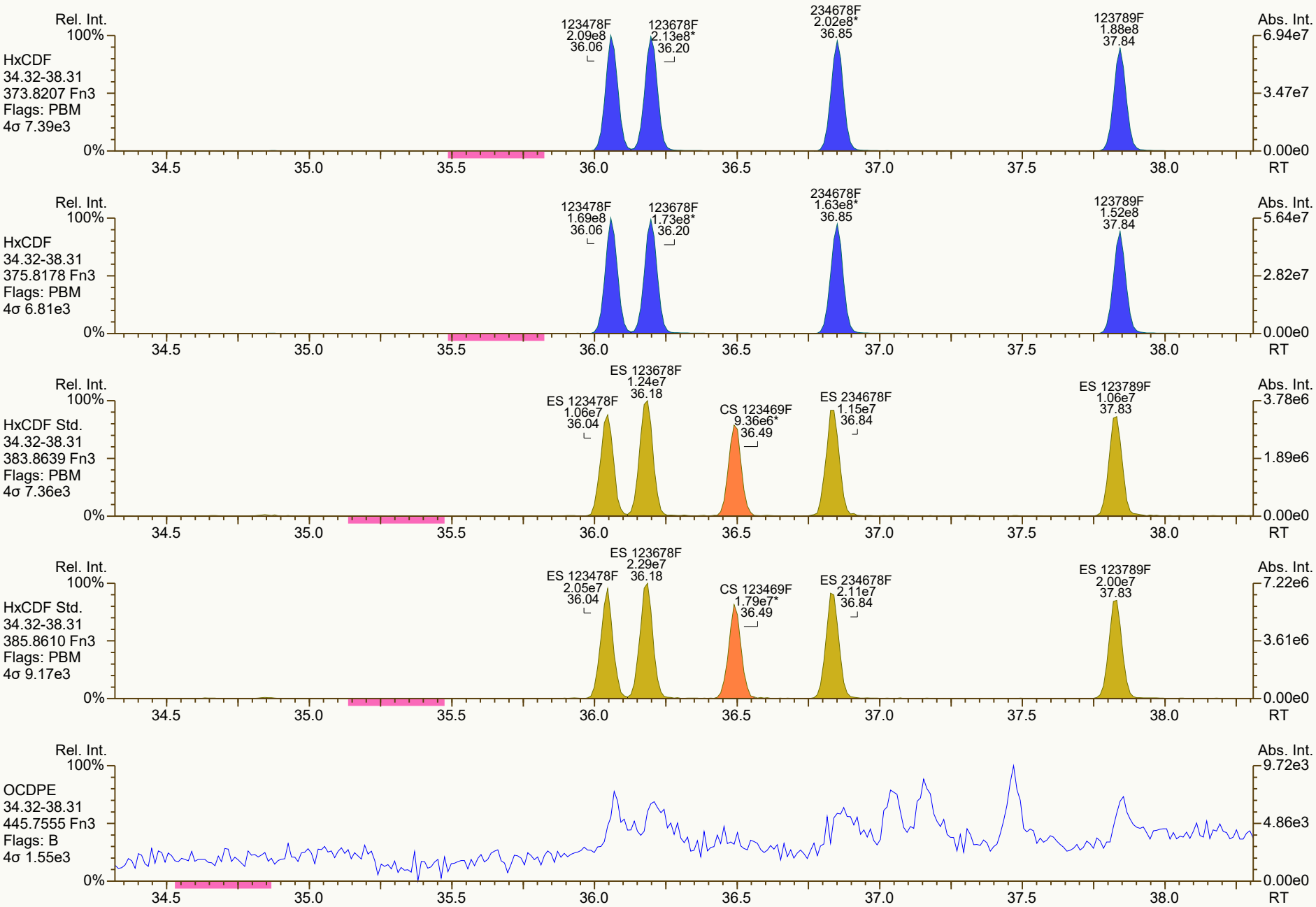

Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
0%
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
0%
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
0%
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
0%
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.03e4
5.14e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

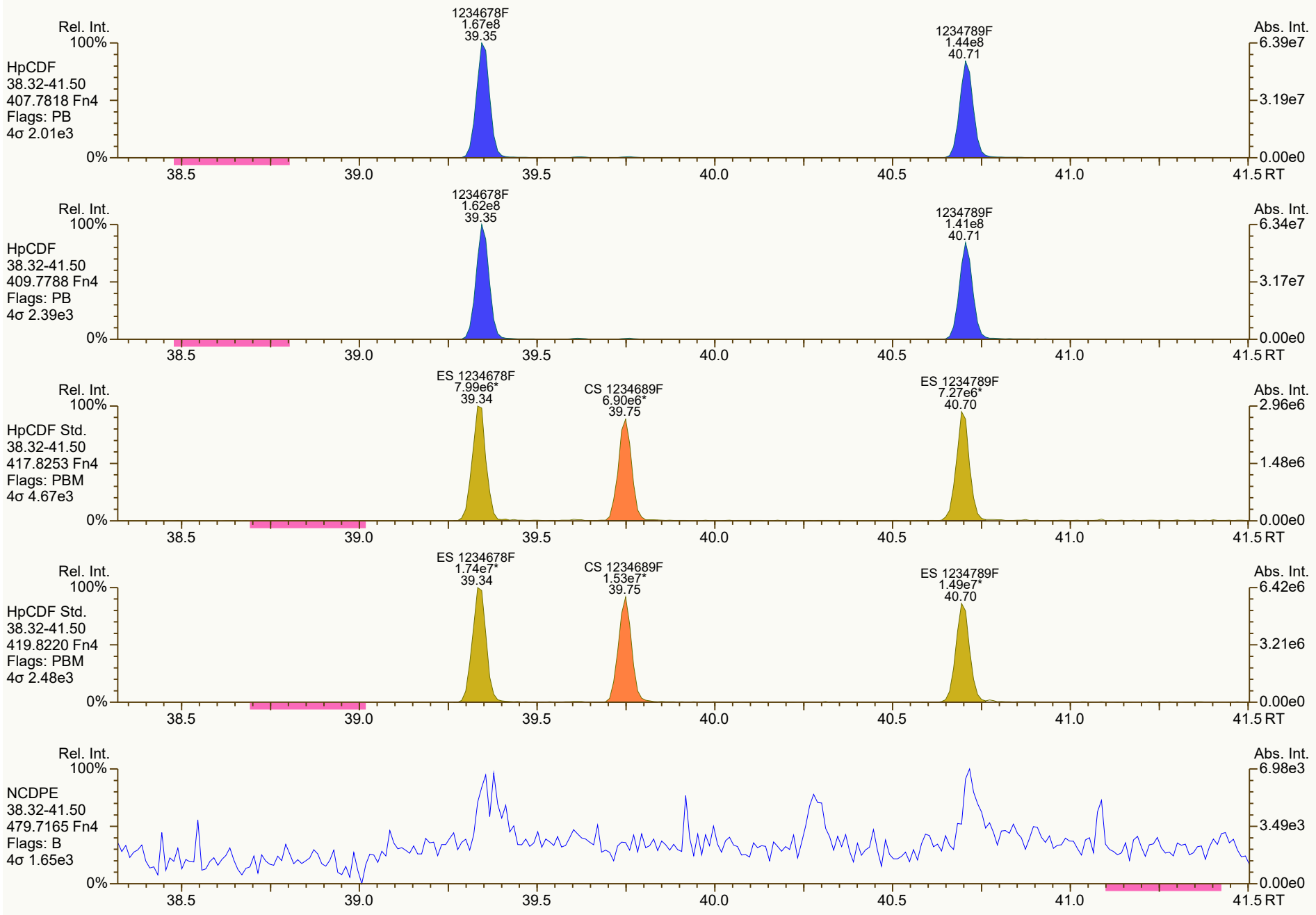
SGS ID: CS5_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

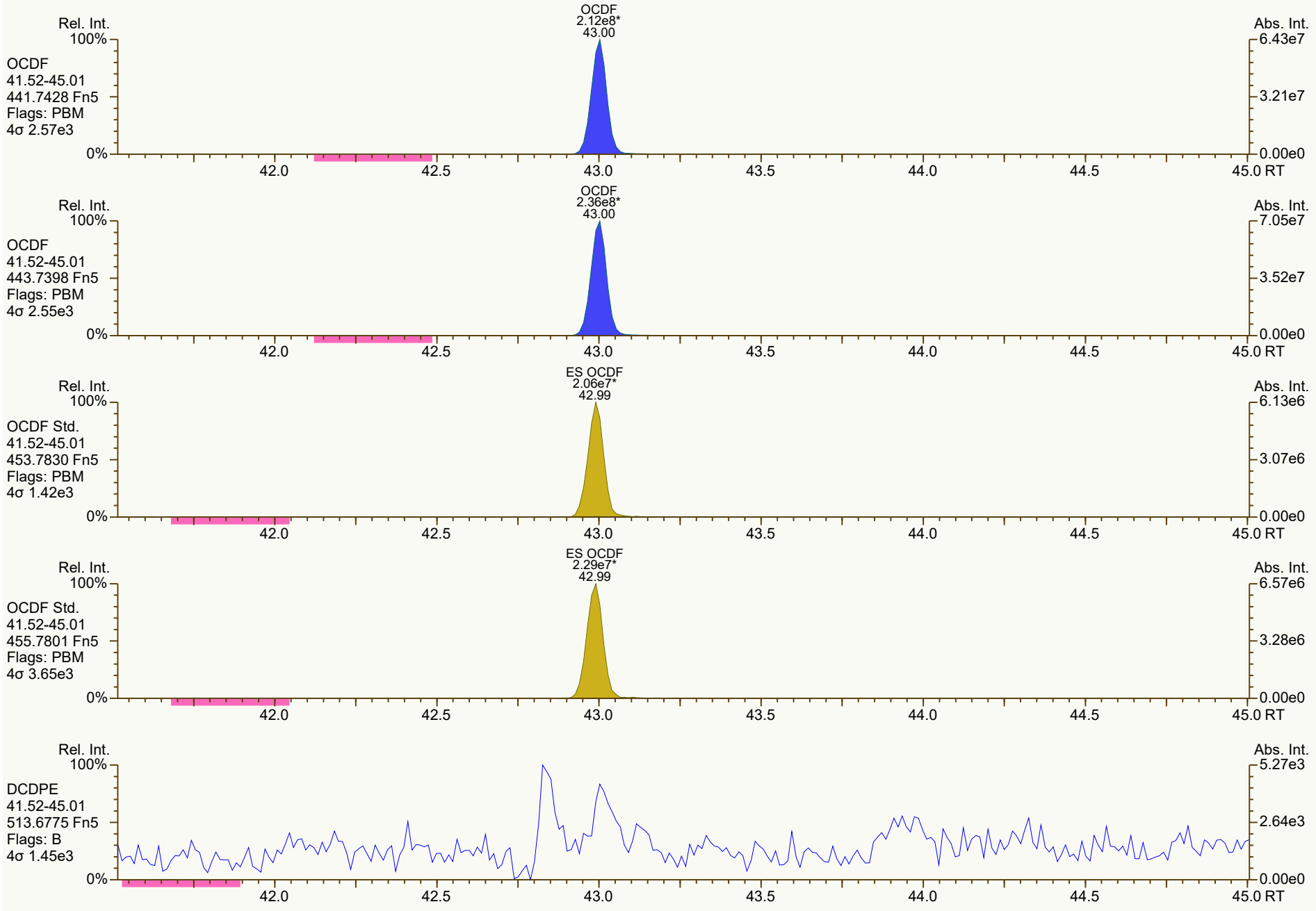
Sample ID: 25-5-3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70

Acq: 10-Nov-2021 14:53:51
User: DTF Datafile: 211110C09



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 7902, 6877, 1014 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 10 of 12

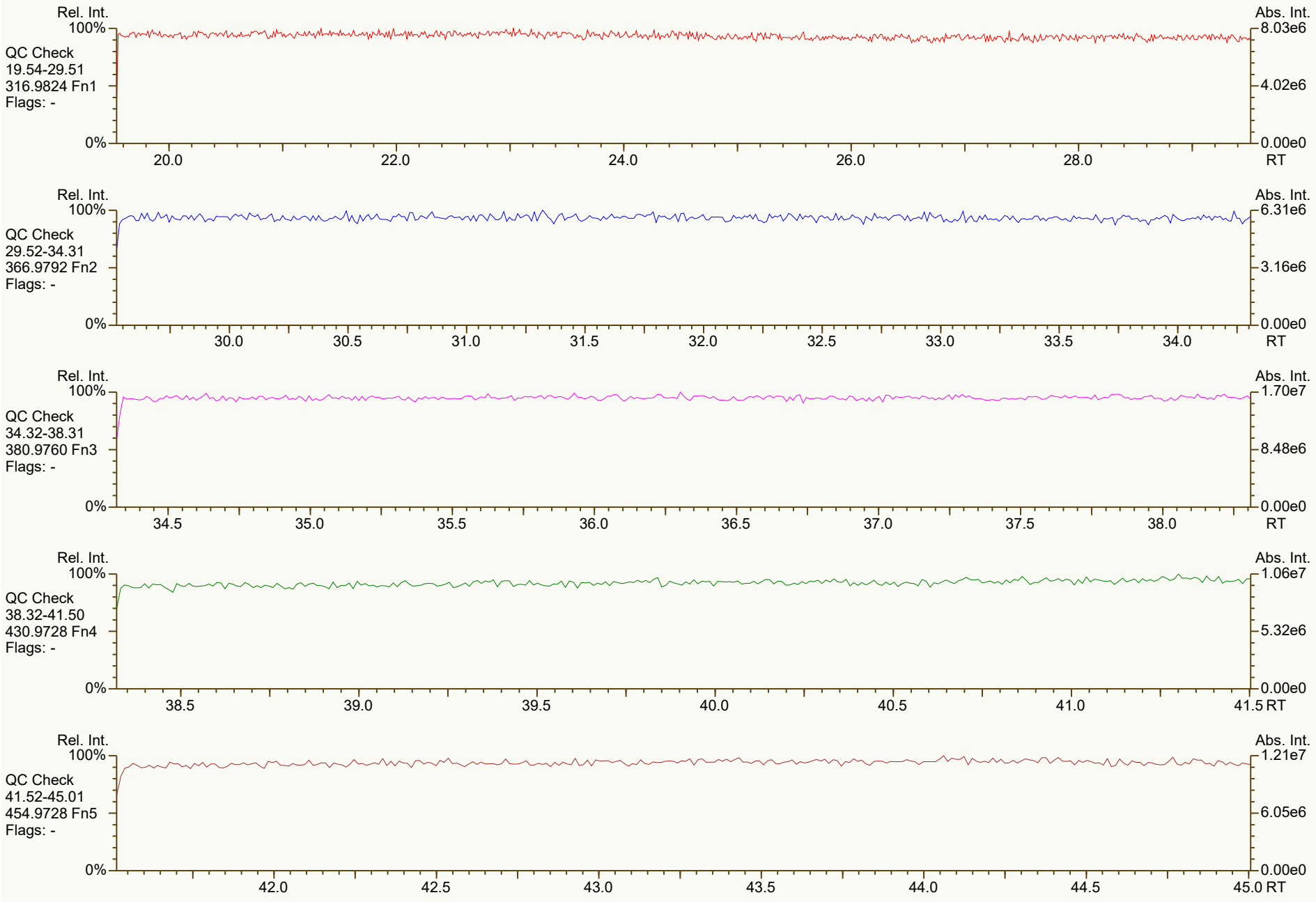

Rel. Int.
100%
0%
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

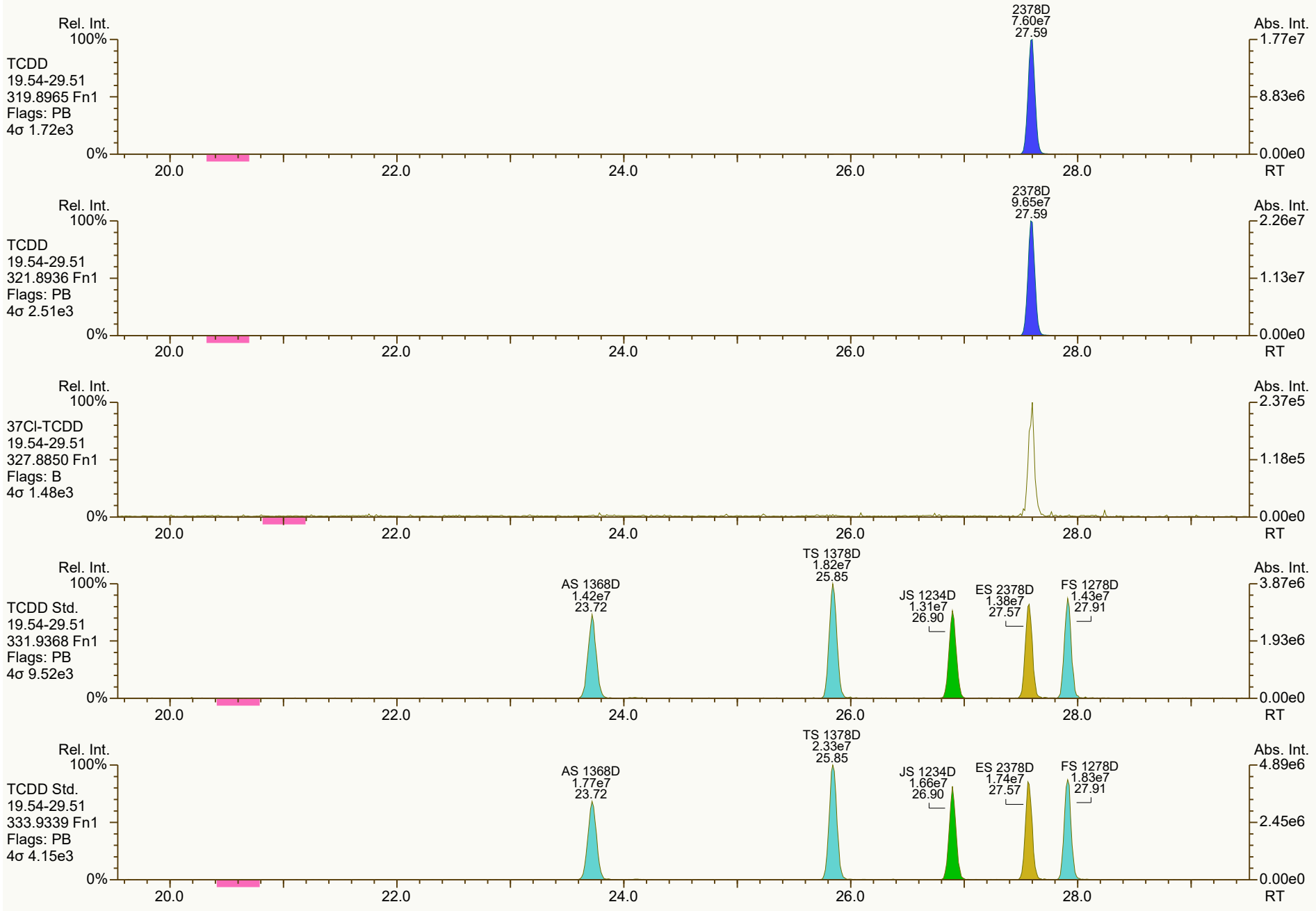

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

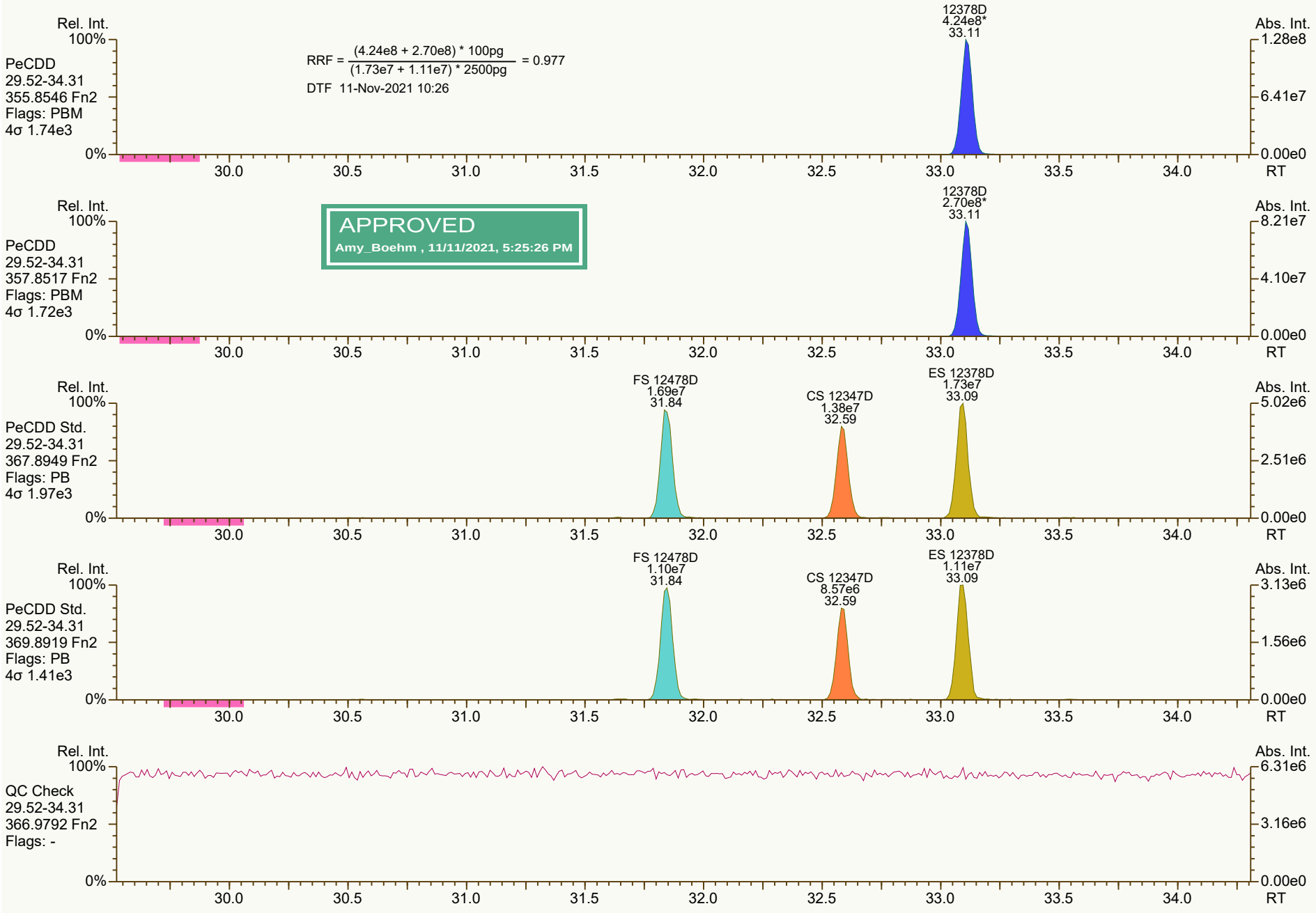
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

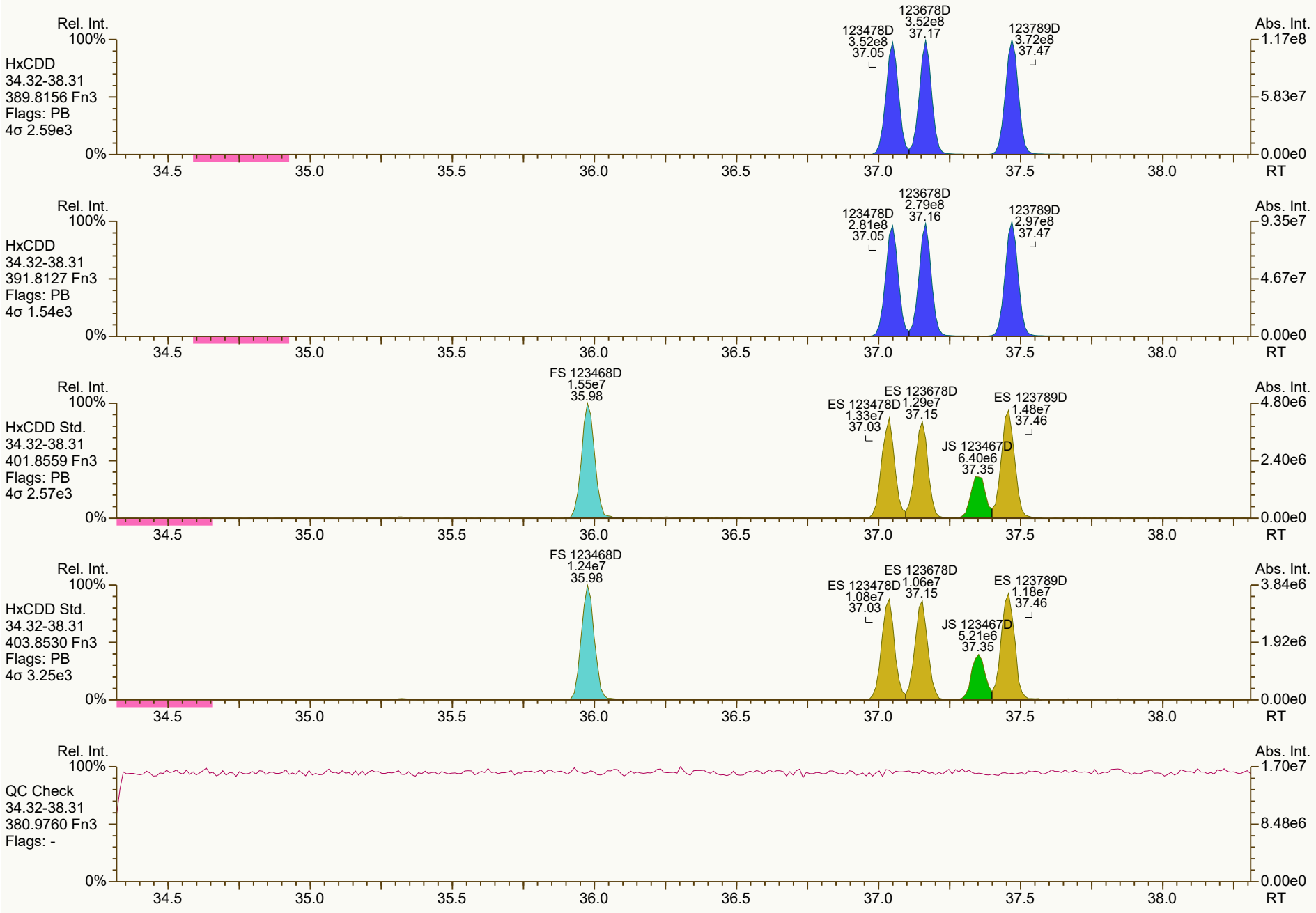
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

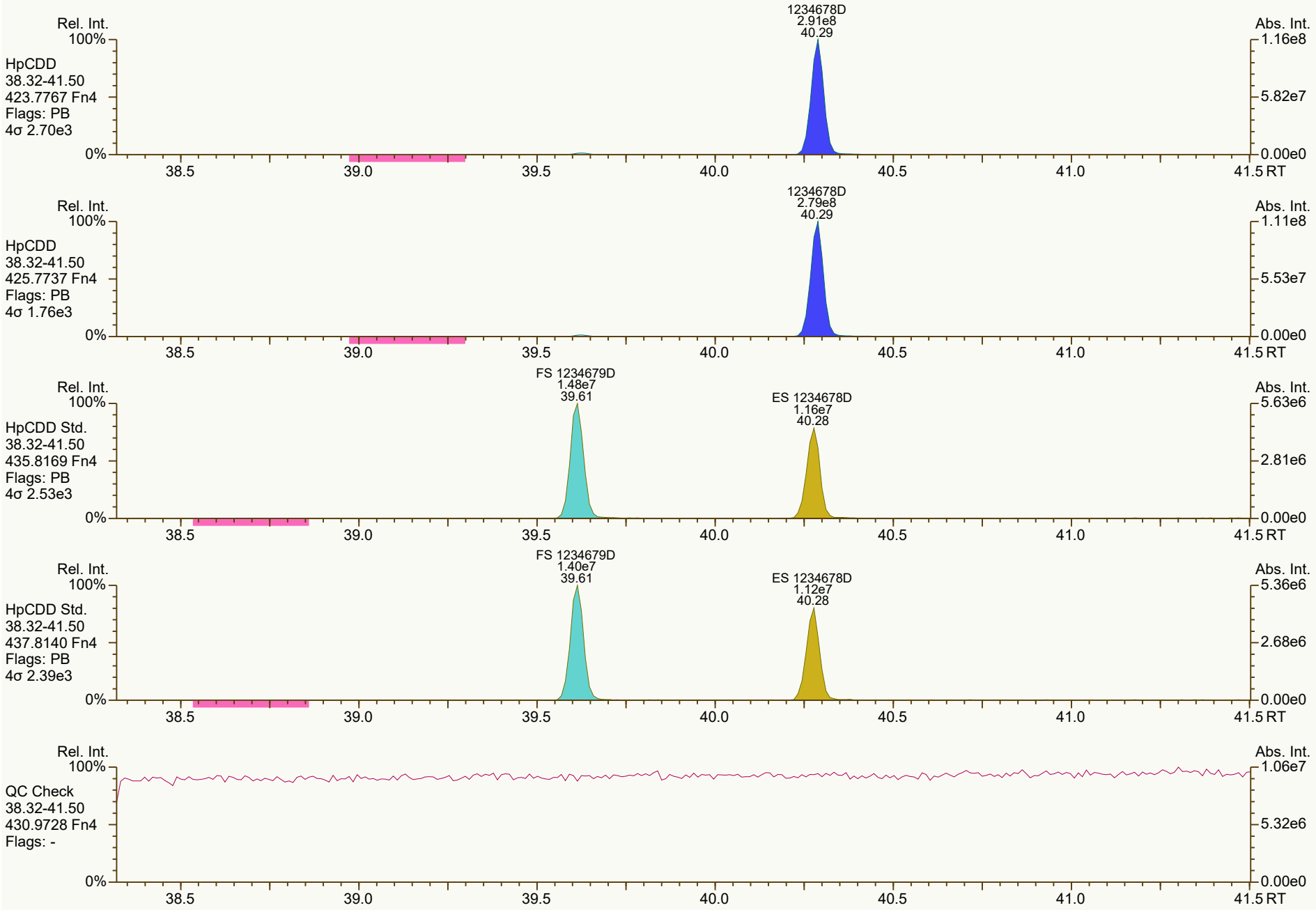
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 15:40 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS6_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 172-736-WQL	
Sample ID: 25-5-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C10	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

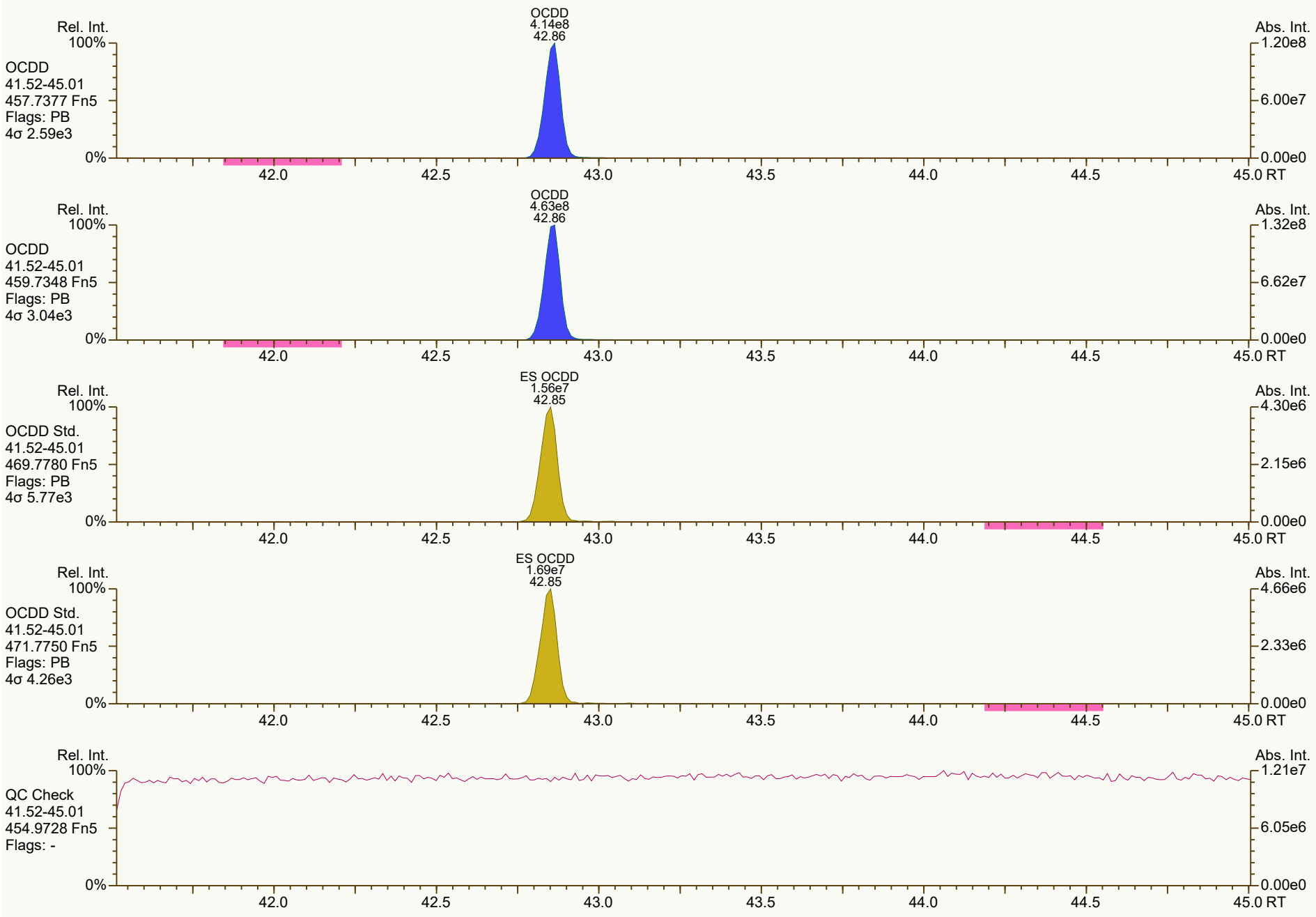

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
8.03e6
4.02e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
6.31e6
3.16e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
1.70e7
8.48e6
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.06e7
5.32e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.21e7
6.05e6
0.00e0
RT


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
6.31e6
3.16e6
0.00e0

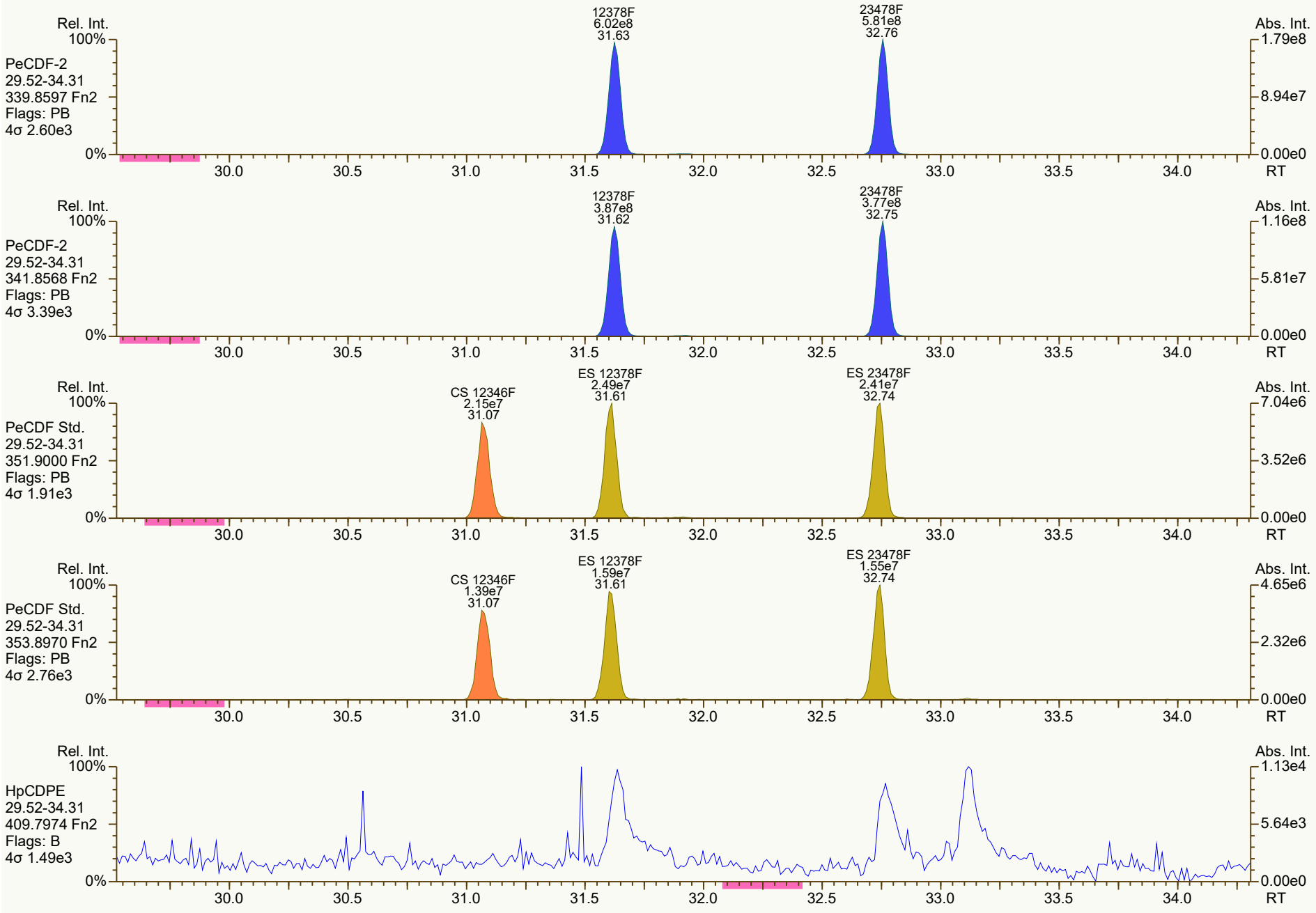

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.70e7
8.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

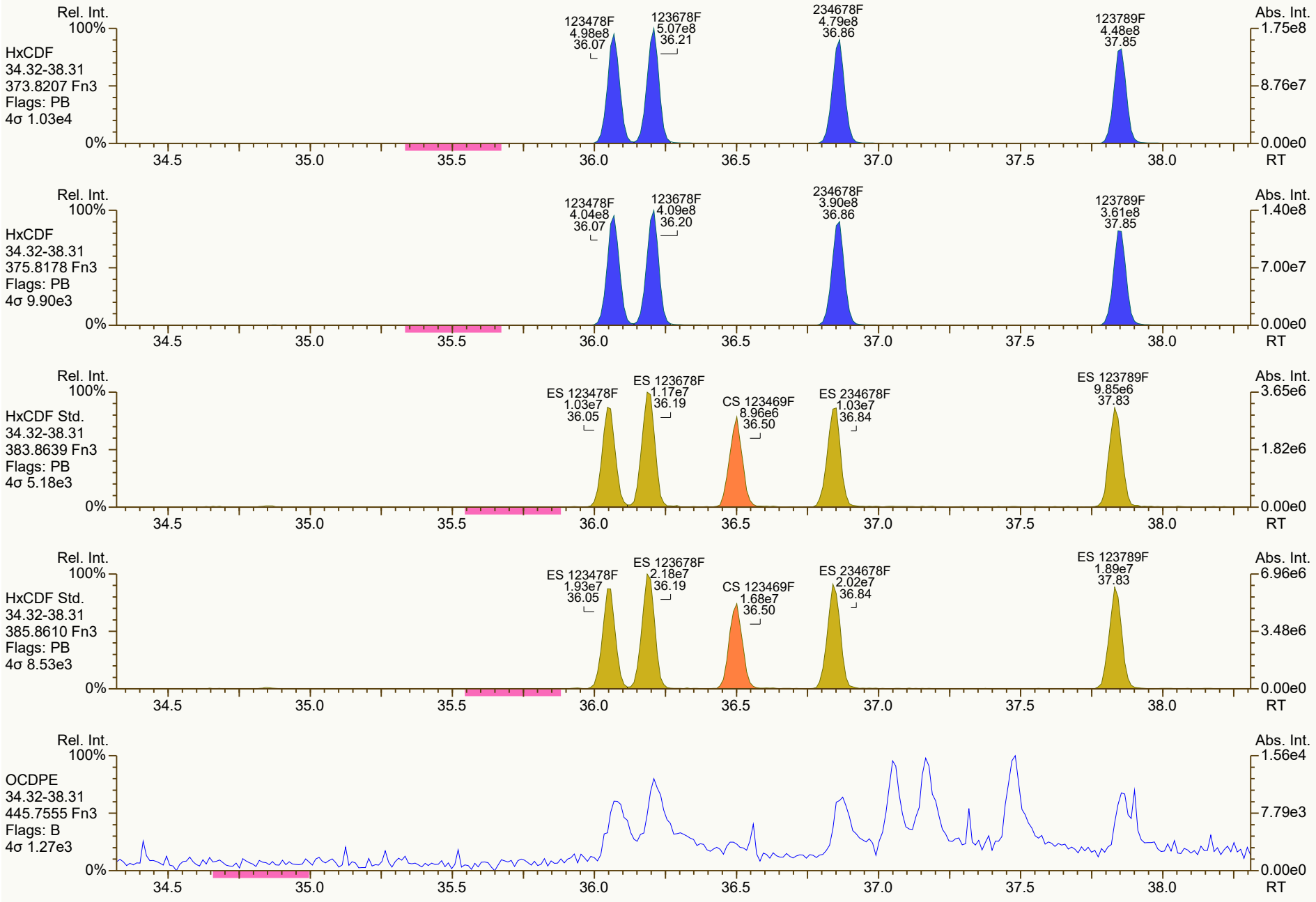

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

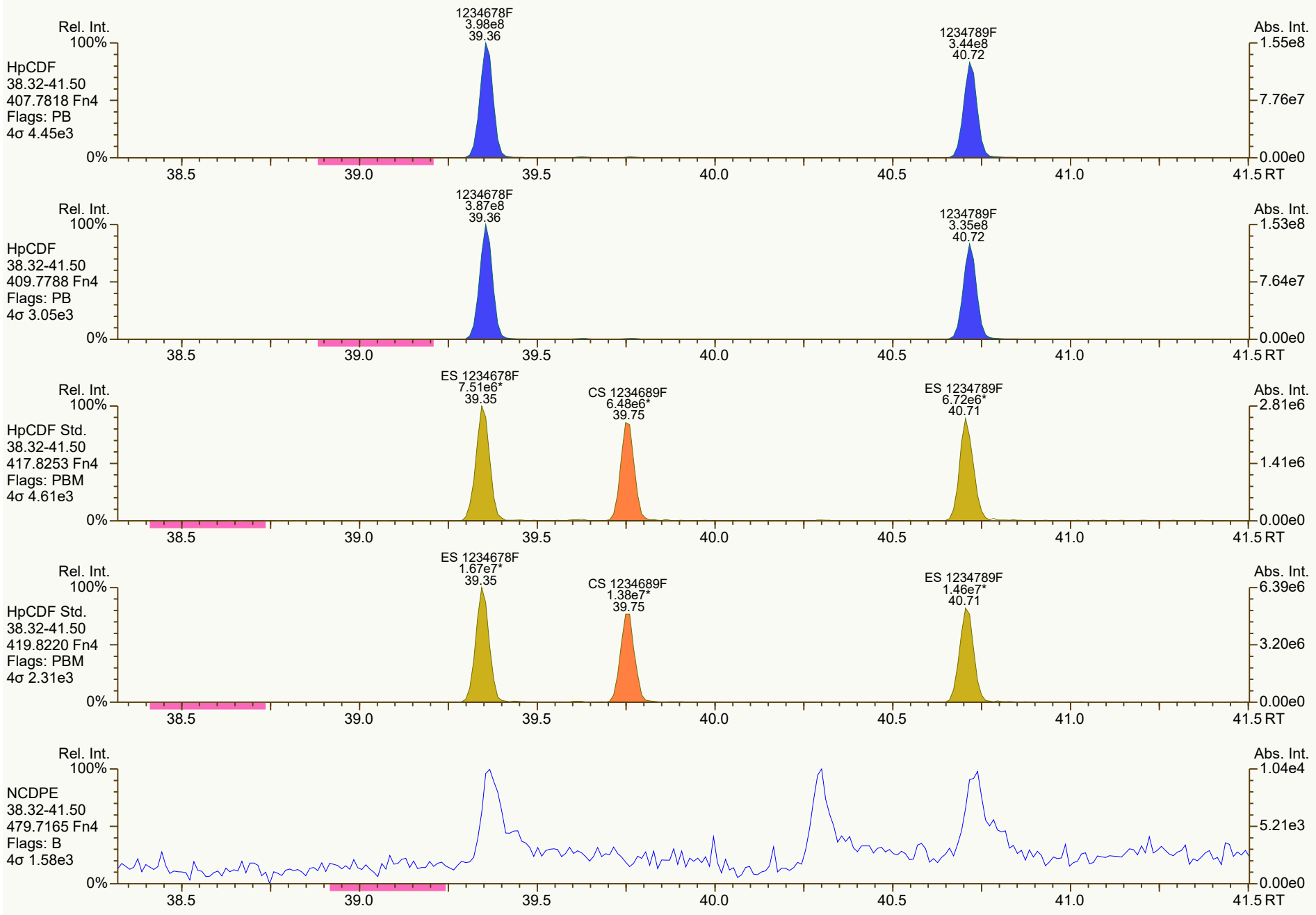

OCDD
4.14e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.63e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.56e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.69e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

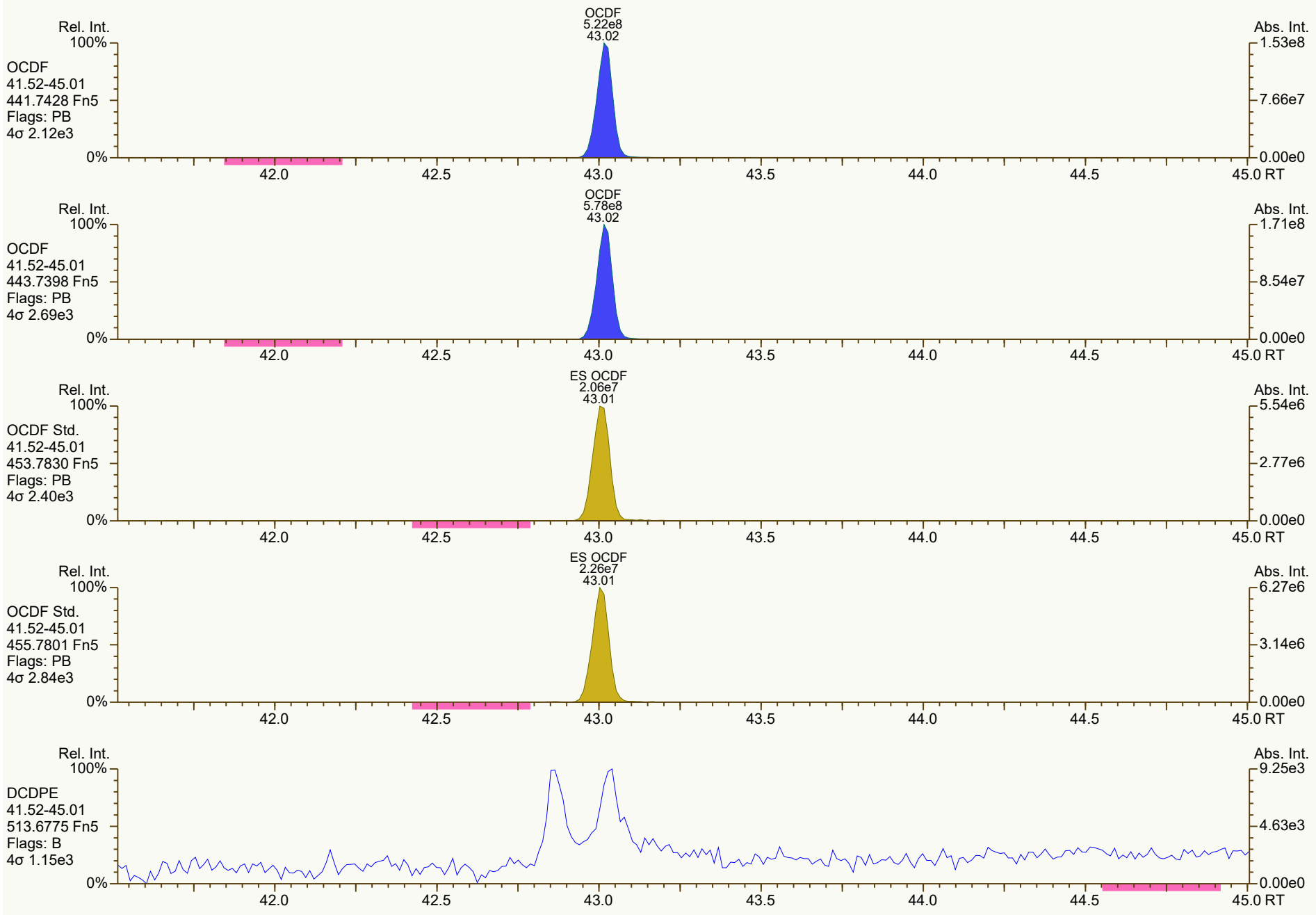

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

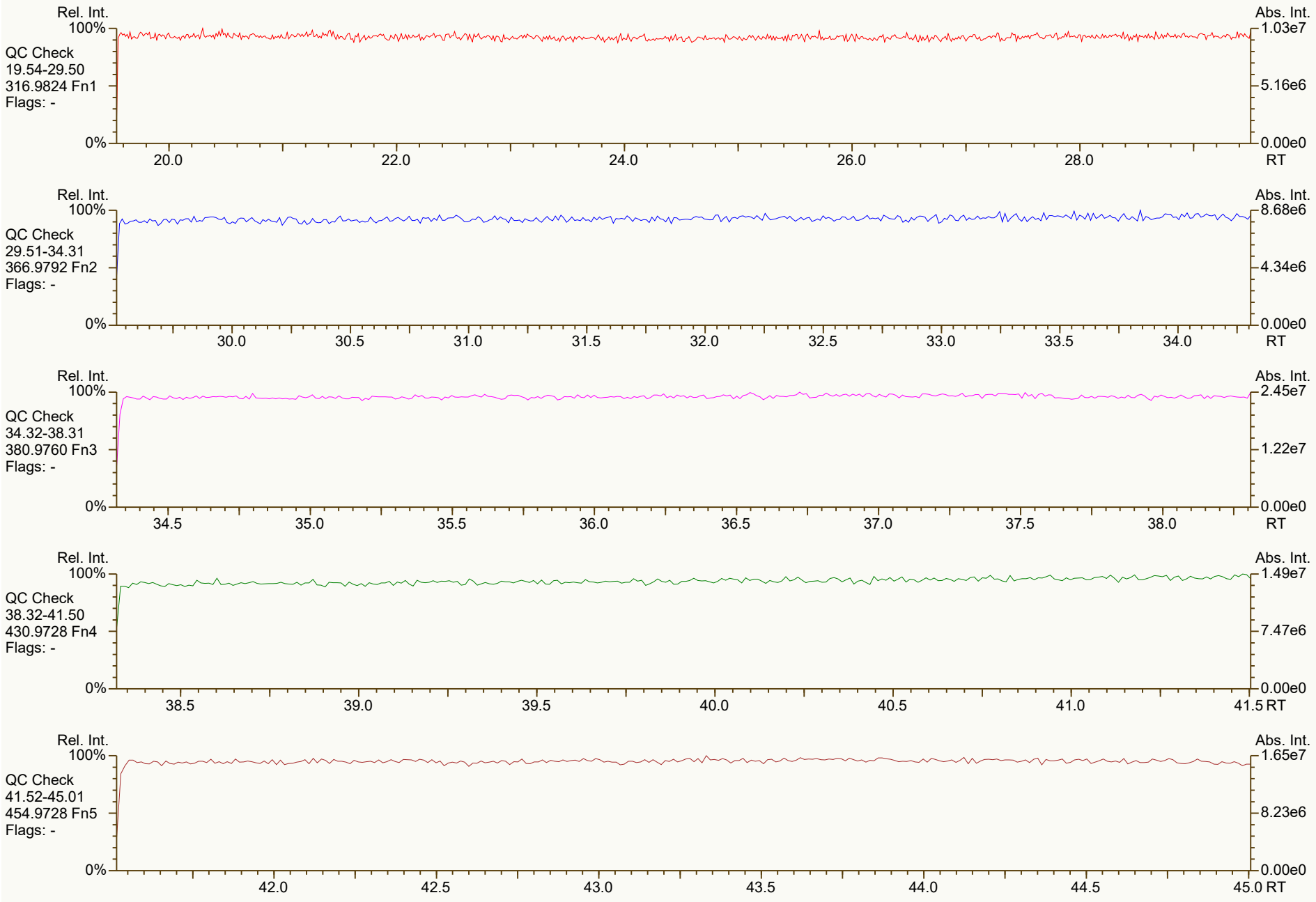

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
Abs. Int.
1.13e4
5.64e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.65e7
8.23e6
0.00e0

SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

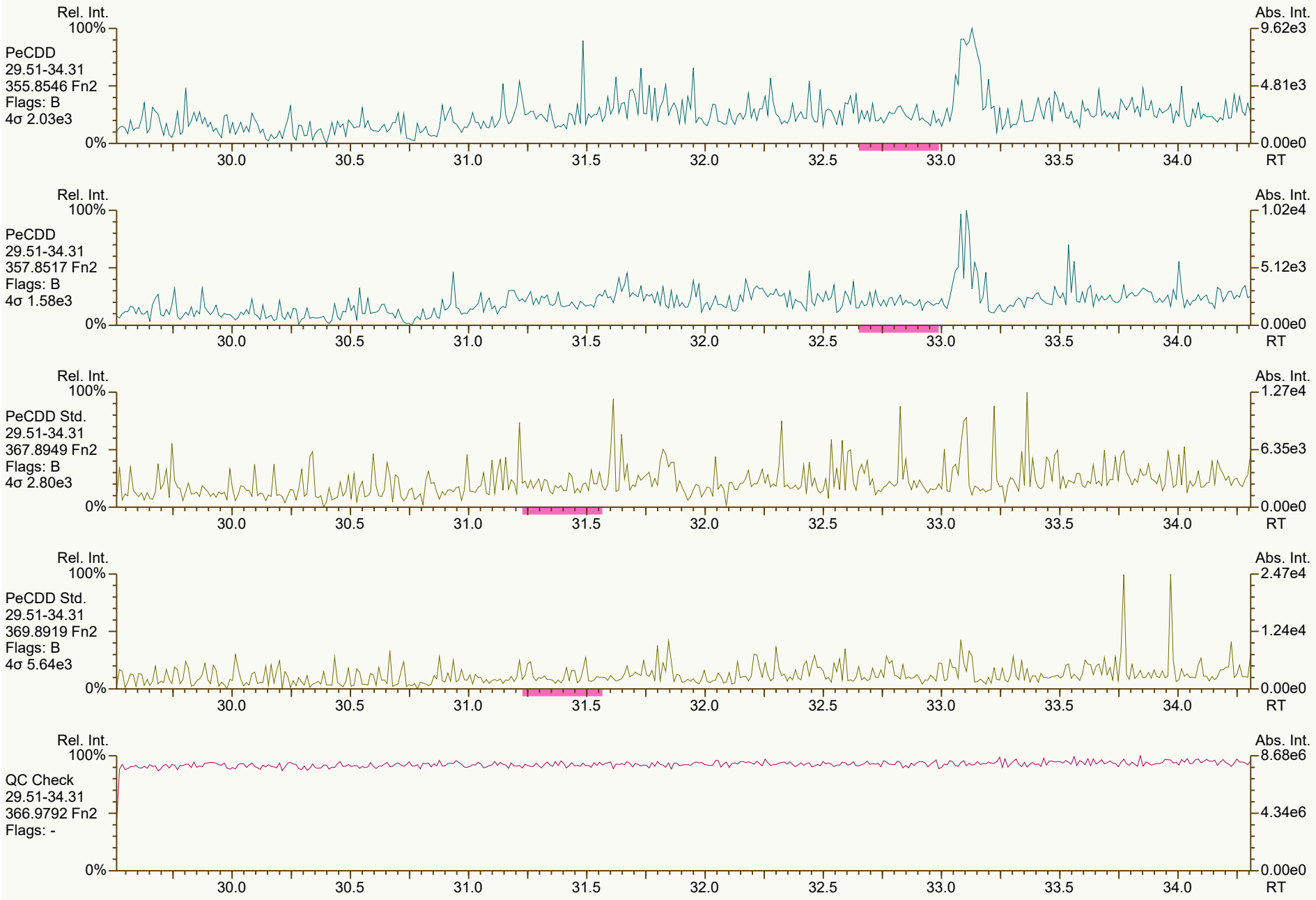
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF) *Peak annotation: Areas, Centroids*

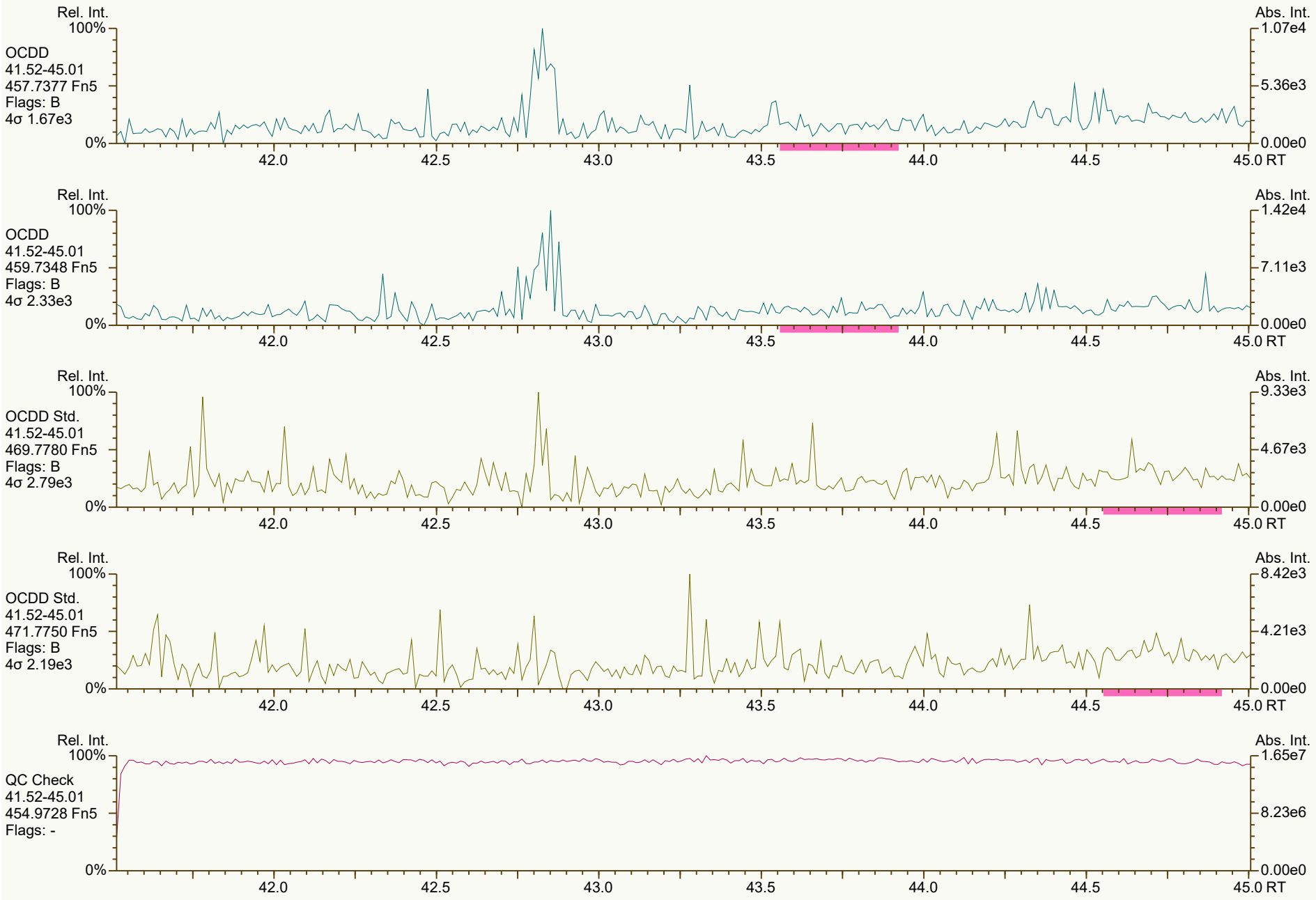
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1*


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

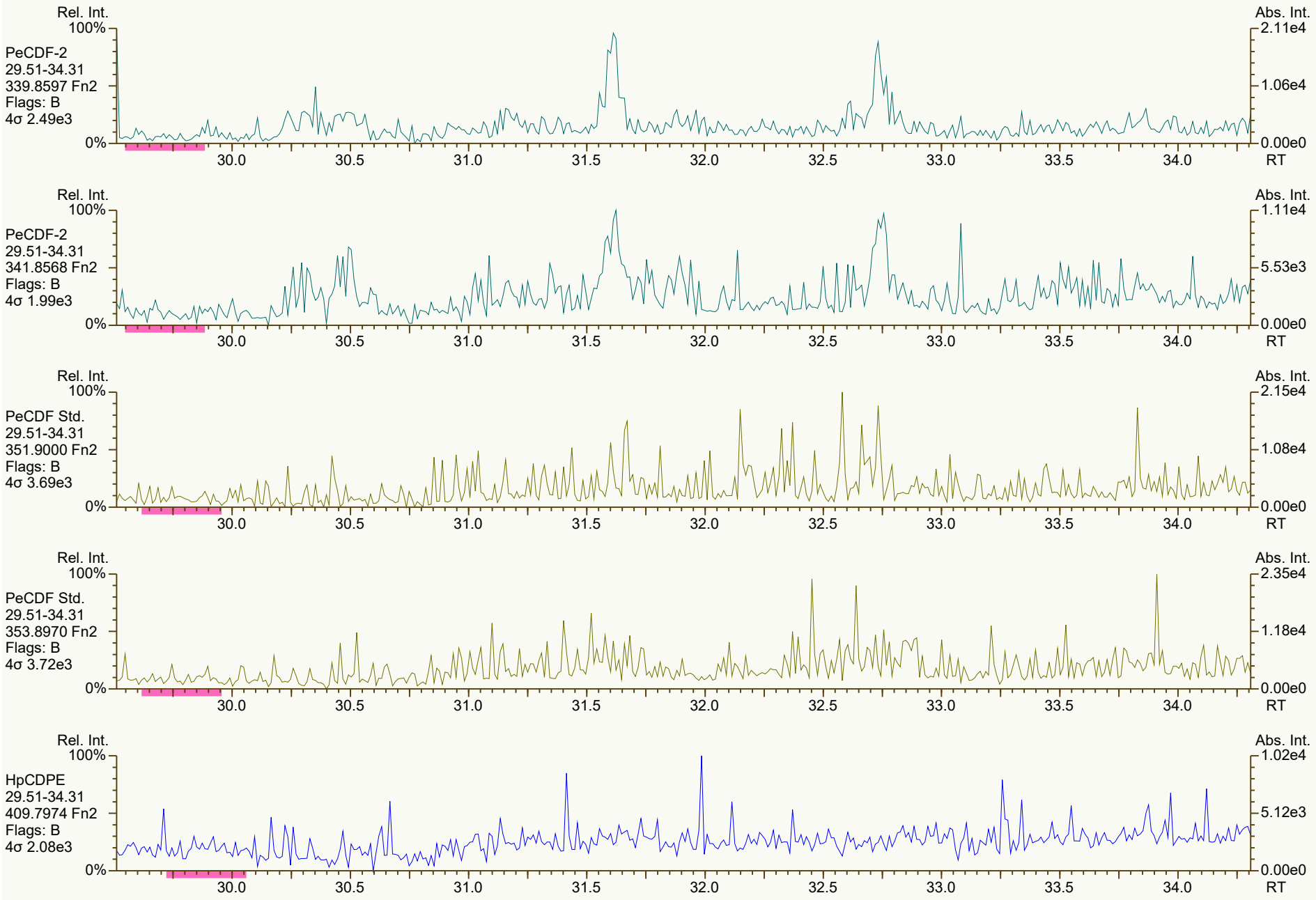

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

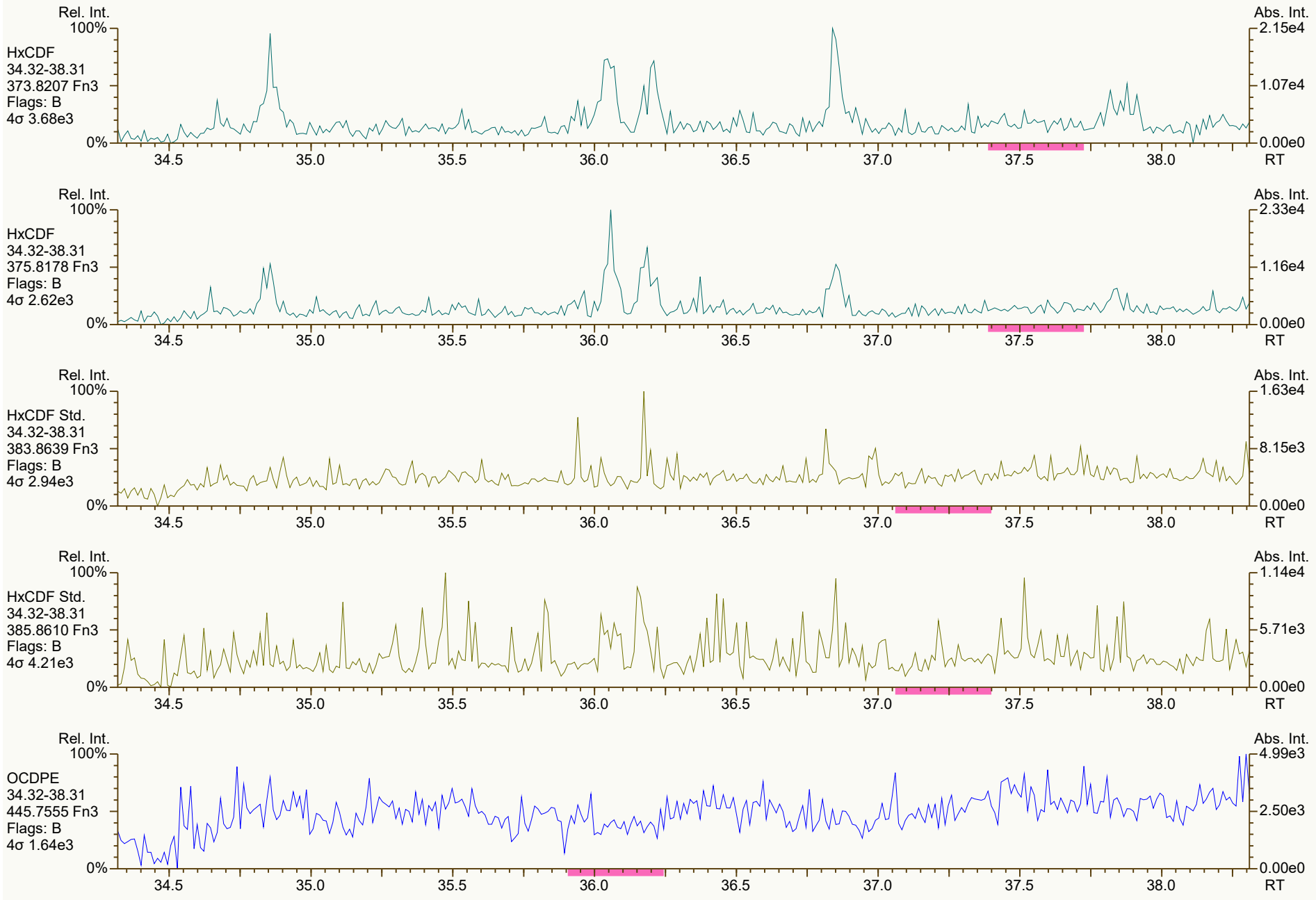

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
Abs. Int.
7.07e4
3.53e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
Abs. Int.
1.06e5
5.32e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
Abs. Int.
5.11e4
2.56e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
Abs. Int.
2.83e4
1.42e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
Abs. Int.
9.47e3
4.73e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

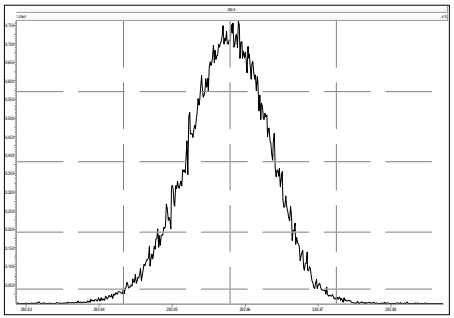

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

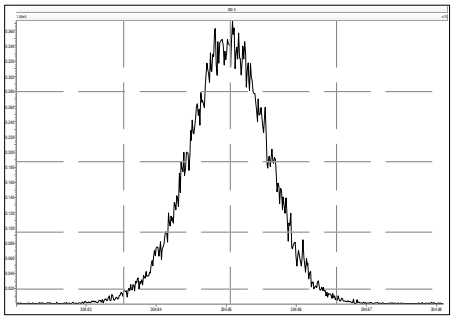
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

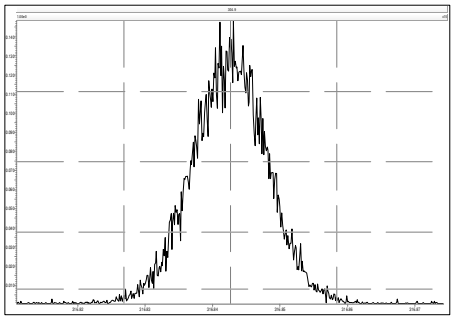
M 292.9824 R 10731



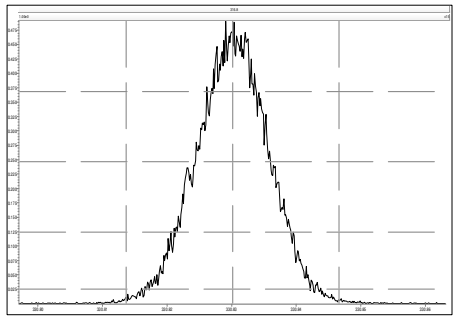
M 304.9824 R 11311



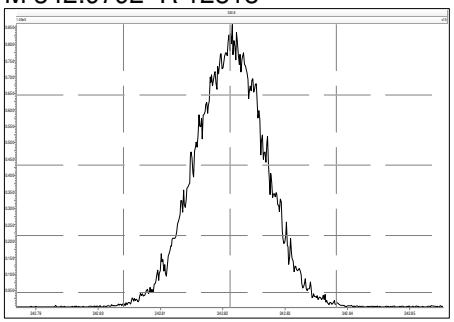
M 316.9824 R 12373



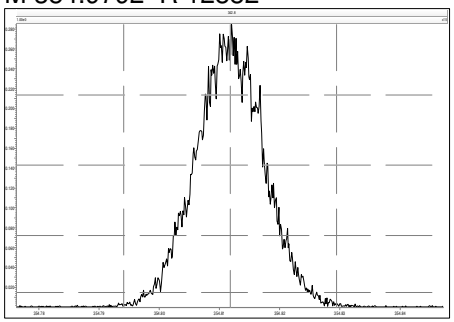
M 330.9792 R 12887



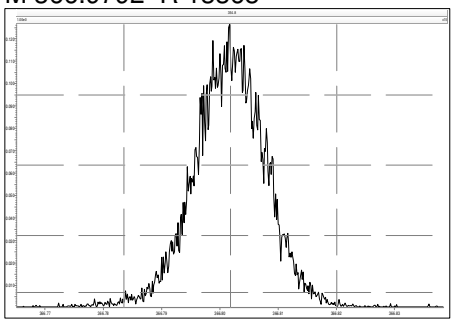
M 342.9792 R 12818



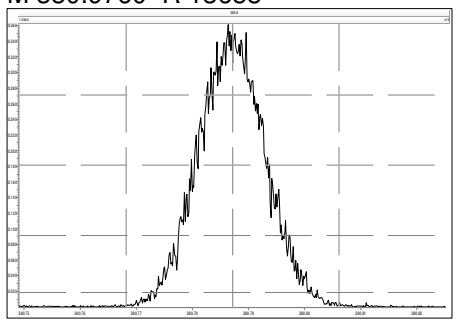
M 354.9792 R 12882



M 366.9792 R 13368



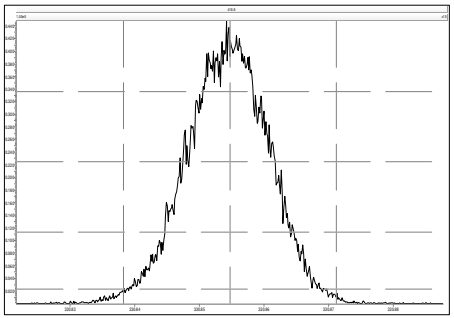
M 380.9760 R 13658



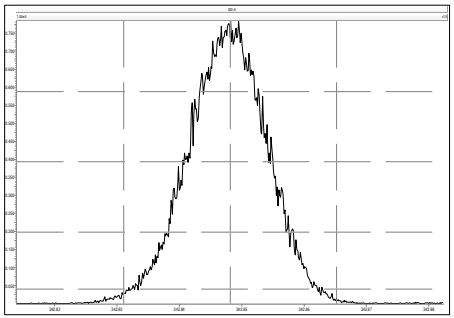
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

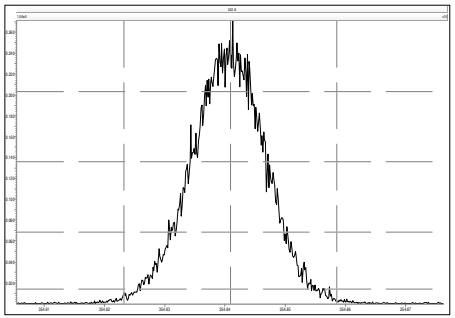
M 330.9792 R 11112



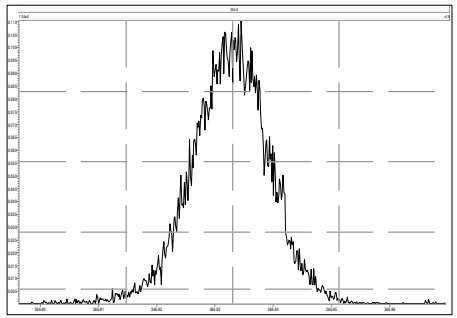
M 342.9792 R 11909



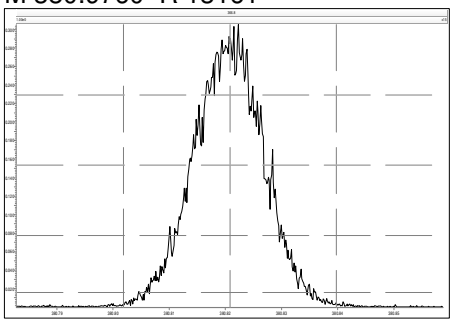
M 354.9792 R 11684



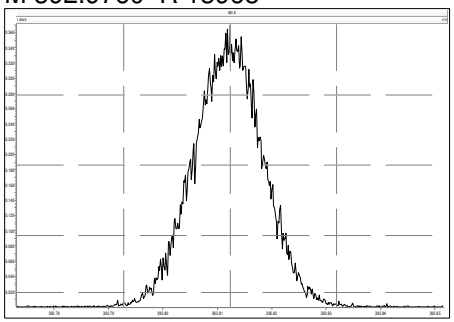
M 366.9792 R 11962



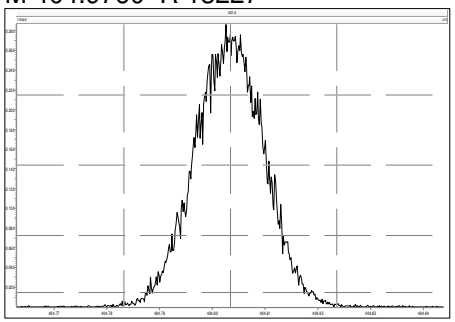
M 380.9760 R 13161



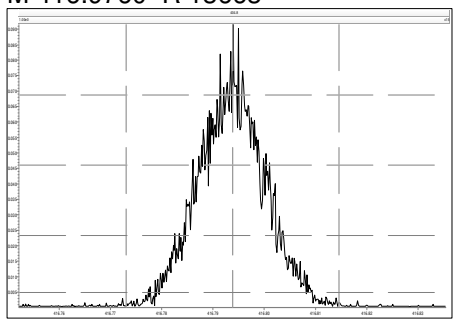
M 392.9760 R 13968



M 404.9760 R 13227



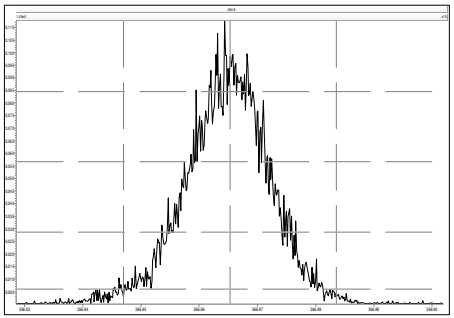
M 416.9760 R 13663



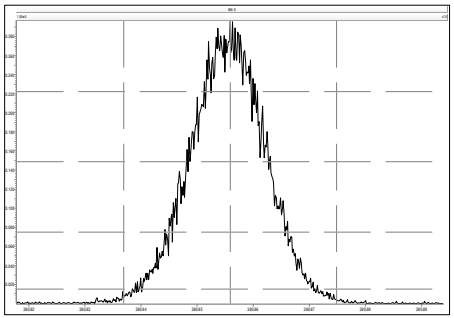
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

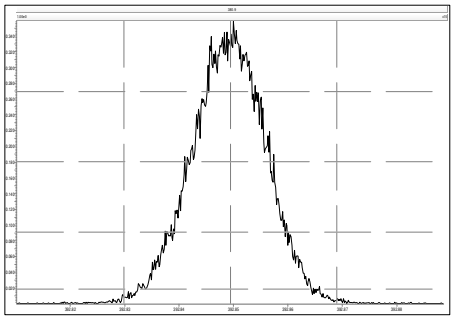
M 366.9792 R 10680



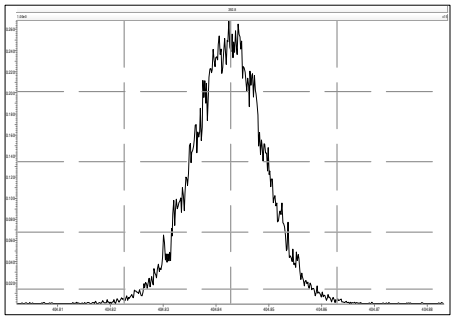
M 380.9760 R 12315



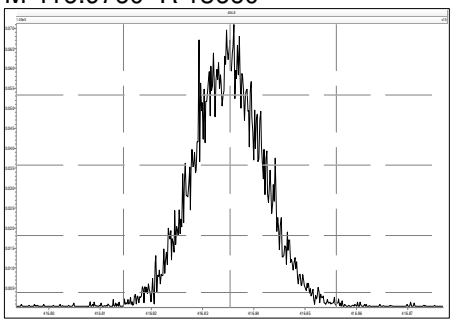
M 392.9760 R 12197



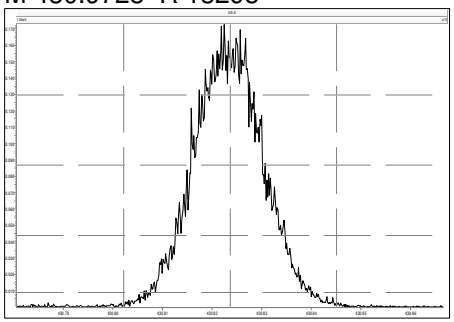
M 404.9760 R 12433



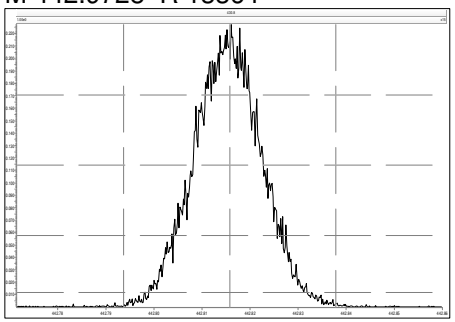
M 416.9760 R 13660



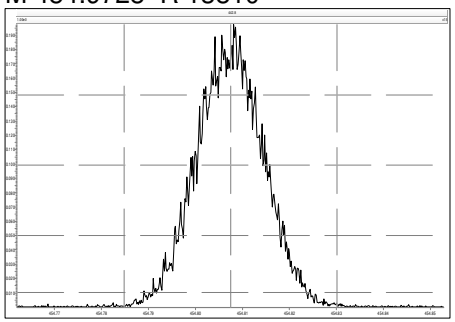
M 430.9728 R 13295



M 442.9728 R 13364



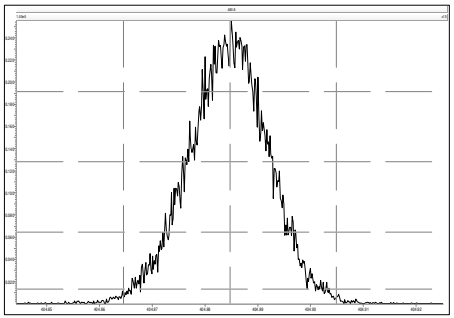
M 454.9728 R 13810



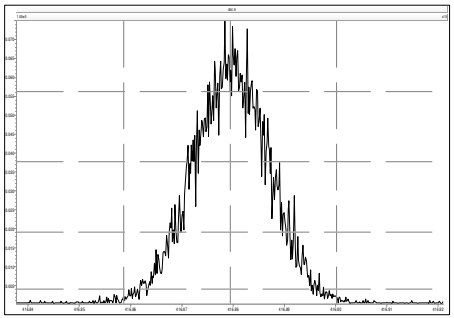
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

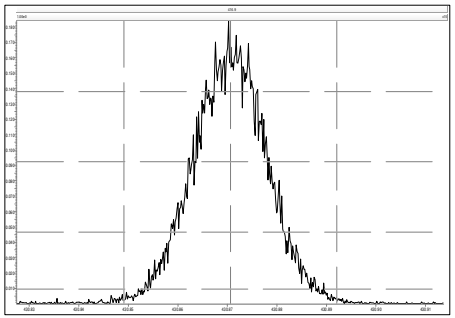
M 404.9760 R 11679



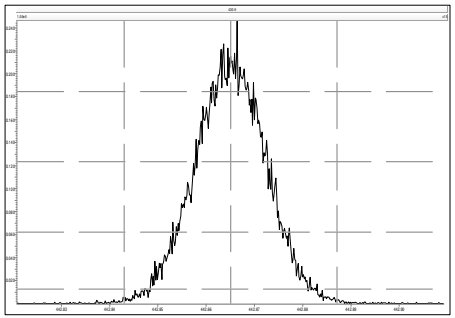
M 416.9760 R 12886



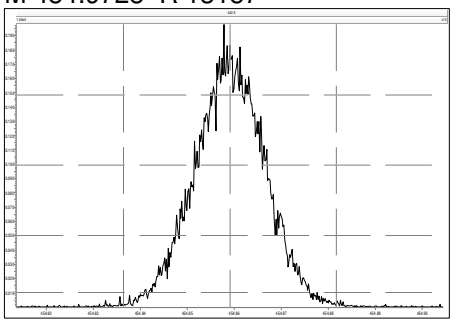
M 430.9728 R 12253



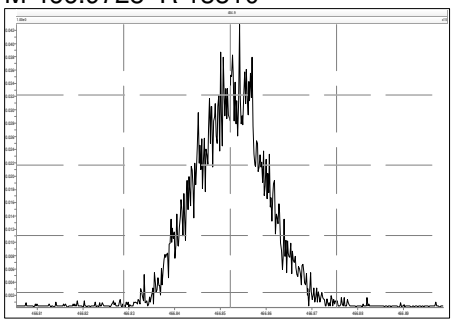
M 442.9728 R 12756



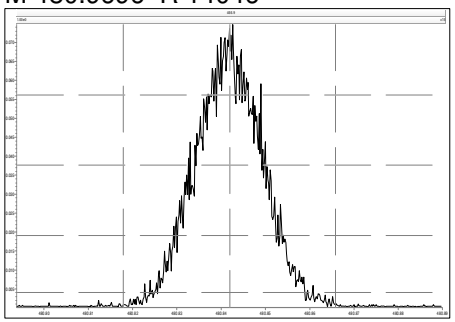
M 454.9728 R 13157



M 466.9728 R 13810



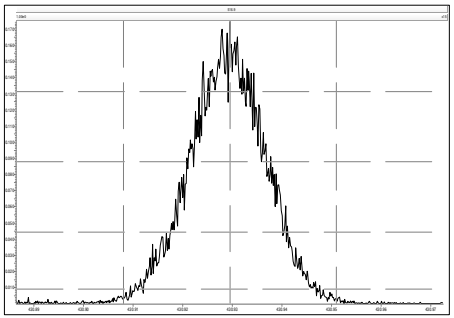
M 480.9696 R 14046



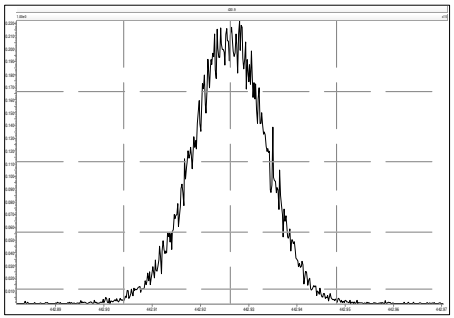
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

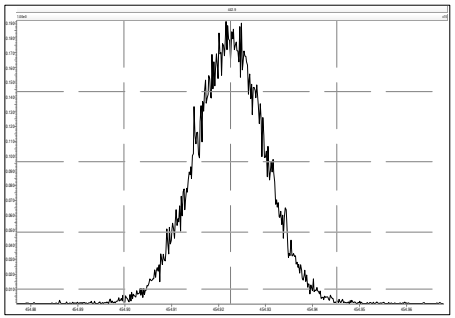
M 430.9728 R 11574



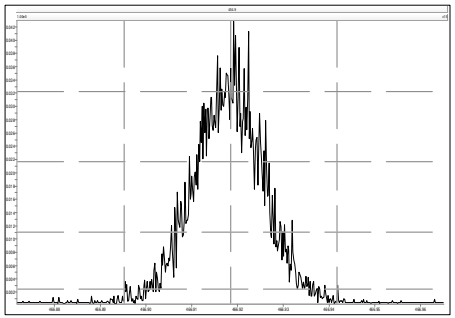
M 442.9728 R 12198



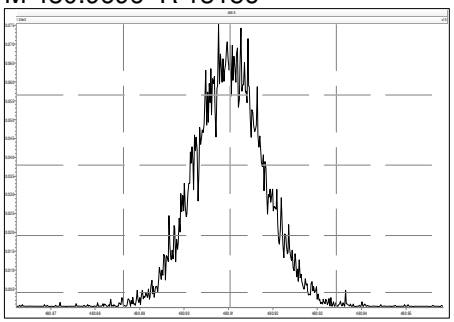
M 454.9728 R 12950



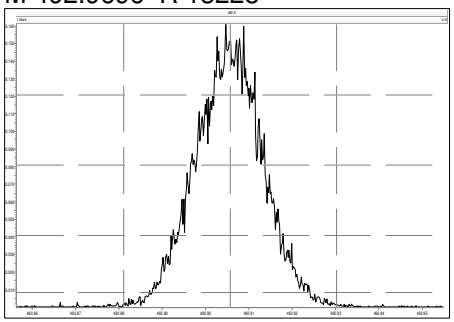
M 466.9728 R 13088



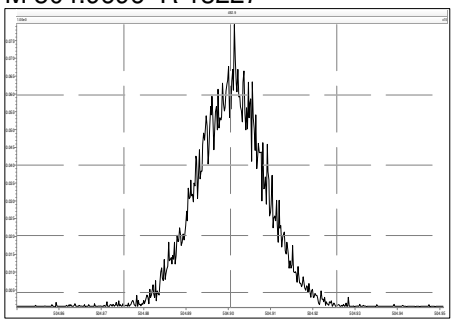
M 480.9696 R 13156



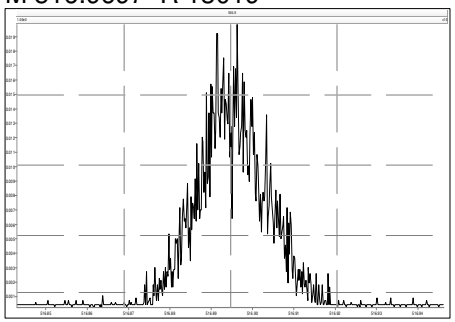
M 492.9696 R 13228



M 504.9696 R 13227



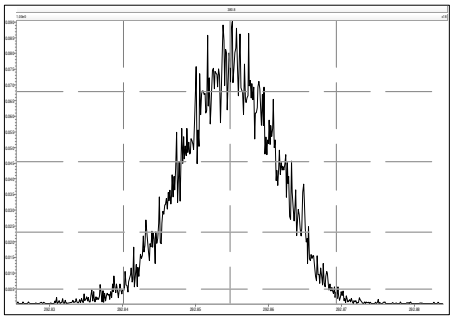
M 516.9697 R 13019



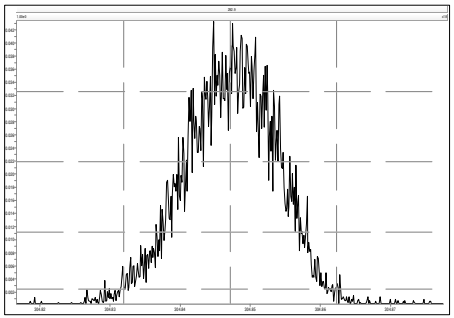
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

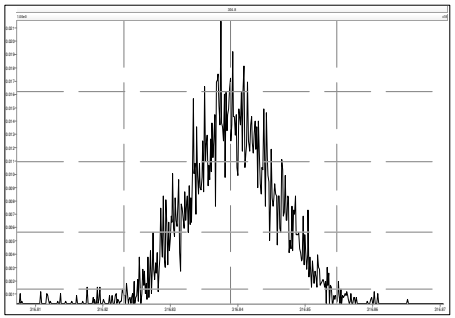
M 292.9824 R 10122



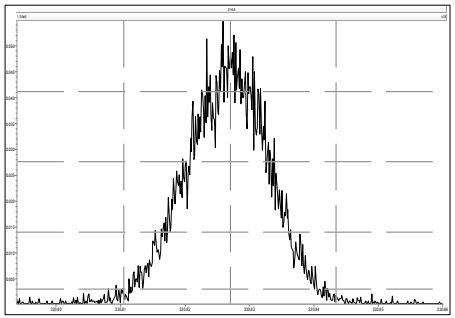
M 304.9824 R 10329



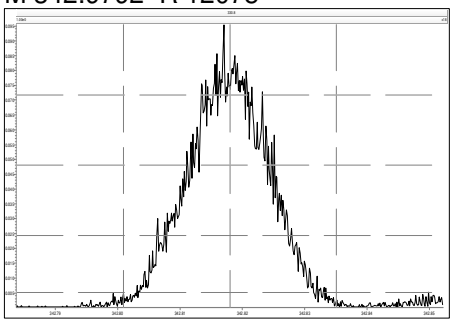
M 316.9824 R 11964



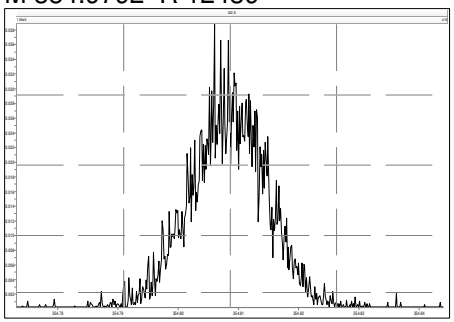
M 330.9792 R 11062



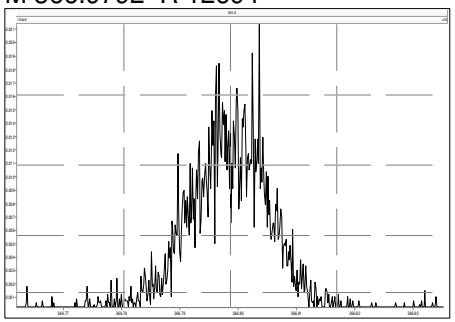
M 342.9792 R 12075



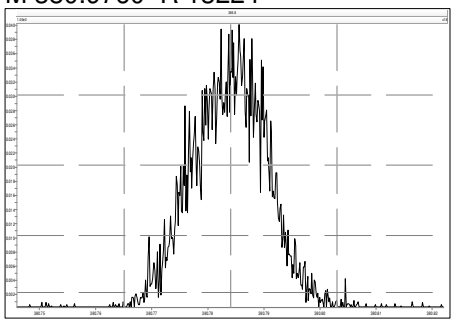
M 354.9792 R 12439



M 366.9792 R 12694



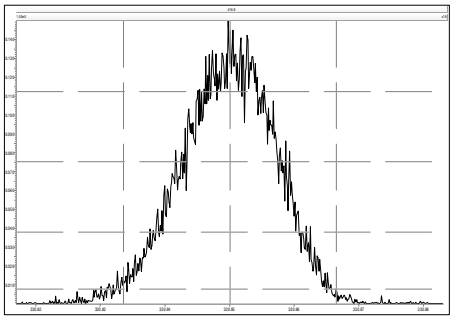
M 380.9760 R 13224



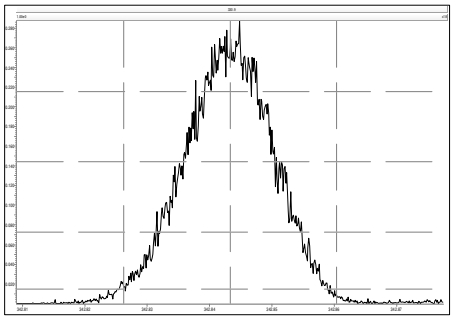
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

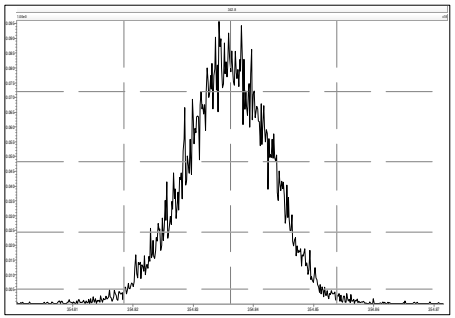
M 330.9792 R 10730



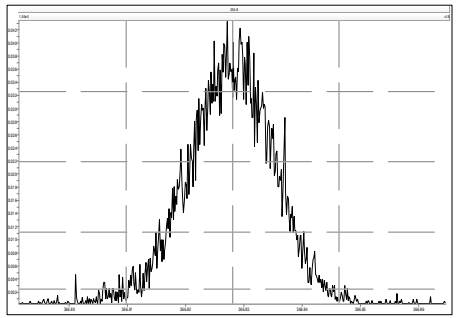
M 342.9792 R 10039



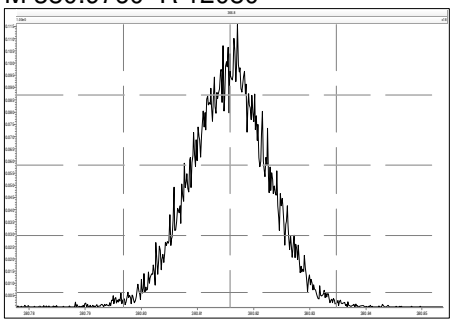
M 354.9792 R 11108



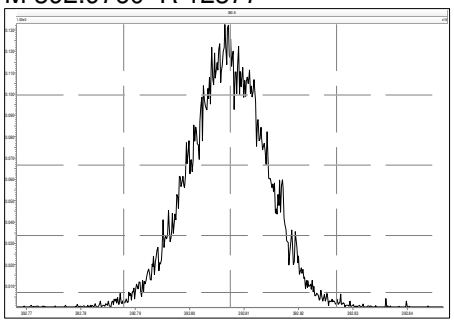
M 366.9792 R 11520



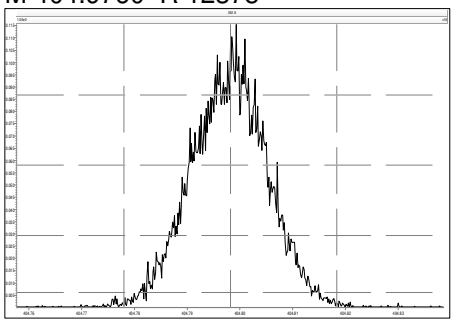
M 380.9760 R 12080



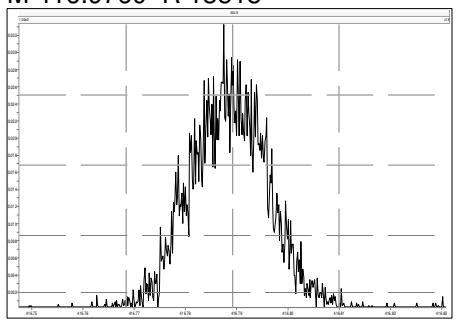
M 392.9760 R 12377



M 404.9760 R 12375



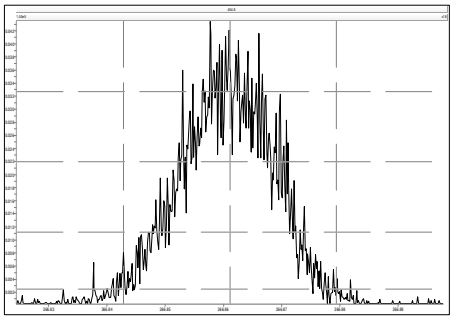
M 416.9760 R 13515



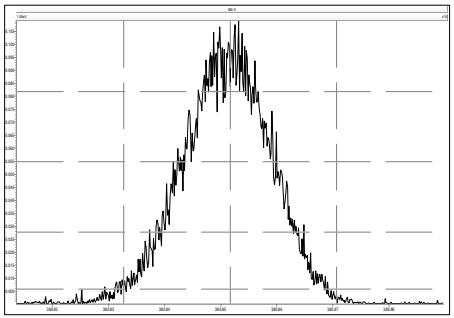
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

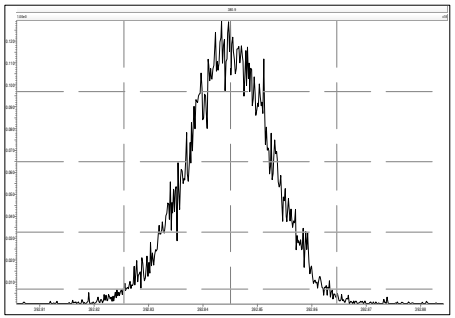
M 366.9792 R 10866



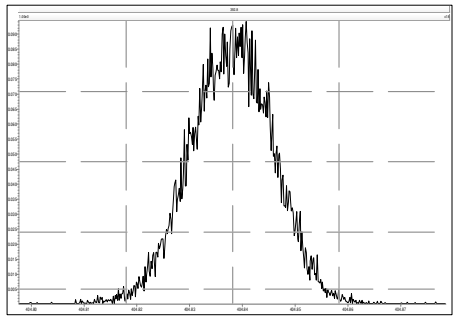
M 380.9760 R 10416



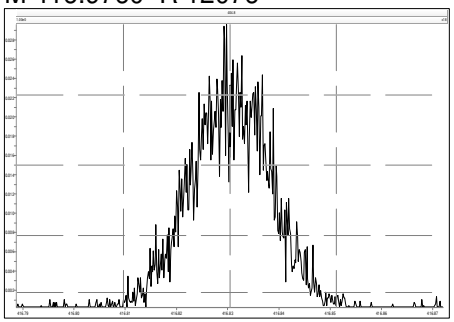
M 392.9760 R 10640



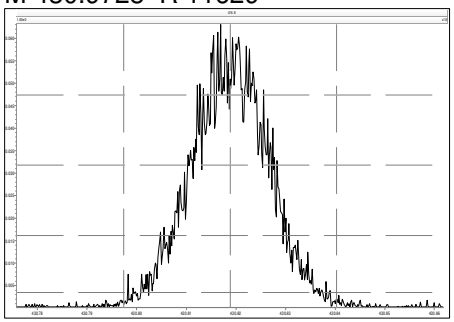
M 404.9760 R 11957



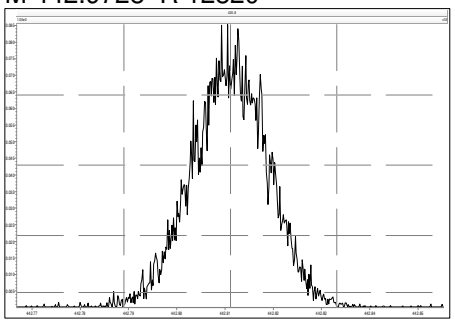
M 416.9760 R 12076



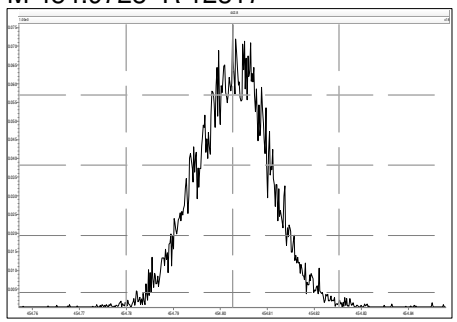
M 430.9728 R 11629



M 442.9728 R 12820



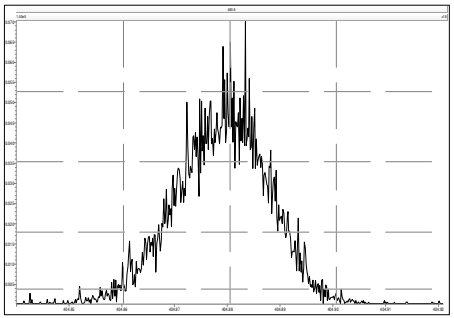
M 454.9728 R 12317



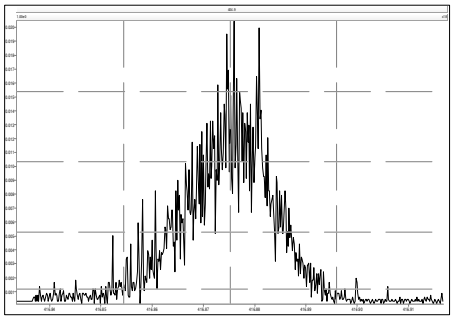
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

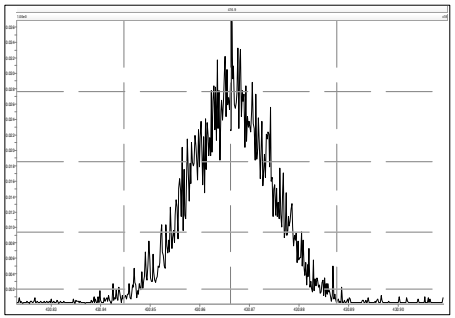
M 404.9760 R 10505



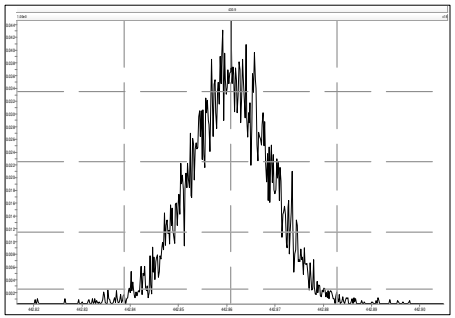
M 416.9760 R 12500



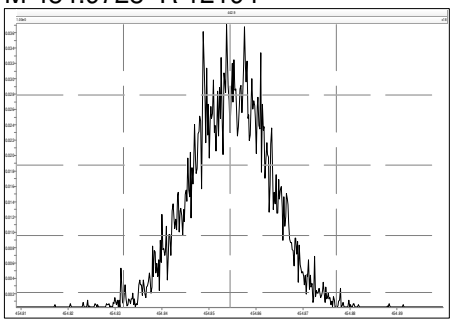
M 430.9728 R 11362



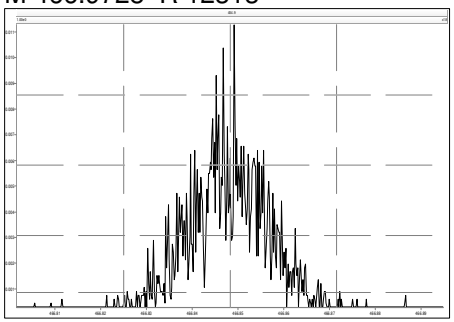
M 442.9728 R 12756



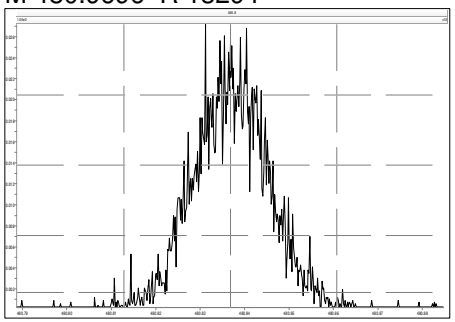
M 454.9728 R 12194



M 466.9728 R 12313



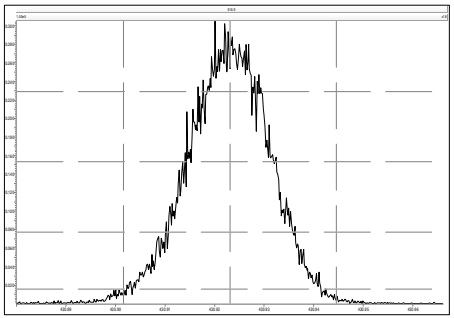
M 480.9696 R 13294



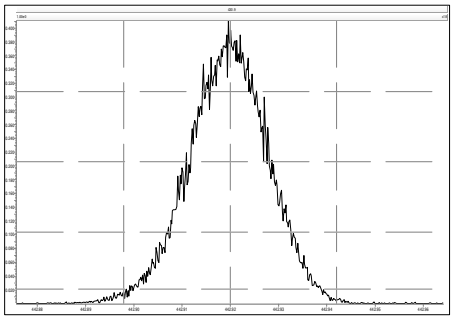
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

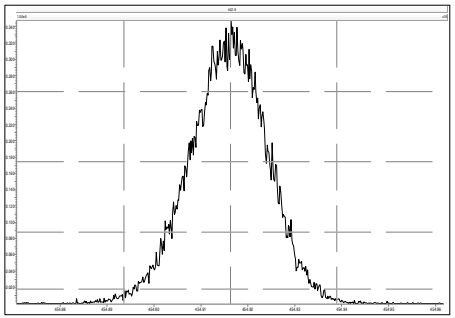
M 430.9728 R 11312



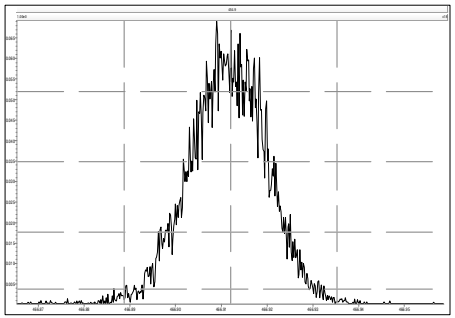
M 442.9728 R 11110



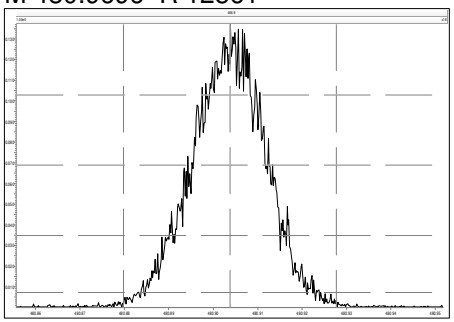
M 454.9728 R 11906



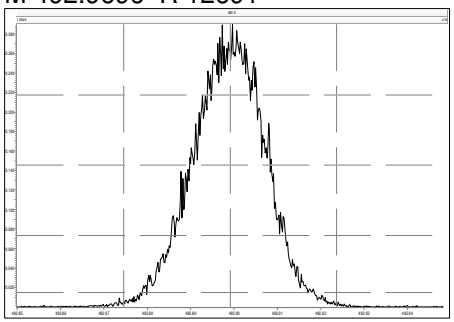
M 466.9728 R 12562



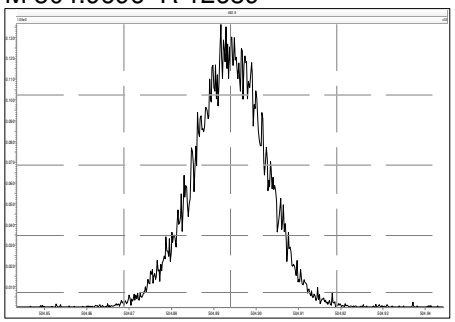
M 480.9696 R 12561



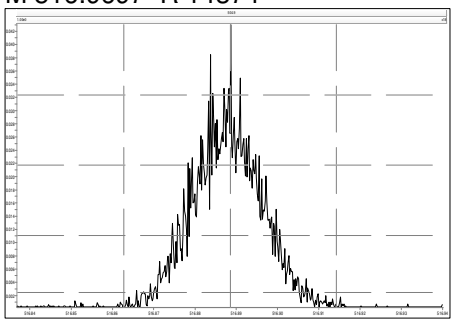
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



Lab ID: OPR1_18915_DF

REVIEWED
Tamara Burkamper , 2/14/2022, 11:07:06 AM

Acq'd: 12 Feb 2022 03:14 DTF

Wt/Vol: 1 uL

ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18915_OPR001

UTP: 14-Feb-2022 10:16:59 DTF

J-level: 0.25 pg/uL **Split:** 1

Checkcode: 251-322-NTR

Datafile: 220212C02

Report: 14 Feb 2022 10:18 TF

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

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.48		1.0008	1.0007	-0.2	4.17E+06	0.86	Y	1.18	11.8	3377.301	0.102
12378-PeCDD	33.82		1.0005	1.0005	0	1.48E+07	1.57	Y	1.04	51.2	2765.433	0.0825
123478-HxCDD	37.74		1.0004	1.0004	0	1.54E+07	1.27	Y	1.09	56.1	3478.586	0.109
123678-HxCDD	37.86		1.0035	1.0035	0	1.70E+07	1.28	Y	1.15	57.7	3478.586	0.106
123789-HxCDD	38.16		1.0113	1.0114	+0.2	1.69E+07	1.23	Y	1.05	54.3	3478.586	0.0988
1234678-HpCDD	40.84		1.0003	1.0003	0	1.37E+07	1.05	Y	1.06	55.6	5317.636	0.183
OCDD	43.55		1.0002	1.0003	+0.3	2.02E+07	0.92	Y	1.13	111	6312.266	0.386
2378-TCDF	27.62		1.0008	1.0006	-0.3	5.36E+06	0.82	Y	1.08	11.4	2948.985	0.0692
12378-PeCDF	32.37		1.0005	1.0005	0	2.27E+07	1.52	Y	1.02	51.2	5083.635	0.107
23478-PeCDF	33.49		1.0005	1.0005	0	2.21E+07	1.50	Y	1.02	55.1	5083.635	0.108
123478-HxCDF	36.73		1.0005	1.0005	0	1.97E+07	1.24	Y	1.27	52.9	5143.511	0.12
123678-HxCDF	36.88		1.0005	1.0005	0	2.36E+07	1.23	Y	1.15	52.5	5143.511	0.1
234678-HxCDF	37.56		1.0005	1.0004	-0.2	2.31E+07	1.24	Y	1.19	52.6	5143.511	0.0977
123789-HxCDF	38.52		1.0004	1.0004	0	1.64E+07	1.25	Y	1.16	50.8	5143.511	0.138
1234678-HpCDF	39.90		1.0003	1.0002	-0.2	2.46E+07	1.02	Y	1.37	52.4	3830.682	0.061
1234789-HpCDF	41.30		1.0003	1.0002	-0.2	1.32E+07	1.04	Y	1.31	52.2	3830.682	0.126
OCDF	43.72		1.0003	1.0003	0	1.97E+07	0.92	Y	1.07	106	2481.302	0.156

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46	1.0238	1.0238	0	2.98E+07	0.77	Y	1.05	85
ES 12378-PeCDD	33.80	1.2160	1.2163	+0.6	2.79E+07	1.58	Y	0.88	94.8
ES 123478-HxCDD	37.73	0.9919	0.9917	-0.5	2.51E+07	1.28	Y	0.97	83.9
ES 123678-HxCDD	37.85	0.9950	0.9949	-0.2	2.57E+07	1.23	Y	0.94	88.3
ES 123789-HxCDD	38.14	1.0027	1.0026	-0.2	2.97E+07	1.29	Y	1.09	88.3
ES 1234678-HpCDD	40.83	1.0730	1.0732	+0.5	2.33E+07	1.04	Y	0.91	82.8
ES OCDD	43.53	1.1437	1.1444	+1.8	3.22E+07	0.90	Y	0.62	83.5
ES 2378-TCDF	27.60	1.0520	1.0521	+0.2	4.35E+07	0.82	Y	1.06	76.1
ES 12378-PeCDF	32.36	1.2330	1.2334	+0.8	4.33E+07	1.56	Y	0.91	88
ES 23478-PeCDF	33.47	1.2754	1.2759	+1.0	3.94E+07	1.65	Y	0.88	82.7
ES 123478-HxCDF	36.72	0.9653	0.9651	-0.4	2.93E+07	0.53	Y	1.20	79.3
ES 123678-HxCDF	36.86	0.9691	0.9689	-0.4	3.90E+07	0.52	Y	1.35	93.4
ES 234678-HxCDF	37.54	0.9870	0.9869	-0.2	3.70E+07	0.53	Y	1.24	96.5
ES 123789-HxCDF	38.50	1.0121	1.0120	-0.2	2.77E+07	0.54	Y	1.16	77.8
ES 1234678-HpCDF	39.89	1.0484	1.0485	+0.2	3.43E+07	0.46	Y	0.97	115
ES 1234789-HpCDF	41.29	1.0851	1.0853	+0.5	1.93E+07	0.47	Y	0.85	73.5
ES OCDF	43.71	1.1483	1.1491	+2.1	3.47E+07	0.92	Y	0.81	69.6

Lab ID: OPR1_18915_DF | **Acq'd:** 12 Feb 2022 03:14 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18915_OPR001 | **UTP:** 14-Feb-2022 10:16:59 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 251-322-NTR

Datafile: 220212C02 | **Report:** 14 Feb 2022 10:18 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.79		-	-	-	3.35E+07	0.80	Y	-	-
JS 1234-TCDF	26.23		-	-	-	5.40E+07	0.81	Y	-	-
JS 123467-HxCDD	38.04		-	-	-	1.54E+07	1.28	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0245	1.0246	+0.2	1.54E+07	n/a	-	1.20	95.5
CS 12347-PeCDD	33.30		1.1979	1.1982	+0.6	2.90E+07	1.66	Y	0.75	115
CS 12346-PeCDF	31.83		1.2128	1.2132	+0.8	4.68E+07	1.57	Y	0.85	102
CS 123469-HxCDF	37.18		0.9774	0.9772	-0.4	3.77E+07	0.53	Y	1.12	109
CS 1234689-HpCDF	40.29		1.0589	1.0592	+0.7	3.03E+07	0.46	Y	0.89	111
~~SS 37Cl-2378-TCDD~~	~~28.48~~		~~1.0245~~	~~1.0246~~	~~+0.2~~	~~1.54E+07~~	~~n/a~~		~~1.15~~	~~113~~
~~SS 12347-PeCDD~~	~~33.30~~		~~1.1979~~	~~1.1982~~	~~+0.6~~	~~2.90E+07~~	~~1.66~~	~~Y~~	~~0.86~~	~~121~~
~~SS 12346-PeCDF~~	~~31.83~~		~~1.2128~~	~~1.2132~~	~~+0.8~~	~~4.68E+07~~	~~1.57~~	~~Y~~	~~0.94~~	~~116~~
~~SS 123469-HxCDF~~	~~37.18~~		~~0.9774~~	~~0.9772~~	~~-0.4~~	~~3.77E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~117~~
~~SS 1234689-HpCDF~~	~~40.29~~		~~1.0589~~	~~1.0592~~	~~+0.7~~	~~3.03E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~96.1~~

Totals	Conc	EMPC
Total TCDD	55.7	55.7
Total PeCDD	76.3	76.3
Total HxCDD	183	183
Total HpCDD	69	69
Total Tetra-Octa Dioxins	496	496
Total TCDF	65.4	65.4
Total PeCDF	211	211
Total HxCDF	327	327
Total HpCDF	105	105
Total Tetra-Octa Furans	815	815
Total Tetra-Octa Dioxins & Furans	1310	1310

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.855	0.86
Response	4.18E+06	4.17E+06

Lab ID: OPR1_18915_DF **Acq'd: 12 Feb 2022 03:14 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18915_OPR001 **UTP: 14-Feb-2022 10:16:59 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 251-322-NTR**

Datafile: 220212C02 **Report: 14 Feb 2022 10:18 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.83		0.8737	0.8726	-1.6	5.59E+06	0.80	Y	1.18	15.8	3377.301	0.102
1379-TCDD	NotFnd		0.8860						1.18		3377.301	0.102
1369-TCDD	NotFnd		0.9009						1.18		3377.301	0.102
1469-TCDD	NotFnd		0.9281						1.18		3377.301	0.102
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3377.301	0.102
1378-TCDD	NotFnd		0.9432						1.18		3377.301	0.102
1268-TCDD	NotFnd		0.9500						1.18		3377.301	0.102
1478-TCDD	NotFnd		0.9586						1.18		3377.301	0.102
1279-TCDD	NotFnd		0.9645						1.18		3377.301	0.102
1234/1269-TCDD	NotFnd		0.9770						1.18		3377.301	0.102
1236-TCDD	NotFnd		0.9817						1.18		3377.301	0.102
1237/1238-TCDD	NotFnd		0.9905						1.18		3377.301	0.102
1239-TCDD	28.32		0.9952	0.9952	0	3.93E+06	0.83	Y	1.18	11.1	3377.301	0.102
2378-TCDD	**28.48**		**1.0008**	1.0007	**-0.2**	4.17E+06	0.86	Y	**1.18**	**11.8**	**3377.301**	**0.102**
1278-TCDD	NotFnd		1.0121						1.18		3377.301	0.102
1267-TCDD	NotFnd		1.0167						1.18		3377.301	0.102
1289-TCDD	29.45		1.0345	1.0349	+0.7	5.96E+06	0.76	Y	1.18	16.9	3377.301	0.102
12479/12468-PeCDD	31.32		0.9267	0.9265	-0.4	3.49E+06	1.55	Y	1.04	12	2765.433	0.0825
12469-PeCDD	NotFnd		0.9425						1.04		2765.433	0.0825
12368-PeCDD	NotFnd		0.9588						1.04		2765.433	0.0825
12478-PeCDD	NotFnd		0.9643						1.04		2765.433	0.0825
12379-PeCDD	NotFnd		0.9673						1.04		2765.433	0.0825
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		2765.433	0.0825
12346/12347-PeCDD	NotFnd		0.9858						1.04		2765.433	0.0825
12378-PeCDD	33.82		**1.0005**	**1.0005**	**0**	**1.48E+07**	**1.57**	**Y**	**1.04**	**51.2**	**2765.433**	**0.0825**
12367-PeCDD	NotFnd		1.0033						1.04		2765.433	0.0825
12389-PeCDD	34.26		1.0134	1.0135	+0.2	3.81E+06	1.57	Y	1.04	13.1	2765.433	0.0825
124679/124689-HxCDD	35.99		0.9542	0.9540	-0.4	4.43E+06	1.27	Y	1.10	15	3478.586	0.104
123468-HxCDD	NotFnd		0.9715						1.10		3478.586	0.104
123679/123689-HxCDD	NotFnd		0.9793						1.10		3478.586	0.104
123469-HxCDD	NotFnd		0.9828						1.10		3478.586	0.104
123478-HxCDD	37.74		**1.0004**	**1.0004**	**0**	**1.54E+07**	**1.27**	**Y**	1.09	**56.1**	**3478.586**	**0.109**
123678-HxCDD	37.86		**1.0035**	**1.0035**	**0**	**1.70E+07**	**1.28**	**Y**	1.15	**57.7**	**3478.586**	**0.106**
123467-HxCDD	NotFnd		1.0085						1.10		3478.586	0.104
123789-HxCDD	38.16		**1.0113**	**1.0114**	**+0.2**	**1.69E+07**	**1.23**	**Y**	1.05	**54.3**	**3478.586**	**0.0988**

Lab ID: OPR1_18915_DF **Acq'd: 12 Feb 2022 03:14 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18915_OPR001 **UTP: 14-Feb-2022 10:16:59 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 251-322-NTR**

Datafile: 220212C02 **Report: 14 Feb 2022 10:18 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16		0.9837	0.9836	-0.2	3.32E+06	1.04	Y	1.06	13.4	5317.636	0.183
1234678-HpCDD	**40.84**		**1.0003**	**1.0003**	**0**	**1.37E+07**	**1.05**	**Y**	**1.06**	**55.6**	**5317.636**	**0.183**
OCDD	**43.55**		**1.0002**	**1.0003**	**+0.3**	**2.02E+07**	**0.92**	**Y**	**1.13**	**111**	**6312.266**	**0.386**
OCDD-a	43.54	**EMPC**	1.0001	1.0001	0	1.01E+06	3.08	N	0.07	87.6	4159.591	3.98
1368-TCDF	22.73		0.8251	0.8234	-2.3	7.72E+06	0.79	Y	1.08	16.4	2948.985	0.0692
1468-TCDF	NotFnd		0.8458						1.08		2948.985	0.0692
2468-TCDF	23.94		0.8686	0.8674	-1.7	1.91E+06	0.74	Y	1.08	4.07	2948.985	0.0692
1346/1246-TCDF	NotFnd		0.8814						1.08		2948.985	0.0692
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2948.985	0.0692
1348-TCDF	NotFnd		0.8962						1.08		2948.985	0.0692
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2948.985	0.0692
1268-TCDF	NotFnd		0.9145						1.08		2948.985	0.0692
1467-TCDF	NotFnd		0.9193						1.08		2948.985	0.0692
1478-TCDF	NotFnd		0.9254						1.08		2948.985	0.0692
1369/1237-TCDF	NotFnd		0.9387						1.08		2948.985	0.0692
2467-TCDF	NotFnd		0.9433						1.08		2948.985	0.0692
2368-TCDF	NotFnd		0.9489						1.08		2948.985	0.0692
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2948.985	0.0692
1278-TCDF	NotFnd		0.9683						1.08		2948.985	0.0692
1349-TCDF	NotFnd		0.9722						1.08		2948.985	0.0692
1267-TCDF	NotFnd		0.9783						1.08		2948.985	0.0692
2346/1249-TCDF	NotFnd		0.9850						1.08		2948.985	0.0692
2347/1279-TCDF	NotFnd		0.9926						1.08		2948.985	0.0692
2348-TCDF	27.51		0.9967	0.9967	0	7.50E+06	0.72	Y	1.08	16	2948.985	0.0692
2378-TCDF	**27.62**		**1.0008**	**1.0006**	**-0.3**	**5.36E+06**	**0.82**	**Y**	**1.08**	**11.4**	**2948.985**	**0.0692**
2367/3467-TCDF	NotFnd		1.0137						1.08		2948.985	0.0692
1269-TCDF	NotFnd		1.0223						1.08		2948.985	0.0692
1239-TCDF	NotFnd		1.0321						1.08		2948.985	0.0692
1289-TCDF	29.62		1.0722	1.0731	+1.6	8.21E+06	0.83	Y	1.08	17.5	2948.985	0.0692
13468/12468-PeCDF	29.54		0.9139	0.9129	-1.8	4.00E+07	1.56	Y	1.02	94.6	3235.761	0.0686
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		5083.635	0.108
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		5083.635	0.108
14678-PeCDF	NotFnd		0.9692						1.02		5083.635	0.108
13479-PeCDF	NotFnd		0.9723						1.02		5083.635	0.108
13469/12479-PeCDF	NotFnd		0.9797						1.02		5083.635	0.108
12346-PeCDF	NotFnd		0.9840						1.02		5083.635	0.108

Lab ID: OPR1_18915_DF **Acq'd: 12 Feb 2022 03:14 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18915_OPR001 **UTP: 14-Feb-2022 10:16:59 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 251-322-NTR**

Datafile: 220212C02 **Report: 14 Feb 2022 10:18 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		5083.635	0.108
12347-PeCDF	NotFnd		0.9894						1.02		5083.635	0.108
12348-PeCDF	NotFnd		0.9940						1.02		5083.635	0.108
12378-PeCDF	**32.37**		**1.0005**	**1.0005**	**0**	**2.27E+07**	**1.52**	**Y**	**1.02**	**51.2**	**5083.635**	**0.107**
12678/12367-PeCDF	NotFnd		1.0089						1.02		5083.635	0.108
12379-PeCDF	NotFnd		1.0142						1.02		5083.635	0.108
12679-PeCDF	NotFnd		0.9929						1.02		5083.635	0.108
23467/12369-PeCDF	NotFnd		0.9967						1.02		5083.635	0.108
23478-PeCDF	**33.49**		**1.0005**	**1.0005**	**0**	**2.21E+07**	**1.50**	**Y**	**1.02**	**55.1**	**5083.635**	**0.108**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5083.635	0.108
12349-PeCDF	NotFnd		1.0100						1.02		5083.635	0.108
12389-PeCDF	34.56		1.0324	1.0326	+0.4	4.43E+06	1.65	Y	1.02	10.5	5083.635	0.108
123468-HxCDF	35.34		0.9627	0.9626	-0.2	4.71E+07	1.24	Y	1.19	119	5143.511	0.112
124678/134678-HxCDF	NotFnd		0.9682						1.19		5143.511	0.112
134679-HxCDF	NotFnd		0.9744						1.19		5143.511	0.112
124679-HxCDF	NotFnd		0.9798						1.19		5143.511	0.112
124689-HxCDF	NotFnd		0.9858						1.19		5143.511	0.112
123467-HxCDF	NotFnd		0.9972						1.19		5143.511	0.112
123478-HxCDF	**36.73**		**1.0005**	**1.0005**	**0**	**1.97E+07**	**1.24**	**Y**	**1.27**	**52.9**	**5143.511**	**0.12**
123678-HxCDF	**36.88**		**1.0005**	**1.0005**	**0**	**2.36E+07**	**1.23**	**Y**	**1.15**	**52.5**	**5143.511**	**0.1**
123479-HxCDF	NotFnd		1.0049						1.19		5143.511	0.112
123469-HxCDF	NotFnd		1.0090						1.19		5143.511	0.112
123679-HxCDF	NotFnd		0.9942						1.19		5143.511	0.112
234678-HxCDF	**37.56**		**1.0005**	**1.0004**	**-0.2**	**2.31E+07**	**1.24**	**Y**	**1.19**	**52.6**	**5143.511**	**0.0977**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		5143.511	0.112
123789-HxCDF	**38.52**		**1.0004**	**1.0004**	**0**	**1.64E+07**	**1.25**	**Y**	**1.16**	**50.8**	**5143.511**	**0.138**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		5143.511	0.112
1234678-HpCDF	**39.90**		**1.0003**	**1.0002**	**-0.2**	**2.46E+07**	**1.02**	**Y**	**1.37**	**52.4**	**3830.682**	**0.061**
1234679-HpCDF	NotFnd		1.0068						1.34		3830.682	0.0843
1234689-HpCDF	NotFnd		1.0103						1.34		3830.682	0.0843
1234789-HpCDF	**41.30**		**1.0003**	**1.0002**	**-0.2**	**1.32E+07**	**1.04**	**Y**	**1.31**	**52.2**	**3830.682**	**0.126**
OCDF	**43.72**		**1.0003**	**1.0003**	**0**	**1.97E+07**	**0.92**	**Y**	**1.07**	**106**	**2481.302**	**0.156**
OCDF-a	43.72	**EMPC**	1.0002	1.0002	0	1.14E+06	2.91	N	0.07	99	3683.928	3.73

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220212C02	Analysis Date:	12-FEB-2022 03:14:03
Lab ID:	OPR1_18915_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.8	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	51.2	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	56.1	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	57.7	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	54.3	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	55.6	35	-	70	Y
OCDD	100	111	78	-	144	Y
2,3,7,8-TCDF	10	11.4	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	51.2	40	-	67	Y
2,3,4,7,8-PeCDF	50	55.1	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	52.9	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	52.5	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	52.6	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	50.8	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	52.4	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	52.2	39	-	69	Y
OCDF	100	106	63	-	170	Y

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

Processed: 14 Feb 2022 10:18 Analyst: TF

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220212C02	Analysis Date:	12-FEB-2022 03:14:03
Lab ID:	OPR1_18915_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	85	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	94.8	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	83.9	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	88.3	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	88.3	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	82.8	26	-	166	Y
13C-OCDD	200	167	26	-	397	Y
13C-2,3,7,8-TCDF	100	76.1	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	88	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	82.7	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	79.3	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	93.4	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	96.5	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	77.8	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	115	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	73.5	20	-	186	Y
13C-OCDF	200	139	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	38.2	12.4	-	76.4	Y

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

Processed: 14 Feb 2022 10:18 Analyst: TF

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220212C02	Analysis Date:	12-FEB-2022 03:14:03
Lab ID:	OPR1_18915_DF		

Window Defining Standards Results

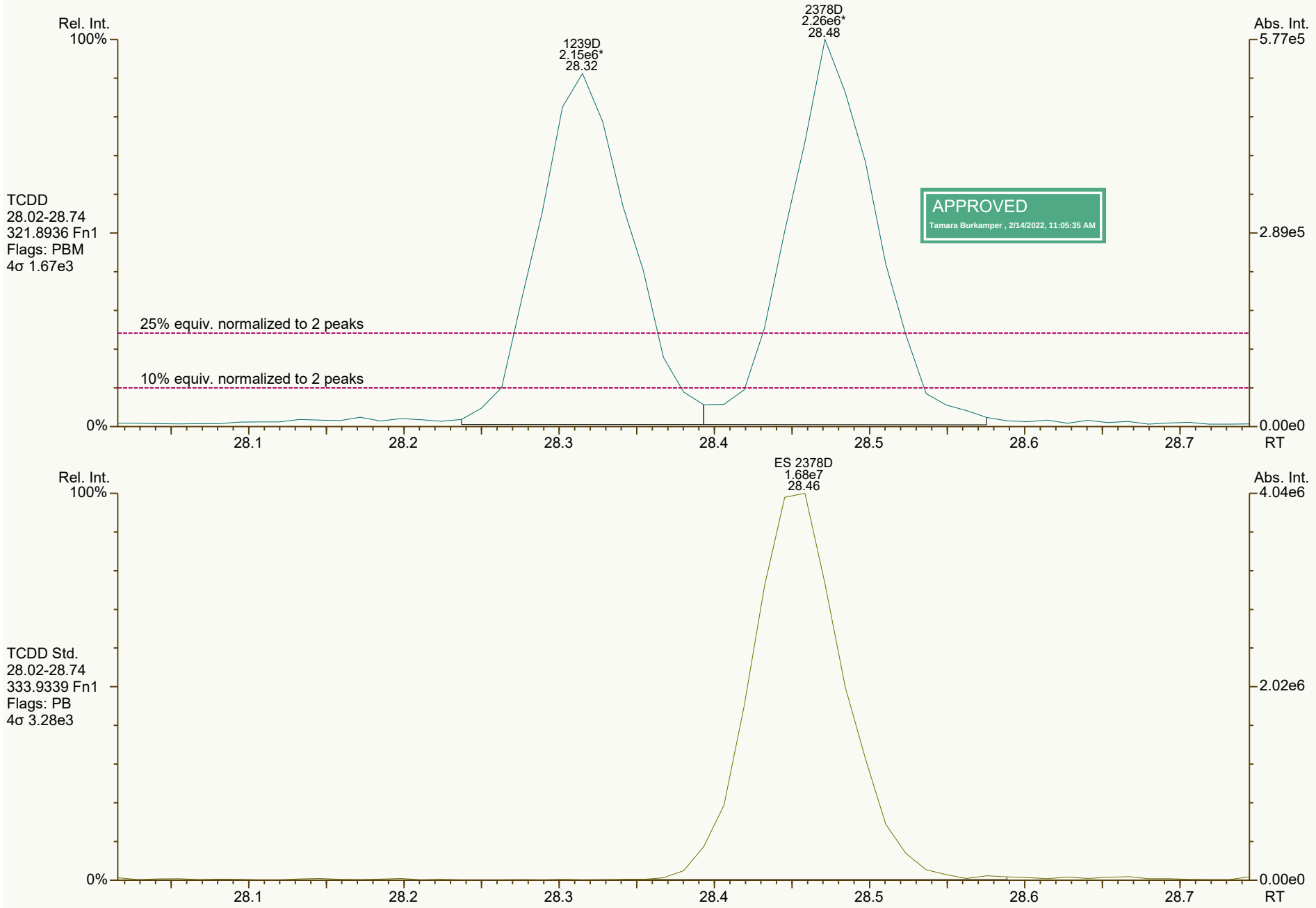
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.83	1289-TCDD	29.45
12479/12468-PeCDD	31.32	12389-PeCDD	34.26
124679/124689-HxCDD	35.99	123789-HxCDD	38.16
1234679-HpCDD	40.16	1234678-HpCDD	40.84
1368-TCDF	22.73	1289-TCDF	29.62
13468/12468-PeCDF	29.54	12389-PeCDF	34.56
123468-HxCDF	35.34	123789-HxCDF	38.52
1234678-HpCDF	39.90	1234789-HpCDF	41.30

Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.32	2378-TCDD	28.48
2348-TCDF	27.51	2378-TCDF	27.62

Processed: 14 Feb 2022 10:18 Analyst: TF

SGS ID: OPR1_18915_DF
Sample ID: 0_18915_OPR001
Acq: 12-Feb-2022 03:14:03
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 74
User: DTF Datafile: 220212C02



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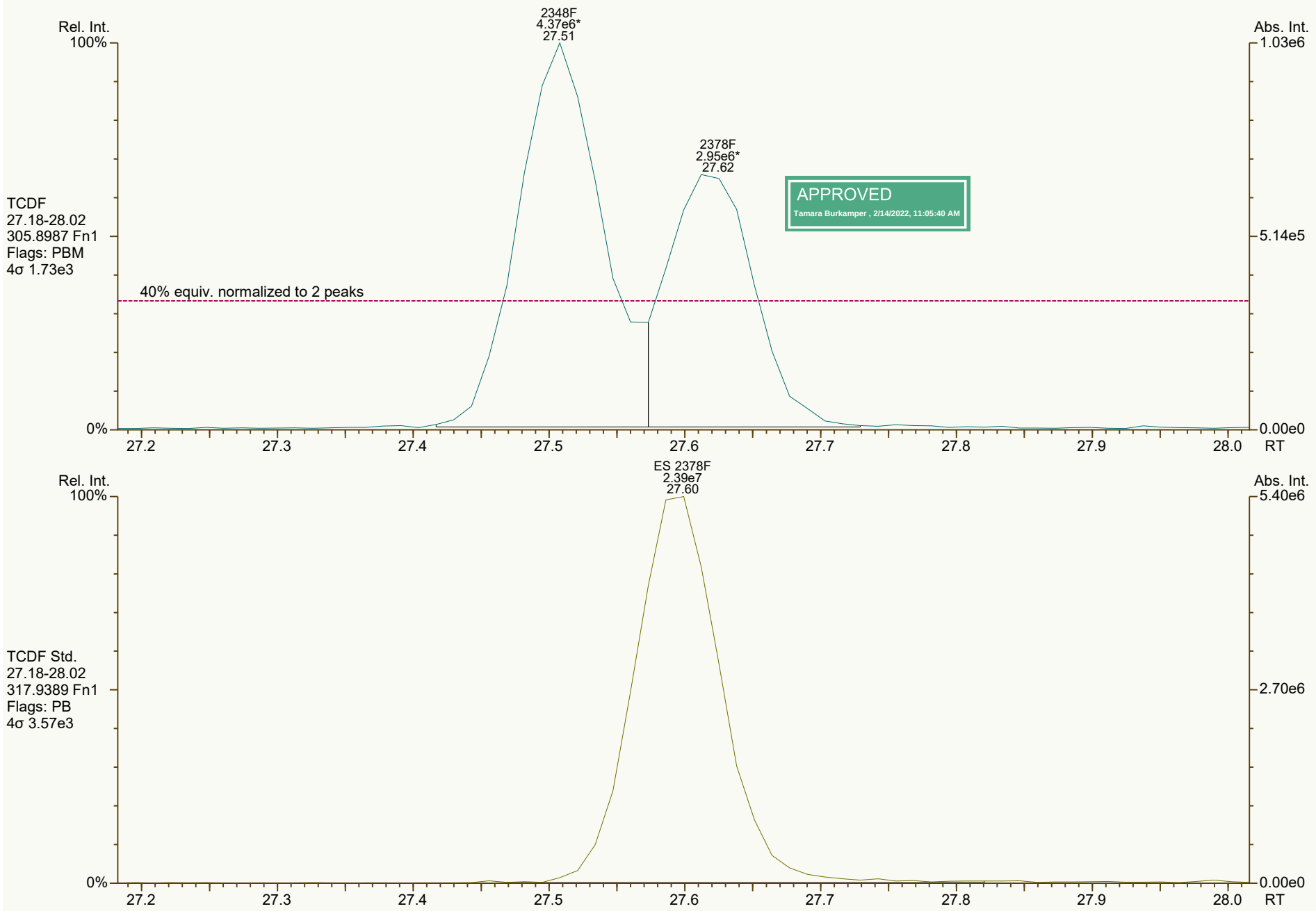
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 14-Feb-2022 09:44 (DTF) Printed: 14-Feb-2022 10:20

SGS ID: OPR1_18915_DF
Sample ID: 0_18915_OPR001
Acq: 12-Feb-2022 03:14:03
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 74
User: DTF Datafile: 220212C02



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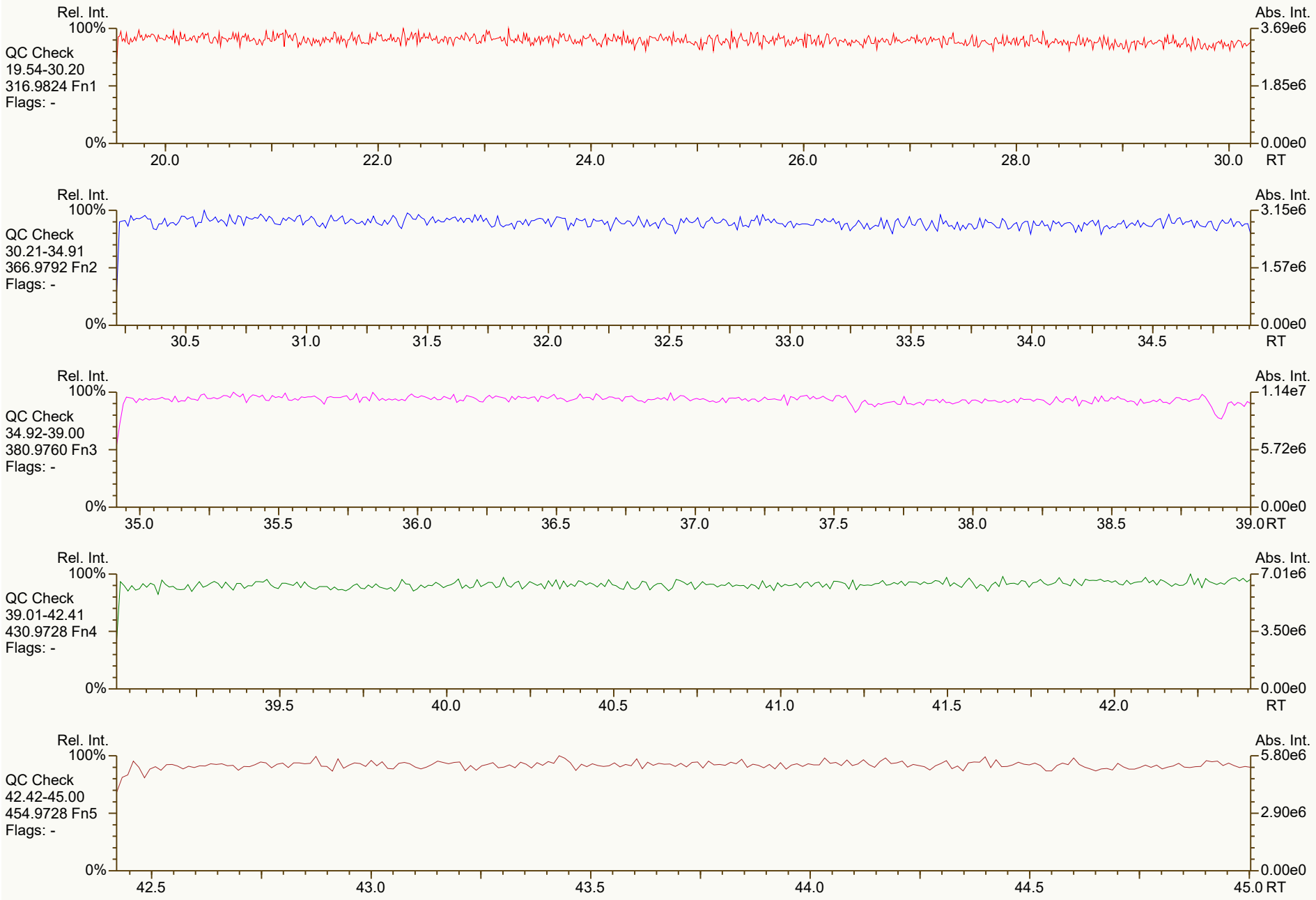
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 14-Feb-2022 09:44 (DTF) Printed: 14-Feb-2022 10:21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30.0
RT
Abs. Int.
3.69e6
1.85e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
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31.0
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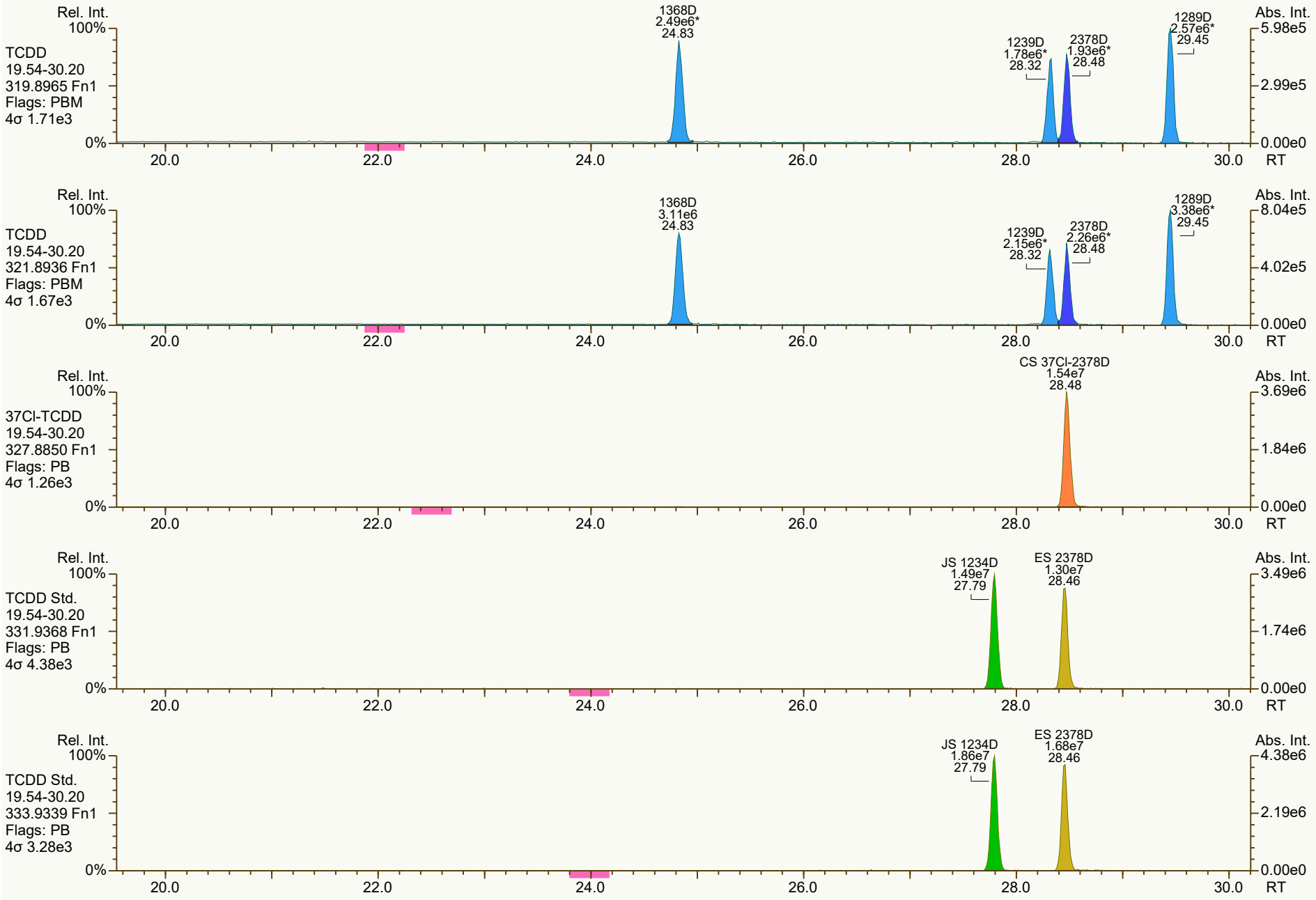
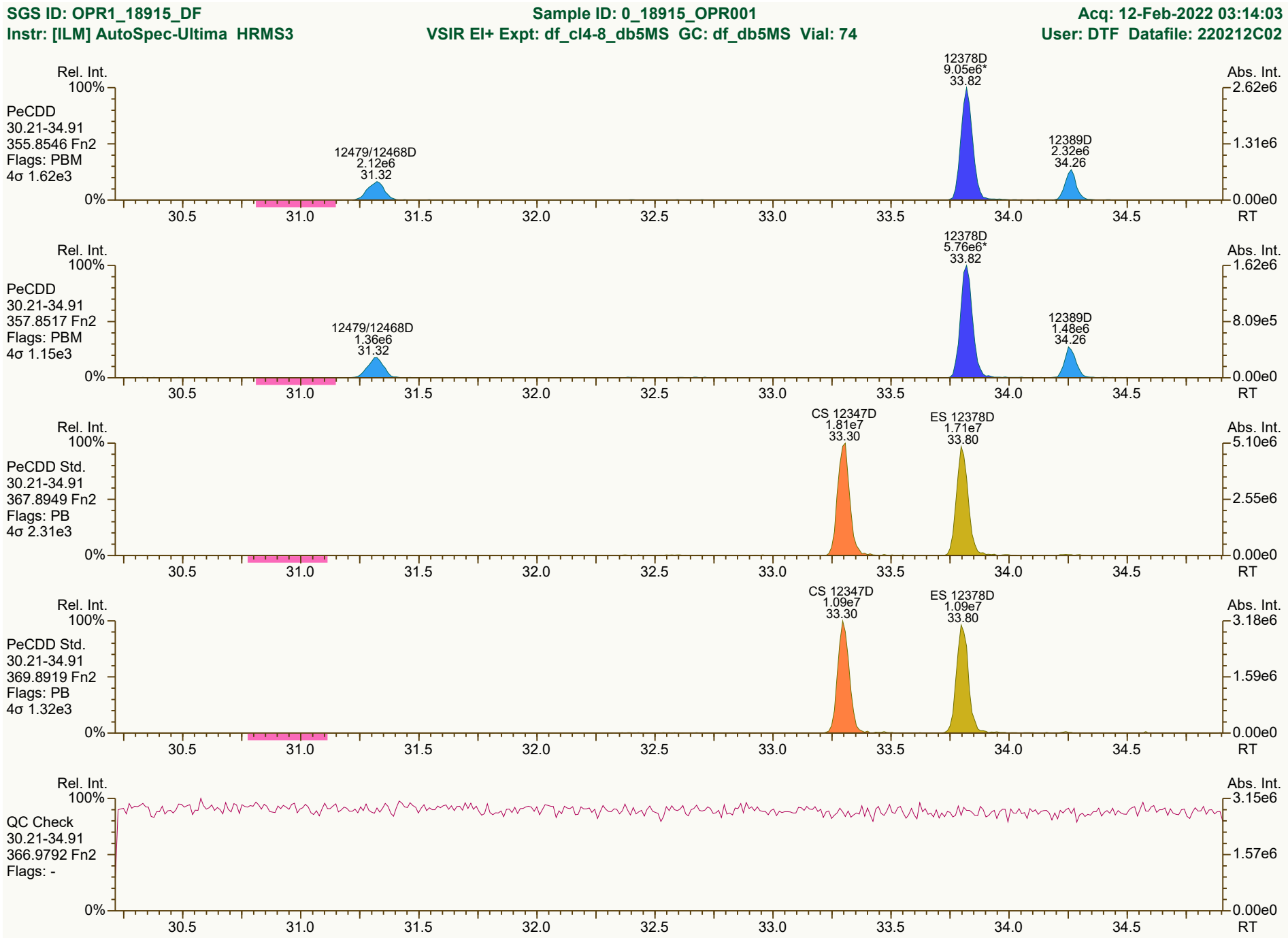
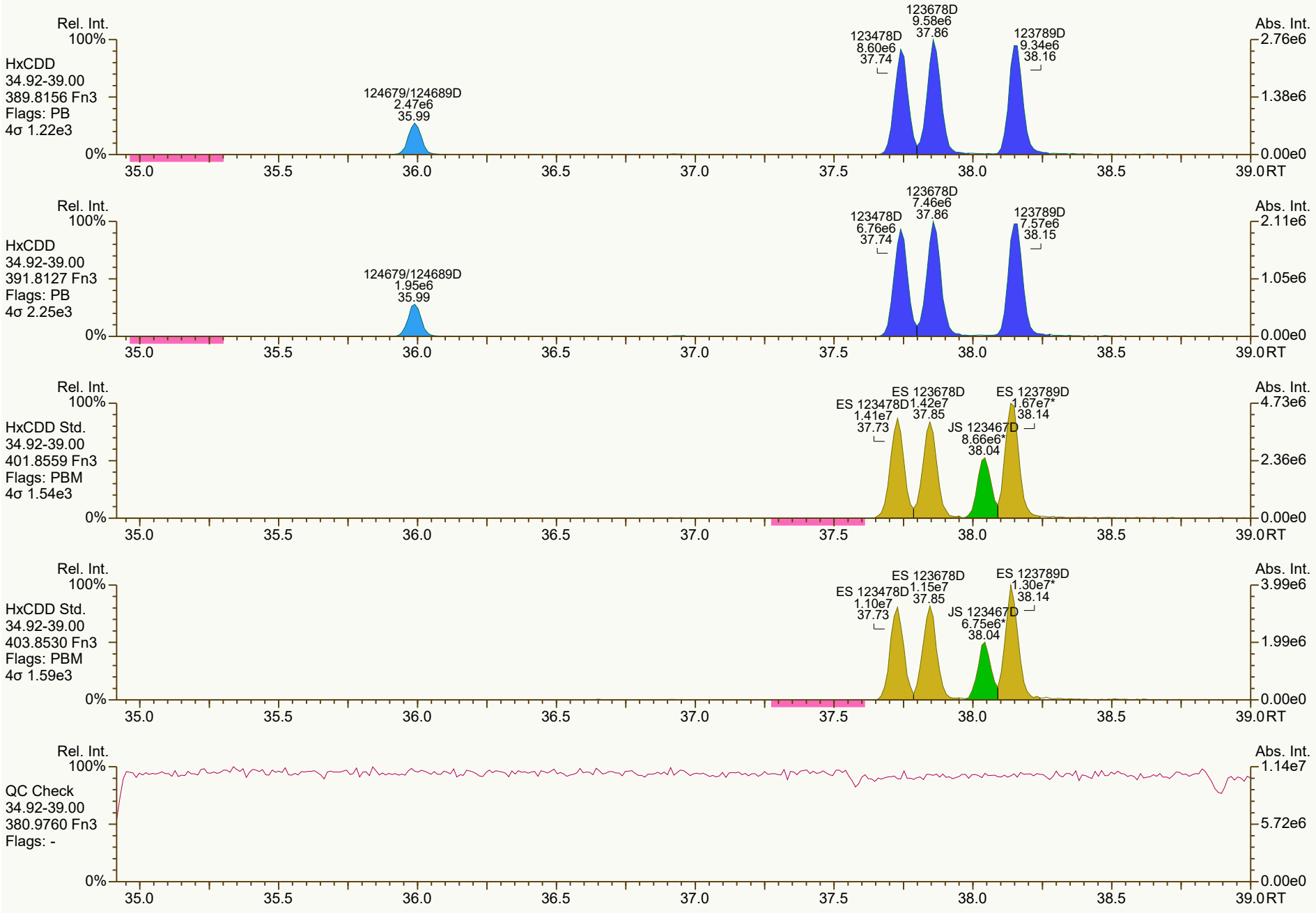
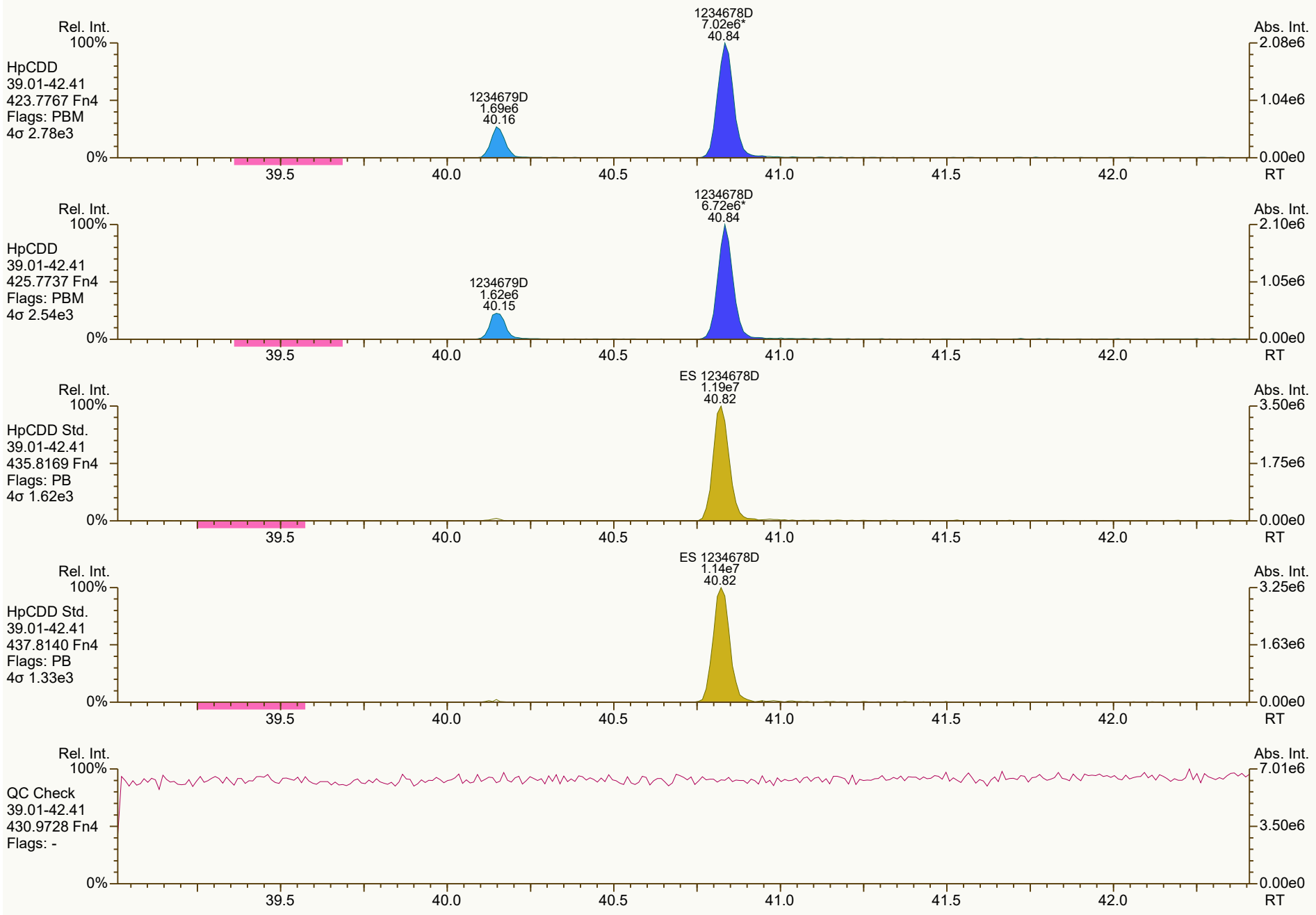
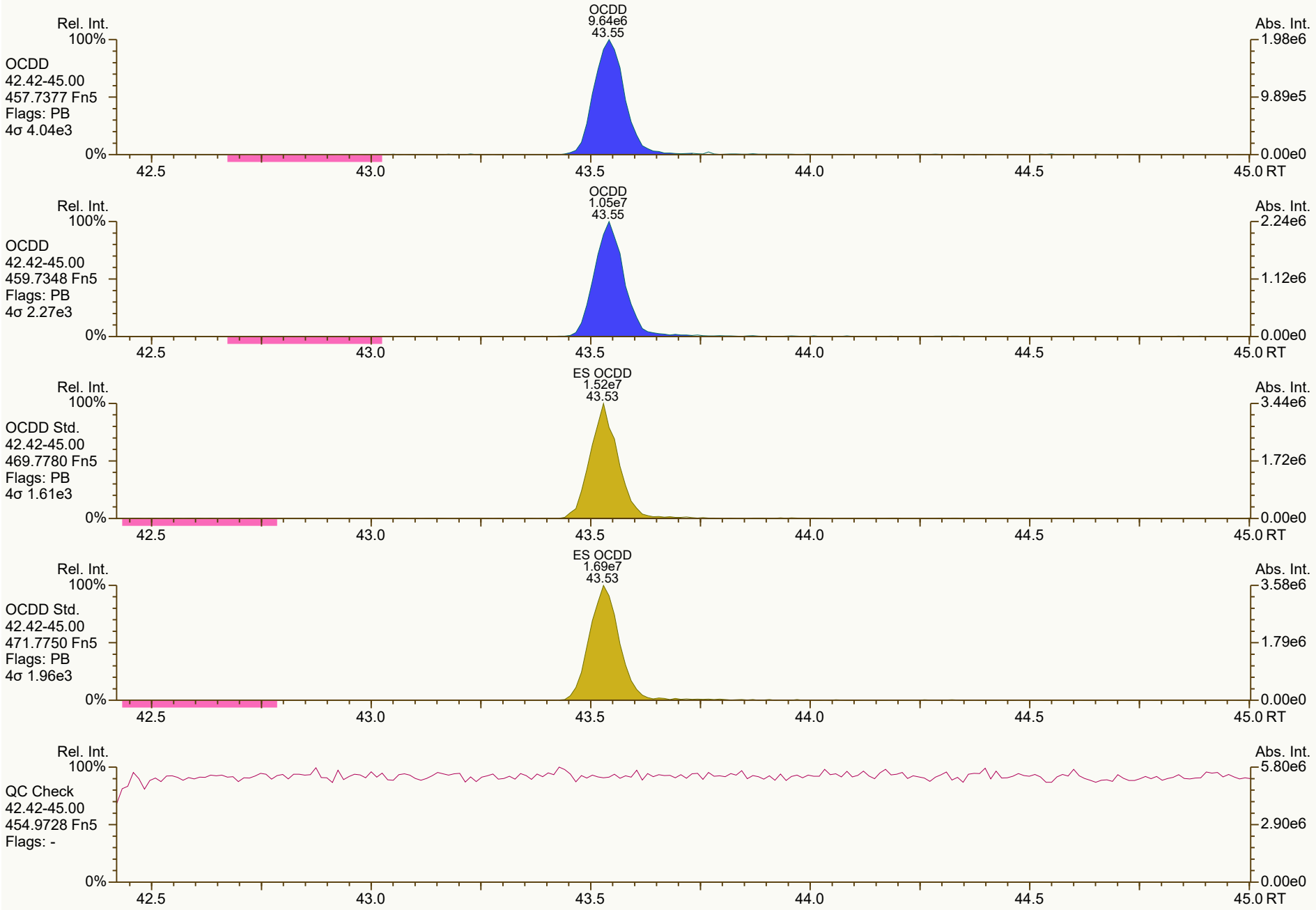
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.15e6
1.57e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.14e7
5.72e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
7.01e6
3.50e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.80e6
2.90e6
0.00e0

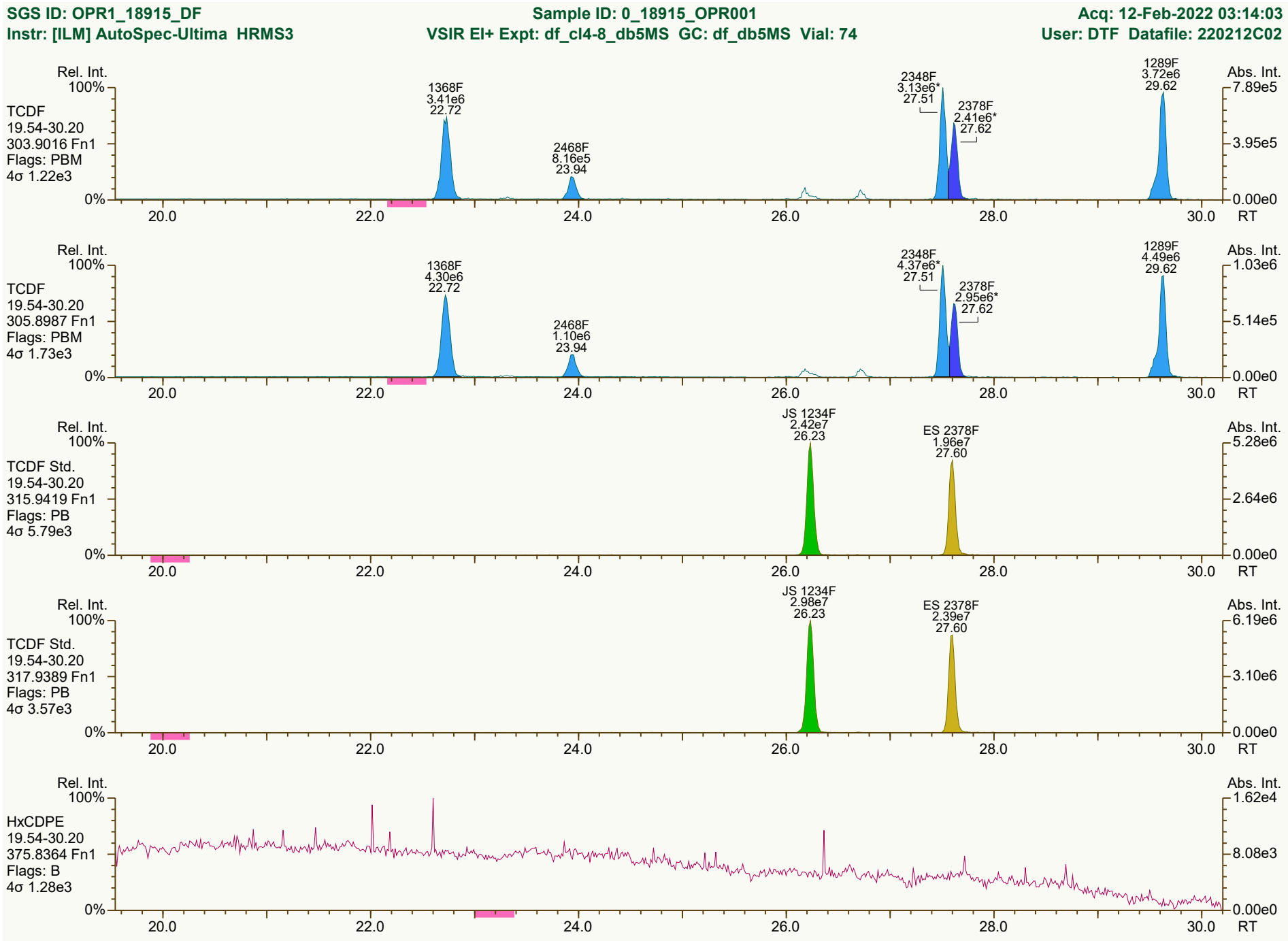

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.71e3
0%
1368D
2.49e6*
24.83
1239D
1.78e6*
28.32
2378D
1.93e6*
28.48
1289D
2.57e6*
29.45
Abs. Int.
5.98e5
2.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.67e3
0%
1368D
3.11e6
24.83
1239D
2.15e6*
28.32
2378D
2.26e6*
28.48
1289D
3.38e6*
29.45
Abs. Int.
8.04e5
4.02e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
1.54e7
28.48
Abs. Int.
3.69e6
1.84e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.38e3
0%
JS 1234D
1.49e7
27.79
ES 2378D
1.30e7
28.46
Abs. Int.
3.49e6
1.74e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.28e3
0%
JS 1234D
1.86e7
27.79
ES 2378D
1.68e7
28.46
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: OPR1_18915_DF
Sample ID: 0_18915_OPR001
Acq: 12-Feb-2022 03:14:03
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 74
User: DTF Datafile: 220212C02
Rel. Int.
Abs. Int.
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PBM
4σ 1.62e3
12479/12468D
2.12e6
31.32
12378D
9.05e6*
33.82
12389D
2.32e6
34.26
2.62e6
1.31e6
0.00e0
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PBM
4σ 1.15e3
12479/12468D
1.36e6
31.32
12378D
5.76e6*
33.82
12389D
1.48e6
34.26
1.62e6
8.09e5
0.00e0
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 2.31e3
CS 12347D
1.81e7
33.30
ES 12378D
1.71e7
33.80
5.10e6
2.55e6
0.00e0
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 1.32e3
CS 12347D
1.09e7
33.30
ES 12378D
1.09e7
33.80
3.18e6
1.59e6
0.00e0
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
3.15e6
1.57e6
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\OPR1_18915_DF.utp_res, saved 14-Feb-2022 10:16 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1865, 5438 scc: 251-322
Revised: 14-Feb-2022 09:44 (DTF) Printed: 14-Feb-2022 10:22 Page 3 of 12

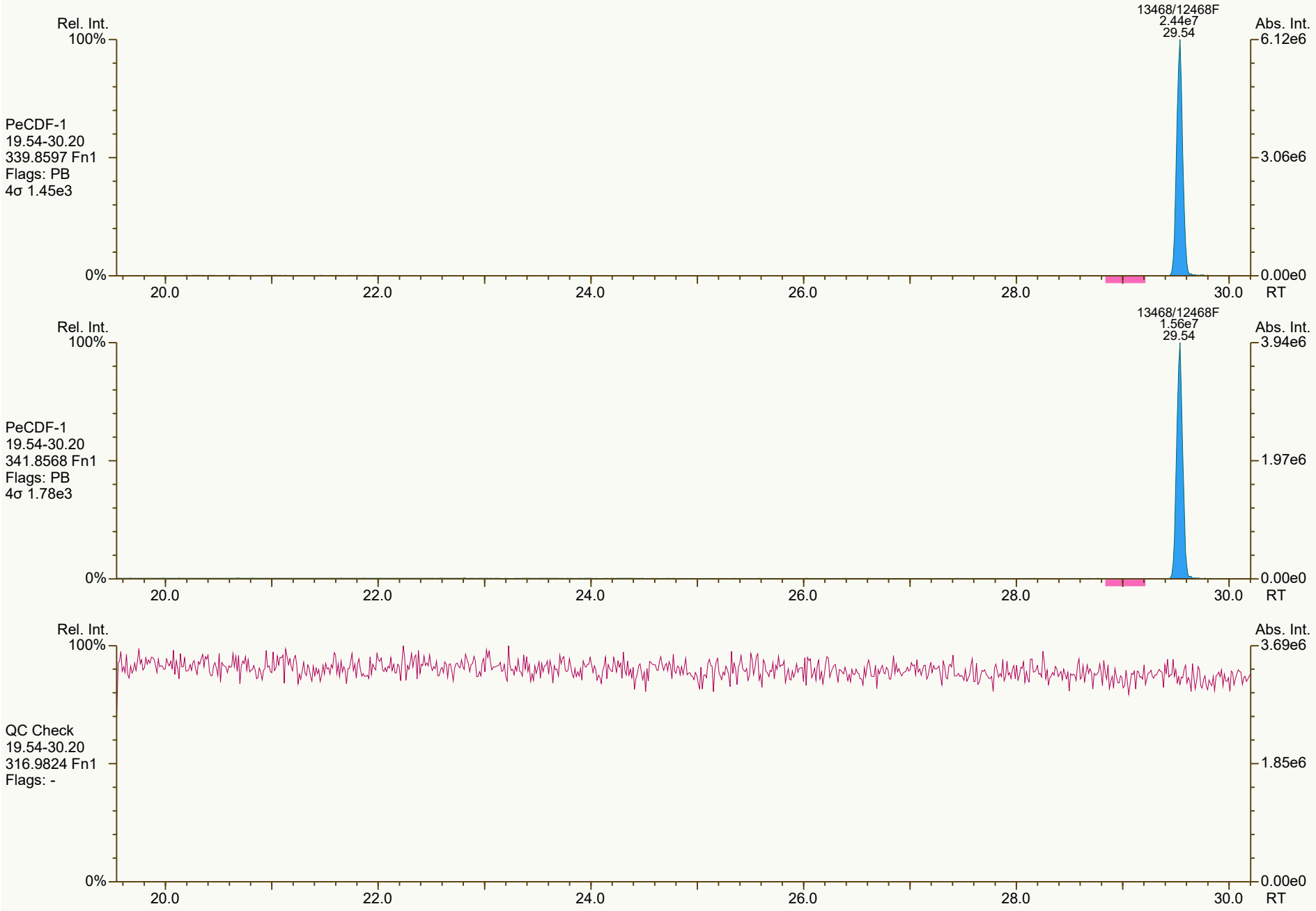

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 1.22e3
0%
124679/124689D
2.47e6
35.99
123478D
8.60e6
37.74
123678D
9.58e6
37.86
123789D
9.34e6
38.16
Abs. Int.
2.76e6
1.38e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 2.25e3
0%
124679/124689D
1.95e6
35.99
123478D
6.76e6
37.74
123678D
7.46e6
37.86
123789D
7.57e6
38.15
Abs. Int.
2.11e6
1.05e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 1.54e3
0%
ES 123478D
1.41e7
37.73
ES 123678D
1.42e7
37.85
JS 123467D
8.66e6*
38.04
ES 123789D
1.67e7*
38.14
Abs. Int.
4.73e6
2.36e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 1.59e3
0%
ES 123478D
1.10e7
37.73
ES 123678D
1.15e7
37.85
JS 123467D
6.75e6*
38.04
ES 123789D
1.30e7*
38.14
Abs. Int.
3.99e6
1.99e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.14e7
5.72e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 2.78e3
1234678D
7.02e6*
40.84
1234679D
1.69e6
40.16
Abs. Int.
2.08e6
1.04e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 2.54e3
1234678D
6.72e6*
40.84
1234679D
1.62e6
40.15
Abs. Int.
2.10e6
1.05e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.62e3
ES 1234678D
1.19e7
40.82
Abs. Int.
3.50e6
1.75e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.33e3
ES 1234678D
1.14e7
40.82
Abs. Int.
3.25e6
1.63e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
7.01e6
3.50e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

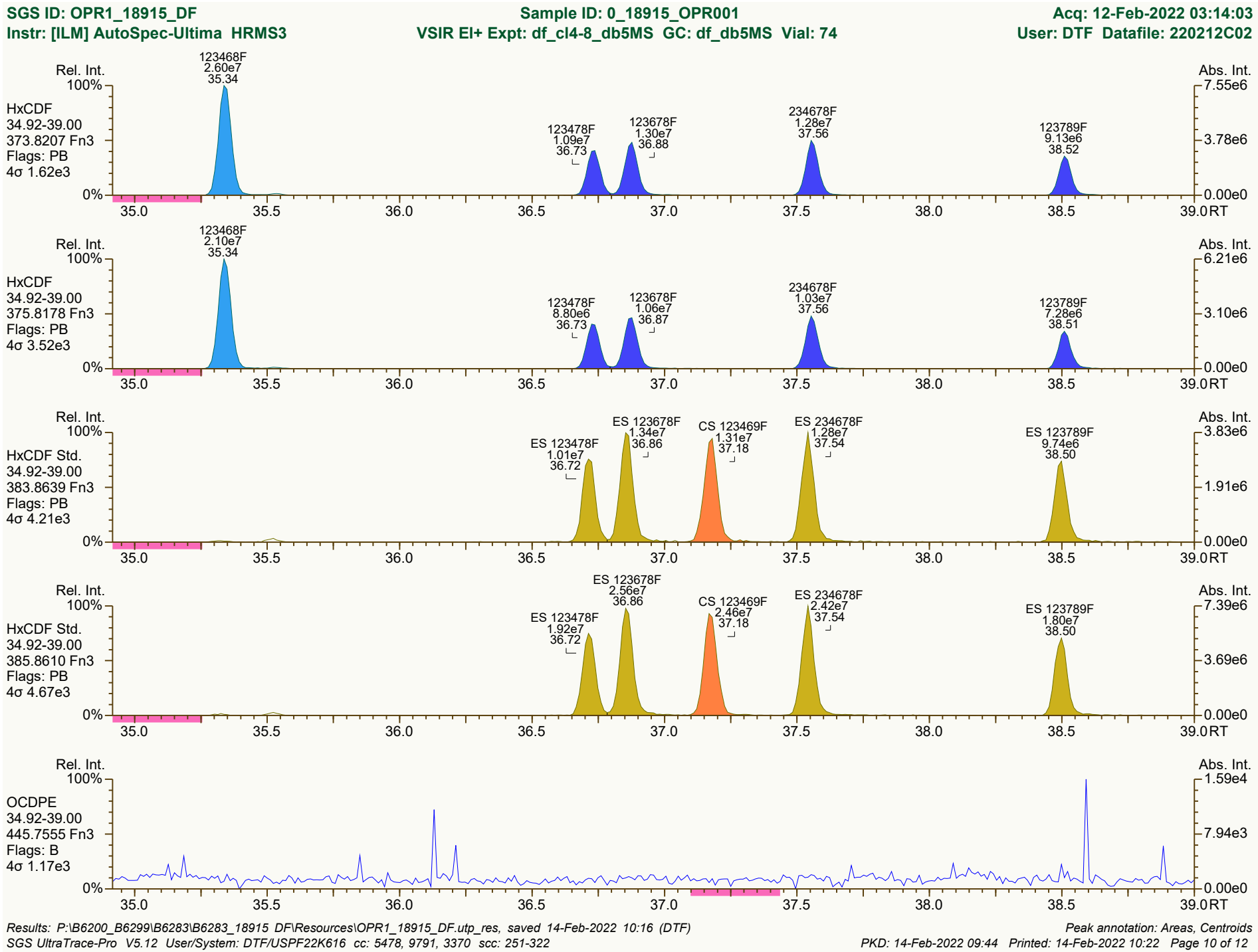

OCDD
9.64e6
43.55
Rel. Int.
Abs. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 4.04e3
1.98e6
9.89e5
0.00e0
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.05e7
43.55
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 2.27e3
2.24e6
1.12e6
ES OCDD
1.52e7
43.53
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 1.61e3
3.44e6
1.72e6
ES OCDD
1.69e7
43.53
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 1.96e3
3.58e6
1.79e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
5.80e6
2.90e6

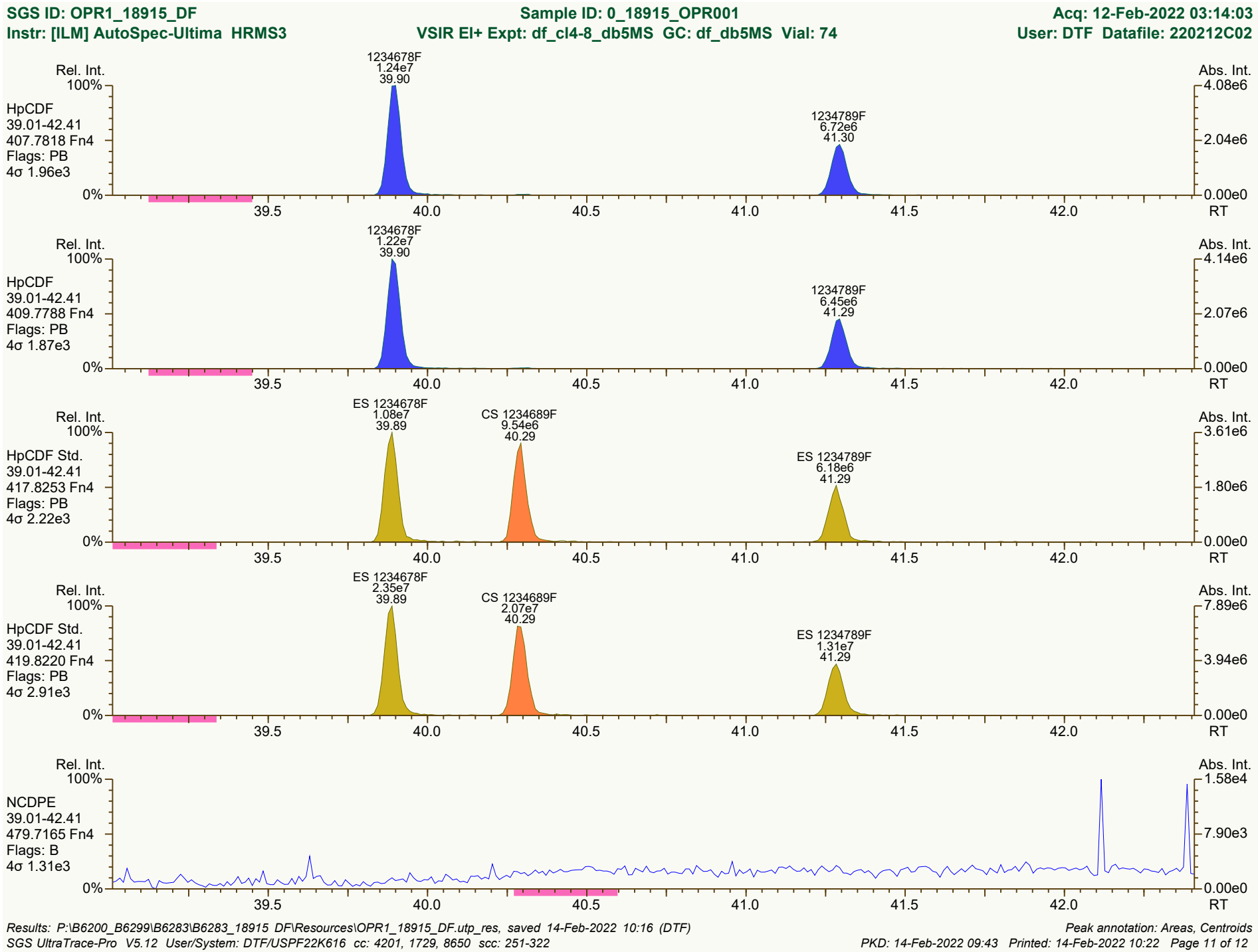


Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\OPR1_18915_DF.utp_res, saved 14-Feb-2022 10:16 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8185, 7957, 1701 scc: 251-322
Revised: 14-Feb-2022 09:44 (DTF) Printed: 14-Feb-2022 10:22 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.45e3
13468/12468F
2.44e7
29.54
Abs. Int.
6.12e6
3.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.78e3
13468/12468F
1.56e7
29.54
Abs. Int.
3.94e6
1.97e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
3.69e6
1.85e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PB
4σ 2.85e3
0%
12378F
1.37e7
32.37
23478F
1.33e7
33.49
12389F
2.75e6
34.56
Abs. Int.
3.84e6
1.92e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PB
4σ 2.23e3
0%
12378F
9.02e6
32.37
23478F
8.84e6
33.49
12389F
1.67e6
34.56
Abs. Int.
2.51e6
1.26e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 3.31e3
0%
CS 12346F
2.86e7
31.83
ES 12378F
2.63e7
32.36
ES 23478F
2.45e7
33.47
Abs. Int.
7.70e6
3.85e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 2.19e3
0%
CS 12346F
1.82e7
31.83
ES 12378F
1.69e7
32.36
ES 23478F
1.49e7
33.47
Abs. Int.
4.69e6
2.35e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.21e3
0%
Abs. Int.
5.83e3
2.92e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


SGS ID: OPR1_18915_DF
Sample ID: 0_18915_OPR001
Acq: 12-Feb-2022 03:14:03
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 74
User: DTF Datafile: 220212C02
Rel. Int.
Abs. Int.
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PB
4σ 1.62e3
123468F 2.60e7 35.34
123478F 1.09e7 36.73
123678F 1.30e7 36.88
234678F 1.28e7 37.56
123789F 9.13e6 38.52
7.55e6
3.78e6
0.00e0
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PB
4σ 3.52e3
123468F 2.10e7 35.34
123478F 8.80e6 36.73
123678F 1.06e7 36.87
234678F 1.03e7 37.56
123789F 7.28e6 38.51
6.21e6
3.10e6
0.00e0
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 4.21e3
ES 123478F 1.01e7 36.72
ES 123678F 1.34e7 36.86
CS 123469F 1.31e7 37.18
ES 234678F 1.28e7 37.54
ES 123789F 9.74e6 38.50
3.83e6
1.91e6
0.00e0
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 4.67e3
ES 123478F 1.92e7 36.72
ES 123678F 2.56e7 36.86
CS 123469F 2.46e7 37.18
ES 234678F 2.42e7 37.54
ES 123789F 1.80e7 38.50
7.39e6
3.69e6
0.00e0
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.17e3
1.59e4
7.94e3
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\OPR1_18915_DF.utp_res, saved 14-Feb-2022 10:16 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5478, 9791, 3370 scc: 251-322
PKD: 14-Feb-2022 09:44 Printed: 14-Feb-2022 10:22 Page 10 of 12


SGS ID: OPR1_18915_DF
Sample ID: 0_18915_OPR001
Acq: 12-Feb-2022 03:14:03
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 74
User: DTF Datafile: 220212C02
Rel. Int.
Abs. Int.
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.96e3
1234678F
1.24e7
39.90
1234789F
6.72e6
41.30
4.08e6
2.04e6
0.00e0
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.87e3
1234678F
1.22e7
39.90
1234789F
6.45e6
41.29
4.14e6
2.07e6
0.00e0
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 2.22e3
ES 1234678F
1.08e7
39.89
CS 1234689F
9.54e6
40.29
ES 1234789F
6.18e6
41.29
3.61e6
1.80e6
0.00e0
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 2.91e3
ES 1234678F
2.35e7
39.89
CS 1234689F
2.07e7
40.29
ES 1234789F
1.31e7
41.29
7.89e6
3.94e6
0.00e0
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.31e3
1.58e4
7.90e3
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\OPR1_18915_DF.utp_res, saved 14-Feb-2022 10:16 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4201, 1729, 8650 scc: 251-322
PKD: 14-Feb-2022 09:43 Printed: 14-Feb-2022 10:22 Page 11 of 12


OCDF
9.43e6*
43.72
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PBM
4σ 1.21e3
0%
Abs. Int.
1.96e6
9.78e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.03e7*
43.72
OCDF
42.42-45.00
443.7398 Fn5
Flags: PBM
4σ 1.27e3
2.05e6
1.02e6
ES OCDF
1.66e7
43.71
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.64e3
3.56e6
1.78e6
ES OCDF
1.81e7
43.71
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 1.75e3
3.76e6
1.88e6
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.10e3
4.08e3
2.04e3

Lab ID: OPR2_18915_DF **Acq'd: 12 Feb 2022 04:00 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18915_OPR002 **UTP: 14-Feb-2022 10:17:00 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 734-447-PCY**

Datafile: 220212C03 **Report: 14 Feb 2022 10:18 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.46		1.0008	1.0008	0	3.33E+06	0.77	Y	1.18	10.5	4568.388	0.148
12378-PeCDD	33.81		1.0005	1.0006	+0.2	1.13E+07	1.57	Y	1.04	45.4	2572.459	0.0942
123478-HxCDD	37.73		1.0004	1.0004	0	1.19E+07	1.25	Y	1.09	48.6	3367.353	0.114
123678-HxCDD	37.85		1.0035	1.0035	0	1.38E+07	1.26	Y	1.15	50.9	3367.353	0.113
123789-HxCDD	38.15		1.0113	1.0114	+0.2	1.34E+07	1.24	Y	1.05	48.7	3367.353	0.102
1234678-HpCDD	40.82		1.0003	1.0003	0	1.05E+07	1.06	Y	1.06	50.2	4426.47	0.175
OCDD	43.53		1.0002	1.0003	+0.3	1.49E+07	0.91	Y	1.13	100	4788.163	0.391
2378-TCDF	27.61		1.0008	1.0009	+0.2	4.21E+06	0.78	Y	1.08	9.59	3183.608	0.0799
12378-PeCDF	32.36		1.0005	1.0005	0	1.73E+07	1.53	Y	1.02	44.6	5063.547	0.118
23478-PeCDF	33.47		1.0005	1.0005	0	1.70E+07	1.49	Y	1.02	48.3	5063.547	0.128
123478-HxCDF	36.72		1.0005	1.0005	0	1.51E+07	1.25	Y	1.27	46.8	9391.81	0.232
123678-HxCDF	36.86		1.0005	1.0005	0	1.81E+07	1.21	Y	1.15	46.7	9391.81	0.217
234678-HxCDF	37.55		1.0005	1.0005	0	1.85E+07	1.20	Y	1.19	46.6	9391.81	0.203
123789-HxCDF	38.51		1.0004	1.0005	+0.2	1.29E+07	1.26	Y	1.16	45.5	9391.81	0.274
1234678-HpCDF	39.89		1.0003	1.0003	0	1.87E+07	1.02	Y	1.37	46.9	2927.982	0.0558
1234789-HpCDF	41.28		1.0003	1.0002	-0.2	9.92E+06	1.04	Y	1.31	46.8	2927.982	0.114
OCDF	43.70		1.0003	1.0003	0	1.47E+07	0.89	Y	1.07	93.5	3658.869	0.254

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.44	1.0238	1.0239	+0.2	2.68E+07	0.80	Y	1.05	86
ES 12378-PeCDD	33.79	1.2160	1.2165	+1.0	2.41E+07	1.55	Y	0.88	92
ES 123478-HxCDD	37.72	0.9919	0.9918	-0.2	2.26E+07	1.30	Y	0.97	88.5
ES 123678-HxCDD	37.84	0.9950	0.9949	-0.2	2.36E+07	1.28	Y	0.94	95.2
ES 123789-HxCDD	38.13	1.0027	1.0027	0	2.62E+07	1.30	Y	1.09	91.6
ES 1234678-HpCDD	40.81	1.0730	1.0731	+0.2	1.97E+07	1.06	Y	0.91	82.1
ES OCDD	43.52	1.1437	1.1443	+1.6	2.63E+07	0.88	Y	0.62	80.4
ES 2378-TCDF	27.59	1.0520	1.0521	+0.2	4.06E+07	0.78	Y	1.06	81.3
ES 12378-PeCDF	32.34	1.2330	1.2336	+1.2	3.80E+07	1.58	Y	0.91	88.3
ES 23478-PeCDF	33.46	1.2754	1.2761	+1.4	3.45E+07	1.59	Y	0.88	82.9
ES 123478-HxCDF	36.71	0.9653	0.9652	-0.2	2.54E+07	0.53	Y	1.20	80.6
ES 123678-HxCDF	36.85	0.9691	0.9689	-0.4	3.37E+07	0.55	Y	1.35	94.9
ES 234678-HxCDF	37.53	0.9870	0.9869	-0.2	3.34E+07	0.54	Y	1.24	102
ES 123789-HxCDF	38.49	1.0121	1.0120	-0.2	2.44E+07	0.54	Y	1.16	80.5
ES 1234678-HpCDF	39.88	1.0484	1.0486	+0.5	2.91E+07	0.45	Y	0.97	115
ES 1234789-HpCDF	41.27	1.0851	1.0853	+0.5	1.62E+07	0.47	Y	0.85	72.6
ES OCDF	43.69	1.1483	1.1488	+1.3	2.94E+07	0.93	Y	0.81	69.3

Lab ID: OPR2_18915_DF | **Acq'd:** 12 Feb 2022 04:00 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18915_OPR002 | **UTP:** 14-Feb-2022 10:17:00 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 734-447-PCY

Datafile: 220212C03 | **Report:** 14 Feb 2022 10:18 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.78		-	-	-	2.98E+07	0.81	Y	-	-
JS 1234-TCDF	26.22		-	-	-	4.72E+07	0.79	Y	-	-
JS 123467-HxCDD	38.03		-	-	-	1.31E+07	1.26	Y	-	-
CS 37Cl-2378-TCDD	28.46		1.0245	1.0247	+0.3	1.35E+07	n/a	-	1.20	94.3
CS 12347-PeCDD	33.29		1.1979	1.1984	+1.0	2.52E+07	1.54	Y	0.75	112
CS 12346-PeCDF	31.81		1.2128	1.2134	+1.1	4.00E+07	1.56	Y	0.85	99.7
CS 123469-HxCDF	37.17		0.9774	0.9773	-0.2	3.12E+07	0.54	Y	1.12	106
CS 1234689-HpCDF	40.28		1.0589	1.0591	+0.5	2.43E+07	0.45	Y	0.89	104
~~SS 37Cl-2378-TCDD~~	~~28.46~~		~~1.0245~~	~~1.0247~~	~~+0.3~~	~~1.35E+07~~	~~n/a~~		~~1.15~~	~~110~~
~~SS 12347-PeCDD~~	~~33.29~~		~~1.1979~~	~~1.1984~~	~~+1.0~~	~~2.52E+07~~	~~1.54~~	~~Y~~	~~0.86~~	~~122~~
~~SS 12346-PeCDF~~	~~31.81~~		~~1.2128~~	~~1.2134~~	~~+1.1~~	~~4.00E+07~~	~~1.56~~	~~Y~~	~~0.94~~	~~113~~
~~SS 123469-HxCDF~~	~~37.17~~		~~0.9774~~	~~0.9773~~	~~-0.2~~	~~3.12E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~112~~
~~SS 1234689-HpCDF~~	~~40.28~~		~~1.0589~~	~~1.0591~~	~~+0.5~~	~~2.43E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~90.8~~

Totals	Conc	EMPC
Total TCDD	54.4	54.4
Total PeCDD	70.9	70.9
Total HxCDD	162	162
Total HpCDD	63.4	63.4
Total Tetra-Octa Dioxins	451	451
Total TCDF	62.5	62.5
Total PeCDF	198	198
Total HxCDF	298	298
Total HpCDF	93.7	93.7
Total Tetra-Octa Furans	746	746
Total Tetra-Octa Dioxins & Furans	1200	1200

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.767	0.77
Response	3.34E+06	3.33E+06

Lab ID: OPR2_18915_DF | **Acq'd: 12 Feb 2022 04:00 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18915_OPR002 | **UTP: 14-Feb-2022 10:17:00 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 734-447-PCY**

Datafile: 220212C03 | **Report: 14 Feb 2022 10:18 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.82		0.8737	0.8725	-1.8	5.11E+06	0.81	Y	1.18	16.1	4568.388	0.148
1379-TCDD	NotFnd		0.8860						1.18		4568.388	0.148
1369-TCDD	NotFnd		0.9009						1.18		4568.388	0.148
1469-TCDD	NotFnd		0.9281						1.18		4568.388	0.148
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		4568.388	0.148
1378-TCDD	NotFnd		0.9432						1.18		4568.388	0.148
1268-TCDD	NotFnd		0.9500						1.18		4568.388	0.148
1478-TCDD	NotFnd		0.9586						1.18		4568.388	0.148
1279-TCDD	NotFnd		0.9645						1.18		4568.388	0.148
1234/1269-TCDD	NotFnd		0.9770						1.18		4568.388	0.148
1236-TCDD	NotFnd		0.9817						1.18		4568.388	0.148
1237/1238-TCDD	NotFnd		0.9905						1.18		4568.388	0.148
1239-TCDD	28.31		0.9952	0.9953	+0.2	3.56E+06	0.74	Y	1.18	11.2	4568.388	0.148
2378-TCDD	**28.46**		**1.0008**	1.0008	**0**	3.33E+06	0.77	Y	**1.18**	**10.5**	**4568.388**	**0.148**
1278-TCDD	NotFnd		1.0121						1.18		4568.388	0.148
1267-TCDD	NotFnd		1.0167						1.18		4568.388	0.148
1289-TCDD	29.44		1.0345	1.0349	+0.7	5.28E+06	0.81	Y	1.18	16.6	4568.388	0.148
12479/12468-PeCDD	31.31		0.9267	0.9264	-0.6	3.13E+06	1.67	Y	1.04	12.5	2572.459	0.0942
12469-PeCDD	NotFnd		0.9425						1.04		2572.459	0.0942
12368-PeCDD	NotFnd		0.9588						1.04		2572.459	0.0942
12478-PeCDD	NotFnd		0.9643						1.04		2572.459	0.0942
12379-PeCDD	NotFnd		0.9673						1.04		2572.459	0.0942
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		2572.459	0.0942
12346/12347-PeCDD	NotFnd		0.9858						1.04		2572.459	0.0942
12378-PeCDD	33.81		**1.0005**	**1.0006**	**+0.2**	**1.13E+07**	**1.57**	**Y**	**1.04**	**45.4**	**2572.459**	**0.0942**
12367-PeCDD	NotFnd		1.0033						1.04		2572.459	0.0942
12389-PeCDD	34.25		1.0134	1.0136	+0.4	3.24E+06	1.51	Y	1.04	13	2572.459	0.0942
124679/124689-HxCDD	35.98		0.9542	0.9539	-0.6	3.54E+06	1.25	Y	1.10	13.4	3367.353	0.109
123468-HxCDD	NotFnd		0.9715						1.10		3367.353	0.109
123679/123689-HxCDD	NotFnd		0.9793						1.10		3367.353	0.109
123469-HxCDD	NotFnd		0.9828						1.10		3367.353	0.109
123478-HxCDD	37.73		**1.0004**	**1.0004**	**0**	**1.19E+07**	**1.25**	**Y**	1.09	**48.6**	**3367.353**	**0.114**
123678-HxCDD	37.85		**1.0035**	**1.0035**	**0**	**1.38E+07**	**1.26**	**Y**	1.15	**50.9**	**3367.353**	**0.113**
123467-HxCDD	NotFnd		1.0085						1.10		3367.353	0.109
123789-HxCDD	38.15		**1.0113**	**1.0114**	**+0.2**	**1.34E+07**	**1.24**	**Y**	1.05	**48.7**	**3367.353**	**0.102**

Lab ID: OPR2_18915_DF **Acq'd: 12 Feb 2022 04:00 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18915_OPR002 **UTP: 14-Feb-2022 10:17:00 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 734-447-PCY**

Datafile: 220212C03 **Report: 14 Feb 2022 10:18 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.14		0.9837	0.9837	0	2.75E+06	1.08	Y	1.06	13.2	4426.47	0.175
1234678-HpCDD	**40.82**		**1.0003**	**1.0003**	**0**	**1.05E+07**	**1.06**	**Y**	**1.06**	**50.2**	**4426.47**	**0.175**
OCDD	**43.53**		**1.0002**	**1.0003**	**+0.3**	**1.49E+07**	**0.91**	**Y**	**1.13**	**100**	**4788.163**	**0.391**
OCDD-a	43.52	**EMPC**	1.0001	1.0002	+0.3	8.12E+05	2.04	N	0.07	85.6	3059.48	3.91
1368-TCDF	22.71		0.8251	0.8231	-2.7	6.99E+06	0.78	Y	1.08	15.9	3183.608	0.0799
1468-TCDF	NotFnd		0.8458						1.08		3183.608	0.0799
2468-TCDF	23.92		0.8686	0.8673	-1.9	1.82E+06	0.77	Y	1.08	4.15	3183.608	0.0799
1346/1246-TCDF	NotFnd		0.8814						1.08		3183.608	0.0799
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		3183.608	0.0799
1348-TCDF	NotFnd		0.8962						1.08		3183.608	0.0799
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		3183.608	0.0799
1268-TCDF	NotFnd		0.9145						1.08		3183.608	0.0799
1467-TCDF	NotFnd		0.9193						1.08		3183.608	0.0799
1478-TCDF	NotFnd		0.9254						1.08		3183.608	0.0799
1369/1237-TCDF	NotFnd		0.9387						1.08		3183.608	0.0799
2467-TCDF	NotFnd		0.9433						1.08		3183.608	0.0799
2368-TCDF	NotFnd		0.9489						1.08		3183.608	0.0799
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		3183.608	0.0799
1278-TCDF	NotFnd		0.9683						1.08		3183.608	0.0799
1349-TCDF	NotFnd		0.9722						1.08		3183.608	0.0799
1267-TCDF	NotFnd		0.9783						1.08		3183.608	0.0799
2346/1249-TCDF	NotFnd		0.9850						1.08		3183.608	0.0799
2347/1279-TCDF	NotFnd		0.9926						1.08		3183.608	0.0799
2348-TCDF	27.50		0.9967	0.9968	+0.2	6.91E+06	0.76	Y	1.08	15.8	3183.608	0.0799
2378-TCDF	**27.61**		**1.0008**	**1.0009**	**+0.2**	**4.21E+06**	**0.78**	**Y**	**1.08**	**9.59**	**3183.608**	**0.0799**
2367/3467-TCDF	NotFnd		1.0137						1.08		3183.608	0.0799
1269-TCDF	NotFnd		1.0223						1.08		3183.608	0.0799
1239-TCDF	NotFnd		1.0321						1.08		3183.608	0.0799
1289-TCDF	29.61		1.0722	1.0733	+2.0	7.49E+06	0.77	Y	1.08	17.1	3183.608	0.0799
13468/12468-PeCDF	29.52		0.9139	0.9129	-1.8	3.53E+07	1.55	Y	1.02	95.3	2995.354	0.0727
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		5063.547	0.123
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		5063.547	0.123
14678-PeCDF	NotFnd		0.9692						1.02		5063.547	0.123
13479-PeCDF	NotFnd		0.9723						1.02		5063.547	0.123
13469/12479-PeCDF	NotFnd		0.9797						1.02		5063.547	0.123
12346-PeCDF	NotFnd		0.9840						1.02		5063.547	0.123

Lab ID: OPR2_18915_DF **Acq'd: 12 Feb 2022 04:00 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18915_OPR002 **UTP: 14-Feb-2022 10:17:00 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 734-447-PCY**

Datafile: 220212C03 **Report: 14 Feb 2022 10:18 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		5063.547	0.123
12347-PeCDF	NotFnd		0.9894						1.02		5063.547	0.123
12348-PeCDF	NotFnd		0.9940						1.02		5063.547	0.123
12378-PeCDF	**32.36**		**1.0005**	**1.0005**	**0**	**1.73E+07**	**1.53**	**Y**	**1.02**	**44.6**	**5063.547**	**0.118**
12678/12367-PeCDF	NotFnd		1.0089						1.02		5063.547	0.123
12379-PeCDF	NotFnd		1.0142						1.02		5063.547	0.123
12679-PeCDF	NotFnd		0.9929						1.02		5063.547	0.123
23467/12369-PeCDF	NotFnd		0.9967						1.02		5063.547	0.123
23478-PeCDF	**33.47**		**1.0005**	**1.0005**	**0**	**1.70E+07**	**1.49**	**Y**	**1.02**	**48.3**	**5063.547**	**0.128**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5063.547	0.123
12349-PeCDF	NotFnd		1.0100						1.02		5063.547	0.123
12389-PeCDF	34.55		1.0324	1.0326	+0.4	3.78E+06	1.53	Y	1.02	10.2	5063.547	0.123
123468-HxCDF	35.33		0.9627	0.9626	-0.2	3.93E+07	1.21	Y	1.19	113	9391.81	0.227
124678/134678-HxCDF	NotFnd		0.9682						1.19		9391.81	0.227
134679-HxCDF	NotFnd		0.9744						1.19		9391.81	0.227
124679-HxCDF	NotFnd		0.9798						1.19		9391.81	0.227
124689-HxCDF	NotFnd		0.9858						1.19		9391.81	0.227
123467-HxCDF	NotFnd		0.9972						1.19		9391.81	0.227
123478-HxCDF	**36.72**		**1.0005**	**1.0005**	**0**	**1.51E+07**	**1.25**	**Y**	**1.27**	**46.8**	**9391.81**	**0.232**
123678-HxCDF	**36.86**		**1.0005**	**1.0005**	**0**	**1.81E+07**	**1.21**	**Y**	**1.15**	**46.7**	**9391.81**	**0.217**
123479-HxCDF	NotFnd		1.0049						1.19		9391.81	0.227
123469-HxCDF	NotFnd		1.0090						1.19		9391.81	0.227
123679-HxCDF	NotFnd		0.9942						1.19		9391.81	0.227
234678-HxCDF	**37.55**		**1.0005**	**1.0005**	**0**	**1.85E+07**	**1.20**	**Y**	**1.19**	**46.6**	**9391.81**	**0.203**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		9391.81	0.227
123789-HxCDF	**38.51**		**1.0004**	**1.0005**	**+0.2**	**1.29E+07**	**1.26**	**Y**	**1.16**	**45.5**	**9391.81**	**0.274**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		9391.81	0.227
1234678-HpCDF	**39.89**		**1.0003**	**1.0003**	**0**	**1.87E+07**	**1.02**	**Y**	**1.37**	**46.9**	**2927.982**	**0.0558**
1234679-HpCDF	NotFnd		1.0068						1.34		2927.982	0.0765
1234689-HpCDF	NotFnd		1.0103						1.34		2927.982	0.0765
1234789-HpCDF	**41.28**		**1.0003**	**1.0002**	**-0.2**	**9.92E+06**	**1.04**	**Y**	**1.31**	**46.8**	**2927.982**	**0.114**
OCDF	**43.70**		**1.0003**	**1.0003**	**0**	**1.47E+07**	**0.89**	**Y**	**1.07**	**93.5**	**3658.869**	**0.254**
OCDF-a	43.70	**EMPC**	1.0002	1.0002	0	7.95E+05	1.66	N	0.07	81.5	3068.744	3.44

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

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220212C03	Analysis Date:	12-FEB-2022 04:00:24
Lab ID:	OPR2_18915_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	10.5	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	45.4	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	48.6	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	50.9	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	48.7	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	50.2	35	-	70	Y
OCDD	100	100	78	-	144	Y
2,3,7,8-TCDF	10	9.59	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	44.6	40	-	67	Y
2,3,4,7,8-PeCDF	50	48.3	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	46.8	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	46.7	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	46.6	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	45.5	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	46.9	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	46.8	39	-	69	Y
OCDF	100	93.5	63	-	170	Y

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

Processed: 14 Feb 2022 10:18 Analyst: TF

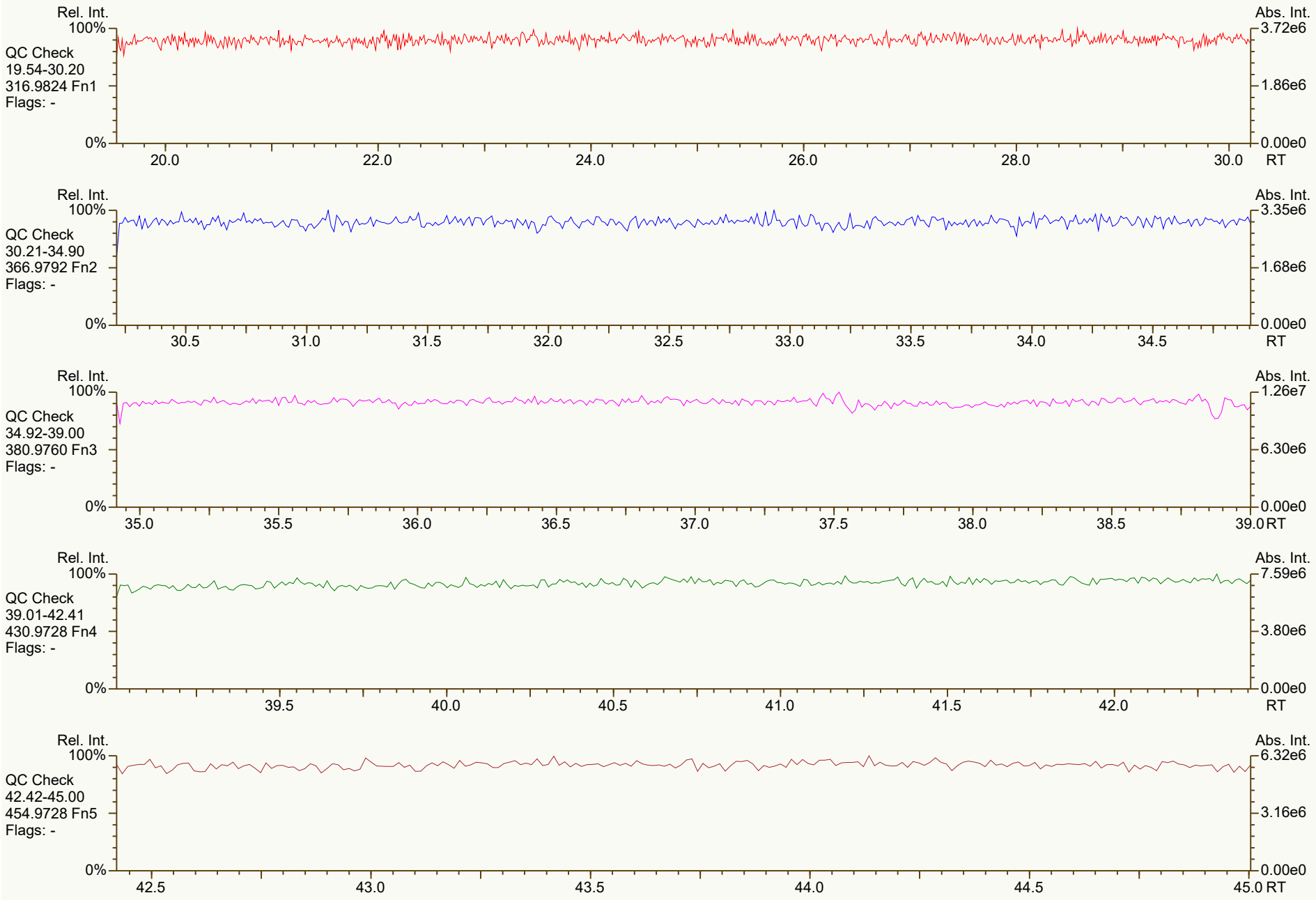
METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

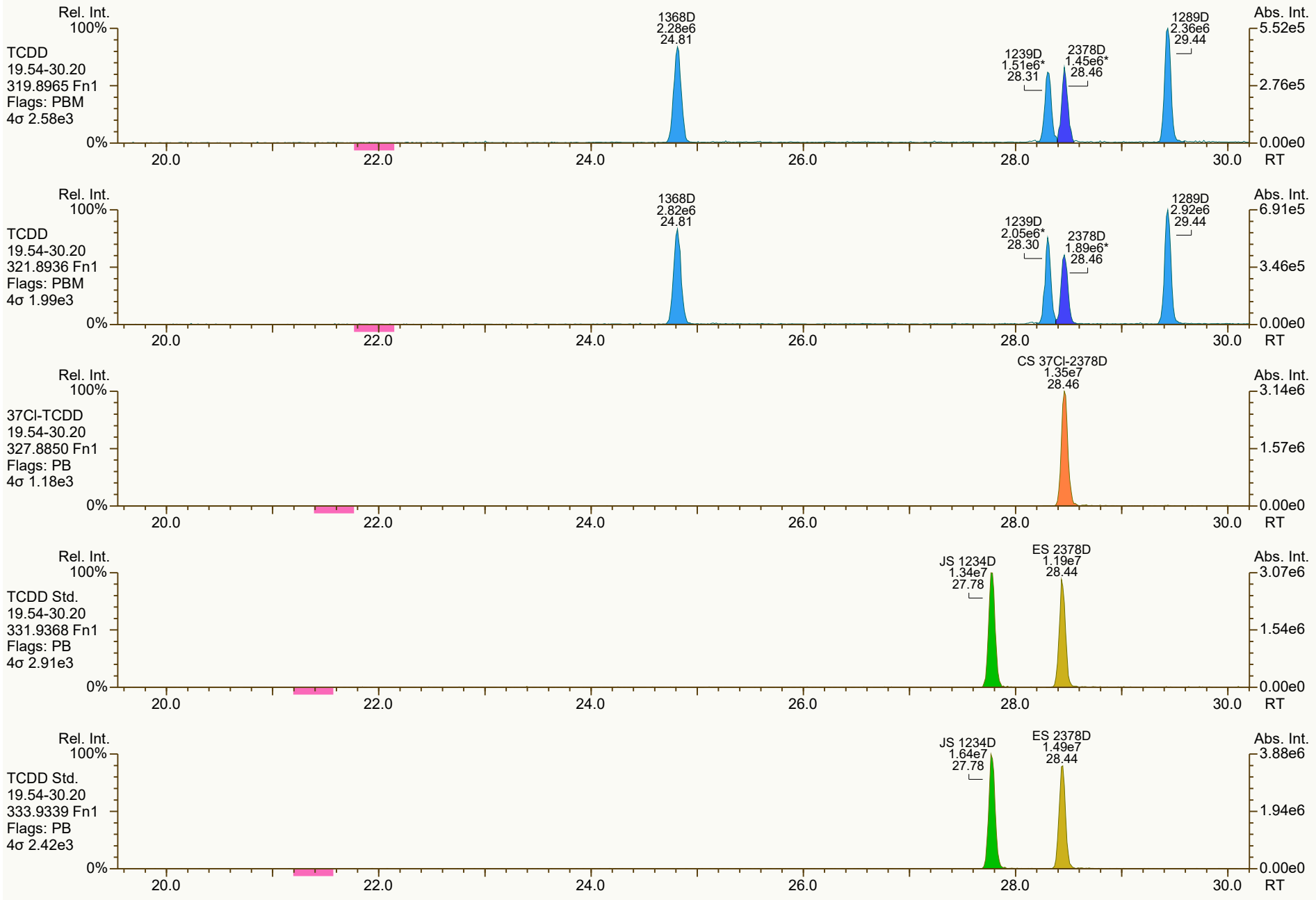
Lab Name: SGS North America
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021
Instrument ID: HRMS3 GC Column ID: ZB-5ms
VER Data Filename: 220212C03 Analysis Date: 12-FEB-2022 04:00:24
Lab ID: OPR2_18915_DF

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	86	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	92	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	88.5	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	95.2	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	91.6	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	82.1	26	-	166	Y
13C-OCDD	200	161	26	-	397	Y
13C-2,3,7,8-TCDF	100	81.3	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	88.3	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	82.9	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	80.6	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	94.9	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	102	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	80.5	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	115	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	72.6	20	-	186	Y
13C-OCDF	200	139	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	37.7	12.4	-	76.4	Y

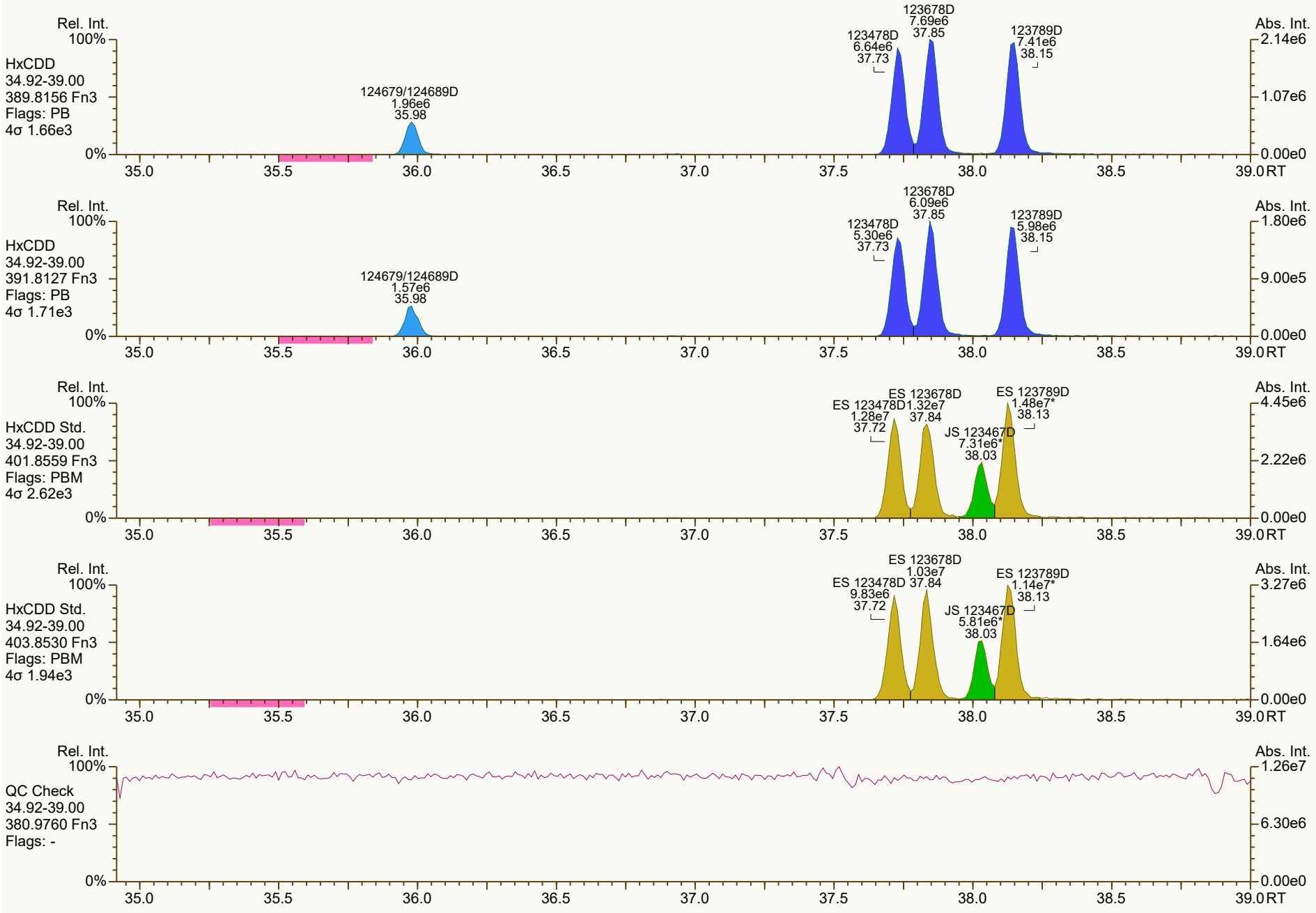
Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

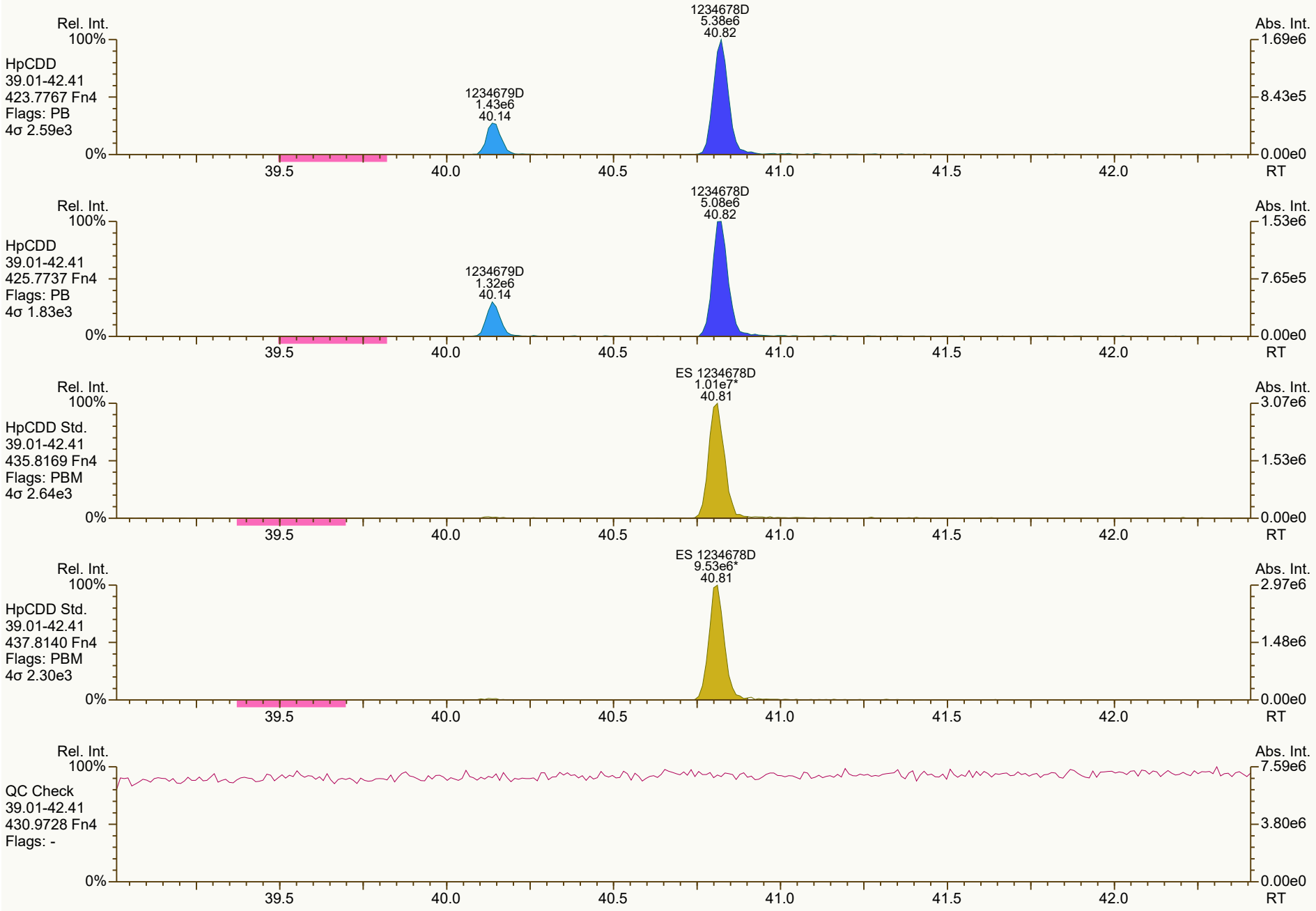
Processed: 14 Feb 2022 10:18 Analyst: TF

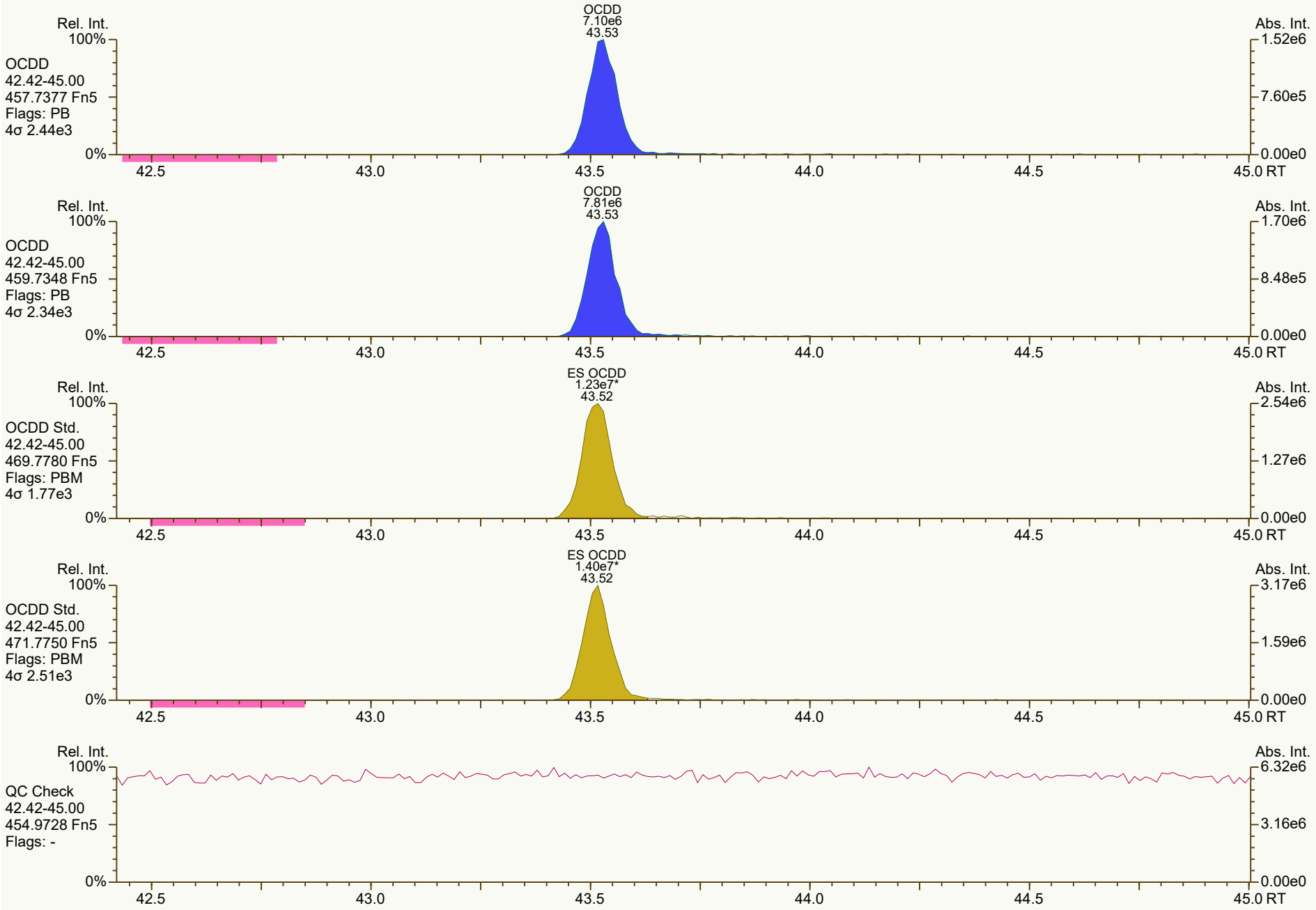

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.72e6
1.86e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.35e6
1.68e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.26e7
6.30e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
7.59e6
3.80e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
6.32e6
3.16e6
0.00e0

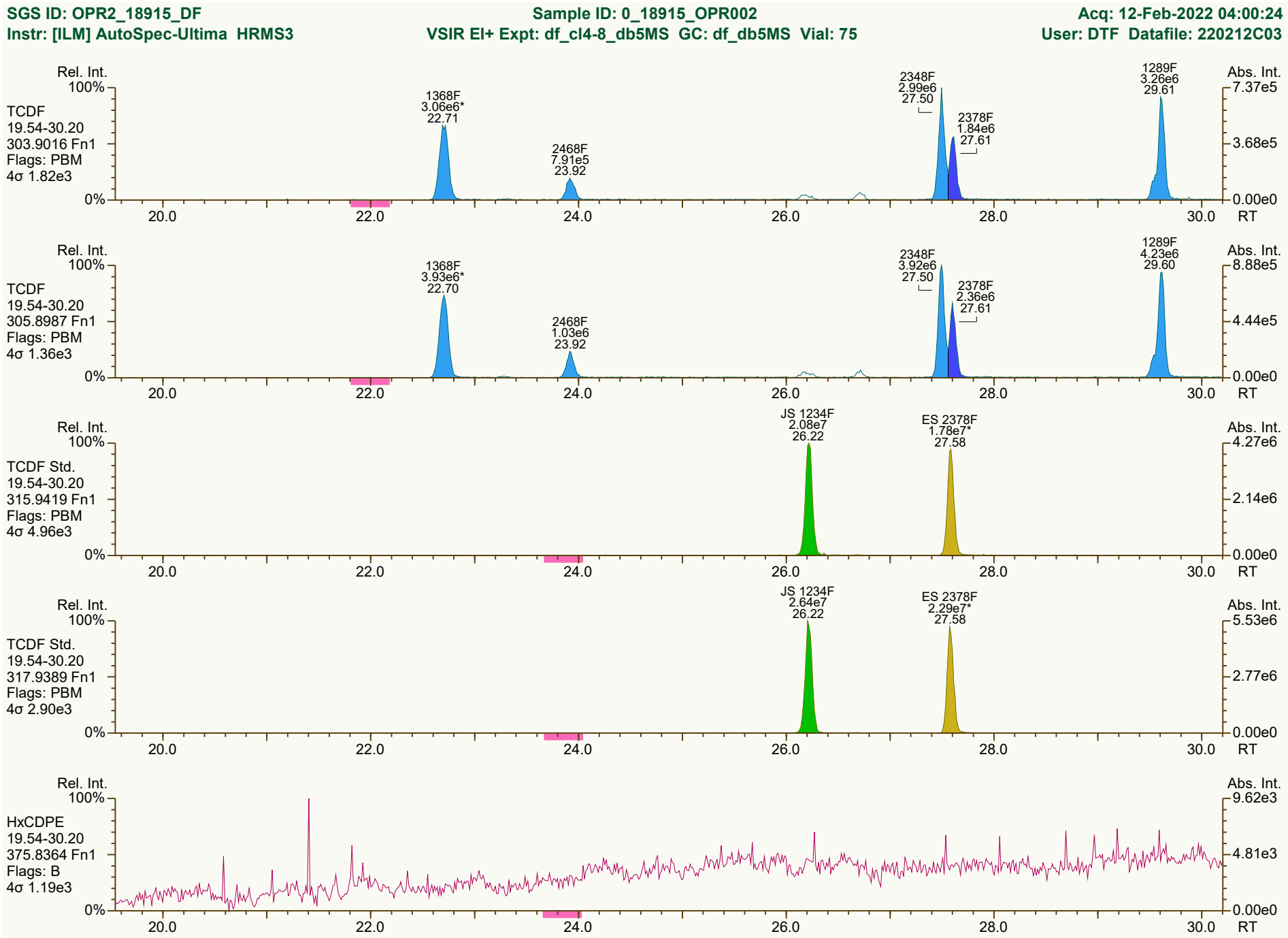

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.58e3
0%
1368D
2.28e6
24.81
1239D
1.51e6*
28.31
2378D
1.45e6*
28.46
1289D
2.36e6
29.44
Abs. Int.
5.52e5
2.76e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.99e3
0%
1368D
2.82e6
24.81
1239D
2.05e6*
28.30
2378D
1.89e6*
28.46
1289D
2.92e6
29.44
Abs. Int.
6.91e5
3.46e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.18e3
0%
CS 37Cl-2378D
1.35e7
28.46
Abs. Int.
3.14e6
1.57e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 2.91e3
0%
JS 1234D
1.34e7
27.78
ES 2378D
1.19e7
28.44
Abs. Int.
3.07e6
1.54e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.42e3
0%
JS 1234D
1.64e7
27.78
ES 2378D
1.49e7
28.44
Abs. Int.
3.88e6
1.94e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PB
4σ 1.32e3
12479/12468D
1.96e6
31.31
12378D
6.93e6
33.81
12389D
1.95e6
34.25
0%
Abs. Int.
2.10e6
1.05e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 1.25e3
12479/12468D
1.17e6
31.30
12378D
4.41e6
33.81
12389D
1.29e6
34.25
0%
Abs. Int.
1.29e6
6.46e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 2.80e3
CS 12347D
1.53e7
33.29
ES 12378D
1.46e7
33.79
0%
Abs. Int.
4.29e6
2.15e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.92e3
CS 12347D
9.90e6
33.29
ES 12378D
9.46e6
33.79
0%
Abs. Int.
2.90e6
1.45e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.35e6
1.68e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

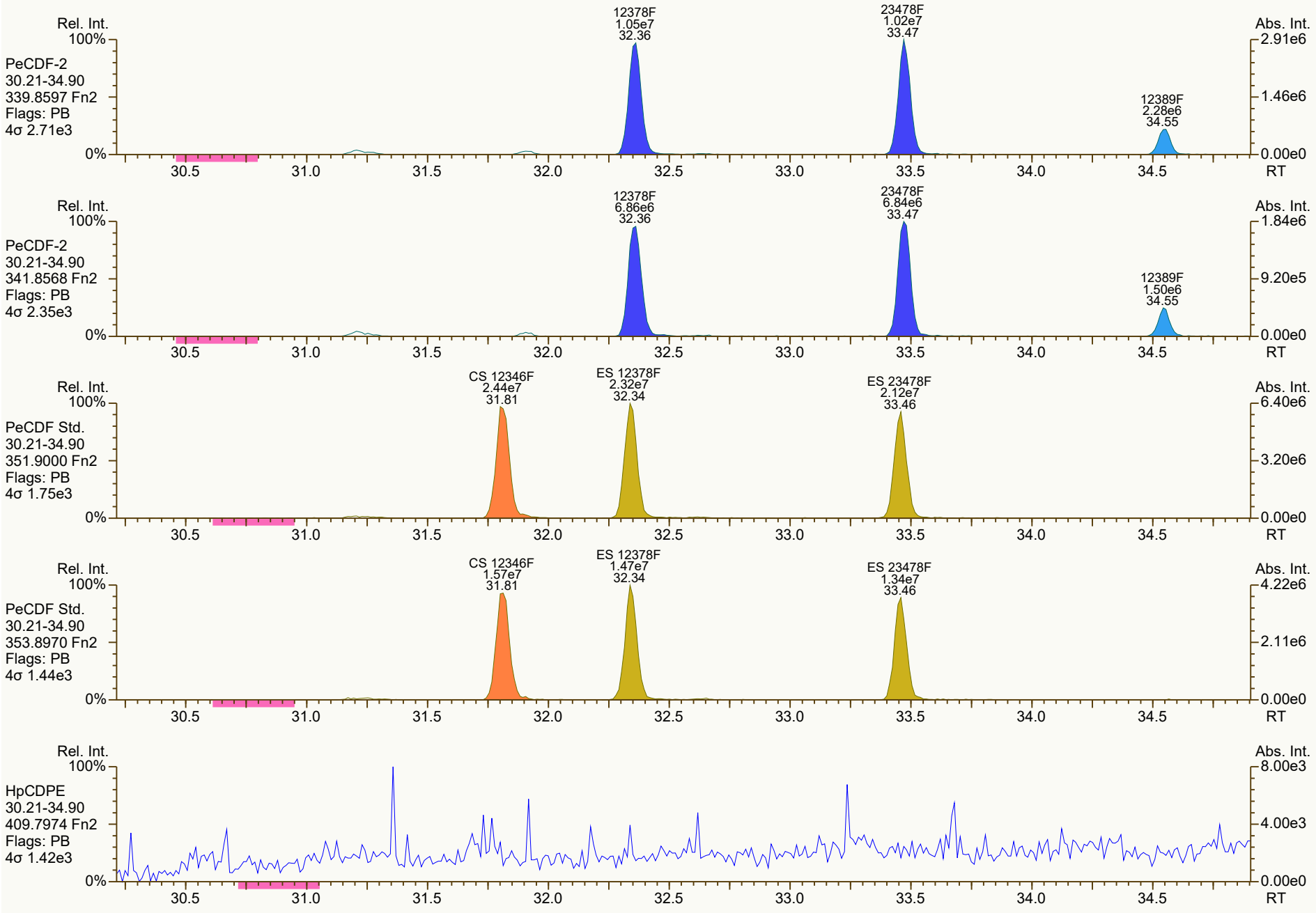

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 1.66e3
0%
124679/124689D
1.96e6
35.98
123478D
6.64e6
37.73
123678D
7.69e6
37.85
123789D
7.41e6
38.15
Abs. Int.
2.14e6
1.07e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 1.71e3
0%
124679/124689D
1.57e6
35.98
123478D
5.30e6
37.73
123678D
6.09e6
37.85
123789D
5.98e6
38.15
Abs. Int.
1.80e6
9.00e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 2.62e3
0%
ES 123478D
1.28e7
37.72
ES 123678D
1.32e7
37.84
JS 123467D
7.31e6*
38.03
ES 123789D
1.48e7*
38.13
Abs. Int.
4.45e6
2.22e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 1.94e3
0%
ES 123478D
9.83e6
37.72
ES 123678D
1.03e7
37.84
JS 123467D
5.81e6*
38.03
ES 123789D
1.14e7*
38.13
Abs. Int.
3.27e6
1.64e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.26e7
6.30e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 2.59e3
1234678D
5.38e6
40.82
1234679D
1.43e6
40.14
Abs. Int.
1.69e6
8.43e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.83e3
1234678D
5.08e6
40.82
1234679D
1.32e6
40.14
Abs. Int.
1.53e6
7.65e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 2.64e3
ES 1234678D
1.01e7*
40.81
Abs. Int.
3.07e6
1.53e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 2.30e3
ES 1234678D
9.53e6*
40.81
Abs. Int.
2.97e6
1.48e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
7.59e6
3.80e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
7.10e6
43.53
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 2.44e3
0%
Abs. Int.
1.52e6
7.60e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
7.81e6
43.53
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 2.34e3
1.70e6
8.48e5
ES OCDD
1.23e7*
43.52
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 1.77e3
2.54e6
1.27e6
ES OCDD
1.40e7*
43.52
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 2.51e3
3.17e6
1.59e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
6.32e6
3.16e6


SGS ID: OPR2_18915_DF
Sample ID: 0_18915_OPR002
Acq: 12-Feb-2022 04:00:24
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 75
User: DTF Datafile: 220212C03
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.82e3
1368F
3.06e6*
22.71
2468F
7.91e5
23.92
2348F
2.99e6
27.50
2378F
1.84e6
27.61
1289F
3.26e6
29.61
7.37e5
3.68e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.36e3
1368F
3.93e6*
22.70
2468F
1.03e6
23.92
2348F
3.92e6
27.50
2378F
2.36e6
27.61
1289F
4.23e6
29.60
8.88e5
4.44e5
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PBM
4σ 4.96e3
JS 1234F
2.08e7
26.22
ES 2378F
1.78e7*
27.58
4.27e6
2.14e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PBM
4σ 2.90e3
JS 1234F
2.64e7
26.22
ES 2378F
2.29e7*
27.58
5.53e6
2.77e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.19e3
9.62e3
4.81e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\OPR2_18915_DF.utp_res, saved 14-Feb-2022 10:17 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0677, 6586, 1554 scc: 734-447
PKD: 14-Feb-2022 09:49 Printed: 14-Feb-2022 10:22 Page 7 of 12

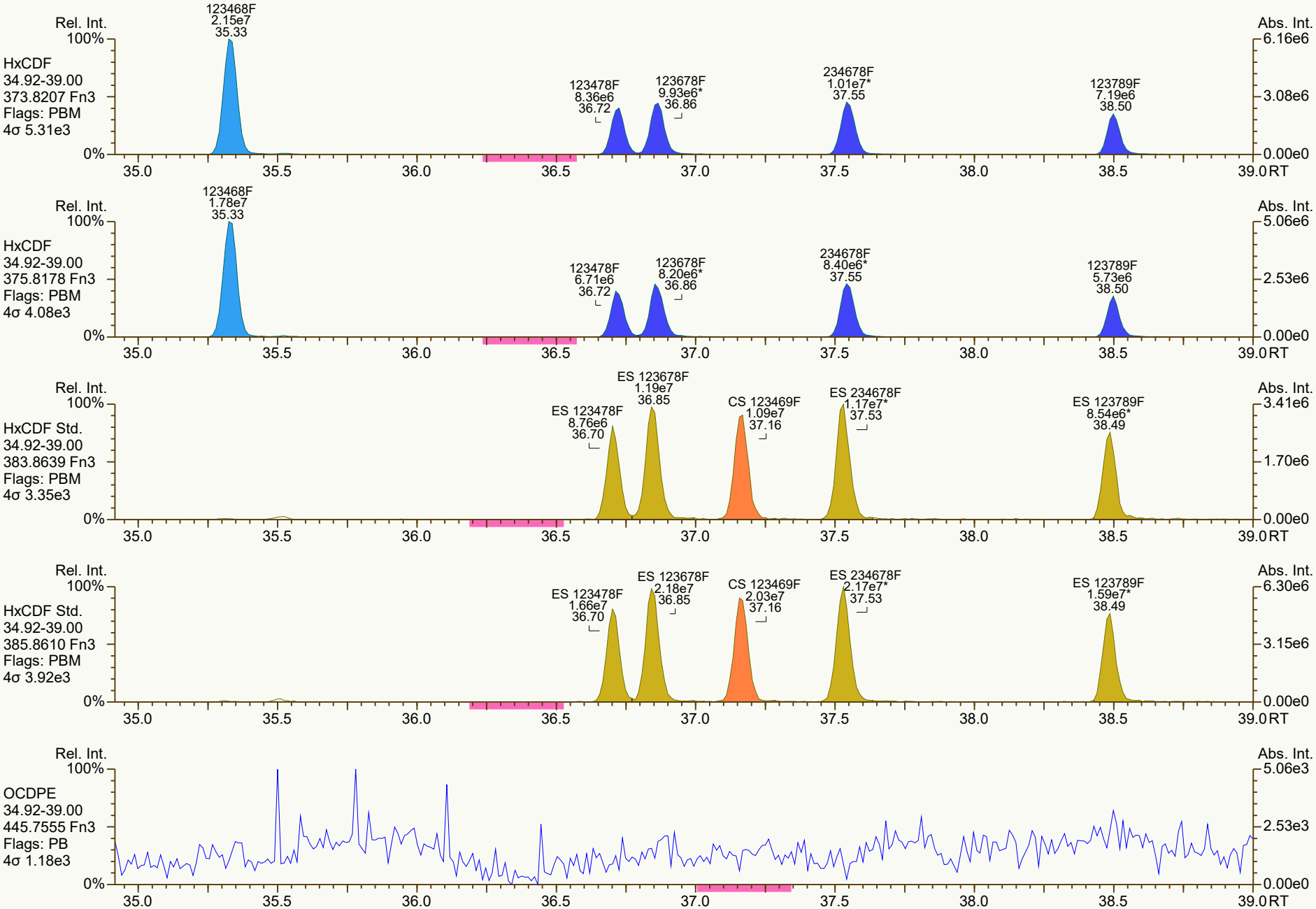

Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.13e3
13468/12468F
2.15e7
29.52
Abs. Int.
5.31e6
2.65e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.86e3
13468/12468F
1.38e7
29.52
Abs. Int.
3.45e6
1.73e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
3.72e6
1.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PB
4σ 2.71e3
0%
12378F
1.05e7
32.36
23478F
1.02e7
33.47
12389F
2.28e6
34.55
Abs. Int.
2.91e6
1.46e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PB
4σ 2.35e3
0%
12378F
6.86e6
32.36
23478F
6.84e6
33.47
12389F
1.50e6
34.55
Abs. Int.
1.84e6
9.20e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 1.75e3
0%
CS 12346F
2.44e7
31.81
ES 12378F
2.32e7
32.34
ES 23478F
2.12e7
33.46
Abs. Int.
6.40e6
3.20e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 1.44e3
0%
CS 12346F
1.57e7
31.81
ES 12378F
1.47e7
32.34
ES 23478F
1.34e7
33.46
Abs. Int.
4.22e6
2.11e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: PB
4σ 1.42e3
0%
Abs. Int.
8.00e3
4.00e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

SGS ID: OPR2_18915_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

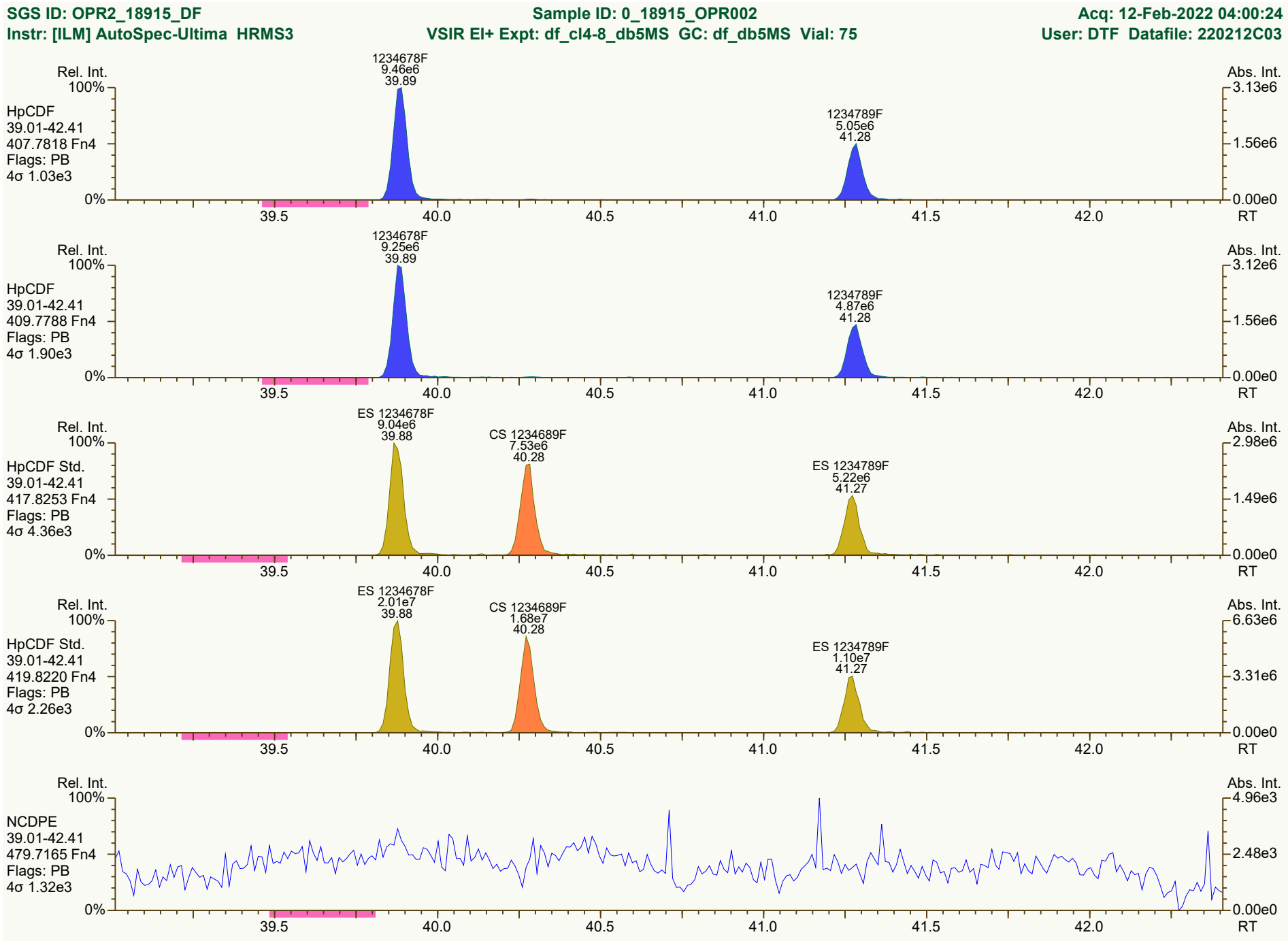
Sample ID: 0_18915_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 75

Acq: 12-Feb-2022 04:00:24
User: DTF Datafile: 220212C03



Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\OPR2_18915_DF.utp_res, saved 14-Feb-2022 10:17 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8836, 0307, 7739 scc: 734-447

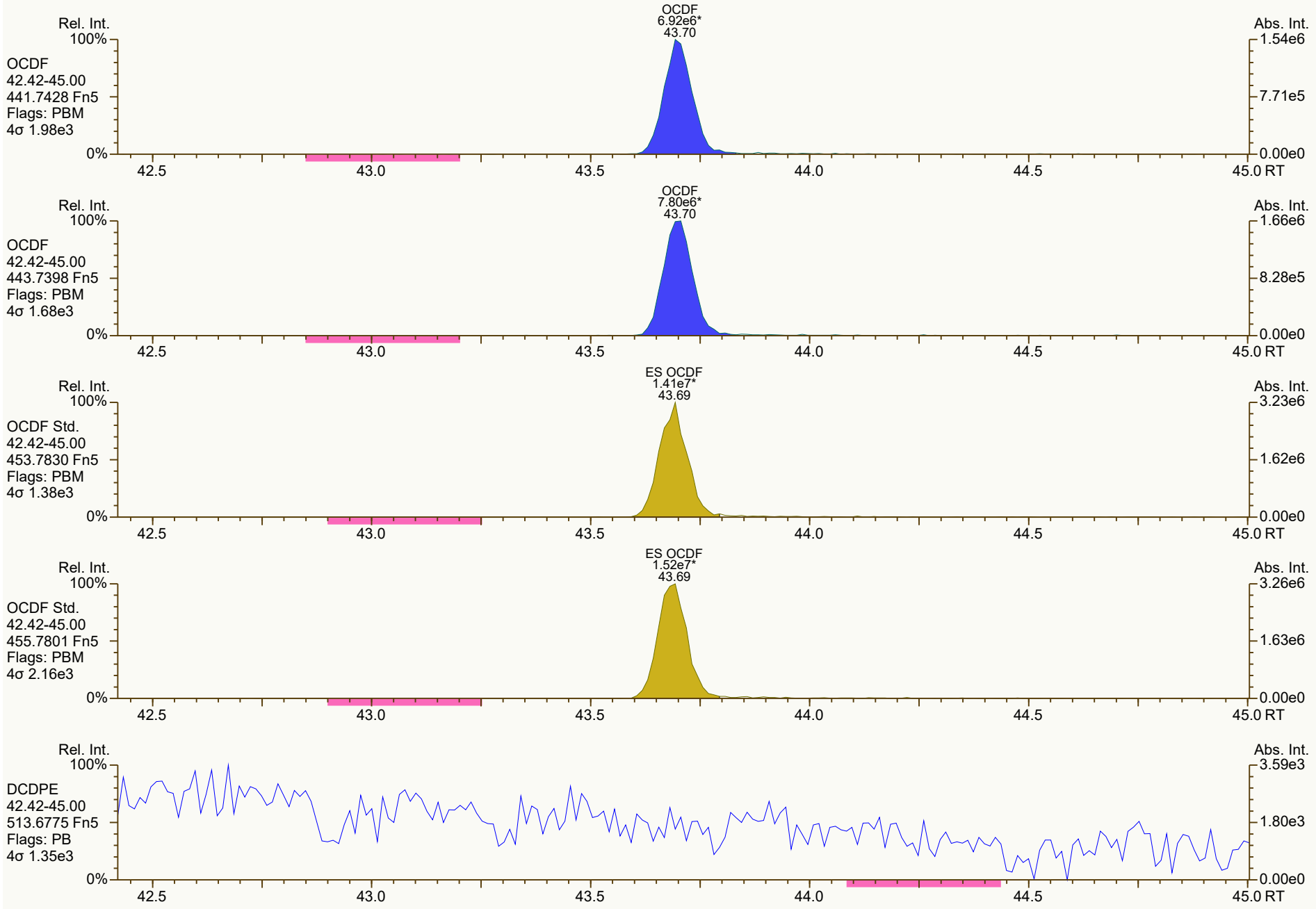
Peak annotation: Areas, Centroids
PKD: 14-Feb-2022 09:49 Printed: 14-Feb-2022 10:22 Page 10 of 12



Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\OPR2_18915_DF.utp_res, saved 14-Feb-2022 10:17 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3628, 4181, 4832 scc: 734-447
PKD: 14-Feb-2022 09:45 Printed: 14-Feb-2022 10:22 Page 11 of 12

SGS ID: OPR2_18915_DF | Sample ID: 0_18915_OPR002 | Acq: 12-Feb-2022 04:00:24

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 75 | User: DTF Datafile: 220212C03



Results: P:\B6200_B6299\B6283\B6283_18915 DF\Resources\OPR2_18915_DF.utp_res, saved 14-Feb-2022 10:17 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1724, 6181, 2996 scc: 734-447 *Revised: 14-Feb-2022 09:48 (DTF) Printed: 14-Feb-2022 10:22 Page 12 of 12*



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6234

28-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

Meagan Willis

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This report is approved by

Tamara Burkamper

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Senior Project Manager

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Results reported relate only to the items tested.

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

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6234
Analytical Protocol(s)	1613B
No. Samples Submitted	9
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	26-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	0.2, 0.0
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

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

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

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.14.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

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

Data processing uses proprietary software.

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

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

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

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

Continuing Calibration meets requirements, except for the following: the reported percent deviation of CS 1,2,3,4,6,8,9-HpCDF is above SOP criteria. There is no method specified criteria for these standards and no adverse impact on results.

No re-extractions or dilutions were required.

B6234_005: the reported ion ratio of labeled standard ES 1,2,3,7,8,9-HxCDD is outside method criteria.

OPR1/OPR2_18872 meet accuracy and precision criteria, except for the following: RPD of 2,3,7,8-TCDF is >20%.

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

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

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

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

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

APPENDIX C: LAB IDENTIFIERS

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

SGS CERTIFICATIONS

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

Rev. 12-Oct-2021

Sample ID: 11215131-020422-S-SB-SW-B-27 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6284	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	Lab Sample ID	B6284_18926_DF_001	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	76.5 %	QC Batch No:	18926	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	9:18:45

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.36			ES 2378-TCDD	83.7	
12378-PeCDD	ND	0.31			ES 12378-PeCDD	81.5	
123478-HxCDD	0.574			J	ES 123478-HxCDD	84.6	
123678-HxCDD	0.685			J	ES 123678-HxCDD	93	
123789-HxCDD	1.16			J	ES 123789-HxCDD	91.3	
1234678-HpCDD	20				ES 1234678-HpCDD	78.2	
OCDD	390				ES OCDD	67.3	
2378-TCDF	1.71				ES 2378-TCDF	81	
12378-PeCDF	0.57			J	ES 12378-PeCDF	90	
23478-PeCDF	EMPC		0.363	J	ES 23478-PeCDF	86.7	
123478-HxCDF	ND	0.178			ES 123478-HxCDF	89	
123678-HxCDF	ND	0.169			ES 123678-HxCDF	105	
234678-HxCDF	ND	0.232			ES 234678-HxCDF	80.3	
123789-HxCDF	ND	0.269			ES 123789-HxCDF	75.8	
1234678-HpCDF	EMPC		0.409	J	ES 1234678-HpCDF	110	
1234789-HpCDF	ND	0.279			ES 1234789-HpCDF	72.7	
OCDF	3			J	ES OCDF	56.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	81.2	
Total TCDD	1.54		2.03		CS 12347-PeCDD	95.1	
Total PeCDD	1.86		2.32		CS 12346-PeCDF	99	
Total HxCDD	17		17.5		CS 123469-HxCDF	116	
Total HpCDD	64.4		64.4		CS 1234689-HpCDF	108	
Total TCDF	15.7		20.3				
Total PeCDF	1.35		2.18				
Total HxCDF	ND	0.206	ND				
Total HpCDF	ND		0.409				
Total PCDD/Fs	**495**		**503**				
WHO-2005 TEQs							
TEQ: ND=0	0.747		0.86				
TEQ: ND=DL/2	1.13	0.48	1.24				
TEQ: ND=DL	1.51	0.96	1.62				

SGS
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Sample ID: 11215131-020422-S-SB-SW-B-27 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6284	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	Lab Sample ID:	B6284_18926_DF_001	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	76.5 %	QC Batch No.:	18926	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	9:18:45

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.36)		12479/12468D	[0.461]	J	124679/124689D	10.1		1234679D	44.4	
1379D	(0.36)		12469D	1.12	J	123468D	0.396	J	1234678D	20	
1369D	(0.36)		12368D	(0.31)		123679/123689D	3.66				
1469D	1.54		12478D	(0.31)		123469D	[0.555]	J			
1247D...[4]	(0.36)		12379D	(0.31)		123478D	0.574	J			
1378D	(0.36)		12369D...[3]	0.738	J	123678D	0.685	J			
1268D	(0.36)		12346/12347D	(0.31)		123467D	0.376	J			
1478D	(0.36)		12378D	(0.31)		123789D	1.16	J	**Conc.**	64.4	
1279D	(0.36)		12367D	(0.31)					**EMPC**	64.4	
1234/1269D	(0.36)		12389D	(0.31)							
1236D	(0.36)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	[0.498]										
1239D	(0.36)								OCDD	390	
2378D	(0.36)										
1278D	(0.36)										
1267D	(0.36)										
1289D	(0.36)										
Conc.	1.54		**Conc.**	1.86		**Conc.**	17				
EMPC	2.03		**EMPC**	2.32		**EMPC**	17.5				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0.747	0.86
TEQ: ND=DL/2	1.13	1.24
TEQ: ND=DL	1.51	1.62

	Conc.	EMPC
Total PCDD/Fs	495	503

Checkcode: 916-203-ZNQ

Report Created: 22-Feb-2022 15:07 Analyst: pw

Sample ID: 11215131-020422-S-SB-SW-B-27 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6284	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	Lab Sample ID:	B6284_18926_DF_001	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	76.5 %	QC Batch No.:	18926	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	9:18:45

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	0.815		13468/12468F	(0.161)		123468F	(0.206)		1234678F	[0.409]	J
1468F	[0.21]	J	13678F...[3]	[0.461]	J	124678/134678F	(0.206)		1234679F	(0.199)	
2468F	1.25		12368F...[3]	0.782	J	134679F	(0.206)		1234689F	(0.199)	
1346/1246F	(0.207)		14678F	(0.246)		124679F	(0.206)		1234789F	(0.279)	
1347F...[3]	2.75		13479F	(0.246)		124689F	(0.206)				
1348F	[0.362]	J	13469/12479F	(0.246)		123467F	(0.206)				
1248F...[3]	1.18		12346F	(0.246)		123478F	(0.178)				
1268F	0.541		23468/12469F	(0.246)		123678F	(0.169)				
1467F	0.359	J	12347F	(0.246)		123479F	(0.206)				
1478F	[0.672]		12348F	(0.246)		123469F	(0.206)				
1369/1237F	1.18		12378F	0.57	J	123679F	(0.206)				
2467F	0.403	J	12678/12367F	(0.246)		234678F	(0.232)		**Conc.**	0	
2368F	[1.06]		12379F	(0.246)		234678/123689F	0		**EMPC**	0.409	
1238F...[5]	[1.44]		12679F	(0.246)		123689F	(0.206)				
1278F	1.42		23467/12369F	(0.246)		123789F	(0.269)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.207)		23478F	[0.363]	J	123789/123489F	0			(pg/g)	
1267F	0.619		23478/12489F	0		123489F	(0.206)		OCDF	3	J
2346/1249F	(0.207)		12489F	(0.246)							
2347/1279F	[0.805]		12349F	(0.246)							
2348F	0.439	J	12389F	(0.246)							
2378F	1.71										
2367/3467F	1.14										
1269F	0.966										
1239F	0.34	J									
1289F	0.59										
Conc.	15.7		**Conc.**	1.35		**Conc.**	0				
EMPC	20.3		**EMPC**	2.18		**EMPC**	0				

Checkcode: 916-203-ZNQ

Report Created: 22-Feb-2022 15:07 Analyst: pw

Sample ID: 11215131-020422-S-SB-SW-B-27 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6284_18926_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	QC Batch No.:	18926
Date Collected:	04-Feb-2022	Split:	-	Date Extracted:	14-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	22-Feb-2022 09:18
Lab Project No:	B6284	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.36)		0.36	(0.36)	(0.36)	(0.36)
12378-PeCDD	(0.31)		0.31	(0.155)	(0.31)	(0.31)
123478-HxCDD	0.574	J	0.308	0.0574	0.0574	0.0574
123678-HxCDD	0.685	J	0.322	0.0685	0.0685	0.0685
123789-HxCDD	1.16	J	0.323	0.116	0.116	0.116
1234678-HpCDD	20		0.39	0.2	0.2	0.2
OCDD	390		0.508	0.39	0.039	0.117
2378-TCDF	1.71		0.207	0.171	0.171	0.171
12378-PeCDF	0.57	J	0.246	0.0285	0.0285	0.0171
23478-PeCDF	[0.363]	J	0.246	[0.182]	[0.182]	[0.109]
123478-HxCDF	(0.178)		0.178	(0.0178)	(0.0178)	(0.0178)
123678-HxCDF	(0.169)		0.169	(0.0169)	(0.0169)	(0.0169)
234678-HxCDF	(0.232)		0.232	(0.0232)	(0.0232)	(0.0232)
123789-HxCDF	(0.269)		0.269	(0.0269)	(0.0269)	(0.0269)
1234678-HpCDF	[0.409]	J	0.153	[0.00409]	[0.00409]	[0.00409]
1234789-HpCDF	(0.279)		0.279	(0.00279)	(0.00279)	(0.00279)
OCDF	3	J	0.463	0.003	0.0003	0.000899

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TEQ Summaries			
EMPC = 0, ND = 0	1.03	0.68	0.747
EMPC = 0, ND = DL / 2	1.34	1.06	1.13
EMPC = 0, ND = DL	1.64	1.44	1.51
EMPC = 0, < J-level = 0	0.761	0.41	0.488
EMPC = EMPC, ND = 0	1.22	0.866	0.86
EMPC = EMPC, ND = DL / 2	1.52	1.24	1.24
EMPC = EMPC, ND = DL	1.82	1.62	1.62
EMPC = EMPC, < J-level = 0	0.761	0.41	0.488

Checkcode: 916-203-ZNQ

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Sample ID: 11215131-020422-S-SB-SW-B-27H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6284	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.10 g	Lab Sample ID	B6284_18926_DF_002	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	79.0 %	QC Batch No:	18926	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	10:06:12

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.387			ES 2378-TCDD	87.9	
12378-PeCDD	EMPC		0.313	J	ES 12378-PeCDD	79.4	
123478-HxCDD	EMPC		0.458	J	ES 123478-HxCDD	84.4	
123678-HxCDD	0.66			J	ES 123678-HxCDD	92.9	
123789-HxCDD	EMPC		0.865	J	ES 123789-HxCDD	93.3	
1234678-HpCDD	14.4				ES 1234678-HpCDD	86.2	
OCDD	329				ES OCDD	72.5	
2378-TCDF	ND	0.186			ES 2378-TCDF	81.3	
12378-PeCDF	ND	0.21			ES 12378-PeCDF	86.5	
23478-PeCDF	ND	0.226			ES 23478-PeCDF	76.7	
123478-HxCDF	ND	0.19			ES 123478-HxCDF	92.6	
123678-HxCDF	ND	0.173			ES 123678-HxCDF	102	
234678-HxCDF	ND	0.243			ES 234678-HxCDF	77.8	
123789-HxCDF	ND	0.276			ES 123789-HxCDF	76.3	
1234678-HpCDF	ND	0.119			ES 1234678-HpCDF	119	
1234789-HpCDF	ND	0.206			ES 1234789-HpCDF	75.7	
OCDF	ND	0.492			ES OCDF	58	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	80.6	
Total TCDD	8.61		8.61		CS 12347-PeCDD	58.3	
Total PeCDD	5.01		6.18		CS 12346-PeCDF	94.8	
Total HxCDD	30.8		33.4		CS 123469-HxCDF	112	
Total HpCDD	69		69		CS 1234689-HpCDF	112	
Total TCDF	ND		0.224				
Total PeCDF	ND	0.217	ND				
Total HxCDF	ND	0.214	ND				
Total HpCDF	ND	0.15	ND				
Total PCDD/Fs	**442**		**446**				
WHO-2005 TEQs							
TEQ: ND=0	0.309		0.754				
TEQ: ND=DL/2	0.594	0.538	1.04				
TEQ: ND=DL	0.88	1.08	1.33				

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Sample ID: 11215131-020422-S-SB-SW-B-27H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6284	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.10 g	Lab Sample ID:	B6284_18926_DF_002	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	79.0 %	QC Batch No.:	18926	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	10:06:12

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.387)		12479/12468D	0.61	J	124679/124689D	26.9		1234679D	54.6	
1379D	(0.387)		12469D	4.4		123468D	[0.351]	J	1234678D	14.4	
1369D	(0.387)		12368D	(0.42)		123679/123689D	3.29				
1469D	7.9		12478D	(0.42)		123469D	[0.589]	J			
1247D...[4]	(0.387)		12379D	(0.42)		123478D	[0.458]	J			
1378D	(0.387)		12369D...[3]	[0.858]	J	123678D	0.66	J			
1268D	(0.387)		12346/12347D	(0.42)		123467D	[0.319]	J			
1478D	(0.387)		12378D	[0.313]	J	123789D	[0.865]	J	**Conc.**	69	
1279D	(0.387)		12367D	(0.42)					**EMPC**	69	
1234/1269D	0.709		12389D	(0.42)							
1236D	(0.387)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.387)										
1239D	(0.387)								OCDD	329	
2378D	(0.387)										
1278D	(0.387)										
1267D	(0.387)										
1289D	(0.387)										
Conc.	8.61		**Conc.**	5.01		**Conc.**	30.8				
EMPC	8.61		**EMPC**	6.18		**EMPC**	33.4				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0.309	0.754
TEQ: ND=DL/2	0.594	1.04
TEQ: ND=DL	0.88	1.33

	Conc.	EMPC
Total PCDD/Fs	442	446

Checkcode: 289-510-ZZH

Report Created: 22-Feb-2022 15:07 Analyst: pw

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Sample ID: 11215131-020422-S-SB-SW-B-27H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6284	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.10 g	Lab Sample ID:	B6284_18926_DF_002	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	79.0 %	QC Batch No.:	18926	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	10:06:12

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.186)		13468/12468F	(0.22)		123468F	(0.214)		1234678F	(0.119)	
1468F	(0.186)		13678F...[3]	(0.217)		124678/134678F	(0.214)		1234679F	(0.15)	
2468F	[0.224]	J	12368F...[3]	(0.217)		134679F	(0.214)		1234689F	(0.15)	
1346/1246F	(0.186)		14678F	(0.217)		124679F	(0.214)		1234789F	(0.206)	
1347F...[3]	(0.186)		13479F	(0.217)		124689F	(0.214)				
1348F	(0.186)		13469/12479F	(0.217)		123467F	(0.214)				
1248F...[3]	(0.186)		12346F	(0.217)		123478F	(0.19)				
1268F	(0.186)		23468/12469F	(0.217)		123678F	(0.173)				
1467F	(0.186)		12347F	(0.217)		123479F	(0.214)				
1478F	(0.186)		12348F	(0.217)		123469F	(0.214)				
1369/1237F	(0.186)		12378F	(0.21)		123679F	(0.214)				
2467F	(0.186)		12678/12367F	(0.217)		234678F	(0.243)		**Conc.**	0	
2368F	(0.186)		12379F	(0.217)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.186)		12679F	(0.217)		123689F	(0.214)				
1278F	(0.186)		23467/12369F	(0.217)		123789F	(0.276)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.186)		23478F	(0.226)		123789/123489F	0				
1267F	(0.186)		23478/12489F	0		123489F	(0.214)		OCDF	(0.492)	
2346/1249F	(0.186)		12489F	(0.217)							
2347/1279F	(0.186)		12349F	(0.217)							
2348F	(0.186)		12389F	(0.217)							
2378F	(0.186)										
2367/3467F	(0.186)										
1269F	(0.186)										
1239F	(0.186)										
1289F	(0.186)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0.224		**EMPC**	0		**EMPC**	0				

Checkcode: 289-510-ZZH

Report Created: 22-Feb-2022 15:07 Analyst: pw

Sample ID: 11215131-020422-S-SB-SW-B-27H TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6284_18926_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.10 g	QC Batch No.:	18926
Date Collected:	04-Feb-2022	Split:	-	Date Extracted:	14-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	22-Feb-2022 10:06
Lab Project No:	B6284	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.387)		0.387	(0.387)	(0.387)	(0.387)
12378-PeCDD	[0.313]	J	0.42	[0.156]	[0.313]	[0.313]
123478-HxCDD	[0.458]	J	0.27	[0.0458]	[0.0458]	[0.0458]
123678-HxCDD	0.66	J	0.279	0.066	0.066	0.066
123789-HxCDD	[0.865]	J	0.264	[0.0865]	[0.0865]	[0.0865]
1234678-HpCDD	14.4		0.293	0.144	0.144	0.144
OCDD	329		0.465	0.329	0.0329	0.0986
2378-TCDF	(0.186)		0.186	(0.0186)	(0.0186)	(0.0186)
12378-PeCDF	(0.21)		0.21	(0.0105)	(0.0105)	(0.00629)
23478-PeCDF	(0.226)		0.226	(0.113)	(0.113)	(0.0678)
123478-HxCDF	(0.19)		0.19	(0.019)	(0.019)	(0.019)
123678-HxCDF	(0.173)		0.173	(0.0173)	(0.0173)	(0.0173)
234678-HxCDF	(0.243)		0.243	(0.0243)	(0.0243)	(0.0243)
123789-HxCDF	(0.276)		0.276	(0.0276)	(0.0276)	(0.0276)
1234678-HpCDF	(0.119)		0.119	(0.00119)	(0.00119)	(0.00119)
1234789-HpCDF	(0.206)		0.206	(0.00206)	(0.00206)	(0.00206)
OCDF	(0.492)		0.492	(0.000492)	(0.0000492)	(0.000147)

TEQ Summaries			
EMPC = 0, ND = 0	0.539	0.243	0.309
EMPC = 0, ND = DL / 2	0.849	0.553	0.594
EMPC = 0, ND = DL	1.16	0.864	0.88
EMPC = 0, < J-level = 0	0.473	0.177	0.243
EMPC = EMPC, ND = 0	0.828	0.688	0.754
EMPC = EMPC, ND = DL / 2	1.14	0.998	1.04
EMPC = EMPC, ND = DL	1.45	1.31	1.33
EMPC = EMPC, < J-level = 0	0.473	0.177	0.243

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Checkcode: 289-510-ZZH

Sample ID: 11215131-020422-S-SB-SW-O-25 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6284	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.21 g	Lab Sample ID	B6284_18926_DF_003	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	86.2 %	QC Batch No:	18926	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	10:53:45

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	5.82				ES 2378-TCDD	79.7	
12378-PeCDD	ND	0.283			ES 12378-PeCDD	76.2	
123478-HxCDD	0.493			J	ES 123478-HxCDD	76.9	
123678-HxCDD	EMPC		0.916	J	ES 123678-HxCDD	85.5	
123789-HxCDD	1			J	ES 123789-HxCDD	83.9	
1234678-HpCDD	37.4				ES 1234678-HpCDD	71.3	
OCDD	975				ES OCDD	61.5	
2378-TCDF	19.7				ES 2378-TCDF	73.5	
12378-PeCDF	0.834			J	ES 12378-PeCDF	83.6	
23478-PeCDF	0.756			J	ES 23478-PeCDF	78.7	
123478-HxCDF	1.99			J	ES 123478-HxCDF	83.5	
123678-HxCDF	EMPC		0.62	J	ES 123678-HxCDF	99	
234678-HxCDF	ND	0.336			ES 234678-HxCDF	72.4	
123789-HxCDF	ND	0.386			ES 123789-HxCDF	73.6	
1234678-HpCDF	8.02				ES 1234678-HpCDF	103	
1234789-HpCDF	0.849			J	ES 1234789-HpCDF	69.9	
OCDF	45.5				ES OCDF	54.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	74.7	
Total TCDD	11.6		12.5		CS 12347-PeCDD	82.5	
Total PeCDD	4.8		4.8		CS 12346-PeCDF	88.8	
Total HxCDD	33.8		34.8		CS 123469-HxCDF	106	
Total HpCDD	120		120		CS 1234689-HpCDF	104	
Total TCDF	36		37.1				
Total PeCDF	2.28		3.31				
Total HxCDF	3.92		6.57				
Total HpCDF	15		15				
Total PCDD/Fs	**1,250**		**1,260**				
WHO-2005 TEQs							
TEQ: ND=0	9.16		9.31				
TEQ: ND=DL/2	9.34	0.507	9.49				
TEQ: ND=DL	9.52	1.01	9.67				

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Sample ID: 11215131-020422-S-SB-SW-O-25 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6284	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.21 g	Lab Sample ID:	B6284_18926_DF_003	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	86.2 %	QC Batch No.:	18926	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	10:53:45

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.382)		12479/12468D	0.652	J	124679/124689D	25.9		1234679D	83	
1379D	(0.382)		12469D	3.45		123468D	0.67	J	1234678D	37.4	
1369D	(0.382)		12368D	(0.283)		123679/123689D	4.92				
1469D	5.82		12478D	(0.283)		123469D	0.875	J			
1247D...[4]	(0.382)		12379D	(0.283)		123478D	0.493	J			
1378D	(0.382)		12369D...[3]	0.699	J	123678D	[0.916]	J			
1268D	(0.382)		12346/12347D	(0.283)		123467D	(0.402)				
1478D	(0.382)		12378D	(0.283)		123789D	1	J	**Conc.**	120	
1279D	(0.382)		12367D	(0.283)					**EMPC**	120	
1234/1269D	[0.423]	J	12389D	(0.283)							
1236D	(0.382)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.382)										
1239D	(0.382)								OCDD	975	
2378D	5.82										
1278D	[0.473]	J									
1267D	(0.382)										
1289D	(0.382)										
Conc.	11.6		**Conc.**	4.8		**Conc.**	33.8				
EMPC	12.5		**EMPC**	4.8		**EMPC**	34.8				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	9.16	9.31
TEQ: ND=DL/2	9.34	9.49
TEQ: ND=DL	9.52	9.67

	Conc.	EMPC
Total PCDD/Fs	1,250	1,260

Checkcode: 207-644-FSM

Report Created: 22-Feb-2022 15:07 Analyst: pw

Sample ID: 11215131-020422-S-SB-SW-O-25 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6284	Date Received: 08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.21 g	Lab Sample ID:	B6284_18926_DF_003	Date Extracted: 14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	86.2 %	QC Batch No.:	18926	Date Analyzed: 22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed: 10:53:45

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.268)		13468/12468F	0.695	J	123468F	0.771	J	1234678F	8.02	
1468F	(0.268)		13678F...[3]	(0.216)		124678/134678F	[2.02]	J	1234679F	0.518	J
2468F	[0.617]		12368F...[3]	[0.714]	J	134679F	(0.29)		1234689F	5.6	
1346/1246F	(0.268)		14678F	(0.216)		124679F	(0.29)		1234789F	0.849	J
1347F...[3]	[0.5]		13479F	(0.216)		124689F	1.16	J			
1348F	(0.268)		13469/12479F	(0.216)		123467F	(0.29)				
1248F...[3]	0.801		12346F	(0.216)		123478F	1.99	J			
1268F	(0.268)		23468/12469F	(0.216)		123678F	[0.62]	J			
1467F	(0.268)		12347F	(0.216)		123479F	(0.29)				
1478F	0.846		12348F	(0.216)		123469F	(0.29)				
1369/1237F	(0.268)		12378F	0.834	J	123679F	(0.29)				
2467F	(0.268)		12678/12367F	[0.313]	J	234678F	(0.336)		**Conc.**	15	
2368F	1.32		12379F	(0.216)		234678/123689F	0		**EMPC**	15	
1238F...[5]	0.947		12679F	(0.216)		123689F	(0.29)				
1278F	6.63		23467/12369F	(0.216)		123789F	(0.386)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.268)		23478F	0.756	J	123789/123489F	0				
1267F	0.496		23478/12489F	0		123489F	(0.29)		OCDF	45.5	
2346/1249F	(0.268)		12489F	(0.216)							
2347/1279F	(0.268)		12349F	(0.216)							
2348F	1.14		12389F	(0.216)							
2378F	19.7										
2367/3467F	2.09										
1269F	0.593										
1239F	(0.268)										
1289F	1.4										
Conc.	36		**Conc.**	2.28		**Conc.**	3.92				
EMPC	37.1		**EMPC**	3.31		**EMPC**	6.57				

Checkcode: 207-644-FSM

Report Created: 22-Feb-2022 15:07 Analyst: pw

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Sample ID: 11215131-020422-S-SB-SW-O-25 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6284_18926_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.21 g	QC Batch No.:	18926
Date Collected:	04-Feb-2022	Split:	-	Date Extracted:	14-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	22-Feb-2022 10:53
Lab Project No:	B6284	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	5.82		0.382	5.82	5.82	5.82
12378-PeCDD	(0.283)		0.283	(0.142)	(0.283)	(0.283)
123478-HxCDD	0.493	J	0.404	0.0493	0.0493	0.0493
123678-HxCDD	[0.916]	J	0.399	[0.0916]	[0.0916]	[0.0916]
123789-HxCDD	1	J	0.404	0.1	0.1	0.1
1234678-HpCDD	37.4		0.37	0.374	0.374	0.374
OCDD	975		0.574	0.975	0.0975	0.293
2378-TCDF	19.7		0.268	1.97	1.97	1.97
12378-PeCDF	0.834	J	0.214	0.0417	0.0417	0.025
23478-PeCDF	0.756	J	0.218	0.378	0.378	0.227
123478-HxCDF	1.99	J	0.263	0.199	0.199	0.199
123678-HxCDF	[0.62]	J	0.219	[0.062]	[0.062]	[0.062]
234678-HxCDF	(0.336)		0.336	(0.0336)	(0.0336)	(0.0336)
123789-HxCDF	(0.386)		0.386	(0.0386)	(0.0386)	(0.0386)
1234678-HpCDF	8.02		0.162	0.0802	0.0802	0.0802
1234789-HpCDF	0.849	J	0.284	0.00849	0.00849	0.00849
OCDF	45.5		0.596	0.0455	0.00455	0.0136

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TEQ Summaries			
EMPC = 0, ND = 0	10	9.12	9.16
EMPC = 0, ND = DL / 2	10.2	9.3	9.34
EMPC = 0, ND = DL	10.3	9.48	9.52
EMPC = 0, < J-level = 0	9.27	8.35	8.55
EMPC = EMPC, ND = 0	10.2	9.28	9.31
EMPC = EMPC, ND = DL / 2	10.3	9.46	9.49
EMPC = EMPC, ND = DL	10.4	9.63	9.67
EMPC = EMPC, < J-level = 0	9.27	8.35	8.55

Checkcode: 207-644-FSM

SGS North America - DF v0.99

Sample ID: 11215131-020422-S-SB-SW-O-23 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6284	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID	B6284_18926_DF_004	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	79.3 %	QC Batch No:	18926	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:41:17

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	52.4				ES 2378-TCDD	87.4	
12378-PeCDD	1.4			J	ES 12378-PeCDD	83.2	
123478-HxCDD	1.32			J	ES 123478-HxCDD	84.8	
123678-HxCDD	2.2			J	ES 123678-HxCDD	93.8	
123789-HxCDD	2.23			J	ES 123789-HxCDD	90.2	
1234678-HpCDD	196				ES 1234678-HpCDD	83.8	
OCDD	21,000			E	ES OCDD	87.7	
2378-TCDF	192				ES 2378-TCDF	80.6	
12378-PeCDF	21.5				ES 12378-PeCDF	92.6	
23478-PeCDF	9.75				ES 23478-PeCDF	88.5	
123478-HxCDF	57.8				ES 123478-HxCDF	91.1	
123678-HxCDF	13.3				ES 123678-HxCDF	105	
234678-HxCDF	2.4			J	ES 234678-HxCDF	79.2	
123789-HxCDF	ND	0.296			ES 123789-HxCDF	84	
1234678-HpCDF	15.1				ES 1234678-HpCDF	112	
1234789-HpCDF	5.72				ES 1234789-HpCDF	77.9	
OCDF	23.6				ES OCDF	72.5	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	81.7	
Total TCDD	58		59.4		CS 12347-PeCDD	94.1	
Total PeCDD	4.15		5.14		CS 12346-PeCDF	98.5	
Total HxCDD	32.2		32.8		CS 123469-HxCDF	112	
Total HpCDD	492		492		CS 1234689-HpCDF	111	
Total TCDF	388		390				
Total PeCDF	49.1		49.7				
Total HxCDF	89.1		89.5				
Total HpCDF	32.6		32.6				
Total PCDD/Fs	**22,200**		**22,200**				
WHO-2005 TEQs							
TEQ: ND=0	93		93				
TEQ: ND=DL/2	93	0.326	93				
TEQ: ND=DL	93	0.652	93				

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Sample ID: 11215131-020422-S-SB-SW-O-23 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6284	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID:	B6284_18926_DF_004	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	79.3 %	QC Batch No.:	18926	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:41:17

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[0.349]	J	12479/12468D	1.04	J	124679/124689D	14.9		1234679D	296	
1379D	(0.186)		12469D	0.937	J	123468D	1.52	J	1234678D	196	
1369D	(0.186)		12368D	[0.26]	J	123679/123689D	8.95				
1469D	0.475	J	12478D	0.58	J	123469D	1.11	J			
1247D...[4]	0.199	J	12379D	[0.249]	J	123478D	1.32	J			
1378D	[0.266]	J	12369D...[3]	[0.486]	J	123678D	2.2	J			
1268D	(0.186)		12346/12347D	(0.178)		123467D	[0.527]	J			
1478D	(0.186)		12378D	1.4	J	123789D	2.23	J	**Conc.**	492	
1279D	(0.186)		12367D	0.193	J				**EMPC**	492	
1234/1269D	(0.186)		12389D	(0.178)							
1236D	(0.186)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	[0.706]										
1239D	(0.186)								OCDD	21000	E
2378D	52.4										
1278D	4.95										
1267D	(0.186)										
1289D	(0.186)										
Conc.	58		**Conc.**	4.15		**Conc.**	32.2				
EMPC	59.4		**EMPC**	5.14		**EMPC**	32.8				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	93	93
TEQ: ND=DL/2	93	93
TEQ: ND=DL	93	93

	Conc.	EMPC
Total PCDD/Fs	22,200	22,200

Checkcode: 161-099-TSY

Report Created: 23-Feb-2022 15:21 Analyst: pw

Sample ID: 11215131-020422-S-SB-SW-O-23 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6284	Date Received: 08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID:	B6284_18926_DF_004	Date Extracted: 14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	79.3 %	QC Batch No.:	18926	Date Analyzed: 22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed: 11:41:17

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[0.143]	J	13468/12468F	1.38	J	123468F	1.21	J	1234678F	15.1	
1468F	[0.38]	J	13678F...[3]	0.401	J	124678/134678F	6.66		1234679F	0.697	J
2468F	1.91		12368F...[3]	8.59		134679F	(0.242)		1234689F	11.1	
1346/1246F	[0.387]	J	14678F	[0.246]	J	124679F	(0.242)		1234789F	5.72	
1347F...[3]	2.18		13479F	(0.199)		124689F	3.7				
1348F	[0.867]		13469/12479F	(0.199)		123467F	[0.392]	J			
1248F...[3]	7.46		12346F	(0.199)		123478F	57.8				
1268F	3		23468/12469F	0.58	J	123678F	13.3				
1467F	0.608		12347F	0.224	J	123479F	(0.242)				
1478F	7.33		12348F	0.955	J	123469F	(0.242)				
1369/1237F	2.51		12378F	21.5		123679F	(0.242)				
2467F	0.373	J	12678/12367F	5.23		234678F	2.4	J	**Conc.**	32.6	
2368F	5.71		12379F	(0.199)		234678/123689F	0		**EMPC**	32.6	
1238F...[5]	13		12679F	(0.199)		123689F	(0.242)				
1278F	86.7		23467/12369F	[0.266]	J	123789F	(0.296)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	1.37		23478F	9.75		123789/123489F	0				
1267F	5.11		23478/12489F	0		123489F	3.99		OCDF	23.6	
2346/1249F	0.8		12489F	(0.199)							
2347/1279F	2.79		12349F	(0.199)							
2348F	12.7		12389F	0.528	J						
2378F	192										
2367/3467F	16.3										
1269F	7.21										
1239F	(0.132)										
1289F	18.8										
Conc.	388		**Conc.**	49.1		**Conc.**	89.1				
EMPC	390		**EMPC**	49.7		**EMPC**	89.5				

Checkcode: 161-099-TSY

Report Created: 23-Feb-2022 15:21 Analyst: pw

Sample ID: 11215131-020422-S-SB-SW-O-23 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6284_18926_DF_004
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	QC Batch No.:	18926
Date Collected:	04-Feb-2022	Split:	-	Date Extracted:	14-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	22-Feb-2022 11:41
Lab Project No:	B6284	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	52.4		0.186	52.4	52.4	52.4
12378-PeCDD	1.4	J	0.178	0.7	1.4	1.4
123478-HxCDD	1.32	J	0.346	0.132	0.132	0.132
123678-HxCDD	2.2	J	0.339	0.22	0.22	0.22
123789-HxCDD	2.23	J	0.355	0.223	0.223	0.223
1234678-HpCDD	196		0.229	1.96	1.96	1.96
OCDD	21000	E	0.284	21	2.1	6.31
2378-TCDF	192		0.132	19.2	19.2	19.2
12378-PeCDF	21.5		0.195	1.08	1.08	0.645
23478-PeCDF	9.75		0.203	4.88	4.88	2.93
123478-HxCDF	57.8		0.219	5.78	5.78	5.78
123678-HxCDF	13.3		0.204	1.33	1.33	1.33
234678-HxCDF	2.4	J	0.272	0.24	0.24	0.24
123789-HxCDF	(0.296)		0.296	(0.0296)	(0.0296)	(0.0296)
1234678-HpCDF	15.1		0.103	0.151	0.151	0.151
1234789-HpCDF	5.72		0.174	0.0572	0.0572	0.0572
OCDF	23.6		0.255	0.0236	0.00236	0.00709

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TEQ Summaries			
EMPC = 0, ND = 0	109	91.2	93
EMPC = 0, ND = DL / 2	109	91.2	93
EMPC = 0, ND = DL	109	91.2	93
EMPC = 0, < J-level = 0	108	89	90.8
EMPC = EMPC, ND = 0	109	91.2	93
EMPC = EMPC, ND = DL / 2	109	91.2	93
EMPC = EMPC, ND = DL	109	91.2	93
EMPC = EMPC, < J-level = 0	108	89	90.8

Checkcode: 161-099-TSY

SGS North America - DF v0.99

Sample ID: 11215131-020422-S-SB-SW-B-25 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6284	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.20 g	Lab Sample ID	B6284_18926_DF_005	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	80.8 %	QC Batch No:	18926	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:28:45

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1,420			E	ES 2378-TCDD	89.6	
12378-PeCDD	14.3				ES 12378-PeCDD	82.2	
123478-HxCDD	EMPC		0.677	J	ES 123478-HxCDD	82	
123678-HxCDD	EMPC		1.71	J	ES 123678-HxCDD	93	
123789-HxCDD	EMPC		1.16	J	ES 123789-HxCDD	89.2	
1234678-HpCDD	78.2				ES 1234678-HpCDD	81.3	
OCDD	2,850				ES OCDD	72.4	
2378-TCDF	4,800			E	ES 2378-TCDF	80.1	
12378-PeCDF	412				ES 12378-PeCDF	91.3	
23478-PeCDF	258				ES 23478-PeCDF	83.8	
123478-HxCDF	840				ES 123478-HxCDF	89.5	
123678-HxCDF	206				ES 123678-HxCDF	104	
234678-HxCDF	37.3				ES 234678-HxCDF	77.3	
123789-HxCDF	ND	1.43			ES 123789-HxCDF	79	
1234678-HpCDF	194				ES 1234678-HpCDF	109	
1234789-HpCDF	102				ES 1234789-HpCDF	76.9	
OCDF	164				ES OCDF	61	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	84.5	
Total TCDD	1,570		1,580		CS 12347-PeCDD	92.1	
Total PeCDD	17.5		21		CS 12346-PeCDF	97.2	
Total HxCDD	25		30.1		CS 123469-HxCDF	111	
Total HpCDD	195		195		CS 1234689-HpCDF	113	
Total TCDF	9,280		9,280				
Total PeCDF	1,040		1,040				
Total HxCDF	1,240		1,240				
Total HpCDF	354		354				
Total PCDD/Fs	**16,700**		**16,800**				
WHO-2005 TEQs							
TEQ: ND=0	2110		2110				
TEQ: ND=DL/2	2110	0.655	2110				
TEQ: ND=DL	2110	1.31	2110				

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Sample ID: 11215131-020422-S-SB-SW-B-25 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6284	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.20 g	Lab Sample ID:	B6284_18926_DF_005	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	80.8 %	QC Batch No.:	18926	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:28:45

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	1.06		12479/12468D	0.809	J	124679/124689D	18.6		1234679D	117	
1379D	[0.356]	J	12469D	[1.82]	J	123468D	[0.779]	J	1234678D	78.2	
1369D	(0.271)		12368D	0.75	J	123679/123689D	6.38				
1469D	2.11		12478D	[0.844]	J	123469D	[0.758]	J			
1247D...[4]	[1.83]		12379D	0.416	J	123478D	[0.677]	J			
1378D	3.41		12369D...[3]	0.73	J	123678D	[1.71]	J			
1268D	(0.271)		12346/12347D	0.414	J	123467D	(0.507)				
1478D	3.12		12378D	14.3		123789D	[1.16]	J	**Conc.**	195	
1279D	(0.271)		12367D	[0.911]	J				**EMPC**	195	
1234/1269D	0.674		12389D	(0.289)							
1236D	(0.271)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	17.6										
1239D	(0.271)								OCDD	2850	
2378D	1420	E									
1278D	128										
1267D	(0.271)										
1289D	[3.12]										
Conc.	1,570		**Conc.**	17.5		**Conc.**	25				
EMPC	1,580		**EMPC**	21		**EMPC**	30.1				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	2,110	2,110
TEQ: ND=DL/2	2,110	2,110
TEQ: ND=DL	2,110	2,110

	Conc.	EMPC
Total PCDD/Fs	16,700	16,800

Checkcode: 747-675-JVT

Report Created: 22-Feb-2022 15:07 Analyst: pw

Sample ID: 11215131-020422-S-SB-SW-B-25 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6284	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.20 g	Lab Sample ID:	B6284_18926_DF_005	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	80.8 %	QC Batch No.:	18926	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:28:45

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.04		13468/12468F	8.15		123468F	7.04		1234678F	194	
1468F	8.72		13678F...[3]	3.31		124678/134678F	66.4		1234679F	2.92	
2468F	3.76		12368F...[3]	181		134679F	(1.13)		1234689F	54.8	
1346/1246F	3.58		14678F	4.68		124679F	(1.13)		1234789F	102	
1347F...[3]	45.2		13479F	2.91		124689F	24.2				
1348F	17.7		13469/12479F	(0.325)		123467F	3.29				
1248F...[3]	211		12346F	0.933	J	123478F	840				
1268F	72.9		23468/12469F	3.44		123678F	206				
1467F	11		12347F	4.15		123479F	(1.13)				
1478F	184		12348F	27.3		123469F	(1.13)				
1369/1237F	46.7		12378F	412		123679F	(1.13)				
2467F	4.23		12678/12367F	118		234678F	37.3		**Conc.**	354	
2368F	102		12379F	(0.325)		234678/123689F	0		**EMPC**	354	
1238F...[5]	278		12679F	1.51	J	123689F	(1.13)				
1278F	2150	E	23467/12369F	2.98		123789F	(1.43)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.176)		23478F	258		123789/123489F	0			**(pg/g)**	
1267F	114		23478/12489F	0		123489F	59.2		OCDF	164	
2346/1249F	19.8		12489F	(0.325)							
2347/1279F	46.9		12349F	(0.325)							
2348F	361		12389F	13.3							
2378F	4800	E									
2367/3467F	367										
1269F	88.1										
1239F	9.76										
1289F	332										
Conc.	9,280		**Conc.**	1,040		**Conc.**	1,240				
EMPC	9,280		**EMPC**	1,040		**EMPC**	1,240				

Checkcode: 747-675-JVT

Report Created: 22-Feb-2022 15:07 Analyst: pw

Sample ID: 11215131-020422-S-SB-SW-B-25 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6284_18926_DF_005
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.20 g	QC Batch No.:	18926
Date Collected:	04-Feb-2022	Split:	-	Date Extracted:	14-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	22-Feb-2022 12:28
Lab Project No:	B6284	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1420	E	0.271	1420	1420	1420
12378-PeCDD	14.3		0.289	7.17	14.3	14.3
123478-HxCDD	[0.677]	J	0.497	[0.0677]	[0.0677]	[0.0677]
123678-HxCDD	[1.71]	J	0.526	[0.171]	[0.171]	[0.171]
123789-HxCDD	[1.16]	J	0.499	[0.116]	[0.116]	[0.116]
1234678-HpCDD	78.2		0.421	0.782	0.782	0.782
OCDD	2850		1.09	2.85	0.285	0.855
2378-TCDF	4800	E	0.176	480	480	480
12378-PeCDF	412		0.321	20.6	20.6	12.4
23478-PeCDF	258		0.329	129	129	77.3
123478-HxCDF	840		1.04	84	84	84
123678-HxCDF	206		0.882	20.6	20.6	20.6
234678-HxCDF	37.3		1.3	3.73	3.73	3.73
123789-HxCDF	(1.43)		1.43	(0.143)	(0.143)	(0.143)
1234678-HpCDF	194		0.154	1.94	1.94	1.94
1234789-HpCDF	102		0.249	1.02	1.02	1.02
OCDF	164		0.396	0.164	0.0164	0.0492

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TEQ Summaries			
EMPC = 0, ND = 0	2170	2170	2110
EMPC = 0, ND = DL / 2	2170	2170	2110
EMPC = 0, ND = DL	2170	2170	2110
EMPC = 0, < J-level = 0	2170	2170	2110
EMPC = EMPC, ND = 0	2170	2170	2110
EMPC = EMPC, ND = DL / 2	2170	2170	2110
EMPC = EMPC, ND = DL	2170	2170	2110
EMPC = EMPC, < J-level = 0	2170	2170	2110

Checkcode: 747-675-JVT

Sample ID: 11215131-020422-S-SB-SW-B-25H1 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6284	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.03 g	Lab Sample ID	B6284_18926_DF_006	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	78.8 %	QC Batch No:	18926	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:16:13

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	136				ES 2378-TCDD	66.8	
12378-PeCDD	1.97			J	ES 12378-PeCDD	60.8	
123478-HxCDD	ND	0.414			ES 123478-HxCDD	70.8	
123678-HxCDD	0.986			J	ES 123678-HxCDD	76.1	
123789-HxCDD	1			J	ES 123789-HxCDD	77.3	
1234678-HpCDD	29				ES 1234678-HpCDD	69.9	
OCDD	519				ES OCDD	62.6	
2378-TCDF	454				ES 2378-TCDF	64.1	
12378-PeCDF	27.6				ES 12378-PeCDF	73.3	
23478-PeCDF	17.3				ES 23478-PeCDF	70.3	
123478-HxCDF	58.9				ES 123478-HxCDF	76	
123678-HxCDF	14.5				ES 123678-HxCDF	87.9	
234678-HxCDF	2.77				ES 234678-HxCDF	69.1	
123789-HxCDF	ND	0.429			ES 123789-HxCDF	66.5	
1234678-HpCDF	24				ES 1234678-HpCDF	97.6	
1234789-HpCDF	6.94				ES 1234789-HpCDF	66.1	
OCDF	122				ES OCDF	54.5	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	81.2	
Total TCDD	149		151		CS 12347-PeCDD	90.4	
Total PeCDD	4.98		4.98		CS 12346-PeCDF	96.4	
Total HxCDD	20.5		21.9		CS 123469-HxCDF	114	
Total HpCDD	90.1		90.1		CS 1234689-HpCDF	108	
Total TCDF	893		895				
Total PeCDF	67.1		68.7				
Total HxCDF	89.3		89.3				
Total HpCDF	38.2		38.2				
Total PCDD/Fs	**1,990**		**2,000**				
WHO-2005 TEQs							
TEQ: ND=0	198		198				
TEQ: ND=DL/2	198	0.531	198				
TEQ: ND=DL	198	1.06	198				

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Sample ID: 11215131-020422-S-SB-SW-B-25H1 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6284	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.03 g	Lab Sample ID:	B6284_18926_DF_006	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	78.8 %	QC Batch No.:	18926	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:16:13

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.399)		12479/12468D	0.696	J	124679/124689D	14		1234679D	61.1	
1379D	(0.399)		12469D	1.36	J	123468D	[0.36]	J	1234678D	29	
1369D	(0.399)		12368D	(0.262)		123679/123689D	4.48				
1469D	1.77		12478D	0.366	J	123469D	[0.63]	J			
1247D...[4]	(0.399)		12379D	(0.262)		123478D	(0.414)				
1378D	(0.399)		12369D...[3]	0.59	J	123678D	0.986	J			
1268D	(0.399)		12346/12347D	(0.262)		123467D	[0.423]	J			
1478D	(0.399)		12378D	1.97	J	123789D	1	J	**Conc.**	90.1	
1279D	(0.399)		12367D	(0.262)					**EMPC**	90.1	
1234/1269D	(0.399)		12389D	(0.262)							
1236D	(0.399)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	[1.72]										
1239D	(0.399)								OCDD	519	
2378D	136										
1278D	11.5										
1267D	(0.399)										
1289D	(0.399)										
Conc.	149		**Conc.**	4.98		**Conc.**	20.5				
EMPC	151		**EMPC**	4.98		**EMPC**	21.9				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	198	198
TEQ: ND=DL/2	198	198
TEQ: ND=DL	198	198

	Conc.	EMPC
Total PCDD/Fs	1,990	2,000

Checkcode: 605-534-WFK

Report Created: 22-Feb-2022 15:07 Analyst: pw

Sample ID: 11215131-020422-S-SB-SW-B-25H1 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6284	Date Received: 08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.03 g	Lab Sample ID:	B6284_18926_DF_006	Date Extracted: 14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	78.8 %	QC Batch No.:	18926	Date Analyzed: 22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed: 13:16:13

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[0.386]	J	13468/12468F	[0.974]	J	123468F	0.835	J	1234678F	24	
1468F	1.16		13678F...[3]	0.365	J	124678/134678F	5.65		1234679F	0.765	J
2468F	[1.11]		12368F...[3]	11.7		134679F	(0.327)		1234689F	6.44	
1346/1246F	[0.443]	J	14678F	0.321	J	124679F	(0.327)		1234789F	6.94	
1347F...[3]	5.39		13479F	(0.318)		124689F	2.35	J			
1348F	1.96		13469/12479F	(0.318)		123467F	(0.327)				
1248F...[3]	19.5		12346F	(0.318)		123478F	58.9				
1268F	6.85		23468/12469F	0.489	J	123678F	14.5				
1467F	1.96		12347F	(0.318)		123479F	(0.327)				
1478F	17.3		12348F	1.89	J	123469F	(0.327)				
1369/1237F	5.64		12378F	27.6		123679F	(0.327)				
2467F	[0.536]		12678/12367F	7.41		234678F	2.77		**Conc.**	38.2	
2368F	11.5		12379F	(0.318)		234678/123689F	0		**EMPC**	38.2	
1238F...[5]	28.9		12679F	(0.318)		123689F	(0.327)				
1278F	202		23467/12369F	(0.318)		123789F	(0.429)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.318)		23478F	17.3		123789/123489F	0				
1267F	10.5		23478/12489F	0		123489F	4.22		OCDF	122	
2346/1249F	2.41		12489F	(0.318)							
2347/1279F	6.15		12349F	(0.318)							
2348F	32		12389F	[0.66]	J						
2378F	454										
2367/3467F	35.2										
1269F	15.9										
1239F	1.7										
1289F	32.5										
Conc.	893		**Conc.**	67.1		**Conc.**	89.3				
EMPC	895		**EMPC**	68.7		**EMPC**	89.3				

Checkcode: 605-534-WFK

Report Created: 22-Feb-2022 15:07 Analyst: pw

Sample ID: 11215131-020422-S-SB-SW-B-25H1 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6284_18926_DF_006
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.03 g	QC Batch No.:	18926
Date Collected:	04-Feb-2022	Split:	-	Date Extracted:	14-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	22-Feb-2022 13:16
Lab Project No:	B6284	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	136		0.399	136	136	136
12378-PeCDD	1.97	J	0.262	0.987	1.97	1.97
123478-HxCDD	(0.414)		0.414	(0.0414)	(0.0414)	(0.0414)
123678-HxCDD	0.986	J	0.392	0.0986	0.0986	0.0986
123789-HxCDD	1	J	0.411	0.1	0.1	0.1
1234678-HpCDD	29		0.488	0.29	0.29	0.29
OCDD	519		0.824	0.519	0.0519	0.156
2378-TCDF	454		0.318	45.4	45.4	45.4
12378-PeCDF	27.6		0.329	1.38	1.38	0.827
23478-PeCDF	17.3		0.307	8.67	8.67	5.2
123478-HxCDF	58.9		0.289	5.89	5.89	5.89
123678-HxCDF	14.5		0.272	1.45	1.45	1.45
234678-HxCDF	2.77		0.355	0.277	0.277	0.277
123789-HxCDF	(0.429)		0.429	(0.0429)	(0.0429)	(0.0429)
1234678-HpCDF	24		0.189	0.24	0.24	0.24
1234789-HpCDF	6.94		0.295	0.0694	0.0694	0.0694
OCDF	122		0.452	0.122	0.0122	0.0367

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TEQ Summaries			
EMPC = 0, ND = 0	201	202	198
EMPC = 0, ND = DL / 2	201	202	198
EMPC = 0, ND = DL	201	202	198
EMPC = 0, < J-level = 0	200	199	196
EMPC = EMPC, ND = 0	201	202	198
EMPC = EMPC, ND = DL / 2	201	202	198
EMPC = EMPC, ND = DL	201	202	198
EMPC = EMPC, < J-level = 0	200	199	196

Checkcode: 605-534-WFK

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Sample ID: 11215131-020422-S-SB-SW-B-25H2 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6284	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	Lab Sample ID	B6284_18926_DF_007	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	80.4 %	QC Batch No:	18926	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:03:45

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1.92				ES 2378-TCDD	89.3	
12378-PeCDD	ND	0.314			ES 12378-PeCDD	81.5	
123478-HxCDD	0.432			J	ES 123478-HxCDD	87.8	
123678-HxCDD	0.436			J	ES 123678-HxCDD	98.6	
123789-HxCDD	0.679			J	ES 123789-HxCDD	94.8	
1234678-HpCDD	12.6				ES 1234678-HpCDD	82	
OCDD	310				ES OCDD	66.9	
2378-TCDF	6.53				ES 2378-TCDF	79.8	
12378-PeCDF	0.624			J	ES 12378-PeCDF	89.6	
23478-PeCDF	0.387			J	ES 23478-PeCDF	84.4	
123478-HxCDF	1.11			J	ES 123478-HxCDF	91	
123678-HxCDF	EMPC		0.244	J	ES 123678-HxCDF	105	
234678-HxCDF	ND	0.221			ES 234678-HxCDF	79.8	
123789-HxCDF	ND	0.26			ES 123789-HxCDF	79.1	
1234678-HpCDF	0.513			J	ES 1234678-HpCDF	106	
1234789-HpCDF	ND	0.261			ES 1234789-HpCDF	77.5	
OCDF	EMPC		1.37	J	ES OCDF	59.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	82.3	
Total TCDD	9.46		9.46		CS 12347-PeCDD	91.3	
Total PeCDD	0.553		3.09		CS 12346-PeCDF	93.1	
Total HxCDD	20.7		21.1		CS 123469-HxCDF	114	
Total HpCDD	47.9		47.9		CS 1234689-HpCDF	108	
Total TCDF	10.5		11.9				
Total PeCDF	1.01		1.29				
Total HxCDF	1.11		1.35				
Total HpCDF	0.513		0.513				
Total PCDD/Fs	**402**		**408**				
WHO-2005 TEQs							
TEQ: ND=0	3.19		3.22				
TEQ: ND=DL/2	3.38	0.42	3.4				
TEQ: ND=DL	3.56	0.839	3.58				

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Sample ID: 11215131-020422-S-SB-SW-B-25H2 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6284	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	Lab Sample ID:	B6284_18926_DF_007	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	80.4 %	QC Batch No.:	18926	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:03:45

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.253)		12479/12468D	(0.314)		124679/124689D	16.5		1234679D	35.3	
1379D	(0.253)		12469D	[2.54]		123468D	(0.302)		1234678D	12.6	
1369D	(0.253)		12368D	(0.314)		123679/123689D	2.64				
1469D	7.08		12478D	(0.314)		123469D	[0.359]	J			
1247D...[4]	(0.253)		12379D	(0.314)		123478D	0.432	J			
1378D	(0.253)		12369D...[3]	0.553	J	123678D	0.436	J			
1268D	(0.253)		12346/12347D	(0.314)		123467D	(0.302)				
1478D	(0.253)		12378D	(0.314)		123789D	0.679	J	**Conc.**	47.9	
1279D	(0.253)		12367D	(0.314)					**EMPC**	47.9	
1234/1269D	0.463	J	12389D	(0.314)							
1236D	(0.253)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.253)										
1239D	(0.253)								OCDD	310	
2378D	1.92										
1278D	(0.253)										
1267D	(0.253)										
1289D	(0.253)										
Conc.	9.46		**Conc.**	0.553		**Conc.**	20.7				
EMPC	9.46		**EMPC**	3.09		**EMPC**	21.1				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	3.19	3.22
TEQ: ND=DL/2	3.38	3.4
TEQ: ND=DL	3.56	3.58

	Conc.	EMPC
Total PCDD/Fs	402	408

Checkcode: 240-880-FSF

Report Created: 22-Feb-2022 15:07 Analyst: pw

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Sample ID: 11215131-020422-S-SB-SW-B-25H2 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6284	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	Lab Sample ID:	B6284_18926_DF_007	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	80.4 %	QC Batch No.:	18926	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:03:45

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.245)		13468/12468F	(0.211)		123468F	(0.204)		1234678F	0.513	J
1468F	(0.245)		13678F...[3]	(0.195)		124678/134678F	(0.204)		1234679F	(0.205)	
2468F	[0.308]	J	12368F...[3]	[0.278]	J	134679F	(0.204)		1234689F	(0.205)	
1346/1246F	(0.245)		14678F	(0.195)		124679F	(0.204)		1234789F	(0.261)	
1347F...[3]	0.496	J	13479F	(0.195)		124689F	(0.204)				
1348F	(0.245)		13469/12479F	(0.195)		123467F	(0.204)				
1248F...[3]	[0.364]	J	12346F	(0.195)		123478F	1.11	J			
1268F	(0.245)		23468/12469F	(0.195)		123678F	[0.244]	J			
1467F	(0.245)		12347F	(0.195)		123479F	(0.204)				
1478F	(0.245)		12348F	(0.195)		123469F	(0.204)				
1369/1237F	(0.245)		12378F	0.624	J	123679F	(0.204)				
2467F	(0.245)		12678/12367F	(0.195)		234678F	(0.221)		**Conc.**	0.513	
2368F	(0.245)		12379F	(0.195)		234678/123689F	0		**EMPC**	0.513	
1238F...[5]	(0.245)		12679F	(0.195)		123689F	(0.204)				
1278F	3.01		23467/12369F	(0.195)		123789F	(0.26)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.245)		23478F	0.387	J	123789/123489F	0				
1267F	(0.245)		23478/12489F	0		123489F	(0.204)		OCDF	[1.37]	J
2346/1249F	(0.245)		12489F	(0.195)							
2347/1279F	(0.245)		12349F	(0.195)							
2348F	(0.245)		12389F	(0.195)							
2378F	6.53										
2367/3467F	[0.679]										
1269F	(0.245)										
1239F	(0.245)										
1289F	0.495	J									
Conc.	10.5		**Conc.**	1.01		**Conc.**	1.11				
EMPC	11.9		**EMPC**	1.29		**EMPC**	1.35				

Checkcode: 240-880-FSF

Report Created: 22-Feb-2022 15:07 Analyst: pw

Sample ID: 11215131-020422-S-SB-SW-B-25H2 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6284_18926_DF_007
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	QC Batch No.:	18926
Date Collected:	04-Feb-2022	Split:	-	Date Extracted:	14-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	22-Feb-2022 14:03
Lab Project No:	B6284	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1.92		0.253	1.92	1.92	1.92
12378-PeCDD	(0.314)		0.314	(0.157)	(0.314)	(0.314)
123478-HxCDD	0.432	J	0.298	0.0432	0.0432	0.0432
123678-HxCDD	0.436	J	0.291	0.0436	0.0436	0.0436
123789-HxCDD	0.679	J	0.317	0.0679	0.0679	0.0679
1234678-HpCDD	12.6		0.328	0.126	0.126	0.126
OCDD	310		0.734	0.31	0.031	0.093
2378-TCDF	6.53		0.245	0.653	0.653	0.653
12378-PeCDF	0.624	J	0.194	0.0312	0.0312	0.0187
23478-PeCDF	0.387	J	0.197	0.193	0.193	0.116
123478-HxCDF	1.11	J	0.189	0.111	0.111	0.111
123678-HxCDF	[0.244]	J	0.166	[0.0244]	[0.0244]	[0.0244]
234678-HxCDF	(0.221)		0.221	(0.0221)	(0.0221)	(0.0221)
123789-HxCDF	(0.26)		0.26	(0.026)	(0.026)	(0.026)
1234678-HpCDF	0.513	J	0.169	0.00513	0.00513	0.00513
1234789-HpCDF	(0.261)		0.261	(0.00261)	(0.00261)	(0.00261)
OCDF	[1.37]	J	0.403	[0.00137]	[0.000137]	[0.000412]

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TEQ Summaries			
EMPC = 0, ND = 0	3.5	3.22	3.19
EMPC = 0, ND = DL / 2	3.6	3.4	3.38
EMPC = 0, ND = DL	3.71	3.59	3.56
EMPC = 0, < J-level = 0	3.01	2.73	2.79
EMPC = EMPC, ND = 0	3.53	3.25	3.22
EMPC = EMPC, ND = DL / 2	3.63	3.43	3.4
EMPC = EMPC, ND = DL	3.73	3.61	3.58
EMPC = EMPC, < J-level = 0	3.01	2.73	2.79

Checkcode: 240-880-FSF

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Sample ID: Method Blank B6284_18926 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6284	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18926_DF_SDS	Date Extracted:	14-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18926	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:31:13

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.324			ES 2378-TCDD	82.1	
12378-PeCDD	ND	0.194			ES 12378-PeCDD	81.7	
123478-HxCDD	ND	0.243			ES 123478-HxCDD	78.9	
123678-HxCDD	ND	0.232			ES 123678-HxCDD	91.2	
123789-HxCDD	ND	0.244			ES 123789-HxCDD	82.9	
1234678-HpCDD	ND	0.336			ES 1234678-HpCDD	73.3	
OCDD	1.39			J	ES OCDD	59.5	
2378-TCDF	ND	0.185			ES 2378-TCDF	76	
12378-PeCDF	ND	0.185			ES 12378-PeCDF	86.8	
23478-PeCDF	ND	0.179			ES 23478-PeCDF	83.6	
123478-HxCDF	ND	0.171			ES 123478-HxCDF	82.3	
123678-HxCDF	ND	0.16			ES 123678-HxCDF	98	
234678-HxCDF	ND	0.215			ES 234678-HxCDF	73.2	
123789-HxCDF	ND	0.269			ES 123789-HxCDF	67.4	
1234678-HpCDF	ND	0.179			ES 1234678-HpCDF	95.8	
1234789-HpCDF	ND	0.284			ES 1234789-HpCDF	66.4	
OCDF	ND	0.52			ES OCDF	51.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	80.3	
Total TCDD	ND	0.324	ND		CS 12347-PeCDD	91.1	
Total PeCDD	ND	0.194	ND		CS 12346-PeCDF	96.1	
Total HxCDD	ND	0.239	ND		CS 123469-HxCDF	107	
Total HpCDD	ND	0.336	ND		CS 1234689-HpCDF	99.5	
Total TCDF	ND	0.185	ND				
Total PeCDF	ND	0.182	ND				
Total HxCDF	0.317		0.317				
Total HpCDF	ND	0.219	ND				
Total PCDD/Fs	**1.71**		**1.71**				
WHO-2005 TEQs							
TEQ: ND=0	0.000418		0.000418				
TEQ: ND=DL/2	0.379	0.379	0.379				
TEQ: ND=DL	0.758	0.757	0.758				

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Sample ID: Method Blank B6284_18926 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6284	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18926_DF_SDS	Date Extracted:	14-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18926	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:31:13

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.324)		12479/12468D	(0.194)		124679/124689D	(0.239)		1234679D	(0.336)	
1379D	(0.324)		12469D	(0.194)		123468D	(0.239)		1234678D	(0.336)	
1369D	(0.324)		12368D	(0.194)		123679/123689D	(0.239)				
1469D	(0.324)		12478D	(0.194)		123469D	(0.239)				
1247D...[4]	(0.324)		12379D	(0.194)		123478D	(0.243)				
1378D	(0.324)		12369D...[3]	(0.194)		123678D	(0.232)				
1268D	(0.324)		12346/12347D	(0.194)		123467D	(0.239)				
1478D	(0.324)		12378D	(0.194)		123789D	(0.244)		**Conc.**	0	
1279D	(0.324)		12367D	(0.194)					**EMPC**	0	
1234/1269D	(0.324)		12389D	(0.194)							
1236D	(0.324)								**Octa-Dioxin**	**Conc**	**Qualifiers**
1237/1238D	(0.324)									**(pg/g)**	
1239D	(0.324)								OCDD	1.39	J
2378D	(0.324)										
1278D	(0.324)										
1267D	(0.324)										
1289D	(0.324)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0.000418	0.000418
TEQ: ND=DL/2	0.379	0.379
TEQ: ND=DL	0.758	0.758

	Conc.	EMPC
Total PCDD/Fs	1.71	1.71

Checkcode: 448-396-XTR

Report Created: 22-Feb-2022 15:06 Analyst: pw

Sample ID: Method Blank B6284_18926 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6284	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18926_DF_SDS	Date Extracted:	14-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18926	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:31:13

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.185)		13468/12468F	(0.214)		123468F	(0.196)		1234678F	(0.179)	
1468F	(0.185)		13678F...[3]	(0.182)		124678/134678F	(0.196)		1234679F	(0.219)	
2468F	(0.185)		12368F...[3]	(0.182)		134679F	(0.196)		1234689F	(0.219)	
1346/1246F	(0.185)		14678F	(0.182)		124679F	(0.196)		1234789F	(0.284)	
1347F...[3]	(0.185)		13479F	(0.182)		124689F	(0.196)				
1348F	(0.185)		13469/12479F	(0.182)		123467F	(0.196)				
1248F...[3]	(0.185)		12346F	(0.182)		123478F	(0.171)				
1268F	(0.185)		23468/12469F	(0.182)		123678F	(0.16)				
1467F	(0.185)		12347F	(0.182)		123479F	(0.196)				
1478F	(0.185)		12348F	(0.182)		123469F	(0.196)				
1369/1237F	(0.185)		12378F	(0.185)		123679F	(0.196)				
2467F	(0.185)		12678/12367F	(0.182)		234678F	(0.215)		**Conc.**	0	
2368F	(0.185)		12379F	(0.182)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.185)		12679F	(0.182)		123689F	(0.196)				
1278F	(0.185)		23467/12369F	(0.182)		123789F	(0.269)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.185)		23478F	(0.179)		123789/123489F	0				
1267F	(0.185)		23478/12489F	0		123489F	0.317	J	OCDF	(0.52)	
2346/1249F	(0.185)		12489F	(0.182)							
2347/1279F	(0.185)		12349F	(0.182)							
2348F	(0.185)		12389F	(0.182)							
2378F	(0.185)										
2367/3467F	(0.185)										
1269F	(0.185)										
1239F	(0.185)										
1289F	(0.185)										
Conc.	0		**Conc.**	0		**Conc.**	0.317				
EMPC	0		**EMPC**	0		**EMPC**	0.317				

Checkcode: 448-396-XTR

Report Created: 22-Feb-2022 15:06 Analyst: pw

Sample ID: Method Blank B6284_18926 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18926_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18926
Date Collected:	n/a	Split:	-	Date Extracted:	14-Feb-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	22-Feb-2022 08:31
Lab Project No:	B6284	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.324)		0.324	(0.324)	(0.324)	(0.324)
12378-PeCDD	(0.194)		0.194	(0.0968)	(0.194)	(0.194)
123478-HxCDD	(0.243)		0.243	(0.0243)	(0.0243)	(0.0243)
123678-HxCDD	(0.232)		0.232	(0.0232)	(0.0232)	(0.0232)
123789-HxCDD	(0.244)		0.244	(0.0244)	(0.0244)	(0.0244)
1234678-HpCDD	(0.336)		0.336	(0.00336)	(0.00336)	(0.00336)
OCDD	1.39	J	0.378	0.00139	0.000139	0.000418
2378-TCDF	(0.185)		0.185	(0.0185)	(0.0185)	(0.0185)
12378-PeCDF	(0.185)		0.185	(0.00923)	(0.00923)	(0.00554)
23478-PeCDF	(0.179)		0.179	(0.0893)	(0.0893)	(0.0536)
123478-HxCDF	(0.171)		0.171	(0.0171)	(0.0171)	(0.0171)
123678-HxCDF	(0.16)		0.16	(0.016)	(0.016)	(0.016)
234678-HxCDF	(0.215)		0.215	(0.0215)	(0.0215)	(0.0215)
123789-HxCDF	(0.269)		0.269	(0.0269)	(0.0269)	(0.0269)
1234678-HpCDF	(0.179)		0.179	(0.00179)	(0.00179)	(0.00179)
1234789-HpCDF	(0.284)		0.284	(0.00284)	(0.00284)	(0.00284)
OCDF	(0.52)		0.52	(0.00052)	(0.000052)	(0.000156)

TEQ Summaries			
EMPC = 0, ND = 0	0.00139	0.000139	0.000418
EMPC = 0, ND = DL / 2	0.351	0.398	0.379
EMPC = 0, ND = DL	0.701	0.797	0.758
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0.00139	0.000139	0.000418
EMPC = EMPC, ND = DL / 2	0.351	0.398	0.379
EMPC = EMPC, ND = DL	0.701	0.797	0.758
EMPC = EMPC, < J-level = 0	0	0	0

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Checkcode: 448-396-XTR

Sample ID: 0_18926_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6284	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18926_DF	Date Extracted:	14-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18926	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	6:08:34

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	9.26				ES 2378-TCDD	86.5	
12378-PeCDD	46.4				ES 12378-PeCDD	82.2	
123478-HxCDD	53.3				ES 123478-HxCDD	82.2	
123678-HxCDD	56.3				ES 123678-HxCDD	92.5	
123789-HxCDD	48.2				ES 123789-HxCDD	91.3	
1234678-HpCDD	55				ES 1234678-HpCDD	79.4	
OCDD	109				ES OCDD	65.3	
2378-TCDF	11.3				ES 2378-TCDF	79.7	
12378-PeCDF	54				ES 12378-PeCDF	88.4	
23478-PeCDF	58.5				ES 23478-PeCDF	83.4	
123478-HxCDF	54.2				ES 123478-HxCDF	88.3	
123678-HxCDF	53.8				ES 123678-HxCDF	104	
234678-HxCDF	51				ES 234678-HxCDF	79.2	
123789-HxCDF	49.3				ES 123789-HxCDF	75.6	
1234678-HpCDF	52.8				ES 1234678-HpCDF	107	
1234789-HpCDF	52.1				ES 1234789-HpCDF	73.8	
OCDF	104				ES OCDF	58	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	85.5	
Total TCDD	42.8		42.8		CS 12347-PeCDD	95.4	
Total PeCDD	69.2		69.2		CS 12346-PeCDF	101	
Total HxCDD	173		173		CS 123469-HxCDF	117	
Total HpCDD	67.9		67.9		CS 1234689-HpCDF	110	
Total TCDF	61.9		61.9				
Total PeCDF	224		224				
Total HxCDF	353		353				
Total HpCDF	105		105				
Total PCDD/Fs	**1,310**		**1,310**				
WHO-2005 TEQs							
TEQ: ND=0	114		114				
TEQ: ND=DL/2	114	0.278	114				
TEQ: ND=DL	114	0.556	114				

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Sample ID: 0_18926_OPR002 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6284	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18926_DF	Date Extracted:	14-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18926	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	6:56:06

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	8.62				ES 2378-TCDD	90.2	
12378-PeCDD	41.9				ES 12378-PeCDD	87.8	
123478-HxCDD	49.1				ES 123478-HxCDD	87	
123678-HxCDD	52.8				ES 123678-HxCDD	94.6	
123789-HxCDD	45.2				ES 123789-HxCDD	92.6	
1234678-HpCDD	51.7				ES 1234678-HpCDD	83.4	
OCDD	104				ES OCDD	69.8	
2378-TCDF	10.7				ES 2378-TCDF	78.4	
12378-PeCDF	50.6				ES 12378-PeCDF	91.7	
23478-PeCDF	53.6				ES 23478-PeCDF	86.3	
123478-HxCDF	49.9				ES 123478-HxCDF	90.6	
123678-HxCDF	49.3				ES 123678-HxCDF	106	
234678-HxCDF	47.6				ES 234678-HxCDF	77.1	
123789-HxCDF	47				ES 123789-HxCDF	77.7	
1234678-HpCDF	51.1				ES 1234678-HpCDF	110	
1234789-HpCDF	50.1				ES 1234789-HpCDF	77.6	
OCDF	95.7				ES OCDF	63.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	81.6	
Total TCDD	40.5		40.5		CS 12347-PeCDD	93.8	
Total PeCDD	63.3		63.3		CS 12346-PeCDF	97.7	
Total HxCDD	162		162		CS 123469-HxCDF	111	
Total HpCDD	64.2		64.2		CS 1234689-HpCDF	108	
Total TCDF	61.7		61.7				
Total PeCDF	213		213				
Total HxCDF	336		336				
Total HpCDF	101		101				
Total PCDD/Fs	**1,240**		**1,240**				
WHO-2005 TEQs							
TEQ: ND=0	105		105				
TEQ: ND=DL/2	105	0.263	105				
TEQ: ND=DL	105	0.527	105				

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

Sample DUP

Method 1613B

Sample ID: 0_18926_OPR001

Analyte	OPR1_18926_DF pg/uL	OPR2_18926_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	9.26	8.62	7.1%
1,2,3,7,8-PeCDD	46.4	41.9	10.2%
1,2,3,4,7,8-HxCDD	53.3	49.1	8.2%
1,2,3,6,7,8-HxCDD	56.3	52.8	6.5%
1,2,3,7,8,9-HxCDD	48.2	45.2	6.3%
1,2,3,4,6,7,8-HpCDD	55	51.7	6.2%
OCDD	109	104	4.6%
2,3,7,8-TCDF	11.3	10.7	5.5%
1,2,3,7,8-PeCDF	54	50.6	6.5%
2,3,4,7,8-PeCDF	58.5	53.6	8.8%
1,2,3,4,7,8-HxCDF	54.2	49.9	8.3%
1,2,3,6,7,8-HxCDF	53.8	49.3	8.6%
2,3,4,6,7,8-HxCDF	51	47.6	7.0%
1,2,3,7,8,9-HxCDF	49.3	47	4.8%
1,2,3,4,6,7,8-HpCDF	52.8	51.1	3.3%
1,2,3,4,7,8,9-HpCDF	52.1	50.1	3.8%
OCDF	104	95.7	8.2%
Totals			
Total TCDD	42.8	40.5	5.6%
Total PeCDD	69.2	63.3	8.9%
Total HxCDD	173	162	6.4%
Total HpCDD	67.9	64.2	5.6%
Total TCDF	61.9	61.7	0.4%
Total PeCDF	224	213	4.9%
Total HxCDF	353	336	5.1%
Total HpCDF	105	101	3.5%

Sample Receipt Notification

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

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*08-Feb-22 at 11:48*
AP Project name:	*B6284*
Requested TAT:	*10 business days*
Projected due date:	*22-Feb-22*
Matrix:	*Solid*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

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

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-020422-S-SB-SW-B-27	B6284_001	Solid	1	4 oz	04-Feb-22	09:40	0.8	1	4905 2704 5266
11215131-020422-S-SB-SW-B-27H	B6284_002	Solid	1	4 oz	04-Feb-22	09:50	0.8	1	4905 2704 5266
11215131-020422-S-SB-SW-O-25	B6284_003	Solid	1	4 oz	04-Feb-22	10:00	0.8	1	4905 2704 5266
11215131-020422-S-SB-SW-O-23	B6284_004	Solid	1	4 oz	04-Feb-22	11:30	0.8	1	4905 2704 5266
11215131-020422-S-SB-SW-B-25	B6284_005	Solid	1	4 oz	04-Feb-22	11:45	0.8	1	4905 2704 5266
11215131-020422-S-SB-SW-B-25H1	B6284_006	Solid	1	4 oz	04-Feb-22	12:00	0.8	1	4905 2704 5266
11215131-020422-S-SB-SW-B-25H2	B6284_007	Solid	1	4 oz	04-Feb-22	12:30	0.8	1	4905 2704 5266

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact

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

Received by: Amy Boehm *Logged in by: Tamara Burkamper* *QC'ed by:* AK 8 Feb 22

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

SGS CHAIN OF CUSTODY

B6284 1/1

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

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston
PHONE: 713-907-371 EMAIL: Meagan.Willis

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

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: None	ANALYSIS & METHOD: M1613B (D/F)	QC: MS	QC: MSD	QC: DUP	QTY	REMARKS
215131-020422-S-SB-SW-B-27	2/4/22	0940	C	S	4 oz	X						See SOW ☆
215131-020422-S-SB-SW-B-27H		0950			4 oz	X						Hold ☆
215131-020422-S-SB-SW-0-25		1000			4 oz	X						☆
215131-020422-S-SB-SW-S-54		1010			4 oz	X						RUSH
215131-020422-S-SB-SW-S-50		1030			4 oz	X						RUSH
215131-020422-S-SB-SW-S-49		1115			4 oz	X						RUSH
215131-020422-S-SB-SW-0-23		1130			4 oz	X						☆
215131-020422-S-SB-SW-B-25		1145			4 oz	X						☆
215131-020422-S-SB-SW-B-25H		1200			4 oz	X						Hold ☆
215131-020422-S-SB-SW-B-25H2	↓	1230	↓	↓	4 oz	X						Hold ☆

	DATE:	TIME:	RECEIVED BY:
COLLECTED/RELINQUISHED BY (1): Sarah Bellanger	2/4/22	1330	Esther Castro
RELINQUISHED BY (2): Esther Castro	2/4/22	1430	RECEIVED BY: 2/4/22 1430
RELINQUISHED BY (3): Fedex	DATE:	TIME:	RECEIVED BY:

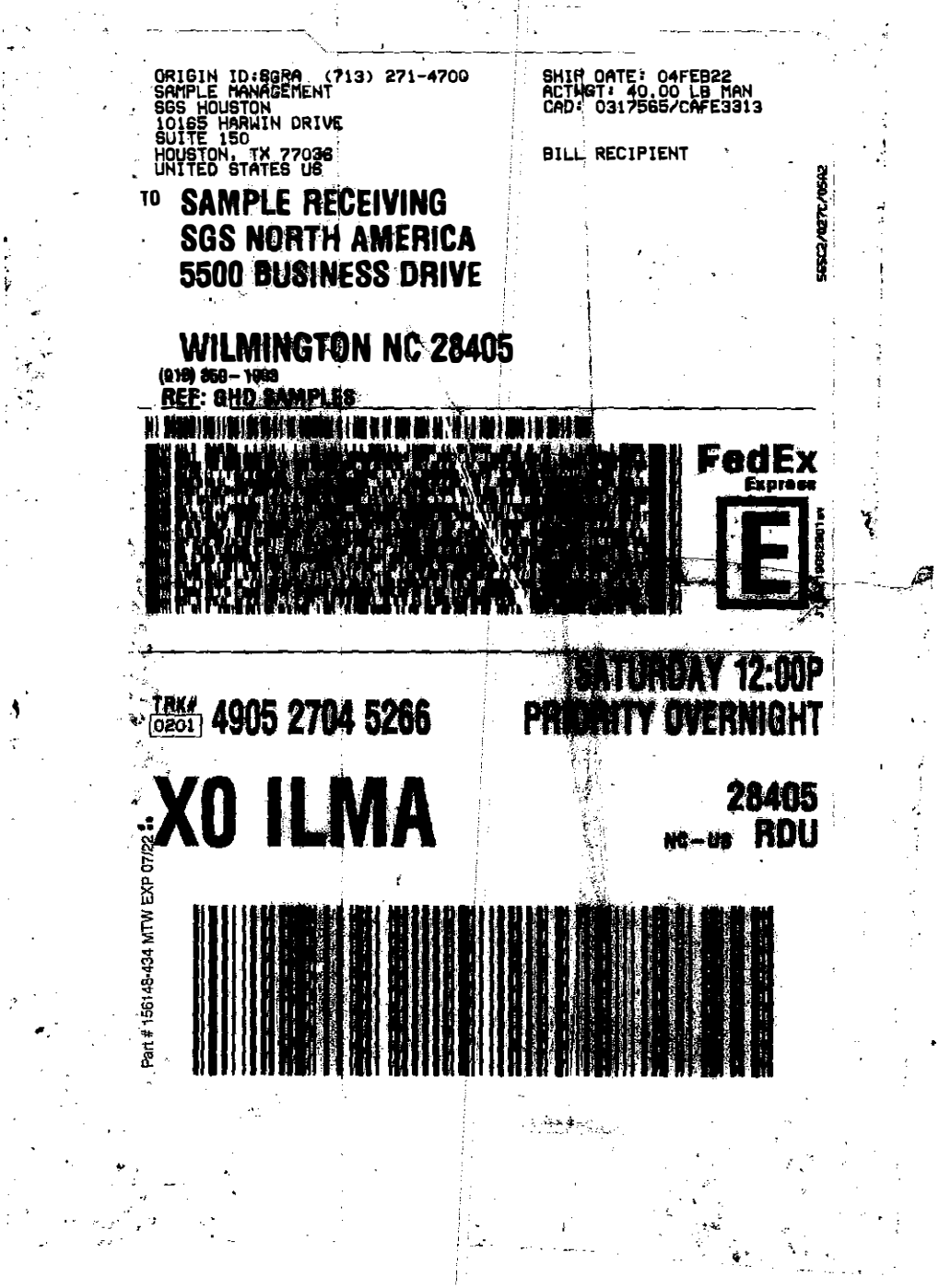
RECEIVED BY LABORATORY: DATE: 2/5/22 TIME: 1140
COOLER SEAL: ☐ INTACT ☐ BROKEN ■ ABSENT
CONTAINER SEALS ☐ INTACT ☐ BROKEN ■ ABSENT
CARRIER: Fed Ex TEMP: °C 0.8 °C
TRACKING #: on ice 1R-4

2 ☆ samples in this project TB

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

Member of the SGS Group (SGS SA)

B6284


ORIGIN ID:8GRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US
SHIP DATE: 04FEB22
ACTWGT: 40.00 LB MAN
CAD: 0317565/CAFE3313
BILL RECIPIENT
TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE
WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES
FedEx
Express
TRK# 0201 4905 2704 5266
SATURDAY 12:00P
PRIORITY OVERNIGHT
XO ILMA
28405
NC-US RDU
Part # 156148-434 MTW EXP 07/22

SGS

Project Initiation Form

Project Number: B6284

Initiation Date: 08-Feb-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Solid

TAT: 10 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR & OPRD

10 g DWE extraction

Read and understood, initial and date: Prep Lab: KE 2/14/22 TDS 2/18/22 HRMS Lab: DJW 2/22/22

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab: DJW 2/22/22

PM Initials: akornegay Date: 08-Feb-2022

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

Extraction Type: SDS CLL | TALEX Carbon SPE

Solid

Final Volume: 20µL

Batch# 18926 | Split: ~~1/2~~ ~~1/4~~ | Extract Initial/Date: KE 2/14/22 | Clean-up Initial/Date: JAB 2/18/22 | Transfer Init/Date: JAB 2/19/22

Lab Sample ID	Extraction Position Solvent: TOL	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B6284_18926_001	10	13.15				gray, clay-like/sandy
B6284_18926_002	11	12.79				gray, clay-like
B6284_18926_003	12	11.84				brown, clay-like/sandy
B6284_18926_004	13	12.91				brown, clay-like
B6284_18926_005	14	12.63				gray, clay-like
B6284_18926_006	15	12.73				gray, clay-like
B6284_18926_007	16	12.54				gray, clay-like
MB1_18926	7	10.00				sodium sulfate
OPR1_18926	8	10.00				sodium sulfate
OPR2_18926	9	10.00				sodium sulfate

TB 2/23/2022

JAB 2/19/22

Supply IDs

Toluene	STL 14.24
MeCHL	STL14.17
Florisil	SPL5.83
Hexane	STL14.29
Silica	SPL5-69
S Nitrate	N/A
Base Silica	SPL5-86
HydroMatrix	N/A
Tetradecane	SPL5-730
H_2SO_4	N/A
A Silica	SPL5.90
Sodium Sulfate	SPL5-80B

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	
GPC Date/Initial:	
Bond-Elute Date/Initial:	

TB 2/23/2022

Cycle Time

TOL	Start:	1600
	Stop:	0930
HEX	Start:	
	Stop:	
DCM	Start:	
	Stop:	

TB 2/23/2022

SGS

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

Solid

Batch# 18926

Inter-Department Communication Sheet

TB
2/23/2022

SGS

Wt. Volume Results

Batch #: 18926 **Comments:**

QC 2/23/22

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6284_001	2.39	4.98	4.37	76.45%	76.45%			13.08	13.15	10.05
B6284_002	2.37	5.08	4.51	78.97%	78.97%			12.66	12.79	10.1
B6284_003	2.37	4.91	4.56	86.22%	86.22%			11.6	11.84	10.21
B6284_004	2.42	5.17	4.6	79.27%	79.27%			12.61	12.86	10.19
B6284_005	2.4	5.05	4.54	80.75%	80.75%			12.38	12.63	10.2
B6284_006	2.25	5.65	4.93	78.82%	78.82%			12.69	12.73	10.03
B6284_007	2.34	5.3	4.72	80.41%	80.41%			12.44	12.54	10.08

TB 2/23/2022

TB 2/23/2022

% Solid Determination WorkSheet

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Batch: 18926

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	log DWE	Comments
B6284_18926_001	2.39	4.98	4.37/4.37	13.08	
B6284_18926_002	2.37	5.08	4.51/4.51	12.66	
B6284_18926_003	2.37	4.91	4.56/4.56	11.60	
B6284_18926_004	2.42	5.17	4.60/4.60	12.61	
B6284_18926_005	2.40	5.05	4.54/4.54	12.38	
B6284_18926_006	2.25	5.65	4.93/4.93	12.69	
B6284_18926_007	2.34	5.30	4.72/4.72	12.44	

2.13
2.119/22

Date/Initials: KE 2/14/22

SGS

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

Batch # 18926

Lab Sample ID	Spiker Initials/Date: JRH 2/14/22	JRH 2/14/22	JRH 2/14/22	2/18/22	2/19/22		
	D/F Ax-A Amount: 20µL	D/F Ax-B Amount: 20µL	D/F ES Amount: 20µL	D/F CS Amount: 20µL	D/F JS Amount: 20µL	Amount:	Amount:
	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials
B6284_18926_001	—	—	KE	JRH	JRH		
B6284_18926_002	—	—	KE	JRH	JRH		
B6284_18926_003	—	—	KE	JRH	JRH		
B6284_18926_004	—	—	KE	JRH	JRH		
B6284_18926_005	—	—	KE	JRH	JRH		
B6284_18926_006	—	—	KE	JRH	JRH		
B6284_18926_007	—	—	KE	JRH	JRH		
MB1_18926	—	—	KE	JRH	JRH		
OPR1_18926	KE	KE	KE	JRH	JRH		
OPR2_18926	KE	KE	KE	JRH	JRH		

JRH 2/17/22

Standard Information

Pipette ID							JRH 2/19/22
Spike ID	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS		
SIL #	26-2-8	25-187-2	26-2-9	25-338.1	25-384.1		
Concentration	10 pg/µL	10 pg/µL	100 pg/µL	100 pg/µL	100 pg/µL		
Expiration Date	7/9/28	6/22/22	8/2028	11/16/22	1/28/23		

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

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
0	220222R01	3	CS3_220222_DF_RA ✓	1.00	SIL 25-347-1	PSW	070-402	22-Feb-2022	05:21:50
1	220222R02	62	OPR1_18926_DF	1.00	0_18926_OPR001	PSW	439-306	22-Feb-2022	06:08:34
2	220222R03	63	OPR2_18926_DF	1.00	0_18926_OPR002	PSW	812-079	22-Feb-2022	06:56:06
3	220222R04	2	SBS_220222_DF_RA	1.00	SIL 20-61-1	PSW	874-670	22-Feb-2022	07:43:40
4	220222R05	61	MB1_18926_DF_SDS	10.00	Method Blank	PSW	448-396	22-Feb-2022	08:31:13
5	220222R06	64	B6284_18926_DF_001	10.05	11215131-020422-S-SB-SW-B-27	PSW	916-203	22-Feb-2022	09:18:45
6	220222R07	65	B6284_18926_DF_002	10.10	11215131-020422-S-SB-SW-B-27H	PSW	289-510	22-Feb-2022	10:06:12
7	220222R08	66	B6284_18926_DF_003	10.21	11215131-020422-S-SB-SW-O-25	PSW	207-644	22-Feb-2022	10:53:45
8	220222R09	67	B6284_18926_DF_004	10.19	11215131-020422-S-SB-SW-O-23	PSW	161-099	22-Feb-2022	11:41:17
9	220222R10	68	B6284_18926_DF_005	10.20	11215131-020422-S-SB-SW-B-25	PSW	747-675	22-Feb-2022	12:28:45
10	220222R11	69	B6284_18926_DF_006	10.03	11215131-020422-S-SB-SW-B-25H1	PSW	605-534	22-Feb-2022	13:16:13
11	220222R12	70	B6284_18926_DF_007 ✓	10.08	11215131-020422-S-SB-SW-B-25H2	PSW	240-880	22-Feb-2022	14:03:45

REVIEWED
paul_walton , 2/22/2022, 3:39:26 PM

REVIEWED
Amber_Kornegay , 2/23/2022, 3:28:53 PM

Lab ID: MB1_18926_DF_SDS **Acq'd:** 22 Feb 2022 08:31 PSW **Wt/Vol:** 10.00 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: Method Blank B6284_18926 **UTP:** 22-Feb-2022 15:05:14 PSW **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 448-396-XTR

Datafile: 220222R05 **Report:** 22 Feb 2022 15:06 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.34	-	4836.227	0.324
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.06	-	2793.131	0.194
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.06	-	3051.762	0.243
123678-HxCDD	NotFnd		1.0035	-		-	-	-	1.08	-	3051.762	0.232
123789-HxCDD	NotFnd		1.0117	-		-	-	-	1.02	-	3051.762	0.244
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	0.97	-	4553.734	0.336
OCDD	42.36	J	1.0003	1.0001	-0.5	8.85E+04	0.79	Y	1.07	1.39	3028.646	0.378
2378-TCDF	NotFnd		1.0007	-		-	-	-	0.96	-	2832.98	0.185
12378-PeCDF	NotFnd		1.0006	-		-	-	-	0.95	-	3160.305	0.185
23478-PeCDF	NotFnd		1.0006	-		-	-	-	0.94	-	3160.305	0.179
123478-HxCDF	NotFnd		1.0005	-		-	-	-	1.23	-	3197.181	0.171
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.13	-	3197.181	0.16
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3197.181	0.215
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	3197.181	0.269
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.36	-	3968.321	0.179
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.30	-	3968.321	0.284
OCDF	NotFnd		1.0003	-		-	-	-	1.03	-	3876.429	0.52

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	27.18	1.0263	1.0265	+0.3	2.58E+07	0.75	Y	1.03	82.1
ES 12378-PeCDD	32.73	1.2342	1.2365	+4.5	2.57E+07	1.62	Y	1.03	81.7
ES 123478-HxCDD	36.66	0.9915	0.9916	+0.2	2.02E+07	1.28	Y	0.99	78.9
ES 123678-HxCDD	36.77	0.9947	0.9947	0	2.28E+07	1.24	Y	0.97	91.2
ES 123789-HxCDD	37.08	1.0028	1.0030	+0.4	2.39E+07	1.28	Y	1.12	82.9
ES 1234678-HpCDD	39.93	1.0791	1.0800	+2.2	1.87E+07	1.06	Y	0.99	73.3
ES OCDD	42.36	1.1449	1.1458	+2.3	2.38E+07	0.90	Y	0.78	59.5
ES 2378-TCDF	26.27	1.0587	1.0594	+1.1	3.88E+07	0.80	Y	1.08	76
ES 12378-PeCDF	31.24	1.2570	1.2599	+5.4	3.81E+07	1.62	Y	0.93	86.8
ES 23478-PeCDF	32.39	1.3032	1.3064	+6.2	3.63E+07	1.58	Y	0.92	83.6
ES 123478-HxCDF	35.68	0.9652	0.9652	0	2.42E+07	0.50	Y	1.14	82.3
ES 123678-HxCDF	35.83	0.9690	0.9692	+0.4	3.27E+07	0.53	Y	1.30	98
ES 234678-HxCDF	36.49	0.9869	0.9870	+0.2	2.26E+07	0.54	Y	1.20	73.2
ES 123789-HxCDF	37.46	1.0133	1.0134	+0.2	1.97E+07	0.52	Y	1.14	67.4
ES 1234678-HpCDF	39.00	1.0541	1.0549	+1.9	2.34E+07	0.45	Y	0.95	95.8
ES 1234789-HpCDF	40.35	1.0906	1.0916	+2.4	1.45E+07	0.47	Y	0.85	66.4
ES OCDF	42.53	1.1495	1.1504	+2.3	2.44E+07	0.87	Y	0.93	51.2

Lab ID: MB1_18926_DF_SDS | **Acq'd:** 22 Feb 2022 08:31 PSW | **Wt/Vol:** 10.00 g | **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: Method Blank B6284_18926 | **UTP:** 22-Feb-2022 15:05:14 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 448-396-XTR

Datafile: 220222R05 | **Report:** 22 Feb 2022 15:06 pw | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.47		-	-	-	3.04E+07	0.75	Y	-	-
JS 1234-TCDF	24.79		-	-	-	4.70E+07	0.78	Y	-	-
JS 123467-HxCDD	36.97		-	-	-	1.29E+07	1.29	Y	-	-
CS 37Cl-2378-TCDD	27.20		1.0271	1.0274	+0.5	1.28E+07	n/a	-	1.31	80.3
CS 12347-PeCDD	32.22		1.2149	1.2170	+4.1	2.47E+07	1.61	Y	0.89	91.1
CS 12346-PeCDF	30.69		1.2351	1.2378	+5.0	3.93E+07	1.59	Y	0.87	96.1
CS 123469-HxCDF	36.14		0.9774	0.9775	+0.2	3.01E+07	0.54	Y	1.09	107
CS 1234689-HpCDF	39.42		1.0654	1.0663	+2.1	2.21E+07	0.43	Y	0.86	99.5
~~SS 37Cl-2378-TCDD~~	~~27.20~~		~~1.0271~~	~~1.0274~~	~~+0.5~~	~~1.28E+07~~	~~n/a~~		~~1.26~~	~~98.3~~
~~SS 12347-PeCDD~~	~~32.22~~		~~1.2149~~	~~1.2170~~	~~+4.1~~	~~2.47E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~111~~
~~SS 12346-PeCDF~~	~~30.69~~		~~1.2351~~	~~1.2378~~	~~+5.0~~	~~3.93E+07~~	~~1.59~~	~~Y~~	~~0.93~~	~~111~~
~~SS 123469-HxCDF~~	~~36.14~~		~~0.9774~~	~~0.9775~~	~~+0.2~~	~~3.01E+07~~	~~0.54~~	~~Y~~	~~0.84~~	~~109~~
~~SS 1234689-HpCDF~~	~~39.42~~		~~1.0654~~	~~1.0663~~	~~+2.1~~	~~2.21E+07~~	~~0.43~~	~~Y~~	~~0.91~~	~~104~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	1.39	1.39
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0.317	0.317
Total HpCDF	0	0
Total Tetra-Octa Furans	0.317	0.317
Total Tetra-Octa Dioxins & Furans	1.71	1.71

Lab ID: MB1_18926_DF_SDS **Acq'd: 22 Feb 2022 08:31 PSW** **Wt/Vol: 10.00 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: Method Blank B6284_18926 **UTP: 22-Feb-2022 15:05:14 PSW** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 448-396-XTR**

Datafile: 220222R05 **Report: 22 Feb 2022 15:06 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8571						1.34		4836.227	0.324
1379-TCDD	NotFnd		0.8715						1.34		4836.227	0.324
1369-TCDD	NotFnd		0.8889						1.34		4836.227	0.324
1469-TCDD	NotFnd		0.9198						1.34		4836.227	0.324
1247/1246/1248/1249-TCDD	NotFnd		0.9291						1.34		4836.227	0.324
1378-TCDD	NotFnd		0.9366						1.34		4836.227	0.324
1268-TCDD	NotFnd		0.9446						1.34		4836.227	0.324
1478-TCDD	NotFnd		0.9539						1.34		4836.227	0.324
1279-TCDD	NotFnd		0.9606						1.34		4836.227	0.324
1234/1269-TCDD	NotFnd		0.9745						1.34		4836.227	0.324
1236-TCDD	NotFnd		0.9798						1.34		4836.227	0.324
1237/1238-TCDD	NotFnd		0.9897						1.34		4836.227	0.324
1239-TCDD	NotFnd		0.9948						1.34		4836.227	0.324
2378-TCDD	**NotFnd**		**1.0008**						**1.34**		**4836.227**	**0.324**
1278-TCDD	NotFnd		1.0136						1.34		4836.227	0.324
1267-TCDD	NotFnd		1.0189						1.34		4836.227	0.324
1289-TCDD	NotFnd		1.0384						1.34		4836.227	0.324
12479/12468-PeCDD	NotFnd		0.9220						1.06		2793.131	0.194
12469-PeCDD	NotFnd		0.9390						1.06		2793.131	0.194
12368-PeCDD	NotFnd		0.9563						1.06		2793.131	0.194
12478-PeCDD	NotFnd		0.9622						1.06		2793.131	0.194
12379-PeCDD	NotFnd		0.9653						1.06		2793.131	0.194
12369/12467/12489-PeCDD	NotFnd		0.9736						1.06		2793.131	0.194
12346/12347-PeCDD	NotFnd		0.9851						1.06		2793.131	0.194
12378-PeCDD	NotFnd		**1.0006**						**1.06**		**2793.131**	**0.194**
12367-PeCDD	NotFnd		1.0035						1.06		2793.131	0.194
12389-PeCDD	NotFnd		1.0143						1.06		2793.131	0.194
124679/124689-HxCDD	NotFnd		0.9536						1.05		3051.762	0.239
123468-HxCDD	NotFnd		0.9716						1.05		3051.762	0.239
123679/123689-HxCDD	NotFnd		0.9797						1.05		3051.762	0.239
123469-HxCDD	NotFnd		0.9833						1.05		3051.762	0.239
123478-HxCDD	NotFnd		**1.0004**						1.06		**3051.762**	**0.243**
123678-HxCDD	NotFnd		**1.0035**						1.08		**3051.762**	**0.232**
123467-HxCDD	NotFnd		1.0089						1.05		3051.762	0.239
123789-HxCDD	NotFnd		**1.0117**						1.02		**3051.762**	**0.244**

Lab ID: MB1_18926_DF_SDS | **Acq'd:** 22 Feb 2022 08:31 PSW | **Wt/Vol:** 10.00 g | **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: Method Blank B6284_18926 | **UTP:** 22-Feb-2022 15:05:14 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 448-396-XTR

Datafile: 220222R05 | **Report:** 22 Feb 2022 15:06 pw | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

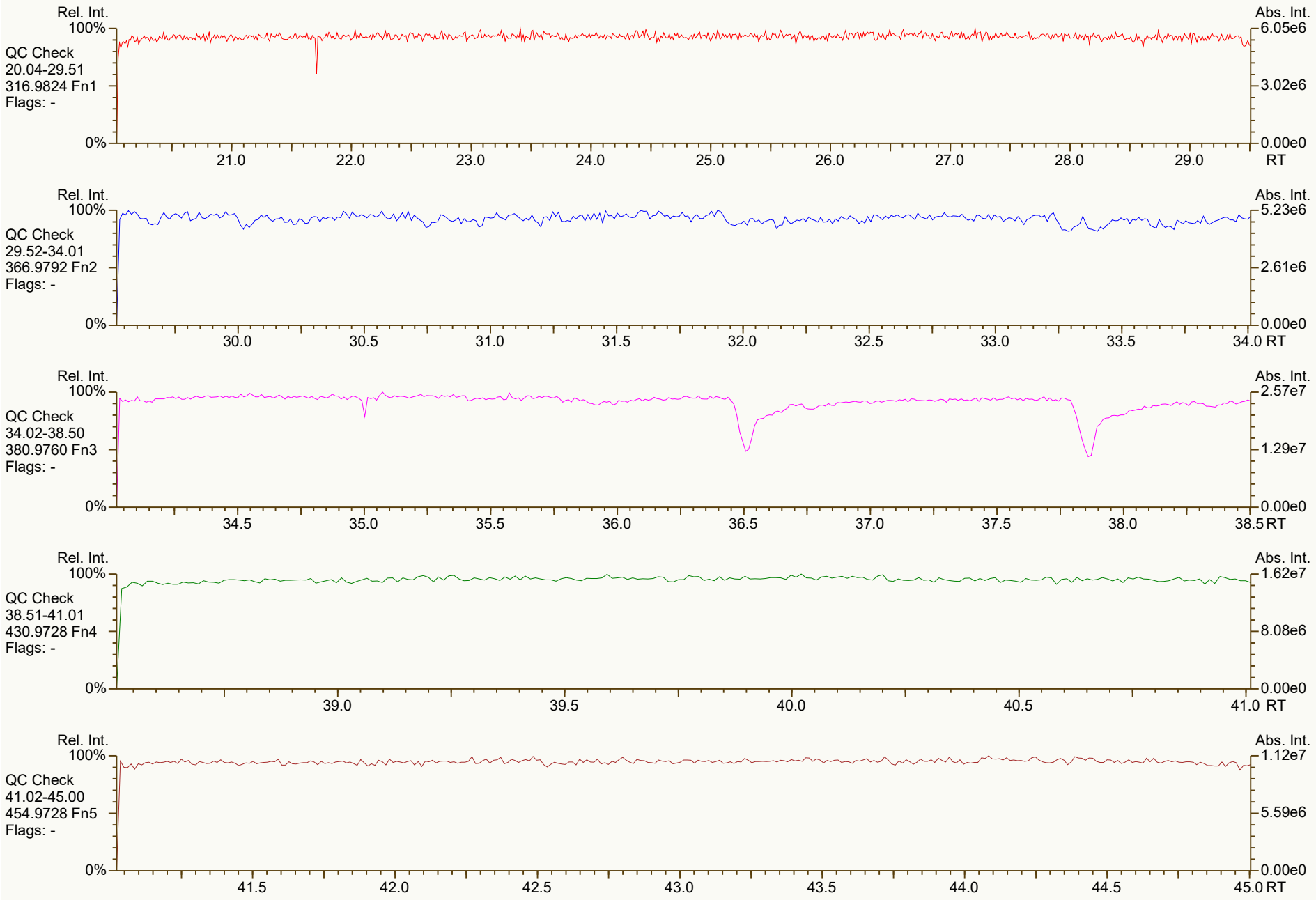
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9839						0.97		4553.734	0.336
1234678-HpCDD	**NotFnd**		**1.0003**						**0.97**		**4553.734**	**0.336**
OCDD	**42.36**	**J**	**1.0003**	**1.0001**	**-0.5**	**8.85E+04**	**0.79**	**Y**	**1.07**	**1.39**	**3028.646**	**0.378**
OCDD-a	NotFnd		1.0002						0.07		3340.563	6.76
1368-TCDF	NotFnd		0.8019						0.96		2832.98	0.185
1468-TCDF	NotFnd		0.8238						0.96		2832.98	0.185
2468-TCDF	NotFnd		0.8493						0.96		2832.98	0.185
1346/1246-TCDF	NotFnd		0.8635						0.96		2832.98	0.185
1347/1378/1247-TCDF	NotFnd		0.8702						0.96		2832.98	0.185
1348-TCDF	NotFnd		0.8817						0.96		2832.98	0.185
1248/1367/1379-TCDF	NotFnd		0.8871						0.96		2832.98	0.185
1268-TCDF	NotFnd		0.9029						0.96		2832.98	0.185
1467-TCDF	NotFnd		0.9087						0.96		2832.98	0.185
1478-TCDF	NotFnd		0.9156						0.96		2832.98	0.185
1369/1237-TCDF	NotFnd		0.9307						0.96		2832.98	0.185
2467-TCDF	NotFnd		0.9361						0.96		2832.98	0.185
2368-TCDF	NotFnd		0.9422						0.96		2832.98	0.185
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9460						0.96		2832.98	0.185
1278-TCDF	NotFnd		0.9644						0.96		2832.98	0.185
1349-TCDF	NotFnd		0.9693						0.96		2832.98	0.185
1267-TCDF	NotFnd		0.9757						0.96		2832.98	0.185
2346/1249-TCDF	NotFnd		0.9830						0.96		2832.98	0.185
2347/1279-TCDF	NotFnd		0.9919						0.96		2832.98	0.185
2348-TCDF	NotFnd		0.9964						0.96		2832.98	0.185
2378-TCDF	**NotFnd**		**1.0007**						**0.96**		**2832.98**	**0.185**
2367/3467-TCDF	NotFnd		1.0157						0.96		2832.98	0.185
1269-TCDF	NotFnd		1.0248						0.96		2832.98	0.185
1239-TCDF	NotFnd		1.0355						0.96		2832.98	0.185
1289-TCDF	NotFnd		1.0808						0.96		2832.98	0.185
13468/12468-PeCDF	NotFnd		0.9073						0.94		3717.699	0.214
13678/13467/12467-PeCDF	NotFnd		0.9586						0.94		3160.305	0.182
12368/13478/12478-PeCDF	NotFnd		0.9638						0.94		3160.305	0.182
14678-PeCDF	NotFnd		0.9671						0.94		3160.305	0.182
13479-PeCDF	NotFnd		0.9702						0.94		3160.305	0.182
13469/12479-PeCDF	NotFnd		0.9785						0.94		3160.305	0.182
12346-PeCDF	NotFnd		0.9831						0.94		3160.305	0.182

Lab ID: MB1_18926_DF_SDS | **Acq'd:** 22 Feb 2022 08:31 PSW | **Wt/Vol:** 10.00 g | **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: Method Blank B6284_18926 | **UTP:** 22-Feb-2022 15:05:14 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 448-396-XTR

Datafile: 220222R05 | **Report:** 22 Feb 2022 15:06 pw | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9863						0.94		3160.305	0.182
12347-PeCDF	NotFnd		0.9887						0.94		3160.305	0.182
12348-PeCDF	NotFnd		0.9937						0.94		3160.305	0.182
12378-PeCDF	**NotFnd**		**1.0006**						**0.95**		**3160.305**	**0.185**
12678/12367-PeCDF	NotFnd		1.0097						0.94		3160.305	0.182
12379-PeCDF	NotFnd		1.0151						0.94		3160.305	0.182
12679-PeCDF	NotFnd		0.9923						0.94		3160.305	0.182
23467/12369-PeCDF	NotFnd		0.9965						0.94		3160.305	0.182
23478-PeCDF	**NotFnd**		**1.0006**						**0.94**		**3160.305**	**0.179**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0049						0.94		3160.305	0.182
12349-PeCDF	NotFnd		1.0104						0.94		3160.305	0.182
12389-PeCDF	NotFnd		1.0341						0.94		3160.305	0.182
123468-HxCDF	NotFnd		0.9611						1.16		3197.181	0.196
124678/134678-HxCDF	NotFnd		0.9668						1.16		3197.181	0.196
134679-HxCDF	NotFnd		0.9733						1.16		3197.181	0.196
124679-HxCDF	NotFnd		0.9789						1.16		3197.181	0.196
124689-HxCDF	NotFnd		0.9852						1.16		3197.181	0.196
123467-HxCDF	NotFnd		0.9972						1.16		3197.181	0.196
123478-HxCDF	**NotFnd**		**1.0005**						**1.23**		**3197.181**	**0.171**
123678-HxCDF	**NotFnd**		**1.0004**						**1.13**		**3197.181**	**0.16**
123479-HxCDF	NotFnd		1.0049						1.16		3197.181	0.196
123469-HxCDF	NotFnd		1.0090						1.16		3197.181	0.196
123679-HxCDF	NotFnd		0.9942						1.16		3197.181	0.196
234678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3197.181**	**0.215**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		3197.181	0.196
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**3197.181**	**0.269**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.48	J	1.0008	1.0005	-0.7	4.57E+04	1.25	Y	1.16	0.317	3197.181	0.196
1234678-HpCDF	**NotFnd**		**1.0003**						**1.36**		**3968.321**	**0.179**
1234679-HpCDF	NotFnd		1.0073						1.33		3968.321	0.219
1234689-HpCDF	NotFnd		1.0109						1.33		3968.321	0.219
1234789-HpCDF	**NotFnd**		**1.0003**						**1.30**		**3968.321**	**0.284**
OCDF	**NotFnd**		**1.0003**						**1.03**		**3876.429**	**0.52**
OCDF-a	NotFnd		1.0002						0.06		3486.58	8.1


Rel. Int.
100%
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
0%
Abs. Int.
6.05e6
3.02e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.23e6
2.61e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
QC Check
34.02-38.50
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.57e7
1.29e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
QC Check
38.51-41.01
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.62e7
8.08e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
QC Check
41.02-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.12e7
5.59e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
20.04-29.51
319.8965 Fn1
Flags: B
4σ 2.88e3
0%
Abs. Int.
7.09e3
3.55e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD
20.04-29.51
321.8936 Fn1
Flags: B
4σ 1.96e3
0%
Abs. Int.
6.27e3
3.13e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
37Cl-TCDD
20.04-29.51
327.8850 Fn1
Flags: PBM
4σ 1.53e3
0%
CS 37Cl-2378D
1.28e7*
27.20
Abs. Int.
3.01e6
1.50e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.04-29.51
331.9368 Fn1
Flags: PBM
4σ 6.36e3
0%
JS 1234D
1.30e7
26.47
ES 2378D
1.11e7*
27.18
Abs. Int.
2.94e6
1.47e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.04-29.51
333.9339 Fn1
Flags: PBM
4σ 3.66e3
0%
JS 1234D
1.73e7
26.47
ES 2378D
1.47e7*
27.18
Abs. Int.
3.96e6
1.98e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT

SGS ID: MB1_18926_DF_SDS | Sample ID: Method Blank | Acq: 22-Feb-2022 08:31:13

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 61 | User: PSW Datafile: 220222R05

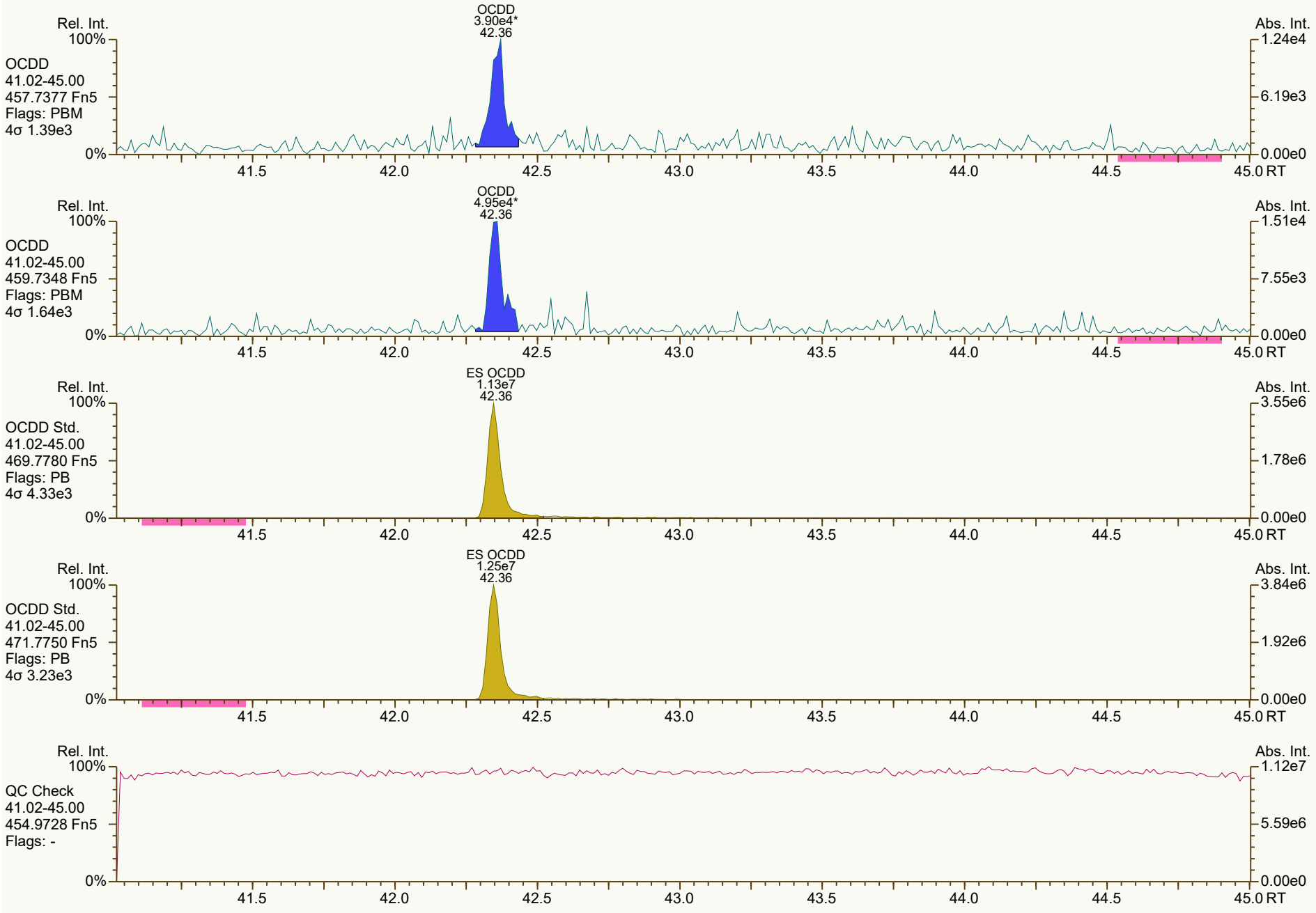


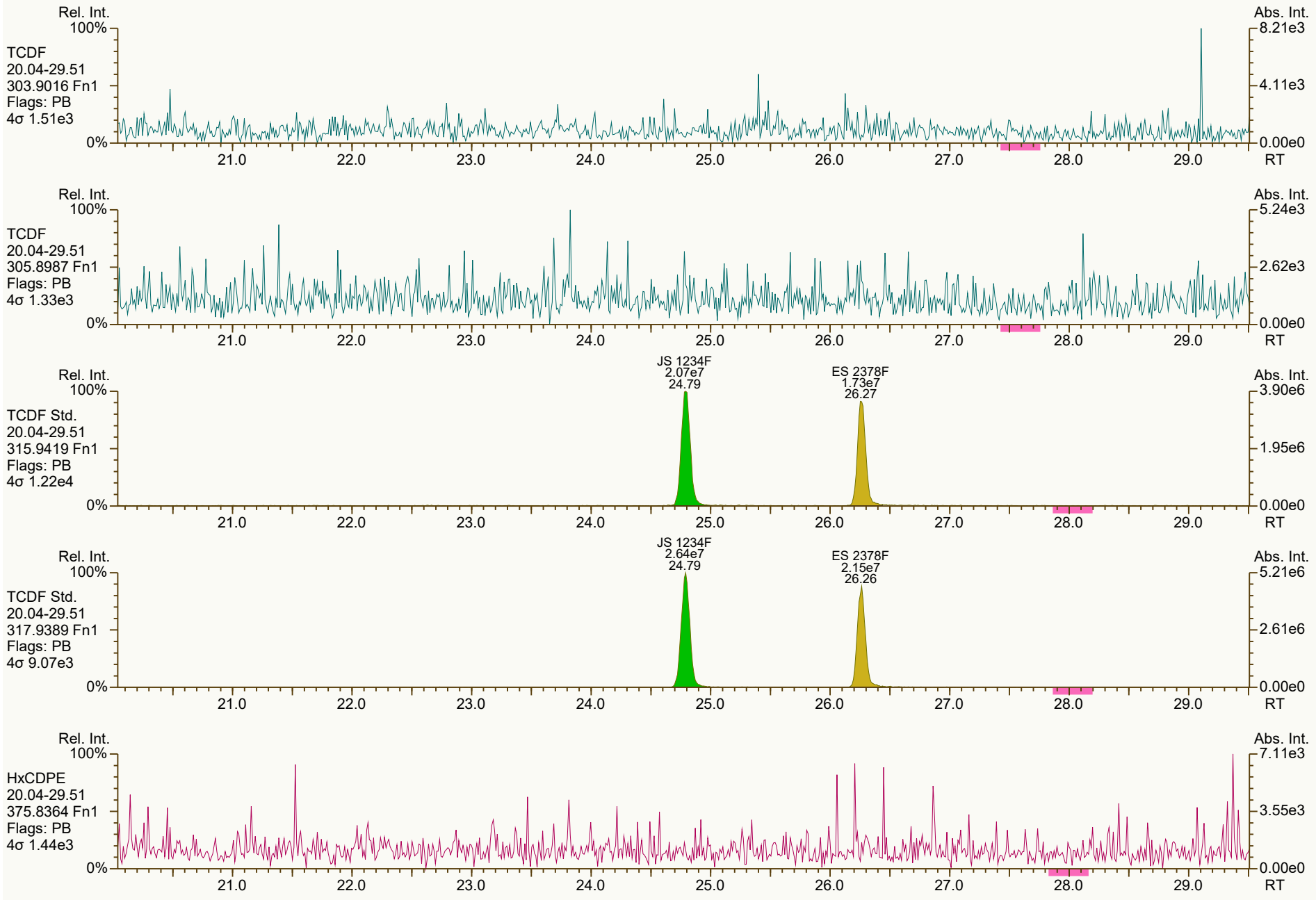
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\MB1_18926_DF_SDS.utp_res, saved 22-Feb-2022 15:05 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3090, 7524 scc: 448-396 | *PKD: 22-Feb-2022 10:06 Printed: 22-Feb-2022 15:32 Page 3 of 12*

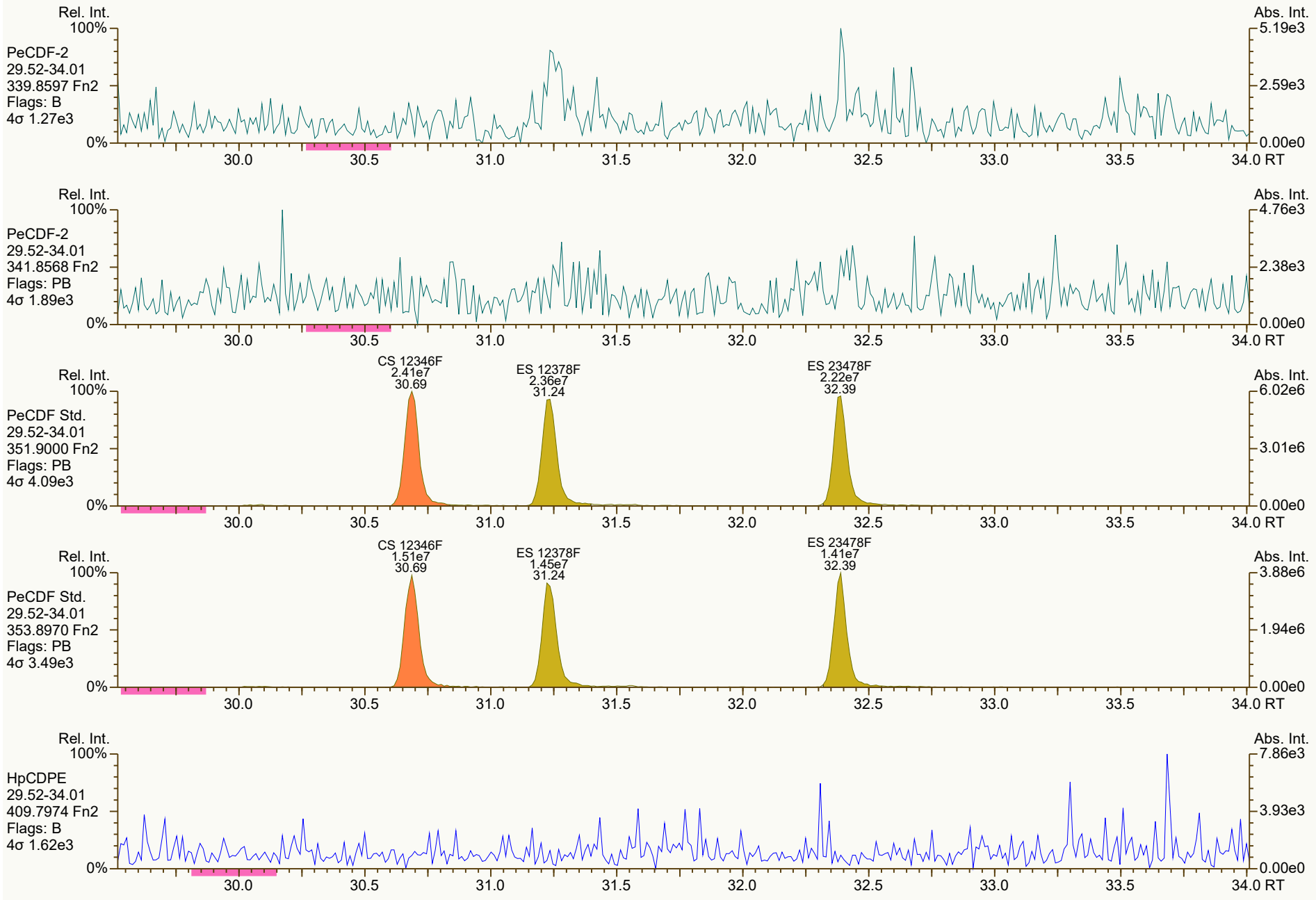

Rel. Int.
100%
HxCDD
34.02-38.50
389.8156 Fn3
Flags: B
4σ 1.48e3
0%
Abs. Int.
8.52e3
4.26e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDD
34.02-38.50
391.8127 Fn3
Flags: B
4σ 1.57e3
0%
Abs. Int.
5.21e3
2.60e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDD Std.
34.02-38.50
401.8559 Fn3
Flags: PBM
4σ 3.92e3
0%
ES 123678D
1.26e7
36.77
ES 123478D
1.13e7
36.66
ES 123789D
1.34e7*
37.08
JS 123467D
7.24e6*
36.97
Abs. Int.
3.45e6
1.73e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDD Std.
34.02-38.50
403.8530 Fn3
Flags: PBM
4σ 3.06e3
0%
ES 123678D
1.02e7
36.77
ES 123478D
8.85e6
36.66
ES 123789D
1.05e7*
37.08
JS 123467D
5.61e6*
36.97
Abs. Int.
2.78e6
1.39e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
QC Check
34.02-38.50
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.57e7
1.29e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT

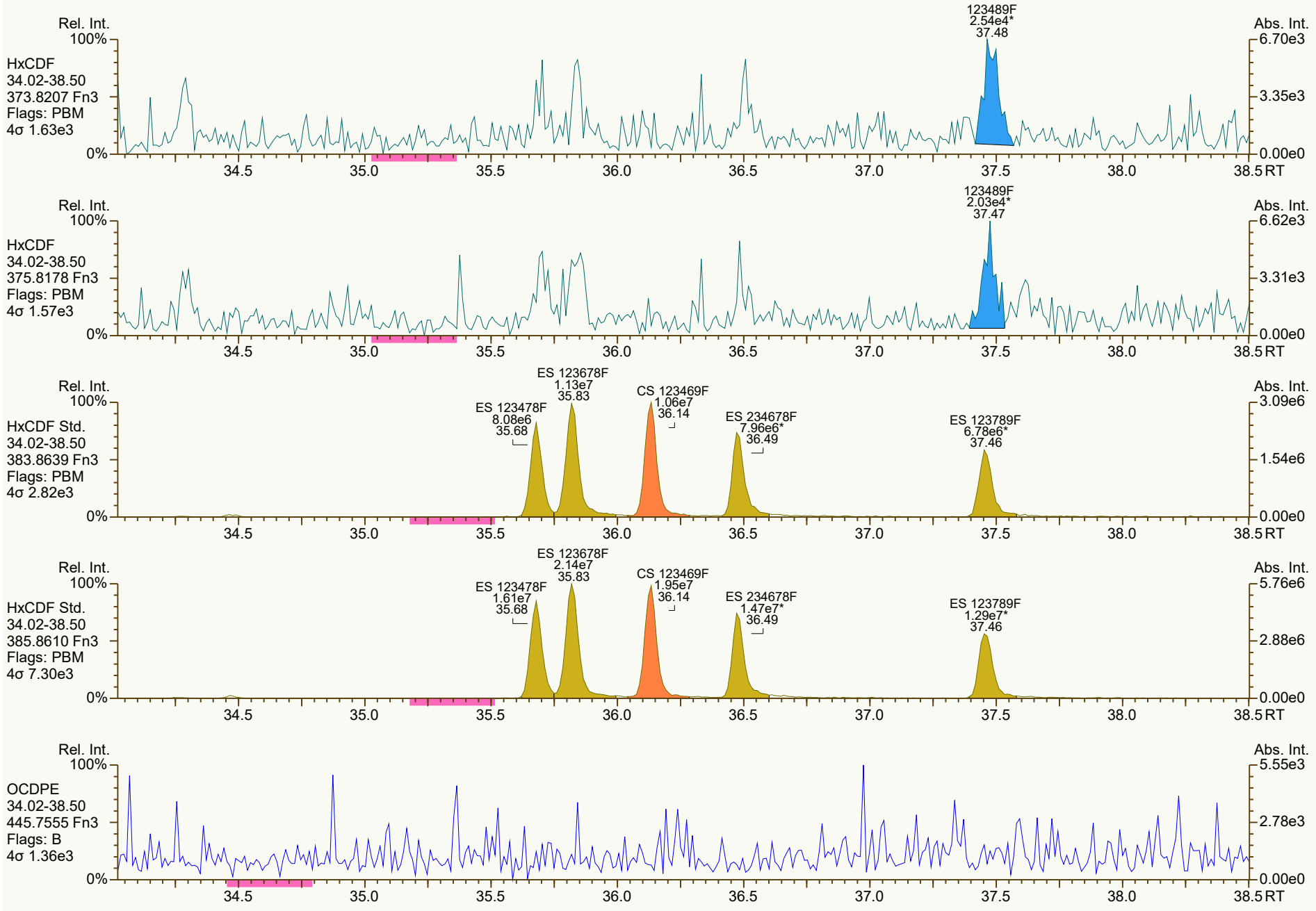

Rel. Int.
100%
HpCDD
38.51-41.01
423.7767 Fn4
Flags: B
4σ 2.62e3
0%
Abs. Int.
1.14e4
5.70e3
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD
38.51-41.01
425.7737 Fn4
Flags: B
4σ 1.94e3
0%
Abs. Int.
7.53e3
3.77e3
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
ES 1234678D
9.63e6*
39.93
Rel. Int.
100%
HpCDD Std.
38.51-41.01
435.8169 Fn4
Flags: PBM
4σ 4.32e3
0%
Abs. Int.
3.58e6
1.79e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
ES 1234678D
9.07e6*
39.92
Rel. Int.
100%
HpCDD Std.
38.51-41.01
437.8140 Fn4
Flags: PBM
4σ 3.09e3
0%
Abs. Int.
3.34e6
1.67e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
QC Check
38.51-41.01
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.62e7
8.08e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT

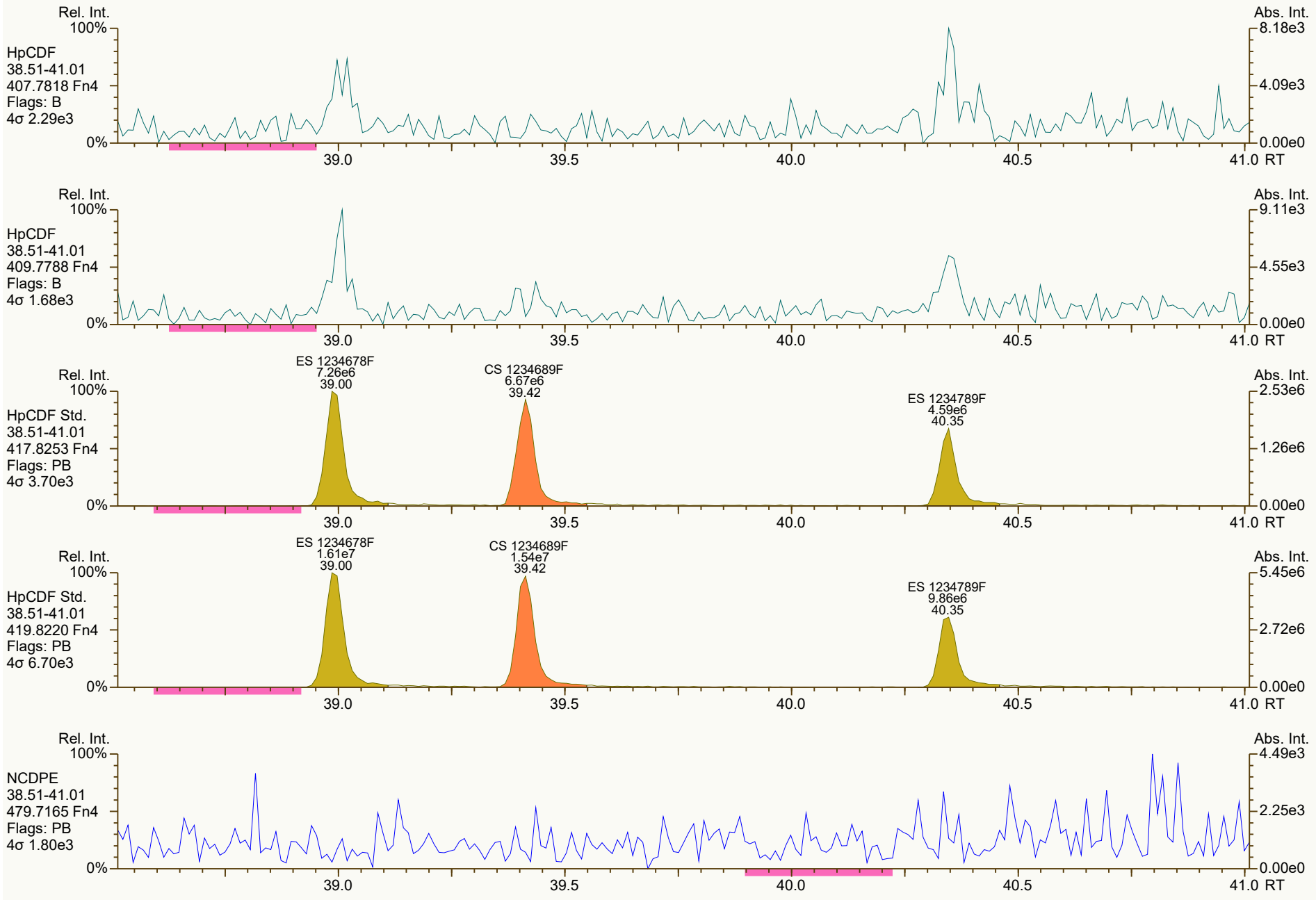

Rel. Int.
100%
OCDD
41.02-45.00
457.7377 Fn5
Flags: PBM
4σ 1.39e3
OCDD
3.90e4*
42.36
Abs. Int.
1.24e4
6.19e3
0.00e0
0%
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.02-45.00
459.7348 Fn5
Flags: PBM
4σ 1.64e3
OCDD
4.95e4*
42.36
Abs. Int.
1.51e4
7.55e3
0.00e0
0%
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.02-45.00
469.7780 Fn5
Flags: PB
4σ 4.33e3
ES OCDD
1.13e7
42.36
Abs. Int.
3.55e6
1.78e6
0.00e0
0%
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.02-45.00
471.7750 Fn5
Flags: PB
4σ 3.23e3
ES OCDD
1.25e7
42.36
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.02-45.00
454.9728 Fn5
Flags: -
Abs. Int.
1.12e7
5.59e6
0.00e0
0%
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
20.04-29.51
303.9016 Fn1
Flags: PB
4σ 1.51e3
0%
Abs. Int.
8.21e3
4.11e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDF
20.04-29.51
305.8987 Fn1
Flags: PB
4σ 1.33e3
0%
Abs. Int.
5.24e3
2.62e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDF Std.
20.04-29.51
315.9419 Fn1
Flags: PB
4σ 1.22e4
JS 1234F
2.07e7
24.79
ES 2378F
1.73e7
26.27
0%
Abs. Int.
3.90e6
1.95e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDF Std.
20.04-29.51
317.9389 Fn1
Flags: PB
4σ 9.07e3
JS 1234F
2.64e7
24.79
ES 2378F
2.15e7
26.26
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
HxCDPE
20.04-29.51
375.8364 Fn1
Flags: PB
4σ 1.44e3
0%
Abs. Int.
7.11e3
3.55e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.16e3
4.58e3
0.00e0
RT
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
PeCDF-1
20.04-29.51
339.8597 Fn1
Flags: PB
4σ 1.49e3
PeCDF-1
20.04-29.51
341.8568 Fn1
Flags: B
4σ 2.23e3
1.13e4
5.64e3
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
6.05e6
3.02e6


Rel. Int.
100%
PeCDF-2
29.52-34.01
339.8597 Fn2
Flags: B
4σ 1.27e3
0%
Abs. Int.
5.19e3
2.59e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF-2
29.52-34.01
341.8568 Fn2
Flags: PB
4σ 1.89e3
0%
Abs. Int.
4.76e3
2.38e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF Std.
29.52-34.01
351.9000 Fn2
Flags: PB
4σ 4.09e3
0%
CS 12346F
2.41e7
30.69
ES 12378F
2.36e7
31.24
ES 23478F
2.22e7
32.39
Abs. Int.
6.02e6
3.01e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF Std.
29.52-34.01
353.8970 Fn2
Flags: PB
4σ 3.49e3
0%
CS 12346F
1.51e7
30.69
ES 12378F
1.45e7
31.24
ES 23478F
1.41e7
32.39
Abs. Int.
3.88e6
1.94e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
HpCDPE
29.52-34.01
409.7974 Fn2
Flags: B
4σ 1.62e3
0%
Abs. Int.
7.86e3
3.93e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT


Rel. Int.
100%
HxCDF
34.02-38.50
373.8207 Fn3
Flags: PBM
4σ 1.63e3
0%
123489F
2.54e4*
37.48
Abs. Int.
6.70e3
3.35e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDF
34.02-38.50
375.8178 Fn3
Flags: PBM
4σ 1.57e3
0%
123489F
2.03e4*
37.47
Abs. Int.
6.62e3
3.31e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDF Std.
34.02-38.50
383.8639 Fn3
Flags: PBM
4σ 2.82e3
0%
ES 123678F
1.13e7
35.83
ES 123478F
8.08e6
35.68
CS 123469F
1.06e7
36.14
ES 234678F
7.96e6*
36.49
ES 123789F
6.78e6*
37.46
Abs. Int.
3.09e6
1.54e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDF Std.
34.02-38.50
385.8610 Fn3
Flags: PBM
4σ 7.30e3
0%
ES 123678F
2.14e7
35.83
ES 123478F
1.61e7
35.68
CS 123469F
1.95e7
36.14
ES 234678F
1.47e7*
36.49
ES 123789F
1.29e7*
37.46
Abs. Int.
5.76e6
2.88e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
OCDPE
34.02-38.50
445.7555 Fn3
Flags: B
4σ 1.36e3
0%
Abs. Int.
5.55e3
2.78e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT


Rel. Int.
100%
HpCDF
38.51-41.01
407.7818 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
8.18e3
4.09e3
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDF
38.51-41.01
409.7788 Fn4
Flags: B
4σ 1.68e3
0%
Abs. Int.
9.11e3
4.55e3
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDF Std.
38.51-41.01
417.8253 Fn4
Flags: PB
4σ 3.70e3
0%
ES 1234678F
7.26e6
39.00
CS 1234689F
6.67e6
39.42
ES 1234789F
4.59e6
40.35
Abs. Int.
2.53e6
1.26e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDF Std.
38.51-41.01
419.8220 Fn4
Flags: PB
4σ 6.70e3
0%
ES 1234678F
1.61e7
39.00
CS 1234689F
1.54e7
39.42
ES 1234789F
9.86e6
40.35
Abs. Int.
5.45e6
2.72e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
NCDPE
38.51-41.01
479.7165 Fn4
Flags: PB
4σ 1.80e3
0%
Abs. Int.
4.49e3
2.25e3
0.00e0
39.0
39.5
40.0
40.5
41.0 RT


Rel. Int.
100%
OCDF
41.02-45.00
441.7428 Fn5
Flags: B
4σ 1.90e3
0%
Abs. Int.
7.40e3
3.70e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.02-45.00
443.7398 Fn5
Flags: B
4σ 1.98e3
0%
Abs. Int.
9.55e3
4.77e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.14e7
42.53
Rel. Int.
100%
OCDF Std.
41.02-45.00
453.7830 Fn5
Flags: PB
4σ 2.27e3
0%
Abs. Int.
3.39e6
1.69e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.30e7
42.53
Rel. Int.
100%
OCDF Std.
41.02-45.00
455.7801 Fn5
Flags: PB
4σ 1.98e3
0%
Abs. Int.
3.95e6
1.98e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.02-45.00
513.6775 Fn5
Flags: PB
4σ 1.13e3
0%
Abs. Int.
5.41e3
2.70e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6284_18926_DF_001 **Acq'd:** 22 Feb 2022 09:18 PSW **Wt/Vol:** 10.05 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-020422-S-SB-SW-B-27 **UTP:** 22-Feb-2022 15:05:15 PSW **J-level:** 0.497 pg/g **Split:** 1 **Checkcode:** 916-203-ZNQ

Datafile: 220222R06 **Report:** 22 Feb 2022 15:07 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.34	-	5696.134	0.36
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.06	-	4273.058	0.31
123478-HxCDD	36.68	J	1.0004	1.0004	0	6.11E+04	1.24	Y	1.06	0.574	3998.044	0.308
123678-HxCDD	36.79	J	1.0035	1.0036	+0.2	8.03E+04	1.13	Y	1.08	0.685	3998.044	0.322
123789-HxCDD	37.09	J	1.0117	1.0117	0	1.44E+05	1.24	Y	1.02	1.16	3998.044	0.323
1234678-HpCDD	39.95		1.0003	1.0003	0	1.81E+06	1.02	Y	0.97	20	5127.848	0.39
OCDD	42.38		1.0003	1.0002	-0.3	2.61E+07	0.89	Y	1.07	390	4289.456	0.508
2378-TCDF	26.29		1.0007	1.0007	0	3.26E+05	0.74	Y	0.96	1.71	3344.961	0.207
12378-PeCDF	31.26	J	1.0006	1.0005	-0.2	1.03E+05	1.72	Y	0.95	0.57	4447.246	0.246
23478-PeCDF	32.42	J EMPC	1.0006	1.0006	0	6.18E+04	1.19	N	0.94	0.363	4447.246	0.246
123478-HxCDF	NotFnd		1.0005	-		-	-	-	1.23	-	3350.819	0.178
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.13	-	3350.819	0.169
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3350.819	0.232
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	3350.819	0.269
1234678-HpCDF	39.01	J EMPC	1.0003	1.0002	-0.2	6.93E+04	0.78	N	1.36	0.409	3661.266	0.153
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.30	-	3661.266	0.279
OCDF	42.54	J	1.0003	1.0000	-0.8	1.94E+05	0.97	Y	1.03	3	3777.435	0.463

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	27.18	1.0263	1.0264	+0.2	2.54E+07	0.80	Y	1.03	83.7
ES 12378-PeCDD	32.74	1.2342	1.2363	+4.1	2.47E+07	1.54	Y	1.03	81.5
ES 123478-HxCDD	36.66	0.9915	0.9917	+0.4	2.00E+07	1.32	Y	0.99	84.6
ES 123678-HxCDD	36.78	0.9947	0.9948	+0.2	2.15E+07	1.29	Y	0.97	93
ES 123789-HxCDD	37.08	1.0028	1.0031	+0.7	2.44E+07	1.24	Y	1.12	91.3
ES 1234678-HpCDD	39.93	1.0791	1.0802	+2.6	1.85E+07	1.05	Y	0.99	78.2
ES OCDD	42.37	1.1449	1.1460	+2.8	2.49E+07	0.94	Y	0.78	67.3
ES 2378-TCDF	26.27	1.0587	1.0594	+1.1	3.96E+07	0.80	Y	1.08	81
ES 12378-PeCDF	31.24	1.2570	1.2597	+5.1	3.79E+07	1.60	Y	0.93	90
ES 23478-PeCDF	32.40	1.3032	1.3062	+5.8	3.61E+07	1.58	Y	0.92	86.7
ES 123478-HxCDF	35.69	0.9652	0.9653	+0.2	2.42E+07	0.55	Y	1.14	89
ES 123678-HxCDF	35.83	0.9690	0.9692	+0.4	3.25E+07	0.52	Y	1.30	105
ES 234678-HxCDF	36.49	0.9869	0.9871	+0.4	2.30E+07	0.53	Y	1.20	80.3
ES 123789-HxCDF	37.47	1.0133	1.0136	+0.7	2.05E+07	0.53	Y	1.14	75.8
ES 1234678-HpCDF	39.00	1.0541	1.0551	+2.3	2.48E+07	0.45	Y	0.95	110
ES 1234789-HpCDF	40.36	1.0906	1.0917	+2.7	1.46E+07	0.45	Y	0.85	72.7
ES OCDF	42.54	1.1495	1.1506	+2.8	2.51E+07	0.91	Y	0.93	56.8

Lab ID: B6284_18926_DF_001 **Acq'd:** 22 Feb 2022 09:18 PSW **Wt/Vol:** 10.05 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-020422-S-SB-SW-B-27 **UTP:** 22-Feb-2022 15:05:15 PSW **J-level:** 0.497 pg/g **Split:** 1 **Checkcode:** 916-203-ZNQ

Datafile: 220222R06 **Report:** 22 Feb 2022 15:07 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.48		-	-	-	2.93E+07	0.76	Y	-	-
JS 1234-TCDF	24.80		-	-	-	4.51E+07	0.78	Y	-	-
JS 123467-HxCDD	36.97		-	-	-	1.19E+07	1.25	Y	-	-
CS 37Cl-2378-TCDD	27.21		1.0271	1.0275	+0.7	1.25E+07	n/a	-	1.31	81.2
CS 12347-PeCDD	32.22		1.2149	1.2168	+3.7	2.49E+07	1.67	Y	0.89	95.1
CS 12346-PeCDF	30.69		1.2351	1.2377	+4.8	3.87E+07	1.59	Y	0.87	99
CS 123469-HxCDF	36.14		0.9774	0.9776	+0.4	3.00E+07	0.53	Y	1.09	116
CS 1234689-HpCDF	39.42		1.0654	1.0664	+2.4	2.23E+07	0.46	Y	0.86	108
~~SS 37Cl-2378-TCDD~~	~~27.21~~		~~1.0271~~	~~1.0275~~	~~+0.7~~	~~1.25E+07~~	~~n/a~~		~~1.26~~	~~97.5~~
~~SS 12347-PeCDD~~	~~32.22~~		~~1.2149~~	~~1.2168~~	~~+3.7~~	~~2.49E+07~~	~~1.67~~	~~Y~~	~~0.86~~	~~117~~
~~SS 12346-PeCDF~~	~~30.69~~		~~1.2351~~	~~1.2377~~	~~+4.8~~	~~3.87E+07~~	~~1.59~~	~~Y~~	~~0.93~~	~~110~~
~~SS 123469-HxCDF~~	~~36.14~~		~~0.9774~~	~~0.9776~~	~~+0.4~~	~~3.00E+07~~	~~0.53~~	~~Y~~	~~0.84~~	~~110~~
~~SS 1234689-HpCDF~~	~~39.42~~		~~1.0654~~	~~1.0664~~	~~+2.4~~	~~2.23E+07~~	~~0.46~~	~~Y~~	~~0.91~~	~~98.7~~

Totals	Conc	EMPC
Total TCDD	1.54	2.03
Total PeCDD	1.86	2.32
Total HxCDD	17	17.5
Total HpCDD	64.4	64.4
Total Tetra-Octa Dioxins	475	477
Total TCDF	15.7	20.3
Total PeCDF	1.35	2.18
Total HxCDF	0	0
Total HpCDF	0	0.409
Total Tetra-Octa Furans	20.1	25.8
Total Tetra-Octa Dioxins & Furans	495	503

Lab ID: B6284_18926_DF_001 **Acq'd: 22 Feb 2022 09:18 PSW** **Wt/Vol: 10.05 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-020422-S-SB-SW-B-27 **UTP: 22-Feb-2022 15:05:15 PSW** **J-level: 0.497 pg/g** **Split: 1** **Checkcode: 916-203-ZNQ**

Datafile: 220222R06 **Report: 22 Feb 2022 15:07 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8571						1.34		5696.134	0.36
1379-TCDD	NotFnd		0.8715						1.34		5696.134	0.36
1369-TCDD	NotFnd		0.8889						1.34		5696.134	0.36
1469-TCDD	24.98		0.9198	0.9191	-1.0	2.63E+05	0.84	Y	1.34	1.54	5696.134	0.36
1247/1246/1248/1249-TCDD	NotFnd		0.9291						1.34		5696.134	0.36
1378-TCDD	NotFnd		0.9366						1.34		5696.134	0.36
1268-TCDD	NotFnd		0.9446						1.34		5696.134	0.36
1478-TCDD	NotFnd		0.9539						1.34		5696.134	0.36
1279-TCDD	NotFnd		0.9606						1.34		5696.134	0.36
1234/1269-TCDD	NotFnd		0.9745						1.34		5696.134	0.36
1236-TCDD	NotFnd		0.9798						1.34		5696.134	0.36
1237/1238-TCDD	26.89	EMPC	0.9897	0.9892	-0.8	8.53E+04	0.96	N	1.34	0.498	5696.134	0.36
1239-TCDD	NotFnd		0.9948						1.34		5696.134	0.36
2378-TCDD	**NotFnd**		**1.0008**						**1.34**		**5696.134**	**0.36**
1278-TCDD	NotFnd		1.0136						1.34		5696.134	0.36
1267-TCDD	NotFnd		1.0189						1.34		5696.134	0.36
1289-TCDD	NotFnd		1.0384						1.34		5696.134	0.36
12479/12468-PeCDD	30.16	J EMPC	0.9220	0.9213	-1.3	6.05E+04	1.85	N	1.06	0.461	4273.058	0.31
12469-PeCDD	30.72	J	0.9390	0.9384	-1.1	1.47E+05	1.39	Y	1.06	1.12	4273.058	0.31
12368-PeCDD	NotFnd		0.9563						1.06		4273.058	0.31
12478-PeCDD	NotFnd		0.9622						1.06		4273.058	0.31
12379-PeCDD	NotFnd		0.9653						1.06		4273.058	0.31
12369/12467/12489-PeCDD	31.86	J	0.9736	0.9731	-1.0	9.70E+04	1.58	Y	1.06	0.738	4273.058	0.31
12346/12347-PeCDD	NotFnd		0.9851						1.06		4273.058	0.31
12378-PeCDD	NotFnd		**1.0006**						**1.06**		**4273.058**	**0.31**
12367-PeCDD	NotFnd		1.0035						1.06		4273.058	0.31
12389-PeCDD	NotFnd		1.0143						1.06		4273.058	0.31
124679/124689-HxCDD	34.96		0.9536	0.9536	0	1.18E+06	1.27	Y	1.05	10.1	3998.044	0.317
123468-HxCDD	35.62	J	0.9716	0.9716	0	4.61E+04	1.14	Y	1.05	0.396	3998.044	0.317
123679/123689-HxCDD	35.91		0.9797	0.9796	-0.2	4.25E+05	1.22	Y	1.05	3.66	3998.044	0.317
123469-HxCDD	36.04	J EMPC	0.9833	0.9829	-0.9	6.45E+04	1.56	N	1.05	0.555	3998.044	0.317
123478-HxCDD	36.68	J	**1.0004**	**1.0004**	**0**	**6.11E+04**	**1.24**	**Y**	1.06	**0.574**	**3998.044**	**0.308**
123678-HxCDD	36.79	J	**1.0035**	**1.0036**	**+0.2**	**8.03E+04**	**1.13**	**Y**	1.08	**0.685**	**3998.044**	**0.322**
123467-HxCDD	36.99	J	1.0089	1.0089	0	4.38E+04	1.23	Y	1.05	0.376	3998.044	0.317
123789-HxCDD	37.09	J	**1.0117**	**1.0117**	**0**	**1.44E+05**	**1.24**	**Y**	1.02	**1.16**	**3998.044**	**0.323**

Lab ID: B6284_18926_DF_001 **Acq'd: 22 Feb 2022 09:18 PSW** **Wt/Vol: 10.05 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-020422-S-SB-SW-B-27 **UTP: 22-Feb-2022 15:05:15 PSW** **J-level: 0.497 pg/g** **Split: 1** **Checkcode: 916-203-ZNQ**

Datafile: 220222R06 **Report: 22 Feb 2022 15:07 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

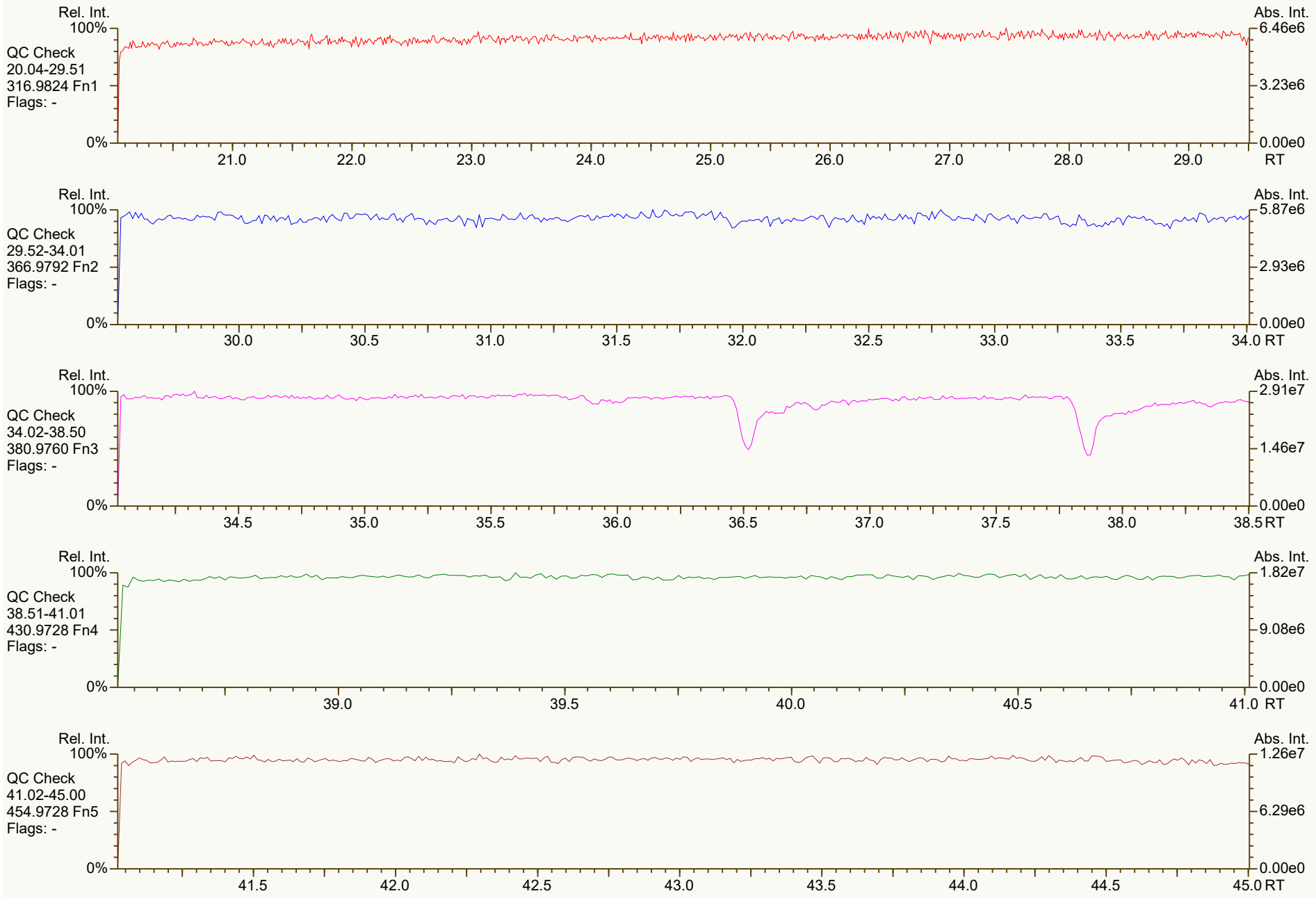
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.29		0.9839	0.9838	-0.2	4.01E+06	1.05	Y	0.97	44.4	5127.848	0.39
1234678-HpCDD	**39.95**		**1.0003**	**1.0003**	**0**	**1.81E+06**	**1.02**	**Y**	**0.97**	**20**	**5127.848**	**0.39**
OCDD	**42.38**		**1.0003**	**1.0002**	**-0.3**	**2.61E+07**	**0.89**	**Y**	**1.07**	**390**	**4289.456**	**0.508**
OCDD-a	42.37		1.0002	1.0001	-0.3	1.52E+06	2.62	Y	0.07	367	5805.503	11.1
1368-TCDF	21.02		0.8019	0.8001	-2.3	1.56E+05	0.79	Y	0.96	0.815	3344.961	0.207
1468-TCDF	21.58	J EMPC	0.8238	0.8214	-3.1	4.02E+04	1.75	N	0.96	0.21	3344.961	0.207
2468-TCDF	22.26		0.8493	0.8473	-2.7	2.39E+05	0.74	Y	0.96	1.25	3344.961	0.207
1346/1246-TCDF	NotFnd		0.8635						0.96		3344.961	0.207
1347/1378/1247-TCDF	22.83		0.8702	0.8690	-1.6	5.26E+05	0.86	Y	0.96	2.75	3344.961	0.207
1348-TCDF	23.12	J EMPC	0.8817	0.8799	-2.5	6.92E+04	0.93	N	0.96	0.362	3344.961	0.207
1248/1367/1379-TCDF	23.27		0.8871	0.8857	-2.0	2.25E+05	0.85	Y	0.96	1.18	3344.961	0.207
1268-TCDF	23.70		0.9029	0.9019	-1.4	1.03E+05	0.80	Y	0.96	0.541	3344.961	0.207
1467-TCDF	23.85	J	0.9087	0.9077	-1.4	6.86E+04	0.83	Y	0.96	0.359	3344.961	0.207
1478-TCDF	24.02	EMPC	0.9156	0.9144	-1.7	1.28E+05	0.96	N	0.96	0.672	3344.961	0.207
1369/1237-TCDF	24.43		0.9307	0.9299	-1.2	2.25E+05	0.72	Y	0.96	1.18	3344.961	0.207
2467-TCDF	24.59	J	0.9361	0.9358	-0.4	7.69E+04	0.77	Y	0.96	0.403	3344.961	0.207
2368-TCDF	24.75	EMPC	0.9422	0.9421	-0.1	2.03E+05	0.65	N	0.96	1.06	3344.961	0.207
1238/1234/1678/1469/1236-TCDF	24.86	EMPC	0.9460	0.9462	+0.3	2.75E+05	0.95	N	0.96	1.44	3344.961	0.207
1278-TCDF	25.33		0.9644	0.9641	-0.5	2.72E+05	0.69	Y	0.96	1.42	3344.961	0.207
1349-TCDF	NotFnd		0.9693						0.96		3344.961	0.207
1267-TCDF	25.63		0.9757	0.9754	-0.5	1.18E+05	0.70	Y	0.96	0.619	3344.961	0.207
2346/1249-TCDF	NotFnd		0.9830						0.96		3344.961	0.207
2347/1279-TCDF	26.05	EMPC	0.9919	0.9915	-0.6	1.54E+05	0.98	N	0.96	0.805	3344.961	0.207
2348-TCDF	26.17	J	0.9964	0.9961	-0.5	8.38E+04	0.86	Y	0.96	0.439	3344.961	0.207
2378-TCDF	**26.29**		**1.0007**	**1.0007**	**0**	**3.26E+05**	**0.74**	**Y**	**0.96**	**1.71**	**3344.961**	**0.207**
2367/3467-TCDF	26.67		1.0157	1.0152	-0.8	2.17E+05	0.78	Y	0.96	1.14	3344.961	0.207
1269-TCDF	26.93		1.0248	1.0251	+0.5	1.84E+05	0.86	Y	0.96	0.966	3344.961	0.207
1239-TCDF	27.22	J	1.0355	1.0358	+0.5	6.50E+04	0.78	Y	0.96	0.34	3344.961	0.207
1289-TCDF	28.41		1.0808	1.0815	+1.2	1.13E+05	0.80	Y	0.96	0.59	3344.961	0.207
13468/12468-PeCDF	NotFnd		0.9073						0.94		2911.156	0.161
13678/13467/12467-PeCDF	29.94	J EMPC	0.9586	0.9583	-0.5	8.07E+04	1.11	N	0.94	0.461	4447.246	0.246
12368/13478/12478-PeCDF	30.10	J	0.9638	0.9634	-0.7	1.37E+05	1.42	Y	0.94	0.782	4447.246	0.246
14678-PeCDF	NotFnd		0.9671						0.94		4447.246	0.246
13479-PeCDF	NotFnd		0.9702						0.94		4447.246	0.246
13469/12479-PeCDF	NotFnd		0.9785						0.94		4447.246	0.246
12346-PeCDF	NotFnd		0.9831						0.94		4447.246	0.246

Lab ID: B6284_18926_DF_001 **Acq'd: 22 Feb 2022 09:18 PSW** **Wt/Vol: 10.05 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-020422-S-SB-SW-B-27 **UTP: 22-Feb-2022 15:05:15 PSW** **J-level: 0.497 pg/g** **Split: 1** **Checkcode: 916-203-ZNQ**

Datafile: 220222R06 **Report: 22 Feb 2022 15:07 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9863						0.94		4447.246	0.246
12347-PeCDF	NotFnd		0.9887						0.94		4447.246	0.246
12348-PeCDF	NotFnd		0.9937						0.94		4447.246	0.246
12378-PeCDF	**31.26**	J	**1.0006**	**1.0005**	**-0.2**	**1.03E+05**	**1.72**	**Y**	**0.95**	**0.57**	**4447.246**	**0.246**
12678/12367-PeCDF	NotFnd		1.0097						0.94		4447.246	0.246
12379-PeCDF	NotFnd		1.0151						0.94		4447.246	0.246
12679-PeCDF	NotFnd		0.9923						0.94		4447.246	0.246
23467/12369-PeCDF	NotFnd		0.9965						0.94		4447.246	0.246
23478-PeCDF	**32.42**	J EMPC	**1.0006**	**1.0006**	**0**	**6.18E+04**	**1.19**	**N**	**0.94**	**0.363**	**4447.246**	**0.246**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0049						0.94		4447.246	0.246
12349-PeCDF	NotFnd		1.0104						0.94		4447.246	0.246
12389-PeCDF	NotFnd		1.0341						0.94		4447.246	0.246
123468-HxCDF	NotFnd		0.9611						1.16		3350.819	0.206
124678/134678-HxCDF	NotFnd		0.9668						1.16		3350.819	0.206
134679-HxCDF	NotFnd		0.9733						1.16		3350.819	0.206
124679-HxCDF	NotFnd		0.9789						1.16		3350.819	0.206
124689-HxCDF	NotFnd		0.9852						1.16		3350.819	0.206
123467-HxCDF	NotFnd		0.9972						1.16		3350.819	0.206
123478-HxCDF	**NotFnd**		**1.0005**						**1.23**		**3350.819**	**0.178**
123678-HxCDF	**NotFnd**		**1.0004**						**1.13**		**3350.819**	**0.169**
123479-HxCDF	NotFnd		1.0049						1.16		3350.819	0.206
123469-HxCDF	NotFnd		1.0090						1.16		3350.819	0.206
123679-HxCDF	NotFnd		0.9942						1.16		3350.819	0.206
234678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3350.819**	**0.232**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		3350.819	0.206
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**3350.819**	**0.269**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	NotFnd		1.0008						1.16		3350.819	0.206
1234678-HpCDF	**39.01**	**J EMPC**	**1.0003**	**1.0002**	**-0.2**	**6.93E+04**	**0.78**	**N**	**1.36**	**0.409**	**3661.266**	**0.153**
1234679-HpCDF	NotFnd		1.0073						1.33		3661.266	0.199
1234689-HpCDF	NotFnd		1.0109						1.33		3661.266	0.199
1234789-HpCDF	**NotFnd**		**1.0003**						**1.30**		**3661.266**	**0.279**
OCDF	**42.54**	**J**	**1.0003**	**1.0000**	**-0.8**	**1.94E+05**	**0.97**	**Y**	**1.03**	**3**	**3777.435**	**0.463**
OCDF-a	NotFnd		1.0002						0.06		4025.71	8.54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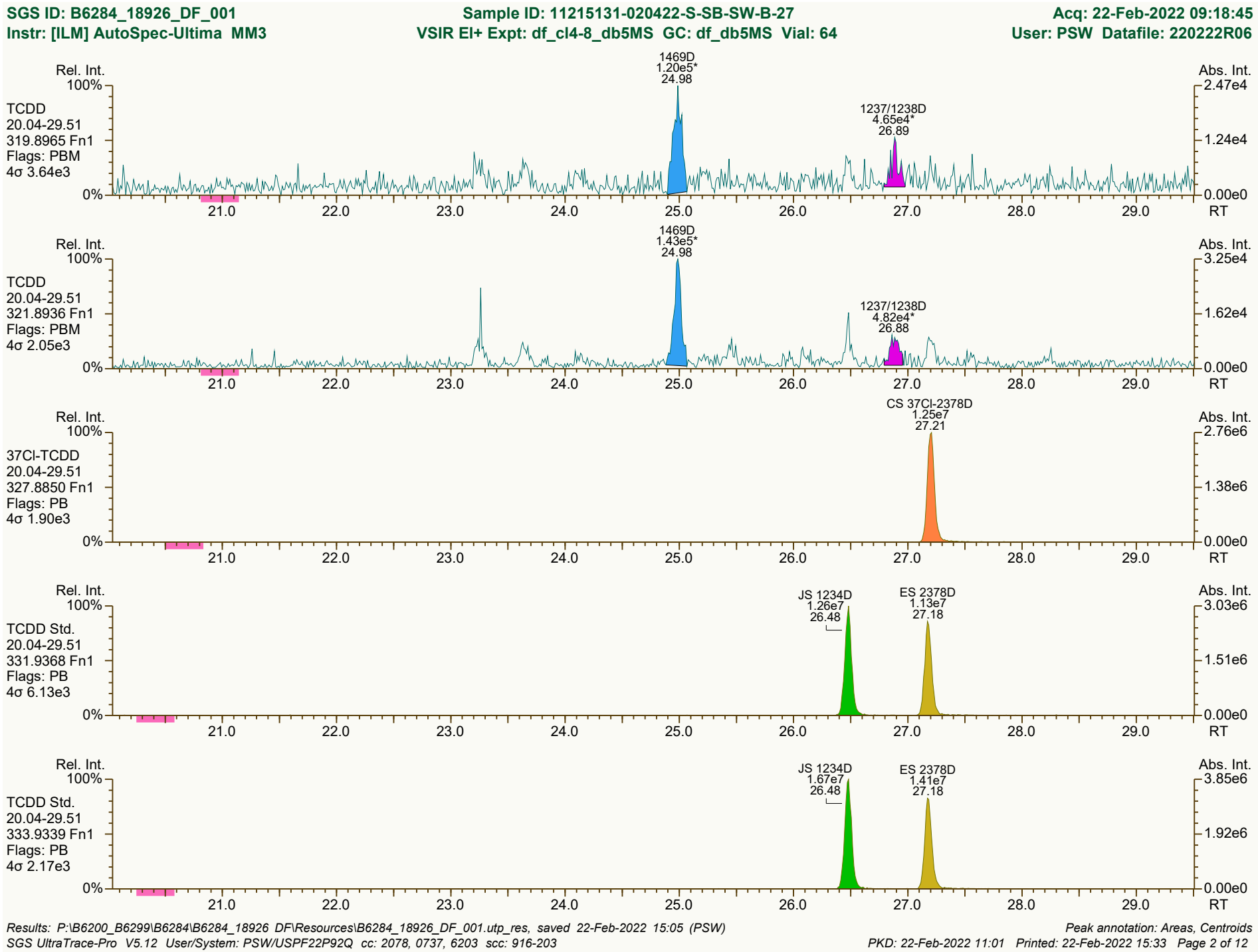
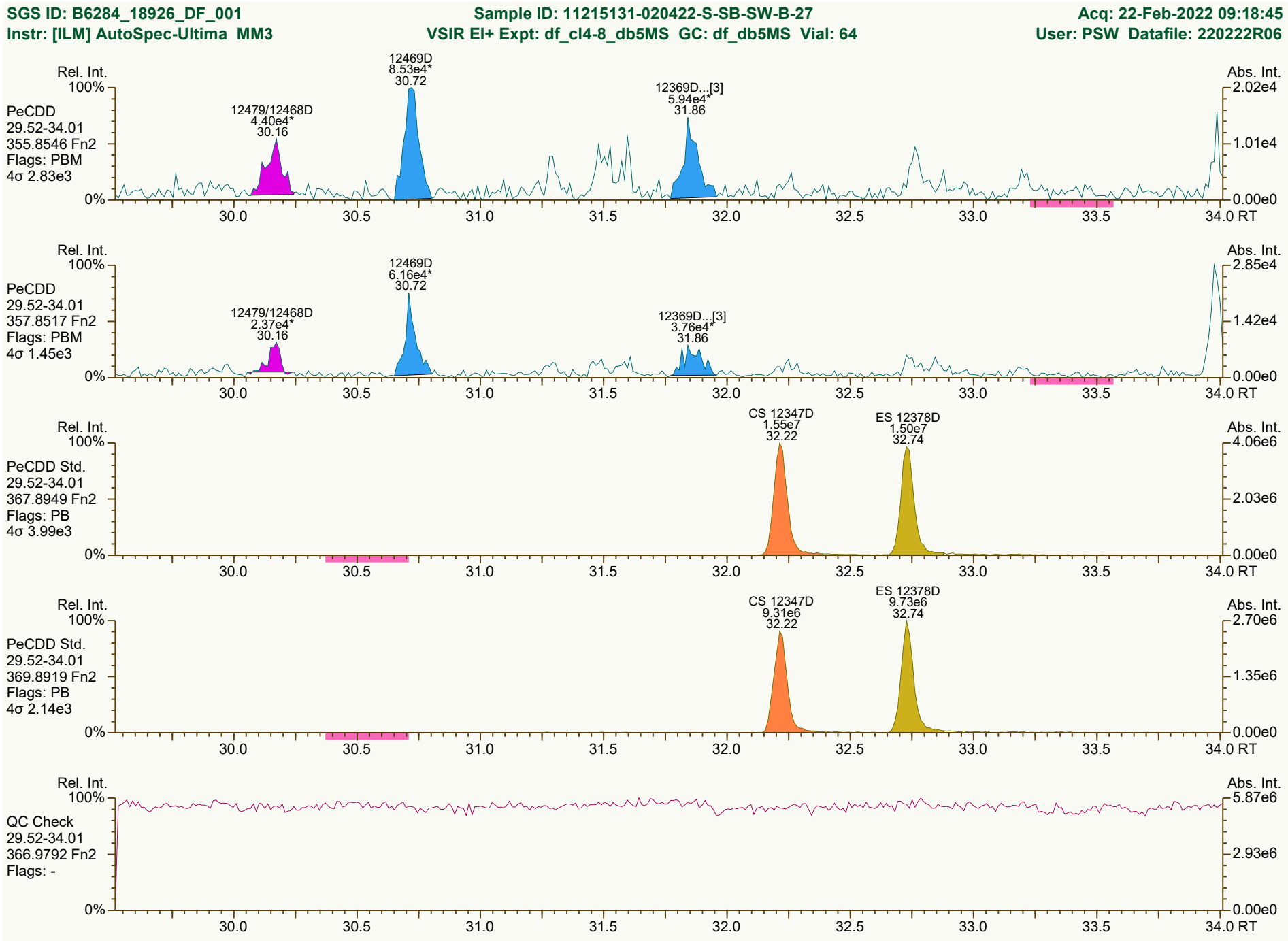
100%
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
0%
Abs. Int.
6.46e6
3.23e6
0.00e0
21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0 RT
Rel. Int.
100%
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 RT
Rel. Int.
100%
QC Check
34.02-38.50
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.91e7
1.46e7
0.00e0
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
QC Check
38.51-41.01
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.82e7
9.08e6
0.00e0
39.0 39.5 40.0 40.5 41.0 RT
Rel. Int.
100%
QC Check
41.02-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.26e7
6.29e6
0.00e0
41.5 42.0 42.5 43.0 43.5 44.0 44.5 45.0 RT

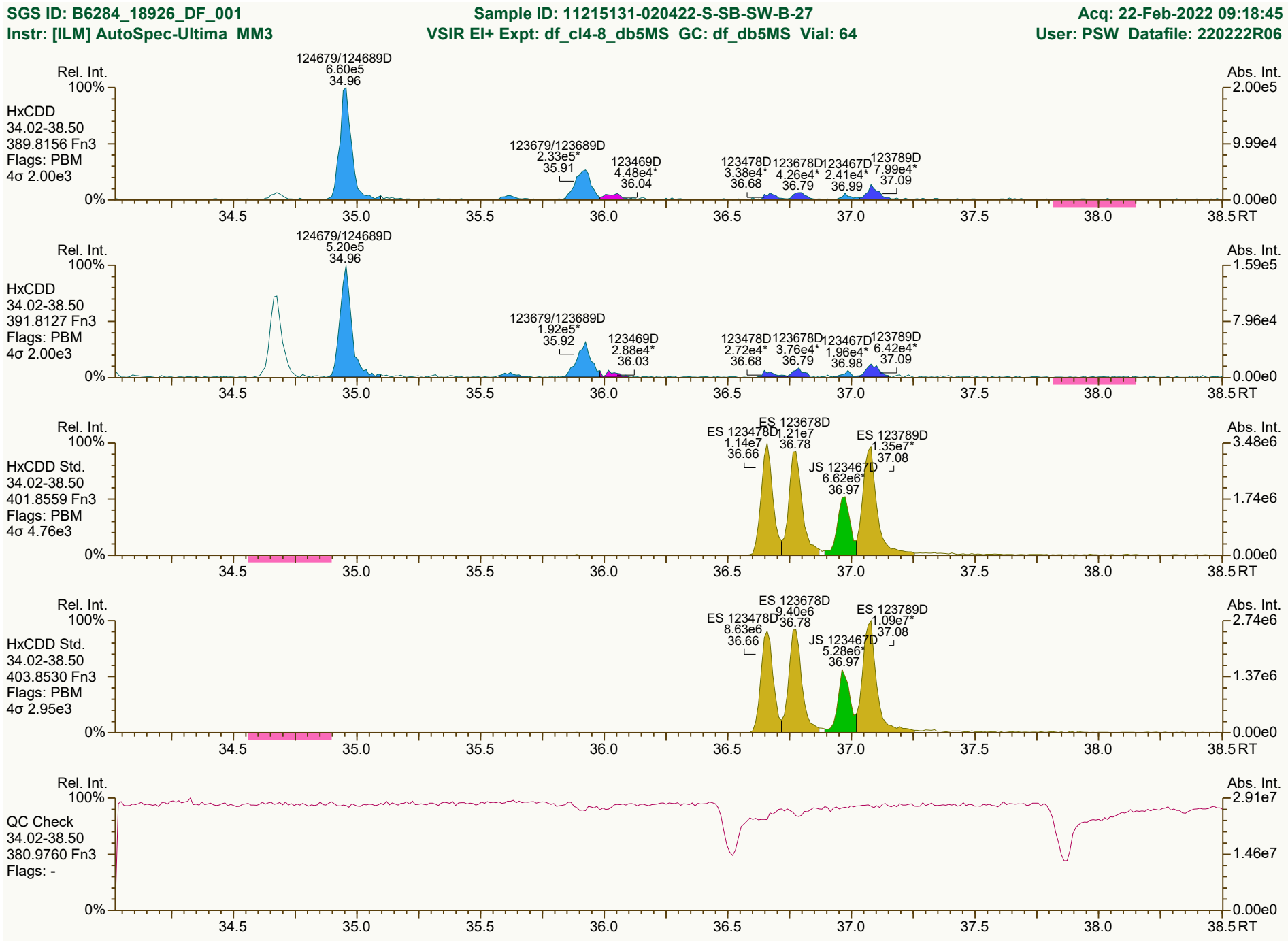
SGS ID: B6284_18926_DF_001 | Sample ID: 11215131-020422-S-SB-SW-B-27 | Acq: 22-Feb-2022 09:18:45
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 64 | User: PSW Datafile: 220222R06



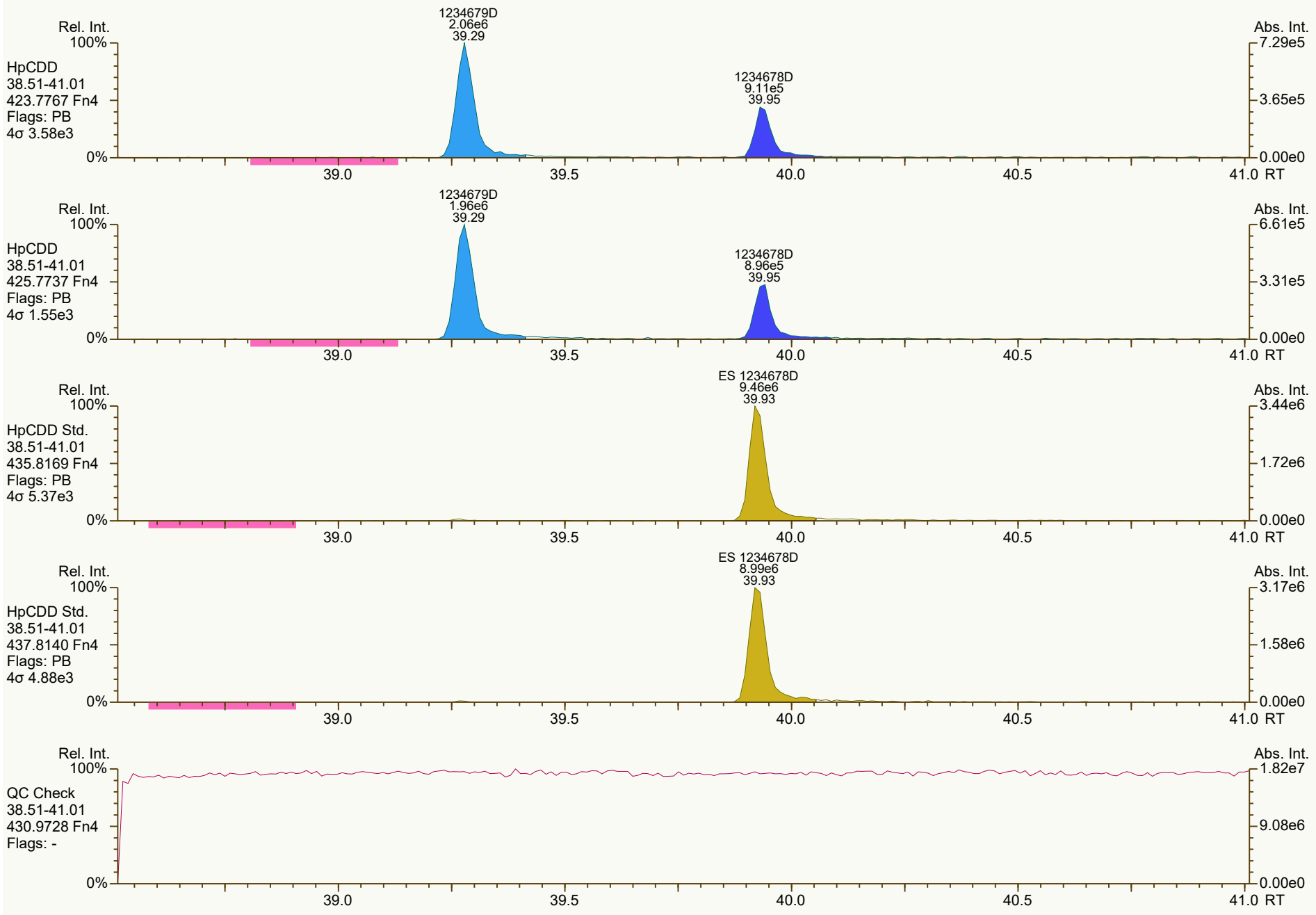
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_001.utp_res, saved 22-Feb-2022 15:05 (PSW) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2078, 0737, 6203 scc: 916-203 | PKD: 22-Feb-2022 11:01 Printed: 22-Feb-2022 15:33 Page 2 of 12

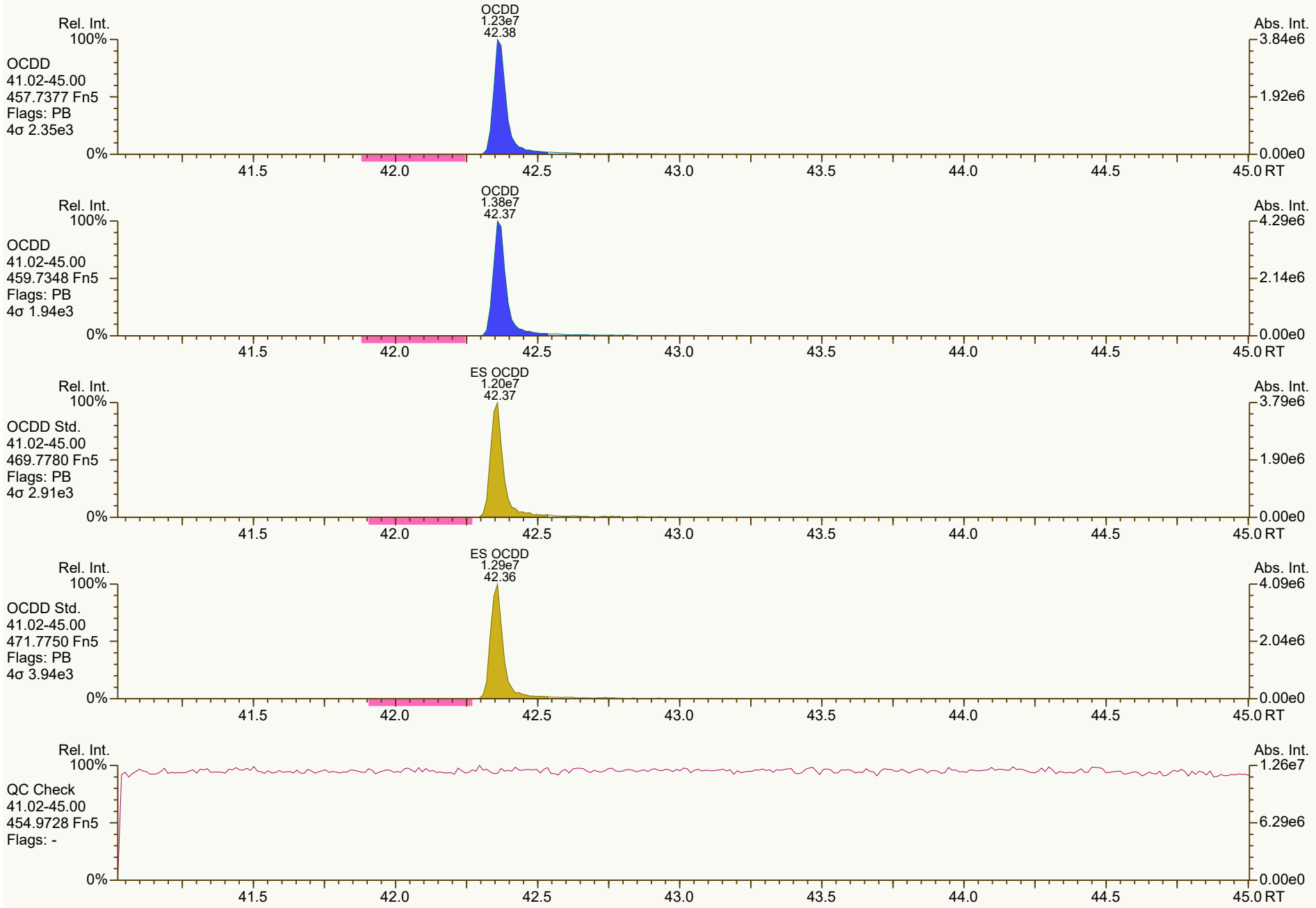

SGS ID: B6284_18926_DF_001
Sample ID: 11215131-020422-S-SB-SW-B-27
Acq: 22-Feb-2022 09:18:45
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 64
User: PSW Datafile: 220222R06
Rel. Int.
Abs. Int.
PeCDD
29.52-34.01
355.8546 Fn2
Flags: PBM
4σ 2.83e3
12479/12468D
4.40e4*
30.16
12469D
8.53e4*
30.72
12369D...[3]
5.94e4*
31.86
2.02e4
1.01e4
0.00e0
PeCDD
29.52-34.01
357.8517 Fn2
Flags: PBM
4σ 1.45e3
12479/12468D
2.37e4*
30.16
12469D
6.16e4*
30.72
12369D...[3]
3.76e4*
31.86
2.85e4
1.42e4
0.00e0
PeCDD Std.
29.52-34.01
367.8949 Fn2
Flags: PB
4σ 3.99e3
CS 12347D
1.55e7
32.22
ES 12378D
1.50e7
32.74
4.06e6
2.03e6
0.00e0
PeCDD Std.
29.52-34.01
369.8919 Fn2
Flags: PB
4σ 2.14e3
CS 12347D
9.31e6
32.22
ES 12378D
9.73e6
32.74
2.70e6
1.35e6
0.00e0
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
5.87e6
2.93e6
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_001.utp_res, saved 22-Feb-2022 15:05 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5333, 9306 scc: 916-203
PKD: 22-Feb-2022 11:01 Printed: 22-Feb-2022 15:33 Page 3 of 12

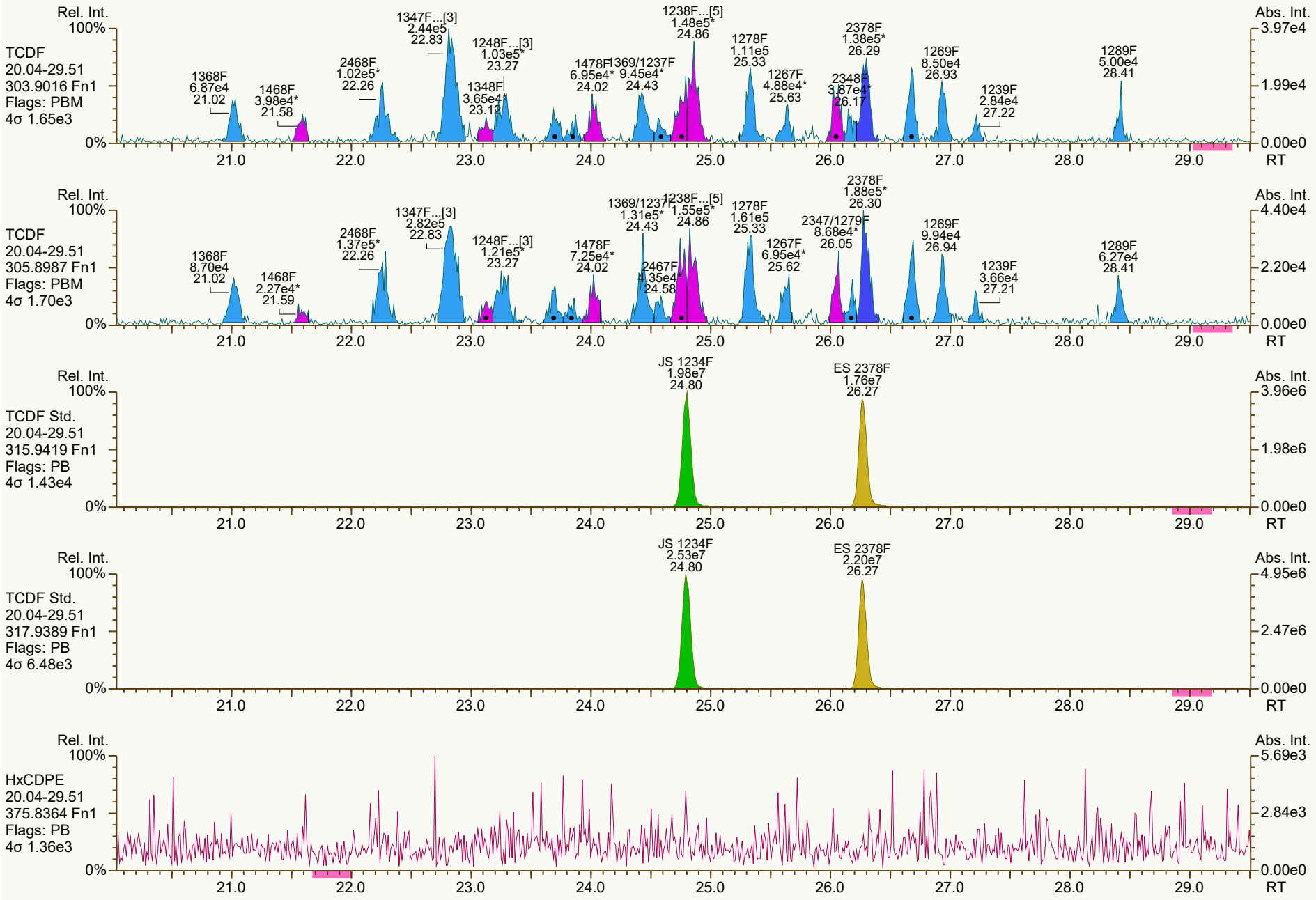
SGS ID: B6284_18926_DF_001 | Sample ID: 11215131-020422-S-SB-SW-B-27 | Acq: 22-Feb-2022 09:18:45
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 64 | User: PSW Datafile: 220222R06



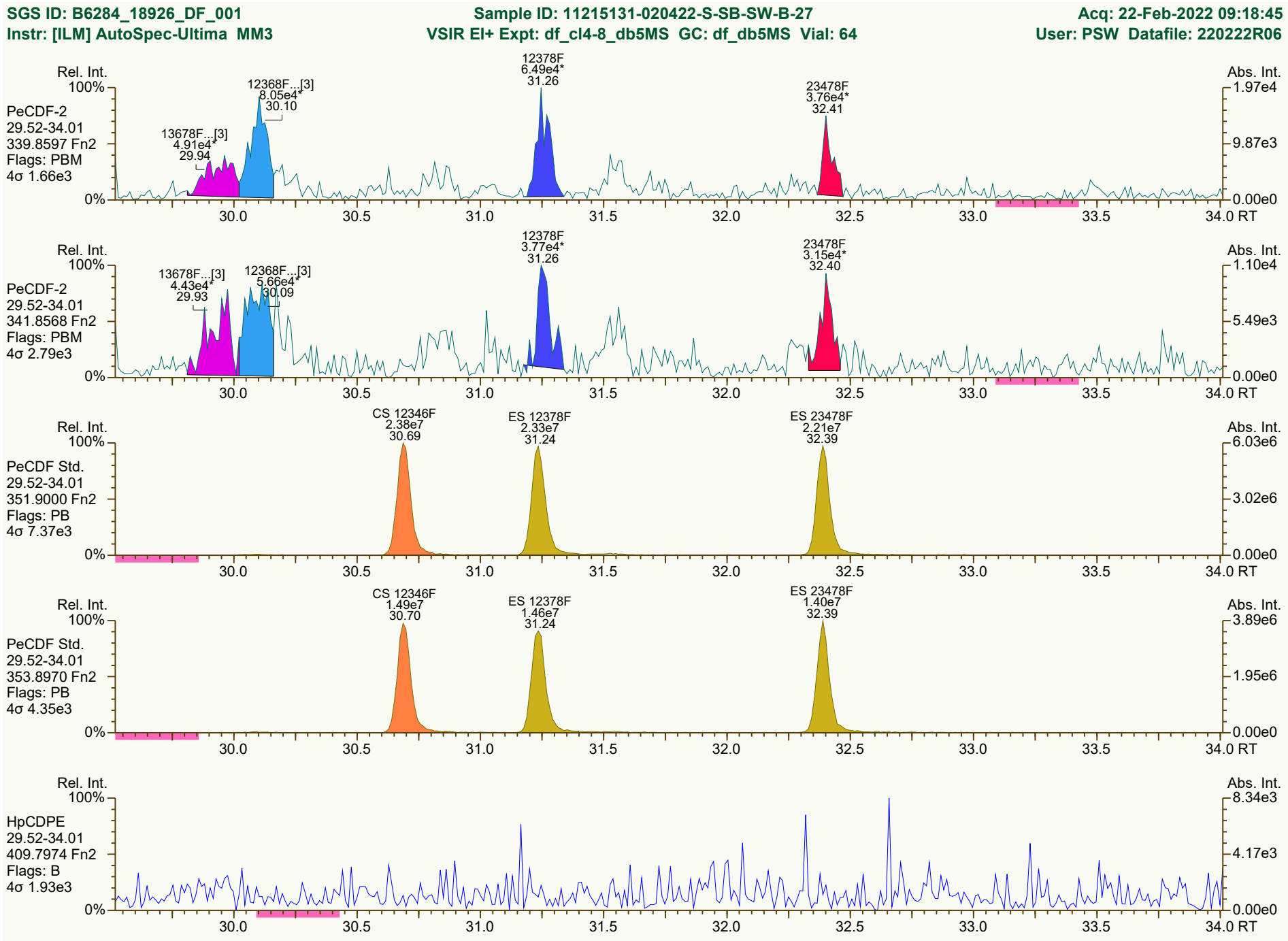
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_001.utp_res, saved 22-Feb-2022 15:05 (PSW) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6795, 9112 scc: 916-203 | PKD: 22-Feb-2022 11:01 Printed: 22-Feb-2022 15:33 Page 4 of 12

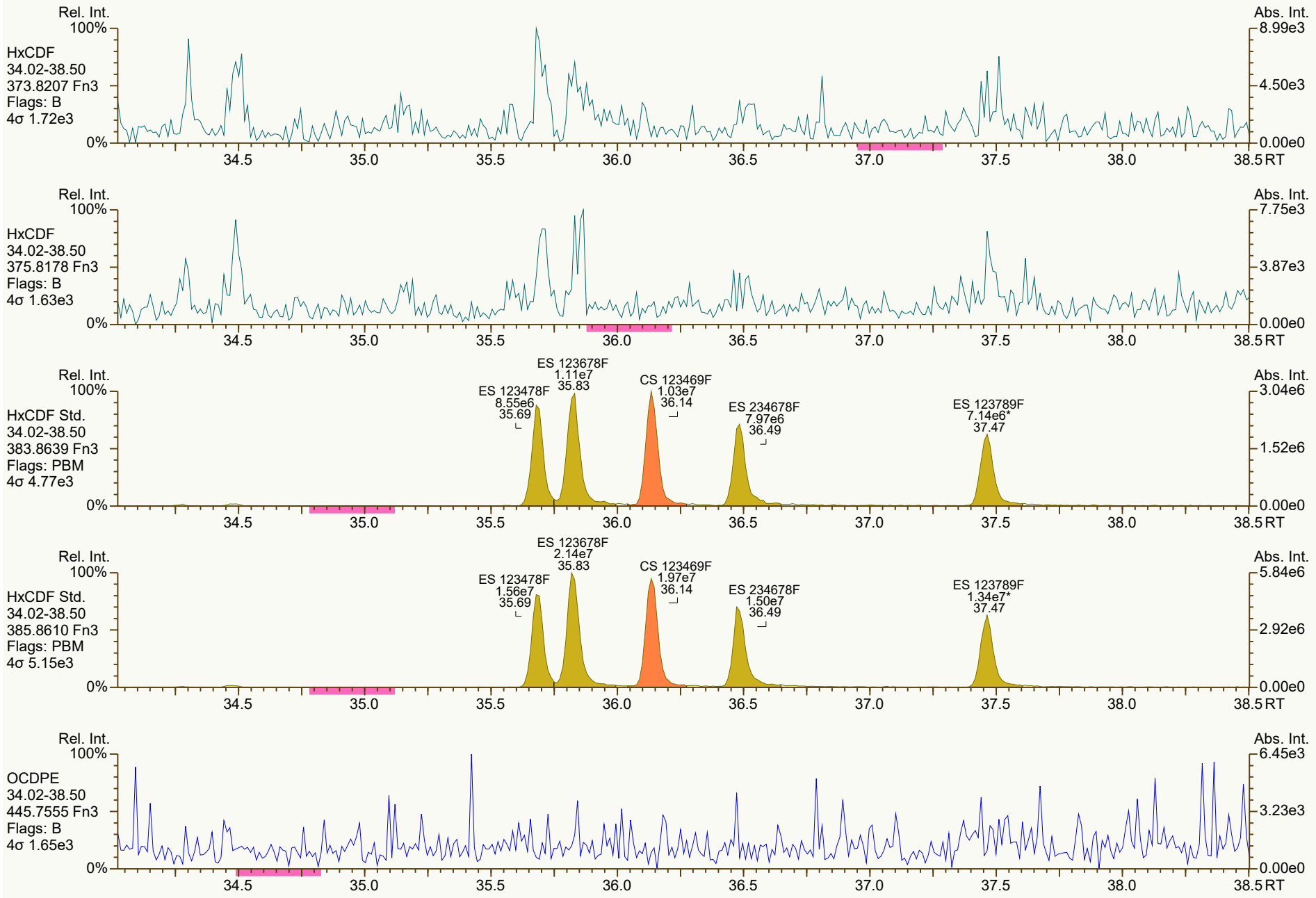

Rel. Int.
100%
HpCDD
38.51-41.01
423.7767 Fn4
Flags: PB
4σ 3.58e3
1234679D
2.06e6
39.29
1234678D
9.11e5
39.95
Abs. Int.
7.29e5
3.65e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD
38.51-41.01
425.7737 Fn4
Flags: PB
4σ 1.55e3
1234679D
1.96e6
39.29
1234678D
8.96e5
39.95
Abs. Int.
6.61e5
3.31e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.51-41.01
435.8169 Fn4
Flags: PB
4σ 5.37e3
ES 1234678D
9.46e6
39.93
Abs. Int.
3.44e6
1.72e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.51-41.01
437.8140 Fn4
Flags: PB
4σ 4.88e3
ES 1234678D
8.99e6
39.93
Abs. Int.
3.17e6
1.58e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
QC Check
38.51-41.01
430.9728 Fn4
Flags: -
Abs. Int.
1.82e7
9.08e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT


OCDD
1.23e7
42.38
Rel. Int.
100%
OCDD
41.02-45.00
457.7377 Fn5
Flags: PB
4σ 2.35e3
0%
Abs. Int.
3.84e6
1.92e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.38e7
42.37
Rel. Int.
100%
OCDD
41.02-45.00
459.7348 Fn5
Flags: PB
4σ 1.94e3
0%
Abs. Int.
4.29e6
2.14e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.20e7
42.37
Rel. Int.
100%
OCDD Std.
41.02-45.00
469.7780 Fn5
Flags: PB
4σ 2.91e3
0%
Abs. Int.
3.79e6
1.90e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.29e7
42.36
Rel. Int.
100%
OCDD Std.
41.02-45.00
471.7750 Fn5
Flags: PB
4σ 3.94e3
0%
Abs. Int.
4.09e6
2.04e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.02-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.26e7
6.29e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

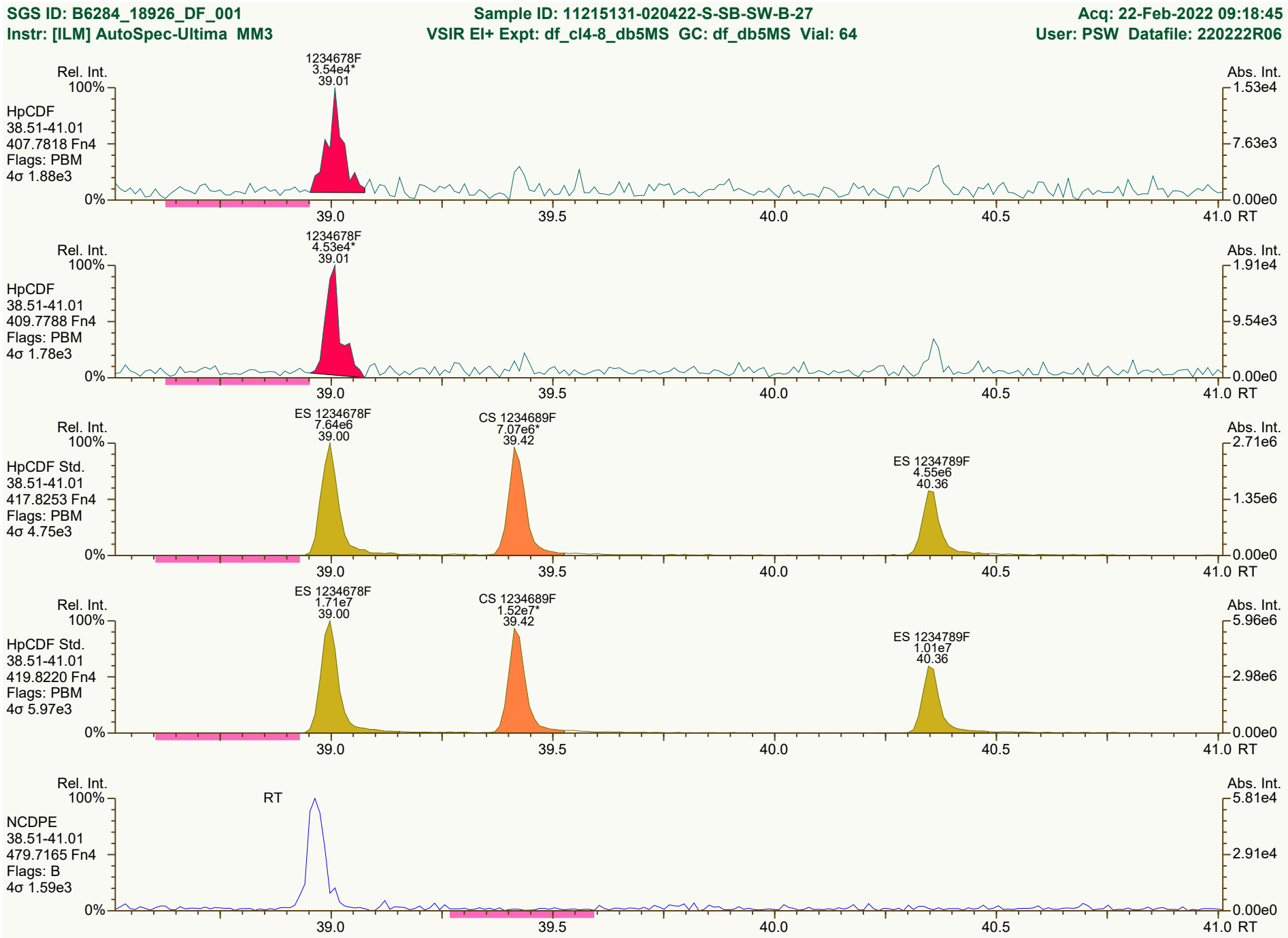

Rel. Int.
100%
TCDF
20.04-29.51
303.9016 Fn1
Flags: PBM
4σ 1.65e3
0%
Abs. Int.
3.97e4
1.99e4
0.00e0
RT
1368F 6.87e4 21.02
1468F 3.98e4* 21.58
2468F 1.02e5* 22.26
1347F...[3] 2.44e5 22.83
1248F...[3] 1.03e5* 23.27
1348F 3.65e4* 23.12
1478F 6.95e4* 24.02
1369/1237F 9.45e4* 24.43
1238F...[5] 1.48e5* 24.86
1278F 1.11e5 25.33
1267F 4.88e4* 25.63
2348F 3.87e4* 26.17
2378F 1.38e5* 26.29
1269F 8.50e4 26.93
1239F 2.84e4 27.22
1289F 5.00e4 28.41
TCDF
20.04-29.51
305.8987 Fn1
Flags: PBM
4σ 1.70e3
Abs. Int.
4.40e4
2.20e4
1368F 8.70e4 21.02
1468F 2.27e4* 21.59
2468F 1.37e5* 22.26
1347F...[3] 2.82e5 22.83
1248F...[3] 1.21e5* 23.27
1478F 7.25e4* 24.02
1369/1237F 1.31e5* 24.43
2467F 4.35e4* 24.58
1238F...[5] 1.55e5* 24.86
1278F 1.61e5 25.33
1267F 6.95e4* 25.62
2347/1279F 8.68e4* 26.05
2378F 1.88e5* 26.30
1269F 9.94e4 26.94
1239F 3.66e4 27.21
1289F 6.27e4 28.41
TCDF Std.
20.04-29.51
315.9419 Fn1
Flags: PB
4σ 1.43e4
Abs. Int.
3.96e6
1.98e6
JS 1234F 1.98e7 24.80
ES 2378F 1.76e7 26.27
TCDF Std.
20.04-29.51
317.9389 Fn1
Flags: PB
4σ 6.48e3
Abs. Int.
4.95e6
2.47e6
JS 1234F 2.53e7 24.80
ES 2378F 2.20e7 26.27
HxCDPE
20.04-29.51
375.8364 Fn1
Flags: PB
4σ 1.36e3
Abs. Int.
5.69e3
2.84e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0


Rel. Int.
100%
0%
Abs. Int.
1.15e4
5.77e3
0.00e0
PeCDF-1
20.04-29.51
339.8597 Fn1
Flags: B
4σ 1.36e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.46e3
4.23e3
0.00e0
PeCDF-1
20.04-29.51
341.8568 Fn1
Flags: B
4σ 1.55e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
6.46e6
3.23e6
0.00e0
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


SGS ID: B6284_18926_DF_001
Sample ID: 11215131-020422-S-SB-SW-B-27
Acq: 22-Feb-2022 09:18:45
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 64
User: PSW Datafile: 220222R06
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.01
339.8597 Fn2
Flags: PBM
4σ 1.66e3
13678F...[3] 4.91e4* 29.94
12368F...[3] 8.05e4* 30.10
12378F 6.49e4* 31.26
23478F 3.76e4* 32.41
1.97e4
9.87e3
0.00e0
PeCDF-2
29.52-34.01
341.8568 Fn2
Flags: PBM
4σ 2.79e3
13678F...[3] 4.43e4* 29.93
12368F...[3] 5.66e4* 30.09
12378F 3.77e4* 31.26
23478F 3.15e4* 32.40
1.10e4
5.49e3
0.00e0
PeCDF Std.
29.52-34.01
351.9000 Fn2
Flags: PB
4σ 7.37e3
CS 12346F 2.38e7 30.69
ES 12378F 2.33e7 31.24
ES 23478F 2.21e7 32.39
6.03e6
3.02e6
0.00e0
PeCDF Std.
29.52-34.01
353.8970 Fn2
Flags: PB
4σ 4.35e3
CS 12346F 1.49e7 30.70
ES 12378F 1.46e7 31.24
ES 23478F 1.40e7 32.39
3.89e6
1.95e6
0.00e0
HpCDPE
29.52-34.01
409.7974 Fn2
Flags: B
4σ 1.93e3
8.34e3
4.17e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_001.utp_res, saved 22-Feb-2022 15:05 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3521, 1289, 5874 scc: 916-203
PKD: 22-Feb-2022 11:01 Printed: 22-Feb-2022 15:34 Page 9 of 12


Rel. Int.
100%
HxCDF
34.02-38.50
373.8207 Fn3
Flags: B
4σ 1.72e3
0%
Abs. Int.
8.99e3
4.50e3
0.00e0
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF
34.02-38.50
375.8178 Fn3
Flags: B
4σ 1.63e3
0%
Abs. Int.
7.75e3
3.87e3
0.00e0
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF Std.
34.02-38.50
383.8639 Fn3
Flags: PBM
4σ 4.77e3
0%
ES 123678F
1.11e7
35.83
ES 123478F
8.55e6
35.69
CS 123469F
1.03e7
36.14
ES 234678F
7.97e6
36.49
ES 123789F
7.14e6*
37.47
Abs. Int.
3.04e6
1.52e6
0.00e0
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF Std.
34.02-38.50
385.8610 Fn3
Flags: PBM
4σ 5.15e3
0%
ES 123678F
2.14e7
35.83
ES 123478F
1.56e7
35.69
CS 123469F
1.97e7
36.14
ES 234678F
1.50e7
36.49
ES 123789F
1.34e7*
37.47
Abs. Int.
5.84e6
2.92e6
0.00e0
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
OCDPE
34.02-38.50
445.7555 Fn3
Flags: B
4σ 1.65e3
0%
Abs. Int.
6.45e3
3.23e3
0.00e0
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT

SGS ID: B6284_18926_DF_001 | Sample ID: 11215131-020422-S-SB-SW-B-27 | Acq: 22-Feb-2022 09:18:45
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 64 | User: PSW Datafile: 220222R06



Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_001.utp_res, saved 22-Feb-2022 15:05 (PSW) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3236, 0804, 3360 scc: 916-203 | PKD: 22-Feb-2022 11:01 Printed: 22-Feb-2022 15:34 Page 11 of 12


OCDF
9.55e4*
42.54
Rel. Int.
100%
OCDF
41.02-45.00
441.7428 Fn5
Flags: PBM
4σ 1.93e3
0%
Abs. Int.
3.22e4
1.61e4
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
9.81e4*
42.53
Rel. Int.
100%
OCDF
41.02-45.00
443.7398 Fn5
Flags: PBM
4σ 1.84e3
0%
Abs. Int.
3.84e4
1.92e4
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.19e7
42.54
Rel. Int.
100%
OCDF Std.
41.02-45.00
453.7830 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
3.76e6
1.88e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.31e7
42.53
Rel. Int.
100%
OCDF Std.
41.02-45.00
455.7801 Fn5
Flags: PB
4σ 3.71e3
0%
Abs. Int.
4.26e6
2.13e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.02-45.00
513.6775 Fn5
Flags: B
4σ 1.39e3
0%
Abs. Int.
4.09e3
2.04e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6284_18926_DF_002 **Acq'd:** 22 Feb 2022 10:06 PSW **Wt/Vol:** 10.10 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-020422-S-SB-SW-B-27H **UTP:** 22-Feb-2022 15:05:15 PSW **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 289-510-ZZH

Datafile: 220222R07 **Report:** 22 Feb 2022 15:07 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.34	-	6644.546	0.387
12378-PeCDD	32.77	J EMPC	1.0006	1.0003	-0.6	4.45E+04	1.79	N	1.06	0.313	5603.334	0.42
123478-HxCDD	36.68	J EMPC	1.0004	1.0002	-0.4	5.31E+04	0.87	N	1.06	0.458	3875.611	0.27
123678-HxCDD	36.81	J	1.0035	1.0037	+0.4	8.45E+04	1.12	Y	1.08	0.66	3875.611	0.279
123789-HxCDD	37.10	J EMPC	1.0117	1.0117	0	1.21E+05	1.50	N	1.02	0.865	3875.611	0.264
1234678-HpCDD	39.95		1.0003	1.0003	0	1.57E+06	1.00	Y	0.97	14.4	5105.673	0.293
OCDD	42.38		1.0003	1.0002	-0.3	2.59E+07	0.91	Y	1.07	329	4549.845	0.465
2378-TCDF	NotFnd		1.0007	-		-	-	-	0.96	-	3260.464	0.186
12378-PeCDF	NotFnd		1.0006	-		-	-	-	0.95	-	3916.782	0.21
23478-PeCDF	NotFnd		1.0006	-		-	-	-	0.94	-	3916.782	0.226
123478-HxCDF	NotFnd		1.0005	-		-	-	-	1.23	-	3699.073	0.19
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.13	-	3699.073	0.173
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3699.073	0.243
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	3699.073	0.276
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.36	-	3297.161	0.119
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.30	-	3297.161	0.206
OCDF	NotFnd		1.0003	-		-	-	-	1.03	-	4431.977	0.492

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	27.19	1.0263	1.0265	+0.3	2.95E+07	0.73	Y	1.03	87.9
ES 12378-PeCDD	32.76	1.2342	1.2369	+5.3	2.66E+07	1.63	Y	1.03	79.4
ES 123478-HxCDD	36.67	0.9915	0.9916	+0.2	2.18E+07	1.28	Y	0.99	84.4
ES 123678-HxCDD	36.79	0.9947	0.9947	0	2.34E+07	1.23	Y	0.97	92.9
ES 123789-HxCDD	37.09	1.0028	1.0030	+0.4	2.72E+07	1.30	Y	1.12	93.3
ES 1234678-HpCDD	39.94	1.0791	1.0799	+1.9	2.21E+07	1.06	Y	0.99	86.2
ES OCDD	42.37	1.1449	1.1456	+1.8	2.92E+07	0.92	Y	0.78	72.5
ES 2378-TCDF	26.28	1.0587	1.0594	+1.1	4.38E+07	0.82	Y	1.08	81.3
ES 12378-PeCDF	31.26	1.2570	1.2599	+5.4	4.01E+07	1.61	Y	0.93	86.5
ES 23478-PeCDF	32.42	1.3032	1.3066	+6.6	3.52E+07	1.60	Y	0.92	76.7
ES 123478-HxCDF	35.70	0.9652	0.9654	+0.4	2.74E+07	0.53	Y	1.14	92.6
ES 123678-HxCDF	35.85	0.9690	0.9693	+0.6	3.43E+07	0.53	Y	1.30	102
ES 234678-HxCDF	36.50	0.9869	0.9870	+0.2	2.42E+07	0.53	Y	1.20	77.8
ES 123789-HxCDF	37.48	1.0133	1.0135	+0.4	2.25E+07	0.54	Y	1.14	76.3
ES 1234678-HpCDF	39.01	1.0541	1.0548	+1.6	2.92E+07	0.46	Y	0.95	119
ES 1234789-HpCDF	40.37	1.0906	1.0915	+2.2	1.66E+07	0.45	Y	0.85	75.7
ES OCDF	42.54	1.1495	1.1502	+1.8	2.78E+07	0.89	Y	0.93	58

Lab ID: B6284_18926_DF_002 **Acq'd:** 22 Feb 2022 10:06 PSW **Wt/Vol:** 10.10 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-020422-S-SB-SW-B-27H **UTP:** 22-Feb-2022 15:05:15 PSW **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 289-510-ZZH

Datafile: 220222R07 **Report:** 22 Feb 2022 15:07 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.49		-	-	-	3.24E+07	0.75	Y	-	-
JS 1234-TCDF	24.81		-	-	-	4.97E+07	0.79	Y	-	-
JS 123467-HxCDD	36.98		-	-	-	1.30E+07	1.25	Y	-	-
CS 37Cl-2378-TCDD	27.22		1.0271	1.0274	+0.5	1.37E+07	n/a	-	1.31	80.6
CS 12347-PeCDD	32.25		1.2149	1.2173	+4.6	1.69E+07	1.64	Y	0.89	58.3
CS 12346-PeCDF	30.71		1.2351	1.2378	+5.0	4.09E+07	1.64	Y	0.87	94.8
CS 123469-HxCDF	36.15		0.9774	0.9776	+0.4	3.18E+07	0.54	Y	1.09	112
CS 1234689-HpCDF	39.43		1.0654	1.0662	+1.9	2.50E+07	0.45	Y	0.86	112
~~SS 37Cl-2378-TCDD~~	~~27.22~~		~~1.0271~~	~~1.0274~~	~~+0.5~~	~~1.37E+07~~	~~n/a~~		~~1.26~~	~~92.2~~
~~SS 12347-PeCDD~~	~~32.25~~		~~1.2149~~	~~1.2173~~	~~+4.6~~	~~1.69E+07~~	~~1.64~~	~~Y~~	~~0.86~~	~~73.4~~
~~SS 12346-PeCDF~~	~~30.71~~		~~1.2351~~	~~1.2378~~	~~+5.0~~	~~4.09E+07~~	~~1.64~~	~~Y~~	~~0.93~~	~~110~~
~~SS 123469-HxCDF~~	~~36.15~~		~~0.9774~~	~~0.9776~~	~~+0.4~~	~~3.18E+07~~	~~0.54~~	~~Y~~	~~0.84~~	~~110~~
~~SS 1234689-HpCDF~~	~~39.43~~		~~1.0654~~	~~1.0662~~	~~+1.9~~	~~2.50E+07~~	~~0.45~~	~~Y~~	~~0.91~~	~~93.9~~

Totals	Conc	EMPC
Total TCDD	8.61	8.61
Total PeCDD	5.01	6.18
Total HxCDD	30.8	33.4
Total HpCDD	69	69
Total Tetra-Octa Dioxins	442	446
Total TCDF	0	0.224
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0.224
Total Tetra-Octa Dioxins & Furans	442	446

Lab ID: B6284_18926_DF_002 **Acq'd: 22 Feb 2022 10:06 PSW** **Wt/Vol: 10.10 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-020422-S-SB-SW-B-27H **UTP: 22-Feb-2022 15:05:15 PSW** **J-level: 0.495 pg/g** **Split: 1** **Checkcode: 289-510-ZZH**

Datafile: 220222R07 **Report: 22 Feb 2022 15:07 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8571						1.34		6644.546	0.387
1379-TCDD	NotFnd		0.8715						1.34		6644.546	0.387
1369-TCDD	NotFnd		0.8889						1.34		6644.546	0.387
1469-TCDD	24.99		0.9198	0.9191	-1.0	1.58E+06	0.76	Y	1.34	7.9	6644.546	0.387
1247/1246/1248/1249-TCDD	NotFnd		0.9291						1.34		6644.546	0.387
1378-TCDD	NotFnd		0.9366						1.34		6644.546	0.387
1268-TCDD	NotFnd		0.9446						1.34		6644.546	0.387
1478-TCDD	NotFnd		0.9539						1.34		6644.546	0.387
1279-TCDD	NotFnd		0.9606						1.34		6644.546	0.387
1234/1269-TCDD	26.48		0.9745	0.9738	-1.1	1.42E+05	0.85	Y	1.34	0.709	6644.546	0.387
1236-TCDD	NotFnd		0.9798						1.34		6644.546	0.387
1237/1238-TCDD	NotFnd		0.9897						1.34		6644.546	0.387
1239-TCDD	NotFnd		0.9948						1.34		6644.546	0.387
2378-TCDD	**NotFnd**		**1.0008**						**1.34**		**6644.546**	**0.387**
1278-TCDD	NotFnd		1.0136						1.34		6644.546	0.387
1267-TCDD	NotFnd		1.0189						1.34		6644.546	0.387
1289-TCDD	NotFnd		1.0384						1.34		6644.546	0.387
12479/12468-PeCDD	30.18	J	0.9220	0.9210	-1.8	8.69E+04	1.71	Y	1.06	0.61	5603.334	0.42
12469-PeCDD	30.74		0.9390	0.9382	-1.5	6.26E+05	1.67	Y	1.06	4.4	5603.334	0.42
12368-PeCDD	NotFnd		0.9563						1.06		5603.334	0.42
12478-PeCDD	NotFnd		0.9622						1.06		5603.334	0.42
12379-PeCDD	NotFnd		0.9653						1.06		5603.334	0.42
12369/12467/12489-PeCDD	31.88	J EMPC	0.9736	0.9729	-1.3	1.22E+05	1.30	N	1.06	0.858	5603.334	0.42
12346/12347-PeCDD	NotFnd		0.9851						1.06		5603.334	0.42
12378-PeCDD	32.77	J EMPC	**1.0006**	**1.0003**	**-0.6**	**4.45E+04**	**1.79**	**N**	**1.06**	**0.313**	**5603.334**	**0.42**
12367-PeCDD	NotFnd		1.0035						1.06		5603.334	0.42
12389-PeCDD	NotFnd		1.0143						1.06		5603.334	0.42
124679/124689-HxCDD	34.97		0.9536	0.9537	+0.2	3.44E+06	1.27	Y	1.05	26.9	3875.611	0.27
123468-HxCDD	35.64	J EMPC	0.9716	0.9718	+0.4	4.49E+04	1.83	N	1.05	0.351	3875.611	0.27
123679/123689-HxCDD	35.93		0.9797	0.9797	0	4.21E+05	1.28	Y	1.05	3.29	3875.611	0.27
123469-HxCDD	36.05	J EMPC	0.9833	0.9831	-0.4	7.54E+04	1.03	N	1.05	0.589	3875.611	0.27
123478-HxCDD	36.68	J EMPC	**1.0004**	**1.0002**	**-0.4**	**5.31E+04**	**0.87**	**N**	1.06	**0.458**	**3875.611**	**0.27**
123678-HxCDD	36.81	J	**1.0035**	**1.0037**	**+0.4**	**8.45E+04**	**1.12**	**Y**	1.08	**0.66**	**3875.611**	**0.279**
123467-HxCDD	37.00	J EMPC	1.0089	1.0089	0	4.08E+04	1.63	N	1.05	0.319	3875.611	0.27
123789-HxCDD	37.10	J EMPC	**1.0117**	**1.0117**	**0**	**1.21E+05**	**1.50**	**N**	1.02	**0.865**	**3875.611**	**0.264**

Lab ID: B6284_18926_DF_002 **Acq'd: 22 Feb 2022 10:06 PSW** **Wt/Vol: 10.10 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-020422-S-SB-SW-B-27H **UTP: 22-Feb-2022 15:05:15 PSW** **J-level: 0.495 pg/g** **Split: 1** **Checkcode: 289-510-ZZH**

Datafile: 220222R07 **Report: 22 Feb 2022 15:07 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

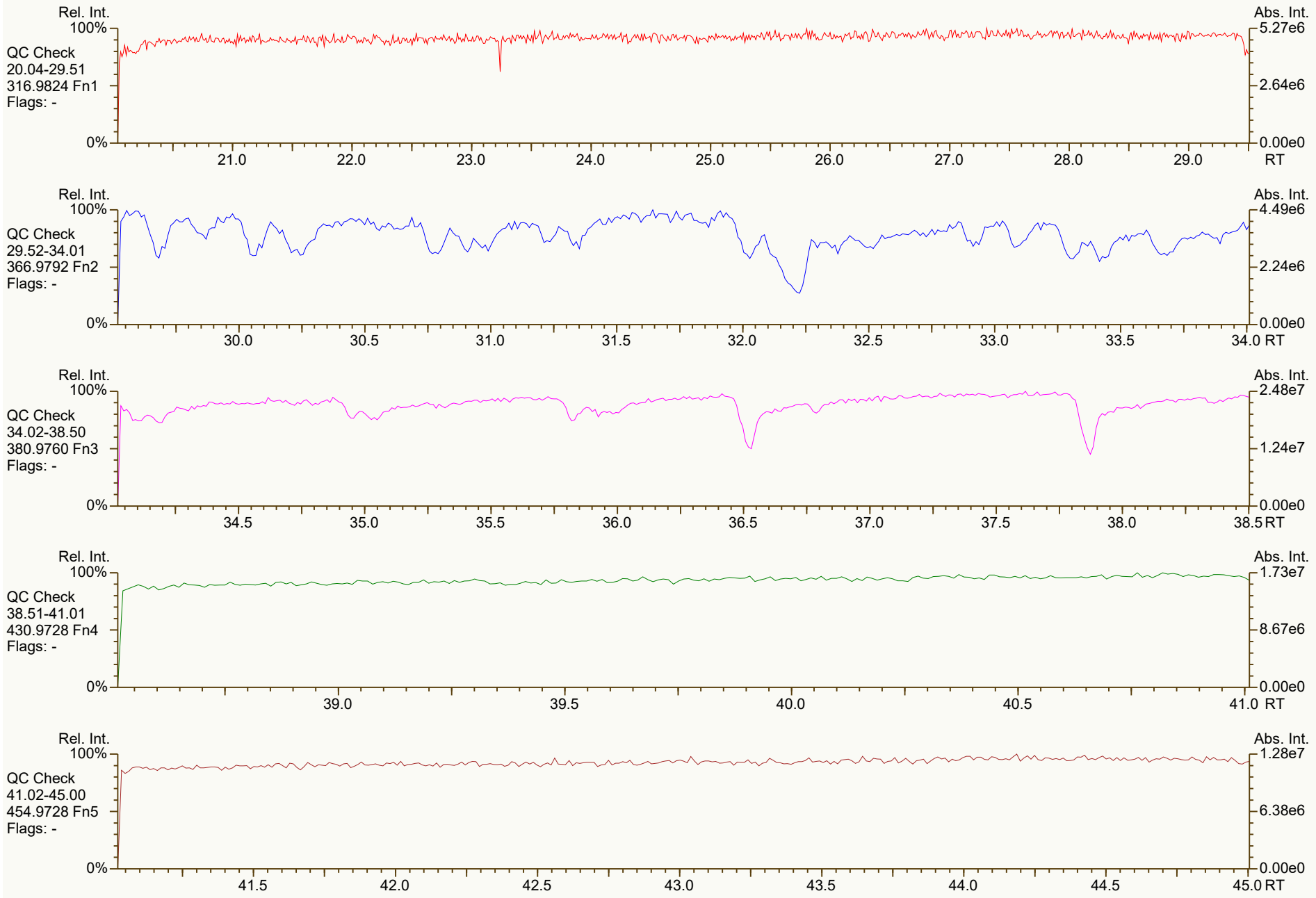
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.30		0.9839	0.9839	0	5.95E+06	1.02	Y	0.97	54.6	5105.673	0.293
1234678-HpCDD	**39.95**		**1.0003**	**1.0003**	**0**	**1.57E+06**	**1.00**	**Y**	**0.97**	**14.4**	**5105.673**	**0.293**
OCDD	**42.38**		**1.0003**	**1.0002**	**-0.3**	**2.59E+07**	**0.91**	**Y**	**1.07**	**329**	**4549.845**	**0.465**
OCDD-a	42.37		1.0002	1.0000	-0.5	1.47E+06	2.67	Y	0.07	302	5118.983	8.47
1368-TCDF	NotFnd		0.8019						0.96		3260.464	0.186
1468-TCDF	NotFnd		0.8238						0.96		3260.464	0.186
2468-TCDF	22.27	J EMPC	0.8493	0.8474	-2.5	4.76E+04	0.90	N	0.96	0.224	3260.464	0.186
1346/1246-TCDF	NotFnd		0.8635						0.96		3260.464	0.186
1347/1378/1247-TCDF	NotFnd		0.8702						0.96		3260.464	0.186
1348-TCDF	NotFnd		0.8817						0.96		3260.464	0.186
1248/1367/1379-TCDF	NotFnd		0.8871						0.96		3260.464	0.186
1268-TCDF	NotFnd		0.9029						0.96		3260.464	0.186
1467-TCDF	NotFnd		0.9087						0.96		3260.464	0.186
1478-TCDF	NotFnd		0.9156						0.96		3260.464	0.186
1369/1237-TCDF	NotFnd		0.9307						0.96		3260.464	0.186
2467-TCDF	NotFnd		0.9361						0.96		3260.464	0.186
2368-TCDF	NotFnd		0.9422						0.96		3260.464	0.186
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9460						0.96		3260.464	0.186
1278-TCDF	NotFnd		0.9644						0.96		3260.464	0.186
1349-TCDF	NotFnd		0.9693						0.96		3260.464	0.186
1267-TCDF	NotFnd		0.9757						0.96		3260.464	0.186
2346/1249-TCDF	NotFnd		0.9830						0.96		3260.464	0.186
2347/1279-TCDF	NotFnd		0.9919						0.96		3260.464	0.186
2348-TCDF	NotFnd		0.9964						0.96		3260.464	0.186
2378-TCDF	**NotFnd**		**1.0007**						**0.96**		**3260.464**	**0.186**
2367/3467-TCDF	NotFnd		1.0157						0.96		3260.464	0.186
1269-TCDF	NotFnd		1.0248						0.96		3260.464	0.186
1239-TCDF	NotFnd		1.0355						0.96		3260.464	0.186
1289-TCDF	NotFnd		1.0808						0.96		3260.464	0.186
13468/12468-PeCDF	NotFnd		0.9073						0.94		3956.354	0.22
13678/13467/12467-PeCDF	NotFnd		0.9586						0.94		3916.782	0.217
12368/13478/12478-PeCDF	NotFnd		0.9638						0.94		3916.782	0.217
14678-PeCDF	NotFnd		0.9671						0.94		3916.782	0.217
13479-PeCDF	NotFnd		0.9702						0.94		3916.782	0.217
13469/12479-PeCDF	NotFnd		0.9785						0.94		3916.782	0.217
12346-PeCDF	NotFnd		0.9831						0.94		3916.782	0.217

Lab ID: B6284_18926_DF_002 **Acq'd: 22 Feb 2022 10:06 PSW** **Wt/Vol: 10.10 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-020422-S-SB-SW-B-27H **UTP: 22-Feb-2022 15:05:15 PSW** **J-level: 0.495 pg/g** **Split: 1** **Checkcode: 289-510-ZZH**

Datafile: 220222R07 **Report: 22 Feb 2022 15:07 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9863						0.94		3916.782	0.217
12347-PeCDF	NotFnd		0.9887						0.94		3916.782	0.217
12348-PeCDF	NotFnd		0.9937						0.94		3916.782	0.217
12378-PeCDF	**NotFnd**		**1.0006**						**0.95**		**3916.782**	**0.21**
12678/12367-PeCDF	NotFnd		1.0097						0.94		3916.782	0.217
12379-PeCDF	NotFnd		1.0151						0.94		3916.782	0.217
12679-PeCDF	NotFnd		0.9923						0.94		3916.782	0.217
23467/12369-PeCDF	NotFnd		0.9965						0.94		3916.782	0.217
23478-PeCDF	**NotFnd**		**1.0006**						**0.94**		**3916.782**	**0.226**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0049						0.94		3916.782	0.217
12349-PeCDF	NotFnd		1.0104						0.94		3916.782	0.217
12389-PeCDF	NotFnd		1.0341						0.94		3916.782	0.217
123468-HxCDF	NotFnd		0.9611						1.16		3699.073	0.214
124678/134678-HxCDF	NotFnd		0.9668						1.16		3699.073	0.214
134679-HxCDF	NotFnd		0.9733						1.16		3699.073	0.214
124679-HxCDF	NotFnd		0.9789						1.16		3699.073	0.214
124689-HxCDF	NotFnd		0.9852						1.16		3699.073	0.214
123467-HxCDF	NotFnd		0.9972						1.16		3699.073	0.214
123478-HxCDF	**NotFnd**		**1.0005**						**1.23**		**3699.073**	**0.19**
123678-HxCDF	**NotFnd**		**1.0004**						**1.13**		**3699.073**	**0.173**
123479-HxCDF	NotFnd		1.0049						1.16		3699.073	0.214
123469-HxCDF	NotFnd		1.0090						1.16		3699.073	0.214
123679-HxCDF	NotFnd		0.9942						1.16		3699.073	0.214
234678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3699.073**	**0.243**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		3699.073	0.214
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**3699.073**	**0.276**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	NotFnd		1.0008						1.16		3699.073	0.214
1234678-HpCDF	**NotFnd**		**1.0003**						**1.36**		**3297.161**	**0.119**
1234679-HpCDF	NotFnd		1.0073						1.33		3297.161	0.15
1234689-HpCDF	NotFnd		1.0109						1.33		3297.161	0.15
1234789-HpCDF	**NotFnd**		**1.0003**						**1.30**		**3297.161**	**0.206**
OCDF	**NotFnd**		**1.0003**						**1.03**		**4431.977**	**0.492**
OCDF-a	NotFnd		1.0002						0.06		5239.996	10.1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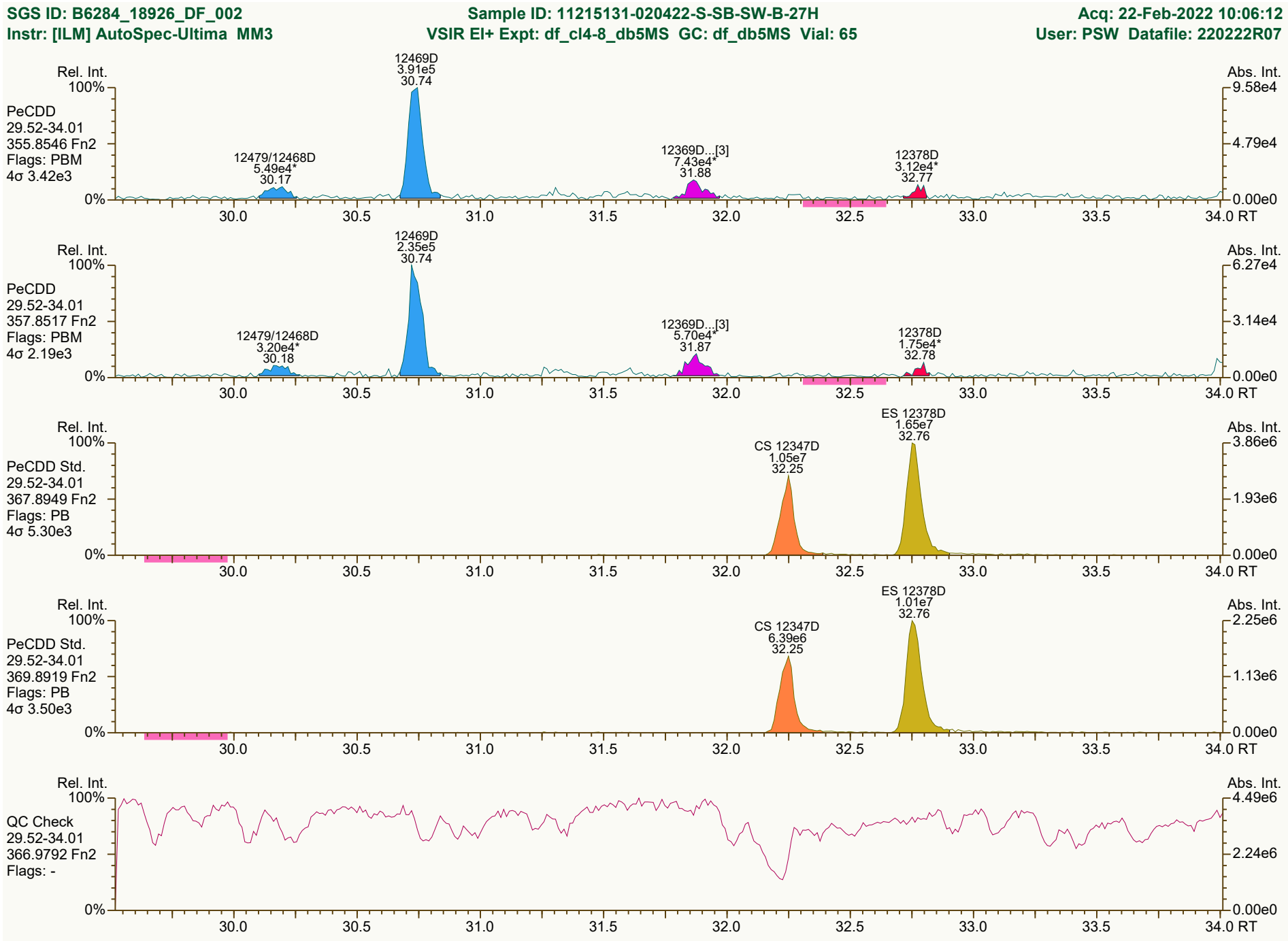
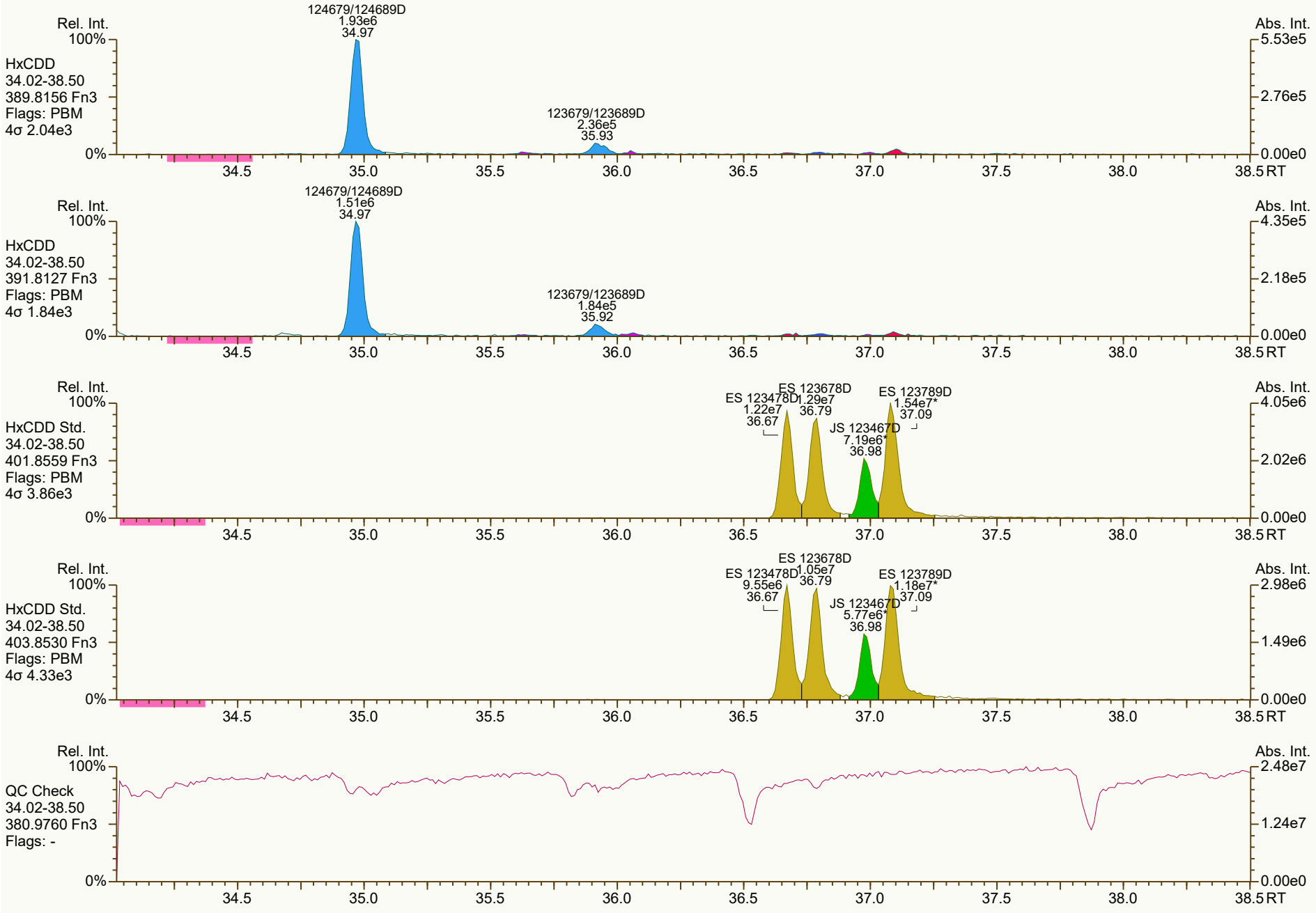
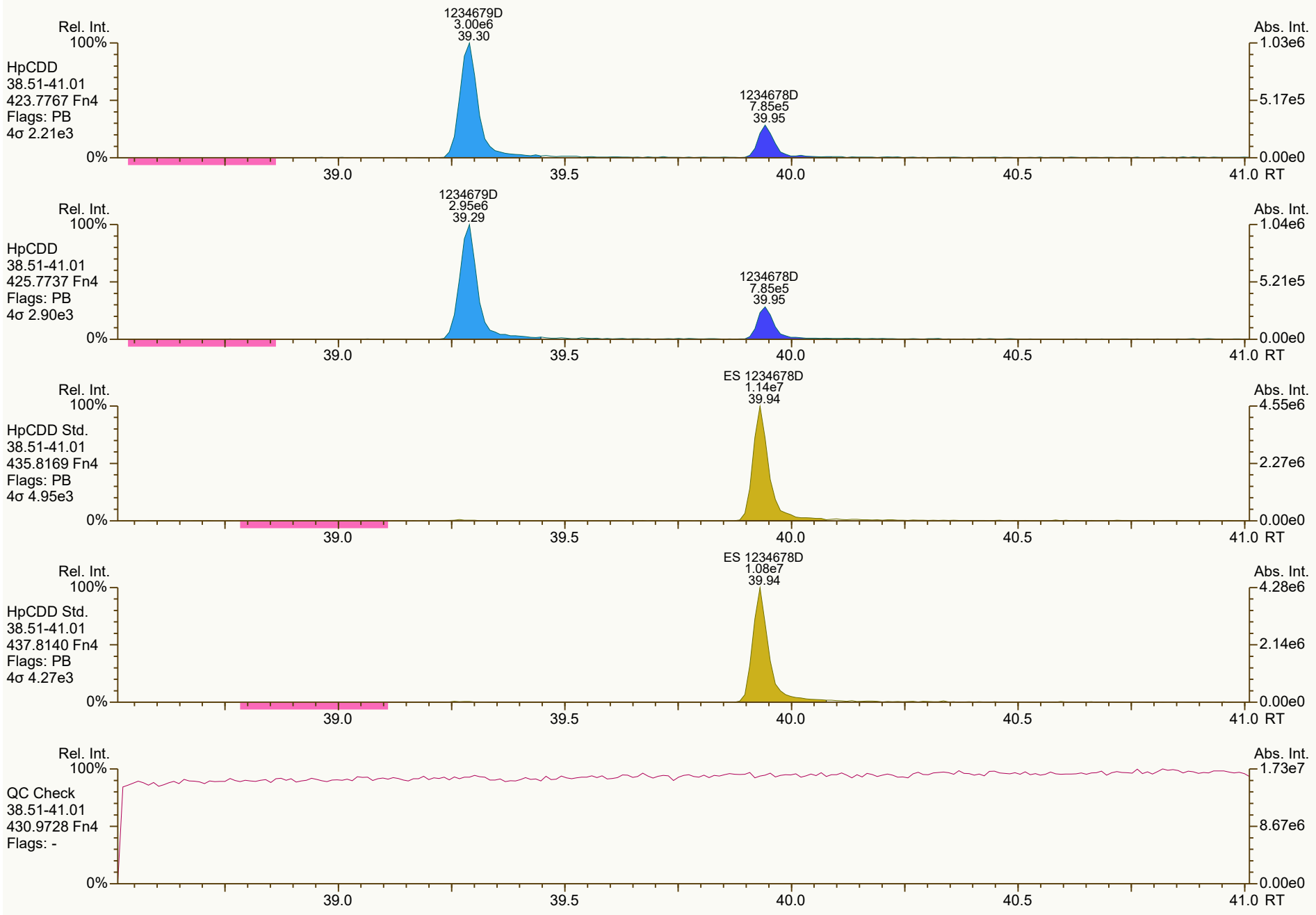
100%
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
0%
Abs. Int.
5.27e6
2.64e6
0.00e0
21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0 RT
Rel. Int.
100%
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.49e6
2.24e6
0.00e0
30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 RT
Rel. Int.
100%
QC Check
34.02-38.50
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.48e7
1.24e7
0.00e0
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
QC Check
38.51-41.01
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.73e7
8.67e6
0.00e0
39.0 39.5 40.0 40.5 41.0 RT
Rel. Int.
100%
QC Check
41.02-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.28e7
6.38e6
0.00e0
41.5 42.0 42.5 43.0 43.5 44.0 44.5 45.0 RT

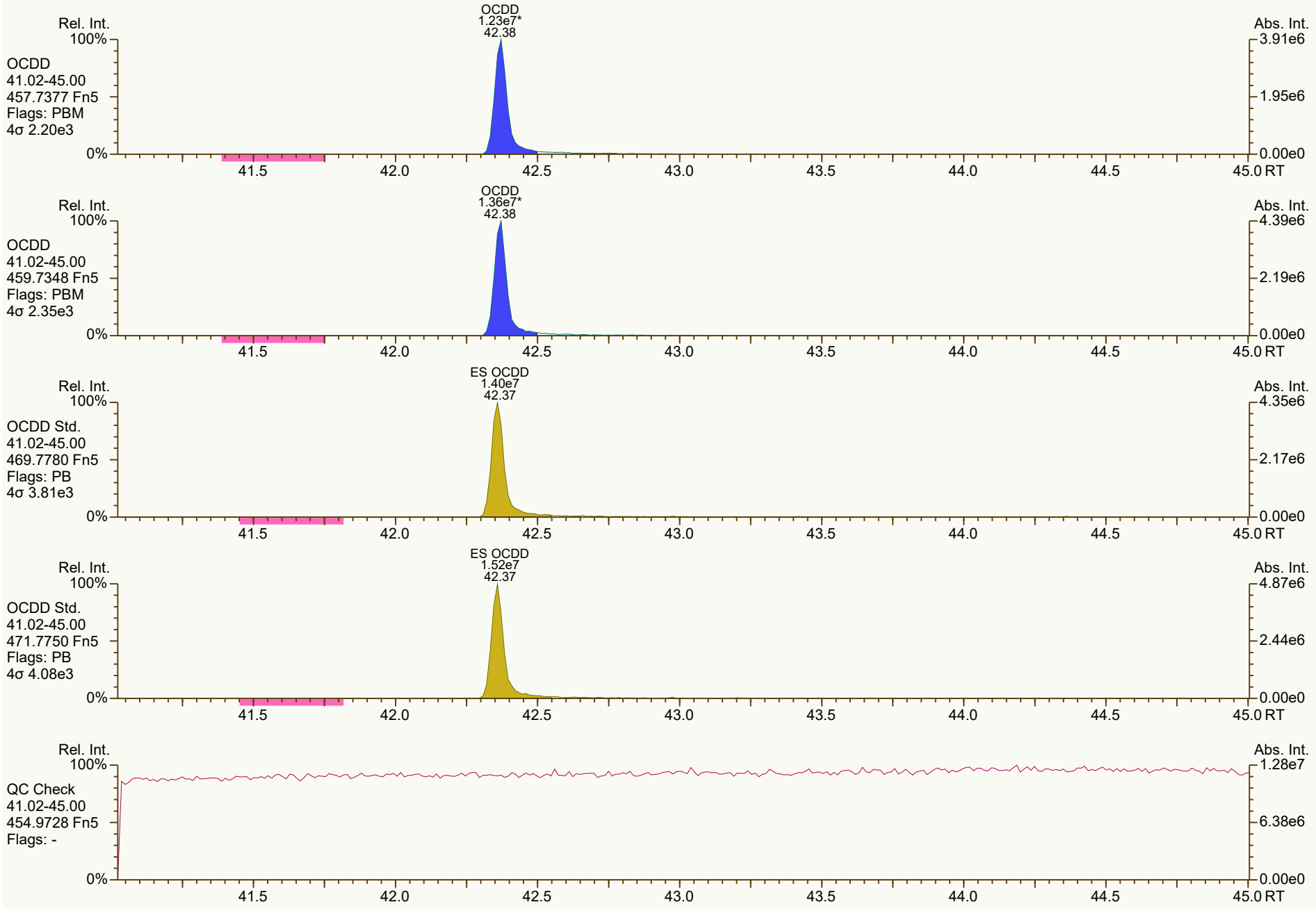

Rel. Int.
100%
TCDD
20.04-29.51
319.8965 Fn1
Flags: PB
4σ 3.89e3
1469D
6.81e5
24.99
1234/1269D
6.52e4
26.48
Abs. Int.
1.39e5
6.95e4
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD
20.04-29.51
321.8936 Fn1
Flags: PB
4σ 2.76e3
1469D
9.00e5
24.99
1234/1269D
7.66e4
26.48
Abs. Int.
2.02e5
1.01e5
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
37Cl-TCDD
20.04-29.51
327.8850 Fn1
Flags: PB
4σ 1.22e3
CS 37Cl-2378D
1.37e7
27.22
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.04-29.51
331.9368 Fn1
Flags: PB
4σ 7.67e3
JS 1234D
1.39e7
26.49
ES 2378D
1.25e7
27.19
Abs. Int.
3.10e6
1.55e6
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.04-29.51
333.9339 Fn1
Flags: PB
4σ 5.08e3
JS 1234D
1.85e7
26.49
ES 2378D
1.70e7
27.19
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT

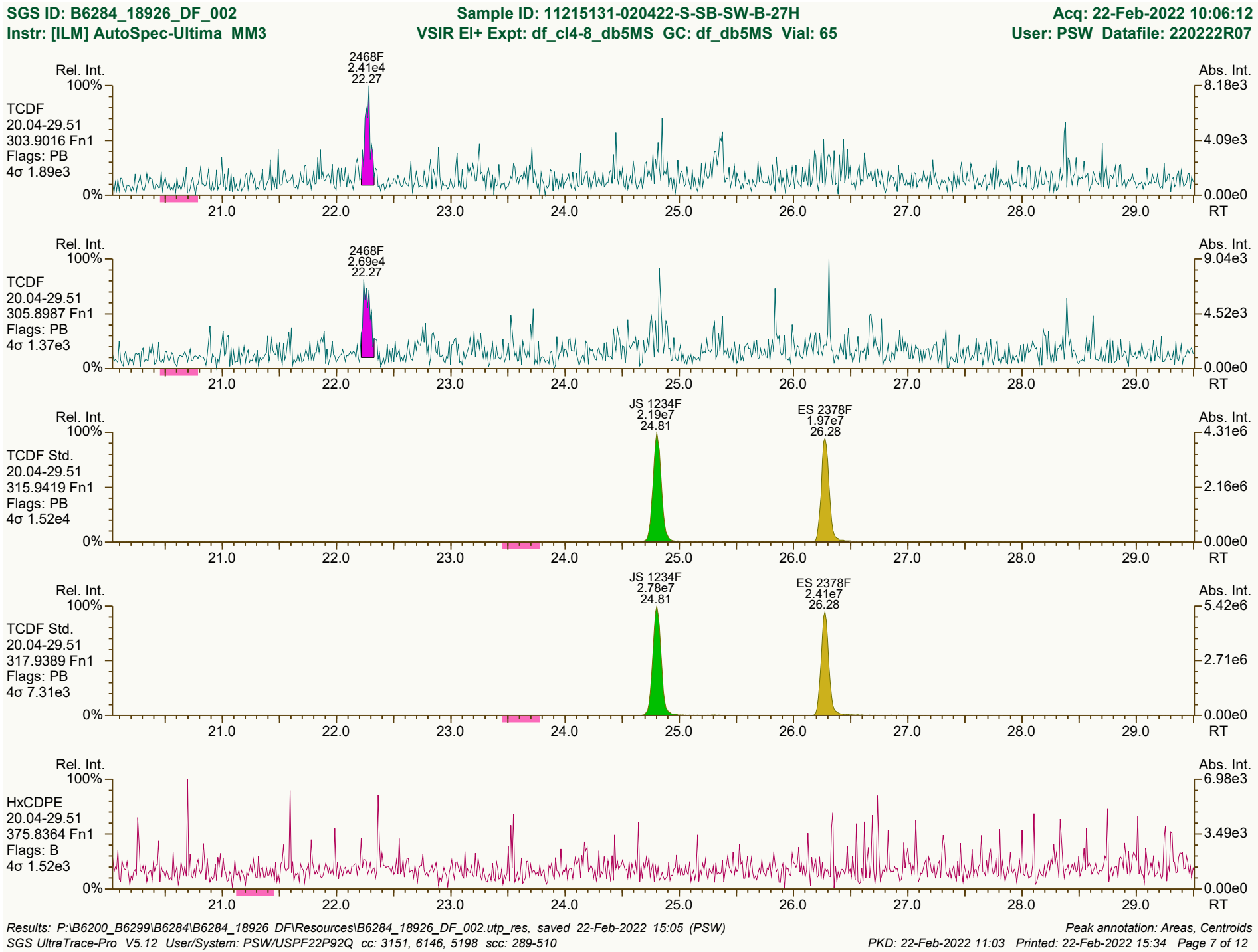


Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_002.utp_res, saved 22-Feb-2022 15:05 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8462, 3989 scc: 289-510
PKD: 22-Feb-2022 11:03 Printed: 22-Feb-2022 15:34 Page 3 of 12


Rel. Int.
100%
HxCDD
34.02-38.50
389.8156 Fn3
Flags: PBM
4σ 2.04e3
124679/124689D
1.93e6
34.97
123679/123689D
2.36e5
35.93
Abs. Int.
5.53e5
2.76e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDD
34.02-38.50
391.8127 Fn3
Flags: PBM
4σ 1.84e3
124679/124689D
1.51e6
34.97
123679/123689D
1.84e5
35.92
Abs. Int.
4.35e5
2.18e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDD Std.
34.02-38.50
401.8559 Fn3
Flags: PBM
4σ 3.86e3
ES 123478D
1.22e7
36.67
ES 123678D
1.29e7
36.79
JS 123467D
7.19e6*
36.98
ES 123789D
1.54e7*
37.09
Abs. Int.
4.05e6
2.02e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDD Std.
34.02-38.50
403.8530 Fn3
Flags: PBM
4σ 4.33e3
ES 123478D
9.55e6
36.67
ES 123678D
1.05e7
36.79
JS 123467D
5.77e6*
36.98
ES 123789D
1.18e7*
37.09
Abs. Int.
2.98e6
1.49e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
QC Check
34.02-38.50
380.9760 Fn3
Flags: -
Abs. Int.
2.48e7
1.24e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT


Rel. Int.
100%
HpCDD
38.51-41.01
423.7767 Fn4
Flags: PB
4σ 2.21e3
0%
1234679D
3.00e6
39.30
1234678D
7.85e5
39.95
Abs. Int.
1.03e6
5.17e5
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD
38.51-41.01
425.7737 Fn4
Flags: PB
4σ 2.90e3
0%
1234679D
2.95e6
39.29
1234678D
7.85e5
39.95
Abs. Int.
1.04e6
5.21e5
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.51-41.01
435.8169 Fn4
Flags: PB
4σ 4.95e3
0%
ES 1234678D
1.14e7
39.94
Abs. Int.
4.55e6
2.27e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.51-41.01
437.8140 Fn4
Flags: PB
4σ 4.27e3
0%
ES 1234678D
1.08e7
39.94
Abs. Int.
4.28e6
2.14e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
QC Check
38.51-41.01
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.73e7
8.67e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT


OCDD
1.23e7*
42.38
Rel. Int.
100%
OCDD
41.02-45.00
457.7377 Fn5
Flags: PBM
4σ 2.20e3
0%
Abs. Int.
3.91e6
1.95e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.36e7*
42.38
Rel. Int.
100%
OCDD
41.02-45.00
459.7348 Fn5
Flags: PBM
4σ 2.35e3
0%
Abs. Int.
4.39e6
2.19e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.40e7
42.37
Rel. Int.
100%
OCDD Std.
41.02-45.00
469.7780 Fn5
Flags: PB
4σ 3.81e3
0%
Abs. Int.
4.35e6
2.17e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.52e7
42.37
Rel. Int.
100%
OCDD Std.
41.02-45.00
471.7750 Fn5
Flags: PB
4σ 4.08e3
0%
Abs. Int.
4.87e6
2.44e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.02-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.28e7
6.38e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT



Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_002.utp_res, saved 22-Feb-2022 15:05 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3151, 6146, 5198 scc: 289-510
PKD: 22-Feb-2022 11:03 Printed: 22-Feb-2022 15:34 Page 7 of 12

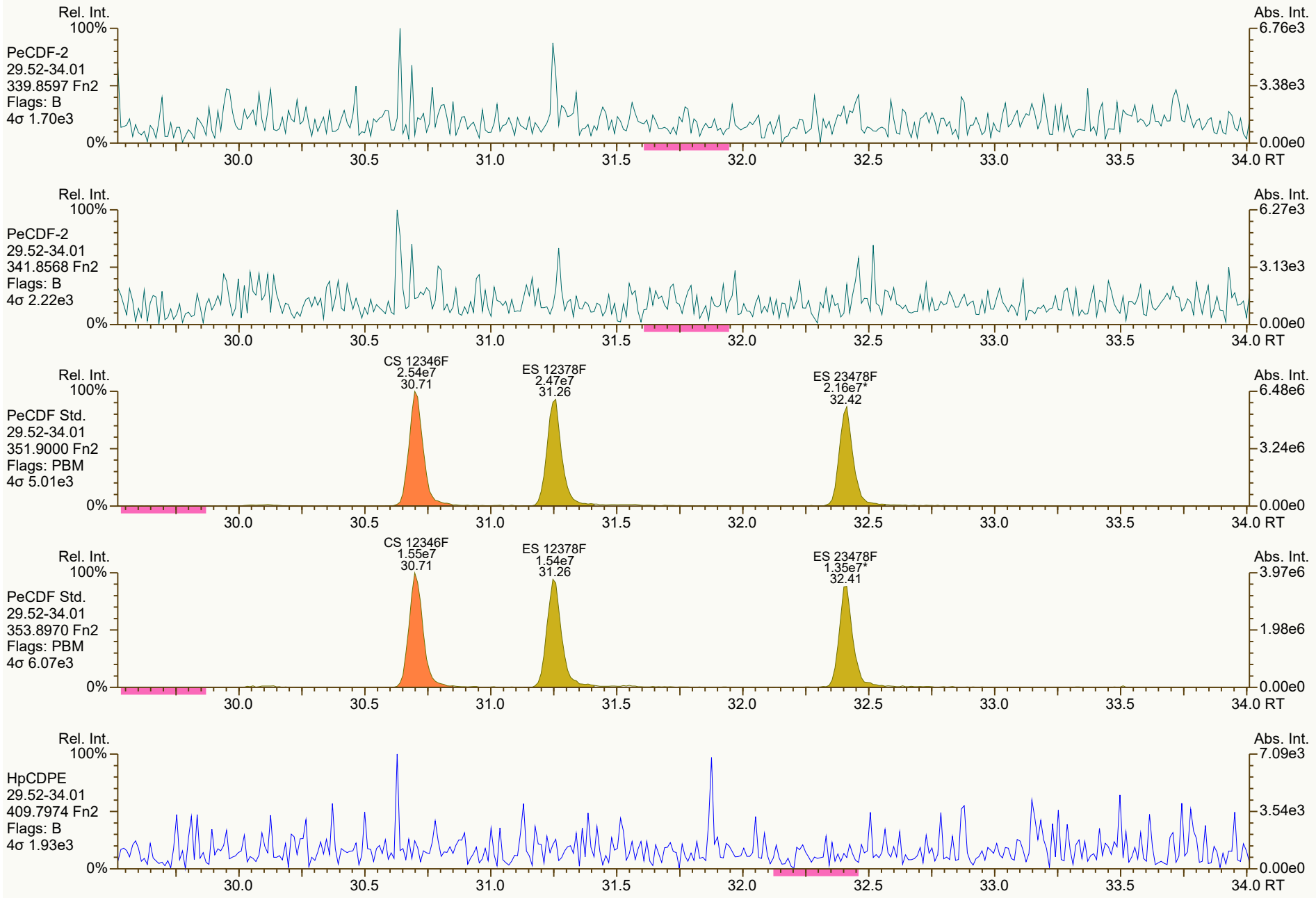
SGS ID: B6284_18926_DF_002 | Sample ID: 11215131-020422-S-SB-SW-B-27H | Acq: 22-Feb-2022 10:06:12

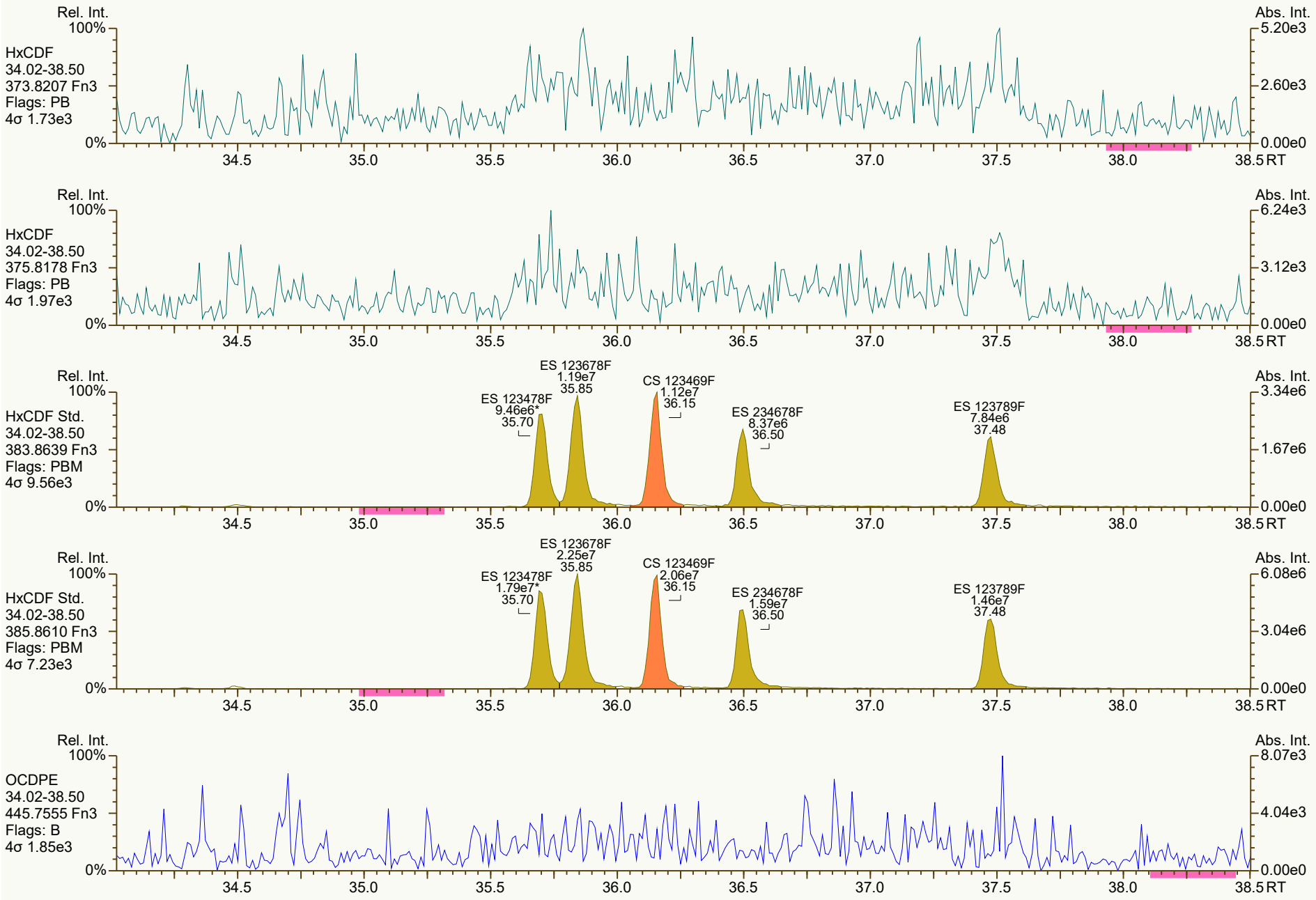
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65 | User: PSW Datafile: 220222R07

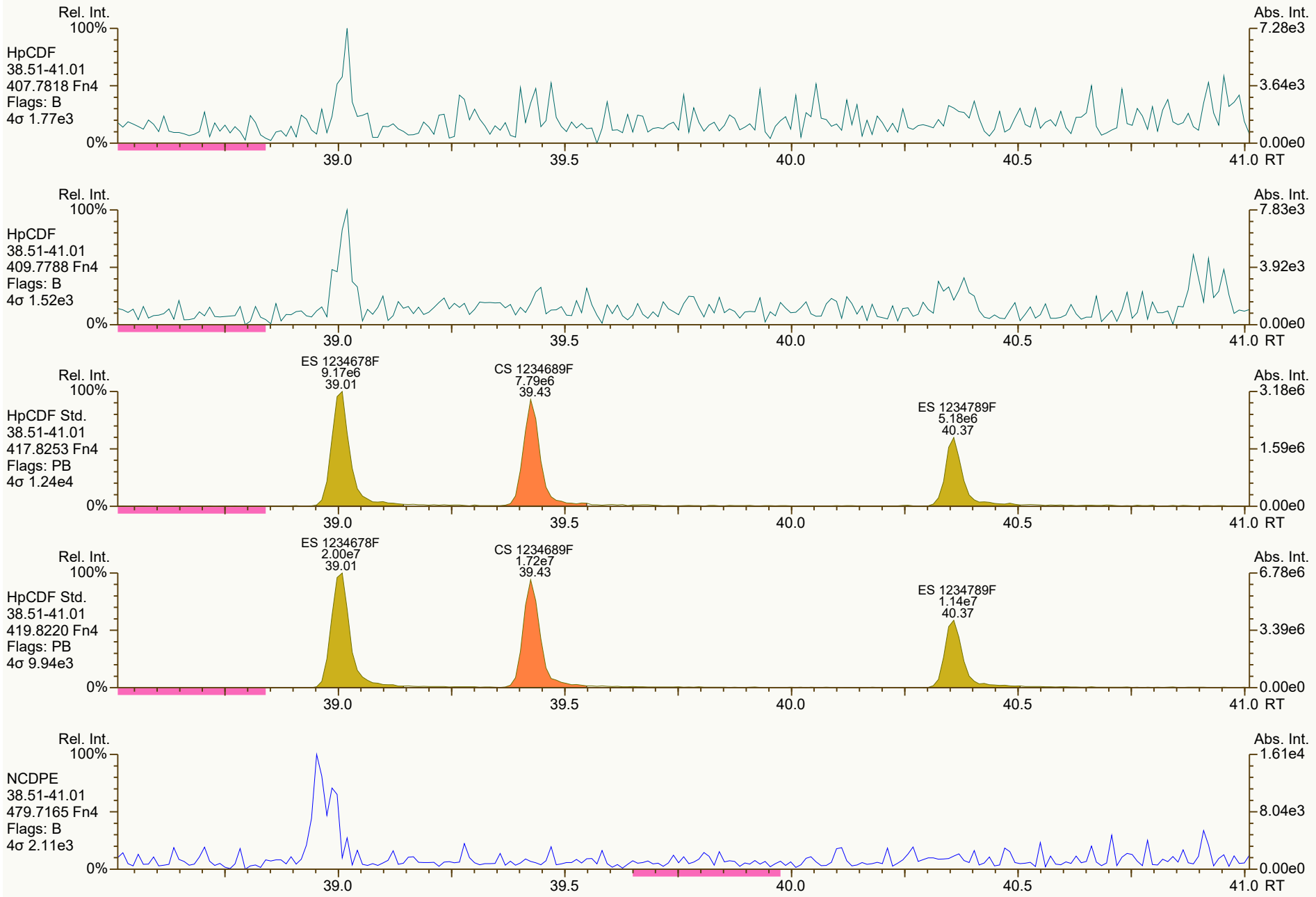


Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_002.utp_res, saved 22-Feb-2022 15:05 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6485 scc: 289-510 | *PKD: 22-Feb-2022 11:03 Printed: 22-Feb-2022 15:34 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
29.52-34.01
339.8597 Fn2
Flags: B
4σ 1.70e3
0%
Abs. Int.
6.76e3
3.38e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF-2
29.52-34.01
341.8568 Fn2
Flags: B
4σ 2.22e3
0%
Abs. Int.
6.27e3
3.13e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF Std.
29.52-34.01
351.9000 Fn2
Flags: PBM
4σ 5.01e3
0%
CS 12346F
2.54e7
30.71
ES 12378F
2.47e7
31.26
ES 23478F
2.16e7*
32.42
Abs. Int.
6.48e6
3.24e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF Std.
29.52-34.01
353.8970 Fn2
Flags: PBM
4σ 6.07e3
0%
CS 12346F
1.55e7
30.71
ES 12378F
1.54e7
31.26
ES 23478F
1.35e7*
32.41
Abs. Int.
3.97e6
1.98e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
HpCDPE
29.52-34.01
409.7974 Fn2
Flags: B
4σ 1.93e3
0%
Abs. Int.
7.09e3
3.54e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT


Rel. Int.
100%
HxCDF
34.02-38.50
373.8207 Fn3
Flags: PB
4σ 1.73e3
0%
Abs. Int.
5.20e3
2.60e3
0.00e0
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF
34.02-38.50
375.8178 Fn3
Flags: PB
4σ 1.97e3
0%
Abs. Int.
6.24e3
3.12e3
0.00e0
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF Std.
34.02-38.50
383.8639 Fn3
Flags: PBM
4σ 9.56e3
0%
ES 123678F
1.19e7
35.85
ES 123478F
9.46e6*
35.70
CS 123469F
1.12e7
36.15
ES 234678F
8.37e6
36.50
ES 123789F
7.84e6
37.48
Abs. Int.
3.34e6
1.67e6
0.00e0
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF Std.
34.02-38.50
385.8610 Fn3
Flags: PBM
4σ 7.23e3
0%
ES 123678F
2.25e7
35.85
ES 123478F
1.79e7*
35.70
CS 123469F
2.06e7
36.15
ES 234678F
1.59e7
36.50
ES 123789F
1.46e7
37.48
Abs. Int.
6.08e6
3.04e6
0.00e0
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
OCDPE
34.02-38.50
445.7555 Fn3
Flags: B
4σ 1.85e3
0%
Abs. Int.
8.07e3
4.04e3
0.00e0
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT


Rel. Int.
100%
HpCDF
38.51-41.01
407.7818 Fn4
Flags: B
4σ 1.77e3
0%
Abs. Int.
7.28e3
3.64e3
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDF
38.51-41.01
409.7788 Fn4
Flags: B
4σ 1.52e3
0%
Abs. Int.
7.83e3
3.92e3
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDF Std.
38.51-41.01
417.8253 Fn4
Flags: PB
4σ 1.24e4
0%
ES 1234678F
9.17e6
39.01
CS 1234689F
7.79e6
39.43
ES 1234789F
5.18e6
40.37
Abs. Int.
3.18e6
1.59e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDF Std.
38.51-41.01
419.8220 Fn4
Flags: PB
4σ 9.94e3
0%
ES 1234678F
2.00e7
39.01
CS 1234689F
1.72e7
39.43
ES 1234789F
1.14e7
40.37
Abs. Int.
6.78e6
3.39e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
NCDPE
38.51-41.01
479.7165 Fn4
Flags: B
4σ 2.11e3
0%
Abs. Int.
1.61e4
8.04e3
0.00e0
39.0
39.5
40.0
40.5
41.0 RT


Rel. Int.
100%
OCDF
41.02-45.00
441.7428 Fn5
Flags: B
4σ 1.90e3
0%
Abs. Int.
1.34e4
6.70e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.02-45.00
443.7398 Fn5
Flags: B
4σ 2.53e3
0%
Abs. Int.
7.42e3
3.71e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.31e7*
42.54
Rel. Int.
100%
OCDF Std.
41.02-45.00
453.7830 Fn5
Flags: PBM
4σ 6.07e3
0%
Abs. Int.
4.09e6
2.05e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.47e7*
42.53
Rel. Int.
100%
OCDF Std.
41.02-45.00
455.7801 Fn5
Flags: PBM
4σ 6.33e3
0%
Abs. Int.
4.55e6
2.28e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.02-45.00
513.6775 Fn5
Flags: B
4σ 1.69e3
0%
Abs. Int.
5.03e3
2.52e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6284_18926_DF_003 **Acq'd:** 22 Feb 2022 10:53 PSW **Wt/Vol:** 10.21 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-020422-S-SB-SW-O-25 **UTP:** 22-Feb-2022 15:05:16 PSW **J-level:** 0.49 pg/g **Split:** 1 **Checkcode:** 207-644-FSM

Datafile: 220222R08 **Report:** 22 Feb 2022 15:07 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	27.21		1.0008	1.0010	+0.3	9.58E+05	0.75	Y	1.34	5.82	5423.372	0.382
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.06	-	3624.227	0.283
123478-HxCDD	36.68	J	1.0004	1.0005	+0.2	4.71E+04	1.21	Y	1.06	0.493	4576.962	0.404
123678-HxCDD	36.79	J EMPC	1.0035	1.0036	+0.2	9.77E+04	1.02	N	1.08	0.916	4576.962	0.399
123789-HxCDD	37.09	J	1.0117	1.0117	0	1.14E+05	1.10	Y	1.02	1	4576.962	0.404
1234678-HpCDD	39.94		1.0003	1.0003	0	3.05E+06	1.03	Y	0.97	37.4	4596.157	0.37
OCDD	42.37		1.0003	1.0003	0	5.91E+07	0.89	Y	1.07	975	4157.199	0.574
2378-TCDF	26.29		1.0007	1.0009	+0.3	3.42E+06	0.76	Y	0.96	19.7	3829.05	0.268
12378-PeCDF	31.26	J	1.0006	1.0006	0	1.40E+05	1.36	Y	0.95	0.834	3591.833	0.214
23478-PeCDF	32.42	J	1.0006	1.0008	+0.4	1.17E+05	1.50	Y	0.94	0.756	3591.833	0.218
123478-HxCDF	35.70	J	1.0005	1.0005	0	2.77E+05	1.33	Y	1.23	1.99	4346.017	0.263
123678-HxCDF	35.84	J EMPC	1.0004	1.0003	-0.2	1.07E+05	1.04	N	1.13	0.62	4346.017	0.219
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	4346.017	0.336
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	4346.017	0.386
1234678-HpCDF	39.01		1.0003	1.0003	0	1.27E+06	1.07	Y	1.36	8.02	3538.871	0.162
1234789-HpCDF	40.36	J	1.0003	1.0001	-0.5	7.75E+04	0.97	Y	1.30	0.849	3538.871	0.284
OCDF	42.54		1.0003	1.0002	-0.3	2.77E+06	0.84	Y	1.03	45.5	4351.145	0.596

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	27.18		1.0263	1.0266	+0.5	2.40E+07	0.75	Y	1.03	79.7
ES 12378-PeCDD	32.74		1.2342	1.2365	+4.5	2.29E+07	1.69	Y	1.03	76.2
ES 123478-HxCDD	36.66		0.9915	0.9917	+0.4	1.78E+07	1.33	Y	0.99	76.9
ES 123678-HxCDD	36.77		0.9947	0.9948	+0.2	1.93E+07	1.25	Y	0.97	85.5
ES 123789-HxCDD	37.08		1.0028	1.0030	+0.4	2.19E+07	1.28	Y	1.12	83.9
ES 1234678-HpCDD	39.93		1.0791	1.0801	+2.4	1.64E+07	1.09	Y	0.99	71.3
ES OCDD	42.36		1.1449	1.1460	+2.8	2.22E+07	0.89	Y	0.78	61.5
ES 2378-TCDF	26.27		1.0587	1.0595	+1.3	3.54E+07	0.78	Y	1.08	73.5
ES 12378-PeCDF	31.24		1.2570	1.2600	+5.6	3.47E+07	1.62	Y	0.93	83.6
ES 23478-PeCDF	32.39		1.3032	1.3065	+6.4	3.23E+07	1.56	Y	0.92	78.7
ES 123478-HxCDF	35.68		0.9652	0.9653	+0.2	2.21E+07	0.51	Y	1.14	83.5
ES 123678-HxCDF	35.83		0.9690	0.9693	+0.6	2.98E+07	0.52	Y	1.30	99
ES 234678-HxCDF	36.49		0.9869	0.9871	+0.4	2.02E+07	0.52	Y	1.20	72.4
ES 123789-HxCDF	37.47		1.0133	1.0136	+0.7	1.94E+07	0.55	Y	1.14	73.6
ES 1234678-HpCDF	39.00		1.0541	1.0550	+2.1	2.27E+07	0.45	Y	0.95	103
ES 1234789-HpCDF	40.36		1.0906	1.0917	+2.7	1.38E+07	0.43	Y	0.85	69.9
ES OCDF	42.53		1.1495	1.1505	+2.6	2.33E+07	0.92	Y	0.93	54.2

Lab ID: B6284_18926_DF_003 **Acq'd:** 22 Feb 2022 10:53 PSW **Wt/Vol:** 10.21 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-020422-S-SB-SW-O-25 **UTP:** 22-Feb-2022 15:05:16 PSW **J-level:** 0.49 pg/g **Split:** 1 **Checkcode:** 207-644-FSM

Datafile: 220222R08 **Report:** 22 Feb 2022 15:07 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.48		-	-	-	2.91E+07	0.76	Y	-	-
JS 1234-TCDF	24.79		-	-	-	4.45E+07	0.78	Y	-	-
JS 123467-HxCDD	36.97		-	-	-	1.16E+07	1.29	Y	-	-
CS 37Cl-2378-TCDD	27.20		1.0271	1.0275	+0.7	1.14E+07	n/a	-	1.31	74.7
CS 12347-PeCDD	32.22		1.2149	1.2170	+4.1	2.14E+07	1.60	Y	0.89	82.5
CS 12346-PeCDF	30.69		1.2351	1.2380	+5.3	3.43E+07	1.62	Y	0.87	88.8
CS 123469-HxCDF	36.14		0.9774	0.9776	+0.4	2.69E+07	0.52	Y	1.09	106
CS 1234689-HpCDF	39.42		1.0654	1.0665	+2.6	2.09E+07	0.45	Y	0.86	104
~~SS 37Cl-2378-TCDD~~	~~27.20~~		~~1.0271~~	~~1.0275~~	~~+0.7~~	~~1.14E+07~~	~~n/a~~		~~1.26~~	~~94.1~~
~~SS 12347-PeCDD~~	~~32.22~~		~~1.2149~~	~~1.2170~~	~~+4.1~~	~~2.14E+07~~	~~1.60~~	~~Y~~	~~0.86~~	~~100~~
~~SS 12346-PeCDF~~	~~30.69~~		~~1.2351~~	~~1.2380~~	~~+5.3~~	~~3.43E+07~~	~~1.62~~	~~Y~~	~~0.93~~	~~106~~
~~SS 123469-HxCDF~~	~~36.14~~		~~0.9774~~	~~0.9776~~	~~+0.4~~	~~2.69E+07~~	~~0.52~~	~~Y~~	~~0.84~~	~~107~~
~~SS 1234689-HpCDF~~	~~39.42~~		~~1.0654~~	~~1.0665~~	~~+2.6~~	~~2.09E+07~~	~~0.45~~	~~Y~~	~~0.91~~	~~101~~

Totals	Conc	EMPC
Total TCDD	11.6	12.5
Total PeCDD	4.8	4.8
Total HxCDD	33.8	34.8
Total HpCDD	120	120
Total Tetra-Octa Dioxins	1150	1150
Total TCDF	36	37.1
Total PeCDF	2.28	3.31
Total HxCDF	3.92	6.57
Total HpCDF	15	15
Total Tetra-Octa Furans	103	107
Total Tetra-Octa Dioxins & Furans	1250	1260

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.742	0.75
Response	9.65E+05	9.58E+05

Lab ID: B6284_18926_DF_003 **Acq'd: 22 Feb 2022 10:53 PSW** **Wt/Vol: 10.21 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-020422-S-SB-SW-O-25 **UTP: 22-Feb-2022 15:05:16 PSW** **J-level: 0.49 pg/g** **Split: 1** **Checkcode: 207-644-FSM**

Datafile: 220222R08 **Report: 22 Feb 2022 15:07 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8571						1.34		5423.372	0.382
1379-TCDD	NotFnd		0.8715						1.34		5423.372	0.382
1369-TCDD	NotFnd		0.8889						1.34		5423.372	0.382
1469-TCDD	24.98		0.9198	0.9192	-0.9	9.58E+05	0.73	Y	1.34	5.82	5423.372	0.382
1247/1246/1248/1249-TCDD	NotFnd		0.9291						1.34		5423.372	0.382
1378-TCDD	NotFnd		0.9366						1.34		5423.372	0.382
1268-TCDD	NotFnd		0.9446						1.34		5423.372	0.382
1478-TCDD	NotFnd		0.9539						1.34		5423.372	0.382
1279-TCDD	NotFnd		0.9606						1.34		5423.372	0.382
1234/1269-TCDD	26.47	J EMPC	0.9745	0.9739	-1.0	6.96E+04	0.56	N	1.34	0.423	5423.372	0.382
1236-TCDD	NotFnd		0.9798						1.34		5423.372	0.382
1237/1238-TCDD	NotFnd		0.9897						1.34		5423.372	0.382
1239-TCDD	NotFnd		0.9948						1.34		5423.372	0.382
2378-TCDD	**27.21**		**1.0008**	1.0010	**+0.3**	9.58E+05	0.75	Y	**1.34**	**5.82**	**5423.372**	**0.382**
1278-TCDD	27.55	J EMPC	1.0136	1.0136	0	7.77E+04	0.53	N	1.34	0.473	5423.372	0.382
1267-TCDD	NotFnd		1.0189						1.34		5423.372	0.382
1289-TCDD	NotFnd		1.0384						1.34		5423.372	0.382
12479/12468-PeCDD	30.17	J	0.9220	0.9216	-0.7	8.07E+04	1.51	Y	1.06	0.652	3624.227	0.283
12469-PeCDD	30.73		0.9390	0.9386	-0.7	4.27E+05	1.55	Y	1.06	3.45	3624.227	0.283
12368-PeCDD	NotFnd		0.9563						1.06		3624.227	0.283
12478-PeCDD	NotFnd		0.9622						1.06		3624.227	0.283
12379-PeCDD	NotFnd		0.9653						1.06		3624.227	0.283
12369/12467/12489-PeCDD	31.87	J	0.9736	0.9735	-0.2	8.66E+04	1.69	Y	1.06	0.699	3624.227	0.283
12346/12347-PeCDD	NotFnd		0.9851						1.06		3624.227	0.283
12378-PeCDD	NotFnd		**1.0006**						**1.06**		**3624.227**	**0.283**
12367-PeCDD	NotFnd		1.0035						1.06		3624.227	0.283
12389-PeCDD	NotFnd		1.0143						1.06		3624.227	0.283
124679/124689-HxCDD	34.96		0.9536	0.9536	0	2.73E+06	1.29	Y	1.05	25.9	4576.962	0.402
123468-HxCDD	35.62	J	0.9716	0.9716	0	7.07E+04	1.14	Y	1.05	0.67	4576.962	0.402
123679/123689-HxCDD	35.91		0.9797	0.9797	0	5.19E+05	1.20	Y	1.05	4.92	4576.962	0.402
123469-HxCDD	36.04	J	0.9833	0.9832	-0.2	9.22E+04	1.17	Y	1.05	0.875	4576.962	0.402
123478-HxCDD	36.68	J	**1.0004**	**1.0005**	**+0.2**	**4.71E+04**	**1.21**	**Y**	1.06	**0.493**	**4576.962**	**0.404**
123678-HxCDD	36.79	J EMPC	**1.0035**	**1.0036**	**+0.2**	**9.77E+04**	**1.02**	**N**	1.08	**0.916**	**4576.962**	**0.399**
123467-HxCDD	NotFnd		1.0089						1.05		4576.962	0.402
123789-HxCDD	37.09	J	**1.0117**	**1.0117**	**0**	**1.14E+05**	**1.10**	**Y**	1.02	**1**	**4576.962**	**0.404**

Lab ID: B6284_18926_DF_003 **Acq'd: 22 Feb 2022 10:53 PSW** **Wt/Vol: 10.21 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-020422-S-SB-SW-O-25 **UTP: 22-Feb-2022 15:05:16 PSW** **J-level: 0.49 pg/g** **Split: 1** **Checkcode: 207-644-FSM**

Datafile: 220222R08 **Report: 22 Feb 2022 15:07 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

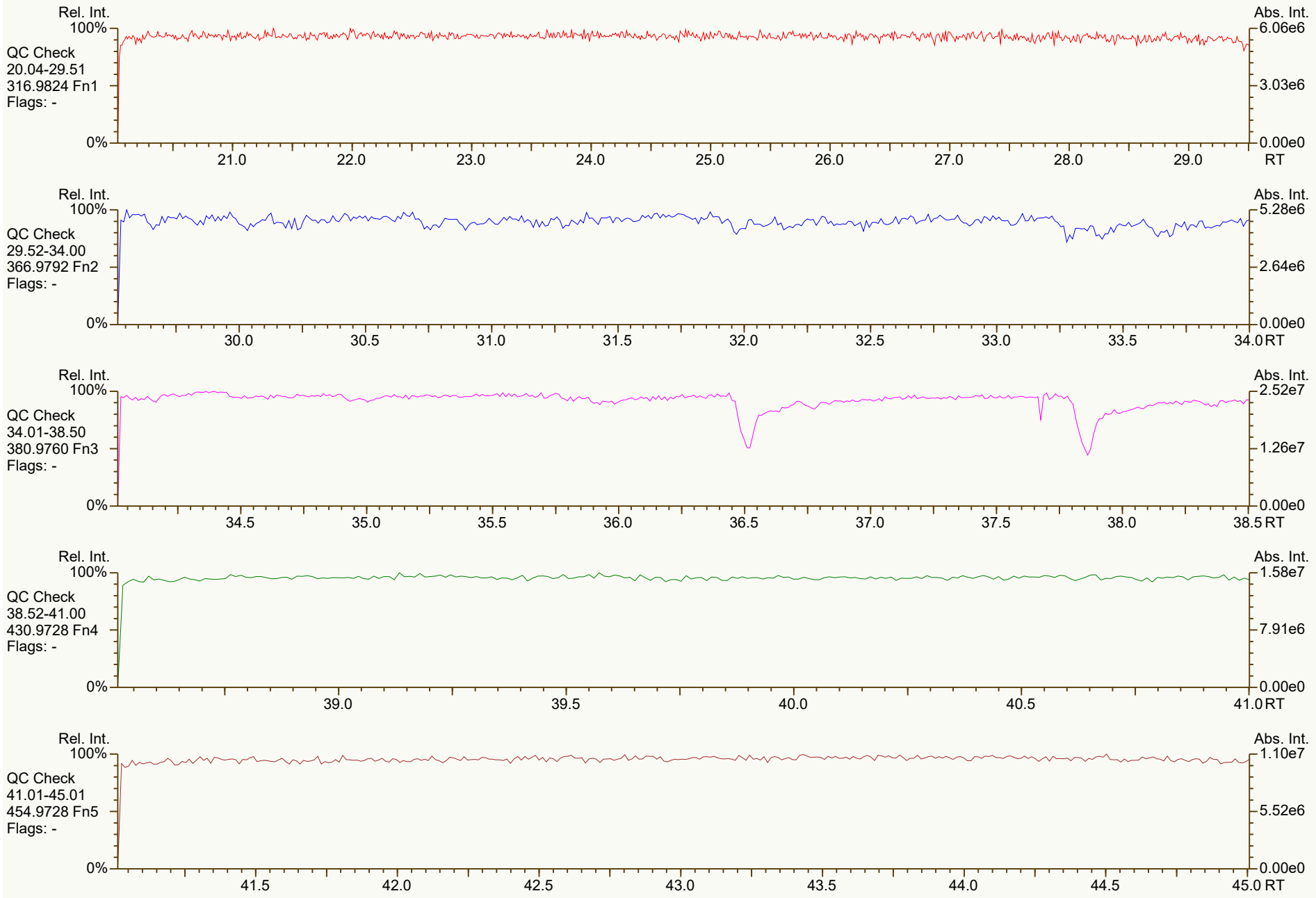
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.28		0.9839	0.9839	0	6.78E+06	1.02	Y	0.97	83	4596.157	0.37
1234678-HpCDD	**39.94**		**1.0003**	**1.0003**	**0**	**3.05E+06**	**1.03**	**Y**	**0.97**	**37.4**	**4596.157**	**0.37**
OCDD	**42.37**		**1.0003**	**1.0003**	**0**	**5.91E+07**	**0.89**	**Y**	**1.07**	**975**	**4157.199**	**0.574**
OCDD-a	42.37		1.0002	1.0001	-0.3	3.28E+06	2.45	Y	0.07	878	4072.495	9.12
1368-TCDF	NotFnd		0.8019						0.96		3829.05	0.268
1468-TCDF	NotFnd		0.8238						0.96		3829.05	0.268
2468-TCDF	22.26	EMPC	0.8493	0.8474	-2.5	1.07E+05	0.64	N	0.96	0.617	3829.05	0.268
1346/1246-TCDF	NotFnd		0.8635						0.96		3829.05	0.268
1347/1378/1247-TCDF	22.83	EMPC	0.8702	0.8690	-1.6	8.69E+04	0.64	N	0.96	0.5	3829.05	0.268
1348-TCDF	NotFnd		0.8817						0.96		3829.05	0.268
1248/1367/1379-TCDF	23.23		0.8871	0.8843	-3.9	1.39E+05	0.79	Y	0.96	0.801	3829.05	0.268
1268-TCDF	NotFnd		0.9029						0.96		3829.05	0.268
1467-TCDF	NotFnd		0.9087						0.96		3829.05	0.268
1478-TCDF	24.02		0.9156	0.9145	-1.6	1.47E+05	0.75	Y	0.96	0.846	3829.05	0.268
1369/1237-TCDF	NotFnd		0.9307						0.96		3829.05	0.268
2467-TCDF	NotFnd		0.9361						0.96		3829.05	0.268
2368-TCDF	24.75		0.9422	0.9423	+0.1	2.29E+05	0.76	Y	0.96	1.32	3829.05	0.268
1238/1234/1678/1469/1236-TCDF	24.84		0.9460	0.9457	-0.4	1.64E+05	0.76	Y	0.96	0.947	3829.05	0.268
1278-TCDF	25.32		0.9644	0.9640	-0.6	1.15E+06	0.83	Y	0.96	6.63	3829.05	0.268
1349-TCDF	NotFnd		0.9693						0.96		3829.05	0.268
1267-TCDF	25.61		0.9757	0.9751	-0.9	8.61E+04	0.71	Y	0.96	0.496	3829.05	0.268
2346/1249-TCDF	NotFnd		0.9830						0.96		3829.05	0.268
2347/1279-TCDF	NotFnd		0.9919						0.96		3829.05	0.268
2348-TCDF	26.16		0.9964	0.9959	-0.8	1.97E+05	0.74	Y	0.96	1.14	3829.05	0.268
2378-TCDF	**26.29**		**1.0007**	**1.0009**	**+0.3**	**3.42E+06**	**0.76**	**Y**	**0.96**	**19.7**	**3829.05**	**0.268**
2367/3467-TCDF	26.67		1.0157	1.0154	-0.5	3.64E+05	0.67	Y	0.96	2.09	3829.05	0.268
1269-TCDF	26.92		1.0248	1.0249	+0.2	1.03E+05	0.82	Y	0.96	0.593	3829.05	0.268
1239-TCDF	NotFnd		1.0355						0.96		3829.05	0.268
1289-TCDF	28.41		1.0808	1.0815	+1.2	2.43E+05	0.86	Y	0.96	1.4	3829.05	0.268
13468/12468-PeCDF	28.33	J	0.9073	0.9069	-0.7	1.12E+05	1.61	Y	0.94	0.695	3532.036	0.212
13678/13467/12467-PeCDF	NotFnd		0.9586						0.94		3591.833	0.216
12368/13478/12478-PeCDF	30.10	J EMPC	0.9638	0.9635	-0.5	1.15E+05	1.28	N	0.94	0.714	3591.833	0.216
14678-PeCDF	NotFnd		0.9671						0.94		3591.833	0.216
13479-PeCDF	NotFnd		0.9702						0.94		3591.833	0.216
13469/12479-PeCDF	NotFnd		0.9785						0.94		3591.833	0.216
12346-PeCDF	NotFnd		0.9831						0.94		3591.833	0.216

Lab ID: B6284_18926_DF_003 **Acq'd: 22 Feb 2022 10:53 PSW** **Wt/Vol: 10.21 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-020422-S-SB-SW-O-25 **UTP: 22-Feb-2022 15:05:16 PSW** **J-level: 0.49 pg/g** **Split: 1** **Checkcode: 207-644-FSM**

Datafile: 220222R08 **Report: 22 Feb 2022 15:07 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9863						0.94		3591.833	0.216
12347-PeCDF	NotFnd		0.9887						0.94		3591.833	0.216
12348-PeCDF	NotFnd		0.9937						0.94		3591.833	0.216
12378-PeCDF	**31.26**	J	**1.0006**	**1.0006**	**0**	**1.40E+05**	**1.36**	**Y**	**0.95**	**0.834**	**3591.833**	**0.214**
12678/12367-PeCDF	31.57	J EMPC	1.0097	1.0104	+1.3	5.04E+04	1.79	N	0.94	0.313	3591.833	0.216
12379-PeCDF	NotFnd		1.0151						0.94		3591.833	0.216
12679-PeCDF	NotFnd		0.9923						0.94		3591.833	0.216
23467/12369-PeCDF	NotFnd		0.9965						0.94		3591.833	0.216
23478-PeCDF	**32.42**	J	**1.0006**	**1.0008**	**+0.4**	**1.17E+05**	**1.50**	**Y**	**0.94**	**0.756**	**3591.833**	**0.218**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0049						0.94		3591.833	0.216
12349-PeCDF	NotFnd		1.0104						0.94		3591.833	0.216
12389-PeCDF	NotFnd		1.0341						0.94		3591.833	0.216
123468-HxCDF	34.29	J	0.9611	0.9611	0	1.05E+05	1.17	Y	1.16	0.771	4346.017	0.29
124678/134678-HxCDF	34.49	J EMPC	0.9668	0.9666	-0.4	2.75E+05	1.45	N	1.16	2.02	4346.017	0.29
134679-HxCDF	NotFnd		0.9733						1.16		4346.017	0.29
124679-HxCDF	NotFnd		0.9789						1.16		4346.017	0.29
124689-HxCDF	35.16	J	0.9852	0.9852	0	1.58E+05	1.27	Y	1.16	1.16	4346.017	0.29
123467-HxCDF	NotFnd		0.9972						1.16		4346.017	0.29
123478-HxCDF	**35.70**	J	**1.0005**	**1.0005**	**0**	**2.77E+05**	**1.33**	**Y**	**1.23**	**1.99**	**4346.017**	**0.263**
123678-HxCDF	**35.84**	J EMPC	**1.0004**	**1.0003**	**-0.2**	**1.07E+05**	**1.04**	**N**	**1.13**	**0.62**	**4346.017**	**0.219**
123479-HxCDF	NotFnd		1.0049						1.16		4346.017	0.29
123469-HxCDF	NotFnd		1.0090						1.16		4346.017	0.29
123679-HxCDF	NotFnd		0.9942						1.16		4346.017	0.29
234678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**4346.017**	**0.336**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		4346.017	0.29
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**4346.017**	**0.386**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	NotFnd		1.0008						1.16		4346.017	0.29
1234678-HpCDF	**39.01**		**1.0003**	**1.0003**	**0**	**1.27E+06**	**1.07**	**Y**	**1.36**	**8.02**	**3538.871**	**0.162**
1234679-HpCDF	39.29	**J**	1.0073	1.0074	+0.2	6.41E+04	1.09	Y	1.33	0.518	3538.871	0.207
1234689-HpCDF	39.43		1.0109	1.0110	+0.2	6.93E+05	1.02	Y	1.33	5.6	3538.871	0.207
1234789-HpCDF	**40.36**	**J**	**1.0003**	**1.0001**	**-0.5**	**7.75E+04**	**0.97**	**Y**	**1.30**	**0.849**	**3538.871**	**0.284**
OCDF	**42.54**		**1.0003**	**1.0002**	**-0.3**	**2.77E+06**	**0.84**	**Y**	**1.03**	**45.5**	**4351.145**	**0.596**
OCDF-a	42.54		1.0002	1.0002	0	1.36E+05	2.14	Y	0.06	38.6	4502.789	10.7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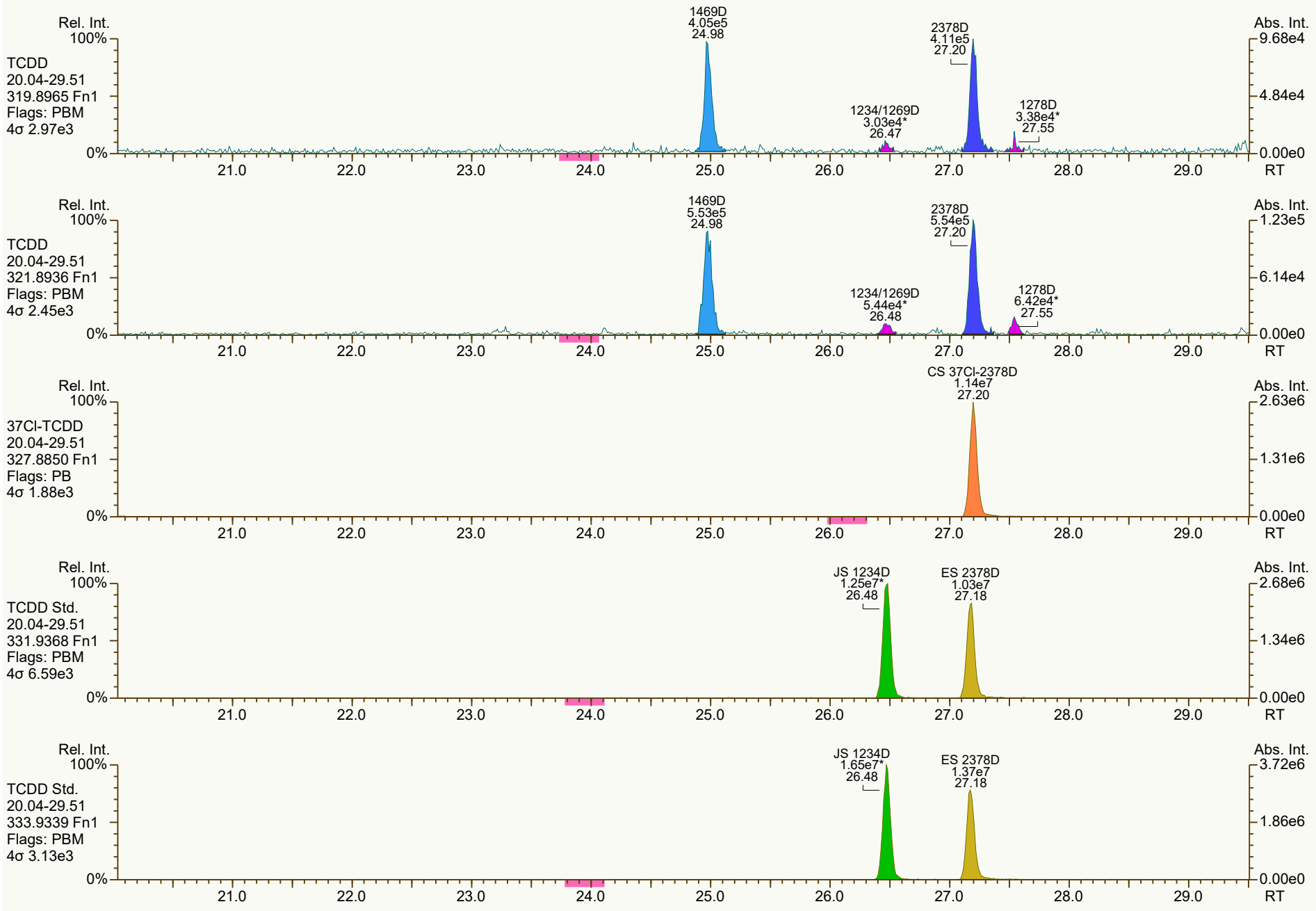
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
0%
Abs. Int.
6.06e6
3.03e6
0.00e0
21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0 RT
Rel. Int.
100%
QC Check
29.52-34.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.28e6
2.64e6
0.00e0
30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 RT
Rel. Int.
100%
QC Check
34.01-38.50
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.52e7
1.26e7
0.00e0
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
QC Check
38.52-41.00
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.58e7
7.91e6
0.00e0
39.0 39.5 40.0 40.5 41.0 RT
Rel. Int.
100%
QC Check
41.01-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.10e7
5.52e6
0.00e0
41.5 42.0 42.5 43.0 43.5 44.0 44.5 45.0 RT

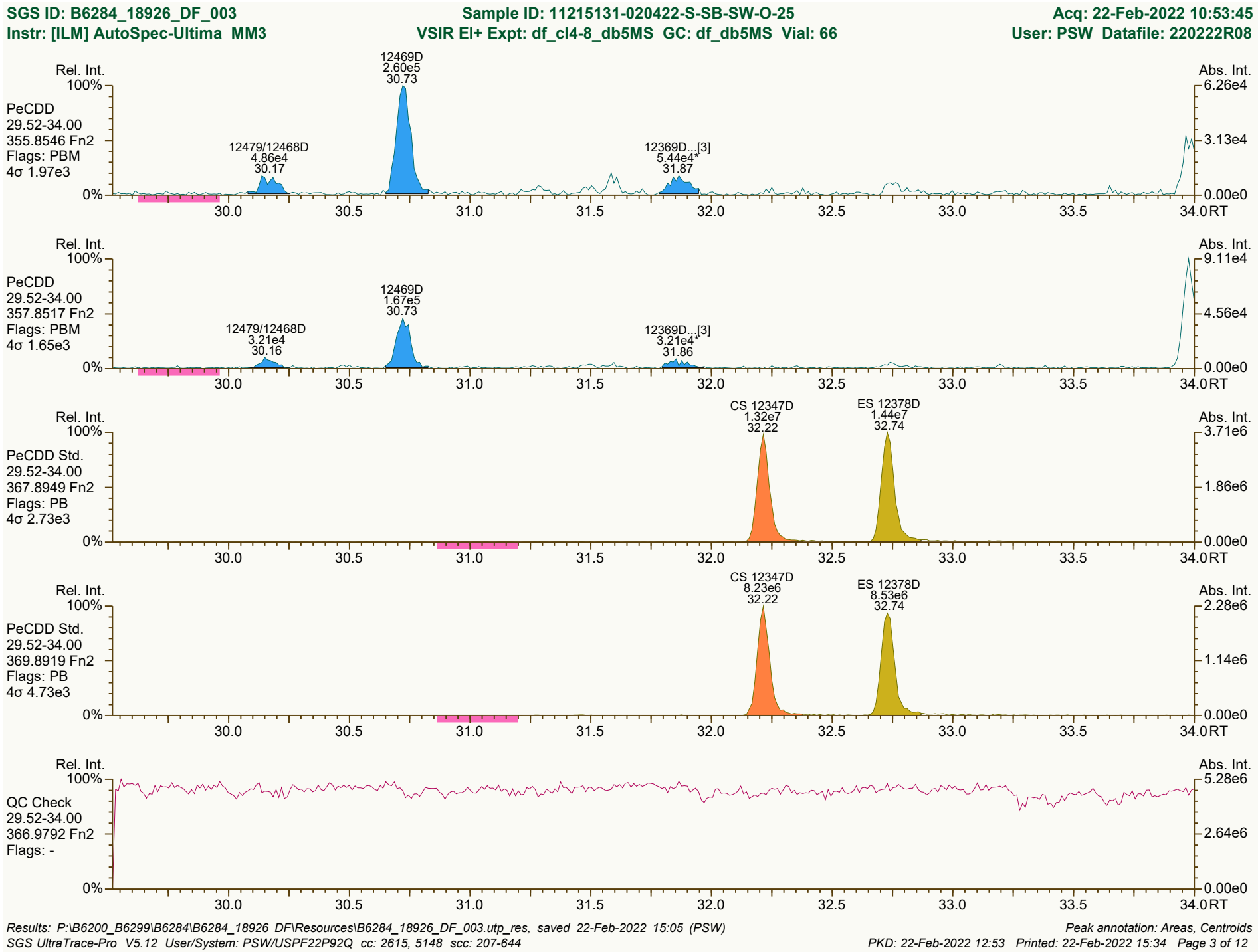
SGS ID: B6284_18926_DF_003 | Sample ID: 11215131-020422-S-SB-SW-O-25 | Acq: 22-Feb-2022 10:53:45

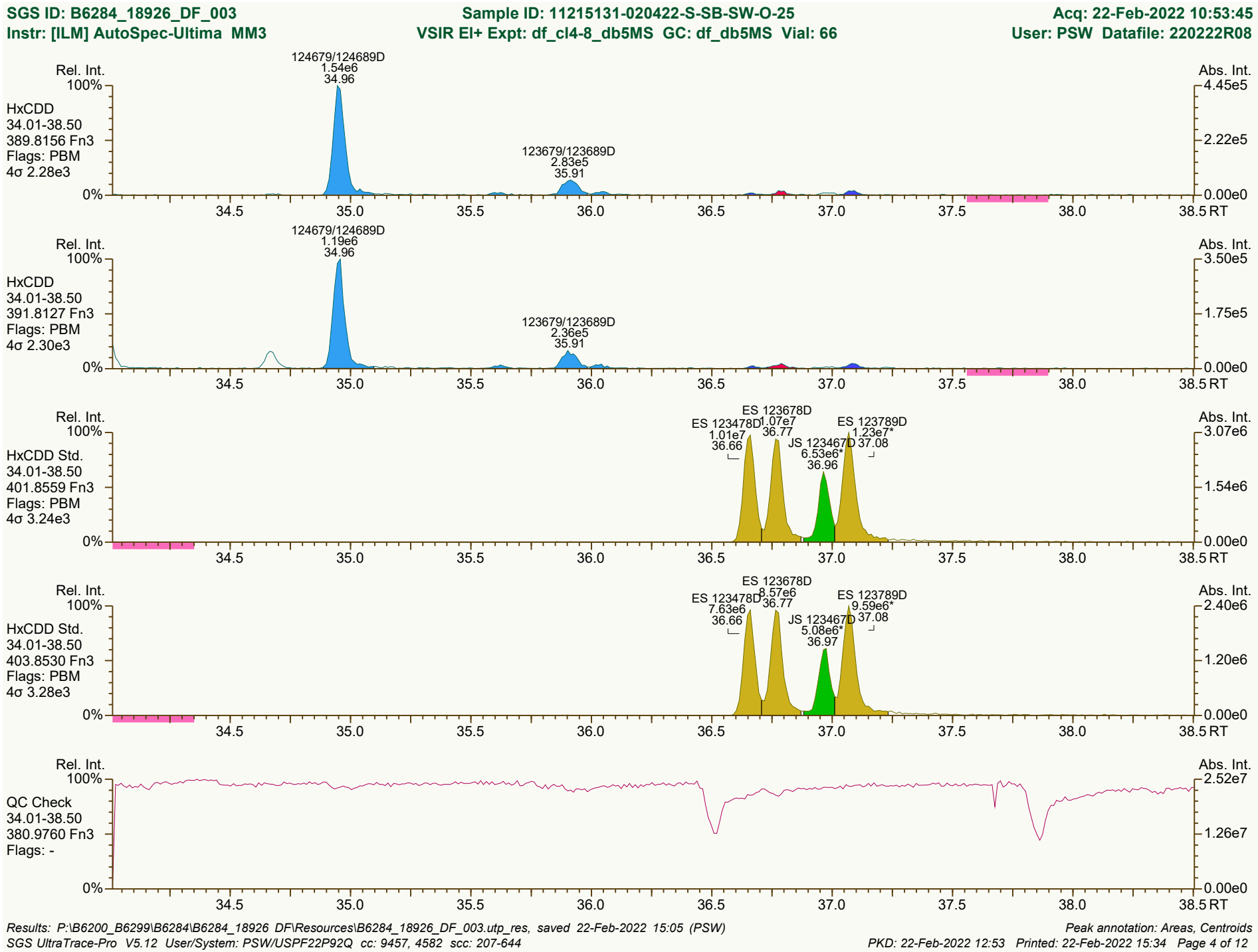
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66 | User: PSW Datafile: 220222R08

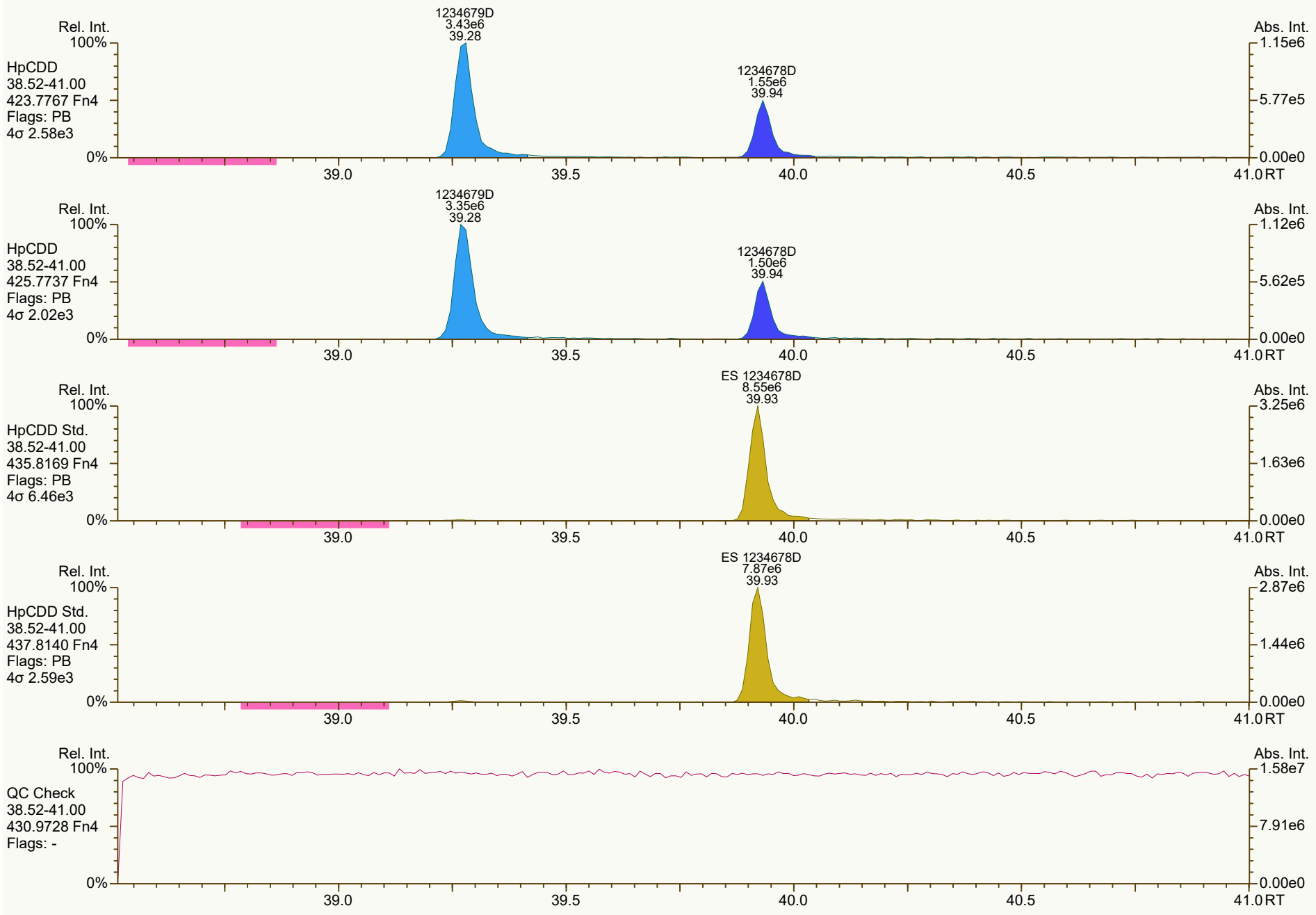


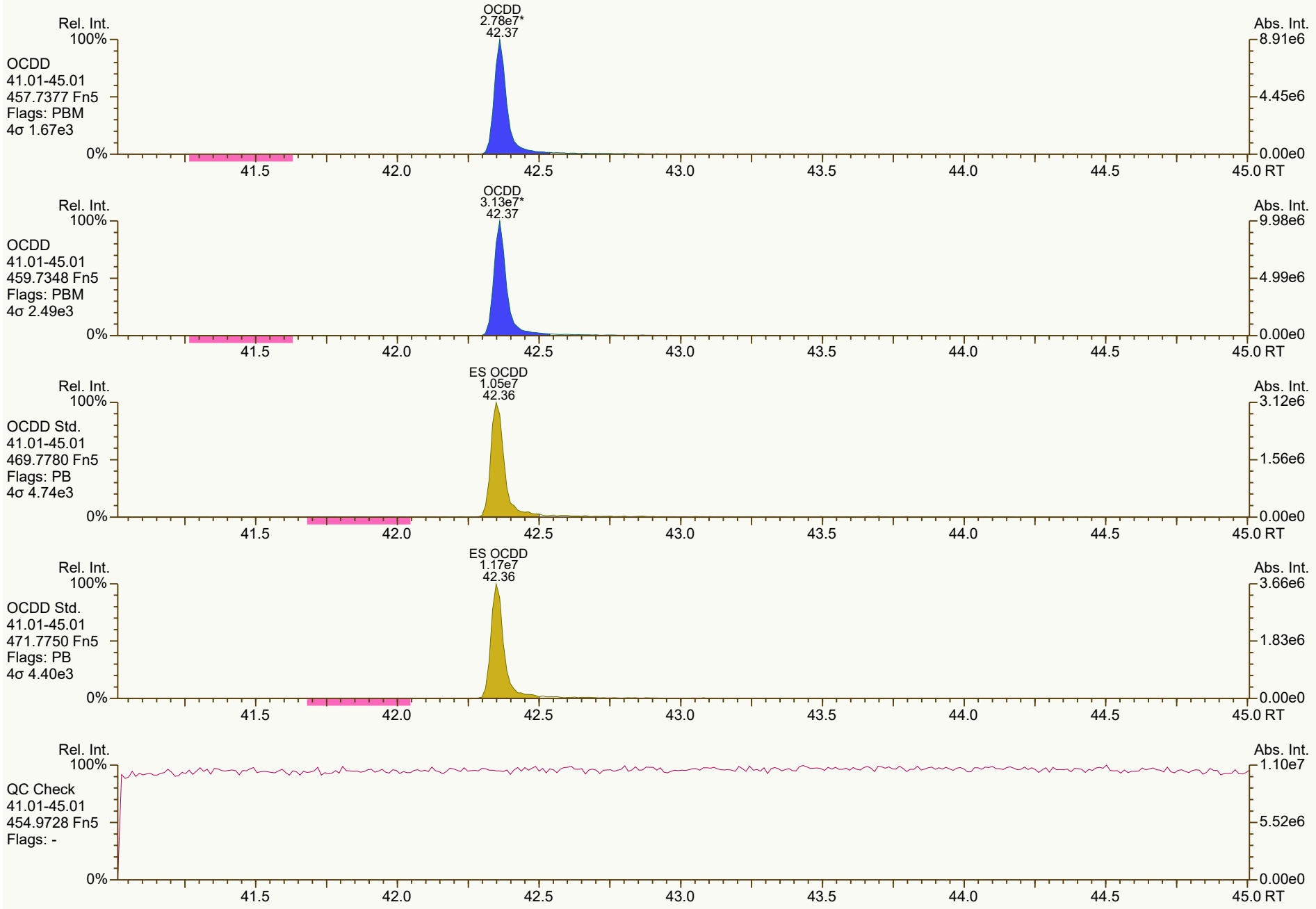
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_003.utp_res, saved 22-Feb-2022 15:05 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7760, 2976, 2607 scc: 207-644 | *PKD: 22-Feb-2022 12:53 Printed: 22-Feb-2022 15:34 Page 2 of 12*


SGS ID: B6284_18926_DF_003
Sample ID: 11215131-020422-S-SB-SW-O-25
Acq: 22-Feb-2022 10:53:45
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: PSW Datafile: 220222R08
Rel. Int.
Abs. Int.
PeCDD
29.52-34.00
355.8546 Fn2
Flags: PBM
4σ 1.97e3
12469D
2.60e5
30.73
12479/12468D
4.86e4
30.17
12369D...[3]
5.44e4*
31.87
6.26e4
3.13e4
0.00e0
PeCDD
29.52-34.00
357.8517 Fn2
Flags: PBM
4σ 1.65e3
12469D
1.67e5
30.73
12479/12468D
3.21e4
30.16
12369D...[3]
3.21e4*
31.86
9.11e4
4.56e4
0.00e0
PeCDD Std.
29.52-34.00
367.8949 Fn2
Flags: PB
4σ 2.73e3
CS 12347D
1.32e7
32.22
ES 12378D
1.44e7
32.74
3.71e6
1.86e6
0.00e0
PeCDD Std.
29.52-34.00
369.8919 Fn2
Flags: PB
4σ 4.73e3
CS 12347D
8.23e6
32.22
ES 12378D
8.53e6
32.74
2.28e6
1.14e6
0.00e0
QC Check
29.52-34.00
366.9792 Fn2
Flags: -
5.28e6
2.64e6
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_003.utp_res, saved 22-Feb-2022 15:05 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2615, 5148 scc: 207-644
PKD: 22-Feb-2022 12:53 Printed: 22-Feb-2022 15:34 Page 3 of 12


SGS ID: B6284_18926_DF_003
Sample ID: 11215131-020422-S-SB-SW-O-25
Acq: 22-Feb-2022 10:53:45
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: PSW Datafile: 220222R08
Rel. Int.
Abs. Int.
HxCDD
34.01-38.50
389.8156 Fn3
Flags: PBM
4σ 2.28e3
124679/124689D
1.54e6
34.96
123679/123689D
2.83e5
35.91
4.45e5
2.22e5
0.00e0
HxCDD
34.01-38.50
391.8127 Fn3
Flags: PBM
4σ 2.30e3
124679/124689D
1.19e6
34.96
123679/123689D
2.36e5
35.91
3.50e5
1.75e5
HxCDD Std.
34.01-38.50
401.8559 Fn3
Flags: PBM
4σ 3.24e3
ES 123678D
1.07e7
36.77
ES 123478D
1.01e7
36.66
JS 123467D
6.53e6*
36.96
ES 123789D
1.23e7*
37.08
3.07e6
1.54e6
HxCDD Std.
34.01-38.50
403.8530 Fn3
Flags: PBM
4σ 3.28e3
ES 123678D
8.57e6
36.77
ES 123478D
7.63e6
36.66
JS 123467D
5.08e6*
36.97
ES 123789D
9.59e6*
37.08
2.40e6
1.20e6
QC Check
34.01-38.50
380.9760 Fn3
Flags: -
2.52e7
1.26e7
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_003.utp_res, saved 22-Feb-2022 15:05 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9457, 4582 scc: 207-644
PKD: 22-Feb-2022 12:53 Printed: 22-Feb-2022 15:34 Page 4 of 12


Rel. Int.
100%
HpCDD
38.52-41.00
423.7767 Fn4
Flags: PB
4σ 2.58e3
1234679D
3.43e6
39.28
1234678D
1.55e6
39.94
Abs. Int.
1.15e6
5.77e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD
38.52-41.00
425.7737 Fn4
Flags: PB
4σ 2.02e3
1234679D
3.35e6
39.28
1234678D
1.50e6
39.94
Abs. Int.
1.12e6
5.62e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.52-41.00
435.8169 Fn4
Flags: PB
4σ 6.46e3
ES 1234678D
8.55e6
39.93
Abs. Int.
3.25e6
1.63e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.52-41.00
437.8140 Fn4
Flags: PB
4σ 2.59e3
ES 1234678D
7.87e6
39.93
Abs. Int.
2.87e6
1.44e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
QC Check
38.52-41.00
430.9728 Fn4
Flags: -
Abs. Int.
1.58e7
7.91e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT


OCDD
2.78e7*
42.37
Rel. Int.
100%
OCDD
41.01-45.01
457.7377 Fn5
Flags: PBM
4σ 1.67e3
0%
Abs. Int.
8.91e6
4.45e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.13e7*
42.37
Rel. Int.
100%
OCDD
41.01-45.01
459.7348 Fn5
Flags: PBM
4σ 2.49e3
0%
Abs. Int.
9.98e6
4.99e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.05e7
42.36
Rel. Int.
100%
OCDD Std.
41.01-45.01
469.7780 Fn5
Flags: PB
4σ 4.74e3
0%
Abs. Int.
3.12e6
1.56e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.17e7
42.36
Rel. Int.
100%
OCDD Std.
41.01-45.01
471.7750 Fn5
Flags: PB
4σ 4.40e3
0%
Abs. Int.
3.66e6
1.83e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.01-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.10e7
5.52e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

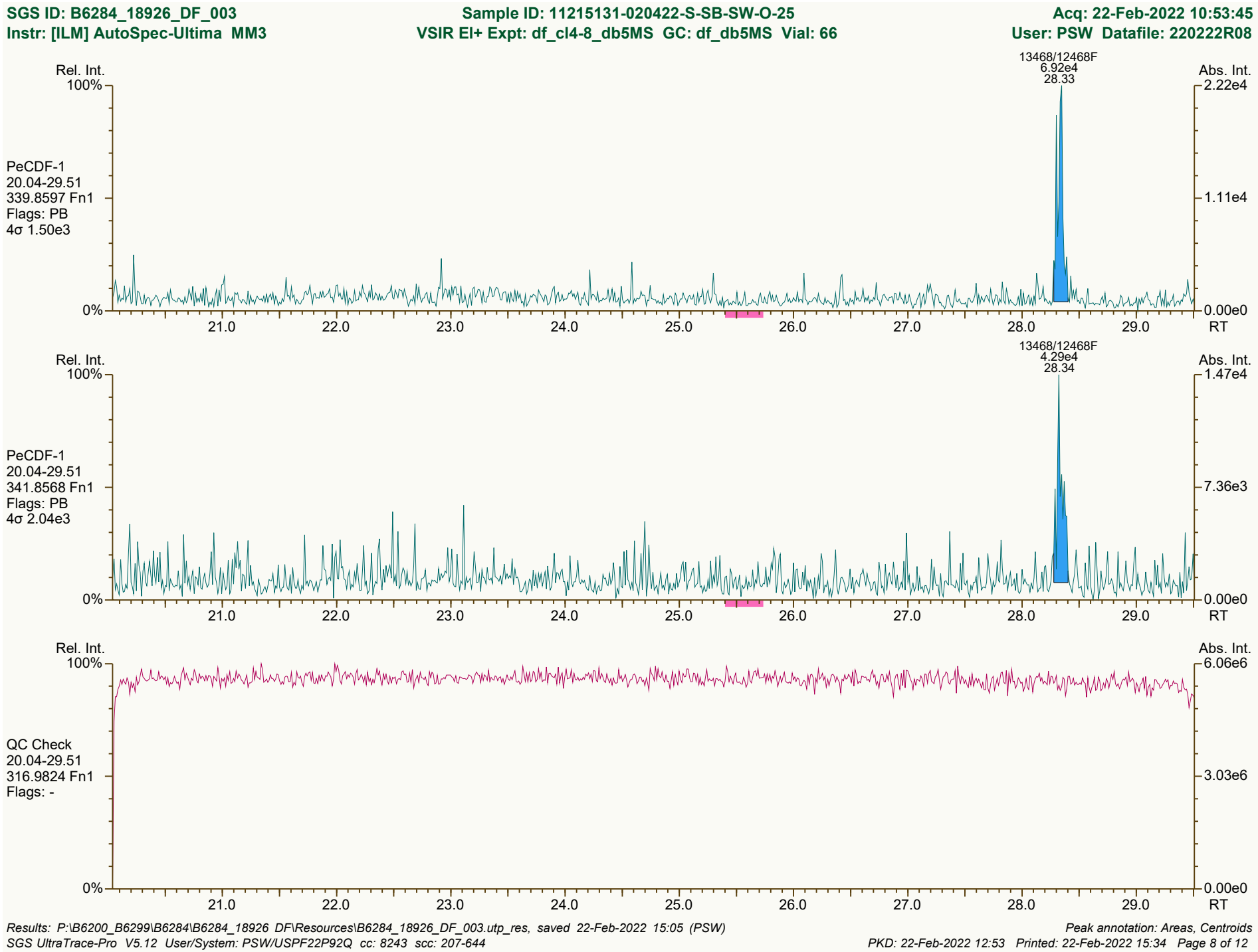
SGS ID: B6284_18926_DF_003 | Sample ID: 11215131-020422-S-SB-SW-O-25 | Acq: 22-Feb-2022 10:53:45

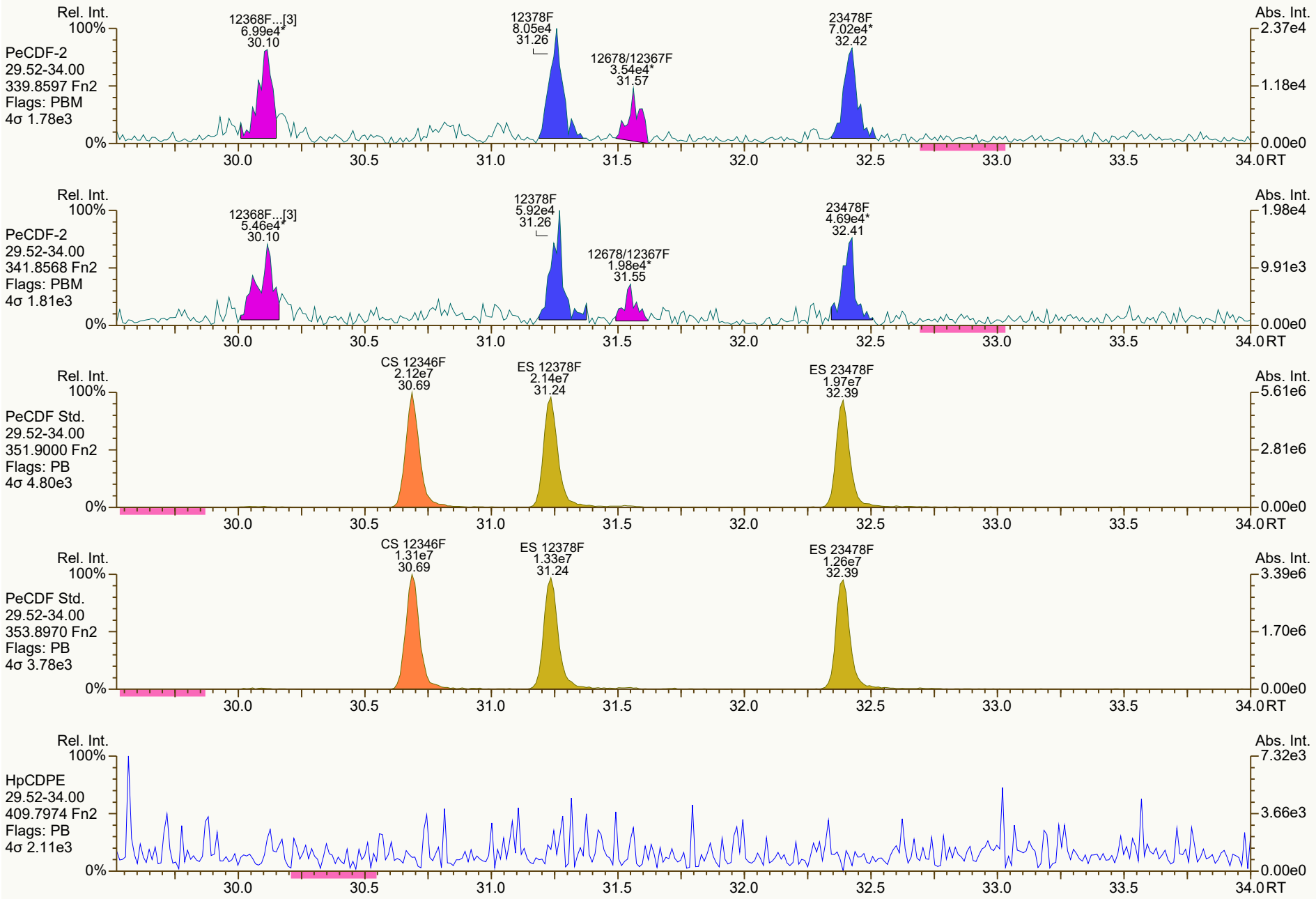
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66 | User: PSW Datafile: 220222R08

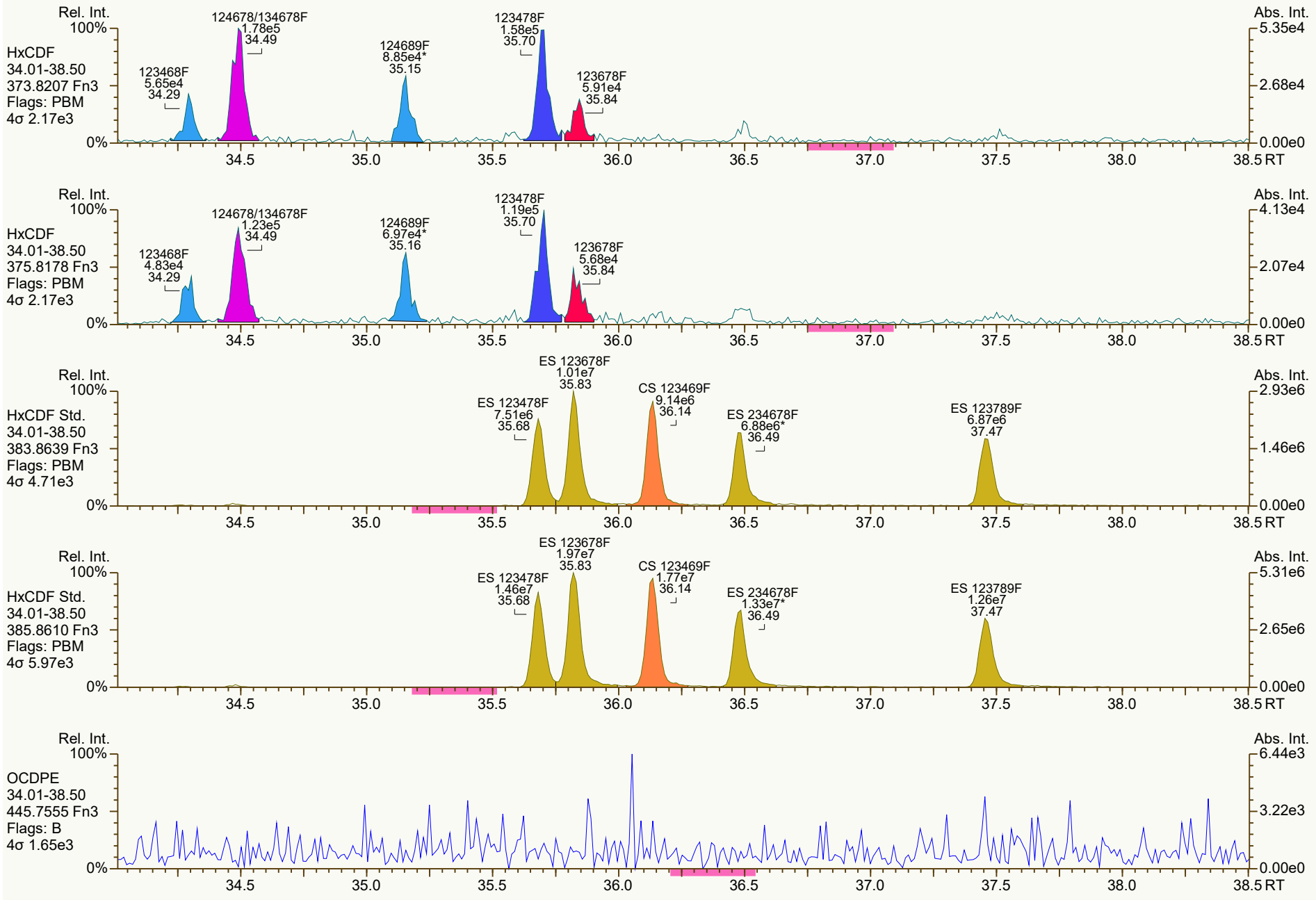


Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_003.utp_res, saved 22-Feb-2022 15:05 (PSW) | *Peak annotation: Areas, Centroids*

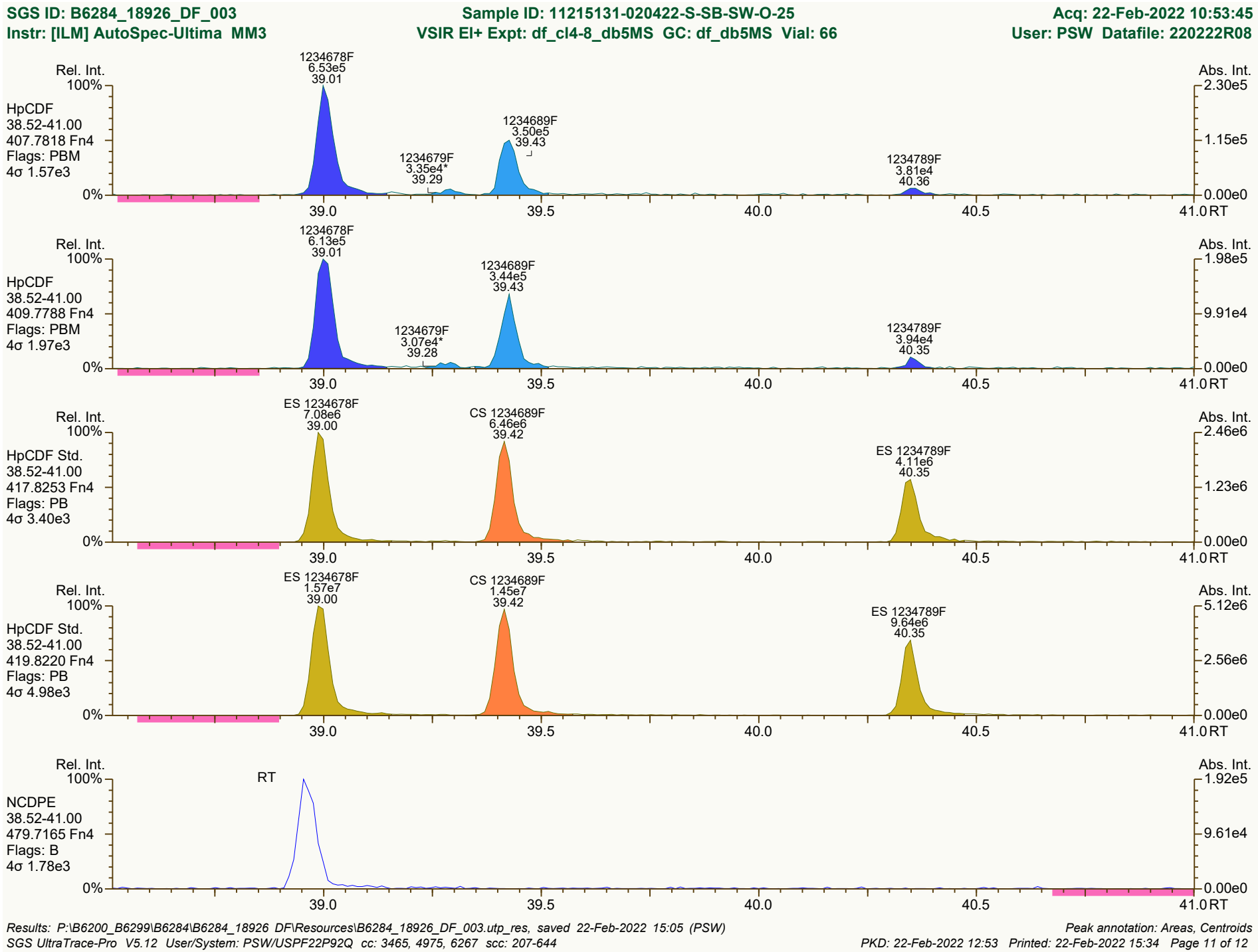
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8111, 7652, 8480 scc: 207-644 | *PKD: 22-Feb-2022 12:53 Printed: 22-Feb-2022 15:34 Page 7 of 12*


SGS ID: B6284_18926_DF_003
Sample ID: 11215131-020422-S-SB-SW-O-25
Acq: 22-Feb-2022 10:53:45
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: PSW Datafile: 220222R08
Rel. Int.
100%
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
RT
13468/12468F
6.92e4
28.33
PeCDF-1
20.04-29.51
339.8597 Fn1
Flags: PB
4σ 1.50e3
13468/12468F
4.29e4
28.34
PeCDF-1
20.04-29.51
341.8568 Fn1
Flags: PB
4σ 2.04e3
1.47e4
7.36e3
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
6.06e6
3.03e6
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_003.utp_res, saved 22-Feb-2022 15:05 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8243 scc: 207-644
PKD: 22-Feb-2022 12:53 Printed: 22-Feb-2022 15:34 Page 8 of 12

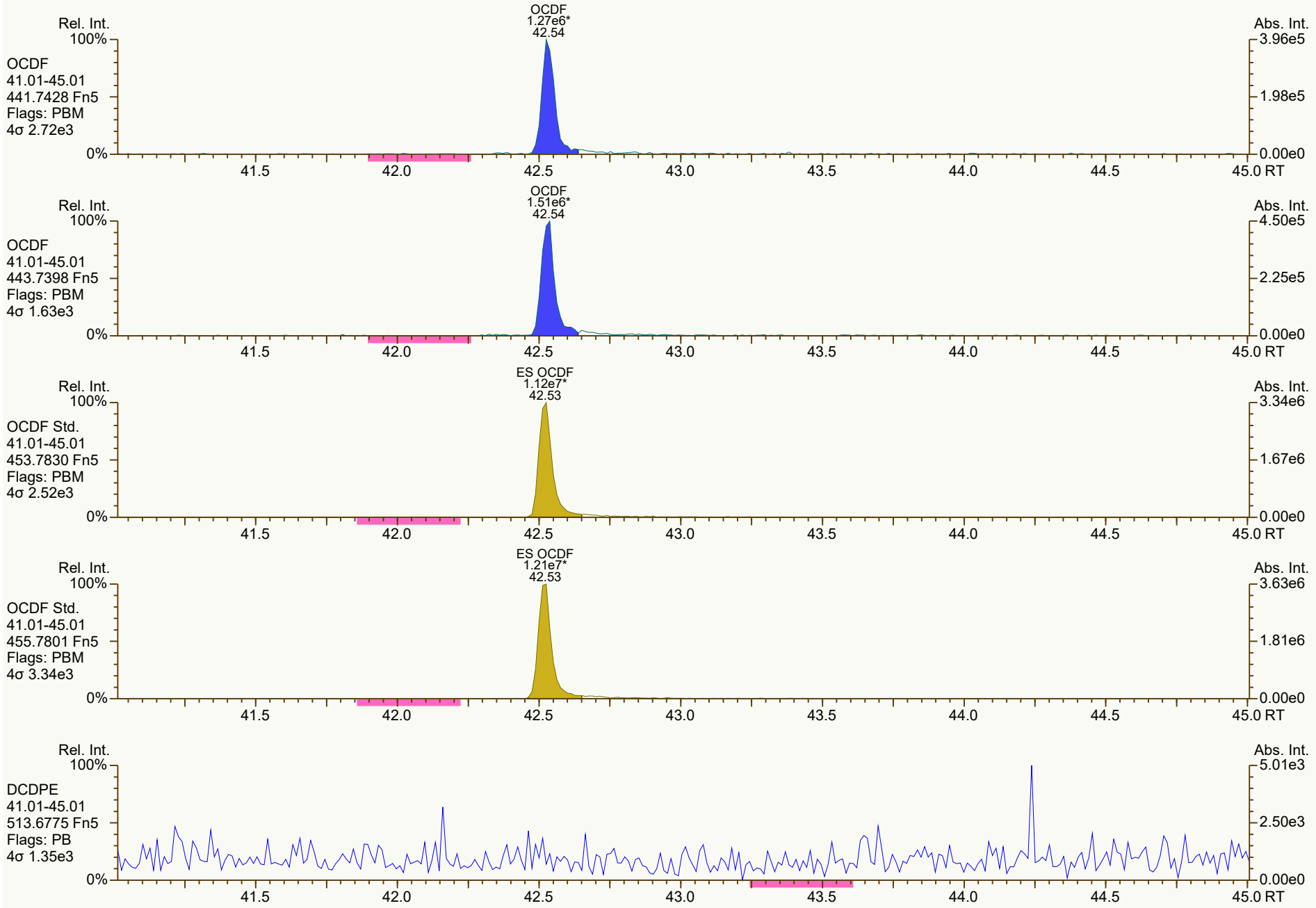

Rel. Int.
100%
PeCDF-2
29.52-34.00
339.8597 Fn2
Flags: PBM
4σ 1.78e3
12368F...[3]
6.99e4*
30.10
12378F
8.05e4
31.26
12678/12367F
3.54e4*
31.57
23478F
7.02e4*
32.42
Abs. Int.
2.37e4
1.18e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF-2
29.52-34.00
341.8568 Fn2
Flags: PBM
4σ 1.81e3
12368F...[3]
5.46e4*
30.10
12378F
5.92e4
31.26
12678/12367F
1.98e4*
31.55
23478F
4.69e4*
32.41
Abs. Int.
1.98e4
9.91e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF Std.
29.52-34.00
351.9000 Fn2
Flags: PB
4σ 4.80e3
CS 12346F
2.12e7
30.69
ES 12378F
2.14e7
31.24
ES 23478F
1.97e7
32.39
Abs. Int.
5.61e6
2.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF Std.
29.52-34.00
353.8970 Fn2
Flags: PB
4σ 3.78e3
CS 12346F
1.31e7
30.69
ES 12378F
1.33e7
31.24
ES 23478F
1.26e7
32.39
Abs. Int.
3.39e6
1.70e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
HpCDPE
29.52-34.00
409.7974 Fn2
Flags: PB
4σ 2.11e3
Abs. Int.
7.32e3
3.66e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT


Rel. Int.
100%
HxCDF
34.01-38.50
373.8207 Fn3
Flags: PBM
4σ 2.17e3
123468F 5.65e4 34.29
124678/134678F 1.78e5 34.49
124689F 8.85e4* 35.15
123478F 1.58e5 35.70
123678F 5.91e4 35.84
Abs. Int.
5.35e4
2.68e4
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF
34.01-38.50
375.8178 Fn3
Flags: PBM
4σ 2.17e3
123468F 4.83e4 34.29
124678/134678F 1.23e5 34.49
124689F 6.97e4* 35.16
123478F 1.19e5 35.70
123678F 5.68e4 35.84
Abs. Int.
4.13e4
2.07e4
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF Std.
34.01-38.50
383.8639 Fn3
Flags: PBM
4σ 4.71e3
ES 123678F 1.01e7 35.83
ES 123478F 7.51e6 35.68
CS 123469F 9.14e6 36.14
ES 234678F 6.88e6* 36.49
ES 123789F 6.87e6 37.47
Abs. Int.
2.93e6
1.46e6
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF Std.
34.01-38.50
385.8610 Fn3
Flags: PBM
4σ 5.97e3
ES 123678F 1.97e7 35.83
ES 123478F 1.46e7 35.68
CS 123469F 1.77e7 36.14
ES 234678F 1.33e7* 36.49
ES 123789F 1.26e7 37.47
Abs. Int.
5.31e6
2.65e6
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
OCDPE
34.01-38.50
445.7555 Fn3
Flags: B
4σ 1.65e3
Abs. Int.
6.44e3
3.22e3
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT

SGS ID: B6284_18926_DF_003 | Sample ID: 11215131-020422-S-SB-SW-O-25 | Acq: 22-Feb-2022 10:53:45
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66 | User: PSW Datafile: 220222R08



Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_003.utp_res, saved 22-Feb-2022 15:05 (PSW) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3465, 4975, 6267 scc: 207-644 | PKD: 22-Feb-2022 12:53 Printed: 22-Feb-2022 15:34 Page 11 of 12


Rel. Int.
100%
OCDF
41.01-45.01
441.7428 Fn5
Flags: PBM
4σ 2.72e3
0%
OCDF
1.27e6*
42.54
Abs. Int.
3.96e5
1.98e5
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.01-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
OCDF
1.51e6*
42.54
Abs. Int.
4.50e5
2.25e5
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.01-45.01
453.7830 Fn5
Flags: PBM
4σ 2.52e3
0%
ES OCDF
1.12e7*
42.53
Abs. Int.
3.34e6
1.67e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.01-45.01
455.7801 Fn5
Flags: PBM
4σ 3.34e3
0%
ES OCDF
1.21e7*
42.53
Abs. Int.
3.63e6
1.81e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.01-45.01
513.6775 Fn5
Flags: PB
4σ 1.35e3
0%
Abs. Int.
5.01e3
2.50e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6284_18926_DF_004 **Acq'd:** 22 Feb 2022 11:41 PSW **Wt/Vol:** 10.19 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-020422-S-SB-SW-O-23 **UTP:** 22-Feb-2022 15:05:16 PSW **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 161-099-TSY

Datafile: 220222R09 **Report:** 23 Feb 2022 15:21 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	27.21		1.0008	1.0008	0	1.33E+07	0.81	Y	1.34	52.4	4263.687	0.186
12378-PeCDD	32.76	J	1.0006	1.0005	-0.2	2.67E+05	1.74	Y	1.06	1.4	3612.017	0.178
123478-HxCDD	36.68	J	1.0004	1.0004	0	2.04E+05	1.27	Y	1.06	1.32	6626.728	0.346
123678-HxCDD	36.79	J	1.0035	1.0035	0	3.77E+05	1.27	Y	1.08	2.2	6626.728	0.339
123789-HxCDD	37.09	J	1.0117	1.0117	0	3.99E+05	1.07	Y	1.02	2.23	6626.728	0.355
1234678-HpCDD	39.94		1.0003	1.0003	0	2.75E+07	1.04	Y	0.97	196	4672.402	0.229
OCDD	42.38	E	1.0003	1.0004	+0.3	2.66E+09	0.90	Y	1.07	21,000	4576.16	0.284
2378-TCDF	26.30		1.0007	1.0009	+0.3	5.22E+07	0.79	Y	0.96	192	2997.805	0.132
12378-PeCDF	31.26		1.0006	1.0005	-0.2	5.70E+06	1.57	Y	0.95	21.5	5254.398	0.195
23478-PeCDF	32.42		1.0006	1.0007	+0.2	2.42E+06	1.57	Y	0.94	9.75	5254.398	0.203
123478-HxCDF	35.71		1.0005	1.0005	0	1.29E+07	1.30	Y	1.23	57.8	5740.047	0.219
123678-HxCDF	35.86		1.0004	1.0006	+0.4	3.58E+06	1.28	Y	1.13	13.3	5740.047	0.204
234678-HxCDF	36.50	J	1.0004	1.0002	-0.4	4.56E+05	1.20	Y	1.15	2.4	5740.047	0.272
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	5740.047	0.296
1234678-HpCDF	39.02		1.0003	1.0003	0	3.78E+06	1.05	Y	1.36	15.1	3833.881	0.103
1234789-HpCDF	40.37		1.0003	1.0003	0	8.51E+05	1.02	Y	1.30	5.72	3833.881	0.174
OCDF	42.54		1.0003	1.0001	-0.5	2.82E+06	0.86	Y	1.03	23.6	3830.08	0.255

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	27.19	1.0263	1.0265	+0.3	3.72E+07	0.77	Y	1.03	87.4
ES 12378-PeCDD	32.74	1.2342	1.2362	+3.9	3.54E+07	1.55	Y	1.03	83.2
ES 123478-HxCDD	36.66	0.9915	0.9916	+0.2	2.87E+07	1.29	Y	0.99	84.8
ES 123678-HxCDD	36.78	0.9947	0.9948	+0.2	3.11E+07	1.28	Y	0.97	93.8
ES 123789-HxCDD	37.08	1.0028	1.0030	+0.4	3.45E+07	1.28	Y	1.12	90.2
ES 1234678-HpCDD	39.93	1.0791	1.0801	+2.4	2.83E+07	1.05	Y	0.99	83.8
ES OCDD	42.37	1.1449	1.1459	+2.5	4.64E+07	0.91	Y	0.78	87.7
ES 2378-TCDF	26.28	1.0587	1.0593	+0.9	5.56E+07	0.78	Y	1.08	80.6
ES 12378-PeCDF	31.25	1.2570	1.2596	+4.9	5.50E+07	1.59	Y	0.93	92.6
ES 23478-PeCDF	32.40	1.3032	1.3062	+5.8	5.19E+07	1.59	Y	0.92	88.5
ES 123478-HxCDF	35.69	0.9652	0.9653	+0.2	3.54E+07	0.51	Y	1.14	91.1
ES 123678-HxCDF	35.84	0.9690	0.9693	+0.6	4.66E+07	0.52	Y	1.30	105
ES 234678-HxCDF	36.49	0.9869	0.9871	+0.4	3.24E+07	0.52	Y	1.20	79.2
ES 123789-HxCDF	37.47	1.0133	1.0135	+0.4	3.25E+07	0.51	Y	1.14	84
ES 1234678-HpCDF	39.00	1.0541	1.0549	+1.9	3.61E+07	0.46	Y	0.95	112
ES 1234789-HpCDF	40.36	1.0906	1.0916	+2.4	2.25E+07	0.44	Y	0.85	77.9
ES OCDF	42.54	1.1495	1.1506	+2.8	4.57E+07	0.93	Y	0.93	72.5

Lab ID: B6284_18926_DF_004 **Acq'd:** 22 Feb 2022 11:41 PSW **Wt/Vol:** 10.19 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-020422-S-SB-SW-O-23 **UTP:** 22-Feb-2022 15:05:16 PSW **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 161-099-TSY

Datafile: 220222R09 **Report:** 23 Feb 2022 15:21 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.48		-	-	-	4.11E+07	0.77	Y	-	-
JS 1234-TCDF	24.81		-	-	-	6.36E+07	0.79	Y	-	-
JS 123467-HxCDD	36.97		-	-	-	1.70E+07	1.26	Y	-	-
CS 37Cl-2378-TCDD	27.21		1.0271	1.0274	+0.5	1.76E+07	n/a	-	1.31	81.7
CS 12347-PeCDD	32.22		1.2149	1.2167	+3.5	3.46E+07	1.60	Y	0.89	94.1
CS 12346-PeCDF	30.70		1.2351	1.2376	+4.6	5.44E+07	1.64	Y	0.87	98.5
CS 123469-HxCDF	36.14		0.9774	0.9776	+0.4	4.16E+07	0.53	Y	1.09	112
CS 1234689-HpCDF	39.43		1.0654	1.0664	+2.4	3.27E+07	0.45	Y	0.86	111
~~SS 37Cl-2378-TCDD~~	~~27.21~~		~~1.0271~~	~~1.0274~~	~~+0.5~~	~~1.76E+07~~	~~n/a~~		~~1.26~~	~~94~~
~~SS 12347-PeCDD~~	~~32.22~~		~~1.2149~~	~~1.2167~~	~~+3.5~~	~~3.46E+07~~	~~1.60~~	~~Y~~	~~0.86~~	~~113~~
~~SS 12346-PeCDF~~	~~30.70~~		~~1.2351~~	~~1.2376~~	~~+4.6~~	~~5.44E+07~~	~~1.64~~	~~Y~~	~~0.93~~	~~106~~
~~SS 123469-HxCDF~~	~~36.14~~		~~0.9774~~	~~0.9776~~	~~+0.4~~	~~4.16E+07~~	~~0.53~~	~~Y~~	~~0.84~~	~~106~~
~~SS 1234689-HpCDF~~	~~39.43~~		~~1.0654~~	~~1.0664~~	~~+2.4~~	~~3.27E+07~~	~~0.45~~	~~Y~~	~~0.91~~	~~99.3~~

Totals	Conc	EMPC
Total TCDD	58	59.4
Total PeCDD	4.15	5.14
Total HxCDD	32.2	32.8
Total HpCDD	492	492
Total Tetra-Octa Dioxins	21600	21600
Total TCDF	388	390
Total PeCDF	49.1	49.7
Total HxCDF	89.1	89.5
Total HpCDF	32.6	32.6
Total Tetra-Octa Furans	582	585
Total Tetra-Octa Dioxins & Furans	22200	22200

Lab ID: B6284_18926_DF_004 | **Acq'd: 22 Feb 2022 11:41 PSW** | **Wt/Vol: 10.19 g** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-020422-S-SB-SW-O-23 | **UTP: 22-Feb-2022 15:05:16 PSW** | **J-level: 0.491 pg/g** | **Split: 1** | **Checkcode: 161-099-TSY**

Datafile: 220222R09 | **Report: 23 Feb 2022 15:21 pw** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	23.26	J EMPC	0.8571	0.8555	-2.2	8.88E+04	0.57	N	1.34	0.349	4263.687	0.186
1379-TCDD	NotFnd		0.8715						1.34		4263.687	0.186
1369-TCDD	NotFnd		0.8889						1.34		4263.687	0.186
1469-TCDD	24.99	J	0.9198	0.9191	-1.0	1.21E+05	0.81	Y	1.34	0.475	4263.687	0.186
1247/1246/1248/1249-TCDD	25.25	J	0.9291	0.9287	-0.6	5.06E+04	0.70	Y	1.34	0.199	4263.687	0.186
1378-TCDD	25.45	J EMPC	0.9366	0.9361	-0.8	6.77E+04	0.63	N	1.34	0.266	4263.687	0.186
1268-TCDD	NotFnd		0.9446						1.34		4263.687	0.186
1478-TCDD	NotFnd		0.9539						1.34		4263.687	0.186
1279-TCDD	NotFnd		0.9606						1.34		4263.687	0.186
1234/1269-TCDD	NotFnd		0.9745						1.34		4263.687	0.186
1236-TCDD	NotFnd		0.9798						1.34		4263.687	0.186
1237/1238-TCDD	26.91	EMPC	0.9897	0.9897	0	1.80E+05	0.97	N	1.34	0.706	4263.687	0.186
1239-TCDD	NotFnd		0.9948						1.34		4263.687	0.186
2378-TCDD	**27.21**		**1.0008**	1.0008	**0**	1.33E+07	0.81	Y	**1.34**	**52.4**	**4263.687**	**0.186**
1278-TCDD	27.56		1.0136	1.0136	0	1.26E+06	0.82	Y	1.34	4.95	4263.687	0.186
1267-TCDD	NotFnd		1.0189						1.34		4263.687	0.186
1289-TCDD	NotFnd		1.0384						1.34		4263.687	0.186
12479/12468-PeCDD	30.17	J	0.9220	0.9216	-0.7	1.98E+05	1.73	Y	1.06	1.04	3612.017	0.178
12469-PeCDD	30.73	J	0.9390	0.9386	-0.7	1.79E+05	1.53	Y	1.06	0.937	3612.017	0.178
12368-PeCDD	31.30	J EMPC	0.9563	0.9560	-0.6	4.97E+04	1.82	N	1.06	0.26	3612.017	0.178
12478-PeCDD	31.50	J	0.9622	0.9620	-0.4	1.11E+05	1.53	Y	1.06	0.58	3612.017	0.178
12379-PeCDD	31.60	J EMPC	0.9653	0.9651	-0.4	4.75E+04	2.08	N	1.06	0.249	3612.017	0.178
12369/12467/12489-PeCDD	31.87	J EMPC	0.9736	0.9734	-0.4	9.28E+04	1.96	N	1.06	0.486	3612.017	0.178
12346/12347-PeCDD	NotFnd		0.9851						1.06		3612.017	0.178
12378-PeCDD	32.76	J	**1.0006**	**1.0005**	**-0.2**	**2.67E+05**	**1.74**	**Y**	**1.06**	**1.4**	**3612.017**	**0.178**
12367-PeCDD	32.84	J	1.0035	1.0032	-0.6	3.68E+04	1.72	Y	1.06	0.193	3612.017	0.178
12389-PeCDD	NotFnd		1.0143						1.06		3612.017	0.178
124679/124689-HxCDD	34.96		0.9536	0.9536	0	2.51E+06	1.24	Y	1.05	14.9	6626.728	0.347
123468-HxCDD	35.62	J	0.9716	0.9715	-0.2	2.56E+05	1.30	Y	1.05	1.52	6626.728	0.347
123679/123689-HxCDD	35.92		0.9797	0.9797	0	1.51E+06	1.29	Y	1.05	8.95	6626.728	0.347
123469-HxCDD	36.05	J	0.9833	0.9832	-0.2	1.87E+05	1.28	Y	1.05	1.11	6626.728	0.347
123478-HxCDD	36.68	J	**1.0004**	**1.0004**	**0**	**2.04E+05**	**1.27**	**Y**	1.06	**1.32**	**6626.728**	**0.346**
123678-HxCDD	36.79	J	**1.0035**	**1.0035**	**0**	**3.77E+05**	**1.27**	**Y**	1.08	**2.2**	**6626.728**	**0.339**
123467-HxCDD	36.99	J EMPC	1.0089	1.0088	-0.2	8.88E+04	0.95	N	1.05	0.527	6626.728	0.347
123789-HxCDD	37.09	J	**1.0117**	**1.0117**	**0**	**3.99E+05**	**1.07**	**Y**	1.02	**2.23**	**6626.728**	**0.355**

Lab ID: B6284_18926_DF_004 **Acq'd:** 22 Feb 2022 11:41 PSW **Wt/Vol:** 10.19 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-020422-S-SB-SW-O-23 **UTP:** 22-Feb-2022 15:05:16 PSW **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 161-099-TSY

Datafile: 220222R09 **Report:** 23 Feb 2022 15:21 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

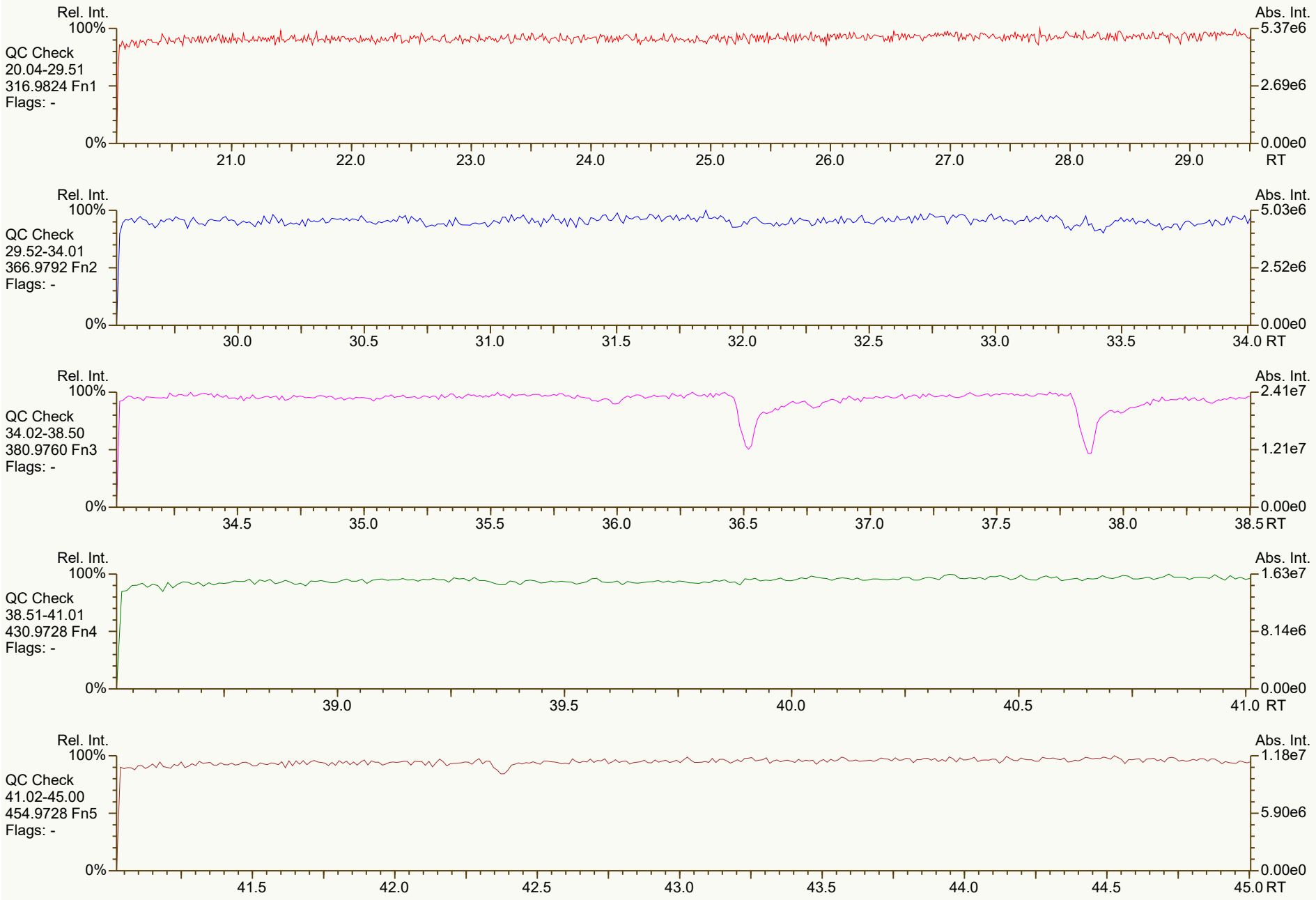
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.29		0.9839	0.9838	-0.2	4.16E+07	1.04	Y	0.97	296	4672.402	0.229
1234678-HpCDD	**39.94**		**1.0003**	**1.0003**	**0**	**2.75E+07**	**1.04**	**Y**	**0.97**	**196**	**4672.402**	**0.229**
OCDD	**42.38**	**E**	**1.0003**	**1.0004**	**+0.3**	**2.66E+09**	**0.90**	**Y**	**1.07**	**21,000**	**4576.16**	**0.284**
OCDD-a	42.38	**E**	1.0002	1.0003	+0.3	1.58E+08	2.51	Y	0.07	20,300	3387.722	3.41
1368-TCDF	21.04	J EMPC	0.8019	0.8008	-1.4	3.88E+04	1.10	N	0.96	0.143	2997.805	0.132
1468-TCDF	21.59	J EMPC	0.8238	0.8217	-2.7	1.03E+05	0.59	N	0.96	0.38	2997.805	0.132
2468-TCDF	22.26		0.8493	0.8472	-2.8	5.19E+05	0.79	Y	0.96	1.91	2997.805	0.132
1346/1246-TCDF	22.72	J EMPC	0.8635	0.8646	+1.5	1.05E+05	0.92	N	0.96	0.387	2997.805	0.132
1347/1378/1247-TCDF	22.86		0.8702	0.8700	-0.3	5.92E+05	0.71	Y	0.96	2.18	2997.805	0.132
1348-TCDF	23.13	EMPC	0.8817	0.8803	-1.9	2.36E+05	0.62	N	0.96	0.867	2997.805	0.132
1248/1367/1379-TCDF	23.24		0.8871	0.8843	-3.9	2.03E+06	0.81	Y	0.96	7.46	2997.805	0.132
1268-TCDF	23.69		0.9029	0.9017	-1.7	8.15E+05	0.78	Y	0.96	3	2997.805	0.132
1467-TCDF	23.84		0.9087	0.9072	-2.1	1.65E+05	0.67	Y	0.96	0.608	2997.805	0.132
1478-TCDF	24.03		0.9156	0.9145	-1.6	1.99E+06	0.81	Y	0.96	7.33	2997.805	0.132
1369/1237-TCDF	24.44		0.9307	0.9301	-0.9	6.83E+05	0.83	Y	0.96	2.51	2997.805	0.132
2467-TCDF	24.58	J	0.9361	0.9353	-1.2	1.01E+05	0.79	Y	0.96	0.373	2997.805	0.132
2368-TCDF	24.75		0.9422	0.9418	-0.6	1.55E+06	0.81	Y	0.96	5.71	2997.805	0.132
1238/1234/1678/1469/1236-TCDF	24.84		0.9460	0.9453	-1.0	3.55E+06	0.78	Y	0.96	13	2997.805	0.132
1278-TCDF	25.33		0.9644	0.9640	-0.6	2.36E+07	0.78	Y	0.96	86.7	2997.805	0.132
1349-TCDF	25.47		0.9693	0.9692	-0.2	3.72E+05	0.83	Y	0.96	1.37	2997.805	0.132
1267-TCDF	25.63		0.9757	0.9754	-0.5	1.39E+06	0.77	Y	0.96	5.11	2997.805	0.132
2346/1249-TCDF	25.84		0.9830	0.9833	+0.5	2.17E+05	0.66	Y	0.96	0.8	2997.805	0.132
2347/1279-TCDF	26.06		0.9919	0.9917	-0.3	7.59E+05	0.82	Y	0.96	2.79	2997.805	0.132
2348-TCDF	26.18		0.9964	0.9964	0	3.45E+06	0.79	Y	0.96	12.7	2997.805	0.132
2378-TCDF	**26.30**		**1.0007**	**1.0009**	**+0.3**	**5.22E+07**	**0.79**	**Y**	**0.96**	**192**	**2997.805**	**0.132**
2367/3467-TCDF	26.68		1.0157	1.0152	-0.8	4.42E+06	0.80	Y	0.96	16.3	2997.805	0.132
1269-TCDF	26.94		1.0248	1.0253	+0.8	1.96E+06	0.82	Y	0.96	7.21	2997.805	0.132
1239-TCDF	NotFnd		1.0355						0.96		2997.805	0.132
1289-TCDF	28.42		1.0808	1.0817	+1.5	5.11E+06	0.84	Y	0.96	18.8	2997.805	0.132
13468/12468-PeCDF	28.34	J	0.9073	0.9071	-0.3	3.55E+05	1.51	Y	0.94	1.38	3003.742	0.113
13678/13467/12467-PeCDF	29.96	J	0.9586	0.9588	+0.4	1.03E+05	1.34	Y	0.94	0.401	5254.398	0.199
12368/13478/12478-PeCDF	30.13		0.9638	0.9642	+0.7	2.20E+06	1.54	Y	0.94	8.59	5254.398	0.199
14678-PeCDF	30.21	J EMPC	0.9671	0.9670	-0.2	6.33E+04	1.95	N	0.94	0.246	5254.398	0.199
13479-PeCDF	NotFnd		0.9702						0.94		5254.398	0.199
13469/12479-PeCDF	NotFnd		0.9785						0.94		5254.398	0.199
12346-PeCDF	NotFnd		0.9831						0.94		5254.398	0.199

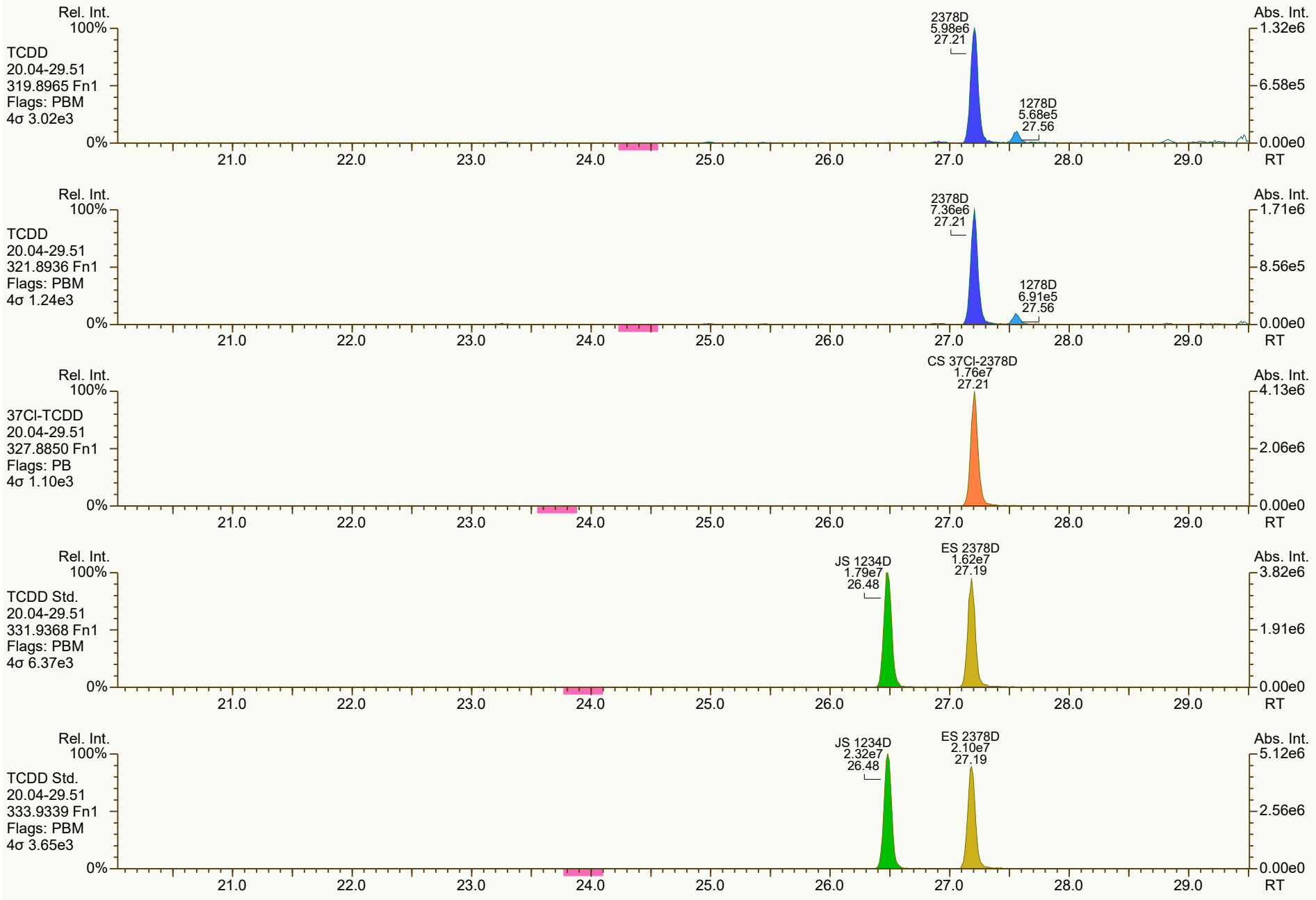
Lab ID: B6284_18926_DF_004 **Acq'd: 22 Feb 2022 11:41 PSW** **Wt/Vol: 10.19 g** **ICAL: MM3_DF_10272021_27JUL2021**

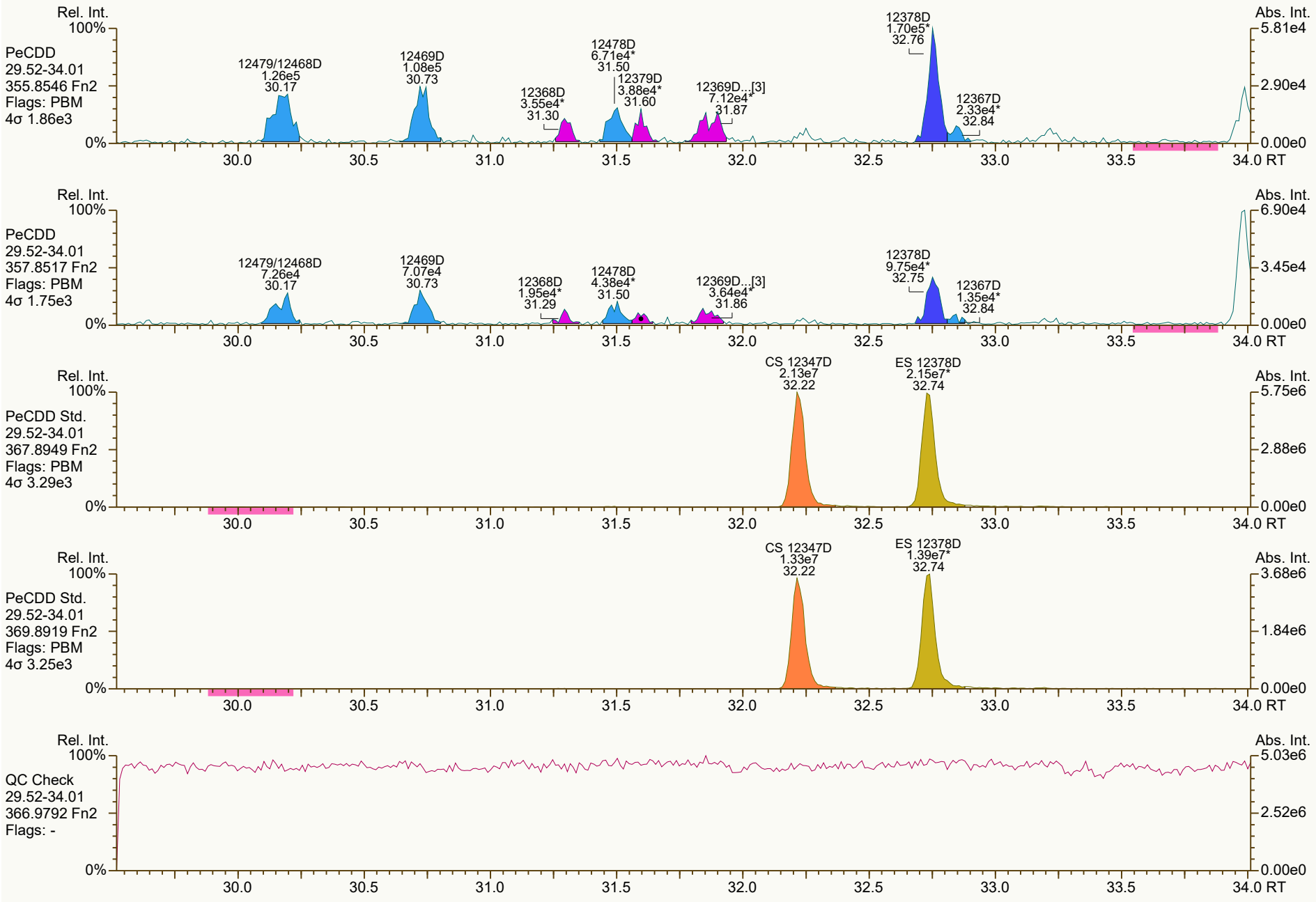
Client ID: 11215131-020422-S-SB-SW-O-23 **UTP: 22-Feb-2022 15:05:16 PSW** **J-level: 0.491 pg/g** **Split: 1** **Checkcode: 161-099-TSY**

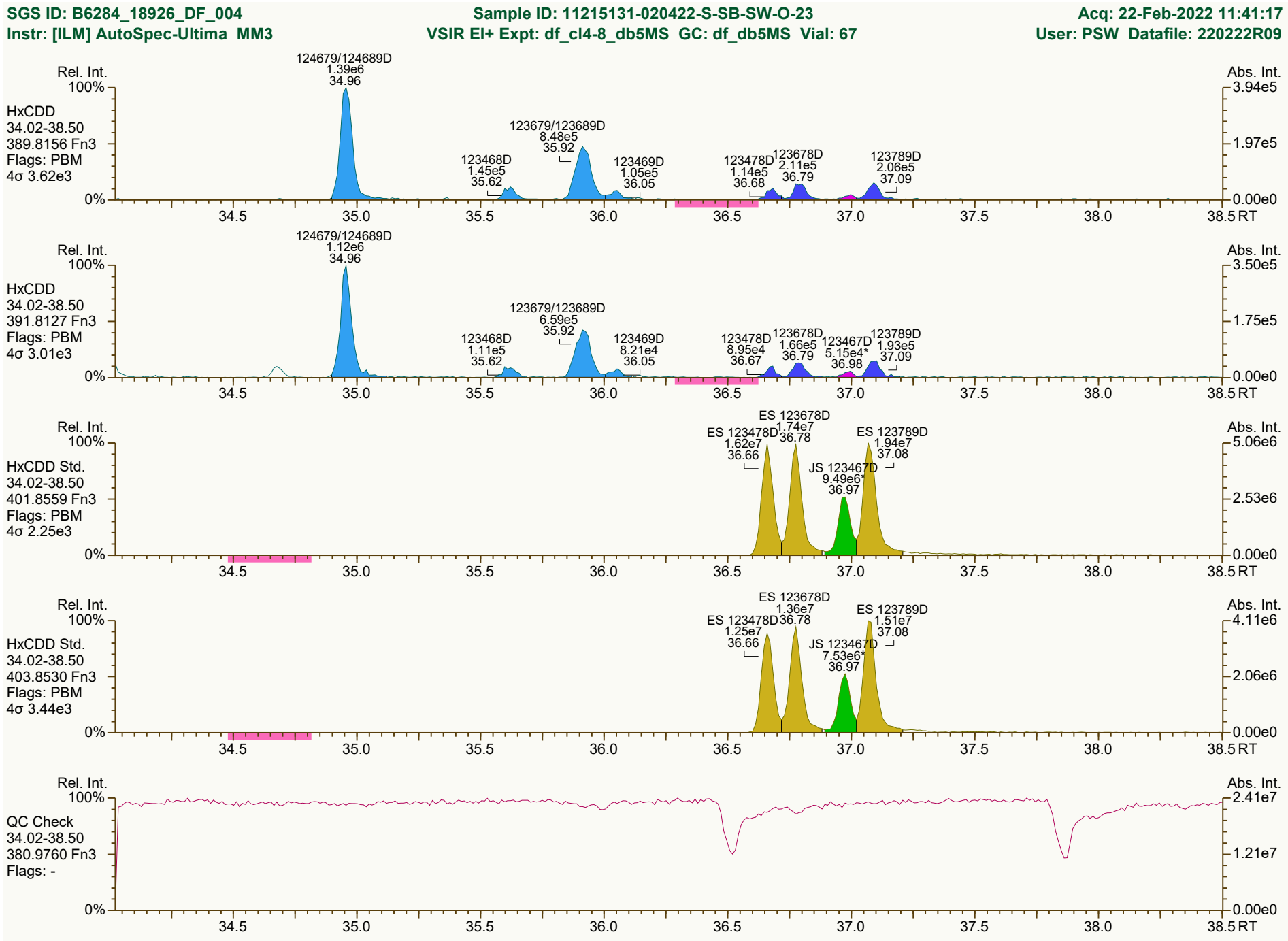
Datafile: 220222R09 **Report: 23 Feb 2022 15:21 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	30.81	J	0.9863	0.9862	-0.2	1.49E+05	1.54	Y	0.94	0.58	5254.398	0.199
12347-PeCDF	30.89	J	0.9887	0.9886	-0.2	5.75E+04	1.41	Y	0.94	0.224	5254.398	0.199
12348-PeCDF	31.05	J	0.9937	0.9936	-0.2	2.45E+05	1.55	Y	0.94	0.955	5254.398	0.199
12378-PeCDF	**31.26**		**1.0006**	**1.0005**	**-0.2**	**5.70E+06**	**1.57**	**Y**	**0.95**	**21.5**	**5254.398**	**0.195**
12678/12367-PeCDF	31.56		1.0097	1.0101	+0.8	1.34E+06	1.64	Y	0.94	5.23	5254.398	0.199
12379-PeCDF	NotFnd		1.0151						0.94		5254.398	0.199
12679-PeCDF	NotFnd		0.9923						0.94		5254.398	0.199
23467/12369-PeCDF	32.28	J EMPC	0.9965	0.9963	-0.4	6.83E+04	1.88	N	0.94	0.266	5254.398	0.199
23478-PeCDF	**32.42**		**1.0006**	**1.0007**	**+0.2**	**2.42E+06**	**1.57**	**Y**	**0.94**	**9.75**	**5254.398**	**0.203**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0049						0.94		5254.398	0.199
12349-PeCDF	NotFnd		1.0104						0.94		5254.398	0.199
12389-PeCDF	33.51	J	1.0341	1.0344	+0.6	1.35E+05	1.51	Y	0.94	0.528	5254.398	0.199
123468-HxCDF	34.30	J	0.9611	0.9610	-0.2	2.64E+05	1.18	Y	1.16	1.21	5740.047	0.242
124678/134678-HxCDF	34.50		0.9668	0.9667	-0.2	1.45E+06	1.27	Y	1.16	6.66	5740.047	0.242
134679-HxCDF	NotFnd		0.9733						1.16		5740.047	0.242
124679-HxCDF	NotFnd		0.9789						1.16		5740.047	0.242
124689-HxCDF	35.16		0.9852	0.9852	0	8.06E+05	1.25	Y	1.16	3.7	5740.047	0.242
123467-HxCDF	35.58	J EMPC	0.9972	0.9970	-0.4	8.54E+04	1.75	N	1.16	0.392	5740.047	0.242
123478-HxCDF	**35.71**		**1.0005**	**1.0005**	**0**	**1.29E+07**	**1.30**	**Y**	**1.23**	**57.8**	**5740.047**	**0.219**
123678-HxCDF	**35.86**		**1.0004**	**1.0006**	**+0.4**	**3.58E+06**	**1.28**	**Y**	**1.13**	**13.3**	**5740.047**	**0.204**
123479-HxCDF	NotFnd		1.0049						1.16		5740.047	0.242
123469-HxCDF	NotFnd		1.0090						1.16		5740.047	0.242
123679-HxCDF	NotFnd		0.9942						1.16		5740.047	0.242
234678-HxCDF	**36.50**	J	**1.0004**	**1.0002**	**-0.4**	**4.56E+05**	**1.20**	**Y**	**1.15**	**2.4**	**5740.047**	**0.272**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		5740.047	0.242
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**5740.047**	**0.296**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.52		1.0008	1.0012	+0.9	8.68E+05	1.37	Y	1.16	3.99	5740.047	0.242
1234678-HpCDF	**39.02**		**1.0003**	**1.0003**	**0**	**3.78E+06**	**1.05**	**Y**	**1.36**	**15.1**	**3833.881**	**0.103**
1234679-HpCDF	39.29	**J**	1.0073	1.0073	0	1.38E+05	0.93	Y	1.33	0.697	3833.881	0.13
1234689-HpCDF	39.44		1.0109	1.0111	+0.5	2.21E+06	1.06	Y	1.33	11.1	3833.881	0.13
1234789-HpCDF	**40.37**		**1.0003**	**1.0003**	**0**	**8.51E+05**	**1.02**	**Y**	**1.30**	**5.72**	**3833.881**	**0.174**
OCDF	**42.54**		**1.0003**	**1.0001**	**-0.5**	**2.82E+06**	**0.86**	**Y**	**1.03**	**23.6**	**3830.08**	**0.255**
OCDF-a	42.54	**EMPC**	1.0002	1.0000	-0.5	1.63E+05	1.99	N	0.06	23.5	3074.079	3.54

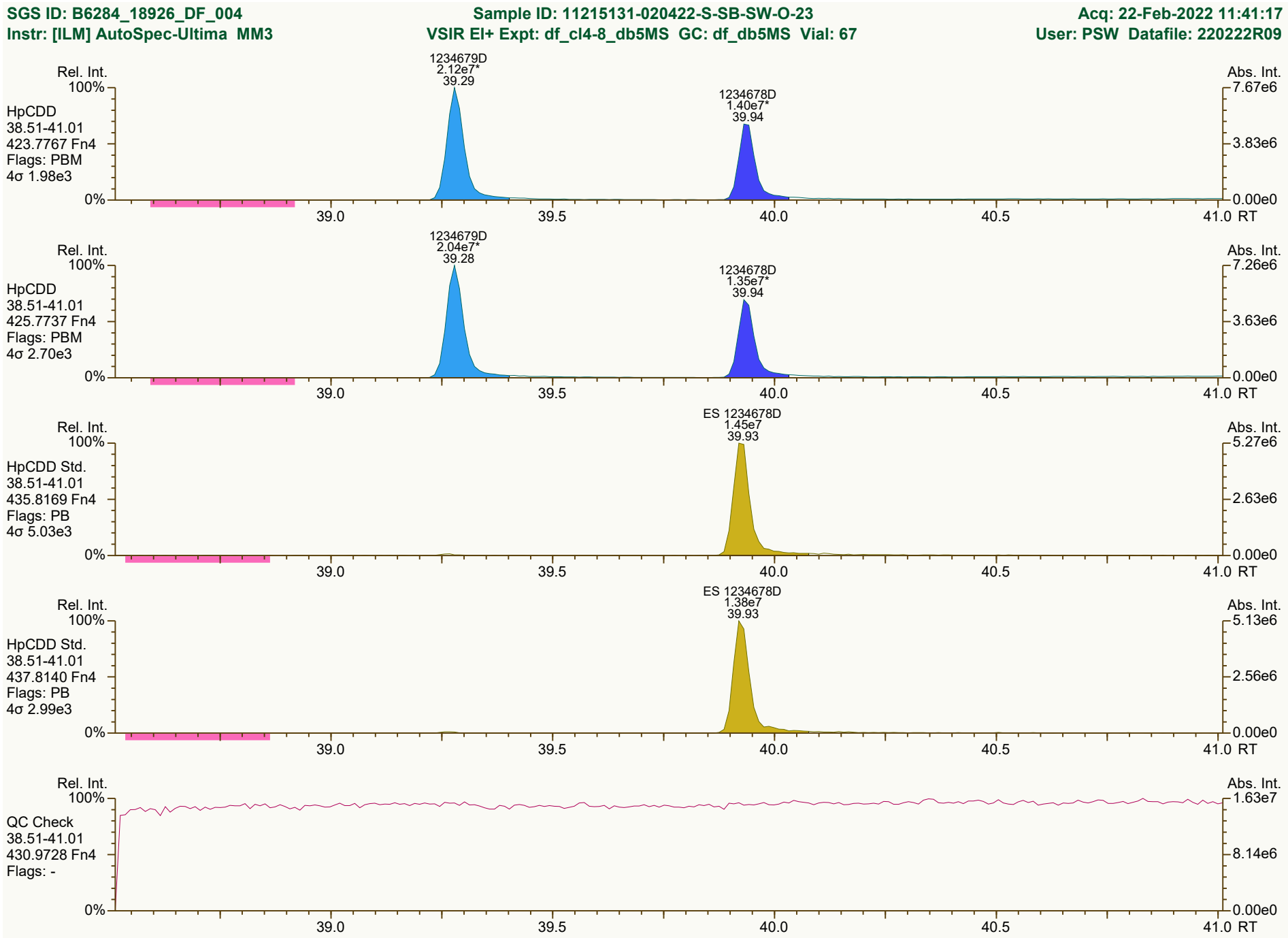

Rel. Int.
100%
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
0%
Abs. Int.
5.37e6
2.69e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.03e6
2.52e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
QC Check
34.02-38.50
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.41e7
1.21e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
QC Check
38.51-41.01
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.63e7
8.14e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
QC Check
41.02-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.18e7
5.90e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
20.04-29.51
319.8965 Fn1
Flags: PBM
4σ 3.02e3
0%
2378D
5.98e6
27.21
1278D
5.68e5
27.56
Abs. Int.
1.32e6
6.58e5
0.00e0
21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0
RT
Rel. Int.
100%
TCDD
20.04-29.51
321.8936 Fn1
Flags: PBM
4σ 1.24e3
0%
2378D
7.36e6
27.21
1278D
6.91e5
27.56
Abs. Int.
1.71e6
8.56e5
0.00e0
21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0
RT
Rel. Int.
100%
37Cl-TCDD
20.04-29.51
327.8850 Fn1
Flags: PB
4σ 1.10e3
0%
CS 37Cl-2378D
1.76e7
27.21
Abs. Int.
4.13e6
2.06e6
0.00e0
21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0
RT
Rel. Int.
100%
TCDD Std.
20.04-29.51
331.9368 Fn1
Flags: PBM
4σ 6.37e3
0%
JS 1234D
1.79e7
26.48
ES 2378D
1.62e7
27.19
Abs. Int.
3.82e6
1.91e6
0.00e0
21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0
RT
Rel. Int.
100%
TCDD Std.
20.04-29.51
333.9339 Fn1
Flags: PBM
4σ 3.65e3
0%
JS 1234D
2.32e7
26.48
ES 2378D
2.10e7
27.19
Abs. Int.
5.12e6
2.56e6
0.00e0
21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0
RT

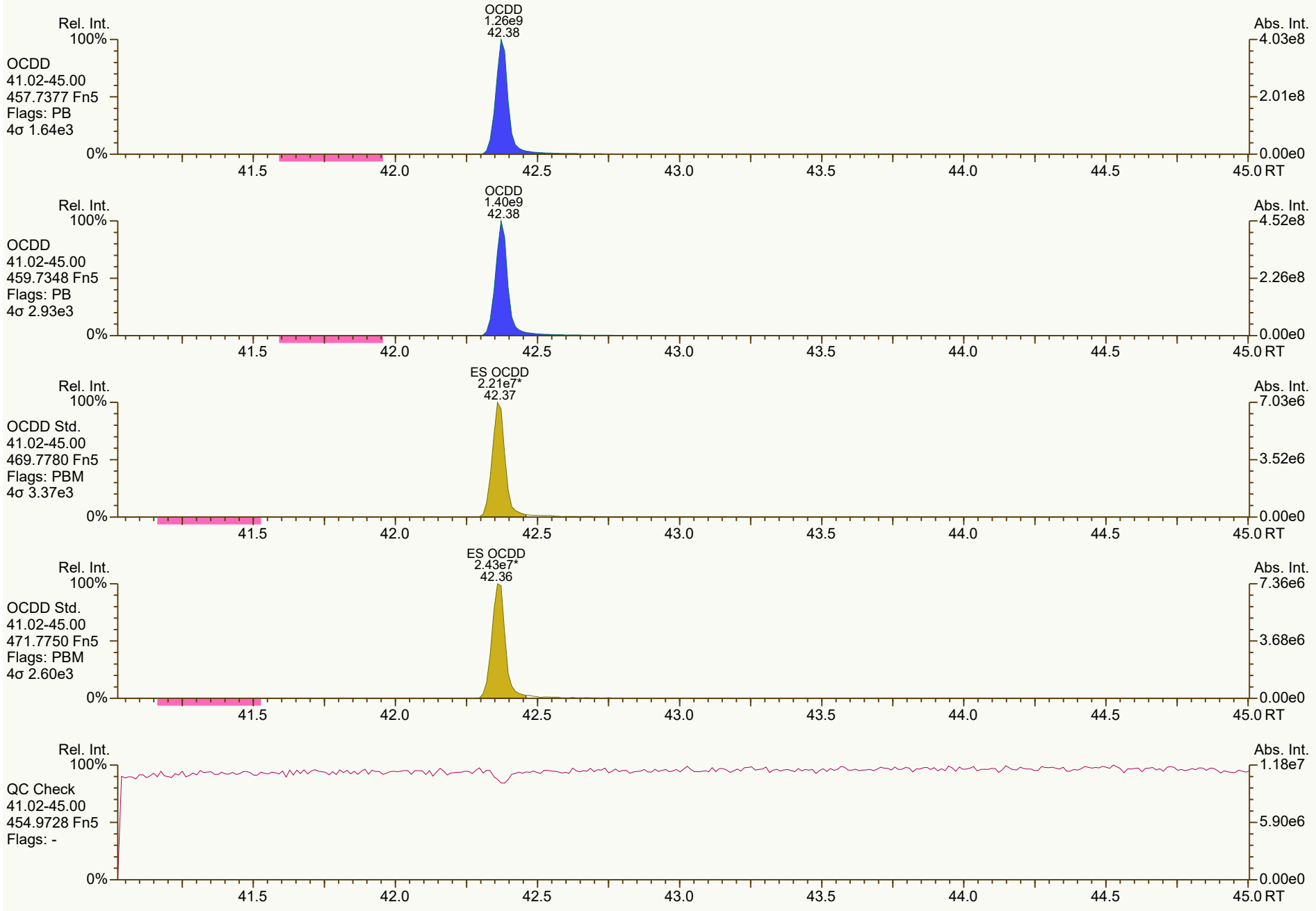

Rel. Int.
100%
PeCDD
29.52-34.01
355.8546 Fn2
Flags: PBM
4σ 1.86e3
12479/12468D
1.26e5
30.17
12469D
1.08e5
30.73
12368D
3.55e4*
31.30
12478D
6.71e4*
31.50
12379D
3.88e4*
31.60
12369D...[3]
7.12e4*
31.87
12378D
1.70e5*
32.76
12367D
2.33e4*
32.84
Abs. Int.
5.81e4
2.90e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD
29.52-34.01
357.8517 Fn2
Flags: PBM
4σ 1.75e3
12479/12468D
7.26e4
30.17
12469D
7.07e4
30.73
12368D
1.95e4*
31.29
12478D
4.38e4*
31.50
12369D...[3]
3.64e4*
31.86
12378D
9.75e4*
32.75
12367D
1.35e4*
32.84
Abs. Int.
6.90e4
3.45e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD Std.
29.52-34.01
367.8949 Fn2
Flags: PBM
4σ 3.29e3
CS 12347D
2.13e7
32.22
ES 12378D
2.15e7*
32.74
Abs. Int.
5.75e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD Std.
29.52-34.01
369.8919 Fn2
Flags: PBM
4σ 3.25e3
CS 12347D
1.33e7
32.22
ES 12378D
1.39e7*
32.74
Abs. Int.
3.68e6
1.84e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
Abs. Int.
5.03e6
2.52e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT


SGS ID: B6284_18926_DF_004
Sample ID: 11215131-020422-S-SB-SW-O-23
Acq: 22-Feb-2022 11:41:17
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: PSW Datafile: 220222R09
Rel. Int.
Abs. Int.
HxCDD
34.02-38.50
389.8156 Fn3
Flags: PBM
4σ 3.62e3
124679/124689D
1.39e6
34.96
123679/123689D
8.48e5
35.92
123468D
1.45e5
35.62
123469D
1.05e5
36.05
123478D
1.14e5
36.68
123678D
2.11e5
36.79
123789D
2.06e5
37.09
3.94e5
1.97e5
0.00e0
HxCDD
34.02-38.50
391.8127 Fn3
Flags: PBM
4σ 3.01e3
124679/124689D
1.12e6
34.96
123679/123689D
6.59e5
35.92
123468D
1.11e5
35.62
123469D
8.21e4
36.05
123478D
8.95e4
36.67
123678D
1.66e5
36.79
123467D
5.15e4*
36.98
123789D
1.93e5
37.09
3.50e5
1.75e5
0.00e0
HxCDD Std.
34.02-38.50
401.8559 Fn3
Flags: PBM
4σ 2.25e3
ES 123678D
1.74e7
36.78
ES 123478D
1.62e7
36.66
ES 123789D
1.94e7
37.08
JS 123467D
9.49e6*
36.97
5.06e6
2.53e6
0.00e0
HxCDD Std.
34.02-38.50
403.8530 Fn3
Flags: PBM
4σ 3.44e3
ES 123678D
1.36e7
36.78
ES 123478D
1.25e7
36.66
ES 123789D
1.51e7
37.08
JS 123467D
7.53e6*
36.97
4.11e6
2.06e6
0.00e0
QC Check
34.02-38.50
380.9760 Fn3
Flags: -
2.41e7
1.21e7
0.00e0
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_004.utp_res, saved 22-Feb-2022 15:05 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5761, 2849 scc: 161-099
PKD: 22-Feb-2022 12:59 Printed: 22-Feb-2022 15:34 Page 4 of 12

SGS ID: B6284_18926_DF_004 | Sample ID: 11215131-020422-S-SB-SW-O-23 | Acq: 22-Feb-2022 11:41:17
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67 | User: PSW Datafile: 220222R09

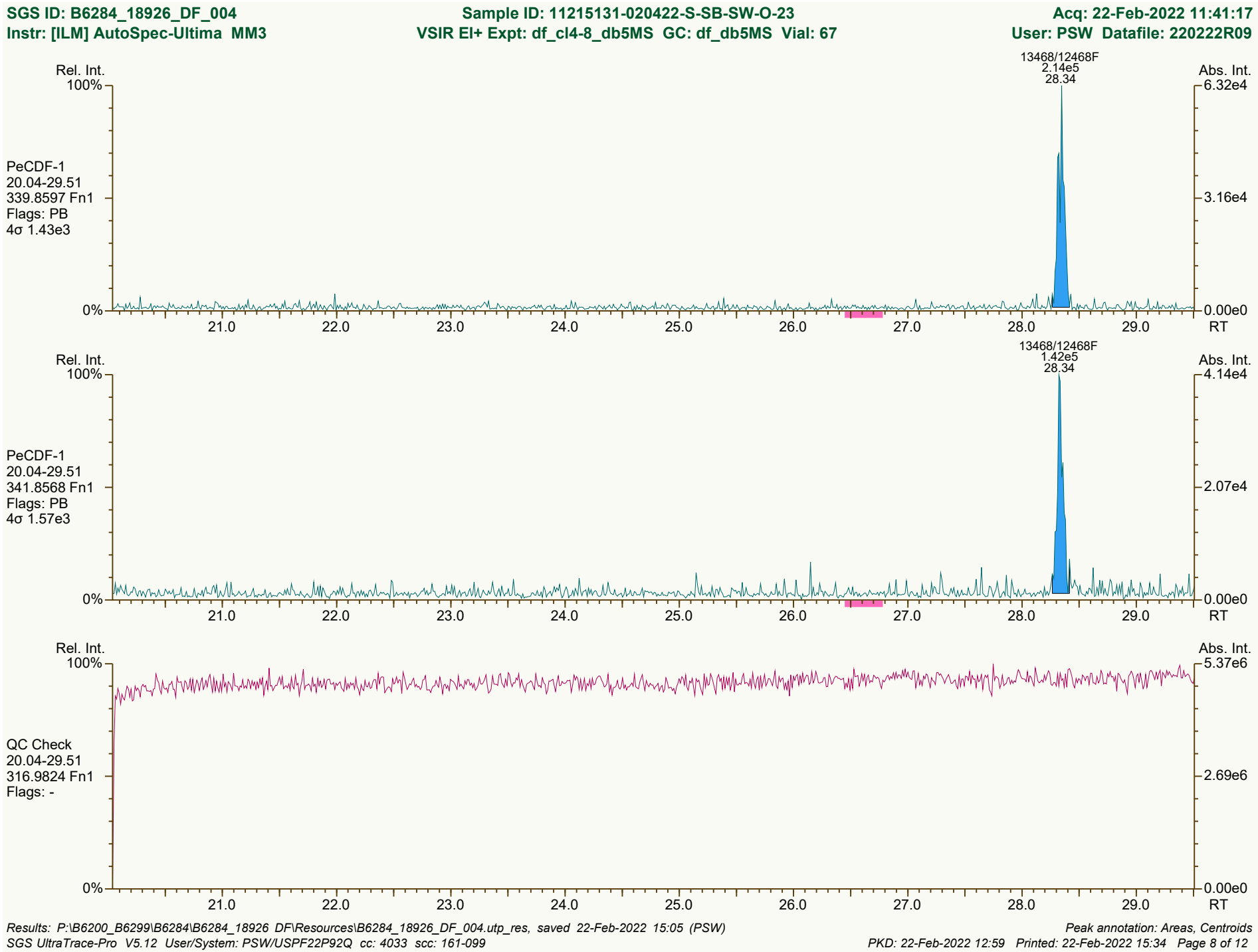


Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_004.utp_res, saved 22-Feb-2022 15:05 (PSW) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4210, 1413 scc: 161-099 | PKD: 22-Feb-2022 12:59 Printed: 22-Feb-2022 15:34 Page 5 of 12

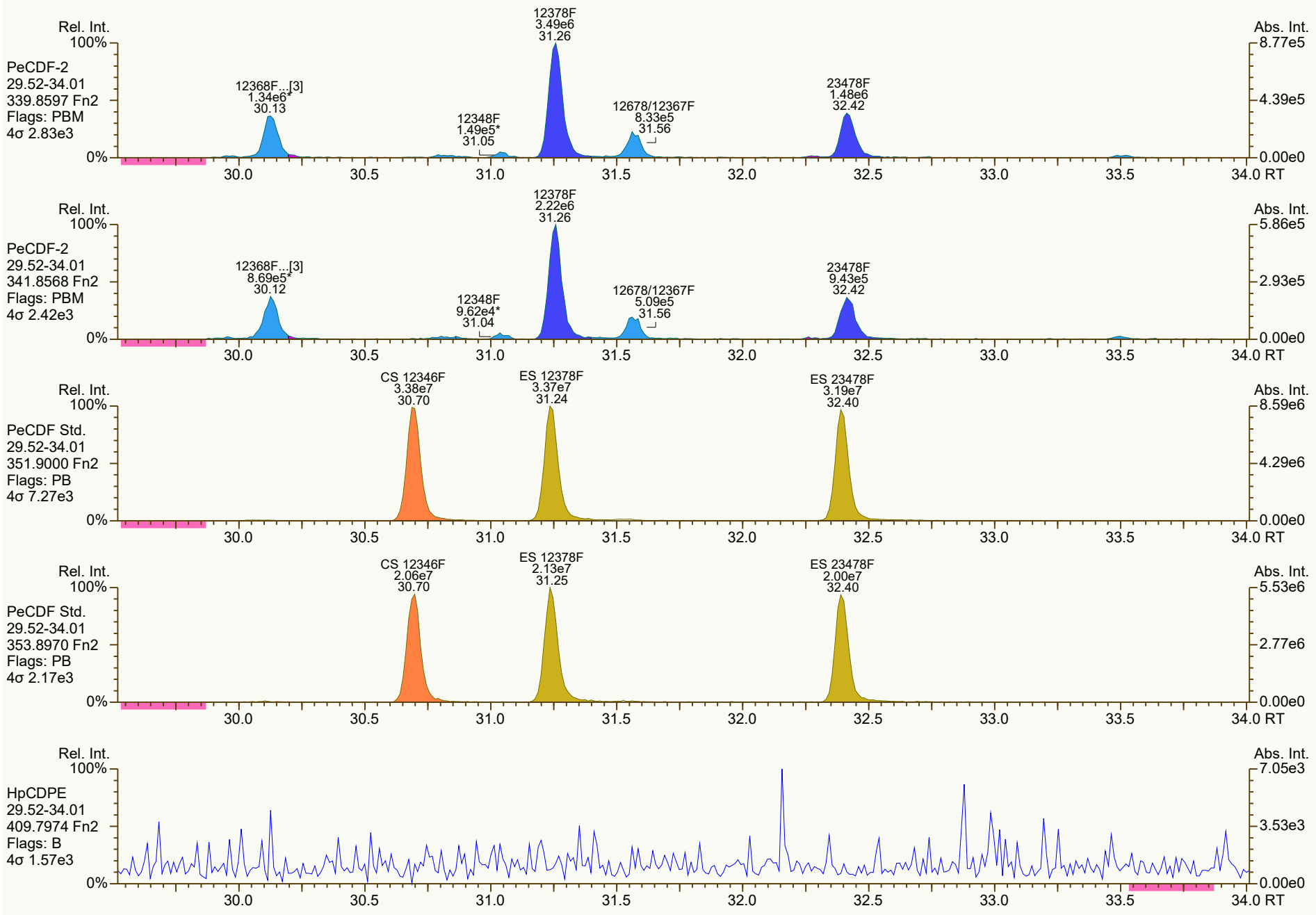

OCDD
1.26e9
42.38
Rel. Int.
Abs. Int.
OCDD
41.02-45.00
457.7377 Fn5
Flags: PB
4σ 1.64e3
OCDD
1.40e9
42.38
OCDD
41.02-45.00
459.7348 Fn5
Flags: PB
4σ 2.93e3
ES OCDD
2.21e7*
42.37
OCDD Std.
41.02-45.00
469.7780 Fn5
Flags: PBM
4σ 3.37e3
ES OCDD
2.43e7*
42.36
OCDD Std.
41.02-45.00
471.7750 Fn5
Flags: PBM
4σ 2.60e3
QC Check
41.02-45.00
454.9728 Fn5
Flags: -
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
20.04-29.51
303.9016 Fn1
Flags: PBM
4σ 1.37e3
0%
2378F
2.31e7
26.30
1278F
1.04e7*
25.33
1238F...[5]
1.56e6*
24.84
2348F
1.52e6*
26.18
2367/3467F
1.96e6
26.68
1289F
2.33e6
28.42
Abs. Int.
4.89e6
2.44e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDF
20.04-29.51
305.8987 Fn1
Flags: PBM
4σ 1.62e3
0%
2378F
2.91e7
26.30
1278F
1.32e7*
25.33
1238F...[5]
1.99e6*
24.84
2348F
1.93e6*
26.18
2367/3467F
2.46e6
26.68
1289F
2.78e6
28.42
Abs. Int.
6.33e6
3.17e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDF Std.
20.04-29.51
315.9419 Fn1
Flags: PBM
4σ 1.06e4
0%
JS 1234F
2.81e7*
24.81
ES 2378F
2.44e7
26.28
Abs. Int.
5.56e6
2.78e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDF Std.
20.04-29.51
317.9389 Fn1
Flags: PBM
4σ 1.07e4
0%
JS 1234F
3.55e7*
24.80
ES 2378F
3.12e7
26.27
Abs. Int.
7.14e6
3.57e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
HxCDPE
20.04-29.51
375.8364 Fn1
Flags: B
4σ 1.42e3
0%
Abs. Int.
6.61e3
3.30e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT

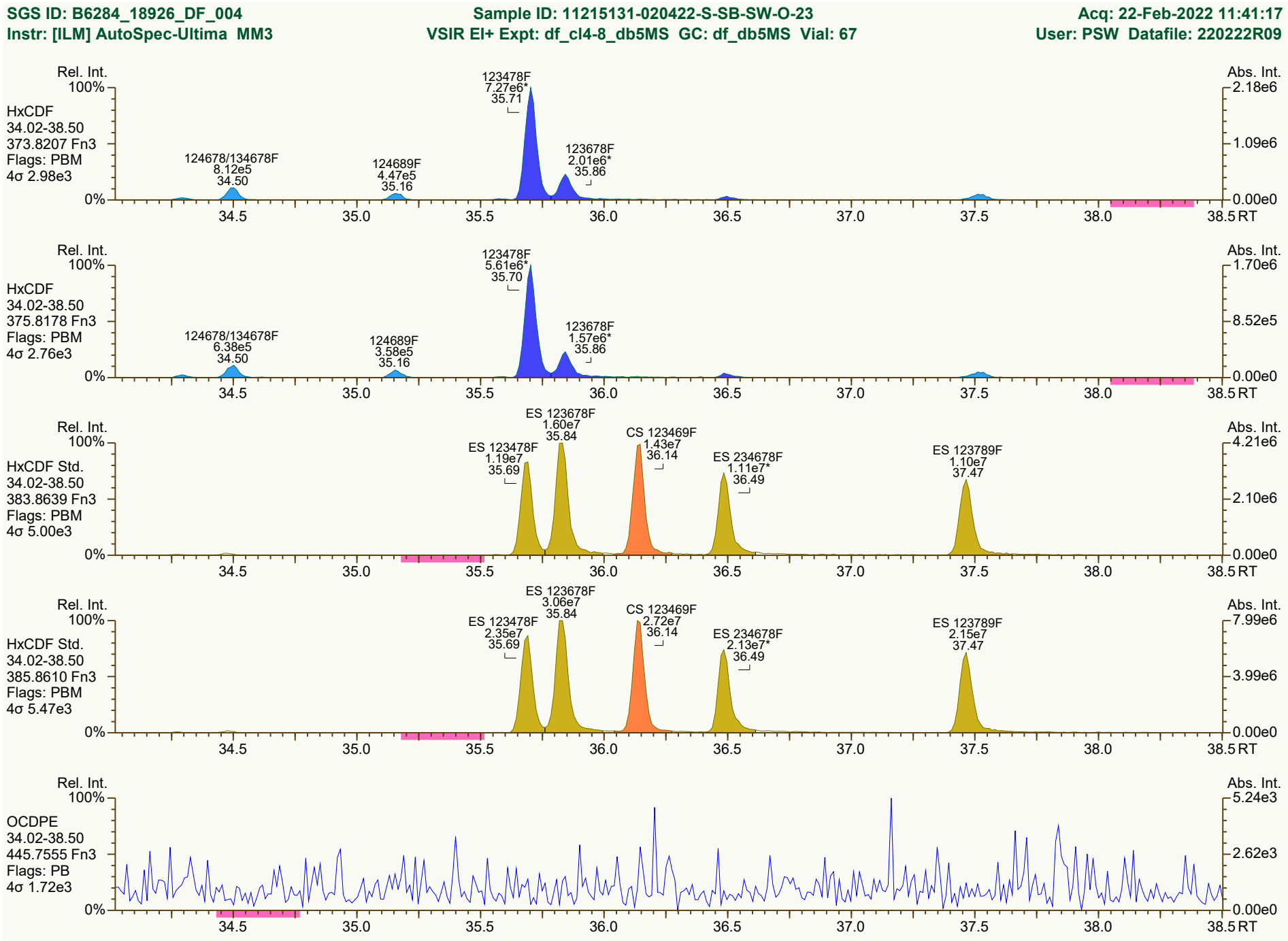
SGS ID: B6284_18926_DF_004 | Sample ID: 11215131-020422-S-SB-SW-O-23 | Acq: 22-Feb-2022 11:41:17
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67 | User: PSW Datafile: 220222R09



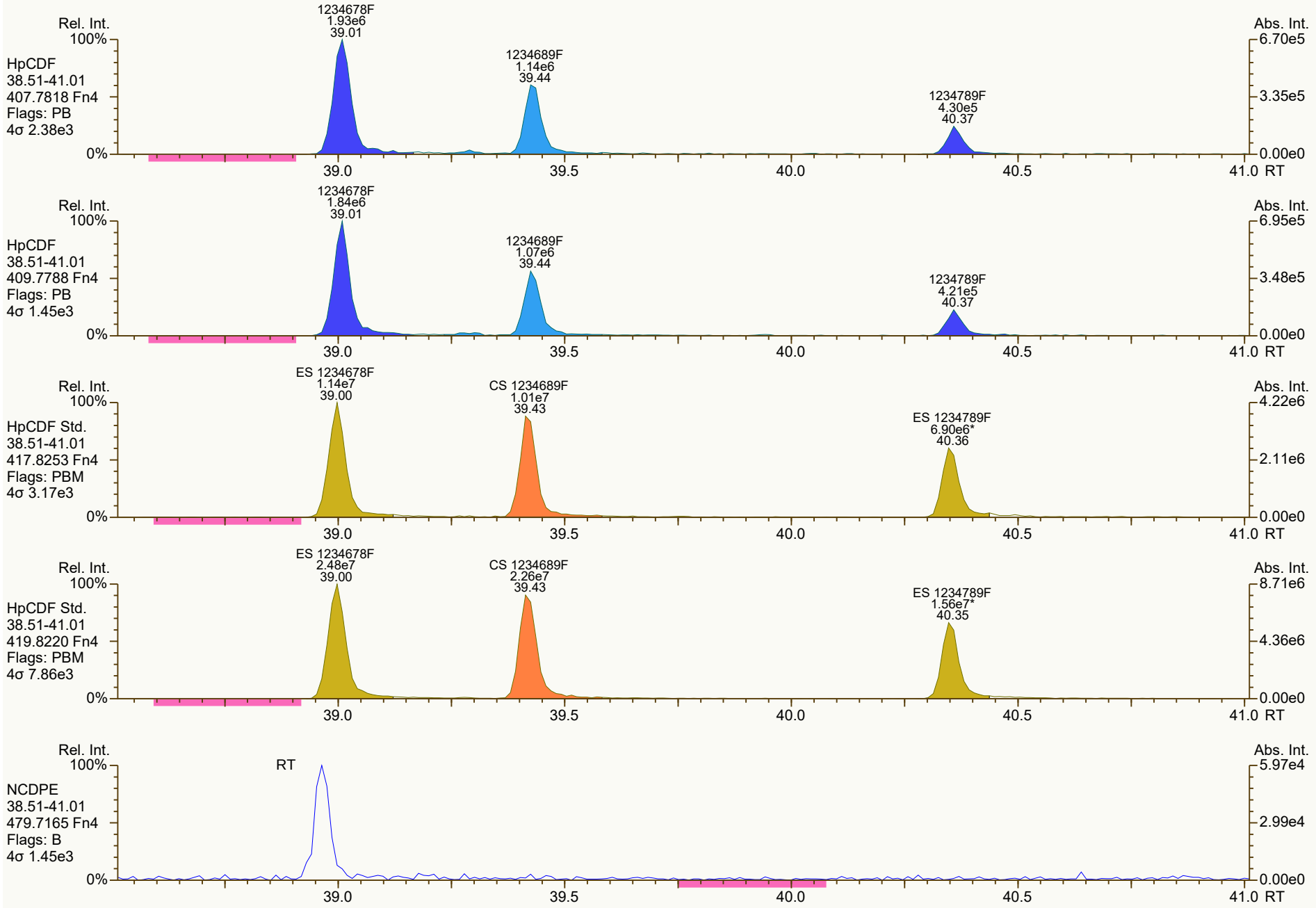
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_004.utp_res, saved 22-Feb-2022 15:05 (PSW) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4033 scc: 161-099 | *PKD: 22-Feb-2022 12:59 Printed: 22-Feb-2022 15:34 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
29.52-34.01
339.8597 Fn2
Flags: PBM
4σ 2.83e3
12368F...[3]
1.34e6*
30.13
12348F
1.49e5*
31.05
12378F
3.49e6
31.26
12678/12367F
8.33e5
31.56
23478F
1.48e6
32.42
Abs. Int.
8.77e5
4.39e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF-2
29.52-34.01
341.8568 Fn2
Flags: PBM
4σ 2.42e3
12368F...[3]
8.69e5*
30.12
12348F
9.62e4*
31.04
12378F
2.22e6
31.26
12678/12367F
5.09e5
31.56
23478F
9.43e5
32.42
Abs. Int.
5.86e5
2.93e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF Std.
29.52-34.01
351.9000 Fn2
Flags: PB
4σ 7.27e3
CS 12346F
3.38e7
30.70
ES 12378F
3.37e7
31.24
ES 23478F
3.19e7
32.40
Abs. Int.
8.59e6
4.29e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF Std.
29.52-34.01
353.8970 Fn2
Flags: PB
4σ 2.17e3
CS 12346F
2.06e7
30.70
ES 12378F
2.13e7
31.25
ES 23478F
2.00e7
32.40
Abs. Int.
5.53e6
2.77e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
HpCDPE
29.52-34.01
409.7974 Fn2
Flags: B
4σ 1.57e3
Abs. Int.
7.05e3
3.53e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT

SGS ID: B6284_18926_DF_004 | Sample ID: 11215131-020422-S-SB-SW-O-23 | Acq: 22-Feb-2022 11:41:17
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67 | User: PSW Datafile: 220222R09

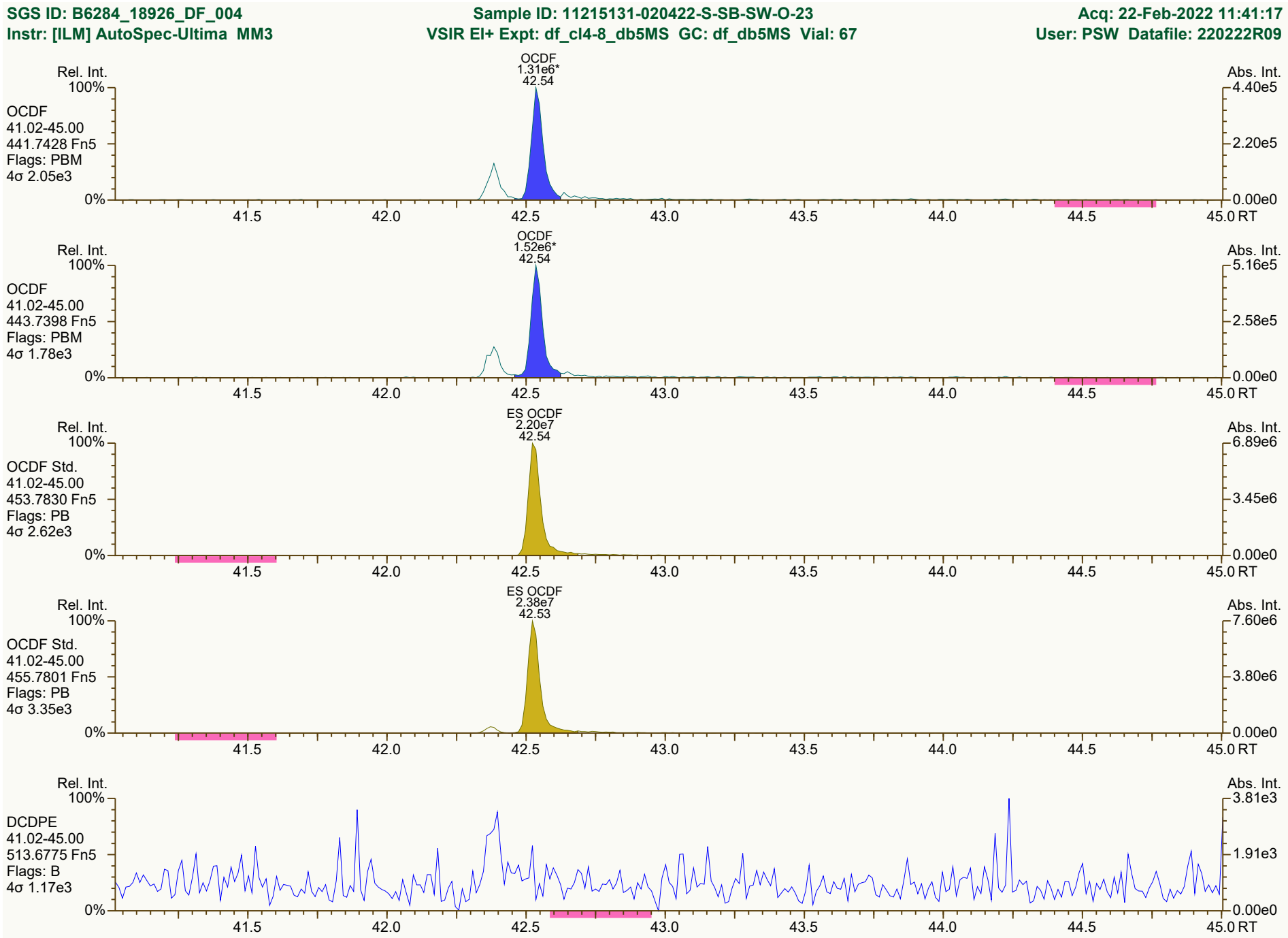


Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_004.utp_res, saved 22-Feb-2022 15:05 (PSW) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5223, 6661, 2545 scc: 161-099 | PKD: 22-Feb-2022 12:59 Printed: 22-Feb-2022 15:34 Page 10 of 12



Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_004.utp_res, saved 22-Feb-2022 15:05 (PSW) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7664, 7761, 6472 scc: 161-099 *PKD: 22-Feb-2022 12:59 Printed: 22-Feb-2022 15:34 Page 11 of 12*

SGS ID: B6284_18926_DF_004 | Sample ID: 11215131-020422-S-SB-SW-O-23 | Acq: 22-Feb-2022 11:41:17
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67 | User: PSW Datafile: 220222R09



Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_004.utp_res, saved 22-Feb-2022 15:05 (PSW) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1549, 6355, 8595 scc: 161-099 | PKD: 22-Feb-2022 12:59 Printed: 22-Feb-2022 15:34 Page 12 of 12

Lab ID: B6284_18926_DF_005 **Acq'd:** 22 Feb 2022 12:28 PSW **Wt/Vol:** 10.20 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-020422-S-SB-SW-B-25 **UTP:** 22-Feb-2022 15:05:17 PSW **J-level:** 0.49 pg/g **Split:** 1 **Checkcode:** 747-675-JVT

Datafile: 220222R10 **Report:** 22 Feb 2022 15:07 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	27.20	E	1.0008	1.0009	+0.2	3.04E+08	0.79	Y	1.34	1,420	5345.361	0.271
12378-PeCDD	32.75		1.0006	1.0005	-0.2	2.23E+06	1.69	Y	1.06	14.3	4717.336	0.289
123478-HxCDD	36.67	J EMPC	1.0004	1.0004	0	8.14E+04	1.48	N	1.06	0.677	7598.917	0.497
123678-HxCDD	36.78	J EMPC	1.0035	1.0035	0	2.34E+05	1.63	N	1.08	1.71	7598.917	0.526
123789-HxCDD	37.09	J EMPC	1.0117	1.0118	+0.2	1.65E+05	1.65	N	1.02	1.16	7598.917	0.499
1234678-HpCDD	39.94		1.0003	1.0004	+0.2	8.57E+06	1.06	Y	0.97	78.2	6953.159	0.421
OCDD	42.37		1.0003	1.0003	0	2.40E+08	0.90	Y	1.07	2,850	12131.268	1.09
2378-TCDF	26.29	E	1.0007	1.0009	+0.3	1.07E+09	0.79	Y	0.96	4,800	3377.722	0.176
12378-PeCDF	31.26		1.0006	1.0006	0	8.87E+07	1.54	Y	0.95	412	7015.97	0.321
23478-PeCDF	32.42		1.0006	1.0008	+0.4	5.00E+07	1.58	Y	0.94	258	7015.97	0.329
123478-HxCDF	35.70		1.0005	1.0005	0	1.48E+08	1.26	Y	1.23	840	21199.29	1.04
123678-HxCDF	35.84		1.0004	1.0004	0	4.40E+07	1.25	Y	1.13	206	21199.29	0.882
234678-HxCDF	36.50		1.0004	1.0003	-0.2	5.57E+06	1.26	Y	1.15	37.3	21199.29	1.3
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	21199.29	1.43
1234678-HpCDF	39.01		1.0003	1.0004	+0.2	3.81E+07	1.05	Y	1.36	194	4088.923	0.154
1234789-HpCDF	40.36		1.0003	1.0003	0	1.20E+07	1.05	Y	1.30	102	4088.923	0.249
OCDF	42.53		1.0003	1.0003	0	1.33E+07	0.87	Y	1.03	164	3912.344	0.396

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	27.18	1.0263	1.0265	+0.3	3.13E+07	0.75	Y	1.03	89.6
ES 12378-PeCDD	32.73	1.2342	1.2363	+4.1	2.88E+07	1.59	Y	1.03	82.2
ES 123478-HxCDD	36.65	0.9915	0.9916	+0.2	2.23E+07	1.30	Y	0.99	82
ES 123678-HxCDD	36.77	0.9947	0.9948	+0.2	2.48E+07	1.28	Y	0.97	93
ES 123789-HxCDD	37.07	1.0028	1.0029	+0.2	2.75E+07	1.24	Y	1.12	89.2
ES 1234678-HpCDD	39.92	1.0791	1.0800	+2.2	2.21E+07	1.06	Y	0.99	81.3
ES OCDD	42.35	1.1449	1.1458	+2.3	3.08E+07	0.91	Y	0.78	72.4
ES 2378-TCDF	26.27	1.0587	1.0594	+1.1	4.55E+07	0.79	Y	1.08	80.1
ES 12378-PeCDF	31.24	1.2570	1.2598	+5.2	4.46E+07	1.61	Y	0.93	91.3
ES 23478-PeCDF	32.39	1.3032	1.3063	+6.0	4.05E+07	1.66	Y	0.92	83.8
ES 123478-HxCDF	35.68	0.9652	0.9653	+0.2	2.80E+07	0.52	Y	1.14	89.5
ES 123678-HxCDF	35.83	0.9690	0.9693	+0.6	3.71E+07	0.52	Y	1.30	104
ES 234678-HxCDF	36.49	0.9869	0.9872	+0.7	2.54E+07	0.53	Y	1.20	77.3
ES 123789-HxCDF	37.46	1.0133	1.0135	+0.4	2.46E+07	0.51	Y	1.14	79
ES 1234678-HpCDF	38.99	1.0541	1.0549	+1.9	2.83E+07	0.44	Y	0.95	109
ES 1234789-HpCDF	40.35	1.0906	1.0915	+2.2	1.78E+07	0.46	Y	0.85	76.9
ES OCDF	42.52	1.1495	1.1504	+2.3	3.09E+07	0.92	Y	0.93	61

Lab ID: B6284_18926_DF_005 **Acq'd:** 22 Feb 2022 12:28 PSW **Wt/Vol:** 10.20 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-020422-S-SB-SW-B-25 **UTP:** 22-Feb-2022 15:05:17 PSW **J-level:** 0.49 pg/g **Split:** 1 **Checkcode:** 747-675-JVT

Datafile: 220222R10 **Report:** 22 Feb 2022 15:07 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.48		-	-	-	3.38E+07	0.79	Y	-	-
JS 1234-TCDF	24.80		-	-	-	5.24E+07	0.77	Y	-	-
JS 123467-HxCDD	36.96		-	-	-	1.37E+07	1.25	Y	-	-
CS 37Cl-2378-TCDD	27.20		1.0271	1.0273	+0.3	1.50E+07	n/a	-	1.31	84.5
CS 12347-PeCDD	32.22		1.2149	1.2168	+3.7	2.78E+07	1.58	Y	0.89	92.1
CS 12346-PeCDF	30.69		1.2351	1.2378	+5.0	4.42E+07	1.60	Y	0.87	97.2
CS 123469-HxCDF	36.14		0.9774	0.9776	+0.4	3.30E+07	0.54	Y	1.09	111
CS 1234689-HpCDF	39.42		1.0654	1.0664	+2.4	2.68E+07	0.45	Y	0.86	113
~~SS 37Cl-2378-TCDD~~	~~27.20~~		~~1.0271~~	~~1.0273~~	~~+0.3~~	~~1.50E+07~~	~~n/a~~		~~1.26~~	~~94.9~~
~~SS 12347-PeCDD~~	~~32.22~~		~~1.2149~~	~~1.2168~~	~~+3.7~~	~~2.78E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~112~~
~~SS 12346-PeCDF~~	~~30.69~~		~~1.2351~~	~~1.2378~~	~~+5.0~~	~~4.42E+07~~	~~1.60~~	~~Y~~	~~0.93~~	~~106~~
~~SS 123469-HxCDF~~	~~36.14~~		~~0.9774~~	~~0.9776~~	~~+0.4~~	~~3.30E+07~~	~~0.54~~	~~Y~~	~~0.84~~	~~106~~
~~SS 1234689-HpCDF~~	~~39.42~~		~~1.0654~~	~~1.0664~~	~~+2.4~~	~~2.68E+07~~	~~0.45~~	~~Y~~	~~0.91~~	~~104~~

Totals	Conc	EMPC
Total TCDD	1570	1580
Total PeCDD	17.5	21
Total HxCDD	25	30.1
Total HpCDD	195	195
Total Tetra-Octa Dioxins	4660	4670
Total TCDF	9,280	9280
Total PeCDF	1,040	1040
Total HxCDF	1,240	1240
Total HpCDF	354	354
Total Tetra-Octa Furans	12,100	12100
Total Tetra-Octa Dioxins & Furans	16700	16800

Lab ID: B6284_18926_DF_005 **Acq'd: 22 Feb 2022 12:28 PSW** **Wt/Vol: 10.20 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-020422-S-SB-SW-B-25 **UTP: 22-Feb-2022 15:05:17 PSW** **J-level: 0.49 pg/g** **Split: 1** **Checkcode: 747-675-JVT**

Datafile: 220222R10 **Report: 22 Feb 2022 15:07 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	23.25		0.8571	0.8554	-2.4	2.28E+05	0.75	Y	1.34	1.06	5345.361	0.271
1379-TCDD	23.64	J EMPC	0.8715	0.8699	-2.3	7.66E+04	0.89	N	1.34	0.356	5345.361	0.271
1369-TCDD	NotFnd		0.8889						1.34		5345.361	0.271
1469-TCDD	24.98		0.9198	0.9191	-1.0	4.53E+05	0.83	Y	1.34	2.11	5345.361	0.271
1247/1246/1248/1249-TCDD	25.22	EMPC	0.9291	0.9281	-1.5	3.94E+05	0.97	N	1.34	1.83	5345.361	0.271
1378-TCDD	25.44		0.9366	0.9359	-1.1	7.32E+05	0.82	Y	1.34	3.41	5345.361	0.271
1268-TCDD	NotFnd		0.9446						1.34		5345.361	0.271
1478-TCDD	25.92		0.9539	0.9538	-0.2	6.71E+05	0.83	Y	1.34	3.12	5345.361	0.271
1279-TCDD	NotFnd		0.9606						1.34		5345.361	0.271
1234/1269-TCDD	26.48		0.9745	0.9742	-0.5	1.45E+05	0.71	Y	1.34	0.674	5345.361	0.271
1236-TCDD	NotFnd		0.9798						1.34		5345.361	0.271
1237/1238-TCDD	26.89		0.9897	0.9894	-0.5	3.77E+06	0.85	Y	1.34	17.6	5345.361	0.271
1239-TCDD	NotFnd		0.9948						1.34		5345.361	0.271
2378-TCDD	**27.20**	E	**1.0008**	1.0009	**+0.2**	3.04E+08	0.79	Y	**1.34**	**1,420**	**5345.361**	**0.271**
1278-TCDD	27.56		1.0136	1.0140	+0.7	2.74E+07	0.80	Y	1.34	128	5345.361	0.271
1267-TCDD	NotFnd		1.0189						1.34		5345.361	0.271
1289-TCDD	28.22	EMPC	1.0384	1.0382	-0.3	6.69E+05	1.03	N	1.34	3.12	5345.361	0.271
12479/12468-PeCDD	30.16	J	0.9220	0.9214	-1.1	1.26E+05	1.49	Y	1.06	0.809	4717.336	0.289
12469-PeCDD	30.72	J EMPC	0.9390	0.9386	-0.7	2.82E+05	1.13	N	1.06	1.82	4717.336	0.289
12368-PeCDD	31.29	J	0.9563	0.9559	-0.8	1.17E+05	1.60	Y	1.06	0.75	4717.336	0.289
12478-PeCDD	31.49	J EMPC	0.9622	0.9619	-0.6	1.31E+05	1.21	N	1.06	0.844	4717.336	0.289
12379-PeCDD	31.59	J	0.9653	0.9650	-0.6	6.47E+04	1.63	Y	1.06	0.416	4717.336	0.289
12369/12467/12489-PeCDD	31.86	J	0.9736	0.9734	-0.4	1.13E+05	1.64	Y	1.06	0.73	4717.336	0.289
12346/12347-PeCDD	32.24	J	0.9851	0.9848	-0.6	6.44E+04	1.36	Y	1.06	0.414	4717.336	0.289
12378-PeCDD	32.75		**1.0006**	**1.0005**	**-0.2**	**2.23E+06**	**1.69**	**Y**	**1.06**	**14.3**	**4717.336**	**0.289**
12367-PeCDD	32.87	J EMPC	1.0035	1.0042	+1.4	1.42E+05	1.96	N	1.06	0.911	4717.336	0.289
12389-PeCDD	NotFnd		1.0143						1.06		4717.336	0.289
124679/124689-HxCDD	34.95		0.9536	0.9536	0	2.48E+06	1.28	Y	1.05	18.6	7598.917	0.507
123468-HxCDD	35.61	J EMPC	0.9716	0.9716	0	1.04E+05	1.56	N	1.05	0.779	7598.917	0.507
123679/123689-HxCDD	35.91		0.9797	0.9797	0	8.50E+05	1.37	Y	1.05	6.38	7598.917	0.507
123469-HxCDD	36.04	J EMPC	0.9833	0.9832	-0.2	1.01E+05	0.99	N	1.05	0.758	7598.917	0.507
123478-HxCDD	36.67	J EMPC	**1.0004**	**1.0004**	**0**	**8.14E+04**	**1.48**	**N**	1.06	**0.677**	**7598.917**	**0.497**
123678-HxCDD	36.78	J EMPC	**1.0035**	**1.0035**	**0**	**2.34E+05**	**1.63**	**N**	1.08	**1.71**	**7598.917**	**0.526**
123467-HxCDD	NotFnd		1.0089						1.05		7598.917	0.507
123789-HxCDD	37.09	J EMPC	**1.0117**	**1.0118**	**+0.2**	**1.65E+05**	**1.65**	**N**	1.02	**1.16**	**7598.917**	**0.499**

Lab ID: B6284_18926_DF_005 **Acq'd:** 22 Feb 2022 12:28 PSW **Wt/Vol:** 10.20 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-020422-S-SB-SW-B-25 **UTP:** 22-Feb-2022 15:05:17 PSW **J-level:** 0.49 pg/g **Split:** 1 **Checkcode:** 747-675-JVT

Datafile: 220222R10 **Report:** 22 Feb 2022 15:07 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

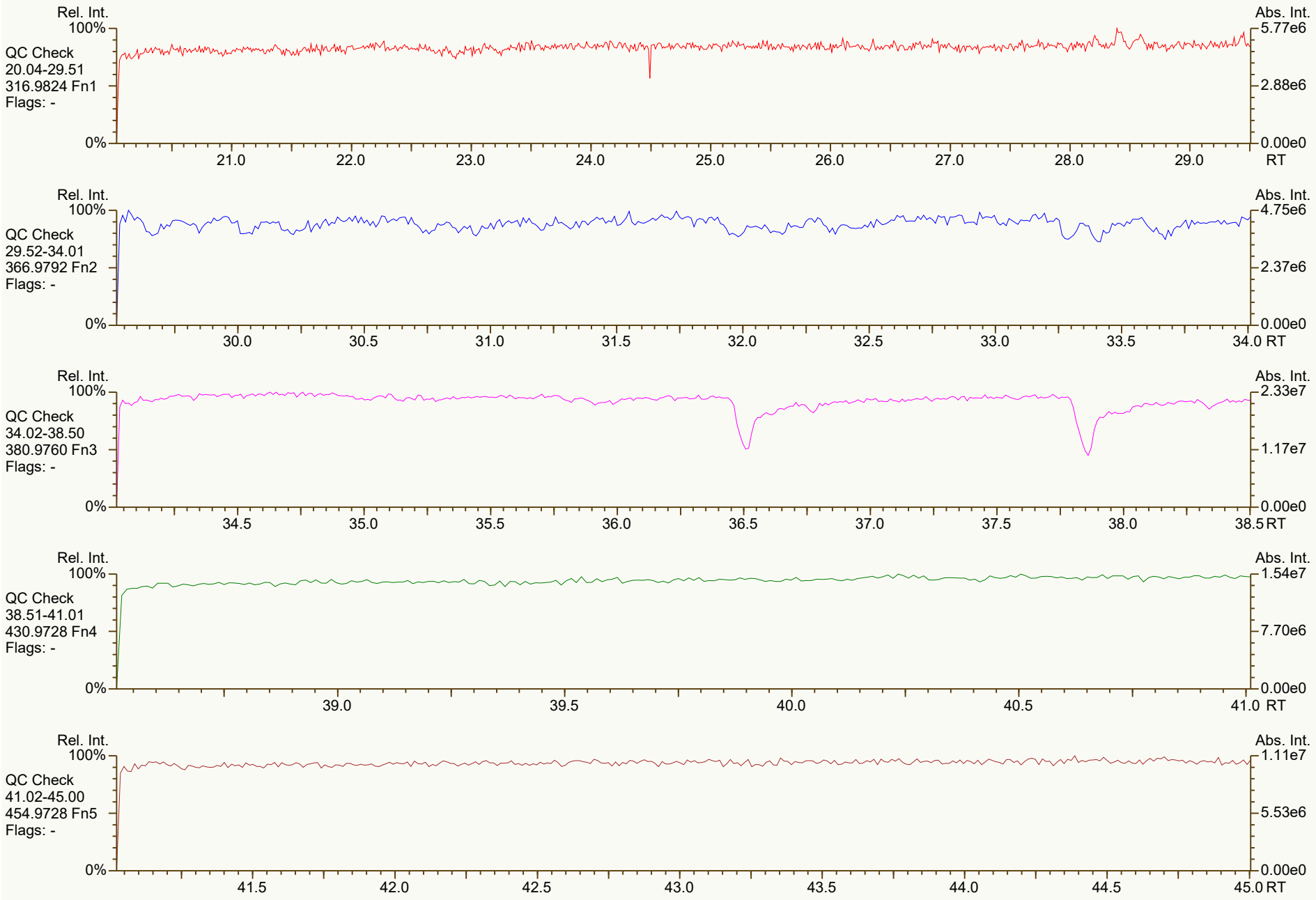
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.28		0.9839	0.9839	0	1.28E+07	1.05	Y	0.97	117	6953.159	0.421
1234678-HpCDD	**39.94**		**1.0003**	**1.0004**	**+0.2**	**8.57E+06**	**1.06**	**Y**	**0.97**	**78.2**	**6953.159**	**0.421**
OCDD	**42.37**		**1.0003**	**1.0003**	**0**	**2.40E+08**	**0.90**	**Y**	**1.07**	**2,850**	**12131.268**	**1.09**
OCDD-a	42.36		1.0002	1.0001	-0.3	1.41E+07	2.53	Y	0.07	2,710	5477.423	7.96
1368-TCDF	21.02		0.8019	0.8002	-2.1	2.31E+05	0.83	Y	0.96	1.04	3377.722	0.176
1468-TCDF	21.60		0.8238	0.8221	-2.2	1.94E+06	0.78	Y	0.96	8.72	3377.722	0.176
2468-TCDF	22.26		0.8493	0.8474	-2.5	8.36E+05	0.78	Y	0.96	3.76	3377.722	0.176
1346/1246-TCDF	22.70		0.8635	0.8643	+1.1	7.98E+05	0.78	Y	0.96	3.58	3377.722	0.176
1347/1378/1247-TCDF	22.85		0.8702	0.8700	-0.3	1.01E+07	0.80	Y	0.96	45.2	3377.722	0.176
1348-TCDF	23.13		0.8817	0.8803	-1.9	3.95E+06	0.78	Y	0.96	17.7	3377.722	0.176
1248/1367/1379-TCDF	23.24		0.8871	0.8845	-3.6	4.69E+07	0.80	Y	0.96	211	3377.722	0.176
1268-TCDF	23.69		0.9029	0.9018	-1.6	1.62E+07	0.78	Y	0.96	72.9	3377.722	0.176
1467-TCDF	23.84		0.9087	0.9075	-1.7	2.44E+06	0.78	Y	0.96	11	3377.722	0.176
1478-TCDF	24.02		0.9156	0.9145	-1.6	4.10E+07	0.78	Y	0.96	184	3377.722	0.176
1369/1237-TCDF	24.43		0.9307	0.9301	-0.9	1.04E+07	0.78	Y	0.96	46.7	3377.722	0.176
2467-TCDF	24.57		0.9361	0.9354	-1.0	9.41E+05	0.73	Y	0.96	4.23	3377.722	0.176
2368-TCDF	24.73		0.9422	0.9413	-1.3	2.28E+07	0.78	Y	0.96	102	3377.722	0.176
1238/1234/1678/1469/1236-TCDF	24.82		0.9460	0.9447	-1.9	6.18E+07	0.80	Y	0.96	278	3377.722	0.176
1278-TCDF	25.32	E	0.9644	0.9640	-0.6	4.79E+08	0.79	Y	0.96	2,150	3377.722	0.176
1349-TCDF	NotFnd		0.9693						0.96		3377.722	0.176
1267-TCDF	25.62		0.9757	0.9754	-0.5	2.54E+07	0.78	Y	0.96	114	3377.722	0.176
2346/1249-TCDF	25.83		0.9830	0.9832	+0.3	4.42E+06	0.78	Y	0.96	19.8	3377.722	0.176
2347/1279-TCDF	26.04		0.9919	0.9913	-0.9	1.04E+07	0.79	Y	0.96	46.9	3377.722	0.176
2348-TCDF	26.18		0.9964	0.9964	0	8.04E+07	0.79	Y	0.96	361	3377.722	0.176
2378-TCDF	**26.29**	E	**1.0007**	**1.0009**	**+0.3**	**1.07E+09**	**0.79**	**Y**	**0.96**	**4,800**	**3377.722**	**0.176**
2367/3467-TCDF	26.67		1.0157	1.0152	-0.8	8.16E+07	0.80	Y	0.96	367	3377.722	0.176
1269-TCDF	26.93		1.0248	1.0252	+0.6	1.96E+07	0.79	Y	0.96	88.1	3377.722	0.176
1239-TCDF	27.21		1.0355	1.0357	+0.3	2.17E+06	0.77	Y	0.96	9.76	3377.722	0.176
1289-TCDF	28.42		1.0808	1.0817	+1.5	7.40E+07	0.80	Y	0.96	332	3377.722	0.176
13468/12468-PeCDF	28.34		0.9073	0.9071	-0.3	1.67E+06	1.69	Y	0.94	8.15	3829.645	0.178
13678/13467/12467-PeCDF	29.96		0.9586	0.9590	+0.7	6.77E+05	1.69	Y	0.94	3.31	7015.97	0.325
12368/13478/12478-PeCDF	30.12		0.9638	0.9642	+0.7	3.70E+07	1.58	Y	0.94	181	7015.97	0.325
14678-PeCDF	30.21		0.9671	0.9671	0	9.58E+05	1.58	Y	0.94	4.68	7015.97	0.325
13479-PeCDF	30.29		0.9702	0.9696	-1.1	5.96E+05	1.60	Y	0.94	2.91	7015.97	0.325
13469/12479-PeCDF	NotFnd		0.9785						0.94		7015.97	0.325
12346-PeCDF	30.72	J	0.9831	0.9834	+0.6	1.91E+05	1.40	Y	0.94	0.933	7015.97	0.325

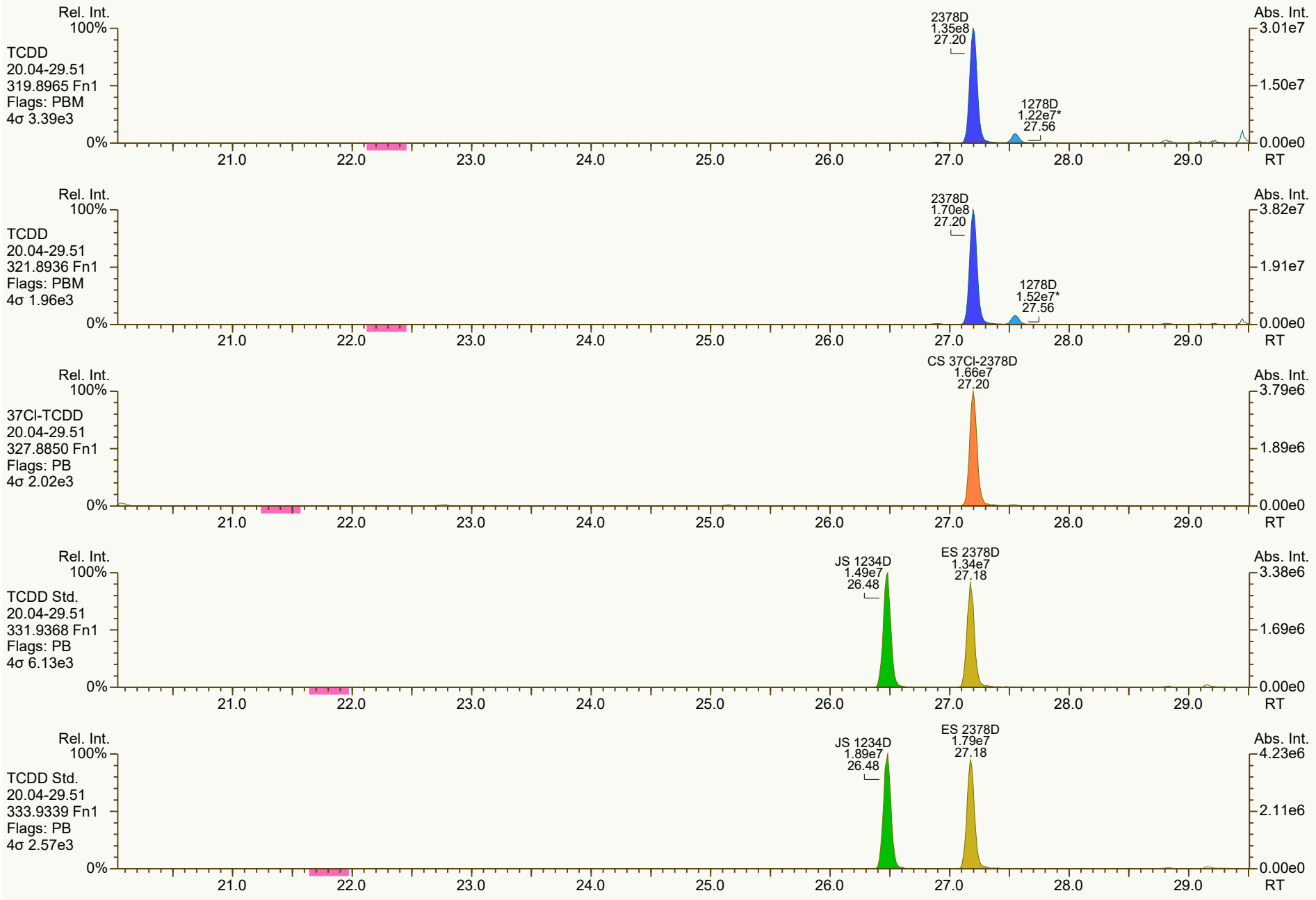
Lab ID: B6284_18926_DF_005 | **Acq'd: 22 Feb 2022 12:28 PSW** | **Wt/Vol: 10.20 g** | **ICAL: MM3_DF_10272021_27JUL2021**

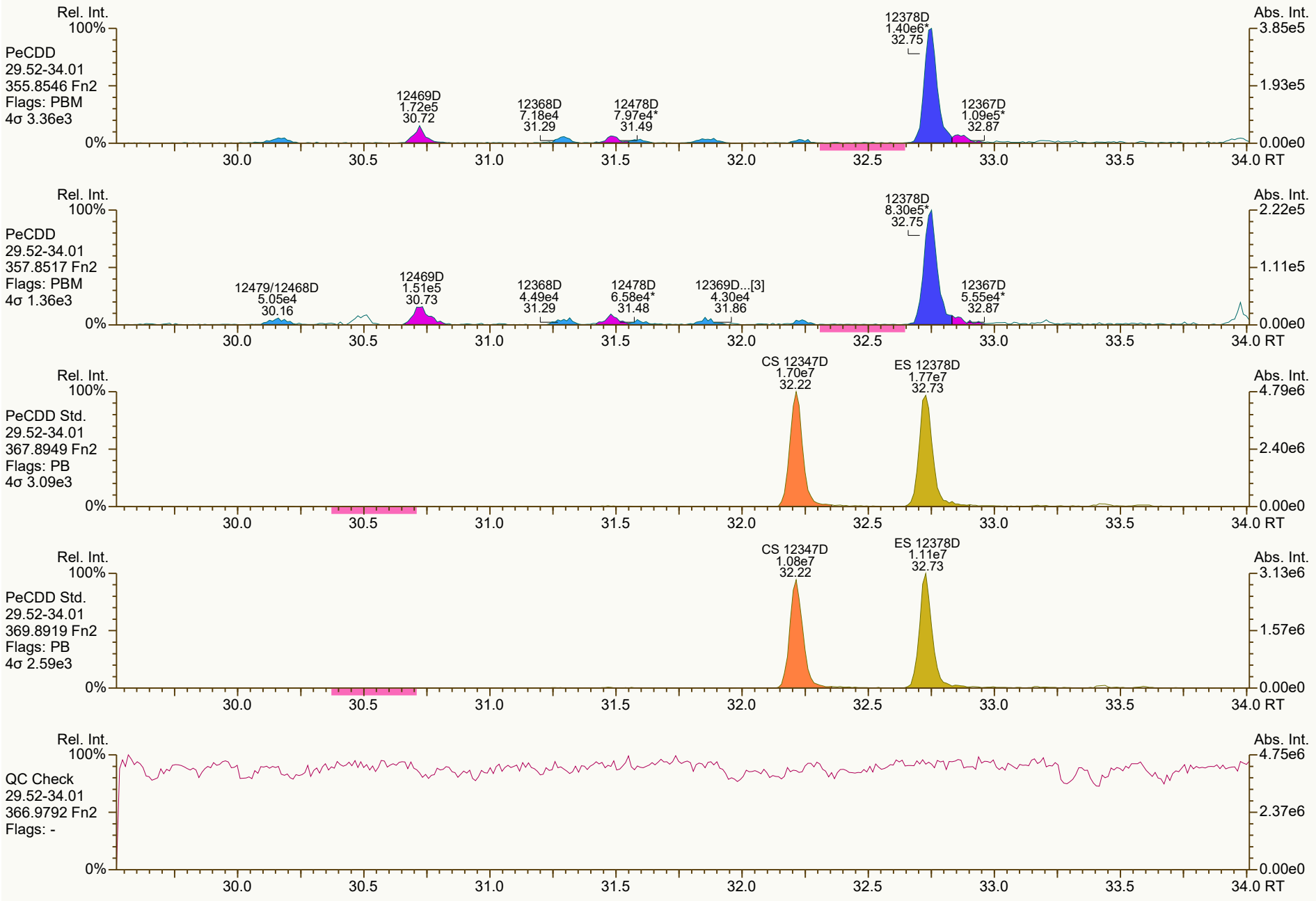
Client ID: 11215131-020422-S-SB-SW-B-25 | **UTP: 22-Feb-2022 15:05:17 PSW** | **J-level: 0.49 pg/g** | **Split: 1** | **Checkcode: 747-675-JVT**

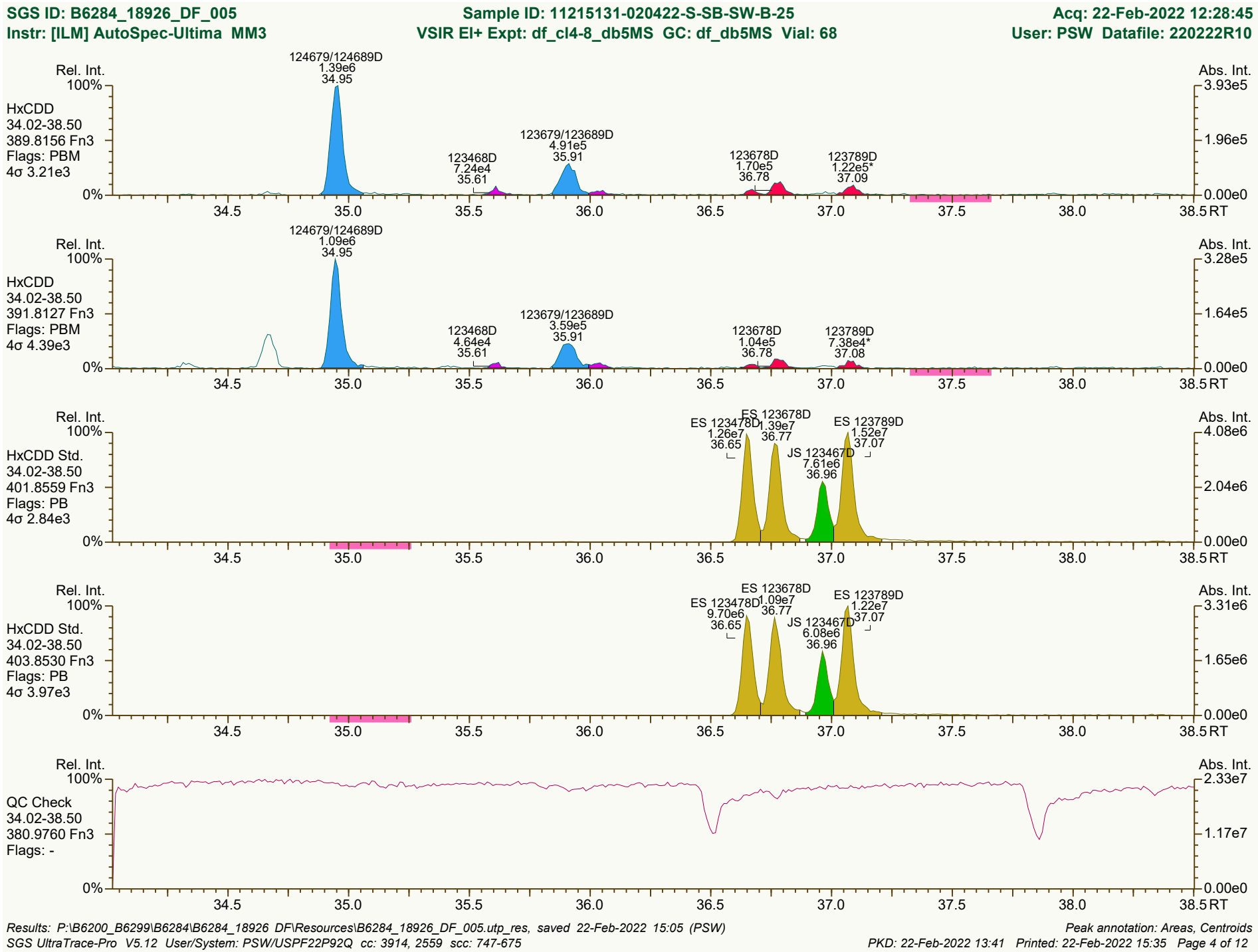
Datafile: 220222R10 | **Report: 22 Feb 2022 15:07 pw** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	30.80		0.9863	0.9859	-0.7	7.04E+05	1.67	Y	0.94	3.44	7015.97	0.325
12347-PeCDF	30.86		0.9887	0.9880	-1.3	8.50E+05	1.60	Y	0.94	4.15	7015.97	0.325
12348-PeCDF	31.04		0.9937	0.9936	-0.2	5.59E+06	1.58	Y	0.94	27.3	7015.97	0.325
12378-PeCDF	**31.26**		**1.0006**	**1.0006**	**0**	**8.87E+07**	**1.54**	**Y**	**0.95**	**412**	**7015.97**	**0.321**
12678/12367-PeCDF	31.56		1.0097	1.0103	+1.1	2.40E+07	1.57	Y	0.94	118	7015.97	0.325
12379-PeCDF	NotFnd		1.0151						0.94		7015.97	0.325
12679-PeCDF	32.13	J	0.9923	0.9919	-0.8	3.08E+05	1.45	Y	0.94	1.51	7015.97	0.325
23467/12369-PeCDF	32.27		0.9965	0.9961	-0.8	6.09E+05	1.62	Y	0.94	2.98	7015.97	0.325
23478-PeCDF	**32.42**		**1.0006**	**1.0008**	**+0.4**	**5.00E+07**	**1.58**	**Y**	**0.94**	**258**	**7015.97**	**0.329**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0049						0.94		7015.97	0.325
12349-PeCDF	NotFnd		1.0104						0.94		7015.97	0.325
12389-PeCDF	33.50		1.0341	1.0344	+0.6	2.71E+06	1.55	Y	0.94	13.3	7015.97	0.325
123468-HxCDF	34.29		0.9611	0.9610	-0.2	1.20E+06	1.22	Y	1.16	7.04	21199.29	1.13
124678/134678-HxCDF	34.49		0.9668	0.9667	-0.2	1.13E+07	1.26	Y	1.16	66.4	21199.29	1.13
134679-HxCDF	NotFnd		0.9733						1.16		21199.29	1.13
124679-HxCDF	NotFnd		0.9789						1.16		21199.29	1.13
124689-HxCDF	35.15		0.9852	0.9852	0	4.12E+06	1.32	Y	1.16	24.2	21199.29	1.13
123467-HxCDF	35.58		0.9972	0.9972	0	5.62E+05	1.37	Y	1.16	3.29	21199.29	1.13
123478-HxCDF	**35.70**		**1.0005**	**1.0005**	**0**	**1.48E+08**	**1.26**	**Y**	**1.23**	**840**	**21199.29**	**1.04**
123678-HxCDF	**35.84**		**1.0004**	**1.0004**	**0**	**4.40E+07**	**1.25**	**Y**	**1.13**	**206**	**21199.29**	**0.882**
123479-HxCDF	NotFnd		1.0049						1.16		21199.29	1.13
123469-HxCDF	NotFnd		1.0090						1.16		21199.29	1.13
123679-HxCDF	NotFnd		0.9942						1.16		21199.29	1.13
234678-HxCDF	**36.50**		**1.0004**	**1.0003**	**-0.2**	**5.57E+06**	**1.26**	**Y**	**1.15**	**37.3**	**21199.29**	**1.3**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		21199.29	1.13
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**21199.29**	**1.43**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.51		1.0008	1.0014	+1.4	1.01E+07	1.27	Y	1.16	59.2	21199.29	1.13
1234678-HpCDF	**39.01**		**1.0003**	**1.0004**	**+0.2**	**3.81E+07**	**1.05**	**Y**	**1.36**	**194**	**4088.923**	**0.154**
1234679-HpCDF	39.27		1.0073	1.0072	-0.2	4.56E+05	1.02	Y	1.33	2.92	4088.923	0.19
1234689-HpCDF	39.43		1.0109	1.0112	+0.7	8.57E+06	1.02	Y	1.33	54.8	4088.923	0.19
1234789-HpCDF	**40.36**		**1.0003**	**1.0003**	**0**	**1.20E+07**	**1.05**	**Y**	**1.30**	**102**	**4088.923**	**0.249**
OCDF	**42.53**		**1.0003**	**1.0003**	**0**	**1.33E+07**	**0.87**	**Y**	**1.03**	**164**	**3912.344**	**0.396**
OCDF-a	42.53		1.0002	1.0001	-0.3	8.17E+05	2.30	Y	0.06	175	4198.894	7.35


Rel. Int.
100%
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
0%
Abs. Int.
5.77e6
2.88e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.75e6
2.37e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
QC Check
34.02-38.50
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.33e7
1.17e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
QC Check
38.51-41.01
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.54e7
7.70e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
QC Check
41.02-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.11e7
5.53e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

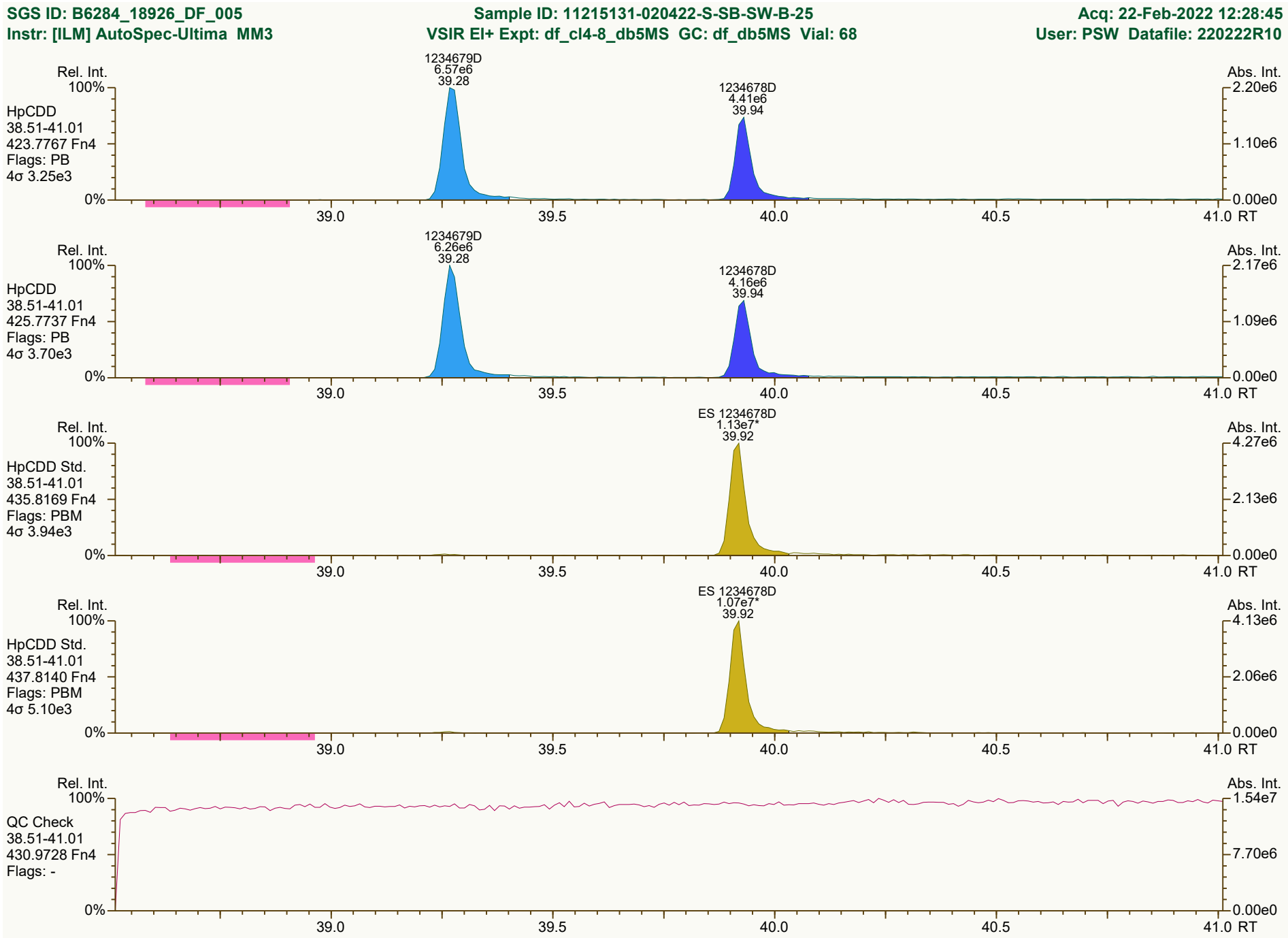

Rel. Int.
100%
TCDD
20.04-29.51
319.8965 Fn1
Flags: PBM
4σ 3.39e3
0%
2378D
1.35e8
27.20
1278D
1.22e7*
27.56
Abs. Int.
3.01e7
1.50e7
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD
20.04-29.51
321.8936 Fn1
Flags: PBM
4σ 1.96e3
0%
2378D
1.70e8
27.20
1278D
1.52e7*
27.56
Abs. Int.
3.82e7
1.91e7
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
37Cl-TCDD
20.04-29.51
327.8850 Fn1
Flags: PB
4σ 2.02e3
0%
CS 37Cl-2378D
1.66e7
27.20
Abs. Int.
3.79e6
1.89e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.04-29.51
331.9368 Fn1
Flags: PB
4σ 6.13e3
0%
JS 1234D
1.49e7
26.48
ES 2378D
1.34e7
27.18
Abs. Int.
3.38e6
1.69e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.04-29.51
333.9339 Fn1
Flags: PB
4σ 2.57e3
0%
JS 1234D
1.89e7
26.48
ES 2378D
1.79e7
27.18
Abs. Int.
4.23e6
2.11e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


Rel. Int.
100%
PeCDD
29.52-34.01
355.8546 Fn2
Flags: PBM
4σ 3.36e3
12469D 1.72e5 30.72
12368D 7.18e4 31.29
12478D 7.97e4* 31.49
12378D 1.40e6* 32.75
12367D 1.09e5* 32.87
Abs. Int.
3.85e5
1.93e5
0.00e0
0%
30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 RT
Rel. Int.
100%
PeCDD
29.52-34.01
357.8517 Fn2
Flags: PBM
4σ 1.36e3
12479/12468D 5.05e4 30.16
12469D 1.51e5 30.73
12368D 4.49e4 31.29
12478D 6.58e4* 31.48
12369D...[3] 4.30e4 31.86
12378D 8.30e5* 32.75
12367D 5.55e4* 32.87
Abs. Int.
2.22e5
1.11e5
0.00e0
0%
30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 RT
Rel. Int.
100%
PeCDD Std.
29.52-34.01
367.8949 Fn2
Flags: PB
4σ 3.09e3
CS 12347D 1.70e7 32.22
ES 12378D 1.77e7 32.73
Abs. Int.
4.79e6
2.40e6
0.00e0
0%
30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 RT
Rel. Int.
100%
PeCDD Std.
29.52-34.01
369.8919 Fn2
Flags: PB
4σ 2.59e3
CS 12347D 1.08e7 32.22
ES 12378D 1.11e7 32.73
Abs. Int.
3.13e6
1.57e6
0.00e0
0%
30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 RT
Rel. Int.
100%
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
Abs. Int.
4.75e6
2.37e6
0.00e0
0%
30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 RT

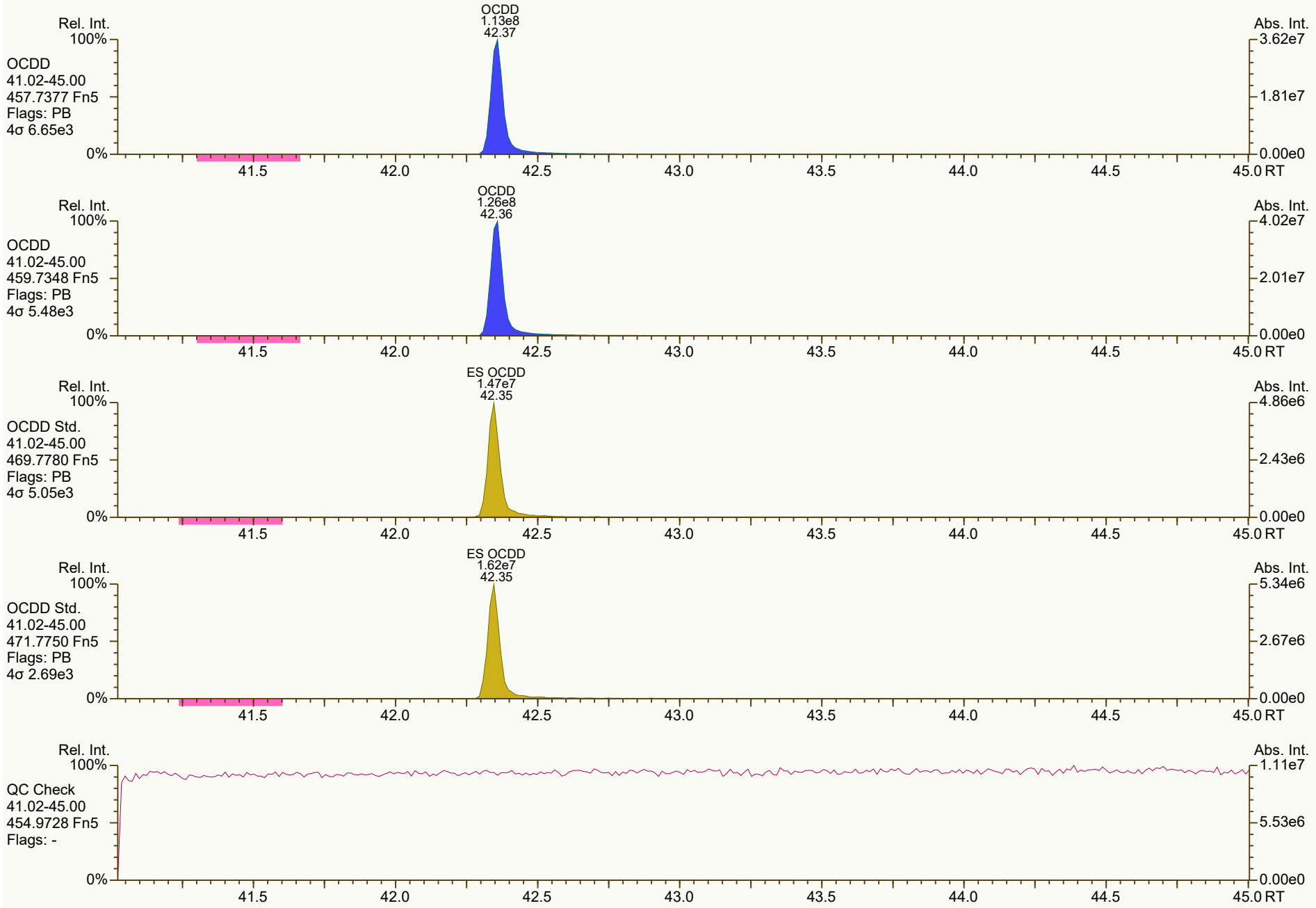


Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_005.utp_res, saved 22-Feb-2022 15:05 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3914, 2559 scc: 747-675
PKD: 22-Feb-2022 13:41 Printed: 22-Feb-2022 15:35 Page 4 of 12

SGS ID: B6284_18926_DF_005 | Sample ID: 11215131-020422-S-SB-SW-B-25 | Acq: 22-Feb-2022 12:28:45
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 68 | User: PSW Datafile: 220222R10



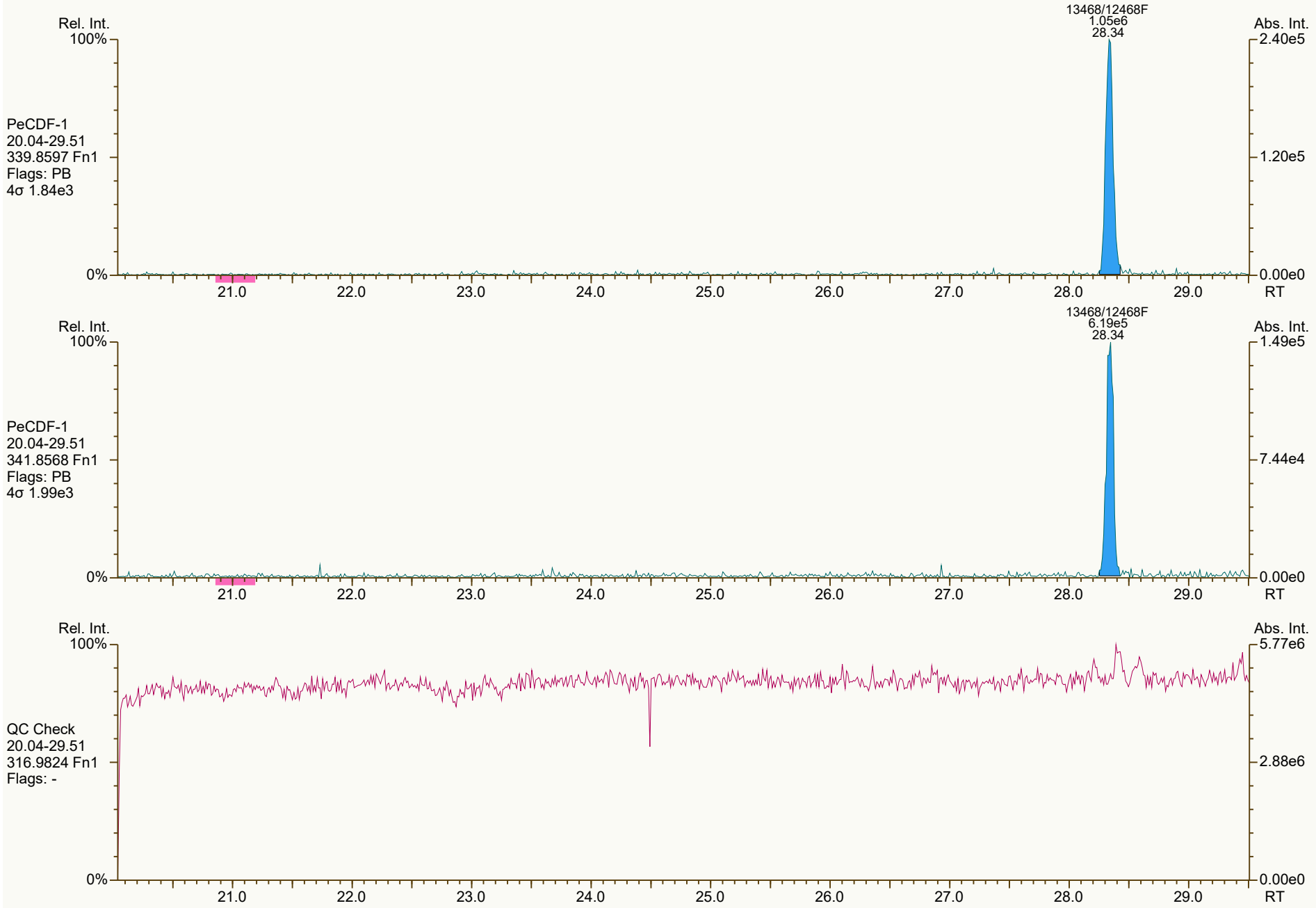
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_005.utp_res, saved 22-Feb-2022 15:05 (PSW) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6355, 5716 scc: 747-675 | PKD: 22-Feb-2022 13:41 Printed: 22-Feb-2022 15:35 Page 5 of 12


OCDD
1.13e8
42.37
Rel. Int.
100%
OCDD
41.02-45.00
457.7377 Fn5
Flags: PB
4σ 6.65e3
0%
Abs. Int.
3.62e7
1.81e7
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.26e8
42.36
Rel. Int.
100%
OCDD
41.02-45.00
459.7348 Fn5
Flags: PB
4σ 5.48e3
0%
Abs. Int.
4.02e7
2.01e7
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7
42.35
Rel. Int.
100%
OCDD Std.
41.02-45.00
469.7780 Fn5
Flags: PB
4σ 5.05e3
0%
Abs. Int.
4.86e6
2.43e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.62e7
42.35
Rel. Int.
100%
OCDD Std.
41.02-45.00
471.7750 Fn5
Flags: PB
4σ 2.69e3
0%
Abs. Int.
5.34e6
2.67e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.02-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.11e7
5.53e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
20.04-29.51
303.9016 Fn1
Flags: PBM
4σ 1.52e3
0%
2378F
4.72e8
26.29
1278F
2.12e8
25.32
2348F
3.54e7
26.17
2367/3467F
3.62e7
26.67
1289F
3.28e7*
28.42
Abs. Int.
9.70e7
4.85e7
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDF
20.04-29.51
305.8987 Fn1
Flags: PBM
4σ 1.86e3
0%
2378F
5.96e8
26.29
1278F
2.68e8
25.32
2348F
4.50e7
26.17
2367/3467F
4.54e7
26.67
1289F
4.12e7*
28.41
Abs. Int.
1.22e8
6.11e7
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDF Std.
20.04-29.51
315.9419 Fn1
Flags: PB
4σ 1.28e4
0%
JS 1234F
2.28e7
24.80
ES 2378F
2.00e7
26.27
Abs. Int.
4.54e6
2.27e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDF Std.
20.04-29.51
317.9389 Fn1
Flags: PB
4σ 9.49e3
0%
JS 1234F
2.96e7
24.79
ES 2378F
2.55e7
26.27
Abs. Int.
5.98e6
2.99e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
HxCDPE
20.04-29.51
375.8364 Fn1
Flags: B
4σ 1.44e3
0%
Abs. Int.
7.99e3
4.00e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT

SGS ID: B6284_18926_DF_005 | Sample ID: 11215131-020422-S-SB-SW-B-25 | Acq: 22-Feb-2022 12:28:45

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 68 | User: PSW Datafile: 220222R10



Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_005.utp_res, saved 22-Feb-2022 15:05 (PSW)

Peak annotation: Areas, Centroids

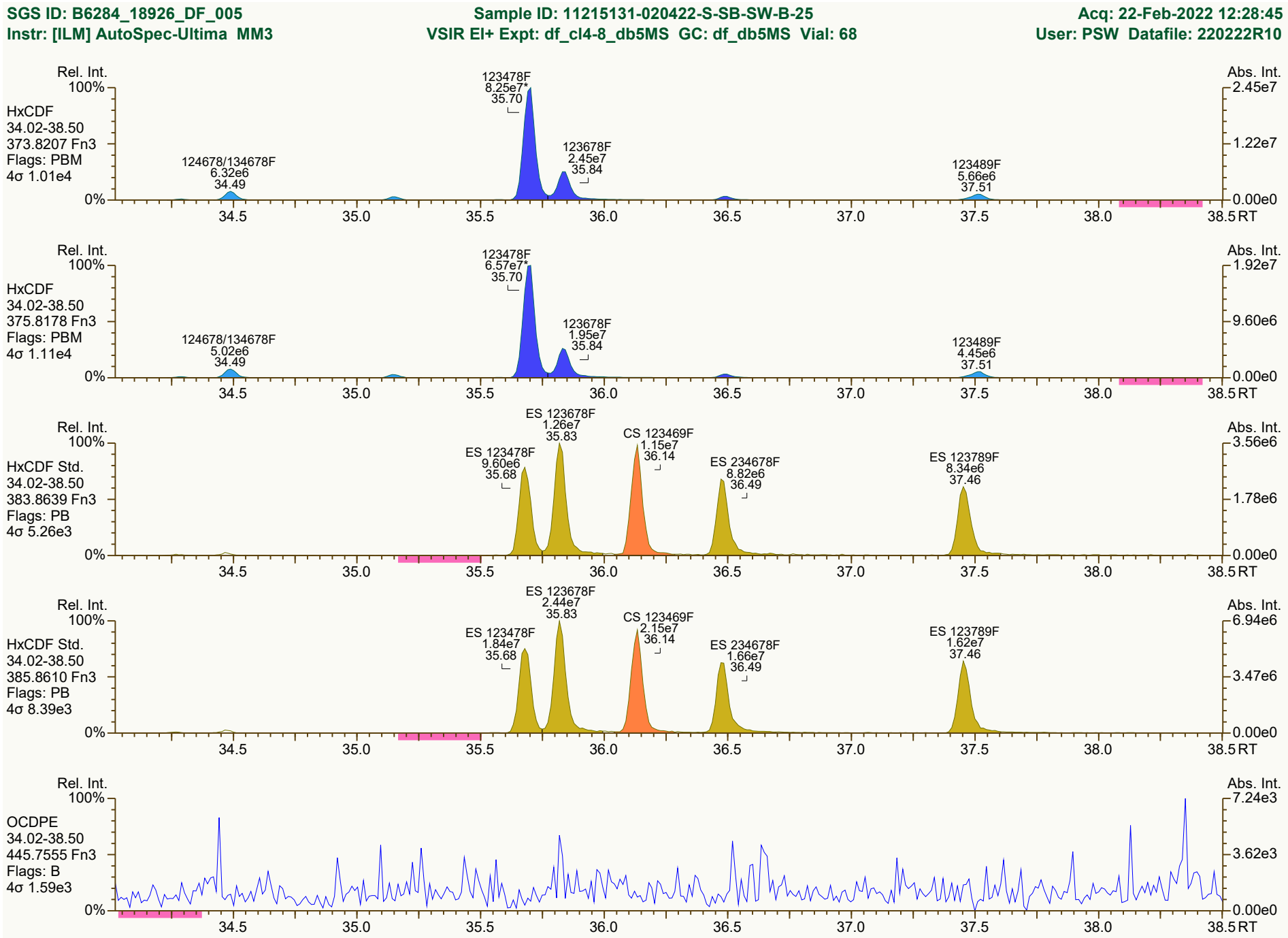
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7376 scc: 747-675

PKD: 22-Feb-2022 13:41 Printed: 22-Feb-2022 15:35 Page 8 of 12

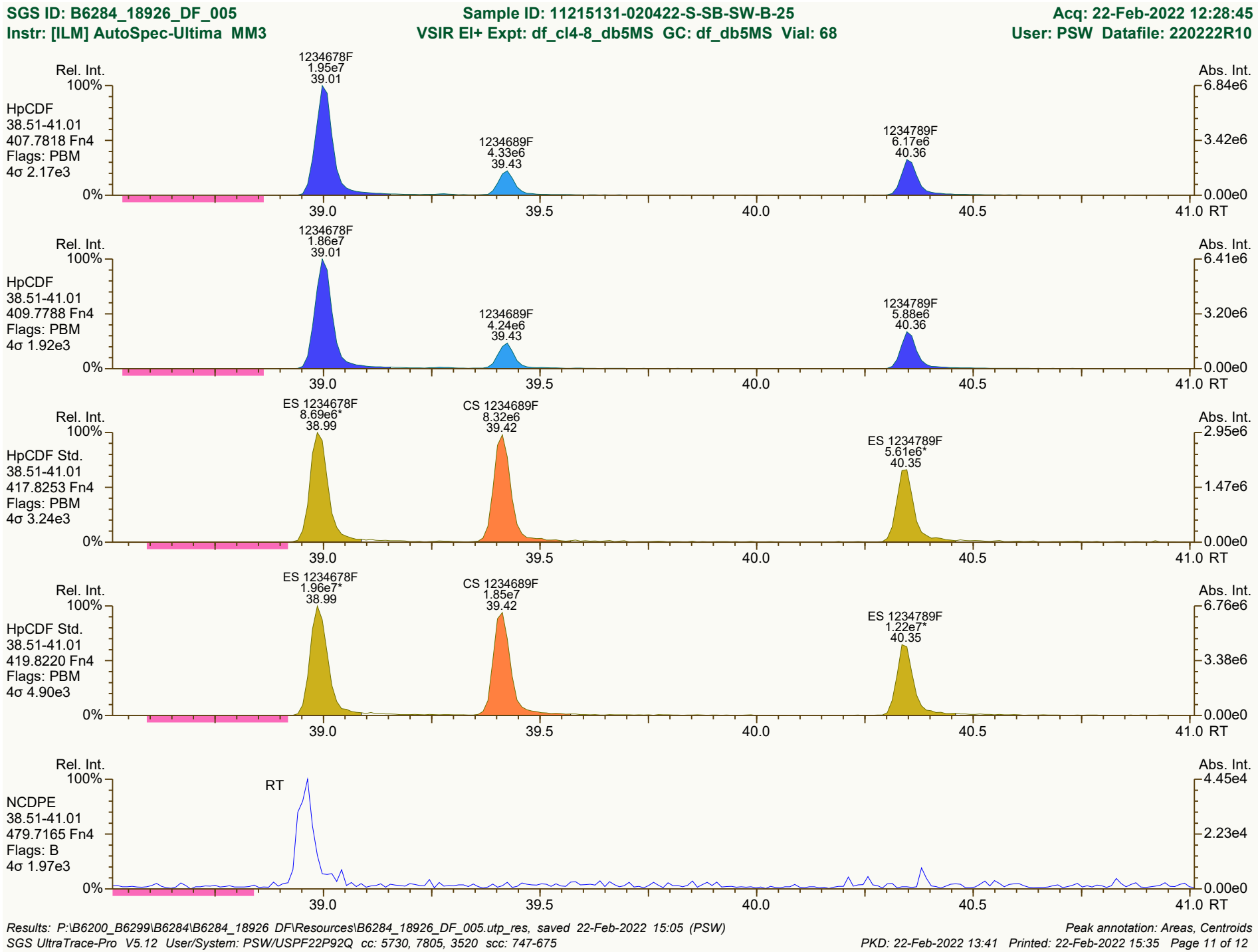


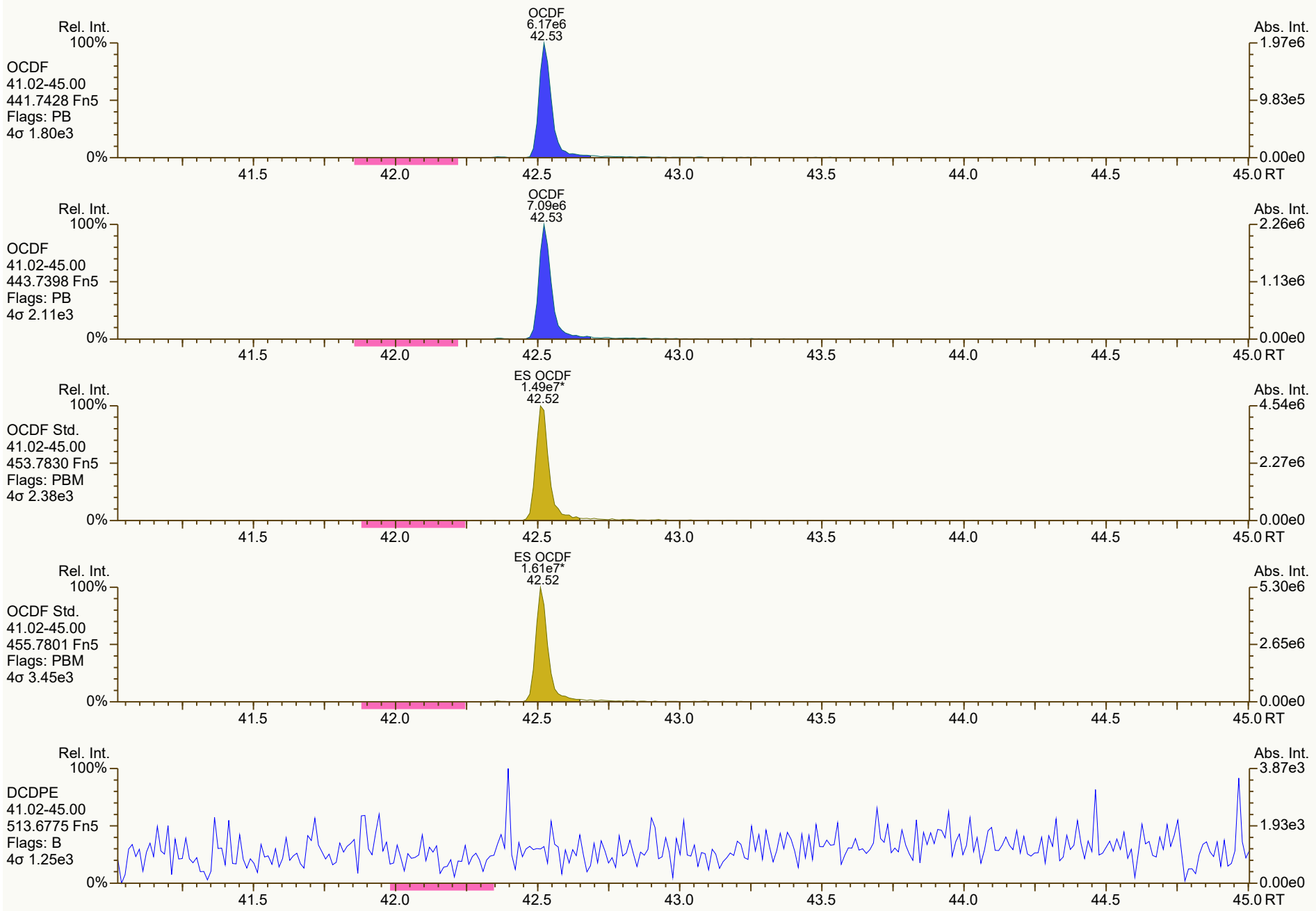
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_005.utp_res, saved 22-Feb-2022 15:05 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7231, 8847, 5570 scc: 747-675
PKD: 22-Feb-2022 13:41 Printed: 22-Feb-2022 15:35 Page 9 of 12

SGS ID: B6284_18926_DF_005 | Sample ID: 11215131-020422-S-SB-SW-B-25 | Acq: 22-Feb-2022 12:28:45
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 68 | User: PSW Datafile: 220222R10



Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_005.utp_res, saved 22-Feb-2022 15:05 (PSW) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6209, 8756, 7295 scc: 747-675 | PKD: 22-Feb-2022 13:41 Printed: 22-Feb-2022 15:35 Page 10 of 12


SGS ID: B6284_18926_DF_005
Sample ID: 11215131-020422-S-SB-SW-B-25
Acq: 22-Feb-2022 12:28:45
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 68
User: PSW Datafile: 220222R10
Rel. Int.
Abs. Int.
HpCDF
38.51-41.01
407.7818 Fn4
Flags: PBM
4σ 2.17e3
1234678F
1.95e7
39.01
1234689F
4.33e6
39.43
1234789F
6.17e6
40.36
6.84e6
3.42e6
0.00e0
HpCDF
38.51-41.01
409.7788 Fn4
Flags: PBM
4σ 1.92e3
1234678F
1.86e7
39.01
1234689F
4.24e6
39.43
1234789F
5.88e6
40.36
6.41e6
3.20e6
HpCDF Std.
38.51-41.01
417.8253 Fn4
Flags: PBM
4σ 3.24e3
ES 1234678F
8.69e6*
38.99
CS 1234689F
8.32e6
39.42
ES 1234789F
5.61e6*
40.35
2.95e6
1.47e6
HpCDF Std.
38.51-41.01
419.8220 Fn4
Flags: PBM
4σ 4.90e3
ES 1234678F
1.96e7*
38.99
CS 1234689F
1.85e7
39.42
ES 1234789F
1.22e7*
40.35
6.76e6
3.38e6
NCDPE
38.51-41.01
479.7165 Fn4
Flags: B
4σ 1.97e3
RT
4.45e4
2.23e4
100%
0%
39.0
39.5
40.0
40.5
41.0 RT
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_005.utp_res, saved 22-Feb-2022 15:05 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5730, 7805, 3520 scc: 747-675
PKD: 22-Feb-2022 13:41 Printed: 22-Feb-2022 15:35 Page 11 of 12


Rel. Int.
100%
OCDF
41.02-45.00
441.7428 Fn5
Flags: PB
4σ 1.80e3
0%
OCDF
6.17e6
42.53
Abs. Int.
1.97e6
9.83e5
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.02-45.00
443.7398 Fn5
Flags: PB
4σ 2.11e3
0%
OCDF
7.09e6
42.53
Abs. Int.
2.26e6
1.13e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.02-45.00
453.7830 Fn5
Flags: PBM
4σ 2.38e3
0%
ES OCDF
1.49e7*
42.52
Abs. Int.
4.54e6
2.27e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.02-45.00
455.7801 Fn5
Flags: PBM
4σ 3.45e3
0%
ES OCDF
1.61e7*
42.52
Abs. Int.
5.30e6
2.65e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.02-45.00
513.6775 Fn5
Flags: B
4σ 1.25e3
0%
Abs. Int.
3.87e3
1.93e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6284_18926_DF_006 **Acq'd:** 22 Feb 2022 13:16 PSW **Wt/Vol:** 10.03 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-020422-S-SB-SW-B-25H1 **UTP:** 22-Feb-2022 15:05:18 PSW **J-level:** 0.498 pg/g **Split:** 1 **Checkcode:** 605-534-WFK

Datafile: 220222R11 **Report:** 22 Feb 2022 15:07 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	27.21		1.0008	1.0009	+0.2	2.33E+07	0.78	Y	1.34	136	6235.553	0.399
12378-PeCDD	32.75	J	1.0006	1.0006	0	2.43E+05	1.42	Y	1.06	1.97	3649.813	0.262
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.06	-	5434.968	0.414
123678-HxCDD	36.79	J	1.0035	1.0036	+0.2	1.16E+05	1.40	Y	1.08	0.986	5434.968	0.392
123789-HxCDD	37.09	J	1.0117	1.0117	0	1.30E+05	1.09	Y	1.02	1	5434.968	0.411
1234678-HpCDD	39.94		1.0003	1.0003	0	2.87E+06	1.07	Y	0.97	29	7401.49	0.488
OCDD	42.37		1.0003	1.0002	-0.3	3.95E+07	0.89	Y	1.07	519	7637.956	0.824
2378-TCDF	26.30		1.0007	1.0009	+0.3	8.50E+07	0.80	Y	0.96	454	5199.853	0.318
12378-PeCDF	31.26		1.0006	1.0006	0	5.00E+06	1.55	Y	0.95	27.6	6054.776	0.329
23478-PeCDF	32.42		1.0006	1.0007	+0.2	2.96E+06	1.54	Y	0.94	17.3	6054.776	0.307
123478-HxCDF	35.70		1.0005	1.0005	0	9.25E+06	1.26	Y	1.23	58.9	5594.87	0.289
123678-HxCDF	35.85		1.0004	1.0005	+0.2	2.74E+06	1.28	Y	1.13	14.5	5594.87	0.272
234678-HxCDF	36.51		1.0004	1.0004	0	3.88E+05	1.27	Y	1.15	2.77	5594.87	0.355
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	5594.87	0.429
1234678-HpCDF	39.01		1.0003	1.0003	0	4.44E+06	1.02	Y	1.36	24	4786.9	0.189
1234789-HpCDF	40.37		1.0003	1.0002	-0.2	7.40E+05	1.09	Y	1.30	6.94	4786.9	0.295
OCDF	42.54		1.0003	1.0002	-0.3	9.28E+06	0.90	Y	1.03	122	4215.31	0.452

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	27.18	1.0263	1.0265	+0.3	2.54E+07	0.78	Y	1.03	66.8
ES 12378-PeCDD	32.73	1.2342	1.2361	+3.7	2.31E+07	1.60	Y	1.03	60.8
ES 123478-HxCDD	36.66	0.9915	0.9916	+0.2	2.05E+07	1.26	Y	0.99	70.8
ES 123678-HxCDD	36.78	0.9947	0.9948	+0.2	2.16E+07	1.32	Y	0.97	76.1
ES 123789-HxCDD	37.08	1.0028	1.0030	+0.4	2.54E+07	1.24	Y	1.12	77.3
ES 1234678-HpCDD	39.93	1.0791	1.0801	+2.4	2.02E+07	1.03	Y	0.99	69.9
ES OCDD	42.36	1.1449	1.1458	+2.3	2.84E+07	0.90	Y	0.78	62.6
ES 2378-TCDF	26.27	1.0587	1.0593	+0.9	3.88E+07	0.79	Y	1.08	64.1
ES 12378-PeCDF	31.24	1.2570	1.2597	+5.1	3.82E+07	1.59	Y	0.93	73.3
ES 23478-PeCDF	32.39	1.3032	1.3061	+5.6	3.62E+07	1.61	Y	0.92	70.3
ES 123478-HxCDF	35.68	0.9652	0.9652	0	2.53E+07	0.53	Y	1.14	76
ES 123678-HxCDF	35.83	0.9690	0.9692	+0.4	3.33E+07	0.53	Y	1.30	87.9
ES 234678-HxCDF	36.49	0.9869	0.9870	+0.2	2.42E+07	0.52	Y	1.20	69.1
ES 123789-HxCDF	37.47	1.0133	1.0135	+0.4	2.21E+07	0.52	Y	1.14	66.5
ES 1234678-HpCDF	39.00	1.0541	1.0550	+2.1	2.70E+07	0.45	Y	0.95	97.6
ES 1234789-HpCDF	40.36	1.0906	1.0916	+2.4	1.63E+07	0.44	Y	0.85	66.1
ES OCDF	42.53	1.1495	1.1504	+2.3	2.94E+07	0.91	Y	0.93	54.5

Lab ID: B6284_18926_DF_006 **Acq'd:** 22 Feb 2022 13:16 PSW **Wt/Vol:** 10.03 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-020422-S-SB-SW-B-25H1 **UTP:** 22-Feb-2022 15:05:18 PSW **J-level:** 0.498 pg/g **Split:** 1 **Checkcode:** 605-534-WFK

Datafile: 220222R11 **Report:** 22 Feb 2022 15:07 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.48		-	-	-	3.68E+07	0.78	Y	-	-
JS 1234-TCDF	24.80		-	-	-	5.59E+07	0.79	Y	-	-
JS 123467-HxCDD	36.97		-	-	-	1.46E+07	1.28	Y	-	-
CS 37Cl-2378-TCDD	27.21		1.0271	1.0274	+0.5	1.57E+07	n/a	-	1.31	81.2
CS 12347-PeCDD	32.22		1.2149	1.2168	+3.7	2.97E+07	1.64	Y	0.89	90.4
CS 12346-PeCDF	30.69		1.2351	1.2376	+4.6	4.67E+07	1.58	Y	0.87	96.4
CS 123469-HxCDF	36.14		0.9774	0.9776	+0.4	3.62E+07	0.53	Y	1.09	114
CS 1234689-HpCDF	39.43		1.0654	1.0664	+2.4	2.73E+07	0.45	Y	0.86	108
~~SS 37Cl-2378-TCDD~~	~~27.21~~		~~1.0271~~	~~1.0274~~	~~+0.5~~	~~1.57E+07~~	~~n/a~~		~~1.26~~	~~122~~
~~SS 12347-PeCDD~~	~~32.22~~	~~V~~	~~1.2149~~	~~1.2168~~	~~+3.7~~	~~2.97E+07~~	~~1.64~~	~~Y~~	~~0.86~~	~~149~~
~~SS 12346-PeCDF~~	~~30.69~~	~~V~~	~~1.2351~~	~~1.2376~~	~~+4.6~~	~~4.67E+07~~	~~1.58~~	~~Y~~	~~0.93~~	~~131~~
~~SS 123469-HxCDF~~	~~36.14~~		~~0.9774~~	~~0.9776~~	~~+0.4~~	~~3.62E+07~~	~~0.53~~	~~Y~~	~~0.84~~	~~129~~
~~SS 1234689-HpCDF~~	~~39.43~~		~~1.0654~~	~~1.0664~~	~~+2.4~~	~~2.73E+07~~	~~0.45~~	~~Y~~	~~0.91~~	~~110~~

Totals	Conc	EMPC
Total TCDD	149	151
Total PeCDD	4.98	4.98
Total HxCDD	20.5	21.9
Total HpCDD	90.1	90.1
Total Tetra-Octa Dioxins	783	786
Total TCDF	893	895
Total PeCDF	67.1	68.7
Total HxCDF	89.3	89.3
Total HpCDF	38.2	38.2
Total Tetra-Octa Furans	1,210	1210
Total Tetra-Octa Dioxins & Furans	1990	2000

Lab ID: B6284_18926_DF_006 **Acq'd: 22 Feb 2022 13:16 PSW** **Wt/Vol: 10.03 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-020422-S-SB-SW-B-25H1 **UTP: 22-Feb-2022 15:05:18 PSW** **J-level: 0.498 pg/g** **Split: 1** **Checkcode: 605-534-WFK**

Datafile: 220222R11 **Report: 22 Feb 2022 15:07 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8571						1.34		6235.553	0.399
1379-TCDD	NotFnd		0.8715						1.34		6235.553	0.399
1369-TCDD	NotFnd		0.8889						1.34		6235.553	0.399
1469-TCDD	24.99		0.9198	0.9193	-0.7	3.04E+05	0.82	Y	1.34	1.77	6235.553	0.399
1247/1246/1248/1249-TCDD	NotFnd		0.9291						1.34		6235.553	0.399
1378-TCDD	NotFnd		0.9366						1.34		6235.553	0.399
1268-TCDD	NotFnd		0.9446						1.34		6235.553	0.399
1478-TCDD	NotFnd		0.9539						1.34		6235.553	0.399
1279-TCDD	NotFnd		0.9606						1.34		6235.553	0.399
1234/1269-TCDD	NotFnd		0.9745						1.34		6235.553	0.399
1236-TCDD	NotFnd		0.9798						1.34		6235.553	0.399
1237/1238-TCDD	26.89	EMPC	0.9897	0.9894	-0.5	2.94E+05	0.90	N	1.34	1.72	6235.553	0.399
1239-TCDD	NotFnd		0.9948						1.34		6235.553	0.399
2378-TCDD	**27.21**		**1.0008**	1.0009	**+0.2**	2.33E+07	0.78	Y	**1.34**	**136**	**6235.553**	**0.399**
1278-TCDD	27.55		1.0136	1.0137	+0.2	1.98E+06	0.75	Y	1.34	11.5	6235.553	0.399
1267-TCDD	NotFnd		1.0189						1.34		6235.553	0.399
1289-TCDD	NotFnd		1.0384						1.34		6235.553	0.399
12479/12468-PeCDD	30.17	J	0.9220	0.9217	-0.5	8.56E+04	1.44	Y	1.06	0.696	3649.813	0.262
12469-PeCDD	30.72	J	0.9390	0.9386	-0.7	1.67E+05	1.48	Y	1.06	1.36	3649.813	0.262
12368-PeCDD	NotFnd		0.9563						1.06		3649.813	0.262
12478-PeCDD	31.48	J	0.9622	0.9618	-0.8	4.50E+04	1.42	Y	1.06	0.366	3649.813	0.262
12379-PeCDD	NotFnd		0.9653						1.06		3649.813	0.262
12369/12467/12489-PeCDD	31.86	J	0.9736	0.9735	-0.2	7.26E+04	1.35	Y	1.06	0.59	3649.813	0.262
12346/12347-PeCDD	NotFnd		0.9851						1.06		3649.813	0.262
12378-PeCDD	32.75	J	**1.0006**	**1.0006**	**0**	**2.43E+05**	**1.42**	**Y**	**1.06**	**1.97**	**3649.813**	**0.262**
12367-PeCDD	NotFnd		1.0035						1.06		3649.813	0.262
12389-PeCDD	NotFnd		1.0143						1.06		3649.813	0.262
124679/124689-HxCDD	34.96		0.9536	0.9535	-0.2	1.66E+06	1.35	Y	1.05	14	5434.968	0.405
123468-HxCDD	35.61	J EMPC	0.9716	0.9713	-0.6	4.27E+04	1.02	N	1.05	0.36	5434.968	0.405
123679/123689-HxCDD	35.91		0.9797	0.9797	0	5.31E+05	1.34	Y	1.05	4.48	5434.968	0.405
123469-HxCDD	36.04	J EMPC	0.9833	0.9831	-0.4	7.47E+04	1.72	N	1.05	0.63	5434.968	0.405
123478-HxCDD	NotFnd		**1.0004**						1.06		**5434.968**	**0.414**
123678-HxCDD	36.79	J	**1.0035**	**1.0036**	**+0.2**	**1.16E+05**	**1.40**	**Y**	1.08	**0.986**	**5434.968**	**0.392**
123467-HxCDD	36.99	J EMPC	1.0089	1.0089	0	5.02E+04	1.48	N	1.05	0.423	5434.968	0.405
123789-HxCDD	37.09	J	**1.0117**	**1.0117**	**0**	**1.30E+05**	**1.09**	**Y**	1.02	**1**	**5434.968**	**0.411**

Lab ID: B6284_18926_DF_006 | **Acq'd: 22 Feb 2022 13:16 PSW** | **Wt/Vol: 10.03 g** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-020422-S-SB-SW-B-25H1 | **UTP: 22-Feb-2022 15:05:18 PSW** | **J-level: 0.498 pg/g** | **Split: 1** | **Checkcode: 605-534-WFK**

Datafile: 220222R11 | **Report: 22 Feb 2022 15:07 pw** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

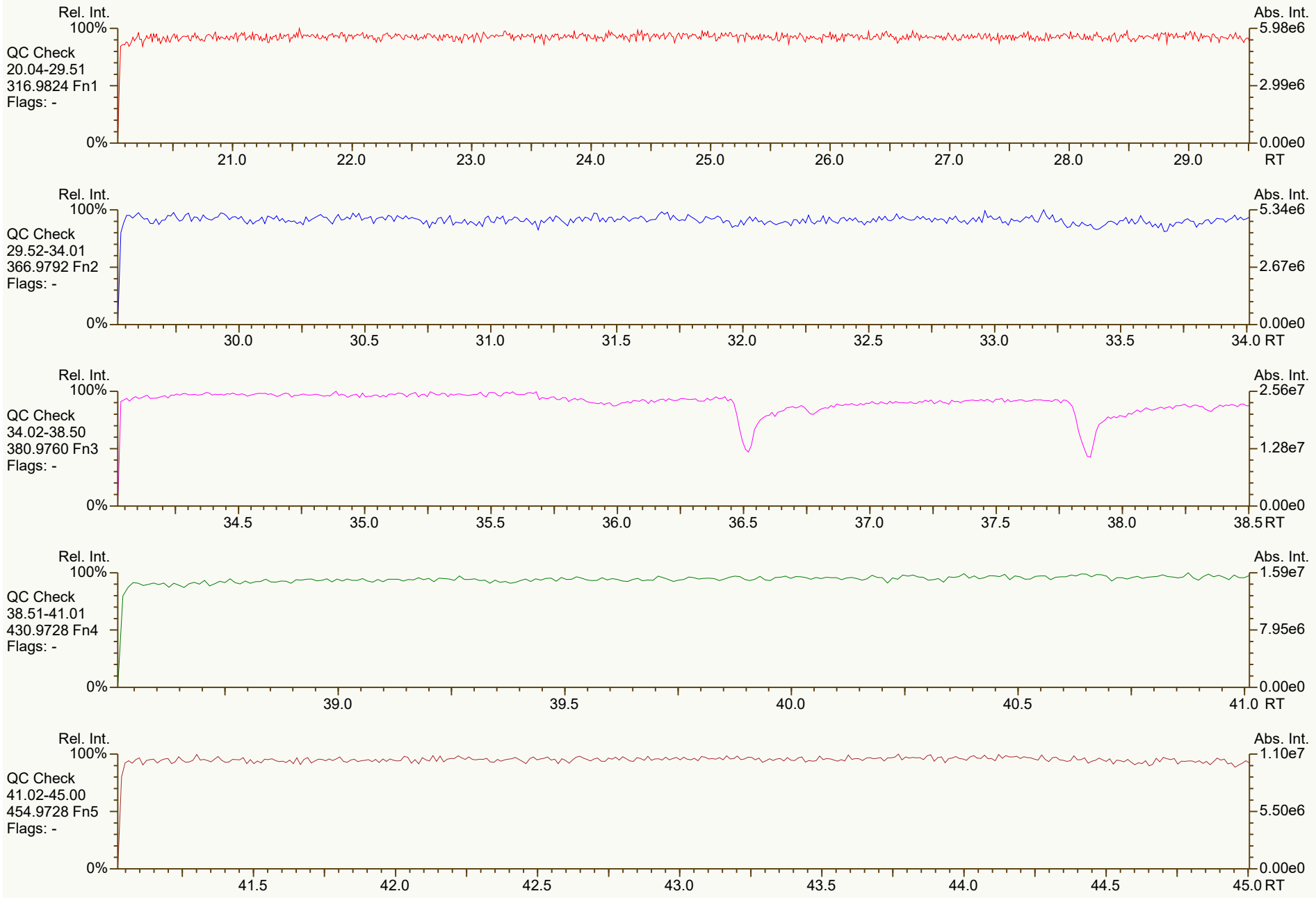
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.29		0.9839	0.9838	-0.2	6.04E+06	1.02	Y	0.97	61.1	7401.49	0.488
1234678-HpCDD	**39.94**		**1.0003**	**1.0003**	**0**	**2.87E+06**	**1.07**	**Y**	**0.97**	**29**	**7401.49**	**0.488**
OCDD	**42.37**		**1.0003**	**1.0002**	**-0.3**	**3.95E+07**	**0.89**	**Y**	**1.07**	**519**	**7637.956**	**0.824**
OCDD-a	42.37		1.0002	1.0001	-0.3	2.43E+06	2.39	Y	0.07	518	4227.157	7.39
1368-TCDF	21.03	J EMPC	0.8019	0.8006	-1.6	7.23E+04	1.06	N	0.96	0.386	5199.853	0.318
1468-TCDF	21.60		0.8238	0.8220	-2.3	2.18E+05	0.75	Y	0.96	1.16	5199.853	0.318
2468-TCDF	22.26	EMPC	0.8493	0.8473	-2.7	2.07E+05	0.91	N	0.96	1.11	5199.853	0.318
1346/1246-TCDF	22.70	J EMPC	0.8635	0.8639	+0.5	8.29E+04	1.05	N	0.96	0.443	5199.853	0.318
1347/1378/1247-TCDF	22.85		0.8702	0.8696	-0.8	1.01E+06	0.76	Y	0.96	5.39	5199.853	0.318
1348-TCDF	23.12		0.8817	0.8802	-2.1	3.66E+05	0.83	Y	0.96	1.96	5199.853	0.318
1248/1367/1379-TCDF	23.24		0.8871	0.8844	-3.8	3.65E+06	0.80	Y	0.96	19.5	5199.853	0.318
1268-TCDF	23.69		0.9029	0.9019	-1.4	1.28E+06	0.75	Y	0.96	6.85	5199.853	0.318
1467-TCDF	23.84		0.9087	0.9075	-1.7	3.66E+05	0.85	Y	0.96	1.96	5199.853	0.318
1478-TCDF	24.03		0.9156	0.9145	-1.6	3.24E+06	0.79	Y	0.96	17.3	5199.853	0.318
1369/1237-TCDF	24.44		0.9307	0.9302	-0.7	1.06E+06	0.72	Y	0.96	5.64	5199.853	0.318
2467-TCDF	24.59	EMPC	0.9361	0.9359	-0.3	1.00E+05	1.16	N	0.96	0.536	5199.853	0.318
2368-TCDF	24.74		0.9422	0.9415	-1.0	2.14E+06	0.79	Y	0.96	11.5	5199.853	0.318
1238/1234/1678/1469/1236-TCDF	24.83		0.9460	0.9451	-1.3	5.41E+06	0.80	Y	0.96	28.9	5199.853	0.318
1278-TCDF	25.33		0.9644	0.9641	-0.5	3.77E+07	0.79	Y	0.96	202	5199.853	0.318
1349-TCDF	NotFnd		0.9693						0.96		5199.853	0.318
1267-TCDF	25.62		0.9757	0.9753	-0.6	1.97E+06	0.80	Y	0.96	10.5	5199.853	0.318
2346/1249-TCDF	25.83		0.9830	0.9830	0	4.52E+05	0.83	Y	0.96	2.41	5199.853	0.318
2347/1279-TCDF	26.05		0.9919	0.9914	-0.8	1.15E+06	0.82	Y	0.96	6.15	5199.853	0.318
2348-TCDF	26.18		0.9964	0.9964	0	5.99E+06	0.80	Y	0.96	32	5199.853	0.318
2378-TCDF	**26.30**		**1.0007**	**1.0009**	**+0.3**	**8.50E+07**	**0.80**	**Y**	**0.96**	**454**	**5199.853**	**0.318**
2367/3467-TCDF	26.67		1.0157	1.0152	-0.8	6.58E+06	0.76	Y	0.96	35.2	5199.853	0.318
1269-TCDF	26.94		1.0248	1.0253	+0.8	2.97E+06	0.77	Y	0.96	15.9	5199.853	0.318
1239-TCDF	27.21		1.0355	1.0358	+0.5	3.19E+05	0.80	Y	0.96	1.7	5199.853	0.318
1289-TCDF	28.42		1.0808	1.0817	+1.5	6.09E+06	0.79	Y	0.96	32.5	5199.853	0.318
13468/12468-PeCDF	28.34	J EMPC	0.9073	0.9070	-0.5	1.72E+05	1.20	N	0.94	0.974	3719.102	0.195
13678/13467/12467-PeCDF	29.95	J	0.9586	0.9587	+0.2	6.43E+04	1.60	Y	0.94	0.365	6054.776	0.318
12368/13478/12478-PeCDF	30.12		0.9638	0.9642	+0.7	2.06E+06	1.53	Y	0.94	11.7	6054.776	0.318
14678-PeCDF	30.21	J	0.9671	0.9669	-0.4	5.64E+04	1.63	Y	0.94	0.321	6054.776	0.318
13479-PeCDF	NotFnd		0.9702						0.94		6054.776	0.318
13469/12479-PeCDF	NotFnd		0.9785						0.94		6054.776	0.318
12346-PeCDF	NotFnd		0.9831						0.94		6054.776	0.318

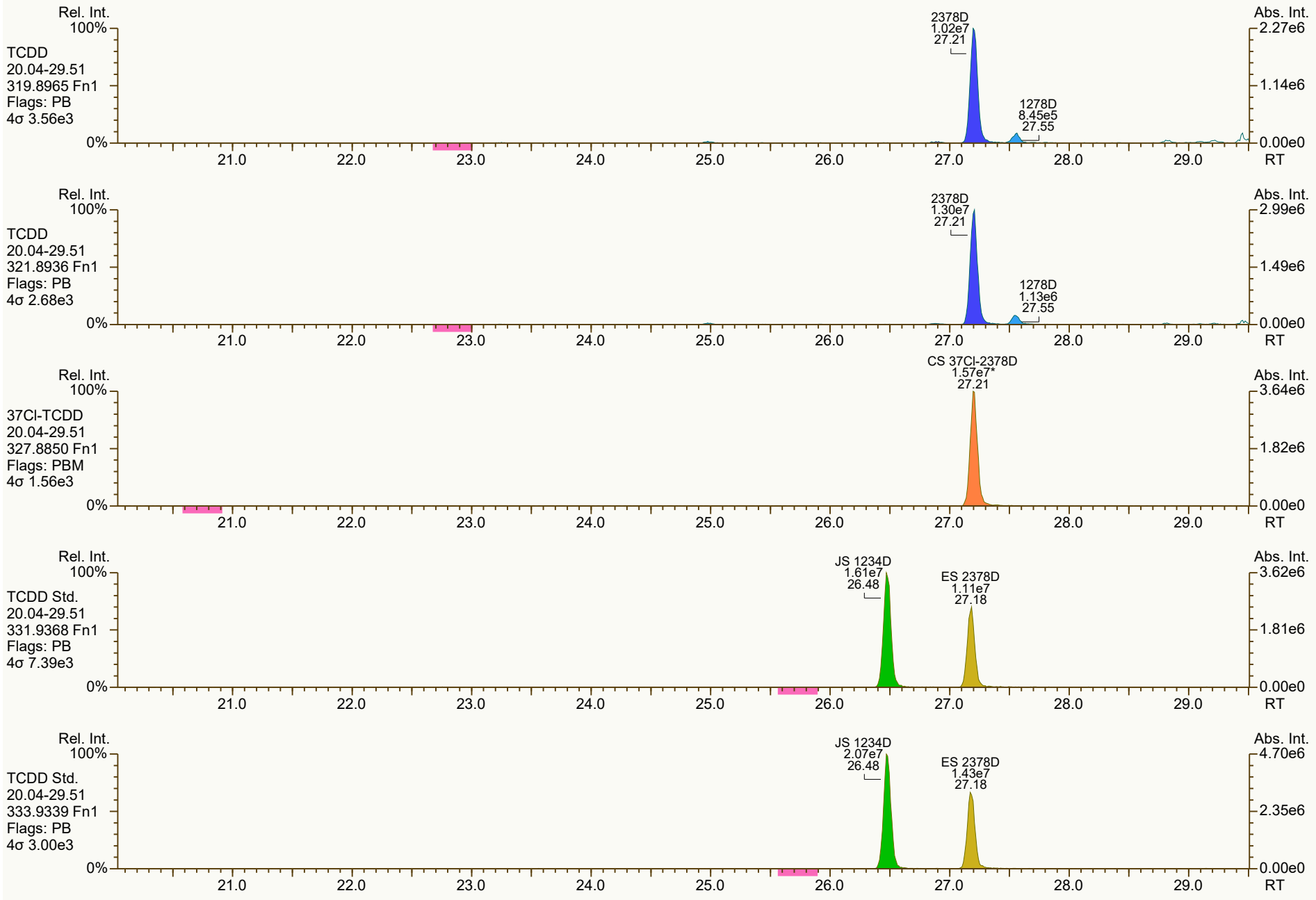
Lab ID: B6284_18926_DF_006 | **Acq'd: 22 Feb 2022 13:16 PSW** | **Wt/Vol: 10.03 g** | **ICAL: MM3_DF_10272021_27JUL2021**

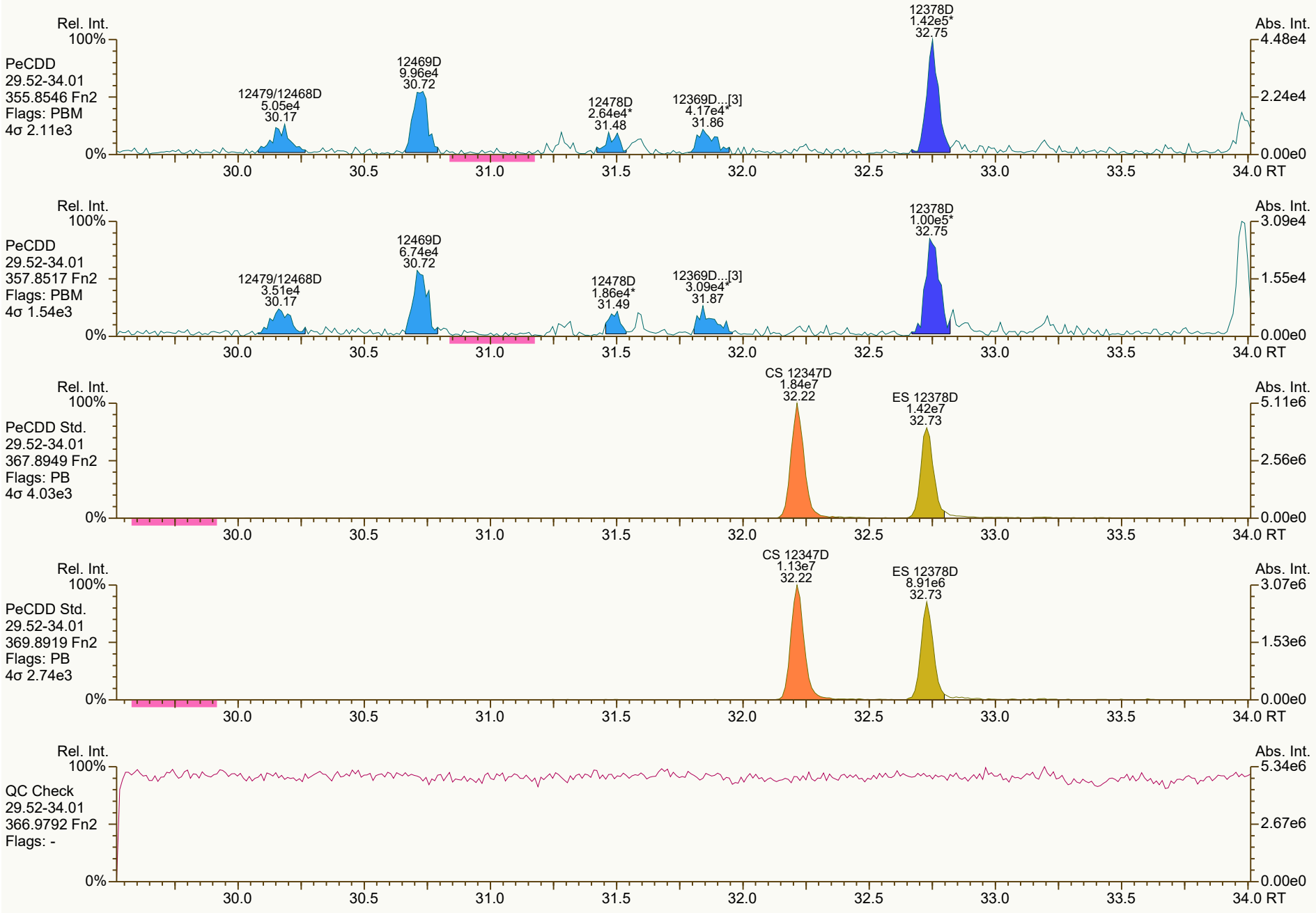
Client ID: 11215131-020422-S-SB-SW-B-25H1 | **UTP: 22-Feb-2022 15:05:18 PSW** | **J-level: 0.498 pg/g** | **Split: 1** | **Checkcode: 605-534-WFK**

Datafile: 220222R11 | **Report: 22 Feb 2022 15:07 pw** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

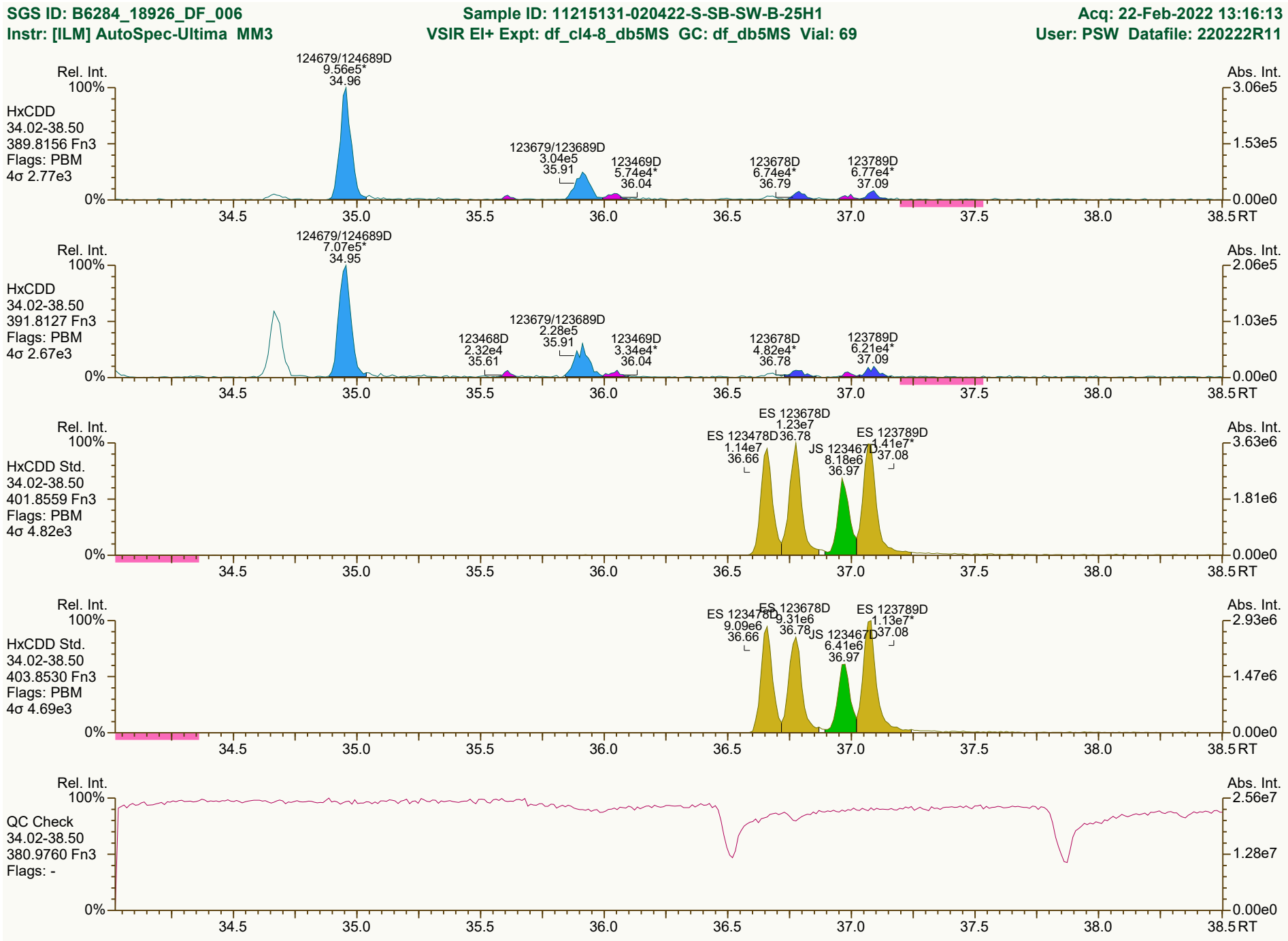
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	30.81	J	0.9863	0.9863	0	8.60E+04	1.57	Y	0.94	0.489	6054.776	0.318
12347-PeCDF	NotFnd		0.9887						0.94		6054.776	0.318
12348-PeCDF	31.04	J	0.9937	0.9936	-0.2	3.33E+05	1.44	Y	0.94	1.89	6054.776	0.318
12378-PeCDF	**31.26**		**1.0006**	**1.0006**	**0**	**5.00E+06**	**1.55**	**Y**	**0.95**	**27.6**	**6054.776**	**0.329**
12678/12367-PeCDF	31.56		1.0097	1.0103	+1.1	1.30E+06	1.57	Y	0.94	7.41	6054.776	0.318
12379-PeCDF	NotFnd		1.0151						0.94		6054.776	0.318
12679-PeCDF	NotFnd		0.9923						0.94		6054.776	0.318
23467/12369-PeCDF	NotFnd		0.9965						0.94		6054.776	0.318
23478-PeCDF	**32.42**		**1.0006**	**1.0007**	**+0.2**	**2.96E+06**	**1.54**	**Y**	**0.94**	**17.3**	**6054.776**	**0.307**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0049						0.94		6054.776	0.318
12349-PeCDF	NotFnd		1.0104						0.94		6054.776	0.318
12389-PeCDF	33.50	J EMPC	1.0341	1.0343	+0.4	1.16E+05	1.98	N	0.94	0.66	6054.776	0.318
123468-HxCDF	34.29	J	0.9611	0.9610	-0.2	1.28E+05	1.35	Y	1.16	0.835	5594.87	0.327
124678/134678-HxCDF	34.49		0.9668	0.9667	-0.2	8.65E+05	1.20	Y	1.16	5.65	5594.87	0.327
134679-HxCDF	NotFnd		0.9733						1.16		5594.87	0.327
124679-HxCDF	NotFnd		0.9789						1.16		5594.87	0.327
124689-HxCDF	35.16	J	0.9852	0.9852	0	3.60E+05	1.20	Y	1.16	2.35	5594.87	0.327
123467-HxCDF	NotFnd		0.9972						1.16		5594.87	0.327
123478-HxCDF	**35.70**		**1.0005**	**1.0005**	**0**	**9.25E+06**	**1.26**	**Y**	**1.23**	**58.9**	**5594.87**	**0.289**
123678-HxCDF	**35.85**		**1.0004**	**1.0005**	**+0.2**	**2.74E+06**	**1.28**	**Y**	**1.13**	**14.5**	**5594.87**	**0.272**
123479-HxCDF	NotFnd		1.0049						1.16		5594.87	0.327
123469-HxCDF	NotFnd		1.0090						1.16		5594.87	0.327
123679-HxCDF	NotFnd		0.9942						1.16		5594.87	0.327
234678-HxCDF	**36.51**		**1.0004**	**1.0004**	**0**	**3.88E+05**	**1.27**	**Y**	**1.15**	**2.77**	**5594.87**	**0.355**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		5594.87	0.327
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**5594.87**	**0.429**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.51		1.0008	1.0012	+0.9	6.45E+05	1.18	Y	1.16	4.22	5594.87	0.327
1234678-HpCDF	**39.01**		**1.0003**	**1.0003**	**0**	**4.44E+06**	**1.02**	**Y**	**1.36**	**24**	**4786.9**	**0.189**
1234679-HpCDF	39.29	**J**	1.0073	1.0073	0	1.11E+05	1.02	Y	1.33	0.765	4786.9	0.229
1234689-HpCDF	39.43		1.0109	1.0110	+0.2	9.32E+05	1.06	Y	1.33	6.44	4786.9	0.229
1234789-HpCDF	**40.37**		**1.0003**	**1.0002**	**-0.2**	**7.40E+05**	**1.09**	**Y**	**1.30**	**6.94**	**4786.9**	**0.295**
OCDF	**42.54**		**1.0003**	**1.0002**	**-0.3**	**9.28E+06**	**0.90**	**Y**	**1.03**	**122**	**4215.31**	**0.452**
OCDF-a	42.54		1.0002	1.0001	-0.3	5.00E+05	2.55	Y	0.06	114	4303.095	7.99


Rel. Int.
100%
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0 RT
Rel. Int.
100%
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.34e6
2.67e6
0.00e0
30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 RT
Rel. Int.
100%
QC Check
34.02-38.50
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.56e7
1.28e7
0.00e0
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
QC Check
38.51-41.01
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.59e7
7.95e6
0.00e0
39.0 39.5 40.0 40.5 41.0 RT
Rel. Int.
100%
QC Check
41.02-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.10e7
5.50e6
0.00e0
41.5 42.0 42.5 43.0 43.5 44.0 44.5 45.0 RT

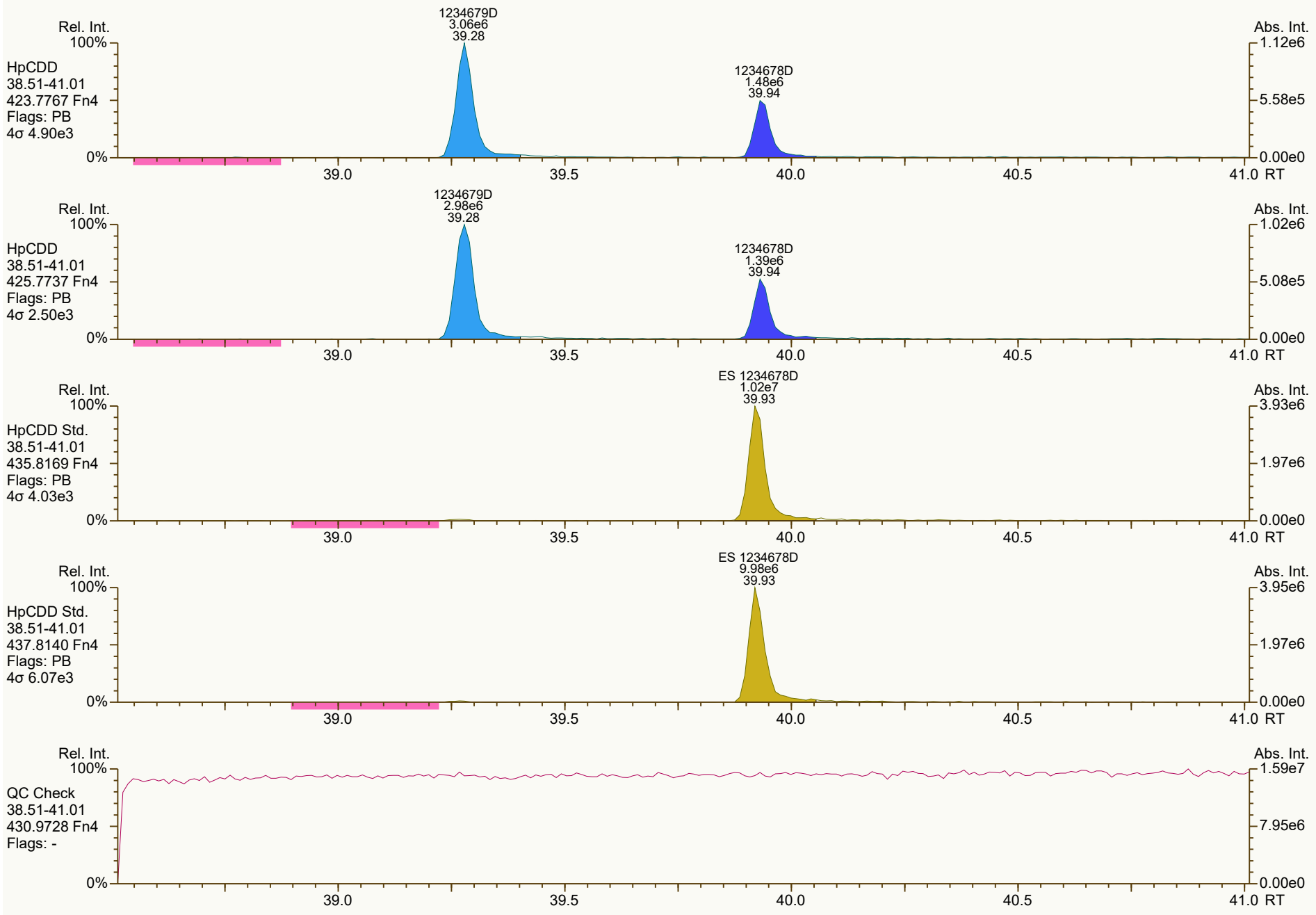

Rel. Int.
100%
TCDD
20.04-29.51
319.8965 Fn1
Flags: PB
4σ 3.56e3
0%
2378D
1.02e7
27.21
1278D
8.45e5
27.55
Abs. Int.
2.27e6
1.14e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD
20.04-29.51
321.8936 Fn1
Flags: PB
4σ 2.68e3
0%
2378D
1.30e7
27.21
1278D
1.13e6
27.55
Abs. Int.
2.99e6
1.49e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
37Cl-TCDD
20.04-29.51
327.8850 Fn1
Flags: PBM
4σ 1.56e3
0%
CS 37Cl-2378D
1.57e7*
27.21
Abs. Int.
3.64e6
1.82e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.04-29.51
331.9368 Fn1
Flags: PB
4σ 7.39e3
0%
JS 1234D
1.61e7
26.48
ES 2378D
1.11e7
27.18
Abs. Int.
3.62e6
1.81e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.04-29.51
333.9339 Fn1
Flags: PB
4σ 3.00e3
0%
JS 1234D
2.07e7
26.48
ES 2378D
1.43e7
27.18
Abs. Int.
4.70e6
2.35e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT

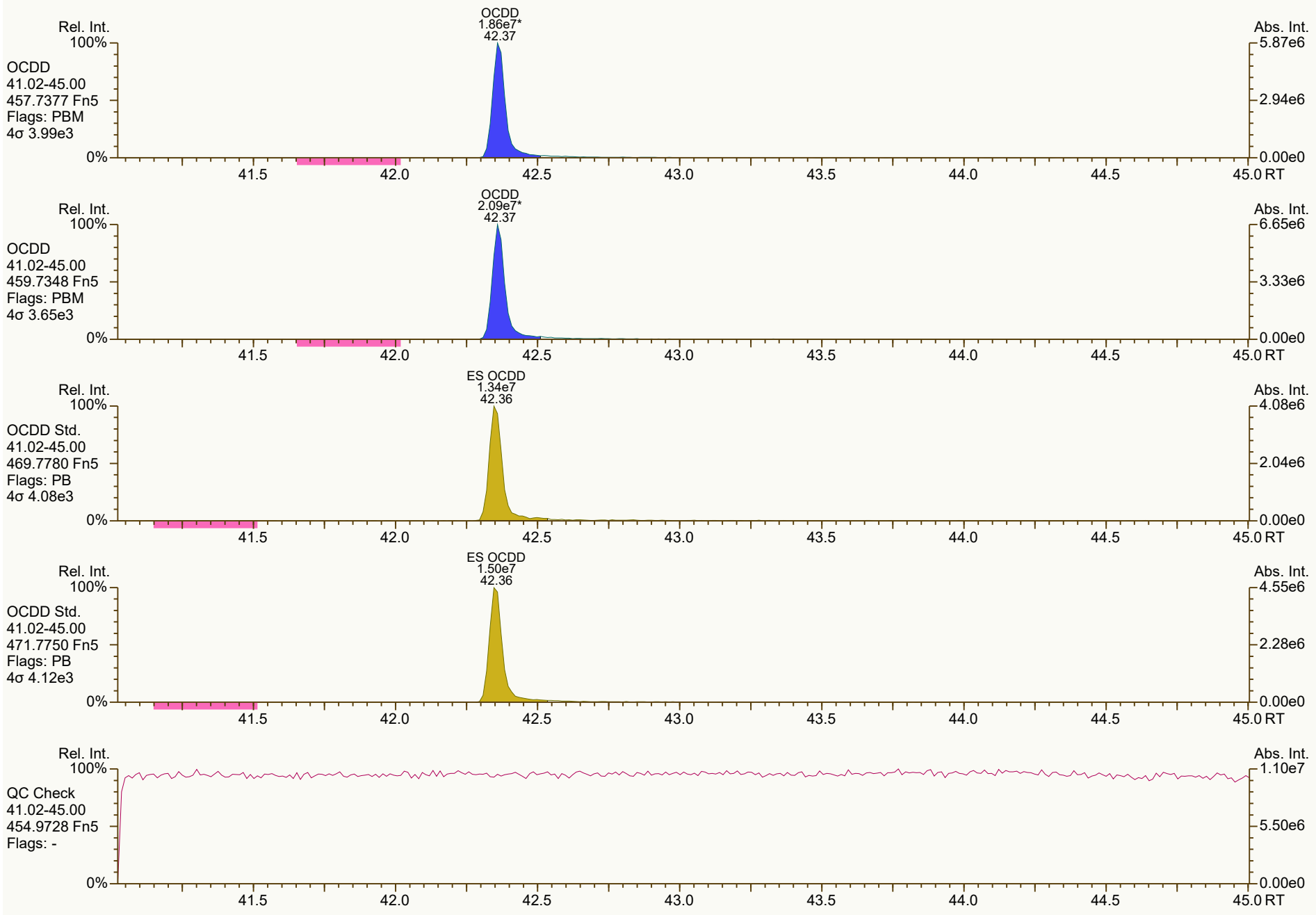

Rel. Int.
100%
PeCDD
29.52-34.01
355.8546 Fn2
Flags: PBM
4σ 2.11e3
12479/12468D
5.05e4
30.17
12469D
9.96e4
30.72
12478D
2.64e4*
31.48
12369D...[3]
4.17e4*
31.86
12378D
1.42e5*
32.75
Abs. Int.
4.48e4
2.24e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
PeCDD
29.52-34.01
357.8517 Fn2
Flags: PBM
4σ 1.54e3
12479/12468D
3.51e4
30.17
12469D
6.74e4
30.72
12478D
1.86e4*
31.49
12369D...[3]
3.09e4*
31.87
12378D
1.00e5*
32.75
3.09e4
1.55e4
PeCDD Std.
29.52-34.01
367.8949 Fn2
Flags: PB
4σ 4.03e3
CS 12347D
1.84e7
32.22
ES 12378D
1.42e7
32.73
5.11e6
2.56e6
PeCDD Std.
29.52-34.01
369.8919 Fn2
Flags: PB
4σ 2.74e3
CS 12347D
1.13e7
32.22
ES 12378D
8.91e6
32.73
3.07e6
1.53e6
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
5.34e6
2.67e6

SGS ID: B6284_18926_DF_006 | Sample ID: 11215131-020422-S-SB-SW-B-25H1 | Acq: 22-Feb-2022 13:16:13
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69 | User: PSW Datafile: 220222R11



Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_006.utp_res, saved 22-Feb-2022 15:05 (PSW) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3921, 5470 scc: 605-534 | PKD: 22-Feb-2022 14:13 Printed: 22-Feb-2022 15:35 Page 4 of 12


Rel. Int.
100%
HpCDD
38.51-41.01
423.7767 Fn4
Flags: PB
4σ 4.90e3
1234679D
3.06e6
39.28
1234678D
1.48e6
39.94
Abs. Int.
1.12e6
5.58e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD
38.51-41.01
425.7737 Fn4
Flags: PB
4σ 2.50e3
1234679D
2.98e6
39.28
1234678D
1.39e6
39.94
Abs. Int.
1.02e6
5.08e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.51-41.01
435.8169 Fn4
Flags: PB
4σ 4.03e3
ES 1234678D
1.02e7
39.93
Abs. Int.
3.93e6
1.97e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.51-41.01
437.8140 Fn4
Flags: PB
4σ 6.07e3
ES 1234678D
9.98e6
39.93
Abs. Int.
3.95e6
1.97e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
QC Check
38.51-41.01
430.9728 Fn4
Flags: -
Abs. Int.
1.59e7
7.95e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT


OCDD
1.86e7*
42.37
Rel. Int.
100%
OCDD
41.02-45.00
457.7377 Fn5
Flags: PBM
4σ 3.99e3
0%
Abs. Int.
5.87e6
2.94e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.09e7*
42.37
Rel. Int.
100%
OCDD
41.02-45.00
459.7348 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.65e6
3.33e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.34e7
42.36
Rel. Int.
100%
OCDD Std.
41.02-45.00
469.7780 Fn5
Flags: PB
4σ 4.08e3
0%
Abs. Int.
4.08e6
2.04e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.50e7
42.36
Rel. Int.
100%
OCDD Std.
41.02-45.00
471.7750 Fn5
Flags: PB
4σ 4.12e3
0%
Abs. Int.
4.55e6
2.28e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.02-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.10e7
5.50e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: B6284_18926_DF_006 | Sample ID: 11215131-020422-S-SB-SW-B-25H1 | Acq: 22-Feb-2022 13:16:13

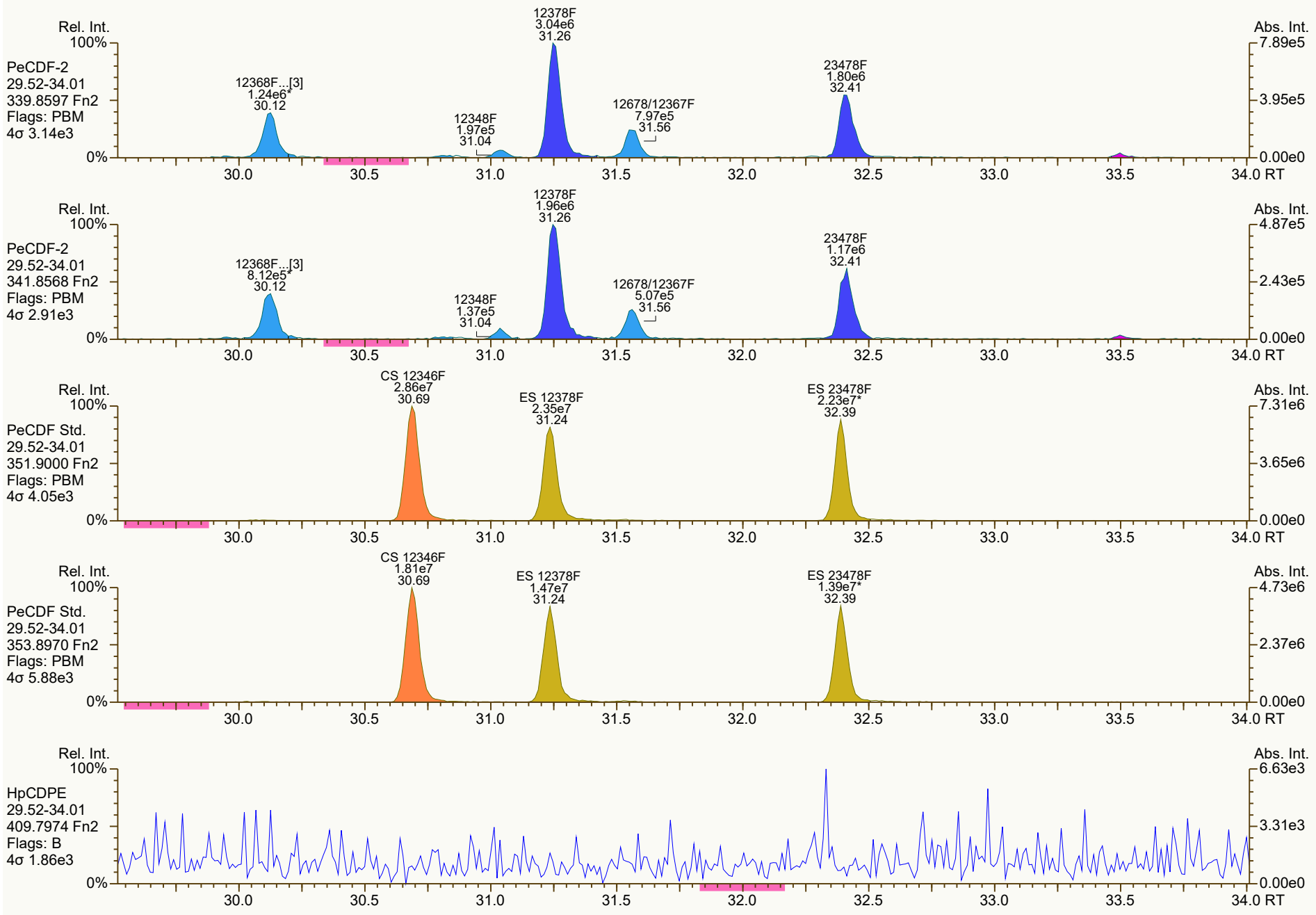
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69 | User: PSW Datafile: 220222R11

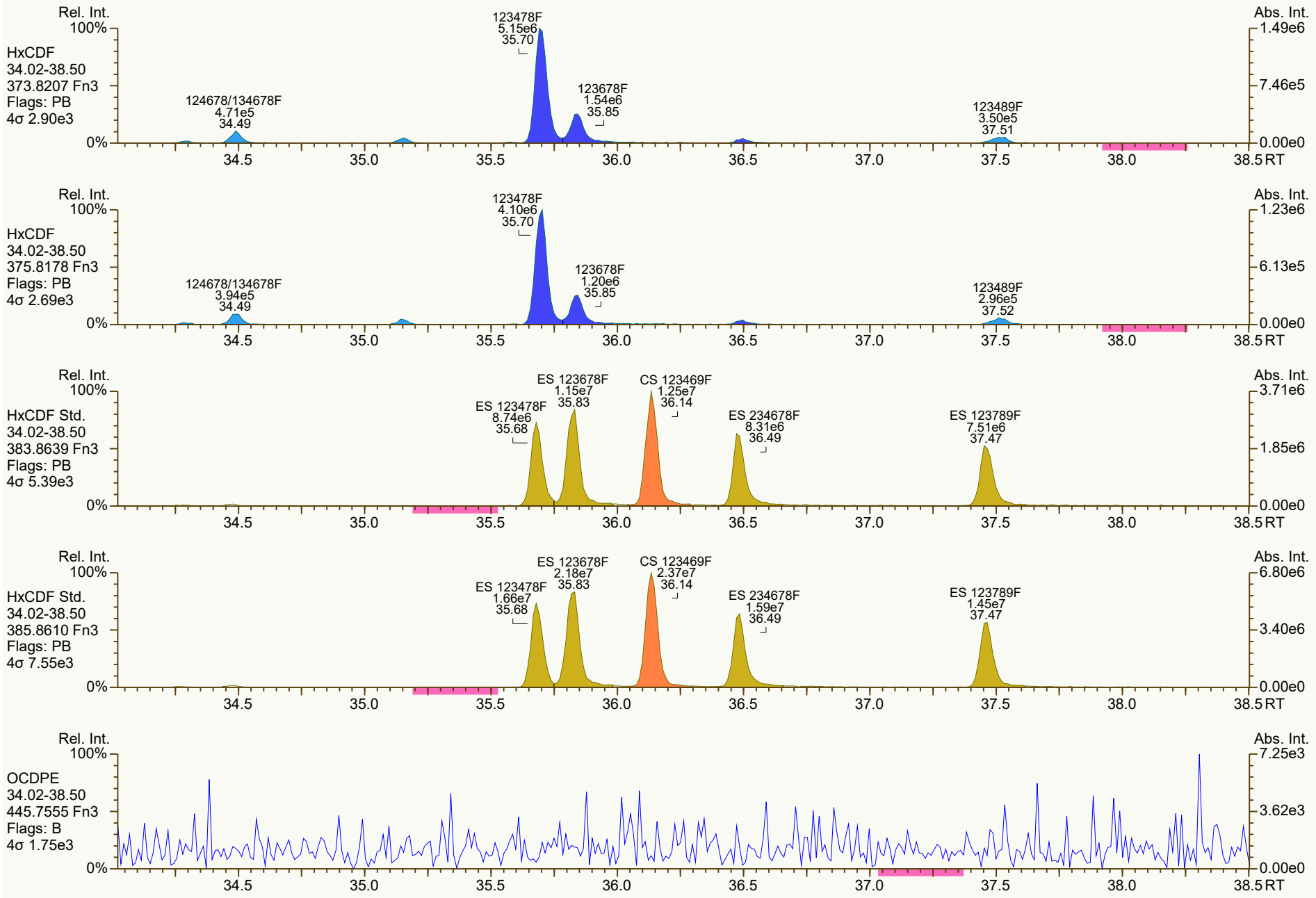


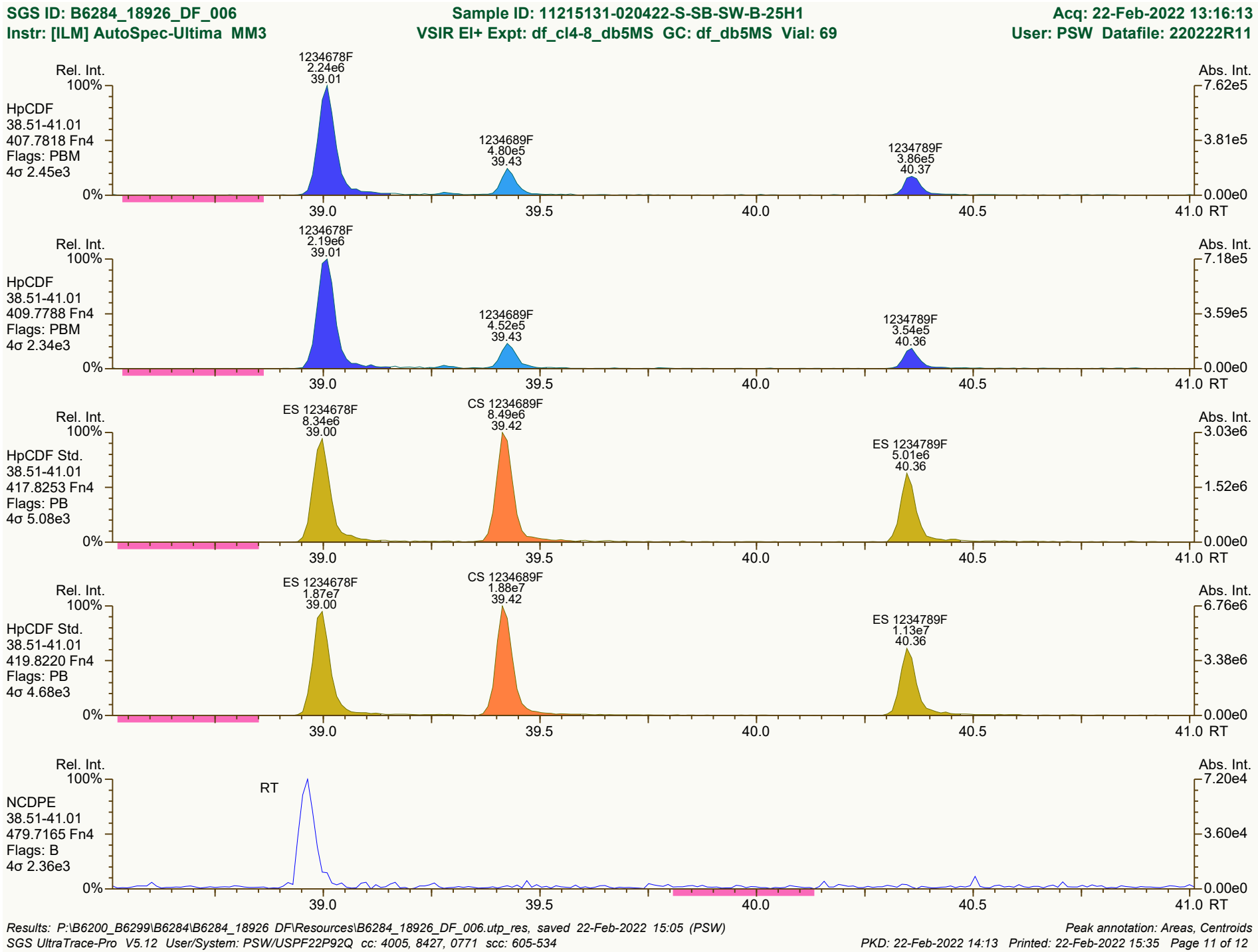
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_006.utp_res, saved 22-Feb-2022 15:05 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6973, 0290, 6430 scc: 605-534 | *PKD: 22-Feb-2022 14:13 Printed: 22-Feb-2022 15:35 Page 7 of 12*


Rel. Int.
100%
0%
Abs. Int.
3.24e4
1.62e4
0.00e0
RT
13468/12468F
1.04e5*
28.33
PeCDF-1
20.04-29.51
339.8597 Fn1
Flags: PBM
4σ 1.93e3
13468/12468F
8.66e4*
28.33
2.29e4
1.15e4
PeCDF-1
20.04-29.51
341.8568 Fn1
Flags: PBM
4σ 1.79e3
5.98e6
2.99e6
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0


Rel. Int.
100%
PeCDF-2
29.52-34.01
339.8597 Fn2
Flags: PBM
4σ 3.14e3
12368F...[3]
1.24e6*
30.12
12348F
1.97e5
31.04
12378F
3.04e6
31.26
12678/12367F
7.97e5
31.56
23478F
1.80e6
32.41
Abs. Int.
7.89e5
3.95e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF-2
29.52-34.01
341.8568 Fn2
Flags: PBM
4σ 2.91e3
12368F...[3]
8.12e5*
30.12
12348F
1.37e5
31.04
12378F
1.96e6
31.26
12678/12367F
5.07e5
31.56
23478F
1.17e6
32.41
Abs. Int.
4.87e5
2.43e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF Std.
29.52-34.01
351.9000 Fn2
Flags: PBM
4σ 4.05e3
CS 12346F
2.86e7
30.69
ES 12378F
2.35e7
31.24
ES 23478F
2.23e7*
32.39
Abs. Int.
7.31e6
3.65e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF Std.
29.52-34.01
353.8970 Fn2
Flags: PBM
4σ 5.88e3
CS 12346F
1.81e7
30.69
ES 12378F
1.47e7
31.24
ES 23478F
1.39e7*
32.39
Abs. Int.
4.73e6
2.37e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
HpCDPE
29.52-34.01
409.7974 Fn2
Flags: B
4σ 1.86e3
Abs. Int.
6.63e3
3.31e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT


Rel. Int.
100%
HxCDF
34.02-38.50
373.8207 Fn3
Flags: PB
4σ 2.90e3
123478F
5.15e6
35.70
124678/134678F
4.71e5
34.49
123678F
1.54e6
35.85
123489F
3.50e5
37.51
Abs. Int.
1.49e6
7.46e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDF
34.02-38.50
375.8178 Fn3
Flags: PB
4σ 2.69e3
123478F
4.10e6
35.70
124678/134678F
3.94e5
34.49
123678F
1.20e6
35.85
123489F
2.96e5
37.52
Abs. Int.
1.23e6
6.13e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDF Std.
34.02-38.50
383.8639 Fn3
Flags: PB
4σ 5.39e3
ES 123678F
1.15e7
35.83
CS 123469F
1.25e7
36.14
ES 123478F
8.74e6
35.68
ES 234678F
8.31e6
36.49
ES 123789F
7.51e6
37.47
Abs. Int.
3.71e6
1.85e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDF Std.
34.02-38.50
385.8610 Fn3
Flags: PB
4σ 7.55e3
ES 123678F
2.18e7
35.83
CS 123469F
2.37e7
36.14
ES 123478F
1.66e7
35.68
ES 234678F
1.59e7
36.49
ES 123789F
1.45e7
37.47
Abs. Int.
6.80e6
3.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
OCDPE
34.02-38.50
445.7555 Fn3
Flags: B
4σ 1.75e3
Abs. Int.
7.25e3
3.62e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT


SGS ID: B6284_18926_DF_006
Sample ID: 11215131-020422-S-SB-SW-B-25H1
Acq: 22-Feb-2022 13:16:13
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: PSW Datafile: 220222R11
Rel. Int.
Abs. Int.
HpCDF
38.51-41.01
407.7818 Fn4
Flags: PBM
4σ 2.45e3
1234678F
2.24e6
39.01
1234689F
4.80e5
39.43
1234789F
3.86e5
40.37
7.62e5
3.81e5
0.00e0
HpCDF
38.51-41.01
409.7788 Fn4
Flags: PBM
4σ 2.34e3
1234678F
2.19e6
39.01
1234689F
4.52e5
39.43
1234789F
3.54e5
40.36
7.18e5
3.59e5
0.00e0
HpCDF Std.
38.51-41.01
417.8253 Fn4
Flags: PB
4σ 5.08e3
ES 1234678F
8.34e6
39.00
CS 1234689F
8.49e6
39.42
ES 1234789F
5.01e6
40.36
3.03e6
1.52e6
0.00e0
HpCDF Std.
38.51-41.01
419.8220 Fn4
Flags: PB
4σ 4.68e3
ES 1234678F
1.87e7
39.00
CS 1234689F
1.88e7
39.42
ES 1234789F
1.13e7
40.36
6.76e6
3.38e6
0.00e0
NCDPE
38.51-41.01
479.7165 Fn4
Flags: B
4σ 2.36e3
RT
7.20e4
3.60e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0 RT
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_006.utp_res, saved 22-Feb-2022 15:05 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4005, 8427, 0771 scc: 605-534
PKD: 22-Feb-2022 14:13 Printed: 22-Feb-2022 15:35 Page 11 of 12


Rel. Int.
100%
OCDF
41.02-45.00
441.7428 Fn5
Flags: PB
4σ 1.60e3
0%
OCDF
4.40e6
42.54
Abs. Int.
1.39e6
6.93e5
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.02-45.00
443.7398 Fn5
Flags: PB
4σ 2.61e3
0%
OCDF
4.88e6
42.54
Abs. Int.
1.46e6
7.32e5
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.02-45.00
453.7830 Fn5
Flags: PB
4σ 2.39e3
0%
ES OCDF
1.40e7
42.53
Abs. Int.
4.32e6
2.16e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.02-45.00
455.7801 Fn5
Flags: PB
4σ 3.98e3
0%
ES OCDF
1.54e7
42.53
Abs. Int.
4.61e6
2.31e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.02-45.00
513.6775 Fn5
Flags: B
4σ 1.37e3
0%
Abs. Int.
3.85e3
1.93e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6284_18926_DF_007 **Acq'd:** 22 Feb 2022 14:03 PSW **Wt/Vol:** 10.08 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-020422-S-SB-SW-B-25H2 **UTP:** 22-Feb-2022 15:05:18 PSW **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 240-880-FSF

Datafile: 220222R12 **Report:** 22 Feb 2022 15:07 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	27.21		1.0008	1.0009	+0.2	3.42E+05	0.78	Y	1.34	1.92	4157.372	0.253
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.06	-	4113.597	0.314
123478-HxCDD	36.68	J	1.0004	1.0003	-0.2	4.62E+04	1.17	Y	1.06	0.432	4041.552	0.298
123678-HxCDD	36.79	J	1.0035	1.0035	0	5.25E+04	1.20	Y	1.08	0.436	4041.552	0.291
123789-HxCDD	37.09	J	1.0117	1.0117	0	8.52E+04	1.35	Y	1.02	0.679	4041.552	0.317
1234678-HpCDD	39.95		1.0003	1.0002	-0.2	1.16E+06	1.09	Y	0.97	12.6	4552.555	0.328
OCDD	42.38		1.0003	1.0003	0	2.00E+07	0.91	Y	1.07	310	6221.107	0.734
2378-TCDF	26.30		1.0007	1.0008	+0.2	1.21E+06	0.72	Y	0.96	6.53	3816.111	0.245
12378-PeCDF	31.26	J	1.0006	1.0004	-0.4	1.10E+05	1.70	Y	0.95	0.624	3307.208	0.194
23478-PeCDF	32.43	J	1.0006	1.0009	+0.6	6.31E+04	1.46	Y	0.94	0.387	3307.208	0.197
123478-HxCDF	35.71	J	1.0005	1.0005	0	1.65E+05	1.27	Y	1.23	1.11	3333.464	0.189
123678-HxCDF	35.85	J EMPC	1.0004	1.0003	-0.2	4.34E+04	1.85	N	1.13	0.244	3333.464	0.166
234678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3333.464	0.221
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	3333.464	0.26
1234678-HpCDF	39.01	J	1.0003	1.0001	-0.5	8.12E+04	1.12	Y	1.36	0.513	3611.195	0.169
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.30	-	3611.195	0.261
OCDF	42.54	J EMPC	1.0003	1.0000	-0.8	8.96E+04	1.04	N	1.03	1.37	3283.379	0.403

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	27.19		1.0263	1.0265	+0.3	2.63E+07	0.77	Y	1.03	89.3
ES 12378-PeCDD	32.74		1.2342	1.2362	+3.9	2.40E+07	1.59	Y	1.03	81.5
ES 123478-HxCDD	36.66		0.9915	0.9916	+0.2	2.01E+07	1.26	Y	0.99	87.8
ES 123678-HxCDD	36.78		0.9947	0.9948	+0.2	2.21E+07	1.23	Y	0.97	98.6
ES 123789-HxCDD	37.09		1.0028	1.0030	+0.4	2.45E+07	1.24	Y	1.12	94.8
ES 1234678-HpCDD	39.94		1.0791	1.0802	+2.6	1.87E+07	1.06	Y	0.99	82
ES OCDD	42.37		1.1449	1.1459	+2.5	2.39E+07	0.91	Y	0.78	66.9
ES 2378-TCDF	26.28		1.0587	1.0594	+1.1	3.83E+07	0.78	Y	1.08	79.8
ES 12378-PeCDF	31.25		1.2570	1.2597	+5.1	3.70E+07	1.56	Y	0.93	89.6
ES 23478-PeCDF	32.40		1.3032	1.3062	+5.8	3.45E+07	1.60	Y	0.92	84.4
ES 123478-HxCDF	35.69		0.9652	0.9653	+0.2	2.39E+07	0.50	Y	1.14	91
ES 123678-HxCDF	35.84		0.9690	0.9692	+0.4	3.12E+07	0.53	Y	1.30	105
ES 234678-HxCDF	36.50		0.9869	0.9871	+0.4	2.21E+07	0.53	Y	1.20	79.8
ES 123789-HxCDF	37.47		1.0133	1.0135	+0.4	2.07E+07	0.50	Y	1.14	79.1
ES 1234678-HpCDF	39.01		1.0541	1.0550	+2.1	2.31E+07	0.44	Y	0.95	106
ES 1234789-HpCDF	40.36		1.0906	1.0917	+2.7	1.51E+07	0.47	Y	0.85	77.5
ES OCDF	42.54		1.1495	1.1505	+2.6	2.52E+07	0.90	Y	0.93	59.2

Lab ID: B6284_18926_DF_007 **Acq'd:** 22 Feb 2022 14:03 PSW **Wt/Vol:** 10.08 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-020422-S-SB-SW-B-25H2 **UTP:** 22-Feb-2022 15:05:18 PSW **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 240-880-FSF

Datafile: 220222R12 **Report:** 22 Feb 2022 15:07 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.49		-	-	-	2.85E+07	0.77	Y	-	-
JS 1234-TCDF	24.81		-	-	-	4.42E+07	0.79	Y	-	-
JS 123467-HxCDD	36.97		-	-	-	1.15E+07	1.30	Y	-	-
CS 37Cl-2378-TCDD	27.21		1.0271	1.0274	+0.5	1.23E+07	n/a	-	1.31	82.3
CS 12347-PeCDD	32.23		1.2149	1.2167	+3.5	2.32E+07	1.59	Y	0.89	91.3
CS 12346-PeCDF	30.70		1.2351	1.2376	+4.6	3.58E+07	1.58	Y	0.87	93.1
CS 123469-HxCDF	36.15		0.9774	0.9776	+0.4	2.86E+07	0.54	Y	1.09	114
CS 1234689-HpCDF	39.43		1.0654	1.0664	+2.4	2.14E+07	0.44	Y	0.86	108
~~SS 37Cl-2378-TCDD~~	~~27.21~~		~~1.0271~~	~~1.0274~~	~~+0.5~~	~~1.23E+07~~	~~n/a~~		~~1.26~~	~~92.7~~
~~SS 12347-PeCDD~~	~~32.23~~		~~1.2149~~	~~1.2167~~	~~+3.5~~	~~2.32E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~112~~
~~SS 12346-PeCDF~~	~~30.70~~		~~1.2351~~	~~1.2376~~	~~+4.6~~	~~3.58E+07~~	~~1.58~~	~~Y~~	~~0.93~~	~~104~~
~~SS 123469-HxCDF~~	~~36.15~~		~~0.9774~~	~~0.9776~~	~~+0.4~~	~~2.86E+07~~	~~0.54~~	~~Y~~	~~0.84~~	~~109~~
~~SS 1234689-HpCDF~~	~~39.43~~		~~1.0654~~	~~1.0664~~	~~+2.4~~	~~2.14E+07~~	~~0.44~~	~~Y~~	~~0.91~~	~~102~~

Totals	Conc	EMPC
Total TCDD	9.46	9.46
Total PeCDD	0.553	3.09
Total HxCDD	20.7	21.1
Total HpCDD	47.9	47.9
Total Tetra-Octa Dioxins	389	392
Total TCDF	10.5	11.9
Total PeCDF	1.01	1.29
Total HxCDF	1.11	1.35
Total HpCDF	0.513	0.513
Total Tetra-Octa Furans	13.2	16.4
Total Tetra-Octa Dioxins & Furans	402	408

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.75	0.78
Response	3.49E+05	3.42E+05

Lab ID: B6284_18926_DF_007 **Acq'd: 22 Feb 2022 14:03 PSW** **Wt/Vol: 10.08 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-020422-S-SB-SW-B-25H2 **UTP: 22-Feb-2022 15:05:18 PSW** **J-level: 0.496 pg/g** **Split: 1** **Checkcode: 240-880-FSF**

Datafile: 220222R12 **Report: 22 Feb 2022 15:07 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8571						1.34		4157.372	0.253
1379-TCDD	NotFnd		0.8715						1.34		4157.372	0.253
1369-TCDD	NotFnd		0.8889						1.34		4157.372	0.253
1469-TCDD	24.99		0.9198	0.9191	-1.0	1.26E+06	0.78	Y	1.34	7.08	4157.372	0.253
1247/1246/1248/1249-TCDD	NotFnd		0.9291						1.34		4157.372	0.253
1378-TCDD	NotFnd		0.9366						1.34		4157.372	0.253
1268-TCDD	NotFnd		0.9446						1.34		4157.372	0.253
1478-TCDD	NotFnd		0.9539						1.34		4157.372	0.253
1279-TCDD	NotFnd		0.9606						1.34		4157.372	0.253
1234/1269-TCDD	26.49	J	0.9745	0.9744	-0.2	8.25E+04	0.70	Y	1.34	0.463	4157.372	0.253
1236-TCDD	NotFnd		0.9798						1.34		4157.372	0.253
1237/1238-TCDD	NotFnd		0.9897						1.34		4157.372	0.253
1239-TCDD	NotFnd		0.9948						1.34		4157.372	0.253
2378-TCDD	**27.21**		**1.0008**	1.0009	**+0.2**	3.42E+05	0.78	Y	**1.34**	**1.92**	**4157.372**	**0.253**
1278-TCDD	NotFnd		1.0136						1.34		4157.372	0.253
1267-TCDD	NotFnd		1.0189						1.34		4157.372	0.253
1289-TCDD	NotFnd		1.0384						1.34		4157.372	0.253
12479/12468-PeCDD	NotFnd		0.9220						1.06		4113.597	0.314
12469-PeCDD	30.73	EMPC	0.9390	0.9386	-0.7	3.26E+05	1.79	N	1.06	2.54	4113.597	0.314
12368-PeCDD	NotFnd		0.9563						1.06		4113.597	0.314
12478-PeCDD	NotFnd		0.9622						1.06		4113.597	0.314
12379-PeCDD	NotFnd		0.9653						1.06		4113.597	0.314
12369/12467/12489-PeCDD	31.87	J	0.9736	0.9734	-0.4	7.09E+04	1.58	Y	1.06	0.553	4113.597	0.314
12346/12347-PeCDD	NotFnd		0.9851						1.06		4113.597	0.314
12378-PeCDD	NotFnd		**1.0006**						**1.06**		**4113.597**	**0.314**
12367-PeCDD	NotFnd		1.0035						1.06		4113.597	0.314
12389-PeCDD	NotFnd		1.0143						1.06		4113.597	0.314
124679/124689-HxCDD	34.96		0.9536	0.9536	0	1.95E+06	1.34	Y	1.05	16.5	4041.552	0.302
123468-HxCDD	NotFnd		0.9716						1.05		4041.552	0.302
123679/123689-HxCDD	35.92		0.9797	0.9796	-0.2	3.12E+05	1.20	Y	1.05	2.64	4041.552	0.302
123469-HxCDD	36.04	J EMPC	0.9833	0.9830	-0.6	4.23E+04	1.76	N	1.05	0.359	4041.552	0.302
123478-HxCDD	36.68	J	**1.0004**	**1.0003**	**-0.2**	**4.62E+04**	**1.17**	**Y**	1.06	**0.432**	**4041.552**	**0.298**
123678-HxCDD	36.79	J	**1.0035**	**1.0035**	**0**	**5.25E+04**	**1.20**	**Y**	1.08	**0.436**	**4041.552**	**0.291**
123467-HxCDD	NotFnd		1.0089						1.05		4041.552	0.302
123789-HxCDD	37.09	J	**1.0117**	**1.0117**	**0**	**8.52E+04**	**1.35**	**Y**	1.02	**0.679**	**4041.552**	**0.317**

Lab ID: B6284_18926_DF_007 | **Acq'd: 22 Feb 2022 14:03 PSW** | **Wt/Vol: 10.08 g** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-020422-S-SB-SW-B-25H2 | **UTP: 22-Feb-2022 15:05:18 PSW** | **J-level: 0.496 pg/g** | **Split: 1** | **Checkcode: 240-880-FSF**

Datafile: 220222R12 | **Report: 22 Feb 2022 15:07 pw** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

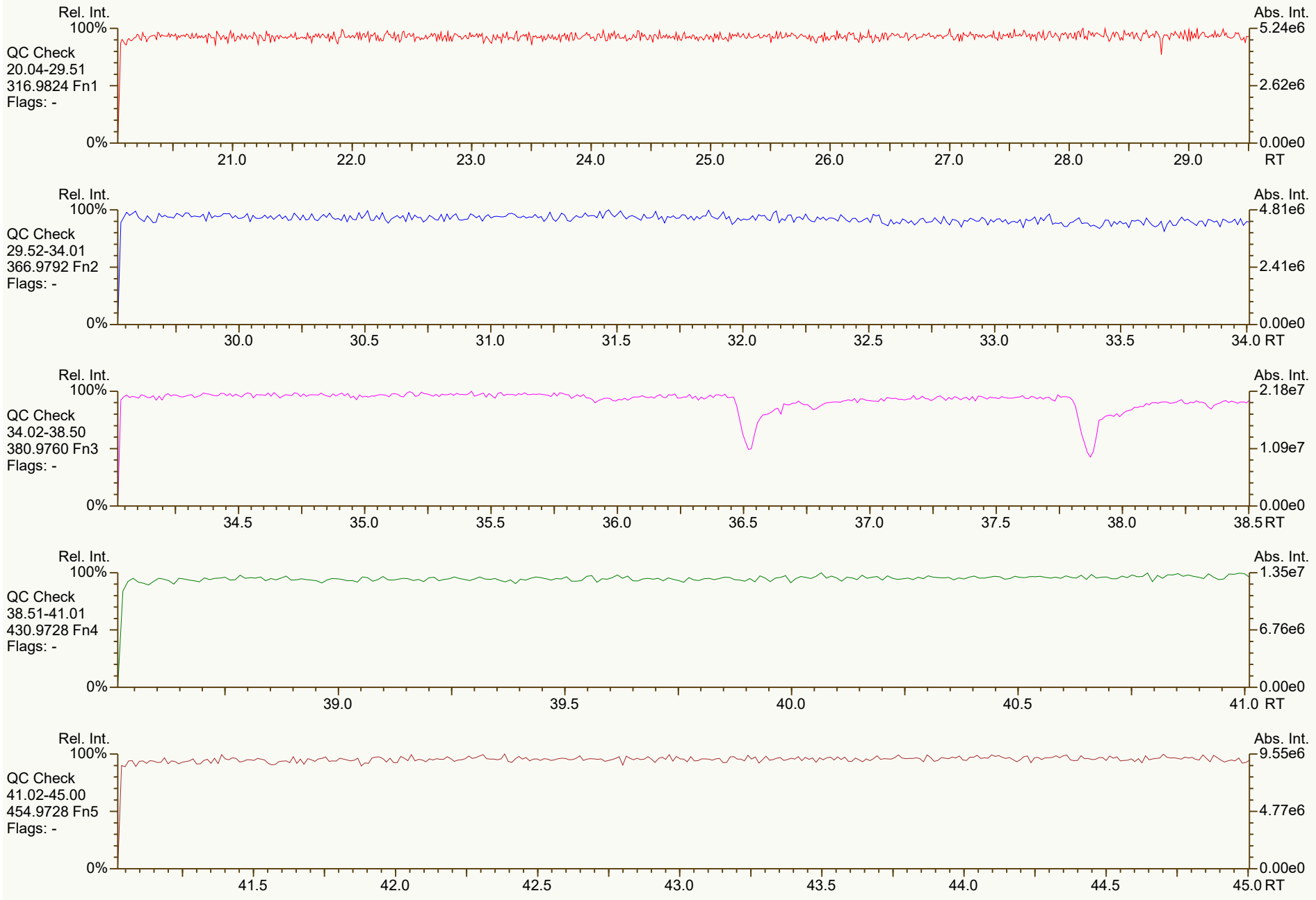
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.29		0.9839	0.9838	-0.2	3.24E+06	1.02	Y	0.97	35.3	4552.555	0.328
1234678-HpCDD	**39.95**		**1.0003**	**1.0002**	**-0.2**	**1.16E+06**	**1.09**	**Y**	**0.97**	**12.6**	**4552.555**	**0.328**
OCDD	**42.38**		**1.0003**	**1.0003**	**0**	**2.00E+07**	**0.91**	**Y**	**1.07**	**310**	**6221.107**	**0.734**
OCDD-a	42.37	**EMPC**	1.0002	1.0001	-0.3	1.08E+06	2.10	N	0.07	271	5000.988	9.56
1368-TCDF	NotFnd		0.8019						0.96		3816.111	0.245
1468-TCDF	NotFnd		0.8238						0.96		3816.111	0.245
2468-TCDF	22.26	J EMPC	0.8493	0.8471	-2.9	5.70E+04	0.62	N	0.96	0.308	3816.111	0.245
1346/1246-TCDF	NotFnd		0.8635						0.96		3816.111	0.245
1347/1378/1247-TCDF	22.85	J	0.8702	0.8696	-0.8	9.19E+04	0.71	Y	0.96	0.496	3816.111	0.245
1348-TCDF	NotFnd		0.8817						0.96		3816.111	0.245
1248/1367/1379-TCDF	23.24	J EMPC	0.8871	0.8845	-3.6	6.75E+04	0.63	N	0.96	0.364	3816.111	0.245
1268-TCDF	NotFnd		0.9029						0.96		3816.111	0.245
1467-TCDF	NotFnd		0.9087						0.96		3816.111	0.245
1478-TCDF	NotFnd		0.9156						0.96		3816.111	0.245
1369/1237-TCDF	NotFnd		0.9307						0.96		3816.111	0.245
2467-TCDF	NotFnd		0.9361						0.96		3816.111	0.245
2368-TCDF	NotFnd		0.9422						0.96		3816.111	0.245
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9460						0.96		3816.111	0.245
1278-TCDF	25.34		0.9644	0.9642	-0.3	5.58E+05	0.76	Y	0.96	3.01	3816.111	0.245
1349-TCDF	NotFnd		0.9693						0.96		3816.111	0.245
1267-TCDF	NotFnd		0.9757						0.96		3816.111	0.245
2346/1249-TCDF	NotFnd		0.9830						0.96		3816.111	0.245
2347/1279-TCDF	NotFnd		0.9919						0.96		3816.111	0.245
2348-TCDF	NotFnd		0.9964						0.96		3816.111	0.245
2378-TCDF	**26.30**		**1.0007**	**1.0008**	**+0.2**	**1.21E+06**	**0.72**	**Y**	**0.96**	**6.53**	**3816.111**	**0.245**
2367/3467-TCDF	26.69	EMPC	1.0157	1.0156	-0.2	1.26E+05	0.65	N	0.96	0.679	3816.111	0.245
1269-TCDF	NotFnd		1.0248						0.96		3816.111	0.245
1239-TCDF	NotFnd		1.0355						0.96		3816.111	0.245
1289-TCDF	28.42	J	1.0808	1.0814	+1.0	9.18E+04	0.71	Y	0.96	0.495	3816.111	0.245
13468/12468-PeCDF	NotFnd		0.9073						0.94		3572.819	0.211
13678/13467/12467-PeCDF	NotFnd		0.9586						0.94		3307.208	0.195
12368/13478/12478-PeCDF	30.12	J EMPC	0.9638	0.9640	+0.4	4.73E+04	1.29	N	0.94	0.278	3307.208	0.195
14678-PeCDF	NotFnd		0.9671						0.94		3307.208	0.195
13479-PeCDF	NotFnd		0.9702						0.94		3307.208	0.195
13469/12479-PeCDF	NotFnd		0.9785						0.94		3307.208	0.195
12346-PeCDF	NotFnd		0.9831						0.94		3307.208	0.195

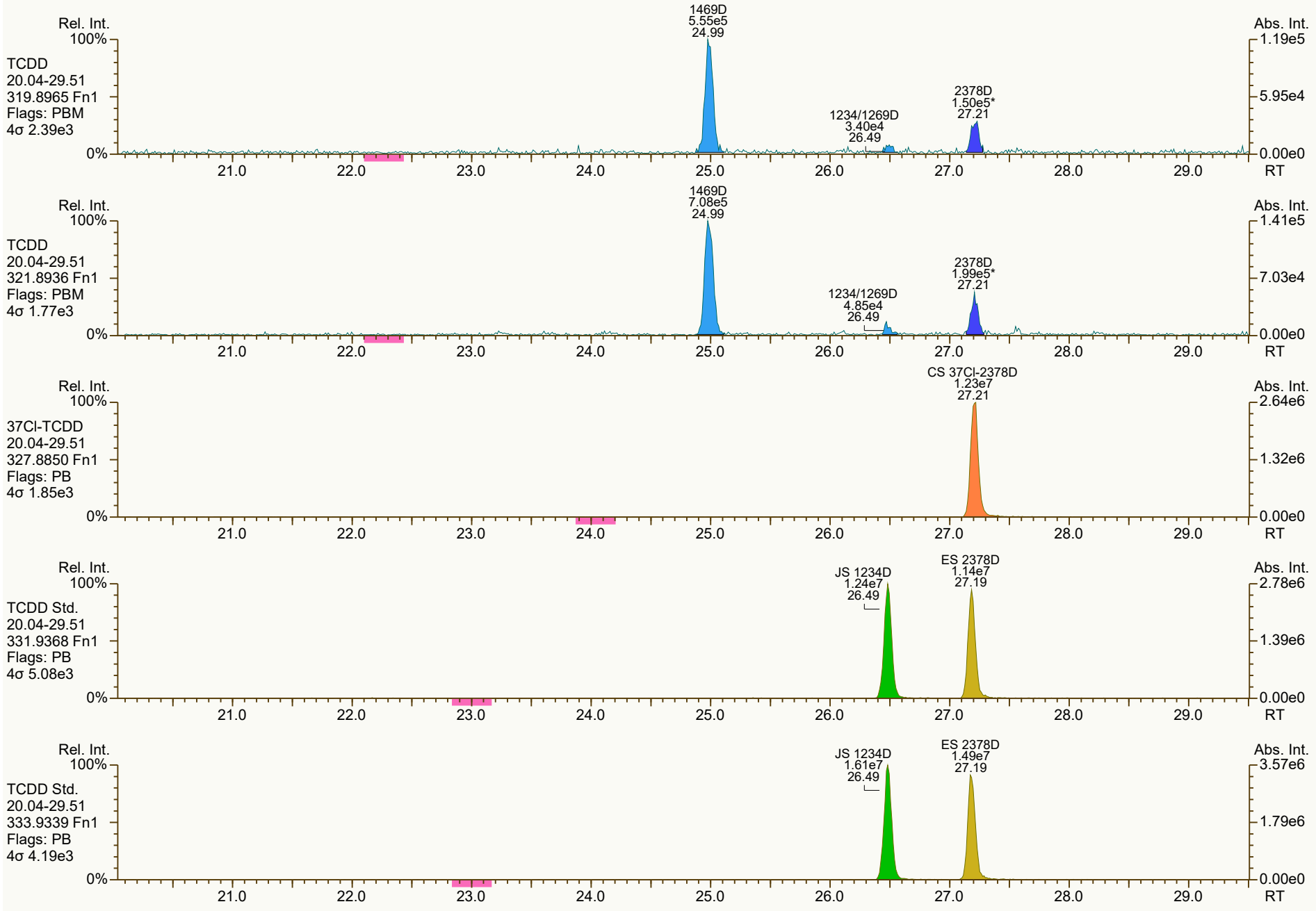
Lab ID: B6284_18926_DF_007 **Acq'd: 22 Feb 2022 14:03 PSW** **Wt/Vol: 10.08 g** **ICAL: MM3_DF_10272021_27JUL2021**

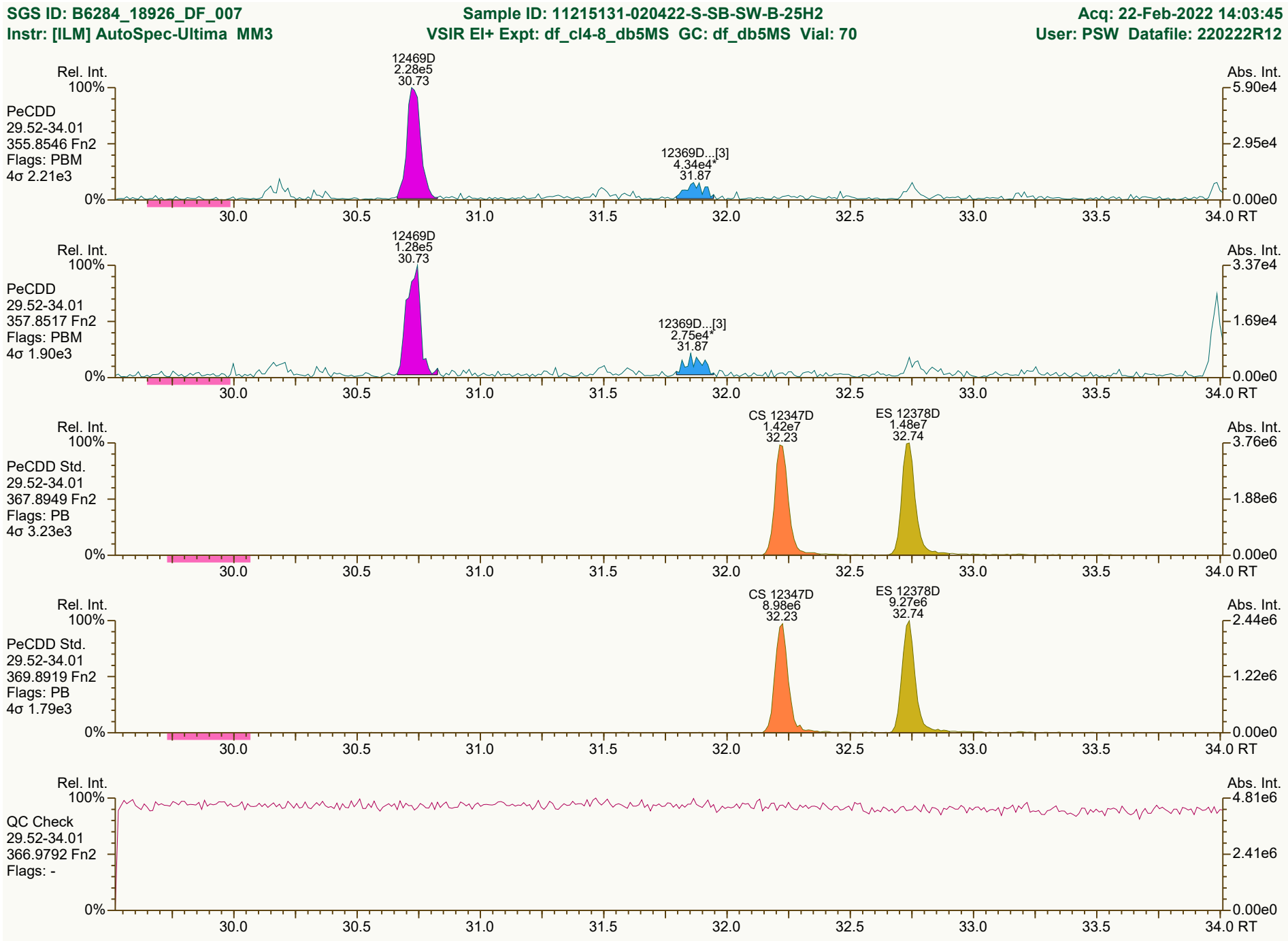
Client ID: 11215131-020422-S-SB-SW-B-25H2 **UTP: 22-Feb-2022 15:05:18 PSW** **J-level: 0.496 pg/g** **Split: 1** **Checkcode: 240-880-FSF**

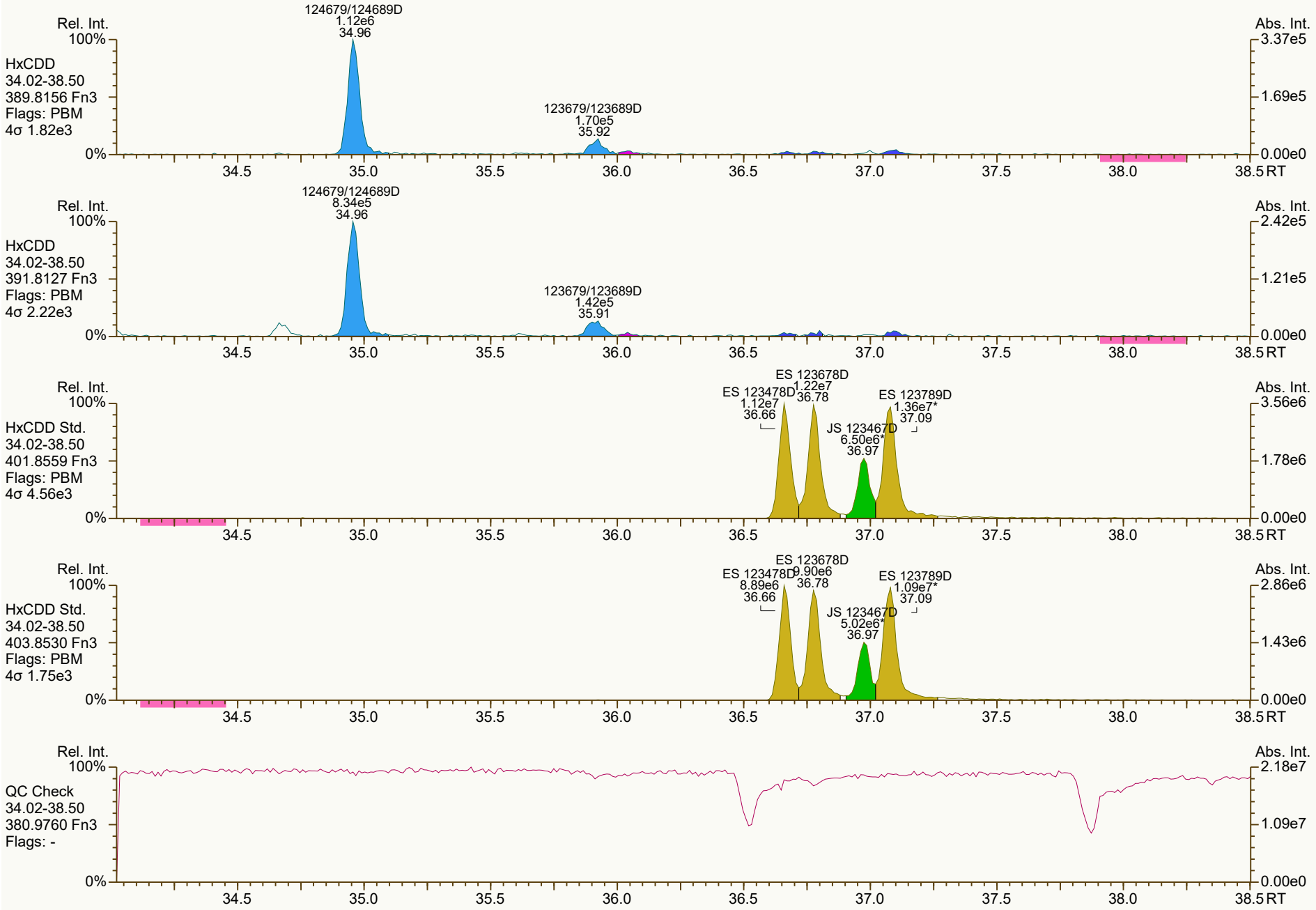
Datafile: 220222R12 **Report: 22 Feb 2022 15:07 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9863						0.94		3307.208	0.195
12347-PeCDF	NotFnd		0.9887						0.94		3307.208	0.195
12348-PeCDF	NotFnd		0.9937						0.94		3307.208	0.195
12378-PeCDF	**31.26**	J	**1.0006**	**1.0004**	**-0.4**	**1.10E+05**	**1.70**	**Y**	**0.95**	**0.624**	**3307.208**	**0.194**
12678/12367-PeCDF	NotFnd		1.0097						0.94		3307.208	0.195
12379-PeCDF	NotFnd		1.0151						0.94		3307.208	0.195
12679-PeCDF	NotFnd		0.9923						0.94		3307.208	0.195
23467/12369-PeCDF	NotFnd		0.9965						0.94		3307.208	0.195
23478-PeCDF	**32.43**	J	**1.0006**	**1.0009**	**+0.6**	**6.31E+04**	**1.46**	**Y**	**0.94**	**0.387**	**3307.208**	**0.197**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0049						0.94		3307.208	0.195
12349-PeCDF	NotFnd		1.0104						0.94		3307.208	0.195
12389-PeCDF	NotFnd		1.0341						0.94		3307.208	0.195
123468-HxCDF	NotFnd		0.9611						1.16		3333.464	0.204
124678/134678-HxCDF	NotFnd		0.9668						1.16		3333.464	0.204
134679-HxCDF	NotFnd		0.9733						1.16		3333.464	0.204
124679-HxCDF	NotFnd		0.9789						1.16		3333.464	0.204
124689-HxCDF	NotFnd		0.9852						1.16		3333.464	0.204
123467-HxCDF	NotFnd		0.9972						1.16		3333.464	0.204
123478-HxCDF	**35.71**	J	**1.0005**	**1.0005**	**0**	**1.65E+05**	**1.27**	**Y**	**1.23**	**1.11**	**3333.464**	**0.189**
123678-HxCDF	**35.85**	J EMPC	**1.0004**	**1.0003**	**-0.2**	**4.34E+04**	**1.85**	**N**	**1.13**	**0.244**	**3333.464**	**0.166**
123479-HxCDF	NotFnd		1.0049						1.16		3333.464	0.204
123469-HxCDF	NotFnd		1.0090						1.16		3333.464	0.204
123679-HxCDF	NotFnd		0.9942						1.16		3333.464	0.204
234678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3333.464**	**0.221**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		3333.464	0.204
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**3333.464**	**0.26**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	NotFnd		1.0008						1.16		3333.464	0.204
1234678-HpCDF	**39.01**	**J**	**1.0003**	**1.0001**	**-0.5**	**8.12E+04**	**1.12**	**Y**	**1.36**	**0.513**	**3611.195**	**0.169**
1234679-HpCDF	NotFnd		1.0073						1.33		3611.195	0.205
1234689-HpCDF	NotFnd		1.0109						1.33		3611.195	0.205
1234789-HpCDF	**NotFnd**		**1.0003**						**1.30**		**3611.195**	**0.261**
OCDF	**42.54**	**J EMPC**	**1.0003**	**1.0000**	**-0.8**	**8.96E+04**	**1.04**	**N**	**1.03**	**1.37**	**3283.379**	**0.403**
OCDF-a	NotFnd		1.0002						0.06		3577.422	7.59

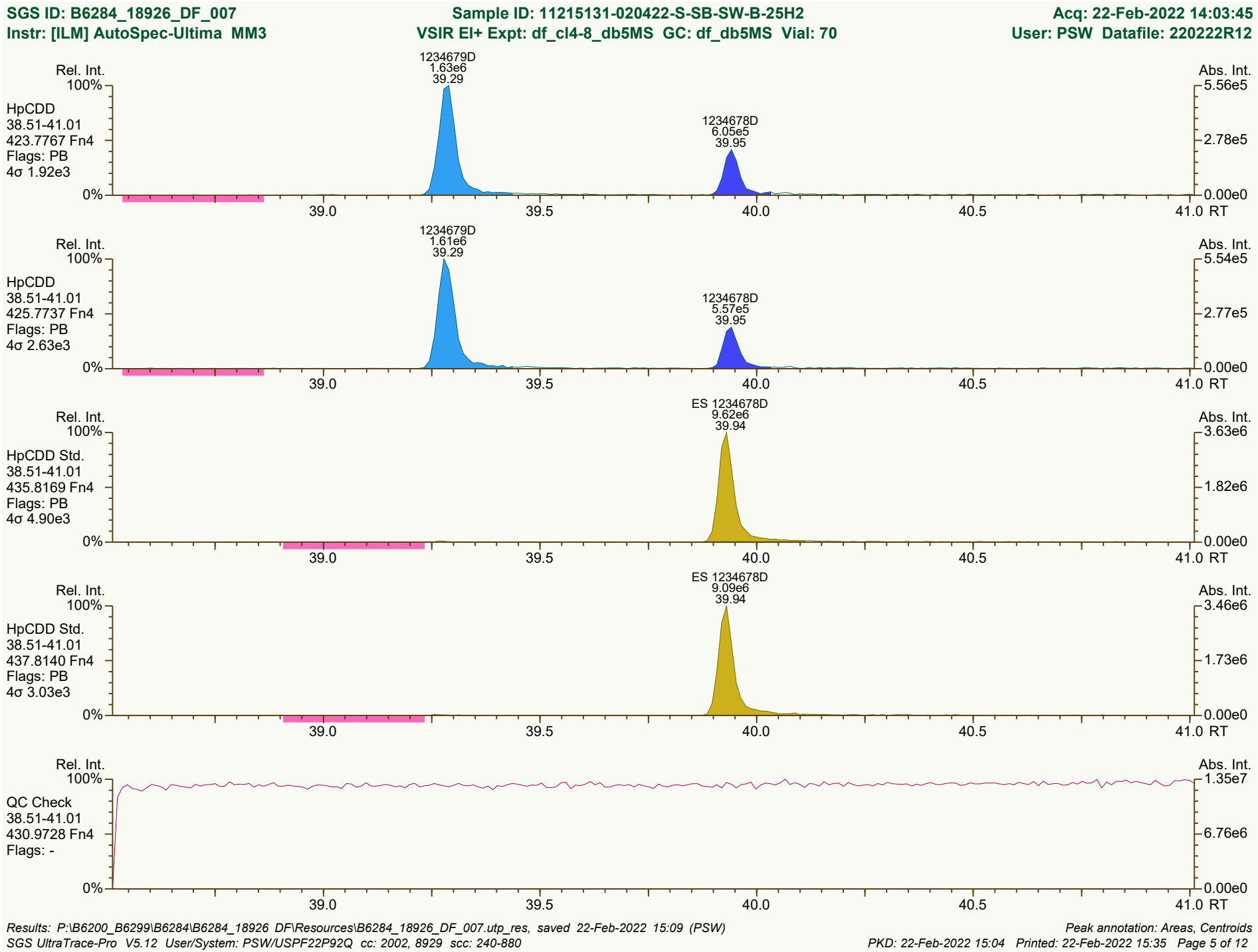

Rel. Int.
100%
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
0%
Abs. Int.
5.24e6
2.62e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.81e6
2.41e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
QC Check
34.02-38.50
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.18e7
1.09e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
QC Check
38.51-41.01
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.35e7
6.76e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
QC Check
41.02-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.55e6
4.77e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
20.04-29.51
319.8965 Fn1
Flags: PBM
4σ 2.39e3
1469D
5.55e5
24.99
1234/1269D
3.40e4
26.49
2378D
1.50e5*
27.21
Abs. Int.
1.19e5
5.95e4
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD
20.04-29.51
321.8936 Fn1
Flags: PBM
4σ 1.77e3
1469D
7.08e5
24.99
1234/1269D
4.85e4
26.49
2378D
1.99e5*
27.21
Abs. Int.
1.41e5
7.03e4
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
37Cl-TCDD
20.04-29.51
327.8850 Fn1
Flags: PB
4σ 1.85e3
CS 37Cl-2378D
1.23e7
27.21
Abs. Int.
2.64e6
1.32e6
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.04-29.51
331.9368 Fn1
Flags: PB
4σ 5.08e3
JS 1234D
1.24e7
26.49
ES 2378D
1.14e7
27.19
Abs. Int.
2.78e6
1.39e6
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.04-29.51
333.9339 Fn1
Flags: PB
4σ 4.19e3
JS 1234D
1.61e7
26.49
ES 2378D
1.49e7
27.19
Abs. Int.
3.57e6
1.79e6
0.00e0
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT

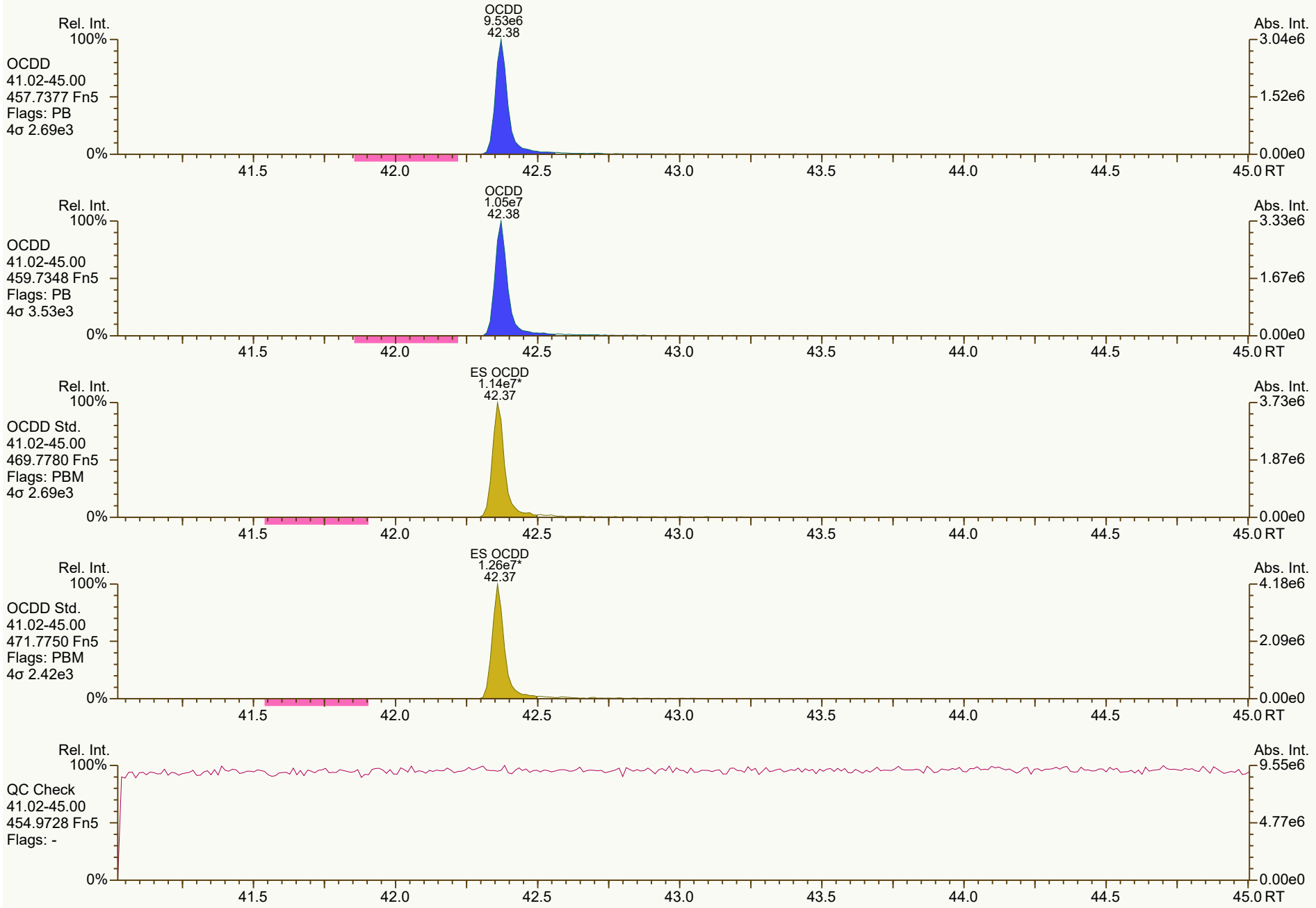

SGS ID: B6284_18926_DF_007
Sample ID: 11215131-020422-S-SB-SW-B-25H2
Acq: 22-Feb-2022 14:03:45
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: PSW Datafile: 220222R12
Rel. Int.
100%
PeCDD
29.52-34.01
355.8546 Fn2
Flags: PBM
4σ 2.21e3
12469D
2.28e5
30.73
12369D...[3]
4.34e4*
31.87
Abs. Int.
5.90e4
2.95e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD
29.52-34.01
357.8517 Fn2
Flags: PBM
4σ 1.90e3
12469D
1.28e5
30.73
12369D...[3]
2.75e4*
31.87
Abs. Int.
3.37e4
1.69e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD Std.
29.52-34.01
367.8949 Fn2
Flags: PB
4σ 3.23e3
CS 12347D
1.42e7
32.23
ES 12378D
1.48e7
32.74
Abs. Int.
3.76e6
1.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD Std.
29.52-34.01
369.8919 Fn2
Flags: PB
4σ 1.79e3
CS 12347D
8.98e6
32.23
ES 12378D
9.27e6
32.74
Abs. Int.
2.44e6
1.22e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
Abs. Int.
4.81e6
2.41e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_007.utp_res, saved 22-Feb-2022 15:09 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9070, 3843 scc: 240-880
PKD: 22-Feb-2022 15:04 Printed: 22-Feb-2022 15:35 Page 3 of 12

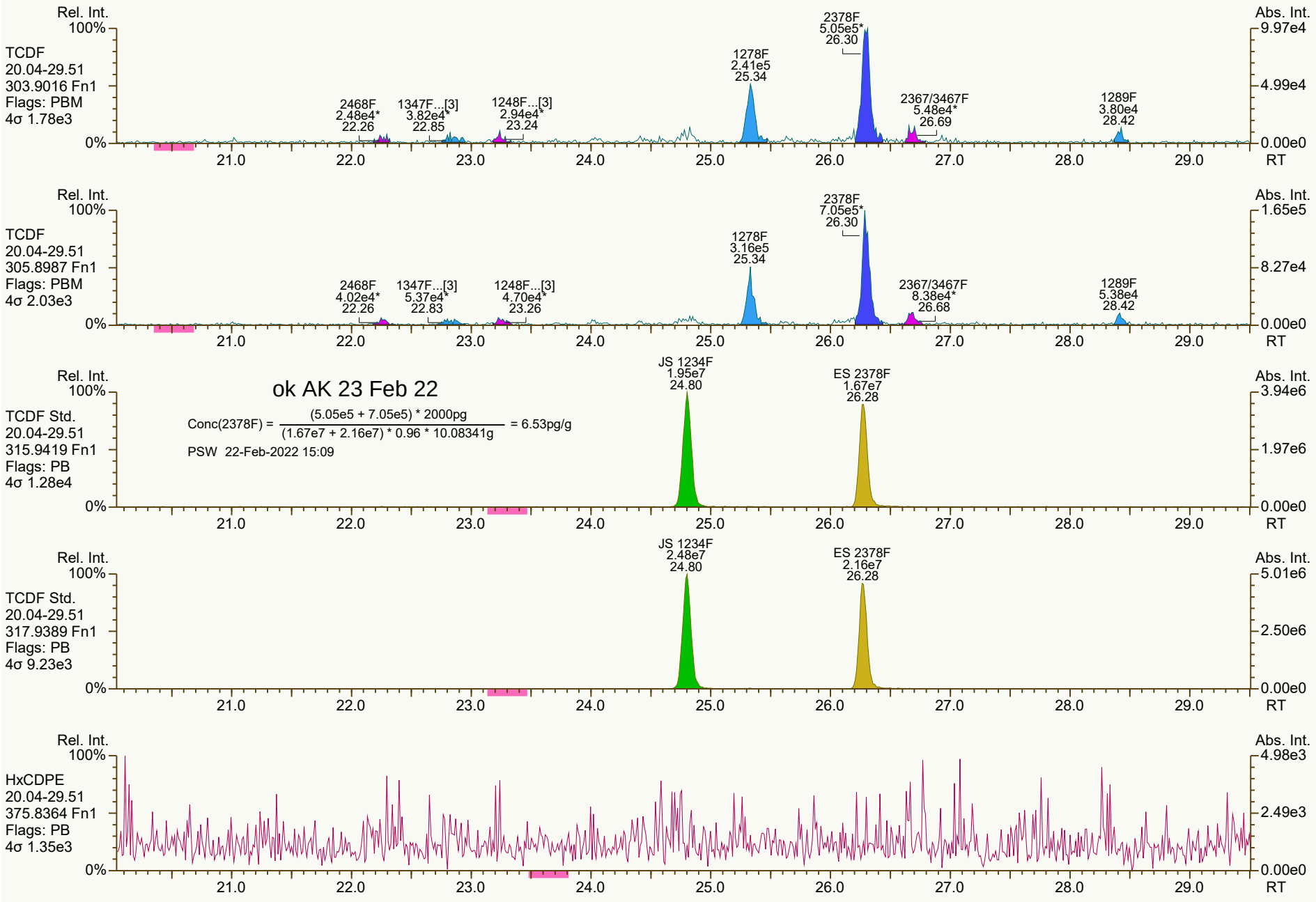

Rel. Int.
Abs. Int.
HxCDD
34.02-38.50
389.8156 Fn3
Flags: PBM
4σ 1.82e3
124679/124689D
1.12e6
34.96
123679/123689D
1.70e5
35.92
3.37e5
1.69e5
0.00e0
HxCDD
34.02-38.50
391.8127 Fn3
Flags: PBM
4σ 2.22e3
124679/124689D
8.34e5
34.96
123679/123689D
1.42e5
35.91
2.42e5
1.21e5
HxCDD Std.
34.02-38.50
401.8559 Fn3
Flags: PBM
4σ 4.56e3
ES 123678D
1.22e7
36.78
ES 123478D
1.12e7
36.66
ES 123789D
1.36e7*
37.09
JS 123467D
6.50e6*
36.97
3.56e6
1.78e6
HxCDD Std.
34.02-38.50
403.8530 Fn3
Flags: PBM
4σ 1.75e3
ES 123678D
9.90e6
36.78
ES 123478D
8.89e6
36.66
ES 123789D
1.09e7*
37.09
JS 123467D
5.02e6*
36.97
2.86e6
1.43e6
QC Check
34.02-38.50
380.9760 Fn3
Flags: -
2.18e7
1.09e7
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT

SGS ID: B6284_18926_DF_007 | Sample ID: 11215131-020422-S-SB-SW-B-25H2 | Acq: 22-Feb-2022 14:03:45
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70 | User: PSW Datafile: 220222R12

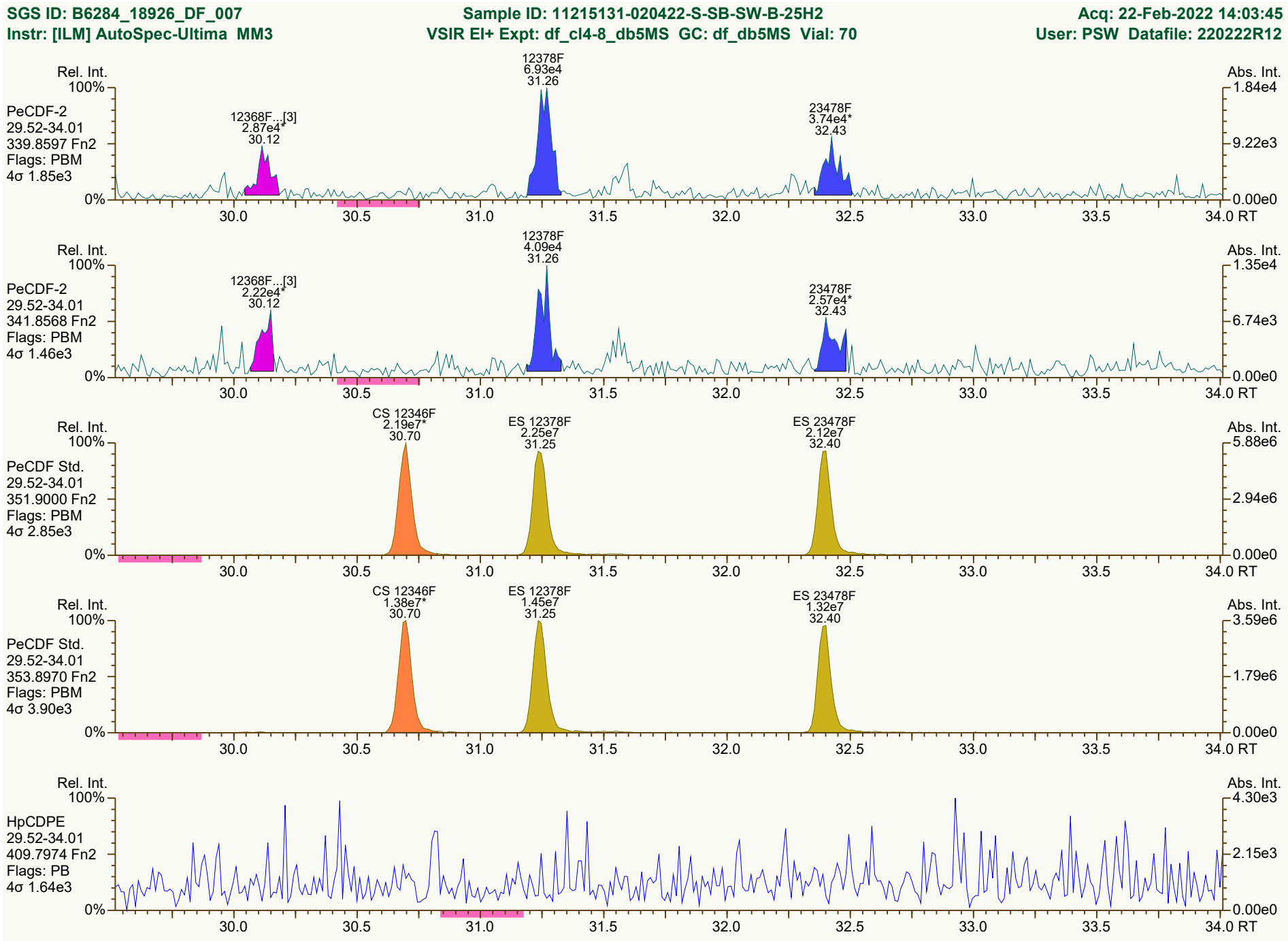


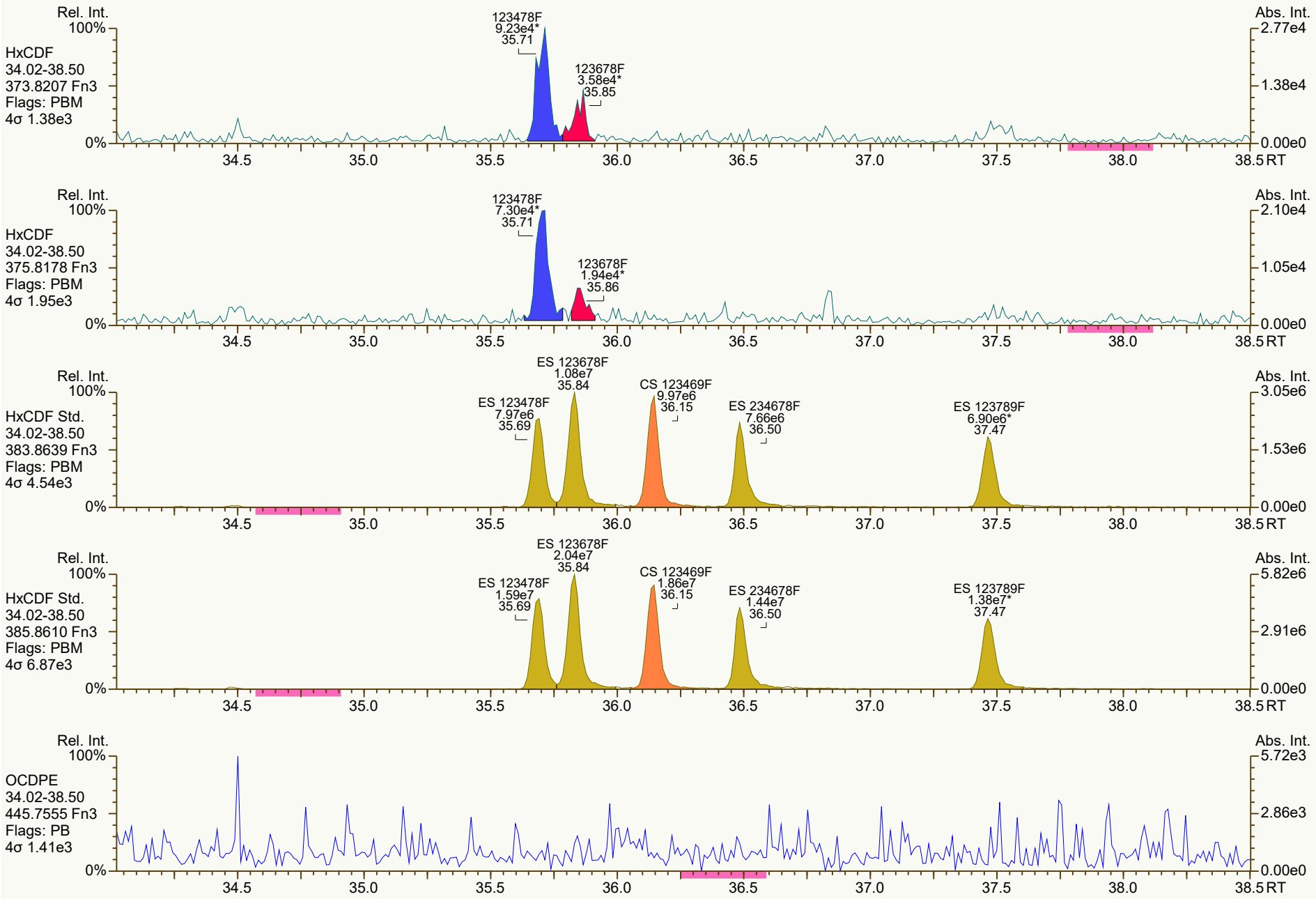
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_007.utp_res, saved 22-Feb-2022 15:09 (PSW) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2002, 8929 scc: 240-880 | PKD: 22-Feb-2022 15:04 Printed: 22-Feb-2022 15:35 Page 5 of 12

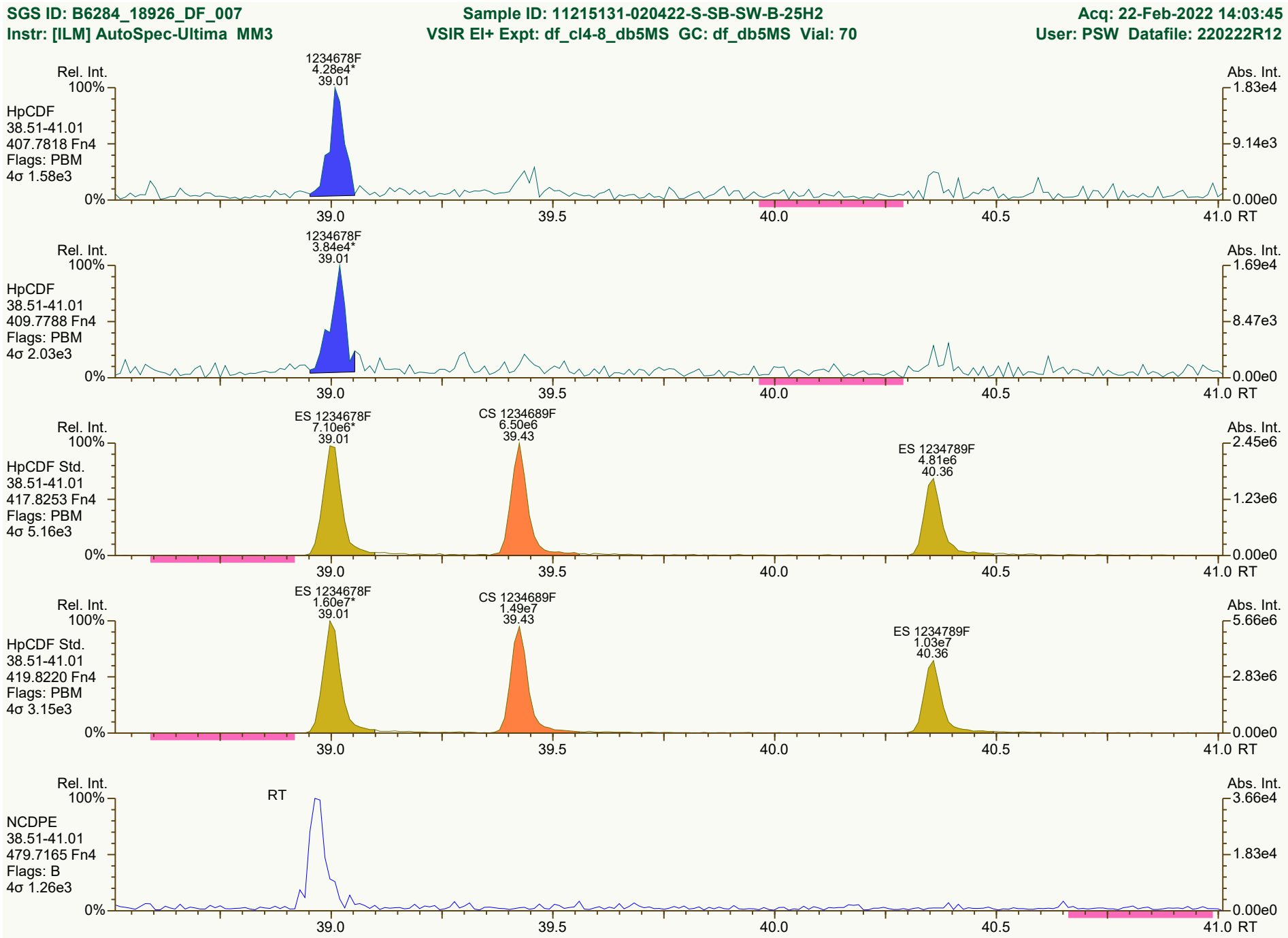

OCDD
9.53e6
42.38
Rel. Int.
100%
OCDD
41.02-45.00
457.7377 Fn5
Flags: PB
4σ 2.69e3
0%
Abs. Int.
3.04e6
1.52e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.05e7
42.38
Rel. Int.
100%
OCDD
41.02-45.00
459.7348 Fn5
Flags: PB
4σ 3.53e3
0%
Abs. Int.
3.33e6
1.67e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.14e7*
42.37
Rel. Int.
100%
OCDD Std.
41.02-45.00
469.7780 Fn5
Flags: PBM
4σ 2.69e3
0%
Abs. Int.
3.73e6
1.87e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.26e7*
42.37
Rel. Int.
100%
OCDD Std.
41.02-45.00
471.7750 Fn5
Flags: PBM
4σ 2.42e3
0%
Abs. Int.
4.18e6
2.09e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.02-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.55e6
4.77e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
20.04-29.51
303.9016 Fn1
Flags: PBM
4σ 1.78e3
0%
2468F
2.48e4*
22.26
1347F...[3]
3.82e4*
22.85
1248F...[3]
2.94e4*
23.24
1278F
2.41e5
25.34
2378F
5.05e5*
26.30
2367/3467F
5.48e4*
26.69
1289F
3.80e4
28.42
Abs. Int.
9.97e4
4.99e4
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDF
20.04-29.51
305.8987 Fn1
Flags: PBM
4σ 2.03e3
0%
2468F
4.02e4*
22.26
1347F...[3]
5.37e4*
22.83
1248F...[3]
4.70e4*
23.26
1278F
3.16e5
25.34
2378F
7.05e5*
26.30
2367/3467F
8.38e4*
26.68
1289F
5.38e4
28.42
Abs. Int.
1.65e5
8.27e4
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDF Std.
20.04-29.51
315.9419 Fn1
Flags: PB
4σ 1.28e4
0%
ok AK 23 Feb 22
Conc(2378F) = (5.05e5 + 7.05e5) * 2000pg / (1.67e7 + 2.16e7) * 0.96 * 10.08341g = 6.53pg/g
PSW 22-Feb-2022 15:09
JS 1234F
1.95e7
24.80
ES 2378F
1.67e7
26.28
Abs. Int.
3.94e6
1.97e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDF Std.
20.04-29.51
317.9389 Fn1
Flags: PB
4σ 9.23e3
0%
JS 1234F
2.48e7
24.80
ES 2378F
2.16e7
26.28
Abs. Int.
5.01e6
2.50e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
HxCDPE
20.04-29.51
375.8364 Fn1
Flags: PB
4σ 1.35e3
0%
Abs. Int.
4.98e3
2.49e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT

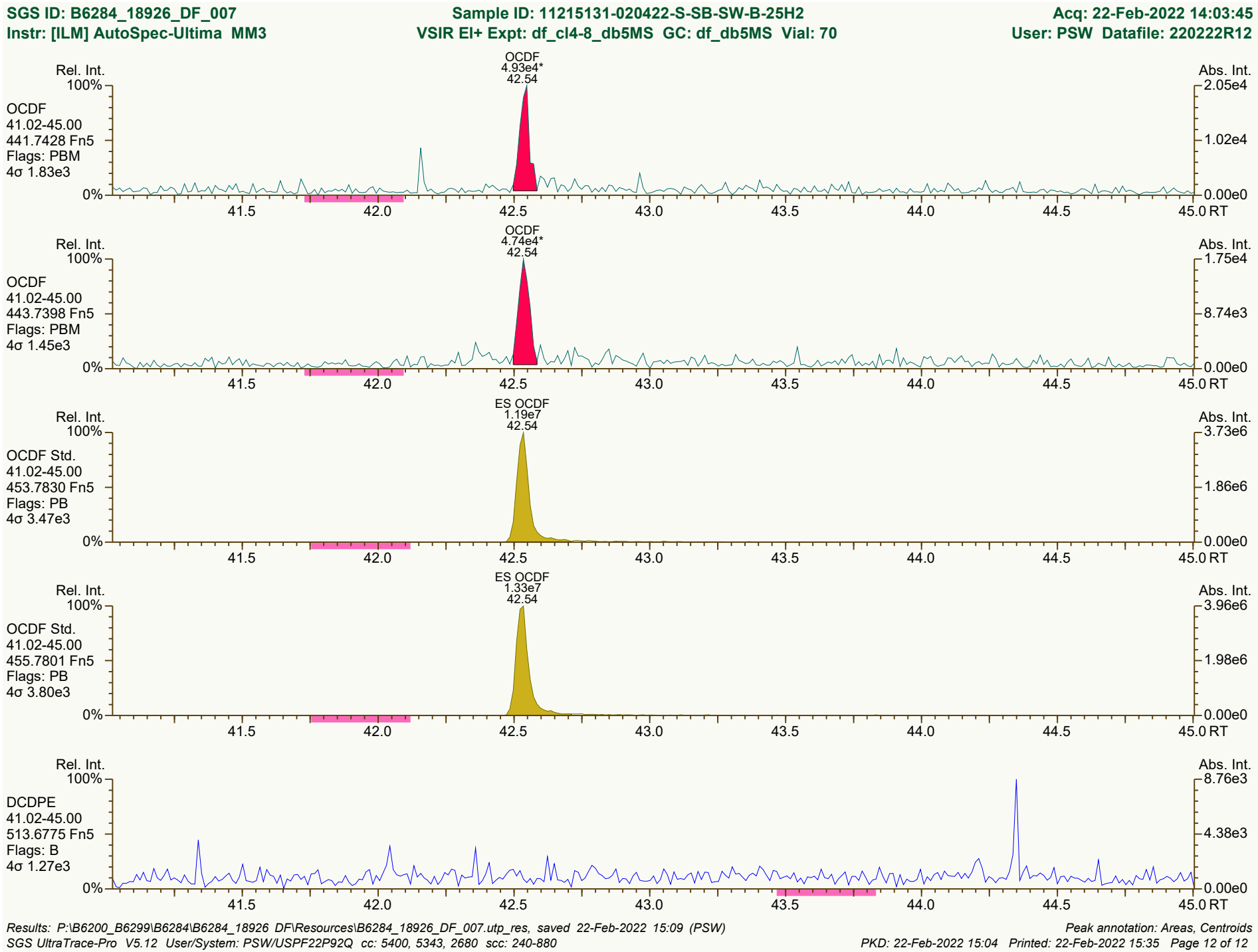

Rel. Int.
100%
0%
Abs. Int.
4.71e3
2.36e3
0.00e0
PeCDF-1
20.04-29.51
339.8597 Fn1
Flags: PB
4σ 1.20e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
6.33e3
3.16e3
0.00e0
PeCDF-1
20.04-29.51
341.8568 Fn1
Flags: PB
4σ 2.37e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
5.24e6
2.62e6
0.00e0
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


SGS ID: B6284_18926_DF_007
Sample ID: 11215131-020422-S-SB-SW-B-25H2
Acq: 22-Feb-2022 14:03:45
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: PSW Datafile: 220222R12
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.01
339.8597 Fn2
Flags: PBM
4σ 1.85e3
12368F...[3]
2.87e4*
30.12
12378F
6.93e4
31.26
23478F
3.74e4*
32.43
1.84e4
9.22e3
0.00e0
PeCDF-2
29.52-34.01
341.8568 Fn2
Flags: PBM
4σ 1.46e3
12368F...[3]
2.22e4*
30.12
12378F
4.09e4
31.26
23478F
2.57e4*
32.43
1.35e4
6.74e3
0.00e0
PeCDF Std.
29.52-34.01
351.9000 Fn2
Flags: PBM
4σ 2.85e3
CS 12346F
2.19e7*
30.70
ES 12378F
2.25e7
31.25
ES 23478F
2.12e7
32.40
5.88e6
2.94e6
0.00e0
PeCDF Std.
29.52-34.01
353.8970 Fn2
Flags: PBM
4σ 3.90e3
CS 12346F
1.38e7*
30.70
ES 12378F
1.45e7
31.25
ES 23478F
1.32e7
32.40
3.59e6
1.79e6
0.00e0
HpCDPE
29.52-34.01
409.7974 Fn2
Flags: PB
4σ 1.64e3
4.30e3
2.15e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_007.utp_res, saved 22-Feb-2022 15:09 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6863, 1359, 6464 scc: 240-880
PKD: 22-Feb-2022 15:04 Printed: 22-Feb-2022 15:35 Page 9 of 12


Rel. Int.
100%
HxCDF
34.02-38.50
373.8207 Fn3
Flags: PBM
4σ 1.38e3
123478F
9.23e4*
35.71
123678F
3.58e4*
35.85
Abs. Int.
2.77e4
1.38e4
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF
34.02-38.50
375.8178 Fn3
Flags: PBM
4σ 1.95e3
123478F
7.30e4*
35.71
123678F
1.94e4*
35.86
Abs. Int.
2.10e4
1.05e4
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF Std.
34.02-38.50
383.8639 Fn3
Flags: PBM
4σ 4.54e3
ES 123678F
1.08e7
35.84
ES 123478F
7.97e6
35.69
CS 123469F
9.97e6
36.15
ES 234678F
7.66e6
36.50
ES 123789F
6.90e6*
37.47
Abs. Int.
3.05e6
1.53e6
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF Std.
34.02-38.50
385.8610 Fn3
Flags: PBM
4σ 6.87e3
ES 123678F
2.04e7
35.84
ES 123478F
1.59e7
35.69
CS 123469F
1.86e7
36.15
ES 234678F
1.44e7
36.50
ES 123789F
1.38e7*
37.47
Abs. Int.
5.82e6
2.91e6
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
OCDPE
34.02-38.50
445.7555 Fn3
Flags: PB
4σ 1.41e3
Abs. Int.
5.72e3
2.86e3
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT


SGS ID: B6284_18926_DF_007
Sample ID: 11215131-020422-S-SB-SW-B-25H2
Acq: 22-Feb-2022 14:03:45
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: PSW Datafile: 220222R12
Rel. Int.
Abs. Int.
HpCDF
38.51-41.01
407.7818 Fn4
Flags: PBM
4σ 1.58e3
1234678F
4.28e4*
39.01
1.83e4
9.14e3
0.00e0
HpCDF
38.51-41.01
409.7788 Fn4
Flags: PBM
4σ 2.03e3
1234678F
3.84e4*
39.01
1.69e4
8.47e3
HpCDF Std.
38.51-41.01
417.8253 Fn4
Flags: PBM
4σ 5.16e3
ES 1234678F
7.10e6*
39.01
CS 1234689F
6.50e6
39.43
ES 1234789F
4.81e6
40.36
2.45e6
1.23e6
HpCDF Std.
38.51-41.01
419.8220 Fn4
Flags: PBM
4σ 3.15e3
ES 1234678F
1.60e7*
39.01
CS 1234689F
1.49e7
39.43
ES 1234789F
1.03e7
40.36
5.66e6
2.83e6
NCDPE
38.51-41.01
479.7165 Fn4
Flags: B
4σ 1.26e3
RT
3.66e4
1.83e4
100%
0%
39.0
39.5
40.0
40.5
41.0 RT
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_007.utp_res, saved 22-Feb-2022 15:09 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9355, 0996, 9058 scc: 240-880
PKD: 22-Feb-2022 15:04 Printed: 22-Feb-2022 15:35 Page 11 of 12

SGS ID: B6284_18926_DF_007 | Sample ID: 11215131-020422-S-SB-SW-B-25H2 | Acq: 22-Feb-2022 14:03:45
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70 | User: PSW Datafile: 220222R12



Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\B6284_18926_DF_007.utp_res, saved 22-Feb-2022 15:09 (PSW) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5400, 5343, 2680 scc: 240-880 | *PKD: 22-Feb-2022 15:04 Printed: 22-Feb-2022 15:35 Page 12 of 12*

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

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
0	220222R01	3	CS3_220222_DF_RA ✓	1.00	SIL 25-347-1	PSW	070-402	22-Feb-2022	05:21:50
1	220222R02	62	OPR1_18926_DF	1.00	0_18926_OPR001	PSW	439-306	22-Feb-2022	06:08:34
2	220222R03	63	OPR2_18926_DF	1.00	0_18926_OPR002	PSW	812-079	22-Feb-2022	06:56:06
3	220222R04	2	SBS_220222_DF_RA	1.00	SIL 20-61-1	PSW	874-670	22-Feb-2022	07:43:40
4	220222R05	61	MB1_18926_DF_SDS	10.00	Method Blank	PSW	448-396	22-Feb-2022	08:31:13
5	220222R06	64	B6284_18926_DF_001	10.05	11215131-020422-S-SB-SW-B-27	PSW	916-203	22-Feb-2022	09:18:45
6	220222R07	65	B6284_18926_DF_002	10.10	11215131-020422-S-SB-SW-B-27H	PSW	289-510	22-Feb-2022	10:06:12
7	220222R08	66	B6284_18926_DF_003	10.21	11215131-020422-S-SB-SW-O-25	PSW	207-644	22-Feb-2022	10:53:45
8	220222R09	67	B6284_18926_DF_004	10.19	11215131-020422-S-SB-SW-O-23	PSW	161-099	22-Feb-2022	11:41:17
9	220222R10	68	B6284_18926_DF_005	10.20	11215131-020422-S-SB-SW-B-25	PSW	747-675	22-Feb-2022	12:28:45
10	220222R11	69	B6284_18926_DF_006	10.03	11215131-020422-S-SB-SW-B-25H1	PSW	605-534	22-Feb-2022	13:16:13
11	220222R12	70	B6284_18926_DF_007 ✓	10.08	11215131-020422-S-SB-SW-B-25H2	PSW	240-880	22-Feb-2022	14:03:45

REVIEWED
paul_walton , 2/22/2022, 3:39:26 PM

REVIEWED
Amber_Kornegay , 2/23/2022, 2:34:42 PM

Dioxin/Furan QC Summary	Acq'd: 22 Feb 2022 05:21 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_220222_DF_RA	UTP: 22-Feb-2022 15:05:12 PSW	Checkcode: 070-402-RDC
Sample ID: SIL 25-347-1	Report: 22 Feb 2022 15:10 pw	Datafile: 220222R01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.21	3.30E+06	0.81	Y	1.34	1.09	-19%
12378-PeCDD	32.76	1.34E+07	1.54	Y	1.06	0.99	-7%
123478-HxCDD	36.68	1.13E+07	1.28	Y	1.06	1.03	-2%
123678-HxCDD	36.79	1.28E+07	1.30	Y	1.08	1.13	4%
123789-HxCDD	37.10	1.20E+07	1.27	Y	1.02	0.94	-7%
1234678-HpCDD	39.95	9.84E+06	1.06	Y	0.97	0.99	2%
OCDD	42.37	1.44E+07	0.89	Y	1.07	1.05	-2%
2378-TCDF	26.30	4.78E+06	0.79	Y	0.96	0.99	3%
12378-PeCDF	31.26	2.08E+07	1.56	Y	0.95	1.00	5%
23478-PeCDF	32.42	2.06E+07	1.56	Y	0.94	1.00	7%
123478-HxCDF	35.70	1.80E+07	1.26	Y	1.23	1.26	2%
123678-HxCDF	35.85	2.01E+07	1.24	Y	1.13	1.17	4%
234678-HxCDF	36.51	1.77E+07	1.24	Y	1.15	1.18	3%
123789-HxCDF	37.49	1.44E+07	1.27	Y	1.14	1.12	-2%
1234678-HpCDF	39.01	1.63E+07	1.04	Y	1.36	1.36	0%
1234789-HpCDF	40.37	1.21E+07	1.04	Y	1.30	1.37	6%
OCDF	42.54	1.82E+07	0.91	Y	1.03	1.07	5%
ES 2378-TCDD	27.19	3.02E+07	0.76	Y	1.03	0.97	-6%
ES 12378-PeCDD	32.739	2.71E+07	1.58	Y	1.03	0.87	-16%
ES 123478-HxCDD	36.661	2.20E+07	1.33	Y	0.99	0.99	0%
ES 123678-HxCDD	36.777	2.27E+07	1.27	Y	0.97	1.02	5%
ES 123789-HxCDD	37.083	2.55E+07	1.28	Y	1.12	1.15	2%
ES 1234678-HpCDD	39.933	1.98E+07	1.04	Y	0.99	0.89	-10%
ES OCDD	42.359	2.75E+07	0.91	Y	0.78	0.62	-20%
ES 2378-TCDF	26.276	4.85E+07	0.82	Y	1.08	0.98	-9%
ES 12378-PeCDF	31.244	4.18E+07	1.58	Y	0.93	0.85	-9%
ES 23478-PeCDF	32.397	4.10E+07	1.57	Y	0.92	0.83	-10%
ES 123478-HxCDF	35.688	2.87E+07	0.53	Y	1.14	1.29	13%
ES 123678-HxCDF	35.831	3.42E+07	0.53	Y	1.30	1.54	19%
ES 234678-HxCDF	36.492	2.99E+07	0.52	Y	1.20	1.35	12%
ES 123789-HxCDF	37.473	2.58E+07	0.53	Y	1.14	1.16	2%
ES 1234678-HpCDF	39.003	2.41E+07	0.45	Y	0.95	1.08	14%
ES 1234789-HpCDF	40.355	1.77E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.532	3.40E+07	0.90	Y	0.93	0.77	-17%

Dioxin/Furan QC Summary	Acq'd: 22 Feb 2022 05:21 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_220222_DF_RA	UTP: 22-Feb-2022 15:05:12 PSW	Checkcode: 070-402-RDC
Sample ID: SIL 25-347-1	Report: 22 Feb 2022 15:10 pw	Datafile: 220222R01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.49	3.11E+07	0.76	Y	-	-	-
JS 1234-TCDF	24.80	4.93E+07	0.78	Y	-	-	-
JS 123467-HxCDD	36.97	1.11E+07	1.34	Y	-	-	-
CS 37Cl-2378-TCDD	27.21	3.76E+06	n/a	-	1.31	1.21	-8%
CS 12347-PeCDD	32.22	2.46E+07	1.64	Y	0.89	0.79	-11%
CS 12346-PeCDF	30.70	4.14E+07	1.56	Y	0.87	0.84	-3%
CS 123469-HxCDF	36.14	3.11E+07	0.53	Y	1.09	1.40	29%
CS 1234689-HpCDF	39.42	2.34E+07	0.44	Y	0.86	1.05	22%
~~SS 37Cl-2378-TCDD~~	~~27.21~~	~~3.76E+06~~	~~n/a~~	~~-~~	~~1.26~~	~~1.24~~	~~-1%~~
~~SS 12347-PeCDD~~	~~32.22~~	~~2.46E+07~~	~~1.64~~	~~Y~~	~~0.86~~	~~0.91~~	~~5%~~
~~SS 12346-PeCDF~~	~~30.70~~	~~4.14E+07~~	~~1.56~~	~~Y~~	~~0.93~~	~~0.99~~	~~6%~~
~~SS 123469-HxCDF~~	~~36.14~~	~~3.11E+07~~	~~0.53~~	~~Y~~	~~0.84~~	~~0.91~~	~~8%~~
~~SS 1234689-HpCDF~~	~~39.42~~	~~2.34E+07~~	~~0.44~~	~~Y~~	~~0.91~~	~~0.97~~	~~7%~~
~~OCDD-a~~	~~42.36~~	~~7.94E+05~~	~~2.48~~	~~Y~~	~~0.07~~	~~0.06~~	~~-13%~~
~~OCDF-a~~	~~42.54~~	~~9.83E+05~~	~~2.66~~	~~Y~~	~~0.06~~	~~0.06~~	~~-2%~~

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

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

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

VER Data Filename: 220222R01 Analysis Date: 22-FEB-2022 05:21:50

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.81	0.65 - 0.89	Y	8.12	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.54	1.32 - 1.78	Y	46.7	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	48.8	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.30	1.05 - 1.43	Y	52.1	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	46.5	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88 - 1.20	Y	50.9	43 - 58	Y
OCDD	M+2/M+4	0.89	0.76 - 1.02	Y	98.2	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.79	0.65 - 0.89	Y	10.3	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32 - 1.78	Y	52.7	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32 - 1.78	Y	53.4	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	50.9	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	51.9	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	51.3	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.27	1.05 - 1.43	Y	49.1	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88 - 1.20	Y	49.9	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	0.88 - 1.20	Y	52.8	43 - 58	Y
OCDF	M+2/M+4	0.91	0.76 - 1.02	Y	105	63 - 159	Y

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

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

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

Processed: 22 Feb 2022 15:06 Analyst: pw

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

Lab Name: SGS North America

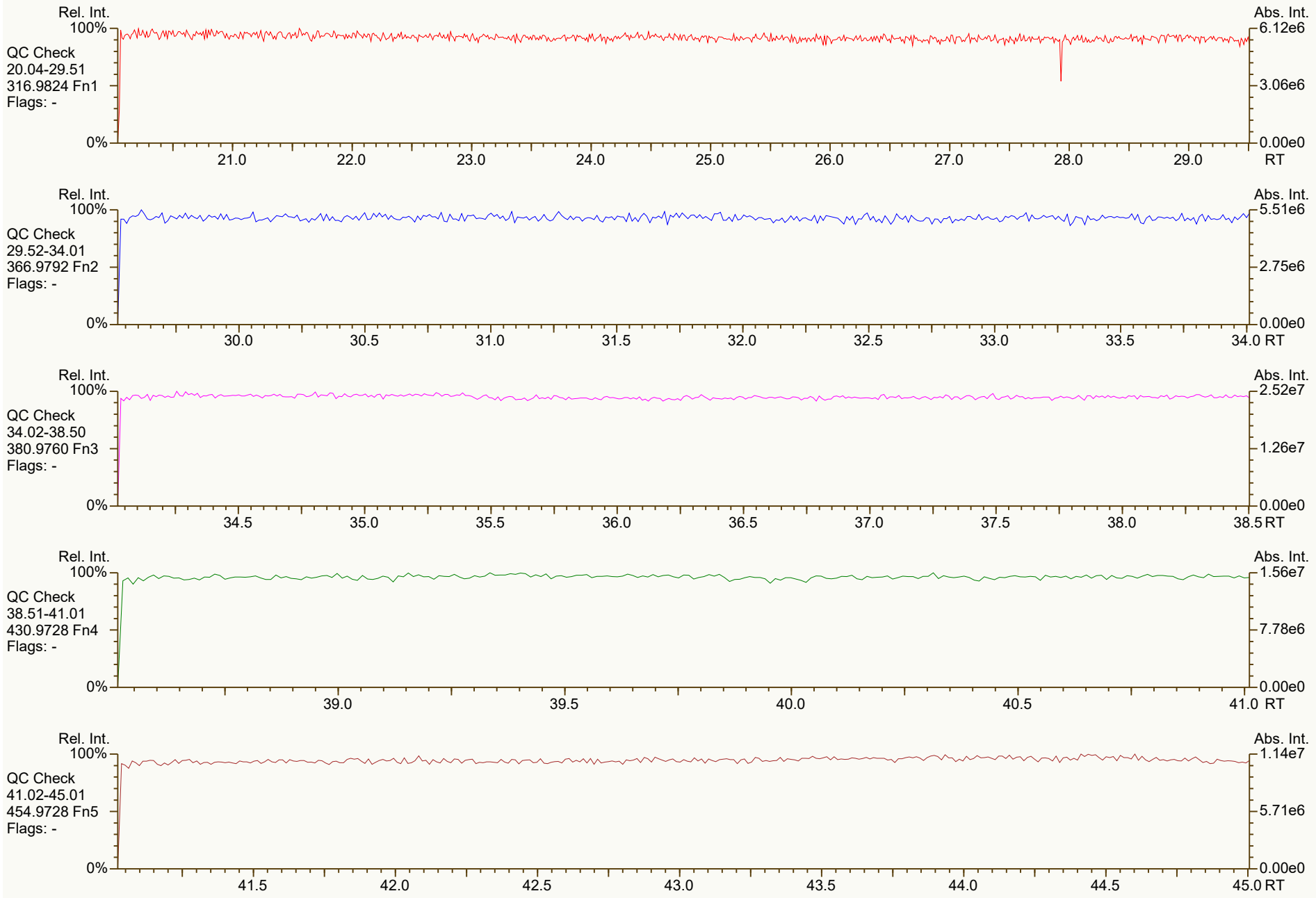
Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

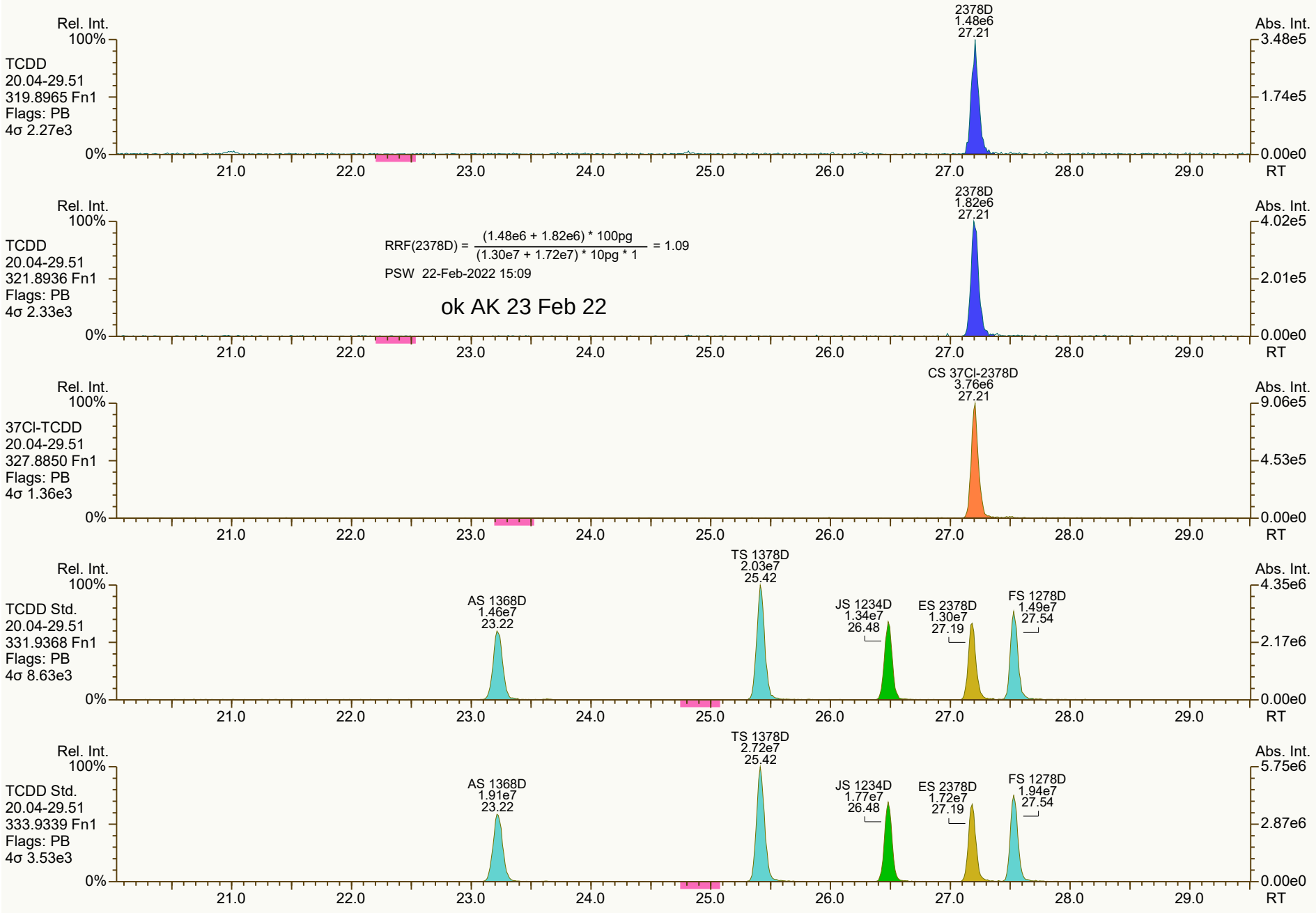
Instrument ID: MM3 GC Column ID: ZB-5ms

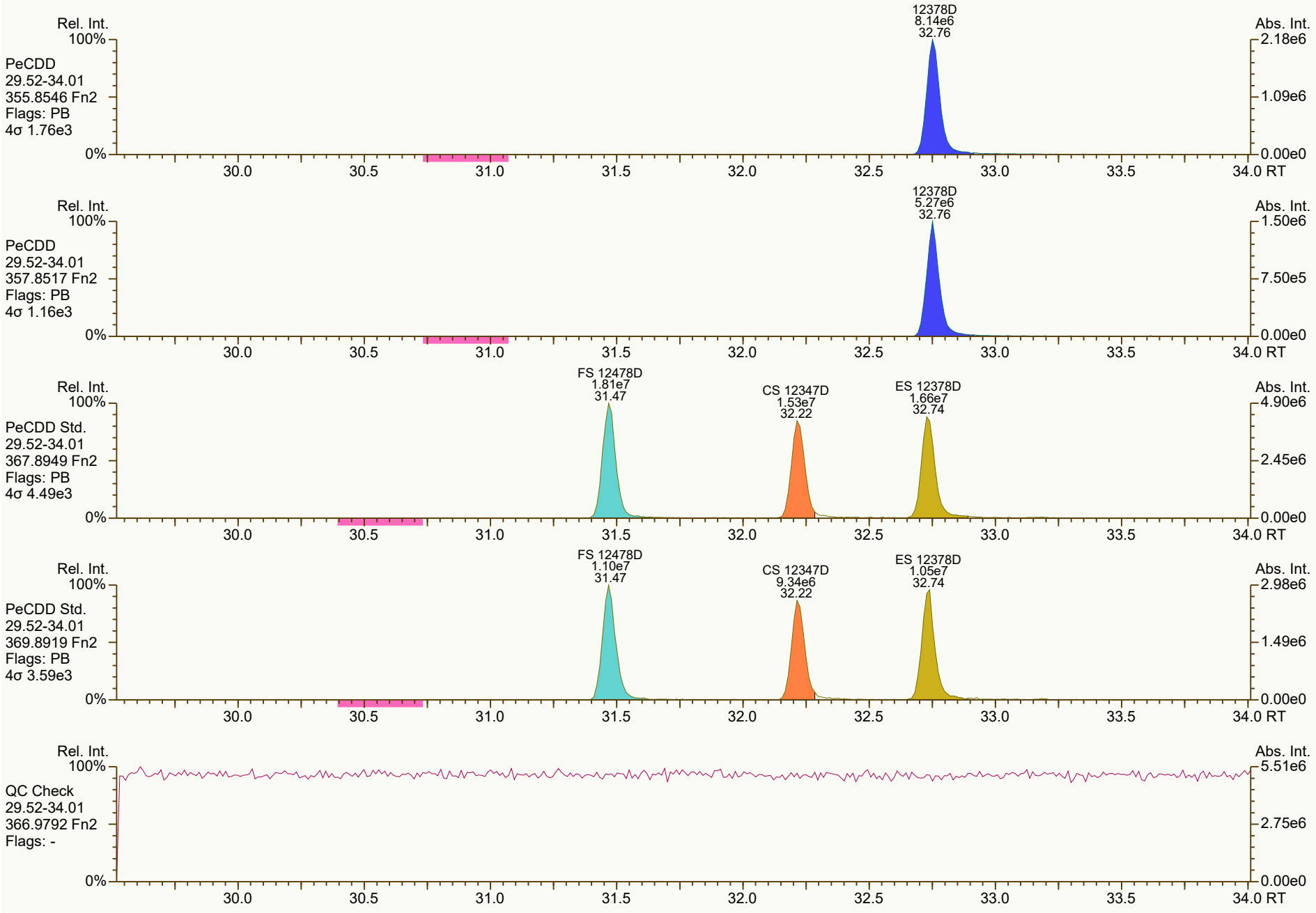
VER Data Filename: 220222R01 Analysis Date: 22-FEB-2022 05:21:50

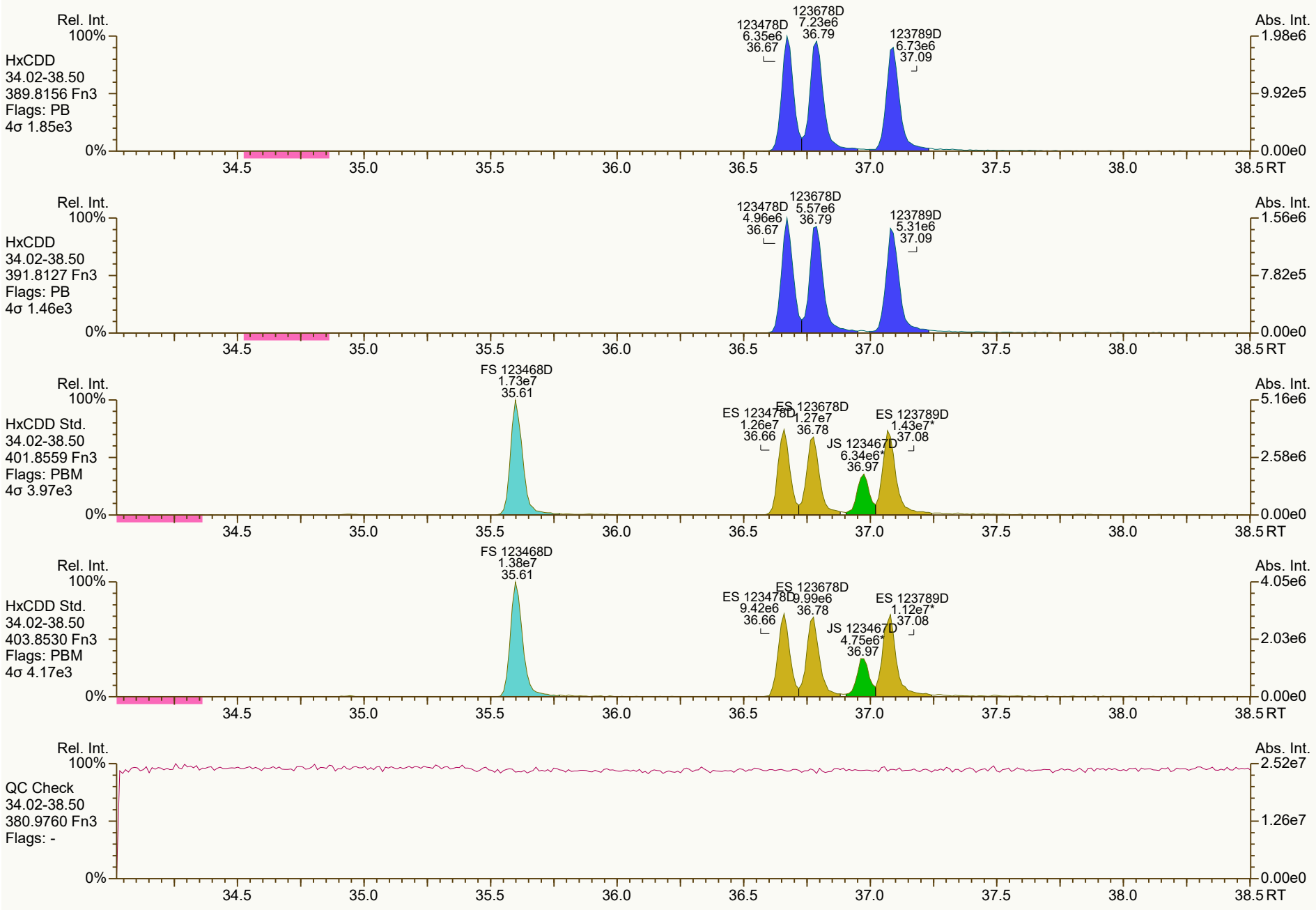
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.76	0.65	-	0.89	Y	94.1	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32	-	1.78	Y	84.3	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.33	1.05	-	1.43	Y	99.6	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05	-	1.43	Y	105	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.28	1.05	-	1.43	Y	102	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88	-	1.20	Y	90.1	72	-	138	Y
13C-OCDD	M+2/M+4	0.91	0.76	-	1.02	Y	160	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.82	0.65	-	0.89	Y	90.8	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	90.9	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32	-	1.78	Y	90.2	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	113	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	119	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	112	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	102	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	114	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	94	77	-	129	Y
13C-OCDF	M+2/M+4	0.90	0.76	-	1.02	Y	165	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						9.23	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.64	1.32	-	1.78	Y	88.8	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.56	1.32	-	1.78	Y	96.9	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	129	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.44	0.37	-	0.51	Y	122	70	-	130	Y

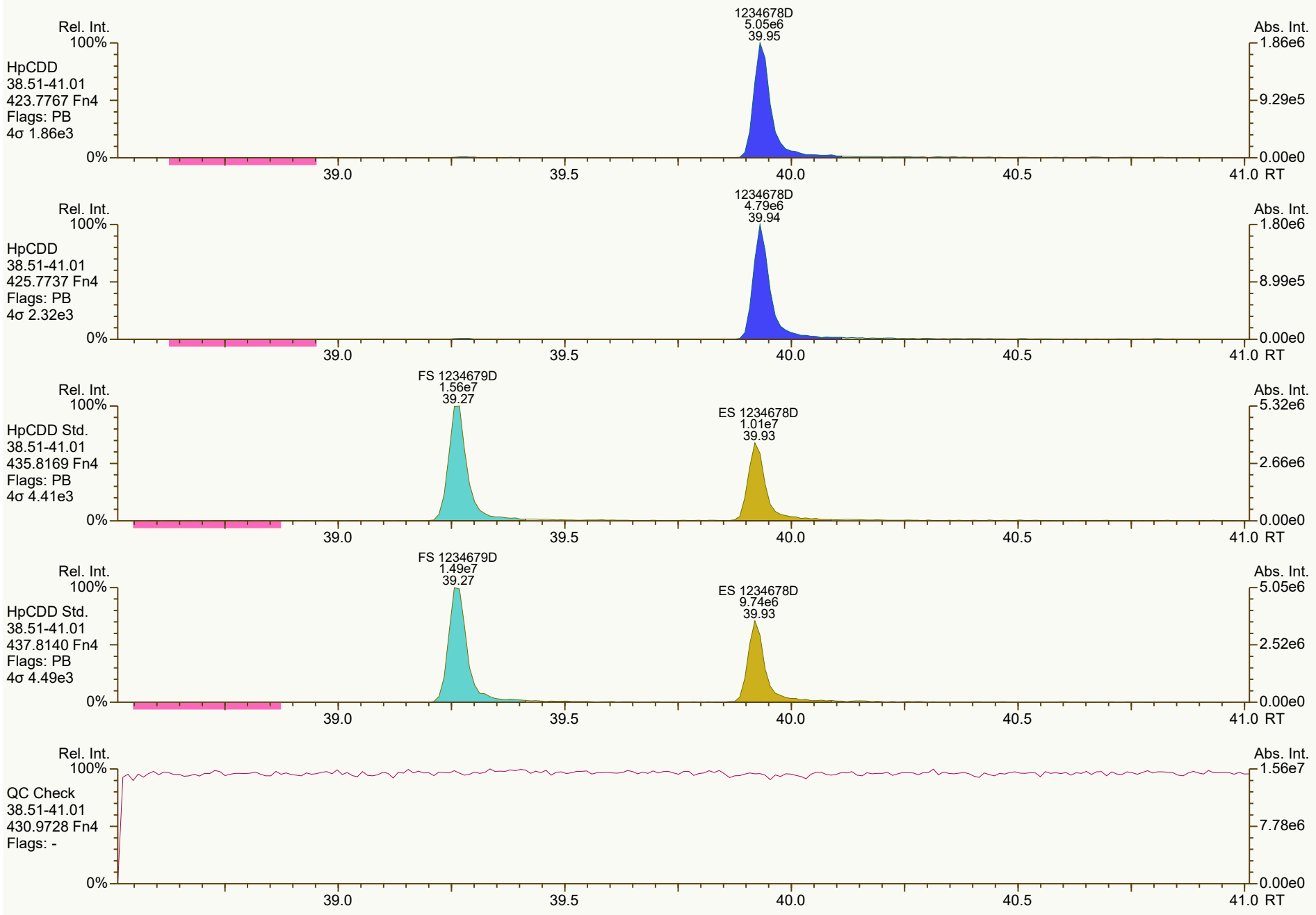
Processed: 22 Feb 2022 15:06 Analyst: pw

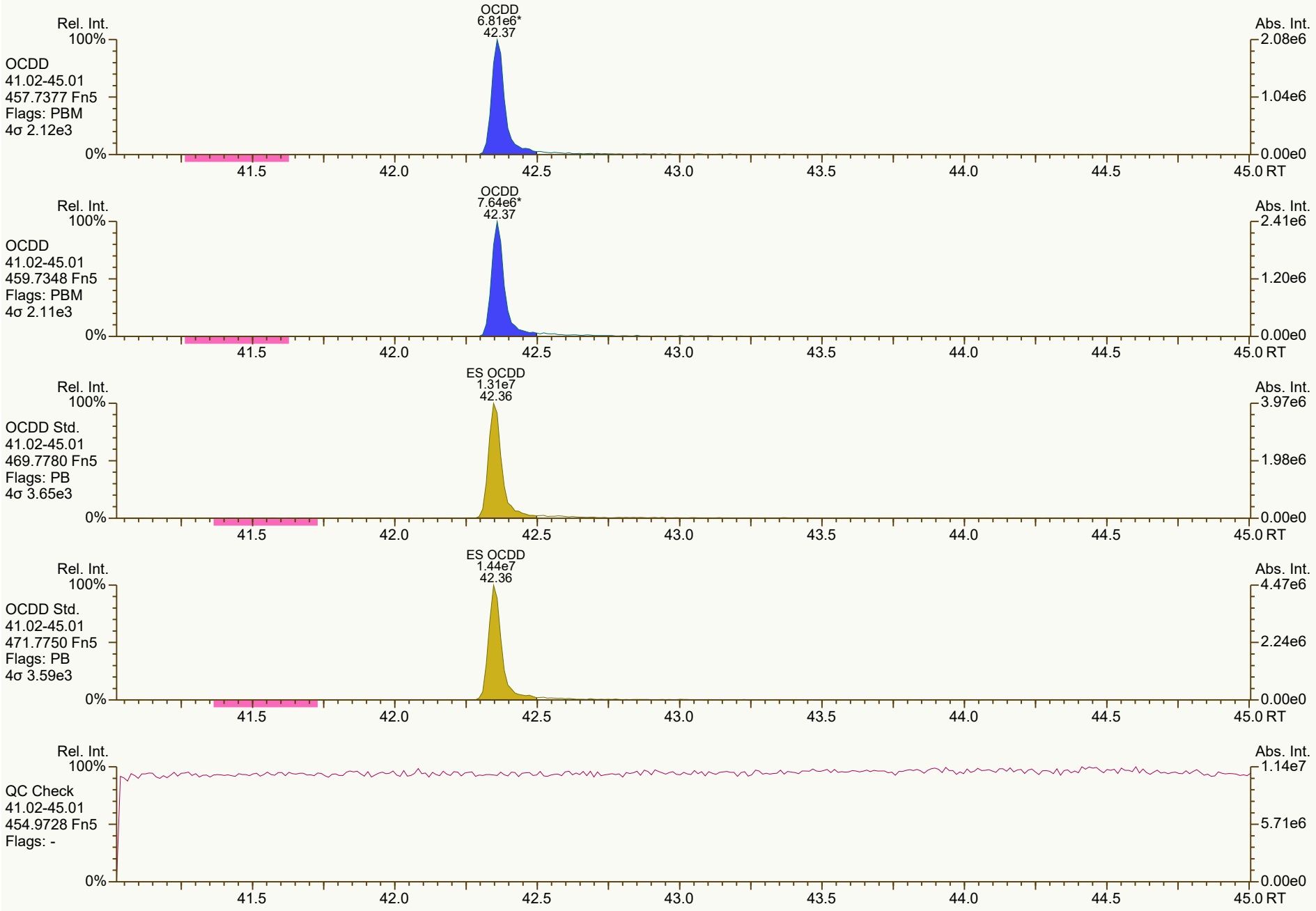

Rel. Int.
100%
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
0%
Abs. Int.
6.12e6
3.06e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.51e6
2.75e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
QC Check
34.02-38.50
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.52e7
1.26e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
QC Check
38.51-41.01
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.56e7
7.78e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
QC Check
41.02-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.14e7
5.71e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

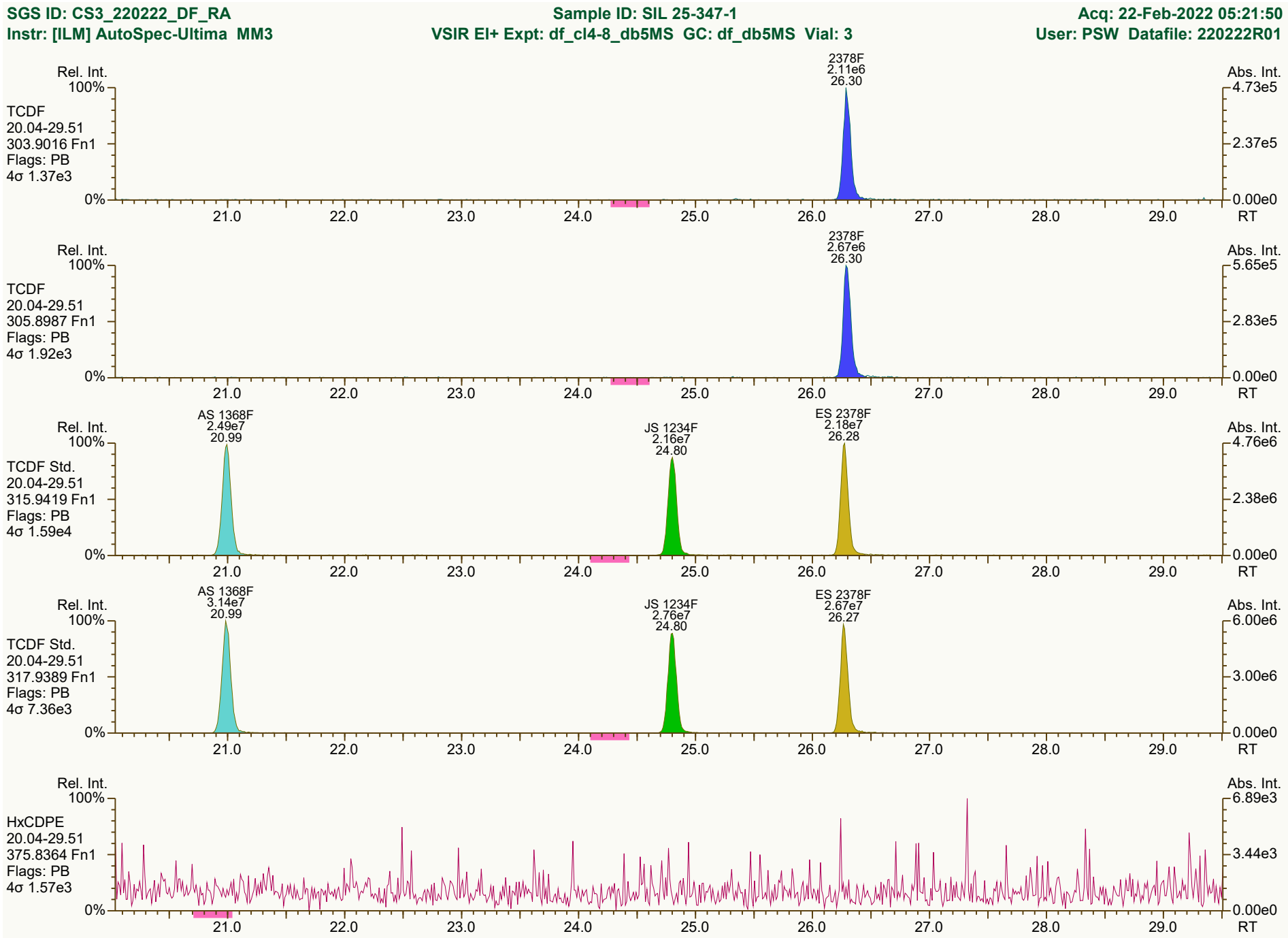

Rel. Int.
100%
TCDD
20.04-29.51
319.8965 Fn1
Flags: PB
4σ 2.27e3
0%
2378D
1.48e6
27.21
Abs. Int.
3.48e5
1.74e5
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD
20.04-29.51
321.8936 Fn1
Flags: PB
4σ 2.33e3
0%
RRF(2378D) = (1.48e6 + 1.82e6) * 100pg / (1.30e7 + 1.72e7) * 10pg * 1 = 1.09
PSW 22-Feb-2022 15:09
ok AK 23 Feb 22
2378D
1.82e6
27.21
Abs. Int.
4.02e5
2.01e5
0.00e0
Rel. Int.
100%
37Cl-TCDD
20.04-29.51
327.8850 Fn1
Flags: PB
4σ 1.36e3
0%
CS 37Cl-2378D
3.76e6
27.21
Abs. Int.
9.06e5
4.53e5
0.00e0
Rel. Int.
100%
TCDD Std.
20.04-29.51
331.9368 Fn1
Flags: PB
4σ 8.63e3
0%
AS 1368D
1.46e7
23.22
TS 1378D
2.03e7
25.42
JS 1234D
1.34e7
26.48
ES 2378D
1.30e7
27.19
FS 1278D
1.49e7
27.54
Abs. Int.
4.35e6
2.17e6
0.00e0
Rel. Int.
100%
TCDD Std.
20.04-29.51
333.9339 Fn1
Flags: PB
4σ 3.53e3
0%
AS 1368D
1.91e7
23.22
TS 1378D
2.72e7
25.42
JS 1234D
1.77e7
26.48
ES 2378D
1.72e7
27.19
FS 1278D
1.94e7
27.54
Abs. Int.
5.75e6
2.87e6
0.00e0


Rel. Int.
100%
PeCDD
29.52-34.01
355.8546 Fn2
Flags: PB
4σ 1.76e3
12378D
8.14e6
32.76
Abs. Int.
2.18e6
1.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD
29.52-34.01
357.8517 Fn2
Flags: PB
4σ 1.16e3
12378D
5.27e6
32.76
Abs. Int.
1.50e6
7.50e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD Std.
29.52-34.01
367.8949 Fn2
Flags: PB
4σ 4.49e3
FS 12478D
1.81e7
31.47
CS 12347D
1.53e7
32.22
ES 12378D
1.66e7
32.74
Abs. Int.
4.90e6
2.45e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD Std.
29.52-34.01
369.8919 Fn2
Flags: PB
4σ 3.59e3
FS 12478D
1.10e7
31.47
CS 12347D
9.34e6
32.22
ES 12378D
1.05e7
32.74
Abs. Int.
2.98e6
1.49e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
Abs. Int.
5.51e6
2.75e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT


Rel. Int.
100%
HxCDD
34.02-38.50
389.8156 Fn3
Flags: PB
4σ 1.85e3
123478D
6.35e6
36.67
123678D
7.23e6
36.79
123789D
6.73e6
37.09
Abs. Int.
1.98e6
9.92e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDD
34.02-38.50
391.8127 Fn3
Flags: PB
4σ 1.46e3
123478D
4.96e6
36.67
123678D
5.57e6
36.79
123789D
5.31e6
37.09
Abs. Int.
1.56e6
7.82e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDD Std.
34.02-38.50
401.8559 Fn3
Flags: PBM
4σ 3.97e3
FS 123468D
1.73e7
35.61
ES 123478D
1.26e7
36.66
ES 123678D
1.27e7
36.78
JS 123467D
6.34e6*
36.97
ES 123789D
1.43e7*
37.08
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDD Std.
34.02-38.50
403.8530 Fn3
Flags: PBM
4σ 4.17e3
FS 123468D
1.38e7
35.61
ES 123478D
9.42e6
36.66
ES 123678D
9.99e6
36.78
JS 123467D
4.75e6*
36.97
ES 123789D
1.12e7*
37.08
Abs. Int.
4.05e6
2.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
QC Check
34.02-38.50
380.9760 Fn3
Flags: -
Abs. Int.
2.52e7
1.26e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT

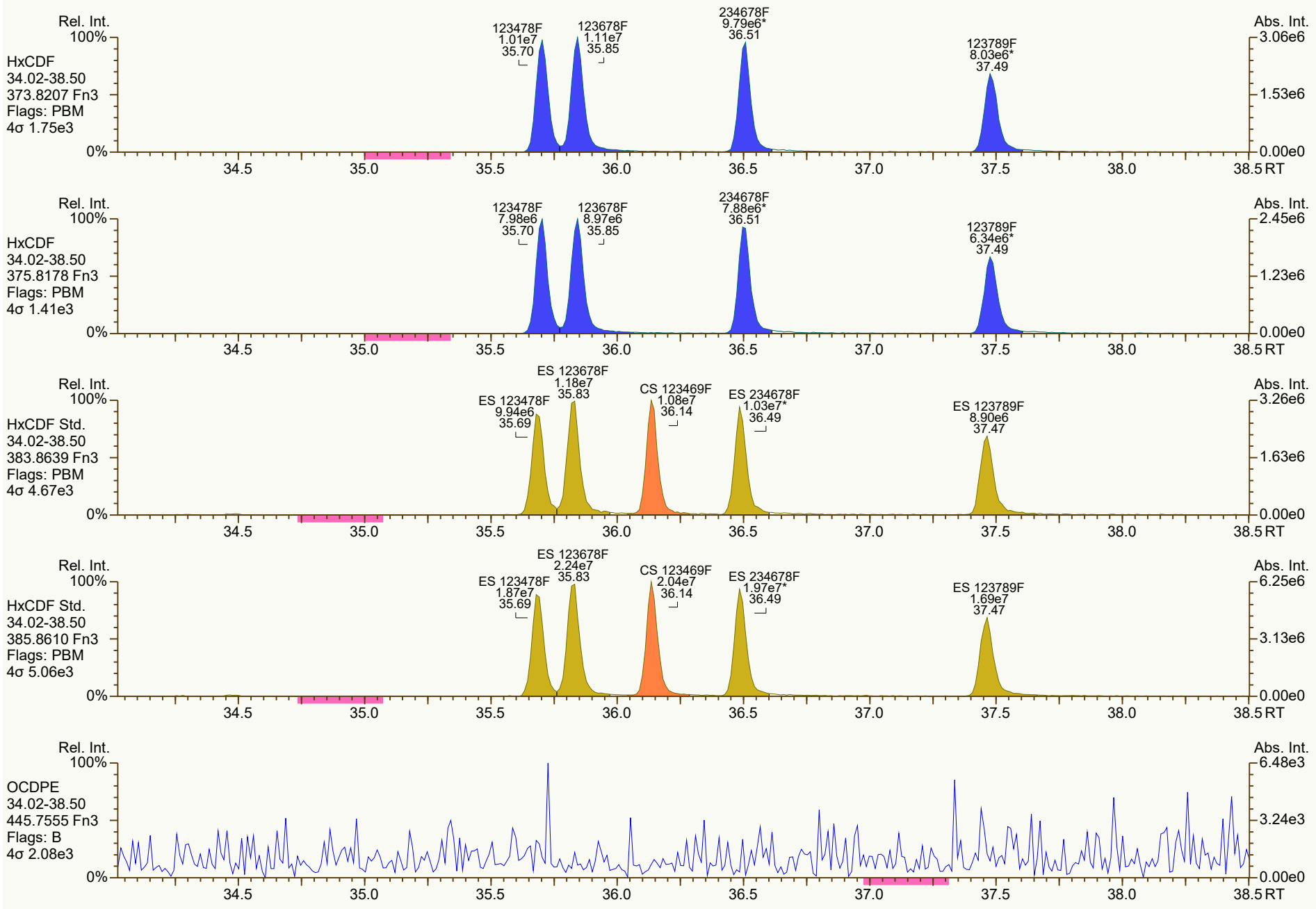

Rel. Int.
100%
HpCDD
38.51-41.01
423.7767 Fn4
Flags: PB
4σ 1.86e3
1234678D
5.05e6
39.95
Abs. Int.
1.86e6
9.29e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD
38.51-41.01
425.7737 Fn4
Flags: PB
4σ 2.32e3
1234678D
4.79e6
39.94
Abs. Int.
1.80e6
8.99e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.51-41.01
435.8169 Fn4
Flags: PB
4σ 4.41e3
FS 1234679D
1.56e7
39.27
ES 1234678D
1.01e7
39.93
Abs. Int.
5.32e6
2.66e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.51-41.01
437.8140 Fn4
Flags: PB
4σ 4.49e3
FS 1234679D
1.49e7
39.27
ES 1234678D
9.74e6
39.93
Abs. Int.
5.05e6
2.52e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
QC Check
38.51-41.01
430.9728 Fn4
Flags: -
Abs. Int.
1.56e7
7.78e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0 RT

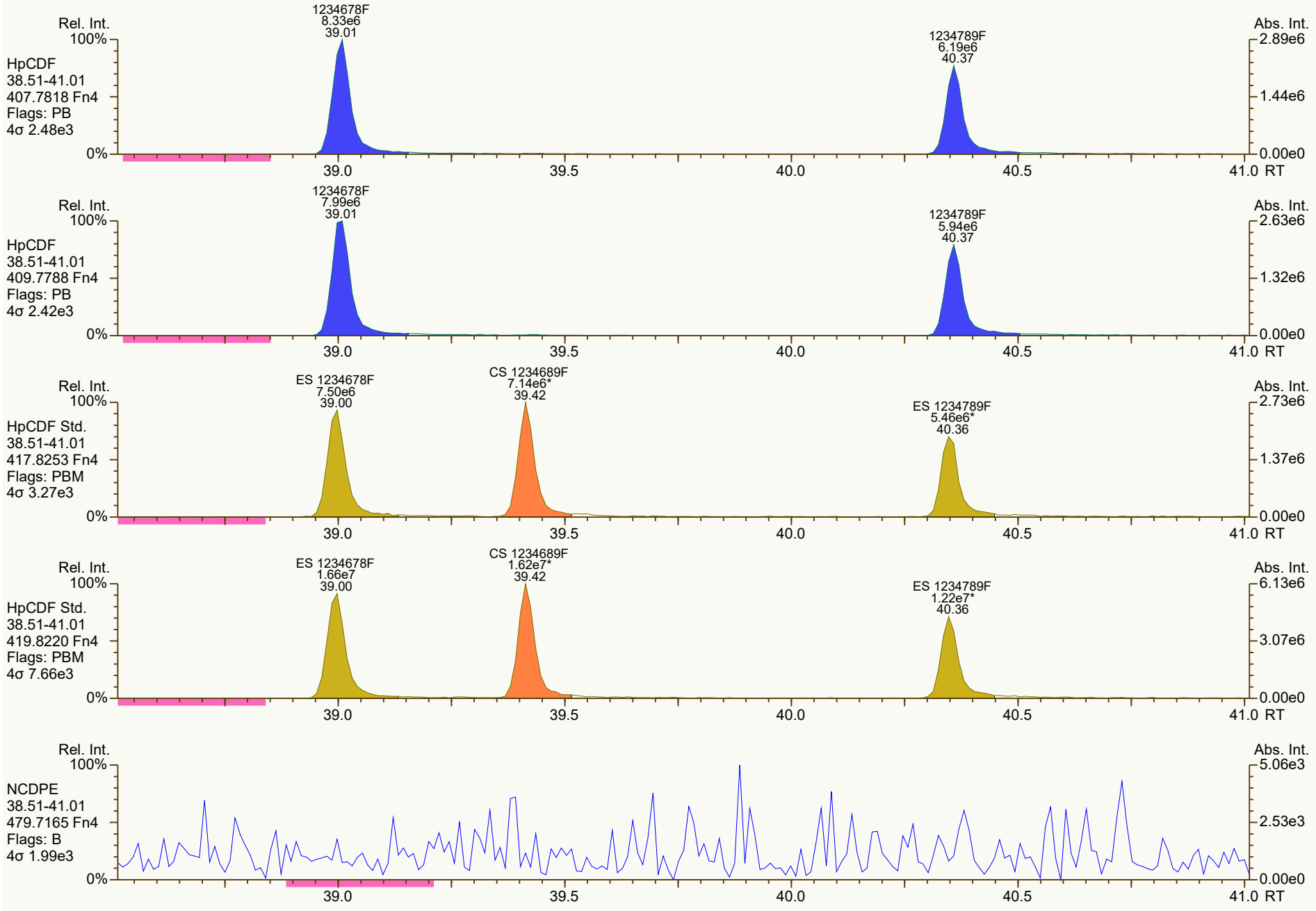

OCDD
6.81e6*
42.37
Rel. Int.
100%
OCDD
41.02-45.01
457.7377 Fn5
Flags: PBM
4σ 2.12e3
0%
Abs. Int.
2.08e6
1.04e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
7.64e6*
42.37
Rel. Int.
100%
OCDD
41.02-45.01
459.7348 Fn5
Flags: PBM
4σ 2.11e3
0%
Abs. Int.
2.41e6
1.20e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.31e7
42.36
Rel. Int.
100%
OCDD Std.
41.02-45.01
469.7780 Fn5
Flags: PB
4σ 3.65e3
0%
Abs. Int.
3.97e6
1.98e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.44e7
42.36
Rel. Int.
100%
OCDD Std.
41.02-45.01
471.7750 Fn5
Flags: PB
4σ 3.59e3
0%
Abs. Int.
4.47e6
2.24e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.02-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.14e7
5.71e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

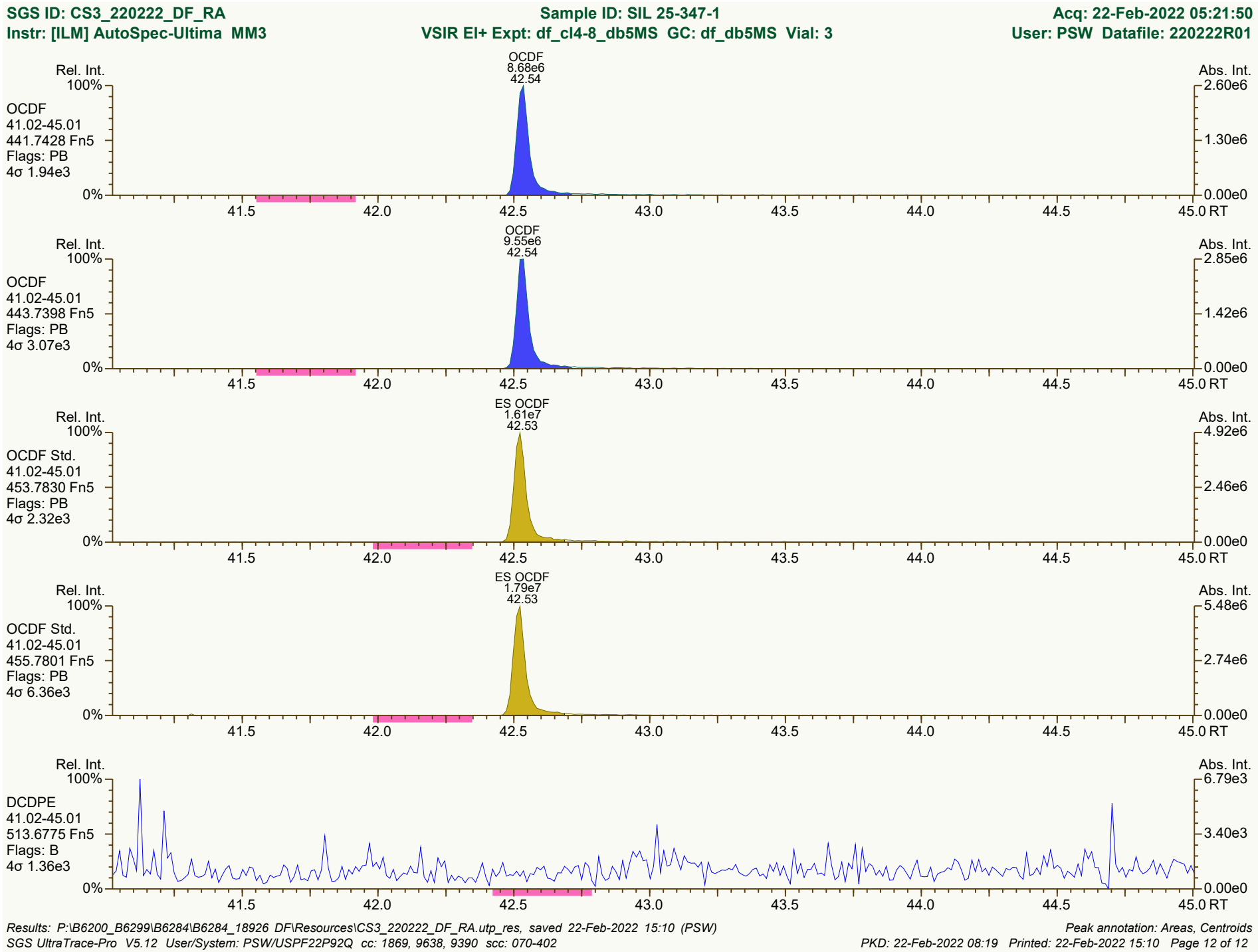

SGS ID: CS3_220222_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3
Sample ID: SIL 25-347-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
Acq: 22-Feb-2022 05:21:50
User: PSW Datafile: 220222R01
Rel. Int.
100%
0%
TCDF
20.04-29.51
303.9016 Fn1
Flags: PB
4σ 1.37e3
2378F
2.11e6
26.30
Abs. Int.
4.73e5
2.37e5
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
TCDF
20.04-29.51
305.8987 Fn1
Flags: PB
4σ 1.92e3
2378F
2.67e6
26.30
5.65e5
2.83e5
TCDF Std.
20.04-29.51
315.9419 Fn1
Flags: PB
4σ 1.59e4
AS 1368F
2.49e7
20.99
JS 1234F
2.16e7
24.80
ES 2378F
2.18e7
26.28
4.76e6
2.38e6
TCDF Std.
20.04-29.51
317.9389 Fn1
Flags: PB
4σ 7.36e3
AS 1368F
3.14e7
20.99
JS 1234F
2.76e7
24.80
ES 2378F
2.67e7
26.27
6.00e6
3.00e6
HxCDPE
20.04-29.51
375.8364 Fn1
Flags: PB
4σ 1.57e3
6.89e3
3.44e3
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\CS3_220222_DF_RA.utp_res, saved 22-Feb-2022 15:10 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7975, 3710, 2784 scc: 070-402
Peak annotation: Areas, Centroids
PKD: 22-Feb-2022 08:19 Printed: 22-Feb-2022 15:10 Page 7 of 12

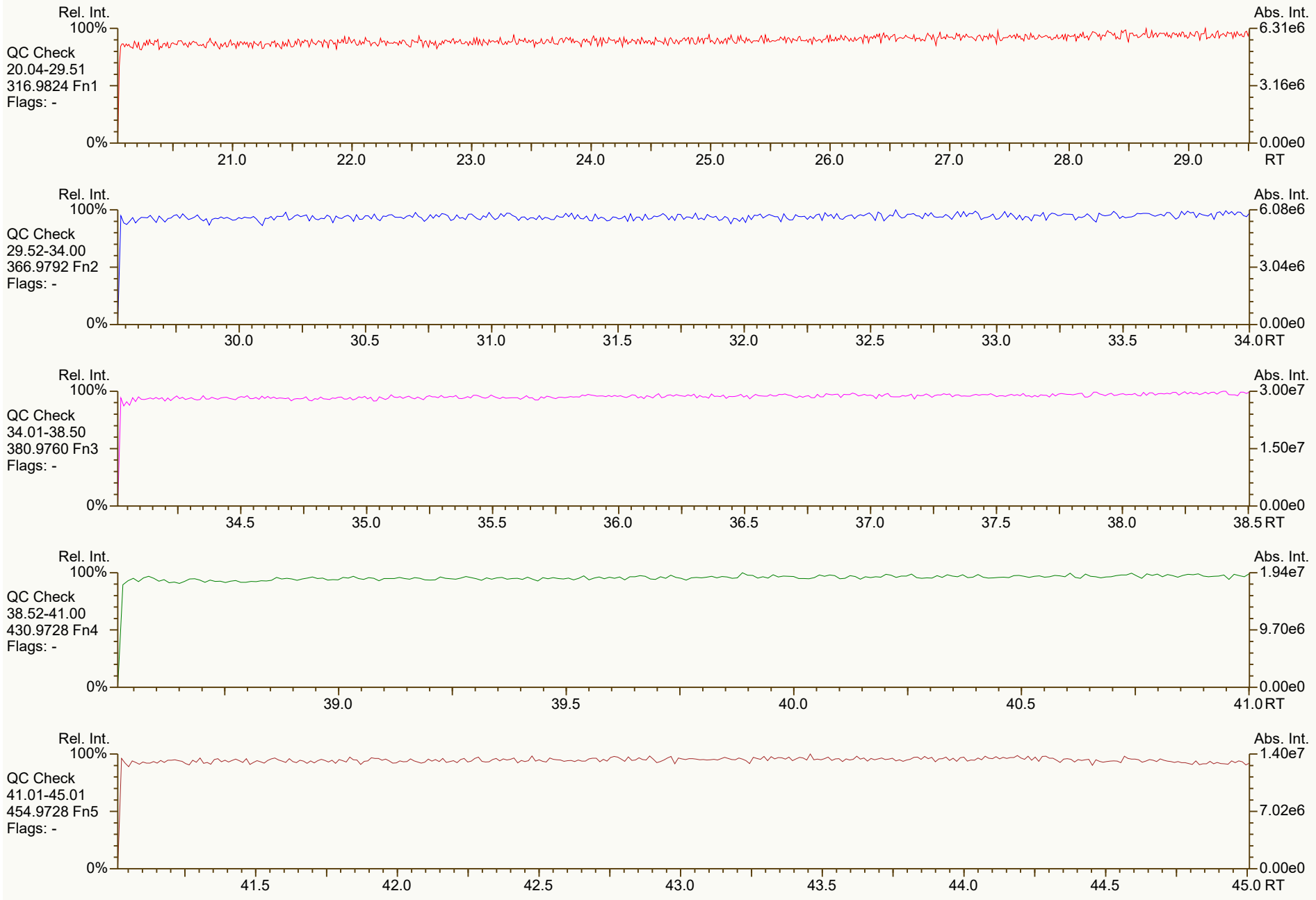

Rel. Int.
100%
0%
Abs. Int.
4.92e3
2.46e3
0.00e0
PeCDF-1
20.04-29.51
339.8597 Fn1
Flags: PB
4σ 1.29e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
6.60e3
3.30e3
0.00e0
PeCDF-1
20.04-29.51
341.8568 Fn1
Flags: B
4σ 1.75e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
6.12e6
3.06e6
0.00e0
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


SGS ID: CS3_220222_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3
Sample ID: SIL 25-347-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
Acq: 22-Feb-2022 05:21:50
User: PSW Datafile: 220222R01
Rel. Int.
100%
0%
Abs. Int.
PeCDF-2
29.52-34.01
339.8597 Fn2
Flags: PBM
4σ 2.14e3
12378F
1.27e7*
31.26
23478F
1.25e7
32.41
3.28e6
1.64e6
0.00e0
PeCDF-2
29.52-34.01
341.8568 Fn2
Flags: PBM
4σ 2.13e3
12378F
8.15e6*
31.26
23478F
8.04e6
32.41
2.18e6
1.09e6
0.00e0
PeCDF Std.
29.52-34.01
351.9000 Fn2
Flags: PB
4σ 4.62e3
CS 12346F
2.52e7
30.70
ES 12378F
2.56e7
31.24
ES 23478F
2.51e7
32.40
6.73e6
3.36e6
0.00e0
PeCDF Std.
29.52-34.01
353.8970 Fn2
Flags: PB
4σ 4.99e3
CS 12346F
1.62e7
30.70
ES 12378F
1.62e7
31.24
ES 23478F
1.60e7
32.40
4.18e6
2.09e6
0.00e0
HpCDPE
29.52-34.01
409.7974 Fn2
Flags: PB
4σ 2.24e3
4.75e3
2.37e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\CS3_220222_DF_RA.utp_res, saved 22-Feb-2022 15:10 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3849, 3406, 0041 scc: 070-402
Peak annotation: Areas, Centroids
PKD: 22-Feb-2022 08:19 Printed: 22-Feb-2022 15:10 Page 9 of 12

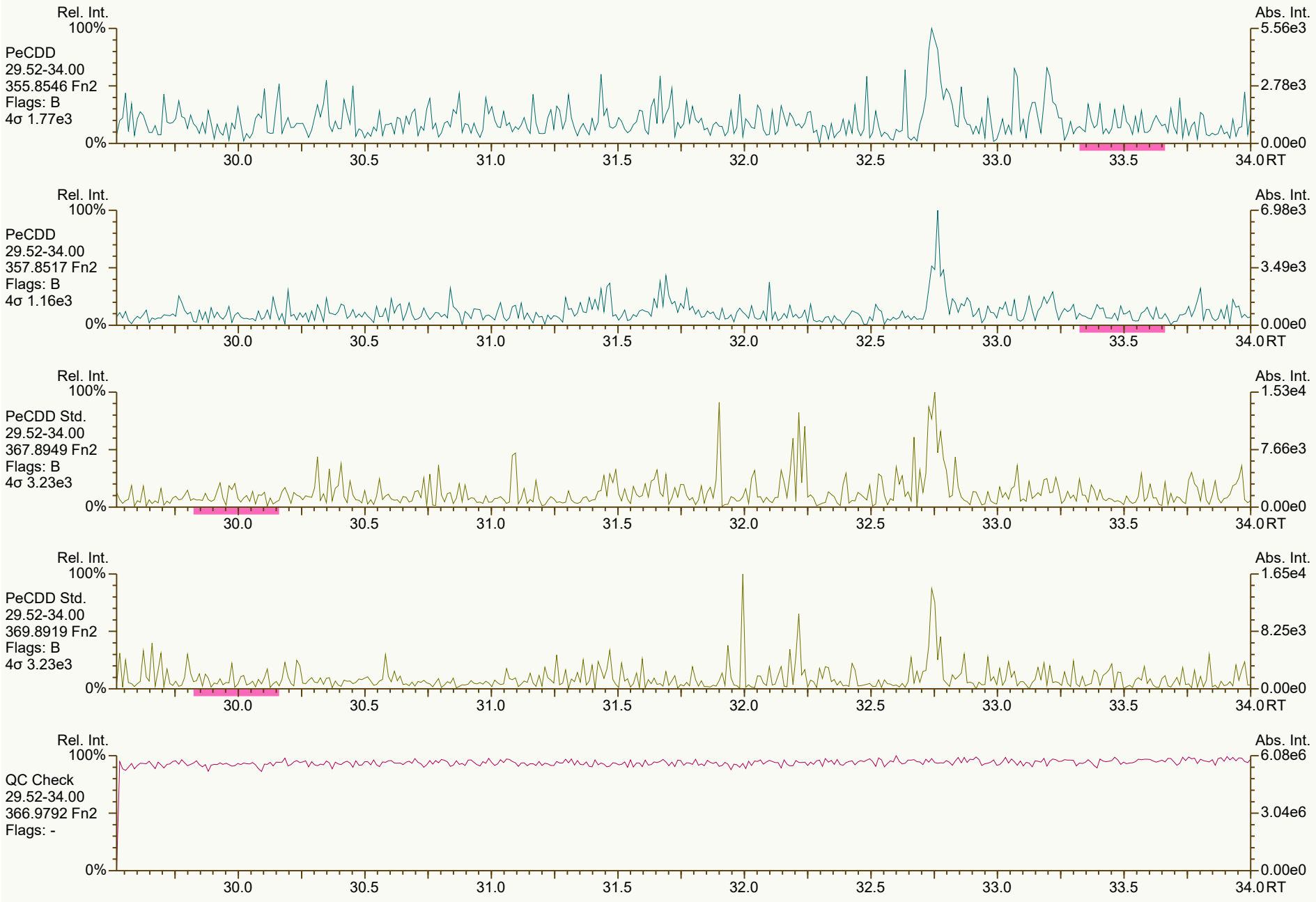

Rel. Int.
100%
HxCDF
34.02-38.50
373.8207 Fn3
Flags: PBM
4σ 1.75e3
123478F
1.01e7
35.70
123678F
1.11e7
35.85
234678F
9.79e6*
36.51
123789F
8.03e6*
37.49
Abs. Int.
3.06e6
1.53e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDF
34.02-38.50
375.8178 Fn3
Flags: PBM
4σ 1.41e3
123478F
7.98e6
35.70
123678F
8.97e6
35.85
234678F
7.88e6*
36.51
123789F
6.34e6*
37.49
Abs. Int.
2.45e6
1.23e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDF Std.
34.02-38.50
383.8639 Fn3
Flags: PBM
4σ 4.67e3
ES 123478F
9.94e6
35.69
ES 123678F
1.18e7
35.83
CS 123469F
1.08e7
36.14
ES 234678F
1.03e7*
36.49
ES 123789F
8.90e6
37.47
Abs. Int.
3.26e6
1.63e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDF Std.
34.02-38.50
385.8610 Fn3
Flags: PBM
4σ 5.06e3
ES 123478F
1.87e7
35.69
ES 123678F
2.24e7
35.83
CS 123469F
2.04e7
36.14
ES 234678F
1.97e7*
36.49
ES 123789F
1.69e7
37.47
Abs. Int.
6.25e6
3.13e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
OCDPE
34.02-38.50
445.7555 Fn3
Flags: B
4σ 2.08e3
Abs. Int.
6.48e3
3.24e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT


Rel. Int.
100%
HpCDF
38.51-41.01
407.7818 Fn4
Flags: PB
4σ 2.48e3
0%
1234678F
8.33e6
39.01
1234789F
6.19e6
40.37
Abs. Int.
2.89e6
1.44e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDF
38.51-41.01
409.7788 Fn4
Flags: PB
4σ 2.42e3
0%
1234678F
7.99e6
39.01
1234789F
5.94e6
40.37
Abs. Int.
2.63e6
1.32e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDF Std.
38.51-41.01
417.8253 Fn4
Flags: PBM
4σ 3.27e3
0%
ES 1234678F
7.50e6
39.00
CS 1234689F
7.14e6*
39.42
ES 1234789F
5.46e6*
40.36
Abs. Int.
2.73e6
1.37e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDF Std.
38.51-41.01
419.8220 Fn4
Flags: PBM
4σ 7.66e3
0%
ES 1234678F
1.66e7
39.00
CS 1234689F
1.62e7*
39.42
ES 1234789F
1.22e7*
40.36
Abs. Int.
6.13e6
3.07e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
NCDPE
38.51-41.01
479.7165 Fn4
Flags: B
4σ 1.99e3
0%
Abs. Int.
5.06e3
2.53e3
0.00e0
39.0
39.5
40.0
40.5
41.0 RT


SGS ID: CS3_220222_DF_RA
Sample ID: SIL 25-347-1
Acq: 22-Feb-2022 05:21:50
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220222R01
OCDF
8.68e6
42.54
Rel. Int.
Abs. Int.
OCDF
41.02-45.01
441.7428 Fn5
Flags: PB
4σ 1.94e3
OCDF
9.55e6
42.54
OCDF
41.02-45.01
443.7398 Fn5
Flags: PB
4σ 3.07e3
ES OCDF
1.61e7
42.53
OCDF Std.
41.02-45.01
453.7830 Fn5
Flags: PB
4σ 2.32e3
ES OCDF
1.79e7
42.53
OCDF Std.
41.02-45.01
455.7801 Fn5
Flags: PB
4σ 6.36e3
DCDPE
41.02-45.01
513.6775 Fn5
Flags: B
4σ 1.36e3
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\CS3_220222_DF_RA.utp_res, saved 22-Feb-2022 15:10 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1869, 9638, 9390 scc: 070-402
PKD: 22-Feb-2022 08:19 Printed: 22-Feb-2022 15:10 Page 12 of 12


Rel. Int.
100%
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.00
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.08e6
3.04e6
0.00e0
Rel. Int.
100%
QC Check
34.01-38.50
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
3.00e7
1.50e7
0.00e0
Rel. Int.
100%
QC Check
38.52-41.00
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
RT
Abs. Int.
1.94e7
9.70e6
0.00e0
Rel. Int.
100%
QC Check
41.01-45.01
454.9728 Fn5
Flags: -
0%
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.40e7
7.02e6
0.00e0


Rel. Int.
100%
TCDD
20.04-29.51
319.8965 Fn1
Flags: B
4σ 2.94e3
0%
Abs. Int.
7.04e3
3.52e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD
20.04-29.51
321.8936 Fn1
Flags: PB
4σ 1.40e3
0%
Abs. Int.
5.96e3
2.98e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
37Cl-TCDD
20.04-29.51
327.8850 Fn1
Flags: B
4σ 1.76e3
0%
Abs. Int.
8.10e3
4.05e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.04-29.51
331.9368 Fn1
Flags: B
4σ 4.88e3
0%
Abs. Int.
1.89e4
9.47e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.04-29.51
333.9339 Fn1
Flags: B
4σ 4.16e3
0%
Abs. Int.
1.66e4
8.28e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


Rel. Int.
100%
PeCDD
29.52-34.00
355.8546 Fn2
Flags: B
4σ 1.77e3
0%
Abs. Int.
5.56e3
2.78e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD
29.52-34.00
357.8517 Fn2
Flags: B
4σ 1.16e3
0%
Abs. Int.
6.98e3
3.49e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD Std.
29.52-34.00
367.8949 Fn2
Flags: B
4σ 3.23e3
0%
Abs. Int.
1.53e4
7.66e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD Std.
29.52-34.00
369.8919 Fn2
Flags: B
4σ 3.23e3
0%
Abs. Int.
1.65e4
8.25e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
QC Check
29.52-34.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.08e6
3.04e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT


Rel. Int.
100%
HxCDD
34.01-38.50
389.8156 Fn3
Flags: B
4σ 1.48e3
0%
Abs. Int.
8.77e3
4.38e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDD
34.01-38.50
391.8127 Fn3
Flags: B
4σ 2.16e3
0%
Abs. Int.
8.83e3
4.42e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDD Std.
34.01-38.50
401.8559 Fn3
Flags: B
4σ 5.04e3
0%
Abs. Int.
3.43e4
1.72e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDD Std.
34.01-38.50
403.8530 Fn3
Flags: B
4σ 3.16e3
0%
Abs. Int.
1.61e4
8.03e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
QC Check
34.01-38.50
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.00e7
1.50e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT


Rel. Int.
100%
HpCDD
38.52-41.00
423.7767 Fn4
Flags: B
4σ 2.34e3
0%
Abs. Int.
7.88e3
3.94e3
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD
38.52-41.00
425.7737 Fn4
Flags: B
4σ 1.75e3
0%
Abs. Int.
1.29e4
6.44e3
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.52-41.00
435.8169 Fn4
Flags: B
4σ 2.55e3
0%
Abs. Int.
1.82e4
9.08e3
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.52-41.00
437.8140 Fn4
Flags: B
4σ 3.36e3
0%
Abs. Int.
3.00e4
1.50e4
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
QC Check
38.52-41.00
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.94e7
9.70e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT


Rel. Int.
100%
OCDD
41.01-45.01
457.7377 Fn5
Flags: B
4σ 1.57e3
0%
Abs. Int.
1.95e4
9.74e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.01-45.01
459.7348 Fn5
Flags: B
4σ 1.35e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.01-45.01
469.7780 Fn5
Flags: B
4σ 3.58e3
0%
Abs. Int.
2.29e4
1.14e4
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.01-45.01
471.7750 Fn5
Flags: B
4σ 3.38e3
0%
Abs. Int.
2.91e4
1.46e4
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.01-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.40e7
7.02e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


2468F; SPIKED
3.29e5
22.27
Rel. Int.
100%
TCDF
20.04-29.51
303.9016 Fn1
Flags: PB
4σ 1.64e3
0%
Abs. Int.
6.42e4
3.21e4
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
2468F
4.19e5
22.26
Rel. Int.
100%
TCDF
20.04-29.51
305.8987 Fn1
Flags: PB
4σ 1.46e3
0%
Abs. Int.
7.78e4
3.89e4
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDF Std.
20.04-29.51
315.9419 Fn1
Flags: B
4σ 1.38e4
0%
Abs. Int.
2.57e4
1.28e4
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDF Std.
20.04-29.51
317.9389 Fn1
Flags: B
4σ 7.59e3
0%
Abs. Int.
1.88e4
9.42e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
HxCDPE
20.04-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


Rel. Int.
100%
0%
Abs. Int.
8.79e3
4.40e3
0.00e0
PeCDF-1
20.04-29.51
339.8597 Fn1
Flags: B
4σ 1.68e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.36e3
4.68e3
0.00e0
PeCDF-1
20.04-29.51
341.8568 Fn1
Flags: B
4σ 1.80e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
Abs. Int.
6.31e6
3.16e6
0.00e0
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.00
339.8597 Fn2
Flags: B
4σ 1.81e3
0%
Abs. Int.
9.35e3
4.67e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF-2
29.52-34.00
341.8568 Fn2
Flags: B
4σ 1.57e3
0%
Abs. Int.
6.02e3
3.01e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF Std.
29.52-34.00
351.9000 Fn2
Flags: B
4σ 3.48e3
0%
Abs. Int.
1.76e4
8.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF Std.
29.52-34.00
353.8970 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.29e4
6.46e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
HpCDPE
29.52-34.00
409.7974 Fn2
Flags: B
4σ 1.72e3
0%
Abs. Int.
6.46e3
3.23e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT

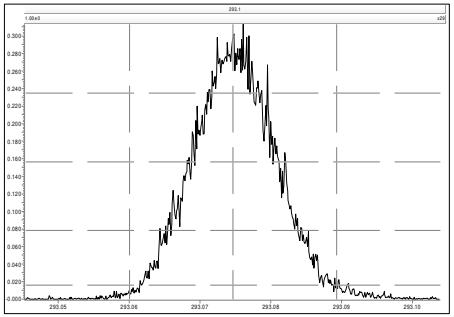

Rel. Int.
100%
HxCDF
34.01-38.50
373.8207 Fn3
Flags: B
4σ 2.32e3
0%
Abs. Int.
1.74e4
8.72e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDF
34.01-38.50
375.8178 Fn3
Flags: B
4σ 1.87e3
0%
Abs. Int.
1.23e4
6.14e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDF Std.
34.01-38.50
383.8639 Fn3
Flags: B
4σ 2.92e3
0%
Abs. Int.
1.75e4
8.76e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDF Std.
34.01-38.50
385.8610 Fn3
Flags: B
4σ 3.96e3
0%
Abs. Int.
3.25e4
1.63e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
OCDPE
34.01-38.50
445.7555 Fn3
Flags: B
4σ 1.82e3
0%
Abs. Int.
7.32e3
3.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT


Rel. Int.
100%
HpCDF
38.52-41.00
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
1.33e4
6.63e3
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDF
38.52-41.00
409.7788 Fn4
Flags: B
4σ 1.73e3
0%
Abs. Int.
1.91e4
9.53e3
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDF Std.
38.52-41.00
417.8253 Fn4
Flags: B
4σ 4.64e3
0%
Abs. Int.
2.01e4
1.01e4
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDF Std.
38.52-41.00
419.8220 Fn4
Flags: B
4σ 4.38e3
0%
Abs. Int.
2.40e4
1.20e4
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
NCDPE
38.52-41.00
479.7165 Fn4
Flags: PB
4σ 1.43e3
0%
Abs. Int.
6.56e3
3.28e3
0.00e0
39.0
39.5
40.0
40.5
41.0 RT

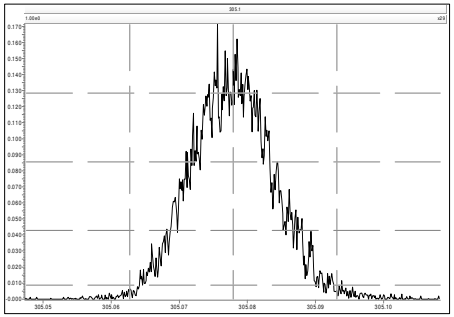

Rel. Int.
100%
OCDF
41.01-45.01
441.7428 Fn5
Flags: B
4σ 1.69e3
0%
Abs. Int.
2.12e4
1.06e4
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.01-45.01
443.7398 Fn5
Flags: B
4σ 2.02e3
0%
Abs. Int.
1.56e4
7.78e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.01-45.01
453.7830 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
3.46e4
1.73e4
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.01-45.01
455.7801 Fn5
Flags: B
4σ 2.91e3
0%
Abs. Int.
4.81e4
2.41e4
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.01-45.01
513.6775 Fn5
Flags: PB
4σ 1.24e3
0%
Abs. Int.
3.42e3
1.71e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Printed: Tuesday, February 22, 2022 05:21:46 Eastern Standard Time

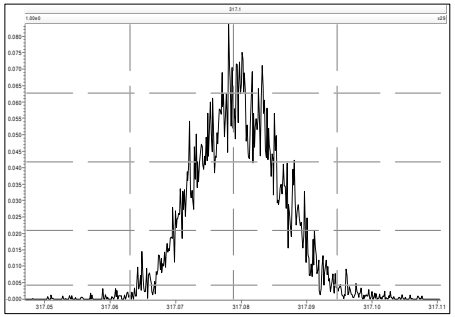
M 292.9824 R 11186



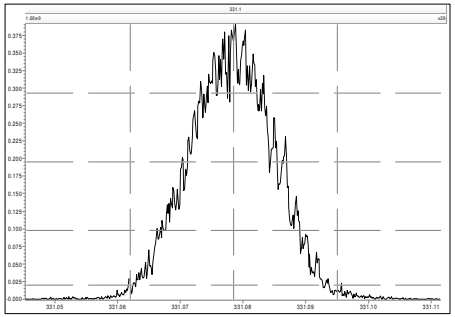
M 304.9824 R 11041



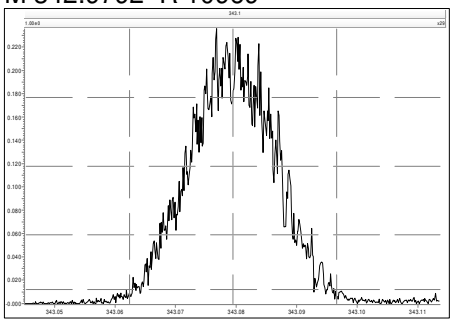
M 316.9824 R 12297



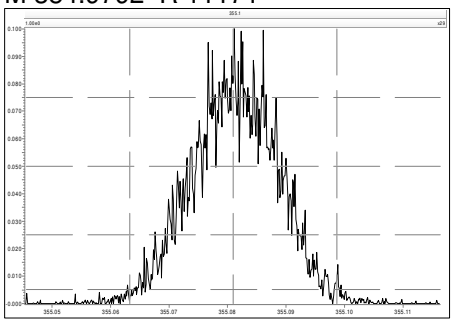
M 330.9792 R 10920



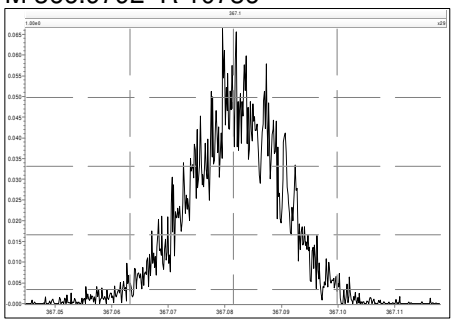
M 342.9792 R 10969



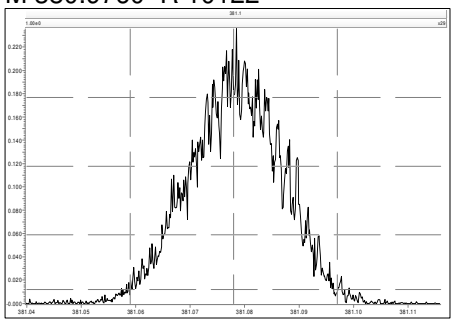
M 354.9792 R 11171



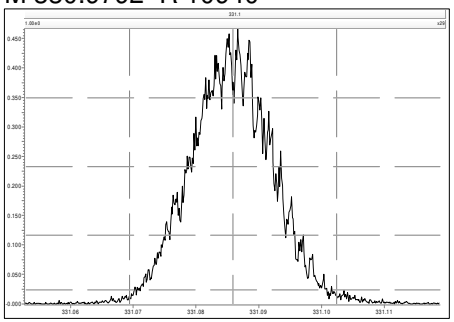
M 366.9792 R 10736



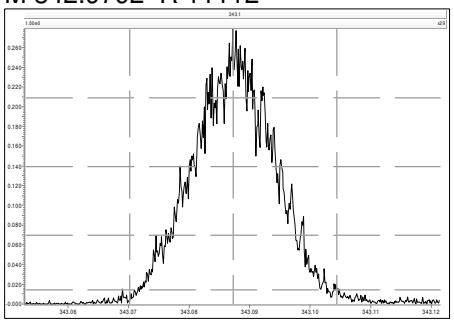
M 380.9760 R 10122



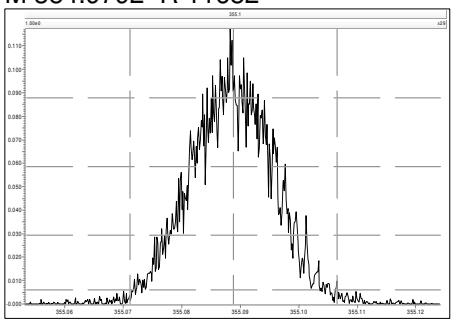
M 330.9792 R 10940



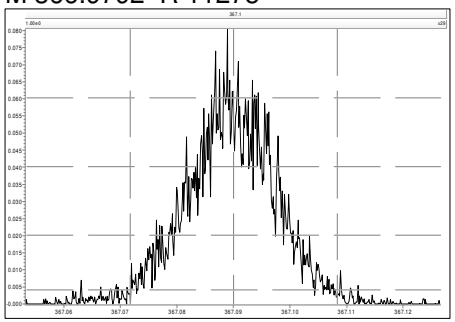
M 342.9792 R 11112



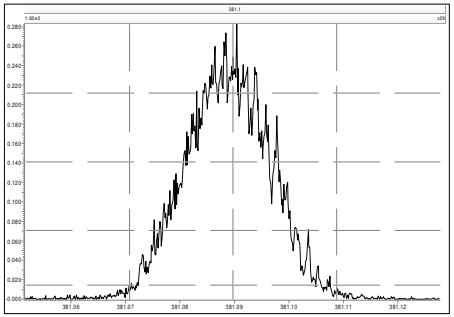
M 354.9792 R 11682



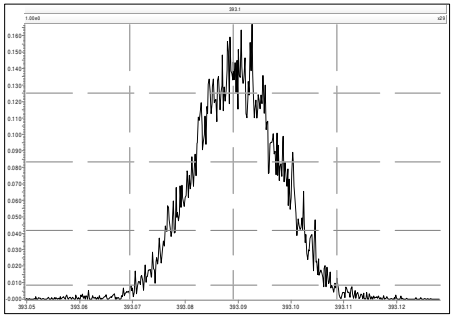
M 366.9792 R 11275



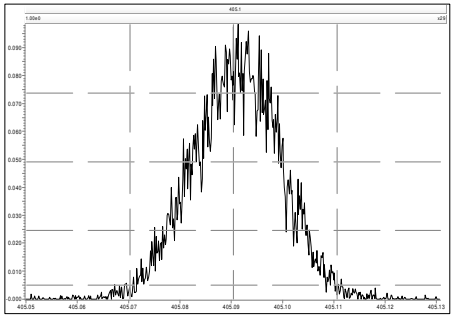
M 380.9760 R 11110



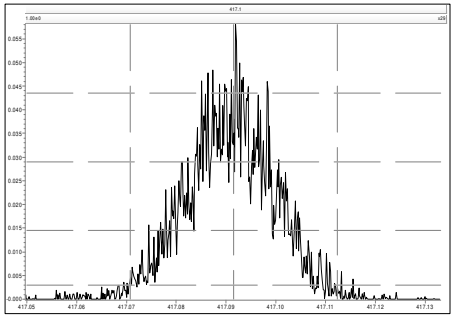
M 392.9760 R 10940



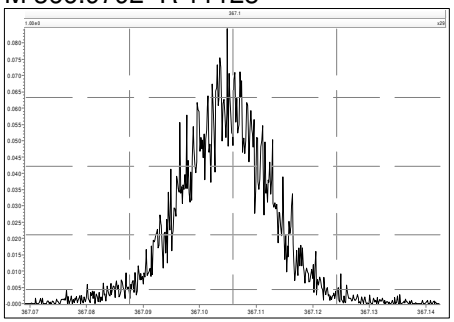
M 404.9760 R 11138



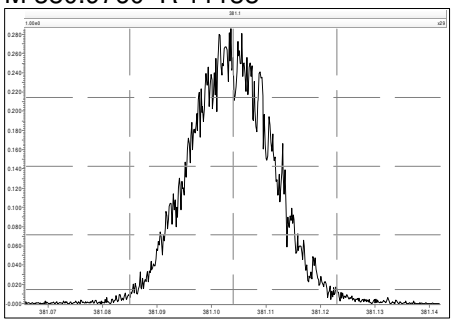
M 416.9760 R 11210



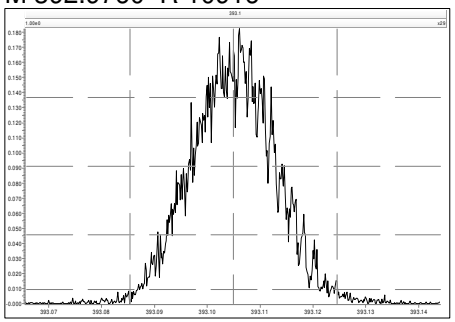
M 366.9792 R 11128



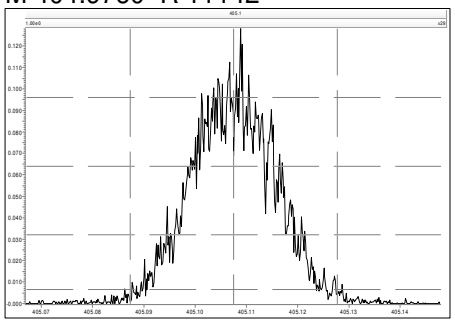
M 380.9760 R 11138



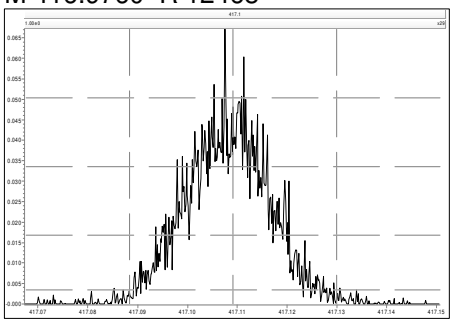
M 392.9760 R 10916



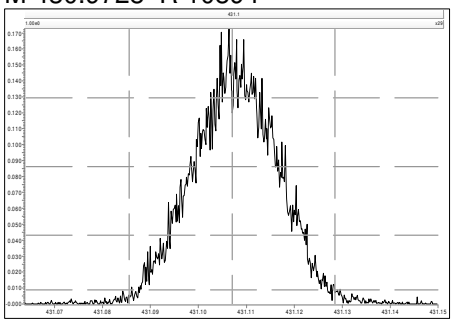
M 404.9760 R 11142



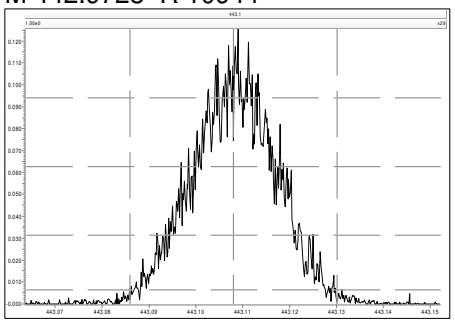
M 416.9760 R 12468



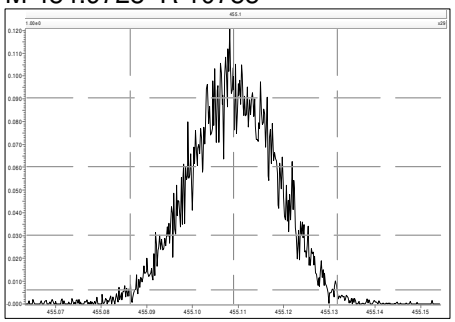
M 430.9728 R 10894



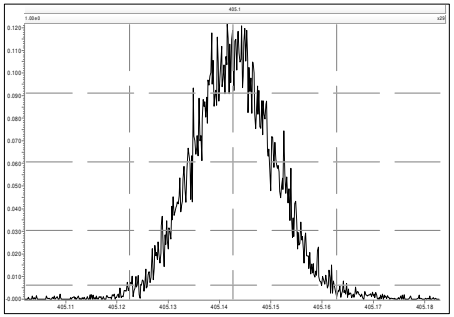
M 442.9728 R 10944



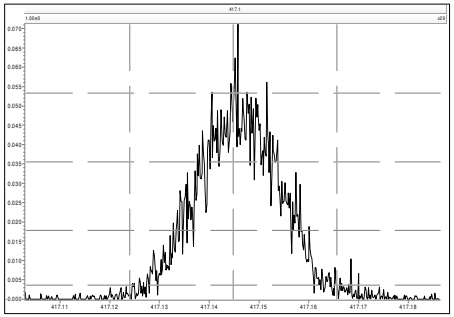
M 454.9728 R 10755



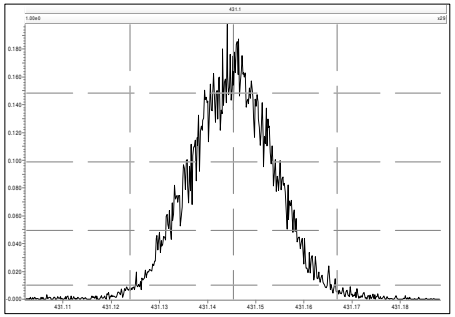
M 404.9760 R 11293



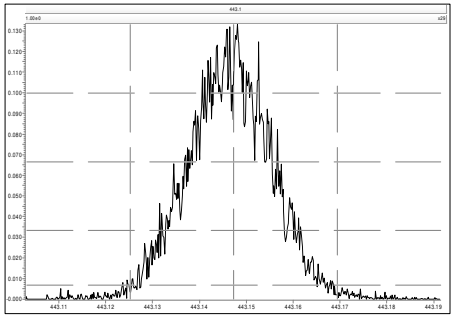
M 416.9760 R 12658



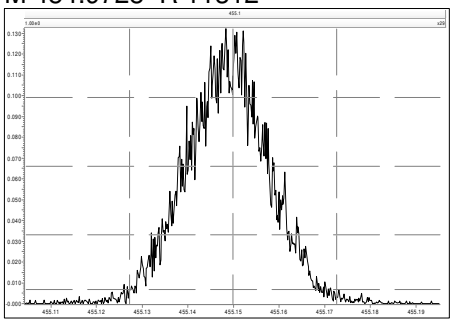
M 430.9728 R 10736



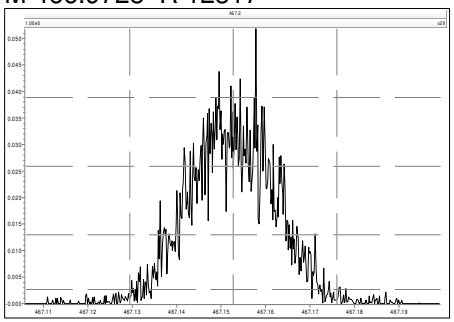
M 442.9728 R 11603



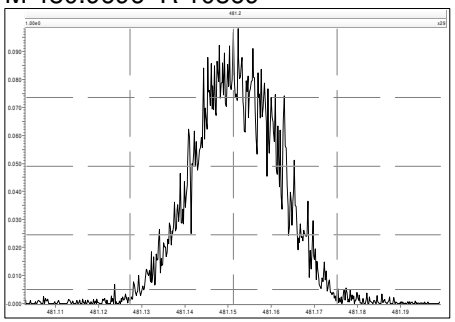
M 454.9728 R 11312



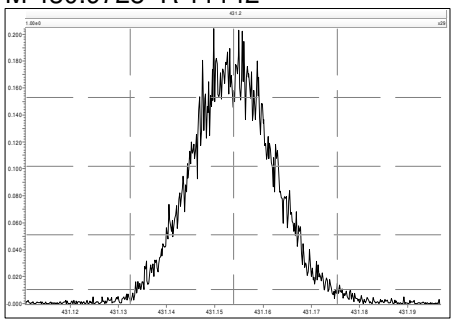
M 466.9728 R 12317



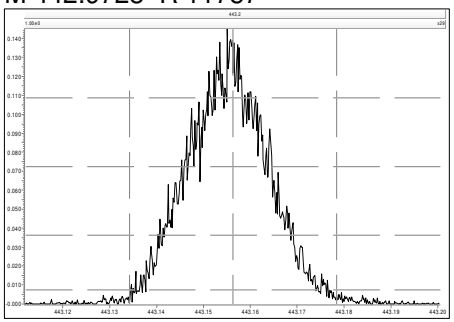
M 480.9696 R 10869



M 430.9728 R 11142



M 442.9728 R 11757



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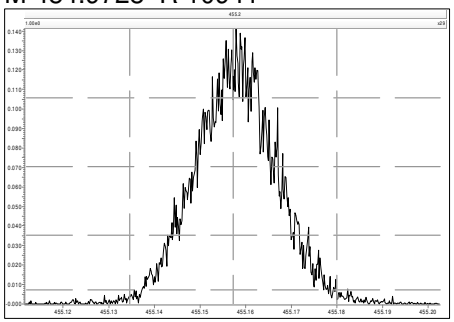

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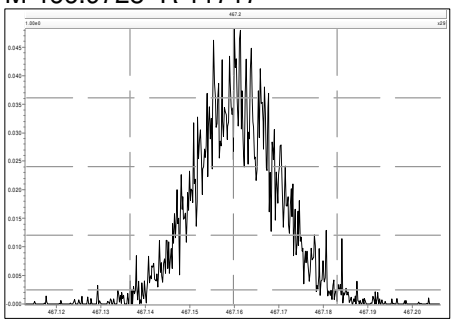

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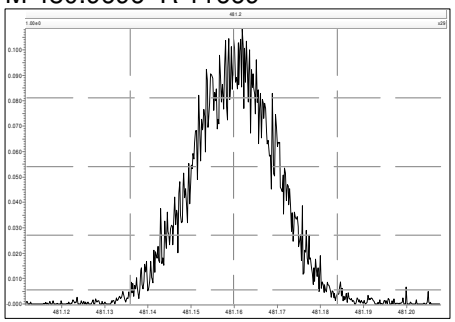

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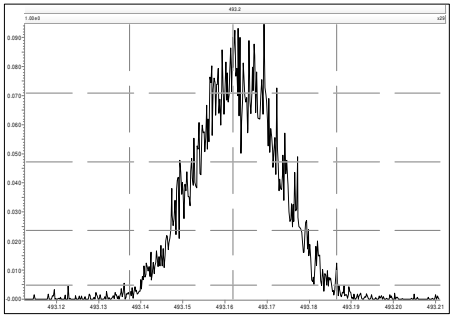

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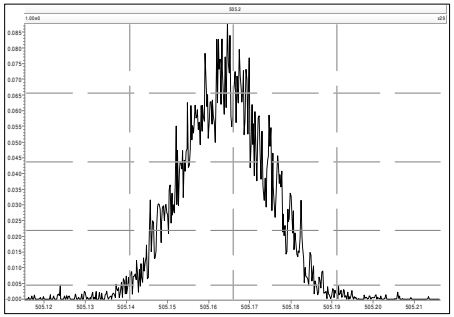

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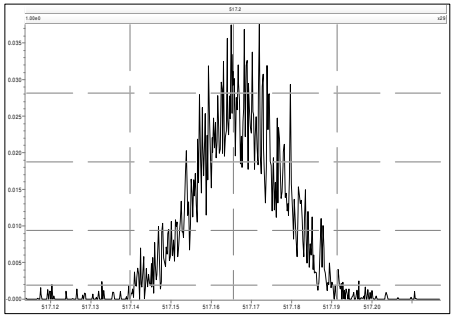

Printed: Tuesday, February 22, 2022 14:59:21 Eastern Standard Time

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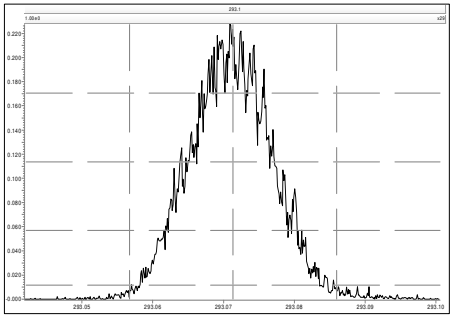

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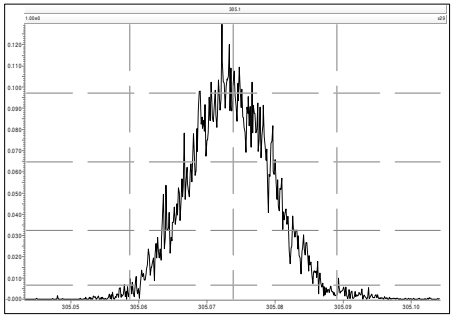

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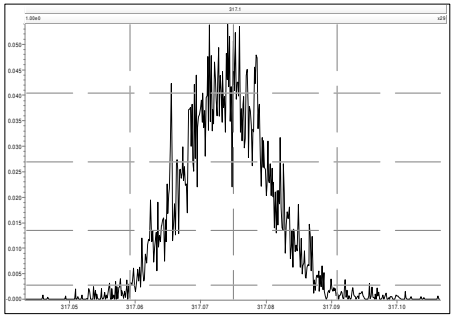

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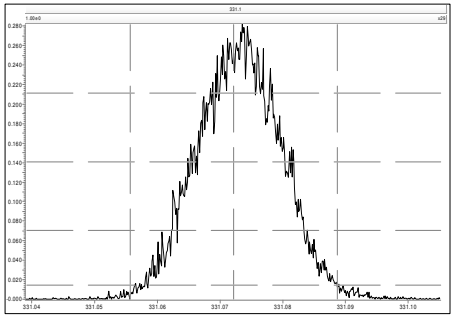

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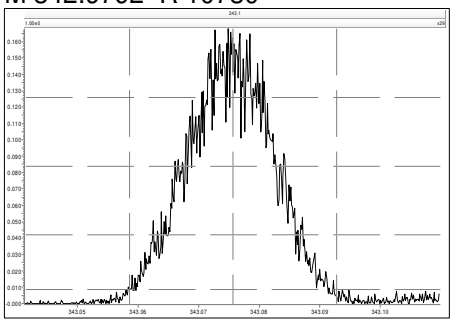

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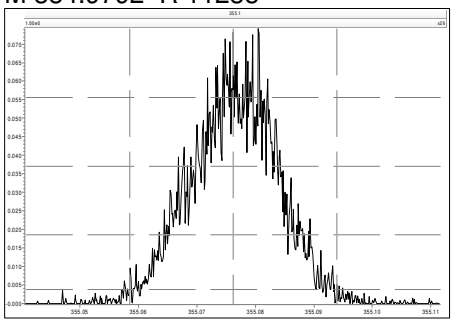

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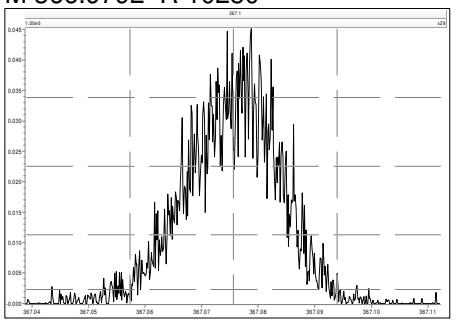

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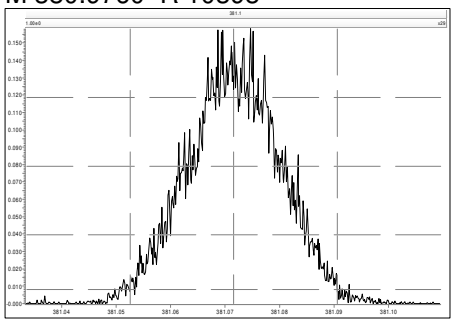

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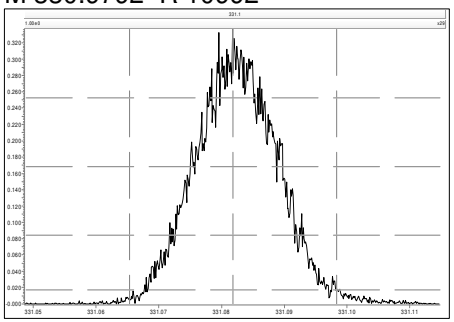

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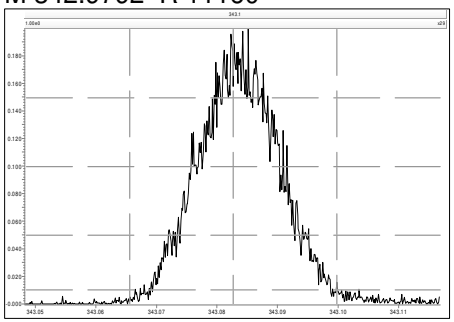

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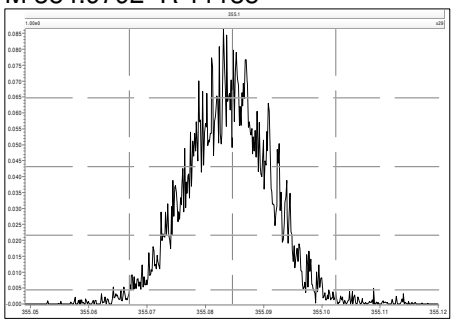

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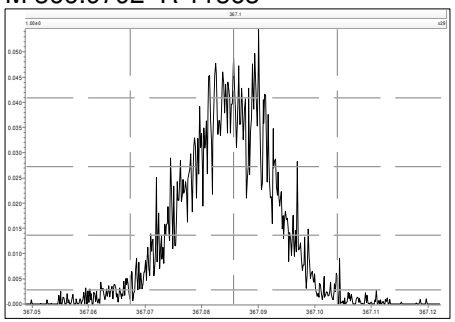

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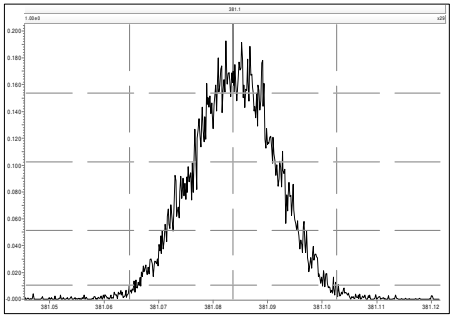

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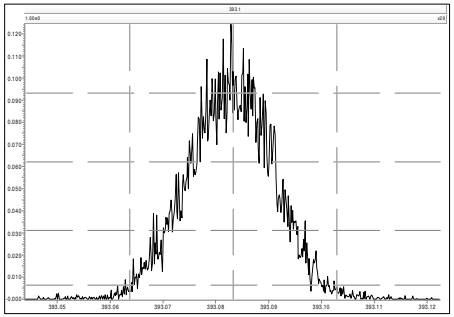

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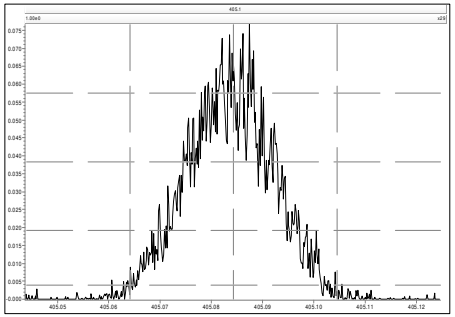

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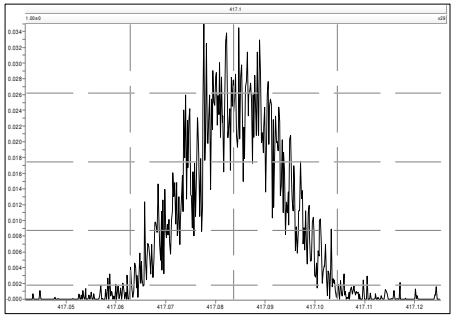

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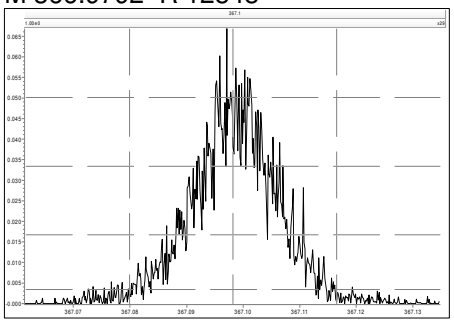

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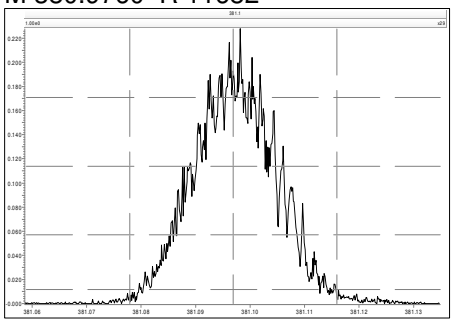

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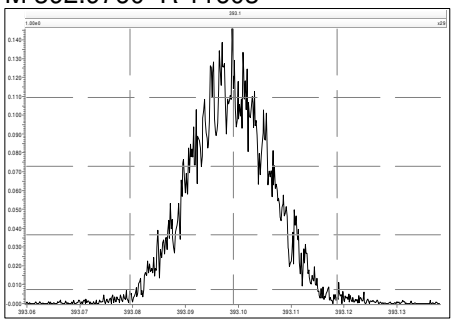

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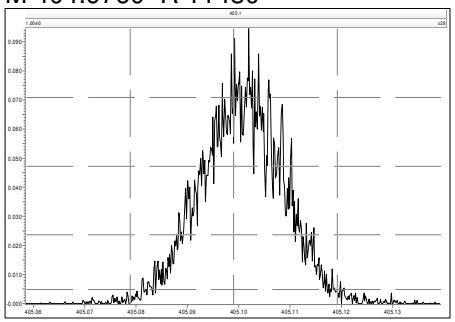

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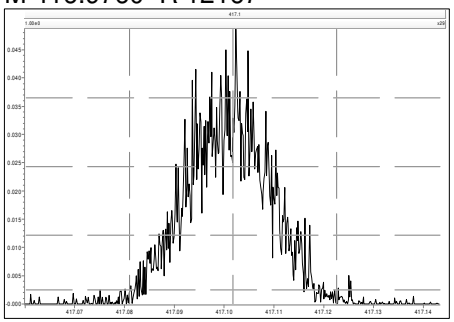

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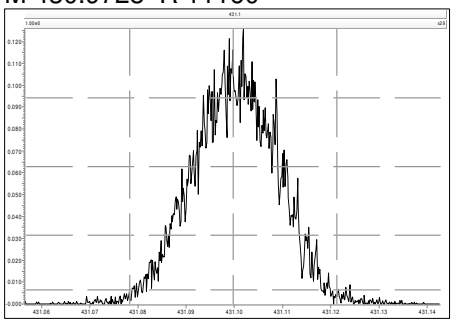

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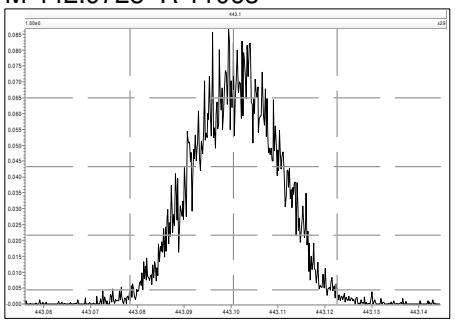

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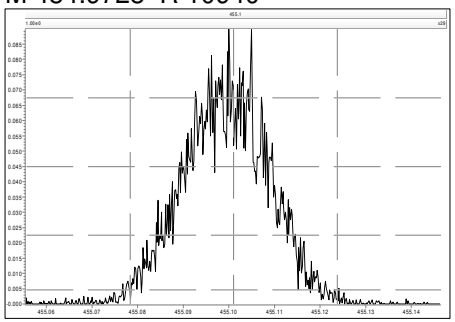

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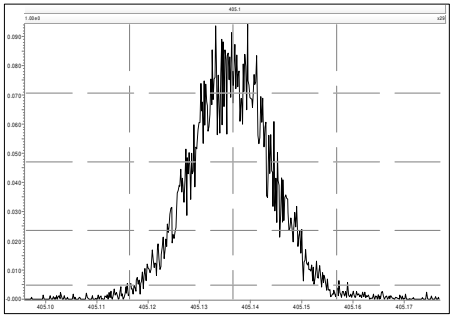

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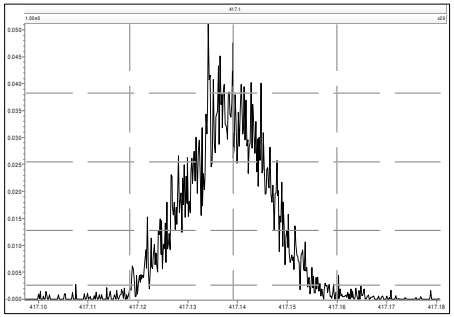

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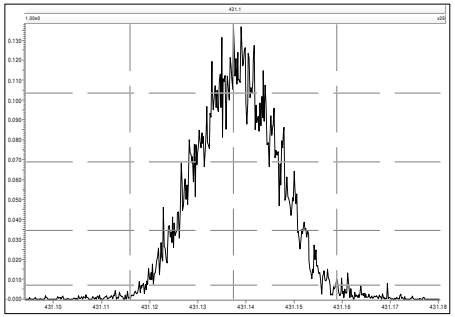

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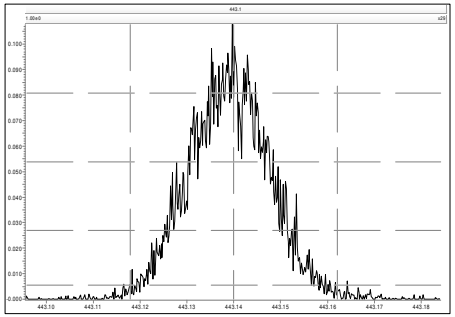
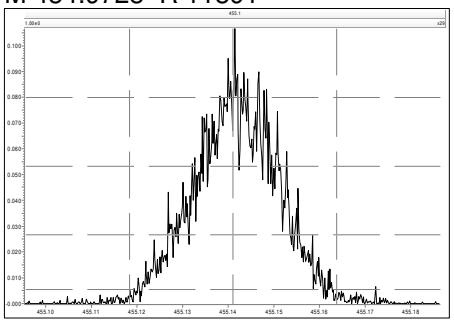


M 454.9728 R 11891



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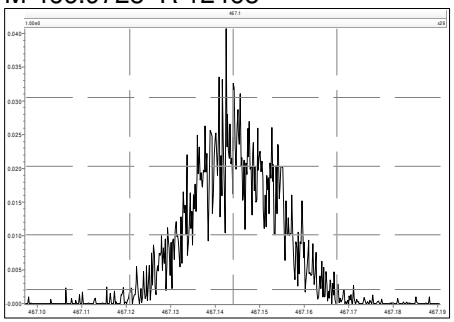

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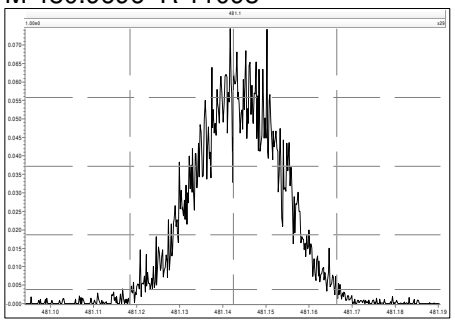

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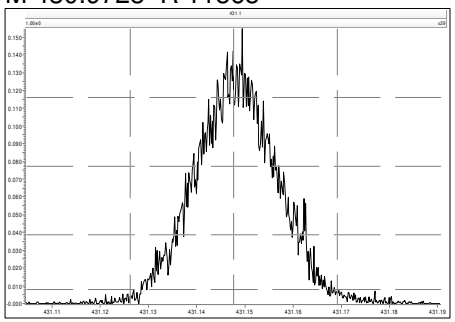

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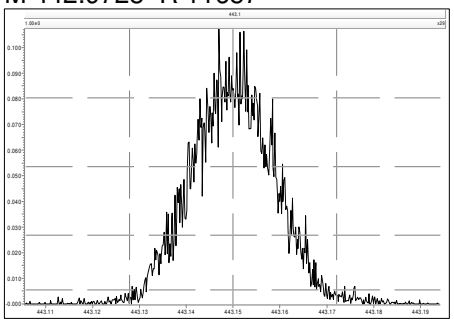

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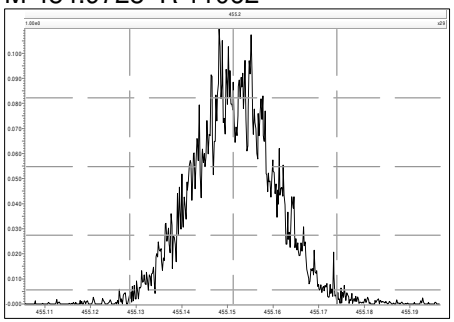
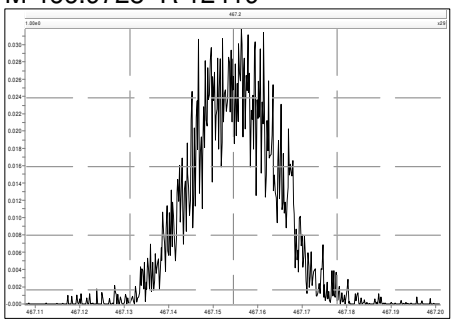


M 466.9728 R 12419



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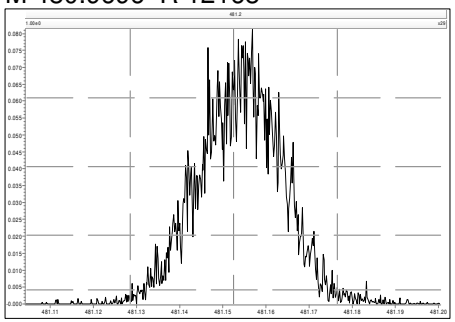

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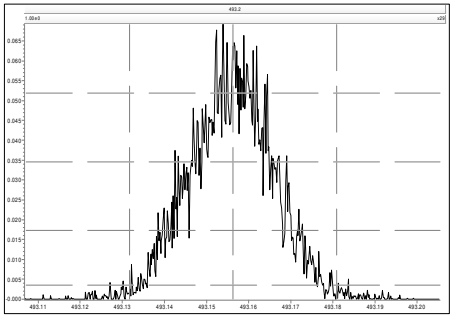
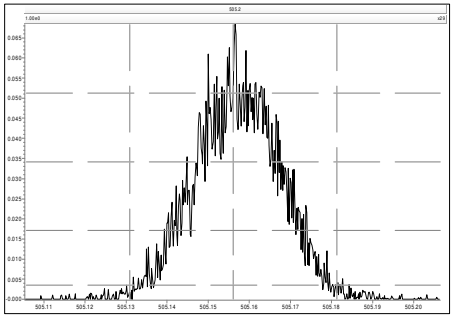


M 504.9696 R 11277



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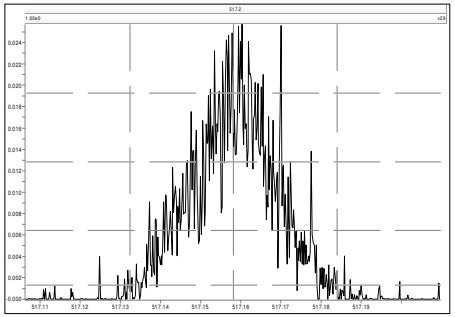


Dioxin/Furan ICAL Summary — SGS North America — Processed: 27 Jul 2021 15:01

ICAL: MM3_DF_10272021_27JUL2021
Data Acquired: 27-Jul-2021

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

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

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

ICAL: MM3_DF_10272021_27JUL2021
Data Acquired: 27-Jul-2021

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

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

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

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

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

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

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

Dioxin/Furan STD Association	SGS Environmental Services

Individual Native Standards

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

Cleanup/Sampling Standards

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

Alternate Standards

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

Shipping Standards

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

Extraction Standards

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

Injection Standards

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

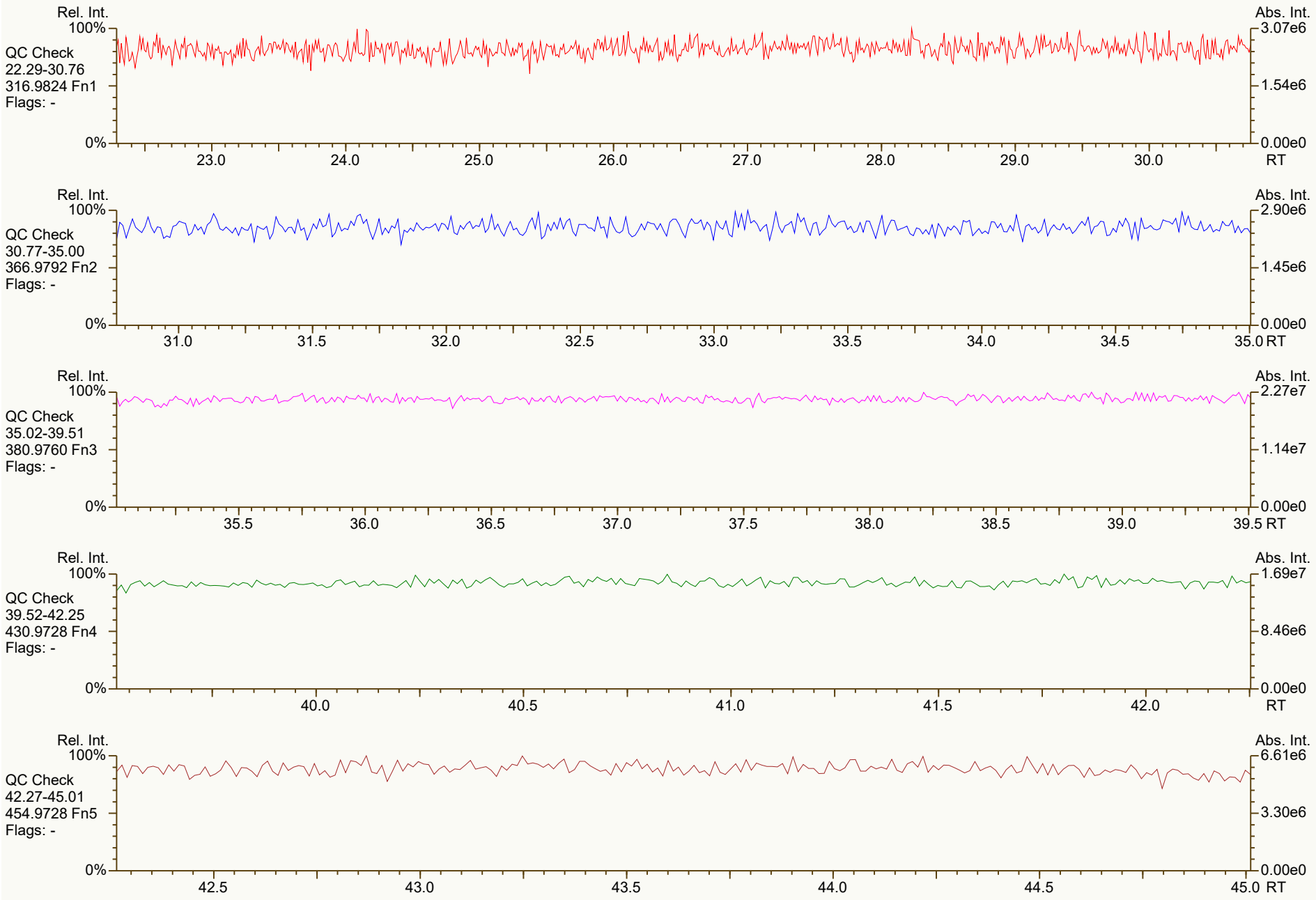
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 09:04 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS0_210727_DF_RA	UTP: 27-Jul-2021 15:00:19 PSW	Checkcode: 693-472-SFB
Sample ID: SIL 25-6-3	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R02

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

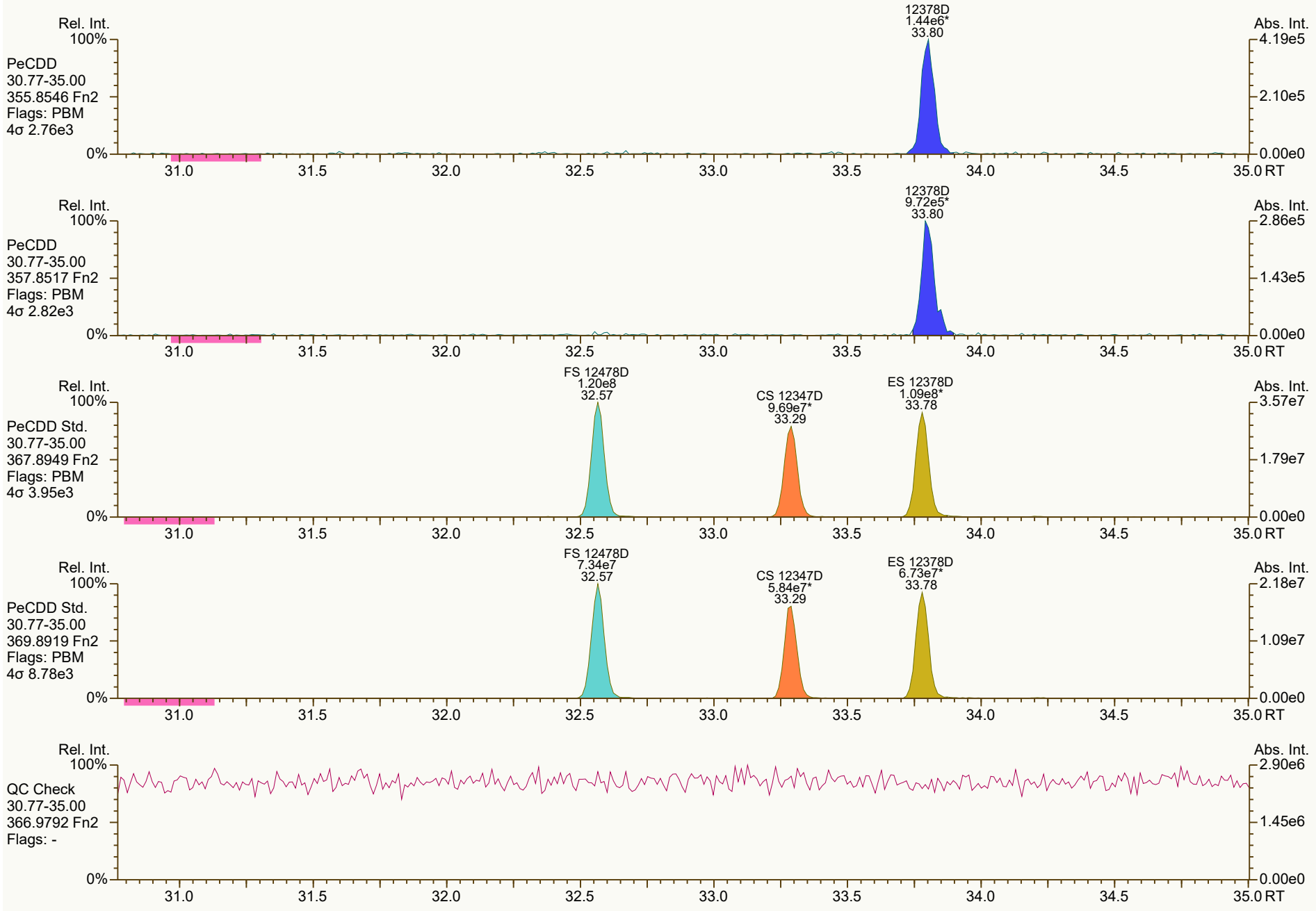
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 09:04 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS0_210727_DF_RA	UTP: 27-Jul-2021 15:00:19 PSW	Checkcode: 693-472-SFB
Sample ID: SIL 25-6-3	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R02

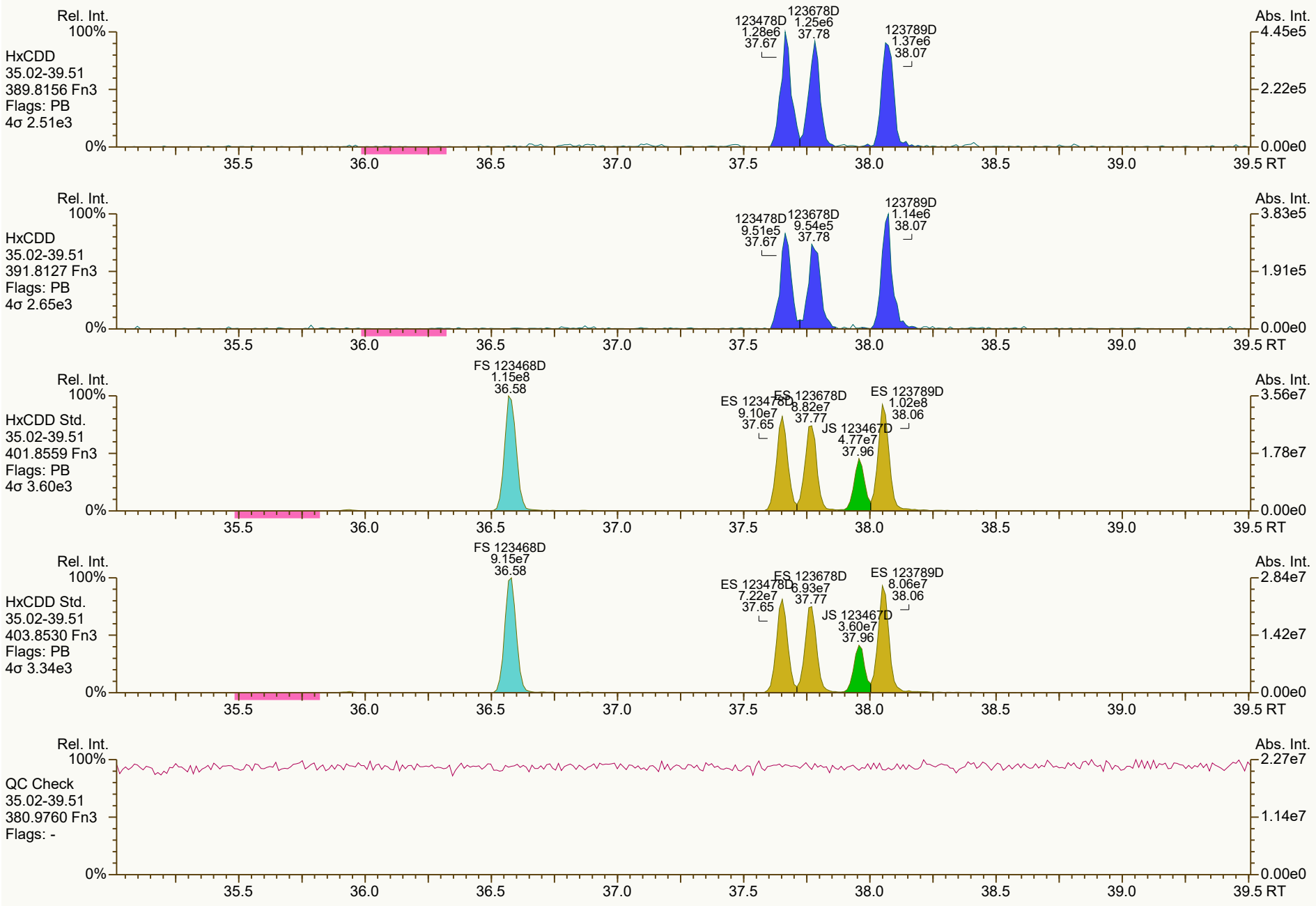
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.86	1.74E+08	0.80	Y	-	-	-
JS 1234-TCDF	26.33	2.80E+08	0.79	Y	-	-	-
JS 123467-HxCDD	37.96	8.38E+07	1.33	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.31		
CS 12347-PeCDD	33.29	1.55E+08	1.66	Y	0.89	0.89	0%
CS 12346-PeCDF	31.84	2.41E+08	1.54	Y	0.87	0.86	-1%
CS 123469-HxCDF	37.12	1.78E+08	0.52	Y	1.09	1.06	-2%
CS 1234689-HpCDF	40.13	1.44E+08	0.45	Y	0.86	0.86	-1%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.26		
SS 12347-PeCDD	33.29	1.55E+08	1.66	Y	0.86	0.88	2%
SS 12346-PeCDF	31.84	2.41E+08	1.54	Y	0.93	0.94	2%
SS 123469-HxCDF	37.12	1.78E+08	0.52	Y	0.84	0.86	2%
SS 1234689-HpCDF	40.13	1.44E+08	0.45	Y	0.91	0.96	5%
AS 1368-TCDD	24.91	1.76E+08	0.79	Y	1.02	1.01	-1%
AS 1368-TCDF	22.86	2.95E+08	0.78	Y	1.08	1.05	-2%
FS 1278-TCDD	28.82	1.91E+08	0.78	Y	1.08	1.08	0%
FS 12478-PeCDD	32.57	1.94E+08	1.64	Y	1.09	1.10	0%
FS 123468-HxCDD	36.58	2.07E+08	1.26	Y	1.26	1.27	0%
FS 1234679-HpCDD	39.99	2.24E+08	1.06	Y	1.36	1.41	4%
TS 1378-TCDD	26.87	2.41E+08	0.79	Y	1.35	1.36	1%
~~OCDD-a~~	~~43.22~~	~~1.80E+05~~	~~0.99~~	~~N~~	~~0.07~~	~~0.06~~	~~-11%~~
~~OCDF-a~~	~~43.41~~	~~1.98E+05~~	~~2.81~~	~~Y~~	~~0.06~~	~~0.05~~	~~-7%~~

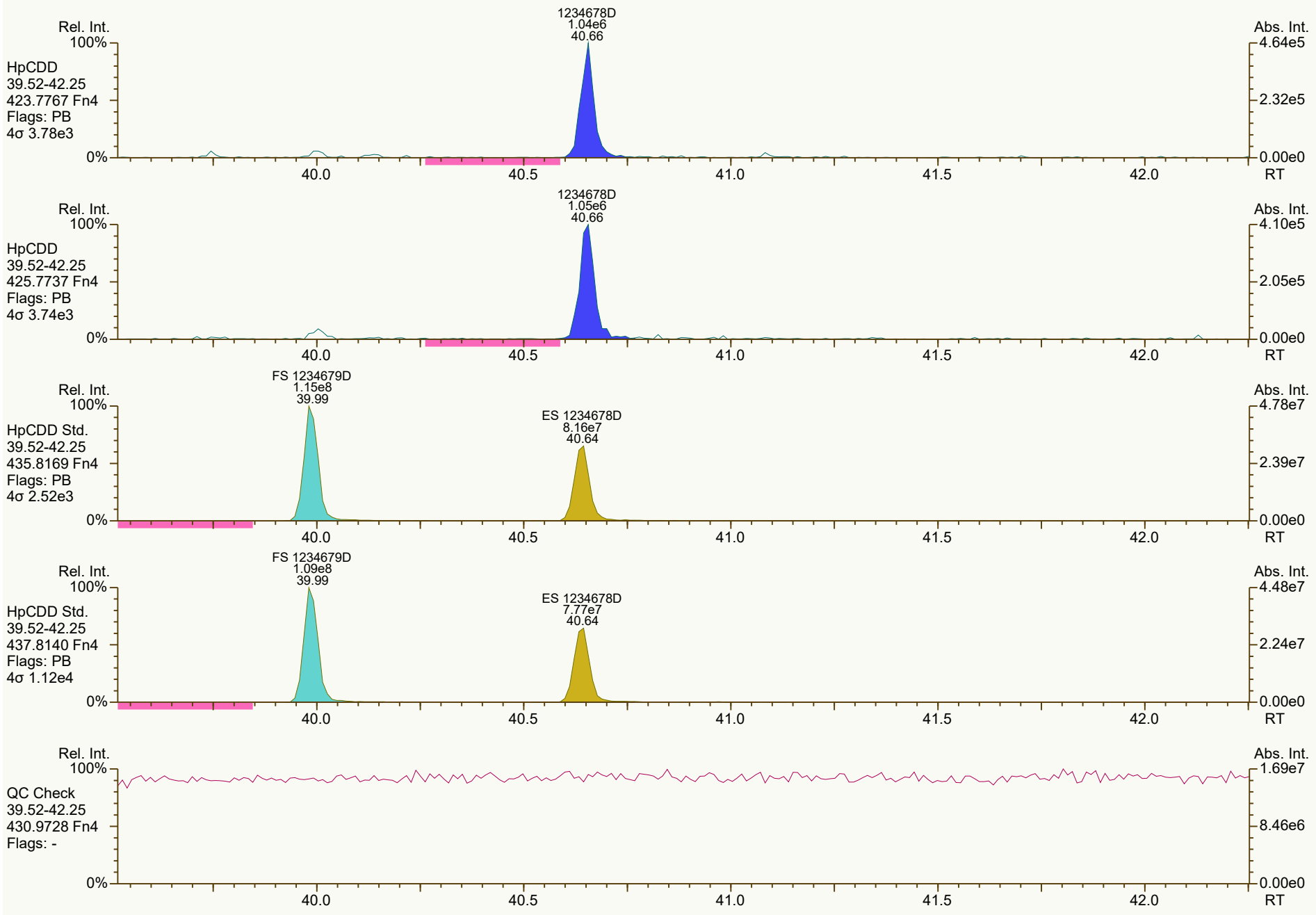
Not reported from this ICAL - CL 28Jul21


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


Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: PBM
4σ 2.21e3
0%
2378D
2.70e5*
28.52
Abs. Int.
6.87e4
3.43e4
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
TCDD
22.29-30.76
321.8936 Fn1
Flags: PBM
4σ 2.34e3
RRF(2378D) = (2.70e5 + 3.73e5) * 100pg / (7.81e7 + 9.89e7) * 0.25pg = 1.45
PSW 27-Jul-2021 15:08
OK
CL 28Jul21
2378D
3.73e5*
28.52
9.52e4
4.76e4
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: B
4σ 1.84e3
1.43e4
7.14e3
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 5.61e3
AS 1368D
7.76e7
24.91
TS 1378D
1.07e8
26.87
JS 1234D
7.74e7
27.86
ES 2378D
7.81e7
28.50
FS 1278D
8.37e7
28.82
2.55e7
1.28e7
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 4.86e3
RRF(TS 1378D) = (1.07e8 + 1.34e8) * 100pg / (7.81e7 + 9.89e7) * 100pg = 1.36
PSW 27-Jul-2021 15:11
OK - CL 28Jul21
AS 1368D
9.87e7
24.91
TS 1378D
1.34e8
26.87
JS 1234D
9.66e7
27.86
ES 2378D
9.89e7
28.50
FS 1278D
1.08e8
28.82
3.19e7
1.59e7


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PBM
4σ 2.76e3
0%
12378D
1.44e6*
33.80
Abs. Int.
4.19e5
2.10e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PBM
4σ 2.82e3
0%
12378D
9.72e5*
33.80
Abs. Int.
2.86e5
1.43e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PBM
4σ 3.95e3
0%
FS 12478D
1.20e8
32.57
CS 12347D
9.69e7*
33.29
ES 12378D
1.09e8*
33.78
Abs. Int.
3.57e7
1.79e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PBM
4σ 8.78e3
0%
FS 12478D
7.34e7
32.57
CS 12347D
5.84e7*
33.29
ES 12378D
6.73e7*
33.78
Abs. Int.
2.18e7
1.09e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.90e6
1.45e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


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

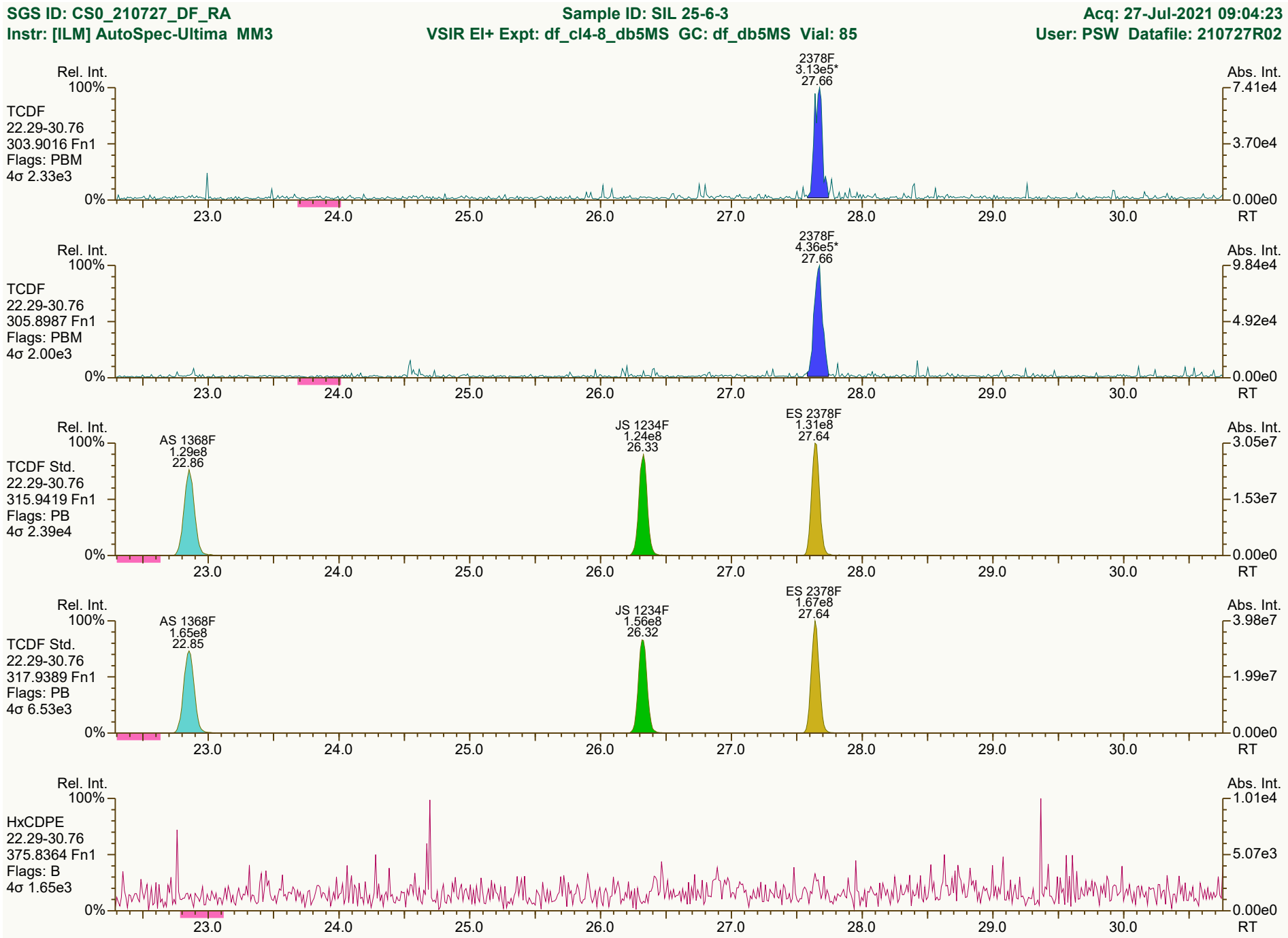

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 3.78e3
1234678D
1.04e6
40.66
Abs. Int.
4.64e5
2.32e5
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 3.74e3
1234678D
1.05e6
40.66
Abs. Int.
4.10e5
2.05e5
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 2.52e3
FS 1234679D
1.15e8
39.99
ES 1234678D
8.16e7
40.64
Abs. Int.
4.78e7
2.39e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 1.12e4
FS 1234679D
1.09e8
39.99
ES 1234678D
7.77e7
40.64
Abs. Int.
4.48e7
2.24e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
Abs. Int.
1.69e7
8.46e6
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT


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

SGS ID: CS0_210727_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

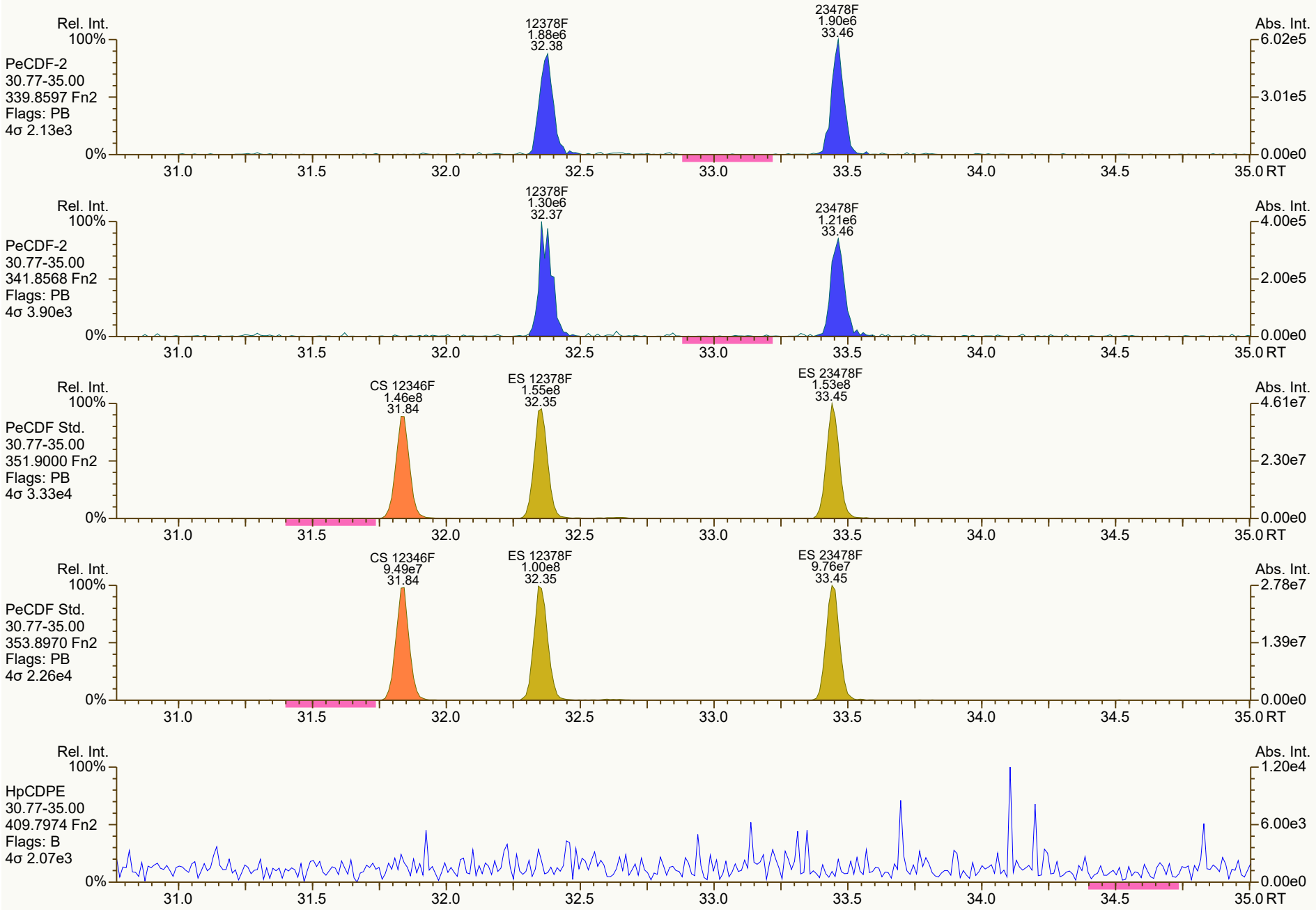
Sample ID: SIL 25-6-3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85

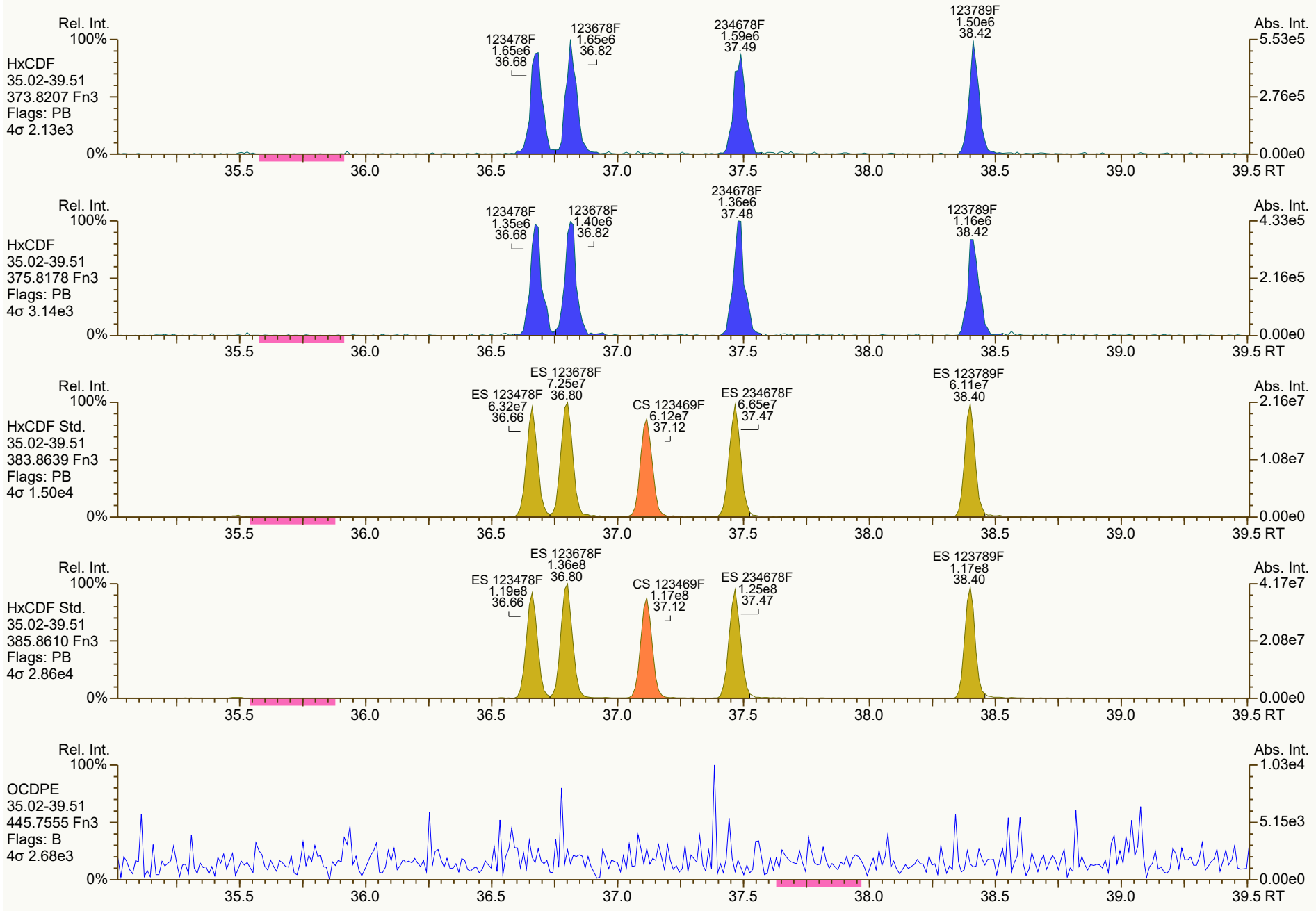
Acq: 27-Jul-2021 09:04:23
User: PSW Datafile: 210727R02



Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 3692, 2809, 0990 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
4.15e4
2.08e4
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 2.62e3
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 1.94e3
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
2.30e4
1.15e4
3.07e6
1.54e6

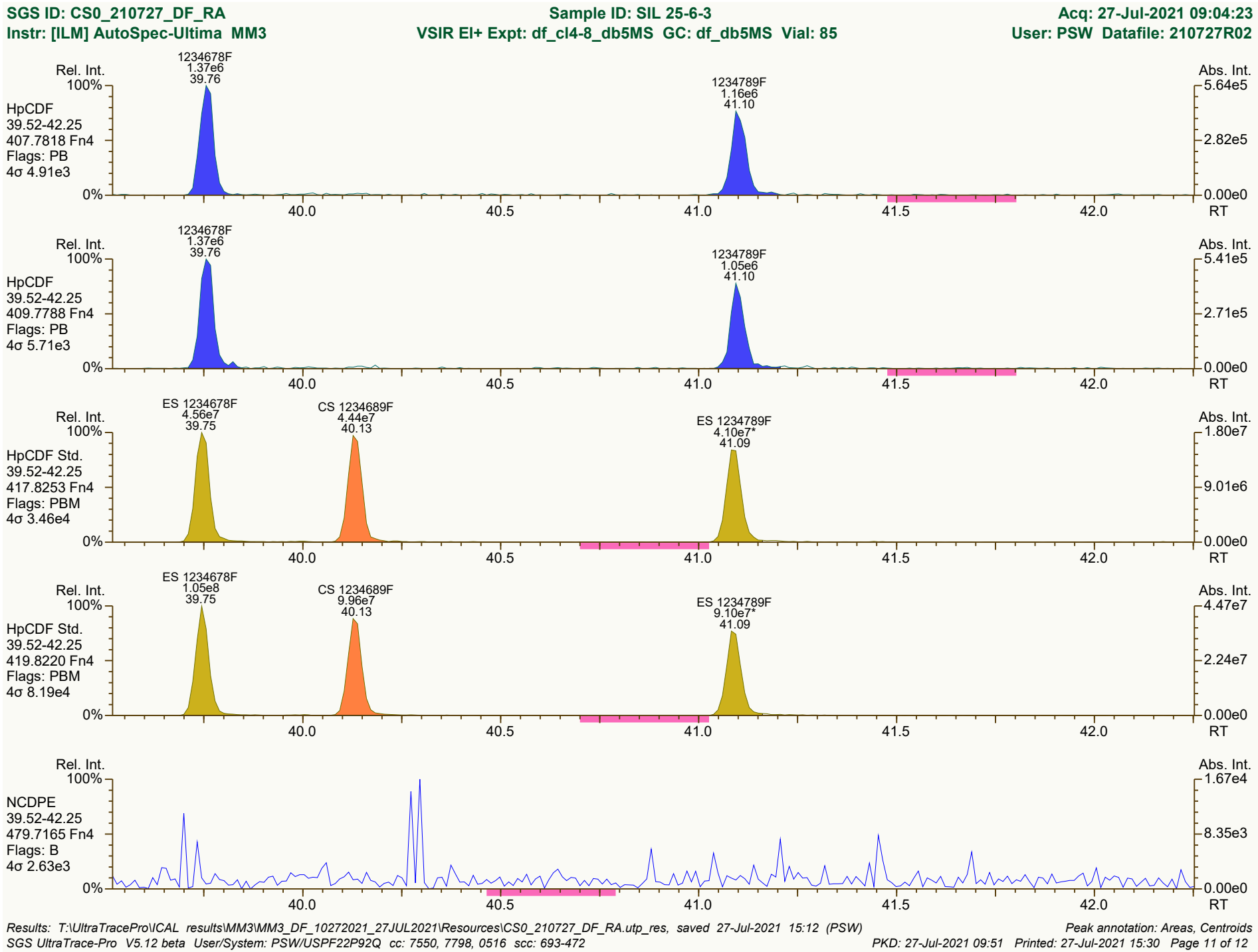

Rel. Int.
100%
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 2.13e3
0%
12378F
1.88e6
32.38
23478F
1.90e6
33.46
Abs. Int.
6.02e5
3.01e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 3.90e3
0%
12378F
1.30e6
32.37
23478F
1.21e6
33.46
Abs. Int.
4.00e5
2.00e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PB
4σ 3.33e4
0%
CS 12346F
1.46e8
31.84
ES 12378F
1.55e8
32.35
ES 23478F
1.53e8
33.45
Abs. Int.
4.61e7
2.30e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PB
4σ 2.26e4
0%
CS 12346F
9.49e7
31.84
ES 12378F
1.00e8
32.35
ES 23478F
9.76e7
33.45
Abs. Int.
2.78e7
1.39e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.07e3
0%
Abs. Int.
1.20e4
6.00e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PB
4σ 2.13e3
0%
123478F 1.65e6 36.68
123678F 1.65e6 36.82
234678F 1.59e6 37.49
123789F 1.50e6 38.42
Abs. Int.
5.53e5
2.76e5
0.00e0
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PB
4σ 3.14e3
0%
123478F 1.35e6 36.68
123678F 1.40e6 36.82
234678F 1.36e6 37.48
123789F 1.16e6 38.42
Abs. Int.
4.33e5
2.16e5
0.00e0
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 1.50e4
0%
ES 123478F 6.32e7 36.66
ES 123678F 7.25e7 36.80
CS 123469F 6.12e7 37.12
ES 234678F 6.65e7 37.47
ES 123789F 6.11e7 38.40
Abs. Int.
2.16e7
1.08e7
0.00e0
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 2.86e4
0%
ES 123478F 1.19e8 36.66
ES 123678F 1.36e8 36.80
CS 123469F 1.17e8 37.12
ES 234678F 1.25e8 37.47
ES 123789F 1.17e8 38.40
Abs. Int.
4.17e7
2.08e7
0.00e0
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.68e3
0%
Abs. Int.
1.03e4
5.15e3
0.00e0
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT

SGS ID: CS0_210727_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: SIL 25-6-3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85

Acq: 27-Jul-2021 09:04:23
User: PSW Datafile: 210727R02

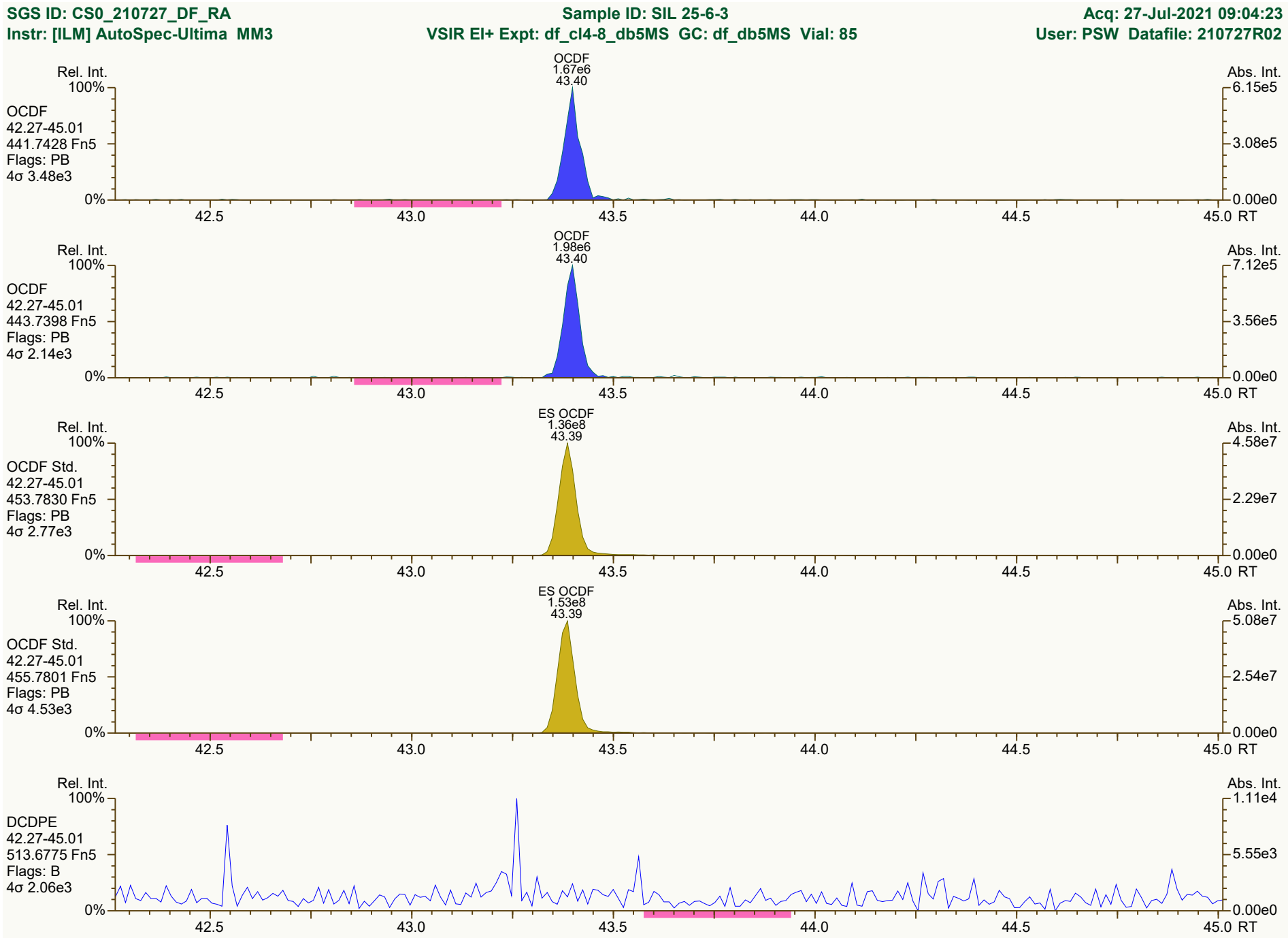


Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 7550, 7798, 0516 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 11 of 12

SGS ID: CS0_210727_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: SIL 25-6-3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85

Acq: 27-Jul-2021 09:04:23
User: PSW Datafile: 210727R02



Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 2212, 1649, 1411 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 12 of 12

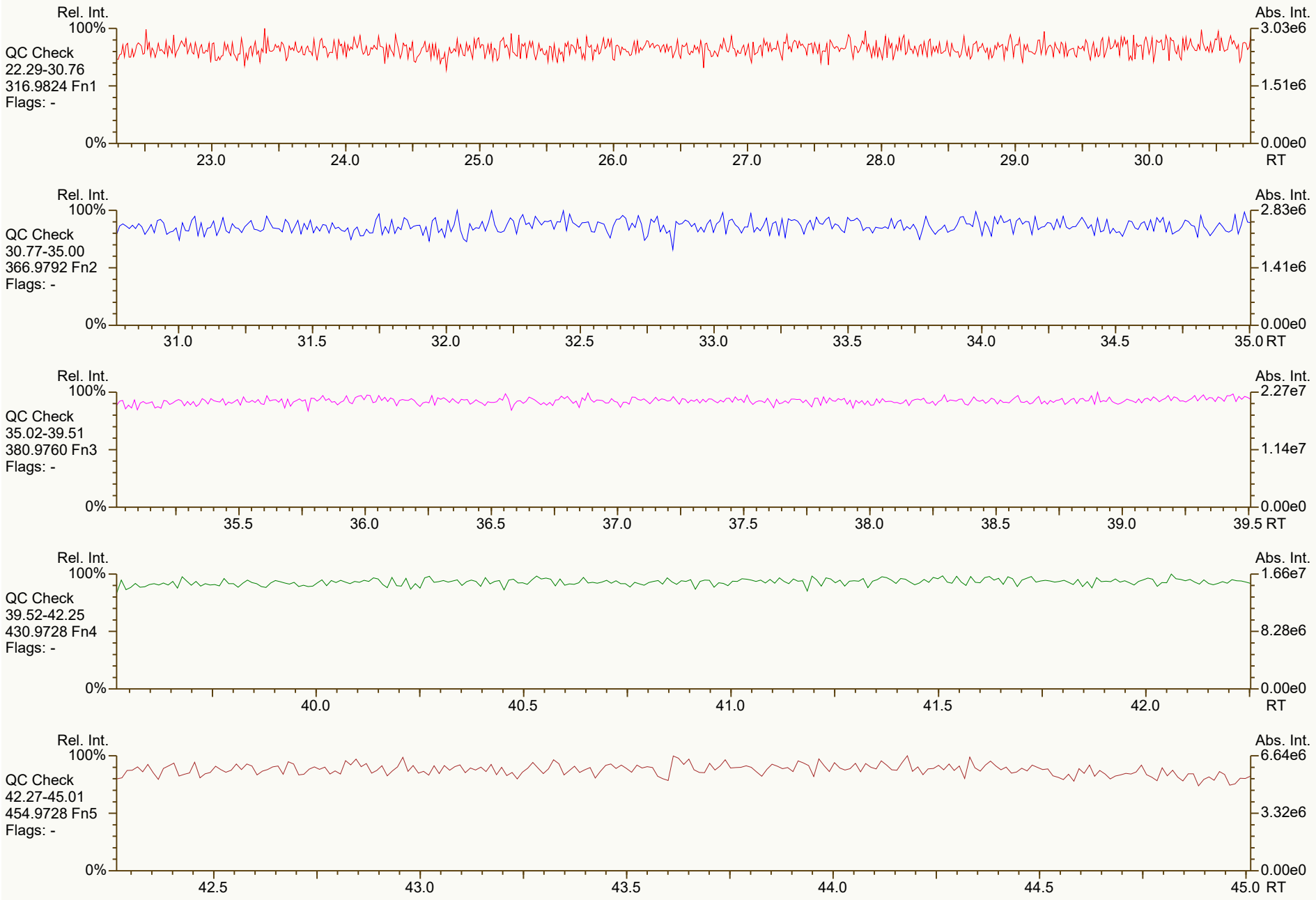
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 09:54 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS1_210727_DF_RA	UTP: 27-Jul-2021 15:00:19 PSW	Checkcode: 554-132-FHC
Sample ID: SIL 25-6-2	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R03

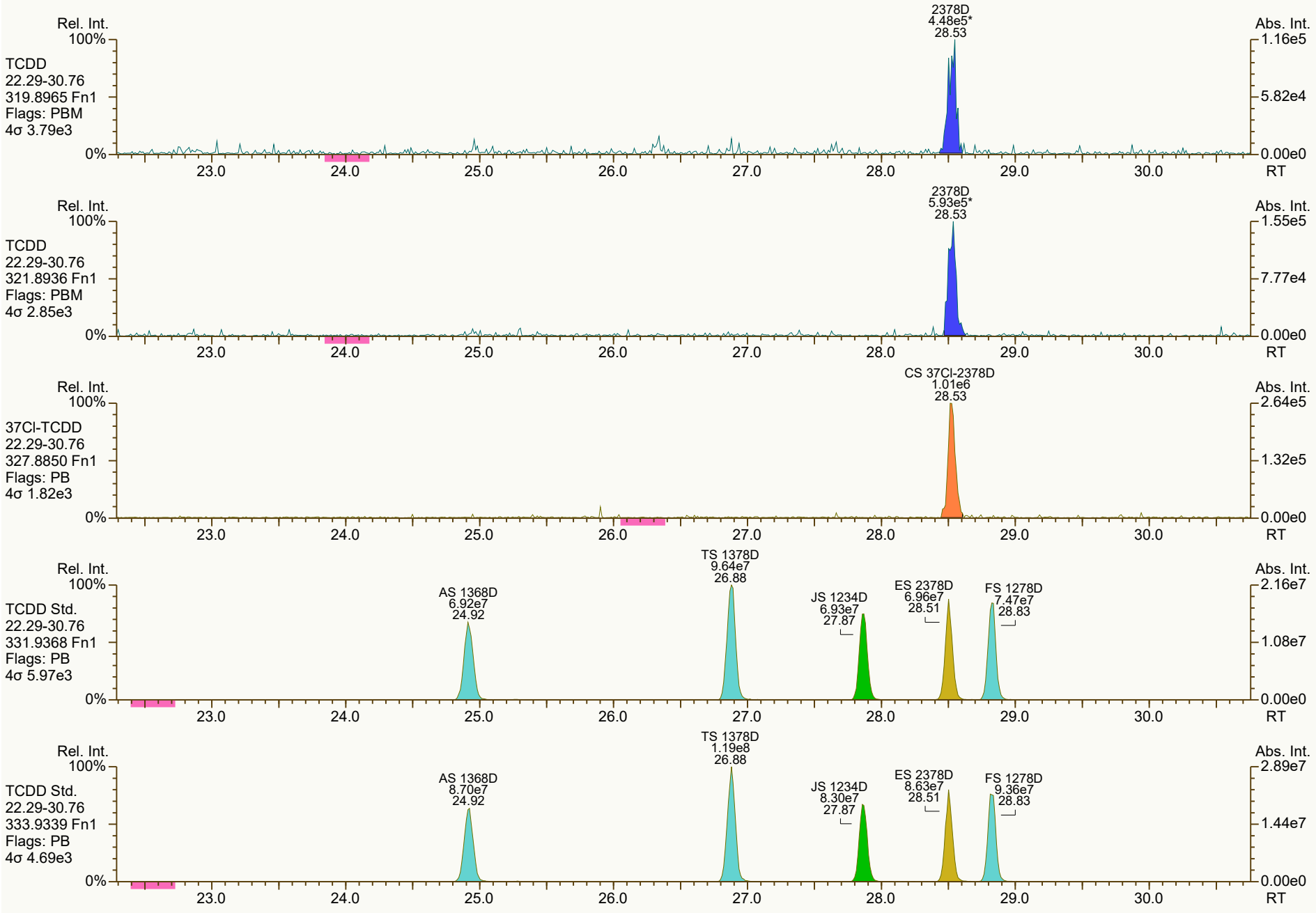
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	1.04E+06	0.76	Y	1.34	1.34	-1%
12378-PeCDD	33.81	4.16E+06	1.48	Y	1.06	1.07	1%
123478-HxCDD	37.68	3.92E+06	1.22	Y	1.06	1.10	4%
123678-HxCDD	37.79	3.74E+06	1.22	Y	1.08	1.07	-1%
123789-HxCDD	38.08	4.22E+06	1.33	Y	1.02	1.05	4%
1234678-HpCDD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

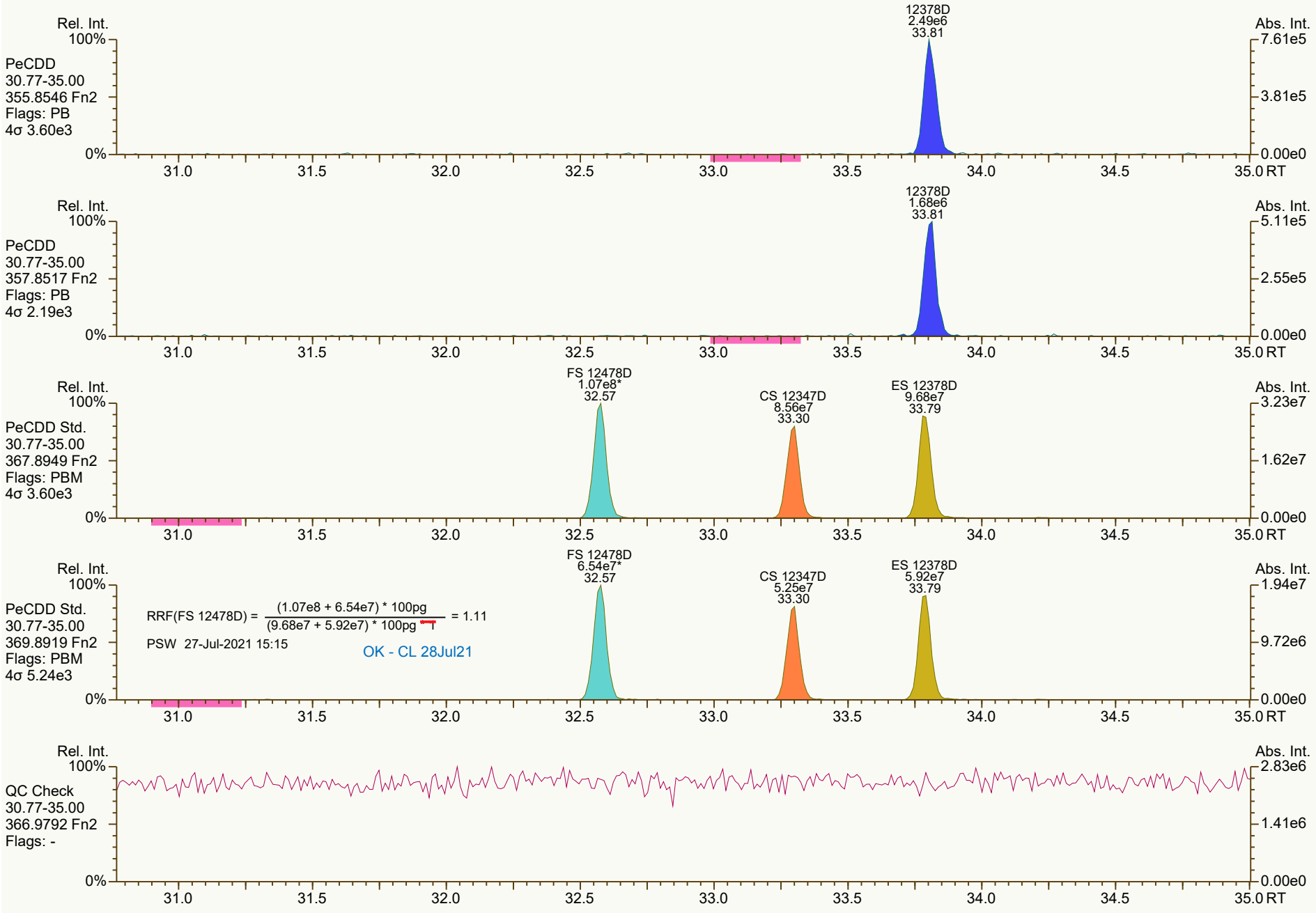
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 09:54 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS1_210727_DF_RA	UTP: 27-Jul-2021 15:00:19 PSW	Checkcode: 554-132-FHC
Sample ID: SIL 25-6-2	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R03

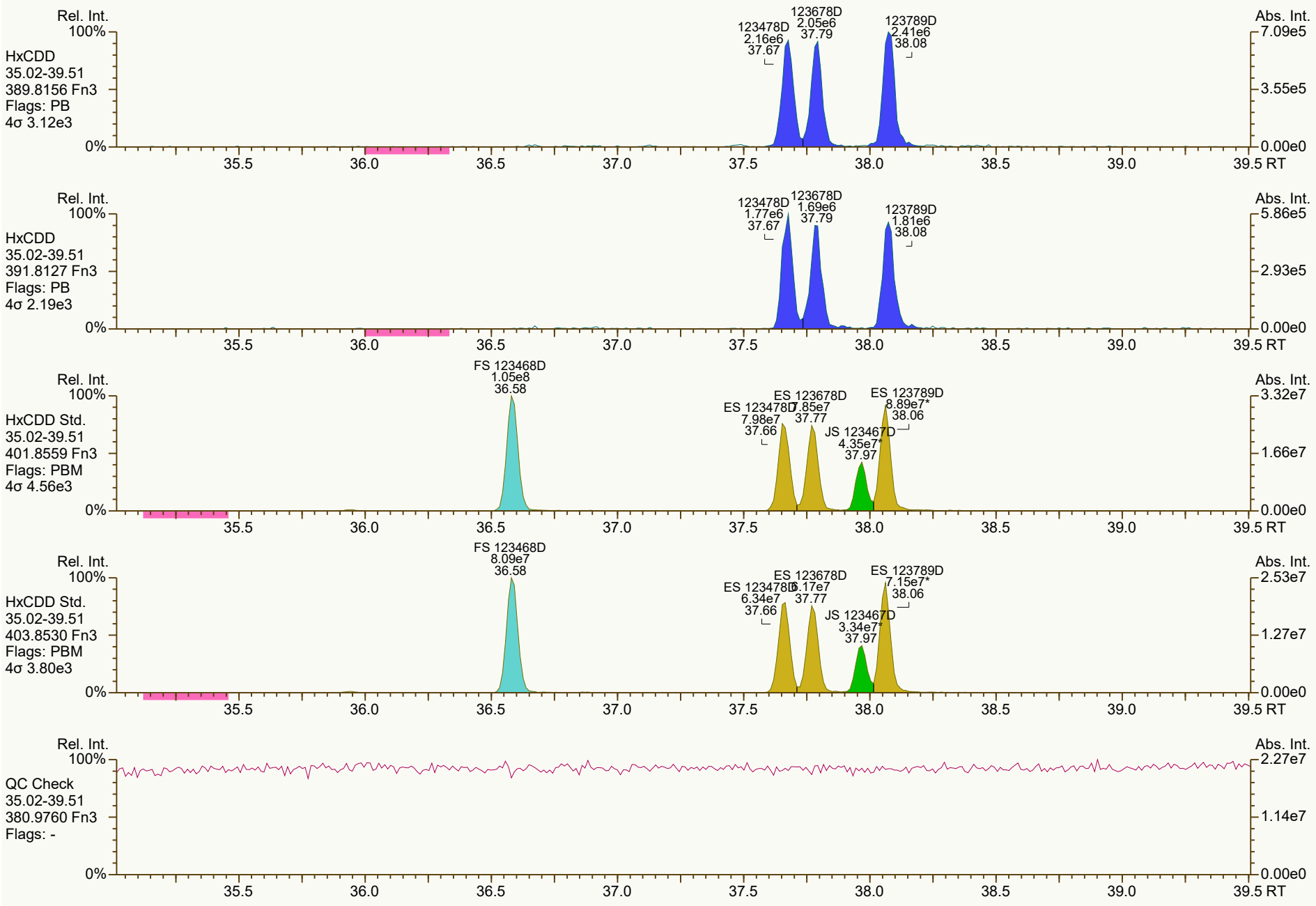
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.87	1.52E+08	0.83	Y	-	-	-
JS 1234-TCDF	26.33	2.45E+08	0.77	Y	-	-	-
JS 123467-HxCDD	37.97	7.69E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	1.01E+06	n/a	-	1.31	1.32	1%
CS 12347-PeCDD	33.30	1.38E+08	1.63	Y	0.89	0.91	2%
CS 12346-PeCDF	31.85	2.15E+08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

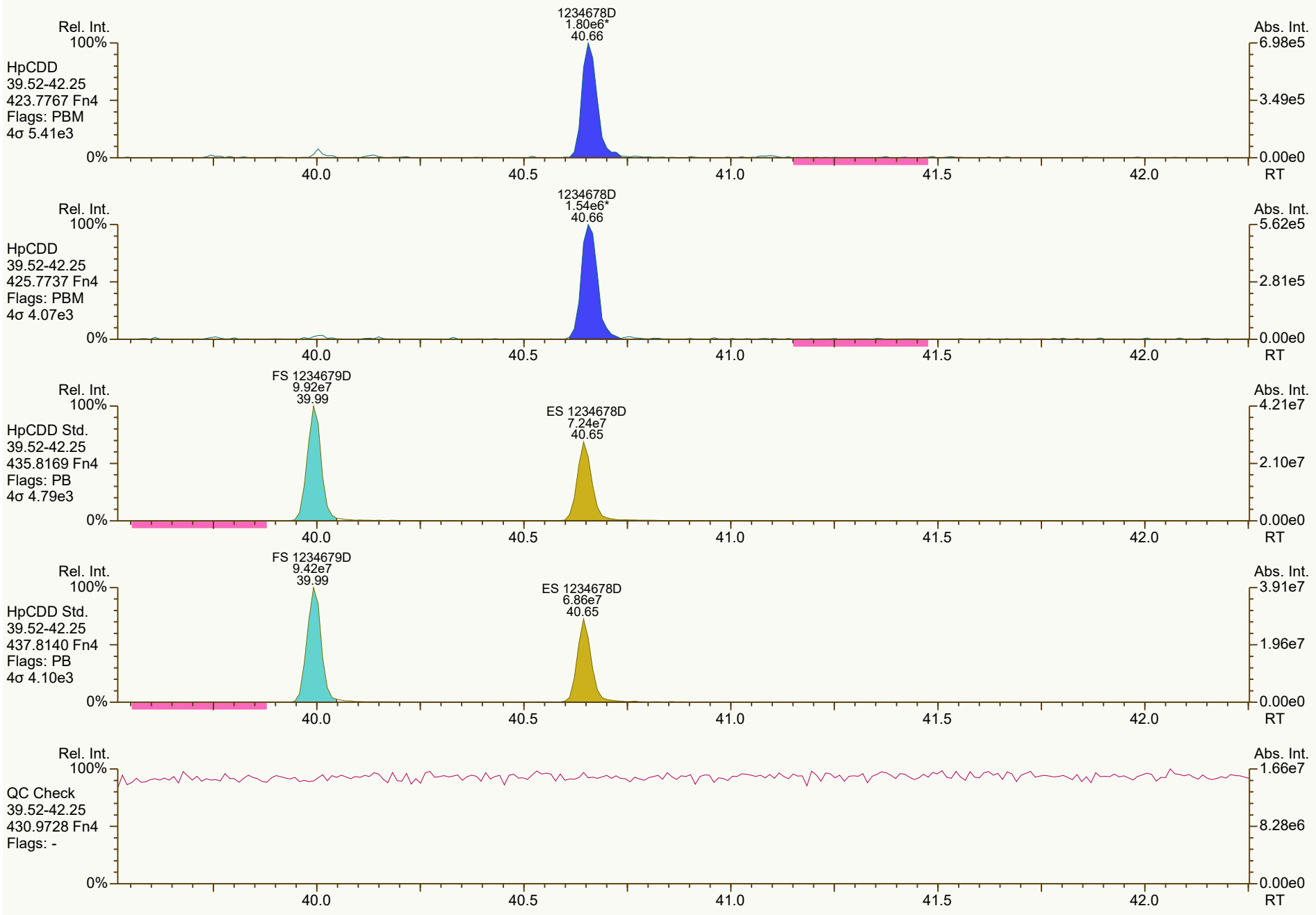
Not reported from this ICAL - CL 28Jul21


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


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


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 3.60e3
0%
12378D
2.49e6
33.81
Abs. Int.
7.61e5
3.81e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.19e3
0%
12378D
1.68e6
33.81
Abs. Int.
5.11e5
2.55e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PBM
4σ 3.60e3
0%
FS 12478D
1.07e8*
32.57
CS 12347D
8.56e7
33.30
ES 12378D
9.68e7
33.79
Abs. Int.
3.23e7
1.62e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PBM
4σ 5.24e3
0%
RRF(FS 12478D) = (1.07e8 + 6.54e7) * 100pg / (9.68e7 + 5.92e7) * 100pg = 1.11
PSW 27-Jul-2021 15:15
OK - CL 28Jul21
FS 12478D
6.54e7*
32.57
CS 12347D
5.25e7
33.30
ES 12378D
5.92e7
33.79
Abs. Int.
1.94e7
9.72e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.83e6
1.41e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

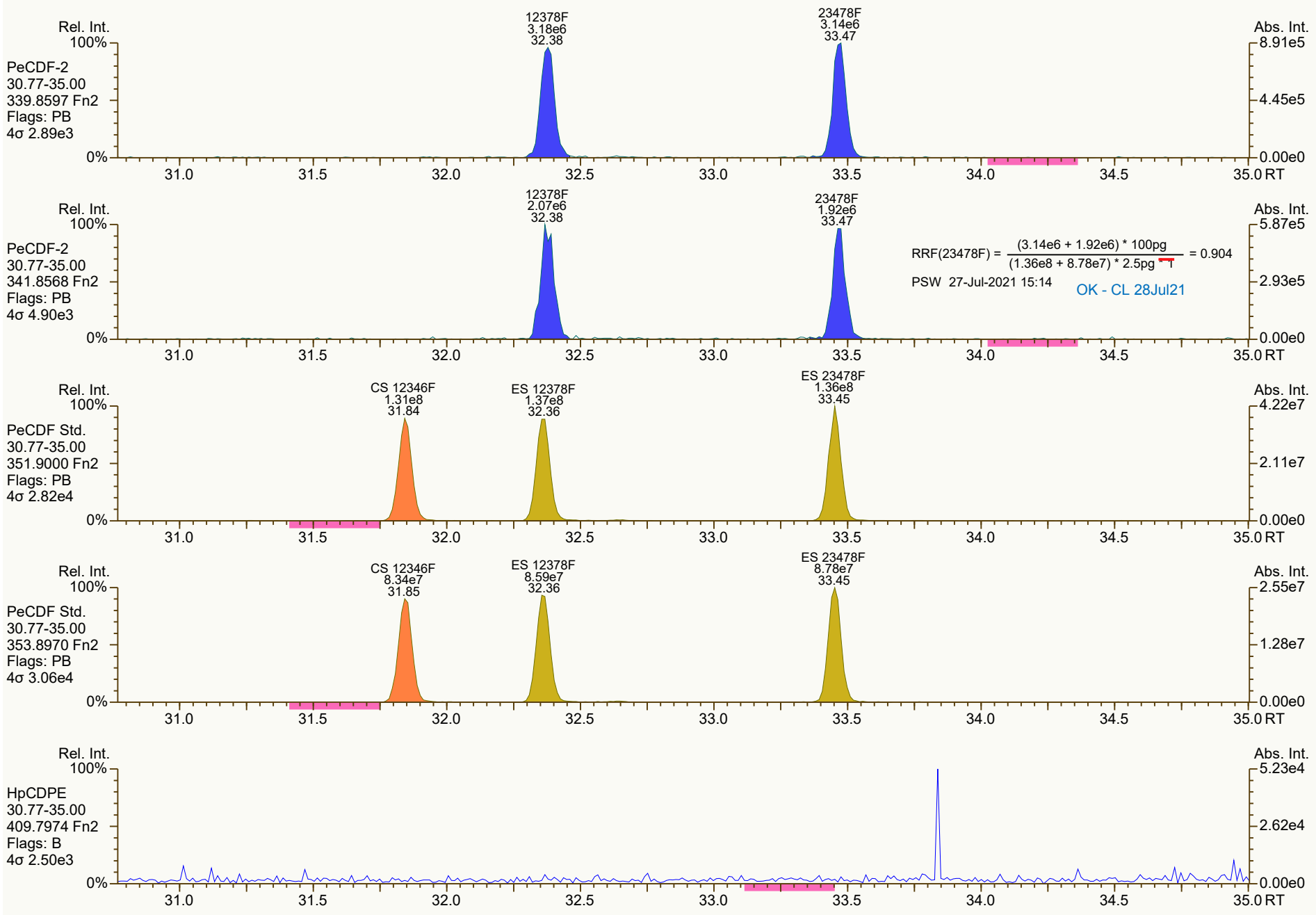

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 3.12e3
123478D
2.16e6
37.67
123678D
2.05e6
37.79
123789D
2.41e6
38.08
Abs. Int.
7.09e5
3.55e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.19e3
123478D
1.77e6
37.67
123678D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


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


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


Rel. Int.
100%
TCDF
22.29-30.76
303.9016 Fn1
Flags: PBM
4σ 2.05e3
0%
2378F
5.24e5*
27.67
Abs. Int.
1.26e5
6.32e4
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
Rel. Int.
100%
TCDF
22.29-30.76
305.8987 Fn1
Flags: PBM
4σ 2.29e3
0%
2378F
7.27e5*
27.67
Abs. Int.
1.69e5
8.46e4
0.00e0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.48e4
0%
AS 1368F
1.12e8
22.86
JS 1234F
1.07e8
26.33
ES 2378F
1.15e8
27.65
Abs. Int.
2.79e7
1.39e7
0.00e0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
1.47e8
22.86
JS 1234F
1.39e8
26.33
ES 2378F
1.50e8
27.65
Abs. Int.
3.54e7
1.77e7
0.00e0
RT
Rel. Int.
100%
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.16e3
4.58e3
0.00e0
RT

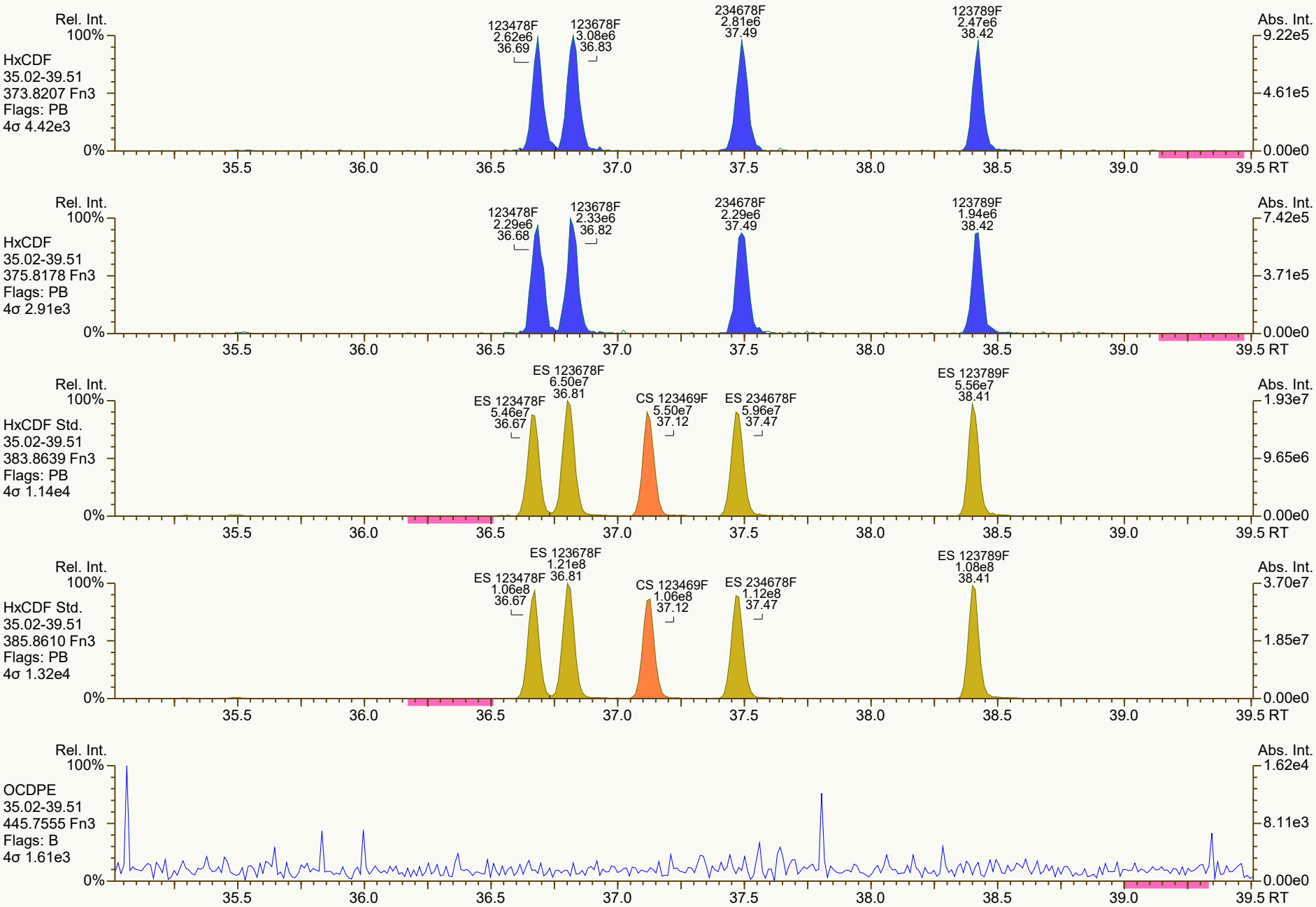

Rel. Int.
100%
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 2.43e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.13e4
5.66e3
0.00e0
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 2.60e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.03e6
1.51e6
0.00e0
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 2.89e3
12378F
3.18e6
32.38
23478F
3.14e6
33.47
Abs. Int.
8.91e5
4.45e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 4.90e3
12378F
2.07e6
32.38
23478F
1.92e6
33.47
RRF(23478F) = (3.14e6 + 1.92e6) * 100pg / (1.36e8 + 8.78e7) * 2.5pg * T = 0.904
PSW 27-Jul-2021 15:14
OK - CL 28Jul21
Abs. Int.
5.87e5
2.93e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PB
4σ 2.82e4
CS 12346F
1.31e8
31.84
ES 12378F
1.37e8
32.36
ES 23478F
1.36e8
33.45
Abs. Int.
4.22e7
2.11e7
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PB
4σ 3.06e4
CS 12346F
8.34e7
31.85
ES 12378F
8.59e7
32.36
ES 23478F
8.78e7
33.45
Abs. Int.
2.55e7
1.28e7
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.50e3
Abs. Int.
5.23e4
2.62e4
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

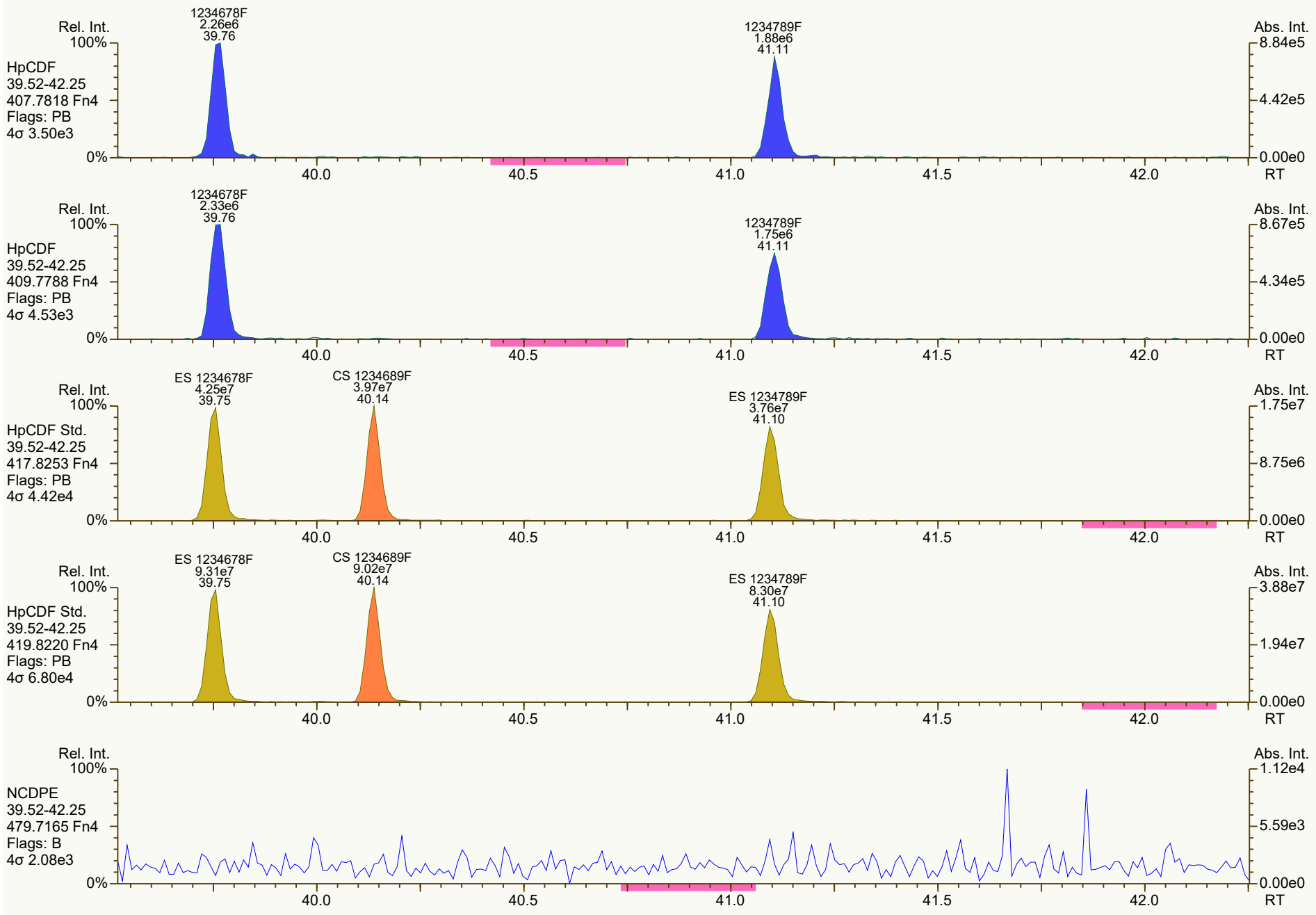
SGS ID: CS1_210727_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

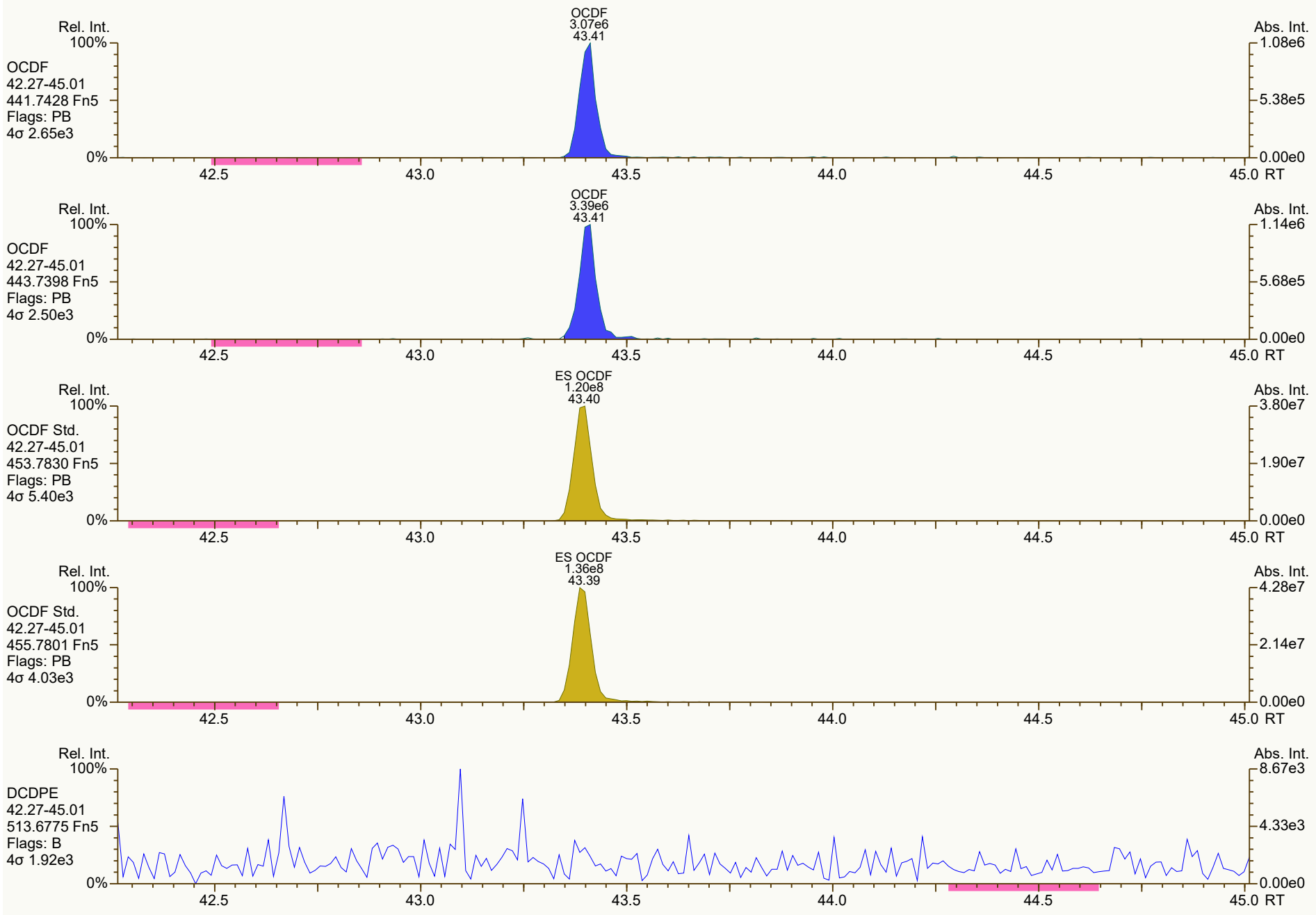
Sample ID: SIL 25-6-2
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86

Acq: 27-Jul-2021 09:54:34
User: PSW Datafile: 210727R03



Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 6555, 5794, 9510 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 10 of 12


Rel. Int.
100%
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 3.50e3
1234678F
2.26e6
39.76
1234789F
1.88e6
41.11
Abs. Int.
8.84e5
4.42e5
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 4.53e3
1234678F
2.33e6
39.76
1234789F
1.75e6
41.11
Abs. Int.
8.67e5
4.34e5
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PB
4σ 4.42e4
ES 1234678F
4.25e7
39.75
CS 1234689F
3.97e7
40.14
ES 1234789F
3.76e7
41.10
Abs. Int.
1.75e7
8.75e6
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PB
4σ 6.80e4
ES 1234678F
9.31e7
39.75
CS 1234689F
9.02e7
40.14
ES 1234789F
8.30e7
41.10
Abs. Int.
3.88e7
1.94e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.08e3
Abs. Int.
1.12e4
5.59e3
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT

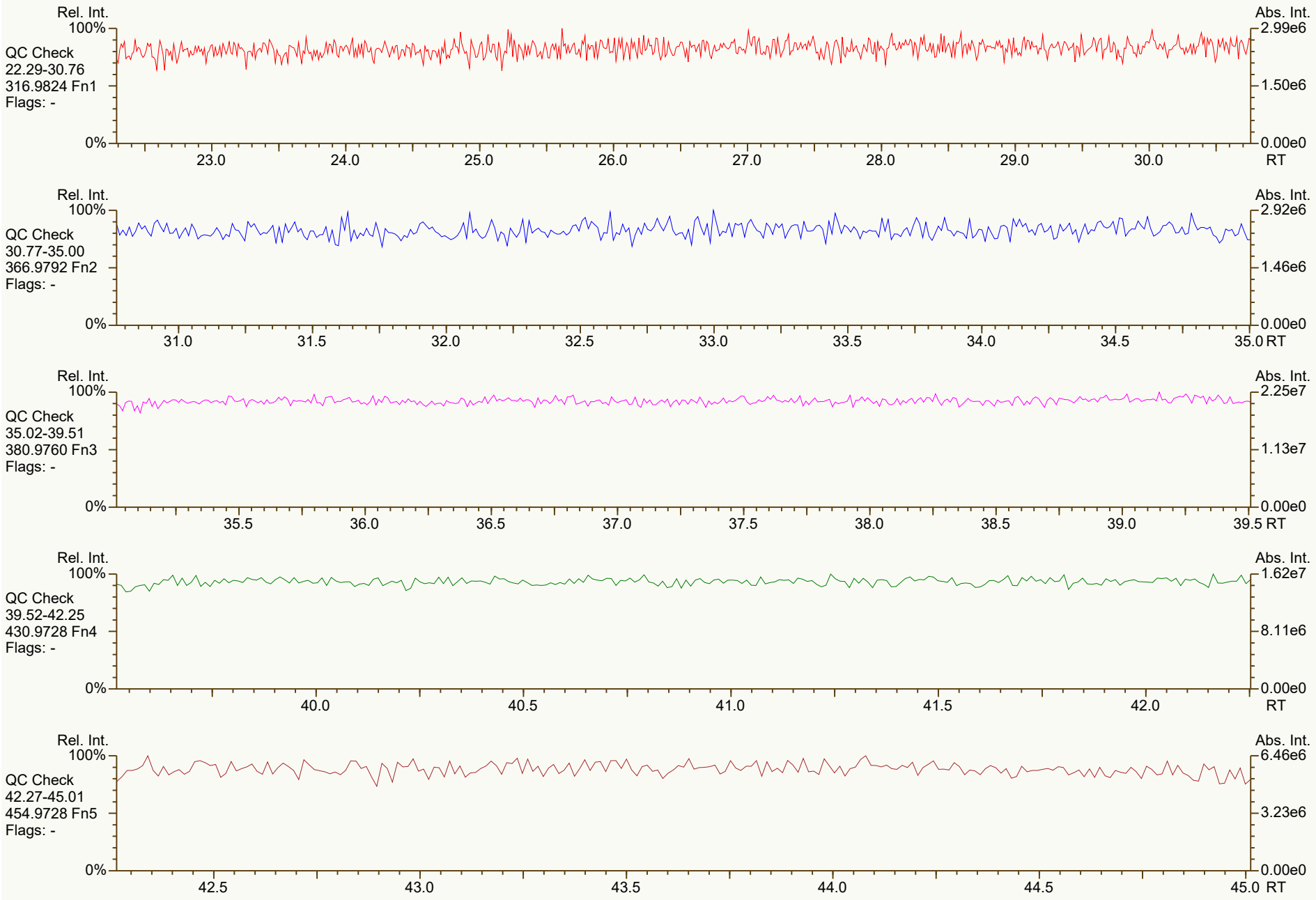

Rel. Int.
100%
OCDF
42.27-45.01
441.7428 Fn5
Flags: PB
4σ 2.65e3
0%
OCDF
3.07e6
43.41
Abs. Int.
1.08e6
5.38e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.27-45.01
443.7398 Fn5
Flags: PB
4σ 2.50e3
0%
OCDF
3.39e6
43.41
Abs. Int.
1.14e6
5.68e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.27-45.01
453.7830 Fn5
Flags: PB
4σ 5.40e3
0%
ES OCDF
1.20e8
43.40
Abs. Int.
3.80e7
1.90e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.27-45.01
455.7801 Fn5
Flags: PB
4σ 4.03e3
0%
ES OCDF
1.36e8
43.39
Abs. Int.
4.28e7
2.14e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.27-45.01
513.6775 Fn5
Flags: B
4σ 1.92e3
0%
Abs. Int.
8.67e3
4.33e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

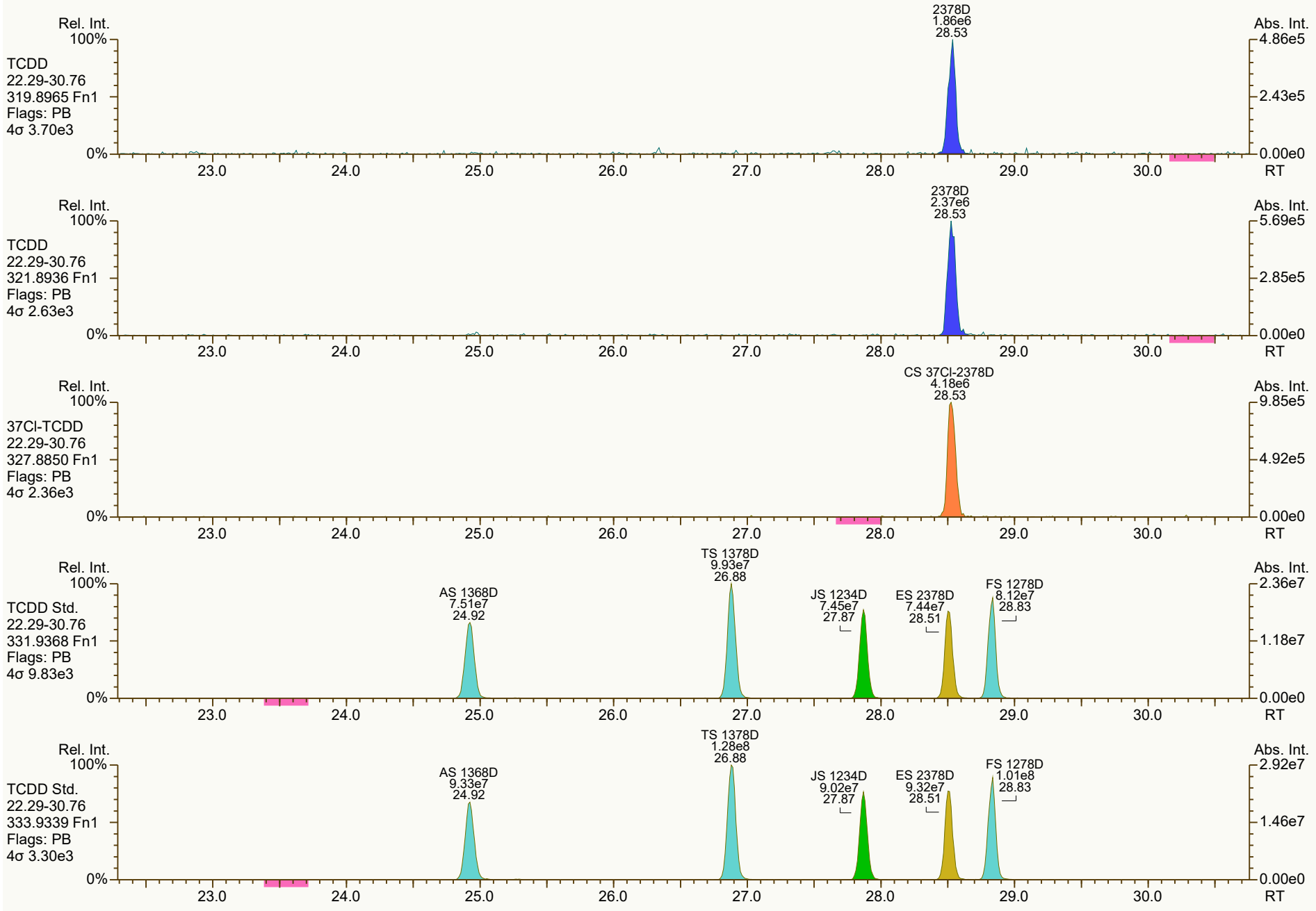
Dioxin/Furan QC Summary		Acq'd: 27 Jul 2021 10:44 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS2_210727_DF_RA		UTP: 27-Jul-2021 15:00:20 PSW				Checkcode: 377-233-TNL	
Sample ID: SIL 25-6-1		Report: 27 Jul 2021 15:02 pw				Datafile: 210727R04	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	28.53	4.23E+06	0.79	Y	1.34	1.26	-6%
12378-PeCDD	33.81	1.67E+07	1.63	Y	1.06	1.02	-4%
123478-HxCDD	37.68	1.53E+07	1.32	Y	1.06	0.99	-6%
123678-HxCDD	37.80	1.52E+07	1.22	Y	1.08	1.02	-5%
123789-HxCDD	38.08	1.66E+07	1.25	Y	1.02	0.95	-6%
1234678-HpCDD	40.67	1.41E+07	1.01	Y	0.97	0.92	-6%
OCDD	43.23	2.33E+07	0.88	Y	1.07	1.01	-6%
2378-TCDF	27.68	5.04E+06	0.83	Y	0.96	0.90	-6%
12378-PeCDF	32.39	2.16E+07	1.63	Y	0.95	0.90	-5%
23478-PeCDF	33.48	2.12E+07	1.52	Y	0.94	0.90	-4%
123478-HxCDF	36.69	2.09E+07	1.25	Y	1.23	1.19	-4%
123678-HxCDF	36.83	2.13E+07	1.24	Y	1.13	1.07	-5%
234678-HxCDF	37.50	1.98E+07	1.20	Y	1.15	1.08	-6%
123789-HxCDF	38.43	1.89E+07	1.24	Y	1.14	1.09	-4%
1234678-HpCDF	39.77	1.87E+07	1.01	Y	1.36	1.31	-4%
1234789-HpCDF	41.12	1.60E+07	1.02	Y	1.30	1.26	-3%
OCDF	43.41	2.61E+07	0.92	Y	1.03	0.95	-7%
ES 2378-TCDD	28.51	1.68E+08	0.80	Y	1.03	1.02	-2%
ES 12378-PeCDD	33.794	1.63E+08	1.66	Y	1.03	0.99	-4%
ES 123478-HxCDD	37.667	1.54E+08	1.28	Y	0.99	0.99	-1%
ES 123678-HxCDD	37.781	1.49E+08	1.24	Y	0.97	0.95	-2%
ES 123789-HxCDD	38.07	1.75E+08	1.26	Y	1.12	1.12	0%
ES 1234678-HpCDD	40.658	1.53E+08	1.06	Y	0.99	0.98	-1%
ES OCDD	43.222	2.31E+08	0.90	Y	0.78	0.74	-5%
ES 2378-TCDF	27.656	2.80E+08	0.80	Y	1.08	1.07	-1%
ES 12378-PeCDF	32.368	2.40E+08	1.55	Y	0.93	0.92	-2%
ES 23478-PeCDF	33.459	2.36E+08	1.59	Y	0.92	0.90	-2%
ES 123478-HxCDF	36.674	1.76E+08	0.52	Y	1.14	1.13	-1%
ES 123678-HxCDF	36.814	1.99E+08	0.52	Y	1.30	1.27	-2%
ES 234678-HxCDF	37.481	1.84E+08	0.52	Y	1.20	1.18	-2%
ES 123789-HxCDF	38.416	1.73E+08	0.52	Y	1.14	1.11	-2%
ES 1234678-HpCDF	39.761	1.43E+08	0.44	Y	0.95	0.92	-3%
ES 1234789-HpCDF	41.105	1.28E+08	0.46	Y	0.85	0.82	-3%
ES OCDF	43.404	2.74E+08	0.87	Y	0.93	0.88	-5%

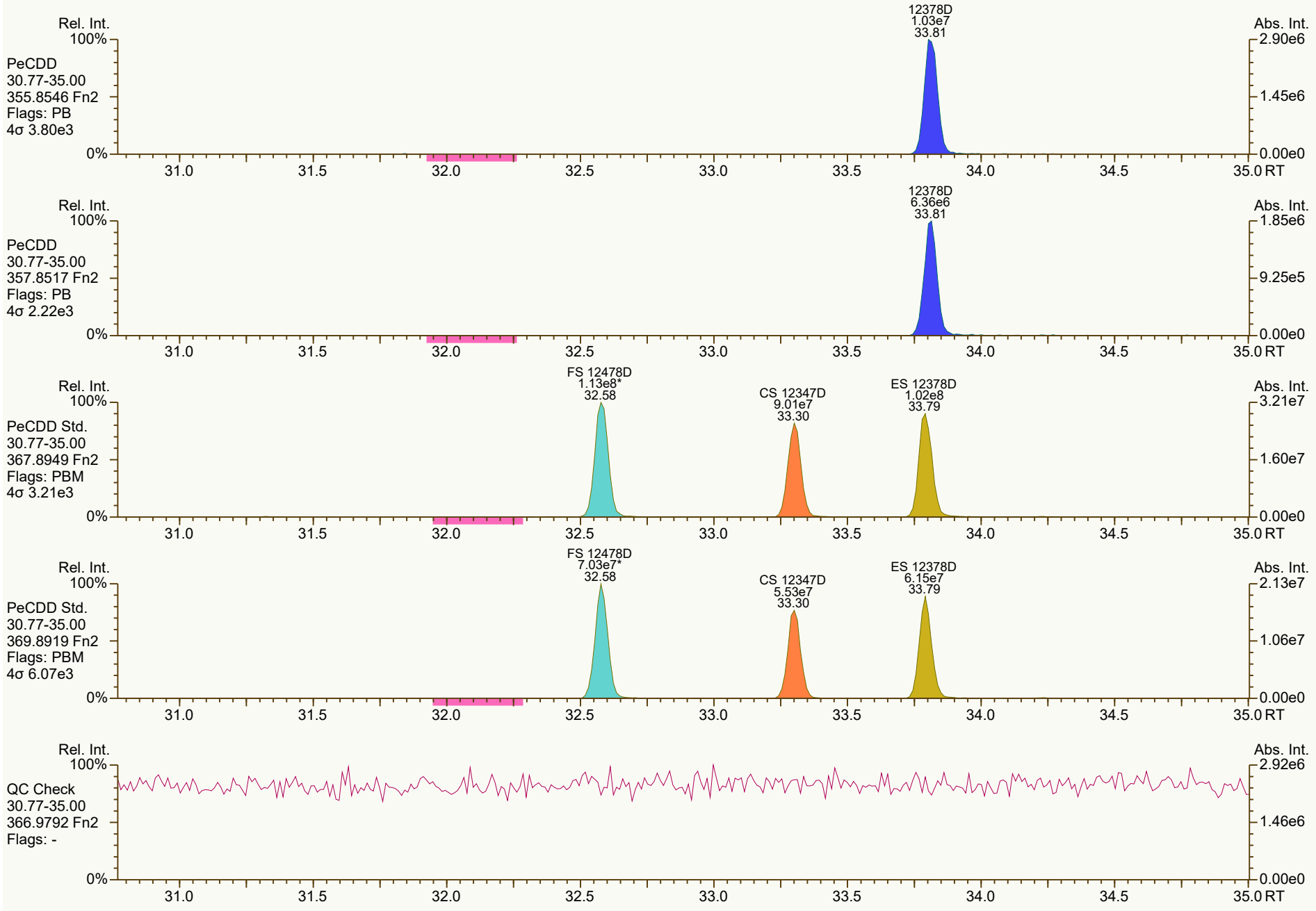
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 10:44 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS2_210727_DF_RA	UTP: 27-Jul-2021 15:00:20 PSW	Checkcode: 377-233-TNL
Sample ID: SIL 25-6-1	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R04

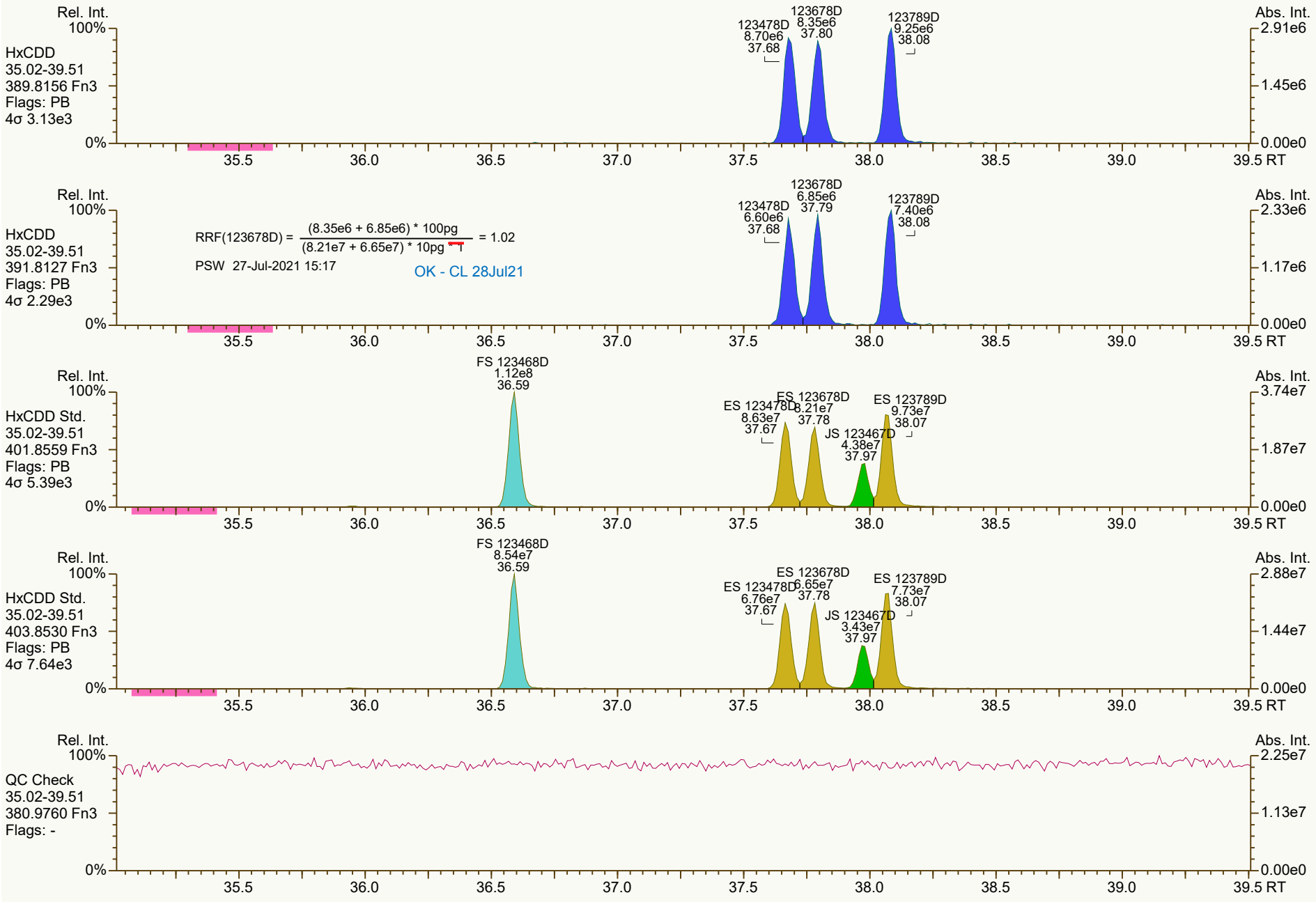
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.87	1.65E+08	0.83	Y	-	-	-
JS 1234-TCDF	26.34	2.62E+08	0.75	Y	-	-	-
JS 123467-HxCDD	37.97	7.80E+07	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	4.18E+06	n/a	-	1.31	1.27	-3%
CS 12347-PeCDD	33.30	1.45E+08	1.63	Y	0.89	0.88	-1%
CS 12346-PeCDF	31.85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

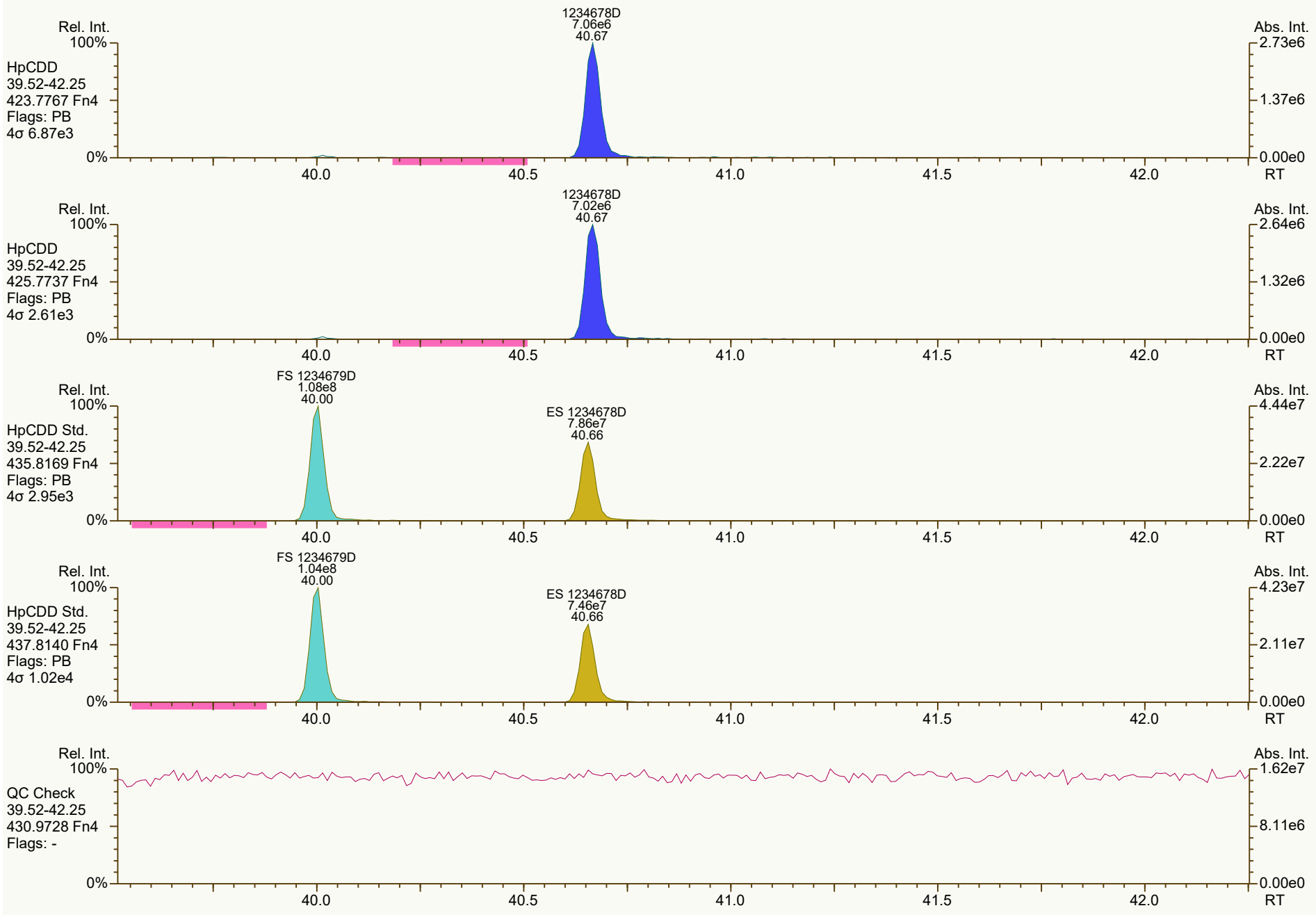
Not reported from this ICAL - CL 28Jul21


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

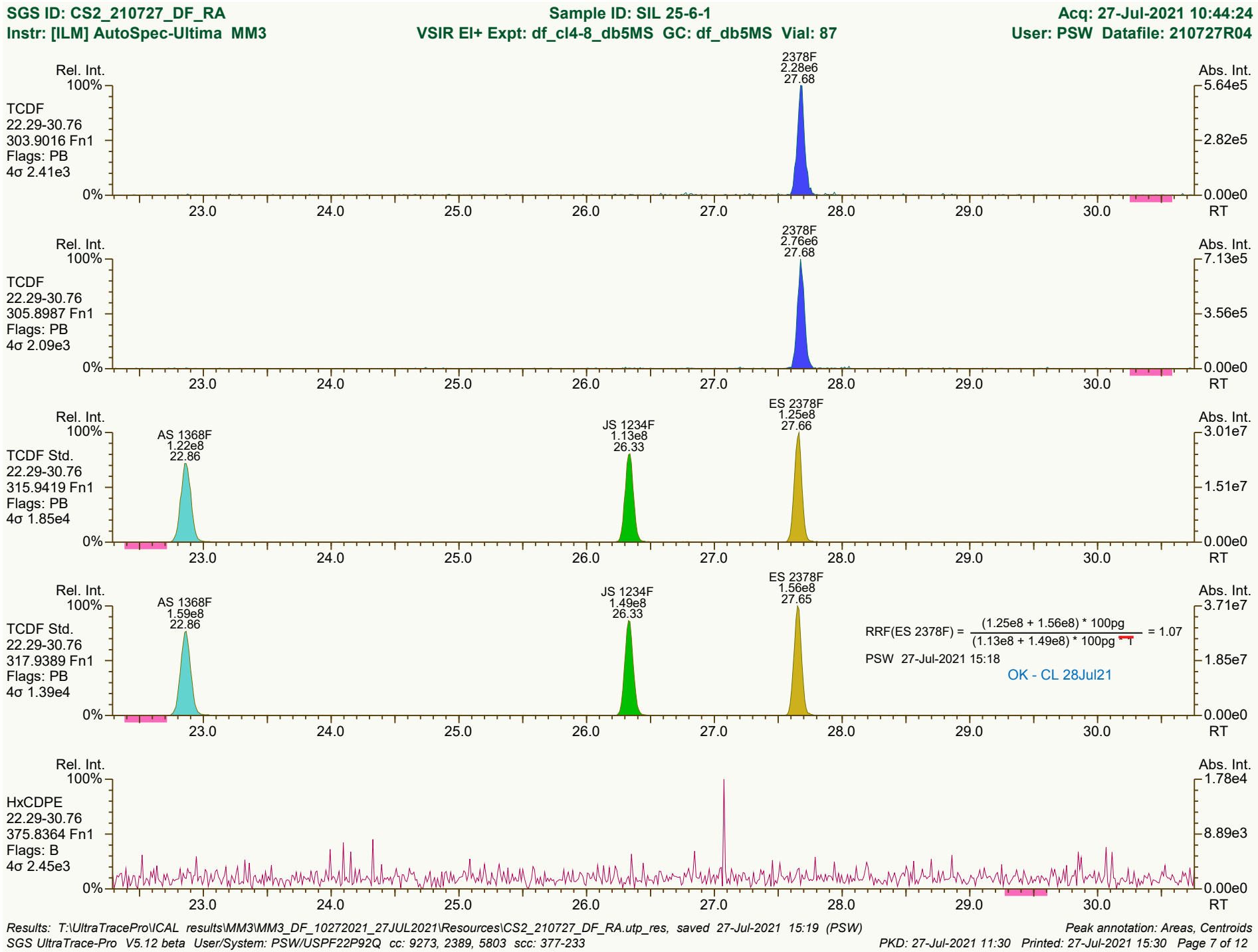

Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 3.70e3
0%
2378D
1.86e6
28.53
Abs. Int.
4.86e5
2.43e5
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.63e3
0%
2378D
2.37e6
28.53
Abs. Int.
5.69e5
2.85e5
0.00e0
23.0
24.0
25.0
26.0
27.0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


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

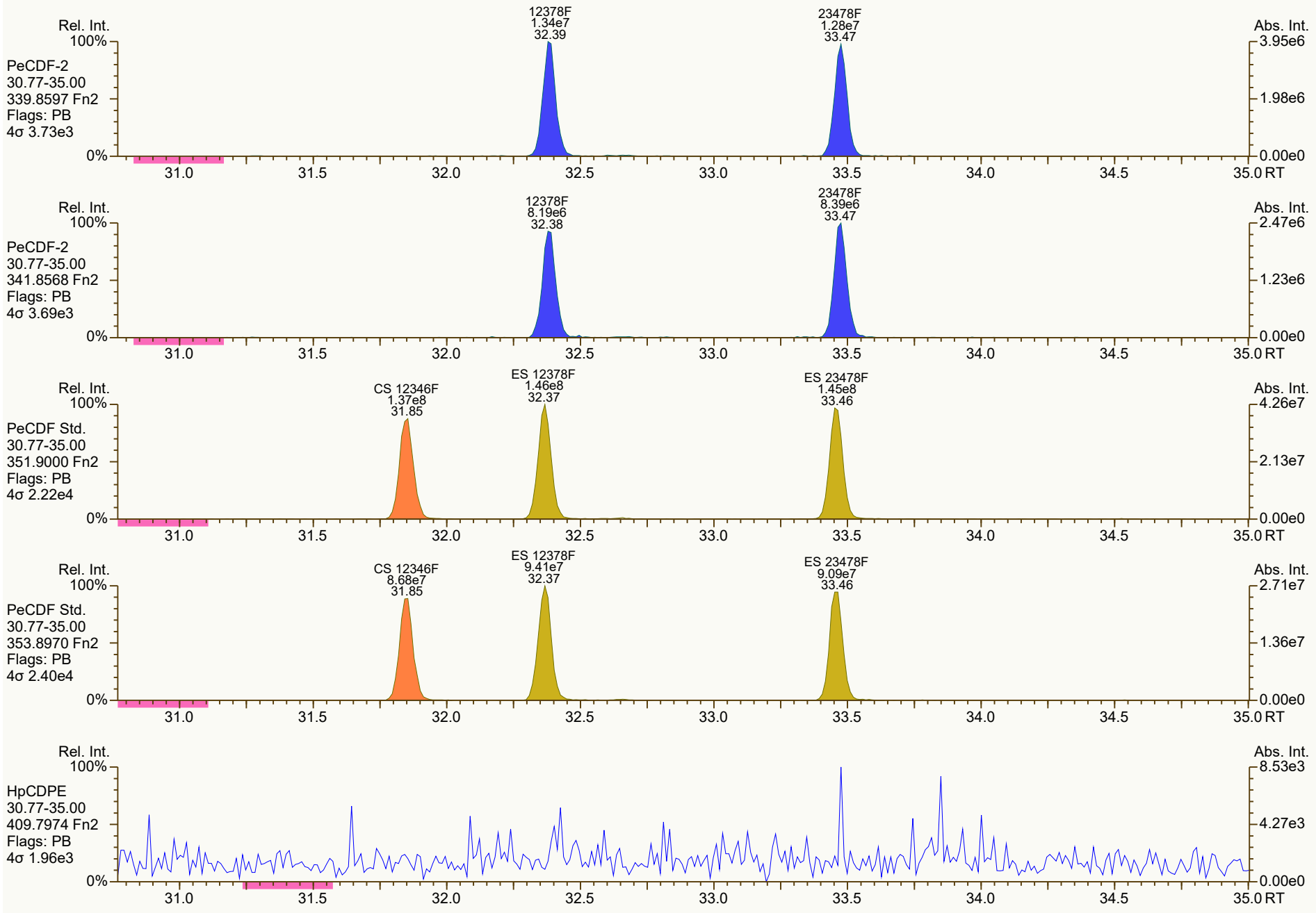

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 3.13e3
123478D 8.70e6 37.68
123678D 8.35e6 37.80
123789D 9.25e6 38.08
Abs. Int.
2.91e6
1.45e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.29e3
RRF(123678D) = (8.35e6 + 6.85e6) * 100pg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


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


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


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

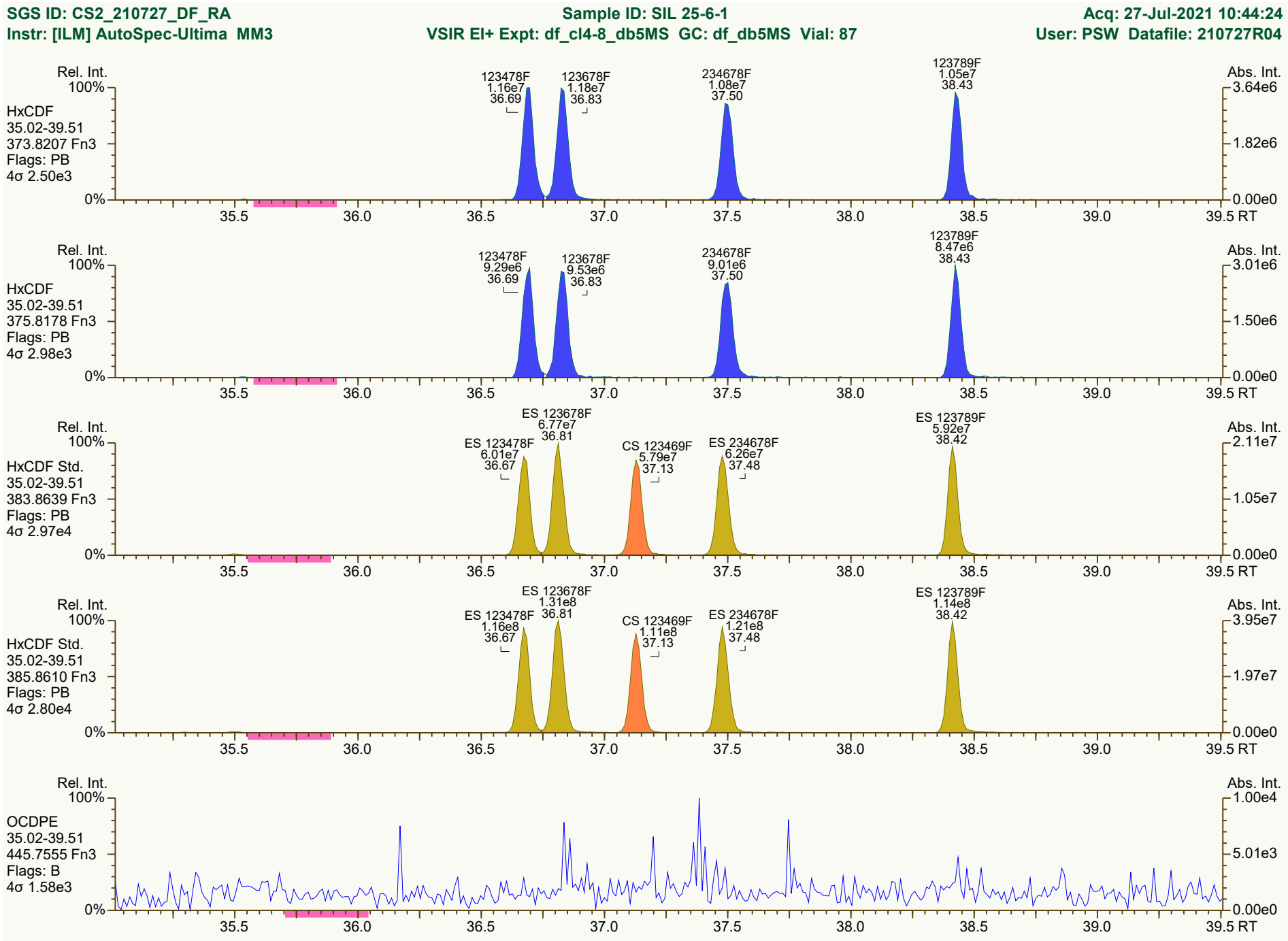

Rel. Int.
100%
0%
Abs. Int.
1.66e4
8.28e3
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 3.30e3
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 2.23e3
2.64e4
1.32e4
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
2.99e6
1.50e6


Rel. Int.
100%
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 3.73e3
0%
12378F
1.34e7
32.39
23478F
1.28e7
33.47
Abs. Int.
3.95e6
1.98e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 3.69e3
0%
12378F
8.19e6
32.38
23478F
8.39e6
33.47
Abs. Int.
2.47e6
1.23e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PB
4σ 2.22e4
0%
CS 12346F
1.37e8
31.85
ES 12378F
1.46e8
32.37
ES 23478F
1.45e8
33.46
Abs. Int.
4.26e7
2.13e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PB
4σ 2.40e4
0%
CS 12346F
8.68e7
31.85
ES 12378F
9.41e7
32.37
ES 23478F
9.09e7
33.46
Abs. Int.
2.71e7
1.36e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: PB
4σ 1.96e3
0%
Abs. Int.
8.53e3
4.27e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

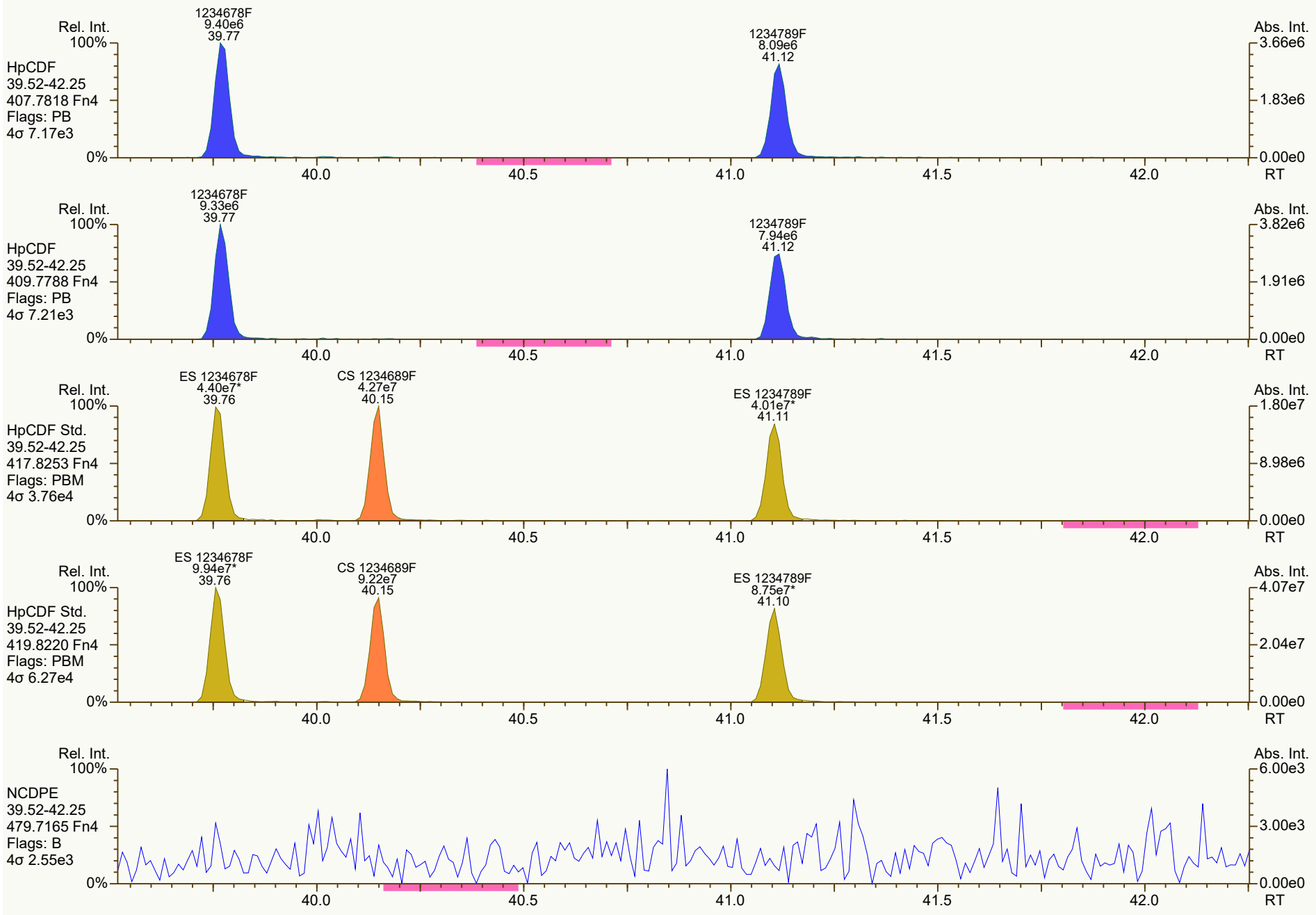
SGS ID: CS2_210727_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

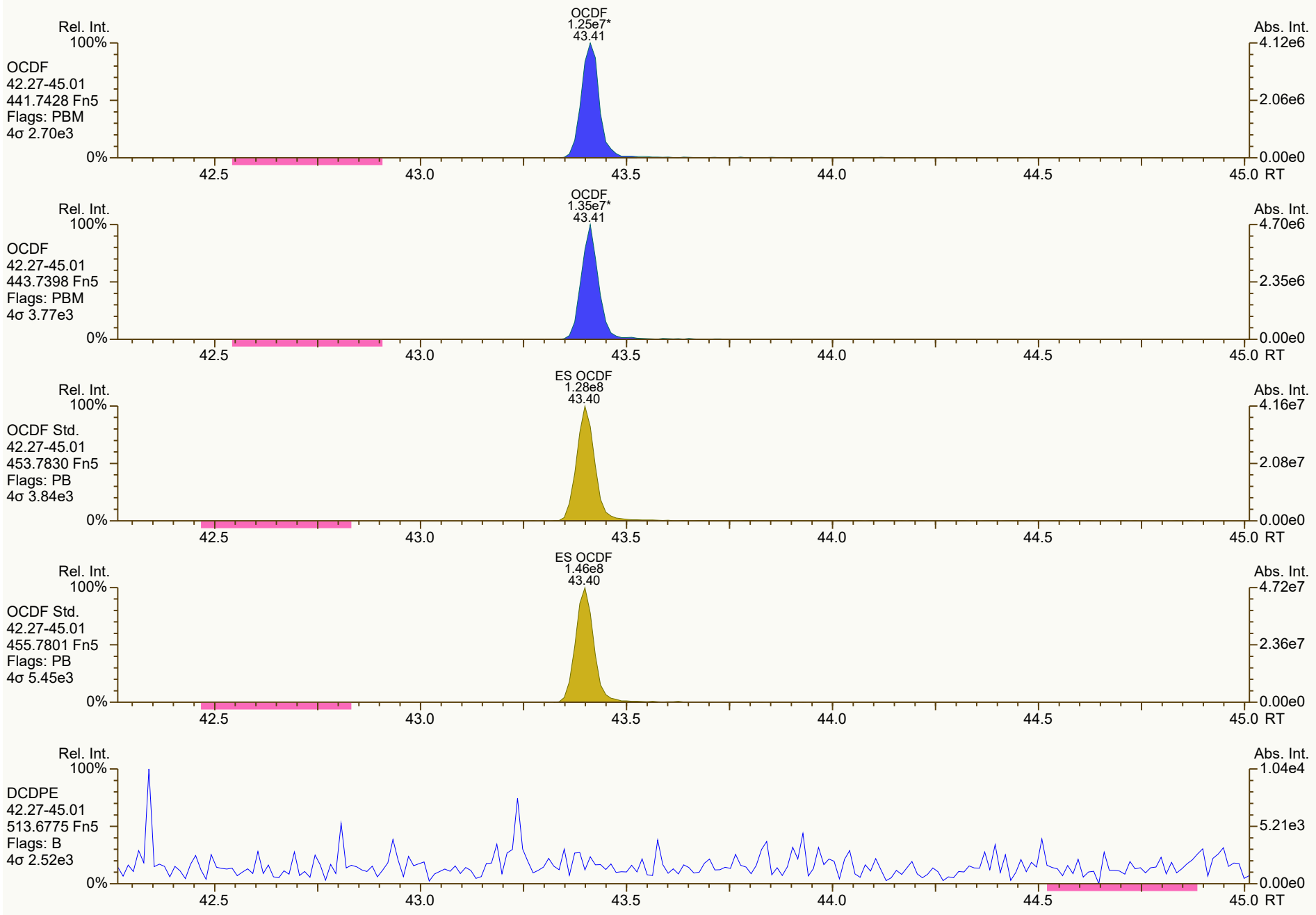
Sample ID: SIL 25-6-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87

Acq: 27-Jul-2021 10:44:24
User: PSW Datafile: 210727R04



Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 3365, 0373, 6521 scc: 377-233
PKD: 27-Jul-2021 11:30 Printed: 27-Jul-2021 15:30 Page 10 of 12


Rel. Int.
100%
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 7.17e3
1234678F
9.40e6
39.77
1234789F
8.09e6
41.12
Abs. Int.
3.66e6
1.83e6
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 7.21e3
1234678F
9.33e6
39.77
1234789F
7.94e6
41.12
Abs. Int.
3.82e6
1.91e6
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PBM
4σ 3.76e4
ES 1234678F
4.40e7*
39.76
CS 1234689F
4.27e7
40.15
ES 1234789F
4.01e7*
41.11
Abs. Int.
1.80e7
8.98e6
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PBM
4σ 6.27e4
ES 1234678F
9.94e7*
39.76
CS 1234689F
9.22e7
40.15
ES 1234789F
8.75e7*
41.10
Abs. Int.
4.07e7
2.04e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.55e3
Abs. Int.
6.00e3
3.00e3
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.27-45.01
441.7428 Fn5
Flags: PBM
4σ 2.70e3
0%
OCDF
1.25e7*
43.41
Abs. Int.
4.12e6
2.06e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.27-45.01
443.7398 Fn5
Flags: PBM
4σ 3.77e3
0%
OCDF
1.35e7*
43.41
Abs. Int.
4.70e6
2.35e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.27-45.01
453.7830 Fn5
Flags: PB
4σ 3.84e3
0%
ES OCDF
1.28e8
43.40
Abs. Int.
4.16e7
2.08e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.27-45.01
455.7801 Fn5
Flags: PB
4σ 5.45e3
0%
ES OCDF
1.46e8
43.40
Abs. Int.
4.72e7
2.36e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.27-45.01
513.6775 Fn5
Flags: B
4σ 2.52e3
0%
Abs. Int.
1.04e4
5.21e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

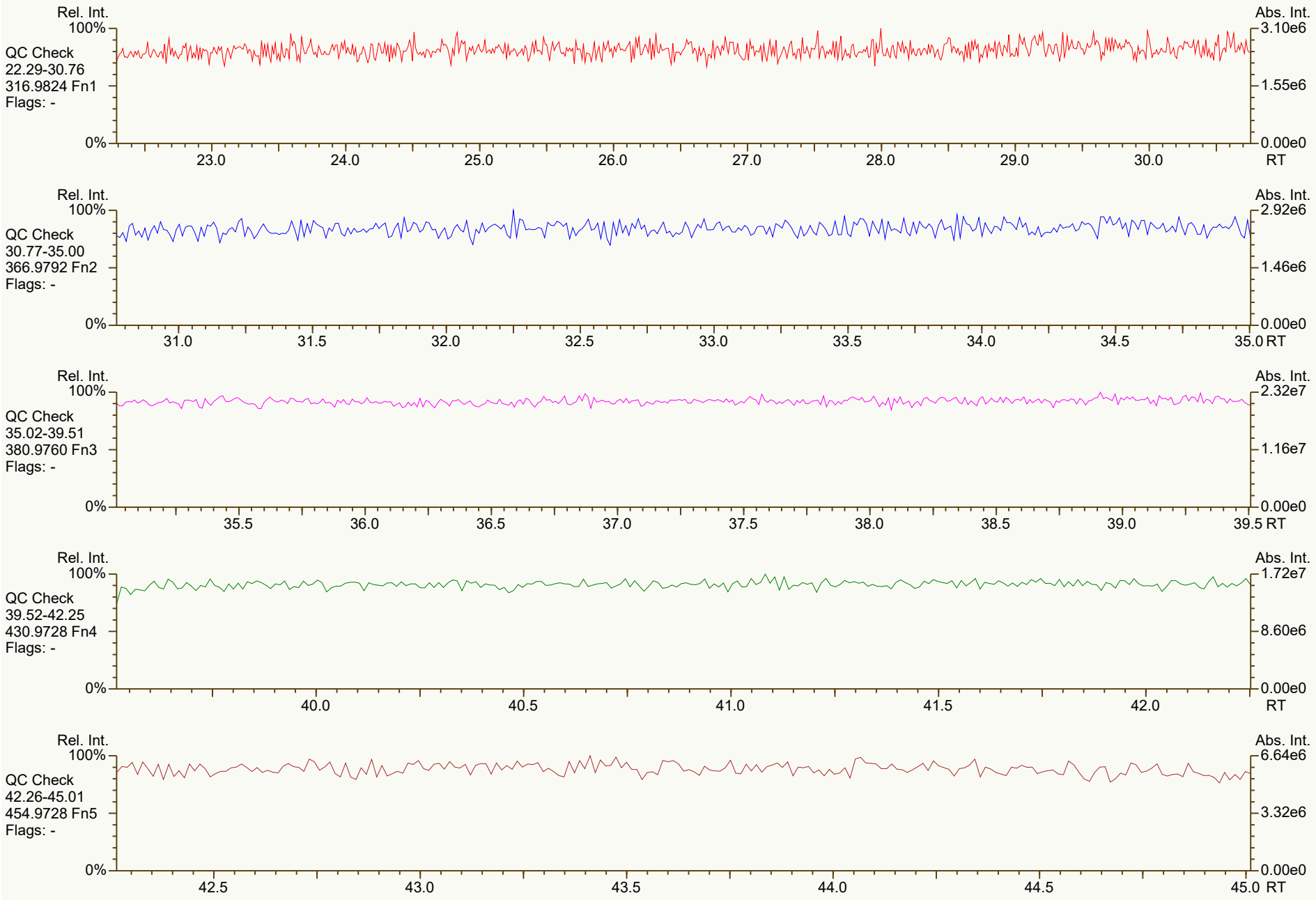
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 11:32 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_210727_DF_RA	UTP: 27-Jul-2021 15:00:20 PSW	Checkcode: 230-891-PQT
Sample ID: SIL 23-672-1	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R05

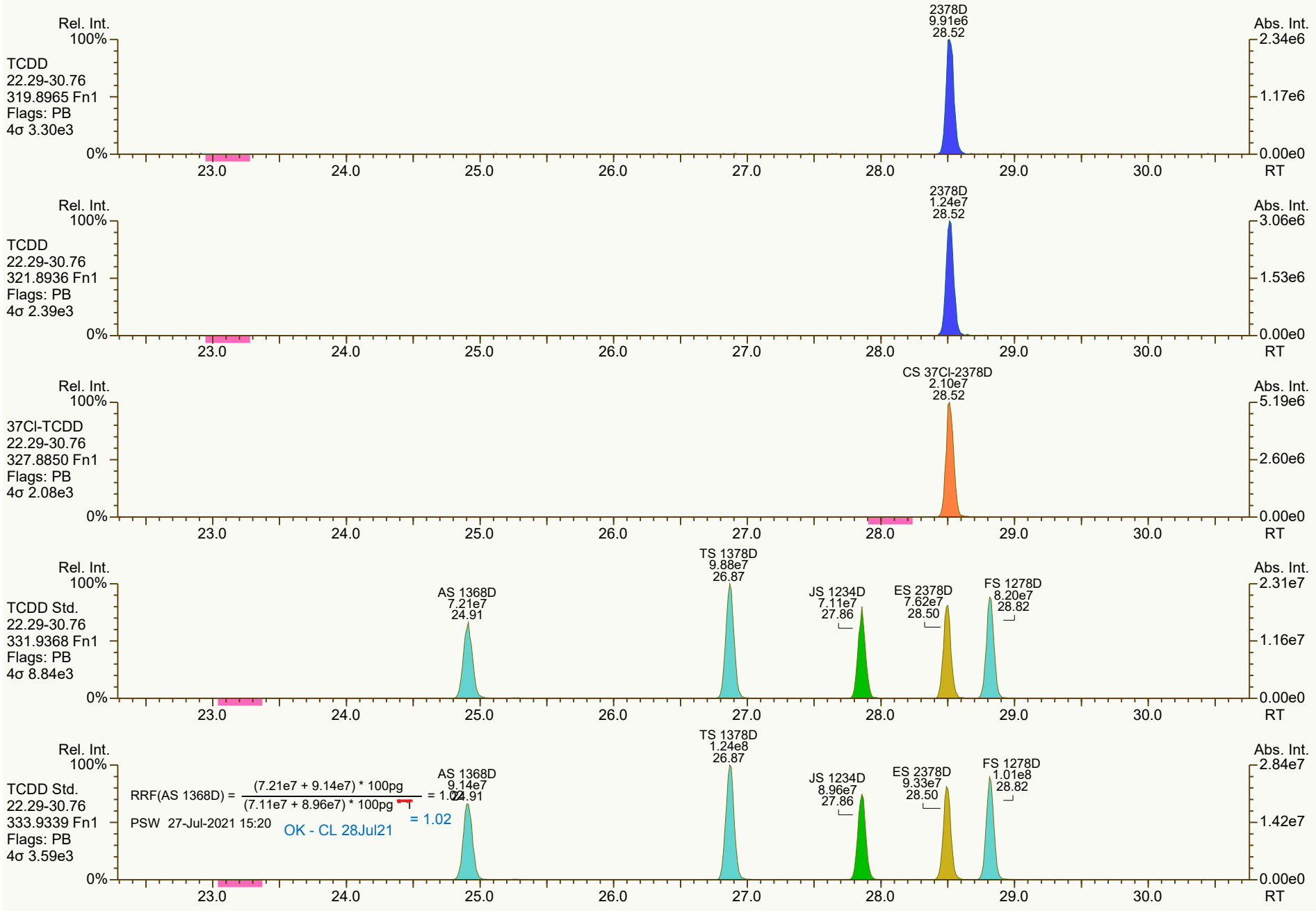
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.52	2.23E+07	0.80	Y	1.34	1.32	-2%
12378-PeCDD	33.80	8.56E+07	1.57	Y	1.06	1.05	-1%
123478-HxCDD	37.67	7.63E+07	1.25	Y	1.06	1.05	-1%
123678-HxCDD	37.78	7.89E+07	1.25	Y	1.08	1.08	0%
123789-HxCDD	38.07	8.22E+07	1.23	Y	1.02	0.99	-2%
1234678-HpCDD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

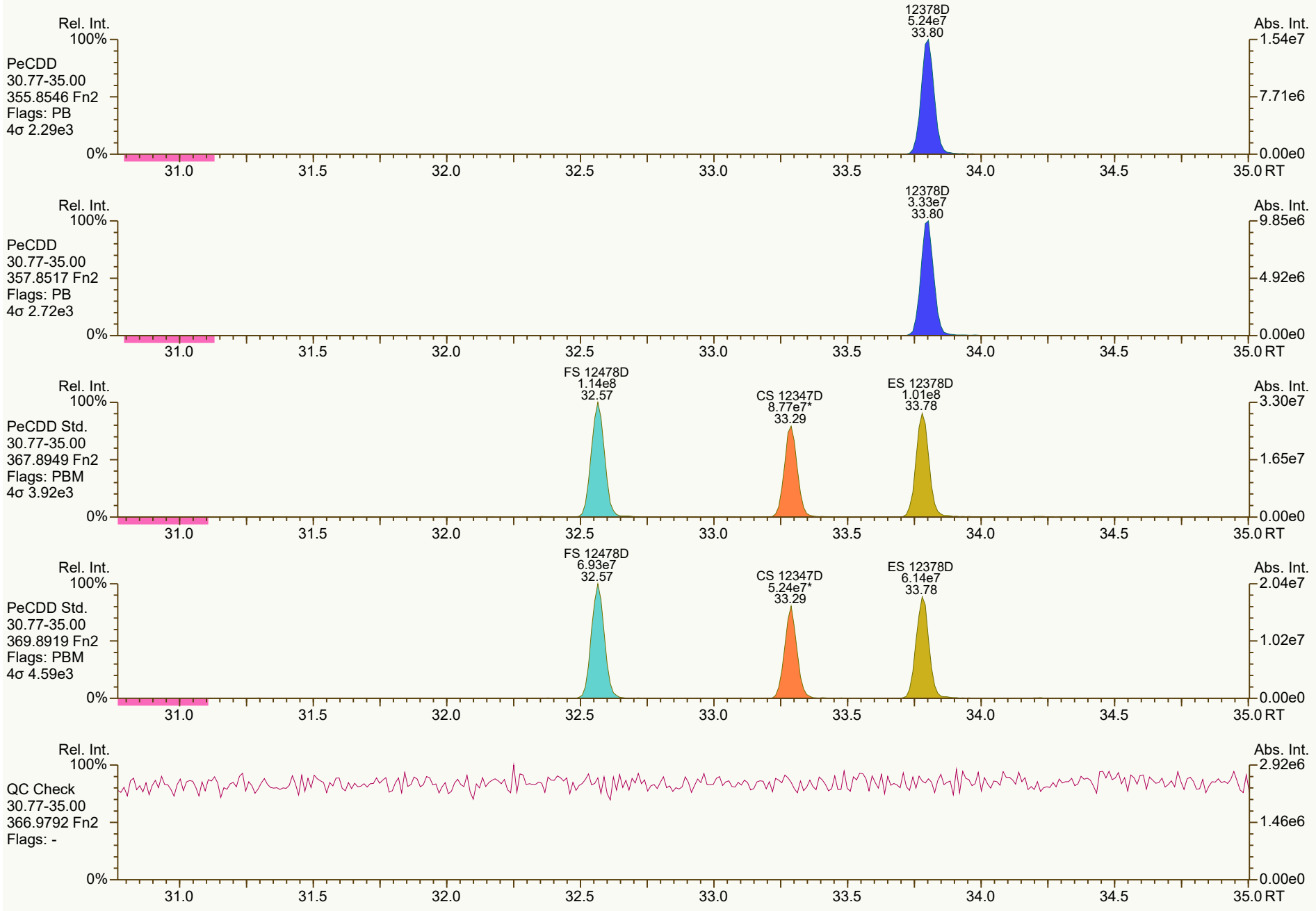
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 11:32 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_210727_DF_RA	UTP: 27-Jul-2021 15:00:20 PSW	Checkcode: 230-891-PQT
Sample ID: SIL 23-672-1	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R05

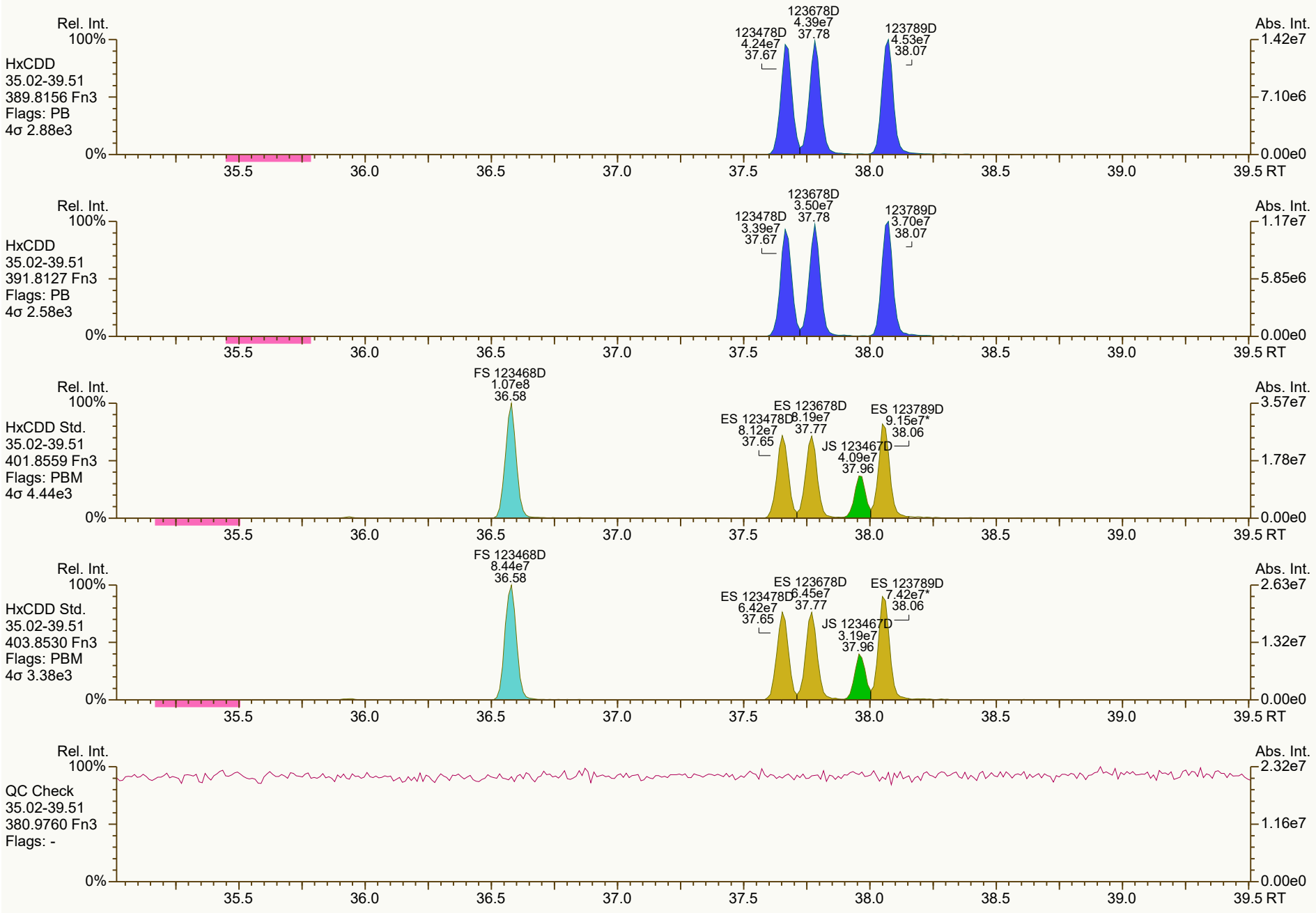
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.86	1.61E+08	0.79	Y	-	-	-
JS 1234-TCDF	26.32	2.56E+08	0.77	Y	-	-	-
JS 123467-HxCDD	37.96	7.28E+07	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	28.52	2.10E+07	n/a	-	1.31	1.30	0%
CS 12347-PeCDD	33.29	1.40E+08	1.67	Y	0.89	0.87	-2%
CS 12346-PeCDF	31.84	2.28E+08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

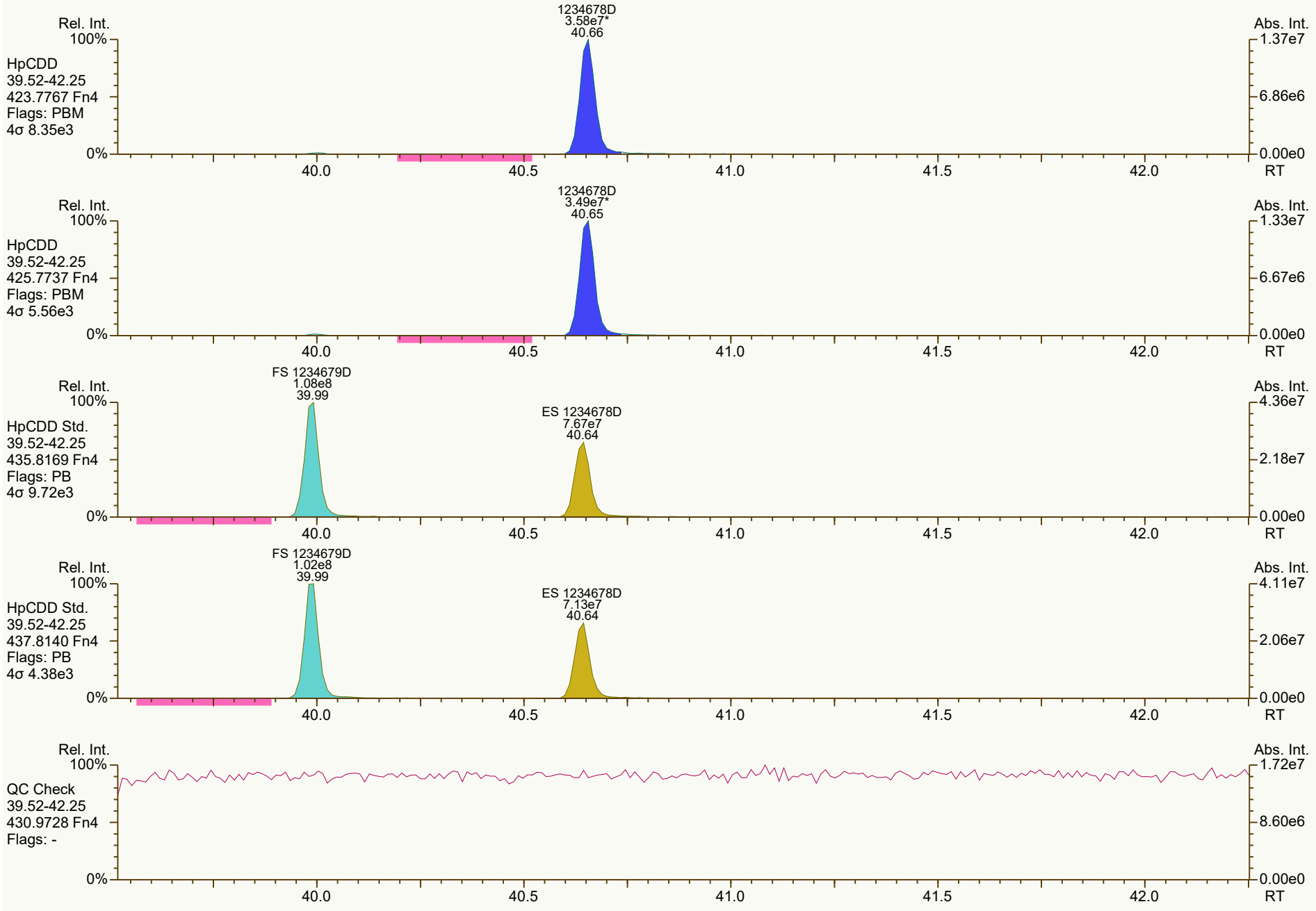
Not reported from this ICAL - CL 28Jul21


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

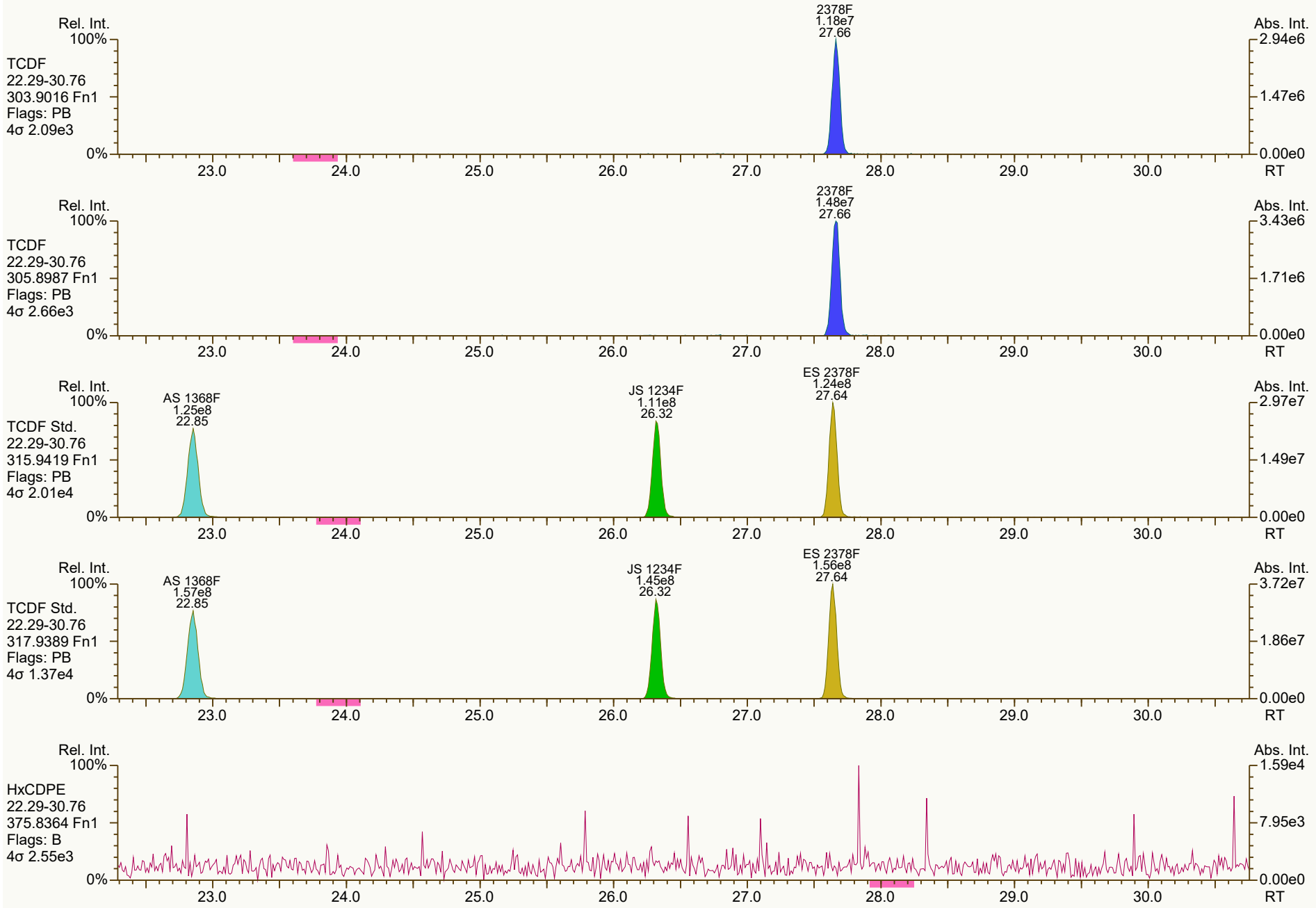

Rel. Int.
100%
0%
Abs. Int.
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 3.30e3
2378D
9.91e6
28.52
2.34e6
1.17e6
0.00e0
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.39e3
2378D
1.24e7
28.52
3.06e6
1.53e6
0.00e0
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 2.08e3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


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 2.29e3
0%
12378D
5.24e7
33.80
Abs. Int.
1.54e7
7.71e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.72e3
0%
12378D
3.33e7
33.80
Abs. Int.
9.85e6
4.92e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PBM
4σ 3.92e3
0%
FS 12478D
1.14e8
32.57
CS 12347D
8.77e7*
33.29
ES 12378D
1.01e8
33.78
Abs. Int.
3.30e7
1.65e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PBM
4σ 4.59e3
0%
FS 12478D
6.93e7
32.57
CS 12347D
5.24e7*
33.29
ES 12378D
6.14e7
33.78
Abs. Int.
2.04e7
1.02e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.92e6
1.46e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

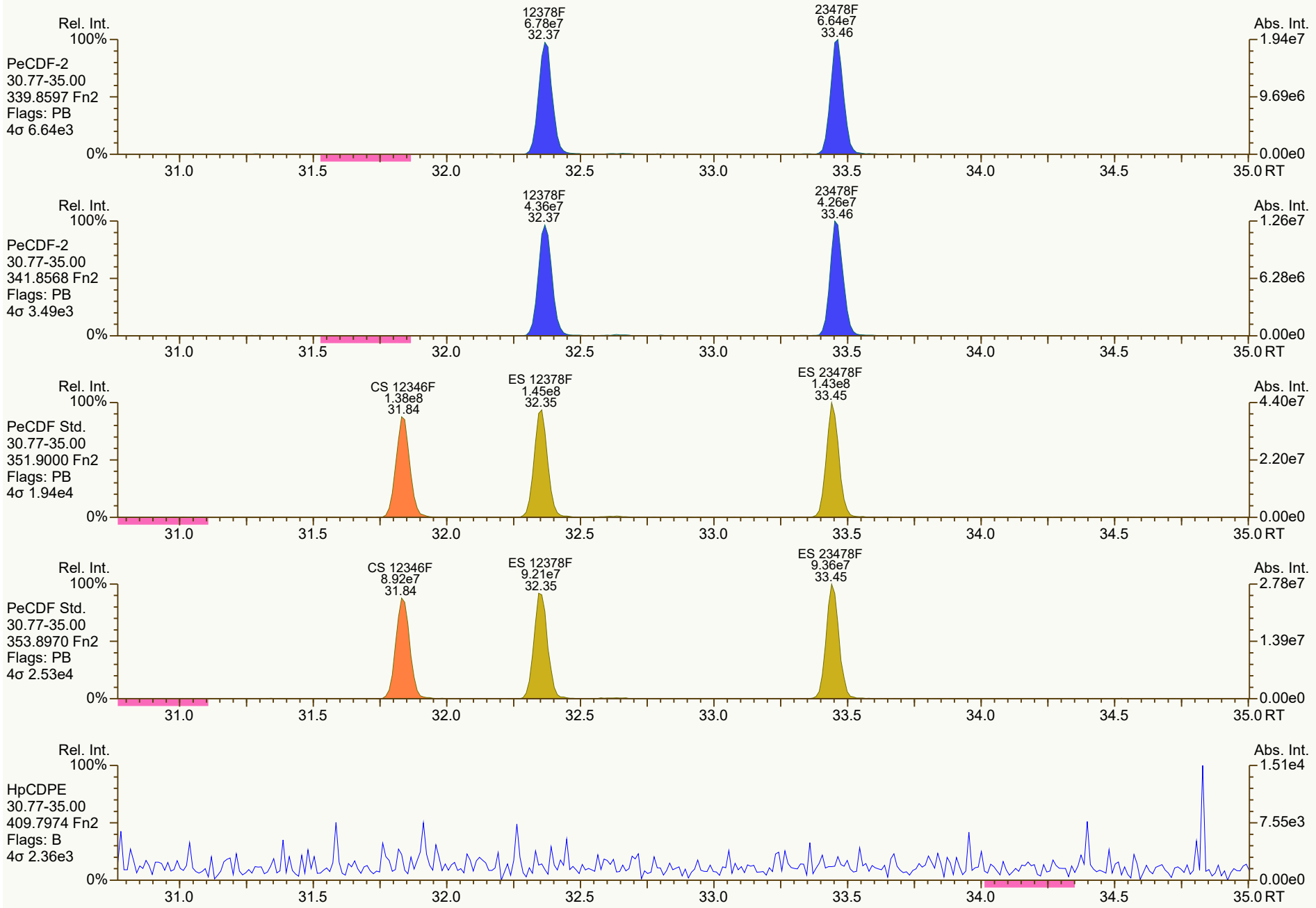

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.88e3
123678D
4.39e7
37.78
123478D
4.24e7
37.67
123789D
4.53e7
38.07
Abs. Int.
1.42e7
7.10e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.58e3
123678D
3.50e7
37.78
123478D
3.39e7
37.67
123789D
3.70e7
38.07
Abs. Int.
1.17e7
5.85e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 4.44e3
FS 123468D
1.07e8
36.58
ES 123678D
8.19e7
37.77
ES 123478D
8.12e7
37.65
ES 123789D
9.15e7*
38.06
JS 123467D
4.09e7
37.96
Abs. Int.
3.57e7
1.78e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 3.38e3
FS 123468D
8.44e7
36.58
ES 123678D
6.45e7
37.77
ES 123478D
6.42e7
37.65
ES 123789D
7.42e7*
38.06
JS 123467D
3.19e7
37.96
Abs. Int.
2.63e7
1.32e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
Abs. Int.
2.32e7
1.16e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PBM
4σ 8.35e3
0%
1234678D
3.58e7*
40.66
Abs. Int.
1.37e7
6.86e6
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PBM
4σ 5.56e3
1234678D
3.49e7*
40.65
1.33e7
6.67e6
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 9.72e3
FS 1234679D
1.08e8
39.99
ES 1234678D
7.67e7
40.64
4.36e7
2.18e7
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 4.38e3
FS 1234679D
1.02e8
39.99
ES 1234678D
7.13e7
40.64
4.11e7
2.06e7
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
1.72e7
8.60e6


OCDD
5.68e7*
43.22
Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: PBM
4σ 3.46e3
0%
Abs. Int.
2.00e7
1.00e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
6.38e7*
43.22
OCDD
42.26-45.01
459.7348 Fn5
Flags: PBM
4σ 3.66e3
Abs. Int.
2.18e7
1.09e7
ES OCDD
1.05e8*
43.21
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PBM
4σ 6.38e3
Abs. Int.
3.38e7
1.69e7
ES OCDD
1.20e8*
43.21
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PBM
4σ 5.59e3
Abs. Int.
3.96e7
1.98e7
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
Abs. Int.
6.64e6
3.32e6


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

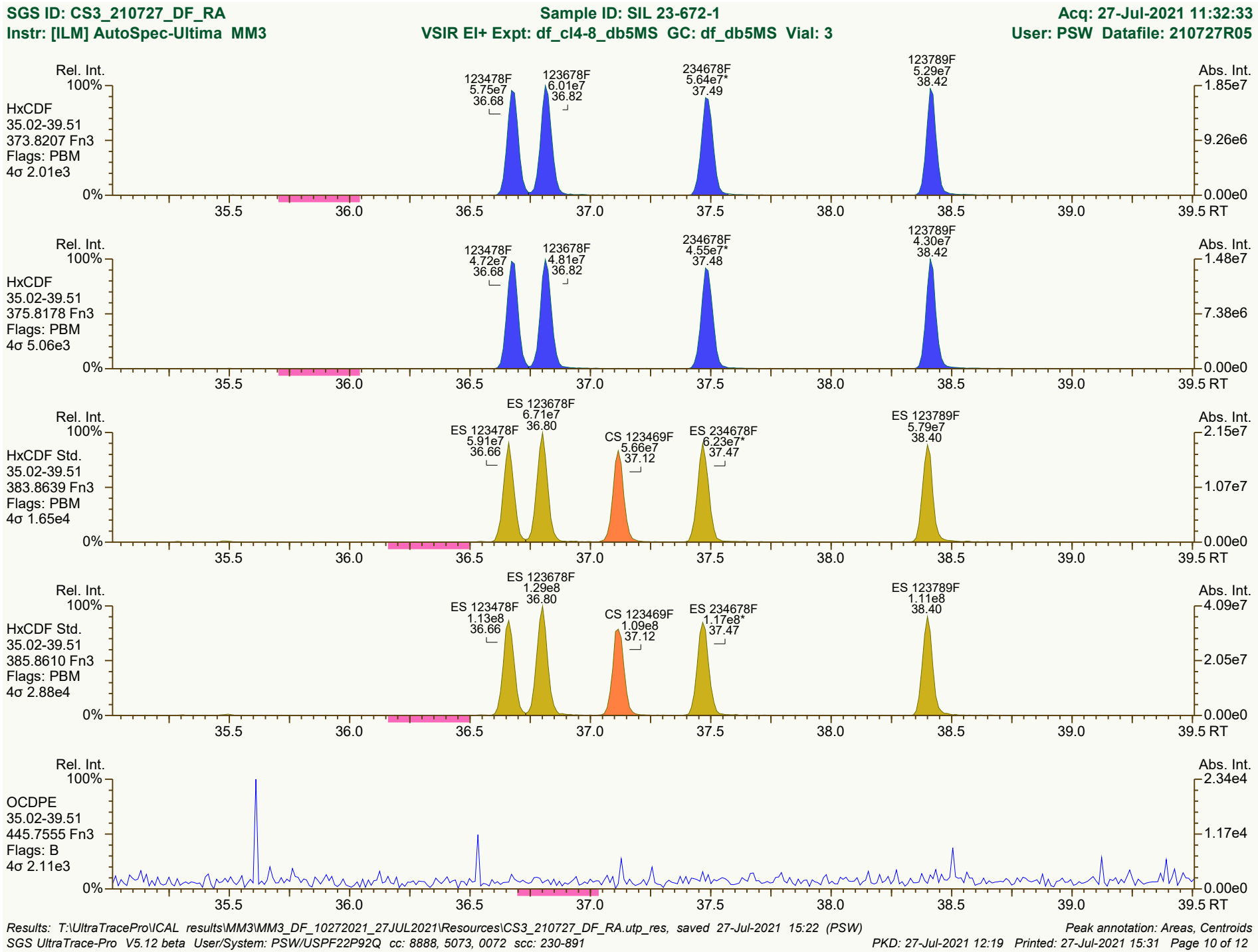

Rel. Int.
100%
0%
Abs. Int.
1.52e4
7.61e3
0.00e0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 3.35e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.57e4
7.83e3
0.00e0
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 2.27e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%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


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

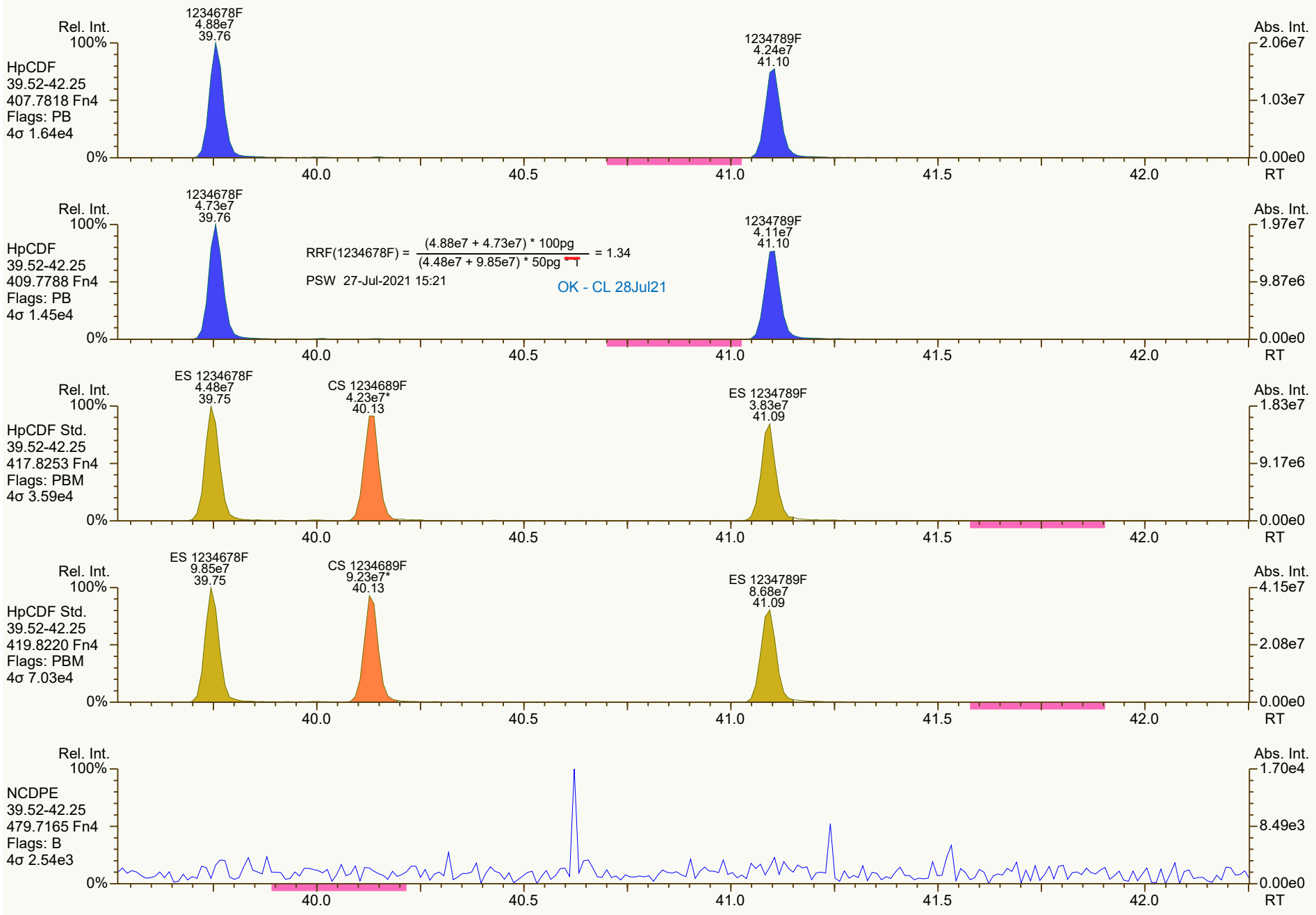
SGS ID: CS3_210727_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

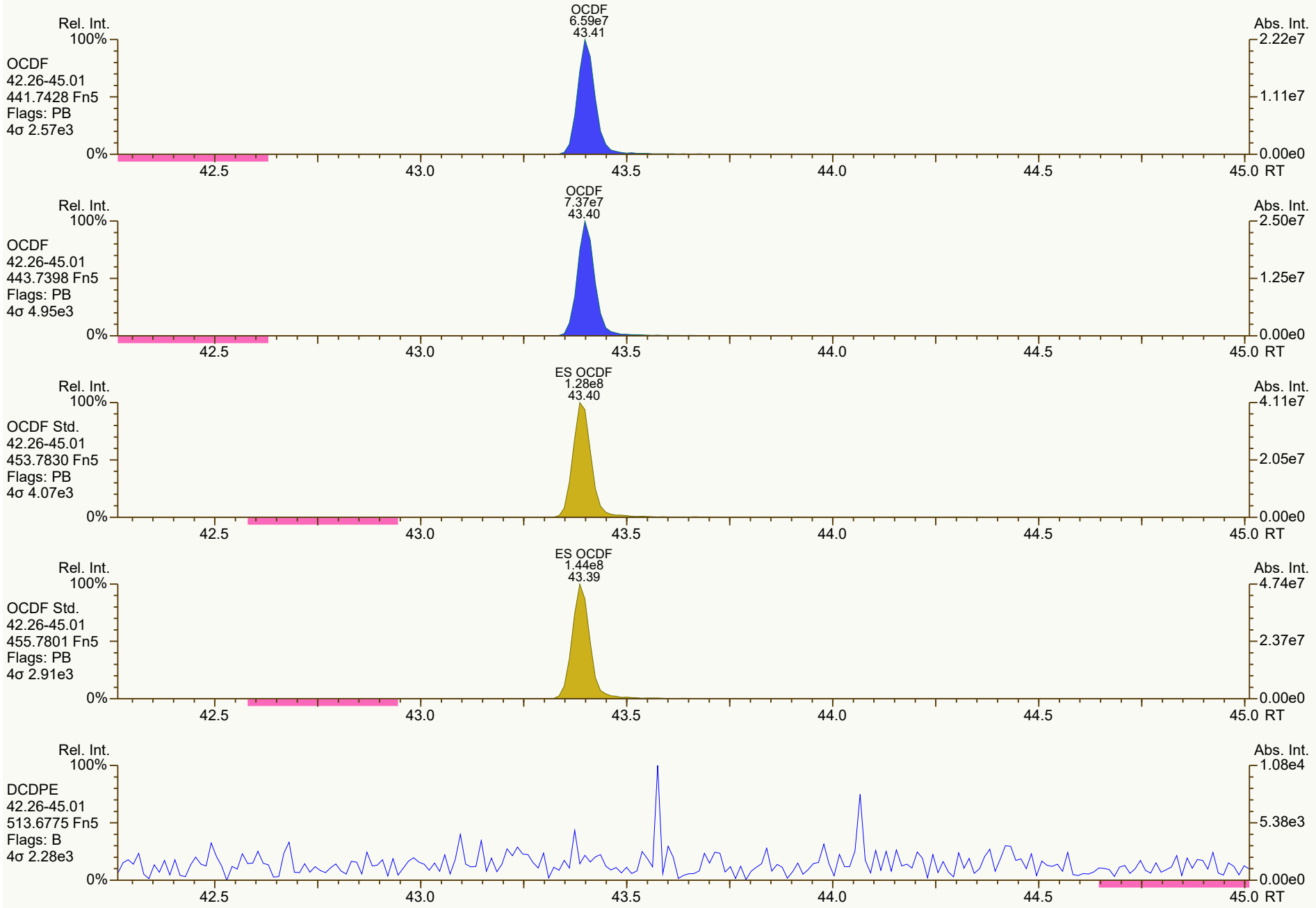
Sample ID: SIL 23-672-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3

Acq: 27-Jul-2021 11:32:33
User: PSW Datafile: 210727R05



Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RA.utp_res, saved 27-Jul-2021 15:22 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8888, 5073, 0072 scc: 230-891
PKD: 27-Jul-2021 12:19 Printed: 27-Jul-2021 15:31 Page 10 of 12


Rel. Int.
100%
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 1.64e4
1234678F
4.88e7
39.76
1234789F
4.24e7
41.10
Abs. Int.
2.06e7
1.03e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 1.45e4
1234678F
4.73e7
39.76
RRF(1234678F) = (4.88e7 + 4.73e7) * 100pg / (4.48e7 + 9.85e7) * 50pg = 1.34
PSW 27-Jul-2021 15:21
OK - CL 28Jul21
1234789F
4.11e7
41.10
1.97e7
9.87e6
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PBM
4σ 3.59e4
ES 1234678F
4.48e7
39.75
CS 1234689F
4.23e7*
40.13
ES 1234789F
3.83e7
41.09
1.83e7
9.17e6
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PBM
4σ 7.03e4
ES 1234678F
9.85e7
39.75
CS 1234689F
9.23e7*
40.13
ES 1234789F
8.68e7
41.09
4.15e7
2.08e7
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.54e3
1.70e4
8.49e3


Rel. Int.
100%
OCDF
42.26-45.01
441.7428 Fn5
Flags: PB
4σ 2.57e3
0%
OCDF
6.59e7
43.41
Abs. Int.
2.22e7
1.11e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.26-45.01
443.7398 Fn5
Flags: PB
4σ 4.95e3
0%
OCDF
7.37e7
43.40
Abs. Int.
2.50e7
1.25e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PB
4σ 4.07e3
0%
ES OCDF
1.28e8
43.40
Abs. Int.
4.11e7
2.05e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PB
4σ 2.91e3
0%
ES OCDF
1.44e8
43.39
Abs. Int.
4.74e7
2.37e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.26-45.01
513.6775 Fn5
Flags: B
4σ 2.28e3
0%
Abs. Int.
1.08e4
5.38e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

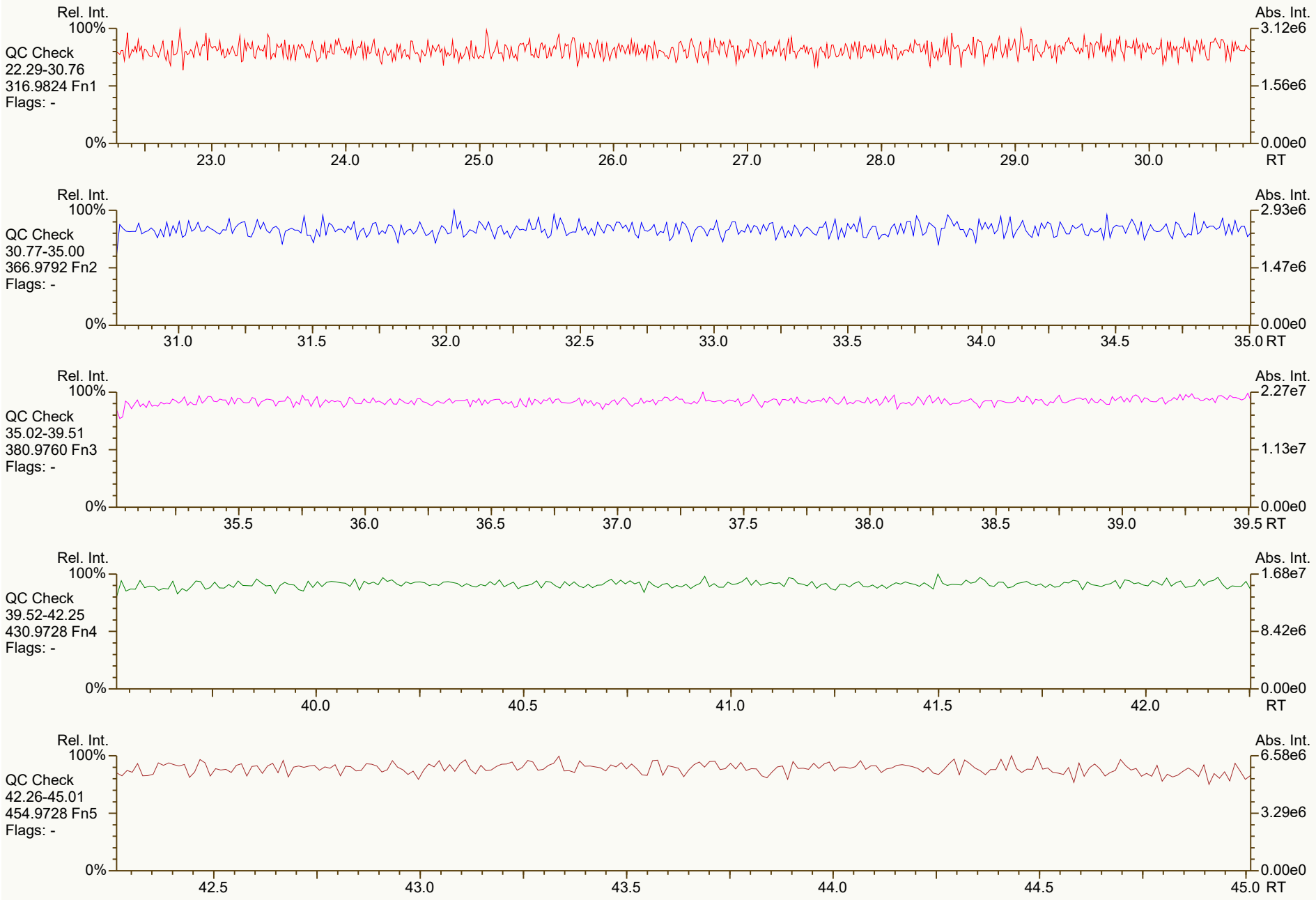
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 12:19 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS4_210727_DF_RA	UTP: 27-Jul-2021 15:00:21 PSW	Checkcode: 602-590-JSF
Sample ID: SIL 25-5-4	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R06

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

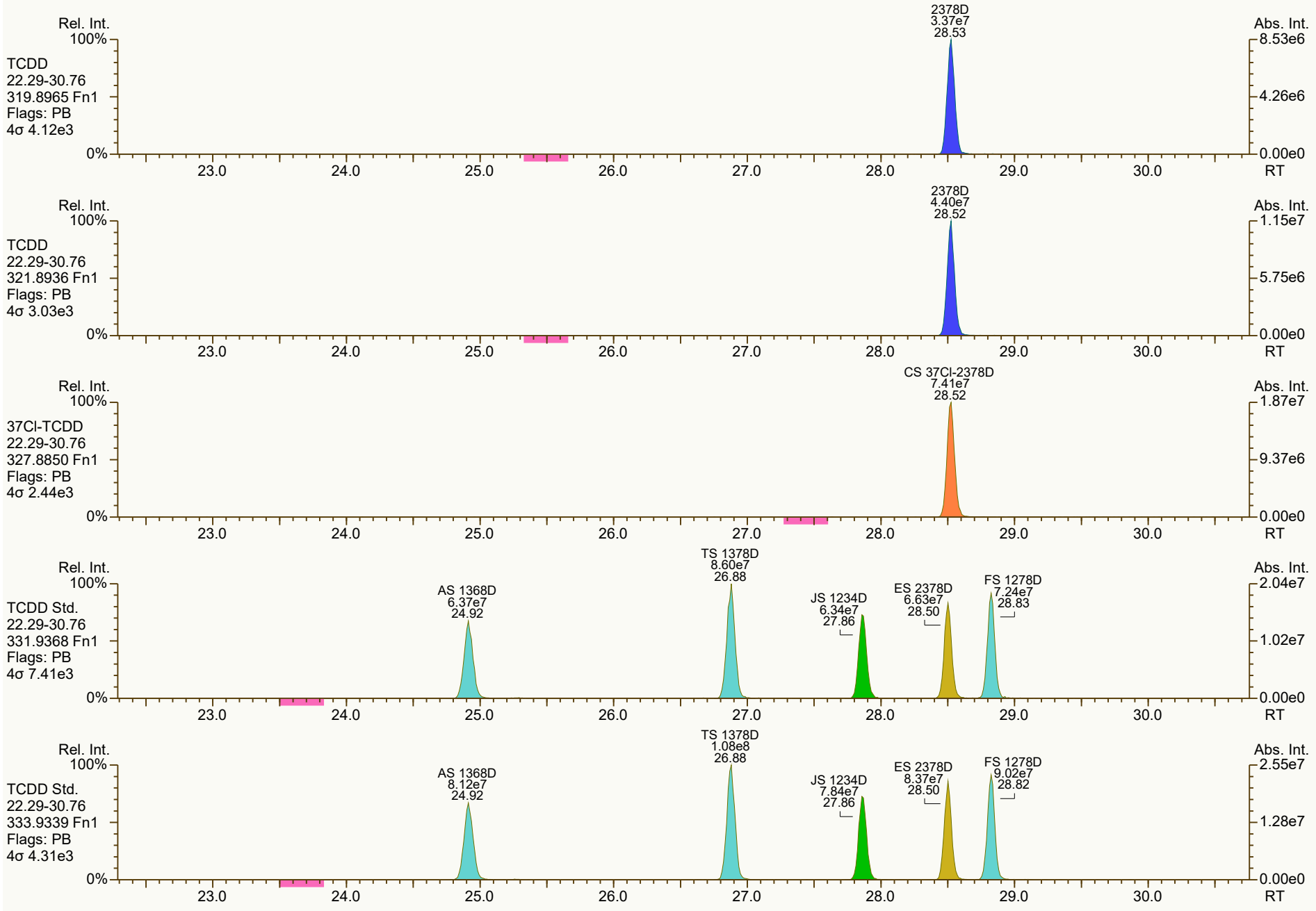
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 12:19 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS4_210727_DF_RA	UTP: 27-Jul-2021 15:00:21 PSW	Checkcode: 602-590-JSF
Sample ID: SIL 25-5-4	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R06

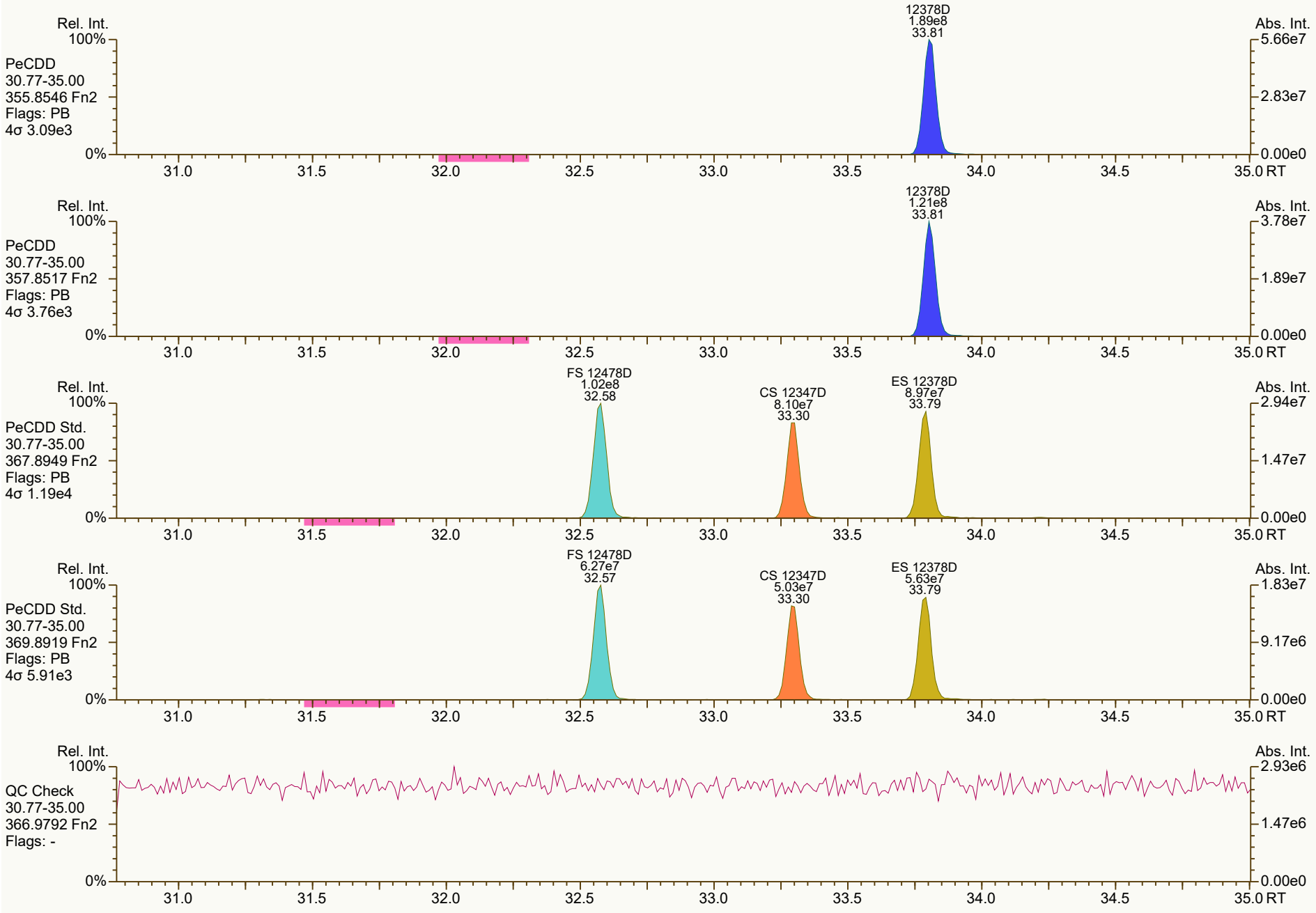
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.86	1.42E+08	0.81	Y	-	-	-
JS 1234-TCDF	26.33	2.27E+08	0.77	Y	-	-	-
JS 123467-HxCDD	37.97	6.89E+07	1.26	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	7.41E+07	n/a	-	1.31	1.31	0%
CS 12347-PeCDD	33.30	1.31E+08	1.61	Y	0.89	0.93	4%
CS 12346-PeCDF	31.84	2.01E+08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

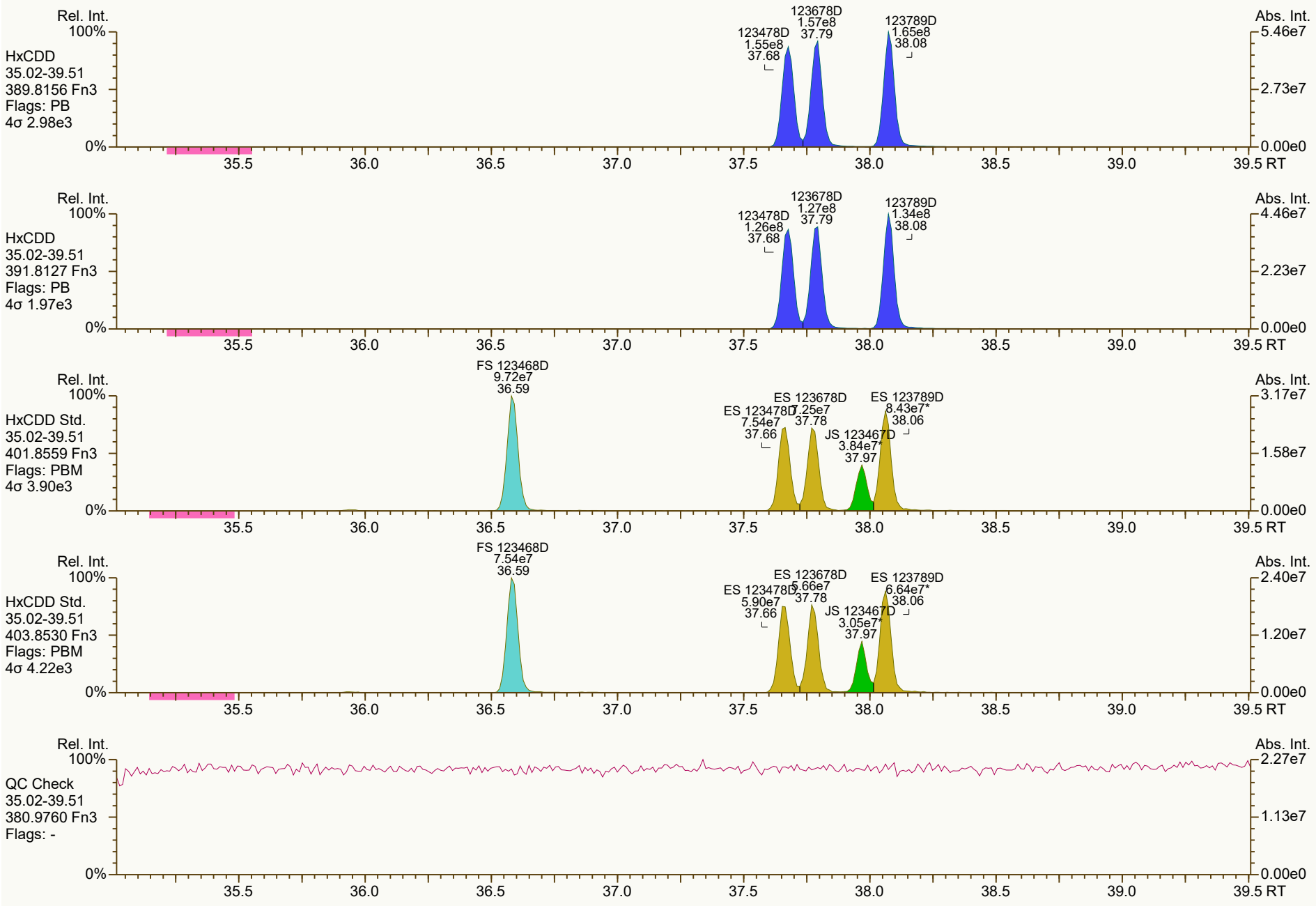
Not reported from this ICAL - CL 28Jul21

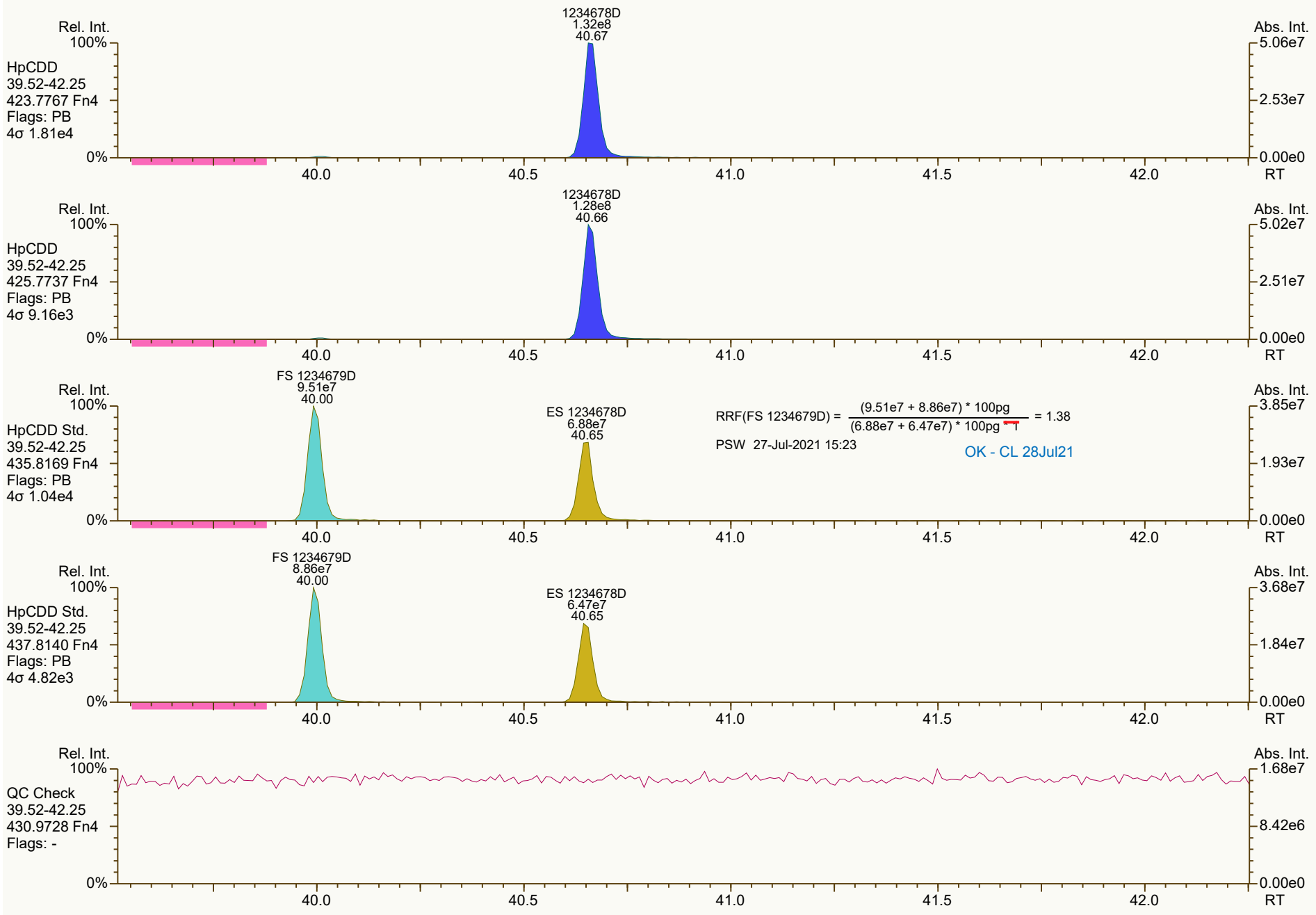


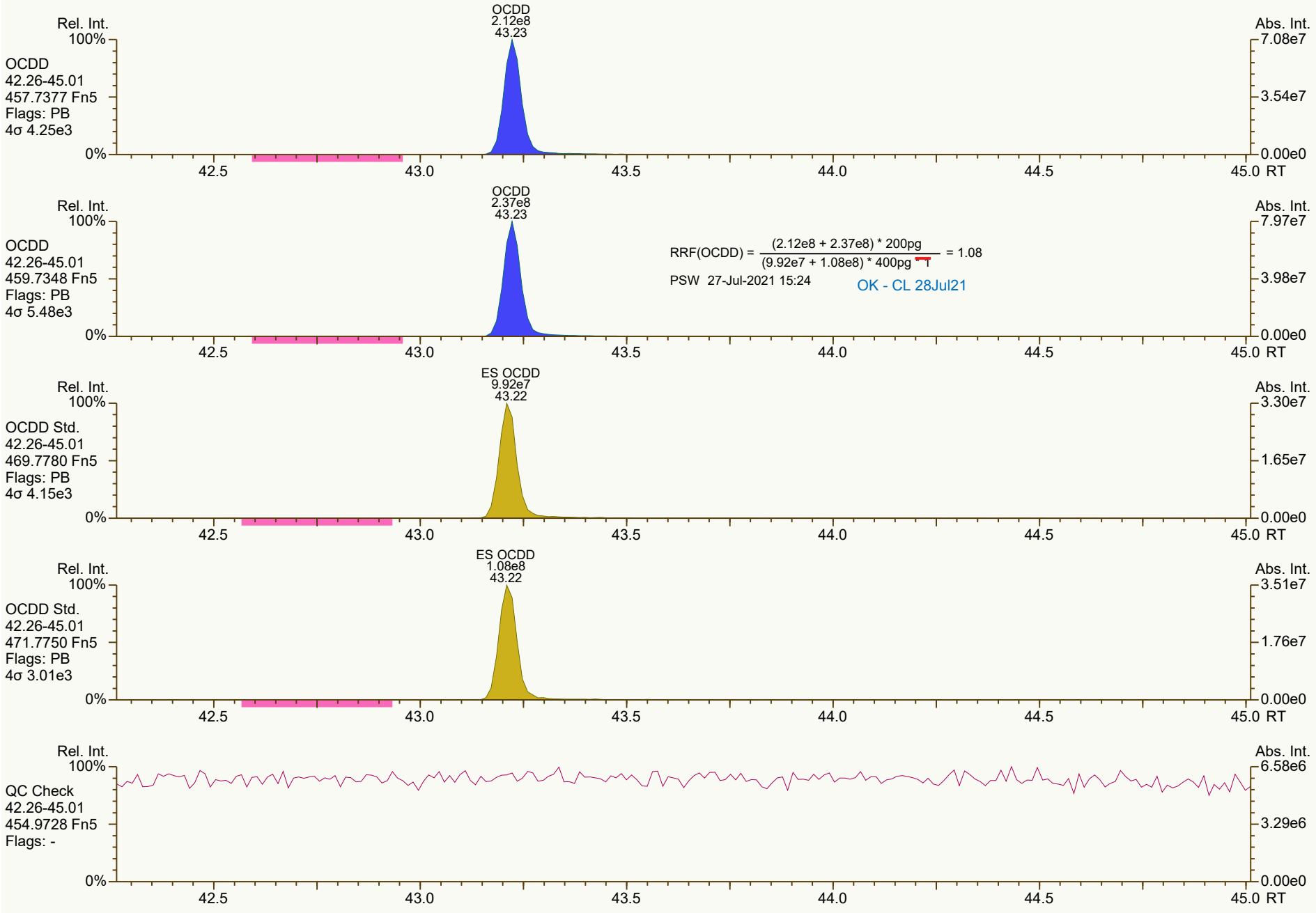
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS4_210727_DF_RA.utp_res, saved 27-Jul-2021 15:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q scc: 602-590
PKD: n/a Printed: 27-Jul-2021 15:31 Page 1 of 12


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


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 3.09e3
0%
12378D
1.89e8
33.81
Abs. Int.
5.66e7
2.83e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 3.76e3
0%
12378D
1.21e8
33.81
Abs. Int.
3.78e7
1.89e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PB
4σ 1.19e4
0%
FS 12478D
1.02e8
32.58
CS 12347D
8.10e7
33.30
ES 12378D
8.97e7
33.79
Abs. Int.
2.94e7
1.47e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PB
4σ 5.91e3
0%
FS 12478D
6.27e7
32.57
CS 12347D
5.03e7
33.30
ES 12378D
5.63e7
33.79
Abs. Int.
1.83e7
9.17e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.93e6
1.47e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

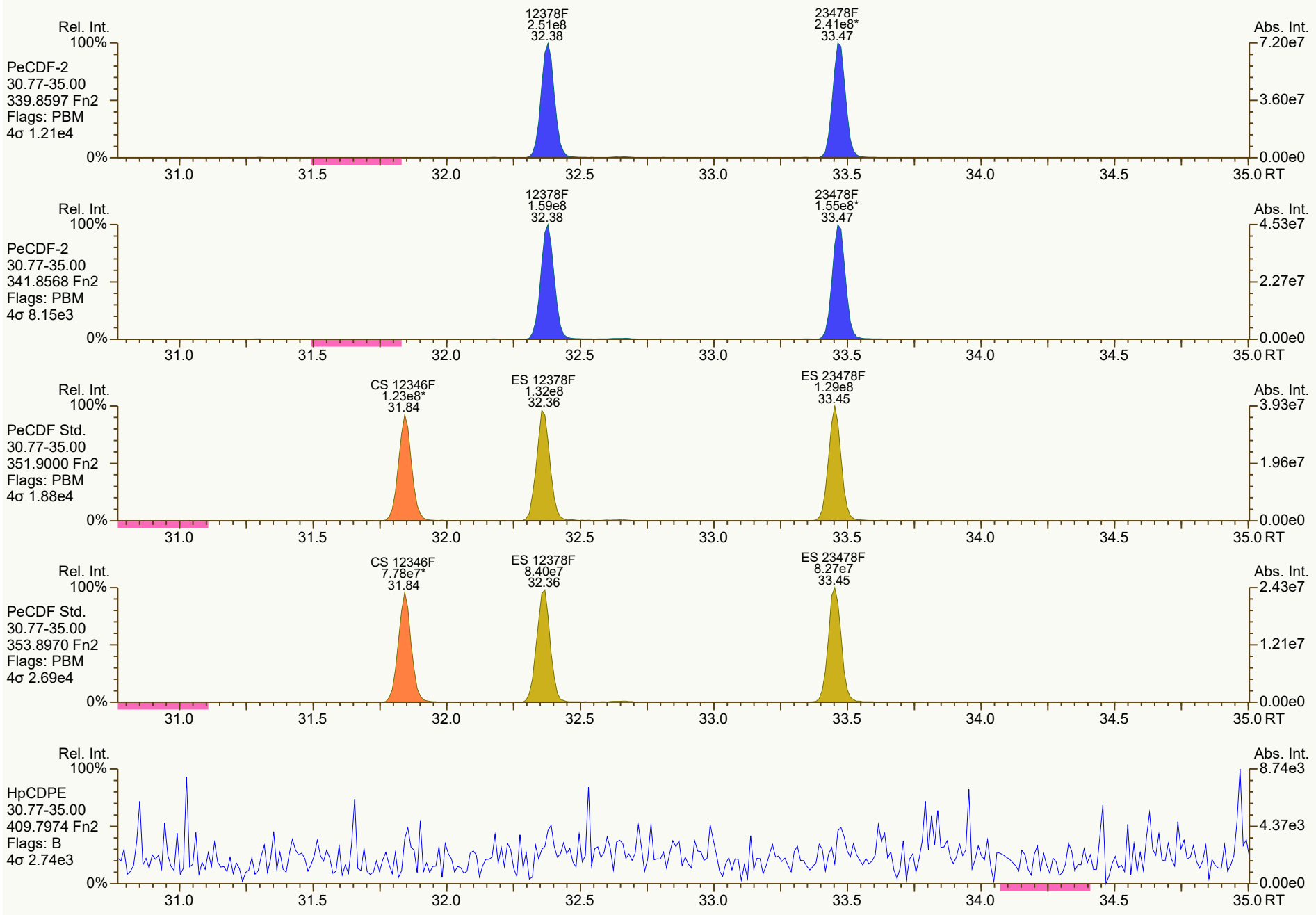

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.98e3
123678D
1.57e8
37.79
123478D
1.55e8
37.68
123789D
1.65e8
38.08
Abs. Int.
5.46e7
2.73e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 1.97e3
123678D
1.27e8
37.79
123478D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

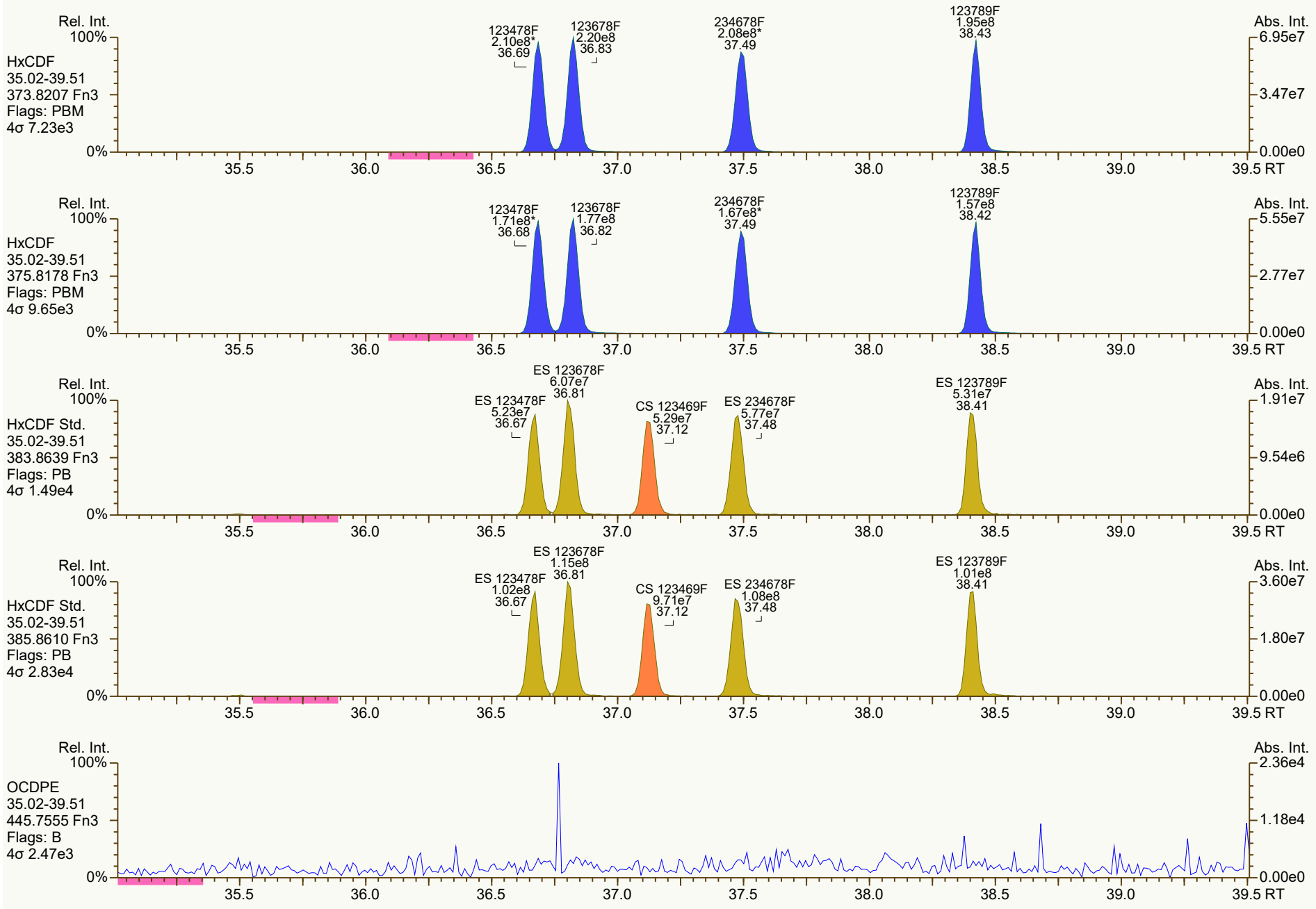

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 1.81e4
1234678D
1.32e8
40.67
Abs. Int.
5.06e7
2.53e7
0.00e0
RT
0%
40.0
40.5
41.0
41.5
42.0
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 9.16e3
1234678D
1.28e8
40.66
5.02e7
2.51e7
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 1.04e4
FS 1234679D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

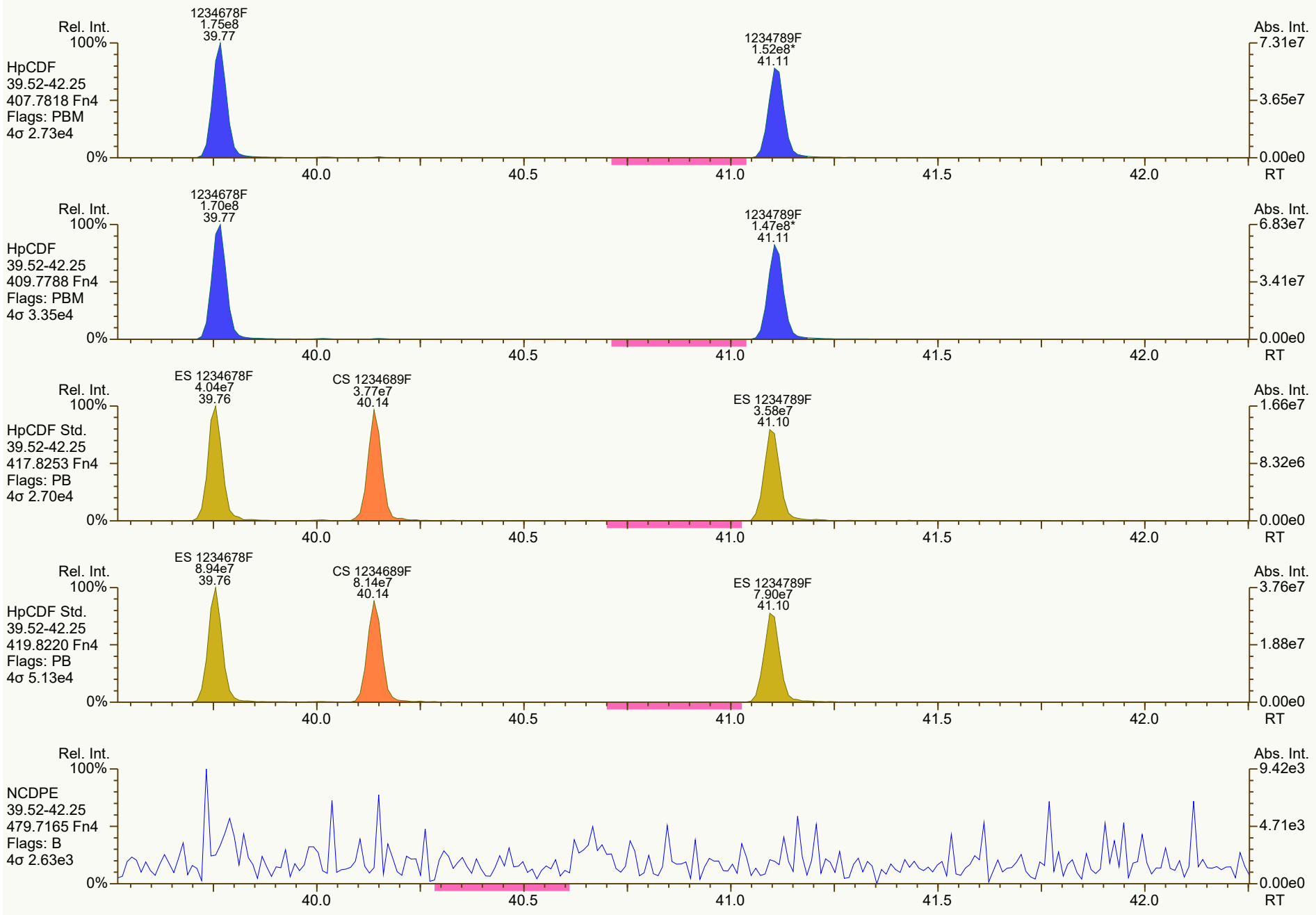

OCDD
2.12e8
43.23
Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: PB
4σ 4.25e3
0%
Abs. Int.
7.08e7
3.54e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.37e8
43.23
OCDD
42.26-45.01
459.7348 Fn5
Flags: PB
4σ 5.48e3
RRF(OCDD) = (2.12e8 + 2.37e8) * 200pg / (9.92e7 + 1.08e8) * 400pg = 1.08
PSW 27-Jul-2021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


Rel. Int.
100%
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.95e3
0%
2378F
4.17e7
27.67
Abs. Int.
9.81e6
4.91e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.51e3
0%
2378F
5.43e7
27.67
Abs. Int.
1.28e7
6.42e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 2.36e4
0%
AS 1368F
1.10e8
22.86
JS 1234F
9.87e7
26.33
ES 2378F
1.10e8
27.65
Abs. Int.
2.69e7
1.34e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.34e4
0%
AS 1368F
1.39e8
22.85
JS 1234F
1.29e8
26.33
ES 2378F
1.38e8
27.65
Abs. Int.
3.21e7
1.60e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.81e3
0%
Abs. Int.
9.37e3
4.68e3
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


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


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


Rel. Int.
100%
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 7.23e3
123478F
2.10e8*
36.69
123678F
2.20e8
36.83
234678F
2.08e8*
37.49
123789F
1.95e8
38.43
Abs. Int.
6.95e7
3.47e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 9.65e3
123478F
1.71e8*
36.68
123678F
1.77e8
36.82
234678F
1.67e8*
37.49
123789F
1.57e8
38.42
Abs. Int.
5.55e7
2.77e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 1.49e4
ES 123678F
6.07e7
36.81
ES 123478F
5.23e7
36.67
CS 123469F
5.29e7
37.12
ES 234678F
5.77e7
37.48
ES 123789F
5.31e7
38.41
Abs. Int.
1.91e7
9.54e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 2.83e4
ES 123678F
1.15e8
36.81
ES 123478F
1.02e8
36.67
CS 123469F
9.71e7
37.12
ES 234678F
1.08e8
37.48
ES 123789F
1.01e8
38.41
Abs. Int.
3.60e7
1.80e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.47e3
Abs. Int.
2.36e4
1.18e4
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


Rel. Int.
100%
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PBM
4σ 2.73e4
1234678F
1.75e8
39.77
1234789F
1.52e8*
41.11
Abs. Int.
7.31e7
3.65e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PBM
4σ 3.35e4
1234678F
1.70e8
39.77
1234789F
1.47e8*
41.11
6.83e7
3.41e7
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PB
4σ 2.70e4
ES 1234678F
4.04e7
39.76
CS 1234689F
3.77e7
40.14
ES 1234789F
3.58e7
41.10
1.66e7
8.32e6
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PB
4σ 5.13e4
ES 1234678F
8.94e7
39.76
CS 1234689F
8.14e7
40.14
ES 1234789F
7.90e7
41.10
3.76e7
1.88e7
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.63e3
9.42e3
4.71e3


OCDF
2.49e8
43.41
Rel. Int.
100%
OCDF
42.26-45.01
441.7428 Fn5
Flags: PB
4σ 2.68e3
0%
Abs. Int.
8.08e7
4.04e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.73e8
43.41
OCDF
42.26-45.01
443.7398 Fn5
Flags: PB
4σ 2.81e3
8.85e7
4.43e7
ES OCDF
1.18e8
43.40
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PB
4σ 5.20e3
3.94e7
1.97e7
ES OCDF
1.31e8
43.40
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PB
4σ 5.23e3
4.16e7
2.08e7
DCDPE
42.26-45.01
513.6775 Fn5
Flags: B
4σ 2.11e3
4.05e3
2.02e3

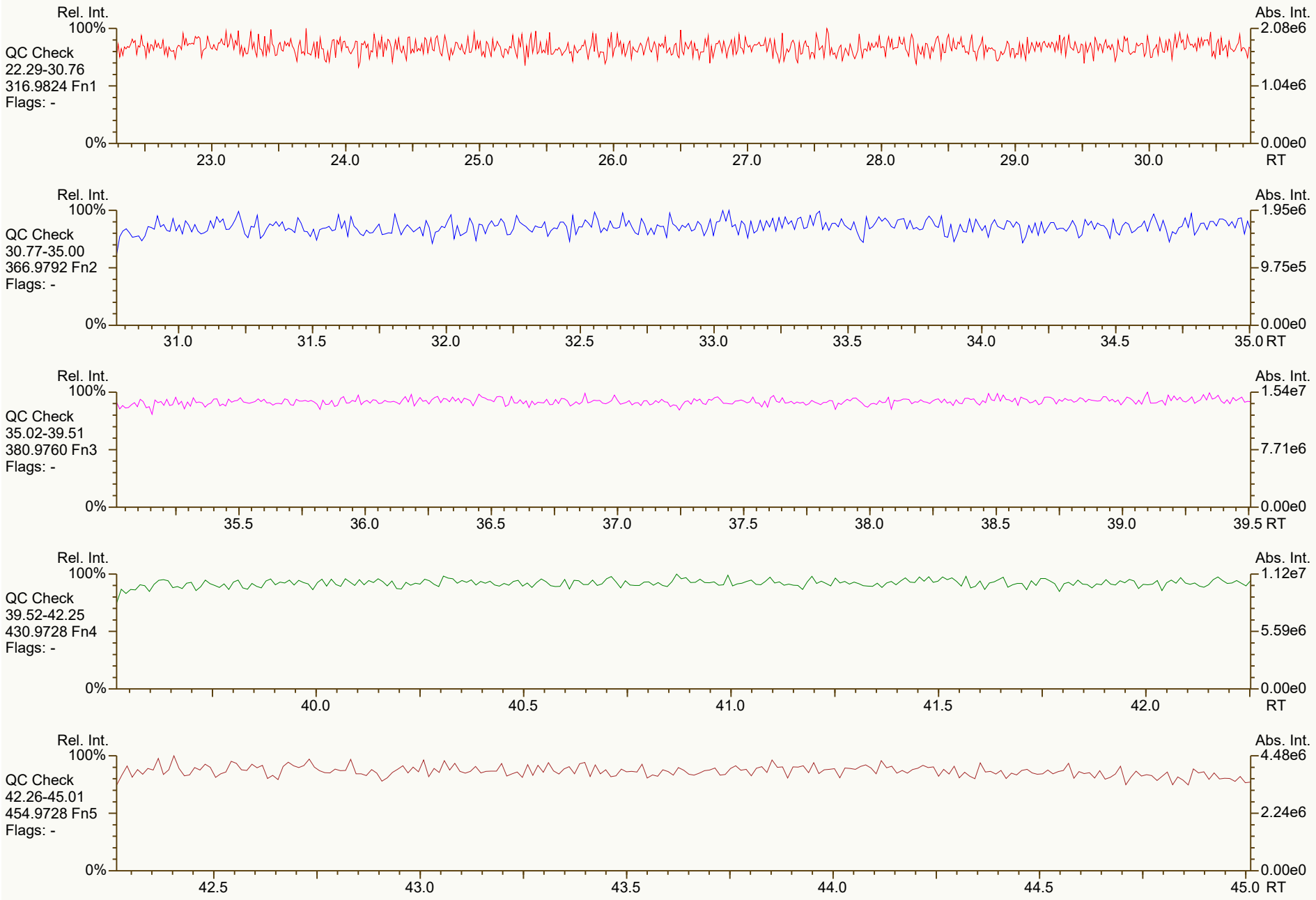
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 13:09 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS5_210727_DF_RA	UTP: 27-Jul-2021 15:00:22 PSW	Checkcode: 147-553-CLL
Sample ID: SIL 25-5-3	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R07

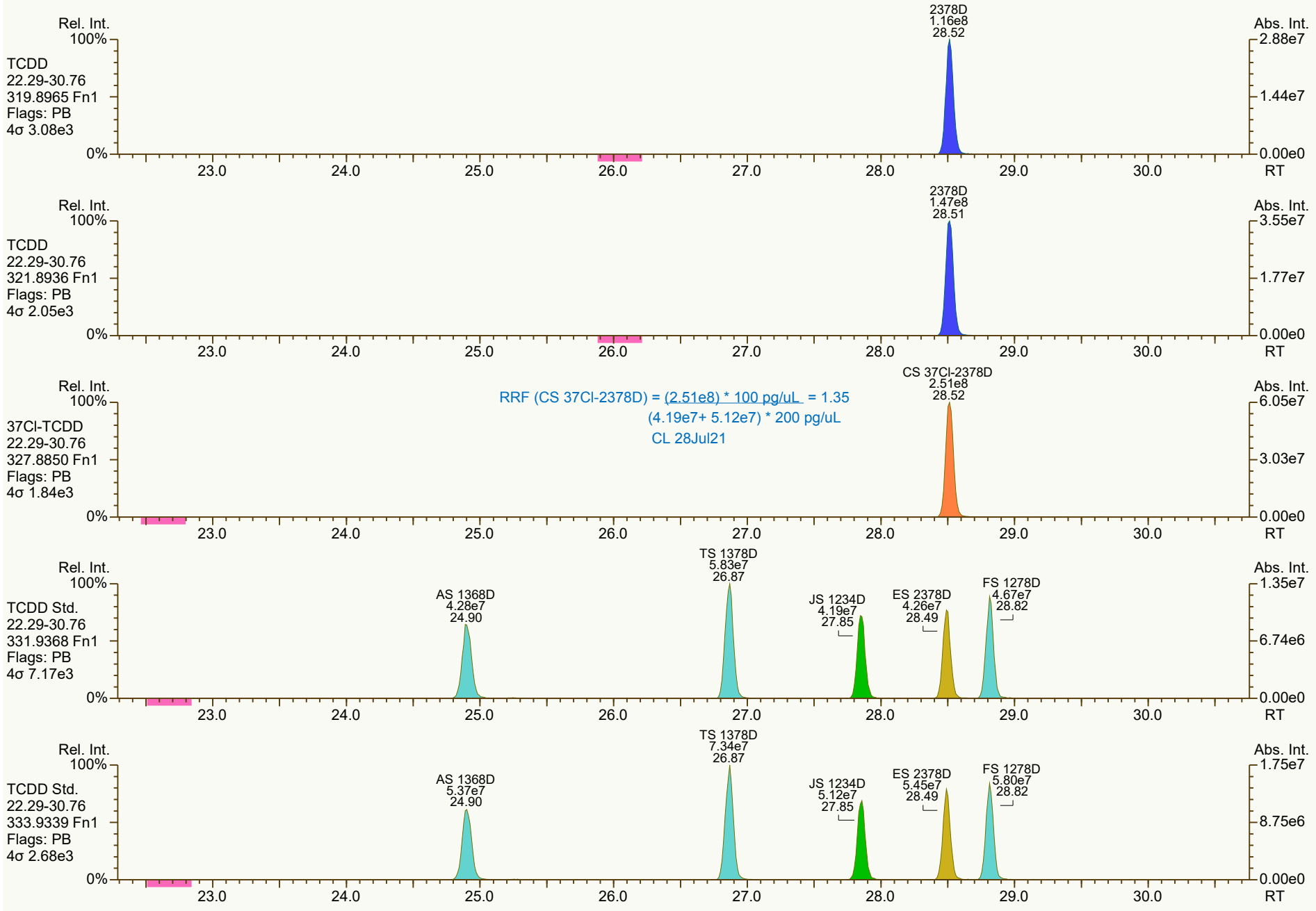
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.52	2.63E+08	0.78	Y	1.34	1.35	1%
12378-PeCDD	33.80	1.06E+09	1.56	Y	1.06	1.07	1%
123478-HxCDD	37.67	9.52E+08	1.24	Y	1.06	1.06	0%
123678-HxCDD	37.78	9.75E+08	1.25	Y	1.08	1.10	1%
123789-HxCDD	38.07	1.03E+09	1.25	Y	1.02	1.01	-1%
1234678-HpCDD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

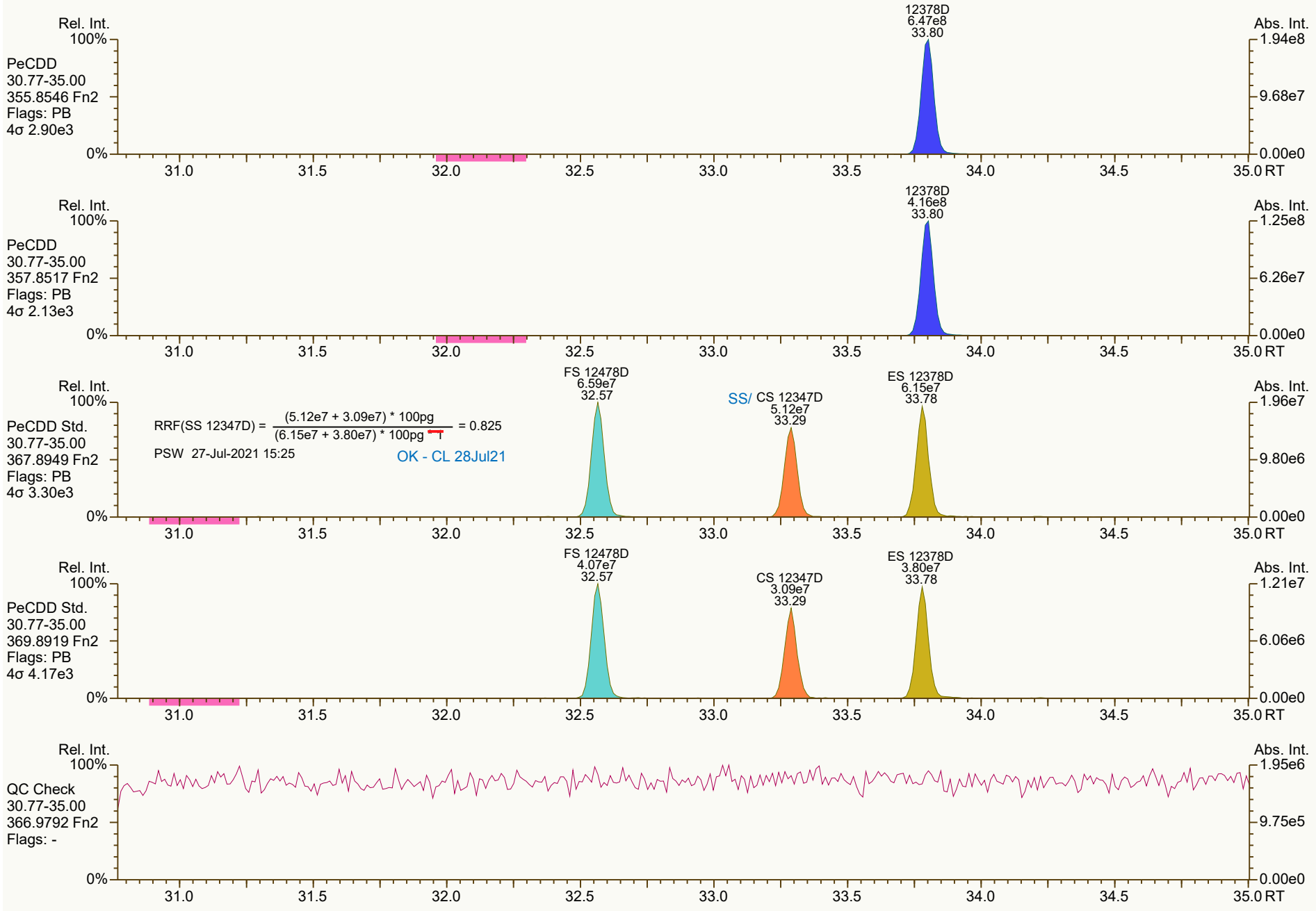
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 13:09 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS5_210727_DF_RA	UTP: 27-Jul-2021 15:00:22 PSW	Checkcode: 147-553-CLL
Sample ID: SIL 25-5-3	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R07

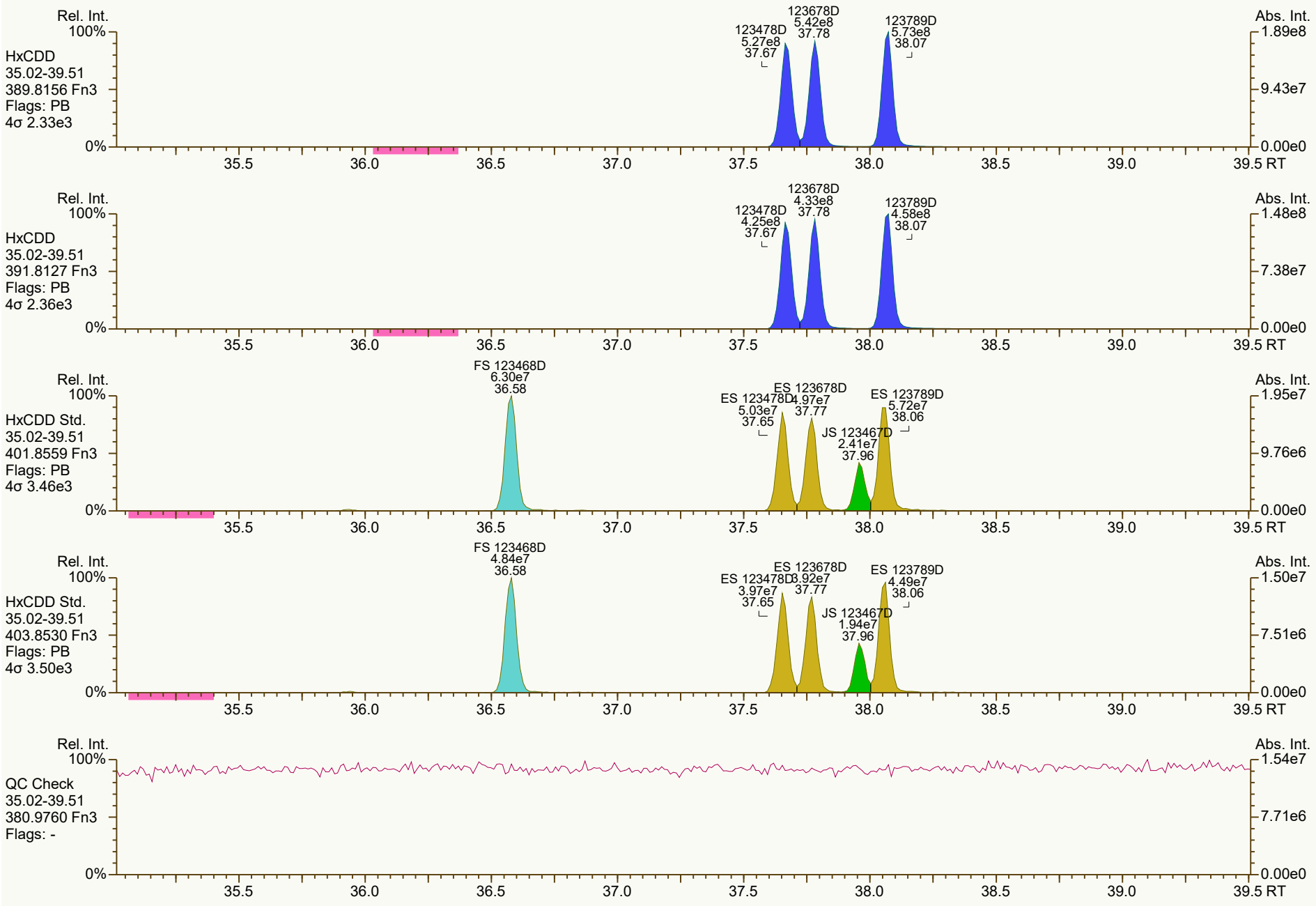
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.85	9.31E+07	0.82	Y	-	-	-
JS 1234-TCDF	26.32	1.51E+08	0.79	Y	-	-	-
JS 123467-HxCDD	37.96	4.35E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	28.52	2.51E+08	n/a	-	1.31	1.35	3%
CS 12347-PeCDD	33.29	8.21E+07	1.66	Y	0.89	0.88	-1%
CS 12346-PeCDF	31.84	1.30E+08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

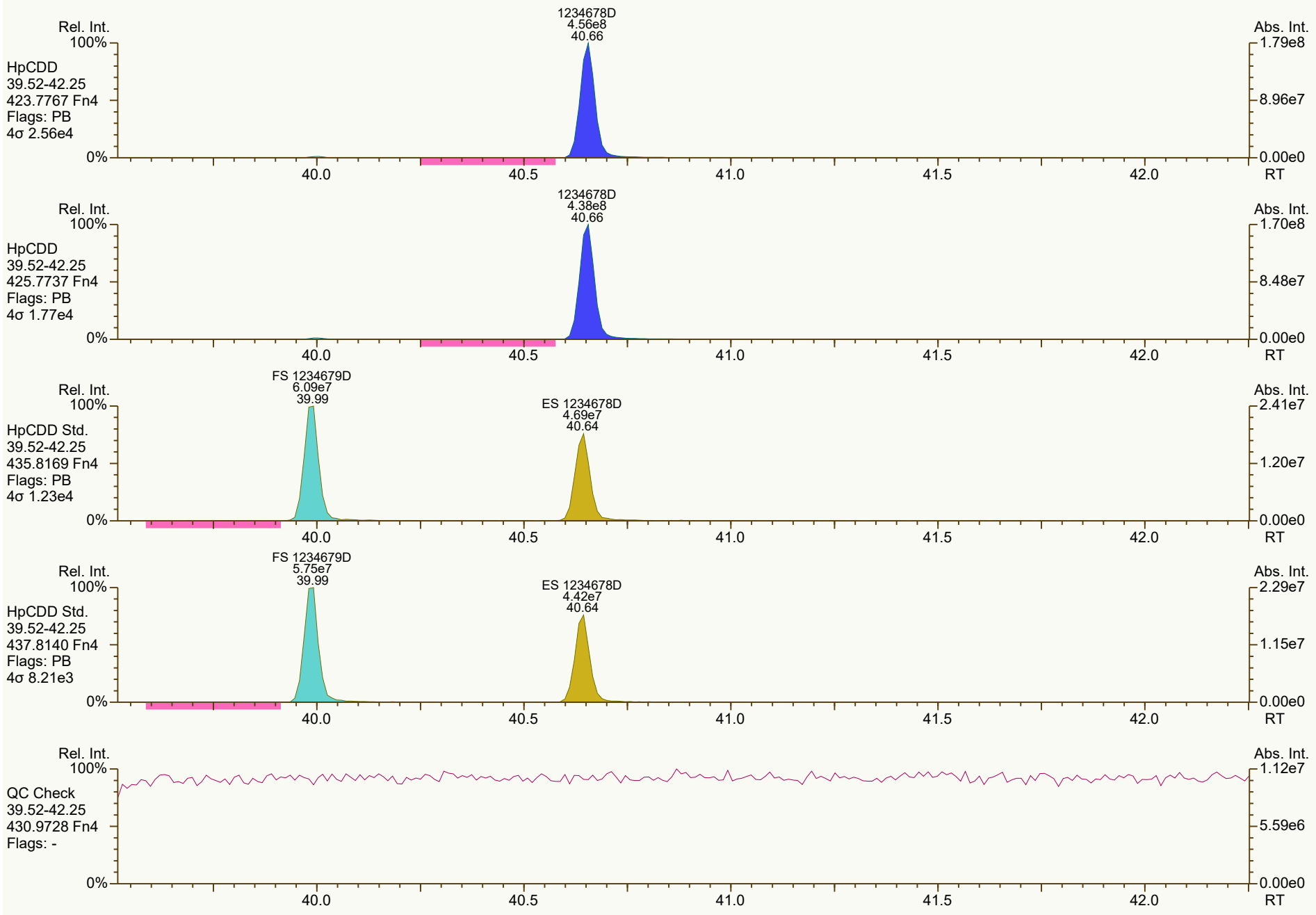
Not reported from this ICAL - CL 28Jul21


Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
2.08e6
1.04e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.95e6
9.75e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.54e7
7.71e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.12e7
5.59e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.48e6
2.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


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

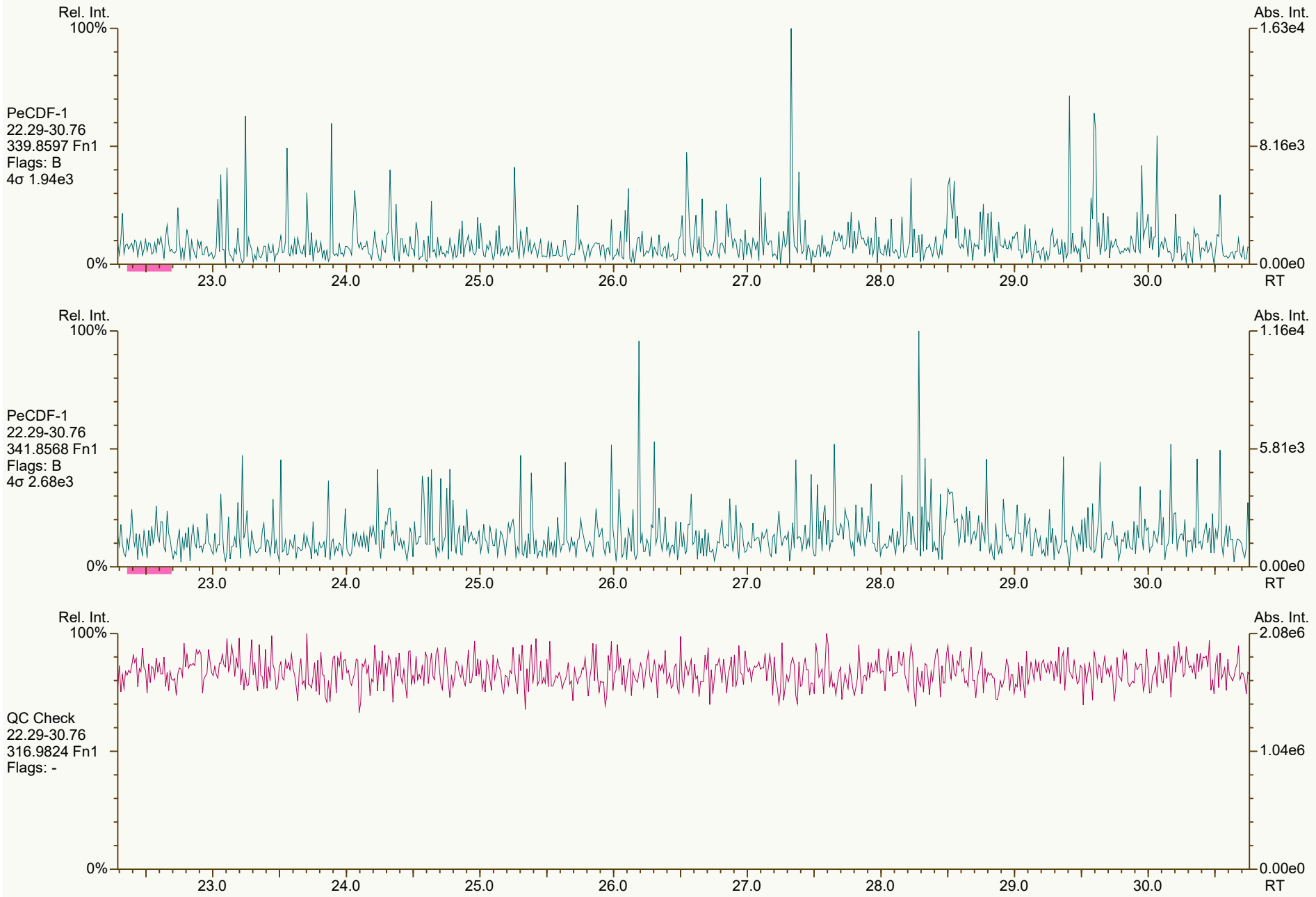

Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 2.90e3
0%
12378D
6.47e8
33.80
Abs. Int.
1.94e8
9.68e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.13e3
0%
12378D
4.16e8
33.80
Abs. Int.
1.25e8
6.26e7
0.00e0
31.0
31.5
32.0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

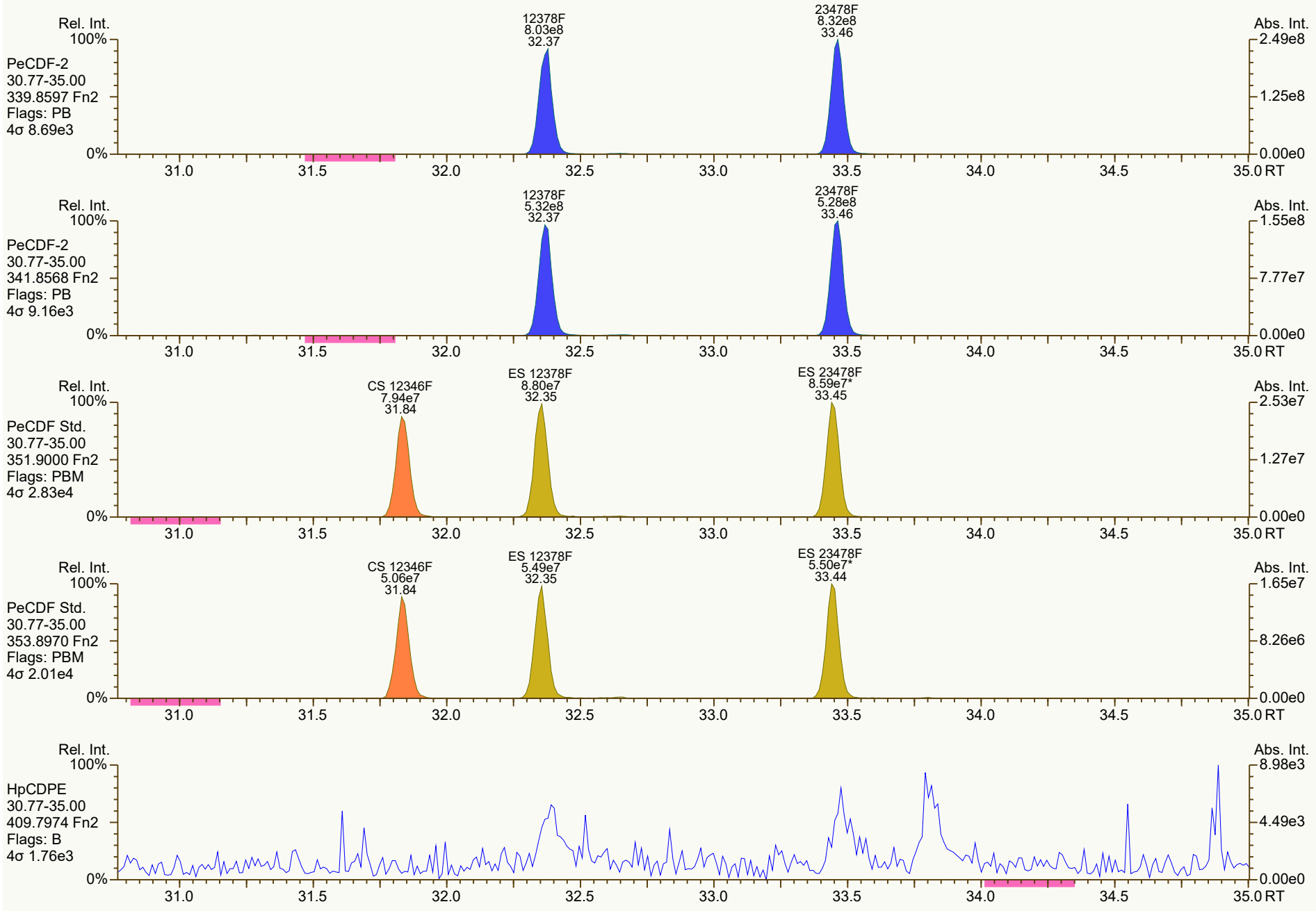

Rel. Int.
Abs. Int.
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.33e3
123478D 5.27e8 37.67
123678D 5.42e8 37.78
123789D 5.73e8 38.07
1.89e8
9.43e7
0.00e0
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.36e3
123478D 4.25e8 37.67
123678D 4.33e8 37.78
123789D 4.58e8 38.07
1.48e8
7.38e7
0.00e0
HxCDD Std.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

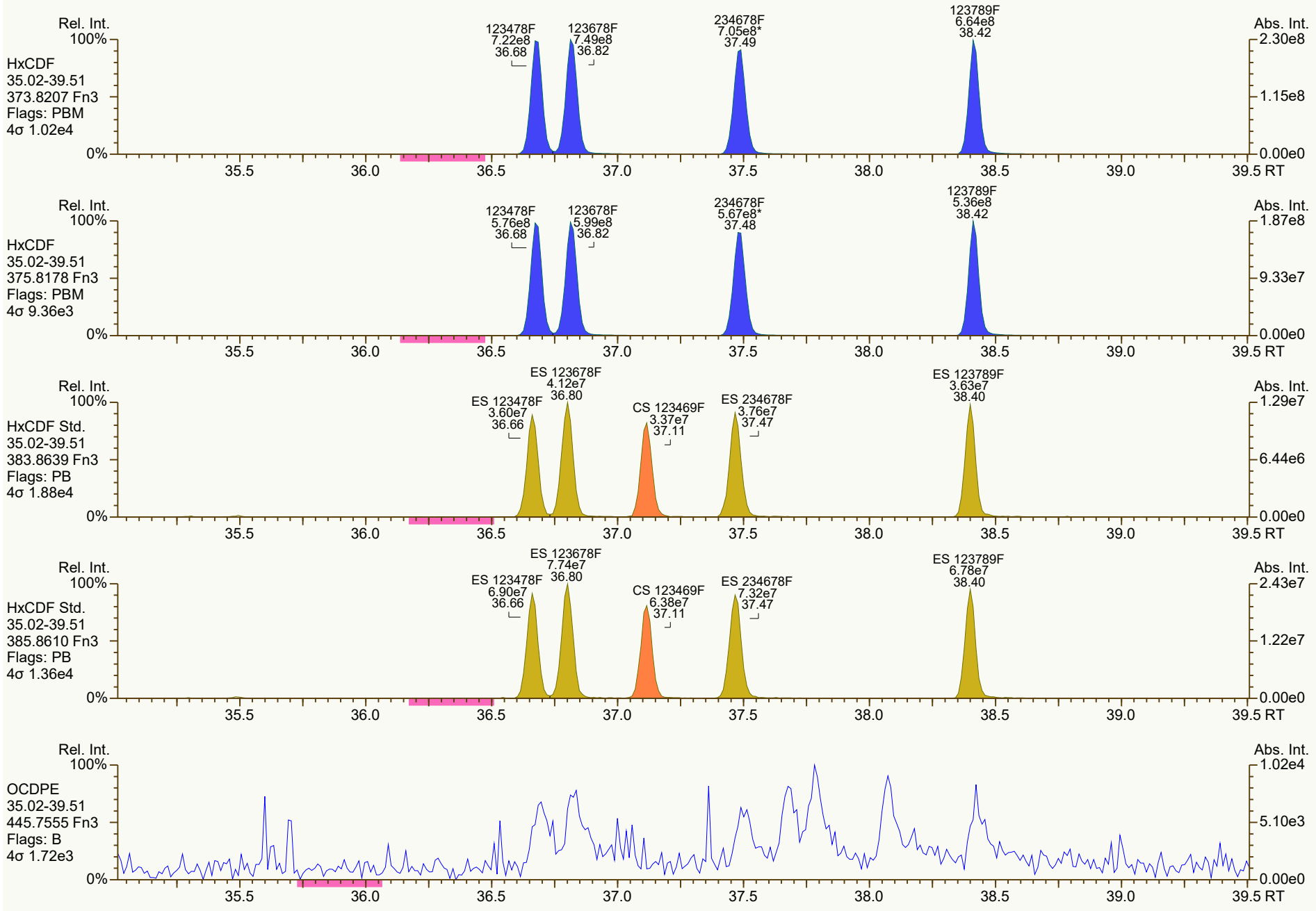

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 2.56e4
0%
1234678D
4.56e8
40.66
Abs. Int.
1.79e8
8.96e7
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 1.77e4
0%
1234678D
4.38e8
40.66
Abs. Int.
1.70e8
8.48e7
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 1.23e4
0%
FS 1234679D
6.09e7
39.99
ES 1234678D
4.69e7
40.64
Abs. Int.
2.41e7
1.20e7
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 8.21e3
0%
FS 1234679D
5.75e7
39.99
ES 1234678D
4.42e7
40.64
Abs. Int.
2.29e7
1.15e7
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.12e7
5.59e6
0.00e0
RT
40.0
40.5
41.0
41.5
42.0

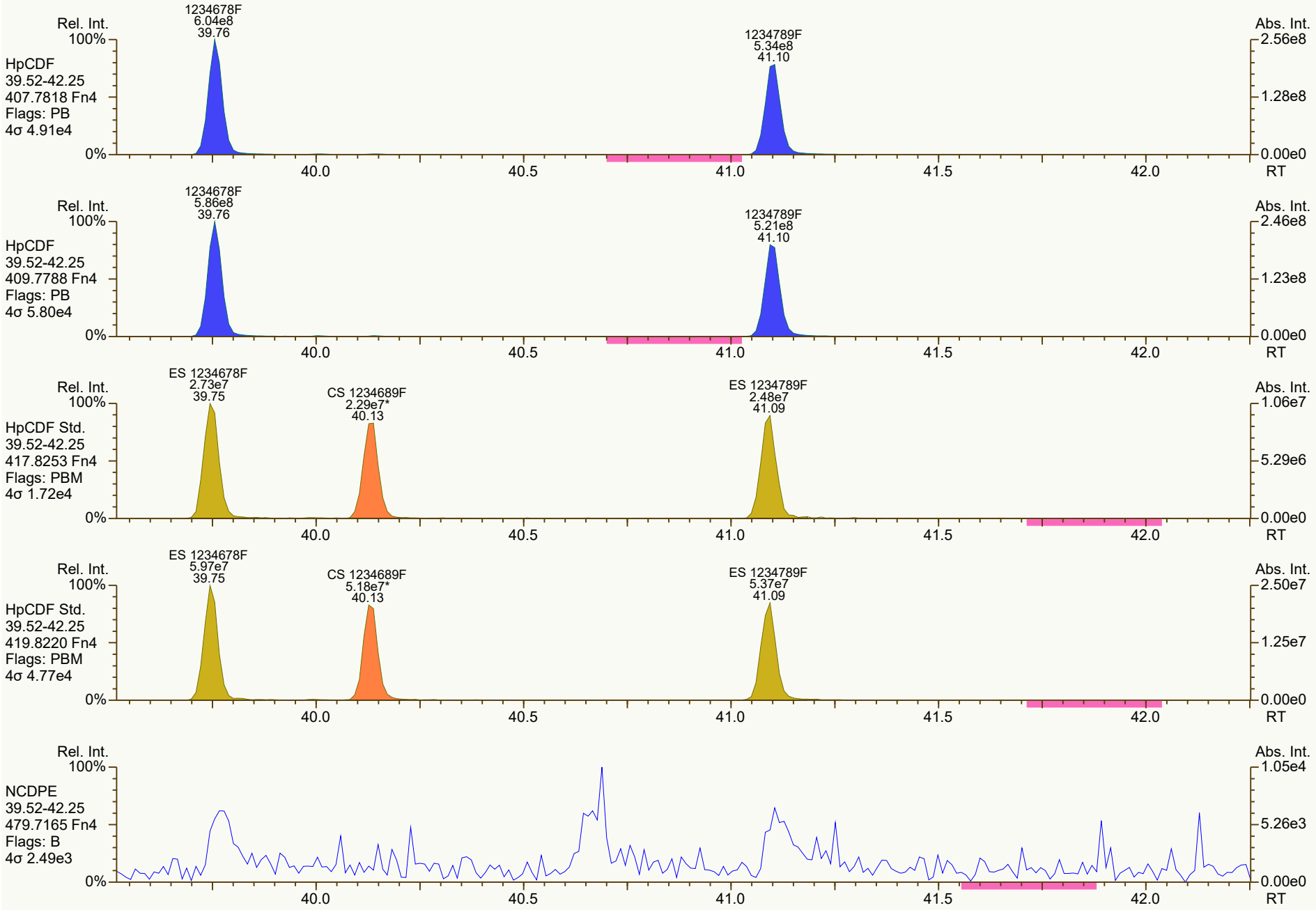

OCDD
7.34e8*
43.22
Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
2.52e8
1.26e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
8.31e8*
43.22
Rel. Int.
100%
OCDD
42.26-45.01
459.7348 Fn5
Flags: PBM
4σ 2.52e3
0%
Abs. Int.
2.81e8
1.40e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
6.94e7
43.21
Rel. Int.
100%
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PB
4σ 3.01e3
0%
Abs. Int.
2.31e7
1.16e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
7.81e7
43.21
Rel. Int.
100%
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PB
4σ 3.23e3
0%
Abs. Int.
2.71e7
1.35e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.48e6
2.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

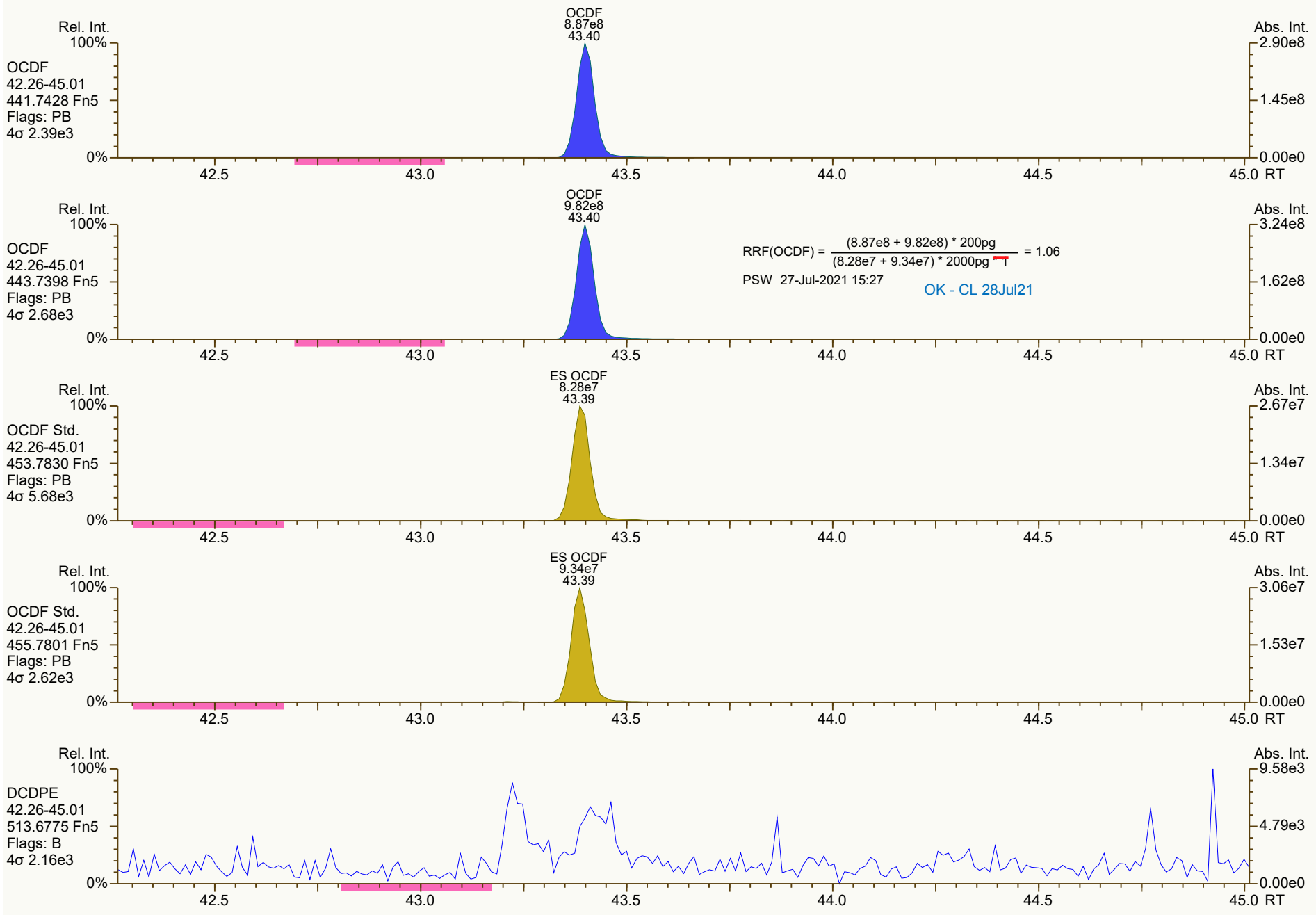

Rel. Int.
100%
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.39e3
0%
2378F
1.39e8
27.66
Abs. Int.
3.30e7
1.65e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 1.93e3
0%
2378F
1.81e8
27.66
Abs. Int.
4.26e7
2.13e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.93e4
0%
AS 1368F
7.29e7
22.84
JS 1234F
6.68e7
26.32
ES 2378F
7.29e7
27.64
Abs. Int.
1.72e7
8.58e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 9.59e3
0%
AS 1368F
9.33e7
22.84
JS 1234F
8.44e7
26.31
ES 2378F
9.11e7
27.64
Abs. Int.
2.15e7
1.08e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 1.69e3
0%
Abs. Int.
1.28e4
6.39e3
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


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


Rel. Int.
100%
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 8.69e3
0%
12378F
8.03e8
32.37
23478F
8.32e8
33.46
Abs. Int.
2.49e8
1.25e8
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 9.16e3
0%
12378F
5.32e8
32.37
23478F
5.28e8
33.46
Abs. Int.
1.55e8
7.77e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PBM
4σ 2.83e4
0%
CS 12346F
7.94e7
31.84
ES 12378F
8.80e7
32.35
ES 23478F
8.59e7*
33.45
Abs. Int.
2.53e7
1.27e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PBM
4σ 2.01e4
0%
CS 12346F
5.06e7
31.84
ES 12378F
5.49e7
32.35
ES 23478F
5.50e7*
33.44
Abs. Int.
1.65e7
8.26e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 1.76e3
0%
Abs. Int.
8.98e3
4.49e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 1.02e4
0%
123478F
7.22e8
36.68
123678F
7.49e8
36.82
234678F
7.05e8*
37.49
123789F
6.64e8
38.42
Abs. Int.
2.30e8
1.15e8
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 9.36e3
0%
123478F
5.76e8
36.68
123678F
5.99e8
36.82
234678F
5.67e8*
37.48
123789F
5.36e8
38.42
Abs. Int.
1.87e8
9.33e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 1.88e4
0%
ES 123478F
3.60e7
36.66
ES 123678F
4.12e7
36.80
CS 123469F
3.37e7
37.11
ES 234678F
3.76e7
37.47
ES 123789F
3.63e7
38.40
Abs. Int.
1.29e7
6.44e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 1.36e4
0%
ES 123478F
6.90e7
36.66
ES 123678F
7.74e7
36.80
CS 123469F
6.38e7
37.11
ES 234678F
7.32e7
37.47
ES 123789F
6.78e7
38.40
Abs. Int.
2.43e7
1.22e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 1.72e3
0%
Abs. Int.
1.02e4
5.10e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


Rel. Int.
100%
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 4.91e4
1234678F
6.04e8
39.76
1234789F
5.34e8
41.10
Abs. Int.
2.56e8
1.28e8
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 5.80e4
1234678F
5.86e8
39.76
1234789F
5.21e8
41.10
Abs. Int.
2.46e8
1.23e8
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PBM
4σ 1.72e4
ES 1234678F
2.73e7
39.75
CS 1234689F
2.29e7*
40.13
ES 1234789F
2.48e7
41.09
Abs. Int.
1.06e7
5.29e6
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PBM
4σ 4.77e4
ES 1234678F
5.97e7
39.75
CS 1234689F
5.18e7*
40.13
ES 1234789F
5.37e7
41.09
Abs. Int.
2.50e7
1.25e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.49e3
Abs. Int.
1.05e4
5.26e3
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT


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

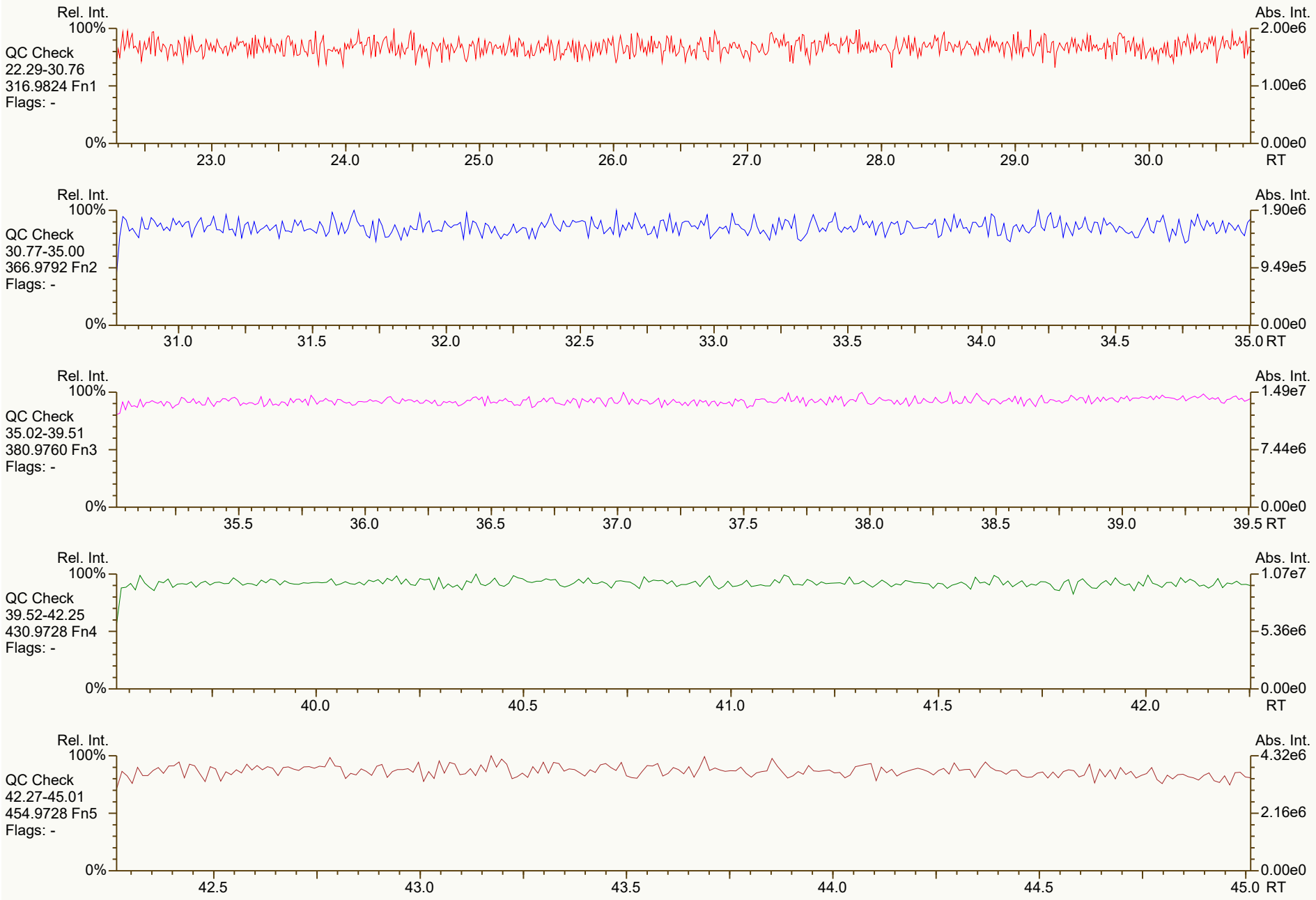
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 13:58 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS6_210727_DF_RA	UTP: 27-Jul-2021 15:00:22 PSW	Checkcode: 783-472-ZXK
Sample ID: SIL 25-5-2	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R08

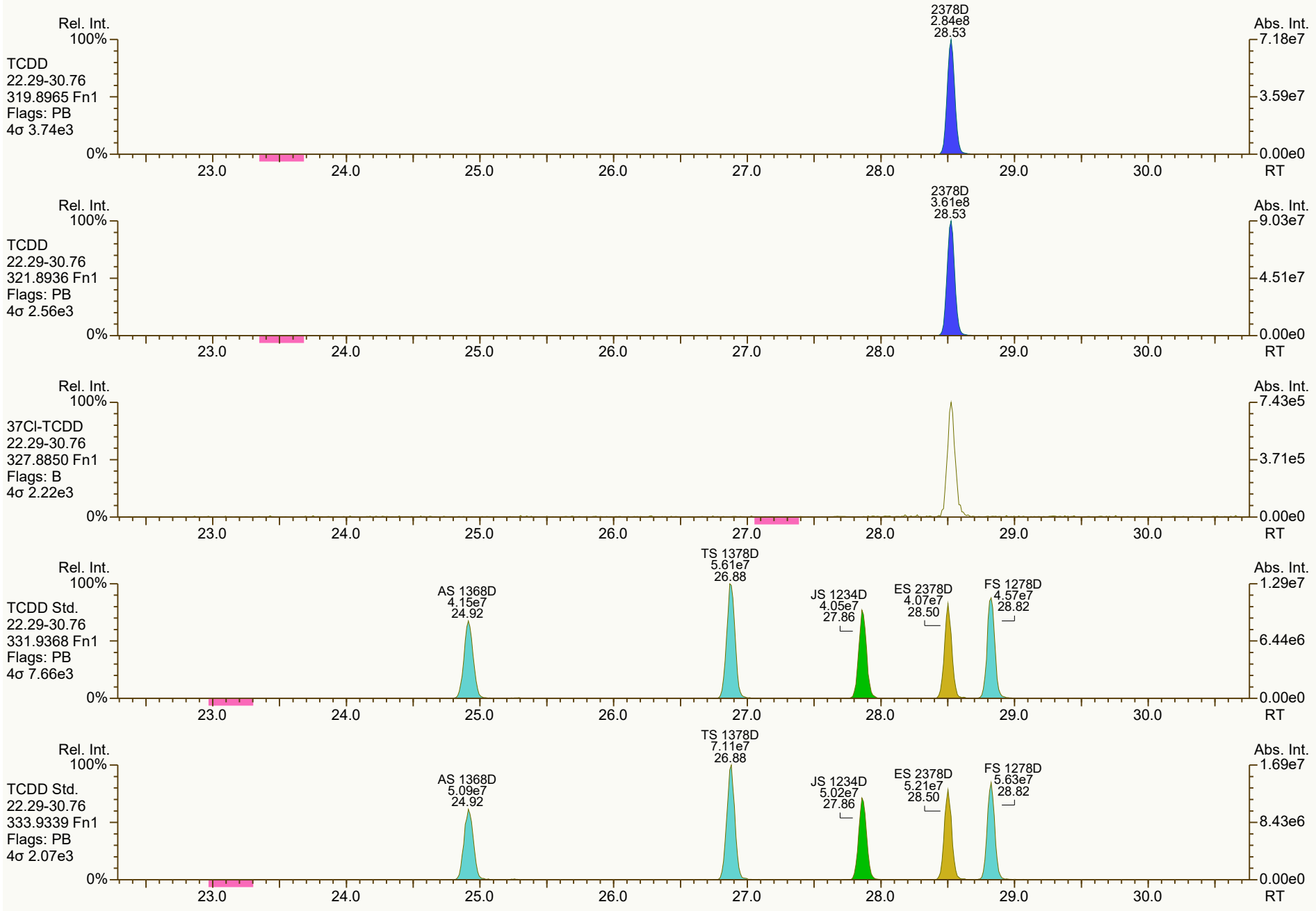
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	6.45E+08	0.79	Y	1.34	1.39	3%
12378-PeCDD	33.81	2.62E+09	1.57	Y	1.06	1.05	0%
123478-HxCDD	37.68	2.41E+09	1.26	Y	1.06	1.05	-1%
123678-HxCDD	37.79	2.46E+09	1.25	Y	1.08	1.09	1%
123789-HxCDD	38.08	2.63E+09	1.25	Y	1.02	1.00	-1%
1234678-HpCDD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

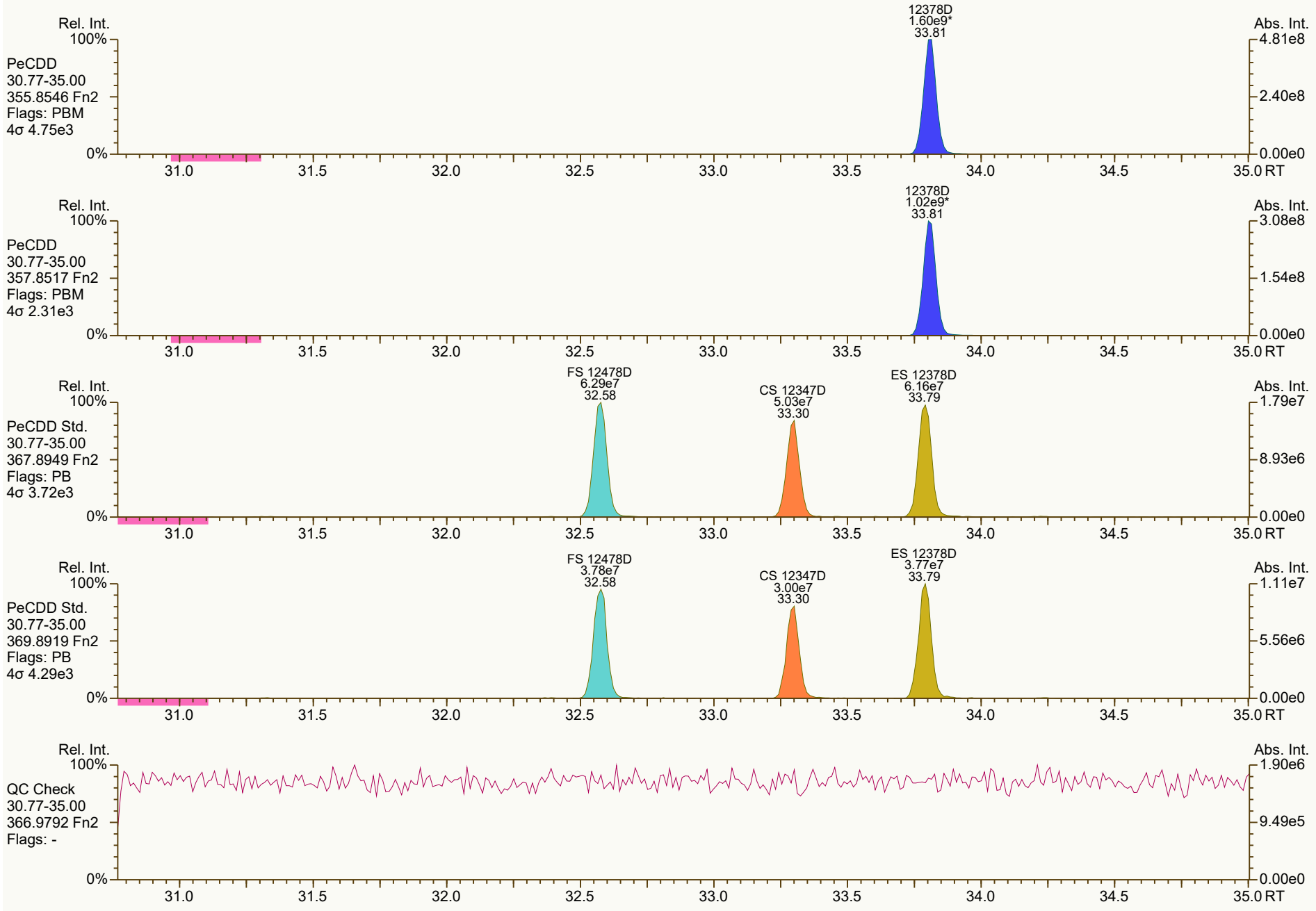
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 13:58 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS6_210727_DF_RA	UTP: 27-Jul-2021 15:00:22 PSW	Checkcode: 783-472-ZXK
Sample ID: SIL 25-5-2	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R08

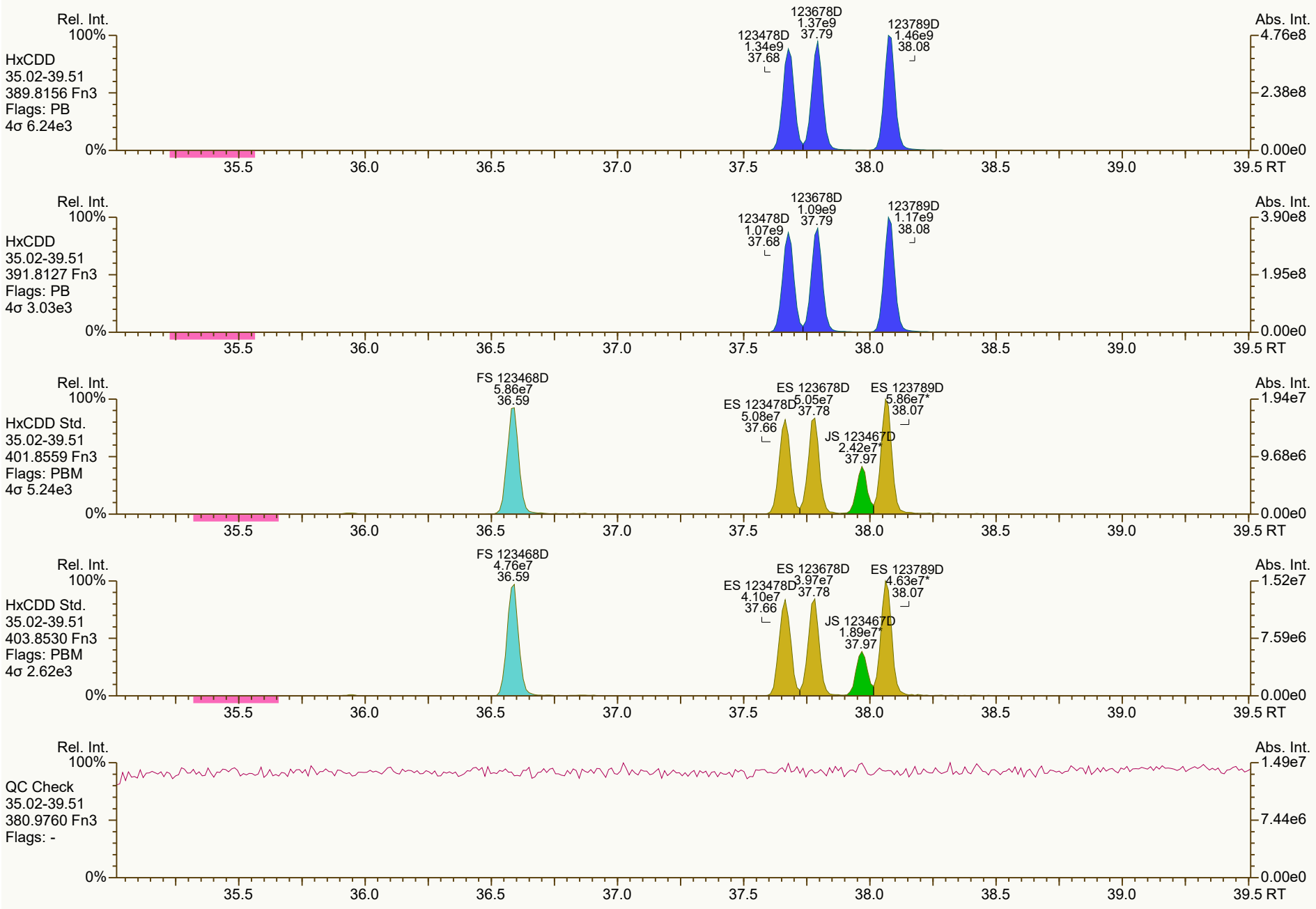
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.86	9.07E+07	0.81	Y	-	-	-
JS 1234-TCDF	26.33	1.47E+08	0.79	Y	-	-	-
JS 123467-HxCDD	37.97	4.31E+07	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.31		
CS 12347-PeCDD	33.30	8.03E+07	1.68	Y	0.89	0.89	-1%
CS 12346-PeCDF	31.84	1.25E+08	1.54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

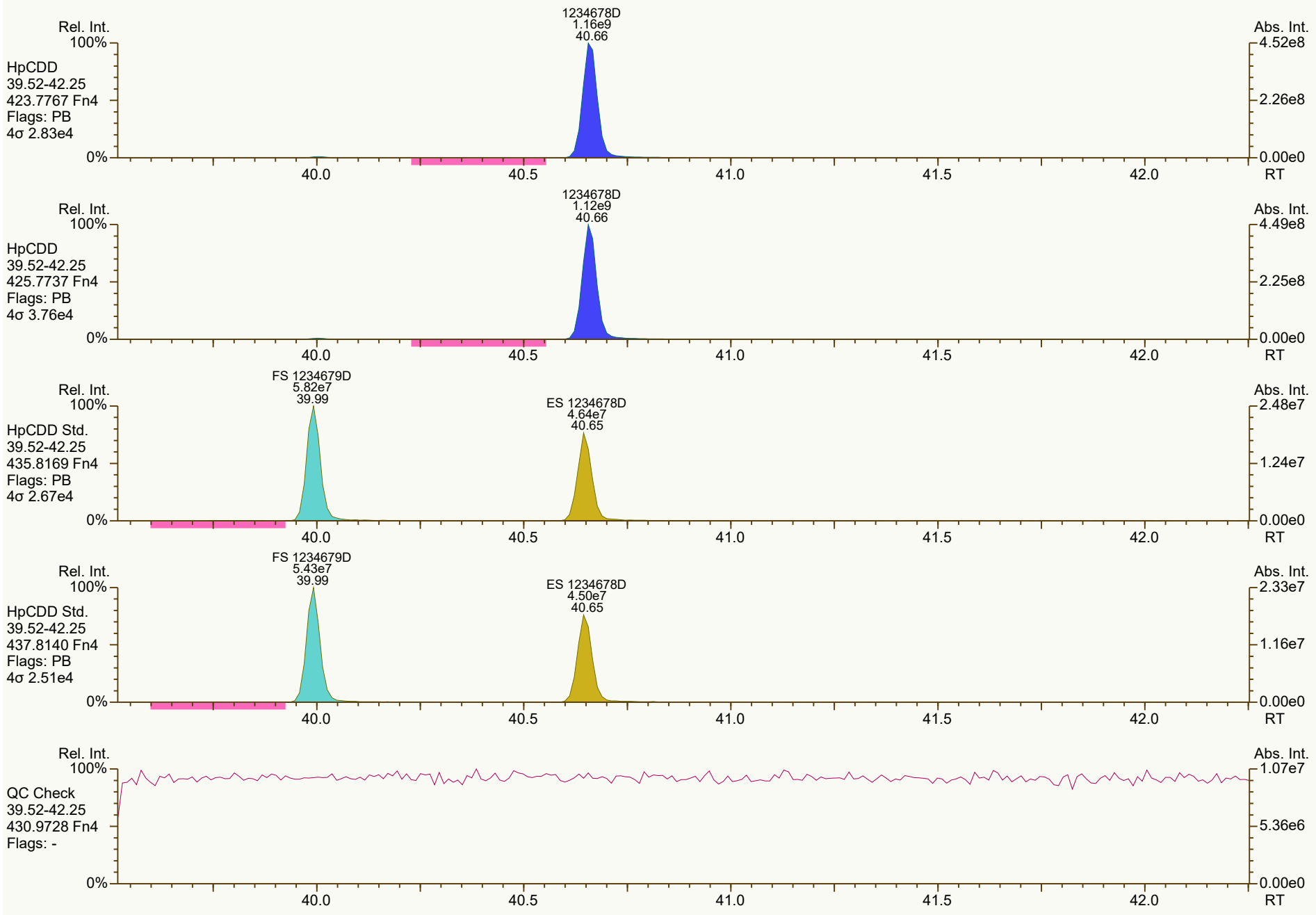
Not reported from this ICAL - CL 28Jul21

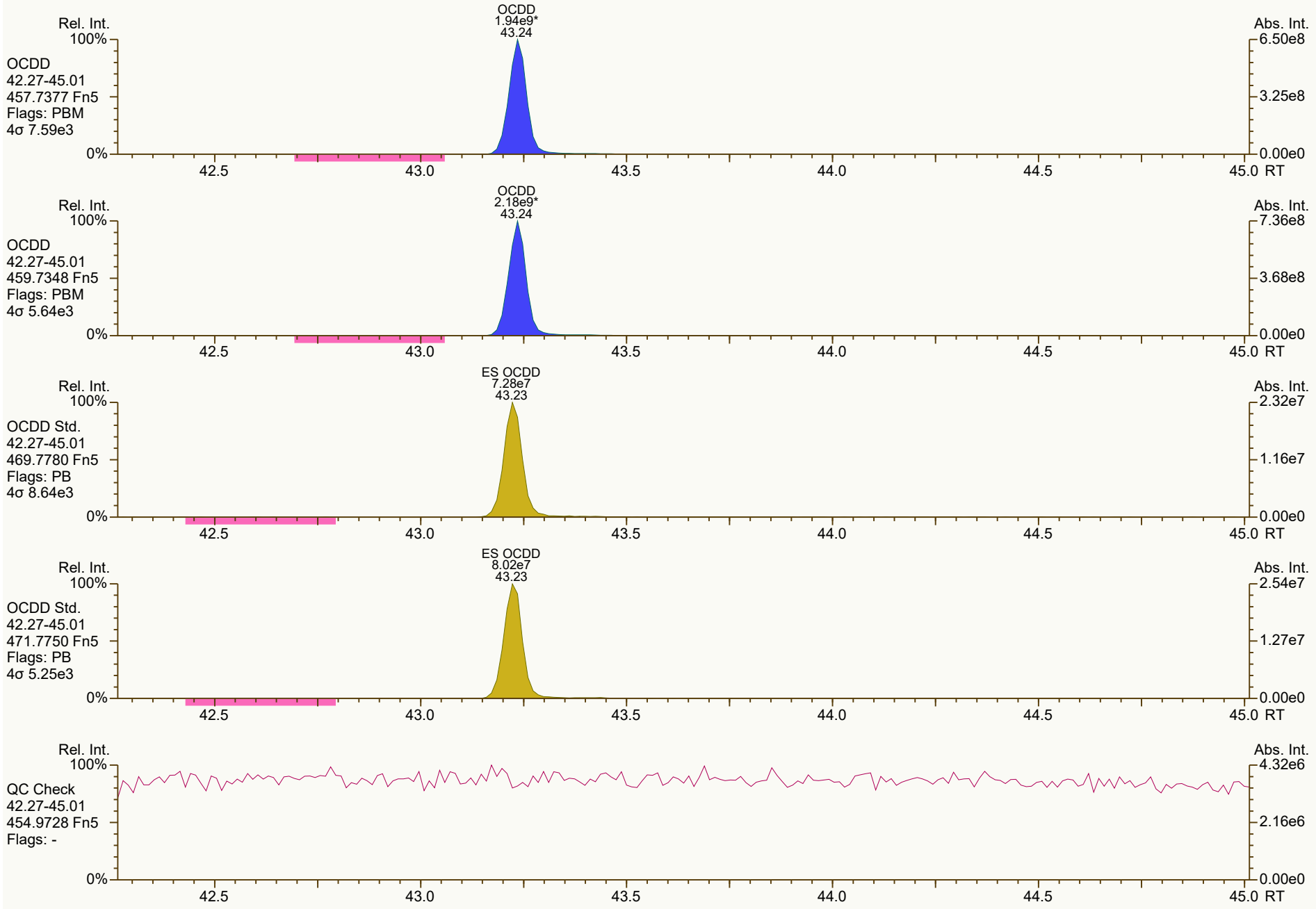

Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
2.00e6
1.00e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.90e6
9.49e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.49e7
7.44e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.07e7
5.36e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.32e6
2.16e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


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


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PBM
4σ 4.75e3
0%
12378D
1.60e9*
33.81
Abs. Int.
4.81e8
2.40e8
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PBM
4σ 2.31e3
0%
12378D
1.02e9*
33.81
Abs. Int.
3.08e8
1.54e8
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PB
4σ 3.72e3
0%
FS 12478D
6.29e7
32.58
CS 12347D
5.03e7
33.30
ES 12378D
6.16e7
33.79
Abs. Int.
1.79e7
8.93e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PB
4σ 4.29e3
0%
FS 12478D
3.78e7
32.58
CS 12347D
3.00e7
33.30
ES 12378D
3.77e7
33.79
Abs. Int.
1.11e7
5.56e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.90e6
9.49e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

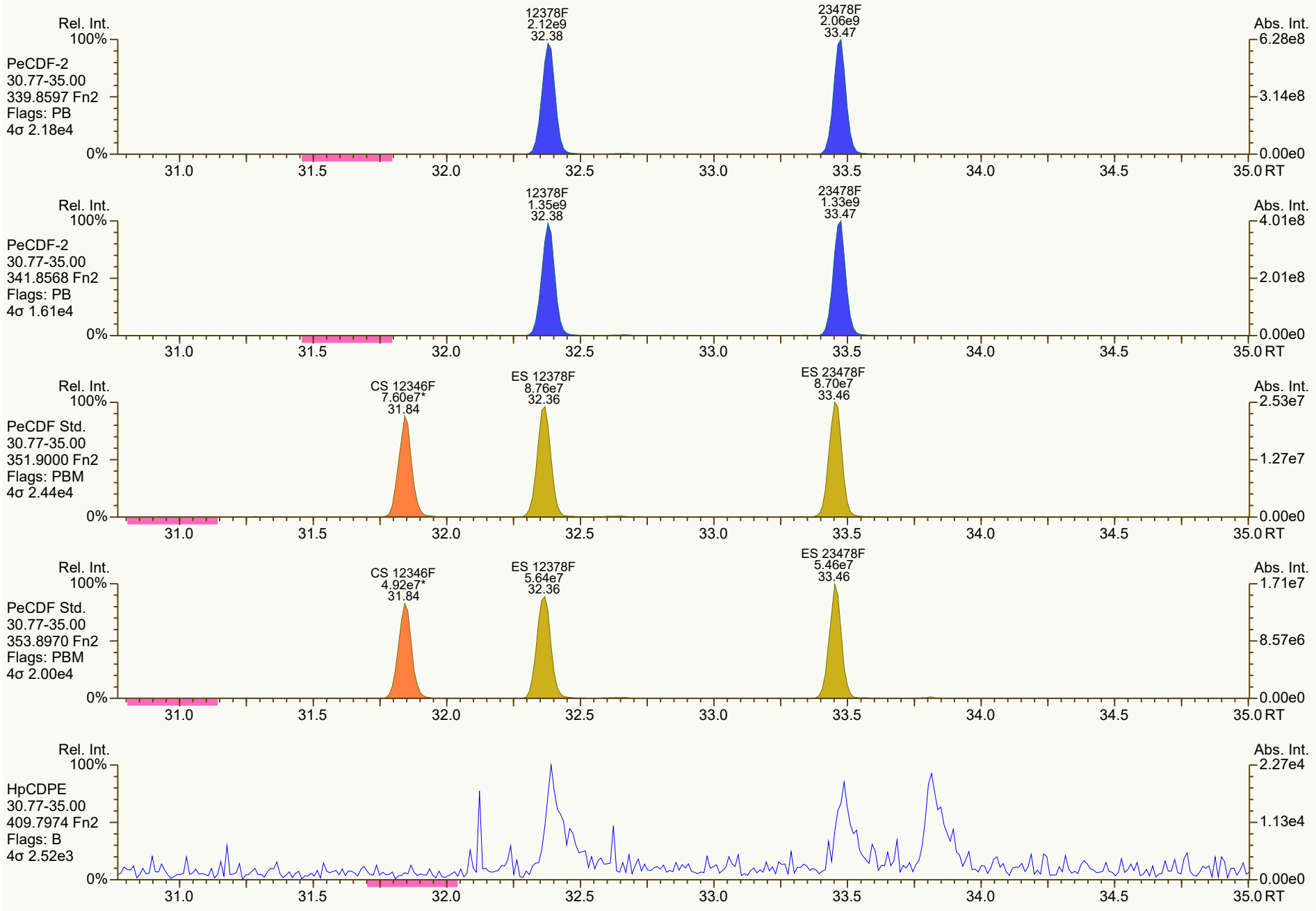

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 6.24e3
123478D 1.34e9 37.68
123678D 1.37e9 37.79
123789D 1.46e9 38.08
Abs. Int.
4.76e8
2.38e8
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 3.03e3
123478D 1.07e9 37.68
123678D 1.09e9 37.79
123789D 1.17e9 38.08
Abs. Int.
3.90e8
1.95e8
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 5.24e3
FS 123468D 5.86e7 36.59
ES 123478D 5.08e7 37.66
ES 123678D 5.05e7 37.78
JS 123467D 2.42e7* 37.97
ES 123789D 5.86e7* 38.07
Abs. Int.
1.94e7
9.68e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 2.62e3
FS 123468D 4.76e7 36.59
ES 123478D 4.10e7 37.66
ES 123678D 3.97e7 37.78
JS 123467D 1.89e7* 37.97
ES 123789D 4.63e7* 38.07
Abs. Int.
1.52e7
7.59e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
Abs. Int.
1.49e7
7.44e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT

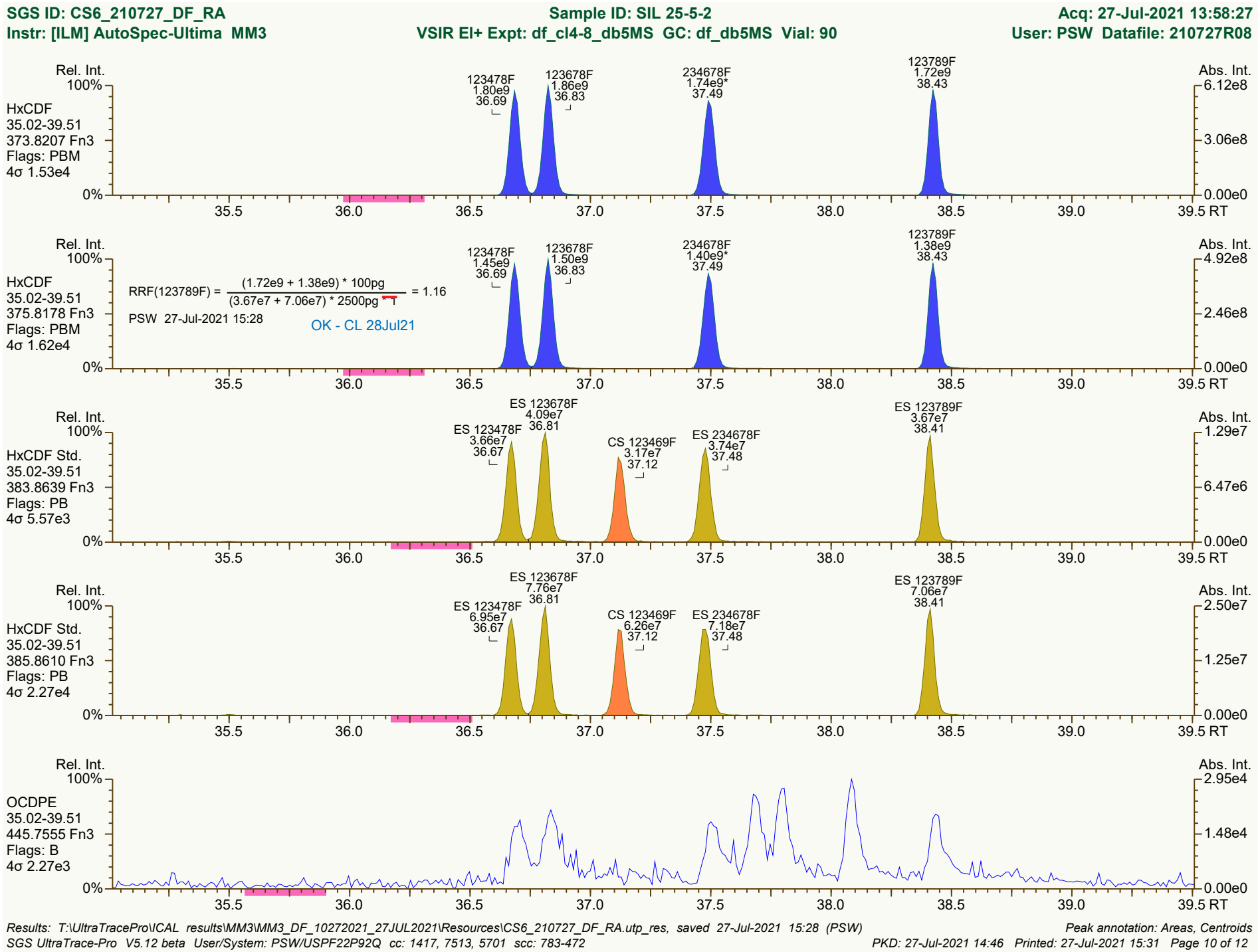

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 2.83e4
1234678D
1.16e9
40.66
Abs. Int.
4.52e8
2.26e8
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 3.76e4
1234678D
1.12e9
40.66
Abs. Int.
4.49e8
2.25e8
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel.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

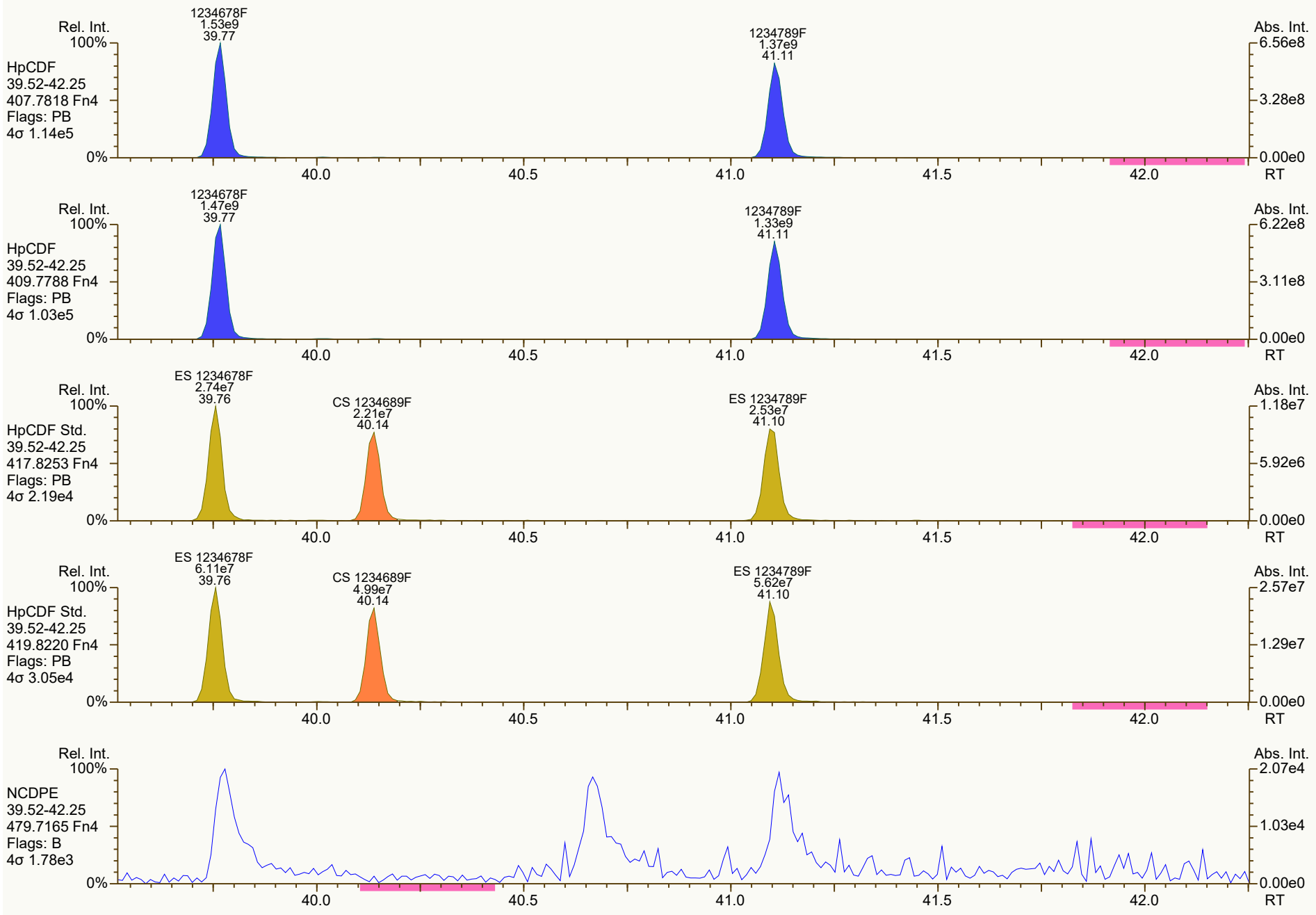

OCDD
1.94e9*
43.24
Rel. Int.
Abs. Int.
OCDD
42.27-45.01
457.7377 Fn5
Flags: PBM
4σ 7.59e3
OCDD
2.18e9*
43.24
OCDD
42.27-45.01
459.7348 Fn5
Flags: PBM
4σ 5.64e3
ES OCDD
7.28e7
43.23
OCDD Std.
42.27-45.01
469.7780 Fn5
Flags: PB
4σ 8.64e3
ES OCDD
8.02e7
43.23
OCDD Std.
42.27-45.01
471.7750 Fn5
Flags: PB
4σ 5.25e3
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT

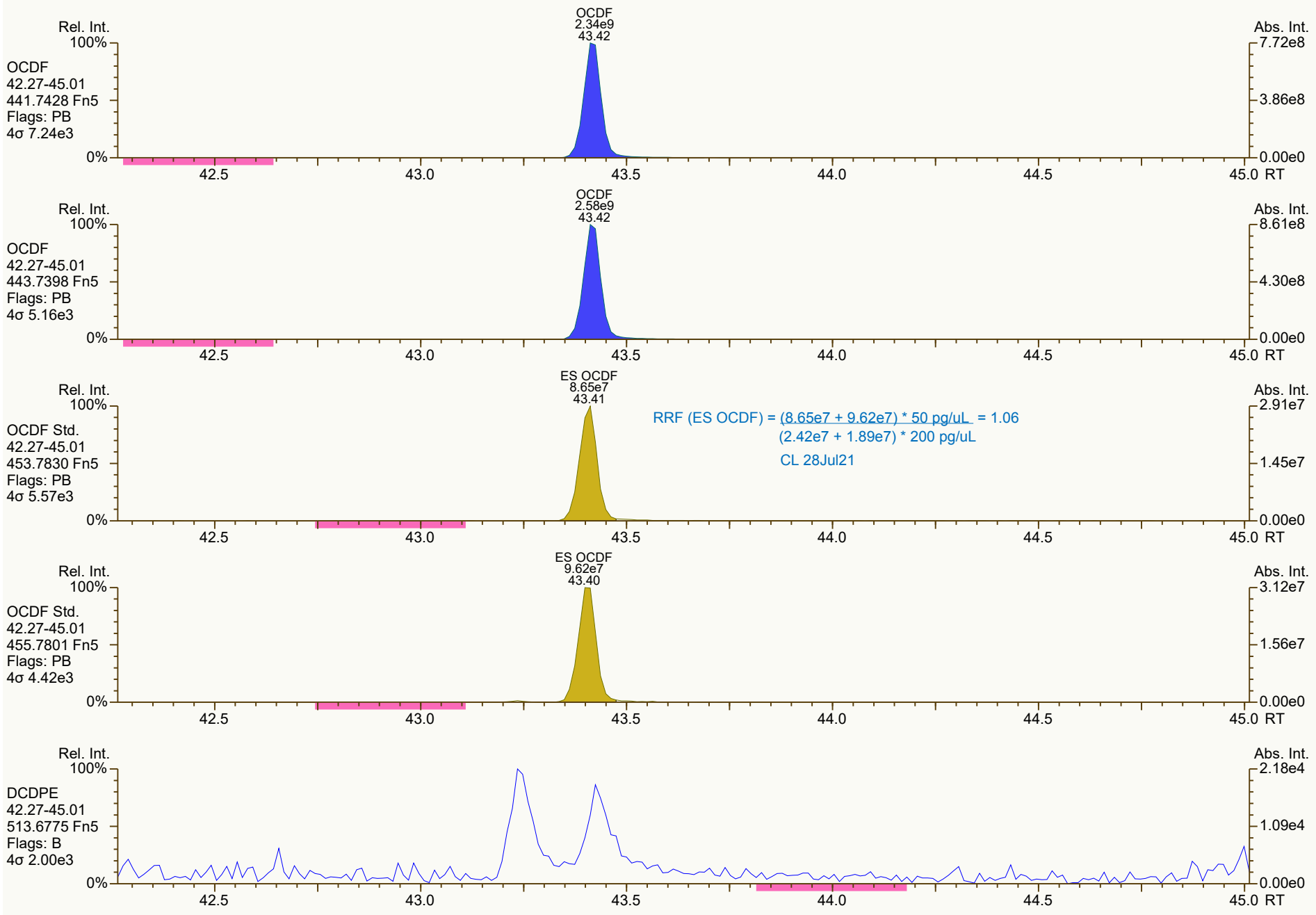

Rel. Int.
100%
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.81e3
0%
2378F
3.47e8
27.67
Abs. Int.
8.18e7
4.09e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.63e3
0%
2378F
4.52e8
27.67
Abs. Int.
1.06e8
5.31e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
6.97e7
22.86
JS 1234F
6.51e7
26.33
ES 2378F
7.12e7
27.65
Abs. Int.
1.73e7
8.65e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 8.59e3
0%
AS 1368F
8.87e7
22.85
JS 1234F
8.23e7
26.33
ES 2378F
9.09e7
27.65
Abs. Int.
2.19e7
1.09e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.16e3
0%
Abs. Int.
1.85e4
9.24e3
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


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


Rel. Int.
100%
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 2.18e4
0%
12378F
2.12e9
32.38
23478F
2.06e9
33.47
Abs. Int.
6.28e8
3.14e8
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 1.61e4
0%
12378F
1.35e9
32.38
23478F
1.33e9
33.47
Abs. Int.
4.01e8
2.01e8
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PBM
4σ 2.44e4
0%
CS 12346F
7.60e7*
31.84
ES 12378F
8.76e7
32.36
ES 23478F
8.70e7
33.46
Abs. Int.
2.53e7
1.27e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PBM
4σ 2.00e4
0%
CS 12346F
4.92e7*
31.84
ES 12378F
5.64e7
32.36
ES 23478F
5.46e7
33.46
Abs. Int.
1.71e7
8.57e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.52e3
0%
Abs. Int.
2.27e4
1.13e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


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

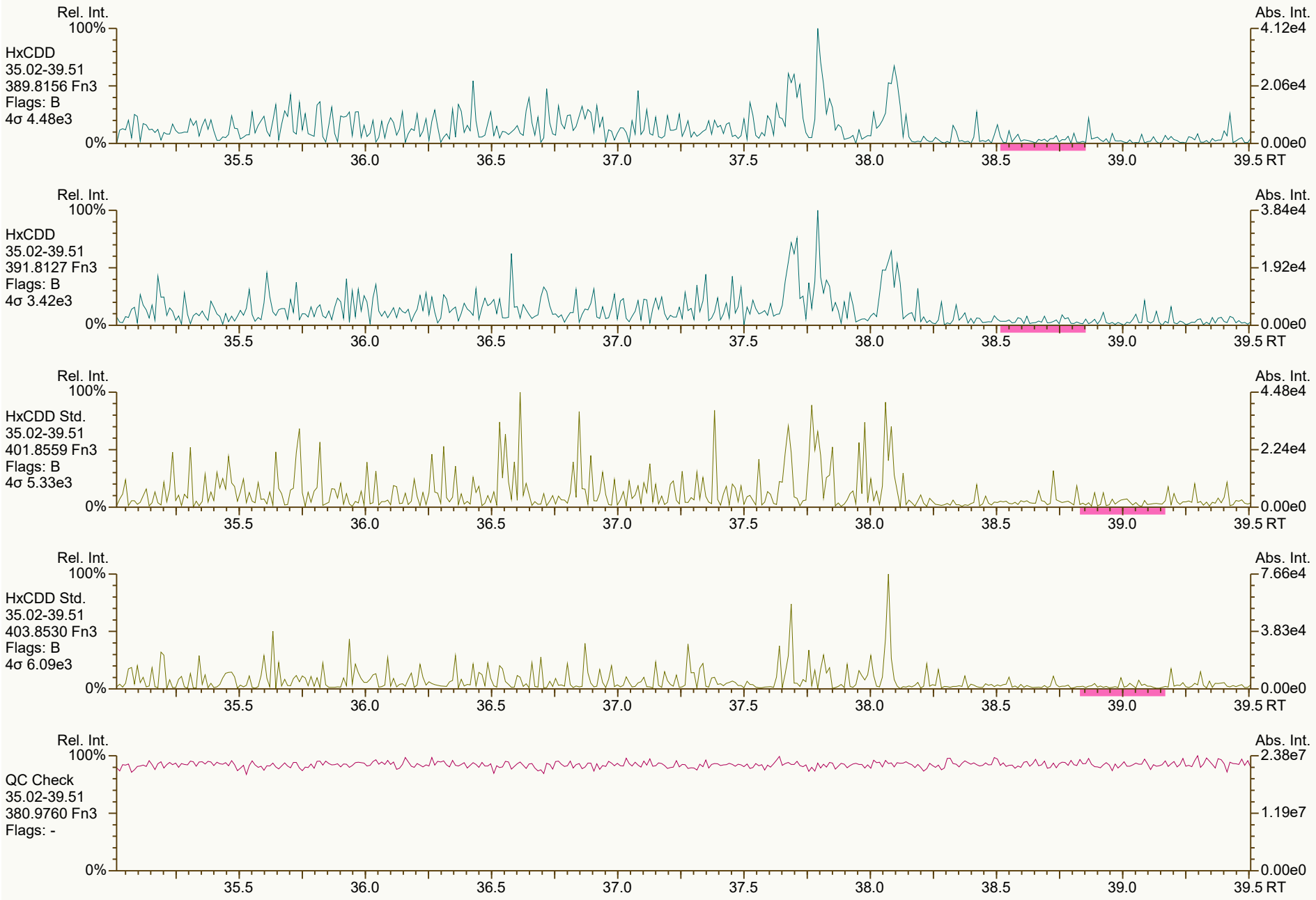

Rel. Int.
100%
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 1.14e5
1234678F
1.53e9
39.77
1234789F
1.37e9
41.11
Abs. Int.
6.56e8
3.28e8
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 1.03e5
1234678F
1.47e9
39.77
1234789F
1.33e9
41.11
Abs. Int.
6.22e8
3.11e8
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PB
4σ 2.19e4
ES 1234678F
2.74e7
39.76
CS 1234689F
2.21e7
40.14
ES 1234789F
2.53e7
41.10
Abs. Int.
1.18e7
5.92e6
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PB
4σ 3.05e4
ES 1234678F
6.11e7
39.76
CS 1234689F
4.99e7
40.14
ES 1234789F
5.62e7
41.10
Abs. Int.
2.57e7
1.29e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 1.78e3
Abs. Int.
2.07e4
1.03e4
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.27-45.01
441.7428 Fn5
Flags: PB
4σ 7.24e3
0%
OCDF
2.34e9
43.42
Abs. Int.
7.72e8
3.86e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.27-45.01
443.7398 Fn5
Flags: PB
4σ 5.16e3
0%
OCDF
2.58e9
43.42
Abs. Int.
8.61e8
4.30e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.27-45.01
453.7830 Fn5
Flags: PB
4σ 5.57e3
0%
ES OCDF
8.65e7
43.41
RRF (ES OCDF) = (8.65e7 + 9.62e7) * 50 pg/uL = 1.06
(2.42e7 + 1.89e7) * 200 pg/uL
CL 28Jul21
Abs. Int.
2.91e7
1.45e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.27-45.01
455.7801 Fn5
Flags: PB
4σ 4.42e3
0%
ES OCDF
9.62e7
43.40
Abs. Int.
3.12e7
1.56e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.27-45.01
513.6775 Fn5
Flags: B
4σ 2.00e3
0%
Abs. Int.
2.18e4
1.09e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

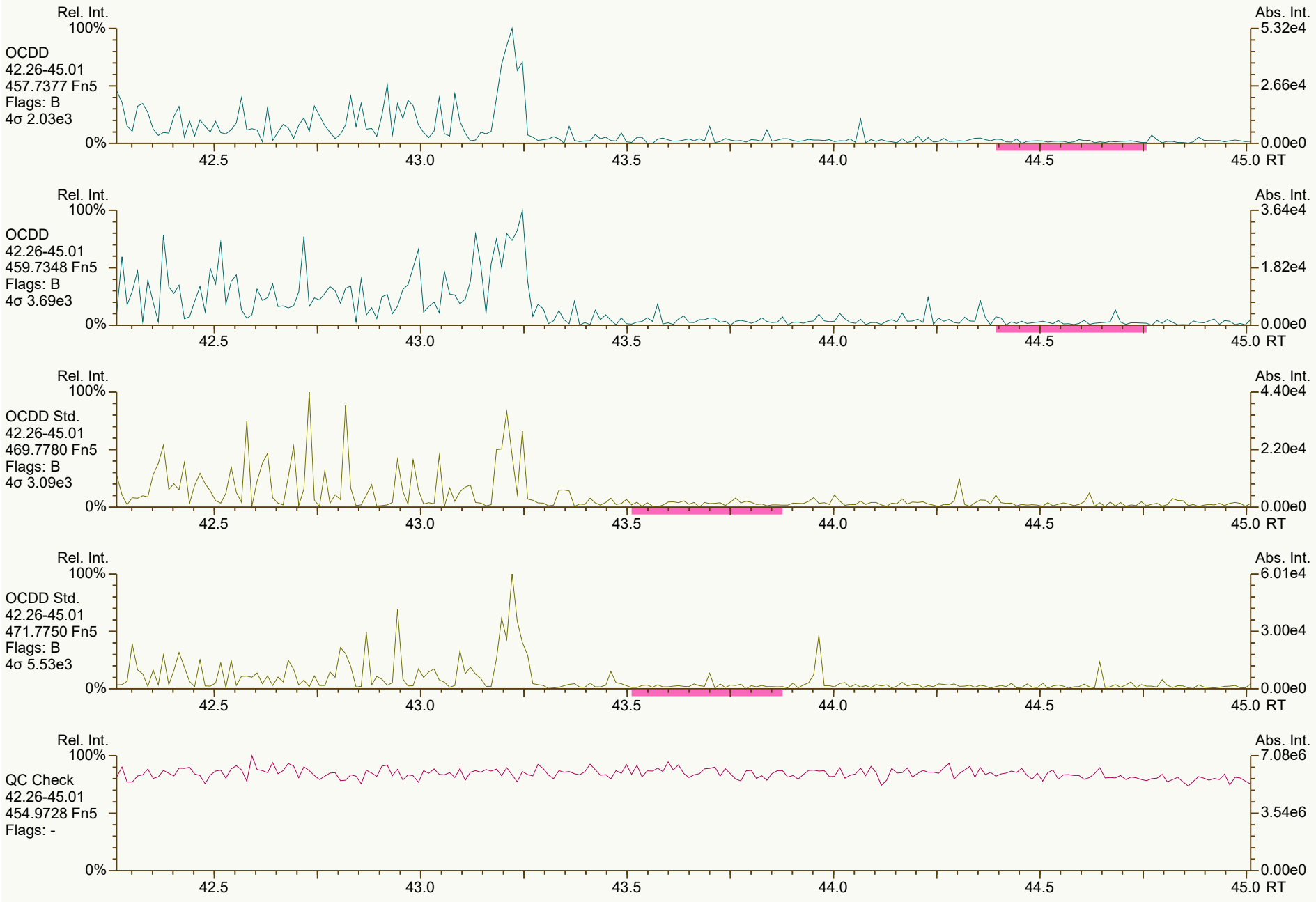

Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.23e6
1.61e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.06e6
1.53e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51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

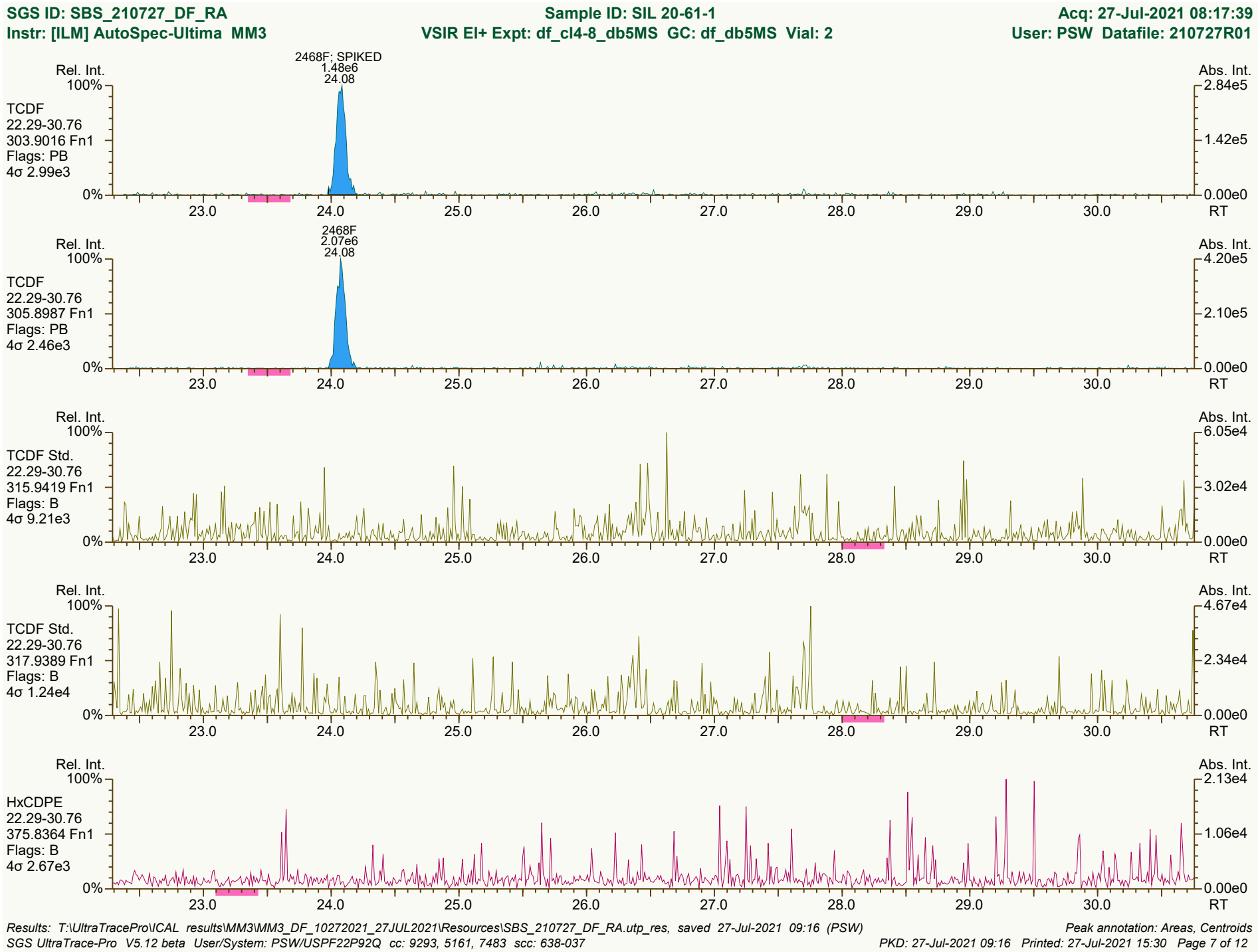

Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: B
4σ 5.46e3
0%
Abs. Int.
1.96e4
9.79e3
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: B
4σ 3.81e3
0%
Abs. Int.
1.72e4
8.58e3
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD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


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


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


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

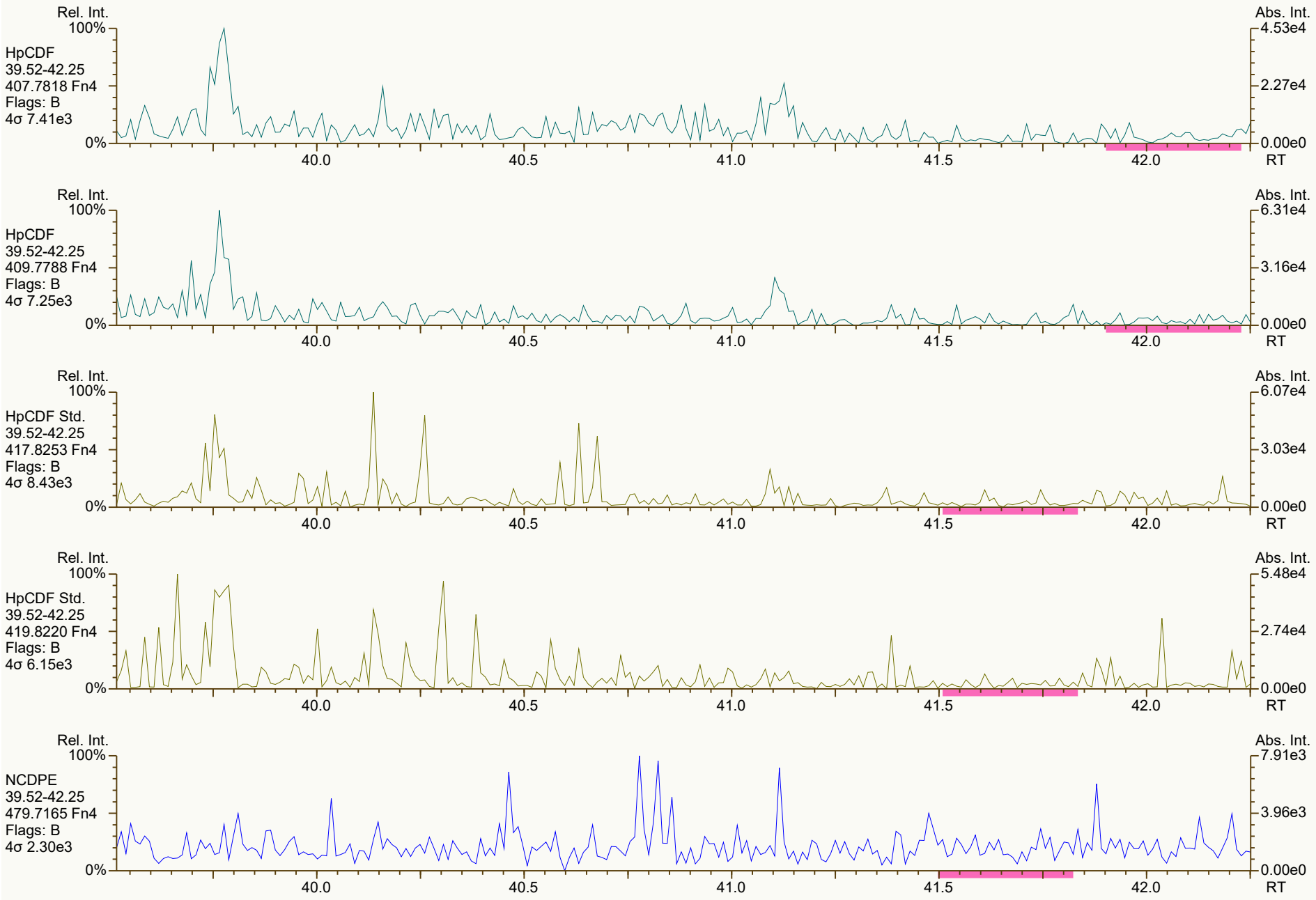

Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: B
4σ 2.03e3
0%
Abs. Int.
5.32e4
2.66e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.26-45.01
459.7348 Fn5
Flags: B
4σ 3.69e3
0%
Abs. Int.
3.64e4
1.82e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.26-45.01
469.7780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


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


Rel. Int.
100%
0%
Abs. Int.
3.87e4
1.94e4
0.00e0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 6.47e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.57e4
1.78e4
0.00e0
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 6.41e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.23e6
1.61e6
0.00e0
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


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


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


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


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

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

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

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

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

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

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

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

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

Not reported from this ICAL - CL 28Jul21

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

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

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

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

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

Processed: 28 Jul 2021 08:17 Analyst: pw

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

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

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

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

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

Processed: 28 Jul 2021 08:17 Analyst: pw

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

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

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

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

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

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

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

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

Processed: 28 Jul 2021 08:18 Analyst: pw

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

Lab Name: SGS North America

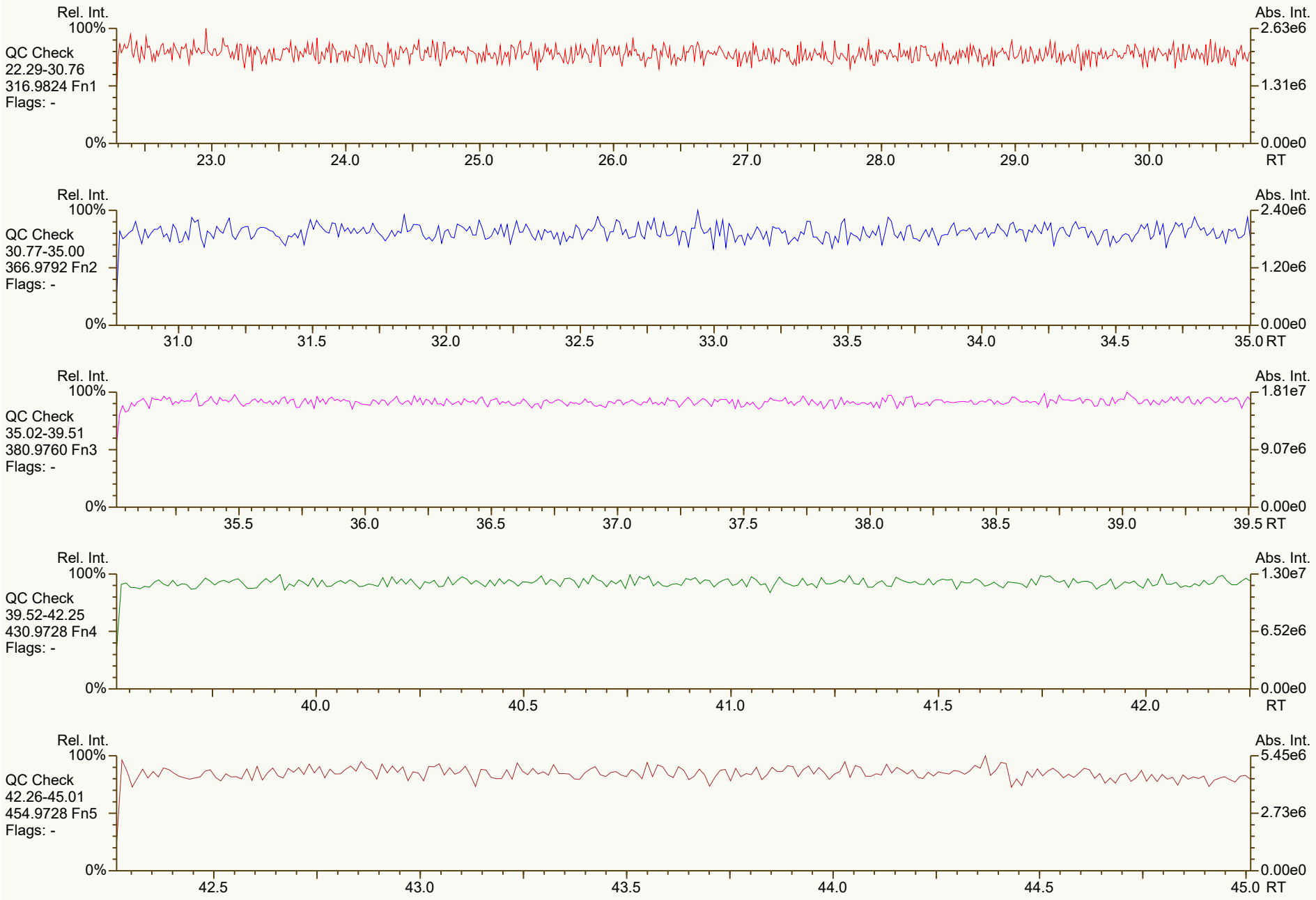
Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

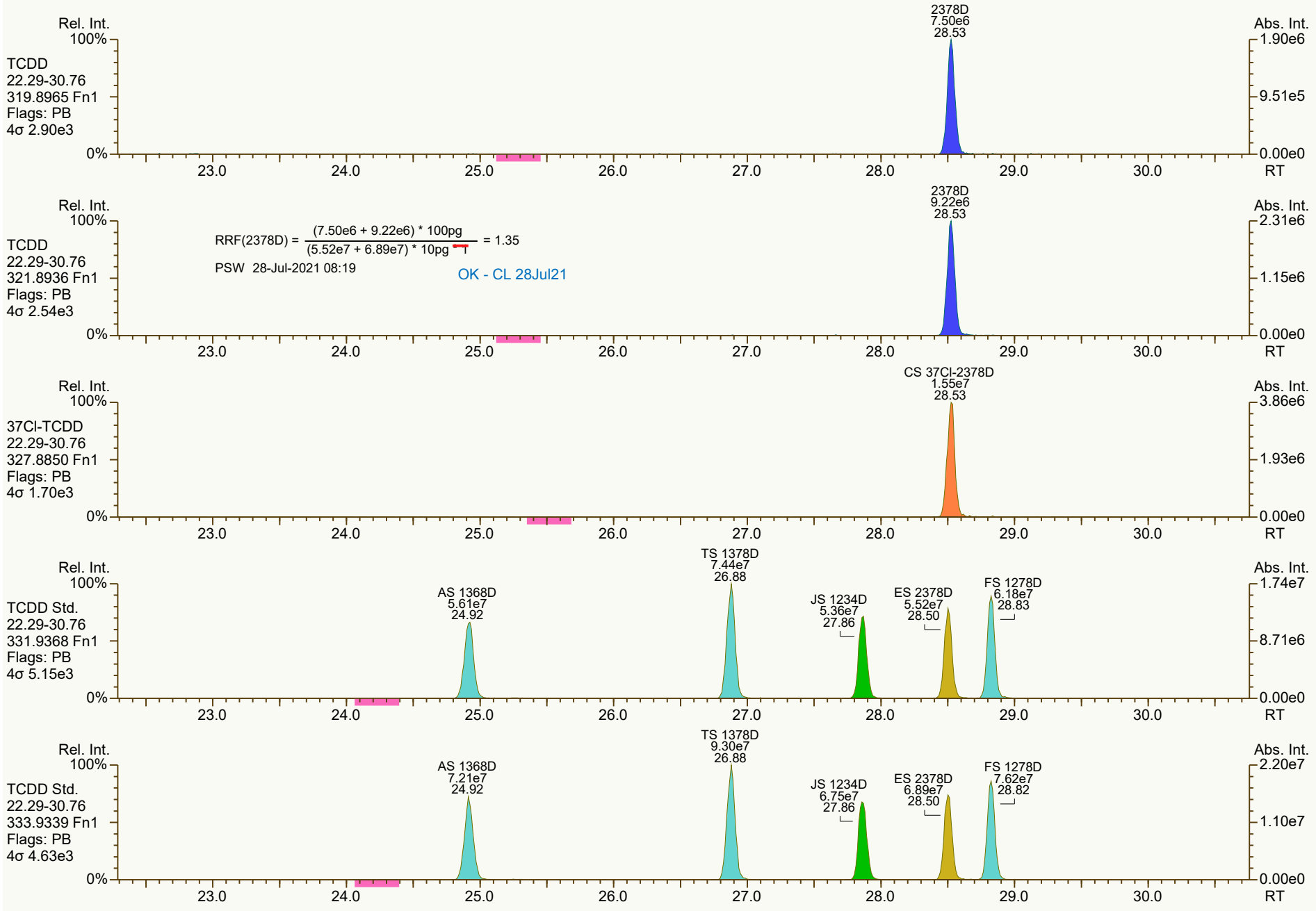
Instrument ID: MM3 GC Column ID: ZB-5ms

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

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

Processed: 28 Jul 2021 08:18 Analyst: pw

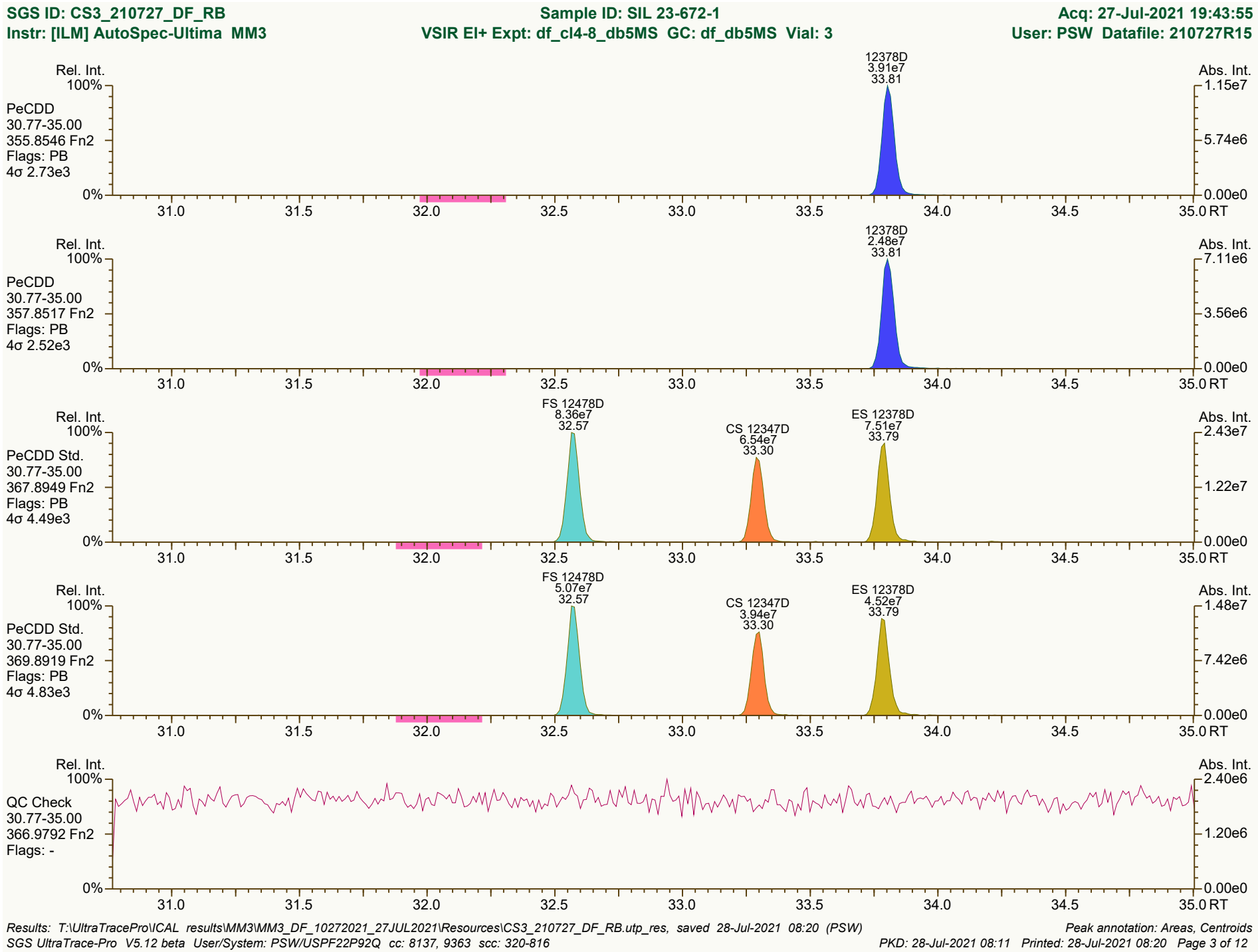

Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
2.63e6
1.31e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.40e6
1.20e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51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


Rel. Int.
100%
0%
Abs. Int.
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 2.90e3
2378D
7.50e6
28.53
1.90e6
9.51e5
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.54e3
RRF(2378D) = (7.50e6 + 9.22e6) * 100pg / (5.52e7 + 6.89e7) * 10pg = 1.35
PSW 28-Jul-2021 08:19
OK - CL 28Jul21
2378D
9.22e6
28.53
2.31e6
1.15e6
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 1.70e3
CS 37Cl-2378D
1.55e7
28.53
3.86e6
1.93e6
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 5.15e3
AS 1368D
5.61e7
24.92
TS 1378D
7.44e7
26.88
JS 1234D
5.36e7
27.86
ES 2378D
5.52e7
28.50
FS 1278D
6.18e7
28.83
1.74e7
8.71e6
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 4.63e3
AS 1368D
7.21e7
24.92
TS 1378D
9.30e7
26.88
JS 1234D
6.75e7
27.86
ES 2378D
6.89e7
28.50
FS 1278D
7.62e7
28.82
2.20e7
1.10e7

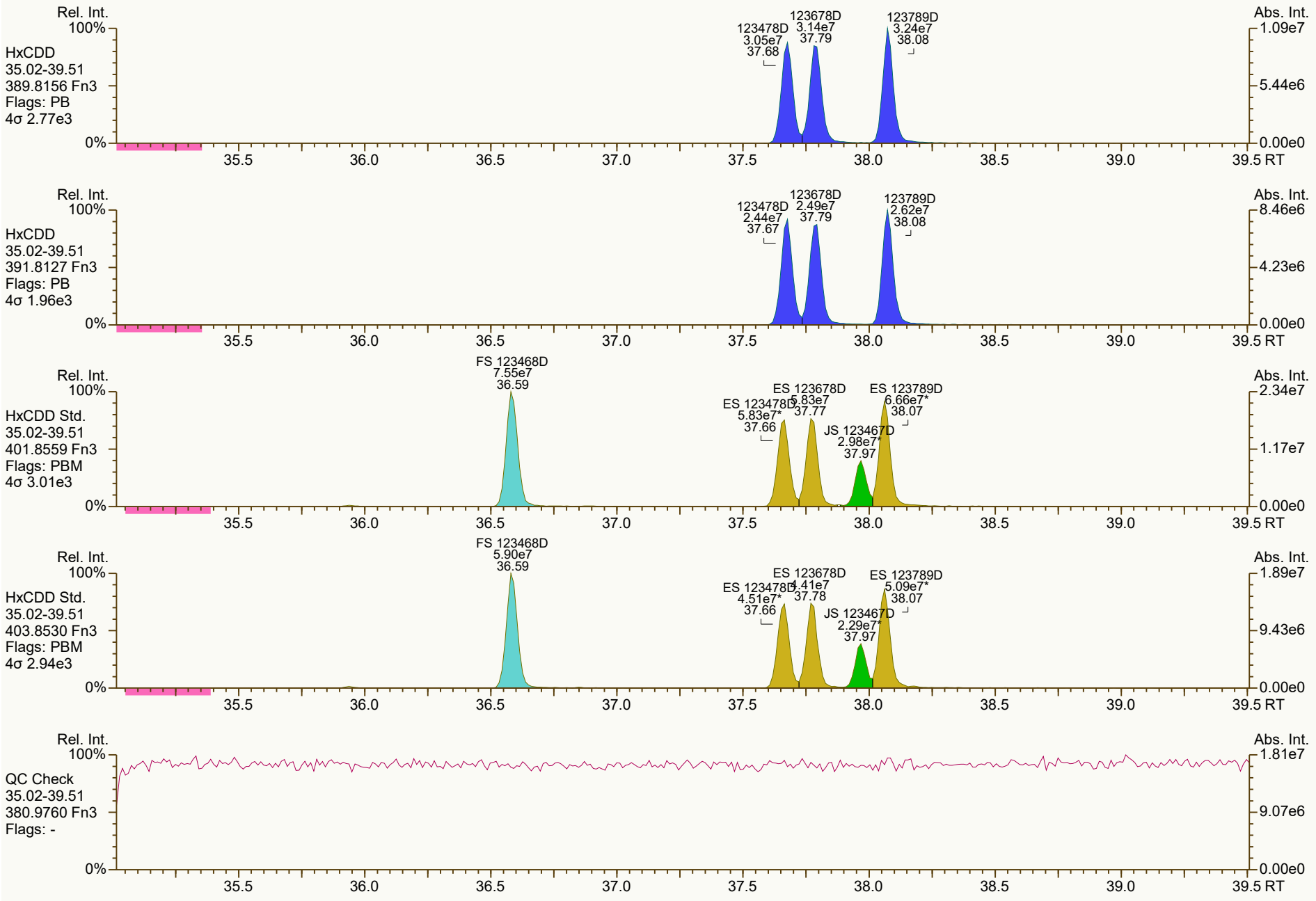
SGS ID: CS3_210727_DF_RB
Instr: [ILM] AutoSpec-Ultima MM3

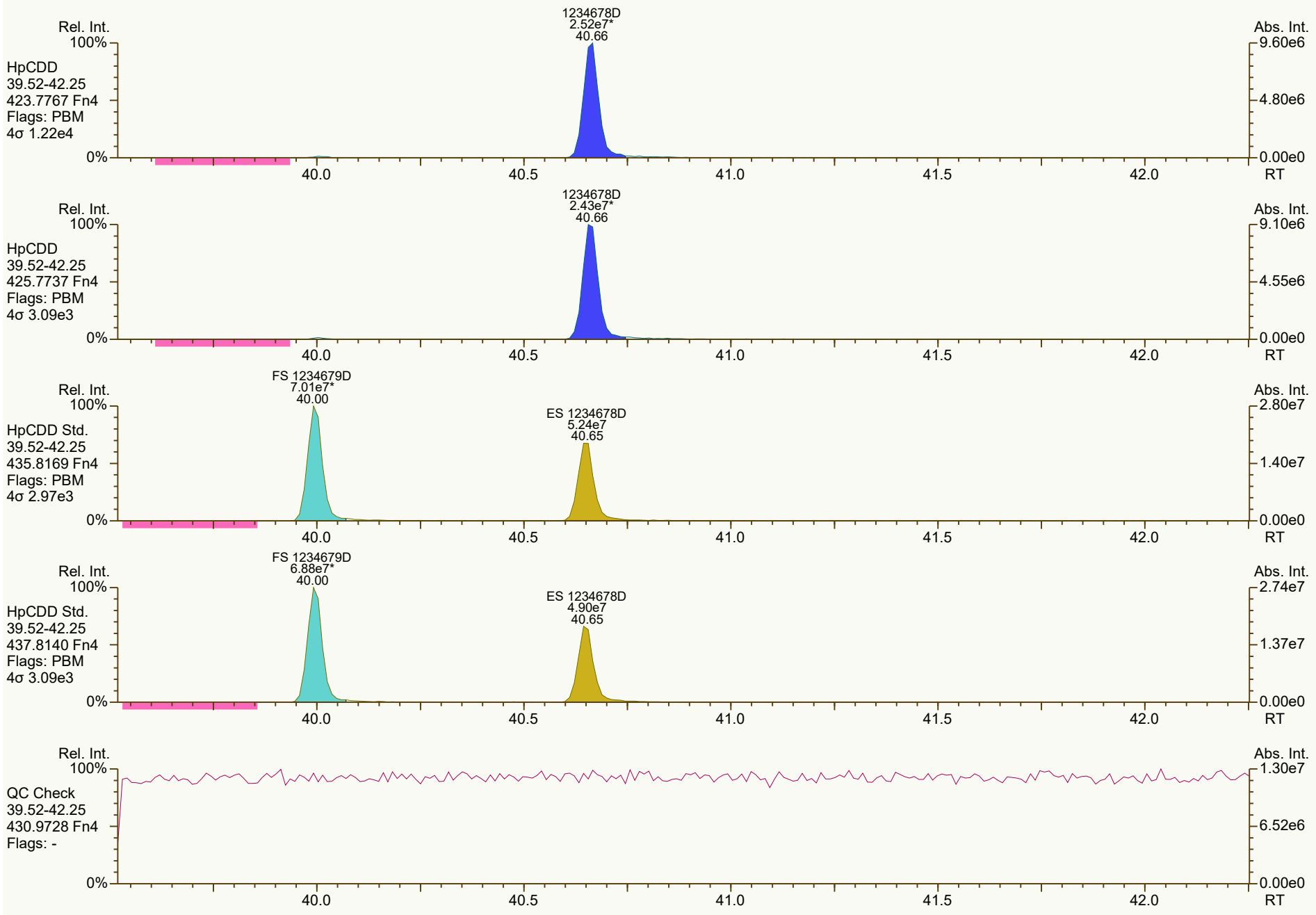
Sample ID: SIL 23-672-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3

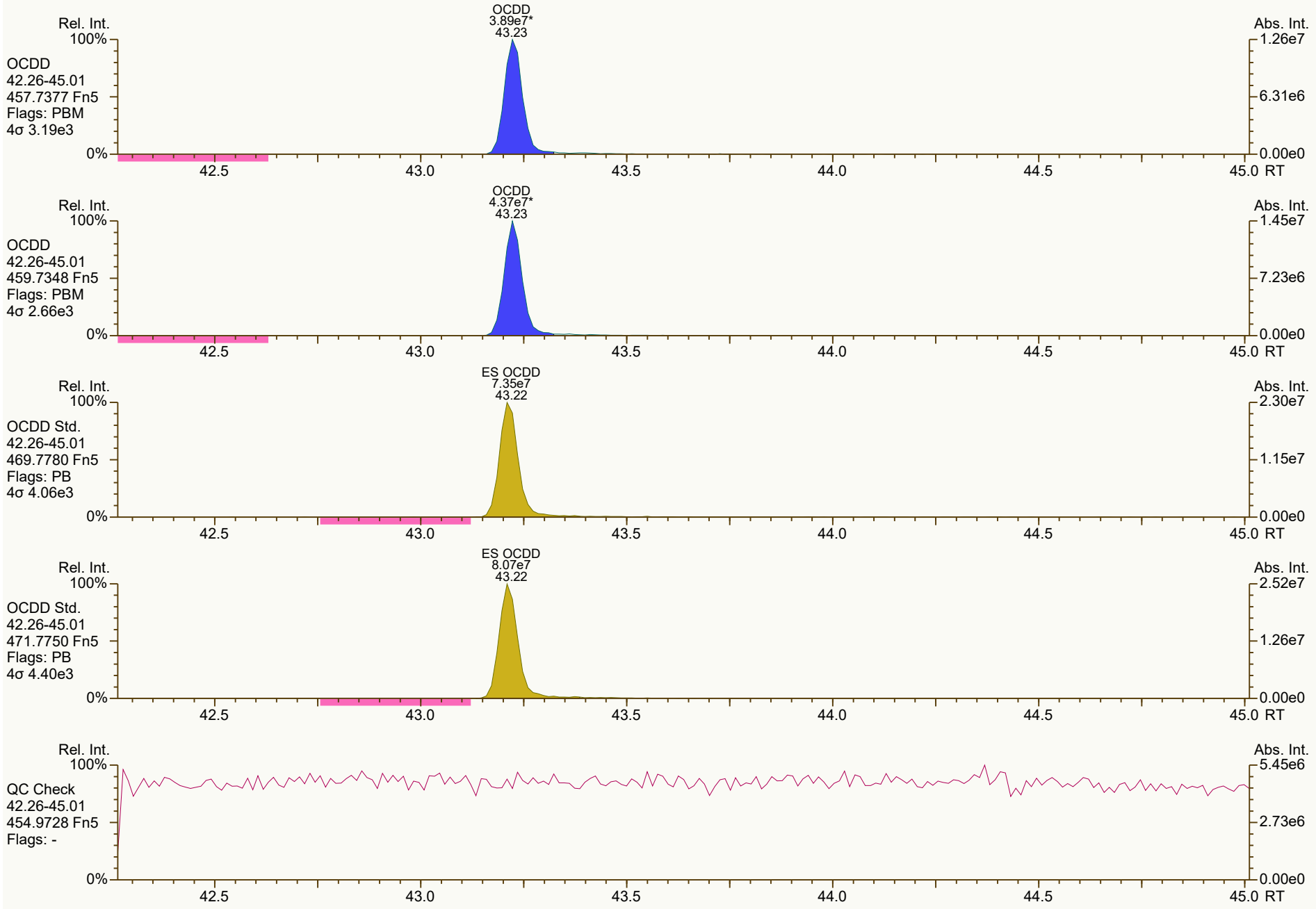
Acq: 27-Jul-2021 19:43:55
User: PSW Datafile: 210727R15

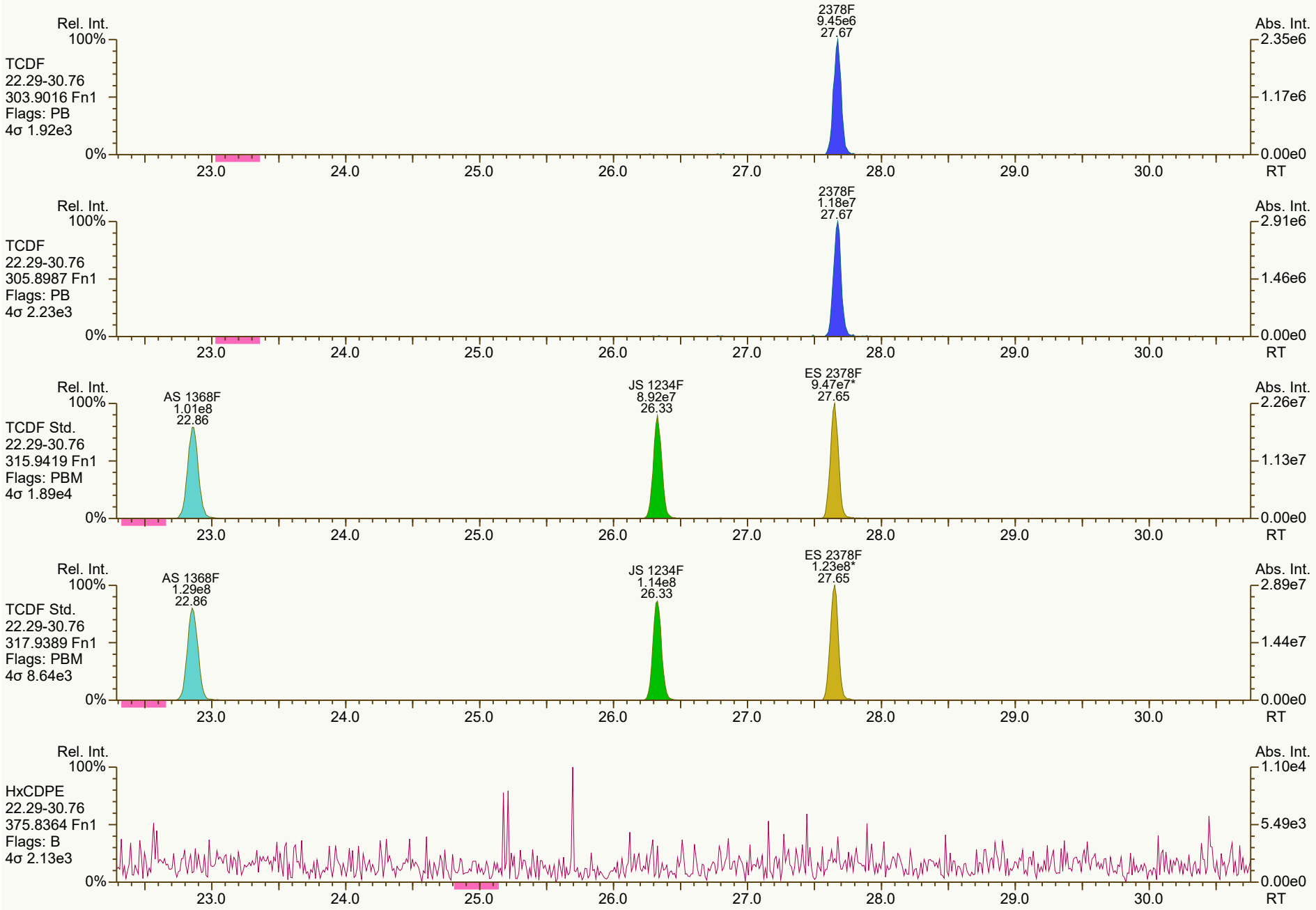


Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8137, 9363 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:20 Page 3 of 12


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


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


OCDD
3.89e7*
43.23
Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: PBM
4σ 3.19e3
0%
Abs. Int.
1.26e7
6.31e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.37e7*
43.23
Rel. Int.
100%
OCDD
42.26-45.01
459.7348 Fn5
Flags: PBM
4σ 2.66e3
0%
Abs. Int.
1.45e7
7.23e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
7.35e7
43.22
Rel. Int.
100%
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PB
4σ 4.06e3
0%
Abs. Int.
2.30e7
1.15e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
8.07e7
43.22
Rel. Int.
100%
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PB
4σ 4.40e3
0%
Abs. Int.
2.52e7
1.26e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.45e6
2.73e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

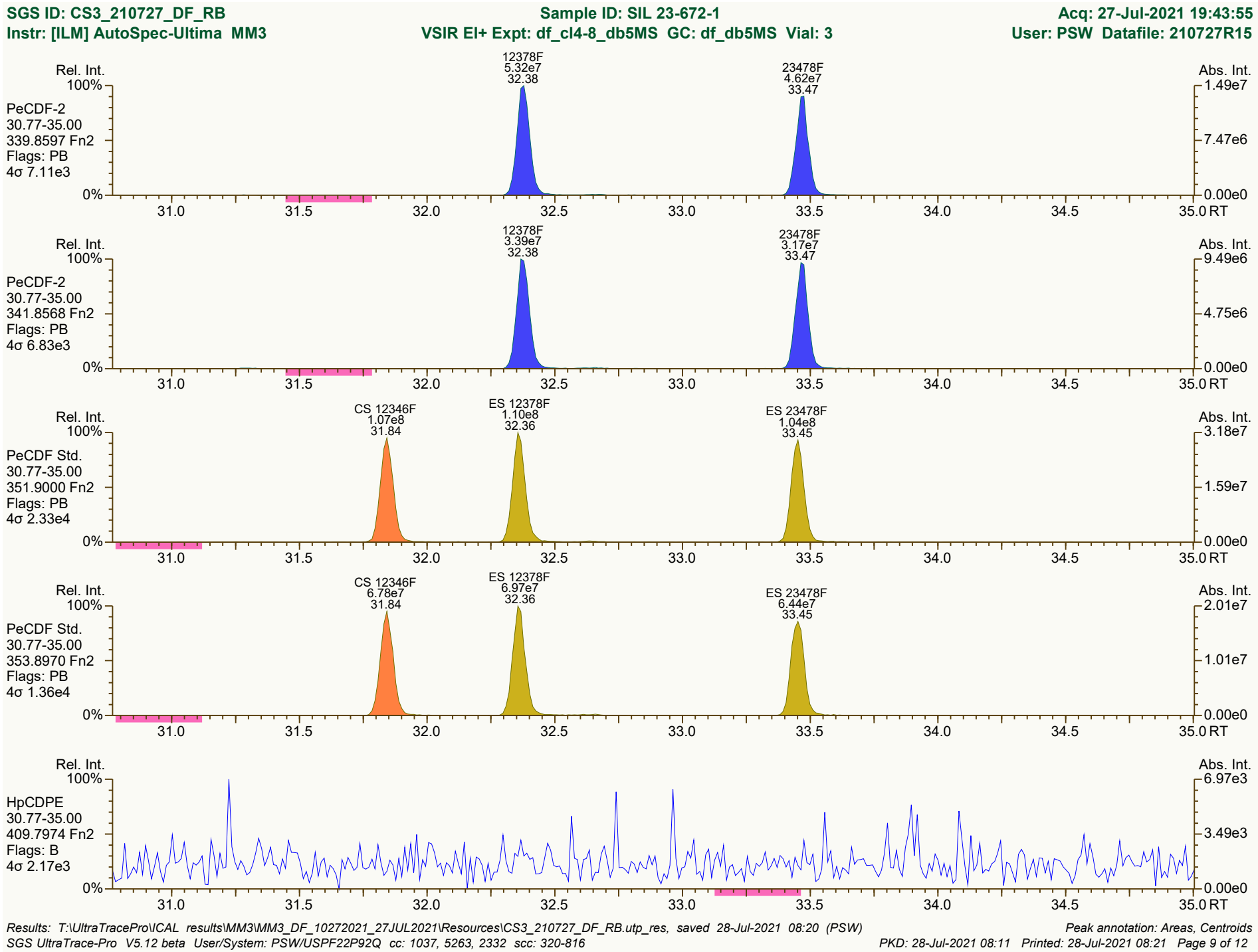

Rel. Int.
100%
0%
Abs. Int.
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 1.92e3
2378F
9.45e6
27.67
2.35e6
1.17e6
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.23e3
2378F
1.18e7
27.67
2.91e6
1.46e6
0.00e0
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PBM
4σ 1.89e4
AS 1368F
1.01e8
22.86
JS 1234F
8.92e7
26.33
ES 2378F
9.47e7*
27.65
2.26e7
1.13e7
0.00e0
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PBM
4σ 8.64e3
AS 1368F
1.29e8
22.86
JS 1234F
1.14e8
26.33
ES 2378F
1.23e8*
27.65
2.89e7
1.44e7
0.00e0
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.13e3
1.10e4
5.49e3
0.00e0


Rel. Int.
100%
0%
Abs. Int.
2.70e4
1.35e4
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 2.78e3
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 2.56e3
1.25e4
6.25e3
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
2.63e6
1.31e6

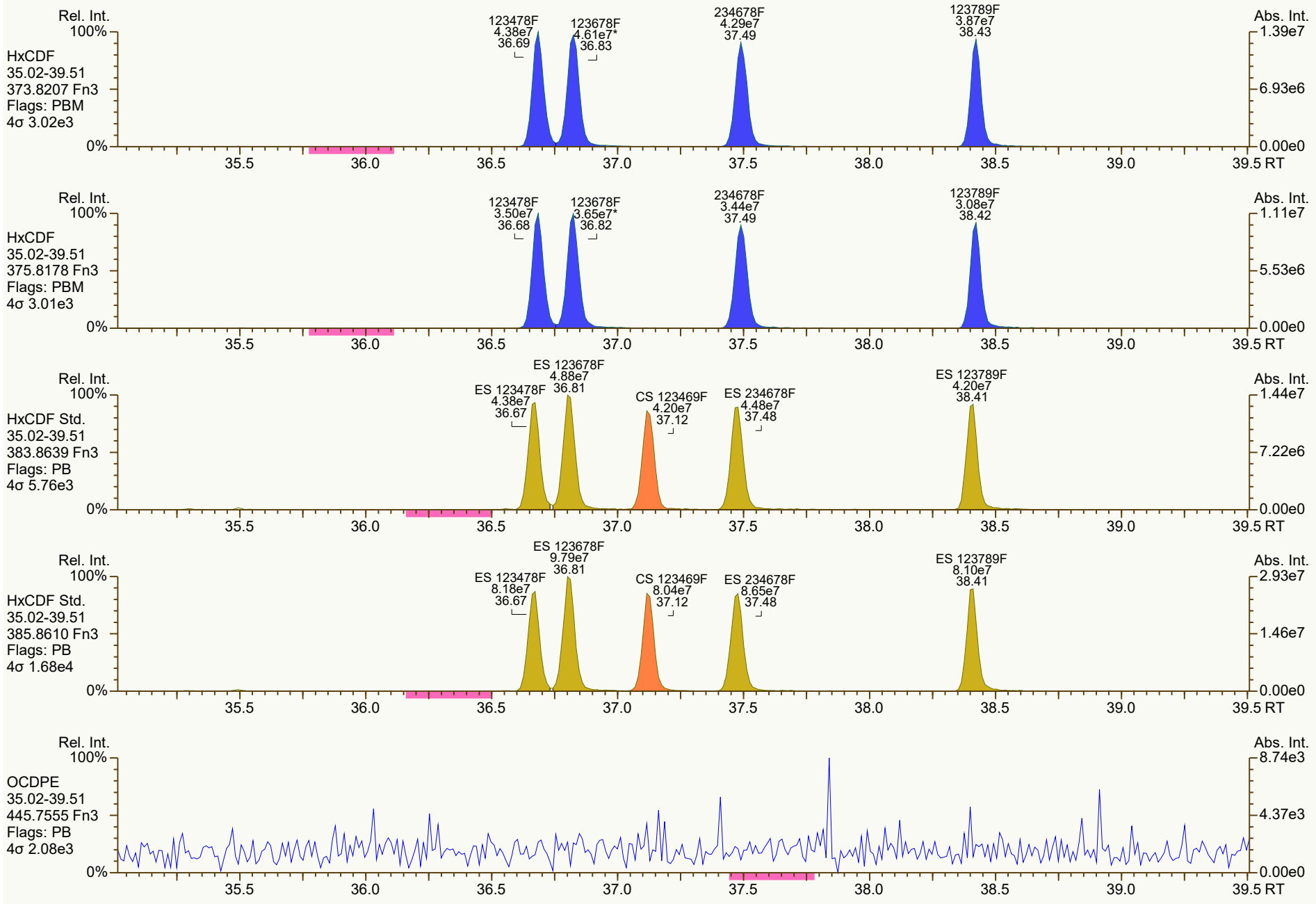
SGS ID: CS3_210727_DF_RB
Instr: [ILM] AutoSpec-Ultima MM3

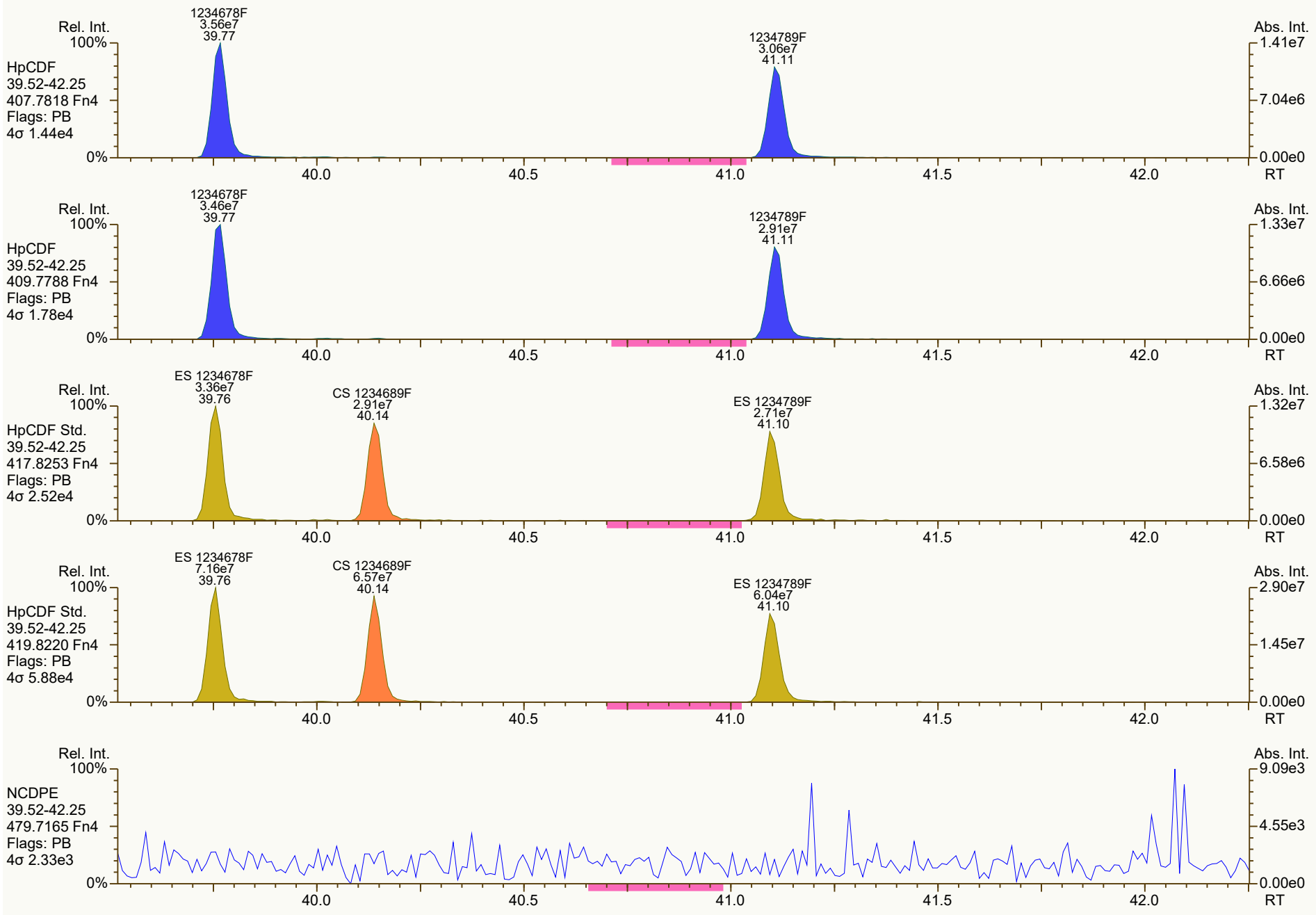
Sample ID: SIL 23-672-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3

Acq: 27-Jul-2021 19:43:55
User: PSW Datafile: 210727R15



Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1037, 5263, 2332 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:21 Page 9 of 12

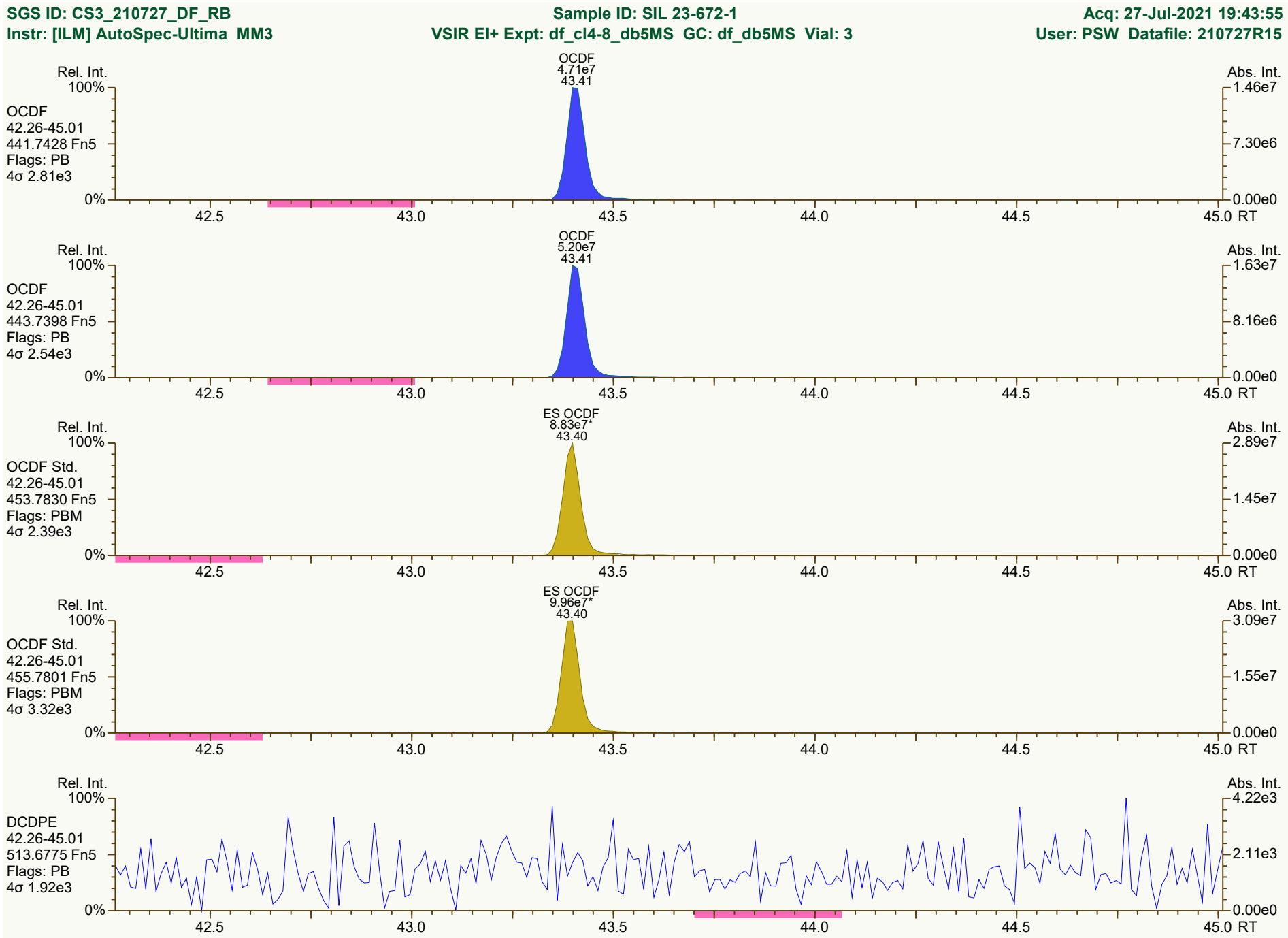

Rel. Int.
100%
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 3.02e3
0%
123478F
4.38e7
36.69
123678F
4.61e7*
36.83
234678F
4.29e7
37.49
123789F
3.87e7
38.43
Abs. Int.
1.39e7
6.93e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 3.01e3
0%
123478F
3.50e7
36.68
123678F
3.65e7*
36.82
234678F
3.44e7
37.49
123789F
3.08e7
38.42
Abs. Int.
1.11e7
5.53e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 5.76e3
0%
ES 123478F
4.38e7
36.67
ES 123678F
4.88e7
36.81
CS 123469F
4.20e7
37.12
ES 234678F
4.48e7
37.48
ES 123789F
4.20e7
38.41
Abs. Int.
1.44e7
7.22e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 1.68e4
0%
ES 123478F
8.18e7
36.67
ES 123678F
9.79e7
36.81
CS 123469F
8.04e7
37.12
ES 234678F
8.65e7
37.48
ES 123789F
8.10e7
38.41
Abs. Int.
2.93e7
1.46e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
OCDPE
35.02-39.51
445.7555 Fn3
Flags: PB
4σ 2.08e3
0%
Abs. Int.
8.74e3
4.37e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


Rel. Int.
100%
0%
Abs. Int.
RT
40.0
40.5
41.0
41.5
42.0
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 1.44e4
1234678F
3.56e7
39.77
1234789F
3.06e7
41.11
1.41e7
7.04e6
0.00e0
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 1.78e4
1234678F
3.46e7
39.77
1234789F
2.91e7
41.11
1.33e7
6.66e6
0.00e0
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PB
4σ 2.52e4
ES 1234678F
3.36e7
39.76
CS 1234689F
2.91e7
40.14
ES 1234789F
2.71e7
41.10
1.32e7
6.58e6
0.00e0
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PB
4σ 5.88e4
ES 1234678F
7.16e7
39.76
CS 1234689F
6.57e7
40.14
ES 1234789F
6.04e7
41.10
2.90e7
1.45e7
0.00e0
NCDPE
39.52-42.25
479.7165 Fn4
Flags: PB
4σ 2.33e3
9.09e3
4.55e3
0.00e0

SGS ID: CS3_210727_DF_RB
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: SIL 23-672-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3

Acq: 27-Jul-2021 19:43:55
User: PSW Datafile: 210727R15



Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 6396, 9005, 0471 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:21 Page 12 of 12

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

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

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

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

Not reported from this ICAL - CL 28Jul21

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

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

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

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

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

Processed: 28 Jul 2021 08:17 Analyst: pw

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

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

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

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

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

Processed: 28 Jul 2021 08:17 Analyst: pw

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

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

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

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

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

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

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

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

Processed: 28 Jul 2021 08:18 Analyst: pw

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

Lab Name: SGS North America

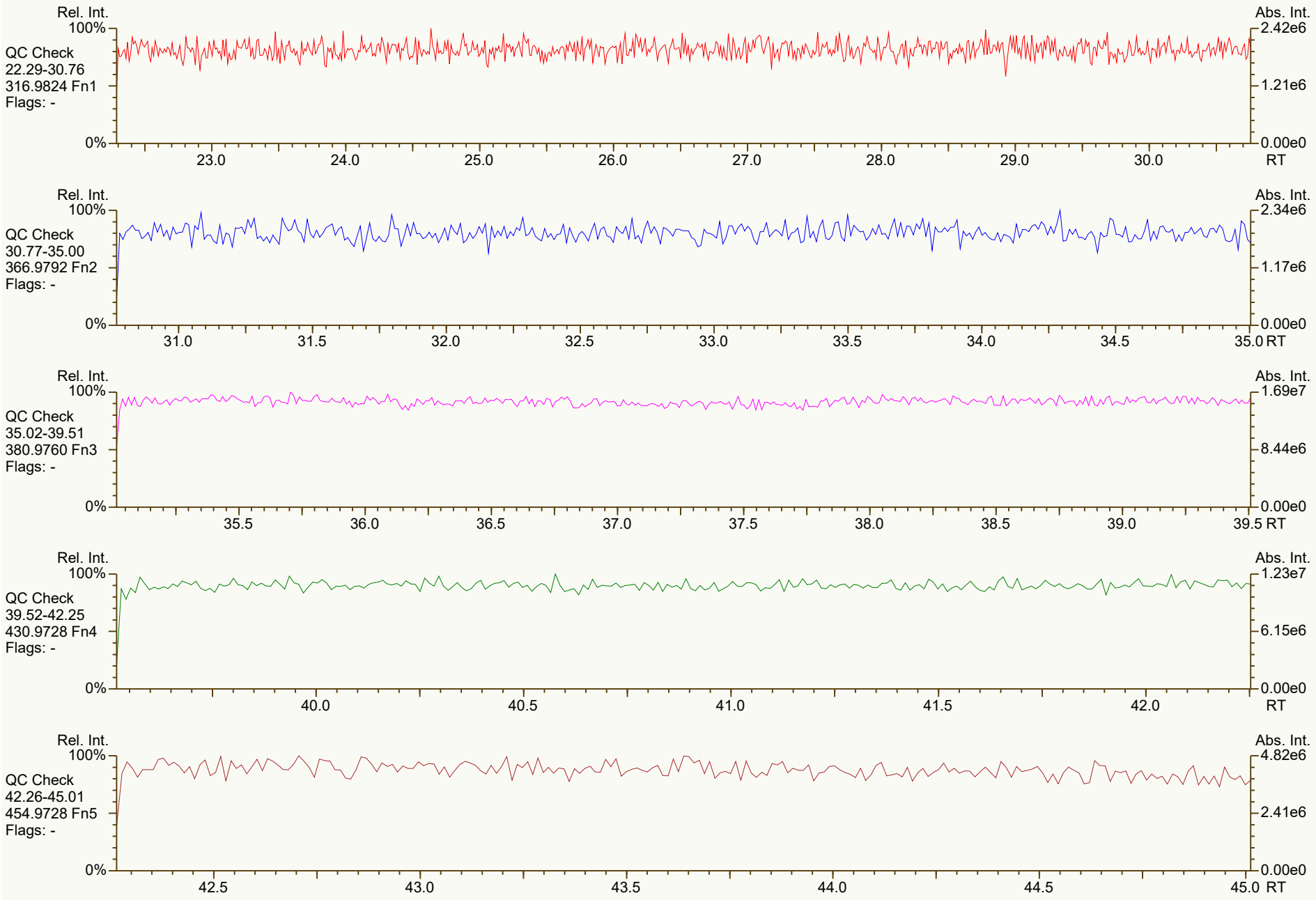
Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

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

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

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

Processed: 28 Jul 2021 08:18 Analyst: pw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22.29-30.76
316.9824 Fn1
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23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.34e6
1.17e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.69e7
8.44e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.23e7
6.15e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
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42.5
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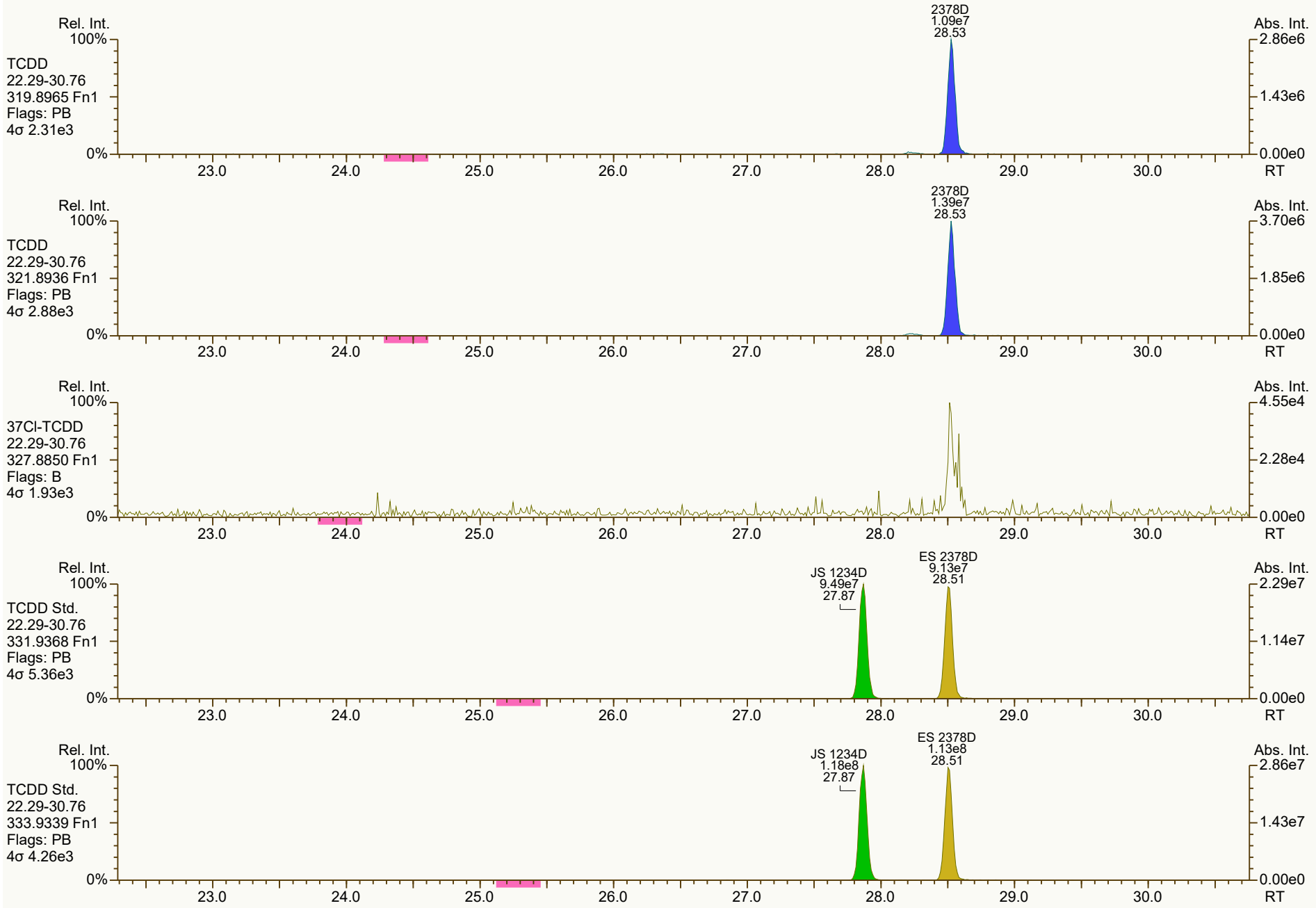
44.0
44.5
45.0 RT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100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
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0%
2378D
1.09e7
28.53
Abs. Int.
2.86e6
1.43e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.88e3
0%
2378D
1.39e7
28.53
Abs. Int.
3.70e6
1.85e6
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23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: B
4σ 1.93e3
0%
Abs. Int.
4.55e4
2.28e4
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 5.36e3
0%
JS 1234D
9.49e7
27.87
ES 2378D
9.13e7
28.51
Abs. Int.
2.29e7
1.14e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 4.26e3
0%
JS 1234D
1.18e8
27.87
ES 2378D
1.13e8
28.51
Abs. Int.
2.86e7
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27.0
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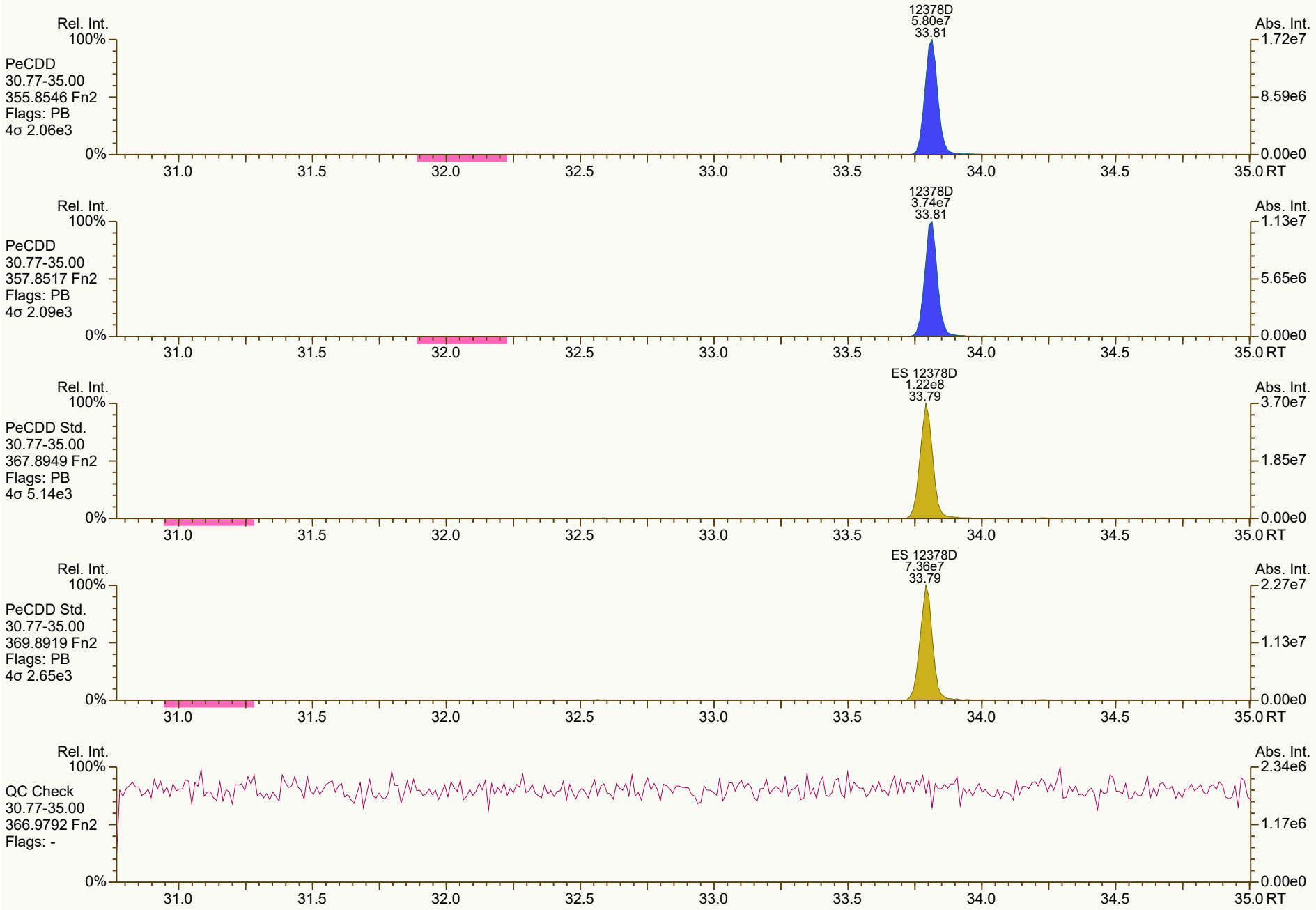
29.0
30.0
RT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100%
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12378D
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33.81
Abs. Int.
1.72e7
8.59e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.09e3
0%
12378D
3.74e7
33.81
Abs. Int.
1.13e7
5.65e6
0.00e0
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31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PB
4σ 5.14e3
0%
ES 12378D
1.22e8
33.79
Abs. Int.
3.70e7
1.85e7
0.00e0
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31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PB
4σ 2.65e3
0%
ES 12378D
7.36e7
33.79
Abs. Int.
2.27e7
1.13e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.34e6
1.17e6
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32.5
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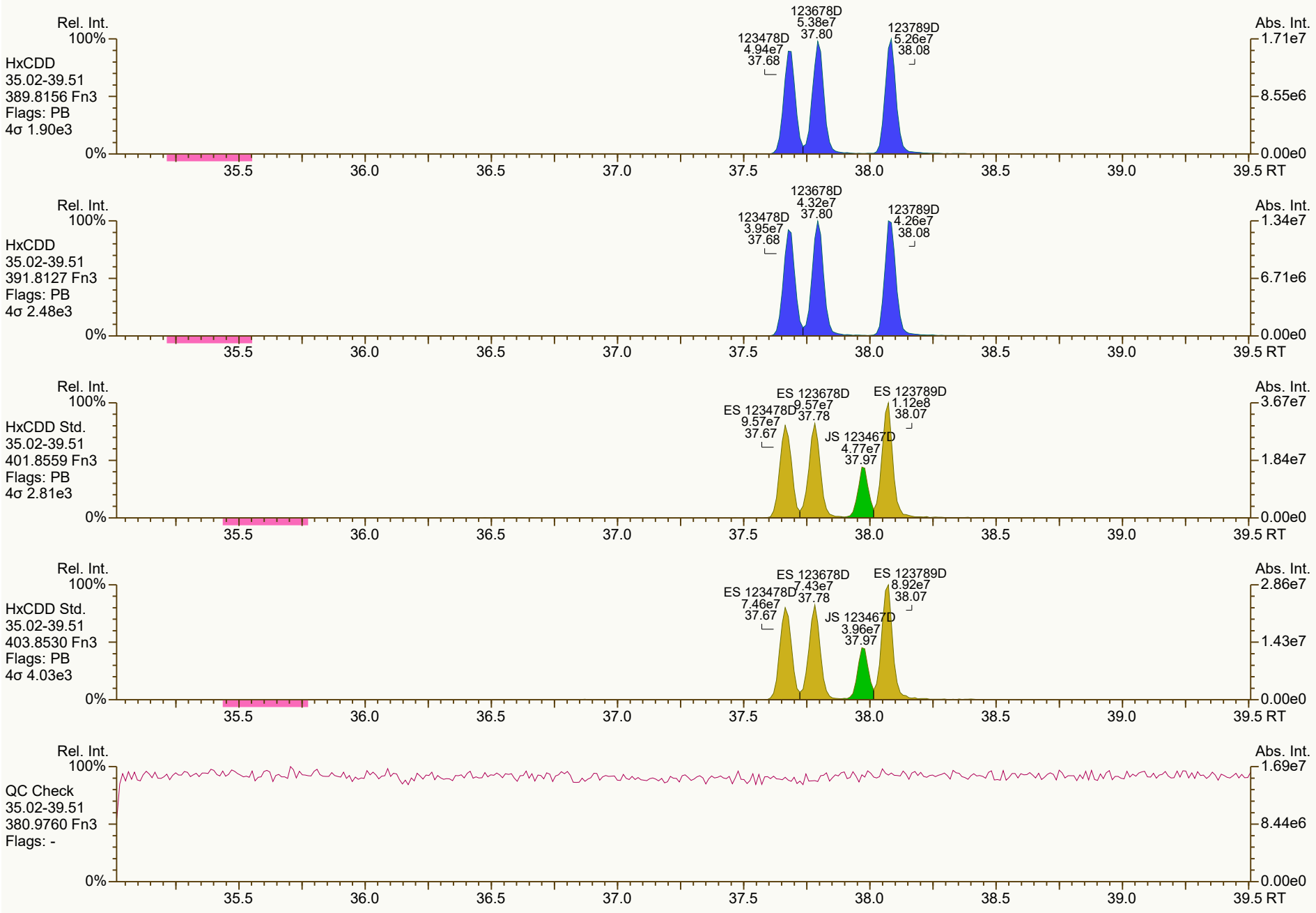
34.0
34.5
35.0 RT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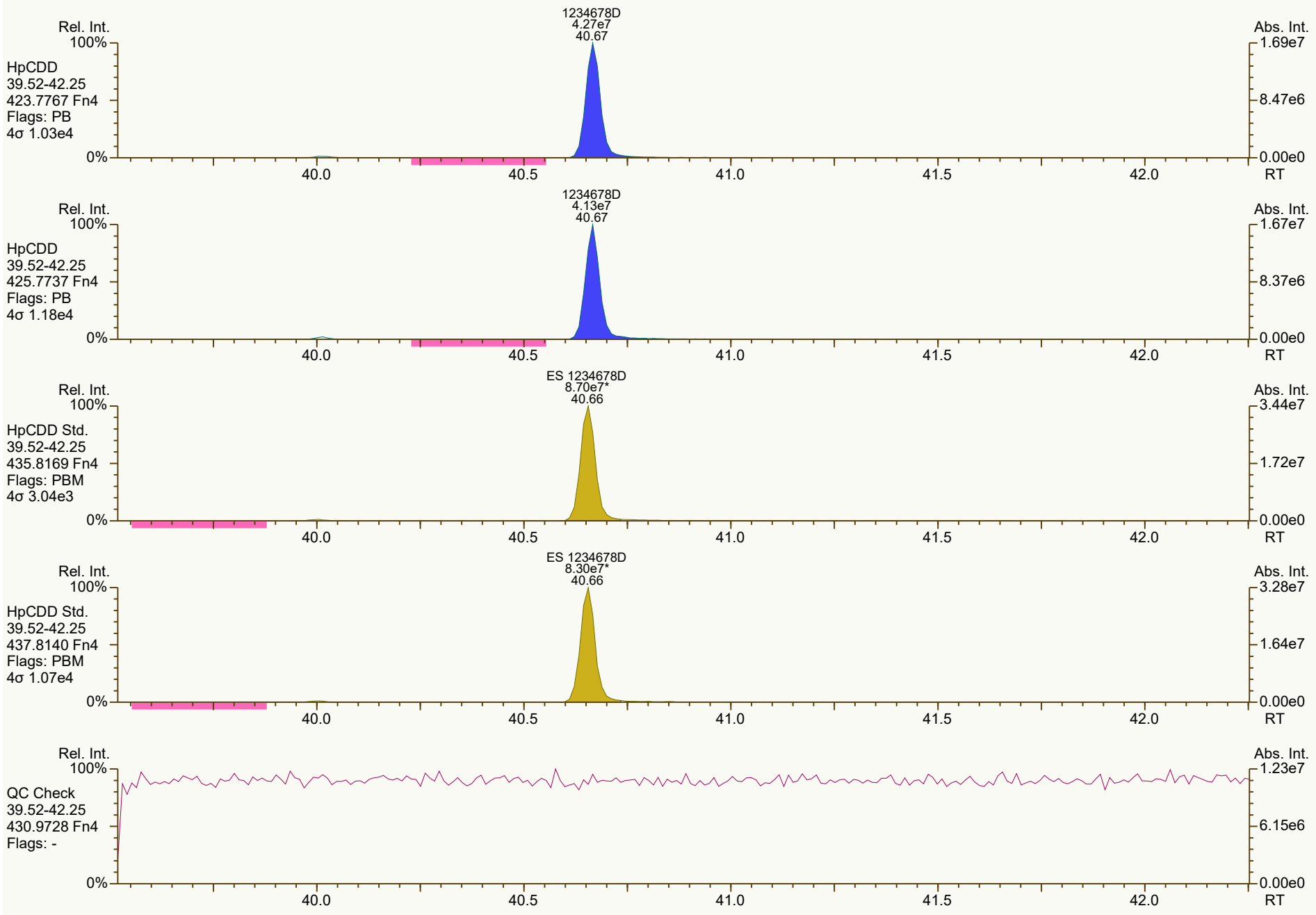
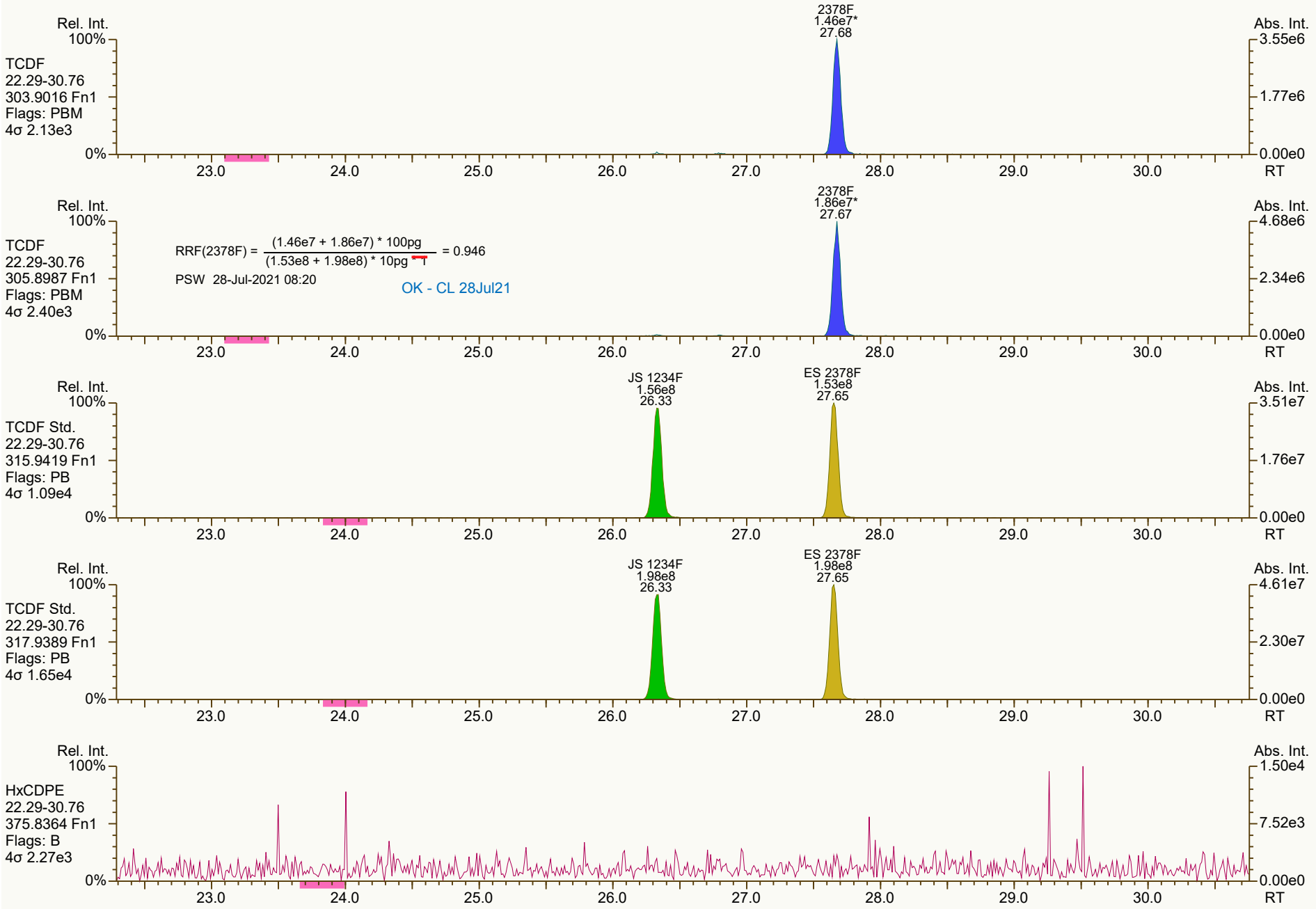
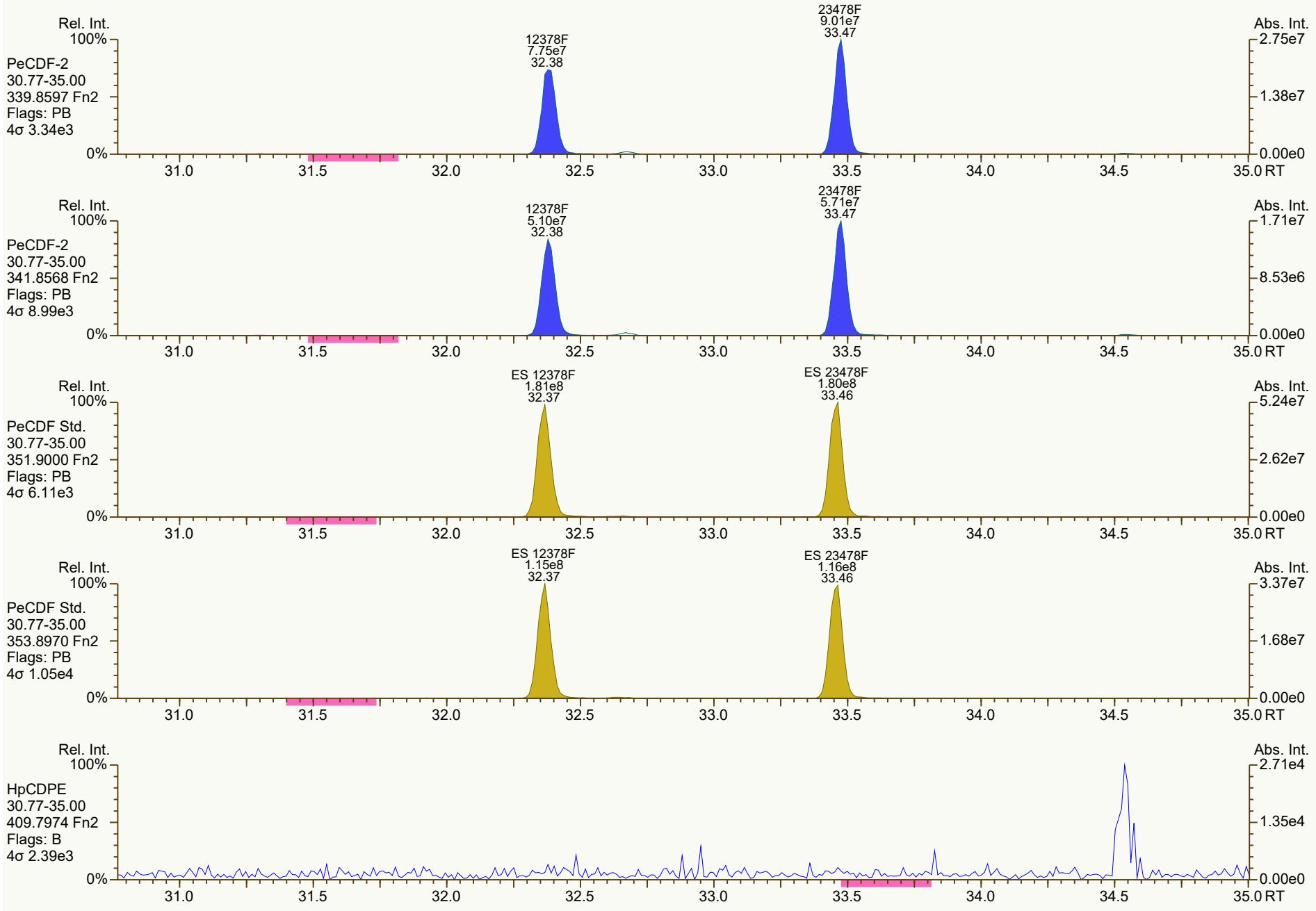
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 1.90e3
123678D
5.38e7
37.80
123478D
4.94e7
37.68
123789D
5.26e7
38.08
Abs. Int.
1.71e7
8.55e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.48e3
123678D
4.32e7
37.80
123478D
3.95e7
37.68
123789D
4.26e7
38.08
Abs. Int.
1.34e7
6.71e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PB
4σ 2.81e3
ES 123678D
9.57e7
37.78
ES 123478D
9.57e7
37.67
ES 123789D
1.12e8
38.07
JS 123467D
4.77e7
37.97
Abs. Int.
3.67e7
1.84e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PB
4σ 4.03e3
ES 123678D
7.43e7
37.78
ES 123478D
7.46e7
37.67
ES 123789D
8.92e7
38.07
JS 123467D
3.96e7
37.97
Abs. Int.
2.86e7
1.43e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
Abs. Int.
1.69e7
8.44e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT

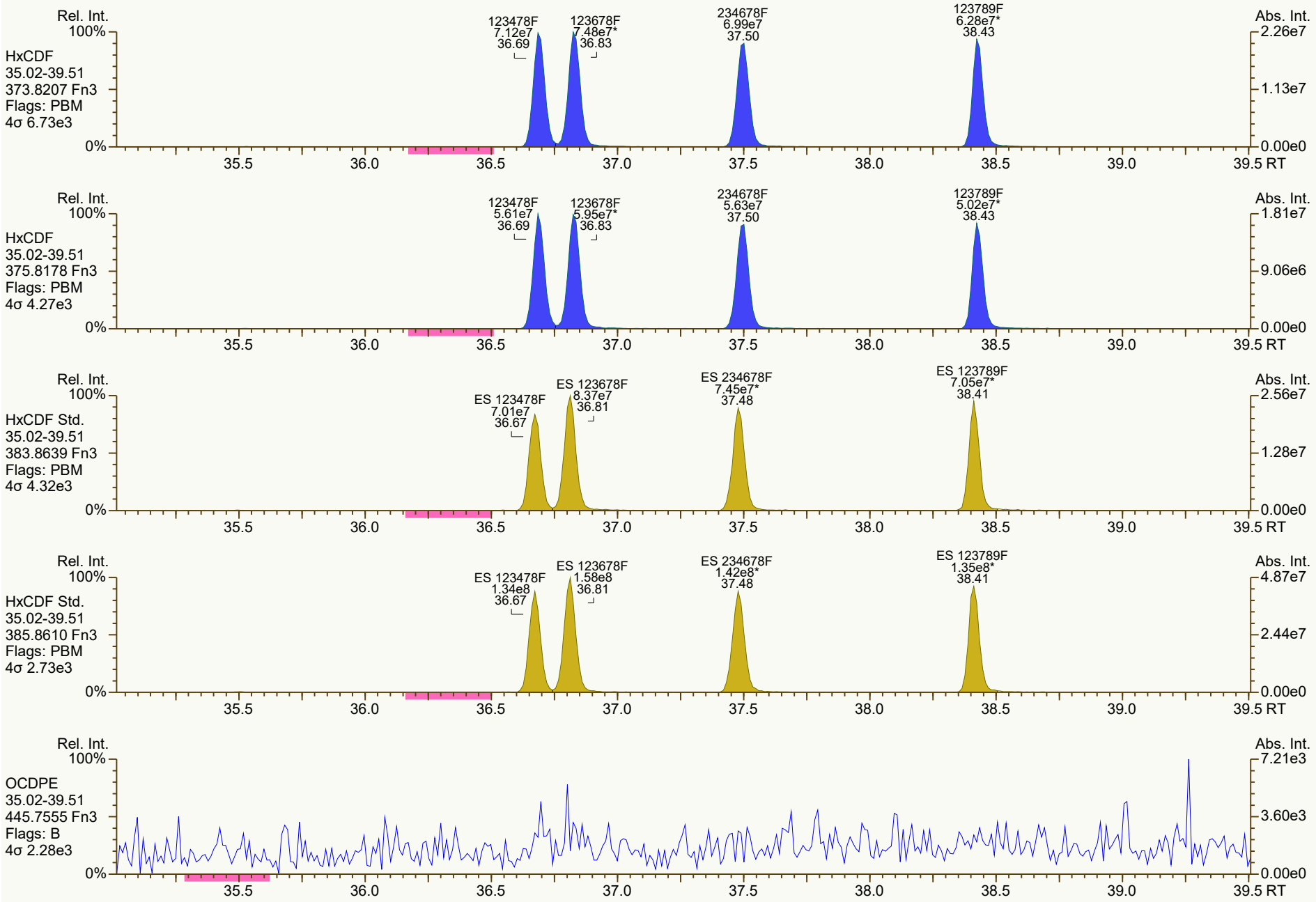

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 1.03e4
0%
1234678D
4.27e7
40.67
Abs. Int.
1.69e7
8.47e6
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 1.18e4
0%
1234678D
4.13e7
40.67
Abs. Int.
1.67e7
8.37e6
0.00e0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PBM
4σ 3.04e3
0%
ES 1234678D
8.70e7*
40.66
Abs. Int.
3.44e7
1.72e7
0.00e0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PBM
4σ 1.07e4
0%
ES 1234678D
8.30e7*
40.66
Abs. Int.
3.28e7
1.64e7
0.00e0
RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.23e7
6.15e6
0.00e0
RT

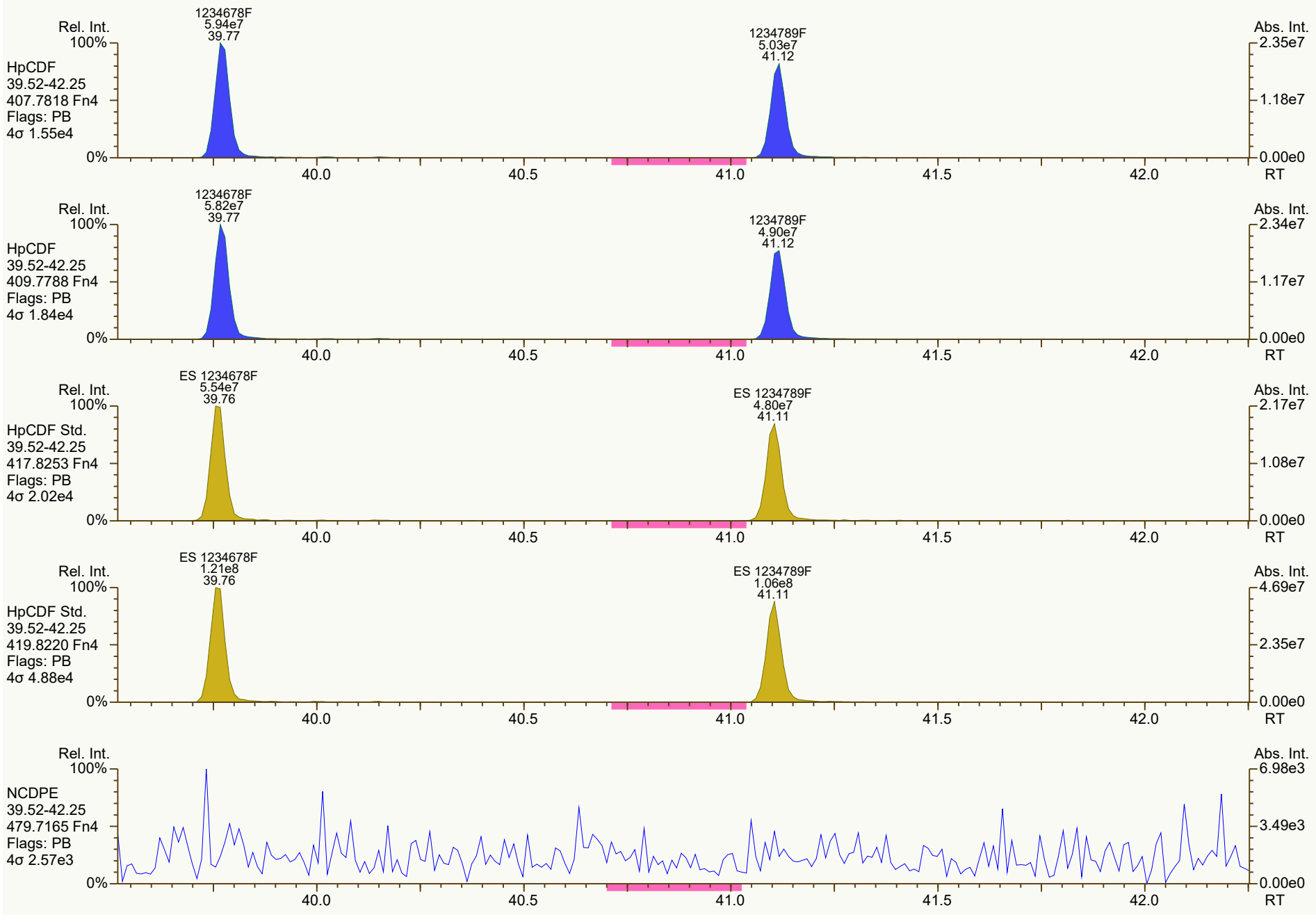

Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: PBM
4σ 2.37e3
0%
OCDD
6.83e7*
43.24
Abs. Int.
2.30e7
1.15e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.26-45.01
459.7348 Fn5
Flags: PBM
4σ 4.65e3
0%
OCDD
7.63e7*
43.23
Abs. Int.
2.58e7
1.29e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PBM
4σ 3.40e3
0%
ES OCDD
1.28e8*
43.22
Abs. Int.
4.34e7
2.17e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PBM
4σ 5.30e3
0%
ES OCDD
1.41e8*
43.22
Abs. Int.
4.68e7
2.34e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.82e6
2.41e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

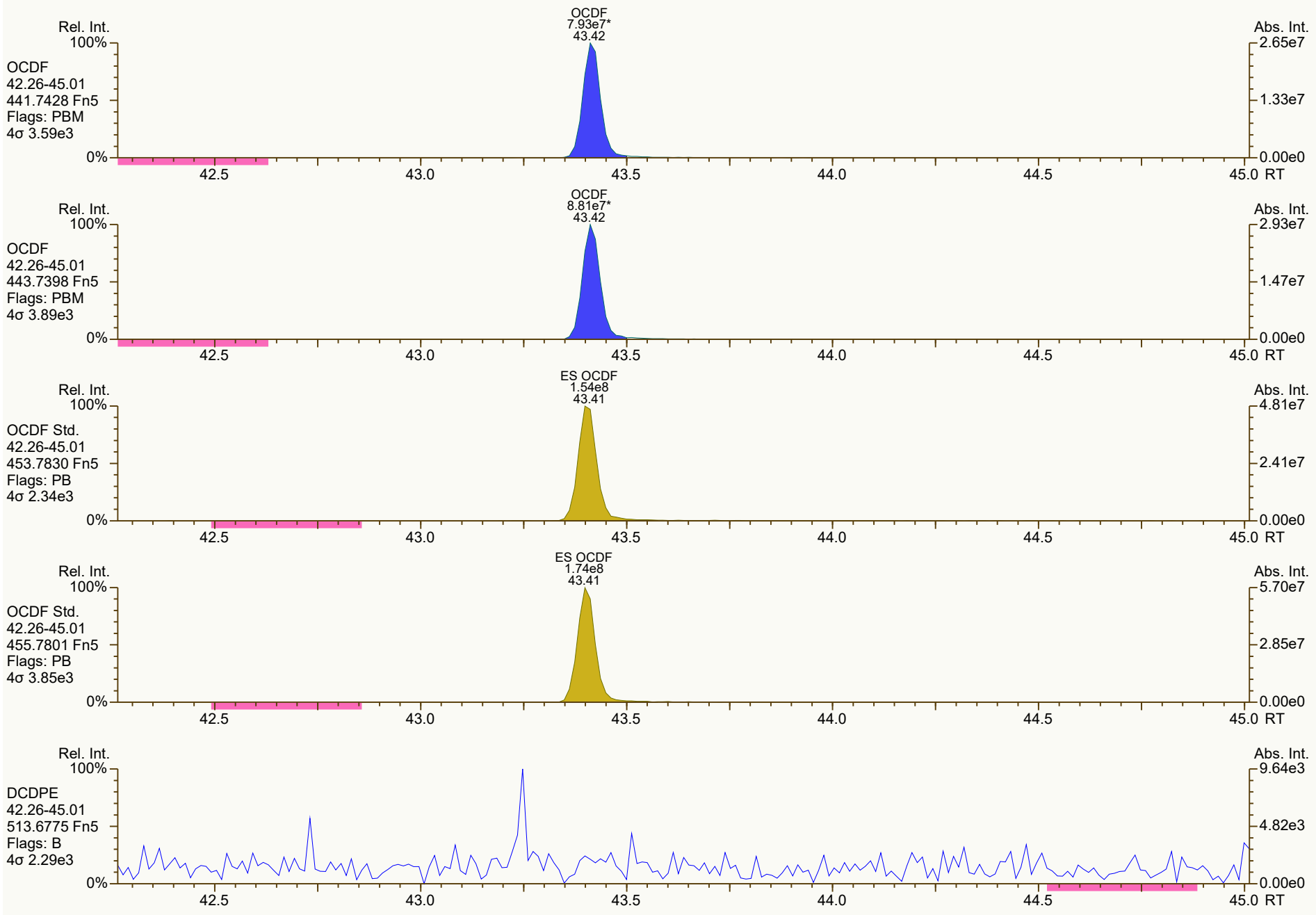

Rel. Int.
100%
TCDF
22.29-30.76
303.9016 Fn1
Flags: PBM
4σ 2.13e3
0%
2378F
1.46e7*
27.68
Abs. Int.
3.55e6
1.77e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF
22.29-30.76
305.8987 Fn1
Flags: PBM
4σ 2.40e3
0%
RRF(2378F) = (1.46e7 + 1.86e7) * 100pg / (1.53e8 + 1.98e8) * 10pg * 1 = 0.946
PSW 28-Jul-2021 08:20
OK - CL 28Jul21
2378F
1.86e7*
27.67
Abs. Int.
4.68e6
2.34e6
0.00e0
Rel. Int.
100%
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.09e4
0%
JS 1234F
1.56e8
26.33
ES 2378F
1.53e8
27.65
Abs. Int.
3.51e7
1.76e7
0.00e0
Rel. Int.
100%
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.65e4
0%
JS 1234F
1.98e8
26.33
ES 2378F
1.98e8
27.65
Abs. Int.
4.61e7
2.30e7
0.00e0
Rel. Int.
100%
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.27e3
0%
Abs. Int.
1.50e4
7.52e3
0.00e0


Rel. Int.
100%
0%
Abs. Int.
1.31e4
6.54e3
0.00e0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 2.61e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.75e4
8.73e3
0.00e0
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 3.05e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.42e6
1.21e6
0.00e0
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 3.34e3
12378F
7.75e7
32.38
23478F
9.01e7
33.47
Abs. Int.
2.75e7
1.38e7
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 8.99e3
12378F
5.10e7
32.38
23478F
5.71e7
33.47
Abs. Int.
1.71e7
8.53e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PB
4σ 6.11e3
ES 12378F
1.81e8
32.37
ES 23478F
1.80e8
33.46
Abs. Int.
5.24e7
2.62e7
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PB
4σ 1.05e4
ES 12378F
1.15e8
32.37
ES 23478F
1.16e8
33.46
Abs. Int.
3.37e7
1.68e7
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.39e3
Abs. Int.
2.71e4
1.35e4
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 6.73e3
123478F
7.12e7
36.69
123678F
7.48e7*
36.83
234678F
6.99e7
37.50
123789F
6.28e7*
38.43
Abs. Int.
2.26e7
1.13e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 4.27e3
123478F
5.61e7
36.69
123678F
5.95e7*
36.83
234678F
5.63e7
37.50
123789F
5.02e7*
38.43
Abs. Int.
1.81e7
9.06e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PBM
4σ 4.32e3
ES 123478F
7.01e7
36.67
ES 123678F
8.37e7
36.81
ES 234678F
7.45e7*
37.48
ES 123789F
7.05e7*
38.41
Abs. Int.
2.56e7
1.28e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PBM
4σ 2.73e3
ES 123478F
1.34e8
36.67
ES 123678F
1.58e8
36.81
ES 234678F
1.42e8*
37.48
ES 123789F
1.35e8*
38.41
Abs. Int.
4.87e7
2.44e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.28e3
Abs. Int.
7.21e3
3.60e3
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT

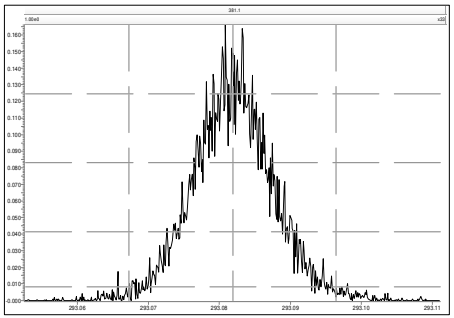

Rel. Int.
100%
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 1.55e4
0%
1234678F
5.94e7
39.77
1234789F
5.03e7
41.12
Abs. Int.
2.35e7
1.18e7
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 1.84e4
0%
1234678F
5.82e7
39.77
1234789F
4.90e7
41.12
Abs. Int.
2.34e7
1.17e7
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PB
4σ 2.02e4
0%
ES 1234678F
5.54e7
39.76
ES 1234789F
4.80e7
41.11
Abs. Int.
2.17e7
1.08e7
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PB
4σ 4.88e4
0%
ES 1234678F
1.21e8
39.76
ES 1234789F
1.06e8
41.11
Abs. Int.
4.69e7
2.35e7
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.52-42.25
479.7165 Fn4
Flags: PB
4σ 2.57e3
0%
Abs. Int.
6.98e3
3.49e3
0.00e0
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.26-45.01
441.7428 Fn5
Flags: PBM
4σ 3.59e3
0%
OCDF
7.93e7*
43.42
Abs. Int.
2.65e7
1.33e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.26-45.01
443.7398 Fn5
Flags: PBM
4σ 3.89e3
0%
OCDF
8.81e7*
43.42
Abs. Int.
2.93e7
1.47e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PB
4σ 2.34e3
0%
ES OCDF
1.54e8
43.41
Abs. Int.
4.81e7
2.41e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PB
4σ 3.85e3
0%
ES OCDF
1.74e8
43.41
Abs. Int.
5.70e7
2.85e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.26-45.01
513.6775 Fn5
Flags: B
4σ 2.29e3
0%
Abs. Int.
9.64e3
4.82e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

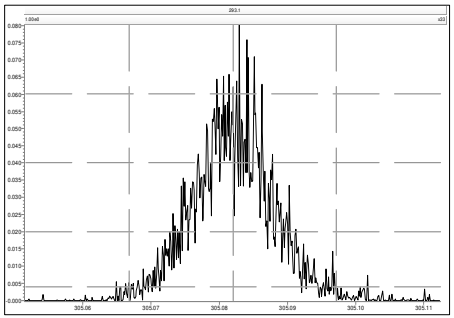
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, July 27, 2021 08:15:38 Eastern Daylight Time

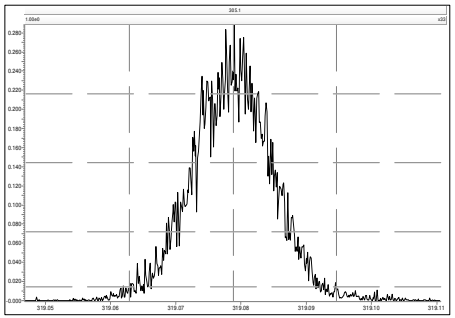
M 292.9824 R 12951



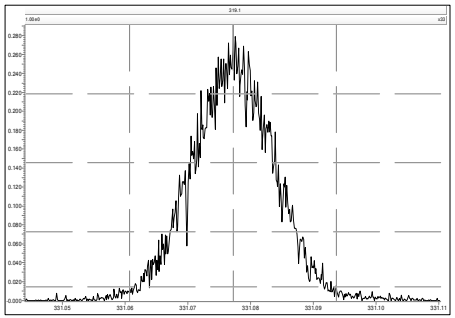
M 304.9824 R 13589



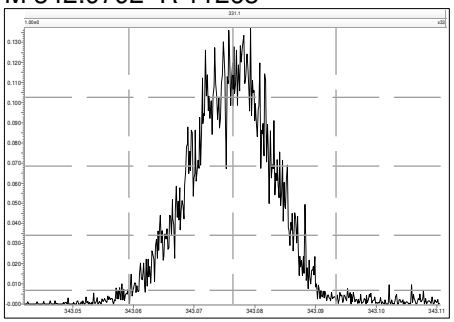
M 318.9792 R 11848



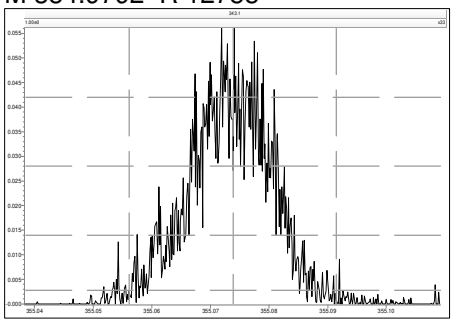
M 330.9792 R 11310



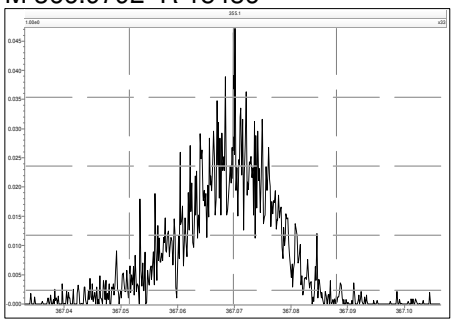
M 342.9792 R 11263



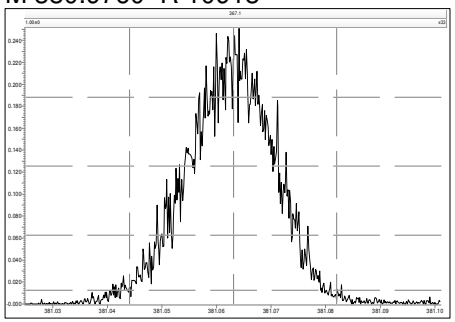
M 354.9792 R 12755



M 366.9792 R 15436



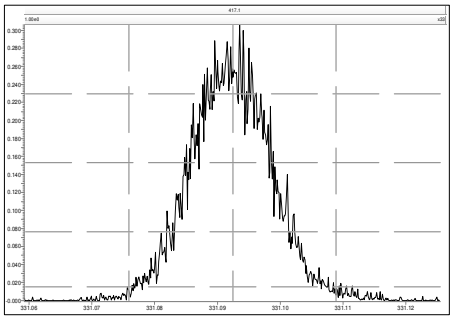
M 380.9760 R 10918



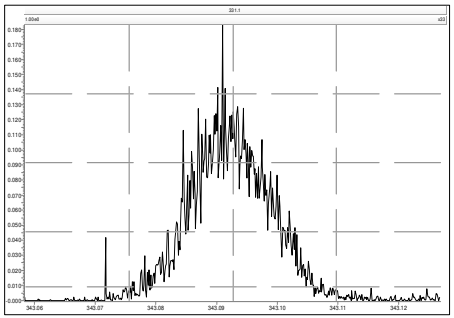
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Tuesday, July 27, 2021 08:16:03 Eastern Daylight Time

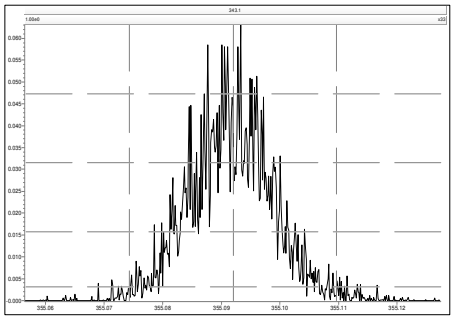
M 330.9792 R 11165



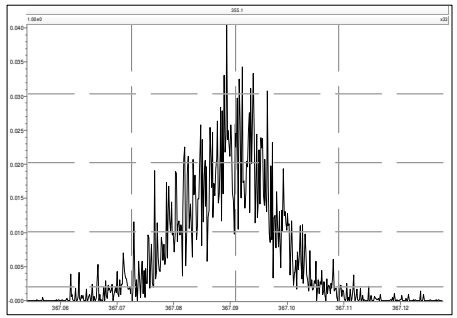
M 342.9792 R 12440



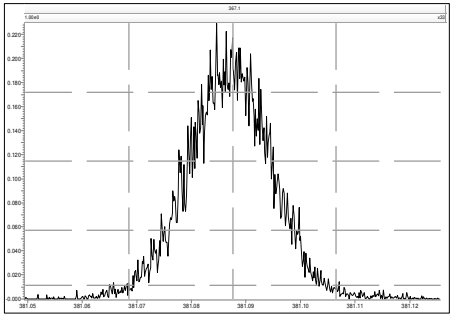
M 354.9792 R 12626



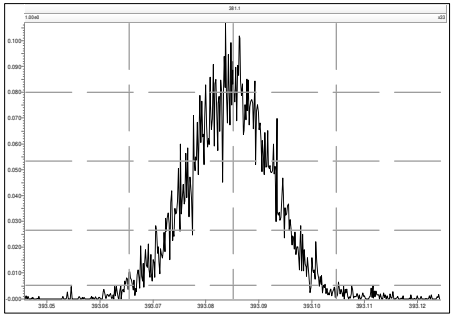
M 366.9792 R 12134



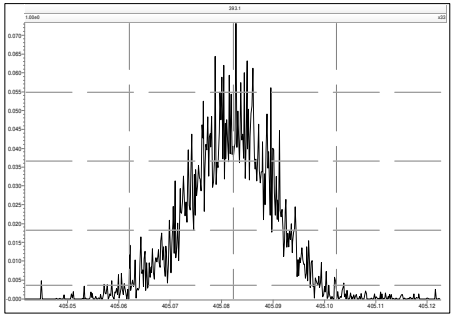
M 380.9760 R 10727



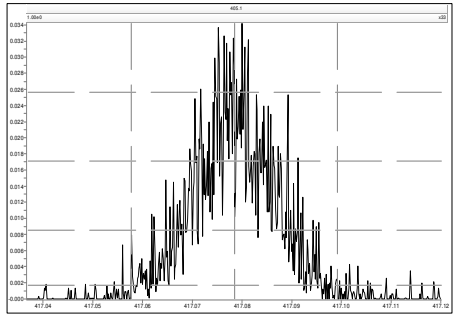
M 392.9760 R 12019



M 404.9760 R 11685



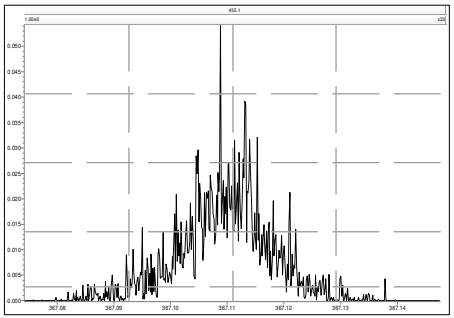
M 416.9760 R 14046



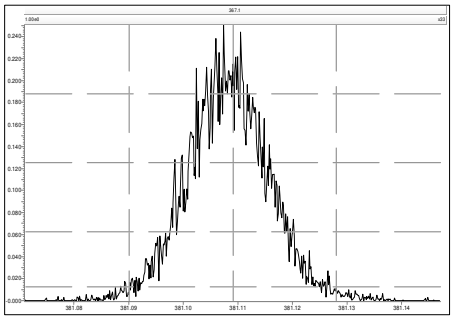
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Tuesday, July 27, 2021 08:16:24 Eastern Daylight Time

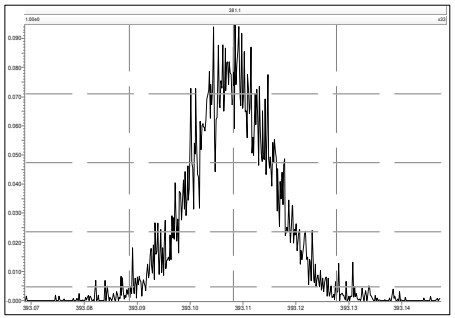
M 366.9792 R 13020



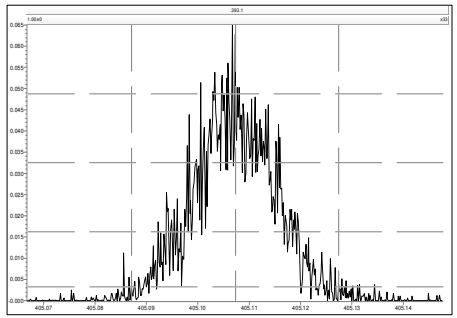
M 380.9760 R 11361



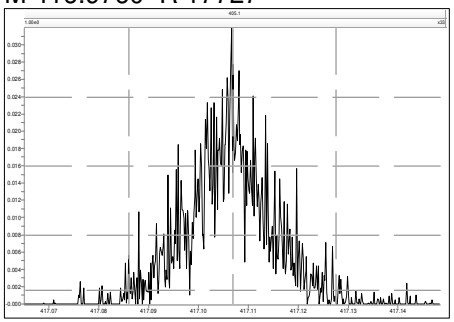
M 392.9760 R 11464



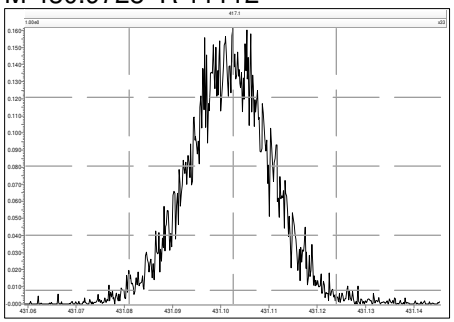
M 404.9760 R 12314



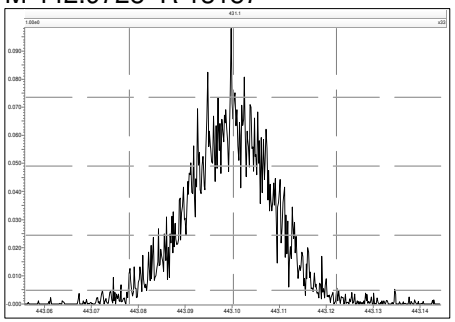
M 416.9760 R 17727



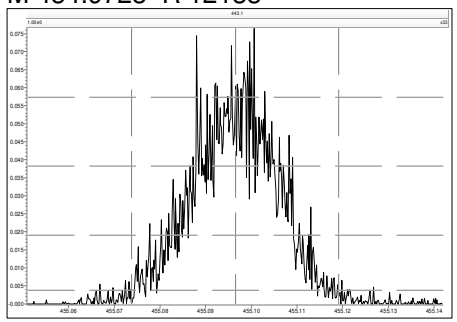
M 430.9728 R 11112



M 442.9728 R 13157



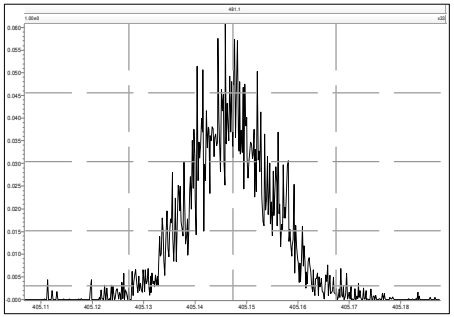
M 454.9728 R 12133



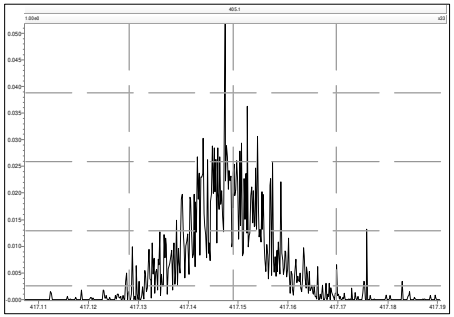
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Tuesday, July 27, 2021 08:16:47 Eastern Daylight Time

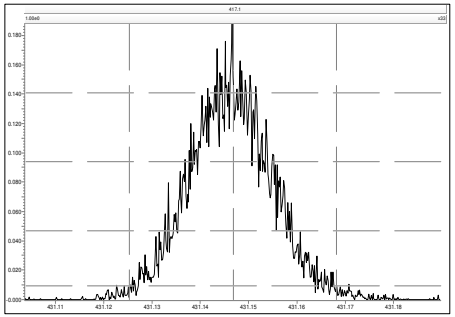
M 404.9760 R 12954



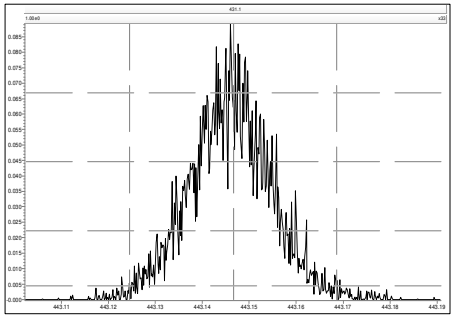
M 416.9760 R 17005



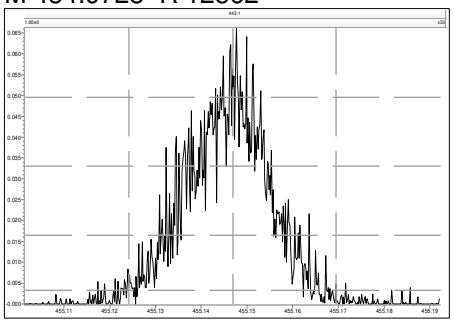
M 430.9728 R 11739



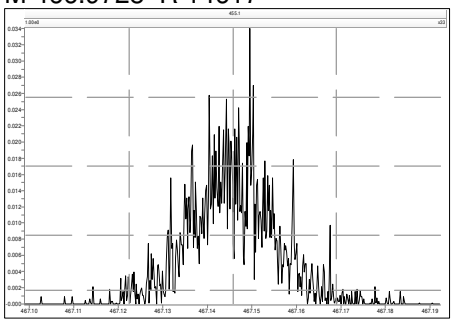
M 442.9728 R 11849



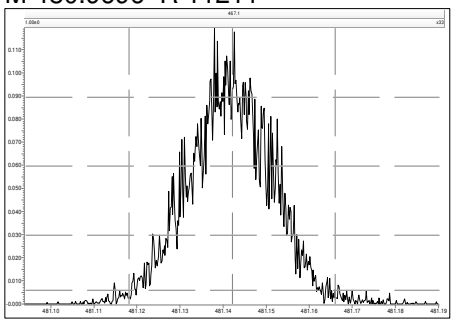
M 454.9728 R 12562



M 466.9728 R 14617



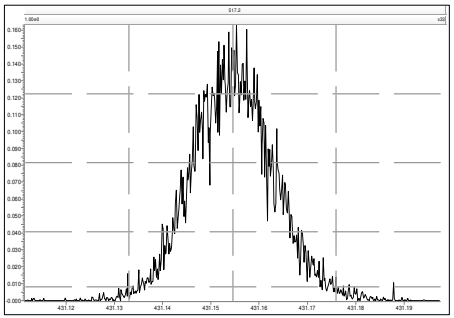
M 480.9696 R 11211



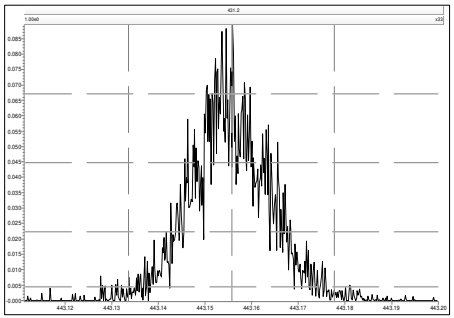
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed: Tuesday, July 27, 2021 08:17:11 Eastern Daylight Time

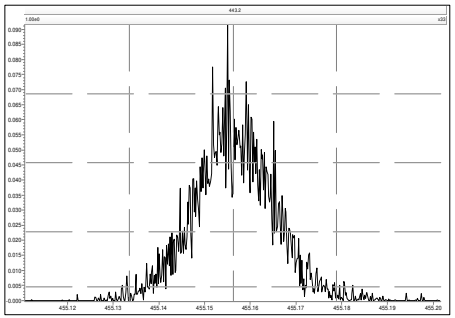
M 430.9728 R 11739



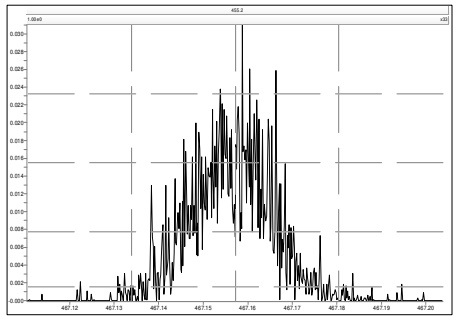
M 442.9728 R 12623



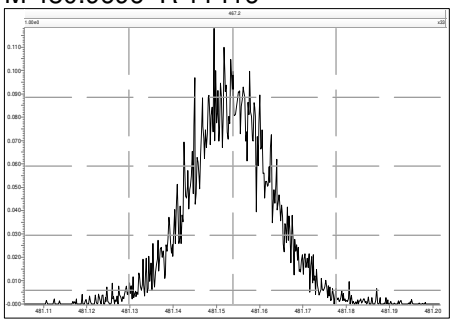
M 454.9728 R 12952



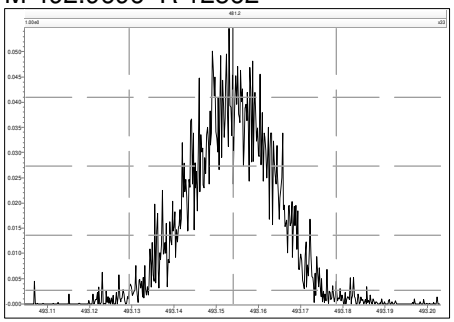
M 466.9728 R 17238



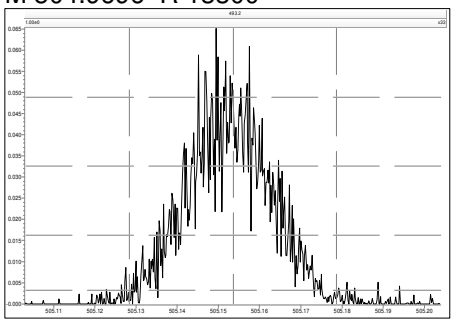
M 480.9696 R 11416



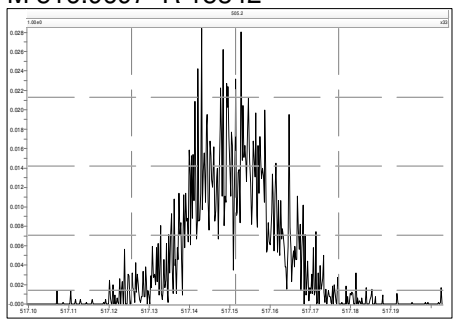
M 492.9696 R 12562



M 504.9696 R 13300

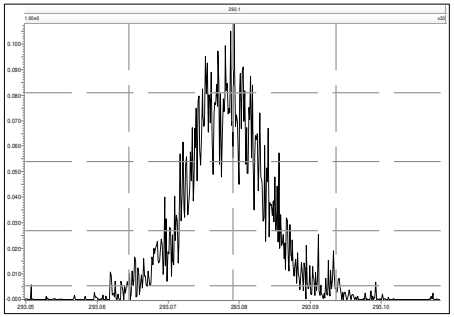


M 516.9697 R 15342

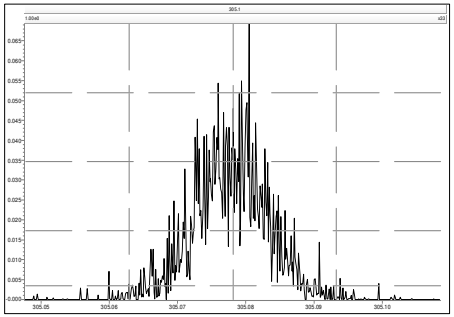


Printed: Tuesday, July 27, 2021 14:53:02 Eastern Daylight Time

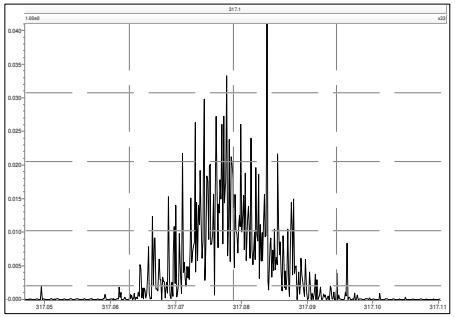
M 292.9824 R 13333



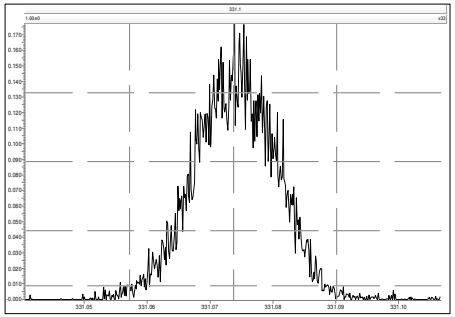
M 304.9824 R 14839



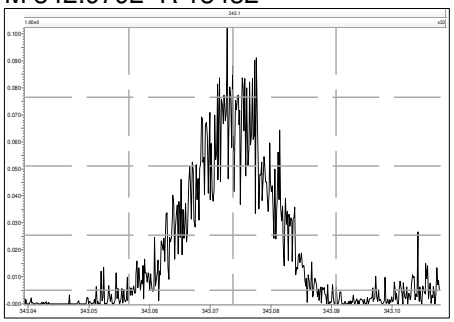
M 316.9824 R 17537



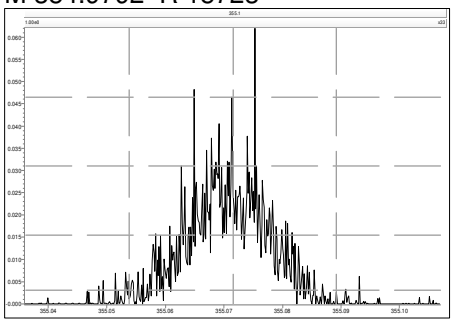
M 330.9792 R 11836



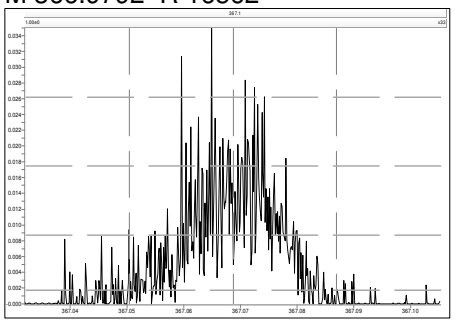
M 342.9792 R 13432



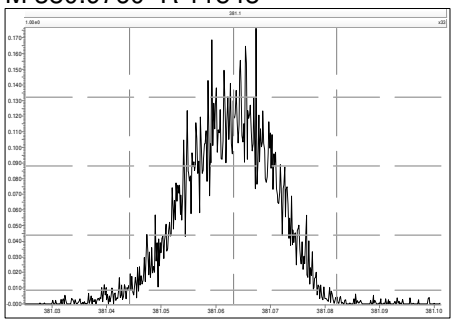
M 354.9792 R 15723



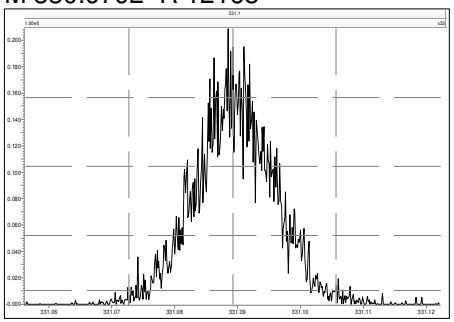
M 366.9792 R 16562



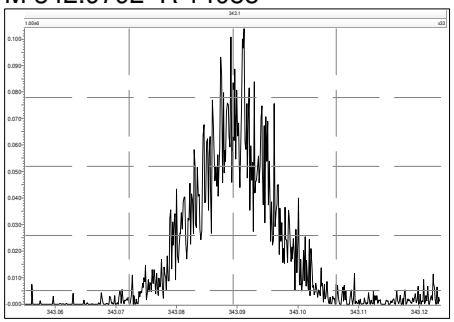
M 380.9760 R 11548



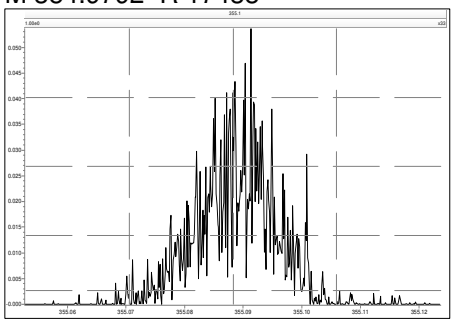
M 330.9792 R 12168



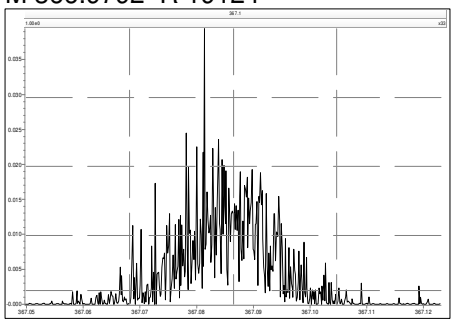
M 342.9792 R 14085



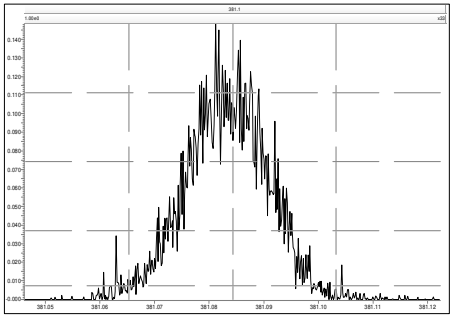
M 354.9792 R 17438



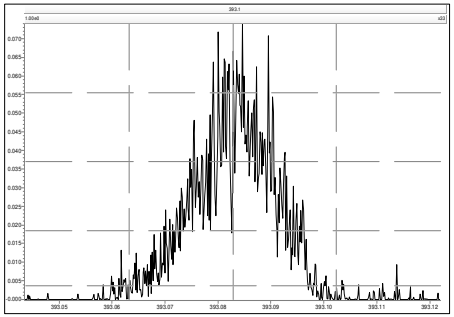
M 366.9792 R 19124



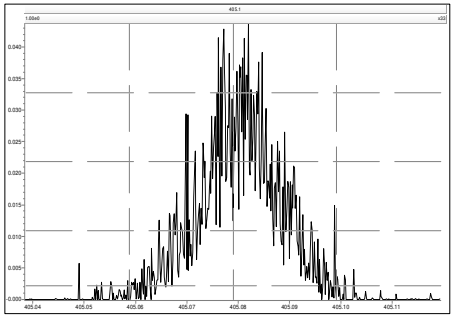
M 380.9760 R 12109



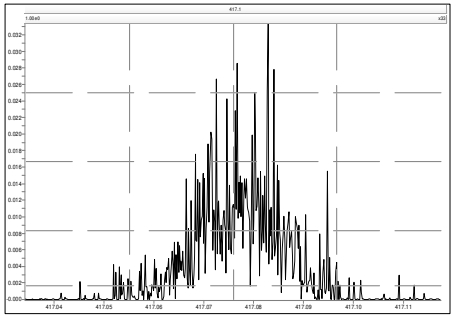
M 392.9760 R 12919



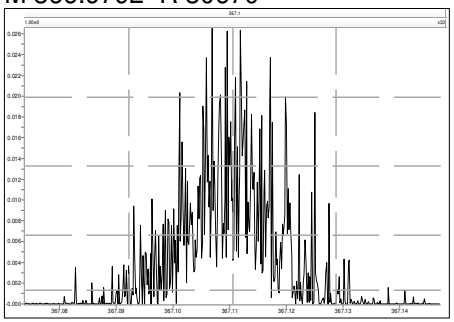
M 404.9760 R 13512



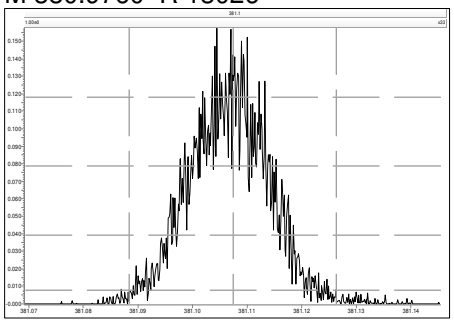
M 416.9760 R 18043



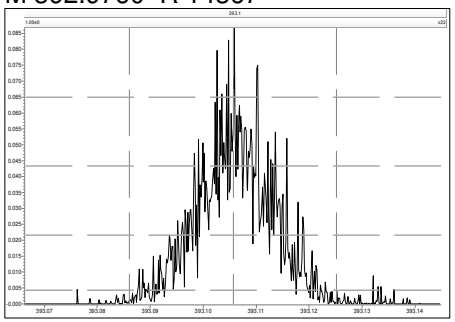
M 366.9792 R 30670



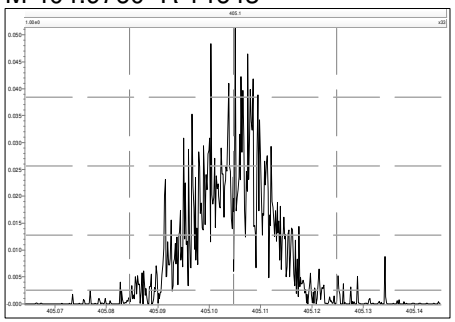
M 380.9760 R 13026



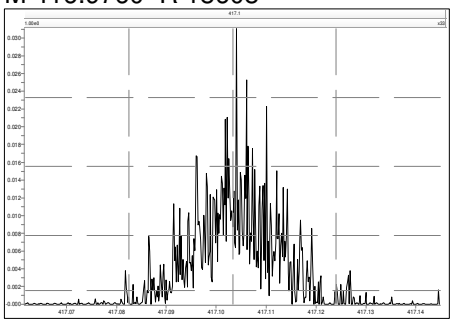
M 392.9760 R 14367



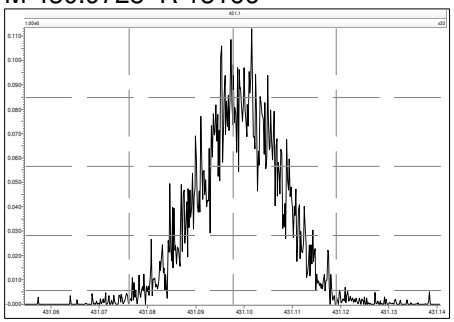
M 404.9760 R 14643



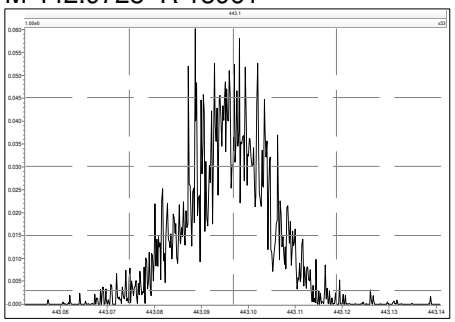
M 416.9760 R 18608



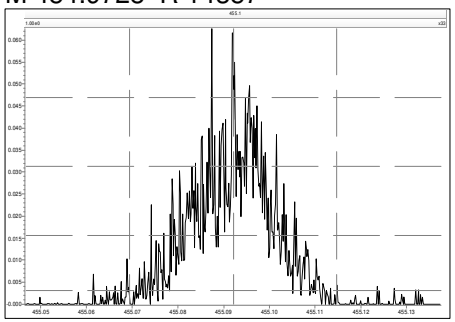
M 430.9728 R 13166



M 442.9728 R 13961



M 454.9728 R 14357



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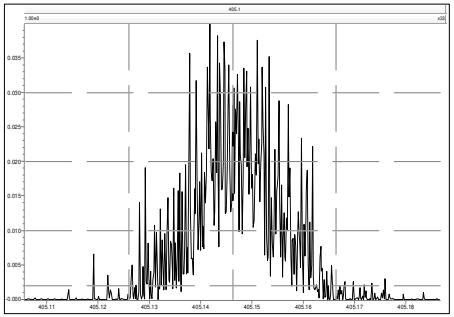

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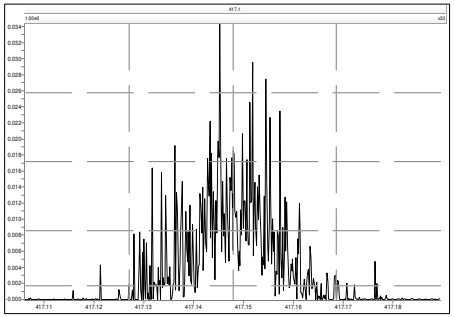
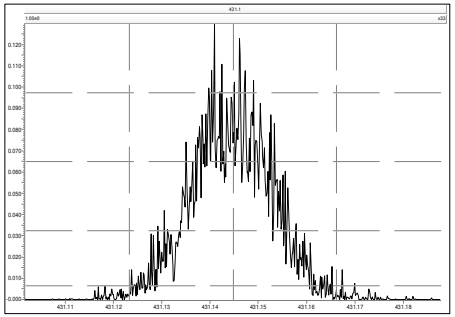


M 430.9728 R 12961



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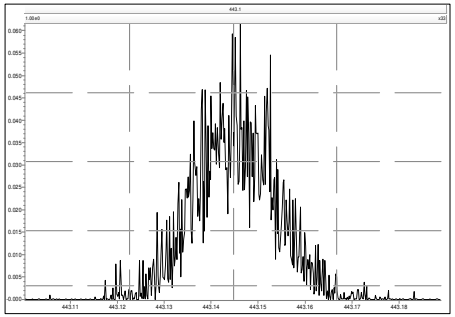

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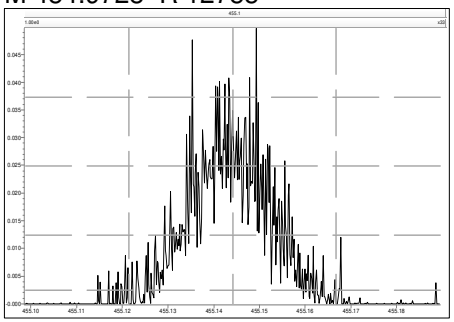

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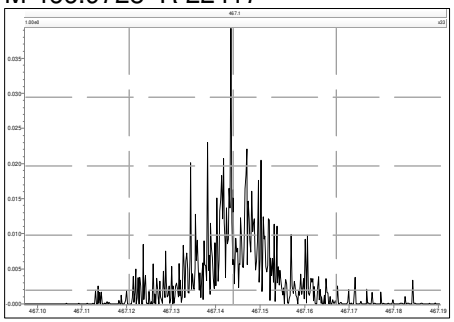

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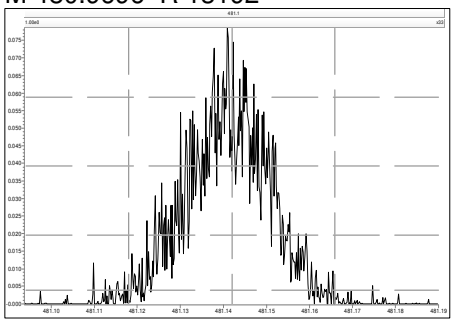

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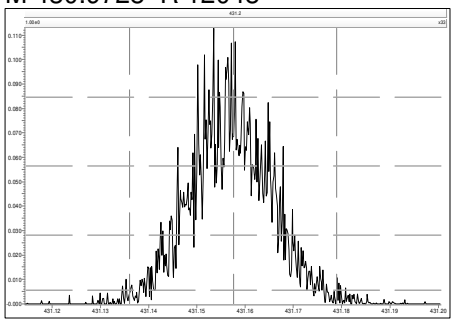

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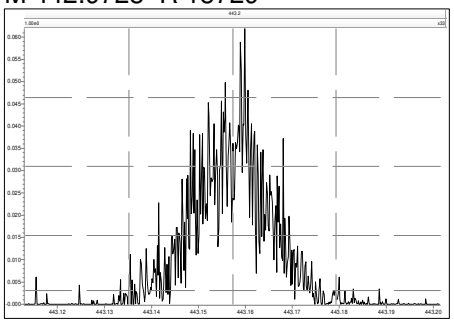

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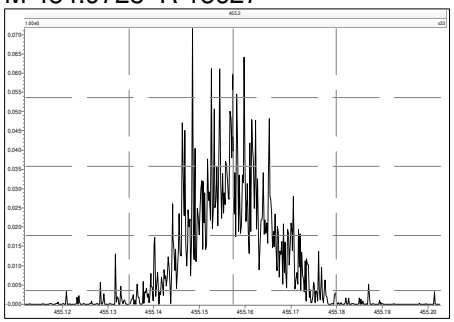

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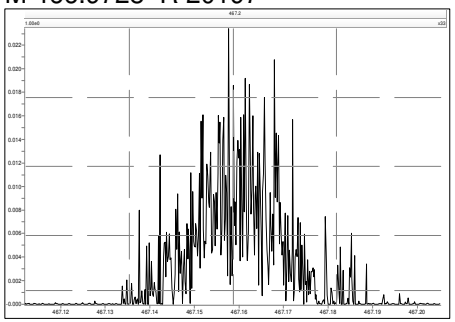

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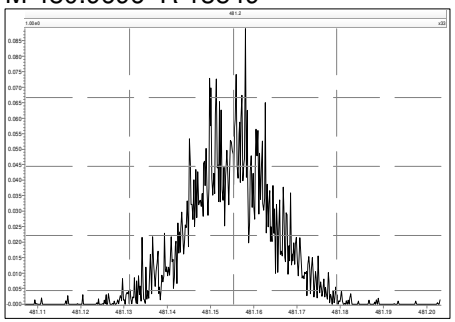
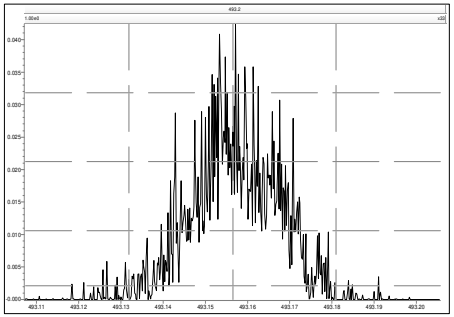


M 492.9696 R 14888



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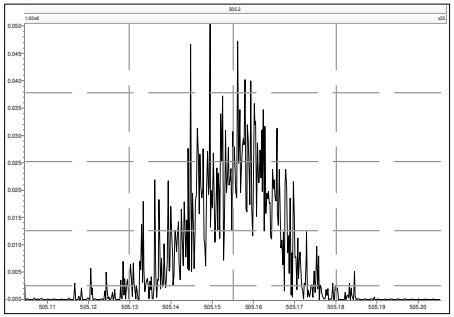

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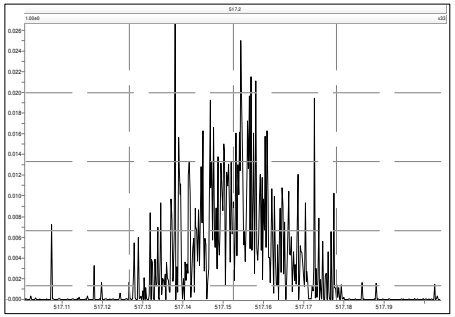

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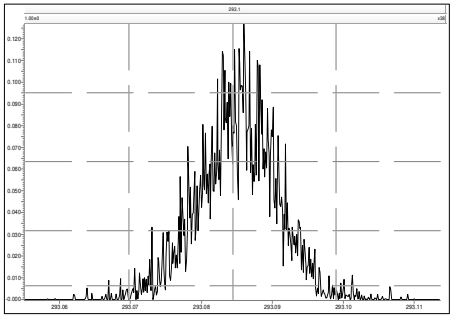

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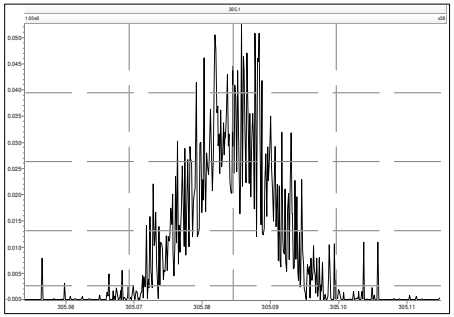

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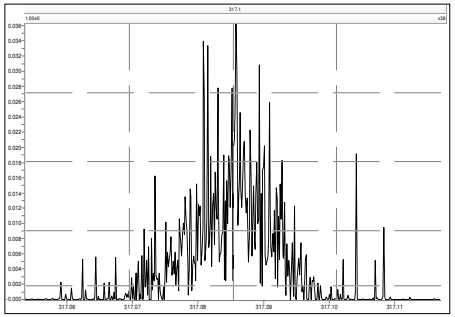

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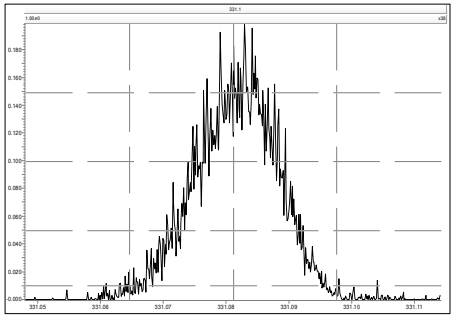

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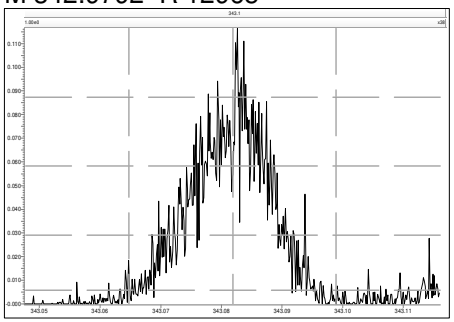

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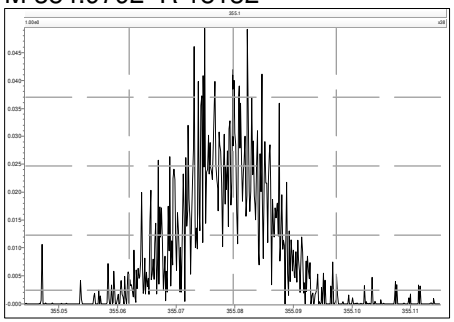

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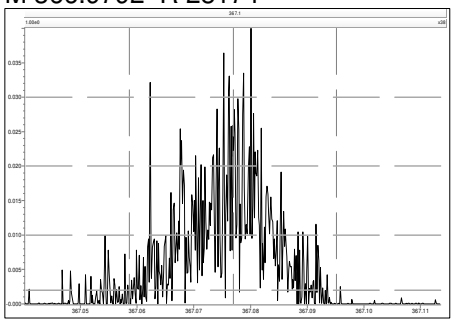

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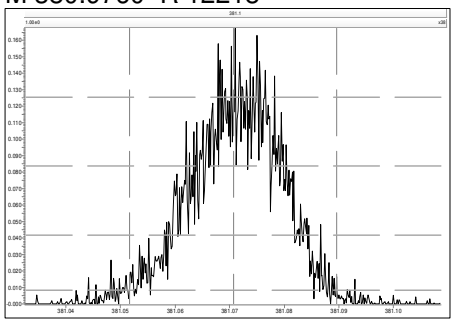

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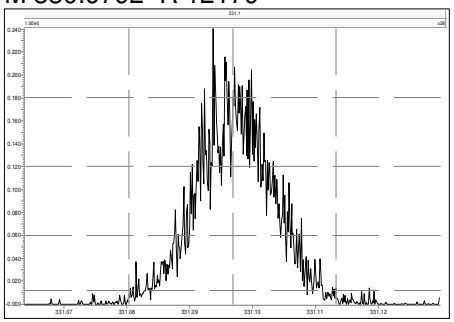

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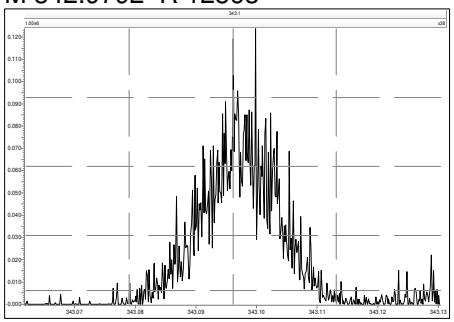

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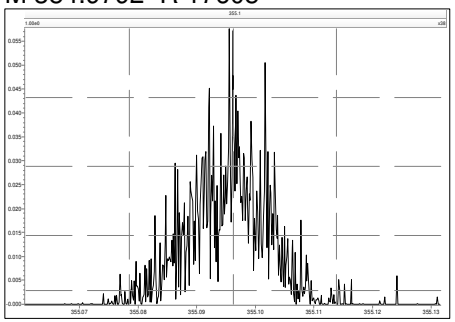

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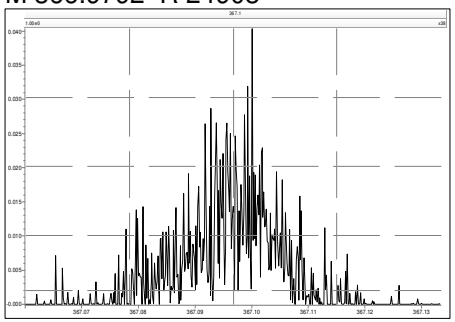

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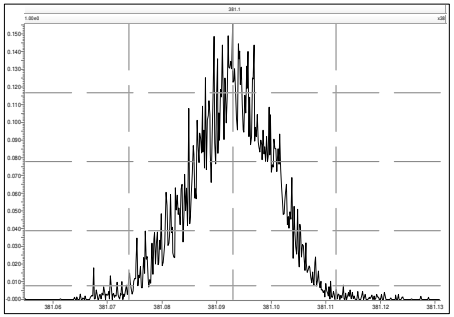

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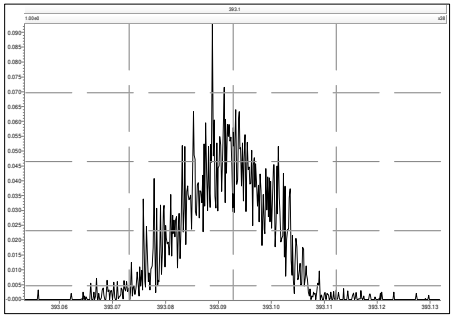

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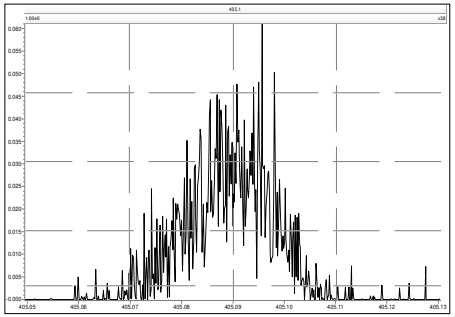
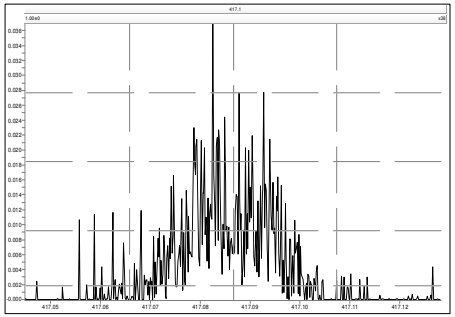


M 416.9760 R 19306



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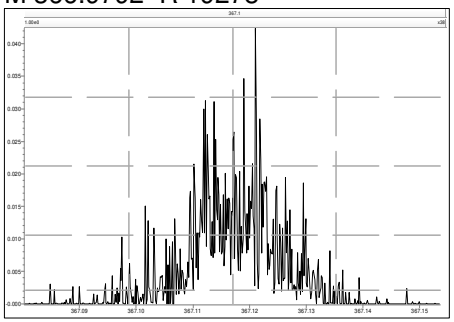

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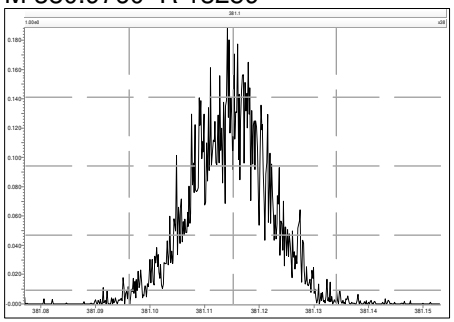

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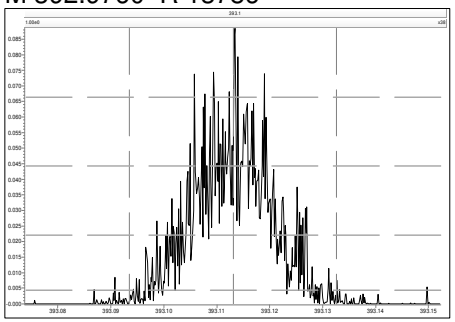

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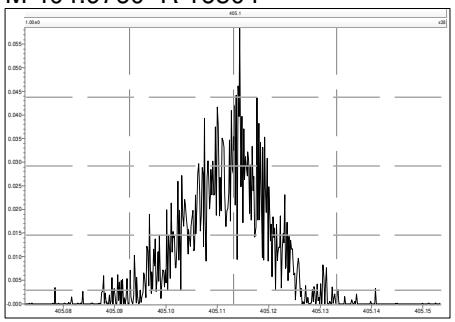
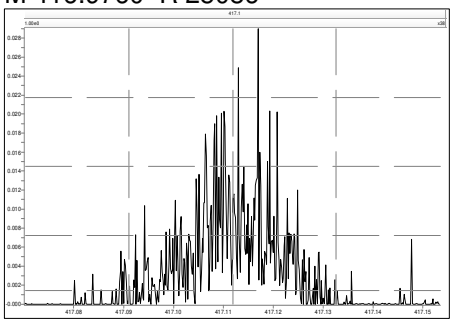
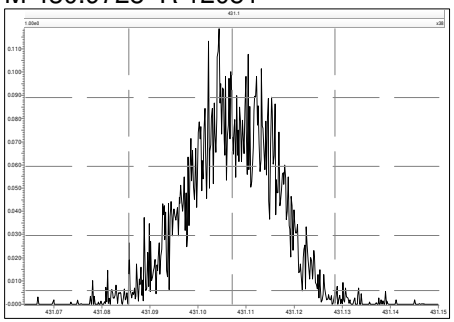


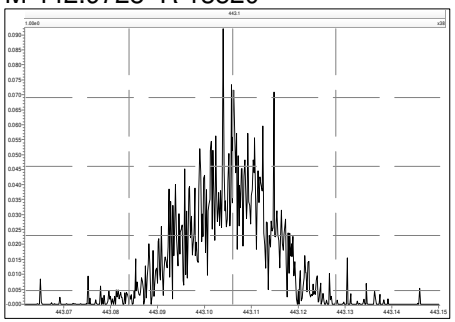
M 416.9760 R 25086



M 430.9728 R 12051



M 442.9728 R 13520



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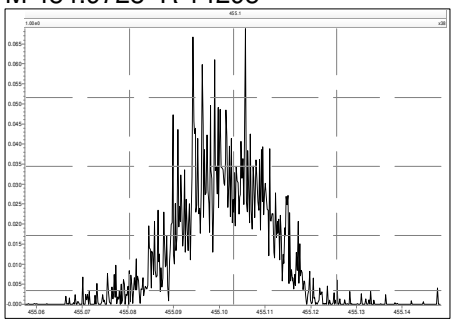

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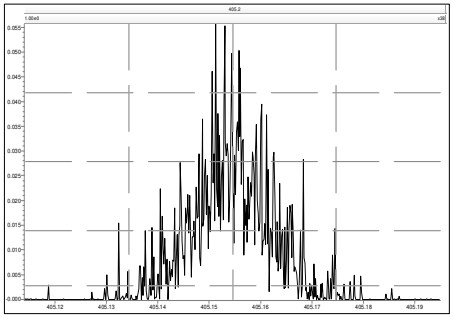

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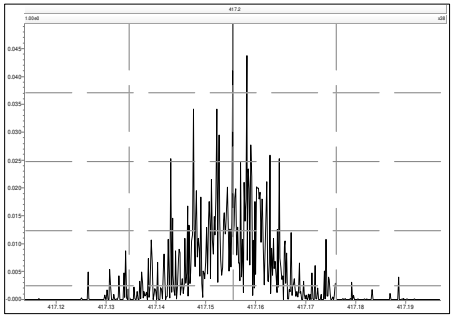

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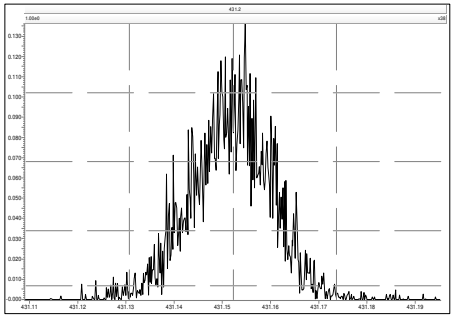

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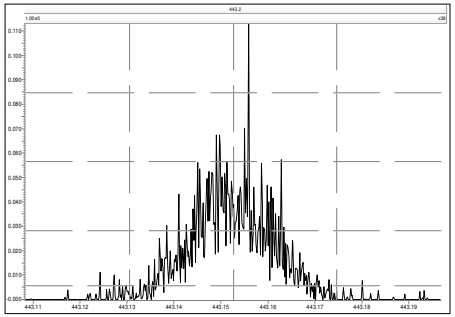

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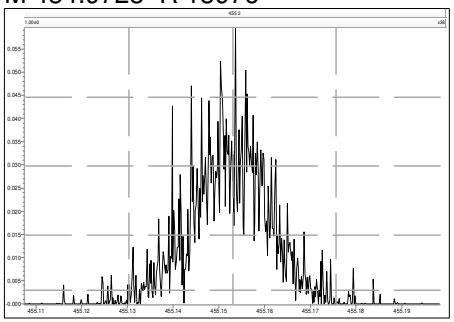

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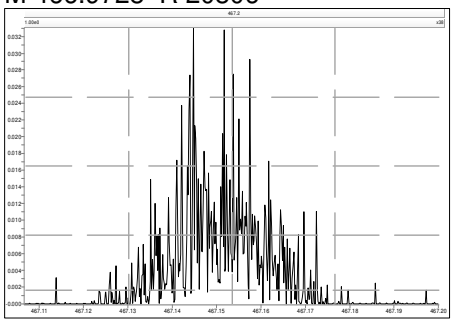

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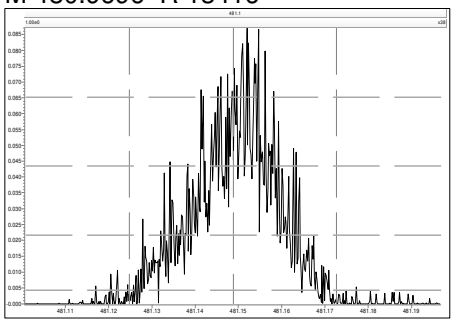

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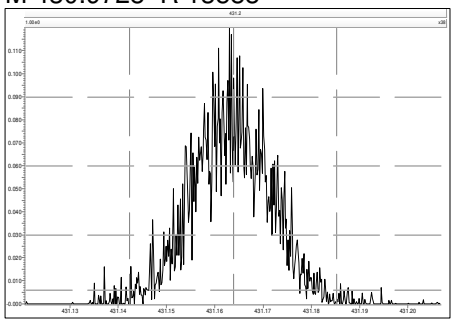

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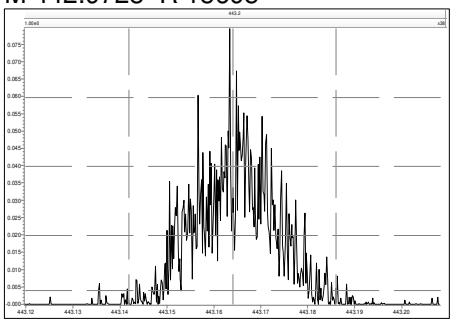
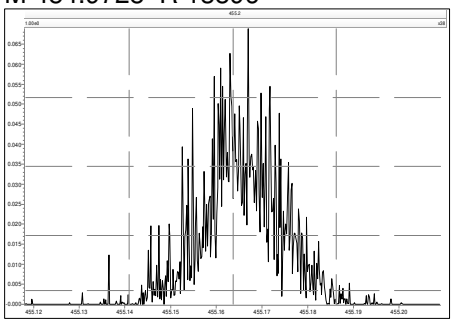


M 454.9728 R 13896



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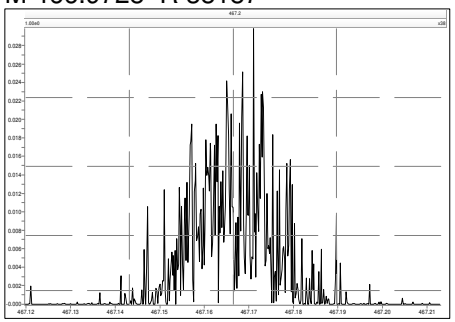

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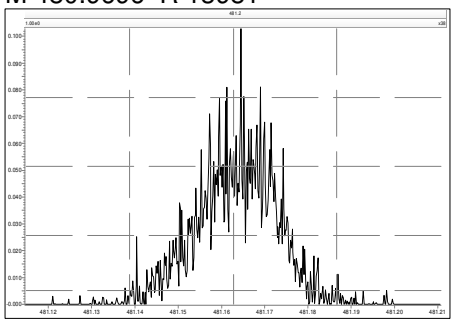

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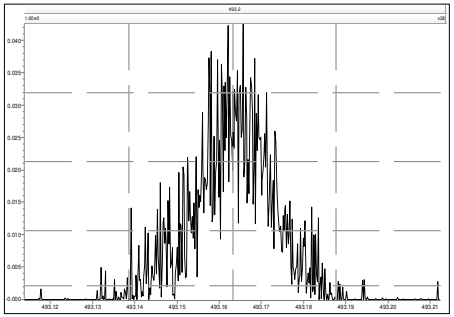

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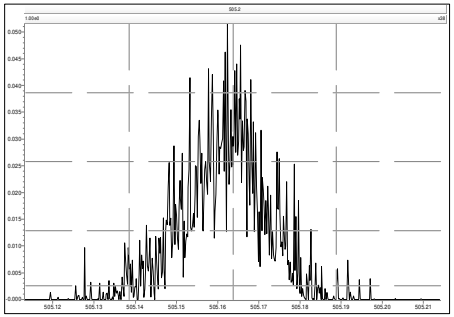
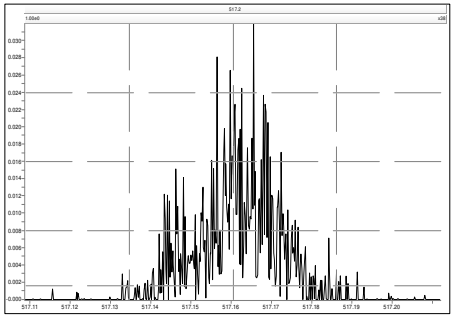


M 516.9697 R 27065



Lab ID: OPR1_18926_DF

REVIEWED
Amber_Kornegay , 2/23/2022, 2:39:56 PM

Acq'd: 22 Feb 2022 06:08 PSW

Wt/Vol: 1 uL

ICAL: MM3_DF_10272021_27JUL2021

Client ID: 0_18926_OPR001

UTP: 22-Feb-2022 15:05:13 PSW

J-level: 0.25 pg/uL **Split:** 1

Checkcode: 439-306-NNZ

Datafile: 220222R02

Report: 22 Feb 2022 15:06 pw

Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	27.22		1.0008	1.0008	0	3.59E+06	0.77	Y	1.34	9.26	5954.772	0.179
12378-PeCDD	32.77		1.0006	1.0006	0	1.35E+07	1.61	Y	1.06	46.4	4192.245	0.131
123478-HxCDD	36.69		1.0004	1.0004	0	1.22E+07	1.25	Y	1.06	53.3	3664.434	0.13
123678-HxCDD	36.81		1.0035	1.0036	+0.2	1.46E+07	1.25	Y	1.08	56.3	3664.434	0.134
123789-HxCDD	37.11		1.0117	1.0118	+0.2	1.33E+07	1.25	Y	1.02	48.2	3664.434	0.122
1234678-HpCDD	39.96		1.0003	1.0003	0	1.12E+07	1.03	Y	0.97	55	4911.178	0.158
OCDD	42.38		1.0003	1.0003	0	1.57E+07	0.89	Y	1.07	109	4490.703	0.255
2378-TCDF	26.31		1.0007	1.0009	+0.3	4.69E+06	0.78	Y	0.96	11.3	2924.167	0.08
12378-PeCDF	31.27		1.0006	1.0006	0	2.12E+07	1.56	Y	0.95	54	7776.065	0.2
23478-PeCDF	32.43		1.0006	1.0005	-0.2	2.12E+07	1.57	Y	0.94	58.5	7776.065	0.203
123478-HxCDF	35.72		1.0005	1.0005	0	1.79E+07	1.25	Y	1.23	54.2	10971.452	0.265
123678-HxCDF	35.86		1.0004	1.0005	+0.2	2.17E+07	1.27	Y	1.13	53.8	10971.452	0.252
234678-HxCDF	36.52		1.0004	1.0005	+0.2	1.49E+07	1.25	Y	1.15	51	10971.452	0.346
123789-HxCDF	37.50		1.0005	1.0003	-0.4	1.28E+07	1.29	Y	1.14	49.3	10971.452	0.425
1234678-HpCDF	39.03		1.0003	1.0003	0	1.94E+07	1.02	Y	1.36	52.8	3733.267	0.0786
1234789-HpCDF	40.38		1.0003	1.0003	0	1.12E+07	1.05	Y	1.30	52.1	3733.267	0.113
OCDF	42.55		1.0003	1.0002	-0.3	1.52E+07	0.93	Y	1.03	104	4370.807	0.233

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	27.19	1.0263	1.0265	+0.3	2.89E+07	0.76	Y	1.03	86.5
ES 12378-PeCDD	32.75	1.2342	1.2363	+4.1	2.74E+07	1.56	Y	1.03	82.2
ES 123478-HxCDD	36.67	0.9915	0.9916	+0.2	2.17E+07	1.30	Y	0.99	82.2
ES 123678-HxCDD	36.79	0.9947	0.9947	0	2.39E+07	1.28	Y	0.97	92.5
ES 123789-HxCDD	37.09	1.0028	1.0030	+0.4	2.73E+07	1.25	Y	1.12	91.3
ES 1234678-HpCDD	39.94	1.0791	1.0800	+2.2	2.09E+07	1.05	Y	0.99	79.4
ES OCDD	42.37	1.1449	1.1456	+1.8	2.69E+07	0.91	Y	0.78	65.3
ES 2378-TCDF	26.28	1.0587	1.0593	+0.9	4.33E+07	0.79	Y	1.08	79.7
ES 12378-PeCDF	31.25	1.2570	1.2597	+5.1	4.14E+07	1.62	Y	0.93	88.4
ES 23478-PeCDF	32.41	1.3032	1.3062	+5.8	3.86E+07	1.60	Y	0.92	83.4
ES 123478-HxCDF	35.70	0.9652	0.9652	0	2.68E+07	0.51	Y	1.14	88.3
ES 123678-HxCDF	35.84	0.9690	0.9692	+0.4	3.57E+07	0.53	Y	1.30	104
ES 234678-HxCDF	36.50	0.9869	0.9870	+0.2	2.53E+07	0.52	Y	1.20	79.2
ES 123789-HxCDF	37.48	1.0133	1.0135	+0.4	2.28E+07	0.51	Y	1.14	75.6
ES 1234678-HpCDF	39.01	1.0541	1.0549	+1.9	2.70E+07	0.44	Y	0.95	107
ES 1234789-HpCDF	40.37	1.0906	1.0915	+2.2	1.66E+07	0.45	Y	0.85	73.8
ES OCDF	42.54	1.1495	1.1503	+2.0	2.85E+07	0.88	Y	0.93	58

Lab ID: OPR1_18926_DF | Acq'd: 22 Feb 2022 06:08 PSW | Wt/Vol: 1 uL | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 0_18926_OPR001 | UTP: 22-Feb-2022 15:05:13 PSW | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 439-306-NNZ

Datafile: 220222R02 | Report: 22 Feb 2022 15:06 pw | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.49		-	-	-	3.23E+07	0.75	Y	-	-
JS 1234-TCDF	24.81		-	-	-	5.01E+07	0.78	Y	-	-
JS 123467-HxCDD	36.98		-	-	-	1.33E+07	1.30	Y	-	-
CS 37Cl-2378-TCDD	27.22		1.0271	1.0274	+0.5	1.45E+07	n/a	-	1.31	85.5
CS 12347-PeCDD	32.24		1.2149	1.2168	+3.7	2.75E+07	1.55	Y	0.89	95.4
CS 12346-PeCDF	30.71		1.2351	1.2376	+4.6	4.41E+07	1.59	Y	0.87	101
CS 123469-HxCDF	36.15		0.9774	0.9775	+0.2	3.38E+07	0.51	Y	1.09	117
CS 1234689-HpCDF	39.44		1.0654	1.0663	+2.1	2.54E+07	0.44	Y	0.86	110
~~SS 37Cl-2378-TCDD~~	~~27.22~~		~~1.0271~~	~~1.0274~~	~~+0.5~~	~~1.45E+07~~	~~n/a~~		~~1.26~~	~~99.4~~
~~SS 12347-PeCDD~~	~~32.24~~		~~1.2149~~	~~1.2168~~	~~+3.7~~	~~2.75E+07~~	~~1.55~~	~~Y~~	~~0.86~~	~~116~~
~~SS 12346-PeCDF~~	~~30.71~~		~~1.2351~~	~~1.2376~~	~~+4.6~~	~~4.41E+07~~	~~1.59~~	~~Y~~	~~0.93~~	~~115~~
~~SS 123469-HxCDF~~	~~36.15~~		~~0.9774~~	~~0.9775~~	~~+0.2~~	~~3.38E+07~~	~~0.51~~	~~Y~~	~~0.84~~	~~113~~
~~SS 1234689-HpCDF~~	~~39.44~~		~~1.0654~~	~~1.0663~~	~~+2.1~~	~~2.54E+07~~	~~0.44~~	~~Y~~	~~0.91~~	~~103~~

Totals	Conc	EMPC
Total TCDD	42.8	42.8
Total PeCDD	69.2	69.2
Total HxCDD	173	173
Total HpCDD	67.9	67.9
Total Tetra-Octa Dioxins	461	461
Total TCDF	61.9	61.9
Total PeCDF	224	224
Total HxCDF	353	353
Total HpCDF	105	105
Total Tetra-Octa Furans	848	848
Total Tetra-Octa Dioxins & Furans	1310	1310

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.766	0.77
Response	3.60E+06	3.59E+06

Lab ID: OPR1_18926_DF | **Acq'd: 22 Feb 2022 06:08 PSW** | **Wt/Vol: 1 uL** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18926_OPR001 | **UTP: 22-Feb-2022 15:05:13 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 439-306-NNZ**

Datafile: 220222R02 | **Report: 22 Feb 2022 15:06 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	23.26		0.8571	0.8555	-2.2	4.78E+06	0.80	Y	1.34	12.3	5954.772	0.179
1379-TCDD	NotFnd		0.8715						1.34		5954.772	0.179
1369-TCDD	NotFnd		0.8889						1.34		5954.772	0.179
1469-TCDD	NotFnd		0.9198						1.34		5954.772	0.179
1247/1246/1248/1249-TCDD	NotFnd		0.9291						1.34		5954.772	0.179
1378-TCDD	NotFnd		0.9366						1.34		5954.772	0.179
1268-TCDD	NotFnd		0.9446						1.34		5954.772	0.179
1478-TCDD	NotFnd		0.9539						1.34		5954.772	0.179
1279-TCDD	NotFnd		0.9606						1.34		5954.772	0.179
1234/1269-TCDD	NotFnd		0.9745						1.34		5954.772	0.179
1236-TCDD	NotFnd		0.9798						1.34		5954.772	0.179
1237/1238-TCDD	NotFnd		0.9897						1.34		5954.772	0.179
1239-TCDD	27.05		0.9948	0.9947	-0.2	3.23E+06	0.76	Y	1.34	8.31	5954.772	0.179
2378-TCDD	**27.22**		**1.0008**	1.0008	**0**	3.59E+06	0.77	Y	**1.34**	**9.26**	**5954.772**	**0.179**
1278-TCDD	NotFnd		1.0136						1.34		5954.772	0.179
1267-TCDD	NotFnd		1.0189						1.34		5954.772	0.179
1289-TCDD	28.25		1.0384	1.0387	+0.5	5.03E+06	0.76	Y	1.34	13	5954.772	0.179
12479/12468-PeCDD	30.19		0.9220	0.9217	-0.5	3.12E+06	1.59	Y	1.06	10.7	4192.245	0.131
12469-PeCDD	NotFnd		0.9390						1.06		4192.245	0.131
12368-PeCDD	NotFnd		0.9563						1.06		4192.245	0.131
12478-PeCDD	NotFnd		0.9622						1.06		4192.245	0.131
12379-PeCDD	NotFnd		0.9653						1.06		4192.245	0.131
12369/12467/12489-PeCDD	NotFnd		0.9736						1.06		4192.245	0.131
12346/12347-PeCDD	NotFnd		0.9851						1.06		4192.245	0.131
12378-PeCDD	32.77		**1.0006**	**1.0006**	**0**	**1.35E+07**	**1.61**	**Y**	**1.06**	**46.4**	**4192.245**	**0.131**
12367-PeCDD	NotFnd		1.0035						1.06		4192.245	0.131
12389-PeCDD	33.22		1.0143	1.0144	+0.2	3.51E+06	1.61	Y	1.06	12.1	4192.245	0.131
124679/124689-HxCDD	34.97		0.9536	0.9536	0	3.77E+06	1.29	Y	1.05	14.8	3664.434	0.128
123468-HxCDD	NotFnd		0.9716						1.05		3664.434	0.128
123679/123689-HxCDD	NotFnd		0.9797						1.05		3664.434	0.128
123469-HxCDD	NotFnd		0.9833						1.05		3664.434	0.128
123478-HxCDD	36.69		**1.0004**	**1.0004**	**0**	**1.22E+07**	**1.25**	**Y**	1.06	**53.3**	**3664.434**	**0.13**
123678-HxCDD	36.81		**1.0035**	**1.0036**	**+0.2**	**1.46E+07**	**1.25**	**Y**	1.08	**56.3**	**3664.434**	**0.134**
123467-HxCDD	NotFnd		1.0089						1.05		3664.434	0.128
123789-HxCDD	37.11		**1.0117**	**1.0118**	**+0.2**	**1.33E+07**	**1.25**	**Y**	1.02	**48.2**	**3664.434**	**0.122**

Lab ID: OPR1_18926_DF **Acq'd: 22 Feb 2022 06:08 PSW** **Wt/Vol: 1 uL** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18926_OPR001 **UTP: 22-Feb-2022 15:05:13 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 439-306-NNZ**

Datafile: 220222R02 **Report: 22 Feb 2022 15:06 pw** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.30		0.9839	0.9838	-0.2	2.63E+06	1.05	Y	0.97	12.9	4911.178	0.158
1234678-HpCDD	**39.96**		**1.0003**	**1.0003**	**0**	**1.12E+07**	**1.03**	**Y**	**0.97**	**55**	**4911.178**	**0.158**
OCDD	**42.38**		**1.0003**	**1.0003**	**0**	**1.57E+07**	**0.89**	**Y**	**1.07**	**109**	**4490.703**	**0.255**
OCDD-a	42.38		1.0002	1.0003	+0.3	8.34E+05	2.44	Y	0.07	93.8	5796.146	5.33
1368-TCDF	21.03		0.8019	0.8003	-2.0	6.59E+06	0.79	Y	0.96	15.9	2924.167	0.08
1468-TCDF	NotFnd		0.8238						0.96		2924.167	0.08
2468-TCDF	22.27		0.8493	0.8474	-2.5	1.52E+06	0.77	Y	0.96	3.66	2924.167	0.08
1346/1246-TCDF	NotFnd		0.8635						0.96		2924.167	0.08
1347/1378/1247-TCDF	NotFnd		0.8702						0.96		2924.167	0.08
1348-TCDF	NotFnd		0.8817						0.96		2924.167	0.08
1248/1367/1379-TCDF	NotFnd		0.8871						0.96		2924.167	0.08
1268-TCDF	NotFnd		0.9029						0.96		2924.167	0.08
1467-TCDF	NotFnd		0.9087						0.96		2924.167	0.08
1478-TCDF	NotFnd		0.9156						0.96		2924.167	0.08
1369/1237-TCDF	NotFnd		0.9307						0.96		2924.167	0.08
2467-TCDF	NotFnd		0.9361						0.96		2924.167	0.08
2368-TCDF	NotFnd		0.9422						0.96		2924.167	0.08
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9460						0.96		2924.167	0.08
1278-TCDF	NotFnd		0.9644						0.96		2924.167	0.08
1349-TCDF	NotFnd		0.9693						0.96		2924.167	0.08
1267-TCDF	NotFnd		0.9757						0.96		2924.167	0.08
2346/1249-TCDF	NotFnd		0.9830						0.96		2924.167	0.08
2347/1279-TCDF	NotFnd		0.9919						0.96		2924.167	0.08
2348-TCDF	26.19		0.9964	0.9964	0	6.41E+06	0.77	Y	0.96	15.4	2924.167	0.08
2378-TCDF	**26.31**		**1.0007**	**1.0009**	**+0.3**	**4.69E+06**	**0.78**	**Y**	**0.96**	**11.3**	**2924.167**	**0.08**
2367/3467-TCDF	NotFnd		1.0157						0.96		2924.167	0.08
1269-TCDF	NotFnd		1.0248						0.96		2924.167	0.08
1239-TCDF	NotFnd		1.0355						0.96		2924.167	0.08
1289-TCDF	28.43		1.0808	1.0815	+1.2	6.54E+06	0.78	Y	0.96	15.7	2924.167	0.08
13468/12468-PeCDF	28.32		0.9073	0.9061	-2.0	3.79E+07	1.60	Y	0.94	101	3412.134	0.0884
13678/13467/12467-PeCDF	NotFnd		0.9586						0.94		7776.065	0.201
12368/13478/12478-PeCDF	NotFnd		0.9638						0.94		7776.065	0.201
14678-PeCDF	NotFnd		0.9671						0.94		7776.065	0.201
13479-PeCDF	NotFnd		0.9702						0.94		7776.065	0.201
13469/12479-PeCDF	NotFnd		0.9785						0.94		7776.065	0.201
12346-PeCDF	NotFnd		0.9831						0.94		7776.065	0.201

Lab ID: OPR1_18926_DF **Acq'd: 22 Feb 2022 06:08 PSW** **Wt/Vol: 1 uL** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18926_OPR001 **UTP: 22-Feb-2022 15:05:13 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 439-306-NNZ**

Datafile: 220222R02 **Report: 22 Feb 2022 15:06 pw** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9863						0.94		7776.065	0.201
12347-PeCDF	NotFnd		0.9887						0.94		7776.065	0.201
12348-PeCDF	NotFnd		0.9937						0.94		7776.065	0.201
12378-PeCDF	**31.27**		**1.0006**	**1.0006**	**0**	**2.12E+07**	**1.56**	**Y**	**0.95**	**54**	**7776.065**	**0.2**
12678/12367-PeCDF	NotFnd		1.0097						0.94		7776.065	0.201
12379-PeCDF	NotFnd		1.0151						0.94		7776.065	0.201
12679-PeCDF	NotFnd		0.9923						0.94		7776.065	0.201
23467/12369-PeCDF	NotFnd		0.9965						0.94		7776.065	0.201
23478-PeCDF	**32.43**		**1.0006**	**1.0005**	**-0.2**	**2.12E+07**	**1.57**	**Y**	**0.94**	**58.5**	**7776.065**	**0.203**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0049						0.94		7776.065	0.201
12349-PeCDF	NotFnd		1.0104						0.94		7776.065	0.201
12389-PeCDF	33.52		1.0341	1.0343	+0.4	4.04E+06	1.52	Y	0.94	10.7	7776.065	0.201
123468-HxCDF	34.31		0.9611	0.9611	0	4.66E+07	1.26	Y	1.16	145	10971.452	0.311
124678/134678-HxCDF	NotFnd		0.9668						1.16		10971.452	0.311
134679-HxCDF	NotFnd		0.9733						1.16		10971.452	0.311
124679-HxCDF	NotFnd		0.9789						1.16		10971.452	0.311
124689-HxCDF	NotFnd		0.9852						1.16		10971.452	0.311
123467-HxCDF	NotFnd		0.9972						1.16		10971.452	0.311
123478-HxCDF	**35.72**		**1.0005**	**1.0005**	**0**	**1.79E+07**	**1.25**	**Y**	**1.23**	**54.2**	**10971.452**	**0.265**
123678-HxCDF	**35.86**		**1.0004**	**1.0005**	**+0.2**	**2.17E+07**	**1.27**	**Y**	**1.13**	**53.8**	**10971.452**	**0.252**
123479-HxCDF	NotFnd		1.0049						1.16		10971.452	0.311
123469-HxCDF	NotFnd		1.0090						1.16		10971.452	0.311
123679-HxCDF	NotFnd		0.9942						1.16		10971.452	0.311
234678-HxCDF	**36.52**		**1.0004**	**1.0005**	**+0.2**	**1.49E+07**	**1.25**	**Y**	**1.15**	**51**	**10971.452**	**0.346**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		10971.452	0.311
123789-HxCDF	**37.50**		**1.0005**	**1.0003**	**-0.4**	**1.28E+07**	**1.29**	**Y**	**1.14**	**49.3**	**10971.452**	**0.425**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	NotFnd		1.0008						1.16		10971.452	0.311
1234678-HpCDF	**39.03**		**1.0003**	**1.0003**	**0**	**1.94E+07**	**1.02**	**Y**	**1.36**	**52.8**	**3733.267**	**0.0786**
1234679-HpCDF	NotFnd		1.0073						1.33		3733.267	0.092
1234689-HpCDF	NotFnd		1.0109						1.33		3733.267	0.092
1234789-HpCDF	**40.38**		**1.0003**	**1.0003**	**0**	**1.12E+07**	**1.05**	**Y**	**1.30**	**52.1**	**3733.267**	**0.113**
OCDF	**42.55**		**1.0003**	**1.0002**	**-0.3**	**1.52E+07**	**0.93**	**Y**	**1.03**	**104**	**4370.807**	**0.233**
OCDF-a	42.55		1.0002	1.0001	-0.3	8.40E+05	2.83	Y	0.06	99.3	4458.534	4.11

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
VER Data Filename:	220222R02	Analysis Date:	22-FEB-2022 06:08:34
Lab ID:	OPR1_18926_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	9.26	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	46.4	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	53.3	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	56.3	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	48.2	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	55	35	-	70	Y
OCDD	100	109	78	-	144	Y
2,3,7,8-TCDF	10	11.3	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	54	40	-	67	Y
2,3,4,7,8-PeCDF	50	58.5	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	54.2	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	53.8	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	51	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	49.3	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	52.8	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	52.1	39	-	69	Y
OCDF	100	104	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 22 Feb 2022 15:06 Analyst: pw

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
VER Data Filename:	220222R02	Analysis Date:	22-FEB-2022 06:08:34
Lab ID:	OPR1_18926_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	86.5	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	82.2	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	82.2	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	92.5	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	91.3	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	79.4	26	-	166	Y
13C-OCDD	200	131	26	-	397	Y
13C-2,3,7,8-TCDF	100	79.7	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	88.4	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	83.4	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	88.3	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	104	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	79.2	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	75.6	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	107	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	73.8	20	-	186	Y
13C-OCDF	200	116	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	34.2	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 22 Feb 2022 15:06 Analyst: pw

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220222R02	Analysis Date:	22-FEB-2022 06:08:34
Lab ID:	OPR1_18926_DF		

Window Defining Standards Results

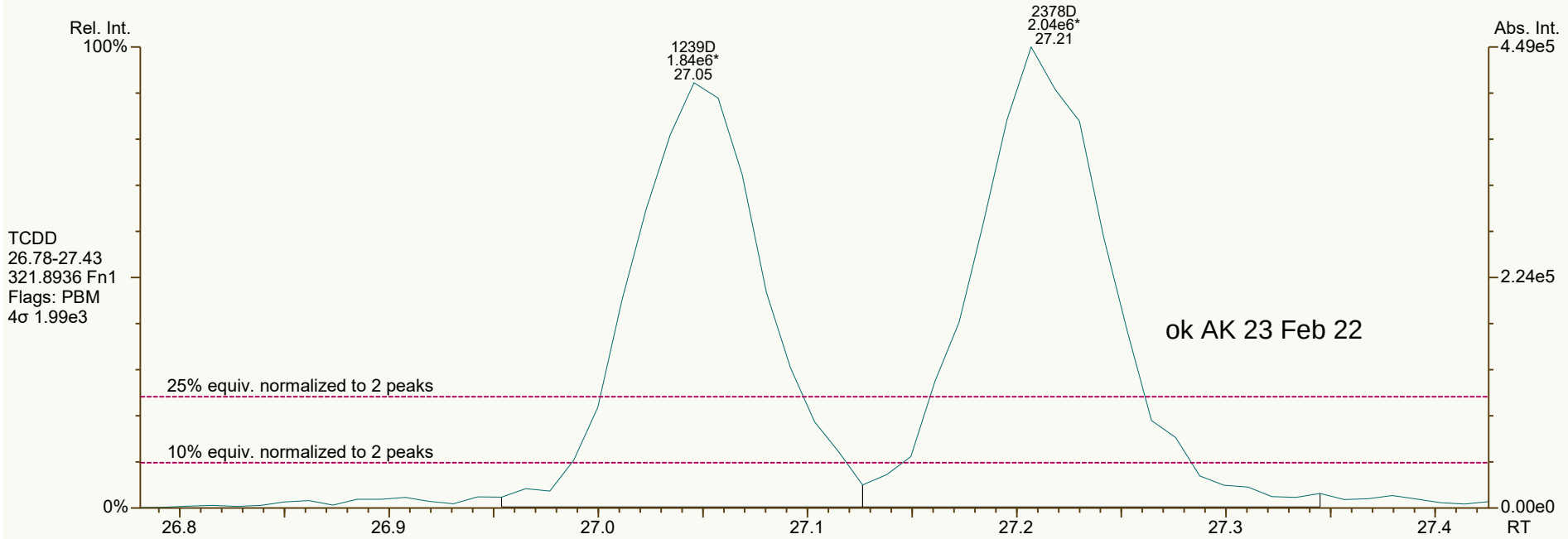
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	23.26	1289-TCDD	28.25
12479/12468-PeCDD	30.19	12389-PeCDD	33.22
124679/124689-HxCDD	34.97	123789-HxCDD	37.11
1234679-HpCDD	39.30	1234678-HpCDD	39.96
1368-TCDF	21.03	1289-TCDF	28.43
13468/12468-PeCDF	28.32	12389-PeCDF	33.52
123468-HxCDF	34.31	123789-HxCDF	37.50
1234678-HpCDF	39.03	1234789-HpCDF	40.38

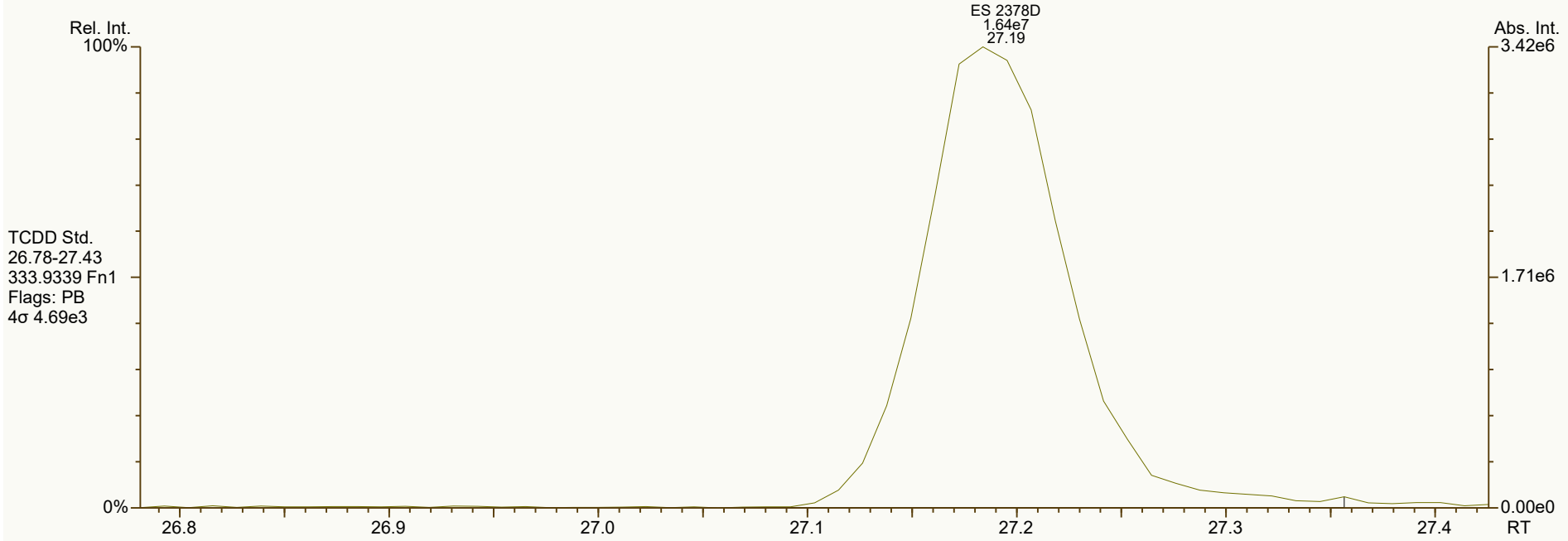
Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	27.05	2378-TCDD	27.22
2348-TCDF	26.19	2378-TCDF	26.31

Processed: 22 Feb 2022 15:06 Analyst: pw

SGS ID: OPR1_18926_DF
Sample ID: 0_18926_OPR001
Acq: 22-Feb-2022 06:08:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 62
User: PSW Datafile: 220222R02





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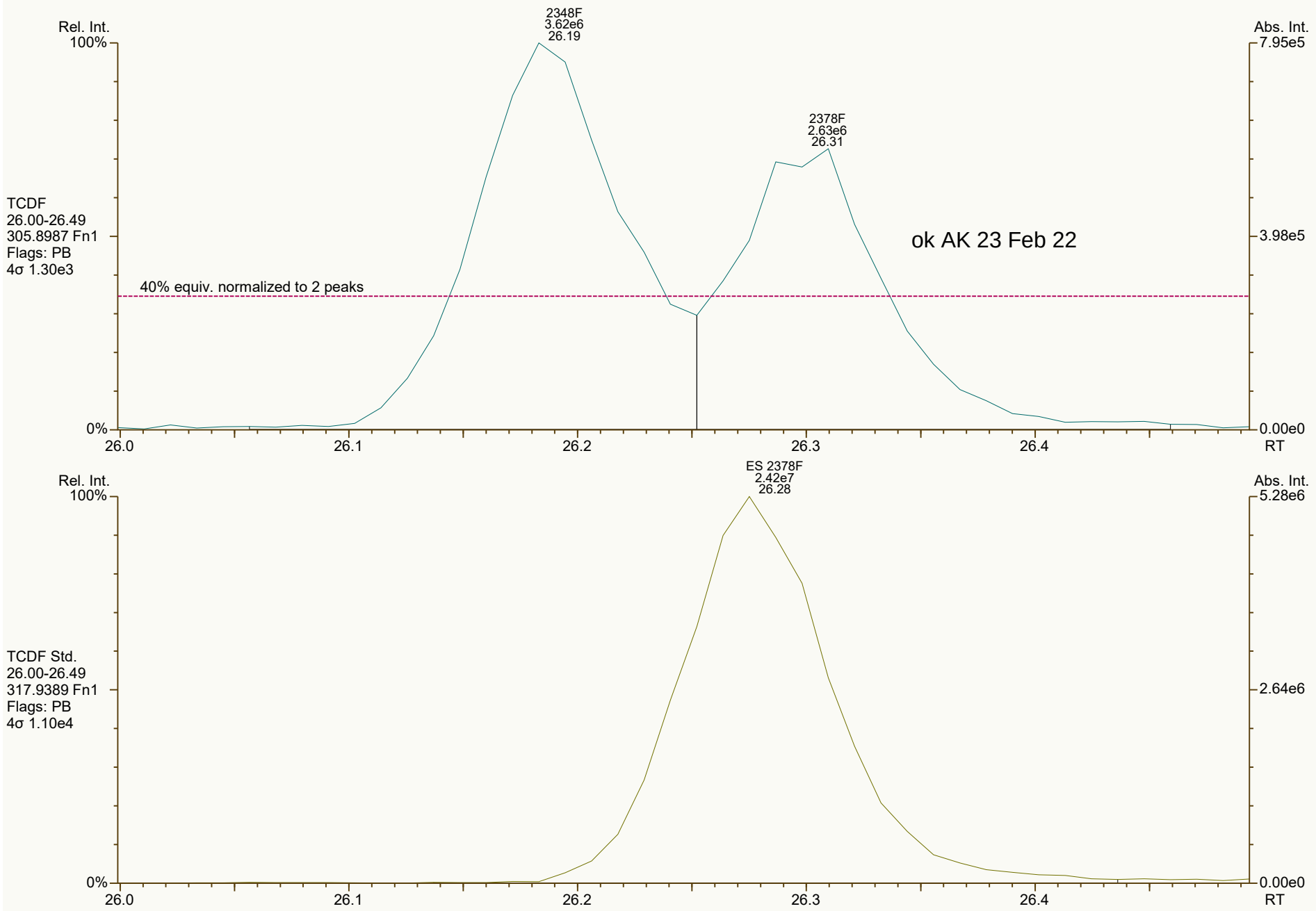
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
Revised: 22-Feb-2022 08:21 (PSW) Printed: 22-Feb-2022 15:09

SGS ID: OPR1_18926_DF
Sample ID: 0_18926_OPR001
Acq: 22-Feb-2022 06:08:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 62
User: PSW Datafile: 220222R02



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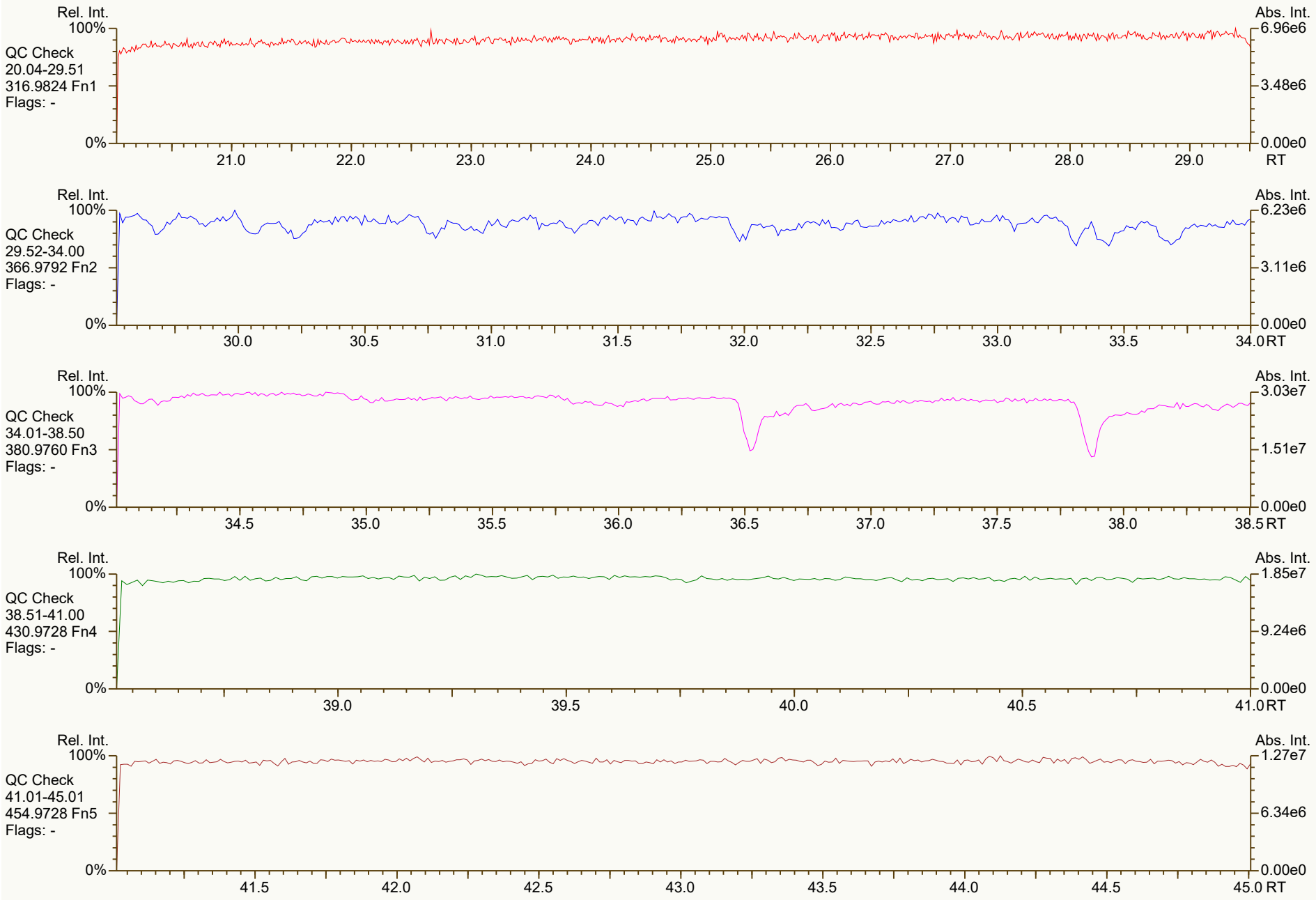
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
PKD: 22-Feb-2022 08:21 Printed: 22-Feb-2022 15:09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316.9824 Fn1
Flags: -
0%
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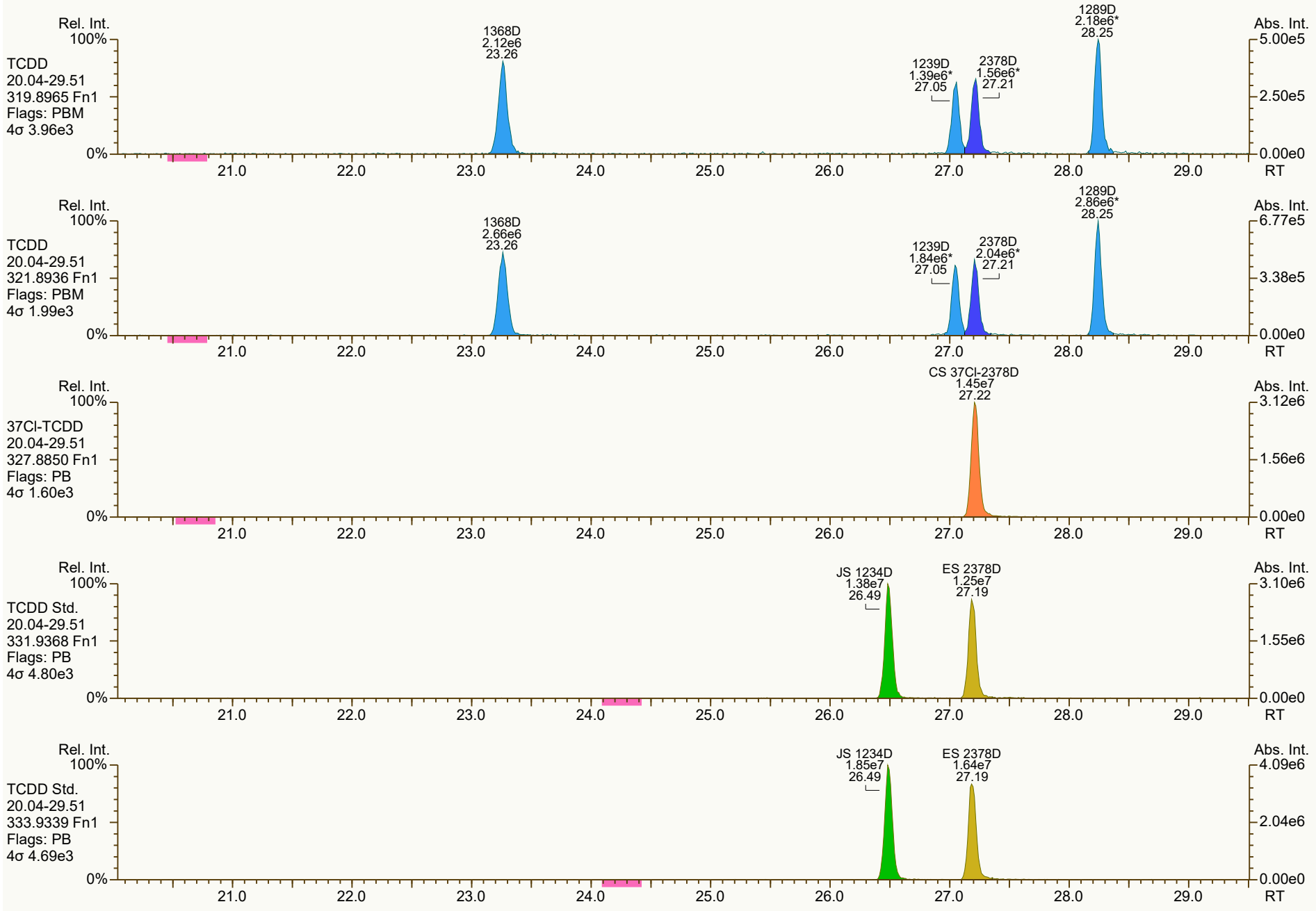
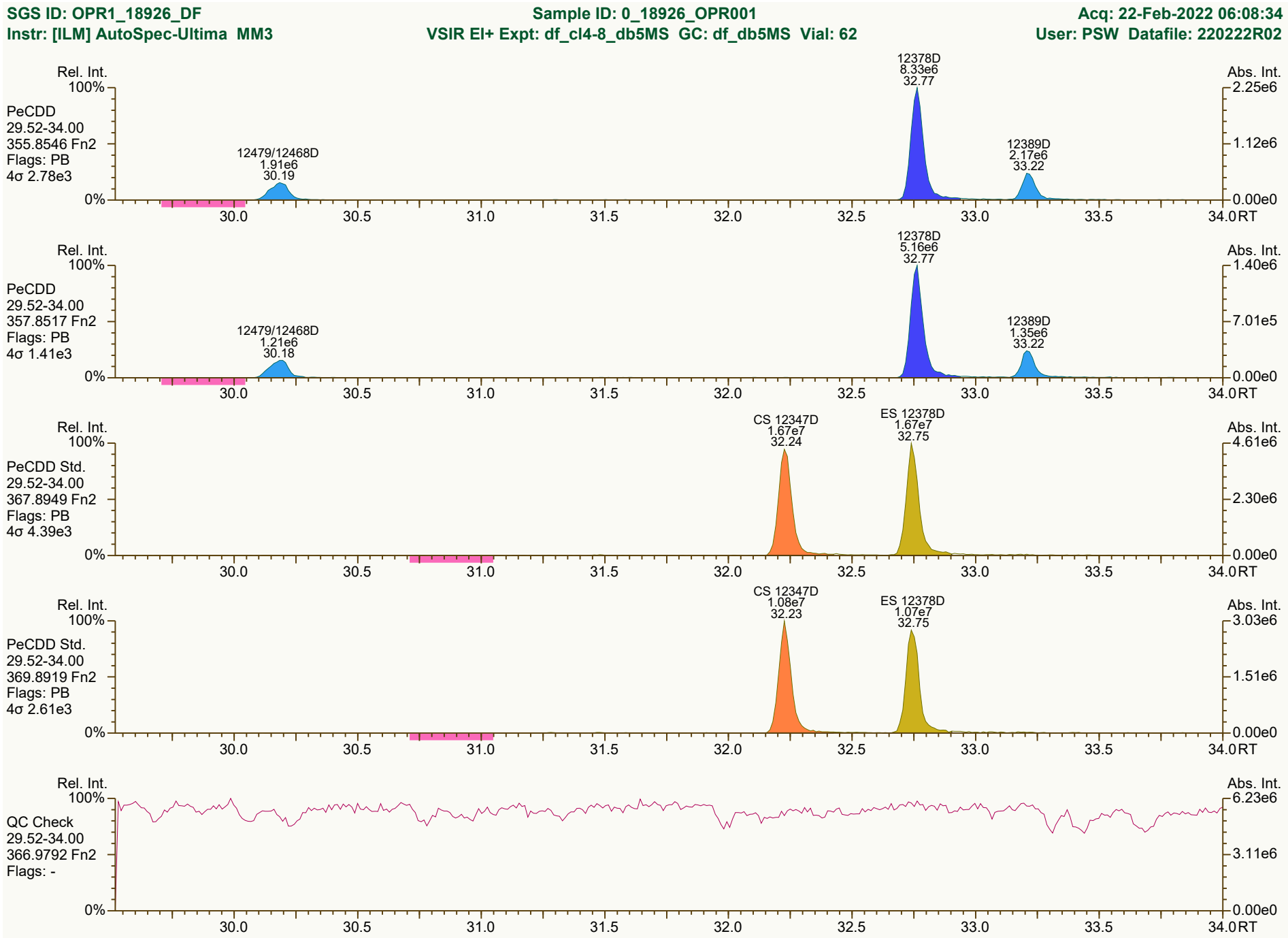
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Abs. Int.
6.96e6
3.48e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.00
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.23e6
3.11e6
0.00e0
Rel. Int.
100%
QC Check
34.01-38.50
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
3.03e7
1.51e7
0.00e0
Rel. Int.
100%
QC Check
38.51-41.00
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
RT
Abs. Int.
1.85e7
9.24e6
0.00e0
Rel. Int.
100%
QC Check
41.01-45.01
454.9728 Fn5
Flags: -
0%
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.27e7
6.34e6
0.00e0


Rel. Int.
100%
TCDD
20.04-29.51
319.8965 Fn1
Flags: PBM
4σ 3.96e3
0%
1368D
2.12e6
23.26
1239D
1.39e6*
27.05
2378D
1.56e6*
27.21
1289D
2.18e6*
28.25
Abs. Int.
5.00e5
2.50e5
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD
20.04-29.51
321.8936 Fn1
Flags: PBM
4σ 1.99e3
0%
1368D
2.66e6
23.26
1239D
1.84e6*
27.05
2378D
2.04e6*
27.21
1289D
2.86e6*
28.25
Abs. Int.
6.77e5
3.38e5
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
37Cl-TCDD
20.04-29.51
327.8850 Fn1
Flags: PB
4σ 1.60e3
0%
CS 37Cl-2378D
1.45e7
27.22
Abs. Int.
3.12e6
1.56e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.04-29.51
331.9368 Fn1
Flags: PB
4σ 4.80e3
0%
JS 1234D
1.38e7
26.49
ES 2378D
1.25e7
27.19
Abs. Int.
3.10e6
1.55e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
TCDD Std.
20.04-29.51
333.9339 Fn1
Flags: PB
4σ 4.69e3
0%
JS 1234D
1.85e7
26.49
ES 2378D
1.64e7
27.19
Abs. Int.
4.09e6
2.04e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT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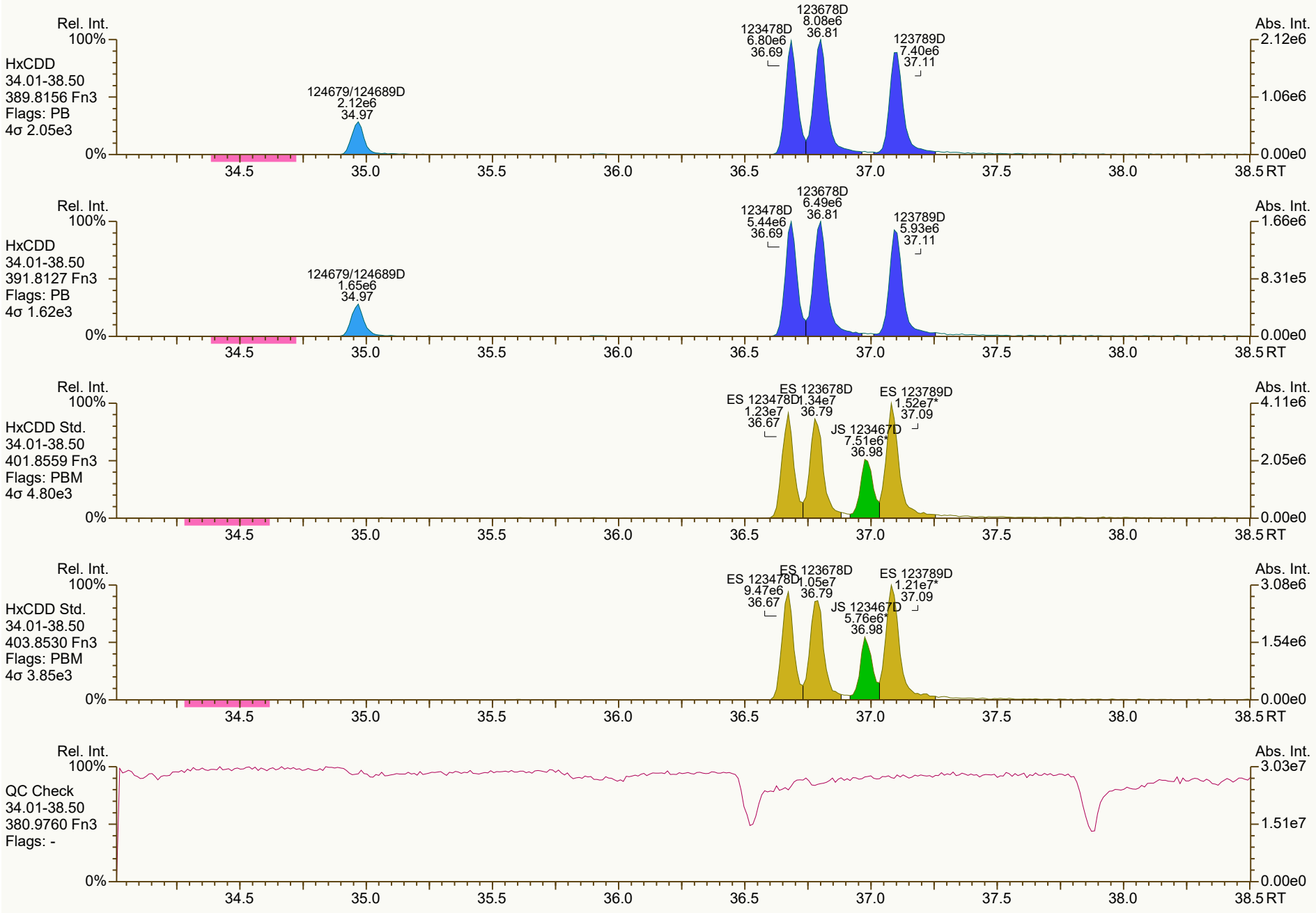
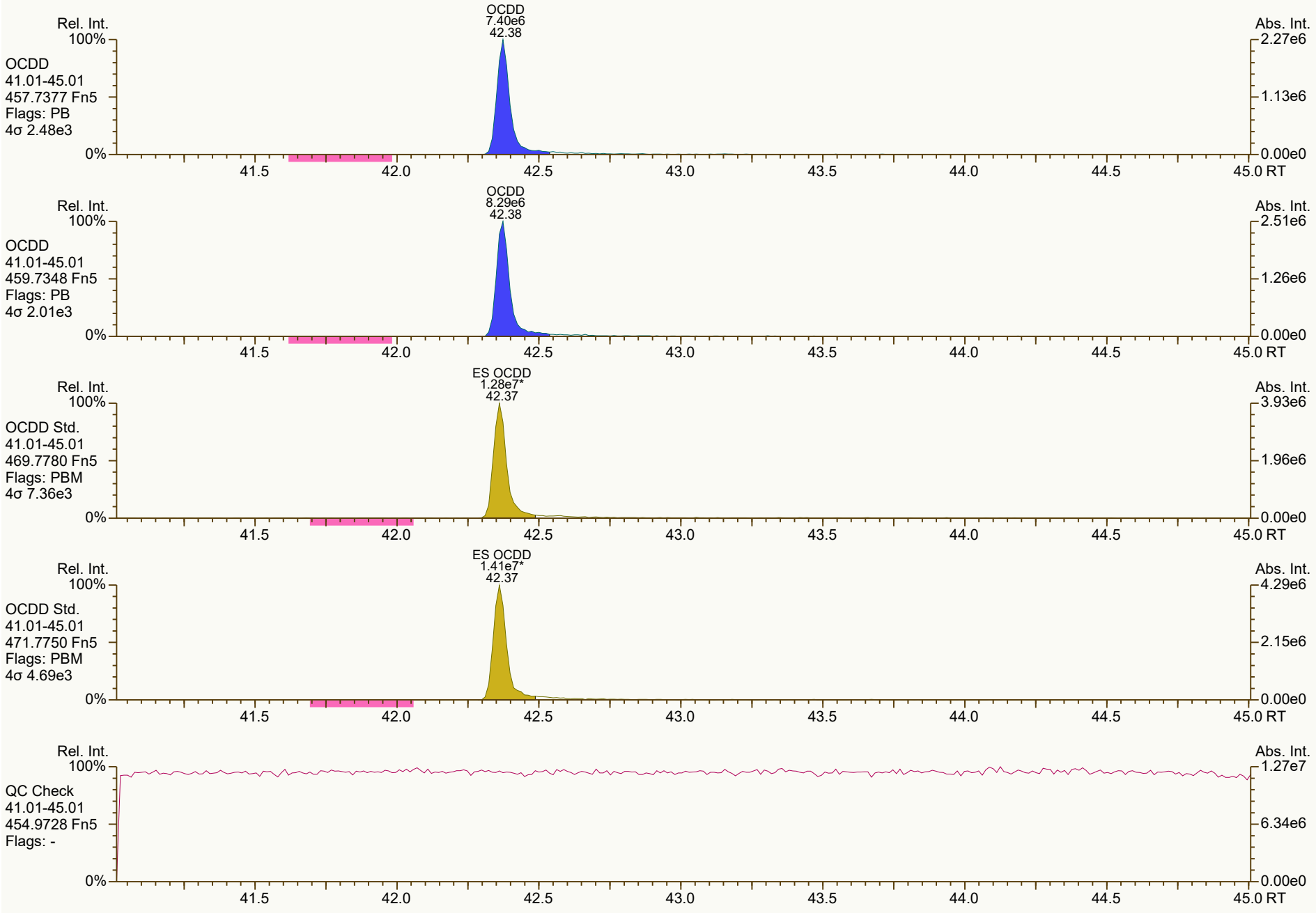
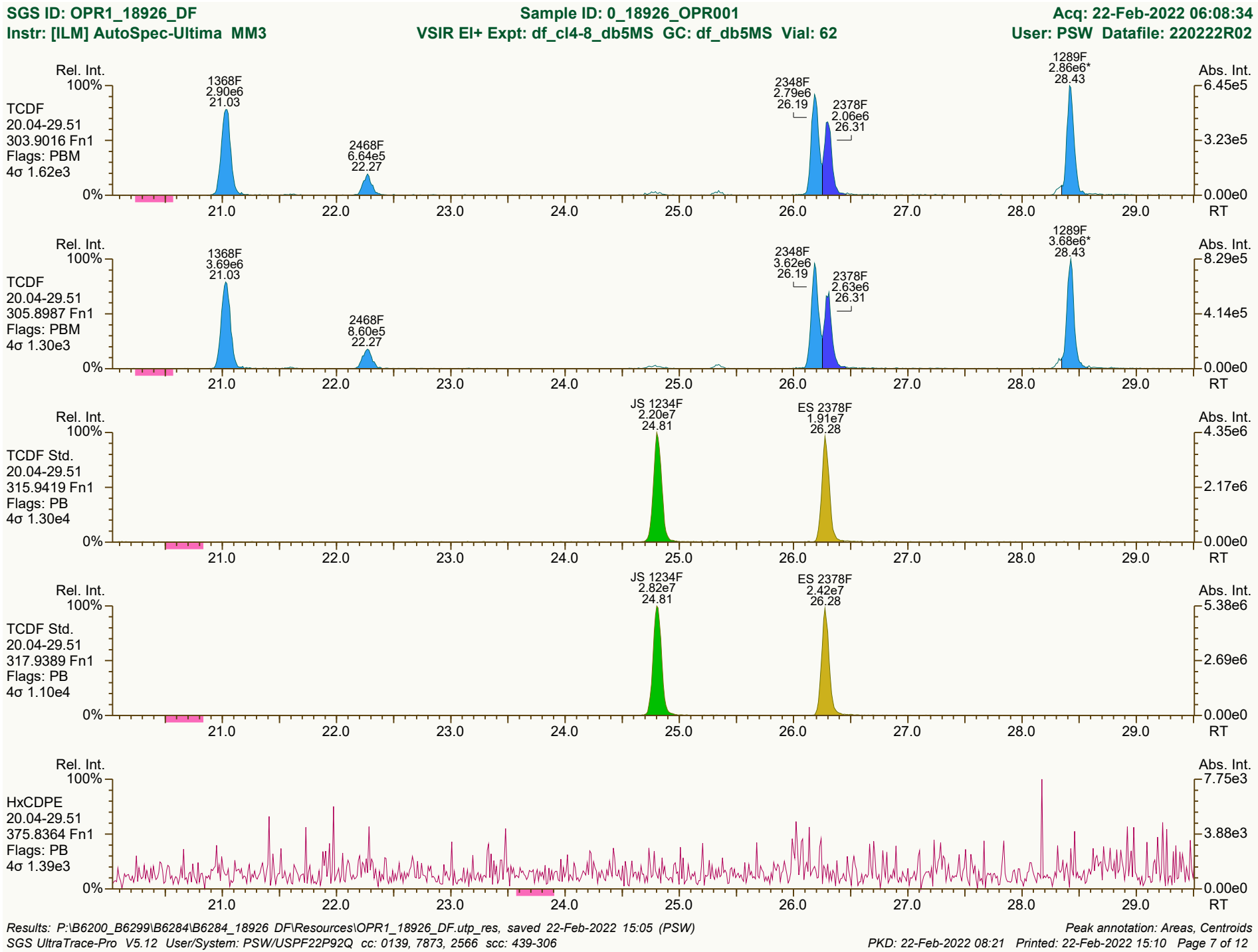
Sample ID: 0_18926_OPR001
Acq: 22-Feb-2022 06:08:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 62
User: PSW Datafile: 220222R02
Rel. Int.
Abs. Int.
PeCDD
29.52-34.00
355.8546 Fn2
Flags: PB
4σ 2.78e3
12479/12468D
1.91e6
30.19
12378D
8.33e6
32.77
12389D
2.17e6
33.22
PeCDD
29.52-34.00
357.8517 Fn2
Flags: PB
4σ 1.41e3
12479/12468D
1.21e6
30.18
12378D
5.16e6
32.77
12389D
1.35e6
33.22
PeCDD Std.
29.52-34.00
367.8949 Fn2
Flags: PB
4σ 4.39e3
CS 12347D
1.67e7
32.24
ES 12378D
1.67e7
32.75
PeCDD Std.
29.52-34.00
369.8919 Fn2
Flags: PB
4σ 2.61e3
CS 12347D
1.08e7
32.23
ES 12378D
1.07e7
32.75
QC Check
29.52-34.00
366.9792 Fn2
Flags: -
RT
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\OPR1_18926_DF.utp_res, saved 22-Feb-2022 15:05 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2468, 2707 scc: 439-306
PKD: 22-Feb-2022 08:21 Printed: 22-Feb-2022 15:10 Page 3 of 12

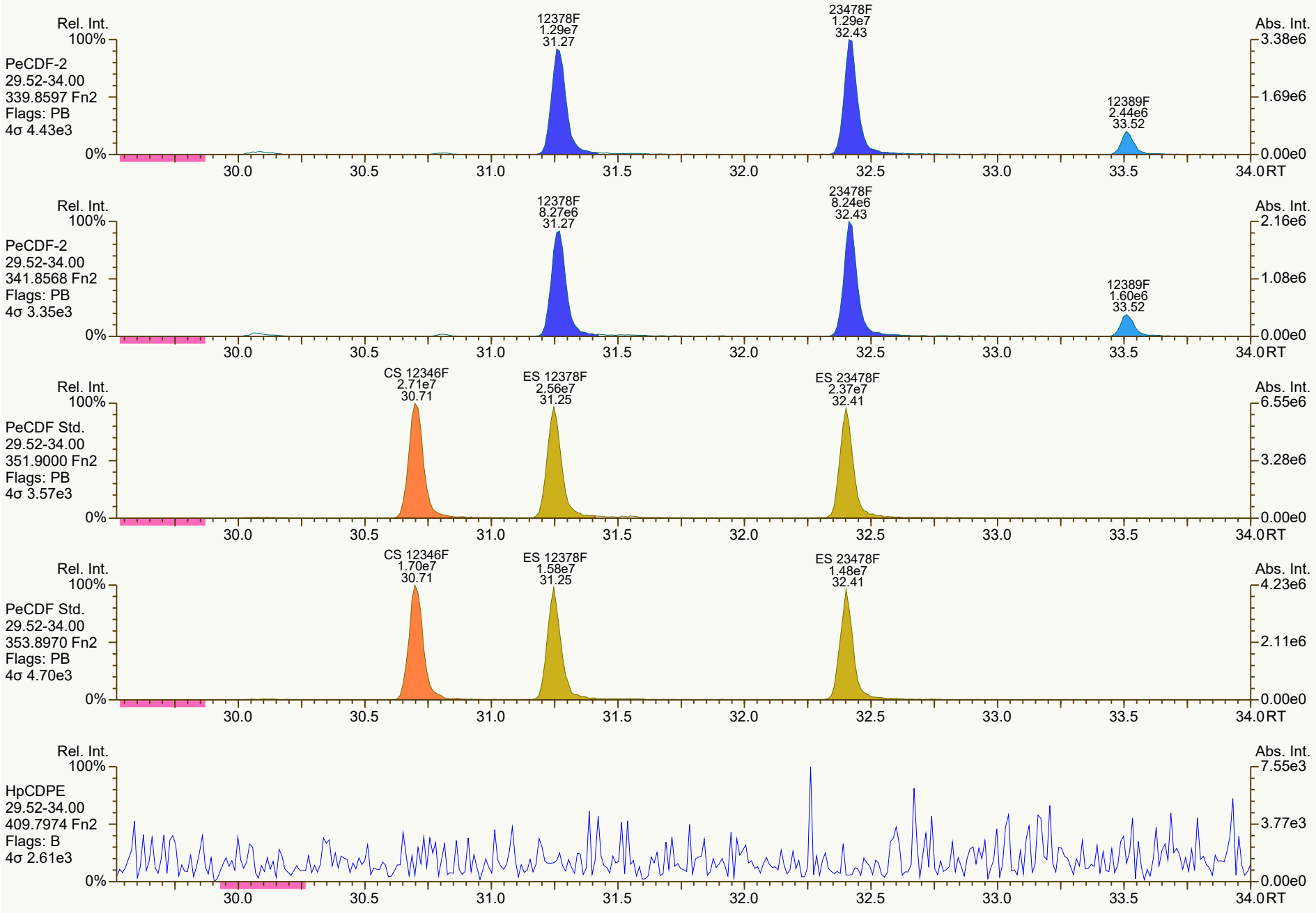

Rel. Int.
100%
HxCDD
34.01-38.50
389.8156 Fn3
Flags: PB
4σ 2.05e3
124679/124689D
2.12e6
34.97
123478D
6.80e6
36.69
123678D
8.08e6
36.81
123789D
7.40e6
37.11
Abs. Int.
2.12e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDD
34.01-38.50
391.8127 Fn3
Flags: PB
4σ 1.62e3
124679/124689D
1.65e6
34.97
123478D
5.44e6
36.69
123678D
6.49e6
36.81
123789D
5.93e6
37.11
Abs. Int.
1.66e6
8.31e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDD Std.
34.01-38.50
401.8559 Fn3
Flags: PBM
4σ 4.80e3
ES 123478D
1.23e7
36.67
ES 123678D
1.34e7
36.79
JS 123467D
7.51e6*
36.98
ES 123789D
1.52e7*
37.09
Abs. Int.
4.11e6
2.05e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
HxCDD Std.
34.01-38.50
403.8530 Fn3
Flags: PBM
4σ 3.85e3
ES 123478D
9.47e6
36.67
ES 123678D
1.05e7
36.79
JS 123467D
5.76e6*
36.98
ES 123789D
1.21e7*
37.09
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
QC Check
34.01-38.50
380.9760 Fn3
Flags: -
Abs. Int.
3.03e7
1.51e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT

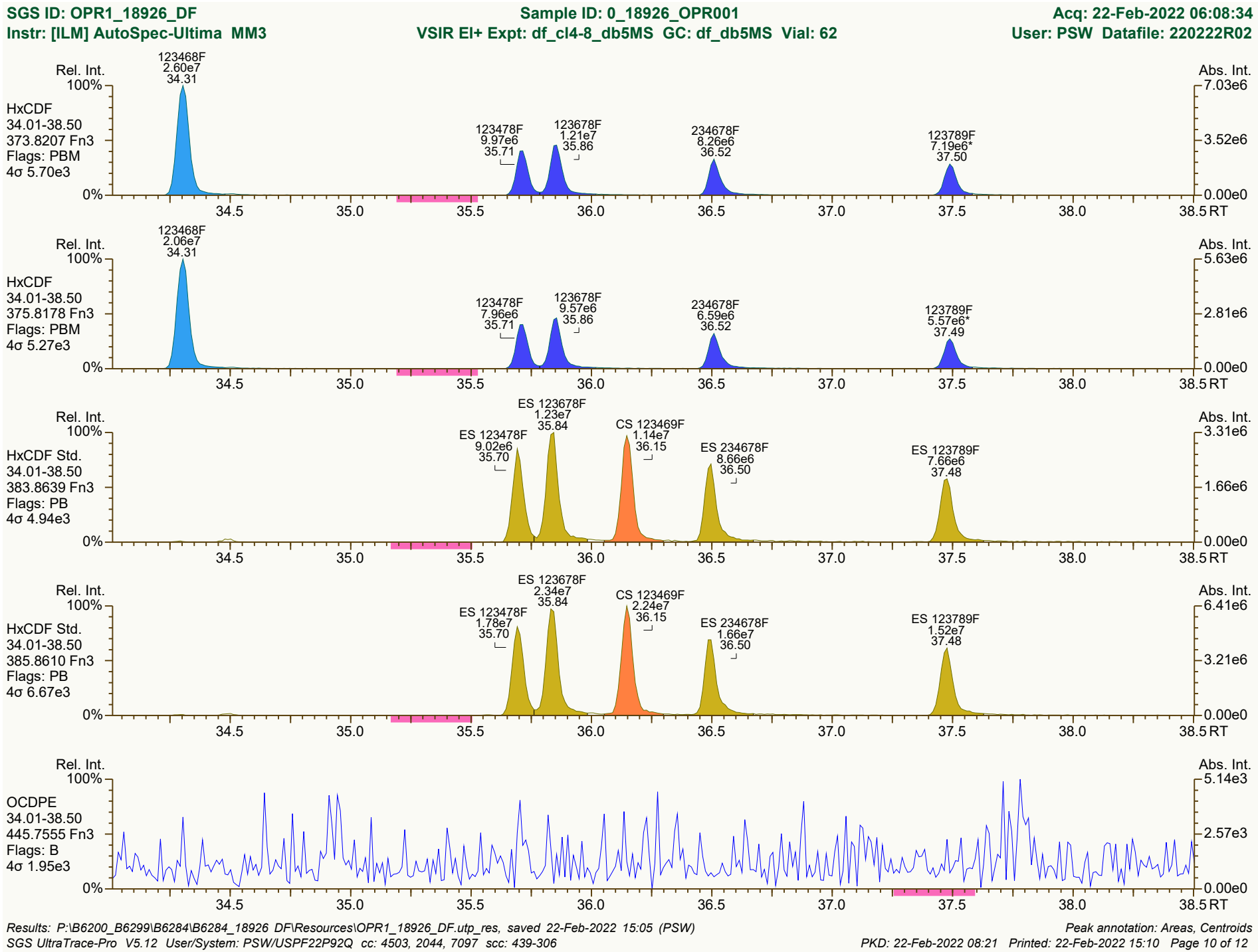

Rel. Int.
100%
HpCDD
38.51-41.00
423.7767 Fn4
Flags: PB
4σ 2.91e3
0%
1234678D
5.69e6
39.96
1234679D
1.34e6
39.30
Abs. Int.
2.09e6
1.05e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD
38.51-41.00
425.7737 Fn4
Flags: PB
4σ 2.00e3
0%
1234678D
5.51e6
39.96
1234679D
1.28e6
39.30
Abs. Int.
1.99e6
9.97e5
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.51-41.00
435.8169 Fn4
Flags: PB
4σ 5.52e3
0%
ES 1234678D
1.07e7
39.94
Abs. Int.
4.08e6
2.04e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
HpCDD Std.
38.51-41.00
437.8140 Fn4
Flags: PB
4σ 4.52e3
0%
ES 1234678D
1.02e7
39.94
Abs. Int.
3.92e6
1.96e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
QC Check
38.51-41.00
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.85e7
9.24e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT

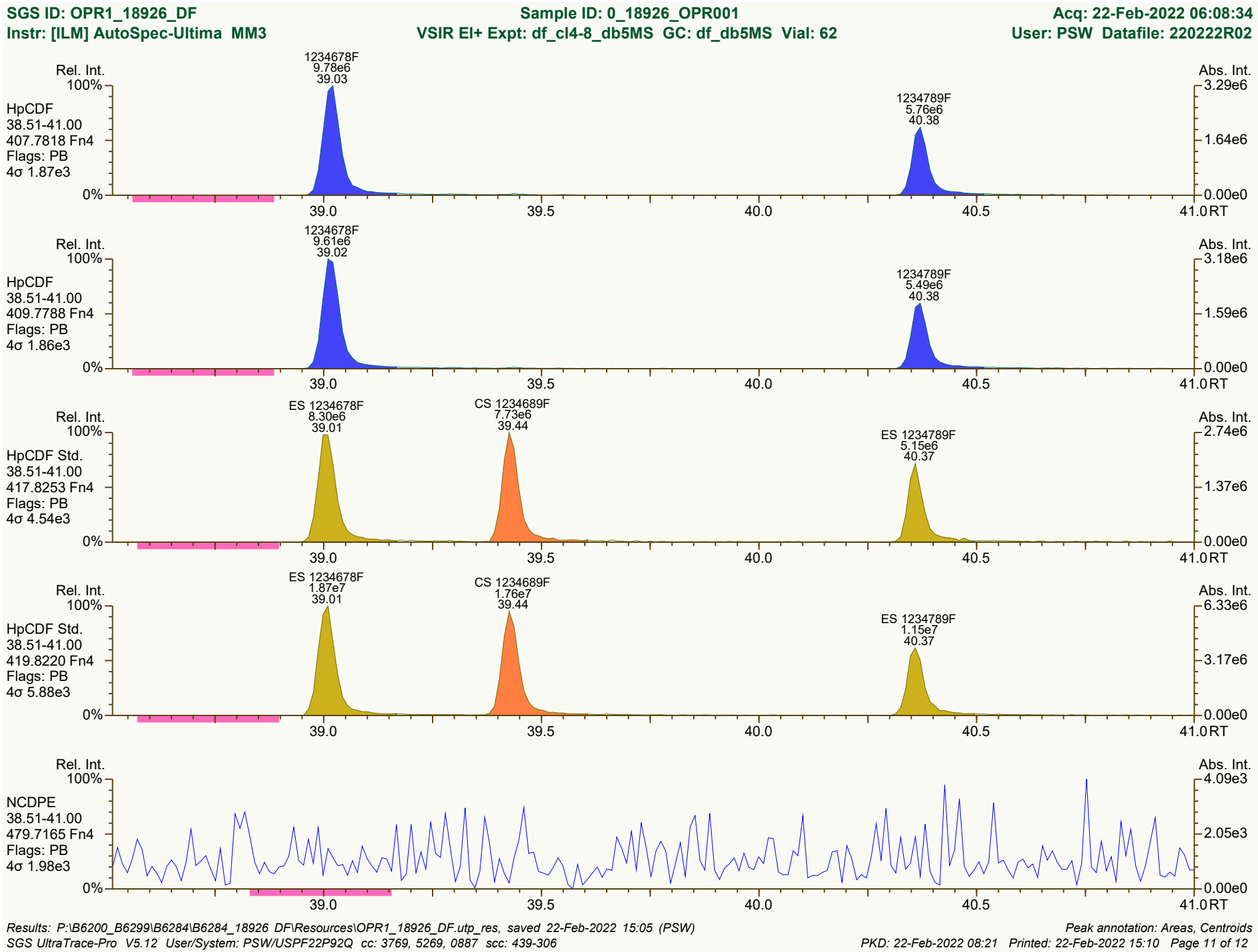

OCDD
7.40e6
42.38
Rel. Int.
100%
OCDD
41.01-45.01
457.7377 Fn5
Flags: PB
4σ 2.48e3
0%
Abs. Int.
2.27e6
1.13e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
8.29e6
42.38
Rel. Int.
100%
OCDD
41.01-45.01
459.7348 Fn5
Flags: PB
4σ 2.01e3
0%
Abs. Int.
2.51e6
1.26e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.28e7*
42.37
Rel. Int.
100%
OCDD Std.
41.01-45.01
469.7780 Fn5
Flags: PBM
4σ 7.36e3
0%
Abs. Int.
3.93e6
1.96e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7*
42.37
Rel. Int.
100%
OCDD Std.
41.01-45.01
471.7750 Fn5
Flags: PBM
4σ 4.69e3
0%
Abs. Int.
4.29e6
2.15e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.01-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.27e7
6.34e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

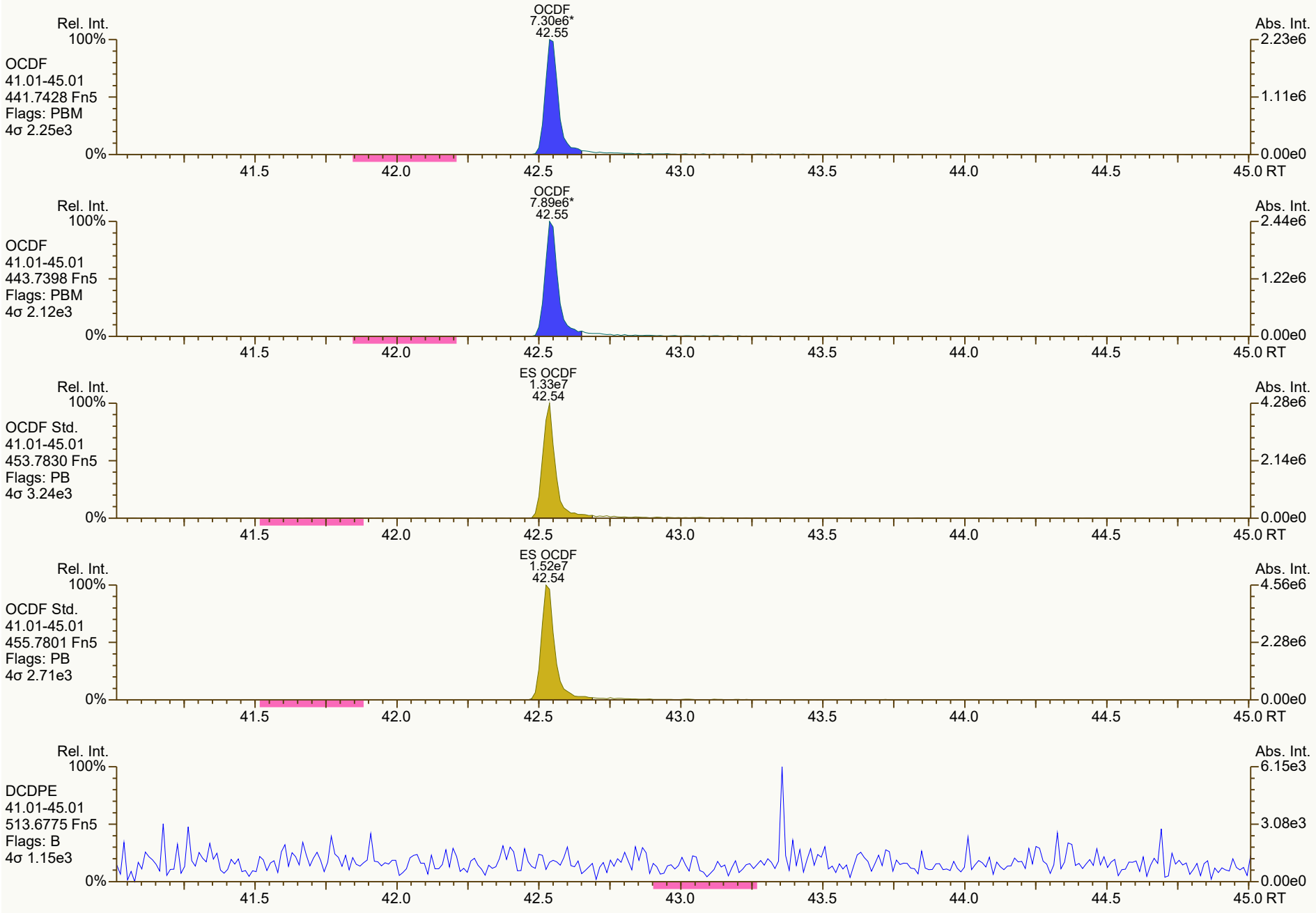

SGS ID: OPR1_18926_DF
Sample ID: 0_18926_OPR001
Acq: 22-Feb-2022 06:08:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 62
User: PSW Datafile: 220222R02
Rel. Int.
Abs. Int.
TCDF
20.04-29.51
303.9016 Fn1
Flags: PBM
4σ 1.62e3
1368F
2.90e6
21.03
2468F
6.64e5
22.27
2348F
2.79e6
26.19
2378F
2.06e6
26.31
1289F
2.86e6*
28.43
6.45e5
3.23e5
0.00e0
TCDF
20.04-29.51
305.8987 Fn1
Flags: PBM
4σ 1.30e3
1368F
3.69e6
21.03
2468F
8.60e5
22.27
2348F
3.62e6
26.19
2378F
2.63e6
26.31
1289F
3.68e6*
28.43
8.29e5
4.14e5
0.00e0
TCDF Std.
20.04-29.51
315.9419 Fn1
Flags: PB
4σ 1.30e4
JS 1234F
2.20e7
24.81
ES 2378F
1.91e7
26.28
4.35e6
2.17e6
0.00e0
TCDF Std.
20.04-29.51
317.9389 Fn1
Flags: PB
4σ 1.10e4
JS 1234F
2.82e7
24.81
ES 2378F
2.42e7
26.28
5.38e6
2.69e6
0.00e0
HxCDPE
20.04-29.51
375.8364 Fn1
Flags: PB
4σ 1.39e3
7.75e3
3.88e3
0.00e0
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


Rel. Int.
100%
0%
PeCDF-1
20.04-29.51
339.8597 Fn1
Flags: PBM
4σ 1.75e3
13468/12468F
2.33e7*
28.32
Abs. Int.
5.37e6
2.69e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
PeCDF-1
20.04-29.51
341.8568 Fn1
Flags: PBM
4σ 1.66e3
13468/12468F
1.46e7*
28.32
Abs. Int.
3.30e6
1.65e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
0%
QC Check
20.04-29.51
316.9824 Fn1
Flags: -
Abs. Int.
6.96e6
3.48e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.00
339.8597 Fn2
Flags: PB
4σ 4.43e3
12378F
1.29e7
31.27
23478F
1.29e7
32.43
12389F
2.44e6
33.52
Abs. Int.
3.38e6
1.69e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF-2
29.52-34.00
341.8568 Fn2
Flags: PB
4σ 3.35e3
12378F
8.27e6
31.27
23478F
8.24e6
32.43
12389F
1.60e6
33.52
Abs. Int.
2.16e6
1.08e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF Std.
29.52-34.00
351.9000 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
2.71e7
30.71
ES 12378F
2.56e7
31.25
ES 23478F
2.37e7
32.41
Abs. Int.
6.55e6
3.28e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDF Std.
29.52-34.00
353.8970 Fn2
Flags: PB
4σ 4.70e3
CS 12346F
1.70e7
30.71
ES 12378F
1.58e7
31.25
ES 23478F
1.48e7
32.41
Abs. Int.
4.23e6
2.11e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
HpCDPE
29.52-34.00
409.7974 Fn2
Flags: B
4σ 2.61e3
Abs. Int.
7.55e3
3.77e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT


SGS ID: OPR1_18926_DF
Sample ID: 0_18926_OPR001
Acq: 22-Feb-2022 06:08:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 62
User: PSW Datafile: 220222R02
Rel. Int.
Abs. Int.
HxCDF
34.01-38.50
373.8207 Fn3
Flags: PBM
4σ 5.70e3
123468F 2.60e7 34.31
123478F 9.97e6 35.71
123678F 1.21e7 35.86
234678F 8.26e6 36.52
123789F 7.19e6* 37.50
HxCDF
34.01-38.50
375.8178 Fn3
Flags: PBM
4σ 5.27e3
123468F 2.06e7 34.31
123478F 7.96e6 35.71
123678F 9.57e6 35.86
234678F 6.59e6 36.52
123789F 5.57e6* 37.49
HxCDF Std.
34.01-38.50
383.8639 Fn3
Flags: PB
4σ 4.94e3
ES 123678F 1.23e7 35.84
ES 123478F 9.02e6 35.70
CS 123469F 1.14e7 36.15
ES 234678F 8.66e6 36.50
ES 123789F 7.66e6 37.48
HxCDF Std.
34.01-38.50
385.8610 Fn3
Flags: PB
4σ 6.67e3
ES 123678F 2.34e7 35.84
ES 123478F 1.78e7 35.70
CS 123469F 2.24e7 36.15
ES 234678F 1.66e7 36.50
ES 123789F 1.52e7 37.48
OCDPE
34.01-38.50
445.7555 Fn3
Flags: B
4σ 1.95e3
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
7.03e6
3.52e6
0.00e0
5.63e6
2.81e6
3.31e6
1.66e6
6.41e6
3.21e6
5.14e3
2.57e3
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\OPR1_18926_DF.utp_res, saved 22-Feb-2022 15:05 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4503, 2044, 7097 scc: 439-306
PKD: 22-Feb-2022 08:21 Printed: 22-Feb-2022 15:10 Page 10 of 12


SGS ID: OPR1_18926_DF
Sample ID: 0_18926_OPR001
Acq: 22-Feb-2022 06:08:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 62
User: PSW Datafile: 220222R02
Rel. Int.
Abs. Int.
HpCDF
38.51-41.00
407.7818 Fn4
Flags: PB
4σ 1.87e3
1234678F
9.78e6
39.03
1234789F
5.76e6
40.38
3.29e6
1.64e6
0.00e0
HpCDF
38.51-41.00
409.7788 Fn4
Flags: PB
4σ 1.86e3
1234678F
9.61e6
39.02
1234789F
5.49e6
40.38
3.18e6
1.59e6
HpCDF Std.
38.51-41.00
417.8253 Fn4
Flags: PB
4σ 4.54e3
ES 1234678F
8.30e6
39.01
CS 1234689F
7.73e6
39.44
ES 1234789F
5.15e6
40.37
2.74e6
1.37e6
HpCDF Std.
38.51-41.00
419.8220 Fn4
Flags: PB
4σ 5.88e3
ES 1234678F
1.87e7
39.01
CS 1234689F
1.76e7
39.44
ES 1234789F
1.15e7
40.37
6.33e6
3.17e6
NCDPE
38.51-41.00
479.7165 Fn4
Flags: PB
4σ 1.98e3
4.09e3
2.05e3
100%
0%
39.0
39.5
40.0
40.5
41.0
RT
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\OPR1_18926_DF.utp_res, saved 22-Feb-2022 15:05 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3769, 5269, 0887 scc: 439-306
PKD: 22-Feb-2022 08:21 Printed: 22-Feb-2022 15:10 Page 11 of 12


OCDF
7.30e6*
42.55
Rel. Int.
100%
OCDF
41.01-45.01
441.7428 Fn5
Flags: PBM
4σ 2.25e3
0%
Abs. Int.
2.23e6
1.11e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
7.89e6*
42.55
Rel. Int.
100%
OCDF
41.01-45.01
443.7398 Fn5
Flags: PBM
4σ 2.12e3
0%
Abs. Int.
2.44e6
1.22e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.33e7
42.54
Rel. Int.
100%
OCDF Std.
41.01-45.01
453.7830 Fn5
Flags: PB
4σ 3.24e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.52e7
42.54
Rel. Int.
100%
OCDF Std.
41.01-45.01
455.7801 Fn5
Flags: PB
4σ 2.71e3
0%
Abs. Int.
4.56e6
2.28e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.01-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
6.15e3
3.08e3
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: OPR2_18926_DF **Acq'd: 22 Feb 2022 06:56 PSW** **Wt/Vol: 1 uL** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18926_OPR002 **UTP: 22-Feb-2022 15:05:14 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 812-079-RVG**

Datafile: 220222R03 **Report: 22 Feb 2022 15:06 pw** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	27.20		1.0008	1.0008	0	3.79E+06	0.77	Y	1.34	8.62	5998.673	0.152
12378-PeCDD	32.76		1.0006	1.0006	0	1.42E+07	1.62	Y	1.06	41.9	4338.915	0.126
123478-HxCDD	36.68		1.0004	1.0004	0	1.31E+07	1.27	Y	1.06	49.1	4560.917	0.142
123678-HxCDD	36.80		1.0035	1.0037	+0.4	1.53E+07	1.27	Y	1.08	52.8	4560.917	0.143
123789-HxCDD	37.10		1.0117	1.0118	+0.2	1.39E+07	1.29	Y	1.02	45.2	4560.917	0.149
1234678-HpCDD	39.94		1.0003	1.0004	+0.2	1.21E+07	1.04	Y	0.97	51.7	6804.5	0.189
OCDD	42.38		1.0003	1.0004	+0.3	1.75E+07	0.89	Y	1.07	104	3750.446	0.185
2378-TCDF	26.30		1.0007	1.0009	+0.3	4.67E+06	0.81	Y	0.96	10.7	3929.39	0.104
12378-PeCDF	31.26		1.0006	1.0006	0	2.20E+07	1.58	Y	0.95	50.6	8176.776	0.182
23478-PeCDF	32.42		1.0006	1.0006	0	2.15E+07	1.55	Y	0.94	53.6	8176.776	0.185
123478-HxCDF	35.70		1.0005	1.0005	0	1.86E+07	1.24	Y	1.23	49.9	12214.769	0.283
123678-HxCDF	35.85		1.0004	1.0005	+0.2	2.22E+07	1.27	Y	1.13	49.3	12214.769	0.254
234678-HxCDF	36.51		1.0004	1.0005	+0.2	1.48E+07	1.28	Y	1.15	47.6	12214.769	0.363
123789-HxCDF	37.49		1.0005	1.0005	0	1.37E+07	1.25	Y	1.14	47	12214.769	0.386
1234678-HpCDF	39.02		1.0003	1.0004	+0.2	2.11E+07	1.05	Y	1.36	51.1	5312.637	0.0917
1234789-HpCDF	40.37		1.0003	1.0003	0	1.25E+07	1.06	Y	1.30	50.1	5312.637	0.157
OCDF	42.54		1.0003	1.0002	-0.3	1.69E+07	0.88	Y	1.03	95.7	4754.574	0.217

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	27.18	1.0263	1.0266	+0.5	3.28E+07	0.77	Y	1.03	90.2
ES 12378-PeCDD	32.74	1.2342	1.2363	+4.1	3.19E+07	1.55	Y	1.03	87.8
ES 123478-HxCDD	36.66	0.9915	0.9917	+0.4	2.52E+07	1.27	Y	0.99	87
ES 123678-HxCDD	36.78	0.9947	0.9948	+0.2	2.68E+07	1.28	Y	0.97	94.6
ES 123789-HxCDD	37.08	1.0028	1.0030	+0.4	3.03E+07	1.24	Y	1.12	92.6
ES 1234678-HpCDD	39.93	1.0791	1.0800	+2.2	2.40E+07	1.08	Y	0.99	83.4
ES OCDD	42.36	1.1449	1.1458	+2.3	3.15E+07	0.88	Y	0.78	69.8
ES 2378-TCDF	26.27	1.0587	1.0594	+1.1	4.55E+07	0.79	Y	1.08	78.4
ES 12378-PeCDF	31.24	1.2570	1.2598	+5.2	4.59E+07	1.60	Y	0.93	91.7
ES 23478-PeCDF	32.40	1.3032	1.3063	+6.0	4.27E+07	1.58	Y	0.92	86.3
ES 123478-HxCDF	35.69	0.9652	0.9653	+0.2	3.01E+07	0.53	Y	1.14	90.6
ES 123678-HxCDF	35.83	0.9690	0.9692	+0.4	3.99E+07	0.53	Y	1.30	106
ES 234678-HxCDF	36.49	0.9869	0.9871	+0.4	2.70E+07	0.51	Y	1.20	77.1
ES 123789-HxCDF	37.47	1.0133	1.0135	+0.4	2.57E+07	0.53	Y	1.14	77.7
ES 1234678-HpCDF	39.00	1.0541	1.0549	+1.9	3.03E+07	0.45	Y	0.95	110
ES 1234789-HpCDF	40.36	1.0906	1.0916	+2.4	1.91E+07	0.46	Y	0.85	77.6
ES OCDF	42.54	1.1495	1.1505	+2.6	3.43E+07	0.85	Y	0.93	63.7

Lab ID: OPR2_18926_DF | **Acq'd:** 22 Feb 2022 06:56 PSW | **Wt/Vol:** 1 uL | **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 0_18926_OPR002 | **UTP:** 22-Feb-2022 15:05:14 PSW | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 812-079-RVG

Datafile: 220222R03 | **Report:** 22 Feb 2022 15:06 pw | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.48		-	-	-	3.51E+07	0.77	Y	-	-
JS 1234-TCDF	24.80		-	-	-	5.36E+07	0.80	Y	-	-
JS 123467-HxCDD	36.97		-	-	-	1.45E+07	1.26	Y	-	-
CS 37Cl-2378-TCDD	27.21		1.0271	1.0274	+0.5	1.50E+07	n/a	-	1.31	81.6
CS 12347-PeCDD	32.22		1.2149	1.2169	+3.9	2.94E+07	1.59	Y	0.89	93.8
CS 12346-PeCDF	30.70		1.2351	1.2377	+4.8	4.54E+07	1.62	Y	0.87	97.7
CS 123469-HxCDF	36.14		0.9774	0.9776	+0.4	3.53E+07	0.52	Y	1.09	111
CS 1234689-HpCDF	39.43		1.0654	1.0664	+2.4	2.73E+07	0.46	Y	0.86	108
~~SS 37Cl-2378-TCDD~~	~~27.21~~		~~1.0271~~	~~1.0274~~	~~+0.5~~	~~1.50E+07~~	~~n/a~~		~~1.26~~	~~91~~
~~SS 12347-PeCDD~~	~~32.22~~		~~1.2149~~	~~1.2169~~	~~+3.9~~	~~2.94E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~107~~
~~SS 12346-PeCDF~~	~~30.70~~		~~1.2351~~	~~1.2377~~	~~+4.8~~	~~4.54E+07~~	~~1.62~~	~~Y~~	~~0.93~~	~~106~~
~~SS 123469-HxCDF~~	~~36.14~~		~~0.9774~~	~~0.9776~~	~~+0.4~~	~~3.53E+07~~	~~0.52~~	~~Y~~	~~0.84~~	~~105~~
~~SS 1234689-HpCDF~~	~~39.43~~		~~1.0654~~	~~1.0664~~	~~+2.4~~	~~2.73E+07~~	~~0.46~~	~~Y~~	~~0.91~~	~~98.8~~

Totals	Conc	EMPC
Total TCDD	40.5	40.5
Total PeCDD	63.3	63.3
Total HxCDD	162	162
Total HpCDD	64.2	64.2
Total Tetra-Octa Dioxins	434	434
Total TCDF	61.7	61.7
Total PeCDF	213	213
Total HxCDF	336	336
Total HpCDF	101	101
Total Tetra-Octa Furans	807	807
Total Tetra-Octa Dioxins & Furans	1240	1240

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.767	0.77
Response	3.80E+06	3.79E+06

Lab ID: OPR2_18926_DF **Acq'd: 22 Feb 2022 06:56 PSW** **Wt/Vol: 1 uL** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18926_OPR002 **UTP: 22-Feb-2022 15:05:14 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 812-079-RVG**

Datafile: 220222R03 **Report: 22 Feb 2022 15:06 pw** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	23.25		0.8571	0.8554	-2.4	5.19E+06	0.75	Y	1.34	11.8	5998.673	0.152
1379-TCDD	NotFnd		0.8715						1.34		5998.673	0.152
1369-TCDD	NotFnd		0.8889						1.34		5998.673	0.152
1469-TCDD	NotFnd		0.9198						1.34		5998.673	0.152
1247/1246/1248/1249-TCDD	NotFnd		0.9291						1.34		5998.673	0.152
1378-TCDD	NotFnd		0.9366						1.34		5998.673	0.152
1268-TCDD	NotFnd		0.9446						1.34		5998.673	0.152
1478-TCDD	NotFnd		0.9539						1.34		5998.673	0.152
1279-TCDD	NotFnd		0.9606						1.34		5998.673	0.152
1234/1269-TCDD	NotFnd		0.9745						1.34		5998.673	0.152
1236-TCDD	NotFnd		0.9798						1.34		5998.673	0.152
1237/1238-TCDD	NotFnd		0.9897						1.34		5998.673	0.152
1239-TCDD	27.04		0.9948	0.9947	-0.2	3.60E+06	0.77	Y	1.34	8.17	5998.673	0.152
2378-TCDD	**27.20**		**1.0008**	1.0008	**0**	3.79E+06	0.77	Y	**1.34**	**8.62**	**5998.673**	**0.152**
1278-TCDD	NotFnd		1.0136						1.34		5998.673	0.152
1267-TCDD	NotFnd		1.0189						1.34		5998.673	0.152
1289-TCDD	28.24		1.0384	1.0387	+0.5	5.26E+06	0.78	Y	1.34	12	5998.673	0.152
12479/12468-PeCDD	30.17		0.9220	0.9216	-0.7	3.40E+06	1.58	Y	1.06	10.1	4338.915	0.126
12469-PeCDD	NotFnd		0.9390						1.06		4338.915	0.126
12368-PeCDD	NotFnd		0.9563						1.06		4338.915	0.126
12478-PeCDD	NotFnd		0.9622						1.06		4338.915	0.126
12379-PeCDD	NotFnd		0.9653						1.06		4338.915	0.126
12369/12467/12489-PeCDD	NotFnd		0.9736						1.06		4338.915	0.126
12346/12347-PeCDD	NotFnd		0.9851						1.06		4338.915	0.126
12378-PeCDD	32.76		**1.0006**	**1.0006**	**0**	**1.42E+07**	**1.62**	**Y**	**1.06**	**41.9**	**4338.915**	**0.126**
12367-PeCDD	NotFnd		1.0035						1.06		4338.915	0.126
12389-PeCDD	33.21		1.0143	1.0145	+0.4	3.84E+06	1.64	Y	1.06	11.4	4338.915	0.126
124679/124689-HxCDD	34.96		0.9536	0.9536	0	4.24E+06	1.30	Y	1.05	14.7	4560.917	0.145
123468-HxCDD	NotFnd		0.9716						1.05		4560.917	0.145
123679/123689-HxCDD	NotFnd		0.9797						1.05		4560.917	0.145
123469-HxCDD	NotFnd		0.9833						1.05		4560.917	0.145
123478-HxCDD	36.68		**1.0004**	**1.0004**	**0**	**1.31E+07**	**1.27**	**Y**	1.06	**49.1**	**4560.917**	**0.142**
123678-HxCDD	36.80		**1.0035**	**1.0037**	**+0.4**	**1.53E+07**	**1.27**	**Y**	1.08	**52.8**	**4560.917**	**0.143**
123467-HxCDD	NotFnd		1.0089						1.05		4560.917	0.145
123789-HxCDD	37.10		**1.0117**	**1.0118**	**+0.2**	**1.39E+07**	**1.29**	**Y**	1.02	**45.2**	**4560.917**	**0.149**

Lab ID: OPR2_18926_DF | **Acq'd: 22 Feb 2022 06:56 PSW** | **Wt/Vol: 1 uL** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18926_OPR002 | **UTP: 22-Feb-2022 15:05:14 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 812-079-RVG**

Datafile: 220222R03 | **Report: 22 Feb 2022 15:06 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.29		0.9839	0.9839	0	2.92E+06	1.03	Y	0.97	12.5	6804.5	0.189
1234678-HpCDD	**39.94**		**1.0003**	**1.0004**	**+0.2**	**1.21E+07**	**1.04**	**Y**	**0.97**	**51.7**	**6804.5**	**0.189**
OCDD	**42.38**		**1.0003**	**1.0004**	**+0.3**	**1.75E+07**	**0.89**	**Y**	**1.07**	**104**	**3750.446**	**0.185**
OCDD-a	42.37		1.0002	1.0002	0	1.05E+06	2.37	Y	0.07	101	3880.32	3.11
1368-TCDF	21.02		0.8019	0.8002	-2.1	7.01E+06	0.80	Y	0.96	16	3929.39	0.104
1468-TCDF	NotFnd		0.8238						0.96		3929.39	0.104
2468-TCDF	22.26		0.8493	0.8473	-2.7	1.64E+06	0.81	Y	0.96	3.76	3929.39	0.104
1346/1246-TCDF	NotFnd		0.8635						0.96		3929.39	0.104
1347/1378/1247-TCDF	NotFnd		0.8702						0.96		3929.39	0.104
1348-TCDF	NotFnd		0.8817						0.96		3929.39	0.104
1248/1367/1379-TCDF	NotFnd		0.8871						0.96		3929.39	0.104
1268-TCDF	NotFnd		0.9029						0.96		3929.39	0.104
1467-TCDF	NotFnd		0.9087						0.96		3929.39	0.104
1478-TCDF	NotFnd		0.9156						0.96		3929.39	0.104
1369/1237-TCDF	NotFnd		0.9307						0.96		3929.39	0.104
2467-TCDF	NotFnd		0.9361						0.96		3929.39	0.104
2368-TCDF	NotFnd		0.9422						0.96		3929.39	0.104
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9460						0.96		3929.39	0.104
1278-TCDF	NotFnd		0.9644						0.96		3929.39	0.104
1349-TCDF	NotFnd		0.9693						0.96		3929.39	0.104
1267-TCDF	NotFnd		0.9757						0.96		3929.39	0.104
2346/1249-TCDF	NotFnd		0.9830						0.96		3929.39	0.104
2347/1279-TCDF	NotFnd		0.9919						0.96		3929.39	0.104
2348-TCDF	26.18		0.9964	0.9965	+0.2	6.75E+06	0.77	Y	0.96	15.4	3929.39	0.104
2378-TCDF	**26.30**		**1.0007**	**1.0009**	**+0.3**	**4.67E+06**	**0.81**	**Y**	**0.96**	**10.7**	**3929.39**	**0.104**
2367/3467-TCDF	NotFnd		1.0157						0.96		3929.39	0.104
1269-TCDF	NotFnd		1.0248						0.96		3929.39	0.104
1239-TCDF	NotFnd		1.0355						0.96		3929.39	0.104
1289-TCDF	28.42		1.0808	1.0816	+1.4	6.88E+06	0.76	Y	0.96	15.8	3929.39	0.104
13468/12468-PeCDF	28.31		0.9073	0.9061	-2.0	4.10E+07	1.63	Y	0.94	98.3	3811.126	0.0855
13678/13467/12467-PeCDF	NotFnd		0.9586						0.94		8176.776	0.183
12368/13478/12478-PeCDF	NotFnd		0.9638						0.94		8176.776	0.183
14678-PeCDF	NotFnd		0.9671						0.94		8176.776	0.183
13479-PeCDF	NotFnd		0.9702						0.94		8176.776	0.183
13469/12479-PeCDF	NotFnd		0.9785						0.94		8176.776	0.183
12346-PeCDF	NotFnd		0.9831						0.94		8176.776	0.183

Lab ID: OPR2_18926_DF | **Acq'd: 22 Feb 2022 06:56 PSW** | **Wt/Vol: 1 uL** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18926_OPR002 | **UTP: 22-Feb-2022 15:05:14 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 812-079-RVG**

Datafile: 220222R03 | **Report: 22 Feb 2022 15:06 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9863						0.94		8176.776	0.183
12347-PeCDF	NotFnd		0.9887						0.94		8176.776	0.183
12348-PeCDF	NotFnd		0.9937						0.94		8176.776	0.183
12378-PeCDF	**31.26**		**1.0006**	**1.0006**	**0**	**2.20E+07**	**1.58**	**Y**	**0.95**	**50.6**	**8176.776**	**0.182**
12678/12367-PeCDF	NotFnd		1.0097						0.94		8176.776	0.183
12379-PeCDF	NotFnd		1.0151						0.94		8176.776	0.183
12679-PeCDF	NotFnd		0.9923						0.94		8176.776	0.183
23467/12369-PeCDF	NotFnd		0.9965						0.94		8176.776	0.183
23478-PeCDF	**32.42**		**1.0006**	**1.0006**	**0**	**2.15E+07**	**1.55**	**Y**	**0.94**	**53.6**	**8176.776**	**0.185**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0049						0.94		8176.776	0.183
12349-PeCDF	NotFnd		1.0104						0.94		8176.776	0.183
12389-PeCDF	33.51		1.0341	1.0344	+0.6	4.45E+06	1.57	Y	0.94	10.7	8176.776	0.183
123468-HxCDF	34.30		0.9611	0.9611	0	5.06E+07	1.27	Y	1.16	142	12214.769	0.312
124678/134678-HxCDF	NotFnd		0.9668						1.16		12214.769	0.312
134679-HxCDF	NotFnd		0.9733						1.16		12214.769	0.312
124679-HxCDF	NotFnd		0.9789						1.16		12214.769	0.312
124689-HxCDF	NotFnd		0.9852						1.16		12214.769	0.312
123467-HxCDF	NotFnd		0.9972						1.16		12214.769	0.312
123478-HxCDF	**35.70**		**1.0005**	**1.0005**	**0**	**1.86E+07**	**1.24**	**Y**	**1.23**	**49.9**	**12214.769**	**0.283**
123678-HxCDF	**35.85**		**1.0004**	**1.0005**	**+0.2**	**2.22E+07**	**1.27**	**Y**	**1.13**	**49.3**	**12214.769**	**0.254**
123479-HxCDF	NotFnd		1.0049						1.16		12214.769	0.312
123469-HxCDF	NotFnd		1.0090						1.16		12214.769	0.312
123679-HxCDF	NotFnd		0.9942						1.16		12214.769	0.312
234678-HxCDF	**36.51**		**1.0004**	**1.0005**	**+0.2**	**1.48E+07**	**1.28**	**Y**	**1.15**	**47.6**	**12214.769**	**0.363**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		12214.769	0.312
123789-HxCDF	**37.49**		**1.0005**	**1.0005**	**0**	**1.37E+07**	**1.25**	**Y**	**1.14**	**47**	**12214.769**	**0.386**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	NotFnd		1.0008						1.16		12214.769	0.312
1234678-HpCDF	**39.02**		**1.0003**	**1.0004**	**+0.2**	**2.11E+07**	**1.05**	**Y**	**1.36**	**51.1**	**5312.637**	**0.0917**
1234679-HpCDF	NotFnd		1.0073						1.33		5312.637	0.117
1234689-HpCDF	NotFnd		1.0109						1.33		5312.637	0.117
1234789-HpCDF	**40.37**		**1.0003**	**1.0003**	**0**	**1.25E+07**	**1.06**	**Y**	**1.30**	**50.1**	**5312.637**	**0.157**
OCDF	**42.54**		**1.0003**	**1.0002**	**-0.3**	**1.69E+07**	**0.88**	**Y**	**1.03**	**95.7**	**4754.574**	**0.217**
OCDF-a	42.54		1.0002	1.0001	-0.3	8.82E+05	2.19	Y	0.06	86.6	4595.506	3.62

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
VER Data Filename:	220222R03	Analysis Date:	22-FEB-2022 06:56:06
Lab ID:	OPR2_18926_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	8.62	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	41.9	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	49.1	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	52.8	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	45.2	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	51.7	35	-	70	Y
OCDD	100	104	78	-	144	Y
2,3,7,8-TCDF	10	10.7	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	50.6	40	-	67	Y
2,3,4,7,8-PeCDF	50	53.6	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	49.9	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	49.3	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	47.6	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	47	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	51.1	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	50.1	39	-	69	Y
OCDF	100	95.7	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 22 Feb 2022 15:06 Analyst: pw

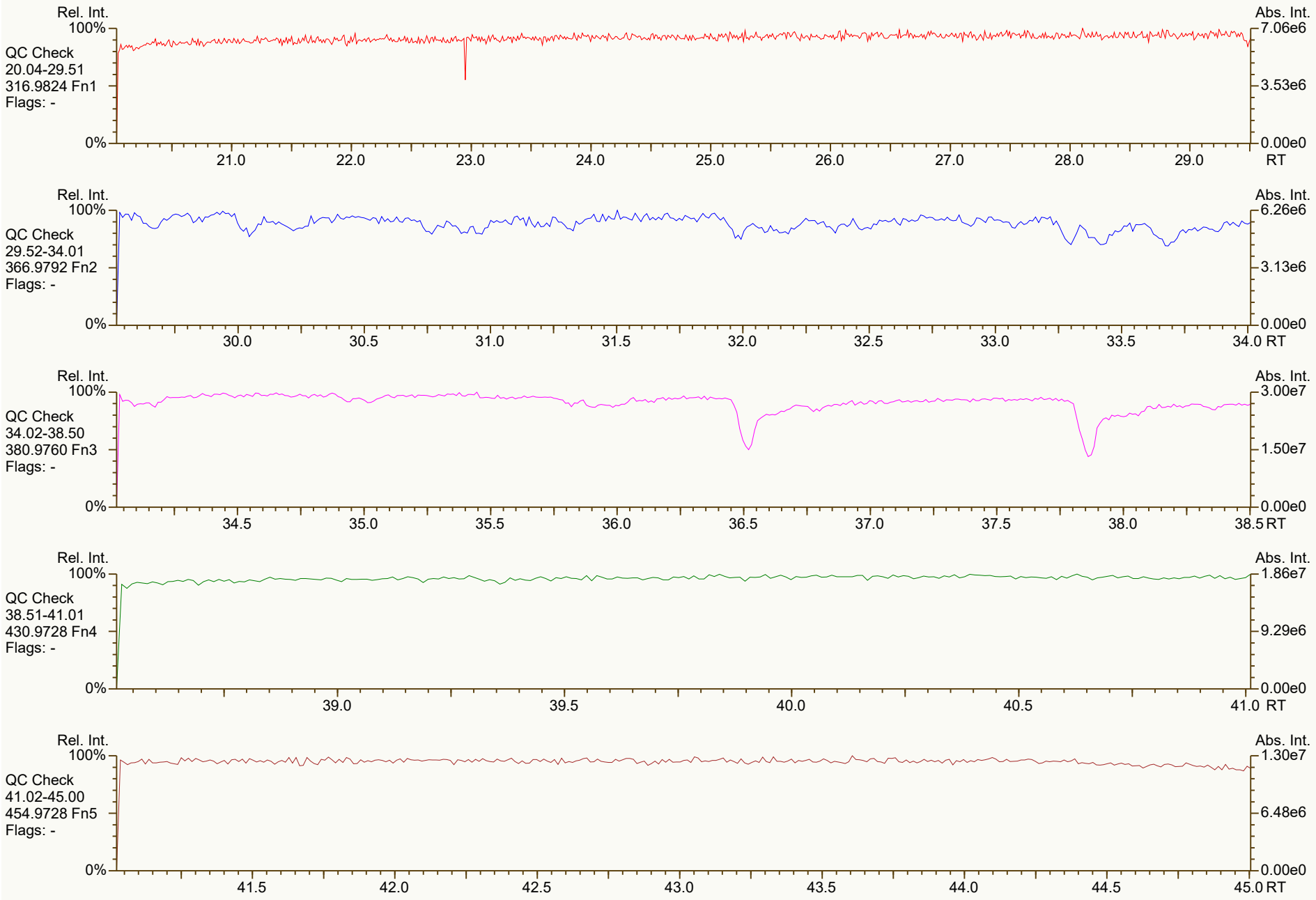
METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
VER Data Filename:	220222R03	Analysis Date:	22-FEB-2022 06:56:06
Lab ID:	OPR2_18926_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	90.2	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	87.8	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	87	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	94.6	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	92.6	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	83.4	26	-	166	Y
13C-OCDD	200	140	26	-	397	Y
13C-2,3,7,8-TCDF	100	78.4	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	91.7	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	86.3	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	90.6	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	106	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	77.1	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	77.7	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	110	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	77.6	20	-	186	Y
13C-OCDF	200	127	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	32.7	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

Processed: 22 Feb 2022 15:06 Analyst: pw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QC Check
20.04-29.51
316.9824 Fn1
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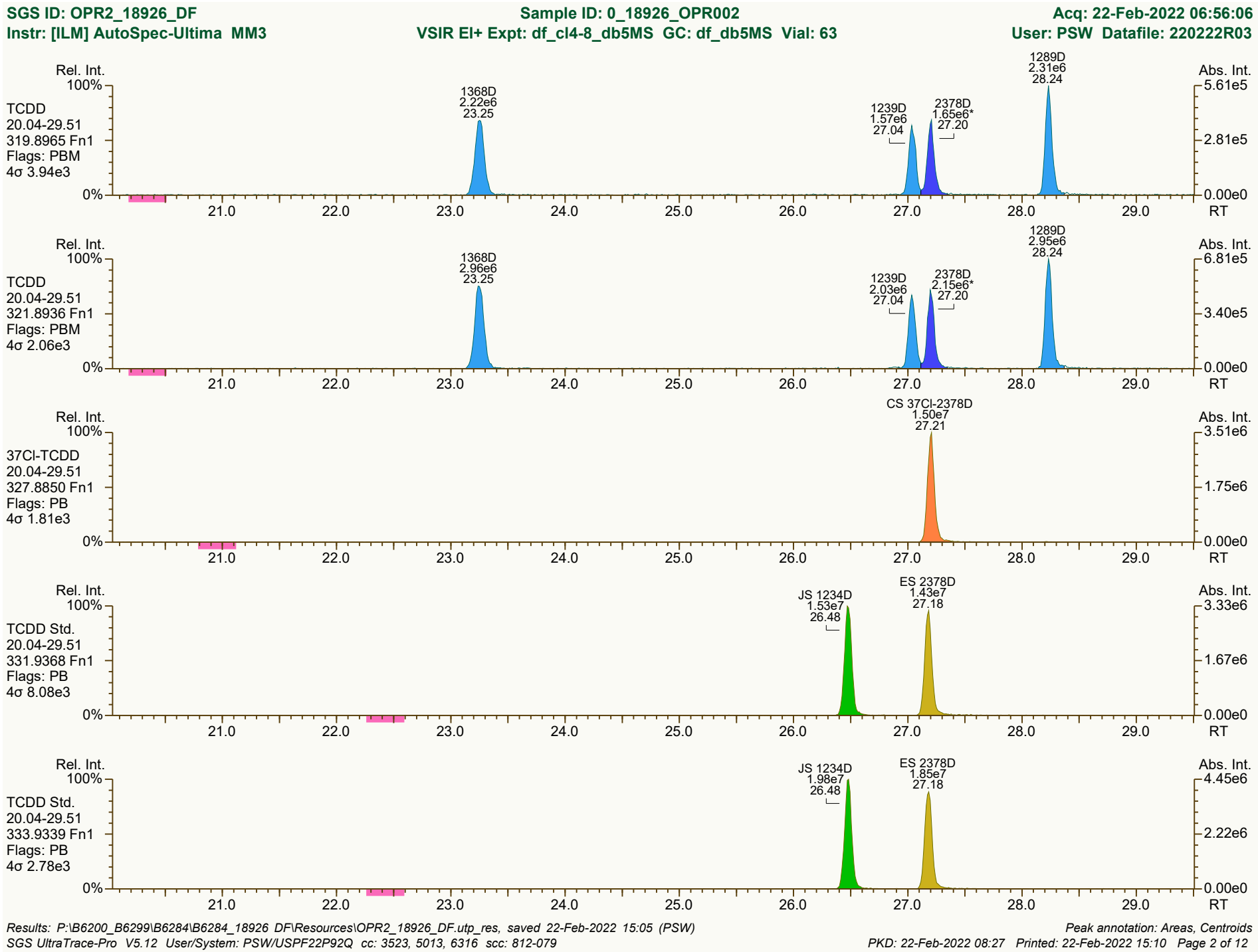
0%
Abs. Int.
7.06e6
3.53e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Rel. Int.
100%
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.26e6
3.13e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
QC Check
34.02-38.50
380.9760 Fn3
Flags: -
0%
Abs. Int.
3.00e7
1.50e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
Rel. Int.
100%
QC Check
38.51-41.01
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.86e7
9.29e6
0.00e0
39.0
39.5
40.0
40.5
41.0 RT
Rel. Int.
100%
QC Check
41.02-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: OPR2_18926_DF
Instr: [ILM] AutoSpec-Ultima MM3

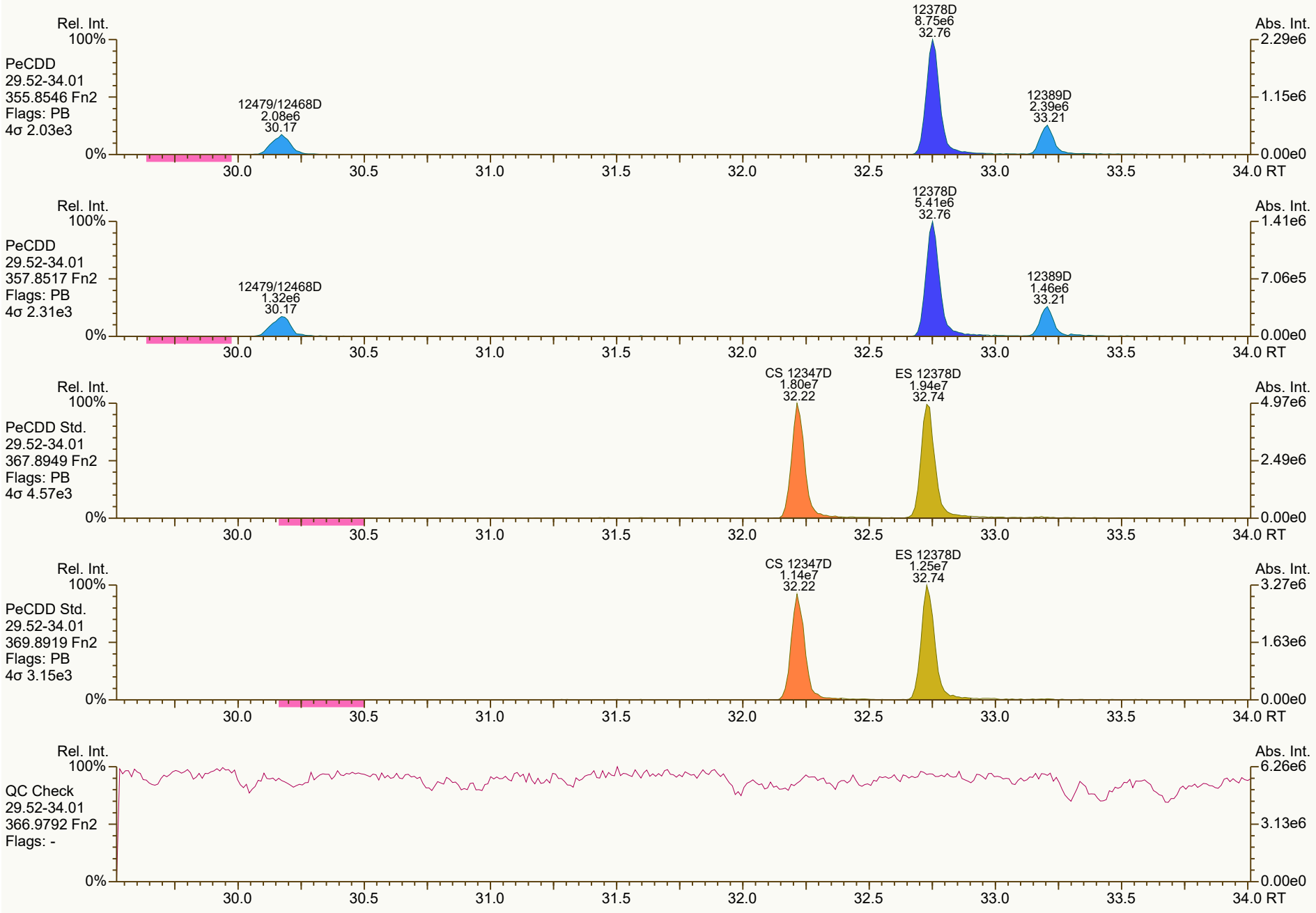
Sample ID: 0_18926_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 63

Acq: 22-Feb-2022 06:56:06
User: PSW Datafile: 220222R03



Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\OPR2_18926_DF.utp_res, saved 22-Feb-2022 15:05 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3523, 5013, 6316 scc: 812-079

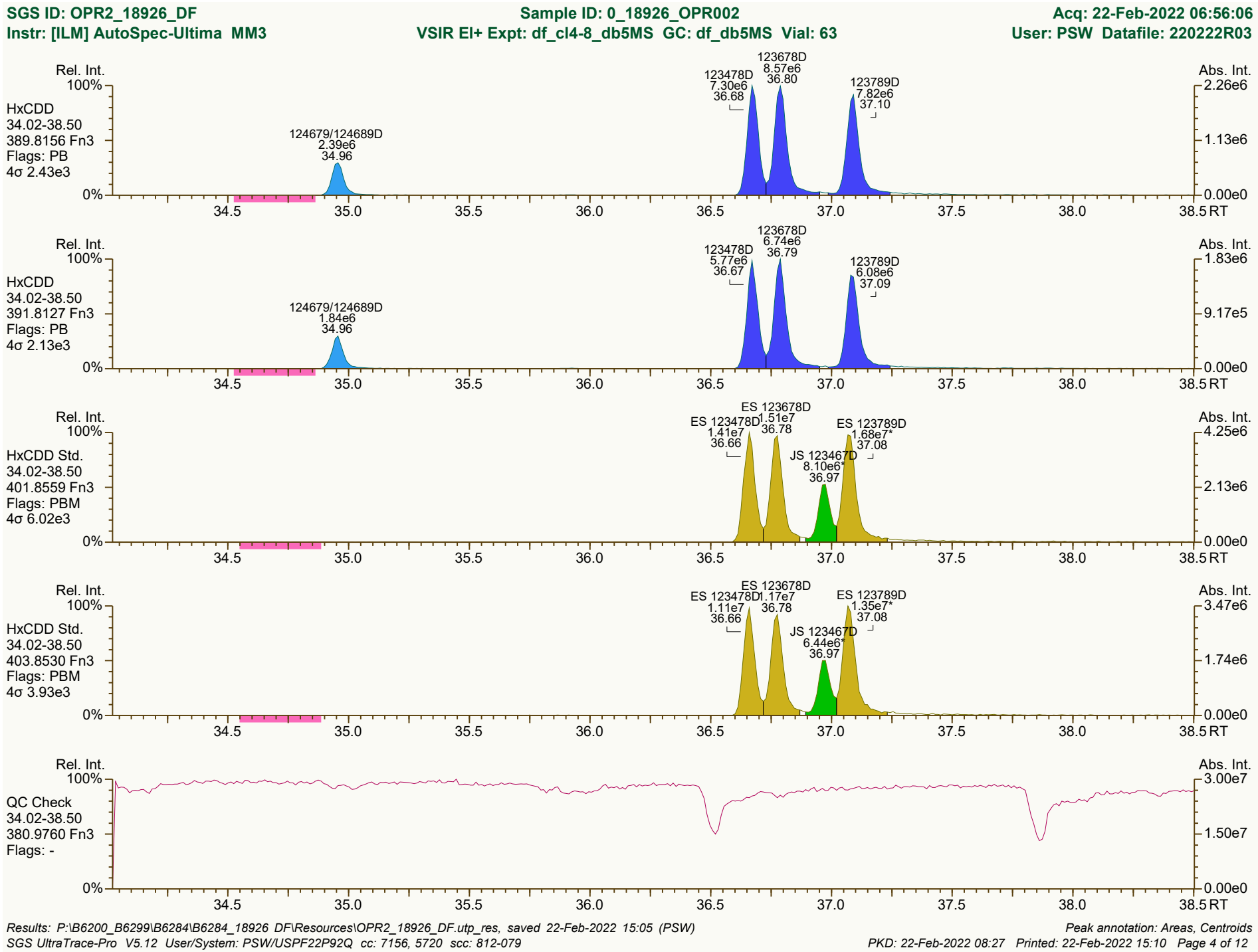
Peak annotation: Areas, Centroids
PKD: 22-Feb-2022 08:27 Printed: 22-Feb-2022 15:10 Page 2 of 12


Rel. Int.
100%
PeCDD
29.52-34.01
355.8546 Fn2
Flags: PB
4σ 2.03e3
0%
12479/12468D
2.08e6
30.17
12378D
8.75e6
32.76
12389D
2.39e6
33.21
Abs. Int.
2.29e6
1.15e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD
29.52-34.01
357.8517 Fn2
Flags: PB
4σ 2.31e3
0%
12479/12468D
1.32e6
30.17
12378D
5.41e6
32.76
12389D
1.46e6
33.21
Abs. Int.
1.41e6
7.06e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD Std.
29.52-34.01
367.8949 Fn2
Flags: PB
4σ 4.57e3
0%
CS 12347D
1.80e7
32.22
ES 12378D
1.94e7
32.74
Abs. Int.
4.97e6
2.49e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
PeCDD Std.
29.52-34.01
369.8919 Fn2
Flags: PB
4σ 3.15e3
0%
CS 12347D
1.14e7
32.22
ES 12378D
1.25e7
32.74
Abs. Int.
3.27e6
1.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Rel. Int.
100%
QC Check
29.52-34.01
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.26e6
3.13e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT

SGS ID: OPR2_18926_DF
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: 0_18926_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 63

Acq: 22-Feb-2022 06:56:06
User: PSW Datafile: 220222R03



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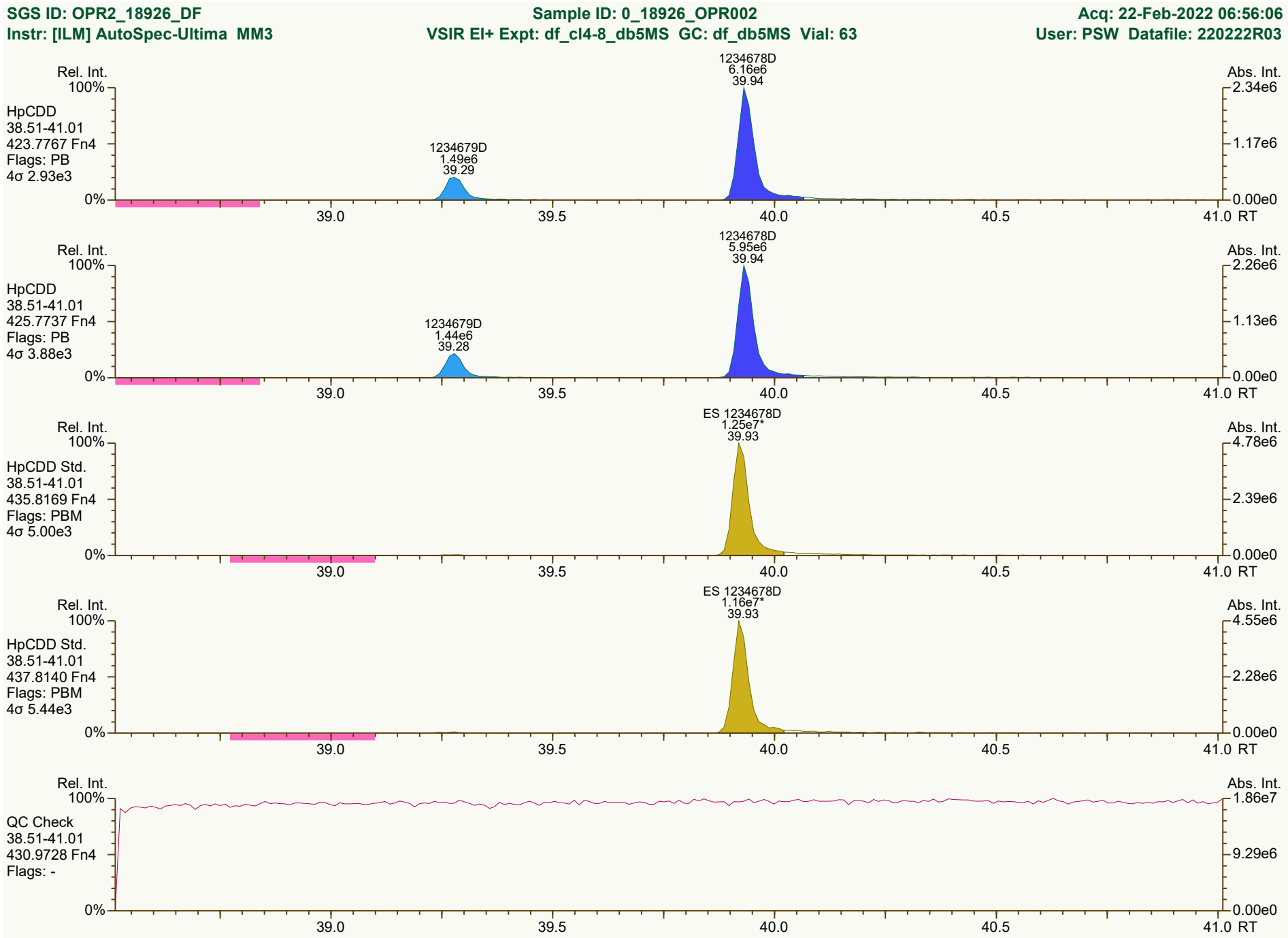
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7156, 5720 scc: 812-079

Peak annotation: Areas, Centroids
PKD: 22-Feb-2022 08:27 Printed: 22-Feb-2022 15:10 Page 4 of 12

SGS ID: OPR2_18926_DF
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: 0_18926_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 63

Acq: 22-Feb-2022 06:56:06
User: PSW Datafile: 220222R03



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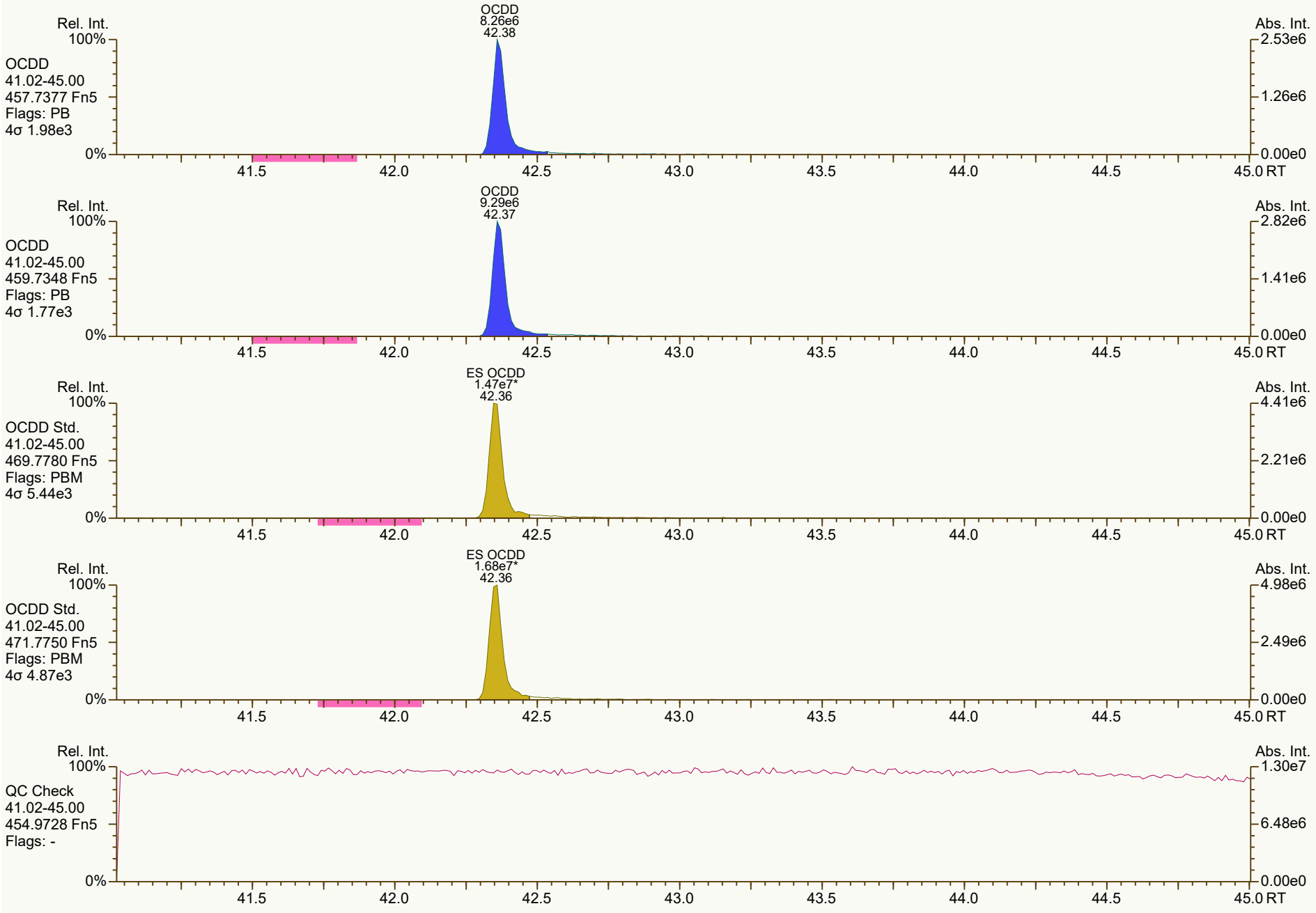
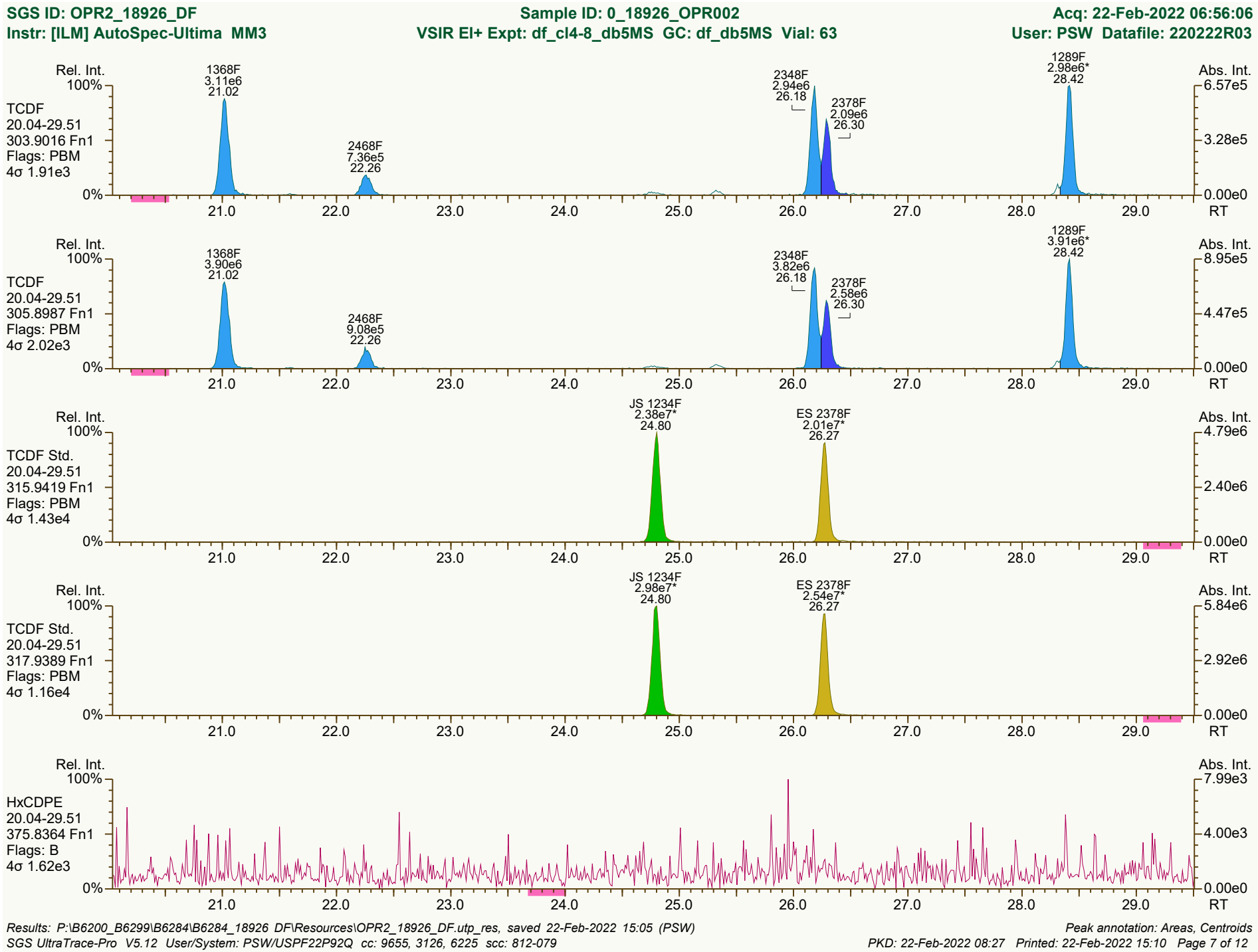
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3447, 6000 scc: 812-079

Peak annotation: Areas, Centroids
PKD: 22-Feb-2022 08:27 Printed: 22-Feb-2022 15:10 Page 5 of 12

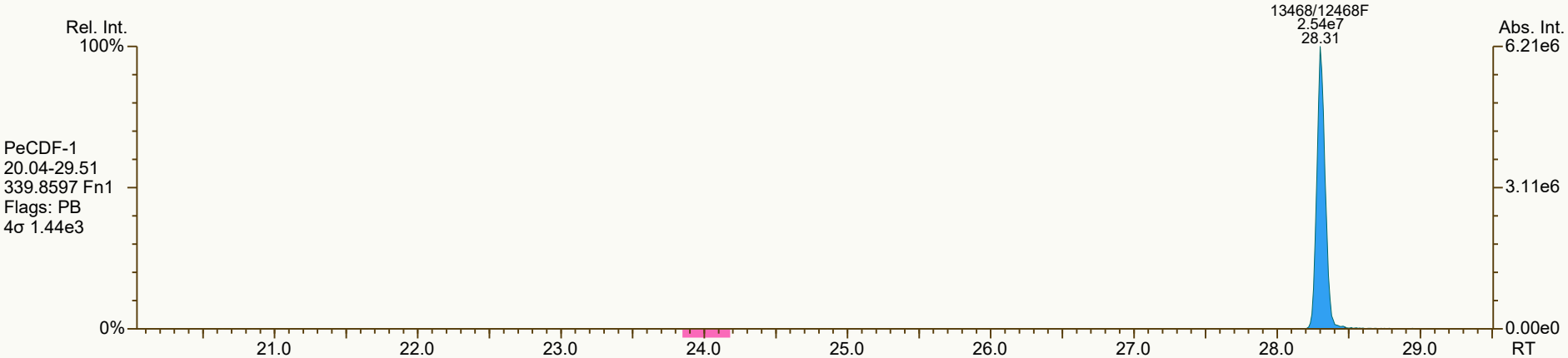

Rel. Int.
100%
OCDD
41.02-45.00
457.7377 Fn5
Flags: PB
4σ 1.98e3
0%
OCDD
8.26e6
42.38
Abs. Int.
2.53e6
1.26e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.02-45.00
459.7348 Fn5
Flags: PB
4σ 1.77e3
0%
OCDD
9.29e6
42.37
Abs. Int.
2.82e6
1.41e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.02-45.00
469.7780 Fn5
Flags: PBM
4σ 5.44e3
0%
ES OCDD
1.47e7*
42.36
Abs. Int.
4.41e6
2.21e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.02-45.00
471.7750 Fn5
Flags: PBM
4σ 4.87e3
0%
ES OCDD
1.68e7*
42.36
Abs. Int.
4.98e6
2.49e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.02-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

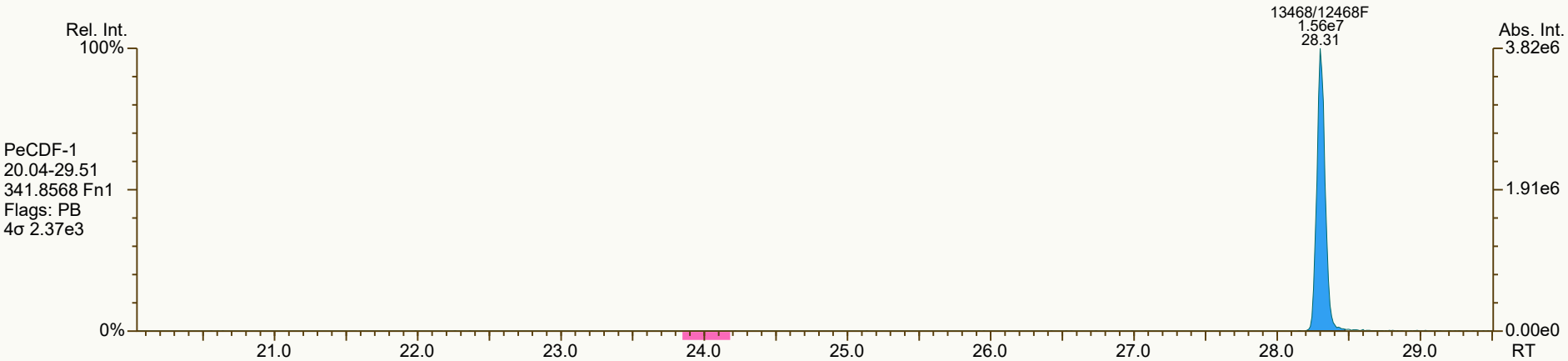

SGS ID: OPR2_18926_DF
Sample ID: 0_18926_OPR002
Acq: 22-Feb-2022 06:56:06
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 63
User: PSW Datafile: 220222R03
Rel. Int.
Abs. Int.
TCDF
20.04-29.51
303.9016 Fn1
Flags: PBM
4σ 1.91e3
1368F
3.11e6
21.02
2468F
7.36e5
22.26
2348F
2.94e6
26.18
2378F
2.09e6
26.30
1289F
2.98e6*
28.42
6.57e5
3.28e5
0.00e0
TCDF
20.04-29.51
305.8987 Fn1
Flags: PBM
4σ 2.02e3
1368F
3.90e6
21.02
2468F
9.08e5
22.26
2348F
3.82e6
26.18
2378F
2.58e6
26.30
1289F
3.91e6*
28.42
8.95e5
4.47e5
0.00e0
TCDF Std.
20.04-29.51
315.9419 Fn1
Flags: PBM
4σ 1.43e4
JS 1234F
2.38e7*
24.80
ES 2378F
2.01e7*
26.27
4.79e6
2.40e6
0.00e0
TCDF Std.
20.04-29.51
317.9389 Fn1
Flags: PBM
4σ 1.16e4
JS 1234F
2.98e7*
24.80
ES 2378F
2.54e7*
26.27
5.84e6
2.92e6
0.00e0
HxCDPE
20.04-29.51
375.8364 Fn1
Flags: B
4σ 1.62e3
7.99e3
4.00e3
0.00e0
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\OPR2_18926_DF.utp_res, saved 22-Feb-2022 15:05 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9655, 3126, 6225 scc: 812-079
PKD: 22-Feb-2022 08:27 Printed: 22-Feb-2022 15:10 Page 7 of 12

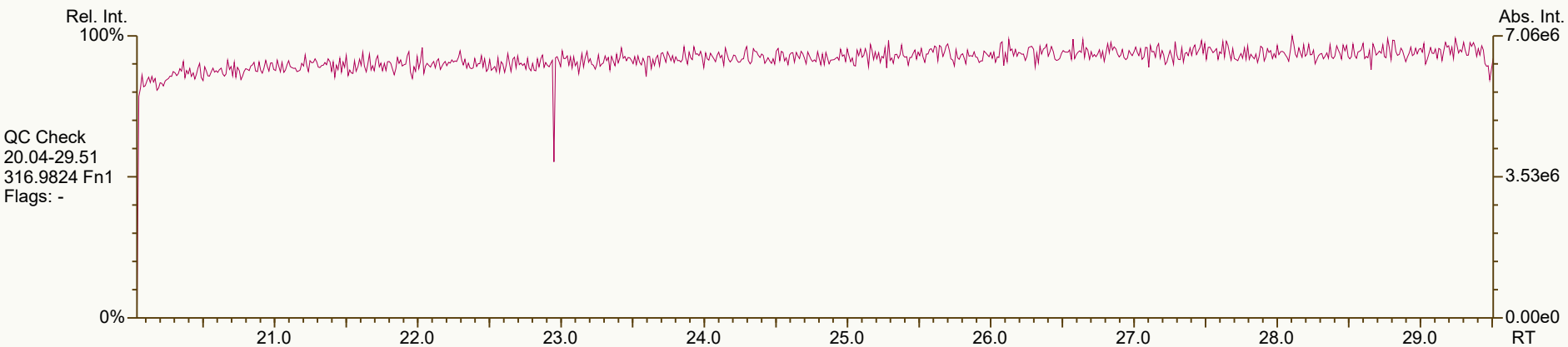
SGS ID: OPR2_18926_DF
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: 0_18926_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 63

Acq: 22-Feb-2022 06:56:06
User: PSW Datafile: 220222R03

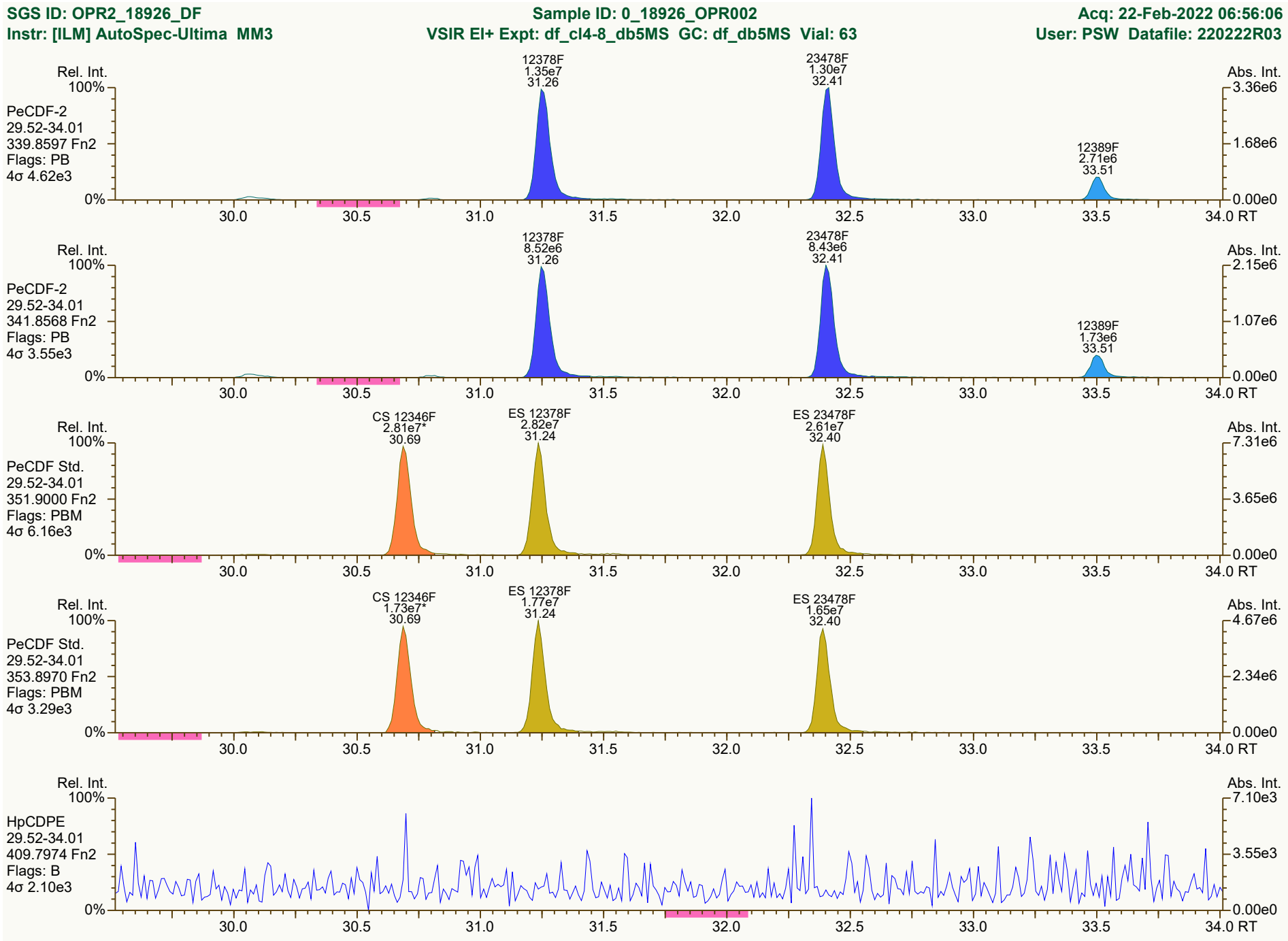


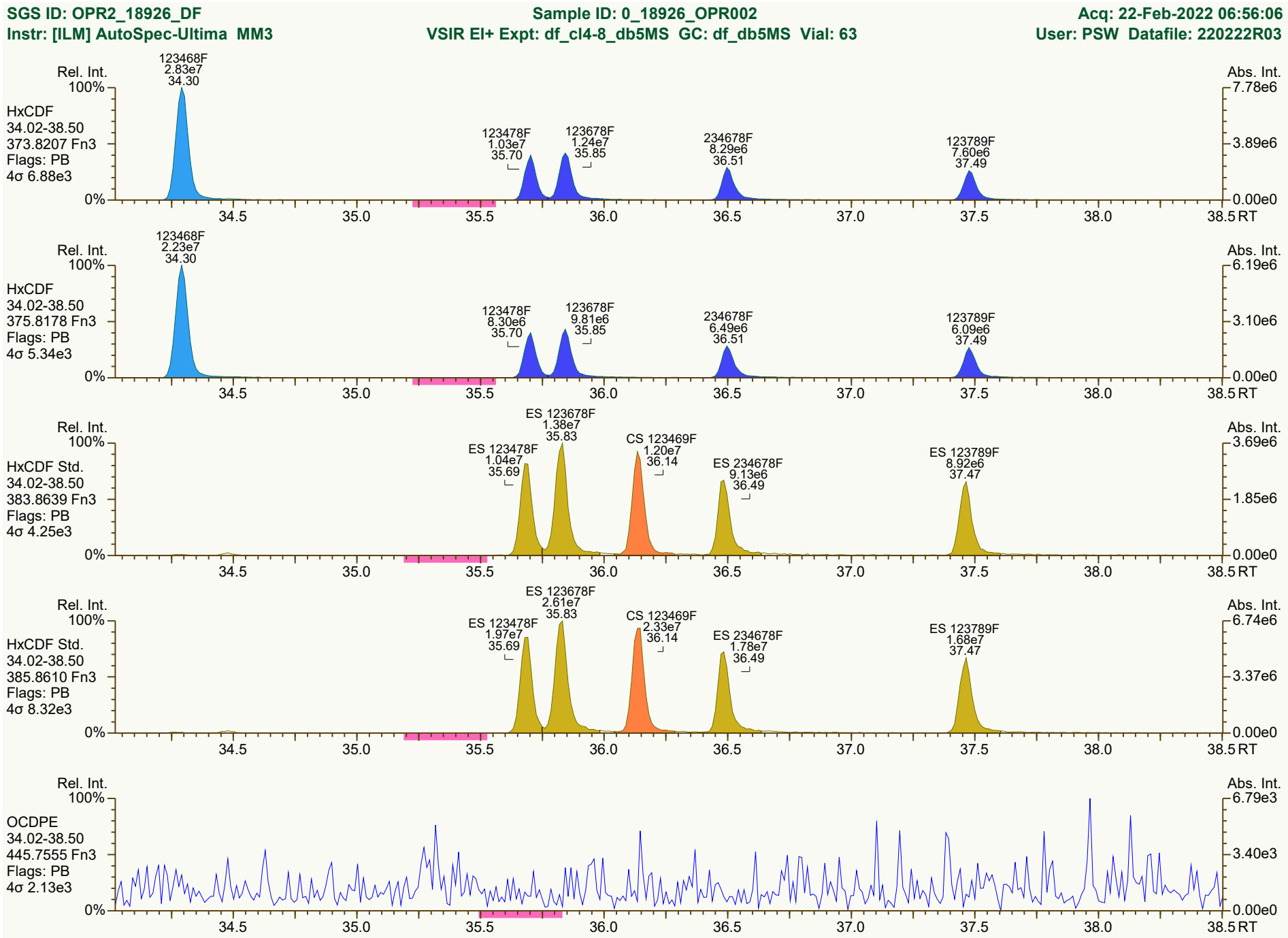




Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\OPR2_18926_DF.utp_res, saved 22-Feb-2022 15:05 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3575 scc: 812-079

Peak annotation: Areas, Centroids
PKD: 22-Feb-2022 08:27 Printed: 22-Feb-2022 15:10 Page 8 of 12


SGS ID: OPR2_18926_DF
Sample ID: 0_18926_OPR002
Acq: 22-Feb-2022 06:56:06
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 63
User: PSW Datafile: 220222R03
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.01
339.8597 Fn2
Flags: PB
4σ 4.62e3
12378F
1.35e7
31.26
23478F
1.30e7
32.41
12389F
2.71e6
33.51
3.36e6
1.68e6
0.00e0
PeCDF-2
29.52-34.01
341.8568 Fn2
Flags: PB
4σ 3.55e3
12378F
8.52e6
31.26
23478F
8.43e6
32.41
12389F
1.73e6
33.51
2.15e6
1.07e6
0.00e0
PeCDF Std.
29.52-34.01
351.9000 Fn2
Flags: PBM
4σ 6.16e3
CS 12346F
2.81e7*
30.69
ES 12378F
2.82e7
31.24
ES 23478F
2.61e7
32.40
7.31e6
3.65e6
0.00e0
PeCDF Std.
29.52-34.01
353.8970 Fn2
Flags: PBM
4σ 3.29e3
CS 12346F
1.73e7*
30.69
ES 12378F
1.77e7
31.24
ES 23478F
1.65e7
32.40
4.67e6
2.34e6
0.00e0
HpCDPE
29.52-34.01
409.7974 Fn2
Flags: B
4σ 2.10e3
7.10e3
3.55e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0 RT
Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\OPR2_18926_DF.utp_res, saved 22-Feb-2022 15:05 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4064, 6396, 4133 scc: 812-079
PKD: 22-Feb-2022 08:27 Printed: 22-Feb-2022 15:10 Page 9 of 12


SGS ID: OPR2_18926_DF
Sample ID: 0_18926_OPR002
Acq: 22-Feb-2022 06:56:06
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 63
User: PSW Datafile: 220222R03
Rel. Int.
Abs. Int.
HxCDF
34.02-38.50
373.8207 Fn3
Flags: PB
4σ 6.88e3
123468F
2.83e7
34.30
123478F
1.03e7
35.70
123678F
1.24e7
35.85
234678F
8.29e6
36.51
123789F
7.60e6
37.49
7.78e6
3.89e6
0.00e0
HxCDF
34.02-38.50
375.8178 Fn3
Flags: PB
4σ 5.34e3
123468F
2.23e7
34.30
123478F
8.30e6
35.70
123678F
9.81e6
35.85
234678F
6.49e6
36.51
123789F
6.09e6
37.49
6.19e6
3.10e6
0.00e0
HxCDF Std.
34.02-38.50
383.8639 Fn3
Flags: PB
4σ 4.25e3
ES 123678F
1.38e7
35.83
ES 123478F
1.04e7
35.69
CS 123469F
1.20e7
36.14
ES 234678F
9.13e6
36.49
ES 123789F
8.92e6
37.47
3.69e6
1.85e6
0.00e0
HxCDF Std.
34.02-38.50
385.8610 Fn3
Flags: PB
4σ 8.32e3
ES 123678F
2.61e7
35.83
ES 123478F
1.97e7
35.69
CS 123469F
2.33e7
36.14
ES 234678F
1.78e7
36.49
ES 123789F
1.68e7
37.47
6.74e6
3.37e6
0.00e0
OCDPE
34.02-38.50
445.7555 Fn3
Flags: PB
4σ 2.13e3
6.79e3
3.40e3
0.00e0
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5 RT
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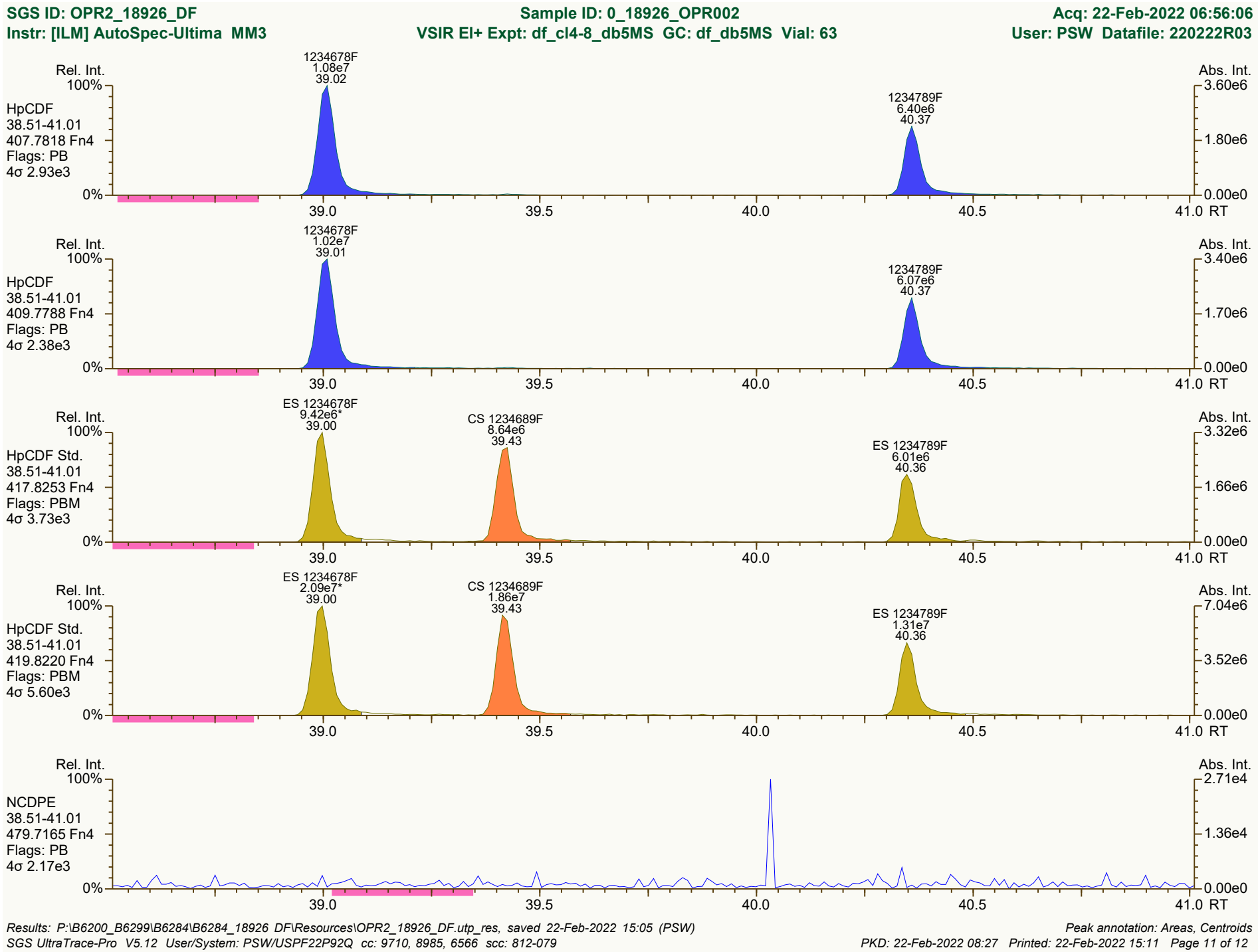
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4893, 1123, 3297 scc: 812-079
PKD: 22-Feb-2022 08:27 Printed: 22-Feb-2022 15:11 Page 10 of 12

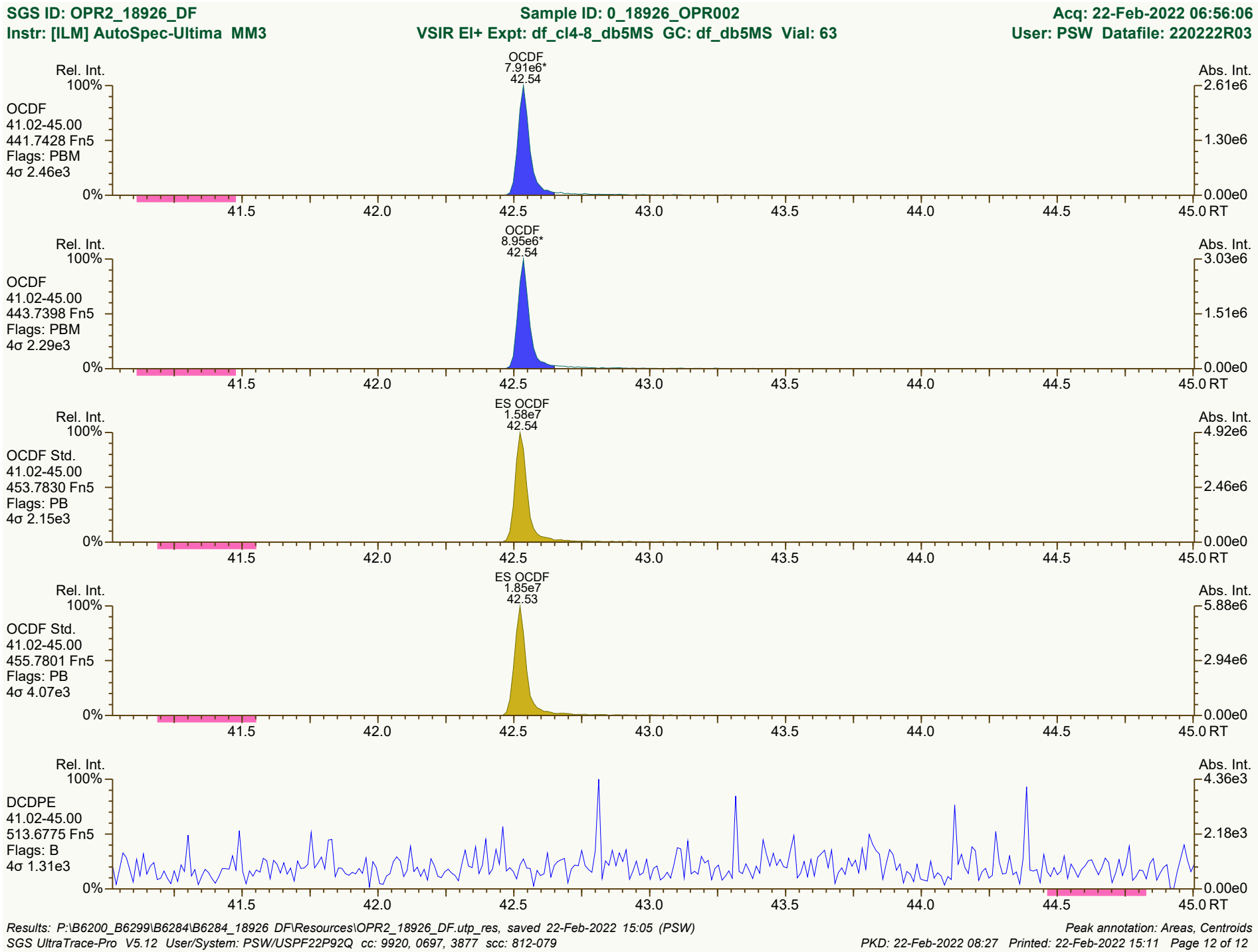


Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\OPR2_18926_DF.utp_res, saved 22-Feb-2022 15:05 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9710, 8985, 6566 scc: 812-079
PKD: 22-Feb-2022 08:27 Printed: 22-Feb-2022 15:11 Page 11 of 12

SGS ID: OPR2_18926_DF
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: 0_18926_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 63

Acq: 22-Feb-2022 06:56:06
User: PSW Datafile: 220222R03



Results: P:\B6200_B6299\B6284\B6284_18926 DF\Resources\OPR2_18926_DF.utp_res, saved 22-Feb-2022 15:05 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9920, 0697, 3877 scc: 812-079

Peak annotation: Areas, Centroids
PKD: 22-Feb-2022 08:27 Printed: 22-Feb-2022 15:11 Page 12 of 12



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6234

28-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

Meagan Willis

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Houston, TX 77079
Phone: 713-907-3710
Email: Meagan.Willis@ghd.com

This report is approved by

Tamara Burkamper

tamara.burkamper@sgs.com

Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6234
Analytical Protocol(s)	1613B
No. Samples Submitted	9
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	26-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	0.2, 0.0
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.14.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements, except for the following: the reported percent deviation of CS 1,2,3,4,6,8,9-HpCDF is above SOP criteria. There is no method specified criteria for these standards and no adverse impact on results.

No re-extractions or dilutions were required.

B6234_005: the reported ion ratio of labeled standard ES 1,2,3,7,8,9-HxCDD is outside method criteria.

OPR1/OPR2_18872 meet accuracy and precision criteria, except for the following: RPD of 2,3,7,8-TCDF is >20%.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-020422-S-SB-SW-S-48 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID	B6290_18916_DF_001	Date Extracted:	09-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	69.1 %	QC Batch No:	18916	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:14:36

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	125				ES 2378-TCDD	66.2	
12378-PeCDD	3.41				ES 12378-PeCDD	70.6	
123478-HxCDD	1.97			J	ES 123478-HxCDD	71.1	
123678-HxCDD	10.3				ES 123678-HxCDD	71.9	
123789-HxCDD	7.08				ES 123789-HxCDD	70.7	
1234678-HpCDD	349				ES 1234678-HpCDD	73.4	
OCDD	3,700				ES OCDD	73.7	
2378-TCDF	329				ES 2378-TCDF	62.4	
12378-PeCDF	17.1				ES 12378-PeCDF	65.7	
23478-PeCDF	17.4			PR	ES 23478-PeCDF	65.7	
123478-HxCDF	35.1				ES 123478-HxCDF	76	
123678-HxCDF	12.7				ES 123678-HxCDF	75.5	
234678-HxCDF	12.7				ES 234678-HxCDF	77.4	
123789-HxCDF	ND	0.533			ES 123789-HxCDF	70.7	
1234678-HpCDF	88.4				ES 1234678-HpCDF	77.6	
1234789-HpCDF	13.2				ES 1234789-HpCDF	72.7	
OCDF	113				ES OCDF	77.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	72.5	
Total TCDD	151		156		CS 12347-PeCDD	79.3	
Total PeCDD	15.7		26.6		CS 12346-PeCDF	77.3	
Total HxCDD	130		134		CS 123469-HxCDF	89.8	
Total HpCDD	670		670		CS 1234689-HpCDF	92.7	
Total TCDF	734		734				
Total PeCDF	95.2		99.1				
Total HxCDF	119		120				
Total HpCDF	156		156				
Total PCDD/Fs	**5,880**		**5,900**				
WHO-2005 TEQs							
TEQ: ND=0	180		180				
TEQ: ND=DL/2	180	0.797	180				
TEQ: ND=DL	180	1.59	180				

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Sample ID: 11215131-020422-S-SB-SW-S-48 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID:	B6290_18916_DF_001	Date Extracted:	09-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	69.1 %	QC Batch No.:	18916	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:14:36

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	2.05		12479/12468D	[4.79]		124679/124689D	46.5		1234679D	321	
1379D	[1.16]		12469D	[4.17]		123468D	5.78		1234678D	349	
1369D	0.612		12368D	1.85	J	123679/123689D	54.3				
1469D	4.17		12478D	(0.74)		123469D	3.79				
1247D...[4]	1.45		12379D	1.8	J	123478D	1.97	J			
1378D	[1.12]		12369D...[3]	4.03		123678D	10.3				
1268D	0.652		12346/12347D	3.07		123467D	[3.88]				
1478D	[0.718]		12378D	3.41		123789D	7.08		**Conc.**	670	
1279D	[0.493]	J	12367D	1.51	J				**EMPC**	670	
1234/1269D	1.62		12389D	[1.97]	J						
1236D	(0.269)								**Octa-Dioxin**	**Conc**	**Qualifiers**
1237/1238D	3.15									**(pg/g)**	
1239D	(0.269)								OCDD	3700	
2378D	125										
1278D	12.8										
1267D	0.425	J									
1289D	[0.982]										
Conc.	151		**Conc.**	15.7		**Conc.**	130				
EMPC	156		**EMPC**	26.6		**EMPC**	134				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	180	180
TEQ: ND=DL/2	180	180
TEQ: ND=DL	180	180

	Conc.	EMPC
Total PCDD/Fs	5,880	5,900

Checkcode: 946-376-RXM

Report Created: 14-Feb-2022 10:42 Analyst: gd

Sample ID: 11215131-020422-S-SB-SW-S-48 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID:	B6290_18916_DF_001	Date Extracted:	09-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	69.1 %	QC Batch No.:	18916	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:14:36

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.43		13468/12468F	11.7		123468F	5.08		1234678F	88.4	
1468F	1.91		13678F...[3]	4.96		124678/134678F	30.9		1234679F	7.5	
2468F	3.94		12368F...[3]	20.5		134679F	0.758	J	1234689F	46.5	
1346/1246F	1.27		14678F	[1.45]	J	124679F	[0.896]	J	1234789F	13.2	
1347F...[3]	10.9		13479F	0.475	J	124689F	12.7				
1348F	3.12		13469/12479F	0.493	J	123467F	4.28				
1248F...[3]	21.2		12346F	[0.601]	J	123478F	35.1				
1268F	8.62		23468/12469F	3.07		123678F	12.7				
1467F	2.21		12347F	2.74		123479F	[0.597]	J			
1478F	17.2		12348F	3.11		123469F	(0.452)				
1369/1237F	5.18		12378F	17.1		123679F	1.28	J			
2467F	1.42		12678/12367F	10.7		234678F	12.7		**Conc.**	156	
2368F	15.6		12379F	[0.343]	J	234678/123689F	0		**EMPC**	156	
1238F...[5]	19.6		12679F	0.395	J	123689F	(0.452)				
1278F	170		23467/12369F	2.45	J	123789F	(0.533)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.138)		23478F	17.4	PR	123789/123489F	0			**(pg/g)**	
1267F	11.5		23478/12489F	0		123489F	3.07		OCDF	113	
2346/1249F	2.95		12489F	(0.352)							
2347/1279F	5.45		12349F	[0.511]	J						
2348F	33.2		12389F	[0.994]	J						
2378F	329										
2367/3467F	31.8										
1269F	6.29										
1239F	(0.138)										
1289F	29.9										
Conc.	734		**Conc.**	95.2		**Conc.**	119				
EMPC	734		**EMPC**	99.1		**EMPC**	120				

Checkcode: 946-376-RXM

Report Created: 14-Feb-2022 10:42 Analyst: gd

Sample ID: 11215131-020422-S-SB-SW-S-48 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6290_18916_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	QC Batch No.:	18916
Date Collected:	04-Feb-2022	Split:	-	Date Extracted:	09-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	11-Feb-2022 19:14
Lab Project No:	B6290	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	125		0.269	125	125	125
12378-PeCDD	3.41		0.74	1.71	3.41	3.41
123478-HxCDD	1.97	J	0.917	0.197	0.197	0.197
123678-HxCDD	10.3		0.84	1.03	1.03	1.03
123789-HxCDD	7.08		0.829	0.708	0.708	0.708
1234678-HpCDD	349		0.515	3.49	3.49	3.49
OCDD	3700		0.697	3.7	0.37	1.11
2378-TCDF	329		0.138	32.9	32.9	32.9
12378-PeCDF	17.1		0.345	0.854	0.854	0.512
23478-PeCDF	17.4	PR	0.358	8.7	8.7	5.22
123478-HxCDF	35.1		0.419	3.51	3.51	3.51
123678-HxCDF	12.7		0.412	1.27	1.27	1.27
234678-HxCDF	12.7		0.46	1.27	1.27	1.27
123789-HxCDF	(0.533)		0.533	(0.0533)	(0.0533)	(0.0533)
1234678-HpCDF	88.4		0.246	0.884	0.884	0.884
1234789-HpCDF	13.2		0.348	0.132	0.132	0.132
OCDF	113		0.475	0.113	0.0113	0.034

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TEQ Summaries			
EMPC = 0, ND = 0	185	183	180
EMPC = 0, ND = DL / 2	185	183	180
EMPC = 0, ND = DL	185	183	180
EMPC = 0, < J-level = 0	185	183	180
EMPC = EMPC, ND = 0	185	183	180
EMPC = EMPC, ND = DL / 2	185	183	180
EMPC = EMPC, ND = DL	185	183	180
EMPC = EMPC, < J-level = 0	185	183	180

Checkcode: 946-376-RXM

Sample ID: 11215131-020422-S-SB-SW-S-47 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.22 g	Lab Sample ID	B6290_18916_DF_002	Date Extracted:	09-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	81.0 %	QC Batch No:	18916	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:00:56

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1.43				ES 2378-TCDD	85.2	
12378-PeCDD	ND	0.144			ES 12378-PeCDD	91.7	
123478-HxCDD	0.509			J	ES 123478-HxCDD	86.3	
123678-HxCDD	EMPC		0.919	J	ES 123678-HxCDD	92.6	
123789-HxCDD	EMPC		0.775	J	ES 123789-HxCDD	85.2	
1234678-HpCDD	29.5				ES 1234678-HpCDD	89.4	
OCDD	417				ES OCDD	87	
2378-TCDF	3.84				ES 2378-TCDF	80.3	
12378-PeCDF	EMPC		0.261	J	ES 12378-PeCDF	91.7	
23478-PeCDF	EMPC		0.346	J	ES 23478-PeCDF	87.8	
123478-HxCDF	0.453			J	ES 123478-HxCDF	88.3	
123678-HxCDF	EMPC		0.222	J	ES 123678-HxCDF	97.9	
234678-HxCDF	0.296			J	ES 234678-HxCDF	105	
123789-HxCDF	ND	0.117			ES 123789-HxCDF	88.5	
1234678-HpCDF	2.77				ES 1234678-HpCDF	98.5	
1234789-HpCDF	EMPC		0.255	J	ES 1234789-HpCDF	88.4	
OCDF	7.71				ES OCDF	86.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	84.7	
Total TCDD	2.74		2.89		CS 12347-PeCDD	101	
Total PeCDD	0.946		1.77		CS 12346-PeCDF	95.2	
Total HxCDD	16.4		18.4		CS 123469-HxCDF	103	
Total HpCDD	97.2		97.2		CS 1234689-HpCDF	104	
Total TCDF	9.38		11				
Total PeCDF	0.837		2.18				
Total HxCDF	2.73		3.42				
Total HpCDF	7.67		7.93				
Total PCDD/Fs	**562**		**569**				
WHO-2005 TEQs							
TEQ: ND=0	2.39		2.7				
TEQ: ND=DL/2	2.47	0.238	2.78				
TEQ: ND=DL	2.55	0.477	2.85				

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Sample ID: 11215131-020422-S-SB-SW-S-47 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.22 g	Lab Sample ID:	B6290_18916_DF_002	Date Extracted:	09-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	81.0 %	QC Batch No.:	18916	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:00:56

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[0.148]	J	12479/12468D	[0.404]	J	124679/124689D	9.68		1234679D	67.6	
1379D	(0.167)		12469D	0.946	J	123468D	0.73	J	1234678D	29.5	
1369D	(0.167)		12368D	(0.144)		123679/123689D	4.58				
1469D	1.31		12478D	(0.144)		123469D	0.917	J			
1247D...[4]	(0.167)		12379D	(0.144)		123478D	0.509	J			
1378D	(0.167)		12369D...[3]	[0.421]	J	123678D	[0.919]	J			
1268D	(0.167)		12346/12347D	(0.144)		123467D	[0.327]	J			
1478D	(0.167)		12378D	(0.144)		123789D	[0.775]	J	**Conc.**	97.2	
1279D	(0.167)		12367D	(0.144)					**EMPC**	97.2	
1234/1269D	(0.167)		12389D	(0.144)							
1236D	(0.167)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.167)										
1239D	(0.167)								OCDD	417	
2378D	1.43										
1278D	(0.167)										
1267D	(0.167)										
1289D	(0.167)										
Conc.	2.74		**Conc.**	0.946		**Conc.**	16.4				
EMPC	2.89		**EMPC**	1.77		**EMPC**	18.4				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	2.39	2.7
TEQ: ND=DL/2	2.47	2.78
TEQ: ND=DL	2.55	2.85

	Conc.	EMPC
Total PCDD/Fs	562	569

Checkcode: 491-714-SXS

Report Created: 14-Feb-2022 10:42 Analyst: gd

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Sample ID: 11215131-020422-S-SB-SW-S-47 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received: 08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.22 g	Lab Sample ID:	B6290_18916_DF_002	Date Extracted: 09-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	81.0 %	QC Batch No.:	18916	Date Analyzed: 11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed: 20:00:56

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.112)		13468/12468F	[0.735]	J	123468F	[0.393]	J	1234678F	2.77	
1468F	0.146	J	13678F...[3]	0.277	J	124678/134678F	1.11	J	1234679F	(0.135)	
2468F	0.476	J	12368F...[3]	0.56	J	134679F	(0.108)		1234689F	4.9	
1346/1246F	(0.112)		14678F	(0.131)		124679F	(0.108)		1234789F	[0.255]	J
1347F...[3]	0.392	J	13479F	(0.131)		124689F	0.868	J			
1348F	(0.112)		13469/12479F	(0.131)		123467F	[0.0781]	J			
1248F...[3]	[0.288]	J	12346F	(0.131)		123478F	0.453	J			
1268F	[0.268]	J	23468/12469F	(0.131)		123678F	[0.222]	J			
1467F	(0.112)		12347F	(0.131)		123479F	(0.108)				
1478F	0.387	J	12348F	(0.131)		123469F	(0.108)				
1369/1237F	0.296	J	12378F	[0.261]	J	123679F	(0.108)				
2467F	[0.0914]	J	12678/12367F	(0.131)		234678F	0.296	J	**Conc.**	7.67	
2368F	[0.26]	J	12379F	(0.131)		234678/123689F	0		**EMPC**	7.93	
1238F...[5]	0.892		12679F	(0.131)		123689F	(0.108)				
1278F	1.78		23467/12369F	(0.131)		123789F	(0.117)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.112)		23478F	[0.346]	J	123789/123489F	0			**(pg/g)**	
1267F	0.234	J	23478/12489F	0		123489F	(0.108)		OCDF	7.71	
2346/1249F	(0.112)		12489F	(0.131)							
2347/1279F	[0.192]	J	12349F	(0.131)							
2348F	0.239	J	12389F	(0.131)							
2378F	3.84										
2367/3467F	0.691										
1269F	(0.112)										
1239F	(0.112)										
1289F	[0.518]										
Conc.	9.38		**Conc.**	0.837		**Conc.**	2.73				
EMPC	11		**EMPC**	2.18		**EMPC**	3.42				

Checkcode: 491-714-SXS

Report Created: 14-Feb-2022 10:42 Analyst: gd

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Sample ID: 11215131-020422-S-SB-SW-S-47 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6290_18916_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.22 g	QC Batch No.:	18916
Date Collected:	04-Feb-2022	Split:	-	Date Extracted:	09-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	11-Feb-2022 20:00
Lab Project No:	B6290	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1.43		0.167	1.43	1.43	1.43
12378-PeCDD	(0.144)		0.144	(0.072)	(0.144)	(0.144)
123478-HxCDD	0.509	J	0.217	0.0509	0.0509	0.0509
123678-HxCDD	[0.919]	J	0.201	[0.0919]	[0.0919]	[0.0919]
123789-HxCDD	[0.775]	J	0.202	[0.0775]	[0.0775]	[0.0775]
1234678-HpCDD	29.5		0.219	0.295	0.295	0.295
OCDD	417		0.691	0.417	0.0417	0.125
2378-TCDF	3.84		0.112	0.384	0.384	0.384
12378-PeCDF	[0.261]	J	0.129	[0.013]	[0.013]	[0.00782]
23478-PeCDF	[0.346]	J	0.133	[0.173]	[0.173]	[0.104]
123478-HxCDF	0.453	J	0.11	0.0453	0.0453	0.0453
123678-HxCDF	[0.222]	J	0.108	[0.0222]	[0.0222]	[0.0222]
234678-HxCDF	0.296	J	0.0995	0.0296	0.0296	0.0296
123789-HxCDF	(0.117)		0.117	(0.0117)	(0.0117)	(0.0117)
1234678-HpCDF	2.77		0.111	0.0277	0.0277	0.0277
1234789-HpCDF	[0.255]	J	0.165	[0.00255]	[0.00255]	[0.00255]
OCDF	7.71		0.281	0.00771	0.000771	0.00231

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TEQ Summaries			
EMPC = 0, ND = 0	2.69	2.31	2.39
EMPC = 0, ND = DL / 2	2.73	2.38	2.47
EMPC = 0, ND = DL	2.77	2.46	2.55
EMPC = 0, < J-level = 0	2.56	2.18	2.27
EMPC = EMPC, ND = 0	3.07	2.69	2.7
EMPC = EMPC, ND = DL / 2	3.11	2.76	2.78
EMPC = EMPC, ND = DL	3.15	2.84	2.85
EMPC = EMPC, < J-level = 0	2.56	2.18	2.27

Checkcode: 491-714-SXS

Sample ID: 11215131-020522-S-SB-SW-S-51 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.13 g	Lab Sample ID	B6290_18916_DF_003	Date Extracted:	09-Feb-2022
Date Collected:	05-Feb-2022	% Solid:	78.8 %	QC Batch No:	18916	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:47:17

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	12.2				ES 2378-TCDD	88.6	
12378-PeCDD	EMPC		0.309	J	ES 12378-PeCDD	96.3	
123478-HxCDD	ND	0.416			ES 123478-HxCDD	91.4	
123678-HxCDD	0.773			J	ES 123678-HxCDD	101	
123789-HxCDD	1.01			J	ES 123789-HxCDD	91	
1234678-HpCDD	20.9				ES 1234678-HpCDD	91.6	
OCDD	349				ES OCDD	91.5	
2378-TCDF	31.7				ES 2378-TCDF	80.8	
12378-PeCDF	EMPC		0.981	J	ES 12378-PeCDF	90.9	
23478-PeCDF	1.24			J	ES 23478-PeCDF	88.1	
123478-HxCDF	1.59			J	ES 123478-HxCDF	94.8	
123678-HxCDF	EMPC		0.45	J	ES 123678-HxCDF	109	
234678-HxCDF	ND	0.176			ES 234678-HxCDF	109	
123789-HxCDF	ND	0.208			ES 123789-HxCDF	90.6	
1234678-HpCDF	1.33			J	ES 1234678-HpCDF	108	
1234789-HpCDF	ND	0.211			ES 1234789-HpCDF	88.2	
OCDF	2.65			J	ES OCDF	83.5	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	88	
Total TCDD	16.7		18.8		CS 12347-PeCDD	102	
Total PeCDD	7.47		8.01		CS 12346-PeCDF	98.8	
Total HxCDD	42.8		43.4		CS 123469-HxCDF	108	
Total HpCDD	77.3		77.3		CS 1234689-HpCDF	103	
Total TCDF	66.6		67.4				
Total PeCDF	4.6		5.58				
Total HxCDF	3.56		4.83				
Total HpCDF	1.33		2.52				
Total PCDD/Fs	**573**		**580**				
WHO-2005 TEQs							
TEQ: ND=0	16.4		16.7				
TEQ: ND=DL/2	16.4	0.355	16.8				
TEQ: ND=DL	16.4	0.71	16.8				

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Sample ID: 11215131-020522-S-SB-SW-S-51 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.13 g	Lab Sample ID:	B6290_18916_DF_003	Date Extracted:	09-Feb-2022
Date Collected:	05-Feb-2022	% Solid:	78.8 %	QC Batch No.:	18916	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:47:17

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[0.189]	J	12479/12468D	0.821	J	124679/124689D	35.7		1234679D	56.4	
1379D	(0.229)		12469D	5.39		123468D	(0.4)		1234678D	20.9	
1369D	(0.229)		12368D	(0.215)		123679/123689D	4.86				
1469D	4.58		12478D	[0.238]	J	123469D	[0.55]	J			
1247D...[4]	(0.229)		12379D	(0.215)		123478D	(0.416)				
1378D	(0.229)		12369D...[3]	1.25	J	123678D	0.773	J			
1268D	(0.229)		12346/12347D	(0.215)		123467D	0.481	J			
1478D	(0.229)		12378D	[0.309]	J	123789D	1.01	J	**Conc.**	77.3	
1279D	(0.229)		12367D	(0.215)					**EMPC**	77.3	
1234/1269D	[0.687]		12389D	(0.215)							
1236D	(0.229)								**Octa-Dioxin**	**Conc**	**Qualifiers**
1237/1238D	(0.229)									**(pg/g)**	
1239D	(0.229)								OCDD	349	
2378D	12.2										
1278D	[1.22]										
1267D	(0.229)										
1289D	(0.229)										
Conc.	16.7		**Conc.**	7.47		**Conc.**	42.8				
EMPC	18.8		**EMPC**	8.01		**EMPC**	43.4				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	16.4	16.7
TEQ: ND=DL/2	16.4	16.8
TEQ: ND=DL	16.4	16.8

	Conc.	EMPC
Total PCDD/Fs	573	580

Checkcode: 714-903-PHJ

Report Created: 14-Feb-2022 10:42 Analyst: gd

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Sample ID: 11215131-020522-S-SB-SW-S-51 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received: 08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.13 g	Lab Sample ID:	B6290_18916_DF_003	Date Extracted: 09-Feb-2022
Date Collected:	05-Feb-2022	% Solid:	78.8 %	QC Batch No.:	18916	Date Analyzed: 11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed: 20:47:17

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.144)		13468/12468F	1.77	J	123468F	0.457	J	1234678F	1.33	J
1468F	(0.144)		13678F...[3]	(0.157)		124678/134678F	1.51	J	1234679F	(0.166)	
2468F	0.492	J	12368F...[3]	1.17	J	134679F	(0.181)		1234689F	[1.19]	J
1346/1246F	(0.144)		14678F	(0.157)		124679F	(0.181)		1234789F	(0.211)	
1347F...[3]	[0.28]	J	13479F	(0.157)		124689F	[0.82]	J			
1348F	[0.14]	J	13469/12479F	(0.157)		123467F	(0.181)				
1248F...[3]	1.65		12346F	(0.157)		123478F	1.59	J			
1268F	0.64		23468/12469F	(0.157)		123678F	[0.45]	J			
1467F	(0.144)		12347F	(0.157)		123479F	(0.181)				
1478F	1.72		12348F	(0.157)		123469F	(0.181)				
1369/1237F	0.578		12378F	[0.981]	J	123679F	(0.181)				
2467F	(0.144)		12678/12367F	0.411	J	234678F	(0.176)		**Conc.**	1.33	
2368F	3.14		12379F	(0.157)		234678/123689F	0		**EMPC**	2.52	
1238F...[5]	(0.144)		12679F	(0.157)		123689F	(0.181)				
1278F	16.3		23467/12369F	(0.157)		123789F	(0.208)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.144)		23478F	1.24	J	123789/123489F	0				
1267F	0.967		23478/12489F	0		123489F	(0.181)		OCDF	2.65	J
2346/1249F	(0.144)		12489F	(0.157)							
2347/1279F	[0.364]	J	12349F	(0.157)							
2348F	3.06		12389F	(0.157)							
2378F	31.7										
2367/3467F	2.78										
1269F	0.618										
1239F	(0.144)										
1289F	2.96										
Conc.	66.6		**Conc.**	4.6		**Conc.**	3.56				
EMPC	67.4		**EMPC**	5.58		**EMPC**	4.83				

Checkcode: 714-903-PHJ

Report Created: 14-Feb-2022 10:42 Analyst: gd

Sample ID: 11215131-020522-S-SB-SW-S-51 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6290_18916_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.13 g	QC Batch No.:	18916
Date Collected:	05-Feb-2022	Split:	-	Date Extracted:	09-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	11-Feb-2022 20:47
Lab Project No:	B6290	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	12.2		0.229	12.2	12.2	12.2
12378-PeCDD	[0.309]	J	0.215	[0.154]	[0.309]	[0.309]
123478-HxCDD	(0.416)		0.416	(0.0416)	(0.0416)	(0.0416)
123678-HxCDD	0.773	J	0.391	0.0773	0.0773	0.0773
123789-HxCDD	1.01	J	0.396	0.101	0.101	0.101
1234678-HpCDD	20.9		0.198	0.209	0.209	0.209
OCDD	349		0.678	0.349	0.0349	0.105
2378-TCDF	31.7		0.144	3.17	3.17	3.17
12378-PeCDF	[0.981]	J	0.155	[0.049]	[0.049]	[0.0294]
23478-PeCDF	1.24	J	0.159	0.621	0.621	0.373
123478-HxCDF	1.59	J	0.186	0.159	0.159	0.159
123678-HxCDF	[0.45]	J	0.162	[0.045]	[0.045]	[0.045]
234678-HxCDF	(0.176)		0.176	(0.0176)	(0.0176)	(0.0176)
123789-HxCDF	(0.208)		0.208	(0.0208)	(0.0208)	(0.0208)
1234678-HpCDF	1.33	J	0.134	0.0133	0.0133	0.0133
1234789-HpCDF	(0.211)		0.211	(0.00211)	(0.00211)	(0.00211)
OCDF	2.65	J	0.516	0.00265	0.000265	0.000795

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TEQ Summaries			
EMPC = 0, ND = 0	16.9	16.5	16.4
EMPC = 0, ND = DL / 2	16.9	16.6	16.4
EMPC = 0, ND = DL	16.9	16.6	16.4
EMPC = 0, < J-level = 0	15.9	15.6	15.6
EMPC = EMPC, ND = 0	17.1	16.9	16.7
EMPC = EMPC, ND = DL / 2	17.1	17	16.8
EMPC = EMPC, ND = DL	17.2	17	16.8
EMPC = EMPC, < J-level = 0	15.9	15.6	15.6

Checkcode: 714-903-PHJ

Sample ID: 11215131-020522-S-SB-SW-S-52 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID	B6290_18916_DF_004	Date Extracted:	09-Feb-2022
Date Collected:	05-Feb-2022	% Solid:	81.6 %	QC Batch No:	18916	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:33:38

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	63.1				ES 2378-TCDD	84.9	
12378-PeCDD	EMPC		0.8	J	ES 12378-PeCDD	93.7	
123478-HxCDD	0.578			J	ES 123478-HxCDD	90.5	
123678-HxCDD	1.16			J	ES 123678-HxCDD	94.9	
123789-HxCDD	1.75			J	ES 123789-HxCDD	85.5	
1234678-HpCDD	37.3				ES 1234678-HpCDD	83.8	
OCDD	756				ES OCDD	78.8	
2378-TCDF	165				ES 2378-TCDF	79.8	
12378-PeCDF	5.75				ES 12378-PeCDF	98	
23478-PeCDF	4.83			PR	ES 23478-PeCDF	90.9	
123478-HxCDF	7.95				ES 123478-HxCDF	91	
123678-HxCDF	2.08			J	ES 123678-HxCDF	112	
234678-HxCDF	0.7			J	ES 234678-HxCDF	103	
123789-HxCDF	ND	0.147			ES 123789-HxCDF	89.2	
1234678-HpCDF	EMPC		2.64		ES 1234678-HpCDF	96.3	
1234789-HpCDF	EMPC		0.686	J	ES 1234789-HpCDF	83.8	
OCDF	4.45			J	ES OCDF	78.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	86.1	
Total TCDD	81.6		81.6		CS 12347-PeCDD	101	
Total PeCDD	10.5		12.4		CS 12346-PeCDF	106	
Total HxCDD	59.7		59.7		CS 123469-HxCDF	105	
Total HpCDD	113		113		CS 1234689-HpCDF	101	
Total TCDF	345		349				
Total PeCDF	17.1		17.8				
Total HxCDF	13.1		14				
Total HpCDF	2.58		5.91				
Total PCDD/Fs	**1,400**		**1,410**				
WHO-2005 TEQs							
TEQ: ND=0	83.2		84				
TEQ: ND=DL/2	83.2	0.287	84				
TEQ: ND=DL	83.2	0.574	84.1				

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Sample ID: 11215131-020522-S-SB-SW-S-52 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID:	B6290_18916_DF_004	Date Extracted:	09-Feb-2022
Date Collected:	05-Feb-2022	% Solid:	81.6 %	QC Batch No.:	18916	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:33:38

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	0.919		12479/12468D	1.63	J	124679/124689D	44.9		1234679D	75.5	
1379D	0.945		12469D	6.95		123468D	1.11	J	1234678D	37.3	
1369D	(0.206)		12368D	[0.341]	J	123679/123689D	8.33				
1469D	6.64		12478D	[0.301]	J	123469D	1.06	J			
1247D...[4]	0.503		12379D	[0.505]	J	123478D	0.578	J			
1378D	0.53		12369D...[3]	1.92	J	123678D	1.16	J			
1268D	(0.206)		12346/12347D	(0.192)		123467D	0.857	J			
1478D	(0.206)		12378D	[0.8]	J	123789D	1.75	J	**Conc.**	113	
1279D	(0.206)		12367D	(0.192)					**EMPC**	113	
1234/1269D	1.11		12389D	(0.192)							
1236D	(0.206)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	1.16										
1239D	(0.206)								OCDD	756	
2378D	63.1										
1278D	6.33										
1267D	(0.206)										
1289D	0.402	J									
Conc.	81.6		**Conc.**	10.5		**Conc.**	59.7				
EMPC	81.6		**EMPC**	12.4		**EMPC**	59.7				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	83.2	84
TEQ: ND=DL/2	83.2	84
TEQ: ND=DL	83.2	84.1

	Conc.	EMPC
Total PCDD/Fs	1,400	1,410

Checkcode: 723-933-VKP

Report Created: 14-Feb-2022 10:42 Analyst: gd

Sample ID: 11215131-020522-S-SB-SW-S-52 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received: 08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID:	B6290_18916_DF_004	Date Extracted: 09-Feb-2022
Date Collected:	05-Feb-2022	% Solid:	81.6 %	QC Batch No.:	18916	Date Analyzed: 11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed: 21:33:38

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[0.326]	J	13468/12468F	(0.103)		123468F	[0.19]	J	1234678F	[2.64]	
1468F	0.28	J	13678F...[3]	[0.355]	J	124678/134678F	1.36	J	1234679F	(0.184)	
2468F	[0.532]		12368F...[3]	3.34		134679F	(0.124)		1234689F	2.58	
1346/1246F	[0.289]	J	14678F	(0.134)		124679F	(0.124)		1234789F	[0.686]	J
1347F...[3]	3.25		13479F	0.18	J	124689F	1.01	J			
1348F	1.18		13469/12479F	(0.134)		123467F	(0.124)				
1248F...[3]	9.09		12346F	(0.134)		123478F	7.95				
1268F	3.38		23468/12469F	0.371	J	123678F	2.08	J			
1467F	0.478	J	12347F	(0.134)		123479F	(0.124)				
1478F	7.56		12348F	0.774	J	123469F	(0.124)				
1369/1237F	[2.03]		12378F	5.75		123679F	(0.124)				
2467F	[0.411]	J	12678/12367F	1.83	J	234678F	0.7	J	**Conc.**	2.58	
2368F	5.7		12379F	(0.134)		234678/123689F	0		**EMPC**	5.91	
1238F...[5]	10.4		12679F	(0.134)		123689F	(0.124)				
1278F	84.2		23467/12369F	[0.113]	J	123789F	(0.147)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.12)		23478F	4.83	PR	123789/123489F	0				
1267F	4.82		23478/12489F	0		123489F	[0.726]	J	OCDF	4.45	J
2346/1249F	[0.641]		12489F	(0.134)							
2347/1279F	2.11		12349F	(0.134)							
2348F	15.5		12389F	[0.208]	J						
2378F	165										
2367/3467F	14.4										
1269F	2.7										
1239F	(0.12)										
1289F	15.1										
Conc.	345		**Conc.**	17.1		**Conc.**	13.1				
EMPC	349		**EMPC**	17.8		**EMPC**	14				

Checkcode: 723-933-VKP

Report Created: 14-Feb-2022 10:42 Analyst: gd

Sample ID: 11215131-020522-S-SB-SW-S-52 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6290_18916_DF_004
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	QC Batch No.:	18916
Date Collected:	05-Feb-2022	Split:	-	Date Extracted:	09-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	11-Feb-2022 21:33
Lab Project No:	B6290	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	63.1		0.206	63.1	63.1	63.1
12378-PeCDD	[0.8]	J	0.192	[0.4]	[0.8]	[0.8]
123478-HxCDD	0.578	J	0.223	0.0578	0.0578	0.0578
123678-HxCDD	1.16	J	0.198	0.116	0.116	0.116
123789-HxCDD	1.75	J	0.202	0.175	0.175	0.175
1234678-HpCDD	37.3		0.179	0.373	0.373	0.373
OCDD	756		0.564	0.756	0.0756	0.227
2378-TCDF	165		0.12	16.5	16.5	16.5
12378-PeCDF	5.75		0.13	0.287	0.287	0.172
23478-PeCDF	4.83	PR	0.139	2.42	2.42	1.45
123478-HxCDF	7.95		0.126	0.795	0.795	0.795
123678-HxCDF	2.08	J	0.107	0.208	0.208	0.208
234678-HxCDF	0.7	J	0.123	0.07	0.07	0.07
123789-HxCDF	(0.147)		0.147	(0.0147)	(0.0147)	(0.0147)
1234678-HpCDF	[2.64]		0.147	[0.0264]	[0.0264]	[0.0264]
1234789-HpCDF	[0.686]	J	0.233	[0.00686]	[0.00686]	[0.00686]
OCDF	4.45	J	0.379	0.00445	0.000445	0.00133

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TEQ Summaries			
EMPC = 0, ND = 0	84.8	84.1	83.2
EMPC = 0, ND = DL / 2	84.8	84.1	83.2
EMPC = 0, ND = DL	84.8	84.1	83.2
EMPC = 0, < J-level = 0	84.2	83.5	82.6
EMPC = EMPC, ND = 0	85.3	85	84
EMPC = EMPC, ND = DL / 2	85.3	85	84
EMPC = EMPC, ND = DL	85.3	85	84.1
EMPC = EMPC, < J-level = 0	84.2	83.5	82.6

Checkcode: 723-933-VKP

Sample ID: 11215131-020522-S-SB-SW-S-53 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID	B6290_18916_DF_005	Date Extracted:	09-Feb-2022
Date Collected:	05-Feb-2022	% Solid:	75.7 %	QC Batch No:	18916	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:19:58

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	346				ES 2378-TCDD	83.5	
12378-PeCDD	3.63				ES 12378-PeCDD	90	
123478-HxCDD	0.961			J	ES 123478-HxCDD	90.2	
123678-HxCDD	2.37			J	ES 123678-HxCDD	97.9	
123789-HxCDD	2.15			J	ES 123789-HxCDD	86.9	
1234678-HpCDD	78				ES 1234678-HpCDD	87.5	
OCDD	960				ES OCDD	84.3	
2378-TCDF	920				ES 2378-TCDF	83	
12378-PeCDF	34				ES 12378-PeCDF	88.8	
23478-PeCDF	28.8			PR	ES 23478-PeCDF	89.1	
123478-HxCDF	61.5				ES 123478-HxCDF	87.2	
123678-HxCDF	15.8				ES 123678-HxCDF	93	
234678-HxCDF	2.89				ES 234678-HxCDF	110	
123789-HxCDF	ND	0.237			ES 123789-HxCDF	85.7	
1234678-HpCDF	24.9				ES 1234678-HpCDF	97	
1234789-HpCDF	8.57				ES 1234789-HpCDF	87.4	
OCDF	21.7				ES OCDF	86.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	86.2	
Total TCDD	396		401		CS 12347-PeCDD	99.1	
Total PeCDD	12.4		13.3		CS 12346-PeCDF	93.7	
Total HxCDD	46.9		48.9		CS 123469-HxCDF	105	
Total HpCDD	222		222		CS 1234689-HpCDF	103	
Total TCDF	1,880		1,890				
Total PeCDF	98.7		99.5				
Total HxCDF	94.5		94.8				
Total HpCDF	47.2		47.2				
Total PCDD/Fs	**3,780**		**3,800**				
WHO-2005 TEQs							
TEQ: ND=0	462		462				
TEQ: ND=DL/2	462	0.32	462				
TEQ: ND=DL	462	0.64	462				

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Sample ID: 11215131-020522-S-SB-SW-S-53 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID:	B6290_18916_DF_005	Date Extracted:	09-Feb-2022
Date Collected:	05-Feb-2022	% Solid:	75.7 %	QC Batch No.:	18916	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:19:58

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	1.35		12479/12468D	1.32	J	124679/124689D	29.1		1234679D	144	
1379D	[0.711]		12469D	4.18		123468D	[1.24]	J	1234678D	78	
1369D	(0.241)		12368D	1.02	J	123679/123689D	10.7				
1469D	9.09		12478D	0.565	J	123469D	1.64	J			
1247D...[4]	0.874		12379D	[0.567]	J	123478D	0.961	J			
1378D	1.52		12369D...[3]	1.38	J	123678D	2.37	J			
1268D	(0.241)		12346/12347D	(0.163)		123467D	[0.741]	J			
1478D	[1.04]		12378D	3.63		123789D	2.15	J	**Conc.**	222	
1279D	(0.241)		12367D	[0.246]	J				**EMPC**	222	
1234/1269D	[1]		12389D	0.335	J						
1236D	(0.241)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	5.74										
1239D	(0.241)								OCDD	960	
2378D	346										
1278D	31.2										
1267D	[1.09]										
1289D	[0.763]										
Conc.	396		**Conc.**	12.4		**Conc.**	46.9				
EMPC	401		**EMPC**	13.3		**EMPC**	48.9				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	462	462
TEQ: ND=DL/2	462	462
TEQ: ND=DL	462	462

	Conc.	EMPC
Total PCDD/Fs	3,780	3,800

Checkcode: 518-755-PCZ

Report Created: 14-Feb-2022 10:42 Analyst: gd

Sample ID: 11215131-020522-S-SB-SW-S-53 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID:	B6290_18916_DF_005	Date Extracted:	09-Feb-2022
Date Collected:	05-Feb-2022	% Solid:	75.7 %	QC Batch No.:	18916	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:19:58

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[0.754]		13468/12468F	1.22	J	123468F	0.903	J	1234678F	24.9	
1468F	2.45		13678F...[3]	0.508	J	124678/134678F	6.1		1234679F	0.561	J
2468F	2.25		12368F...[3]	15.5		134679F	(0.213)		1234689F	13.2	
1346/1246F	1.29		14678F	0.38	J	124679F	(0.213)		1234789F	8.57	
1347F...[3]	11.9		13479F	(0.172)		124689F	3.27				
1348F	2.83		13469/12479F	(0.172)		123467F	[0.334]	J			
1248F...[3]	50		12346F	(0.172)		123478F	61.5				
1268F	17		23468/12469F	0.814	J	123678F	15.8				
1467F	[2.52]		12347F	[0.764]	J	123479F	(0.213)				
1478F	43.1		12348F	3.66		123469F	(0.213)				
1369/1237F	11.7		12378F	34		123679F	(0.213)				
2467F	1.19		12678/12367F	11.5		234678F	2.89		**Conc.**	47.2	
2368F	44.4		12379F	(0.172)		234678/123689F	0		**EMPC**	47.2	
1238F...[5]	39.3		12679F	(0.172)		123689F	(0.213)				
1278F	438		23467/12369F	0.693	J	123789F	(0.237)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.163)		23478F	28.8	PR	123789/123489F	0				
1267F	25.6		23478/12489F	0		123489F	4.02		OCDF	21.7	
2346/1249F	[3.64]		12489F	(0.172)							
2347/1279F	11.3		12349F	(0.172)							
2348F	83.9		12389F	1.59	J						
2378F	920										
2367/3467F	79.3										
1269F	17										
1239F	1.64										
1289F	78.1										
Conc.	1,880		**Conc.**	98.7		**Conc.**	94.5				
EMPC	1,890		**EMPC**	99.5		**EMPC**	94.8				

Checkcode: 518-755-PCZ

Report Created: 14-Feb-2022 10:42 Analyst: gd

Sample ID: 11215131-020522-S-SB-SW-S-53 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6290_18916_DF_005
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	QC Batch No.:	18916
Date Collected:	05-Feb-2022	Split:	-	Date Extracted:	09-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	11-Feb-2022 22:19
Lab Project No:	B6290	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	346		0.241	346	346	346
12378-PeCDD	3.63		0.163	1.82	3.63	3.63
123478-HxCDD	0.961	J	0.244	0.0961	0.0961	0.0961
123678-HxCDD	2.37	J	0.218	0.237	0.237	0.237
123789-HxCDD	2.15	J	0.233	0.215	0.215	0.215
1234678-HpCDD	78		0.373	0.78	0.78	0.78
OCDD	960		0.629	0.96	0.096	0.288
2378-TCDF	920		0.163	92	92	92
12378-PeCDF	34		0.175	1.7	1.7	1.02
23478-PeCDF	28.8	PR	0.17	14.4	14.4	8.65
123478-HxCDF	61.5		0.231	6.15	6.15	6.15
123678-HxCDF	15.8		0.214	1.58	1.58	1.58
234678-HxCDF	2.89		0.181	0.289	0.289	0.289
123789-HxCDF	(0.237)		0.237	(0.0237)	(0.0237)	(0.0237)
1234678-HpCDF	24.9		0.151	0.249	0.249	0.249
1234789-HpCDF	8.57		0.245	0.0857	0.0857	0.0857
OCDF	21.7		0.319	0.0217	0.00217	0.00651

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TEQ Summaries			
EMPC = 0, ND = 0	467	468	462
EMPC = 0, ND = DL / 2	467	468	462
EMPC = 0, ND = DL	467	468	462
EMPC = 0, < J-level = 0	466	467	461
EMPC = EMPC, ND = 0	467	468	462
EMPC = EMPC, ND = DL / 2	467	468	462
EMPC = EMPC, ND = DL	467	468	462
EMPC = EMPC, < J-level = 0	466	467	461

Checkcode: 518-755-PCZ

Sample ID: 11215131-020622-S-SB-SC-S-32 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.01 g	Lab Sample ID	B6290_18916_DF_006	Date Extracted:	09-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	73.5 %	QC Batch No:	18916	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:06:17

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	2,710			E	ES 2378-TCDD	70.8	
12378-PeCDD	39.1				ES 12378-PeCDD	74.4	
123478-HxCDD	15.9				ES 123478-HxCDD	71.9	
123678-HxCDD	120				ES 123678-HxCDD	76.2	
123789-HxCDD	82.1				ES 123789-HxCDD	71.3	
1234678-HpCDD	5,760			E	ES 1234678-HpCDD	74.2	
OCDD	63,300			E	ES OCDD	85.2	
2378-TCDF	7,180			E	ES 2378-TCDF	71.3	
12378-PeCDF	425				ES 12378-PeCDF	75.7	
23478-PeCDF	292				ES 23478-PeCDF	76.9	
123478-HxCDF	1,010				ES 123478-HxCDF	74.9	
123678-HxCDF	247				ES 123678-HxCDF	78.7	
234678-HxCDF	88.1				ES 234678-HxCDF	78.6	
123789-HxCDF	ND	0.68			ES 123789-HxCDF	73	
1234678-HpCDF	563				ES 1234678-HpCDF	74.1	
1234789-HpCDF	174				ES 1234789-HpCDF	72.7	
OCDF	1,780				ES OCDF	78.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	72.4	
Total TCDD	3,030		3,040		CS 12347-PeCDD	81.1	
Total PeCDD	151		163		CS 12346-PeCDF	82.5	
Total HxCDD	1,260		1,260		CS 123469-HxCDF	83.1	
Total HpCDD	10,900		10,900		CS 1234689-HpCDF	81.5	
Total TCDF	14,400		14,400				
Total PeCDF	1,330		1,330				
Total HxCDF	1,970		1,970				
Total HpCDF	1,440		1,440				
Total PCDD/Fs	**99,500**		**99,500**				
WHO-2005 TEQs							
TEQ: ND=0	3810		3810				
TEQ: ND=DL/2	3810	0.617	3810				
TEQ: ND=DL	3810	1.23	3810				

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Sample ID: 11215131-020622-S-SB-SC-S-32 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.01 g	Lab Sample ID:	B6290_18916_DF_006	Date Extracted:	09-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	73.5 %	QC Batch No.:	18916	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:06:17

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	16.1		12479/12468D	35.1		124679/124689D	433		1234679D	5090	E
1379D	8.7		12469D	[11.4]		123468D	37.8		1234678D	5760	E
1369D	2.62		12368D	15.2		123679/123689D	540				
1469D	3.27		12478D	16.5		123469D	17.2				
1247D...[4]	[9.02]		12379D	10.7		123478D	15.9				
1378D	12.6		12369D...[3]	14.1		123678D	120				
1268D	[2.13]		12346/12347D	9.63		123467D	15.3				
1478D	8.12		12378D	39.1		123789D	82.1		**Conc.**	10,900	
1279D	2.25		12367D	3.92					**EMPC**	10,900	
1234/1269D	5.06		12389D	6.9							
1236D	[1.25]								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	45.9										
1239D	(0.294)								OCDD	63300	E
2378D	2710	E									
1278D	201										
1267D	7.07										
1289D	6.03										
Conc.	3,030		**Conc.**	151		**Conc.**	1,260				
EMPC	3,040		**EMPC**	163		**EMPC**	1,260				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	3,810	3,810
TEQ: ND=DL/2	3,810	3,810
TEQ: ND=DL	3,810	3,810

	Conc.	EMPC
Total PCDD/Fs	99,500	99,500

Checkcode: 781-199-ZQW

Report Created: 14-Feb-2022 10:42 Analyst: gd

Sample ID: 11215131-020622-S-SB-SC-S-32 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.01 g	Lab Sample ID:	B6290_18916_DF_006	Date Extracted:	09-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	73.5 %	QC Batch No.:	18916	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:06:17

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	6.47		13468/12468F	51.6		123468F	39.8		1234678F	563	
1468F	17.5		13678F...[3]	27.3		124678/134678F	229		1234679F	33	
2468F	18		12368F...[3]	263		134679F	3.31		1234689F	666	
1346/1246F	16.5		14678F	9.44		124679F	12.5		1234789F	174	
1347F...[3]	104		13479F	2.14	J	124689F	222				
1348F	40.5		13469/12479F	3.94		123467F	21.2				
1248F...[3]	352		12346F	4.69		123478F	1010				
1268F	128		23468/12469F	18.1		123678F	247				
1467F	23		12347F	15.8		123479F	6.99				
1478F	320		12348F	38.4		123469F	7.48				
1369/1237F	85.3		12378F	425		123679F	6.04				
2467F	12.6		12678/12367F	139		234678F	88.1		**Conc.**	1,440	
2368F	230		12379F	2.1	J	234678/123689F	0		**EMPC**	1,440	
1238F...[5]	355		12679F	2.55		123689F	(0.62)				
1278F	3440	E	23467/12369F	14.4		123789F	(0.68)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.19)		23478F	292		123789/123489F	0				
1267F	195		23478/12489F	0		123489F	83.1		OCDF	1780	
2346/1249F	25.3		12489F	(0.414)							
2347/1279F	97.7		12349F	2.22	J						
2348F	507		12389F	13.9							
2378F	7180	E									
2367/3467F	600										
1269F	118										
1239F	9.84										
1289F	537										
Conc.	14,400		**Conc.**	1,330		**Conc.**	1,970				
EMPC	14,400		**EMPC**	1,330		**EMPC**	1,970				

Checkcode: 781-199-ZQW

Report Created: 14-Feb-2022 10:42 Analyst: gd

Sample ID: 11215131-020622-S-SB-SC-S-32 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6290_18916_DF_006
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.01 g	QC Batch No.:	18916
Date Collected:	06-Feb-2022	Split:	-	Date Extracted:	09-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	11-Feb-2022 23:06
Lab Project No:	B6290	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	2710	E	0.294	2710	2710	2710
12378-PeCDD	39.1		0.342	19.6	39.1	39.1
123478-HxCDD	15.9		0.609	1.59	1.59	1.59
123678-HxCDD	120		0.533	12	12	12
123789-HxCDD	82.1		0.564	8.21	8.21	8.21
1234678-HpCDD	5760	E	0.521	57.6	57.6	57.6
OCDD	63300	E	0.632	63.3	6.33	19
2378-TCDF	7180	E	0.19	718	718	718
12378-PeCDF	425		0.405	21.3	21.3	12.8
23478-PeCDF	292		0.422	146	146	87.7
123478-HxCDF	1010		0.582	101	101	101
123678-HxCDF	247		0.613	24.7	24.7	24.7
234678-HxCDF	88.1		0.617	8.81	8.81	8.81
123789-HxCDF	(0.68)		0.68	(0.068)	(0.068)	(0.068)
1234678-HpCDF	563		0.681	5.63	5.63	5.63
1234789-HpCDF	174		0.818	1.74	1.74	1.74
OCDF	1780		0.507	1.78	0.178	0.534

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TEQ Summaries			
EMPC = 0, ND = 0	3910	3870	3810
EMPC = 0, ND = DL / 2	3910	3870	3810
EMPC = 0, ND = DL	3910	3870	3810
EMPC = 0, < J-level = 0	3910	3870	3810
EMPC = EMPC, ND = 0	3910	3870	3810
EMPC = EMPC, ND = DL / 2	3910	3870	3810
EMPC = EMPC, ND = DL	3910	3870	3810
EMPC = EMPC, < J-level = 0	3910	3870	3810

Checkcode: 781-199-ZQW

Sample ID: 11215131-020622-S-SB-SC-S-30 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.24 g	Lab Sample ID	B6290_18916_DF_007	Date Extracted:	09-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	81.1 %	QC Batch No:	18916	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:52:38

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	33.9				ES 2378-TCDD	82.7	
12378-PeCDD	0.601			J	ES 12378-PeCDD	98.3	
123478-HxCDD	ND	0.484			ES 123478-HxCDD	83.2	
123678-HxCDD	0.811			J	ES 123678-HxCDD	90.6	
123789-HxCDD	1.16			J	ES 123789-HxCDD	82.1	
1234678-HpCDD	28.4				ES 1234678-HpCDD	86.5	
OCDD	454				ES OCDD	77.1	
2378-TCDF	90.8				ES 2378-TCDF	76.2	
12378-PeCDF	3.82				ES 12378-PeCDF	89.7	
23478-PeCDF	3.04			PR	ES 23478-PeCDF	89.7	
123478-HxCDF	7.14				ES 123478-HxCDF	88.5	
123678-HxCDF	2.03			J	ES 123678-HxCDF	95.1	
234678-HxCDF	0.406			J	ES 234678-HxCDF	103	
123789-HxCDF	ND	0.328			ES 123789-HxCDF	85.8	
1234678-HpCDF	4.04				ES 1234678-HpCDF	91.7	
1234789-HpCDF	0.827			J	ES 1234789-HpCDF	85.6	
OCDF	7.87				ES OCDF	83.1	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	86.2	
Total TCDD	38.6		38.6		CS 12347-PeCDD	109	
Total PeCDD	3		3		CS 12346-PeCDF	97.4	
Total HxCDD	19.6		20		CS 123469-HxCDF	101	
Total HpCDD	79.7		79.7		CS 1234689-HpCDF	98	
Total TCDF	181		185				
Total PeCDF	9.93		9.93				
Total HxCDF	12.4		12.8				
Total HpCDF	9.75		9.75				
Total PCDD/Fs	**816**		**821**				
WHO-2005 TEQs							
TEQ: ND=0	46.2		46.2				
TEQ: ND=DL/2	46.3	0.521	46.3				
TEQ: ND=DL	46.3	1.04	46.3				

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Sample ID: 11215131-020622-S-SB-SC-S-30 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.24 g	Lab Sample ID:	B6290_18916_DF_007	Date Extracted:	09-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	81.1 %	QC Batch No.:	18916	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:52:38

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.29)		12479/12468D	(0.381)		124679/124689D	12.8		1234679D	51.2	
1379D	(0.29)		12469D	1.56	J	123468D	0.392	J	1234678D	28.4	
1369D	(0.29)		12368D	(0.381)		123679/123689D	4.42				
1469D	2.24		12478D	(0.381)		123469D	[0.429]	J			
1247D...[4]	(0.29)		12379D	(0.381)		123478D	(0.484)				
1378D	(0.29)		12369D...[3]	0.839	J	123678D	0.811	J			
1268D	(0.29)		12346/12347D	(0.381)		123467D	(0.455)				
1478D	(0.29)		12378D	0.601	J	123789D	1.16	J	**Conc.**	79.7	
1279D	(0.29)		12367D	(0.381)					**EMPC**	79.7	
1234/1269D	(0.29)		12389D	(0.381)							
1236D	(0.29)								**Octa-Dioxin**	**Conc**	**Qualifiers**
1237/1238D	(0.29)									**(pg/g)**	
1239D	(0.29)								OCDD	454	
2378D	33.9										
1278D	2.41										
1267D	(0.29)										
1289D	(0.29)										
Conc.	38.6		**Conc.**	3		**Conc.**	19.6				
EMPC	38.6		**EMPC**	3		**EMPC**	20				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	46.2	46.2
TEQ: ND=DL/2	46.3	46.3
TEQ: ND=DL	46.3	46.3

	Conc.	EMPC
Total PCDD/Fs	816	821

Checkcode: 243-651-WVT

Report Created: 14-Feb-2022 10:42 Analyst: gd

Sample ID: 11215131-020622-S-SB-SC-S-30 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received: 08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.24 g	Lab Sample ID:	B6290_18916_DF_007	Date Extracted: 09-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	81.1 %	QC Batch No.:	18916	Date Analyzed: 11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed: 23:52:38

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.236)		13468/12468F	(0.179)		123468F	(0.273)		1234678F	4.04	
1468F	(0.236)		13678F...[3]	(0.26)		124678/134678F	1.38	J	1234679F	(0.256)	
2468F	[0.29]	J	12368F...[3]	1.96	J	134679F	(0.273)		1234689F	4.89	
1346/1246F	(0.236)		14678F	(0.26)		124679F	(0.273)		1234789F	0.827	J
1347F...[3]	[1.2]		13479F	(0.26)		124689F	1.46	J			
1348F	0.428	J	13469/12479F	(0.26)		123467F	(0.273)				
1248F...[3]	4.1		12346F	(0.26)		123478F	7.14				
1268F	[1.08]		23468/12469F	(0.26)		123678F	2.03	J			
1467F	(0.236)		12347F	(0.26)		123479F	(0.273)				
1478F	3.55		12348F	(0.26)		123469F	(0.273)				
1369/1237F	0.994		12378F	3.82		123679F	(0.273)				
2467F	(0.236)		12678/12367F	1.11	J	234678F	0.406	J	**Conc.**	9.75	
2368F	3.11		12379F	(0.26)		234678/123689F	0		**EMPC**	9.75	
1238F...[5]	7.07		12679F	(0.26)		123689F	(0.273)				
1278F	42.4		23467/12369F	(0.26)		123789F	(0.328)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.236)		23478F	3.04	PR	123789/123489F	0				
1267F	2.28		23478/12489F	0		123489F	[0.387]	J	OCDF	7.87	
2346/1249F	(0.236)		12489F	(0.26)							
2347/1279F	[0.953]		12349F	(0.26)							
2348F	4.51		12389F	(0.26)							
2378F	90.8										
2367/3467F	7.57										
1269F	5.3										
1239F	(0.236)										
1289F	9.24										
Conc.	181		**Conc.**	9.93		**Conc.**	12.4				
EMPC	185		**EMPC**	9.93		**EMPC**	12.8				

Checkcode: 243-651-WVT

Report Created: 14-Feb-2022 10:42 Analyst: gd

Sample ID: 11215131-020622-S-SB-SC-S-30 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6290_18916_DF_007
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.24 g	QC Batch No.:	18916
Date Collected:	06-Feb-2022	Split:	-	Date Extracted:	09-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	11-Feb-2022 23:52
Lab Project No:	B6290	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	33.9		0.29	33.9	33.9	33.9
12378-PeCDD	0.601	J	0.381	0.3	0.601	0.601
123478-HxCDD	(0.484)		0.484	(0.0484)	(0.0484)	(0.0484)
123678-HxCDD	0.811	J	0.435	0.0811	0.0811	0.0811
123789-HxCDD	1.16	J	0.451	0.116	0.116	0.116
1234678-HpCDD	28.4		0.785	0.284	0.284	0.284
OCDD	454		3.18	0.454	0.0454	0.136
2378-TCDF	90.8		0.236	9.08	9.08	9.08
12378-PeCDF	3.82		0.258	0.191	0.191	0.115
23478-PeCDF	3.04	PR	0.261	1.52	1.52	0.911
123478-HxCDF	7.14		0.261	0.714	0.714	0.714
123678-HxCDF	2.03	J	0.262	0.203	0.203	0.203
234678-HxCDF	0.406	J	0.254	0.0406	0.0406	0.0406
123789-HxCDF	(0.328)		0.328	(0.0328)	(0.0328)	(0.0328)
1234678-HpCDF	4.04		0.2	0.0404	0.0404	0.0404
1234789-HpCDF	0.827	J	0.326	0.00827	0.00827	0.00827
OCDF	7.87		0.494	0.00787	0.000787	0.00236

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TEQ Summaries			
EMPC = 0, ND = 0	46.9	46.8	46.2
EMPC = 0, ND = DL / 2	47	46.9	46.3
EMPC = 0, ND = DL	47	46.9	46.3
EMPC = 0, < J-level = 0	46.2	45.8	45.2
EMPC = EMPC, ND = 0	46.9	46.8	46.2
EMPC = EMPC, ND = DL / 2	47	46.9	46.3
EMPC = EMPC, ND = DL	47	46.9	46.3
EMPC = EMPC, < J-level = 0	46.2	45.8	45.2

Checkcode: 243-651-WVT

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Sample ID: 11215131-020622-S-SB-SC-S-31 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID	B6290_18916_DF_008	Date Extracted:	09-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	80.9 %	QC Batch No:	18916	Date Analyzed:	12-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:38:59

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1.96				ES 2378-TCDD	85.1	
12378-PeCDD	EMPC		0.372	J	ES 12378-PeCDD	93.3	
123478-HxCDD	0.877			J	ES 123478-HxCDD	90.7	
123678-HxCDD	2.18			J	ES 123678-HxCDD	100	
123789-HxCDD	2.02			J	ES 123789-HxCDD	89.2	
1234678-HpCDD	79.3				ES 1234678-HpCDD	93.2	
OCDD	1,040				ES OCDD	93.3	
2378-TCDF	5.52				ES 2378-TCDF	81.4	
12378-PeCDF	EMPC		0.752	J	ES 12378-PeCDF	91.8	
23478-PeCDF	1.28			J	ES 23478-PeCDF	93.1	
123478-HxCDF	2.22			J	ES 123478-HxCDF	95	
123678-HxCDF	1.09			J	ES 123678-HxCDF	106	
234678-HxCDF	1.2			J	ES 234678-HxCDF	115	
123789-HxCDF	ND	0.269			ES 123789-HxCDF	95.5	
1234678-HpCDF	11.7				ES 1234678-HpCDF	104	
1234789-HpCDF	EMPC		1.12	J	ES 1234789-HpCDF	93.2	
OCDF	34.2				ES OCDF	92.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	85.2	
Total TCDD	10.1		10.7		CS 12347-PeCDD	103	
Total PeCDD	8.54		10.6		CS 12346-PeCDF	99.3	
Total HxCDD	65.6		65.6		CS 123469-HxCDF	112	
Total HpCDD	267		267		CS 1234689-HpCDF	110	
Total TCDF	16.6		19.4				
Total PeCDF	8.62		10.1				
Total HxCDF	17.3		18.3				
Total HpCDF	32.8		34.5				
Total PCDD/Fs	**1,500**		**1,510**				
WHO-2005 TEQs							
TEQ: ND=0	5.09		5.49				
TEQ: ND=DL/2	5.1	0.401	5.51				
TEQ: ND=DL	5.11	0.802	5.52				

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Sample ID: 11215131-020622-S-SB-SC-S-31 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6290_18916_DF_008	Date Extracted:	09-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	80.9 %	QC Batch No.:	18916	Date Analyzed:	12-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:38:59

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	0.944		12479/12468D	2.08	J	124679/124689D	41.7		1234679D	188	
1379D	0.606		12469D	5.14		123468D	3.15		1234678D	79.3	
1369D	(0.218)		12368D	[0.657]	J	123679/123689D	11.7				
1469D	5.94		12478D	[0.42]	J	123469D	2.89				
1247D...[4]	(0.218)		12379D	[0.577]	J	123478D	0.877	J			
1378D	(0.218)		12369D...[3]	1.32	J	123678D	2.18	J			
1268D	(0.218)		12346/12347D	(0.333)		123467D	1.11	J			
1478D	(0.218)		12378D	[0.372]	J	123789D	2.02	J	**Conc.**	267	
1279D	[0.209]	J	12367D	(0.333)					**EMPC**	267	
1234/1269D	0.627		12389D	(0.333)							
1236D	(0.218)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	[0.126]	J									
1239D	(0.218)								OCDD	1040	
2378D	1.96										
1278D	[0.244]	J									
1267D	(0.218)										
1289D	(0.218)										
Conc.	10.1		**Conc.**	8.54		**Conc.**	65.6				
EMPC	10.7		**EMPC**	10.6		**EMPC**	65.6				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	5.09	5.49
TEQ: ND=DL/2	5.1	5.51
TEQ: ND=DL	5.11	5.52

	Conc.	EMPC
Total PCDD/Fs	1,500	1,510

Checkcode: 898-686-PBZ

Report Created: 14-Feb-2022 10:42 Analyst: gd

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Sample ID: 11215131-020622-S-SB-SC-S-31 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received: 08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6290_18916_DF_008	Date Extracted: 09-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	80.9 %	QC Batch No.:	18916	Date Analyzed: 12-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed: 0:38:59

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.173)		13468/12468F	1.98	J	123468F	1.81	J	1234678F	11.7	
1468F	0.248	J	13678F...[3]	0.952	J	124678/134678F	5.11		1234679F	[0.583]	J
2468F	[0.732]		12368F...[3]	2.07	J	134679F	(0.238)		1234689F	21.2	
1346/1246F	[0.361]	J	14678F	[0.243]	J	124679F	(0.238)		1234789F	[1.12]	J
1347F...[3]	1.19		13479F	(0.153)		124689F	5.85				
1348F	0.159	J	13469/12479F	(0.153)		123467F	[0.494]	J			
1248F...[3]	[0.752]		12346F	0.305	J	123478F	2.22	J			
1268F	0.569		23468/12469F	[0.497]	J	123678F	1.09	J			
1467F	(0.173)		12347F	0.248	J	123479F	(0.238)				
1478F	0.523		12348F	0.241	J	123469F	(0.238)				
1369/1237F	[0.346]	J	12378F	[0.752]	J	123679F	(0.238)				
2467F	[0.314]	J	12678/12367F	0.763	J	234678F	1.2	J	**Conc.**	32.8	
2368F	0.785		12379F	(0.153)		234678/123689F	0		**EMPC**	34.5	
1238F...[5]	0.891		12679F	(0.153)		123689F	(0.238)				
1278F	2.97		23467/12369F	0.778	J	123789F	(0.269)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.173)		23478F	1.28	J	123789/123489F	0				
1267F	0.459	J	23478/12489F	0		123489F	[0.474]	J	OCDF	34.2	
2346/1249F	0.276	J	12489F	(0.153)							
2347/1279F	0.376	J	12349F	(0.153)							
2348F	0.716		12389F	(0.153)							
2378F	5.52										
2367/3467F	1.26										
1269F	[0.296]	J									
1239F	(0.173)										
1289F	0.657										
Conc.	16.6		**Conc.**	8.62		**Conc.**	17.3				
EMPC	19.4		**EMPC**	10.1		**EMPC**	18.3				

Checkcode: 898-686-PBZ

Report Created: 14-Feb-2022 10:42 Analyst: gd

Sample ID: 11215131-020622-S-SB-SC-S-31 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6290_18916_DF_008
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	QC Batch No.:	18916
Date Collected:	06-Feb-2022	Split:	-	Date Extracted:	09-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	12-Feb-2022 00:38
Lab Project No:	B6290	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1.96		0.218	1.96	1.96	1.96
12378-PeCDD	[0.372]	J	0.333	[0.186]	[0.372]	[0.372]
123478-HxCDD	0.877	J	0.271	0.0877	0.0877	0.0877
123678-HxCDD	2.18	J	0.247	0.218	0.218	0.218
123789-HxCDD	2.02	J	0.267	0.202	0.202	0.202
1234678-HpCDD	79.3		0.396	0.793	0.793	0.793
OCDD	1040		1.49	1.04	0.104	0.313
2378-TCDF	5.52		0.173	0.552	0.552	0.552
12378-PeCDF	[0.752]	J	0.154	[0.0376]	[0.0376]	[0.0226]
23478-PeCDF	1.28	J	0.153	0.641	0.641	0.385
123478-HxCDF	2.22	J	0.242	0.222	0.222	0.222
123678-HxCDF	1.09	J	0.236	0.109	0.109	0.109
234678-HxCDF	1.2	J	0.216	0.12	0.12	0.12
123789-HxCDF	(0.269)		0.269	(0.0269)	(0.0269)	(0.0269)
1234678-HpCDF	11.7		0.145	0.117	0.117	0.117
1234789-HpCDF	[1.12]	J	0.236	[0.0112]	[0.0112]	[0.0112]
OCDF	34.2		0.315	0.0342	0.00342	0.0103

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TEQ Summaries			
EMPC = 0, ND = 0	6.1	5.13	5.09
EMPC = 0, ND = DL / 2	6.11	5.14	5.1
EMPC = 0, ND = DL	6.12	5.15	5.11
EMPC = 0, < J-level = 0	4.5	3.53	3.74
EMPC = EMPC, ND = 0	6.33	5.55	5.49
EMPC = EMPC, ND = DL / 2	6.34	5.56	5.51
EMPC = EMPC, ND = DL	6.36	5.58	5.52
EMPC = EMPC, < J-level = 0	4.5	3.53	3.74

Checkcode: 898-686-PBZ

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Sample ID: Method Blank B6290_18916 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18916_DF_SDS	Date Extracted:	09-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18916	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:28:15

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.229			ES 2378-TCDD	86.5	
12378-PeCDD	ND	0.253			ES 12378-PeCDD	88.3	
123478-HxCDD	ND	0.182			ES 123478-HxCDD	96	
123678-HxCDD	ND	0.165			ES 123678-HxCDD	104	
123789-HxCDD	ND	0.18			ES 123789-HxCDD	91.8	
1234678-HpCDD	ND	0.277			ES 1234678-HpCDD	93.7	
OCDD	1.37			J	ES OCDD	88.7	
2378-TCDF	ND	0.142			ES 2378-TCDF	75.3	
12378-PeCDF	ND	0.139			ES 12378-PeCDF	90.1	
23478-PeCDF	ND	0.153			ES 23478-PeCDF	83.6	
123478-HxCDF	ND	0.155			ES 123478-HxCDF	93.9	
123678-HxCDF	ND	0.144			ES 123678-HxCDF	109	
234678-HxCDF	ND	0.142			ES 234678-HxCDF	110	
123789-HxCDF	ND	0.187			ES 123789-HxCDF	87.9	
1234678-HpCDF	ND	0.138			ES 1234678-HpCDF	117	
1234789-HpCDF	ND	0.262			ES 1234789-HpCDF	85.3	
OCDF	ND	0.35			ES OCDF	77.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	86.5	
Total TCDD	ND	0.229	ND		CS 12347-PeCDD	104	
Total PeCDD	ND	0.253	ND		CS 12346-PeCDF	98	
Total HxCDD	ND	0.175	ND		CS 123469-HxCDF	114	
Total HpCDD	ND	0.277	ND		CS 1234689-HpCDF	108	
Total TCDF	ND	0.142	ND				
Total PeCDF	ND	0.145	ND				
Total HxCDF	ND	0.154	ND				
Total HpCDF	ND	0.186	ND				
Total PCDD/Fs	**1.37**		**1.37**				
WHO-2005 TEQs							
TEQ: ND=0	0.00041		0.00041				
TEQ: ND=DL/2	0.335	0.334	0.335				
TEQ: ND=DL	0.669	0.669	0.669				

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Sample ID: Method Blank B6290_18916 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18916_DF_SDS	Date Extracted:	09-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18916	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:28:15

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.229)		12479/12468D	(0.253)		124679/124689D	(0.175)		1234679D	(0.277)	
1379D	(0.229)		12469D	(0.253)		123468D	(0.175)		1234678D	(0.277)	
1369D	(0.229)		12368D	(0.253)		123679/123689D	(0.175)				
1469D	(0.229)		12478D	(0.253)		123469D	(0.175)				
1247D...[4]	(0.229)		12379D	(0.253)		123478D	(0.182)				
1378D	(0.229)		12369D...[3]	(0.253)		123678D	(0.165)				
1268D	(0.229)		12346/12347D	(0.253)		123467D	(0.175)				
1478D	(0.229)		12378D	(0.253)		123789D	(0.18)		**Conc.**	0	
1279D	(0.229)		12367D	(0.253)					**EMPC**	0	
1234/1269D	(0.229)		12389D	(0.253)							
1236D	(0.229)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.229)										
1239D	(0.229)								OCDD	1.37	J
2378D	(0.229)										
1278D	(0.229)										
1267D	(0.229)										
1289D	(0.229)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0.00041	0.00041
TEQ: ND=DL/2	0.335	0.335
TEQ: ND=DL	0.669	0.669

	Conc.	EMPC
Total PCDD/Fs	1.37	1.37

Checkcode: 120-476-TRV

Report Created: 14-Feb-2022 10:42 Analyst: gd

Sample ID: Method Blank B6290_18916 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18916_DF_SDS	Date Extracted:	09-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18916	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:28:15

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.142)		13468/12468F	(0.141)		123468F	(0.154)		1234678F	(0.138)	
1468F	(0.142)		13678F...[3]	(0.145)		124678/134678F	(0.154)		1234679F	(0.186)	
2468F	(0.142)		12368F...[3]	(0.145)		134679F	(0.154)		1234689F	(0.186)	
1346/1246F	(0.142)		14678F	(0.145)		124679F	(0.154)		1234789F	(0.262)	
1347F...[3]	(0.142)		13479F	(0.145)		124689F	(0.154)				
1348F	(0.142)		13469/12479F	(0.145)		123467F	(0.154)				
1248F...[3]	(0.142)		12346F	(0.145)		123478F	(0.155)				
1268F	(0.142)		23468/12469F	(0.145)		123678F	(0.144)				
1467F	(0.142)		12347F	(0.145)		123479F	(0.154)				
1478F	(0.142)		12348F	(0.145)		123469F	(0.154)				
1369/1237F	(0.142)		12378F	(0.139)		123679F	(0.154)				
2467F	(0.142)		12678/12367F	(0.145)		234678F	(0.142)		**Conc.**	0	
2368F	(0.142)		12379F	(0.145)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.142)		12679F	(0.145)		123689F	(0.154)				
1278F	(0.142)		23467/12369F	(0.145)		123789F	(0.187)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.142)		23478F	(0.153)		123789/123489F	0				
1267F	(0.142)		23478/12489F	0		123489F	(0.154)		OCDF	(0.35)	
2346/1249F	(0.142)		12489F	(0.145)							
2347/1279F	(0.142)		12349F	(0.145)							
2348F	(0.142)		12389F	(0.145)							
2378F	(0.142)										
2367/3467F	(0.142)										
1269F	(0.142)										
1239F	(0.142)										
1289F	(0.142)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 120-476-TRV

Report Created: 14-Feb-2022 10:42 Analyst: gd

Sample ID: Method Blank B6290_18916 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18916_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18916
Date Collected:	n/a	Split:	-	Date Extracted:	09-Feb-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	11-Feb-2022 18:28
Lab Project No:	B6290	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.229)		0.229	(0.229)	(0.229)	(0.229)
12378-PeCDD	(0.253)		0.253	(0.127)	(0.253)	(0.253)
123478-HxCDD	(0.182)		0.182	(0.0182)	(0.0182)	(0.0182)
123678-HxCDD	(0.165)		0.165	(0.0165)	(0.0165)	(0.0165)
123789-HxCDD	(0.18)		0.18	(0.018)	(0.018)	(0.018)
1234678-HpCDD	(0.277)		0.277	(0.00277)	(0.00277)	(0.00277)
OCDD	1.37	J	0.62	0.00137	0.000137	0.00041
2378-TCDF	(0.142)		0.142	(0.0142)	(0.0142)	(0.0142)
12378-PeCDF	(0.139)		0.139	(0.00693)	(0.00693)	(0.00416)
23478-PeCDF	(0.153)		0.153	(0.0763)	(0.0763)	(0.0458)
123478-HxCDF	(0.155)		0.155	(0.0155)	(0.0155)	(0.0155)
123678-HxCDF	(0.144)		0.144	(0.0144)	(0.0144)	(0.0144)
234678-HxCDF	(0.142)		0.142	(0.0142)	(0.0142)	(0.0142)
123789-HxCDF	(0.187)		0.187	(0.0187)	(0.0187)	(0.0187)
1234678-HpCDF	(0.138)		0.138	(0.00138)	(0.00138)	(0.00138)
1234789-HpCDF	(0.262)		0.262	(0.00262)	(0.00262)	(0.00262)
OCDF	(0.35)		0.35	(0.00035)	(0.000035)	(0.000105)

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TEQ Summaries			
EMPC = 0, ND = 0	0.00137	0.000137	0.00041
EMPC = 0, ND = DL / 2	0.289	0.351	0.335
EMPC = 0, ND = DL	0.577	0.702	0.669
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0.00137	0.000137	0.00041
EMPC = EMPC, ND = DL / 2	0.289	0.351	0.335
EMPC = EMPC, ND = DL	0.577	0.702	0.669
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 120-476-TRV

Sample ID: 0_18916_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18916_DF	Date Extracted:	09-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18916	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:09:16

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.2				ES 2378-TCDD	87.4	
12378-PeCDD	48				ES 12378-PeCDD	93.3	
123478-HxCDD	51.3				ES 123478-HxCDD	89.7	
123678-HxCDD	51.6				ES 123678-HxCDD	101	
123789-HxCDD	51.5				ES 123789-HxCDD	85.2	
1234678-HpCDD	50.1				ES 1234678-HpCDD	91.2	
OCDD	106				ES OCDD	81.5	
2378-TCDF	10.4				ES 2378-TCDF	80.2	
12378-PeCDF	47				ES 12378-PeCDF	94	
23478-PeCDF	50.4				ES 23478-PeCDF	89.5	
123478-HxCDF	49.3				ES 123478-HxCDF	87	
123678-HxCDF	49				ES 123678-HxCDF	104	
234678-HxCDF	48.7				ES 234678-HxCDF	108	
123789-HxCDF	47.4				ES 123789-HxCDF	84.4	
1234678-HpCDF	50.6				ES 1234678-HpCDF	104	
1234789-HpCDF	47.5				ES 1234789-HpCDF	84.3	
OCDF	100				ES OCDF	77.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	90.2	
Total TCDD	52.8		52.8		CS 12347-PeCDD	108	
Total PeCDD	74.7		74.7		CS 12346-PeCDF	101	
Total HxCDD	170		170		CS 123469-HxCDF	107	
Total HpCDD	62.6		62.6		CS 1234689-HpCDF	102	
Total TCDF	62.3		62.3				
Total PeCDF	195		195				
Total HxCDF	311		311				
Total HpCDF	98.1		98.1				
Total PCDD/Fs	**1,230**		**1,230**				
WHO-2005 TEQs							
TEQ: ND=0	113		113				
TEQ: ND=DL/2	113	0.178	113				
TEQ: ND=DL	113	0.357	113				

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Sample ID: 0_18916_OPR002

Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6290	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18916_DF	Date Extracted:	09-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18916	Date Analyzed:	11-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:55:36

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	12.7				ES 2378-TCDD	81.3	
12378-PeCDD	53.4				ES 12378-PeCDD	89.8	
123478-HxCDD	59.7				ES 123478-HxCDD	86.4	
123678-HxCDD	59.9				ES 123678-HxCDD	96.4	
123789-HxCDD	56.6				ES 123789-HxCDD	83.8	
1234678-HpCDD	59.4				ES 1234678-HpCDD	84.7	
OCDD	119				ES OCDD	82.6	
2378-TCDF	12				ES 2378-TCDF	73	
12378-PeCDF	55.2				ES 12378-PeCDF	85.9	
23478-PeCDF	58.5				ES 23478-PeCDF	83.5	
123478-HxCDF	55.5				ES 123478-HxCDF	83.4	
123678-HxCDF	57.1				ES 123678-HxCDF	97.2	
234678-HxCDF	55.8				ES 234678-HxCDF	101	
123789-HxCDF	54.9				ES 123789-HxCDF	80.2	
1234678-HpCDF	57.6				ES 1234678-HpCDF	105	
1234789-HpCDF	56.3				ES 1234789-HpCDF	77.1	
OCDF	114				ES OCDF	73.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	93.5	
Total TCDD	60.9		60.9		CS 12347-PeCDD	110	
Total PeCDD	84.4		84.4		CS 12346-PeCDF	104	
Total HxCDD	194		194		CS 123469-HxCDF	114	
Total HpCDD	75.1		75.1		CS 1234689-HpCDF	110	
Total TCDF	74.8		74.8				
Total PeCDF	233		233				
Total HxCDF	359		359				
Total HpCDF	114		114				
Total PCDD/Fs	**1,430**		**1,430**				
WHO-2005 TEQs							
TEQ: ND=0	128		128				
TEQ: ND=DL/2	128	0.189	128				
TEQ: ND=DL	128	0.377	128				

SGS
5500 Business Drive
Wilmington, NC 28405, USA
www.us.sgs.com
Tel: +1 910 794-1613; Toll-Free 866 846-8290

Sample DUP

Method 1613B

Sample ID: 0_18916_OPR001

Analyte	OPR1_18916_DF pg/uL	OPR2_18916_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	11.2	12.7	12.7%
1,2,3,7,8-PeCDD	48	53.4	10.7%
1,2,3,4,7,8-HxCDD	51.3	59.7	15.1%
1,2,3,6,7,8-HxCDD	51.6	59.9	14.9%
1,2,3,7,8,9-HxCDD	51.5	56.6	9.5%
1,2,3,4,6,7,8-HpCDD	50.1	59.4	17.0%
OCDD	106	119	12.2%
2,3,7,8-TCDF	10.4	12	15.0%
1,2,3,7,8-PeCDF	47	55.2	16.1%
2,3,4,7,8-PeCDF	50.4	58.5	14.8%
1,2,3,4,7,8-HxCDF	49.3	55.5	11.9%
1,2,3,6,7,8-HxCDF	49	57.1	15.3%
2,3,4,6,7,8-HxCDF	48.7	55.8	13.6%
1,2,3,7,8,9-HxCDF	47.4	54.9	14.5%
1,2,3,4,6,7,8-HpCDF	50.6	57.6	13.1%
1,2,3,4,7,8,9-HpCDF	47.5	56.3	17.0%
OCDF	100	114	12.9%
Totals			
Total TCDD	52.8	60.9	14.2%
Total PeCDD	74.7	84.4	12.1%
Total HxCDD	170	194	13.5%
Total HpCDD	62.6	75.1	18.2%
Total TCDF	62.3	74.8	18.2%
Total PeCDF	195	233	17.9%
Total HxCDF	311	359	14.3%
Total HpCDF	98.1	114	15.0%

Sample Receipt Notification

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*08-Feb-22 at 11:48*
AP Project name:	*B6290*
Requested TAT:	*3 business days*
Projected due date:	*11-Feb-22*
Matrix:	*Soil*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-020422-S-SB-SW-S-48	B6290_001	Solid	1	4 oz	04-Feb-22	15:00	0.5	1	4905 2704 5391
11215131-020422-S-SB-SW-S-47	B6290_002	Solid	1	4 oz	04-Feb-22	15:15	0.5	1	4905 2704 5391
11215131-020522-S-SB-SW-S-51	B6290_003	Solid	1	4 oz	05-Feb-22	09:30	0.5	1	4905 2704 5391
11215131--020522-S-SB-SW-S-52	B6290_004	Solid	1	4 oz	05-Feb-22	09:40	0.5	1	4905 2704 5391
11215131-020522-S-SB-SW-S-53	B6290_005	Solid	1	4 oz	05-Feb-22	09:50	0.5	1	4905 2704 5391
11215131-020622-S-SB-SC-S-32	B6290_006	Solid	1	4 oz	06-Feb-22	09:10	0.5	1	4905 2704 5391
11215131-020622-S-SB-SC-S-30	B6290_007	Solid	1	4 oz	06-Feb-22	11:20	0.5	1	4905 2704 5391
11215131-020622-S-SB-SC-S-31	B6290_008	Solid	1	4 oz	06-Feb-22	11:30	0.5	1	4905 2704 5391

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Tamara Burkamper *Logged in by: Tamara Burkamper* *QC'ed by:* AK 9 Feb 22

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

B16290 1/4

SGS CHAIN OF CUSTODY

this Project contains All RUSH Samples TB 2/8/22

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis(

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: None — ANALYSIS & METHOD: M1613B	QC: MS	MSD	DUP	QTY	REMARKS
215131-020422-S-SB-SW-S-48	2/4/22	1500	C	S	4oz	X				1	RUSH # See SSOW
215131-020422-S-SB-SW-S-47		1515	C	S	4oz	X				1	RUSH #
215131-020422-S-SB-SW-0-22		1530	C	S	4 oz	X				1	
1215131-020422-S-SB-SW-B-24		1600	C	S	4 oz	X	X	X		1	MS/MSD
1215131-020422-S-SB-SW-B-24H		1615	C	S	4 oz	X				1	
11215131-020422-S-SB-DUP-15	↓	—	C	S	4 oz	X			X	1	Duplicate Sample
1215131-020522-S-SB-SW-S-51	2/5/22	0930	C	S	4oz	X				1	RUSH #
1215131-020522-S-SB-SW-S-52	2/5/22	0940	C	S	4oz	X				1	RUSH #
1215131-020522-S-SB-SW-S-53	2/5/22	0950	C	S	4oz	X				1	RUSH #
1215131-020522-S-SB-SW-0-24	2/5/22	1000	C	S	4oz	X				1	

	DATE:	TIME:	RECEIVED BY:
COLLECTED/RELINQUISHED BY (1): Sarah Belanger	2/9/22	1645	meaganwillis
RELINQUISHED BY (2): Meagan Willis	2/7/22	0810	0810
RELINQUISHED BY (3): Fedex	DATE:	TIME:	RECEIVED BY:

RECEIVED BY LABORATORY: DATE: 2/8/22 TIME: 1148
COOLER SEAL: ☒ INTACT ☐ BROKEN ☐ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☒ ABSENT
CARRIER: FedEx TEMP: °C 0.5°C TR4 (TB)
TRACKING #: attached

SGS NORTH AMERICA INC | ENVIRONMENT, HEALTH & SAFETY 5500 Business Drive Wilmington, NC 28405 910 350 1903 | 866 846 8290 www.sgs.com/ehs

Member of the SGS Group (SGS SA)

B6290 2/4

SGS CHAIN OF CUSTODY

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston, T
PHONE: 713-907-3710 EMAIL: Meagan.Willis(

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

PRESERVATIVE: None

ANALYSIS & METHOD

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B	~~M8290A~~ 8/10	~~M1668A~~	~~M1668C~~	~~HR-PAH~~	~~M1699~~	QC MS	QC MSD	QC DUP	QTY	REMARKS See SSOW
215131-020522-S-SB-SW-B-26	2/5/22	1010	C	S	4 oz	X									1	
215131-020522-S-SB-NE-0-13	2/5/22	1240	C	S	4 oz	X									1	
215131-020522-S-SB-NE-0-14	2/5/22	1250	C	S	4 oz	X									1	
1215131-020522-S-SB-NE-B-5	2/5/22	1300	C	S	4 oz	X									1	

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:
Sarah Belanger	2/6/22	1645	Meagan Willis
RELINQUISHED BY (2): Meagan Willis	DATE: 2/7/22	TIME: 0810	RECEIVED BY: [signature] 2/7/22 0810
RELINQUISHED BY (3): [signature]	DATE:	TIME:	RECEIVED BY:

RECEIVED BY LABORATORY: Tamara Burkanper DATE: 2/8/22 TIME: 1148
COOLER SEAL: ☒ INTACT ☐ BROKEN ☐ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☒ ABSENT
CARRIER: FedEx TEMP: °C 0.5°C DRY (TB)
TRACKING #: attached

B6290 3/4

SGS CHAIN OF CUSTODY

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUNDTIME:
REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

PRESERVATIVE: None

ANALYSIS & METHOD

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis(

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C,G)	MATRIX	CONT	M1613B	~~M8290A~~	~~M1668A~~	~~M1668C~~	~~HR-PAH~~	~~M1699~~	QC MS	QC MSD	QC DUP	QTY	REMARKS See SSOW
215131-020622-S-SB-SC-S-32	2/6/22	0910	C	S	4oz	X									1	RUSH ★
215131-020622-S-SB-SC-0-21		0920	C	S		X									1	
215131-020622-S-SB-SC-B-15		0930	C	S		X										
215131-020622-S-SB-SC-B-15H		0940	C	S		X						X	X			MS/MSD
1215131-020622-S-SB-DUP-16		—	C	S		X								X	1	Duplicate Sample
1215131-020622-S-SB-SC-0-22		1040	C	S		X									1	
1215131-020622-S-SB-SC-0-23		1045	C	S		X									1	
1215131-020622-S-SB-SC-B-16		1050	C	S		X									1	
1215131-020622-S-SB-SC-B-16H		1055	C	S		X									1	
1215131-020622-S-SB-SC-S-30	↓	1120	C	S	↓	X									1	RUSH ★

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:
Sarah Belanger	2/6/22	1645	Meagan Willis
RELINQUISHED BY (2):	DATE:	TIME:	RECEIVED BY:
Meagan Willis	2/7/22	0810	2/7/22 0810
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:
[illegible]			

RECEIVED BY LABORATORY: Tamara Buckingham DATE: 2/8/22 TIME: 1148
COOLER SEAL: ☒ INTACT ☐ BROKEN ☐ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☒ ABSENT
CARRIER: FedEx TEMP: °C 0.5°C IR4 (TB)
TRACKING #: a Hatched

SGS NORTH AMERICA INC | ENVIRONMENT, HEALTH & SAFETY 5500 Business Drive Wilmington, NC 28405 910 350 1903 | 866 846 8290 www.sgs.com/ehs
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49 of 418

B62904/4

SGS CHAIN OF CUSTODY

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ☒ Level II ☒ Level IV
SPECIAL DELIVERABLES:
☐ DoD ☒ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400;Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis(
INVOICE TO (☒ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

PRESERVATIVE: None

ANALYSIS & METHOD

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B	~~M8290A~~	~~M1668A~~	~~M1668C~~	~~HR-PAH~~	~~M1699~~	QC MS	QC MSD	QC DUP	QTY	REMARKS
215131-020622-S-SB-SC-S-31	2/6/22	1130	C	S	4oz	X									1	RUSH
215131-020622-S-SB-SC-O-20	↓	1140	C	S	4oz	X									1	
215131-020622-S-SB-SC-B-14	↓	1150	C	S	4oz	X									1	

See Soon

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:	RECEIVED BY LABORATORY:	DATE:	TIME:
Sarah Belanger	2/6/22	1645	Meagan Willis	Tamara Bukamper	2/8/22	1148
RELINQUISHED BY (2):	DATE:	TIME:	RECEIVED BY:	COOLER SEAL: ☒ INTACT ☐ BROKEN ☐ ABSENT		
Meagan Willis	2/07/22	0810	[illegible] 2/7/22	CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☒ ABSENT		
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:	CARRIER: FedEx	TEMP: °C	0.5°C Ice
Fedex				TRACKING #: attached		(TB)

B6290 1/



ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 07FEB22
ACTWGT: 45.00 LB MAN
CAD: 0317565/CAFE3313

BILL RECIPIENT

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLE 1

FedEx Express

TRK# 0201 4905 2704 5391

TUE - 08 FEB 10:30A
PRIORITY OVERNIGHT

NL ILMA

28405
NC-US RDU

Part # 156148-434 MTW EXP 07/22

0250

TB 2/8/22

SGS

Project Initiation Form

Project Number: B6290

Initiation Date: 09-Feb-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Soil

TAT: 3 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR & OPRD

10 g DWE extraction

Read and understood, initial and date: Prep Lab: NE 2/9/22 JRH 2/9/22 RBS 2/10/22 HRMS Lab:

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab:

PM Initials: akornegay Date: 09-Feb-2022

SGS

Methods: PCB / PAH; PCDD/F WHO-2; QUANTICS USV; DoD PCDD/F PEST

Extraction Type: SDS CLL; TALEX Carbon SPE

Solid

Final Volume: 20 µL

Batch# 18916

Split: 1/2 1/4

Extract Initial/Date: EZ 2/9/22

Clean-up Initial/Date: ~~RB~~ 2/10/22

Transfer Init/Date: ~~RB~~ 2/10/22

Lab Sample ID	Extraction Position	Extraction Weight/Volume		(Td)	ASECS #	Observations
	Solvent: TOL	g	mL			
B6290_18916_001	16	14.67				gray, clay-like
B6290_18916_002	17	12.62				gray, sandy
B6290_18916_003	18	12.86				gray, clay-like
B6290_18916_004	19	12.43				gray, clay-like
B6290_18916_005	20	13.36				gray, clay-like
B6290_18916_006	21	13.62				gray/brown, clay-like
B6290_18916_007	22	12.62				gray, sandy
B6290_18916_008	23	12.51				gray, clay-like
MB1_18916	13	10.00				sodium sulfate
OPR1_18916	14	10.00				Sodium sulfate
OPR2_18916	15	10.00				Sodium sulfate

RB 2/11/22

RB 2/14/22

Supply IDs

Toluene	STL 14-24
MeCHL	STL14.17
Florisil	SPLS-77
Hexane	STL14-22
Silica	SPLS-69
S Nitrate	N/A
Base Silica	SPLS-86
HydroMatrix	N/A
Tetradecane	SPLS-730
H_2SO_4	N/A
A Silica	SPLS-87
Sodium Sulfate	SPLS-80R

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	RB 2/14/22
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start: 1600	
	Stop: 0900	
HEX	Start:	
	Stop:	RB 2/14/22
DCM	Start:	
	Stop:	

SGS

Methods: PCB (PCDD/F) QUANTICS DoD PCDD/F
PAH WHO-2 USV PEST

Solid

Batch# 18916

Inter-Department Communication Sheet

instrument Arced during closing resplots. Resplots from the next clock included for validation. RBM 2/14/22

2/14/22
TB

SGS

Wt. Volume Results

Batch #: 18916 **Comments:**

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6290_001	2.4	4.7	3.99	69.13%	69.13%			14.47	14.67	10.14
B6290_002	2.33	4.7	4.25	81.01%	81.01%			12.34	12.62	10.22
B6290_003	2.33	5.53	4.85	78.75%	78.75%			12.7	12.86	10.13
B6290_004	2.28	5.64	5.02	81.55%	81.55%			12.26	12.43	10.14
B6290_005	2.33	5.58	4.79	75.69%	75.69%			13.21	13.36	10.11
B6290_006	2.32	5.38	4.57	73.53%	73.53%			13.6	13.62	10.01
B6290_007	2.39	4.51	4.11	81.13%	81.13%			12.33	12.62	10.24
B6290_008	2.39	5.79	5.14	80.88%	80.88%			12.36	12.51	10.12

% Solid Determination WorkSheet

SGS

Batch: 18916

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	10g DWE	Comments
B6290_18916_001	2.40	4.70	3.99	14.47	
B6290_18916_002	2.33	4.70	4.25	12.34	
B6290_18916_003	2.33	5.53	4.85	12.70	
B6290_18916_004	2.28	5.64	5.02	12.26	
B6290_18916_005	2.33	5.58	4.79	13.21	
B6290_18916_006	2.32	5.38	4.57	13.60	
B6290_18916_007	2.39	4.51	4.11	12.33	
B6290_18916_008	2.39	5.79	5.14	12.36	

2/11/22

Date/Initials: KE 2/9/22

SGS Methods: PCB / PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Solid

Batch # 18916

Lab Sample ID	Spiker Initials/Date: JRH 2/9/22	JRH 2/9/22	JRH 2/9/22	2/10/22	2/10/22		
	D/F Ax-A	D/F Ax-B	D/F ES	D/F ES	D/F JS		
	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount:	Amount:
	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials
B6290_18916_001	—	—	KE	KE	JRH		
B6290_18916_002	—	—	KE	KE	JRH		
B6290_18916_003	—	—	KE	KE	JRH		
B6290_18916_004	—	—	KE	KE	JRH		
B6290_18916_005	—	—	KE	KE	JRH		
B6290_18916_006	—	—	KE	KE	JRH		
B6290_18916_007	—	—	KE	KE	JRH		
B6290_18916_008	—	—	KE	KE	JRH		
MB1_18916	—	—	KE	KE	JRH		
OPR1_18916	KE	KE	KE	KE	JRH		
OPR2_18916	KE	KE	KE	KE	JRH		

2/14/22

Standard Information

Pipette ID						2/11/22
Spike ID	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS	
SIL#	26-2-8	25-1387-7	26-2-9	25-338-1	25-384-1	
Concentration	10 pg/µL	10 pg/µL	100 pg/µL	100 ng/mL	100 ng/mL	
Expiration Date	7/9/28	6/22/22	8/2028	11/16/22	1/24/23	

REVIEWED
Tamara Burkamper , 2/14/2022, 12:26:48 PM

SGS Environmental Services — Run Log **Project: B6290_18916_DF**

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
0	220211C01	3	CS3_220211_DF_CA ✓	1.00	25-347-1	DTF, PSW	374-273	11-Feb-2022	15:22:56
1	220211C02	62	OPR1_18916_DF	1.00	0_18916_OPR001	DTF, PSW	401-438	11-Feb-2022	16:09:16
2	220211C03	63	OPR2_18916_DF	1.00	0_18916_OPR002	DTF, PSW	149-207	11-Feb-2022	16:55:36
3	220211C04	2	SBS_220211_DF_CA	1.00	20-61-1	DTF, PSW	354-941	11-Feb-2022	17:41:56
4	220211C05	61	MB1_18916_DF_SDS	10.00	Method Blank	DTF, PSW	120-476	11-Feb-2022	18:28:15
5	220211C06	64	B6290_18916_DF_001	10.14	11215131-020422-S-SB-SW-S-48	DTF, PSW	946-376	11-Feb-2022	19:14:36
6	220211C07	65	B6290_18916_DF_002	10.22	11215131-020422-S-SB-SW-S-47	DTF, PSW	491-714	11-Feb-2022	20:00:56
7	220211C08	66	B6290_18916_DF_003	10.13	11215131-020522-S-SB-SW-S-51	DTF, PSW	714-903	11-Feb-2022	20:47:17
8	220211C09	67	B6290_18916_DF_004	10.14	11215131-020522-S-SB-SW-S-52	DTF, PSW	723-933	11-Feb-2022	21:33:38
9	220211C10	68	B6290_18916_DF_005	10.11	11215131-020522-S-SB-SW-S-53	DTF, PSW	518-755	11-Feb-2022	22:19:58
10	220211C11	69	B6290_18916_DF_006	10.01	11215131-020622-S-SB-SC-S-32	DTF, PSW	781-199	11-Feb-2022	23:06:17
11	220211C12	70	B6290_18916_DF_007	10.24	11215131-020622-S-SB-SC-S-30	DTF, PSW	243-651	11-Feb-2022	23:52:38
12	220211C13	71	B6290_18916_DF_008 ✓	10.12	11215131-020622-S-SB-SC-S-31	DTF, PSW	898-686	12-Feb-2022	00:38:59

REVIEWED
paul_walton , 2/14/2022, 11:10:17 AM

Lab ID: MB1_18916_DF_SDS **Acq'd:** 11 Feb 2022 18:28 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6290_18916 **UTP:** 14-Feb-2022 10:10:28 PSW **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 120-476-TRV

Datafile: 220211C05 **Report:** 14 Feb 2022 10:42 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	3385.749	0.229
12378-PeCDD	NotFnd		1.0005	-		-	-	-	1.04	-	3125.172	0.253
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2276.468	0.182
123678-HxCDD	NotFnd		1.0035	-		-	-	-	1.15	-	2276.468	0.165
123789-HxCDD	NotFnd		1.0113	-		-	-	-	1.05	-	2276.468	0.18
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	3248.648	0.277
OCDD	43.52	J	1.0002	1.0002	0	8.89E+04	0.95	Y	1.13	1.37	3454.167	0.62
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	2577.83	0.142
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2796.022	0.139
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2796.022	0.153
123478-HxCDF	NotFnd		1.0005	-		-	-	-	1.27	-	2850.67	0.155
123678-HxCDF	NotFnd		1.0005	-		-	-	-	1.15	-	2850.67	0.144
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2850.67	0.142
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2850.67	0.187
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	3061.261	0.138
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	3061.261	0.262
OCDF	NotFnd		1.0003	-		-	-	-	1.07	-	2193.232	0.35

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46	1.0238	1.0238	0	2.54E+07	0.79	Y	1.05	86.5
ES 12378-PeCDD	33.81	1.2160	1.2162	+0.4	2.18E+07	1.51	Y	0.88	88.3
ES 123478-HxCDD	37.73	0.9919	0.9918	-0.2	1.95E+07	1.22	Y	0.97	96
ES 123678-HxCDD	37.85	0.9950	0.9950	0	2.04E+07	1.27	Y	0.94	104
ES 123789-HxCDD	38.14	1.0027	1.0027	0	2.09E+07	1.25	Y	1.09	91.8
ES 1234678-HpCDD	40.82	1.0730	1.0732	+0.5	1.79E+07	1.05	Y	0.91	93.7
ES OCDD	43.51	1.1437	1.1439	+0.5	2.31E+07	0.90	Y	0.62	88.7
ES 2378-TCDF	27.60	1.0520	1.0520	0	3.51E+07	0.80	Y	1.06	75.3
ES 12378-PeCDF	32.36	1.2330	1.2333	+0.6	3.61E+07	1.58	Y	0.91	90.1
ES 23478-PeCDF	33.47	1.2754	1.2757	+0.6	3.25E+07	1.65	Y	0.88	83.6
ES 123478-HxCDF	36.72	0.9653	0.9652	-0.2	2.35E+07	0.56	Y	1.20	93.9
ES 123678-HxCDF	36.86	0.9691	0.9690	-0.2	3.08E+07	0.52	Y	1.35	109
ES 234678-HxCDF	37.54	0.9870	0.9870	0	2.86E+07	0.54	Y	1.24	110
ES 123789-HxCDF	38.50	1.0121	1.0121	0	2.12E+07	0.55	Y	1.16	87.9
ES 1234678-HpCDF	39.89	1.0484	1.0486	+0.5	2.36E+07	0.46	Y	0.97	117
ES 1234789-HpCDF	41.28	1.0851	1.0853	+0.5	1.52E+07	0.46	Y	0.85	85.3
ES OCDF	43.69	1.1483	1.1486	+0.8	2.62E+07	0.92	Y	0.81	77.6

Lab ID: MB1_18916_DF_SDS | **Acq'd:** 11 Feb 2022 18:28 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6290_18916 | **UTP:** 14-Feb-2022 10:10:28 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 120-476-TRV

Datafile: 220211C05 | **Report:** 14 Feb 2022 10:42 gd | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.80		-	-	-	2.80E+07	0.82	Y	-	-
JS 1234-TCDF	26.24		-	-	-	4.41E+07	0.82	Y	-	-
JS 123467-HxCDD	38.04		-	-	-	1.04E+07	1.23	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0245	1.0246	+0.2	1.17E+07	n/a	-	1.20	86.5
CS 12347-PeCDD	33.30		1.1979	1.1981	+0.4	2.20E+07	1.57	Y	0.75	104
CS 12346-PeCDF	31.83		1.2128	1.2131	+0.6	3.67E+07	1.56	Y	0.85	98
CS 123469-HxCDF	37.18		0.9774	0.9773	-0.2	2.65E+07	0.52	Y	1.12	114
CS 1234689-HpCDF	40.29		1.0589	1.0593	+1.0	2.01E+07	0.46	Y	0.89	108
~~SS 37Cl-2378-TCDD~~	~~28.48~~		~~1.0245~~	~~1.0246~~	~~+0.2~~	~~1.17E+07~~	~~n/a~~		~~1.15~~	~~100~~
~~SS 12347-PeCDD~~	~~33.30~~		~~1.1979~~	~~1.1981~~	~~+0.4~~	~~2.20E+07~~	~~1.57~~	~~Y~~	~~0.86~~	~~110~~
~~SS 12346-PeCDF~~	~~31.83~~		~~1.2128~~	~~1.2131~~	~~+0.6~~	~~3.67E+07~~	~~1.56~~	~~Y~~	~~0.94~~	~~109~~
~~SS 123469-HxCDF~~	~~37.18~~		~~0.9774~~	~~0.9773~~	~~-0.2~~	~~2.65E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~104~~
~~SS 1234689-HpCDF~~	~~40.29~~		~~1.0589~~	~~1.0593~~	~~+1.0~~	~~2.01E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~92.6~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	1.37	1.37
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	1.37	1.37

Lab ID: MB1_18916_DF_SDS | **Acq'd: 11 Feb 2022 18:28 DTF** | **Wt/Vol: 10.00 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6290_18916 | **UTP: 14-Feb-2022 10:10:28 PSW** | **J-level: 0.5 pg/g** | **Split: 1** | **Checkcode: 120-476-TRV**

Datafile: 220211C05 | **Report: 14 Feb 2022 10:42 gd** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8737						1.18		3385.749	0.229
1379-TCDD	NotFnd		0.8860						1.18		3385.749	0.229
1369-TCDD	NotFnd		0.9009						1.18		3385.749	0.229
1469-TCDD	NotFnd		0.9281						1.18		3385.749	0.229
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3385.749	0.229
1378-TCDD	NotFnd		0.9432						1.18		3385.749	0.229
1268-TCDD	NotFnd		0.9500						1.18		3385.749	0.229
1478-TCDD	NotFnd		0.9586						1.18		3385.749	0.229
1279-TCDD	NotFnd		0.9645						1.18		3385.749	0.229
1234/1269-TCDD	NotFnd		0.9770						1.18		3385.749	0.229
1236-TCDD	NotFnd		0.9817						1.18		3385.749	0.229
1237/1238-TCDD	NotFnd		0.9905						1.18		3385.749	0.229
1239-TCDD	NotFnd		0.9952						1.18		3385.749	0.229
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**3385.749**	**0.229**
1278-TCDD	NotFnd		1.0121						1.18		3385.749	0.229
1267-TCDD	NotFnd		1.0167						1.18		3385.749	0.229
1289-TCDD	NotFnd		1.0345						1.18		3385.749	0.229
12479/12468-PeCDD	NotFnd		0.9267						1.04		3125.172	0.253
12469-PeCDD	NotFnd		0.9425						1.04		3125.172	0.253
12368-PeCDD	NotFnd		0.9588						1.04		3125.172	0.253
12478-PeCDD	NotFnd		0.9643						1.04		3125.172	0.253
12379-PeCDD	NotFnd		0.9673						1.04		3125.172	0.253
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		3125.172	0.253
12346/12347-PeCDD	NotFnd		0.9858						1.04		3125.172	0.253
12378-PeCDD	NotFnd		**1.0005**						**1.04**		**3125.172**	**0.253**
12367-PeCDD	NotFnd		1.0033						1.04		3125.172	0.253
12389-PeCDD	NotFnd		1.0134						1.04		3125.172	0.253
124679/124689-HxCDD	NotFnd		0.9542						1.10		2276.468	0.175
123468-HxCDD	NotFnd		0.9715						1.10		2276.468	0.175
123679/123689-HxCDD	NotFnd		0.9793						1.10		2276.468	0.175
123469-HxCDD	NotFnd		0.9828						1.10		2276.468	0.175
123478-HxCDD	NotFnd		**1.0004**						1.09		**2276.468**	**0.182**
123678-HxCDD	NotFnd		**1.0035**						1.15		**2276.468**	**0.165**
123467-HxCDD	NotFnd		1.0085						1.10		2276.468	0.175
123789-HxCDD	NotFnd		**1.0113**						1.05		**2276.468**	**0.18**

Lab ID: MB1_18916_DF_SDS | **Acq'd: 11 Feb 2022 18:28 DTF** | **Wt/Vol: 10.00 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6290_18916 | **UTP: 14-Feb-2022 10:10:28 PSW** | **J-level: 0.5 pg/g** | **Split: 1** | **Checkcode: 120-476-TRV**

Datafile: 220211C05 | **Report: 14 Feb 2022 10:42 gd** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

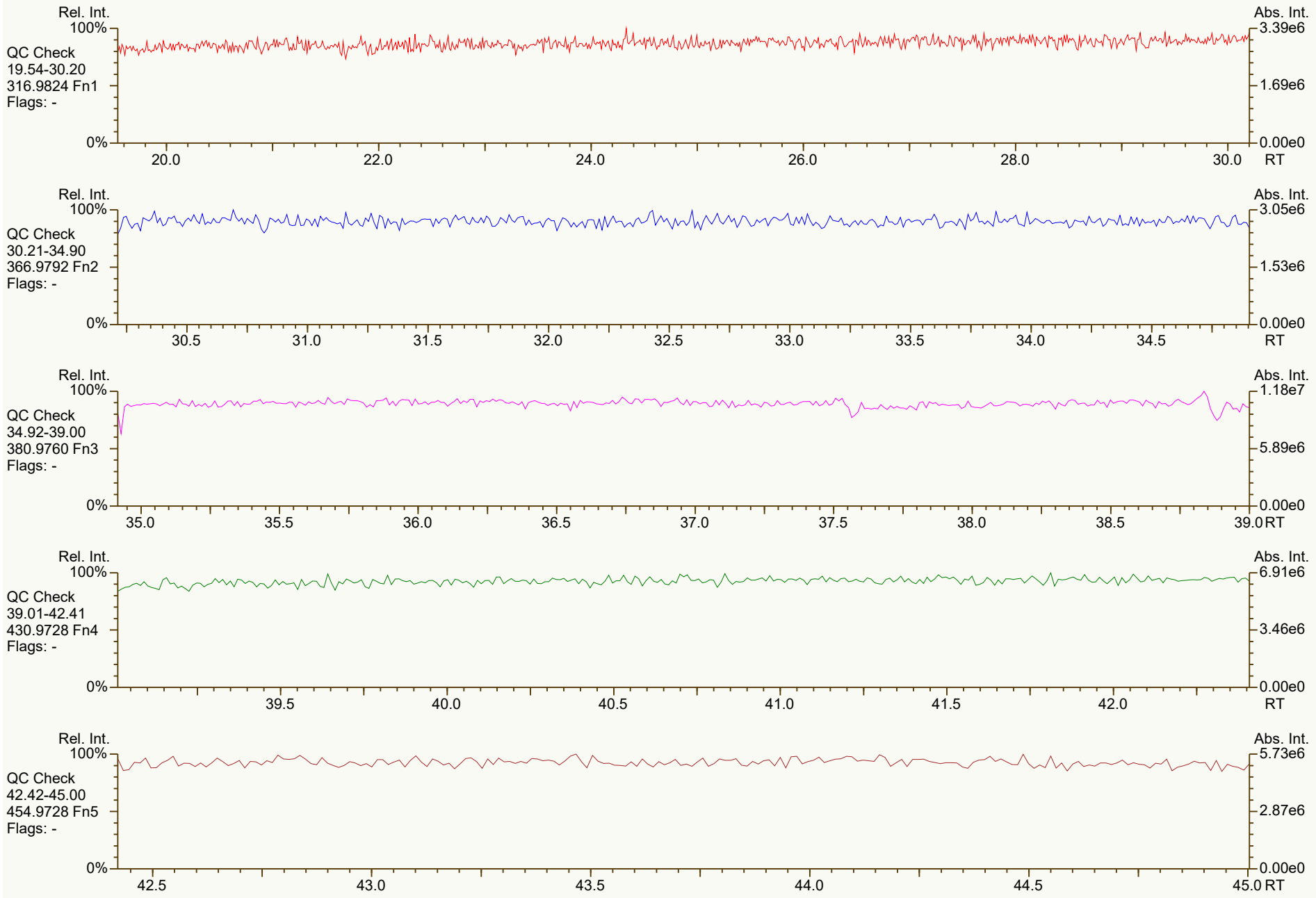
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9837						1.06		3248.648	0.277
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**3248.648**	**0.277**
OCDD	**43.52**	**J**	**1.0002**	**1.0002**	**0**	**8.89E+04**	**0.95**	**Y**	**1.13**	**1.37**	**3454.167**	**0.62**
OCDD-a	NotFnd		1.0001						0.07		3303.654	9.27
1368-TCDF	NotFnd		0.8251						1.08		2577.83	0.142
1468-TCDF	NotFnd		0.8458						1.08		2577.83	0.142
2468-TCDF	NotFnd		0.8686						1.08		2577.83	0.142
1346/1246-TCDF	NotFnd		0.8814						1.08		2577.83	0.142
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2577.83	0.142
1348-TCDF	NotFnd		0.8962						1.08		2577.83	0.142
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2577.83	0.142
1268-TCDF	NotFnd		0.9145						1.08		2577.83	0.142
1467-TCDF	NotFnd		0.9193						1.08		2577.83	0.142
1478-TCDF	NotFnd		0.9254						1.08		2577.83	0.142
1369/1237-TCDF	NotFnd		0.9387						1.08		2577.83	0.142
2467-TCDF	NotFnd		0.9433						1.08		2577.83	0.142
2368-TCDF	NotFnd		0.9489						1.08		2577.83	0.142
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2577.83	0.142
1278-TCDF	NotFnd		0.9683						1.08		2577.83	0.142
1349-TCDF	NotFnd		0.9722						1.08		2577.83	0.142
1267-TCDF	NotFnd		0.9783						1.08		2577.83	0.142
2346/1249-TCDF	NotFnd		0.9850						1.08		2577.83	0.142
2347/1279-TCDF	NotFnd		0.9926						1.08		2577.83	0.142
2348-TCDF	NotFnd		0.9967						1.08		2577.83	0.142
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**2577.83**	**0.142**
2367/3467-TCDF	NotFnd		1.0137						1.08		2577.83	0.142
1269-TCDF	NotFnd		1.0223						1.08		2577.83	0.142
1239-TCDF	NotFnd		1.0321						1.08		2577.83	0.142
1289-TCDF	NotFnd		1.0722						1.08		2577.83	0.142
13468/12468-PeCDF	NotFnd		0.9139						1.02		2710.983	0.141
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		2796.022	0.145
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		2796.022	0.145
14678-PeCDF	NotFnd		0.9692						1.02		2796.022	0.145
13479-PeCDF	NotFnd		0.9723						1.02		2796.022	0.145
13469/12479-PeCDF	NotFnd		0.9797						1.02		2796.022	0.145
12346-PeCDF	NotFnd		0.9840						1.02		2796.022	0.145

Lab ID: MB1_18916_DF_SDS | **Acq'd:** 11 Feb 2022 18:28 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6290_18916 | **UTP:** 14-Feb-2022 10:10:28 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 120-476-TRV

Datafile: 220211C05 | **Report:** 14 Feb 2022 10:42 gd | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

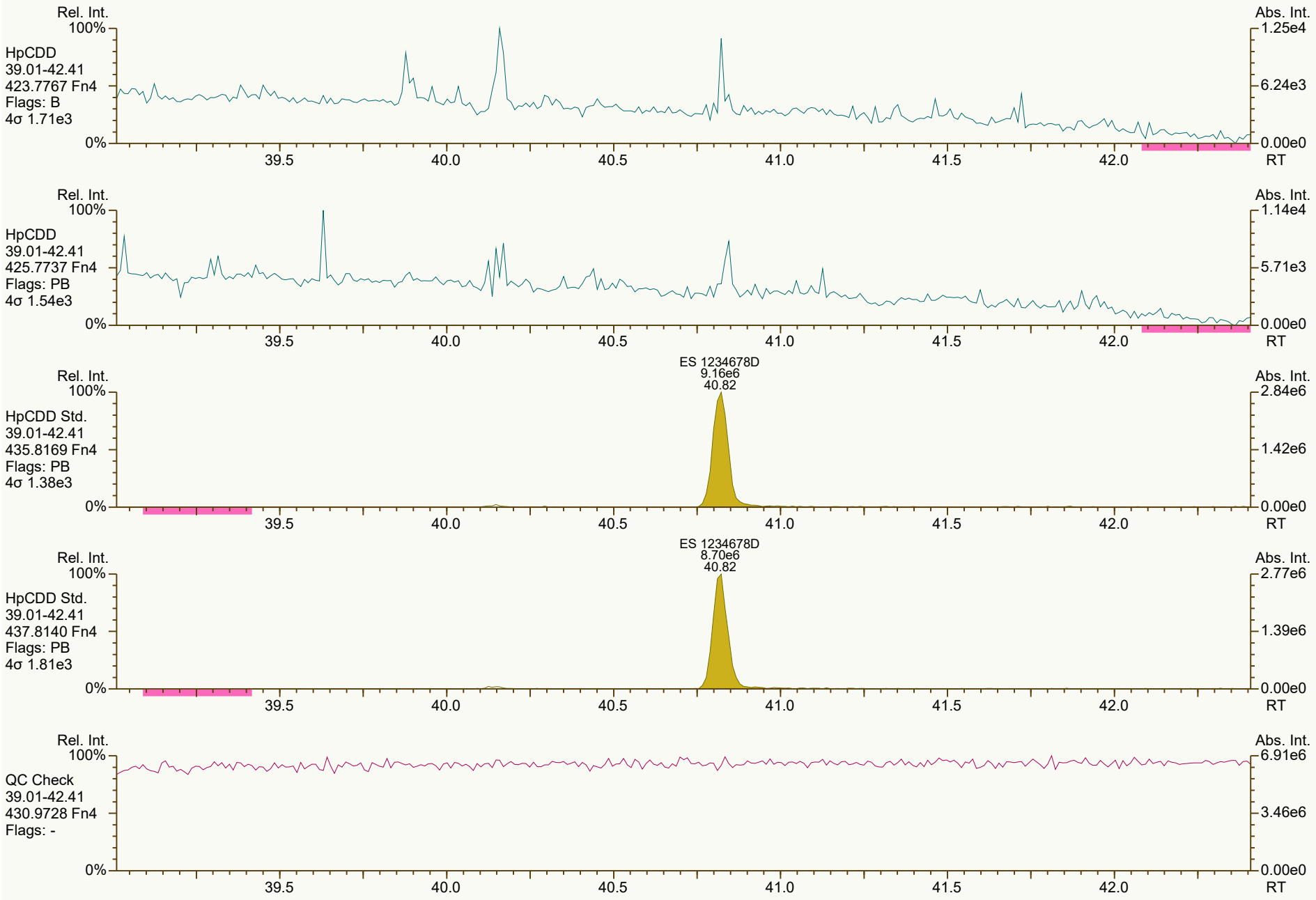
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		2796.022	0.145
12347-PeCDF	NotFnd		0.9894						1.02		2796.022	0.145
12348-PeCDF	NotFnd		0.9940						1.02		2796.022	0.145
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2796.022**	**0.139**
12678/12367-PeCDF	NotFnd		1.0089						1.02		2796.022	0.145
12379-PeCDF	NotFnd		1.0142						1.02		2796.022	0.145
12679-PeCDF	NotFnd		0.9929						1.02		2796.022	0.145
23467/12369-PeCDF	NotFnd		0.9967						1.02		2796.022	0.145
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2796.022**	**0.153**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2796.022	0.145
12349-PeCDF	NotFnd		1.0100						1.02		2796.022	0.145
12389-PeCDF	NotFnd		1.0324						1.02		2796.022	0.145
123468-HxCDF	NotFnd		0.9627						1.19		2850.67	0.154
124678/134678-HxCDF	NotFnd		0.9682						1.19		2850.67	0.154
134679-HxCDF	NotFnd		0.9744						1.19		2850.67	0.154
124679-HxCDF	NotFnd		0.9798						1.19		2850.67	0.154
124689-HxCDF	NotFnd		0.9858						1.19		2850.67	0.154
123467-HxCDF	NotFnd		0.9972						1.19		2850.67	0.154
123478-HxCDF	**NotFnd**		**1.0005**						**1.27**		**2850.67**	**0.155**
123678-HxCDF	**NotFnd**		**1.0005**						**1.15**		**2850.67**	**0.144**
123479-HxCDF	NotFnd		1.0049						1.19		2850.67	0.154
123469-HxCDF	NotFnd		1.0090						1.19		2850.67	0.154
123679-HxCDF	NotFnd		0.9942						1.19		2850.67	0.154
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2850.67**	**0.142**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2850.67	0.154
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2850.67**	**0.187**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		2850.67	0.154
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**3061.261**	**0.138**
1234679-HpCDF	NotFnd		1.0068						1.34		3061.261	0.186
1234689-HpCDF	NotFnd		1.0103						1.34		3061.261	0.186
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**3061.261**	**0.262**
OCDF	**NotFnd**		**1.0003**						**1.07**		**2193.232**	**0.35**
OCDF-a	NotFnd		1.0002						0.07		3009.229	7.76


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.39e6
1.69e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.05e6
1.53e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.18e7
5.89e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
6.91e6
3.46e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.73e6
2.87e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 2.02e3
0%
Abs. Int.
1.39e4
6.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.37e3
0%
Abs. Int.
1.18e4
5.91e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.22e3
0%
CS 37Cl-2378D
1.17e7
28.48
Abs. Int.
2.70e6
1.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 2.83e3
0%
JS 1234D
1.26e7
27.80
ES 2378D
1.12e7
28.46
Abs. Int.
2.84e6
1.42e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.27e3
0%
JS 1234D
1.54e7
27.80
ES 2378D
1.42e7
28.46
Abs. Int.
3.65e6
1.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: B
4σ 1.78e3
0%
Abs. Int.
6.03e3
3.02e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 1.35e3
0%
Abs. Int.
4.96e3
2.48e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 2.26e3
CS 12347D
1.34e7
33.30
ES 12378D
1.31e7
33.81
0%
Abs. Int.
3.85e6
1.92e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.54e3
CS 12347D
8.55e6
33.30
ES 12378D
8.68e6
33.81
0%
Abs. Int.
2.51e6
1.26e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.05e6
1.53e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

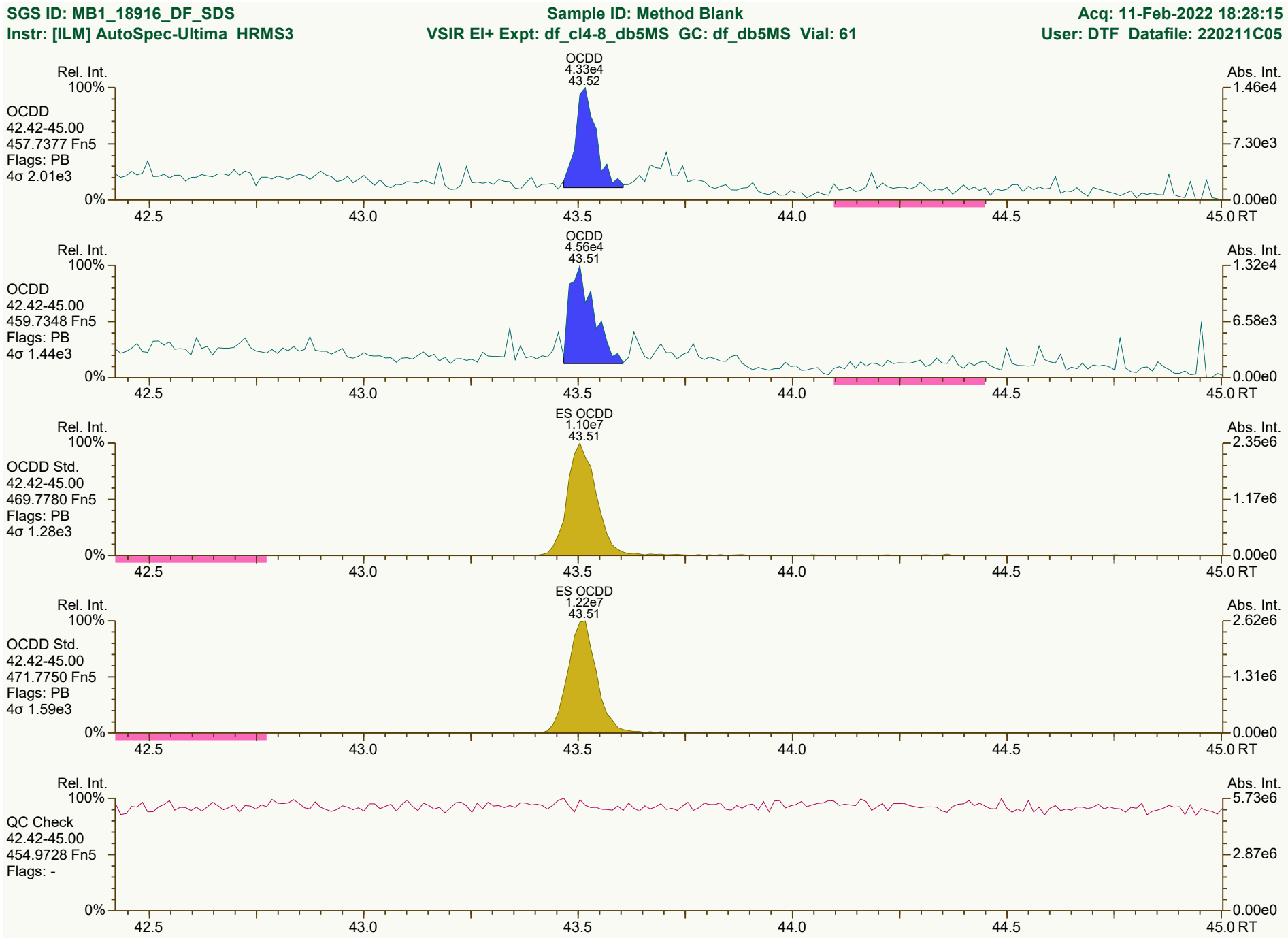

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 1.04e3
0%
Abs. Int.
6.83e3
3.41e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: B
4σ 1.23e3
0%
Abs. Int.
6.04e3
3.02e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 2.22e3
0%
ES 123678D
1.14e7
37.85
ES 123478D
1.07e7
37.73
ES 123789D
1.16e7
38.14
JS 123467D
5.76e6
38.04
Abs. Int.
3.37e6
1.69e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 1.86e3
0%
ES 123678D
8.98e6
37.85
ES 123478D
8.77e6
37.73
ES 123789D
9.31e6
38.14
JS 123467D
4.67e6
38.04
Abs. Int.
2.88e6
1.44e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.18e7
5.89e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.71e3
0%
Abs. Int.
1.25e4
6.24e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.54e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
9.16e6
40.82
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.38e3
0%
Abs. Int.
2.84e6
1.42e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
8.70e6
40.82
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.81e3
0%
Abs. Int.
2.77e6
1.39e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
6.91e6
3.46e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

SGS ID: MB1_18916_DF_SDS
Instr: [ILM] AutoSpec-Ultima HRMS3

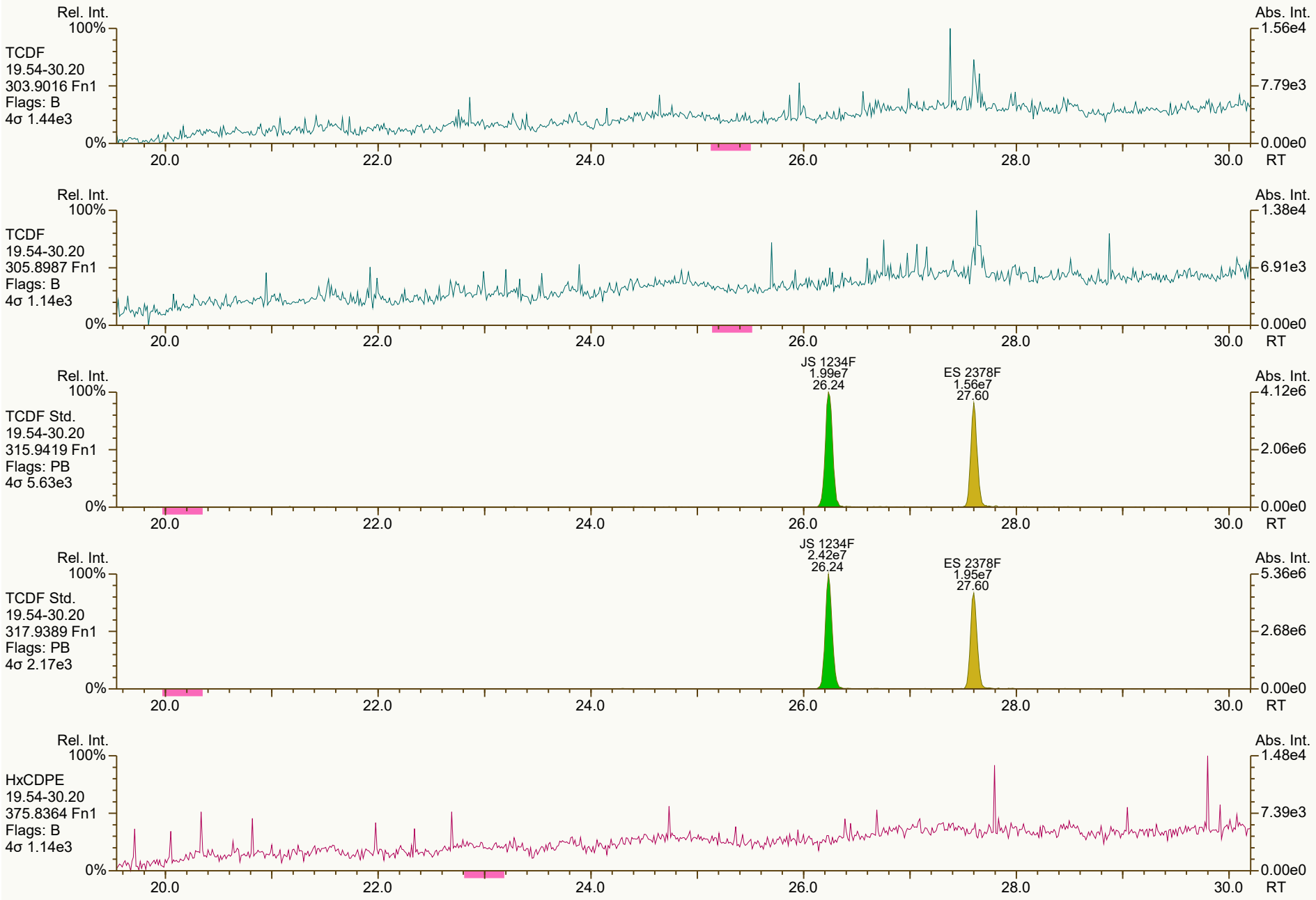
Sample ID: Method Blank
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 61

Acq: 11-Feb-2022 18:28:15
User: DTF Datafile: 220211C05



Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\MB1_18916_DF_SDS.utp_res, saved 14-Feb-2022 10:11 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8606, 3285 scc: 120-476

Peak annotation: Areas, Centroids
PKD: 14-Feb-2022 10:10 Printed: 14-Feb-2022 11:02 Page 6 of 12


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: B
4σ 1.44e3
0%
Abs. Int.
1.56e4
7.79e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 1.14e3
0%
Abs. Int.
1.38e4
6.91e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 5.63e3
0%
JS 1234F
1.99e7
26.24
ES 2378F
1.56e7
27.60
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.17e3
0%
JS 1234F
2.42e7
26.24
ES 2378F
1.95e7
27.60
Abs. Int.
5.36e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.14e3
0%
Abs. Int.
1.48e4
7.39e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

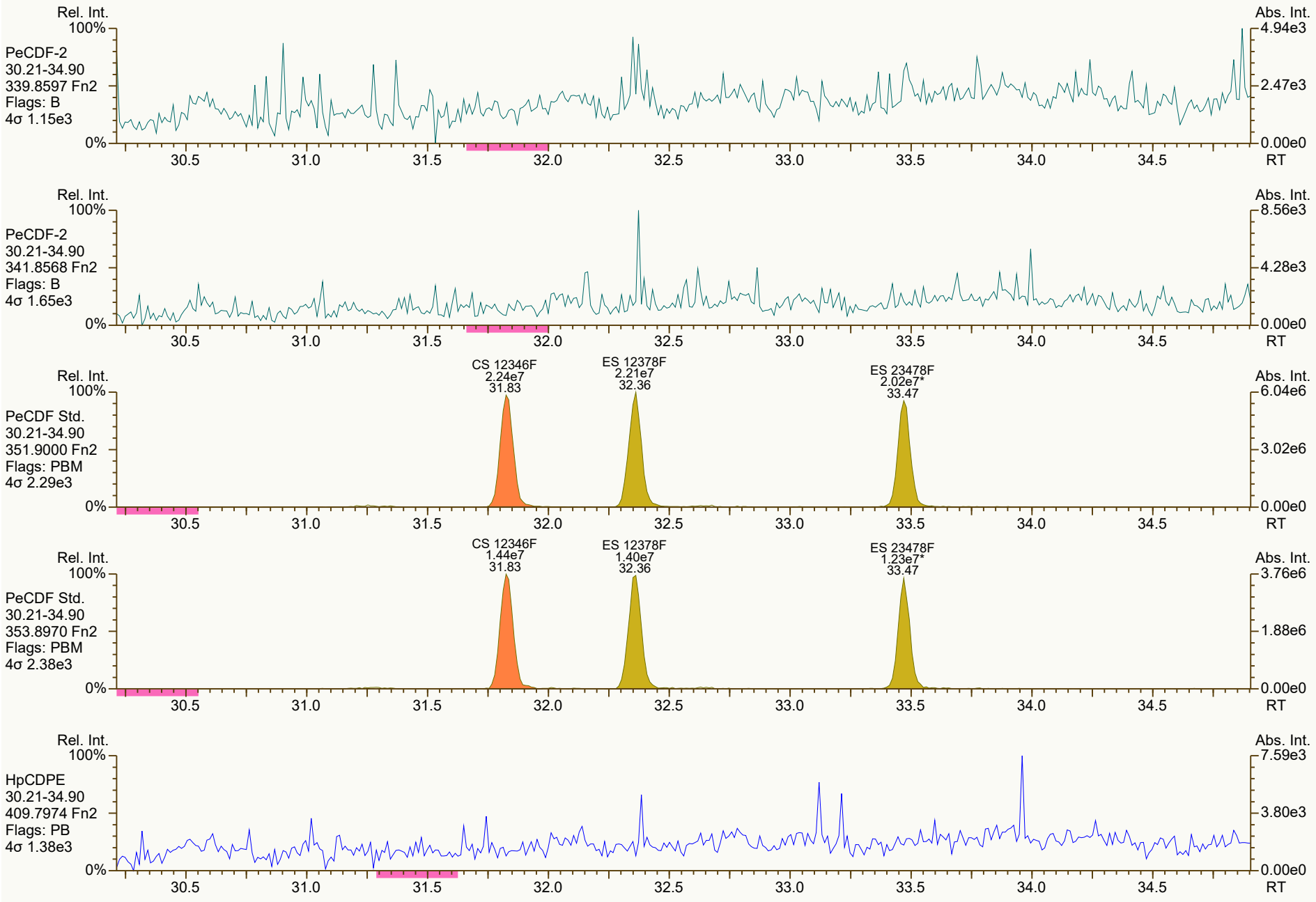
SGS ID: MB1_18916_DF_SDS | Sample ID: Method Blank | Acq: 11-Feb-2022 18:28:15

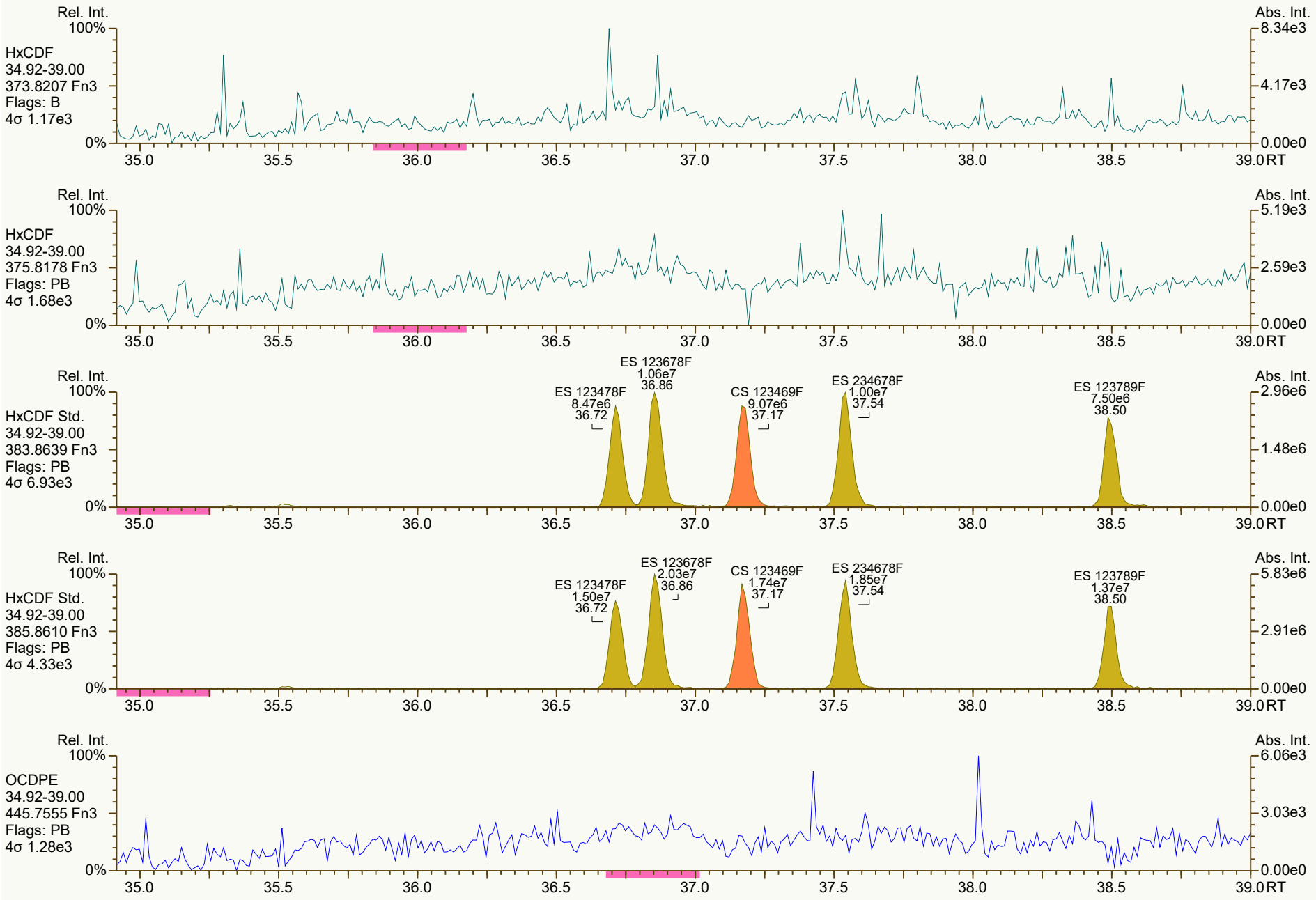
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 61 | User: DTF Datafile: 220211C05



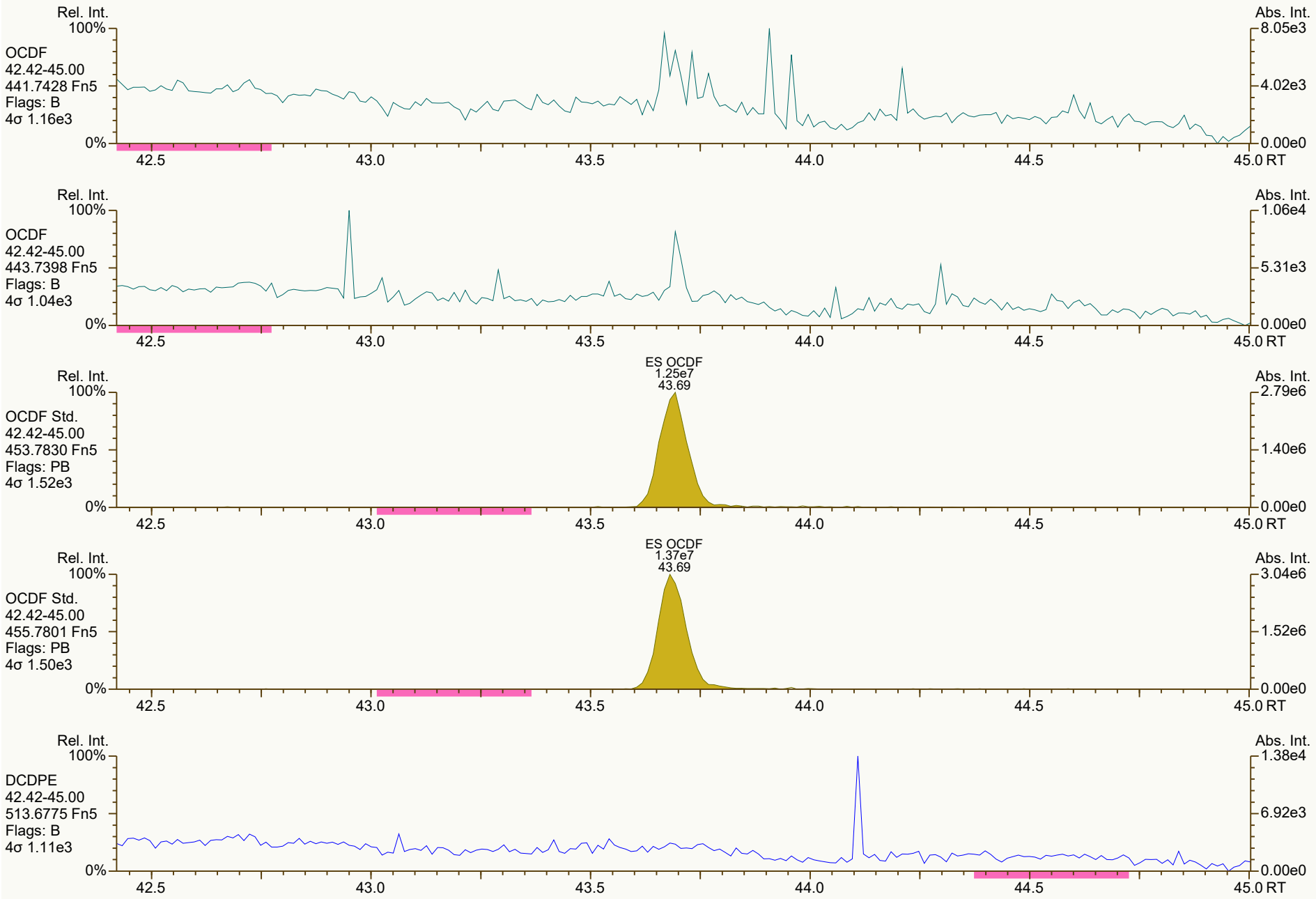
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\MB1_18916_DF_SDS.utp_res, saved 14-Feb-2022 10:11 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1542 scc: 120-476 | *PKD: 14-Feb-2022 10:09 Printed: 14-Feb-2022 11:02 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: B
4σ 1.15e3
0%
Abs. Int.
4.94e3
2.47e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: B
4σ 1.65e3
8.56e3
4.28e3
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PBM
4σ 2.29e3
CS 12346F
2.24e7
31.83
ES 12378F
2.21e7
32.36
ES 23478F
2.02e7*
33.47
6.04e6
3.02e6
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PBM
4σ 2.38e3
CS 12346F
1.44e7
31.83
ES 12378F
1.40e7
32.36
ES 23478F
1.23e7*
33.47
3.76e6
1.88e6
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: PB
4σ 1.38e3
7.59e3
3.80e3


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: B
4σ 1.17e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PB
4σ 1.68e3
0%
Abs. Int.
5.19e3
2.59e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 6.93e3
0%
ES 123478F
8.47e6
36.72
ES 123678F
1.06e7
36.86
CS 123469F
9.07e6
37.17
ES 234678F
1.00e7
37.54
ES 123789F
7.50e6
38.50
Abs. Int.
2.96e6
1.48e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 4.33e3
0%
ES 123478F
1.50e7
36.72
ES 123678F
2.03e7
36.86
CS 123469F
1.74e7
37.17
ES 234678F
1.85e7
37.54
ES 123789F
1.37e7
38.50
Abs. Int.
5.83e6
2.91e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.28e3
0%
Abs. Int.
6.06e3
3.03e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.33e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.39e3
0%
Abs. Int.
8.43e3
4.21e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 2.58e3
0%
ES 1234678F
7.41e6
39.89
CS 1234689F
6.28e6
40.29
ES 1234789F
4.74e6
41.28
Abs. Int.
2.55e6
1.28e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 1.50e3
0%
ES 1234678F
1.62e7
39.89
CS 1234689F
1.38e7
40.29
ES 1234789F
1.04e7
41.28
Abs. Int.
5.27e6
2.64e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.18e3
0%
Abs. Int.
6.50e3
3.25e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: B
4σ 1.16e3
0%
Abs. Int.
8.05e3
4.02e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: B
4σ 1.04e3
0%
Abs. Int.
1.06e4
5.31e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.25e7
43.69
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
2.79e6
1.40e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.37e7
43.69
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 1.50e3
0%
Abs. Int.
3.04e6
1.52e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.11e3
0%
Abs. Int.
1.38e4
6.92e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6290_18916_DF_001 **Acq'd:** 11 Feb 2022 19:14 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020422-S-SB-SW-S-48 **UTP:** 14-Feb-2022 10:16:05 PSW **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 946-376-RXM

Datafile: 220211C06 **Report:** 14 Feb 2022 10:42 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.48		1.0008	1.0008	0	1.81E+07	0.79	Y	1.18	125	3797.79	0.269
12378-PeCDD	33.82		1.0005	1.0005	0	3.90E+05	1.41	Y	1.04	3.41	10275.67	0.74
123478-HxCDD	37.74	J	1.0004	1.0004	0	1.97E+05	1.13	Y	1.09	1.97	10538.177	0.917
123678-HxCDD	37.86		1.0035	1.0035	0	1.07E+06	1.23	Y	1.15	10.3	10538.177	0.84
123789-HxCDD	38.15		1.0113	1.0114	+0.2	7.61E+05	1.42	Y	1.05	7.08	10538.177	0.829
1234678-HpCDD	40.83		1.0003	1.0003	0	3.30E+07	1.03	Y	1.06	349	5858.249	0.515
OCDD	43.53		1.0002	1.0003	+0.3	2.55E+08	0.91	Y	1.13	3,700	4221.953	0.697
2378-TCDF	27.62		1.0008	1.0008	0	6.28E+07	0.79	Y	1.08	329	2349.169	0.138
12378-PeCDF	32.37		1.0005	1.0005	0	2.80E+06	1.43	Y	1.02	17.1	6253.787	0.345
23478-PeCDF	33.49	PR	1.0005	1.0007	+0.4	2.76E+06	1.55	Y	1.02	17.4	6253.787	0.358
123478-HxCDF	36.73		1.0005	1.0005	0	5.41E+06	1.28	Y	1.27	35.1	7597.134	0.419
123678-HxCDF	36.87		1.0005	1.0004	-0.2	1.99E+06	1.23	Y	1.15	12.7	7597.134	0.412
234678-HxCDF	37.55		1.0005	1.0003	-0.5	1.93E+06	1.21	Y	1.19	12.7	7597.134	0.46
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	7597.134	0.533
1234678-HpCDF	39.89		1.0003	1.0003	0	1.21E+07	1.02	Y	1.37	88.4	4580.842	0.246
1234789-HpCDF	41.28		1.0003	1.0003	0	1.42E+06	1.05	Y	1.31	13.2	4580.842	0.348
OCDF	43.71		1.0003	1.0003	0	1.01E+07	0.88	Y	1.07	113	3421.432	0.475

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.45	1.0238	1.0238	0	2.42E+07	0.83	Y	1.05	66.2
ES 12378-PeCDD	33.80	1.2160	1.2162	+0.4	2.17E+07	1.60	Y	0.88	70.6
ES 123478-HxCDD	37.72	0.9919	0.9918	-0.2	1.81E+07	1.25	Y	0.97	71.1
ES 123678-HxCDD	37.84	0.9950	0.9949	-0.2	1.78E+07	1.29	Y	0.94	71.9
ES 123789-HxCDD	38.14	1.0027	1.0027	0	2.02E+07	1.28	Y	1.09	70.7
ES 1234678-HpCDD	40.81	1.0730	1.0730	0	1.76E+07	1.11	Y	0.91	73.4
ES OCDD	43.52	1.1437	1.1441	+1.0	2.41E+07	0.91	Y	0.62	73.7
ES 2378-TCDF	27.60	1.0520	1.0519	-0.2	3.49E+07	0.78	Y	1.06	62.4
ES 12378-PeCDF	32.35	1.2330	1.2333	+0.6	3.16E+07	1.59	Y	0.91	65.7
ES 23478-PeCDF	33.47	1.2754	1.2757	+0.6	3.06E+07	1.55	Y	0.88	65.7
ES 123478-HxCDF	36.71	0.9653	0.9652	-0.2	2.39E+07	0.54	Y	1.20	76
ES 123678-HxCDF	36.86	0.9691	0.9690	-0.2	2.68E+07	0.52	Y	1.35	75.5
ES 234678-HxCDF	37.54	0.9870	0.9870	0	2.53E+07	0.53	Y	1.24	77.4
ES 123789-HxCDF	38.49	1.0121	1.0120	-0.2	2.14E+07	0.54	Y	1.16	70.7
ES 1234678-HpCDF	39.88	1.0484	1.0484	0	1.97E+07	0.45	Y	0.97	77.6
ES 1234789-HpCDF	41.27	1.0851	1.0850	-0.2	1.62E+07	0.47	Y	0.85	72.7
ES OCDF	43.70	1.1483	1.1488	+1.3	3.27E+07	0.92	Y	0.81	77.2

Lab ID: B6290_18916_DF_001 **Acq'd:** 11 Feb 2022 19:14 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020422-S-SB-SW-S-48 **UTP:** 14-Feb-2022 10:16:05 PSW **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 946-376-RXM

Datafile: 220211C06 **Report:** 14 Feb 2022 10:42 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.79		-	-	-	3.50E+07	0.83	Y	-	-
JS 1234-TCDF	26.23		-	-	-	5.28E+07	0.78	Y	-	-
JS 123467-HxCDD	38.04		-	-	-	1.31E+07	1.30	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0245	1.0246	+0.2	1.22E+07	n/a	-	1.20	72.5
CS 12347-PeCDD	33.30		1.1979	1.1981	+0.4	2.09E+07	1.62	Y	0.75	79.3
CS 12346-PeCDF	31.82		1.2128	1.2130	+0.4	3.47E+07	1.57	Y	0.85	77.3
CS 123469-HxCDF	37.17		0.9774	0.9773	-0.2	2.63E+07	0.54	Y	1.12	89.8
CS 1234689-HpCDF	40.28		1.0589	1.0590	+0.2	2.16E+07	0.48	Y	0.89	92.7
~~SS 37Cl-2378-TCDD~~	~~28.48~~		~~1.0245~~	~~1.0246~~	~~+0.2~~	~~1.22E+07~~	~~n/a~~		~~1.15~~	~~110~~
~~SS 12347-PeCDD~~	~~33.30~~		~~1.1979~~	~~1.1981~~	~~+0.4~~	~~2.09E+07~~	~~1.62~~	~~Y~~	~~0.86~~	~~112~~
~~SS 12346-PeCDF~~	~~31.82~~		~~1.2128~~	~~1.2130~~	~~+0.4~~	~~3.47E+07~~	~~1.57~~	~~Y~~	~~0.94~~	~~117~~
~~SS 123469-HxCDF~~	~~37.17~~		~~0.9774~~	~~0.9773~~	~~-0.2~~	~~2.63E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~119~~
~~SS 1234689-HpCDF~~	~~40.28~~		~~1.0589~~	~~1.0590~~	~~+0.2~~	~~2.16E+07~~	~~0.48~~	~~Y~~	~~0.92~~	~~119~~

Totals	Conc	EMPC
Total TCDD	151	156
Total PeCDD	15.7	26.6
Total HxCDD	130	134
Total HpCDD	670	670
Total Tetra-Octa Dioxins	4660	4680
Total TCDF	734	734
Total PeCDF	95.2	99.1
Total HxCDF	119	120
Total HpCDF	156	156
Total Tetra-Octa Furans	1,220	1220
Total Tetra-Octa Dioxins & Furans	5880	5900

Lab ID: B6290_18916_DF_001 **Acq'd: 11 Feb 2022 19:14 DTF** **Wt/Vol: 10.14 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020422-S-SB-SW-S-48 **UTP: 14-Feb-2022 10:16:05 PSW** **J-level: 0.493 pg/g** **Split: 1** **Checkcode: 946-376-RXM**

Datafile: 220211C06 **Report: 14 Feb 2022 10:42 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.83		0.8737	0.8725	-1.8	2.99E+05	0.84	Y	1.18	2.05	3797.79	0.269
1379-TCDD	25.19	EMPC	0.8860	0.8853	-1.1	1.68E+05	1.07	N	1.18	1.16	3797.79	0.269
1369-TCDD	25.62		0.9009	0.9002	-1.1	8.90E+04	0.74	Y	1.18	0.612	3797.79	0.269
1469-TCDD	26.40		0.9281	0.9277	-0.6	6.06E+05	0.84	Y	1.18	4.17	3797.79	0.269
1247/1246/1248/1249-TCDD	26.64		0.9362	0.9361	-0.2	2.10E+05	0.76	Y	1.18	1.45	3797.79	0.269
1378-TCDD	26.84	EMPC	0.9432	0.9431	-0.2	1.63E+05	0.92	N	1.18	1.12	3797.79	0.269
1268-TCDD	27.05		0.9500	0.9507	+1.1	9.48E+04	0.73	Y	1.18	0.652	3797.79	0.269
1478-TCDD	27.27	EMPC	0.9586	0.9585	-0.2	1.04E+05	0.92	N	1.18	0.718	3797.79	0.269
1279-TCDD	27.44	J EMPC	0.9645	0.9643	-0.3	7.17E+04	1.18	N	1.18	0.493	3797.79	0.269
1234/1269-TCDD	27.78		0.9770	0.9764	-1.0	2.36E+05	0.70	Y	1.18	1.62	3797.79	0.269
1236-TCDD	NotFnd		0.9817						1.18		3797.79	0.269
1237/1238-TCDD	28.18		0.9905	0.9905	0	4.59E+05	0.81	Y	1.18	3.15	3797.79	0.269
1239-TCDD	NotFnd		0.9952						1.18		3797.79	0.269
2378-TCDD	**28.48**		**1.0008**	1.0008	**0**	1.81E+07	0.79	Y	**1.18**	**125**	**3797.79**	**0.269**
1278-TCDD	28.81		1.0121	1.0123	+0.3	1.86E+06	0.81	Y	1.18	12.8	3797.79	0.269
1267-TCDD	28.96	J	1.0167	1.0179	+2.1	6.19E+04	0.77	Y	1.18	0.425	3797.79	0.269
1289-TCDD	29.45	EMPC	1.0345	1.0349	+0.7	1.43E+05	0.90	N	1.18	0.982	3797.79	0.269
12479/12468-PeCDD	31.31	EMPC	0.9267	0.9264	-0.6	5.47E+05	0.96	N	1.04	4.79	10275.67	0.74
12469-PeCDD	31.85	EMPC	0.9425	0.9422	-0.6	4.75E+05	0.64	N	1.04	4.17	10275.67	0.74
12368-PeCDD	32.40	J	0.9588	0.9586	-0.4	2.11E+05	1.56	Y	1.04	1.85	10275.67	0.74
12478-PeCDD	NotFnd		0.9643						1.04		10275.67	0.74
12379-PeCDD	32.69	J	0.9673	0.9671	-0.4	2.05E+05	1.57	Y	1.04	1.8	10275.67	0.74
12369/12467/12489-PeCDD	32.95		0.9750	0.9748	-0.4	4.60E+05	1.46	Y	1.04	4.03	10275.67	0.74
12346/12347-PeCDD	33.32		0.9858	0.9859	+0.2	3.51E+05	1.56	Y	1.04	3.07	10275.67	0.74
12378-PeCDD	33.82		**1.0005**	**1.0005**	**0**	**3.90E+05**	**1.41**	**Y**	**1.04**	**3.41**	**10275.67**	**0.74**
12367-PeCDD	33.91	J	1.0033	1.0032	-0.2	1.73E+05	1.55	Y	1.04	1.51	10275.67	0.74
12389-PeCDD	34.26	J EMPC	1.0134	1.0135	+0.2	2.25E+05	1.81	N	1.04	1.97	10275.67	0.74
124679/124689-HxCDD	35.99		0.9542	0.9539	-0.6	4.83E+06	1.22	Y	1.10	46.5	10538.177	0.86
123468-HxCDD	36.64		0.9715	0.9713	-0.4	6.01E+05	1.27	Y	1.10	5.78	10538.177	0.86
123679/123689-HxCDD	36.94		0.9793	0.9793	0	5.65E+06	1.25	Y	1.10	54.3	10538.177	0.86
123469-HxCDD	37.07		0.9828	0.9828	0	3.94E+05	1.09	Y	1.10	3.79	10538.177	0.86
123478-HxCDD	37.74	J	**1.0004**	**1.0004**	**0**	**1.97E+05**	**1.13**	**Y**	1.09	**1.97**	**10538.177**	**0.917**
123678-HxCDD	37.86		**1.0035**	**1.0035**	**0**	**1.07E+06**	**1.23**	**Y**	1.15	**10.3**	**10538.177**	**0.84**
123467-HxCDD	38.05	EMPC	1.0085	1.0087	+0.5	4.04E+05	1.54	N	1.10	3.88	10538.177	0.86
123789-HxCDD	38.15		**1.0113**	**1.0114**	**+0.2**	**7.61E+05**	**1.42**	**Y**	1.05	**7.08**	**10538.177**	**0.829**

Lab ID: B6290_18916_DF_001 **Acq'd: 11 Feb 2022 19:14 DTF** **Wt/Vol: 10.14 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020422-S-SB-SW-S-48 **UTP: 14-Feb-2022 10:16:05 PSW** **J-level: 0.493 pg/g** **Split: 1** **Checkcode: 946-376-RXM**

Datafile: 220211C06 **Report: 14 Feb 2022 10:42 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

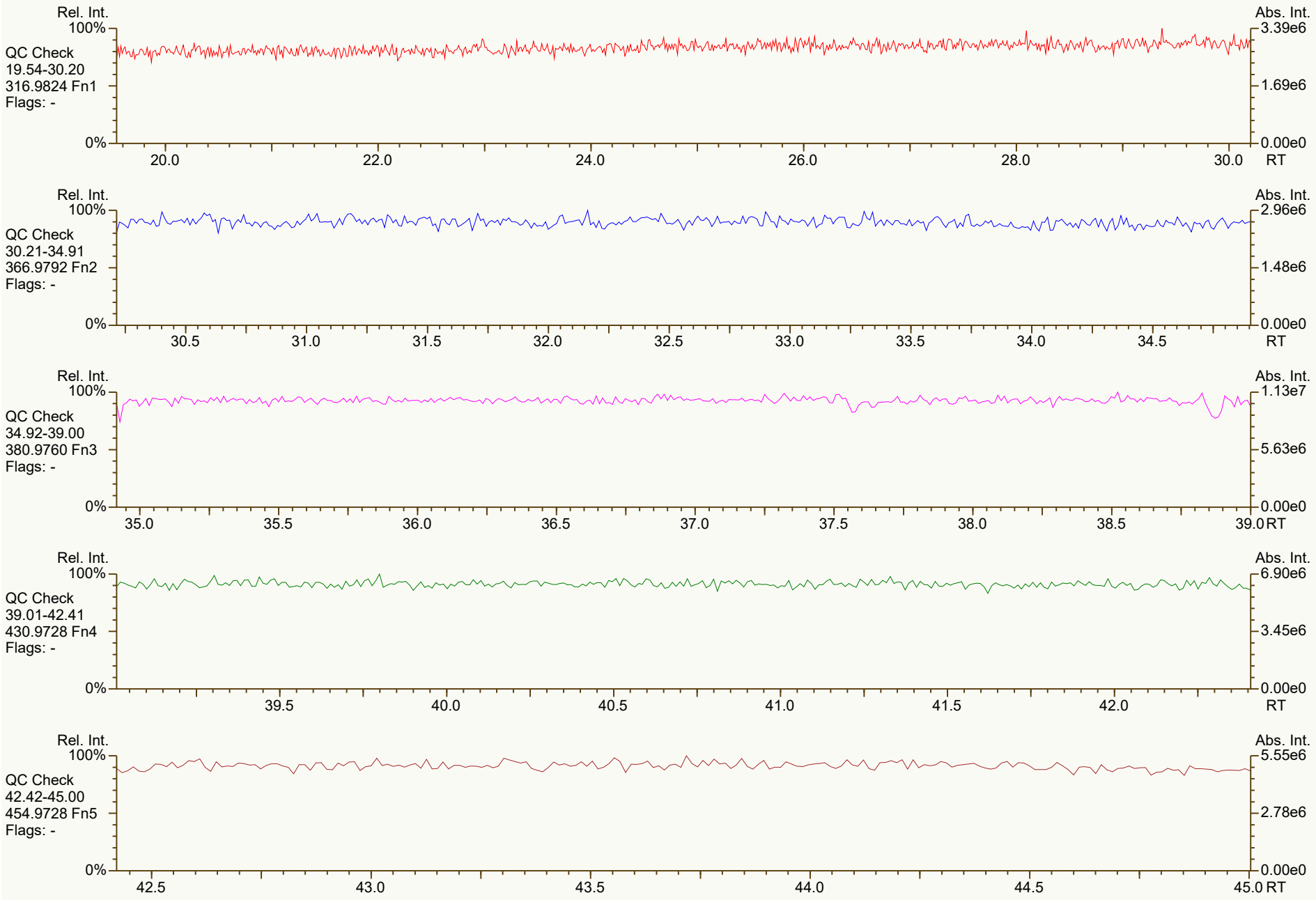
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.15		0.9837	0.9836	-0.2	3.03E+07	1.05	Y	1.06	321	5858.249	0.515
1234678-HpCDD	**40.83**		**1.0003**	**1.0003**	**0**	**3.30E+07**	**1.03**	**Y**	**1.06**	**349**	**5858.249**	**0.515**
OCDD	**43.53**		**1.0002**	**1.0003**	**+0.3**	**2.55E+08**	**0.91**	**Y**	**1.13**	**3,700**	**4221.953**	**0.697**
OCDD-a	43.53		1.0001	1.0003	+0.5	1.61E+07	2.77	Y	0.07	3,640	4990.85	12.9
1368-TCDF	22.72		0.8251	0.8234	-2.3	2.73E+05	0.69	Y	1.08	1.43	2349.169	0.138
1468-TCDF	23.31		0.8458	0.8445	-1.8	3.64E+05	0.86	Y	1.08	1.91	2349.169	0.138
2468-TCDF	23.94		0.8686	0.8674	-1.7	7.52E+05	0.77	Y	1.08	3.94	2349.169	0.138
1346/1246-TCDF	24.29		0.8814	0.8801	-1.9	2.43E+05	0.87	Y	1.08	1.27	2349.169	0.138
1347/1378/1247-TCDF	24.47		0.8867	0.8866	-0.1	2.08E+06	0.75	Y	1.08	10.9	2349.169	0.138
1348-TCDF	24.72		0.8962	0.8957	-0.7	5.96E+05	0.74	Y	1.08	3.12	2349.169	0.138
1248/1367/1379-TCDF	24.81		0.9009	0.8990	-2.8	4.05E+06	0.80	Y	1.08	21.2	2349.169	0.138
1268-TCDF	25.21		0.9145	0.9137	-1.2	1.65E+06	0.84	Y	1.08	8.62	2349.169	0.138
1467-TCDF	25.35		0.9193	0.9186	-1.1	4.23E+05	0.81	Y	1.08	2.21	2349.169	0.138
1478-TCDF	25.52		0.9254	0.9249	-0.8	3.28E+06	0.79	Y	1.08	17.2	2349.169	0.138
1369/1237-TCDF	25.90		0.9387	0.9384	-0.5	9.90E+05	0.79	Y	1.08	5.18	2349.169	0.138
2467-TCDF	26.02		0.9433	0.9430	-0.5	2.71E+05	0.81	Y	1.08	1.42	2349.169	0.138
2368-TCDF	26.18		0.9489	0.9489	0	2.98E+06	0.81	Y	1.08	15.6	2349.169	0.138
1238/1234/1678/1469/1236-TCDF	26.26		0.9523	0.9516	-1.1	3.75E+06	0.80	Y	1.08	19.6	2349.169	0.138
1278-TCDF	26.72		0.9683	0.9683	0	3.25E+07	0.78	Y	1.08	170	2349.169	0.138
1349-TCDF	NotFnd		0.9722						1.08		2349.169	0.138
1267-TCDF	26.99		0.9783	0.9781	-0.3	2.20E+06	0.80	Y	1.08	11.5	2349.169	0.138
2346/1249-TCDF	27.19		0.9850	0.9853	+0.5	5.63E+05	0.86	Y	1.08	2.95	2349.169	0.138
2347/1279-TCDF	27.38		0.9926	0.9923	-0.5	1.04E+06	0.83	Y	1.08	5.45	2349.169	0.138
2348-TCDF	27.50		0.9967	0.9967	0	6.34E+06	0.77	Y	1.08	33.2	2349.169	0.138
2378-TCDF	**27.62**		**1.0008**	**1.0008**	**0**	**6.28E+07**	**0.79**	**Y**	**1.08**	**329**	**2349.169**	**0.138**
2367/3467-TCDF	27.97		1.0137	1.0136	-0.2	6.06E+06	0.81	Y	1.08	31.8	2349.169	0.138
1269-TCDF	28.22		1.0223	1.0225	+0.3	1.20E+06	0.72	Y	1.08	6.29	2349.169	0.138
1239-TCDF	NotFnd		1.0321						1.08		2349.169	0.138
1289-TCDF	29.63		1.0722	1.0736	+2.5	5.72E+06	0.83	Y	1.08	29.9	2349.169	0.138
13468/12468-PeCDF	29.56		0.9139	0.9138	-0.2	1.89E+06	1.47	Y	1.02	11.7	3108.674	0.175
13678/13467/12467-PeCDF	31.10		0.9613	0.9614	+0.2	7.99E+05	1.61	Y	1.02	4.96	6253.787	0.352
12368/13478/12478-PeCDF	31.27		0.9662	0.9665	+0.6	3.31E+06	1.55	Y	1.02	20.5	6253.787	0.352
14678-PeCDF	31.35	J EMPC	0.9692	0.9691	-0.2	2.34E+05	1.22	N	1.02	1.45	6253.787	0.352
13479-PeCDF	31.45	J	0.9723	0.9720	-0.6	7.66E+04	1.50	Y	1.02	0.475	6253.787	0.352
13469/12479-PeCDF	31.68	J	0.9797	0.9791	-1.1	7.94E+04	1.76	Y	1.02	0.493	6253.787	0.352
12346-PeCDF	31.83	J EMPC	0.9840	0.9840	0	9.69E+04	1.94	N	1.02	0.601	6253.787	0.352

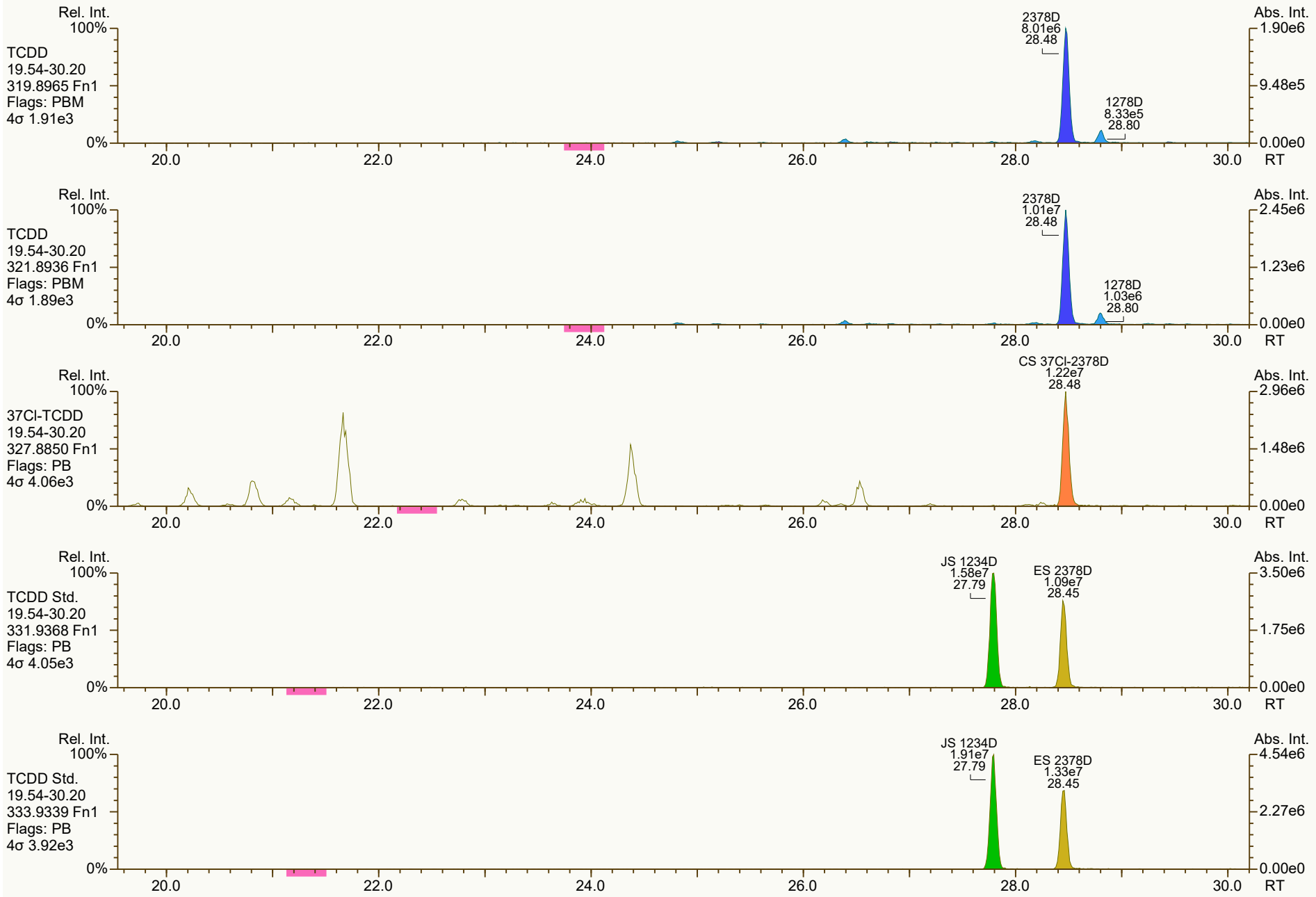
Lab ID: B6290_18916_DF_001 **Acq'd: 11 Feb 2022 19:14 DTF** **Wt/Vol: 10.14 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020422-S-SB-SW-S-48 **UTP: 14-Feb-2022 10:16:05 PSW** **J-level: 0.493 pg/g** **Split: 1** **Checkcode: 946-376-RXM**

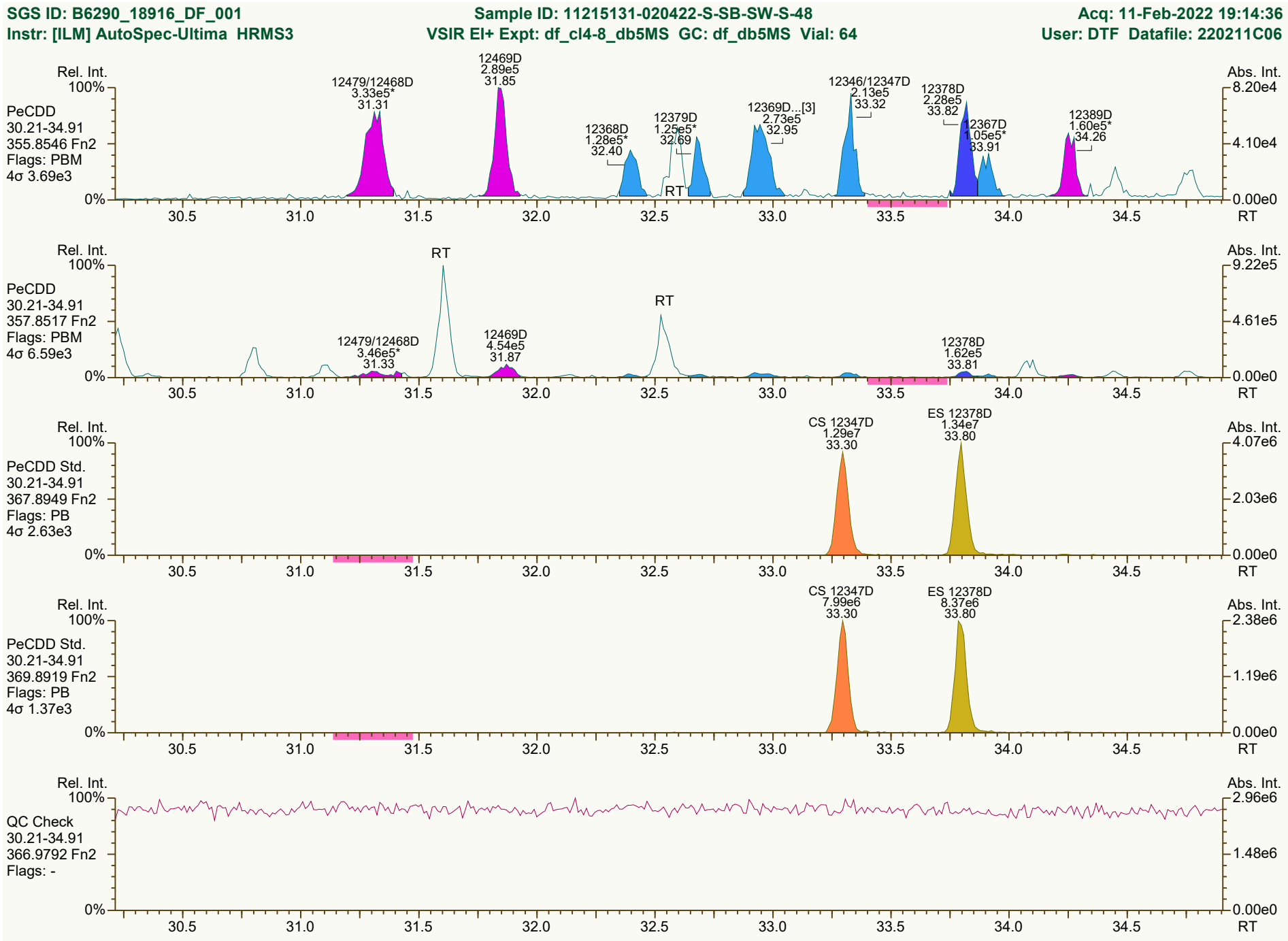
Datafile: 220211C06 **Report: 14 Feb 2022 10:42 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.92		0.9868	0.9867	-0.2	4.95E+05	1.78	Y	1.02	3.07	6253.787	0.352
12347-PeCDF	32.00		0.9894	0.9891	-0.6	4.42E+05	1.65	Y	1.02	2.74	6253.787	0.352
12348-PeCDF	32.16		0.9940	0.9940	0	5.01E+05	1.53	Y	1.02	3.11	6253.787	0.352
12378-PeCDF	**32.37**		**1.0005**	**1.0005**	**0**	**2.80E+06**	**1.43**	**Y**	**1.02**	**17.1**	**6253.787**	**0.345**
12678/12367-PeCDF	32.66		1.0089	1.0095	+1.2	1.73E+06	1.44	Y	1.02	10.7	6253.787	0.352
12379-PeCDF	32.82	J EMPC	1.0142	1.0143	+0.2	5.54E+04	0.94	N	1.02	0.343	6253.787	0.352
12679-PeCDF	33.22	J	0.9929	0.9928	-0.2	6.37E+04	1.43	Y	1.02	0.395	6253.787	0.352
23467/12369-PeCDF	33.35	J	0.9967	0.9965	-0.4	3.96E+05	1.33	Y	1.02	2.45	6253.787	0.352
23478-PeCDF	**33.49**		**1.0005**	**1.0007**	**+0.4**	**2.76E+06**	**1.55**	**Y**	**1.02**	**17.4**	**6253.787**	**0.358**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6253.787	0.352
12349-PeCDF	33.81	J EMPC	1.0100	1.0103	+0.6	8.25E+04	1.14	N	1.02	0.511	6253.787	0.352
12389-PeCDF	34.56	J EMPC	1.0324	1.0328	+0.8	1.60E+05	1.05	N	1.02	0.994	6253.787	0.352
123468-HxCDF	35.34		0.9627	0.9625	-0.4	7.49E+05	1.16	Y	1.19	5.08	7597.134	0.452
124678/134678-HxCDF	35.54		0.9682	0.9679	-0.6	4.55E+06	1.20	Y	1.19	30.9	7597.134	0.452
134679-HxCDF	35.77	J	0.9744	0.9744	0	1.12E+05	1.27	Y	1.19	0.758	7597.134	0.452
124679-HxCDF	35.97	J EMPC	0.9798	0.9797	-0.2	1.32E+05	1.48	N	1.19	0.896	7597.134	0.452
124689-HxCDF	36.19		0.9858	0.9857	-0.2	1.88E+06	1.28	Y	1.19	12.7	7597.134	0.452
123467-HxCDF	36.61		0.9972	0.9972	0	6.31E+05	1.23	Y	1.19	4.28	7597.134	0.452
123478-HxCDF	**36.73**		**1.0005**	**1.0005**	**0**	**5.41E+06**	**1.28**	**Y**	**1.27**	**35.1**	**7597.134**	**0.419**
123678-HxCDF	**36.87**		**1.0005**	**1.0004**	**-0.2**	**1.99E+06**	**1.23**	**Y**	**1.15**	**12.7**	**7597.134**	**0.412**
123479-HxCDF	37.04	J EMPC	1.0049	1.0049	0	8.80E+04	1.54	N	1.19	0.597	7597.134	0.452
123469-HxCDF	NotFnd		1.0090						1.19		7597.134	0.452
123679-HxCDF	37.31	J	0.9942	0.9940	-0.4	1.88E+05	1.23	Y	1.19	1.28	7597.134	0.452
234678-HxCDF	**37.55**		**1.0005**	**1.0003**	**-0.5**	**1.93E+06**	**1.21**	**Y**	**1.19**	**12.7**	**7597.134**	**0.46**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		7597.134	0.452
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**7597.134**	**0.533**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.53		1.0009	1.0010	+0.2	4.52E+05	1.25	Y	1.19	3.07	7597.134	0.452
1234678-HpCDF	**39.89**		**1.0003**	**1.0003**	**0**	**1.21E+07**	**1.02**	**Y**	**1.37**	**88.4**	**4580.842**	**0.246**
1234679-HpCDF	40.14		1.0068	1.0068	0	9.15E+05	1.10	Y	1.34	7.5	4580.842	0.292
1234689-HpCDF	40.29		1.0103	1.0104	+0.2	5.67E+06	1.02	Y	1.34	46.5	4580.842	0.292
1234789-HpCDF	**41.28**		**1.0003**	**1.0003**	**0**	**1.42E+06**	**1.05**	**Y**	**1.31**	**13.2**	**4580.842**	**0.348**
OCDF	**43.71**		**1.0003**	**1.0003**	**0**	**1.01E+07**	**0.88**	**Y**	**1.07**	**113**	**3421.432**	**0.475**
OCDF-a	43.71		1.0002	1.0002	0	6.65E+05	2.54	Y	0.07	121	3110.43	6.97

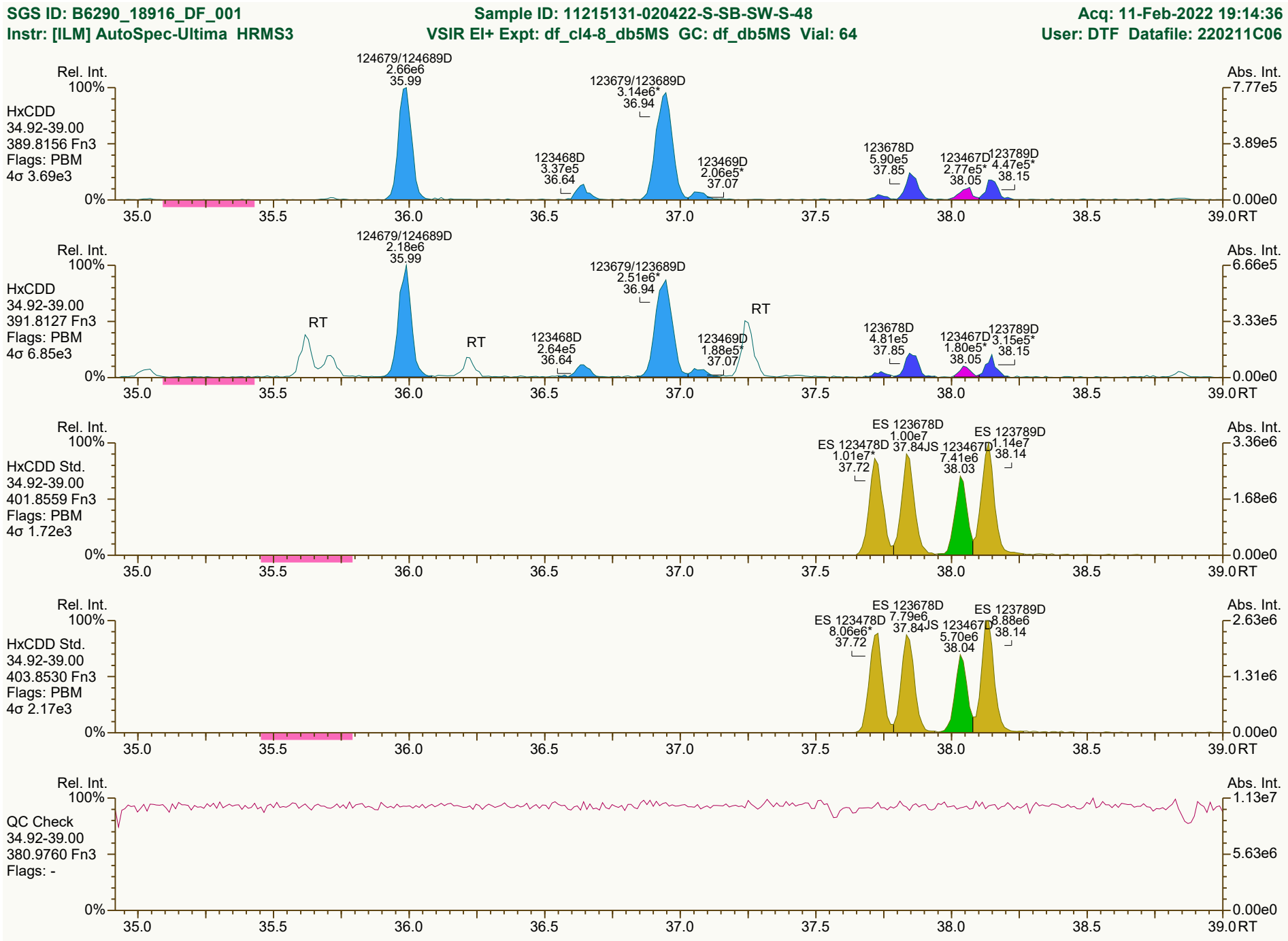

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.39e6
1.69e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
2.96e6
1.48e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.13e7
5.63e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
6.90e6
3.45e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.55e6
2.78e6
0.00e0

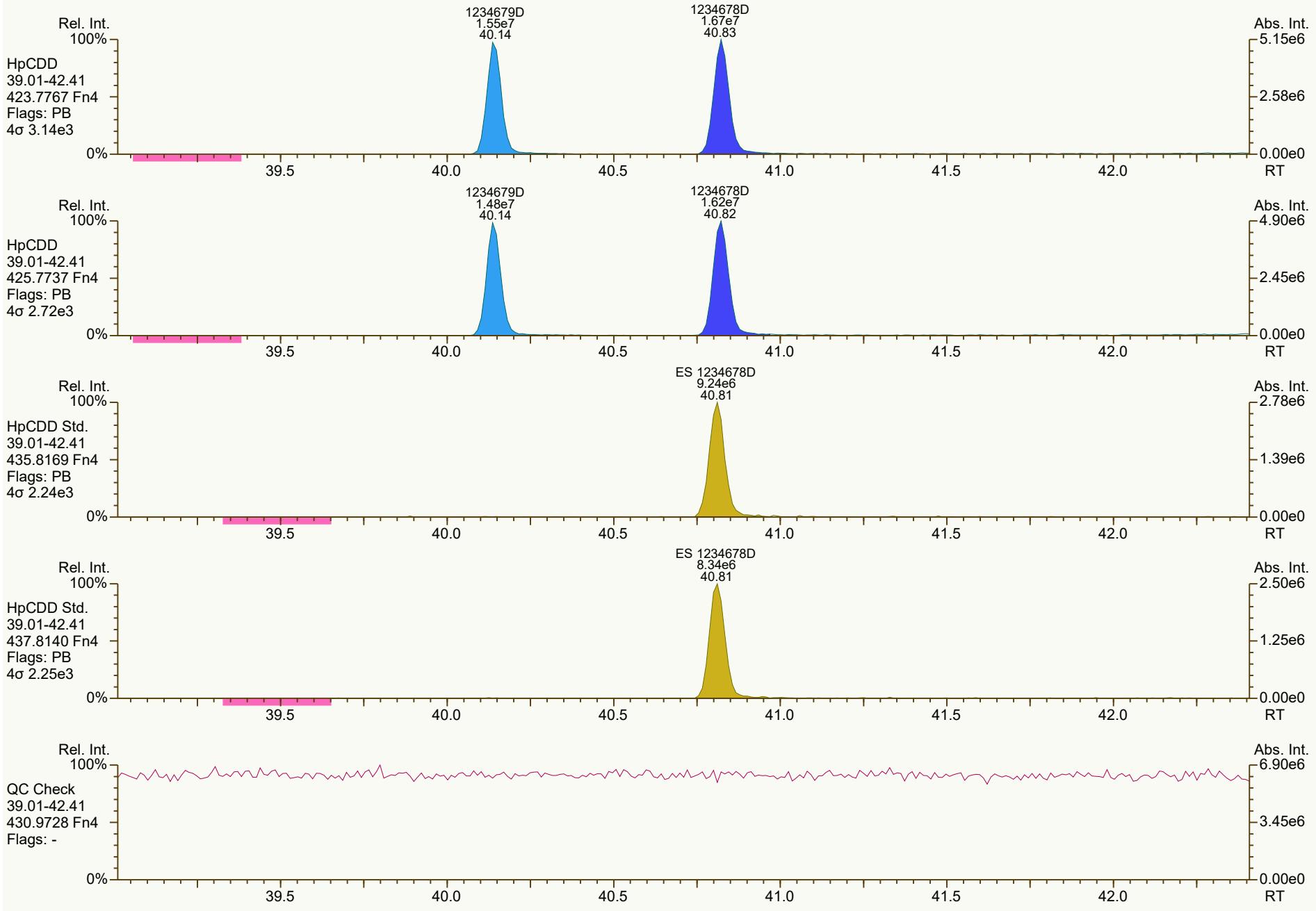

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.91e3
0%
2378D
8.01e6
28.48
1278D
8.33e5
28.80
Abs. Int.
1.90e6
9.48e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.89e3
0%
2378D
1.01e7
28.48
1278D
1.03e6
28.80
Abs. Int.
2.45e6
1.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 4.06e3
0%
CS 37Cl-2378D
1.22e7
28.48
Abs. Int.
2.96e6
1.48e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.05e3
0%
JS 1234D
1.58e7
27.79
ES 2378D
1.09e7
28.45
Abs. Int.
3.50e6
1.75e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.92e3
0%
JS 1234D
1.91e7
27.79
ES 2378D
1.33e7
28.45
Abs. Int.
4.54e6
2.27e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

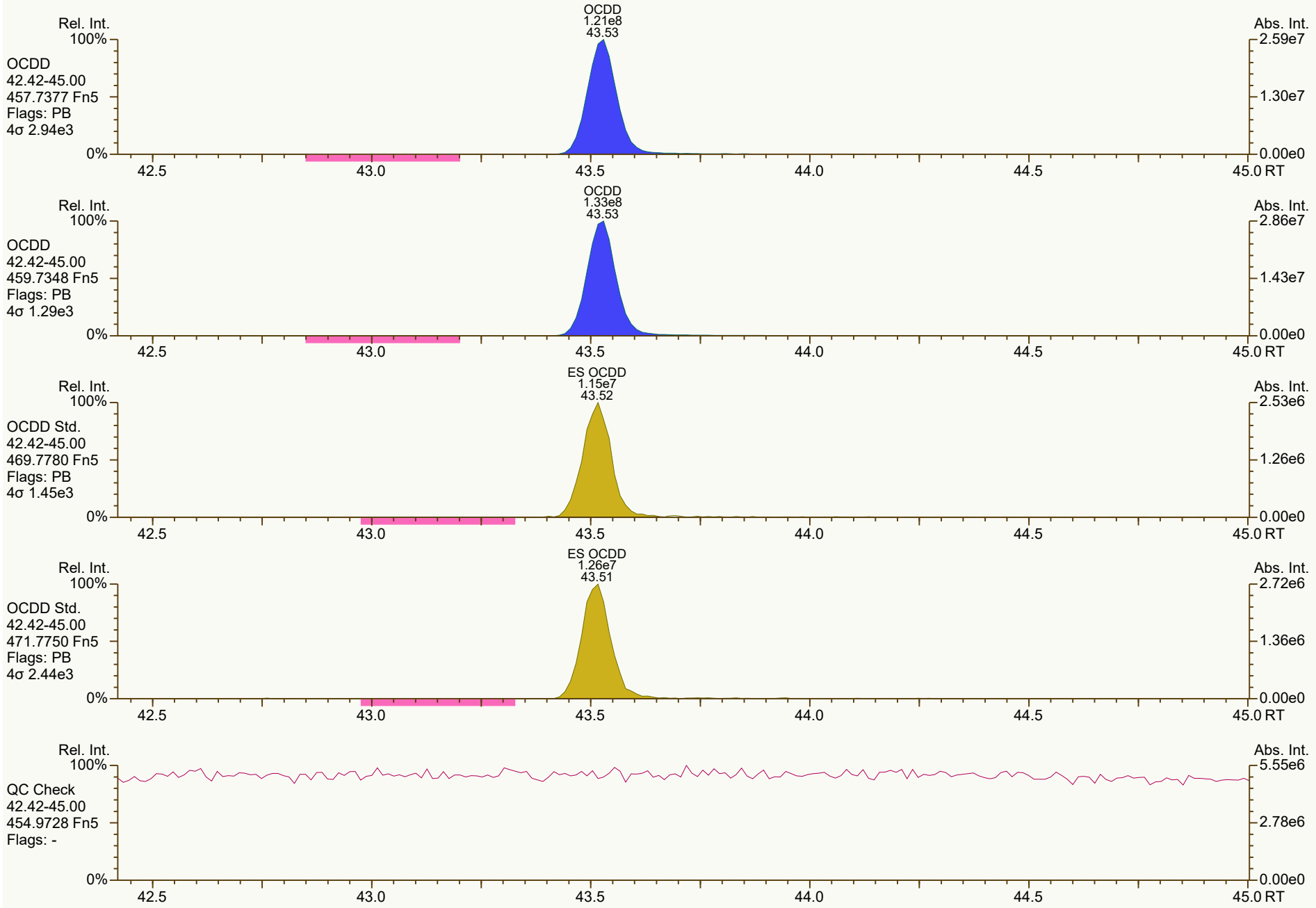
SGS ID: B6290_18916_DF_001 Sample ID: 11215131-020422-S-SB-SW-S-48 Acq: 11-Feb-2022 19:14:36
Instr: [ILM] AutoSpec-Ultima HRMS3 VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 64 User: DTF Datafile: 220211C06

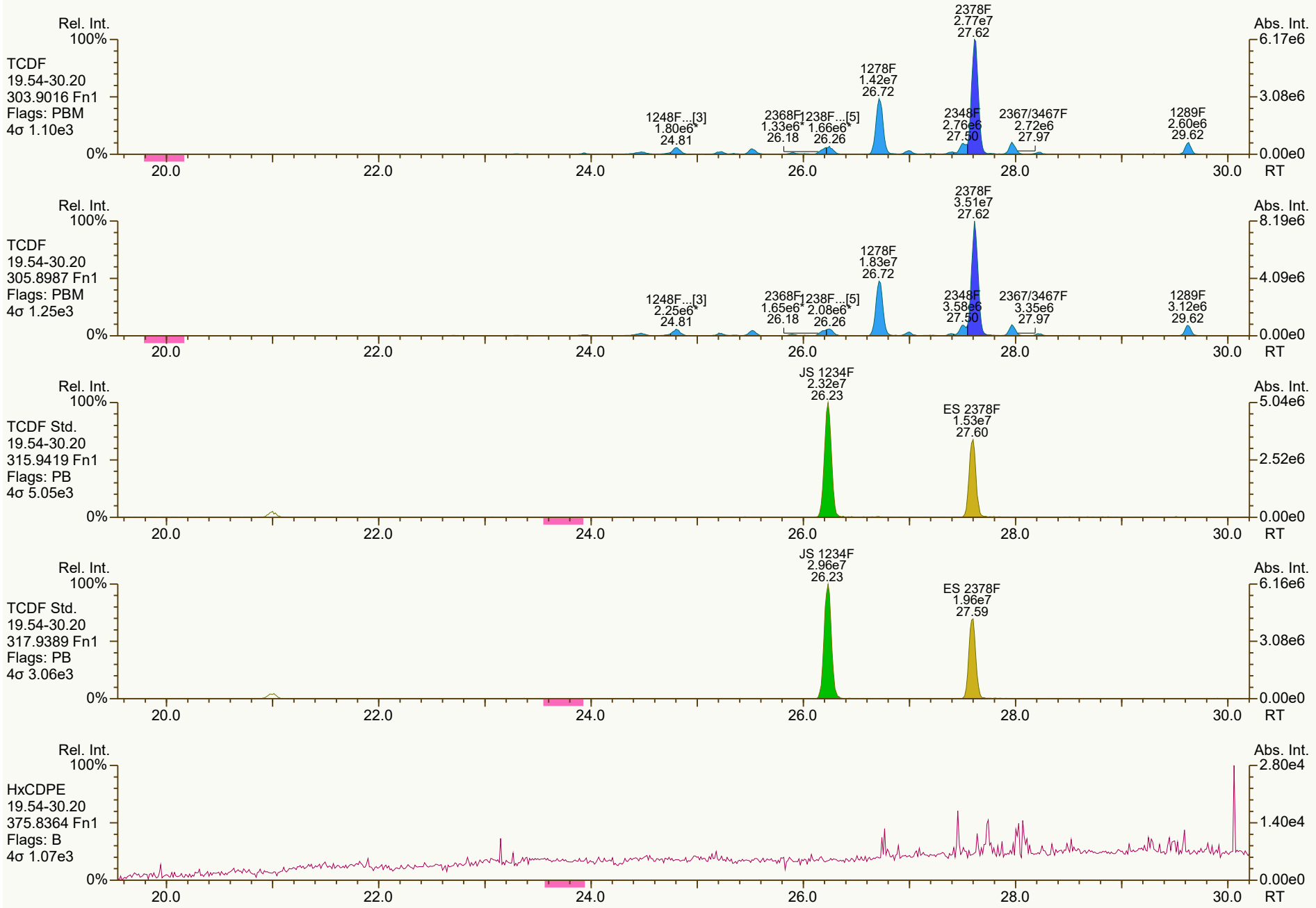


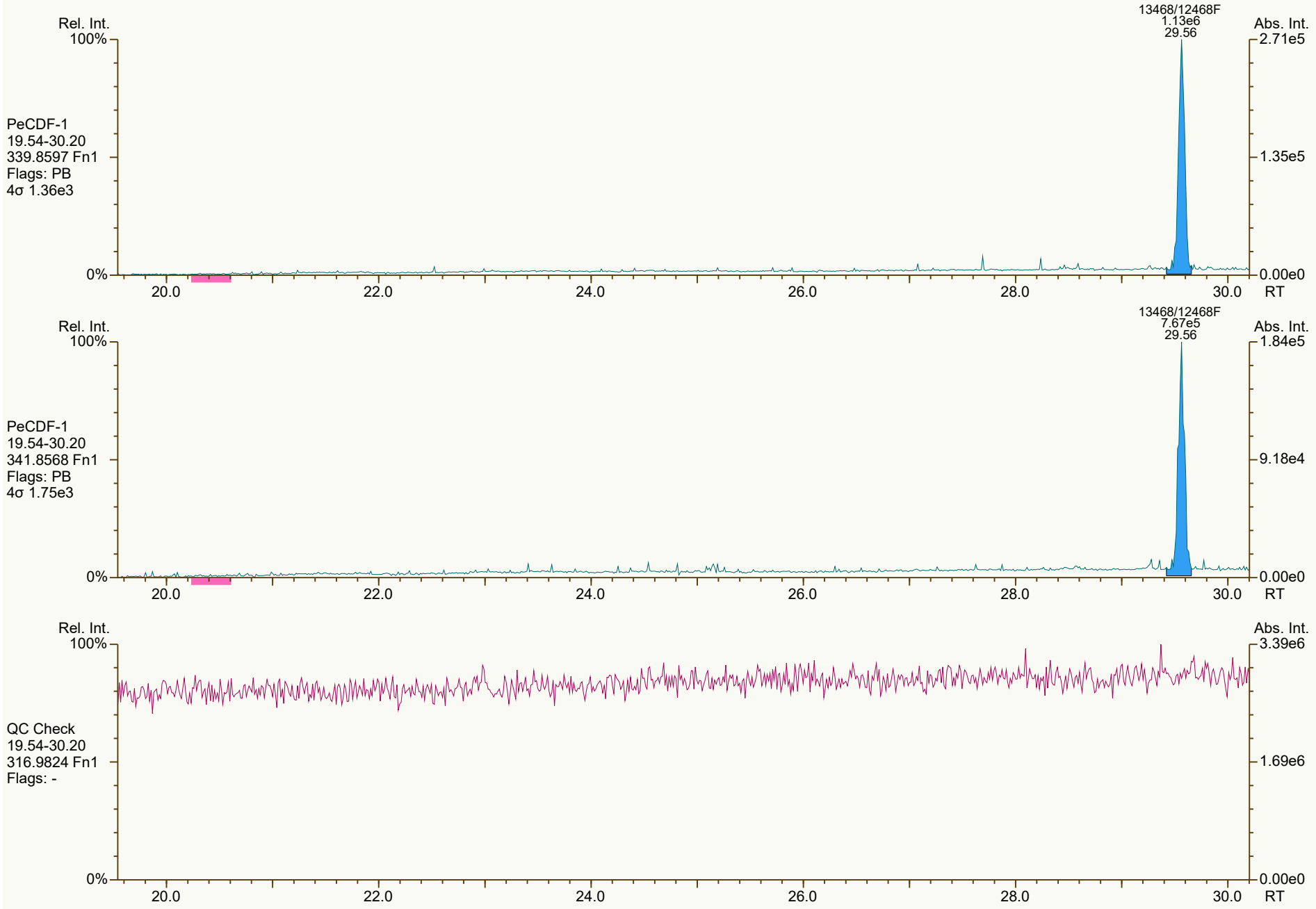
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_001.utp_res, saved 14-Feb-2022 10:16 (PSW) Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2364, 6504 scc: 946-376 PKD: 14-Feb-2022 10:15 Printed: 14-Feb-2022 11:02 Page 3 of 12

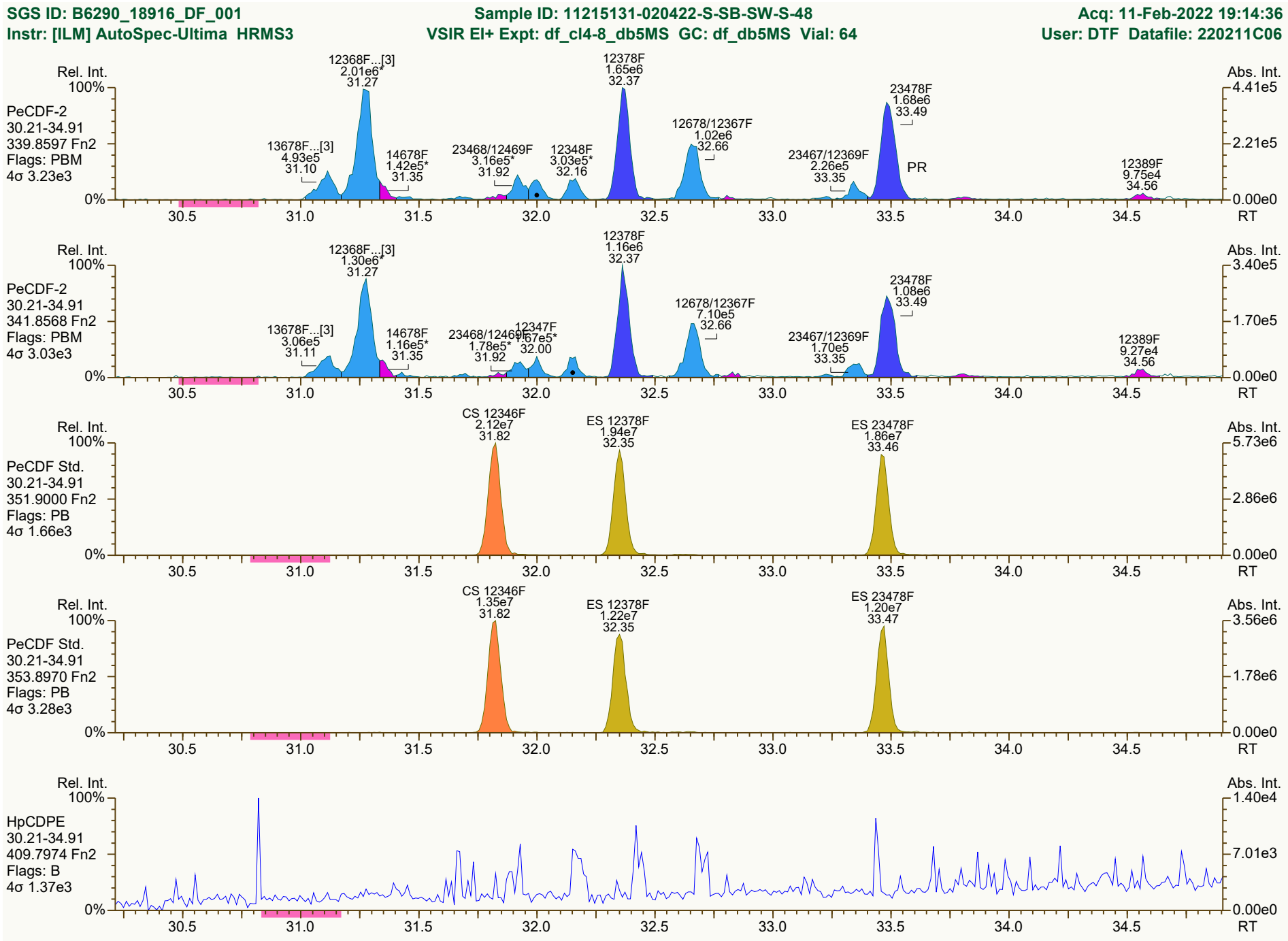

SGS ID: B6290_18916_DF_001
Sample ID: 11215131-020422-S-SB-SW-S-48
Acq: 11-Feb-2022 19:14:36
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 64
User: DTF Datafile: 220211C06
Rel. Int.
Abs. Int.
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 3.69e3
124679/124689D
2.66e6
35.99
123679/123689D
3.14e6*
36.94
123468D
3.37e5
36.64
123469D
2.06e5*
37.07
123678D
5.90e5
37.85
123467D
2.77e5*
38.05
123789D
4.47e5*
38.15
7.77e5
3.89e5
0.00e0
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 6.85e3
124679/124689D
2.18e6
35.99
123679/123689D
2.51e6*
36.94
RT
RT
RT
123468D
2.64e5
36.64
123469D
1.88e5*
37.07
123678D
4.81e5
37.85
123467D
1.80e5*
38.05
123789D
3.15e5*
38.15
6.66e5
3.33e5
0.00e0
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 1.72e3
ES 123678D
1.00e7
37.84
JS 123467D
7.41e6
38.03
ES 123478D
1.01e7*
37.72
ES 123789D
1.14e7
38.14
3.36e6
1.68e6
0.00e0
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 2.17e3
ES 123678D
7.79e6
37.84
JS 123467D
5.70e6
38.04
ES 123478D
8.06e6*
37.72
ES 123789D
8.88e6
38.14
2.63e6
1.31e6
0.00e0
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
1.13e7
5.63e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_001.utp_res, saved 14-Feb-2022 10:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5378, 0898 scc: 946-376
PKD: 14-Feb-2022 10:15 Printed: 14-Feb-2022 11:02 Page 4 of 12

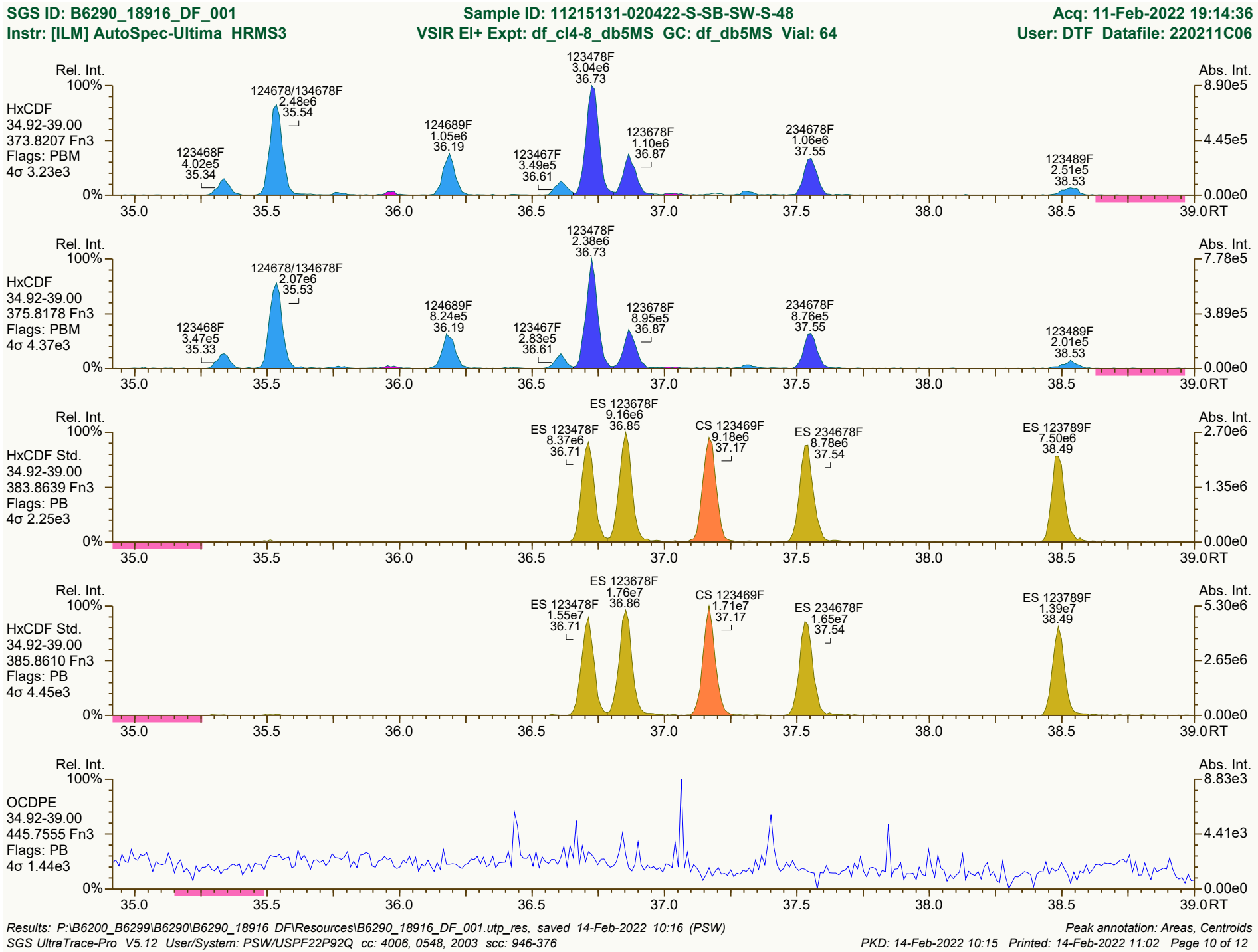

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 3.14e3
1234679D
1.55e7
40.14
1234678D
1.67e7
40.83
Abs. Int.
5.15e6
2.58e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 2.72e3
1234679D
1.48e7
40.14
1234678D
1.62e7
40.82
Abs. Int.
4.90e6
2.45e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.24e3
ES 1234678D
9.24e6
40.81
Abs. Int.
2.78e6
1.39e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 2.25e3
ES 1234678D
8.34e6
40.81
Abs. Int.
2.50e6
1.25e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
6.90e6
3.45e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

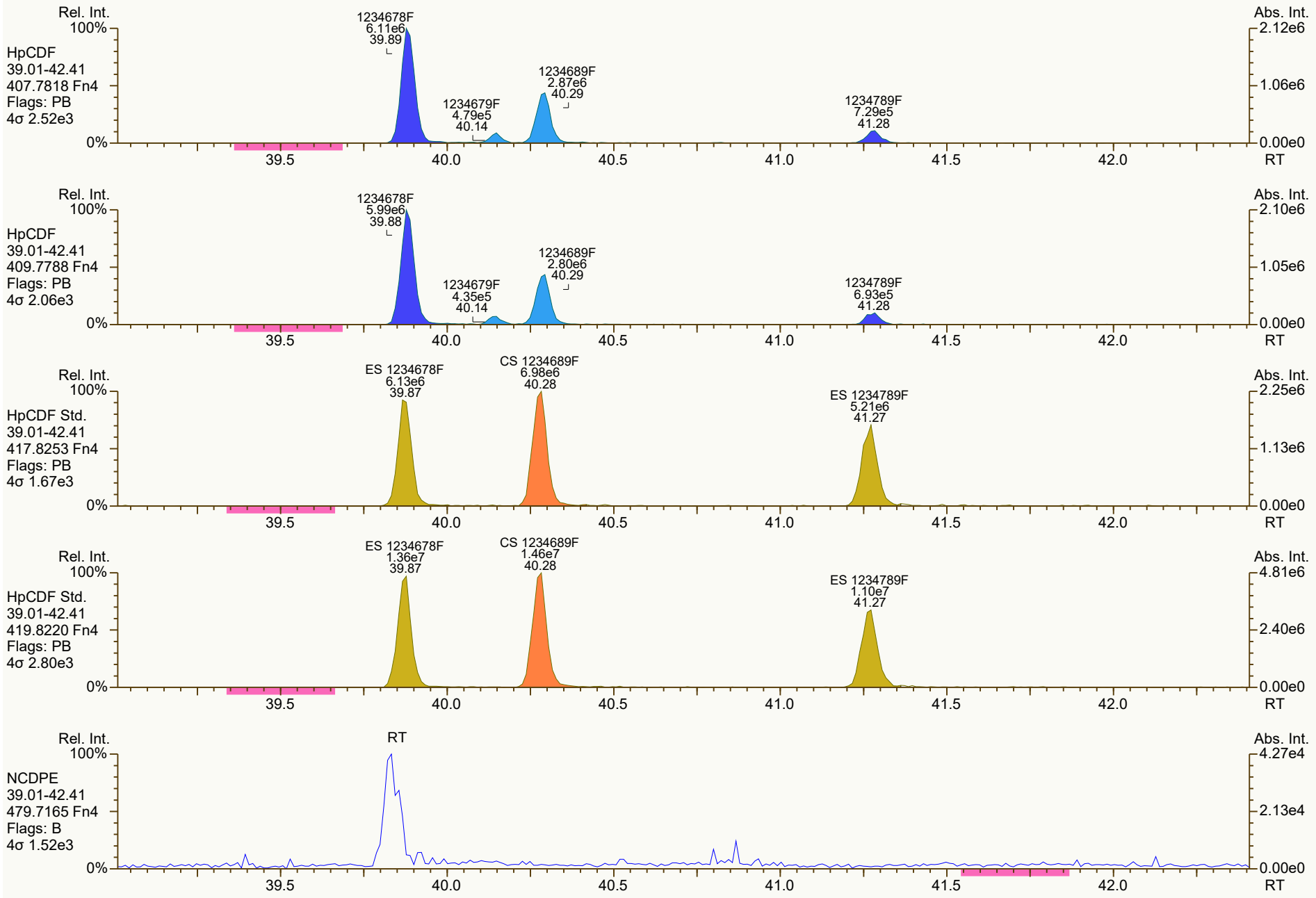

Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 2.94e3
0%
OCDD
1.21e8
43.53
Abs. Int.
2.59e7
1.30e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 1.29e3
0%
OCDD
1.33e8
43.53
Abs. Int.
2.86e7
1.43e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 1.45e3
0%
ES OCDD
1.15e7
43.52
Abs. Int.
2.53e6
1.26e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 2.44e3
0%
ES OCDD
1.26e7
43.51
Abs. Int.
2.72e6
1.36e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.55e6
2.78e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.10e3
0%
Abs. Int.
6.17e6
3.08e6
0.00e0
2378F 2.77e7 27.62
1278F 1.42e7 26.72
1248F...[3] 1.80e6* 24.81
2368F 1.33e6* 26.18
1238F...[5] 1.66e6* 26.26
2348F 2.76e6 27.50
2367/3467F 2.72e6 27.97
1289F 2.60e6 29.62
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.25e3
0%
Abs. Int.
8.19e6
4.09e6
0.00e0
2378F 3.51e7 27.62
1278F 1.83e7 26.72
1248F...[3] 2.25e6* 24.81
2368F 1.65e6* 26.18
1238F...[5] 2.08e6* 26.26
2348F 3.58e6 27.50
2367/3467F 3.35e6 27.97
1289F 3.12e6 29.62
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 5.05e3
0%
Abs. Int.
5.04e6
2.52e6
0.00e0
JS 1234F 2.32e7 26.23
ES 2378F 1.53e7 27.60
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.06e3
0%
Abs. Int.
6.16e6
3.08e6
0.00e0
JS 1234F 2.96e7 26.23
ES 2378F 1.96e7 27.59
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.07e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

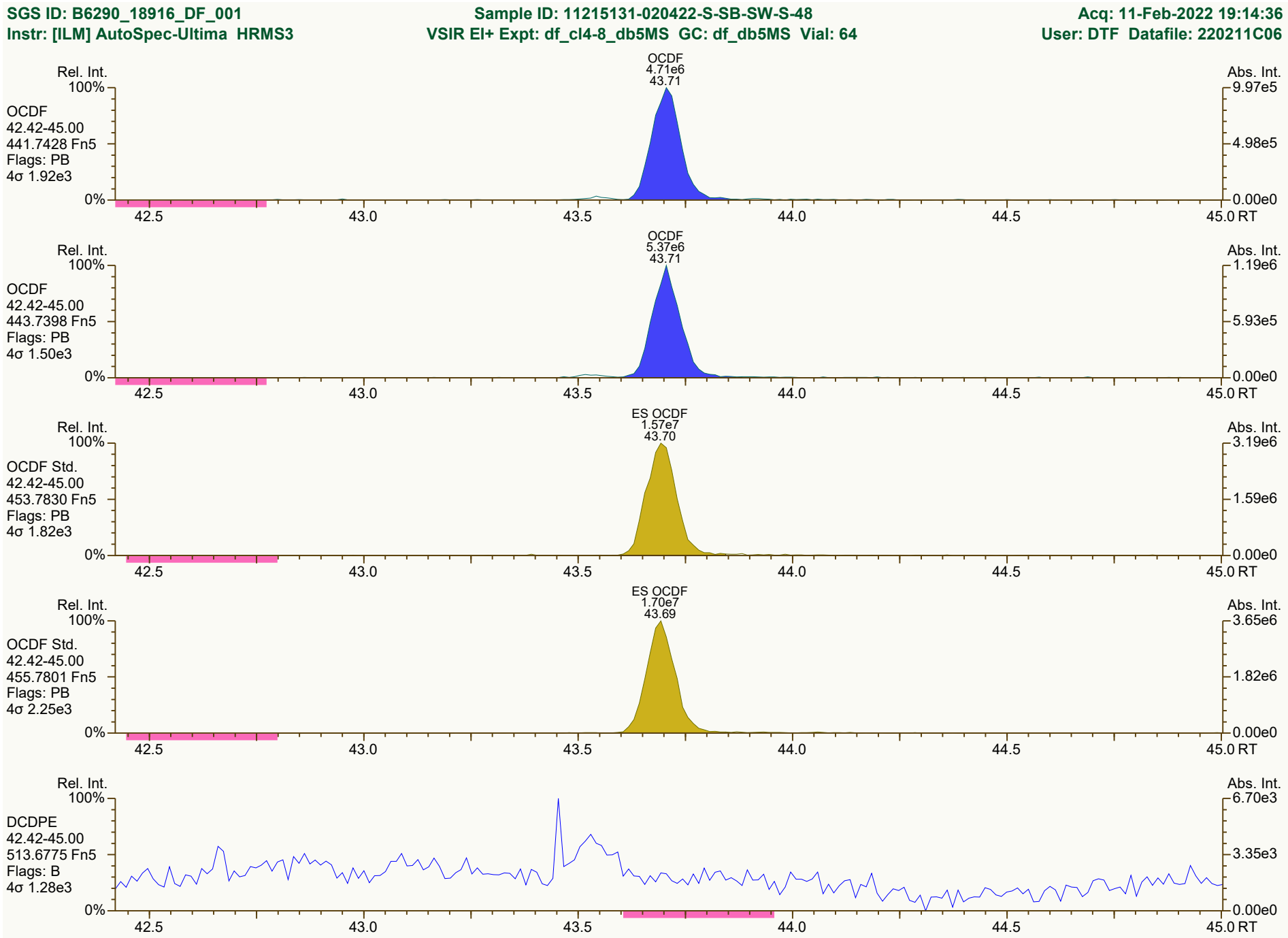

Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.36e3
13468/12468F
1.13e6
29.56
Abs. Int.
2.71e5
1.35e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.75e3
13468/12468F
7.67e5
29.56
Abs. Int.
1.84e5
9.18e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
3.39e6
1.69e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6290_18916_DF_001
Sample ID: 11215131-020422-S-SB-SW-S-48
Acq: 11-Feb-2022 19:14:36
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 64
User: DTF Datafile: 220211C06
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PBM
4σ 3.23e3
12368F...[3] 2.01e6* 31.27
13678F...[3] 4.93e5 31.10
14678F 1.42e5* 31.35
23468/12469F 3.16e5* 31.92
12348F 3.03e5* 32.16
12378F 1.65e6 32.37
12678/12367F 1.02e6 32.66
23467/12369F 2.26e5 33.35
23478F 1.68e6 33.49
PR
12389F 9.75e4 34.56
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PBM
4σ 3.03e3
12368F...[3] 1.30e6* 31.27
13678F...[3] 3.06e5 31.11
14678F 1.16e5* 31.35
23468/12469F 1.78e5* 31.92
12347F 1.67e5* 32.00
12378F 1.16e6 32.37
12678/12367F 7.10e5 32.66
23467/12369F 1.70e5 33.35
23478F 1.08e6 33.49
12389F 9.27e4 34.56
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 1.66e3
CS 12346F 2.12e7 31.82
ES 12378F 1.94e7 32.35
ES 23478F 1.86e7 33.46
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 3.28e3
CS 12346F 1.35e7 31.82
ES 12378F 1.22e7 32.35
ES 23478F 1.20e7 33.47
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.37e3
Rel. Int.
Abs. Int.
RT
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_001.utp_res, saved 14-Feb-2022 10:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0339, 7978, 9487 scc: 946-376
PKD: 14-Feb-2022 10:15 Printed: 14-Feb-2022 11:02 Page 9 of 12


SGS ID: B6290_18916_DF_001
Sample ID: 11215131-020422-S-SB-SW-S-48
Acq: 11-Feb-2022 19:14:36
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 64
User: DTF Datafile: 220211C06
Rel. Int.
Abs. Int.
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 3.23e3
123468F 4.02e5 35.34
124678/134678F 2.48e6 35.54
124689F 1.05e6 36.19
123467F 3.49e5 36.61
123478F 3.04e6 36.73
123678F 1.10e6 36.87
234678F 1.06e6 37.55
123489F 2.51e5 38.53
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 4.37e3
123468F 3.47e5 35.33
124678/134678F 2.07e6 35.53
124689F 8.24e5 36.19
123467F 2.83e5 36.61
123478F 2.38e6 36.73
123678F 8.95e5 36.87
234678F 8.76e5 37.55
123489F 2.01e5 38.53
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 2.25e3
ES 123478F 8.37e6 36.71
ES 123678F 9.16e6 36.85
CS 123469F 9.18e6 37.17
ES 234678F 8.78e6 37.54
ES 123789F 7.50e6 38.49
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 4.45e3
ES 123478F 1.55e7 36.71
ES 123678F 1.76e7 36.86
CS 123469F 1.71e7 37.17
ES 234678F 1.65e7 37.54
ES 123789F 1.39e7 38.49
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.44e3
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
8.90e5
4.45e5
0.00e0
7.78e5
3.89e5
2.70e6
1.35e6
5.30e6
2.65e6
8.83e3
4.41e3
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_001.utp_res, saved 14-Feb-2022 10:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4006, 0548, 2003 scc: 946-376
PKD: 14-Feb-2022 10:15 Printed: 14-Feb-2022 11:02 Page 10 of 12


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 2.52e3
1234678F
6.11e6
39.89
1234679F
4.79e5
40.14
1234689F
2.87e6
40.29
1234789F
7.29e5
41.28
Abs. Int.
2.12e6
1.06e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 2.06e3
1234678F
5.99e6
39.88
1234679F
4.35e5
40.14
1234689F
2.80e6
40.29
1234789F
6.93e5
41.28
Abs. Int.
2.10e6
1.05e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 1.67e3
ES 1234678F
6.13e6
39.87
CS 1234689F
6.98e6
40.28
ES 1234789F
5.21e6
41.27
Abs. Int.
2.25e6
1.13e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 2.80e3
ES 1234678F
1.36e7
39.87
CS 1234689F
1.46e7
40.28
ES 1234789F
1.10e7
41.27
Abs. Int.
4.81e6
2.40e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.52e3
RT
Abs. Int.
4.27e4
2.13e4
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

SGS ID: B6290_18916_DF_001 | Sample ID: 11215131-020422-S-SB-SW-S-48 | Acq: 11-Feb-2022 19:14:36
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 64 | User: DTF Datafile: 220211C06



Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_001.utp_res, saved 14-Feb-2022 10:16 (PSW) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8112, 0400, 1296 scc: 946-376 | *PKD: 14-Feb-2022 10:15 Printed: 14-Feb-2022 11:02 Page 12 of 12*

Lab ID: B6290_18916_DF_002 **Acq'd:** 11 Feb 2022 20:00 DTF **Wt/Vol:** 10.22 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020422-S-SB-SW-S-47 **UTP:** 14-Feb-2022 10:18:42 PSW **J-level:** 0.489 pg/g **Split:** 1 **Checkcode:** 491-714-SXS

Datafile: 220211C07 **Report:** 14 Feb 2022 10:42 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.47		1.0008	1.0009	+0.2	2.99E+05	0.81	Y	1.18	1.43	3411.605	0.167
12378-PeCDD	NotFnd		1.0005	-		-	-	-	1.04	-	2675.037	0.144
123478-HxCDD	37.73	J	1.0004	1.0004	0	7.63E+04	1.07	Y	1.09	0.509	3724.147	0.217
123678-HxCDD	37.86	J EMPC	1.0035	1.0036	+0.2	1.51E+05	1.00	N	1.15	0.919	3724.147	0.201
123789-HxCDD	38.15	J EMPC	1.0113	1.0113	0	1.24E+05	1.54	N	1.05	0.775	3724.147	0.202
1234678-HpCDD	40.84		1.0003	1.0004	+0.2	4.19E+06	1.08	Y	1.06	29.5	3660.984	0.219
OCDD	43.53		1.0002	1.0003	+0.3	4.18E+07	0.91	Y	1.13	417	5804.67	0.691
2378-TCDF	27.62		1.0008	1.0008	0	1.07E+06	0.77	Y	1.08	3.84	2892.664	0.112
12378-PeCDF	32.36	J EMPC	1.0005	1.0003	-0.4	6.80E+04	2.14	N	1.02	0.261	3682.319	0.129
23478-PeCDF	33.48	J EMPC	1.0005	1.0007	+0.4	8.33E+04	1.10	N	1.02	0.346	3682.319	0.133
123478-HxCDF	36.73	J	1.0005	1.0005	0	1.00E+05	1.17	Y	1.27	0.453	3024.805	0.11
123678-HxCDF	36.86	J EMPC	1.0005	1.0003	-0.4	5.55E+04	1.50	N	1.15	0.222	3024.805	0.108
234678-HxCDF	37.55	J	1.0005	1.0004	-0.2	7.52E+04	1.31	Y	1.19	0.296	3024.805	0.0995
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3024.805	0.117
1234678-HpCDF	39.89		1.0003	1.0003	0	5.93E+05	1.01	Y	1.37	2.77	3094.887	0.111
1234789-HpCDF	41.29	J EMPC	1.0003	1.0001	-0.5	4.13E+04	0.86	N	1.31	0.255	3094.887	0.165
OCDF	43.71		1.0003	1.0002	-0.3	9.51E+05	0.88	Y	1.07	7.71	3003.31	0.281

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.45		1.0238	1.0238	0	3.45E+07	0.82	Y	1.05	85.2
ES 12378-PeCDD	33.80		1.2160	1.2162	+0.4	3.13E+07	1.60	Y	0.88	91.7
ES 123478-HxCDD	37.72		0.9919	0.9918	-0.2	2.69E+07	1.28	Y	0.97	86.3
ES 123678-HxCDD	37.84		0.9950	0.9949	-0.2	2.81E+07	1.26	Y	0.94	92.6
ES 123789-HxCDD	38.13		1.0027	1.0026	-0.2	2.99E+07	1.28	Y	1.09	85.2
ES 1234678-HpCDD	40.82		1.0730	1.0733	+0.7	2.62E+07	1.08	Y	0.91	89.4
ES OCDD	43.52		1.1437	1.1443	+1.6	3.49E+07	0.89	Y	0.62	87
ES 2378-TCDF	27.59		1.0520	1.0519	-0.2	5.07E+07	0.79	Y	1.06	80.3
ES 12378-PeCDF	32.35		1.2330	1.2332	+0.4	4.98E+07	1.53	Y	0.91	91.7
ES 23478-PeCDF	33.46		1.2754	1.2756	+0.4	4.62E+07	1.61	Y	0.88	87.8
ES 123478-HxCDF	36.71		0.9653	0.9652	-0.2	3.40E+07	0.55	Y	1.20	88.3
ES 123678-HxCDF	36.85		0.9691	0.9690	-0.2	4.25E+07	0.55	Y	1.35	97.9
ES 234678-HxCDF	37.53		0.9870	0.9869	-0.2	4.18E+07	0.53	Y	1.24	105
ES 123789-HxCDF	38.49		1.0121	1.0121	0	3.28E+07	0.52	Y	1.16	88.5
ES 1234678-HpCDF	39.88		1.0484	1.0485	+0.2	3.06E+07	0.47	Y	0.97	98.5
ES 1234789-HpCDF	41.28		1.0851	1.0855	+1.0	2.42E+07	0.45	Y	0.85	88.4
ES OCDF	43.70		1.1483	1.1491	+2.1	4.50E+07	0.96	Y	0.81	86.8

Lab ID: B6290_18916_DF_002 **Acq'd:** 11 Feb 2022 20:00 DTF **Wt/Vol:** 10.22 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020422-S-SB-SW-S-47 **UTP:** 14-Feb-2022 10:18:42 PSW **J-level:** 0.489 pg/g **Split:** 1 **Checkcode:** 491-714-SXS

Datafile: 220211C07 **Report:** 14 Feb 2022 10:42 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.79		-	-	-	3.87E+07	0.81	Y	-	-
JS 1234-TCDF	26.23		-	-	-	5.96E+07	0.78	Y	-	-
JS 123467-HxCDD	38.03		-	-	-	1.60E+07	1.28	Y	-	-
CS 37Cl-2378-TCDD	28.47		1.0245	1.0246	+0.2	1.58E+07	n/a	-	1.20	84.7
CS 12347-PeCDD	33.29		1.1979	1.1981	+0.4	2.94E+07	1.62	Y	0.75	101
CS 12346-PeCDF	31.82		1.2128	1.2130	+0.4	4.83E+07	1.56	Y	0.85	95.2
CS 123469-HxCDF	37.17		0.9774	0.9773	-0.2	3.70E+07	0.54	Y	1.12	103
CS 1234689-HpCDF	40.29		1.0589	1.0593	+1.0	2.97E+07	0.45	Y	0.89	104
~~SS 37Cl-2378-TCDD~~	~~28.47~~		~~1.0245~~	~~1.0246~~	~~+0.2~~	~~1.58E+07~~	~~n/a~~		~~1.15~~	~~99.7~~
~~SS 12347-PeCDD~~	~~33.29~~		~~1.1979~~	~~1.1981~~	~~+0.4~~	~~2.94E+07~~	~~1.62~~	~~Y~~	~~0.86~~	~~109~~
~~SS 12346-PeCDF~~	~~31.82~~		~~1.2128~~	~~1.2130~~	~~+0.4~~	~~4.83E+07~~	~~1.56~~	~~Y~~	~~0.94~~	~~104~~
~~SS 123469-HxCDF~~	~~37.17~~		~~0.9774~~	~~0.9773~~	~~-0.2~~	~~3.70E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~105~~
~~SS 1234689-HpCDF~~	~~40.29~~		~~1.0589~~	~~1.0593~~	~~+1.0~~	~~2.97E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~106~~

Totals	Conc	EMPC
Total TCDD	2.74	2.89
Total PeCDD	0.946	1.77
Total HxCDD	16.4	18.4
Total HpCDD	97.2	97.2
Total Tetra-Octa Dioxins	534	537
Total TCDF	9.38	11
Total PeCDF	0.837	2.18
Total HxCDF	2.73	3.42
Total HpCDF	7.67	7.93
Total Tetra-Octa Furans	28.3	32.2
Total Tetra-Octa Dioxins & Furans	562	569

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.77	0.81
Response	3.09E+05	2.99E+05

Lab ID: B6290_18916_DF_002 **Acq'd: 11 Feb 2022 20:00 DTF** **Wt/Vol: 10.22 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020422-S-SB-SW-S-47 **UTP: 14-Feb-2022 10:18:42 PSW** **J-level: 0.489 pg/g** **Split: 1** **Checkcode: 491-714-SXS**

Datafile: 220211C07 **Report: 14 Feb 2022 10:42 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.84	J EMPC	0.8737	0.8732	-0.7	3.10E+04	1.32	N	1.18	0.148	3411.605	0.167
1379-TCDD	NotFnd		0.8860						1.18		3411.605	0.167
1369-TCDD	NotFnd		0.9009						1.18		3411.605	0.167
1469-TCDD	26.38		0.9281	0.9274	-1.1	2.74E+05	0.80	Y	1.18	1.31	3411.605	0.167
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3411.605	0.167
1378-TCDD	NotFnd		0.9432						1.18		3411.605	0.167
1268-TCDD	NotFnd		0.9500						1.18		3411.605	0.167
1478-TCDD	NotFnd		0.9586						1.18		3411.605	0.167
1279-TCDD	NotFnd		0.9645						1.18		3411.605	0.167
1234/1269-TCDD	NotFnd		0.9770						1.18		3411.605	0.167
1236-TCDD	NotFnd		0.9817						1.18		3411.605	0.167
1237/1238-TCDD	NotFnd		0.9905						1.18		3411.605	0.167
1239-TCDD	NotFnd		0.9952						1.18		3411.605	0.167
2378-TCDD	**28.47**		**1.0008**	1.0009	**+0.2**	2.99E+05	0.81	Y	**1.18**	**1.43**	**3411.605**	**0.167**
1278-TCDD	NotFnd		1.0121						1.18		3411.605	0.167
1267-TCDD	NotFnd		1.0167						1.18		3411.605	0.167
1289-TCDD	NotFnd		1.0345						1.18		3411.605	0.167
12479/12468-PeCDD	31.31	J EMPC	0.9267	0.9264	-0.6	6.68E+04	0.98	N	1.04	0.404	2675.037	0.144
12469-PeCDD	31.84	J	0.9425	0.9421	-0.8	1.57E+05	1.33	Y	1.04	0.946	2675.037	0.144
12368-PeCDD	NotFnd		0.9588						1.04		2675.037	0.144
12478-PeCDD	NotFnd		0.9643						1.04		2675.037	0.144
12379-PeCDD	NotFnd		0.9673						1.04		2675.037	0.144
12369/12467/12489-PeCDD	32.95	J EMPC	0.9750	0.9749	-0.2	6.97E+04	0.97	N	1.04	0.421	2675.037	0.144
12346/12347-PeCDD	NotFnd		0.9858						1.04		2675.037	0.144
12378-PeCDD	NotFnd		**1.0005**						**1.04**		**2675.037**	**0.144**
12367-PeCDD	NotFnd		1.0033						1.04		2675.037	0.144
12389-PeCDD	NotFnd		1.0134						1.04		2675.037	0.144
124679/124689-HxCDD	35.99		0.9542	0.9540	-0.4	1.53E+06	1.21	Y	1.10	9.68	3724.147	0.206
123468-HxCDD	36.64	J	0.9715	0.9713	-0.4	1.16E+05	1.41	Y	1.10	0.73	3724.147	0.206
123679/123689-HxCDD	36.93		0.9793	0.9792	-0.2	7.24E+05	1.27	Y	1.10	4.58	3724.147	0.206
123469-HxCDD	37.07	J	0.9828	0.9827	-0.2	1.45E+05	1.33	Y	1.10	0.917	3724.147	0.206
123478-HxCDD	37.73	J	**1.0004**	**1.0004**	**0**	**7.63E+04**	**1.07**	**Y**	1.09	**0.509**	**3724.147**	**0.217**
123678-HxCDD	37.86	J EMPC	**1.0035**	**1.0036**	**+0.2**	**1.51E+05**	**1.00**	**N**	1.15	**0.919**	**3724.147**	**0.201**
123467-HxCDD	38.05	J EMPC	1.0085	1.0087	+0.5	5.17E+04	0.82	N	1.10	0.327	3724.147	0.206
123789-HxCDD	38.15	J EMPC	**1.0113**	**1.0113**	**0**	**1.24E+05**	**1.54**	**N**	1.05	**0.775**	**3724.147**	**0.202**

Lab ID: B6290_18916_DF_002 **Acq'd: 11 Feb 2022 20:00 DTF** **Wt/Vol: 10.22 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020422-S-SB-SW-S-47 **UTP: 14-Feb-2022 10:18:42 PSW** **J-level: 0.489 pg/g** **Split: 1** **Checkcode: 491-714-SXS**

Datafile: 220211C07 **Report: 14 Feb 2022 10:42 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

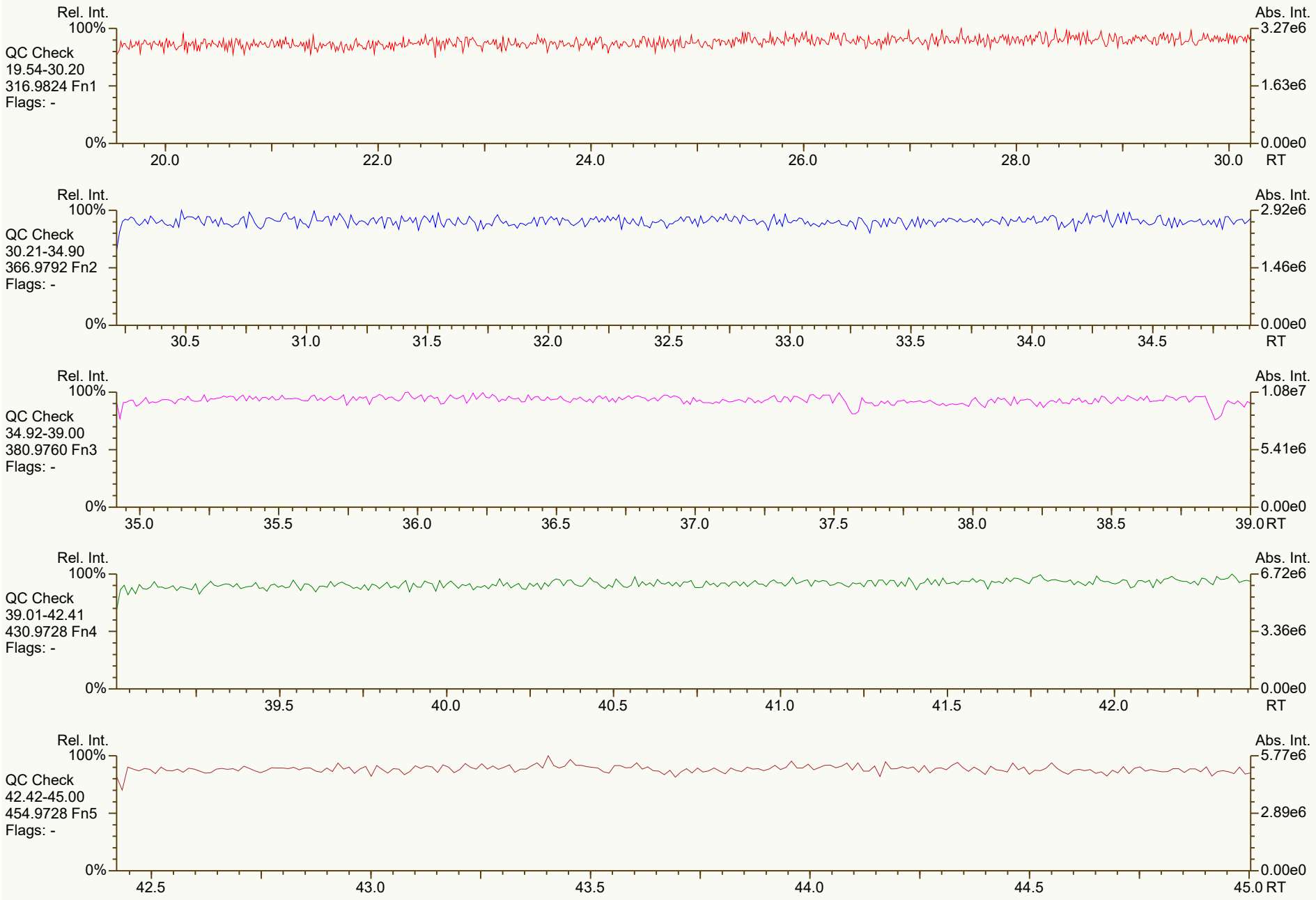
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.15		0.9837	0.9835	-0.5	9.60E+06	1.06	Y	1.06	67.6	3660.984	0.219
1234678-HpCDD	**40.84**		**1.0003**	**1.0004**	**+0.2**	**4.19E+06**	**1.08**	**Y**	**1.06**	**29.5**	**3660.984**	**0.219**
OCDD	**43.53**		**1.0002**	**1.0003**	**+0.3**	**4.18E+07**	**0.91**	**Y**	**1.13**	**417**	**5804.67**	**0.691**
OCDD-a	43.53	**EMPC**	1.0001	1.0002	+0.3	2.76E+06	2.07	N	0.07	430	3232.64	6.02
1368-TCDF	NotFnd		0.8251						1.08		2892.664	0.112
1468-TCDF	23.33	J	0.8458	0.8453	-0.7	4.09E+04	0.70	Y	1.08	0.146	2892.664	0.112
2468-TCDF	23.93	J	0.8686	0.8673	-1.9	1.33E+05	0.86	Y	1.08	0.476	2892.664	0.112
1346/1246-TCDF	NotFnd		0.8814						1.08		2892.664	0.112
1347/1378/1247-TCDF	24.45	J	0.8867	0.8862	-0.7	1.10E+05	0.82	Y	1.08	0.392	2892.664	0.112
1348-TCDF	NotFnd		0.8962						1.08		2892.664	0.112
1248/1367/1379-TCDF	24.82	J EMPC	0.9009	0.8994	-2.2	8.05E+04	0.65	N	1.08	0.288	2892.664	0.112
1268-TCDF	25.22	J EMPC	0.9145	0.9139	-0.9	7.49E+04	0.95	N	1.08	0.268	2892.664	0.112
1467-TCDF	NotFnd		0.9193						1.08		2892.664	0.112
1478-TCDF	25.52	J	0.9254	0.9250	-0.6	1.08E+05	0.77	Y	1.08	0.387	2892.664	0.112
1369/1237-TCDF	25.89	J	0.9387	0.9383	-0.6	8.28E+04	0.66	Y	1.08	0.296	2892.664	0.112
2467-TCDF	26.00	J EMPC	0.9433	0.9423	-1.6	2.55E+04	1.09	N	1.08	0.0914	2892.664	0.112
2368-TCDF	26.17	J EMPC	0.9489	0.9484	-0.8	7.28E+04	0.96	N	1.08	0.26	2892.664	0.112
1238/1234/1678/1469/1236-TCDF	26.28		0.9523	0.9524	+0.2	2.49E+05	0.82	Y	1.08	0.892	2892.664	0.112
1278-TCDF	26.71		0.9683	0.9681	-0.3	4.96E+05	0.70	Y	1.08	1.78	2892.664	0.112
1349-TCDF	NotFnd		0.9722						1.08		2892.664	0.112
1267-TCDF	27.00	J	0.9783	0.9784	+0.2	6.55E+04	0.85	Y	1.08	0.234	2892.664	0.112
2346/1249-TCDF	NotFnd		0.9850						1.08		2892.664	0.112
2347/1279-TCDF	27.38	J EMPC	0.9926	0.9924	-0.3	5.36E+04	1.04	N	1.08	0.192	2892.664	0.112
2348-TCDF	27.49	J	0.9967	0.9961	-1.0	6.69E+04	0.73	Y	1.08	0.239	2892.664	0.112
2378-TCDF	**27.62**		**1.0008**	**1.0008**	**0**	**1.07E+06**	**0.77**	**Y**	**1.08**	**3.84**	**2892.664**	**0.112**
2367/3467-TCDF	27.96		1.0137	1.0134	-0.5	1.93E+05	0.85	Y	1.08	0.691	2892.664	0.112
1269-TCDF	NotFnd		1.0223						1.08		2892.664	0.112
1239-TCDF	NotFnd		1.0321						1.08		2892.664	0.112
1289-TCDF	29.62	EMPC	1.0722	1.0734	+2.1	1.45E+05	0.91	N	1.08	0.518	2892.664	0.112
13468/12468-PeCDF	29.56	J EMPC	0.9139	0.9137	-0.4	1.84E+05	2.03	N	1.02	0.735	2471.58	0.0878
13678/13467/12467-PeCDF	31.11	J	0.9613	0.9618	+0.9	6.96E+04	1.58	Y	1.02	0.277	3682.319	0.131
12368/13478/12478-PeCDF	31.26	J	0.9662	0.9663	+0.2	1.40E+05	1.56	Y	1.02	0.56	3682.319	0.131
14678-PeCDF	NotFnd		0.9692						1.02		3682.319	0.131
13479-PeCDF	NotFnd		0.9723						1.02		3682.319	0.131
13469/12479-PeCDF	NotFnd		0.9797						1.02		3682.319	0.131
12346-PeCDF	NotFnd		0.9840						1.02		3682.319	0.131

Lab ID: B6290_18916_DF_002 **Acq'd: 11 Feb 2022 20:00 DTF** **Wt/Vol: 10.22 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020422-S-SB-SW-S-47 **UTP: 14-Feb-2022 10:18:42 PSW** **J-level: 0.489 pg/g** **Split: 1** **Checkcode: 491-714-SXS**

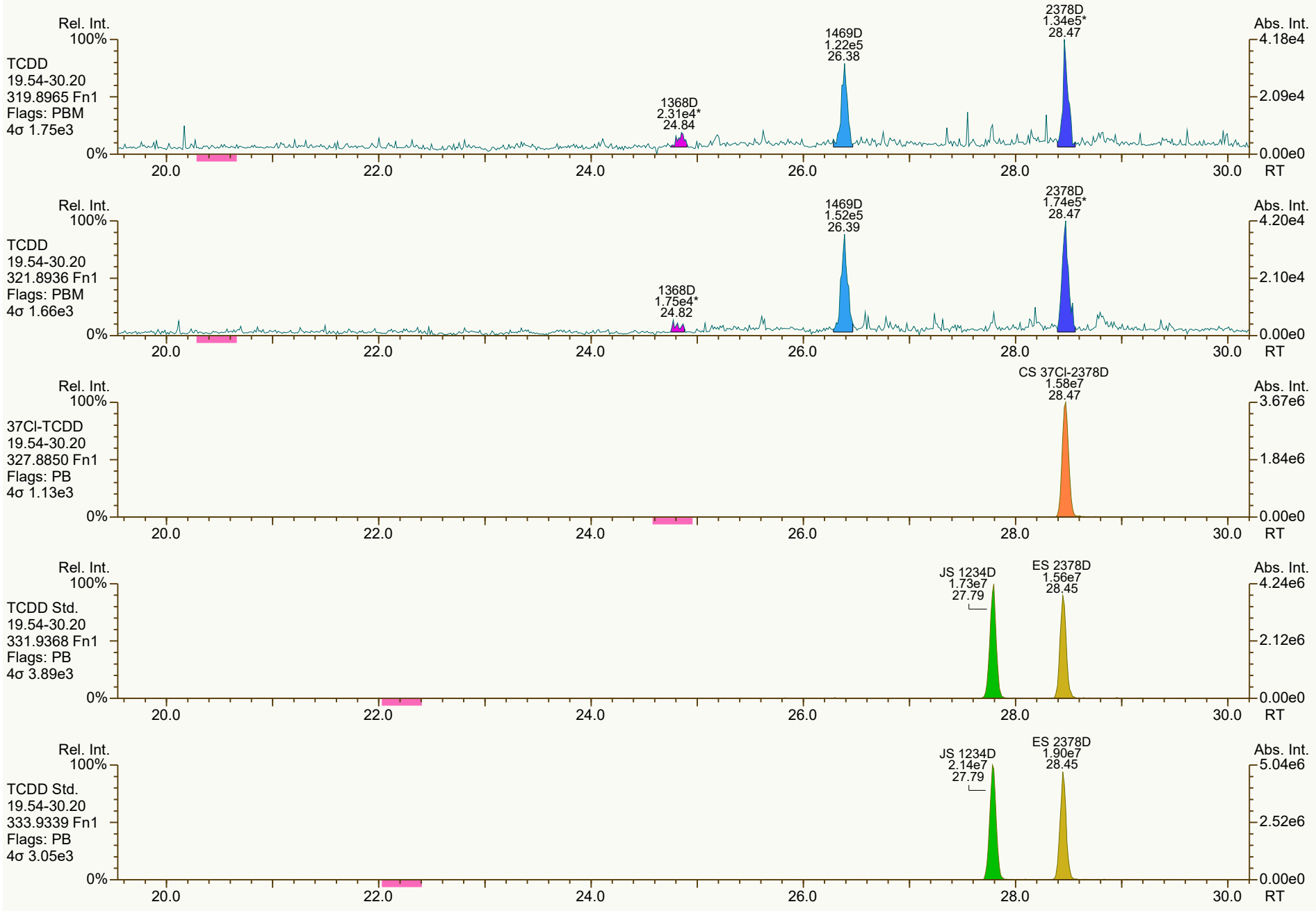
Datafile: 220211C07 **Report: 14 Feb 2022 10:42 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		3682.319	0.131
12347-PeCDF	NotFnd		0.9894						1.02		3682.319	0.131
12348-PeCDF	NotFnd		0.9940						1.02		3682.319	0.131
12378-PeCDF	**32.36**	J EMPC	**1.0005**	**1.0003**	**-0.4**	**6.80E+04**	**2.14**	**N**	**1.02**	**0.261**	**3682.319**	**0.129**
12678/12367-PeCDF	NotFnd		1.0089						1.02		3682.319	0.131
12379-PeCDF	NotFnd		1.0142						1.02		3682.319	0.131
12679-PeCDF	NotFnd		0.9929						1.02		3682.319	0.131
23467/12369-PeCDF	NotFnd		0.9967						1.02		3682.319	0.131
23478-PeCDF	**33.48**	J EMPC	**1.0005**	**1.0007**	**+0.4**	**8.33E+04**	**1.10**	**N**	**1.02**	**0.346**	**3682.319**	**0.133**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3682.319	0.131
12349-PeCDF	NotFnd		1.0100						1.02		3682.319	0.131
12389-PeCDF	NotFnd		1.0324						1.02		3682.319	0.131
123468-HxCDF	35.34	J EMPC	0.9627	0.9627	0	9.05E+04	1.47	N	1.19	0.393	3024.805	0.108
124678/134678-HxCDF	35.53	J	0.9682	0.9680	-0.4	2.56E+05	1.35	Y	1.19	1.11	3024.805	0.108
134679-HxCDF	NotFnd		0.9744						1.19		3024.805	0.108
124679-HxCDF	NotFnd		0.9798						1.19		3024.805	0.108
124689-HxCDF	36.19	J	0.9858	0.9858	0	2.00E+05	1.19	Y	1.19	0.868	3024.805	0.108
123467-HxCDF	36.60	J EMPC	0.9972	0.9970	-0.4	1.80E+04	0.72	N	1.19	0.0781	3024.805	0.108
123478-HxCDF	**36.73**	J	**1.0005**	**1.0005**	**0**	**1.00E+05**	**1.17**	**Y**	**1.27**	**0.453**	**3024.805**	**0.11**
123678-HxCDF	**36.86**	J EMPC	**1.0005**	**1.0003**	**-0.4**	**5.55E+04**	**1.50**	**N**	**1.15**	**0.222**	**3024.805**	**0.108**
123479-HxCDF	NotFnd		1.0049						1.19		3024.805	0.108
123469-HxCDF	NotFnd		1.0090						1.19		3024.805	0.108
123679-HxCDF	NotFnd		0.9942						1.19		3024.805	0.108
234678-HxCDF	**37.55**	J	**1.0005**	**1.0004**	**-0.2**	**7.52E+04**	**1.31**	**Y**	**1.19**	**0.296**	**3024.805**	**0.0995**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3024.805	0.108
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3024.805**	**0.117**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		3024.805	0.108
1234678-HpCDF	**39.89**		**1.0003**	**1.0003**	**0**	**5.93E+05**	**1.01**	**Y**	**1.37**	**2.77**	**3094.887**	**0.111**
1234679-HpCDF	NotFnd		1.0068						1.34		3094.887	0.135
1234689-HpCDF	40.29		1.0103	1.0104	+0.2	9.18E+05	1.02	Y	1.34	4.9	3094.887	0.135
1234789-HpCDF	**41.29**	**J EMPC**	**1.0003**	**1.0001**	**-0.5**	**4.13E+04**	**0.86**	**N**	**1.31**	**0.255**	**3094.887**	**0.165**
OCDF	**43.71**		**1.0003**	**1.0002**	**-0.3**	**9.51E+05**	**0.88**	**Y**	**1.07**	**7.71**	**3003.31**	**0.281**
OCDF-a	43.70	**EMPC**	1.0002	1.0001	-0.3	4.32E+04	3.49	N	0.07	5.65	3488.812	5.27


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.27e6
1.63e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
2.92e6
1.46e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.08e7
5.41e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
6.72e6
3.36e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.77e6
2.89e6
0.00e0

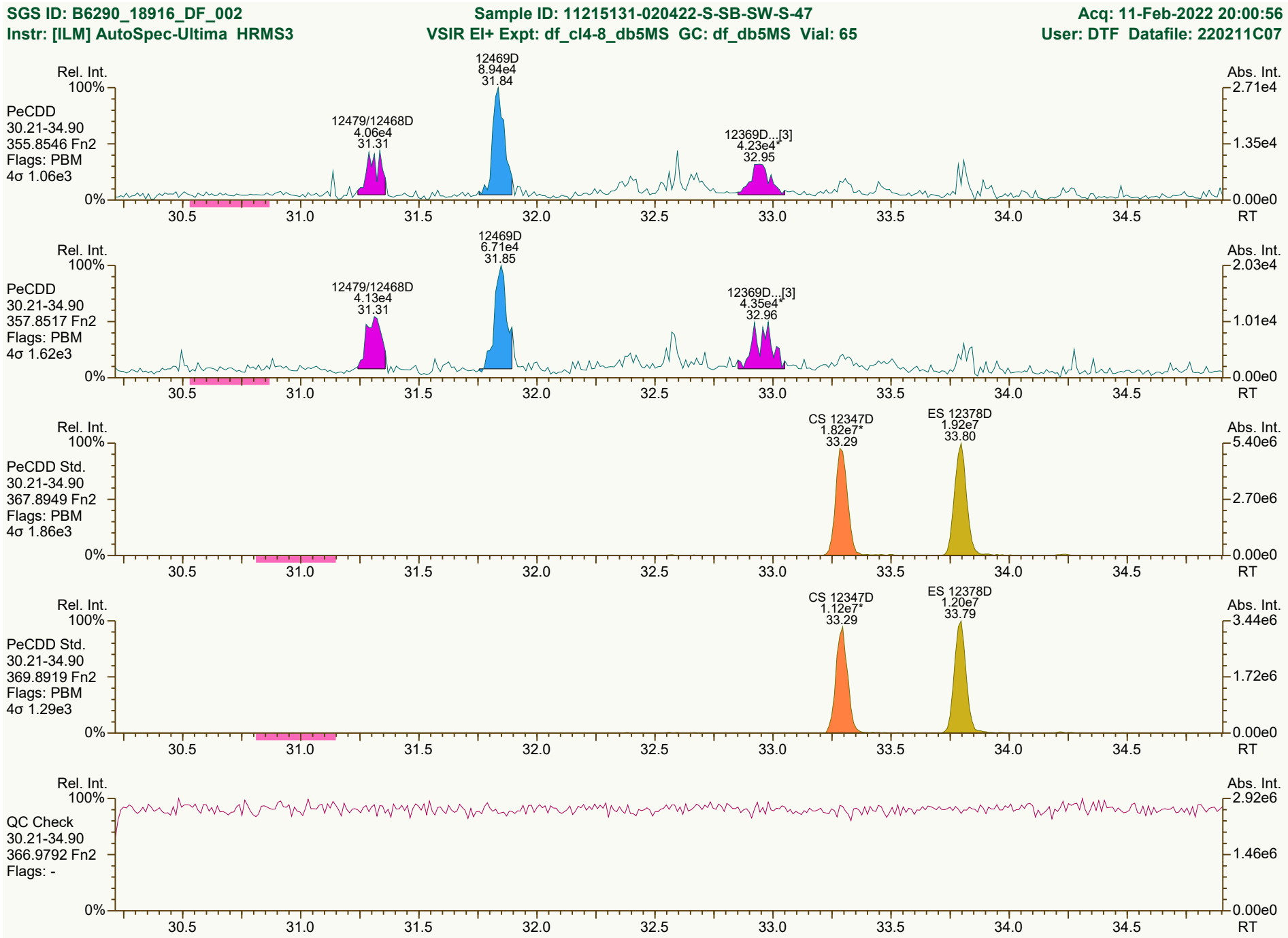
SGS ID: B6290_18916_DF_002 | Sample ID: 11215131-020422-S-SB-SW-S-47 | Acq: 11-Feb-2022 20:00:56

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65 | User: DTF Datafile: 220211C07

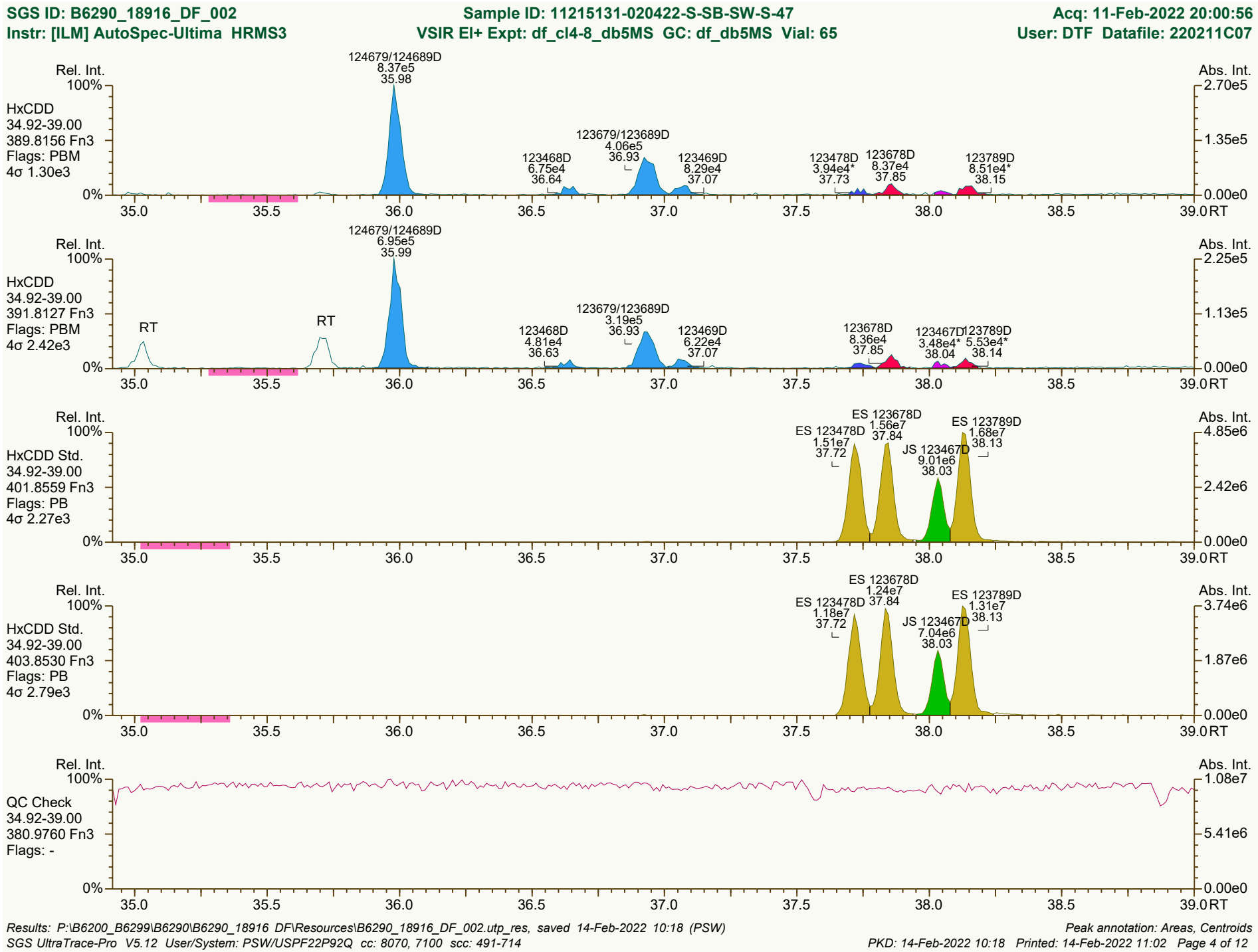


Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_002.utp_res, saved 14-Feb-2022 10:18 (PSW) | *Peak annotation: Areas, Centroids*

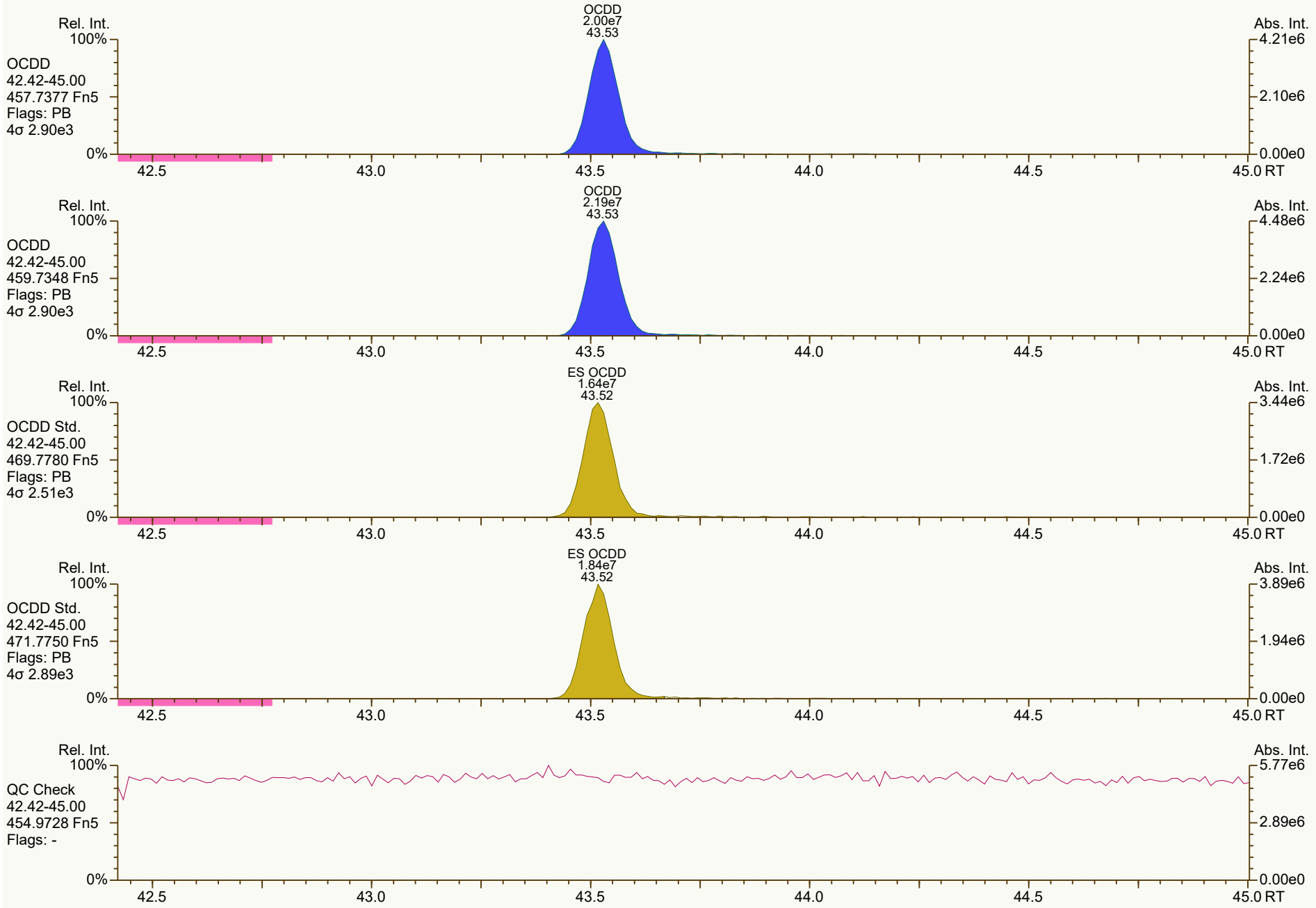
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9828, 3435, 9761 scc: 491-714 | *PKD: 14-Feb-2022 10:18 Printed: 14-Feb-2022 11:02 Page 2 of 12*

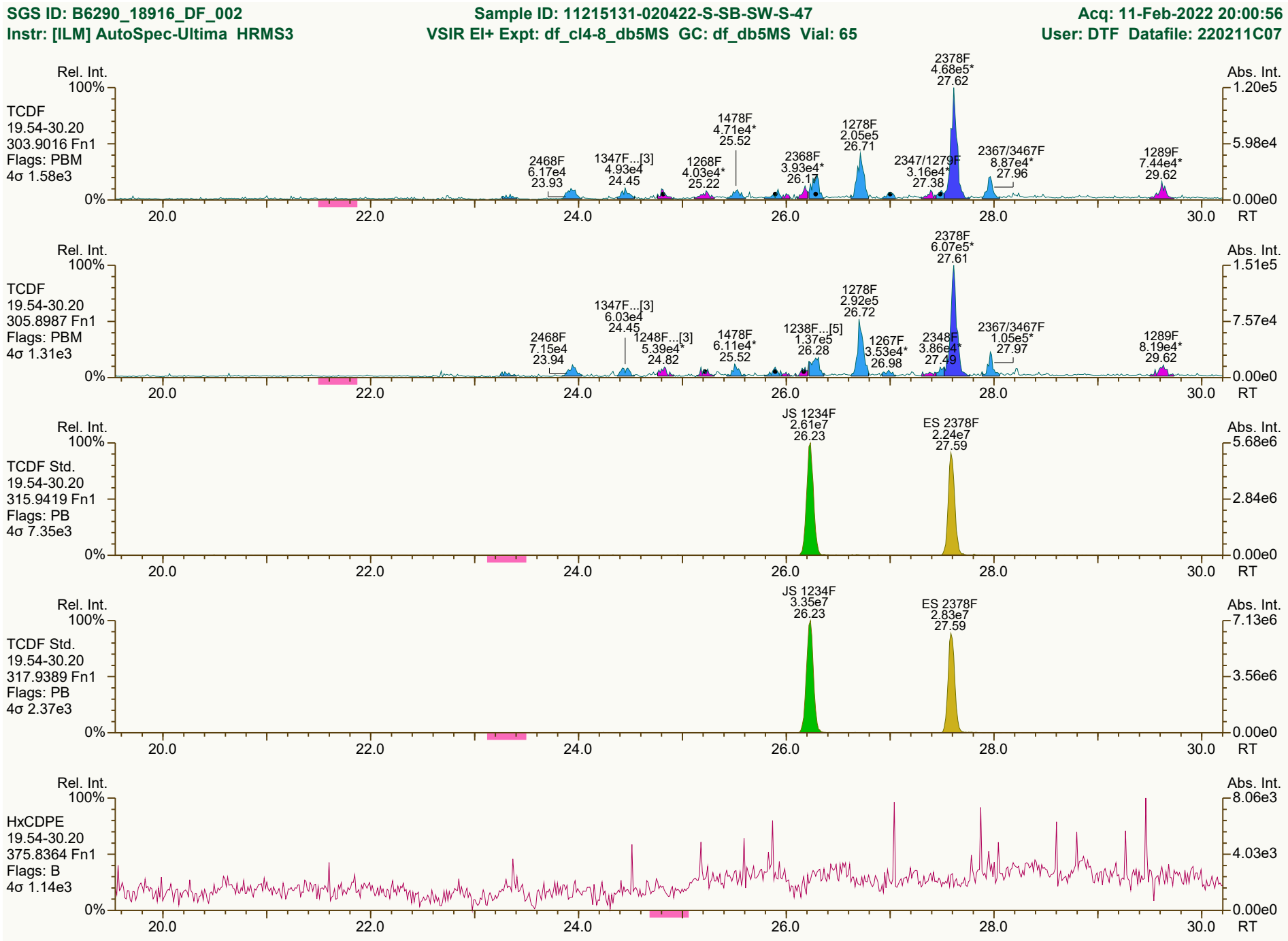


Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_002.utp_res, saved 14-Feb-2022 10:18 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2700, 3549 scc: 491-714
PKD: 14-Feb-2022 10:18 Printed: 14-Feb-2022 11:02 Page 3 of 12


SGS ID: B6290_18916_DF_002
Sample ID: 11215131-020422-S-SB-SW-S-47
Acq: 11-Feb-2022 20:00:56
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 220211C07
Rel. Int.
Abs. Int.
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 1.30e3
124679/124689D
8.37e5
35.98
123679/123689D
4.06e5
36.93
123468D
6.75e4
36.64
123469D
8.29e4
37.07
123478D
3.94e4*
37.73
123678D
8.37e4
37.85
123789D
8.51e4*
38.15
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 2.42e3
RT
RT
124679/124689D
6.95e5
35.99
123679/123689D
3.19e5
36.93
123468D
4.81e4
36.63
123469D
6.22e4
37.07
123678D
8.36e4
37.85
123467D
3.48e4*
38.04
123789D
5.53e4*
38.14
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 2.27e3
ES 123678D
1.56e7
37.84
ES 123478D
1.51e7
37.72
JS 123467D
9.01e6
38.03
ES 123789D
1.68e7
38.13
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 2.79e3
ES 123678D
1.24e7
37.84
ES 123478D
1.18e7
37.72
JS 123467D
7.04e6
38.03
ES 123789D
1.31e7
38.13
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
RT
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_002.utp_res, saved 14-Feb-2022 10:18 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8070, 7100 scc: 491-714
PKD: 14-Feb-2022 10:18 Printed: 14-Feb-2022 11:02 Page 4 of 12


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 1.98e3
1234679D
4.94e6*
40.15
1234678D
2.18e6
40.84
Abs. Int.
1.65e6
8.25e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 1.69e3
1234679D
4.65e6*
40.15
1234678D
2.01e6
40.83
Abs. Int.
1.51e6
7.56e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.84e3
ES 1234678D
1.36e7
40.82
Abs. Int.
4.00e6
2.00e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 2.62e3
ES 1234678D
1.26e7
40.82
Abs. Int.
3.79e6
1.89e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
6.72e6
3.36e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

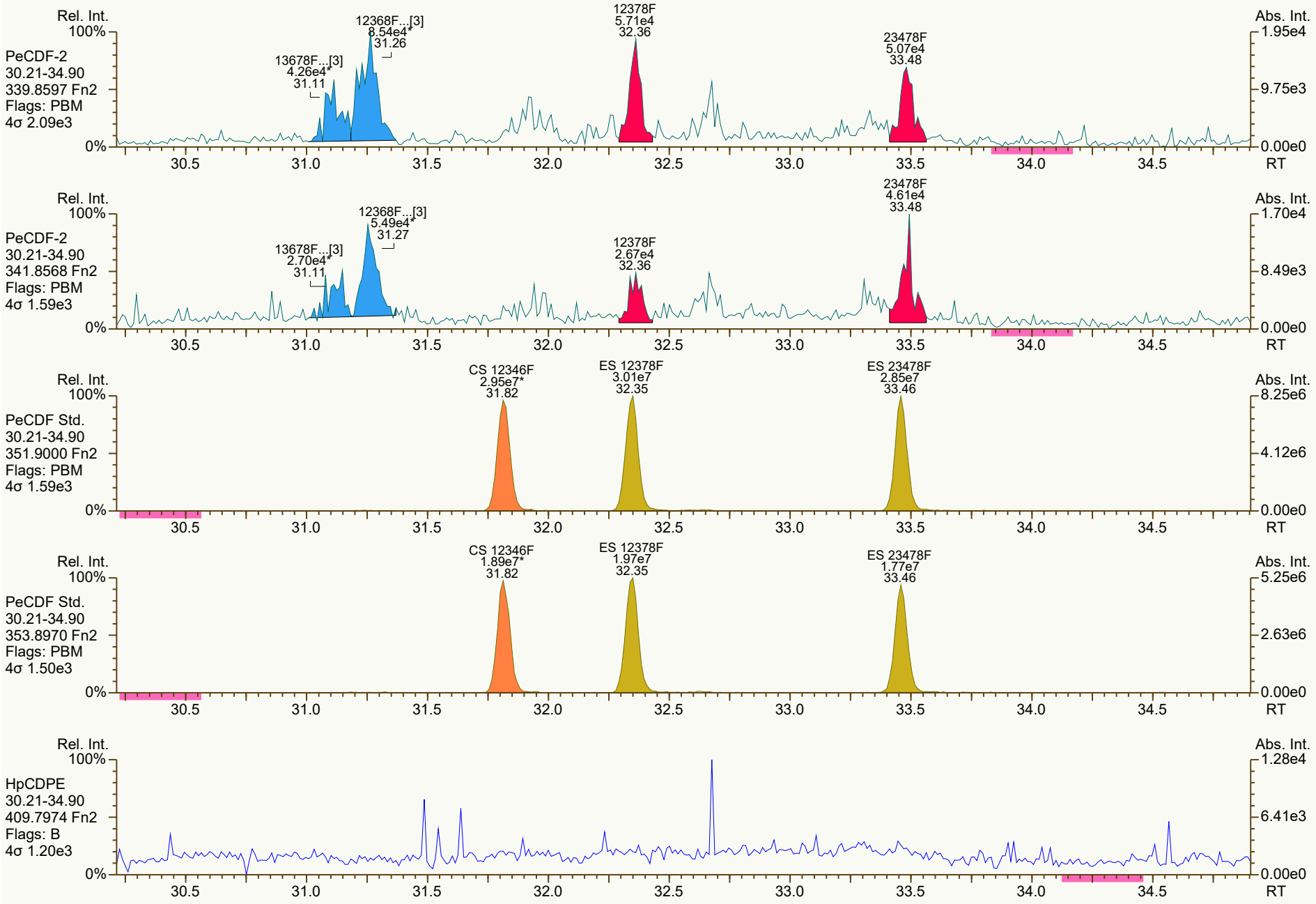

Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 2.90e3
0%
OCDD
2.00e7
43.53
Abs. Int.
4.21e6
2.10e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 2.90e3
0%
OCDD
2.19e7
43.53
Abs. Int.
4.48e6
2.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 2.51e3
0%
ES OCDD
1.64e7
43.52
Abs. Int.
3.44e6
1.72e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 2.89e3
0%
ES OCDD
1.84e7
43.52
Abs. Int.
3.89e6
1.94e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.77e6
2.89e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

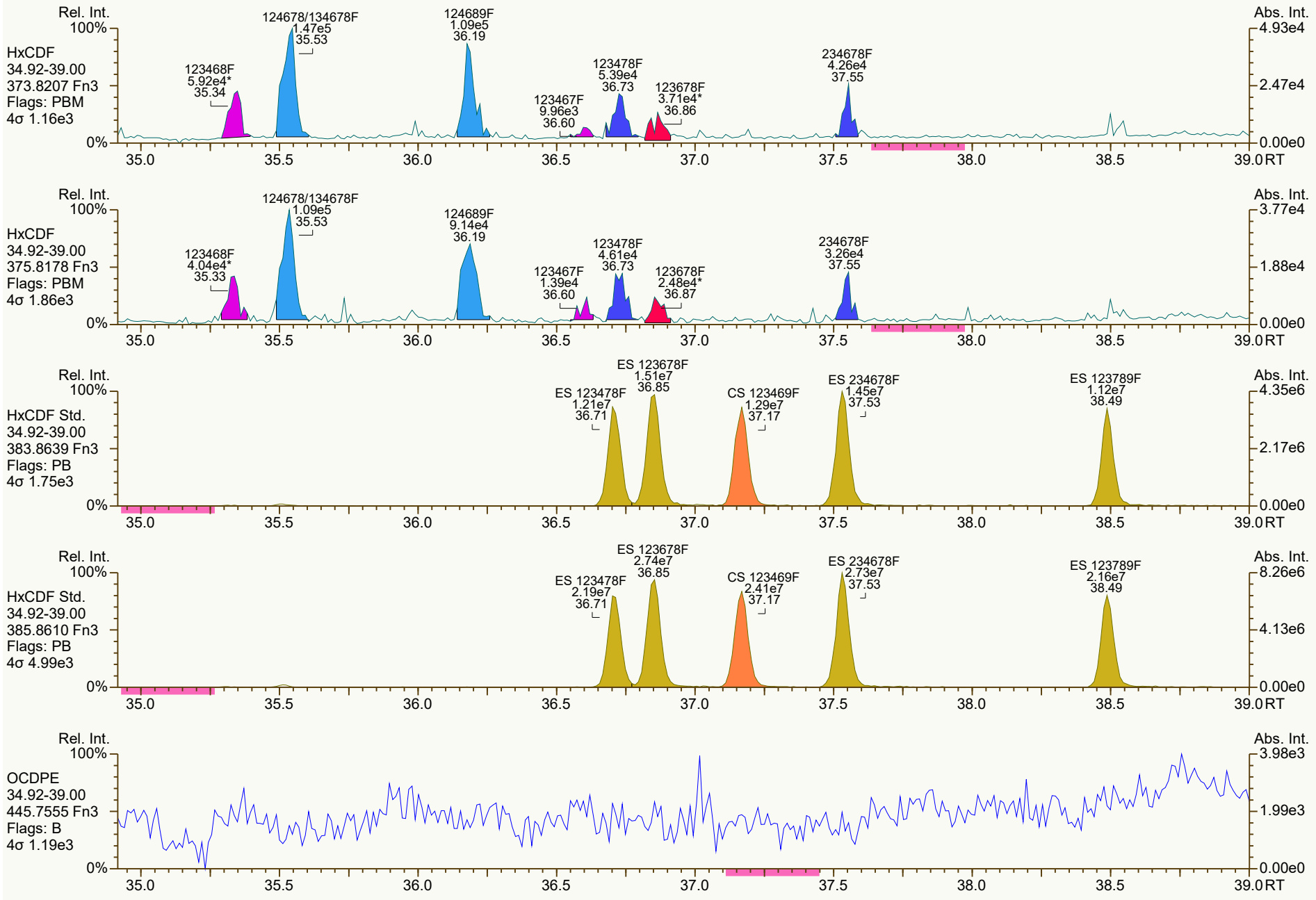

SGS ID: B6290_18916_DF_002
Sample ID: 11215131-020422-S-SB-SW-S-47
Acq: 11-Feb-2022 20:00:56
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 220211C07
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.58e3
2468F 6.17e4 23.93
1347F...[3] 4.93e4 24.45
1268F 4.03e4* 25.22
1478F 4.71e4* 25.52
2368F 3.93e4* 26.17
1278F 2.05e5 26.71
2347/1279F 3.16e4* 27.38
2378F 4.68e5* 27.62
2367/3467F 8.87e4* 27.96
1289F 7.44e4* 29.62
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.31e3
2468F 7.15e4 23.94
1347F...[3] 6.03e4 24.45
1248F...[3] 5.39e4* 24.82
1478F 6.11e4* 25.52
1238F...[5] 1.37e5 26.28
1278F 2.92e5 26.72
1267F 3.53e4* 26.98
2348F 3.86e4* 27.49
2378F 6.07e5* 27.61
2367/3467F 1.05e5* 27.97
1289F 8.19e4* 29.62
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 7.35e3
JS 1234F 2.61e7 26.23
ES 2378F 2.24e7 27.59
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.37e3
JS 1234F 3.35e7 26.23
ES 2378F 2.83e7 27.59
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.14e3
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
1.20e5
5.98e4
0.00e0
1.51e5
7.57e4
5.68e6
2.84e6
7.13e6
3.56e6
8.06e3
4.03e3
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_002.utp_res, saved 14-Feb-2022 10:18 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8435, 6933, 8909 scc: 491-714
PKD: 14-Feb-2022 10:18 Printed: 14-Feb-2022 11:02 Page 7 of 12

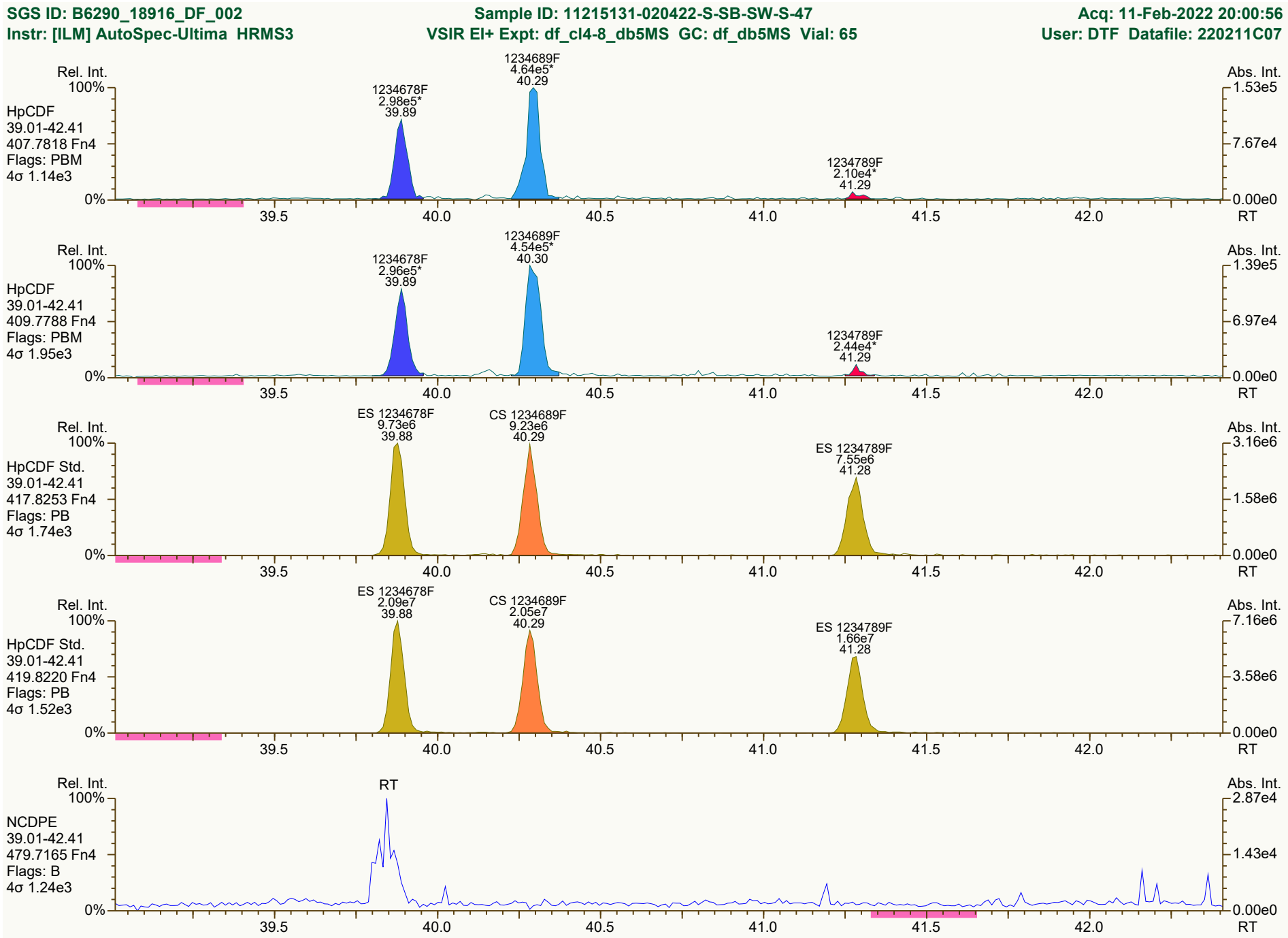
SGS ID: B6290_18916_DF_002
Sample ID: 11215131-020422-S-SB-SW-S-47
Acq: 11-Feb-2022 20:00:56
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 220211C07



Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_002.utp_res, saved 14-Feb-2022 10:18 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4287 scc: 491-714
PKD: 14-Feb-2022 10:18 Printed: 14-Feb-2022 11:02 Page 8 of 12

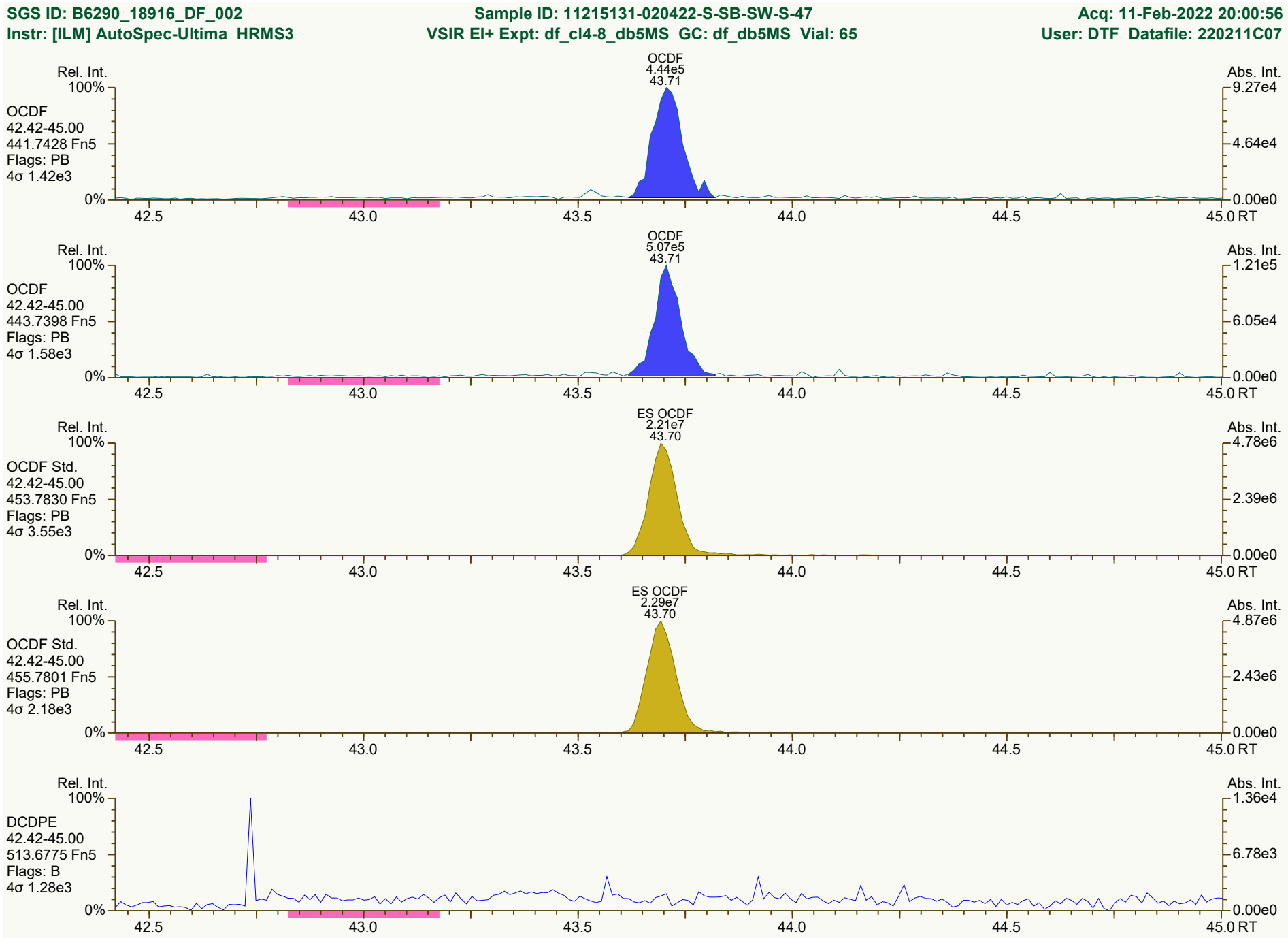

Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 2.09e3
0%
13678F...[3]
4.26e4*
31.11
12368F...[3]
8.54e4*
31.26
12378F
5.71e4
32.36
23478F
5.07e4
33.48
Abs. Int.
1.95e4
9.75e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 1.59e3
0%
13678F...[3]
2.70e4*
31.11
12368F...[3]
5.49e4*
31.27
12378F
2.67e4
32.36
23478F
4.61e4
33.48
Abs. Int.
1.70e4
8.49e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PBM
4σ 1.59e3
0%
CS 12346F
2.95e7*
31.82
ES 12378F
3.01e7
32.35
ES 23478F
2.85e7
33.46
Abs. Int.
8.25e6
4.12e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PBM
4σ 1.50e3
0%
CS 12346F
1.89e7*
31.82
ES 12378F
1.97e7
32.35
ES 23478F
1.77e7
33.46
Abs. Int.
5.25e6
2.63e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.20e3
0%
Abs. Int.
1.28e4
6.41e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 1.16e3
123468F 5.92e4* 35.34
124678/134678F 1.47e5 35.53
124689F 1.09e5 36.19
123467F 9.96e3 36.60
123478F 5.39e4 36.73
123678F 3.71e4* 36.86
234678F 4.26e4 37.55
Abs. Int.
4.93e4
2.47e4
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 1.86e3
123468F 4.04e4* 35.33
124678/134678F 1.09e5 35.53
124689F 9.14e4 36.19
123467F 1.39e4 36.60
123478F 4.61e4 36.73
123678F 2.48e4* 36.87
234678F 3.26e4 37.55
3.77e4
1.88e4
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 1.75e3
ES 123678F 1.51e7 36.85
ES 123478F 1.21e7 36.71
CS 123469F 1.29e7 37.17
ES 234678F 1.45e7 37.53
ES 123789F 1.12e7 38.49
4.35e6
2.17e6
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 4.99e3
ES 123678F 2.74e7 36.85
ES 123478F 2.19e7 36.71
CS 123469F 2.41e7 37.17
ES 234678F 2.73e7 37.53
ES 123789F 2.16e7 38.49
8.26e6
4.13e6
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.19e3
3.98e3
1.99e3



Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_002.utp_res, saved 14-Feb-2022 10:18 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2811, 3529, 1533 scc: 491-714
PKD: 14-Feb-2022 10:18 Printed: 14-Feb-2022 11:02 Page 11 of 12

SGS ID: B6290_18916_DF_002 | Sample ID: 11215131-020422-S-SB-SW-S-47 | Acq: 11-Feb-2022 20:00:56
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65 | User: DTF Datafile: 220211C07



Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_002.utp_res, saved 14-Feb-2022 10:18 (PSW) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0900, 7911, 8060 scc: 491-714 | *PKD: 14-Feb-2022 10:18 Printed: 14-Feb-2022 11:02 Page 12 of 12*

Lab ID: B6290_18916_DF_003 **Acq'd:** 11 Feb 2022 20:47 DTF **Wt/Vol:** 10.13 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020522-S-SB-SW-S-51 **UTP:** 14-Feb-2022 10:21:05 PSW **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 714-903-PHJ

Datafile: 220211C08 **Report:** 14 Feb 2022 10:42 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.48		1.0008	1.0008	0	1.76E+06	0.73	Y	1.18	12.2	3401.43	0.229
12378-PeCDD	33.83	J EMPC	1.0005	1.0007	+0.4	3.58E+04	2.70	N	1.04	0.309	2742.046	0.215
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	5019.995	0.416
123678-HxCDD	37.86	J	1.0035	1.0035	0	8.85E+04	1.17	Y	1.15	0.773	5019.995	0.391
123789-HxCDD	38.16	J	1.0113	1.0113	0	1.11E+05	1.36	Y	1.05	1.01	5019.995	0.396
1234678-HpCDD	40.84		1.0003	1.0003	0	1.94E+06	1.00	Y	1.06	20.9	2442.4733	0.198
OCDD	43.54		1.0002	1.0003	+0.3	2.36E+07	0.89	Y	1.13	349	3716.712	0.678
2378-TCDF	27.63		1.0008	1.0007	-0.2	6.19E+06	0.82	Y	1.08	31.7	2557.232	0.144
12378-PeCDF	32.37	J EMPC	1.0005	1.0004	-0.2	1.76E+05	1.83	N	1.02	0.981	2937.236	0.155
23478-PeCDF	33.50	J	1.0005	1.0008	+0.6	2.08E+05	1.76	Y	1.02	1.24	2937.236	0.159
123478-HxCDF	36.74	J	1.0005	1.0004	-0.2	2.41E+05	1.08	Y	1.27	1.59	3311.687	0.186
123678-HxCDF	36.88	J EMPC	1.0005	1.0005	0	8.01E+04	1.02	N	1.15	0.45	3311.687	0.162
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	3311.687	0.176
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3311.687	0.208
1234678-HpCDF	39.90	J	1.0003	1.0003	0	2.00E+05	1.02	Y	1.37	1.33	2643.442	0.134
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2643.442	0.211
OCDF	43.71	J	1.0003	1.0000	-0.8	2.01E+05	1.01	Y	1.07	2.65	3232.293	0.516

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46		1.0238	1.0238	0	2.41E+07	0.80	Y	1.05	88.6
ES 12378-PeCDD	33.81		1.2160	1.2162	+0.4	2.21E+07	1.64	Y	0.88	96.3
ES 123478-HxCDD	37.73		0.9919	0.9918	-0.2	1.84E+07	1.29	Y	0.97	91.4
ES 123678-HxCDD	37.85		0.9950	0.9949	-0.2	1.97E+07	1.24	Y	0.94	101
ES 123789-HxCDD	38.14		1.0027	1.0027	0	2.06E+07	1.25	Y	1.09	91
ES 1234678-HpCDD	40.82		1.0730	1.0731	+0.2	1.73E+07	1.08	Y	0.91	91.6
ES OCDD	43.53		1.1437	1.1442	+1.3	2.37E+07	0.95	Y	0.62	91.5
ES 2378-TCDF	27.61		1.0520	1.0520	0	3.57E+07	0.78	Y	1.06	80.8
ES 12378-PeCDF	32.36		1.2330	1.2332	+0.4	3.45E+07	1.54	Y	0.91	90.9
ES 23478-PeCDF	33.47		1.2754	1.2756	+0.4	3.25E+07	1.57	Y	0.88	88.1
ES 123478-HxCDF	36.72		0.9653	0.9652	-0.2	2.35E+07	0.53	Y	1.20	94.8
ES 123678-HxCDF	36.86		0.9691	0.9689	-0.4	3.05E+07	0.54	Y	1.35	109
ES 234678-HxCDF	37.55		0.9870	0.9870	0	2.81E+07	0.52	Y	1.24	109
ES 123789-HxCDF	38.50		1.0121	1.0120	-0.2	2.17E+07	0.55	Y	1.16	90.6
ES 1234678-HpCDF	39.89		1.0484	1.0485	+0.2	2.16E+07	0.45	Y	0.97	108
ES 1234789-HpCDF	41.29		1.0851	1.0853	+0.5	1.56E+07	0.44	Y	0.85	88.2
ES OCDF	43.71		1.1483	1.1488	+1.3	2.79E+07	0.87	Y	0.81	83.5

Lab ID: B6290_18916_DF_003 **Acq'd:** 11 Feb 2022 20:47 DTF **Wt/Vol:** 10.13 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020522-S-SB-SW-S-51 **UTP:** 14-Feb-2022 10:21:05 PSW **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 714-903-PHJ

Datafile: 220211C08 **Report:** 14 Feb 2022 10:42 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.80		-	-	-	2.61E+07	0.81	Y	-	-
JS 1234-TCDF	26.24		-	-	-	4.17E+07	0.76	Y	-	-
JS 123467-HxCDD	38.04		-	-	-	1.04E+07	1.27	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0245	1.0246	+0.2	1.10E+07	n/a	-	1.20	88
CS 12347-PeCDD	33.31		1.1979	1.1981	+0.4	2.00E+07	1.63	Y	0.75	102
CS 12346-PeCDF	31.83		1.2128	1.2130	+0.4	3.51E+07	1.57	Y	0.85	98.8
CS 123469-HxCDF	37.18		0.9774	0.9774	0	2.50E+07	0.54	Y	1.12	108
CS 1234689-HpCDF	40.29		1.0589	1.0591	+0.5	1.89E+07	0.45	Y	0.89	103
~~SS 37Cl-2378-TCDD~~	~~28.48~~		~~1.0245~~	~~1.0246~~	~~+0.2~~	~~1.10E+07~~	~~n/a~~		~~1.15~~	~~99.5~~
~~SS 12347-PeCDD~~	~~33.31~~		~~1.1979~~	~~1.1981~~	~~+0.4~~	~~2.00E+07~~	~~1.63~~	~~Y~~	~~0.86~~	~~105~~
~~SS 12346-PeCDF~~	~~31.83~~		~~1.2128~~	~~1.2130~~	~~+0.4~~	~~3.51E+07~~	~~1.57~~	~~Y~~	~~0.94~~	~~100~~
~~SS 123469-HxCDF~~	~~37.18~~		~~0.9774~~	~~0.9774~~	~~0~~	~~2.50E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~99~~
~~SS 1234689-HpCDF~~	~~40.29~~		~~1.0589~~	~~1.0591~~	~~+0.5~~	~~1.89E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~95.1~~

Totals	Conc	EMPC
Total TCDD	16.7	18.8
Total PeCDD	7.47	8.01
Total HxCDD	42.8	43.4
Total HpCDD	77.3	77.3
Total Tetra-Octa Dioxins	494	497
Total TCDF	66.6	67.4
Total PeCDF	4.6	5.58
Total HxCDF	3.56	4.83
Total HpCDF	1.33	2.52
Total Tetra-Octa Furans	78.7	83
Total Tetra-Octa Dioxins & Furans	573	580

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.725	0.73
Response	1.77E+06	1.76E+06

Lab ID: B6290_18916_DF_003 | **Acq'd: 11 Feb 2022 20:47 DTF** | **Wt/Vol: 10.13 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020522-S-SB-SW-S-51 | **UTP: 14-Feb-2022 10:21:05 PSW** | **J-level: 0.494 pg/g** | **Split: 1** | **Checkcode: 714-903-PHJ**

Datafile: 220211C08 | **Report: 14 Feb 2022 10:42 gd** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.85	J EMPC	0.8737	0.8730	-1.0	2.74E+04	1.18	N	1.18	0.189	3401.43	0.229
1379-TCDD	NotFnd		0.8860						1.18		3401.43	0.229
1369-TCDD	NotFnd		0.9009						1.18		3401.43	0.229
1469-TCDD	26.40		0.9281	0.9275	-1.0	6.64E+05	0.83	Y	1.18	4.58	3401.43	0.229
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3401.43	0.229
1378-TCDD	NotFnd		0.9432						1.18		3401.43	0.229
1268-TCDD	NotFnd		0.9500						1.18		3401.43	0.229
1478-TCDD	NotFnd		0.9586						1.18		3401.43	0.229
1279-TCDD	NotFnd		0.9645						1.18		3401.43	0.229
1234/1269-TCDD	27.79	EMPC	0.9770	0.9763	-1.2	9.96E+04	1.00	N	1.18	0.687	3401.43	0.229
1236-TCDD	NotFnd		0.9817						1.18		3401.43	0.229
1237/1238-TCDD	NotFnd		0.9905						1.18		3401.43	0.229
1239-TCDD	NotFnd		0.9952						1.18		3401.43	0.229
2378-TCDD	**28.48**		**1.0008**	1.0008	**0**	1.76E+06	0.73	Y	**1.18**	**12.2**	**3401.43**	**0.229**
1278-TCDD	28.81	EMPC	1.0121	1.0123	+0.3	1.77E+05	0.98	N	1.18	1.22	3401.43	0.229
1267-TCDD	NotFnd		1.0167						1.18		3401.43	0.229
1289-TCDD	NotFnd		1.0345						1.18		3401.43	0.229
12479/12468-PeCDD	31.32	J	0.9267	0.9265	-0.4	9.50E+04	1.43	Y	1.04	0.821	2742.046	0.215
12469-PeCDD	31.85		0.9425	0.9422	-0.6	6.24E+05	1.63	Y	1.04	5.39	2742.046	0.215
12368-PeCDD	NotFnd		0.9588						1.04		2742.046	0.215
12478-PeCDD	32.60	J EMPC	0.9643	0.9642	-0.2	2.75E+04	1.13	N	1.04	0.238	2742.046	0.215
12379-PeCDD	NotFnd		0.9673						1.04		2742.046	0.215
12369/12467/12489-PeCDD	32.96	J	0.9750	0.9749	-0.2	1.45E+05	1.61	Y	1.04	1.25	2742.046	0.215
12346/12347-PeCDD	NotFnd		0.9858						1.04		2742.046	0.215
12378-PeCDD	33.83	J EMPC	**1.0005**	**1.0007**	**+0.4**	**3.58E+04**	**2.70**	**N**	**1.04**	**0.309**	**2742.046**	**0.215**
12367-PeCDD	NotFnd		1.0033						1.04		2742.046	0.215
12389-PeCDD	NotFnd		1.0134						1.04		2742.046	0.215
124679/124689-HxCDD	36.00		0.9542	0.9540	-0.4	3.87E+06	1.24	Y	1.10	35.7	5019.995	0.4
123468-HxCDD	NotFnd		0.9715						1.10		5019.995	0.4
123679/123689-HxCDD	36.94		0.9793	0.9791	-0.4	5.27E+05	1.23	Y	1.10	4.86	5019.995	0.4
123469-HxCDD	37.08	J EMPC	0.9828	0.9827	-0.2	5.96E+04	1.60	N	1.10	0.55	5019.995	0.4
123478-HxCDD	NotFnd		**1.0004**						1.09		**5019.995**	**0.416**
123678-HxCDD	37.86	J	**1.0035**	**1.0035**	**0**	**8.85E+04**	**1.17**	**Y**	1.15	**0.773**	**5019.995**	**0.391**
123467-HxCDD	38.06	J	1.0085	1.0086	+0.2	5.21E+04	1.21	Y	1.10	0.481	5019.995	0.4
123789-HxCDD	38.16	J	**1.0113**	**1.0113**	**0**	**1.11E+05**	**1.36**	**Y**	1.05	**1.01**	**5019.995**	**0.396**

Lab ID: B6290_18916_DF_003 **Acq'd:** 11 Feb 2022 20:47 DTF **Wt/Vol:** 10.13 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020522-S-SB-SW-S-51 **UTP:** 14-Feb-2022 10:21:05 PSW **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 714-903-PHJ

Datafile: 220211C08 **Report:** 14 Feb 2022 10:42 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

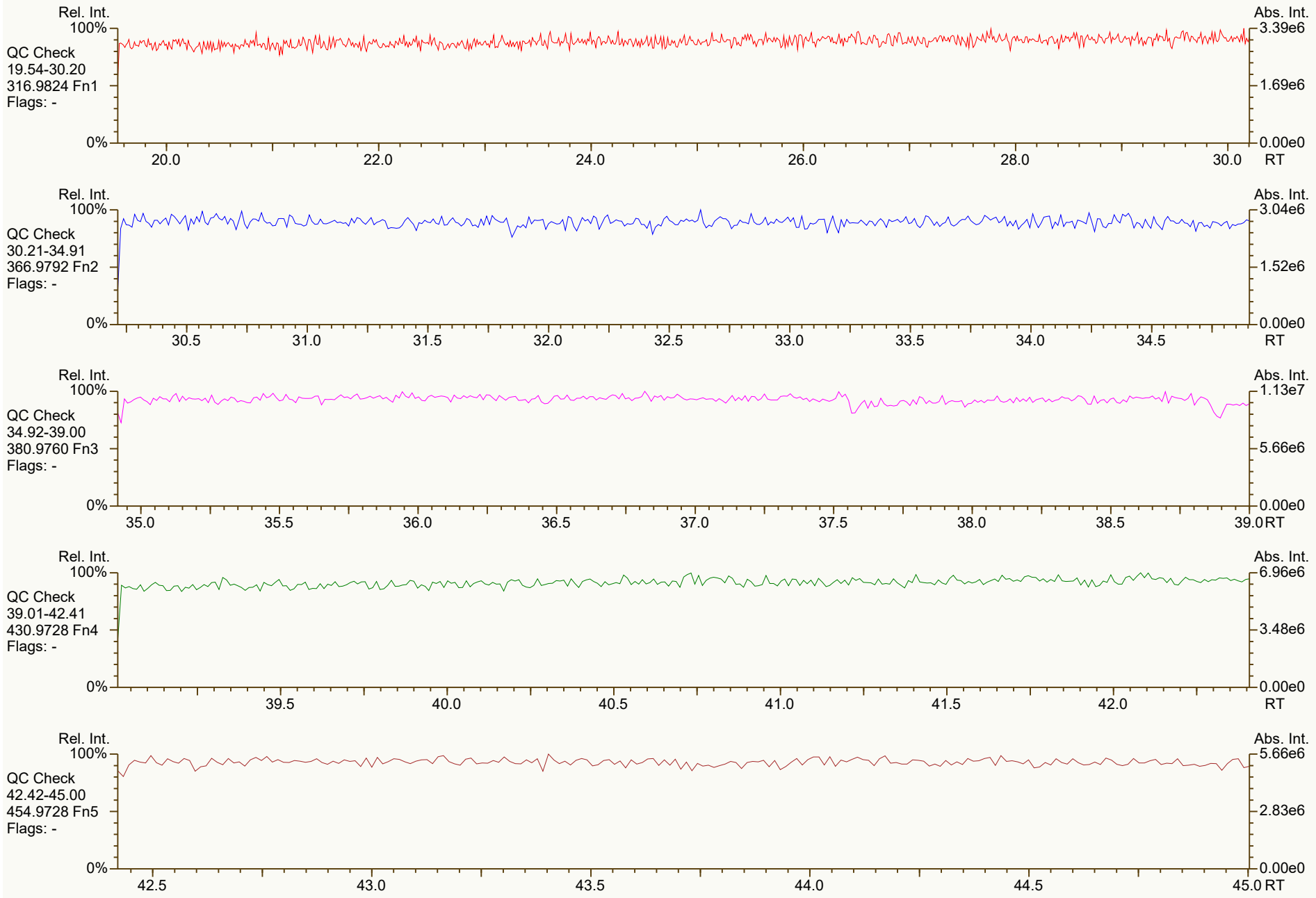
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16		0.9837	0.9837	0	5.24E+06	1.04	Y	1.06	56.4	2442.4733	0.198
1234678-HpCDD	**40.84**		**1.0003**	**1.0003**	**0**	**1.94E+06**	**1.00**	**Y**	**1.06**	**20.9**	**2442.4733**	**0.198**
OCDD	**43.54**		**1.0002**	**1.0003**	**+0.3**	**2.36E+07**	**0.89**	**Y**	**1.13**	**349**	**3716.712**	**0.678**
OCDD-a	43.54		1.0001	1.0002	+0.3	1.44E+06	2.20	Y	0.07	334	3380.426	9.64
1368-TCDF	NotFnd		0.8251						1.08		2557.232	0.144
1468-TCDF	NotFnd		0.8458						1.08		2557.232	0.144
2468-TCDF	23.95	J	0.8686	0.8675	-1.6	9.60E+04	0.87	Y	1.08	0.492	2557.232	0.144
1346/1246-TCDF	NotFnd		0.8814						1.08		2557.232	0.144
1347/1378/1247-TCDF	24.44	J EMPC	0.8867	0.8853	-2.1	5.46E+04	0.65	N	1.08	0.28	2557.232	0.144
1348-TCDF	24.72	J EMPC	0.8962	0.8955	-1.0	2.73E+04	0.55	N	1.08	0.14	2557.232	0.144
1248/1367/1379-TCDF	24.82		0.9009	0.8992	-2.5	3.21E+05	0.77	Y	1.08	1.65	2557.232	0.144
1268-TCDF	25.22		0.9145	0.9135	-1.5	1.25E+05	0.66	Y	1.08	0.64	2557.232	0.144
1467-TCDF	NotFnd		0.9193						1.08		2557.232	0.144
1478-TCDF	25.53		0.9254	0.9249	-0.8	3.35E+05	0.88	Y	1.08	1.72	2557.232	0.144
1369/1237-TCDF	25.92		0.9387	0.9388	+0.2	1.13E+05	0.87	Y	1.08	0.578	2557.232	0.144
2467-TCDF	NotFnd		0.9433						1.08		2557.232	0.144
2368-TCDF	26.24		0.9489	0.9503	+2.2	6.12E+05	0.86	Y	1.08	3.14	2557.232	0.144
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2557.232	0.144
1278-TCDF	26.73		0.9683	0.9682	-0.2	3.18E+06	0.83	Y	1.08	16.3	2557.232	0.144
1349-TCDF	NotFnd		0.9722						1.08		2557.232	0.144
1267-TCDF	27.00		0.9783	0.9782	-0.2	1.89E+05	0.80	Y	1.08	0.967	2557.232	0.144
2346/1249-TCDF	NotFnd		0.9850						1.08		2557.232	0.144
2347/1279-TCDF	27.38	J EMPC	0.9926	0.9916	-1.6	7.11E+04	1.01	N	1.08	0.364	2557.232	0.144
2348-TCDF	27.52		0.9967	0.9968	+0.2	5.97E+05	0.78	Y	1.08	3.06	2557.232	0.144
2378-TCDF	**27.63**		**1.0008**	**1.0007**	**-0.2**	**6.19E+06**	**0.82**	**Y**	**1.08**	**31.7**	**2557.232**	**0.144**
2367/3467-TCDF	27.98		1.0137	1.0134	-0.5	5.42E+05	0.71	Y	1.08	2.78	2557.232	0.144
1269-TCDF	28.23		1.0223	1.0224	+0.2	1.21E+05	0.76	Y	1.08	0.618	2557.232	0.144
1239-TCDF	NotFnd		1.0321						1.08		2557.232	0.144
1289-TCDF	29.63		1.0722	1.0734	+2.1	5.78E+05	0.80	Y	1.08	2.96	2557.232	0.144
13468/12468-PeCDF	29.57	J	0.9139	0.9138	-0.2	3.07E+05	1.64	Y	1.02	1.77	2286.038	0.122
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		2937.236	0.157
12368/13478/12478-PeCDF	31.28	J	0.9662	0.9666	+0.8	2.04E+05	1.42	Y	1.02	1.17	2937.236	0.157
14678-PeCDF	NotFnd		0.9692						1.02		2937.236	0.157
13479-PeCDF	NotFnd		0.9723						1.02		2937.236	0.157
13469/12479-PeCDF	NotFnd		0.9797						1.02		2937.236	0.157
12346-PeCDF	NotFnd		0.9840						1.02		2937.236	0.157

Lab ID: B6290_18916_DF_003 | **Acq'd: 11 Feb 2022 20:47 DTF** | **Wt/Vol: 10.13 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020522-S-SB-SW-S-51 | **UTP: 14-Feb-2022 10:21:05 PSW** | **J-level: 0.494 pg/g** | **Split: 1** | **Checkcode: 714-903-PHJ**

Datafile: 220211C08 | **Report: 14 Feb 2022 10:42 gd** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		2937.236	0.157
12347-PeCDF	NotFnd		0.9894						1.02		2937.236	0.157
12348-PeCDF	NotFnd		0.9940						1.02		2937.236	0.157
12378-PeCDF	**32.37**	J EMPC	**1.0005**	**1.0004**	**-0.2**	**1.76E+05**	**1.83**	**N**	**1.02**	**0.981**	**2937.236**	**0.155**
12678/12367-PeCDF	32.67	J	1.0089	1.0095	+1.2	7.12E+04	1.56	Y	1.02	0.411	2937.236	0.157
12379-PeCDF	NotFnd		1.0142						1.02		2937.236	0.157
12679-PeCDF	NotFnd		0.9929						1.02		2937.236	0.157
23467/12369-PeCDF	NotFnd		0.9967						1.02		2937.236	0.157
23478-PeCDF	**33.50**	J	**1.0005**	**1.0008**	**+0.6**	**2.08E+05**	**1.76**	**Y**	**1.02**	**1.24**	**2937.236**	**0.159**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2937.236	0.157
12349-PeCDF	NotFnd		1.0100						1.02		2937.236	0.157
12389-PeCDF	NotFnd		1.0324						1.02		2937.236	0.157
123468-HxCDF	35.34	J	0.9627	0.9625	-0.4	7.17E+04	1.14	Y	1.19	0.457	3311.687	0.181
124678/134678-HxCDF	35.55	J	0.9682	0.9681	-0.2	2.37E+05	1.42	Y	1.19	1.51	3311.687	0.181
134679-HxCDF	NotFnd		0.9744						1.19		3311.687	0.181
124679-HxCDF	NotFnd		0.9798						1.19		3311.687	0.181
124689-HxCDF	36.19	J EMPC	0.9858	0.9855	-0.7	1.29E+05	1.68	N	1.19	0.82	3311.687	0.181
123467-HxCDF	NotFnd		0.9972						1.19		3311.687	0.181
123478-HxCDF	**36.74**	J	**1.0005**	**1.0004**	**-0.2**	**2.41E+05**	**1.08**	**Y**	**1.27**	**1.59**	**3311.687**	**0.186**
123678-HxCDF	**36.88**	J EMPC	**1.0005**	**1.0005**	**0**	**8.01E+04**	**1.02**	**N**	**1.15**	**0.45**	**3311.687**	**0.162**
123479-HxCDF	NotFnd		1.0049						1.19		3311.687	0.181
123469-HxCDF	NotFnd		1.0090						1.19		3311.687	0.181
123679-HxCDF	NotFnd		0.9942						1.19		3311.687	0.181
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**3311.687**	**0.176**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3311.687	0.181
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3311.687**	**0.208**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		3311.687	0.181
1234678-HpCDF	**39.90**	**J**	**1.0003**	**1.0003**	**0**	**2.00E+05**	**1.02**	**Y**	**1.37**	**1.33**	**2643.442**	**0.134**
1234679-HpCDF	NotFnd		1.0068						1.34		2643.442	0.166
1234689-HpCDF	40.30	**J EMPC**	1.0103	1.0103	0	1.50E+05	1.22	N	1.34	1.19	2643.442	0.166
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2643.442**	**0.211**
OCDF	**43.71**	**J**	**1.0003**	**1.0000**	**-0.8**	**2.01E+05**	**1.01**	**Y**	**1.07**	**2.65**	**3232.293**	**0.516**
OCDF-a	NotFnd		1.0002						0.07		3250.421	8.37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QC Check
19.54-30.20
316.9824 Fn1
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22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.39e6
1.69e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.04e6
1.52e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.13e7
5.66e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
6.96e6
3.48e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
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43.5
44.0
44.5
45.0
RT
Abs. Int.
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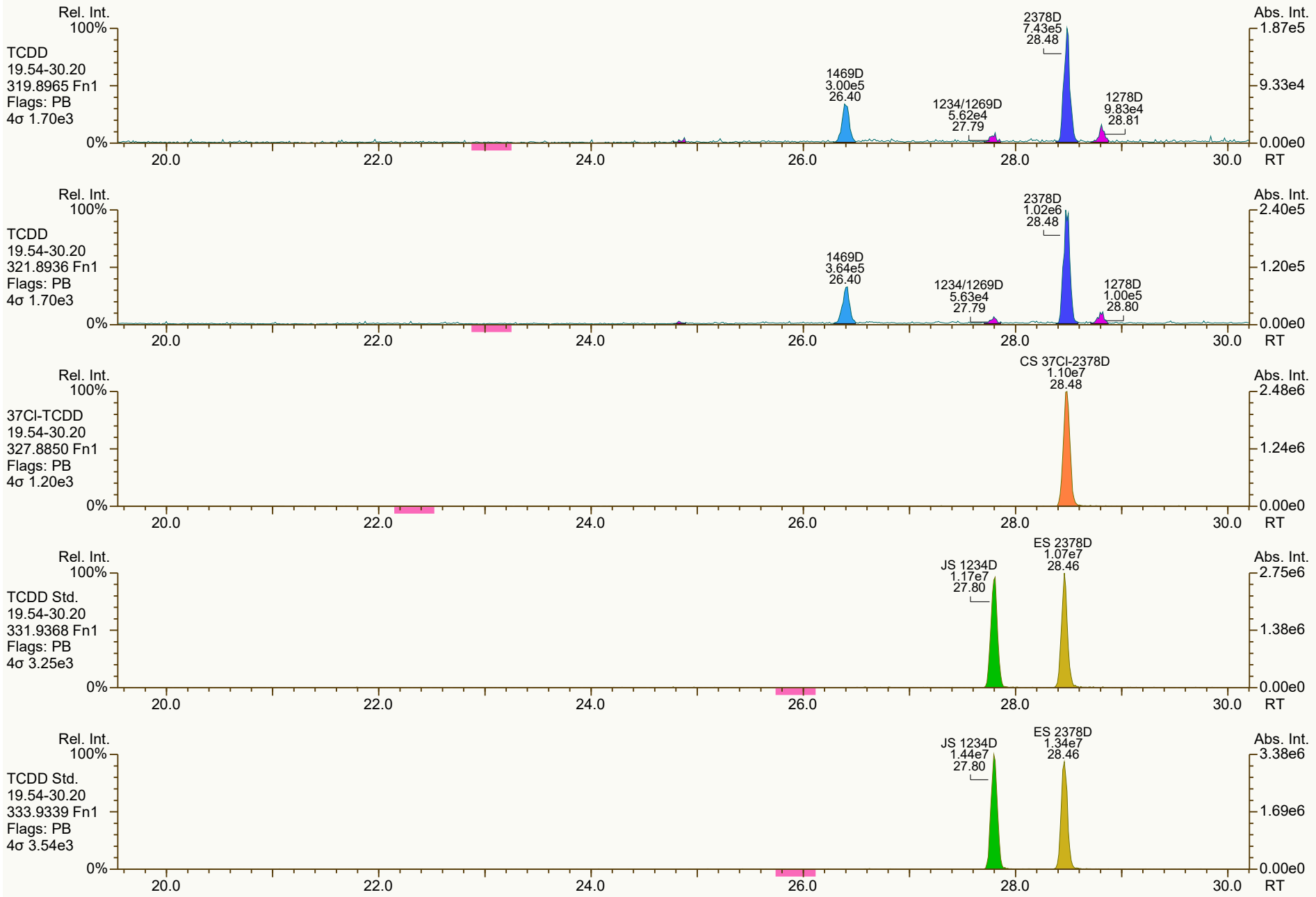
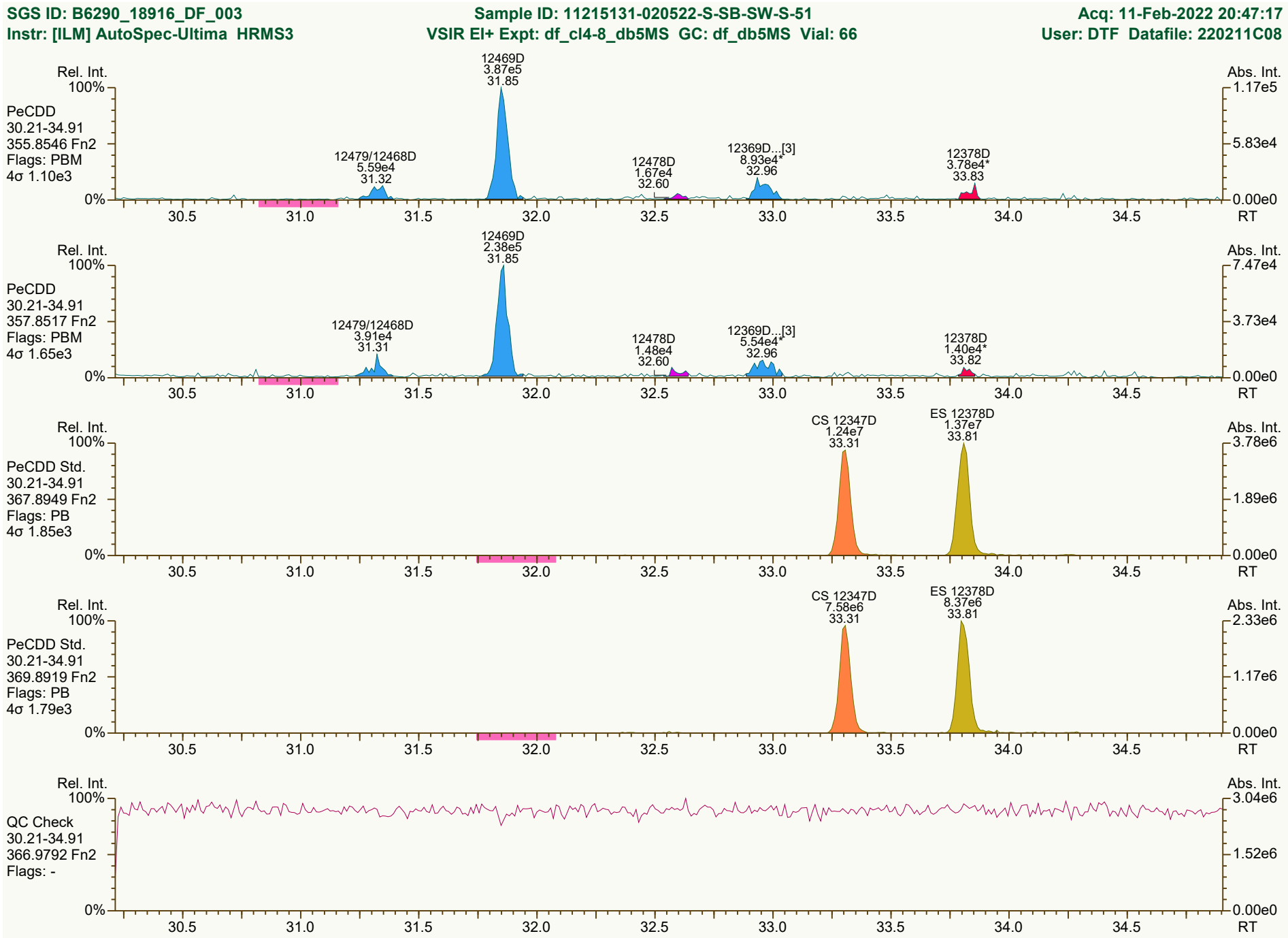
2.83e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 1.70e3
0%
1469D
3.00e5
26.40
1234/1269D
5.62e4
27.79
2378D
7.43e5
28.48
1278D
9.83e4
28.81
Abs. Int.
1.87e5
9.33e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.70e3
0%
1469D
3.64e5
26.40
1234/1269D
5.63e4
27.79
2378D
1.02e6
28.48
1278D
1.00e5
28.80
Abs. Int.
2.40e5
1.20e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.20e3
0%
CS 37Cl-2378D
1.10e7
28.48
Abs. Int.
2.48e6
1.24e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 3.25e3
0%
JS 1234D
1.17e7
27.80
ES 2378D
1.07e7
28.46
Abs. Int.
2.75e6
1.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.54e3
0%
JS 1234D
1.44e7
27.80
ES 2378D
1.34e7
28.46
Abs. Int.
3.38e6
1.69e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT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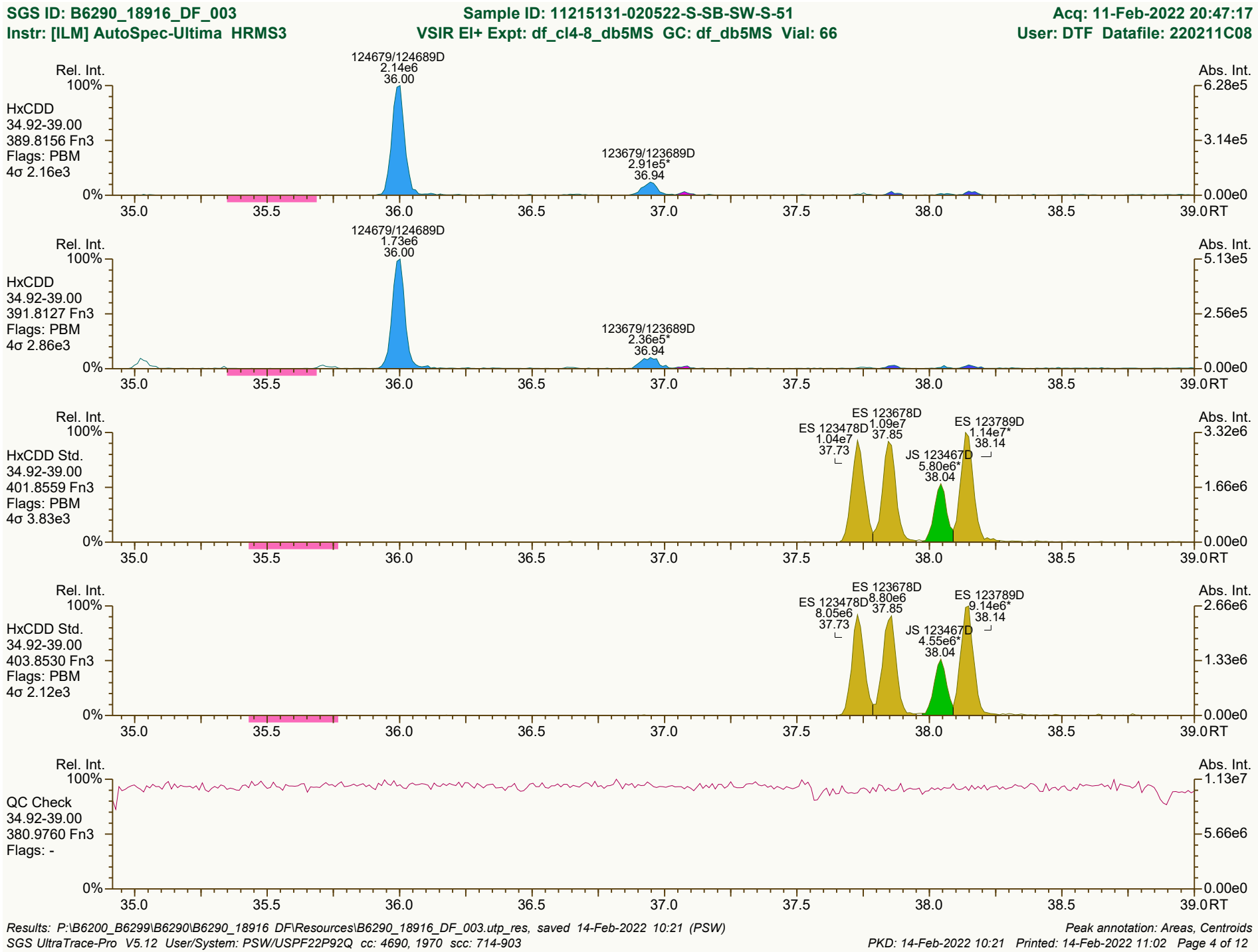
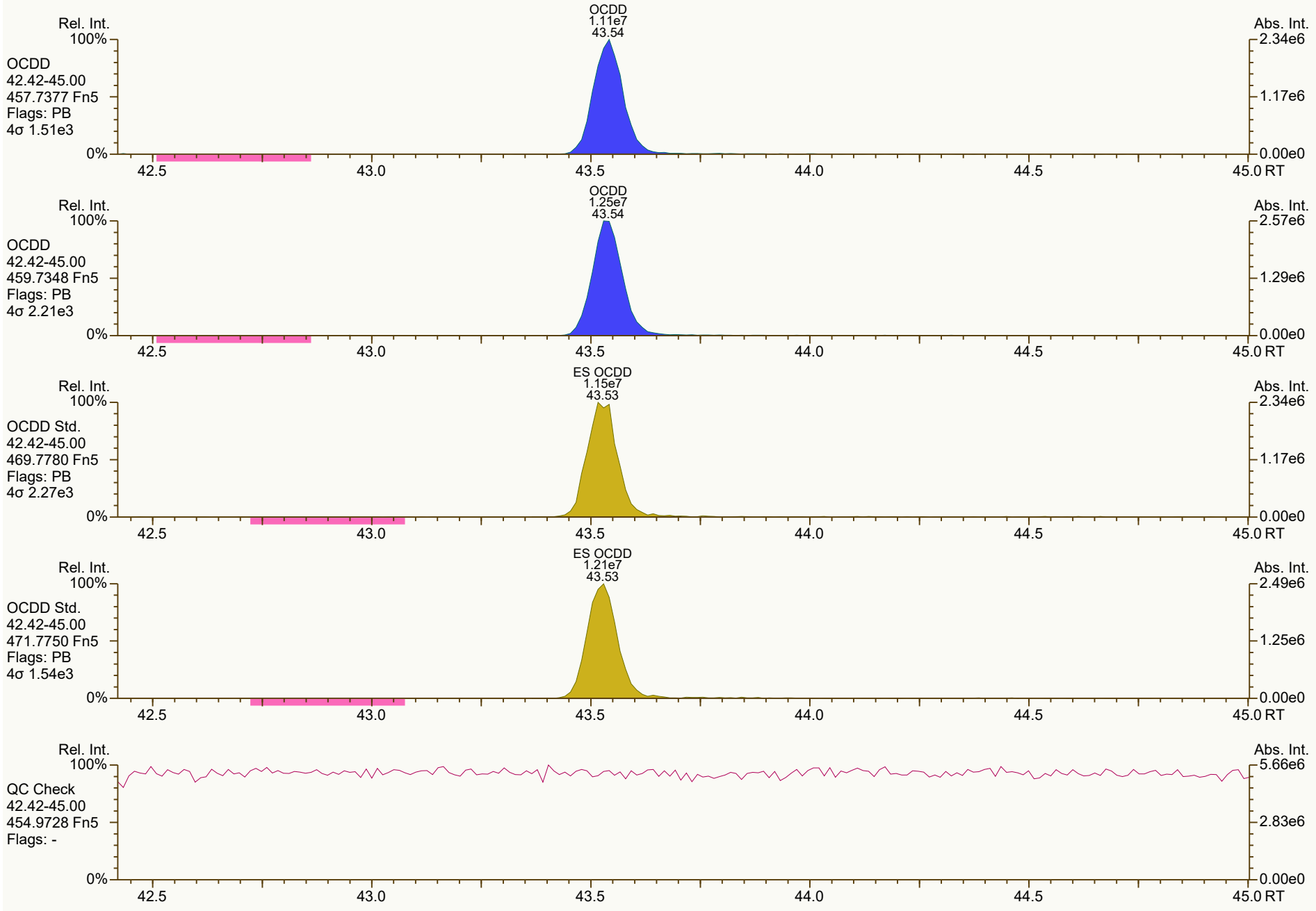
Sample ID: 11215131-020522-S-SB-SW-S-51
Acq: 11-Feb-2022 20:47:17
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 220211C08
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PBM
4σ 1.10e3
12469D
3.87e5
31.85
12479/12468D
5.59e4
31.32
12478D
1.67e4
32.60
12369D...[3]
8.93e4*
32.96
12378D
3.78e4*
33.83
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PBM
4σ 1.65e3
12469D
2.38e5
31.85
12479/12468D
3.91e4
31.31
12478D
1.48e4
32.60
12369D...[3]
5.54e4*
32.96
12378D
1.40e4*
33.82
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 1.85e3
CS 12347D
1.24e7
33.31
ES 12378D
1.37e7
33.81
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 1.79e3
CS 12347D
7.58e6
33.31
ES 12378D
8.37e6
33.81
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
Rel. Int.
Abs. Int.
RT
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_003.utp_res, saved 14-Feb-2022 10:21 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7831, 1239 scc: 714-903
PKD: 14-Feb-2022 10:21 Printed: 14-Feb-2022 11:02 Page 3 of 12


SGS ID: B6290_18916_DF_003
Sample ID: 11215131-020522-S-SB-SW-S-51
Acq: 11-Feb-2022 20:47:17
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 220211C08
Rel. Int.
Abs. Int.
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 2.16e3
124679/124689D
2.14e6
36.00
123679/123689D
2.91e5*
36.94
6.28e5
3.14e5
0.00e0
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 2.86e3
124679/124689D
1.73e6
36.00
123679/123689D
2.36e5*
36.94
5.13e5
2.56e5
0.00e0
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 3.83e3
ES 123678D
1.09e7
37.85
ES 123478D
1.04e7
37.73
ES 123789D
1.14e7*
38.14
JS 123467D
5.80e6*
38.04
3.32e6
1.66e6
0.00e0
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 2.12e3
ES 123678D
8.80e6
37.85
ES 123478D
8.05e6
37.73
ES 123789D
9.14e6*
38.14
JS 123467D
4.55e6*
38.04
2.66e6
1.33e6
0.00e0
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
1.13e7
5.66e6
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_003.utp_res, saved 14-Feb-2022 10:21 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4690, 1970 scc: 714-903
PKD: 14-Feb-2022 10:21 Printed: 14-Feb-2022 11:02 Page 4 of 12


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 9.92e2
1234679D
2.68e6
40.16
1234678D
9.69e5
40.84
Abs. Int.
8.69e5
4.35e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.45e3
1234679D
2.57e6
40.16
1234678D
9.74e5
40.84
Abs. Int.
8.86e5
4.43e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 4.65e3
ES 1234678D
8.99e6
40.82
Abs. Int.
2.99e6
1.49e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.84e3
ES 1234678D
8.32e6
40.82
Abs. Int.
2.38e6
1.19e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
1.11e7
43.54
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 1.51e3
0%
Abs. Int.
2.34e6
1.17e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.25e7
43.54
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 2.21e3
2.57e6
1.29e6
ES OCDD
1.15e7
43.53
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 2.27e3
ES OCDD
1.21e7
43.53
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 1.54e3
2.49e6
1.25e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
5.66e6
2.83e6

SGS ID: B6290_18916_DF_003 | Sample ID: 11215131-020522-S-SB-SW-S-51 | Acq: 11-Feb-2022 20:47:17

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66 | User: DTF Datafile: 220211C08



Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_003.utp_res, saved 14-Feb-2022 10:21 (PSW)

Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9768, 2163, 2197 scc: 714-903

PKD: 14-Feb-2022 10:21 Printed: 14-Feb-2022 11:02 Page 7 of 12

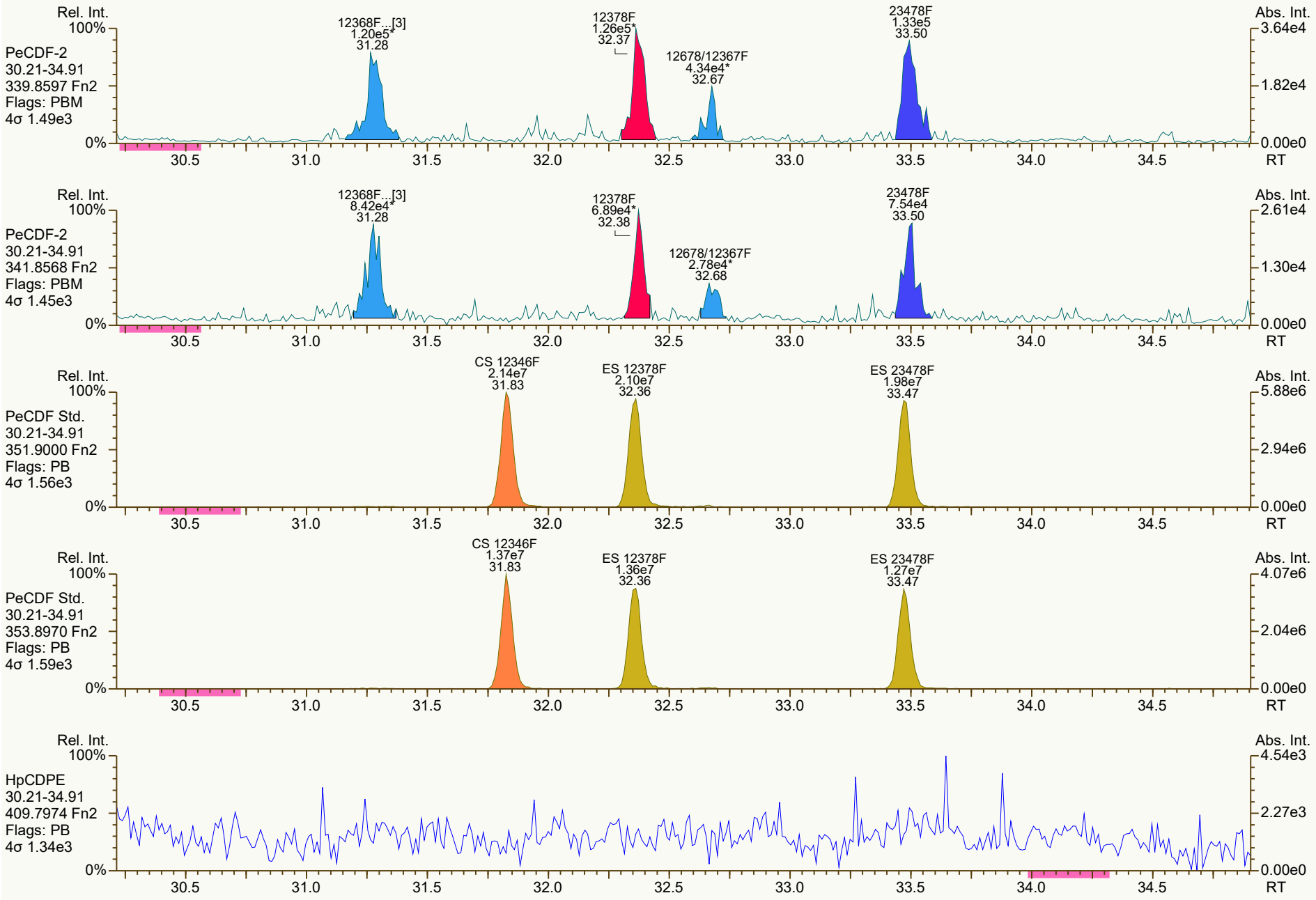
SGS ID: B6290_18916_DF_003 | Sample ID: 11215131-020522-S-SB-SW-S-51 | Acq: 11-Feb-2022 20:47:17

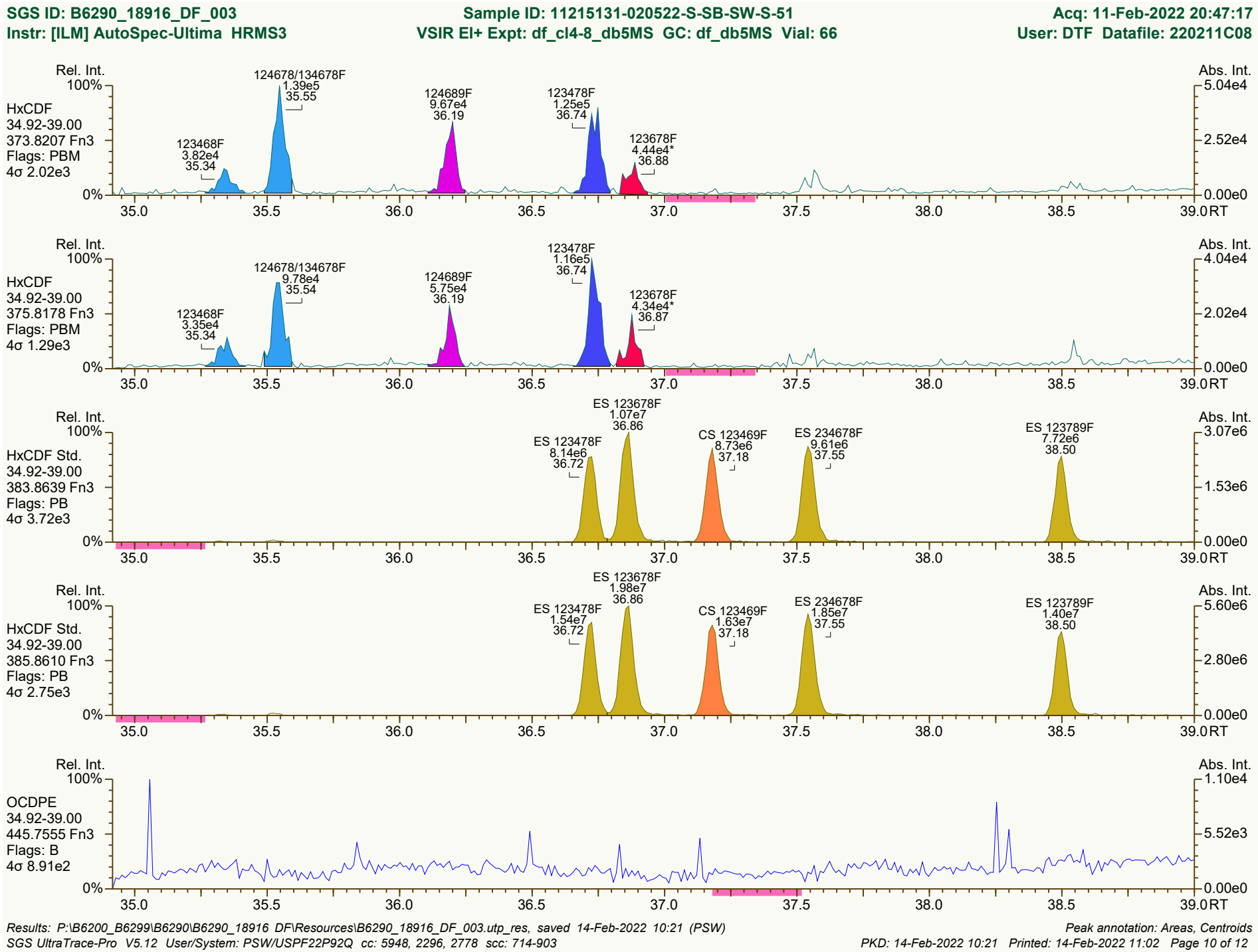
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66 | User: DTF Datafile: 220211C08

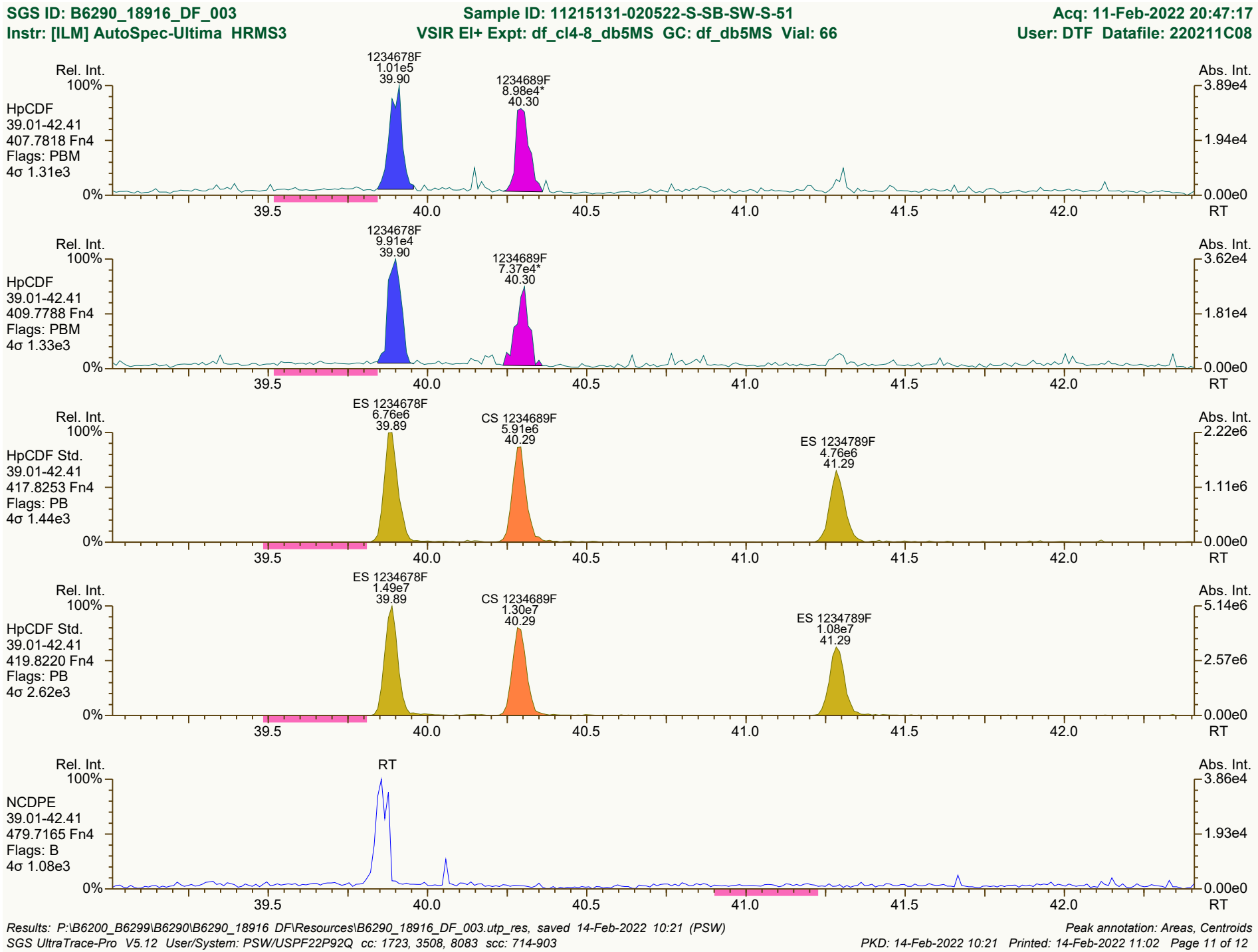


Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_003.utp_res, saved 14-Feb-2022 10:21 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2120 scc: 714-903 *PKD: 14-Feb-2022 10:21 Printed: 14-Feb-2022 11:02 Page 8 of 12*

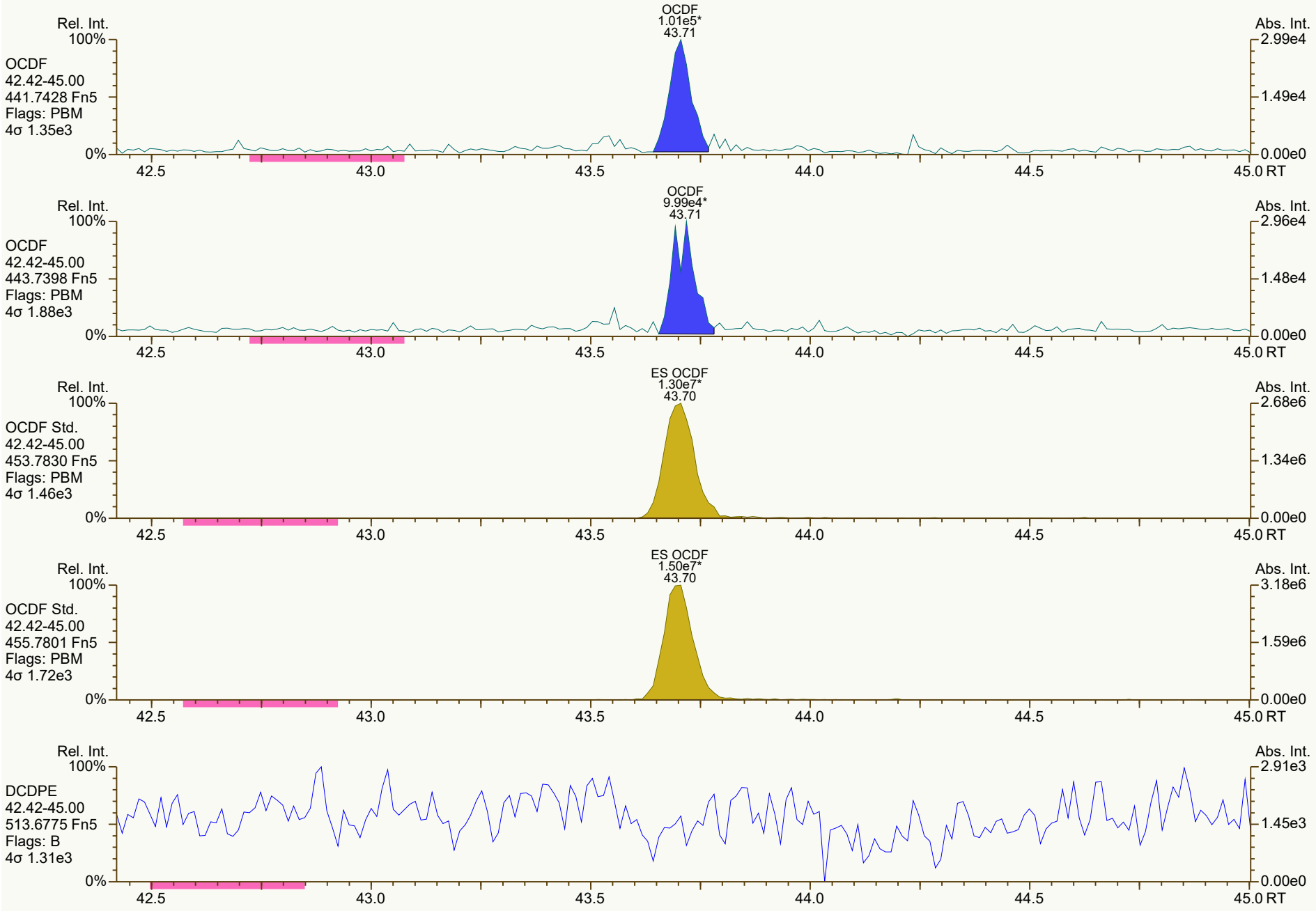

Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PBM
4σ 1.49e3
0%
12368F...[3]
1.20e5*
31.28
12378F
1.26e5*
32.37
12678/12367F
4.34e4*
32.67
23478F
1.33e5
33.50
Abs. Int.
3.64e4
1.82e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PBM
4σ 1.45e3
0%
12368F...[3]
8.42e4*
31.28
12378F
6.89e4*
32.38
12678/12367F
2.78e4*
32.68
23478F
7.54e4
33.50
Abs. Int.
2.61e4
1.30e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 1.56e3
0%
CS 12346F
2.14e7
31.83
ES 12378F
2.10e7
32.36
ES 23478F
1.98e7
33.47
Abs. Int.
5.88e6
2.94e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 1.59e3
0%
CS 12346F
1.37e7
31.83
ES 12378F
1.36e7
32.36
ES 23478F
1.27e7
33.47
Abs. Int.
4.07e6
2.04e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: PB
4σ 1.34e3
0%
Abs. Int.
4.54e3
2.27e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


SGS ID: B6290_18916_DF_003
Sample ID: 11215131-020522-S-SB-SW-S-51
Acq: 11-Feb-2022 20:47:17
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 220211C08
Rel. Int.
Abs. Int.
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 2.02e3
123468F 3.82e4 35.34
124678/134678F 1.39e5 35.55
124689F 9.67e4 36.19
123478F 1.25e5 36.74
123678F 4.44e4* 36.88
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 1.29e3
123468F 3.35e4 35.34
124678/134678F 9.78e4 35.54
124689F 5.75e4 36.19
123478F 1.16e5 36.74
123678F 4.34e4* 36.87
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 3.72e3
ES 123478F 8.14e6 36.72
ES 123678F 1.07e7 36.86
CS 123469F 8.73e6 37.18
ES 234678F 9.61e6 37.55
ES 123789F 7.72e6 38.50
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 2.75e3
ES 123478F 1.54e7 36.72
ES 123678F 1.98e7 36.86
CS 123469F 1.63e7 37.18
ES 234678F 1.85e7 37.55
ES 123789F 1.40e7 38.50
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 8.91e2
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_003.utp_res, saved 14-Feb-2022 10:21 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5948, 2296, 2778 scc: 714-903
PKD: 14-Feb-2022 10:21 Printed: 14-Feb-2022 11:02 Page 10 of 12


SGS ID: B6290_18916_DF_003
Sample ID: 11215131-020522-S-SB-SW-S-51
Acq: 11-Feb-2022 20:47:17
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 220211C08
Rel. Int.
Abs. Int.
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 1.31e3
1234678F
1.01e5
39.90
1234689F
8.98e4*
40.30
3.89e4
1.94e4
0.00e0
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 1.33e3
1234678F
9.91e4
39.90
1234689F
7.37e4*
40.30
3.62e4
1.81e4
0.00e0
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 1.44e3
ES 1234678F
6.76e6
39.89
CS 1234689F
5.91e6
40.29
ES 1234789F
4.76e6
41.29
2.22e6
1.11e6
0.00e0
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 2.62e3
ES 1234678F
1.49e7
39.89
CS 1234689F
1.30e7
40.29
ES 1234789F
1.08e7
41.29
5.14e6
2.57e6
0.00e0
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.08e3
RT
3.86e4
1.93e4
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_003.utp_res, saved 14-Feb-2022 10:21 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1723, 3508, 8083 scc: 714-903
PKD: 14-Feb-2022 10:21 Printed: 14-Feb-2022 11:02 Page 11 of 12

SGS ID: B6290_18916_DF_003 | Sample ID: 11215131-020522-S-SB-SW-S-51 | Acq: 11-Feb-2022 20:47:17

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66 | User: DTF Datafile: 220211C08



Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_003.utp_res, saved 14-Feb-2022 10:21 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8058, 8347, 2067 scc: 714-903 | *PKD: 14-Feb-2022 10:21 Printed: 14-Feb-2022 11:02 Page 12 of 12*

Lab ID: B6290_18916_DF_004 **Acq'd: 11 Feb 2022 21:33 DTF** **Wt/Vol: 10.14 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020522-S-SB-SW-S-52 **UTP: 14-Feb-2022 10:27:55 PSW** **J-level: 0.493 pg/g** **Split: 1** **Checkcode: 723-933-VKP**

Datafile: 220211C09 **Report: 14 Feb 2022 10:42 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.47		1.0008	1.0009	+0.2	1.18E+07	0.79	Y	1.18	63.1	3930.673	0.206
12378-PeCDD	33.83	J EMPC	1.0005	1.0007	+0.4	1.21E+05	1.85	N	1.04	0.8	3271.957	0.192
123478-HxCDD	37.72	J	1.0004	0.9999	-1.1	8.11E+04	1.39	Y	1.09	0.578	3412.032	0.223
123678-HxCDD	37.86	J	1.0035	1.0035	0	1.74E+05	1.30	Y	1.15	1.16	3412.032	0.198
123789-HxCDD	38.15	J	1.0113	1.0112	-0.2	2.51E+05	1.18	Y	1.05	1.75	3412.032	0.202
1234678-HpCDD	40.83		1.0003	1.0004	+0.2	4.43E+06	1.07	Y	1.06	37.3	2597.916	0.179
OCDD	43.53		1.0002	1.0003	+0.3	6.13E+07	0.91	Y	1.13	756	3912.73	0.564
2378-TCDF	27.62		1.0008	1.0008	0	4.22E+07	0.79	Y	1.08	165	2814.036	0.12
12378-PeCDF	32.37		1.0005	1.0005	0	1.48E+06	1.53	Y	1.02	5.75	3524.481	0.13
23478-PeCDF	33.49	PR	1.0005	1.0007	+0.4	1.11E+06	1.67	Y	1.02	4.83	3524.481	0.139
123478-HxCDF	36.73		1.0005	1.0005	0	1.61E+06	1.31	Y	1.27	7.95	3290.908	0.126
123678-HxCDF	36.87	J	1.0005	1.0004	-0.2	5.30E+05	1.27	Y	1.15	2.08	3290.908	0.107
234678-HxCDF	37.55	J	1.0005	1.0004	-0.2	1.56E+05	1.35	Y	1.19	0.7	3290.908	0.123
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3290.908	0.147
1234678-HpCDF	39.89	EMPC	1.0003	1.0003	0	4.94E+05	0.85	N	1.37	2.64	3726.039	0.147
1234789-HpCDF	41.28	J EMPC	1.0003	1.0001	-0.5	9.36E+04	0.81	N	1.31	0.686	3726.039	0.233
OCDF	43.71	J	1.0003	1.0002	-0.3	4.44E+05	0.88	Y	1.07	4.45	3125.272	0.379

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.45		1.0238	1.0238	0	3.11E+07	0.83	Y	1.05	84.9
ES 12378-PeCDD	33.80		1.2160	1.2165	+1.0	2.89E+07	1.56	Y	0.88	93.7
ES 123478-HxCDD	37.72		0.9919	0.9919	0	2.54E+07	1.29	Y	0.97	90.5
ES 123678-HxCDD	37.84		0.9950	0.9950	0	2.59E+07	1.27	Y	0.94	94.9
ES 123789-HxCDD	38.13		1.0027	1.0026	-0.2	2.69E+07	1.28	Y	1.09	85.5
ES 1234678-HpCDD	40.82		1.0730	1.0732	+0.5	2.21E+07	1.04	Y	0.91	83.8
ES OCDD	43.52		1.1437	1.1442	+1.3	2.84E+07	0.90	Y	0.62	78.8
ES 2378-TCDF	27.59		1.0520	1.0519	-0.2	4.69E+07	0.80	Y	1.06	79.8
ES 12378-PeCDF	32.35		1.2330	1.2333	+0.6	4.95E+07	1.60	Y	0.91	98
ES 23478-PeCDF	33.47		1.2754	1.2759	+1.0	4.45E+07	1.58	Y	0.88	90.9
ES 123478-HxCDF	36.71		0.9653	0.9653	0	3.15E+07	0.55	Y	1.20	91
ES 123678-HxCDF	36.86		0.9691	0.9691	0	4.37E+07	0.52	Y	1.35	112
ES 234678-HxCDF	37.54		0.9870	0.9870	0	3.71E+07	0.51	Y	1.24	103
ES 123789-HxCDF	38.49		1.0121	1.0121	0	2.98E+07	0.54	Y	1.16	89.2
ES 1234678-HpCDF	39.87		1.0484	1.0484	0	2.69E+07	0.46	Y	0.97	96.3
ES 1234789-HpCDF	41.28		1.0851	1.0853	+0.5	2.06E+07	0.45	Y	0.85	83.8
ES OCDF	43.70		1.1483	1.1490	+1.8	3.68E+07	0.91	Y	0.81	78.9

Lab ID: B6290_18916_DF_004 **Acq'd:** 11 Feb 2022 21:33 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020522-S-SB-SW-S-52 **UTP:** 14-Feb-2022 10:27:55 PSW **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 723-933-VKP

Datafile: 220211C09 **Report:** 14 Feb 2022 10:42 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.79		-	-	-	3.51E+07	0.79	Y	-	-
JS 1234-TCDF	26.23		-	-	-	5.55E+07	0.81	Y	-	-
JS 123467-HxCDD	38.03		-	-	-	1.44E+07	1.27	Y	-	-
CS 37Cl-2378-TCDD	28.47		1.0245	1.0246	+0.2	1.45E+07	n/a	-	1.20	86.1
CS 12347-PeCDD	33.30		1.1979	1.1984	+1.0	2.66E+07	1.63	Y	0.75	101
CS 12346-PeCDF	31.82		1.2128	1.2130	+0.4	5.02E+07	1.59	Y	0.85	106
CS 123469-HxCDF	37.17		0.9774	0.9774	0	3.39E+07	0.53	Y	1.12	105
CS 1234689-HpCDF	40.28		1.0589	1.0591	+0.5	2.59E+07	0.45	Y	0.89	101
~~SS 37Cl-2378-TCDD~~	~~28.47~~		~~1.0245~~	~~1.0246~~	~~+0.2~~	~~1.45E+07~~	~~n/a~~		~~1.15~~	~~102~~
~~SS 12347-PeCDD~~	~~33.30~~		~~1.1979~~	~~1.1984~~	~~+1.0~~	~~2.66E+07~~	~~1.63~~	~~Y~~	~~0.86~~	~~107~~
~~SS 12346-PeCDF~~	~~31.82~~		~~1.2128~~	~~1.2130~~	~~+0.4~~	~~5.02E+07~~	~~1.59~~	~~Y~~	~~0.94~~	~~100~~
~~SS 123469-HxCDF~~	~~37.17~~		~~0.9774~~	~~0.9774~~	~~0~~	~~3.39E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~93.6~~
~~SS 1234689-HpCDF~~	~~40.28~~		~~1.0589~~	~~1.0591~~	~~+0.5~~	~~2.59E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~105~~

Totals	Conc	EMPC
Total TCDD	81.6	81.6
Total PeCDD	10.5	12.4
Total HxCDD	59.7	59.7
Total HpCDD	113	113
Total Tetra-Octa Dioxins	1020	1020
Total TCDF	345	349
Total PeCDF	17.1	17.8
Total HxCDF	13.1	14
Total HpCDF	2.58	5.91
Total Tetra-Octa Furans	382	391
Total Tetra-Octa Dioxins & Furans	1400	1410

Lab ID: B6290_18916_DF_004 **Acq'd: 11 Feb 2022 21:33 DTF** **Wt/Vol: 10.14 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020522-S-SB-SW-S-52 **UTP: 14-Feb-2022 10:27:55 PSW** **J-level: 0.493 pg/g** **Split: 1** **Checkcode: 723-933-VKP**

Datafile: 220211C09 **Report: 14 Feb 2022 10:42 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.83		0.8737	0.8728	-1.3	1.72E+05	0.72	Y	1.18	0.919	3930.673	0.206
1379-TCDD	25.19		0.8860	0.8854	-0.9	1.77E+05	0.72	Y	1.18	0.945	3930.673	0.206
1369-TCDD	NotFnd		0.9009						1.18		3930.673	0.206
1469-TCDD	26.39		0.9281	0.9276	-0.8	1.24E+06	0.85	Y	1.18	6.64	3930.673	0.206
1247/1246/1248/1249-TCDD	26.64		0.9362	0.9363	+0.2	9.41E+04	0.79	Y	1.18	0.503	3930.673	0.206
1378-TCDD	26.82		0.9432	0.9427	-0.8	9.91E+04	0.66	Y	1.18	0.53	3930.673	0.206
1268-TCDD	NotFnd		0.9500						1.18		3930.673	0.206
1478-TCDD	NotFnd		0.9586						1.18		3930.673	0.206
1279-TCDD	NotFnd		0.9645						1.18		3930.673	0.206
1234/1269-TCDD	27.78		0.9770	0.9765	-0.8	2.07E+05	0.67	Y	1.18	1.11	3930.673	0.206
1236-TCDD	NotFnd		0.9817						1.18		3930.673	0.206
1237/1238-TCDD	28.18		0.9905	0.9906	+0.2	2.18E+05	0.73	Y	1.18	1.16	3930.673	0.206
1239-TCDD	NotFnd		0.9952						1.18		3930.673	0.206
2378-TCDD	**28.47**		**1.0008**	1.0009	**+0.2**	1.18E+07	0.79	Y	**1.18**	**63.1**	**3930.673**	**0.206**
1278-TCDD	28.80		1.0121	1.0124	+0.5	1.18E+06	0.80	Y	1.18	6.33	3930.673	0.206
1267-TCDD	NotFnd		1.0167						1.18		3930.673	0.206
1289-TCDD	29.43	J	1.0345	1.0346	+0.2	7.51E+04	0.87	Y	1.18	0.402	3930.673	0.206
12479/12468-PeCDD	31.31	J	0.9267	0.9263	-0.8	2.47E+05	1.60	Y	1.04	1.63	3271.957	0.192
12469-PeCDD	31.85		0.9425	0.9421	-0.8	1.05E+06	1.55	Y	1.04	6.95	3271.957	0.192
12368-PeCDD	32.40	J EMPC	0.9588	0.9584	-0.8	5.17E+04	1.88	N	1.04	0.341	3271.957	0.192
12478-PeCDD	32.59	J EMPC	0.9643	0.9642	-0.2	4.57E+04	1.85	N	1.04	0.301	3271.957	0.192
12379-PeCDD	32.69	J EMPC	0.9673	0.9672	-0.2	7.66E+04	1.94	N	1.04	0.505	3271.957	0.192
12369/12467/12489-PeCDD	32.96	J	0.9750	0.9750	0	2.91E+05	1.63	Y	1.04	1.92	3271.957	0.192
12346/12347-PeCDD	NotFnd		0.9858						1.04		3271.957	0.192
12378-PeCDD	33.83	J EMPC	**1.0005**	**1.0007**	**+0.4**	**1.21E+05**	**1.85**	**N**	**1.04**	**0.8**	**3271.957**	**0.192**
12367-PeCDD	NotFnd		1.0033						1.04		3271.957	0.192
12389-PeCDD	NotFnd		1.0134						1.04		3271.957	0.192
124679/124689-HxCDD	35.99		0.9542	0.9541	-0.2	6.49E+06	1.22	Y	1.10	44.9	3412.032	0.207
123468-HxCDD	36.64	J	0.9715	0.9714	-0.2	1.61E+05	1.17	Y	1.10	1.11	3412.032	0.207
123679/123689-HxCDD	36.94		0.9793	0.9791	-0.4	1.21E+06	1.27	Y	1.10	8.33	3412.032	0.207
123469-HxCDD	37.08	J	0.9828	0.9828	0	1.53E+05	1.21	Y	1.10	1.06	3412.032	0.207
123478-HxCDD	37.72	J	**1.0004**	**0.9999**	**-1.1**	**8.11E+04**	**1.39**	**Y**	1.09	**0.578**	**3412.032**	**0.223**
123678-HxCDD	37.86	J	**1.0035**	**1.0035**	**0**	**1.74E+05**	**1.30**	**Y**	1.15	**1.16**	**3412.032**	**0.198**
123467-HxCDD	38.04	J	1.0085	1.0084	-0.2	1.24E+05	1.09	Y	1.10	0.857	3412.032	0.207
123789-HxCDD	38.15	J	**1.0113**	**1.0112**	**-0.2**	**2.51E+05**	**1.18**	**Y**	1.05	**1.75**	**3412.032**	**0.202**

Lab ID: B6290_18916_DF_004 **Acq'd: 11 Feb 2022 21:33 DTF** **Wt/Vol: 10.14 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020522-S-SB-SW-S-52 **UTP: 14-Feb-2022 10:27:55 PSW** **J-level: 0.493 pg/g** **Split: 1** **Checkcode: 723-933-VKP**

Datafile: 220211C09 **Report: 14 Feb 2022 10:42 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

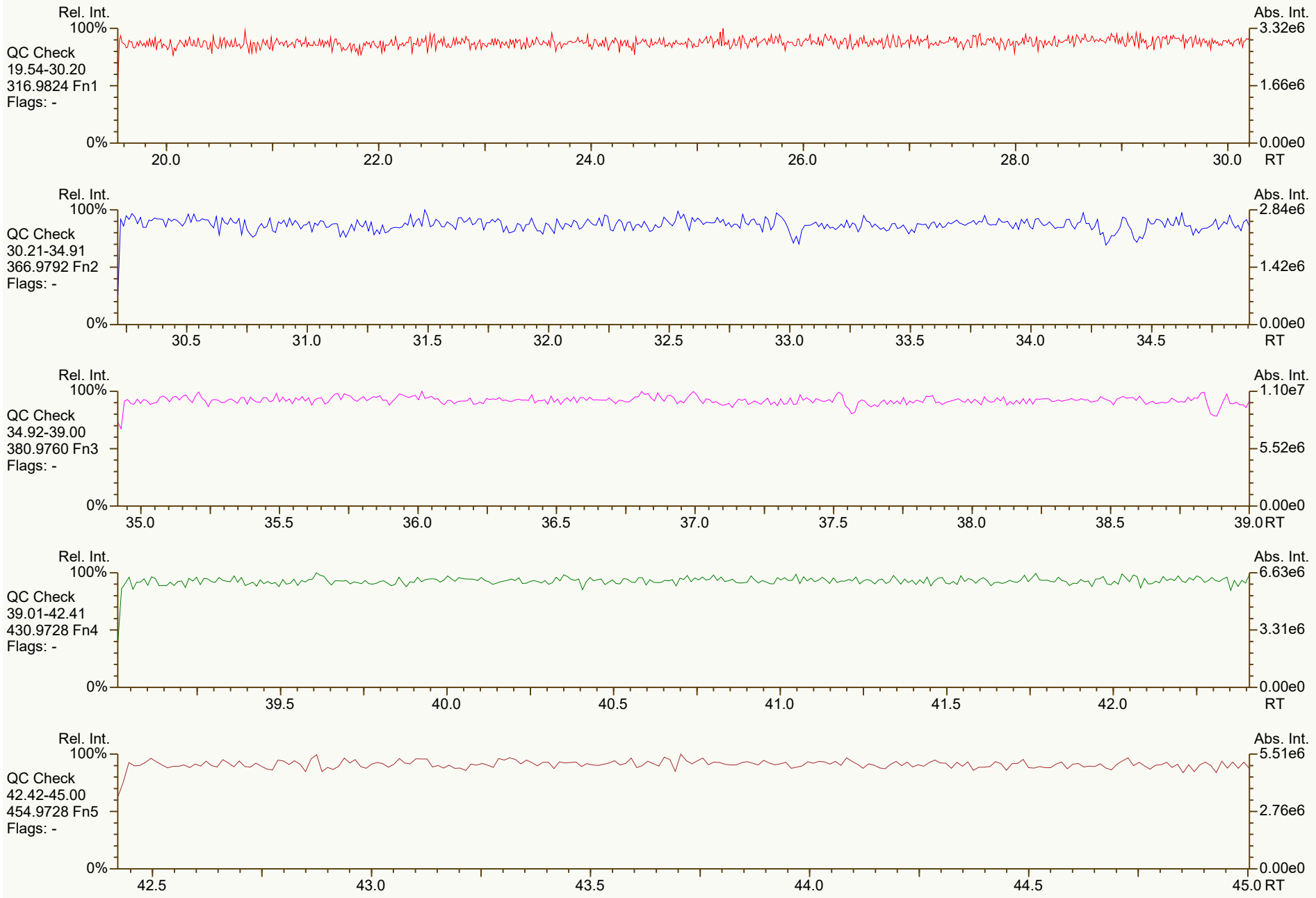
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.15		0.9837	0.9836	-0.2	8.95E+06	1.04	Y	1.06	75.5	2597.916	0.179
1234678-HpCDD	**40.83**		**1.0003**	**1.0004**	**+0.2**	**4.43E+06**	**1.07**	**Y**	**1.06**	**37.3**	**2597.916**	**0.179**
OCDD	**43.53**		**1.0002**	**1.0003**	**+0.3**	**6.13E+07**	**0.91**	**Y**	**1.13**	**756**	**3912.73**	**0.564**
OCDD-a	43.52		1.0001	1.0002	+0.3	3.94E+06	2.59	Y	0.07	760	4051.253	9.13
1368-TCDF	22.74	J EMPC	0.8251	0.8240	-1.5	8.36E+04	1.00	N	1.08	0.326	2814.036	0.12
1468-TCDF	23.30	J	0.8458	0.8445	-1.8	7.19E+04	0.85	Y	1.08	0.28	2814.036	0.12
2468-TCDF	23.94	EMPC	0.8686	0.8676	-1.4	1.36E+05	0.91	N	1.08	0.532	2814.036	0.12
1346/1246-TCDF	24.36	J EMPC	0.8814	0.8827	+1.9	7.40E+04	1.04	N	1.08	0.289	2814.036	0.12
1347/1378/1247-TCDF	24.46		0.8867	0.8864	-0.4	8.33E+05	0.80	Y	1.08	3.25	2814.036	0.12
1348-TCDF	24.72		0.8962	0.8959	-0.4	3.01E+05	0.74	Y	1.08	1.18	2814.036	0.12
1248/1367/1379-TCDF	24.81		0.9009	0.8991	-2.7	2.33E+06	0.75	Y	1.08	9.09	2814.036	0.12
1268-TCDF	25.22		0.9145	0.9140	-0.8	8.67E+05	0.80	Y	1.08	3.38	2814.036	0.12
1467-TCDF	25.36	J	0.9193	0.9189	-0.6	1.23E+05	0.69	Y	1.08	0.478	2814.036	0.12
1478-TCDF	25.52		0.9254	0.9250	-0.6	1.94E+06	0.73	Y	1.08	7.56	2814.036	0.12
1369/1237-TCDF	25.90	EMPC	0.9387	0.9386	-0.2	5.20E+05	0.95	N	1.08	2.03	2814.036	0.12
2467-TCDF	26.01	J EMPC	0.9433	0.9426	-1.1	1.05E+05	0.92	N	1.08	0.411	2814.036	0.12
2368-TCDF	26.18		0.9489	0.9487	-0.3	1.46E+06	0.72	Y	1.08	5.7	2814.036	0.12
1238/1234/1678/1469/1236-TCDF	26.25		0.9523	0.9513	-1.6	2.66E+06	0.77	Y	1.08	10.4	2814.036	0.12
1278-TCDF	26.72		0.9683	0.9682	-0.2	2.16E+07	0.78	Y	1.08	84.2	2814.036	0.12
1349-TCDF	NotFnd		0.9722						1.08		2814.036	0.12
1267-TCDF	26.99		0.9783	0.9781	-0.3	1.23E+06	0.79	Y	1.08	4.82	2814.036	0.12
2346/1249-TCDF	27.18	EMPC	0.9850	0.9851	+0.2	1.64E+05	0.94	N	1.08	0.641	2814.036	0.12
2347/1279-TCDF	27.38		0.9926	0.9924	-0.3	5.41E+05	0.77	Y	1.08	2.11	2814.036	0.12
2348-TCDF	27.50		0.9967	0.9968	+0.2	3.98E+06	0.78	Y	1.08	15.5	2814.036	0.12
2378-TCDF	**27.62**		**1.0008**	**1.0008**	**0**	**4.22E+07**	**0.79**	**Y**	**1.08**	**165**	**2814.036**	**0.12**
2367/3467-TCDF	27.97		1.0137	1.0135	-0.3	3.70E+06	0.77	Y	1.08	14.4	2814.036	0.12
1269-TCDF	28.22		1.0223	1.0226	+0.5	6.92E+05	0.81	Y	1.08	2.7	2814.036	0.12
1239-TCDF	NotFnd		1.0321						1.08		2814.036	0.12
1289-TCDF	29.62		1.0722	1.0735	+2.3	3.87E+06	0.79	Y	1.08	15.1	2814.036	0.12
13468/12468-PeCDF	NotFnd		0.9139						1.02		2690.524	0.103
13678/13467/12467-PeCDF	31.08	J EMPC	0.9613	0.9606	-1.3	8.66E+04	1.80	N	1.02	0.355	3524.481	0.134
12368/13478/12478-PeCDF	31.27		0.9662	0.9665	+0.6	8.13E+05	1.60	Y	1.02	3.34	3524.481	0.134
14678-PeCDF	NotFnd		0.9692						1.02		3524.481	0.134
13479-PeCDF	31.43	J	0.9723	0.9714	-1.7	4.39E+04	1.51	Y	1.02	0.18	3524.481	0.134
13469/12479-PeCDF	NotFnd		0.9797						1.02		3524.481	0.134
12346-PeCDF	NotFnd		0.9840						1.02		3524.481	0.134

Lab ID: B6290_18916_DF_004 **Acq'd: 11 Feb 2022 21:33 DTF** **Wt/Vol: 10.14 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020522-S-SB-SW-S-52 **UTP: 14-Feb-2022 10:27:55 PSW** **J-level: 0.493 pg/g** **Split: 1** **Checkcode: 723-933-VKP**

Datafile: 220211C09 **Report: 14 Feb 2022 10:42 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.92	J	0.9868	0.9865	-0.6	9.04E+04	1.78	Y	1.02	0.371	3524.481	0.134
12347-PeCDF	NotFnd		0.9894						1.02		3524.481	0.134
12348-PeCDF	32.16	J	0.9940	0.9939	-0.2	1.88E+05	1.46	Y	1.02	0.774	3524.481	0.134
12378-PeCDF	**32.37**		**1.0005**	**1.0005**	**0**	**1.48E+06**	**1.53**	**Y**	**1.02**	**5.75**	**3524.481**	**0.13**
12678/12367-PeCDF	32.66	J	1.0089	1.0095	+1.2	4.46E+05	1.50	Y	1.02	1.83	3524.481	0.134
12379-PeCDF	NotFnd		1.0142						1.02		3524.481	0.134
12679-PeCDF	NotFnd		0.9929						1.02		3524.481	0.134
23467/12369-PeCDF	33.35	J EMPC	0.9967	0.9965	-0.4	2.74E+04	2.23	N	1.02	0.113	3524.481	0.134
23478-PeCDF	**33.49**		**1.0005**	**1.0007**	**+0.4**	**1.11E+06**	**1.67**	**Y**	**1.02**	**4.83**	**3524.481**	**0.139**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3524.481	0.134
12349-PeCDF	NotFnd		1.0100						1.02		3524.481	0.134
12389-PeCDF	34.56	J EMPC	1.0324	1.0326	+0.4	5.08E+04	1.79	N	1.02	0.208	3524.481	0.134
123468-HxCDF	35.34	J EMPC	0.9627	0.9625	-0.4	4.09E+04	1.45	N	1.19	0.19	3290.908	0.124
124678/134678-HxCDF	35.54	J	0.9682	0.9680	-0.4	2.93E+05	1.35	Y	1.19	1.36	3290.908	0.124
134679-HxCDF	NotFnd		0.9744						1.19		3290.908	0.124
124679-HxCDF	NotFnd		0.9798						1.19		3290.908	0.124
124689-HxCDF	36.19	J	0.9858	0.9857	-0.2	2.18E+05	1.17	Y	1.19	1.01	3290.908	0.124
123467-HxCDF	NotFnd		0.9972						1.19		3290.908	0.124
123478-HxCDF	**36.73**		**1.0005**	**1.0005**	**0**	**1.61E+06**	**1.31**	**Y**	**1.27**	**7.95**	**3290.908**	**0.126**
123678-HxCDF	**36.87**	J	**1.0005**	**1.0004**	**-0.2**	**5.30E+05**	**1.27**	**Y**	**1.15**	**2.08**	**3290.908**	**0.107**
123479-HxCDF	NotFnd		1.0049						1.19		3290.908	0.124
123469-HxCDF	NotFnd		1.0090						1.19		3290.908	0.124
123679-HxCDF	NotFnd		0.9942						1.19		3290.908	0.124
234678-HxCDF	**37.55**	J	**1.0005**	**1.0004**	**-0.2**	**1.56E+05**	**1.35**	**Y**	**1.19**	**0.7**	**3290.908**	**0.123**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3290.908	0.124
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3290.908**	**0.147**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.53	J EMPC	1.0009	1.0010	+0.2	1.56E+05	1.02	N	1.19	0.726	3290.908	0.124
1234678-HpCDF	**39.89**	**EMPC**	**1.0003**	**1.0003**	**0**	**4.94E+05**	**0.85**	**N**	**1.37**	**2.64**	**3726.039**	**0.147**
1234679-HpCDF	NotFnd		1.0068						1.34		3726.039	0.184
1234689-HpCDF	40.29		1.0103	1.0105	+0.5	4.16E+05	1.10	Y	1.34	2.58	3726.039	0.184
1234789-HpCDF	**41.28**	**J EMPC**	**1.0003**	**1.0001**	**-0.5**	**9.36E+04**	**0.81**	**N**	**1.31**	**0.686**	**3726.039**	**0.233**
OCDF	**43.71**	**J**	**1.0003**	**1.0002**	**-0.3**	**4.44E+05**	**0.88**	**Y**	**1.07**	**4.45**	**3125.272**	**0.379**
OCDF-a	NotFnd		1.0002						0.07		3650.146	7.14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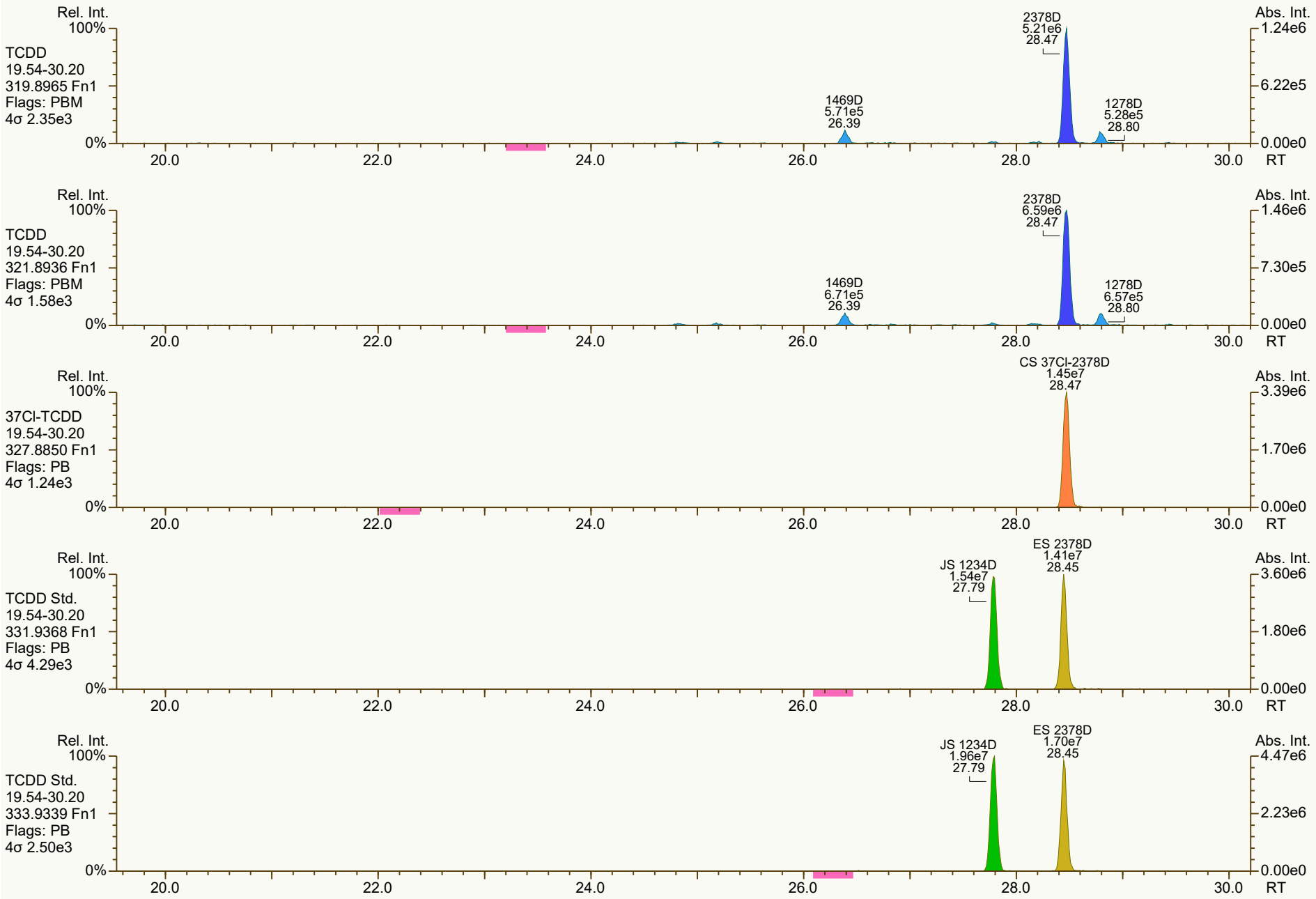
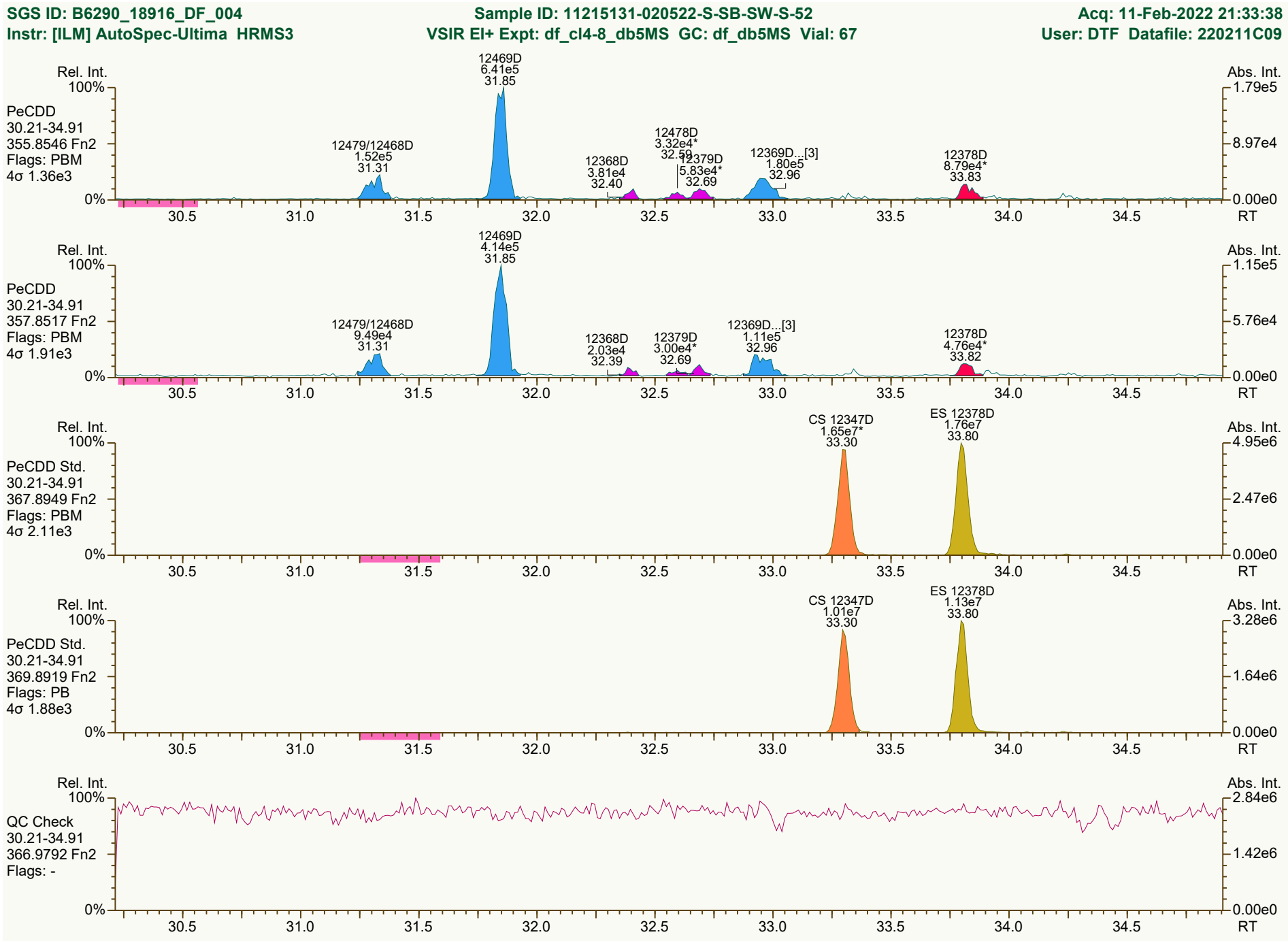
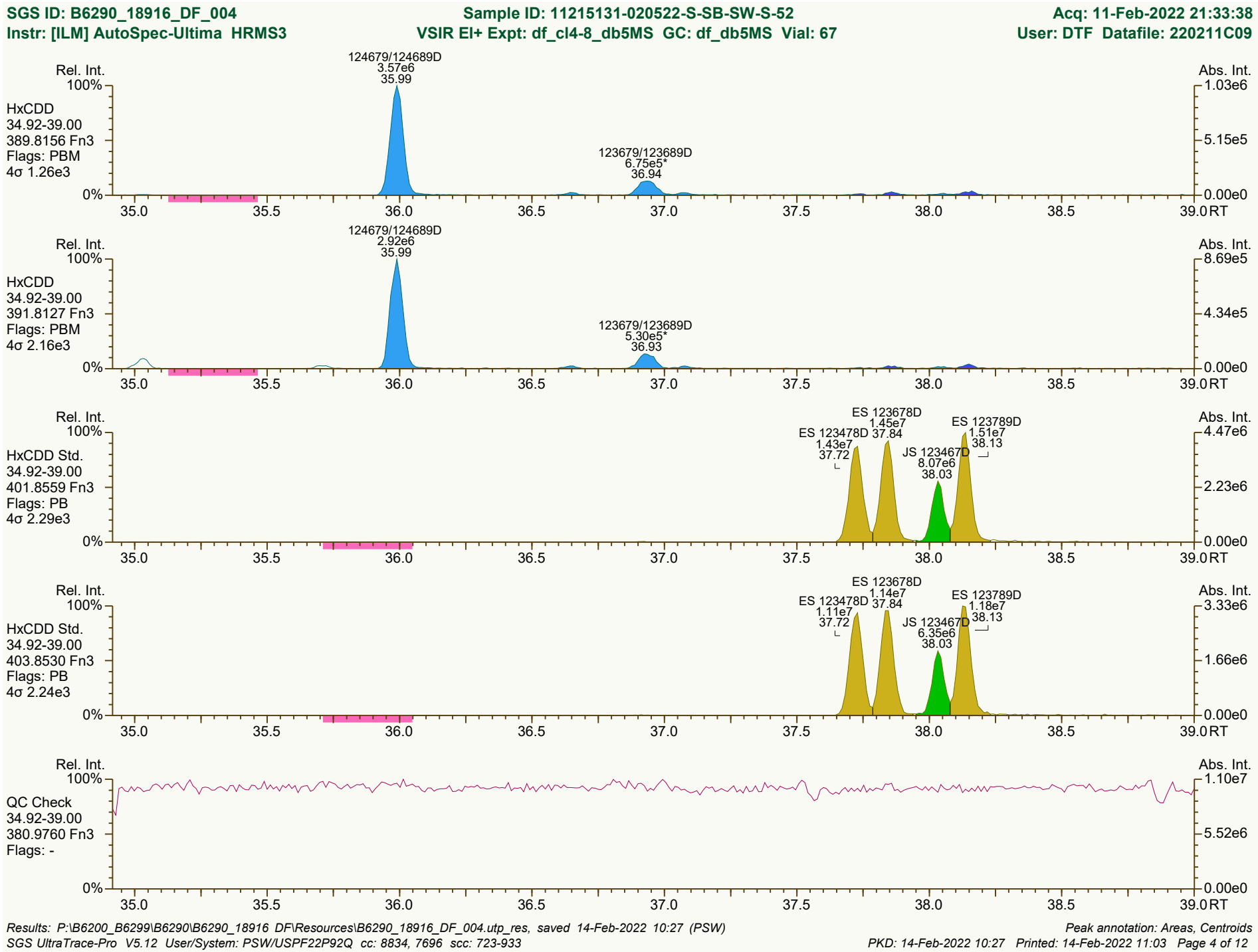
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.32e6
1.66e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
2.84e6
1.42e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.10e7
5.52e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
6.63e6
3.31e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.51e6
2.76e6
0.00e0

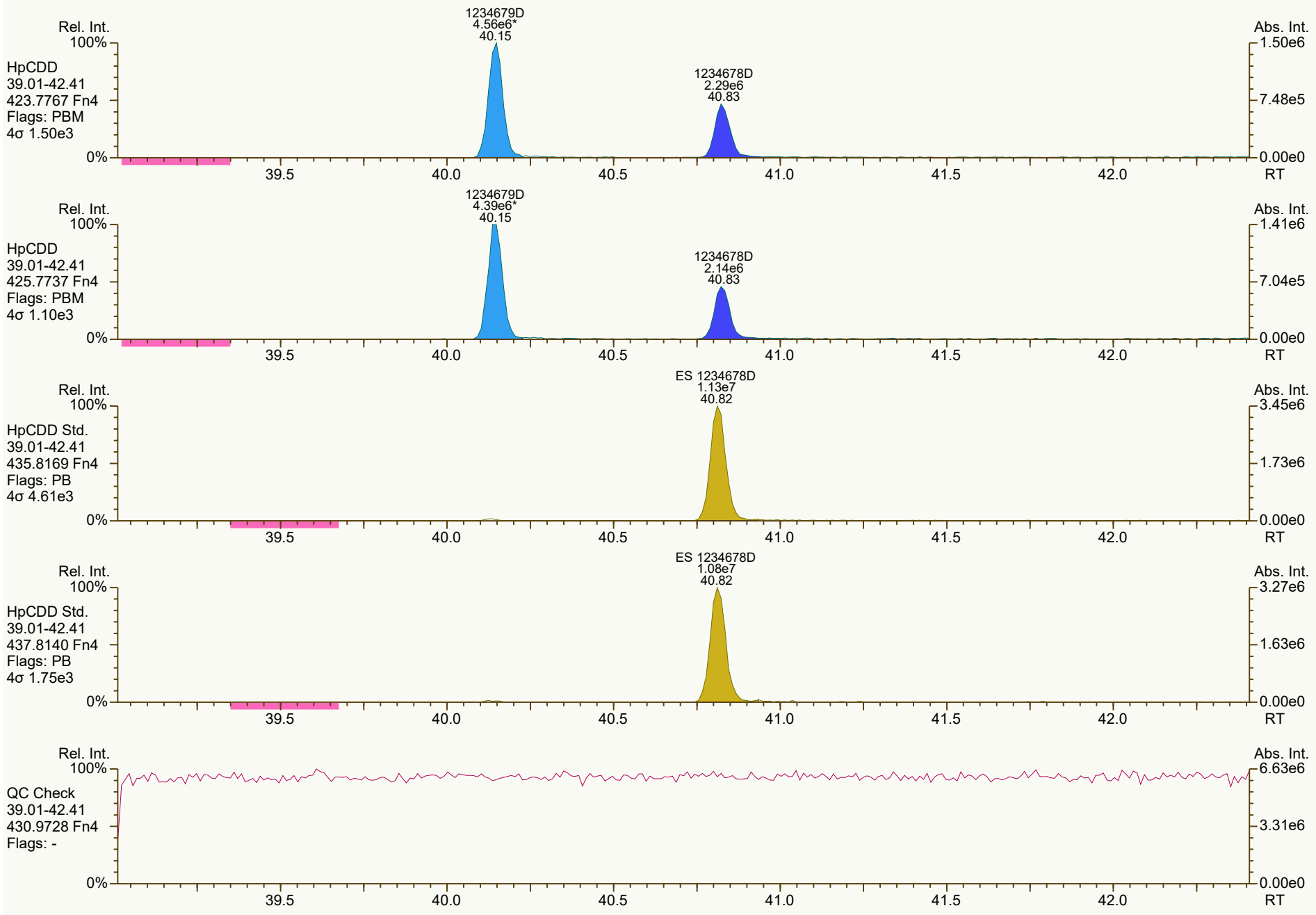

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.35e3
0%
2378D
5.21e6
28.47
1469D
5.71e5
26.39
1278D
5.28e5
28.80
Abs. Int.
1.24e6
6.22e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.58e3
0%
2378D
6.59e6
28.47
1469D
6.71e5
26.39
1278D
6.57e5
28.80
Abs. Int.
1.46e6
7.30e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.24e3
0%
CS 37Cl-2378D
1.45e7
28.47
Abs. Int.
3.39e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.29e3
0%
JS 1234D
1.54e7
27.79
ES 2378D
1.41e7
28.45
Abs. Int.
3.60e6
1.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.50e3
0%
JS 1234D
1.96e7
27.79
ES 2378D
1.70e7
28.45
Abs. Int.
4.47e6
2.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

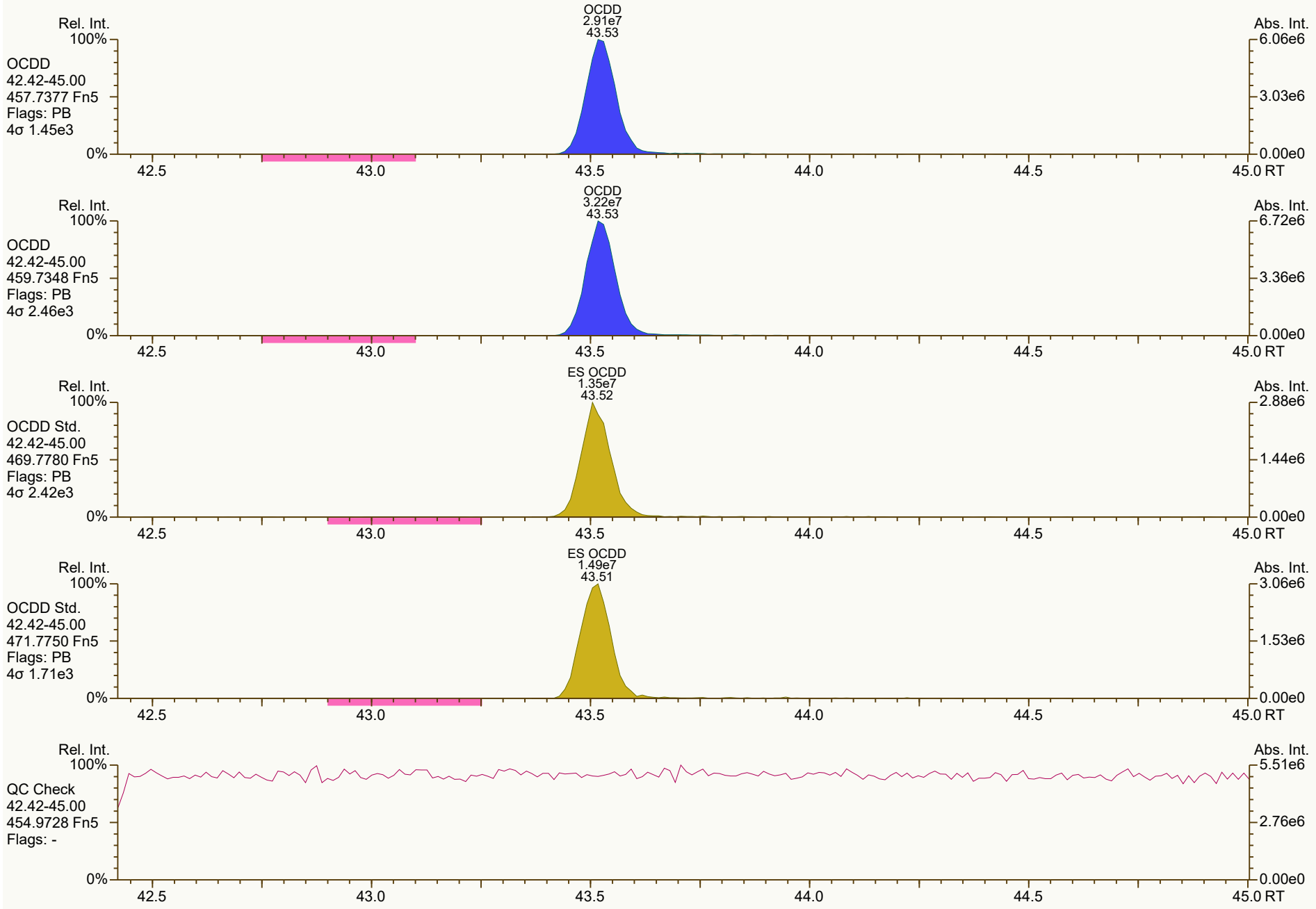

SGS ID: B6290_18916_DF_004
Sample ID: 11215131-020522-S-SB-SW-S-52
Acq: 11-Feb-2022 21:33:38
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 220211C09
Rel. Int.
Abs. Int.
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PBM
4σ 1.36e3
12469D
6.41e5
31.85
12479/12468D
1.52e5
31.31
12368D
3.81e4
32.40
12478D
3.32e4*
32.59
12379D
5.83e4*
32.69
12369D...[3]
1.80e5
32.96
12378D
8.79e4*
33.83
1.79e5
8.97e4
0.00e0
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PBM
4σ 1.91e3
12469D
4.14e5
31.85
12479/12468D
9.49e4
31.31
12368D
2.03e4
32.39
12379D
3.00e4*
32.69
12369D...[3]
1.11e5
32.96
12378D
4.76e4*
33.82
1.15e5
5.76e4
0.00e0
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PBM
4σ 2.11e3
CS 12347D
1.65e7*
33.30
ES 12378D
1.76e7
33.80
4.95e6
2.47e6
0.00e0
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 1.88e3
CS 12347D
1.01e7
33.30
ES 12378D
1.13e7
33.80
3.28e6
1.64e6
0.00e0
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
2.84e6
1.42e6
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_004.utp_res, saved 14-Feb-2022 10:27 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1415, 9756 scc: 723-933
PKD: 14-Feb-2022 10:27 Printed: 14-Feb-2022 11:03 Page 3 of 12

SGS ID: B6290_18916_DF_004 | Sample ID: 11215131-020522-S-SB-SW-S-52 | Acq: 11-Feb-2022 21:33:38
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67 | User: DTF Datafile: 220211C09

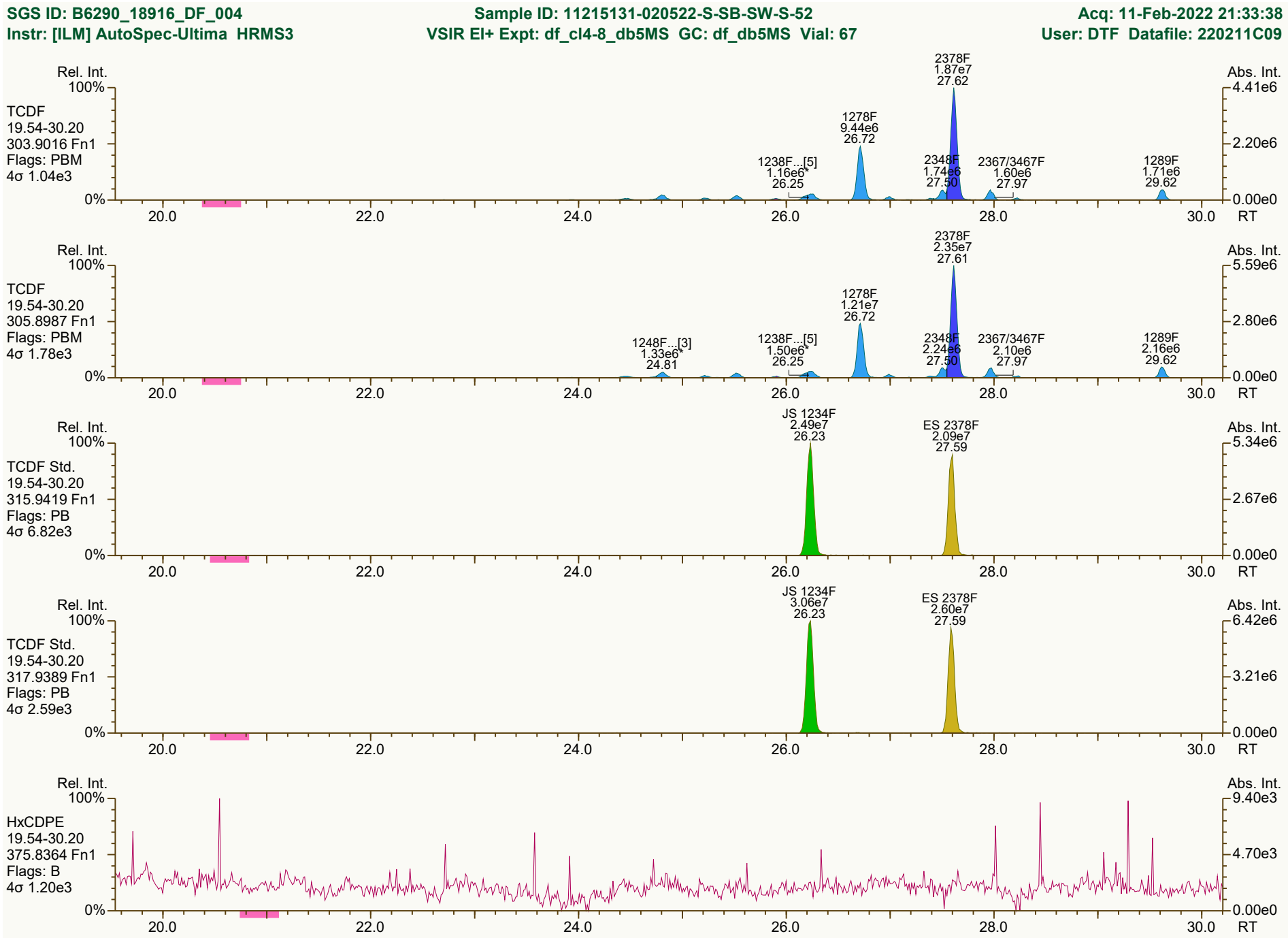


Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_004.utp_res, saved 14-Feb-2022 10:27 (PSW) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8834, 7696 scc: 723-933 | PKD: 14-Feb-2022 10:27 Printed: 14-Feb-2022 11:03 Page 4 of 12

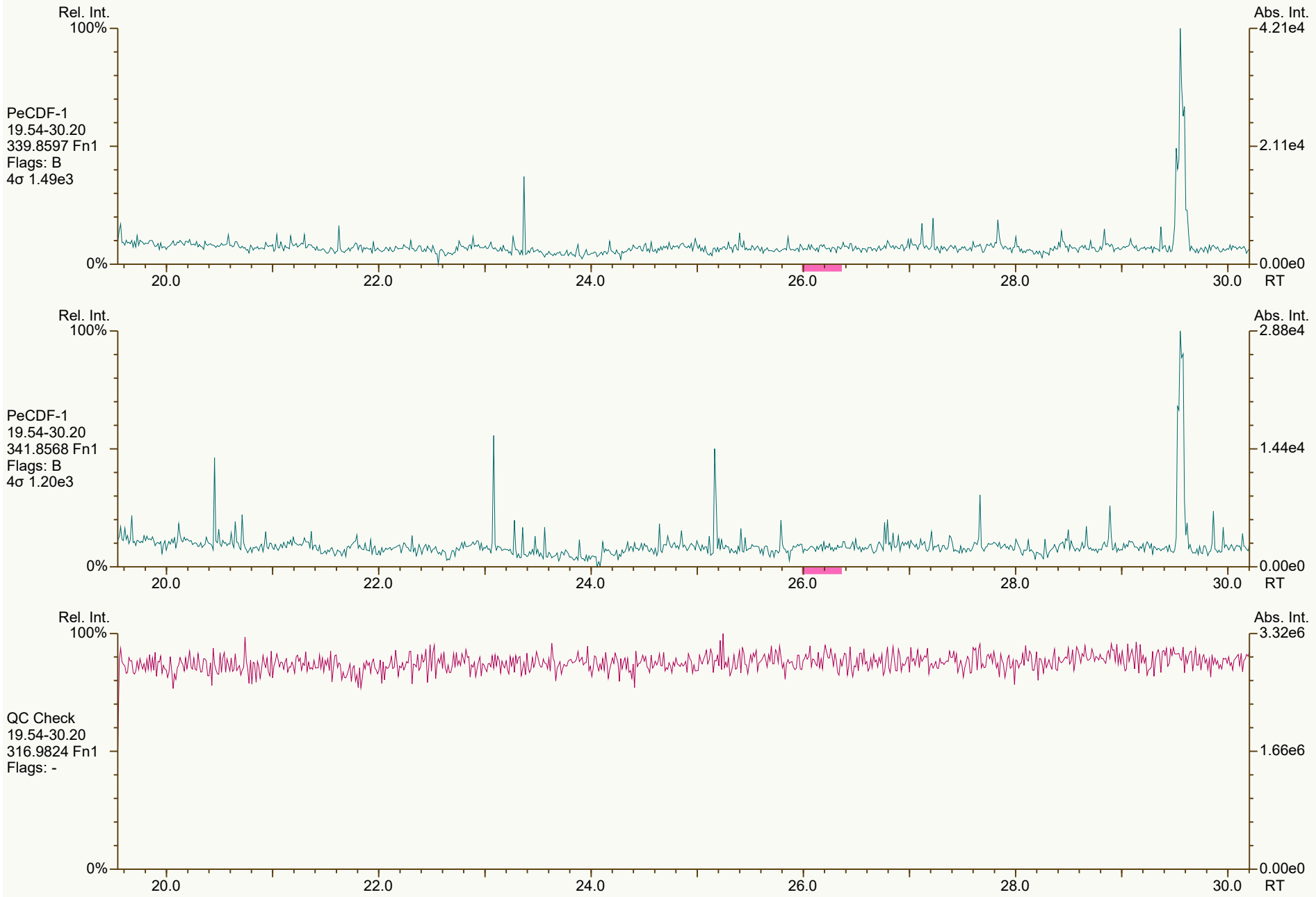

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 1.50e3
1234679D
4.56e6*
40.15
1234678D
2.29e6
40.83
Abs. Int.
1.50e6
7.48e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 1.10e3
1234679D
4.39e6*
40.15
1234678D
2.14e6
40.83
Abs. Int.
1.41e6
7.04e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 4.61e3
ES 1234678D
1.13e7
40.82
Abs. Int.
3.45e6
1.73e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.75e3
ES 1234678D
1.08e7
40.82
Abs. Int.
3.27e6
1.63e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
6.63e6
3.31e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

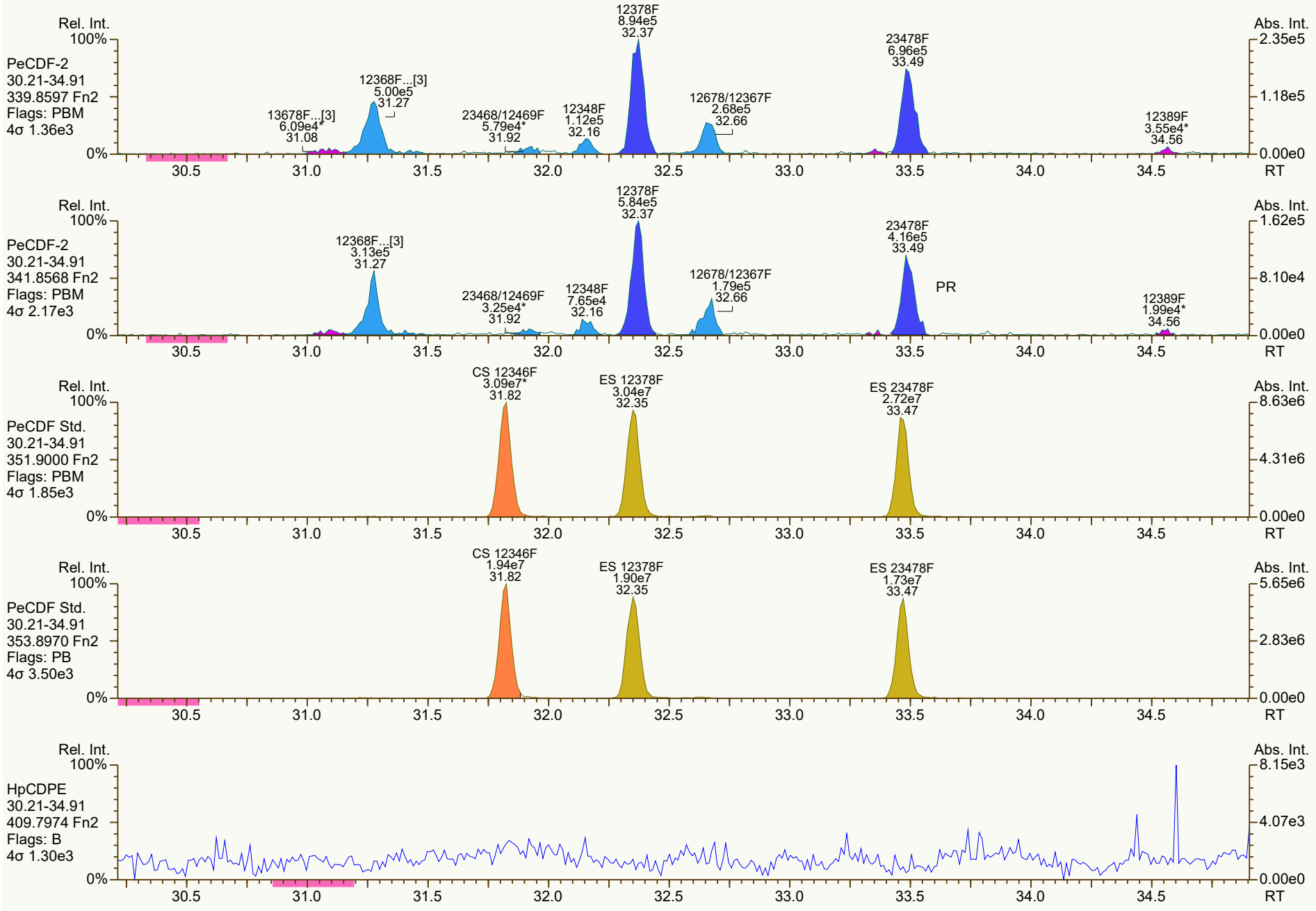

Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 1.45e3
0%
OCDD
2.91e7
43.53
Abs. Int.
6.06e6
3.03e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 2.46e3
0%
OCDD
3.22e7
43.53
Abs. Int.
6.72e6
3.36e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 2.42e3
0%
ES OCDD
1.35e7
43.52
Abs. Int.
2.88e6
1.44e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 1.71e3
0%
ES OCDD
1.49e7
43.51
Abs. Int.
3.06e6
1.53e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.51e6
2.76e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

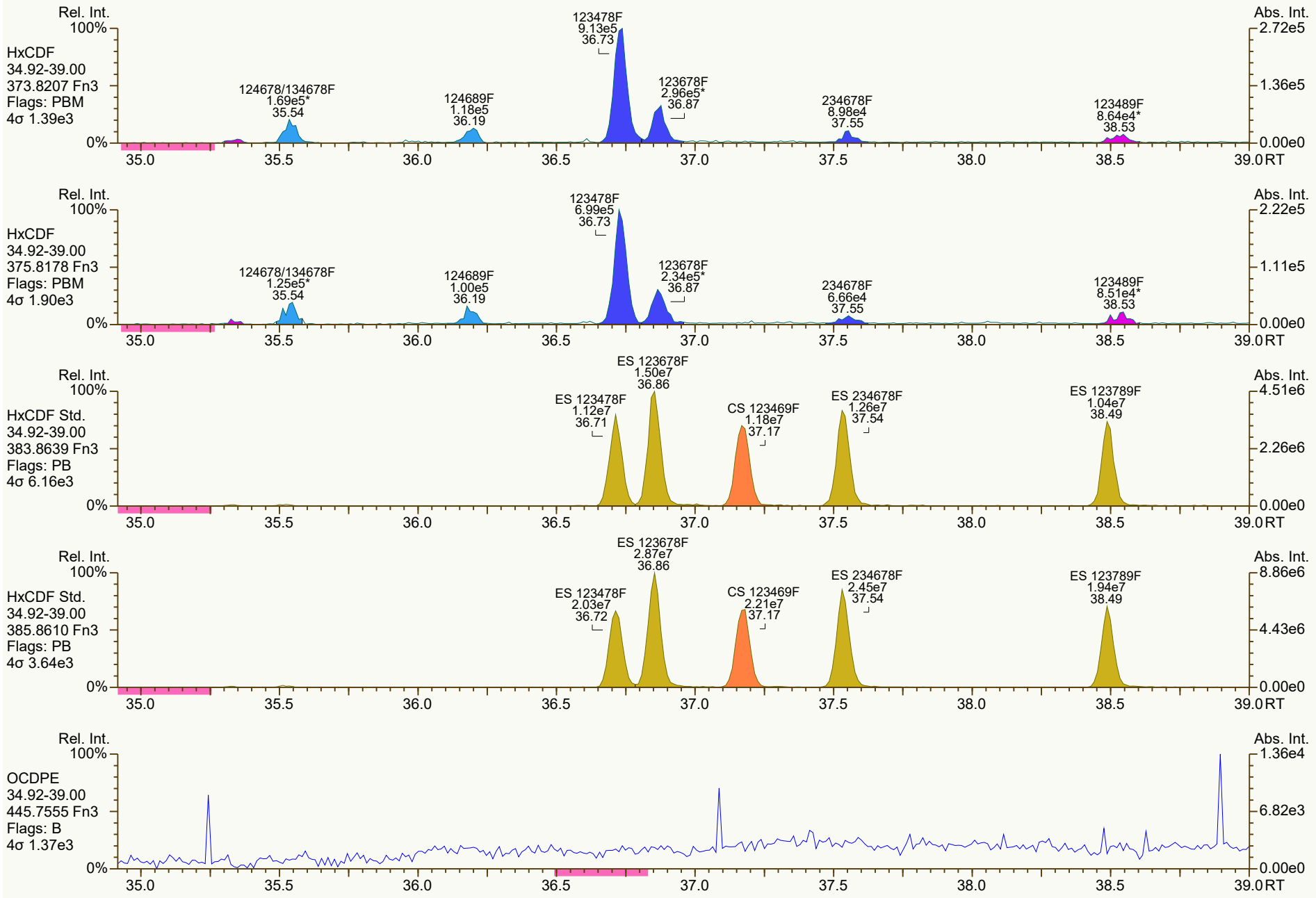
SGS ID: B6290_18916_DF_004 | Sample ID: 11215131-020522-S-SB-SW-S-52 | Acq: 11-Feb-2022 21:33:38
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67 | User: DTF Datafile: 220211C09

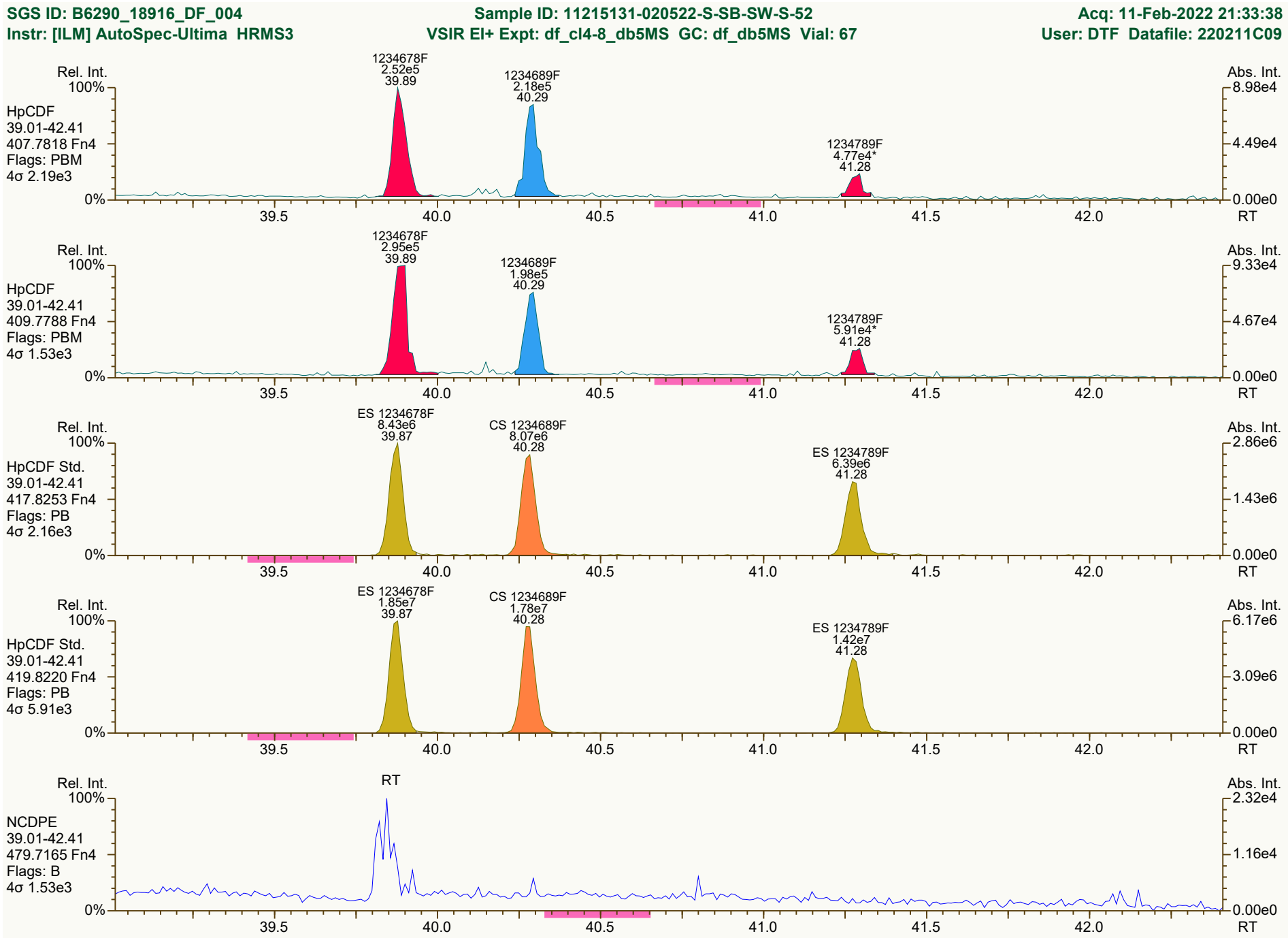


Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_004.utp_res, saved 14-Feb-2022 10:27 (PSW) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4194, 3591, 2429 scc: 723-933 | PKD: 14-Feb-2022 10:27 Printed: 14-Feb-2022 11:03 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
4.21e4
2.11e4
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.49e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.88e4
1.44e4
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.20e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.32e6
1.66e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT

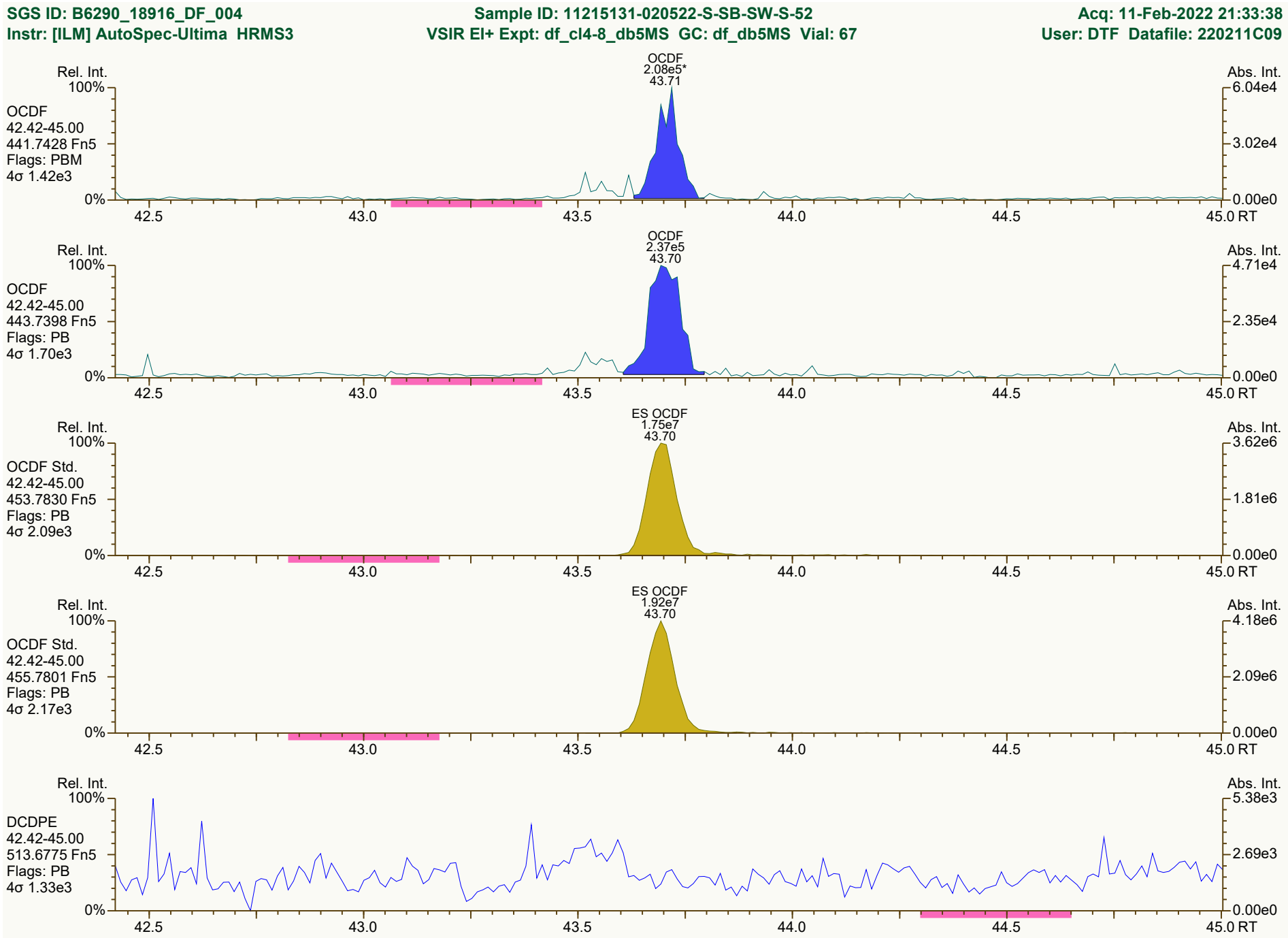

Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PBM
4σ 1.36e3
0%
13678F...[3]
6.09e4*
31.08
12368F...[3]
5.00e5
31.27
23468/12469F
5.79e4*
31.92
12348F
1.12e5
32.16
12378F
8.94e5
32.37
12678/12367F
2.68e5
32.66
23478F
6.96e5
33.49
12389F
3.55e4*
34.56
Abs. Int.
2.35e5
1.18e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PBM
4σ 2.17e3
0%
12368F...[3]
3.13e5
31.27
23468/12469F
3.25e4*
31.92
12348F
7.65e4
32.16
12378F
5.84e5
32.37
12678/12367F
1.79e5
32.66
23478F
4.16e5
33.49
PR
12389F
1.99e4*
34.56
Abs. Int.
1.62e5
8.10e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PBM
4σ 1.85e3
0%
CS 12346F
3.09e7*
31.82
ES 12378F
3.04e7
32.35
ES 23478F
2.72e7
33.47
Abs. Int.
8.63e6
4.31e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 3.50e3
0%
CS 12346F
1.94e7
31.82
ES 12378F
1.90e7
32.35
ES 23478F
1.73e7
33.47
Abs. Int.
5.65e6
2.83e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.30e3
0%
Abs. Int.
8.15e3
4.07e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 1.39e3
123478F
9.13e5
36.73
124678/134678F
1.69e5*
35.54
124689F
1.18e5
36.19
123678F
2.96e5*
36.87
234678F
8.98e4
37.55
123489F
8.64e4*
38.53
Abs. Int.
2.72e5
1.36e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 1.90e3
123478F
6.99e5
36.73
124678/134678F
1.25e5*
35.54
124689F
1.00e5
36.19
123678F
2.34e5*
36.87
234678F
6.66e4
37.55
123489F
8.51e4*
38.53
2.22e5
1.11e5
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 6.16e3
ES 123678F
1.50e7
36.86
ES 123478F
1.12e7
36.71
CS 123469F
1.18e7
37.17
ES 234678F
1.26e7
37.54
ES 123789F
1.04e7
38.49
4.51e6
2.26e6
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 3.64e3
ES 123678F
2.87e7
36.86
ES 123478F
2.03e7
36.72
CS 123469F
2.21e7
37.17
ES 234678F
2.45e7
37.54
ES 123789F
1.94e7
38.49
8.86e6
4.43e6
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.37e3
1.36e4
6.82e3



Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_004.utp_res, saved 14-Feb-2022 10:27 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9338, 6072, 4013 scc: 723-933
PKD: 14-Feb-2022 10:27 Printed: 14-Feb-2022 11:03 Page 11 of 12

SGS ID: B6290_18916_DF_004 | Sample ID: 11215131-020522-S-SB-SW-S-52 | Acq: 11-Feb-2022 21:33:38
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67 | User: DTF Datafile: 220211C09



Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_004.utp_res, saved 14-Feb-2022 10:27 (PSW) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3579, 3136, 0802 scc: 723-933 | *PKD: 14-Feb-2022 10:27 Printed: 14-Feb-2022 11:03 Page 12 of 12*

Lab ID: B6290_18916_DF_005 **Acq'd: 11 Feb 2022 22:19 DTF** **Wt/Vol: 10.11 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020522-S-SB-SW-S-53 **UTP: 14-Feb-2022 10:30:24 PSW** **J-level: 0.495 pg/g** **Split: 1** **Checkcode: 518-755-PCZ**

Datafile: 220211C10 **Report: 14 Feb 2022 10:42 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.48		1.0008	1.0008	0	5.10E+07	0.80	Y	1.18	346	3346.775	0.241
12378-PeCDD	33.82		1.0005	1.0005	0	4.25E+05	1.61	Y	1.04	3.63	2151.052	0.163
123478-HxCDD	37.73	J	1.0004	1.0002	-0.5	1.10E+05	1.36	Y	1.09	0.961	3234.409	0.244
123678-HxCDD	37.86	J	1.0035	1.0035	0	3.02E+05	1.26	Y	1.15	2.37	3234.409	0.218
123789-HxCDD	38.15	J	1.0113	1.0113	0	2.56E+05	1.18	Y	1.05	2.15	3234.409	0.233
1234678-HpCDD	40.83		1.0003	1.0004	+0.2	7.92E+06	1.02	Y	1.06	78	4494.584	0.373
OCDD	43.53		1.0002	1.0003	+0.3	6.83E+07	0.91	Y	1.13	960	3643.301	0.629
2378-TCDF	27.62		1.0008	1.0008	0	1.95E+08	0.78	Y	1.08	920	3133.166	0.163
12378-PeCDF	32.37		1.0005	1.0005	0	6.30E+06	1.51	Y	1.02	34	3519.97	0.175
23478-PeCDF	33.49	PR	1.0005	1.0007	+0.4	5.17E+06	1.57	Y	1.02	28.8	3519.97	0.17
123478-HxCDF	36.73		1.0005	1.0005	0	9.80E+06	1.21	Y	1.27	61.5	4235.111	0.231
123678-HxCDF	36.87		1.0005	1.0005	0	2.75E+06	1.28	Y	1.15	15.8	4235.111	0.214
234678-HxCDF	37.55		1.0005	1.0005	0	5.61E+05	1.22	Y	1.19	2.89	4235.111	0.181
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4235.111	0.237
1234678-HpCDF	39.89		1.0003	1.0003	0	3.84E+06	1.03	Y	1.37	24.9	3226.667	0.151
1234789-HpCDF	41.29		1.0003	1.0002	-0.2	1.00E+06	1.00	Y	1.31	8.57	3226.667	0.245
OCDF	43.71		1.0003	1.0002	-0.3	1.94E+06	0.88	Y	1.07	21.7	2466.278	0.319

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.45	1.0238	1.0238	0	2.46E+07	0.82	Y	1.05	83.5
ES 12378-PeCDD	33.80	1.2160	1.2162	+0.4	2.23E+07	1.53	Y	0.88	90
ES 123478-HxCDD	37.72	0.9919	0.9919	0	2.08E+07	1.29	Y	0.97	90.2
ES 123678-HxCDD	37.84	0.9950	0.9950	0	2.19E+07	1.25	Y	0.94	97.9
ES 123789-HxCDD	38.13	1.0027	1.0027	0	2.25E+07	1.32	Y	1.09	86.9
ES 1234678-HpCDD	40.82	1.0730	1.0733	+0.7	1.90E+07	1.05	Y	0.91	87.5
ES OCDD	43.52	1.1437	1.1444	+1.8	2.50E+07	0.87	Y	0.62	84.3
ES 2378-TCDF	27.60	1.0520	1.0520	0	3.89E+07	0.81	Y	1.06	83
ES 12378-PeCDF	32.35	1.2330	1.2333	+0.6	3.57E+07	1.55	Y	0.91	88.8
ES 23478-PeCDF	33.47	1.2754	1.2757	+0.6	3.48E+07	1.58	Y	0.88	89.1
ES 123478-HxCDF	36.71	0.9653	0.9653	0	2.48E+07	0.52	Y	1.20	87.2
ES 123678-HxCDF	36.85	0.9691	0.9690	-0.2	2.98E+07	0.55	Y	1.35	93
ES 234678-HxCDF	37.54	0.9870	0.9870	0	3.23E+07	0.54	Y	1.24	110
ES 123789-HxCDF	38.49	1.0121	1.0121	0	2.35E+07	0.54	Y	1.16	85.7
ES 1234678-HpCDF	39.88	1.0484	1.0486	+0.5	2.23E+07	0.45	Y	0.97	97
ES 1234789-HpCDF	41.28	1.0851	1.0854	+0.7	1.77E+07	0.48	Y	0.85	87.4
ES OCDF	43.70	1.1483	1.1491	+2.1	3.31E+07	0.90	Y	0.81	86.3

Lab ID: B6290_18916_DF_005 **Acq'd:** 11 Feb 2022 22:19 DTF **Wt/Vol:** 10.11 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020522-S-SB-SW-S-53 **UTP:** 14-Feb-2022 10:30:24 PSW **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 518-755-PCZ

Datafile: 220211C10 **Report:** 14 Feb 2022 10:42 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.79		-	-	-	2.82E+07	0.83	Y	-	-
JS 1234-TCDF	26.23		-	-	-	4.42E+07	0.81	Y	-	-
JS 123467-HxCDD	38.03		-	-	-	1.19E+07	1.27	Y	-	-
CS 37Cl-2378-TCDD	28.47		1.0245	1.0246	+0.2	1.17E+07	n/a	-	1.20	86.2
CS 12347-PeCDD	33.30		1.1979	1.1981	+0.4	2.10E+07	1.53	Y	0.75	99.1
CS 12346-PeCDF	31.82		1.2128	1.2131	+0.6	3.52E+07	1.60	Y	0.85	93.7
CS 123469-HxCDF	37.17		0.9774	0.9774	0	2.78E+07	0.52	Y	1.12	105
CS 1234689-HpCDF	40.28		1.0589	1.0592	+0.7	2.17E+07	0.46	Y	0.89	103
~~SS 37Cl-2378-TCDD~~	~~28.47~~		~~1.0245~~	~~1.0246~~	~~+0.2~~	~~1.17E+07~~	~~n/a~~		~~1.15~~	~~104~~
~~SS 12347-PeCDD~~	~~33.30~~		~~1.1979~~	~~1.1981~~	~~+0.4~~	~~2.10E+07~~	~~1.53~~	~~Y~~	~~0.86~~	~~110~~
~~SS 12346-PeCDF~~	~~31.82~~		~~1.2128~~	~~1.2131~~	~~+0.6~~	~~3.52E+07~~	~~1.60~~	~~Y~~	~~0.94~~	~~105~~
~~SS 123469-HxCDF~~	~~37.17~~		~~0.9774~~	~~0.9774~~	~~0~~	~~2.78E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~113~~
~~SS 1234689-HpCDF~~	~~40.28~~		~~1.0589~~	~~1.0592~~	~~+0.7~~	~~2.17E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~106~~

Totals	Conc	EMPC
Total TCDD	396	401
Total PeCDD	12.4	13.3
Total HxCDD	46.9	48.9
Total HpCDD	222	222
Total Tetra-Octa Dioxins	1640	1650
Total TCDF	1,880	1890
Total PeCDF	98.7	99.5
Total HxCDF	94.5	94.8
Total HpCDF	47.2	47.2
Total Tetra-Octa Furans	2,140	2150
Total Tetra-Octa Dioxins & Furans	3780	3800

Lab ID: B6290_18916_DF_005 **Acq'd: 11 Feb 2022 22:19 DTF** **Wt/Vol: 10.11 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020522-S-SB-SW-S-53 **UTP: 14-Feb-2022 10:30:24 PSW** **J-level: 0.495 pg/g** **Split: 1** **Checkcode: 518-755-PCZ**

Datafile: 220211C10 **Report: 14 Feb 2022 10:42 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.82		0.8737	0.8724	-1.9	2.00E+05	0.80	Y	1.18	1.35	3346.775	0.241
1379-TCDD	25.17	EMPC	0.8860	0.8847	-2.0	1.05E+05	0.57	N	1.18	0.711	3346.775	0.241
1369-TCDD	NotFnd		0.9009						1.18		3346.775	0.241
1469-TCDD	26.39		0.9281	0.9275	-1.0	1.34E+06	0.81	Y	1.18	9.09	3346.775	0.241
1247/1246/1248/1249-TCDD	26.64		0.9362	0.9362	0	1.29E+05	0.89	Y	1.18	0.874	3346.775	0.241
1378-TCDD	26.82		0.9432	0.9425	-1.1	2.24E+05	0.84	Y	1.18	1.52	3346.775	0.241
1268-TCDD	NotFnd		0.9500						1.18		3346.775	0.241
1478-TCDD	27.27	EMPC	0.9586	0.9583	-0.5	1.53E+05	1.11	N	1.18	1.04	3346.775	0.241
1279-TCDD	NotFnd		0.9645						1.18		3346.775	0.241
1234/1269-TCDD	27.78	EMPC	0.9770	0.9764	-1.0	1.48E+05	0.96	N	1.18	1	3346.775	0.241
1236-TCDD	NotFnd		0.9817						1.18		3346.775	0.241
1237/1238-TCDD	28.18		0.9905	0.9904	-0.2	8.46E+05	0.78	Y	1.18	5.74	3346.775	0.241
1239-TCDD	NotFnd		0.9952						1.18		3346.775	0.241
2378-TCDD	**28.48**		**1.0008**	1.0008	**0**	5.10E+07	0.80	Y	**1.18**	**346**	**3346.775**	**0.241**
1278-TCDD	28.80		1.0121	1.0122	+0.2	4.59E+06	0.79	Y	1.18	31.2	3346.775	0.241
1267-TCDD	28.93	EMPC	1.0167	1.0167	0	1.61E+05	0.93	N	1.18	1.09	3346.775	0.241
1289-TCDD	29.44	EMPC	1.0345	1.0346	+0.2	1.12E+05	0.96	N	1.18	0.763	3346.775	0.241
12479/12468-PeCDD	31.31	J	0.9267	0.9262	-0.9	1.55E+05	1.37	Y	1.04	1.32	2151.052	0.163
12469-PeCDD	31.85		0.9425	0.9422	-0.6	4.89E+05	1.64	Y	1.04	4.18	2151.052	0.163
12368-PeCDD	32.40	J	0.9588	0.9585	-0.6	1.19E+05	1.62	Y	1.04	1.02	2151.052	0.163
12478-PeCDD	32.59	J	0.9643	0.9641	-0.4	6.60E+04	1.44	Y	1.04	0.565	2151.052	0.163
12379-PeCDD	32.69	J EMPC	0.9673	0.9671	-0.4	6.63E+04	1.90	N	1.04	0.567	2151.052	0.163
12369/12467/12489-PeCDD	32.95	J	0.9750	0.9750	0	1.62E+05	1.46	Y	1.04	1.38	2151.052	0.163
12346/12347-PeCDD	NotFnd		0.9858						1.04		2151.052	0.163
12378-PeCDD	33.82		**1.0005**	**1.0005**	**0**	**4.25E+05**	**1.61**	**Y**	**1.04**	**3.63**	**2151.052**	**0.163**
12367-PeCDD	33.91	J EMPC	1.0033	1.0031	-0.4	2.88E+04	2.14	N	1.04	0.246	2151.052	0.163
12389-PeCDD	34.27	J	1.0134	1.0138	+0.8	3.91E+04	1.60	Y	1.04	0.335	2151.052	0.163
124679/124689-HxCDD	35.99		0.9542	0.9539	-0.6	3.51E+06	1.30	Y	1.10	29.1	3234.409	0.231
123468-HxCDD	36.64	J EMPC	0.9715	0.9713	-0.4	1.50E+05	1.01	N	1.10	1.24	3234.409	0.231
123679/123689-HxCDD	36.94		0.9793	0.9791	-0.4	1.28E+06	1.31	Y	1.10	10.7	3234.409	0.231
123469-HxCDD	37.07	J	0.9828	0.9826	-0.4	1.97E+05	1.24	Y	1.10	1.64	3234.409	0.231
123478-HxCDD	37.73	J	**1.0004**	**1.0002**	**-0.5**	**1.10E+05**	**1.36**	**Y**	1.09	**0.961**	**3234.409**	**0.244**
123678-HxCDD	37.86	J	**1.0035**	**1.0035**	**0**	**3.02E+05**	**1.26**	**Y**	1.15	**2.37**	**3234.409**	**0.218**
123467-HxCDD	38.05	J EMPC	1.0085	1.0086	+0.2	8.92E+04	1.02	N	1.10	0.741	3234.409	0.231
123789-HxCDD	38.15	J	**1.0113**	**1.0113**	**0**	**2.56E+05**	**1.18**	**Y**	1.05	**2.15**	**3234.409**	**0.233**

Lab ID: B6290_18916_DF_005 **Acq'd: 11 Feb 2022 22:19 DTF** **Wt/Vol: 10.11 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020522-S-SB-SW-S-53 **UTP: 14-Feb-2022 10:30:24 PSW** **J-level: 0.495 pg/g** **Split: 1** **Checkcode: 518-755-PCZ**

Datafile: 220211C10 **Report: 14 Feb 2022 10:42 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

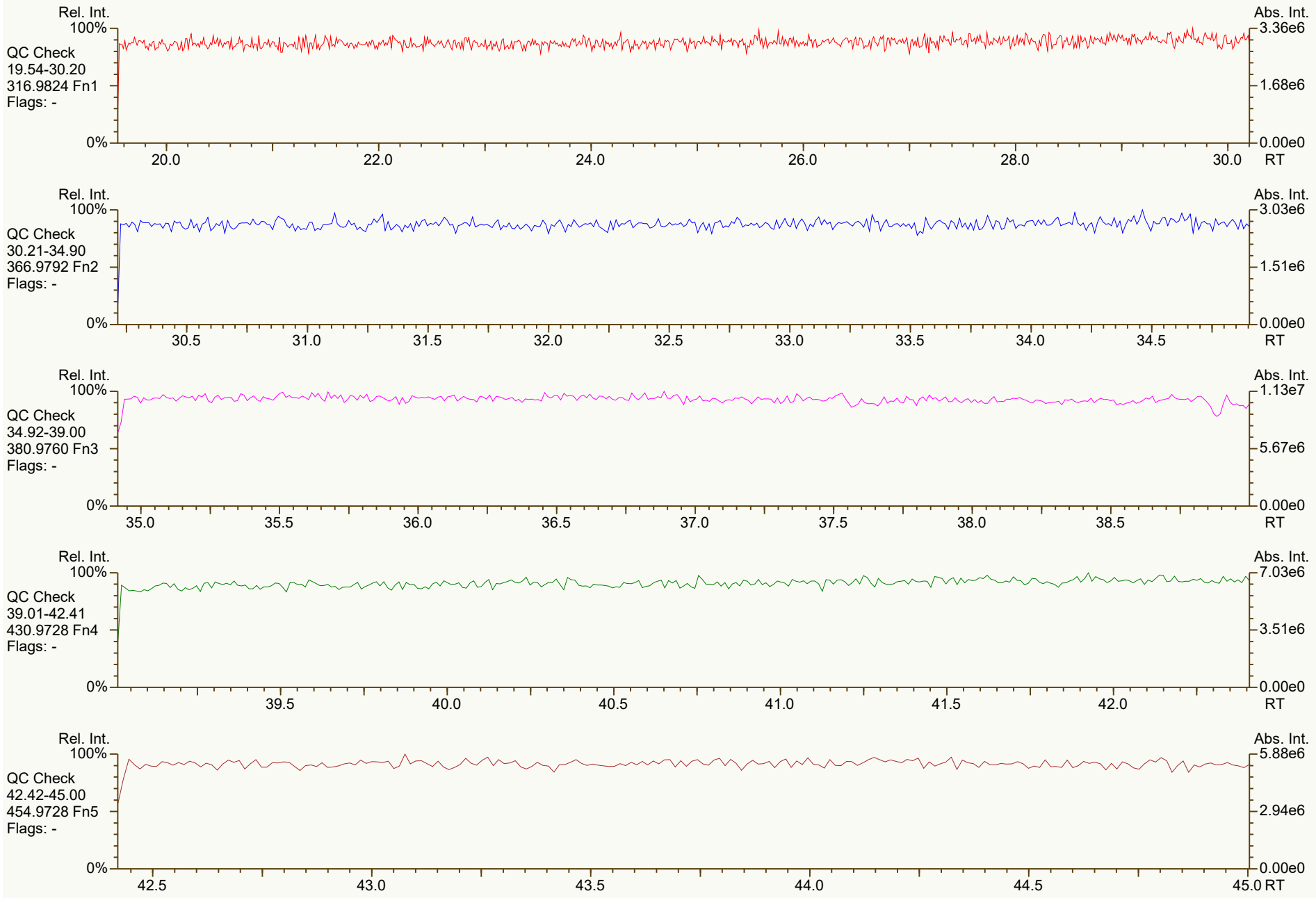
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.15		0.9837	0.9837	0	1.46E+07	1.07	Y	1.06	144	4494.584	0.373
1234678-HpCDD	**40.83**		**1.0003**	**1.0004**	**+0.2**	**7.92E+06**	**1.02**	**Y**	**1.06**	**78**	**4494.584**	**0.373**
OCDD	**43.53**		**1.0002**	**1.0003**	**+0.3**	**6.83E+07**	**0.91**	**Y**	**1.13**	**960**	**3643.301**	**0.629**
OCDD-a	43.53		1.0001	1.0002	+0.3	4.51E+06	2.50	Y	0.07	990	3607.279	9.74
1368-TCDF	22.73	EMPC	0.8251	0.8238	-1.8	1.60E+05	0.89	N	1.08	0.754	3133.166	0.163
1468-TCDF	23.31		0.8458	0.8446	-1.7	5.20E+05	0.75	Y	1.08	2.45	3133.166	0.163
2468-TCDF	23.94		0.8686	0.8675	-1.6	4.77E+05	0.87	Y	1.08	2.25	3133.166	0.163
1346/1246-TCDF	24.33		0.8814	0.8817	+0.4	2.74E+05	0.76	Y	1.08	1.29	3133.166	0.163
1347/1378/1247-TCDF	24.47		0.8867	0.8867	0	2.52E+06	0.80	Y	1.08	11.9	3133.166	0.163
1348-TCDF	24.70		0.8962	0.8951	-1.6	5.99E+05	0.82	Y	1.08	2.83	3133.166	0.163
1248/1367/1379-TCDF	24.80		0.9009	0.8988	-3.1	1.06E+07	0.77	Y	1.08	50	3133.166	0.163
1268-TCDF	25.22		0.9145	0.9138	-1.1	3.61E+06	0.78	Y	1.08	17	3133.166	0.163
1467-TCDF	25.35	EMPC	0.9193	0.9188	-0.8	5.34E+05	0.93	N	1.08	2.52	3133.166	0.163
1478-TCDF	25.52		0.9254	0.9249	-0.8	9.15E+06	0.81	Y	1.08	43.1	3133.166	0.163
1369/1237-TCDF	25.90		0.9387	0.9386	-0.2	2.47E+06	0.84	Y	1.08	11.7	3133.166	0.163
2467-TCDF	26.03		0.9433	0.9433	0	2.52E+05	0.76	Y	1.08	1.19	3133.166	0.163
2368-TCDF	26.19		0.9489	0.9491	+0.3	9.41E+06	0.78	Y	1.08	44.4	3133.166	0.163
1238/1234/1678/1469/1236-TCDF	26.27		0.9523	0.9518	-0.8	8.34E+06	0.81	Y	1.08	39.3	3133.166	0.163
1278-TCDF	26.72		0.9683	0.9682	-0.2	9.28E+07	0.77	Y	1.08	438	3133.166	0.163
1349-TCDF	NotFnd		0.9722						1.08		3133.166	0.163
1267-TCDF	26.99		0.9783	0.9781	-0.3	5.43E+06	0.78	Y	1.08	25.6	3133.166	0.163
2346/1249-TCDF	27.19	EMPC	0.9850	0.9853	+0.5	7.71E+05	0.92	N	1.08	3.64	3133.166	0.163
2347/1279-TCDF	27.39		0.9926	0.9923	-0.5	2.39E+06	0.80	Y	1.08	11.3	3133.166	0.163
2348-TCDF	27.51		0.9967	0.9967	0	1.78E+07	0.80	Y	1.08	83.9	3133.166	0.163
2378-TCDF	**27.62**		**1.0008**	**1.0008**	**0**	**1.95E+08**	**0.78**	**Y**	**1.08**	**920**	**3133.166**	**0.163**
2367/3467-TCDF	27.97		1.0137	1.0135	-0.3	1.68E+07	0.80	Y	1.08	79.3	3133.166	0.163
1269-TCDF	28.22		1.0223	1.0225	+0.3	3.61E+06	0.78	Y	1.08	17	3133.166	0.163
1239-TCDF	28.48		1.0321	1.0320	-0.2	3.47E+05	0.85	Y	1.08	1.64	3133.166	0.163
1289-TCDF	29.62		1.0722	1.0735	+2.3	1.66E+07	0.77	Y	1.08	78.1	3133.166	0.163
13468/12468-PeCDF	29.56	J	0.9139	0.9138	-0.2	2.23E+05	1.40	Y	1.02	1.22	2566.824	0.126
13678/13467/12467-PeCDF	31.11	J	0.9613	0.9617	+0.7	9.25E+04	1.74	Y	1.02	0.508	3519.97	0.172
12368/13478/12478-PeCDF	31.27		0.9662	0.9667	+0.9	2.83E+06	1.62	Y	1.02	15.5	3519.97	0.172
14678-PeCDF	31.36	J	0.9692	0.9694	+0.4	6.92E+04	1.47	Y	1.02	0.38	3519.97	0.172
13479-PeCDF	NotFnd		0.9723						1.02		3519.97	0.172
13469/12479-PeCDF	NotFnd		0.9797						1.02		3519.97	0.172
12346-PeCDF	NotFnd		0.9840						1.02		3519.97	0.172

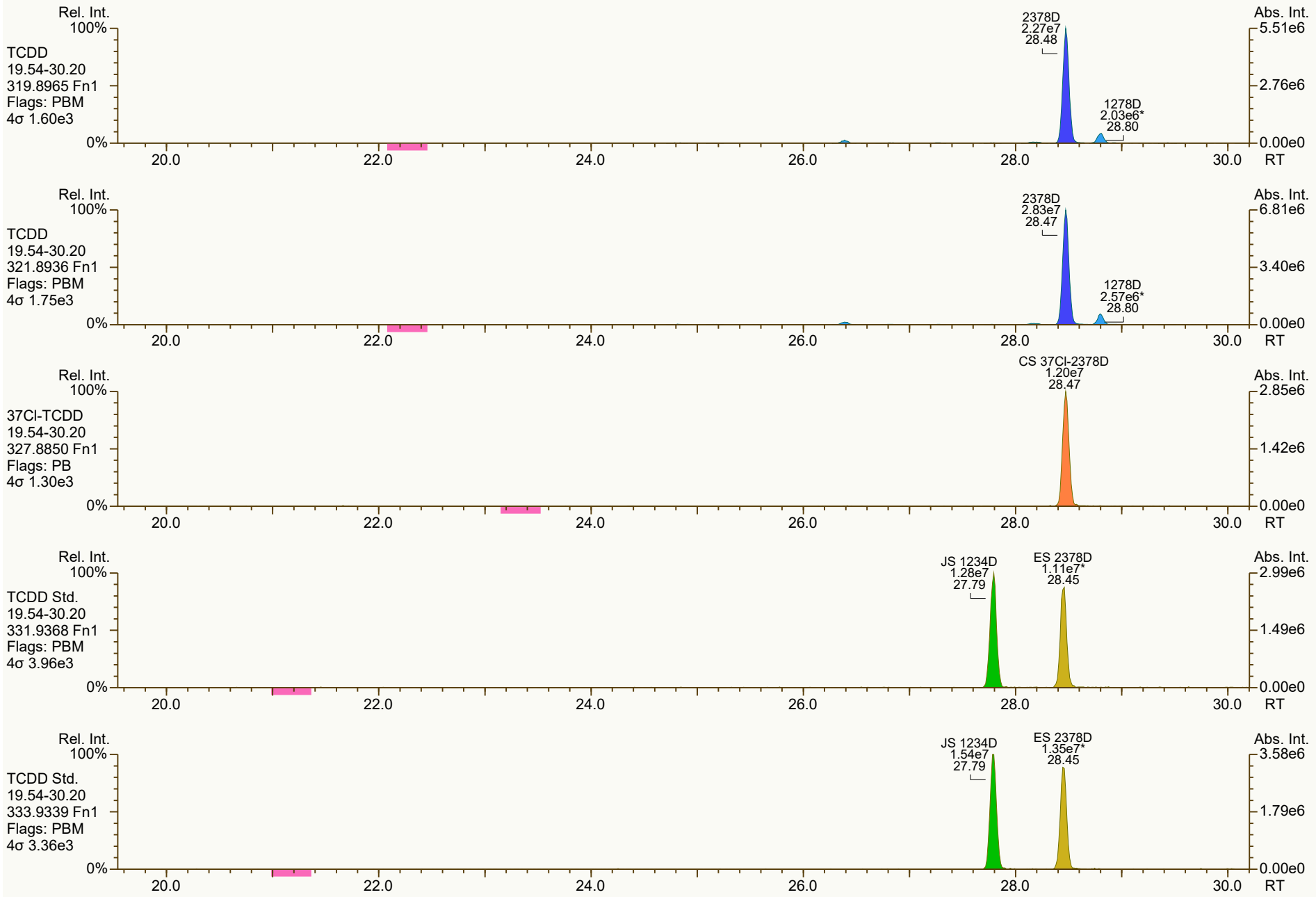
Lab ID: B6290_18916_DF_005 **Acq'd: 11 Feb 2022 22:19 DTF** **Wt/Vol: 10.11 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

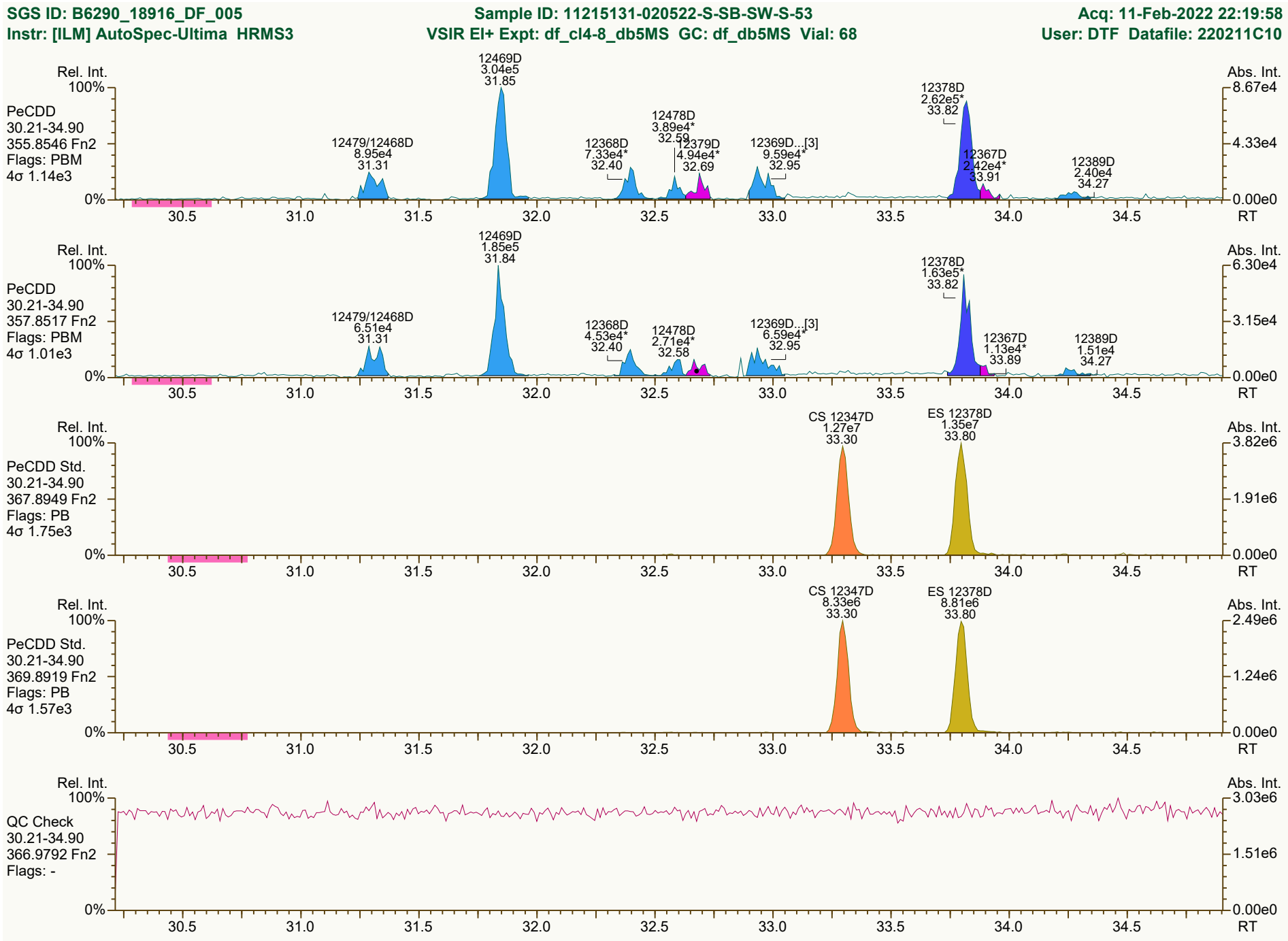
Client ID: 11215131-020522-S-SB-SW-S-53 **UTP: 14-Feb-2022 10:30:24 PSW** **J-level: 0.495 pg/g** **Split: 1** **Checkcode: 518-755-PCZ**

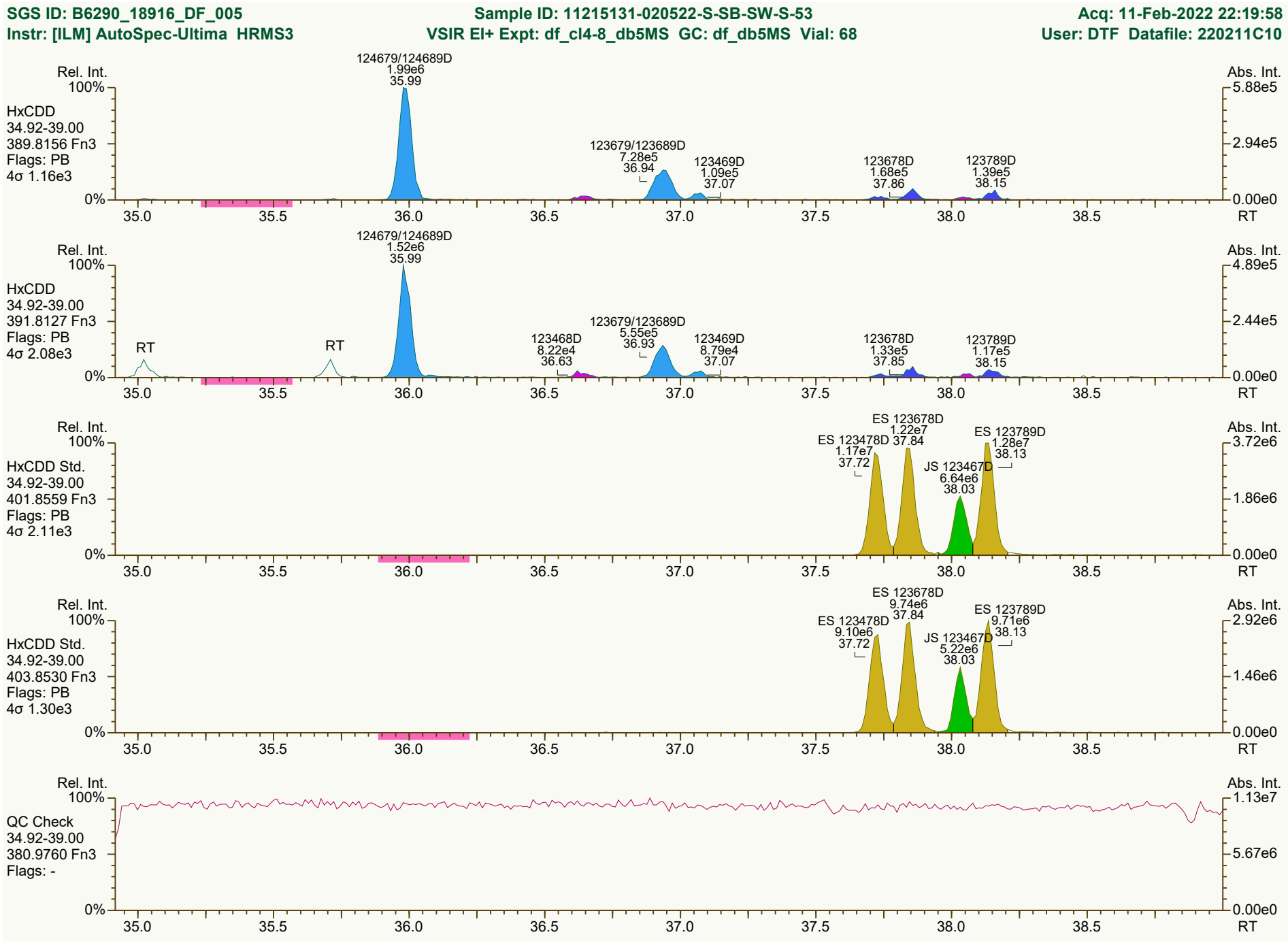
Datafile: 220211C10 **Report: 14 Feb 2022 10:42 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

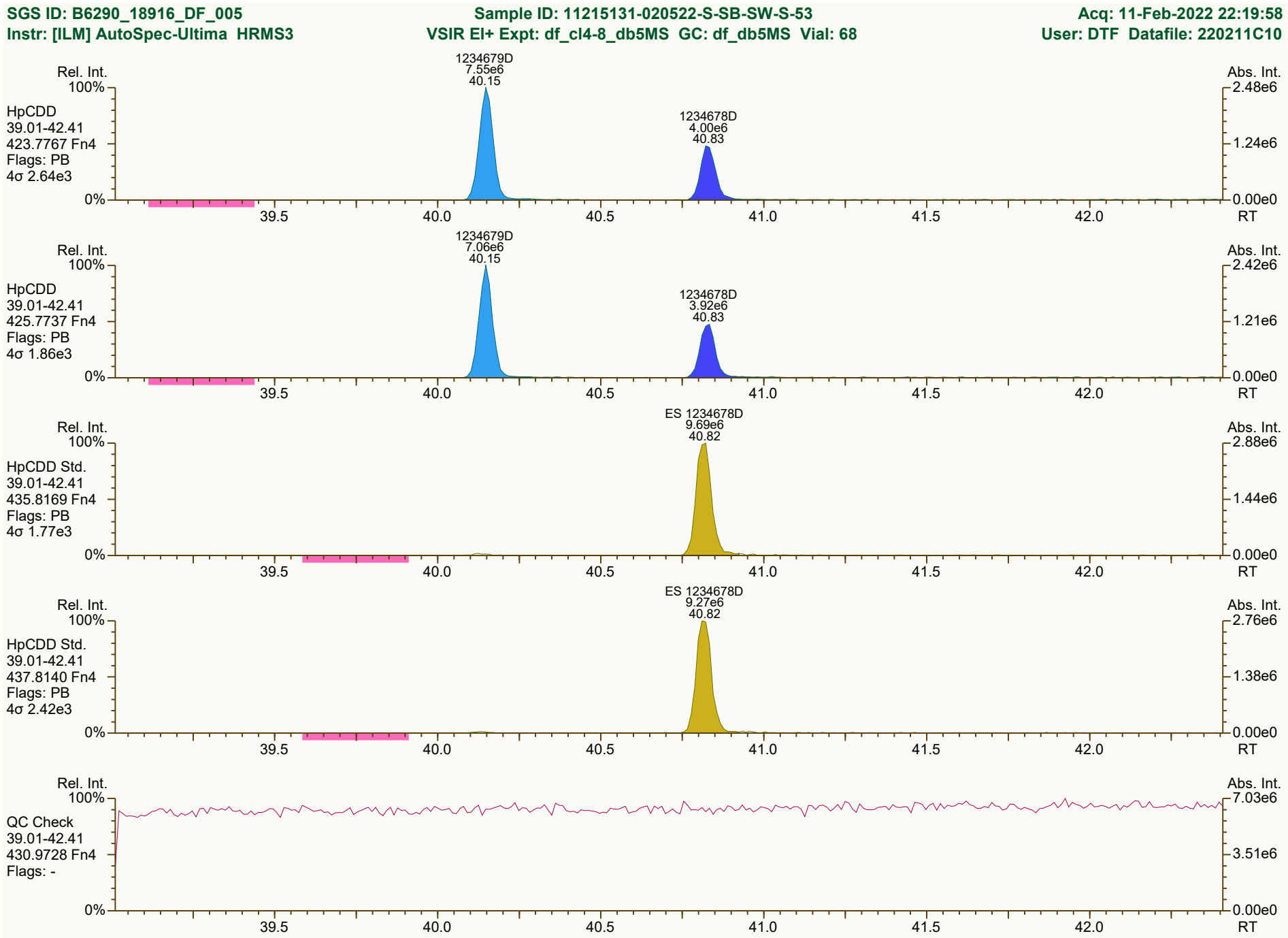
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.92	J	0.9868	0.9868	0	1.48E+05	1.64	Y	1.02	0.814	3519.97	0.172
12347-PeCDF	32.00	J EMPC	0.9894	0.9892	-0.4	1.39E+05	1.16	N	1.02	0.764	3519.97	0.172
12348-PeCDF	32.16		0.9940	0.9940	0	6.66E+05	1.69	Y	1.02	3.66	3519.97	0.172
12378-PeCDF	**32.37**		**1.0005**	**1.0005**	**0**	**6.30E+06**	**1.51**	**Y**	**1.02**	**34**	**3519.97**	**0.175**
12678/12367-PeCDF	32.66		1.0089	1.0096	+1.4	2.09E+06	1.66	Y	1.02	11.5	3519.97	0.172
12379-PeCDF	NotFnd		1.0142						1.02		3519.97	0.172
12679-PeCDF	NotFnd		0.9929						1.02		3519.97	0.172
23467/12369-PeCDF	33.35	J	0.9967	0.9965	-0.4	1.26E+05	1.32	Y	1.02	0.693	3519.97	0.172
23478-PeCDF	**33.49**		**1.0005**	**1.0007**	**+0.4**	**5.17E+06**	**1.57**	**Y**	**1.02**	**28.8**	**3519.97**	**0.17**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3519.97	0.172
12349-PeCDF	NotFnd		1.0100						1.02		3519.97	0.172
12389-PeCDF	34.55	J	1.0324	1.0325	+0.2	2.90E+05	1.52	Y	1.02	1.59	3519.97	0.172
123468-HxCDF	35.34	J	0.9627	0.9626	-0.2	1.51E+05	1.23	Y	1.19	0.903	4235.111	0.213
124678/134678-HxCDF	35.53		0.9682	0.9679	-0.6	1.02E+06	1.22	Y	1.19	6.1	4235.111	0.213
134679-HxCDF	NotFnd		0.9744						1.19		4235.111	0.213
124679-HxCDF	NotFnd		0.9798						1.19		4235.111	0.213
124689-HxCDF	36.19		0.9858	0.9857	-0.2	5.45E+05	1.26	Y	1.19	3.27	4235.111	0.213
123467-HxCDF	36.60	J EMPC	0.9972	0.9970	-0.4	5.57E+04	0.89	N	1.19	0.334	4235.111	0.213
123478-HxCDF	**36.73**		**1.0005**	**1.0005**	**0**	**9.80E+06**	**1.21**	**Y**	**1.27**	**61.5**	**4235.111**	**0.231**
123678-HxCDF	**36.87**		**1.0005**	**1.0005**	**0**	**2.75E+06**	**1.28**	**Y**	**1.15**	**15.8**	**4235.111**	**0.214**
123479-HxCDF	NotFnd		1.0049						1.19		4235.111	0.213
123469-HxCDF	NotFnd		1.0090						1.19		4235.111	0.213
123679-HxCDF	NotFnd		0.9942						1.19		4235.111	0.213
234678-HxCDF	**37.55**		**1.0005**	**1.0005**	**0**	**5.61E+05**	**1.22**	**Y**	**1.19**	**2.89**	**4235.111**	**0.181**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4235.111	0.213
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4235.111**	**0.237**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.53		1.0009	1.0011	+0.5	6.71E+05	1.22	Y	1.19	4.02	4235.111	0.213
1234678-HpCDF	**39.89**		**1.0003**	**1.0003**	**0**	**3.84E+06**	**1.03**	**Y**	**1.37**	**24.9**	**3226.667**	**0.151**
1234679-HpCDF	40.15	**J**	1.0068	1.0068	0	7.58E+04	0.93	Y	1.34	0.561	3226.667	0.192
1234689-HpCDF	40.29		1.0103	1.0104	+0.2	1.78E+06	1.00	Y	1.34	13.2	3226.667	0.192
1234789-HpCDF	**41.29**		**1.0003**	**1.0002**	**-0.2**	**1.00E+06**	**1.00**	**Y**	**1.31**	**8.57**	**3226.667**	**0.245**
OCDF	**43.71**		**1.0003**	**1.0002**	**-0.3**	**1.94E+06**	**0.88**	**Y**	**1.07**	**21.7**	**2466.278**	**0.319**
OCDF-a	43.71	**EMPC**	1.0002	1.0002	0	1.36E+05	2.10	N	0.07	24.4	3209.515	6.71

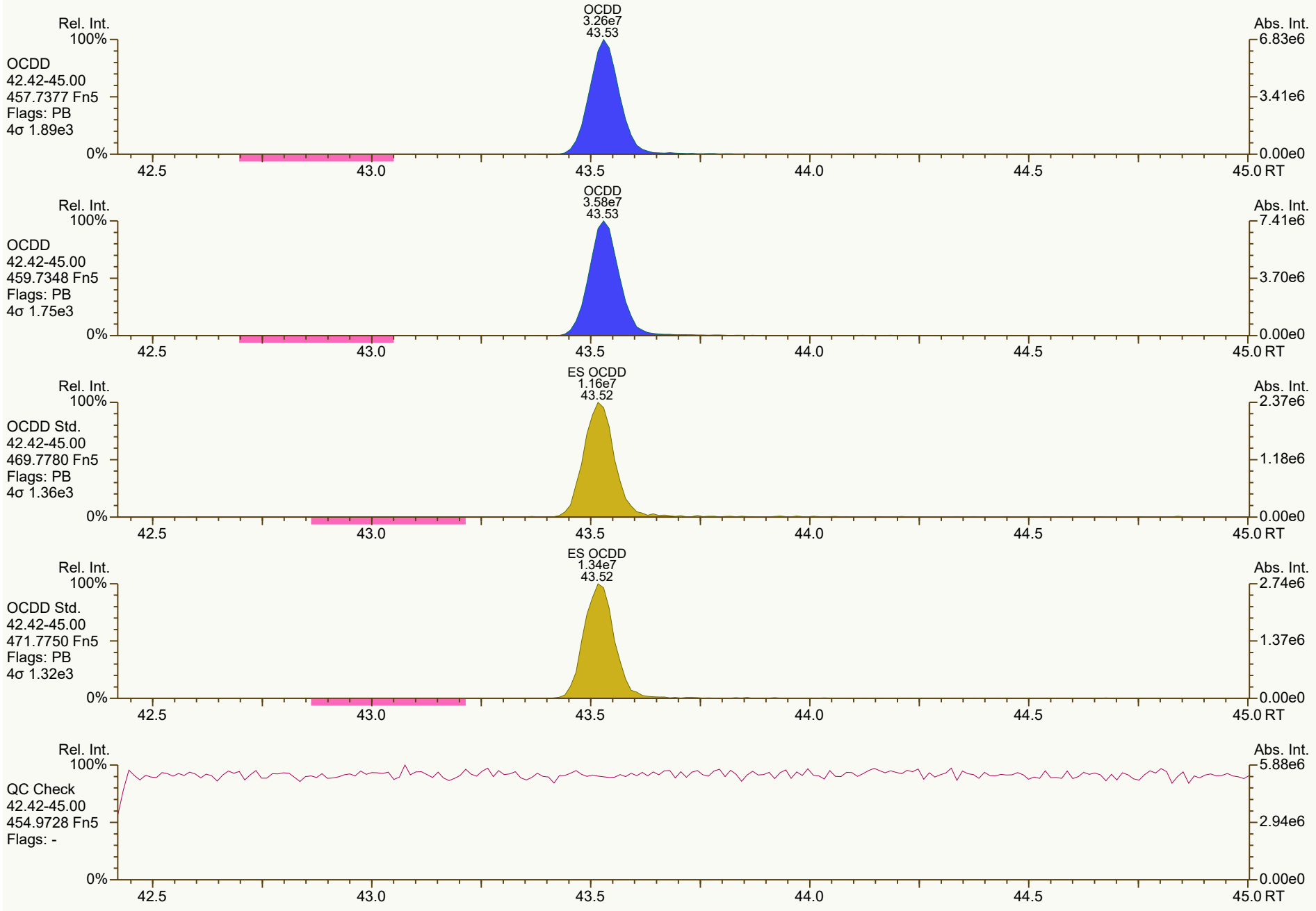

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.36e6
1.68e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.03e6
1.51e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.13e7
5.67e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
7.03e6
3.51e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
5.88e6
2.94e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.60e3
0%
2378D
2.27e7
28.48
1278D
2.03e6*
28.80
Abs. Int.
5.51e6
2.76e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.75e3
0%
2378D
2.83e7
28.47
1278D
2.57e6*
28.80
Abs. Int.
6.81e6
3.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.30e3
0%
CS 37Cl-2378D
1.20e7
28.47
Abs. Int.
2.85e6
1.42e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PBM
4σ 3.96e3
0%
JS 1234D
1.28e7
27.79
ES 2378D
1.11e7*
28.45
Abs. Int.
2.99e6
1.49e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PBM
4σ 3.36e3
0%
JS 1234D
1.54e7
27.79
ES 2378D
1.35e7*
28.45
Abs. Int.
3.58e6
1.79e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

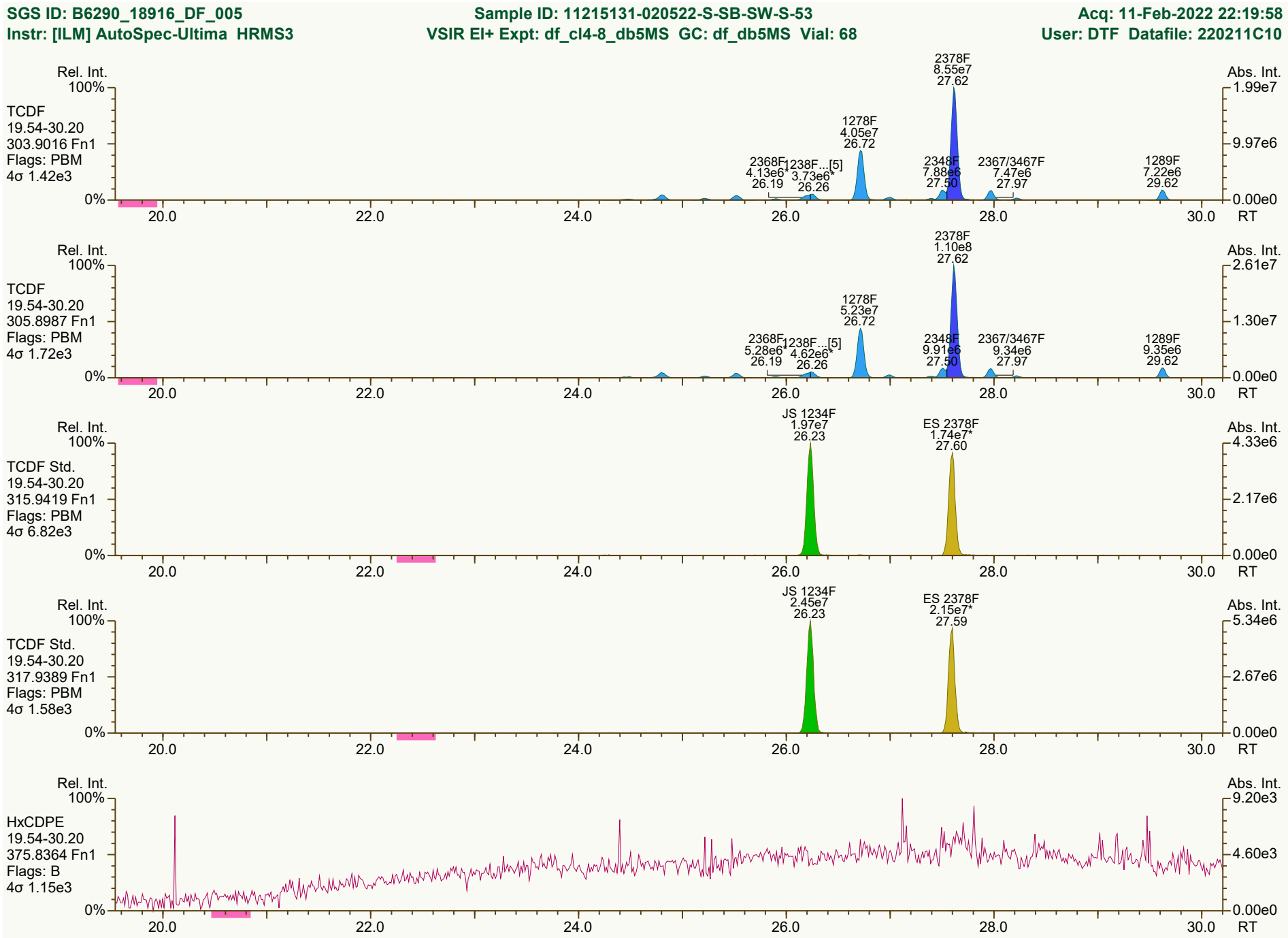

SGS ID: B6290_18916_DF_005
Sample ID: 11215131-020522-S-SB-SW-S-53
Acq: 11-Feb-2022 22:19:58
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 68
User: DTF Datafile: 220211C10
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PBM
4σ 1.14e3
12469D 3.04e5 31.85
12479/12468D 8.95e4 31.31
12368D 7.33e4* 32.40
12478D 3.89e4* 32.59
12379D 4.94e4* 32.69
12369D...[3] 9.59e4* 32.95
12378D 2.62e5* 33.82
12367D 2.42e4* 33.91
12389D 2.40e4 34.27
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PBM
4σ 1.01e3
12469D 1.85e5 31.84
12479/12468D 6.51e4 31.31
12368D 4.53e4* 32.40
12478D 2.71e4* 32.58
12369D...[3] 6.59e4* 32.95
12378D 1.63e5* 33.82
12367D 1.13e4* 33.89
12389D 1.51e4 34.27
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 1.75e3
CS 12347D 1.27e7 33.30
ES 12378D 1.35e7 33.80
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.57e3
CS 12347D 8.33e6 33.30
ES 12378D 8.81e6 33.80
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
Rel. Int.
Abs. Int.
RT
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_005.utp_res, saved 14-Feb-2022 10:30 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9583, 9639 scc: 518-755
PKD: 14-Feb-2022 10:30 Printed: 14-Feb-2022 11:03 Page 3 of 12


SGS ID: B6290_18916_DF_005
Sample ID: 11215131-020522-S-SB-SW-S-53
Acq: 11-Feb-2022 22:19:58
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 68
User: DTF Datafile: 220211C10
Rel. Int.
Abs. Int.
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 1.16e3
124679/124689D
1.99e6
35.99
123679/123689D
7.28e5
36.94
123469D
1.09e5
37.07
123678D
1.68e5
37.86
123789D
1.39e5
38.15
5.88e5
2.94e5
0.00e0
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 2.08e3
RT
RT
124679/124689D
1.52e6
35.99
123468D
8.22e4
36.63
123679/123689D
5.55e5
36.93
123469D
8.79e4
37.07
123678D
1.33e5
37.85
123789D
1.17e5
38.15
4.89e5
2.44e5
0.00e0
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 2.11e3
ES 123678D
1.22e7
37.84
ES 123478D
1.17e7
37.72
ES 123789D
1.28e7
38.13
JS 123467D
6.64e6
38.03
3.72e6
1.86e6
0.00e0
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 1.30e3
ES 123678D
9.74e6
37.84
ES 123478D
9.10e6
37.72
ES 123789D
9.71e6
38.13
JS 123467D
5.22e6
38.03
2.92e6
1.46e6
0.00e0
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
1.13e7
5.67e6
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_005.utp_res, saved 14-Feb-2022 10:30 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5468, 9769 scc: 518-755
PKD: 14-Feb-2022 10:30 Printed: 14-Feb-2022 11:03 Page 4 of 12


SGS ID: B6290_18916_DF_005
Sample ID: 11215131-020522-S-SB-SW-S-53
Acq: 11-Feb-2022 22:19:58
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 68
User: DTF Datafile: 220211C10
Rel. Int.
Abs. Int.
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 2.64e3
1234679D
7.55e6
40.15
1234678D
4.00e6
40.83
2.48e6
1.24e6
0.00e0
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.86e3
1234679D
7.06e6
40.15
1234678D
3.92e6
40.83
2.42e6
1.21e6
0.00e0
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.77e3
ES 1234678D
9.69e6
40.82
2.88e6
1.44e6
0.00e0
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 2.42e3
ES 1234678D
9.27e6
40.82
2.76e6
1.38e6
0.00e0
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
7.03e6
3.51e6
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_005.utp_res, saved 14-Feb-2022 10:30 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9599, 7285 scc: 518-755
PKD: 14-Feb-2022 10:30 Printed: 14-Feb-2022 11:03 Page 5 of 12


Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 1.89e3
0%
OCDD
3.26e7
43.53
Abs. Int.
6.83e6
3.41e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 1.75e3
0%
OCDD
3.58e7
43.53
Abs. Int.
7.41e6
3.70e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 1.36e3
0%
ES OCDD
1.16e7
43.52
Abs. Int.
2.37e6
1.18e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 1.32e3
0%
ES OCDD
1.34e7
43.52
Abs. Int.
2.74e6
1.37e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.88e6
2.94e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

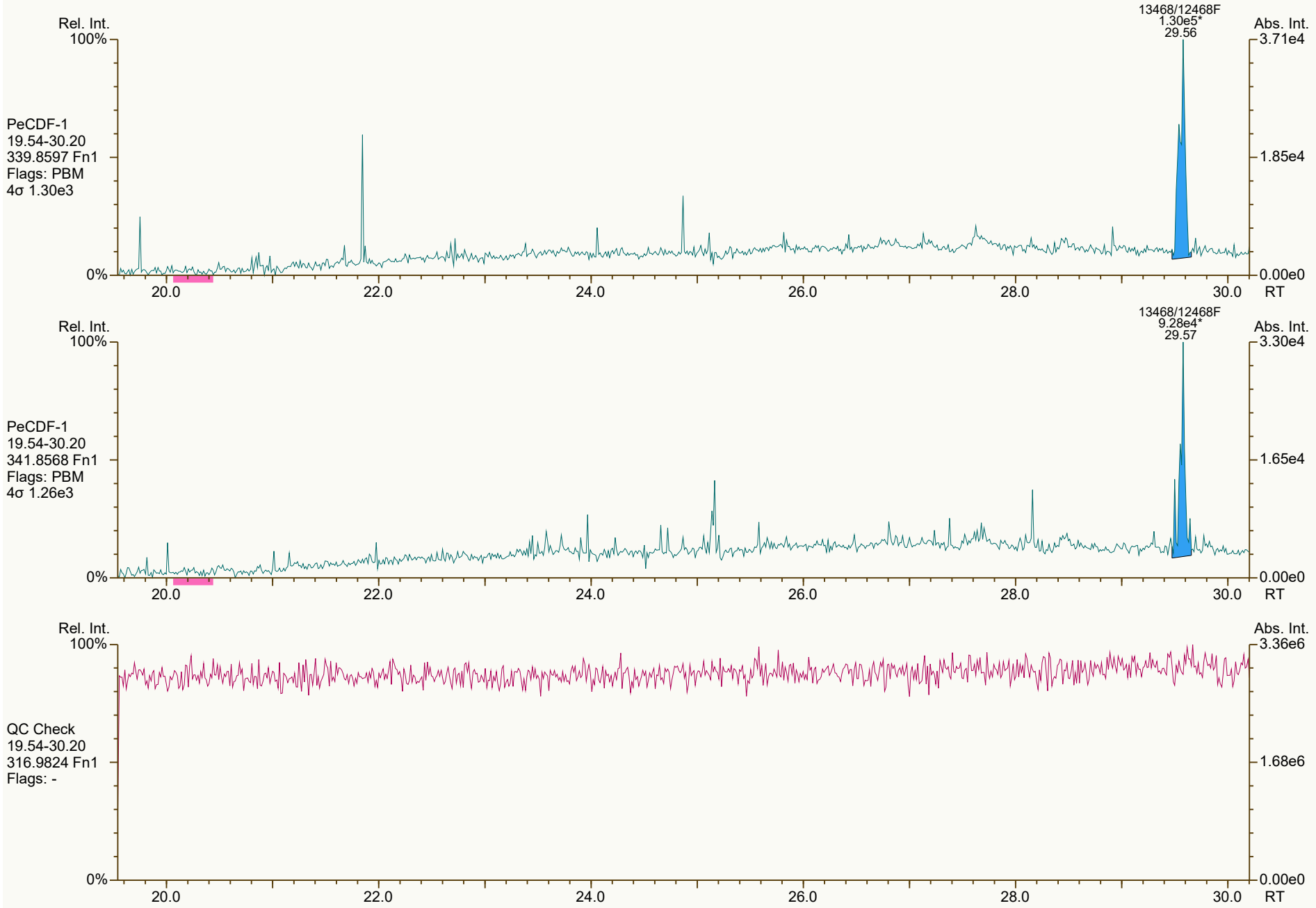
SGS ID: B6290_18916_DF_005 | Sample ID: 11215131-020522-S-SB-SW-S-53 | Acq: 11-Feb-2022 22:19:58
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 68 | User: DTF Datafile: 220211C10



Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_005.utp_res, saved 14-Feb-2022 10:30 (PSW) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2214, 8512, 1421 scc: 518-755 | PKD: 14-Feb-2022 10:30 Printed: 14-Feb-2022 11:03 Page 7 of 12

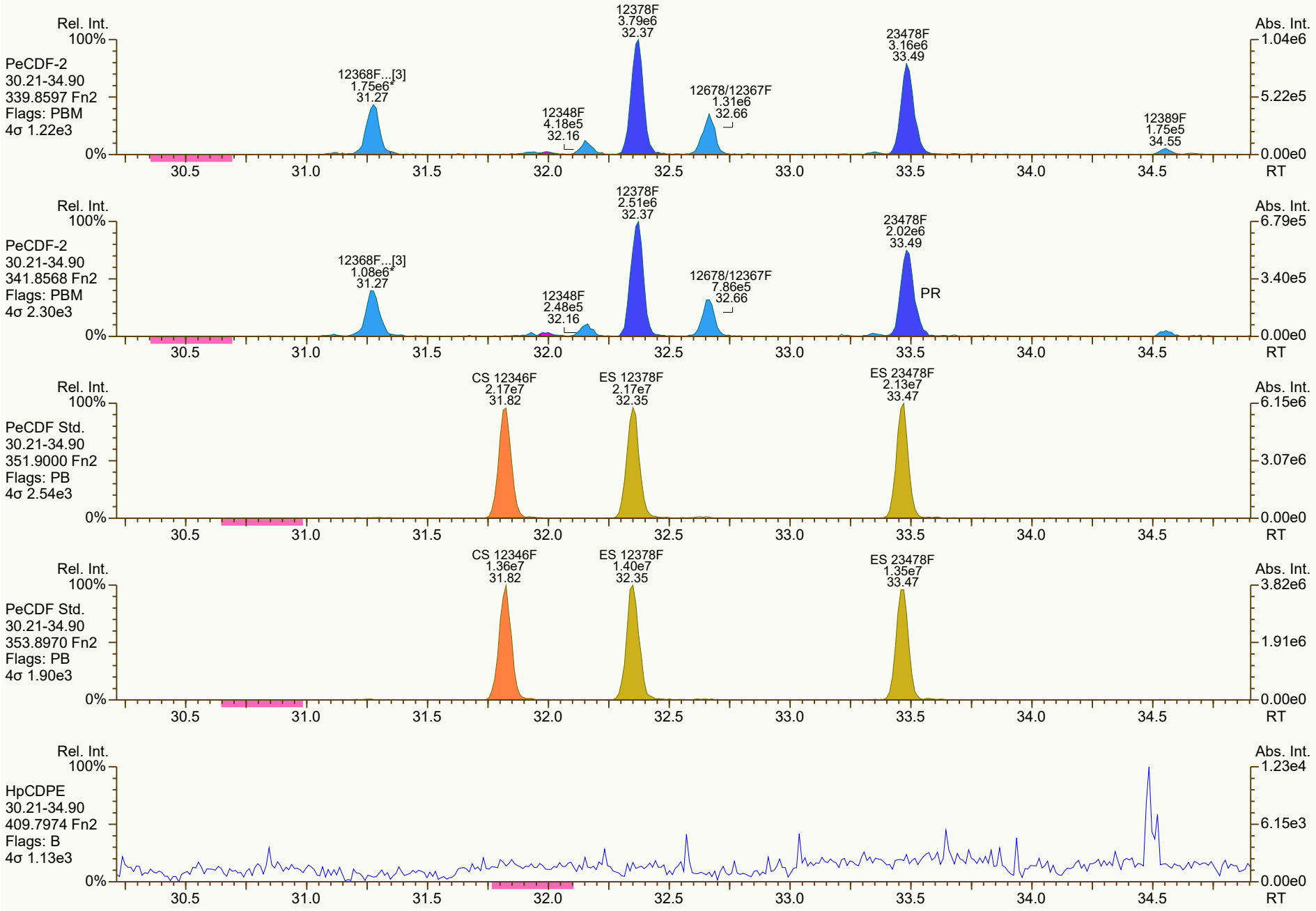
SGS ID: B6290_18916_DF_005 | Sample ID: 11215131-020522-S-SB-SW-S-53 | Acq: 11-Feb-2022 22:19:58

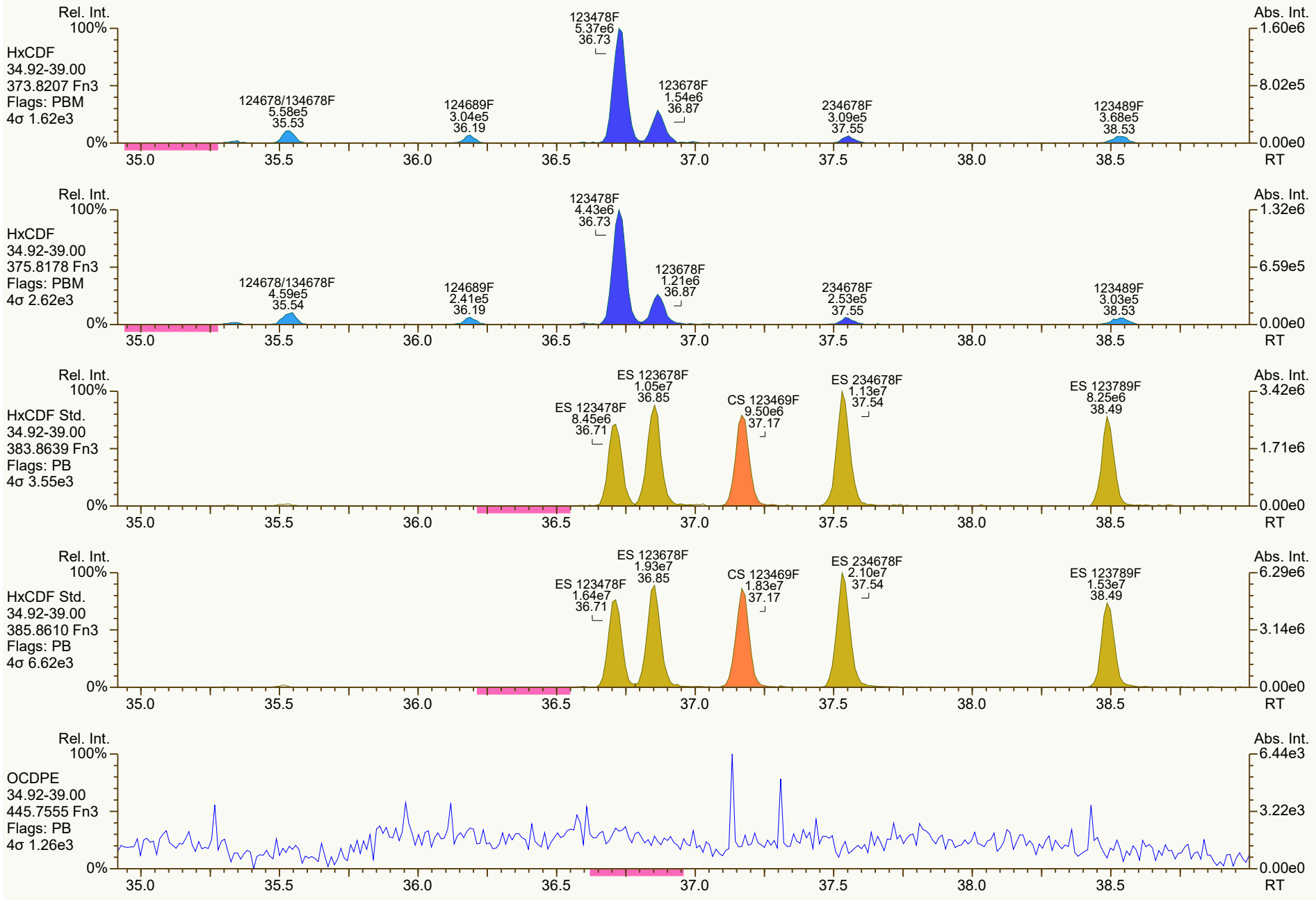
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 68 | User: DTF Datafile: 220211C10

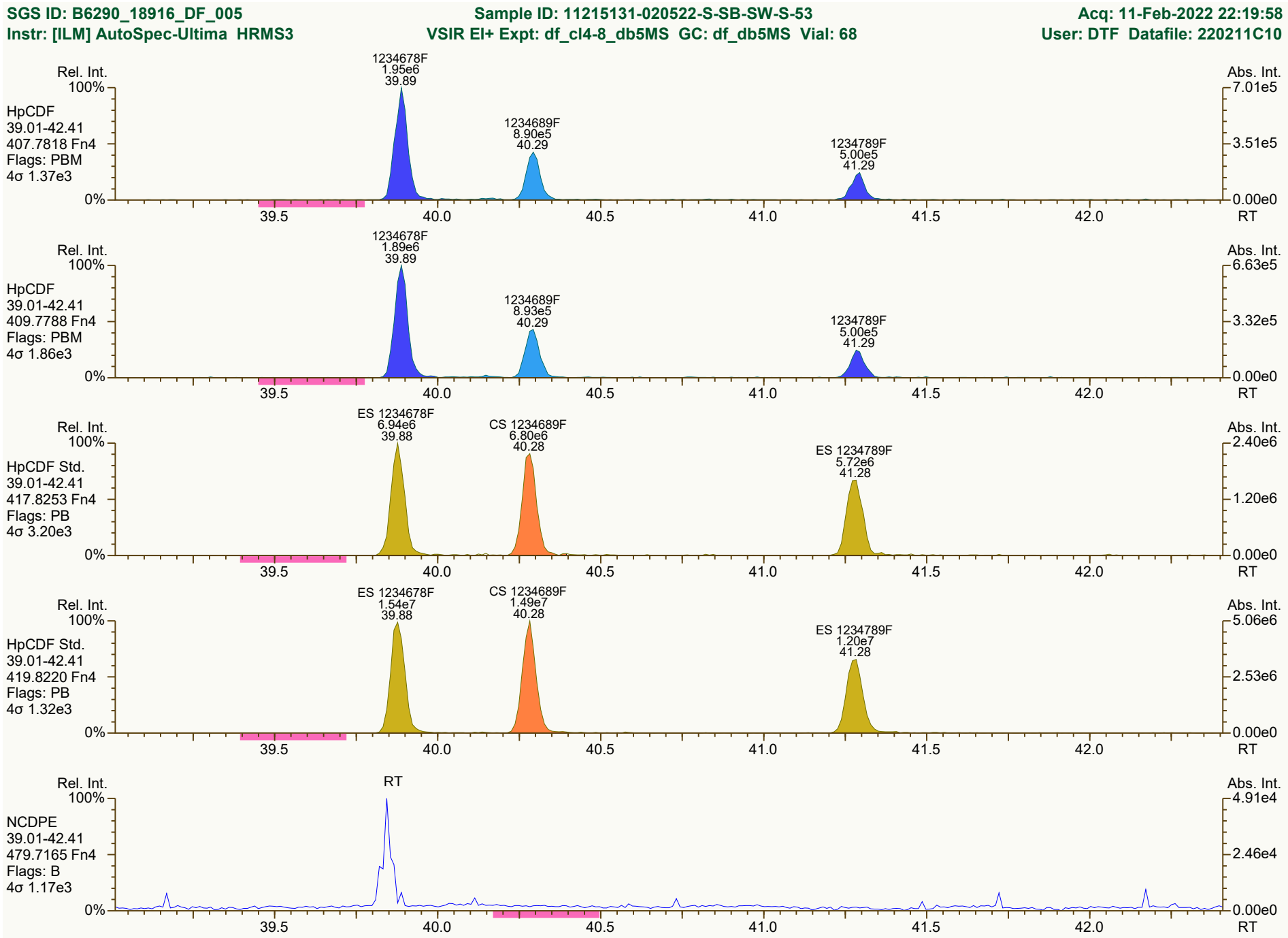


Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_005.utp_res, saved 14-Feb-2022 10:30 (PSW) | *Peak annotation: Areas, Centroids*

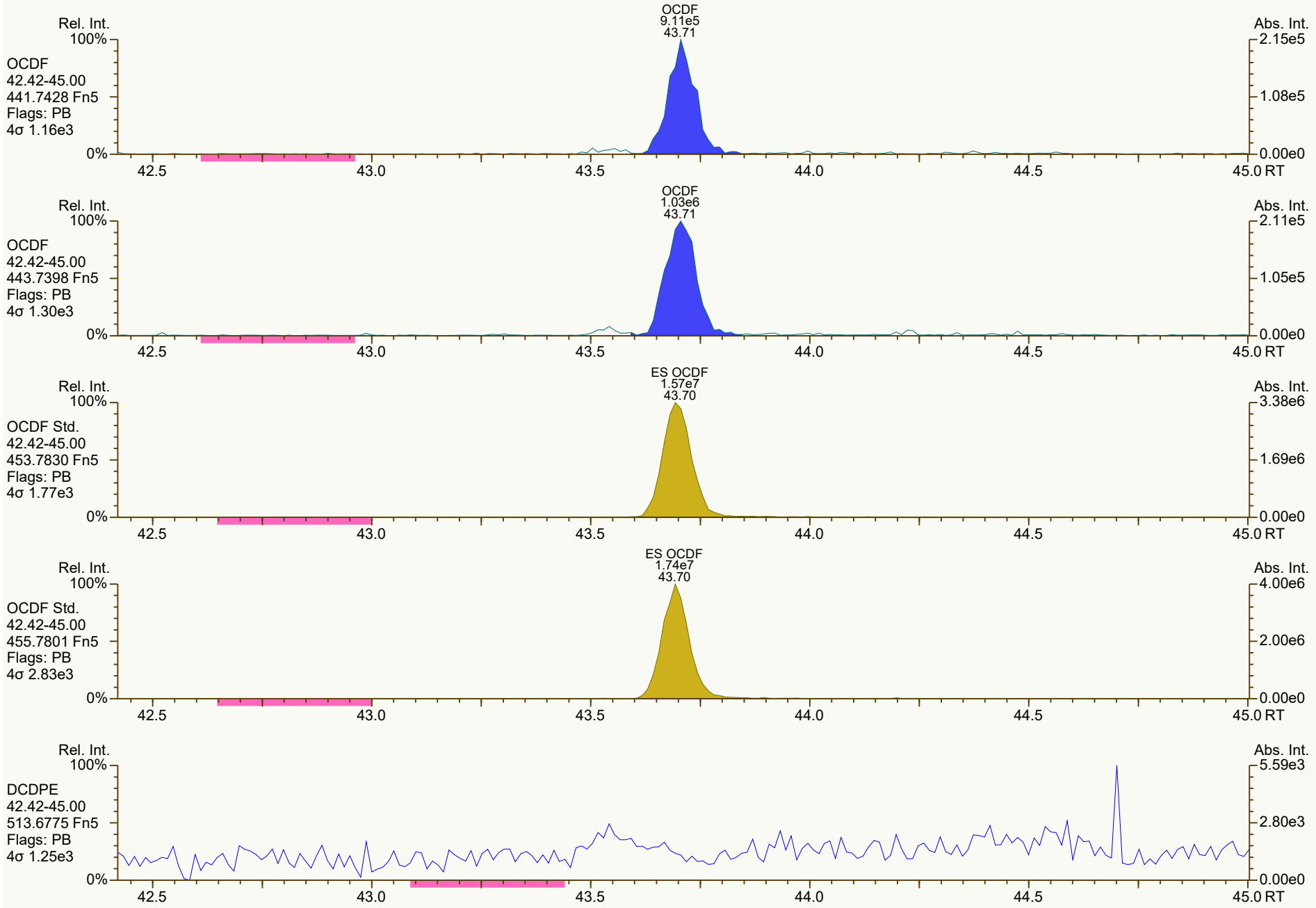
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7706 scc: 518-755 | *PKD: 14-Feb-2022 10:30 Printed: 14-Feb-2022 11:03 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 1.22e3
12368F...[3]
1.75e6*
31.27
12348F
4.18e5
32.16
12378F
3.79e6
32.37
12678/12367F
1.31e6
32.66
23478F
3.16e6
33.49
12389F
1.75e5
34.55
Abs. Int.
1.04e6
5.22e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 2.30e3
12368F...[3]
1.08e6*
31.27
12348F
2.48e5
32.16
12378F
2.51e6
32.37
12678/12367F
7.86e5
32.66
23478F
2.02e6
33.49
PR
Abs. Int.
6.79e5
3.40e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 2.54e3
CS 12346F
2.17e7
31.82
ES 12378F
2.17e7
32.35
ES 23478F
2.13e7
33.47
Abs. Int.
6.15e6
3.07e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 1.90e3
CS 12346F
1.36e7
31.82
ES 12378F
1.40e7
32.35
ES 23478F
1.35e7
33.47
Abs. Int.
3.82e6
1.91e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.13e3
Abs. Int.
1.23e4
6.15e3
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 1.62e3
0%
123478F
5.37e6
36.73
124678/134678F
5.58e5
35.53
124689F
3.04e5
36.19
123678F
1.54e6
36.87
234678F
3.09e5
37.55
123489F
3.68e5
38.53
Abs. Int.
1.60e6
8.02e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 2.62e3
123478F
4.43e6
36.73
124678/134678F
4.59e5
35.54
124689F
2.41e5
36.19
123678F
1.21e6
36.87
234678F
2.53e5
37.55
123489F
3.03e5
38.53
1.32e6
6.59e5
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 3.55e3
ES 123678F
1.05e7
36.85
ES 123478F
8.45e6
36.71
CS 123469F
9.50e6
37.17
ES 234678F
1.13e7
37.54
ES 123789F
8.25e6
38.49
3.42e6
1.71e6
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 6.62e3
ES 123678F
1.93e7
36.85
ES 123478F
1.64e7
36.71
CS 123469F
1.83e7
37.17
ES 234678F
2.10e7
37.54
ES 123789F
1.53e7
38.49
6.29e6
3.14e6
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.26e3
6.44e3
3.22e3



Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_005.utp_res, saved 14-Feb-2022 10:30 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7025, 4814, 6845 scc: 518-755
PKD: 14-Feb-2022 10:30 Printed: 14-Feb-2022 11:03 Page 11 of 12


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.16e3
0%
OCDF
9.11e5
43.71
Abs. Int.
2.15e5
1.08e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.30e3
0%
OCDF
1.03e6
43.71
Abs. Int.
2.11e5
1.05e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.77e3
0%
ES OCDF
1.57e7
43.70
Abs. Int.
3.38e6
1.69e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 2.83e3
0%
ES OCDF
1.74e7
43.70
Abs. Int.
4.00e6
2.00e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.25e3
0%
Abs. Int.
5.59e3
2.80e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6290_18916_DF_006 **Acq'd:** 11 Feb 2022 23:06 DTF **Wt/Vol:** 10.01 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-S-32 **UTP:** 14-Feb-2022 10:34:07 PSW **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 781-199-ZQW

Datafile: 220211C11 **Report:** 14 Feb 2022 10:42 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.50	E	1.0008	1.0008	0	4.29E+08	0.80	Y	1.18	2,710	4655.145	0.294
12378-PeCDD	33.84		1.0005	1.0005	0	4.79E+06	1.56	Y	1.04	39.1	4696.338	0.342
123478-HxCDD	37.74		1.0004	1.0002	-0.5	1.82E+06	1.22	Y	1.09	15.9	7764.526	0.609
123678-HxCDD	37.87		1.0035	1.0035	0	1.49E+07	1.28	Y	1.15	120	7764.526	0.533
123789-HxCDD	38.17		1.0113	1.0114	+0.2	1.01E+07	1.25	Y	1.05	82.1	7764.526	0.564
1234678-HpCDD	40.84	E	1.0003	1.0003	0	6.21E+08	1.04	Y	1.06	5,760	7088.555	0.521
OCDD	43.58	E	1.0002	1.0004	+0.5	5.69E+09	0.91	Y	1.13	63,300	3909.121	0.632
2378-TCDF	27.64	E	1.0008	1.0008	0	1.62E+09	0.79	Y	1.08	7,180	3746.347	0.19
12378-PeCDF	32.39		1.0005	1.0005	0	8.28E+07	1.53	Y	1.02	425	8881.339	0.405
23478-PeCDF	33.51		1.0005	1.0007	+0.4	5.59E+07	1.55	Y	1.02	292	8881.339	0.422
123478-HxCDF	36.74		1.0005	1.0004	-0.2	1.73E+08	1.23	Y	1.27	1,010	12931.012	0.582
123678-HxCDF	36.88		1.0005	1.0004	-0.2	4.54E+07	1.23	Y	1.15	247	12931.012	0.613
234678-HxCDF	37.57		1.0005	1.0004	-0.2	1.53E+07	1.22	Y	1.19	88.1	12931.012	0.617
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	12931.012	0.68
1234678-HpCDF	39.90		1.0003	1.0003	0	8.31E+07	1.03	Y	1.37	563	12023.005	0.681
1234789-HpCDF	41.30		1.0003	1.0003	0	2.11E+07	1.03	Y	1.31	174	12023.005	0.818
OCDF	43.73		1.0003	1.0002	-0.3	1.81E+08	0.89	Y	1.07	1,780	4244.102	0.507

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.47	1.0238	1.0236	-0.3	2.67E+07	0.78	Y	1.05	70.8
ES 12378-PeCDD	33.82	1.2160	1.2157	-0.6	2.36E+07	1.54	Y	0.88	74.4
ES 123478-HxCDD	37.74	0.9919	0.9919	0	2.10E+07	1.28	Y	0.97	71.9
ES 123678-HxCDD	37.85	0.9950	0.9949	-0.2	2.16E+07	1.30	Y	0.94	76.2
ES 123789-HxCDD	38.15	1.0027	1.0027	0	2.34E+07	1.26	Y	1.09	71.3
ES 1234678-HpCDD	40.83	1.0730	1.0731	+0.2	2.03E+07	1.06	Y	0.91	74.2
ES OCDD	43.56	1.1437	1.1450	+3.4	3.19E+07	0.90	Y	0.62	85.2
ES 2378-TCDF	27.62	1.0520	1.0520	0	4.17E+07	0.83	Y	1.06	71.3
ES 12378-PeCDF	32.38	1.2330	1.2331	+0.2	3.80E+07	1.60	Y	0.91	75.7
ES 23478-PeCDF	33.49	1.2754	1.2756	+0.4	3.75E+07	1.61	Y	0.88	76.9
ES 123478-HxCDF	36.73	0.9653	0.9653	0	2.70E+07	0.53	Y	1.20	74.9
ES 123678-HxCDF	36.87	0.9691	0.9690	-0.2	3.20E+07	0.56	Y	1.35	78.7
ES 234678-HxCDF	37.55	0.9870	0.9870	0	2.93E+07	0.53	Y	1.24	78.6
ES 123789-HxCDF	38.50	1.0121	1.0120	-0.2	2.53E+07	0.56	Y	1.16	73
ES 1234678-HpCDF	39.89	1.0484	1.0485	+0.2	2.15E+07	0.45	Y	0.97	74.1
ES 1234789-HpCDF	41.29	1.0851	1.0852	+0.2	1.86E+07	0.45	Y	0.85	72.7
ES OCDF	43.72	1.1483	1.1490	+1.8	3.80E+07	0.92	Y	0.81	78.4

Lab ID: B6290_18916_DF_006 **Acq'd:** 11 Feb 2022 23:06 DTF **Wt/Vol:** 10.01 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-S-32 **UTP:** 14-Feb-2022 10:34:07 PSW **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 781-199-ZQW

Datafile: 220211C11 **Report:** 14 Feb 2022 10:42 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.82		-	-	-	3.61E+07	0.81	Y	-	-
JS 1234-TCDF	26.25		-	-	-	5.52E+07	0.80	Y	-	-
JS 123467-HxCDD	38.05		-	-	-	1.50E+07	1.31	Y	-	-
CS 37Cl-2378-TCDD	28.50		1.0245	1.0243	-0.3	1.26E+07	n/a	-	1.20	72.4
CS 12347-PeCDD	33.32		1.1979	1.1978	-0.2	2.20E+07	1.56	Y	0.75	81.1
CS 12346-PeCDF	31.85		1.2128	1.2130	+0.4	3.87E+07	1.54	Y	0.85	82.5
CS 123469-HxCDF	37.19		0.9774	0.9774	0	2.79E+07	0.53	Y	1.12	83.1
CS 1234689-HpCDF	40.30		1.0589	1.0591	+0.5	2.17E+07	0.46	Y	0.89	81.5
~~SS 37Cl-2378-TCDD~~	~~28.50~~		~~1.0245~~	~~1.0243~~	~~-0.3~~	~~1.26E+07~~	~~n/a~~		~~1.15~~	~~103~~
~~SS 12347-PeCDD~~	~~33.32~~		~~1.1979~~	~~1.1978~~	~~-0.2~~	~~2.20E+07~~	~~1.56~~	~~Y~~	~~0.86~~	~~109~~
~~SS 12346-PeCDF~~	~~31.85~~		~~1.2128~~	~~1.2130~~	~~+0.4~~	~~3.87E+07~~	~~1.54~~	~~Y~~	~~0.94~~	~~109~~
~~SS 123469-HxCDF~~	~~37.19~~		~~0.9774~~	~~0.9774~~	~~0~~	~~2.79E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~105~~
~~SS 1234689-HpCDF~~	~~40.30~~		~~1.0589~~	~~1.0591~~	~~+0.5~~	~~2.17E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~110~~

Totals	Conc	EMPC
Total TCDD	3030	3040
Total PeCDD	151	163
Total HxCDD	1260	1260
Total HpCDD	10900	10900
Total Tetra-Octa Dioxins	78600	78600
Total TCDF	14,400	14400
Total PeCDF	1,330	1330
Total HxCDF	1,970	1970
Total HpCDF	1,440	1440
Total Tetra-Octa Furans	20,900	20900
Total Tetra-Octa Dioxins & Furans	99500	99500

Lab ID: B6290_18916_DF_006 **Acq'd: 11 Feb 2022 23:06 DTF** **Wt/Vol: 10.01 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-S-32 **UTP: 14-Feb-2022 10:34:07 PSW** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 781-199-ZQW**

Datafile: 220211C11 **Report: 14 Feb 2022 10:42 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.86		0.8737	0.8729	-1.2	2.55E+06	0.78	Y	1.18	16.1	4655.145	0.294
1379-TCDD	25.21		0.8860	0.8854	-0.9	1.38E+06	0.77	Y	1.18	8.7	4655.145	0.294
1369-TCDD	25.64		0.9009	0.9004	-0.8	4.15E+05	0.81	Y	1.18	2.62	4655.145	0.294
1469-TCDD	26.42		0.9281	0.9277	-0.6	5.18E+05	0.81	Y	1.18	3.27	4655.145	0.294
1247/1246/1248/1249-TCDD	26.65	EMPC	0.9362	0.9361	-0.2	1.43E+06	0.90	N	1.18	9.02	4655.145	0.294
1378-TCDD	26.84		0.9432	0.9427	-0.8	2.00E+06	0.82	Y	1.18	12.6	4655.145	0.294
1268-TCDD	27.04	EMPC	0.9500	0.9498	-0.3	3.37E+05	0.92	N	1.18	2.13	4655.145	0.294
1478-TCDD	27.29		0.9586	0.9585	-0.2	1.29E+06	0.77	Y	1.18	8.12	4655.145	0.294
1279-TCDD	27.46		0.9645	0.9644	-0.2	3.56E+05	0.84	Y	1.18	2.25	4655.145	0.294
1234/1269-TCDD	27.83		0.9770	0.9772	+0.3	8.01E+05	0.81	Y	1.18	5.06	4655.145	0.294
1236-TCDD	27.96	EMPC	0.9817	0.9818	+0.2	1.98E+05	1.06	N	1.18	1.25	4655.145	0.294
1237/1238-TCDD	28.21		0.9905	0.9907	+0.3	7.27E+06	0.80	Y	1.18	45.9	4655.145	0.294
1239-TCDD	NotFnd		0.9952						1.18		4655.145	0.294
2378-TCDD	**28.50**	E	**1.0008**	1.0008	**0**	4.29E+08	0.80	Y	**1.18**	**2,710**	**4655.145**	**0.294**
1278-TCDD	28.82		1.0121	1.0121	0	3.18E+07	0.76	Y	1.18	201	4655.145	0.294
1267-TCDD	28.98		1.0167	1.0178	+1.9	1.12E+06	0.87	Y	1.18	7.07	4655.145	0.294
1289-TCDD	29.47		1.0345	1.0348	+0.5	9.55E+05	0.87	Y	1.18	6.03	4655.145	0.294
12479/12468-PeCDD	31.34		0.9267	0.9265	-0.4	4.30E+06	1.49	Y	1.04	35.1	4696.338	0.342
12469-PeCDD	31.87	EMPC	0.9425	0.9424	-0.2	1.40E+06	1.26	N	1.04	11.4	4696.338	0.342
12368-PeCDD	32.42		0.9588	0.9587	-0.2	1.86E+06	1.53	Y	1.04	15.2	4696.338	0.342
12478-PeCDD	32.61		0.9643	0.9644	+0.2	2.02E+06	1.41	Y	1.04	16.5	4696.338	0.342
12379-PeCDD	32.72		0.9673	0.9674	+0.2	1.31E+06	1.55	Y	1.04	10.7	4696.338	0.342
12369/12467/12489-PeCDD	32.98		0.9750	0.9751	+0.2	1.73E+06	1.48	Y	1.04	14.1	4696.338	0.342
12346/12347-PeCDD	33.35		0.9858	0.9860	+0.4	1.18E+06	1.56	Y	1.04	9.63	4696.338	0.342
12378-PeCDD	33.84		**1.0005**	**1.0005**	**0**	**4.79E+06**	**1.56**	**Y**	**1.04**	**39.1**	**4696.338**	**0.342**
12367-PeCDD	33.93		1.0033	1.0033	0	4.80E+05	1.36	Y	1.04	3.92	4696.338	0.342
12389-PeCDD	34.28		1.0134	1.0135	+0.2	8.45E+05	1.51	Y	1.04	6.9	4696.338	0.342
124679/124689-HxCDD	36.01		0.9542	0.9542	0	5.22E+07	1.26	Y	1.10	433	7764.526	0.567
123468-HxCDD	36.66		0.9715	0.9714	-0.2	4.55E+06	1.23	Y	1.10	37.8	7764.526	0.567
123679/123689-HxCDD	36.96		0.9793	0.9793	0	6.50E+07	1.26	Y	1.10	540	7764.526	0.567
123469-HxCDD	37.11		0.9828	0.9833	+1.1	2.07E+06	1.32	Y	1.10	17.2	7764.526	0.567
123478-HxCDD	37.74		**1.0004**	**1.0002**	**-0.5**	**1.82E+06**	**1.22**	**Y**	1.09	**15.9**	**7764.526**	**0.609**
123678-HxCDD	37.87		**1.0035**	**1.0035**	**0**	**1.49E+07**	**1.28**	**Y**	1.15	**120**	**7764.526**	**0.533**
123467-HxCDD	38.05		1.0085	1.0084	-0.2	1.84E+06	1.22	Y	1.10	15.3	7764.526	0.567
123789-HxCDD	38.17		**1.0113**	**1.0114**	**+0.2**	**1.01E+07**	**1.25**	**Y**	1.05	**82.1**	**7764.526**	**0.564**

Lab ID: B6290_18916_DF_006 **Acq'd:** 11 Feb 2022 23:06 DTF **Wt/Vol:** 10.01 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-S-32 **UTP:** 14-Feb-2022 10:34:07 PSW **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 781-199-ZQW

Datafile: 220211C11 **Report:** 14 Feb 2022 10:42 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

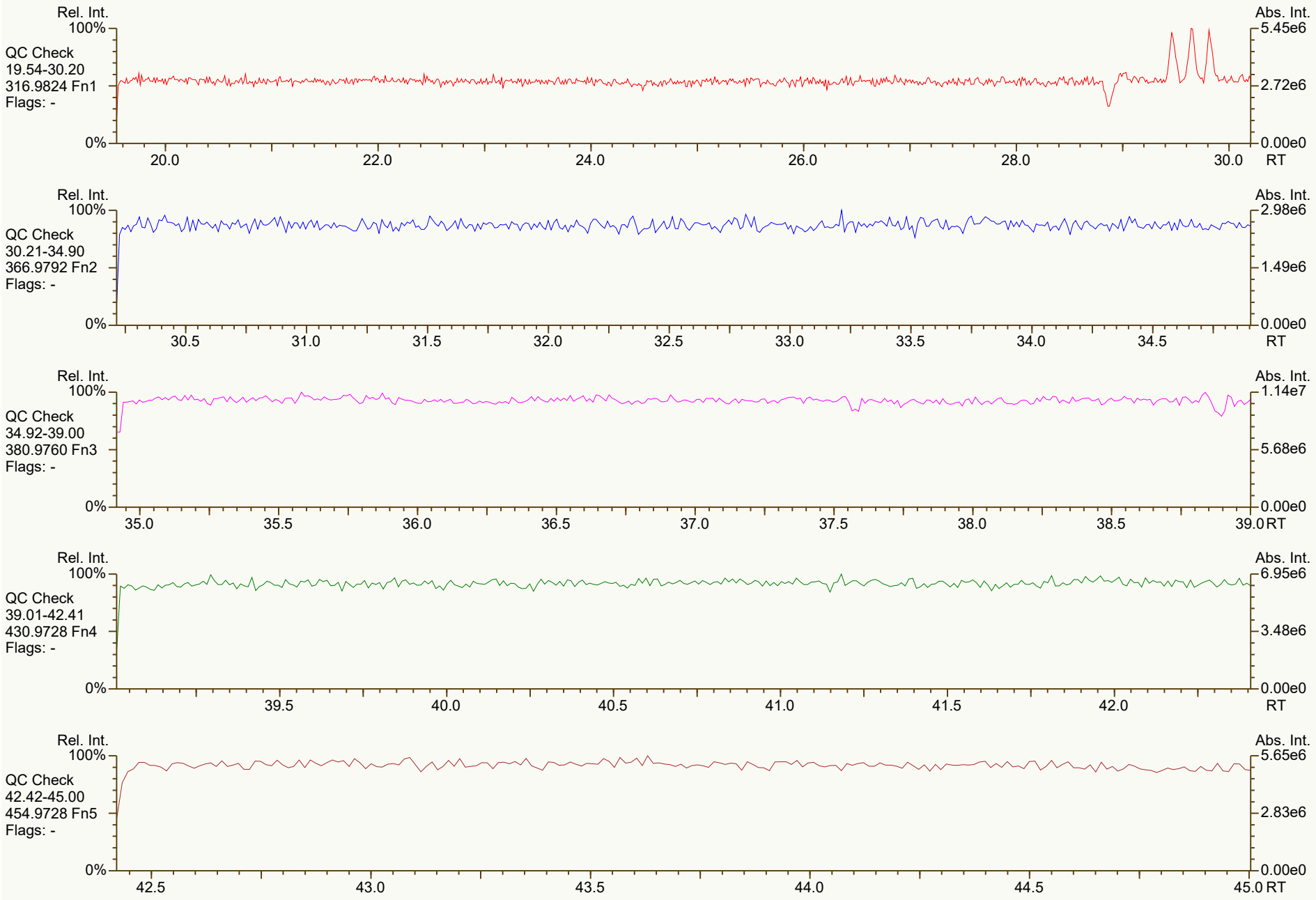
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16	E	0.9837	0.9837	0	5.49E+08	1.04	Y	1.06	5,090	7088.555	0.521
1234678-HpCDD	**40.84**	E	**1.0003**	**1.0003**	**0**	**6.21E+08**	**1.04**	**Y**	**1.06**	**5,760**	**7088.555**	**0.521**
OCDD	**43.58**	**E**	**1.0002**	**1.0004**	**+0.5**	**5.69E+09**	**0.91**	**Y**	**1.13**	**63,300**	**3909.121**	**0.632**
OCDD-a	43.58	**E**	1.0001	1.0003	+0.5	3.43E+08	2.50	Y	0.07	59,600	6030.699	15.3
1368-TCDF	22.75		0.8251	0.8236	-2.0	1.46E+06	0.74	Y	1.08	6.47	3746.347	0.19
1468-TCDF	23.33		0.8458	0.8448	-1.4	3.94E+06	0.78	Y	1.08	17.5	3746.347	0.19
2468-TCDF	23.97		0.8686	0.8677	-1.3	4.06E+06	0.79	Y	1.08	18	3746.347	0.19
1346/1246-TCDF	24.38		0.8814	0.8826	+1.8	3.71E+06	0.75	Y	1.08	16.5	3746.347	0.19
1347/1378/1247-TCDF	24.51		0.8867	0.8874	+1.0	2.35E+07	0.79	Y	1.08	104	3746.347	0.19
1348-TCDF	24.75		0.8962	0.8960	-0.3	9.12E+06	0.79	Y	1.08	40.5	3746.347	0.19
1248/1367/1379-TCDF	24.84		0.9009	0.8993	-2.4	7.93E+07	0.78	Y	1.08	352	3746.347	0.19
1268-TCDF	25.24		0.9145	0.9140	-0.8	2.88E+07	0.78	Y	1.08	128	3746.347	0.19
1467-TCDF	25.38		0.9193	0.9189	-0.6	5.18E+06	0.79	Y	1.08	23	3746.347	0.19
1478-TCDF	25.55		0.9254	0.9249	-0.8	7.19E+07	0.79	Y	1.08	320	3746.347	0.19
1369/1237-TCDF	25.93		0.9387	0.9387	0	1.92E+07	0.78	Y	1.08	85.3	3746.347	0.19
2467-TCDF	26.04		0.9433	0.9430	-0.5	2.85E+06	0.71	Y	1.08	12.6	3746.347	0.19
2368-TCDF	26.20		0.9489	0.9485	-0.6	5.17E+07	0.78	Y	1.08	230	3746.347	0.19
1238/1234/1678/1469/1236-TCDF	26.28		0.9523	0.9513	-1.6	7.99E+07	0.80	Y	1.08	355	3746.347	0.19
1278-TCDF	26.74	E	0.9683	0.9681	-0.3	7.74E+08	0.79	Y	1.08	3,440	3746.347	0.19
1349-TCDF	NotFnd		0.9722						1.08		3746.347	0.19
1267-TCDF	27.01		0.9783	0.9780	-0.5	4.38E+07	0.79	Y	1.08	195	3746.347	0.19
2346/1249-TCDF	27.21		0.9850	0.9852	+0.3	5.69E+06	0.79	Y	1.08	25.3	3746.347	0.19
2347/1279-TCDF	27.42		0.9926	0.9926	0	2.20E+07	0.77	Y	1.08	97.7	3746.347	0.19
2348-TCDF	27.52		0.9967	0.9965	-0.3	1.14E+08	0.78	Y	1.08	507	3746.347	0.19
2378-TCDF	**27.64**	E	**1.0008**	**1.0008**	**0**	**1.62E+09**	**0.79**	**Y**	**1.08**	**7,180**	**3746.347**	**0.19**
2367/3467-TCDF	27.99		1.0137	1.0135	-0.3	1.35E+08	0.79	Y	1.08	600	3746.347	0.19
1269-TCDF	28.25		1.0223	1.0227	+0.7	2.65E+07	0.78	Y	1.08	118	3746.347	0.19
1239-TCDF	28.50		1.0321	1.0318	-0.5	2.21E+06	0.75	Y	1.08	9.84	3746.347	0.19
1289-TCDF	29.65		1.0722	1.0735	+2.3	1.21E+08	0.78	Y	1.08	537	3746.347	0.19
13468/12468-PeCDF	29.59		0.9139	0.9140	+0.2	9.96E+06	1.57	Y	1.02	51.6	2765.982	0.129
13678/13467/12467-PeCDF	31.14		0.9613	0.9617	+0.7	5.26E+06	1.50	Y	1.02	27.3	8881.339	0.414
12368/13478/12478-PeCDF	31.30		0.9662	0.9667	+0.9	5.08E+07	1.52	Y	1.02	263	8881.339	0.414
14678-PeCDF	31.39		0.9692	0.9695	+0.6	1.82E+06	1.57	Y	1.02	9.44	8881.339	0.414
13479-PeCDF	31.47	J	0.9723	0.9721	-0.4	4.14E+05	1.43	Y	1.02	2.14	8881.339	0.414
13469/12479-PeCDF	31.69		0.9797	0.9789	-1.5	7.61E+05	1.62	Y	1.02	3.94	8881.339	0.414
12346-PeCDF	31.86		0.9840	0.9841	+0.2	9.06E+05	1.51	Y	1.02	4.69	8881.339	0.414

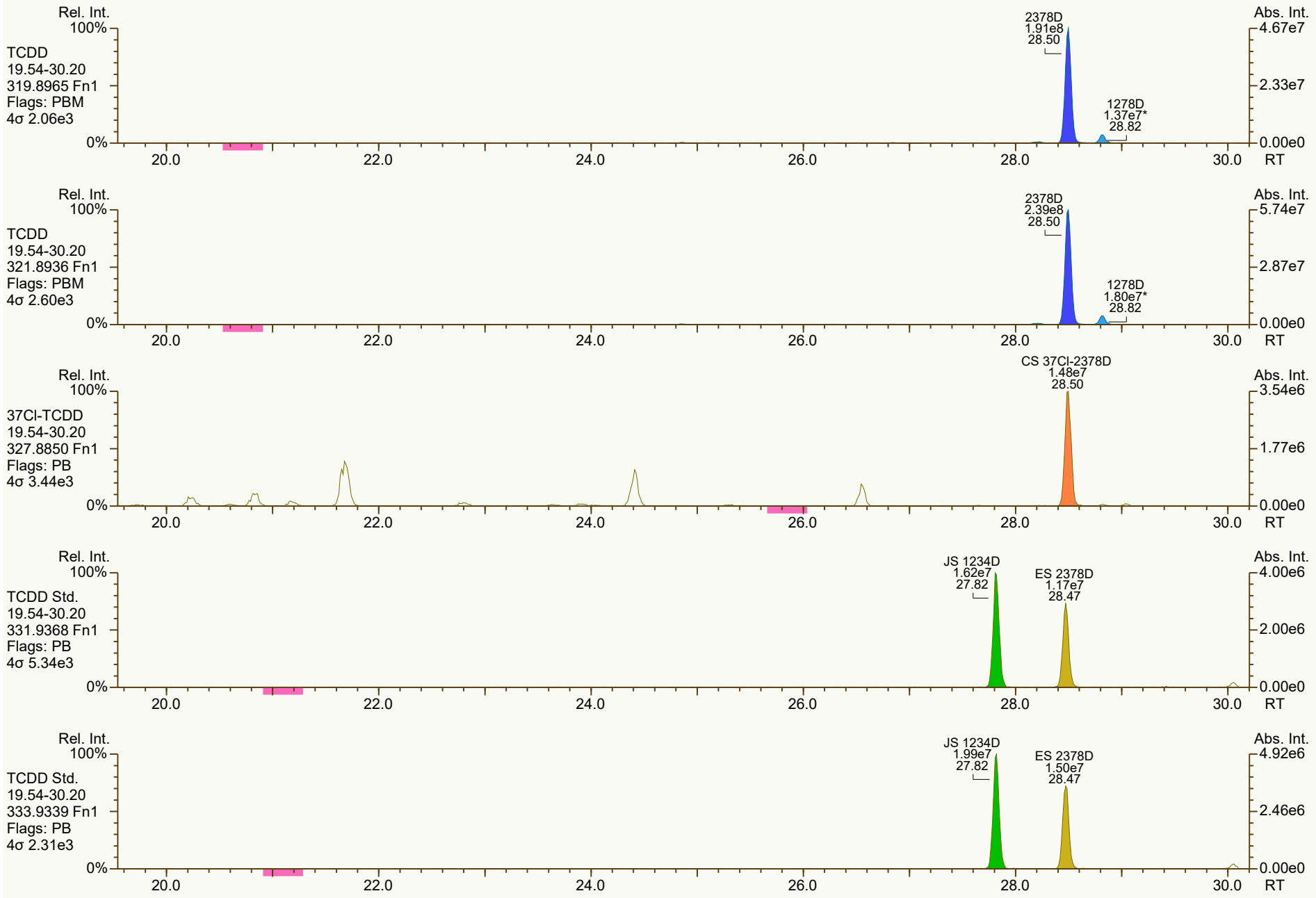
Lab ID: B6290_18916_DF_006 **Acq'd: 11 Feb 2022 23:06 DTF** **Wt/Vol: 10.01 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

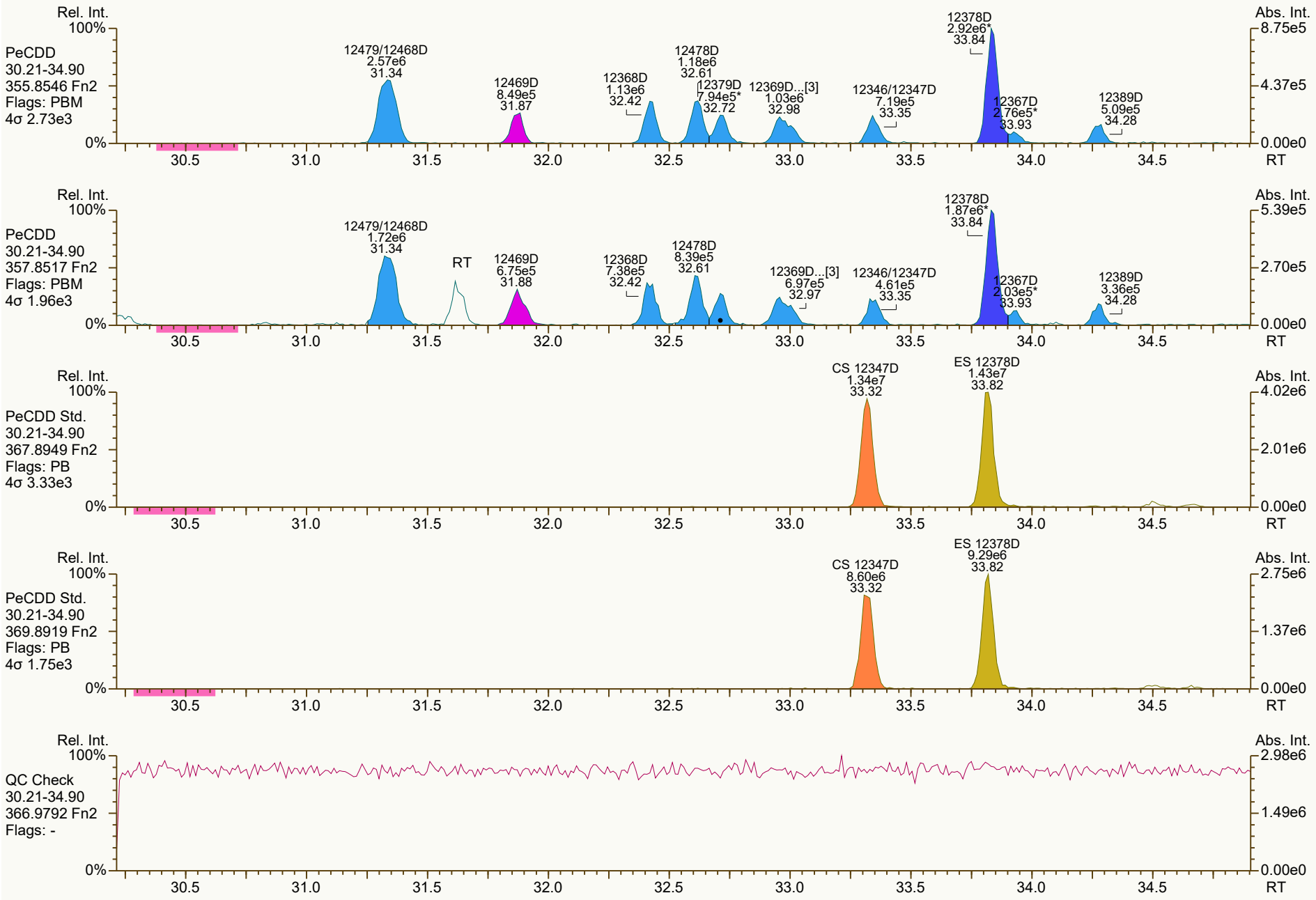
Client ID: 11215131-020622-S-SB-SC-S-32 **UTP: 14-Feb-2022 10:34:07 PSW** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 781-199-ZQW**

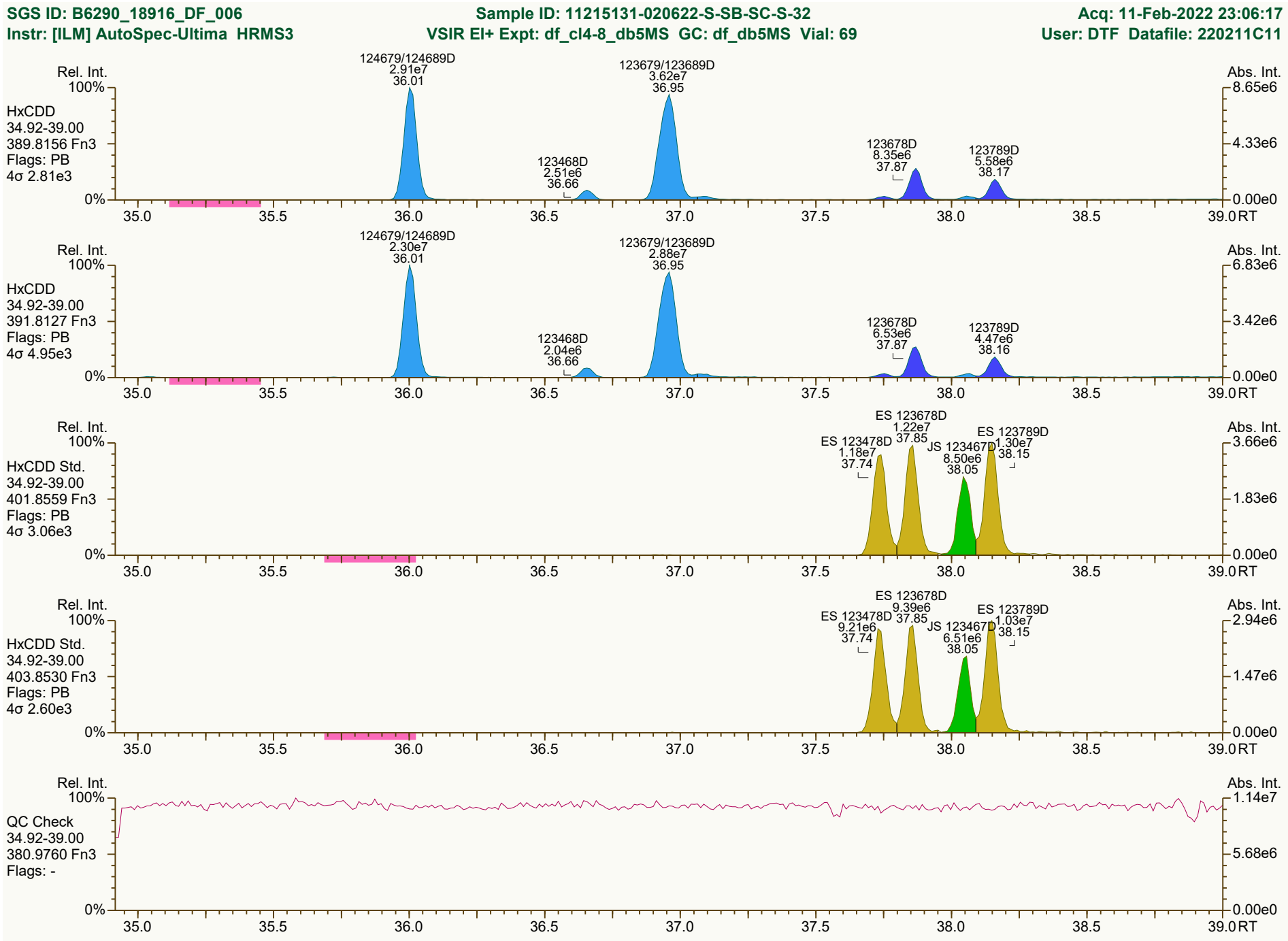
Datafile: 220211C11 **Report: 14 Feb 2022 10:42 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.95		0.9868	0.9868	0	3.49E+06	1.46	Y	1.02	18.1	8881.339	0.414
12347-PeCDF	32.03		0.9894	0.9892	-0.4	3.04E+06	1.60	Y	1.02	15.8	8881.339	0.414
12348-PeCDF	32.18		0.9940	0.9940	0	7.41E+06	1.52	Y	1.02	38.4	8881.339	0.414
12378-PeCDF	**32.39**		**1.0005**	**1.0005**	**0**	**8.28E+07**	**1.53**	**Y**	**1.02**	**425**	**8881.339**	**0.405**
12678/12367-PeCDF	32.69		1.0089	1.0096	+1.4	2.68E+07	1.56	Y	1.02	139	8881.339	0.414
12379-PeCDF	32.84	J	1.0142	1.0144	+0.4	4.04E+05	1.50	Y	1.02	2.1	8881.339	0.414
12679-PeCDF	33.25		0.9929	0.9928	-0.2	4.92E+05	1.63	Y	1.02	2.55	8881.339	0.414
23467/12369-PeCDF	33.37		0.9967	0.9964	-0.6	2.79E+06	1.64	Y	1.02	14.4	8881.339	0.414
23478-PeCDF	**33.51**		**1.0005**	**1.0007**	**+0.4**	**5.59E+07**	**1.55**	**Y**	**1.02**	**292**	**8881.339**	**0.422**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		8881.339	0.414
12349-PeCDF	33.82	J	1.0100	1.0099	-0.2	4.29E+05	1.53	Y	1.02	2.22	8881.339	0.414
12389-PeCDF	34.57		1.0324	1.0323	-0.2	2.69E+06	1.53	Y	1.02	13.9	8881.339	0.414
123468-HxCDF	35.36		0.9627	0.9627	0	6.75E+06	1.19	Y	1.19	39.8	12931.012	0.62
124678/134678-HxCDF	35.56		0.9682	0.9681	-0.2	3.88E+07	1.22	Y	1.19	229	12931.012	0.62
134679-HxCDF	35.78		0.9744	0.9743	-0.2	5.61E+05	1.13	Y	1.19	3.31	12931.012	0.62
124679-HxCDF	35.98		0.9798	0.9797	-0.2	2.13E+06	1.21	Y	1.19	12.5	12931.012	0.62
124689-HxCDF	36.21		0.9858	0.9858	0	3.77E+07	1.25	Y	1.19	222	12931.012	0.62
123467-HxCDF	36.62		0.9972	0.9971	-0.2	3.60E+06	1.24	Y	1.19	21.2	12931.012	0.62
123478-HxCDF	**36.74**		**1.0005**	**1.0004**	**-0.2**	**1.73E+08**	**1.23**	**Y**	**1.27**	**1,010**	**12931.012**	**0.582**
123678-HxCDF	**36.88**		**1.0005**	**1.0004**	**-0.2**	**4.54E+07**	**1.23**	**Y**	**1.15**	**247**	**12931.012**	**0.613**
123479-HxCDF	37.05		1.0049	1.0050	+0.2	1.19E+06	1.20	Y	1.19	6.99	12931.012	0.62
123469-HxCDF	37.20		1.0090	1.0089	-0.2	1.27E+06	1.36	Y	1.19	7.48	12931.012	0.62
123679-HxCDF	37.33		0.9942	0.9942	0	1.02E+06	1.16	Y	1.19	6.04	12931.012	0.62
234678-HxCDF	**37.57**		**1.0005**	**1.0004**	**-0.2**	**1.53E+07**	**1.22**	**Y**	**1.19**	**88.1**	**12931.012**	**0.617**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		12931.012	0.62
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**12931.012**	**0.68**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.55		1.0009	1.0011	+0.5	1.41E+07	1.24	Y	1.19	83.1	12931.012	0.62
1234678-HpCDF	**39.90**		**1.0003**	**1.0003**	**0**	**8.31E+07**	**1.03**	**Y**	**1.37**	**563**	**12023.005**	**0.681**
1234679-HpCDF	40.16		1.0068	1.0067	-0.2	4.43E+06	1.03	Y	1.34	33	12023.005	0.744
1234689-HpCDF	40.31		1.0103	1.0104	+0.2	8.95E+07	1.03	Y	1.34	666	12023.005	0.744
1234789-HpCDF	**41.30**		**1.0003**	**1.0003**	**0**	**2.11E+07**	**1.03**	**Y**	**1.31**	**174**	**12023.005**	**0.818**
OCDF	**43.73**		**1.0003**	**1.0002**	**-0.3**	**1.81E+08**	**0.89**	**Y**	**1.07**	**1,780**	**4244.102**	**0.507**
OCDF-a	43.72		1.0002	1.0001	-0.3	1.22E+07	2.25	Y	0.07	1,940	3466.679	6.68

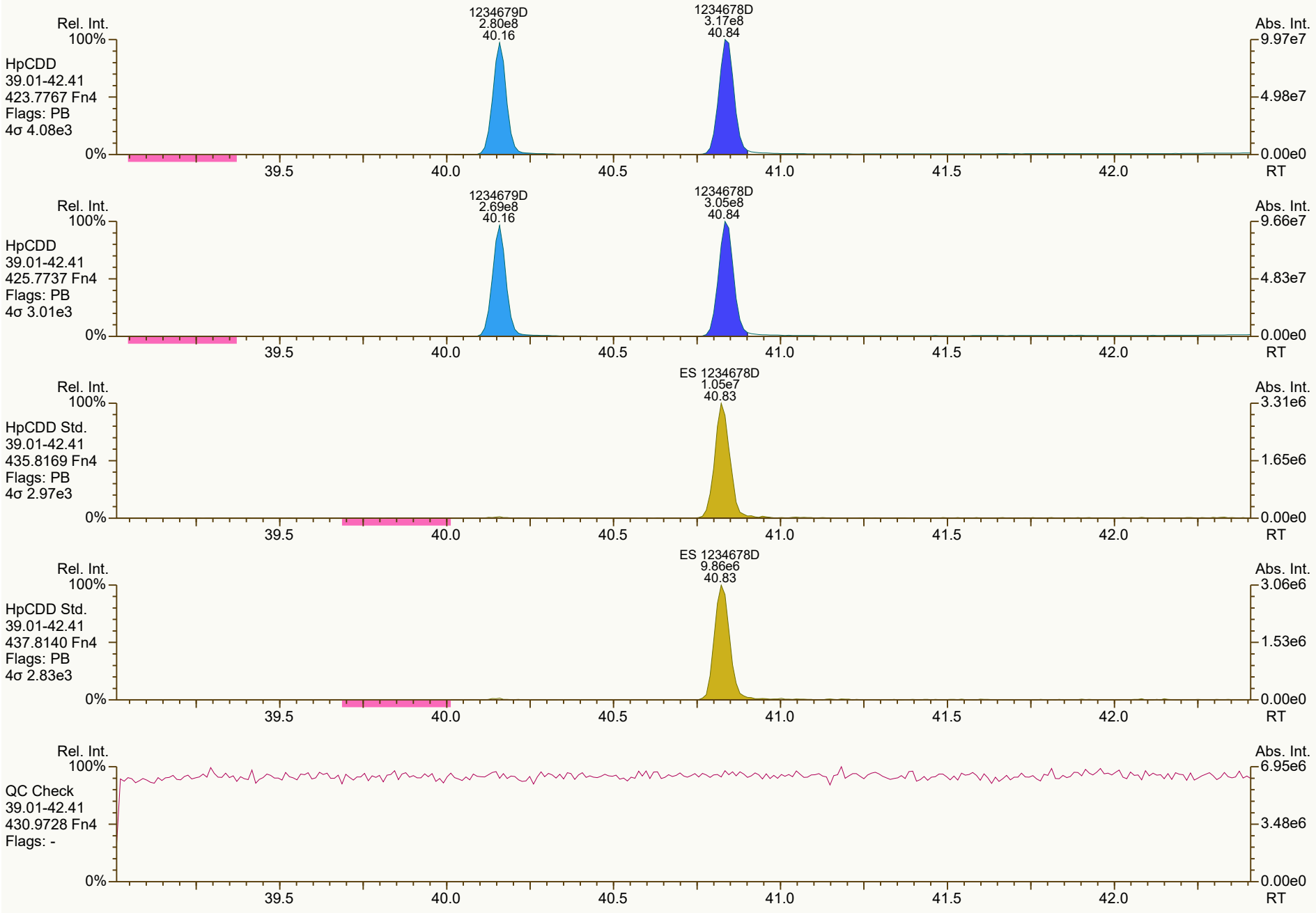

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
5.45e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.98e6
1.49e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.14e7
5.68e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
6.95e6
3.48e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.65e6
2.83e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT

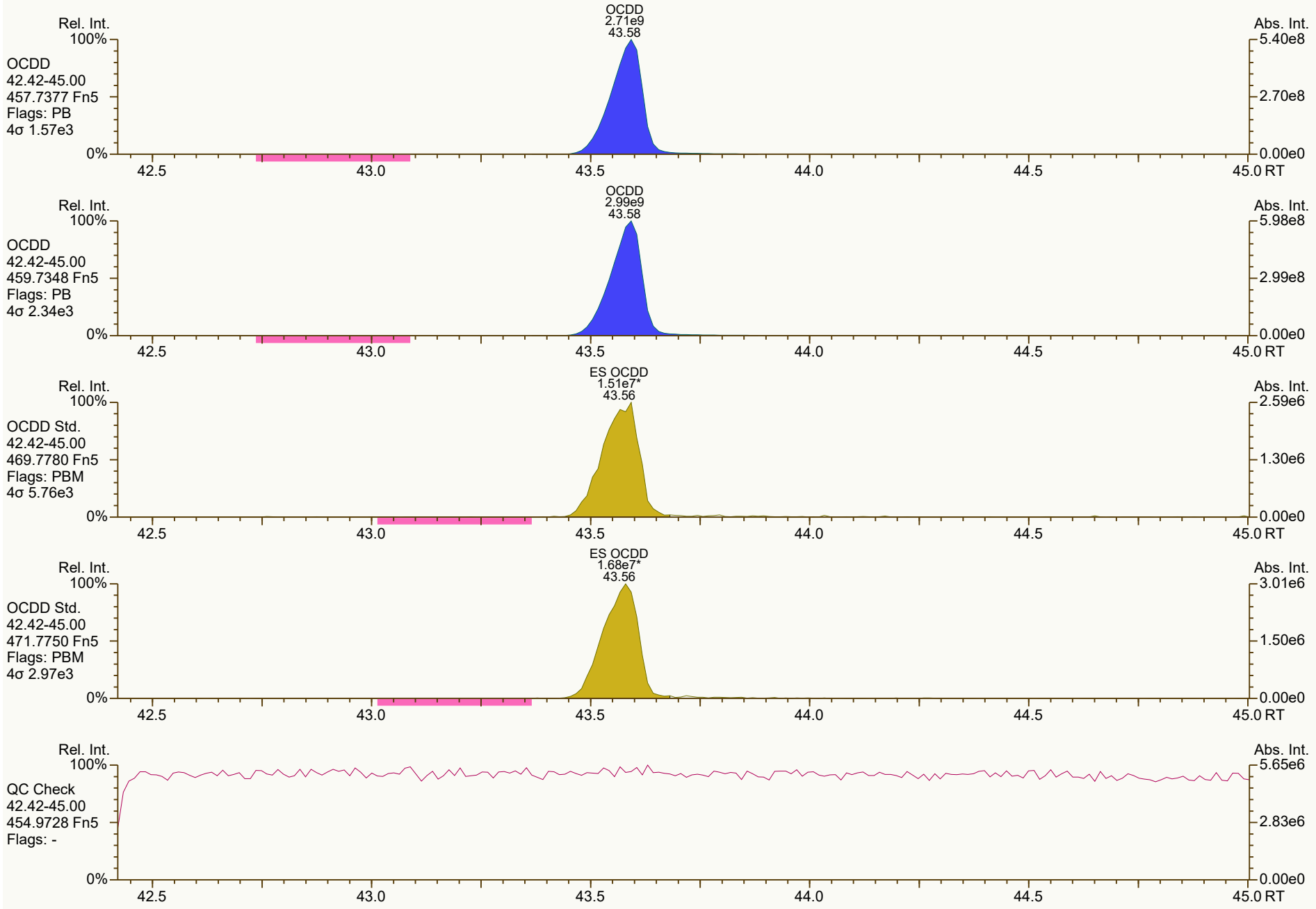

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.91e8
28.50
1278D
1.37e7*
28.82
Abs. Int.
4.67e7
2.33e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.60e3
0%
2378D
2.39e8
28.50
1278D
1.80e7*
28.82
Abs. Int.
5.74e7
2.87e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 3.44e3
0%
CS 37Cl-2378D
1.48e7
28.50
Abs. Int.
3.54e6
1.77e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.34e3
0%
JS 1234D
1.62e7
27.82
ES 2378D
1.17e7
28.47
Abs. Int.
4.00e6
2.00e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.31e3
0%
JS 1234D
1.99e7
27.82
ES 2378D
1.50e7
28.47
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

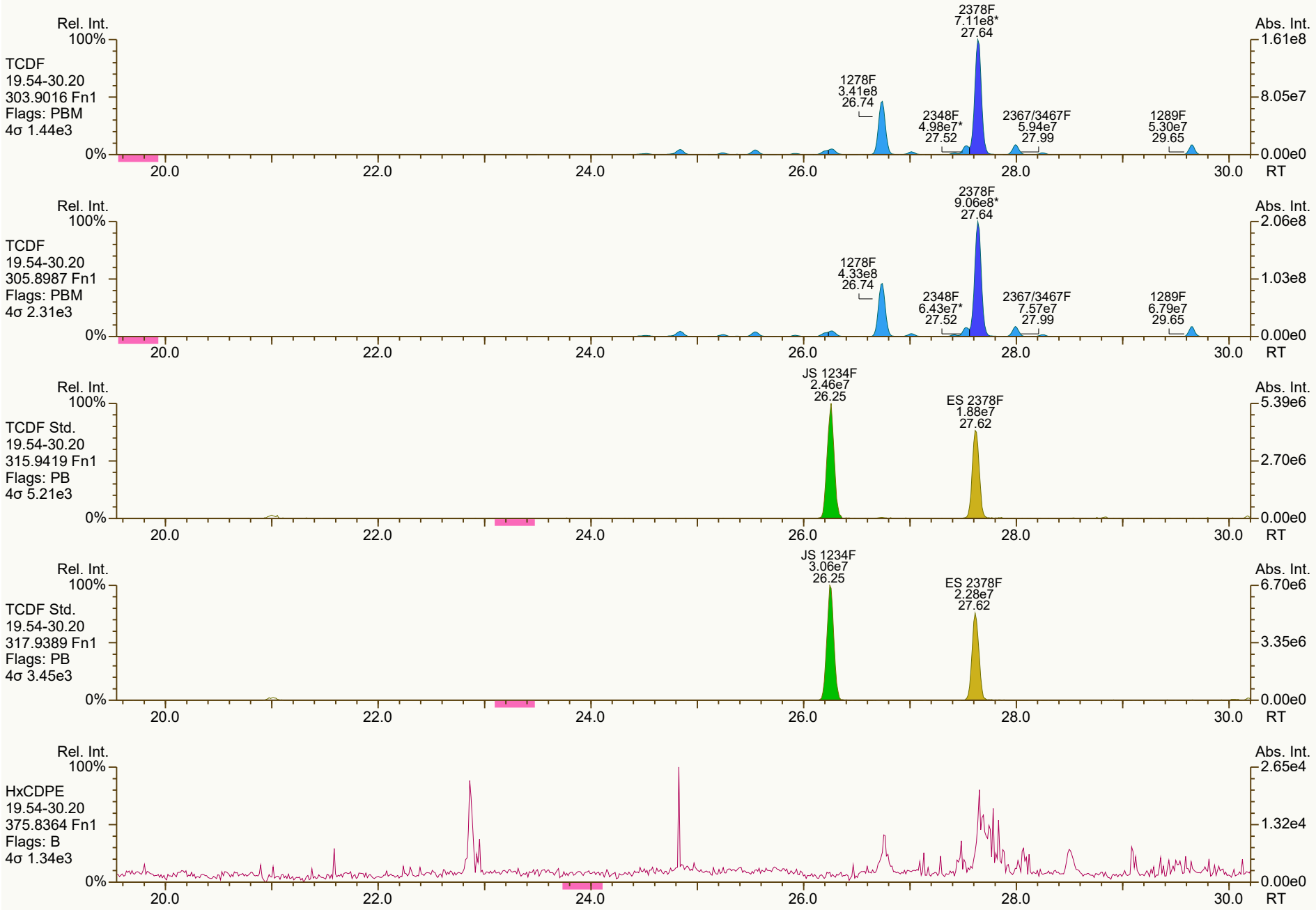

Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PBM
4σ 2.73e3
0%
12479/12468D
2.57e6
31.34
12469D
8.49e5
31.87
12368D
1.13e6
32.42
12478D
1.18e6
32.61
12379D
7.94e5*
32.72
12369D...[3]
1.03e6
32.98
12346/12347D
7.19e5
33.35
12378D
2.92e6*
33.84
12367D
2.76e5*
33.93
12389D
5.09e5
34.28
Abs. Int.
8.75e5
4.37e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PBM
4σ 1.96e3
0%
12479/12468D
1.72e6
31.34
RT
12469D
6.75e5
31.88
12368D
7.38e5
32.42
12478D
8.39e5
32.61
12369D...[3]
6.97e5
32.97
12346/12347D
4.61e5
33.35
12378D
1.87e6*
33.84
12367D
2.03e5*
33.93
12389D
3.36e5
34.28
Abs. Int.
5.39e5
2.70e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 3.33e3
0%
CS 12347D
1.34e7
33.32
ES 12378D
1.43e7
33.82
Abs. Int.
4.02e6
2.01e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.75e3
0%
CS 12347D
8.60e6
33.32
ES 12378D
9.29e6
33.82
Abs. Int.
2.75e6
1.37e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.98e6
1.49e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT



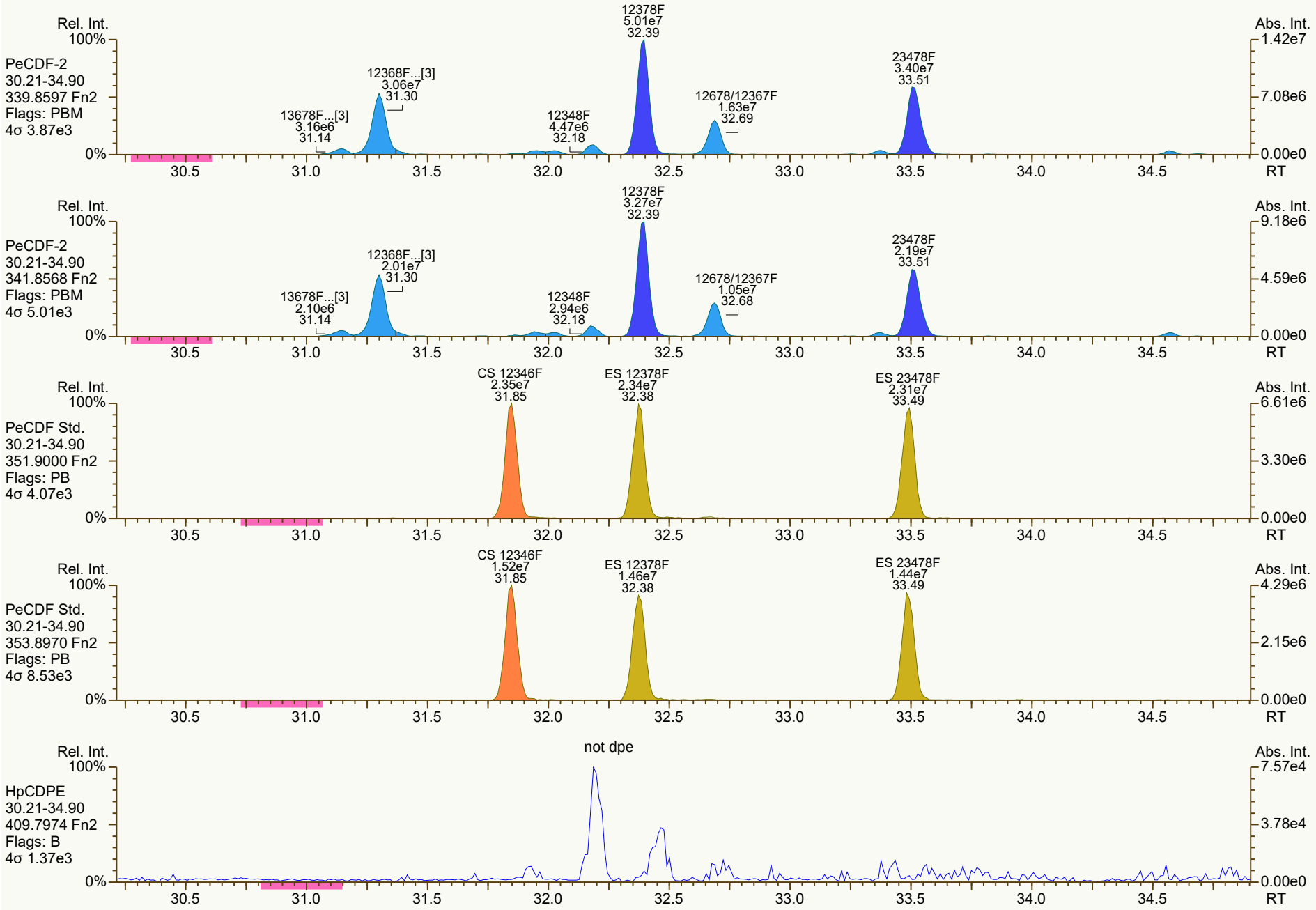
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_006.utp_res, saved 14-Feb-2022 10:34 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3368, 9425 scc: 781-199
PKD: 14-Feb-2022 10:34 Printed: 14-Feb-2022 11:03 Page 4 of 12

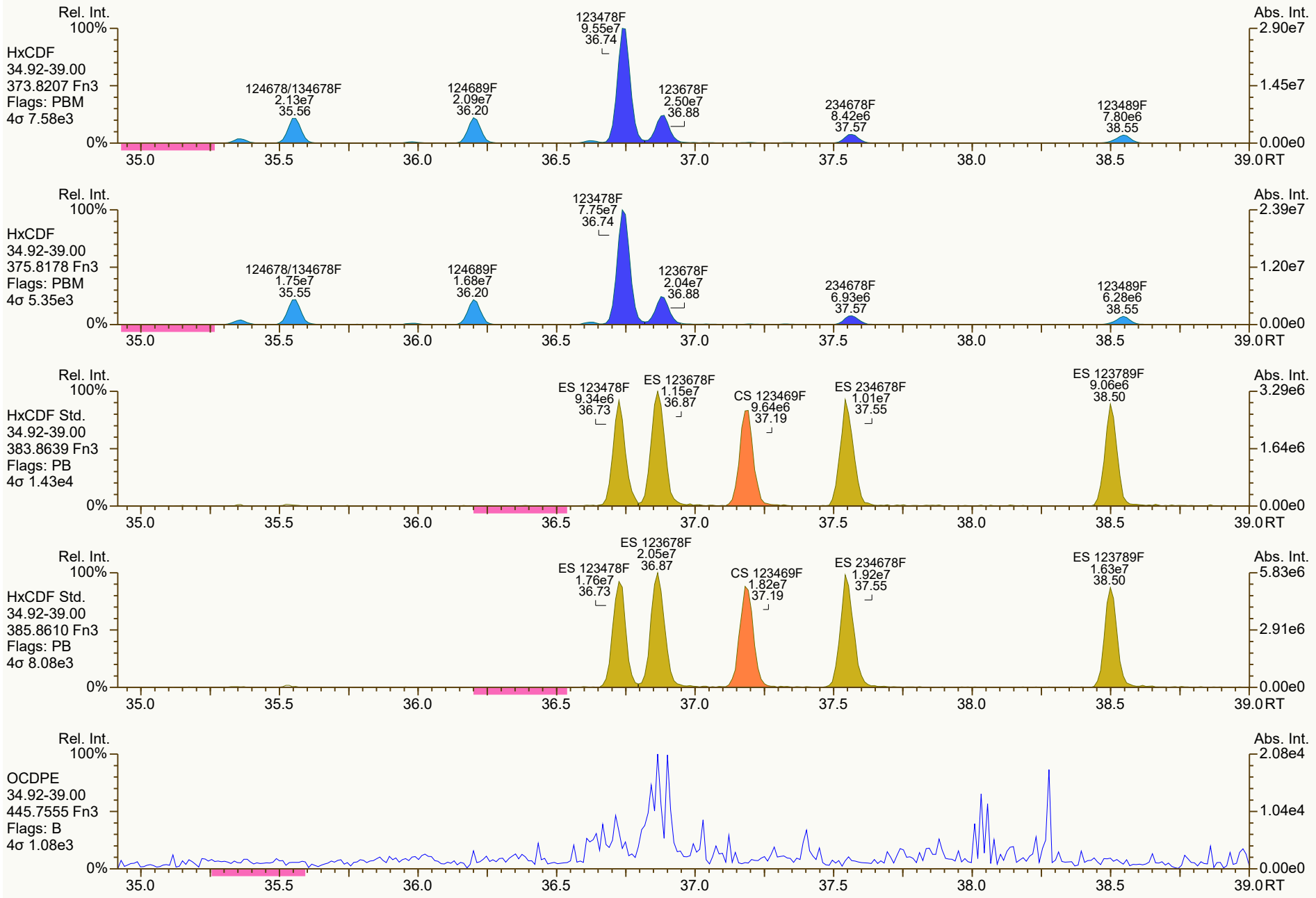

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 4.08e3
1234679D
2.80e8
40.16
1234678D
3.17e8
40.84
Abs. Int.
9.97e7
4.98e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 3.01e3
1234679D
2.69e8
40.16
1234678D
3.05e8
40.84
Abs. Int.
9.66e7
4.83e7
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.97e3
ES 1234678D
1.05e7
40.83
Abs. Int.
3.31e6
1.65e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 2.83e3
ES 1234678D
9.86e6
40.83
Abs. Int.
3.06e6
1.53e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
6.95e6
3.48e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

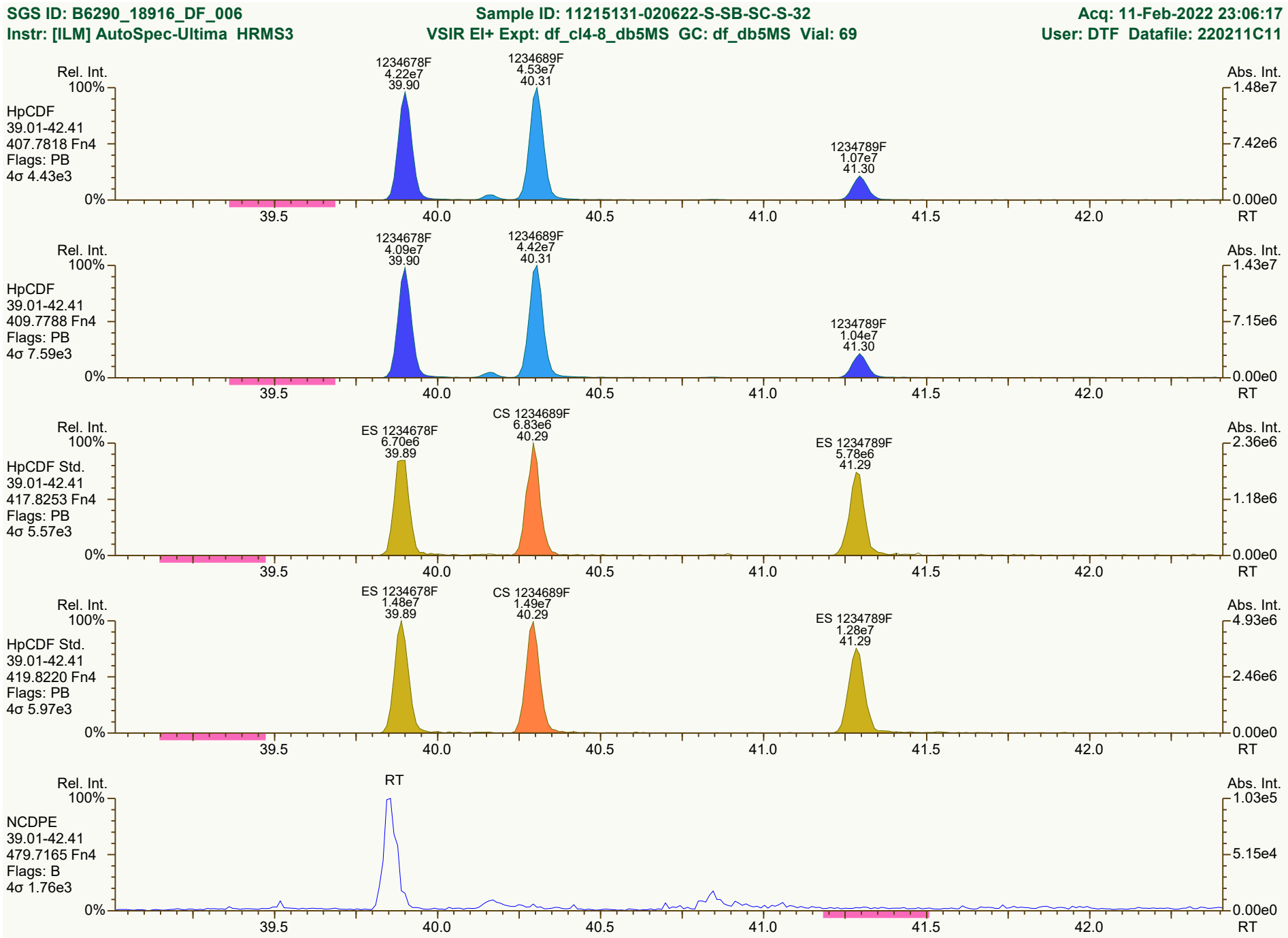

OCDD
2.71e9
43.58
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 1.57e3
0%
Abs. Int.
5.40e8
2.70e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.99e9
43.58
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 2.34e3
5.98e8
2.99e8
ES OCDD
1.51e7*
43.56
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 5.76e3
2.59e6
1.30e6
ES OCDD
1.68e7*
43.56
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 2.97e3
3.01e6
1.50e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
5.65e6
2.83e6

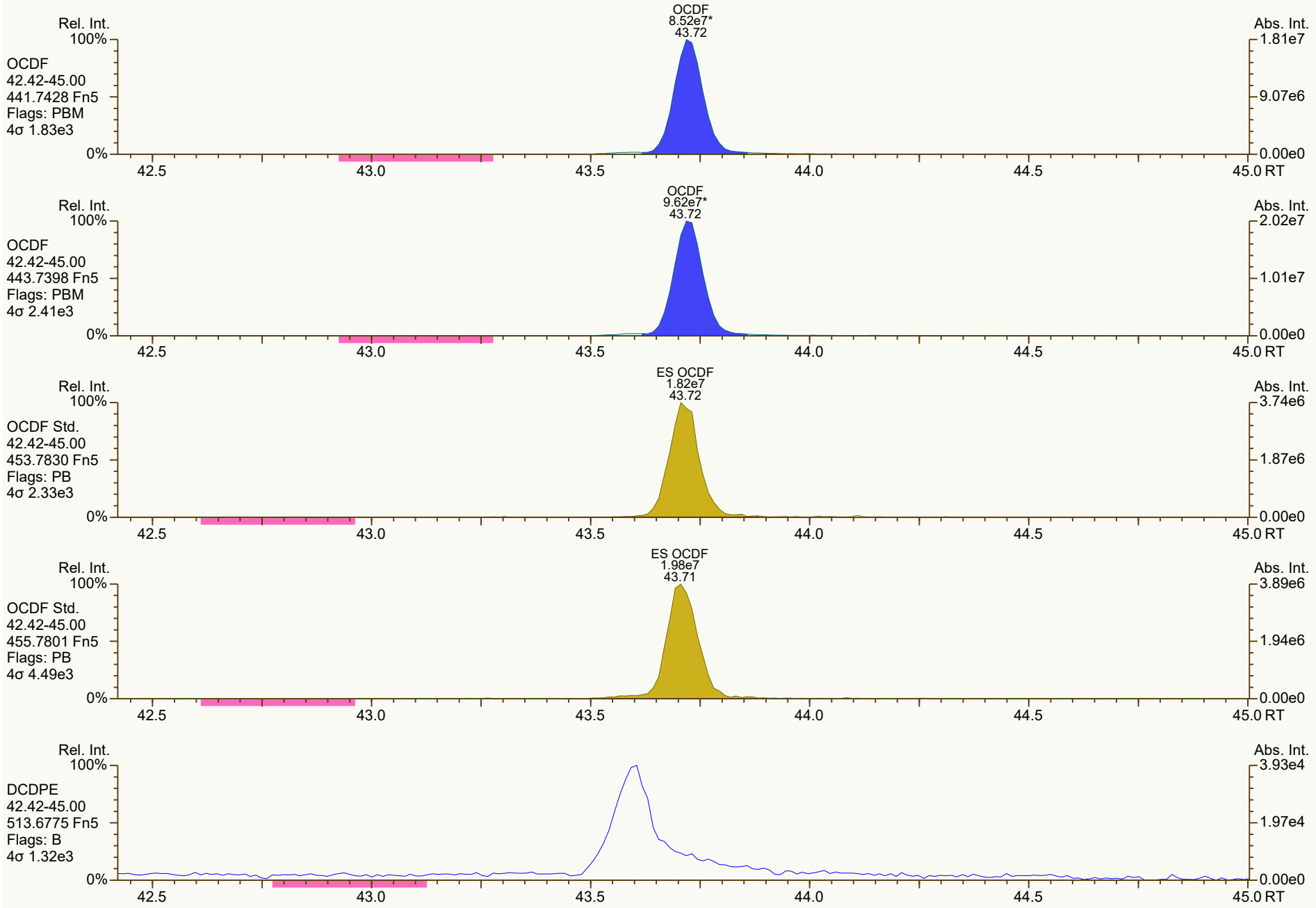

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.44e3
0%
2378F
7.11e8*
27.64
1278F
3.41e8
26.74
2348F
4.98e7*
27.52
2367/3467F
5.94e7
27.99
1289F
5.30e7
29.65
Abs. Int.
1.61e8
8.05e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.31e3
0%
2378F
9.06e8*
27.64
1278F
4.33e8
26.74
2348F
6.43e7*
27.52
2367/3467F
7.57e7
27.99
1289F
6.79e7
29.65
Abs. Int.
2.06e8
1.03e8
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 5.21e3
0%
JS 1234F
2.46e7
26.25
ES 2378F
1.88e7
27.62
Abs. Int.
5.39e6
2.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.45e3
0%
JS 1234F
3.06e7
26.25
ES 2378F
2.28e7
27.62
Abs. Int.
6.70e6
3.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.34e3
0%
Abs. Int.
2.65e4
1.32e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.28e3
13468/12468F
6.08e6
29.59
Abs. Int.
1.53e6
7.65e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.49e3
13468/12468F
3.88e6
29.59
Abs. Int.
9.52e5
4.76e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
5.45e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 3.87e3
0%
13678F...[3]
3.16e6
31.14
12368F...[3]
3.06e7
31.30
12348F
4.47e6
32.18
12378F
5.01e7
32.39
12678/12367F
1.63e7
32.69
23478F
3.40e7
33.51
Abs. Int.
1.42e7
7.08e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 5.01e3
13678F...[3]
2.10e6
31.14
12368F...[3]
2.01e7
31.30
12348F
2.94e6
32.18
12378F
3.27e7
32.39
12678/12367F
1.05e7
32.68
23478F
2.19e7
33.51
Abs. Int.
9.18e6
4.59e6
0.00e0
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 4.07e3
CS 12346F
2.35e7
31.85
ES 12378F
2.34e7
32.38
ES 23478F
2.31e7
33.49
Abs. Int.
6.61e6
3.30e6
0.00e0
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 8.53e3
CS 12346F
1.52e7
31.85
ES 12378F
1.46e7
32.38
ES 23478F
1.44e7
33.49
Abs. Int.
4.29e6
2.15e6
0.00e0
not dpe
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.37e3
Abs. Int.
7.57e4
3.78e4
0.00e0


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 7.58e3
124678/134678F
2.13e7
35.56
124689F
2.09e7
36.20
123478F
9.55e7
36.74
123678F
2.50e7
36.88
234678F
8.42e6
37.57
123489F
7.80e6
38.55
Abs. Int.
2.90e7
1.45e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 5.35e3
124678/134678F
1.75e7
35.55
124689F
1.68e7
36.20
123478F
7.75e7
36.74
123678F
2.04e7
36.88
234678F
6.93e6
37.57
123489F
6.28e6
38.55
Abs. Int.
2.39e7
1.20e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 1.43e4
ES 123478F
9.34e6
36.73
ES 123678F
1.15e7
36.87
CS 123469F
9.64e6
37.19
ES 234678F
1.01e7
37.55
ES 123789F
9.06e6
38.50
Abs. Int.
3.29e6
1.64e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 8.08e3
ES 123678F
2.05e7
36.87
ES 123478F
1.76e7
36.73
CS 123469F
1.82e7
37.19
ES 234678F
1.92e7
37.55
ES 123789F
1.63e7
38.50
Abs. Int.
5.83e6
2.91e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.08e3
Abs. Int.
2.08e4
1.04e4
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


SGS ID: B6290_18916_DF_006
Sample ID: 11215131-020622-S-SB-SC-S-32
Acq: 11-Feb-2022 23:06:17
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 220211C11
Rel. Int.
Abs. Int.
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 4.43e3
1234678F
4.22e7
39.90
1234689F
4.53e7
40.31
1234789F
1.07e7
41.30
1.48e7
7.42e6
0.00e0
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 7.59e3
1234678F
4.09e7
39.90
1234689F
4.42e7
40.31
1234789F
1.04e7
41.30
1.43e7
7.15e6
0.00e0
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 5.57e3
ES 1234678F
6.70e6
39.89
CS 1234689F
6.83e6
40.29
ES 1234789F
5.78e6
41.29
2.36e6
1.18e6
0.00e0
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 5.97e3
ES 1234678F
1.48e7
39.89
CS 1234689F
1.49e7
40.29
ES 1234789F
1.28e7
41.29
4.93e6
2.46e6
0.00e0
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.76e3
RT
1.03e5
5.15e4
0.00e0
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_006.utp_res, saved 14-Feb-2022 10:34 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6103, 4103, 1400 scc: 781-199
PKD: 14-Feb-2022 10:34 Printed: 14-Feb-2022 11:03 Page 11 of 12


OCDF
8.52e7*
43.72
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.81e7
9.07e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
9.62e7*
43.72
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PBM
4σ 2.41e3
0%
Abs. Int.
2.02e7
1.01e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.82e7
43.72
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 2.33e3
0%
Abs. Int.
3.74e6
1.87e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.98e7
43.71
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 4.49e3
0%
Abs. Int.
3.89e6
1.94e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.32e3
0%
Abs. Int.
3.93e4
1.97e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6290_18916_DF_007 **Acq'd:** 11 Feb 2022 23:52 DTF **Wt/Vol:** 10.24 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-S-30 **UTP:** 14-Feb-2022 10:36:51 PSW **J-level:** 0.488 pg/g **Split:** 1 **Checkcode:** 243-651-WVT

Datafile: 220211C12 **Report:** 14 Feb 2022 10:42 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.47		1.0008	1.0008	0	4.65E+06	0.77	Y	1.18	33.9	3830.922	0.29
12378-PeCDD	33.81	J	1.0005	1.0005	0	7.21E+04	1.63	Y	1.04	0.601	5201.753	0.381
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	5978.85	0.484
123678-HxCDD	37.85	J	1.0035	1.0035	0	9.77E+04	1.30	Y	1.15	0.811	5978.85	0.435
123789-HxCDD	38.15	J	1.0113	1.0115	+0.5	1.34E+05	1.36	Y	1.05	1.16	5978.85	0.451
1234678-HpCDD	40.83		1.0003	1.0003	0	2.92E+06	1.01	Y	1.06	28.4	9700.999	0.785
OCDD	43.53		1.0002	1.0003	+0.3	3.02E+07	0.92	Y	1.13	454	19054.833	3.18
2378-TCDF	27.61		1.0008	1.0007	-0.2	1.76E+07	0.82	Y	1.08	90.8	4161.411	0.236
12378-PeCDF	32.36		1.0005	1.0005	0	7.12E+05	1.42	Y	1.02	3.82	5071.181	0.258
23478-PeCDF	33.48	PR	1.0005	1.0007	+0.4	5.46E+05	1.61	Y	1.02	3.04	5071.181	0.261
123478-HxCDF	36.72		1.0005	1.0005	0	1.18E+06	1.35	Y	1.27	7.14	5374.796	0.261
123678-HxCDF	36.87	J	1.0005	1.0005	0	3.69E+05	1.24	Y	1.15	2.03	5374.796	0.262
234678-HxCDF	37.54	J	1.0005	1.0002	-0.7	7.59E+04	1.40	Y	1.19	0.406	5374.796	0.254
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	5374.796	0.328
1234678-HpCDF	39.89		1.0003	1.0002	-0.2	6.02E+05	0.99	Y	1.37	4.04	4164.266	0.2
1234789-HpCDF	41.28	J	1.0003	1.0002	-0.2	9.68E+04	1.03	Y	1.31	0.827	4164.266	0.326
OCDF	43.70		1.0003	1.0002	-0.3	6.96E+05	0.77	Y	1.07	7.87	3715.718	0.494

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.44	1.0238	1.0238	0	2.26E+07	0.84	Y	1.05	82.7
ES 12378-PeCDD	33.79	1.2160	1.2164	+0.8	2.26E+07	1.52	Y	0.88	98.3
ES 123478-HxCDD	37.72	0.9919	0.9918	-0.2	1.94E+07	1.33	Y	0.97	83.2
ES 123678-HxCDD	37.84	0.9950	0.9949	-0.2	2.05E+07	1.25	Y	0.94	90.6
ES 123789-HxCDD	38.13	1.0027	1.0027	0	2.15E+07	1.27	Y	1.09	82.1
ES 1234678-HpCDD	40.82	1.0730	1.0733	+0.7	1.89E+07	1.03	Y	0.91	86.5
ES OCDD	43.52	1.1437	1.1443	+1.6	2.31E+07	0.89	Y	0.62	77.1
ES 2378-TCDF	27.59	1.0520	1.0520	0	3.51E+07	0.81	Y	1.06	76.2
ES 12378-PeCDF	32.35	1.2330	1.2334	+0.8	3.55E+07	1.52	Y	0.91	89.7
ES 23478-PeCDF	33.46	1.2754	1.2759	+1.0	3.44E+07	1.65	Y	0.88	89.7
ES 123478-HxCDF	36.71	0.9653	0.9652	-0.2	2.54E+07	0.52	Y	1.20	88.5
ES 123678-HxCDF	36.85	0.9691	0.9689	-0.4	3.08E+07	0.54	Y	1.35	95.1
ES 234678-HxCDF	37.53	0.9870	0.9869	-0.2	3.08E+07	0.53	Y	1.24	103
ES 123789-HxCDF	38.49	1.0121	1.0121	0	2.38E+07	0.53	Y	1.16	85.8
ES 1234678-HpCDF	39.88	1.0484	1.0486	+0.5	2.13E+07	0.44	Y	0.97	91.7
ES 1234789-HpCDF	41.28	1.0851	1.0853	+0.5	1.75E+07	0.47	Y	0.85	85.6
ES OCDF	43.69	1.1483	1.1489	+1.6	3.22E+07	0.90	Y	0.81	83.1

Lab ID: B6290_18916_DF_007 **Acq'd:** 11 Feb 2022 23:52 DTF **Wt/Vol:** 10.24 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-S-30 **UTP:** 14-Feb-2022 10:36:51 PSW **J-level:** 0.488 pg/g **Split:** 1 **Checkcode:** 243-651-WVT

Datafile: 220211C12 **Report:** 14 Feb 2022 10:42 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.78		-	-	-	2.61E+07	0.83	Y	-	-
JS 1234-TCDF	26.23		-	-	-	4.35E+07	0.79	Y	-	-
JS 123467-HxCDD	38.03		-	-	-	1.20E+07	1.25	Y	-	-
CS 37Cl-2378-TCDD	28.47		1.0245	1.0246	+0.2	1.08E+07	n/a	-	1.20	86.2
CS 12347-PeCDD	33.29		1.1979	1.1983	+0.8	2.14E+07	1.55	Y	0.75	109
CS 12346-PeCDF	31.82		1.2128	1.2132	+0.8	3.60E+07	1.56	Y	0.85	97.4
CS 123469-HxCDF	37.17		0.9774	0.9773	-0.2	2.71E+07	0.54	Y	1.12	101
CS 1234689-HpCDF	40.28		1.0589	1.0592	+0.7	2.09E+07	0.44	Y	0.89	98
~~SS 37Cl-2378-TCDD~~	~~28.47~~		~~1.0245~~	~~1.0246~~	~~+0.2~~	~~1.08E+07~~	~~n/a~~		~~1.15~~	~~105~~
~~SS 12347-PeCDD~~	~~33.29~~		~~1.1979~~	~~1.1983~~	~~+0.8~~	~~2.14E+07~~	~~1.55~~	~~Y~~	~~0.86~~	~~110~~
~~SS 12346-PeCDF~~	~~31.82~~		~~1.2128~~	~~1.2132~~	~~+0.8~~	~~3.60E+07~~	~~1.56~~	~~Y~~	~~0.94~~	~~100~~
~~SS 123469-HxCDF~~	~~37.17~~		~~0.9774~~	~~0.9773~~	~~-0.2~~	~~2.71E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~106~~
~~SS 1234689-HpCDF~~	~~40.28~~		~~1.0589~~	~~1.0592~~	~~+0.7~~	~~2.09E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~107~~

Totals	Conc	EMPC
Total TCDD	38.6	38.6
Total PeCDD	3	3
Total HxCDD	19.6	20
Total HpCDD	79.7	79.7
Total Tetra-Octa Dioxins	595	595
Total TCDF	181	185
Total PeCDF	9.93	9.93
Total HxCDF	12.4	12.8
Total HpCDF	9.75	9.75
Total Tetra-Octa Furans	221	225
Total Tetra-Octa Dioxins & Furans	816	821

Lab ID: B6290_18916_DF_007 **Acq'd: 11 Feb 2022 23:52 DTF** **Wt/Vol: 10.24 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-S-30 **UTP: 14-Feb-2022 10:36:51 PSW** **J-level: 0.488 pg/g** **Split: 1** **Checkcode: 243-651-WVT**

Datafile: 220211C12 **Report: 14 Feb 2022 10:42 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8737						1.18		3830.922	0.29
1379-TCDD	NotFnd		0.8860						1.18		3830.922	0.29
1369-TCDD	NotFnd		0.9009						1.18		3830.922	0.29
1469-TCDD	26.39		0.9281	0.9277	-0.6	3.08E+05	0.85	Y	1.18	2.24	3830.922	0.29
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3830.922	0.29
1378-TCDD	NotFnd		0.9432						1.18		3830.922	0.29
1268-TCDD	NotFnd		0.9500						1.18		3830.922	0.29
1478-TCDD	NotFnd		0.9586						1.18		3830.922	0.29
1279-TCDD	NotFnd		0.9645						1.18		3830.922	0.29
1234/1269-TCDD	NotFnd		0.9770						1.18		3830.922	0.29
1236-TCDD	NotFnd		0.9817						1.18		3830.922	0.29
1237/1238-TCDD	NotFnd		0.9905						1.18		3830.922	0.29
1239-TCDD	NotFnd		0.9952						1.18		3830.922	0.29
2378-TCDD	**28.47**		**1.0008**	1.0008	**0**	4.65E+06	0.77	Y	**1.18**	**33.9**	**3830.922**	**0.29**
1278-TCDD	28.80		1.0121	1.0123	+0.3	3.30E+05	0.76	Y	1.18	2.41	3830.922	0.29
1267-TCDD	NotFnd		1.0167						1.18		3830.922	0.29
1289-TCDD	NotFnd		1.0345						1.18		3830.922	0.29
12479/12468-PeCDD	NotFnd		0.9267						1.04		5201.753	0.381
12469-PeCDD	31.84	J	0.9425	0.9421	-0.8	1.87E+05	1.62	Y	1.04	1.56	5201.753	0.381
12368-PeCDD	NotFnd		0.9588						1.04		5201.753	0.381
12478-PeCDD	NotFnd		0.9643						1.04		5201.753	0.381
12379-PeCDD	NotFnd		0.9673						1.04		5201.753	0.381
12369/12467/12489-PeCDD	32.95	J	0.9750	0.9751	+0.2	1.01E+05	1.41	Y	1.04	0.839	5201.753	0.381
12346/12347-PeCDD	NotFnd		0.9858						1.04		5201.753	0.381
12378-PeCDD	33.81	J	**1.0005**	**1.0005**	**0**	**7.21E+04**	**1.63**	**Y**	**1.04**	**0.601**	**5201.753**	**0.381**
12367-PeCDD	NotFnd		1.0033						1.04		5201.753	0.381
12389-PeCDD	NotFnd		1.0134						1.04		5201.753	0.381
124679/124689-HxCDD	35.98		0.9542	0.9540	-0.4	1.47E+06	1.19	Y	1.10	12.8	5978.85	0.455
123468-HxCDD	36.64	J	0.9715	0.9715	0	4.50E+04	1.20	Y	1.10	0.392	5978.85	0.455
123679/123689-HxCDD	36.94		0.9793	0.9793	0	5.07E+05	1.24	Y	1.10	4.42	5978.85	0.455
123469-HxCDD	37.07	J EMPC	0.9828	0.9827	-0.2	4.92E+04	0.86	N	1.10	0.429	5978.85	0.455
123478-HxCDD	NotFnd		**1.0004**						1.09		**5978.85**	**0.484**
123678-HxCDD	37.85	J	**1.0035**	**1.0035**	**0**	**9.77E+04**	**1.30**	**Y**	1.15	**0.811**	**5978.85**	**0.435**
123467-HxCDD	NotFnd		1.0085						1.10		5978.85	0.455
123789-HxCDD	38.15	J	**1.0113**	**1.0115**	**+0.5**	**1.34E+05**	**1.36**	**Y**	1.05	**1.16**	**5978.85**	**0.451**

Lab ID: B6290_18916_DF_007 **Acq'd: 11 Feb 2022 23:52 DTF** **Wt/Vol: 10.24 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-S-30 **UTP: 14-Feb-2022 10:36:51 PSW** **J-level: 0.488 pg/g** **Split: 1** **Checkcode: 243-651-WVT**

Datafile: 220211C12 **Report: 14 Feb 2022 10:42 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

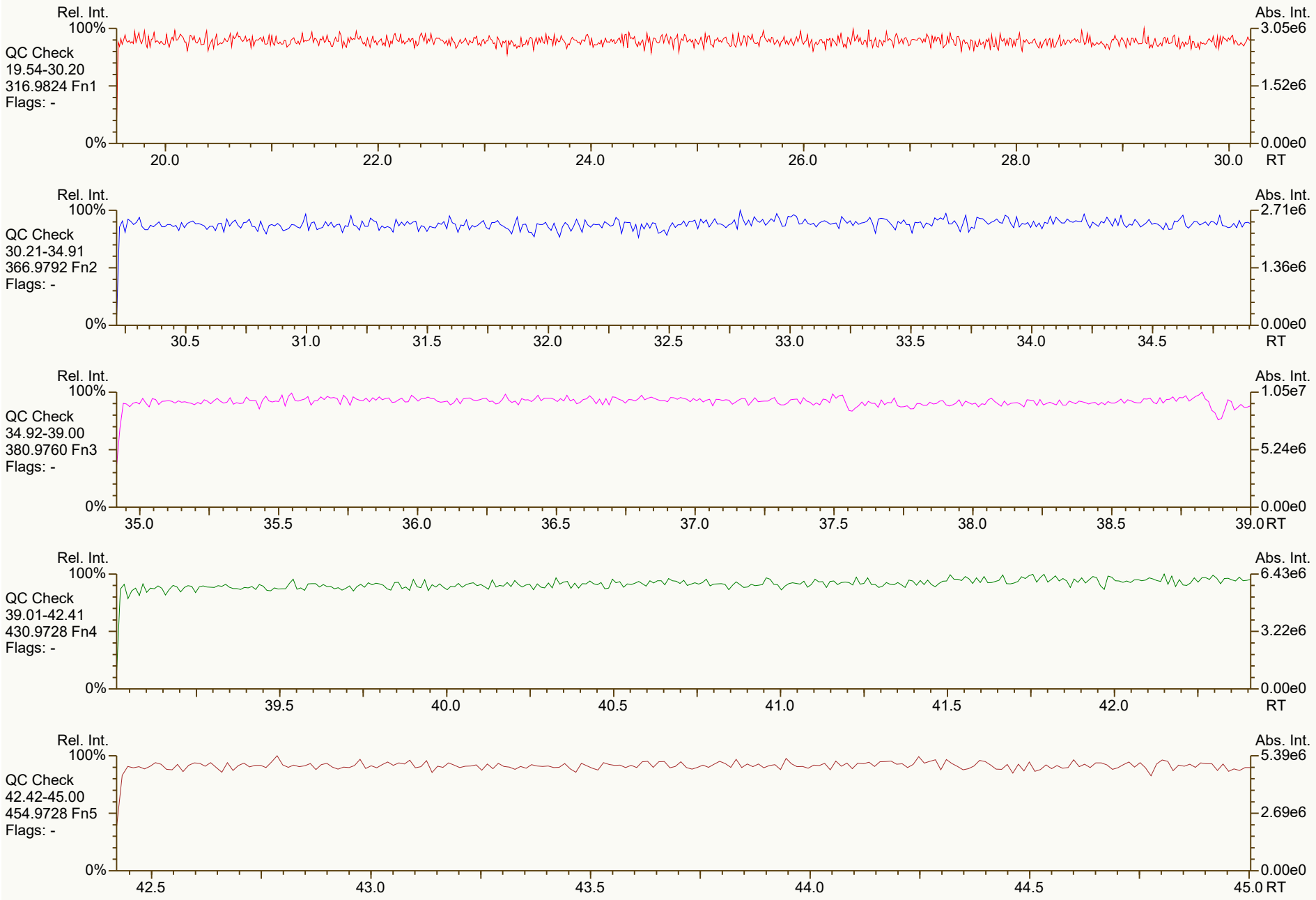
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.15		0.9837	0.9836	-0.2	5.26E+06	1.04	Y	1.06	51.2	9700.999	0.785
1234678-HpCDD	**40.83**		**1.0003**	**1.0003**	**0**	**2.92E+06**	**1.01**	**Y**	**1.06**	**28.4**	**9700.999**	**0.785**
OCDD	**43.53**		**1.0002**	**1.0003**	**+0.3**	**3.02E+07**	**0.92**	**Y**	**1.13**	**454**	**19054.833**	**3.18**
OCDD-a	43.53		1.0001	1.0002	+0.3	1.97E+06	2.62	Y	0.07	463	3487.412	9.1
1368-TCDF	NotFnd		0.8251						1.08		4161.411	0.236
1468-TCDF	NotFnd		0.8458						1.08		4161.411	0.236
2468-TCDF	23.93	J EMPC	0.8686	0.8674	-1.7	5.62E+04	0.51	N	1.08	0.29	4161.411	0.236
1346/1246-TCDF	NotFnd		0.8814						1.08		4161.411	0.236
1347/1378/1247-TCDF	24.46	EMPC	0.8867	0.8866	-0.1	2.32E+05	0.92	N	1.08	1.2	4161.411	0.236
1348-TCDF	24.71	J	0.8962	0.8957	-0.7	8.29E+04	0.80	Y	1.08	0.428	4161.411	0.236
1248/1367/1379-TCDF	24.80		0.9009	0.8989	-3.0	7.94E+05	0.79	Y	1.08	4.1	4161.411	0.236
1268-TCDF	25.22	EMPC	0.9145	0.9141	-0.6	2.09E+05	0.62	N	1.08	1.08	4161.411	0.236
1467-TCDF	NotFnd		0.9193						1.08		4161.411	0.236
1478-TCDF	25.51		0.9254	0.9248	-0.9	6.87E+05	0.84	Y	1.08	3.55	4161.411	0.236
1369/1237-TCDF	25.89		0.9387	0.9385	-0.3	1.93E+05	0.75	Y	1.08	0.994	4161.411	0.236
2467-TCDF	NotFnd		0.9433						1.08		4161.411	0.236
2368-TCDF	26.18		0.9489	0.9490	+0.2	6.04E+05	0.82	Y	1.08	3.11	4161.411	0.236
1238/1234/1678/1469/1236-TCDF	26.26		0.9523	0.9517	-0.9	1.37E+06	0.79	Y	1.08	7.07	4161.411	0.236
1278-TCDF	26.71		0.9683	0.9682	-0.2	8.22E+06	0.77	Y	1.08	42.4	4161.411	0.236
1349-TCDF	NotFnd		0.9722						1.08		4161.411	0.236
1267-TCDF	26.99		0.9783	0.9783	0	4.41E+05	0.79	Y	1.08	2.28	4161.411	0.236
2346/1249-TCDF	NotFnd		0.9850						1.08		4161.411	0.236
2347/1279-TCDF	27.38	EMPC	0.9926	0.9926	0	1.85E+05	0.92	N	1.08	0.953	4161.411	0.236
2348-TCDF	27.48		0.9967	0.9962	-0.8	8.74E+05	0.79	Y	1.08	4.51	4161.411	0.236
2378-TCDF	**27.61**		**1.0008**	**1.0007**	**-0.2**	**1.76E+07**	**0.82**	**Y**	**1.08**	**90.8**	**4161.411**	**0.236**
2367/3467-TCDF	27.96		1.0137	1.0136	-0.2	1.47E+06	0.73	Y	1.08	7.57	4161.411	0.236
1269-TCDF	28.21		1.0223	1.0227	+0.7	1.03E+06	0.79	Y	1.08	5.3	4161.411	0.236
1239-TCDF	NotFnd		1.0321						1.08		4161.411	0.236
1289-TCDF	29.62		1.0722	1.0736	+2.5	1.79E+06	0.81	Y	1.08	9.24	4161.411	0.236
13468/12468-PeCDF	NotFnd		0.9139						1.02		3503.521	0.179
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		5071.181	0.26
12368/13478/12478-PeCDF	31.26	J	0.9662	0.9665	+0.6	3.58E+05	1.45	Y	1.02	1.96	5071.181	0.26
14678-PeCDF	NotFnd		0.9692						1.02		5071.181	0.26
13479-PeCDF	NotFnd		0.9723						1.02		5071.181	0.26
13469/12479-PeCDF	NotFnd		0.9797						1.02		5071.181	0.26
12346-PeCDF	NotFnd		0.9840						1.02		5071.181	0.26

Lab ID: B6290_18916_DF_007 **Acq'd: 11 Feb 2022 23:52 DTF** **Wt/Vol: 10.24 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-S-30 **UTP: 14-Feb-2022 10:36:51 PSW** **J-level: 0.488 pg/g** **Split: 1** **Checkcode: 243-651-WVT**

Datafile: 220211C12 **Report: 14 Feb 2022 10:42 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		5071.181	0.26
12347-PeCDF	NotFnd		0.9894						1.02		5071.181	0.26
12348-PeCDF	NotFnd		0.9940						1.02		5071.181	0.26
12378-PeCDF	**32.36**		**1.0005**	**1.0005**	**0**	**7.12E+05**	**1.42**	**Y**	**1.02**	**3.82**	**5071.181**	**0.258**
12678/12367-PeCDF	32.65	J	1.0089	1.0095	+1.2	2.03E+05	1.62	Y	1.02	1.11	5071.181	0.26
12379-PeCDF	NotFnd		1.0142						1.02		5071.181	0.26
12679-PeCDF	NotFnd		0.9929						1.02		5071.181	0.26
23467/12369-PeCDF	NotFnd		0.9967						1.02		5071.181	0.26
23478-PeCDF	**33.48**		**1.0005**	**1.0007**	**+0.4**	**5.46E+05**	**1.61**	**Y**	**1.02**	**3.04**	**5071.181**	**0.261**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5071.181	0.26
12349-PeCDF	NotFnd		1.0100						1.02		5071.181	0.26
12389-PeCDF	NotFnd		1.0324						1.02		5071.181	0.26
123468-HxCDF	NotFnd		0.9627						1.19		5374.796	0.273
124678/134678-HxCDF	35.53	J	0.9682	0.9680	-0.4	2.33E+05	1.08	Y	1.19	1.38	5374.796	0.273
134679-HxCDF	NotFnd		0.9744						1.19		5374.796	0.273
124679-HxCDF	NotFnd		0.9798						1.19		5374.796	0.273
124689-HxCDF	36.18	J	0.9858	0.9857	-0.2	2.47E+05	1.12	Y	1.19	1.46	5374.796	0.273
123467-HxCDF	NotFnd		0.9972						1.19		5374.796	0.273
123478-HxCDF	**36.72**		**1.0005**	**1.0005**	**0**	**1.18E+06**	**1.35**	**Y**	**1.27**	**7.14**	**5374.796**	**0.261**
123678-HxCDF	**36.87**	J	**1.0005**	**1.0005**	**0**	**3.69E+05**	**1.24**	**Y**	**1.15**	**2.03**	**5374.796**	**0.262**
123479-HxCDF	NotFnd		1.0049						1.19		5374.796	0.273
123469-HxCDF	NotFnd		1.0090						1.19		5374.796	0.273
123679-HxCDF	NotFnd		0.9942						1.19		5374.796	0.273
234678-HxCDF	**37.54**	J	**1.0005**	**1.0002**	**-0.7**	**7.59E+04**	**1.40**	**Y**	**1.19**	**0.406**	**5374.796**	**0.254**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		5374.796	0.273
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**5374.796**	**0.328**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.53	J EMPC	1.0009	1.0010	+0.2	6.56E+04	0.93	N	1.19	0.387	5374.796	0.273
1234678-HpCDF	**39.89**		**1.0003**	**1.0002**	**-0.2**	**6.02E+05**	**0.99**	**Y**	**1.37**	**4.04**	**4164.266**	**0.2**
1234679-HpCDF	NotFnd		1.0068						1.34		4164.266	0.256
1234689-HpCDF	40.29		1.0103	1.0103	0	6.50E+05	1.15	Y	1.34	4.89	4164.266	0.256
1234789-HpCDF	**41.28**	**J**	**1.0003**	**1.0002**	**-0.2**	**9.68E+04**	**1.03**	**Y**	**1.31**	**0.827**	**4164.266**	**0.326**
OCDF	**43.70**		**1.0003**	**1.0002**	**-0.3**	**6.96E+05**	**0.77**	**Y**	**1.07**	**7.87**	**3715.718**	**0.494**
OCDF-a	NotFnd		1.0002						0.07		3465.286	7.44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Abs. Int.
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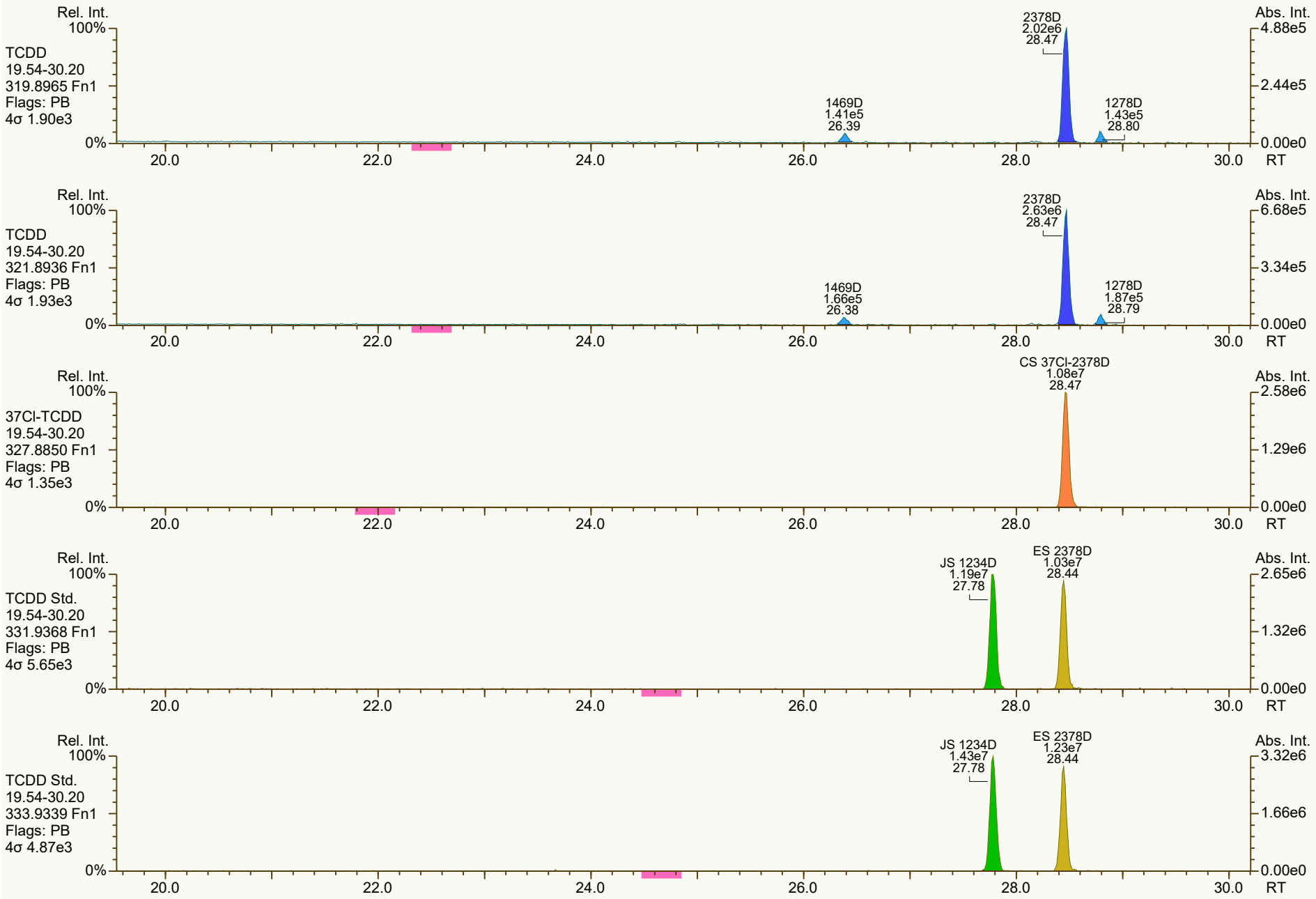
1.52e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.71e6
1.36e6
0.00e0
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
0%
Abs. Int.
6.43e6
3.22e6
0.00e0
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
0%
Abs. Int.
5.39e6
2.69e6
0.00e0
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0
RT


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
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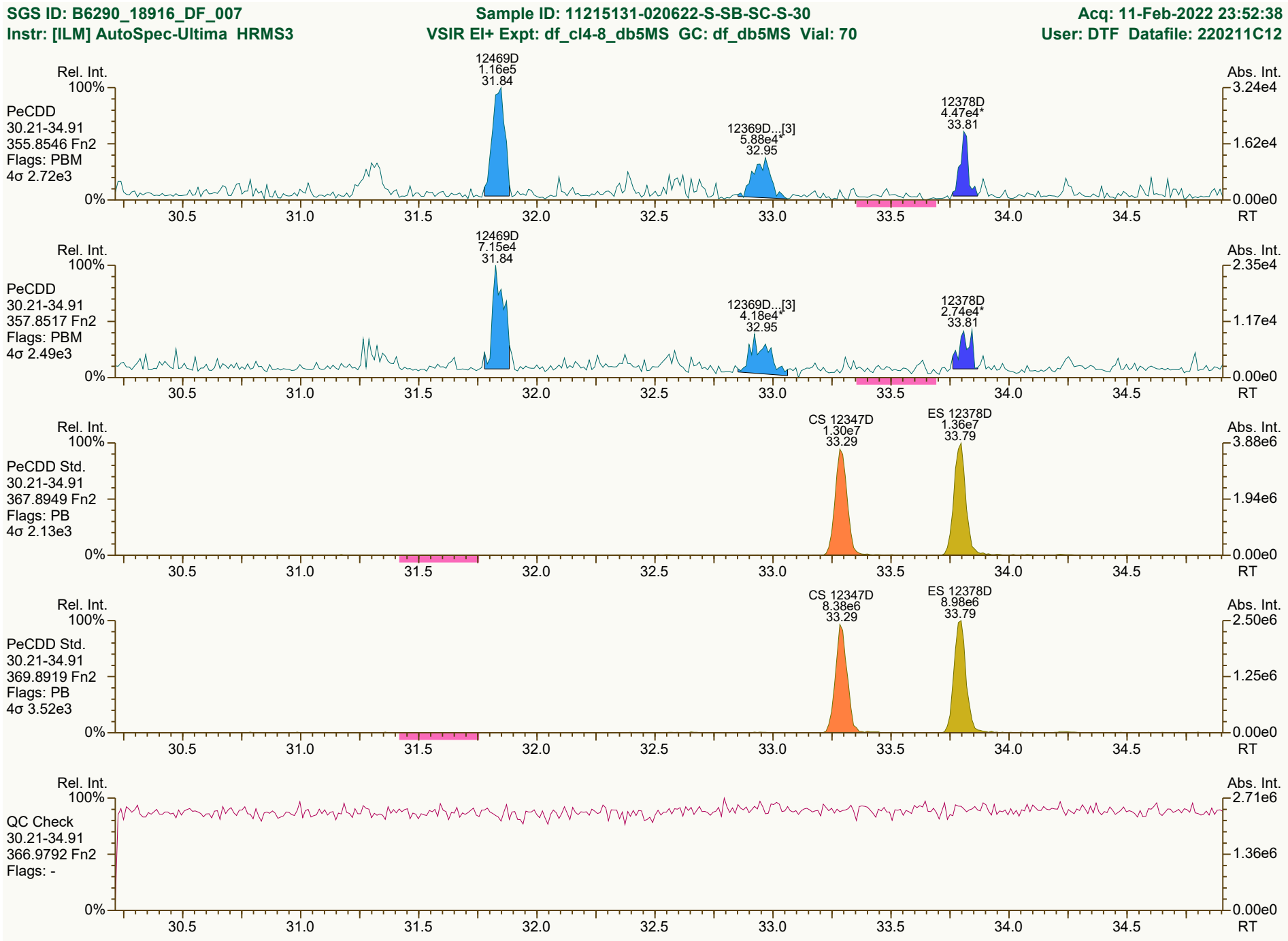
0%
2378D
2.02e6
28.47
1469D
1.41e5
26.39
1278D
1.43e5
28.80
Abs. Int.
4.88e5
2.44e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.93e3
0%
2378D
2.63e6
28.47
1469D
1.66e5
26.38
1278D
1.87e5
28.79
Abs. Int.
6.68e5
3.34e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.35e3
0%
CS 37Cl-2378D
1.08e7
28.47
Abs. Int.
2.58e6
1.29e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.65e3
0%
JS 1234D
1.19e7
27.78
ES 2378D
1.03e7
28.44
Abs. Int.
2.65e6
1.32e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.87e3
0%
JS 1234D
1.43e7
27.78
ES 2378D
1.23e7
28.44
Abs. Int.
3.32e6
1.66e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT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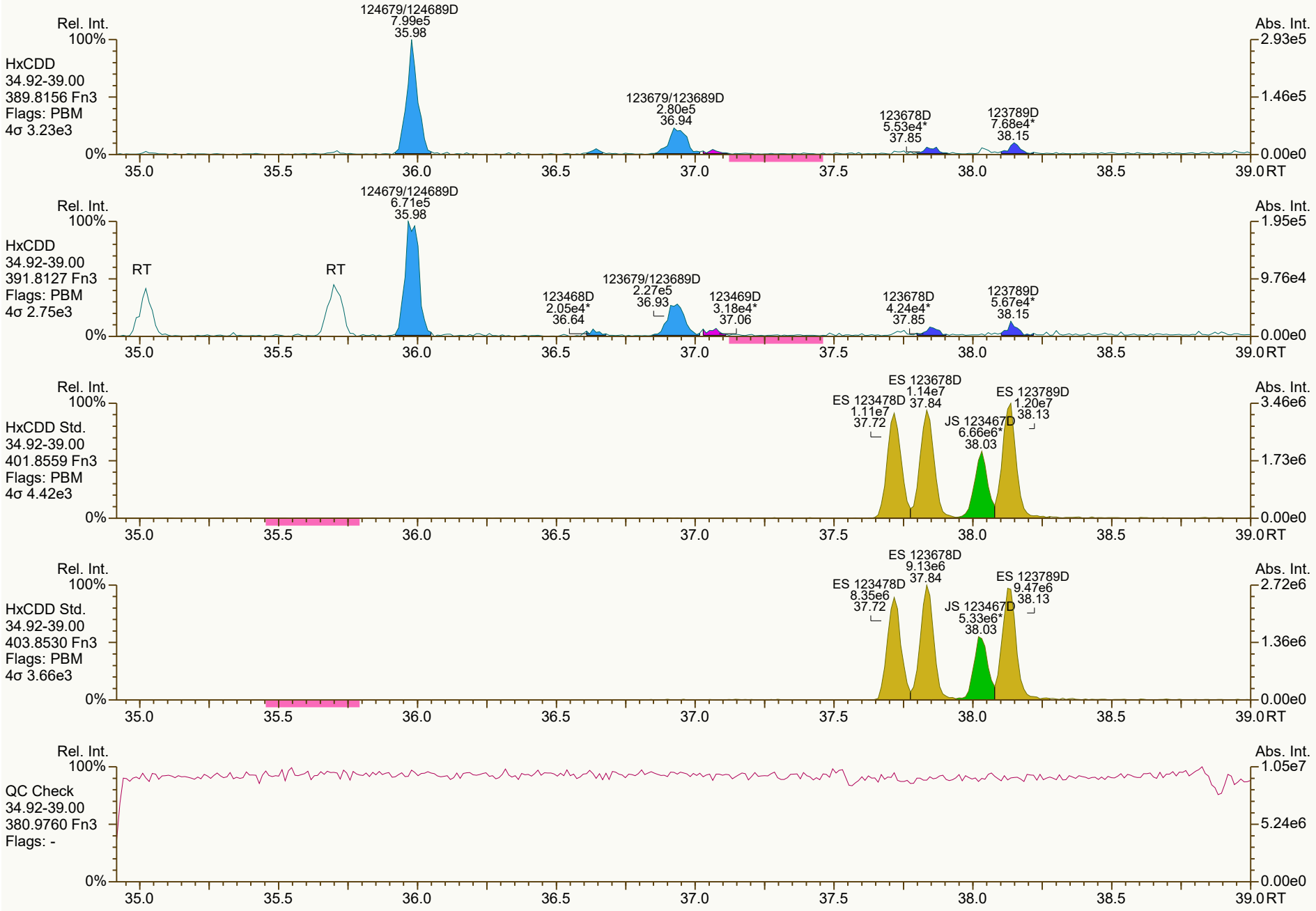
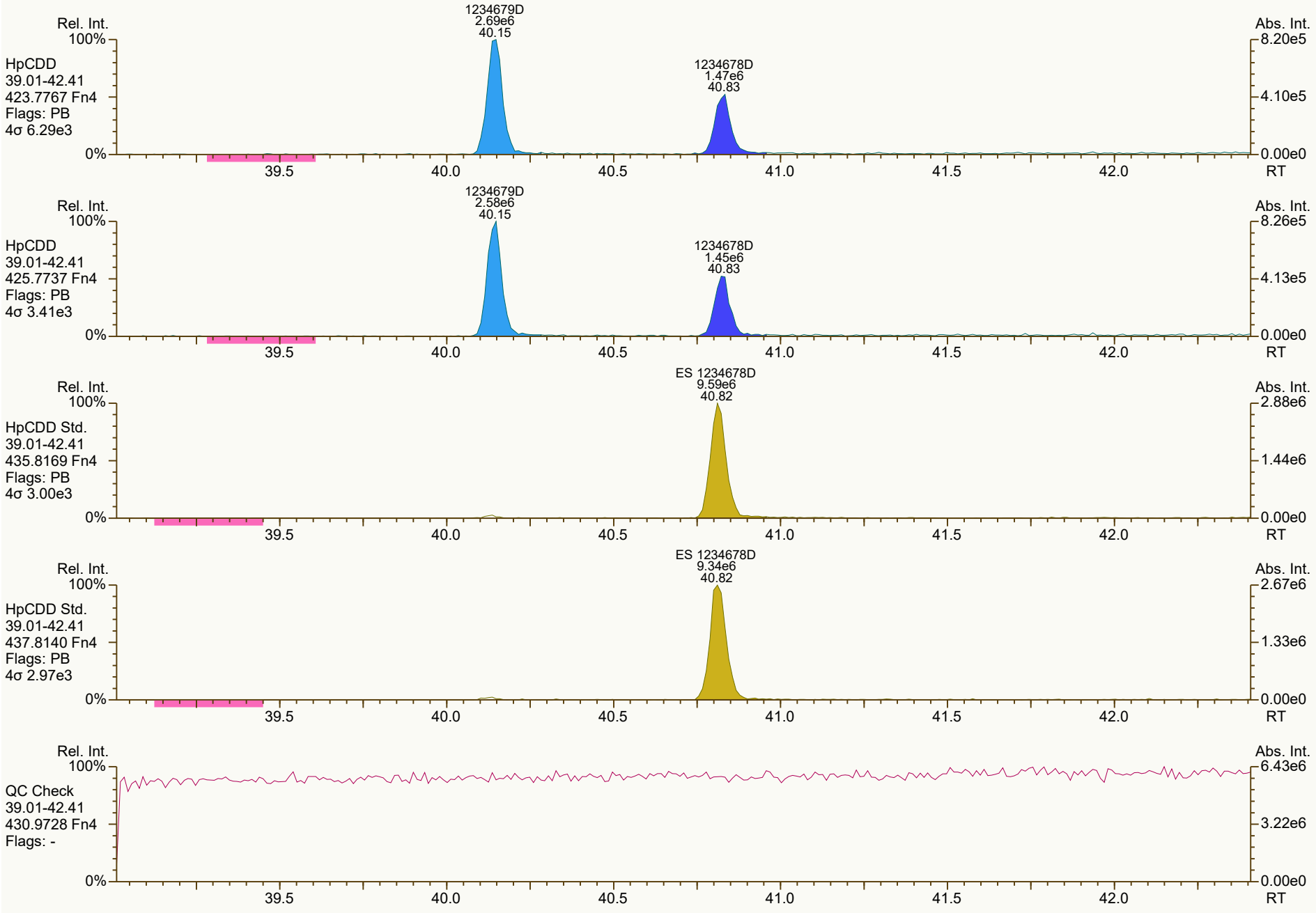
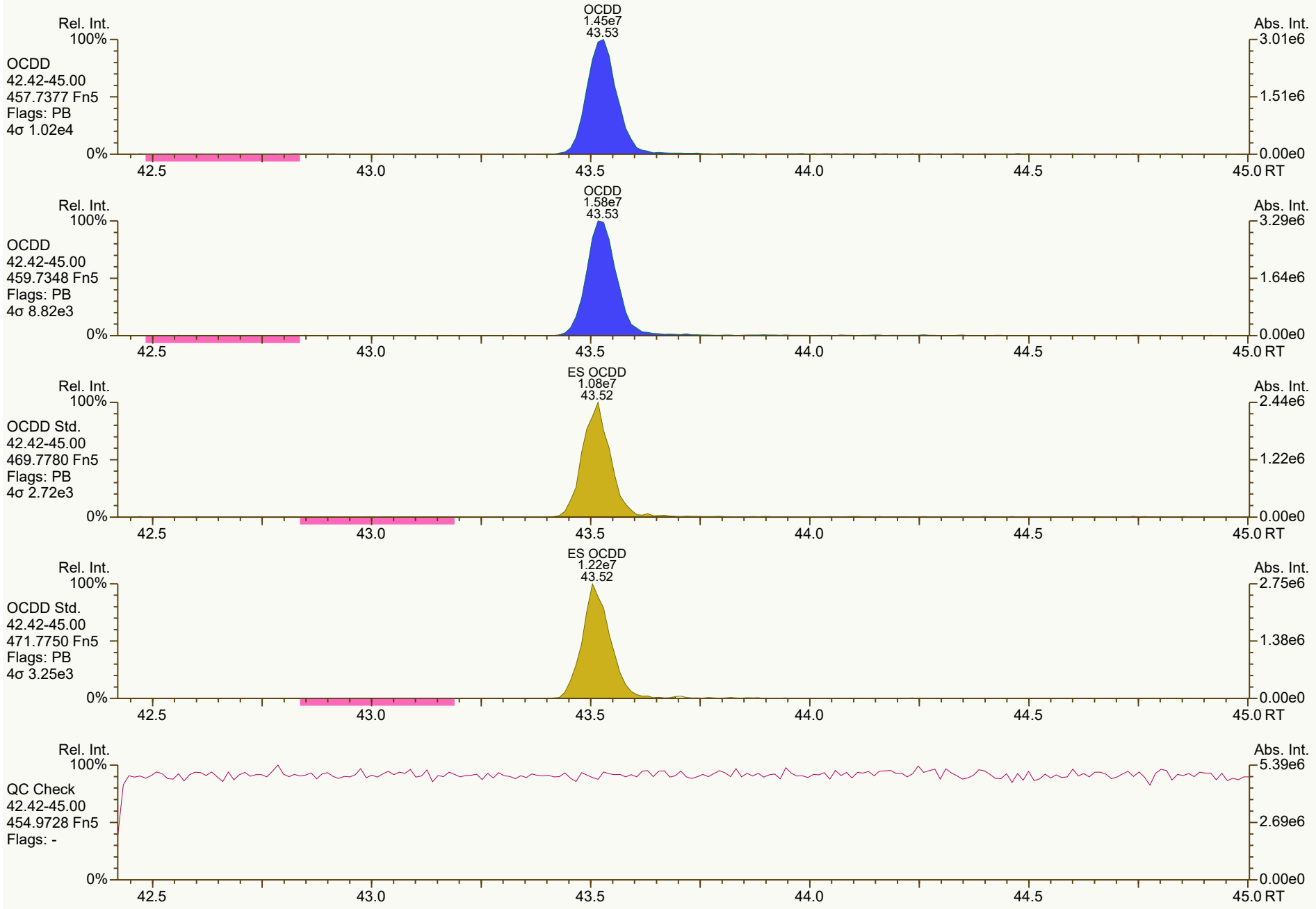
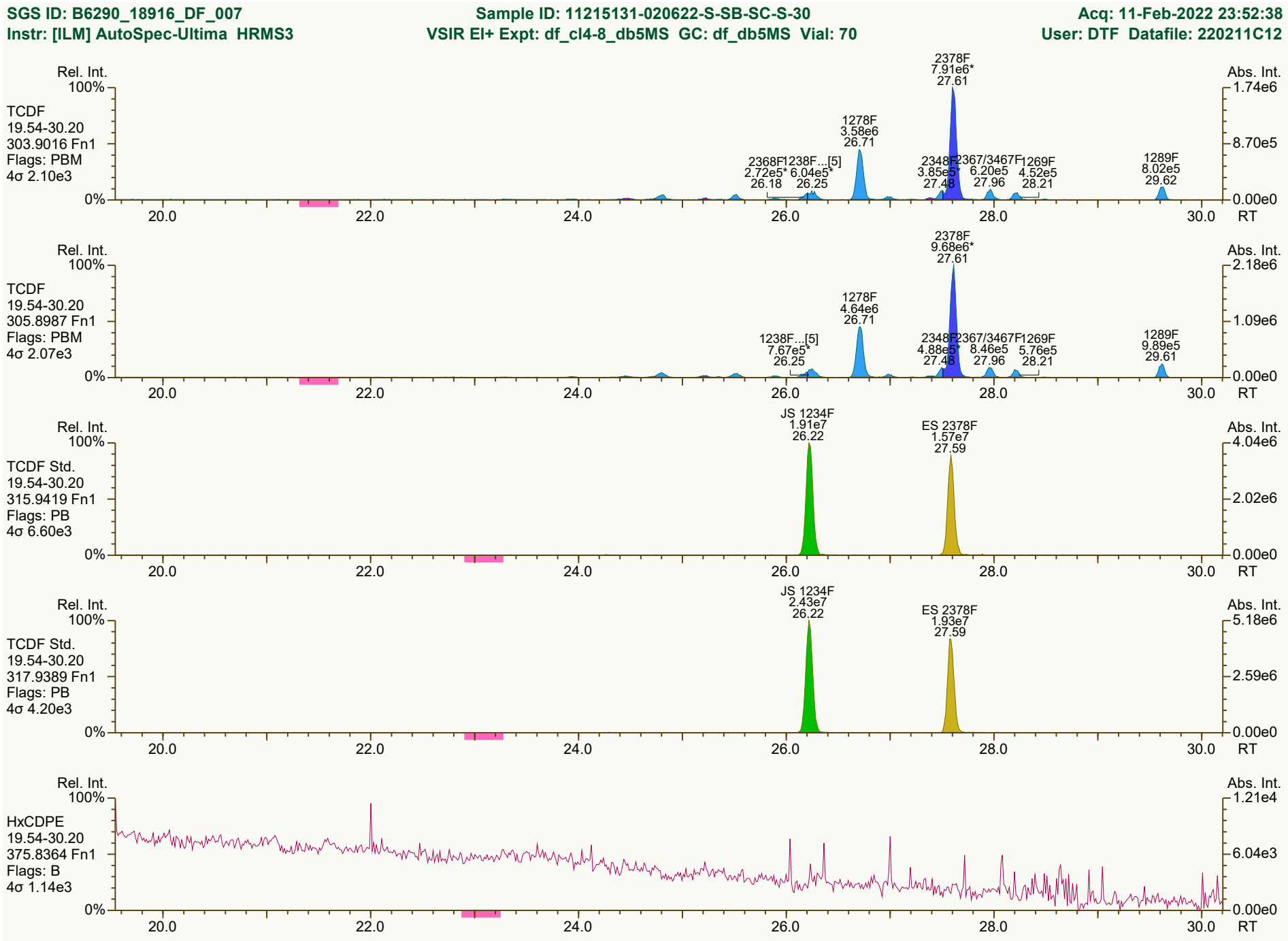
Sample ID: 11215131-020622-S-SB-SC-S-30
Acq: 11-Feb-2022 23:52:38
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 220211C12
Rel. Int.
Abs. Int.
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PBM
4σ 2.72e3
12469D
1.16e5
31.84
12369D...[3]
5.88e4*
32.95
12378D
4.47e4*
33.81
3.24e4
1.62e4
0.00e0
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PBM
4σ 2.49e3
12469D
7.15e4
31.84
12369D...[3]
4.18e4*
32.95
12378D
2.74e4*
33.81
2.35e4
1.17e4
0.00e0
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 2.13e3
CS 12347D
1.30e7
33.29
ES 12378D
1.36e7
33.79
3.88e6
1.94e6
0.00e0
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 3.52e3
CS 12347D
8.38e6
33.29
ES 12378D
8.98e6
33.79
2.50e6
1.25e6
0.00e0
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
2.71e6
1.36e6
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_007.utp_res, saved 14-Feb-2022 10:36 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0896, 8458 scc: 243-651
PKD: 14-Feb-2022 10:36 Printed: 14-Feb-2022 11:03 Page 3 of 12


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 3.23e3
0%
124679/124689D
7.99e5
35.98
123679/123689D
2.80e5
36.94
123678D
5.53e4*
37.85
123789D
7.68e4*
38.15
Abs. Int.
2.93e5
1.46e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 2.75e3
0%
RT
RT
124679/124689D
6.71e5
35.98
123468D
2.05e4*
36.64
123679/123689D
2.27e5
36.93
123469D
3.18e4*
37.06
123678D
4.24e4*
37.85
123789D
5.67e4*
38.15
Abs. Int.
1.95e5
9.76e4
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 4.42e3
0%
ES 123678D
1.14e7
37.84
ES 123478D
1.11e7
37.72
JS 123467D
6.66e6*
38.03
ES 123789D
1.20e7
38.13
Abs. Int.
3.46e6
1.73e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 3.66e3
0%
ES 123678D
9.13e6
37.84
ES 123478D
8.35e6
37.72
JS 123467D
5.33e6*
38.03
ES 123789D
9.47e6
38.13
Abs. Int.
2.72e6
1.36e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 6.29e3
1234679D
2.69e6
40.15
1234678D
1.47e6
40.83
Abs. Int.
8.20e5
4.10e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 3.41e3
1234679D
2.58e6
40.15
1234678D
1.45e6
40.83
Abs. Int.
8.26e5
4.13e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 3.00e3
ES 1234678D
9.59e6
40.82
Abs. Int.
2.88e6
1.44e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 2.97e3
ES 1234678D
9.34e6
40.82
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
6.43e6
3.22e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

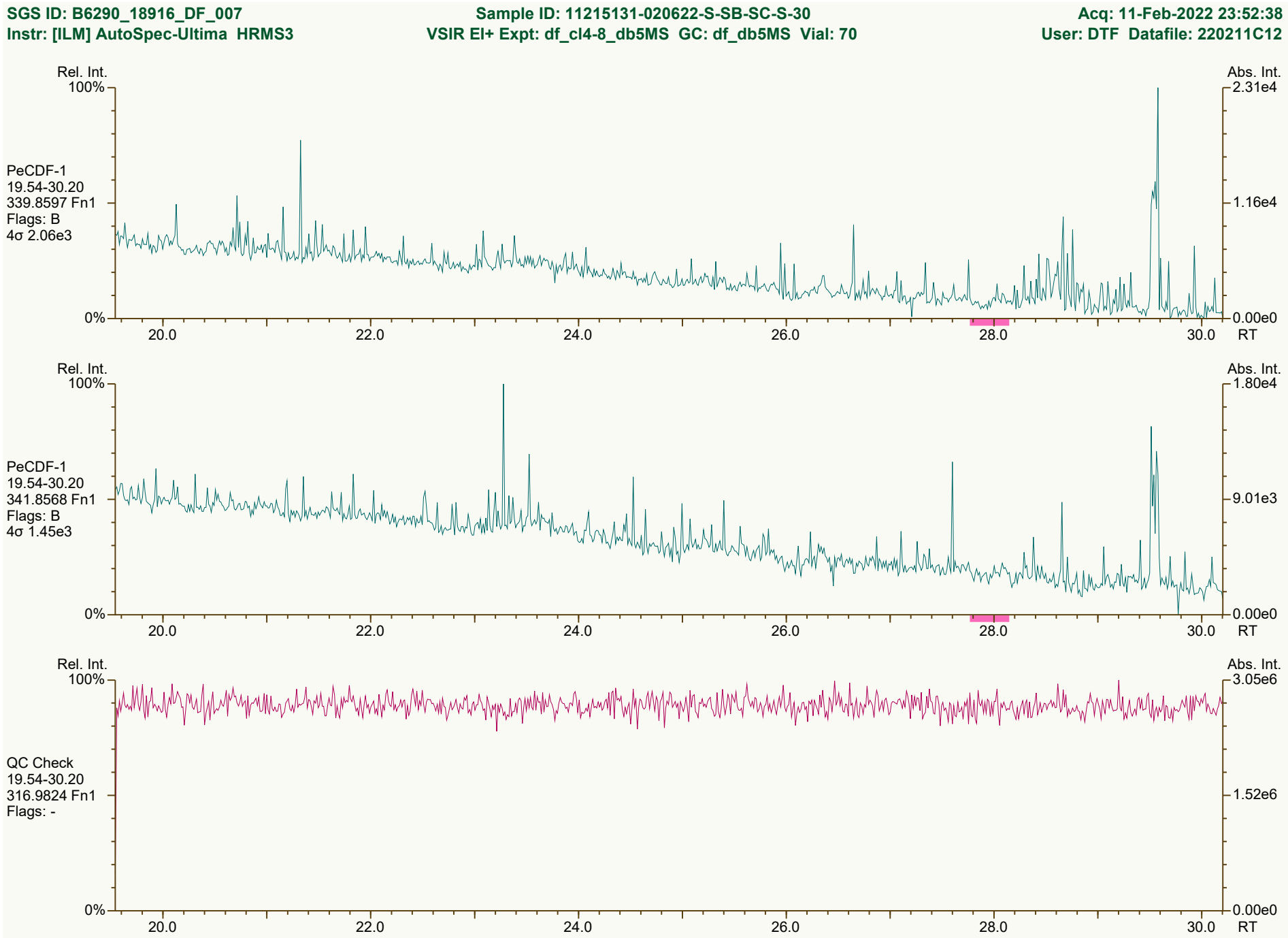

Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 1.02e4
0%
OCDD
1.45e7
43.53
Abs. Int.
3.01e6
1.51e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 8.82e3
0%
OCDD
1.58e7
43.53
Abs. Int.
3.29e6
1.64e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 2.72e3
0%
ES OCDD
1.08e7
43.52
Abs. Int.
2.44e6
1.22e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 3.25e3
0%
ES OCDD
1.22e7
43.52
Abs. Int.
2.75e6
1.38e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.39e6
2.69e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: B6290_18916_DF_007 | Sample ID: 11215131-020622-S-SB-SC-S-30 | Acq: 11-Feb-2022 23:52:38
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70 | User: DTF Datafile: 220211C12

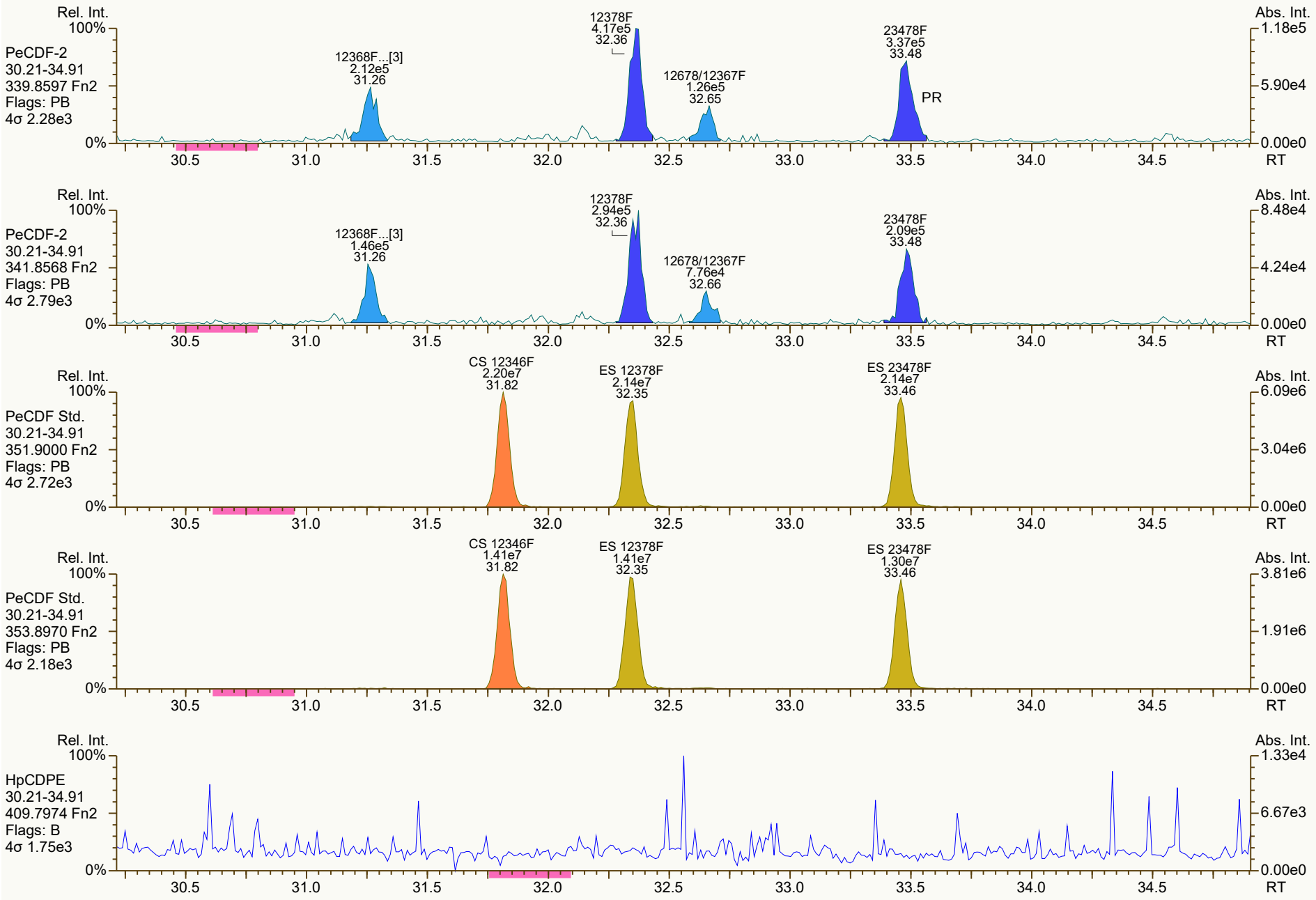


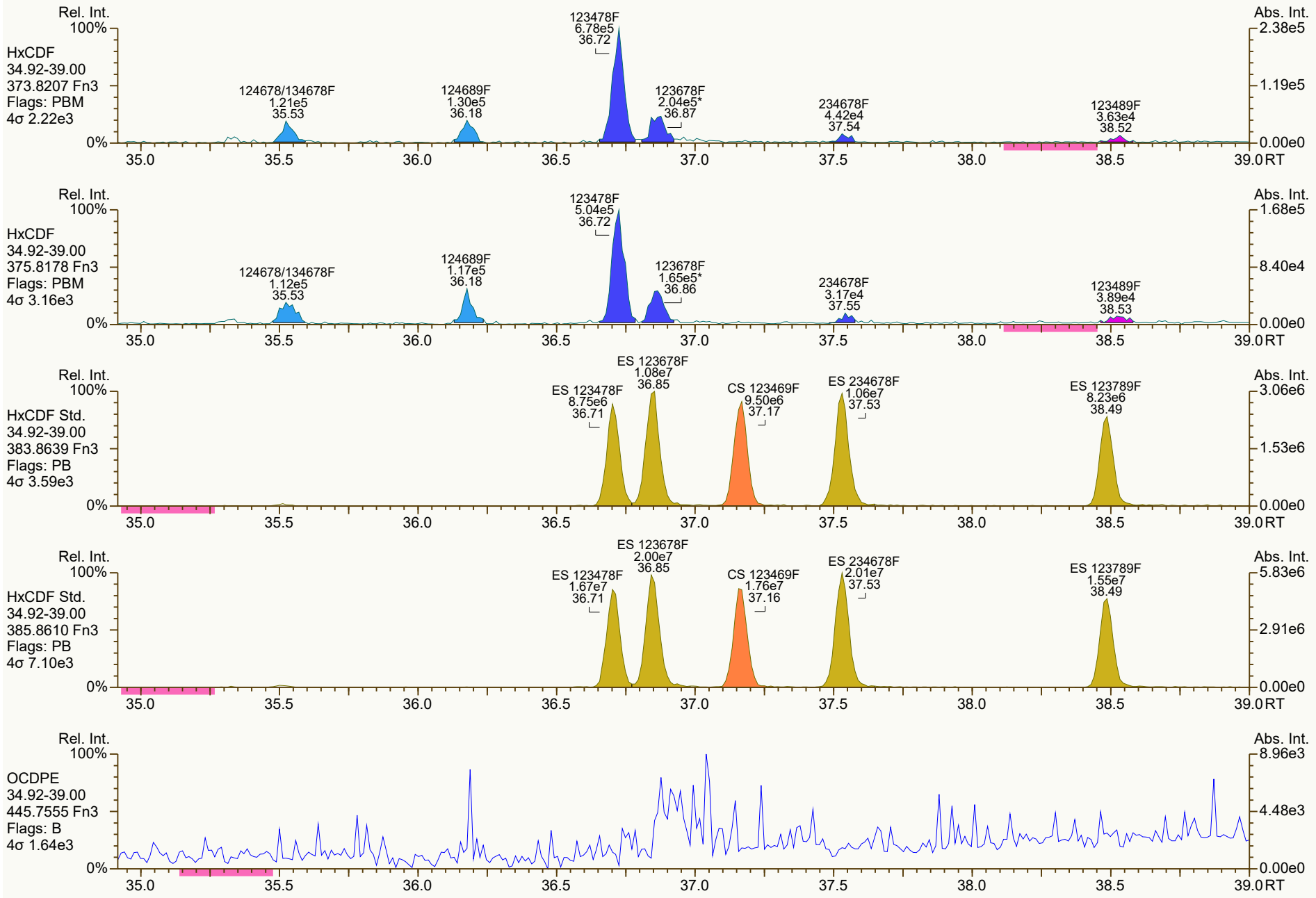
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_007.utp_res, saved 14-Feb-2022 10:36 (PSW) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0345, 9865, 1824 scc: 243-651 | PKD: 14-Feb-2022 10:36 Printed: 14-Feb-2022 11:03 Page 7 of 12

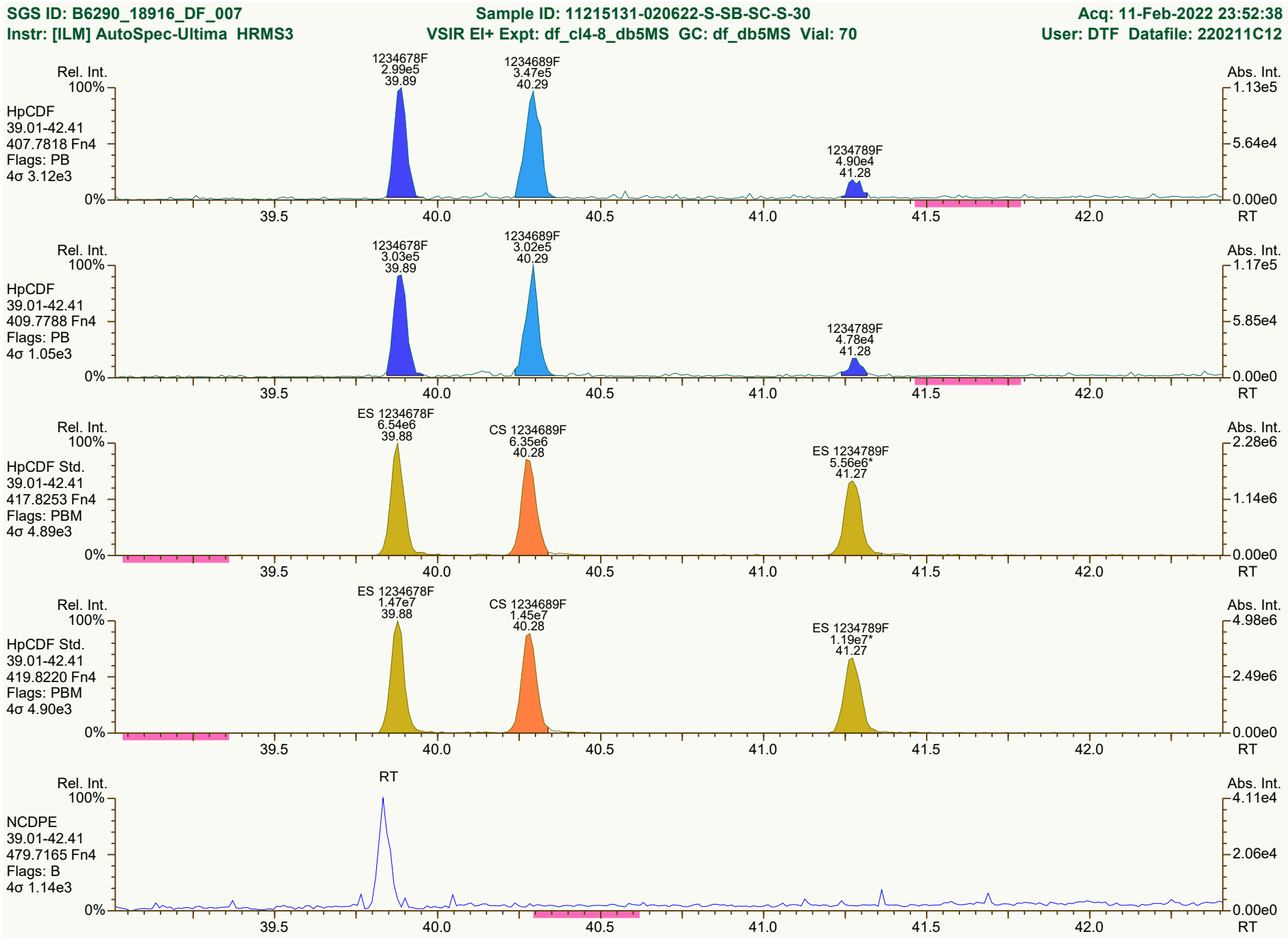
SGS ID: B6290_18916_DF_007 | Sample ID: 11215131-020622-S-SB-SC-S-30 | Acq: 11-Feb-2022 23:52:38
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70 | User: DTF Datafile: 220211C12



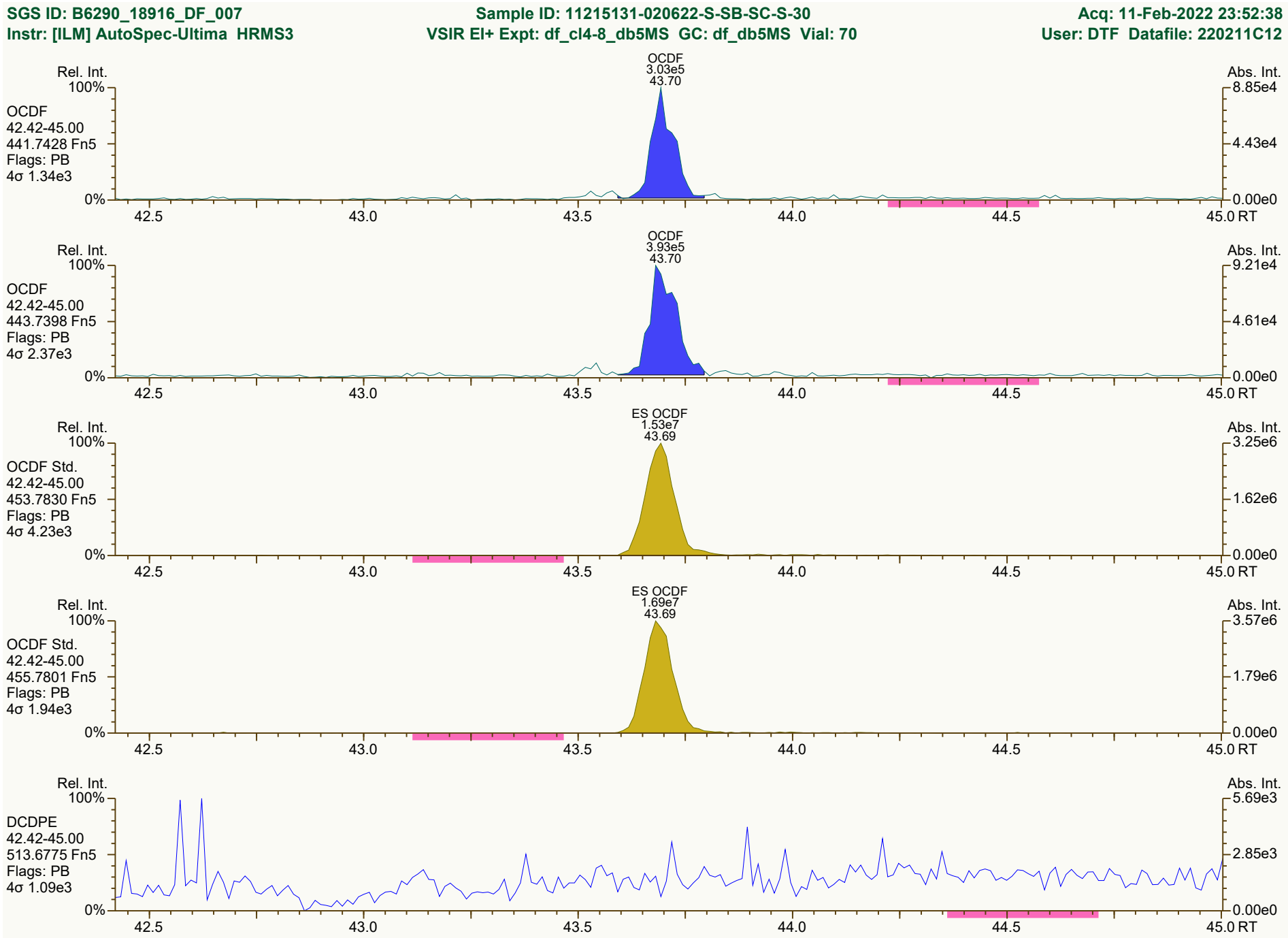
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_007.utp_res, saved 14-Feb-2022 10:36 (PSW) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8715 scc: 243-651 | *PKD: 14-Feb-2022 10:36 Printed: 14-Feb-2022 11:03 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PB
4σ 2.28e3
12368F...[3]
2.12e5
31.26
12378F
4.17e5
32.36
12678/12367F
1.26e5
32.65
23478F
3.37e5
33.48
PR
0%
Abs. Int.
1.18e5
5.90e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PB
4σ 2.79e3
12368F...[3]
1.46e5
31.26
12378F
2.94e5
32.36
12678/12367F
7.76e4
32.66
23478F
2.09e5
33.48
0%
Abs. Int.
8.48e4
4.24e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PB
4σ 2.72e3
CS 12346F
2.20e7
31.82
ES 12378F
2.14e7
32.35
ES 23478F
2.14e7
33.46
0%
Abs. Int.
6.09e6
3.04e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PB
4σ 2.18e3
CS 12346F
1.41e7
31.82
ES 12378F
1.41e7
32.35
ES 23478F
1.30e7
33.46
0%
Abs. Int.
3.81e6
1.91e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.75e3
0%
Abs. Int.
1.33e4
6.67e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 2.22e3
124678/134678F
1.21e5
35.53
124689F
1.30e5
36.18
123478F
6.78e5
36.72
123678F
2.04e5*
36.87
234678F
4.42e4
37.54
123489F
3.63e4
38.52
Abs. Int.
2.38e5
1.19e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 3.16e3
124678/134678F
1.12e5
35.53
124689F
1.17e5
36.18
123478F
5.04e5
36.72
123678F
1.65e5*
36.86
234678F
3.17e4
37.55
123489F
3.89e4
38.53
1.68e5
8.40e4
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 3.59e3
ES 123478F
8.75e6
36.71
ES 123678F
1.08e7
36.85
CS 123469F
9.50e6
37.17
ES 234678F
1.06e7
37.53
ES 123789F
8.23e6
38.49
3.06e6
1.53e6
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 7.10e3
ES 123478F
1.67e7
36.71
ES 123678F
2.00e7
36.85
CS 123469F
1.76e7
37.16
ES 234678F
2.01e7
37.53
ES 123789F
1.55e7
38.49
5.83e6
2.91e6
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.64e3
8.96e3
4.48e3


SGS ID: B6290_18916_DF_007
Sample ID: 11215131-020622-S-SB-SC-S-30
Acq: 11-Feb-2022 23:52:38
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 220211C12
Rel. Int.
Abs. Int.
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 3.12e3
1234678F
2.99e5
39.89
1234689F
3.47e5
40.29
1234789F
4.90e4
41.28
1.13e5
5.64e4
0.00e0
RT
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.05e3
1234678F
3.03e5
39.89
1234689F
3.02e5
40.29
1234789F
4.78e4
41.28
1.17e5
5.85e4
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 4.89e3
ES 1234678F
6.54e6
39.88
CS 1234689F
6.35e6
40.28
ES 1234789F
5.56e6*
41.27
2.28e6
1.14e6
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 4.90e3
ES 1234678F
1.47e7
39.88
CS 1234689F
1.45e7
40.28
ES 1234789F
1.19e7*
41.27
4.98e6
2.49e6
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.14e3
RT
4.11e4
2.06e4
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0

SGS ID: B6290_18916_DF_007 | Sample ID: 11215131-020622-S-SB-SC-S-30 | Acq: 11-Feb-2022 23:52:38
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70 | User: DTF Datafile: 220211C12



Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_007.utp_res, saved 14-Feb-2022 10:36 (PSW) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8707, 7359, 1010 scc: 243-651 | *PKD: 14-Feb-2022 10:36 Printed: 14-Feb-2022 11:04 Page 12 of 12*

Lab ID: B6290_18916_DF_008 **Acq'd:** 12 Feb 2022 00:38 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-S-31 **UTP:** 14-Feb-2022 10:41:28 PSW **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 898-686-PBZ

Datafile: 220211C13 **Report:** 14 Feb 2022 10:42 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.48		1.0008	1.0007	-0.2	3.11E+05	0.80	Y	1.18	1.96	3356.442	0.218
12378-PeCDD	33.82	J EMPC	1.0005	1.0004	-0.2	4.77E+04	2.71	N	1.04	0.372	4691.193	0.333
123478-HxCDD	37.75	J	1.0004	1.0005	+0.2	9.91E+04	1.24	Y	1.09	0.877	3725.051	0.271
123678-HxCDD	37.86	J	1.0035	1.0035	0	2.78E+05	1.16	Y	1.15	2.18	3725.051	0.247
123789-HxCDD	38.15	J	1.0113	1.0112	-0.2	2.42E+05	1.24	Y	1.05	2.02	3725.051	0.267
1234678-HpCDD	40.83		1.0003	1.0003	0	8.41E+06	1.04	Y	1.06	79.3	5273.21	0.396
OCDD	43.54		1.0002	1.0003	+0.3	8.03E+07	0.92	Y	1.13	1,040	9522.658	1.49
2378-TCDF	27.62		1.0008	1.0007	-0.2	1.22E+06	0.76	Y	1.08	5.52	3601.208	0.173
12378-PeCDF	32.37	J EMPC	1.0005	1.0005	0	1.52E+05	2.04	N	1.02	0.752	3351.423	0.154
23478-PeCDF	33.50	J	1.0005	1.0008	+0.6	2.54E+05	1.43	Y	1.02	1.28	3351.423	0.153
123478-HxCDF	36.73	J	1.0005	1.0005	0	3.78E+05	1.29	Y	1.27	2.22	5055.693	0.242
123678-HxCDF	36.88	J	1.0005	1.0006	+0.2	2.11E+05	1.19	Y	1.15	1.09	5055.693	0.236
234678-HxCDF	37.56	J	1.0005	1.0005	0	2.39E+05	1.15	Y	1.19	1.2	5055.693	0.216
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	5055.693	0.269
1234678-HpCDF	39.90		1.0003	1.0002	-0.2	1.89E+06	1.03	Y	1.37	11.7	3318.898	0.145
1234789-HpCDF	41.29	J EMPC	1.0003	1.0002	-0.2	1.37E+05	0.81	N	1.31	1.12	3318.898	0.236
OCDF	43.71		1.0003	1.0002	-0.3	3.23E+06	0.87	Y	1.07	34.2	2545.017	0.315

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46		1.0238	1.0238	0	2.65E+07	0.81	Y	1.05	85.1
ES 12378-PeCDD	33.80		1.2160	1.2163	+0.6	2.44E+07	1.59	Y	0.88	93.3
ES 123478-HxCDD	37.73		0.9919	0.9919	0	2.05E+07	1.27	Y	0.97	90.7
ES 123678-HxCDD	37.85		0.9950	0.9950	0	2.19E+07	1.29	Y	0.94	100
ES 123789-HxCDD	38.14		1.0027	1.0027	0	2.26E+07	1.29	Y	1.09	89.2
ES 1234678-HpCDD	40.82		1.0730	1.0732	+0.5	1.98E+07	1.06	Y	0.91	93.2
ES OCDD	43.53		1.1437	1.1444	+1.8	2.70E+07	0.90	Y	0.62	93.3
ES 2378-TCDF	27.60		1.0520	1.0520	0	4.03E+07	0.80	Y	1.06	81.4
ES 12378-PeCDF	32.36		1.2330	1.2334	+0.8	3.91E+07	1.59	Y	0.91	91.8
ES 23478-PeCDF	33.47		1.2754	1.2758	+0.8	3.84E+07	1.55	Y	0.88	93.1
ES 123478-HxCDF	36.72		0.9653	0.9653	0	2.65E+07	0.54	Y	1.20	95
ES 123678-HxCDF	36.86		0.9691	0.9690	-0.2	3.31E+07	0.52	Y	1.35	106
ES 234678-HxCDF	37.54		0.9870	0.9870	0	3.31E+07	0.53	Y	1.24	115
ES 123789-HxCDF	38.50		1.0121	1.0121	0	2.56E+07	0.54	Y	1.16	95.5
ES 1234678-HpCDF	39.89		1.0484	1.0486	+0.5	2.34E+07	0.43	Y	0.97	104
ES 1234789-HpCDF	41.29		1.0851	1.0854	+0.7	1.84E+07	0.49	Y	0.85	93.2
ES OCDF	43.70		1.1483	1.1489	+1.6	3.48E+07	0.92	Y	0.81	92.8

Lab ID: B6290_18916_DF_008 **Acq'd:** 12 Feb 2022 00:38 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-S-31 **UTP:** 14-Feb-2022 10:41:28 PSW **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 898-686-PBZ

Datafile: 220211C13 **Report:** 14 Feb 2022 10:42 gd **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.79		-	-	-	2.98E+07	0.84	Y	-	-
JS 1234-TCDF	26.23		-	-	-	4.68E+07	0.79	Y	-	-
JS 123467-HxCDD	38.04		-	-	-	1.16E+07	1.26	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0245	1.0246	+0.2	1.22E+07	n/a	-	1.20	85.2
CS 12347-PeCDD	33.30		1.1979	1.1982	+0.6	2.31E+07	1.66	Y	0.75	103
CS 12346-PeCDF	31.83		1.2128	1.2132	+0.8	3.95E+07	1.62	Y	0.85	99.3
CS 123469-HxCDF	37.17		0.9774	0.9773	-0.2	2.90E+07	0.56	Y	1.12	112
CS 1234689-HpCDF	40.29		1.0589	1.0592	+0.7	2.27E+07	0.45	Y	0.89	110
~~SS 37Cl-2378-TCDD~~	~~28.48~~		~~1.0245~~	~~1.0246~~	~~+0.2~~	~~1.22E+07~~	~~n/a~~		~~1.15~~	~~100~~
~~SS 12347-PeCDD~~	~~33.30~~		~~1.1979~~	~~1.1982~~	~~+0.6~~	~~2.31E+07~~	~~1.66~~	~~Y~~	~~0.86~~	~~110~~
~~SS 12346-PeCDF~~	~~31.83~~		~~1.2128~~	~~1.2132~~	~~+0.8~~	~~3.95E+07~~	~~1.62~~	~~Y~~	~~0.94~~	~~100~~
~~SS 123469-HxCDF~~	~~37.17~~		~~0.9774~~	~~0.9773~~	~~-0.2~~	~~2.90E+07~~	~~0.56~~	~~Y~~	~~0.83~~	~~106~~
~~SS 1234689-HpCDF~~	~~40.29~~		~~1.0589~~	~~1.0592~~	~~+0.7~~	~~2.27E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~105~~

Totals	Conc	EMPC
Total TCDD	10.1	10.7
Total PeCDD	8.54	10.6
Total HxCDD	65.6	65.6
Total HpCDD	267	267
Total Tetra-Octa Dioxins	1390	1400
Total TCDF	16.6	19.4
Total PeCDF	8.62	10.1
Total HxCDF	17.3	18.3
Total HpCDF	32.8	34.5
Total Tetra-Octa Furans	110	117
Total Tetra-Octa Dioxins & Furans	1500	1510

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.767	0.80
Response	3.18E+05	3.11E+05

Lab ID: B6290_18916_DF_008 **Acq'd: 12 Feb 2022 00:38 DTF** **Wt/Vol: 10.12 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-S-31 **UTP: 14-Feb-2022 10:41:28 PSW** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 898-686-PBZ**

Datafile: 220211C13 **Report: 14 Feb 2022 10:42 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.84		0.8737	0.8728	-1.3	1.50E+05	0.83	Y	1.18	0.944	3356.442	0.218
1379-TCDD	25.19		0.8860	0.8853	-1.1	9.63E+04	0.69	Y	1.18	0.606	3356.442	0.218
1369-TCDD	NotFnd		0.9009						1.18		3356.442	0.218
1469-TCDD	26.39		0.9281	0.9276	-0.8	9.44E+05	0.78	Y	1.18	5.94	3356.442	0.218
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3356.442	0.218
1378-TCDD	NotFnd		0.9432						1.18		3356.442	0.218
1268-TCDD	NotFnd		0.9500						1.18		3356.442	0.218
1478-TCDD	NotFnd		0.9586						1.18		3356.442	0.218
1279-TCDD	27.44	J EMPC	0.9645	0.9641	-0.7	3.32E+04	0.97	N	1.18	0.209	3356.442	0.218
1234/1269-TCDD	27.79		0.9770	0.9764	-1.0	9.96E+04	0.77	Y	1.18	0.627	3356.442	0.218
1236-TCDD	NotFnd		0.9817						1.18		3356.442	0.218
1237/1238-TCDD	28.15	J EMPC	0.9905	0.9891	-2.4	2.00E+04	0.28	N	1.18	0.126	3356.442	0.218
1239-TCDD	NotFnd		0.9952						1.18		3356.442	0.218
2378-TCDD	**28.48**		**1.0008**	1.0007	**-0.2**	3.11E+05	0.80	Y	**1.18**	**1.96**	**3356.442**	**0.218**
1278-TCDD	28.82	J EMPC	1.0121	1.0127	+1.0	3.87E+04	1.22	N	1.18	0.244	3356.442	0.218
1267-TCDD	NotFnd		1.0167						1.18		3356.442	0.218
1289-TCDD	NotFnd		1.0345						1.18		3356.442	0.218
12479/12468-PeCDD	31.32	J	0.9267	0.9264	-0.6	2.66E+05	1.70	Y	1.04	2.08	4691.193	0.333
12469-PeCDD	31.85		0.9425	0.9422	-0.6	6.59E+05	1.50	Y	1.04	5.14	4691.193	0.333
12368-PeCDD	32.40	J EMPC	0.9588	0.9585	-0.6	8.42E+04	1.80	N	1.04	0.657	4691.193	0.333
12478-PeCDD	32.59	J EMPC	0.9643	0.9640	-0.6	5.38E+04	1.30	N	1.04	0.42	4691.193	0.333
12379-PeCDD	32.69	J EMPC	0.9673	0.9671	-0.4	7.39E+04	1.89	N	1.04	0.577	4691.193	0.333
12369/12467/12489-PeCDD	32.96	J	0.9750	0.9751	+0.2	1.69E+05	1.73	Y	1.04	1.32	4691.193	0.333
12346/12347-PeCDD	NotFnd		0.9858						1.04		4691.193	0.333
12378-PeCDD	33.82	J EMPC	**1.0005**	**1.0004**	**-0.2**	**4.77E+04**	**2.71**	**N**	**1.04**	**0.372**	**4691.193**	**0.333**
12367-PeCDD	NotFnd		1.0033						1.04		4691.193	0.333
12389-PeCDD	NotFnd		1.0134						1.04		4691.193	0.333
124679/124689-HxCDD	35.99		0.9542	0.9540	-0.4	5.01E+06	1.26	Y	1.10	41.7	3725.051	0.261
123468-HxCDD	36.65		0.9715	0.9714	-0.2	3.79E+05	1.21	Y	1.10	3.15	3725.051	0.261
123679/123689-HxCDD	36.94		0.9793	0.9791	-0.4	1.41E+06	1.28	Y	1.10	11.7	3725.051	0.261
123469-HxCDD	37.08		0.9828	0.9827	-0.2	3.47E+05	1.21	Y	1.10	2.89	3725.051	0.261
123478-HxCDD	37.75	J	**1.0004**	**1.0005**	**+0.2**	**9.91E+04**	**1.24**	**Y**	1.09	**0.877**	**3725.051**	**0.271**
123678-HxCDD	37.86	J	**1.0035**	**1.0035**	**0**	**2.78E+05**	**1.16**	**Y**	1.15	**2.18**	**3725.051**	**0.247**
123467-HxCDD	38.05	J	1.0085	1.0085	0	1.33E+05	1.13	Y	1.10	1.11	3725.051	0.261
123789-HxCDD	38.15	J	**1.0113**	**1.0112**	**-0.2**	**2.42E+05**	**1.24**	**Y**	1.05	**2.02**	**3725.051**	**0.267**

Lab ID: B6290_18916_DF_008 **Acq'd: 12 Feb 2022 00:38 DTF** **Wt/Vol: 10.12 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-S-31 **UTP: 14-Feb-2022 10:41:28 PSW** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 898-686-PBZ**

Datafile: 220211C13 **Report: 14 Feb 2022 10:42 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.15		0.9837	0.9836	-0.2	1.99E+07	1.05	Y	1.06	188	5273.21	0.396
1234678-HpCDD	**40.83**		**1.0003**	**1.0003**	**0**	**8.41E+06**	**1.04**	**Y**	**1.06**	**79.3**	**5273.21**	**0.396**
OCDD	**43.54**		**1.0002**	**1.0003**	**+0.3**	**8.03E+07**	**0.92**	**Y**	**1.13**	**1,040**	**9522.658**	**1.49**
OCDD-a	43.54		1.0001	1.0002	+0.3	5.15E+06	2.60	Y	0.07	1,040	3842.144	9.4
1368-TCDF	NotFnd		0.8251						1.08		3601.208	0.173
1468-TCDF	23.30	J	0.8458	0.8442	-2.2	5.45E+04	0.72	Y	1.08	0.248	3601.208	0.173
2468-TCDF	23.94	EMPC	0.8686	0.8673	-1.9	1.61E+05	0.92	N	1.08	0.732	3601.208	0.173
1346/1246-TCDF	24.35	J EMPC	0.8814	0.8822	+1.2	7.96E+04	0.94	N	1.08	0.361	3601.208	0.173
1347/1378/1247-TCDF	24.46		0.8867	0.8862	-0.7	2.61E+05	0.81	Y	1.08	1.19	3601.208	0.173
1348-TCDF	24.73	J	0.8962	0.8961	-0.1	3.51E+04	0.66	Y	1.08	0.159	3601.208	0.173
1248/1367/1379-TCDF	24.83	EMPC	0.9009	0.8998	-1.6	1.66E+05	0.98	N	1.08	0.752	3601.208	0.173
1268-TCDF	25.23		0.9145	0.9143	-0.3	1.25E+05	0.86	Y	1.08	0.569	3601.208	0.173
1467-TCDF	NotFnd		0.9193						1.08		3601.208	0.173
1478-TCDF	25.52		0.9254	0.9247	-1.1	1.15E+05	0.78	Y	1.08	0.523	3601.208	0.173
1369/1237-TCDF	25.91	J EMPC	0.9387	0.9387	0	7.61E+04	1.09	N	1.08	0.346	3601.208	0.173
2467-TCDF	26.03	J EMPC	0.9433	0.9432	-0.2	6.91E+04	1.04	N	1.08	0.314	3601.208	0.173
2368-TCDF	26.19		0.9489	0.9490	+0.2	1.73E+05	0.68	Y	1.08	0.785	3601.208	0.173
1238/1234/1678/1469/1236-TCDF	26.27		0.9523	0.9518	-0.8	1.96E+05	0.87	Y	1.08	0.891	3601.208	0.173
1278-TCDF	26.72		0.9683	0.9682	-0.2	6.55E+05	0.77	Y	1.08	2.97	3601.208	0.173
1349-TCDF	NotFnd		0.9722						1.08		3601.208	0.173
1267-TCDF	27.01	J	0.9783	0.9787	+0.6	1.01E+05	0.79	Y	1.08	0.459	3601.208	0.173
2346/1249-TCDF	27.18	J	0.9850	0.9847	-0.5	6.07E+04	0.69	Y	1.08	0.276	3601.208	0.173
2347/1279-TCDF	27.40	J	0.9926	0.9927	+0.2	8.27E+04	0.66	Y	1.08	0.376	3601.208	0.173
2348-TCDF	27.51		0.9967	0.9967	0	1.58E+05	0.67	Y	1.08	0.716	3601.208	0.173
2378-TCDF	**27.62**		**1.0008**	**1.0007**	**-0.2**	**1.22E+06**	**0.76**	**Y**	**1.08**	**5.52**	**3601.208**	**0.173**
2367/3467-TCDF	27.97		1.0137	1.0135	-0.3	2.78E+05	0.76	Y	1.08	1.26	3601.208	0.173
1269-TCDF	28.23	J EMPC	1.0223	1.0230	+1.2	6.52E+04	0.96	N	1.08	0.296	3601.208	0.173
1239-TCDF	NotFnd		1.0321						1.08		3601.208	0.173
1289-TCDF	29.63		1.0722	1.0735	+2.3	1.45E+05	0.83	Y	1.08	0.657	3601.208	0.173
13468/12468-PeCDF	29.56	J	0.9139	0.9137	-0.4	3.96E+05	1.42	Y	1.02	1.98	2422.649	0.111
13678/13467/12467-PeCDF	31.11	J	0.9613	0.9614	+0.2	1.91E+05	1.65	Y	1.02	0.952	3351.423	0.153
12368/13478/12478-PeCDF	31.27	J	0.9662	0.9664	+0.4	4.15E+05	1.54	Y	1.02	2.07	3351.423	0.153
14678-PeCDF	31.36	J EMPC	0.9692	0.9692	0	4.86E+04	1.06	N	1.02	0.243	3351.423	0.153
13479-PeCDF	NotFnd		0.9723						1.02		3351.423	0.153
13469/12479-PeCDF	NotFnd		0.9797						1.02		3351.423	0.153
12346-PeCDF	31.84	J	0.9840	0.9840	0	6.11E+04	1.35	Y	1.02	0.305	3351.423	0.153

Lab ID: B6290_18916_DF_008 **Acq'd: 12 Feb 2022 00:38 DTF** **Wt/Vol: 10.12 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

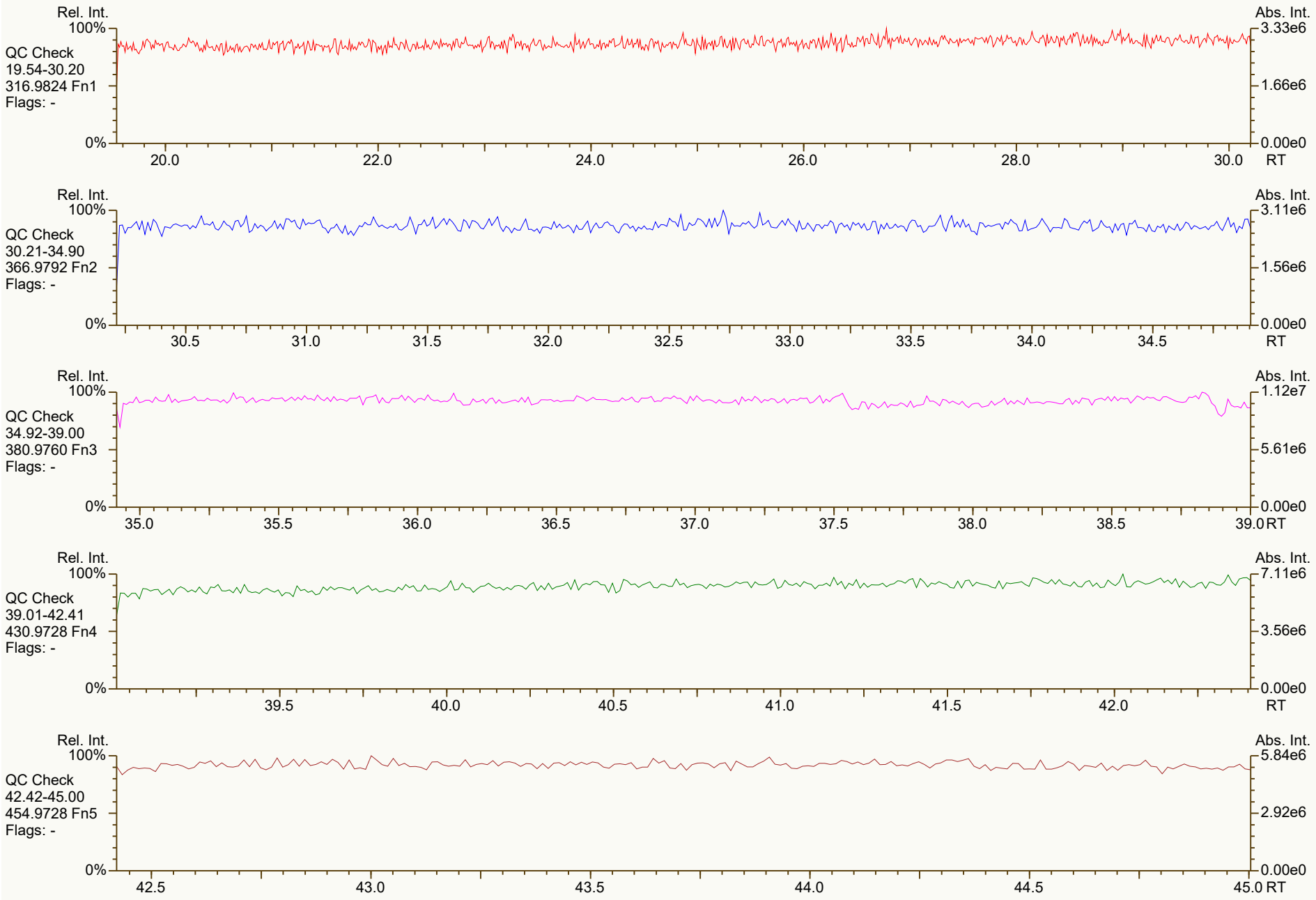
Client ID: 11215131-020622-S-SB-SC-S-31 **UTP: 14-Feb-2022 10:41:28 PSW** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 898-686-PBZ**

Datafile: 220211C13 **Report: 14 Feb 2022 10:42 gd** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.94	J EMPC	0.9868	0.9871	+0.6	9.96E+04	1.24	N	1.02	0.497	3351.423	0.153
12347-PeCDF	32.00	J	0.9894	0.9890	-0.8	4.98E+04	1.60	Y	1.02	0.248	3351.423	0.153
12348-PeCDF	32.17	J	0.9940	0.9944	+0.8	4.83E+04	1.64	Y	1.02	0.241	3351.423	0.153
12378-PeCDF	**32.37**	J EMPC	**1.0005**	**1.0005**	**0**	**1.52E+05**	**2.04**	**N**	**1.02**	**0.752**	**3351.423**	**0.154**
12678/12367-PeCDF	32.66	J	1.0089	1.0092	+0.6	1.53E+05	1.53	Y	1.02	0.763	3351.423	0.153
12379-PeCDF	NotFnd		1.0142						1.02		3351.423	0.153
12679-PeCDF	NotFnd		0.9929						1.02		3351.423	0.153
23467/12369-PeCDF	33.36	J	0.9967	0.9968	+0.2	1.56E+05	1.47	Y	1.02	0.778	3351.423	0.153
23478-PeCDF	**33.50**	J	**1.0005**	**1.0008**	**+0.6**	**2.54E+05**	**1.43**	**Y**	**1.02**	**1.28**	**3351.423**	**0.153**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3351.423	0.153
12349-PeCDF	NotFnd		1.0100						1.02		3351.423	0.153
12389-PeCDF	NotFnd		1.0324						1.02		3351.423	0.153
123468-HxCDF	35.34	J	0.9627	0.9626	-0.2	3.23E+05	1.20	Y	1.19	1.81	5055.693	0.238
124678/134678-HxCDF	35.54		0.9682	0.9680	-0.4	9.14E+05	1.17	Y	1.19	5.11	5055.693	0.238
134679-HxCDF	NotFnd		0.9744						1.19		5055.693	0.238
124679-HxCDF	NotFnd		0.9798						1.19		5055.693	0.238
124689-HxCDF	36.19		0.9858	0.9857	-0.2	1.05E+06	1.30	Y	1.19	5.85	5055.693	0.238
123467-HxCDF	36.62	J EMPC	0.9972	0.9973	+0.2	8.82E+04	1.54	N	1.19	0.494	5055.693	0.238
123478-HxCDF	**36.73**	J	**1.0005**	**1.0005**	**0**	**3.78E+05**	**1.29**	**Y**	**1.27**	**2.22**	**5055.693**	**0.242**
123678-HxCDF	**36.88**	J	**1.0005**	**1.0006**	**+0.2**	**2.11E+05**	**1.19**	**Y**	**1.15**	**1.09**	**5055.693**	**0.236**
123479-HxCDF	NotFnd		1.0049						1.19		5055.693	0.238
123469-HxCDF	NotFnd		1.0090						1.19		5055.693	0.238
123679-HxCDF	NotFnd		0.9942						1.19		5055.693	0.238
234678-HxCDF	**37.56**	J	**1.0005**	**1.0005**	**0**	**2.39E+05**	**1.15**	**Y**	**1.19**	**1.2**	**5055.693**	**0.216**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		5055.693	0.238
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**5055.693**	**0.269**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.54	J EMPC	1.0009	1.0010	+0.2	8.47E+04	1.60	N	1.19	0.474	5055.693	0.238
1234678-HpCDF	**39.90**		**1.0003**	**1.0002**	**-0.2**	**1.89E+06**	**1.03**	**Y**	**1.37**	**11.7**	**3318.898**	**0.145**
1234679-HpCDF	40.16	**J EMPC**	1.0068	1.0068	0	8.27E+04	1.21	N	1.34	0.583	3318.898	0.185
1234689-HpCDF	40.30		1.0103	1.0103	0	3.00E+06	1.01	Y	1.34	21.2	3318.898	0.185
1234789-HpCDF	**41.29**	**J EMPC**	**1.0003**	**1.0002**	**-0.2**	**1.37E+05**	**0.81**	**N**	**1.31**	**1.12**	**3318.898**	**0.236**
OCDF	**43.71**		**1.0003**	**1.0002**	**-0.3**	**3.23E+06**	**0.87**	**Y**	**1.07**	**34.2**	**2545.017**	**0.315**
OCDF-a	43.71	**EMPC**	1.0002	1.0002	0	1.46E+05	1.66	N	0.07	25	2848.4	5.7

SGS ID: B6290_18916_DF_008 | Sample ID: 11215131-020622-S-SB-SC-S-31 | Acq: 12-Feb-2022 00:38:59

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71 | User: DTF Datafile: 220211C13



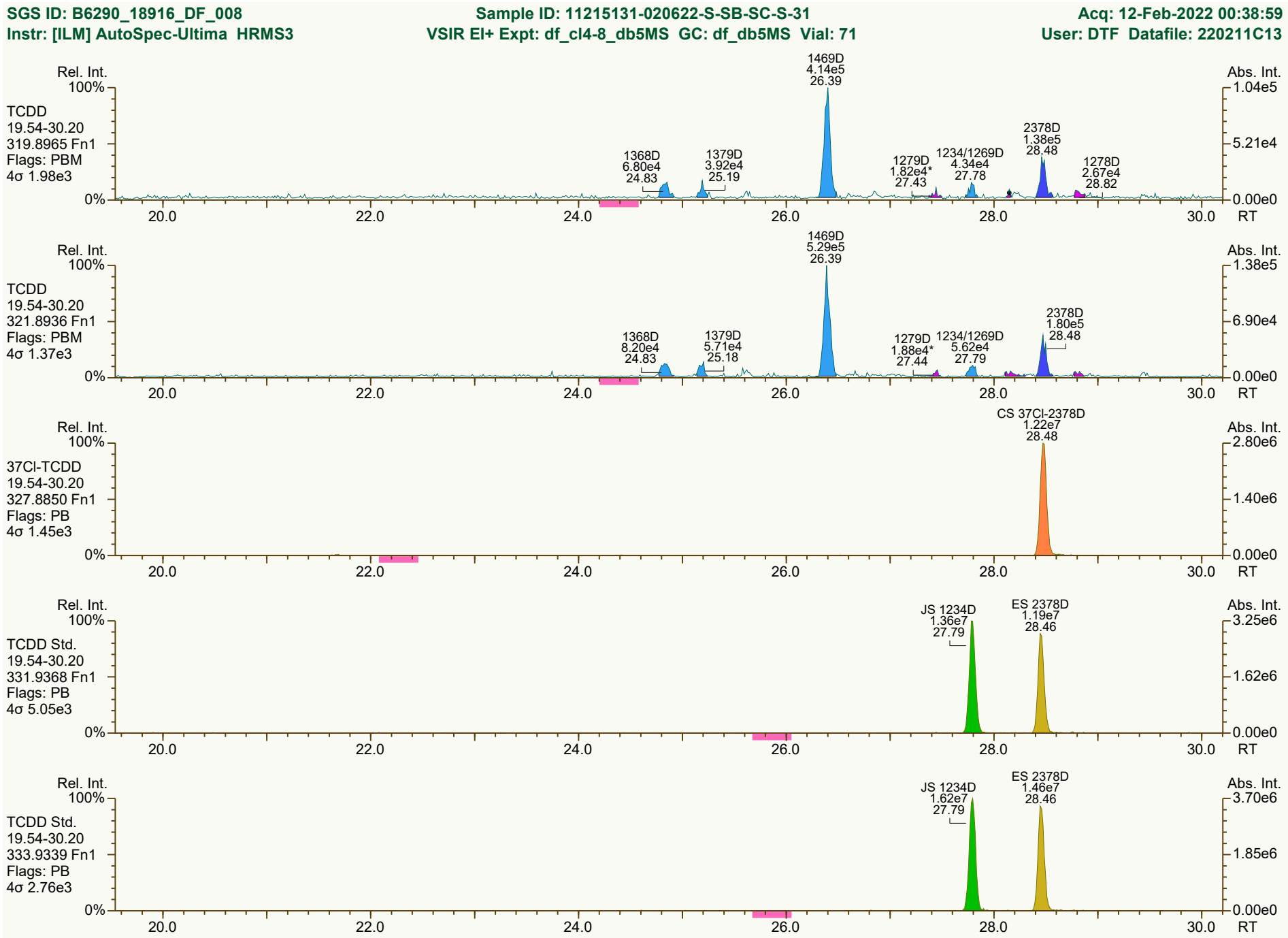
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_008.utp_res, saved 14-Feb-2022 10:59 (PSW)

Peak annotation: Areas, Centroids

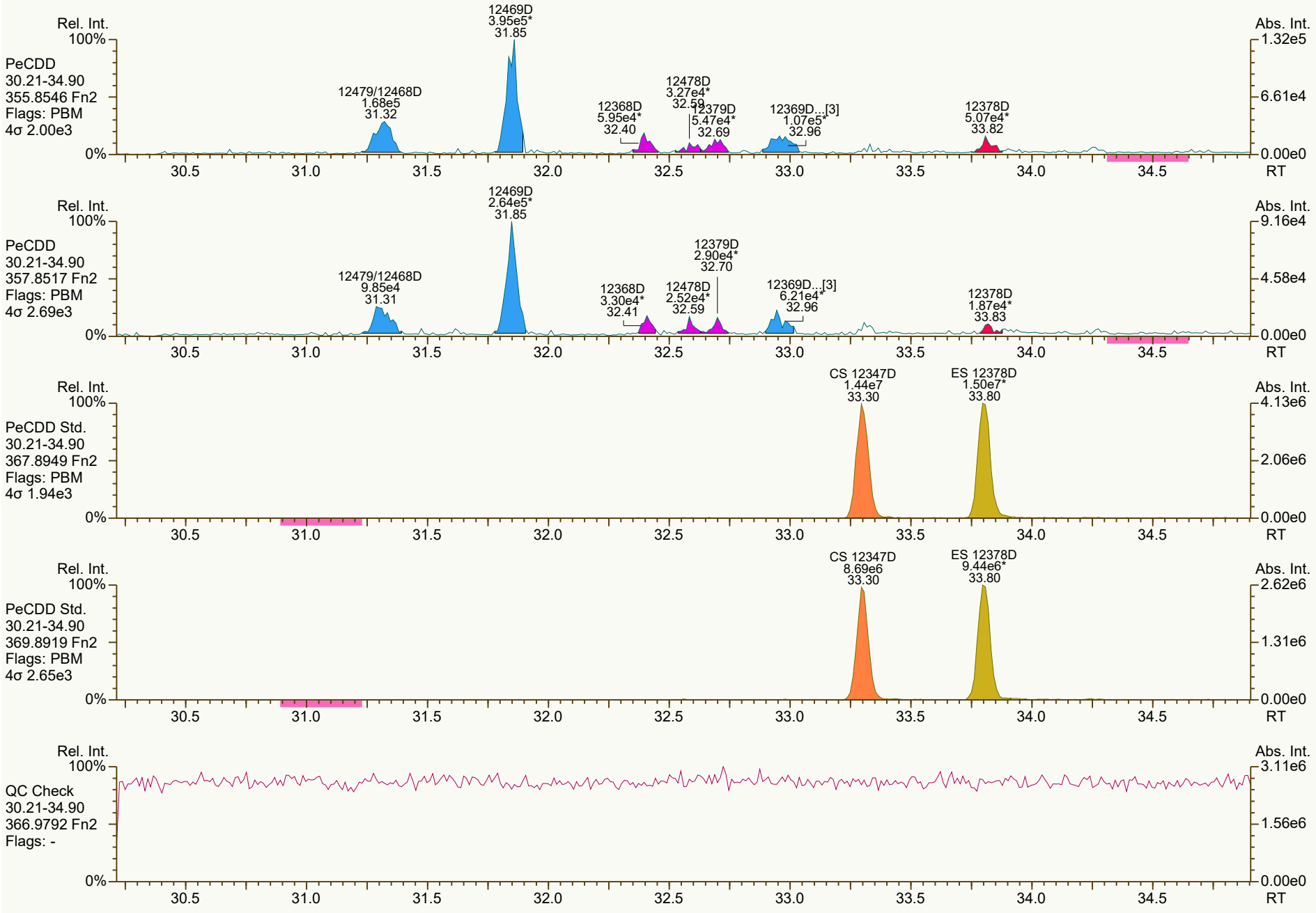
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 898-686

PKD: n/a Printed: 14-Feb-2022 11:05 Page 1 of 12

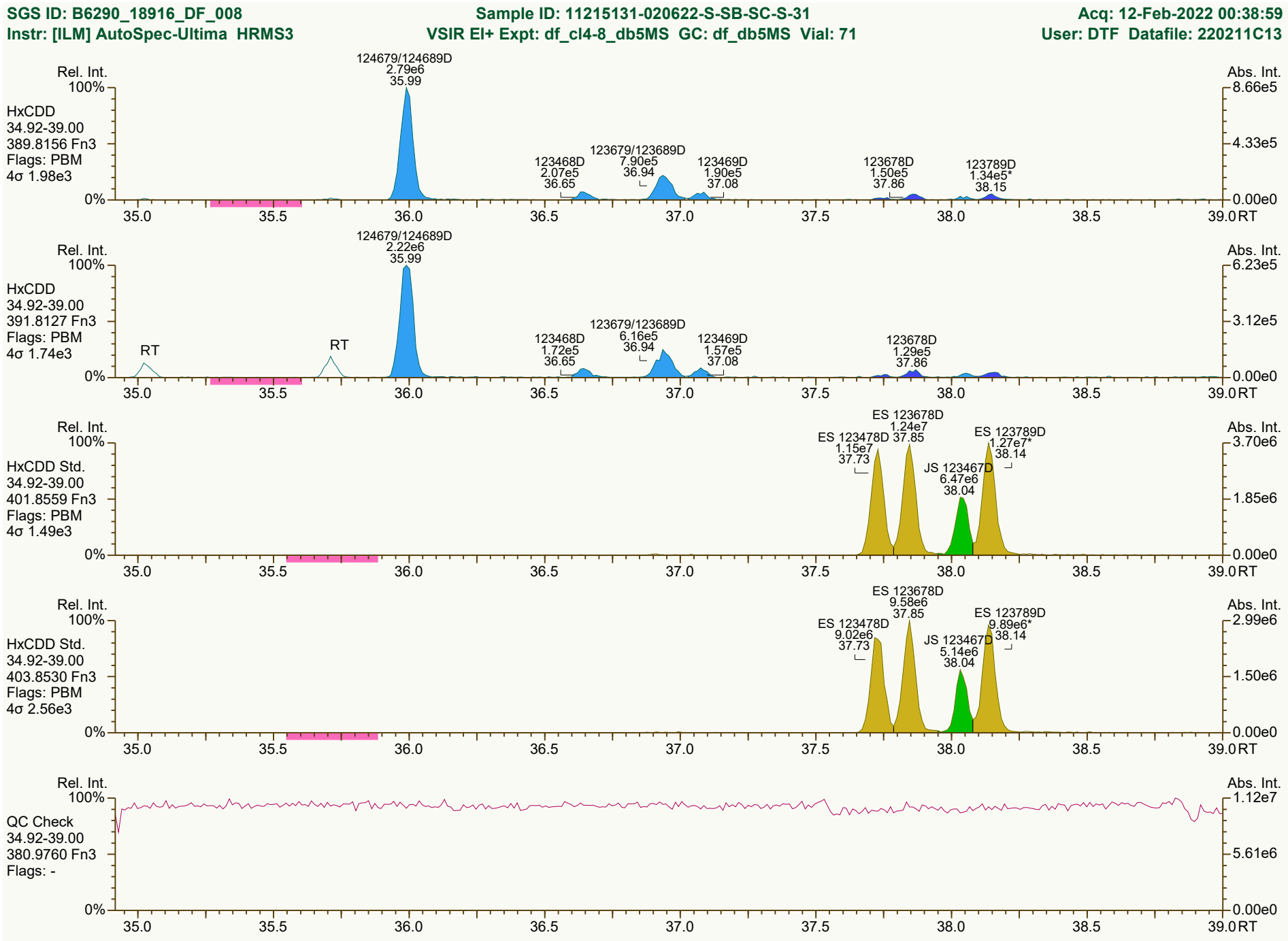
SGS ID: B6290_18916_DF_008 | Sample ID: 11215131-020622-S-SB-SC-S-31 | Acq: 12-Feb-2022 00:38:59
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71 | User: DTF Datafile: 220211C13



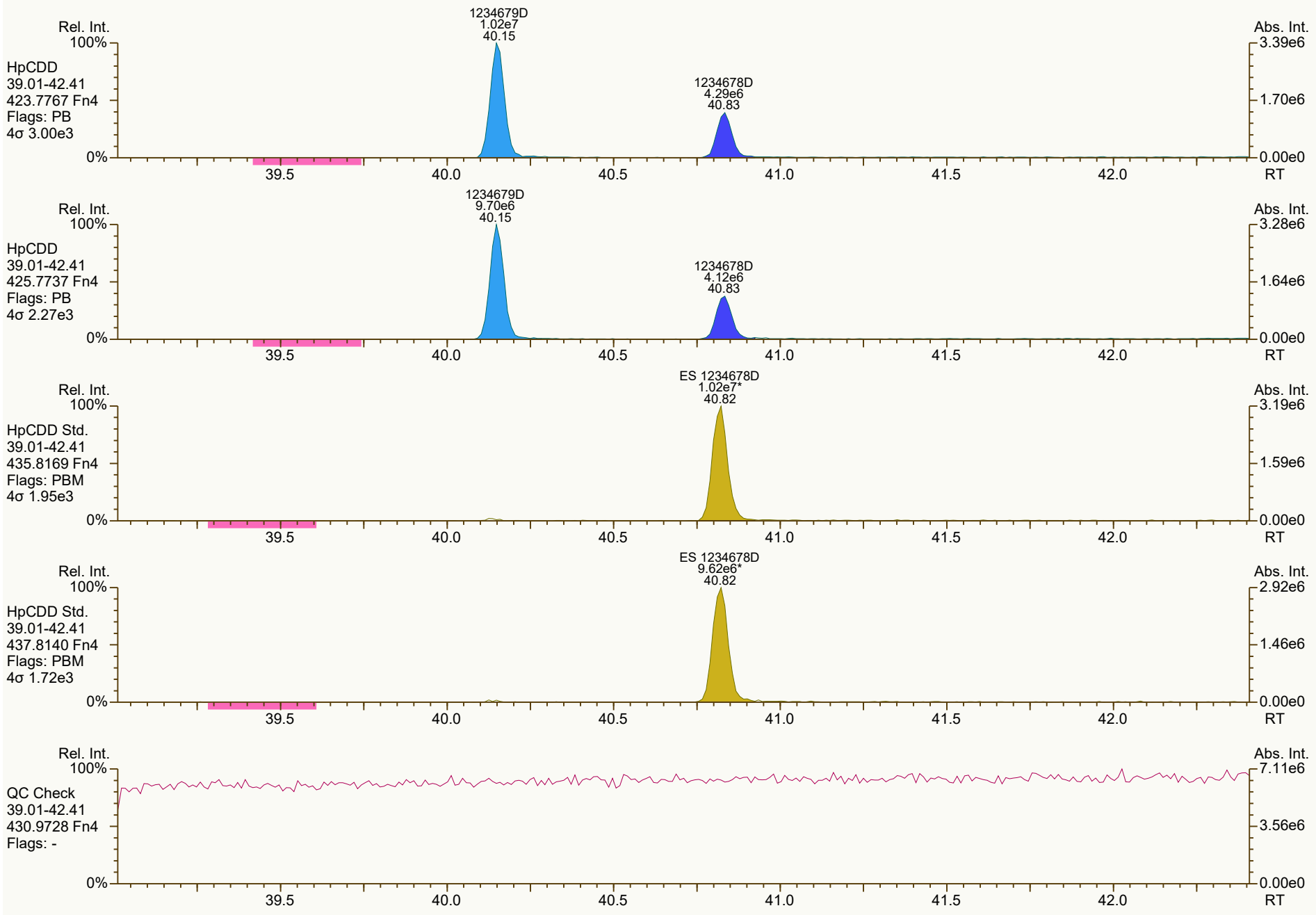
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_008.utp_res, saved 14-Feb-2022 10:59 (PSW) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2071, 7931, 7077 scc: 898-686 | PKD: 14-Feb-2022 10:41 Printed: 14-Feb-2022 11:05 Page 2 of 12

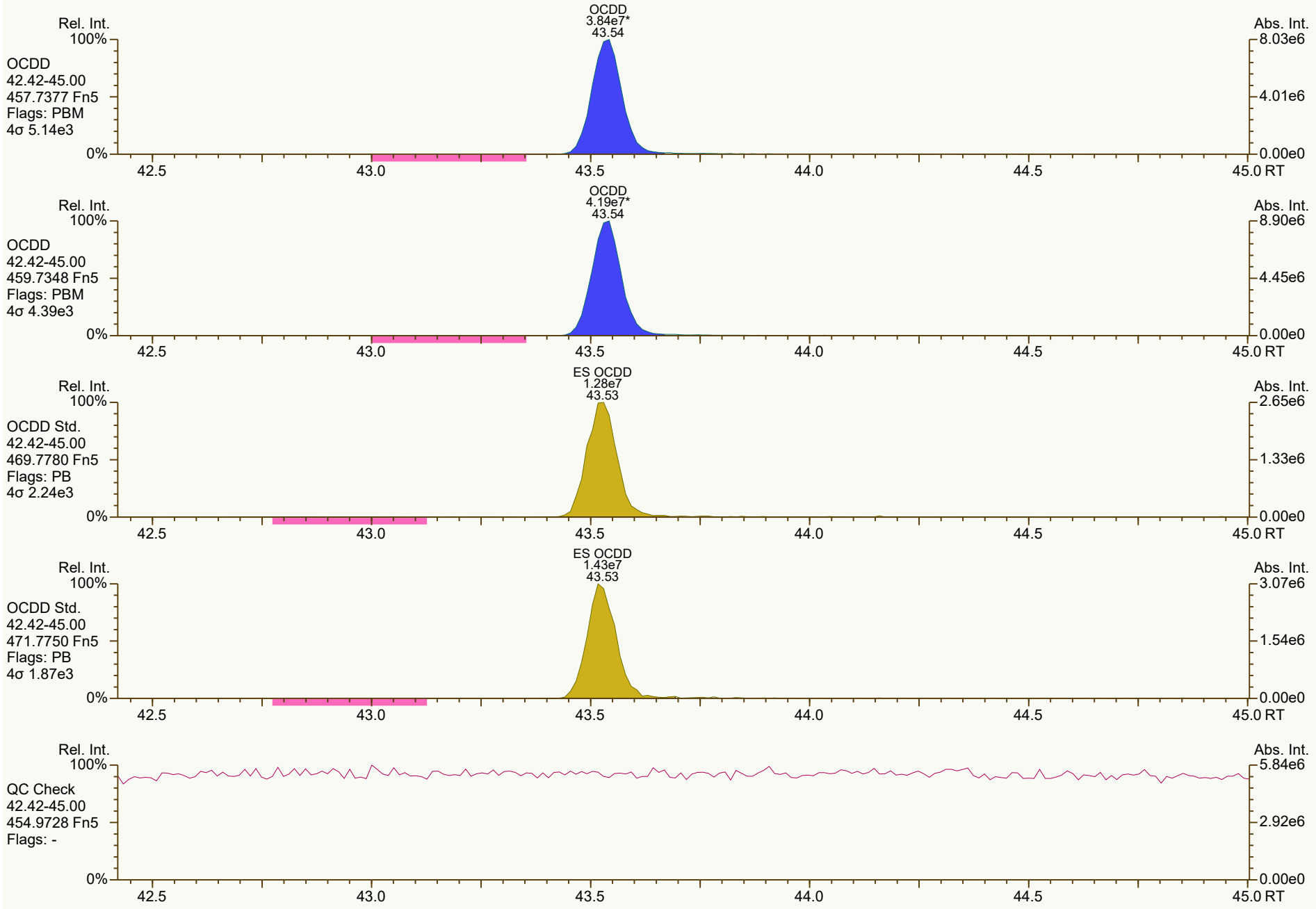

Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PBM
4σ 2.00e3
0%
12469D
3.95e5*
31.85
12479/12468D
1.68e5
31.32
12368D
5.95e4*
32.40
12478D
3.27e4*
32.59
12379D
5.47e4*
32.69
12369D...[3]
1.07e5*
32.96
12378D
5.07e4*
33.82
Abs. Int.
1.32e5
6.61e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PBM
4σ 2.69e3
0%
12469D
2.64e5*
31.85
12479/12468D
9.85e4
31.31
12368D
3.30e4*
32.41
12379D
2.90e4*
32.70
12478D
2.52e4*
32.59
12369D...[3]
6.21e4*
32.96
12378D
1.87e4*
33.83
Abs. Int.
9.16e4
4.58e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PBM
4σ 1.94e3
0%
CS 12347D
1.44e7
33.30
ES 12378D
1.50e7*
33.80
Abs. Int.
4.13e6
2.06e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PBM
4σ 2.65e3
0%
CS 12347D
8.69e6
33.30
ES 12378D
9.44e6*
33.80
Abs. Int.
2.62e6
1.31e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.11e6
1.56e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

SGS ID: B6290_18916_DF_008 | Sample ID: 11215131-020622-S-SB-SC-S-31 | Acq: 12-Feb-2022 00:38:59
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71 | User: DTF Datafile: 220211C13

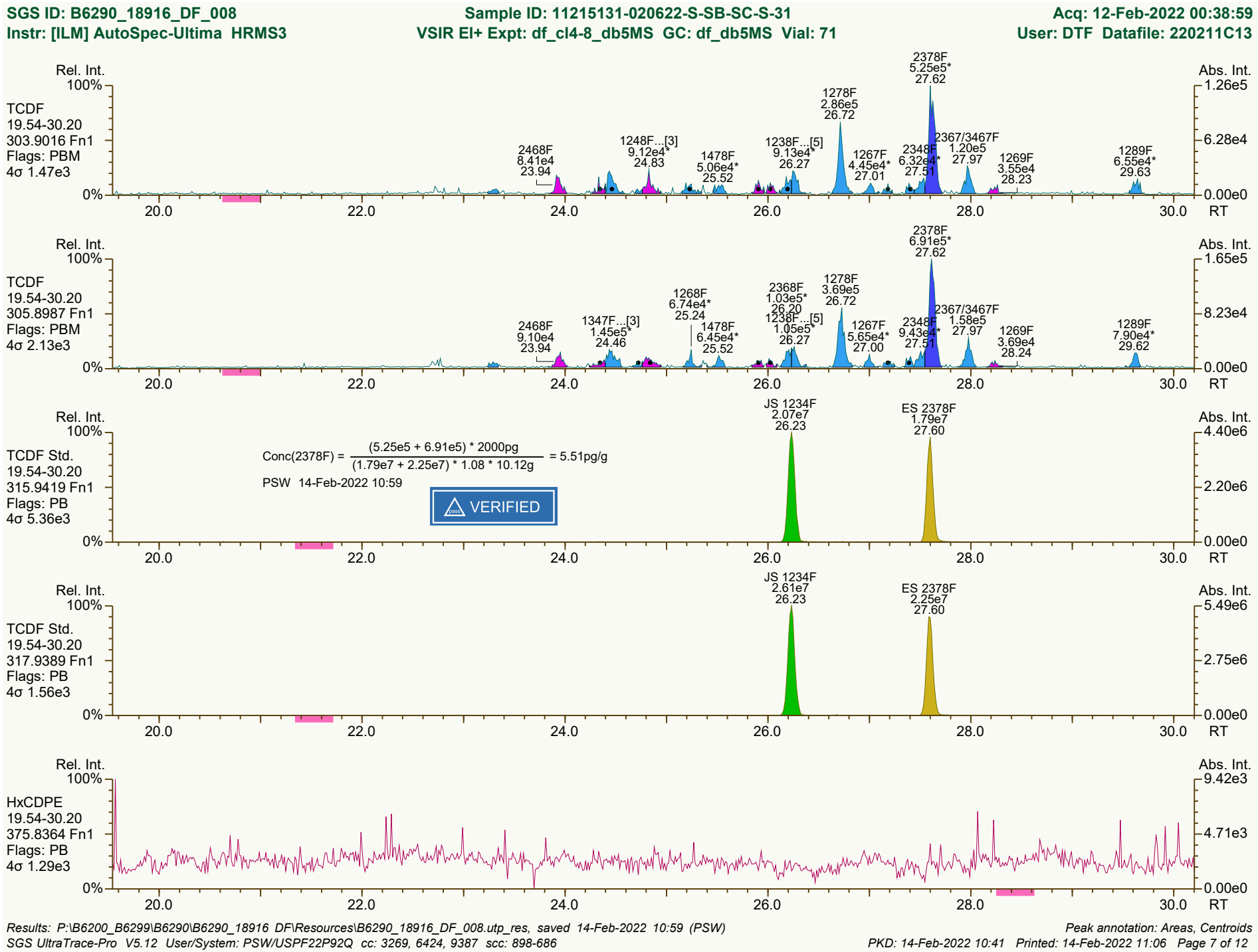


Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_008.utp_res, saved 14-Feb-2022 10:59 (PSW) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2016, 1362 scc: 898-686 | PKD: 14-Feb-2022 10:41 Printed: 14-Feb-2022 11:06 Page 4 of 12


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 3.00e3
1234679D
1.02e7
40.15
1234678D
4.29e6
40.83
Abs. Int.
3.39e6
1.70e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 2.27e3
1234679D
9.70e6
40.15
1234678D
4.12e6
40.83
Abs. Int.
3.28e6
1.64e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 1.95e3
ES 1234678D
1.02e7*
40.82
Abs. Int.
3.19e6
1.59e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 1.72e3
ES 1234678D
9.62e6*
40.82
Abs. Int.
2.92e6
1.46e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
7.11e6
3.56e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
3.84e7*
43.54
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 5.14e3
0%
Abs. Int.
8.03e6
4.01e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.19e7*
43.54
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 4.39e3
8.90e6
4.45e6
ES OCDD
1.28e7
43.53
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 2.24e3
2.65e6
1.33e6
ES OCDD
1.43e7
43.53
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 1.87e3
3.07e6
1.54e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
5.84e6
2.92e6

SGS ID: B6290_18916_DF_008 | Sample ID: 11215131-020622-S-SB-SC-S-31 | Acq: 12-Feb-2022 00:38:59
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71 | User: DTF Datafile: 220211C13



Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_008.utp_res, saved 14-Feb-2022 10:59 (PSW) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3269, 6424, 9387 scc: 898-686 | PKD: 14-Feb-2022 10:41 Printed: 14-Feb-2022 11:06 Page 7 of 12

SGS ID: B6290_18916_DF_008 | Sample ID: 11215131-020622-S-SB-SC-S-31 | Acq: 12-Feb-2022 00:38:59

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71 | User: DTF Datafile: 220211C13

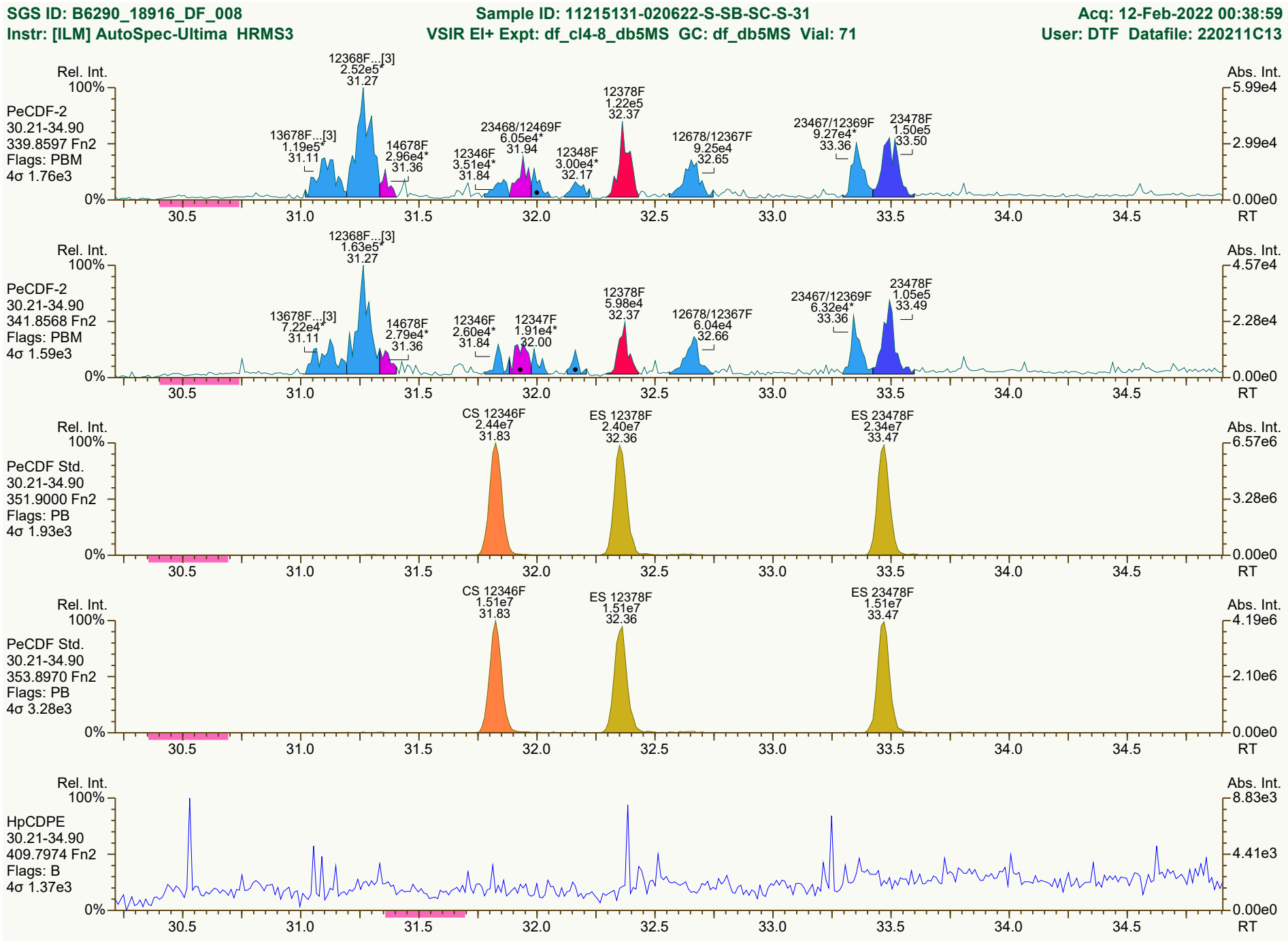


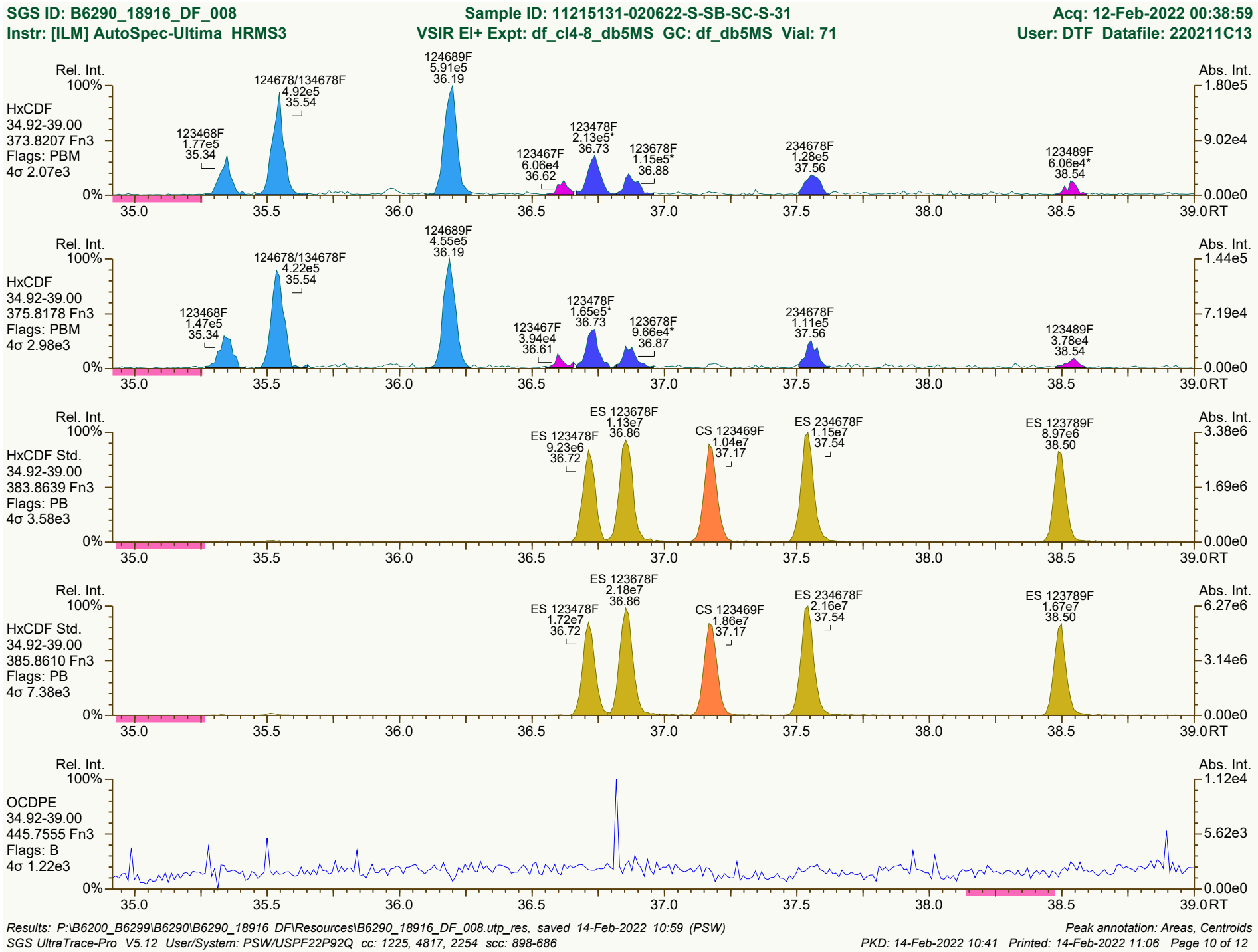
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_008.utp_res, saved 14-Feb-2022 10:59 (PSW)

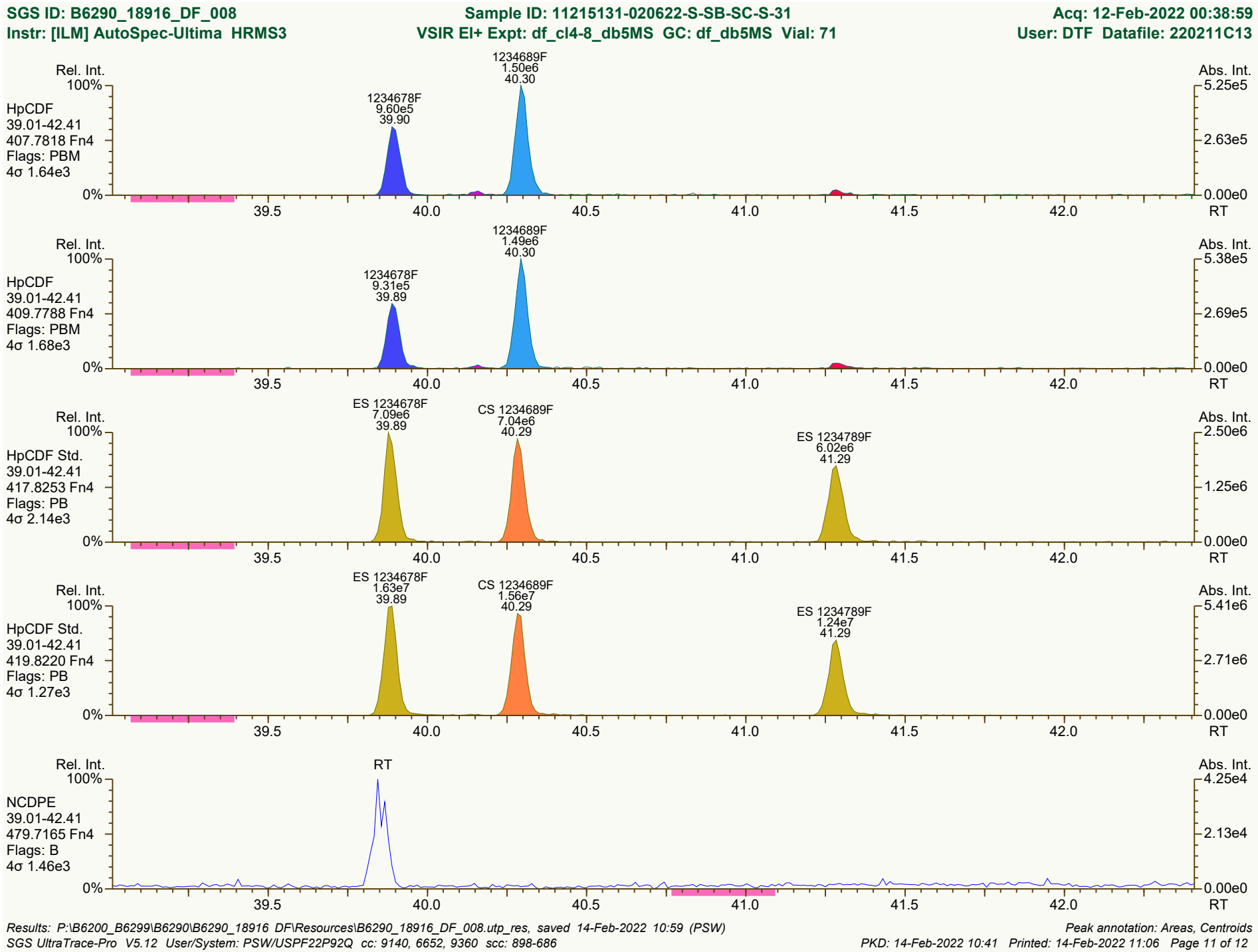
Peak annotation: Areas, Centroids

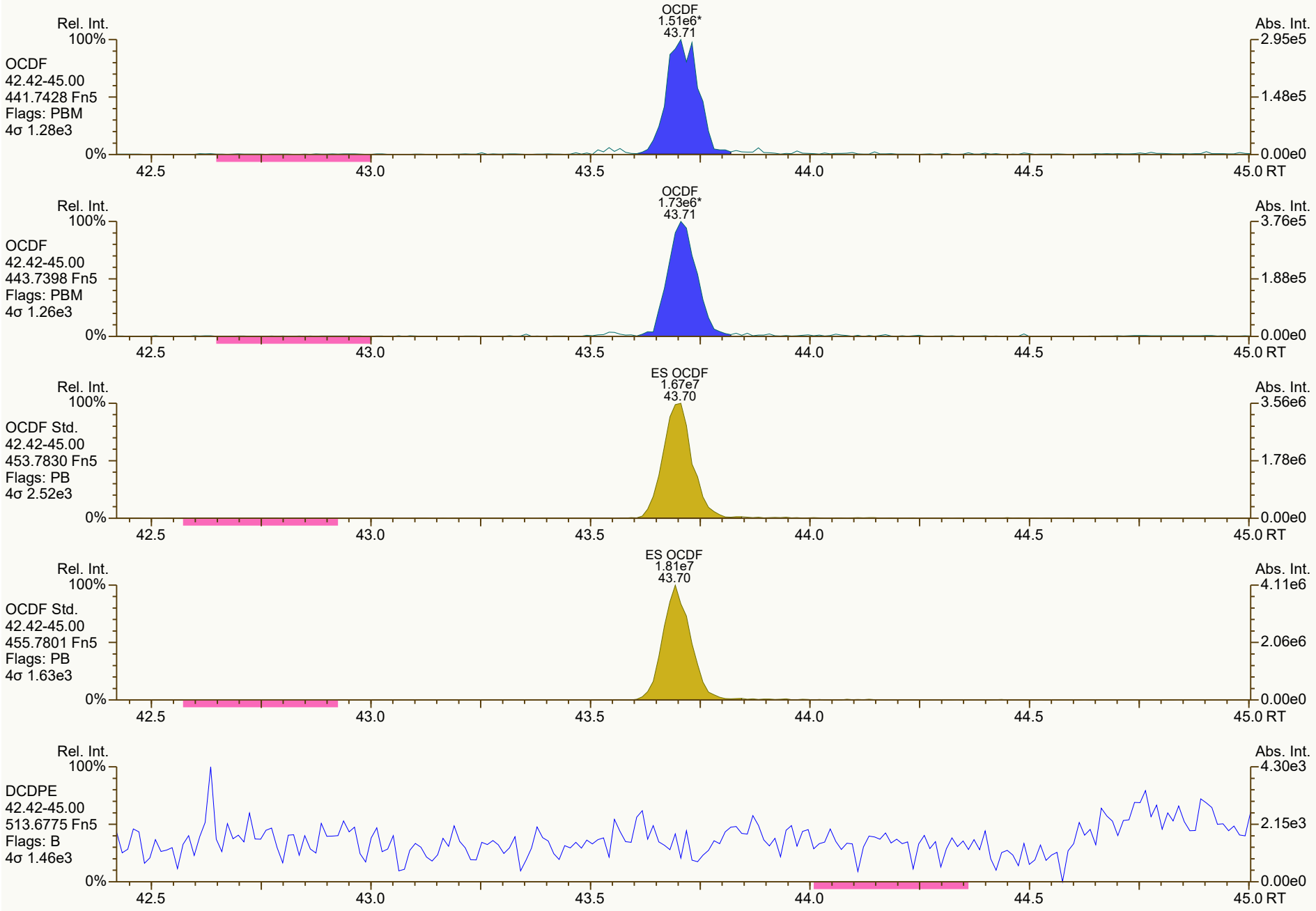
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9629 scc: 898-686

PKD: 14-Feb-2022 10:41 Printed: 14-Feb-2022 11:06 Page 8 of 12


SGS ID: B6290_18916_DF_008
Sample ID: 11215131-020622-S-SB-SC-S-31
Acq: 12-Feb-2022 00:38:59
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 220211C13
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 1.76e3
12368F...[3] 2.52e5* 31.27
13678F...[3] 1.19e5* 31.11
14678F 2.96e4* 31.36
12346F 3.51e4* 31.84
23468/12469F 6.05e4* 31.94
12348F 3.00e4* 32.17
12378F 1.22e5 32.37
12678/12367F 9.25e4 32.65
23467/12369F 9.27e4* 33.36
23478F 1.50e5 33.50
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 1.59e3
12368F...[3] 1.63e5* 31.27
13678F...[3] 7.22e4* 31.11
14678F 2.79e4* 31.36
12346F 2.60e4* 31.84
12347F 1.91e4* 32.00
12378F 5.98e4 32.37
12678/12367F 6.04e4 32.66
23467/12369F 6.32e4* 33.36
23478F 1.05e5 33.49
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 1.93e3
CS 12346F 2.44e7 31.83
ES 12378F 2.40e7 32.36
ES 23478F 2.34e7 33.47
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 3.28e3
CS 12346F 1.51e7 31.83
ES 12378F 1.51e7 32.36
ES 23478F 1.51e7 33.47
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.37e3
Rel. Int.
Abs. Int.
RT
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_008.utp_res, saved 14-Feb-2022 10:59 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3341, 7910, 3842 scc: 898-686
PKD: 14-Feb-2022 10:41 Printed: 14-Feb-2022 11:06 Page 9 of 12


SGS ID: B6290_18916_DF_008
Sample ID: 11215131-020622-S-SB-SC-S-31
Acq: 12-Feb-2022 00:38:59
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 220211C13
Rel. Int.
Abs. Int.
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 2.07e3
123468F 1.77e5 35.34
124678/134678F 4.92e5 35.54
124689F 5.91e5 36.19
123467F 6.06e4 36.62
123478F 2.13e5* 36.73
123678F 1.15e5* 36.88
234678F 1.28e5 37.56
123489F 6.06e4* 38.54
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 2.98e3
123468F 1.47e5 35.34
124678/134678F 4.22e5 35.54
124689F 4.55e5 36.19
123467F 3.94e4 36.61
123478F 1.65e5* 36.73
123678F 9.66e4* 36.87
234678F 1.11e5 37.56
123489F 3.78e4 38.54
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 3.58e3
ES 123478F 9.23e6 36.72
ES 123678F 1.13e7 36.86
CS 123469F 1.04e7 37.17
ES 234678F 1.15e7 37.54
ES 123789F 8.97e6 38.50
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 7.38e3
ES 123478F 1.72e7 36.72
ES 123678F 2.18e7 36.86
CS 123469F 1.86e7 37.17
ES 234678F 2.16e7 37.54
ES 123789F 1.67e7 38.50
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.22e3
RT
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_008.utp_res, saved 14-Feb-2022 10:59 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1225, 4817, 2254 scc: 898-686
PKD: 14-Feb-2022 10:41 Printed: 14-Feb-2022 11:06 Page 10 of 12


SGS ID: B6290_18916_DF_008
Sample ID: 11215131-020622-S-SB-SC-S-31
Acq: 12-Feb-2022 00:38:59
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 220211C13
Rel. Int.
Abs. Int.
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 1.64e3
1234678F
9.60e5
39.90
1234689F
1.50e6
40.30
5.25e5
2.63e5
0.00e0
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 1.68e3
1234678F
9.31e5
39.89
1234689F
1.49e6
40.30
5.38e5
2.69e5
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 2.14e3
ES 1234678F
7.09e6
39.89
CS 1234689F
7.04e6
40.29
ES 1234789F
6.02e6
41.29
2.50e6
1.25e6
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 1.27e3
ES 1234678F
1.63e7
39.89
CS 1234689F
1.56e7
40.29
ES 1234789F
1.24e7
41.29
5.41e6
2.71e6
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.46e3
RT
4.25e4
2.13e4
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\B6290_18916_DF_008.utp_res, saved 14-Feb-2022 10:59 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9140, 6652, 9360 scc: 898-686
PKD: 14-Feb-2022 10:41 Printed: 14-Feb-2022 11:06 Page 11 of 12


OCDF
1.51e6*
43.71
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PBM
4σ 1.28e3
0%
Abs. Int.
2.95e5
1.48e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.73e6*
43.71
OCDF
42.42-45.00
443.7398 Fn5
Flags: PBM
4σ 1.26e3
3.76e5
1.88e5
ES OCDF
1.67e7
43.70
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 2.52e3
3.56e6
1.78e6
ES OCDF
1.81e7
43.70
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 1.63e3
4.11e6
2.06e6
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.46e3
4.30e3
2.15e3

REVIEWED
Tamara Burkamper , 2/14/2022, 12:08:29 PM

SGS Environmental Services — Run Log **Project: B6290_18916_DF**

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
0	220211C01	3	CS3_220211_DF_CA ✓	1.00	25-347-1	DTF, PSW	374-273	11-Feb-2022	15:22:56
1	220211C02	62	OPR1_18916_DF	1.00	0_18916_OPR001	DTF, PSW	401-438	11-Feb-2022	16:09:16
2	220211C03	63	OPR2_18916_DF	1.00	0_18916_OPR002	DTF, PSW	149-207	11-Feb-2022	16:55:36
3	220211C04	2	SBS_220211_DF_CA	1.00	20-61-1	DTF, PSW	354-941	11-Feb-2022	17:41:56
4	220211C05	61	MB1_18916_DF_SDS	10.00	Method Blank	DTF, PSW	120-476	11-Feb-2022	18:28:15
5	220211C06	64	B6290_18916_DF_001	10.14	11215131-020422-S-SB-SW-S-48	DTF, PSW	946-376	11-Feb-2022	19:14:36
6	220211C07	65	B6290_18916_DF_002	10.22	11215131-020422-S-SB-SW-S-47	DTF, PSW	491-714	11-Feb-2022	20:00:56
7	220211C08	66	B6290_18916_DF_003	10.13	11215131-020522-S-SB-SW-S-51	DTF, PSW	714-903	11-Feb-2022	20:47:17
8	220211C09	67	B6290_18916_DF_004	10.14	11215131-020522-S-SB-SW-S-52	DTF, PSW	723-933	11-Feb-2022	21:33:38
9	220211C10	68	B6290_18916_DF_005	10.11	11215131-020522-S-SB-SW-S-53	DTF, PSW	518-755	11-Feb-2022	22:19:58
10	220211C11	69	B6290_18916_DF_006	10.01	11215131-020622-S-SB-SC-S-32	DTF, PSW	781-199	11-Feb-2022	23:06:17
11	220211C12	70	B6290_18916_DF_007	10.24	11215131-020622-S-SB-SC-S-30	DTF, PSW	243-651	11-Feb-2022	23:52:38
12	220211C13	71	B6290_18916_DF_008 ✓	10.12	11215131-020622-S-SB-SC-S-31	DTF, PSW	898-686	12-Feb-2022	00:38:59

REVIEWED
paul_walton , 2/14/2022, 11:10:17 AM

Dioxin/Furan QC Summary		Acq'd: 11 Feb 2022 15:22 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_220211_DF_CA		UTP: 14-Feb-2022 10:10:27 PSW				Checkcode: 374-273-SNQ	
Sample ID: 25-347-1		Report: 14 Feb 2022 10:41 gd				Datafile: 220211C01	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	28.48	2.58E+06	0.79	Y	1.18	1.20	1%
12378-PeCDD	33.83	9.50E+06	1.59	Y	1.04	1.06	2%
123478-HxCDD	37.74	8.33E+06	1.22	Y	1.09	1.08	-1%
123678-HxCDD	37.86	8.53E+06	1.27	Y	1.15	1.10	-4%
123789-HxCDD	38.15	8.64E+06	1.23	Y	1.05	0.96	-8%
1234678-HpCDD	40.82	7.28E+06	1.02	Y	1.06	1.03	-3%
OCDD	43.52	1.23E+07	0.88	Y	1.13	1.10	-2%
2378-TCDF	27.62	3.58E+06	0.76	Y	1.08	1.08	0%
12378-PeCDF	32.38	1.37E+07	1.53	Y	1.02	1.00	-2%
23478-PeCDF	33.49	1.34E+07	1.55	Y	1.02	0.98	-4%
123478-HxCDF	36.74	1.21E+07	1.22	Y	1.27	1.21	-5%
123678-HxCDF	36.88	1.26E+07	1.20	Y	1.15	1.10	-4%
234678-HxCDF	37.56	1.18E+07	1.26	Y	1.19	1.12	-6%
123789-HxCDF	38.51	1.05E+07	1.21	Y	1.16	1.09	-6%
1234678-HpCDF	39.88	1.05E+07	1.00	Y	1.37	1.30	-5%
1234789-HpCDF	41.28	8.83E+06	1.04	Y	1.31	1.26	-4%
OCDF	43.70	1.55E+07	0.92	Y	1.07	1.05	-2%
ES 2378-TCDD	28.46	2.16E+07	0.85	Y	1.05	0.99	-5%
ES 12378-PeCDD	33.807	1.80E+07	1.57	Y	0.88	0.83	-6%
ES 123478-HxCDD	37.727	1.55E+07	1.33	Y	0.97	1.04	7%
ES 123678-HxCDD	37.847	1.55E+07	1.31	Y	0.94	1.04	10%
ES 123789-HxCDD	38.139	1.80E+07	1.25	Y	1.09	1.20	10%
ES 1234678-HpCDD	40.807	1.41E+07	1.12	Y	0.91	0.95	4%
ES OCDD	43.505	2.24E+07	0.90	Y	0.62	0.75	20%
ES 2378-TCDF	27.604	3.32E+07	0.79	Y	1.06	1.00	-6%
ES 12378-PeCDF	32.361	2.73E+07	1.58	Y	0.91	0.82	-10%
ES 23478-PeCDF	33.473	2.74E+07	1.57	Y	0.88	0.82	-7%
ES 123478-HxCDF	36.718	2.01E+07	0.53	Y	1.20	1.35	13%
ES 123678-HxCDF	36.859	2.29E+07	0.53	Y	1.35	1.53	13%
ES 234678-HxCDF	37.54	2.11E+07	0.54	Y	1.24	1.41	14%
ES 123789-HxCDF	38.496	1.92E+07	0.53	Y	1.16	1.29	12%
ES 1234678-HpCDF	39.873	1.62E+07	0.46	Y	0.97	1.09	12%
ES 1234789-HpCDF	41.272	1.41E+07	0.48	Y	0.85	0.94	11%
ES OCDF	43.688	2.94E+07	0.90	Y	0.81	0.99	22%

Dioxin/Furan QC Summary	Acq'd: 11 Feb 2022 15:22 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220211_DF_CA	UTP: 14-Feb-2022 10:10:27 PSW	Checkcode: 374-273-SNQ
Sample ID: 25-347-1	Report: 14 Feb 2022 10:41 gd	Datafile: 220211C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.80	2.17E+07	0.84	Y	-	-	-
JS 1234-TCDF	26.24	3.32E+07	0.80	Y	-	-	-
JS 123467-HxCDD	38.04	7.46E+06	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	28.48	2.79E+06	n/a	-	1.20	1.28	7%
CS 12347-PeCDD	33.31	1.65E+07	1.51	Y	0.75	0.76	1%
CS 12346-PeCDF	31.83	2.76E+07	1.62	Y	0.85	0.83	-2%
CS 123469-HxCDF	37.18	2.03E+07	0.52	Y	1.12	1.36	22%
CS 1234689-HpCDF	40.27	1.63E+07	0.45	Y	0.89	1.09	23%
~~SS 37Cl-2378-TCDD~~	~~28.48~~	~~2.79E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.29~~	~~13%~~
~~SS 12347-PeCDD~~	~~33.31~~	~~1.65E+07~~	~~1.51~~	~~Y~~	~~0.86~~	~~0.92~~	~~7%~~
~~SS 12346-PeCDF~~	~~31.83~~	~~2.76E+07~~	~~1.62~~	~~Y~~	~~0.94~~	~~1.01~~	~~8%~~
~~SS 123469-HxCDF~~	~~37.18~~	~~2.03E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~0.89~~	~~7%~~
~~SS 1234689-HpCDF~~	~~40.27~~	~~1.63E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~1.00~~	~~9%~~
~~OCDD-a~~	~~43.52~~	~~6.08E+05~~	~~3.00~~	~~N~~	~~0.07~~	~~0.05~~	~~-24%~~
~~OCDF-a~~	~~43.70~~	~~8.99E+05~~	~~2.47~~	~~Y~~	~~0.07~~	~~0.06~~	~~-8%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220211C01 Analysis Date: 11-FEB-2022 15:22:56

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.79	0.65 - 0.89	Y	10.1	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.59	1.32 - 1.78	Y	51.1	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.22	1.05 - 1.43	Y	49.4	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	48	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05 - 1.43	Y	45.9	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.02	0.88 - 1.20	Y	48.6	43 - 58	Y
OCDD	M+2/M+4	0.88	0.76 - 1.02	Y	98	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.76	0.65 - 0.89	Y	10	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.53	1.32 - 1.78	Y	48.8	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.55	1.32 - 1.78	Y	47.9	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05 - 1.43	Y	47.4	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.20	1.05 - 1.43	Y	47.8	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	47	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.21	1.05 - 1.43	Y	47	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.00	0.88 - 1.20	Y	47.3	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	0.88 - 1.20	Y	48	43 - 58	Y
OCDF	M+2/M+4	0.92	0.76 - 1.02	Y	98.1	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 14 Feb 2022 10:41 Analyst: gd

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

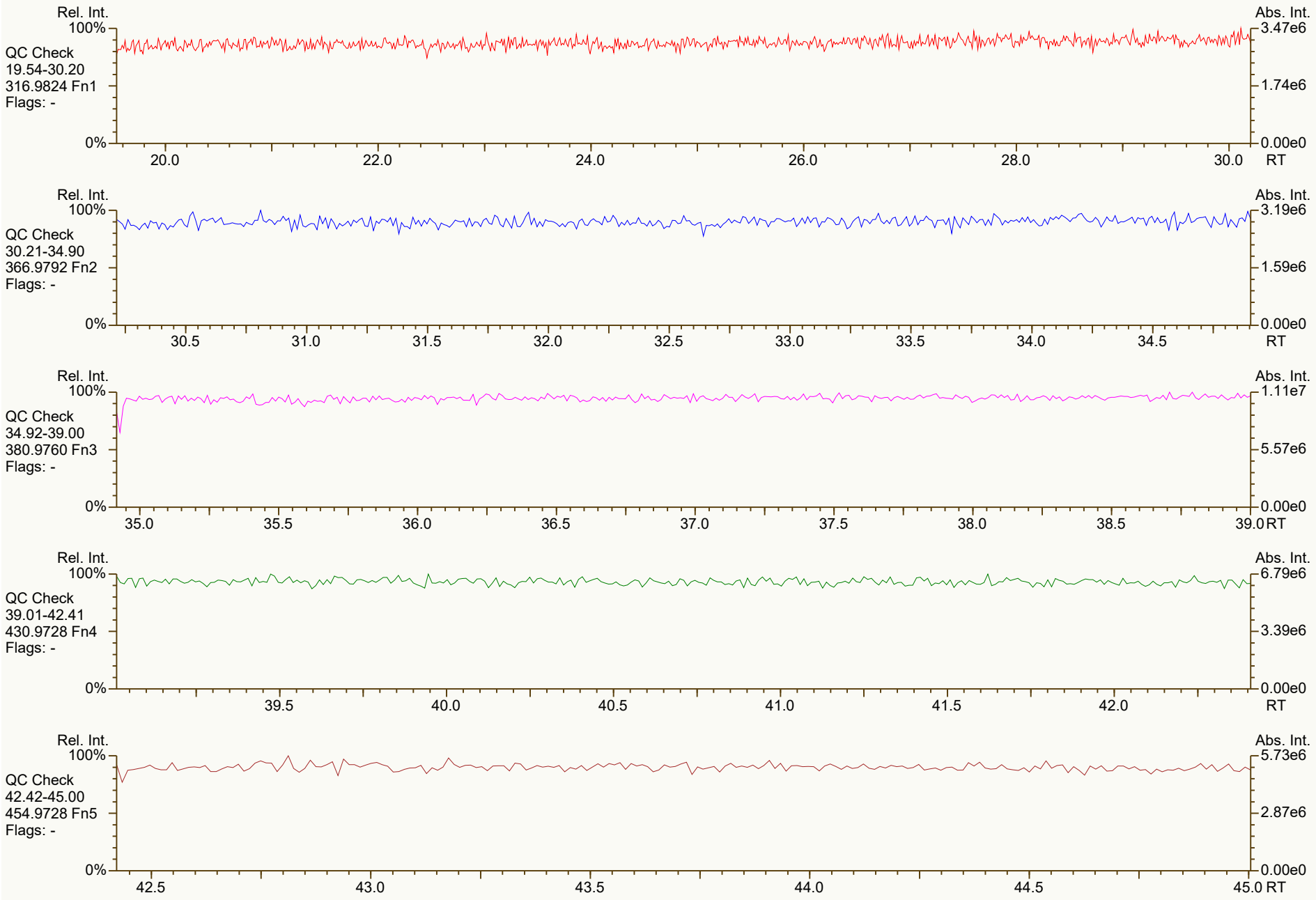
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220211C01 Analysis Date: 11-FEB-2022 15:22:56

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
13C-2,3,7,8-TCDD	M/M+2	0.85	0.65 - 0.89	Y	95	82 - 121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32 - 1.78	Y	94.1	62 - 160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.33	1.05 - 1.43	Y	107	85 - 117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.31	1.05 - 1.43	Y	110	85 - 118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	110	85 - 118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.12	0.88 - 1.20	Y	104	72 - 138	Y
13C-OCDD	M+2/M+4	0.90	0.76 - 1.02	Y	240	96 - 415	Y
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65 - 0.89	Y	94.3	71 - 140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32 - 1.78	Y	90.4	76 - 130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32 - 1.78	Y	93.3	77 - 130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43 - 0.59	Y	113	76 - 131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43 - 0.59	Y	113	70 - 143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	114	73 - 137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.53	0.43 - 0.59	Y	112	74 - 135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37 - 0.51	Y	112	78 - 129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.48	0.37 - 0.51	Y	111	77 - 129	Y
13C-OCDF	M+2/M+4	0.90	0.76 - 1.02	Y	244	96 - 415	Y
CLEANUP STANDARDS							
37Cl-2,3,7,8-TCDD	n/a				10.7	7.9 - 12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.51	1.32 - 1.78	Y	101	70 - 130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.62	1.32 - 1.78	Y	97.8	70 - 130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.52	0.43 - 0.59	Y	122	70 - 130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.45	0.37 - 0.51	Y	123	70 - 130	Y

Processed: 14 Feb 2022 10:41 Analyst: gd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0%
Abs. Int.
3.47e6
1.74e6
0.00e0
RT
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19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
3.19e6
1.59e6
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
1.11e7
5.57e6
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
6.79e6
3.39e6
39.5
40.0
40.5
41.0
41.5
42.0
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
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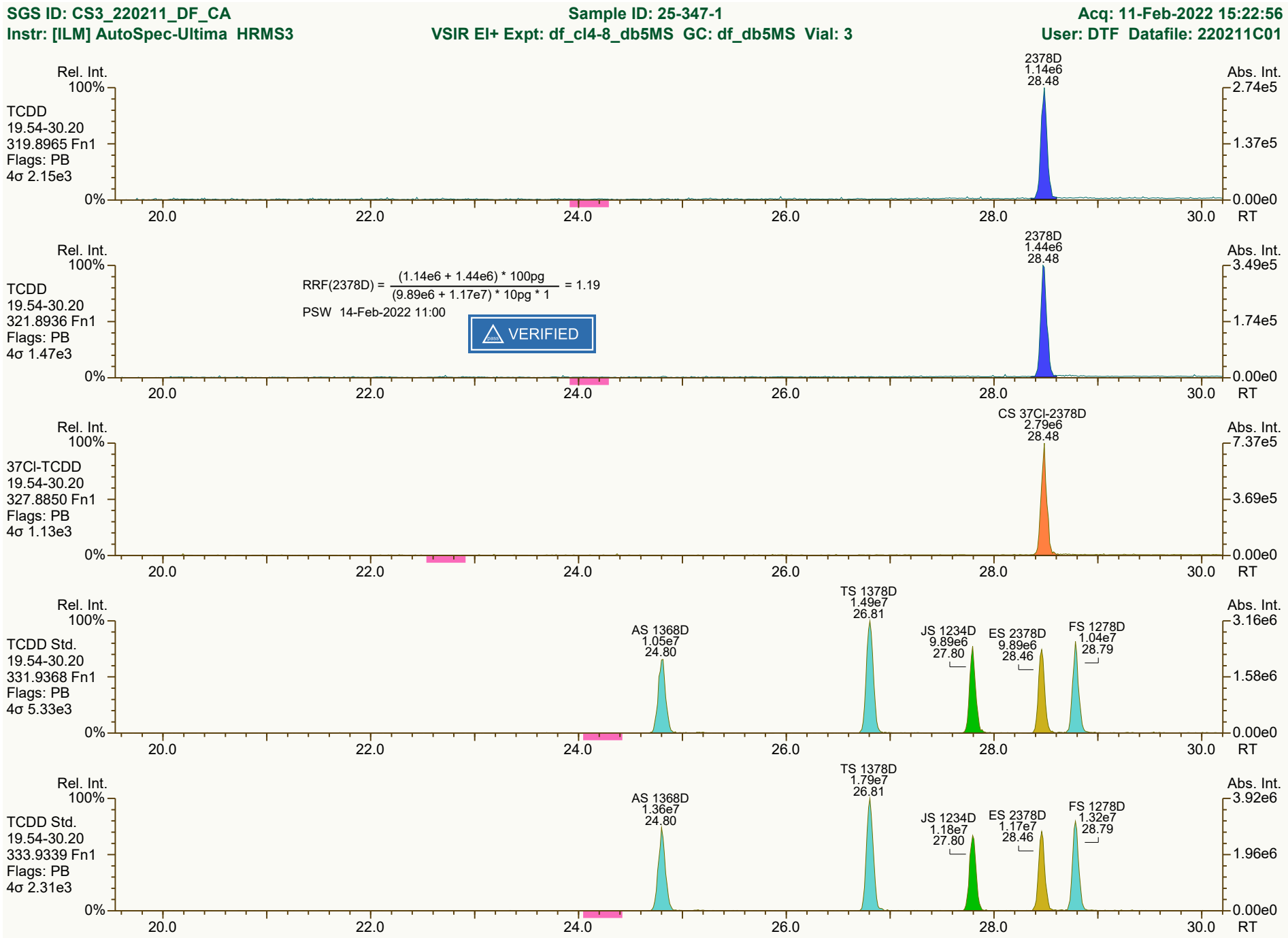
2.87e6
42.5
43.0
43.5
44.0
44.5
45.0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Sample ID: 25-347-1
Acq: 11-Feb-2022 15:22:56
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220211C01
Rel. Int.
Abs. Int.
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.15e3
2378D
1.14e6
28.48
2.74e5
1.37e5
0.00e0
RT
RRF(2378D) = (1.14e6 + 1.44e6) * 100pg / (9.89e6 + 1.17e7) * 10pg * 1 = 1.19
PSW 14-Feb-2022 11:00
VERIFIED
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.47e3
2378D
1.44e6
28.48
3.49e5
1.74e5
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.13e3
CS 37Cl-2378D
2.79e6
28.48
7.37e5
3.69e5
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.33e3
AS 1368D
1.05e7
24.80
TS 1378D
1.49e7
26.81
JS 1234D
9.89e6
27.80
ES 2378D
9.89e6
28.46
FS 1278D
1.04e7
28.79
3.16e6
1.58e6
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.31e3
AS 1368D
1.36e7
24.80
TS 1378D
1.79e7
26.81
JS 1234D
1.18e7
27.80
ES 2378D
1.17e7
28.46
FS 1278D
1.32e7
28.79
3.92e6
1.96e6
0%
100%
20.0
22.0
24.0
26.0
28.0
30.0
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Peak annotation: Areas, Centroids
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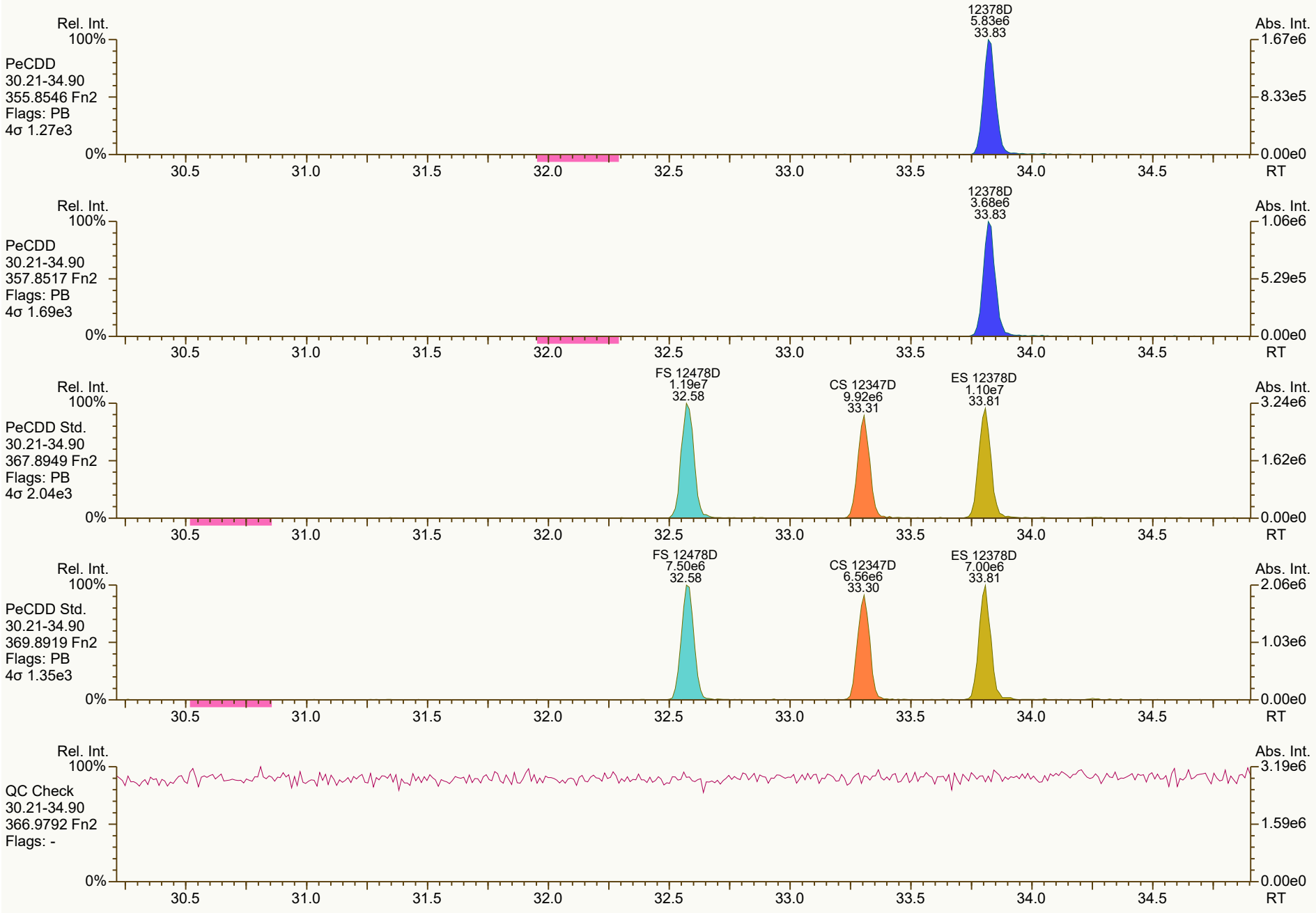
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30.21-34.90
355.8546 Fn2
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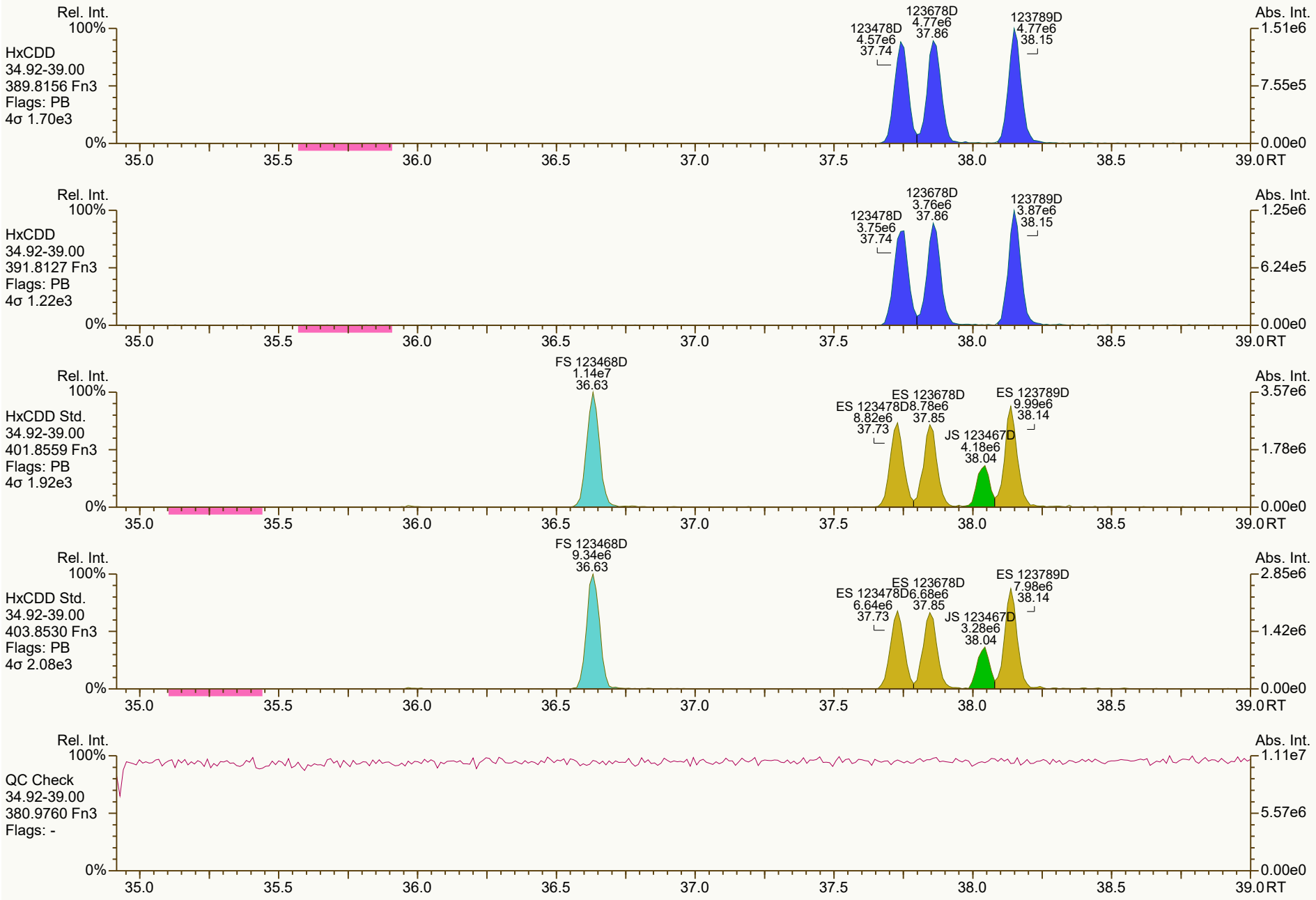
0%
12378D
5.83e6
33.83
Abs. Int.
1.67e6
8.33e5
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 1.69e3
0%
12378D
3.68e6
33.83
Abs. Int.
1.06e6
5.29e5
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 2.04e3
0%
FS 12478D
1.19e7
32.58
CS 12347D
9.92e6
33.31
ES 12378D
1.10e7
33.81
Abs. Int.
3.24e6
1.62e6
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.35e3
0%
FS 12478D
7.50e6
32.58
CS 12347D
6.56e6
33.30
ES 12378D
7.00e6
33.81
Abs. Int.
2.06e6
1.03e6
0.00e0
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.19e6
1.59e6
0.00e0
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
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4σ 1.70e3
123478D
4.57e6
37.74
123678D
4.77e6
37.86
123789D
4.77e6
38.15
Abs. Int.
1.51e6
7.55e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 1.22e3
123478D
3.75e6
37.74
123678D
3.76e6
37.86
123789D
3.87e6
38.15
Abs. Int.
1.25e6
6.24e5
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0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 1.92e3
FS 123468D
1.14e7
36.63
ES 123478D
8.82e6
37.73
ES 123678D
8.78e6
37.85
JS 123467D
4.18e6
38.04
ES 123789D
9.99e6
38.14
Abs. Int.
3.57e6
1.78e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 2.08e3
FS 123468D
9.34e6
36.63
ES 123478D
6.64e6
37.73
ES 123678D
6.68e6
37.85
JS 123467D
3.28e6
38.04
ES 123789D
7.98e6
38.14
Abs. Int.
2.85e6
1.42e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
Abs. Int.
1.11e7
5.57e6
0.00e0
0%
35.0
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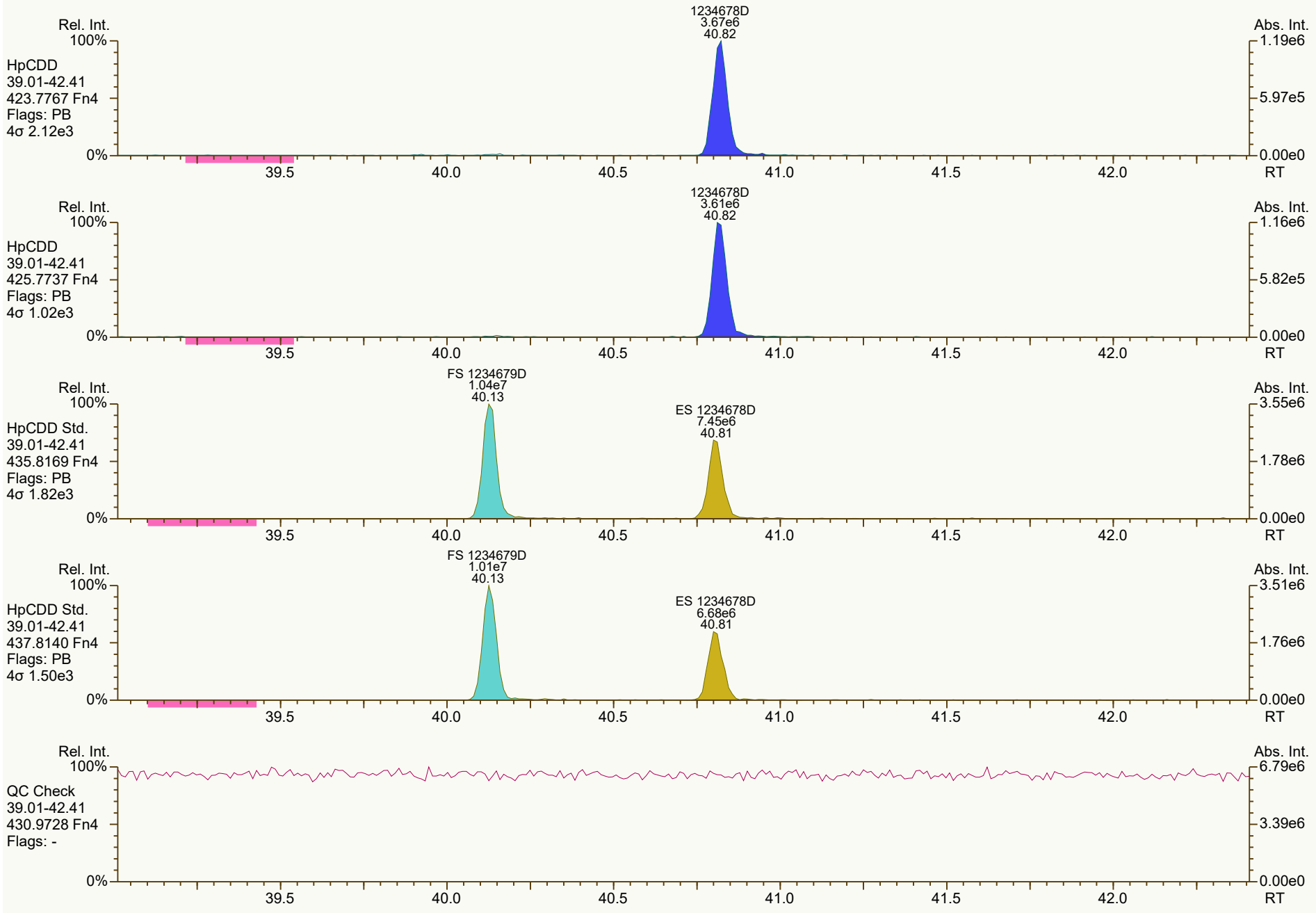
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT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39.01-42.41
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Flags: PB
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40.82
Abs. Int.
1.19e6
5.97e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.02e3
1234678D
3.61e6
40.82
Abs. Int.
1.16e6
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0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.04e7
40.13
ES 1234678D
7.45e6
40.81
Abs. Int.
3.55e6
1.78e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.50e3
FS 1234679D
1.01e7
40.13
ES 1234678D
6.68e6
40.81
Abs. Int.
3.51e6
1.76e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
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0%
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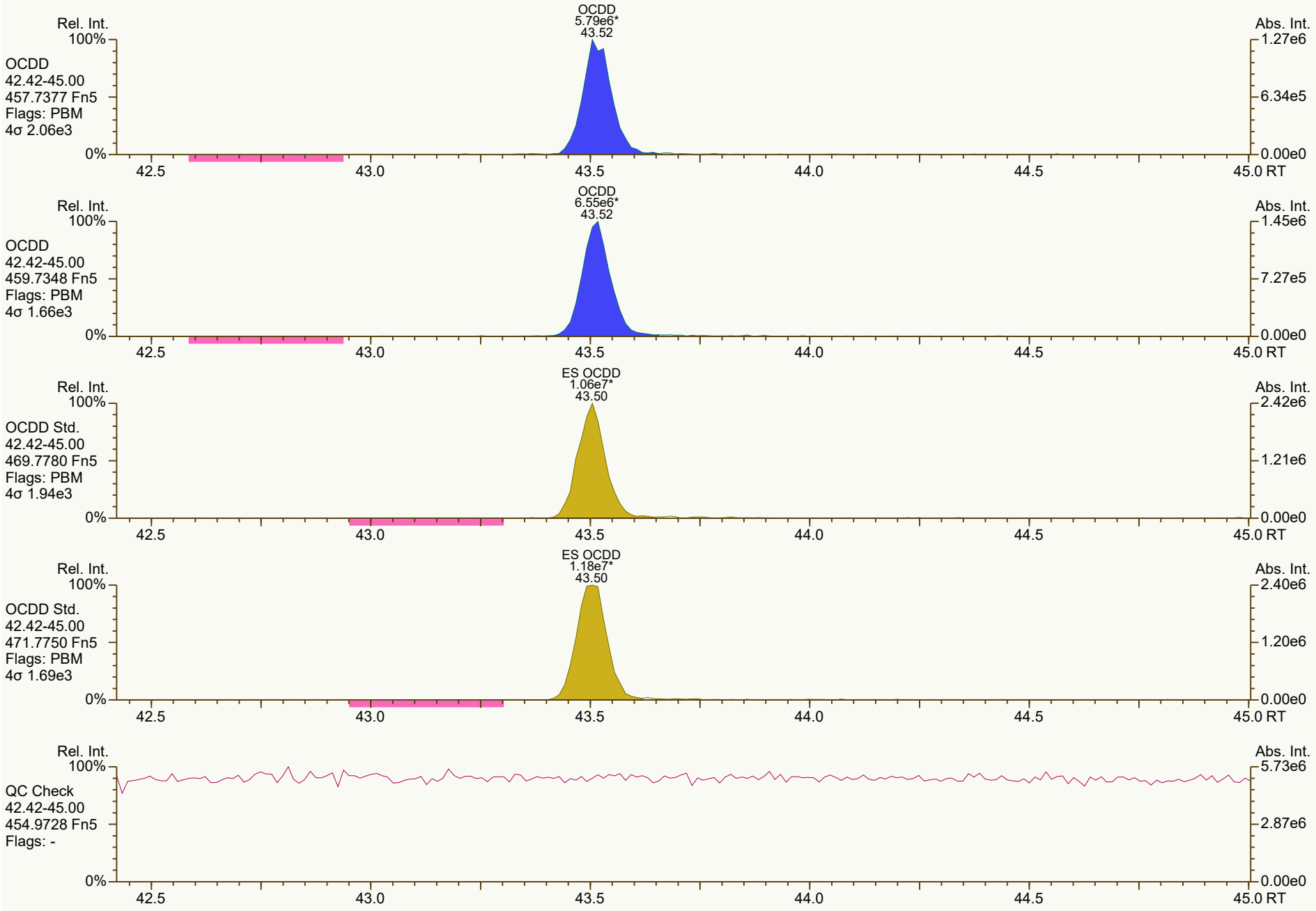
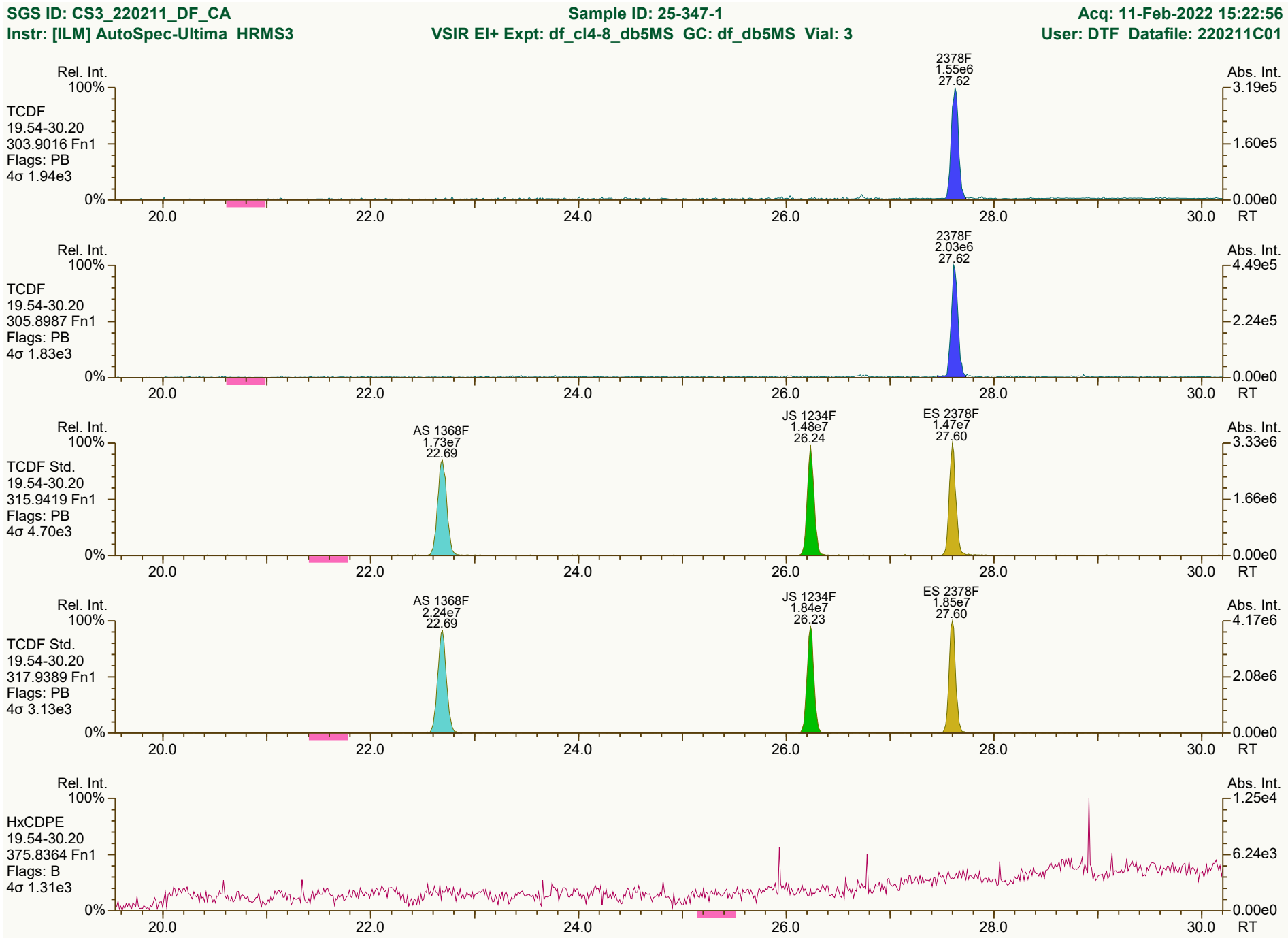
41.5
42.0
RT


OCDD
5.79e6*
43.52
Rel. Int.
Abs. Int.
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 2.06e3
OCDD
6.55e6*
43.52
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 1.66e3
ES OCDD
1.06e7*
43.50
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 1.94e3
ES OCDD
1.18e7*
43.50
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 1.69e3
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: CS3_220211_DF_CA
Sample ID: 25-347-1
Acq: 11-Feb-2022 15:22:56
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220211C01
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.94e3
2378F
1.55e6
27.62
3.19e5
1.60e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 1.83e3
2378F
2.03e6
27.62
4.49e5
2.24e5
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 4.70e3
AS 1368F
1.73e7
22.69
JS 1234F
1.48e7
26.24
ES 2378F
1.47e7
27.60
3.33e6
1.66e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.13e3
AS 1368F
2.24e7
22.69
JS 1234F
1.84e7
26.23
ES 2378F
1.85e7
27.60
4.17e6
2.08e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.31e3
1.25e4
6.24e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\CS3_220211_DF_CA.utp_res, saved 14-Feb-2022 11:00 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6925, 4318, 0048 scc: 374-273
PKD: 14-Feb-2022 08:40 Printed: 14-Feb-2022 11:01 Page 7 of 12

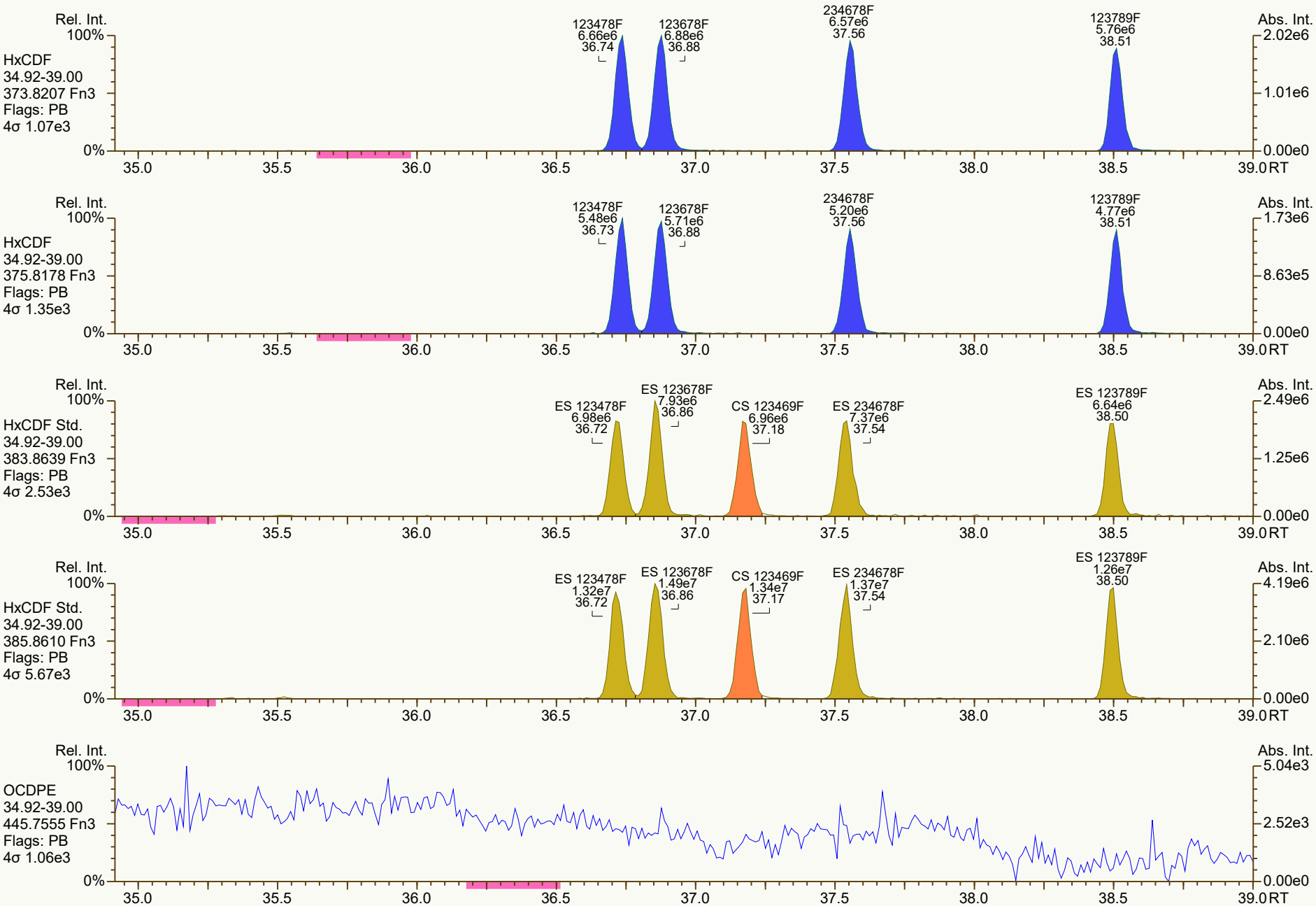

Rel. Int.
100%
0%
Abs. Int.
1.15e4
5.76e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.35e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.21e4
6.06e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.18e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.47e6
1.74e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PB
4σ 1.21e3
12378F
8.27e6
32.38
23478F
8.14e6
33.49
Abs. Int.
2.28e6
1.14e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PB
4σ 1.71e3
12378F
5.40e6
32.38
23478F
5.25e6
33.49
Abs. Int.
1.55e6
7.74e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 4.67e3
CS 12346F
1.71e7
31.83
ES 12378F
1.67e7
32.36
ES 23478F
1.67e7
33.47
Abs. Int.
4.81e6
2.40e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 3.68e3
CS 12346F
1.05e7
31.83
ES 12378F
1.06e7
32.36
ES 23478F
1.07e7
33.47
Abs. Int.
3.19e6
1.59e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.21e3
Abs. Int.
7.97e3
3.99e3
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

SGS ID: CS3_220211_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

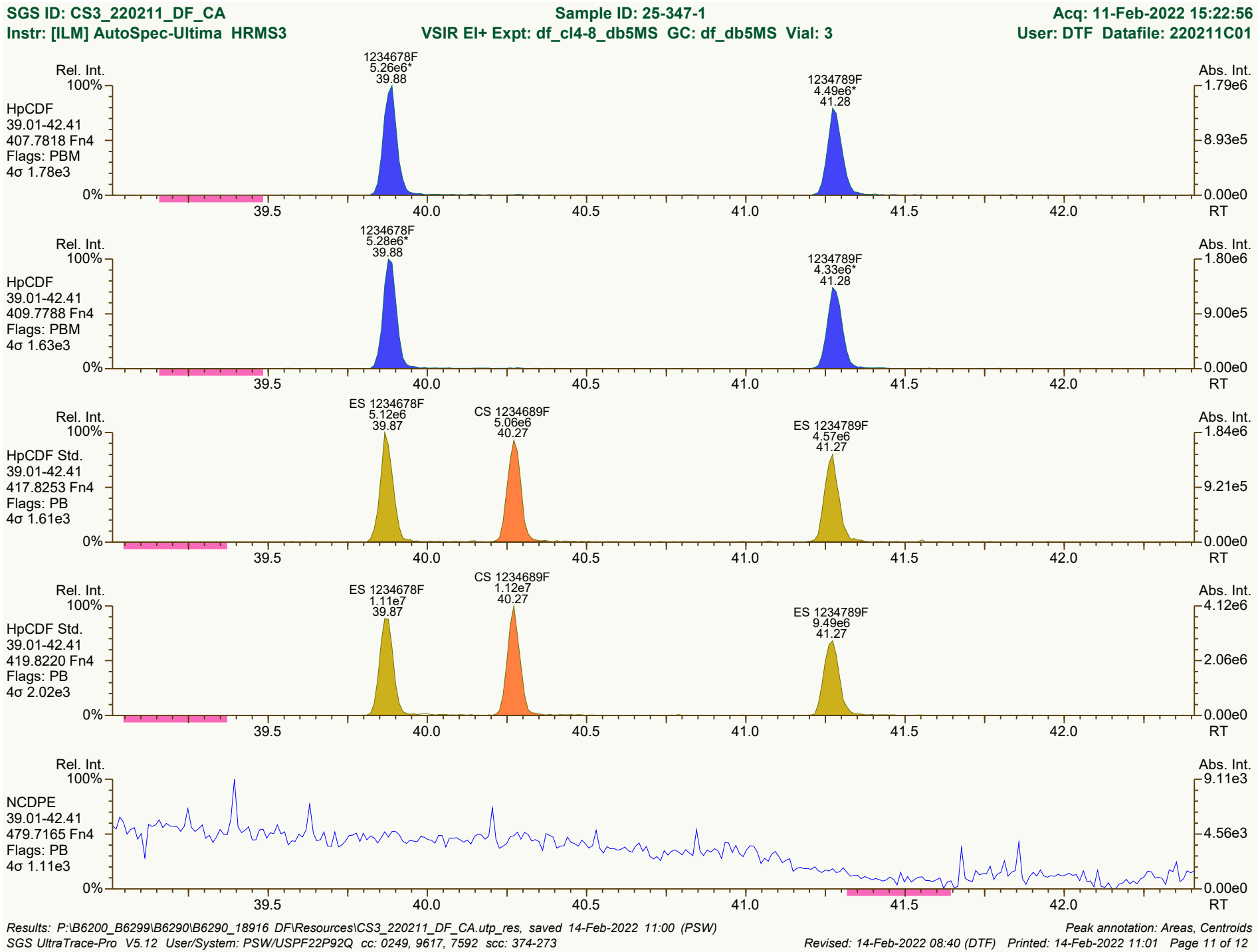
Sample ID: 25-347-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3

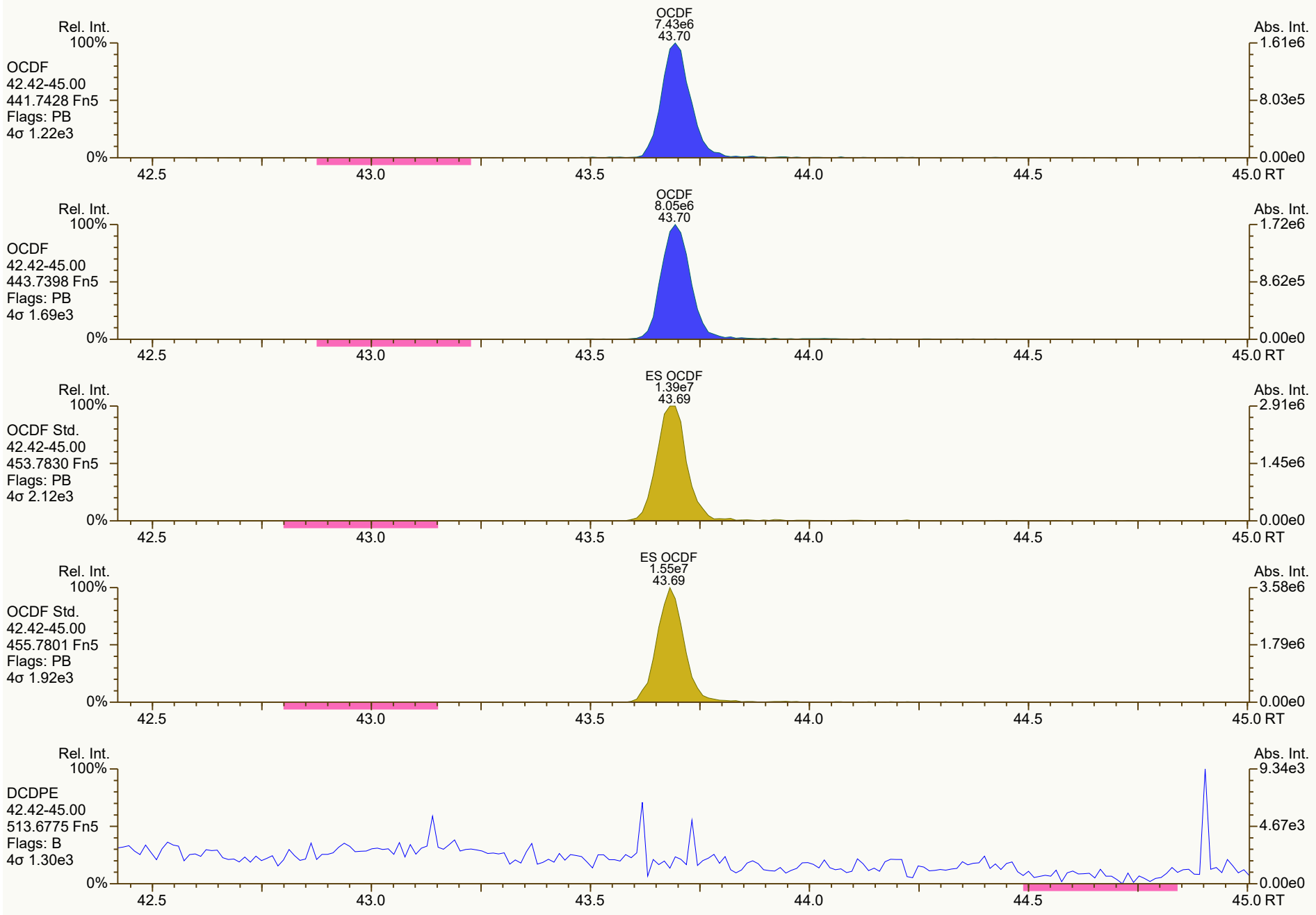
Acq: 11-Feb-2022 15:22:56
User: DTF Datafile: 220211C01

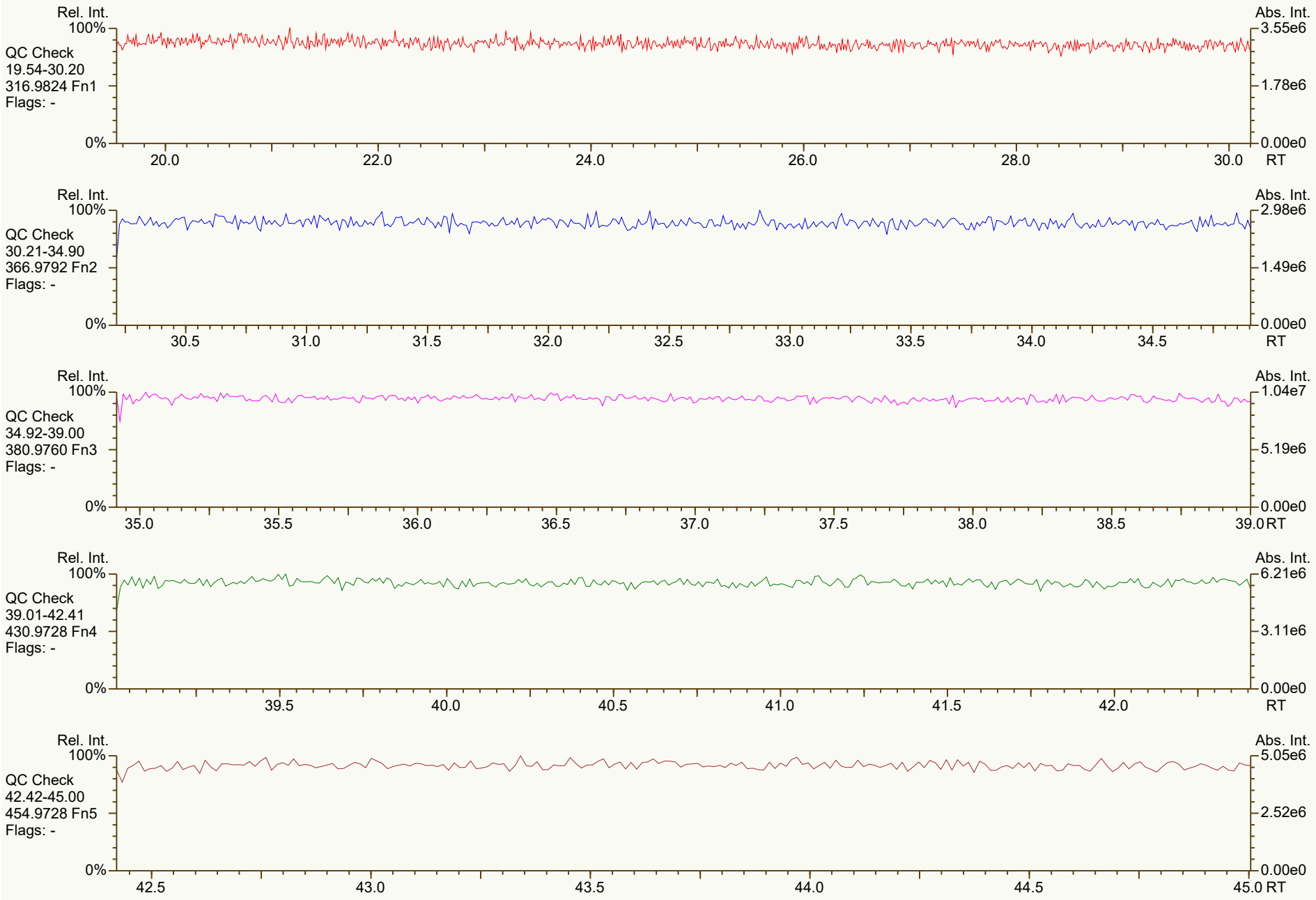


Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\CS3_220211_DF_CA.utp_res, saved 14-Feb-2022 11:00 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6314, 7948, 5330 scc: 374-273

Peak annotation: Areas, Centroids
PKD: 14-Feb-2022 08:39 Printed: 14-Feb-2022 11:01 Page 10 of 12

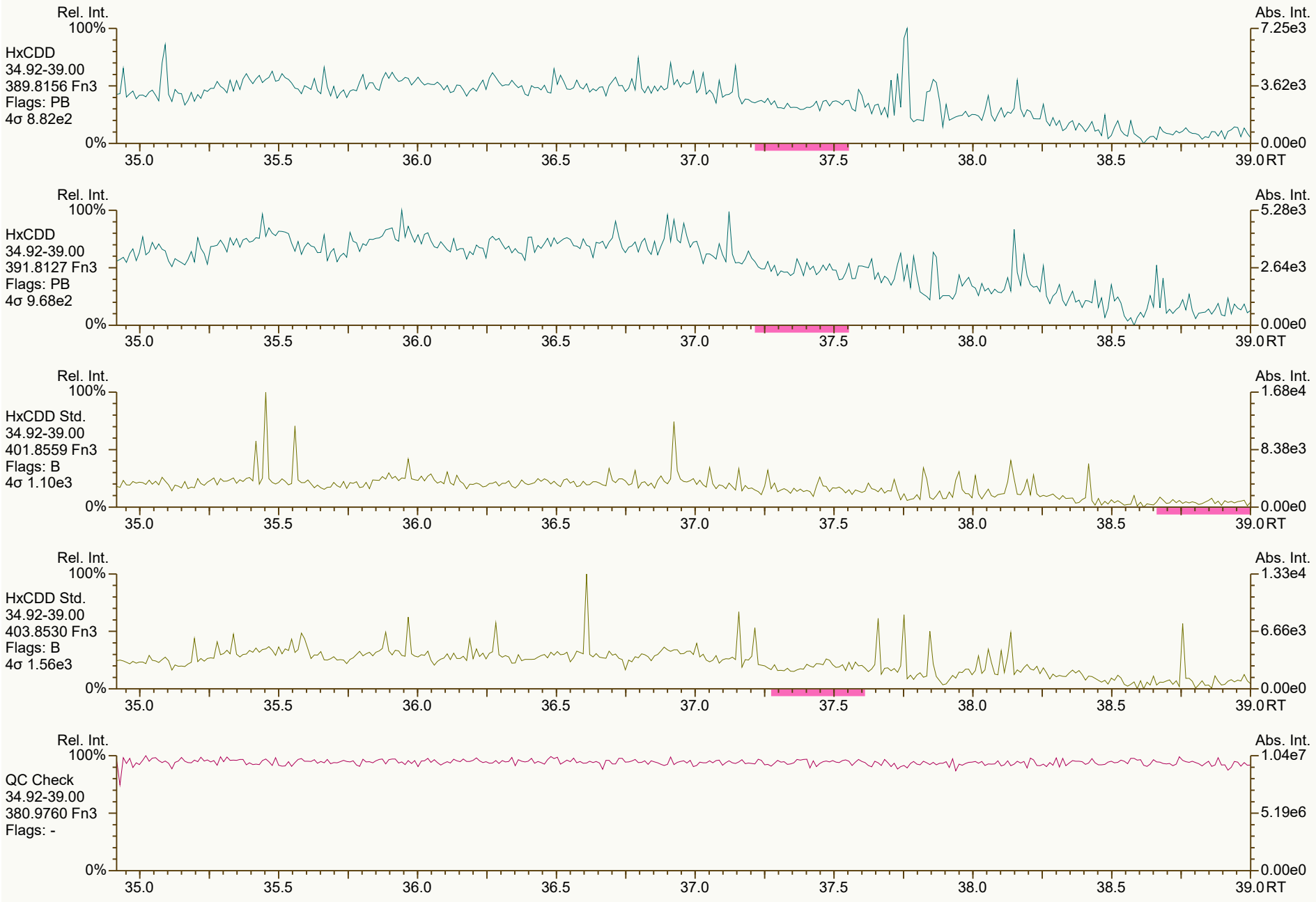

SGS ID: CS3_220211_DF_CA
Sample ID: 25-347-1
Acq: 11-Feb-2022 15:22:56
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220211C01
Rel. Int.
Abs. Int.
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 1.78e3
1234678F
5.26e6*
39.88
1234789F
4.49e6*
41.28
1.79e6
8.93e5
0.00e0
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 1.63e3
1234678F
5.28e6*
39.88
1234789F
4.33e6*
41.28
1.80e6
9.00e5
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 1.61e3
ES 1234678F
5.12e6
39.87
CS 1234689F
5.06e6
40.27
ES 1234789F
4.57e6
41.27
1.84e6
9.21e5
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 2.02e3
ES 1234678F
1.11e7
39.87
CS 1234689F
1.12e7
40.27
ES 1234789F
9.49e6
41.27
4.12e6
2.06e6
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.11e3
9.11e3
4.56e3
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\CS3_220211_DF_CA.utp_res, saved 14-Feb-2022 11:00 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0249, 9617, 7592 scc: 374-273
Revised: 14-Feb-2022 08:40 (DTF) Printed: 14-Feb-2022 11:01 Page 11 of 12


OCDF
7.43e6
43.70
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
1.61e6
8.03e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
8.05e6
43.70
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.69e3
0%
Abs. Int.
1.72e6
8.62e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.39e7
43.69
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 2.12e3
0%
Abs. Int.
2.91e6
1.45e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.55e7
43.69
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 1.92e3
0%
Abs. Int.
3.58e6
1.79e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.30e3
0%
Abs. Int.
9.34e3
4.67e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.55e6
1.78e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
2.98e6
1.49e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.04e7
5.19e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
6.21e6
3.11e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.05e6
2.52e6
0.00e0

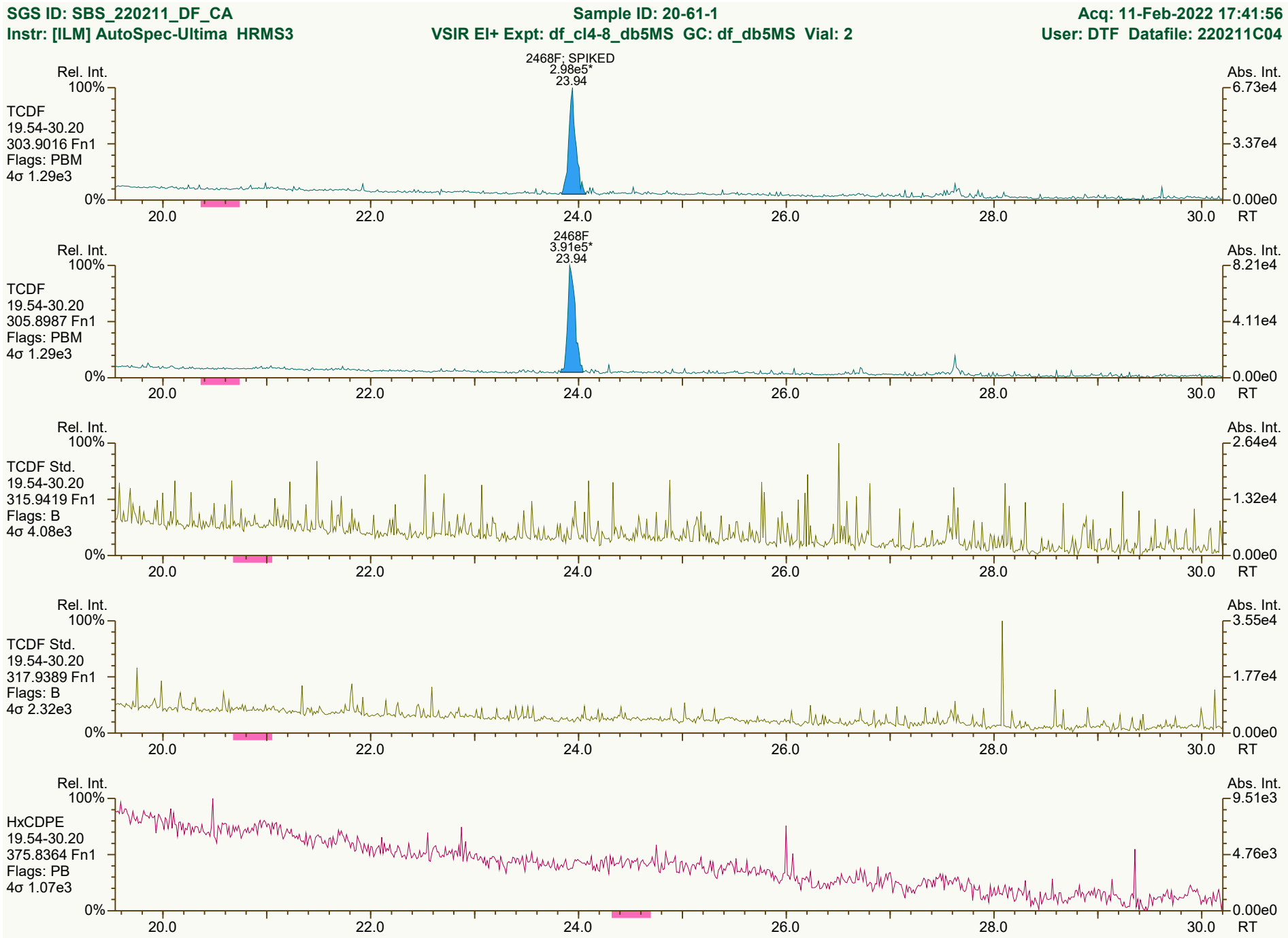

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 1.73e3
0%
Abs. Int.
1.15e4
5.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.54e3
0%
Abs. Int.
1.09e4
5.47e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: B
4σ 1.42e3
0%
Abs. Int.
1.60e4
7.99e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 2.43e3
0%
Abs. Int.
3.80e4
1.90e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 3.92e3
0%
Abs. Int.
4.52e4
2.26e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: B
4σ 1.39e3
0%
Abs. Int.
5.34e3
2.67e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: B
4σ 1.14e3
0%
Abs. Int.
9.48e3
4.74e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: B
4σ 2.04e3
0%
Abs. Int.
1.29e4
6.44e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: B
4σ 1.83e3
0%
Abs. Int.
1.14e4
5.68e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.98e6
1.49e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 8.82e2
0%
Abs. Int.
7.25e3
3.62e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 9.68e2
0%
Abs. Int.
5.28e3
2.64e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: B
4σ 1.10e3
0%
Abs. Int.
1.68e4
8.38e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.04e7
5.19e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

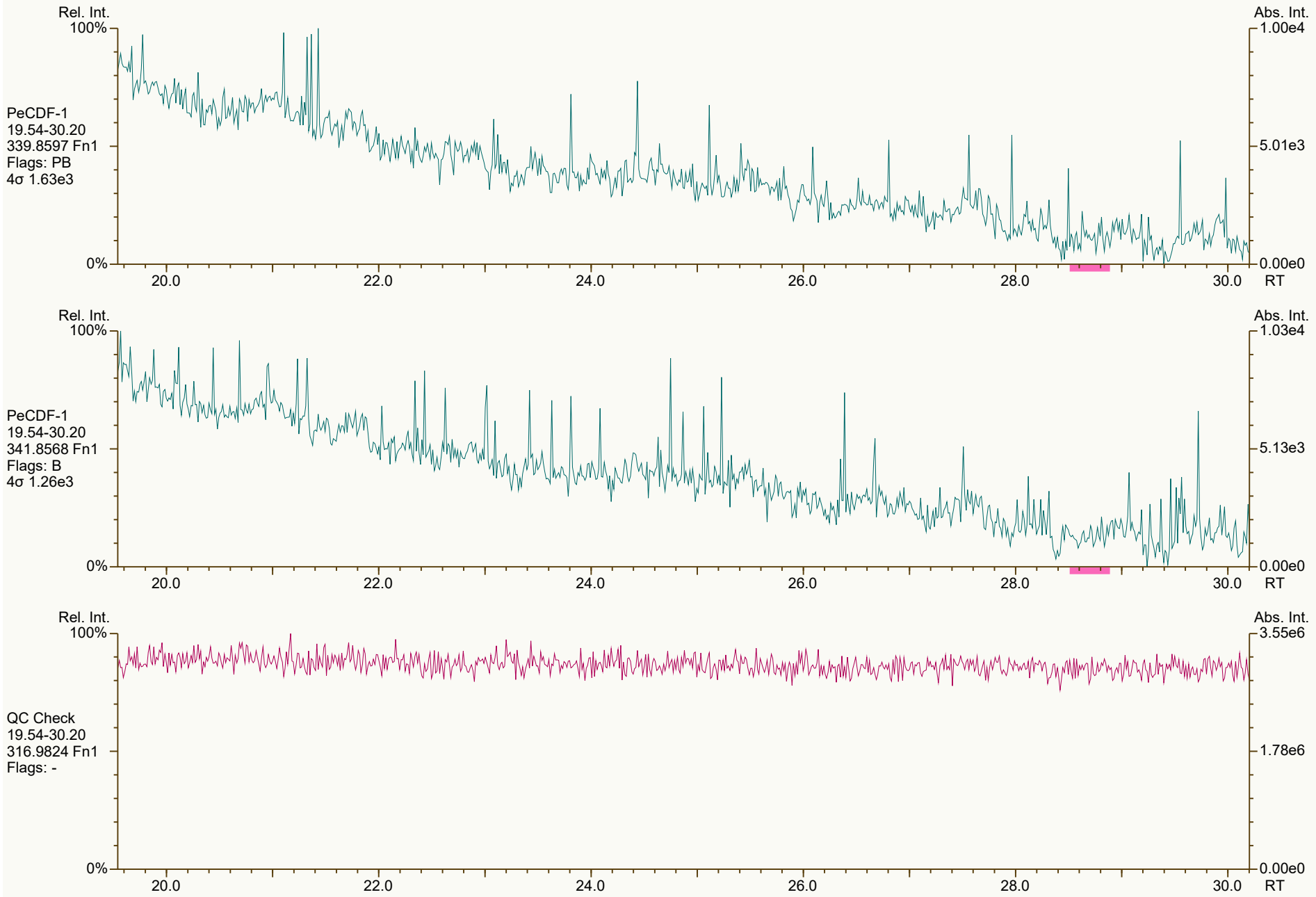

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.03e3
0%
Abs. Int.
1.24e4
6.18e3
0.00e0
RT
39.5
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 2.04e3
0%
Abs. Int.
5.20e3
2.60e3
0.00e0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: B
4σ 1.47e3
0%
Abs. Int.
1.68e4
8.41e3
0.00e0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: B
4σ 1.43e3
0%
Abs. Int.
1.16e4
5.78e3
0.00e0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
6.21e6
3.11e6
0.00e0
RT


Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: B
4σ 1.73e3
0%
Abs. Int.
6.54e3
3.27e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 1.18e3
0%
Abs. Int.
1.14e4
5.68e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.36e4
6.78e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: B
4σ 2.00e3
0%
Abs. Int.
1.95e4
9.75e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.05e6
2.52e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: SBS_220211_DF_CA
Sample ID: 20-61-1
Acq: 11-Feb-2022 17:41:56
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: DTF Datafile: 220211C04
2468F; SPIKED
2.98e5*
23.94
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.29e3
2468F
3.91e5*
23.94
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.29e3
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 4.08e3
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 2.32e3
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.07e3
RT
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\SBS_220211_DF_CA.utp_res, saved 14-Feb-2022 10:09 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7731, 3652, 0176 scc: 354-941
PKD: 14-Feb-2022 10:09 Printed: 14-Feb-2022 11:01 Page 7 of 12

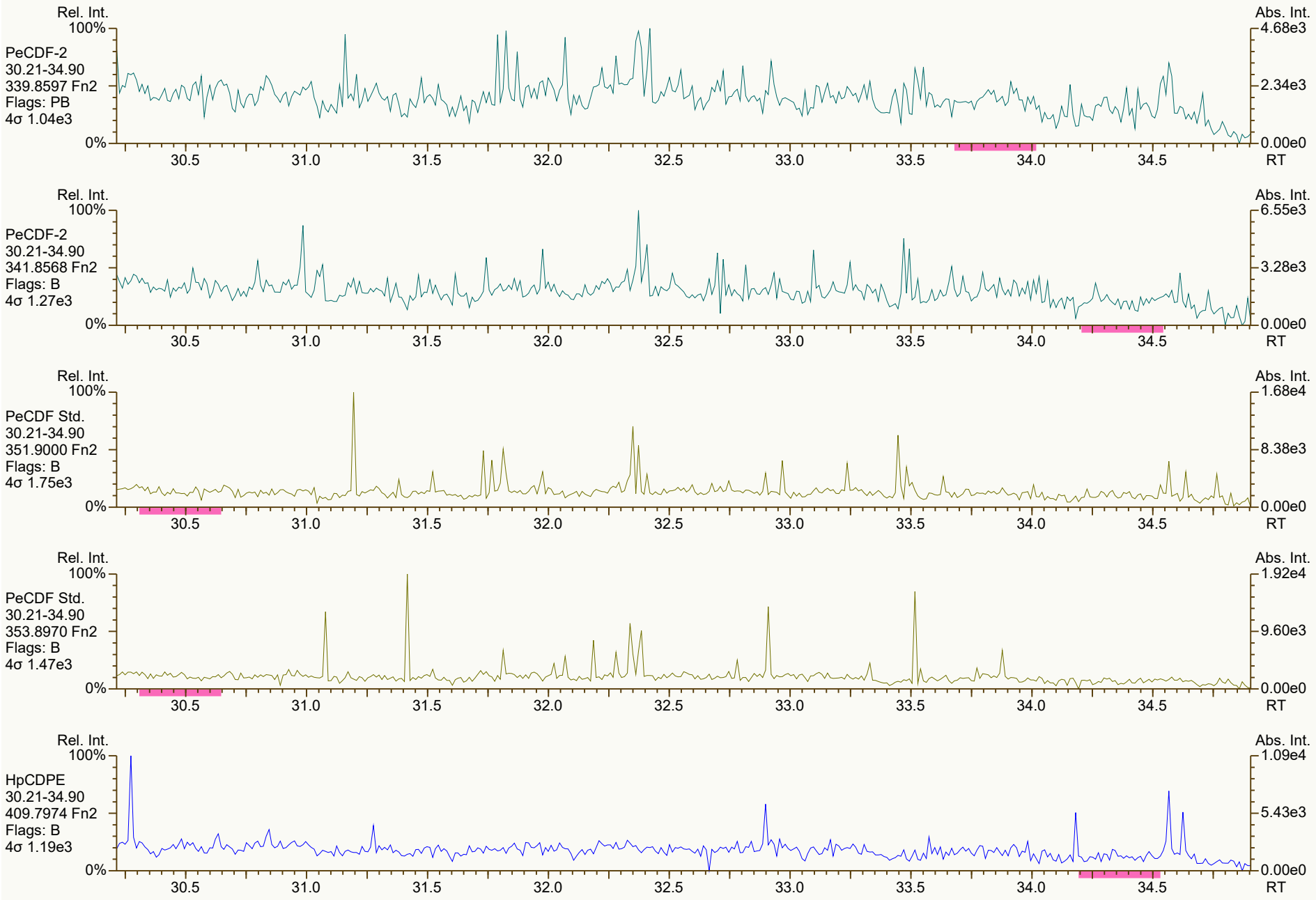
SGS ID: SBS_220211_DF_CA | Sample ID: 20-61-1 | Acq: 11-Feb-2022 17:41:56

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 220211C04



Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\SBS_220211_DF_CA.utp_res, saved 14-Feb-2022 10:09 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8270 scc: 354-941 | *PKD: 14-Feb-2022 10:09 Printed: 14-Feb-2022 11:01 Page 8 of 12*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PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PB
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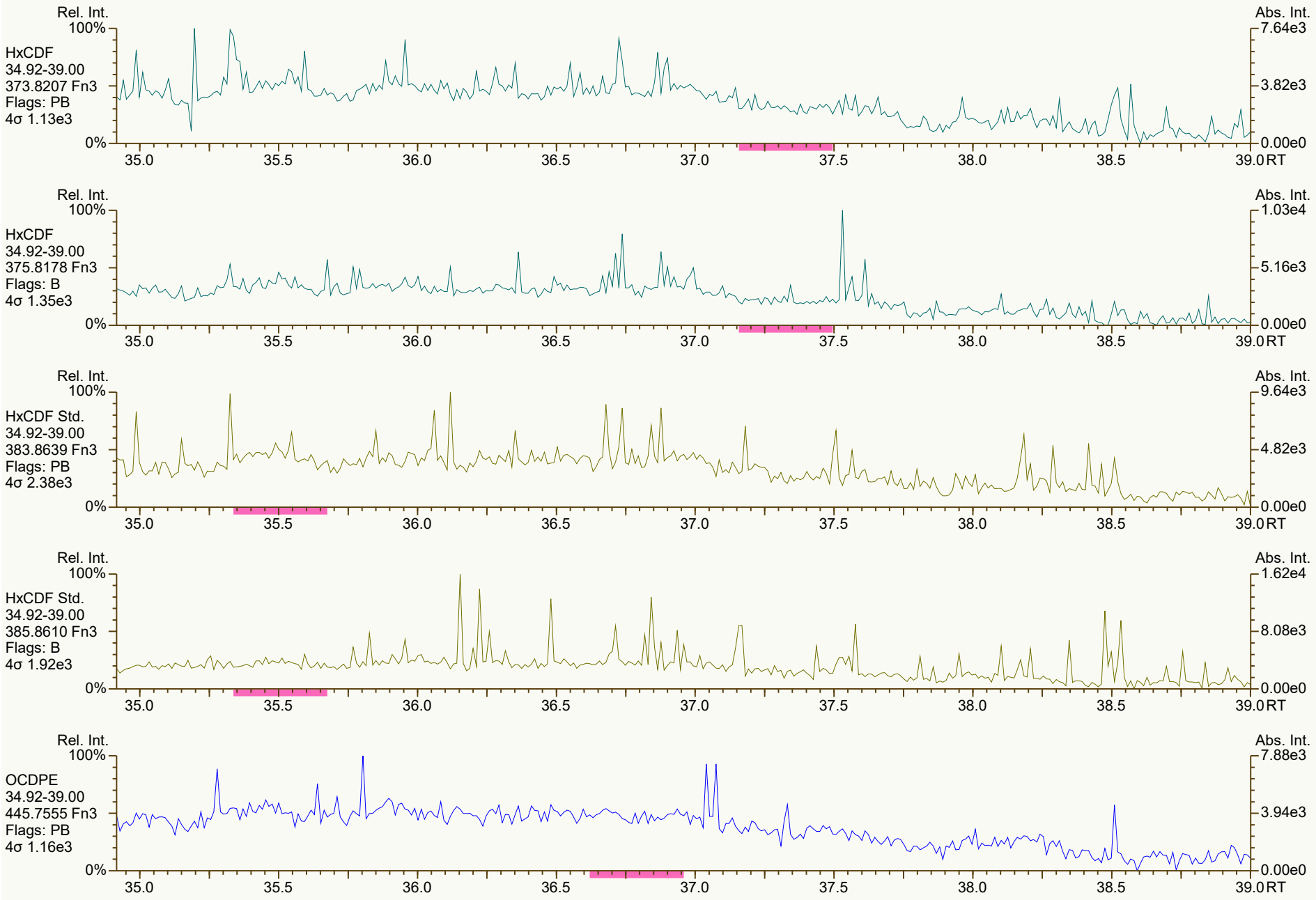
0%
Abs. Int.
4.68e3
2.34e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: B
4σ 1.27e3
0%
Abs. Int.
6.55e3
3.28e3
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: B
4σ 1.75e3
0%
Abs. Int.
1.68e4
8.38e3
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: B
4σ 1.47e3
0%
Abs. Int.
1.92e4
9.60e3
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.19e3
0%
Abs. Int.
1.09e4
5.43e3
0.00e0
RT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100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PB
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0%
Abs. Int.
7.64e3
3.82e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: B
4σ 1.35e3
0%
Abs. Int.
1.03e4
5.16e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 2.38e3
0%
Abs. Int.
9.64e3
4.82e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: B
4σ 1.92e3
0%
Abs. Int.
1.62e4
8.08e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.16e3
0%
Abs. Int.
7.88e3
3.94e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.80e3
0%
Abs. Int.
5.38e3
2.69e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: B
4σ 1.27e3
0%
Abs. Int.
6.11e3
3.05e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: B
4σ 1.55e3
0%
Abs. Int.
9.85e3
4.93e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: B
4σ 1.60e3
0%
Abs. Int.
2.28e4
1.14e4
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.27e3
0%
Abs. Int.
1.40e4
7.01e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: B
4σ 1.29e3
0%
Abs. Int.
8.21e3
4.10e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
3.95e3
1.97e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: B
4σ 1.66e3
0%
Abs. Int.
9.13e3
4.57e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: B
4σ 1.98e3
0%
Abs. Int.
9.55e3
4.78e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.07e3
0%
Abs. Int.
3.65e3
1.82e3
0.00e0
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43.5
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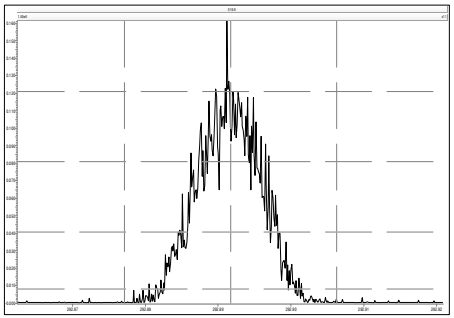
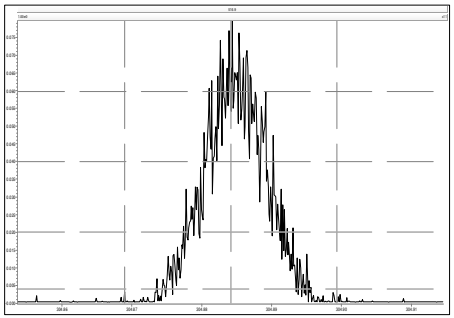
45.0 RT

Printed: Friday, February 11, 2022 15:13:03 Eastern Standard Time

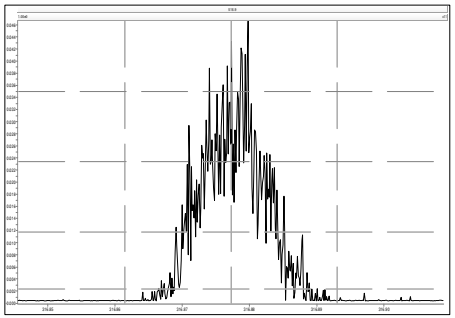
M 292.9824 R 15876



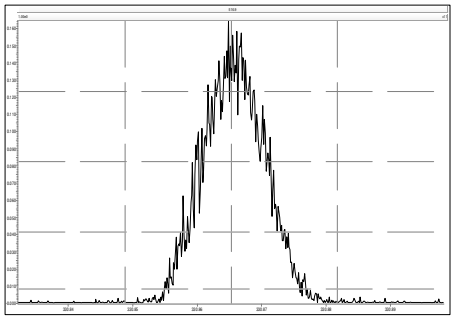
M 304.9824 R 16219



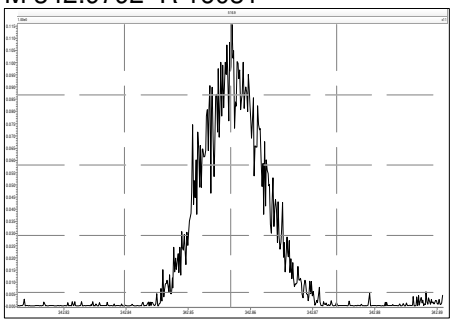
M 316.9824 R 18295



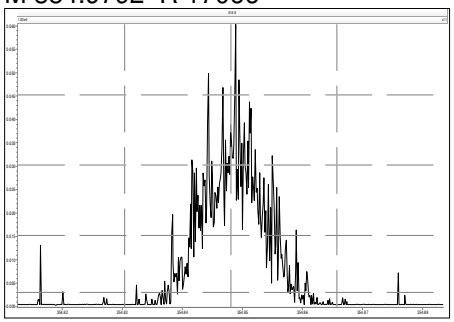
M 330.9792 R 16340



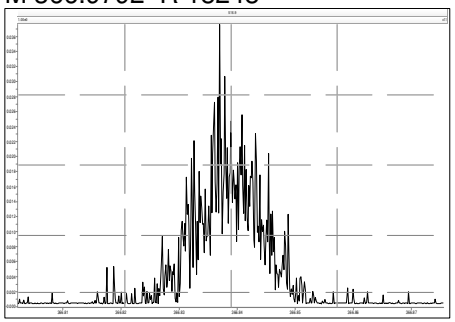
M 342.9792 R 16031



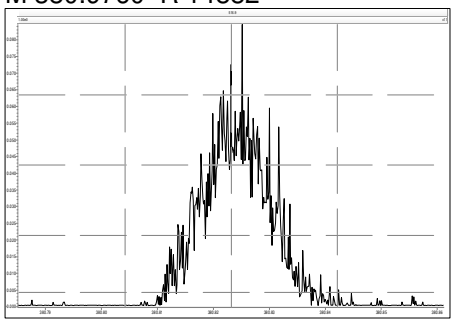
M 354.9792 R 17066



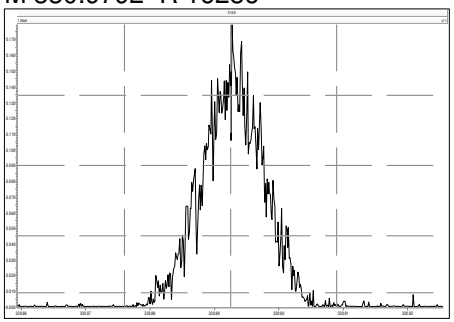
M 366.9792 R 18248



M 380.9760 R 14882



M 330.9792 R 16286



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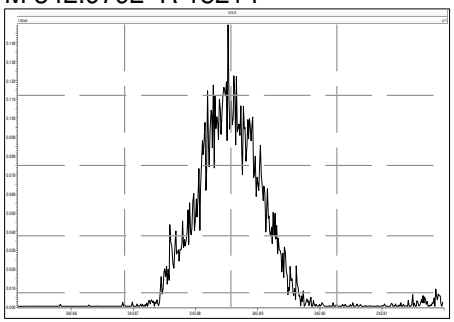
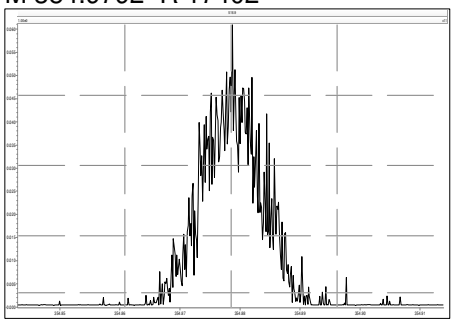
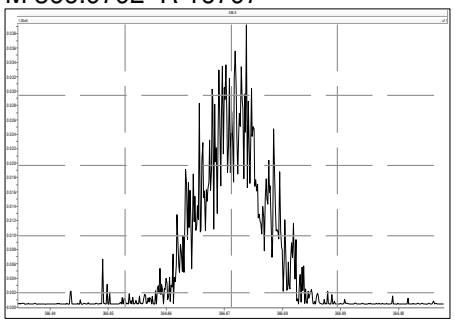


M 354.9792 R 17402



M 366.9792 R 16797



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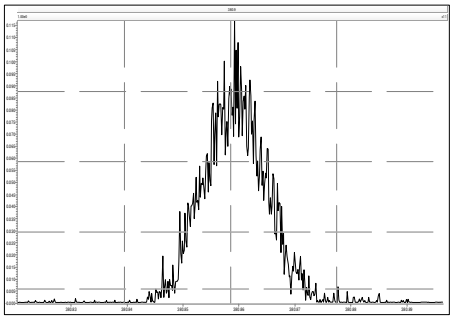

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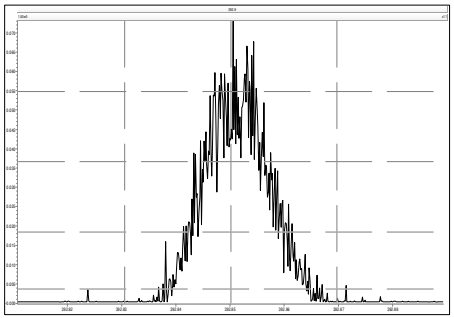
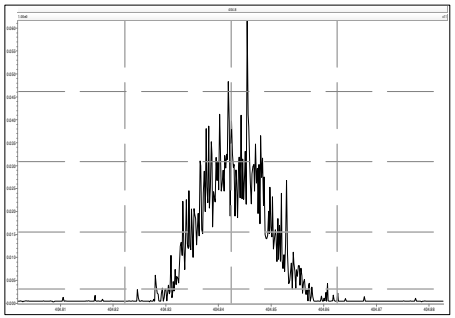
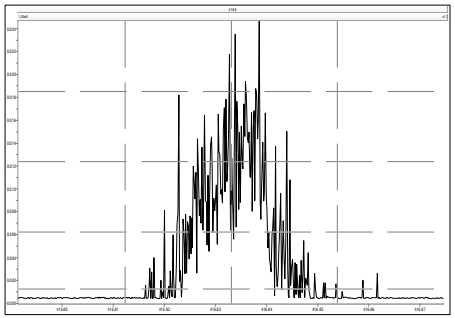


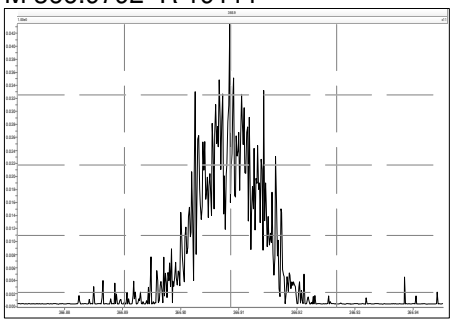
M 404.9760 R 16602



M 416.9760 R 0



M 366.9792 R 19111



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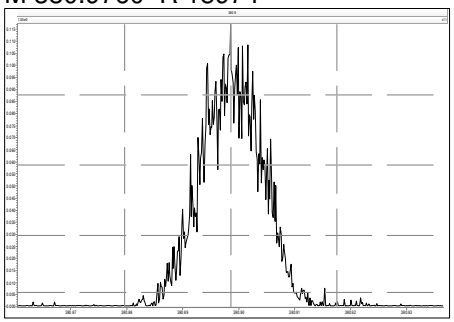

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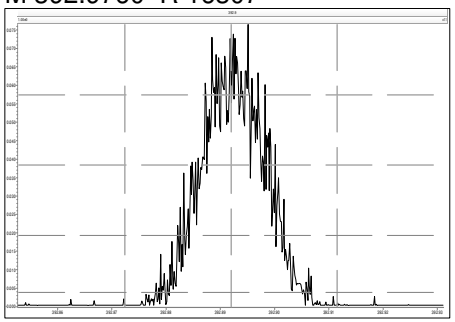
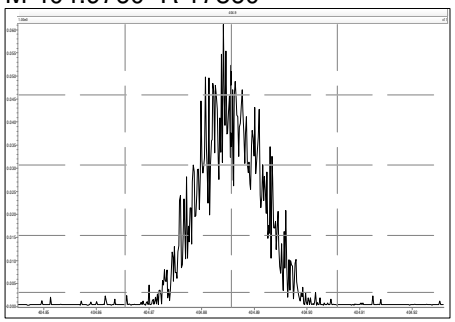
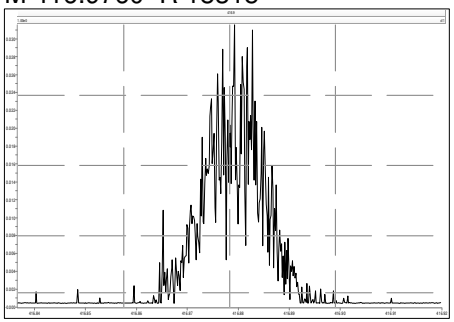


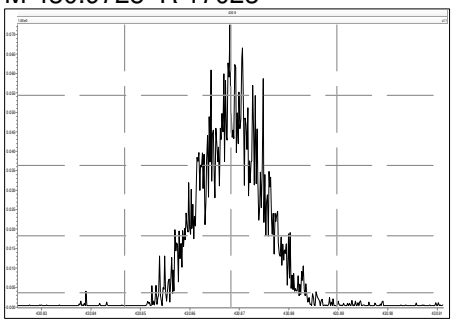
M 404.9760 R 17860



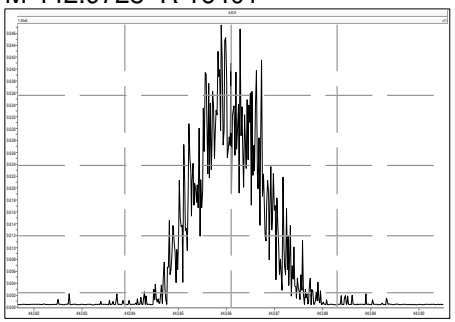
M 416.9760 R 18315



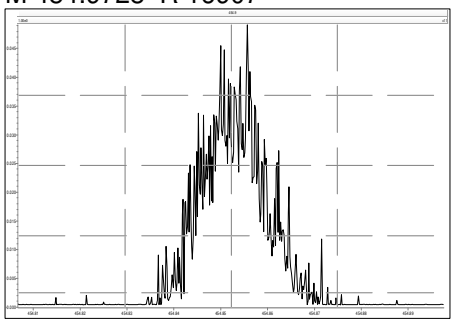
M 430.9728 R 17023



M 442.9728 R 16401



M 454.9728 R 16907



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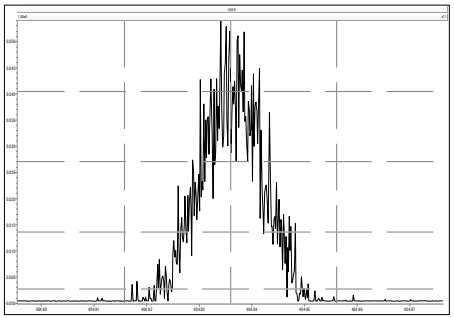
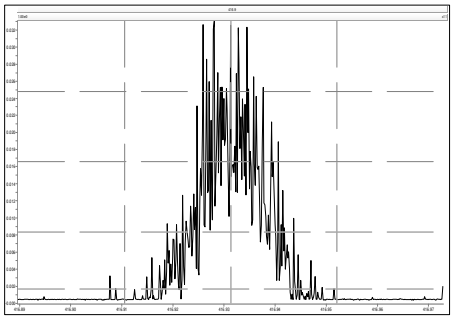
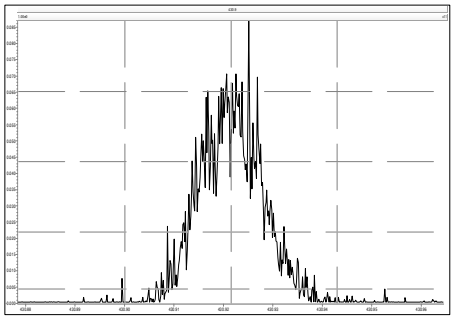


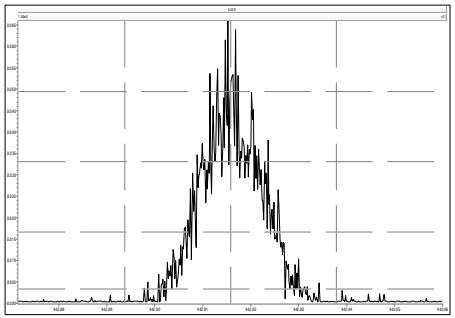
M 416.9760 R 19017



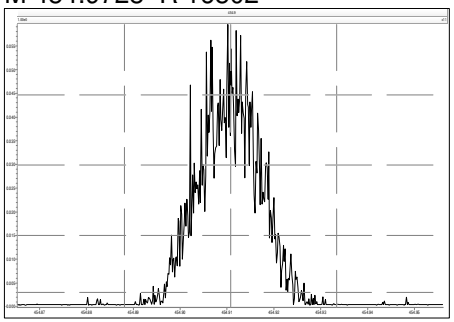
M 430.9728 R 16464



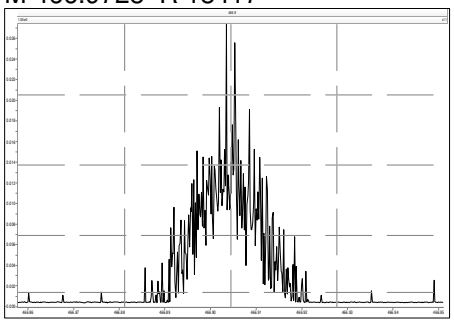
M 442.9728 R 17206



M 454.9728 R 16502



M 466.9728 R 18417



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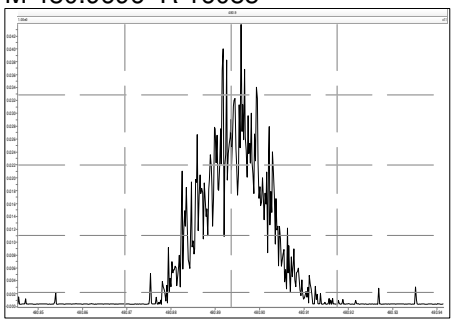

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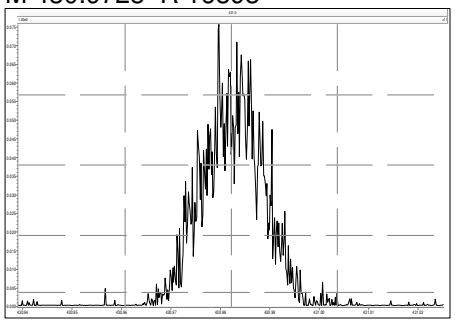

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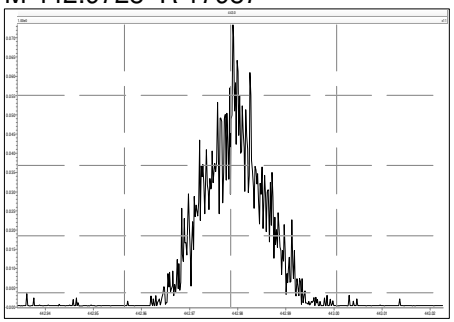
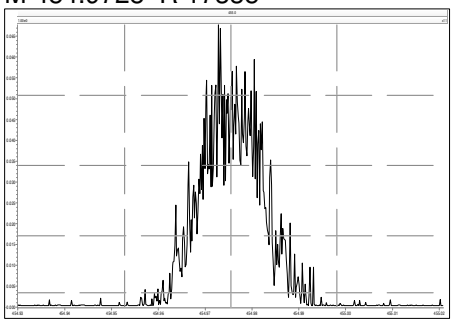


M 454.9728 R 17335



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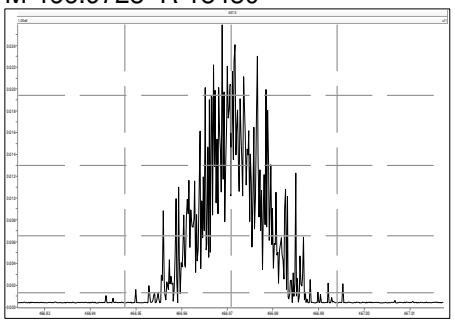

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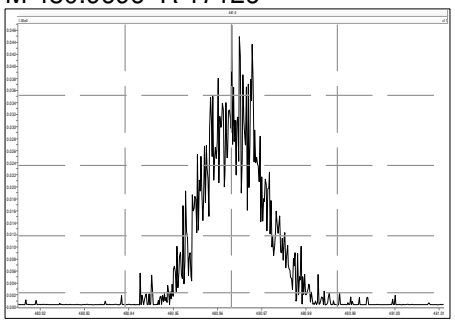

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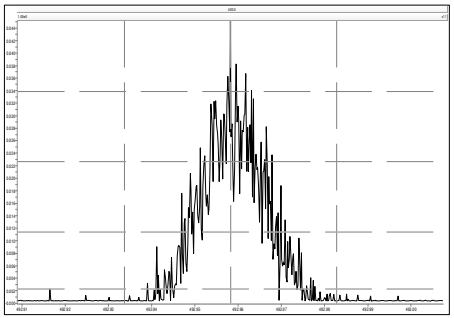

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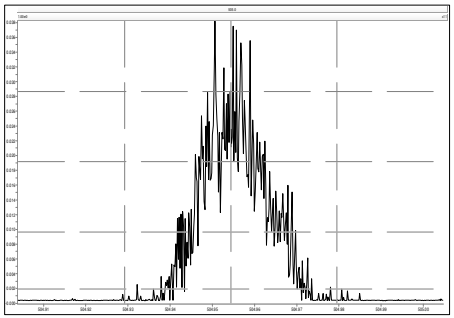

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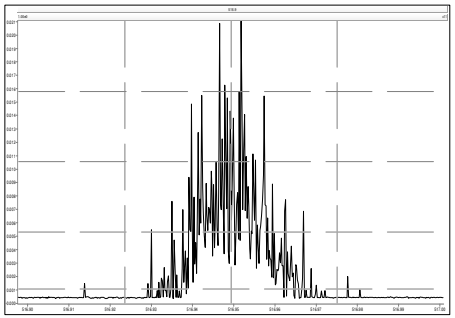

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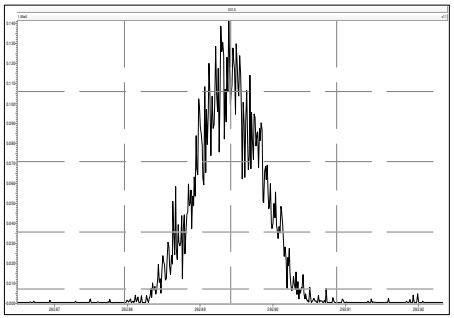

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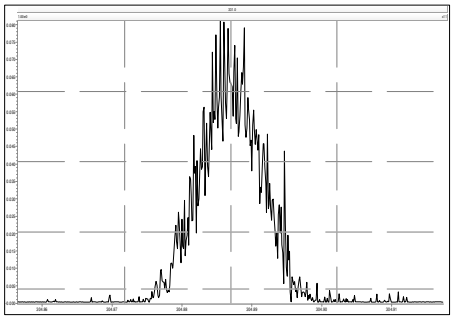

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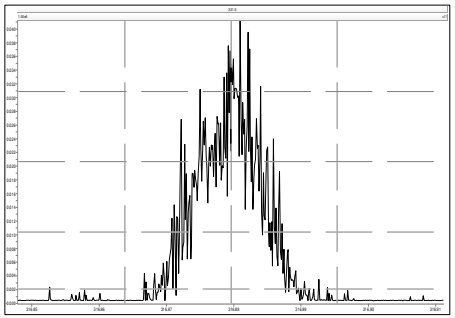

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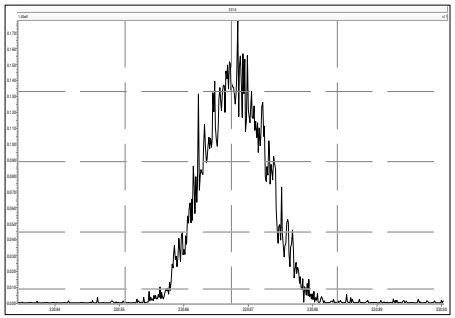

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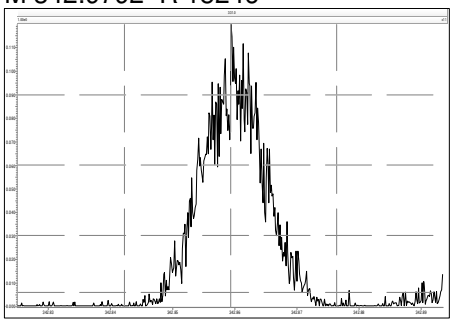
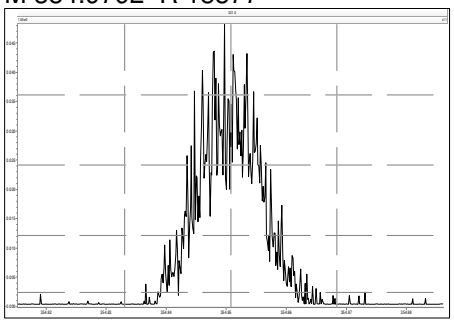


M 354.9792 R 15577



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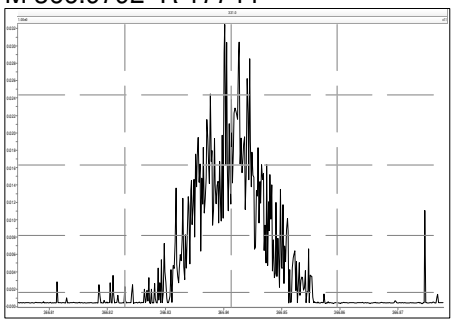

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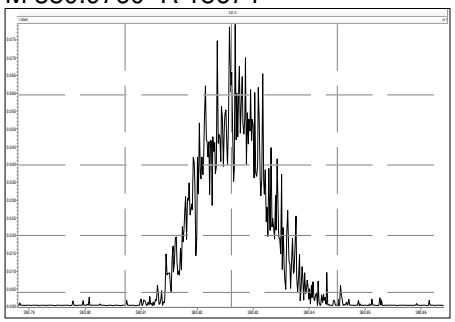

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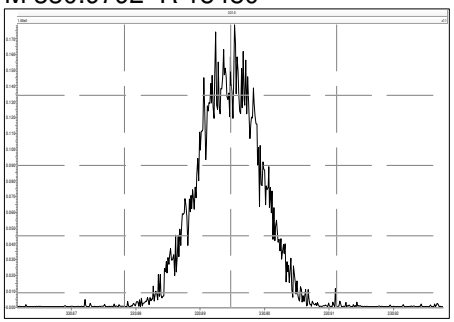

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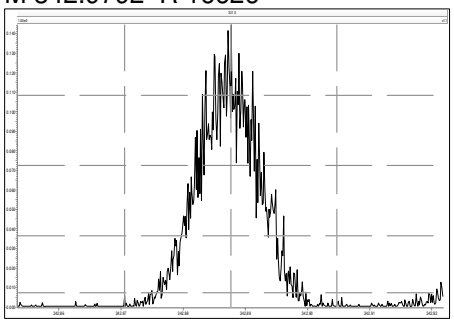

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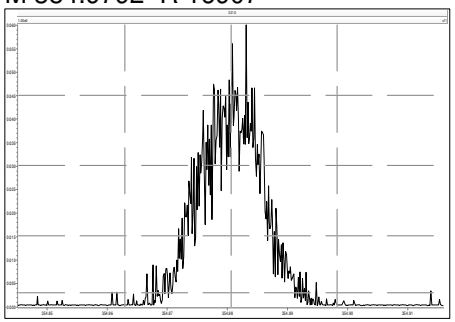

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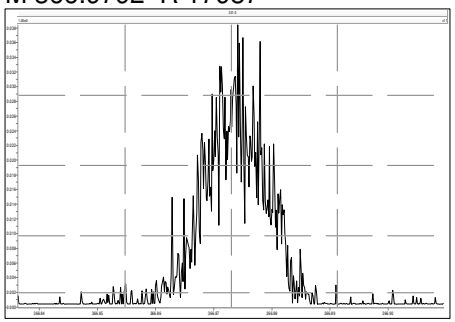

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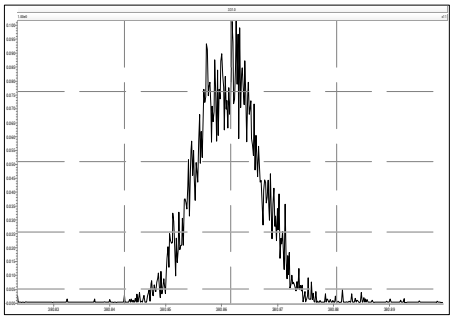

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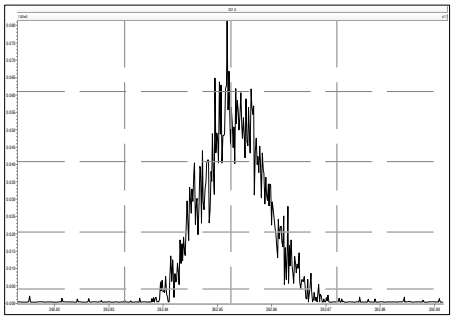

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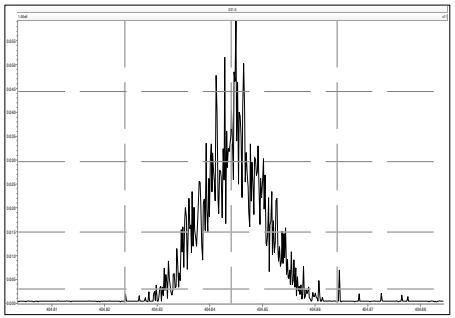
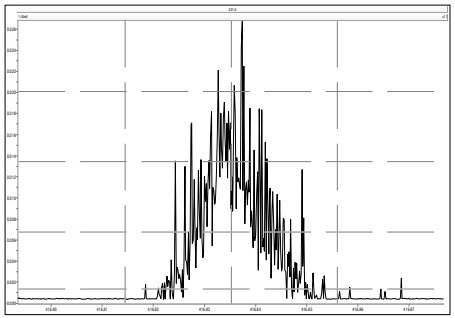


M 416.9760 R 19729



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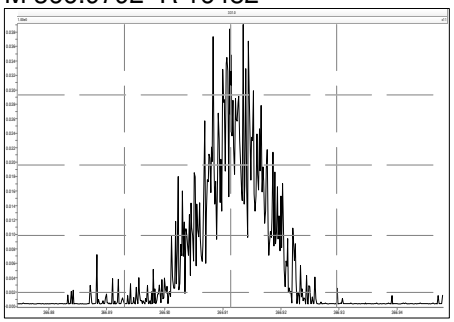
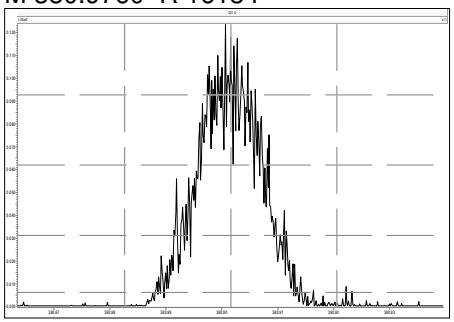


M 380.9760 R 16134



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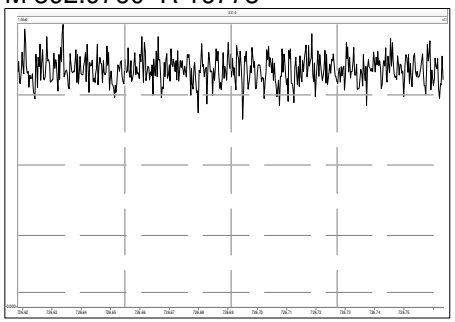
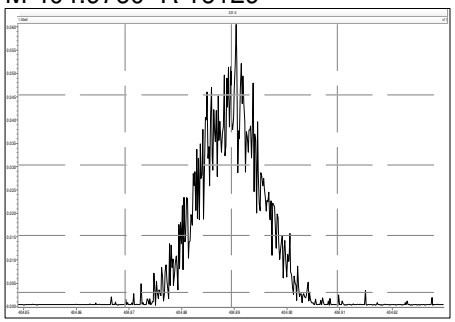


M 404.9760 R 16129



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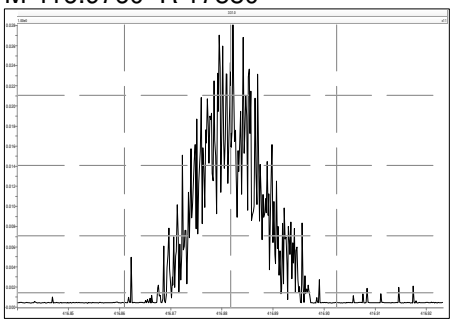

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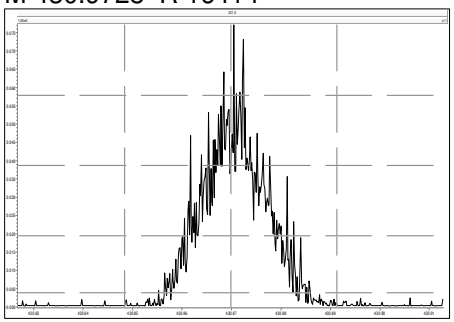

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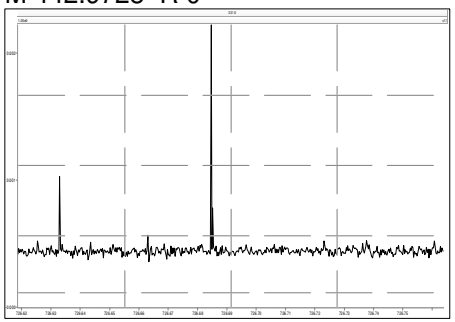

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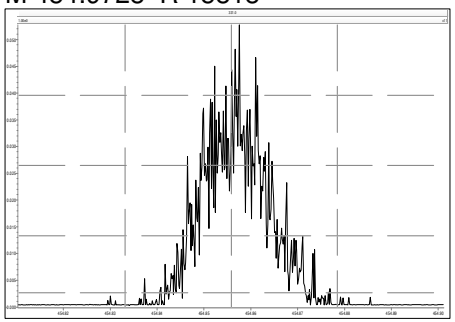
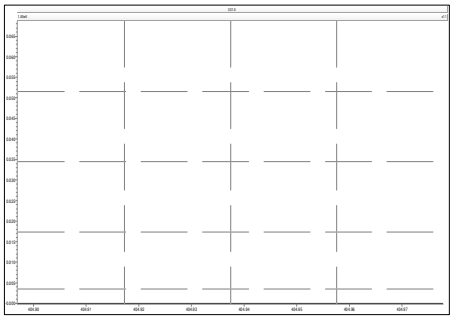


* Instrument Arced durning Resplot collection

M 404.9760 R 17667



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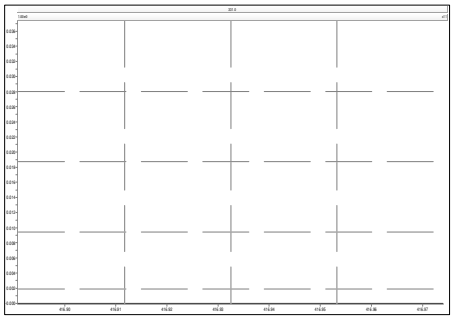

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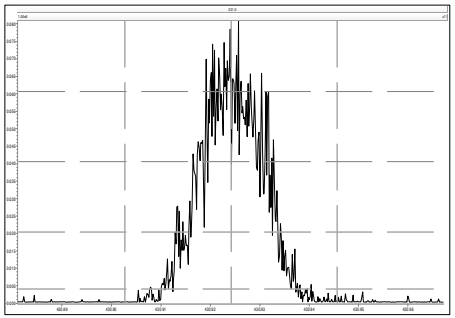

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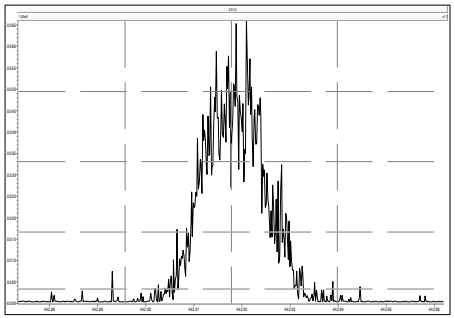

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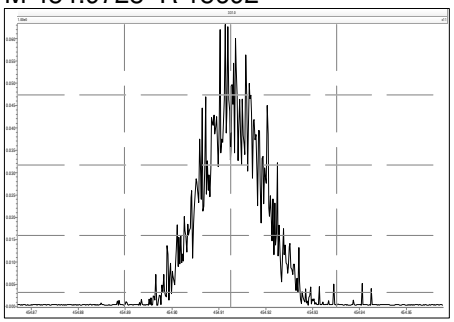

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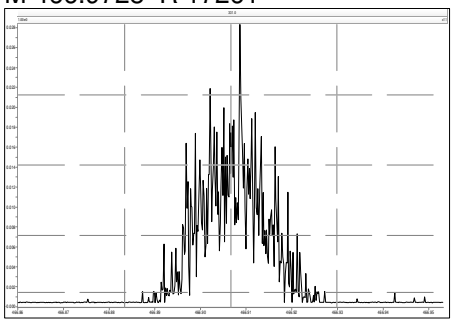

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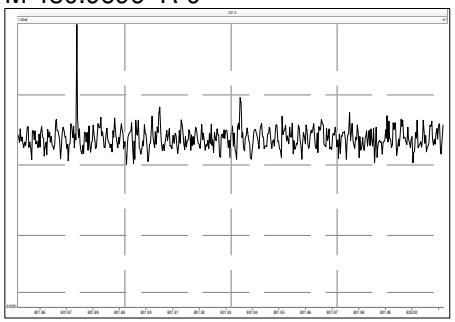

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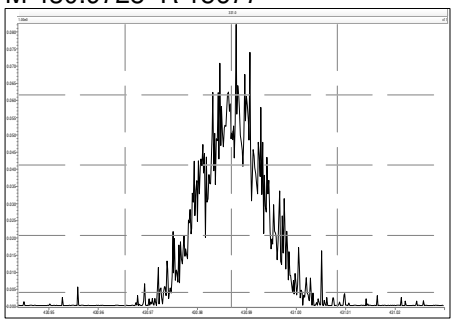

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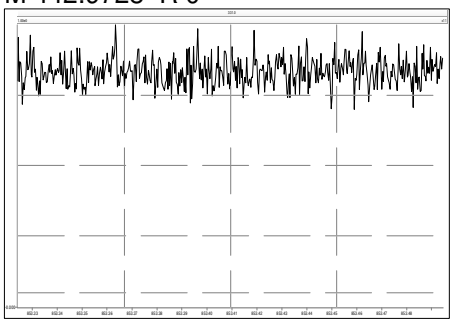

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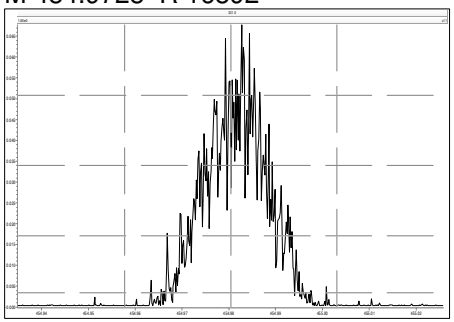
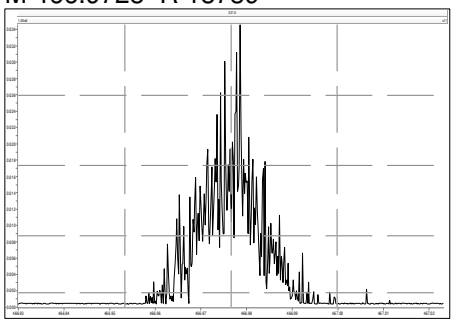


M 466.9728 R 18739



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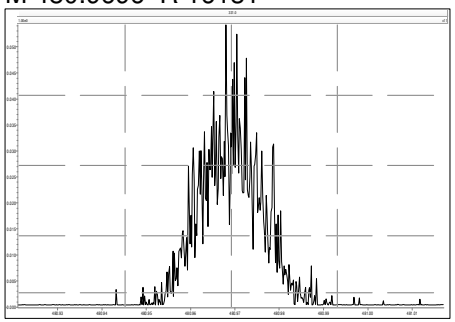

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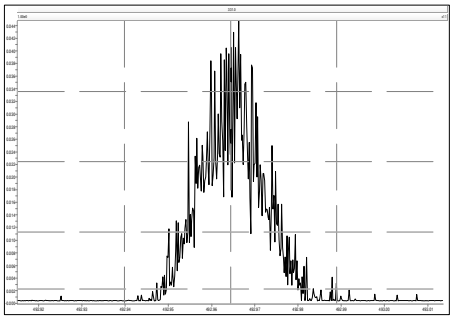
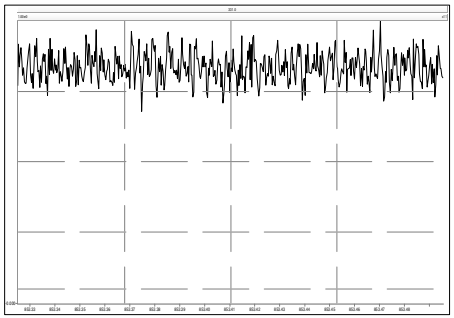
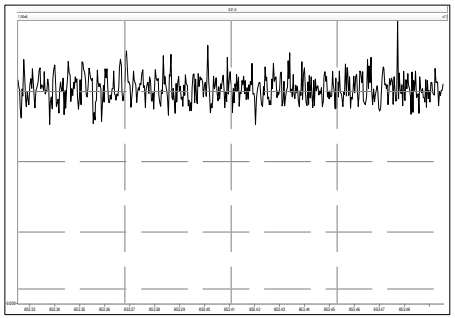


M 504.9696 R 16129



M 516.9697 R 20491



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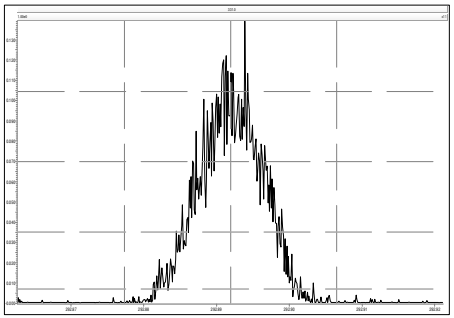

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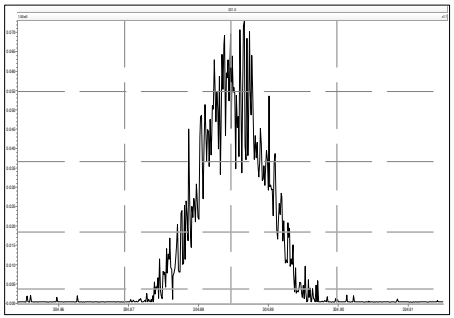

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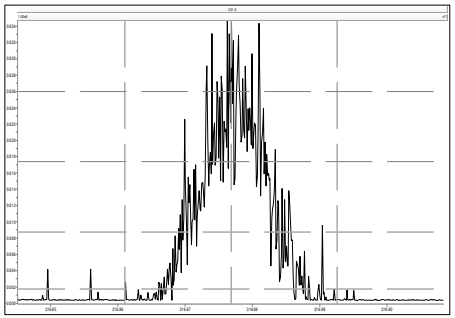
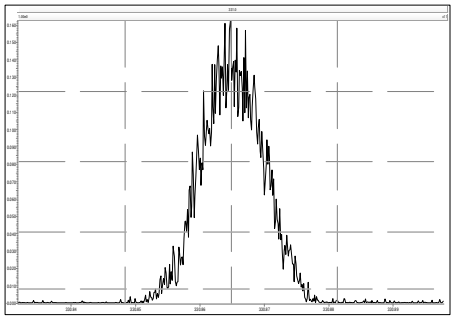


M 330.9792 R 14925



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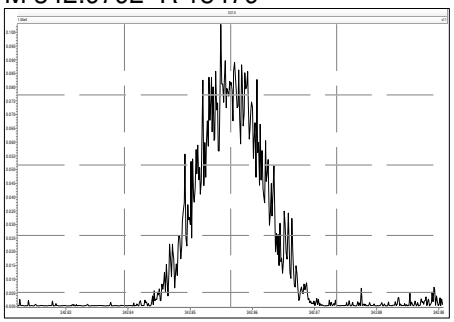

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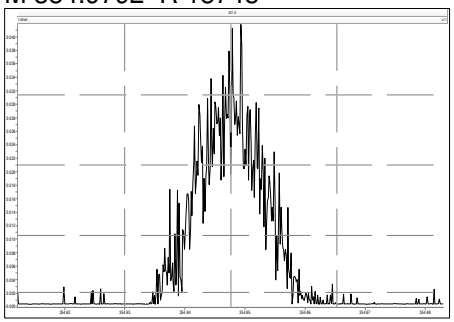

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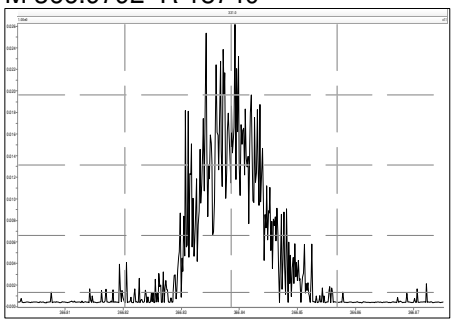
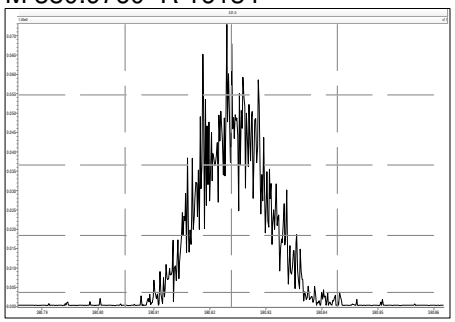
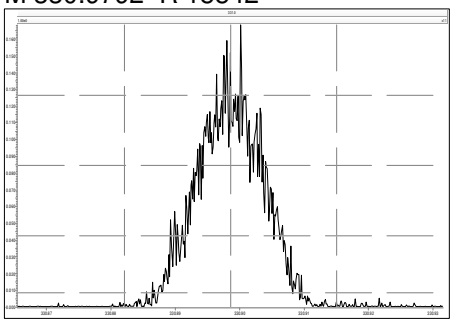


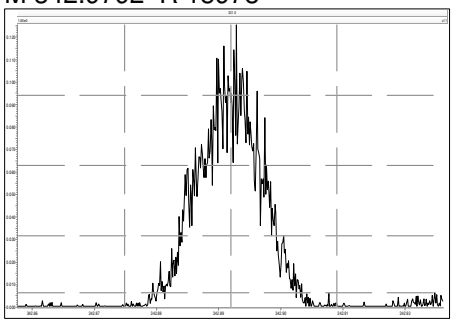
M 380.9760 R 16134



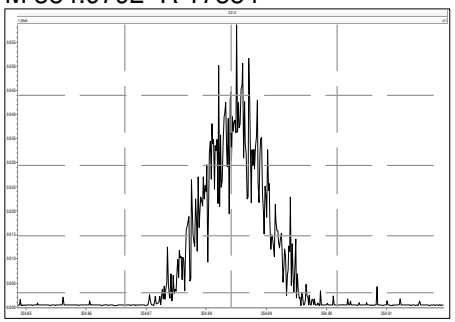
M 330.9792 R 15542



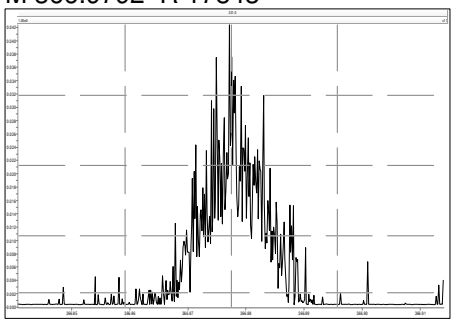
M 342.9792 R 15978



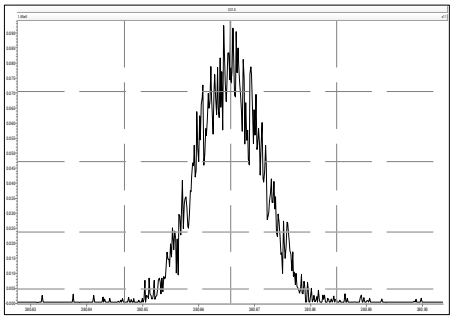
M 354.9792 R 17554



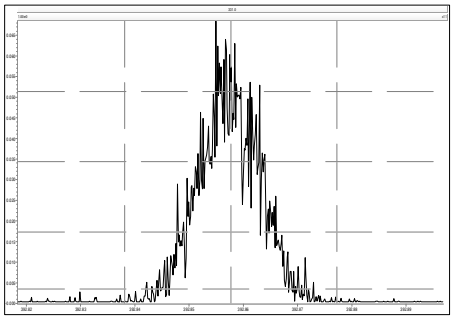
M 366.9792 R 17843



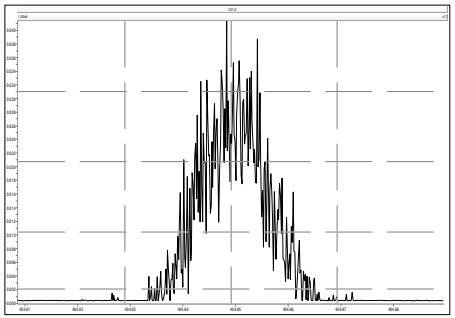
M 380.9760 R 15928



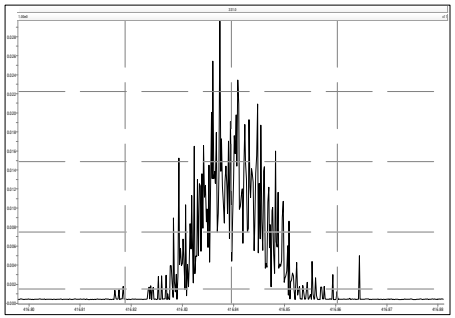
M 392.9760 R 16414



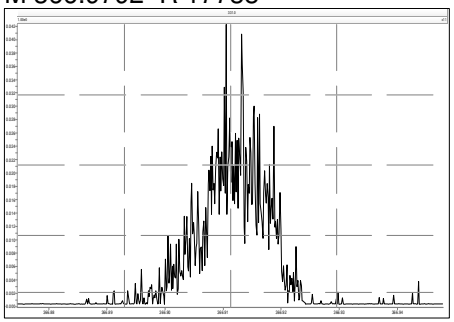
M 404.9760 R 17183



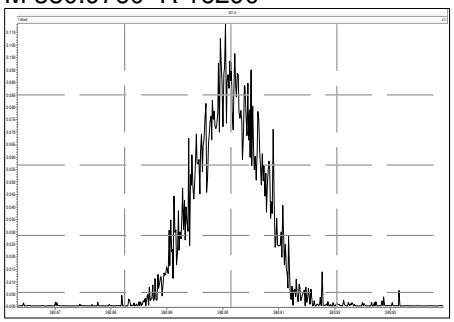
M 416.9760 R 10775



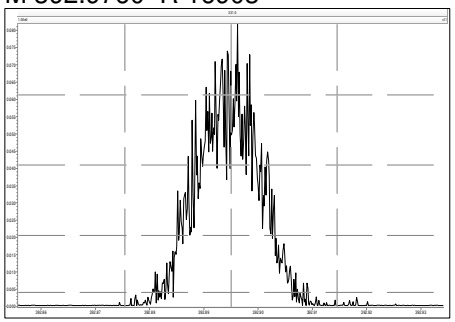
M 366.9792 R 17738



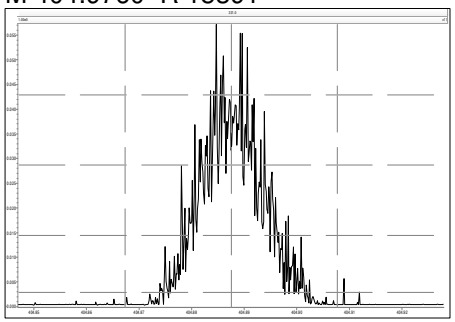
M 380.9760 R 16290



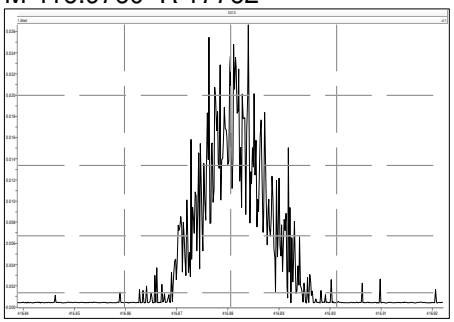
M 392.9760 R 16903



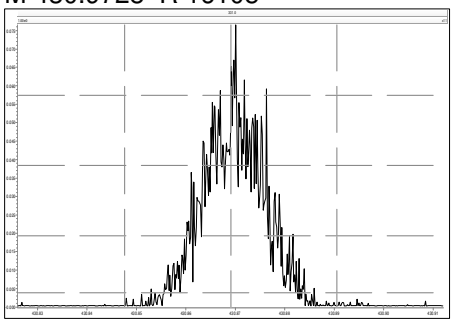
M 404.9760 R 15391



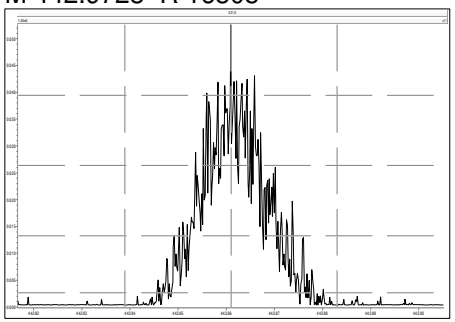
M 416.9760 R 17762



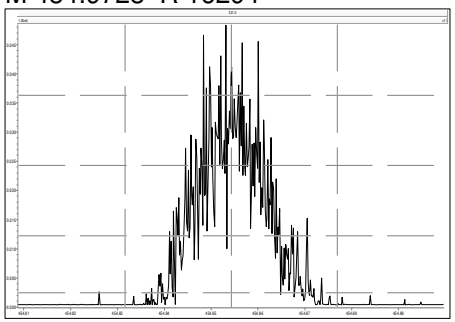
M 430.9728 R 16105



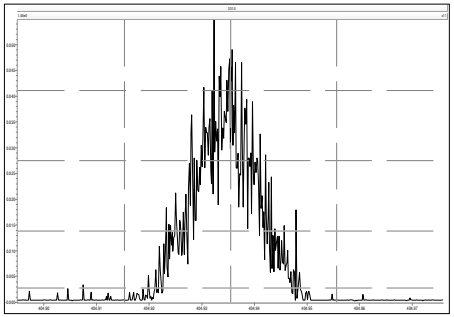
M 442.9728 R 16505



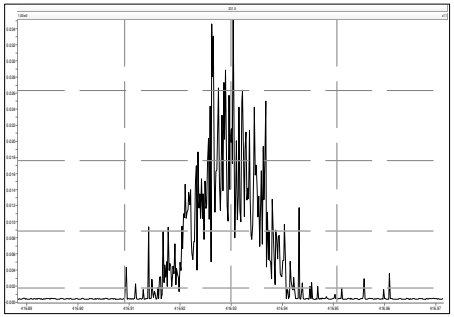
M 454.9728 R 16294



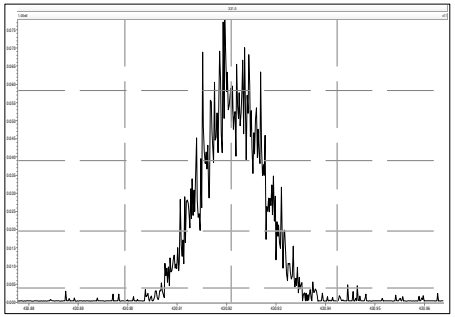
M 404.9760 R 15892



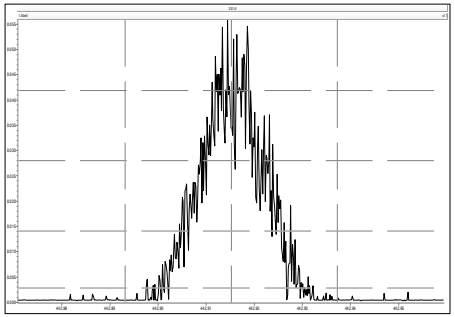
M 416.9760 R 18482



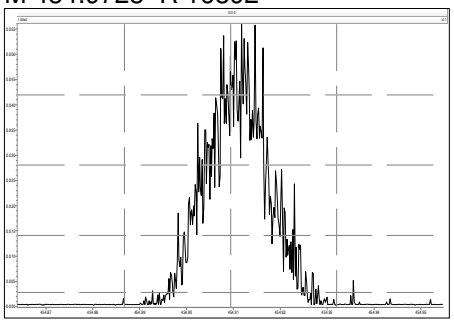
M 430.9728 R 15337



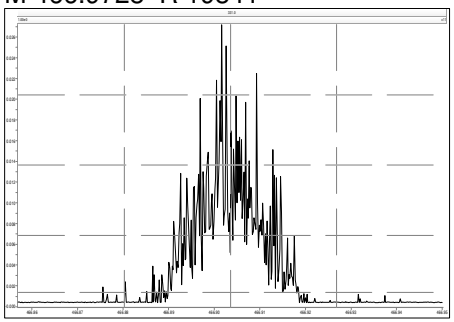
M 442.9728 R 17227



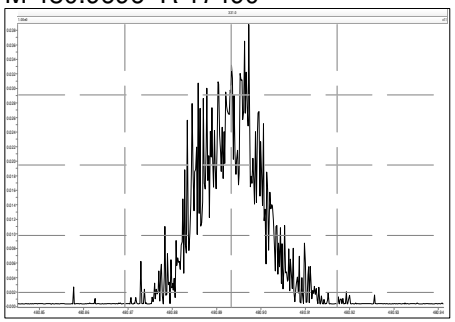
M 454.9728 R 16892



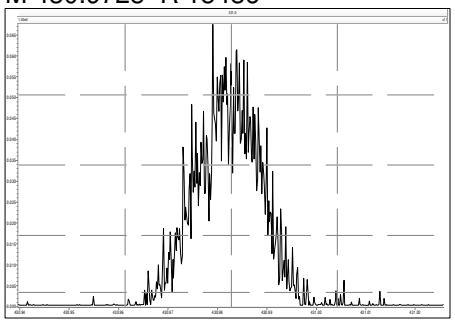
M 466.9728 R 19841



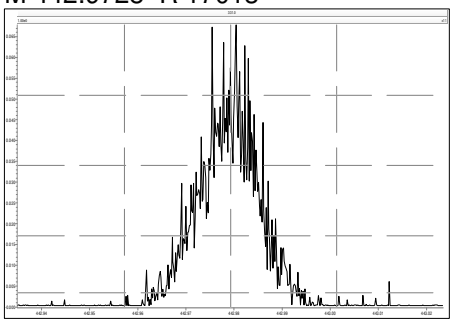
M 480.9696 R 17490



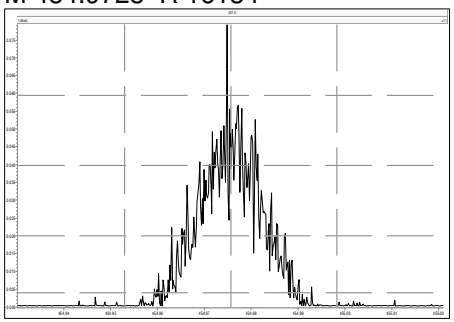
M 430.9728 R 15486



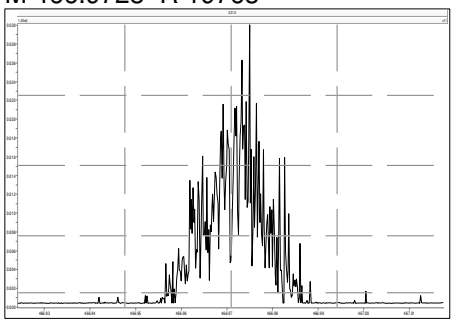
M 442.9728 R 17013



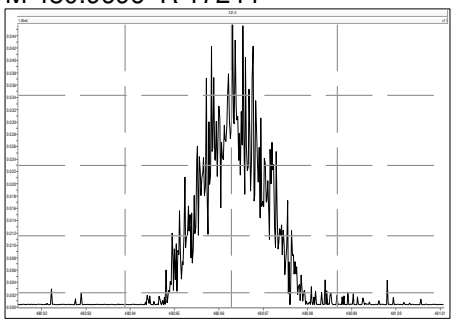
M 454.9728 R 16134



M 466.9728 R 19763



M 480.9696 R 17244



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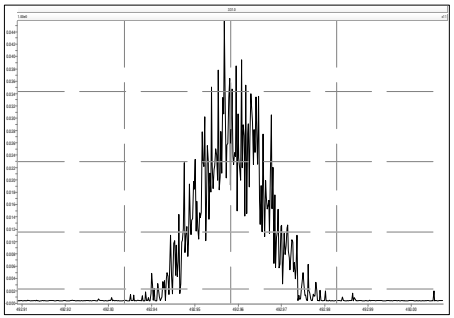
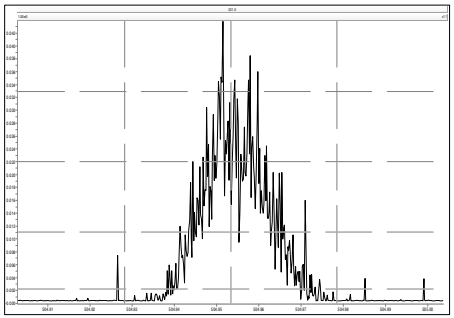
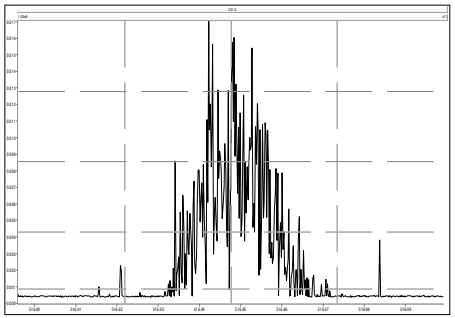


M 504.9696 R 17013



M 516.9697 R 24752



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86 ✓	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07 ✓	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10 ✓	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28 ✓	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
Tyler_Fritz , 11/11/2021, 4:44:03 PM

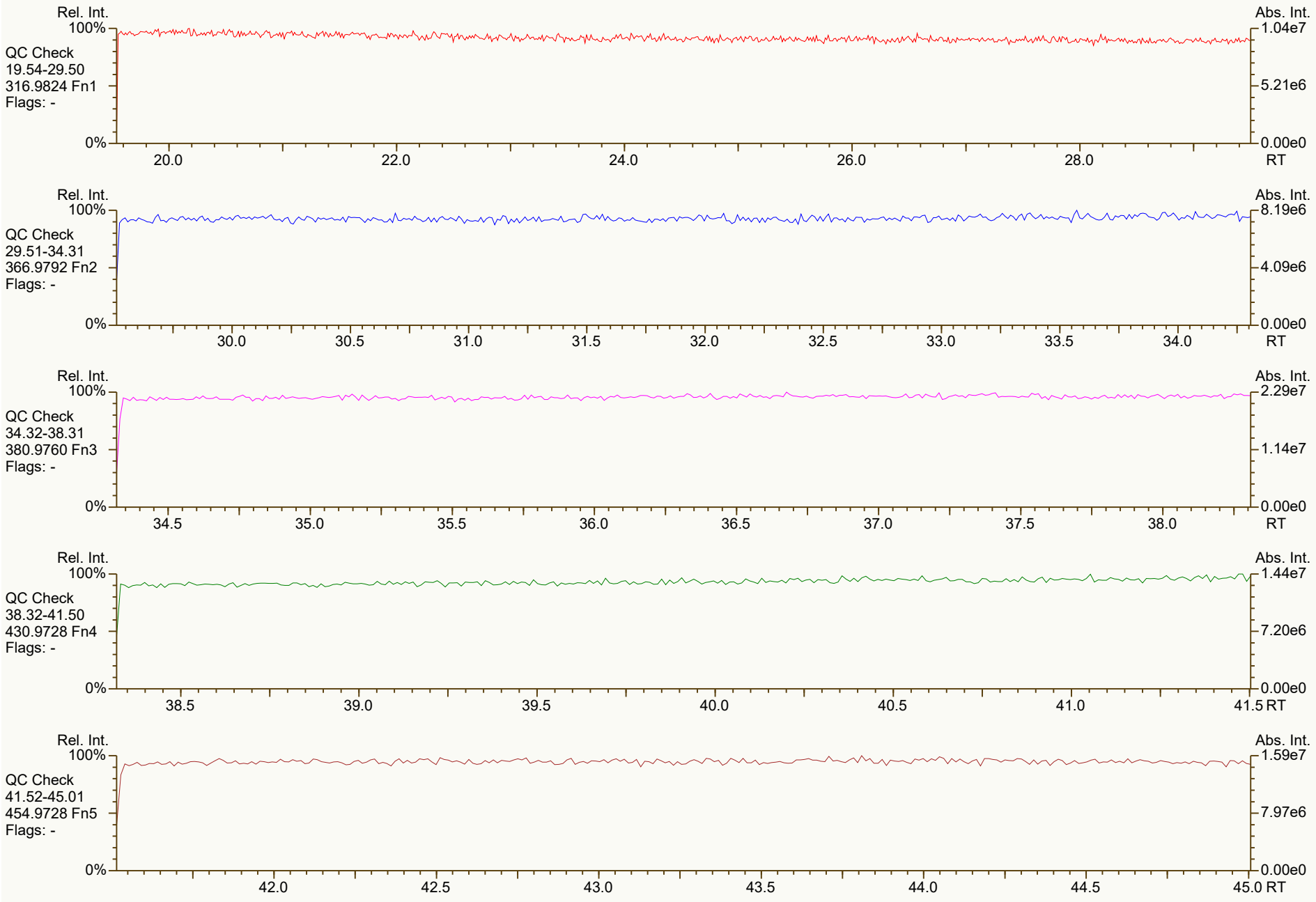
APPROVED
Amy_Boehm , 11/11/2021, 5:28:50 PM

Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

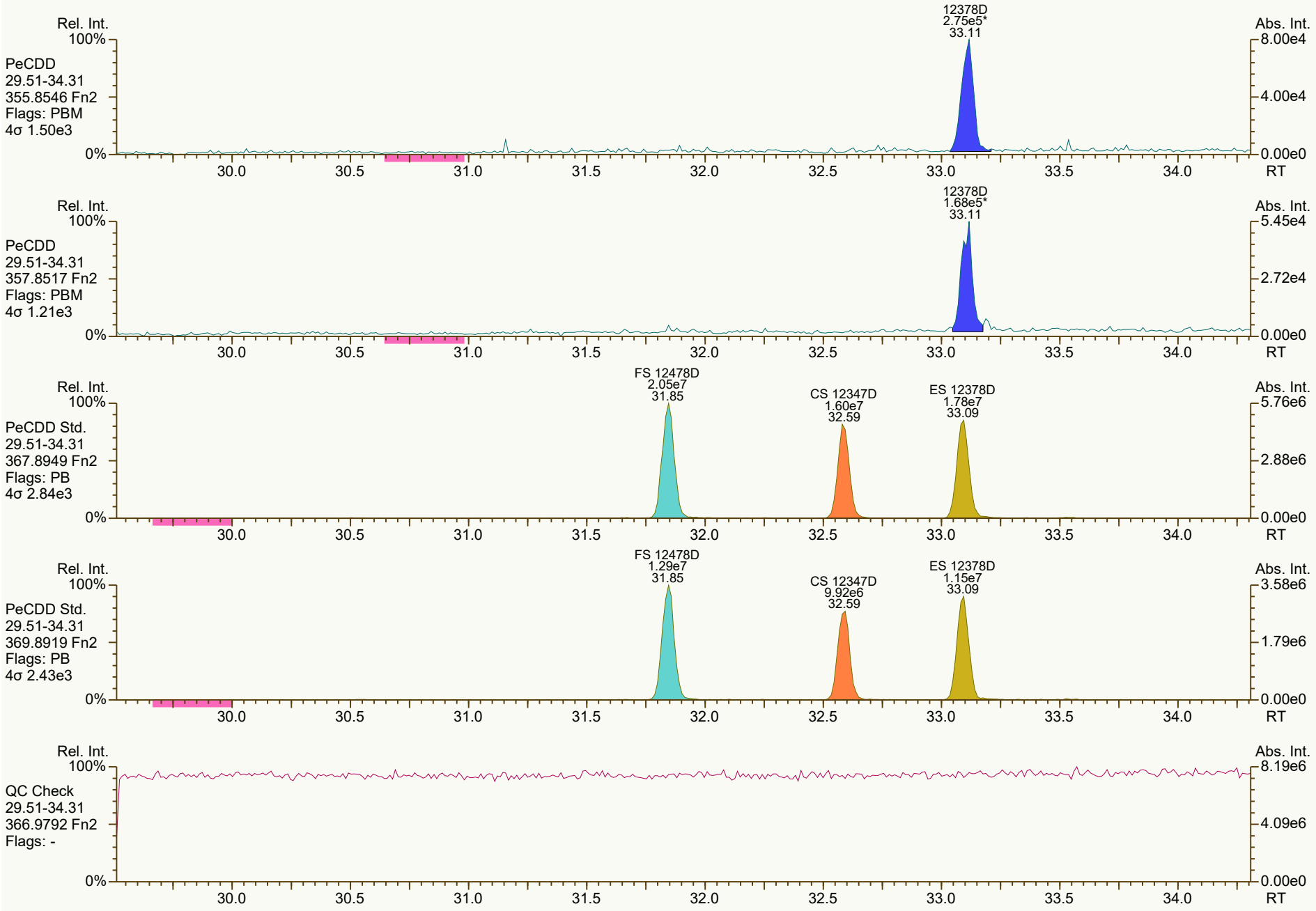
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

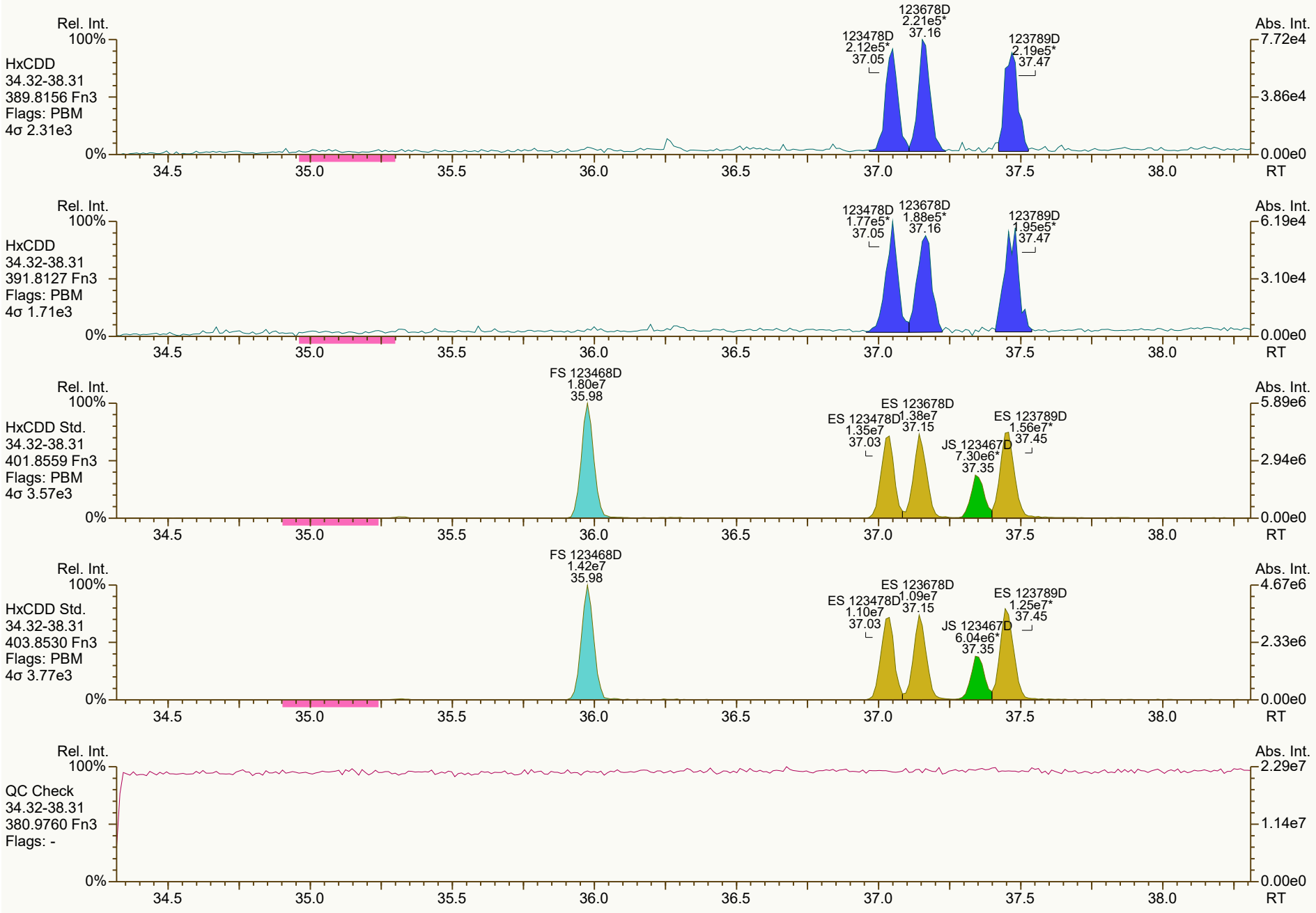
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

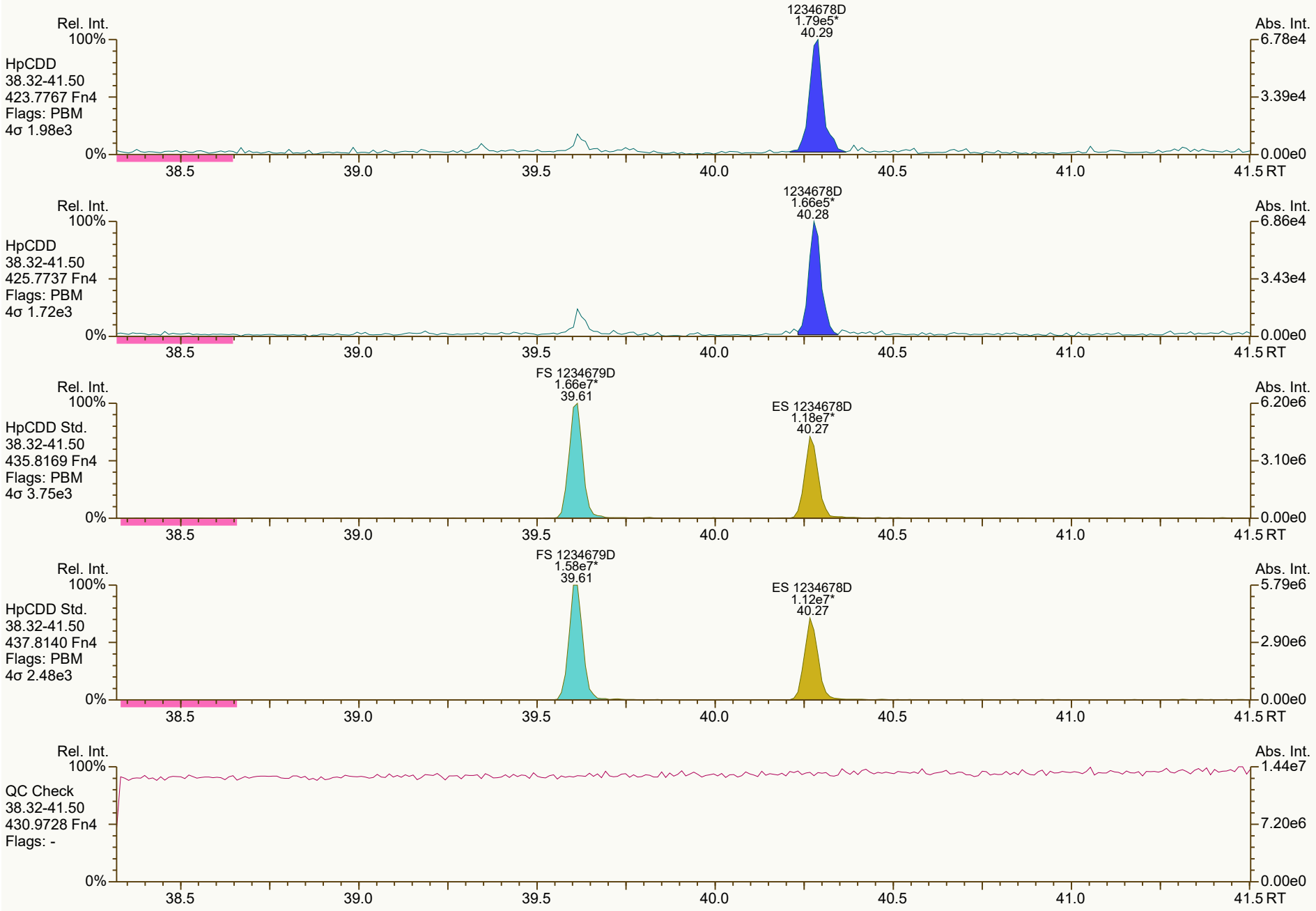
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF					Checkcode: 245-007-QLD
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C04
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
1.04e7
5.21e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
8.19e6
4.09e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
2.29e7
1.14e7
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.44e7
7.20e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.59e7
7.97e6
0.00e0
RT

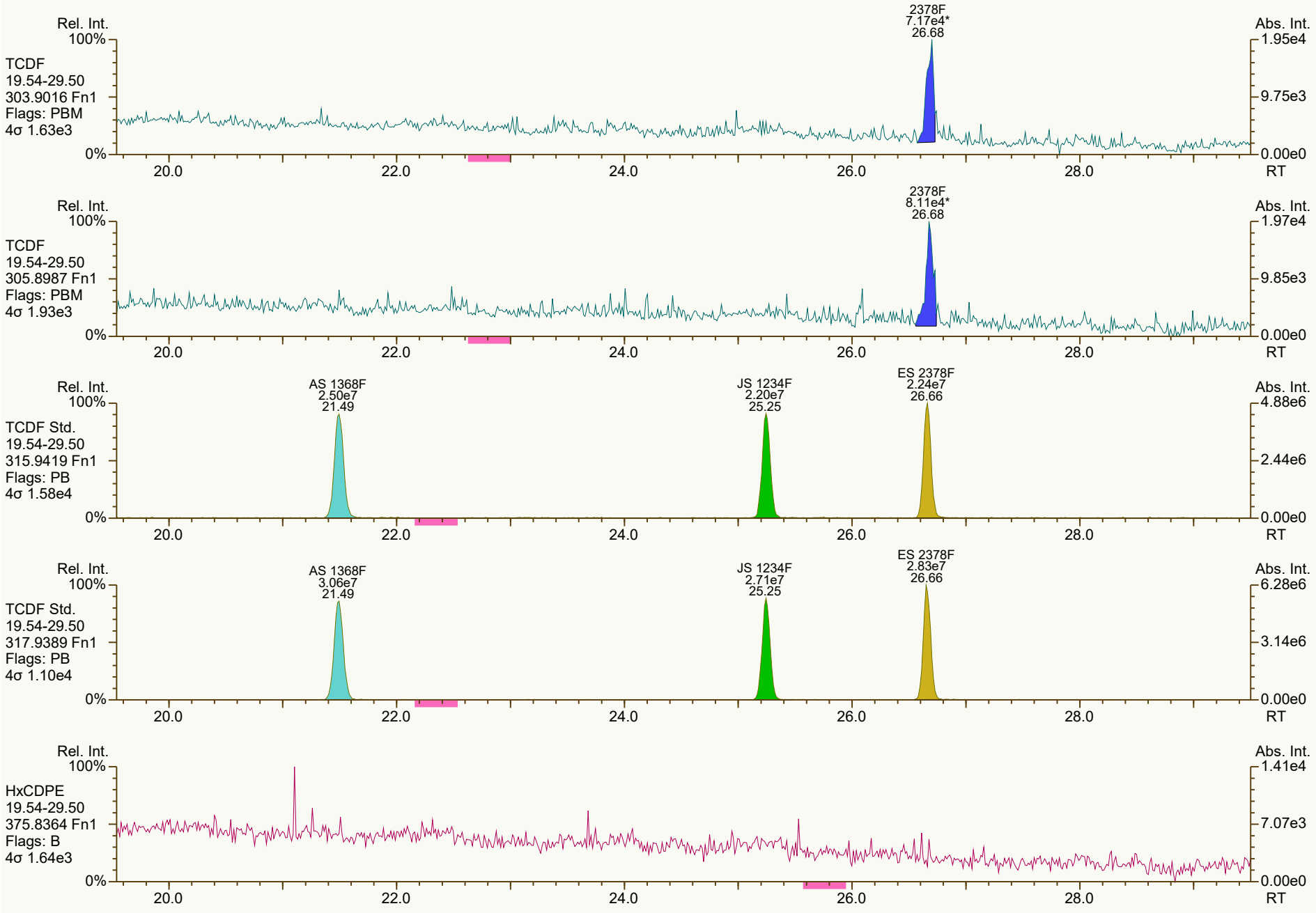

Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
0%
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
Abs. Int.
1.67e4
8.35e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
2.13e4
1.06e4
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
0%
123478D
2.12e5*
37.05
123678D
2.21e5*
37.16
123789D
2.19e5*
37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
0%
123478D
1.77e5*
37.05
123678D
1.88e5*
37.16
123789D
1.95e5*
37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
0%
FS 123468D
1.80e7
35.98
ES 123678D
1.38e7
37.15
ES 123478D
1.35e7
37.03
ES 123789D
1.56e7*
37.45
JS 123467D
7.30e6*
37.35
Abs. Int.
5.89e6
2.94e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
0%
FS 123468D
1.42e7
35.98
ES 123678D
1.09e7
37.15
ES 123478D
1.10e7
37.03
ES 123789D
1.25e7*
37.45
JS 123467D
6.04e6*
37.35
Abs. Int.
4.67e6
2.33e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.29e7
1.14e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

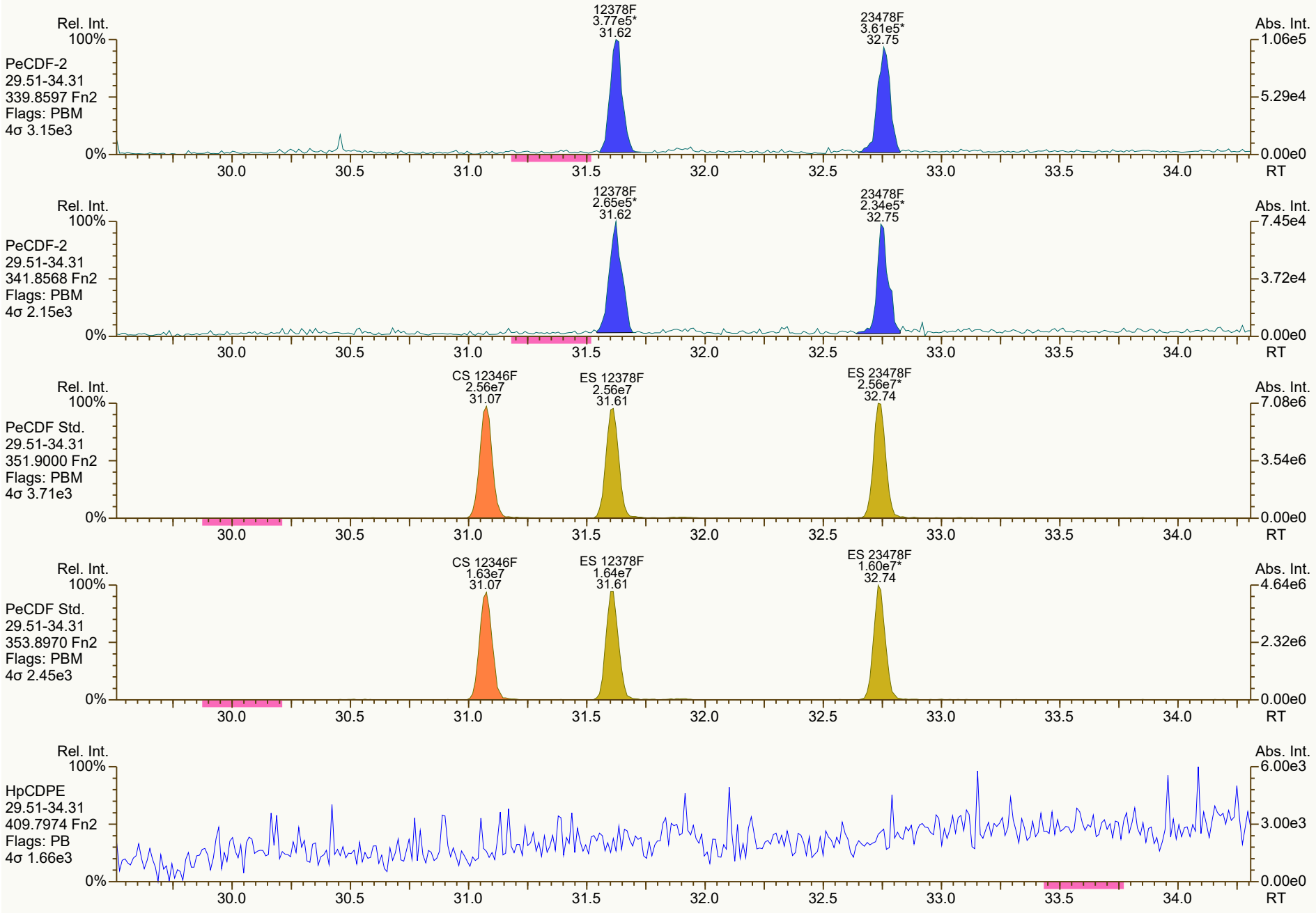

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

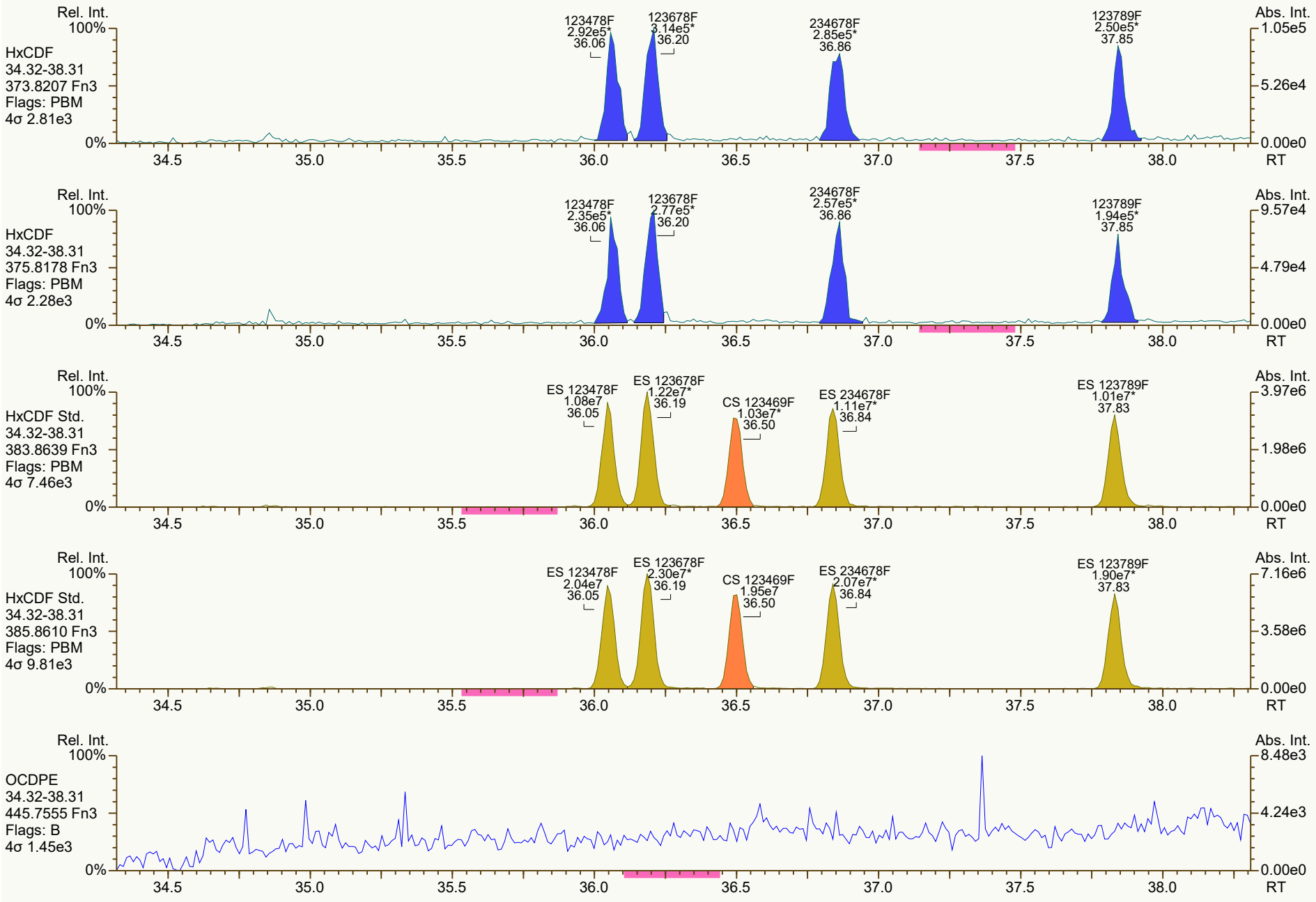

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
ES OCDD
1.47e7*
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
4.33e6
2.16e6
ES OCDD
1.61e7*
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
4.72e6
2.36e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.59e7
7.97e6

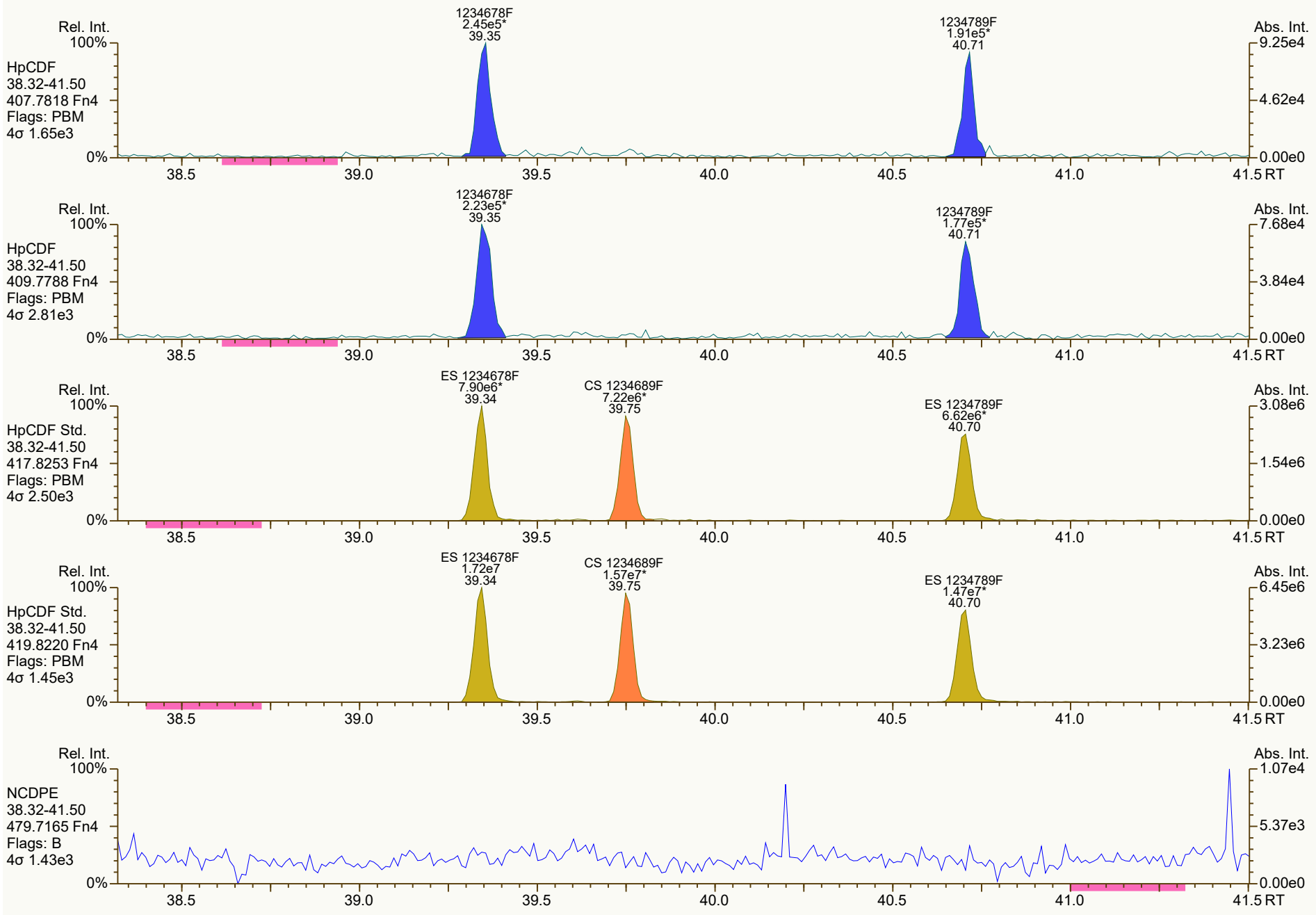

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
0%
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
0%
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
0%
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.41e4
7.07e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04




Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
0%
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
0%
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
0%
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
0%
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

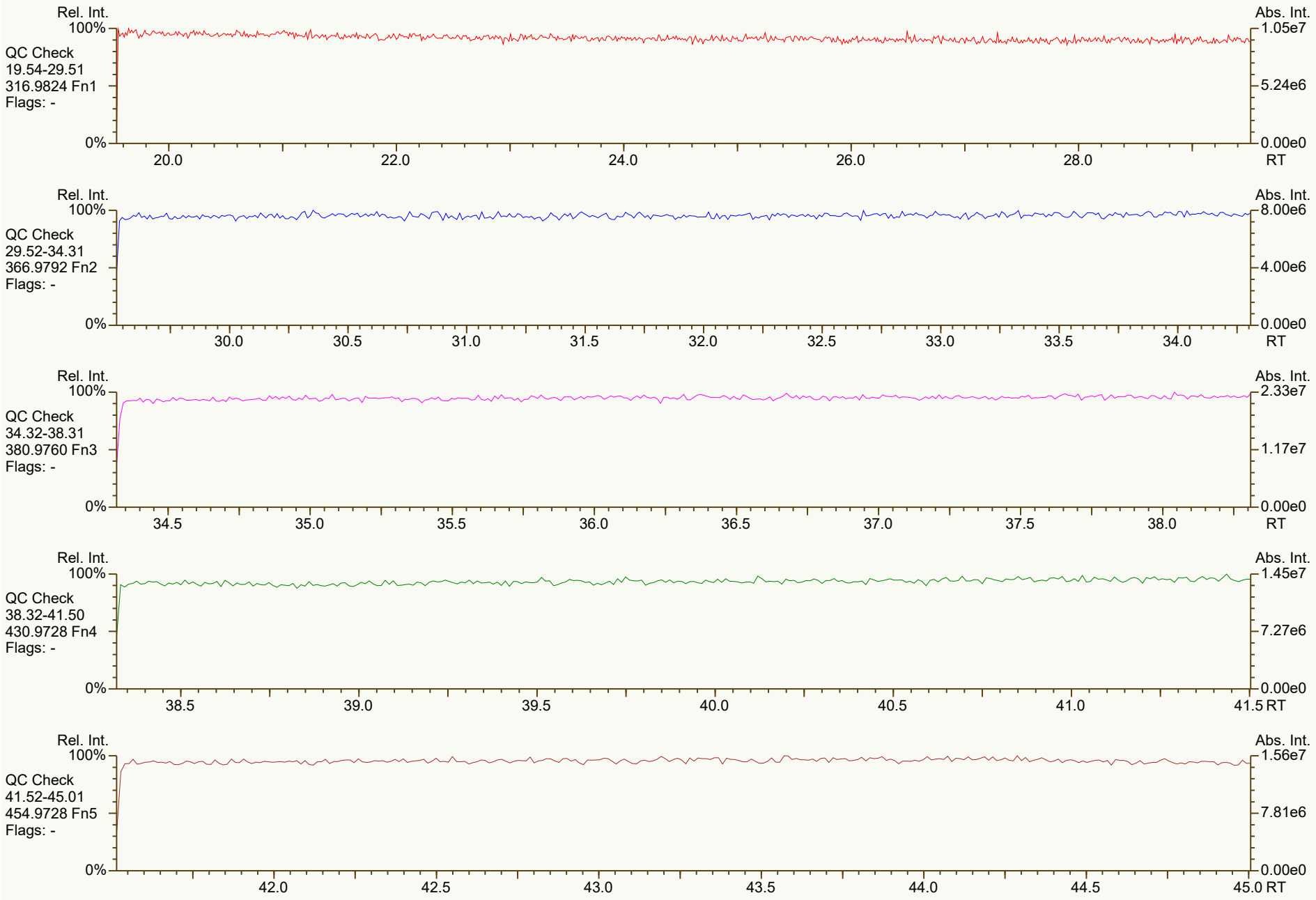

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

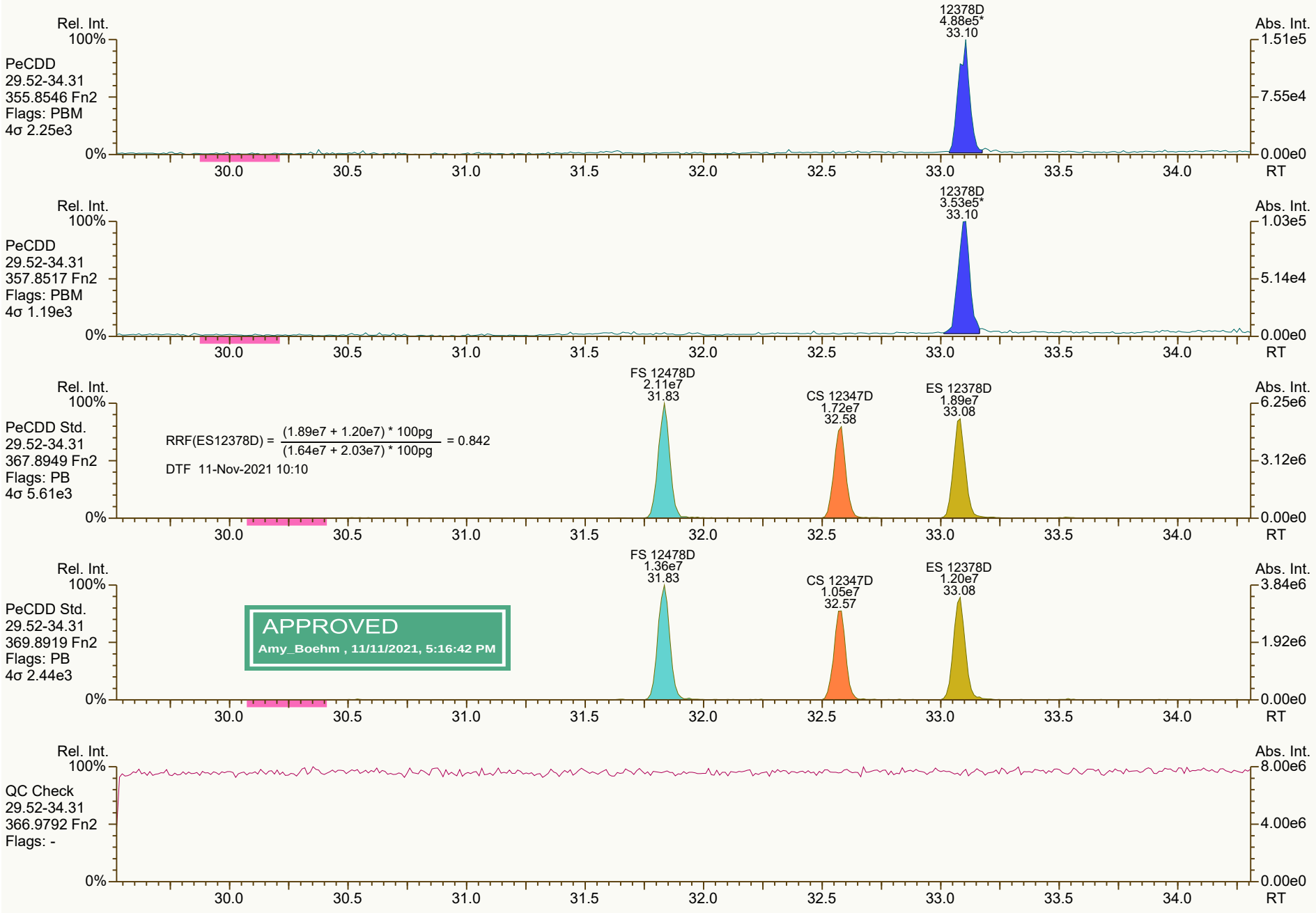
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

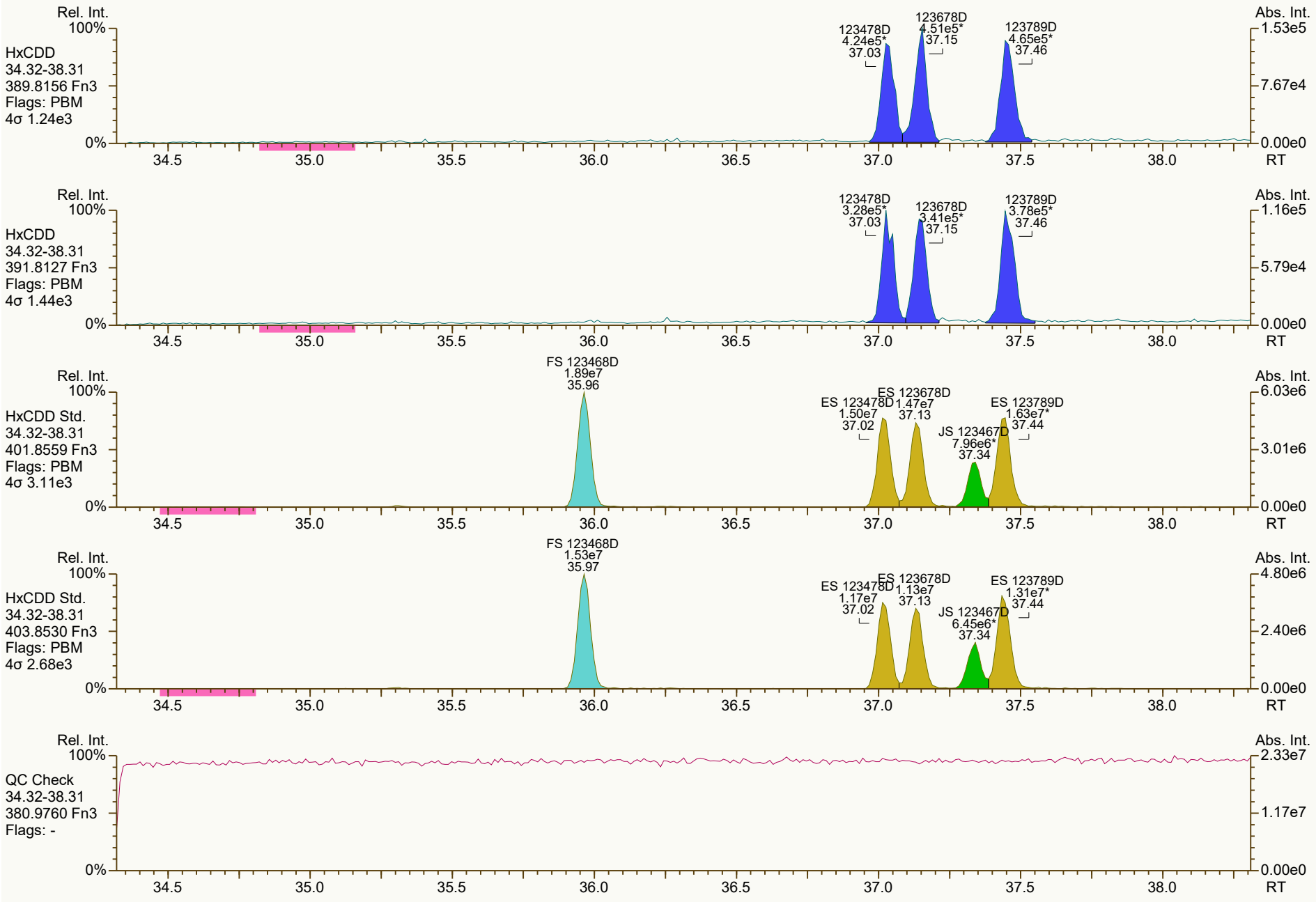
SGS ID: CS1_211110_DF_CA **Sample ID: 25-6-2** **Acq: 10-Nov-2021 11:48:34**
Instr: [ILM] AutoSpec-Ultima HRMS3 **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66** **User: DTF Datafile: 211110C05**

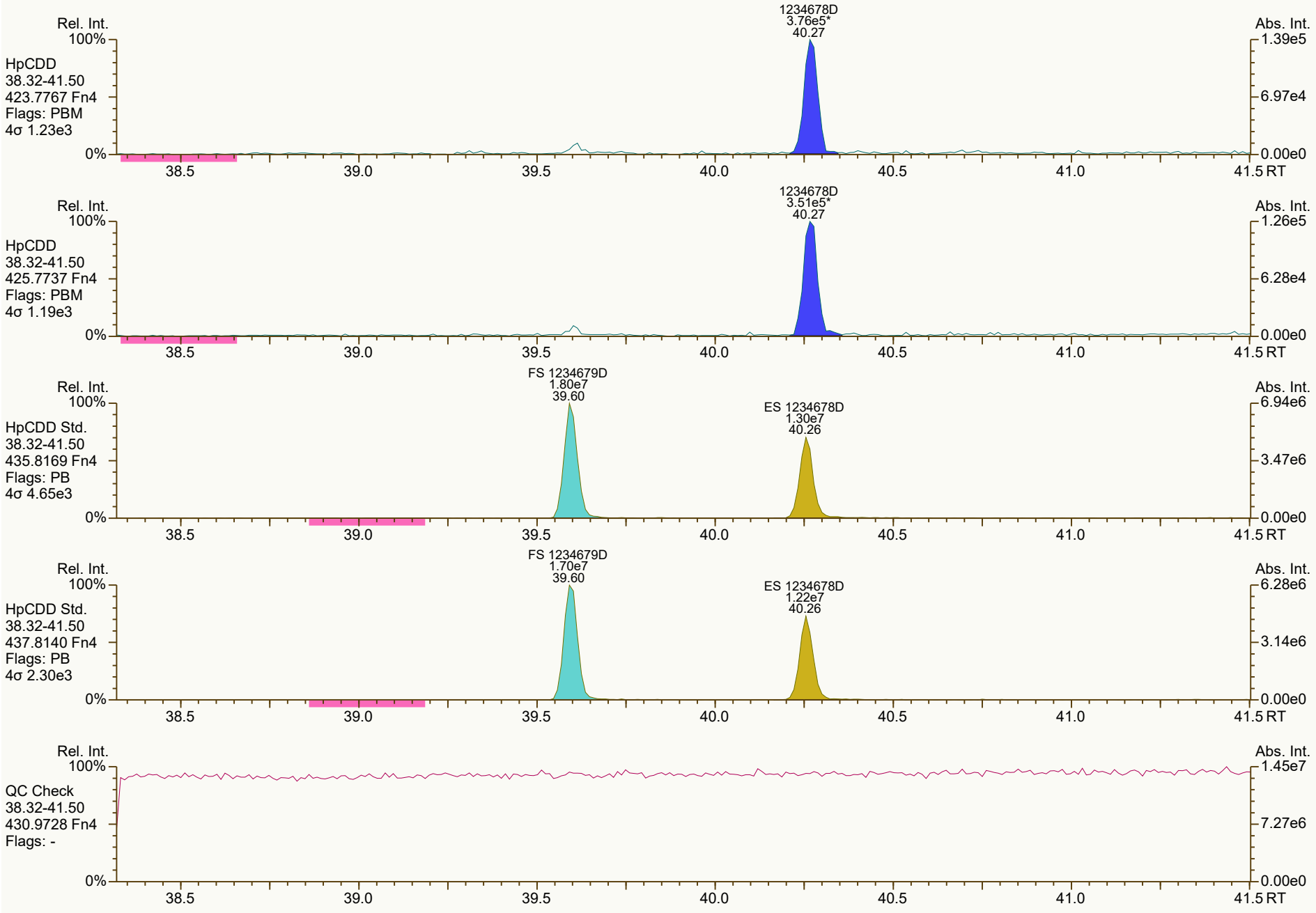


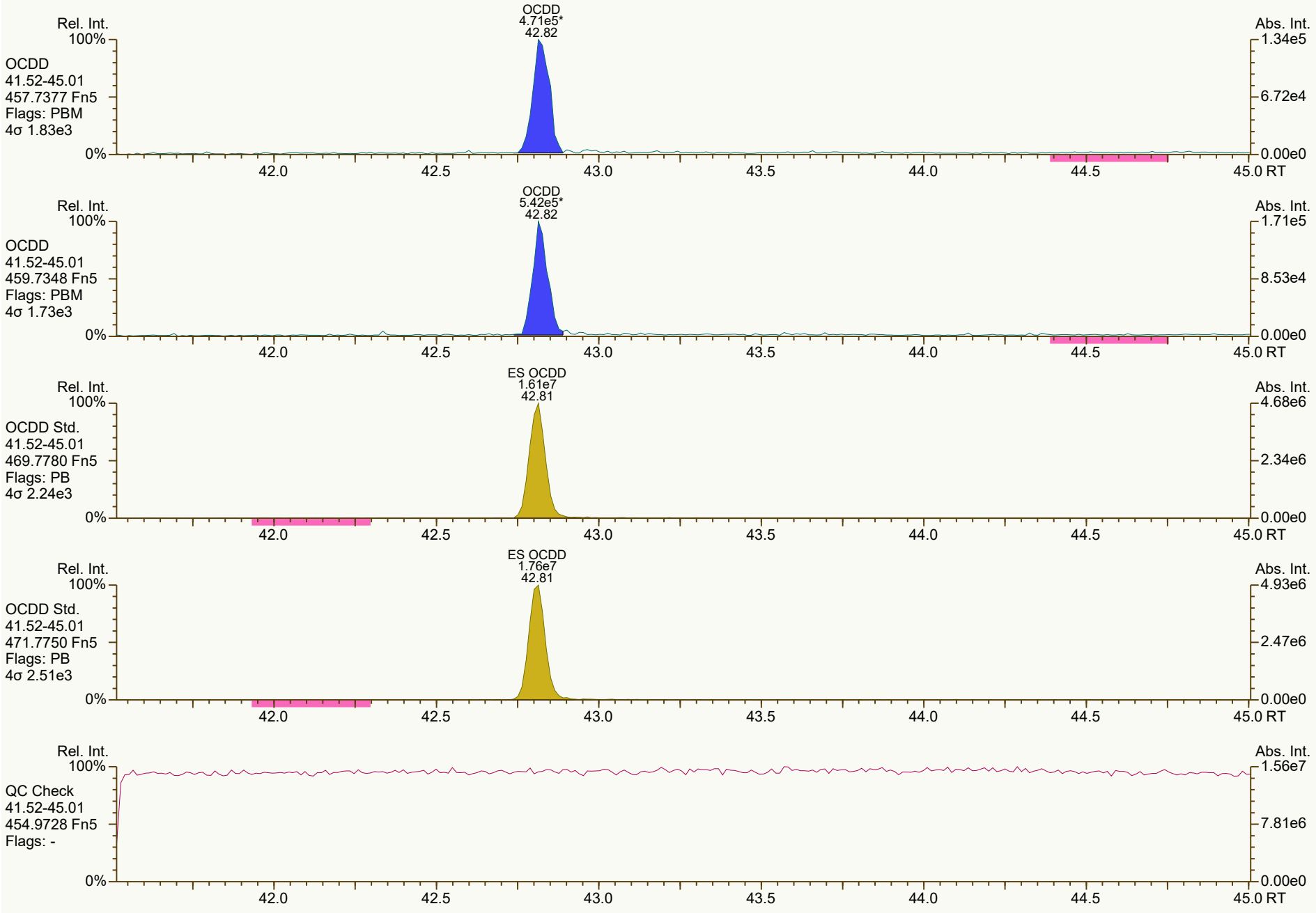
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 scc: 419-111 *PKD: n/a Printed: 11-Nov-2021 10:40 Page 1 of 12*

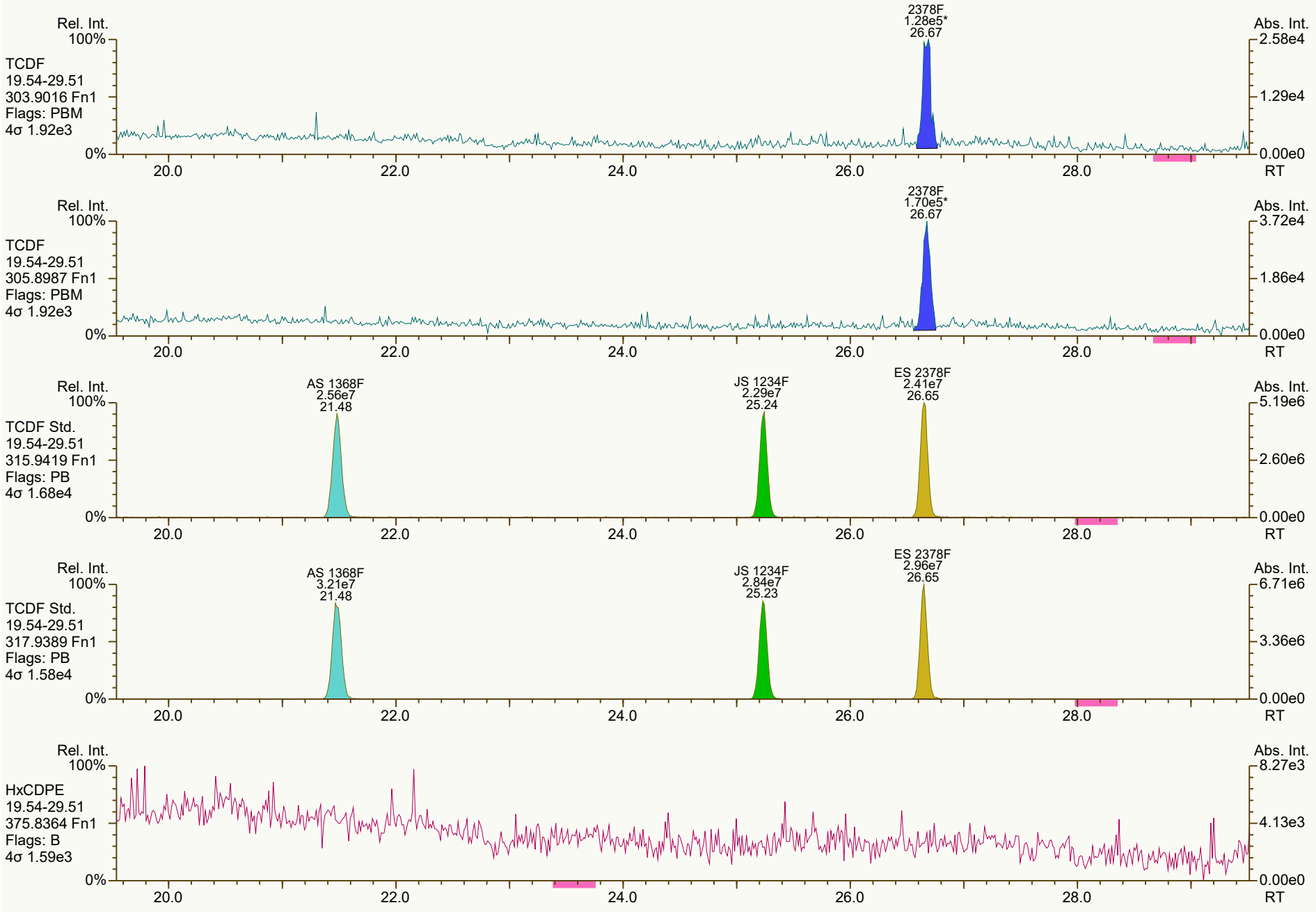

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

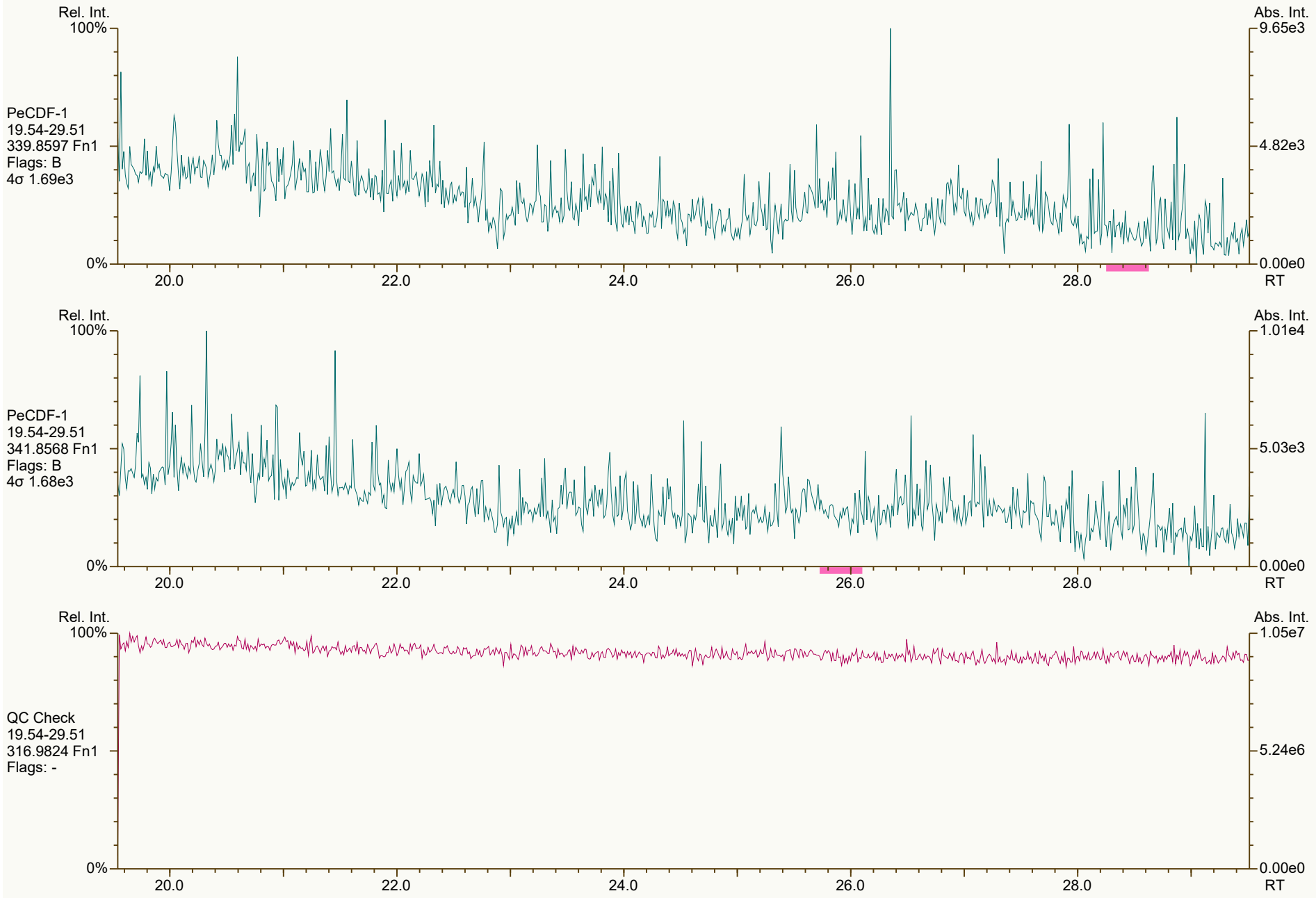

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123678D
1.47e7
37.13
ES 123478D
1.50e7
37.02
ES 123789D
1.63e7*
37.44
JS 123467D
7.96e6*
37.34
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123678D
1.13e7
37.13
ES 123478D
1.17e7
37.02
ES 123789D
1.31e7*
37.44
JS 123467D
6.45e6*
37.34
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

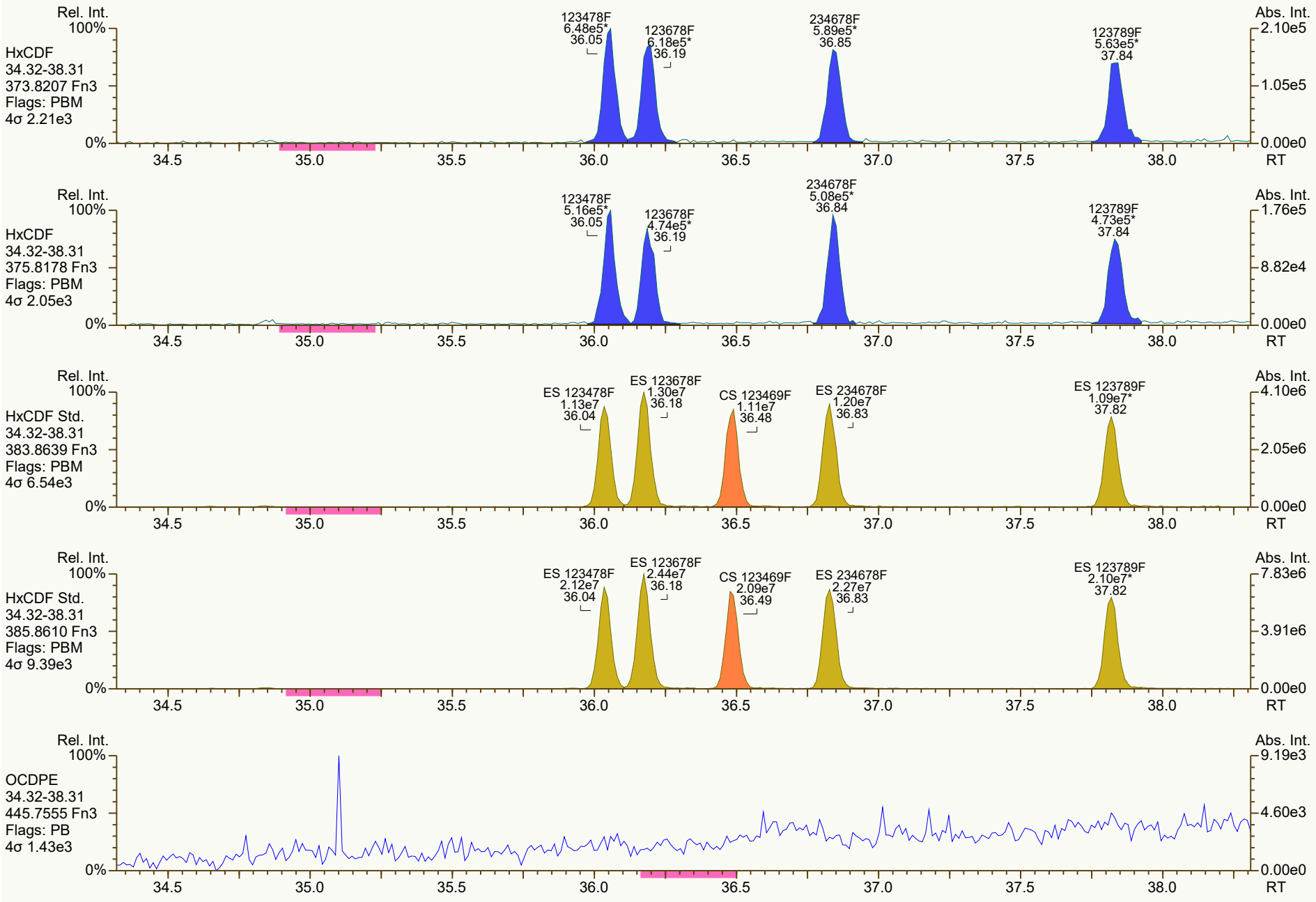

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

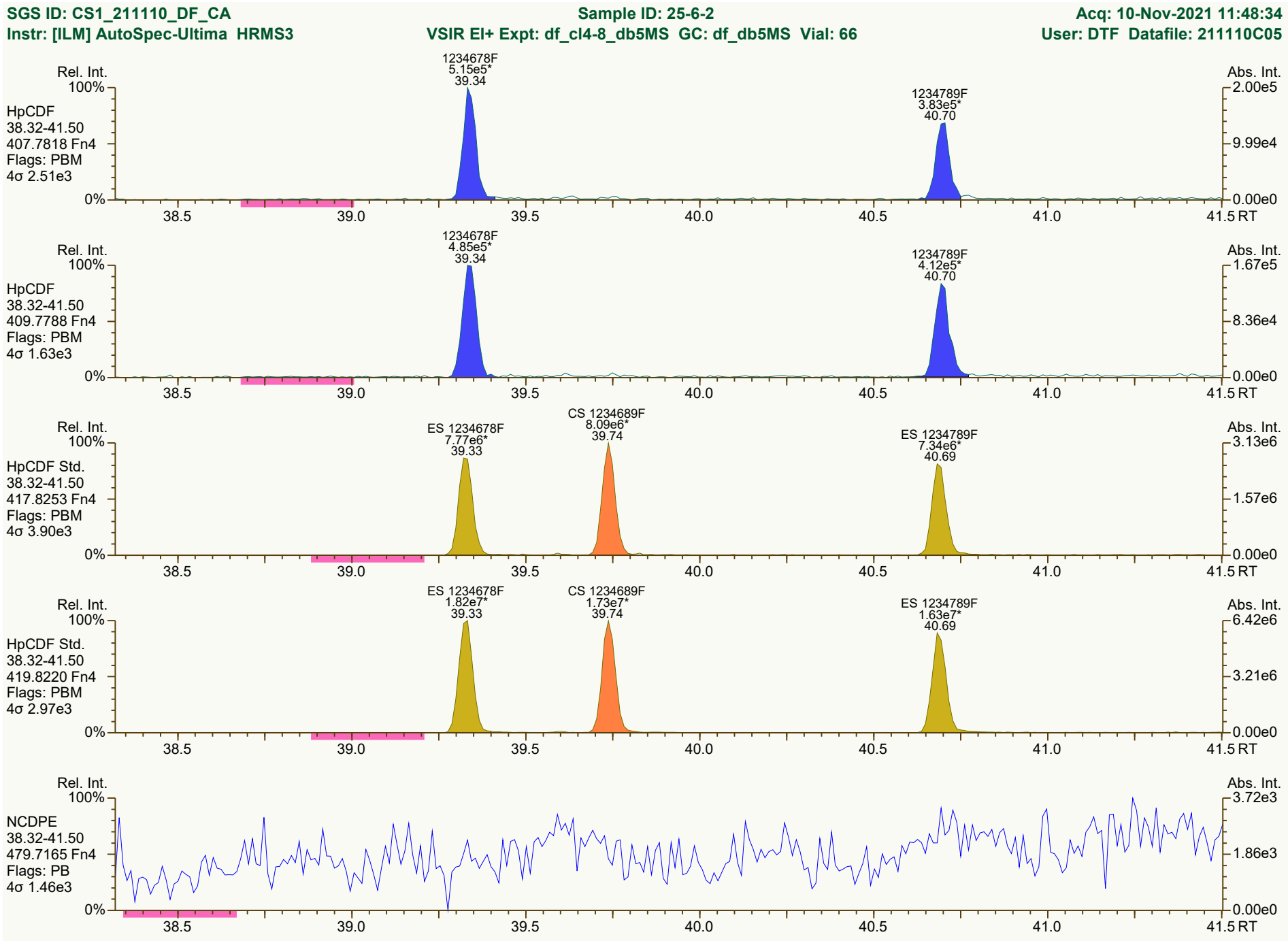

OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
0%
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
Abs. Int.
2.10e5
1.05e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
0%
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
Abs. Int.
1.40e5
7.02e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
0%
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
Abs. Int.
7.54e6
3.77e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
0%
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
Abs. Int.
4.85e6
2.42e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
0%
Abs. Int.
1.10e4
5.51e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

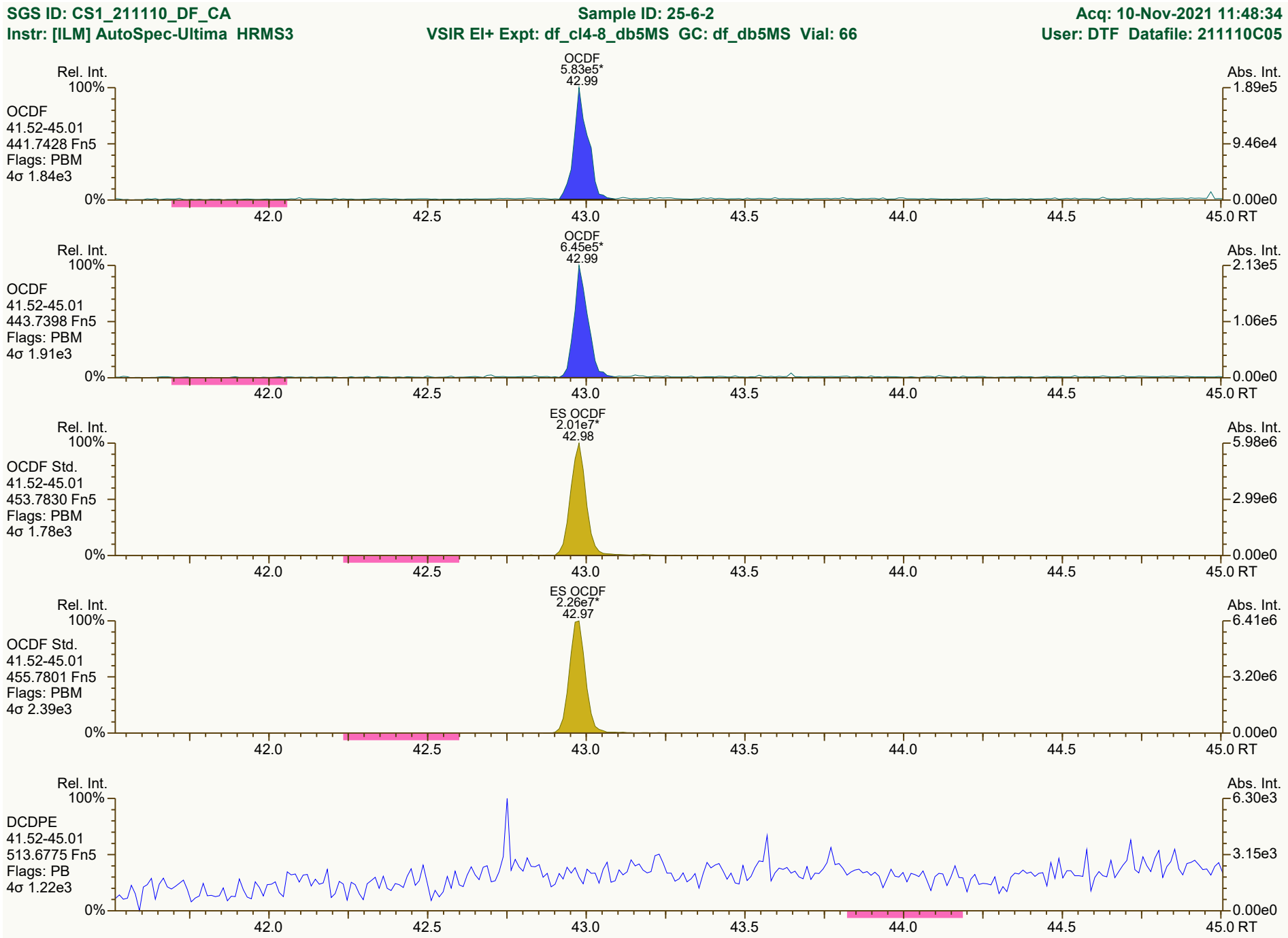

Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
0%
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
1.76e5
8.82e4
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
4.10e6
2.05e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
7.83e6
3.91e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
9.19e3
4.60e3


SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3913, 8502, 2889 scc: 419-111
Revised: 10-Nov-2021 13:39 (DTF) Printed: 11-Nov-2021 10:40 Page 11 of 12

SGS ID: CS1_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 25-6-2
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66

Acq: 10-Nov-2021 11:48:34
User: DTF Datafile: 211110C05



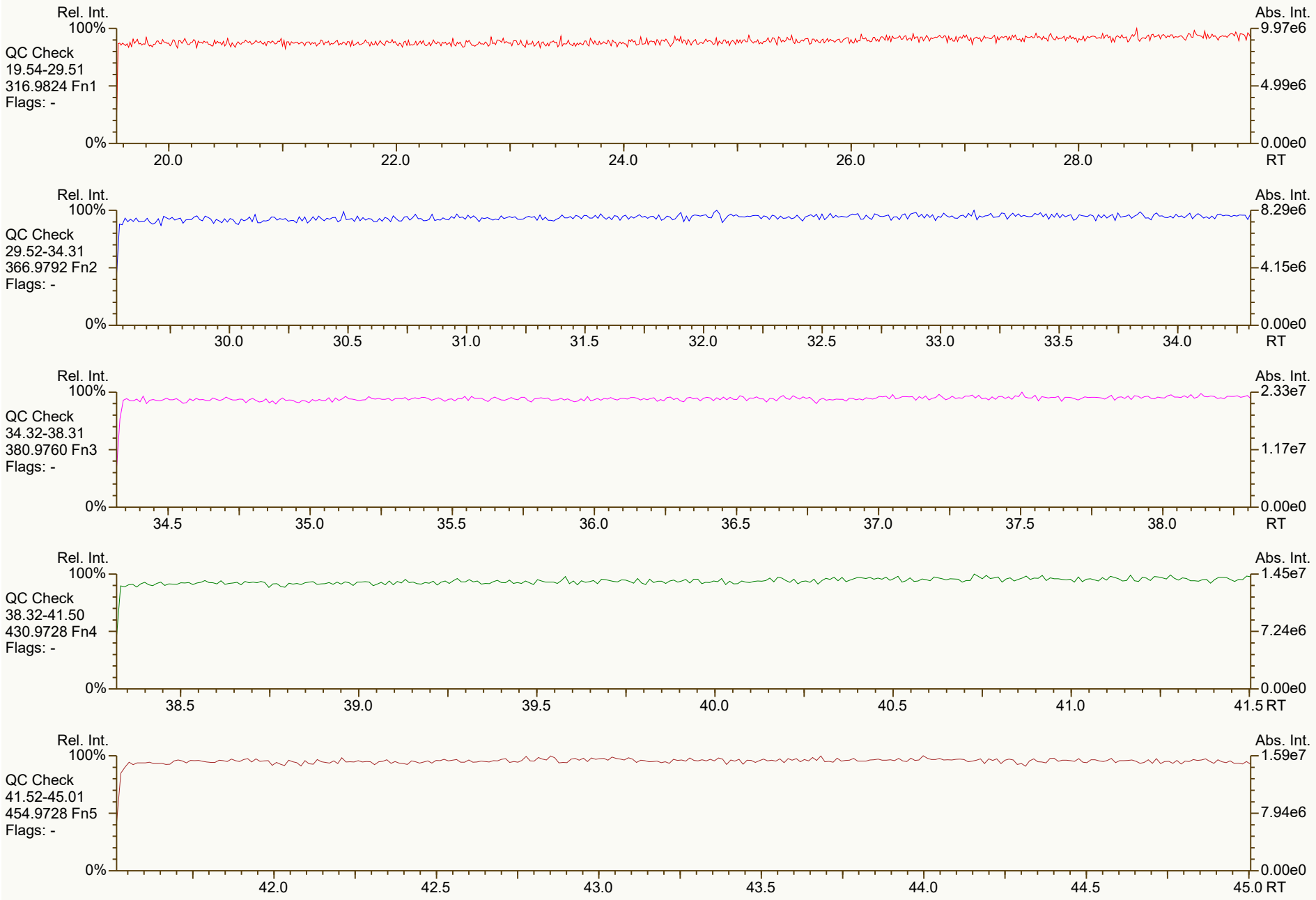
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 1506, 2210, 2191 scc: 419-111
Revised: 10-Nov-2021 13:39 (DTF) Printed: 11-Nov-2021 10:40 Page 12 of 12

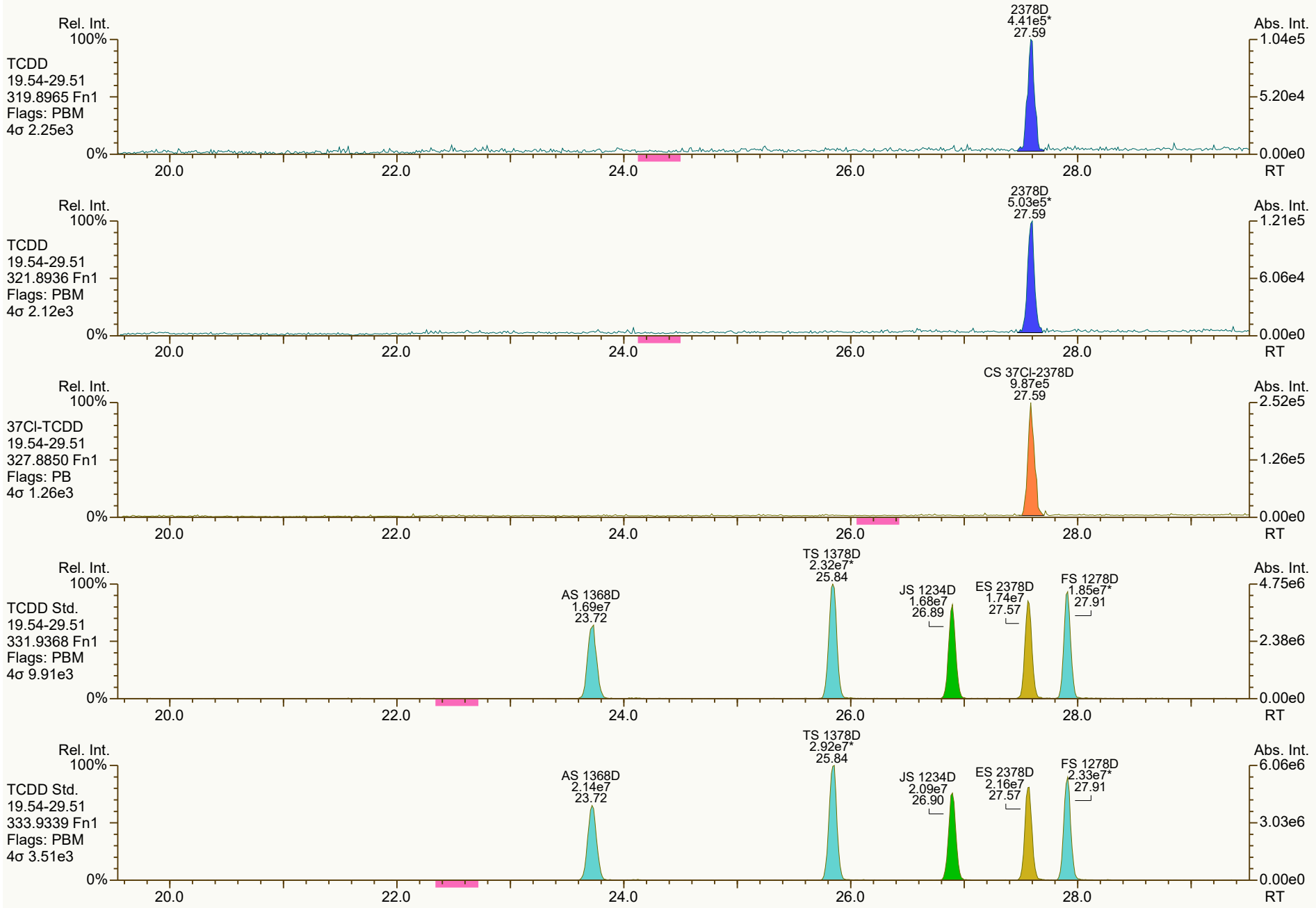
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

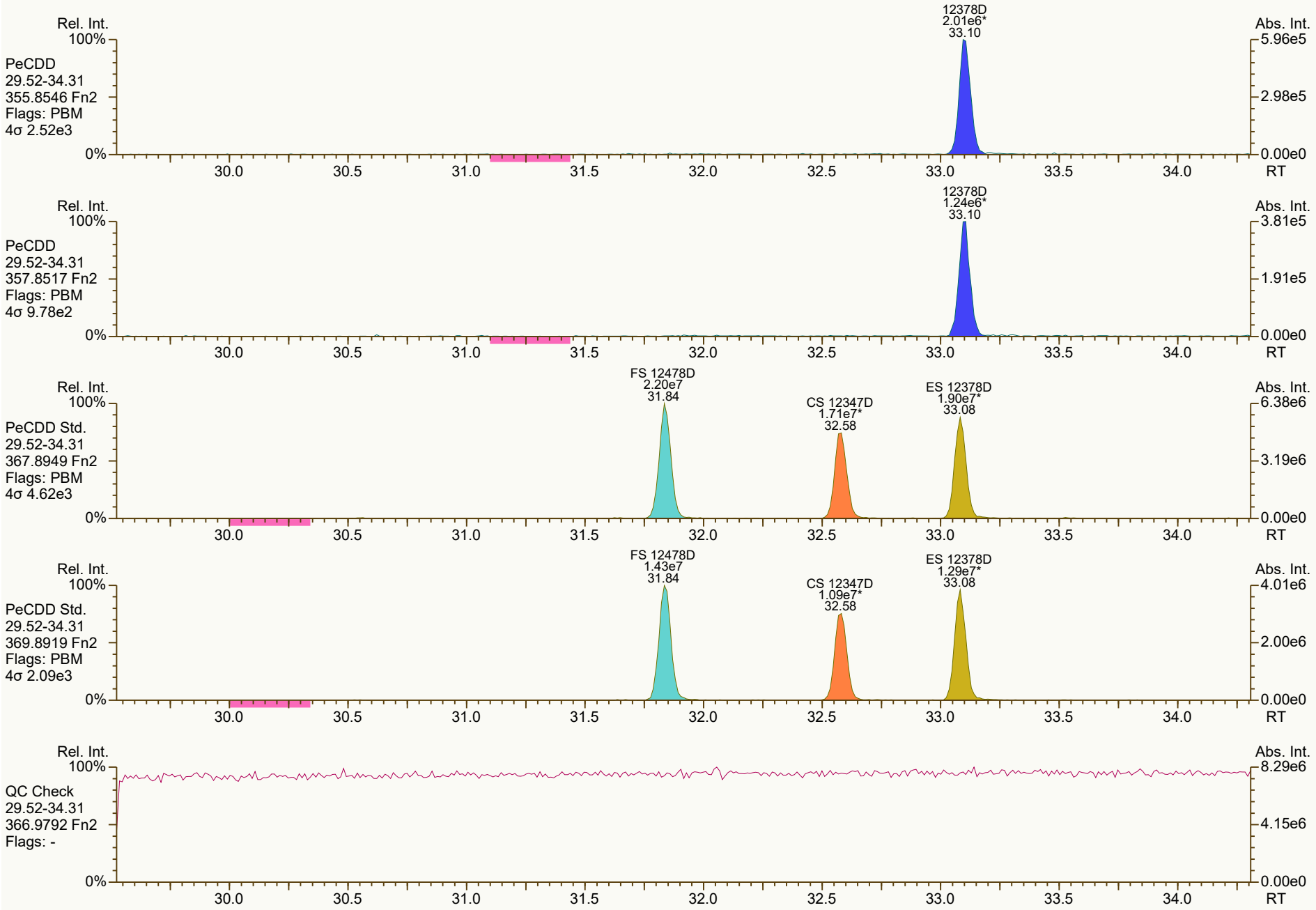
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

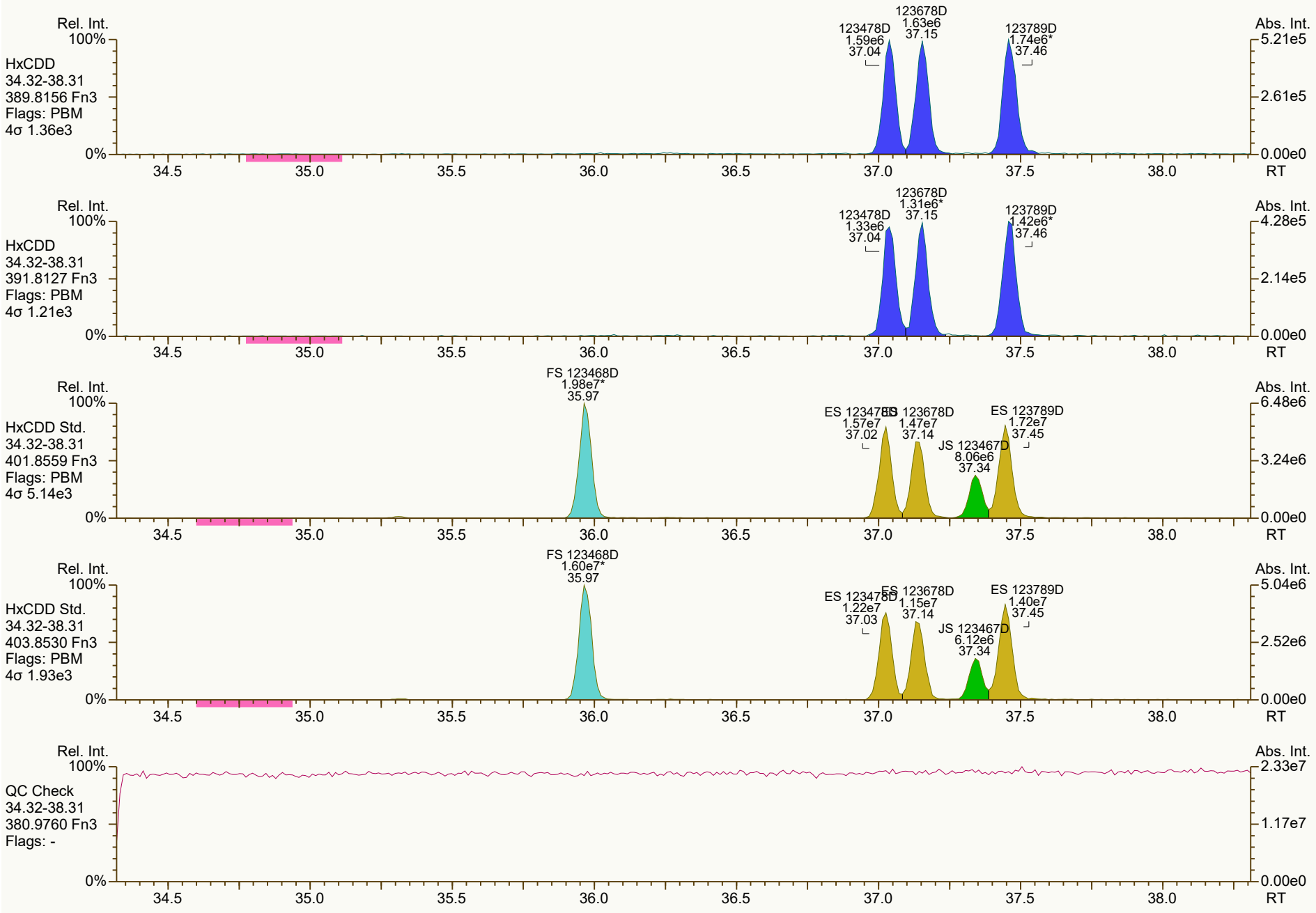
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

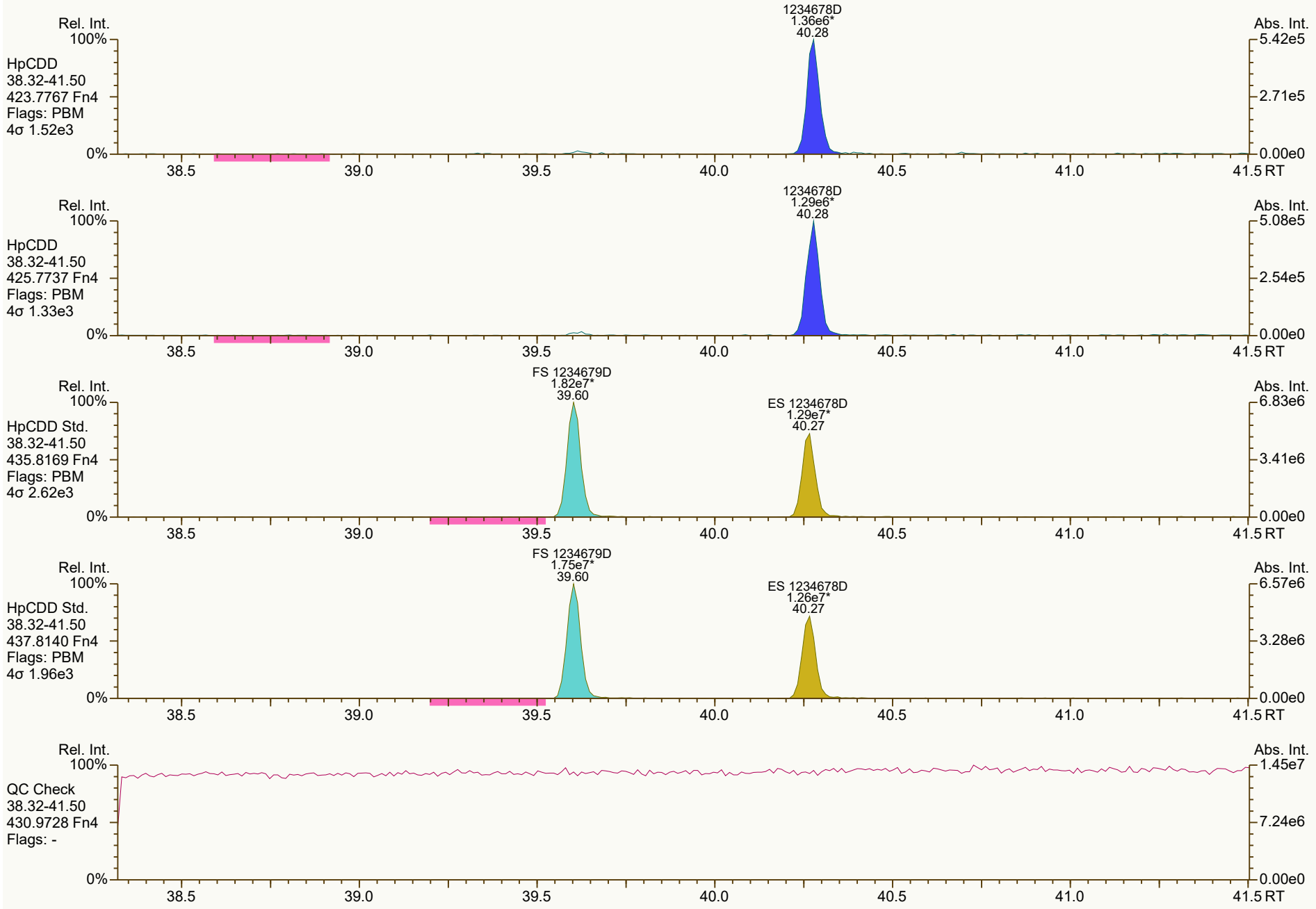
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

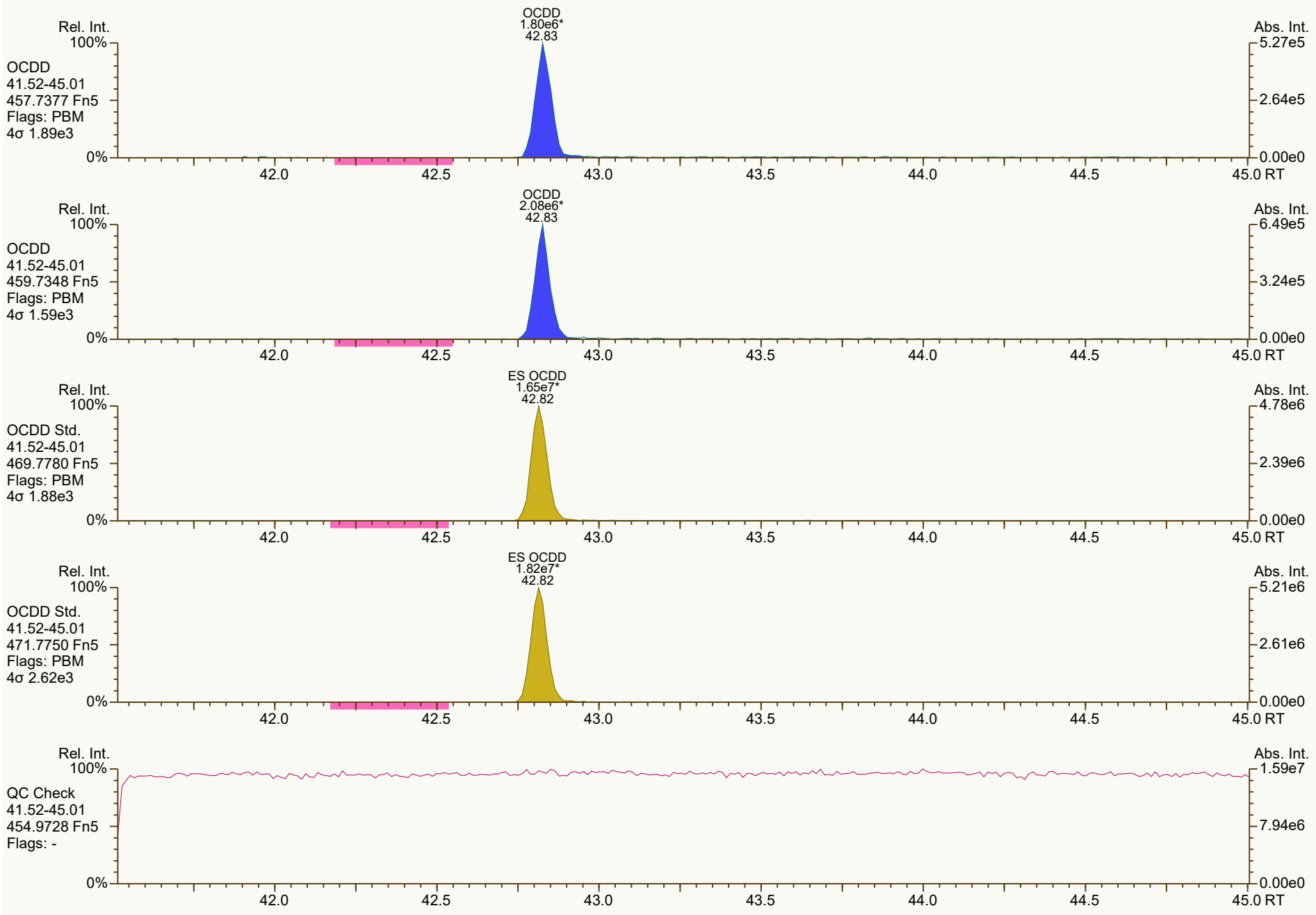

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
4.28e5
2.14e5
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
6.48e6
3.24e6
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
5.04e6
2.52e6
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.33e7
1.17e7

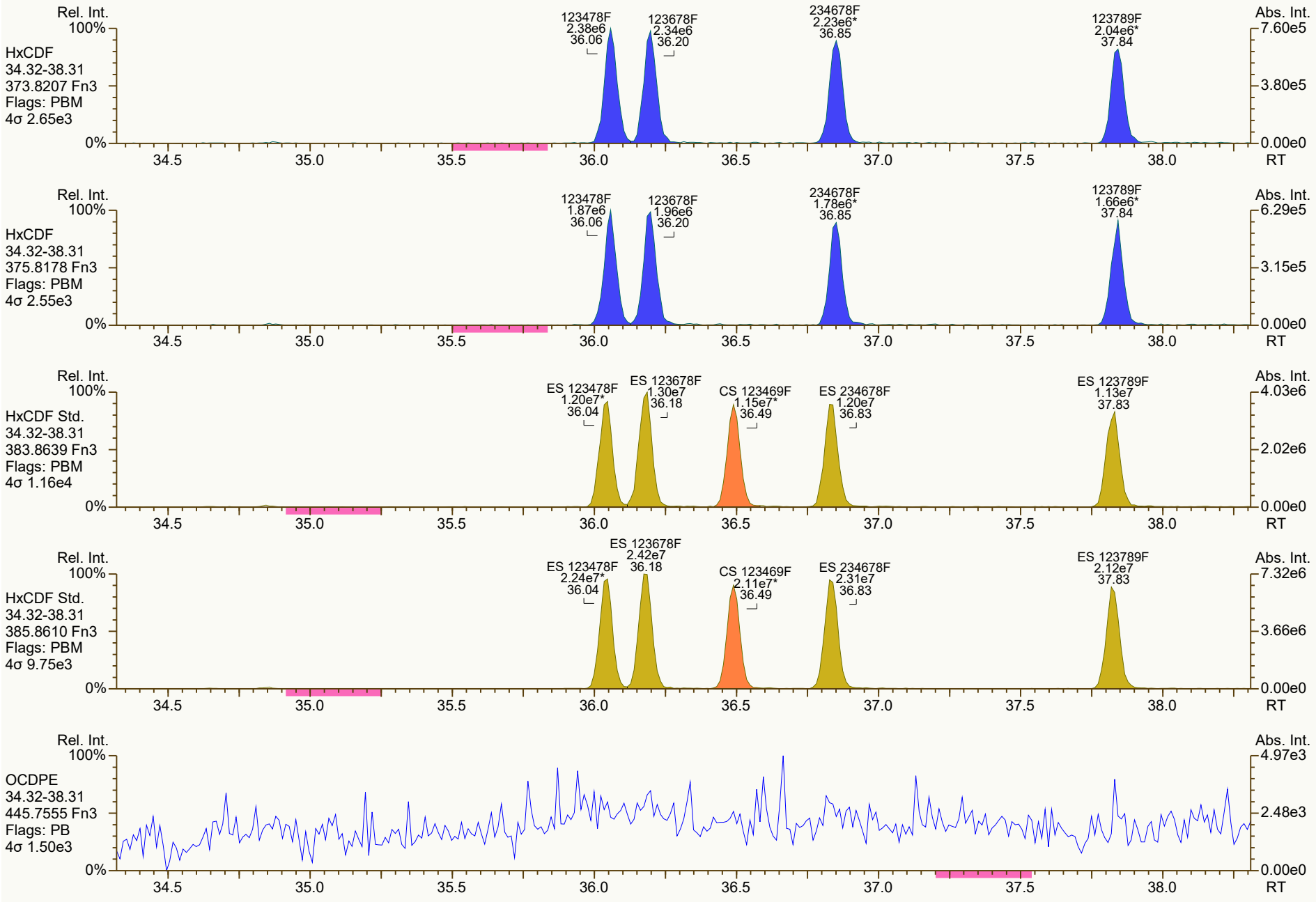

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

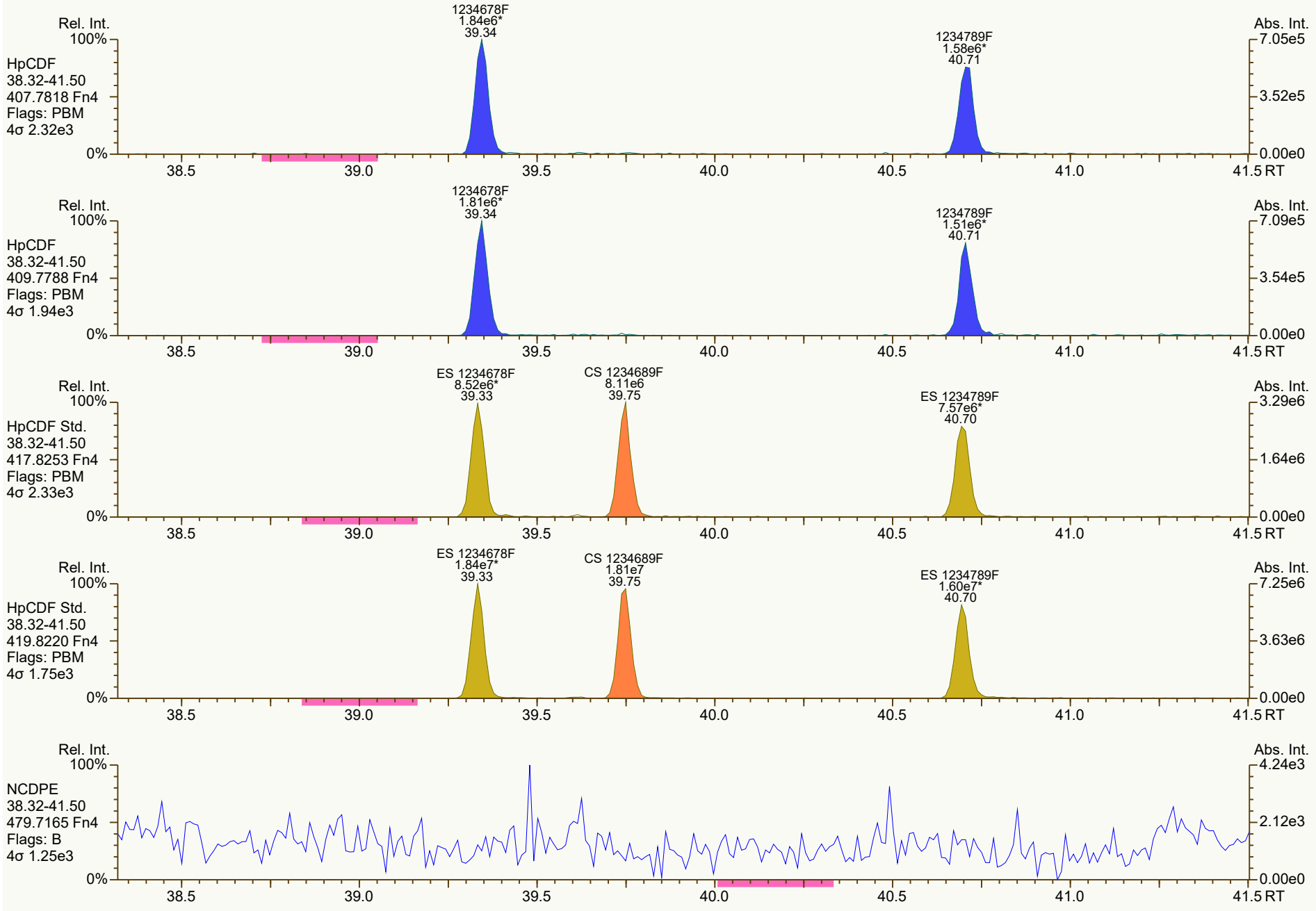

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

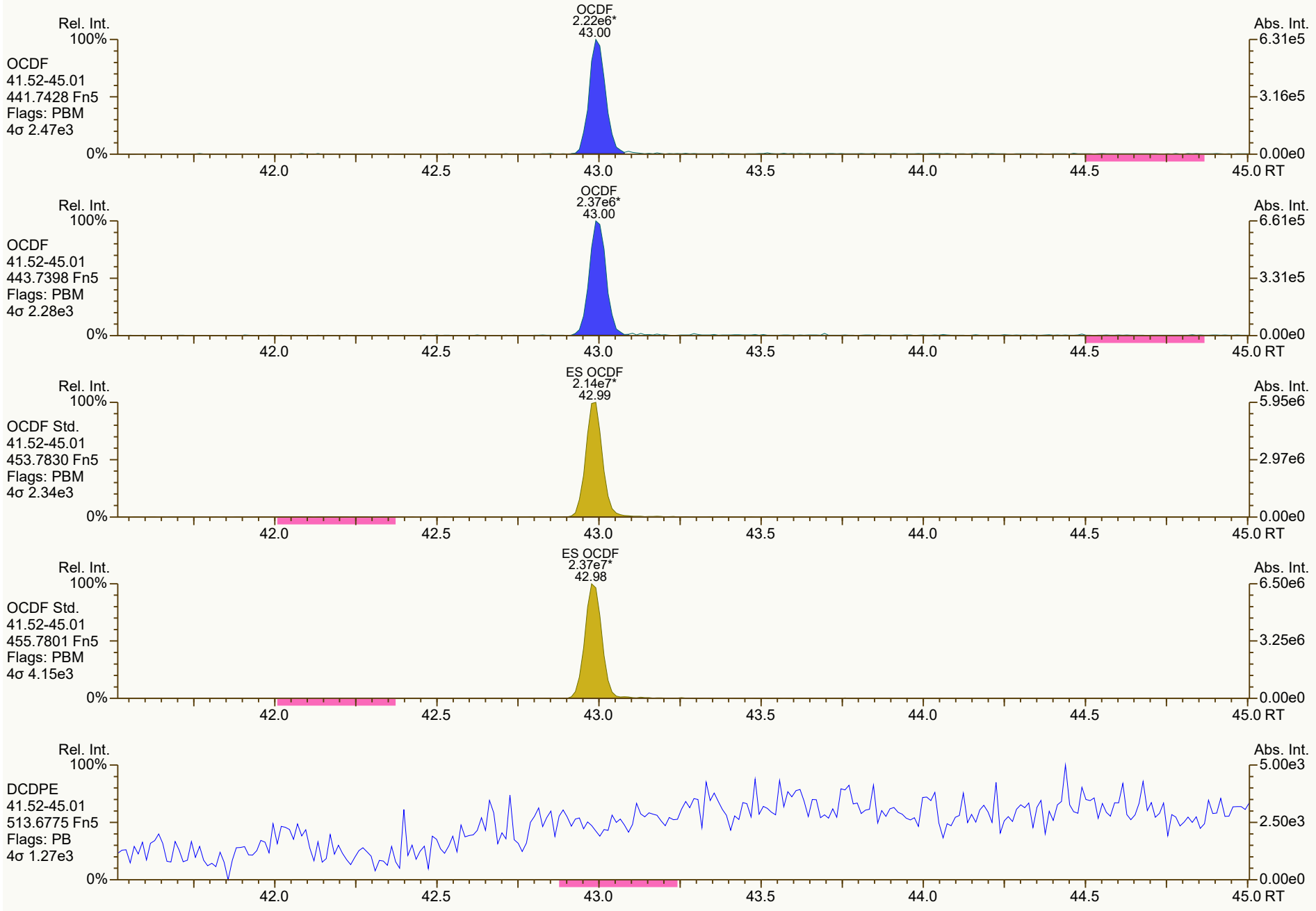

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
Abs. Int.
8.34e3
4.17e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
5.27e5
2.63e5
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
8.01e6
4.01e6
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
5.19e6
2.59e6
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
6.67e3
3.33e3


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
6.29e5
3.15e5
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
4.03e6
2.02e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
ES 123478F
2.24e7*
36.04
ES 123678F
2.42e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
7.32e6
3.66e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
4.97e3
2.48e3

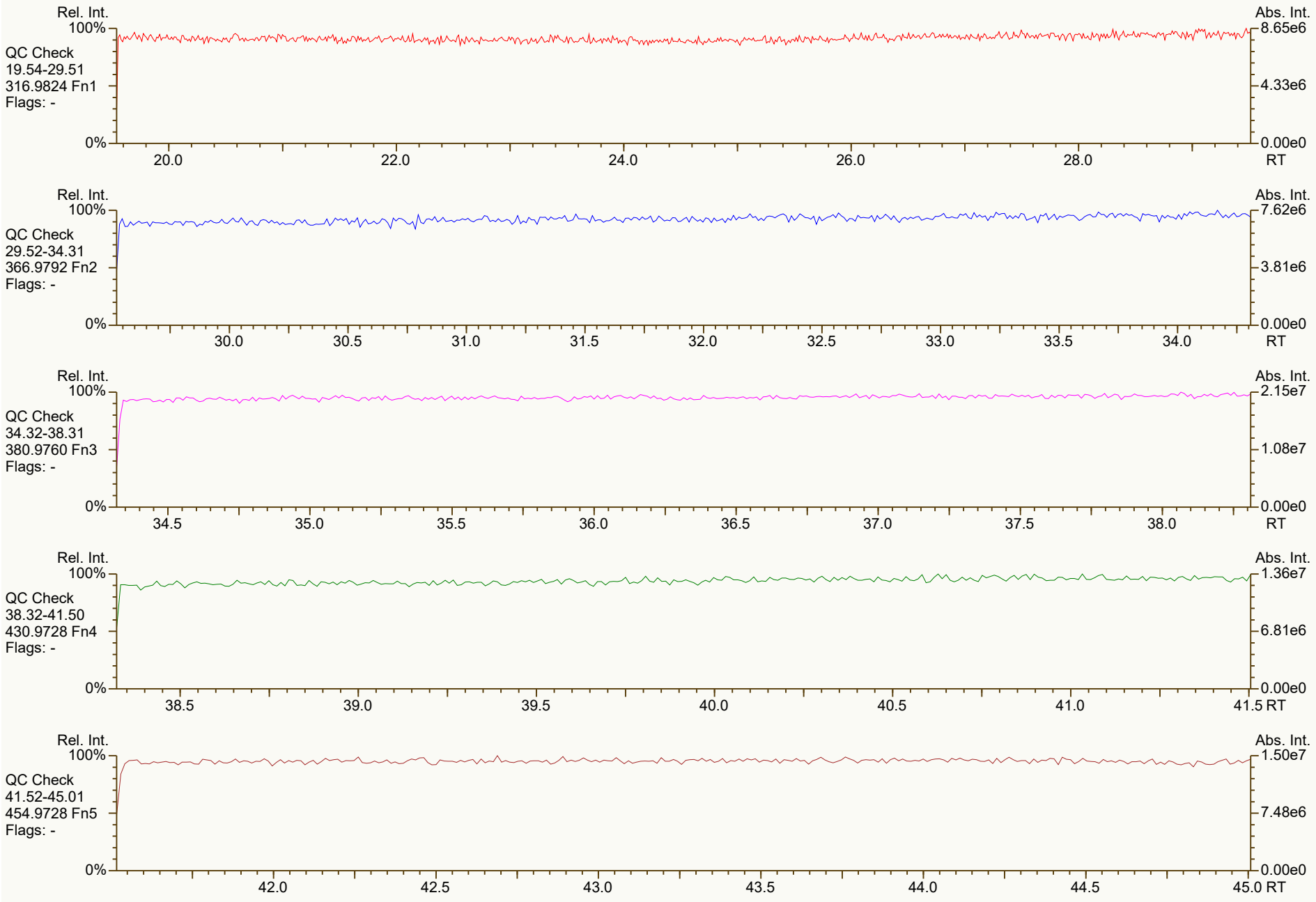

Rel. Int.
100%
0%
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
7.05e5
3.52e5
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
7.09e5
3.54e5
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
3.29e6
1.64e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
7.25e6
3.63e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
4.24e3
2.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
2.22e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
0%
Abs. Int.
6.31e5
3.16e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.37e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
0%
Abs. Int.
6.61e5
3.31e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.14e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
5.95e6
2.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.37e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
0%
Abs. Int.
6.50e6
3.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

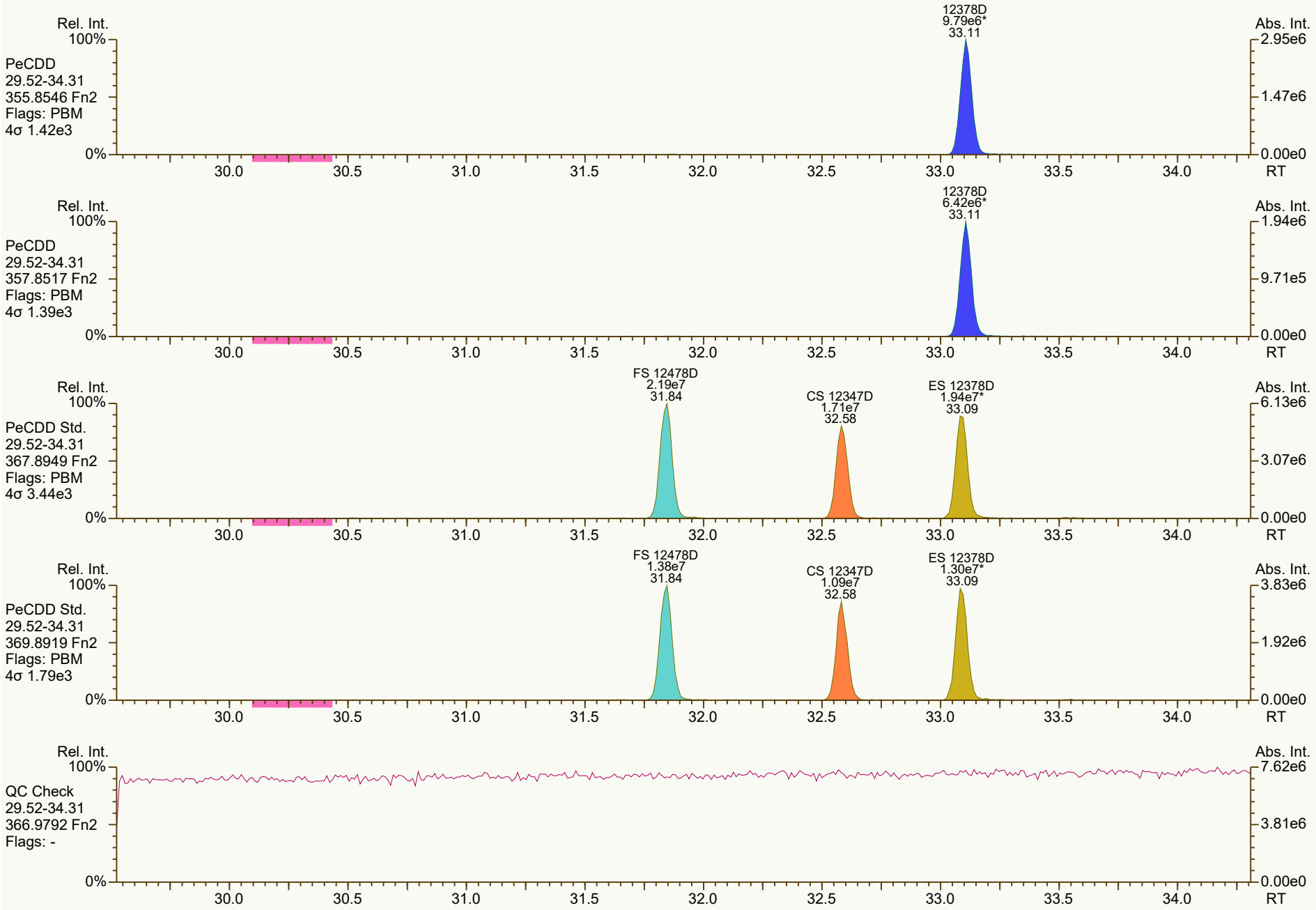
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

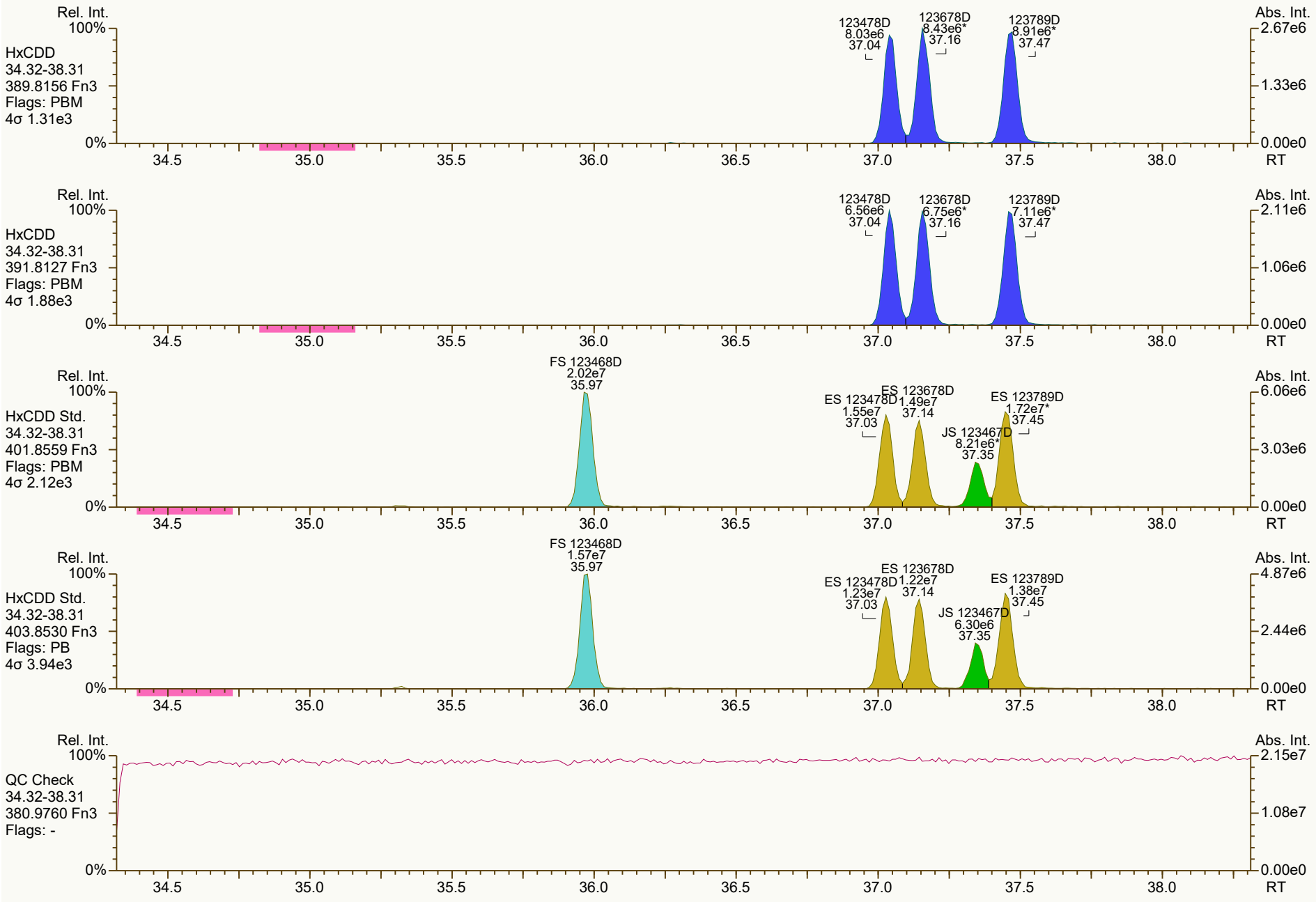
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

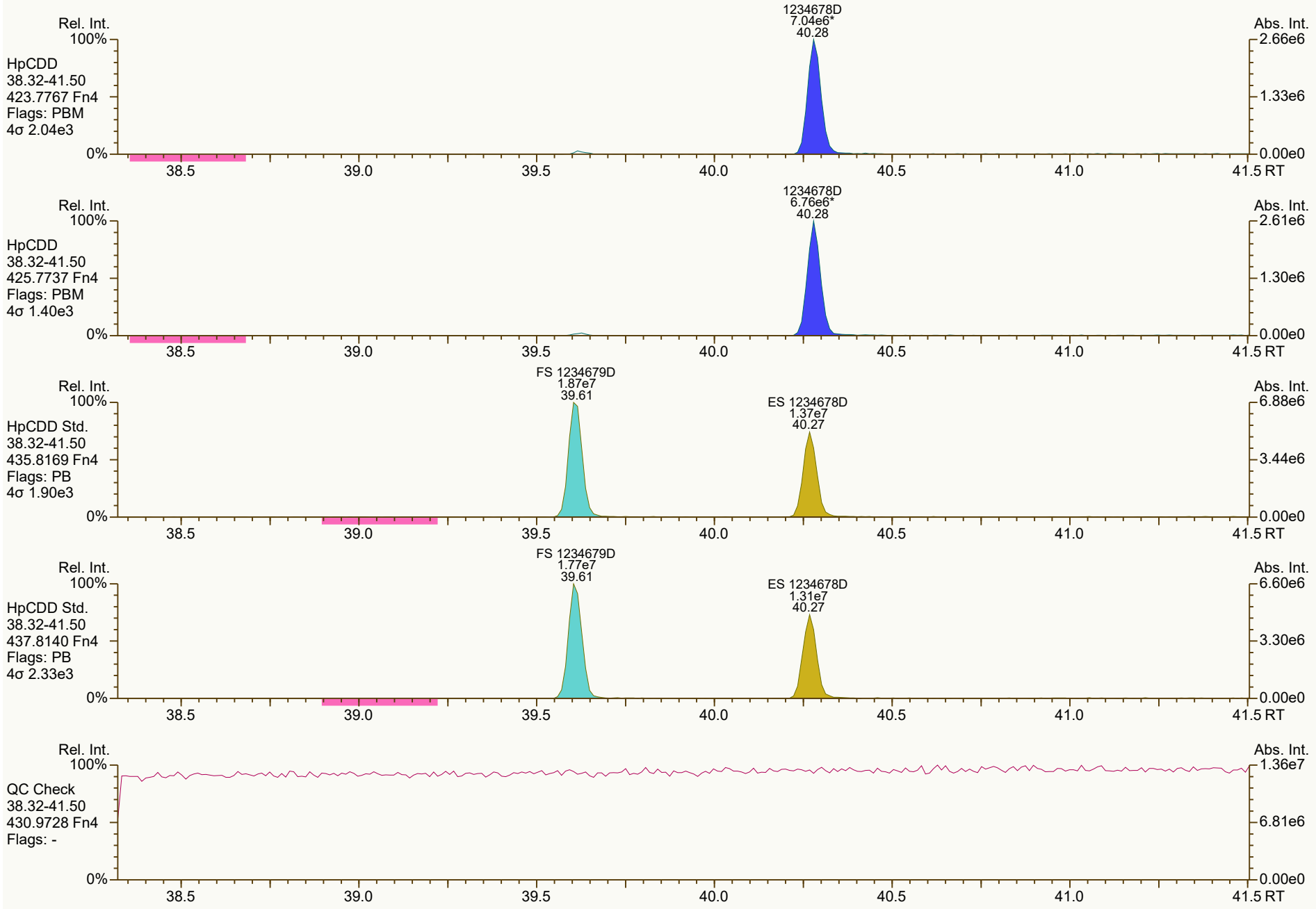
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%

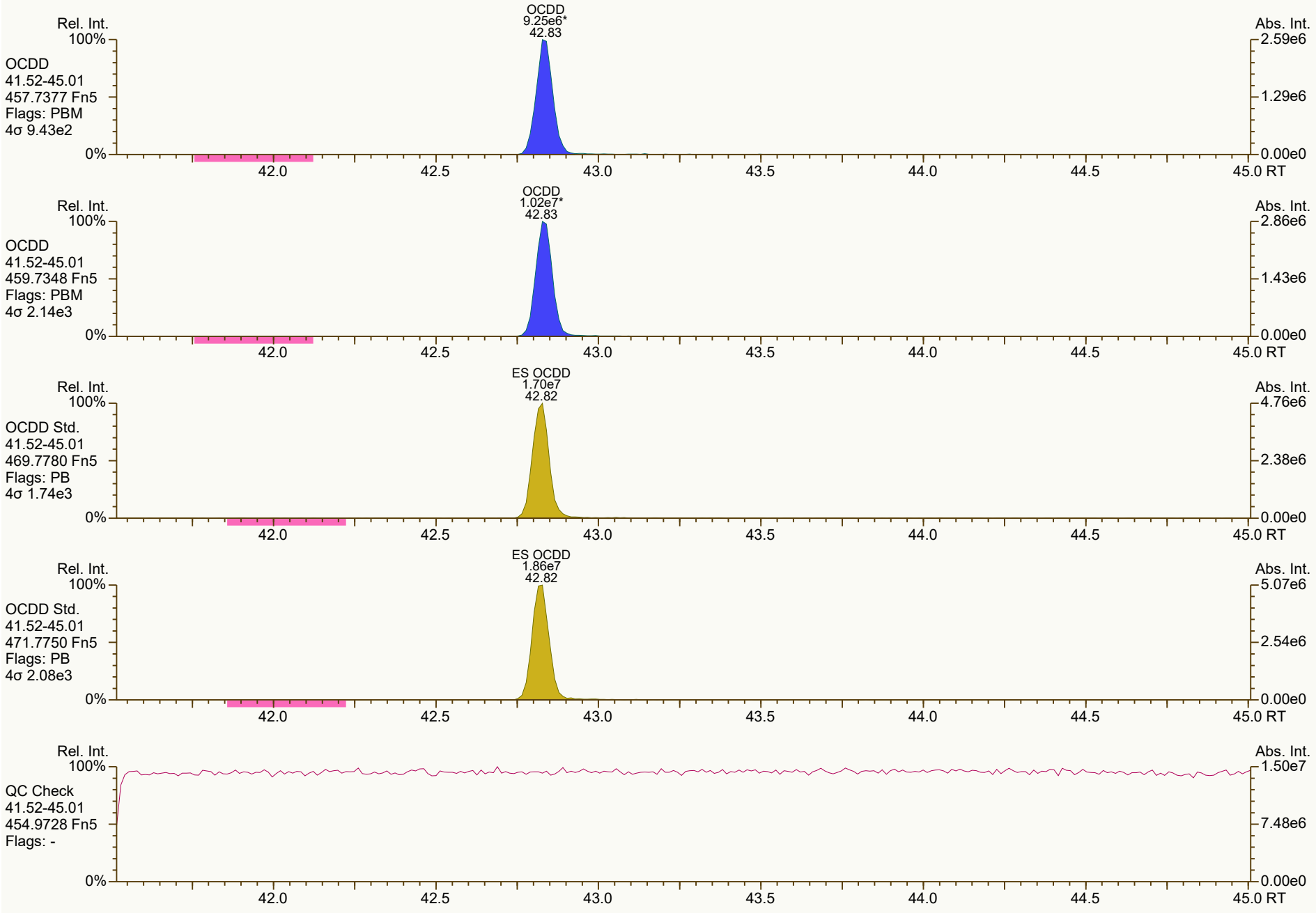

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
0%
Abs. Int.
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
2378D
1.99e6
27.60
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
2378D
2.55e6
27.60
5.98e5
2.99e5
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
1.03e6
5.16e5
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
4.80e6
2.40e6
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
6.06e6
3.03e6


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
0%
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
0%
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
0%
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
0%
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.62e6
3.81e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
9.25e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.02e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.70e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.86e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

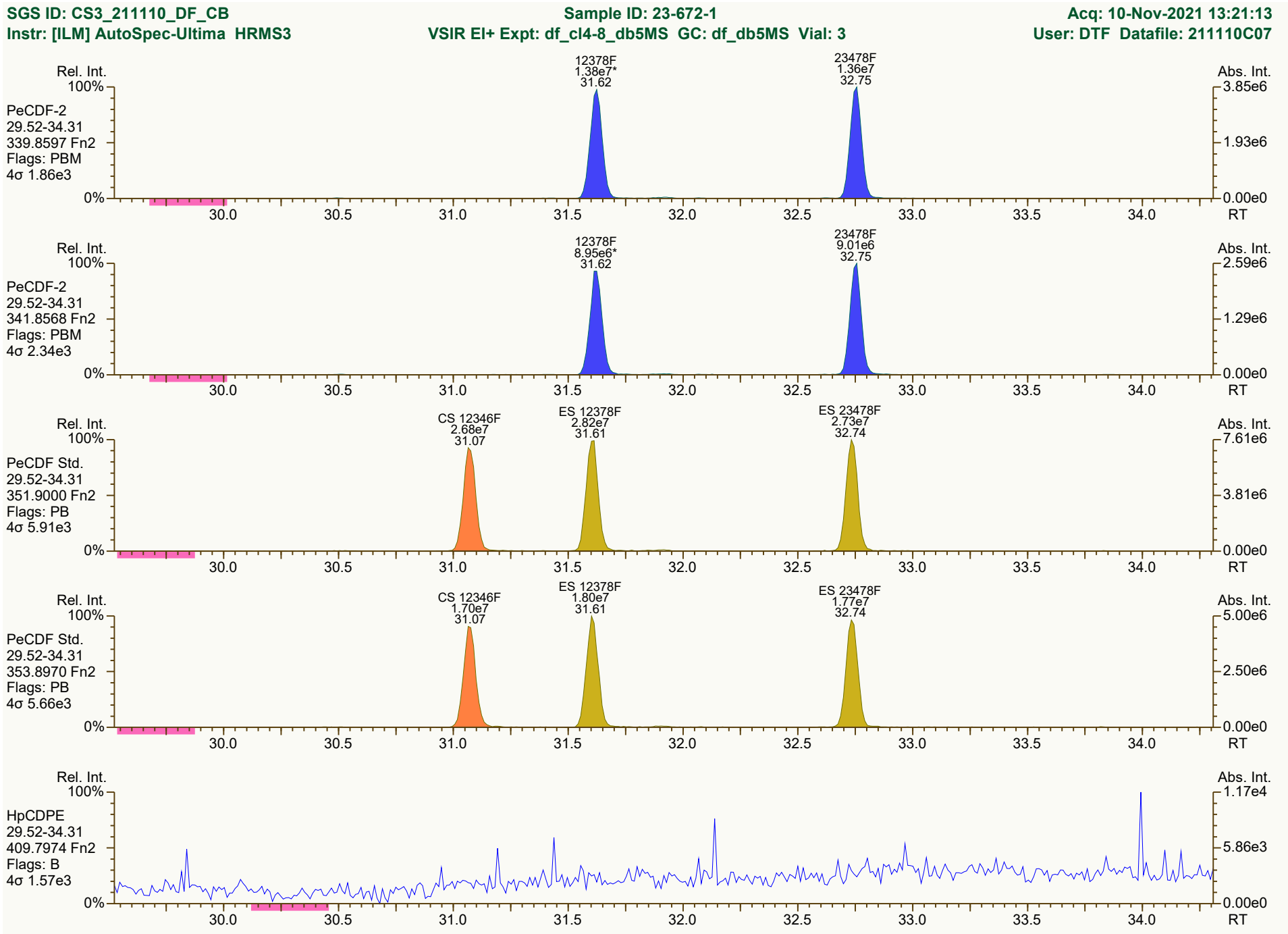

Rel. Int.
100%
0%
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
2378F
2.58e6
26.68
5.81e5
2.91e5
0.00e0
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
2378F
3.32e6
26.68
7.66e5
3.83e5
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
5.45e6
2.73e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
6.76e6
3.38e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
6.84e3
3.42e3
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT

SGS ID: CS3_211110_DF_CB
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 23-672-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3

Acq: 10-Nov-2021 13:21:13
User: DTF Datafile: 211110C07

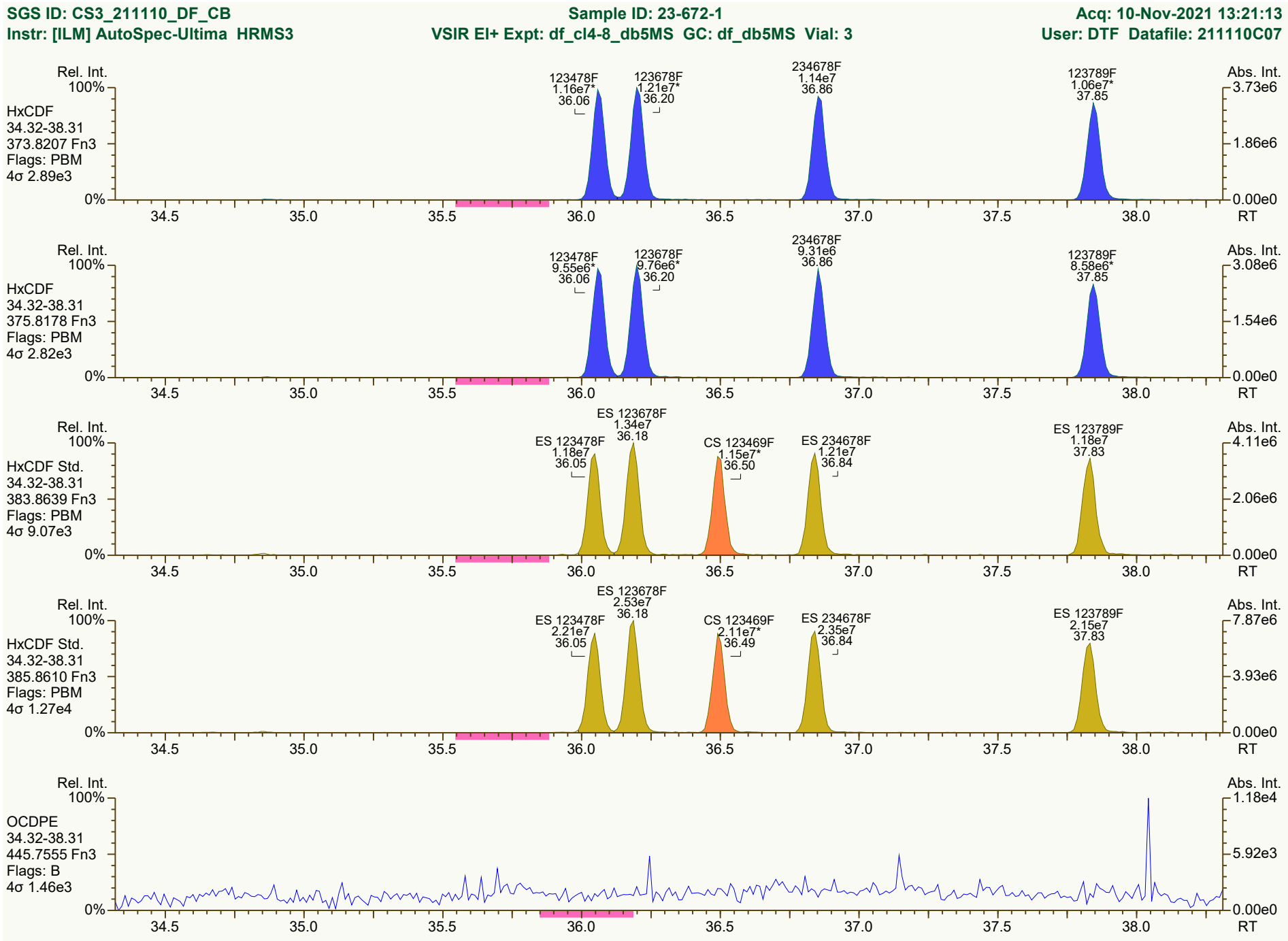


Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0728, 8378, 8418 scc: 507-474
Revised: 10-Nov-2021 14:17 (DTF) Printed: 11-Nov-2021 10:41 Page 9 of 12

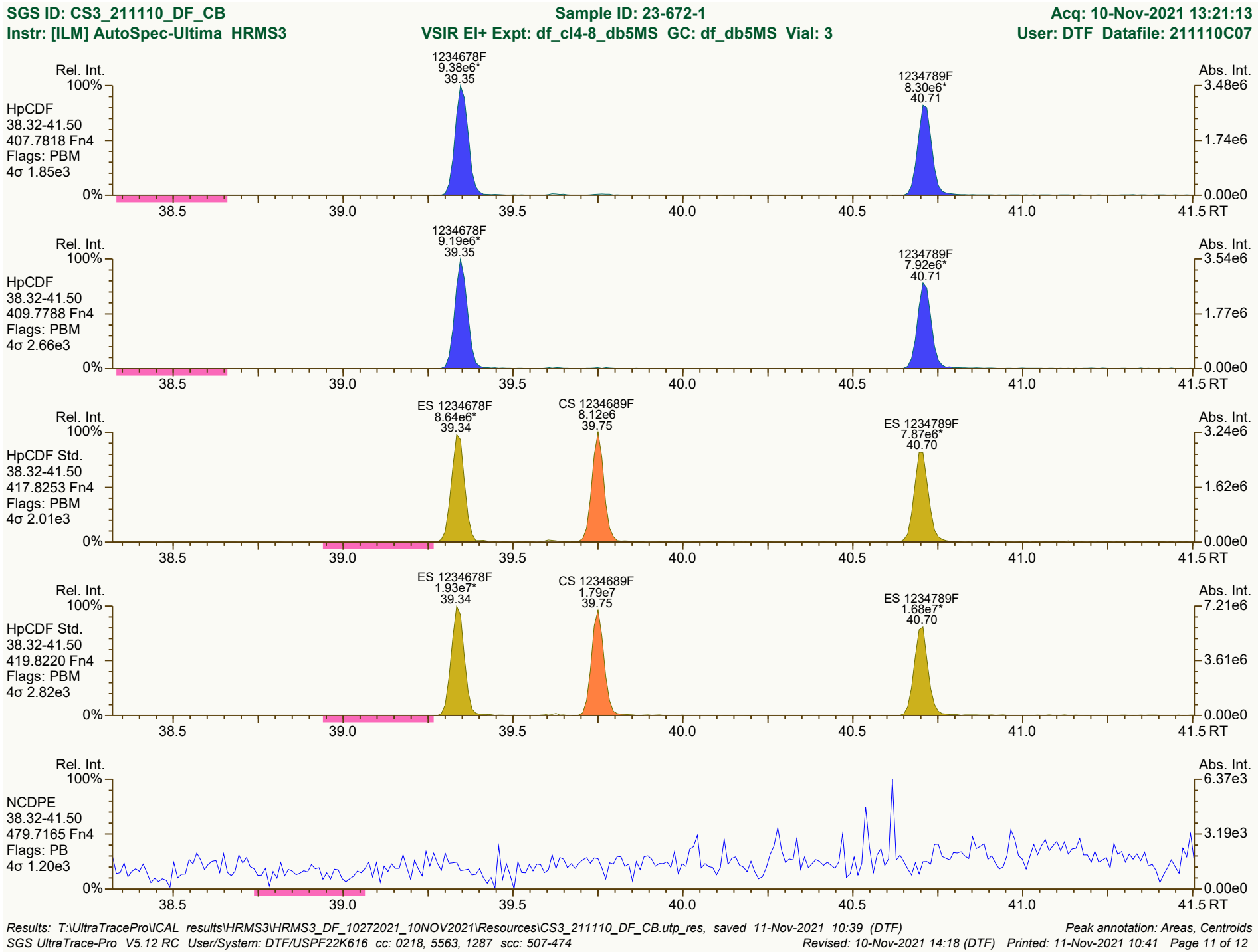
SGS ID: CS3_211110_DF_CB
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 23-672-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3

Acq: 10-Nov-2021 13:21:13
User: DTF Datafile: 211110C07



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0985, 9027, 6556 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 10 of 12


SGS ID: CS3_211110_DF_CB
Instr: [ILM] AutoSpec-Ultima HRMS3
Sample ID: 23-672-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
Acq: 10-Nov-2021 13:21:13
User: DTF Datafile: 211110C07
Rel. Int.
100%
0%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
Abs. Int.
3.48e6
1.74e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
3.54e6
1.77e6
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
3.24e6
1.62e6
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
7.21e6
3.61e6
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
6.37e3
3.19e3
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0218, 5563, 1287 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

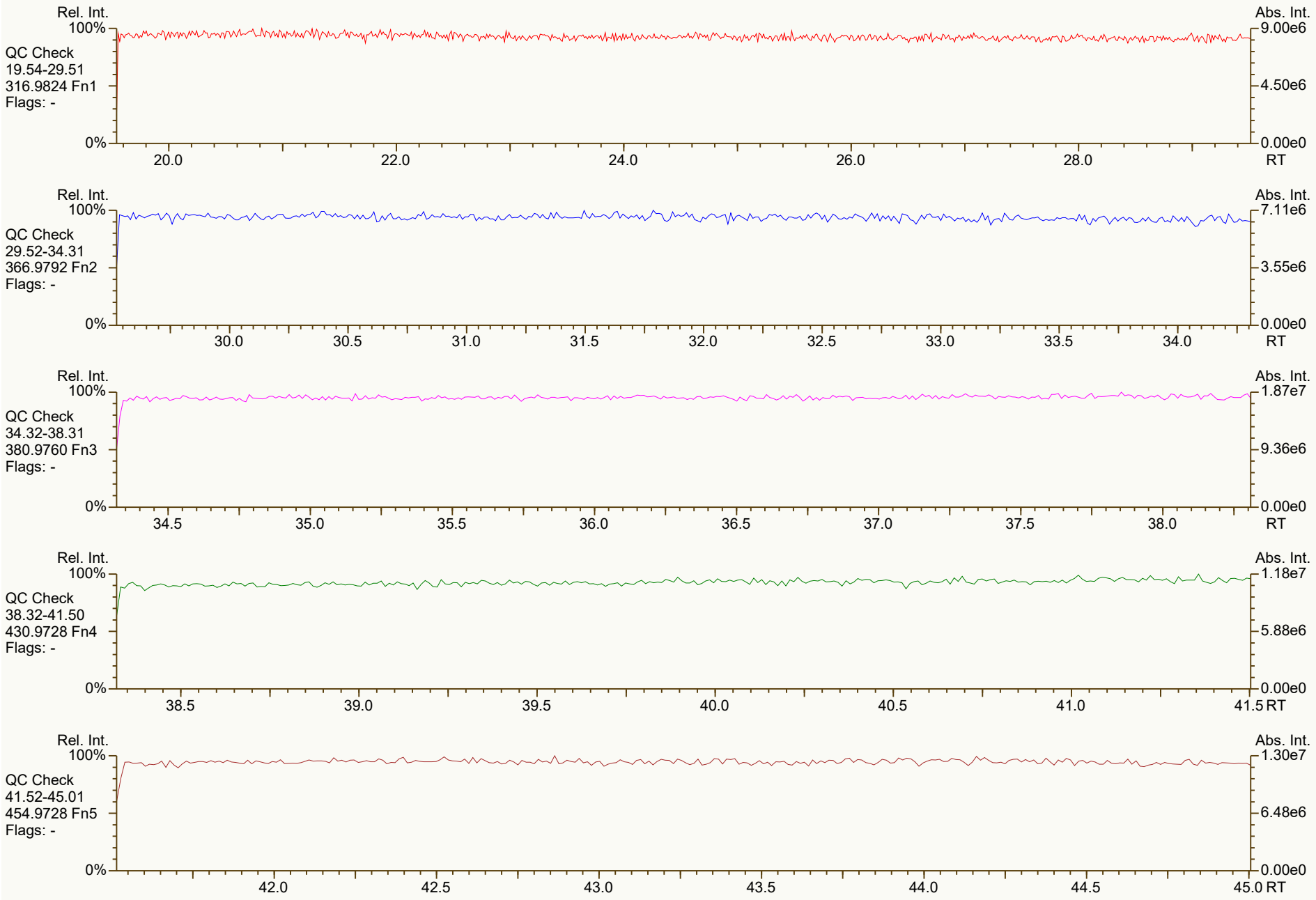

OCDF
1.15e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
3.25e6
1.62e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
0%
Abs. Int.
3.53e6
1.76e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.21e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
0%
Abs. Int.
6.08e6
3.04e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.39e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
0%
Abs. Int.
6.65e6
3.32e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
0%
Abs. Int.
4.82e3
2.41e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

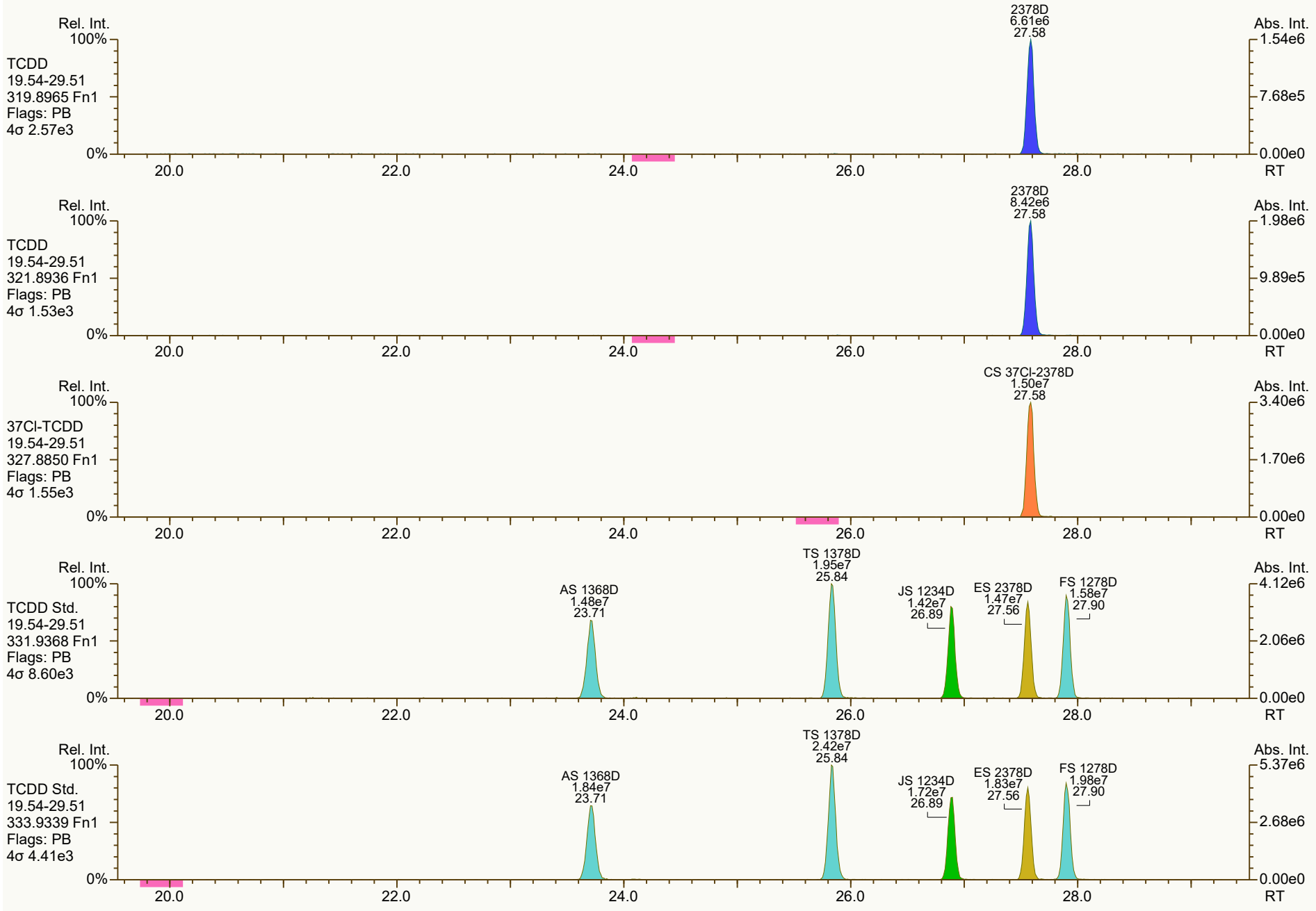
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

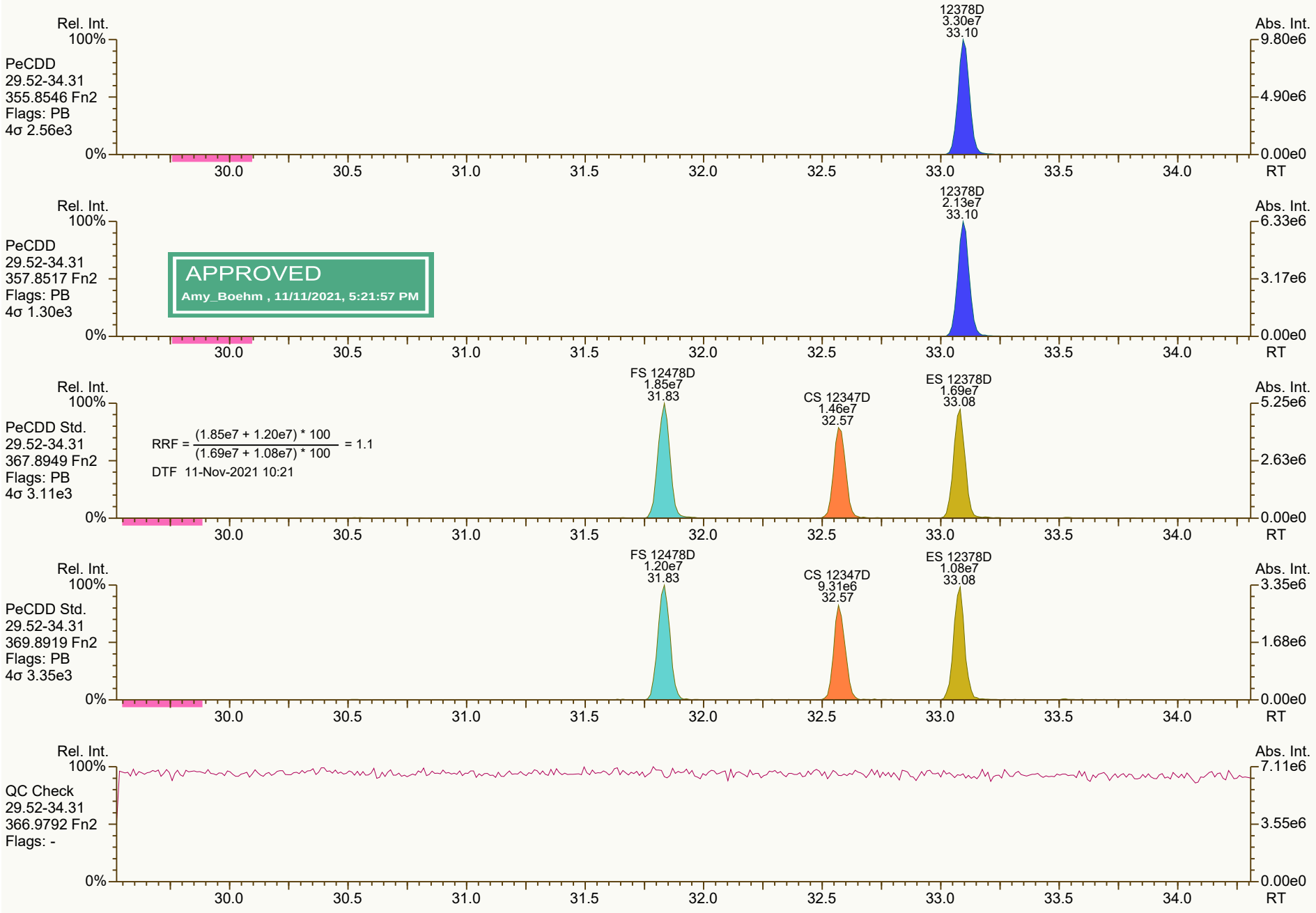
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

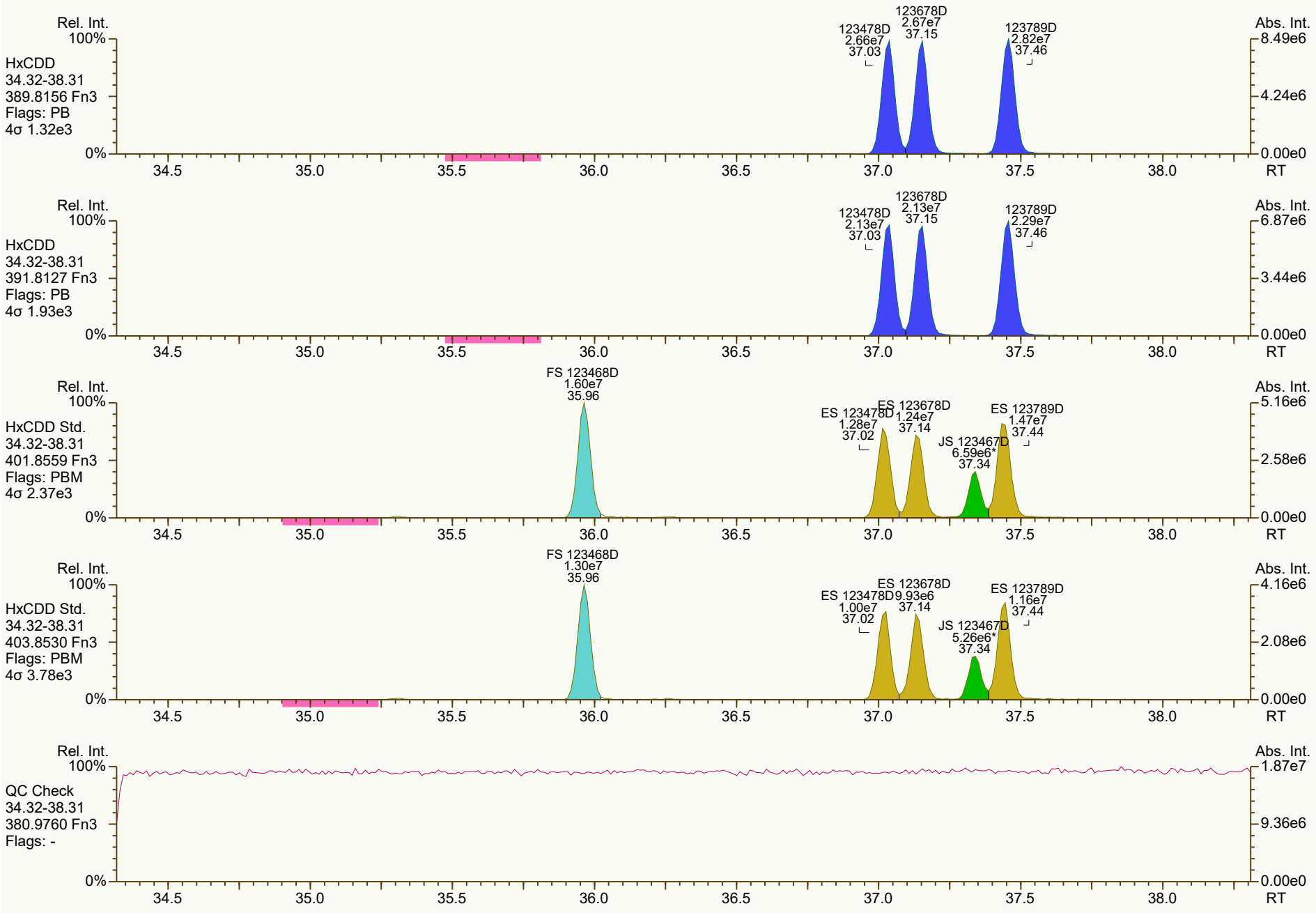
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

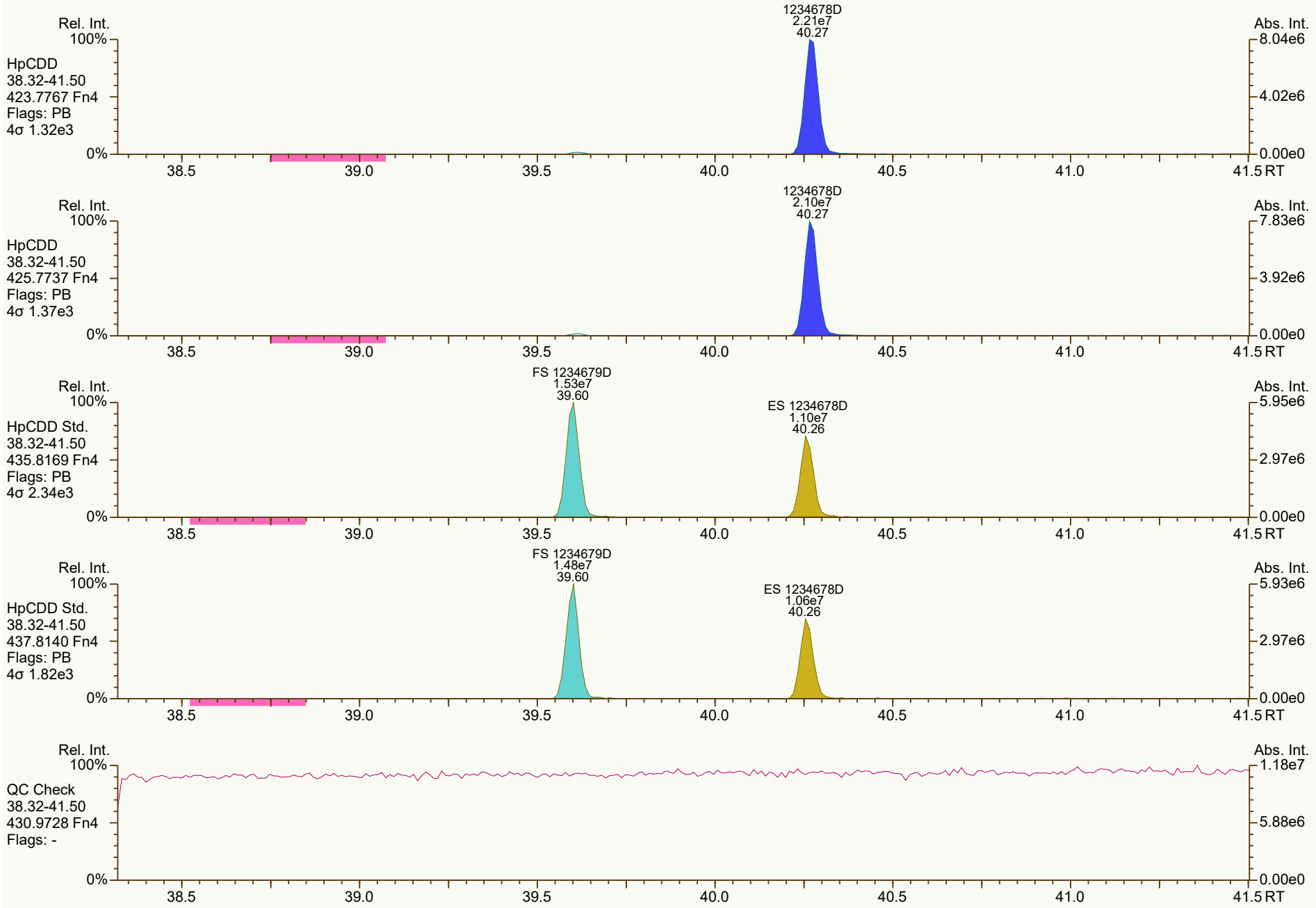
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

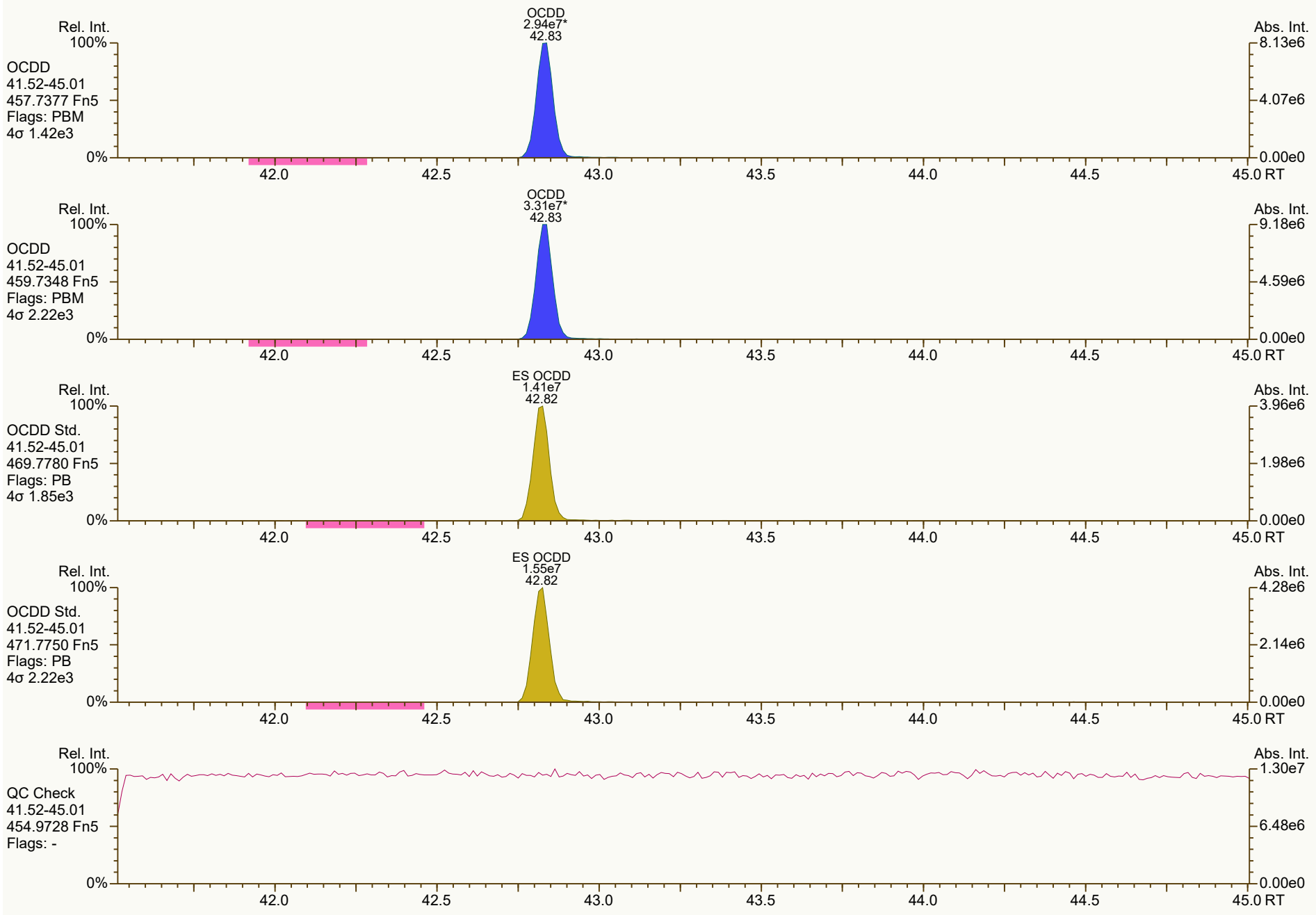

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
9.00e6
4.50e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
7.11e6
3.55e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
1.87e7
9.36e6
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.18e7
5.88e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.30e7
6.48e6
0.00e0
RT


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
0%
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
0%
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

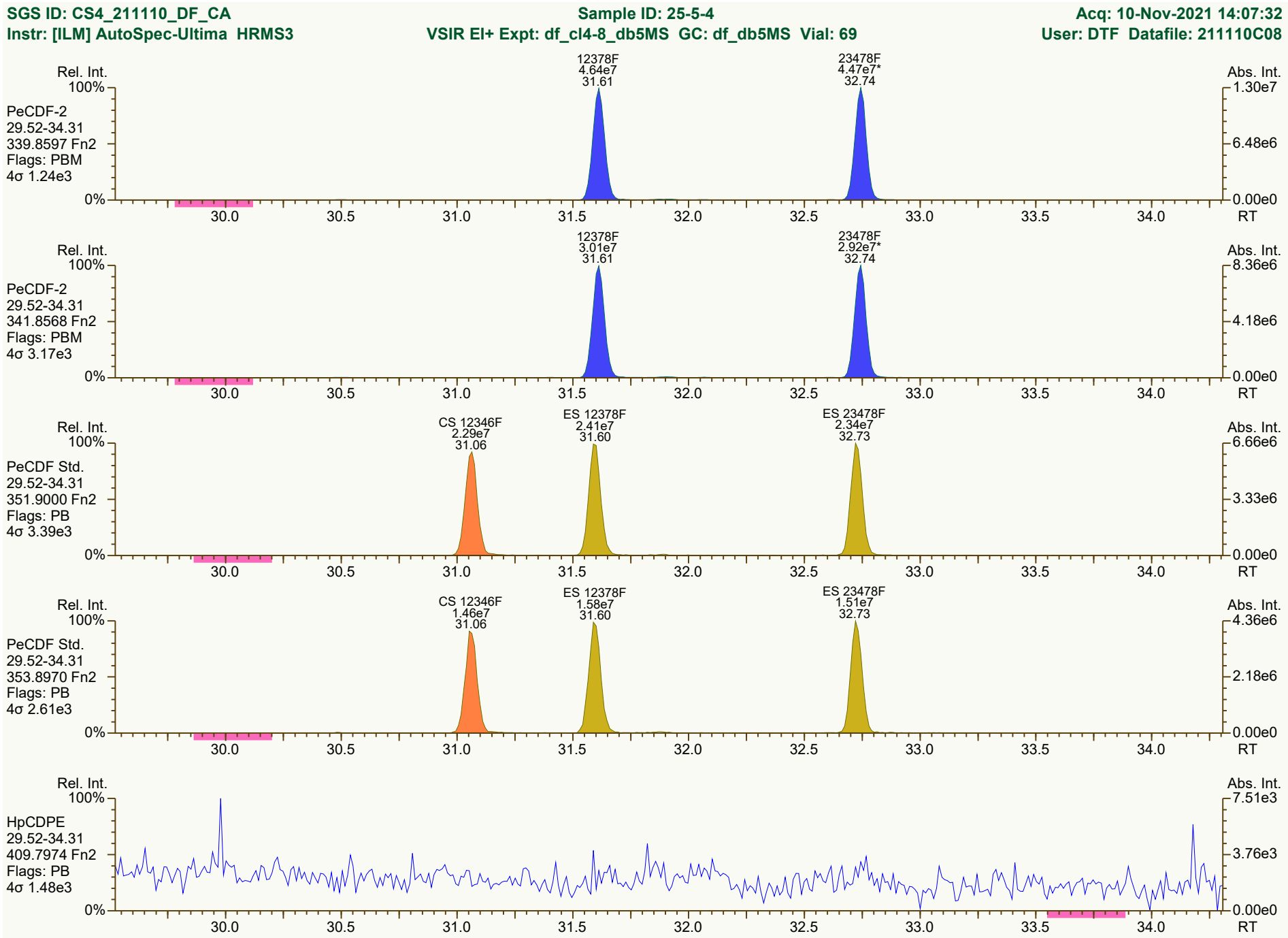

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

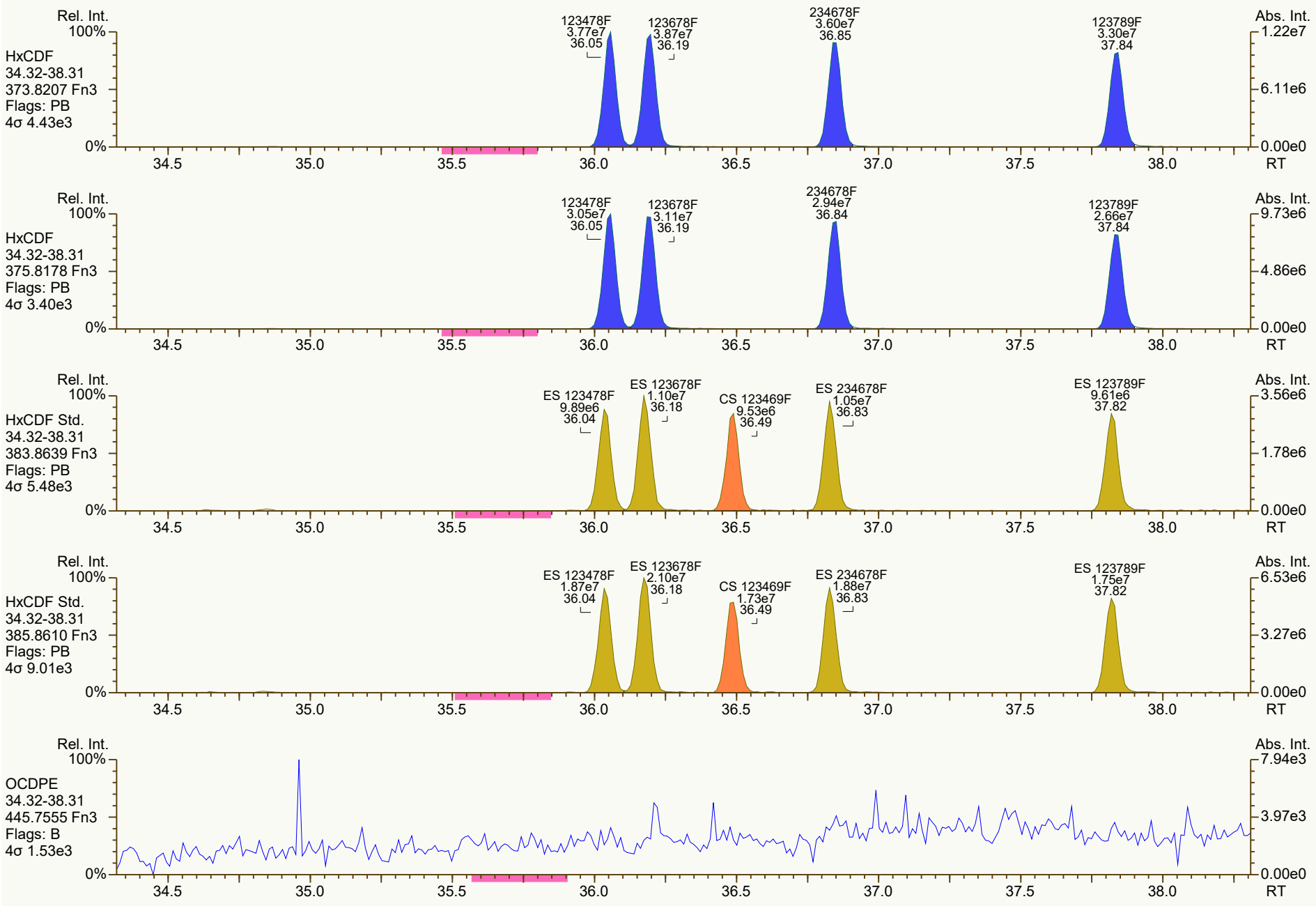

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
0%
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
0%
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
0%
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
0%
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.18e7
5.88e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

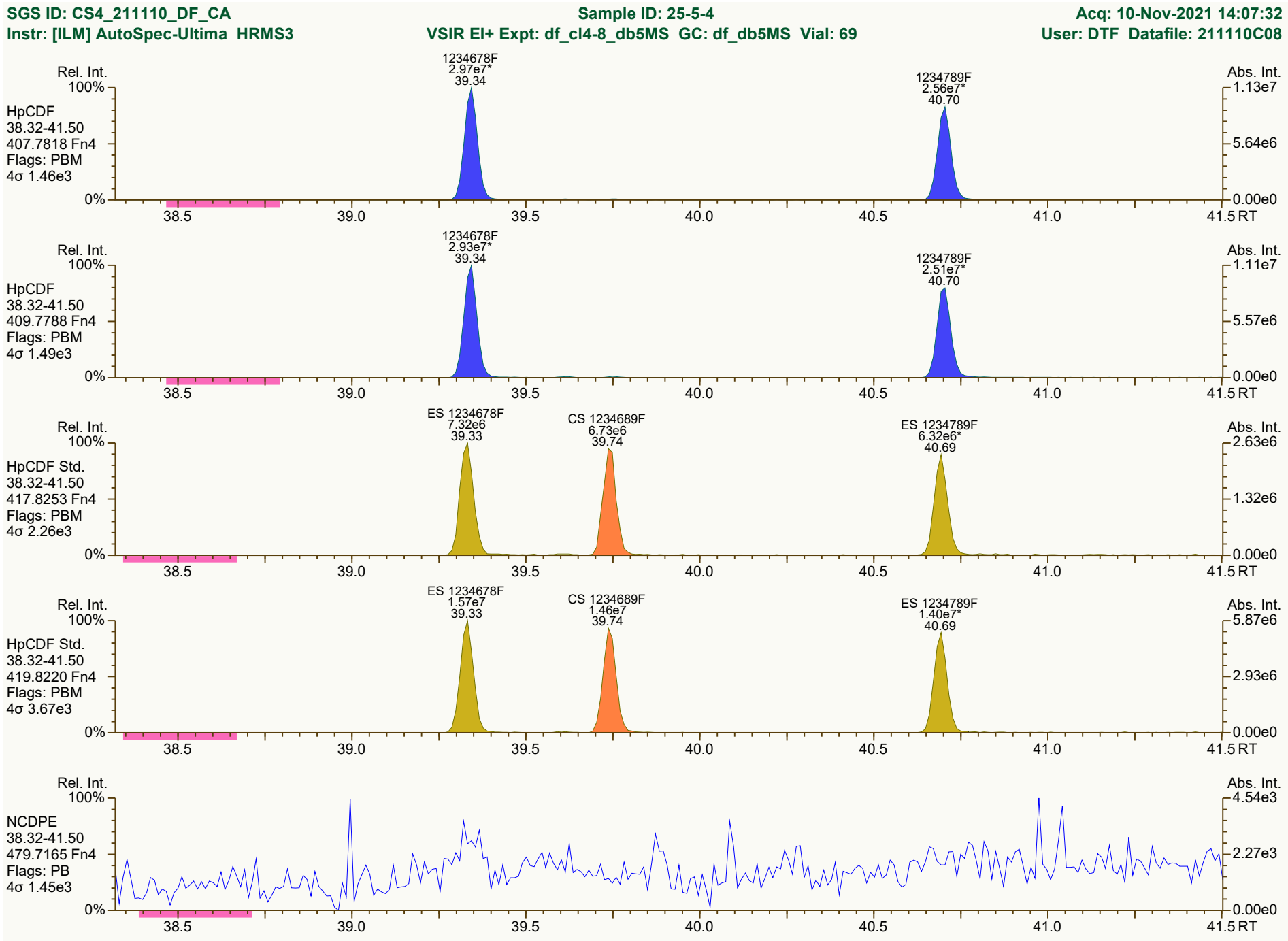

OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.94e3
4.47e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.00e6
4.50e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT

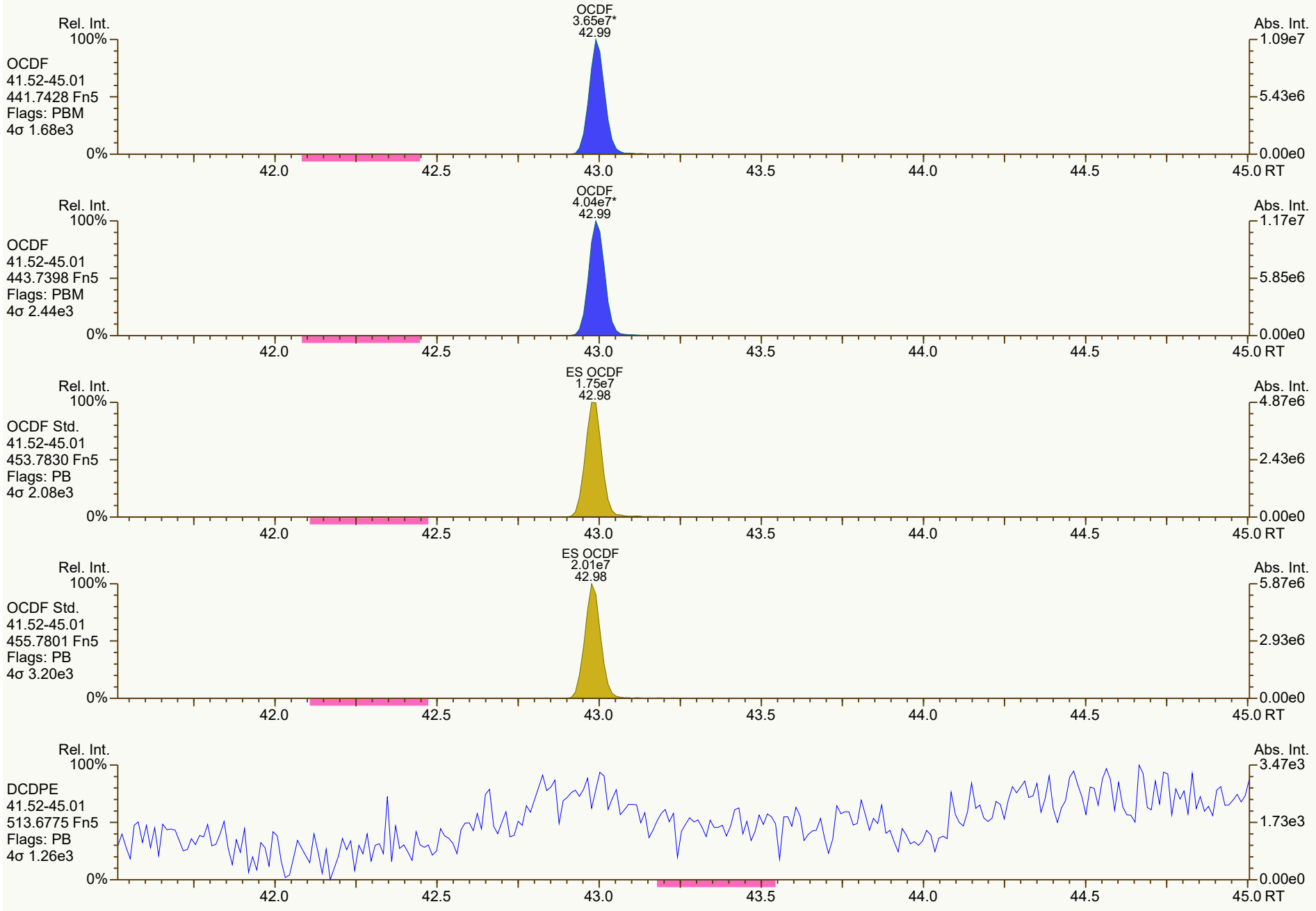

SGS ID: CS4_211110_DF_CA
Sample ID: 25-5-4
Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 211110C08
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
1.30e7
6.48e6
0.00e0
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
8.36e6
4.18e6
0.00e0
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
6.66e6
3.33e6
0.00e0
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
4.36e6
2.18e6
0.00e0
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
7.51e3
3.76e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9957, 4346, 5391 scc: 855-576
PKD: 10-Nov-2021 15:17 Printed: 11-Nov-2021 10:41 Page 9 of 12


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F 3.77e7 36.05
123678F 3.87e7 36.19
234678F 3.60e7 36.85
123789F 3.30e7 37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F 3.05e7 36.05
123678F 3.11e7 36.19
234678F 2.94e7 36.84
123789F 2.66e7 37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F 9.89e6 36.04
ES 123678F 1.10e7 36.18
CS 123469F 9.53e6 36.49
ES 234678F 1.05e7 36.83
ES 123789F 9.61e6 37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F 1.87e7 36.04
ES 123678F 2.10e7 36.18
CS 123469F 1.73e7 36.49
ES 234678F 1.88e7 36.83
ES 123789F 1.75e7 37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*

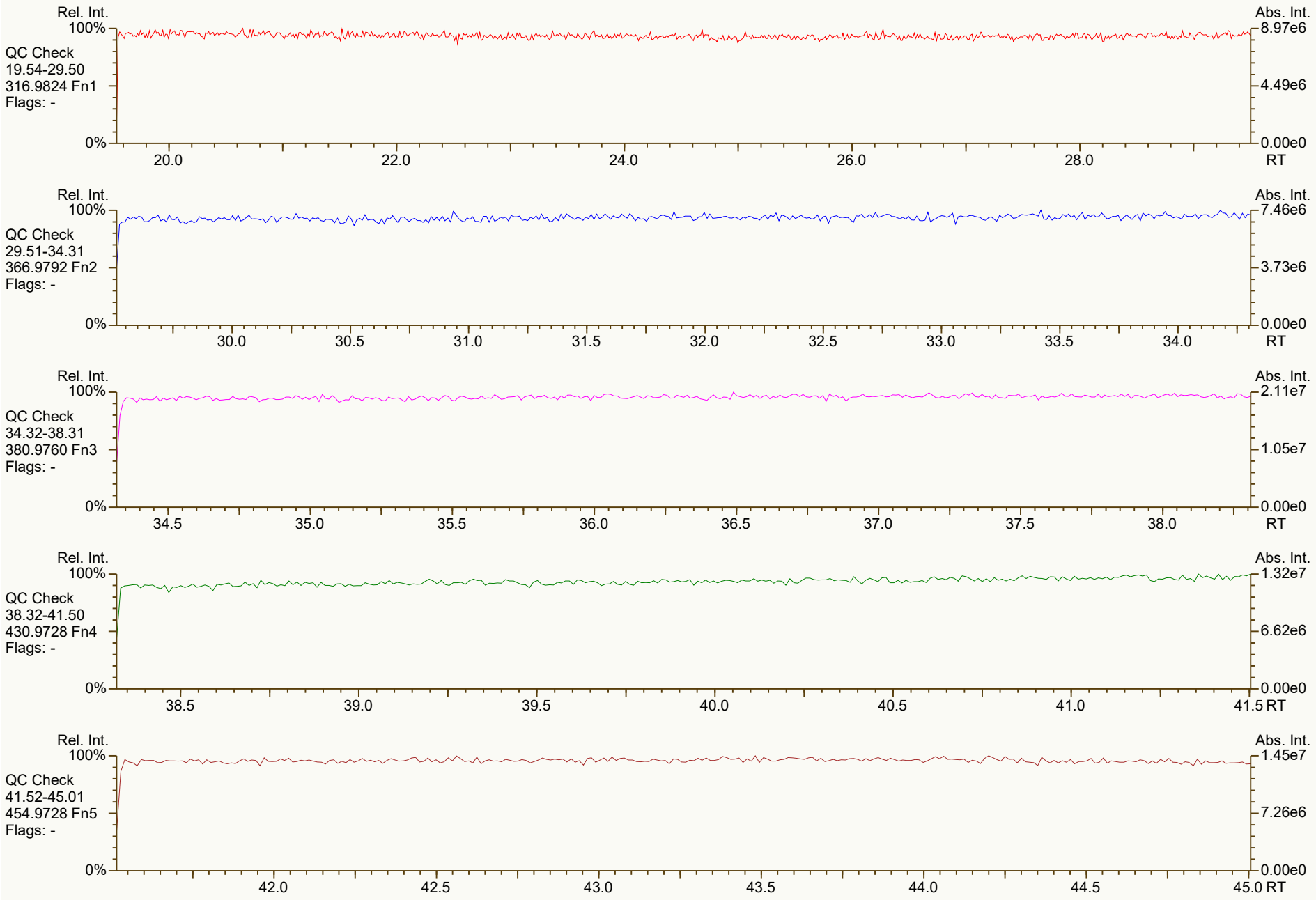
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 2764, 9565, 4492 scc: 855-576 *Revised: 10-Nov-2021 15:17 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12*

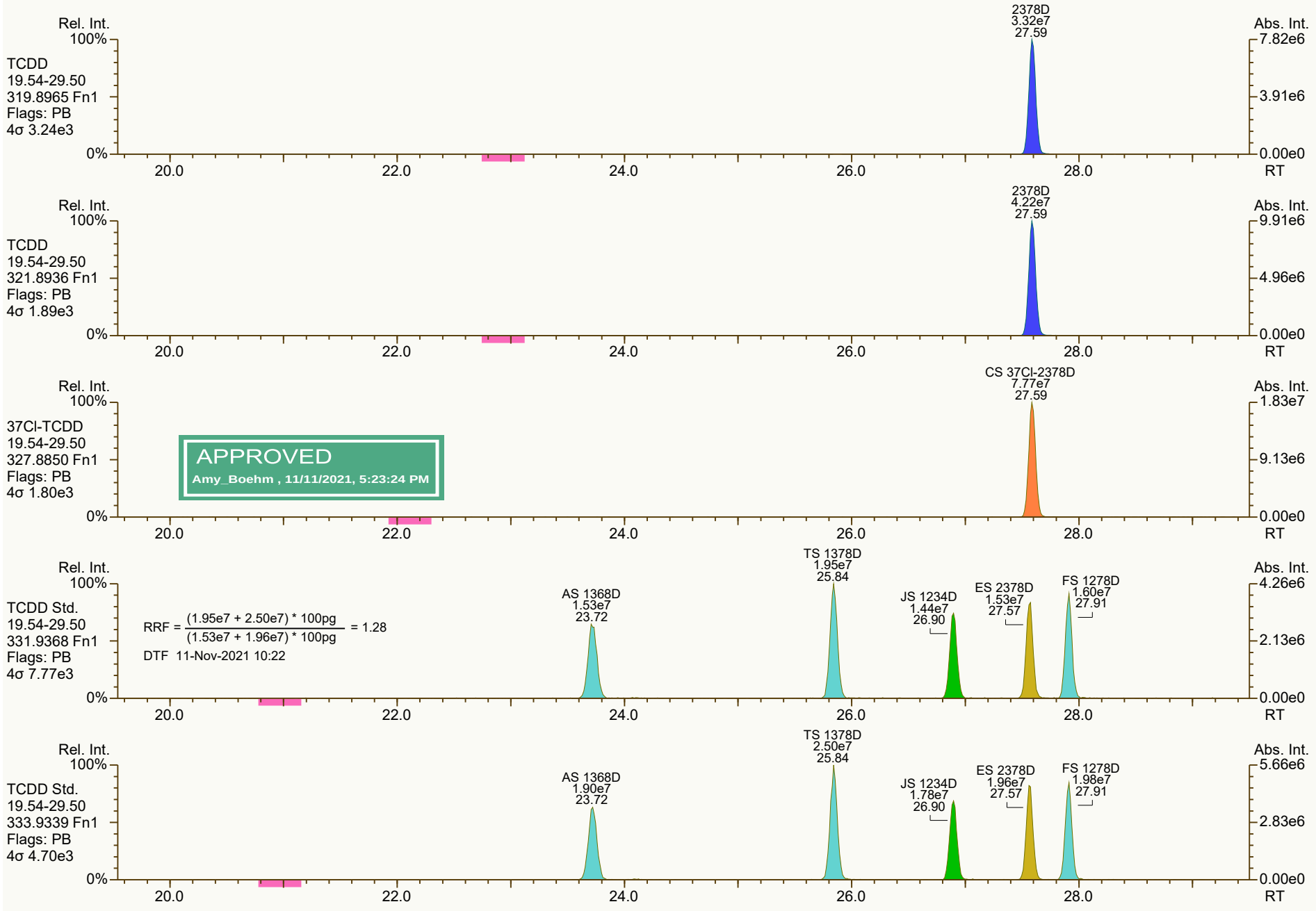

OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

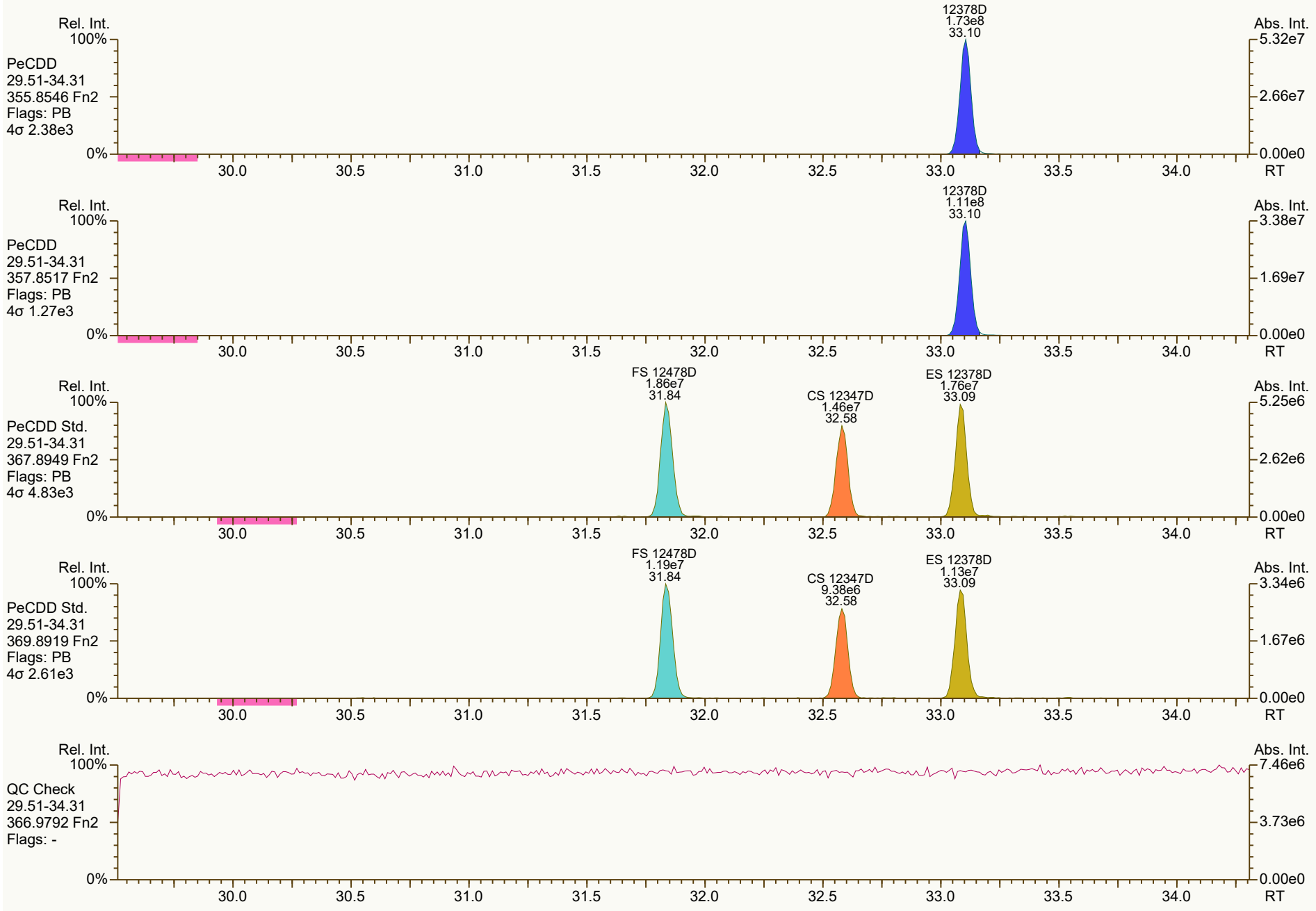
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:53 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS5_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 573-489-BMZ	
Sample ID: 25-5-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C09	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

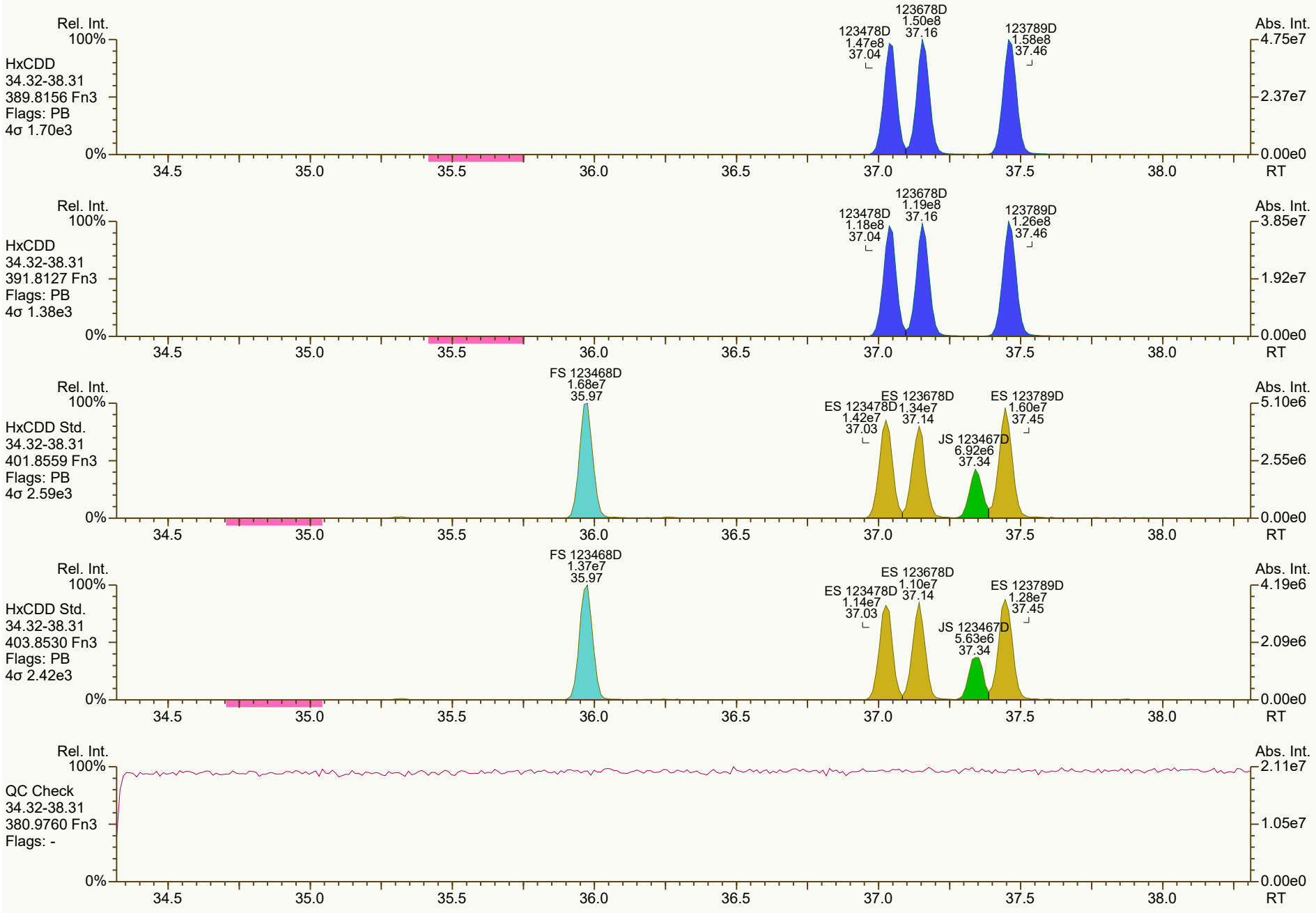
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

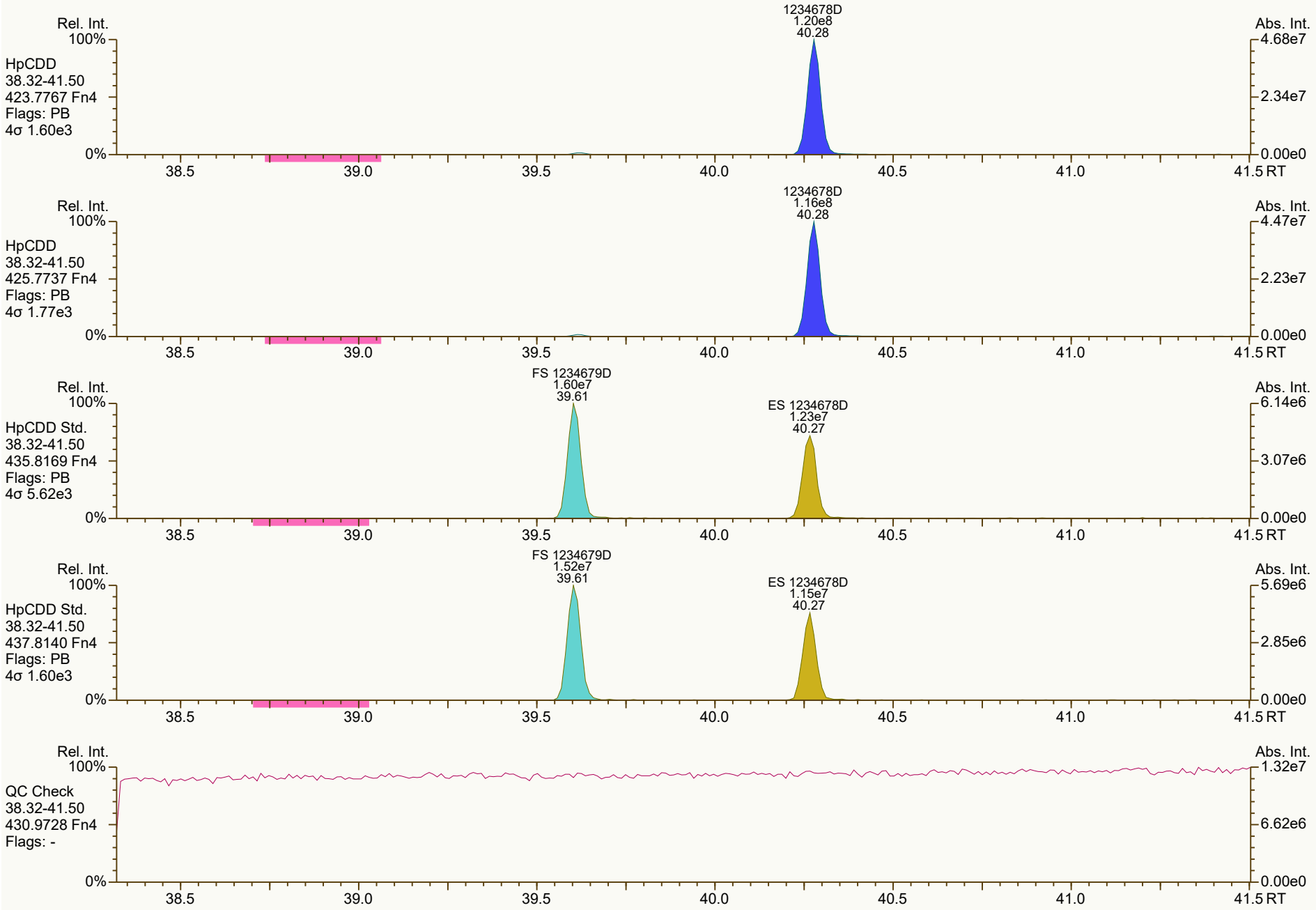
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

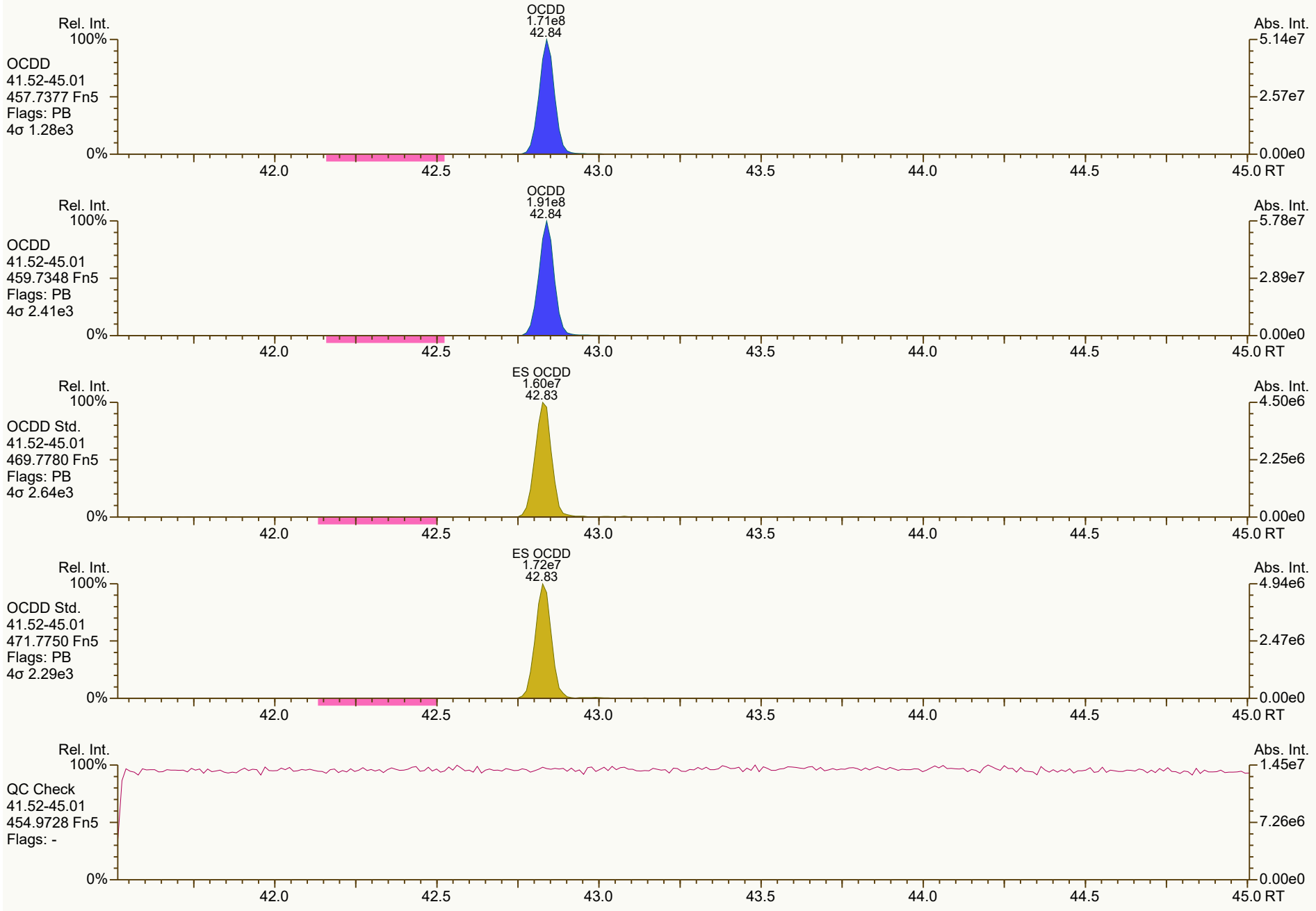

Rel. Int.
100%
0%
Abs. Int.
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
8.97e6
4.49e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
7.46e6
3.73e6
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.11e7
1.05e7
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
1.32e7
6.62e6
38.5
39.0
39.5
40.0
40.5
41.0
41.5
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6
42.0
42.5
43.0
43.5
44.0
44.5
45.0


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
0%
2378D
4.22e7
27.59
Abs. Int.
9.91e6
4.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
Abs. Int.
1.83e7
9.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
0%
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
Abs. Int.
4.26e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
0%
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
Abs. Int.
5.66e6
2.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
0%
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
0%
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
0%
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
0%
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

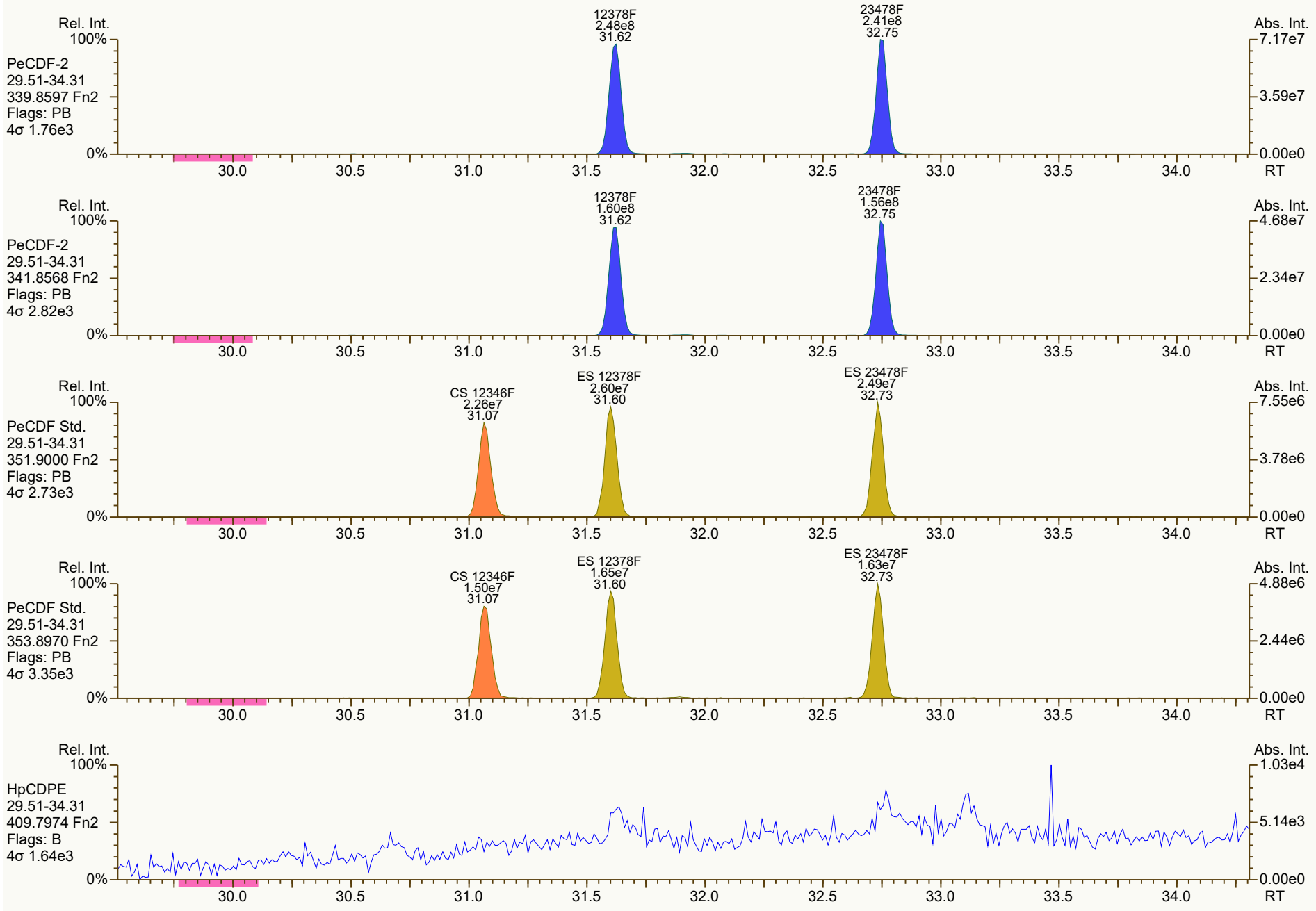

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

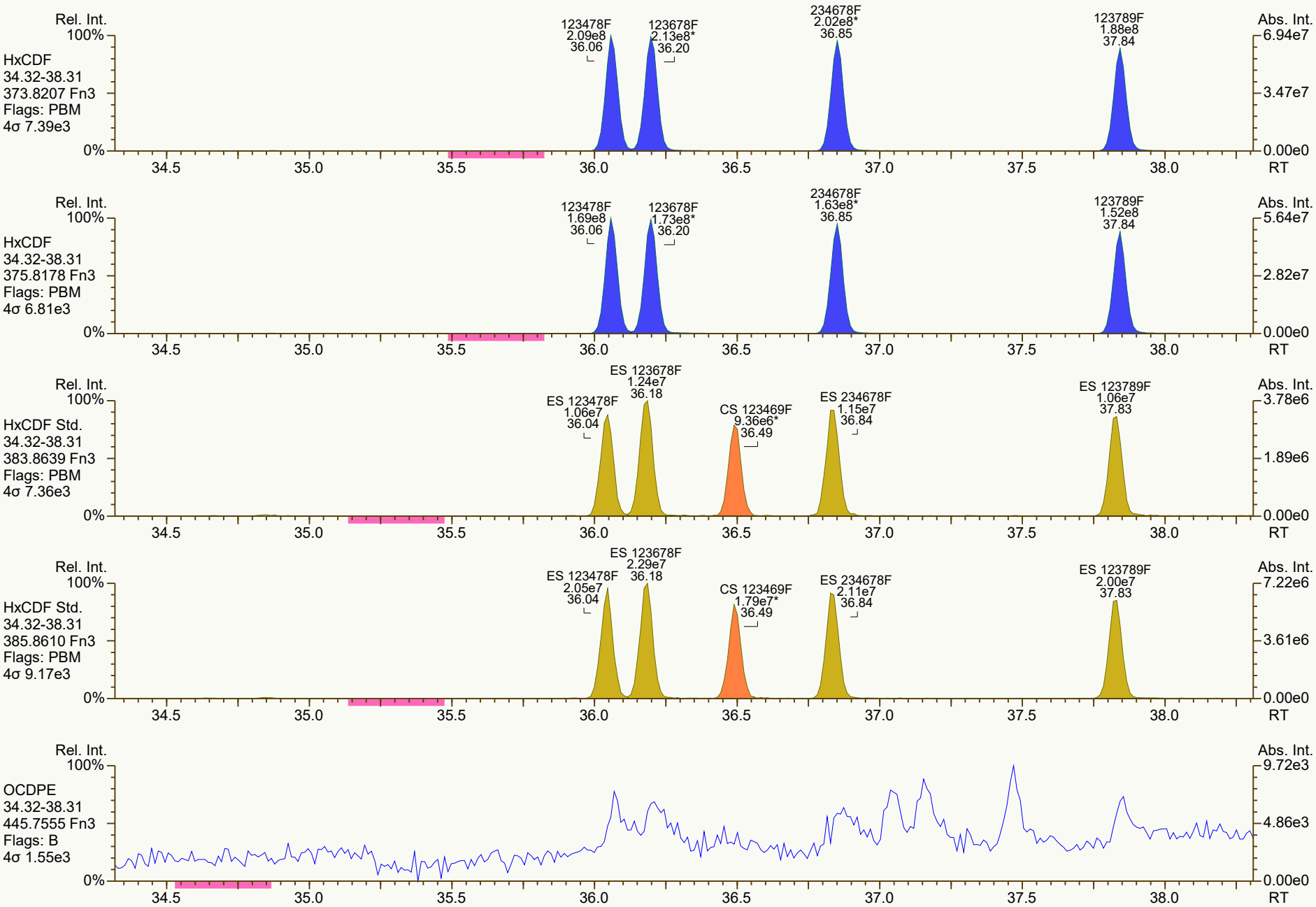

Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
Abs. Int.
1.03e4
5.14e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

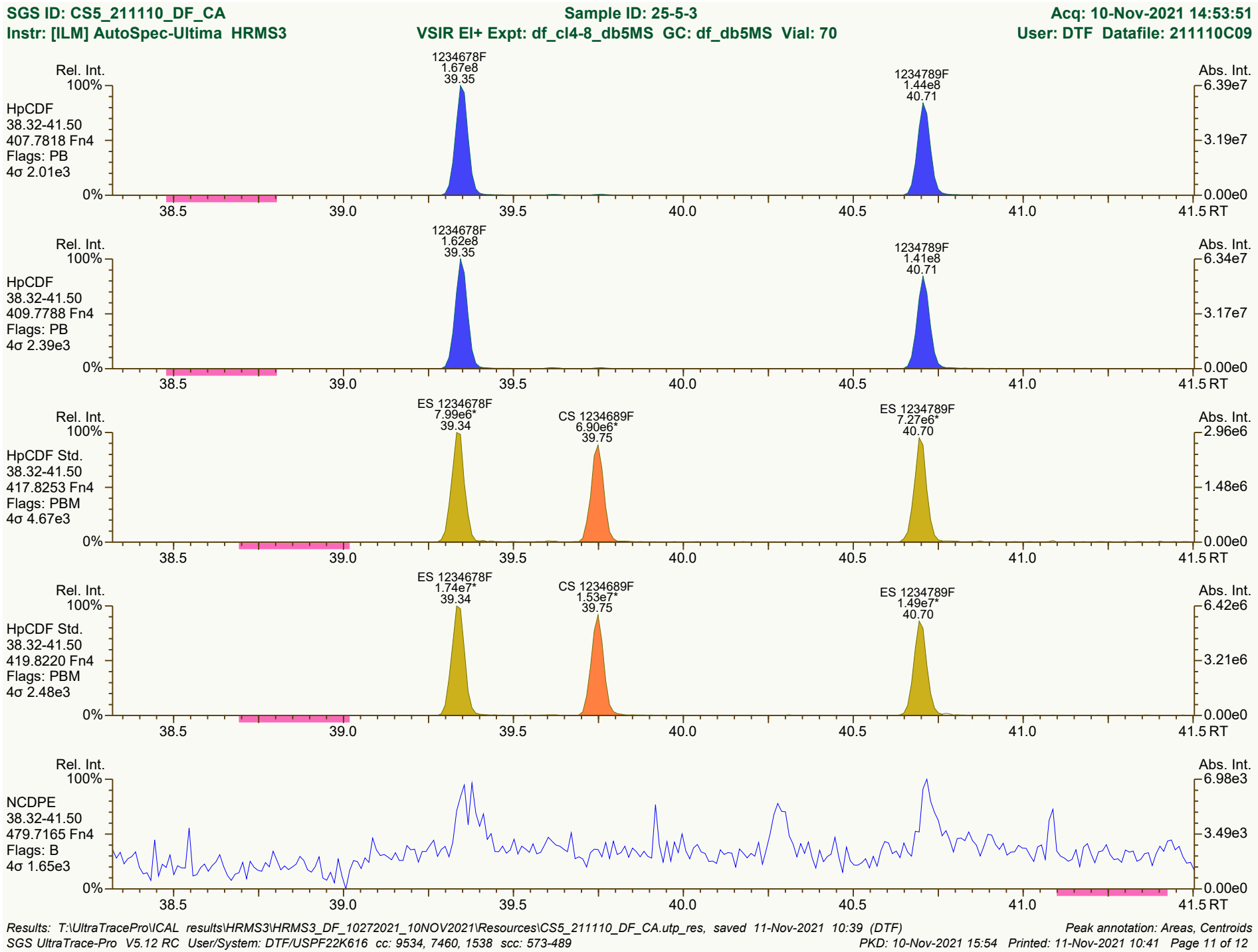
SGS ID: CS5_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

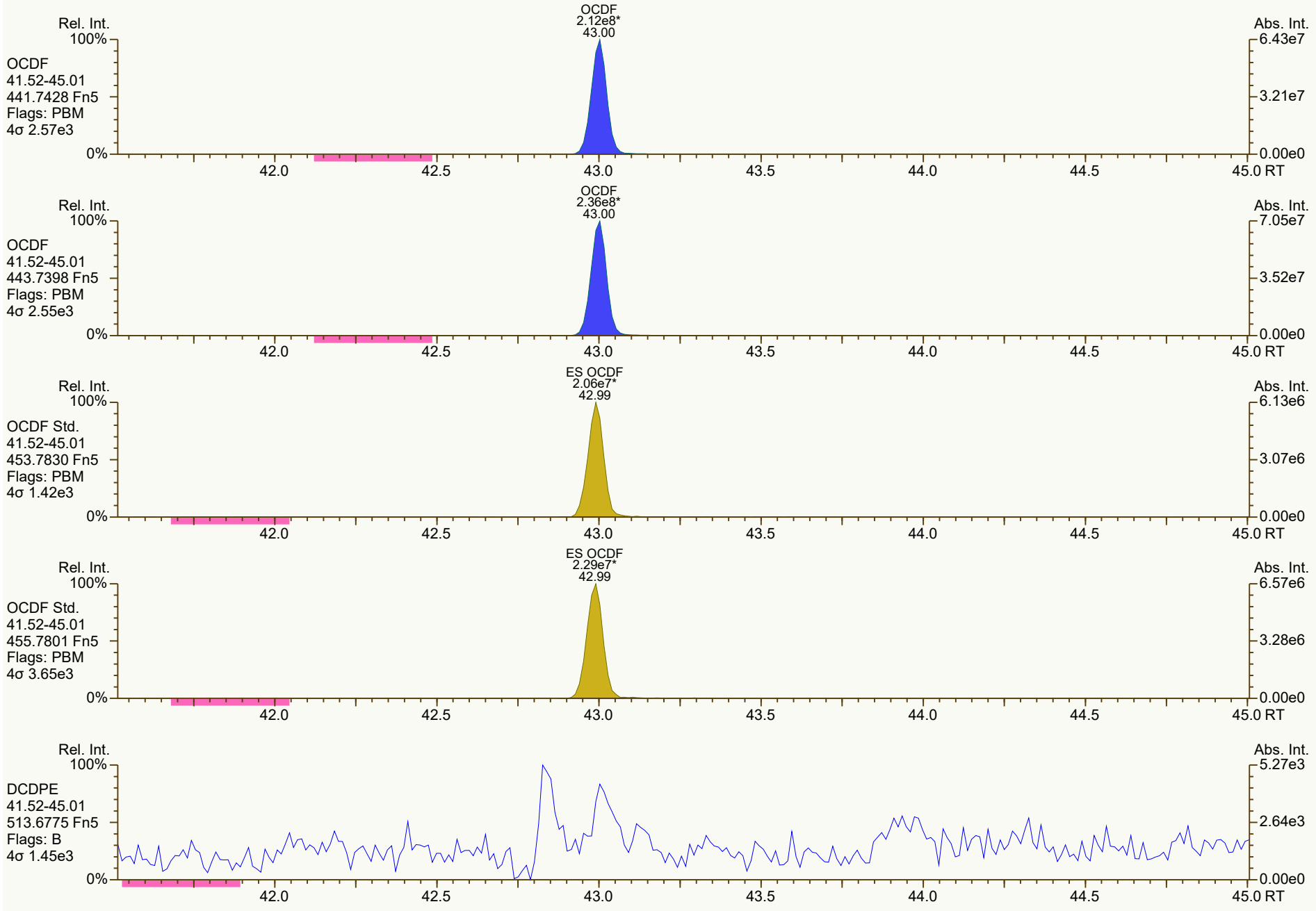
Sample ID: 25-5-3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70

Acq: 10-Nov-2021 14:53:51
User: DTF Datafile: 211110C09



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 7902, 6877, 1014 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 10 of 12

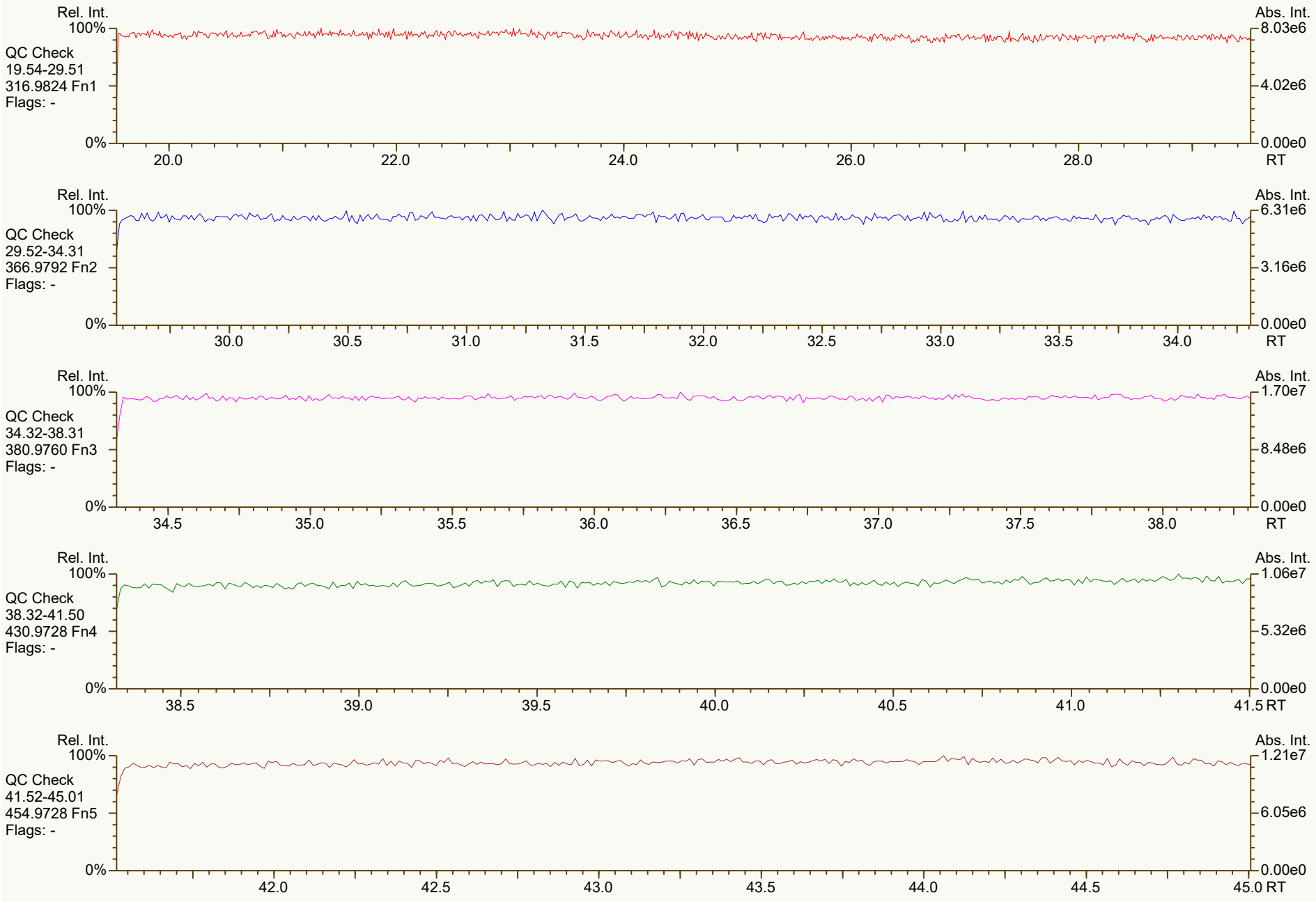

SGS ID: CS5_211110_DF_CA
Sample ID: 25-5-3
Acq: 10-Nov-2021 14:53:51
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 211110C09
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9534, 7460, 1538 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 11 of 12

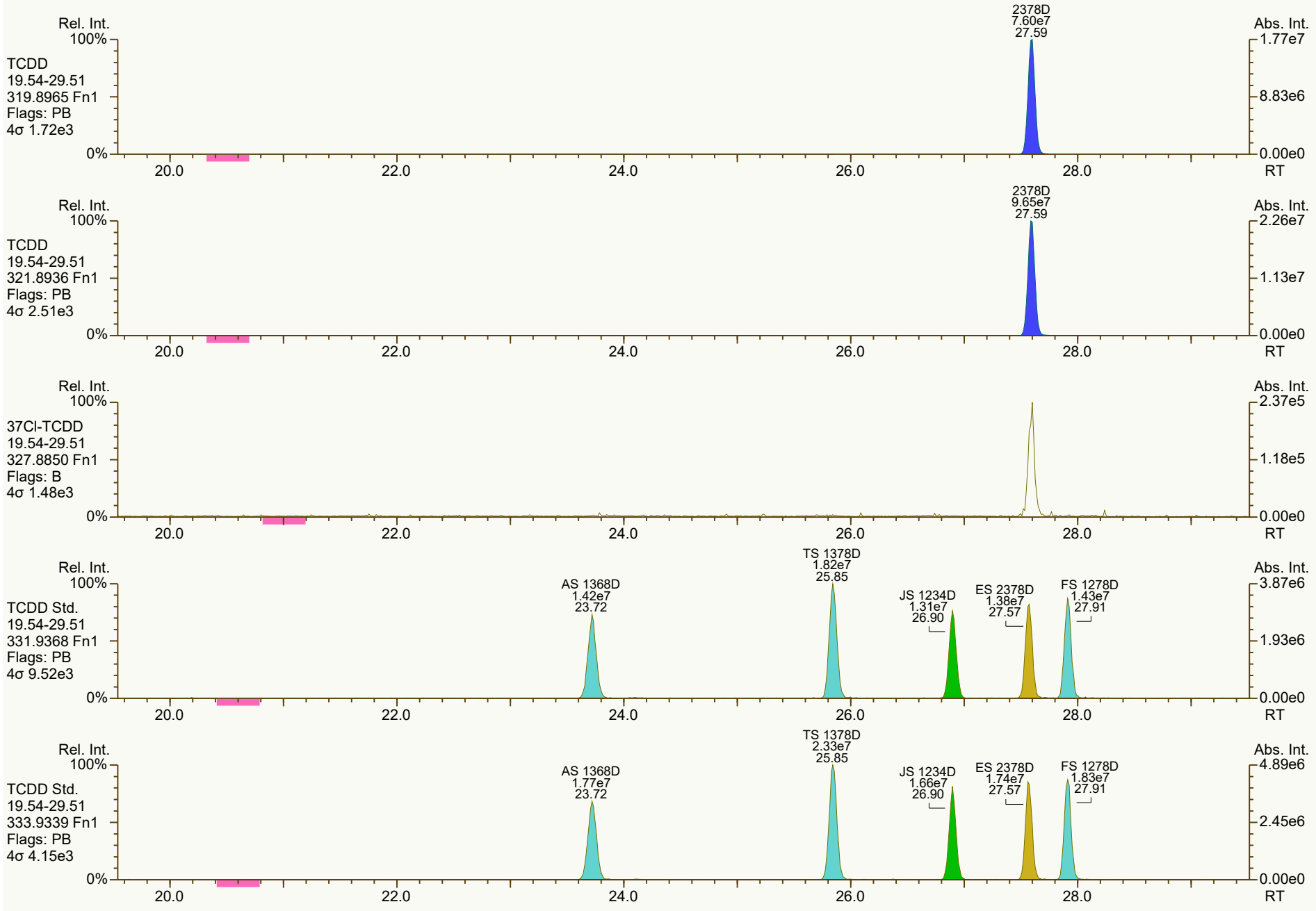

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

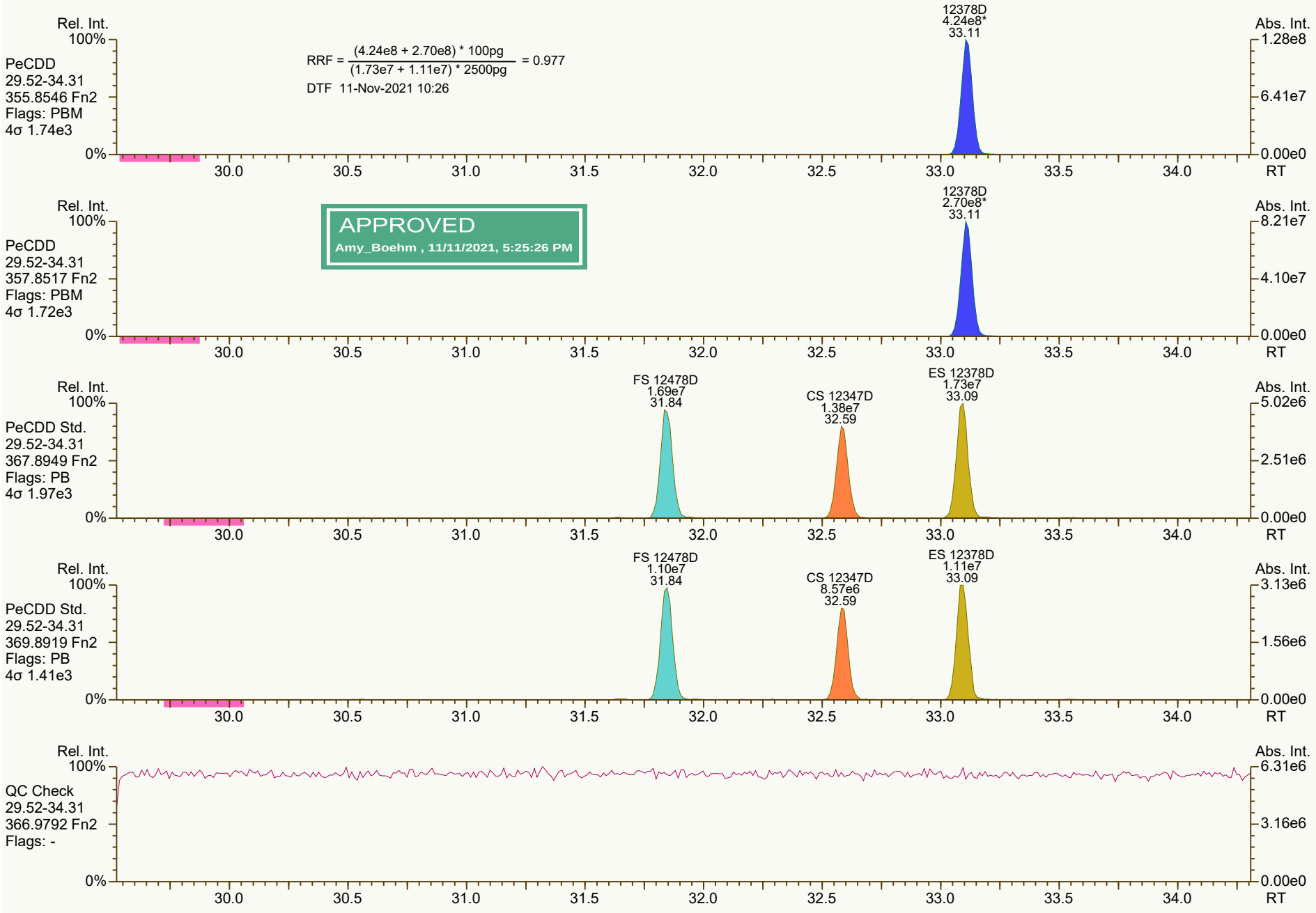
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

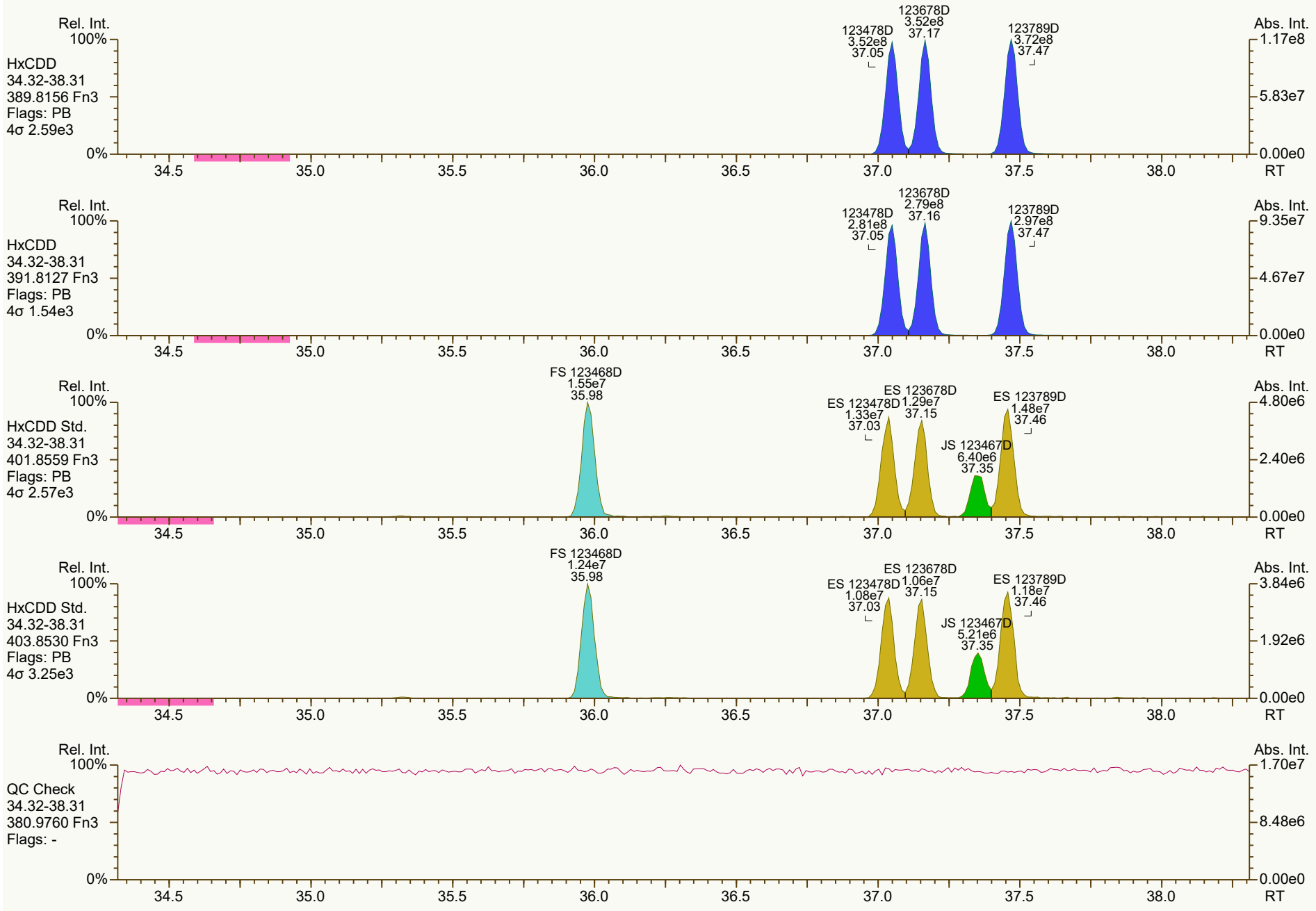
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

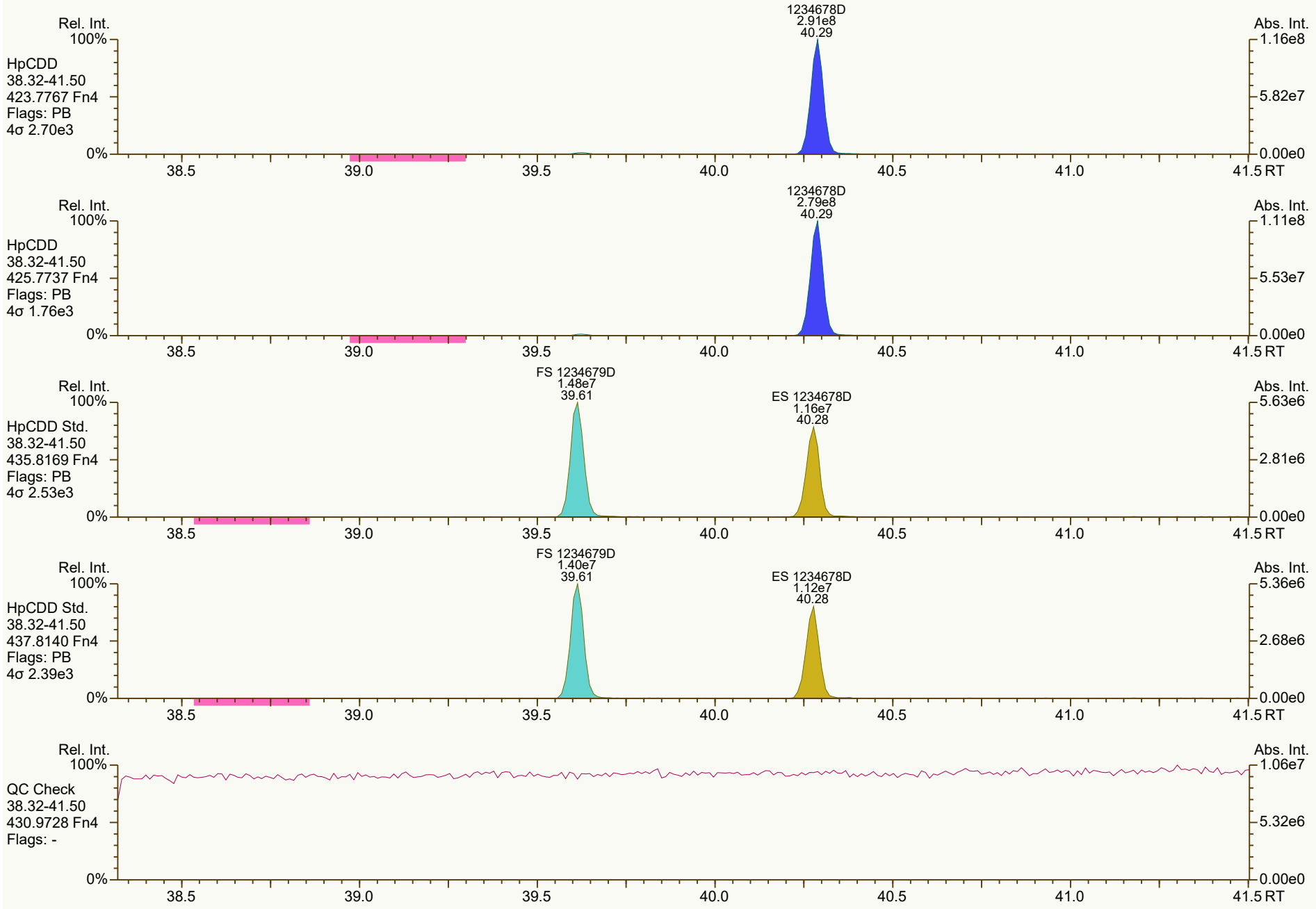
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 15:40 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS6_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 172-736-WQL	
Sample ID: 25-5-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C10	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

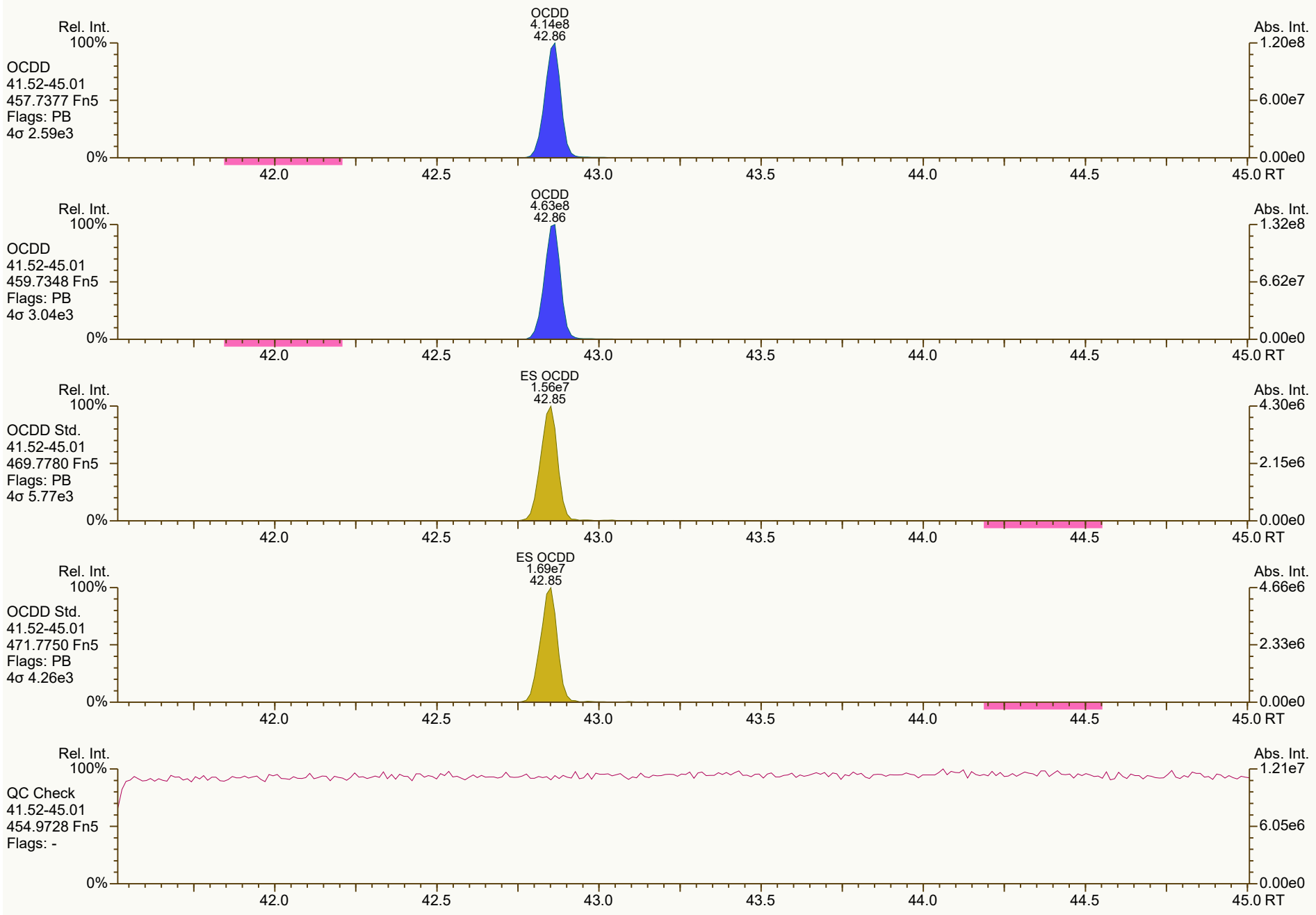

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
0%
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
0%
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.31e6
3.16e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

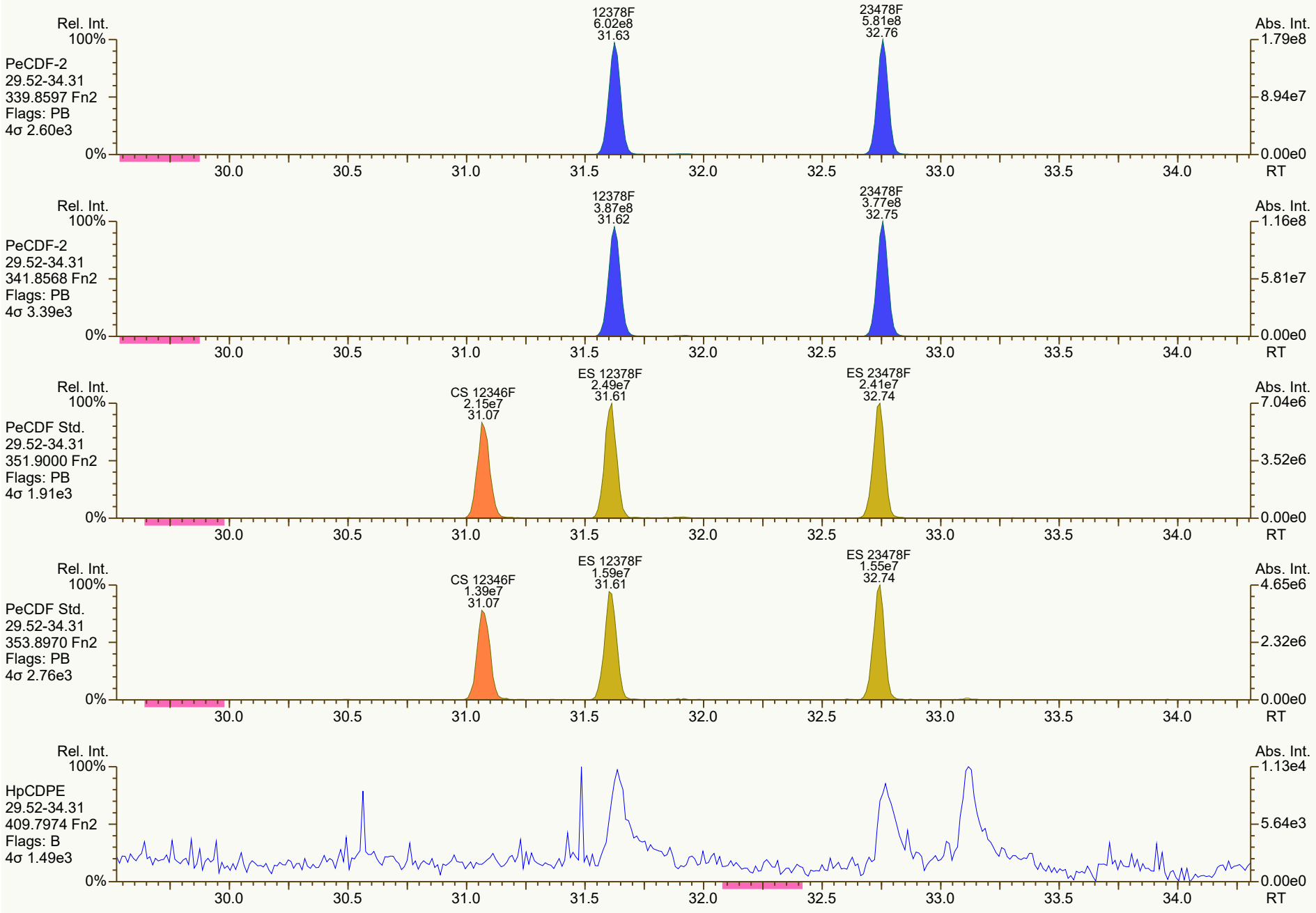

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
0%
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
0%
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
0%
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
0%
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.70e7
8.48e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

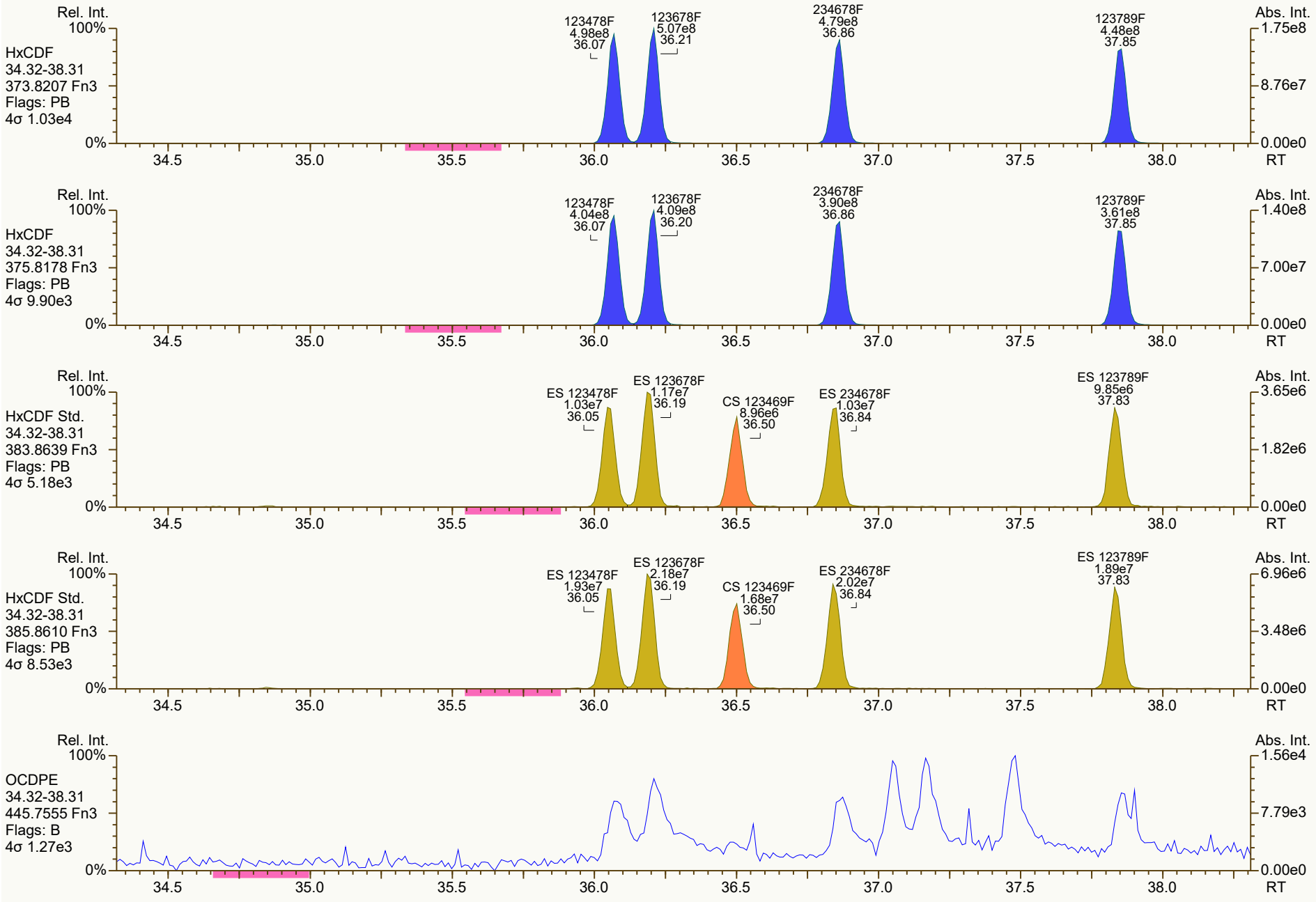

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

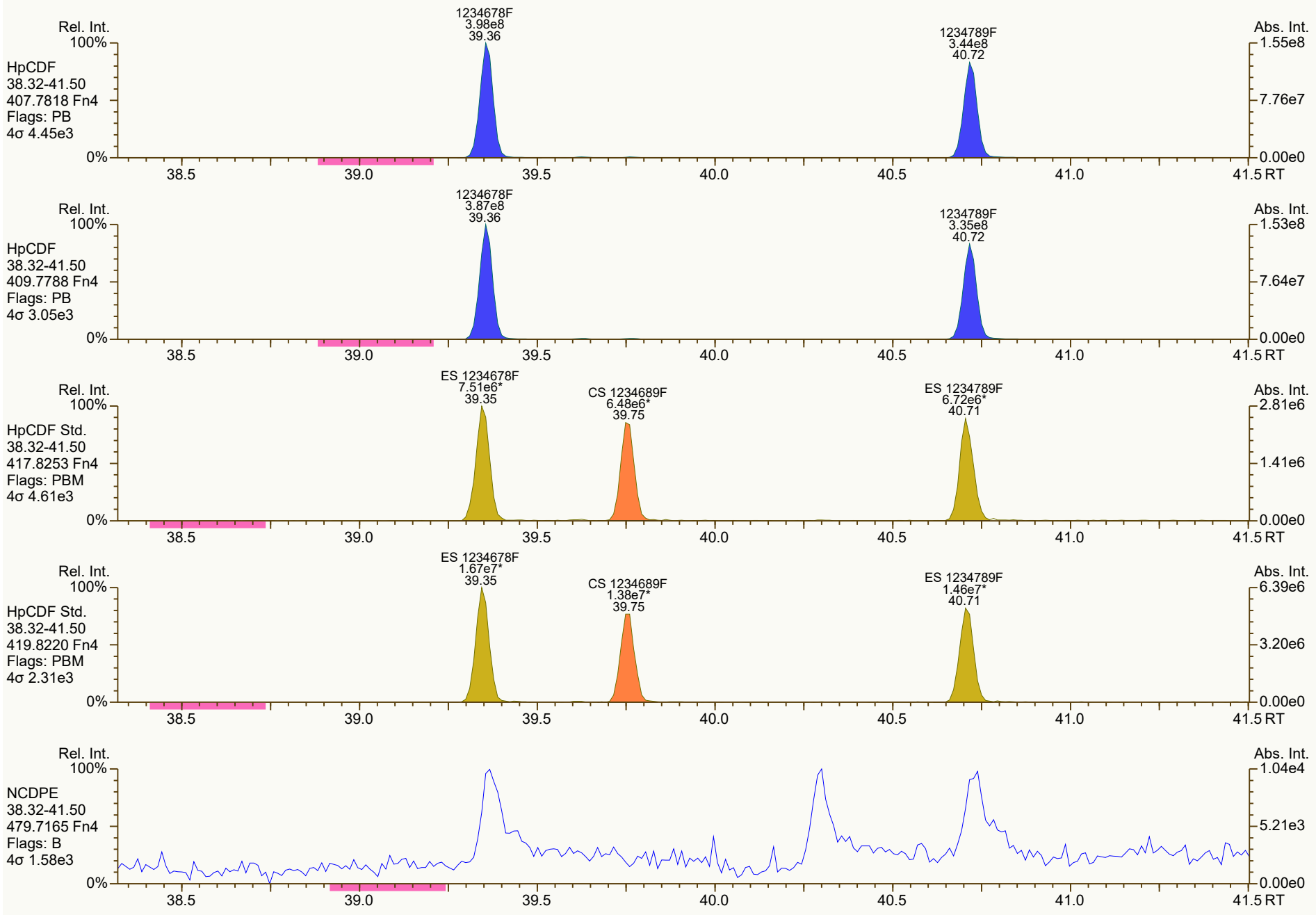

OCDD
4.14e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.63e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.56e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.69e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

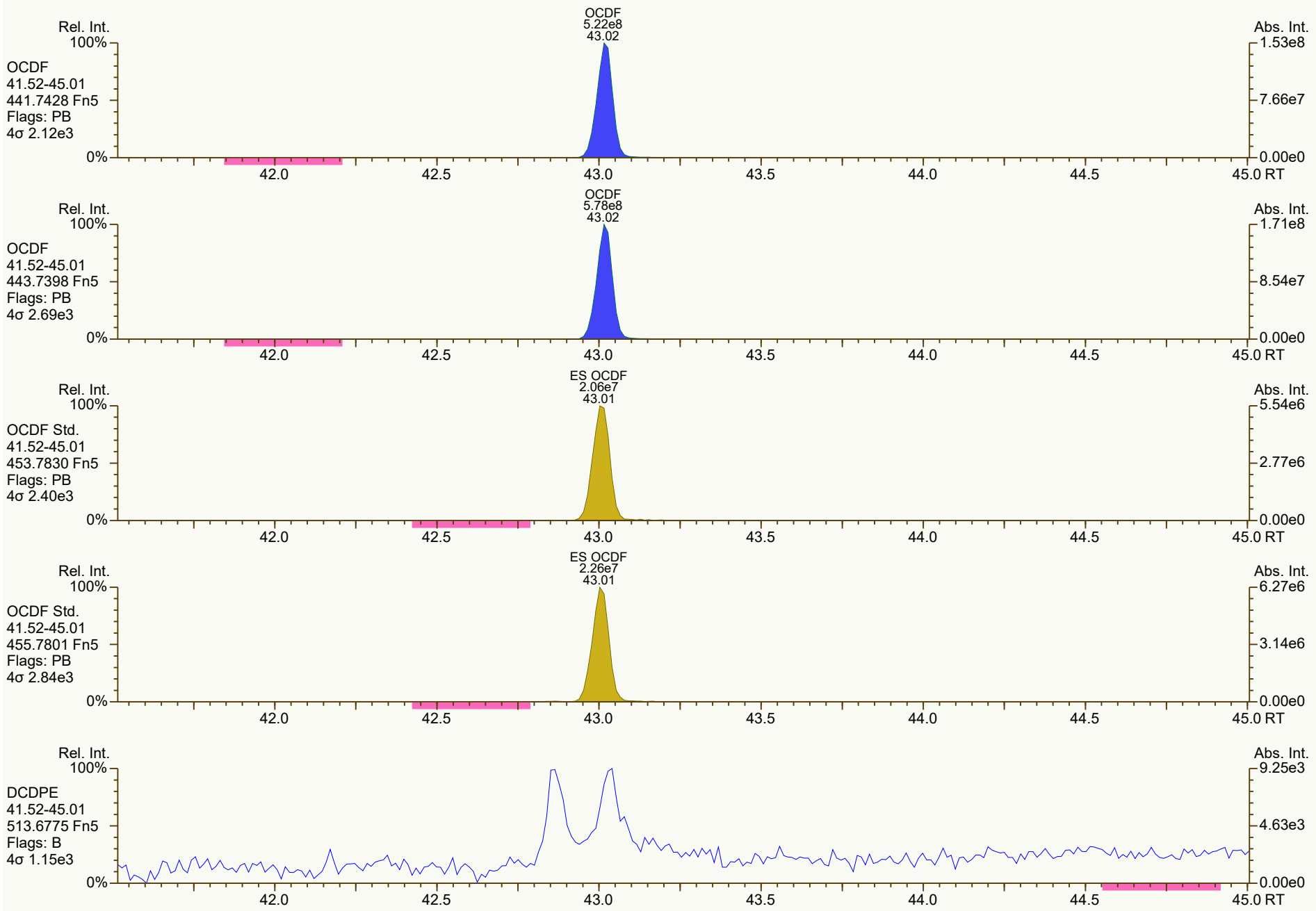

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

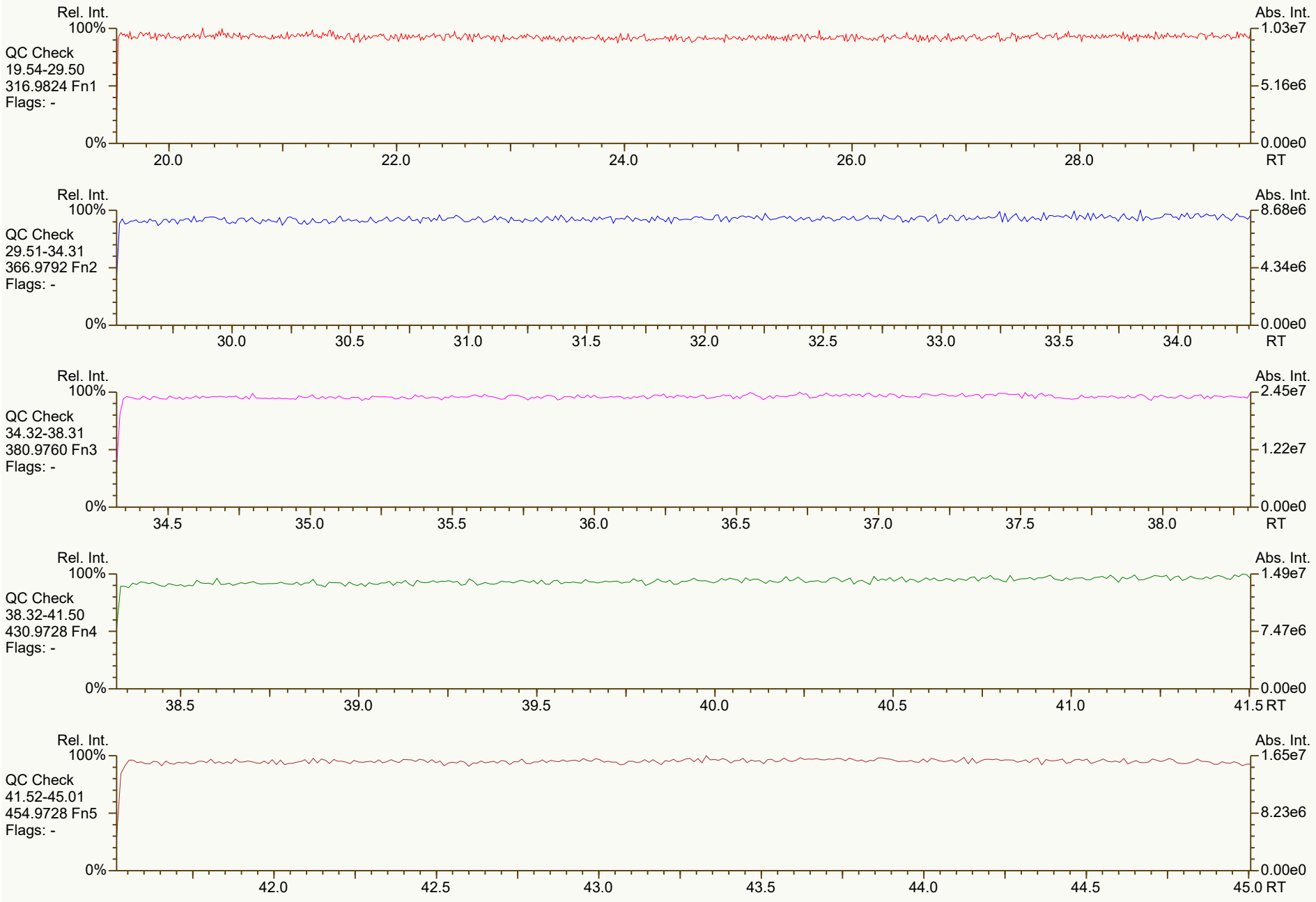

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
Abs. Int.
1.13e4
5.64e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.65e7
8.23e6
0.00e0

SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

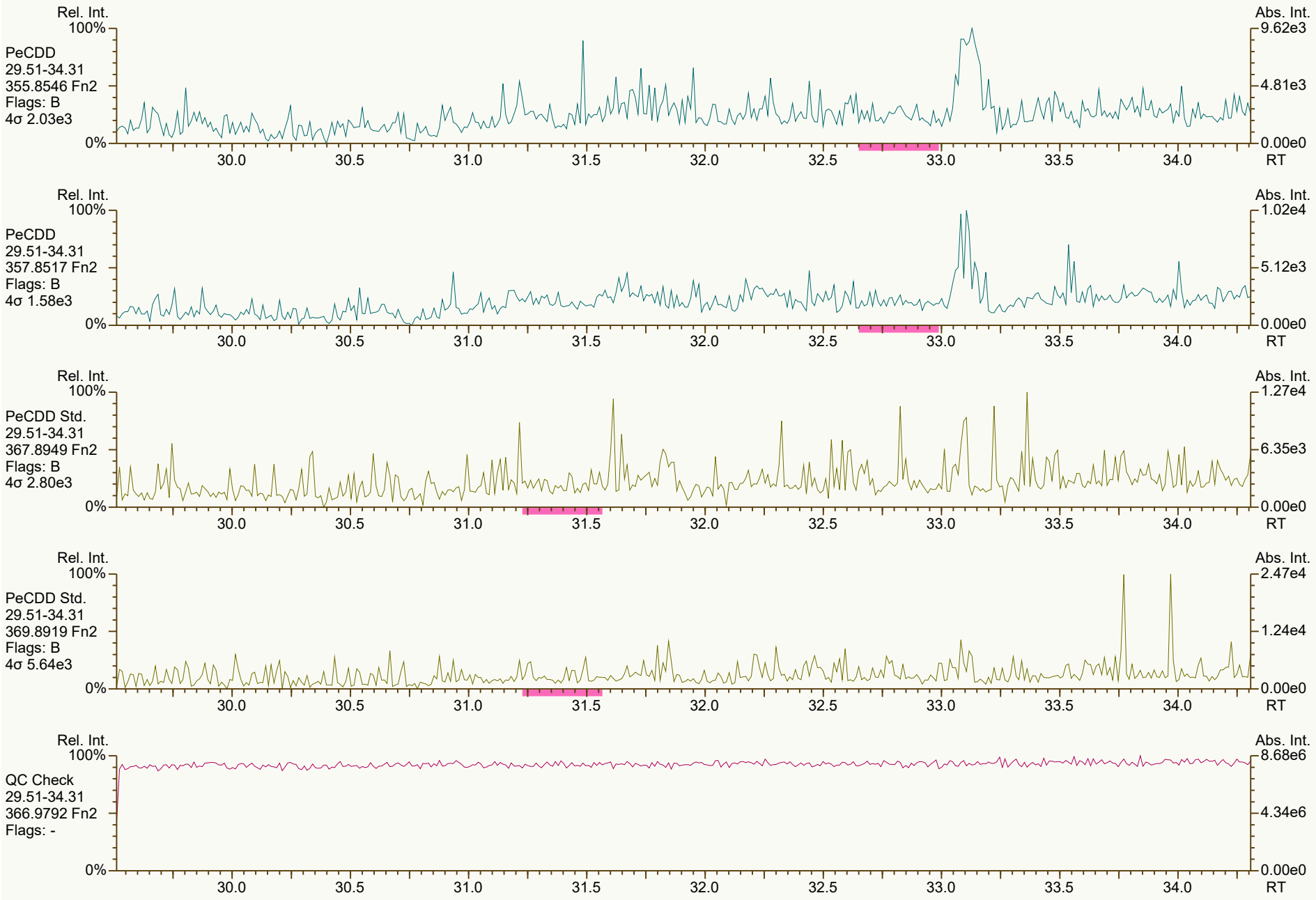
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1*

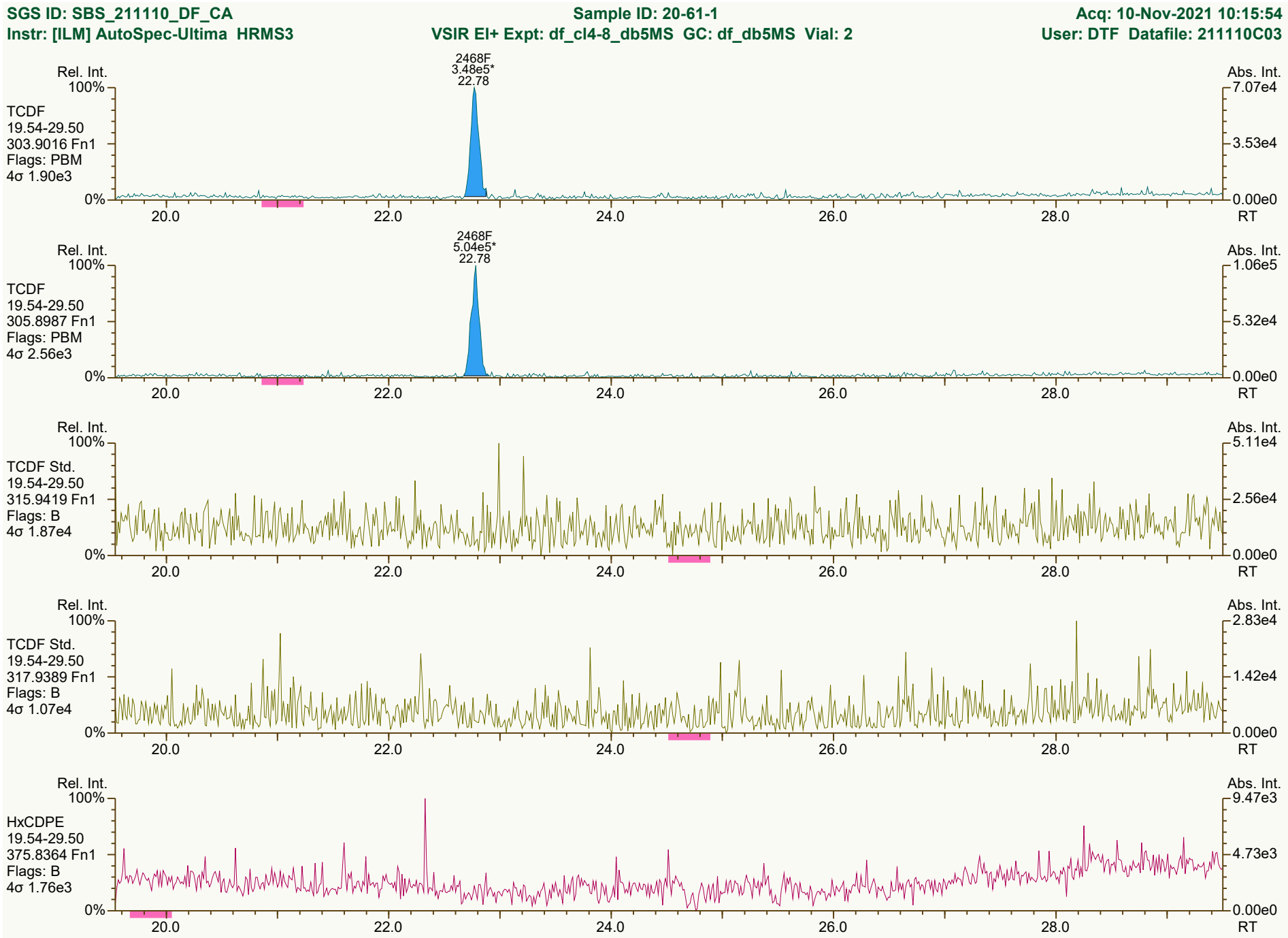

Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

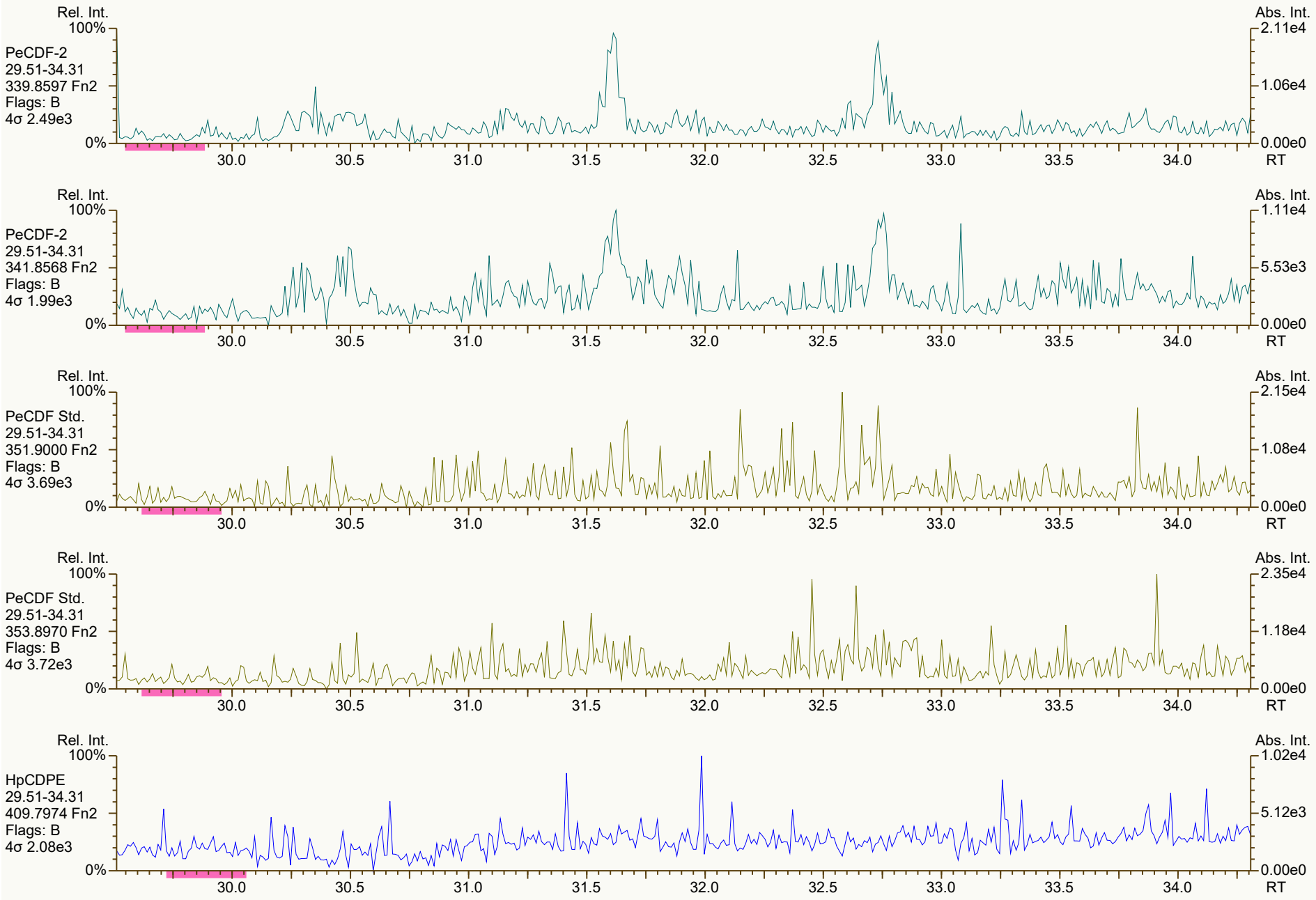

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

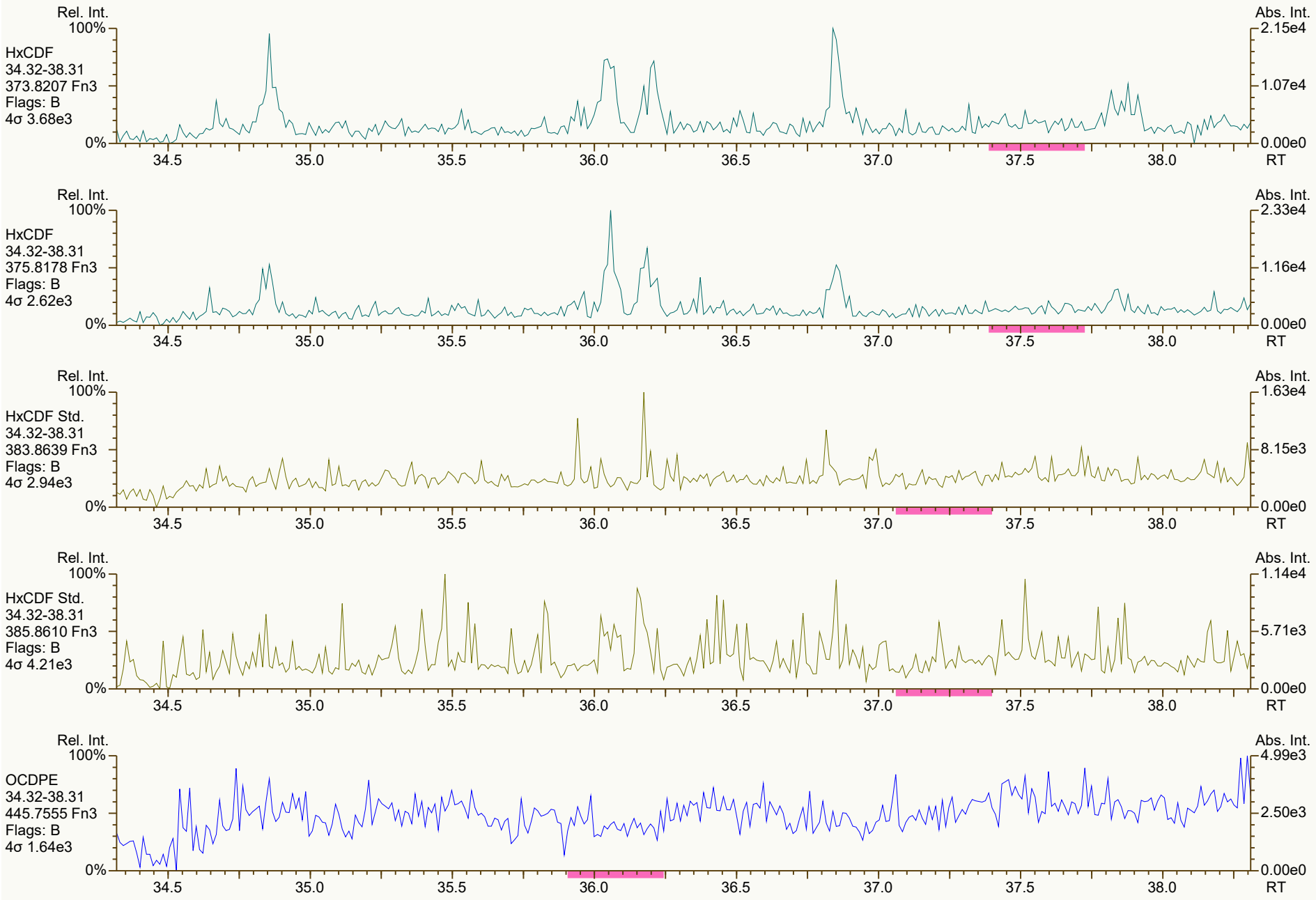

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: SBS_211110_DF_CA
Sample ID: 20-61-1
Acq: 10-Nov-2021 10:15:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: DTF Datafile: 211110C03
Rel. Int.
100%
0%
Abs. Int.
7.07e4
3.53e4
0.00e0
2468F
3.48e5*
22.78
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
20.0
22.0
24.0
26.0
28.0
RT
2468F
5.04e5*
22.78
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
1.06e5
5.32e4
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
5.11e4
2.56e4
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
2.83e4
1.42e4
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
9.47e3
4.73e3
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 1025, 5319, 6711 scc: 876-647
Revised: 10-Nov-2021 11:40 (DTF) Printed: 11-Nov-2021 10:39 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

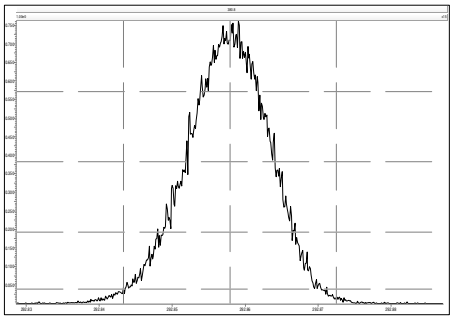

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

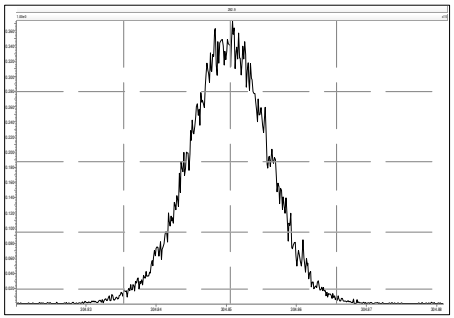
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

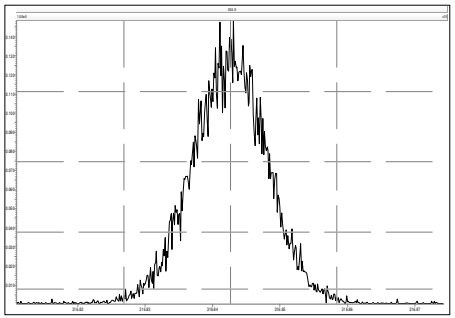
M 292.9824 R 10731



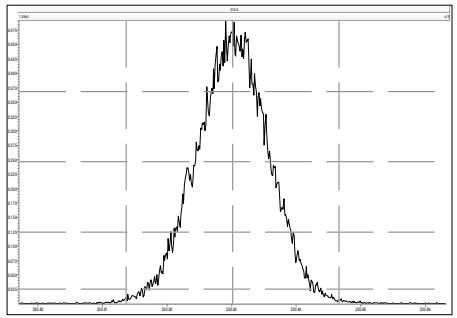
M 304.9824 R 11311



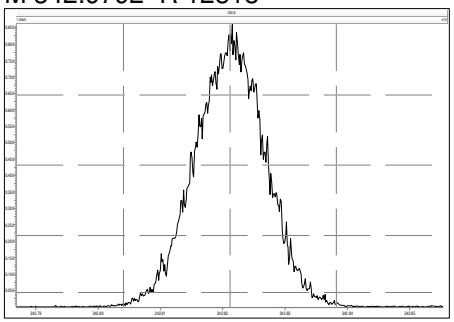
M 316.9824 R 12373



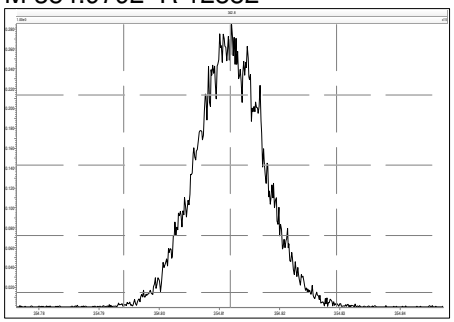
M 330.9792 R 12887



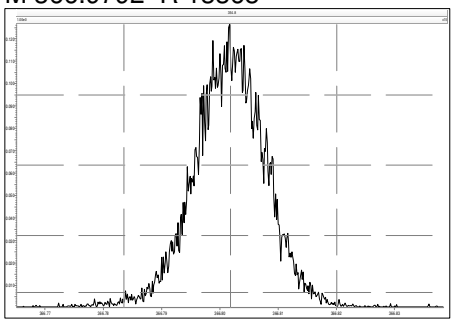
M 342.9792 R 12818



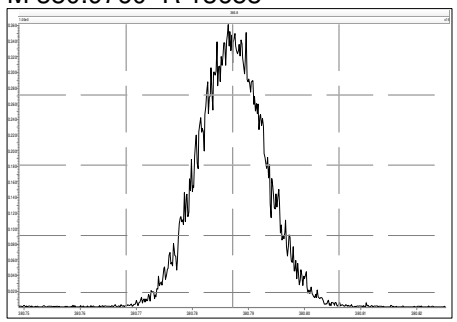
M 354.9792 R 12882



M 366.9792 R 13368



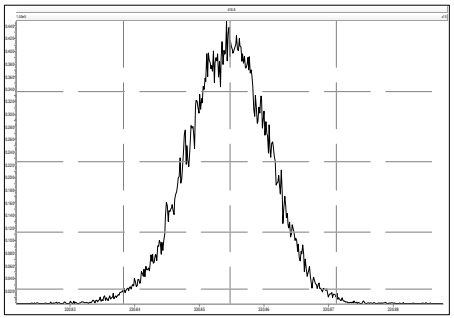
M 380.9760 R 13658



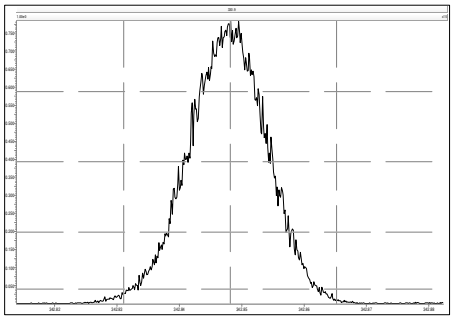
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

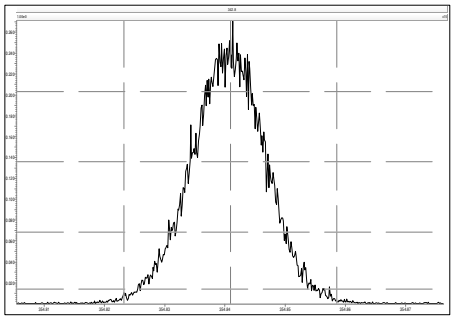
M 330.9792 R 11112



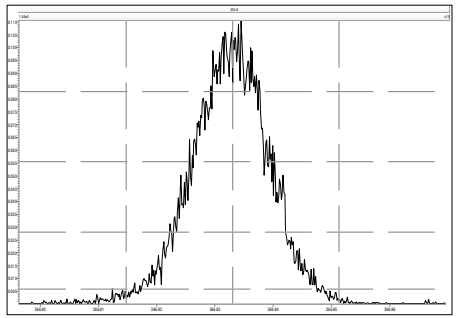
M 342.9792 R 11909



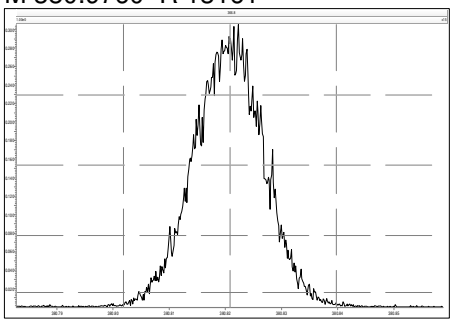
M 354.9792 R 11684



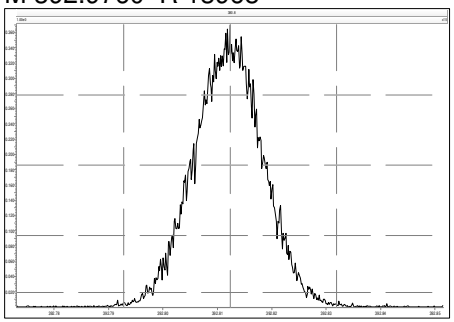
M 366.9792 R 11962



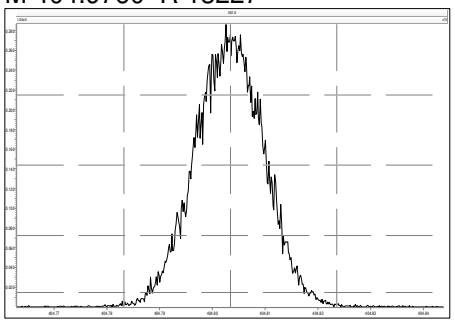
M 380.9760 R 13161



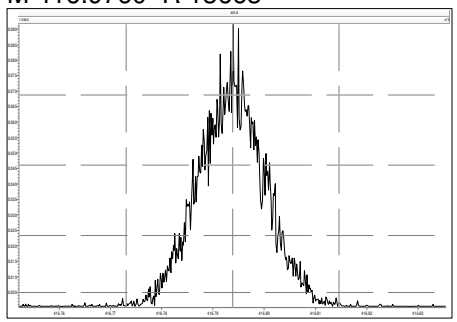
M 392.9760 R 13968



M 404.9760 R 13227



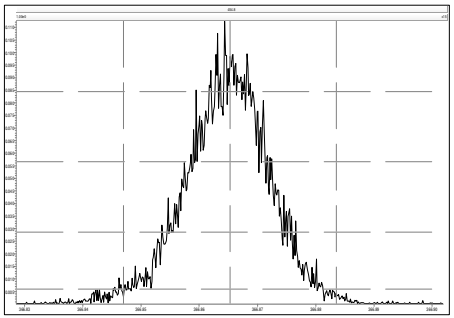
M 416.9760 R 13663



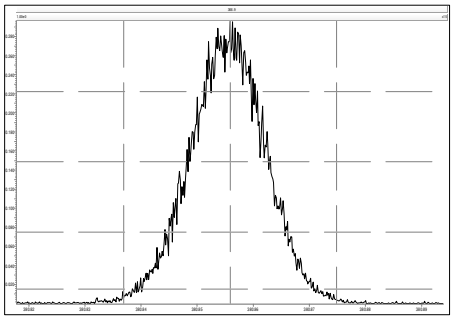
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

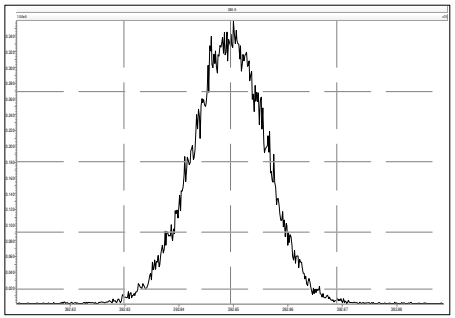
M 366.9792 R 10680



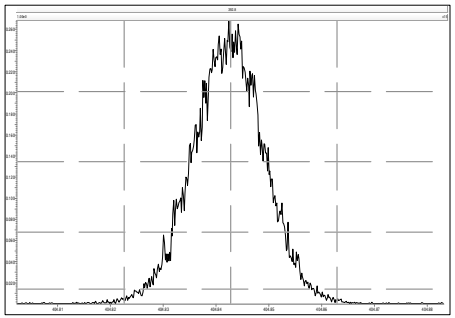
M 380.9760 R 12315



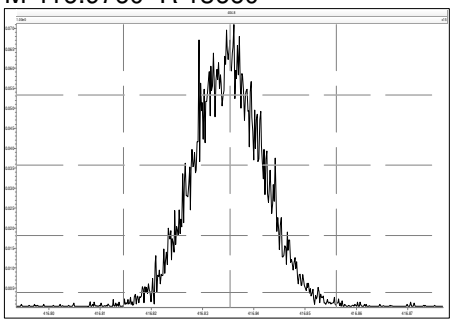
M 392.9760 R 12197



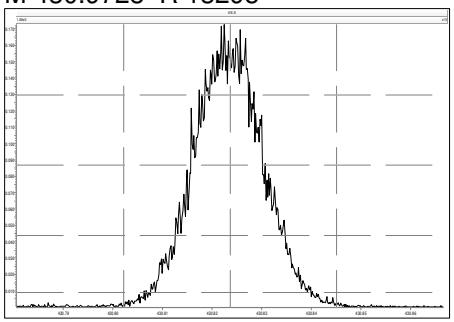
M 404.9760 R 12433



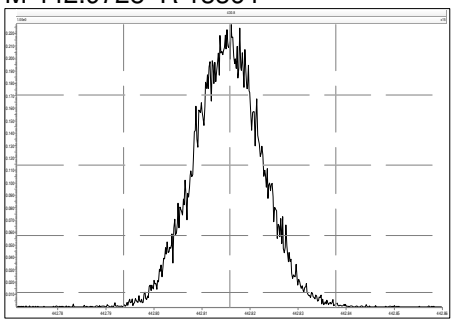
M 416.9760 R 13660



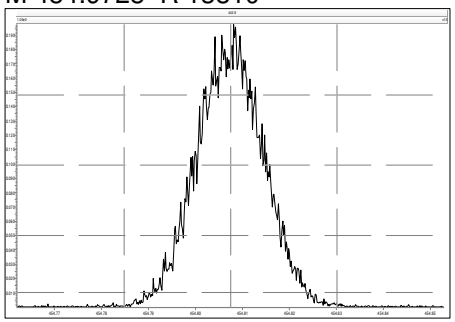
M 430.9728 R 13295



M 442.9728 R 13364



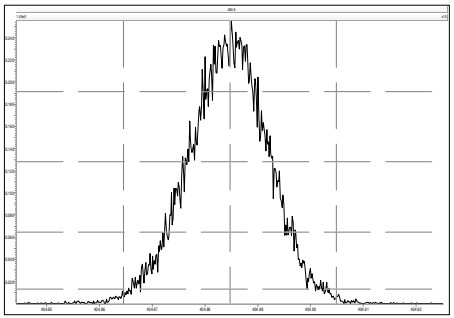
M 454.9728 R 13810



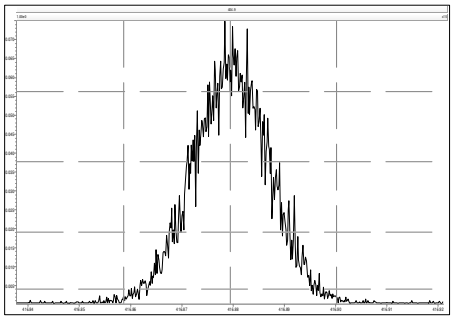
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

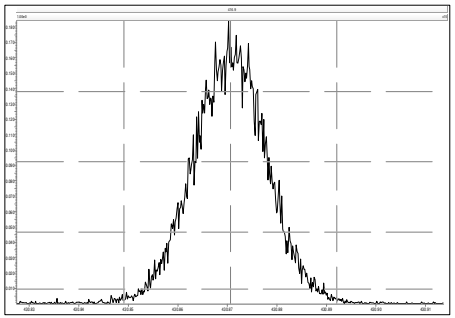
M 404.9760 R 11679



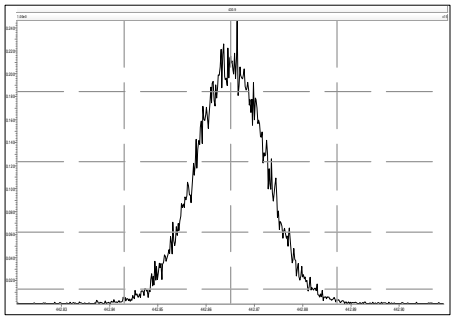
M 416.9760 R 12886



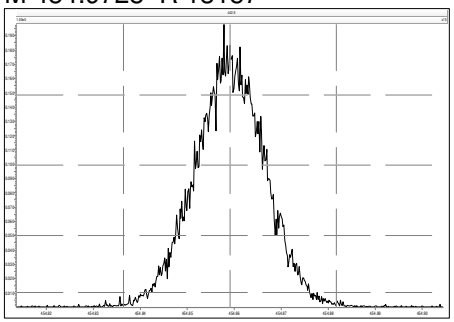
M 430.9728 R 12253



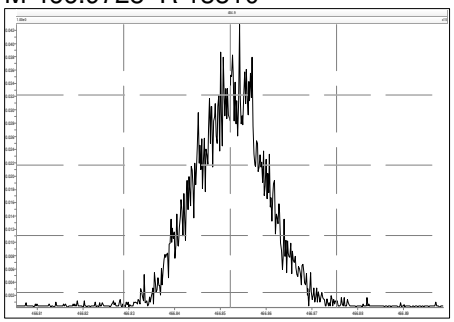
M 442.9728 R 12756



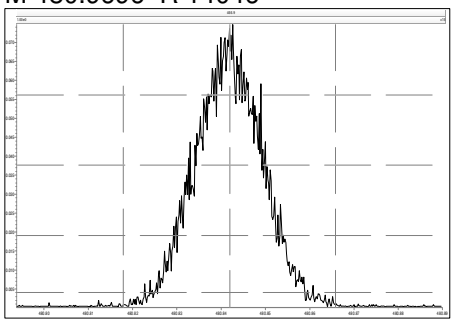
M 454.9728 R 13157



M 466.9728 R 13810



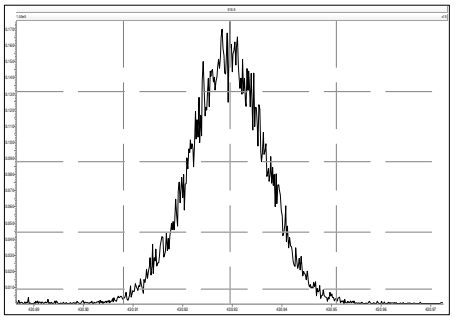
M 480.9696 R 14046



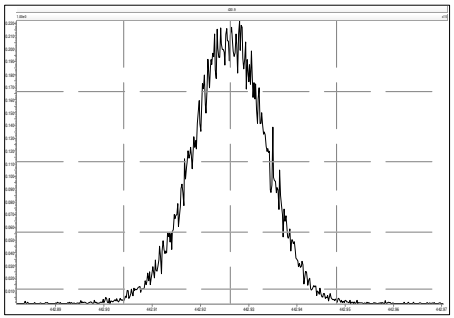
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

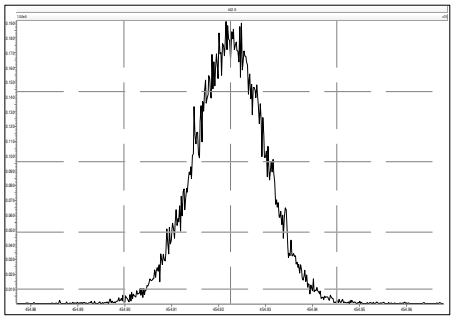
M 430.9728 R 11574



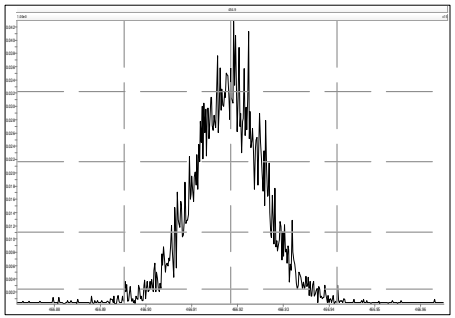
M 442.9728 R 12198



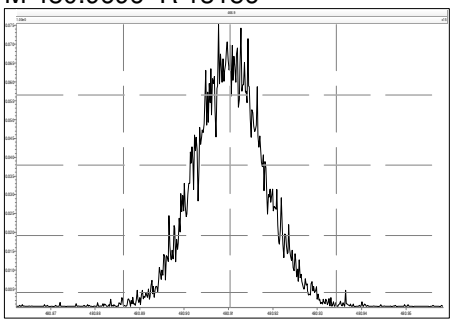
M 454.9728 R 12950



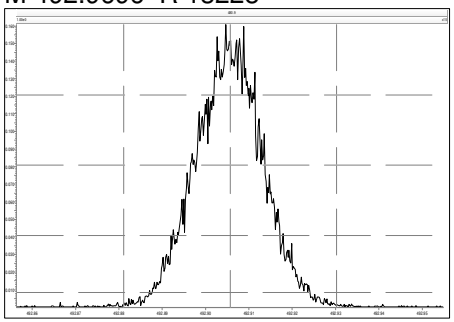
M 466.9728 R 13088



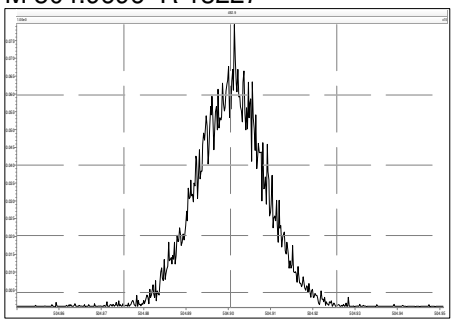
M 480.9696 R 13156



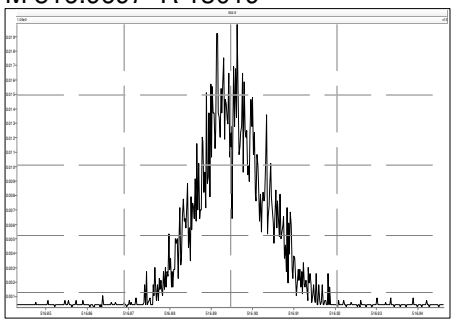
M 492.9696 R 13228



M 504.9696 R 13227



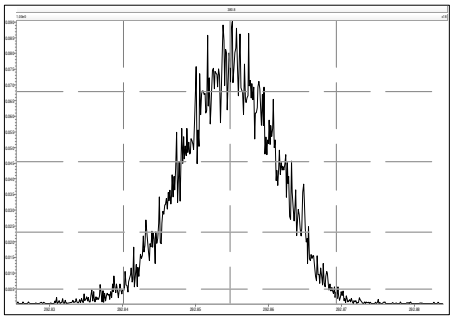
M 516.9697 R 13019



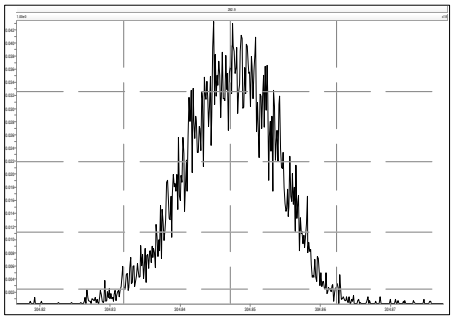
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

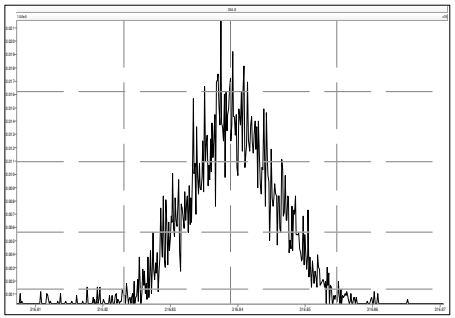
M 292.9824 R 10122



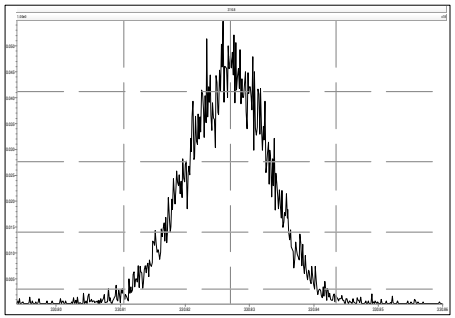
M 304.9824 R 10329



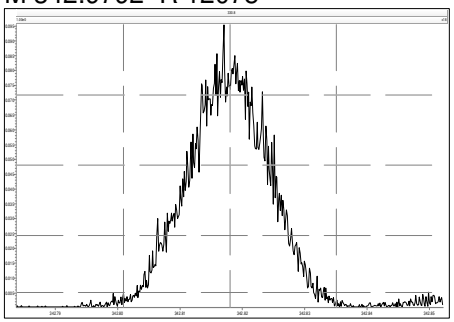
M 316.9824 R 11964



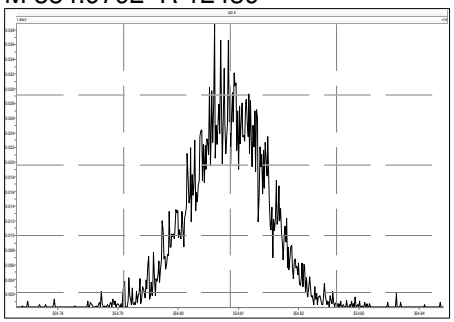
M 330.9792 R 11062



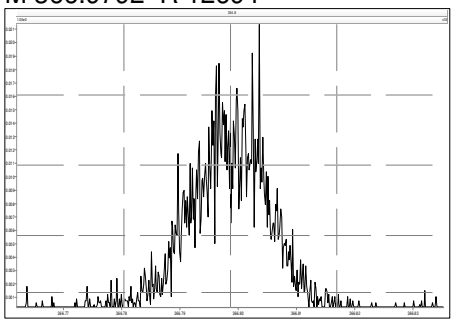
M 342.9792 R 12075



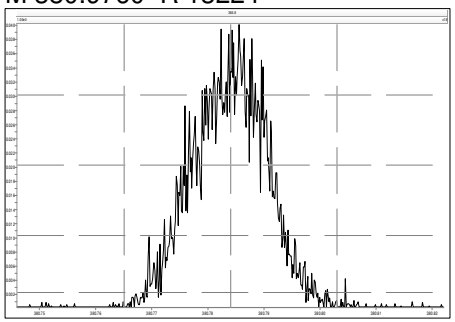
M 354.9792 R 12439



M 366.9792 R 12694



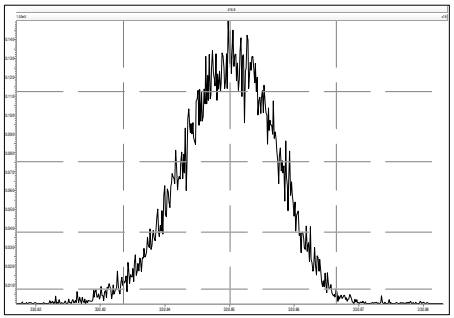
M 380.9760 R 13224



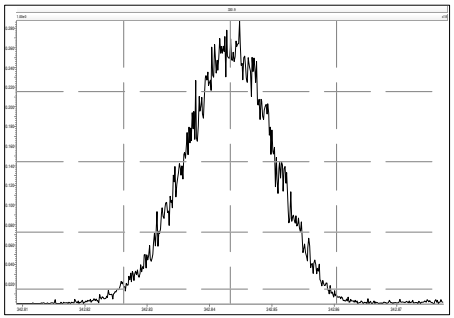
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

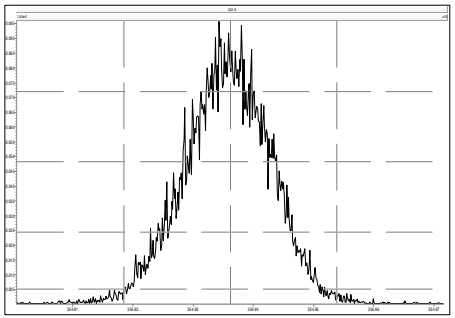
M 330.9792 R 10730



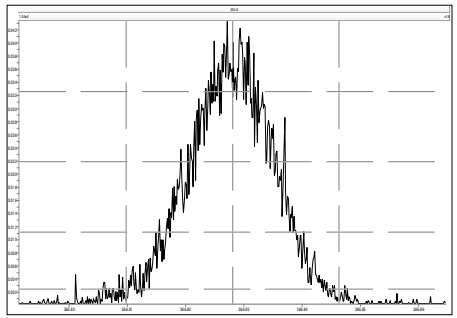
M 342.9792 R 10039



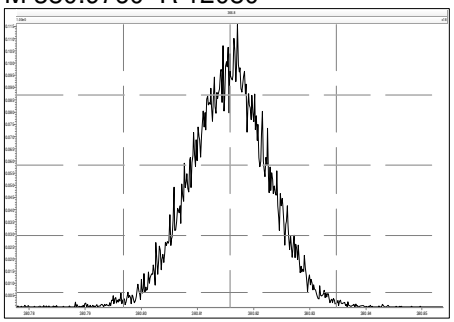
M 354.9792 R 11108



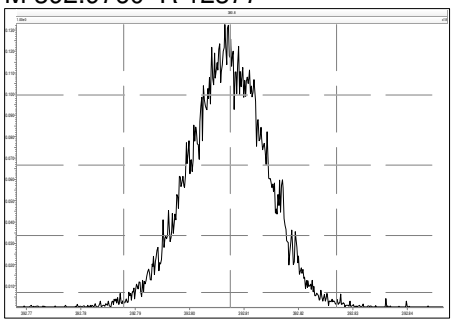
M 366.9792 R 11520



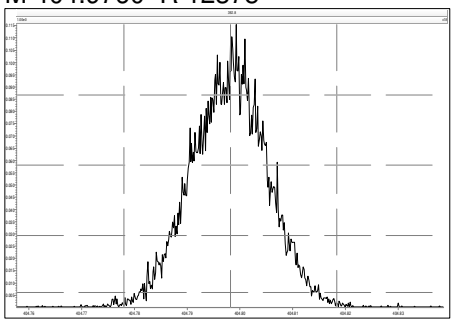
M 380.9760 R 12080



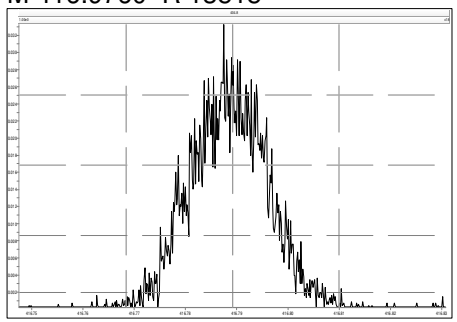
M 392.9760 R 12377



M 404.9760 R 12375



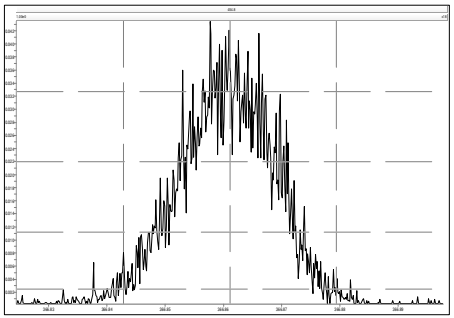
M 416.9760 R 13515



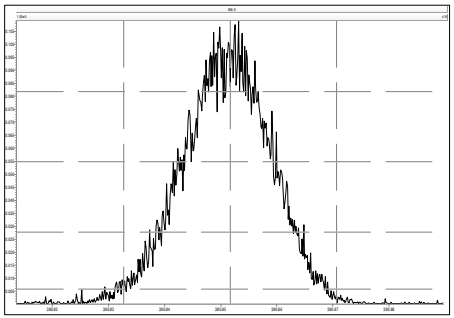
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

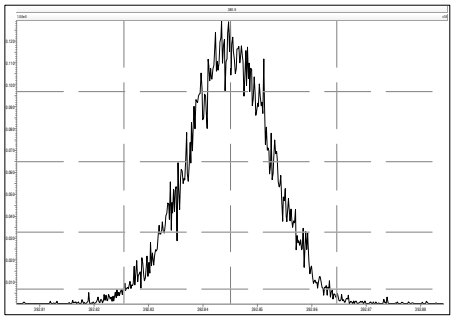
M 366.9792 R 10866



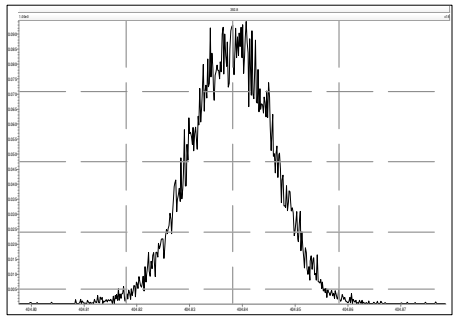
M 380.9760 R 10416



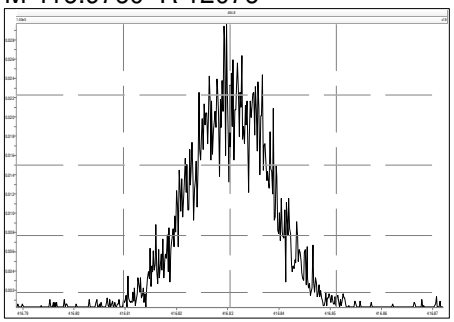
M 392.9760 R 10640



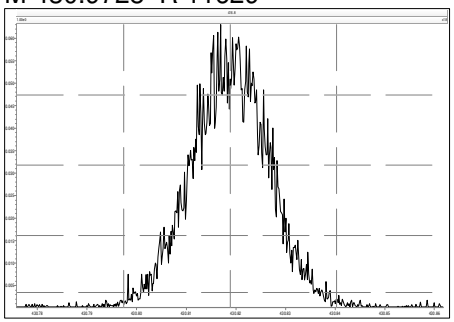
M 404.9760 R 11957



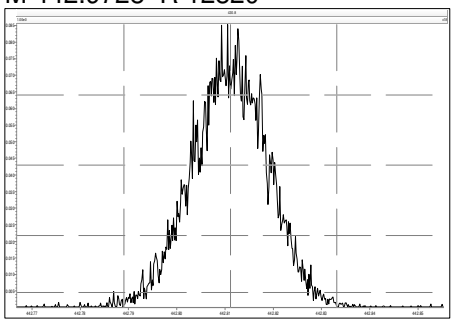
M 416.9760 R 12076



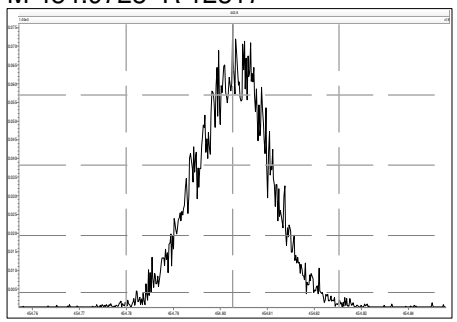
M 430.9728 R 11629



M 442.9728 R 12820



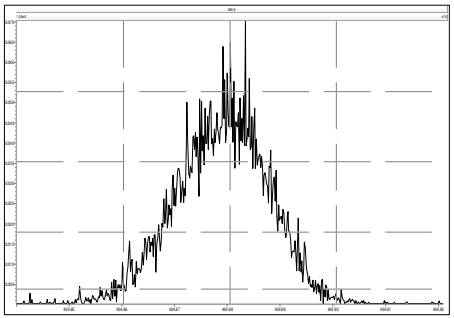
M 454.9728 R 12317



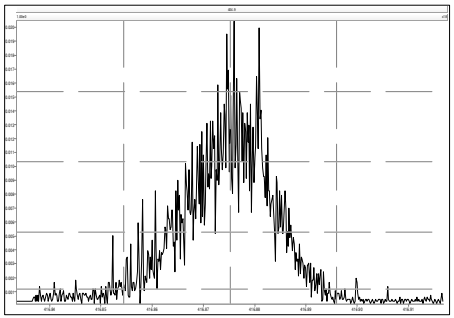
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

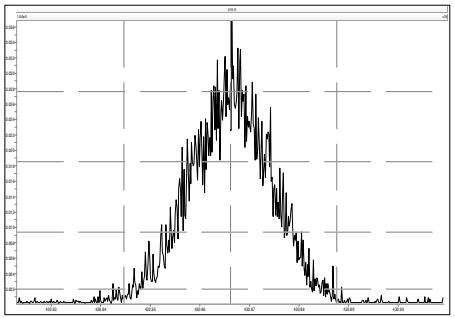
M 404.9760 R 10505



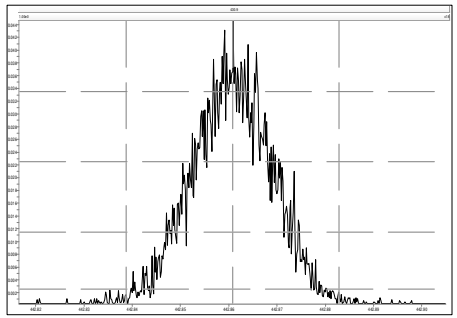
M 416.9760 R 12500



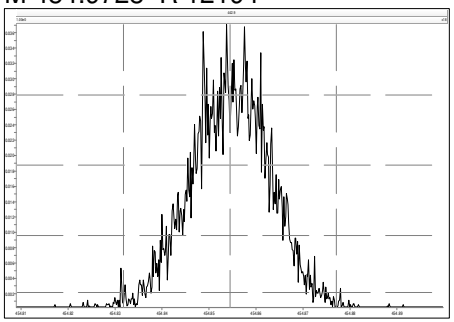
M 430.9728 R 11362



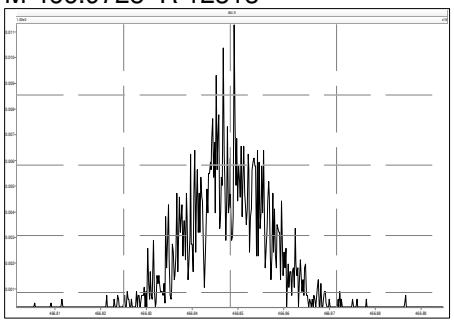
M 442.9728 R 12756



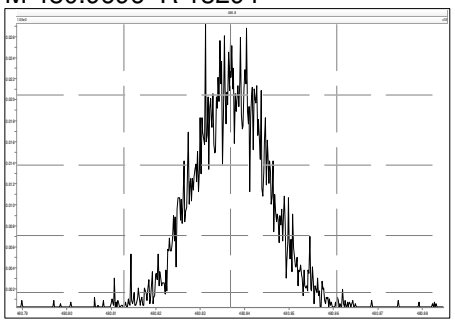
M 454.9728 R 12194



M 466.9728 R 12313



M 480.9696 R 13294



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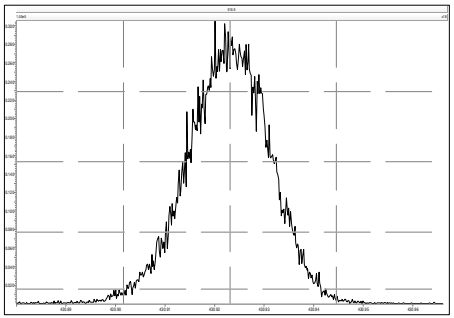
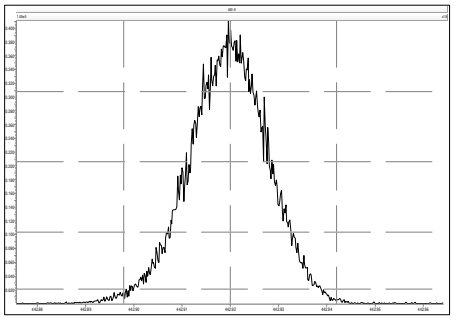
Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

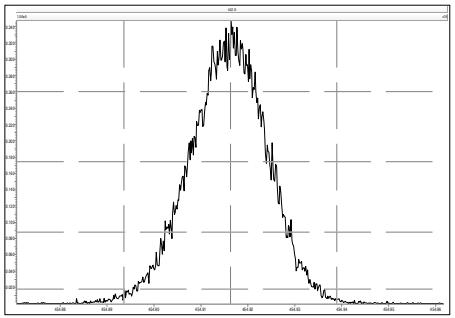
M 430.9728 R 11312



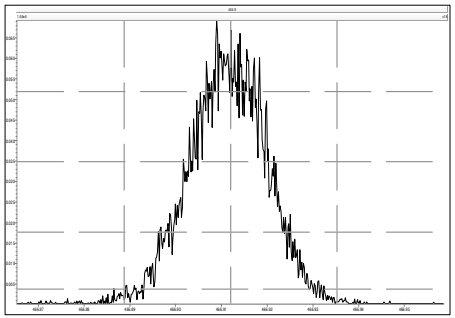
M 442.9728 R 11110



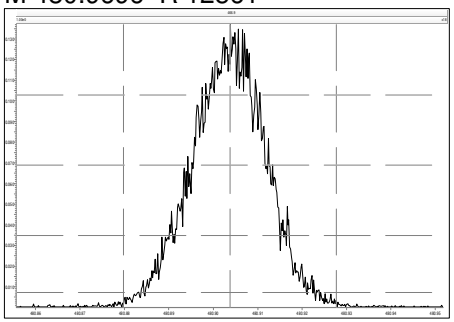
M 454.9728 R 11906



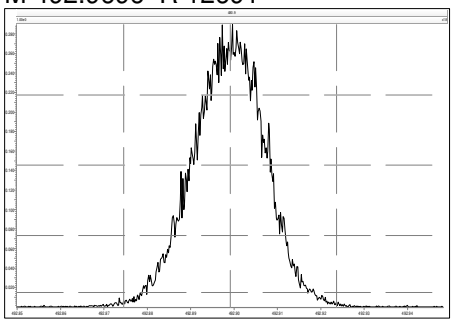
M 466.9728 R 12562



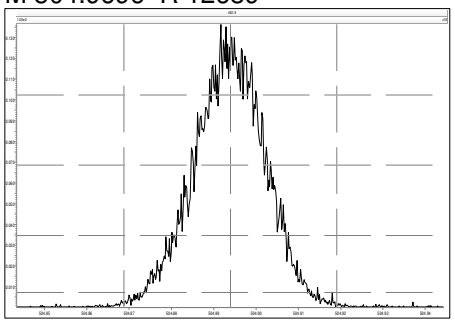
M 480.9696 R 12561



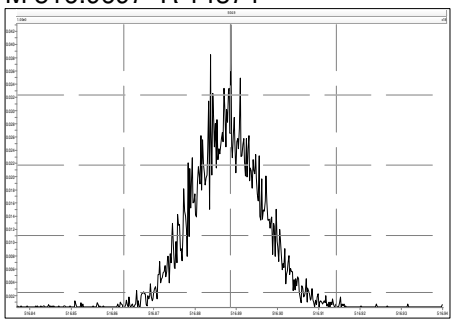
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



Lab ID: OPR1_18916_DF

REVIEWED
Tamara Burkamper , 2/14/2022, 12:11:26 PM

Acq'd: 11 Feb 2022 16:09 DTF

Wt/Vol: 1 uL

ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18916_OPR001

UTP: 14-Feb-2022 10:10:28 PSW

J-level: 0.25 pg/uL Split: 1

Checkcode: 401-438-RDF

Datafile: 220211C02

Report: 14 Feb 2022 10:42 gd

Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.48		1.0008	1.0008	0	3.33E+06	0.75	Y	1.18	11.2	3070.348	0.117
12378-PeCDD	33.83		1.0005	1.0006	+0.2	1.12E+07	1.52	Y	1.04	48	2681.168	0.0981
123478-HxCDD	37.75		1.0004	1.0004	0	1.11E+07	1.24	Y	1.09	51.3	2447.782	0.0953
123678-HxCDD	37.86		1.0035	1.0035	0	1.28E+07	1.24	Y	1.15	51.6	2447.782	0.0783
123789-HxCDD	38.16		1.0113	1.0113	0	1.14E+07	1.28	Y	1.05	51.5	2447.782	0.0915
1234678-HpCDD	40.84		1.0003	1.0003	0	1.00E+07	1.06	Y	1.06	50.1	3207.834	0.122
OCDD	43.54		1.0002	1.0003	+0.3	1.38E+07	0.92	Y	1.13	106	3336.786	0.313
2378-TCDF	27.62		1.0008	1.0008	0	4.13E+06	0.80	Y	1.08	10.4	2761.979	0.0757
12378-PeCDF	32.38		1.0005	1.0005	0	1.79E+07	1.51	Y	1.02	47	5788.531	0.145
23478-PeCDF	33.49		1.0005	1.0005	0	1.77E+07	1.52	Y	1.02	50.4	5788.531	0.14
123478-HxCDF	36.74		1.0005	1.0005	0	1.48E+07	1.21	Y	1.27	49.3	5236.719	0.143
123678-HxCDF	36.88		1.0005	1.0005	0	1.80E+07	1.24	Y	1.15	49	5236.719	0.131
234678-HxCDF	37.56		1.0005	1.0004	-0.2	1.76E+07	1.25	Y	1.19	48.7	5236.719	0.128
123789-HxCDF	38.51		1.0004	1.0004	0	1.22E+07	1.25	Y	1.16	47.4	5236.719	0.173
1234678-HpCDF	39.90		1.0003	1.0003	0	1.58E+07	1.03	Y	1.37	50.6	2962.841	0.0716
1234789-HpCDF	41.30		1.0003	1.0002	-0.2	1.01E+07	1.05	Y	1.31	47.5	2962.841	0.125
OCDF	43.72		1.0003	1.0003	0	1.53E+07	0.91	Y	1.07	100	2440.963	0.188

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46	1.0238	1.0238	0	2.51E+07	0.79	Y	1.05	87.4
ES 12378-PeCDD	33.80	1.2160	1.2162	+0.4	2.26E+07	1.52	Y	0.88	93.3
ES 123478-HxCDD	37.73	0.9919	0.9919	0	1.98E+07	1.29	Y	0.97	89.7
ES 123678-HxCDD	37.85	0.9950	0.9950	0	2.17E+07	1.29	Y	0.94	101
ES 123789-HxCDD	38.14	1.0027	1.0027	0	2.11E+07	1.31	Y	1.09	85.2
ES 1234678-HpCDD	40.82	1.0730	1.0732	+0.5	1.89E+07	1.06	Y	0.91	91.2
ES OCDD	43.53	1.1437	1.1443	+1.6	2.31E+07	0.95	Y	0.62	81.5
ES 2378-TCDF	27.60	1.0520	1.0520	0	3.70E+07	0.81	Y	1.06	80.2
ES 12378-PeCDF	32.36	1.2330	1.2333	+0.6	3.72E+07	1.57	Y	0.91	94
ES 23478-PeCDF	33.47	1.2754	1.2757	+0.6	3.44E+07	1.62	Y	0.88	89.5
ES 123478-HxCDF	36.72	0.9653	0.9652	-0.2	2.37E+07	0.55	Y	1.20	87
ES 123678-HxCDF	36.86	0.9691	0.9690	-0.2	3.19E+07	0.55	Y	1.35	104
ES 234678-HxCDF	37.55	0.9870	0.9870	0	3.04E+07	0.52	Y	1.24	108
ES 123789-HxCDF	38.50	1.0121	1.0121	0	2.21E+07	0.54	Y	1.16	84.4
ES 1234678-HpCDF	39.89	1.0484	1.0486	+0.5	2.28E+07	0.47	Y	0.97	104
ES 1234789-HpCDF	41.29	1.0851	1.0854	+0.7	1.63E+07	0.45	Y	0.85	84.3
ES OCDF	43.71	1.1483	1.1489	+1.6	2.85E+07	0.89	Y	0.81	77.8

Lab ID: OPR1_18916_DF | **Acq'd:** 11 Feb 2022 16:09 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18916_OPR001 | **UTP:** 14-Feb-2022 10:10:28 PSW | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 401-438-RDF

Datafile: 220211C02 | **Report:** 14 Feb 2022 10:42 gd | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.79		-	-	-	2.75E+07	0.82	Y	-	-
JS 1234-TCDF	26.24		-	-	-	4.35E+07	0.79	Y	-	-
JS 123467-HxCDD	38.04		-	-	-	1.13E+07	1.32	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0245	1.0246	+0.2	1.19E+07	n/a	-	1.20	90.2
CS 12347-PeCDD	33.30		1.1979	1.1982	+0.6	2.24E+07	1.58	Y	0.75	108
CS 12346-PeCDF	31.83		1.2128	1.2131	+0.6	3.73E+07	1.60	Y	0.85	101
CS 123469-HxCDF	37.18		0.9774	0.9773	-0.2	2.70E+07	0.54	Y	1.12	107
CS 1234689-HpCDF	40.29		1.0589	1.0591	+0.5	2.04E+07	0.44	Y	0.89	102
~~SS 37Cl-2378-TCDD~~	~~28.48~~		~~1.0245~~	~~1.0246~~	~~+0.2~~	~~1.19E+07~~	~~n/a~~		~~1.15~~	~~103~~
~~SS 12347-PeCDD~~	~~33.30~~		~~1.1979~~	~~1.1982~~	~~+0.6~~	~~2.24E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~115~~
~~SS 12346-PeCDF~~	~~31.83~~		~~1.2128~~	~~1.2131~~	~~+0.6~~	~~3.73E+07~~	~~1.60~~	~~Y~~	~~0.94~~	~~107~~
~~SS 123469-HxCDF~~	~~37.18~~		~~0.9774~~	~~0.9773~~	~~-0.2~~	~~2.70E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~102~~
~~SS 1234689-HpCDF~~	~~40.29~~		~~1.0589~~	~~1.0591~~	~~+0.5~~	~~2.04E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~97.8~~

Totals	Conc	EMPC
Total TCDD	52.8	52.8
Total PeCDD	74.7	74.7
Total HxCDD	170	170
Total HpCDD	62.6	62.6
Total Tetra-Octa Dioxins	466	466
Total TCDF	62.3	62.3
Total PeCDF	195	195
Total HxCDF	311	311
Total HpCDF	98.1	98.1
Total Tetra-Octa Furans	767	767
Total Tetra-Octa Dioxins & Furans	1230	1230

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.751	0.75
Response	3.34E+06	3.33E+06

Lab ID: OPR1_18916_DF **Acq'd: 11 Feb 2022 16:09 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18916_OPR001 **UTP: 14-Feb-2022 10:10:28 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 401-438-RDF**

Datafile: 220211C02 **Report: 14 Feb 2022 10:42 gd** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.83		0.8737	0.8727	-1.5	4.60E+06	0.78	Y	1.18	15.4	3070.348	0.117
1379-TCDD	NotFnd		0.8860						1.18		3070.348	0.117
1369-TCDD	NotFnd		0.9009						1.18		3070.348	0.117
1469-TCDD	NotFnd		0.9281						1.18		3070.348	0.117
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3070.348	0.117
1378-TCDD	NotFnd		0.9432						1.18		3070.348	0.117
1268-TCDD	NotFnd		0.9500						1.18		3070.348	0.117
1478-TCDD	NotFnd		0.9586						1.18		3070.348	0.117
1279-TCDD	NotFnd		0.9645						1.18		3070.348	0.117
1234/1269-TCDD	NotFnd		0.9770						1.18		3070.348	0.117
1236-TCDD	NotFnd		0.9817						1.18		3070.348	0.117
1237/1238-TCDD	NotFnd		0.9905						1.18		3070.348	0.117
1239-TCDD	28.32		0.9952	0.9952	0	3.17E+06	0.82	Y	1.18	10.6	3070.348	0.117
2378-TCDD	**28.48**		**1.0008**	1.0008	**0**	3.33E+06	0.75	Y	**1.18**	**11.2**	**3070.348**	**0.117**
1278-TCDD	NotFnd		1.0121						1.18		3070.348	0.117
1267-TCDD	NotFnd		1.0167						1.18		3070.348	0.117
1289-TCDD	29.45		1.0345	1.0350	+0.9	4.63E+06	0.79	Y	1.18	15.6	3070.348	0.117
12479/12468-PeCDD	31.32		0.9267	0.9265	-0.4	3.06E+06	1.55	Y	1.04	13.1	2681.168	0.0981
12469-PeCDD	NotFnd		0.9425						1.04		2681.168	0.0981
12368-PeCDD	NotFnd		0.9588						1.04		2681.168	0.0981
12478-PeCDD	NotFnd		0.9643						1.04		2681.168	0.0981
12379-PeCDD	NotFnd		0.9673						1.04		2681.168	0.0981
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		2681.168	0.0981
12346/12347-PeCDD	NotFnd		0.9858						1.04		2681.168	0.0981
12378-PeCDD	33.83		**1.0005**	**1.0006**	**+0.2**	**1.12E+07**	**1.52**	**Y**	**1.04**	**48**	**2681.168**	**0.0981**
12367-PeCDD	NotFnd		1.0033						1.04		2681.168	0.0981
12389-PeCDD	34.26		1.0134	1.0136	+0.4	3.19E+06	1.64	Y	1.04	13.6	2681.168	0.0981
124679/124689-HxCDD	35.99		0.9542	0.9540	-0.4	3.51E+06	1.26	Y	1.10	15.4	2447.782	0.0879
123468-HxCDD	NotFnd		0.9715						1.10		2447.782	0.0879
123679/123689-HxCDD	NotFnd		0.9793						1.10		2447.782	0.0879
123469-HxCDD	NotFnd		0.9828						1.10		2447.782	0.0879
123478-HxCDD	37.75		**1.0004**	**1.0004**	**0**	**1.11E+07**	**1.24**	**Y**	1.09	**51.3**	**2447.782**	**0.0953**
123678-HxCDD	37.86		**1.0035**	**1.0035**	**0**	**1.28E+07**	**1.24**	**Y**	1.15	**51.6**	**2447.782**	**0.0783**
123467-HxCDD	NotFnd		1.0085						1.10		2447.782	0.0879
123789-HxCDD	38.16		**1.0113**	**1.0113**	**0**	**1.14E+07**	**1.28**	**Y**	1.05	**51.5**	**2447.782**	**0.0915**

Lab ID: OPR1_18916_DF | **Acq'd: 11 Feb 2022 16:09 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18916_OPR001 | **UTP: 14-Feb-2022 10:10:28 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 401-438-RDF**

Datafile: 220211C02 | **Report: 14 Feb 2022 10:42 gd** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16		0.9837	0.9837	0	2.51E+06	1.03	Y	1.06	12.5	3207.834	0.122
1234678-HpCDD	**40.84**		**1.0003**	**1.0003**	**0**	**1.00E+07**	**1.06**	**Y**	**1.06**	**50.1**	**3207.834**	**0.122**
OCDD	**43.54**		**1.0002**	**1.0003**	**+0.3**	**1.38E+07**	**0.92**	**Y**	**1.13**	**106**	**3336.786**	**0.313**
OCDD-a	43.54	**EMPC**	1.0001	1.0002	+0.3	6.48E+05	3.47	N	0.07	77.9	3218.42	4.73
1368-TCDF	22.73		0.8251	0.8236	-2.0	5.89E+06	0.79	Y	1.08	14.8	2761.979	0.0757
1468-TCDF	NotFnd		0.8458						1.08		2761.979	0.0757
2468-TCDF	23.94		0.8686	0.8675	-1.6	1.70E+06	0.81	Y	1.08	4.26	2761.979	0.0757
1346/1246-TCDF	NotFnd		0.8814						1.08		2761.979	0.0757
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2761.979	0.0757
1348-TCDF	NotFnd		0.8962						1.08		2761.979	0.0757
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2761.979	0.0757
1268-TCDF	NotFnd		0.9145						1.08		2761.979	0.0757
1467-TCDF	NotFnd		0.9193						1.08		2761.979	0.0757
1478-TCDF	NotFnd		0.9254						1.08		2761.979	0.0757
1369/1237-TCDF	NotFnd		0.9387						1.08		2761.979	0.0757
2467-TCDF	NotFnd		0.9433						1.08		2761.979	0.0757
2368-TCDF	NotFnd		0.9489						1.08		2761.979	0.0757
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2761.979	0.0757
1278-TCDF	NotFnd		0.9683						1.08		2761.979	0.0757
1349-TCDF	NotFnd		0.9722						1.08		2761.979	0.0757
1267-TCDF	NotFnd		0.9783						1.08		2761.979	0.0757
2346/1249-TCDF	NotFnd		0.9850						1.08		2761.979	0.0757
2347/1279-TCDF	NotFnd		0.9926						1.08		2761.979	0.0757
2348-TCDF	27.51		0.9967	0.9968	+0.2	6.18E+06	0.76	Y	1.08	15.5	2761.979	0.0757
2378-TCDF	**27.62**		**1.0008**	**1.0008**	**0**	**4.13E+06**	**0.80**	**Y**	**1.08**	**10.4**	**2761.979**	**0.0757**
2367/3467-TCDF	NotFnd		1.0137						1.08		2761.979	0.0757
1269-TCDF	NotFnd		1.0223						1.08		2761.979	0.0757
1239-TCDF	NotFnd		1.0321						1.08		2761.979	0.0757
1289-TCDF	29.62		1.0722	1.0732	+1.8	6.95E+06	0.78	Y	1.08	17.4	2761.979	0.0757
13468/12468-PeCDF	29.54		0.9139	0.9129	-1.8	3.18E+07	1.56	Y	1.02	86.9	3151.049	0.0778
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		5788.531	0.143
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		5788.531	0.143
14678-PeCDF	NotFnd		0.9692						1.02		5788.531	0.143
13479-PeCDF	NotFnd		0.9723						1.02		5788.531	0.143
13469/12479-PeCDF	NotFnd		0.9797						1.02		5788.531	0.143
12346-PeCDF	NotFnd		0.9840						1.02		5788.531	0.143

Lab ID: OPR1_18916_DF | **Acq'd: 11 Feb 2022 16:09 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18916_OPR001 | **UTP: 14-Feb-2022 10:10:28 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 401-438-RDF**

Datafile: 220211C02 | **Report: 14 Feb 2022 10:42 gd** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		5788.531	0.143
12347-PeCDF	NotFnd		0.9894						1.02		5788.531	0.143
12348-PeCDF	NotFnd		0.9940						1.02		5788.531	0.143
12378-PeCDF	**32.38**		**1.0005**	**1.0005**	**0**	**1.79E+07**	**1.51**	**Y**	**1.02**	**47**	**5788.531**	**0.145**
12678/12367-PeCDF	NotFnd		1.0089						1.02		5788.531	0.143
12379-PeCDF	NotFnd		1.0142						1.02		5788.531	0.143
12679-PeCDF	NotFnd		0.9929						1.02		5788.531	0.143
23467/12369-PeCDF	NotFnd		0.9967						1.02		5788.531	0.143
23478-PeCDF	**33.49**		**1.0005**	**1.0005**	**0**	**1.77E+07**	**1.52**	**Y**	**1.02**	**50.4**	**5788.531**	**0.14**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5788.531	0.143
12349-PeCDF	NotFnd		1.0100						1.02		5788.531	0.143
12389-PeCDF	34.56		1.0324	1.0327	+0.6	3.83E+06	1.51	Y	1.02	10.5	5788.531	0.143
123468-HxCDF	35.34		0.9627	0.9626	-0.2	3.78E+07	1.24	Y	1.19	117	5236.719	0.141
124678/134678-HxCDF	NotFnd		0.9682						1.19		5236.719	0.141
134679-HxCDF	NotFnd		0.9744						1.19		5236.719	0.141
124679-HxCDF	NotFnd		0.9798						1.19		5236.719	0.141
124689-HxCDF	NotFnd		0.9858						1.19		5236.719	0.141
123467-HxCDF	NotFnd		0.9972						1.19		5236.719	0.141
123478-HxCDF	**36.74**		**1.0005**	**1.0005**	**0**	**1.48E+07**	**1.21**	**Y**	**1.27**	**49.3**	**5236.719**	**0.143**
123678-HxCDF	**36.88**		**1.0005**	**1.0005**	**0**	**1.80E+07**	**1.24**	**Y**	**1.15**	**49**	**5236.719**	**0.131**
123479-HxCDF	NotFnd		1.0049						1.19		5236.719	0.141
123469-HxCDF	NotFnd		1.0090						1.19		5236.719	0.141
123679-HxCDF	NotFnd		0.9942						1.19		5236.719	0.141
234678-HxCDF	**37.56**		**1.0005**	**1.0004**	**-0.2**	**1.76E+07**	**1.25**	**Y**	**1.19**	**48.7**	**5236.719**	**0.128**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		5236.719	0.141
123789-HxCDF	**38.51**		**1.0004**	**1.0004**	**0**	**1.22E+07**	**1.25**	**Y**	**1.16**	**47.4**	**5236.719**	**0.173**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		5236.719	0.141
1234678-HpCDF	**39.90**		**1.0003**	**1.0003**	**0**	**1.58E+07**	**1.03**	**Y**	**1.37**	**50.6**	**2962.841**	**0.0716**
1234679-HpCDF	NotFnd		1.0068						1.34		2962.841	0.0938
1234689-HpCDF	NotFnd		1.0103						1.34		2962.841	0.0938
1234789-HpCDF	**41.30**		**1.0003**	**1.0002**	**-0.2**	**1.01E+07**	**1.05**	**Y**	**1.31**	**47.5**	**2962.841**	**0.125**
OCDF	**43.72**		**1.0003**	**1.0003**	**0**	**1.53E+07**	**0.91**	**Y**	**1.07**	**100**	**2440.963**	**0.188**
OCDF-a	43.71	**EMPC**	1.0002	1.0002	0	9.10E+05	2.05	N	0.07	96.1	3006.777	3.74

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220211C02	Analysis Date:	11-FEB-2022 16:09:16
Lab ID:	OPR1_18916_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.2	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	48	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	51.3	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	51.6	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	51.5	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	50.1	35	-	70	Y
OCDD	100	106	78	-	144	Y
2,3,7,8-TCDF	10	10.4	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	47	40	-	67	Y
2,3,4,7,8-PeCDF	50	50.4	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	49.3	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	49	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	48.7	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	47.4	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	50.6	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	47.5	39	-	69	Y
OCDF	100	100	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 14 Feb 2022 10:42 Analyst: gd

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220211C02	Analysis Date:	11-FEB-2022 16:09:16
Lab ID:	OPR1_18916_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	87.4	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	93.3	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	89.7	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	101	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	85.2	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	91.2	26	-	166	Y
13C-OCDD	200	163	26	-	397	Y
13C-2,3,7,8-TCDF	100	80.2	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	94	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	89.5	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	87	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	104	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	108	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	84.4	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	104	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	84.3	20	-	186	Y
13C-OCDF	200	156	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	36.1	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 14 Feb 2022 10:42 Analyst: gd

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220211C02	Analysis Date:	11-FEB-2022 16:09:16
Lab ID:	OPR1_18916_DF		

Window Defining Standards Results

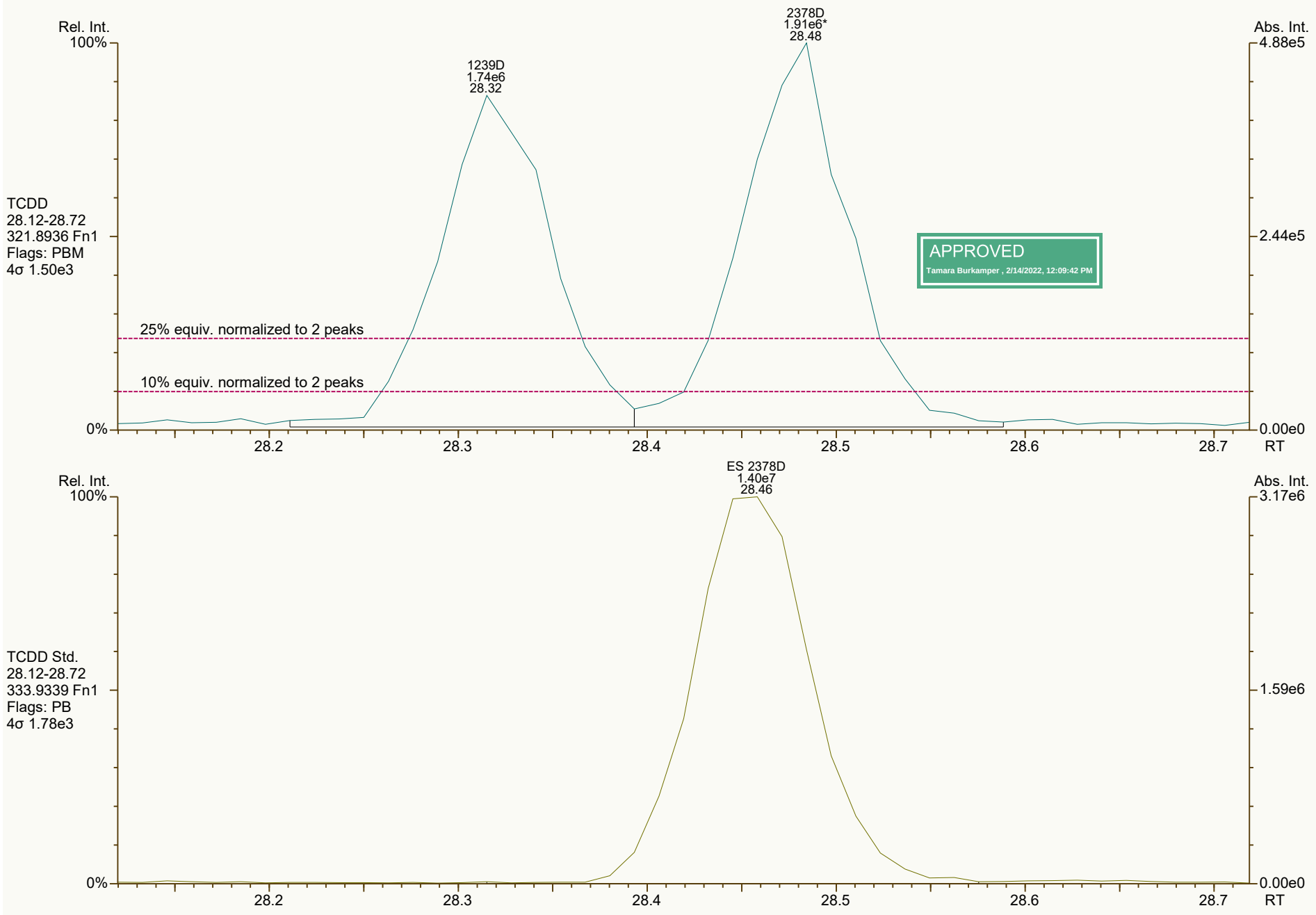
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.83	1289-TCDD	29.45
12479/12468-PeCDD	31.32	12389-PeCDD	34.26
124679/124689-HxCDD	35.99	123789-HxCDD	38.16
1234679-HpCDD	40.16	1234678-HpCDD	40.84
1368-TCDF	22.73	1289-TCDF	29.62
13468/12468-PeCDF	29.54	12389-PeCDF	34.56
123468-HxCDF	35.34	123789-HxCDF	38.51
1234678-HpCDF	39.90	1234789-HpCDF	41.30

Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.32	2378-TCDD	28.48
2348-TCDF	27.51	2378-TCDF	27.62

Processed: 14 Feb 2022 10:42 Analyst: gd

SGS ID: OPR1_18916_DF
Sample ID: 0_18916_OPR001
Acq: 11-Feb-2022 16:09:16
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 62
User: DTF Datafile: 220211C02



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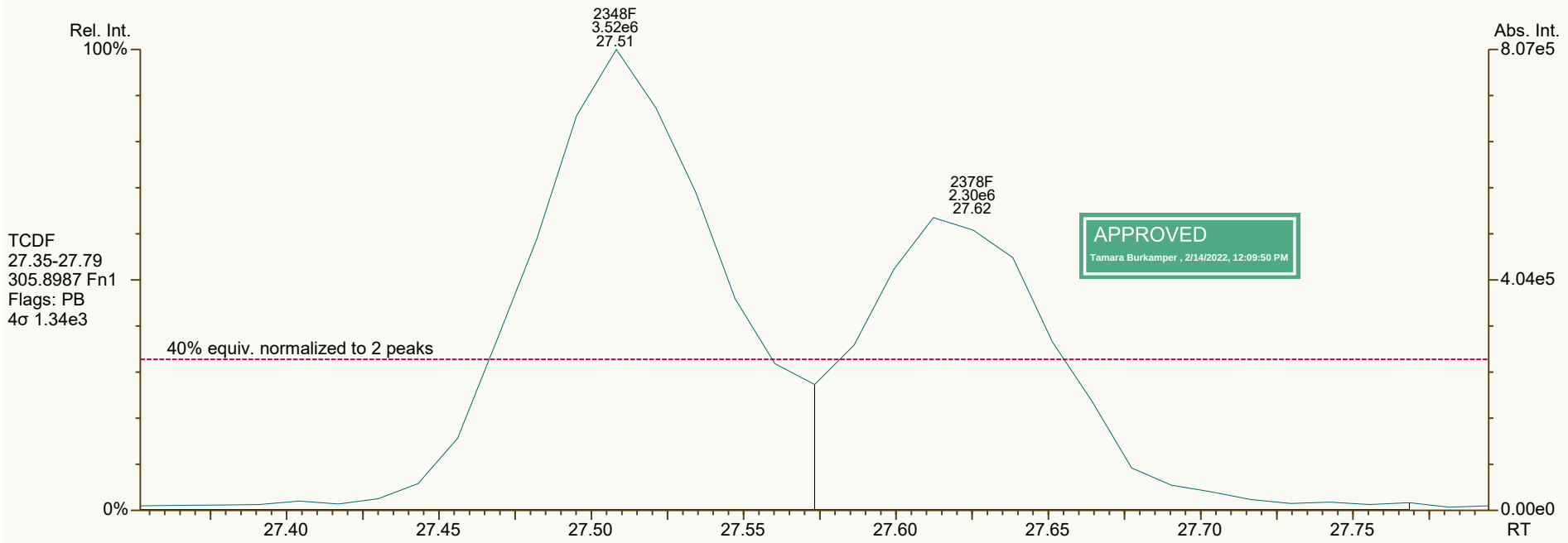
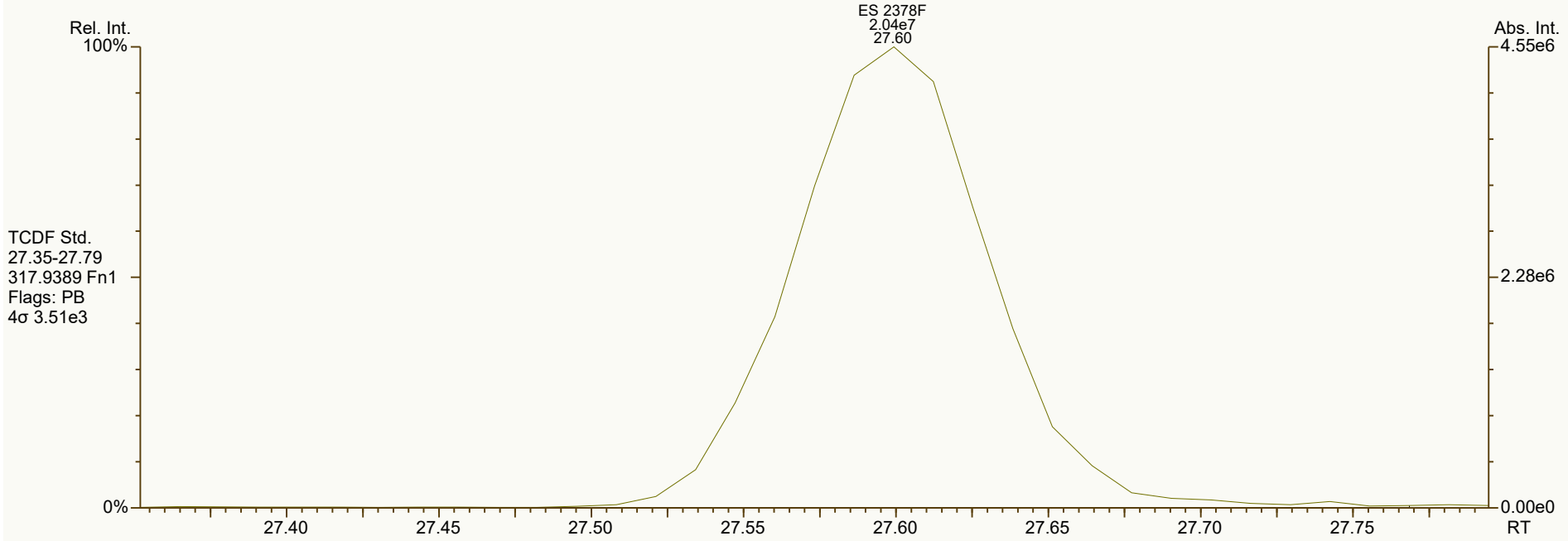
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
PKD: 14-Feb-2022 10:06 Printed: 14-Feb-2022 11:00

SGS ID: OPR1_18916_DF
Sample ID: 0_18916_OPR001
Acq: 11-Feb-2022 16:09:16
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 62
User: DTF Datafile: 220211C02





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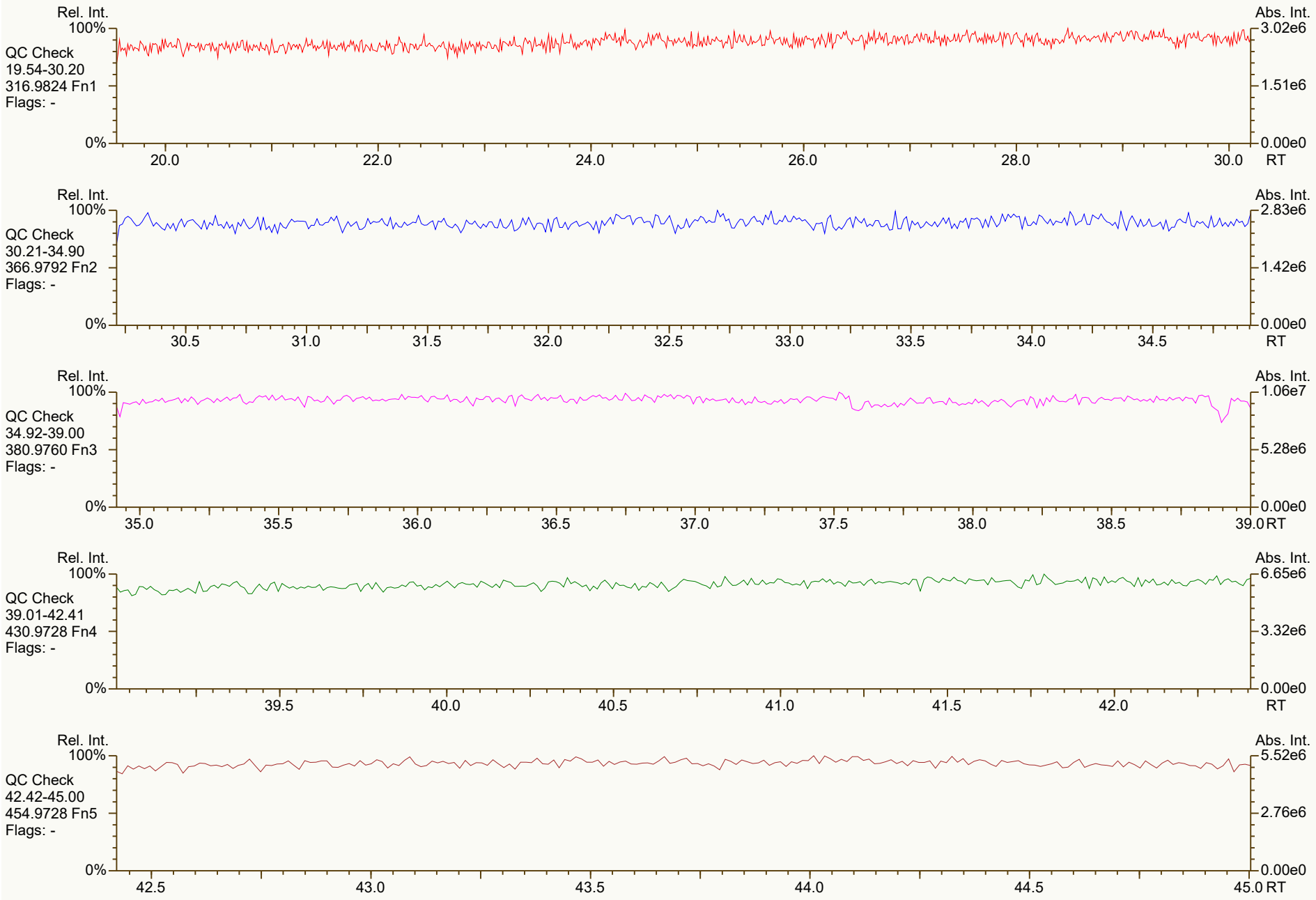
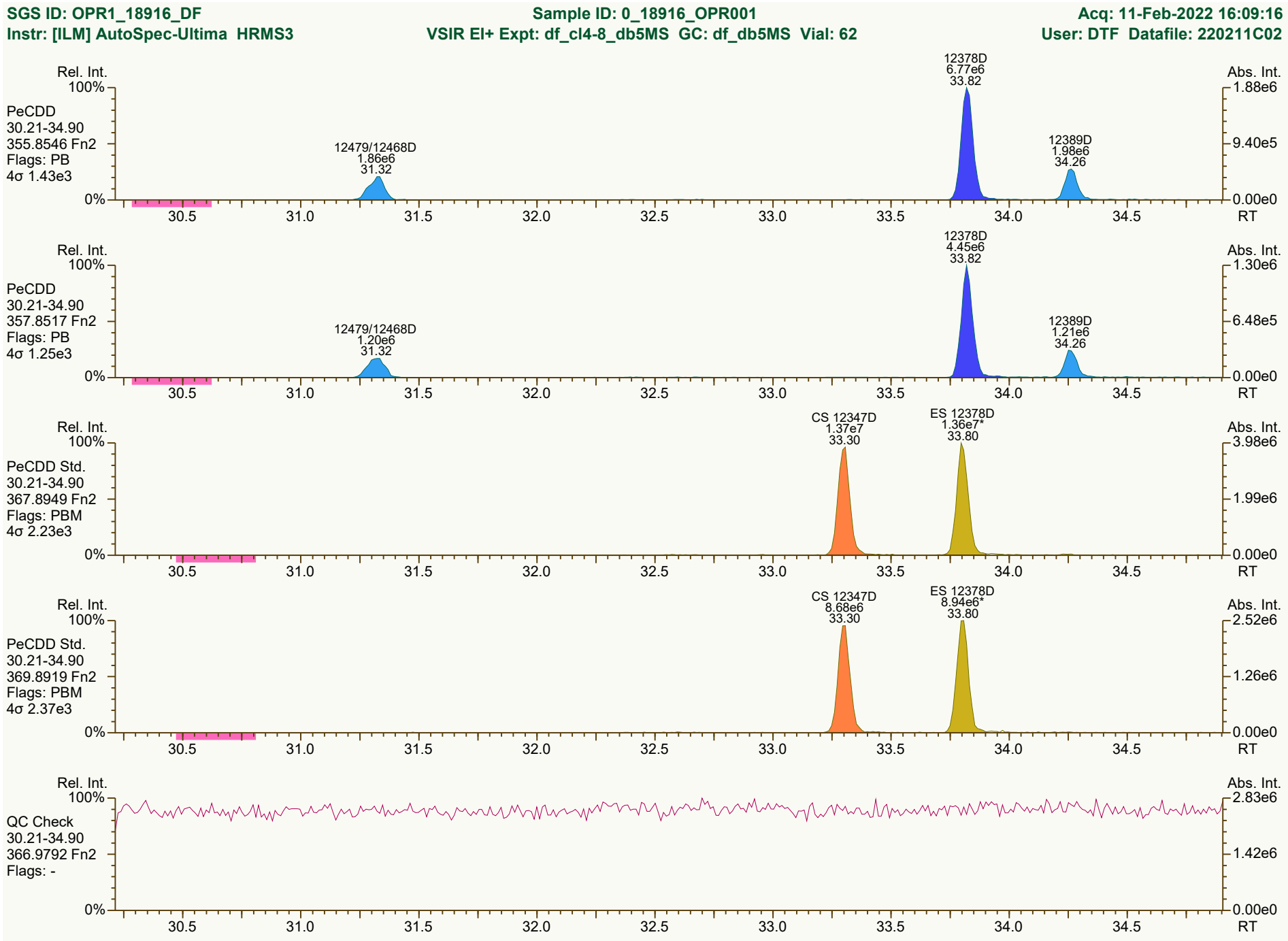
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
PKD: 14-Feb-2022 10:06 Printed: 14-Feb-2022 11:00


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.02e6
1.51e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
2.83e6
1.42e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.06e7
5.28e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
6.65e6
3.32e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.52e6
2.76e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.57e3
0%
1368D
2.01e6
24.83
1239D
1.43e6
28.32
2378D
1.43e6*
28.48
1289D
2.04e6
29.45
Abs. Int.
4.73e5
2.37e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.50e3
0%
1368D
2.59e6
24.83
1239D
1.74e6
28.32
2378D
1.91e6*
28.48
1289D
2.59e6
29.45
Abs. Int.
6.75e5
3.37e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.21e3
0%
CS 37Cl-2378D
1.19e7
28.48
Abs. Int.
2.87e6
1.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 3.87e3
0%
JS 1234D
1.24e7
27.79
ES 2378D
1.11e7
28.46
Abs. Int.
2.92e6
1.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 1.78e3
0%
JS 1234D
1.52e7
27.80
ES 2378D
1.40e7
28.46
Abs. Int.
3.60e6
1.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT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Sample ID: 0_18916_OPR001
Acq: 11-Feb-2022 16:09:16
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 62
User: DTF Datafile: 220211C02
Rel. Int.
Abs. Int.
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PB
4σ 1.43e3
12479/12468D
1.86e6
31.32
12378D
6.77e6
33.82
12389D
1.98e6
34.26
1.88e6
9.40e5
0.00e0
RT
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PB
4σ 1.25e3
12479/12468D
1.20e6
31.32
12378D
4.45e6
33.82
12389D
1.21e6
34.26
1.30e6
6.48e5
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PBM
4σ 2.23e3
CS 12347D
1.37e7
33.30
ES 12378D
1.36e7*
33.80
3.98e6
1.99e6
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PBM
4σ 2.37e3
CS 12347D
8.68e6
33.30
ES 12378D
8.94e6*
33.80
2.52e6
1.26e6
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
2.83e6
1.42e6
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
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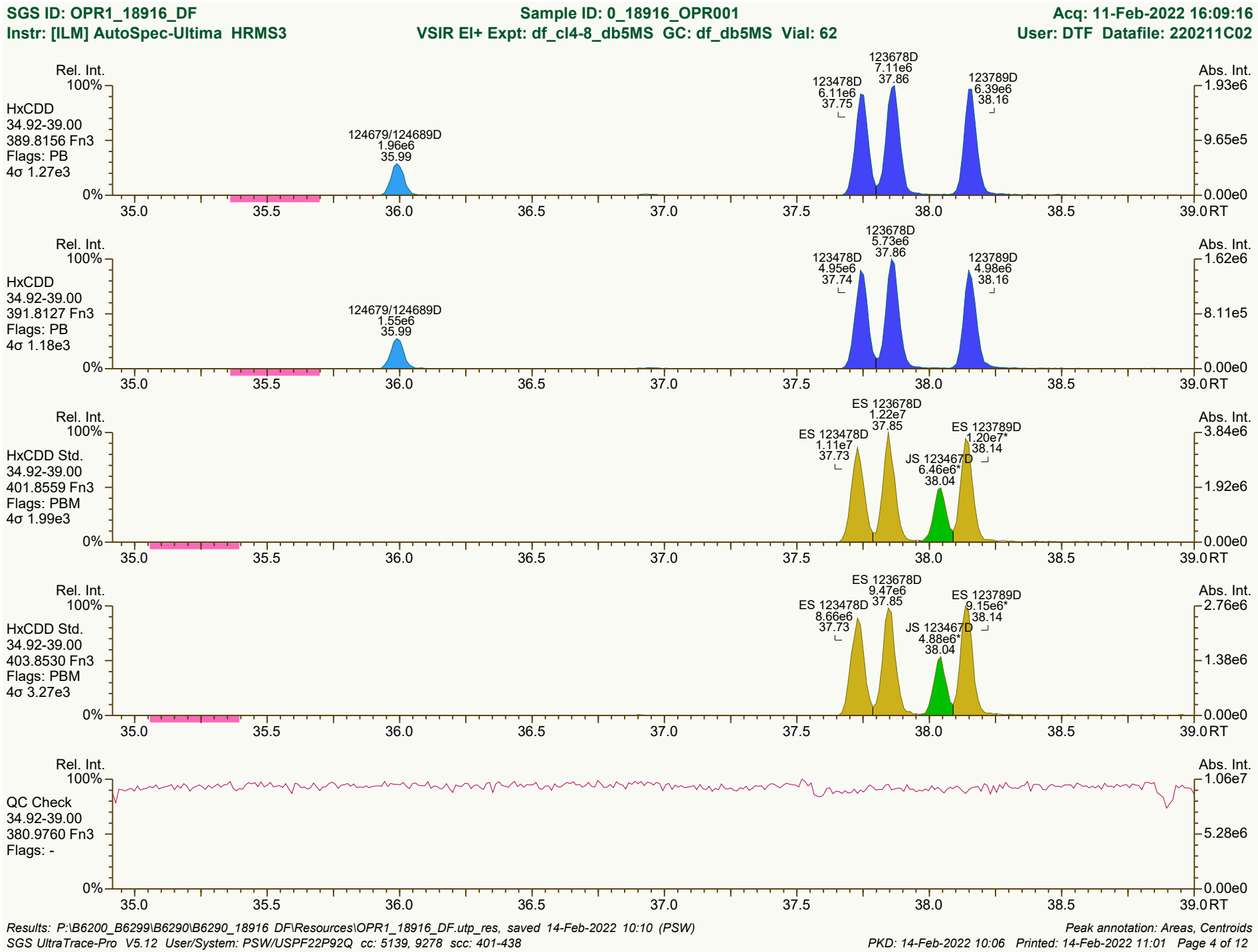
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4820, 9889 scc: 401-438
PKD: 14-Feb-2022 10:06 Printed: 14-Feb-2022 11:01 Page 3 of 12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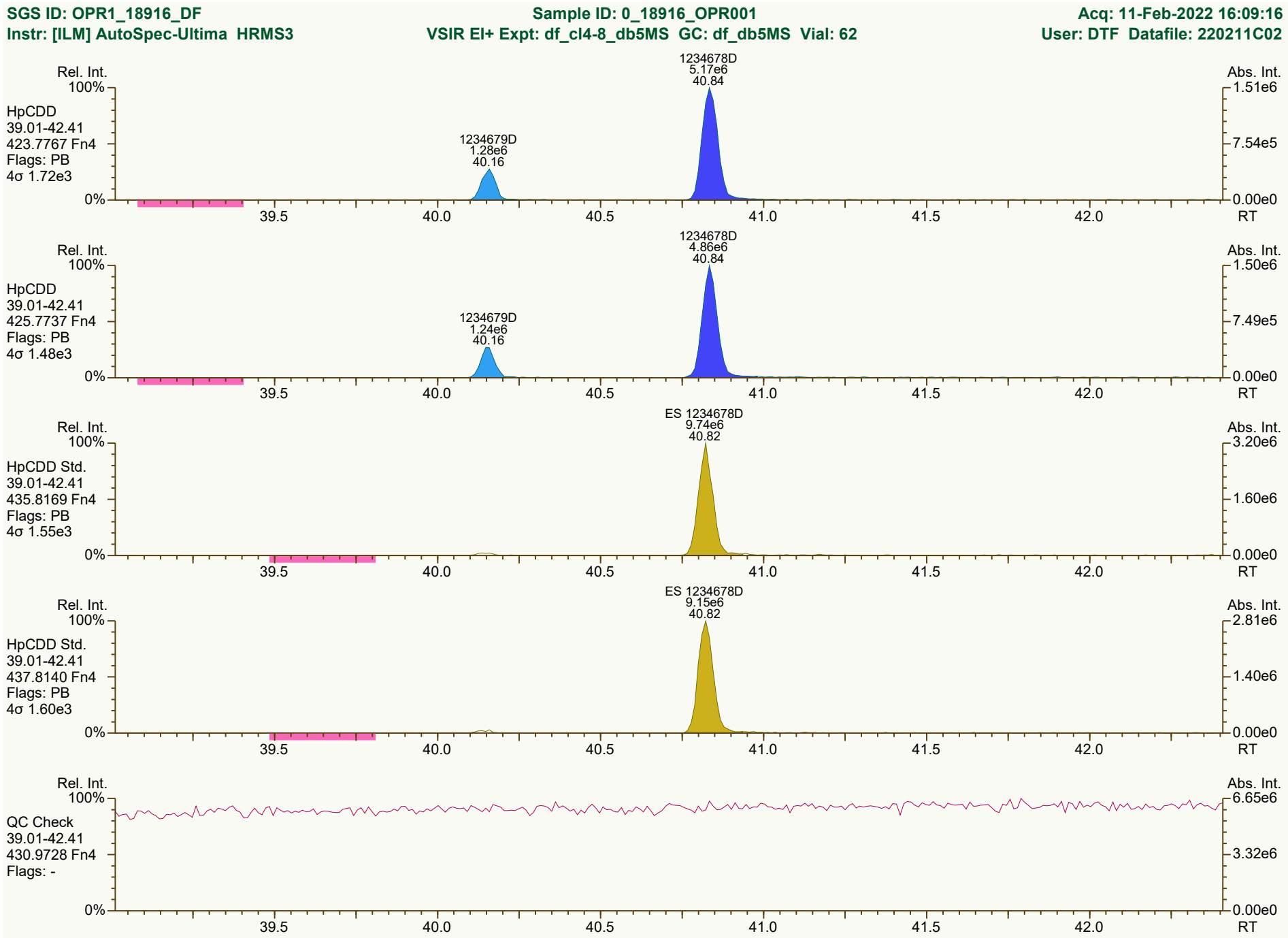
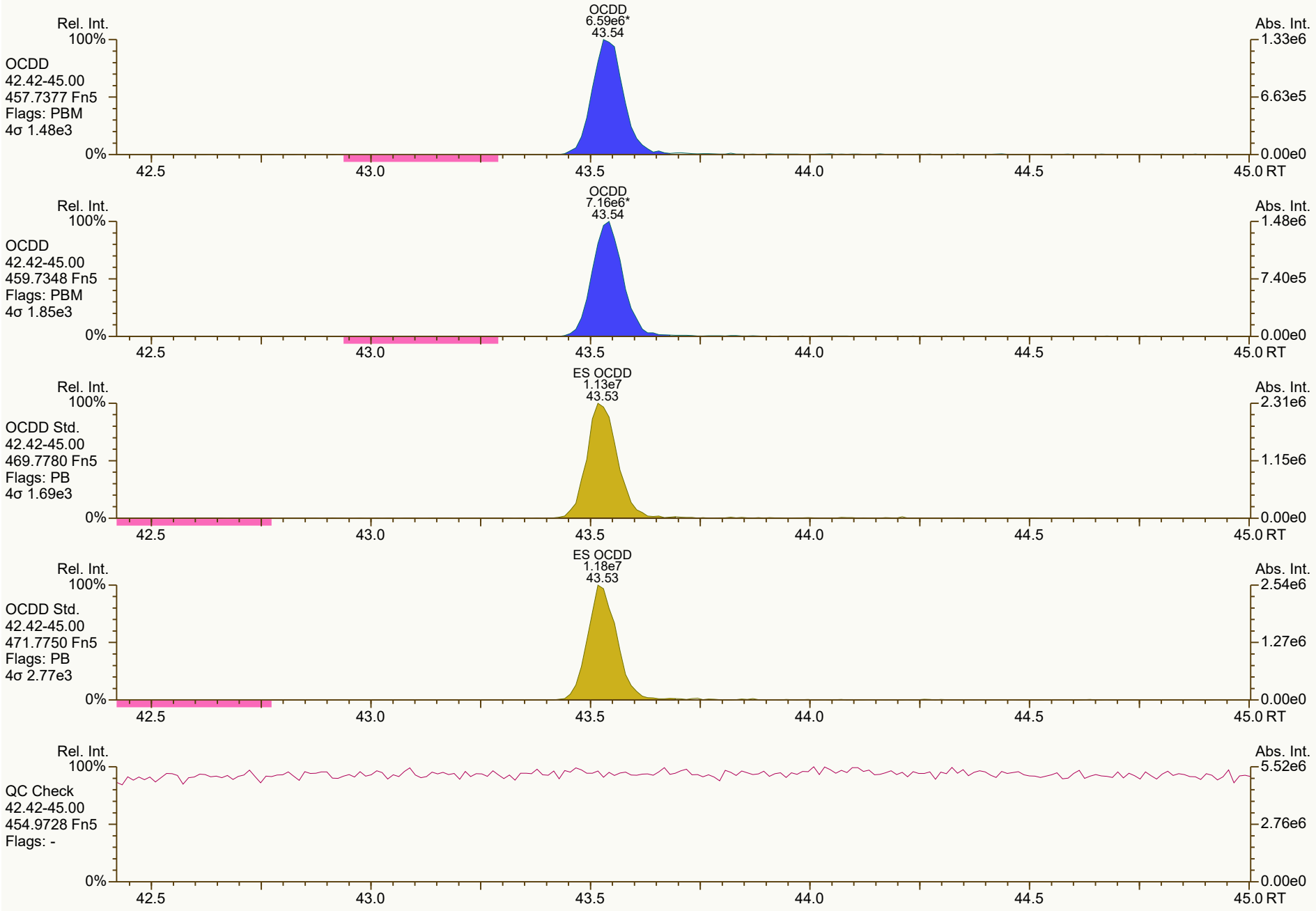
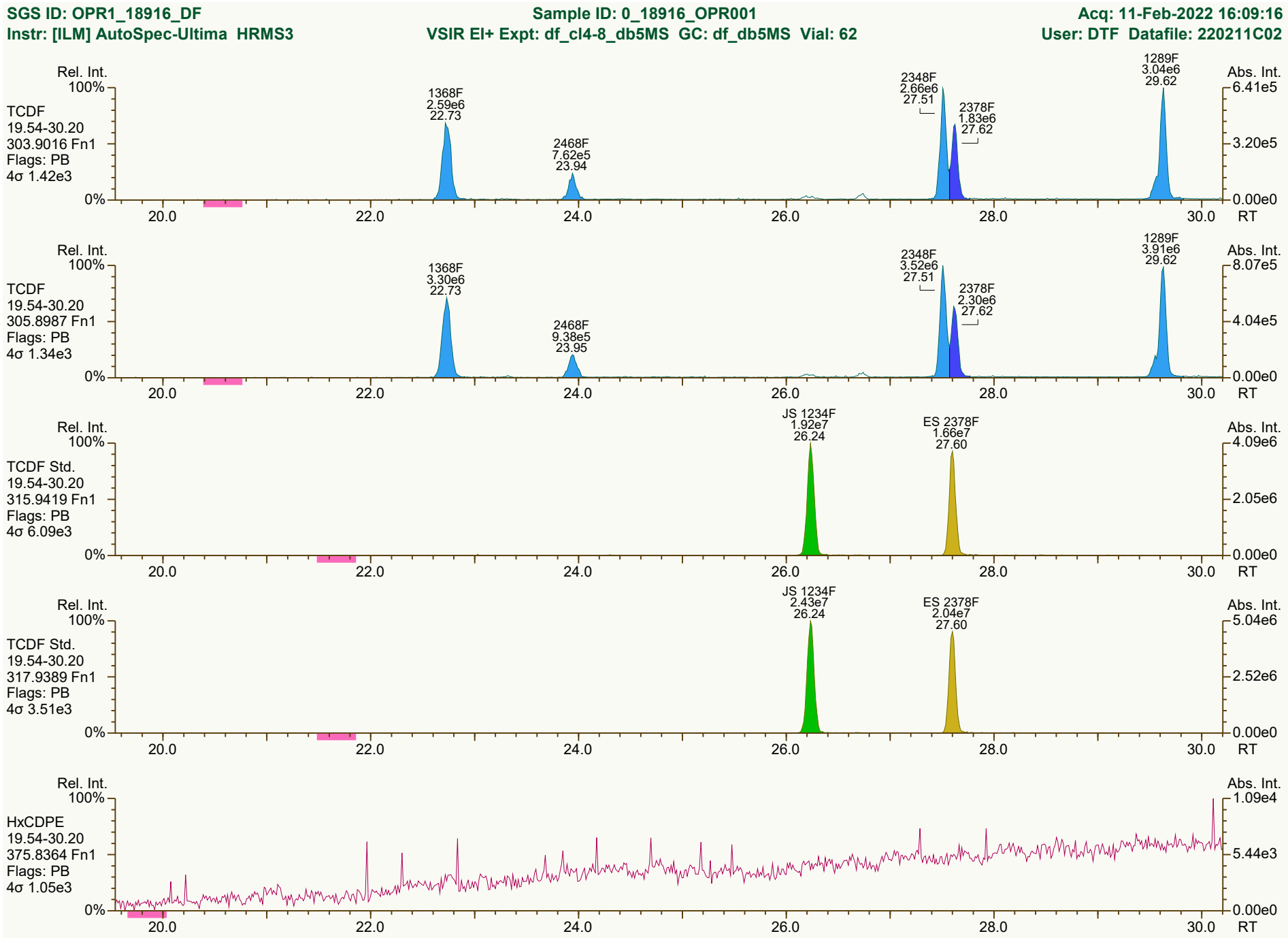
User: DTF Datafile: 220211C02
Rel. Int.
Abs. Int.
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 1.27e3
124679/124689D
1.96e6
35.99
123478D
6.11e6
37.75
123678D
7.11e6
37.86
123789D
6.39e6
38.16
1.93e6
9.65e5
0.00e0
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 1.18e3
124679/124689D
1.55e6
35.99
123478D
4.95e6
37.74
123678D
5.73e6
37.86
123789D
4.98e6
38.16
1.62e6
8.11e5
0.00e0
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 1.99e3
ES 123478D
1.11e7
37.73
ES 123678D
1.22e7
37.85
JS 123467D
6.46e6*
38.04
ES 123789D
1.20e7*
38.14
3.84e6
1.92e6
0.00e0
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 3.27e3
ES 123478D
8.66e6
37.73
ES 123678D
9.47e6
37.85
JS 123467D
4.88e6*
38.04
ES 123789D
9.15e6*
38.14
2.76e6
1.38e6
0.00e0
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
1.06e7
5.28e6
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\OPR1_18916_DF.utp_res, saved 14-Feb-2022 10:10 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5139, 9278 scc: 401-438
PKD: 14-Feb-2022 10:06 Printed: 14-Feb-2022 11:01 Page 4 of 12


SGS ID: OPR1_18916_DF
Sample ID: 0_18916_OPR001
Acq: 11-Feb-2022 16:09:16
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 62
User: DTF Datafile: 220211C02
Rel. Int.
Abs. Int.
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 1.72e3
1234678D
5.17e6
40.84
1234679D
1.28e6
40.16
1.51e6
7.54e5
0.00e0
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.48e3
1234678D
4.86e6
40.84
1234679D
1.24e6
40.16
1.50e6
7.49e5
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.55e3
ES 1234678D
9.74e6
40.82
3.20e6
1.60e6
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.60e3
ES 1234678D
9.15e6
40.82
2.81e6
1.40e6
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
6.65e6
3.32e6
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\OPR1_18916_DF.utp_res, saved 14-Feb-2022 10:10 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7632, 1579 scc: 401-438
PKD: 14-Feb-2022 10:06 Printed: 14-Feb-2022 11:01 Page 5 of 12


OCDD
6.59e6*
43.54
Rel. Int.
Abs. Int.
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.48e3
OCDD
7.16e6*
43.54
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 1.85e3
ES OCDD
1.13e7
43.53
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 1.69e3
ES OCDD
1.18e7
43.53
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 2.77e3
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT



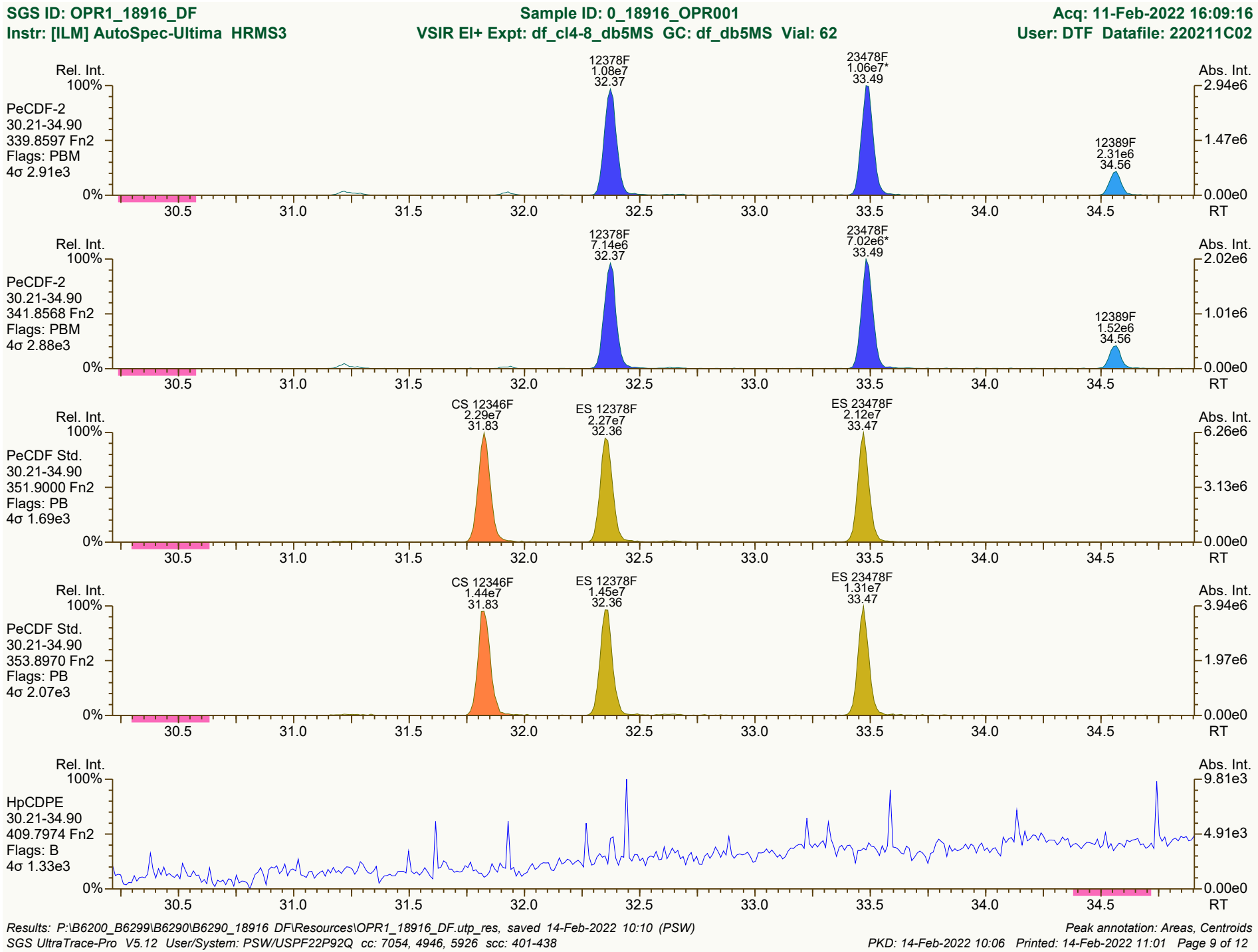
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\OPR1_18916_DF.utp_res, saved 14-Feb-2022 10:10 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0381, 0459, 2497 scc: 401-438
PKD: 14-Feb-2022 10:06 Printed: 14-Feb-2022 11:01 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.52e3
13468/12468F
1.94e7
29.54
Abs. Int.
4.91e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.63e3
13468/12468F
1.24e7
29.54
Abs. Int.
3.16e6
1.58e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
3.02e6
1.51e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: OPR1_18916_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

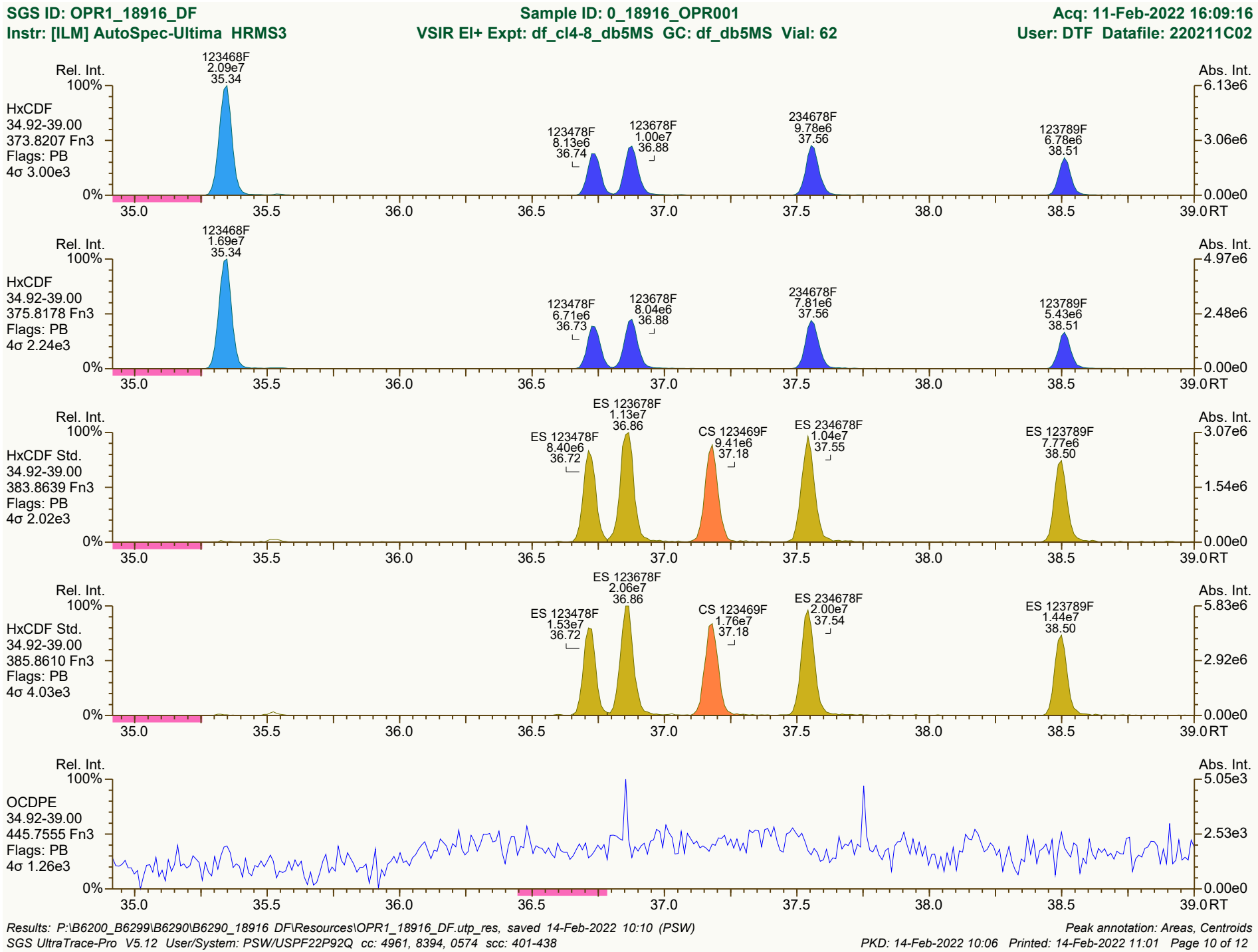
Sample ID: 0_18916_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 62

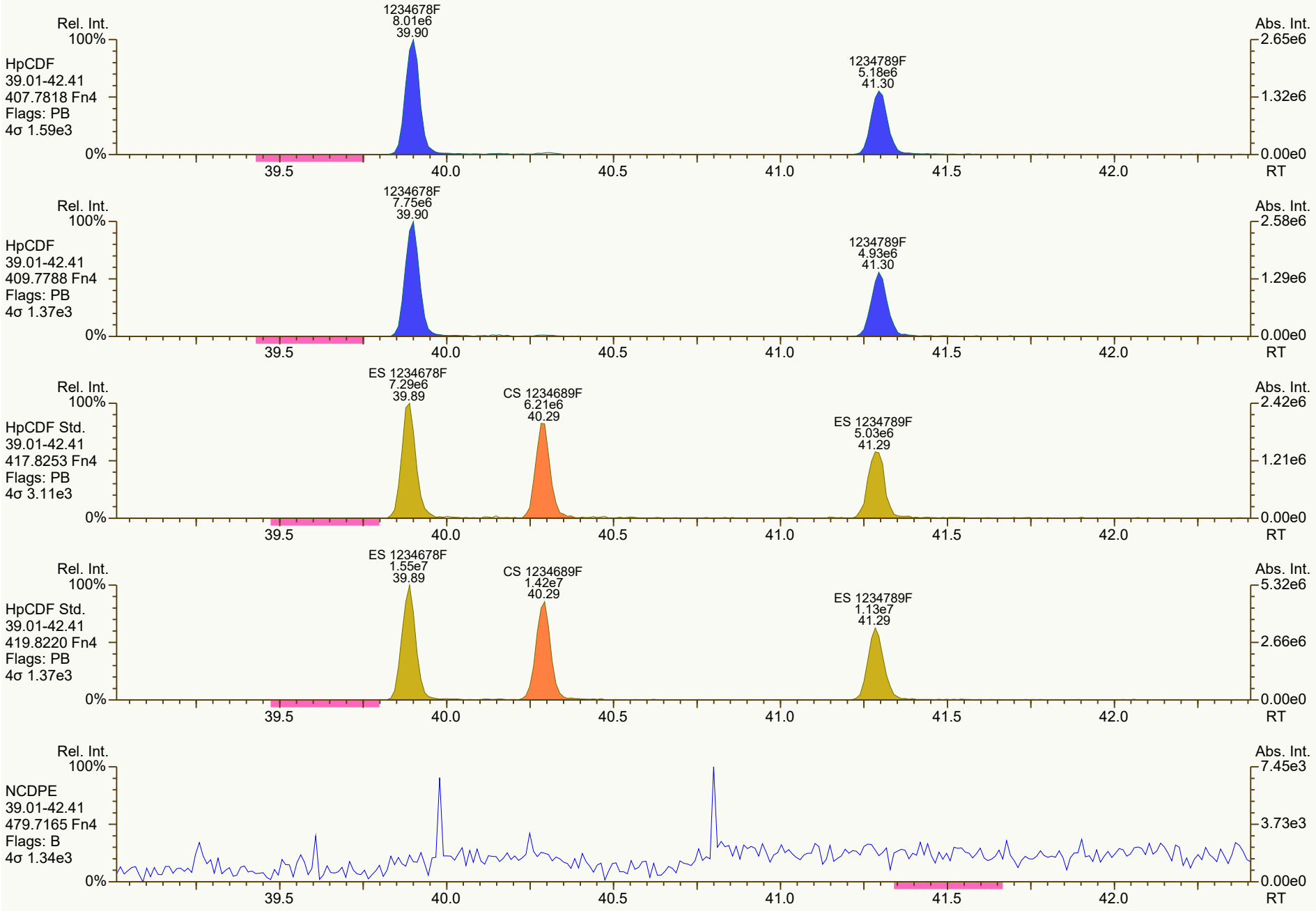
Acq: 11-Feb-2022 16:09:16
User: DTF Datafile: 220211C02



Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\OPR1_18916_DF.utp_res, saved 14-Feb-2022 10:10 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7054, 4946, 5926 scc: 401-438

Peak annotation: Areas, Centroids
PKD: 14-Feb-2022 10:06 Printed: 14-Feb-2022 11:01 Page 9 of 12


SGS ID: OPR1_18916_DF
Sample ID: 0_18916_OPR001
Acq: 11-Feb-2022 16:09:16
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 62
User: DTF Datafile: 220211C02
Rel. Int.
Abs. Int.
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PB
4σ 3.00e3
123468F
2.09e7
35.34
123478F
8.13e6
36.74
123678F
1.00e7
36.88
234678F
9.78e6
37.56
123789F
6.78e6
38.51
6.13e6
3.06e6
0.00e0
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PB
4σ 2.24e3
123468F
1.69e7
35.34
123478F
6.71e6
36.73
123678F
8.04e6
36.88
234678F
7.81e6
37.56
123789F
5.43e6
38.51
4.97e6
2.48e6
0.00e0
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 2.02e3
ES 123678F
1.13e7
36.86
ES 123478F
8.40e6
36.72
CS 123469F
9.41e6
37.18
ES 234678F
1.04e7
37.55
ES 123789F
7.77e6
38.50
3.07e6
1.54e6
0.00e0
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 4.03e3
ES 123678F
2.06e7
36.86
ES 123478F
1.53e7
36.72
CS 123469F
1.76e7
37.18
ES 234678F
2.00e7
37.54
ES 123789F
1.44e7
38.50
5.83e6
2.92e6
0.00e0
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.26e3
5.05e3
2.53e3
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\OPR1_18916_DF.utp_res, saved 14-Feb-2022 10:10 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4961, 8394, 0574 scc: 401-438
PKD: 14-Feb-2022 10:06 Printed: 14-Feb-2022 11:01 Page 10 of 12


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.59e3
1234678F
8.01e6
39.90
1234789F
5.18e6
41.30
Abs. Int.
2.65e6
1.32e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.37e3
1234678F
7.75e6
39.90
1234789F
4.93e6
41.30
Abs. Int.
2.58e6
1.29e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 3.11e3
ES 1234678F
7.29e6
39.89
CS 1234689F
6.21e6
40.29
ES 1234789F
5.03e6
41.29
Abs. Int.
2.42e6
1.21e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 1.37e3
ES 1234678F
1.55e7
39.89
CS 1234689F
1.42e7
40.29
ES 1234789F
1.13e7
41.29
Abs. Int.
5.32e6
2.66e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.34e3
Abs. Int.
7.45e3
3.73e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.13e3
0%
OCDF
7.28e6
43.72
Abs. Int.
1.51e6
7.57e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.31e3
0%
OCDF
8.02e6
43.72
Abs. Int.
1.68e6
8.40e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 2.59e3
0%
ES OCDF
1.34e7
43.71
Abs. Int.
2.85e6
1.42e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 1.75e3
0%
ES OCDF
1.51e7
43.70
Abs. Int.
3.12e6
1.56e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.47e3
0%
Abs. Int.
6.54e3
3.27e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: OPR2_18916_DF **Acq'd: 11 Feb 2022 16:55 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18916_OPR002 **UTP: 14-Feb-2022 10:10:28 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 149-207-PPQ**

Datafile: 220211C03 **Report: 14 Feb 2022 10:42 gd** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.47		1.0008	1.0008	0	4.55E+06	0.79	Y	1.18	12.7	3420.419	0.103
12378-PeCDD	33.81		1.0005	1.0005	0	1.55E+07	1.56	Y	1.04	53.4	2987.884	0.0902
123478-HxCDD	37.73		1.0004	1.0004	0	1.60E+07	1.26	Y	1.09	59.7	3305.422	0.108
123678-HxCDD	37.85		1.0035	1.0036	+0.2	1.83E+07	1.28	Y	1.15	59.9	3305.422	0.0893
123789-HxCDD	38.14		1.0113	1.0113	0	1.59E+07	1.26	Y	1.05	56.6	3305.422	0.103
1234678-HpCDD	40.82		1.0003	1.0003	0	1.42E+07	1.05	Y	1.06	59.4	4436.094	0.146
OCDD	43.52		1.0002	1.0003	+0.3	2.03E+07	0.90	Y	1.13	119	4486.461	0.328
2378-TCDF	27.61		1.0008	1.0008	0	5.70E+06	0.79	Y	1.08	12	3189.946	0.072
12378-PeCDF	32.36		1.0005	1.0006	+0.2	2.51E+07	1.51	Y	1.02	55.2	8333.59	0.174
23478-PeCDF	33.47		1.0005	1.0005	0	2.50E+07	1.52	Y	1.02	58.5	8333.59	0.178
123478-HxCDF	36.72		1.0005	1.0004	-0.2	2.06E+07	1.24	Y	1.27	55.5	9822.433	0.218
123678-HxCDF	36.86		1.0005	1.0005	0	2.53E+07	1.22	Y	1.15	57.1	9822.433	0.19
234678-HxCDF	37.54		1.0005	1.0005	0	2.44E+07	1.21	Y	1.19	55.8	9822.433	0.198
123789-HxCDF	38.50		1.0004	1.0004	0	1.73E+07	1.25	Y	1.16	54.9	9822.433	0.249
1234678-HpCDF	39.88		1.0003	1.0003	0	2.34E+07	1.03	Y	1.37	57.6	2520.509	0.0474
1234789-HpCDF	41.28		1.0003	1.0003	0	1.41E+07	1.03	Y	1.31	56.3	2520.509	0.073
OCDF	43.69		1.0003	1.0003	0	2.13E+07	0.91	Y	1.07	114	2628.9489	0.156

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.44	1.0238	1.0238	0	3.02E+07	0.82	Y	1.05	81.3
ES 12378-PeCDD	33.79	1.2160	1.2163	+0.6	2.81E+07	1.58	Y	0.88	89.8
ES 123478-HxCDD	37.71	0.9919	0.9919	0	2.46E+07	1.24	Y	0.97	86.4
ES 123678-HxCDD	37.83	0.9950	0.9950	0	2.66E+07	1.28	Y	0.94	96.4
ES 123789-HxCDD	38.12	1.0027	1.0027	0	2.68E+07	1.30	Y	1.09	83.8
ES 1234678-HpCDD	40.81	1.0730	1.0732	+0.5	2.26E+07	1.07	Y	0.91	84.7
ES OCDD	43.50	1.1437	1.1441	+1.0	3.01E+07	0.90	Y	0.62	82.6
ES 2378-TCDF	27.59	1.0520	1.0520	0	4.38E+07	0.81	Y	1.06	73
ES 12378-PeCDF	32.34	1.2330	1.2333	+0.6	4.43E+07	1.55	Y	0.91	85.9
ES 23478-PeCDF	33.46	1.2754	1.2758	+0.8	4.18E+07	1.55	Y	0.88	83.5
ES 123478-HxCDF	36.70	0.9653	0.9653	0	2.92E+07	0.53	Y	1.20	83.4
ES 123678-HxCDF	36.84	0.9691	0.9690	-0.2	3.84E+07	0.53	Y	1.35	97.2
ES 234678-HxCDF	37.53	0.9870	0.9869	-0.2	3.68E+07	0.54	Y	1.24	101
ES 123789-HxCDF	38.48	1.0121	1.0121	0	2.71E+07	0.53	Y	1.16	80.2
ES 1234678-HpCDF	39.87	1.0484	1.0486	+0.5	2.97E+07	0.46	Y	0.97	105
ES 1234789-HpCDF	41.27	1.0851	1.0853	+0.5	1.92E+07	0.46	Y	0.85	77.1
ES OCDF	43.68	1.1483	1.1488	+1.3	3.48E+07	0.89	Y	0.81	73.7

Lab ID: OPR2_18916_DF | **Acq'd:** 11 Feb 2022 16:55 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18916_OPR002 | **UTP:** 14-Feb-2022 10:10:28 PSW | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 149-207-PPQ

Datafile: 220211C03 | **Report:** 14 Feb 2022 10:42 gd | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.78		-	-	-	3.56E+07	0.82	Y	-	-
JS 1234-TCDF	26.23		-	-	-	5.67E+07	0.79	Y	-	-
JS 123467-HxCDD	38.02		-	-	-	1.46E+07	1.26	Y	-	-
CS 37Cl-2378-TCDD	28.47		1.0245	1.0246	+0.2	1.60E+07	n/a	-	1.20	93.5
CS 12347-PeCDD	33.29		1.1979	1.1982	+0.6	2.95E+07	1.59	Y	0.75	110
CS 12346-PeCDF	31.81		1.2128	1.2131	+0.6	5.02E+07	1.56	Y	0.85	104
CS 123469-HxCDF	37.16		0.9774	0.9774	0	3.73E+07	0.53	Y	1.12	114
CS 1234689-HpCDF	40.27		1.0589	1.0592	+0.7	2.85E+07	0.45	Y	0.89	110
~~SS 37Cl-2378-TCDD~~	~~28.47~~		~~1.0245~~	~~1.0246~~	~~+0.2~~	~~1.60E+07~~	~~n/a~~		~~1.15~~	~~115~~
~~SS 12347-PeCDD~~	~~33.29~~		~~1.1979~~	~~1.1982~~	~~+0.6~~	~~2.95E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~122~~
~~SS 12346-PeCDF~~	~~31.81~~		~~1.2128~~	~~1.2131~~	~~+0.6~~	~~5.02E+07~~	~~1.56~~	~~Y~~	~~0.94~~	~~121~~
~~SS 123469-HxCDF~~	~~37.16~~		~~0.9774~~	~~0.9774~~	~~0~~	~~3.73E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~117~~
~~SS 1234689-HpCDF~~	~~40.27~~		~~1.0589~~	~~1.0592~~	~~+0.7~~	~~2.85E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~105~~

Totals	Conc	EMPC
Total TCDD	60.9	60.9
Total PeCDD	84.4	84.4
Total HxCDD	194	194
Total HpCDD	75.1	75.1
Total Tetra-Octa Dioxins	534	534
Total TCDF	74.8	74.8
Total PeCDF	233	233
Total HxCDF	359	359
Total HpCDF	114	114
Total Tetra-Octa Furans	895	895
Total Tetra-Octa Dioxins & Furans	1430	1430

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.787	0.79
Response	4.56E+06	4.55E+06

Lab ID: OPR2_18916_DF | **Acq'd: 11 Feb 2022 16:55 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18916_OPR002 | **UTP: 14-Feb-2022 10:10:28 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 149-207-PPQ**

Datafile: 220211C03 | **Report: 14 Feb 2022 10:42 gd** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.82		0.8737	0.8727	-1.5	6.40E+06	0.80	Y	1.18	17.9	3420.419	0.103
1379-TCDD	NotFnd		0.8860						1.18		3420.419	0.103
1369-TCDD	NotFnd		0.9009						1.18		3420.419	0.103
1469-TCDD	NotFnd		0.9281						1.18		3420.419	0.103
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3420.419	0.103
1378-TCDD	NotFnd		0.9432						1.18		3420.419	0.103
1268-TCDD	NotFnd		0.9500						1.18		3420.419	0.103
1478-TCDD	NotFnd		0.9586						1.18		3420.419	0.103
1279-TCDD	NotFnd		0.9645						1.18		3420.419	0.103
1234/1269-TCDD	NotFnd		0.9770						1.18		3420.419	0.103
1236-TCDD	NotFnd		0.9817						1.18		3420.419	0.103
1237/1238-TCDD	NotFnd		0.9905						1.18		3420.419	0.103
1239-TCDD	28.31		0.9952	0.9952	0	4.42E+06	0.78	Y	1.18	12.4	3420.419	0.103
2378-TCDD	**28.47**		**1.0008**	1.0008	**0**	4.55E+06	0.79	Y	**1.18**	**12.7**	**3420.419**	**0.103**
1278-TCDD	NotFnd		1.0121						1.18		3420.419	0.103
1267-TCDD	NotFnd		1.0167						1.18		3420.419	0.103
1289-TCDD	29.44		1.0345	1.0349	+0.7	6.43E+06	0.78	Y	1.18	17.9	3420.419	0.103
12479/12468-PeCDD	31.31		0.9267	0.9264	-0.6	4.47E+06	1.50	Y	1.04	15.4	2987.884	0.0902
12469-PeCDD	NotFnd		0.9425						1.04		2987.884	0.0902
12368-PeCDD	NotFnd		0.9588						1.04		2987.884	0.0902
12478-PeCDD	NotFnd		0.9643						1.04		2987.884	0.0902
12379-PeCDD	NotFnd		0.9673						1.04		2987.884	0.0902
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		2987.884	0.0902
12346/12347-PeCDD	NotFnd		0.9858						1.04		2987.884	0.0902
12378-PeCDD	33.81		**1.0005**	**1.0005**	**0**	**1.55E+07**	**1.56**	**Y**	**1.04**	**53.4**	**2987.884**	**0.0902**
12367-PeCDD	NotFnd		1.0033						1.04		2987.884	0.0902
12389-PeCDD	34.25		1.0134	1.0135	+0.2	4.52E+06	1.51	Y	1.04	15.6	2987.884	0.0902
124679/124689-HxCDD	35.98		0.9542	0.9540	-0.4	5.13E+06	1.26	Y	1.10	18	3305.422	0.0997
123468-HxCDD	NotFnd		0.9715						1.10		3305.422	0.0997
123679/123689-HxCDD	NotFnd		0.9793						1.10		3305.422	0.0997
123469-HxCDD	NotFnd		0.9828						1.10		3305.422	0.0997
123478-HxCDD	37.73		**1.0004**	**1.0004**	**0**	**1.60E+07**	**1.26**	**Y**	1.09	**59.7**	**3305.422**	**0.108**
123678-HxCDD	37.85		**1.0035**	**1.0036**	**+0.2**	**1.83E+07**	**1.28**	**Y**	1.15	**59.9**	**3305.422**	**0.0893**
123467-HxCDD	NotFnd		1.0085						1.10		3305.422	0.0997
123789-HxCDD	38.14		**1.0113**	**1.0113**	**0**	**1.59E+07**	**1.26**	**Y**	1.05	**56.6**	**3305.422**	**0.103**

Lab ID: OPR2_18916_DF | **Acq'd: 11 Feb 2022 16:55 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18916_OPR002 | **UTP: 14-Feb-2022 10:10:28 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 149-207-PPQ**

Datafile: 220211C03 | **Report: 14 Feb 2022 10:42 gd** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.14		0.9837	0.9837	0	3.77E+06	1.06	Y	1.06	15.7	4436.094	0.146
1234678-HpCDD	**40.82**		**1.0003**	**1.0003**	**0**	**1.42E+07**	**1.05**	**Y**	**1.06**	**59.4**	**4436.094**	**0.146**
OCDD	**43.52**		**1.0002**	**1.0003**	**+0.3**	**2.03E+07**	**0.90**	**Y**	**1.13**	**119**	**4486.461**	**0.328**
OCDD-a	43.51		1.0001	1.0001	0	1.25E+06	2.81	Y	0.07	115	3643.243	4.17
1368-TCDF	22.72		0.8251	0.8235	-2.2	8.66E+06	0.77	Y	1.08	18.3	3189.946	0.072
1468-TCDF	NotFnd		0.8458						1.08		3189.946	0.072
2468-TCDF	23.93		0.8686	0.8675	-1.6	2.21E+06	0.79	Y	1.08	4.68	3189.946	0.072
1346/1246-TCDF	NotFnd		0.8814						1.08		3189.946	0.072
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		3189.946	0.072
1348-TCDF	NotFnd		0.8962						1.08		3189.946	0.072
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		3189.946	0.072
1268-TCDF	NotFnd		0.9145						1.08		3189.946	0.072
1467-TCDF	NotFnd		0.9193						1.08		3189.946	0.072
1478-TCDF	NotFnd		0.9254						1.08		3189.946	0.072
1369/1237-TCDF	NotFnd		0.9387						1.08		3189.946	0.072
2467-TCDF	NotFnd		0.9433						1.08		3189.946	0.072
2368-TCDF	NotFnd		0.9489						1.08		3189.946	0.072
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		3189.946	0.072
1278-TCDF	NotFnd		0.9683						1.08		3189.946	0.072
1349-TCDF	NotFnd		0.9722						1.08		3189.946	0.072
1267-TCDF	NotFnd		0.9783						1.08		3189.946	0.072
2346/1249-TCDF	NotFnd		0.9850						1.08		3189.946	0.072
2347/1279-TCDF	NotFnd		0.9926						1.08		3189.946	0.072
2348-TCDF	27.50		0.9967	0.9968	+0.2	8.76E+06	0.75	Y	1.08	18.5	3189.946	0.072
2378-TCDF	**27.61**		**1.0008**	**1.0008**	**0**	**5.70E+06**	**0.79**	**Y**	**1.08**	**12**	**3189.946**	**0.072**
2367/3467-TCDF	NotFnd		1.0137						1.08		3189.946	0.072
1269-TCDF	NotFnd		1.0223						1.08		3189.946	0.072
1239-TCDF	NotFnd		1.0321						1.08		3189.946	0.072
1289-TCDF	29.61		1.0722	1.0731	+1.6	1.01E+07	0.81	Y	1.08	21.3	3189.946	0.072
13468/12468-PeCDF	29.53		0.9139	0.9129	-1.8	4.70E+07	1.54	Y	1.02	107	3135.86	0.0662
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		8333.59	0.176
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		8333.59	0.176
14678-PeCDF	NotFnd		0.9692						1.02		8333.59	0.176
13479-PeCDF	NotFnd		0.9723						1.02		8333.59	0.176
13469/12479-PeCDF	NotFnd		0.9797						1.02		8333.59	0.176
12346-PeCDF	NotFnd		0.9840						1.02		8333.59	0.176

Lab ID: OPR2_18916_DF | **Acq'd: 11 Feb 2022 16:55 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18916_OPR002 | **UTP: 14-Feb-2022 10:10:28 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 149-207-PPQ**

Datafile: 220211C03 | **Report: 14 Feb 2022 10:42 gd** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		8333.59	0.176
12347-PeCDF	NotFnd		0.9894						1.02		8333.59	0.176
12348-PeCDF	NotFnd		0.9940						1.02		8333.59	0.176
12378-PeCDF	**32.36**		**1.0005**	**1.0006**	**+0.2**	**2.51E+07**	**1.51**	**Y**	**1.02**	**55.2**	**8333.59**	**0.174**
12678/12367-PeCDF	NotFnd		1.0089						1.02		8333.59	0.176
12379-PeCDF	NotFnd		1.0142						1.02		8333.59	0.176
12679-PeCDF	NotFnd		0.9929						1.02		8333.59	0.176
23467/12369-PeCDF	NotFnd		0.9967						1.02		8333.59	0.176
23478-PeCDF	**33.47**		**1.0005**	**1.0005**	**0**	**2.50E+07**	**1.52**	**Y**	**1.02**	**58.5**	**8333.59**	**0.178**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		8333.59	0.176
12349-PeCDF	NotFnd		1.0100						1.02		8333.59	0.176
12389-PeCDF	34.55		1.0324	1.0326	+0.4	5.56E+06	1.55	Y	1.02	12.6	8333.59	0.176
123468-HxCDF	35.33		0.9627	0.9626	-0.2	5.35E+07	1.22	Y	1.19	136	9822.433	0.21
124678/134678-HxCDF	NotFnd		0.9682						1.19		9822.433	0.21
134679-HxCDF	NotFnd		0.9744						1.19		9822.433	0.21
124679-HxCDF	NotFnd		0.9798						1.19		9822.433	0.21
124689-HxCDF	NotFnd		0.9858						1.19		9822.433	0.21
123467-HxCDF	NotFnd		0.9972						1.19		9822.433	0.21
123478-HxCDF	**36.72**		**1.0005**	**1.0004**	**-0.2**	**2.06E+07**	**1.24**	**Y**	**1.27**	**55.5**	**9822.433**	**0.218**
123678-HxCDF	**36.86**		**1.0005**	**1.0005**	**0**	**2.53E+07**	**1.22**	**Y**	**1.15**	**57.1**	**9822.433**	**0.19**
123479-HxCDF	NotFnd		1.0049						1.19		9822.433	0.21
123469-HxCDF	NotFnd		1.0090						1.19		9822.433	0.21
123679-HxCDF	NotFnd		0.9942						1.19		9822.433	0.21
234678-HxCDF	**37.54**		**1.0005**	**1.0005**	**0**	**2.44E+07**	**1.21**	**Y**	**1.19**	**55.8**	**9822.433**	**0.198**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		9822.433	0.21
123789-HxCDF	**38.50**		**1.0004**	**1.0004**	**0**	**1.73E+07**	**1.25**	**Y**	**1.16**	**54.9**	**9822.433**	**0.249**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		9822.433	0.21
1234678-HpCDF	**39.88**		**1.0003**	**1.0003**	**0**	**2.34E+07**	**1.03**	**Y**	**1.37**	**57.6**	**2520.509**	**0.0474**
1234679-HpCDF	NotFnd		1.0068						1.34		2520.509	0.0574
1234689-HpCDF	NotFnd		1.0103						1.34		2520.509	0.0574
1234789-HpCDF	**41.28**		**1.0003**	**1.0003**	**0**	**1.41E+07**	**1.03**	**Y**	**1.31**	**56.3**	**2520.509**	**0.073**
OCDF	**43.69**		**1.0003**	**1.0003**	**0**	**2.13E+07**	**0.91**	**Y**	**1.07**	**114**	**2628.9489**	**0.156**
OCDF-a	43.69		1.0002	1.0002	0	1.33E+06	2.81	Y	0.07	115	4206.21	4.03

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220211C03	Analysis Date:	11-FEB-2022 16:55:36
Lab ID:	OPR2_18916_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	12.7	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	53.4	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	59.7	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	59.9	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	56.6	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	59.4	35	-	70	Y
OCDD	100	119	78	-	144	Y
2,3,7,8-TCDF	10	12	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	55.2	40	-	67	Y
2,3,4,7,8-PeCDF	50	58.5	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	55.5	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	57.1	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	55.8	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	54.9	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	57.6	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	56.3	39	-	69	Y
OCDF	100	114	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 14 Feb 2022 10:42 Analyst: gd

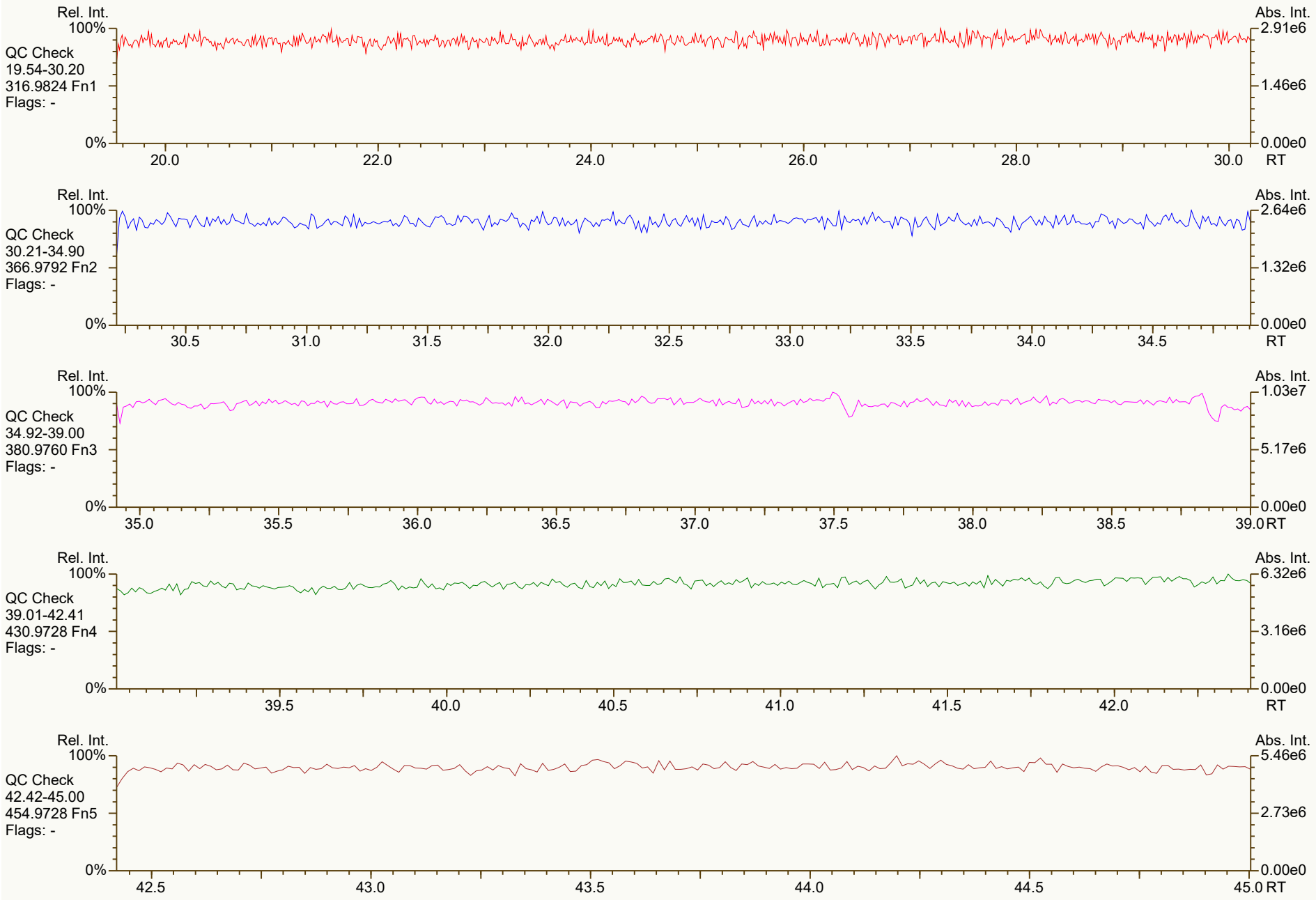
METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220211C03	Analysis Date:	11-FEB-2022 16:55:36
Lab ID:	OPR2_18916_DF		

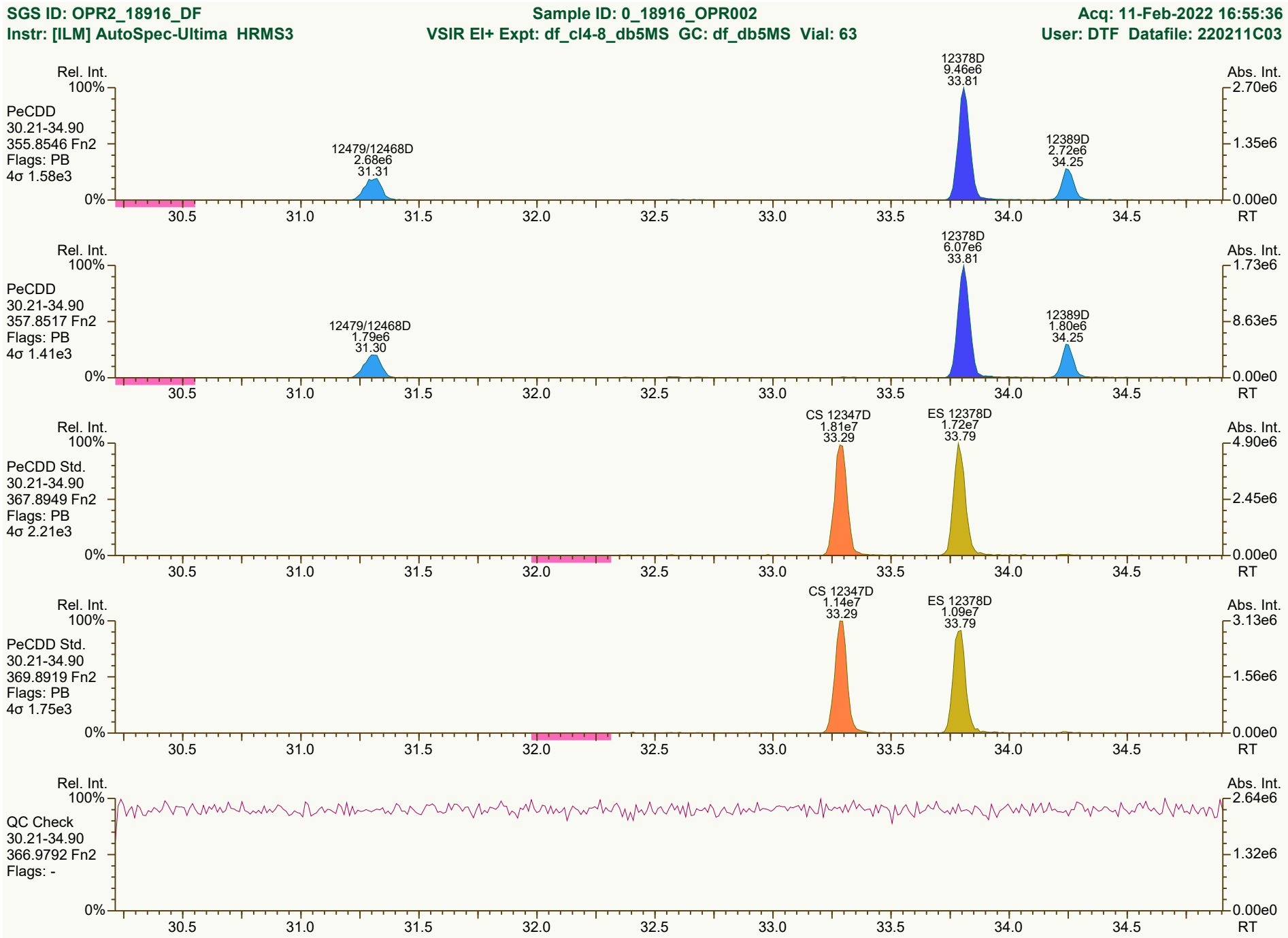
LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	81.3	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	89.8	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	86.4	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	96.4	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	83.8	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	84.7	26	-	166	Y
13C-OCDD	200	165	26	-	397	Y
13C-2,3,7,8-TCDF	100	73	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	85.9	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	83.5	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	83.4	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	97.2	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	101	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	80.2	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	105	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	77.1	20	-	186	Y
13C-OCDF	200	147	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	37.4	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

Processed: 14 Feb 2022 10:42 Analyst: gd


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
2.91e6
1.46e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
2.64e6
1.32e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.03e7
5.17e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
6.32e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.46e6
2.73e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.05e3
0%
1368D
2.84e6
24.82
1239D
1.94e6
28.31
2378D
2.01e6
28.47
1289D
2.82e6
29.44
Abs. Int.
7.15e5
3.58e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.38e3
0%
1368D
3.56e6
24.82
1239D
2.49e6
28.31
2378D
2.55e6
28.47
1289D
3.61e6
29.44
Abs. Int.
8.76e5
4.38e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.12e3
0%
CS 37Cl-2378D
1.60e7
28.47
Abs. Int.
3.67e6
1.84e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 2.03e3
0%
JS 1234D
1.60e7
27.78
ES 2378D
1.36e7
28.44
Abs. Int.
3.73e6
1.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.95e3
0%
JS 1234D
1.96e7
27.78
ES 2378D
1.66e7
28.44
Abs. Int.
4.44e6
2.22e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT



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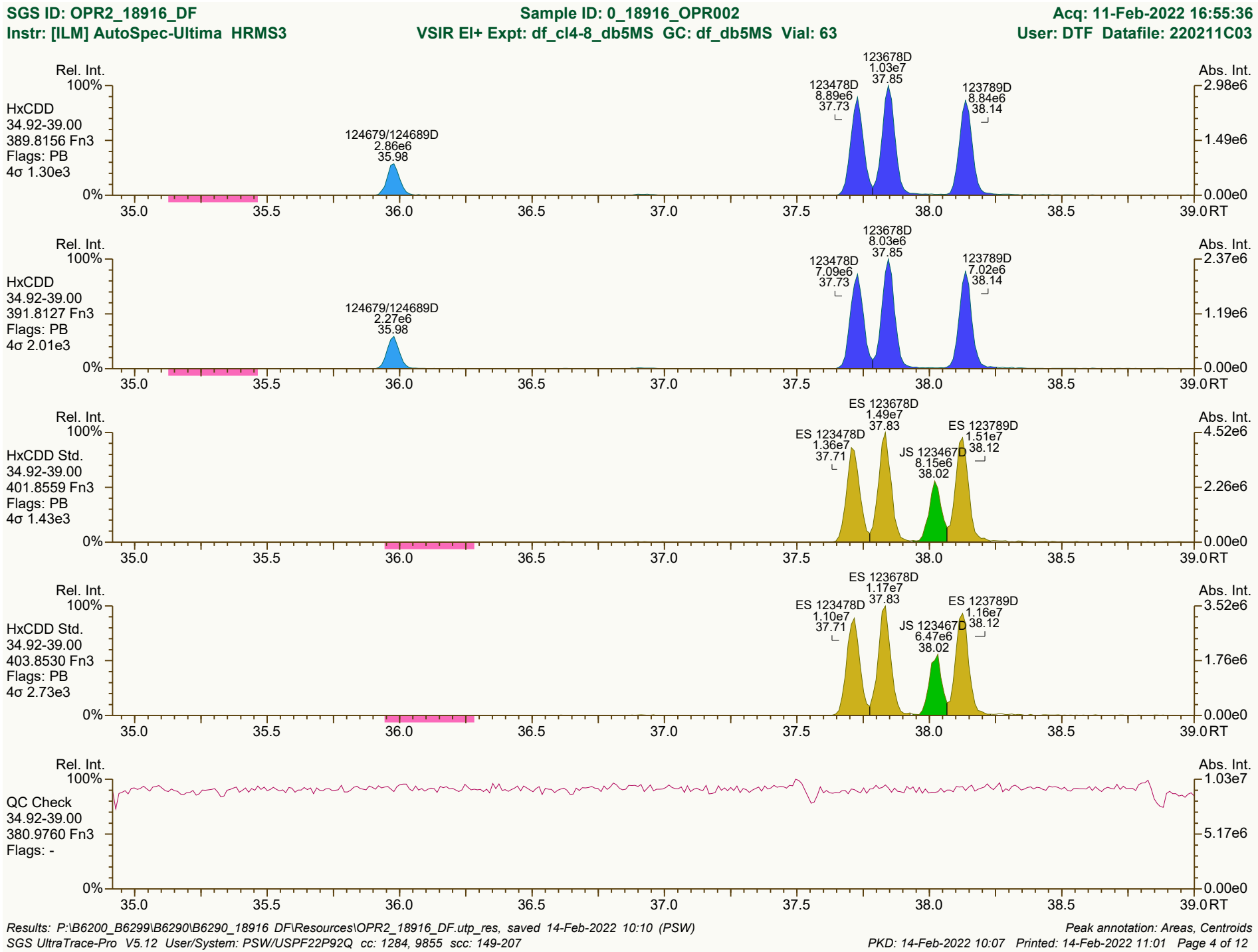
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6715, 8039 scc: 149-207
PKD: 14-Feb-2022 10:07 Printed: 14-Feb-2022 11:01 Page 3 of 12



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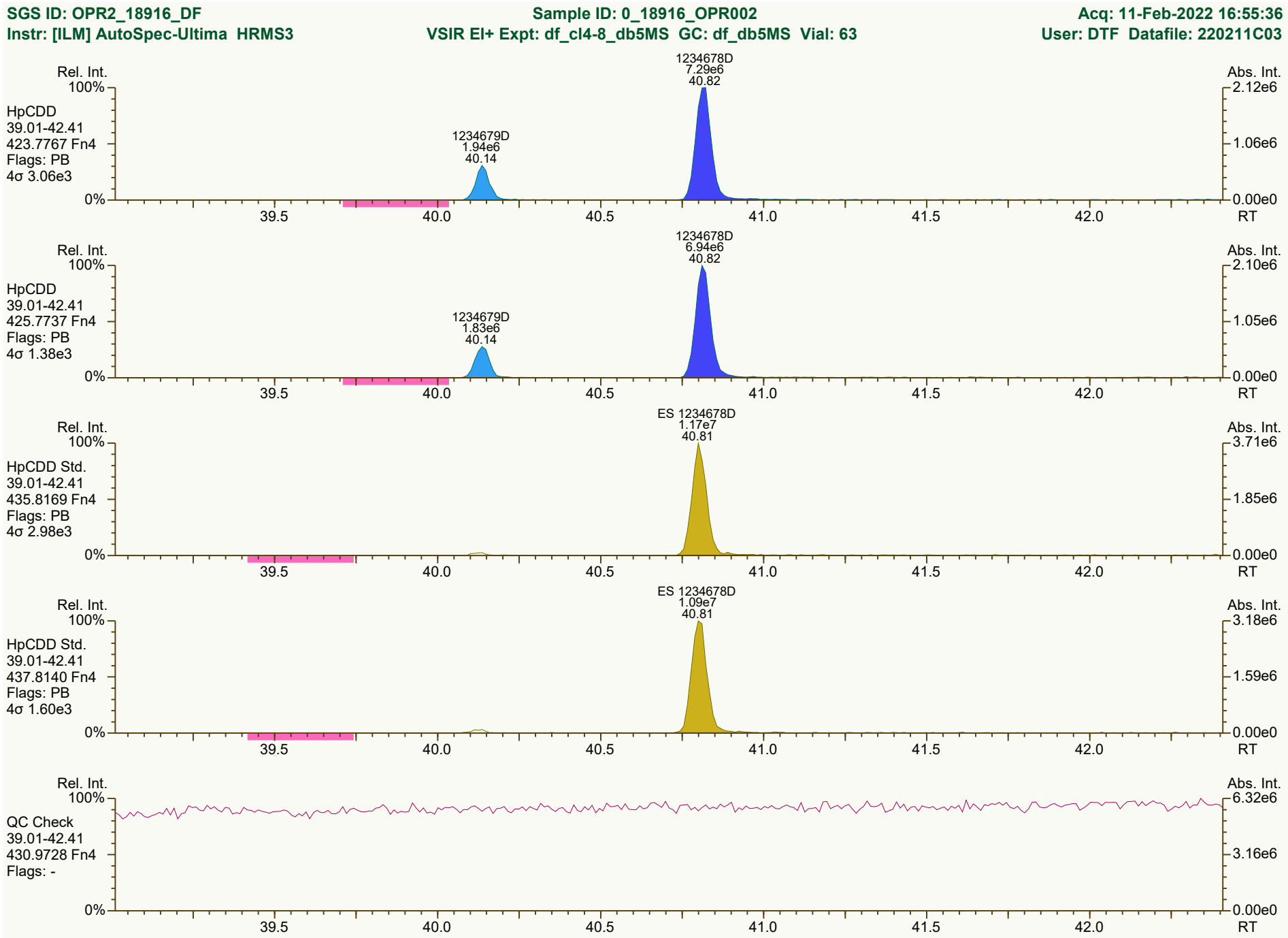
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1284, 9855 scc: 149-207
PKD: 14-Feb-2022 10:07 Printed: 14-Feb-2022 11:01 Page 4 of 12

SGS ID: OPR2_18916_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18916_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 63

Acq: 11-Feb-2022 16:55:36
User: DTF Datafile: 220211C03



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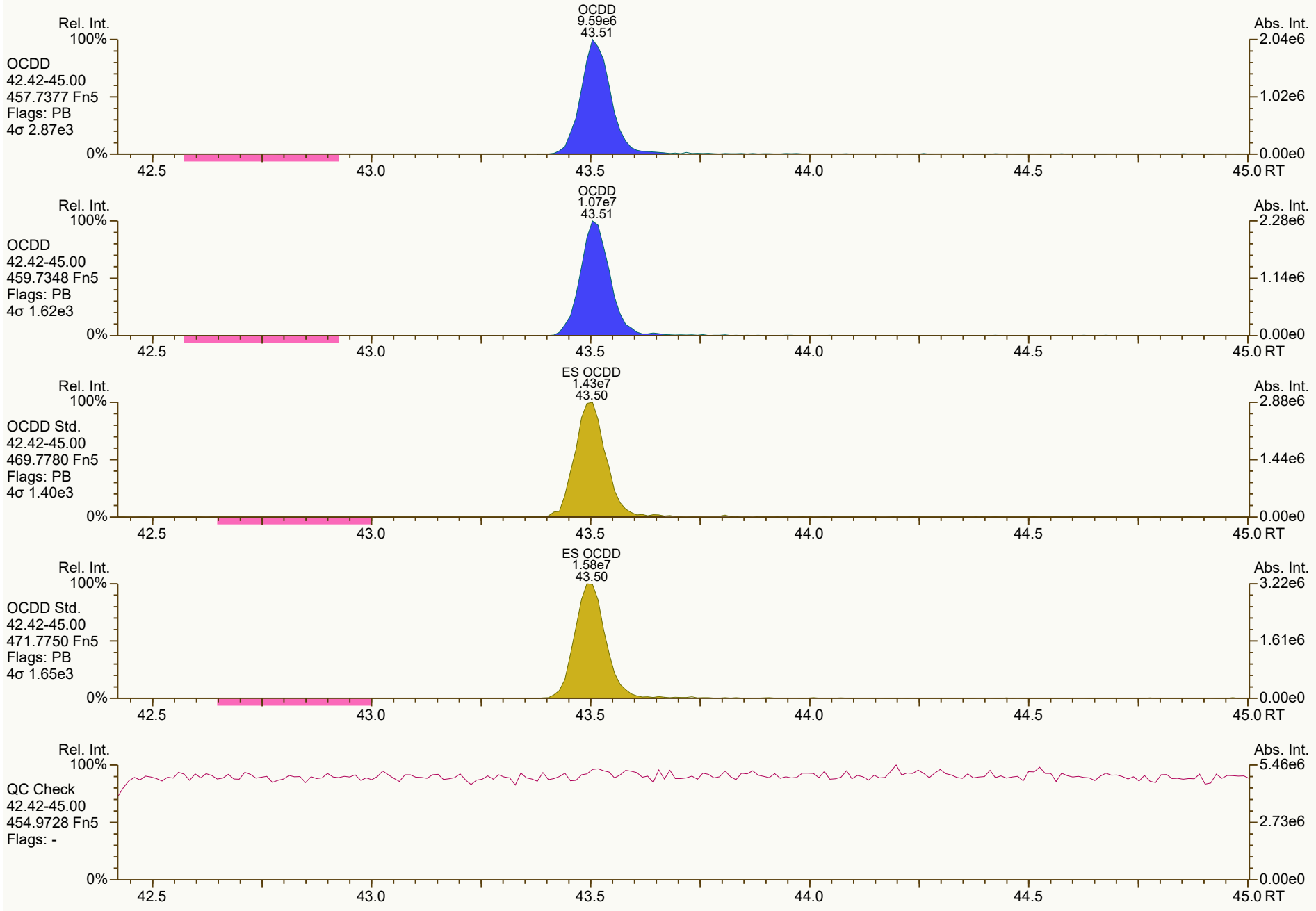
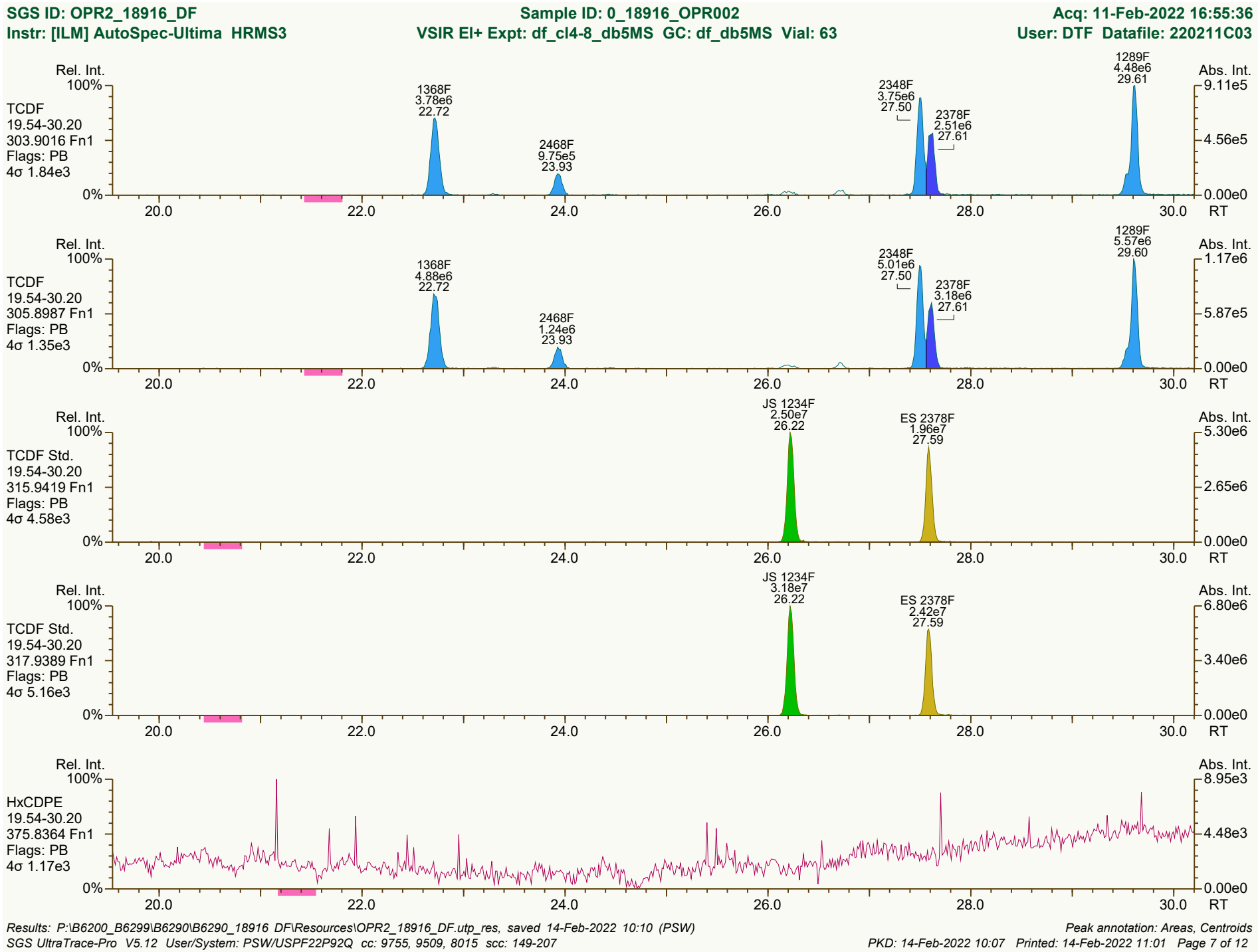
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8607, 8381 scc: 149-207

Peak annotation: Areas, Centroids
PKD: 14-Feb-2022 10:07 Printed: 14-Feb-2022 11:01 Page 5 of 12


OCDD
9.59e6
43.51
Rel. Int.
Abs. Int.
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 2.87e3
OCDD
1.07e7
43.51
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 1.62e3
ES OCDD
1.43e7
43.50
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 1.40e3
ES OCDD
1.58e7
43.50
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 1.65e3
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: OPR2_18916_DF
Sample ID: 0_18916_OPR002
Acq: 11-Feb-2022 16:55:36
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 63
User: DTF Datafile: 220211C03
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.84e3
1368F 3.78e6 22.72
2468F 9.75e5 23.93
2348F 3.75e6 27.50
2378F 2.51e6 27.61
1289F 4.48e6 29.61
9.11e5
4.56e5
0.00e0
RT
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 1.35e3
1368F 4.88e6 22.72
2468F 1.24e6 23.93
2348F 5.01e6 27.50
2378F 3.18e6 27.61
1289F 5.57e6 29.60
1.17e6
5.87e5
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 4.58e3
JS 1234F 2.50e7 26.22
ES 2378F 1.96e7 27.59
5.30e6
2.65e6
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 5.16e3
JS 1234F 3.18e7 26.22
ES 2378F 2.42e7 27.59
6.80e6
3.40e6
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.17e3
8.95e3
4.48e3
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\OPR2_18916_DF.utp_res, saved 14-Feb-2022 10:10 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9755, 9509, 8015 scc: 149-207
PKD: 14-Feb-2022 10:07 Printed: 14-Feb-2022 11:01 Page 7 of 12

SGS ID: OPR2_18916_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

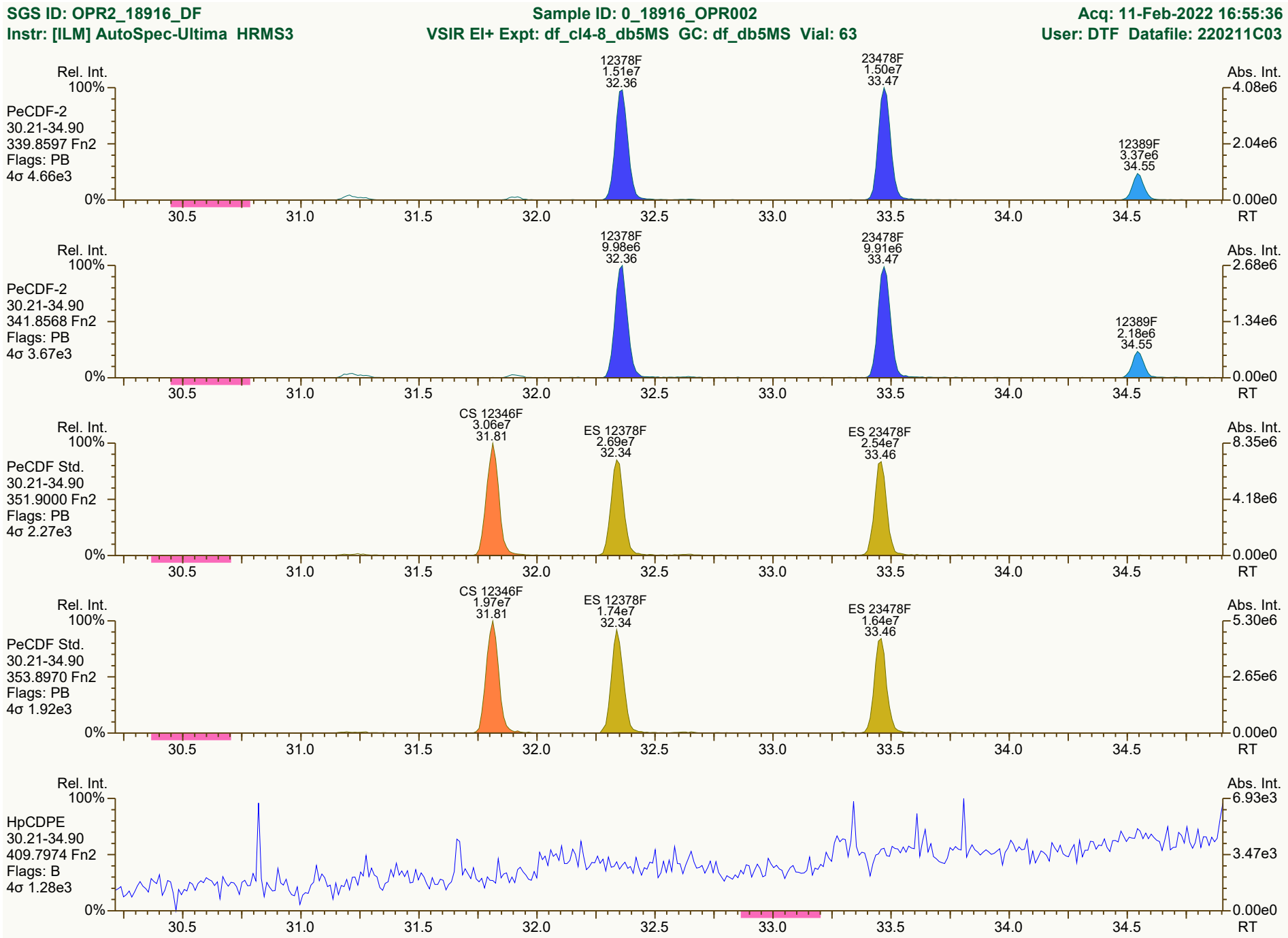
Sample ID: 0_18916_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 63

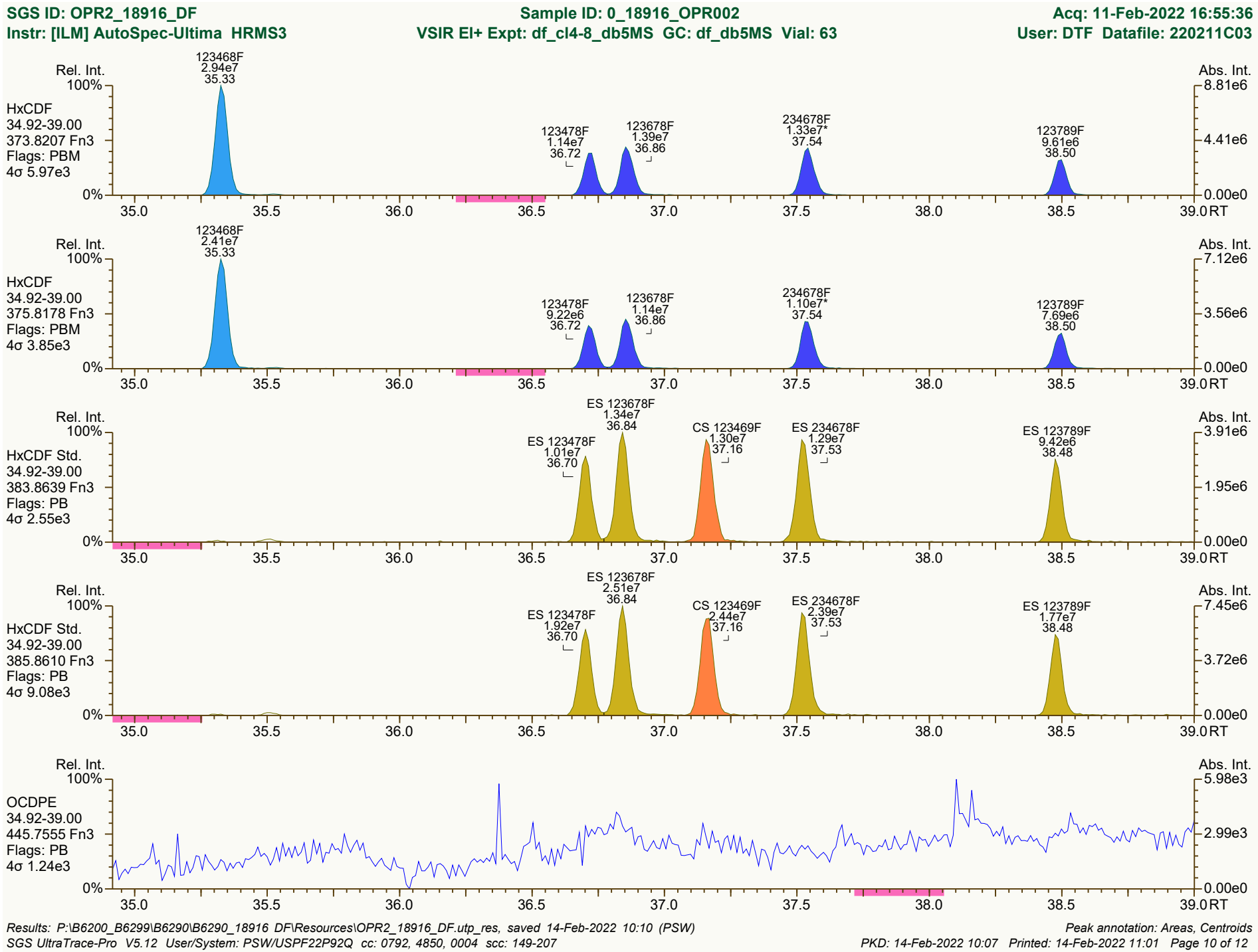
Acq: 11-Feb-2022 16:55:36
User: DTF Datafile: 220211C03



Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\OPR2_18916_DF.utp_res, saved 14-Feb-2022 10:10 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3304 scc: 149-207

Peak annotation: Areas, Centroids
PKD: 14-Feb-2022 10:07 Printed: 14-Feb-2022 11:01 Page 8 of 12


SGS ID: OPR2_18916_DF
Instr: [ILM] AutoSpec-Ultima HRMS3
Sample ID: 0_18916_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 63
Acq: 11-Feb-2022 16:55:36
User: DTF Datafile: 220211C03
Rel. Int.
Abs. Int.
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PB
4σ 4.66e3
12378F
1.51e7
32.36
23478F
1.50e7
33.47
12389F
3.37e6
34.55
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PB
4σ 3.67e3
12378F
9.98e6
32.36
23478F
9.91e6
33.47
12389F
2.18e6
34.55
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 2.27e3
CS 12346F
3.06e7
31.81
ES 12378F
2.69e7
32.34
ES 23478F
2.54e7
33.46
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 1.92e3
CS 12346F
1.97e7
31.81
ES 12378F
1.74e7
32.34
ES 23478F
1.64e7
33.46
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.28e3
RT
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\OPR2_18916_DF.utp_res, saved 14-Feb-2022 10:10 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8930, 0735, 3220 scc: 149-207
Peak annotation: Areas, Centroids
PKD: 14-Feb-2022 10:07 Printed: 14-Feb-2022 11:01 Page 9 of 12



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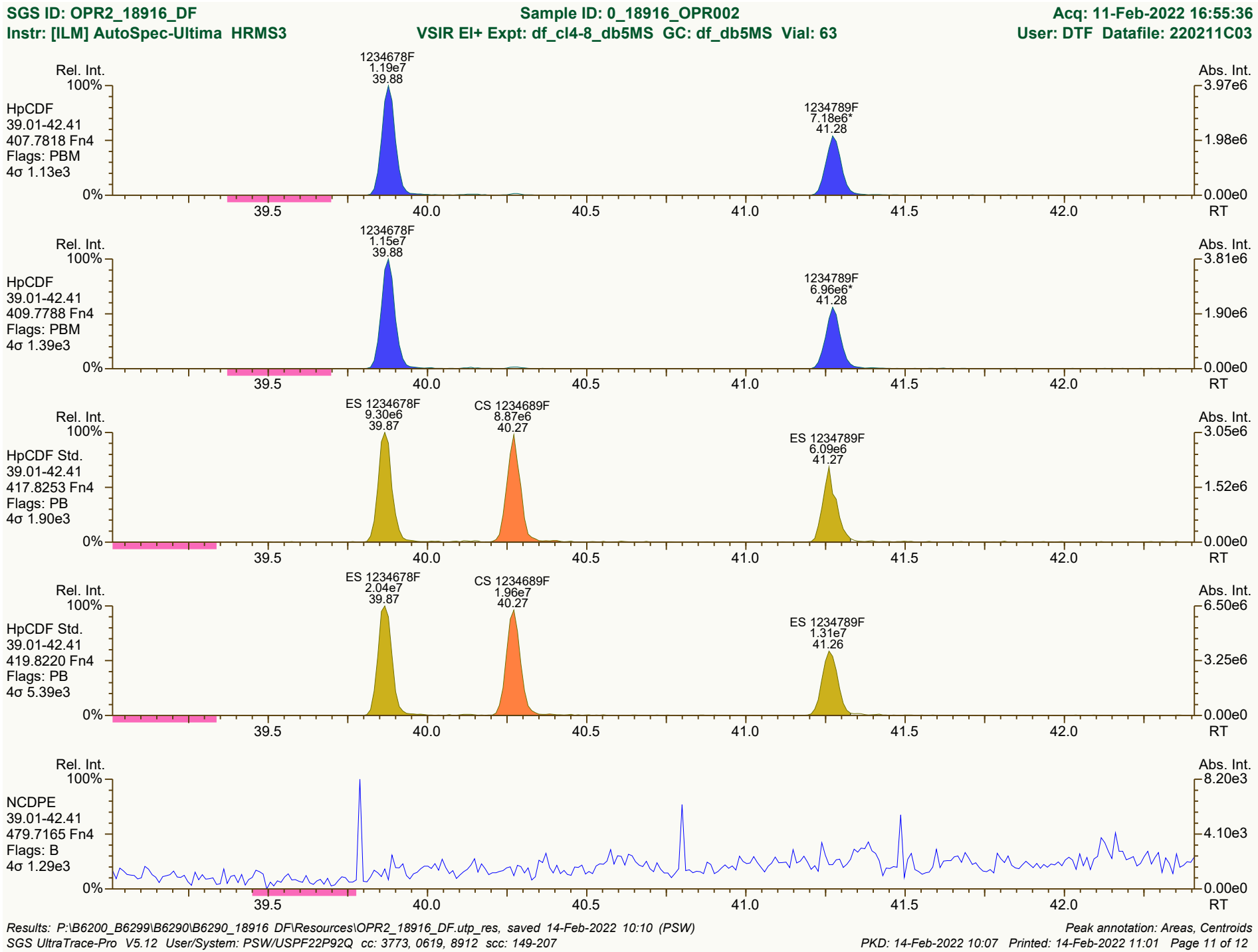
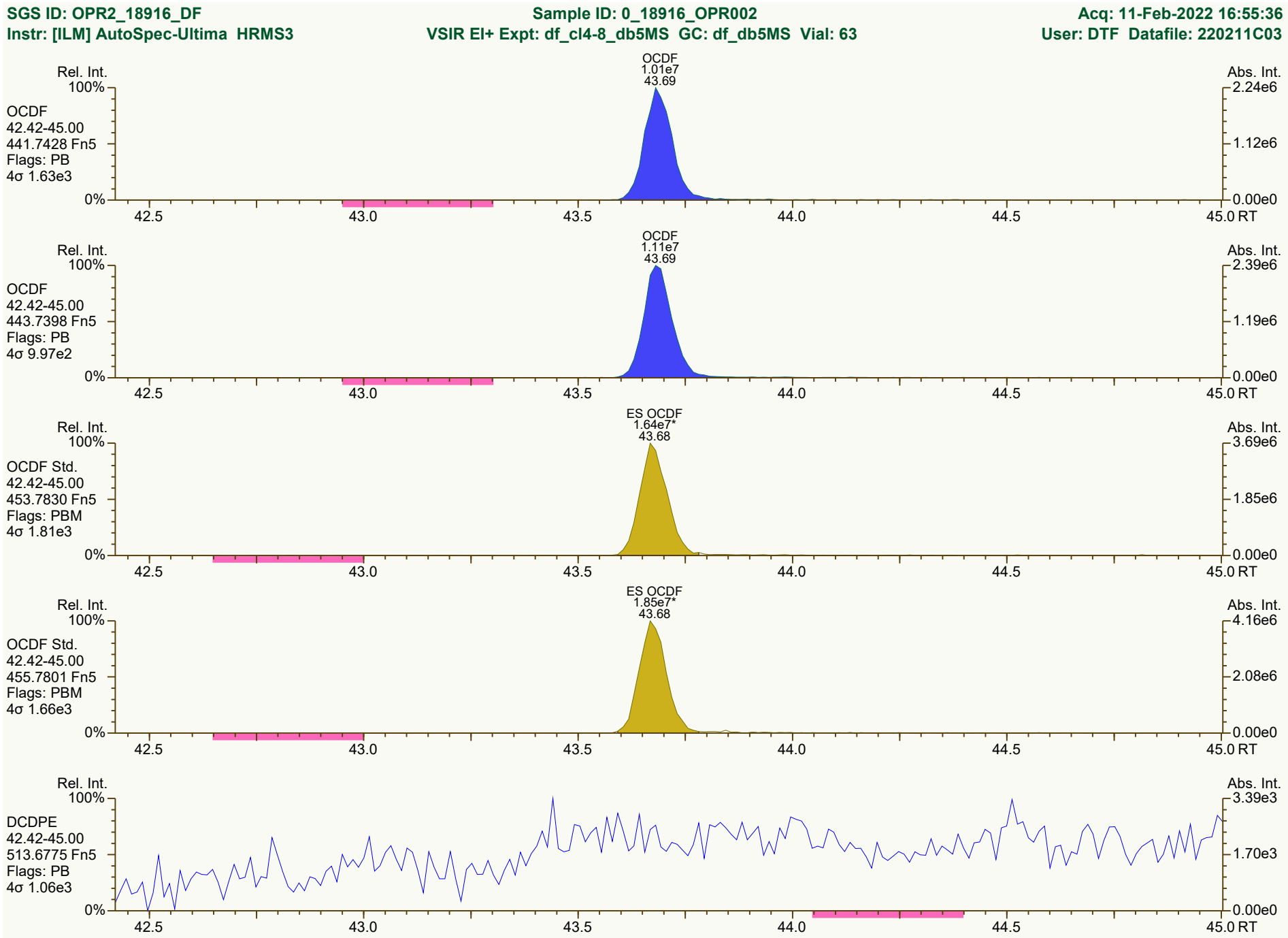
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0792, 4850, 0004 scc: 149-207
PKD: 14-Feb-2022 10:07 Printed: 14-Feb-2022 11:01 Page 10 of 12


SGS ID: OPR2_18916_DF
Sample ID: 0_18916_OPR002
Acq: 11-Feb-2022 16:55:36
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 63
User: DTF Datafile: 220211C03
Rel. Int.
Abs. Int.
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 1.13e3
1234678F
1.19e7
39.88
1234789F
7.18e6*
41.28
3.97e6
1.98e6
0.00e0
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 1.39e3
1234678F
1.15e7
39.88
1234789F
6.96e6*
41.28
3.81e6
1.90e6
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 1.90e3
ES 1234678F
9.30e6
39.87
CS 1234689F
8.87e6
40.27
ES 1234789F
6.09e6
41.27
3.05e6
1.52e6
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 5.39e3
ES 1234678F
2.04e7
39.87
CS 1234689F
1.96e7
40.27
ES 1234789F
1.31e7
41.26
6.50e6
3.25e6
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.29e3
8.20e3
4.10e3
100%
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6290\B6290_18916 DF\Resources\OPR2_18916_DF.utp_res, saved 14-Feb-2022 10:10 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3773, 0619, 8912 scc: 149-207
PKD: 14-Feb-2022 10:07 Printed: 14-Feb-2022 11:01 Page 11 of 12

SGS ID: OPR2_18916_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18916_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 63

Acq: 11-Feb-2022 16:55:36
User: DTF Datafile: 220211C03



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SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5075, 6675, 2653 scc: 149-207

Peak annotation: Areas, Centroids
PKD: 14-Feb-2022 10:07 Printed: 14-Feb-2022 11:01 Page 12 of 12



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6234

28-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

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This report is approved by

Tamara Burkamper

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Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6234
Analytical Protocol(s)	1613B
No. Samples Submitted	9
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	26-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	0.2, 0.0
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.14.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements, except for the following: the reported percent deviation of CS 1,2,3,4,6,8,9-HpCDF is above SOP criteria. There is no method specified criteria for these standards and no adverse impact on results.

No re-extractions or dilutions were required.

B6234_005: the reported ion ratio of labeled standard ES 1,2,3,7,8,9-HxCDD is outside method criteria.

OPR1/OPR2_18872 meet accuracy and precision criteria, except for the following: RPD of 2,3,7,8-TCDF is >20%.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-020422-S-SB-SW-O-22 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.13 g	Lab Sample ID	B6291_18925_DF_001	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	77.3 %	QC Batch No:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	7:50:34

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	2.76				ES 2378-TCDD	64.4	
12378-PeCDD	EMPC		1.36	J	ES 12378-PeCDD	74.8	
123478-HxCDD	2.25			J	ES 123478-HxCDD	68.9	
123678-HxCDD	12.3				ES 123678-HxCDD	70.3	
123789-HxCDD	7.79				ES 123789-HxCDD	67.8	
1234678-HpCDD	460				ES 1234678-HpCDD	78.2	
OCDD	3,640				ES OCDD	80.8	
2378-TCDF	10.4				ES 2378-TCDF	61.6	
12378-PeCDF	1.66			J	ES 12378-PeCDF	65.8	
23478-PeCDF	4.12				ES 23478-PeCDF	63	
123478-HxCDF	4.47				ES 123478-HxCDF	75.3	
123678-HxCDF	2.68				ES 123678-HxCDF	76.3	
234678-HxCDF	EMPC		2.9		ES 234678-HxCDF	74.1	
123789-HxCDF	ND	0.409			ES 123789-HxCDF	74.1	
1234678-HpCDF	27				ES 1234678-HpCDF	80.6	
1234789-HpCDF	3.03				ES 1234789-HpCDF	77	
OCDF	80				ES OCDF	79.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	66.5	
Total TCDD	5.82		5.82		CS 12347-PeCDD	86.7	
Total PeCDD	4.22		12.2		CS 12346-PeCDF	74.9	
Total HxCDD	119		123		CS 123469-HxCDF	90.3	
Total HpCDD	863		863		CS 1234689-HpCDF	95.4	
Total TCDF	33.9		43.8				
Total PeCDF	31.7		34.8				
Total HxCDF	38.8		44.8				
Total HpCDF	83.9		83.9				
Total PCDD/Fs	**4,900**		**4,930**				
WHO-2005 TEQs							
TEQ: ND=0	14.1		15.7				
TEQ: ND=DL/2	14.1	0.694	15.7				
TEQ: ND=DL	14.1	1.39	15.7				

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Sample ID: 11215131-020422-S-SB-SW-O-22 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.13 g	Lab Sample ID:	B6291_18925_DF_001	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	77.3 %	QC Batch No.:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	7:50:34

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	2.02		12479/12468D	3.47		124679/124689D	33.1		1234679D	403	
1379D	1.03		12469D	[1.01]	J	123468D	4.68		1234678D	460	
1369D	(0.565)		12368D	[1.25]	J	123679/123689D	58.8				
1469D	(0.565)		12478D	[1.88]	J	123469D	[2.44]	J			
1247D...[4]	(0.565)		12379D	[0.96]	J	123478D	2.25	J			
1378D	(0.565)		12369D...[3]	[1.51]	J	123678D	12.3				
1268D	(0.565)		12346/12347D	0.746	J	123467D	[1.41]	J			
1478D	(0.565)		12378D	[1.36]	J	123789D	7.79		**Conc.**	863	
1279D	(0.565)		12367D	(0.446)					**EMPC**	863	
1234/1269D	(0.565)		12389D	(0.446)							
1236D	(0.565)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.565)										
1239D	(0.565)								OCDD	3640	
2378D	2.76										
1278D	(0.565)										
1267D	(0.565)										
1289D	(0.565)										
Conc.	5.82		**Conc.**	4.22		**Conc.**	119				
EMPC	5.82		**EMPC**	12.2		**EMPC**	123				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	14.1	15.7
TEQ: ND=DL/2	14.1	15.7
TEQ: ND=DL	14.1	15.7

	Conc.	EMPC
Total PCDD/Fs	4,900	4,930

Checkcode: 951-246-YSG

Report Created: 23-Feb-2022 08:09 Analyst: TF

Sample ID: 11215131-020422-S-SB-SW-O-22 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.13 g	Lab Sample ID:	B6291_18925_DF_001	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	77.3 %	QC Batch No.:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	7:50:34

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[0.581]		13468/12468F	9.38		123468F	4		1234678F	27	
1468F	1.07		13678F...[3]	[2.38]	J	124678/134678F	14.6		1234679F	1.58	J
2468F	2.33		12368F...[3]	8.83		134679F	(0.357)		1234689F	52.3	
1346/1246F	0.792		14678F	(0.212)		124679F	[0.813]	J	1234789F	3.03	
1347F...[3]	3.11		13479F	(0.212)		124689F	13				
1348F	[0.695]		13469/12479F	(0.212)		123467F	[1.44]	J			
1248F...[3]	2.45		12346F	(0.212)		123478F	4.47				
1268F	1.65		23468/12469F	3.15		123678F	2.68				
1467F	[0.782]		12347F	(0.212)		123479F	(0.357)				
1478F	1.62		12348F	[0.738]	J	123469F	(0.357)				
1369/1237F	[0.624]		12378F	1.66	J	123679F	(0.357)				
2467F	[0.829]		12678/12367F	3.06		234678F	[2.9]		**Conc.**	83.9	
2368F	4.31		12379F	(0.212)		234678/123689F	0		**EMPC**	83.9	
1238F...[5]	(0.335)		12679F	(0.212)		123689F	(0.357)				
1278F	[4.24]		23467/12369F	1.47	J	123789F	(0.409)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.335)		23478F	4.12		123789/123489F	0				
1267F	1.59		23478/12489F	0		123489F	[0.844]	J	OCDF	80	
2346/1249F	(0.335)		12489F	(0.212)							
2347/1279F	[0.905]		12349F	(0.212)							
2348F	[1.29]		12389F	(0.212)							
2378F	10.4										
2367/3467F	4.54										
1269F	(0.335)										
1239F	(0.335)										
1289F	(0.335)										
Conc.	33.9		**Conc.**	31.7		**Conc.**	38.8				
EMPC	43.8		**EMPC**	34.8		**EMPC**	44.8				

Checkcode: 951-246-YSG

Report Created: 23-Feb-2022 08:09 Analyst: TF

Sample ID: 11215131-020422-S-SB-SW-O-22 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6291_18925_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.13 g	QC Batch No.:	18925
Date Collected:	04-Feb-2022	Split:	-	Date Extracted:	14-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	22-Feb-2022 07:50
Lab Project No:	B6291	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	2.76		0.565	2.76	2.76	2.76
12378-PeCDD	[1.36]	J	0.446	[0.679]	[1.36]	[1.36]
123478-HxCDD	2.25	J	0.43	0.225	0.225	0.225
123678-HxCDD	12.3		0.39	1.23	1.23	1.23
123789-HxCDD	7.79		0.4	0.779	0.779	0.779
1234678-HpCDD	460		0.323	4.6	4.6	4.6
OCDD	3640		0.879	3.64	0.364	1.09
2378-TCDF	10.4		0.335	1.04	1.04	1.04
12378-PeCDF	1.66	J	0.216	0.0828	0.0828	0.0497
23478-PeCDF	4.12		0.207	2.06	2.06	1.24
123478-HxCDF	4.47		0.332	0.447	0.447	0.447
123678-HxCDF	2.68		0.323	0.268	0.268	0.268
234678-HxCDF	[2.9]		0.373	[0.29]	[0.29]	[0.29]
123789-HxCDF	(0.409)		0.409	(0.0409)	(0.0409)	(0.0409)
1234678-HpCDF	27		0.221	0.27	0.27	0.27
1234789-HpCDF	3.03		0.33	0.0303	0.0303	0.0303
OCDF	80		0.601	0.08	0.008	0.024

TEQ Summaries			
EMPC = 0, ND = 0	17.5	14.2	14.1
EMPC = 0, ND = DL / 2	17.5	14.2	14.1
EMPC = 0, ND = DL	17.6	14.2	14.1
EMPC = 0, < J-level = 0	17.2	13.9	13.8
EMPC = EMPC, ND = 0	18.5	15.8	15.7
EMPC = EMPC, ND = DL / 2	18.5	15.8	15.7
EMPC = EMPC, ND = DL	18.5	15.9	15.7
EMPC = EMPC, < J-level = 0	17.5	14.1	14.1

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Checkcode: 951-246-YSG

Sample ID: 11215131-020422-S-SB-SW-B-24 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.04 g	Lab Sample ID	B6291_18925_DF_002	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	68.8 %	QC Batch No:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:36:55

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	8,910			E	ES 2378-TCDD	83.2	
12378-PeCDD	85.7				ES 12378-PeCDD	96.5	
123478-HxCDD	2.24			J	ES 123478-HxCDD	82.9	
123678-HxCDD	10.7				ES 123678-HxCDD	85.6	
123789-HxCDD	4.81				ES 123789-HxCDD	85.8	
1234678-HpCDD	313				ES 1234678-HpCDD	97.1	
OCDD	4,520				ES OCDD	112	
2378-TCDF	23,000			E	ES 2378-TCDF	71.6	
12378-PeCDF	1,050				ES 12378-PeCDF	89	
23478-PeCDF	707				ES 23478-PeCDF	91.8	
123478-HxCDF	1,750				ES 123478-HxCDF	94.6	
123678-HxCDF	471				ES 123678-HxCDF	94	
234678-HxCDF	93.7				ES 234678-HxCDF	99.2	
123789-HxCDF	ND	0.473			ES 123789-HxCDF	92.4	
1234678-HpCDF	594				ES 1234678-HpCDF	104	
1234789-HpCDF	207				ES 1234789-HpCDF	100	
OCDF	741				ES OCDF	107	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	62.8	
Total TCDD	9,950		9,960		CS 12347-PeCDD	105	
Total PeCDD	107		114		CS 12346-PeCDF	95.3	
Total HxCDD	88.1		88.1		CS 123469-HxCDF	104	
Total HpCDD	612		612		CS 1234689-HpCDF	110	
Total TCDF	39,700		39,700				
Total PeCDF	2,690		2,690				
Total HxCDF	2,690		2,690				
Total HpCDF	968		968				
Total PCDD/Fs	**62,100**		**62,100**				
WHO-2005 TEQs							
TEQ: ND=0	11800		11800				
TEQ: ND=DL/2	11800	0.559	11800				
TEQ: ND=DL	11800	1.12	11800				

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Sample ID: 11215131-020422-S-SB-SW-B-24 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.04 g	Lab Sample ID:	B6291_18925_DF_002	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	68.8 %	QC Batch No.:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:36:55

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	1.34		12479/12468D	[3.93]		124679/124689D	33.5		1234679D	299	
1379D	2.28		12469D	2.01	J	123468D	4.03		1234678D	313	
1369D	(0.271)		12368D	5.86		123679/123689D	30.1				
1469D	2.55		12478D	5.45		123469D	1.45	J			
1247D...[4]	6.97		12379D	2.24	J	123478D	2.24	J			
1378D	19.3		12369D...[3]	2.11	J	123678D	10.7				
1268D	1.38		12346/12347D	2.32	J	123467D	1.33	J			
1478D	8.47		12378D	85.7		123789D	4.81		**Conc.**	612	
1279D	(0.271)		12367D	[3.05]					**EMPC**	612	
1234/1269D	2.06		12389D	1.58	J						
1236D	[0.888]								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	133										
1239D	(0.271)								OCDD	4520	
2378D	8910	E									
1278D	853										
1267D	(0.271)										
1289D	12.5										
Conc.	9,950		**Conc.**	107		**Conc.**	88.1				
EMPC	9,960		**EMPC**	114		**EMPC**	88.1				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	11,800	11,800
TEQ: ND=DL/2	11,800	11,800
TEQ: ND=DL	11,800	11,800

	Conc.	EMPC
Total PCDD/Fs	62,100	62,100

Checkcode: 638-649-TVW

Report Created: 23-Feb-2022 08:09 Analyst: TF

Sample ID: 11215131-020422-S-SB-SW-B-24 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received: 08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.04 g	Lab Sample ID:	B6291_18925_DF_002	Date Extracted: 14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	68.8 %	QC Batch No.:	18925	Date Analyzed: 22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed: 8:36:55

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	0.833		13468/12468F	19.1		123468F	17.4		1234678F	594	
1468F	12.4		13678F...[3]	11.2		124678/134678F	146		1234679F	9.44	
2468F	19		12368F...[3]	434		134679F	(0.419)		1234689F	159	
1346/1246F	(0.193)		14678F	(0.542)		124679F	1.45	J	1234789F	207	
1347F...[3]	62.1		13479F	(0.542)		124689F	66.8				
1348F	29.5		13469/12479F	0.949	J	123467F	8.93				
1248F...[3]	90.5		12346F	(0.542)		123478F	1750				
1268F	52.5		23468/12469F	17.9		123678F	471				
1467F	41.8		12347F	17		123479F	(0.419)				
1478F	131		12348F	85.9		123469F	(0.419)				
1369/1237F	89.9		12378F	1050		123679F	(0.419)				
2467F	30.7		12678/12367F	293		234678F	93.7		**Conc.**	968	
2368F	274		12379F	(0.542)		234678/123689F	0		**EMPC**	968	
1238F...[5]	742		12679F	2.43	J	123689F	(0.419)				
1278F	9140	E	23467/12369F	11.9		123789F	(0.473)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.193)		23478F	707		123789/123489F	0				
1267F	171		23478/12489F	0		123489F	133		OCDF	741	
2346/1249F	53.7		12489F	(0.542)							
2347/1279F	328		12349F	(0.542)							
2348F	926		12389F	42.7							
2378F	23000	E									
2367/3467F	2130	E									
1269F	87.9										
1239F	23.9										
1289F	2270	E									
Conc.	39,700		**Conc.**	2,690		**Conc.**	2,690				
EMPC	39,700		**EMPC**	2,690		**EMPC**	2,690				

Checkcode: 638-649-TVW

Report Created: 23-Feb-2022 08:09 Analyst: TF

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Sample ID: 11215131-020422-S-SB-SW-B-24 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6291_18925_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.04 g	QC Batch No.:	18925
Date Collected:	04-Feb-2022	Split:	-	Date Extracted:	14-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	22-Feb-2022 08:36
Lab Project No:	B6291	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	8910	E	0.271	8910	8910	8910
12378-PeCDD	85.7		0.283	42.8	85.7	85.7
123478-HxCDD	2.24	J	0.642	0.224	0.224	0.224
123678-HxCDD	10.7		0.588	1.07	1.07	1.07
123789-HxCDD	4.81		0.532	0.481	0.481	0.481
1234678-HpCDD	313		0.425	3.13	3.13	3.13
OCDD	4520		0.427	4.52	0.452	1.36
2378-TCDF	23000	E	0.193	2300	2300	2300
12378-PeCDF	1050		0.498	52.5	52.5	31.5
23478-PeCDF	707		0.587	353	353	212
123478-HxCDF	1750		0.417	175	175	175
123678-HxCDF	471		0.396	47.1	47.1	47.1
234678-HxCDF	93.7		0.398	9.37	9.37	9.37
123789-HxCDF	(0.473)		0.473	(0.0473)	(0.0473)	(0.0473)
1234678-HpCDF	594		0.214	5.94	5.94	5.94
1234789-HpCDF	207		0.324	2.07	2.07	2.07
OCDF	741		0.445	0.741	0.0741	0.222

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TEQ Summaries			
EMPC = 0, ND = 0	11900	12000	11800
EMPC = 0, ND = DL / 2	11900	12000	11800
EMPC = 0, ND = DL	11900	12000	11800
EMPC = 0, < J-level = 0	11900	12000	11800
EMPC = EMPC, ND = 0	11900	12000	11800
EMPC = EMPC, ND = DL / 2	11900	12000	11800
EMPC = EMPC, ND = DL	11900	12000	11800
EMPC = EMPC, < J-level = 0	11900	12000	11800

Checkcode: 638-649-TVW

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Sample ID: 11215131-020422-S-SB-SW-B-24-MS — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID	B6291_18925_DF_002MS	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	68.8 %	QC Batch No:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	9:23:16

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	8,510			E	ES 2378-TCDD	77.4	
12378-PeCDD	174				ES 12378-PeCDD	89.4	
123478-HxCDD	111				ES 123478-HxCDD	81	
123678-HxCDD	119				ES 123678-HxCDD	84	
123789-HxCDD	106				ES 123789-HxCDD	84.2	
1234678-HpCDD	469				ES 1234678-HpCDD	91.9	
OCDD	5,540				ES OCDD	99.5	
2378-TCDF	22,500			E	ES 2378-TCDF	65.6	
12378-PeCDF	1,230				ES 12378-PeCDF	80.8	
23478-PeCDF	820				ES 23478-PeCDF	82.1	
123478-HxCDF	2,320				ES 123478-HxCDF	91.9	
123678-HxCDF	644				ES 123678-HxCDF	90.3	
234678-HxCDF	199				ES 234678-HxCDF	94.3	
123789-HxCDF	282				ES 123789-HxCDF	90.3	
1234678-HpCDF	740				ES 1234678-HpCDF	97.6	
1234789-HpCDF	374				ES 1234789-HpCDF	94.1	
OCDF	895				ES OCDF	99.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	61.2	
Total TCDD	9,590		9,590		CS 12347-PeCDD	97.1	
Total PeCDD	249		254		CS 12346-PeCDF	86.2	
Total HxCDD	446		446		CS 123469-HxCDF	97.7	
Total HpCDD	860		860		CS 1234689-HpCDF	103	
Total TCDF	39,900		39,900				
Total PeCDF	3,220		3,220				
Total HxCDF	3,960		3,970				
Total HpCDF	1,330		1,330				
Total PCDD/Fs	**66,000**		**66,100**				
WHO-2005 TEQs							
TEQ: ND=0	11600		11600				
TEQ: ND=DL/2	11600	0.723	11600				
TEQ: ND=DL	11600	1.45	11600				

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Sample ID: 11215131-020422-S-SB-SW-B-24-MSD — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID	B6291_18925_DF_002MSD	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	68.8 %	QC Batch No:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	10:09:36

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	10,800			E	ES 2378-TCDD	74.8	
12378-PeCDD	190				ES 12378-PeCDD	87.2	
123478-HxCDD	97.7				ES 123478-HxCDD	81.9	
123678-HxCDD	113				ES 123678-HxCDD	82.5	
123789-HxCDD	95.4				ES 123789-HxCDD	85.3	
1234678-HpCDD	491				ES 1234678-HpCDD	92.7	
OCDD	6,130				ES OCDD	96.8	
2378-TCDF	27,800			E	ES 2378-TCDF	61.7	
12378-PeCDF	1,490				ES 12378-PeCDF	82.1	
23478-PeCDF	1,020				ES 23478-PeCDF	84	
123478-HxCDF	2,450				ES 123478-HxCDF	83.3	
123678-HxCDF	673				ES 123678-HxCDF	83.1	
234678-HxCDF	208				ES 234678-HxCDF	86.8	
123789-HxCDF	294				ES 123789-HxCDF	83.9	
1234678-HpCDF	748				ES 1234678-HpCDF	94.2	
1234789-HpCDF	345				ES 1234789-HpCDF	89.8	
OCDF	918				ES OCDF	94.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	69.7	
Total TCDD	12,100		12,100		CS 12347-PeCDD	93.2	
Total PeCDD	266		272		CS 12346-PeCDF	88.2	
Total HxCDD	410		412		CS 123469-HxCDF	95.2	
Total HpCDD	890		890		CS 1234689-HpCDF	98.2	
Total TCDF	48,300		48,300				
Total PeCDF	3,930		3,930				
Total HxCDF	4,160		4,160				
Total HpCDF	1,300		1,310				
Total PCDD/Fs	**78,400**		**78,500**				
WHO-2005 TEQs							
TEQ: ND=0	14500		14500				
TEQ: ND=DL/2	14500	0.704	14500				
TEQ: ND=DL	14500	1.41	14500				

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MS/MSD Comparison

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Method 1613B

Sample ID: 11215131-020422-S-SB-SW-B-24

Analyte	Native Conc.	MS Spike	MS Conc.	MS Rec.	MSD Spike	MSD Conc.	MSD Rec.	RPD
	(pg/g)	(pg/g)	(pg/g)	%	(pg/g)	(pg/g)	%	
2,3,7,8-TCDD	8910	19.8	8510	-2010	19.7	10800	9500	*
1,2,3,7,8-PeCDD	85.7	98.9	174	88.8	98.6	190	106	18%
1,2,3,4,7,8-HxCDD	2.24	98.9	111	110	98.6	97.7	96.8	13%
1,2,3,6,7,8-HxCDD	10.7	98.9	119	109	98.6	113	103	6%
1,2,3,7,8,9-HxCDD	4.81	98.9	106	102	98.6	95.4	91.8	11%
1,2,3,4,6,7,8-HpCDD	313	98.9	469	157	98.6	491	180	14%
OCDD	4520	198	5540	515	197	6130	819	46%
2,3,7,8-TCDF	23000	19.8	22500	-2870	19.7	27800	24400	*
1,2,3,7,8-PeCDF	1050	98.9	1230	185	98.6	1490	441	82%
2,3,4,7,8-PeCDF	707	98.9	820	114	98.6	1020	319	95%
1,2,3,4,7,8-HxCDF	1750	98.9	2320	576	98.6	2450	704	20%
1,2,3,6,7,8-HxCDF	471	98.9	644	175	98.6	673	205	16%
2,3,4,6,7,8-HxCDF	93.7	98.9	199	107	98.6	208	116	8%
1,2,3,7,8,9-HxCDF	ND	98.9	282	285	98.6	294	298	4%
1,2,3,4,6,7,8-HpCDF	594	98.9	740	148	98.6	748	156	5%
1,2,3,4,7,8,9-HpCDF	207	98.9	374	169	98.6	345	141	18%
OCDF	741	198	895	77.9	197	918	89.5	14%

* % Recovery limits for MS and MSD: 70-130% of expected value, if native < RL
* RPD limit for MS vs. MSD recoveries: +/- 20%, if native < RL

Sample ID: 11215131-020422-S-SB-SW-B-24H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.04 g	Lab Sample ID	B6291_18925_DF_003	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	75.5 %	QC Batch No:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	10:55:58

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	68.8				ES 2378-TCDD	86.2	
12378-PeCDD	1.63			J	ES 12378-PeCDD	100	
123478-HxCDD	EMPC		1.17	J	ES 123478-HxCDD	88	
123678-HxCDD	5.09				ES 123678-HxCDD	90.4	
123789-HxCDD	3.04				ES 123789-HxCDD	90.1	
1234678-HpCDD	130				ES 1234678-HpCDD	98.6	
OCDD	2,280				ES OCDD	103	
2378-TCDF	200				ES 2378-TCDF	83	
12378-PeCDF	7.75				ES 12378-PeCDF	91.5	
23478-PeCDF	6.78				ES 23478-PeCDF	94.6	
123478-HxCDF	12.2				ES 123478-HxCDF	90.6	
123678-HxCDF	3.83				ES 123678-HxCDF	92.9	
234678-HxCDF	2.52				ES 234678-HxCDF	103	
123789-HxCDF	ND	0.31			ES 123789-HxCDF	93.7	
1234678-HpCDF	85.7				ES 1234678-HpCDF	101	
1234789-HpCDF	4.91				ES 1234789-HpCDF	100	
OCDF	1,260				ES OCDF	103	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	93.4	
Total TCDD	79.5		84.4		CS 12347-PeCDD	109	
Total PeCDD	12.3		14		CS 12346-PeCDF	102	
Total HxCDD	64.3		66.8		CS 123469-HxCDF	106	
Total HpCDD	315		315		CS 1234689-HpCDF	114	
Total TCDF	404		405				
Total PeCDF	38.8		41.3				
Total HxCDF	54.7		54.7				
Total HpCDF	158		158				
Total PCDD/Fs	**4,670**		**4,680**				
WHO-2005 TEQs							
TEQ: ND=0	98.6		98.7				
TEQ: ND=DL/2	98.6	0.521	98.7				
TEQ: ND=DL	98.6	1.04	98.8				

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Sample ID: 11215131-020422-S-SB-SW-B-24H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.04 g	Lab Sample ID:	B6291_18925_DF_003	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	75.5 %	QC Batch No.:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	10:55:58

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[1.81]		12479/12468D	3.71		124679/124689D	33.5		1234679D	185	
1379D	0.801		12469D	3.53		123468D	3.54		1234678D	130	
1369D	(0.295)		12368D	1.33	J	123679/123689D	17.8				
1469D	4.28		12478D	0.965	J	123469D	[1.4]	J			
1247D...[4]	[0.637]		12379D	0.66	J	123478D	[1.17]	J			
1378D	[0.592]		12369D...[3]	[1.7]	J	123678D	5.09				
1268D	(0.295)		12346/12347D	(0.328)		123467D	1.3	J			
1478D	(0.295)		12378D	1.63	J	123789D	3.04		**Conc.**	315	
1279D	(0.295)		12367D	(0.328)					**EMPC**	315	
1234/1269D	[0.587]		12389D	0.513	J						
1236D	(0.295)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	[1.22]										
1239D	(0.295)								OCDD	2280	
2378D	68.8										
1278D	5.67										
1267D	(0.295)										
1289D	(0.295)										
Conc.	79.5		**Conc.**	12.3		**Conc.**	64.3				
EMPC	84.4		**EMPC**	14		**EMPC**	66.8				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	98.6	98.7
TEQ: ND=DL/2	98.6	98.7
TEQ: ND=DL	98.6	98.8

	Conc.	EMPC
Total PCDD/Fs	4,670	4,680

Checkcode: 690-600-TXS

Report Created: 23-Feb-2022 08:09 Analyst: TF

Sample ID: 11215131-020422-S-SB-SW-B-24H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.04 g	Lab Sample ID:	B6291_18925_DF_003	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	75.5 %	QC Batch No.:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	10:55:58

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.48)		13468/12468F	10.1		123468F	4.25		1234678F	85.7	
1468F	1.19		13678F...[3]	1.26	J	124678/134678F	13		1234679F	3.26	
2468F	3.58		12368F...[3]	8.6		134679F	(0.286)		1234689F	64.3	
1346/1246F	(0.48)		14678F	(0.33)		124679F	(0.286)		1234789F	4.91	
1347F...[3]	4.43		13479F	(0.33)		124689F	14.9				
1348F	(0.48)		13469/12479F	(0.33)		123467F	1.56	J			
1248F...[3]	12		12346F	(0.33)		123478F	12.2				
1268F	5.39		23468/12469F	[2.51]		123678F	3.83				
1467F	[1.03]		12347F	(0.33)		123479F	(0.286)				
1478F	9.47		12348F	1.11	J	123469F	0.696	J			
1369/1237F	2.41		12378F	7.75		123679F	(0.286)				
2467F	(0.48)		12678/12367F	3.21		234678F	2.52		**Conc.**	158	
2368F	7.08		12379F	(0.33)		234678/123689F	0		**EMPC**	158	
1238F...[5]	9.68		12679F	(0.33)		123689F	(0.286)				
1278F	90.9		23467/12369F	(0.33)		123789F	(0.31)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.48)		23478F	6.78		123789/123489F	0				
1267F	5.25		23478/12489F	0		123489F	1.63	J	OCDF	1260	
2346/1249F	(0.48)		12489F	(0.33)							
2347/1279F	2.82		12349F	(0.33)							
2348F	14.1		12389F	(0.33)							
2378F	200										
2367/3467F	17.6										
1269F	3.03										
1239F	(0.48)										
1289F	15.2										
Conc.	404		**Conc.**	38.8		**Conc.**	54.7				
EMPC	405		**EMPC**	41.3		**EMPC**	54.7				

Checkcode: 690-600-TXS

Report Created: 23-Feb-2022 08:09 Analyst: TF

Sample ID: 11215131-020422-S-SB-SW-B-24H TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6291_18925_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.04 g	QC Batch No.:	18925
Date Collected:	04-Feb-2022	Split:	-	Date Extracted:	14-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	22-Feb-2022 10:55
Lab Project No:	B6291	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	68.8		0.295	68.8	68.8	68.8
12378-PeCDD	1.63	J	0.328	0.815	1.63	1.63
123478-HxCDD	[1.17]	J	0.509	[0.117]	[0.117]	[0.117]
123678-HxCDD	5.09		0.467	0.509	0.509	0.509
123789-HxCDD	3.04		0.439	0.304	0.304	0.304
1234678-HpCDD	130		0.302	1.3	1.3	1.3
OCDD	2280		0.937	2.28	0.228	0.684
2378-TCDF	200		0.48	20	20	20
12378-PeCDF	7.75		0.336	0.387	0.387	0.232
23478-PeCDF	6.78		0.325	3.39	3.39	2.03
123478-HxCDF	12.2		0.293	1.22	1.22	1.22
123678-HxCDF	3.83		0.271	0.383	0.383	0.383
234678-HxCDF	2.52		0.276	0.252	0.252	0.252
123789-HxCDF	(0.31)		0.31	(0.031)	(0.031)	(0.031)
1234678-HpCDF	85.7		0.13	0.857	0.857	0.857
1234789-HpCDF	4.91		0.193	0.0491	0.0491	0.0491
OCDF	1260		0.334	1.26	0.126	0.378

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TEQ Summaries			
EMPC = 0, ND = 0	102	99.4	98.6
EMPC = 0, ND = DL / 2	102	99.4	98.6
EMPC = 0, ND = DL	102	99.4	98.6
EMPC = 0, < J-level = 0	101	97.8	97
EMPC = EMPC, ND = 0	102	99.5	98.7
EMPC = EMPC, ND = DL / 2	102	99.5	98.7
EMPC = EMPC, ND = DL	102	99.6	98.8
EMPC = EMPC, < J-level = 0	101	97.8	97

Checkcode: 690-600-TXS

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Sample ID: 11215131-020422-S-SB-DUP-15 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	Lab Sample ID	B6291_18925_DF_004	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	74.8 %	QC Batch No:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:42:19

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	69.1				ES 2378-TCDD	81.5	
12378-PeCDD	1.59			J	ES 12378-PeCDD	90.5	
123478-HxCDD	1.74			J	ES 123478-HxCDD	81.4	
123678-HxCDD	EMPC		4.93		ES 123678-HxCDD	85	
123789-HxCDD	3.08				ES 123789-HxCDD	85.4	
1234678-HpCDD	136				ES 1234678-HpCDD	89.2	
OCDD	1,880				ES OCDD	93.5	
2378-TCDF	216				ES 2378-TCDF	78.6	
12378-PeCDF	84.1				ES 12378-PeCDF	84.9	
23478-PeCDF	36.4				ES 23478-PeCDF	85.3	
123478-HxCDF	142				ES 123478-HxCDF	86.1	
123678-HxCDF	31.7				ES 123678-HxCDF	86.1	
234678-HxCDF	8.74				ES 234678-HxCDF	91.6	
123789-HxCDF	ND	0.522			ES 123789-HxCDF	86.6	
1234678-HpCDF	70.1				ES 1234678-HpCDF	92.3	
1234789-HpCDF	15.3				ES 1234789-HpCDF	88.4	
OCDF	1,300				ES OCDF	91.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	84.9	
Total TCDD	84.2		84.9		CS 12347-PeCDD	96.4	
Total PeCDD	10.9		13.3		CS 12346-PeCDF	89.8	
Total HxCDD	77.4		82.4		CS 123469-HxCDF	93.9	
Total HpCDD	401		401		CS 1234689-HpCDF	103	
Total TCDF	434		437				
Total PeCDF	194		197				
Total HxCDF	240		242				
Total HpCDF	148		148				
Total PCDD/Fs	**4,770**		**4,780**				
WHO-2005 TEQs							
TEQ: ND=0	128		128				
TEQ: ND=DL/2	128	0.651	128				
TEQ: ND=DL	128	1.3	128				

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Sample ID: 11215131-020422-S-SB-DUP-15 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	Lab Sample ID:	B6291_18925_DF_004	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	74.8 %	QC Batch No.:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:42:19

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	2.15		12479/12468D	3.54		124679/124689D	40.3		1234679D	265	
1379D	(0.458)		12469D	3.73		123468D	5.79		1234678D	136	
1369D	(0.458)		12368D	[1.5]	J	123679/123689D	20				
1469D	5.34		12478D	[0.889]	J	123469D	3.97				
1247D...[4]	[0.648]		12379D	(0.325)		123478D	1.74	J			
1378D	0.751		12369D...[3]	2.03	J	123678D	[4.93]				
1268D	(0.458)		12346/12347D	(0.325)		123467D	2.59				
1478D	(0.458)		12378D	1.59	J	123789D	3.08		**Conc.**	401	
1279D	(0.458)		12367D	(0.325)					**EMPC**	401	
1234/1269D	0.934		12389D	(0.325)							
1236D	(0.458)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.458)										
1239D	(0.458)								OCDD	1880	
2378D	69.1										
1278D	5.91										
1267D	(0.458)										
1289D	(0.458)										
Conc.	84.2		**Conc.**	10.9		**Conc.**	77.4				
EMPC	84.9		**EMPC**	13.3		**EMPC**	82.4				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	128	128
TEQ: ND=DL/2	128	128
TEQ: ND=DL	128	128

	Conc.	EMPC
Total PCDD/Fs	4,770	4,780

Checkcode: 911-691-KJH

Report Created: 23-Feb-2022 08:09 Analyst: TF

Sample ID: 11215131-020422-S-SB-DUP-15 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	Lab Sample ID:	B6291_18925_DF_004	Date Extracted:	14-Feb-2022
Date Collected:	04-Feb-2022	% Solid:	74.8 %	QC Batch No.:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	11:42:19

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.365)		13468/12468F	10.8		123468F	4.29		1234678F	70.1	
1468F	1.39		13678F...[3]	1.38	J	124678/134678F	20.3		1234679F	3.33	
2468F	3.92		12368F...[3]	36		134679F	(0.486)		1234689F	59.6	
1346/1246F	(0.365)		14678F	(0.282)		124679F	0.878	J	1234789F	15.3	
1347F...[3]	4.47		13479F	(0.282)		124689F	17.9				
1348F	(0.365)		13469/12479F	(0.282)		123467F	[1.63]	J			
1248F...[3]	13.9		12346F	(0.282)		123478F	142				
1268F	5.77		23468/12469F	[1.96]	J	123678F	31.7				
1467F	[0.598]		12347F	[0.495]	J	123479F	(0.486)				
1478F	10		12348F	3.63		123469F	(0.486)				
1369/1237F	2.34		12378F	84.1		123679F	(0.486)				
2467F	0.777		12678/12367F	19.1		234678F	8.74		**Conc.**	148	
2368F	7.83		12379F	(0.282)		234678/123689F	0		**EMPC**	148	
1238F...[5]	10.2		12679F	(0.282)		123689F	(0.486)				
1278F	102		23467/12369F	[0.543]	J	123789F	(0.522)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.365)		23478F	36.4		123789/123489F	0				
1267F	5.69		23478/12489F	0		123489F	13.8		OCDF	1300	
2346/1249F	(0.365)		12489F	(0.282)							
2347/1279F	[2.7]		12349F	(0.282)							
2348F	12.6		12389F	2.07	J						
2378F	216										
2367/3467F	17.4										
1269F	3.34										
1239F	(0.365)										
1289F	16.1										
Conc.	434		**Conc.**	194		**Conc.**	240				
EMPC	437		**EMPC**	197		**EMPC**	242				

Checkcode: 911-691-KJH

Report Created: 23-Feb-2022 08:09 Analyst: TF

Sample ID: 11215131-020422-S-SB-DUP-15 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6291_18925_DF_004
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	QC Batch No.:	18925
Date Collected:	04-Feb-2022	Split:	-	Date Extracted:	14-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	22-Feb-2022 11:42
Lab Project No:	B6291	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	69.1		0.458	69.1	69.1	69.1
12378-PeCDD	1.59	J	0.325	0.797	1.59	1.59
123478-HxCDD	1.74	J	0.653	0.174	0.174	0.174
123678-HxCDD	[4.93]		0.599	[0.493]	[0.493]	[0.493]
123789-HxCDD	3.08		0.585	0.308	0.308	0.308
1234678-HpCDD	136		0.364	1.36	1.36	1.36
OCDD	1880		0.926	1.88	0.188	0.564
2378-TCDF	216		0.365	21.6	21.6	21.6
12378-PeCDF	84.1		0.279	4.2	4.2	2.52
23478-PeCDF	36.4		0.285	18.2	18.2	10.9
123478-HxCDF	142		0.49	14.2	14.2	14.2
123678-HxCDF	31.7		0.462	3.17	3.17	3.17
234678-HxCDF	8.74		0.475	0.874	0.874	0.874
123789-HxCDF	(0.522)		0.522	(0.0522)	(0.0522)	(0.0522)
1234678-HpCDF	70.1		0.184	0.701	0.701	0.701
1234789-HpCDF	15.3		0.267	0.153	0.153	0.153
OCDF	1300		0.663	1.3	0.13	0.389

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TEQ Summaries			
EMPC = 0, ND = 0	138	136	128
EMPC = 0, ND = DL / 2	138	136	128
EMPC = 0, ND = DL	138	136	128
EMPC = 0, < J-level = 0	137	134	126
EMPC = EMPC, ND = 0	139	137	128
EMPC = EMPC, ND = DL / 2	139	137	128
EMPC = EMPC, ND = DL	139	137	128
EMPC = EMPC, < J-level = 0	138	135	126

Checkcode: 911-691-KJH

Sample ID: 11215131-020522-S-SB-SW-O-24 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.18 g	Lab Sample ID	B6291_18925_DF_005	Date Extracted:	14-Feb-2022
Date Collected:	05-Feb-2022	% Solid:	79.9 %	QC Batch No:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:28:38

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	19.9				ES 2378-TCDD	86.9	
12378-PeCDD	1.4			J	ES 12378-PeCDD	94	
123478-HxCDD	0.785			J	ES 123478-HxCDD	87.5	
123678-HxCDD	2.22			J	ES 123678-HxCDD	89.3	
123789-HxCDD	EMPC		1.41	J	ES 123789-HxCDD	87.4	
1234678-HpCDD	69.5				ES 1234678-HpCDD	92.9	
OCDD	1,160				ES OCDD	94	
2378-TCDF	63.1				ES 2378-TCDF	78.7	
12378-PeCDF	5.91				ES 12378-PeCDF	90.4	
23478-PeCDF	5.55				ES 23478-PeCDF	86.3	
123478-HxCDF	4.82				ES 123478-HxCDF	85.6	
123678-HxCDF	2.12			J	ES 123678-HxCDF	95	
234678-HxCDF	1.57			J	ES 234678-HxCDF	97.3	
123789-HxCDF	ND	0.282			ES 123789-HxCDF	86.8	
1234678-HpCDF	11.4				ES 1234678-HpCDF	101	
1234789-HpCDF	1.62			J	ES 1234789-HpCDF	91.8	
OCDF	35.4				ES OCDF	91.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	87.7	
Total TCDD	27.7		28.9		CS 12347-PeCDD	99.6	
Total PeCDD	3.61		6.26		CS 12346-PeCDF	92	
Total HxCDD	19.3		22.5		CS 123469-HxCDF	97.4	
Total HpCDD	167		167		CS 1234689-HpCDF	100	
Total TCDF	211		217				
Total PeCDF	45.5		46.1				
Total HxCDF	22.7		23.4				
Total HpCDF	32		32				
Total PCDD/Fs	**1,730**		**1,740**				
WHO-2005 TEQs							
TEQ: ND=0	31.8		31.9				
TEQ: ND=DL/2	31.8	0.618	31.9				
TEQ: ND=DL	31.8	1.24	31.9				

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Sample ID: 11215131-020522-S-SB-SW-O-24 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.18 g	Lab Sample ID:	B6291_18925_DF_005	Date Extracted:	14-Feb-2022
Date Collected:	05-Feb-2022	% Solid:	79.9 %	QC Batch No.:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:28:38

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	0.949		12479/12468D	[1.19]	J	124679/124689D	7.57		1234679D	97.3	
1379D	(0.613)		12469D	(0.296)		123468D	[1.22]	J	1234678D	69.5	
1369D	(0.613)		12368D	[0.579]	J	123679/123689D	7.6				
1469D	(0.613)		12478D	1.12	J	123469D	1.12	J			
1247D...[4]	[1.16]		12379D	[0.42]	J	123478D	0.785	J			
1378D	1.41		12369D...[3]	1.09	J	123678D	2.22	J			
1268D	(0.613)		12346/12347D	(0.296)		123467D	[0.587]	J			
1478D	(0.613)		12378D	1.4	J	123789D	[1.41]	J	**Conc.**	167	
1279D	(0.613)		12367D	[0.454]	J				**EMPC**	167	
1234/1269D	0.994		12389D	(0.296)							
1236D	(0.613)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	1.61										
1239D	(0.613)								OCDD	1160	
2378D	19.9										
1278D	2.92										
1267D	(0.613)										
1289D	(0.613)										
Conc.	27.7		**Conc.**	3.61		**Conc.**	19.3				
EMPC	28.9		**EMPC**	6.26		**EMPC**	22.5				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	31.8	31.9
TEQ: ND=DL/2	31.8	31.9
TEQ: ND=DL	31.8	31.9

	Conc.	EMPC
Total PCDD/Fs	1,730	1,740

Checkcode: 366-008-NMS

Report Created: 23-Feb-2022 08:09 Analyst: TF

Sample ID: 11215131-020522-S-SB-SW-O-24 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.18 g	Lab Sample ID:	B6291_18925_DF_005	Date Extracted:	14-Feb-2022
Date Collected:	05-Feb-2022	% Solid:	79.9 %	QC Batch No.:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:28:38

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	3.53		13468/12468F	4.17		123468F	1.55	J	1234678F	11.4	
1468F	[1.8]		13678F...[3]	5		124678/134678F	7.16		1234679F	0.931	J
2468F	2.51		12368F...[3]	11.6		134679F	(0.241)		1234689F	18.1	
1346/1246F	2.24		14678F	(0.279)		124679F	(0.241)		1234789F	1.62	J
1347F...[3]	16.8		13479F	1.22	J	124689F	4.06				
1348F	2.16		13469/12479F	1.19	J	123467F	0.932	J			
1248F...[3]	9.06		12346F	[0.58]	J	123478F	4.82				
1268F	4.61		23468/12469F	2.11	J	123678F	2.12	J			
1467F	2.17		12347F	0.801	J	123479F	(0.241)				
1478F	6.59		12348F	0.876	J	123469F	(0.241)				
1369/1237F	4.62		12378F	5.91		123679F	0.498	J			
2467F	3.54		12678/12367F	4.06		234678F	1.57	J	**Conc.**	32	
2368F	7.48		12379F	0.78	J	234678/123689F	0		**EMPC**	32	
1238F...[5]	12.2		12679F	(0.279)		123689F	(0.241)				
1278F	34.2		23467/12369F	1.7	J	123789F	(0.282)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.347)		23478F	5.55		123789/123489F	0				
1267F	5.53		23478/12489F	0		123489F	[0.665]	J	OCDF	35.4	
2346/1249F	[2.84]		12489F	(0.279)							
2347/1279F	4.34		12349F	(0.279)							
2348F	6		12389F	0.592	J						
2378F	63.1										
2367/3467F	14.5										
1269F	[1.44]										
1239F	0.723										
1289F	4.94										
Conc.	211		**Conc.**	45.5		**Conc.**	22.7				
EMPC	217		**EMPC**	46.1		**EMPC**	23.4				

Checkcode: 366-008-NMS

Report Created: 23-Feb-2022 08:09 Analyst: TF

Sample ID: 11215131-020522-S-SB-SW-O-24 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6291_18925_DF_005
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.18 g	QC Batch No.:	18925
Date Collected:	05-Feb-2022	Split:	-	Date Extracted:	14-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	22-Feb-2022 12:28
Lab Project No:	B6291	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	19.9		0.613	19.9	19.9	19.9
12378-PeCDD	1.4	J	0.296	0.7	1.4	1.4
123478-HxCDD	0.785	J	0.313	0.0785	0.0785	0.0785
123678-HxCDD	2.22	J	0.3	0.222	0.222	0.222
123789-HxCDD	[1.41]	J	0.293	[0.141]	[0.141]	[0.141]
1234678-HpCDD	69.5		0.338	0.695	0.695	0.695
OCDD	1160		1.09	1.16	0.116	0.349
2378-TCDF	63.1		0.347	6.31	6.31	6.31
12378-PeCDF	5.91		0.272	0.296	0.296	0.177
23478-PeCDF	5.55		0.287	2.77	2.77	1.66
123478-HxCDF	4.82		0.236	0.482	0.482	0.482
123678-HxCDF	2.12	J	0.221	0.212	0.212	0.212
234678-HxCDF	1.57	J	0.232	0.157	0.157	0.157
123789-HxCDF	(0.282)		0.282	(0.0282)	(0.0282)	(0.0282)
1234678-HpCDF	11.4		0.192	0.114	0.114	0.114
1234789-HpCDF	1.62	J	0.361	0.0162	0.0162	0.0162
OCDF	35.4		0.533	0.0354	0.00354	0.0106

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TEQ Summaries			
EMPC = 0, ND = 0	33.1	32.7	31.8
EMPC = 0, ND = DL / 2	33.1	32.8	31.8
EMPC = 0, ND = DL	33.1	32.8	31.8
EMPC = 0, < J-level = 0	31.7	30.7	29.7
EMPC = EMPC, ND = 0	33.3	32.9	31.9
EMPC = EMPC, ND = DL / 2	33.3	32.9	31.9
EMPC = EMPC, ND = DL	33.3	32.9	31.9
EMPC = EMPC, < J-level = 0	31.7	30.7	29.7

Checkcode: 366-008-NMS

Sample ID: 11215131-020522-S-SB-SW-B-26 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.17 g	Lab Sample ID	B6291_18925_DF_006	Date Extracted:	14-Feb-2022
Date Collected:	05-Feb-2022	% Solid:	75.5 %	QC Batch No:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:14:59

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1.72				ES 2378-TCDD	75.9	
12378-PeCDD	0.441			J	ES 12378-PeCDD	88.7	
123478-HxCDD	0.689			J	ES 123478-HxCDD	79.3	
123678-HxCDD	1.16			J	ES 123678-HxCDD	84.3	
123789-HxCDD	1.96			J	ES 123789-HxCDD	74	
1234678-HpCDD	27.5				ES 1234678-HpCDD	81.7	
OCDD	539				ES OCDD	81.2	
2378-TCDF	4.1				ES 2378-TCDF	70.7	
12378-PeCDF	EMPC		0.839	J	ES 12378-PeCDF	86.8	
23478-PeCDF	EMPC		0.647	J	ES 23478-PeCDF	82.5	
123478-HxCDF	EMPC		0.49	J	ES 123478-HxCDF	74.9	
123678-HxCDF	ND	0.194			ES 123678-HxCDF	90.8	
234678-HxCDF	ND	0.234			ES 234678-HxCDF	86.2	
123789-HxCDF	ND	0.3			ES 123789-HxCDF	68.4	
1234678-HpCDF	ND	0.199			ES 1234678-HpCDF	89.6	
1234789-HpCDF	ND	0.333			ES 1234789-HpCDF	71.3	
OCDF	ND	0.612			ES OCDF	72	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	88.4	
Total TCDD	6.77		6.77		CS 12347-PeCDD	113	
Total PeCDD	0.441		6.14		CS 12346-PeCDF	104	
Total HxCDD	35.8		37.2		CS 123469-HxCDF	107	
Total HpCDD	95.7		95.7		CS 1234689-HpCDF	97.4	
Total TCDF	15.3		20.1				
Total PeCDF	2.91		4.87				
Total HxCDF	ND		0.894				
Total HpCDF	ND	0.254	ND				
Total PCDD/Fs	**696**		**711**				
WHO-2005 TEQs							
TEQ: ND=0	3.39		3.66				
TEQ: ND=DL/2	3.43	0.611	3.7				
TEQ: ND=DL	3.47	1.22	3.74				

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Sample ID: 11215131-020522-S-SB-SW-B-26 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.17 g	Lab Sample ID:	B6291_18925_DF_006	Date Extracted:	14-Feb-2022
Date Collected:	05-Feb-2022	% Solid:	75.5 %	QC Batch No.:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:14:59

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.492)		12479/12468D	[0.937]	J	124679/124689D	25.7		1234679D	68.1	
1379D	(0.492)		12469D	[3.26]		123468D	(0.3)		1234678D	27.5	
1369D	(0.492)		12368D	(0.383)		123679/123689D	6.24				
1469D	5.05		12478D	(0.383)		123469D	[0.827]	J			
1247D...[4]	(0.492)		12379D	(0.383)		123478D	0.689	J			
1378D	(0.492)		12369D...[3]	[1.5]	J	123678D	1.16	J			
1268D	(0.492)		12346/12347D	(0.383)		123467D	[0.592]	J			
1478D	(0.492)		12378D	0.441	J	123789D	1.96	J	**Conc.**	95.7	
1279D	(0.492)		12367D	(0.383)					**EMPC**	95.7	
1234/1269D	(0.492)		12389D	(0.383)							
1236D	(0.492)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.492)										
1239D	(0.492)								OCDD	539	
2378D	1.72										
1278D	(0.492)										
1267D	(0.492)										
1289D	(0.492)										
Conc.	6.77		**Conc.**	0.441		**Conc.**	35.8				
EMPC	6.77		**EMPC**	6.14		**EMPC**	37.2				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	3.39	3.66
TEQ: ND=DL/2	3.43	3.7
TEQ: ND=DL	3.47	3.74

	Conc.	EMPC
Total PCDD/Fs	696	711

Checkcode: 732-394-RTC

Report Created: 23-Feb-2022 08:09 Analyst: TF

Sample ID: 11215131-020522-S-SB-SW-B-26 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.17 g	Lab Sample ID:	B6291_18925_DF_006	Date Extracted:	14-Feb-2022
Date Collected:	05-Feb-2022	% Solid:	75.5 %	QC Batch No.:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:14:59

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[0.636]		13468/12468F	(0.18)		123468F	(0.234)		1234678F	(0.199)	
1468F	(0.501)		13678F...[3]	1.08	J	124678/134678F	[0.403]	J	1234679F	(0.254)	
2468F	1.33		12368F...[3]	1.23	J	134679F	(0.234)		1234689F	(0.254)	
1346/1246F	(0.501)		14678F	(0.3)		124679F	(0.234)		1234789F	(0.333)	
1347F...[3]	2.53		13479F	(0.3)		124689F	(0.234)				
1348F	(0.501)		13469/12479F	(0.3)		123467F	(0.234)				
1248F...[3]	(0.501)		12346F	(0.3)		123478F	[0.49]	J			
1268F	(0.501)		23468/12469F	(0.3)		123678F	(0.194)				
1467F	(0.501)		12347F	(0.3)		123479F	(0.234)				
1478F	[0.517]		12348F	(0.3)		123469F	(0.234)				
1369/1237F	[0.604]		12378F	[0.839]	J	123679F	(0.234)				
2467F	[0.759]		12678/12367F	0.607	J	234678F	(0.234)		**Conc.**	0	
2368F	[0.98]		12379F	(0.3)		234678/123689F	0		**EMPC**	0	
1238F...[5]	1.47		12679F	(0.3)		123689F	(0.234)				
1278F	2.54		23467/12369F	[0.476]	J	123789F	(0.3)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.501)		23478F	[0.647]	J	123789/123489F	0				
1267F	[0.545]		23478/12489F	0		123489F	(0.234)		OCDF	(0.612)	
2346/1249F	(0.501)		12489F	(0.3)							
2347/1279F	0.82		12349F	(0.3)							
2348F	[0.737]		12389F	(0.3)							
2378F	4.1										
2367/3467F	2.5										
1269F	(0.501)										
1239F	(0.501)										
1289F	(0.501)										
Conc.	15.3		**Conc.**	2.91		**Conc.**	0				
EMPC	20.1		**EMPC**	4.87		**EMPC**	0.894				

Checkcode: 732-394-RTC

Report Created: 23-Feb-2022 08:09 Analyst: TF

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Sample ID: 11215131-020522-S-SB-SW-B-26 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6291_18925_DF_006
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.17 g	QC Batch No.:	18925
Date Collected:	05-Feb-2022	Split:	-	Date Extracted:	14-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	22-Feb-2022 13:14
Lab Project No:	B6291	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1.72		0.492	1.72	1.72	1.72
12378-PeCDD	0.441	J	0.383	0.22	0.441	0.441
123478-HxCDD	0.689	J	0.313	0.0689	0.0689	0.0689
123678-HxCDD	1.16	J	0.285	0.116	0.116	0.116
123789-HxCDD	1.96	J	0.304	0.196	0.196	0.196
1234678-HpCDD	27.5		0.34	0.275	0.275	0.275
OCDD	539		0.866	0.539	0.0539	0.162
2378-TCDF	4.1		0.501	0.41	0.41	0.41
12378-PeCDF	[0.839]	J	0.293	[0.042]	[0.042]	[0.0252]
23478-PeCDF	[0.647]	J	0.307	[0.324]	[0.324]	[0.194]
123478-HxCDF	[0.49]	J	0.233	[0.049]	[0.049]	[0.049]
123678-HxCDF	(0.194)		0.194	(0.0194)	(0.0194)	(0.0194)
234678-HxCDF	(0.234)		0.234	(0.0234)	(0.0234)	(0.0234)
123789-HxCDF	(0.3)		0.3	(0.03)	(0.03)	(0.03)
1234678-HpCDF	(0.199)		0.199	(0.00199)	(0.00199)	(0.00199)
1234789-HpCDF	(0.333)		0.333	(0.00333)	(0.00333)	(0.00333)
OCDF	(0.612)		0.612	(0.000612)	(0.0000612)	(0.000184)

TEQ Summaries			
EMPC = 0, ND = 0	3.55	3.28	3.39
EMPC = 0, ND = DL / 2	3.59	3.32	3.43
EMPC = 0, ND = DL	3.63	3.36	3.47
EMPC = 0, < J-level = 0	2.95	2.46	2.57
EMPC = EMPC, ND = 0	3.96	3.7	3.66
EMPC = EMPC, ND = DL / 2	4	3.74	3.7
EMPC = EMPC, ND = DL	4.04	3.78	3.74
EMPC = EMPC, < J-level = 0	2.95	2.46	2.57

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Checkcode: 732-394-RTC

Sample ID: 11215131-020522-S-SB-NE-O-13 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	Lab Sample ID	B6291_18925_DF_007	Date Extracted:	14-Feb-2022
Date Collected:	05-Feb-2022	% Solid:	76.1 %	QC Batch No:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:01:20

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.386			ES 2378-TCDD	76.2	
12378-PeCDD	EMPC		0.656	J	ES 12378-PeCDD	88.1	
123478-HxCDD	EMPC		1.23	J	ES 123478-HxCDD	80.8	
123678-HxCDD	EMPC		4.6		ES 123678-HxCDD	86.8	
123789-HxCDD	2.8				ES 123789-HxCDD	81.7	
1234678-HpCDD	274				ES 1234678-HpCDD	87.8	
OCDD	12,600			E	ES OCDD	102	
2378-TCDF	5.11				ES 2378-TCDF	72.3	
12378-PeCDF	1.13			J	ES 12378-PeCDF	80.9	
23478-PeCDF	1.74			J	ES 23478-PeCDF	81.6	
123478-HxCDF	1.87			J	ES 123478-HxCDF	81.5	
123678-HxCDF	EMPC		1.17	J	ES 123678-HxCDF	91.1	
234678-HxCDF	1.71			J	ES 234678-HxCDF	87.5	
123789-HxCDF	ND	0.325			ES 123789-HxCDF	83.4	
1234678-HpCDF	22.9				ES 1234678-HpCDF	90.1	
1234789-HpCDF	EMPC		1.46	J	ES 1234789-HpCDF	86.4	
OCDF	85.8				ES OCDF	92.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	73.8	
Total TCDD	ND	0.386	ND		CS 12347-PeCDD	90.3	
Total PeCDD	3.5		4.97		CS 12346-PeCDF	83.9	
Total HxCDD	39		45.6		CS 123469-HxCDF	92.6	
Total HpCDD	542		542		CS 1234689-HpCDF	94.4	
Total TCDF	12.2		15.9				
Total PeCDF	14.2		16				
Total HxCDF	26.8		28				
Total HpCDF	79.6		81.7				
Total PCDD/Fs	**13,400**		**13,400**				
WHO-2005 TEQs							
TEQ: ND=0	8.48		9.86				
TEQ: ND=DL/2	8.69	0.519	10.1				
TEQ: ND=DL	8.9	1.04	10.3				

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Sample ID: 11215131-020522-S-SB-NE-O-13 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	Lab Sample ID:	B6291_18925_DF_007	Date Extracted:	14-Feb-2022
Date Collected:	05-Feb-2022	% Solid:	76.1 %	QC Batch No.:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:01:20

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.386)		12479/12468D	1.56	J	124679/124689D	14.3		1234679D	268	
1379D	(0.386)		12469D	[0.819]	J	123468D	2.43	J	1234678D	274	
1369D	(0.386)		12368D	(0.315)		123679/123689D	17.9				
1469D	(0.386)		12478D	0.976	J	123469D	1.56	J			
1247D...[4]	(0.386)		12379D	(0.315)		123478D	[1.23]	J			
1378D	(0.386)		12369D...[3]	0.964	J	123678D	[4.6]				
1268D	(0.386)		12346/12347D	(0.315)		123467D	[0.729]	J			
1478D	(0.386)		12378D	[0.656]	J	123789D	2.8		**Conc.**	542	
1279D	(0.386)		12367D	(0.315)					**EMPC**	542	
1234/1269D	(0.386)		12389D	(0.315)							
1236D	(0.386)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.386)										
1239D	(0.386)								OCDD	12600	E
2378D	(0.386)										
1278D	(0.386)										
1267D	(0.386)										
1289D	(0.386)										
Conc.	0		**Conc.**	3.5		**Conc.**	39				
EMPC	0		**EMPC**	4.97		**EMPC**	45.6				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	8.48	9.86
TEQ: ND=DL/2	8.69	10.1
TEQ: ND=DL	8.9	10.3

	Conc.	EMPC
Total PCDD/Fs	13,400	13,400

Checkcode: 837-534-CNC

Report Created: 23-Feb-2022 08:09 Analyst: TF

Sample ID: 11215131-020522-S-SB-NE-O-13 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received: 08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	Lab Sample ID:	B6291_18925_DF_007	Date Extracted: 14-Feb-2022
Date Collected:	05-Feb-2022	% Solid:	76.1 %	QC Batch No.:	18925	Date Analyzed: 22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed: 14:01:20

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.396)		13468/12468F	4.22		123468F	2.54		1234678F	22.9	
1468F	(0.396)		13678F...[3]	1.66	J	124678/134678F	8.91		1234679F	[0.649]	J
2468F	1.23		12368F...[3]	4.11		134679F	(0.299)		1234689F	56.8	
1346/1246F	(0.396)		14678F	(0.274)		124679F	(0.299)		1234789F	[1.46]	J
1347F...[3]	[1.06]		13479F	(0.274)		124689F	11.2				
1348F	(0.396)		13469/12479F	(0.274)		123467F	0.545	J			
1248F...[3]	[0.918]		12346F	(0.274)		123478F	1.87	J			
1268F	(0.396)		23468/12469F	[1.04]	J	123678F	[1.17]	J			
1467F	(0.396)		12347F	(0.274)		123479F	(0.299)				
1478F	0.815		12348F	(0.274)		123469F	(0.299)				
1369/1237F	(0.396)		12378F	1.13	J	123679F	(0.299)				
2467F	(0.396)		12678/12367F	1.34	J	234678F	1.71	J	**Conc.**	79.6	
2368F	1.54		12379F	(0.274)		234678/123689F	0		**EMPC**	81.7	
1238F...[5]	(0.396)		12679F	(0.274)		123689F	(0.299)				
1278F	[1.25]		23467/12369F	[0.729]	J	123789F	(0.325)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.396)		23478F	1.74	J	123789/123489F	0				
1267F	(0.396)		23478/12489F	0		123489F	(0.299)		OCDF	85.8	
2346/1249F	(0.396)		12489F	(0.274)							
2347/1279F	0.692		12349F	(0.274)							
2348F	[0.462]	J	12389F	(0.274)							
2378F	5.11										
2367/3467F	2.8										
1269F	(0.396)										
1239F	(0.396)										
1289F	(0.396)										
Conc.	12.2		**Conc.**	14.2		**Conc.**	26.8				
EMPC	15.9		**EMPC**	16		**EMPC**	28				

Checkcode: 837-534-CNC

Report Created: 23-Feb-2022 08:09 Analyst: TF

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Sample ID: 11215131-020522-S-SB-NE-O-13 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6291_18925_DF_007
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	QC Batch No.:	18925
Date Collected:	05-Feb-2022	Split:	-	Date Extracted:	14-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	22-Feb-2022 14:01
Lab Project No:	B6291	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.386)		0.386	(0.386)	(0.386)	(0.386)
12378-PeCDD	[0.656]	J	0.315	[0.328]	[0.656]	[0.656]
123478-HxCDD	[1.23]	J	0.269	[0.123]	[0.123]	[0.123]
123678-HxCDD	[4.6]		0.262	[0.46]	[0.46]	[0.46]
123789-HxCDD	2.8		0.273	0.28	0.28	0.28
1234678-HpCDD	274		0.261	2.74	2.74	2.74
OCDD	12600	E	1	12.6	1.26	3.78
2378-TCDF	5.11		0.396	0.511	0.511	0.511
12378-PeCDF	1.13	J	0.278	0.0564	0.0564	0.0338
23478-PeCDF	1.74	J	0.27	0.869	0.869	0.522
123478-HxCDF	1.87	J	0.287	0.187	0.187	0.187
123678-HxCDF	[1.17]	J	0.279	[0.117]	[0.117]	[0.117]
234678-HxCDF	1.71	J	0.312	0.171	0.171	0.171
123789-HxCDF	(0.325)		0.325	(0.0325)	(0.0325)	(0.0325)
1234678-HpCDF	22.9		0.185	0.229	0.229	0.229
1234789-HpCDF	[1.46]	J	0.248	[0.0146]	[0.0146]	[0.0146]
OCDF	85.8		0.538	0.0858	0.00858	0.0257

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TEQ Summaries			
EMPC = 0, ND = 0	17.7	6.32	8.48
EMPC = 0, ND = DL / 2	18	6.52	8.69
EMPC = 0, ND = DL	18.2	6.73	8.9
EMPC = 0, < J-level = 0	16.5	5.03	7.57
EMPC = EMPC, ND = 0	18.8	7.69	9.86
EMPC = EMPC, ND = DL / 2	19	7.9	10.1
EMPC = EMPC, ND = DL	19.2	8.1	10.3
EMPC = EMPC, < J-level = 0	16.9	5.49	8.03

Checkcode: 837-534-CNC

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Sample ID: 11215131-020522-S-SB-NE-O-14 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.02 g	Lab Sample ID	B6291_18925_DF_008	Date Extracted:	14-Feb-2022
Date Collected:	05-Feb-2022	% Solid:	68.1 %	QC Batch No:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:47:40

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	20.5				ES 2378-TCDD	71.4	
12378-PeCDD	2.58				ES 12378-PeCDD	79.3	
123478-HxCDD	4.13				ES 123478-HxCDD	61.8	
123678-HxCDD	17.6				ES 123678-HxCDD	66.5	
123789-HxCDD	9.09				ES 123789-HxCDD	57.2	
1234678-HpCDD	696				ES 1234678-HpCDD	53.5	
OCDD	9,660				ES OCDD	36.9	
2378-TCDF	65				ES 2378-TCDF	64.3	
12378-PeCDF	4.13				ES 12378-PeCDF	71.3	
23478-PeCDF	6.85				ES 23478-PeCDF	67.5	
123478-HxCDF	7.15				ES 123478-HxCDF	63.9	
123678-HxCDF	5.53				ES 123678-HxCDF	65.5	
234678-HxCDF	6.68				ES 234678-HxCDF	57.2	
123789-HxCDF	ND	0.535			ES 123789-HxCDF	58.5	
1234678-HpCDF	70.9				ES 1234678-HpCDF	55.9	
1234789-HpCDF	5.39				ES 1234789-HpCDF	51.1	
OCDF	533				ES OCDF	40.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	73.5	
Total TCDD	32.7		41.2		CS 12347-PeCDD	80.2	
Total PeCDD	26.6		30.2		CS 12346-PeCDF	75.5	
Total HxCDD	169		169		CS 123469-HxCDF	68.2	
Total HpCDD	1,380		1,380		CS 1234689-HpCDF	63.7	
Total TCDF	189		189				
Total PeCDF	64.3		66.5				
Total HxCDF	94.8		97.6				
Total HpCDF	192		192				
Total PCDD/Fs	**12,300**		**12,400**				
WHO-2005 TEQs							
TEQ: ND=0	47.6		47.6				
TEQ: ND=DL/2	47.6	0.627	47.6				
TEQ: ND=DL	47.6	1.25	47.6				

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Sample ID: 11215131-020522-S-SB-NE-O-14 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.02 g	Lab Sample ID:	B6291_18925_DF_008	Date Extracted:	14-Feb-2022
Date Collected:	05-Feb-2022	% Solid:	68.1 %	QC Batch No.:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:47:40

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[6.08]		12479/12468D	8.83		124679/124689D	48.1		1234679D	681	
1379D	3.17		12469D	[2.13]	J	123468D	12.4		1234678D	696	
1369D	[0.679]		12368D	4.56		123679/123689D	70.8				
1469D	[1.22]		12478D	2.9		123469D	3.33				
1247D...[4]	1.75		12379D	2.73		123478D	4.13				
1378D	1.27		12369D...[3]	3.21		123678D	17.6				
1268D	[0.498]	J	12346/12347D	[1.45]	J	123467D	3.29				
1478D	(0.365)		12378D	2.58		123789D	9.09		**Conc.**	1,380	
1279D	0.83		12367D	0.787	J				**EMPC**	1,380	
1234/1269D	1.05		12389D	0.997	J						
1236D	(0.365)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	1.83										
1239D	(0.365)								OCDD	9660	
2378D	20.5										
1278D	2.33										
1267D	(0.365)										
1289D	(0.365)										
Conc.	32.7		**Conc.**	26.6		**Conc.**	169				
EMPC	41.2		**EMPC**	30.2		**EMPC**	169				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	47.6	47.6
TEQ: ND=DL/2	47.6	47.6
TEQ: ND=DL	47.6	47.6

	Conc.	EMPC
Total PCDD/Fs	12,300	12,400

Checkcode: 527-345-QPP

Report Created: 23-Feb-2022 08:10 Analyst: TF

Sample ID: 11215131-020522-S-SB-NE-O-14 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.02 g	Lab Sample ID:	B6291_18925_DF_008	Date Extracted:	14-Feb-2022
Date Collected:	05-Feb-2022	% Solid:	68.1 %	QC Batch No.:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:47:40

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.73		13468/12468F	11.8		123468F	8.92		1234678F	70.9	
1468F	2.3		13678F...[3]	7.97		124678/134678F	28.3		1234679F	4.58	
2468F	3.57		12368F...[3]	15.3		134679F	(0.466)		1234689F	111	
1346/1246F	5.01		14678F	(0.501)		124679F	[1.4]	J	1234789F	5.39	
1347F...[3]	9.19		13479F	(0.501)		124689F	32.3				
1348F	1.71		13469/12479F	[0.807]	J	123467F	5.01				
1248F...[3]	10.2		12346F	[1.33]	J	123478F	7.15				
1268F	4.08		23468/12469F	4.84		123678F	5.53				
1467F	3.36		12347F	1.87	J	123479F	(0.466)				
1478F	6.39		12348F	2	J	123469F	0.935	J			
1369/1237F	2.96		12378F	4.13		123679F	(0.466)				
2467F	3.54		12678/12367F	6.03		234678F	6.68		**Conc.**	192	
2368F	8.11		12379F	(0.501)		234678/123689F	0		**EMPC**	192	
1238F...[5]	6.6		12679F	(0.501)		123689F	(0.466)				
1278F	23.9		23467/12369F	3.52		123789F	(0.535)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.296)		23478F	6.85		123789/123489F	0				
1267F	3.85		23478/12489F	0		123489F	[1.41]	J	OCDF	533	
2346/1249F	2.4		12489F	(0.501)							
2347/1279F	3.84		12349F	(0.501)							
2348F	4.21		12389F	(0.501)							
2378F	65										
2367/3467F	11.6										
1269F	1.6										
1239F	(0.296)										
1289F	4.18										
Conc.	189		**Conc.**	64.3		**Conc.**	94.8				
EMPC	189		**EMPC**	66.5		**EMPC**	97.6				

Checkcode: 527-345-QPP

Report Created: 23-Feb-2022 08:10 Analyst: TF

Sample ID: 11215131-020522-S-SB-NE-O-14 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6291_18925_DF_008
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.02 g	QC Batch No.:	18925
Date Collected:	05-Feb-2022	Split:	-	Date Extracted:	14-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	22-Feb-2022 14:47
Lab Project No:	B6291	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	20.5		0.365	20.5	20.5	20.5
12378-PeCDD	2.58		0.269	1.29	2.58	2.58
123478-HxCDD	4.13		0.745	0.413	0.413	0.413
123678-HxCDD	17.6		0.682	1.76	1.76	1.76
123789-HxCDD	9.09		0.749	0.909	0.909	0.909
1234678-HpCDD	696		0.563	6.96	6.96	6.96
OCDD	9660		2.22	9.66	0.966	2.9
2378-TCDF	65		0.296	6.5	6.5	6.5
12378-PeCDF	4.13		0.488	0.206	0.206	0.124
23478-PeCDF	6.85		0.514	3.42	3.42	2.05
123478-HxCDF	7.15		0.414	0.715	0.715	0.715
123678-HxCDF	5.53		0.412	0.553	0.553	0.553
234678-HxCDF	6.68		0.527	0.668	0.668	0.668
123789-HxCDF	(0.535)		0.535	(0.0535)	(0.0535)	(0.0535)
1234678-HpCDF	70.9		0.277	0.709	0.709	0.709
1234789-HpCDF	5.39		0.424	0.0539	0.0539	0.0539
OCDF	533		1.47	0.533	0.0533	0.16

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TEQ Summaries			
EMPC = 0, ND = 0	54.9	47	47.6
EMPC = 0, ND = DL / 2	54.9	47	47.6
EMPC = 0, ND = DL	54.9	47	47.6
EMPC = 0, < J-level = 0	54.9	47	47.6
EMPC = EMPC, ND = 0	54.9	47	47.6
EMPC = EMPC, ND = DL / 2	54.9	47	47.6
EMPC = EMPC, ND = DL	54.9	47	47.6
EMPC = EMPC, < J-level = 0	54.9	47	47.6

Checkcode: 527-345-QPP

Sample ID: 11215131-020522-S-SB-NE-B-5 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID	B6291_18925_DF_009	Date Extracted:	14-Feb-2022
Date Collected:	05-Feb-2022	% Solid:	62.5 %	QC Batch No:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	15:34:02

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	239				ES 2378-TCDD	73.2	
12378-PeCDD	EMPC		4.62		ES 12378-PeCDD	82.8	
123478-HxCDD	4.08				ES 123478-HxCDD	71.9	
123678-HxCDD	14.6				ES 123678-HxCDD	73.8	
123789-HxCDD	8.41				ES 123789-HxCDD	71.7	
1234678-HpCDD	283				ES 1234678-HpCDD	78	
OCDD	4,590				ES OCDD	82.3	
2378-TCDF	741				ES 2378-TCDF	69.2	
12378-PeCDF	17.3				ES 12378-PeCDF	78.1	
23478-PeCDF	23.1				ES 23478-PeCDF	76.3	
123478-HxCDF	26				ES 123478-HxCDF	76.4	
123678-HxCDF	9.5				ES 123678-HxCDF	75.4	
234678-HxCDF	8.77				ES 234678-HxCDF	76.4	
123789-HxCDF	ND	0.577			ES 123789-HxCDF	74	
1234678-HpCDF	171				ES 1234678-HpCDF	82.8	
1234789-HpCDF	17.6				ES 1234789-HpCDF	79.6	
OCDF	5,950				ES OCDF	84.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	72.9	
Total TCDD	292		294		CS 12347-PeCDD	84.9	
Total PeCDD	37.1		41.7		CS 12346-PeCDF	79.1	
Total HxCDD	172		172		CS 123469-HxCDF	77.6	
Total HpCDD	677		677		CS 1234689-HpCDF	82.9	
Total TCDF	1,510		1,510				
Total PeCDF	140		142				
Total HxCDF	149		150				
Total HpCDF	332		332				
Total PCDD/Fs	**13,800**		**13,900**				
WHO-2005 TEQs							
TEQ: ND=0	335		340				
TEQ: ND=DL/2	335	0.702	340				
TEQ: ND=DL	335	1.4	340				

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Sample ID: 11215131-020522-S-SB-NE-B-5 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID:	B6291_18925_DF_009	Date Extracted:	14-Feb-2022
Date Collected:	05-Feb-2022	% Solid:	62.5 %	QC Batch No.:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	15:34:02

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	6.07		12479/12468D	10.2		124679/124689D	78.9		1234679D	395	
1379D	1.95		12469D	8.39		123468D	9.7		1234678D	283	
1369D	1.4		12368D	4.36		123679/123689D	49.9				
1469D	9.85		12478D	2.97		123469D	3.44				
1247D...[4]	2.17		12379D	2.02	J	123478D	4.08				
1378D	2.14		12369D...[3]	5.86		123678D	14.6				
1268D	0.58		12346/12347D	1.06	J	123467D	3.31				
1478D	0.883		12378D	[4.62]		123789D	8.41		**Conc.**	677	
1279D	[0.76]		12367D	0.945	J				**EMPC**	677	
1234/1269D	2.3		12389D	1.23	J						
1236D	(0.314)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	4.02										
1239D	(0.314)								OCDD	4590	
2378D	239										
1278D	21.9										
1267D	(0.314)										
1289D	[0.958]										
Conc.	292		**Conc.**	37.1		**Conc.**	172				
EMPC	294		**EMPC**	41.7		**EMPC**	172				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	335	340
TEQ: ND=DL/2	335	340
TEQ: ND=DL	335	340

	Conc.	EMPC
Total PCDD/Fs	13,800	13,900

Checkcode: 615-350-RPC

Report Created: 23-Feb-2022 08:10 Analyst: TF

Sample ID: 11215131-020522-S-SB-NE-B-5 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID:	B6291_18925_DF_009	Date Extracted:	14-Feb-2022
Date Collected:	05-Feb-2022	% Solid:	62.5 %	QC Batch No.:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	15:34:02

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.77		13468/12468F	32.4		123468F	12.8		1234678F	171	
1468F	5.14		13678F...[3]	6.3		124678/134678F	38.7		1234679F	12.1	
2468F	11.7		12368F...[3]	29		134679F	[0.811]	J	1234689F	131	
1346/1246F	(0.208)		14678F	(0.451)		124679F	2.48		1234789F	17.6	
1347F...[3]	17.1		13479F	(0.451)		124689F	38				
1348F	(0.208)		13469/12479F	1.53	J	123467F	6.05				
1248F...[3]	48.8		12346F	1.35	J	123478F	26				
1268F	19.4		23468/12469F	8.13		123678F	9.5				
1467F	3.52		12347F	2.19	J	123479F	(0.532)				
1478F	36.1		12348F	4.45		123469F	2.81				
1369/1237F	8.09		12378F	17.3		123679F	(0.532)				
2467F	3.14		12678/12367F	10.6		234678F	8.77		**Conc.**	332	
2368F	27.3		12379F	(0.451)		234678/123689F	0		**EMPC**	332	
1238F...[5]	34.7		12679F	(0.451)		123689F	(0.532)				
1278F	356		23467/12369F	3.99		123789F	(0.577)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.208)		23478F	23.1		123789/123489F	0				
1267F	20.9		23478/12489F	0		123489F	3.87		OCDF	5950	
2346/1249F	2.8		12489F	(0.451)							
2347/1279F	7.99		12349F	(0.451)							
2348F	32.5		12389F	[1.28]	J						
2378F	741										
2367/3467F	63.1										
1269F	11.1										
1239F	(0.208)										
1289F	54.1										
Conc.	1,510		**Conc.**	140		**Conc.**	149				
EMPC	1,510		**EMPC**	142		**EMPC**	150				

Checkcode: 615-350-RPC

Report Created: 23-Feb-2022 08:10 Analyst: TF

Sample ID: 11215131-020522-S-SB-NE-B-5 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6291_18925_DF_009
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	QC Batch No.:	18925
Date Collected:	05-Feb-2022	Split:	-	Date Extracted:	14-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	22-Feb-2022 15:34
Lab Project No:	B6291	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	239		0.314	239	239	239
12378-PeCDD	[4.62]		0.469	[2.31]	[4.62]	[4.62]
123478-HxCDD	4.08		0.762	0.408	0.408	0.408
123678-HxCDD	14.6		0.772	1.46	1.46	1.46
123789-HxCDD	8.41		0.714	0.841	0.841	0.841
1234678-HpCDD	283		0.51	2.83	2.83	2.83
OCDD	4590		1.22	4.59	0.459	1.38
2378-TCDF	741		0.208	74.1	74.1	74.1
12378-PeCDF	17.3		0.442	0.865	0.865	0.519
23478-PeCDF	23.1		0.459	11.5	11.5	6.92
123478-HxCDF	26		0.515	2.6	2.6	2.6
123678-HxCDF	9.5		0.515	0.95	0.95	0.95
234678-HxCDF	8.77		0.528	0.877	0.877	0.877
123789-HxCDF	(0.577)		0.577	(0.0577)	(0.0577)	(0.0577)
1234678-HpCDF	171		0.21	1.71	1.71	1.71
1234789-HpCDF	17.6		0.314	0.176	0.176	0.176
OCDF	5950		0.719	5.95	0.595	1.79

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TEQ Summaries			
EMPC = 0, ND = 0	347	338	335
EMPC = 0, ND = DL / 2	347	338	335
EMPC = 0, ND = DL	348	338	335
EMPC = 0, < J-level = 0	347	338	335
EMPC = EMPC, ND = 0	350	343	340
EMPC = EMPC, ND = DL / 2	350	343	340
EMPC = EMPC, ND = DL	350	343	340
EMPC = EMPC, < J-level = 0	350	343	340

Checkcode: 615-350-RPC

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Sample ID: Method Blank B6291_18925 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18925_DF_SDS	Date Extracted:	14-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	7:04:14

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.392			ES 2378-TCDD	83.9	
12378-PeCDD	ND	0.23			ES 12378-PeCDD	97.9	
123478-HxCDD	ND	0.292			ES 123478-HxCDD	91.9	
123678-HxCDD	ND	0.292			ES 123678-HxCDD	94.3	
123789-HxCDD	ND	0.295			ES 123789-HxCDD	86.8	
1234678-HpCDD	ND	0.335			ES 1234678-HpCDD	99	
OCDD	7.25				ES OCDD	102	
2378-TCDF	ND	1.29			ES 2378-TCDF	70.2	
12378-PeCDF	ND	0.165			ES 12378-PeCDF	86.8	
23478-PeCDF	ND	0.173			ES 23478-PeCDF	78.5	
123478-HxCDF	ND	0.214			ES 123478-HxCDF	86.6	
123678-HxCDF	ND	0.183			ES 123678-HxCDF	109	
234678-HxCDF	ND	0.216			ES 234678-HxCDF	99.4	
123789-HxCDF	ND	0.289			ES 123789-HxCDF	78	
1234678-HpCDF	ND	0.124			ES 1234678-HpCDF	116	
1234789-HpCDF	ND	0.23			ES 1234789-HpCDF	84.9	
OCDF	ND	0.553			ES OCDF	80.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	80.2	
Total TCDD	ND	0.392	ND		CS 12347-PeCDD	112	
Total PeCDD	ND	0.23	ND		CS 12346-PeCDF	97	
Total HxCDD	ND	0.293	ND		CS 123469-HxCDF	113	
Total HpCDD	ND	0.335	ND		CS 1234689-HpCDF	109	
Total TCDF	ND	1.29	ND				
Total PeCDF	ND	0.169	ND				
Total HxCDF	ND	0.219	ND				
Total HpCDF	ND	0.165	ND				
Total PCDD/Fs	**7.25**		**7.25**				
WHO-2005 TEQs							
TEQ: ND=0	0.00217		0.00217				
TEQ: ND=DL/2	0.499	0.497	0.499				
TEQ: ND=DL	0.996	0.994	0.996				

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Sample ID: Method Blank B6291_18925 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18925_DF_SDS	Date Extracted:	14-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	7:04:14

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.392)		12479/12468D	(0.23)		124679/124689D	(0.293)		1234679D	(0.335)	
1379D	(0.392)		12469D	(0.23)		123468D	(0.293)		1234678D	(0.335)	
1369D	(0.392)		12368D	(0.23)		123679/123689D	(0.293)				
1469D	(0.392)		12478D	(0.23)		123469D	(0.293)				
1247D...[4]	(0.392)		12379D	(0.23)		123478D	(0.292)				
1378D	(0.392)		12369D...[3]	(0.23)		123678D	(0.292)				
1268D	(0.392)		12346/12347D	(0.23)		123467D	(0.293)				
1478D	(0.392)		12378D	(0.23)		123789D	(0.295)		**Conc.**	0	
1279D	(0.392)		12367D	(0.23)					**EMPC**	0	
1234/1269D	(0.392)		12389D	(0.23)							
1236D	(0.392)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.392)										
1239D	(0.392)								OCDD	7.25	
2378D	(0.392)										
1278D	(0.392)										
1267D	(0.392)										
1289D	(0.392)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0.00217	0.00217
TEQ: ND=DL/2	0.499	0.499
TEQ: ND=DL	0.996	0.996

	Conc.	EMPC
Total PCDD/Fs	7.25	7.25

Checkcode: 511-768-PCX

Report Created: 23-Feb-2022 08:08 Analyst: TF

Sample ID: Method Blank B6291_18925 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18925_DF_SDS	Date Extracted:	14-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	7:04:14

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(1.29)		13468/12468F	(0.185)		123468F	(0.219)		1234678F	(0.124)	
1468F	(1.29)		13678F...[3]	(0.169)		124678/134678F	(0.219)		1234679F	(0.165)	
2468F	(1.29)		12368F...[3]	(0.169)		134679F	(0.219)		1234689F	(0.165)	
1346/1246F	(1.29)		14678F	(0.169)		124679F	(0.219)		1234789F	(0.23)	
1347F...[3]	(1.29)		13479F	(0.169)		124689F	(0.219)				
1348F	(1.29)		13469/12479F	(0.169)		123467F	(0.219)				
1248F...[3]	(1.29)		12346F	(0.169)		123478F	(0.214)				
1268F	(1.29)		23468/12469F	(0.169)		123678F	(0.183)				
1467F	(1.29)		12347F	(0.169)		123479F	(0.219)				
1478F	(1.29)		12348F	(0.169)		123469F	(0.219)				
1369/1237F	(1.29)		12378F	(0.165)		123679F	(0.219)				
2467F	(1.29)		12678/12367F	(0.169)		234678F	(0.216)		**Conc.**	0	
2368F	(1.29)		12379F	(0.169)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(1.29)		12679F	(0.169)		123689F	(0.219)				
1278F	(1.29)		23467/12369F	(0.169)		123789F	(0.289)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(1.29)		23478F	(0.173)		123789/123489F	0				
1267F	(1.29)		23478/12489F	0		123489F	(0.219)		OCDF	(0.553)	
2346/1249F	(1.29)		12489F	(0.169)							
2347/1279F	(1.29)		12349F	(0.169)							
2348F	(1.29)		12389F	(0.169)							
2378F	(1.29)										
2367/3467F	(1.29)										
1269F	(1.29)										
1239F	(1.29)										
1289F	(1.29)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 511-768-PCX

Report Created: 23-Feb-2022 08:08 Analyst: TF

Sample ID: Method Blank B6291_18925 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18925_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18925
Date Collected:	n/a	Split:	-	Date Extracted:	14-Feb-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	22-Feb-2022 07:04
Lab Project No:	B6291	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.392)		0.392	(0.392)	(0.392)	(0.392)
12378-PeCDD	(0.23)		0.23	(0.115)	(0.23)	(0.23)
123478-HxCDD	(0.292)		0.292	(0.0292)	(0.0292)	(0.0292)
123678-HxCDD	(0.292)		0.292	(0.0292)	(0.0292)	(0.0292)
123789-HxCDD	(0.295)		0.295	(0.0295)	(0.0295)	(0.0295)
1234678-HpCDD	(0.335)		0.335	(0.00335)	(0.00335)	(0.00335)
OCDD	7.25		0.685	0.00725	0.000725	0.00217
2378-TCDF	(1.29)		1.29	(0.129)	(0.129)	(0.129)
12378-PeCDF	(0.165)		0.165	(0.00823)	(0.00823)	(0.00494)
23478-PeCDF	(0.173)		0.173	(0.0866)	(0.0866)	(0.052)
123478-HxCDF	(0.214)		0.214	(0.0214)	(0.0214)	(0.0214)
123678-HxCDF	(0.183)		0.183	(0.0183)	(0.0183)	(0.0183)
234678-HxCDF	(0.216)		0.216	(0.0216)	(0.0216)	(0.0216)
123789-HxCDF	(0.289)		0.289	(0.0289)	(0.0289)	(0.0289)
1234678-HpCDF	(0.124)		0.124	(0.00124)	(0.00124)	(0.00124)
1234789-HpCDF	(0.23)		0.23	(0.0023)	(0.0023)	(0.0023)
OCDF	(0.553)		0.553	(0.000553)	(0.0000553)	(0.000166)

TEQ Summaries			
EMPC = 0, ND = 0	0.00725	0.000725	0.00217
EMPC = 0, ND = DL / 2	0.466	0.516	0.499
EMPC = 0, ND = DL	0.924	1.03	0.996
EMPC = 0, < J-level = 0	0.00725	0.000725	0.00217
EMPC = EMPC, ND = 0	0.00725	0.000725	0.00217
EMPC = EMPC, ND = DL / 2	0.466	0.516	0.499
EMPC = EMPC, ND = DL	0.924	1.03	0.996
EMPC = EMPC, < J-level = 0	0.00725	0.000725	0.00217

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Checkcode: 511-768-PCX

Sample ID: 0_18925_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6291	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18925_DF	Date Extracted:	14-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18925	Date Analyzed:	22-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	5:31:33

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	13.7				ES 2378-TCDD	78.5	
12378-PeCDD	57.3				ES 12378-PeCDD	93	
123478-HxCDD	63.4				ES 123478-HxCDD	83.9	
123678-HxCDD	66.8				ES 123678-HxCDD	86.3	
123789-HxCDD	61.5				ES 123789-HxCDD	79.8	
1234678-HpCDD	60.8				ES 1234678-HpCDD	88.3	
OCDD	128				ES OCDD	86.5	
2378-TCDF	14.2				ES 2378-TCDF	65.9	
12378-PeCDF	60				ES 12378-PeCDF	84	
23478-PeCDF	63.1				ES 23478-PeCDF	76.3	
123478-HxCDF	59.4				ES 123478-HxCDF	74.3	
123678-HxCDF	58.9				ES 123678-HxCDF	99	
234678-HxCDF	61.9				ES 234678-HxCDF	90.3	
123789-HxCDF	56.5				ES 123789-HxCDF	67.1	
1234678-HpCDF	59.1				ES 1234678-HpCDF	106	
1234789-HpCDF	60				ES 1234789-HpCDF	67.2	
OCDF	116				ES OCDF	66.5	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	82.9	
Total TCDD	66.6		66.6		CS 12347-PeCDD	114	
Total PeCDD	89.3		89.3		CS 12346-PeCDF	101	
Total HxCDD	212		212		CS 123469-HxCDF	112	
Total HpCDD	76.6		76.6		CS 1234689-HpCDF	109	
Total TCDF	78.8		78.8				
Total PeCDF	232		232				
Total HxCDF	376		376				
Total HpCDF	119		119				
Total PCDD/Fs	**1,490**		**1,490**				
WHO-2005 TEQs							
TEQ: ND=0	138		138				
TEQ: ND=DL/2	138	0.25	138				
TEQ: ND=DL	138	0.501	138				

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Sample Receipt Notification

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*08-Feb-22 at 11:48*
AP Project name:	*B6291*
Requested TAT:	*10 business days*
Projected due date:	*22-Feb-22*
Matrix:	*Soil*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-020422-S-SB-SW-O-22	B6291_001	Solid	1	4 oz	04-Feb-22	15:30	0.5	1	4905 2704 5391
11215131-020422-S-SB-SW-B-24	B6291_002	Solid - MS/MSD	1	4 oz	04-Feb-22	16:00	0.5	1	4905 2704 5391
11215131-020422-S-SB-SW-B-24H	B6291_003	Solid	1	4 oz	04-Feb-22	16:15	0.5	1	4905 2704 5391
11215131-020422-S-SB-DUP-15	B6291_004	Solid - DUP	1	4 oz	04-Feb-22	n/a	0.5	1	4905 2704 5391
11215131-020522-S-SB-SW-O-24	B6291_005	Solid	1	4 oz	05-Feb-22	10:00	0.5	1	4905 2704 5391
11215131-020522-S-SB-SW-B-26	B6291_006	Solid	1	4 oz	05-Feb-22	10:10	0.5	1	4905 2704 5391
11215131-020522-S-SB-NE-O-13	B6291_007	Solid	1	4 oz	05-Feb-22	12:40	0.5	1	4905 2704 5391
11215131-020522-S-SB-NE-O-14	B6291_008	Solid	1	4 oz	05-Feb-22	12:50	0.5	1	4905 2704 5391
11215131-020522-S-SB-NE-B-5	B6291_009	Solid	1	4 oz	05-Feb-22	13:00	0.5	1	4905 2704 5391

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Tamara Burkamper *Logged in by: Tamara Burkamper* *QC'ed by:* AK 9 Feb 22

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

this project contains ALL NON-RUSH samples

B6291 1/2

SGS CHAIN OF CUSTODY

TB 2/8/22

PROJECT INFO

PROJECT: 11215131-SJRWP - PCFSE

P.O. #:

QUOTE #: file

SITE REF: International Paper

TURN AROUND TIME:

REPORT LEVEL: ☐ Level I ☒ Level II ☒ Level IV

SPECIAL DELIVERABLES:

☐ DoD ☒ EDD/Version: GHD EQuIS 4-file

☐ State of Origin:

Copy

SPECIAL INSTRUCTIONS / COMMENTS

PRESERVATIVE

None

ANALYSIS & METHOD

SEND DOCUMENTATION / RESULTS TO

COMPANY: GHD Services Inc.

CONTACT: Meagan Willis

ADDRESS: 11451 Katy Fwy #400,Houston,

PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (☒ CHECK IF SAME)

COMPANY:

CONTACT:

ADDRESS:

PHONE: EMAIL:

See SSOW

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B	~~M8290A~~	~~M1668A~~	~~M1668C~~	~~HR-PAH~~	~~M1699~~	QC MS	QC MSD	QC DUP	QTY	REMARKS
215131-020422-S-SB-SW-S-48	2/4/22	1500	C	S	4oz	X									1	RUSH
215131-020422-S-SB-SW-S-47	1	1515	C	S	4oz	X									1	RUSH
215131-020422-S-SB-SW-O-22	1	1530	C	S	4oz	X									1	
215131-020422-S-SB-SW-B-24	1	1600	C	S	4oz	X						X	X			MS/MSD
215131-020422-S-SB-SW-B-24H	1	1615	C	S	4oz	X										
1215131-020422-S-SB-DUP-15	↓	—	C	S	4oz	X								X	1	Duplicate sample
1215131-020522-S-SB-SW-S-51	2/5/22	0930	C	S	4oz	X									1	RUSH
215131-020522-S-SB-SW-S-52	2/5/22	0940	C	S	4oz	X									1	RUSH
215131-020522-S-SB-SW-S-53	2/5/22	0950	C	S	4oz	X									1	RUSH
215131-020522-S-SB-SW-O-24	2/5/22	1000	C	S	4oz	X									1	

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:
Sarah Belanger	2/6/22	1645	meagan willis
RELINQUISHED BY (2):	DATE:	TIME:	RECEIVED BY:
Meagan Willis	2/7/22	0810	[signature] 2/7/22 0810
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:
FedEx			

RECEIVED BY LABORATORY: Tamara Burkemper DATE: 2/8/22 TIME: 1148

COOLER SEAL: ☒ INTACT ☐ BROKEN ☐ ABSENT

CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☒ ABSENT

CARRIER: FedEx TEMP: °C 0.5°C IR4 (TB)

TRACKING #: attached

SGS NORTH AMERICA INC | ENVIRONMENT, HEALTH & SAFETY 5500 Business Drive Wilmington, NC 28405 910 350 1903 | 866 846 8290 www.sgs.com/ehs

52 of 449

Member of the SGS Group (SGS SA)

B62911 2/2

SGS CHAIN OF CUSTODY

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

copy

SPECIAL INSTRUCTIONS / COMMENTS

PRESERVATIVE
None

ANALYSIS & METHOD

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B	M8290A	M1668A	M1668C	HR-PAH	M1699	QC MS	QC MSD	QC DUP	QTY	REMARKS
5131-020522-S-SB-SW-B-26	2/5/22	1010	C	S	4 oz	X									1	See SSOW
15131-020522-S-SB-NE-C-13	2/5/22	1240	C	S	4 oz	X									1	
15131-020522-S-SB-NE-C-14	2/5/22	1250	C	S	4 oz	X									1	
15131-020522-S-SB-NE-B-5	2/5/22	1300	C	S	4 oz	X									1	

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:	RECEIVED BY LABORATORY:	DATE:	TIME:
Sarah Belanger	2/6/22	1045	Meagan Willis	Jemaria Burkanper	2/8/22	1148
RELINQUISHED BY (2):	DATE:	TIME:	RECEIVED BY:	COOLER SEAL: ☒ INTACT ☐ BROKEN ☐ ABSENT		
Meagan Willis	2/7/22	0810	0910	CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☒ ABSENT		
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:	CARRIER: FEDEX TEMP: °C 0.5c		
				TRACKING #: attached		

DW (TB)

B6291 1/1

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 07FEB22
ACTWGT: 45.00 LB MAN
CAD: 0317585/CAFE3313

BILL RECIPIENT

TO **SAMPLE RECEIVING**
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLE 1

FedEx Express

E

J19121908200 1uv

TUE - 08 FEB 10:30A
PRIORITY OVERNIGHT

TRK# 0201 4905 2704 5391

NL ILMA

28405
NC-US RDU

Part # 156148-434 MTW EXP 07/22

TB 2/8/22

SGS

Project Initiation Form

Project Number:	B6291	Initiation Date:	09-Feb-22
Client Name:	GHD Services Inc.	Sample Matrix:	Soil
Analysis Method:	1613 PCDD/F	TAT:	10 days
		Project Manager:	Tamara

Special Instructions

M1613B w/ OPR

10 g DWE extraction

Sample 002 is MS/MSD

Read and understood, initial and date: Prep Lab: VE RBS 2/14/22 2/8/22 HRMS Lab:

Reporting Instructions

M1613B
Full Report

Sample 002 MS/MSD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab:

PM Initials: akornegay Date: 09-Feb-2022

SGS

Methods: PCB / PAH | (PCDD/F) WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Extraction Type: (SDS) CLL | TALEX Carbon SPE | Solid | Final Volume: 20µL

Batch# 18925 | Split: ~~1/2~~ 1/4 | Extract Initial/Date: 2/14/22 VE | Clean-up Initial/Date: RAB 2/15/22 | Transfer Init/Date: RAB 2/19/22

Lab Sample ID	Extraction Position Solvent: TOL	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B6291_18925_001	31	13.11				brown, clay-like/sandy, chemical smell
B6291_18925_002	32	14.59				gray, clay-like
B6291_18925_002MS	33	14.69				see 002
B6291_18925_002MSD	34	14.73				see 002
B6291_18925_003	35	13.31				dark gray, clay-like, oil smell
B6291_18925_004	36	13.47		TB 2/23/2022		dark gray, clay-like, oils
B6291_18925_005	37	17.75				brown, clay-like
B6291_18925_006	38	13.47				gray, clay-like
B6291_18925_007	39	13.75				brown, clay-like
B6291_18925_008	40	14.72				brown, clay-like
B6291_18925_009	41	16.22				dark gray, clay-like, strong oil smell
MB1_18925	29	10.00				sodium sulfate
OPR1_18925	30	10.00				sodium sulfate

RAB 2/19/22

Supply IDs

Toluene	SR 16314
MeCHL	STL14.17
Florisil	SPLS-83
Hexane	STL14.29
Silica	SPLS-69
S Nitrate	N/A
Base Silica	SPLS-86
HydroMatrix	N/A
Tetradecane	SPLS-735
H_2SO_4	N/A
A Silica	SPLS-90
Sodium Sulfate	SPLS-50

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	TB 2/23/2022
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start: 1608	
	Stop: 0930	
HEX	Start:	TB 2/23/2022
	Stop:	
DCM	Start:	
	Stop:	

SGS

Methods: PCB PCDD/F QUANTICS DoD PCDD/F
PAH WHO-2 USV PEST

Solid

Batch# 18925

Inter-Department Communication Sheet

REVIEWED
Amy_Boehm , 2/23/2022, 10:19:16 AM

SGS

Wt. Volume Results

Batch #: 18925 Comments:

ak 2/23/22

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6291_001	2.36	4.69	4.16	77.25%	77.25%			12.94	13.11	10.13
B6291_002	2.33	5.89	4.78	68.82%	68.82%			14.53	14.59	10.04
B6291_002MS	2.33	5.89	4.78	68.82%	68.82%			14.53	14.69	10.11
B6291_002MSD	2.33	5.89	4.78	68.82%	68.82%			14.53	14.73	10.14
B6291_003	2.36	5.62	4.82	75.46%	75.46%			13.25	13.31	10.04
B6291_004	2.37	5.39	4.65	74.83%	74.83%			13.36	13.47	10.08
B6291_005	2.29	5.57	4.91	79.88%	79.88%			12.52	12.75	10.18
B6291_006	2.39	5.9	5.04	75.50%	75.50%			13.25	13.47	10.17
B6291_007	2.4	5.83	5.01	76.09%	76.09%			13.14	13.25	10.08
B6291_008	2.35	5.39	4.42	68.09%	68.09%			14.69	14.72	10.02
B6291_009	2.37	5.01	4.02	62.50%	62.50%			16	16.22	10.14

TB 2/23/2022

TB 2/23/2022

% Solid Determination WorkSheet

SGS

Batch: 18925

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	10g DWE	Comments
B6291_18925_001	2.36	4.69	4.16/4.16	12.94	
B6291_18925_002	2.33	5.89	4.78/4.78	14.53	
B6291_18925_002MS	2.33	5.89	~~4.84~~ JE 2/14/22 4.78/4.78	14.53	
B6291_18925_002MSD	2.33	5.89	4.63 4.78/4.78	14.53	
B6291_18925_003	2.36	5.62	4.91 4.82/4.82	13.26	
B6291_18925_004	2.37	5.39	5.04 4.63/4.63	13.36	
B6291_18925_005	2.29	5.57	~~5.01~~ 4.91/4.91	12.52	
B6291_18925_006	2.39	5.90	5.04/5.04	13.26	
B6291_18925_007	2.40	5.83	5.04/5.01	13.14	
B6291_18925_008	2.35	5.39	4.42/4.42	14.69	
B6291_18925_009	2.37	5.01	4.02/4.02	16.00	

~~JE~~ 2/14/22

Date/Initials: JE 2/14/22

SGS

Methods: PCB / PAH | PCDD/F / WHO-2 | QUANTICS / USV | DoD PCDD/F / PEST | Solid

Batch # 18925

Lab Sample ID	Spiker Initials/Date: JRH 2/14/22	JRH 2/14/22	JRH 2/14/22	2/18/22	2/18/22		
	D/F Ax-A Amount: 20uL Observer Initials	D/F Ax-B Amount: 20uL Observer Initials	D/F ES Amount: 20uL Observer Initials	D/F CS Amount: 20uL Observer Initials	D/F JS Amount: 20uL Observer Initials	Amount: Observer Initials	Amount: Observer Initials
B6291_18925_001	—	—	KE	JRH	JRH		
B6291_18925_002	—	—	KE	JRH	JRH		
B6291_18925_002MS	KE	KE	KE	JRH	JRH		
B6291_18925_002MSD	KE	KE	KE	JRH	JRH		
B6291_18925_003	—	—	KE	JRH	JRH		
B6291_18925_004	—	—	KE	JRH	JRH		
B6291_18925_005	—	—	KE	JRH	JRH		
B6291_18925_006	—	—	KE	JRH	JRH		
B6291_18925_007	—	—	KE	JRH	JRH		
B6291_18925_008	—	—	KE	JRH	JRH		
B6291_18925_009	—	—	KE	JRH	JRH		
MB1_18925	—	—	KE	JRH	JRH		
OPR1_18925	KE	KE	KE	JRH	JRH		

2/19/22

Standard Information

Pipette ID						2/19/22
Spike ID	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS	
SIL#	21-2-8	25-187-2	26-2-9	25-338.1	25-384.1	
Concentration	10pg/µL	10pg/µL	100pg/µL	100 PT/µL	100 PT/µL	
Expiration Date	7/1/22	6/22/22	8/2018	11/16/22	1/25/23	

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
25	220221C25	3	CS3_220221_DF_CC	1.00	25-347-1	DTF	063-910	22-Feb-2022	04:45:14
26	220221C26	66	OPR1_18925_DF	10.04	0_18925_OPR001	DTF	501-256	22-Feb-2022	05:31:33
27	220221C27	2	SBS_220221_DF_CE	1.00	20-61-1	DTF	215-926	22-Feb-2022	06:17:54
28	220221C28	65	MB1_18925_DF_SDS	10.00	Method Blank	DTF	511-768	22-Feb-2022	07:04:14
29	220221C29	67	B6291_18925_DF_001	10.13	11215131-020422-S-SB-SW-O-22	DTF	951-246	22-Feb-2022	07:50:34
30	220221C30	68	B6291_18925_DF_002	10.04	11215131-020422-S-SB-SW-B-24	DTF	638-649	22-Feb-2022	08:36:55
31	220221C31	69	B6291_18925_DF_002MS	10.11	11215131-020422-S-SB-SW-B-24-MS	DTF	119-369	22-Feb-2022	09:23:16
32	220221C32	70	B6291_18925_DF_002MSD	10.14	11215131-020422-S-SB-SW-B-24-MSD	DTF	863-560	22-Feb-2022	10:09:36
33	220221C33	71	B6291_18925_DF_003	10.04	11215131-020422-S-SB-SW-B-24H	DTF	690-600	22-Feb-2022	10:55:58
34	220221C34	72	B6291_18925_DF_004	10.08	11215131-020422-S-SB-DUP-15	DTF	911-691	22-Feb-2022	11:42:19
35	220221C35	73	B6291_18925_DF_005	10.18	11215131-020522-S-SB-SW-O-24	DTF	366-008	22-Feb-2022	12:28:38
36	220221C36	74	B6291_18925_DF_006	10.17	11215131-020522-S-SB-SW-B-26	DTF	732-394	22-Feb-2022	13:14:59
37	220221C37	75	B6291_18925_DF_007	10.08	11215131-020522-S-SB-NE-O-13	DTF	837-534	22-Feb-2022	14:01:20
38	220221C38	76	B6291_18925_DF_008	10.02	11215131-020522-S-SB-NE-O-14	DTF	527-345	22-Feb-2022	14:47:40
39	220221C39	77	B6291_18925_DF_009	10.14	11215131-020522-S-SB-NE-B-5	DTF	615-350	22-Feb-2022	15:34:02

REVIEWED
Tyler_Fritz , 2/23/2022, 8:33:18 AM

APPROVED
Amy_Boehm , 2/23/2022, 10:43:47 AM

Lab ID: MB1_18925_DF_SDS **Acq'd:** 22 Feb 2022 07:04 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6291_18925 **UTP:** 22-Feb-2022 14:52:59 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 511-768-PCX

Datafile: 220221C28 **Report:** 23 Feb 2022 08:09 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	4168.388	0.392
12378-PeCDD	NotFnd		1.0007	-		-	-	-	1.04	-	2616.829	0.23
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	3131.884	0.292
123678-HxCDD	NotFnd		1.0036	-		-	-	-	1.15	-	3131.884	0.292
123789-HxCDD	NotFnd		1.0118	-		-	-	-	1.05	-	3131.884	0.295
1234678-HpCDD	NotFnd		1.0002	-		-	-	-	1.06	-	3698.969	0.335
OCDD	43.42		1.0003	1.0002	-0.3	5.04E+05	0.90	Y	1.13	7.25	3671.732	0.685
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	16162.477	1.29
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2544.7317	0.165
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2544.7317	0.173
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	3399.089	0.214
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3399.089	0.183
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	3399.089	0.216
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3399.089	0.289
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2577.92	0.124
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2577.92	0.23
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	2888.243	0.553

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.21	1.0243	1.0244	+0.2	2.09E+07	0.79	Y	1.05	83.9
ES 12378-PeCDD	33.62	1.2198	1.2206	+1.6	2.05E+07	1.56	Y	0.88	97.9
ES 123478-HxCDD	37.55	0.9916	0.9914	-0.5	1.73E+07	1.17	Y	0.97	91.9
ES 123678-HxCDD	37.68	0.9947	0.9947	0	1.73E+07	1.14	Y	0.94	94.3
ES 123789-HxCDD	37.98	1.0029	1.0027	-0.5	1.84E+07	1.16	Y	1.09	86.8
ES 1234678-HpCDD	40.72	1.0749	1.0750	+0.2	1.75E+07	1.01	Y	0.91	99
ES OCDD	43.41	1.1460	1.1461	+0.3	2.47E+07	0.89	Y	0.62	102
ES 2378-TCDF	27.35	1.0531	1.0534	+0.5	2.71E+07	0.75	Y	1.06	70.2
ES 12378-PeCDF	32.16	1.2378	1.2388	+1.9	2.88E+07	1.73	Y	0.91	86.8
ES 23478-PeCDF	33.28	1.2810	1.2820	+2.0	2.53E+07	1.68	Y	0.88	78.5
ES 123478-HxCDF	36.55	0.9650	0.9649	-0.2	2.01E+07	0.53	Y	1.20	86.6
ES 123678-HxCDF	36.69	0.9688	0.9686	-0.4	2.85E+07	0.53	Y	1.35	109
ES 234678-HxCDF	37.37	0.9866	0.9866	0	2.39E+07	0.54	Y	1.24	99.4
ES 123789-HxCDF	38.35	1.0125	1.0124	-0.2	1.75E+07	0.53	Y	1.16	78
ES 1234678-HpCDF	39.77	1.0501	1.0500	-0.2	2.18E+07	0.46	Y	0.97	116
ES 1234789-HpCDF	41.17	1.0870	1.0870	0	1.40E+07	0.48	Y	0.85	84.9
ES OCDF	43.59	1.1505	1.1509	+1.0	2.52E+07	0.86	Y	0.81	80.6

Lab ID: MB1_18925_DF_SDS | **Acq'd:** 22 Feb 2022 07:04 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6291_18925 | **UTP:** 22-Feb-2022 14:52:59 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 511-768-PCX

Datafile: 220221C28 | **Report:** 23 Feb 2022 08:09 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.54		-	-	-	2.38E+07	0.77	Y	-	-
JS 1234-TCDF	25.96		-	-	-	3.65E+07	0.72	Y	-	-
JS 123467-HxCDD	37.88		-	-	-	9.69E+06	1.22	Y	-	-
CS 37Cl-2378-TCDD	28.24		1.0251	1.0252	+0.2	9.18E+06	n/a	-	1.20	80.2
CS 12347-PeCDD	33.11		1.2016	1.2021	+1.0	2.00E+07	1.59	Y	0.75	112
CS 12346-PeCDF	31.62		1.2172	1.2182	+1.9	3.01E+07	1.72	Y	0.85	97
CS 123469-HxCDF	37.00		0.9771	0.9769	-0.4	2.44E+07	0.52	Y	1.12	113
CS 1234689-HpCDF	40.18		1.0608	1.0608	0	1.88E+07	0.46	Y	0.89	109
SS 37Cl-2378-TCDD	28.24		1.0251	1.0252	+0.2	9.18E+06	n/a	-	1.15	95.8
SS 12347-PeCDD	33.11		1.2016	1.2021	+1.0	2.00E+07	1.59	Y	0.86	114
SS 12346-PeCDF	31.62		1.2172	1.2182	+1.9	3.01E+07	1.72	Y	0.94	112
SS 123469-HxCDF	37.00		0.9771	0.9769	-0.4	2.44E+07	0.52	Y	0.83	103
SS 1234689-HpCDF	40.18		1.0608	1.0608	0	1.88E+07	0.46	Y	0.92	93.7

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	7.25	7.25
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	7.25	7.25

Lab ID: MB1_18925_DF_SDS **Acq'd: 22 Feb 2022 07:04 DTF** **Wt/Vol: 10.00 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6291_18925 **UTP: 22-Feb-2022 14:52:59 DTF** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 511-768-PCX**

Datafile: 220221C28 **Report: 23 Feb 2022 08:09 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		4168.388	0.392
1379-TCDD	NotFnd		0.8829						1.18		4168.388	0.392
1369-TCDD	NotFnd		0.8982						1.18		4168.388	0.392
1469-TCDD	NotFnd		0.9261						1.18		4168.388	0.392
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4168.388	0.392
1378-TCDD	NotFnd		0.9417						1.18		4168.388	0.392
1268-TCDD	NotFnd		0.9487						1.18		4168.388	0.392
1478-TCDD	NotFnd		0.9576						1.18		4168.388	0.392
1279-TCDD	NotFnd		0.9636						1.18		4168.388	0.392
1234/1269-TCDD	NotFnd		0.9761						1.18		4168.388	0.392
1236-TCDD	NotFnd		0.9812						1.18		4168.388	0.392
1237/1238-TCDD	NotFnd		0.9905						1.18		4168.388	0.392
1239-TCDD	NotFnd		0.9951						1.18		4168.388	0.392
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**4168.388**	**0.392**
1278-TCDD	NotFnd		1.0124						1.18		4168.388	0.392
1267-TCDD	NotFnd		1.0172						1.18		4168.388	0.392
1289-TCDD	NotFnd		1.0354						1.18		4168.388	0.392
12479/12468-PeCDD	NotFnd		0.9255						1.04		2616.829	0.23
12469-PeCDD	NotFnd		0.9416						1.04		2616.829	0.23
12368-PeCDD	NotFnd		0.9582						1.04		2616.829	0.23
12478-PeCDD	NotFnd		0.9637						1.04		2616.829	0.23
12379-PeCDD	NotFnd		0.9668						1.04		2616.829	0.23
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		2616.829	0.23
12346/12347-PeCDD	NotFnd		0.9858						1.04		2616.829	0.23
12378-PeCDD	NotFnd		**1.0007**						**1.04**		**2616.829**	**0.23**
12367-PeCDD	NotFnd		1.0036						1.04		2616.829	0.23
12389-PeCDD	NotFnd		1.0137						1.04		2616.829	0.23
124679/124689-HxCDD	NotFnd		0.9540						1.10		3131.884	0.293
123468-HxCDD	NotFnd		0.9715						1.10		3131.884	0.293
123679/123689-HxCDD	NotFnd		0.9793						1.10		3131.884	0.293
123469-HxCDD	NotFnd		0.9829						1.10		3131.884	0.293
123478-HxCDD	NotFnd		**1.0004**						1.09		**3131.884**	**0.292**
123678-HxCDD	NotFnd		**1.0036**						1.15		**3131.884**	**0.292**
123467-HxCDD	NotFnd		1.0089						1.10		3131.884	0.293
123789-HxCDD	NotFnd		**1.0118**						1.05		**3131.884**	**0.295**

Lab ID: MB1_18925_DF_SDS | **Acq'd: 22 Feb 2022 07:04 DTF** | **Wt/Vol: 10.00 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6291_18925 | **UTP: 22-Feb-2022 14:52:59 DTF** | **J-level: 0.5 pg/g** | **Split: 1** | **Checkcode: 511-768-PCX**

Datafile: 220221C28 | **Report: 23 Feb 2022 08:09 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

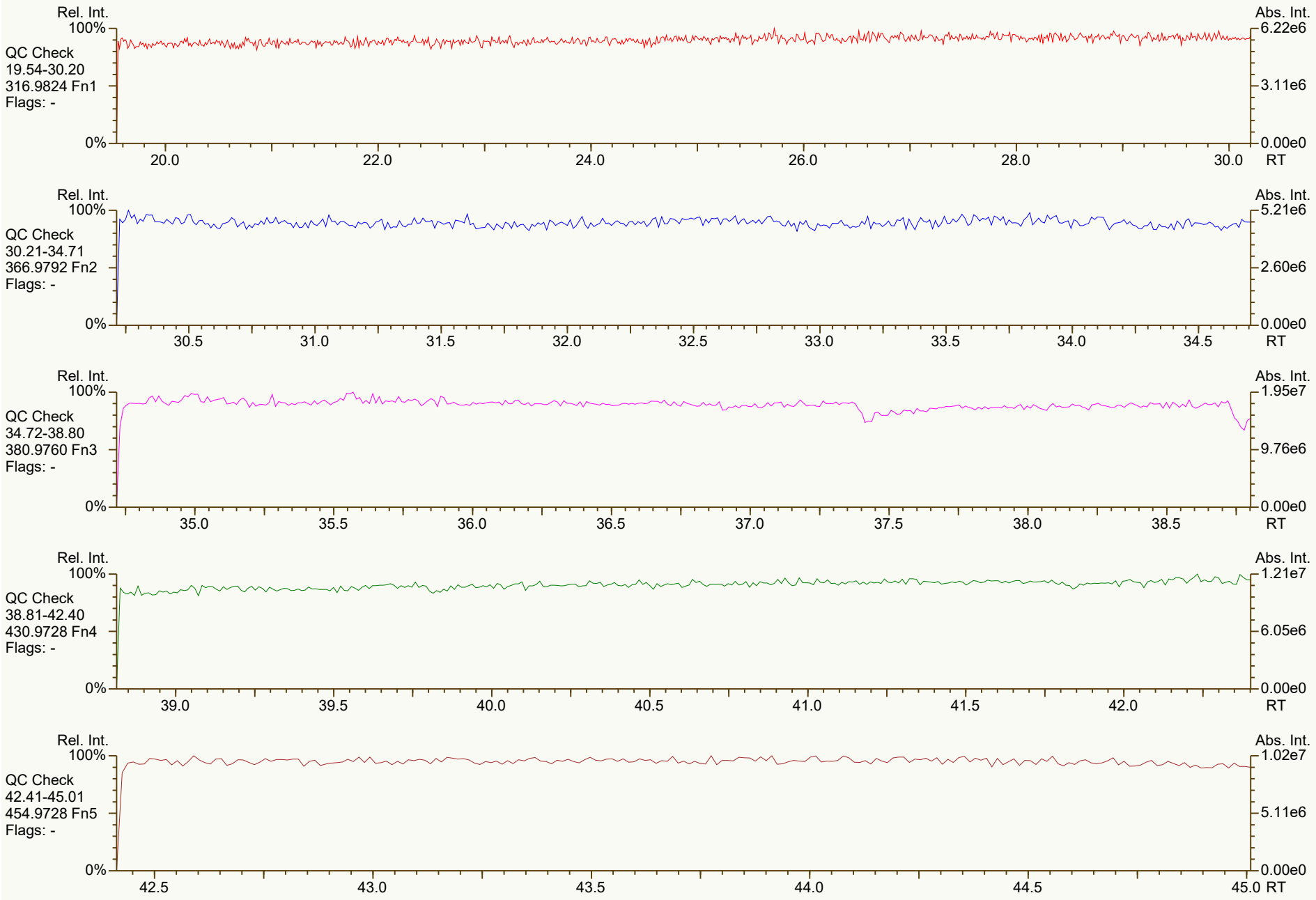
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9836						1.06		3698.969	0.335
1234678-HpCDD	**NotFnd**		**1.0002**						**1.06**		**3698.969**	**0.335**
OCDD	**43.42**		**1.0003**	**1.0002**	**-0.3**	**5.04E+05**	**0.90**	**Y**	**1.13**	**7.25**	**3671.732**	**0.685**
OCDD-a	NotFnd		1.0002						0.07		3341.862	9.75
1368-TCDF	NotFnd		0.8191						1.08		16162.477	1.29
1468-TCDF	NotFnd		0.8408						1.08		16162.477	1.29
2468-TCDF	NotFnd		0.8645						1.08		16162.477	1.29
1346/1246-TCDF	NotFnd		0.8772						1.08		16162.477	1.29
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		16162.477	1.29
1348-TCDF	NotFnd		0.8932						1.08		16162.477	1.29
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		16162.477	1.29
1268-TCDF	NotFnd		0.9119						1.08		16162.477	1.29
1467-TCDF	NotFnd		0.9170						1.08		16162.477	1.29
1478-TCDF	NotFnd		0.9234						1.08		16162.477	1.29
1369/1237-TCDF	NotFnd		0.9369						1.08		16162.477	1.29
2467-TCDF	NotFnd		0.9415						1.08		16162.477	1.29
2368-TCDF	NotFnd		0.9475						1.08		16162.477	1.29
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		16162.477	1.29
1278-TCDF	NotFnd		0.9676						1.08		16162.477	1.29
1349-TCDF	NotFnd		0.9722						1.08		16162.477	1.29
1267-TCDF	NotFnd		0.9777						1.08		16162.477	1.29
2346/1249-TCDF	NotFnd		0.9843						1.08		16162.477	1.29
2347/1279-TCDF	NotFnd		0.9926						1.08		16162.477	1.29
2348-TCDF	NotFnd		0.9968						1.08		16162.477	1.29
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**16162.477**	**1.29**
2367/3467-TCDF	NotFnd		1.0142						1.08		16162.477	1.29
1269-TCDF	NotFnd		1.0235						1.08		16162.477	1.29
1239-TCDF	NotFnd		1.0329						1.08		16162.477	1.29
1289-TCDF	NotFnd		1.0742						1.08		16162.477	1.29
13468/12468-PeCDF	NotFnd		0.9122						1.02		2786.737	0.185
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		2544.7317	0.169
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		2544.7317	0.169
14678-PeCDF	NotFnd		0.9685						1.02		2544.7317	0.169
13479-PeCDF	NotFnd		0.9716						1.02		2544.7317	0.169
13469/12479-PeCDF	NotFnd		0.9794						1.02		2544.7317	0.169
12346-PeCDF	NotFnd		0.9836						1.02		2544.7317	0.169

Lab ID: MB1_18925_DF_SDS | **Acq'd:** 22 Feb 2022 07:04 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6291_18925 | **UTP:** 22-Feb-2022 14:52:59 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 511-768-PCX

Datafile: 220221C28 | **Report:** 23 Feb 2022 08:09 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		2544.7317	0.169
12347-PeCDF	NotFnd		0.9891						1.02		2544.7317	0.169
12348-PeCDF	NotFnd		0.9938						1.02		2544.7317	0.169
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2544.7317**	**0.165**
12678/12367-PeCDF	NotFnd		1.0091						1.02		2544.7317	0.169
12379-PeCDF	NotFnd		1.0144						1.02		2544.7317	0.169
12679-PeCDF	NotFnd		0.9927						1.02		2544.7317	0.169
23467/12369-PeCDF	NotFnd		0.9965						1.02		2544.7317	0.169
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2544.7317**	**0.173**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2544.7317	0.169
12349-PeCDF	NotFnd		1.0101						1.02		2544.7317	0.169
12389-PeCDF	NotFnd		1.0330						1.02		2544.7317	0.169
123468-HxCDF	NotFnd		0.9622						1.19		3399.089	0.219
124678/134678-HxCDF	NotFnd		0.9678						1.19		3399.089	0.219
134679-HxCDF	NotFnd		0.9741						1.19		3399.089	0.219
124679-HxCDF	NotFnd		0.9795						1.19		3399.089	0.219
124689-HxCDF	NotFnd		0.9856						1.19		3399.089	0.219
123467-HxCDF	NotFnd		0.9972						1.19		3399.089	0.219
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**3399.089**	**0.214**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3399.089**	**0.183**
123479-HxCDF	NotFnd		1.0048						1.19		3399.089	0.219
123469-HxCDF	NotFnd		1.0089						1.19		3399.089	0.219
123679-HxCDF	NotFnd		0.9942						1.19		3399.089	0.219
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**3399.089**	**0.216**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3399.089	0.219
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3399.089**	**0.289**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		3399.089	0.219
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2577.92**	**0.124**
1234679-HpCDF	NotFnd		1.0068						1.34		2577.92	0.165
1234689-HpCDF	NotFnd		1.0104						1.34		2577.92	0.165
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2577.92**	**0.23**
OCDF	**NotFnd**		**1.0002**						**1.07**		**2888.243**	**0.553**
OCDF-a	NotFnd		1.0001						0.07		3115.607	9.64


Rel. Int.
100%
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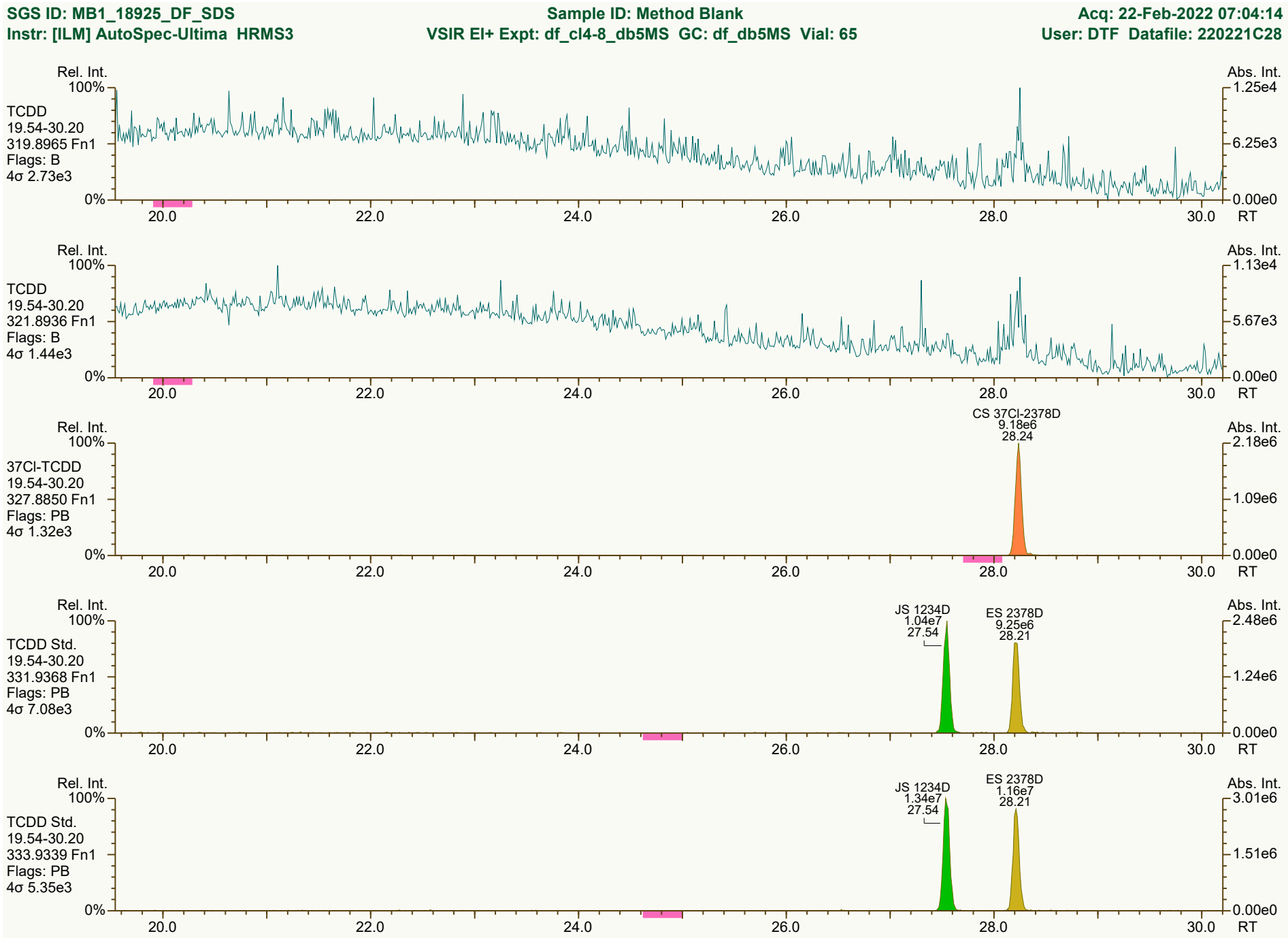
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
6.22e6
3.11e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
5.21e6
2.60e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.95e7
9.76e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.21e7
6.05e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.02e7
5.11e6
0.00e0

SGS ID: MB1_18925_DF_SDS
Instr: [ILM] AutoSpec-Ultima HRMS3

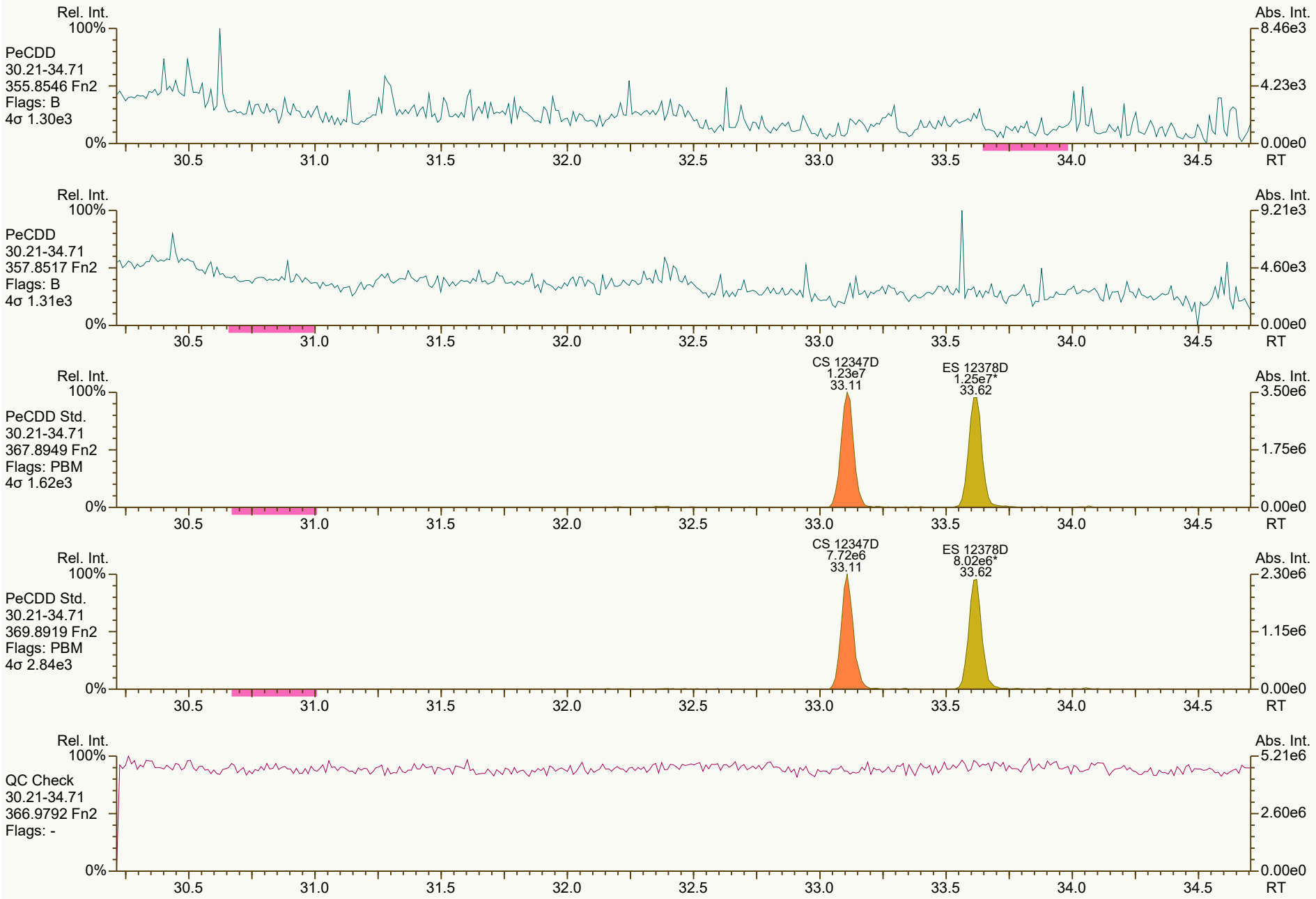
Sample ID: Method Blank
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65

Acq: 22-Feb-2022 07:04:14
User: DTF Datafile: 220221C28



Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\MB1_18925_DF_SDS.utp_res, saved 22-Feb-2022 14:52 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7937, 2731, 1055 scc: 511-768

Peak annotation: Areas, Centroids
PKD: 22-Feb-2022 14:46 Printed: 23-Feb-2022 08:16 Page 2 of 12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100%
PeCDD
30.21-34.71
355.8546 Fn2
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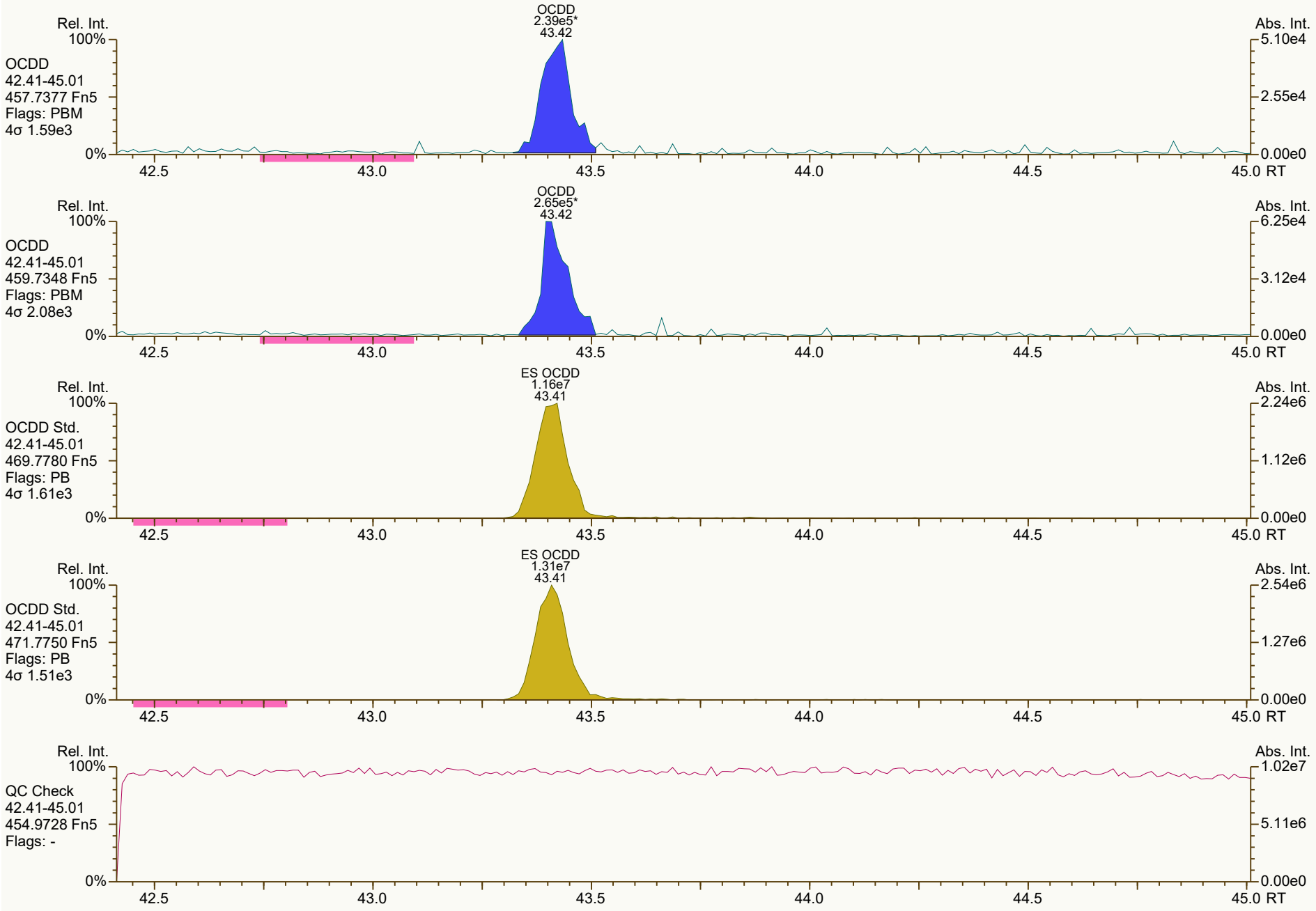
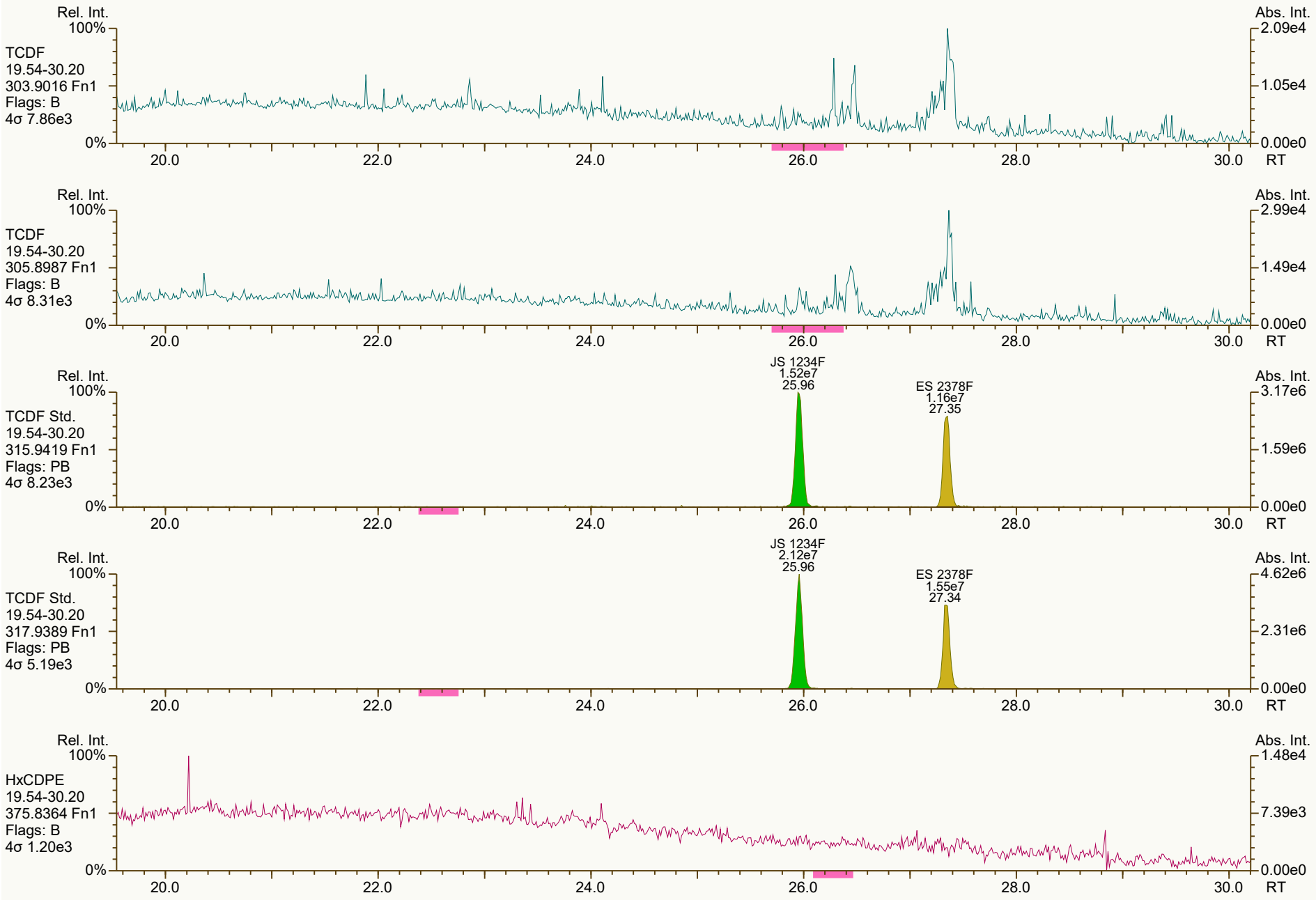
4σ 1.30e3
0%
Abs. Int.
8.46e3
4.23e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: B
4σ 1.31e3
0%
Abs. Int.
9.21e3
4.60e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PBM
4σ 1.62e3
0%
CS 12347D
1.23e7
33.11
ES 12378D
1.25e7*
33.62
Abs. Int.
3.50e6
1.75e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PBM
4σ 2.84e3
0%
CS 12347D
7.72e6
33.11
ES 12378D
8.02e6*
33.62
Abs. Int.
2.30e6
1.15e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.21e6
2.60e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: B
4σ 1.58e3
0%
Abs. Int.
5.89e3
2.94e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.55e3
0%
Abs. Int.
4.93e3
2.47e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 3.16e3
0%
ES 123678D
ES 123478D 9.20e6
9.34e6 37.67
37.55
ES 123789D
9.85e6*
37.98
JS 123467D
5.32e6*
37.88
Abs. Int.
2.72e6
1.36e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 1.90e3
0%
ES 123678D
8.05e6
ES 123478D 37.67
7.98e6
37.55
ES 123789D
8.50e6*
37.98
JS 123467D
4.36e6*
37.88
Abs. Int.
2.61e6
1.30e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.95e7
9.76e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: B
4σ 1.93e3
0%
Abs. Int.
1.29e4
6.43e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: B
4σ 1.77e3
0%
Abs. Int.
1.17e4
5.83e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
8.82e6
40.72
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 1.35e3
0%
Abs. Int.
2.62e6
1.31e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
8.69e6
40.72
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.21e3
0%
Abs. Int.
2.62e6
1.31e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
2.39e5*
43.42
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
5.10e4
2.55e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.65e5*
43.42
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 2.08e3
6.25e4
3.12e4
ES OCDD
1.16e7
43.41
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 1.61e3
2.24e6
1.12e6
ES OCDD
1.31e7
43.41
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.51e3
2.54e6
1.27e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.02e7
5.11e6


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: B
4σ 7.86e3
0%
Abs. Int.
2.09e4
1.05e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 8.31e3
0%
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 8.23e3
0%
JS 1234F
1.52e7
25.96
ES 2378F
1.16e7
27.35
Abs. Int.
3.17e6
1.59e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 5.19e3
0%
JS 1234F
2.12e7
25.96
ES 2378F
1.55e7
27.34
Abs. Int.
4.62e6
2.31e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.20e3
0%
Abs. Int.
1.48e4
7.39e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

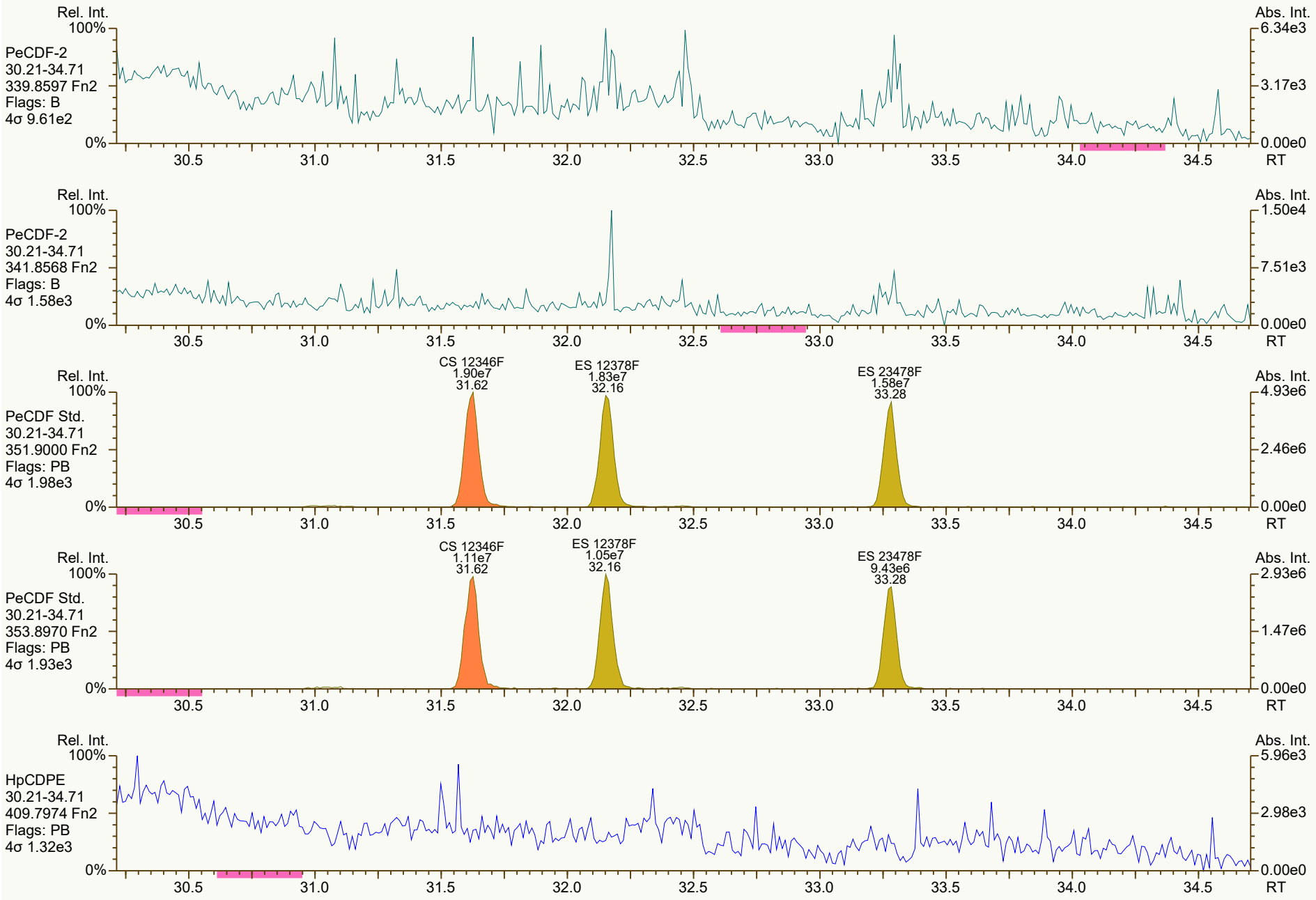
SGS ID: MB1_18925_DF_SDS | **Sample ID: Method Blank** | **Acq: 22-Feb-2022 07:04:14**

Instr: [ILM] AutoSpec-Ultima HRMS3 | **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65** | **User: DTF Datafile: 220221C28**



Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\MB1_18925_DF_SDS.utp_res, saved 22-Feb-2022 14:52 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9042 scc: 511-768 | *PKD: 22-Feb-2022 14:46 Printed: 23-Feb-2022 08:16 Page 8 of 12*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100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: B
4σ 9.61e2
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: B
4σ 1.58e3
1.50e4
7.51e3
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 1.98e3
CS 12346F
1.90e7
31.62
ES 12378F
1.83e7
32.16
ES 23478F
1.58e7
33.28
4.93e6
2.46e6
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 1.93e3
CS 12346F
1.11e7
31.62
ES 12378F
1.05e7
32.16
ES 23478F
9.43e6
33.28
2.93e6
1.47e6
HpCDPE
30.21-34.71
409.7974 Fn2
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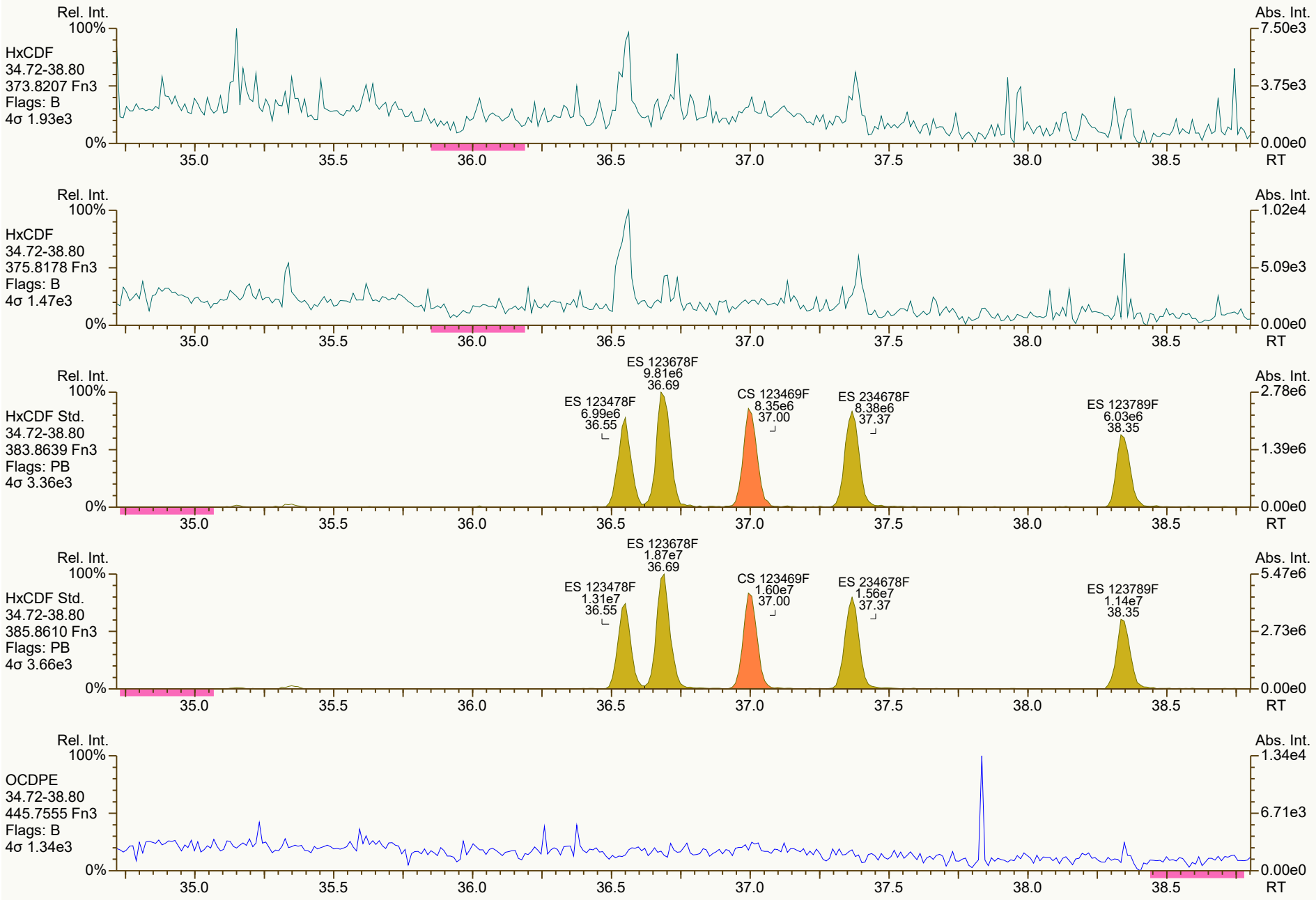
5.96e3
2.98e3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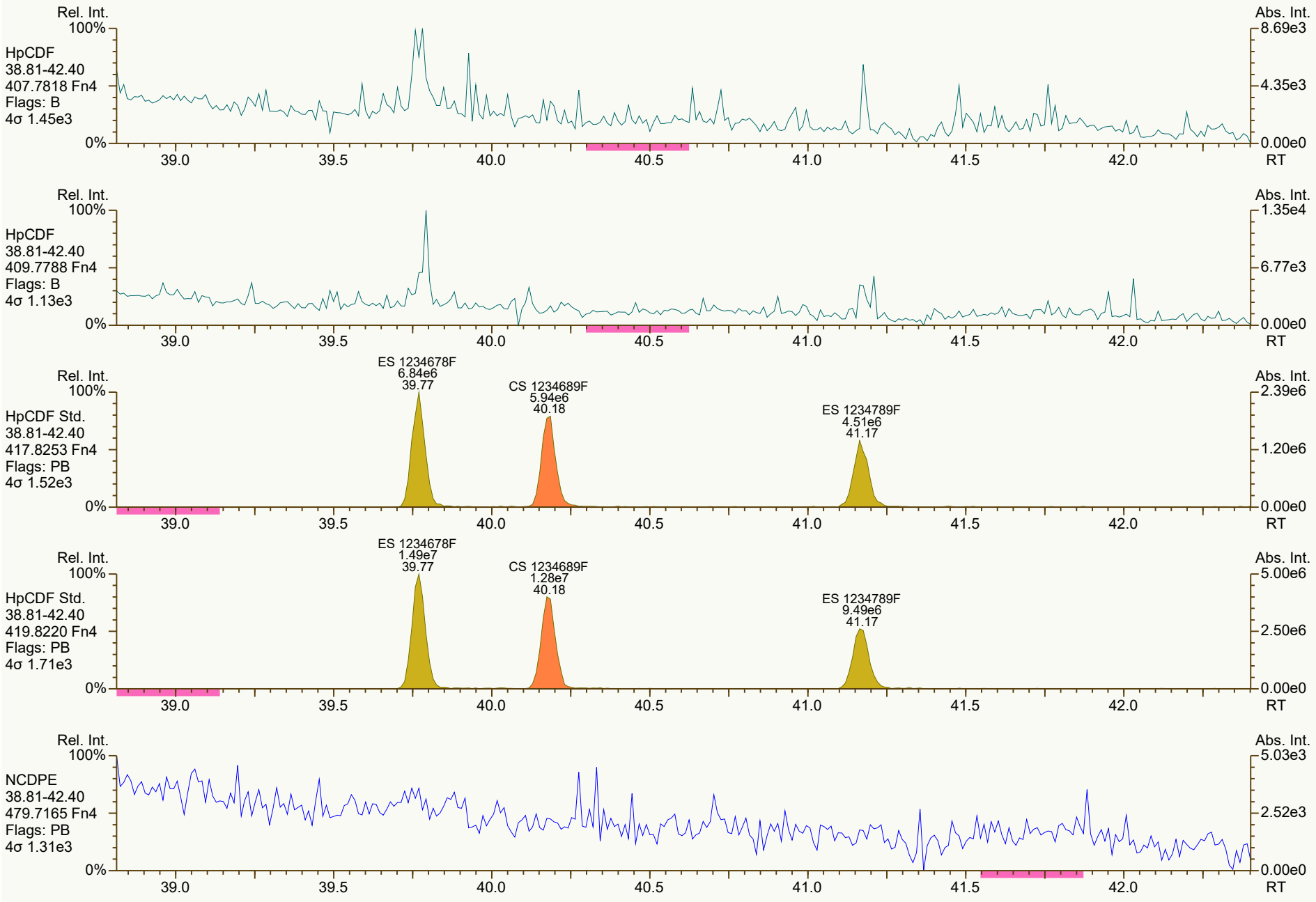
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: B
4σ 1.93e3
0%
Abs. Int.
7.50e3
3.75e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: B
4σ 1.47e3
0%
Abs. Int.
1.02e4
5.09e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 3.36e3
0%
ES 123678F
9.81e6
36.69
ES 123478F
6.99e6
36.55
CS 123469F
8.35e6
37.00
ES 234678F
8.38e6
37.37
ES 123789F
6.03e6
38.35
Abs. Int.
2.78e6
1.39e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 3.66e3
0%
ES 123678F
1.87e7
36.69
ES 123478F
1.31e7
36.55
CS 123469F
1.60e7
37.00
ES 234678F
1.56e7
37.37
ES 123789F
1.14e7
38.35
Abs. Int.
5.47e6
2.73e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.34e3
0%
Abs. Int.
1.34e4
6.71e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: B
4σ 1.45e3
0%
Abs. Int.
8.69e3
4.35e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: B
4σ 1.13e3
0%
Abs. Int.
1.35e4
6.77e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 1.52e3
0%
ES 1234678F
6.84e6
39.77
CS 1234689F
5.94e6
40.18
ES 1234789F
4.51e6
41.17
Abs. Int.
2.39e6
1.20e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 1.71e3
0%
ES 1234678F
1.49e7
39.77
CS 1234689F
1.28e7
40.18
ES 1234789F
9.49e6
41.17
Abs. Int.
5.00e6
2.50e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.31e3
0%
Abs. Int.
5.03e3
2.52e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.48e3
0%
Abs. Int.
8.73e3
4.36e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.41e3
0%
Abs. Int.
6.85e3
3.43e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.17e7
43.59
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 1.80e3
0%
Abs. Int.
2.26e6
1.13e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.35e7
43.59
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 1.41e3
0%
Abs. Int.
2.54e6
1.27e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.00e3
0%
Abs. Int.
3.99e3
2.00e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6291_18925_DF_001 **Acq'd:** 22 Feb 2022 07:50 DTF **Wt/Vol:** 10.13 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020422-S-SB-SW-O-22 **UTP:** 22-Feb-2022 14:53:00 DTF **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 951-246-YSG

Datafile: 220221C29 **Report:** 23 Feb 2022 08:09 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.24		1.0008	1.0008	0	3.09E+05	0.81	Y	1.18	2.76	5955.539	0.565
12378-PeCDD	33.63	J EMPC	1.0007	1.0007	0	1.30E+05	2.19	N	1.04	1.36	4833.681	0.446
123478-HxCDD	37.56	J	1.0004	1.0004	0	1.86E+05	1.32	Y	1.09	2.25	3858.395	0.43
123678-HxCDD	37.68		1.0036	1.0036	0	1.06E+06	1.26	Y	1.15	12.3	3858.395	0.39
123789-HxCDD	37.99		1.0118	1.0117	-0.2	6.83E+05	1.32	Y	1.05	7.79	3858.395	0.4
1234678-HpCDD	40.72		1.0002	1.0003	+0.2	3.93E+07	1.03	Y	1.06	460	3165.255	0.323
OCDD	43.41		1.0003	1.0004	+0.3	2.34E+08	0.90	Y	1.13	3,640	4350.412	0.879
2378-TCDF	27.36		1.0008	1.0007	-0.2	1.54E+06	0.83	Y	1.08	10.4	4525.478	0.335
12378-PeCDF	32.17	J	1.0005	1.0006	+0.2	2.13E+05	1.69	Y	1.02	1.66	2950.444	0.216
23478-PeCDF	33.30		1.0005	1.0008	+0.6	4.91E+05	1.53	Y	1.02	4.12	2950.444	0.207
123478-HxCDF	36.56		1.0004	1.0004	0	5.80E+05	1.26	Y	1.27	4.47	5102.808	0.332
123678-HxCDF	36.69		1.0004	1.0003	-0.2	3.61E+05	1.19	Y	1.15	2.68	5102.808	0.323
234678-HxCDF	37.37	EMPC	1.0005	1.0004	-0.2	3.58E+05	1.01	N	1.19	2.9	5102.808	0.373
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	5102.808	0.409
1234678-HpCDF	39.77		1.0003	1.0002	-0.2	3.26E+06	1.00	Y	1.37	27	3514.681	0.221
1234789-HpCDF	41.17		1.0003	1.0002	-0.2	2.94E+05	0.89	Y	1.31	3.03	3514.681	0.33
OCDF	43.59		1.0002	1.0003	+0.3	6.21E+06	0.93	Y	1.07	80	3664.962	0.601

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.22		1.0243	1.0244	+0.2	1.87E+07	0.80	Y	1.05	64.4
ES 12378-PeCDD	33.61		1.2198	1.2204	+1.2	1.82E+07	1.66	Y	0.88	74.8
ES 123478-HxCDD	37.55		0.9916	0.9915	-0.2	1.50E+07	1.07	Y	0.97	68.9
ES 123678-HxCDD	37.67		0.9947	0.9947	0	1.48E+07	1.15	Y	0.94	70.3
ES 123789-HxCDD	37.97		1.0029	1.0027	-0.5	1.65E+07	1.13	Y	1.09	67.8
ES 1234678-HpCDD	40.70		1.0749	1.0749	0	1.59E+07	0.97	Y	0.91	78.2
ES OCDD	43.40		1.1460	1.1460	0	2.25E+07	0.89	Y	0.62	80.8
ES 2378-TCDF	27.35		1.0531	1.0533	+0.3	2.70E+07	0.70	Y	1.06	61.6
ES 12378-PeCDF	32.15		1.2378	1.2385	+1.4	2.48E+07	1.71	Y	0.91	65.8
ES 23478-PeCDF	33.27		1.2810	1.2817	+1.4	2.30E+07	1.69	Y	0.88	63
ES 123478-HxCDF	36.54		0.9650	0.9650	0	2.02E+07	0.55	Y	1.20	75.3
ES 123678-HxCDF	36.68		0.9688	0.9687	-0.2	2.30E+07	0.50	Y	1.35	76.3
ES 234678-HxCDF	37.36		0.9866	0.9865	-0.2	2.06E+07	0.53	Y	1.24	74.1
ES 123789-HxCDF	38.34		1.0125	1.0124	-0.2	1.91E+07	0.51	Y	1.16	74.1
ES 1234678-HpCDF	39.76		1.0501	1.0500	-0.2	1.74E+07	0.46	Y	0.97	80.6
ES 1234789-HpCDF	41.16		1.0870	1.0868	-0.5	1.46E+07	0.43	Y	0.85	77
ES OCDF	43.57		1.1505	1.1507	+0.5	2.86E+07	0.89	Y	0.81	79.3

Lab ID: B6291_18925_DF_001 **Acq'd:** 22 Feb 2022 07:50 DTF **Wt/Vol:** 10.13 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020422-S-SB-SW-O-22 **UTP:** 22-Feb-2022 14:53:00 DTF **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 951-246-YSG

Datafile: 220221C29 **Report:** 23 Feb 2022 08:09 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.54		-	-	-	2.78E+07	0.78	Y	-	-
JS 1234-TCDF	25.96		-	-	-	4.15E+07	0.74	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	1.12E+07	1.10	Y	-	-
CS 37Cl-2378-TCDD	28.24		1.0251	1.0252	+0.2	8.87E+06	n/a	-	1.20	66.5
CS 12347-PeCDD	33.11		1.2016	1.2020	+0.8	1.81E+07	1.60	Y	0.75	86.7
CS 12346-PeCDF	31.62		1.2172	1.2179	+1.3	2.64E+07	1.67	Y	0.85	74.9
CS 123469-HxCDF	37.00		0.9771	0.9770	-0.2	2.25E+07	0.50	Y	1.12	90.3
CS 1234689-HpCDF	40.17		1.0608	1.0608	0	1.89E+07	0.44	Y	0.89	95.4
SS 37Cl-2378-TCDD	28.24		1.0251	1.0252	+0.2	8.87E+06	n/a	-	1.15	103
SS 12347-PeCDD	33.11		1.2016	1.2020	+0.8	1.81E+07	1.60	Y	0.86	116
SS 12346-PeCDF	31.62		1.2172	1.2179	+1.3	2.64E+07	1.67	Y	0.94	114
SS 123469-HxCDF	37.00		0.9771	0.9770	-0.2	2.25E+07	0.50	Y	0.83	118
SS 1234689-HpCDF	40.17		1.0608	1.0608	0	1.89E+07	0.44	Y	0.92	118

Totals	Conc	EMPC
Total TCDD	5.82	5.82
Total PeCDD	4.22	12.2
Total HxCDD	119	123
Total HpCDD	863	863
Total Tetra-Octa Dioxins	4630	4640
Total TCDF	33.9	43.8
Total PeCDF	31.7	34.8
Total HxCDF	38.8	44.8
Total HpCDF	83.9	83.9
Total Tetra-Octa Furans	268	287
Total Tetra-Octa Dioxins & Furans	4900	4930

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.789	0.81
Response	3.15E+05	3.09E+05

Lab ID: B6291_18925_DF_001 **Acq'd: 22 Feb 2022 07:50 DTF** **Wt/Vol: 10.13 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020422-S-SB-SW-O-22 **UTP: 22-Feb-2022 14:53:00 DTF** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 951-246-YSG**

Datafile: 220221C29 **Report: 23 Feb 2022 08:09 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.53		0.8701	0.8695	-0.9	2.27E+05	0.83	Y	1.18	2.02	5955.539	0.565
1379-TCDD	24.90		0.8829	0.8826	-0.4	1.16E+05	0.84	Y	1.18	1.03	5955.539	0.565
1369-TCDD	NotFnd		0.8982						1.18		5955.539	0.565
1469-TCDD	NotFnd		0.9261						1.18		5955.539	0.565
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		5955.539	0.565
1378-TCDD	NotFnd		0.9417						1.18		5955.539	0.565
1268-TCDD	NotFnd		0.9487						1.18		5955.539	0.565
1478-TCDD	NotFnd		0.9576						1.18		5955.539	0.565
1279-TCDD	NotFnd		0.9636						1.18		5955.539	0.565
1234/1269-TCDD	NotFnd		0.9761						1.18		5955.539	0.565
1236-TCDD	NotFnd		0.9812						1.18		5955.539	0.565
1237/1238-TCDD	NotFnd		0.9905						1.18		5955.539	0.565
1239-TCDD	NotFnd		0.9951						1.18		5955.539	0.565
2378-TCDD	**28.24**		**1.0008**	1.0008	**0**	3.09E+05	0.81	Y	**1.18**	**2.76**	**5955.539**	**0.565**
1278-TCDD	NotFnd		1.0124						1.18		5955.539	0.565
1267-TCDD	NotFnd		1.0172						1.18		5955.539	0.565
1289-TCDD	NotFnd		1.0354						1.18		5955.539	0.565
12479/12468-PeCDD	31.11		0.9255	0.9254	-0.2	3.32E+05	1.36	Y	1.04	3.47	4833.681	0.446
12469-PeCDD	31.65	J EMPC	0.9416	0.9415	-0.2	9.68E+04	0.28	N	1.04	1.01	4833.681	0.446
12368-PeCDD	32.21	J EMPC	0.9582	0.9583	+0.2	1.20E+05	1.93	N	1.04	1.25	4833.681	0.446
12478-PeCDD	32.39	J EMPC	0.9637	0.9638	+0.2	1.80E+05	0.98	N	1.04	1.88	4833.681	0.446
12379-PeCDD	32.50	J EMPC	0.9668	0.9669	+0.2	9.20E+04	1.96	N	1.04	0.96	4833.681	0.446
12369/12467/12489-PeCDD	32.77	J EMPC	0.9746	0.9748	+0.4	1.44E+05	1.94	N	1.04	1.51	4833.681	0.446
12346/12347-PeCDD	33.14	J	0.9858	0.9858	0	7.15E+04	1.44	Y	1.04	0.746	4833.681	0.446
12378-PeCDD	33.63	J EMPC	**1.0007**	**1.0007**	**0**	**1.30E+05**	**2.19**	**N**	**1.04**	**1.36**	**4833.681**	**0.446**
12367-PeCDD	NotFnd		1.0036						1.04		4833.681	0.446
12389-PeCDD	NotFnd		1.0137						1.04		4833.681	0.446
124679/124689-HxCDD	35.82		0.9540	0.9539	-0.2	2.83E+06	1.26	Y	1.10	33.1	3858.395	0.406
123468-HxCDD	36.47		0.9715	0.9714	-0.2	4.00E+05	1.13	Y	1.10	4.68	3858.395	0.406
123679/123689-HxCDD	36.77		0.9793	0.9793	0	5.03E+06	1.27	Y	1.10	58.8	3858.395	0.406
123469-HxCDD	36.90	J EMPC	0.9829	0.9828	-0.2	2.08E+05	1.58	N	1.10	2.44	3858.395	0.406
123478-HxCDD	37.56	J	**1.0004**	**1.0004**	**0**	**1.86E+05**	**1.32**	**Y**	1.09	**2.25**	**3858.395**	**0.43**
123678-HxCDD	37.68		**1.0036**	**1.0036**	**0**	**1.06E+06**	**1.26**	**Y**	1.15	**12.3**	**3858.395**	**0.39**
123467-HxCDD	37.88	J EMPC	1.0089	1.0090	+0.2	1.21E+05	1.76	N	1.10	1.41	3858.395	0.406
123789-HxCDD	37.99		**1.0118**	**1.0117**	**-0.2**	**6.83E+05**	**1.32**	**Y**	1.05	**7.79**	**3858.395**	**0.4**

Lab ID: B6291_18925_DF_001 **Acq'd: 22 Feb 2022 07:50 DTF** **Wt/Vol: 10.13 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020422-S-SB-SW-O-22 **UTP: 22-Feb-2022 14:53:00 DTF** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 951-246-YSG**

Datafile: 220221C29 **Report: 23 Feb 2022 08:09 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

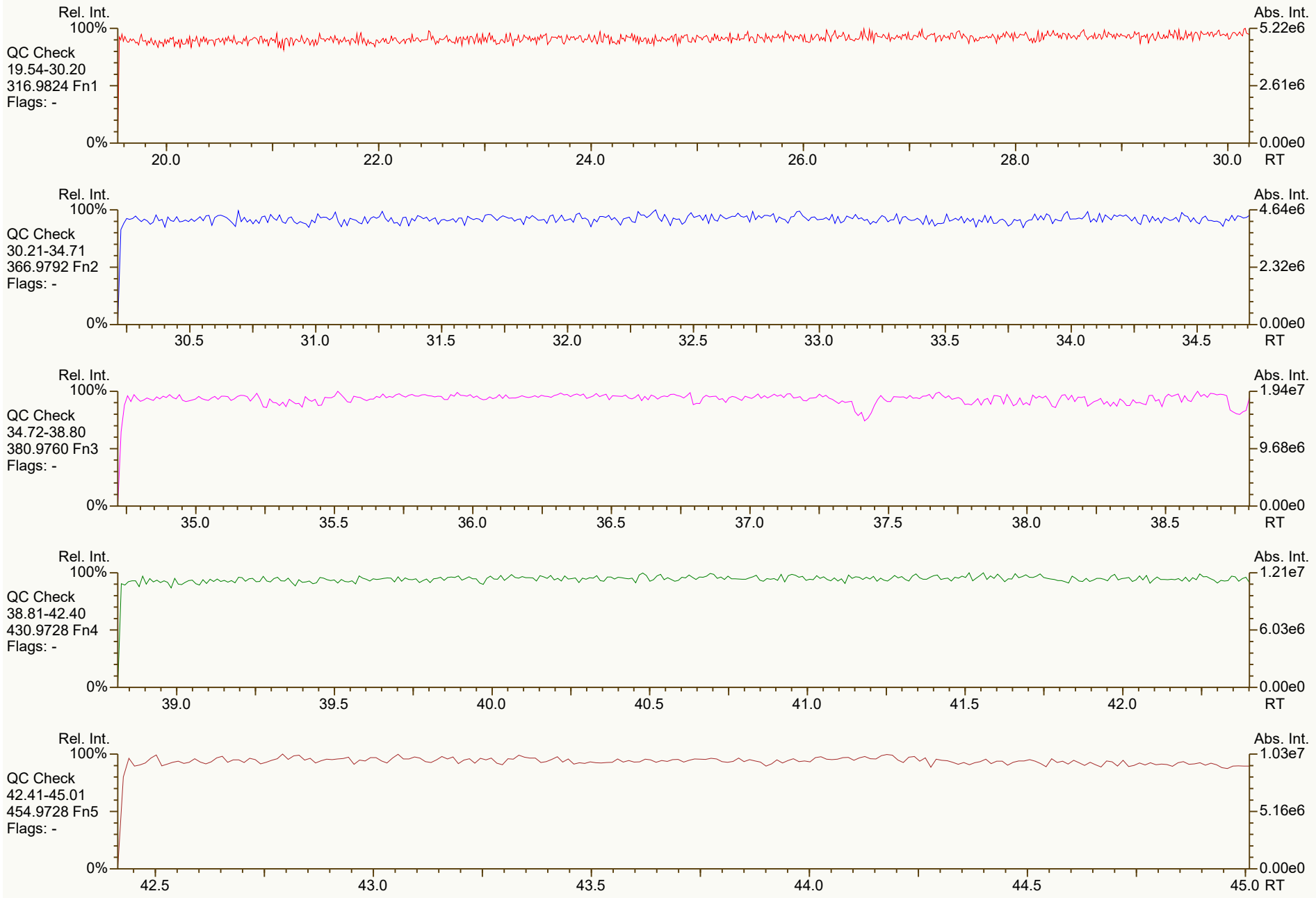
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.04		0.9836	0.9837	+0.2	3.44E+07	1.02	Y	1.06	403	3165.255	0.323
1234678-HpCDD	**40.72**		**1.0002**	**1.0003**	**+0.2**	**3.93E+07**	**1.03**	**Y**	**1.06**	**460**	**3165.255**	**0.323**
OCDD	**43.41**		**1.0003**	**1.0004**	**+0.3**	**2.34E+08**	**0.90**	**Y**	**1.13**	**3,640**	**4350.412**	**0.879**
OCDD-a	43.41		1.0002	1.0003	+0.3	1.46E+07	2.52	Y	0.07	3,560	4543.261	14.4
1368-TCDF	22.38	EMPC	0.8191	0.8184	-0.9	8.58E+04	1.03	N	1.08	0.581	4525.478	0.335
1468-TCDF	22.95		0.8408	0.8394	-1.9	1.58E+05	0.72	Y	1.08	1.07	4525.478	0.335
2468-TCDF	23.62		0.8645	0.8637	-1.1	3.44E+05	0.81	Y	1.08	2.33	4525.478	0.335
1346/1246-TCDF	23.99		0.8772	0.8771	-0.1	1.17E+05	0.83	Y	1.08	0.792	4525.478	0.335
1347/1378/1247-TCDF	24.15		0.8833	0.8831	-0.3	4.60E+05	0.73	Y	1.08	3.11	4525.478	0.335
1348-TCDF	24.42	EMPC	0.8932	0.8930	-0.3	1.03E+05	0.95	N	1.08	0.695	4525.478	0.335
1248/1367/1379-TCDF	24.53		0.8980	0.8971	-1.3	3.62E+05	0.78	Y	1.08	2.45	4525.478	0.335
1268-TCDF	24.93		0.9119	0.9117	-0.3	2.43E+05	0.74	Y	1.08	1.65	4525.478	0.335
1467-TCDF	25.07	EMPC	0.9170	0.9167	-0.5	1.16E+05	1.01	N	1.08	0.782	4525.478	0.335
1478-TCDF	25.24		0.9234	0.9231	-0.5	2.39E+05	0.84	Y	1.08	1.62	4525.478	0.335
1369/1237-TCDF	25.62	EMPC	0.9369	0.9368	-0.2	9.22E+04	0.92	N	1.08	0.624	4525.478	0.335
2467-TCDF	25.76	EMPC	0.9415	0.9419	+0.6	1.23E+05	1.17	N	1.08	0.829	4525.478	0.335
2368-TCDF	25.95		0.9475	0.9490	+2.3	6.36E+05	0.80	Y	1.08	4.31	4525.478	0.335
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		4525.478	0.335
1278-TCDF	26.46	EMPC	0.9676	0.9675	-0.2	6.26E+05	0.89	N	1.08	4.24	4525.478	0.335
1349-TCDF	NotFnd		0.9722						1.08		4525.478	0.335
1267-TCDF	26.74		0.9777	0.9779	+0.3	2.34E+05	0.76	Y	1.08	1.59	4525.478	0.335
2346/1249-TCDF	NotFnd		0.9843						1.08		4525.478	0.335
2347/1279-TCDF	27.14	EMPC	0.9926	0.9924	-0.3	1.34E+05	0.45	N	1.08	0.905	4525.478	0.335
2348-TCDF	27.23	EMPC	0.9968	0.9959	-1.5	1.91E+05	0.90	N	1.08	1.29	4525.478	0.335
2378-TCDF	**27.36**		**1.0008**	**1.0007**	**-0.2**	**1.54E+06**	**0.83**	**Y**	**1.08**	**10.4**	**4525.478**	**0.335**
2367/3467-TCDF	27.73		1.0142	1.0139	-0.5	6.71E+05	0.75	Y	1.08	4.54	4525.478	0.335
1269-TCDF	NotFnd		1.0235						1.08		4525.478	0.335
1239-TCDF	NotFnd		1.0329						1.08		4525.478	0.335
1289-TCDF	NotFnd		1.0742						1.08		4525.478	0.335
13468/12468-PeCDF	29.34		0.9122	0.9126	+0.7	1.16E+06	1.35	Y	1.02	9.38	2869.375	0.206
13678/13467/12467-PeCDF	30.90	J EMPC	0.9606	0.9610	+0.7	2.95E+05	1.26	N	1.02	2.38	2950.444	0.212
12368/13478/12478-PeCDF	31.06		0.9655	0.9661	+1.1	1.09E+06	1.66	Y	1.02	8.83	2950.444	0.212
14678-PeCDF	NotFnd		0.9685						1.02		2950.444	0.212
13479-PeCDF	NotFnd		0.9716						1.02		2950.444	0.212
13469/12479-PeCDF	NotFnd		0.9794						1.02		2950.444	0.212
12346-PeCDF	NotFnd		0.9836						1.02		2950.444	0.212

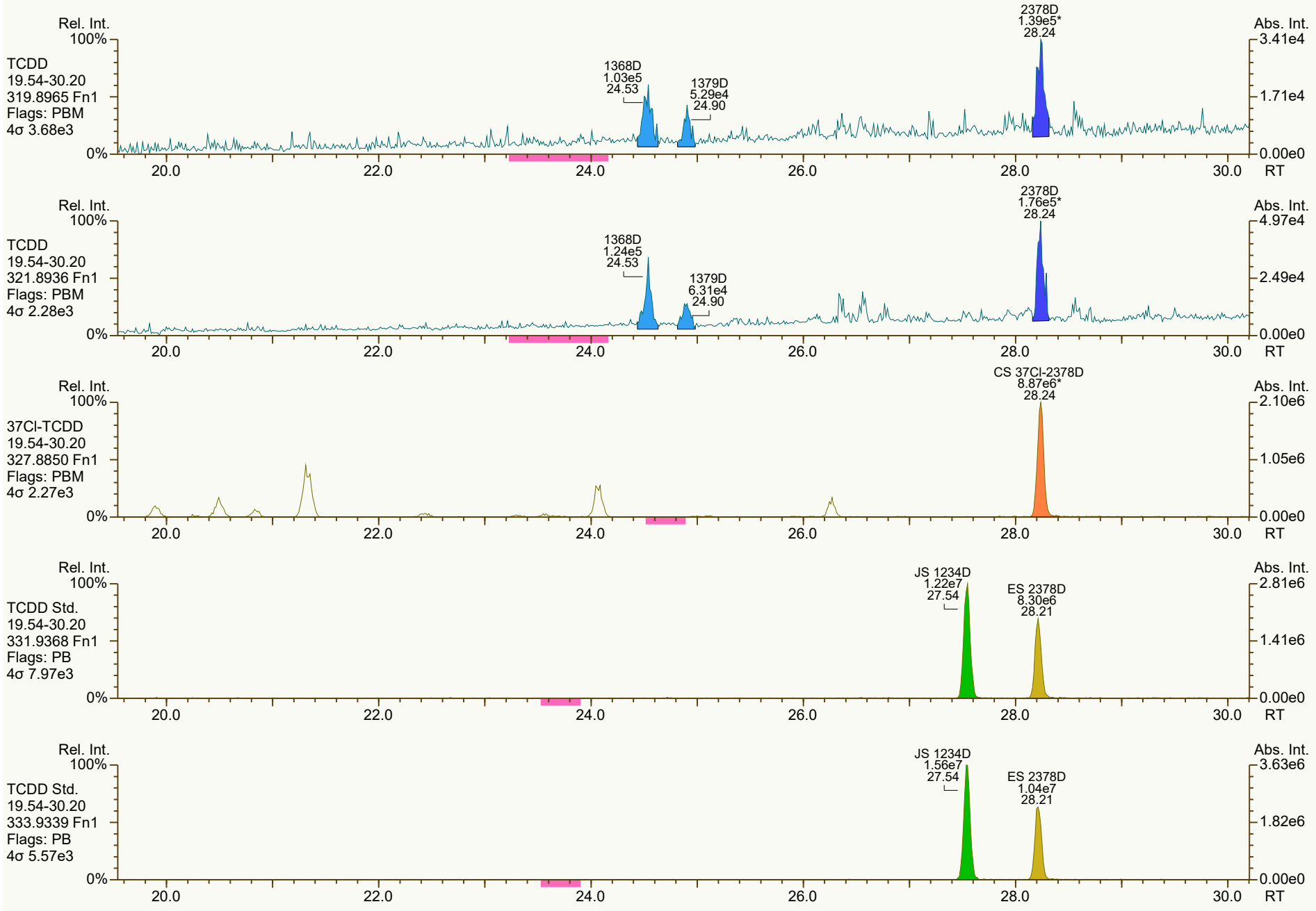
Lab ID: B6291_18925_DF_001 **Acq'd: 22 Feb 2022 07:50 DTF** **Wt/Vol: 10.13 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

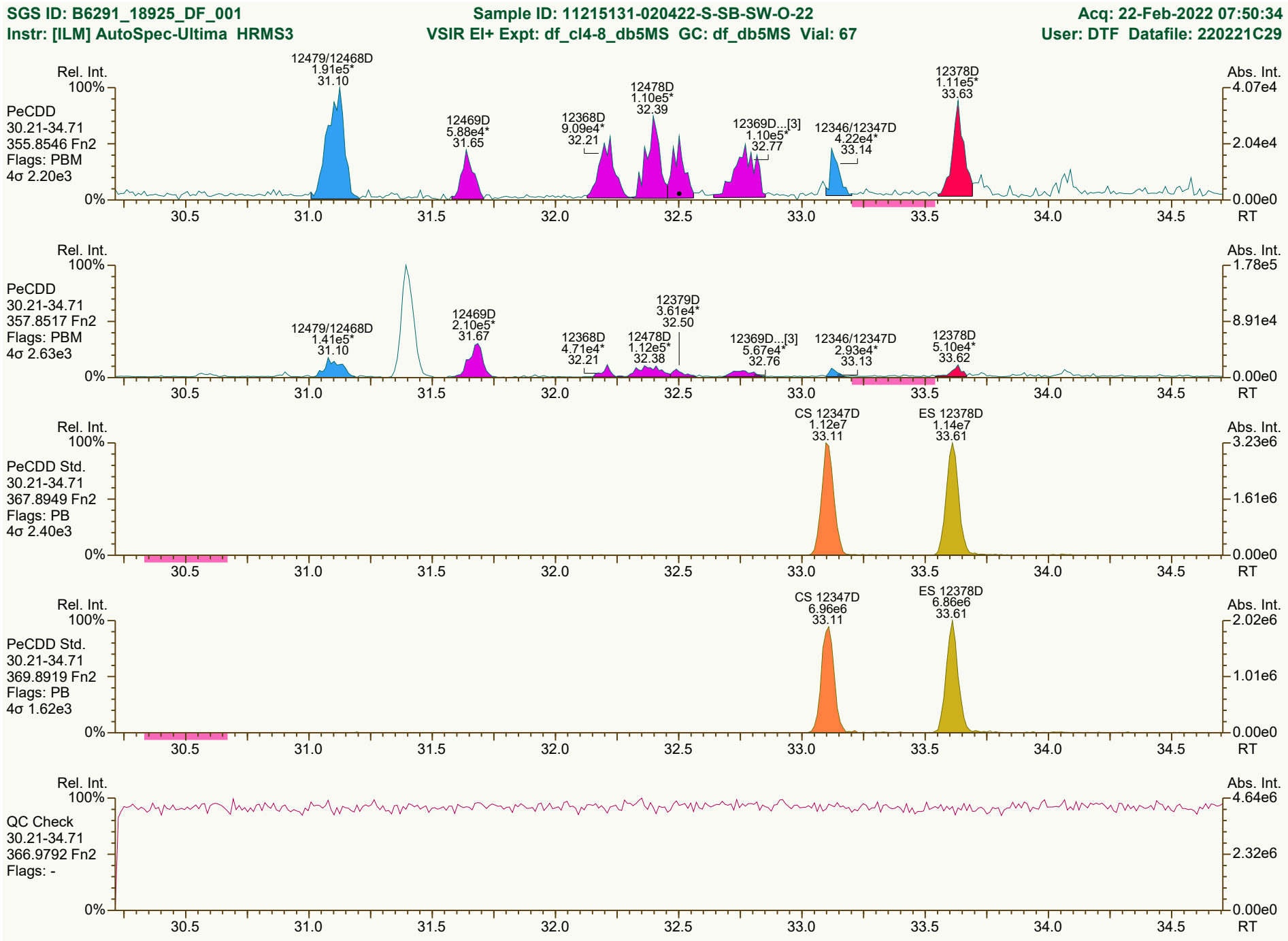
Client ID: 11215131-020422-S-SB-SW-O-22 **UTP: 22-Feb-2022 14:53:00 DTF** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 951-246-YSG**

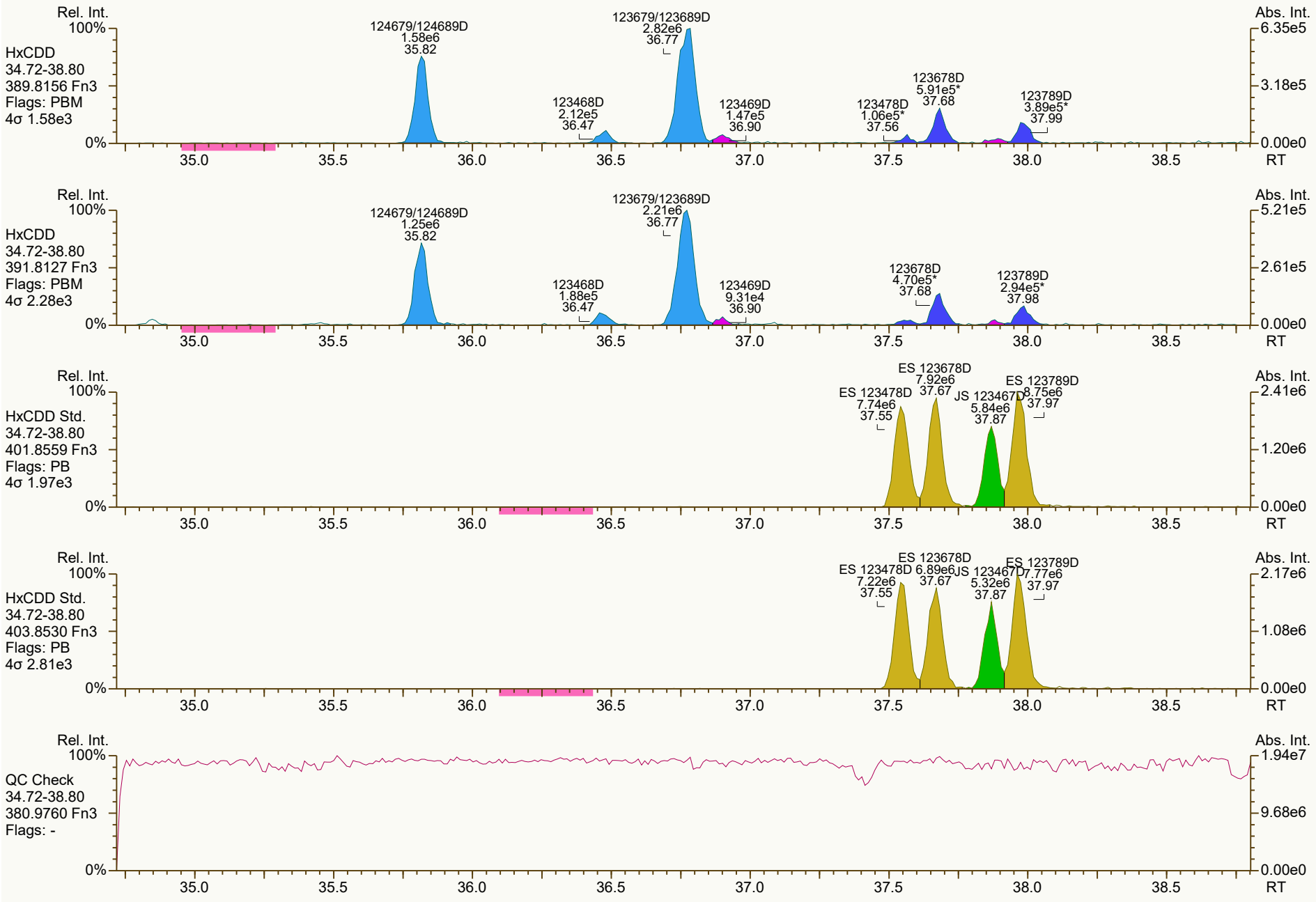
Datafile: 220221C29 **Report: 23 Feb 2022 08:09 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

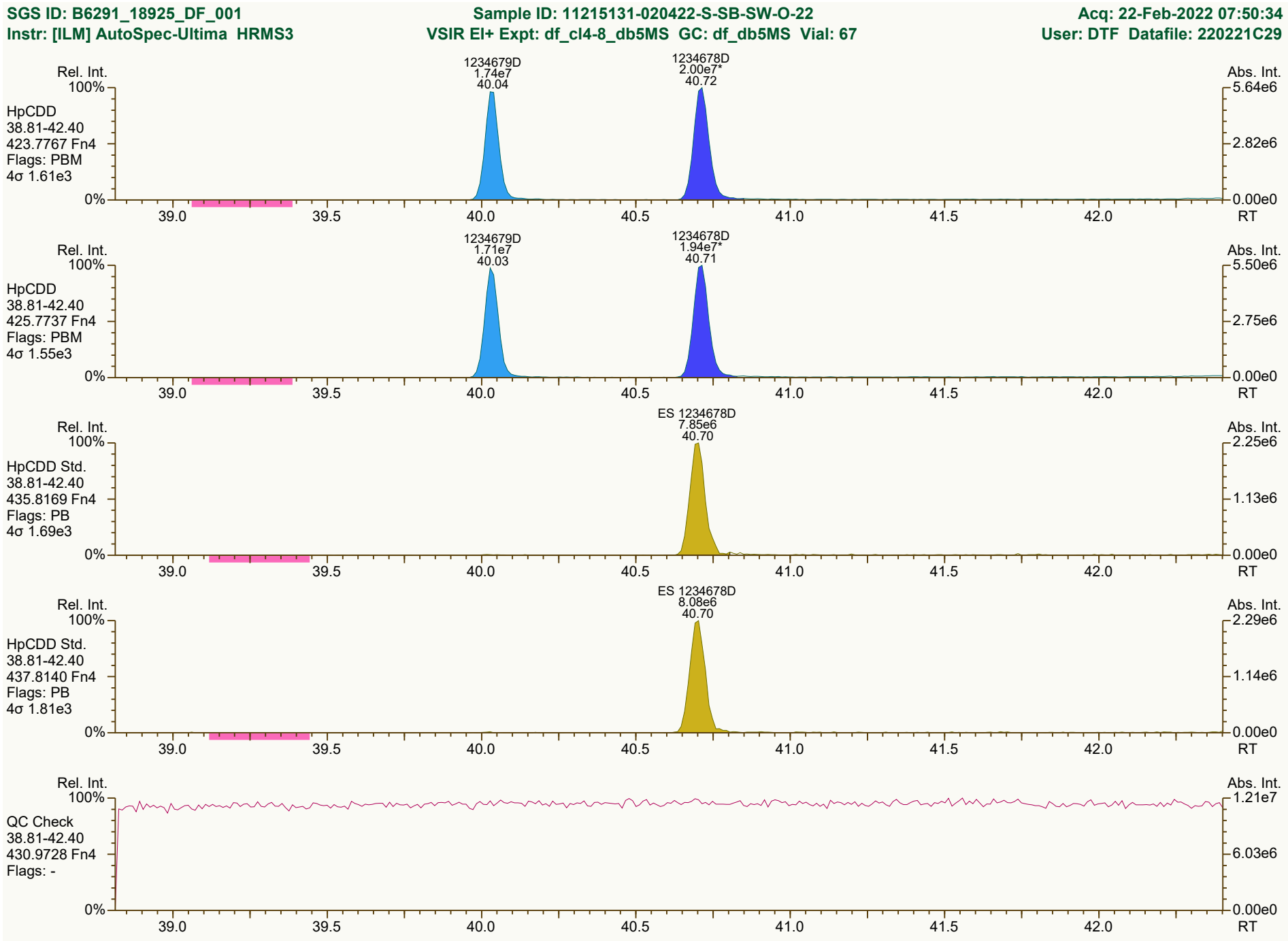
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.73		0.9866	0.9867	+0.2	3.90E+05	1.58	Y	1.02	3.15	2950.444	0.212
12347-PeCDF	NotFnd		0.9891						1.02		2950.444	0.212
12348-PeCDF	31.96	J EMPC	0.9938	0.9940	+0.4	9.14E+04	1.85	N	1.02	0.738	2950.444	0.212
12378-PeCDF	**32.17**	J	**1.0005**	**1.0006**	**+0.2**	**2.13E+05**	**1.69**	**Y**	**1.02**	**1.66**	**2950.444**	**0.216**
12678/12367-PeCDF	32.46		1.0091	1.0096	+1.0	3.78E+05	1.48	Y	1.02	3.06	2950.444	0.212
12379-PeCDF	NotFnd		1.0144						1.02		2950.444	0.212
12679-PeCDF	NotFnd		0.9927						1.02		2950.444	0.212
23467/12369-PeCDF	33.16	J	0.9965	0.9966	+0.2	1.82E+05	1.43	Y	1.02	1.47	2950.444	0.212
23478-PeCDF	**33.30**		**1.0005**	**1.0008**	**+0.6**	**4.91E+05**	**1.53**	**Y**	**1.02**	**4.12**	**2950.444**	**0.207**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2950.444	0.212
12349-PeCDF	NotFnd		1.0101						1.02		2950.444	0.212
12389-PeCDF	NotFnd		1.0330						1.02		2950.444	0.212
123468-HxCDF	35.16		0.9622	0.9623	+0.2	5.01E+05	1.23	Y	1.19	4	5102.808	0.357
124678/134678-HxCDF	35.36		0.9678	0.9677	-0.2	1.83E+06	1.23	Y	1.19	14.6	5102.808	0.357
134679-HxCDF	NotFnd		0.9741						1.19		5102.808	0.357
124679-HxCDF	35.80	J EMPC	0.9795	0.9796	+0.2	1.02E+05	1.60	N	1.19	0.813	5102.808	0.357
124689-HxCDF	36.02		0.9856	0.9856	0	1.63E+06	1.37	Y	1.19	13	5102.808	0.357
123467-HxCDF	36.44	J EMPC	0.9972	0.9973	+0.2	1.81E+05	1.00	N	1.19	1.44	5102.808	0.357
123478-HxCDF	**36.56**		**1.0004**	**1.0004**	**0**	**5.80E+05**	**1.26**	**Y**	**1.27**	**4.47**	**5102.808**	**0.332**
123678-HxCDF	**36.69**		**1.0004**	**1.0003**	**-0.2**	**3.61E+05**	**1.19**	**Y**	**1.15**	**2.68**	**5102.808**	**0.323**
123479-HxCDF	NotFnd		1.0048						1.19		5102.808	0.357
123469-HxCDF	NotFnd		1.0089						1.19		5102.808	0.357
123679-HxCDF	NotFnd		0.9942						1.19		5102.808	0.357
234678-HxCDF	**37.37**	EMPC	**1.0005**	**1.0004**	**-0.2**	**3.58E+05**	**1.01**	**N**	**1.19**	**2.9**	**5102.808**	**0.373**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		5102.808	0.357
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**5102.808**	**0.409**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.38	J EMPC	1.0006	1.0010	+0.9	1.06E+05	1.45	N	1.19	0.844	5102.808	0.357
1234678-HpCDF	**39.77**		**1.0003**	**1.0002**	**-0.2**	**3.26E+06**	**1.00**	**Y**	**1.37**	**27**	**3514.681**	**0.221**
1234679-HpCDF	40.03	**J**	1.0068	1.0068	0	1.72E+05	0.94	Y	1.34	1.58	3514.681	0.27
1234689-HpCDF	40.18		1.0104	1.0105	+0.2	5.69E+06	1.00	Y	1.34	52.3	3514.681	0.27
1234789-HpCDF	**41.17**		**1.0003**	**1.0002**	**-0.2**	**2.94E+05**	**0.89**	**Y**	**1.31**	**3.03**	**3514.681**	**0.33**
OCDF	**43.59**		**1.0002**	**1.0003**	**+0.3**	**6.21E+06**	**0.93**	**Y**	**1.07**	**80**	**3664.962**	**0.601**
OCDF-a	43.58		1.0001	1.0002	+0.3	3.65E+05	2.50	Y	0.07	75.9	3459.444	9.16


Rel. Int.
100%
0%
Abs. Int.
5.22e6
2.61e6
0.00e0
RT
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
4.64e6
2.32e6
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
1.94e7
9.68e6
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
1.21e7
6.03e6
39.0
39.5
40.0
40.5
41.0
41.5
42.0
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.03e7
5.16e6
42.5
43.0
43.5
44.0
44.5
45.0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 3.68e3
1368D
1.03e5
24.53
1379D
5.29e4
24.90
2378D
1.39e5*
28.24
Abs. Int.
3.41e4
1.71e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.28e3
1368D
1.24e5
24.53
1379D
6.31e4
24.90
2378D
1.76e5*
28.24
Abs. Int.
4.97e4
2.49e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PBM
4σ 2.27e3
CS 37Cl-2378D
8.87e6*
28.24
Abs. Int.
2.10e6
1.05e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 7.97e3
JS 1234D
1.22e7
27.54
ES 2378D
8.30e6
28.21
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 5.57e3
JS 1234D
1.56e7
27.54
ES 2378D
1.04e7
28.21
Abs. Int.
3.63e6
1.82e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6291_18925_DF_001
Sample ID: 11215131-020422-S-SB-SW-O-22
Acq: 22-Feb-2022 07:50:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 220221C29
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 2.20e3
12479/12468D 1.91e5* 31.10
12469D 5.88e4* 31.65
12368D 9.09e4* 32.21
12478D 1.10e5* 32.39
12369D...[3] 1.10e5* 32.77
12346/12347D 4.22e4* 33.14
12378D 1.11e5* 33.63
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 2.63e3
12479/12468D 1.41e5* 31.10
12469D 2.10e5* 31.67
12368D 4.71e4* 32.21
12379D 3.61e4* 32.50
12478D 1.12e5* 32.38
12369D...[3] 5.67e4* 32.76
12346/12347D 2.93e4* 33.13
12378D 5.10e4* 33.62
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.40e3
CS 12347D 1.12e7 33.11
ES 12378D 1.14e7 33.61
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.62e3
CS 12347D 6.96e6 33.11
ES 12378D 6.86e6 33.61
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Rel. Int.
Abs. Int.
RT

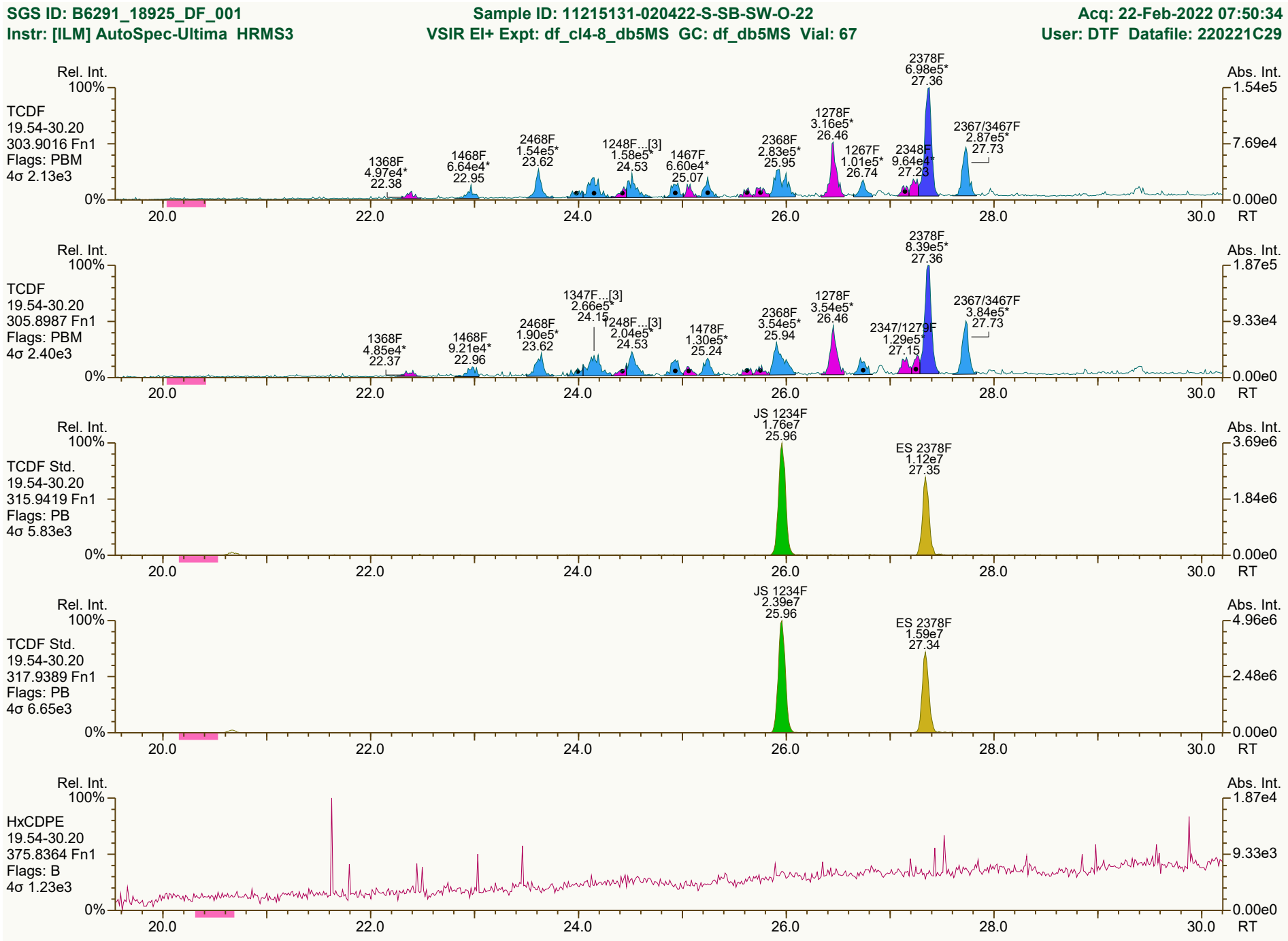

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 1.58e3
124679/124689D
1.58e6
35.82
123679/123689D
2.82e6
36.77
123468D
2.12e5
36.47
123469D
1.47e5
36.90
123478D
1.06e5*
37.56
123678D
5.91e5*
37.68
123789D
3.89e5*
37.99
Abs. Int.
6.35e5
3.18e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 2.28e3
124679/124689D
1.25e6
35.82
123679/123689D
2.21e6
36.77
123468D
1.88e5
36.47
123469D
9.31e4
36.90
123678D
4.70e5*
37.68
123789D
2.94e5*
37.98
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 1.97e3
ES 123678D
7.92e6
37.67
ES 123478D
7.74e6
37.55
JS 123467D
5.84e6
37.87
ES 123789D
8.75e6
37.97
Abs. Int.
2.41e6
1.20e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 2.81e3
ES 123678D
6.89e6
37.67
ES 123478D
7.22e6
37.55
JS 123467D
5.32e6
37.87
ES 123789D
7.77e6
37.97
Abs. Int.
2.17e6
1.08e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
1.94e7
9.68e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT



Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_001.utp_res, saved 23-Feb-2022 08:12 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6074, 3237 scc: 951-246 *Revised: 22-Feb-2022 14:49 (DTF) Printed: 23-Feb-2022 08:16 Page 5 of 12*


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 1.65e3
0%
OCDD
1.11e8
43.41
Abs. Int.
2.20e7
1.10e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Conc(OCDD) = (1.11e8 + 1.23e8) * 4000pg / (1.06e7 + 1.19e7) * 1.13 * 10.12747g = 3,640 pg/g
DTF 23-Feb-2022 08:11
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 2.70e3
0%
OCDD
1.23e8
43.41
Abs. Int.
2.44e7
1.22e7
0.00e0
APPROVED
Amy_Boehm , 2/23/2022, 10:34:28 AM
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.87e3
0%
ES OCDD
1.06e7*
43.40
Abs. Int.
2.04e6
1.02e6
0.00e0
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 3.18e3
0%
ES OCDD
1.19e7*
43.40
Abs. Int.
2.42e6
1.21e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.03e7
5.16e6
0.00e0


SGS ID: B6291_18925_DF_001
Sample ID: 11215131-020422-S-SB-SW-O-22
Acq: 22-Feb-2022 07:50:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 220221C29
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 2.13e3
1368F 4.97e4* 22.38
1468F 6.64e4* 22.95
2468F 1.54e5* 23.62
1248F...[3] 1.58e5* 24.53
1467F 6.60e4* 25.07
2368F 2.83e5* 25.95
1278F 3.16e5* 26.46
1267F 1.01e5* 26.74
2348F 9.64e4* 27.23
2378F 6.98e5* 27.36
2367/3467F 2.87e5* 27.73
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.40e3
1368F 4.85e4* 22.37
1468F 9.21e4* 22.96
2468F 1.90e5* 23.62
1347F...[3] 2.66e5* 24.15
1248F...[3] 2.04e5* 24.53
1478F 1.30e5* 25.24
2368F 3.54e5* 25.94
1278F 3.54e5* 26.46
2347/1279F 1.29e5* 27.15
2378F 8.39e5* 27.36
2367/3467F 3.84e5* 27.73
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 5.83e3
JS 1234F 1.76e7 25.96
ES 2378F 1.12e7 27.35
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 6.65e3
JS 1234F 2.39e7 25.96
ES 2378F 1.59e7 27.34
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.23e3
RT
Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_001.utp_res, saved 23-Feb-2022 08:12 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5722, 2900, 5481 scc: 951-246
Revised: 22-Feb-2022 14:50 (DTF) Printed: 23-Feb-2022 08:16 Page 7 of 12

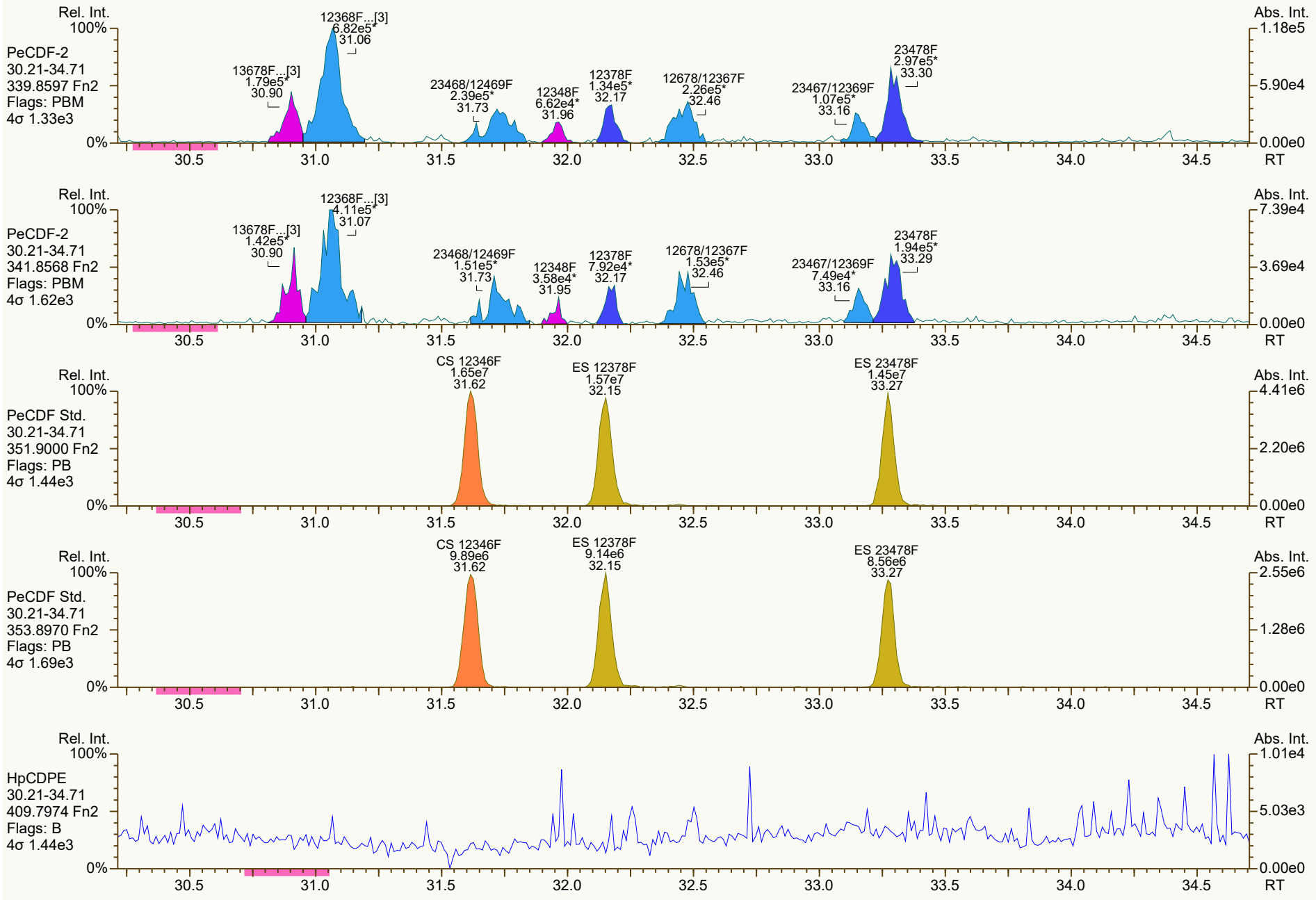
SGS ID: B6291_18925_DF_001 | Sample ID: 11215131-020422-S-SB-SW-O-22 | Acq: 22-Feb-2022 07:50:34

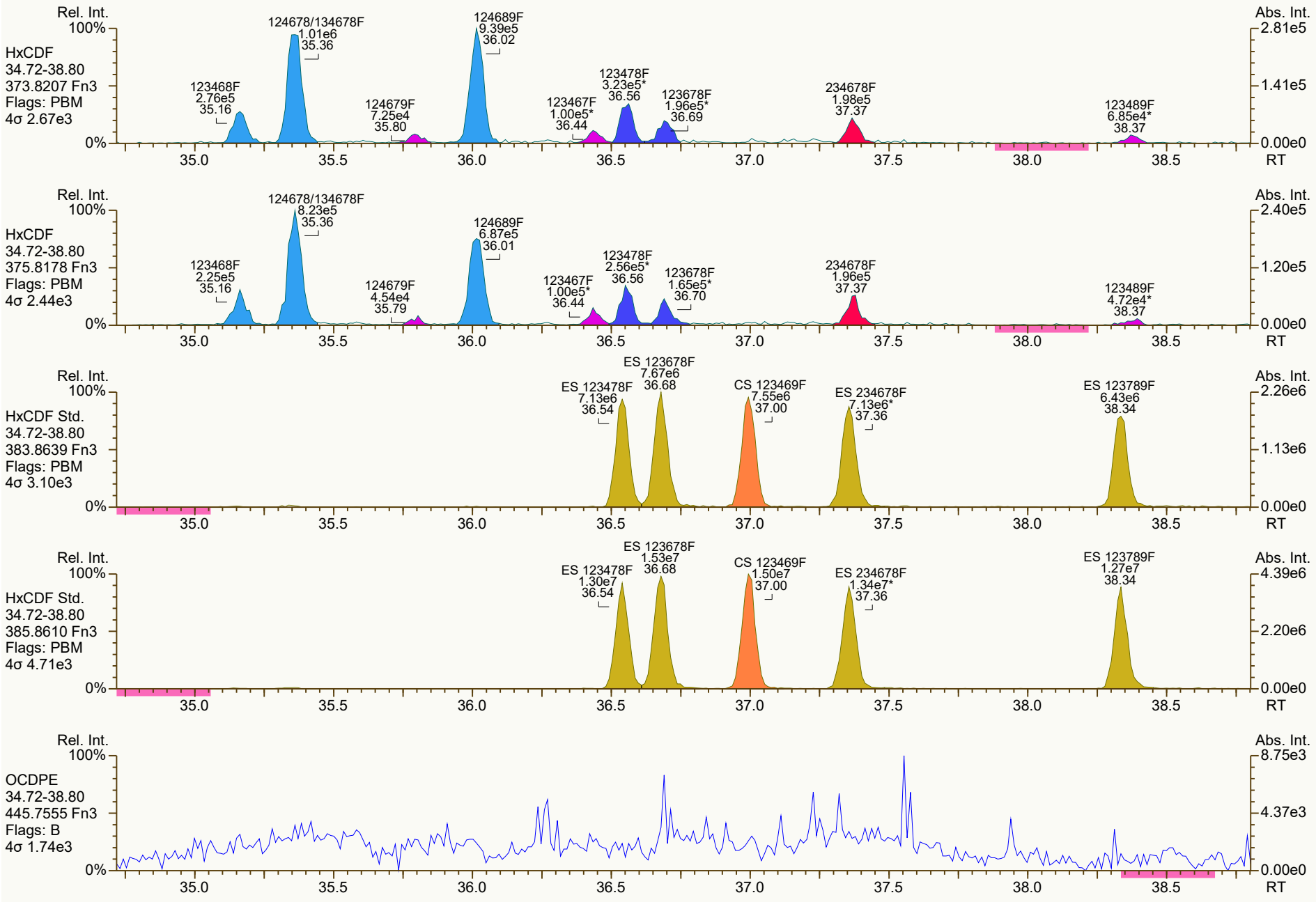
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67 | User: DTF Datafile: 220221C29

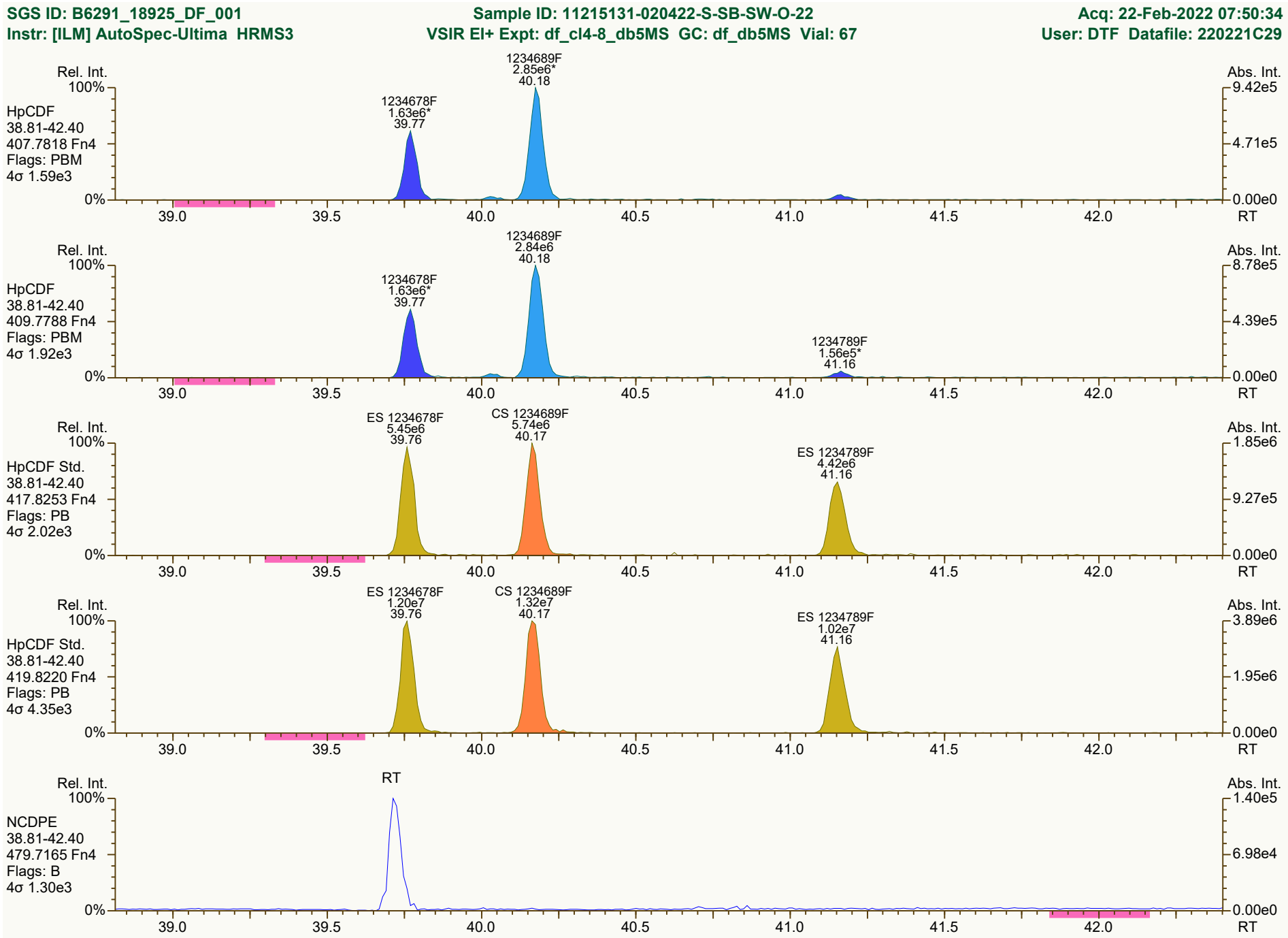


Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_001.utp_res, saved 23-Feb-2022 08:12 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0665 scc: 951-246 *Revised: 22-Feb-2022 14:50 (DTF) Printed: 23-Feb-2022 08:16 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 1.33e3
0%
12368F...[3]
6.82e5*
31.06
13678F...[3]
1.79e5*
30.90
23468/12469F
2.39e5*
31.73
12348F
6.62e4*
31.96
12378F
1.34e5*
32.17
12678/12367F
2.26e5*
32.46
23467/12369F
1.07e5*
33.16
23478F
2.97e5*
33.30
Abs. Int.
1.18e5
5.90e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 1.62e3
0%
12368F...[3]
4.11e5*
31.07
13678F...[3]
1.42e5*
30.90
23468/12469F
1.51e5*
31.73
12348F
3.58e4*
31.95
12378F
7.92e4*
32.17
12678/12367F
1.53e5*
32.46
23467/12369F
7.49e4*
33.16
23478F
1.94e5*
33.29
Abs. Int.
7.39e4
3.69e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 1.44e3
0%
CS 12346F
1.65e7
31.62
ES 12378F
1.57e7
32.15
ES 23478F
1.45e7
33.27
Abs. Int.
4.41e6
2.20e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 1.69e3
0%
CS 12346F
9.89e6
31.62
ES 12378F
9.14e6
32.15
ES 23478F
8.56e6
33.27
Abs. Int.
2.55e6
1.28e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.44e3
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 2.67e3
124678/134678F 1.01e6 35.36
124689F 9.39e5 36.02
123468F 2.76e5 35.16
124679F 7.25e4 35.80
123467F 1.00e5* 36.44
123478F 3.23e5* 36.56
123678F 1.96e5* 36.69
234678F 1.98e5 37.37
123489F 6.85e4* 38.37
Abs. Int.
2.81e5
1.41e5
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 2.44e3
124678/134678F 8.23e5 35.36
124689F 6.87e5 36.01
123468F 2.25e5 35.16
124679F 4.54e4 35.79
123467F 1.00e5* 36.44
123478F 2.56e5* 36.56
123678F 1.65e5* 36.70
234678F 1.96e5 37.37
123489F 4.72e4* 38.37
Abs. Int.
2.40e5
1.20e5
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 3.10e3
ES 123678F 7.67e6 36.68
ES 123478F 7.13e6 36.54
CS 123469F 7.55e6 37.00
ES 234678F 7.13e6* 37.36
ES 123789F 6.43e6 38.34
Abs. Int.
2.26e6
1.13e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 4.71e3
ES 123678F 1.53e7 36.68
ES 123478F 1.30e7 36.54
CS 123469F 1.50e7 37.00
ES 234678F 1.34e7* 37.36
ES 123789F 1.27e7 38.34
Abs. Int.
4.39e6
2.20e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.74e3
Abs. Int.
8.75e3
4.37e3
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT


SGS ID: B6291_18925_DF_001
Sample ID: 11215131-020422-S-SB-SW-O-22
Acq: 22-Feb-2022 07:50:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 220221C29
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 1.59e3
1234678F
1.63e6*
39.77
1234689F
2.85e6*
40.18
9.42e5
4.71e5
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 1.92e3
1234678F
1.63e6*
39.77
1234689F
2.84e6
40.18
1234789F
1.56e5*
41.16
8.78e5
4.39e5
0.00e0
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 2.02e3
ES 1234678F
5.45e6
39.76
CS 1234689F
5.74e6
40.17
ES 1234789F
4.42e6
41.16
1.85e6
9.27e5
0.00e0
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 4.35e3
ES 1234678F
1.20e7
39.76
CS 1234689F
1.32e7
40.17
ES 1234789F
1.02e7
41.16
3.89e6
1.95e6
0.00e0
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.30e3
RT
1.40e5
6.98e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_001.utp_res, saved 23-Feb-2022 08:12 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5788, 5672, 2709 scc: 951-246
Revised: 22-Feb-2022 14:52 (DTF) Printed: 23-Feb-2022 08:16 Page 11 of 12


OCDF
3.00e6*
43.59
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 1.49e3
0%
Abs. Int.
6.80e5
3.40e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.21e6*
43.58
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 2.18e3
0%
Abs. Int.
6.53e5
3.27e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.35e7
43.57
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 3.41e3
0%
Abs. Int.
2.65e6
1.33e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.51e7
43.57
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 1.70e3
0%
Abs. Int.
3.03e6
1.51e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.68e3
0%
Abs. Int.
3.91e3
1.95e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6291_18925_DF_002 **Acq'd:** 22 Feb 2022 08:36 DTF **Wt/Vol:** 10.04 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020422-S-SB-SW-B-24 **UTP:** 22-Feb-2022 15:00:52 DTF **J-level:** 0.498 pg/g **Split:** 1 **Checkcode:** 638-649-TVW

Datafile: 220221C30 **Report:** 23 Feb 2022 08:09 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.26	E	1.0008	1.0008	0	1.53E+09	0.79	Y	1.18	8,910	4525.422	0.271
12378-PeCDD	33.66		1.0007	1.0006	-0.2	1.26E+07	1.52	Y	1.04	85.7	4592.057	0.283
123478-HxCDD	37.58	J	1.0004	1.0004	0	2.91E+05	1.11	Y	1.09	2.24	9091.671	0.642
123678-HxCDD	37.70		1.0036	1.0037	+0.2	1.47E+06	1.18	Y	1.15	10.7	9091.671	0.588
123789-HxCDD	38.01		1.0118	1.0118	0	6.98E+05	1.22	Y	1.05	4.81	9091.671	0.532
1234678-HpCDD	40.74		1.0002	1.0004	+0.5	4.36E+07	1.04	Y	1.06	313	6664.335	0.425
OCDD	43.44		1.0003	1.0003	0	5.25E+08	0.91	Y	1.13	4,520	3802.259	0.427
2378-TCDF	27.39	E	1.0008	1.0007	-0.2	4.82E+09	0.81	Y	1.08	23,000	3580.239	0.193
12378-PeCDF	32.21		1.0005	1.0005	0	2.23E+08	1.59	Y	1.02	1,050	11384.804	0.498
23478-PeCDF	33.34		1.0005	1.0008	+0.6	1.49E+08	1.60	Y	1.02	707	11384.804	0.587
123478-HxCDF	36.58		1.0004	1.0005	+0.2	3.74E+08	1.23	Y	1.27	1,750	10428.662	0.417
123678-HxCDF	36.72		1.0004	1.0005	+0.2	1.02E+08	1.22	Y	1.15	471	10428.662	0.396
234678-HxCDF	37.40		1.0005	1.0004	-0.2	2.03E+07	1.22	Y	1.19	93.7	10428.662	0.398
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	10428.662	0.473
1234678-HpCDF	39.79		1.0003	1.0003	0	1.21E+08	1.03	Y	1.37	594	6134.385	0.214
1234789-HpCDF	41.19		1.0003	1.0003	0	3.41E+07	1.02	Y	1.31	207	6134.385	0.324
OCDF	43.61		1.0002	1.0003	+0.3	1.02E+08	0.90	Y	1.07	741	4780.925	0.445

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.24	1.0243	1.0242	-0.2	2.89E+07	0.79	Y	1.05	83.2
ES 12378-PeCDD	33.64	1.2198	1.2202	+0.8	2.82E+07	1.64	Y	0.88	96.5
ES 123478-HxCDD	37.56	0.9916	0.9914	-0.5	2.38E+07	1.22	Y	0.97	82.9
ES 123678-HxCDD	37.69	0.9947	0.9946	-0.2	2.38E+07	1.21	Y	0.94	85.6
ES 123789-HxCDD	37.99	1.0029	1.0027	-0.5	2.76E+07	1.26	Y	1.09	85.8
ES 1234678-HpCDD	40.72	1.0749	1.0748	-0.2	2.61E+07	0.98	Y	0.91	97.1
ES OCDD	43.43	1.1460	1.1461	+0.3	4.11E+07	0.90	Y	0.62	112
ES 2378-TCDF	27.37	1.0531	1.0534	+0.5	3.86E+07	0.77	Y	1.06	71.6
ES 12378-PeCDF	32.19	1.2378	1.2387	+1.7	4.12E+07	1.41	Y	0.91	89
ES 23478-PeCDF	33.32	1.2810	1.2821	+2.2	4.13E+07	1.44	Y	0.88	91.8
ES 123478-HxCDF	36.56	0.9650	0.9650	0	3.34E+07	0.52	Y	1.20	94.6
ES 123678-HxCDF	36.70	0.9688	0.9687	-0.2	3.75E+07	0.54	Y	1.35	94
ES 234678-HxCDF	37.38	0.9866	0.9865	-0.2	3.63E+07	0.54	Y	1.24	99.2
ES 123789-HxCDF	38.35	1.0125	1.0122	-0.7	3.15E+07	0.53	Y	1.16	92.4
ES 1234678-HpCDF	39.78	1.0501	1.0498	-0.7	2.98E+07	0.42	Y	0.97	104
ES 1234789-HpCDF	41.18	1.0870	1.0867	-0.7	2.51E+07	0.42	Y	0.85	100
ES OCDF	43.60	1.1505	1.1507	+0.5	5.12E+07	0.90	Y	0.81	107

Lab ID: B6291_18925_DF_002 **Acq'd:** 22 Feb 2022 08:36 DTF **Wt/Vol:** 10.04 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020422-S-SB-SW-B-24 **UTP:** 22-Feb-2022 15:00:52 DTF **J-level:** 0.498 pg/g **Split:** 1 **Checkcode:** 638-649-TVW

Datafile: 220221C30 **Report:** 23 Feb 2022 08:09 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.57		-	-	-	3.33E+07	0.77	Y	-	-
JS 1234-TCDF	25.98		-	-	-	5.09E+07	0.73	Y	-	-
JS 123467-HxCDD	37.89		-	-	-	1.47E+07	1.23	Y	-	-
CS 37Cl-2378-TCDD	28.26		1.0251	1.0250	-0.2	1.01E+07	n/a	-	1.20	62.8
CS 12347-PeCDD	33.14		1.2016	1.2020	+0.8	2.62E+07	1.61	Y	0.75	105
CS 12346-PeCDF	31.66		1.2172	1.2183	+2.1	4.13E+07	1.45	Y	0.85	95.3
CS 123469-HxCDF	37.02		0.9771	0.9770	-0.2	3.42E+07	0.53	Y	1.12	104
CS 1234689-HpCDF	40.19		1.0608	1.0607	-0.2	2.87E+07	0.43	Y	0.89	110
SS 37Cl-2378-TCDD	28.26		1.0251	1.0250	-0.2	1.01E+07	n/a	-	1.15	75.7
SS 12347-PeCDD	33.14		1.2016	1.2020	+0.8	2.62E+07	1.61	Y	0.86	108
SS 12346-PeCDF	31.66		1.2172	1.2183	+2.1	4.13E+07	1.45	Y	0.94	107
SS 123469-HxCDF	37.02		0.9771	0.9770	-0.2	3.42E+07	0.53	Y	0.83	110
SS 1234689-HpCDF	40.19		1.0608	1.0607	-0.2	2.87E+07	0.43	Y	0.92	105

Totals	Conc	EMPC
Total TCDD	9950	9960
Total PeCDD	107	114
Total HxCDD	88.1	88.1
Total HpCDD	612	612
Total Tetra-Octa Dioxins	15300	15300
Total TCDF	39,700	39700
Total PeCDF	2,690	2690
Total HxCDF	2,690	2690
Total HpCDF	968	968
Total Tetra-Octa Furans	46,800	46800
Total Tetra-Octa Dioxins & Furans	62100	62100

Lab ID: B6291_18925_DF_002 **Acq'd:** 22 Feb 2022 08:36 DTF **Wt/Vol:** 10.04 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020422-S-SB-SW-B-24 **UTP:** 22-Feb-2022 15:00:52 DTF **J-level:** 0.498 pg/g **Split:** 1 **Checkcode:** 638-649-TVW

Datafile: 220221C30 **Report:** 23 Feb 2022 08:09 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.57		0.8701	0.8700	-0.1	2.30E+05	0.86	Y	1.18	1.34	4525.422	0.271
1379-TCDD	24.93		0.8829	0.8827	-0.3	3.92E+05	0.82	Y	1.18	2.28	4525.422	0.271
1369-TCDD	NotFnd		0.8982						1.18		4525.422	0.271
1469-TCDD	26.15		0.9261	0.9260	-0.2	4.39E+05	0.81	Y	1.18	2.55	4525.422	0.271
1247/1246/1248/1249-TCDD	26.39		0.9348	0.9343	-0.8	1.20E+06	0.78	Y	1.18	6.97	4525.422	0.271
1378-TCDD	26.58		0.9417	0.9413	-0.6	3.33E+06	0.78	Y	1.18	19.3	4525.422	0.271
1268-TCDD	26.79		0.9487	0.9486	-0.2	2.37E+05	0.71	Y	1.18	1.38	4525.422	0.271
1478-TCDD	27.04		0.9576	0.9575	-0.2	1.46E+06	0.80	Y	1.18	8.47	4525.422	0.271
1279-TCDD	NotFnd		0.9636						1.18		4525.422	0.271
1234/1269-TCDD	27.56		0.9761	0.9760	-0.2	3.55E+05	0.85	Y	1.18	2.06	4525.422	0.271
1236-TCDD	27.72	EMPC	0.9812	0.9814	+0.3	1.53E+05	0.93	N	1.18	0.888	4525.422	0.271
1237/1238-TCDD	27.97		0.9905	0.9904	-0.2	2.28E+07	0.79	Y	1.18	133	4525.422	0.271
1239-TCDD	NotFnd		0.9951						1.18		4525.422	0.271
2378-TCDD	**28.26**	E	**1.0008**	1.0008	**0**	1.53E+09	0.79	Y	**1.18**	**8,910**	**4525.422**	**0.271**
1278-TCDD	28.60		1.0124	1.0128	+0.7	1.47E+08	0.80	Y	1.18	853	4525.422	0.271
1267-TCDD	NotFnd		1.0172						1.18		4525.422	0.271
1289-TCDD	29.25		1.0354	1.0359	+0.9	2.16E+06	0.81	Y	1.18	12.5	4525.422	0.271
12479/12468-PeCDD	31.15	EMPC	0.9255	0.9259	+0.7	5.78E+05	1.83	N	1.04	3.93	4592.057	0.283
12469-PeCDD	31.69	J	0.9416	0.9419	+0.6	2.96E+05	1.35	Y	1.04	2.01	4592.057	0.283
12368-PeCDD	32.23		0.9582	0.9581	-0.2	8.61E+05	1.58	Y	1.04	5.86	4592.057	0.283
12478-PeCDD	32.43		0.9637	0.9639	+0.4	8.01E+05	1.48	Y	1.04	5.45	4592.057	0.283
12379-PeCDD	32.54	J	0.9668	0.9671	+0.6	3.30E+05	1.64	Y	1.04	2.24	4592.057	0.283
12369/12467/12489-PeCDD	32.79	J	0.9746	0.9746	0	3.10E+05	1.41	Y	1.04	2.11	4592.057	0.283
12346/12347-PeCDD	33.16	J	0.9858	0.9857	-0.2	3.41E+05	1.65	Y	1.04	2.32	4592.057	0.283
12378-PeCDD	33.66		**1.0007**	**1.0006**	**-0.2**	**1.26E+07**	**1.52**	**Y**	**1.04**	**85.7**	**4592.057**	**0.283**
12367-PeCDD	33.76	EMPC	1.0036	1.0035	-0.2	4.48E+05	2.16	N	1.04	3.05	4592.057	0.283
12389-PeCDD	34.10	J	1.0137	1.0137	0	2.32E+05	1.53	Y	1.04	1.58	4592.057	0.283
124679/124689-HxCDD	35.84		0.9540	0.9542	+0.4	4.61E+06	1.25	Y	1.10	33.5	9091.671	0.584
123468-HxCDD	36.50		0.9715	0.9717	+0.4	5.56E+05	1.26	Y	1.10	4.03	9091.671	0.584
123679/123689-HxCDD	36.79		0.9793	0.9795	+0.4	4.14E+06	1.23	Y	1.10	30.1	9091.671	0.584
123469-HxCDD	36.93	J	0.9829	0.9831	+0.4	2.00E+05	1.10	Y	1.10	1.45	9091.671	0.584
123478-HxCDD	37.58	J	**1.0004**	**1.0004**	**0**	**2.91E+05**	**1.11**	**Y**	1.09	**2.24**	**9091.671**	**0.642**
123678-HxCDD	37.70		**1.0036**	**1.0037**	**+0.2**	**1.47E+06**	**1.18**	**Y**	1.15	**10.7**	**9091.671**	**0.588**
123467-HxCDD	37.90	J	1.0089	1.0090	+0.2	1.84E+05	1.31	Y	1.10	1.33	9091.671	0.584
123789-HxCDD	38.01		**1.0118**	**1.0118**	**0**	**6.98E+05**	**1.22**	**Y**	1.05	**4.81**	**9091.671**	**0.532**

Lab ID: B6291_18925_DF_002 **Acq'd: 22 Feb 2022 08:36 DTF** **Wt/Vol: 10.04 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020422-S-SB-SW-B-24 **UTP: 22-Feb-2022 15:00:52 DTF** **J-level: 0.498 pg/g** **Split: 1** **Checkcode: 638-649-TVW**

Datafile: 220221C30 **Report: 23 Feb 2022 08:09 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

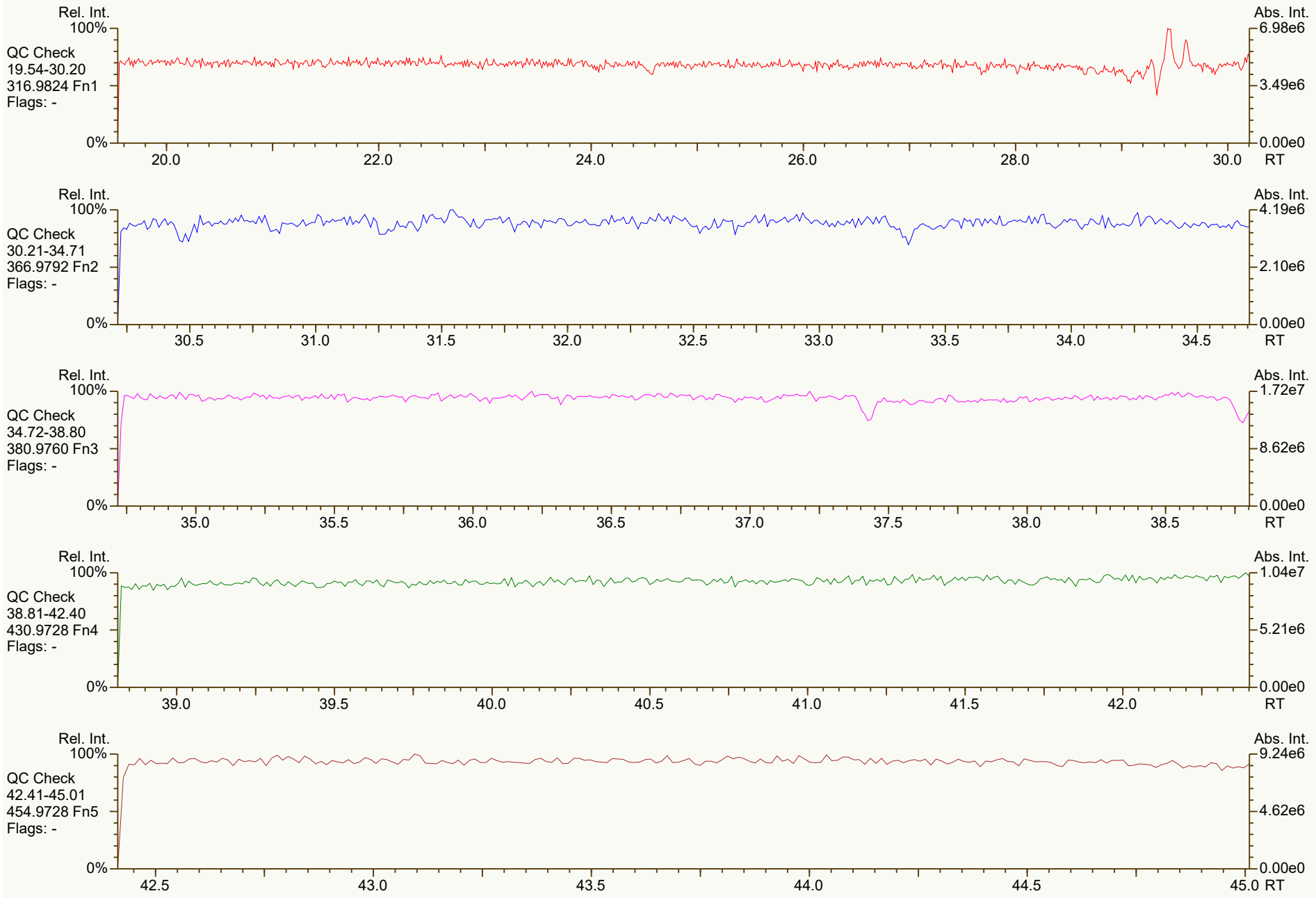
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.06		0.9836	0.9836	0	4.16E+07	1.03	Y	1.06	299	6664.335	0.425
1234678-HpCDD	**40.74**		**1.0002**	**1.0004**	**+0.5**	**4.36E+07**	**1.04**	**Y**	**1.06**	**313**	**6664.335**	**0.425**
OCDD	**43.44**		**1.0003**	**1.0003**	**0**	**5.25E+08**	**0.91**	**Y**	**1.13**	**4,520**	**3802.259**	**0.427**
OCDD-a	43.44		1.0002	1.0002	0	3.22E+07	2.51	Y	0.07	4,340	8832.457	15.5
1368-TCDF	22.40		0.8191	0.8184	-0.9	1.74E+05	0.78	Y	1.08	0.833	3580.239	0.193
1468-TCDF	23.00		0.8408	0.8403	-0.7	2.59E+06	0.80	Y	1.08	12.4	3580.239	0.193
2468-TCDF	23.65		0.8645	0.8641	-0.6	3.98E+06	0.81	Y	1.08	19	3580.239	0.193
1346/1246-TCDF	NotFnd		0.8772						1.08		3580.239	0.193
1347/1378/1247-TCDF	24.16		0.8833	0.8827	-0.9	1.30E+07	0.77	Y	1.08	62.1	3580.239	0.193
1348-TCDF	24.46		0.8932	0.8936	+0.6	6.18E+06	0.79	Y	1.08	29.5	3580.239	0.193
1248/1367/1379-TCDF	24.56		0.8980	0.8972	-1.2	1.89E+07	0.79	Y	1.08	90.5	3580.239	0.193
1268-TCDF	24.96		0.9119	0.9119	0	1.10E+07	0.83	Y	1.08	52.5	3580.239	0.193
1467-TCDF	25.09		0.9170	0.9167	-0.5	8.74E+06	0.82	Y	1.08	41.8	3580.239	0.193
1478-TCDF	25.26		0.9234	0.9230	-0.6	2.75E+07	0.81	Y	1.08	131	3580.239	0.193
1369/1237-TCDF	25.65		0.9369	0.9372	+0.5	1.88E+07	0.82	Y	1.08	89.9	3580.239	0.193
2467-TCDF	25.77		0.9415	0.9415	0	6.42E+06	0.79	Y	1.08	30.7	3580.239	0.193
2368-TCDF	25.92		0.9475	0.9470	-0.8	5.73E+07	0.79	Y	1.08	274	3580.239	0.193
1238/1234/1678/1469/1236-TCDF	26.00		0.9507	0.9497	-1.6	1.55E+08	0.80	Y	1.08	742	3580.239	0.193
1278-TCDF	26.48	E	0.9676	0.9673	-0.5	1.91E+09	0.81	Y	1.08	9,140	3580.239	0.193
1349-TCDF	NotFnd		0.9722						1.08		3580.239	0.193
1267-TCDF	26.75		0.9777	0.9773	-0.6	3.58E+07	0.81	Y	1.08	171	3580.239	0.193
2346/1249-TCDF	26.94		0.9843	0.9841	-0.3	1.12E+07	0.83	Y	1.08	53.7	3580.239	0.193
2347/1279-TCDF	27.16		0.9926	0.9923	-0.5	6.86E+07	0.81	Y	1.08	328	3580.239	0.193
2348-TCDF	27.27		0.9968	0.9963	-0.8	1.94E+08	0.80	Y	1.08	926	3580.239	0.193
2378-TCDF	**27.39**	E	**1.0008**	**1.0007**	**-0.2**	**4.82E+09**	**0.81**	**Y**	**1.08**	**23,000**	**3580.239**	**0.193**
2367/3467-TCDF	27.75	E	1.0142	1.0139	-0.5	4.46E+08	0.82	Y	1.08	2,130	3580.239	0.193
1269-TCDF	28.00		1.0235	1.0231	-0.7	1.84E+07	0.83	Y	1.08	87.9	3580.239	0.193
1239-TCDF	28.26		1.0329	1.0326	-0.5	4.99E+06	0.80	Y	1.08	23.9	3580.239	0.193
1289-TCDF	29.44	E	1.0742	1.0757	+2.6	4.76E+08	0.81	Y	1.08	2,270	3580.239	0.193
13468/12468-PeCDF	29.39		0.9122	0.9131	+1.6	4.04E+06	1.56	Y	1.02	19.1	2920.938	0.139
13678/13467/12467-PeCDF	30.95		0.9606	0.9615	+1.7	2.36E+06	1.66	Y	1.02	11.2	11384.804	0.542
12368/13478/12478-PeCDF	31.11		0.9655	0.9665	+1.9	9.20E+07	1.57	Y	1.02	434	11384.804	0.542
14678-PeCDF	NotFnd		0.9685						1.02		11384.804	0.542
13479-PeCDF	NotFnd		0.9716						1.02		11384.804	0.542
13469/12479-PeCDF	31.49	J	0.9794	0.9784	-1.9	2.01E+05	1.54	Y	1.02	0.949	11384.804	0.542
12346-PeCDF	NotFnd		0.9836						1.02		11384.804	0.542

Lab ID: B6291_18925_DF_002 **Acq'd: 22 Feb 2022 08:36 DTF** **Wt/Vol: 10.04 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020422-S-SB-SW-B-24 **UTP: 22-Feb-2022 15:00:52 DTF** **J-level: 0.498 pg/g** **Split: 1** **Checkcode: 638-649-TVW**

Datafile: 220221C30 **Report: 23 Feb 2022 08:09 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.75		0.9866	0.9865	-0.2	3.79E+06	1.68	Y	1.02	17.9	11384.804	0.542
12347-PeCDF	31.84		0.9891	0.9891	0	3.59E+06	1.68	Y	1.02	17	11384.804	0.542
12348-PeCDF	31.99		0.9938	0.9940	+0.4	1.82E+07	1.58	Y	1.02	85.9	11384.804	0.542
12378-PeCDF	**32.21**		**1.0005**	**1.0005**	**0**	**2.23E+08**	**1.59**	**Y**	**1.02**	**1,050**	**11384.804**	**0.498**
12678/12367-PeCDF	32.50		1.0091	1.0096	+1.0	6.20E+07	1.57	Y	1.02	293	11384.804	0.542
12379-PeCDF	NotFnd		1.0144						1.02		11384.804	0.542
12679-PeCDF	33.06	J	0.9927	0.9924	-0.6	5.14E+05	1.60	Y	1.02	2.43	11384.804	0.542
23467/12369-PeCDF	33.19		0.9965	0.9962	-0.6	2.53E+06	1.56	Y	1.02	11.9	11384.804	0.542
23478-PeCDF	**33.34**		**1.0005**	**1.0008**	**+0.6**	**1.49E+08**	**1.60**	**Y**	**1.02**	**707**	**11384.804**	**0.587**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		11384.804	0.542
12349-PeCDF	NotFnd		1.0101						1.02		11384.804	0.542
12389-PeCDF	34.40		1.0330	1.0325	-1.0	9.03E+06	1.58	Y	1.02	42.7	11384.804	0.542
123468-HxCDF	35.20		0.9622	0.9627	+1.1	3.62E+06	1.28	Y	1.19	17.4	10428.662	0.419
124678/134678-HxCDF	35.39		0.9678	0.9679	+0.2	3.04E+07	1.21	Y	1.19	146	10428.662	0.419
134679-HxCDF	NotFnd		0.9741						1.19		10428.662	0.419
124679-HxCDF	35.82	J	0.9795	0.9796	+0.2	3.02E+05	1.10	Y	1.19	1.45	10428.662	0.419
124689-HxCDF	36.04		0.9856	0.9858	+0.4	1.39E+07	1.24	Y	1.19	66.8	10428.662	0.419
123467-HxCDF	36.46		0.9972	0.9970	-0.4	1.86E+06	1.28	Y	1.19	8.93	10428.662	0.419
123478-HxCDF	**36.58**		**1.0004**	**1.0005**	**+0.2**	**3.74E+08**	**1.23**	**Y**	**1.27**	**1,750**	**10428.662**	**0.417**
123678-HxCDF	**36.72**		**1.0004**	**1.0005**	**+0.2**	**1.02E+08**	**1.22**	**Y**	**1.15**	**471**	**10428.662**	**0.396**
123479-HxCDF	NotFnd		1.0048						1.19		10428.662	0.419
123469-HxCDF	NotFnd		1.0089						1.19		10428.662	0.419
123679-HxCDF	NotFnd		0.9942						1.19		10428.662	0.419
234678-HxCDF	**37.40**		**1.0005**	**1.0004**	**-0.2**	**2.03E+07**	**1.22**	**Y**	**1.19**	**93.7**	**10428.662**	**0.398**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		10428.662	0.419
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**10428.662**	**0.473**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.40		1.0006	1.0011	+1.2	2.76E+07	1.24	Y	1.19	133	10428.662	0.419
1234678-HpCDF	**39.79**		**1.0003**	**1.0003**	**0**	**1.21E+08**	**1.03**	**Y**	**1.37**	**594**	**6134.385**	**0.214**
1234679-HpCDF	40.05		1.0068	1.0068	0	1.74E+06	1.00	Y	1.34	9.44	6134.385	0.264
1234689-HpCDF	40.20		1.0104	1.0106	+0.5	2.93E+07	1.03	Y	1.34	159	6134.385	0.264
1234789-HpCDF	**41.19**		**1.0003**	**1.0003**	**0**	**3.41E+07**	**1.02**	**Y**	**1.31**	**207**	**6134.385**	**0.324**
OCDF	**43.61**		**1.0002**	**1.0003**	**+0.3**	**1.02E+08**	**0.90**	**Y**	**1.07**	**741**	**4780.925**	**0.445**
OCDF-a	43.61		1.0001	1.0003	+0.5	6.65E+06	2.49	Y	0.07	779	3161.364	4.75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20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
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2.10e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
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8.62e6
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35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.04e7
5.21e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
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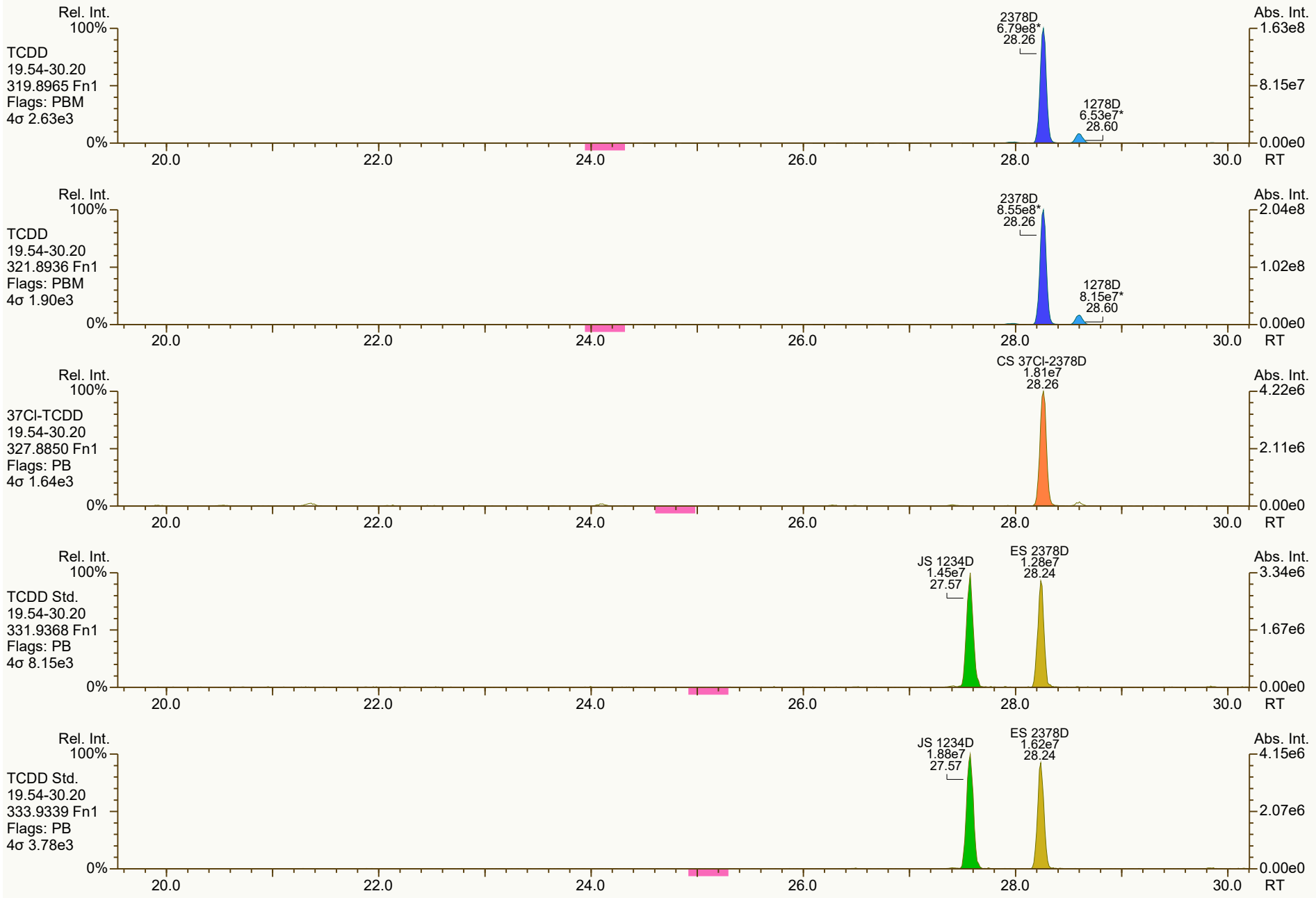
RT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19.54-30.20
319.8965 Fn1
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4σ 2.63e3
0%
2378D
6.79e8*
28.26
1278D
6.53e7*
28.60
Abs. Int.
1.63e8
8.15e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.90e3
0%
2378D
8.55e8*
28.26
1278D
8.15e7*
28.60
Abs. Int.
2.04e8
1.02e8
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.64e3
0%
CS 37Cl-2378D
1.81e7
28.26
Abs. Int.
4.22e6
2.11e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 8.15e3
0%
JS 1234D
1.45e7
27.57
ES 2378D
1.28e7
28.24
Abs. Int.
3.34e6
1.67e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.78e3
0%
JS 1234D
1.88e7
27.57
ES 2378D
1.62e7
28.24
Abs. Int.
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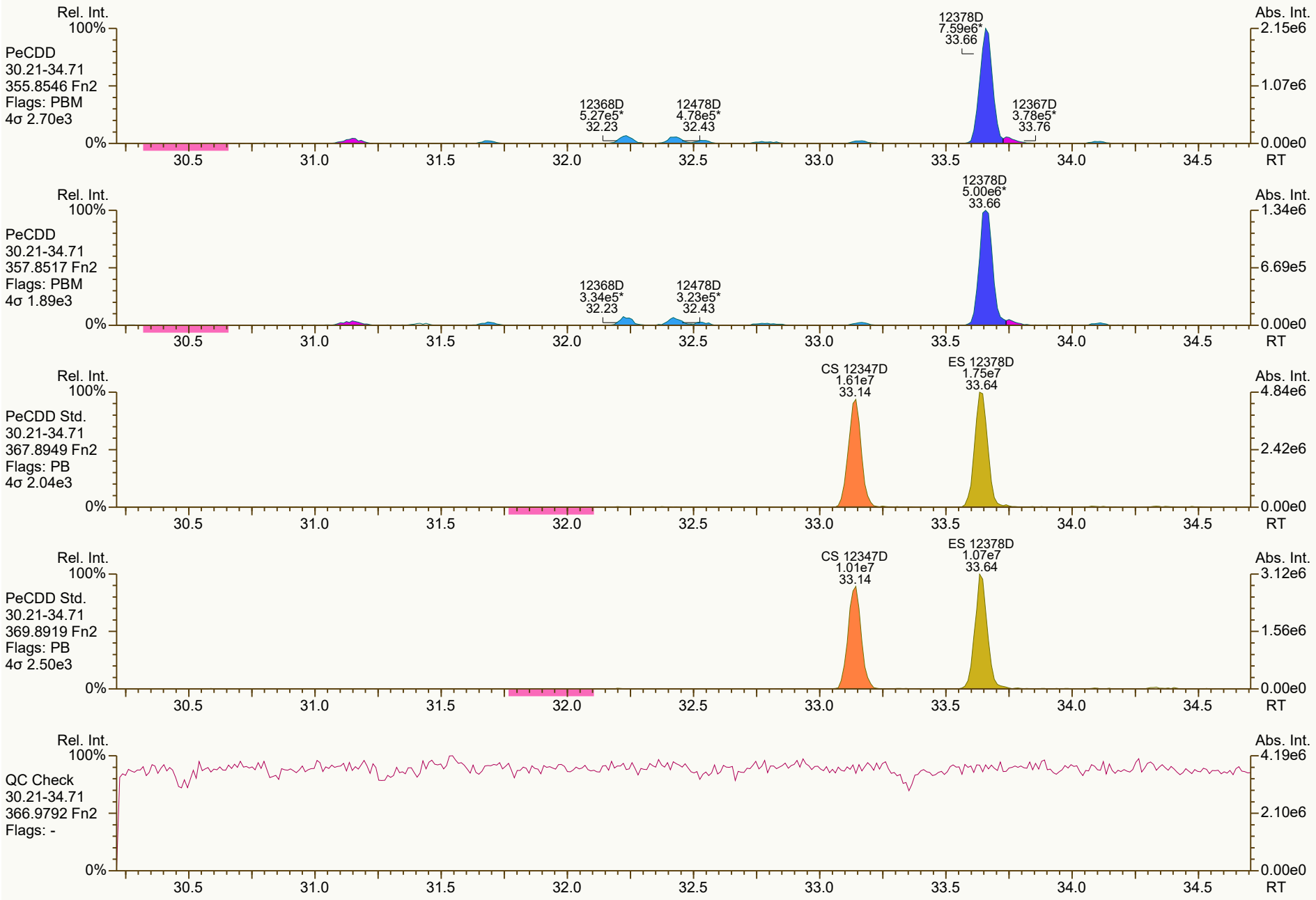
24.0
26.0
28.0
30.0
RT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30.21-34.71
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0%
12368D
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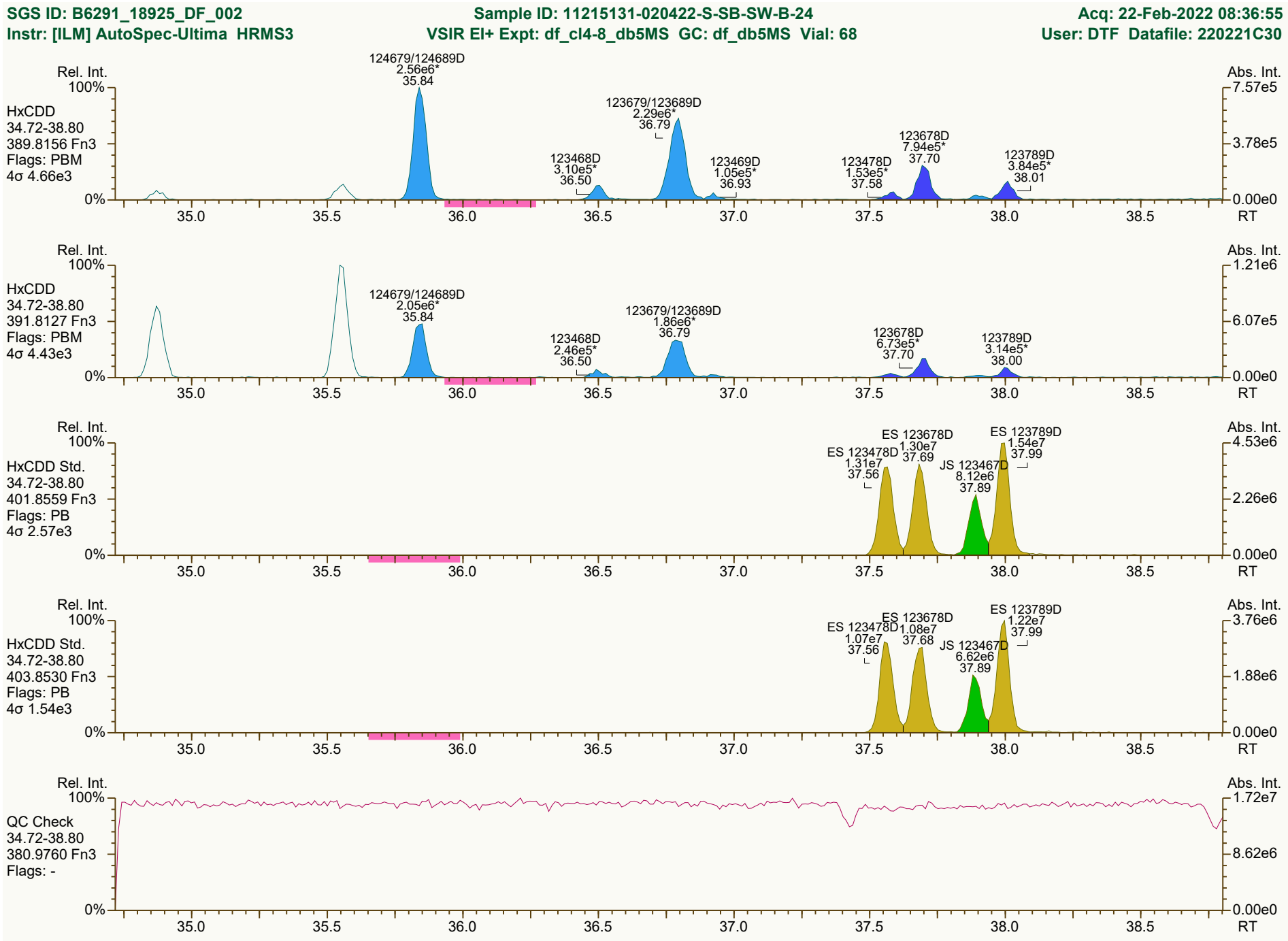
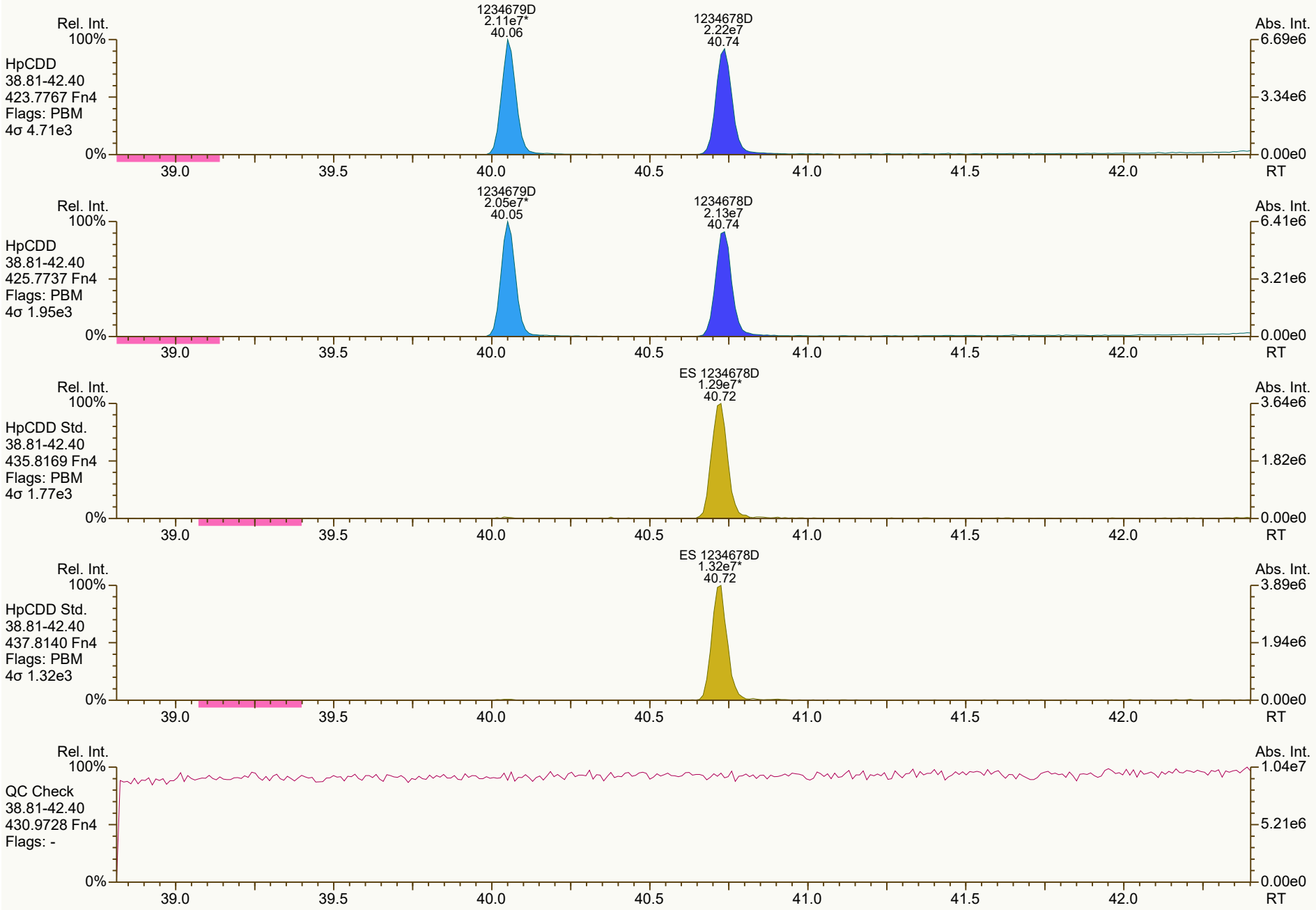
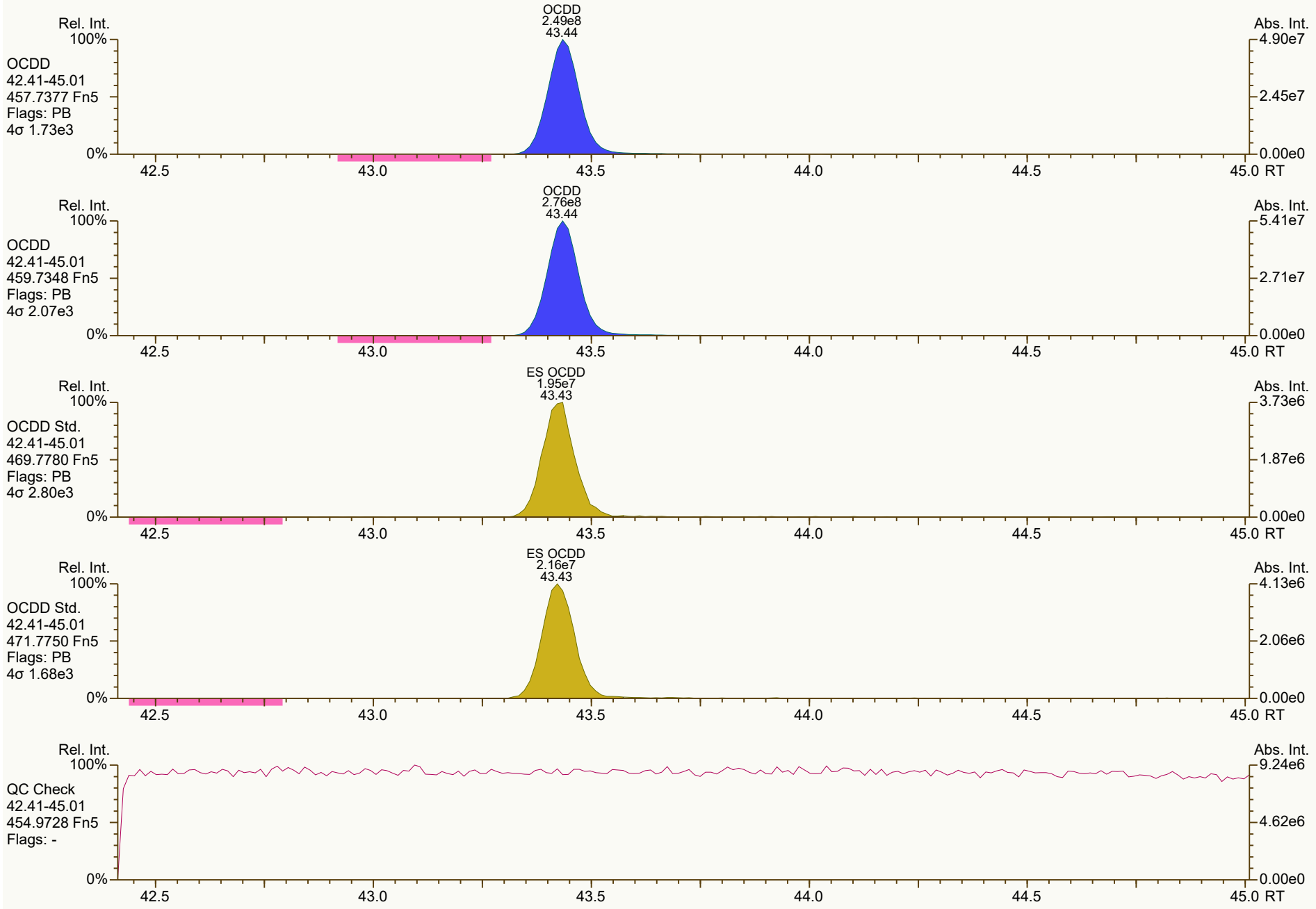
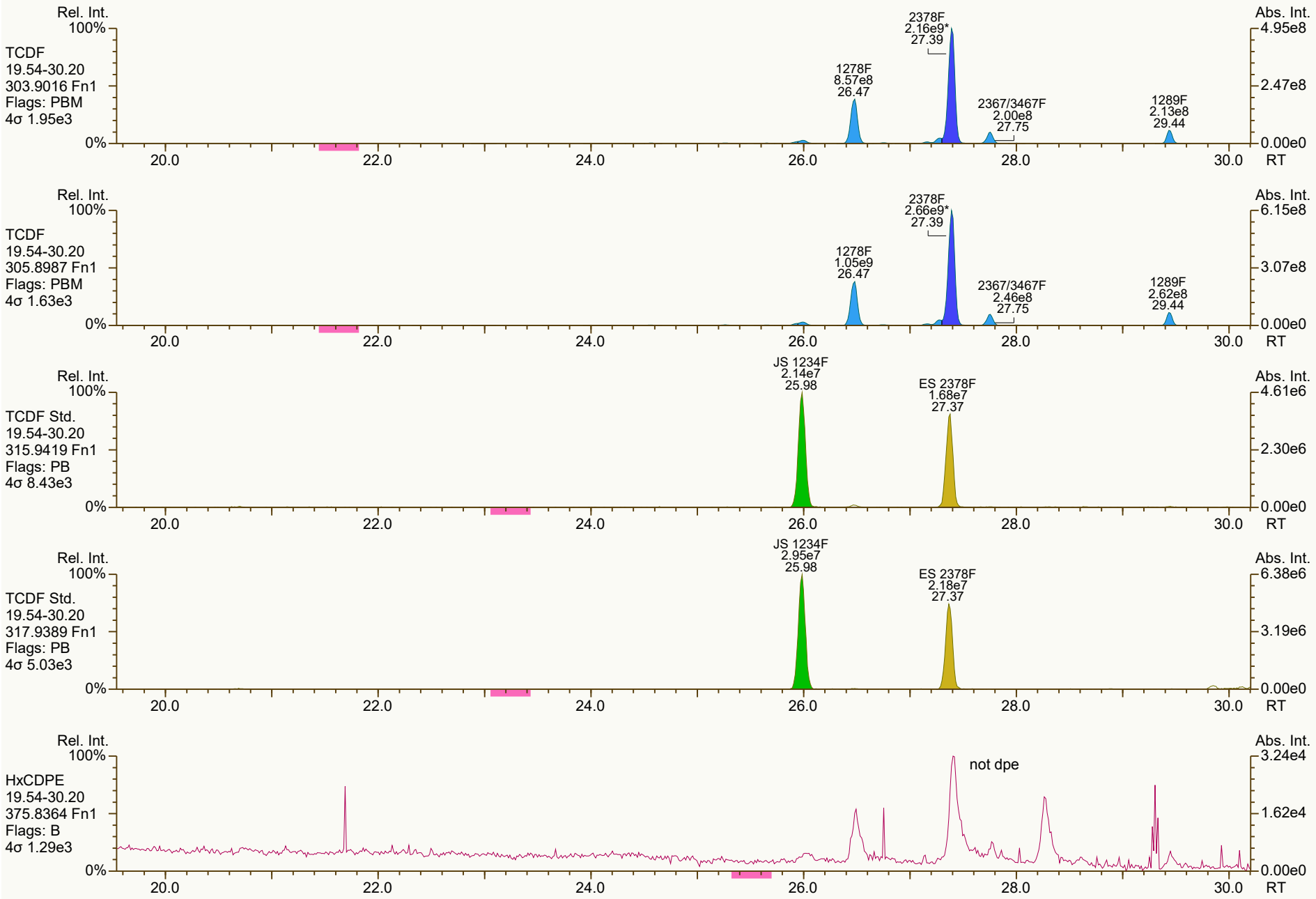
32.23
12478D
4.78e5*
32.43
12378D
7.59e6*
33.66
12367D
3.78e5*
33.76
Abs. Int.
2.15e6
1.07e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 1.89e3
0%
12368D
3.34e5*
32.23
12478D
3.23e5*
32.43
12378D
5.00e6*
33.66
Abs. Int.
1.34e6
6.69e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.04e3
0%
CS 12347D
1.61e7
33.14
ES 12378D
1.75e7
33.64
Abs. Int.
4.84e6
2.42e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.50e3
0%
CS 12347D
1.01e7
33.14
ES 12378D
1.07e7
33.64
Abs. Int.
3.12e6
1.56e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.19e6
2.10e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


SGS ID: B6291_18925_DF_002
Sample ID: 11215131-020422-S-SB-SW-B-24
Acq: 22-Feb-2022 08:36:55
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 68
User: DTF Datafile: 220221C30
Rel. Int.
Abs. Int.
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 4.66e3
124679/124689D
2.56e6*
35.84
123679/123689D
2.29e6*
36.79
123468D
3.10e5*
36.50
123469D
1.05e5*
36.93
123478D
1.53e5*
37.58
123678D
7.94e5*
37.70
123789D
3.84e5*
38.01
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 4.43e3
124679/124689D
2.05e6*
35.84
123679/123689D
1.86e6*
36.79
123468D
2.46e5*
36.50
123678D
6.73e5*
37.70
123789D
3.14e5*
38.00
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 2.57e3
ES 123478D
1.31e7
37.56
ES 123678D
1.30e7
37.69
JS 123467D
8.12e6
37.89
ES 123789D
1.54e7
37.99
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 1.54e3
ES 123478D
1.07e7
37.56
ES 123678D
1.08e7
37.68
JS 123467D
6.62e6
37.89
ES 123789D
1.22e7
37.99
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
RT
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
100%
0%
7.57e5
3.78e5
0.00e0
1.21e6
6.07e5
4.53e6
2.26e6
3.76e6
1.88e6
1.72e7
8.62e6
Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_002.utp_res, saved 22-Feb-2022 15:00 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0469, 2013 scc: 638-649
Revised: 22-Feb-2022 14:58 (DTF) Printed: 23-Feb-2022 08:16 Page 4 of 12


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 4.71e3
0%
1234679D
2.11e7*
40.06
1234678D
2.22e7
40.74
Abs. Int.
6.69e6
3.34e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 1.95e3
0%
1234679D
2.05e7*
40.05
1234678D
2.13e7
40.74
Abs. Int.
6.41e6
3.21e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 1.77e3
0%
ES 1234678D
1.29e7*
40.72
Abs. Int.
3.64e6
1.82e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 1.32e3
0%
ES 1234678D
1.32e7*
40.72
Abs. Int.
3.89e6
1.94e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.04e7
5.21e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
2.49e8
43.44
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 1.73e3
0%
Abs. Int.
4.90e7
2.45e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.76e8
43.44
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 2.07e3
0%
Abs. Int.
5.41e7
2.71e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.95e7
43.43
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 2.80e3
0%
Abs. Int.
3.73e6
1.87e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
2.16e7
43.43
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.68e3
0%
Abs. Int.
4.13e6
2.06e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.24e6
4.62e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.95e3
0%
2378F
2.16e9*
27.39
1278F
8.57e8
26.47
2367/3467F
2.00e8
27.75
1289F
2.13e8
29.44
Abs. Int.
4.95e8
2.47e8
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.63e3
0%
2378F
2.66e9*
27.39
1278F
1.05e9
26.47
2367/3467F
2.46e8
27.75
1289F
2.62e8
29.44
Abs. Int.
6.15e8
3.07e8
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 8.43e3
0%
JS 1234F
2.14e7
25.98
ES 2378F
1.68e7
27.37
Abs. Int.
4.61e6
2.30e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 5.03e3
0%
JS 1234F
2.95e7
25.98
ES 2378F
2.18e7
27.37
Abs. Int.
6.38e6
3.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.29e3
0%
not dpe
Abs. Int.
3.24e4
1.62e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

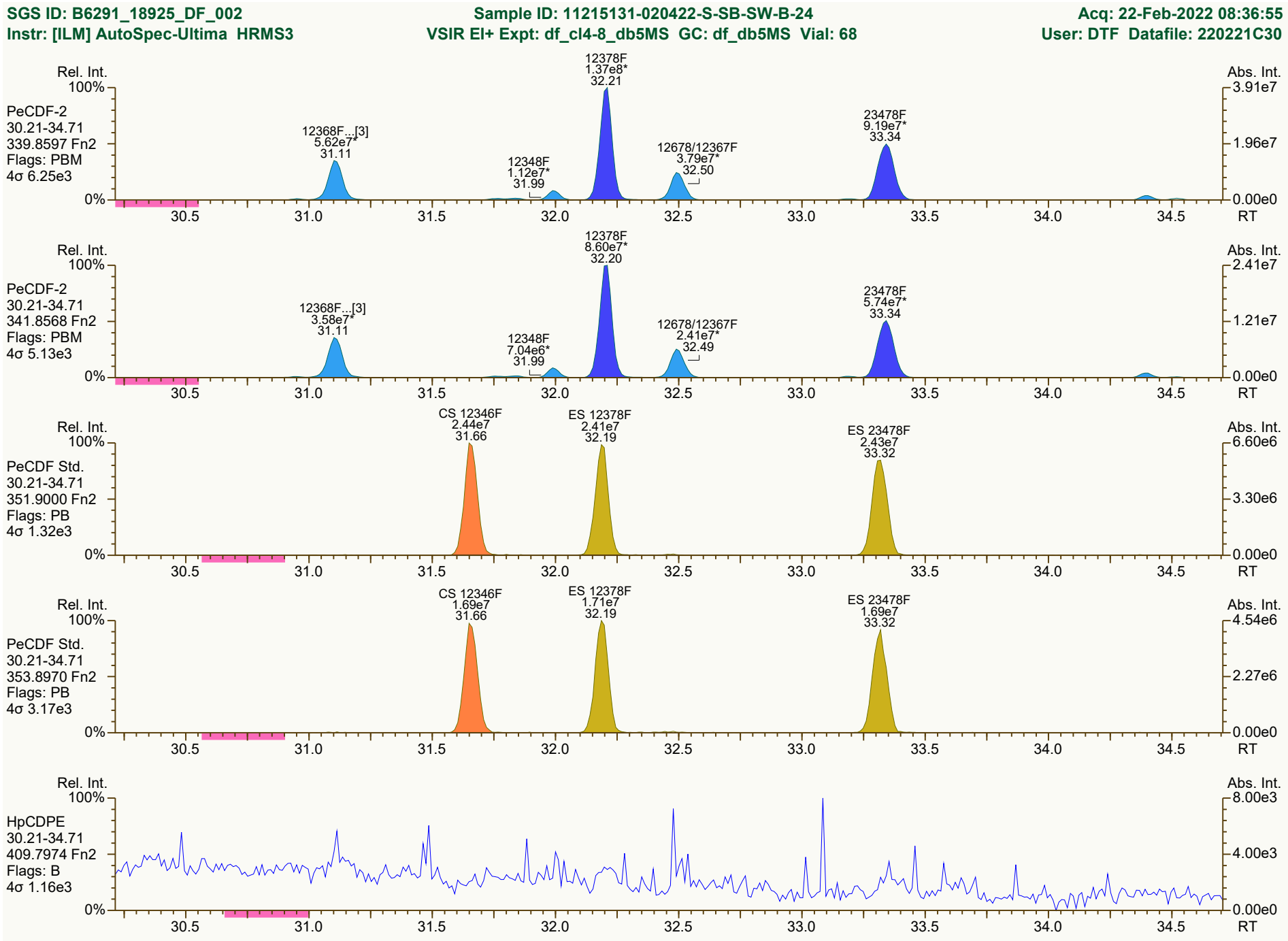
SGS ID: B6291_18925_DF_002 | Sample ID: 11215131-020422-S-SB-SW-B-24 | Acq: 22-Feb-2022 08:36:55

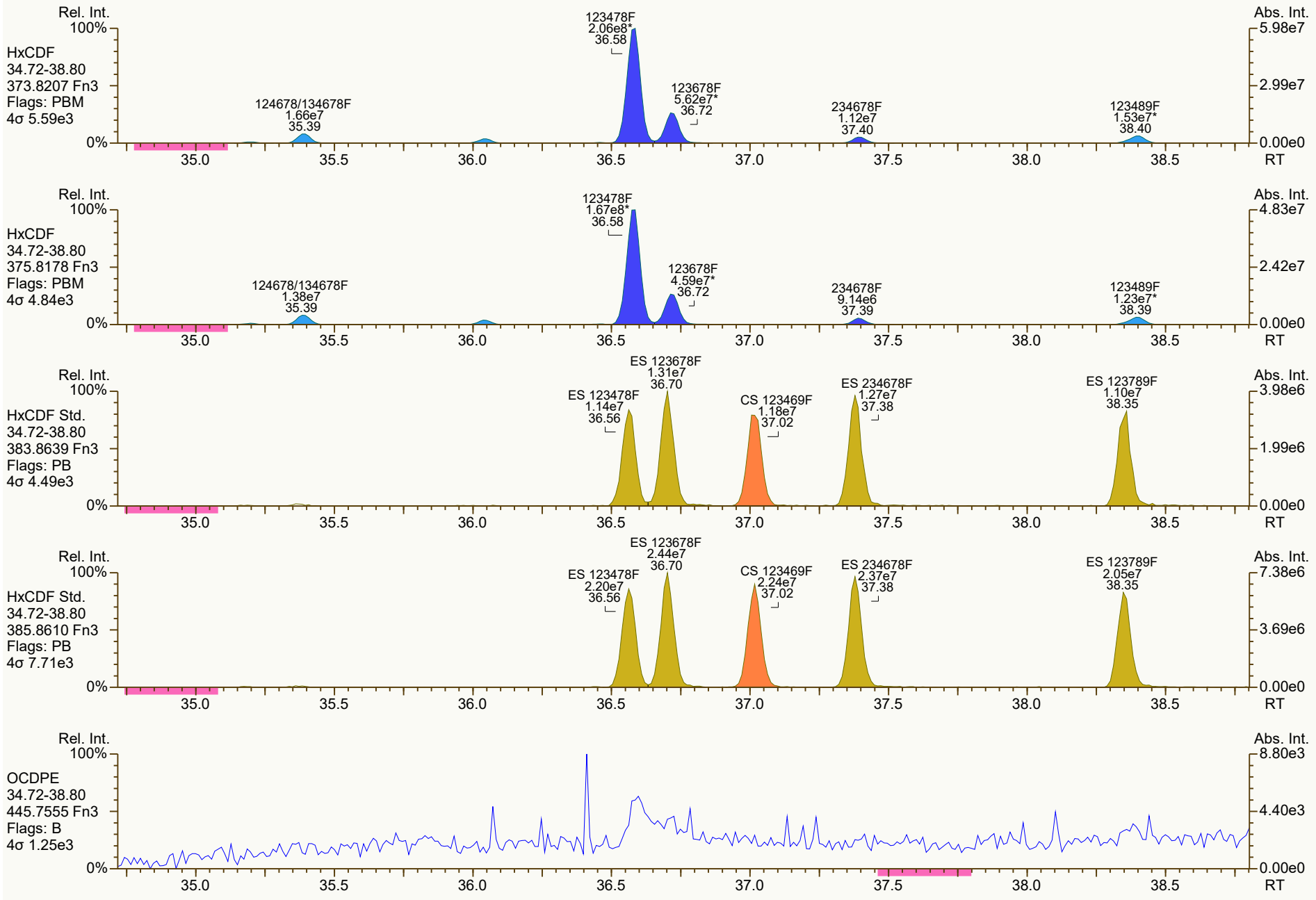
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 68 | User: DTF Datafile: 220221C30

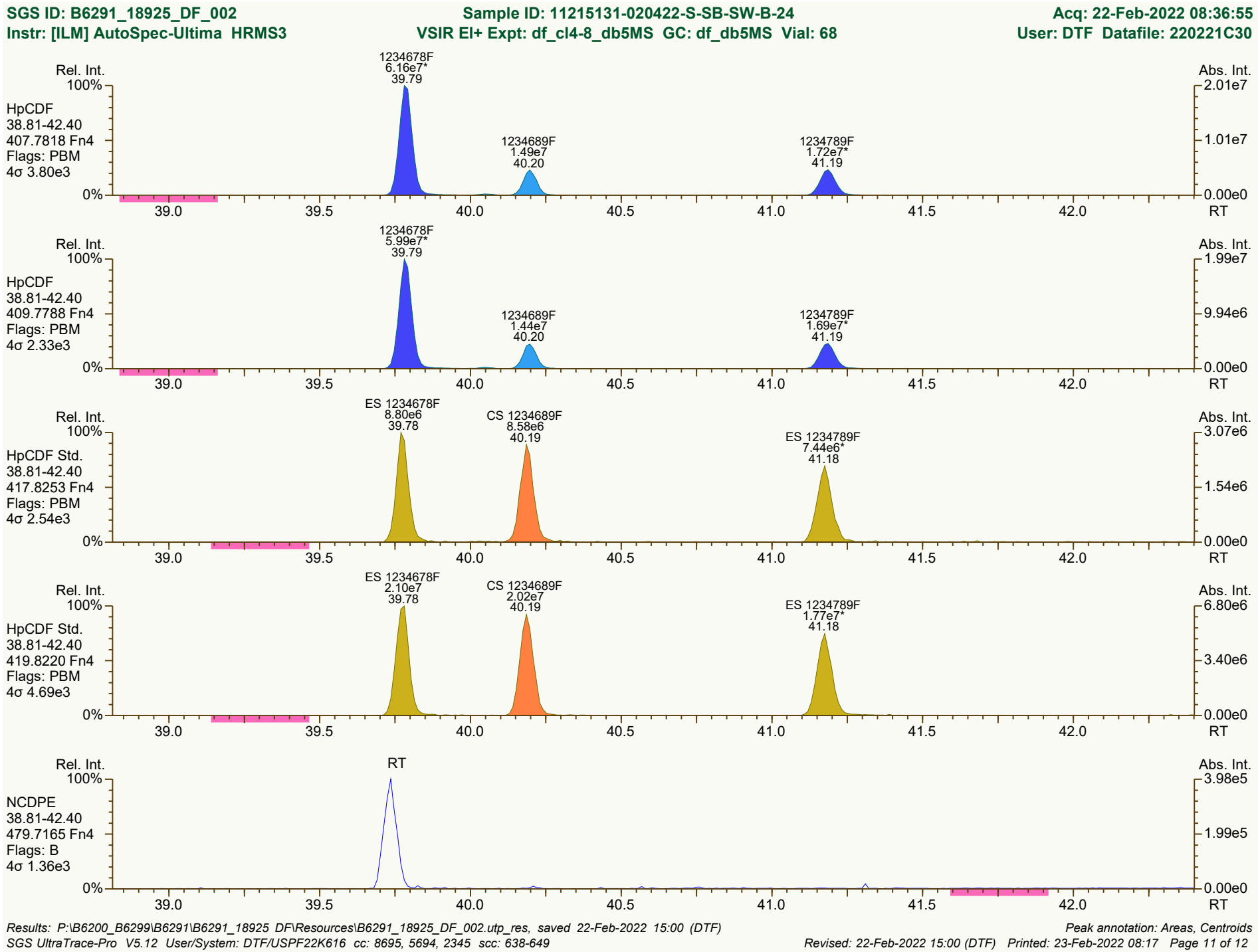


Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_002.utp_res, saved 22-Feb-2022 15:00 (DTF) *Peak annotation: Areas, Centroids*

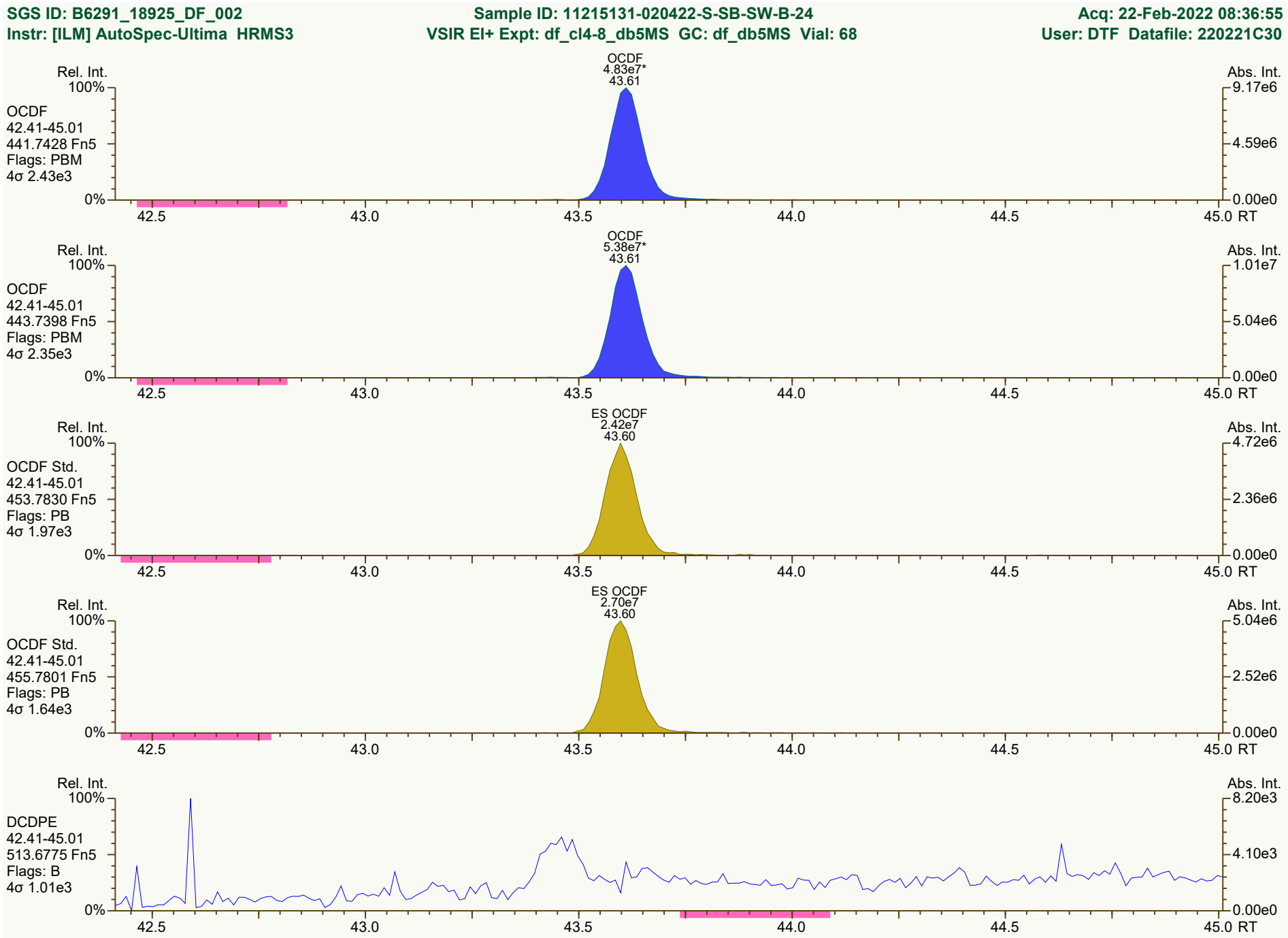
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1051 scc: 638-649 *Revised: 22-Feb-2022 14:59 (DTF) Printed: 23-Feb-2022 08:17 Page 8 of 12*


SGS ID: B6291_18925_DF_002
Sample ID: 11215131-020422-S-SB-SW-B-24
Acq: 22-Feb-2022 08:36:55
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 68
User: DTF Datafile: 220221C30
Rel. Int.
Abs. Int.
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 6.25e3
12368F...[3] 5.62e7* 31.11
12348F 1.12e7* 31.99
12378F 1.37e8* 32.21
12678/12367F 3.79e7* 32.50
23478F 9.19e7* 33.34
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 5.13e3
12368F...[3] 3.58e7* 31.11
12348F 7.04e6* 31.99
12378F 8.60e7* 32.20
12678/12367F 2.41e7* 32.49
23478F 5.74e7* 33.34
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 1.32e3
CS 12346F 2.44e7 31.66
ES 12378F 2.41e7 32.19
ES 23478F 2.43e7 33.32
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 3.17e3
CS 12346F 1.69e7 31.66
ES 12378F 1.71e7 32.19
ES 23478F 1.69e7 33.32
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.16e3
RT
Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_002.utp_res, saved 22-Feb-2022 15:00 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9244, 7148, 9250 scc: 638-649
Revised: 22-Feb-2022 15:00 (DTF) Printed: 23-Feb-2022 08:17 Page 9 of 12


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 5.59e3
0%
123478F
2.06e8*
36.58
123678F
5.62e7*
36.72
124678/134678F
1.66e7
35.39
234678F
1.12e7
37.40
123489F
1.53e7*
38.40
Abs. Int.
5.98e7
2.99e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 4.84e3
0%
123478F
1.67e8*
36.58
123678F
4.59e7*
36.72
124678/134678F
1.38e7
35.39
234678F
9.14e6
37.39
123489F
1.23e7*
38.39
Abs. Int.
4.83e7
2.42e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 4.49e3
0%
ES 123678F
1.31e7
36.70
ES 123478F
1.14e7
36.56
CS 123469F
1.18e7
37.02
ES 234678F
1.27e7
37.38
ES 123789F
1.10e7
38.35
Abs. Int.
3.98e6
1.99e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 7.71e3
0%
ES 123678F
2.44e7
36.70
ES 123478F
2.20e7
36.56
CS 123469F
2.24e7
37.02
ES 234678F
2.37e7
37.38
ES 123789F
2.05e7
38.35
Abs. Int.
7.38e6
3.69e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.25e3
0%
Abs. Int.
8.80e3
4.40e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


SGS ID: B6291_18925_DF_002
Sample ID: 11215131-020422-S-SB-SW-B-24
Acq: 22-Feb-2022 08:36:55
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 68
User: DTF Datafile: 220221C30
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 3.80e3
1234678F
6.16e7*
39.79
1234689F
1.49e7
40.20
1234789F
1.72e7*
41.19
2.01e7
1.01e7
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 2.33e3
1234678F
5.99e7*
39.79
1234689F
1.44e7
40.20
1234789F
1.69e7*
41.19
1.99e7
9.94e6
0.00e0
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 2.54e3
ES 1234678F
8.80e6
39.78
CS 1234689F
8.58e6
40.19
ES 1234789F
7.44e6*
41.18
3.07e6
1.54e6
0.00e0
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 4.69e3
ES 1234678F
2.10e7
39.78
CS 1234689F
2.02e7
40.19
ES 1234789F
1.77e7*
41.18
6.80e6
3.40e6
0.00e0
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.36e3
RT
3.98e5
1.99e5
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_002.utp_res, saved 22-Feb-2022 15:00 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8695, 5694, 2345 scc: 638-649
Revised: 22-Feb-2022 15:00 (DTF) Printed: 23-Feb-2022 08:17 Page 11 of 12

SGS ID: B6291_18925_DF_002 | Sample ID: 11215131-020422-S-SB-SW-B-24 | Acq: 22-Feb-2022 08:36:55
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 68 | User: DTF Datafile: 220221C30



Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_002.utp_res, saved 22-Feb-2022 15:00 (DTF) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7917, 4644, 1168 scc: 638-649 | *PKD: 22-Feb-2022 15:00 Printed: 23-Feb-2022 08:17 Page 12 of 12*

Lab ID: B6291_18925_DF_002MS **Acq'd:** 22 Feb 2022 09:23 DTF **Wt/Vol:** 10.11 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020422-S-SB-SW-B-24-MS **UTP:** 22-Feb-2022 15:12:09 DTF **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 119-369-RZZ

Datafile: 220221C31 **Report:** 23 Feb 2022 08:09 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.27	E	1.0008	1.0008	0	1.19E+09	0.80	Y	1.18	8,510	4946.926	0.389
12378-PeCDD	33.66		1.0007	1.0006	-0.2	2.06E+07	1.59	Y	1.04	174	6086.833	0.453
123478-HxCDD	37.58		1.0004	1.0004	0	1.17E+07	1.20	Y	1.09	111	5883.588	0.497
123678-HxCDD	37.70		1.0036	1.0036	0	1.33E+07	1.25	Y	1.15	119	5883.588	0.471
123789-HxCDD	38.01		1.0118	1.0118	0	1.26E+07	1.23	Y	1.05	106	5883.588	0.416
1234678-HpCDD	40.74		1.0002	1.0004	+0.5	5.12E+07	1.03	Y	1.06	469	6365.068	0.522
OCDD	43.44		1.0003	1.0003	0	4.76E+08	0.90	Y	1.13	5,540	8617.951	1.33
2378-TCDF	27.40	E	1.0008	1.0007	-0.2	3.73E+09	0.81	Y	1.08	22,500	8599.747	0.614
12378-PeCDF	32.21		1.0005	1.0006	+0.2	2.06E+08	1.59	Y	1.02	1,230	7779.64	0.42
23478-PeCDF	33.34		1.0005	1.0007	+0.4	1.34E+08	1.59	Y	1.02	820	7779.64	0.487
123478-HxCDF	36.58		1.0004	1.0005	+0.2	3.99E+08	1.25	Y	1.27	2,320	11067.086	0.577
123678-HxCDF	36.72		1.0004	1.0004	0	1.11E+08	1.27	Y	1.15	644	11067.086	0.551
234678-HxCDF	37.40		1.0005	1.0004	-0.2	3.40E+07	1.26	Y	1.19	199	11067.086	0.568
123789-HxCDF	38.39		1.0004	1.0009	+1.2	4.21E+07	1.25	Y	1.16	282	11067.086	0.635
1234678-HpCDF	39.79		1.0003	1.0003	0	1.18E+08	1.02	Y	1.37	740	4396.29	0.206
1234789-HpCDF	41.19		1.0003	1.0003	0	4.81E+07	1.03	Y	1.31	374	4396.29	0.332
OCDF	43.62		1.0002	1.0003	+0.3	9.45E+07	0.90	Y	1.07	895	4436.3	0.555

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.25	1.0243	1.0242	-0.2	2.33E+07	0.75	Y	1.05	77.4
ES 12378-PeCDD	33.64	1.2198	1.2199	+0.2	2.26E+07	1.60	Y	0.88	89.4
ES 123478-HxCDD	37.57	0.9916	0.9914	-0.5	1.91E+07	1.26	Y	0.97	81
ES 123678-HxCDD	37.69	0.9947	0.9946	-0.2	1.92E+07	1.17	Y	0.94	84
ES 123789-HxCDD	38.00	1.0029	1.0027	-0.5	2.23E+07	1.22	Y	1.09	84.2
ES 1234678-HpCDD	40.73	1.0749	1.0748	-0.2	2.04E+07	0.98	Y	0.91	91.9
ES OCDD	43.43	1.1460	1.1461	+0.3	3.02E+07	0.85	Y	0.62	99.5
ES 2378-TCDF	27.38	1.0531	1.0533	+0.3	3.05E+07	0.82	Y	1.06	65.6
ES 12378-PeCDF	32.19	1.2378	1.2384	+1.2	3.23E+07	1.56	Y	0.91	80.8
ES 23478-PeCDF	33.32	1.2810	1.2818	+1.6	3.18E+07	1.43	Y	0.88	82.1
ES 123478-HxCDF	36.57	0.9650	0.9650	0	2.67E+07	0.54	Y	1.20	91.9
ES 123678-HxCDF	36.71	0.9688	0.9687	-0.2	2.96E+07	0.53	Y	1.35	90.3
ES 234678-HxCDF	37.38	0.9866	0.9866	0	2.84E+07	0.54	Y	1.24	94.3
ES 123789-HxCDF	38.36	1.0125	1.0122	-0.7	2.53E+07	0.53	Y	1.16	90.3
ES 1234678-HpCDF	39.78	1.0501	1.0499	-0.5	2.29E+07	0.42	Y	0.97	97.6
ES 1234789-HpCDF	41.18	1.0870	1.0867	-0.7	1.95E+07	0.43	Y	0.85	94.1
ES OCDF	43.60	1.1505	1.1507	+0.5	3.89E+07	0.87	Y	0.81	99.3

Lab ID: B6291_18925_DF_002MS | **Acq'd:** 22 Feb 2022 09:23 DTF | **Wt/Vol:** 10.11 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020422-S-SB-SW-B-24-MS | **UTP:** 22-Feb-2022 15:12:09 DTF | **J-level:** 0.495 pg/g | **Split:** 1 | **Checkcode:** 119-369-RZZ

Datafile: 220221C31 | **Report:** 23 Feb 2022 08:09 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.58		-	-	-	2.88E+07	0.76	Y	-	-
JS 1234-TCDF	25.99		-	-	-	4.38E+07	0.74	Y	-	-
JS 123467-HxCDD	37.89		-	-	-	1.21E+07	1.27	Y	-	-
CS 37Cl-2378-TCDD	28.27		1.0251	1.0250	-0.2	8.47E+06	n/a	-	1.20	61.2
CS 12347-PeCDD	33.14		1.2016	1.2017	+0.2	2.11E+07	1.56	Y	0.75	97.1
CS 12346-PeCDF	31.66		1.2172	1.2180	+1.5	3.22E+07	1.42	Y	0.85	86.2
CS 123469-HxCDF	37.02		0.9771	0.9770	-0.2	2.65E+07	0.53	Y	1.12	97.7
CS 1234689-HpCDF	40.19		1.0608	1.0607	-0.2	2.23E+07	0.44	Y	0.89	103
SS 37Cl-2378-TCDD	28.27		1.0251	1.0250	-0.2	8.47E+06	n/a	-	1.15	79.2
SS 12347-PeCDD	33.14		1.2016	1.2017	+0.2	2.11E+07	1.56	Y	0.86	108
SS 12346-PeCDF	31.66		1.2172	1.2180	+1.5	3.22E+07	1.42	Y	0.94	106
SS 123469-HxCDF	37.02		0.9771	0.9770	-0.2	2.65E+07	0.53	Y	0.83	108
SS 1234689-HpCDF	40.19		1.0608	1.0607	-0.2	2.23E+07	0.44	Y	0.92	106

Totals	Conc	EMPC
Total TCDD	9590	9590
Total PeCDD	249	254
Total HxCDD	446	446
Total HpCDD	860	860
Total Tetra-Octa Dioxins	16700	16700
Total TCDF	39,900	39900
Total PeCDF	3,220	3220
Total HxCDF	3,960	3970
Total HpCDF	1,330	1330
Total Tetra-Octa Furans	49,300	49400
Total Tetra-Octa Dioxins & Furans	66000	66100

Lab ID: B6291_18925_DF_002MS **Acq'd: 22 Feb 2022 09:23 DTF** **Wt/Vol: 10.11 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020422-S-SB-SW-B-24-MS **UTP: 22-Feb-2022 15:12:09 DTF** **J-level: 0.495 pg/g** **Split: 1** **Checkcode: 119-369-RZZ**

Datafile: 220221C31 **Report: 23 Feb 2022 08:09 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.58		0.8701	0.8703	+0.3	1.64E+06	0.84	Y	1.18	11.7	4946.926	0.389
1379-TCDD	24.94	EMPC	0.8829	0.8828	-0.1	3.21E+05	0.64	N	1.18	2.3	4946.926	0.389
1369-TCDD	NotFnd		0.8982						1.18		4946.926	0.389
1469-TCDD	26.16	EMPC	0.9261	0.9260	-0.2	3.96E+05	0.91	N	1.18	2.83	4946.926	0.389
1247/1246/1248/1249-TCDD	26.39		0.9348	0.9342	-0.9	1.19E+06	0.75	Y	1.18	8.5	4946.926	0.389
1378-TCDD	26.59		0.9417	0.9413	-0.6	3.00E+06	0.81	Y	1.18	21.5	4946.926	0.389
1268-TCDD	26.80	EMPC	0.9487	0.9487	0	2.53E+05	0.90	N	1.18	1.81	4946.926	0.389
1478-TCDD	27.05		0.9576	0.9576	0	1.52E+06	0.80	Y	1.18	10.9	4946.926	0.389
1279-TCDD	27.23		0.9636	0.9640	+0.7	1.66E+05	0.80	Y	1.18	1.19	4946.926	0.389
1234/1269-TCDD	27.57		0.9761	0.9762	+0.2	3.85E+05	0.81	Y	1.18	2.76	4946.926	0.389
1236-TCDD	27.73		0.9812	0.9817	+0.8	2.50E+05	0.69	Y	1.18	1.8	4946.926	0.389
1237/1238-TCDD	27.97		0.9905	0.9904	-0.2	1.81E+07	0.80	Y	1.18	130	4946.926	0.389
1239-TCDD	28.11		0.9951	0.9952	+0.2	3.15E+06	0.78	Y	1.18	22.5	4946.926	0.389
2378-TCDD	**28.27**	E	**1.0008**	1.0008	**0**	1.19E+09	0.80	Y	**1.18**	**8,510**	**4946.926**	**0.389**
1278-TCDD	28.61		1.0124	1.0128	+0.7	1.12E+08	0.80	Y	1.18	805	4946.926	0.389
1267-TCDD	28.75		1.0172	1.0178	+1.0	2.04E+06	0.84	Y	1.18	14.6	4946.926	0.389
1289-TCDD	29.27		1.0354	1.0361	+1.2	5.95E+06	0.78	Y	1.18	42.6	4946.926	0.389
12479/12468-PeCDD	31.15		0.9255	0.9260	+0.9	3.40E+06	1.52	Y	1.04	28.7	6086.833	0.453
12469-PeCDD	31.69	EMPC	0.9416	0.9418	+0.4	3.12E+05	1.15	N	1.04	2.63	6086.833	0.453
12368-PeCDD	32.23		0.9582	0.9581	-0.2	7.44E+05	1.68	Y	1.04	6.27	6086.833	0.453
12478-PeCDD	32.43		0.9637	0.9640	+0.6	5.98E+05	1.60	Y	1.04	5.04	6086.833	0.453
12379-PeCDD	32.53	J EMPC	0.9668	0.9670	+0.4	2.15E+05	1.82	N	1.04	1.82	6086.833	0.453
12369/12467/12489-PeCDD	32.79	J	0.9746	0.9747	+0.2	2.45E+05	1.45	Y	1.04	2.07	6086.833	0.453
12346/12347-PeCDD	33.17	J	0.9858	0.9858	0	2.71E+05	1.56	Y	1.04	2.29	6086.833	0.453
12378-PeCDD	33.66		**1.0007**	**1.0006**	**-0.2**	**2.06E+07**	**1.59**	**Y**	**1.04**	**174**	**6086.833**	**0.453**
12367-PeCDD	33.76		1.0036	1.0034	-0.4	4.42E+05	1.53	Y	1.04	3.72	6086.833	0.453
12389-PeCDD	34.11		1.0137	1.0137	0	3.30E+06	1.71	Y	1.04	27.9	6086.833	0.453
124679/124689-HxCDD	35.85		0.9540	0.9542	+0.4	7.99E+06	1.20	Y	1.10	71.3	5883.588	0.459
123468-HxCDD	36.50		0.9715	0.9716	+0.2	4.77E+05	1.29	Y	1.10	4.26	5883.588	0.459
123679/123689-HxCDD	36.79		0.9793	0.9794	+0.2	3.78E+06	1.22	Y	1.10	33.8	5883.588	0.459
123469-HxCDD	36.93	J	0.9829	0.9831	+0.4	1.20E+05	1.26	Y	1.10	1.07	5883.588	0.459
123478-HxCDD	37.58		**1.0004**	**1.0004**	**0**	**1.17E+07**	**1.20**	**Y**	1.09	**111**	**5883.588**	**0.497**
123678-HxCDD	37.70		**1.0036**	**1.0036**	**0**	**1.33E+07**	**1.25**	**Y**	1.15	**119**	**5883.588**	**0.471**
123467-HxCDD	NotFnd		1.0089						1.10		5883.588	0.459
123789-HxCDD	38.01		**1.0118**	**1.0118**	**0**	**1.26E+07**	**1.23**	**Y**	1.05	**106**	**5883.588**	**0.416**

Lab ID: B6291_18925_DF_002MS | **Acq'd:** 22 Feb 2022 09:23 DTF | **Wt/Vol:** 10.11 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020422-S-SB-SW-B-24-MS | **UTP:** 22-Feb-2022 15:12:09 DTF | **J-level:** 0.495 pg/g | **Split:** 1 | **Checkcode:** 119-369-RZZ

Datafile: 220221C31 | **Report:** 23 Feb 2022 08:09 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

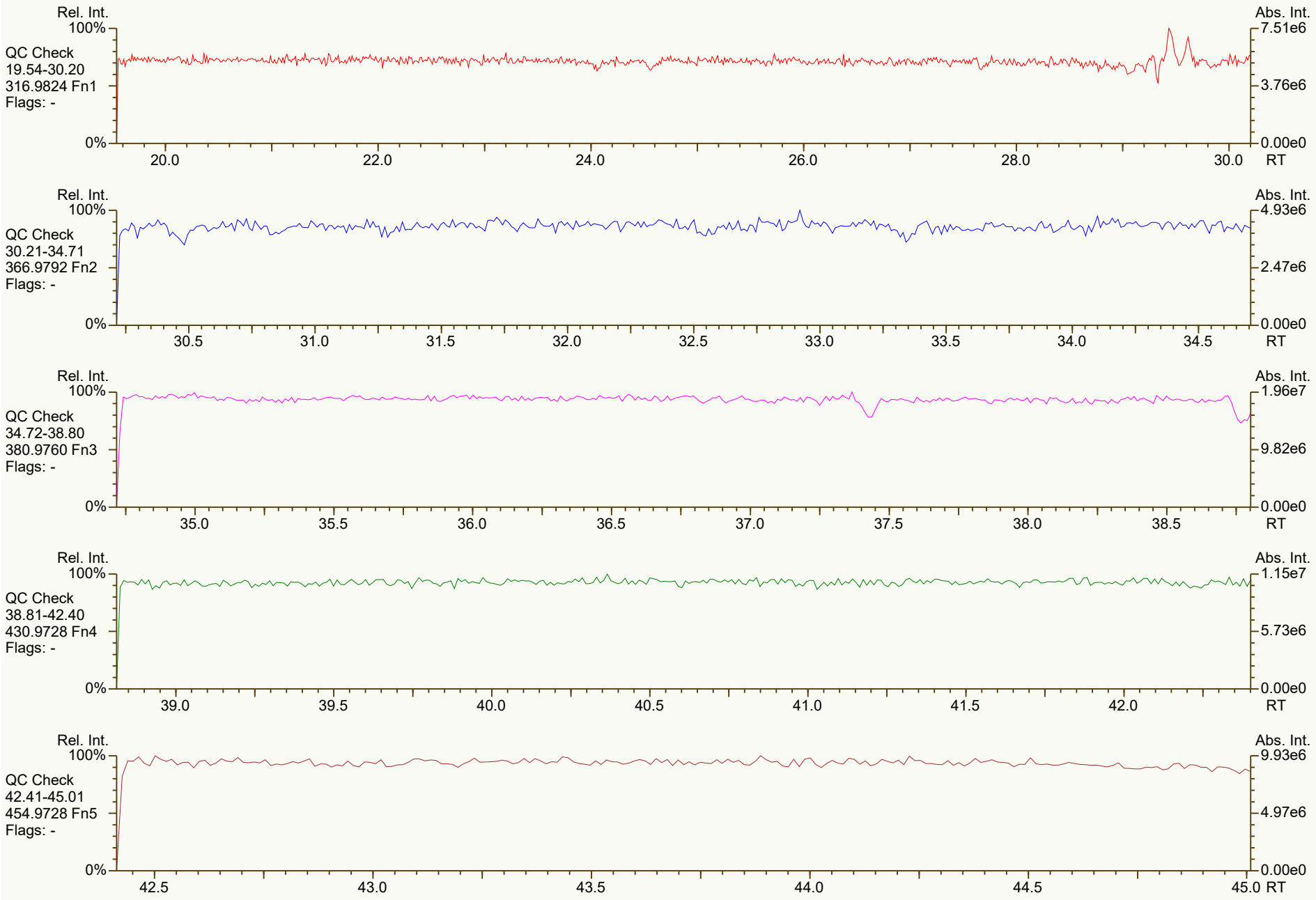
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.06		0.9836	0.9836	0	4.27E+07	1.01	Y	1.06	391	6365.068	0.522
1234678-HpCDD	**40.74**		**1.0002**	**1.0004**	**+0.5**	**5.12E+07**	**1.03**	**Y**	**1.06**	**469**	**6365.068**	**0.522**
OCDD	**43.44**		**1.0003**	**1.0003**	**0**	**4.76E+08**	**0.90**	**Y**	**1.13**	**5,540**	**8617.951**	**1.33**
OCDD-a	43.44		1.0002	1.0002	0	3.00E+07	2.43	Y	0.07	5,460	4514.682	10.9
1368-TCDF	22.41		0.8191	0.8185	-0.8	1.86E+06	0.80	Y	1.08	11.2	8599.747	0.614
1468-TCDF	23.01		0.8408	0.8404	-0.6	2.62E+06	0.85	Y	1.08	15.7	8599.747	0.614
2468-TCDF	23.66		0.8645	0.8643	-0.3	4.42E+06	0.79	Y	1.08	26.6	8599.747	0.614
1346/1246-TCDF	NotFnd		0.8772						1.08		8599.747	0.614
1347/1378/1247-TCDF	24.18		0.8833	0.8830	-0.4	1.30E+07	0.83	Y	1.08	78	8599.747	0.614
1348-TCDF	24.45		0.8932	0.8931	-0.1	5.46E+06	0.83	Y	1.08	32.9	8599.747	0.614
1248/1367/1379-TCDF	24.56		0.8980	0.8970	-1.5	2.73E+07	0.81	Y	1.08	164	8599.747	0.614
1268-TCDF	24.97		0.9119	0.9120	+0.1	1.46E+07	0.81	Y	1.08	87.5	8599.747	0.614
1467-TCDF	25.10		0.9170	0.9169	-0.2	6.74E+06	0.79	Y	1.08	40.5	8599.747	0.614
1478-TCDF	25.27		0.9234	0.9230	-0.6	3.41E+07	0.80	Y	1.08	205	8599.747	0.614
1369/1237-TCDF	25.66		0.9369	0.9373	+0.6	1.92E+07	0.81	Y	1.08	115	8599.747	0.614
2467-TCDF	25.78		0.9415	0.9416	+0.2	4.69E+06	0.83	Y	1.08	28.2	8599.747	0.614
2368-TCDF	25.93		0.9475	0.9471	-0.6	5.95E+07	0.79	Y	1.08	358	8599.747	0.614
1238/1234/1678/1469/1236-TCDF	26.01		0.9507	0.9498	-1.4	1.35E+08	0.82	Y	1.08	811	8599.747	0.614
1278-TCDF	26.48	E	0.9676	0.9673	-0.5	1.56E+09	0.81	Y	1.08	9,410	8599.747	0.614
1349-TCDF	NotFnd		0.9722						1.08		8599.747	0.614
1267-TCDF	26.76		0.9777	0.9775	-0.3	3.81E+07	0.82	Y	1.08	229	8599.747	0.614
2346/1249-TCDF	26.95		0.9843	0.9843	0	8.85E+06	0.83	Y	1.08	53.2	8599.747	0.614
2347/1279-TCDF	27.17		0.9926	0.9923	-0.5	5.07E+07	0.80	Y	1.08	305	8599.747	0.614
2348-TCDF	27.28	E	0.9968	0.9963	-0.8	1.93E+08	0.80	Y	1.08	1,160	8599.747	0.614
2378-TCDF	**27.40**	E	**1.0008**	**1.0007**	**-0.2**	**3.73E+09**	**0.81**	**Y**	**1.08**	**22,500**	**8599.747**	**0.614**
2367/3467-TCDF	27.76	E	1.0142	1.0139	-0.5	3.34E+08	0.81	Y	1.08	2,010	8599.747	0.614
1269-TCDF	28.01		1.0235	1.0230	-0.8	2.00E+07	0.82	Y	1.08	120	8599.747	0.614
1239-TCDF	28.27		1.0329	1.0326	-0.5	4.13E+06	0.79	Y	1.08	24.9	8599.747	0.614
1289-TCDF	29.45	E	1.0742	1.0755	+2.3	3.66E+08	0.81	Y	1.08	2,200	8599.747	0.614
13468/12468-PeCDF	29.37		0.9122	0.9124	+0.4	3.05E+07	1.49	Y	1.02	184	3187.332	0.186
13678/13467/12467-PeCDF	30.95		0.9606	0.9615	+1.7	1.69E+06	1.54	Y	1.02	10.2	7779.64	0.453
12368/13478/12478-PeCDF	31.11		0.9655	0.9665	+1.9	7.74E+07	1.55	Y	1.02	468	7779.64	0.453
14678-PeCDF	NotFnd		0.9685						1.02		7779.64	0.453
13479-PeCDF	NotFnd		0.9716						1.02		7779.64	0.453
13469/12479-PeCDF	NotFnd		0.9794						1.02		7779.64	0.453
12346-PeCDF	NotFnd		0.9836						1.02		7779.64	0.453

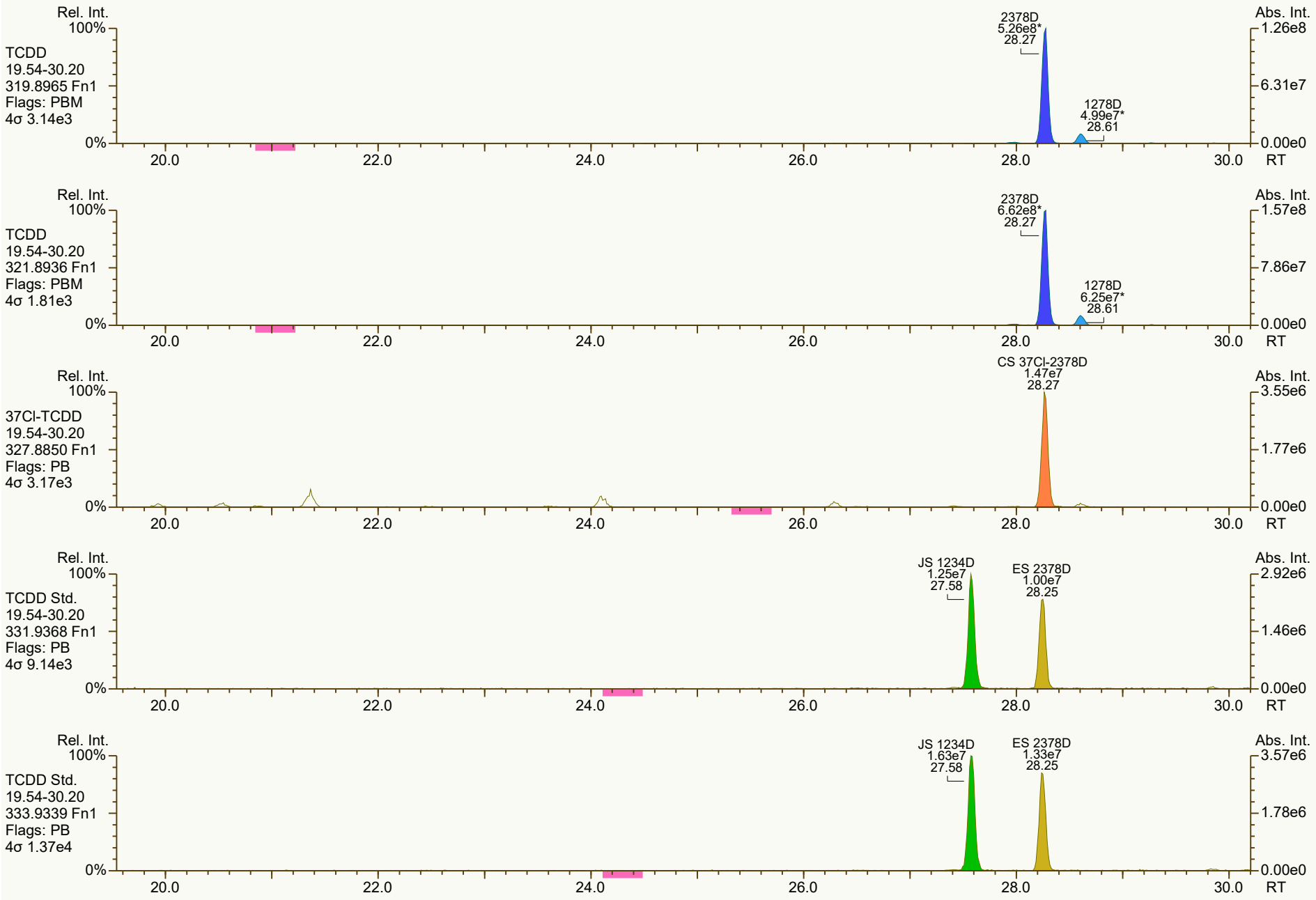
Lab ID: B6291_18925_DF_002MS | **Acq'd: 22 Feb 2022 09:23 DTF** | **Wt/Vol: 10.11 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020422-S-SB-SW-B-24-MS | **UTP: 22-Feb-2022 15:12:09 DTF** | **J-level: 0.495 pg/g** | **Split: 1** | **Checkcode: 119-369-RZZ**

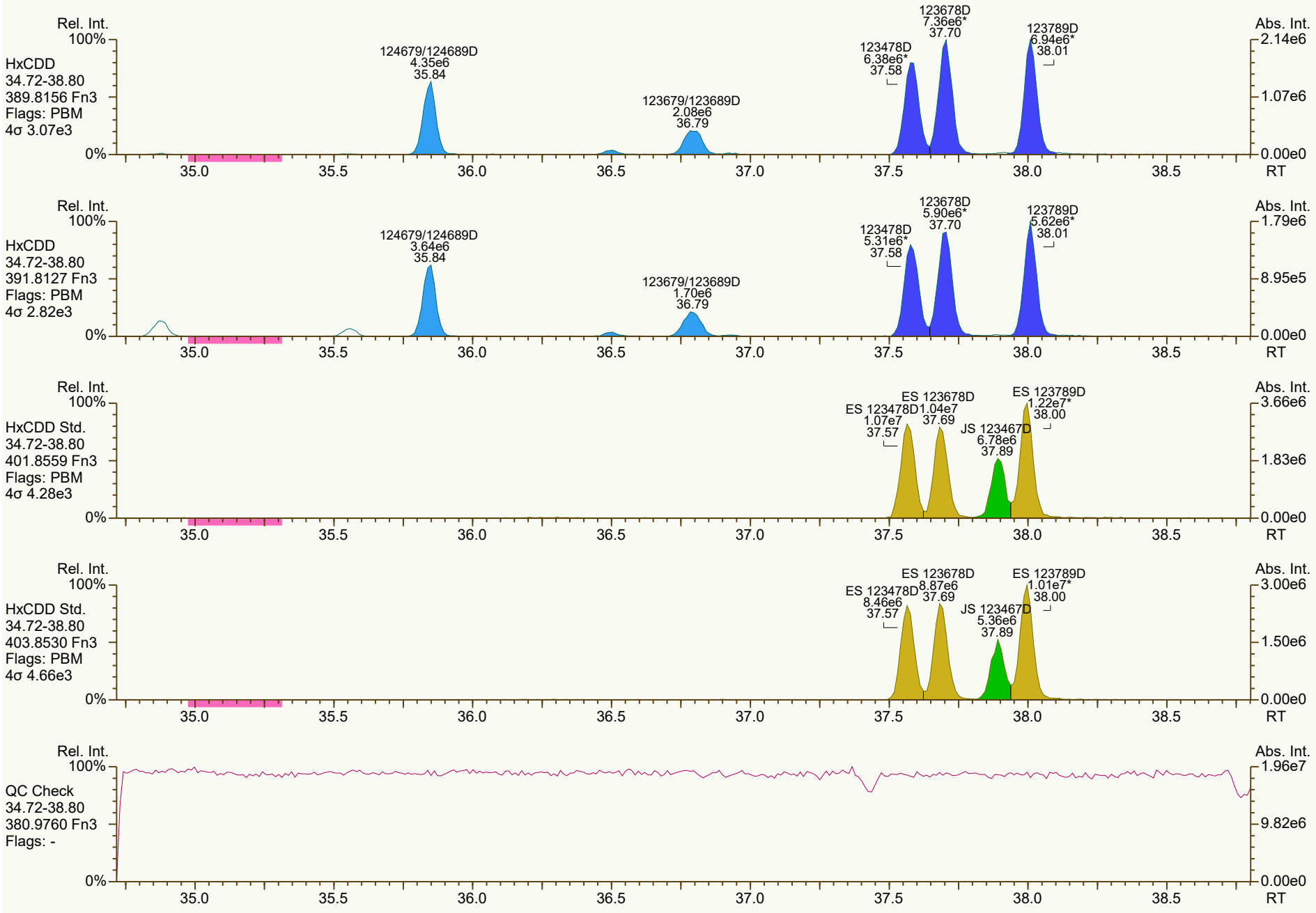
Datafile: 220221C31 | **Report: 23 Feb 2022 08:09 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.76		0.9866	0.9865	-0.2	2.35E+06	1.51	Y	1.02	14.2	7779.64	0.453
12347-PeCDF	31.83		0.9891	0.9890	-0.2	3.04E+06	1.57	Y	1.02	18.4	7779.64	0.453
12348-PeCDF	32.00		0.9938	0.9940	+0.4	1.39E+07	1.58	Y	1.02	84.2	7779.64	0.453
12378-PeCDF	**32.21**		**1.0005**	**1.0006**	**+0.2**	**2.06E+08**	**1.59**	**Y**	**1.02**	**1,230**	**7779.64**	**0.42**
12678/12367-PeCDF	32.50		1.0091	1.0096	+1.0	5.11E+07	1.58	Y	1.02	309	7779.64	0.453
12379-PeCDF	NotFnd		1.0144						1.02		7779.64	0.453
12679-PeCDF	NotFnd		0.9927						1.02		7779.64	0.453
23467/12369-PeCDF	33.19		0.9965	0.9962	-0.6	1.93E+06	1.63	Y	1.02	11.7	7779.64	0.453
23478-PeCDF	**33.34**		**1.0005**	**1.0007**	**+0.4**	**1.34E+08**	**1.59**	**Y**	**1.02**	**820**	**7779.64**	**0.487**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7779.64	0.453
12349-PeCDF	NotFnd		1.0101						1.02		7779.64	0.453
12389-PeCDF	34.40		1.0330	1.0325	-1.0	1.05E+07	1.57	Y	1.02	63.5	7779.64	0.453
123468-HxCDF	35.20		0.9622	0.9626	+0.8	4.31E+07	1.24	Y	1.19	259	11067.086	0.581
124678/134678-HxCDF	35.39		0.9678	0.9679	+0.2	2.77E+07	1.25	Y	1.19	167	11067.086	0.581
134679-HxCDF	NotFnd		0.9741						1.19		11067.086	0.581
124679-HxCDF	35.82	J	0.9795	0.9797	+0.4	2.56E+05	1.24	Y	1.19	1.54	11067.086	0.581
124689-HxCDF	36.05		0.9856	0.9858	+0.4	1.40E+07	1.24	Y	1.19	84.3	11067.086	0.581
123467-HxCDF	36.46	EMPC	0.9972	0.9972	0	1.78E+06	1.48	N	1.19	10.7	11067.086	0.581
123478-HxCDF	**36.58**		**1.0004**	**1.0005**	**+0.2**	**3.99E+08**	**1.25**	**Y**	**1.27**	**2,320**	**11067.086**	**0.577**
123678-HxCDF	**36.72**		**1.0004**	**1.0004**	**0**	**1.11E+08**	**1.27**	**Y**	**1.15**	**644**	**11067.086**	**0.551**
123479-HxCDF	NotFnd		1.0048						1.19		11067.086	0.581
123469-HxCDF	NotFnd		1.0089						1.19		11067.086	0.581
123679-HxCDF	NotFnd		0.9942						1.19		11067.086	0.581
234678-HxCDF	**37.40**		**1.0005**	**1.0004**	**-0.2**	**3.40E+07**	**1.26**	**Y**	**1.19**	**199**	**11067.086**	**0.568**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		11067.086	0.581
123789-HxCDF	**38.39**		**1.0004**	**1.0009**	**+1.2**	**4.21E+07**	**1.25**	**Y**	**1.16**	**282**	**11067.086**	**0.635**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		11067.086	0.581
1234678-HpCDF	**39.79**		**1.0003**	**1.0003**	**0**	**1.18E+08**	**1.02**	**Y**	**1.37**	**740**	**4396.29**	**0.206**
1234679-HpCDF	40.05		1.0068	1.0068	0	1.19E+06	1.04	Y	1.34	8.29	4396.29	0.263
1234689-HpCDF	40.20		1.0104	1.0106	+0.5	3.02E+07	1.01	Y	1.34	211	4396.29	0.263
1234789-HpCDF	**41.19**		**1.0003**	**1.0003**	**0**	**4.81E+07**	**1.03**	**Y**	**1.31**	**374**	**4396.29**	**0.332**
OCDF	**43.62**		**1.0002**	**1.0003**	**+0.3**	**9.45E+07**	**0.90**	**Y**	**1.07**	**895**	**4436.3**	**0.555**
OCDF-a	43.61		1.0001	1.0002	+0.3	5.93E+06	2.44	Y	0.07	908	4513.372	9.11

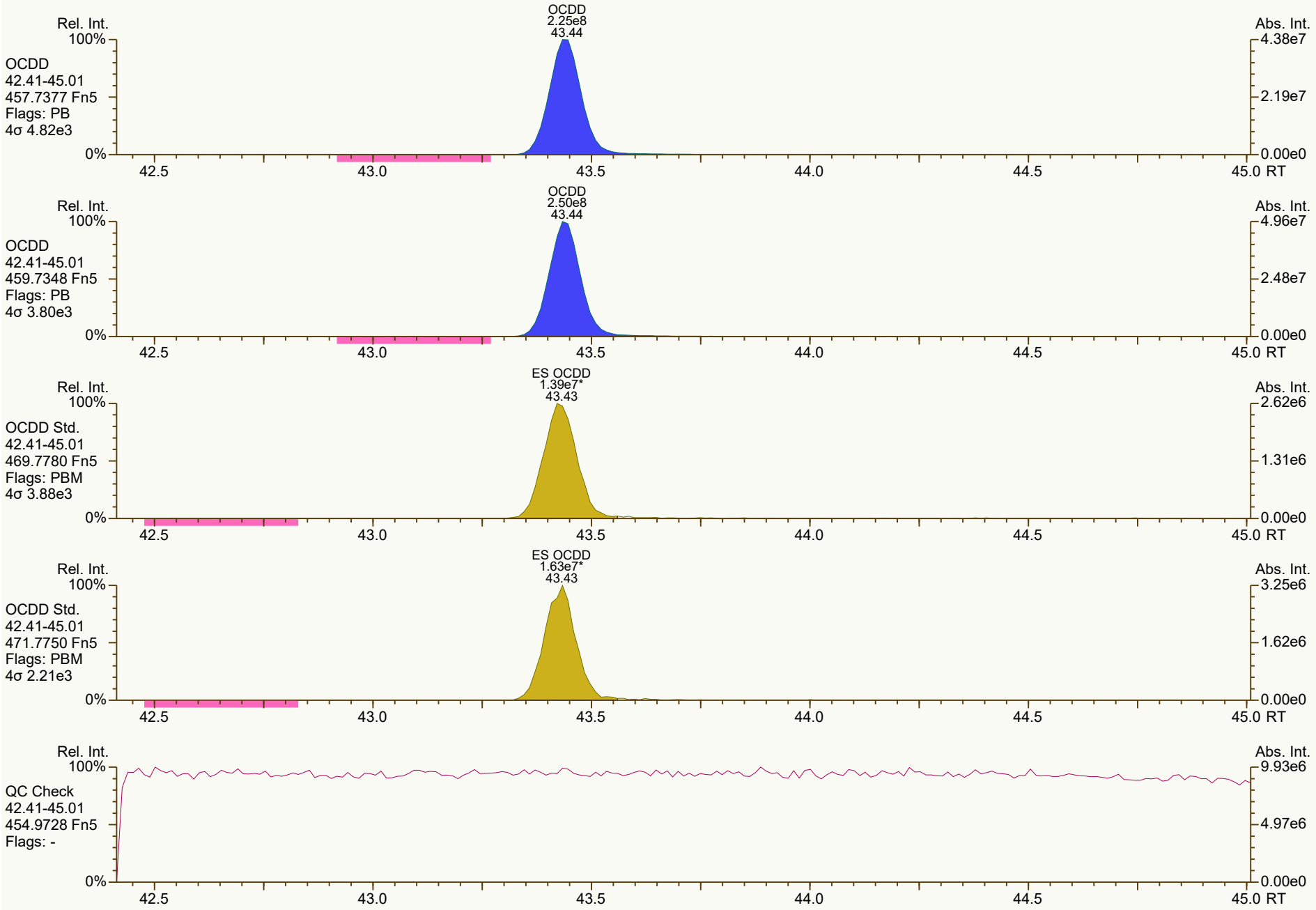

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
7.51e6
3.76e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.93e6
2.47e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.96e7
9.82e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.15e7
5.73e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
9.93e6
4.97e6
0.00e0

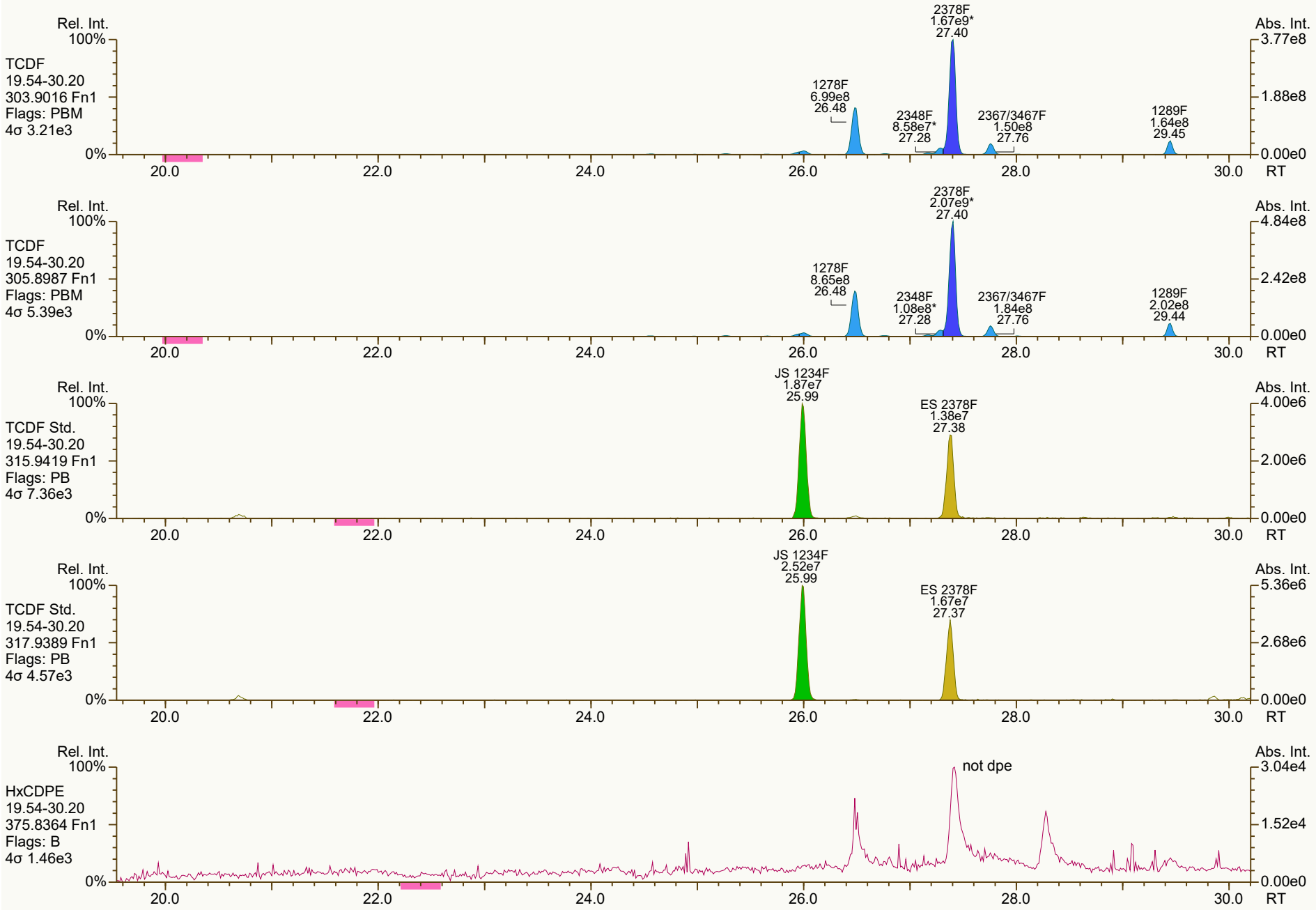

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 3.14e3
0%
2378D
5.26e8*
28.27
1278D
4.99e7*
28.61
Abs. Int.
1.26e8
6.31e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.81e3
0%
2378D
6.62e8*
28.27
1278D
6.25e7*
28.61
Abs. Int.
1.57e8
7.86e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 3.17e3
0%
CS 37Cl-2378D
1.47e7
28.27
Abs. Int.
3.55e6
1.77e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 9.14e3
0%
JS 1234D
1.25e7
27.58
ES 2378D
1.00e7
28.25
Abs. Int.
2.92e6
1.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 1.37e4
0%
JS 1234D
1.63e7
27.58
ES 2378D
1.33e7
28.25
Abs. Int.
3.57e6
1.78e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 2.94e3
12479/12468D
2.05e6
31.15
12378D
1.26e7*
33.66
12389D
2.08e6
34.10
Abs. Int.
3.59e6
1.80e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 3.15e3
12479/12468D
1.35e6
31.15
12378D
7.96e6*
33.66
12389D
1.22e6
34.10
Abs. Int.
2.34e6
1.17e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 4.89e3
CS 12347D
1.28e7
33.14
ES 12378D
1.39e7
33.64
Abs. Int.
3.95e6
1.98e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 4.41e3
CS 12347D
8.23e6
33.14
ES 12378D
8.71e6
33.64
Abs. Int.
2.46e6
1.23e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Abs. Int.
4.93e6
2.47e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 3.07e3
0%
124679/124689D
4.35e6
35.84
123679/123689D
2.08e6
36.79
123478D
6.38e6*
37.58
123678D
7.36e6*
37.70
123789D
6.94e6*
38.01
Abs. Int.
2.14e6
1.07e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 2.82e3
0%
124679/124689D
3.64e6
35.84
123679/123689D
1.70e6
36.79
123478D
5.31e6*
37.58
123678D
5.90e6*
37.70
123789D
5.62e6*
38.01
Abs. Int.
1.79e6
8.95e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 4.28e3
0%
ES 123478D
1.07e7
37.57
ES 123678D
1.04e7
37.69
JS 123467D
6.78e6
37.89
ES 123789D
1.22e7*
38.00
Abs. Int.
3.66e6
1.83e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 4.66e3
0%
ES 123478D
8.46e6
37.57
ES 123678D
8.87e6
37.69
JS 123467D
5.36e6
37.89
ES 123789D
1.01e7*
38.00
Abs. Int.
3.00e6
1.50e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.96e7
9.82e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 3.47e3
1234679D
2.15e7*
40.06
1234678D
2.59e7
40.74
Abs. Int.
7.44e6
3.72e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 2.89e3
1234679D
2.12e7*
40.06
1234678D
2.53e7
40.74
Abs. Int.
7.22e6
3.61e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 6.11e3
ES 1234678D
1.01e7*
40.73
Abs. Int.
2.82e6
1.41e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 2.14e3
ES 1234678D
1.03e7*
40.72
Abs. Int.
3.02e6
1.51e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.15e7
5.73e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 4.82e3
0%
OCDD
2.25e8
43.44
Abs. Int.
4.38e7
2.19e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 3.80e3
0%
OCDD
2.50e8
43.44
Abs. Int.
4.96e7
2.48e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 3.88e3
0%
ES OCDD
1.39e7*
43.43
Abs. Int.
2.62e6
1.31e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 2.21e3
0%
ES OCDD
1.63e7*
43.43
Abs. Int.
3.25e6
1.62e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.93e6
4.97e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 3.21e3
0%
2378F
1.67e9*
27.40
1278F
6.99e8
26.48
2348F
8.58e7*
27.28
2367/3467F
1.50e8
27.76
1289F
1.64e8
29.45
Abs. Int.
3.77e8
1.88e8
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 5.39e3
0%
2378F
2.07e9*
27.40
1278F
8.65e8
26.48
2348F
1.08e8*
27.28
2367/3467F
1.84e8
27.76
1289F
2.02e8
29.44
Abs. Int.
4.84e8
2.42e8
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 7.36e3
0%
JS 1234F
1.87e7
25.99
ES 2378F
1.38e7
27.38
Abs. Int.
4.00e6
2.00e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.57e3
0%
JS 1234F
2.52e7
25.99
ES 2378F
1.67e7
27.37
Abs. Int.
5.36e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.46e3
0%
not dpe
Abs. Int.
3.04e4
1.52e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: B6291_18925_DF_002MS
Instr: [ILM] AutoSpec-Ultima HRMS3

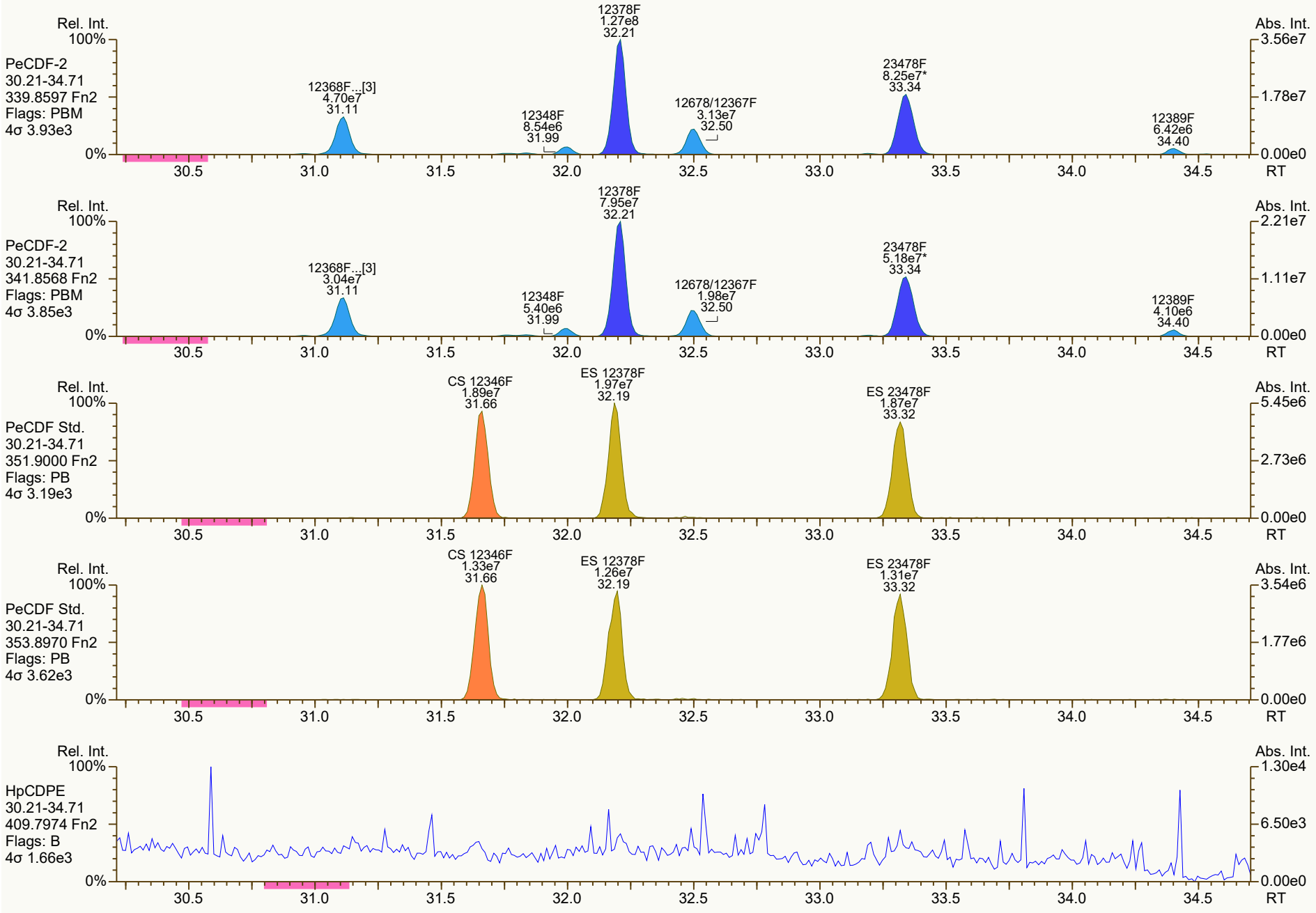
Sample ID: 11215131-020422-S-SB-SW-B-24-MS
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69

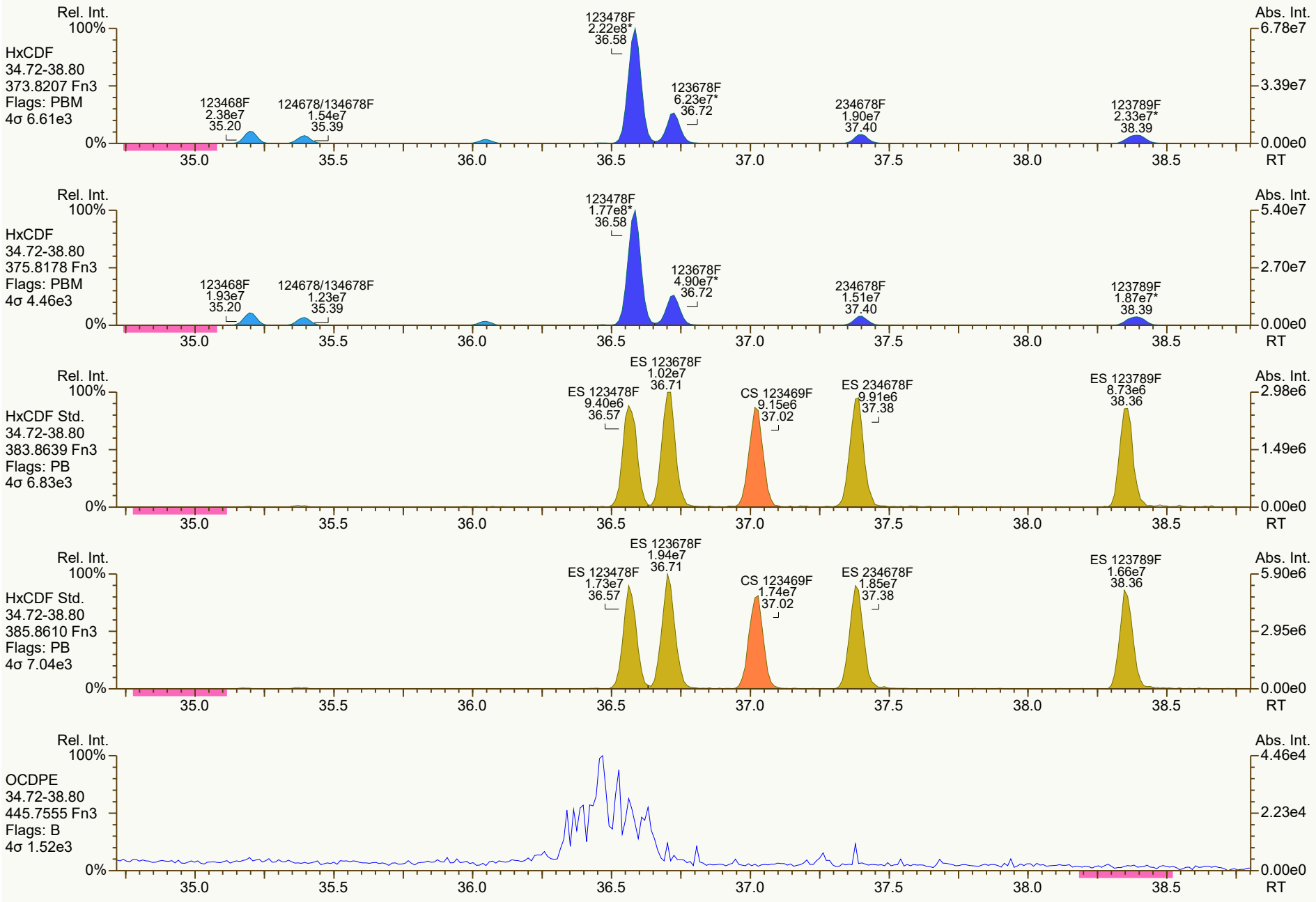
Acq: 22-Feb-2022 09:23:16
User: DTF Datafile: 220221C31

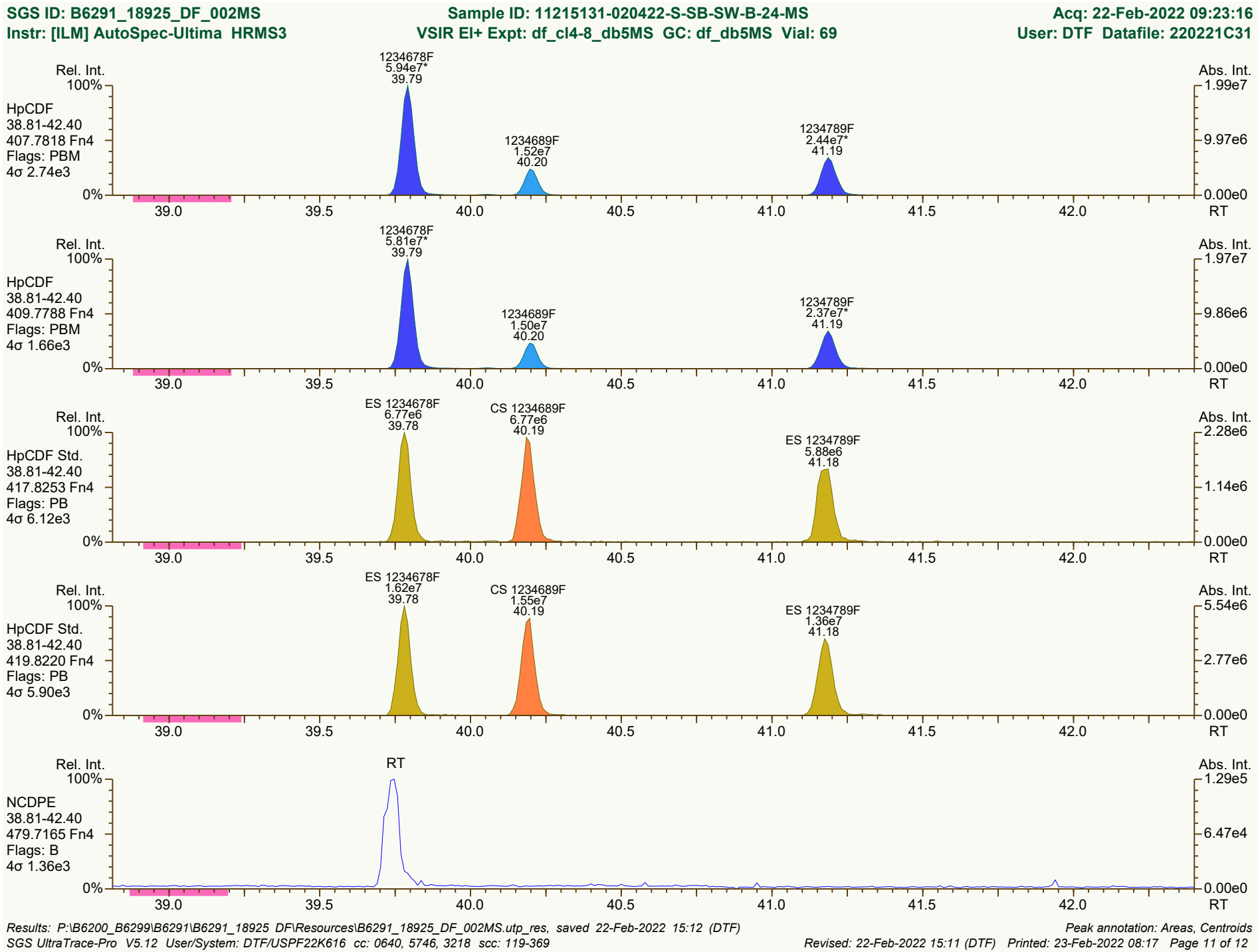


Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_002MS.utp_res, saved 22-Feb-2022 15:12 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0218 scc: 119-369

Peak annotation: Areas, Centroids
PKD: 22-Feb-2022 15:08 Printed: 23-Feb-2022 08:17 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 3.93e3
0%
12368F...[3]
4.70e7
31.11
12348F
8.54e6
31.99
12378F
1.27e8
32.21
12678/12367F
3.13e7
32.50
23478F
8.25e7*
33.34
12389F
6.42e6
34.40
Abs. Int.
3.56e7
1.78e7
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 3.85e3
0%
12368F...[3]
3.04e7
31.11
12348F
5.40e6
31.99
12378F
7.95e7
32.21
12678/12367F
1.98e7
32.50
23478F
5.18e7*
33.34
12389F
4.10e6
34.40
Abs. Int.
2.21e7
1.11e7
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 3.19e3
0%
CS 12346F
1.89e7
31.66
ES 12378F
1.97e7
32.19
ES 23478F
1.87e7
33.32
Abs. Int.
5.45e6
2.73e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 3.62e3
0%
CS 12346F
1.33e7
31.66
ES 12378F
1.26e7
32.19
ES 23478F
1.31e7
33.32
Abs. Int.
3.54e6
1.77e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.66e3
0%
Abs. Int.
1.30e4
6.50e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 6.61e3
123468F
2.38e7
35.20
124678/134678F
1.54e7
35.39
123478F
2.22e8*
36.58
123678F
6.23e7*
36.72
234678F
1.90e7
37.40
123789F
2.33e7*
38.39
Abs. Int.
6.78e7
3.39e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 4.46e3
123468F
1.93e7
35.20
124678/134678F
1.23e7
35.39
123478F
1.77e8*
36.58
123678F
4.90e7*
36.72
234678F
1.51e7
37.40
123789F
1.87e7*
38.39
Abs. Int.
5.40e7
2.70e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 6.83e3
ES 123478F
9.40e6
36.57
ES 123678F
1.02e7
36.71
CS 123469F
9.15e6
37.02
ES 234678F
9.91e6
37.38
ES 123789F
8.73e6
38.36
Abs. Int.
2.98e6
1.49e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 7.04e3
ES 123478F
1.73e7
36.57
ES 123678F
1.94e7
36.71
CS 123469F
1.74e7
37.02
ES 234678F
1.85e7
37.38
ES 123789F
1.66e7
38.36
Abs. Int.
5.90e6
2.95e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.52e3
Abs. Int.
4.46e4
2.23e4
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


SGS ID: B6291_18925_DF_002MS
Sample ID: 11215131-020422-S-SB-SW-B-24-MS
Acq: 22-Feb-2022 09:23:16
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 220221C31
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 2.74e3
1234678F
5.94e7*
39.79
1234689F
1.52e7
40.20
1234789F
2.44e7*
41.19
1.99e7
9.97e6
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 1.66e3
1234678F
5.81e7*
39.79
1234689F
1.50e7
40.20
1234789F
2.37e7*
41.19
1.97e7
9.86e6
0.00e0
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 6.12e3
ES 1234678F
6.77e6
39.78
CS 1234689F
6.77e6
40.19
ES 1234789F
5.88e6
41.18
2.28e6
1.14e6
0.00e0
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 5.90e3
ES 1234678F
1.62e7
39.78
CS 1234689F
1.55e7
40.19
ES 1234789F
1.36e7
41.18
5.54e6
2.77e6
0.00e0
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.36e3
RT
1.29e5
6.47e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
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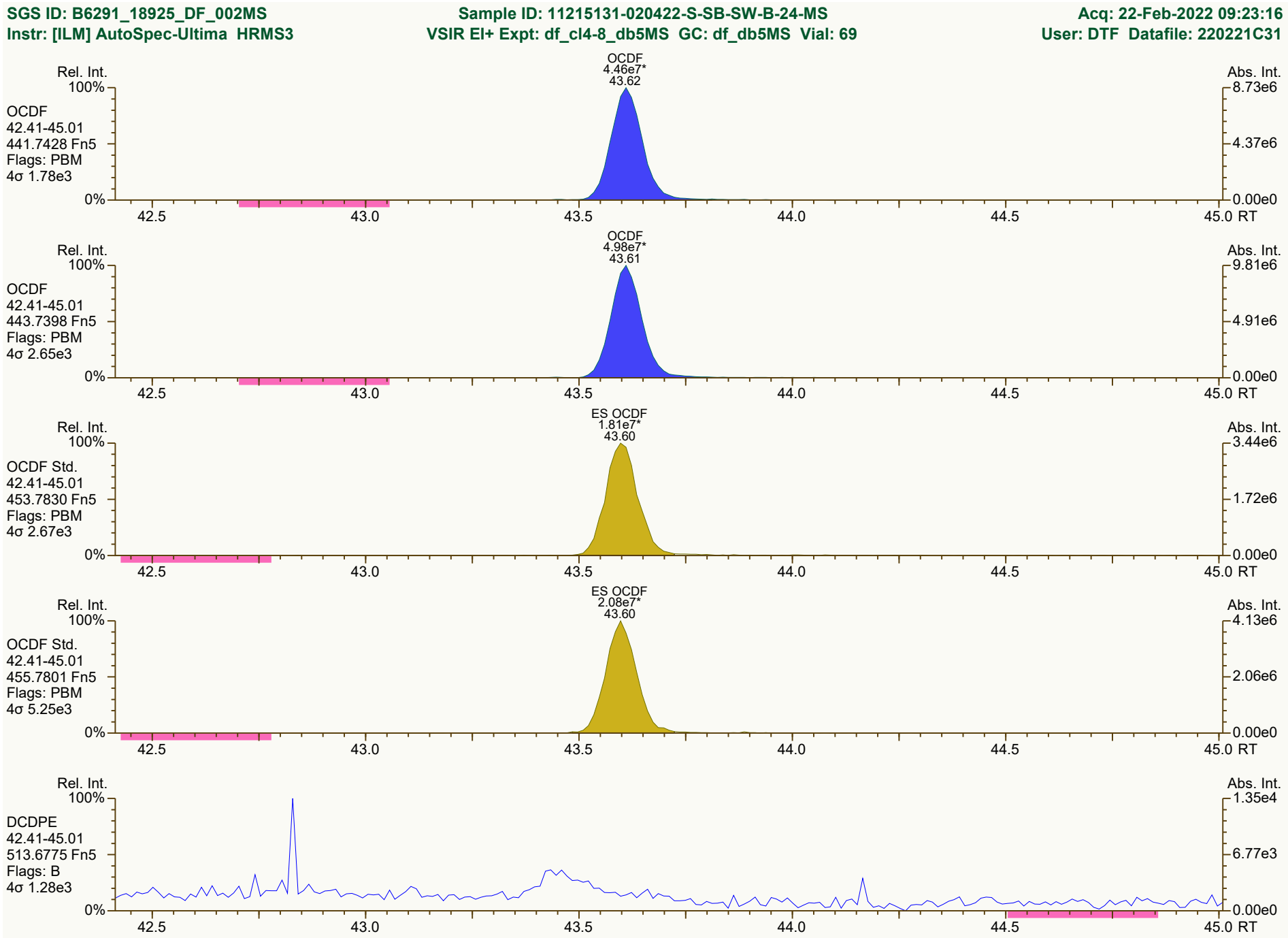
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0640, 5746, 3218 scc: 119-369
Revised: 22-Feb-2022 15:11 (DTF) Printed: 23-Feb-2022 08:17 Page 11 of 12

SGS ID: B6291_18925_DF_002MS
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 11215131-020422-S-SB-SW-B-24-MS
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69

Acq: 22-Feb-2022 09:23:16
User: DTF Datafile: 220221C31



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SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4109, 2241, 8458 scc: 119-369

Peak annotation: Areas, Centroids
Revised: 22-Feb-2022 15:11 (DTF) Printed: 23-Feb-2022 08:17 Page 12 of 12

Lab ID: B6291_18925_DF_002MSD **Acq'd:** 22 Feb 2022 10:09 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020422-S-SB-SW-B-24-MSD **UTP:** 22-Feb-2022 15:18:55 DTF **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 863-560-KFB

Datafile: 220221C32 **Report:** 23 Feb 2022 08:09 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.26	E	1.0008	1.0008	0	1.59E+09	0.79	Y	1.18	10,800	5061.905	0.37
12378-PeCDD	33.66		1.0007	1.0006	-0.2	2.41E+07	1.53	Y	1.04	190	5260.777	0.376
123478-HxCDD	37.58		1.0004	1.0004	0	1.20E+07	1.25	Y	1.09	97.7	8659.663	0.626
123678-HxCDD	37.70		1.0036	1.0036	0	1.42E+07	1.22	Y	1.15	113	8659.663	0.613
123789-HxCDD	38.01		1.0118	1.0118	0	1.31E+07	1.25	Y	1.05	95.4	8659.663	0.518
1234678-HpCDD	40.73		1.0002	1.0003	+0.2	6.21E+07	1.04	Y	1.06	491	5620.819	0.373
OCDD	43.44		1.0003	1.0003	0	5.89E+08	0.90	Y	1.13	6,130	6450.644	0.833
2378-TCDF	27.39	E	1.0008	1.0007	-0.2	4.83E+09	0.78	Y	1.08	27,800	7435.508	0.503
12378-PeCDF	32.21		1.0005	1.0005	0	2.80E+08	1.55	Y	1.02	1,490	12155.438	0.597
23478-PeCDF	33.34		1.0005	1.0008	+0.6	1.90E+08	1.52	Y	1.02	1,020	12155.438	0.703
123478-HxCDF	36.58		1.0004	1.0005	+0.2	4.38E+08	1.23	Y	1.27	2,450	10294.209	0.476
123678-HxCDF	36.72		1.0004	1.0005	+0.2	1.23E+08	1.23	Y	1.15	673	10294.209	0.464
234678-HxCDF	37.40		1.0005	1.0005	0	3.76E+07	1.24	Y	1.19	208	10294.209	0.483
123789-HxCDF	38.39		1.0004	1.0009	+1.2	4.68E+07	1.24	Y	1.16	294	10294.209	0.541
1234678-HpCDF	39.79		1.0003	1.0003	0	1.32E+08	1.02	Y	1.37	748	6186.372	0.268
1234789-HpCDF	41.18		1.0003	1.0003	0	4.87E+07	1.03	Y	1.31	345	6186.372	0.376
OCDF	43.60		1.0002	1.0003	+0.3	1.06E+08	0.87	Y	1.07	918	4273.455	0.469

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.24	1.0243	1.0243	0	2.46E+07	0.80	Y	1.05	74.8
ES 12378-PeCDD	33.64	1.2198	1.2202	+0.8	2.41E+07	1.60	Y	0.88	87.2
ES 123478-HxCDD	37.56	0.9916	0.9915	-0.2	2.22E+07	1.24	Y	0.97	81.9
ES 123678-HxCDD	37.69	0.9947	0.9947	0	2.17E+07	1.32	Y	0.94	82.5
ES 123789-HxCDD	37.99	1.0029	1.0027	-0.5	2.59E+07	1.25	Y	1.09	85.3
ES 1234678-HpCDD	40.72	1.0749	1.0747	-0.5	2.35E+07	1.08	Y	0.91	92.7
ES OCDD	43.42	1.1460	1.1462	+0.5	3.36E+07	0.91	Y	0.62	96.8
ES 2378-TCDF	27.37	1.0531	1.0533	+0.3	3.18E+07	0.85	Y	1.06	61.7
ES 12378-PeCDF	32.19	1.2378	1.2388	+1.9	3.63E+07	1.60	Y	0.91	82.1
ES 23478-PeCDF	33.32	1.2810	1.2822	+2.4	3.60E+07	1.61	Y	0.88	84
ES 123478-HxCDF	36.57	0.9650	0.9652	+0.4	2.78E+07	0.54	Y	1.20	83.3
ES 123678-HxCDF	36.70	0.9688	0.9688	0	3.13E+07	0.53	Y	1.35	83.1
ES 234678-HxCDF	37.38	0.9866	0.9866	0	3.00E+07	0.55	Y	1.24	86.8
ES 123789-HxCDF	38.35	1.0125	1.0123	-0.5	2.70E+07	0.53	Y	1.16	83.9
ES 1234678-HpCDF	39.78	1.0501	1.0499	-0.5	2.54E+07	0.46	Y	0.97	94.2
ES 1234789-HpCDF	41.17	1.0870	1.0868	-0.5	2.13E+07	0.47	Y	0.85	89.8
ES OCDF	43.59	1.1505	1.1506	+0.3	4.27E+07	0.91	Y	0.81	94.9

Lab ID: B6291_18925_DF_002MSD | **Acq'd:** 22 Feb 2022 10:09 DTF | **Wt/Vol:** 10.14 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020422-S-SB-SW-B-24-MSD | **UTP:** 22-Feb-2022 15:18:55 DTF | **J-level:** 0.493 pg/g | **Split:** 1 | **Checkcode:** 863-560-KFB

Datafile: 220221C32 | **Report:** 23 Feb 2022 08:09 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.57		-	-	-	3.14E+07	0.82	Y	-	-
JS 1234-TCDF	25.98		-	-	-	4.86E+07	0.83	Y	-	-
JS 123467-HxCDD	37.89		-	-	-	1.39E+07	1.26	Y	-	-
CS 37Cl-2378-TCDD	28.26		1.0251	1.0251	0	1.05E+07	n/a	-	1.20	69.7
CS 12347-PeCDD	33.14		1.2016	1.2020	+0.8	2.21E+07	1.64	Y	0.75	93.2
CS 12346-PeCDF	31.66		1.2172	1.2184	+2.3	3.65E+07	1.57	Y	0.85	88.2
CS 123469-HxCDF	37.02		0.9771	0.9771	0	2.96E+07	0.53	Y	1.12	95.2
CS 1234689-HpCDF	40.18		1.0608	1.0606	-0.5	2.43E+07	0.47	Y	0.89	98.2
SS 37Cl-2378-TCDD	28.26		1.0251	1.0251	0	1.05E+07	n/a	-	1.15	93.5
SS 12347-PeCDD	33.14		1.2016	1.2020	+0.8	2.21E+07	1.64	Y	0.86	107
SS 12346-PeCDF	31.66		1.2172	1.2184	+2.3	3.65E+07	1.57	Y	0.94	107
SS 123469-HxCDF	37.02		0.9771	0.9771	0	2.96E+07	0.53	Y	0.83	114
SS 1234689-HpCDF	40.18		1.0608	1.0606	-0.5	2.43E+07	0.47	Y	0.92	104

Totals	Conc	EMPC
Total TCDD	12100	12100
Total PeCDD	266	272
Total HxCDD	410	412
Total HpCDD	890	890
Total Tetra-Octa Dioxins	19800	19800
Total TCDF	48,300	48300
Total PeCDF	3,930	3930
Total HxCDF	4,160	4160
Total HpCDF	1,300	1310
Total Tetra-Octa Furans	58,600	58600
Total Tetra-Octa Dioxins & Furans	78400	78500

Lab ID: B6291_18925_DF_002MSD | **Acq'd: 22 Feb 2022 10:09 DTF** | **Wt/Vol: 10.14 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020422-S-SB-SW-B-24-MSD | **UTP: 22-Feb-2022 15:18:55 DTF** | **J-level: 0.493 pg/g** | **Split: 1** | **Checkcode: 863-560-KFB**

Datafile: 220221C32 | **Report: 23 Feb 2022 08:09 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.57		0.8701	0.8701	0	1.09E+06	0.86	Y	1.18	7.41	5061.905	0.37
1379-TCDD	24.93		0.8829	0.8826	-0.4	4.43E+05	0.81	Y	1.18	3	5061.905	0.37
1369-TCDD	NotFnd		0.8982						1.18		5061.905	0.37
1469-TCDD	26.15		0.9261	0.9260	-0.2	5.21E+05	0.85	Y	1.18	3.53	5061.905	0.37
1247/1246/1248/1249-TCDD	26.39		0.9348	0.9343	-0.8	1.36E+06	0.88	Y	1.18	9.21	5061.905	0.37
1378-TCDD	26.58		0.9417	0.9412	-0.8	3.49E+06	0.82	Y	1.18	23.7	5061.905	0.37
1268-TCDD	26.78		0.9487	0.9483	-0.6	3.08E+05	0.85	Y	1.18	2.09	5061.905	0.37
1478-TCDD	27.04		0.9576	0.9575	-0.2	1.71E+06	0.78	Y	1.18	11.6	5061.905	0.37
1279-TCDD	NotFnd		0.9636						1.18		5061.905	0.37
1234/1269-TCDD	27.56	EMPC	0.9761	0.9760	-0.2	4.64E+05	0.93	N	1.18	3.15	5061.905	0.37
1236-TCDD	27.72	EMPC	0.9812	0.9817	+0.8	2.80E+05	0.91	N	1.18	1.9	5061.905	0.37
1237/1238-TCDD	27.97		0.9905	0.9904	-0.2	2.39E+07	0.80	Y	1.18	162	5061.905	0.37
1239-TCDD	28.11		0.9951	0.9953	+0.3	2.91E+06	0.78	Y	1.18	19.7	5061.905	0.37
2378-TCDD	**28.26**	E	**1.0008**	1.0008	**0**	1.59E+09	0.79	Y	**1.18**	**10,800**	**5061.905**	**0.37**
1278-TCDD	28.60	E	1.0124	1.0128	+0.7	1.51E+08	0.80	Y	1.18	1,020	5061.905	0.37
1267-TCDD	28.75		1.0172	1.0179	+1.2	3.57E+06	0.80	Y	1.18	24.2	5061.905	0.37
1289-TCDD	29.26		1.0354	1.0363	+1.6	6.30E+06	0.81	Y	1.18	42.7	5061.905	0.37
12479/12468-PeCDD	31.15		0.9255	0.9260	+0.9	3.31E+06	1.53	Y	1.04	26.2	5260.777	0.376
12469-PeCDD	31.69		0.9416	0.9418	+0.4	3.81E+05	1.40	Y	1.04	3.02	5260.777	0.376
12368-PeCDD	32.23		0.9582	0.9581	-0.2	1.14E+06	1.51	Y	1.04	9.04	5260.777	0.376
12478-PeCDD	32.43		0.9637	0.9639	+0.4	7.55E+05	1.52	Y	1.04	5.97	5260.777	0.376
12379-PeCDD	32.53		0.9668	0.9670	+0.4	4.34E+05	1.67	Y	1.04	3.43	5260.777	0.376
12369/12467/12489-PeCDD	32.79	J EMPC	0.9746	0.9748	+0.4	2.57E+05	1.21	N	1.04	2.03	5260.777	0.376
12346/12347-PeCDD	33.17		0.9858	0.9859	+0.2	3.87E+05	1.62	Y	1.04	3.06	5260.777	0.376
12378-PeCDD	33.66		**1.0007**	**1.0006**	**-0.2**	**2.41E+07**	**1.53**	**Y**	**1.04**	**190**	**5260.777**	**0.376**
12367-PeCDD	33.77	EMPC	1.0036	1.0036	0	4.49E+05	1.93	N	1.04	3.55	5260.777	0.376
12389-PeCDD	34.11		1.0137	1.0138	+0.2	3.19E+06	1.55	Y	1.04	25.2	5260.777	0.376
124679/124689-HxCDD	35.84		0.9540	0.9542	+0.4	8.30E+06	1.25	Y	1.10	64.3	8659.663	0.582
123468-HxCDD	36.50		0.9715	0.9716	+0.2	5.26E+05	1.08	Y	1.10	4.07	8659.663	0.582
123679/123689-HxCDD	36.79		0.9793	0.9794	+0.2	4.44E+06	1.22	Y	1.10	34.4	8659.663	0.582
123469-HxCDD	36.93	J EMPC	0.9829	0.9830	+0.2	1.78E+05	0.97	N	1.10	1.38	8659.663	0.582
123478-HxCDD	37.58		**1.0004**	**1.0004**	**0**	**1.20E+07**	**1.25**	**Y**	1.09	**97.7**	**8659.663**	**0.626**
123678-HxCDD	37.70		**1.0036**	**1.0036**	**0**	**1.42E+07**	**1.22**	**Y**	1.15	**113**	**8659.663**	**0.613**
123467-HxCDD	37.88	J	1.0089	1.0084	-1.1	2.36E+05	1.24	Y	1.10	1.83	8659.663	0.582
123789-HxCDD	38.01		**1.0118**	**1.0118**	**0**	**1.31E+07**	**1.25**	**Y**	1.05	**95.4**	**8659.663**	**0.518**

Lab ID: B6291_18925_DF_002MSD **Acq'd:** 22 Feb 2022 10:09 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020422-S-SB-SW-B-24-MSD **UTP:** 22-Feb-2022 15:18:55 DTF **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 863-560-KFB

Datafile: 220221C32 **Report:** 23 Feb 2022 08:09 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

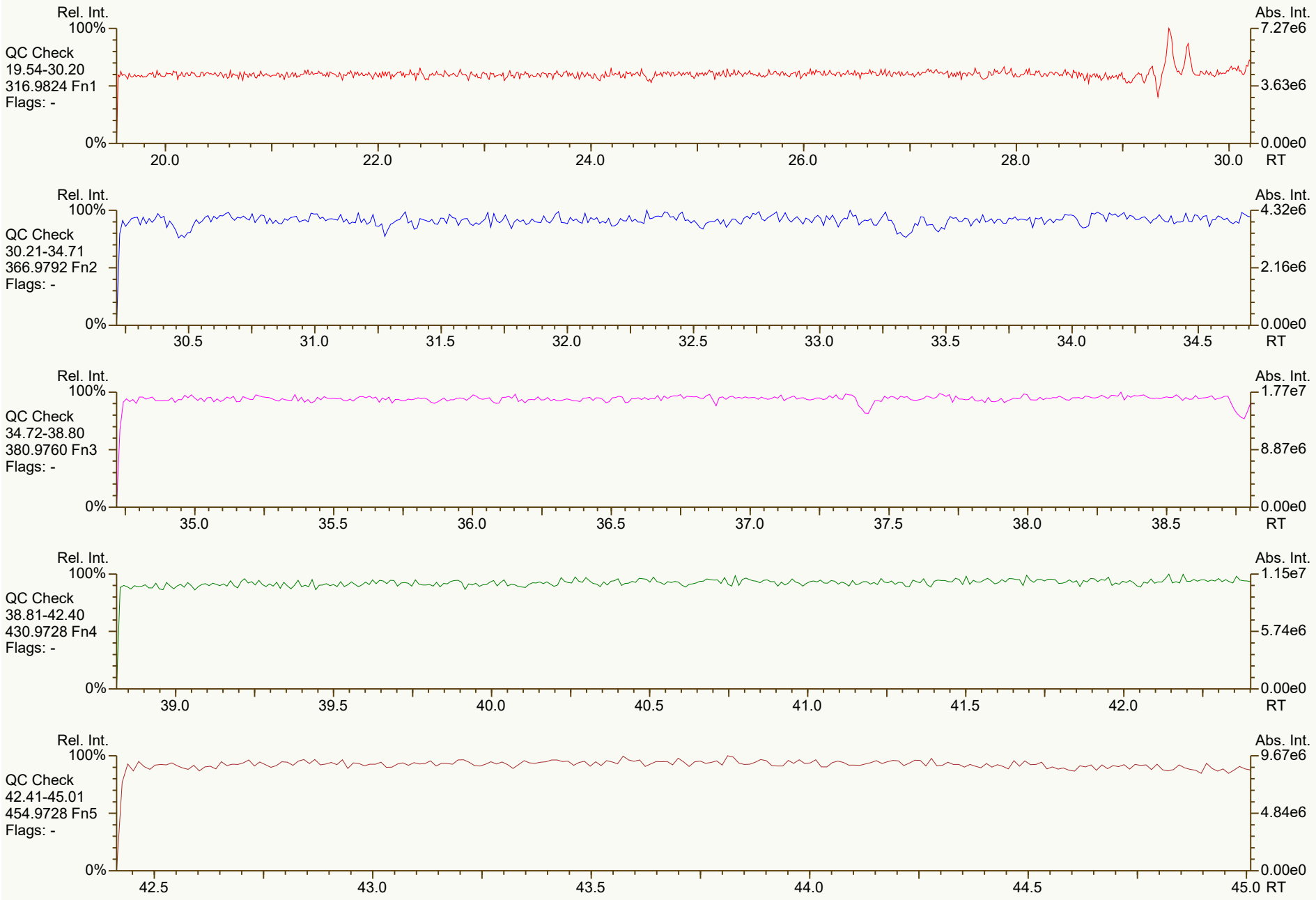
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.05		0.9836	0.9837	+0.2	5.05E+07	1.04	Y	1.06	400	5620.819	0.373
1234678-HpCDD	**40.73**		**1.0002**	**1.0003**	**+0.2**	**6.21E+07**	**1.04**	**Y**	**1.06**	**491**	**5620.819**	**0.373**
OCDD	**43.44**		**1.0003**	**1.0003**	**0**	**5.89E+08**	**0.90**	**Y**	**1.13**	**6,130**	**6450.644**	**0.833**
OCDD-a	43.43		1.0002	1.0002	0	3.62E+07	2.35	Y	0.07	5,900	4708.679	9.51
1368-TCDF	22.40		0.8191	0.8182	-1.2	1.00E+06	0.76	Y	1.08	5.77	7435.508	0.503
1468-TCDF	23.00		0.8408	0.8402	-0.8	2.35E+06	0.75	Y	1.08	13.5	7435.508	0.503
2468-TCDF	23.65		0.8645	0.8641	-0.6	4.65E+06	0.79	Y	1.08	26.8	7435.508	0.503
1346/1246-TCDF	NotFnd		0.8772						1.08		7435.508	0.503
1347/1378/1247-TCDF	24.16		0.8833	0.8826	-1.0	1.19E+07	0.80	Y	1.08	68.3	7435.508	0.503
1348-TCDF	24.43		0.8932	0.8926	-0.9	3.41E+06	0.80	Y	1.08	19.6	7435.508	0.503
1248/1367/1379-TCDF	24.55		0.8980	0.8968	-1.8	2.28E+07	0.78	Y	1.08	131	7435.508	0.503
1268-TCDF	24.96		0.9119	0.9119	0	1.15E+07	0.79	Y	1.08	66.4	7435.508	0.503
1467-TCDF	25.09		0.9170	0.9166	-0.6	8.44E+06	0.79	Y	1.08	48.6	7435.508	0.503
1478-TCDF	25.26		0.9234	0.9230	-0.6	2.83E+07	0.77	Y	1.08	163	7435.508	0.503
1369/1237-TCDF	25.65		0.9369	0.9371	+0.3	1.77E+07	0.79	Y	1.08	102	7435.508	0.503
2467-TCDF	25.77		0.9415	0.9415	0	6.74E+06	0.82	Y	1.08	38.8	7435.508	0.503
2368-TCDF	25.92		0.9475	0.9470	-0.8	5.84E+07	0.76	Y	1.08	336	7435.508	0.503
1238/1234/1678/1469/1236-TCDF	26.00		0.9507	0.9498	-1.4	1.49E+08	0.79	Y	1.08	860	7435.508	0.503
1278-TCDF	26.48	E	0.9676	0.9673	-0.5	1.91E+09	0.78	Y	1.08	11,000	7435.508	0.503
1349-TCDF	NotFnd		0.9722						1.08		7435.508	0.503
1267-TCDF	26.75		0.9777	0.9774	-0.5	3.63E+07	0.78	Y	1.08	209	7435.508	0.503
2346/1249-TCDF	26.94		0.9843	0.9842	-0.2	1.16E+07	0.78	Y	1.08	66.6	7435.508	0.503
2347/1279-TCDF	27.16		0.9926	0.9923	-0.5	7.31E+07	0.78	Y	1.08	421	7435.508	0.503
2348-TCDF	27.27	E	0.9968	0.9963	-0.8	2.07E+08	0.77	Y	1.08	1,190	7435.508	0.503
2378-TCDF	**27.39**	E	**1.0008**	**1.0007**	**-0.2**	**4.83E+09**	**0.78**	**Y**	**1.08**	**27,800**	**7435.508**	**0.503**
2367/3467-TCDF	27.75	E	1.0142	1.0139	-0.5	4.61E+08	0.78	Y	1.08	2,660	7435.508	0.503
1269-TCDF	28.00		1.0235	1.0231	-0.7	2.01E+07	0.78	Y	1.08	116	7435.508	0.503
1239-TCDF	28.26		1.0329	1.0326	-0.5	5.26E+06	0.77	Y	1.08	30.3	7435.508	0.503
1289-TCDF	29.44	E	1.0742	1.0757	+2.6	5.06E+08	0.77	Y	1.08	2,910	7435.508	0.503
13468/12468-PeCDF	29.37		0.9122	0.9124	+0.4	3.12E+07	1.55	Y	1.02	166	3758.855	0.201
13678/13467/12467-PeCDF	30.95		0.9606	0.9614	+1.5	2.64E+06	1.53	Y	1.02	14.1	12155.438	0.65
12368/13478/12478-PeCDF	31.11		0.9655	0.9664	+1.7	1.10E+08	1.53	Y	1.02	590	12155.438	0.65
14678-PeCDF	NotFnd		0.9685						1.02		12155.438	0.65
13479-PeCDF	NotFnd		0.9716						1.02		12155.438	0.65
13469/12479-PeCDF	NotFnd		0.9794						1.02		12155.438	0.65
12346-PeCDF	NotFnd		0.9836						1.02		12155.438	0.65

Lab ID: B6291_18925_DF_002MSD | **Acq'd: 22 Feb 2022 10:09 DTF** | **Wt/Vol: 10.14 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020422-S-SB-SW-B-24-MSD | **UTP: 22-Feb-2022 15:18:55 DTF** | **J-level: 0.493 pg/g** | **Split: 1** | **Checkcode: 863-560-KFB**

Datafile: 220221C32 | **Report: 23 Feb 2022 08:09 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.75		0.9866	0.9863	-0.6	3.70E+06	1.45	Y	1.02	19.7	12155.438	0.65
12347-PeCDF	31.83		0.9891	0.9890	-0.2	4.25E+06	1.55	Y	1.02	22.7	12155.438	0.65
12348-PeCDF	32.00		0.9938	0.9940	+0.4	2.19E+07	1.53	Y	1.02	117	12155.438	0.65
12378-PeCDF	**32.21**		**1.0005**	**1.0005**	**0**	**2.80E+08**	**1.55**	**Y**	**1.02**	**1,490**	**12155.438**	**0.597**
12678/12367-PeCDF	32.50		1.0091	1.0096	+1.0	7.50E+07	1.52	Y	1.02	400	12155.438	0.65
12379-PeCDF	NotFnd		1.0144						1.02		12155.438	0.65
12679-PeCDF	33.06		0.9927	0.9923	-0.8	6.08E+05	1.45	Y	1.02	3.25	12155.438	0.65
23467/12369-PeCDF	33.19		0.9965	0.9963	-0.4	2.79E+06	1.52	Y	1.02	14.9	12155.438	0.65
23478-PeCDF	**33.34**		**1.0005**	**1.0008**	**+0.6**	**1.90E+08**	**1.52**	**Y**	**1.02**	**1,020**	**12155.438**	**0.703**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		12155.438	0.65
12349-PeCDF	NotFnd		1.0101						1.02		12155.438	0.65
12389-PeCDF	34.40		1.0330	1.0325	-1.0	1.47E+07	1.52	Y	1.02	78.7	12155.438	0.65
123468-HxCDF	35.20		0.9622	0.9627	+1.1	4.41E+07	1.23	Y	1.19	251	10294.209	0.489
124678/134678-HxCDF	35.39		0.9678	0.9680	+0.4	3.27E+07	1.26	Y	1.19	186	10294.209	0.489
134679-HxCDF	NotFnd		0.9741						1.19		10294.209	0.489
124679-HxCDF	35.82	J	0.9795	0.9796	+0.2	3.45E+05	1.33	Y	1.19	1.97	10294.209	0.489
124689-HxCDF	36.05		0.9856	0.9858	+0.4	1.53E+07	1.24	Y	1.19	86.9	10294.209	0.489
123467-HxCDF	36.45		0.9972	0.9969	-0.7	2.19E+06	1.32	Y	1.19	12.5	10294.209	0.489
123478-HxCDF	**36.58**		**1.0004**	**1.0005**	**+0.2**	**4.38E+08**	**1.23**	**Y**	**1.27**	**2,450**	**10294.209**	**0.476**
123678-HxCDF	**36.72**		**1.0004**	**1.0005**	**+0.2**	**1.23E+08**	**1.23**	**Y**	**1.15**	**673**	**10294.209**	**0.464**
123479-HxCDF	NotFnd		1.0048						1.19		10294.209	0.489
123469-HxCDF	NotFnd		1.0089						1.19		10294.209	0.489
123679-HxCDF	NotFnd		0.9942						1.19		10294.209	0.489
234678-HxCDF	**37.40**		**1.0005**	**1.0005**	**0**	**3.76E+07**	**1.24**	**Y**	**1.19**	**208**	**10294.209**	**0.483**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		10294.209	0.489
123789-HxCDF	**38.39**		**1.0004**	**1.0009**	**+1.2**	**4.68E+07**	**1.24**	**Y**	**1.16**	**294**	**10294.209**	**0.541**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		10294.209	0.489
1234678-HpCDF	**39.79**		**1.0003**	**1.0003**	**0**	**1.32E+08**	**1.02**	**Y**	**1.37**	**748**	**6186.372**	**0.268**
1234679-HpCDF	40.05	**EMPC**	1.0068	1.0068	0	1.40E+06	1.25	N	1.34	8.86	6186.372	0.316
1234689-HpCDF	40.19		1.0104	1.0105	+0.2	3.23E+07	1.04	Y	1.34	204	6186.372	0.316
1234789-HpCDF	**41.18**		**1.0003**	**1.0003**	**0**	**4.87E+07**	**1.03**	**Y**	**1.31**	**345**	**6186.372**	**0.376**
OCDF	**43.60**		**1.0002**	**1.0003**	**+0.3**	**1.06E+08**	**0.87**	**Y**	**1.07**	**918**	**4273.455**	**0.469**
OCDF-a	43.60		1.0001	1.0002	+0.3	6.92E+06	2.38	Y	0.07	963	4228.302	7.49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316.9824 Fn1
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24.0
26.0
28.0
30.0
RT
Abs. Int.
7.27e6
3.63e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.32e6
2.16e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.77e7
8.87e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.15e7
5.74e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
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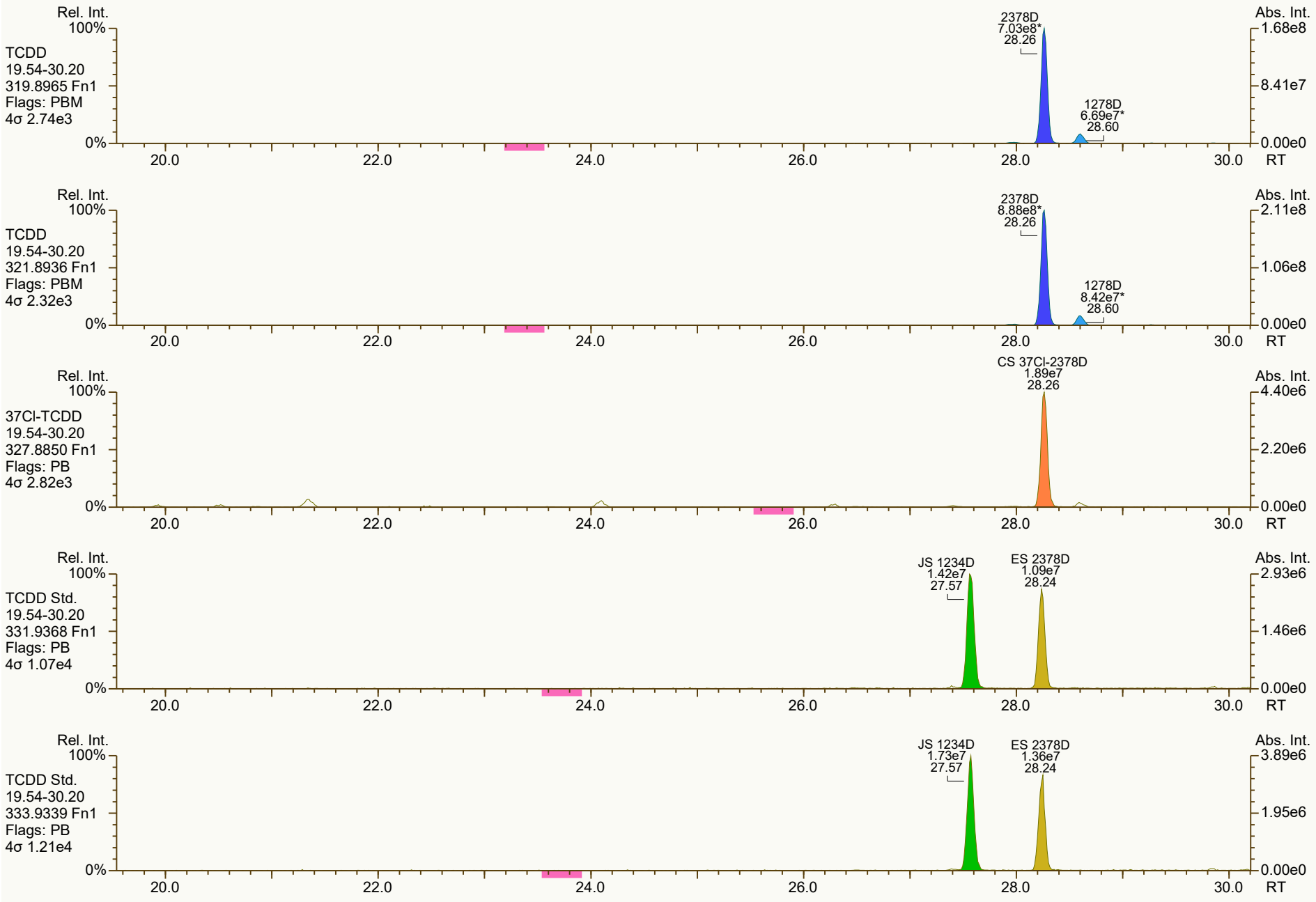
4.84e6
0.00e0


Rel. Int.
100%
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19.54-30.20
319.8965 Fn1
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4σ 2.74e3
0%
2378D
7.03e8*
28.26
1278D
6.69e7*
28.60
Abs. Int.
1.68e8
8.41e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.32e3
0%
2378D
8.88e8*
28.26
1278D
8.42e7*
28.60
Abs. Int.
2.11e8
1.06e8
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.82e3
0%
CS 37Cl-2378D
1.89e7
28.26
Abs. Int.
4.40e6
2.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 1.07e4
0%
JS 1234D
1.42e7
27.57
ES 2378D
1.09e7
28.24
Abs. Int.
2.93e6
1.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 1.21e4
0%
JS 1234D
1.73e7
27.57
ES 2378D
1.36e7
28.24
Abs. Int.
3.89e6
1.95e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 2.93e3
12479/12468D
2.00e6*
31.15
12368D
6.88e5*
32.23
12378D
1.46e7*
33.66
12389D
1.94e6*
34.11
Abs. Int.
3.99e6
1.99e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 2.33e3
12479/12468D
1.31e6*
31.15
12378D
9.51e6*
33.66
12389D
1.25e6*
34.10
Abs. Int.
2.68e6
1.34e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 3.37e3
CS 12347D
1.37e7
33.14
ES 12378D
1.48e7
33.64
Abs. Int.
4.10e6
2.05e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 5.64e3
CS 12347D
8.36e6
33.14
ES 12378D
9.27e6
33.64
Abs. Int.
2.54e6
1.27e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Abs. Int.
4.32e6
2.16e6
0.00e0
0%
30.5
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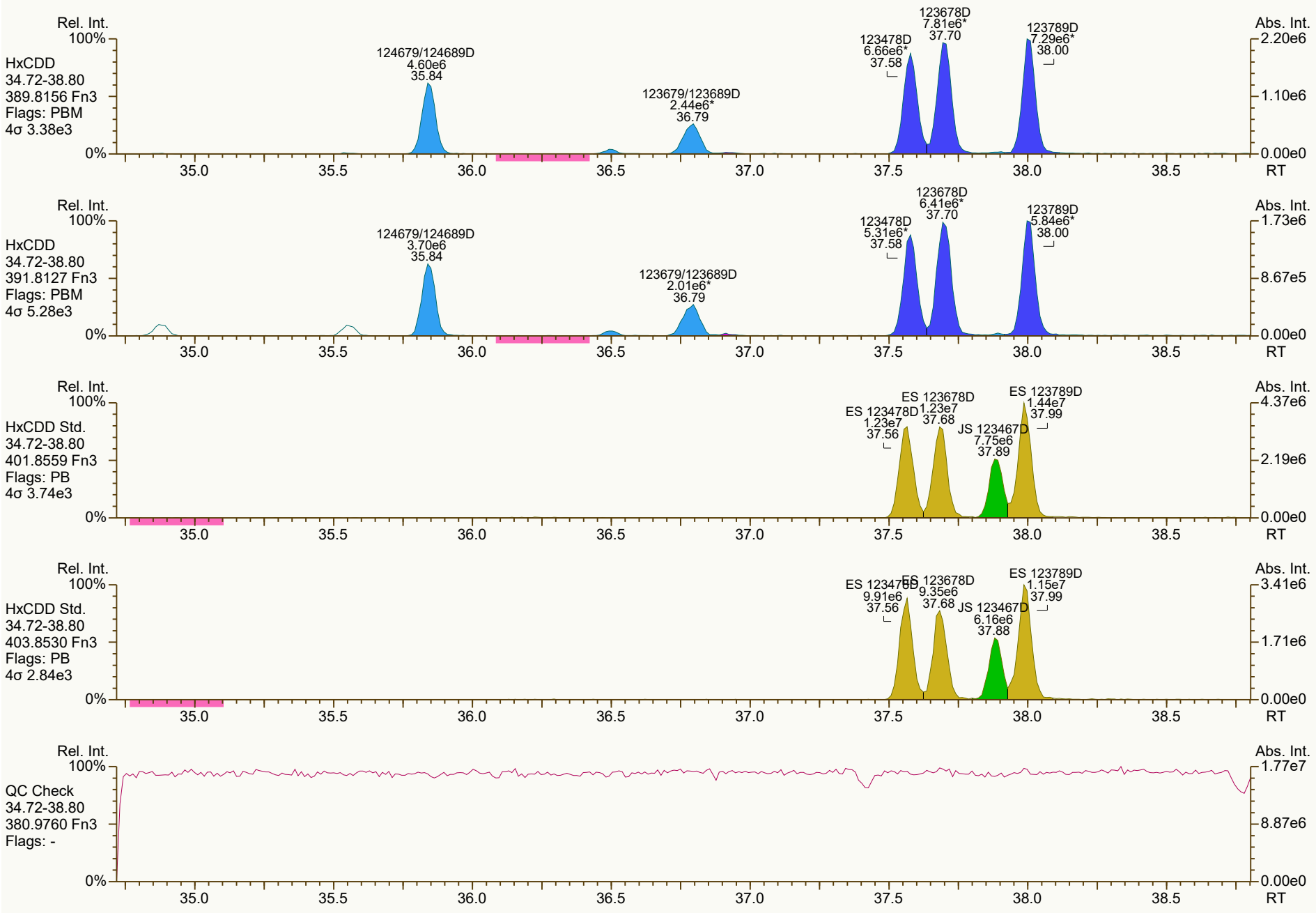
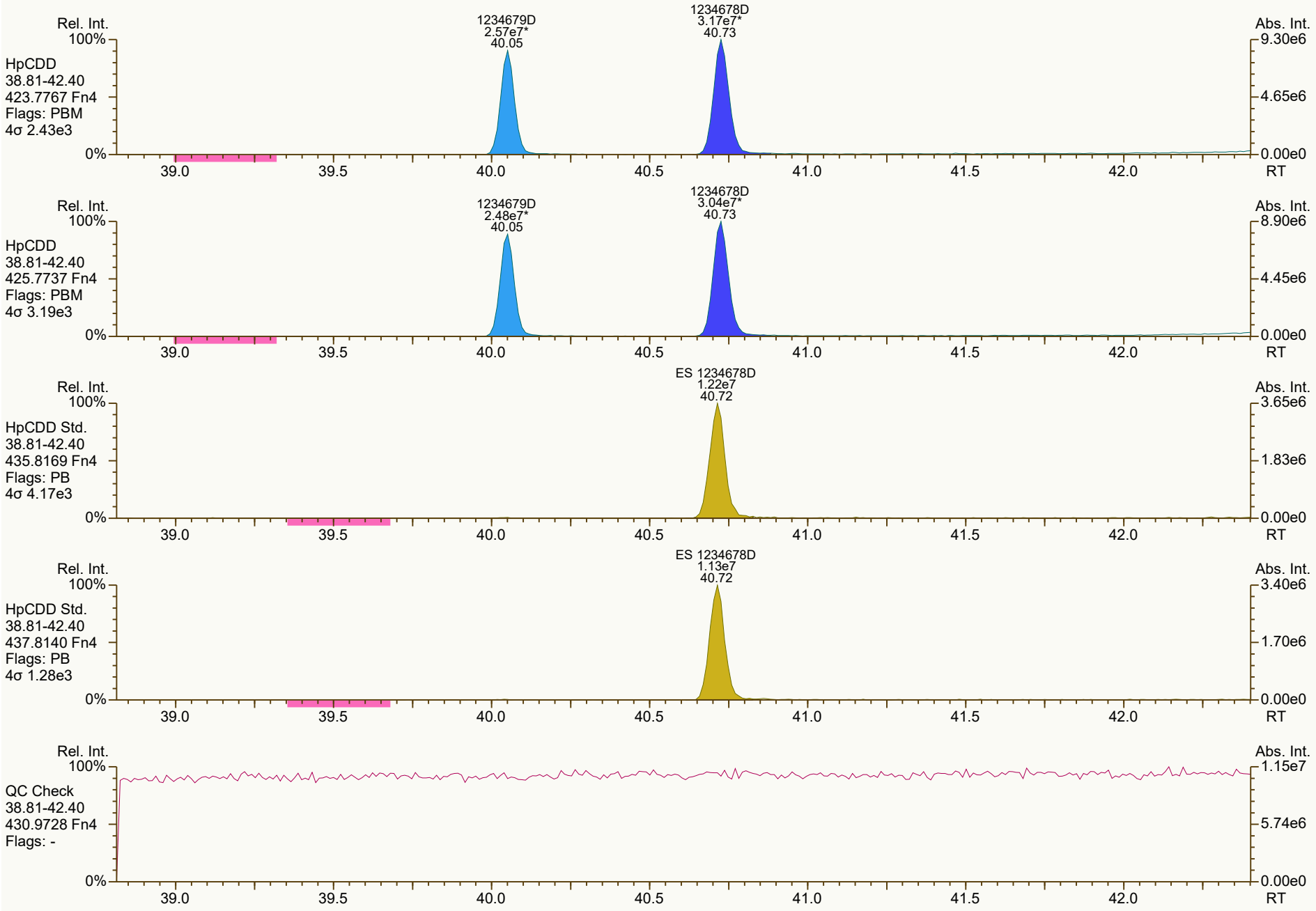
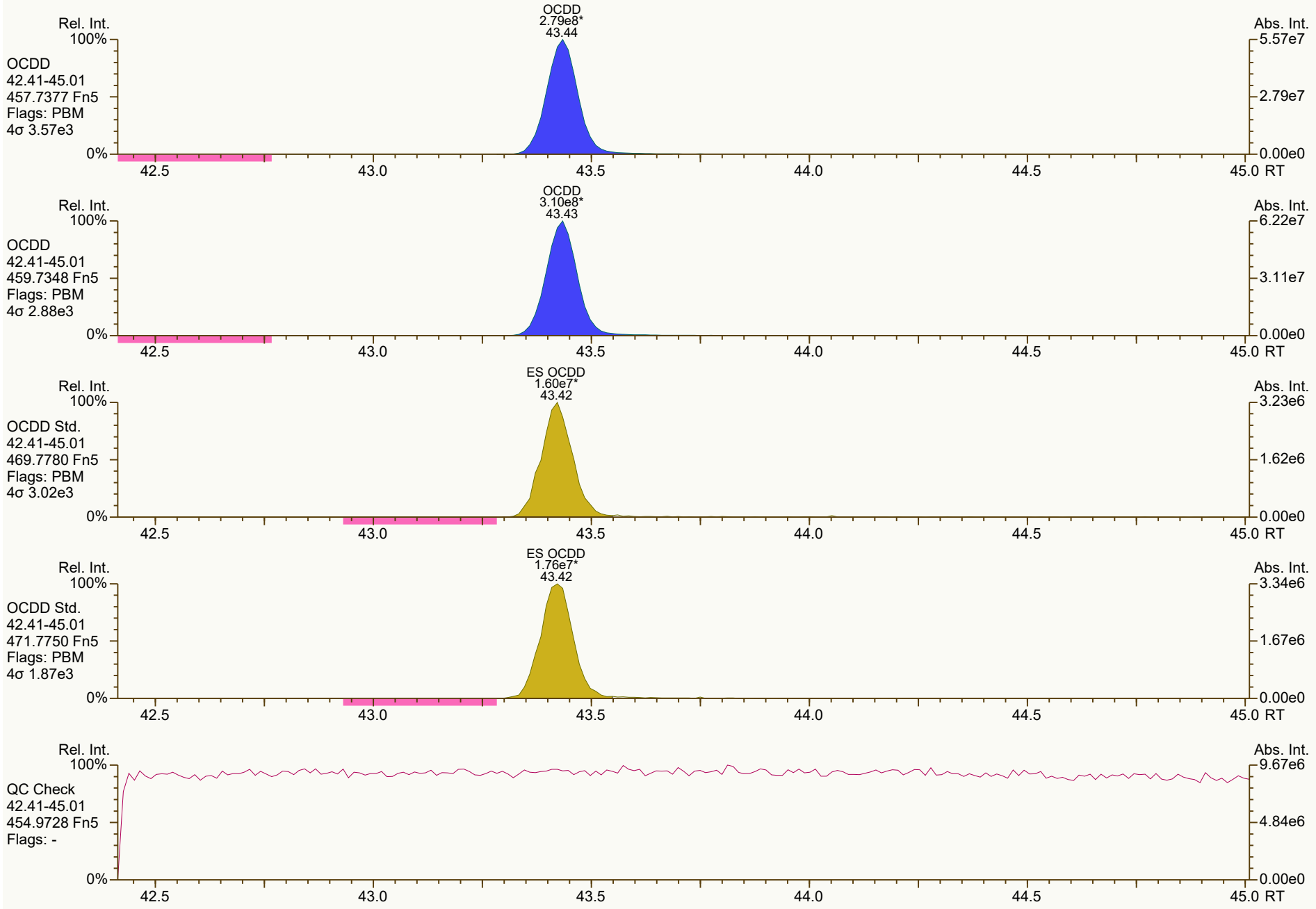
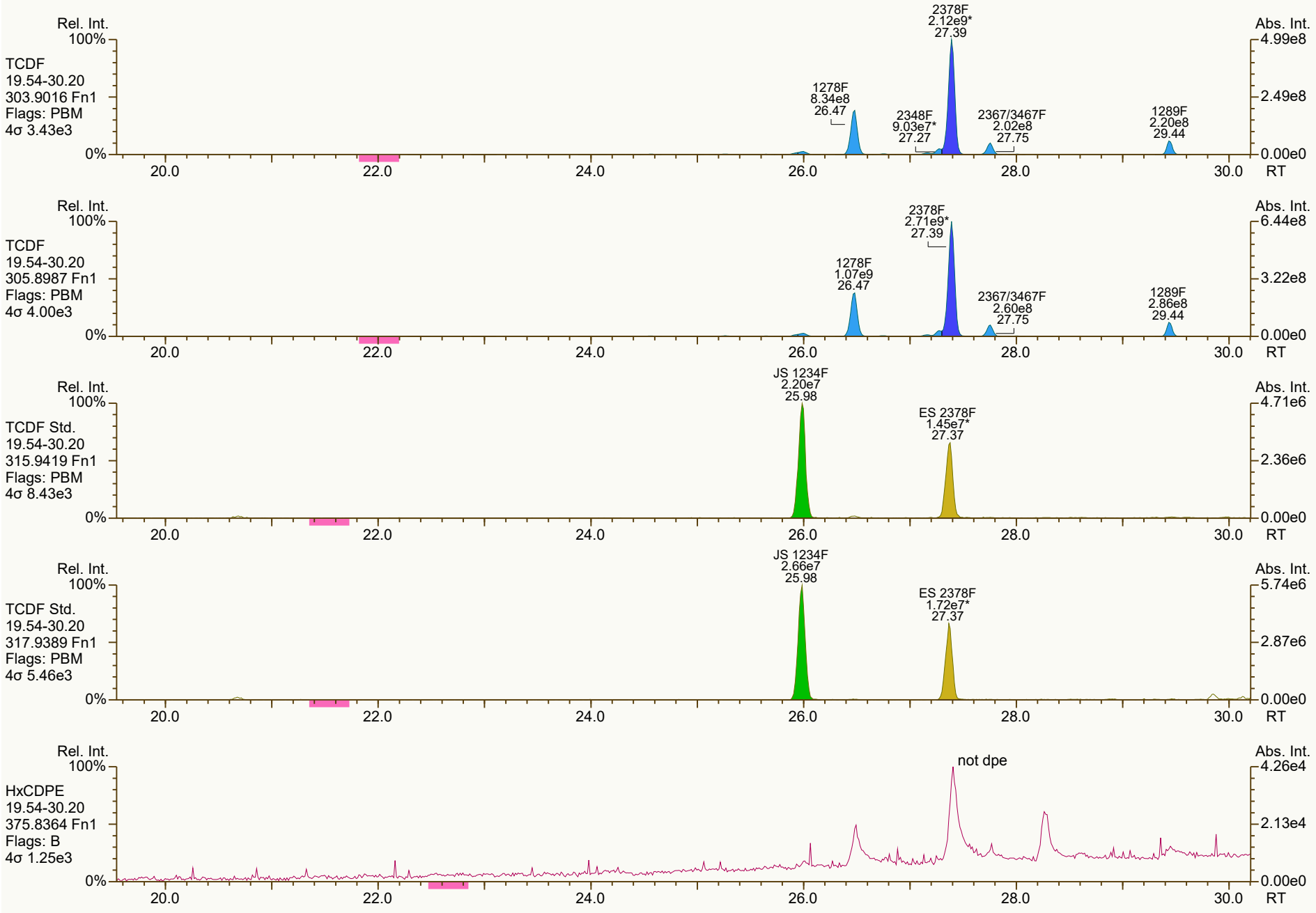
33.5
34.0
34.5
RT

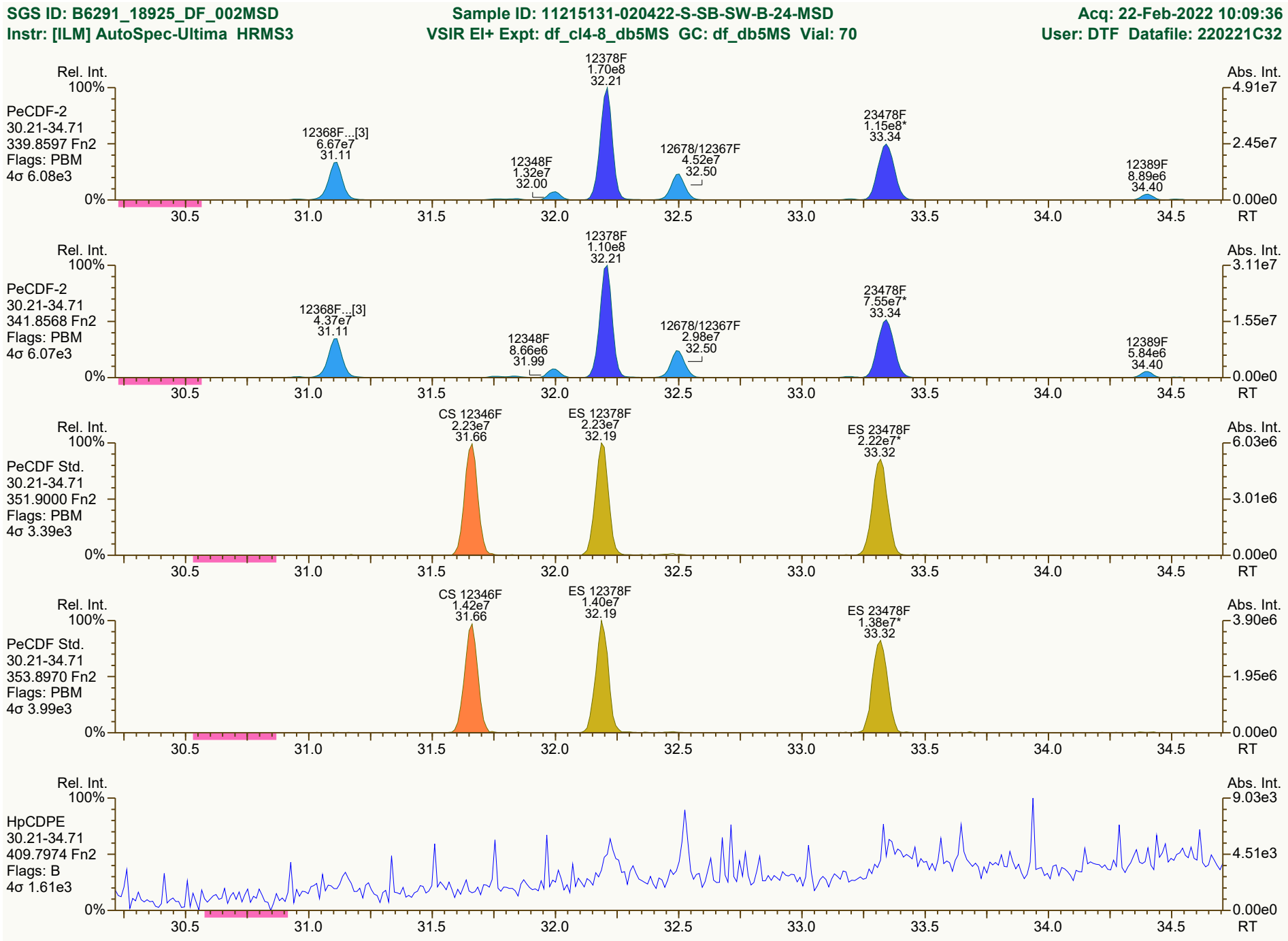

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 3.38e3
124679/124689D
4.60e6
35.84
123679/123689D
2.44e6*
36.79
123478D
6.66e6*
37.58
123678D
7.81e6*
37.70
123789D
7.29e6*
38.00
Abs. Int.
2.20e6
1.10e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 5.28e3
124679/124689D
3.70e6
35.84
123679/123689D
2.01e6*
36.79
123478D
5.31e6*
37.58
123678D
6.41e6*
37.70
123789D
5.84e6*
38.00
Abs. Int.
1.73e6
8.67e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 3.74e3
ES 123478D
1.23e7
37.56
ES 123678D
1.23e7
37.68
JS 123467D
7.75e6
37.89
ES 123789D
1.44e7
37.99
Abs. Int.
4.37e6
2.19e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 2.84e3
ES 123478D
9.91e6
37.56
ES 123678D
9.35e6
37.68
JS 123467D
6.16e6
37.88
ES 123789D
1.15e7
37.99
Abs. Int.
3.41e6
1.71e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
1.77e7
8.87e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

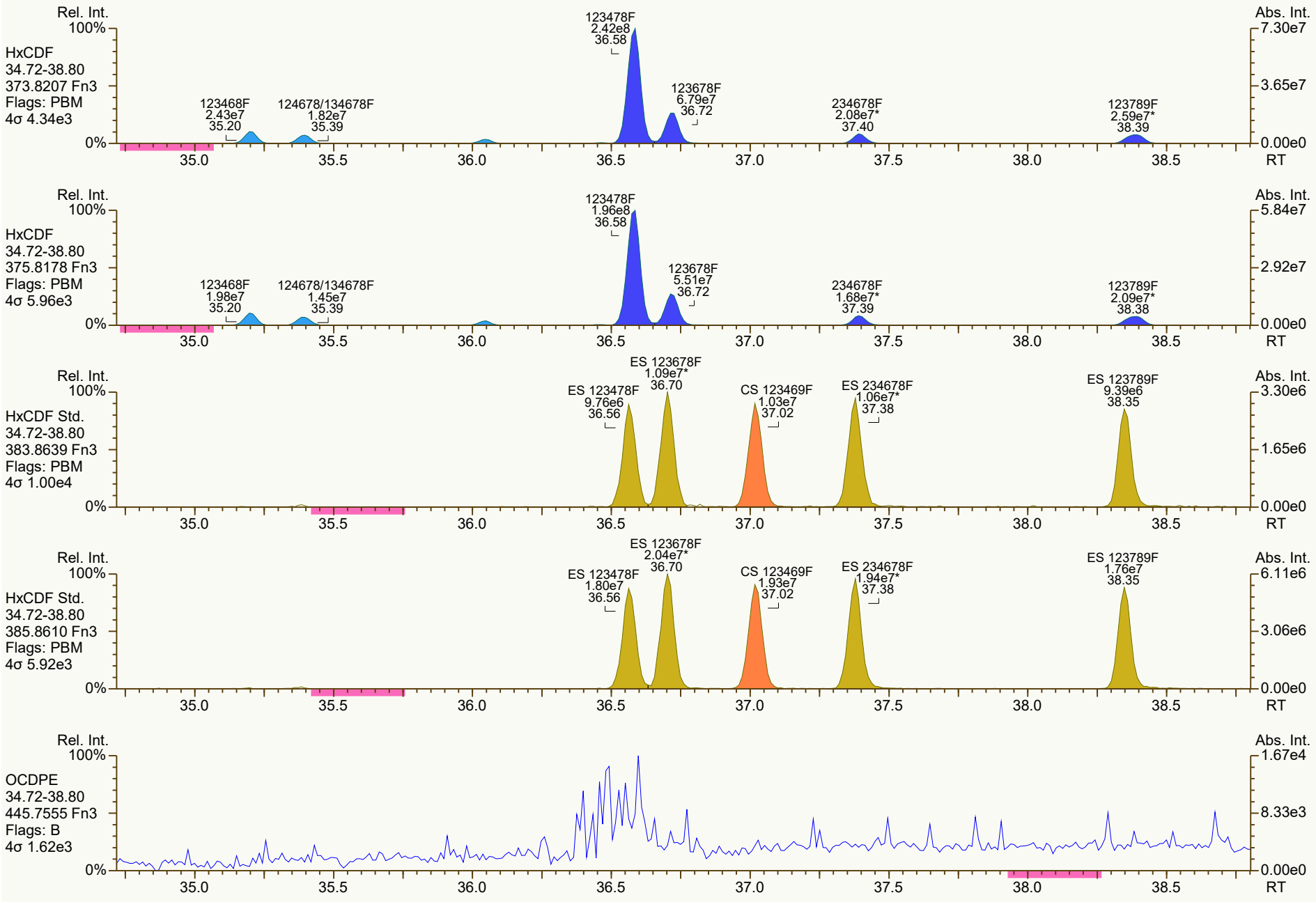

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 2.43e3
1234679D
2.57e7*
40.05
1234678D
3.17e7*
40.73
Abs. Int.
9.30e6
4.65e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 3.19e3
1234679D
2.48e7*
40.05
1234678D
3.04e7*
40.73
Abs. Int.
8.90e6
4.45e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 4.17e3
ES 1234678D
1.22e7
40.72
Abs. Int.
3.65e6
1.83e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.28e3
ES 1234678D
1.13e7
40.72
Abs. Int.
3.40e6
1.70e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.15e7
5.74e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

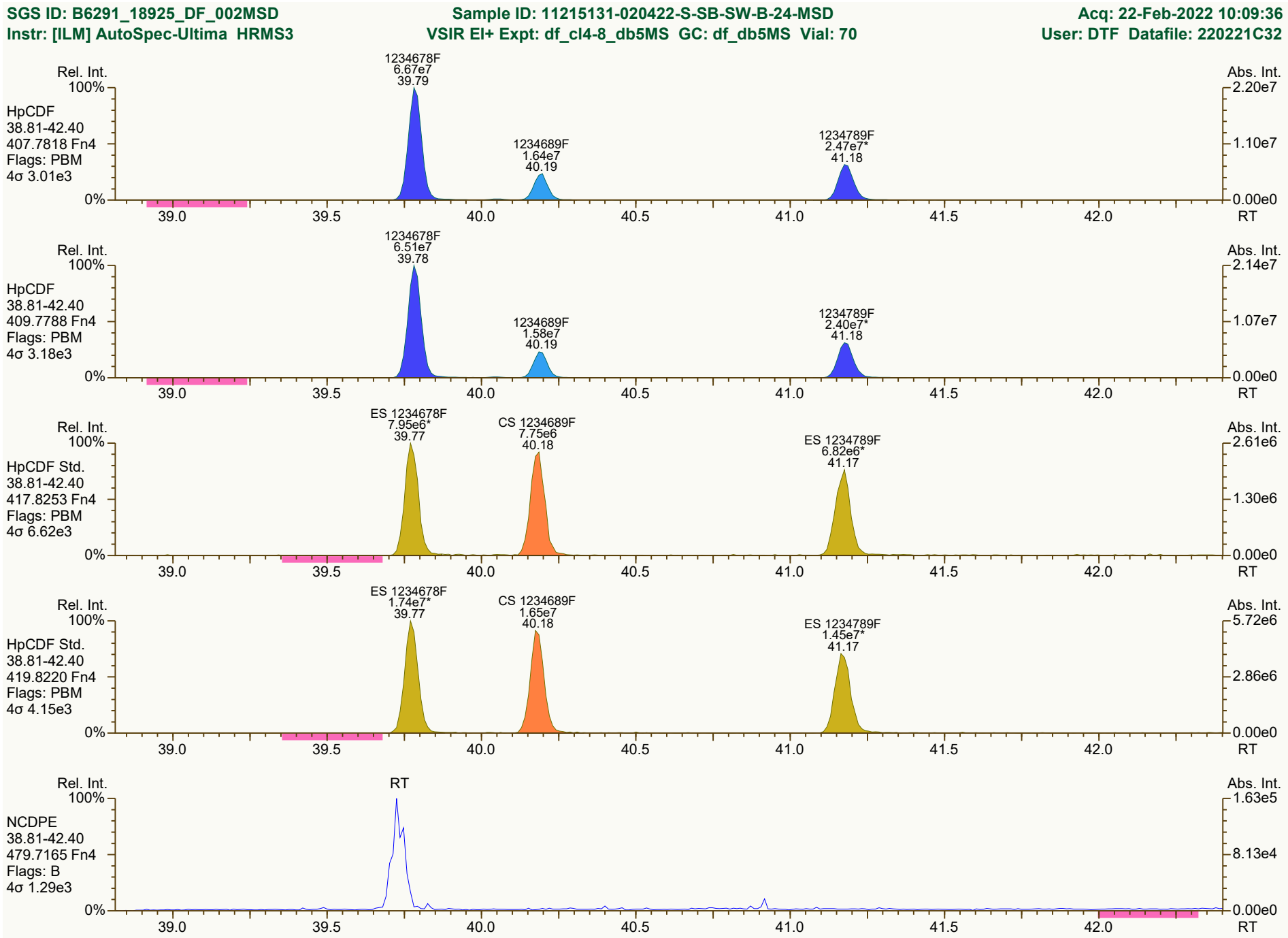

OCDD
2.79e8*
43.44
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 3.57e3
0%
Abs. Int.
5.57e7
2.79e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.10e8*
43.43
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 2.88e3
0%
Abs. Int.
6.22e7
3.11e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.60e7*
43.42
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 3.02e3
0%
Abs. Int.
3.23e6
1.62e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7*
43.42
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.87e3
0%
Abs. Int.
3.34e6
1.67e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.67e6
4.84e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 3.43e3
0%
2378F
2.12e9*
27.39
1278F
8.34e8
26.47
2348F
9.03e7*
27.27
2367/3467F
2.02e8
27.75
1289F
2.20e8
29.44
Abs. Int.
4.99e8
2.49e8
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 4.00e3
0%
2378F
2.71e9*
27.39
1278F
1.07e9
26.47
2367/3467F
2.60e8
27.75
1289F
2.86e8
29.44
Abs. Int.
6.44e8
3.22e8
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PBM
4σ 8.43e3
0%
JS 1234F
2.20e7
25.98
ES 2378F
1.45e7*
27.37
Abs. Int.
4.71e6
2.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PBM
4σ 5.46e3
0%
JS 1234F
2.66e7
25.98
ES 2378F
1.72e7*
27.37
Abs. Int.
5.74e6
2.87e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.25e3
0%
not dpe
Abs. Int.
4.26e4
2.13e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.47e3
13468/12468F
1.89e7*
29.37
Abs. Int.
5.03e6
2.51e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 2.29e3
13468/12468F
1.22e7*
29.37
Abs. Int.
3.23e6
1.61e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
7.27e6
3.63e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6291_18925_DF_002MSD
Sample ID: 11215131-020422-S-SB-SW-B-24-MSD
Acq: 22-Feb-2022 10:09:36
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 220221C32
Rel. Int.
Abs. Int.
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 6.08e3
12368F...[3] 6.67e7 31.11
12348F 1.32e7 32.00
12378F 1.70e8 32.21
12678/12367F 4.52e7 32.50
23478F 1.15e8* 33.34
12389F 8.89e6 34.40
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 6.07e3
12368F...[3] 4.37e7 31.11
12348F 8.66e6 31.99
12378F 1.10e8 32.21
12678/12367F 2.98e7 32.50
23478F 7.55e7* 33.34
12389F 5.84e6 34.40
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PBM
4σ 3.39e3
CS 12346F 2.23e7 31.66
ES 12378F 2.23e7 32.19
ES 23478F 2.22e7* 33.32
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PBM
4σ 3.99e3
CS 12346F 1.42e7 31.66
ES 12378F 1.40e7 32.19
ES 23478F 1.38e7* 33.32
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.61e3
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
4.91e7
2.45e7
0.00e0
3.11e7
1.55e7
6.03e6
3.01e6
3.90e6
1.95e6
9.03e3
4.51e3


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 4.34e3
123468F
2.43e7
35.20
124678/134678F
1.82e7
35.39
123478F
2.42e8
36.58
123678F
6.79e7
36.72
234678F
2.08e7*
37.40
123789F
2.59e7*
38.39
Abs. Int.
7.30e7
3.65e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 5.96e3
123468F
1.98e7
35.20
124678/134678F
1.45e7
35.39
123478F
1.96e8
36.58
123678F
5.51e7
36.72
234678F
1.68e7*
37.39
123789F
2.09e7*
38.38
5.84e7
2.92e7
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 1.00e4
ES 123478F
9.76e6
36.56
ES 123678F
1.09e7*
36.70
CS 123469F
1.03e7
37.02
ES 234678F
1.06e7*
37.38
ES 123789F
9.39e6
38.35
3.30e6
1.65e6
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 5.92e3
ES 123478F
1.80e7
36.56
ES 123678F
2.04e7*
36.70
CS 123469F
1.93e7
37.02
ES 234678F
1.94e7*
37.38
ES 123789F
1.76e7
38.35
6.11e6
3.06e6
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.62e3
1.67e4
8.33e3



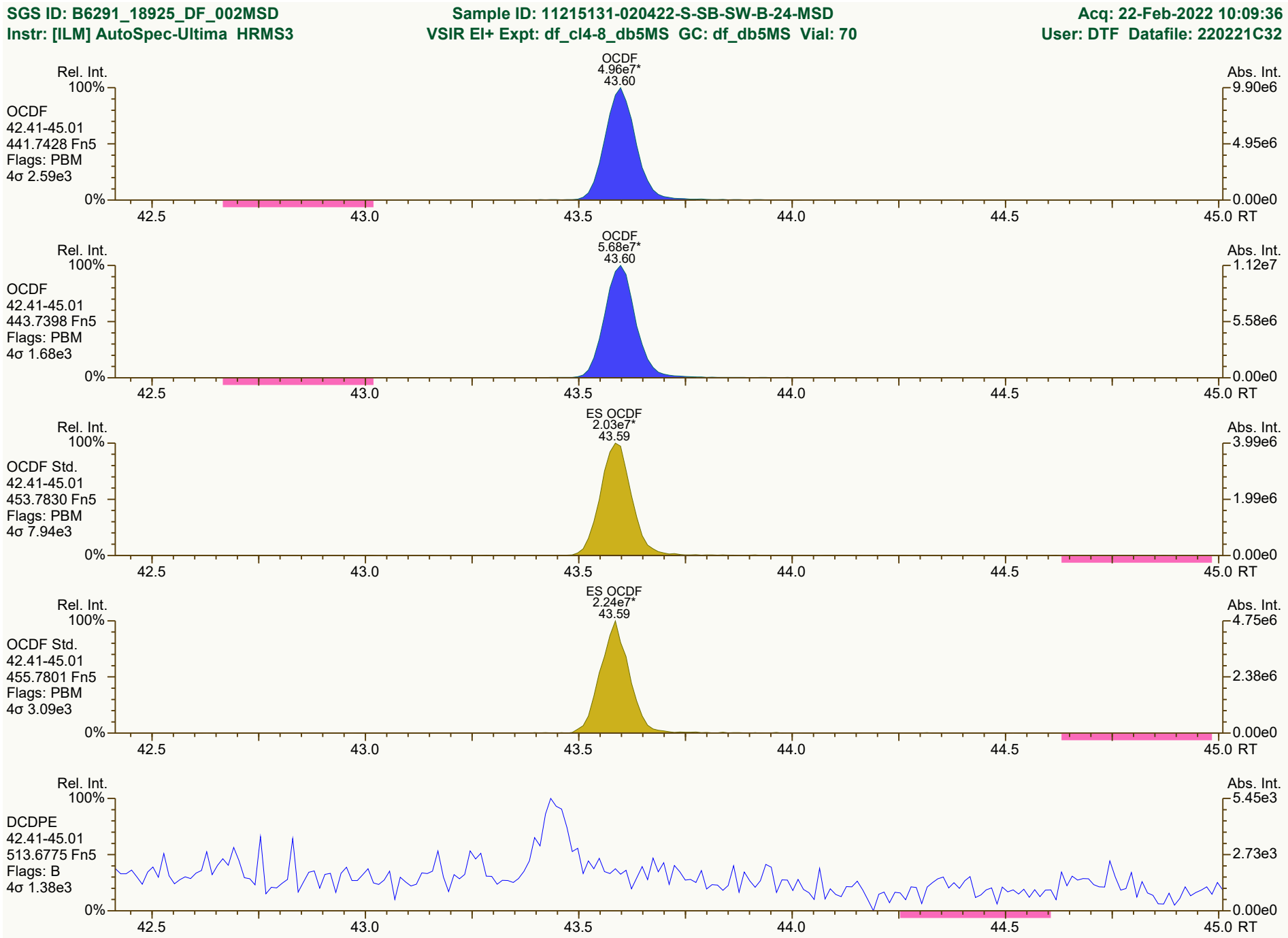
Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_002MSD.utp_res, saved 22-Feb-2022 15:18 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9869, 3097, 5470 scc: 863-560 *Revised: 22-Feb-2022 15:18 (DTF) Printed: 23-Feb-2022 08:17 Page 11 of 12*

SGS ID: B6291_18925_DF_002MSD
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 11215131-020422-S-SB-SW-B-24-MSD
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70

Acq: 22-Feb-2022 10:09:36
User: DTF Datafile: 220221C32



Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_002MSD.utp_res, saved 22-Feb-2022 15:18 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8405, 6476, 9061 scc: 863-560

Peak annotation: Areas, Centroids
Revised: 22-Feb-2022 15:18 (DTF) Printed: 23-Feb-2022 08:17 Page 12 of 12

Lab ID: B6291_18925_DF_003 **Acq'd:** 22 Feb 2022 10:55 DTF **Wt/Vol:** 10.04 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020422-S-SB-SW-B-24H **UTP:** 22-Feb-2022 15:25:00 DTF **J-level:** 0.498 pg/g **Split:** 1 **Checkcode:** 690-600-TXS

Datafile: 220221C33 **Report:** 23 Feb 2022 08:09 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.25		1.0008	1.0008	0	1.22E+07	0.82	Y	1.18	68.8	5151.633	0.295
12378-PeCDD	33.63	J	1.0007	1.0005	-0.4	2.47E+05	1.74	Y	1.04	1.63	5556.217	0.328
123478-HxCDD	37.57	J EMPC	1.0004	1.0005	+0.2	1.66E+05	1.53	N	1.09	1.17	7791.522	0.509
123678-HxCDD	37.69		1.0036	1.0037	+0.2	7.58E+05	1.26	Y	1.15	5.09	7791.522	0.467
123789-HxCDD	37.99		1.0118	1.0117	-0.2	4.76E+05	1.10	Y	1.05	3.04	7791.522	0.439
1234678-HpCDD	40.74		1.0002	1.0004	+0.5	1.88E+07	1.07	Y	1.06	130	5100.075	0.302
OCDD	43.44		1.0003	1.0003	0	2.51E+08	0.90	Y	1.13	2,280	7422.08	0.937
2378-TCDF	27.38		1.0008	1.0008	0	4.89E+07	0.79	Y	1.08	200	11098.577	0.48
12378-PeCDF	32.17		1.0005	1.0005	0	1.70E+06	1.60	Y	1.02	7.75	8117.25	0.336
23478-PeCDF	33.31		1.0005	1.0008	+0.6	1.49E+06	1.48	Y	1.02	6.78	8117.25	0.325
123478-HxCDF	36.56		1.0004	1.0005	+0.2	2.57E+06	1.33	Y	1.27	12.2	7043.824	0.293
123678-HxCDF	36.70		1.0004	1.0004	0	8.42E+05	1.18	Y	1.15	3.83	7043.824	0.271
234678-HxCDF	37.38		1.0005	1.0003	-0.4	5.83E+05	1.33	Y	1.19	2.52	7043.824	0.276
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	7043.824	0.31
1234678-HpCDF	39.78		1.0003	1.0002	-0.2	1.74E+07	1.00	Y	1.37	85.7	3476.715	0.13
1234789-HpCDF	41.19		1.0003	1.0003	0	8.30E+05	1.18	Y	1.31	4.91	3476.715	0.193
OCDF	43.62		1.0002	1.0003	+0.3	1.71E+08	0.90	Y	1.07	1,260	3470.225	0.334

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.22	1.0243	1.0243	0	2.99E+07	0.80	Y	1.05	86.2
ES 12378-PeCDD	33.62	1.2198	1.2200	+0.4	2.92E+07	1.62	Y	0.88	100
ES 123478-HxCDD	37.55	0.9916	0.9915	-0.2	2.59E+07	1.25	Y	0.97	88
ES 123678-HxCDD	37.67	0.9947	0.9947	0	2.58E+07	1.23	Y	0.94	90.4
ES 123789-HxCDD	37.98	1.0029	1.0027	-0.5	2.98E+07	1.33	Y	1.09	90.1
ES 1234678-HpCDD	40.72	1.0749	1.0752	+0.7	2.72E+07	1.05	Y	0.91	98.6
ES OCDD	43.43	1.1460	1.1467	+1.8	3.89E+07	0.95	Y	0.62	103
ES 2378-TCDF	27.35	1.0531	1.0531	0	4.51E+07	0.83	Y	1.06	83
ES 12378-PeCDF	32.16	1.2378	1.2380	+0.4	4.28E+07	1.57	Y	0.91	91.5
ES 23478-PeCDF	33.28	1.2810	1.2812	+0.4	4.29E+07	1.54	Y	0.88	94.6
ES 123478-HxCDF	36.55	0.9650	0.9649	-0.2	3.29E+07	0.55	Y	1.20	90.6
ES 123678-HxCDF	36.69	0.9688	0.9687	-0.2	3.80E+07	0.54	Y	1.35	92.9
ES 234678-HxCDF	37.37	0.9866	0.9866	0	3.87E+07	0.52	Y	1.24	103
ES 123789-HxCDF	38.35	1.0125	1.0125	0	3.27E+07	0.53	Y	1.16	93.7
ES 1234678-HpCDF	39.77	1.0501	1.0501	0	2.95E+07	0.46	Y	0.97	101
ES 1234789-HpCDF	41.18	1.0870	1.0872	+0.5	2.58E+07	0.46	Y	0.85	100
ES OCDF	43.61	1.1505	1.1514	+2.4	5.05E+07	0.92	Y	0.81	103

Lab ID: B6291_18925_DF_003 **Acq'd:** 22 Feb 2022 10:55 DTF **Wt/Vol:** 10.04 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020422-S-SB-SW-B-24H **UTP:** 22-Feb-2022 15:25:00 DTF **J-level:** 0.498 pg/g **Split:** 1 **Checkcode:** 690-600-TXS

Datafile: 220221C33 **Report:** 23 Feb 2022 08:09 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.55		-	-	-	3.32E+07	0.82	Y	-	-
JS 1234-TCDF	25.97		-	-	-	5.13E+07	0.79	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	1.51E+07	1.19	Y	-	-
CS 37Cl-2378-TCDD	28.25		1.0251	1.0251	0	1.49E+07	n/a	-	1.20	93.4
CS 12347-PeCDD	33.11		1.2016	1.2016	0	2.73E+07	1.62	Y	0.75	109
CS 12346-PeCDF	31.62		1.2172	1.2174	+0.4	4.43E+07	1.59	Y	0.85	102
CS 123469-HxCDF	37.00		0.9771	0.9769	-0.4	3.59E+07	0.53	Y	1.12	106
CS 1234689-HpCDF	40.19		1.0608	1.0610	+0.5	3.05E+07	0.46	Y	0.89	114
SS 37Cl-2378-TCDD	28.25		1.0251	1.0251	0	1.49E+07	n/a	-	1.15	109
SS 12347-PeCDD	33.11		1.2016	1.2016	0	2.73E+07	1.62	Y	0.86	109
SS 12346-PeCDF	31.62		1.2172	1.2174	+0.4	4.43E+07	1.59	Y	0.94	111
SS 123469-HxCDF	37.00		0.9771	0.9769	-0.4	3.59E+07	0.53	Y	0.83	114
SS 1234689-HpCDF	40.19		1.0608	1.0610	+0.5	3.05E+07	0.46	Y	0.92	113

Totals	Conc	EMPC
Total TCDD	79.5	84.4
Total PeCDD	12.3	14
Total HxCDD	64.3	66.8
Total HpCDD	315	315
Total Tetra-Octa Dioxins	2750	2760
Total TCDF	404	405
Total PeCDF	38.8	41.3
Total HxCDF	54.7	54.7
Total HpCDF	158	158
Total Tetra-Octa Furans	1,920	1920
Total Tetra-Octa Dioxins & Furans	4670	4680

Lab ID: B6291_18925_DF_003 **Acq'd: 22 Feb 2022 10:55 DTF** **Wt/Vol: 10.04 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020422-S-SB-SW-B-24H **UTP: 22-Feb-2022 15:25:00 DTF** **J-level: 0.498 pg/g** **Split: 1** **Checkcode: 690-600-TXS**

Datafile: 220221C33 **Report: 23 Feb 2022 08:09 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.55	EMPC	0.8701	0.8700	-0.1	3.22E+05	0.92	N	1.18	1.81	5151.633	0.295
1379-TCDD	24.92		0.8829	0.8831	+0.3	1.42E+05	0.79	Y	1.18	0.801	5151.633	0.295
1369-TCDD	NotFnd		0.8982						1.18		5151.633	0.295
1469-TCDD	26.14		0.9261	0.9261	0	7.62E+05	0.79	Y	1.18	4.28	5151.633	0.295
1247/1246/1248/1249-TCDD	26.38	EMPC	0.9348	0.9345	-0.5	1.13E+05	1.08	N	1.18	0.637	5151.633	0.295
1378-TCDD	26.58	EMPC	0.9417	0.9419	+0.3	1.05E+05	0.94	N	1.18	0.592	5151.633	0.295
1268-TCDD	NotFnd		0.9487						1.18		5151.633	0.295
1478-TCDD	NotFnd		0.9576						1.18		5151.633	0.295
1279-TCDD	NotFnd		0.9636						1.18		5151.633	0.295
1234/1269-TCDD	27.55	EMPC	0.9761	0.9760	-0.2	1.04E+05	1.12	N	1.18	0.587	5151.633	0.295
1236-TCDD	NotFnd		0.9812						1.18		5151.633	0.295
1237/1238-TCDD	27.96	EMPC	0.9905	0.9906	+0.2	2.16E+05	1.16	N	1.18	1.22	5151.633	0.295
1239-TCDD	NotFnd		0.9951						1.18		5151.633	0.295
2378-TCDD	**28.25**		**1.0008**	1.0008	**0**	1.22E+07	0.82	Y	**1.18**	**68.8**	**5151.633**	**0.295**
1278-TCDD	28.57		1.0124	1.0124	0	1.01E+06	0.87	Y	1.18	5.67	5151.633	0.295
1267-TCDD	NotFnd		1.0172						1.18		5151.633	0.295
1289-TCDD	NotFnd		1.0354						1.18		5151.633	0.295
12479/12468-PeCDD	31.11		0.9255	0.9254	-0.2	5.64E+05	1.61	Y	1.04	3.71	5556.217	0.328
12469-PeCDD	31.65		0.9416	0.9416	0	5.36E+05	1.51	Y	1.04	3.53	5556.217	0.328
12368-PeCDD	32.21	J	0.9582	0.9582	0	2.01E+05	1.59	Y	1.04	1.33	5556.217	0.328
12478-PeCDD	32.40	J	0.9637	0.9638	+0.2	1.47E+05	1.55	Y	1.04	0.965	5556.217	0.328
12379-PeCDD	32.50	J	0.9668	0.9667	-0.2	1.00E+05	1.42	Y	1.04	0.66	5556.217	0.328
12369/12467/12489-PeCDD	32.76	J EMPC	0.9746	0.9746	0	2.58E+05	1.78	N	1.04	1.7	5556.217	0.328
12346/12347-PeCDD	NotFnd		0.9858						1.04		5556.217	0.328
12378-PeCDD	33.63	J	**1.0007**	**1.0005**	**-0.4**	**2.47E+05**	**1.74**	**Y**	**1.04**	**1.63**	**5556.217**	**0.328**
12367-PeCDD	NotFnd		1.0036						1.04		5556.217	0.328
12389-PeCDD	34.07	J	1.0137	1.0136	-0.2	7.80E+04	1.41	Y	1.04	0.513	5556.217	0.328
124679/124689-HxCDD	35.82		0.9540	0.9539	-0.2	5.01E+06	1.27	Y	1.10	33.5	7791.522	0.47
123468-HxCDD	36.48		0.9715	0.9715	0	5.28E+05	1.34	Y	1.10	3.54	7791.522	0.47
123679/123689-HxCDD	36.78		0.9793	0.9794	+0.2	2.65E+06	1.27	Y	1.10	17.8	7791.522	0.47
123469-HxCDD	36.90	J EMPC	0.9829	0.9826	-0.7	2.10E+05	1.49	N	1.10	1.4	7791.522	0.47
123478-HxCDD	37.57	J EMPC	**1.0004**	**1.0005**	**+0.2**	**1.66E+05**	**1.53**	**N**	1.09	**1.17**	**7791.522**	**0.509**
123678-HxCDD	37.69		**1.0036**	**1.0037**	**+0.2**	**7.58E+05**	**1.26**	**Y**	1.15	**5.09**	**7791.522**	**0.467**
123467-HxCDD	37.89	J	1.0089	1.0090	+0.2	1.93E+05	1.27	Y	1.10	1.3	7791.522	0.47
123789-HxCDD	37.99		**1.0118**	**1.0117**	**-0.2**	**4.76E+05**	**1.10**	**Y**	1.05	**3.04**	**7791.522**	**0.439**

Lab ID: B6291_18925_DF_003 **Acq'd: 22 Feb 2022 10:55 DTF** **Wt/Vol: 10.04 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020422-S-SB-SW-B-24H **UTP: 22-Feb-2022 15:25:00 DTF** **J-level: 0.498 pg/g** **Split: 1** **Checkcode: 690-600-TXS**

Datafile: 220221C33 **Report: 23 Feb 2022 08:09 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

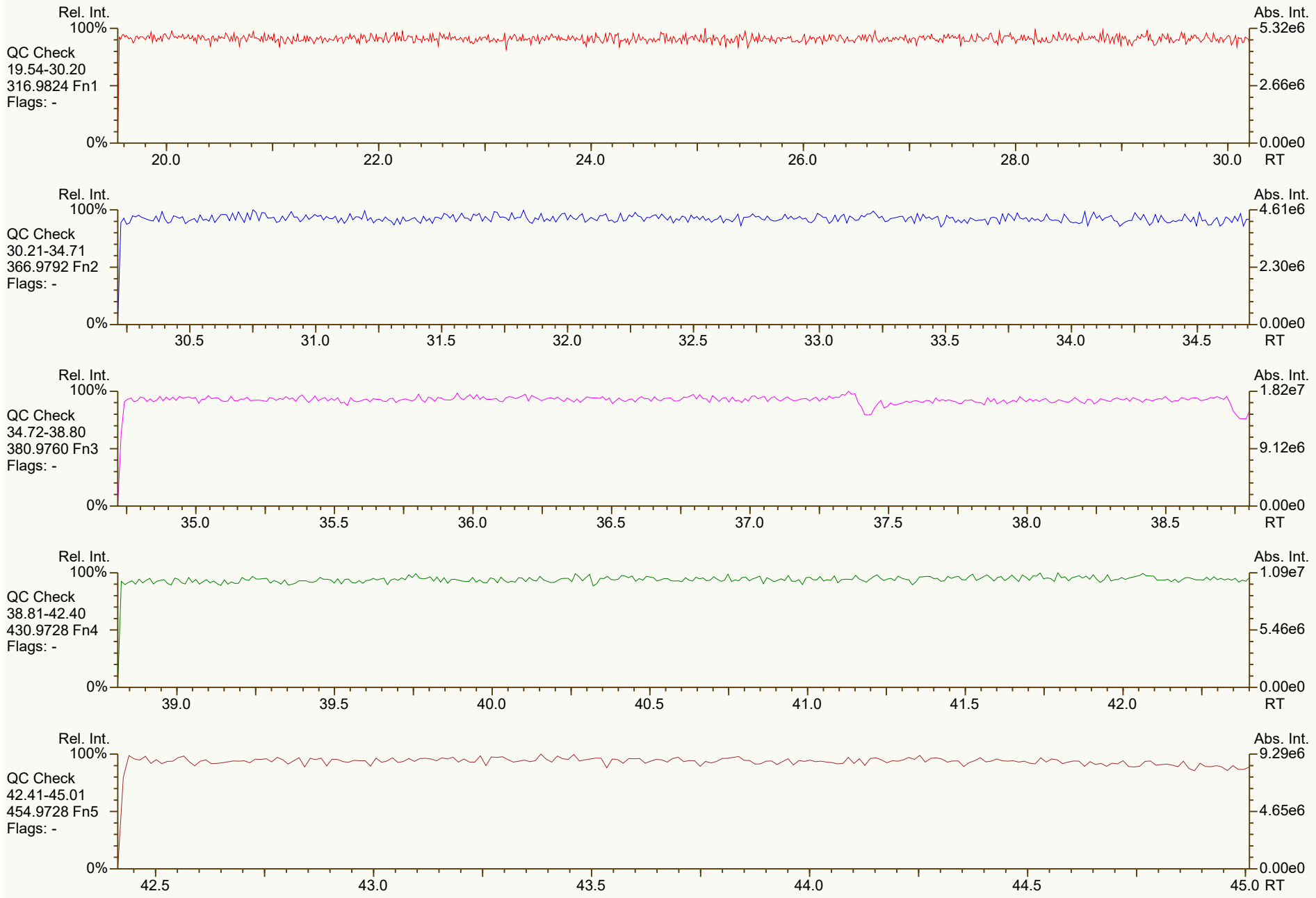
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.05		0.9836	0.9836	0	2.69E+07	1.04	Y	1.06	185	5100.075	0.302
1234678-HpCDD	**40.74**		**1.0002**	**1.0004**	**+0.5**	**1.88E+07**	**1.07**	**Y**	**1.06**	**130**	**5100.075**	**0.302**
OCDD	**43.44**		**1.0003**	**1.0003**	**0**	**2.51E+08**	**0.90**	**Y**	**1.13**	**2,280**	**7422.08**	**0.937**
OCDD-a	43.44		1.0002	1.0002	0	1.59E+07	2.53	Y	0.07	2,260	6659.986	13.1
1368-TCDF	NotFnd		0.8191						1.08		11098.577	0.48
1468-TCDF	22.99		0.8408	0.8403	-0.7	2.90E+05	0.69	Y	1.08	1.19	11098.577	0.48
2468-TCDF	23.64		0.8645	0.8643	-0.3	8.76E+05	0.87	Y	1.08	3.58	11098.577	0.48
1346/1246-TCDF	NotFnd		0.8772						1.08		11098.577	0.48
1347/1378/1247-TCDF	24.15		0.8833	0.8830	-0.4	1.08E+06	0.84	Y	1.08	4.43	11098.577	0.48
1348-TCDF	NotFnd		0.8932						1.08		11098.577	0.48
1248/1367/1379-TCDF	24.52		0.8980	0.8963	-2.5	2.94E+06	0.79	Y	1.08	12	11098.577	0.48
1268-TCDF	24.95		0.9119	0.9120	+0.1	1.32E+06	0.80	Y	1.08	5.39	11098.577	0.48
1467-TCDF	25.08	EMPC	0.9170	0.9170	0	2.52E+05	0.96	N	1.08	1.03	11098.577	0.48
1478-TCDF	25.25		0.9234	0.9231	-0.5	2.32E+06	0.77	Y	1.08	9.47	11098.577	0.48
1369/1237-TCDF	25.63		0.9369	0.9371	+0.3	5.89E+05	0.85	Y	1.08	2.41	11098.577	0.48
2467-TCDF	NotFnd		0.9415						1.08		11098.577	0.48
2368-TCDF	25.92		0.9475	0.9474	-0.2	1.73E+06	0.81	Y	1.08	7.08	11098.577	0.48
1238/1234/1678/1469/1236-TCDF	25.99		0.9507	0.9502	-0.8	2.37E+06	0.81	Y	1.08	9.68	11098.577	0.48
1278-TCDF	26.47		0.9676	0.9675	-0.2	2.22E+07	0.76	Y	1.08	90.9	11098.577	0.48
1349-TCDF	NotFnd		0.9722						1.08		11098.577	0.48
1267-TCDF	26.74		0.9777	0.9776	-0.2	1.28E+06	0.82	Y	1.08	5.25	11098.577	0.48
2346/1249-TCDF	NotFnd		0.9843						1.08		11098.577	0.48
2347/1279-TCDF	27.15		0.9926	0.9926	0	6.90E+05	0.76	Y	1.08	2.82	11098.577	0.48
2348-TCDF	27.26		0.9968	0.9967	-0.2	3.44E+06	0.79	Y	1.08	14.1	11098.577	0.48
2378-TCDF	**27.38**		**1.0008**	**1.0008**	**0**	**4.89E+07**	**0.79**	**Y**	**1.08**	**200**	**11098.577**	**0.48**
2367/3467-TCDF	27.74		1.0142	1.0140	-0.3	4.30E+06	0.82	Y	1.08	17.6	11098.577	0.48
1269-TCDF	27.99		1.0235	1.0231	-0.7	7.40E+05	0.86	Y	1.08	3.03	11098.577	0.48
1239-TCDF	NotFnd		1.0329						1.08		11098.577	0.48
1289-TCDF	29.40		1.0742	1.0750	+1.4	3.71E+06	0.79	Y	1.08	15.2	11098.577	0.48
13468/12468-PeCDF	29.35		0.9122	0.9128	+1.1	2.22E+06	1.55	Y	1.02	10.1	3771.865	0.154
13678/13467/12467-PeCDF	30.91	J	0.9606	0.9611	+0.9	2.78E+05	1.43	Y	1.02	1.26	8117.25	0.33
12368/13478/12478-PeCDF	31.07		0.9655	0.9661	+1.1	1.89E+06	1.55	Y	1.02	8.6	8117.25	0.33
14678-PeCDF	NotFnd		0.9685						1.02		8117.25	0.33
13479-PeCDF	NotFnd		0.9716						1.02		8117.25	0.33
13469/12479-PeCDF	NotFnd		0.9794						1.02		8117.25	0.33
12346-PeCDF	NotFnd		0.9836						1.02		8117.25	0.33

Lab ID: B6291_18925_DF_003 **Acq'd: 22 Feb 2022 10:55 DTF** **Wt/Vol: 10.04 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020422-S-SB-SW-B-24H **UTP: 22-Feb-2022 15:25:00 DTF** **J-level: 0.498 pg/g** **Split: 1** **Checkcode: 690-600-TXS**

Datafile: 220221C33 **Report: 23 Feb 2022 08:09 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.73	EMPC	0.9866	0.9867	+0.2	5.51E+05	1.21	N	1.02	2.51	8117.25	0.33
12347-PeCDF	NotFnd		0.9891						1.02		8117.25	0.33
12348-PeCDF	31.96	J	0.9938	0.9940	+0.4	2.45E+05	1.36	Y	1.02	1.11	8117.25	0.33
12378-PeCDF	**32.17**		**1.0005**	**1.0005**	**0**	**1.70E+06**	**1.60**	**Y**	**1.02**	**7.75**	**8117.25**	**0.336**
12678/12367-PeCDF	32.47		1.0091	1.0098	+1.4	7.06E+05	1.52	Y	1.02	3.21	8117.25	0.33
12379-PeCDF	NotFnd		1.0144						1.02		8117.25	0.33
12679-PeCDF	NotFnd		0.9927						1.02		8117.25	0.33
23467/12369-PeCDF	NotFnd		0.9965						1.02		8117.25	0.33
23478-PeCDF	**33.31**		**1.0005**	**1.0008**	**+0.6**	**1.49E+06**	**1.48**	**Y**	**1.02**	**6.78**	**8117.25**	**0.325**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		8117.25	0.33
12349-PeCDF	NotFnd		1.0101						1.02		8117.25	0.33
12389-PeCDF	NotFnd		1.0330						1.02		8117.25	0.33
123468-HxCDF	35.17		0.9622	0.9623	+0.2	9.06E+05	1.28	Y	1.19	4.25	7043.824	0.286
124678/134678-HxCDF	35.36		0.9678	0.9677	-0.2	2.78E+06	1.30	Y	1.19	13	7043.824	0.286
134679-HxCDF	NotFnd		0.9741						1.19		7043.824	0.286
124679-HxCDF	NotFnd		0.9795						1.19		7043.824	0.286
124689-HxCDF	36.02		0.9856	0.9856	0	3.18E+06	1.27	Y	1.19	14.9	7043.824	0.286
123467-HxCDF	36.45	J	0.9972	0.9973	+0.2	3.32E+05	1.27	Y	1.19	1.56	7043.824	0.286
123478-HxCDF	**36.56**		**1.0004**	**1.0005**	**+0.2**	**2.57E+06**	**1.33**	**Y**	**1.27**	**12.2**	**7043.824**	**0.293**
123678-HxCDF	**36.70**		**1.0004**	**1.0004**	**0**	**8.42E+05**	**1.18**	**Y**	**1.15**	**3.83**	**7043.824**	**0.271**
123479-HxCDF	NotFnd		1.0048						1.19		7043.824	0.286
123469-HxCDF	37.02	J	1.0089	1.0090	+0.2	1.48E+05	1.30	Y	1.19	0.696	7043.824	0.286
123679-HxCDF	NotFnd		0.9942						1.19		7043.824	0.286
234678-HxCDF	**37.38**		**1.0005**	**1.0003**	**-0.4**	**5.83E+05**	**1.33**	**Y**	**1.19**	**2.52**	**7043.824**	**0.276**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		7043.824	0.286
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**7043.824**	**0.31**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.39	J	1.0006	1.0011	+1.2	3.48E+05	1.25	Y	1.19	1.63	7043.824	0.286
1234678-HpCDF	**39.78**		**1.0003**	**1.0002**	**-0.2**	**1.74E+07**	**1.00**	**Y**	**1.37**	**85.7**	**3476.715**	**0.13**
1234679-HpCDF	40.05		1.0068	1.0070	+0.5	6.05E+05	1.05	Y	1.34	3.26	3476.715	0.159
1234689-HpCDF	40.19		1.0104	1.0106	+0.5	1.19E+07	1.02	Y	1.34	64.3	3476.715	0.159
1234789-HpCDF	**41.19**		**1.0003**	**1.0003**	**0**	**8.30E+05**	**1.18**	**Y**	**1.31**	**4.91**	**3476.715**	**0.193**
OCDF	**43.62**		**1.0002**	**1.0003**	**+0.3**	**1.71E+08**	**0.90**	**Y**	**1.07**	**1,260**	**3470.225**	**0.334**
OCDF-a	43.62		1.0001	1.0002	+0.3	1.11E+07	2.57	Y	0.07	1,320	2762.252	4.3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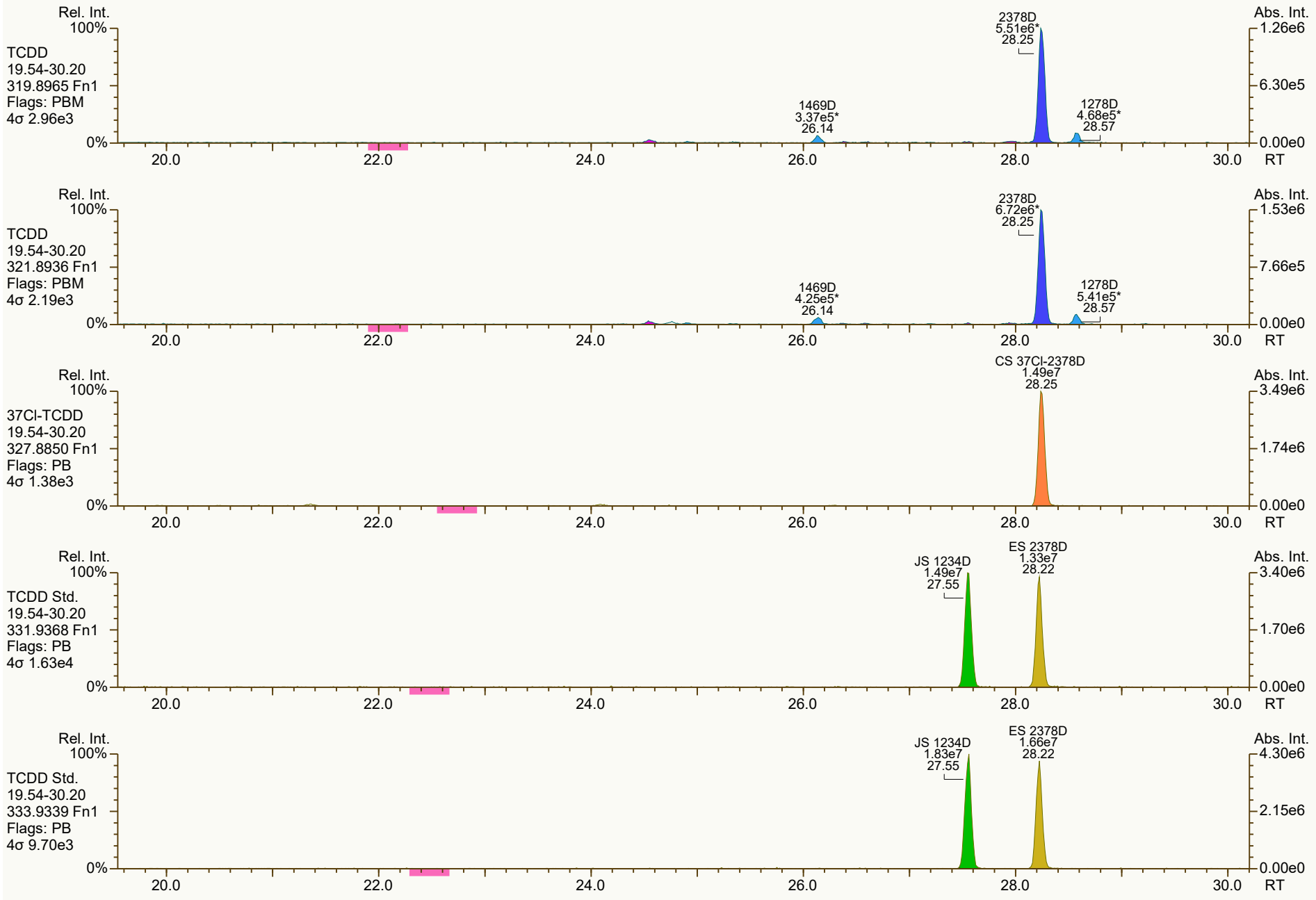
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
5.32e6
2.66e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.61e6
2.30e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.82e7
9.12e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.09e7
5.46e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
9.29e6
4.65e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.96e3
0%
2378D
5.51e6*
28.25
1469D
3.37e5*
26.14
1278D
4.68e5*
28.57
Abs. Int.
1.26e6
6.30e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.19e3
0%
2378D
6.72e6*
28.25
1469D
4.25e5*
26.14
1278D
5.41e5*
28.57
Abs. Int.
1.53e6
7.66e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.38e3
0%
CS 37Cl-2378D
1.49e7
28.25
Abs. Int.
3.49e6
1.74e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 1.63e4
0%
JS 1234D
1.49e7
27.55
ES 2378D
1.33e7
28.22
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 9.70e3
0%
JS 1234D
1.83e7
27.55
ES 2378D
1.66e7
28.22
Abs. Int.
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2.15e6
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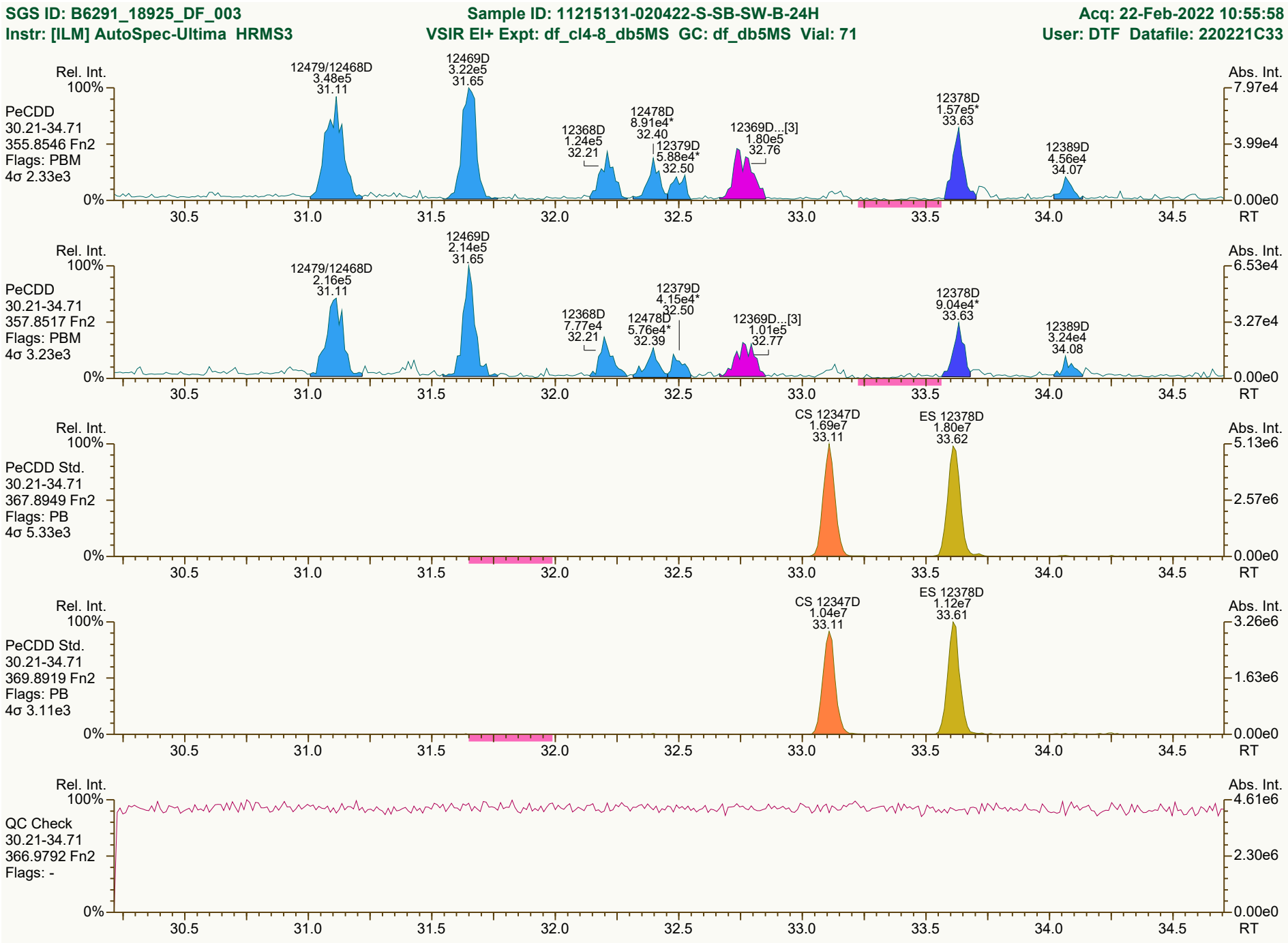
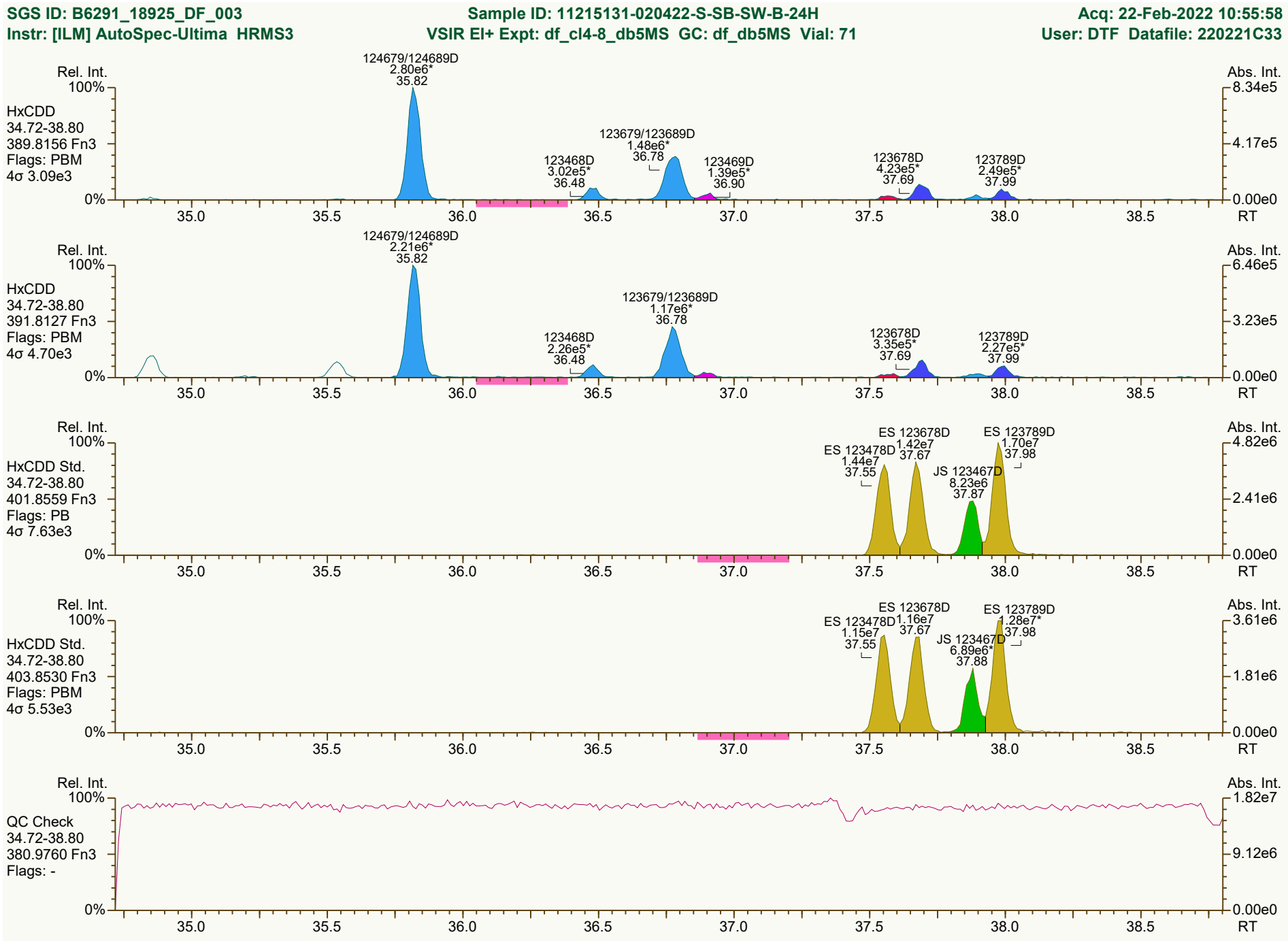
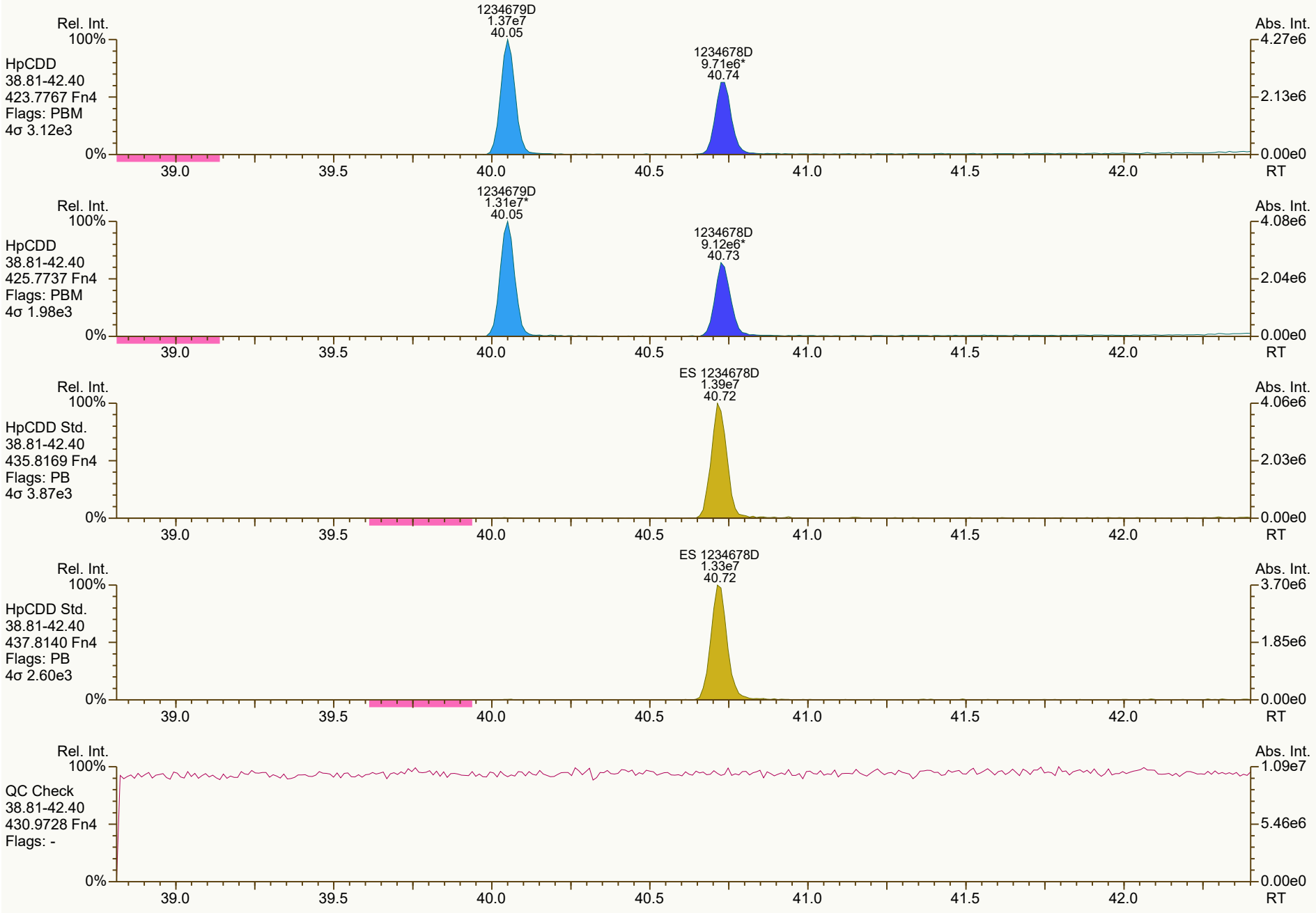
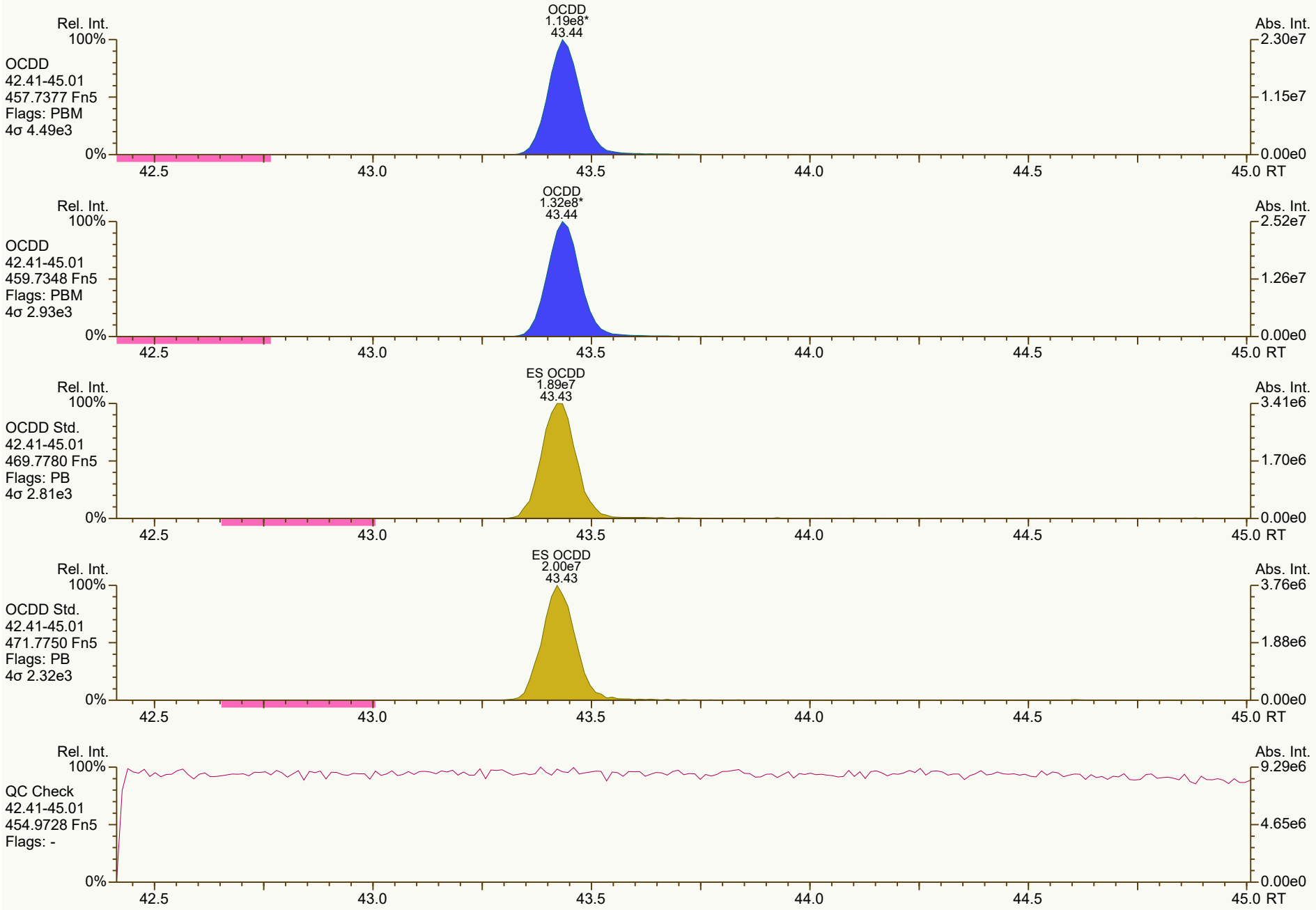
24.0
26.0
28.0
30.0
RT

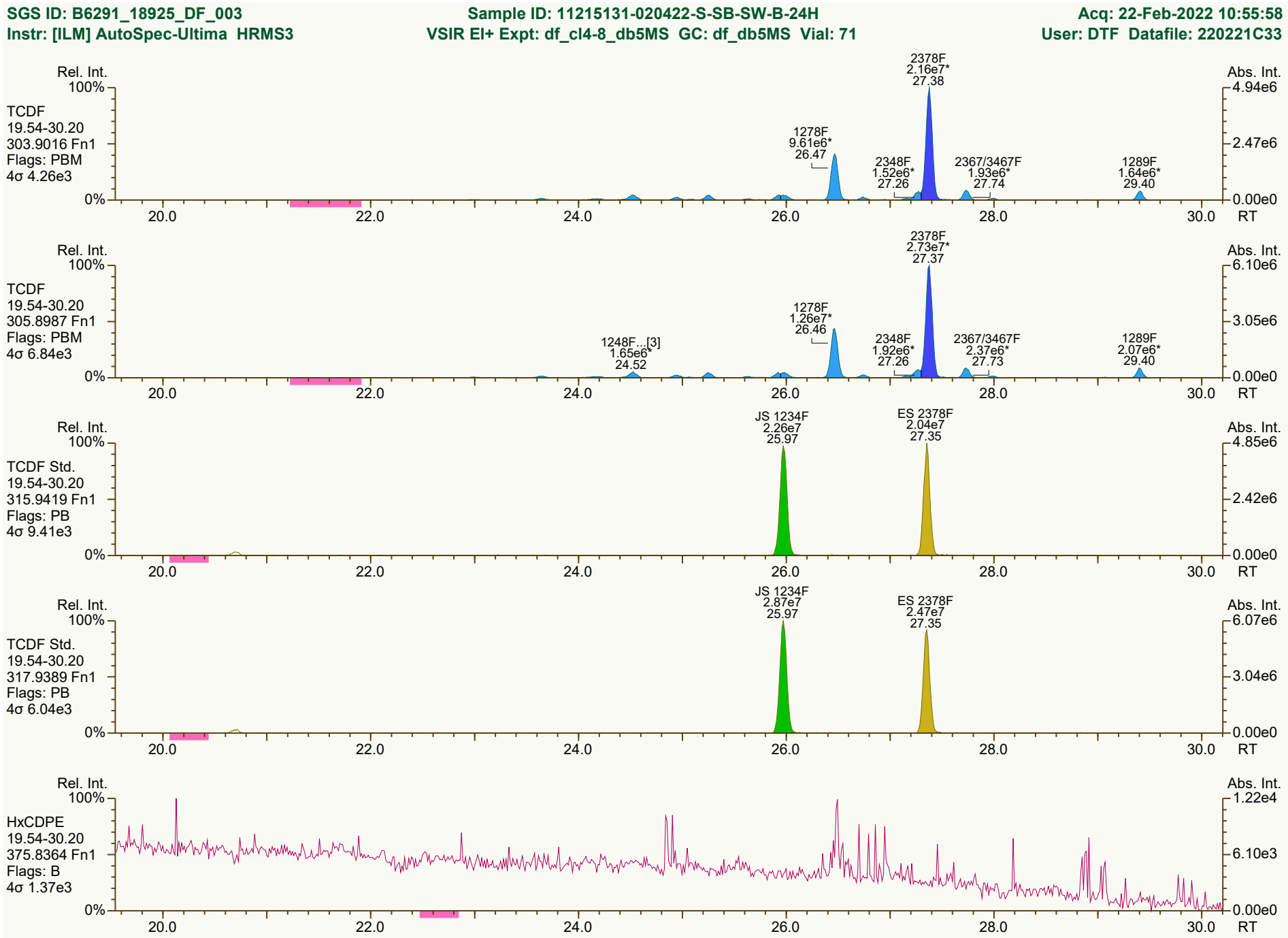

SGS ID: B6291_18925_DF_003
Sample ID: 11215131-020422-S-SB-SW-B-24H
Acq: 22-Feb-2022 10:55:58
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 220221C33
Rel. Int.
Abs. Int.
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 2.33e3
12479/12468D
3.48e5
31.11
12469D
3.22e5
31.65
12368D
1.24e5
32.21
12478D
8.91e4*
32.40
12379D
5.88e4*
32.50
12369D...[3]
1.80e5
32.76
12378D
1.57e5*
33.63
12389D
4.56e4
34.07
7.97e4
3.99e4
0.00e0
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 3.23e3
12479/12468D
2.16e5
31.11
12469D
2.14e5
31.65
12368D
7.77e4
32.21
12478D
5.76e4*
32.39
12379D
4.15e4*
32.50
12369D...[3]
1.01e5
32.77
12378D
9.04e4*
33.63
12389D
3.24e4
34.08
6.53e4
3.27e4
0.00e0
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 5.33e3
CS 12347D
1.69e7
33.11
ES 12378D
1.80e7
33.62
5.13e6
2.57e6
0.00e0
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 3.11e3
CS 12347D
1.04e7
33.11
ES 12378D
1.12e7
33.61
3.26e6
1.63e6
0.00e0
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
4.61e6
2.30e6
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_003.utp_res, saved 22-Feb-2022 15:24 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4351, 3896 scc: 690-600
Revised: 22-Feb-2022 15:21 (DTF) Printed: 23-Feb-2022 08:17 Page 3 of 12


SGS ID: B6291_18925_DF_003
Sample ID: 11215131-020422-S-SB-SW-B-24H
Acq: 22-Feb-2022 10:55:58
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 220221C33
Rel. Int.
Abs. Int.
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 3.09e3
124679/124689D
2.80e6*
35.82
123679/123689D
1.48e6*
36.78
123468D
3.02e5*
36.48
123469D
1.39e5*
36.90
123678D
4.23e5*
37.69
123789D
2.49e5*
37.99
8.34e5
4.17e5
0.00e0
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 4.70e3
124679/124689D
2.21e6*
35.82
123679/123689D
1.17e6*
36.78
123468D
2.26e5*
36.48
123678D
3.35e5*
37.69
123789D
2.27e5*
37.99
6.46e5
3.23e5
0.00e0
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 7.63e3
ES 123678D
1.42e7
37.67
ES 123789D
1.70e7
37.98
ES 123478D
1.44e7
37.55
JS 123467D
8.23e6
37.87
4.82e6
2.41e6
0.00e0
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 5.53e3
ES 123678D
1.16e7
37.67
ES 123789D
1.28e7*
37.98
ES 123478D
1.15e7
37.55
JS 123467D
6.89e6*
37.88
3.61e6
1.81e6
0.00e0
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
1.82e7
9.12e6
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_003.utp_res, saved 22-Feb-2022 15:24 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5382, 8654 scc: 690-600
Revised: 22-Feb-2022 15:21 (DTF) Printed: 23-Feb-2022 08:17 Page 4 of 12


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 3.12e3
0%
1234679D
1.37e7
40.05
1234678D
9.71e6*
40.74
Abs. Int.
4.27e6
2.13e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 1.98e3
0%
1234679D
1.31e7*
40.05
1234678D
9.12e6*
40.73
Abs. Int.
4.08e6
2.04e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 3.87e3
0%
ES 1234678D
1.39e7
40.72
Abs. Int.
4.06e6
2.03e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.60e3
0%
ES 1234678D
1.33e7
40.72
Abs. Int.
3.70e6
1.85e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.09e7
5.46e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
1.19e8*
43.44
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 4.49e3
0%
Abs. Int.
2.30e7
1.15e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.32e8*
43.44
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 2.93e3
2.52e7
1.26e7
ES OCDD
1.89e7
43.43
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 2.81e3
3.41e6
1.70e6
ES OCDD
2.00e7
43.43
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 2.32e3
3.76e6
1.88e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
9.29e6
4.65e6

SGS ID: B6291_18925_DF_003 | Sample ID: 11215131-020422-S-SB-SW-B-24H | Acq: 22-Feb-2022 10:55:58
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71 | User: DTF Datafile: 220221C33



Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_003.utp_res, saved 22-Feb-2022 15:24 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6207, 0169, 4468 scc: 690-600 | Revised: 22-Feb-2022 15:23 (DTF) Printed: 23-Feb-2022 08:17 Page 7 of 12

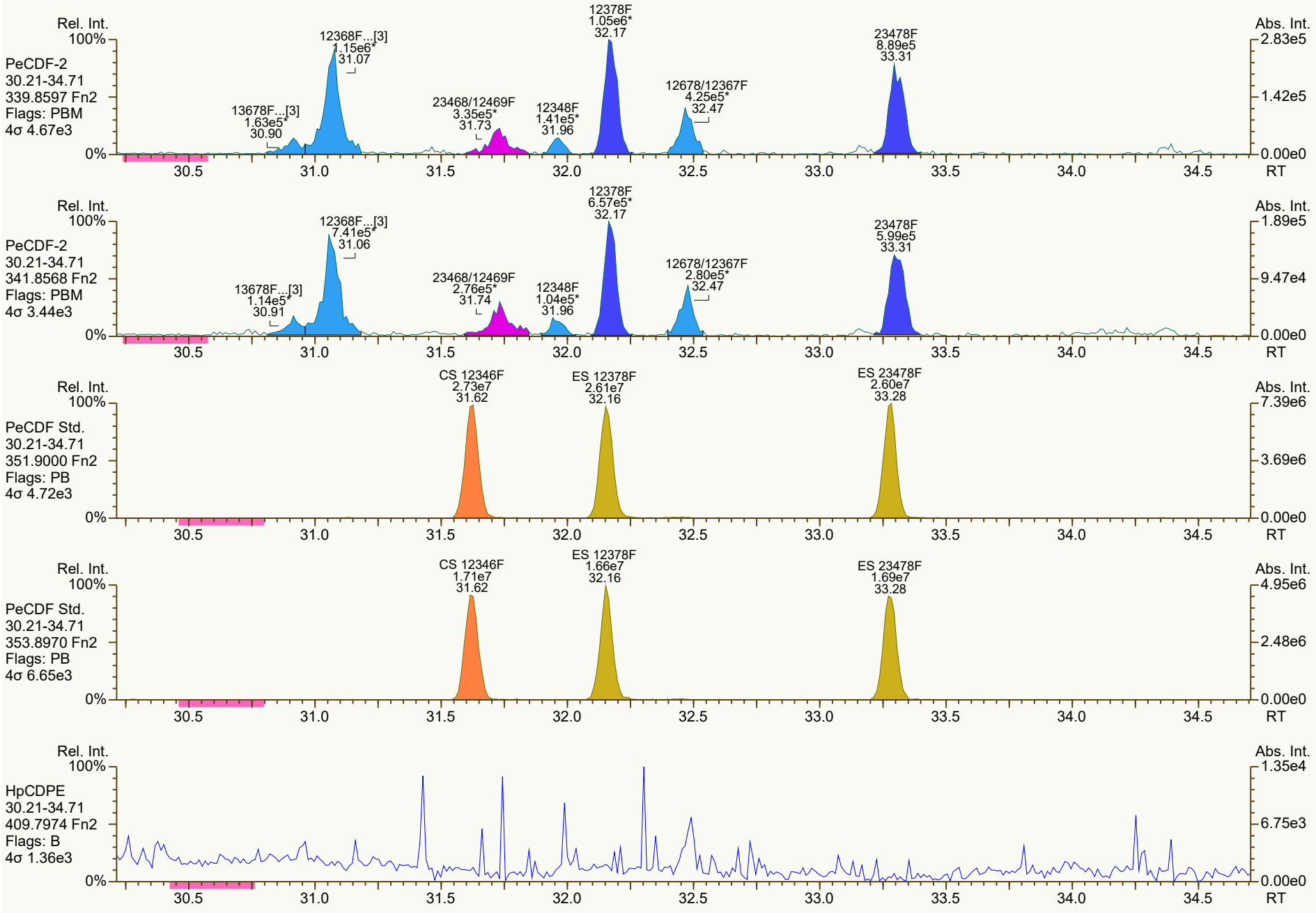
SGS ID: B6291_18925_DF_003 | Sample ID: 11215131-020422-S-SB-SW-B-24H | Acq: 22-Feb-2022 10:55:58

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71 | User: DTF Datafile: 220221C33

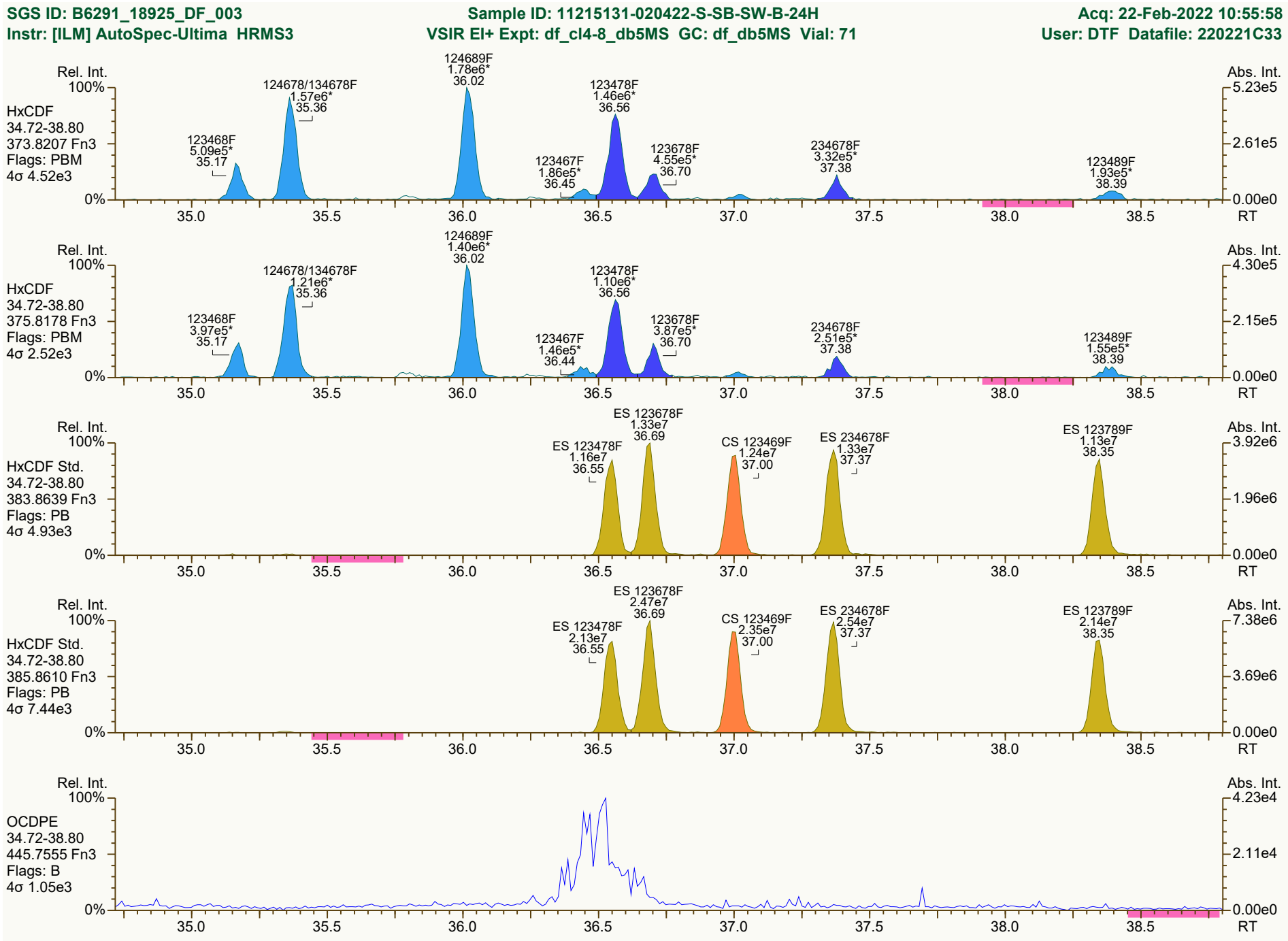


Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_003.utp_res, saved 22-Feb-2022 15:24 (DTF) *Peak annotation: Areas, Centroids*

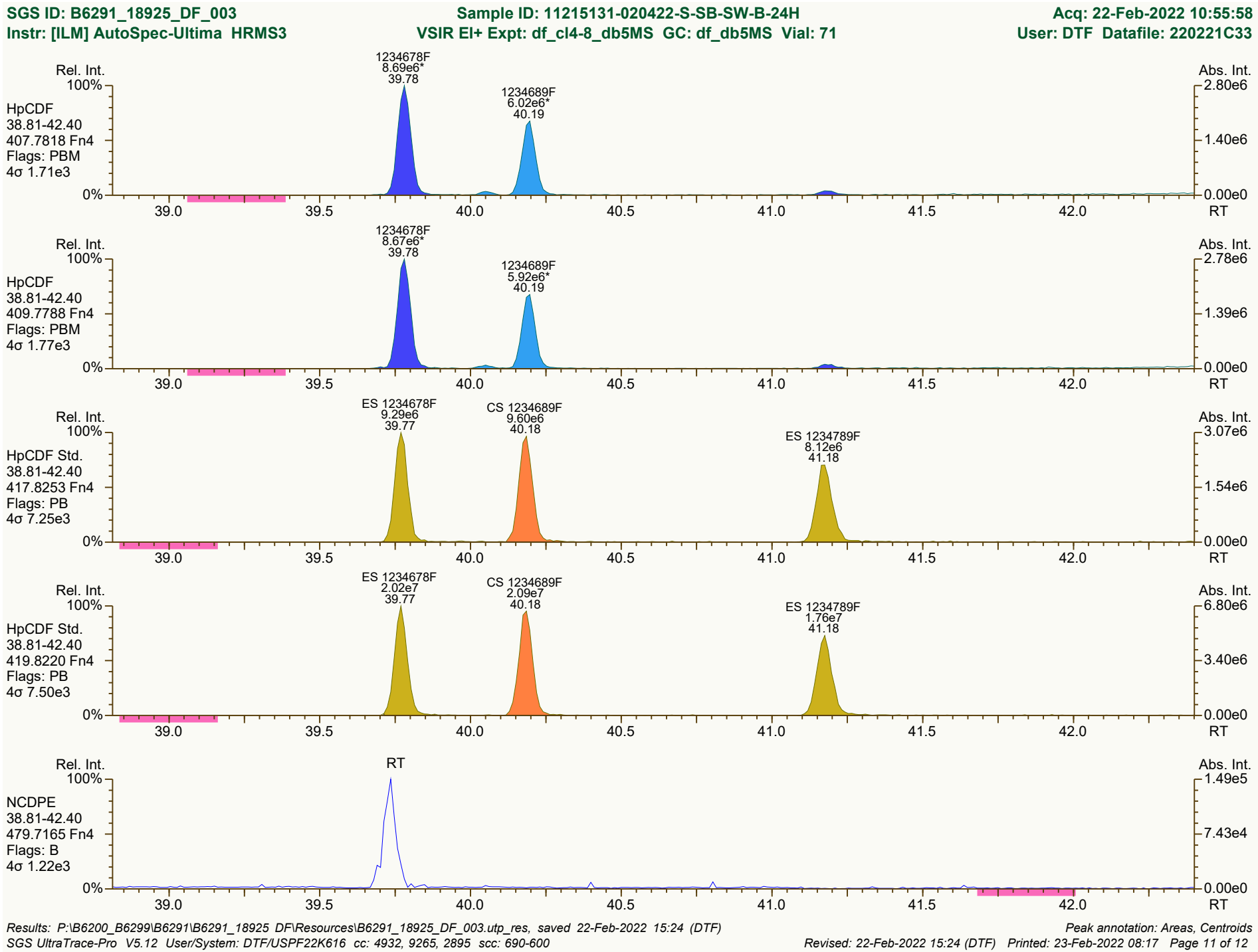
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7223 scc: 690-600 *Revised: 22-Feb-2022 15:23 (DTF) Printed: 23-Feb-2022 08:17 Page 8 of 12*

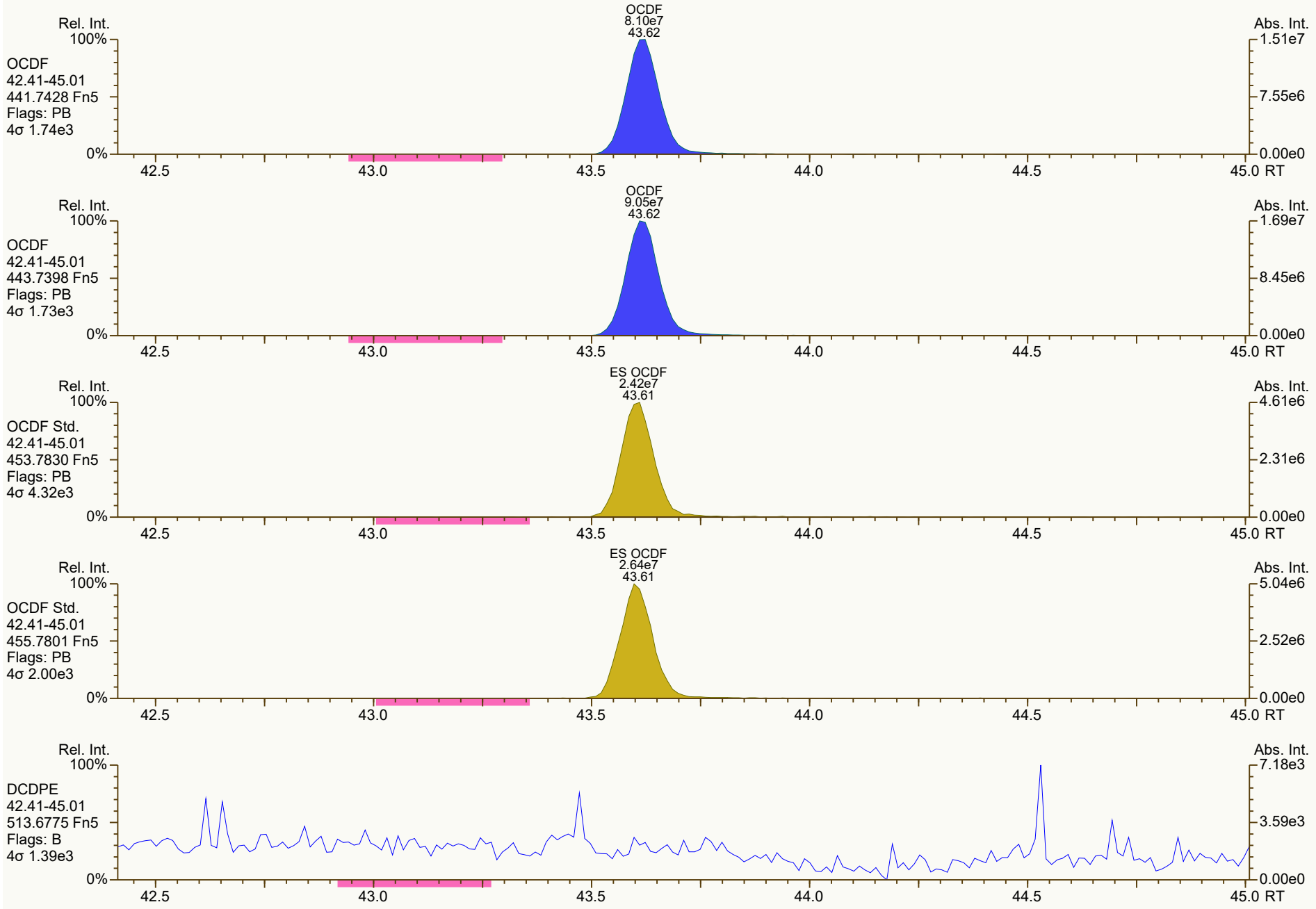

Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 4.67e3
0%
12368F...[3]
1.15e6*
31.07
13678F...[3]
1.63e5*
30.90
23468/12469F
3.35e5*
31.73
12348F
1.41e5*
31.96
12378F
1.05e6*
32.17
12678/12367F
4.25e5*
32.47
23478F
8.89e5
33.31
Abs. Int.
2.83e5
1.42e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 3.44e3
0%
12368F...[3]
7.41e5*
31.06
13678F...[3]
1.14e5*
30.91
23468/12469F
2.76e5*
31.74
12348F
1.04e5*
31.96
12378F
6.57e5*
32.17
12678/12367F
2.80e5*
32.47
23478F
5.99e5
33.31
Abs. Int.
1.89e5
9.47e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 4.72e3
0%
CS 12346F
2.73e7
31.62
ES 12378F
2.61e7
32.16
ES 23478F
2.60e7
33.28
Abs. Int.
7.39e6
3.69e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 6.65e3
0%
CS 12346F
1.71e7
31.62
ES 12378F
1.66e7
32.16
ES 23478F
1.69e7
33.28
Abs. Int.
4.95e6
2.48e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.36e3
0%
Abs. Int.
1.35e4
6.75e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

SGS ID: B6291_18925_DF_003 | Sample ID: 11215131-020422-S-SB-SW-B-24H | Acq: 22-Feb-2022 10:55:58
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71 | User: DTF Datafile: 220221C33



Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_003.utp_res, saved 22-Feb-2022 15:24 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7011, 4515, 4643 scc: 690-600 | Revised: 22-Feb-2022 15:24 (DTF) Printed: 23-Feb-2022 08:17 Page 10 of 12


SGS ID: B6291_18925_DF_003
Sample ID: 11215131-020422-S-SB-SW-B-24H
Acq: 22-Feb-2022 10:55:58
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 220221C33
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 1.71e3
1234678F
8.69e6*
39.78
1234689F
6.02e6*
40.19
2.80e6
1.40e6
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 1.77e3
1234678F
8.67e6*
39.78
1234689F
5.92e6*
40.19
2.78e6
1.39e6
0.00e0
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 7.25e3
ES 1234678F
9.29e6
39.77
CS 1234689F
9.60e6
40.18
ES 1234789F
8.12e6
41.18
3.07e6
1.54e6
0.00e0
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 7.50e3
ES 1234678F
2.02e7
39.77
CS 1234689F
2.09e7
40.18
ES 1234789F
1.76e7
41.18
6.80e6
3.40e6
0.00e0
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.22e3
RT
1.49e5
7.43e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_003.utp_res, saved 22-Feb-2022 15:24 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4932, 9265, 2895 scc: 690-600
Revised: 22-Feb-2022 15:24 (DTF) Printed: 23-Feb-2022 08:17 Page 11 of 12


OCDF
8.10e7
43.62
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.74e3
0%
Abs. Int.
1.51e7
7.55e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
9.05e7
43.62
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.73e3
0%
Abs. Int.
1.69e7
8.45e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.42e7
43.61
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 4.32e3
0%
Abs. Int.
4.61e6
2.31e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.64e7
43.61
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 2.00e3
0%
Abs. Int.
5.04e6
2.52e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.39e3
0%
Abs. Int.
7.18e3
3.59e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6291_18925_DF_004 **Acq'd:** 22 Feb 2022 11:42 DTF **Wt/Vol:** 10.08 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020422-S-SB-DUP-15 **UTP:** 22-Feb-2022 15:36:14 DTF **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 911-691-KJH

Datafile: 220221C34 **Report:** 23 Feb 2022 08:09 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.26		1.0008	1.0008	0	9.25E+06	0.81	Y	1.18	69.1	5963.282	0.458
12378-PeCDD	33.64	J	1.0007	1.0005	-0.4	1.74E+05	1.49	Y	1.04	1.59	3828.234	0.325
123478-HxCDD	37.57	J	1.0004	1.0003	-0.2	1.75E+05	1.40	Y	1.09	1.74	7349.401	0.653
123678-HxCDD	37.70	EMPC	1.0036	1.0036	0	5.31E+05	1.48	N	1.15	4.93	7349.401	0.599
123789-HxCDD	38.00		1.0118	1.0117	-0.2	3.51E+05	1.32	Y	1.05	3.08	7349.401	0.585
1234678-HpCDD	40.74		1.0002	1.0003	+0.2	1.37E+07	1.04	Y	1.06	136	4358.165	0.364
OCDD	43.45		1.0003	1.0003	0	1.44E+08	0.91	Y	1.13	1,880	5474.094	0.926
2378-TCDF	27.39		1.0008	1.0008	0	3.95E+07	0.79	Y	1.08	216	6267.086	0.365
12378-PeCDF	32.18		1.0005	1.0005	0	1.35E+07	1.55	Y	1.02	84.1	5235.459	0.279
23478-PeCDF	33.31		1.0005	1.0008	+0.6	5.70E+06	1.56	Y	1.02	36.4	5235.459	0.285
123478-HxCDF	36.57		1.0004	1.0005	+0.2	2.19E+07	1.22	Y	1.27	142	8693.614	0.49
123678-HxCDF	36.71		1.0004	1.0005	+0.2	4.97E+06	1.30	Y	1.15	31.7	8693.614	0.462
234678-HxCDF	37.39		1.0005	1.0004	-0.2	1.38E+06	1.13	Y	1.19	8.74	8693.614	0.475
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	8693.614	0.522
1234678-HpCDF	39.79		1.0003	1.0003	0	1.00E+07	1.02	Y	1.37	70.1	3492.857	0.184
1234789-HpCDF	41.19		1.0003	1.0003	0	1.77E+06	0.99	Y	1.31	15.3	3492.857	0.267
OCDF	43.62		1.0002	1.0003	+0.3	1.20E+08	0.89	Y	1.07	1,300	4983.955	0.663

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.23	1.0243	1.0243	0	2.24E+07	0.78	Y	1.05	81.5
ES 12378-PeCDD	33.63	1.2198	1.2200	+0.4	2.09E+07	1.55	Y	0.88	90.5
ES 123478-HxCDD	37.56	0.9916	0.9915	-0.2	1.84E+07	1.25	Y	0.97	81.4
ES 123678-HxCDD	37.68	0.9947	0.9947	0	1.86E+07	1.28	Y	0.94	85
ES 123789-HxCDD	37.99	1.0029	1.0027	-0.5	2.16E+07	1.24	Y	1.09	85.4
ES 1234678-HpCDD	40.73	1.0749	1.0751	+0.5	1.89E+07	1.05	Y	0.91	89.2
ES OCDD	43.44	1.1460	1.1466	+1.6	2.71E+07	0.88	Y	0.62	93.5
ES 2378-TCDF	27.37	1.0531	1.0531	0	3.36E+07	0.82	Y	1.06	78.6
ES 12378-PeCDF	32.17	1.2378	1.2379	+0.2	3.12E+07	1.54	Y	0.91	84.9
ES 23478-PeCDF	33.29	1.2810	1.2811	+0.2	3.04E+07	1.56	Y	0.88	85.3
ES 123478-HxCDF	36.56	0.9650	0.9650	0	2.39E+07	0.53	Y	1.20	86.1
ES 123678-HxCDF	36.70	0.9688	0.9687	-0.2	2.70E+07	0.53	Y	1.35	86.1
ES 234678-HxCDF	37.37	0.9866	0.9866	0	2.64E+07	0.55	Y	1.24	91.6
ES 123789-HxCDF	38.35	1.0125	1.0124	-0.2	2.32E+07	0.53	Y	1.16	86.6
ES 1234678-HpCDF	39.78	1.0501	1.0501	0	2.07E+07	0.48	Y	0.97	92.3
ES 1234789-HpCDF	41.18	1.0870	1.0871	+0.2	1.75E+07	0.45	Y	0.85	88.4
ES OCDF	43.61	1.1505	1.1511	+1.6	3.42E+07	0.89	Y	0.81	91.3

Lab ID: B6291_18925_DF_004 **Acq'd:** 22 Feb 2022 11:42 DTF **Wt/Vol:** 10.08 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020422-S-SB-DUP-15 **UTP:** 22-Feb-2022 15:36:14 DTF **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 911-691-KJH

Datafile: 220221C34 **Report:** 23 Feb 2022 08:09 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.56		-	-	-	2.63E+07	0.84	Y	-	-
JS 1234-TCDF	25.98		-	-	-	4.04E+07	0.79	Y	-	-
JS 123467-HxCDD	37.88		-	-	-	1.16E+07	1.26	Y	-	-
CS 37Cl-2378-TCDD	28.26		1.0251	1.0251	0	1.07E+07	n/a	-	1.20	84.9
CS 12347-PeCDD	33.12		1.2016	1.2016	0	1.91E+07	1.63	Y	0.75	96.4
CS 12346-PeCDF	31.63		1.2172	1.2173	+0.2	3.08E+07	1.65	Y	0.85	89.8
CS 123469-HxCDF	37.01		0.9771	0.9770	-0.2	2.43E+07	0.54	Y	1.12	93.9
CS 1234689-HpCDF	40.19		1.0608	1.0609	+0.2	2.11E+07	0.46	Y	0.89	103
SS 37Cl-2378-TCDD	28.26		1.0251	1.0251	0	1.07E+07	n/a	-	1.15	104
SS 12347-PeCDD	33.12		1.2016	1.2016	0	1.91E+07	1.63	Y	0.86	106
SS 12346-PeCDF	31.63		1.2172	1.2173	+0.2	3.08E+07	1.65	Y	0.94	106
SS 123469-HxCDF	37.01		0.9771	0.9770	-0.2	2.43E+07	0.54	Y	0.83	109
SS 1234689-HpCDF	40.19		1.0608	1.0609	+0.2	2.11E+07	0.46	Y	0.92	111

Totals	Conc	EMPC
Total TCDD	84.2	84.9
Total PeCDD	10.9	13.3
Total HxCDD	77.4	82.4
Total HpCDD	401	401
Total Tetra-Octa Dioxins	2450	2460
Total TCDF	434	437
Total PeCDF	194	197
Total HxCDF	240	242
Total HpCDF	148	148
Total Tetra-Octa Furans	2,310	2320
Total Tetra-Octa Dioxins & Furans	4770	4780

Lab ID: B6291_18925_DF_004 **Acq'd: 22 Feb 2022 11:42 DTF** **Wt/Vol: 10.08 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020422-S-SB-DUP-15 **UTP: 22-Feb-2022 15:36:14 DTF** **J-level: 0.496 pg/g** **Split: 1** **Checkcode: 911-691-KJH**

Datafile: 220221C34 **Report: 23 Feb 2022 08:09 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.56		0.8701	0.8699	-0.3	2.87E+05	0.86	Y	1.18	2.15	5963.282	0.458
1379-TCDD	NotFnd		0.8829						1.18		5963.282	0.458
1369-TCDD	NotFnd		0.8982						1.18		5963.282	0.458
1469-TCDD	26.15		0.9261	0.9262	+0.2	7.14E+05	0.80	Y	1.18	5.34	5963.282	0.458
1247/1246/1248/1249-TCDD	26.38	EMPC	0.9348	0.9343	-0.8	8.67E+04	0.92	N	1.18	0.648	5963.282	0.458
1378-TCDD	26.60		0.9417	0.9420	+0.5	1.00E+05	0.87	Y	1.18	0.751	5963.282	0.458
1268-TCDD	NotFnd		0.9487						1.18		5963.282	0.458
1478-TCDD	NotFnd		0.9576						1.18		5963.282	0.458
1279-TCDD	NotFnd		0.9636						1.18		5963.282	0.458
1234/1269-TCDD	27.55		0.9761	0.9759	-0.3	1.25E+05	0.80	Y	1.18	0.934	5963.282	0.458
1236-TCDD	NotFnd		0.9812						1.18		5963.282	0.458
1237/1238-TCDD	NotFnd		0.9905						1.18		5963.282	0.458
1239-TCDD	NotFnd		0.9951						1.18		5963.282	0.458
2378-TCDD	**28.26**		**1.0008**	1.0008	**0**	9.25E+06	0.81	Y	**1.18**	**69.1**	**5963.282**	**0.458**
1278-TCDD	28.58		1.0124	1.0124	0	7.90E+05	0.83	Y	1.18	5.91	5963.282	0.458
1267-TCDD	NotFnd		1.0172						1.18		5963.282	0.458
1289-TCDD	NotFnd		1.0354						1.18		5963.282	0.458
12479/12468-PeCDD	31.12		0.9255	0.9255	0	3.88E+05	1.49	Y	1.04	3.54	3828.234	0.325
12469-PeCDD	31.66		0.9416	0.9415	-0.2	4.08E+05	1.38	Y	1.04	3.73	3828.234	0.325
12368-PeCDD	32.22	J EMPC	0.9582	0.9580	-0.4	1.64E+05	1.27	N	1.04	1.5	3828.234	0.325
12478-PeCDD	32.41	J EMPC	0.9637	0.9638	+0.2	9.72E+04	1.27	N	1.04	0.889	3828.234	0.325
12379-PeCDD	NotFnd		0.9668						1.04		3828.234	0.325
12369/12467/12489-PeCDD	32.77	J	0.9746	0.9746	0	2.21E+05	1.42	Y	1.04	2.03	3828.234	0.325
12346/12347-PeCDD	NotFnd		0.9858						1.04		3828.234	0.325
12378-PeCDD	33.64	J	**1.0007**	**1.0005**	**-0.4**	**1.74E+05**	**1.49**	**Y**	**1.04**	**1.59**	**3828.234**	**0.325**
12367-PeCDD	NotFnd		1.0036						1.04		3828.234	0.325
12389-PeCDD	NotFnd		1.0137						1.04		3828.234	0.325
124679/124689-HxCDD	35.83		0.9540	0.9539	-0.2	4.34E+06	1.31	Y	1.10	40.3	7349.401	0.609
123468-HxCDD	36.49		0.9715	0.9714	-0.2	6.24E+05	1.23	Y	1.10	5.79	7349.401	0.609
123679/123689-HxCDD	36.78		0.9793	0.9792	-0.2	2.15E+06	1.21	Y	1.10	20	7349.401	0.609
123469-HxCDD	36.91		0.9829	0.9826	-0.7	4.27E+05	1.05	Y	1.10	3.97	7349.401	0.609
123478-HxCDD	37.57	J	**1.0004**	**1.0003**	**-0.2**	**1.75E+05**	**1.40**	**Y**	1.09	**1.74**	**7349.401**	**0.653**
123678-HxCDD	37.70	EMPC	**1.0036**	**1.0036**	**0**	**5.31E+05**	**1.48**	**N**	1.15	**4.93**	**7349.401**	**0.599**
123467-HxCDD	37.90		1.0089	1.0089	0	2.79E+05	1.36	Y	1.10	2.59	7349.401	0.609
123789-HxCDD	38.00		**1.0118**	**1.0117**	**-0.2**	**3.51E+05**	**1.32**	**Y**	1.05	**3.08**	**7349.401**	**0.585**

Lab ID: B6291_18925_DF_004 **Acq'd: 22 Feb 2022 11:42 DTF** **Wt/Vol: 10.08 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020422-S-SB-DUP-15 **UTP: 22-Feb-2022 15:36:14 DTF** **J-level: 0.496 pg/g** **Split: 1** **Checkcode: 911-691-KJH**

Datafile: 220221C34 **Report: 23 Feb 2022 08:09 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

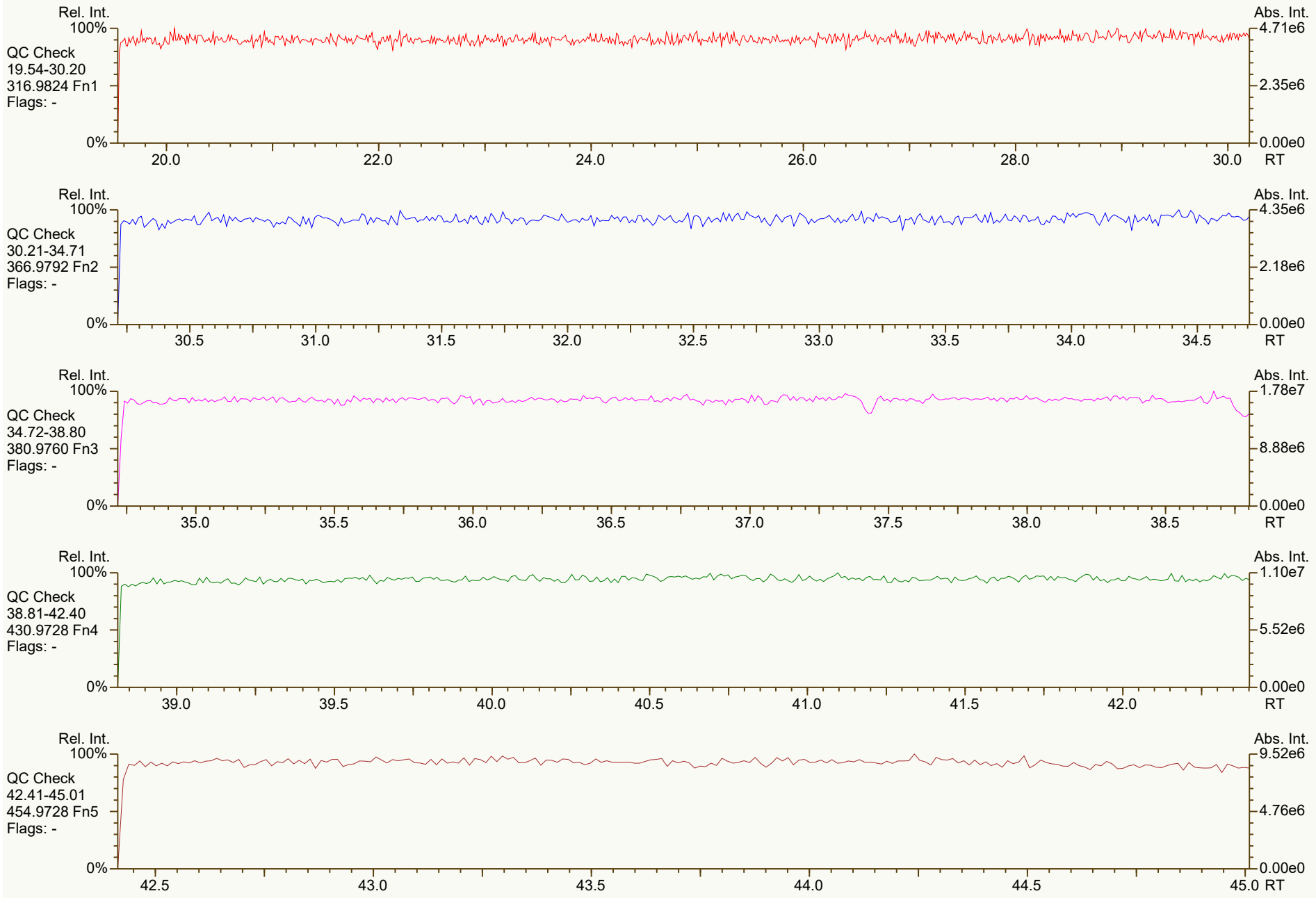
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.06		0.9836	0.9836	0	2.67E+07	1.03	Y	1.06	265	4358.165	0.364
1234678-HpCDD	**40.74**		**1.0002**	**1.0003**	**+0.2**	**1.37E+07**	**1.04**	**Y**	**1.06**	**136**	**4358.165**	**0.364**
OCDD	**43.45**		**1.0003**	**1.0003**	**0**	**1.44E+08**	**0.91**	**Y**	**1.13**	**1,880**	**5474.094**	**0.926**
OCDD-a	43.45		1.0002	1.0002	0	9.36E+06	2.34	Y	0.07	1,900	4662.188	12.3
1368-TCDF	NotFnd		0.8191						1.08		6267.086	0.365
1468-TCDF	23.01		0.8408	0.8409	+0.1	2.54E+05	0.70	Y	1.08	1.39	6267.086	0.365
2468-TCDF	23.66		0.8645	0.8646	+0.1	7.17E+05	0.79	Y	1.08	3.92	6267.086	0.365
1346/1246-TCDF	NotFnd		0.8772						1.08		6267.086	0.365
1347/1378/1247-TCDF	24.16		0.8833	0.8829	-0.6	8.17E+05	0.70	Y	1.08	4.47	6267.086	0.365
1348-TCDF	NotFnd		0.8932						1.08		6267.086	0.365
1248/1367/1379-TCDF	24.53		0.8980	0.8963	-2.5	2.54E+06	0.77	Y	1.08	13.9	6267.086	0.365
1268-TCDF	24.96		0.9119	0.9120	+0.1	1.06E+06	0.87	Y	1.08	5.77	6267.086	0.365
1467-TCDF	25.11	EMPC	0.9170	0.9174	+0.6	1.09E+05	0.59	N	1.08	0.598	6267.086	0.365
1478-TCDF	25.26		0.9234	0.9232	-0.3	1.84E+06	0.80	Y	1.08	10	6267.086	0.365
1369/1237-TCDF	25.64		0.9369	0.9369	0	4.27E+05	0.68	Y	1.08	2.34	6267.086	0.365
2467-TCDF	25.77		0.9415	0.9415	0	1.42E+05	0.72	Y	1.08	0.777	6267.086	0.365
2368-TCDF	25.93		0.9475	0.9474	-0.2	1.43E+06	0.75	Y	1.08	7.83	6267.086	0.365
1238/1234/1678/1469/1236-TCDF	26.00		0.9507	0.9502	-0.8	1.86E+06	0.80	Y	1.08	10.2	6267.086	0.365
1278-TCDF	26.48		0.9676	0.9675	-0.2	1.87E+07	0.76	Y	1.08	102	6267.086	0.365
1349-TCDF	NotFnd		0.9722						1.08		6267.086	0.365
1267-TCDF	26.76		0.9777	0.9778	+0.2	1.04E+06	0.87	Y	1.08	5.69	6267.086	0.365
2346/1249-TCDF	NotFnd		0.9843						1.08		6267.086	0.365
2347/1279-TCDF	27.16	EMPC	0.9926	0.9925	-0.2	4.93E+05	0.90	N	1.08	2.7	6267.086	0.365
2348-TCDF	27.26		0.9968	0.9963	-0.8	2.31E+06	0.83	Y	1.08	12.6	6267.086	0.365
2378-TCDF	**27.39**		**1.0008**	**1.0008**	**0**	**3.95E+07**	**0.79**	**Y**	**1.08**	**216**	**6267.086**	**0.365**
2367/3467-TCDF	27.75		1.0142	1.0140	-0.3	3.18E+06	0.81	Y	1.08	17.4	6267.086	0.365
1269-TCDF	27.99		1.0235	1.0230	-0.8	6.11E+05	0.74	Y	1.08	3.34	6267.086	0.365
1239-TCDF	NotFnd		1.0329						1.08		6267.086	0.365
1289-TCDF	29.41		1.0742	1.0748	+1.1	2.94E+06	0.76	Y	1.08	16.1	6267.086	0.365
13468/12468-PeCDF	29.36		0.9122	0.9128	+1.1	1.72E+06	1.62	Y	1.02	10.8	2896.509	0.156
13678/13467/12467-PeCDF	30.92	J	0.9606	0.9612	+1.1	2.19E+05	1.76	Y	1.02	1.38	5235.459	0.282
12368/13478/12478-PeCDF	31.08		0.9655	0.9663	+1.5	5.72E+06	1.50	Y	1.02	36	5235.459	0.282
14678-PeCDF	NotFnd		0.9685						1.02		5235.459	0.282
13479-PeCDF	NotFnd		0.9716						1.02		5235.459	0.282
13469/12479-PeCDF	NotFnd		0.9794						1.02		5235.459	0.282
12346-PeCDF	NotFnd		0.9836						1.02		5235.459	0.282

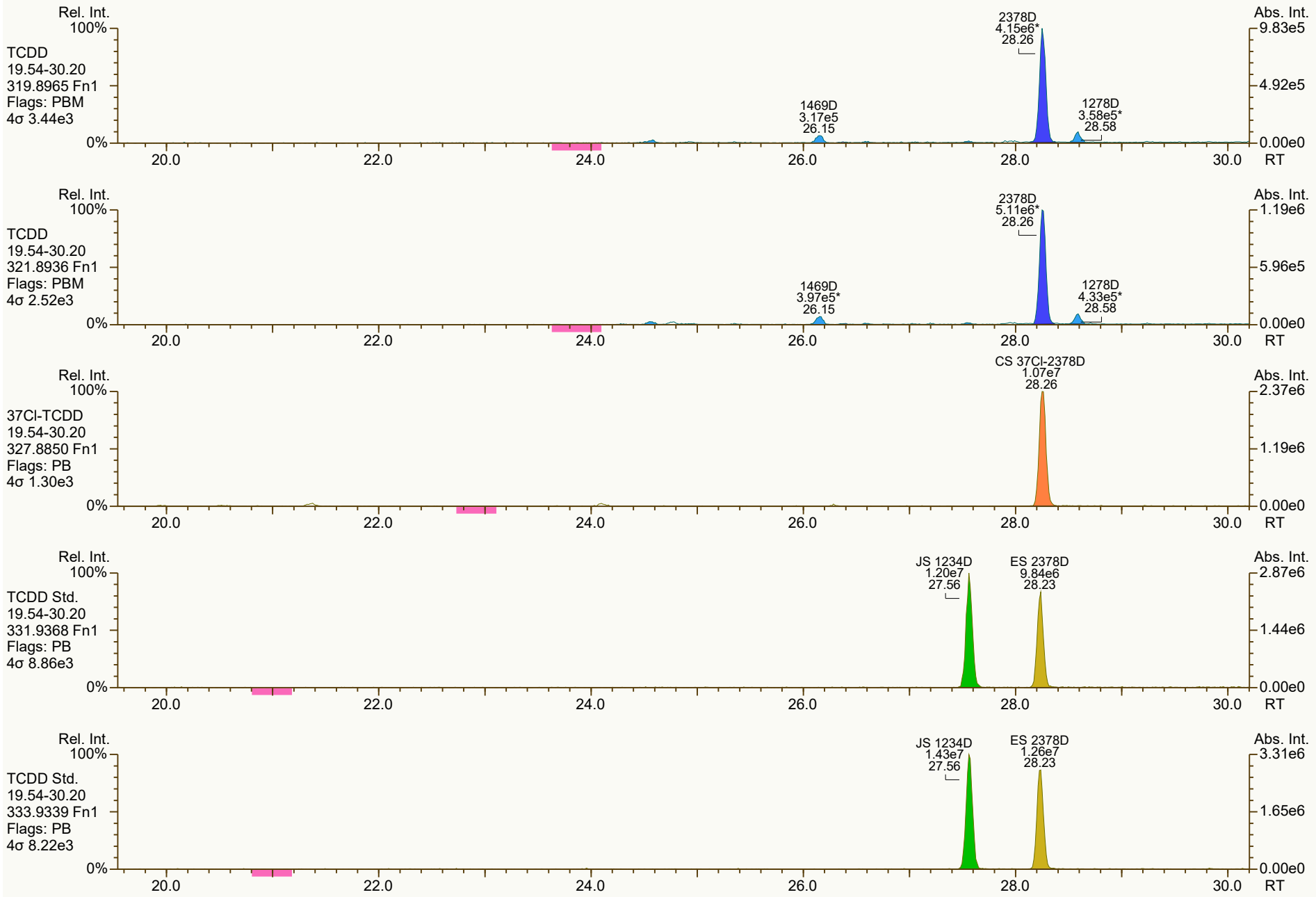
Lab ID: B6291_18925_DF_004 **Acq'd: 22 Feb 2022 11:42 DTF** **Wt/Vol: 10.08 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

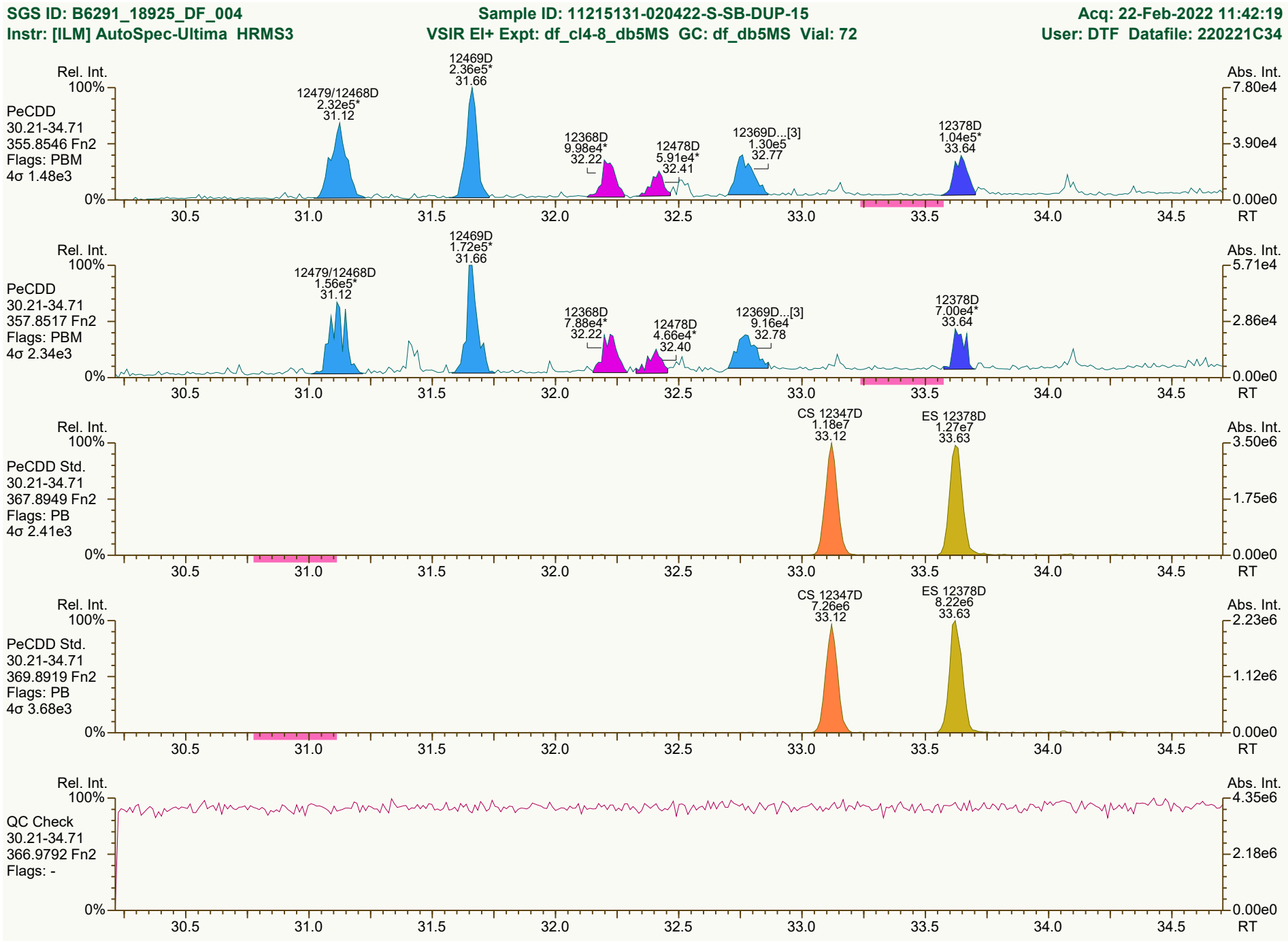
Client ID: 11215131-020422-S-SB-DUP-15 **UTP: 22-Feb-2022 15:36:14 DTF** **J-level: 0.496 pg/g** **Split: 1** **Checkcode: 911-691-KJH**

Datafile: 220221C34 **Report: 23 Feb 2022 08:09 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.74	J EMPC	0.9866	0.9867	+0.2	3.11E+05	1.30	N	1.02	1.96	5235.459	0.282
12347-PeCDF	31.82	J EMPC	0.9891	0.9892	+0.2	7.85E+04	1.22	N	1.02	0.495	5235.459	0.282
12348-PeCDF	31.97		0.9938	0.9940	+0.4	5.76E+05	1.50	Y	1.02	3.63	5235.459	0.282
12378-PeCDF	**32.18**		**1.0005**	**1.0005**	**0**	**1.35E+07**	**1.55**	**Y**	**1.02**	**84.1**	**5235.459**	**0.279**
12678/12367-PeCDF	32.48		1.0091	1.0098	+1.4	3.03E+06	1.51	Y	1.02	19.1	5235.459	0.282
12379-PeCDF	NotFnd		1.0144						1.02		5235.459	0.282
12679-PeCDF	NotFnd		0.9927						1.02		5235.459	0.282
23467/12369-PeCDF	33.17	J EMPC	0.9965	0.9964	-0.2	8.62E+04	1.14	N	1.02	0.543	5235.459	0.282
23478-PeCDF	**33.31**		**1.0005**	**1.0008**	**+0.6**	**5.70E+06**	**1.56**	**Y**	**1.02**	**36.4**	**5235.459**	**0.285**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5235.459	0.282
12349-PeCDF	NotFnd		1.0101						1.02		5235.459	0.282
12389-PeCDF	34.39	J	1.0330	1.0331	+0.2	3.29E+05	1.44	Y	1.02	2.07	5235.459	0.282
123468-HxCDF	35.17		0.9622	0.9622	0	6.48E+05	1.34	Y	1.19	4.29	8693.614	0.486
124678/134678-HxCDF	35.38		0.9678	0.9677	-0.2	3.07E+06	1.31	Y	1.19	20.3	8693.614	0.486
134679-HxCDF	NotFnd		0.9741						1.19		8693.614	0.486
124679-HxCDF	35.80	J	0.9795	0.9794	-0.2	1.33E+05	1.30	Y	1.19	0.878	8693.614	0.486
124689-HxCDF	36.03		0.9856	0.9856	0	2.71E+06	1.28	Y	1.19	17.9	8693.614	0.486
123467-HxCDF	36.45	J EMPC	0.9972	0.9971	-0.2	2.47E+05	1.01	N	1.19	1.63	8693.614	0.486
123478-HxCDF	**36.57**		**1.0004**	**1.0005**	**+0.2**	**2.19E+07**	**1.22**	**Y**	**1.27**	**142**	**8693.614**	**0.49**
123678-HxCDF	**36.71**		**1.0004**	**1.0005**	**+0.2**	**4.97E+06**	**1.30**	**Y**	**1.15**	**31.7**	**8693.614**	**0.462**
123479-HxCDF	NotFnd		1.0048						1.19		8693.614	0.486
123469-HxCDF	NotFnd		1.0089						1.19		8693.614	0.486
123679-HxCDF	NotFnd		0.9942						1.19		8693.614	0.486
234678-HxCDF	**37.39**		**1.0005**	**1.0004**	**-0.2**	**1.38E+06**	**1.13**	**Y**	**1.19**	**8.74**	**8693.614**	**0.475**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		8693.614	0.486
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**8693.614**	**0.522**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.39		1.0006	1.0010	+0.9	2.09E+06	1.28	Y	1.19	13.8	8693.614	0.486
1234678-HpCDF	**39.79**		**1.0003**	**1.0003**	**0**	**1.00E+07**	**1.02**	**Y**	**1.37**	**70.1**	**3492.857**	**0.184**
1234679-HpCDF	40.06		1.0068	1.0069	+0.2	4.29E+05	1.12	Y	1.34	3.33	3492.857	0.222
1234689-HpCDF	40.20		1.0104	1.0105	+0.2	7.68E+06	1.06	Y	1.34	59.6	3492.857	0.222
1234789-HpCDF	**41.19**		**1.0003**	**1.0003**	**0**	**1.77E+06**	**0.99**	**Y**	**1.31**	**15.3**	**3492.857**	**0.267**
OCDF	**43.62**		**1.0002**	**1.0003**	**+0.3**	**1.20E+08**	**0.89**	**Y**	**1.07**	**1,300**	**4983.955**	**0.663**
OCDF-a	43.62		1.0001	1.0002	+0.3	7.86E+06	2.26	Y	0.07	1,370	3808.954	8.18

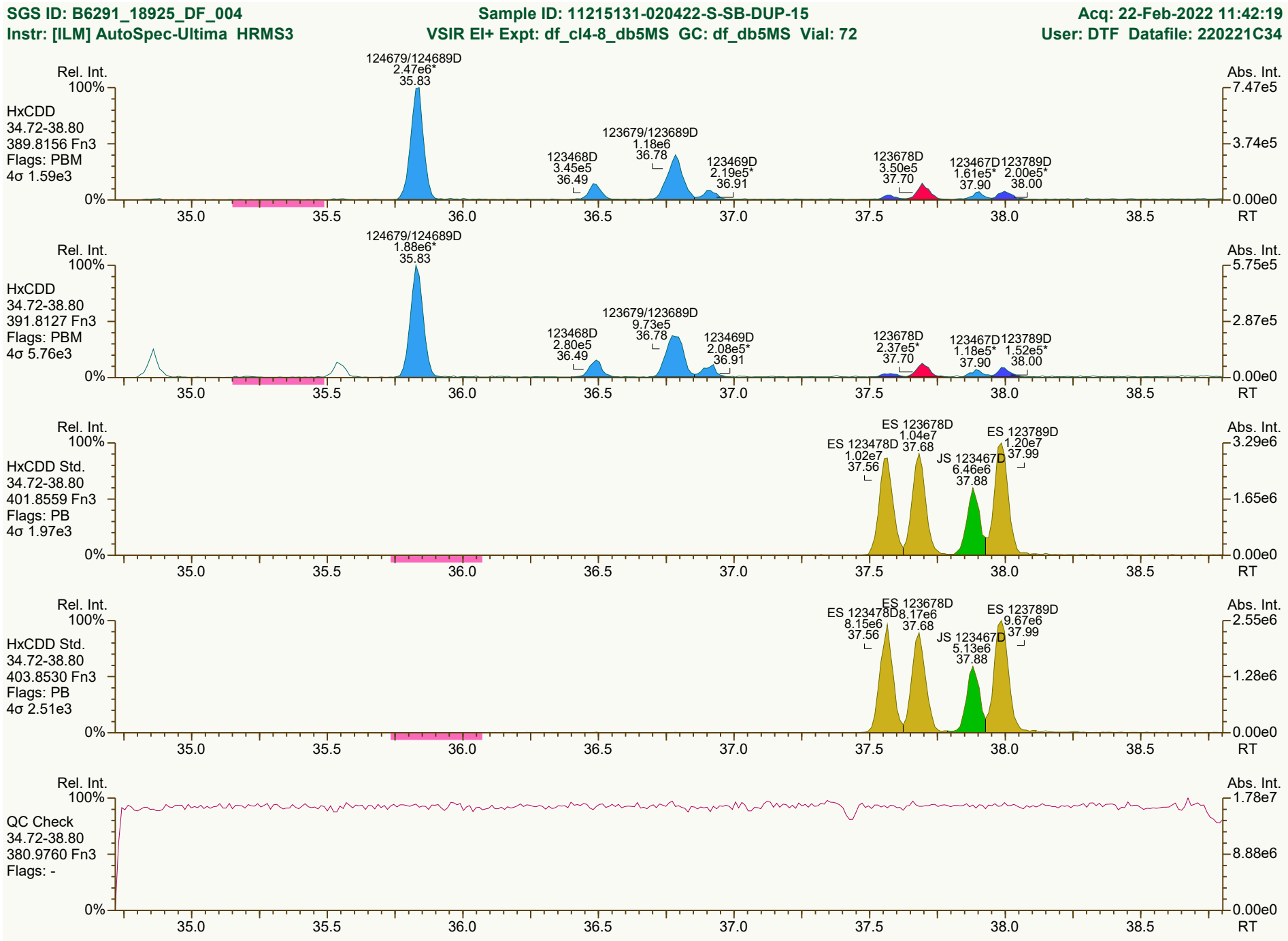

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.71e6
2.35e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.35e6
2.18e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.78e7
8.88e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.10e7
5.52e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
9.52e6
4.76e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 3.44e3
0%
2378D
4.15e6*
28.26
1469D
3.17e5
26.15
1278D
3.58e5*
28.58
Abs. Int.
9.83e5
4.92e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.52e3
0%
2378D
5.11e6*
28.26
1469D
3.97e5*
26.15
1278D
4.33e5*
28.58
Abs. Int.
1.19e6
5.96e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.30e3
0%
CS 37Cl-2378D
1.07e7
28.26
Abs. Int.
2.37e6
1.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 8.86e3
0%
JS 1234D
1.20e7
27.56
ES 2378D
9.84e6
28.23
Abs. Int.
2.87e6
1.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 8.22e3
0%
JS 1234D
1.43e7
27.56
ES 2378D
1.26e7
28.23
Abs. Int.
3.31e6
1.65e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

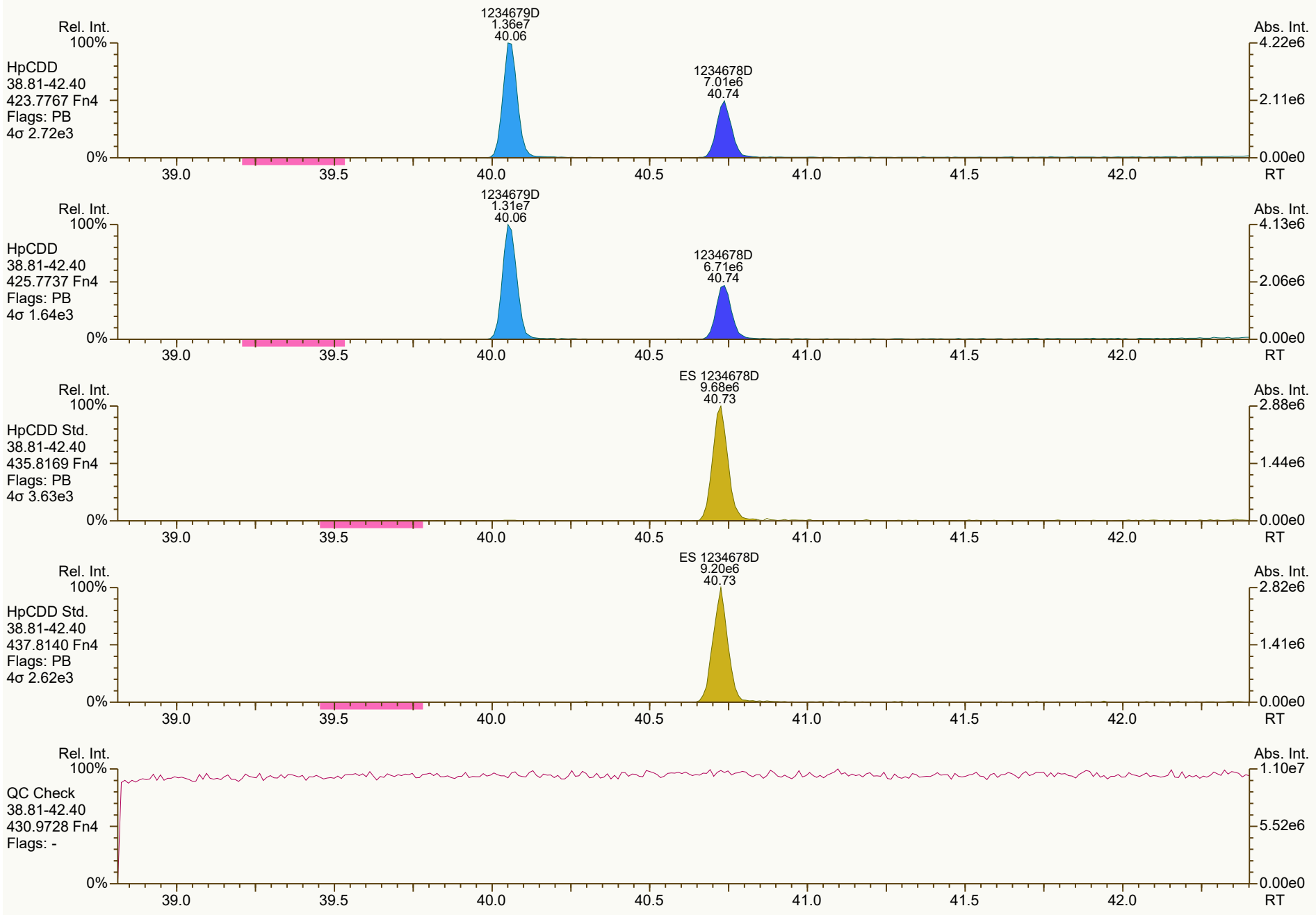


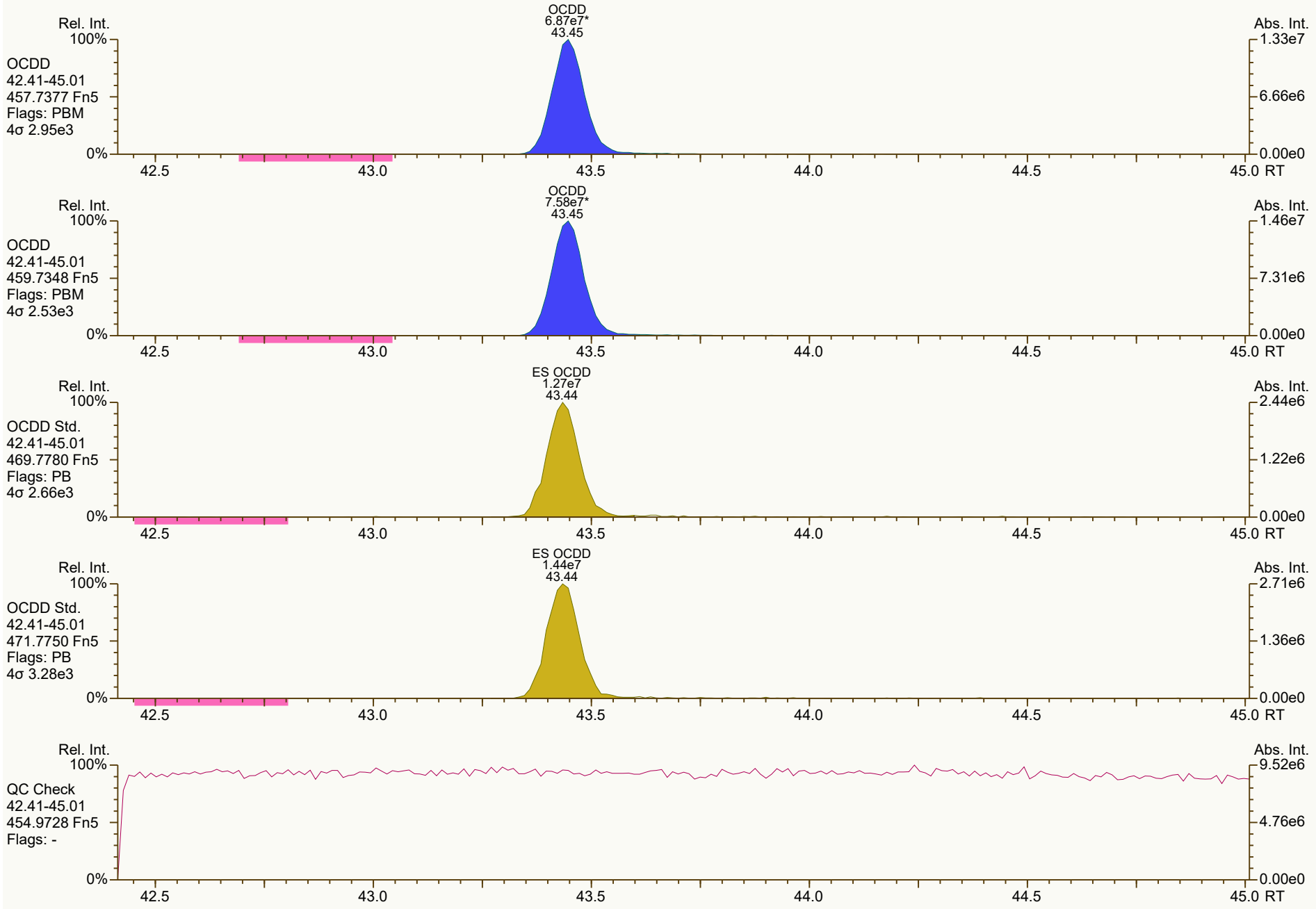
Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_004.utp_res, saved 22-Feb-2022 15:35 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9205, 1139 scc: 911-691
Revised: 22-Feb-2022 15:29 (DTF) Printed: 23-Feb-2022 08:18 Page 3 of 12

SGS ID: B6291_18925_DF_004 | Sample ID: 11215131-020422-S-SB-DUP-15 | Acq: 22-Feb-2022 11:42:19
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72 | User: DTF Datafile: 220221C34



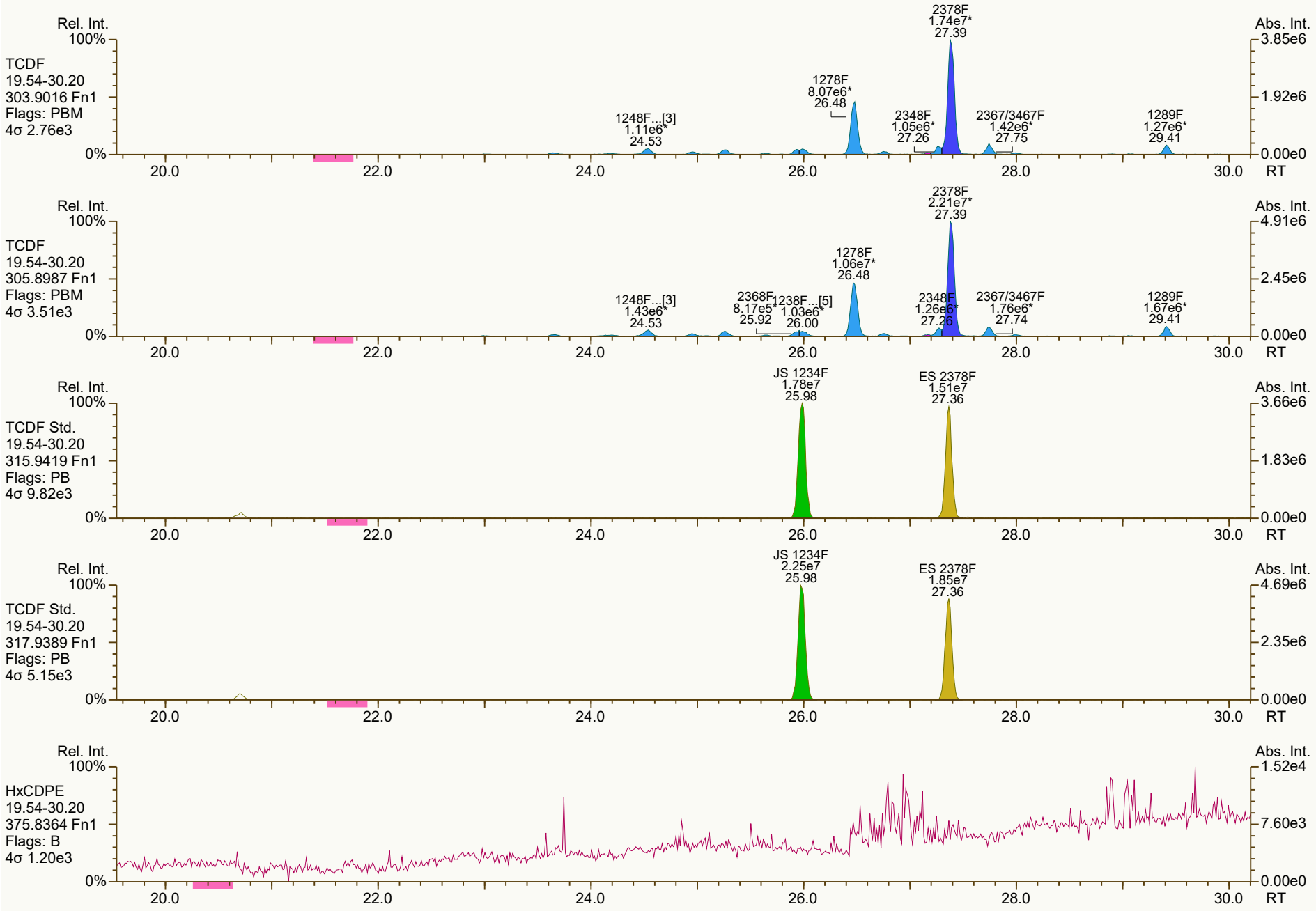
Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_004.utp_res, saved 22-Feb-2022 15:35 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4112, 7809 scc: 911-691 | Revised: 22-Feb-2022 15:30 (DTF) Printed: 23-Feb-2022 08:18 Page 4 of 12


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 2.72e3
1234679D
1.36e7
40.06
1234678D
7.01e6
40.74
Abs. Int.
4.22e6
2.11e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.64e3
1234679D
1.31e7
40.06
1234678D
6.71e6
40.74
Abs. Int.
4.13e6
2.06e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 3.63e3
ES 1234678D
9.68e6
40.73
Abs. Int.
2.88e6
1.44e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.62e3
ES 1234678D
9.20e6
40.73
Abs. Int.
2.82e6
1.41e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.10e7
5.52e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 2.95e3
0%
OCDD
6.87e7*
43.45
Abs. Int.
1.33e7
6.66e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 2.53e3
0%
OCDD
7.58e7*
43.45
Abs. Int.
1.46e7
7.31e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 2.66e3
0%
ES OCDD
1.27e7
43.44
Abs. Int.
2.44e6
1.22e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 3.28e3
0%
ES OCDD
1.44e7
43.44
Abs. Int.
2.71e6
1.36e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.52e6
4.76e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: B6291_18925_DF_004 | Sample ID: 11215131-020422-S-SB-DUP-15 | Acq: 22-Feb-2022 11:42:19

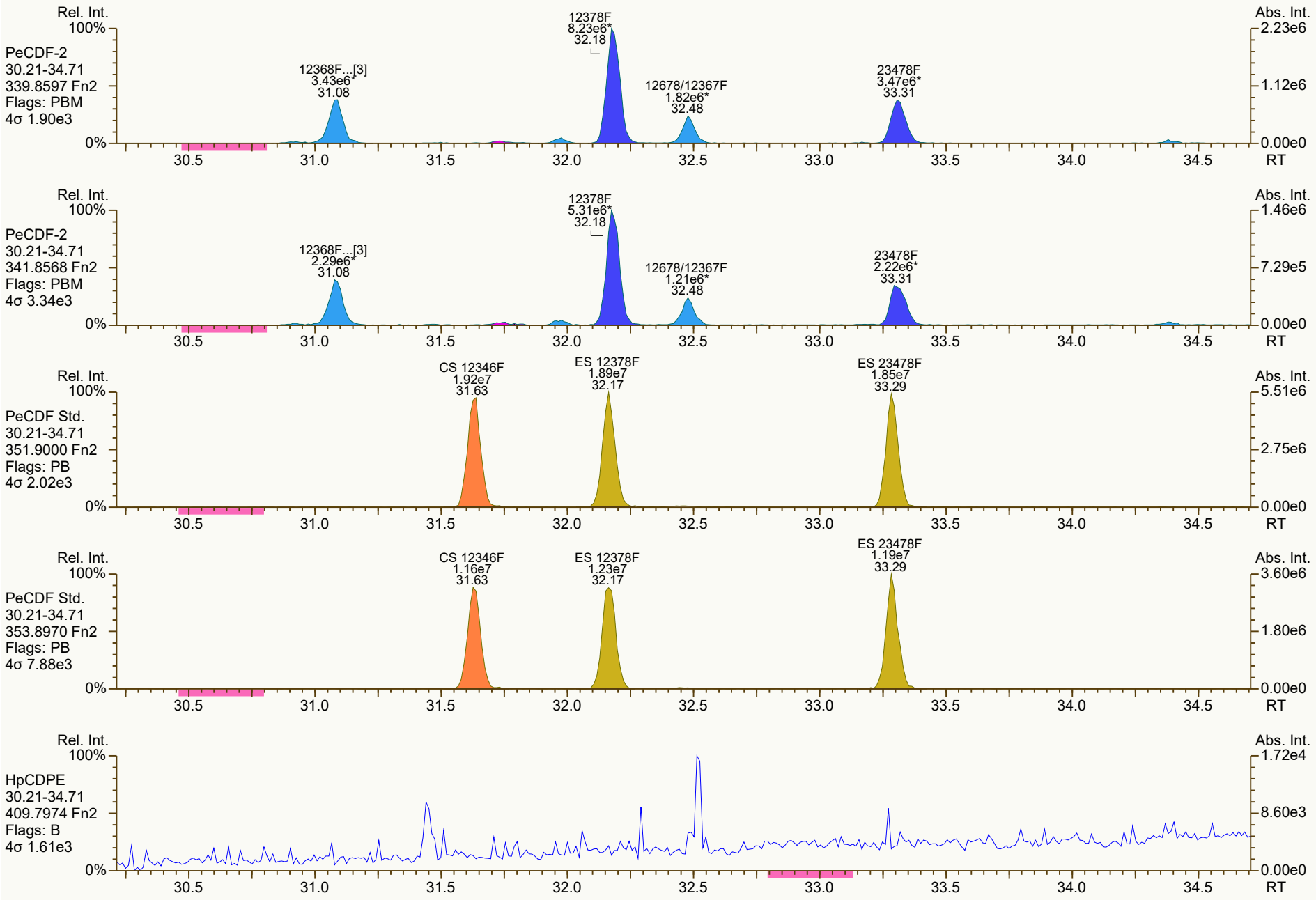
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72 | User: DTF Datafile: 220221C34

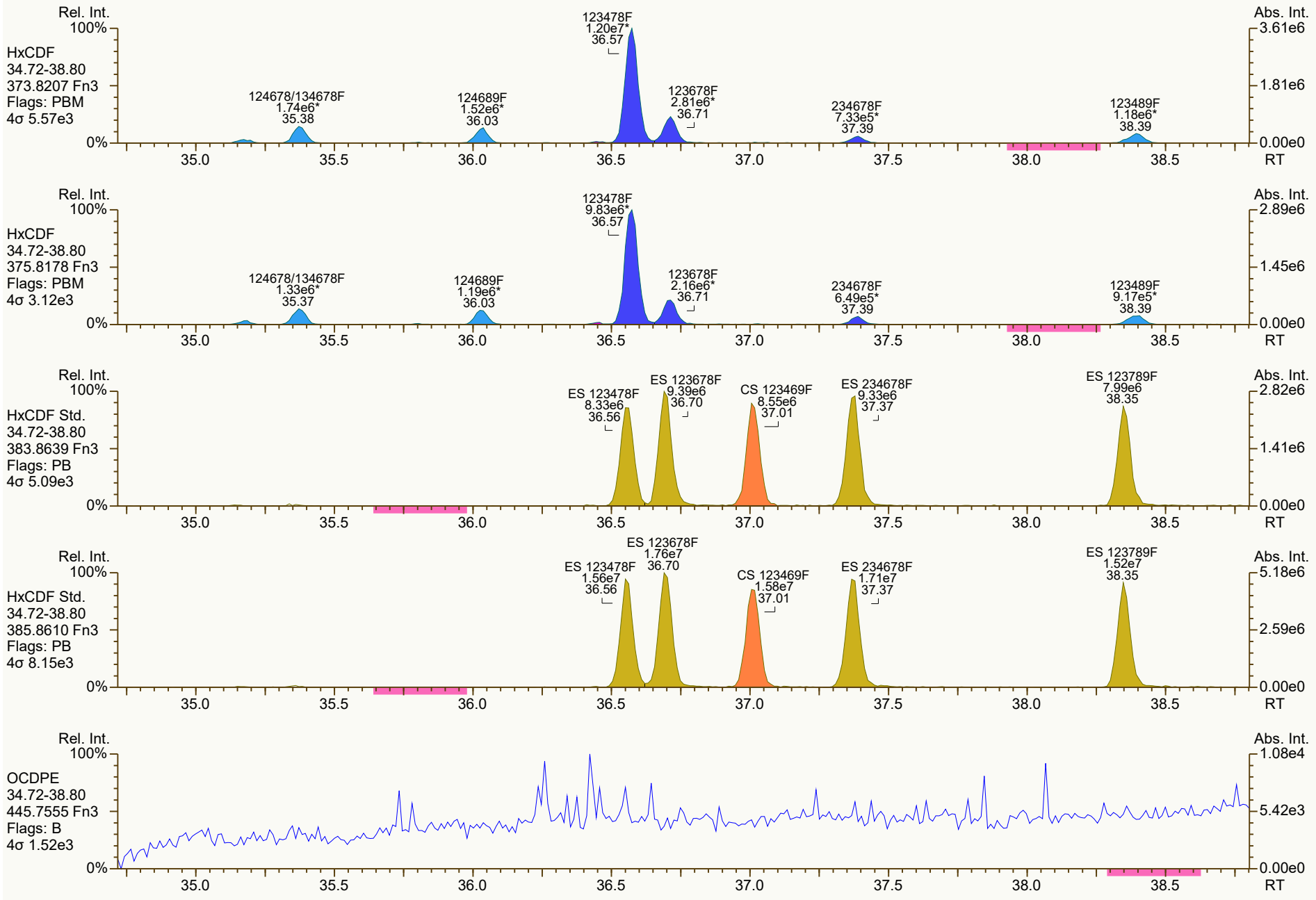


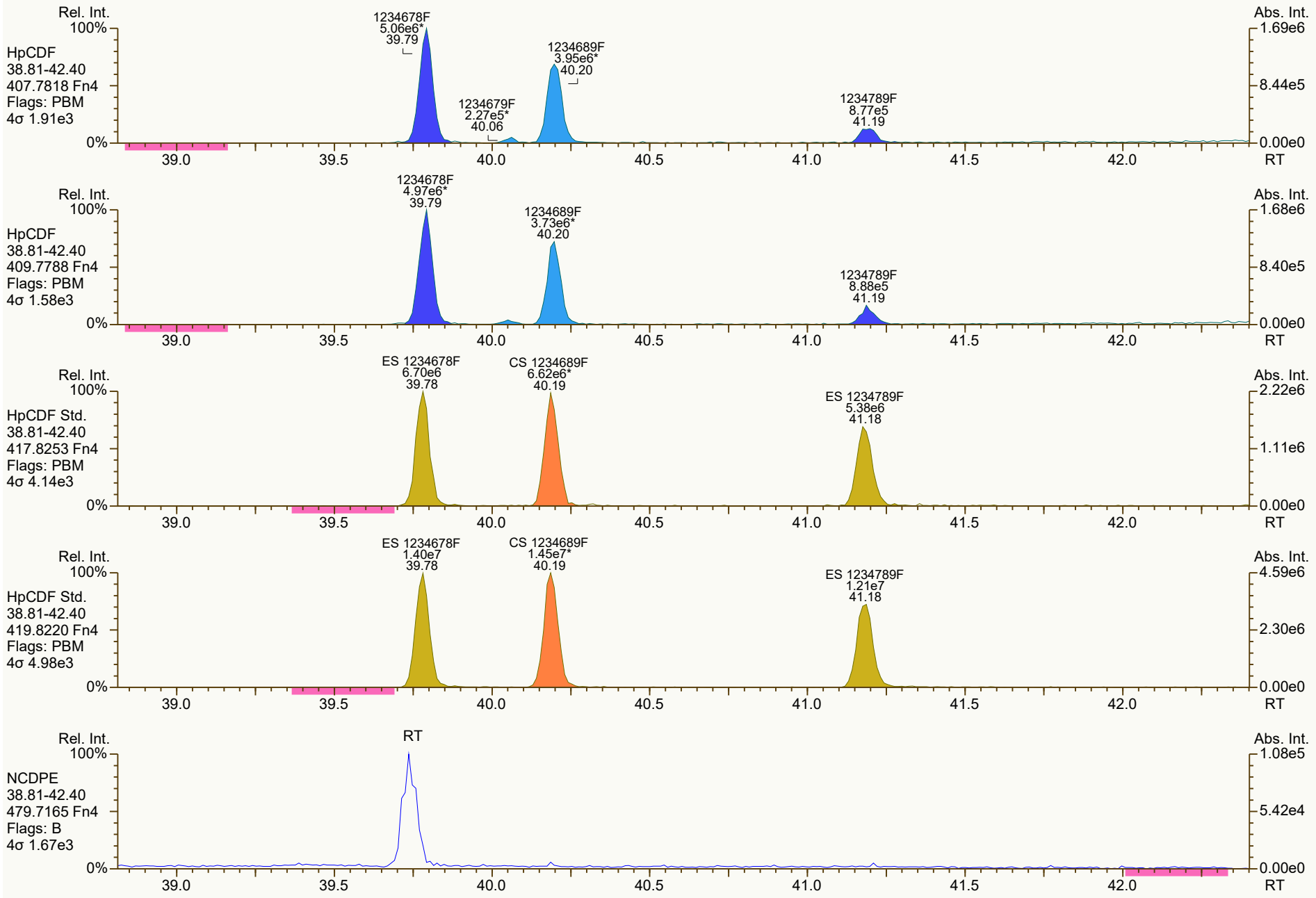
Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_004.utp_res, saved 22-Feb-2022 15:35 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7312, 1263, 9905 scc: 911-691 *Revised: 22-Feb-2022 15:31 (DTF) Printed: 23-Feb-2022 08:18 Page 7 of 12*

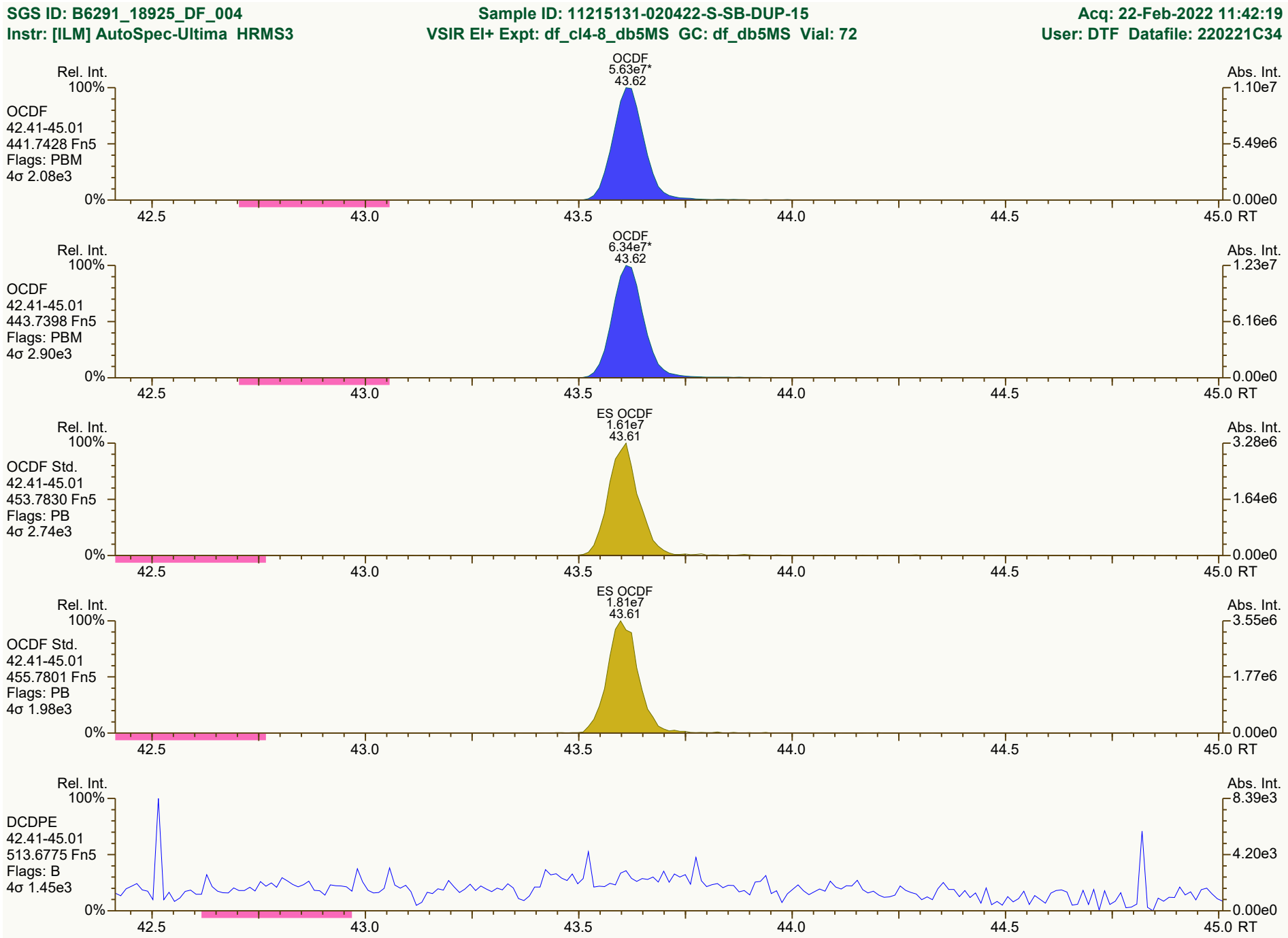

Rel. Int.
100%
0%
Abs. Int.
2.64e5
1.32e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
13468/12468F
1.06e6*
29.36
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.67e3
13468/12468F
6.58e5*
29.36
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.22e3
Abs. Int.
4.71e6
2.35e6
QC Check
19.54-30.20
316.9824 Fn1
Flags: -


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 1.90e3
0%
12368F...[3]
3.43e6*
31.08
12378F
8.23e6*
32.18
12678/12367F
1.82e6*
32.48
23478F
3.47e6*
33.31
Abs. Int.
2.23e6
1.12e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 3.34e3
0%
12368F...[3]
2.29e6*
31.08
12378F
5.31e6*
32.18
12678/12367F
1.21e6*
32.48
23478F
2.22e6*
33.31
Abs. Int.
1.46e6
7.29e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 2.02e3
0%
CS 12346F
1.92e7
31.63
ES 12378F
1.89e7
32.17
ES 23478F
1.85e7
33.29
Abs. Int.
5.51e6
2.75e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 7.88e3
0%
CS 12346F
1.16e7
31.63
ES 12378F
1.23e7
32.17
ES 23478F
1.19e7
33.29
Abs. Int.
3.60e6
1.80e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.61e3
0%
Abs. Int.
1.72e4
8.60e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 5.57e3
0%
124678/134678F
1.74e6*
35.38
124689F
1.52e6*
36.03
123478F
1.20e7*
36.57
123678F
2.81e6*
36.71
234678F
7.33e5*
37.39
123489F
1.18e6*
38.39
Abs. Int.
3.61e6
1.81e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 3.12e3
0%
124678/134678F
1.33e6*
35.37
124689F
1.19e6*
36.03
123478F
9.83e6*
36.57
123678F
2.16e6*
36.71
234678F
6.49e5*
37.39
123489F
9.17e5*
38.39
Abs. Int.
2.89e6
1.45e6
0.00e0
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 5.09e3
0%
ES 123478F
8.33e6
36.56
ES 123678F
9.39e6
36.70
CS 123469F
8.55e6
37.01
ES 234678F
9.33e6
37.37
ES 123789F
7.99e6
38.35
Abs. Int.
2.82e6
1.41e6
0.00e0
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 8.15e3
0%
ES 123478F
1.56e7
36.56
ES 123678F
1.76e7
36.70
CS 123469F
1.58e7
37.01
ES 234678F
1.71e7
37.37
ES 123789F
1.52e7
38.35
Abs. Int.
5.18e6
2.59e6
0.00e0
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.52e3
0%
Abs. Int.
1.08e4
5.42e3
0.00e0
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 1.91e3
1234678F
5.06e6*
39.79
1234679F
2.27e5*
40.06
1234689F
3.95e6*
40.20
1234789F
8.77e5
41.19
Abs. Int.
1.69e6
8.44e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 1.58e3
1234678F
4.97e6*
39.79
1234689F
3.73e6*
40.20
1234789F
8.88e5
41.19
Abs. Int.
1.68e6
8.40e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 4.14e3
ES 1234678F
6.70e6
39.78
CS 1234689F
6.62e6*
40.19
ES 1234789F
5.38e6
41.18
Abs. Int.
2.22e6
1.11e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 4.98e3
ES 1234678F
1.40e7
39.78
CS 1234689F
1.45e7*
40.19
ES 1234789F
1.21e7
41.18
Abs. Int.
4.59e6
2.30e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.67e3
RT
Abs. Int.
1.08e5
5.42e4
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

SGS ID: B6291_18925_DF_004 | Sample ID: 11215131-020422-S-SB-DUP-15 | Acq: 22-Feb-2022 11:42:19
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72 | User: DTF Datafile: 220221C34



Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_004.utp_res, saved 22-Feb-2022 15:35 (DTF) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9364, 9085, 6899 scc: 911-691 | *Revised: 22-Feb-2022 15:35 (DTF) Printed: 23-Feb-2022 08:18 Page 12 of 12*

Lab ID: B6291_18925_DF_005 **Acq'd:** 22 Feb 2022 12:28 DTF **Wt/Vol:** 10.18 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020522-S-SB-SW-O-24 **UTP:** 23-Feb-2022 08:07:38 DTF **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 366-008-NMS

Datafile: 220221C35 **Report:** 23 Feb 2022 08:09 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.23		1.0008	1.0008	0	2.36E+06	0.80	Y	1.18	19.9	6735.992	0.613
12378-PeCDD	33.63	J	1.0007	1.0005	-0.4	1.32E+05	1.52	Y	1.04	1.4	3091.104	0.296
123478-HxCDD	37.57	J	1.0004	1.0005	+0.2	7.20E+04	1.30	Y	1.09	0.785	3245.573	0.313
123678-HxCDD	37.69	J	1.0036	1.0037	+0.2	2.13E+05	1.24	Y	1.15	2.22	3245.573	0.3
123789-HxCDD	38.00	J EMPC	1.0118	1.0119	+0.2	1.40E+05	1.47	N	1.05	1.41	3245.573	0.293
1234678-HpCDD	40.73		1.0002	1.0003	+0.2	6.19E+06	1.03	Y	1.06	69.5	3551.878	0.338
OCDD	43.43		1.0003	1.0003	0	7.62E+07	0.90	Y	1.13	1,160	5355.722	1.09
2378-TCDF	27.36		1.0008	1.0007	-0.2	1.01E+07	0.79	Y	1.08	63.1	4886.242	0.347
12378-PeCDF	32.17		1.0005	1.0005	0	8.87E+05	1.55	Y	1.02	5.91	4378.805	0.272
23478-PeCDF	33.29		1.0005	1.0006	+0.2	7.67E+05	1.72	Y	1.02	5.55	4378.805	0.287
123478-HxCDF	36.56		1.0004	1.0005	+0.2	6.22E+05	1.12	Y	1.27	4.82	3822.117	0.236
123678-HxCDF	36.70	J	1.0004	1.0005	+0.2	3.12E+05	1.21	Y	1.15	2.12	3822.117	0.221
234678-HxCDF	37.38	J	1.0005	1.0004	-0.2	2.23E+05	1.24	Y	1.19	1.57	3822.117	0.232
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3822.117	0.282
1234678-HpCDF	39.78		1.0003	1.0003	0	1.51E+06	0.98	Y	1.37	11.4	3717.515	0.192
1234789-HpCDF	41.18	J	1.0003	1.0001	-0.5	1.64E+05	0.93	Y	1.31	1.62	3717.515	0.361
OCDF	43.61		1.0002	1.0003	+0.3	2.78E+06	0.94	Y	1.07	35.4	3195.394	0.533

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.21		1.0243	1.0244	+0.2	1.97E+07	0.80	Y	1.05	86.9
ES 12378-PeCDD	33.62		1.2198	1.2207	+1.8	1.79E+07	1.55	Y	0.88	94
ES 123478-HxCDD	37.55		0.9916	0.9914	-0.5	1.66E+07	1.25	Y	0.97	87.5
ES 123678-HxCDD	37.67		0.9947	0.9946	-0.2	1.64E+07	1.23	Y	0.94	89.3
ES 123789-HxCDD	37.98		1.0029	1.0027	-0.5	1.86E+07	1.30	Y	1.09	87.4
ES 1234678-HpCDD	40.72		1.0749	1.0751	+0.5	1.65E+07	1.06	Y	0.91	92.9
ES OCDD	43.42		1.1460	1.1464	+1.0	2.28E+07	0.90	Y	0.62	94
ES 2378-TCDF	27.34		1.0531	1.0535	+0.7	2.91E+07	0.78	Y	1.06	78.7
ES 12378-PeCDF	32.15		1.2378	1.2389	+2.1	2.88E+07	1.60	Y	0.91	90.4
ES 23478-PeCDF	33.28		1.2810	1.2822	+2.4	2.66E+07	1.69	Y	0.88	86.3
ES 123478-HxCDF	36.54		0.9650	0.9648	-0.4	2.00E+07	0.56	Y	1.20	85.6
ES 123678-HxCDF	36.69		0.9688	0.9686	-0.4	2.50E+07	0.54	Y	1.35	95
ES 234678-HxCDF	37.37		0.9866	0.9865	-0.2	2.35E+07	0.52	Y	1.24	97.3
ES 123789-HxCDF	38.34		1.0125	1.0123	-0.5	1.95E+07	0.52	Y	1.16	86.8
ES 1234678-HpCDF	39.77		1.0501	1.0501	0	1.91E+07	0.45	Y	0.97	101
ES 1234789-HpCDF	41.17		1.0870	1.0871	+0.2	1.52E+07	0.46	Y	0.85	91.8
ES OCDF	43.60		1.1505	1.1511	+1.6	2.88E+07	0.88	Y	0.81	91.7

Lab ID: B6291_18925_DF_005 **Acq'd:** 22 Feb 2022 12:28 DTF **Wt/Vol:** 10.18 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020522-S-SB-SW-O-24 **UTP:** 23-Feb-2022 08:07:38 DTF **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 366-008-NMS

Datafile: 220221C35 **Report:** 23 Feb 2022 08:09 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.54		-	-	-	2.16E+07	0.78	Y	-	-
JS 1234-TCDF	25.95		-	-	-	3.50E+07	0.78	Y	-	-
JS 123467-HxCDD	37.88		-	-	-	9.73E+06	1.24	Y	-	-
CS 37Cl-2378-TCDD	28.23		1.0251	1.0252	+0.2	9.12E+06	n/a	-	1.20	87.7
CS 12347-PeCDD	33.11		1.2016	1.2022	+1.2	1.62E+07	1.62	Y	0.75	99.6
CS 12346-PeCDF	31.62		1.2172	1.2183	+2.1	2.74E+07	1.55	Y	0.85	92
CS 123469-HxCDF	37.00		0.9771	0.9768	-0.7	2.12E+07	0.56	Y	1.12	97.4
CS 1234689-HpCDF	40.18		1.0608	1.0609	+0.2	1.73E+07	0.46	Y	0.89	100
SS 37Cl-2378-TCDD	28.23		1.0251	1.0252	+0.2	9.12E+06	n/a	-	1.15	101
SS 12347-PeCDD	33.11		1.2016	1.2022	+1.2	1.62E+07	1.62	Y	0.86	106
SS 12346-PeCDF	31.62		1.2172	1.2183	+2.1	2.74E+07	1.55	Y	0.94	102
SS 123469-HxCDF	37.00		0.9771	0.9768	-0.7	2.12E+07	0.56	Y	0.83	102
SS 1234689-HpCDF	40.18		1.0608	1.0609	+0.2	1.73E+07	0.46	Y	0.92	98.7

Totals	Conc	EMPC
Total TCDD	27.7	28.9
Total PeCDD	3.61	6.26
Total HxCDD	19.3	22.5
Total HpCDD	167	167
Total Tetra-Octa Dioxins	1380	1390
Total TCDF	211	217
Total PeCDF	45.5	46.1
Total HxCDF	22.7	23.4
Total HpCDF	32	32
Total Tetra-Octa Furans	347	354
Total Tetra-Octa Dioxins & Furans	1730	1740

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.798	0.80
Response	2.36E+06	2.36E+06

Lab ID: B6291_18925_DF_005 **Acq'd: 22 Feb 2022 12:28 DTF** **Wt/Vol: 10.18 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020522-S-SB-SW-O-24 **UTP: 23-Feb-2022 08:07:38 DTF** **J-level: 0.491 pg/g** **Split: 1** **Checkcode: 366-008-NMS**

Datafile: 220221C35 **Report: 23 Feb 2022 08:09 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.52		0.8701	0.8691	-1.5	1.12E+05	0.85	Y	1.18	0.949	6735.992	0.613
1379-TCDD	NotFnd		0.8829						1.18		6735.992	0.613
1369-TCDD	NotFnd		0.8982						1.18		6735.992	0.613
1469-TCDD	NotFnd		0.9261						1.18		6735.992	0.613
1247/1246/1248/1249-TCDD	26.36	EMPC	0.9348	0.9345	-0.5	1.37E+05	0.94	N	1.18	1.16	6735.992	0.613
1378-TCDD	26.57		0.9417	0.9417	0	1.67E+05	0.83	Y	1.18	1.41	6735.992	0.613
1268-TCDD	NotFnd		0.9487						1.18		6735.992	0.613
1478-TCDD	NotFnd		0.9576						1.18		6735.992	0.613
1279-TCDD	NotFnd		0.9636						1.18		6735.992	0.613
1234/1269-TCDD	27.55		0.9761	0.9767	+1.0	1.18E+05	0.78	Y	1.18	0.994	6735.992	0.613
1236-TCDD	NotFnd		0.9812						1.18		6735.992	0.613
1237/1238-TCDD	27.95		0.9905	0.9906	+0.2	1.91E+05	0.80	Y	1.18	1.61	6735.992	0.613
1239-TCDD	NotFnd		0.9951						1.18		6735.992	0.613
2378-TCDD	**28.23**		**1.0008**	1.0008	**0**	2.36E+06	0.80	Y	**1.18**	**19.9**	**6735.992**	**0.613**
1278-TCDD	28.56		1.0124	1.0124	0	3.46E+05	0.83	Y	1.18	2.92	6735.992	0.613
1267-TCDD	NotFnd		1.0172						1.18		6735.992	0.613
1289-TCDD	NotFnd		1.0354						1.18		6735.992	0.613
12479/12468-PeCDD	31.10	J EMPC	0.9255	0.9251	-0.7	1.12E+05	1.78	N	1.04	1.19	3091.104	0.296
12469-PeCDD	NotFnd		0.9416						1.04		3091.104	0.296
12368-PeCDD	32.21	J EMPC	0.9582	0.9583	+0.2	5.46E+04	1.91	N	1.04	0.579	3091.104	0.296
12478-PeCDD	32.40	J	0.9637	0.9638	+0.2	1.06E+05	1.67	Y	1.04	1.12	3091.104	0.296
12379-PeCDD	32.51	J EMPC	0.9668	0.9670	+0.4	3.96E+04	1.21	N	1.04	0.42	3091.104	0.296
12369/12467/12489-PeCDD	32.76	J	0.9746	0.9744	-0.4	1.03E+05	1.66	Y	1.04	1.09	3091.104	0.296
12346/12347-PeCDD	NotFnd		0.9858						1.04		3091.104	0.296
12378-PeCDD	33.63	J	**1.0007**	**1.0005**	**-0.4**	**1.32E+05**	**1.52**	**Y**	**1.04**	**1.4**	**3091.104**	**0.296**
12367-PeCDD	33.73	J EMPC	1.0036	1.0033	-0.6	4.28E+04	1.81	N	1.04	0.454	3091.104	0.296
12389-PeCDD	NotFnd		1.0137						1.04		3091.104	0.296
124679/124689-HxCDD	35.82		0.9540	0.9540	0	7.25E+05	1.41	Y	1.10	7.57	3245.573	0.301
123468-HxCDD	36.48	J EMPC	0.9715	0.9716	+0.2	1.17E+05	1.87	N	1.10	1.22	3245.573	0.301
123679/123689-HxCDD	36.78		0.9793	0.9794	+0.2	7.28E+05	1.26	Y	1.10	7.6	3245.573	0.301
123469-HxCDD	36.90	J	0.9829	0.9828	-0.2	1.08E+05	1.34	Y	1.10	1.12	3245.573	0.301
123478-HxCDD	37.57	J	**1.0004**	**1.0005**	**+0.2**	**7.20E+04**	**1.30**	**Y**	1.09	**0.785**	**3245.573**	**0.313**
123678-HxCDD	37.69	J	**1.0036**	**1.0037**	**+0.2**	**2.13E+05**	**1.24**	**Y**	1.15	**2.22**	**3245.573**	**0.3**
123467-HxCDD	37.88	J EMPC	1.0089	1.0088	-0.2	5.62E+04	1.47	N	1.10	0.587	3245.573	0.301
123789-HxCDD	38.00	J EMPC	**1.0118**	**1.0119**	**+0.2**	**1.40E+05**	**1.47**	**N**	1.05	**1.41**	**3245.573**	**0.293**

Lab ID: B6291_18925_DF_005 **Acq'd: 22 Feb 2022 12:28 DTF** **Wt/Vol: 10.18 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020522-S-SB-SW-O-24 **UTP: 23-Feb-2022 08:07:38 DTF** **J-level: 0.491 pg/g** **Split: 1** **Checkcode: 366-008-NMS**

Datafile: 220221C35 **Report: 23 Feb 2022 08:09 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

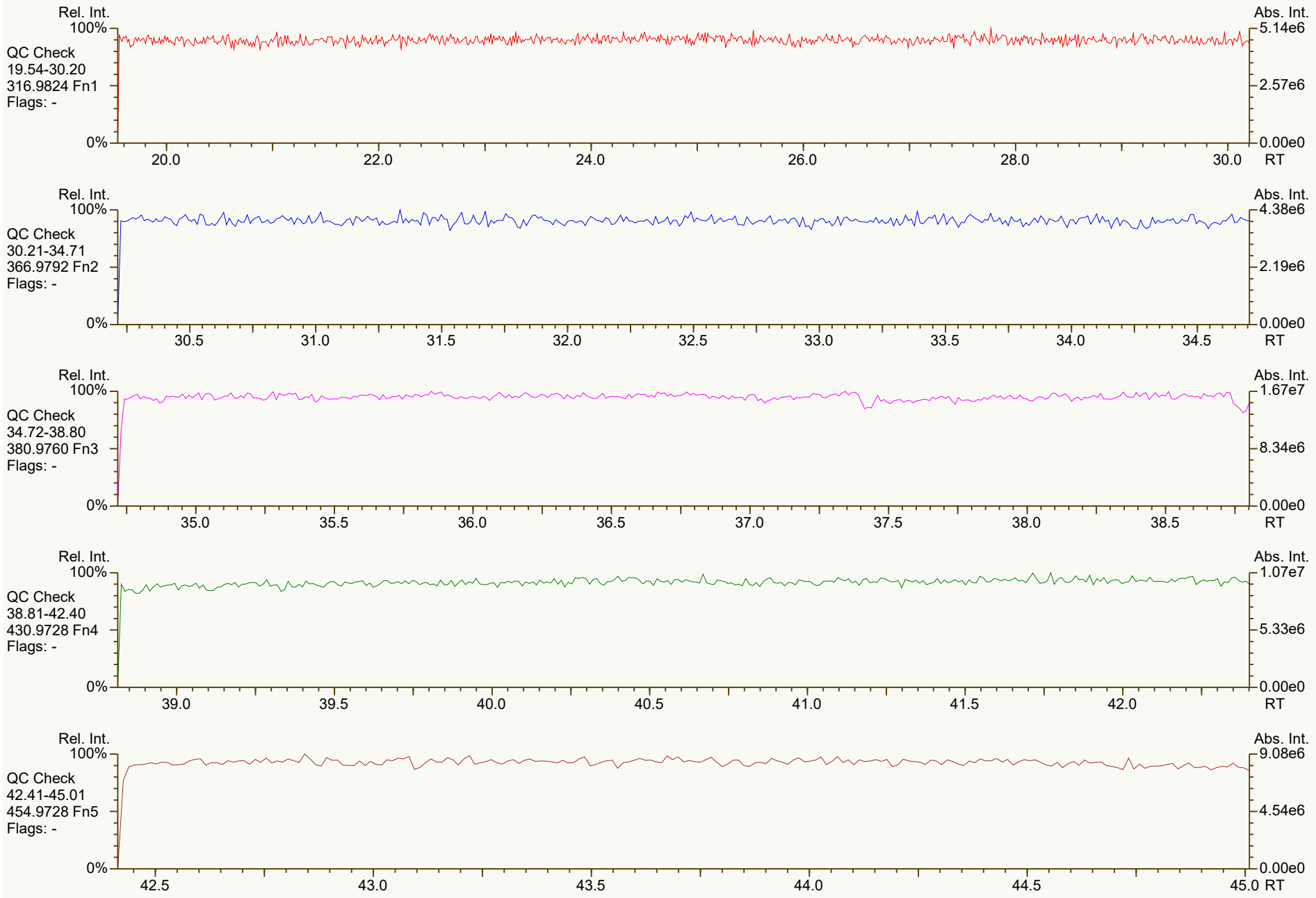
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.05		0.9836	0.9835	-0.2	8.67E+06	1.03	Y	1.06	97.3	3551.878	0.338
1234678-HpCDD	**40.73**		**1.0002**	**1.0003**	**+0.2**	**6.19E+06**	**1.03**	**Y**	**1.06**	**69.5**	**3551.878**	**0.338**
OCDD	**43.43**		**1.0003**	**1.0003**	**0**	**7.62E+07**	**0.90**	**Y**	**1.13**	**1,160**	**5355.722**	**1.09**
OCDD-a	43.43		1.0002	1.0002	0	4.74E+06	2.53	Y	0.07	1,130	4258.9	13.5
1368-TCDF	22.37		0.8191	0.8180	-1.5	5.64E+05	0.80	Y	1.08	3.53	4886.242	0.347
1468-TCDF	22.97	EMPC	0.8408	0.8400	-1.1	2.88E+05	0.92	N	1.08	1.8	4886.242	0.347
2468-TCDF	23.62		0.8645	0.8638	-1.0	4.02E+05	0.80	Y	1.08	2.51	4886.242	0.347
1346/1246-TCDF	23.97		0.8772	0.8767	-0.7	3.59E+05	0.76	Y	1.08	2.24	4886.242	0.347
1347/1378/1247-TCDF	24.13		0.8833	0.8825	-1.2	2.69E+06	0.81	Y	1.08	16.8	4886.242	0.347
1348-TCDF	24.39		0.8932	0.8921	-1.6	3.46E+05	0.83	Y	1.08	2.16	4886.242	0.347
1248/1367/1379-TCDF	24.53		0.8980	0.8970	-1.5	1.45E+06	0.80	Y	1.08	9.06	4886.242	0.347
1268-TCDF	24.92		0.9119	0.9115	-0.6	7.37E+05	0.81	Y	1.08	4.61	4886.242	0.347
1467-TCDF	25.06		0.9170	0.9165	-0.8	3.47E+05	0.79	Y	1.08	2.17	4886.242	0.347
1478-TCDF	25.23		0.9234	0.9229	-0.8	1.05E+06	0.86	Y	1.08	6.59	4886.242	0.347
1369/1237-TCDF	25.61		0.9369	0.9366	-0.5	7.39E+05	0.80	Y	1.08	4.62	4886.242	0.347
2467-TCDF	25.74		0.9415	0.9414	-0.2	5.66E+05	0.78	Y	1.08	3.54	4886.242	0.347
2368-TCDF	25.90		0.9475	0.9472	-0.5	1.20E+06	0.70	Y	1.08	7.48	4886.242	0.347
1238/1234/1678/1469/1236-TCDF	25.99		0.9507	0.9505	-0.3	1.95E+06	0.79	Y	1.08	12.2	4886.242	0.347
1278-TCDF	26.45		0.9676	0.9674	-0.3	5.48E+06	0.76	Y	1.08	34.2	4886.242	0.347
1349-TCDF	NotFnd		0.9722						1.08		4886.242	0.347
1267-TCDF	26.73		0.9777	0.9777	0	8.85E+05	0.74	Y	1.08	5.53	4886.242	0.347
2346/1249-TCDF	26.92	EMPC	0.9843	0.9845	+0.3	4.55E+05	0.90	N	1.08	2.84	4886.242	0.347
2347/1279-TCDF	27.13		0.9926	0.9924	-0.3	6.94E+05	0.82	Y	1.08	4.34	4886.242	0.347
2348-TCDF	27.25		0.9968	0.9966	-0.3	9.60E+05	0.73	Y	1.08	6	4886.242	0.347
2378-TCDF	**27.36**		**1.0008**	**1.0007**	**-0.2**	**1.01E+07**	**0.79**	**Y**	**1.08**	**63.1**	**4886.242**	**0.347**
2367/3467-TCDF	27.72		1.0142	1.0140	-0.3	2.32E+06	0.76	Y	1.08	14.5	4886.242	0.347
1269-TCDF	27.98	EMPC	1.0235	1.0232	-0.5	2.31E+05	0.90	N	1.08	1.44	4886.242	0.347
1239-TCDF	28.24		1.0329	1.0330	+0.2	1.16E+05	0.75	Y	1.08	0.723	4886.242	0.347
1289-TCDF	29.40		1.0742	1.0752	+1.8	7.90E+05	0.79	Y	1.08	4.94	4886.242	0.347
13468/12468-PeCDF	29.34		0.9122	0.9124	+0.4	6.02E+05	1.53	Y	1.02	4.17	2440.467	0.156
13678/13467/12467-PeCDF	30.89		0.9606	0.9606	0	7.20E+05	1.56	Y	1.02	5	4378.805	0.279
12368/13478/12478-PeCDF	31.06		0.9655	0.9660	+0.9	1.67E+06	1.54	Y	1.02	11.6	4378.805	0.279
14678-PeCDF	NotFnd		0.9685						1.02		4378.805	0.279
13479-PeCDF	31.23	J	0.9716	0.9713	-0.6	1.76E+05	1.33	Y	1.02	1.22	4378.805	0.279
13469/12479-PeCDF	31.49	J	0.9794	0.9794	0	1.72E+05	1.53	Y	1.02	1.19	4378.805	0.279
12346-PeCDF	31.63	J EMPC	0.9836	0.9836	0	8.36E+04	1.28	N	1.02	0.58	4378.805	0.279

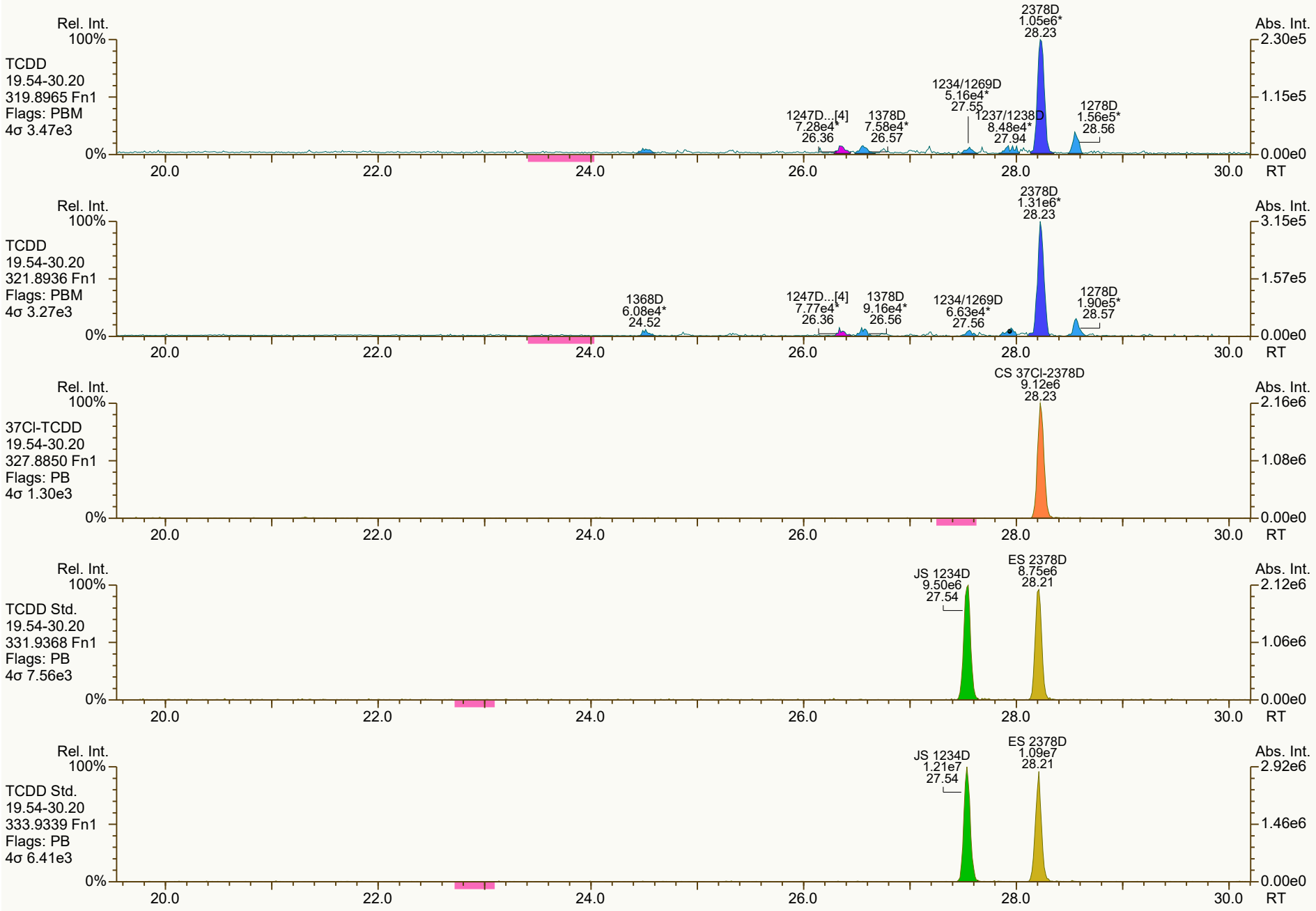
Lab ID: B6291_18925_DF_005 **Acq'd: 22 Feb 2022 12:28 DTF** **Wt/Vol: 10.18 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

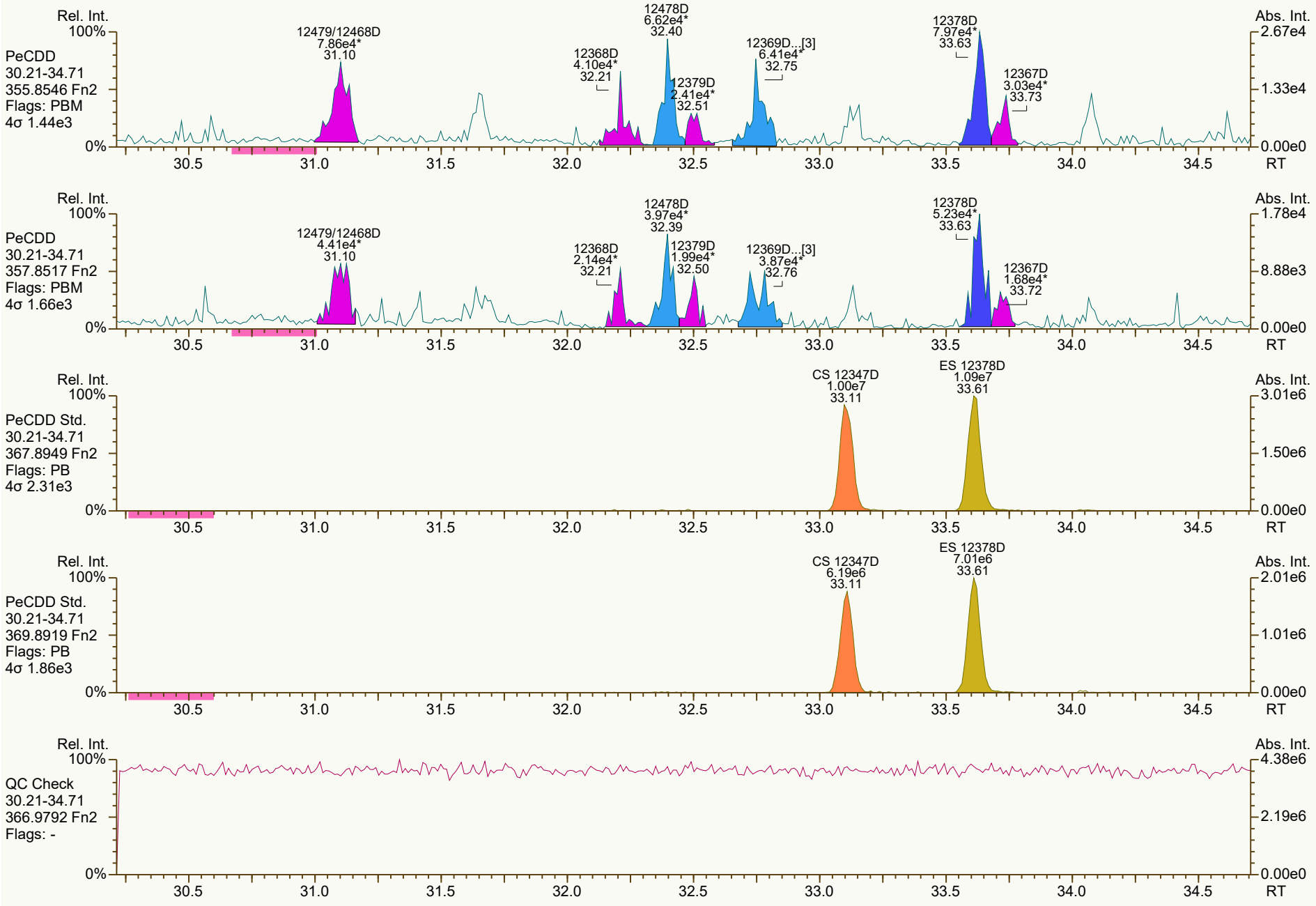
Client ID: 11215131-020522-S-SB-SW-O-24 **UTP: 23-Feb-2022 08:07:38 DTF** **J-level: 0.491 pg/g** **Split: 1** **Checkcode: 366-008-NMS**

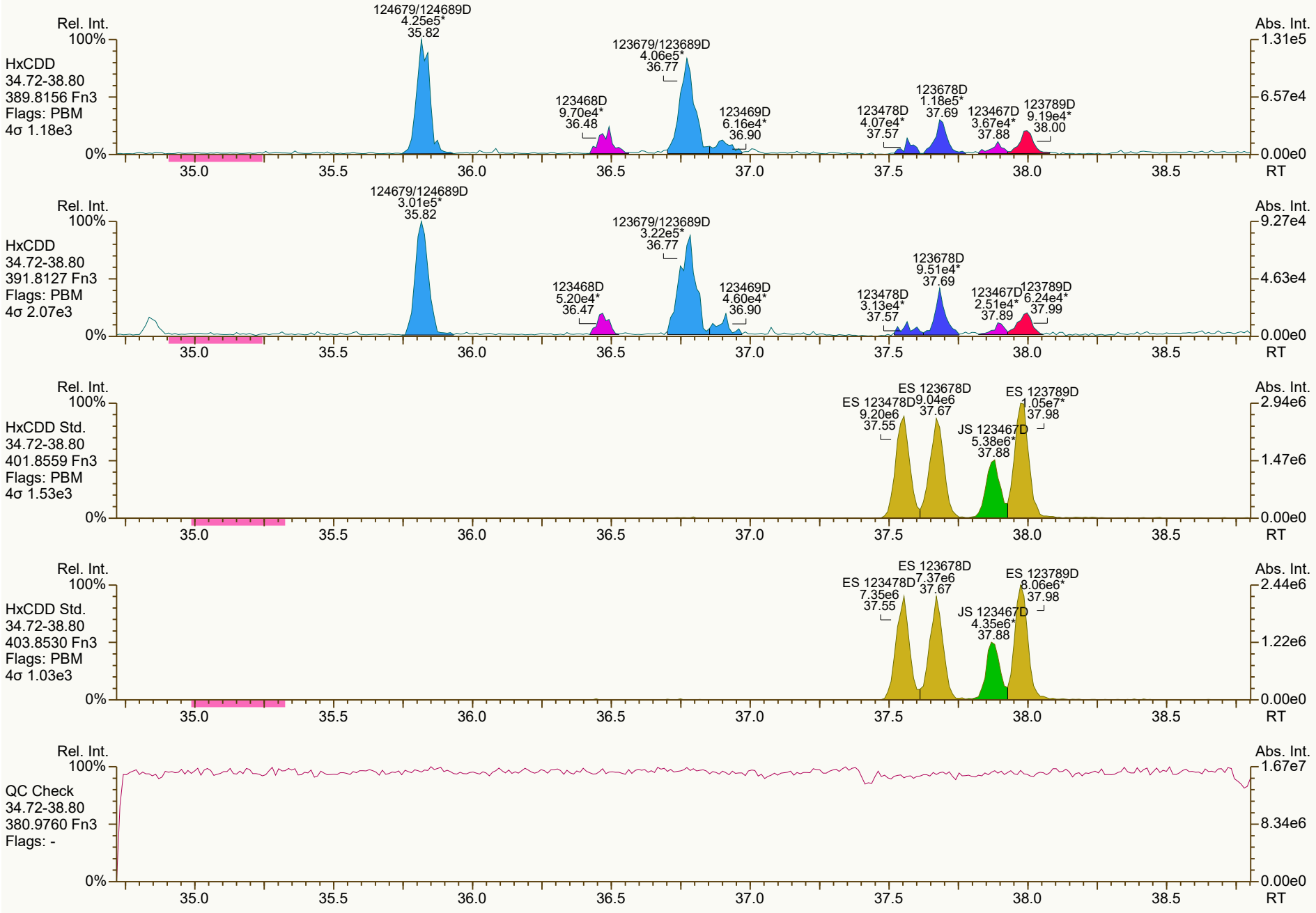
Datafile: 220221C35 **Report: 23 Feb 2022 08:09 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.73	J	0.9866	0.9868	+0.4	3.05E+05	1.75	Y	1.02	2.11	4378.805	0.279
12347-PeCDF	31.80	J	0.9891	0.9891	0	1.15E+05	1.56	Y	1.02	0.801	4378.805	0.279
12348-PeCDF	31.95	J	0.9938	0.9938	0	1.26E+05	1.57	Y	1.02	0.876	4378.805	0.279
12378-PeCDF	**32.17**		**1.0005**	**1.0005**	**0**	**8.87E+05**	**1.55**	**Y**	**1.02**	**5.91**	**4378.805**	**0.272**
12678/12367-PeCDF	32.45		1.0091	1.0093	+0.4	5.85E+05	1.36	Y	1.02	4.06	4378.805	0.279
12379-PeCDF	32.62	J	1.0144	1.0145	+0.2	1.12E+05	1.56	Y	1.02	0.78	4378.805	0.279
12679-PeCDF	NotFnd		0.9927						1.02		4378.805	0.279
23467/12369-PeCDF	33.16	J	0.9965	0.9967	+0.4	2.45E+05	1.75	Y	1.02	1.7	4378.805	0.279
23478-PeCDF	**33.29**		**1.0005**	**1.0006**	**+0.2**	**7.67E+05**	**1.72**	**Y**	**1.02**	**5.55**	**4378.805**	**0.287**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4378.805	0.279
12349-PeCDF	NotFnd		1.0101						1.02		4378.805	0.279
12389-PeCDF	34.37	J	1.0330	1.0329	-0.2	8.53E+04	1.43	Y	1.02	0.592	4378.805	0.279
123468-HxCDF	35.16	J	0.9622	0.9622	0	2.08E+05	1.41	Y	1.19	1.55	3822.117	0.241
124678/134678-HxCDF	35.36		0.9678	0.9677	-0.2	9.58E+05	1.28	Y	1.19	7.16	3822.117	0.241
134679-HxCDF	NotFnd		0.9741						1.19		3822.117	0.241
124679-HxCDF	NotFnd		0.9795						1.19		3822.117	0.241
124689-HxCDF	36.02		0.9856	0.9857	+0.2	5.43E+05	1.10	Y	1.19	4.06	3822.117	0.241
123467-HxCDF	36.44	J	0.9972	0.9972	0	1.25E+05	1.21	Y	1.19	0.932	3822.117	0.241
123478-HxCDF	**36.56**		**1.0004**	**1.0005**	**+0.2**	**6.22E+05**	**1.12**	**Y**	**1.27**	**4.82**	**3822.117**	**0.236**
123678-HxCDF	**36.70**	J	**1.0004**	**1.0005**	**+0.2**	**3.12E+05**	**1.21**	**Y**	**1.15**	**2.12**	**3822.117**	**0.221**
123479-HxCDF	NotFnd		1.0048						1.19		3822.117	0.241
123469-HxCDF	NotFnd		1.0089						1.19		3822.117	0.241
123679-HxCDF	37.14	J	0.9942	0.9941	-0.2	6.67E+04	1.18	Y	1.19	0.498	3822.117	0.241
234678-HxCDF	**37.38**	J	**1.0005**	**1.0004**	**-0.2**	**2.23E+05**	**1.24**	**Y**	**1.19**	**1.57**	**3822.117**	**0.232**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3822.117	0.241
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3822.117**	**0.282**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.39	J EMPC	1.0006	1.0012	+1.4	8.90E+04	0.97	N	1.19	0.665	3822.117	0.241
1234678-HpCDF	**39.78**		**1.0003**	**1.0003**	**0**	**1.51E+06**	**0.98**	**Y**	**1.37**	**11.4**	**3717.515**	**0.192**
1234679-HpCDF	40.05	**J**	1.0068	1.0070	+0.5	1.09E+05	1.05	Y	1.34	0.931	3717.515	0.265
1234689-HpCDF	40.19		1.0104	1.0106	+0.5	2.11E+06	0.98	Y	1.34	18.1	3717.515	0.265
1234789-HpCDF	**41.18**	**J**	**1.0003**	**1.0001**	**-0.5**	**1.64E+05**	**0.93**	**Y**	**1.31**	**1.62**	**3717.515**	**0.361**
OCDF	**43.61**		**1.0002**	**1.0003**	**+0.3**	**2.78E+06**	**0.94**	**Y**	**1.07**	**35.4**	**3195.394**	**0.533**
OCDF-a	43.60	**EMPC**	1.0001	1.0000	-0.3	1.06E+05	2.94	N	0.07	21.7	3240.273	8.72

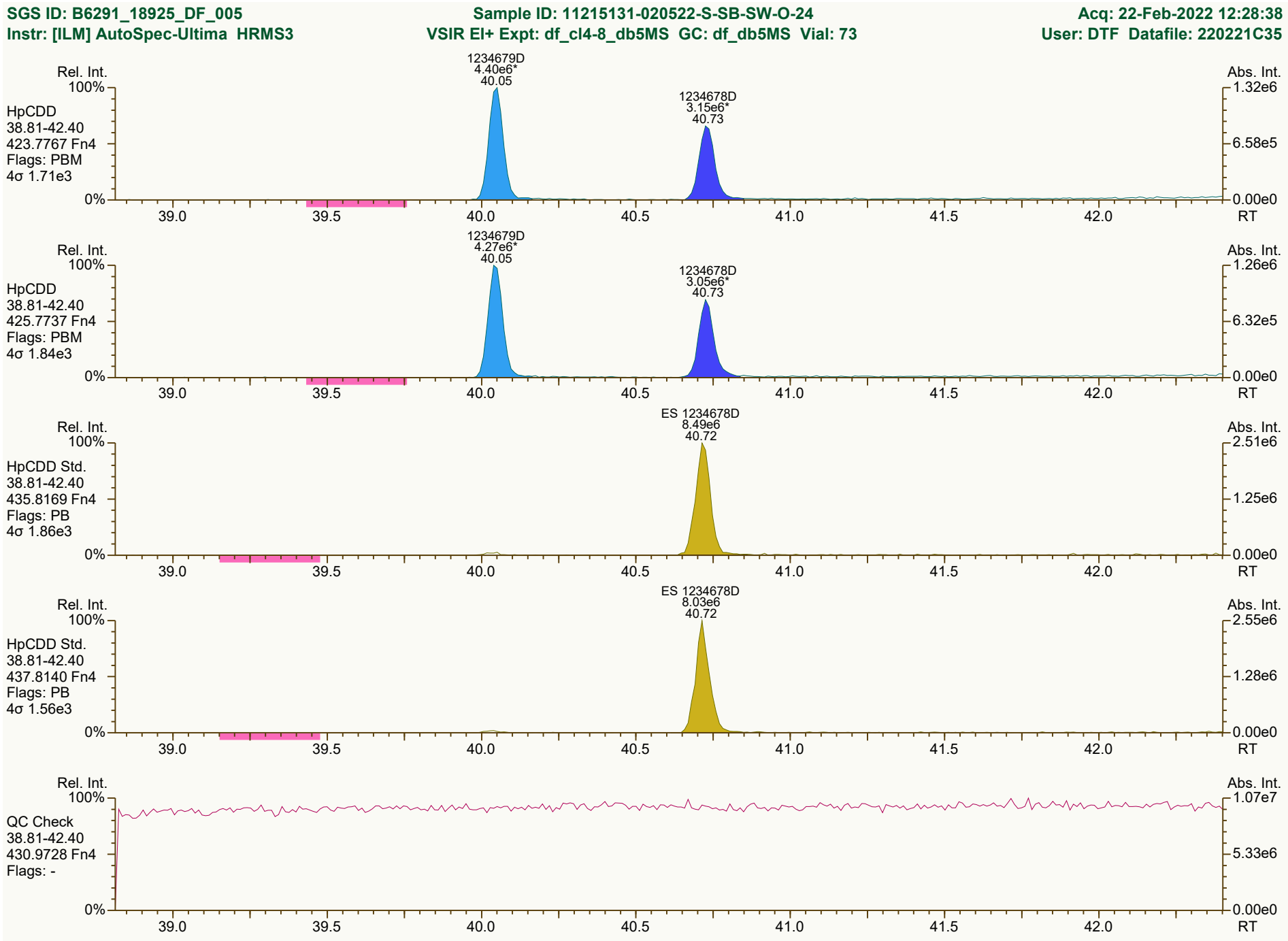

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
5.14e6
2.57e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.38e6
2.19e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.67e7
8.34e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.07e7
5.33e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
9.08e6
4.54e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 3.47e3
0%
2378D
1.05e6*
28.23
1234/1269D
5.16e4*
27.55
1247D...[4]
7.28e4*
26.36
1378D
7.58e4*
26.57
1237/1238D
8.48e4*
27.94
1278D
1.56e5*
28.56
Abs. Int.
2.30e5
1.15e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 3.27e3
0%
2378D
1.31e6*
28.23
1368D
6.08e4*
24.52
1247D...[4]
7.77e4*
26.36
1378D
9.16e4*
26.56
1234/1269D
6.63e4*
27.56
1278D
1.90e5*
28.57
Abs. Int.
3.15e5
1.57e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.30e3
0%
CS 37Cl-2378D
9.12e6
28.23
Abs. Int.
2.16e6
1.08e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 7.56e3
0%
JS 1234D
9.50e6
27.54
ES 2378D
8.75e6
28.21
Abs. Int.
2.12e6
1.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 6.41e3
0%
JS 1234D
1.21e7
27.54
ES 2378D
1.09e7
28.21
Abs. Int.
2.92e6
1.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

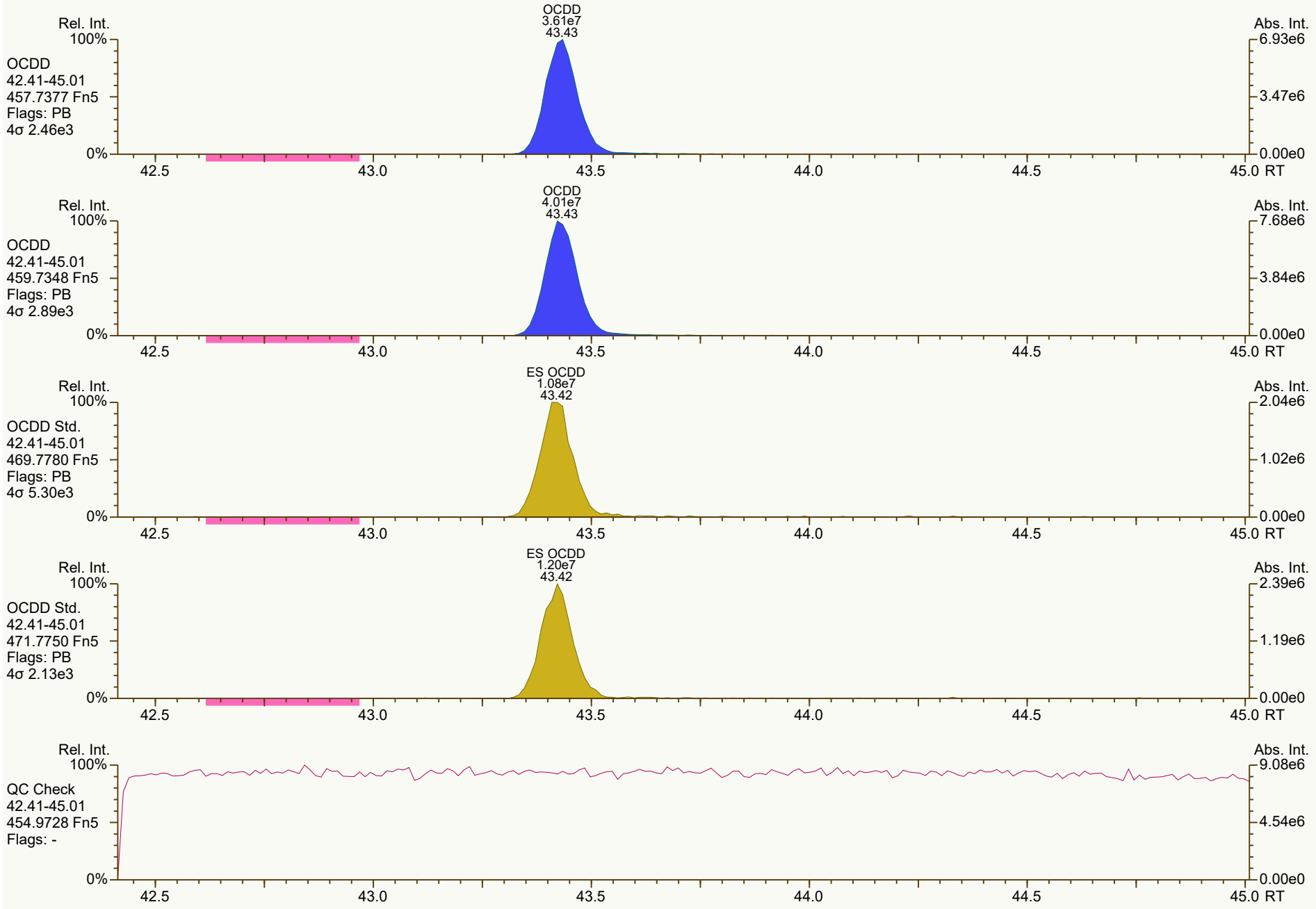

Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 1.44e3
12479/12468D
7.86e4*
31.10
12368D
4.10e4*
32.21
12478D
6.62e4*
32.40
12379D
2.41e4*
32.51
12369D...[3]
6.41e4*
32.75
12378D
7.97e4*
33.63
12367D
3.03e4*
33.73
0%
Abs. Int.
2.67e4
1.33e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 1.66e3
12479/12468D
4.41e4*
31.10
12368D
2.14e4*
32.21
12478D
3.97e4*
32.39
12379D
1.99e4*
32.50
12369D...[3]
3.87e4*
32.76
12378D
5.23e4*
33.63
12367D
1.68e4*
33.72
0%
Abs. Int.
1.78e4
8.88e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.31e3
CS 12347D
1.00e7
33.11
ES 12378D
1.09e7
33.61
0%
Abs. Int.
3.01e6
1.50e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.86e3
CS 12347D
6.19e6
33.11
ES 12378D
7.01e6
33.61
0%
Abs. Int.
2.01e6
1.01e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.38e6
2.19e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

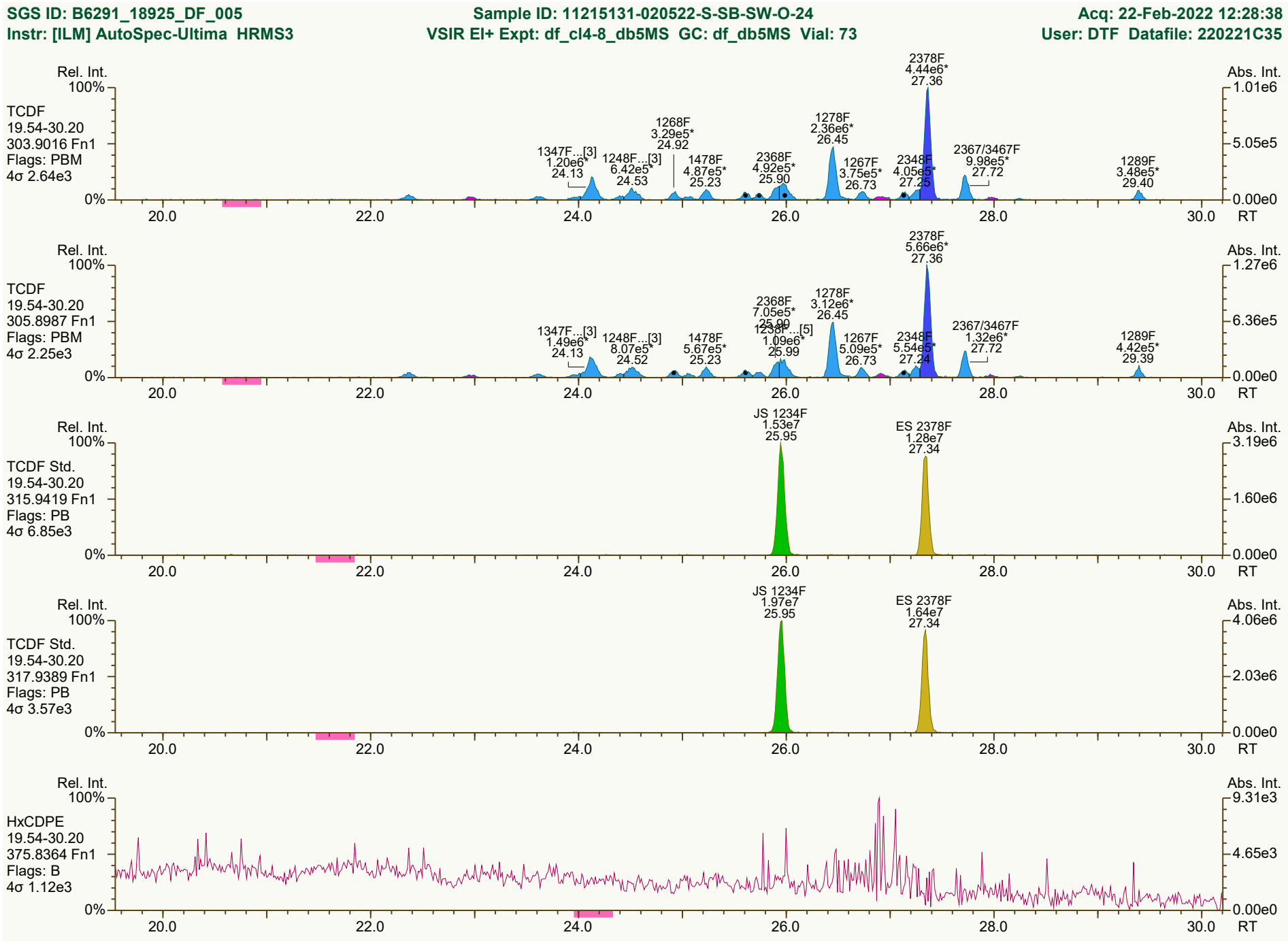

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 1.18e3
124679/124689D
4.25e5*
35.82
123679/123689D
4.06e5*
36.77
123468D
9.70e4*
36.48
123469D
6.16e4*
36.90
123478D
4.07e4*
37.57
123678D
1.18e5*
37.69
123467D
3.67e4*
37.88
123789D
9.19e4*
38.00
Abs. Int.
1.31e5
6.57e4
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 2.07e3
124679/124689D
3.01e5*
35.82
123679/123689D
3.22e5*
36.77
123468D
5.20e4*
36.47
123469D
4.60e4*
36.90
123478D
3.13e4*
37.57
123678D
9.51e4*
37.69
123467D
2.51e4*
37.89
123789D
6.24e4*
37.99
Abs. Int.
9.27e4
4.63e4
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 1.53e3
ES 123678D
9.04e6
37.67
ES 123478D
9.20e6
37.55
ES 123789D
1.05e7*
37.98
JS 123467D
5.38e6*
37.88
Abs. Int.
2.94e6
1.47e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 1.03e3
ES 123678D
7.37e6
37.67
ES 123478D
7.35e6
37.55
ES 123789D
8.06e6*
37.98
JS 123467D
4.35e6*
37.88
Abs. Int.
2.44e6
1.22e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
1.67e7
8.34e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

SGS ID: B6291_18925_DF_005 | Sample ID: 11215131-020522-S-SB-SW-O-24 | Acq: 22-Feb-2022 12:28:38
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 73 | User: DTF Datafile: 220221C35



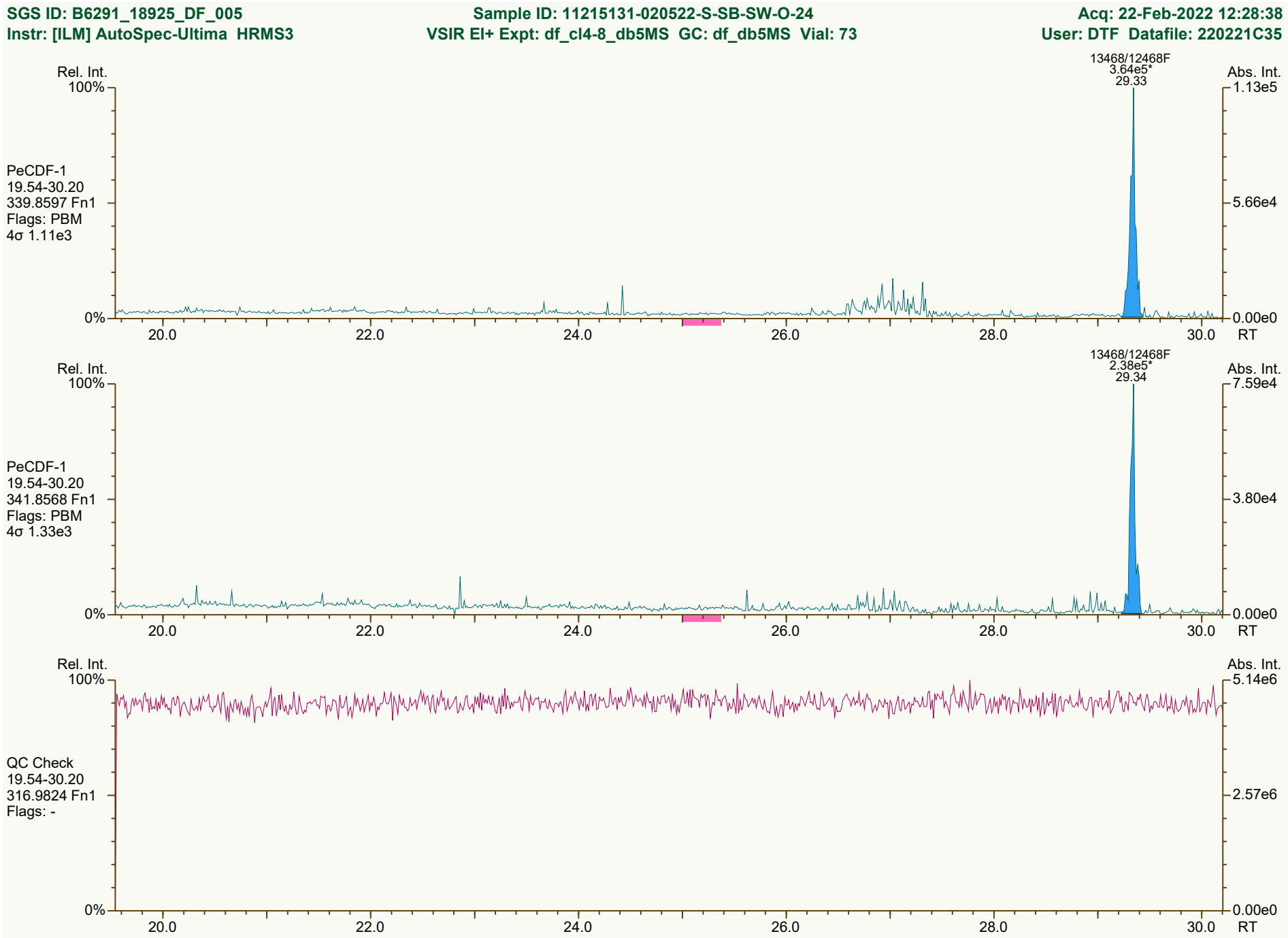
Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_005.utp_res, saved 22-Feb-2022 16:06 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5429, 4199 scc: 366-008 | Revised: 22-Feb-2022 15:57 (DTF) Printed: 23-Feb-2022 08:18 Page 5 of 12


OCDD
3.61e7
43.43
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 2.46e3
0%
Abs. Int.
6.93e6
3.47e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.01e7
43.43
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 2.89e3
7.68e6
3.84e6
ES OCDD
1.08e7
43.42
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 5.30e3
2.04e6
1.02e6
ES OCDD
1.20e7
43.42
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 2.13e3
2.39e6
1.19e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
9.08e6
4.54e6

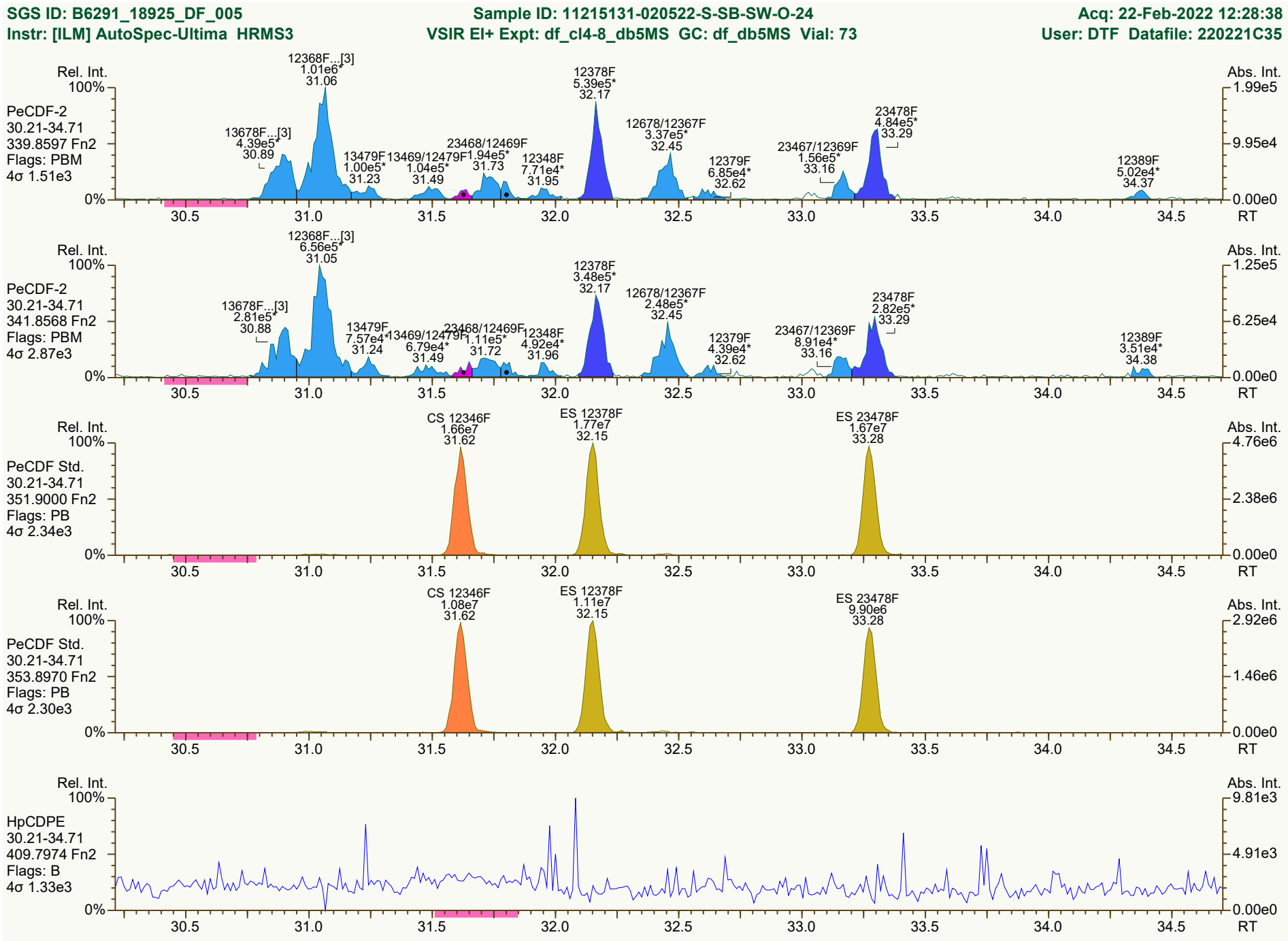


Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_005.utp_res, saved 22-Feb-2022 16:06 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7870, 1439, 4412 scc: 366-008
Revised: 22-Feb-2022 15:59 (DTF) Printed: 23-Feb-2022 08:18 Page 7 of 12

SGS ID: B6291_18925_DF_005 | Sample ID: 11215131-020522-S-SB-SW-O-24 | Acq: 22-Feb-2022 12:28:38
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 73 | User: DTF Datafile: 220221C35



Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_005.utp_res, saved 22-Feb-2022 16:06 (DTF) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6070 scc: 366-008 | *Revised: 22-Feb-2022 15:59 (DTF) Printed: 23-Feb-2022 08:18 Page 8 of 12*


SGS ID: B6291_18925_DF_005
Sample ID: 11215131-020522-S-SB-SW-O-24
Acq: 22-Feb-2022 12:28:38
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 73
User: DTF Datafile: 220221C35
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 1.51e3
12368F...[3] 1.01e6* 31.06
13678F...[3] 4.39e5* 30.89
13479F 1.00e5* 31.23
13469/12479F 1.04e5* 31.49
23468/12469F 1.94e5* 31.73
12348F 7.71e4* 31.95
12378F 5.39e5* 32.17
12678/12367F 3.37e5* 32.45
12379F 6.85e4* 32.62
23467/12369F 1.56e5* 33.16
23478F 4.84e5* 33.29
12389F 5.02e4* 34.37
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 2.87e3
12368F...[3] 6.56e5* 31.05
13678F...[3] 2.81e5* 30.88
13479F 7.57e4* 31.24
13469/12479F 6.79e4* 31.49
23468/12469F 1.11e5* 31.72
12348F 4.92e4* 31.96
12378F 3.48e5* 32.17
12678/12367F 2.48e5* 32.45
12379F 4.39e4* 32.62
23467/12369F 8.91e4* 33.16
23478F 2.82e5* 33.29
12389F 3.51e4* 34.38
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 2.34e3
CS 12346F 1.66e7 31.62
ES 12378F 1.77e7 32.15
ES 23478F 1.67e7 33.28
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.30e3
CS 12346F 1.08e7 31.62
ES 12378F 1.11e7 32.15
ES 23478F 9.90e6 33.28
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.33e3
Rel. Int.
Abs. Int.
RT
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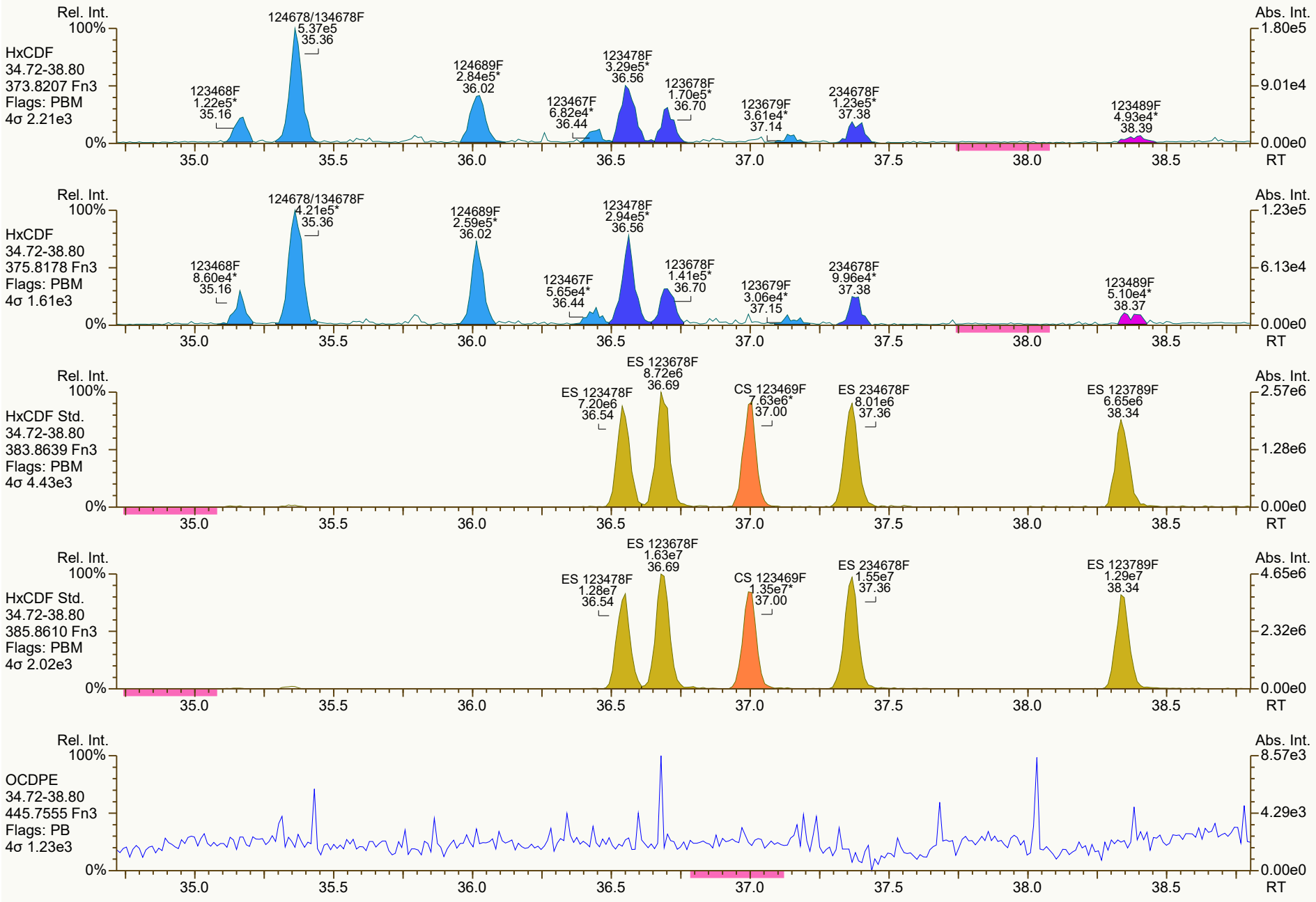
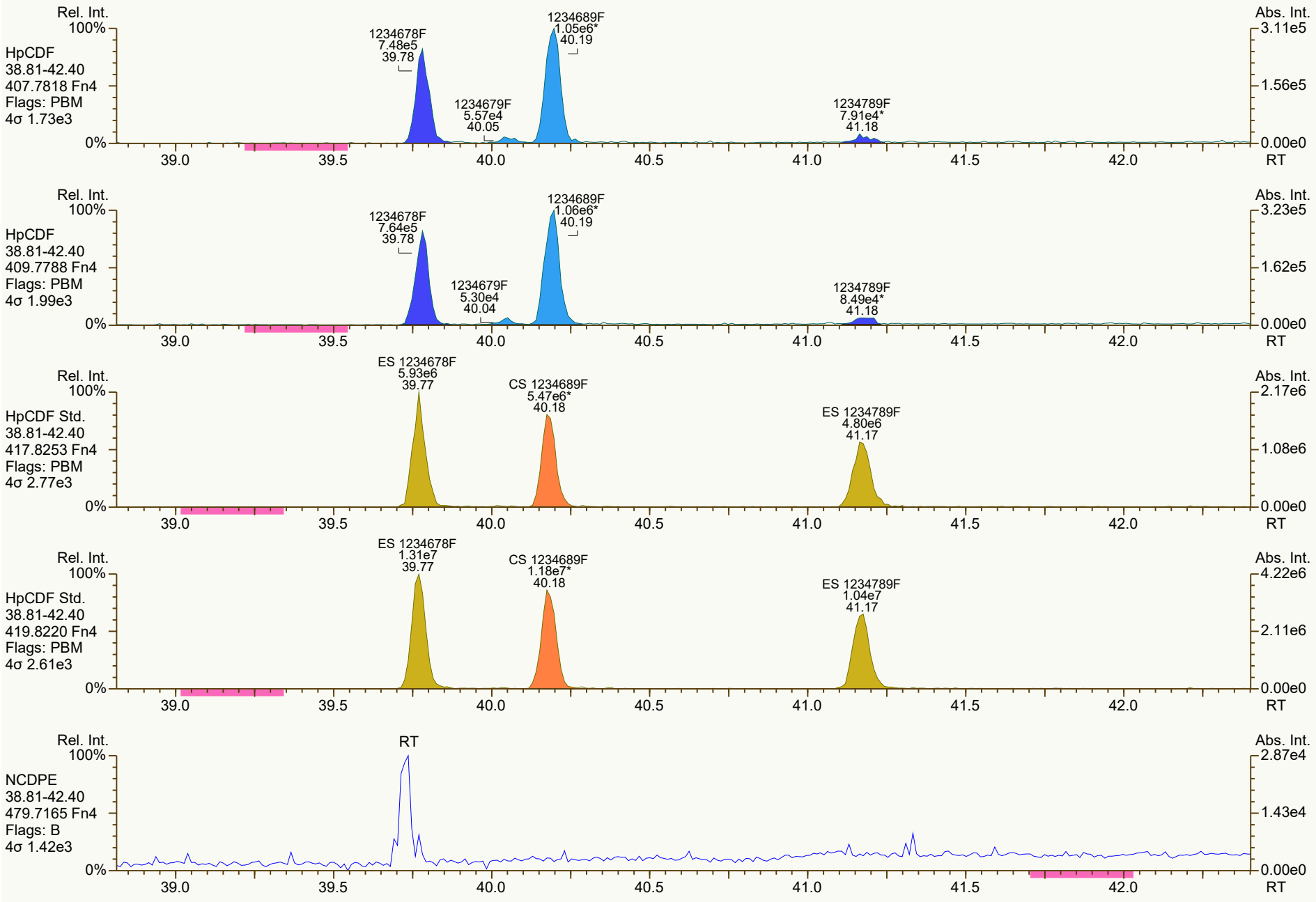
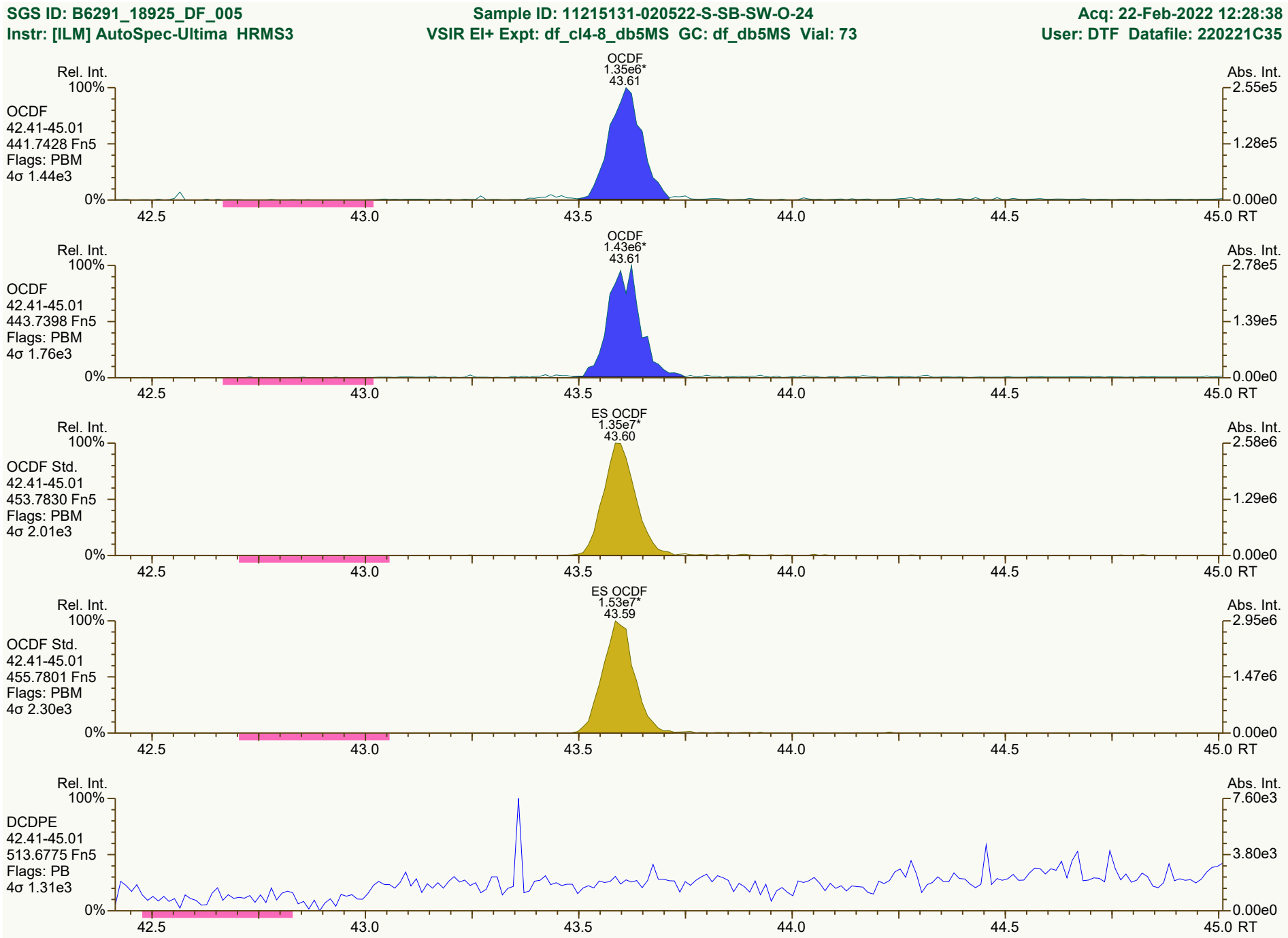
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8717, 1390, 6656 scc: 366-008
Revised: 22-Feb-2022 16:01 (DTF) Printed: 23-Feb-2022 08:18 Page 9 of 12


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 2.21e3
124678/134678F
5.37e5
35.36
123468F
1.22e5*
35.16
124689F
2.84e5*
36.02
123467F
6.82e4*
36.44
123478F
3.29e5*
36.56
123678F
1.70e5*
36.70
123679F
3.61e4*
37.14
234678F
1.23e5*
37.38
123489F
4.93e4*
38.39
Abs. Int.
1.80e5
9.01e4
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 1.61e3
124678/134678F
4.21e5*
35.36
123468F
8.60e4*
35.16
124689F
2.59e5*
36.02
123467F
5.65e4*
36.44
123478F
2.94e5*
36.56
123678F
1.41e5*
36.70
123679F
3.06e4*
37.15
234678F
9.96e4*
37.38
123489F
5.10e4*
38.37
Abs. Int.
1.23e5
6.13e4
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 4.43e3
ES 123678F
8.72e6
36.69
ES 123478F
7.20e6
36.54
CS 123469F
7.63e6*
37.00
ES 234678F
8.01e6
37.36
ES 123789F
6.65e6
38.34
Abs. Int.
2.57e6
1.28e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 2.02e3
ES 123678F
1.63e7
36.69
ES 123478F
1.28e7
36.54
CS 123469F
1.35e7*
37.00
ES 234678F
1.55e7
37.36
ES 123789F
1.29e7
38.34
Abs. Int.
4.65e6
2.32e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.23e3
Abs. Int.
8.57e3
4.29e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 1.73e3
1234678F
7.48e5
39.78
1234679F
5.57e4
40.05
1234689F
1.05e6*
40.19
1234789F
7.91e4*
41.18
Abs. Int.
3.11e5
1.56e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 1.99e3
1234678F
7.64e5
39.78
1234679F
5.30e4
40.04
1234689F
1.06e6*
40.19
1234789F
8.49e4*
41.18
Abs. Int.
3.23e5
1.62e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 2.77e3
ES 1234678F
5.93e6
39.77
CS 1234689F
5.47e6*
40.18
ES 1234789F
4.80e6
41.17
Abs. Int.
2.17e6
1.08e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 2.61e3
ES 1234678F
1.31e7
39.77
CS 1234689F
1.18e7*
40.18
ES 1234789F
1.04e7
41.17
Abs. Int.
4.22e6
2.11e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.42e3
RT
Abs. Int.
2.87e4
1.43e4
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

SGS ID: B6291_18925_DF_005 | Sample ID: 11215131-020522-S-SB-SW-O-24 | Acq: 22-Feb-2022 12:28:38
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 73 | User: DTF Datafile: 220221C35



Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_005.utp_res, saved 22-Feb-2022 16:06 (DTF) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3952, 5459, 7468 scc: 366-008 | *Revised: 22-Feb-2022 16:06 (DTF) Printed: 23-Feb-2022 08:18 Page 12 of 12*

Lab ID: B6291_18925_DF_006 **Acq'd:** 22 Feb 2022 13:14 DTF **Wt/Vol:** 10.17 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020522-S-SB-SW-B-26 **UTP:** 23-Feb-2022 08:07:46 DTF **J-level:** 0.492 pg/g **Split:** 1 **Checkcode:** 732-394-RTC

Datafile: 220221C36 **Report:** 23 Feb 2022 08:09 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.23		1.0008	1.0007	-0.2	1.78E+05	0.83	Y	1.18	1.72	4625.919	0.492
12378-PeCDD	33.63	J	1.0007	1.0005	-0.4	3.92E+04	1.37	Y	1.04	0.441	3797.709	0.383
123478-HxCDD	37.57	J	1.0004	1.0004	0	5.79E+04	1.34	Y	1.09	0.689	2953.994	0.313
123678-HxCDD	37.70	J	1.0036	1.0038	+0.5	1.06E+05	1.30	Y	1.15	1.16	2953.994	0.285
123789-HxCDD	38.00	J	1.0118	1.0118	0	1.66E+05	1.20	Y	1.05	1.96	2953.994	0.304
1234678-HpCDD	40.73		1.0002	1.0003	+0.2	2.18E+06	1.05	Y	1.06	27.5	3055.289	0.34
OCDD	43.44		1.0003	1.0003	0	3.08E+07	0.87	Y	1.13	539	3928.759	0.866
2378-TCDF	27.36		1.0008	1.0007	-0.2	5.86E+05	0.77	Y	1.08	4.1	6578.46	0.501
12378-PeCDF	32.16	J EMPC	1.0005	1.0002	-0.6	1.20E+05	1.24	N	1.02	0.839	4389.051	0.293
23478-PeCDF	33.30	J EMPC	1.0005	1.0006	+0.2	8.50E+04	1.26	N	1.02	0.647	4389.051	0.307
123478-HxCDF	36.56	J EMPC	1.0004	1.0002	-0.4	5.60E+04	1.55	N	1.27	0.49	3272.806	0.233
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3272.806	0.194
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	3272.806	0.234
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3272.806	0.3
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2977.962	0.199
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2977.962	0.333
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	3020.606	0.612

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.21	1.0243	1.0244	+0.2	1.72E+07	0.80	Y	1.05	75.9
ES 12378-PeCDD	33.61	1.2198	1.2208	+2.0	1.69E+07	1.60	Y	0.88	88.7
ES 123478-HxCDD	37.55	0.9916	0.9915	-0.2	1.52E+07	1.27	Y	0.97	79.3
ES 123678-HxCDD	37.68	0.9947	0.9947	0	1.57E+07	1.18	Y	0.94	84.3
ES 123789-HxCDD	37.98	1.0029	1.0027	-0.5	1.59E+07	1.21	Y	1.09	74
ES 1234678-HpCDD	40.72	1.0749	1.0751	+0.5	1.47E+07	1.07	Y	0.91	81.7
ES OCDD	43.43	1.1460	1.1467	+1.8	1.99E+07	0.88	Y	0.62	81.2
ES 2378-TCDF	27.34	1.0531	1.0535	+0.7	2.61E+07	0.81	Y	1.06	70.7
ES 12378-PeCDF	32.15	1.2378	1.2391	+2.5	2.75E+07	1.55	Y	0.91	86.8
ES 23478-PeCDF	33.28	1.2810	1.2824	+2.8	2.53E+07	1.61	Y	0.88	82.5
ES 123478-HxCDF	36.55	0.9650	0.9649	-0.2	1.77E+07	0.52	Y	1.20	74.9
ES 123678-HxCDF	36.69	0.9688	0.9686	-0.4	2.42E+07	0.54	Y	1.35	90.8
ES 234678-HxCDF	37.37	0.9866	0.9865	-0.2	2.11E+07	0.51	Y	1.24	86.2
ES 123789-HxCDF	38.34	1.0125	1.0124	-0.2	1.56E+07	0.53	Y	1.16	68.4
ES 1234678-HpCDF	39.77	1.0501	1.0501	0	1.71E+07	0.46	Y	0.97	89.6
ES 1234789-HpCDF	41.18	1.0870	1.0872	+0.5	1.19E+07	0.45	Y	0.85	71.3
ES OCDF	43.61	1.1505	1.1513	+2.1	2.29E+07	0.92	Y	0.81	72

Lab ID: B6291_18925_DF_006 **Acq'd:** 22 Feb 2022 13:14 DTF **Wt/Vol:** 10.17 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020522-S-SB-SW-B-26 **UTP:** 23-Feb-2022 08:07:46 DTF **J-level:** 0.492 pg/g **Split:** 1 **Checkcode:** 732-394-RTC

Datafile: 220221C36 **Report:** 23 Feb 2022 08:09 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.53		-	-	-	2.16E+07	0.83	Y	-	-
JS 1234-TCDF	25.95		-	-	-	3.48E+07	0.78	Y	-	-
JS 123467-HxCDD	37.88		-	-	-	9.84E+06	1.38	Y	-	-
CS 37Cl-2378-TCDD	28.23		1.0251	1.0252	+0.2	9.21E+06	n/a	-	1.20	88.4
CS 12347-PeCDD	33.11		1.2016	1.2024	+1.6	1.84E+07	1.59	Y	0.75	113
CS 12346-PeCDF	31.62		1.2172	1.2185	+2.5	3.08E+07	1.55	Y	0.85	104
CS 123469-HxCDF	37.00		0.9771	0.9769	-0.4	2.36E+07	0.54	Y	1.12	107
CS 1234689-HpCDF	40.18		1.0608	1.0609	+0.2	1.70E+07	0.44	Y	0.89	97.4
SS 37Cl-2378-TCDD	28.23		1.0251	1.0252	+0.2	9.21E+06	n/a	-	1.15	117
SS 12347-PeCDD	33.11		1.2016	1.2024	+1.6	1.84E+07	1.59	Y	0.86	127
SS 12346-PeCDF	31.62		1.2172	1.2185	+2.5	3.08E+07	1.55	Y	0.94	120
SS 123469-HxCDF	37.00		0.9771	0.9769	-0.4	2.36E+07	0.54	Y	0.83	118
SS 1234689-HpCDF	40.18		1.0608	1.0609	+0.2	1.70E+07	0.44	Y	0.92	108

Totals	Conc	EMPC
Total TCDD	6.77	6.77
Total PeCDD	0.441	6.14
Total HxCDD	35.8	37.2
Total HpCDD	95.7	95.7
Total Tetra-Octa Dioxins	678	685
Total TCDF	15.3	20.1
Total PeCDF	2.91	4.87
Total HxCDF	0	0.894
Total HpCDF	0	0
Total Tetra-Octa Furans	18.2	25.9
Total Tetra-Octa Dioxins & Furans	696	711

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.787	0.83
Response	1.84E+05	1.78E+05

Lab ID: B6291_18925_DF_006 **Acq'd: 22 Feb 2022 13:14 DTF** **Wt/Vol: 10.17 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020522-S-SB-SW-B-26 **UTP: 23-Feb-2022 08:07:46 DTF** **J-level: 0.492 pg/g** **Split: 1** **Checkcode: 732-394-RTC**

Datafile: 220221C36 **Report: 23 Feb 2022 08:09 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		4625.919	0.492
1379-TCDD	NotFnd		0.8829						1.18		4625.919	0.492
1369-TCDD	NotFnd		0.8982						1.18		4625.919	0.492
1469-TCDD	26.11		0.9261	0.9257	-0.6	5.22E+05	0.76	Y	1.18	5.05	4625.919	0.492
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4625.919	0.492
1378-TCDD	NotFnd		0.9417						1.18		4625.919	0.492
1268-TCDD	NotFnd		0.9487						1.18		4625.919	0.492
1478-TCDD	NotFnd		0.9576						1.18		4625.919	0.492
1279-TCDD	NotFnd		0.9636						1.18		4625.919	0.492
1234/1269-TCDD	NotFnd		0.9761						1.18		4625.919	0.492
1236-TCDD	NotFnd		0.9812						1.18		4625.919	0.492
1237/1238-TCDD	NotFnd		0.9905						1.18		4625.919	0.492
1239-TCDD	NotFnd		0.9951						1.18		4625.919	0.492
2378-TCDD	**28.23**		**1.0008**	1.0007	**-0.2**	1.78E+05	0.83	Y	**1.18**	**1.72**	**4625.919**	**0.492**
1278-TCDD	NotFnd		1.0124						1.18		4625.919	0.492
1267-TCDD	NotFnd		1.0172						1.18		4625.919	0.492
1289-TCDD	NotFnd		1.0354						1.18		4625.919	0.492
12479/12468-PeCDD	31.11	J EMPC	0.9255	0.9254	-0.2	8.34E+04	2.12	N	1.04	0.937	3797.709	0.383
12469-PeCDD	31.65	EMPC	0.9416	0.9415	-0.2	2.90E+05	1.28	N	1.04	3.26	3797.709	0.383
12368-PeCDD	NotFnd		0.9582						1.04		3797.709	0.383
12478-PeCDD	NotFnd		0.9637						1.04		3797.709	0.383
12379-PeCDD	NotFnd		0.9668						1.04		3797.709	0.383
12369/12467/12489-PeCDD	32.77	J EMPC	0.9746	0.9748	+0.4	1.34E+05	1.13	N	1.04	1.5	3797.709	0.383
12346/12347-PeCDD	NotFnd		0.9858						1.04		3797.709	0.383
12378-PeCDD	33.63	J	**1.0007**	**1.0005**	**-0.4**	**3.92E+04**	**1.37**	**Y**	**1.04**	**0.441**	**3797.709**	**0.383**
12367-PeCDD	NotFnd		1.0036						1.04		3797.709	0.383
12389-PeCDD	NotFnd		1.0137						1.04		3797.709	0.383
124679/124689-HxCDD	35.82		0.9540	0.9539	-0.2	2.23E+06	1.22	Y	1.10	25.7	2953.994	0.3
123468-HxCDD	NotFnd		0.9715						1.10		2953.994	0.3
123679/123689-HxCDD	36.78		0.9793	0.9793	0	5.42E+05	1.27	Y	1.10	6.24	2953.994	0.3
123469-HxCDD	36.90	J EMPC	0.9829	0.9827	-0.4	7.17E+04	1.85	N	1.10	0.827	2953.994	0.3
123478-HxCDD	37.57	J	**1.0004**	**1.0004**	**0**	**5.79E+04**	**1.34**	**Y**	1.09	**0.689**	**2953.994**	**0.313**
123678-HxCDD	37.70	J	**1.0036**	**1.0038**	**+0.5**	**1.06E+05**	**1.30**	**Y**	1.15	**1.16**	**2953.994**	**0.285**
123467-HxCDD	37.90	J EMPC	1.0089	1.0092	+0.7	5.14E+04	1.76	N	1.10	0.592	2953.994	0.3
123789-HxCDD	38.00	J	**1.0118**	**1.0118**	**0**	**1.66E+05**	**1.20**	**Y**	1.05	**1.96**	**2953.994**	**0.304**

Lab ID: B6291_18925_DF_006 **Acq'd: 22 Feb 2022 13:14 DTF** **Wt/Vol: 10.17 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020522-S-SB-SW-B-26 **UTP: 23-Feb-2022 08:07:46 DTF** **J-level: 0.492 pg/g** **Split: 1** **Checkcode: 732-394-RTC**

Datafile: 220221C36 **Report: 23 Feb 2022 08:09 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

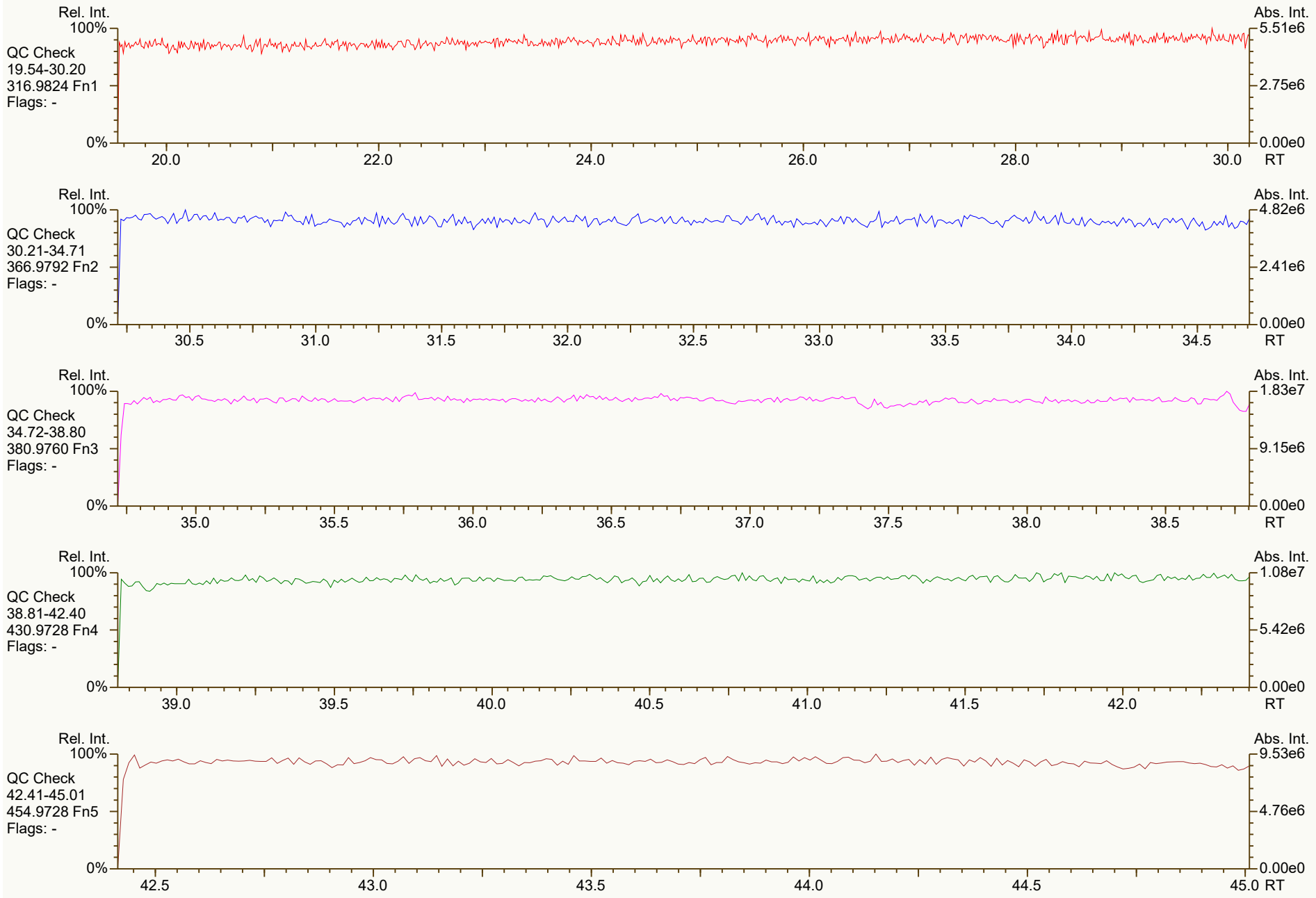
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.05		0.9836	0.9836	0	5.39E+06	1.02	Y	1.06	68.1	3055.289	0.34
1234678-HpCDD	**40.73**		**1.0002**	**1.0003**	**+0.2**	**2.18E+06**	**1.05**	**Y**	**1.06**	**27.5**	**3055.289**	**0.34**
OCDD	**43.44**		**1.0003**	**1.0003**	**0**	**3.08E+07**	**0.87**	**Y**	**1.13**	**539**	**3928.759**	**0.866**
OCDD-a	43.44		1.0002	1.0002	0	1.99E+06	2.67	Y	0.07	545	3018.228	10.4
1368-TCDF	22.35	EMPC	0.8191	0.8178	-1.7	9.09E+04	1.03	N	1.08	0.636	6578.46	0.501
1468-TCDF	NotFnd		0.8408						1.08		6578.46	0.501
2468-TCDF	23.62		0.8645	0.8642	-0.4	1.91E+05	0.69	Y	1.08	1.33	6578.46	0.501
1346/1246-TCDF	NotFnd		0.8772						1.08		6578.46	0.501
1347/1378/1247-TCDF	24.12		0.8833	0.8825	-1.2	3.62E+05	0.88	Y	1.08	2.53	6578.46	0.501
1348-TCDF	NotFnd		0.8932						1.08		6578.46	0.501
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		6578.46	0.501
1268-TCDF	NotFnd		0.9119						1.08		6578.46	0.501
1467-TCDF	NotFnd		0.9170						1.08		6578.46	0.501
1478-TCDF	25.23	EMPC	0.9234	0.9229	-0.8	7.39E+04	1.17	N	1.08	0.517	6578.46	0.501
1369/1237-TCDF	25.62	EMPC	0.9369	0.9371	+0.3	8.64E+04	0.91	N	1.08	0.604	6578.46	0.501
2467-TCDF	25.75	EMPC	0.9415	0.9418	+0.5	1.08E+05	0.63	N	1.08	0.759	6578.46	0.501
2368-TCDF	25.90	EMPC	0.9475	0.9475	0	1.40E+05	1.13	N	1.08	0.98	6578.46	0.501
1238/1234/1678/1469/1236-TCDF	25.99		0.9507	0.9509	+0.3	2.11E+05	0.75	Y	1.08	1.47	6578.46	0.501
1278-TCDF	26.45		0.9676	0.9675	-0.2	3.64E+05	0.81	Y	1.08	2.54	6578.46	0.501
1349-TCDF	NotFnd		0.9722						1.08		6578.46	0.501
1267-TCDF	26.73	EMPC	0.9777	0.9778	+0.2	7.79E+04	0.96	N	1.08	0.545	6578.46	0.501
2346/1249-TCDF	NotFnd		0.9843						1.08		6578.46	0.501
2347/1279-TCDF	27.14		0.9926	0.9927	+0.2	1.17E+05	0.77	Y	1.08	0.82	6578.46	0.501
2348-TCDF	27.24	EMPC	0.9968	0.9963	-0.8	1.05E+05	0.62	N	1.08	0.737	6578.46	0.501
2378-TCDF	**27.36**		**1.0008**	**1.0007**	**-0.2**	**5.86E+05**	**0.77**	**Y**	**1.08**	**4.1**	**6578.46**	**0.501**
2367/3467-TCDF	27.72		1.0142	1.0142	0	3.57E+05	0.86	Y	1.08	2.5	6578.46	0.501
1269-TCDF	NotFnd		1.0235						1.08		6578.46	0.501
1239-TCDF	NotFnd		1.0329						1.08		6578.46	0.501
1289-TCDF	NotFnd		1.0742						1.08		6578.46	0.501
13468/12468-PeCDF	NotFnd		0.9122						1.02		2635.022	0.18
13678/13467/12467-PeCDF	30.88	J	0.9606	0.9606	0	1.48E+05	1.52	Y	1.02	1.08	4389.051	0.3
12368/13478/12478-PeCDF	31.04	J	0.9655	0.9656	+0.2	1.68E+05	1.39	Y	1.02	1.23	4389.051	0.3
14678-PeCDF	NotFnd		0.9685						1.02		4389.051	0.3
13479-PeCDF	NotFnd		0.9716						1.02		4389.051	0.3
13469/12479-PeCDF	NotFnd		0.9794						1.02		4389.051	0.3
12346-PeCDF	NotFnd		0.9836						1.02		4389.051	0.3

Lab ID: B6291_18925_DF_006 **Acq'd: 22 Feb 2022 13:14 DTF** **Wt/Vol: 10.17 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020522-S-SB-SW-B-26 **UTP: 23-Feb-2022 08:07:46 DTF** **J-level: 0.492 pg/g** **Split: 1** **Checkcode: 732-394-RTC**

Datafile: 220221C36 **Report: 23 Feb 2022 08:09 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		4389.051	0.3
12347-PeCDF	NotFnd		0.9891						1.02		4389.051	0.3
12348-PeCDF	NotFnd		0.9938						1.02		4389.051	0.3
12378-PeCDF	**32.16**	J EMPC	**1.0005**	**1.0002**	**-0.6**	**1.20E+05**	**1.24**	**N**	**1.02**	**0.839**	**4389.051**	**0.293**
12678/12367-PeCDF	32.45	J	1.0091	1.0093	+0.4	8.33E+04	1.46	Y	1.02	0.607	4389.051	0.3
12379-PeCDF	NotFnd		1.0144						1.02		4389.051	0.3
12679-PeCDF	NotFnd		0.9927						1.02		4389.051	0.3
23467/12369-PeCDF	33.17	J EMPC	0.9965	0.9967	+0.4	6.53E+04	1.27	N	1.02	0.476	4389.051	0.3
23478-PeCDF	**33.30**	J EMPC	**1.0005**	**1.0006**	**+0.2**	**8.50E+04**	**1.26**	**N**	**1.02**	**0.647**	**4389.051**	**0.307**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4389.051	0.3
12349-PeCDF	NotFnd		1.0101						1.02		4389.051	0.3
12389-PeCDF	NotFnd		1.0330						1.02		4389.051	0.3
123468-HxCDF	NotFnd		0.9622						1.19		3272.806	0.234
124678/134678-HxCDF	35.37	J EMPC	0.9678	0.9678	0	4.80E+04	1.64	N	1.19	0.403	3272.806	0.234
134679-HxCDF	NotFnd		0.9741						1.19		3272.806	0.234
124679-HxCDF	NotFnd		0.9795						1.19		3272.806	0.234
124689-HxCDF	NotFnd		0.9856						1.19		3272.806	0.234
123467-HxCDF	NotFnd		0.9972						1.19		3272.806	0.234
123478-HxCDF	**36.56**	J EMPC	**1.0004**	**1.0002**	**-0.4**	**5.60E+04**	**1.55**	**N**	**1.27**	**0.49**	**3272.806**	**0.233**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3272.806**	**0.194**
123479-HxCDF	NotFnd		1.0048						1.19		3272.806	0.234
123469-HxCDF	NotFnd		1.0089						1.19		3272.806	0.234
123679-HxCDF	NotFnd		0.9942						1.19		3272.806	0.234
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**3272.806**	**0.234**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3272.806	0.234
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3272.806**	**0.3**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		3272.806	0.234
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2977.962**	**0.199**
1234679-HpCDF	NotFnd		1.0068						1.34		2977.962	0.254
1234689-HpCDF	NotFnd		1.0104						1.34		2977.962	0.254
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2977.962**	**0.333**
OCDF	**NotFnd**		**1.0002**						**1.07**		**3020.606**	**0.612**
OCDF-a	NotFnd		1.0001						0.07		3237.801	10.6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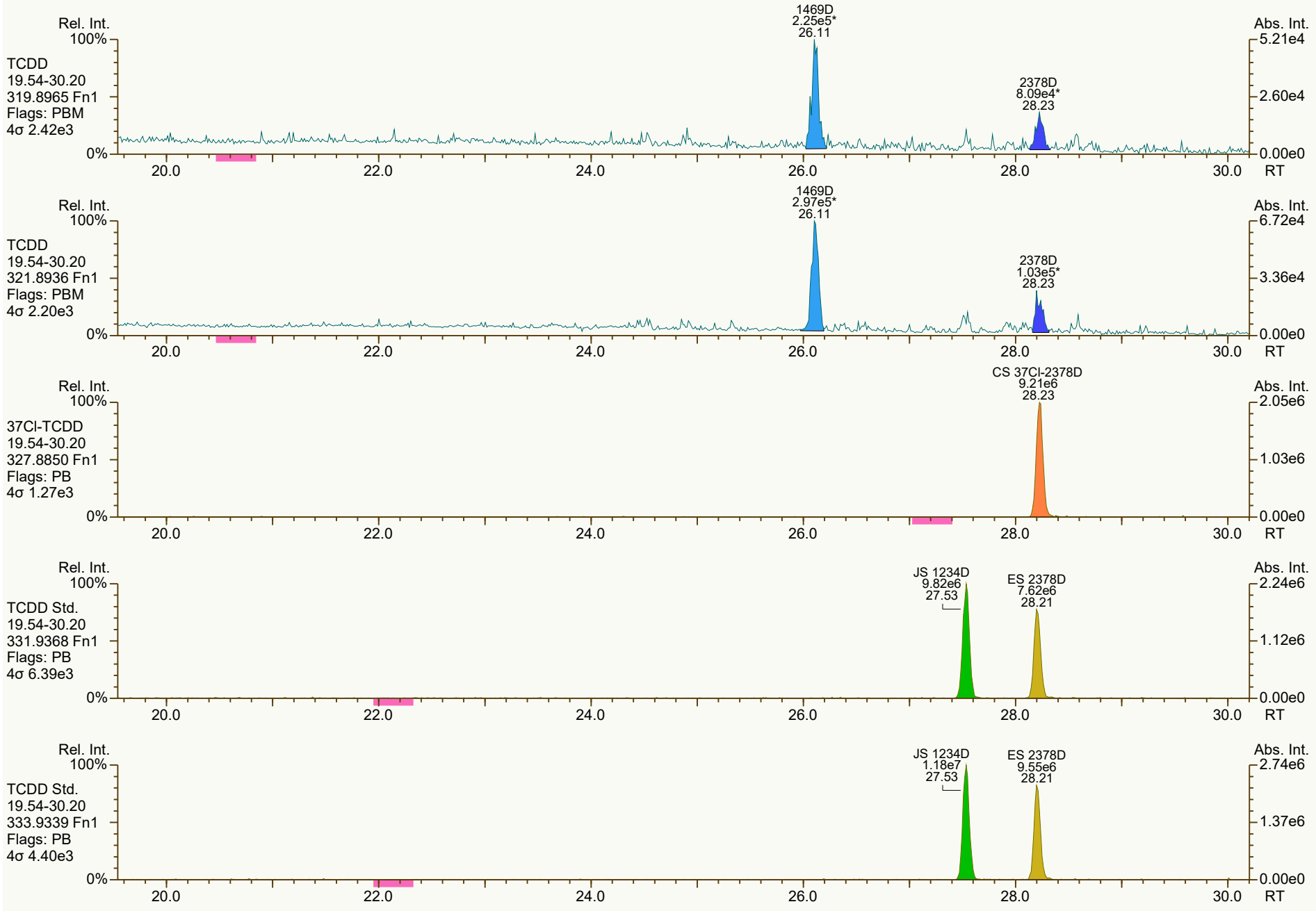
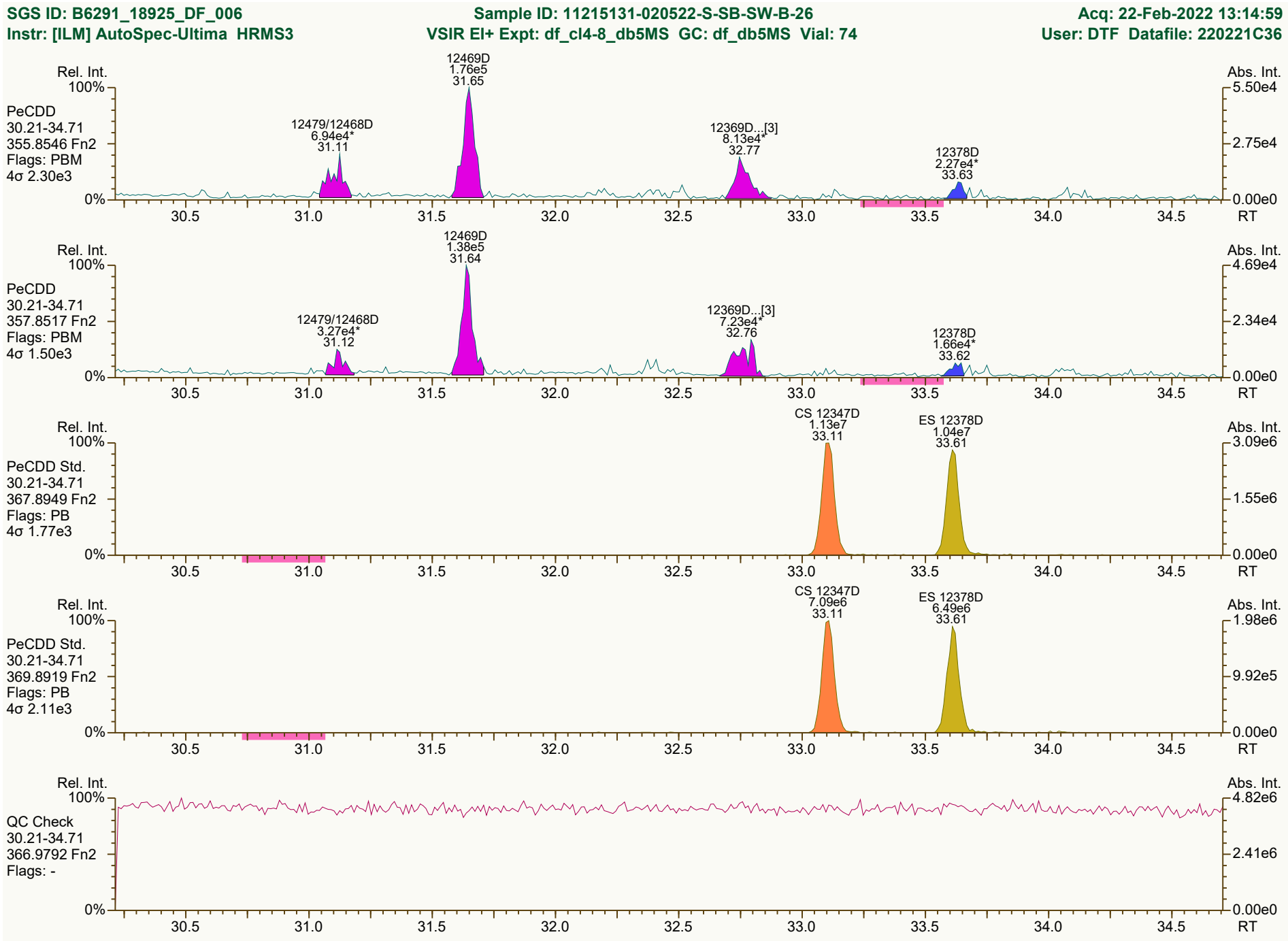
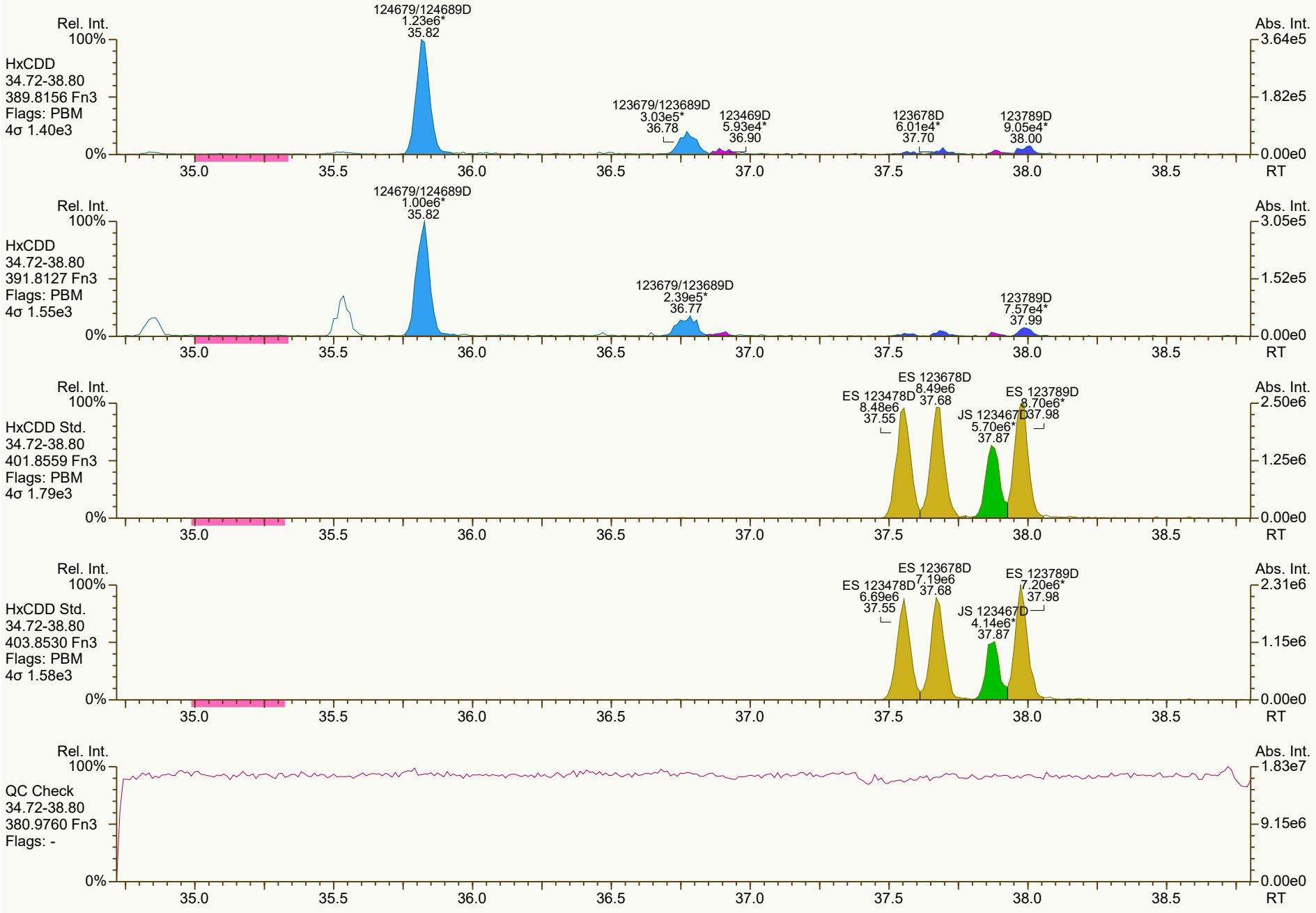
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
5.51e6
2.75e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.82e6
2.41e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.83e7
9.15e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.08e7
5.42e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
9.53e6
4.76e6
0.00e0

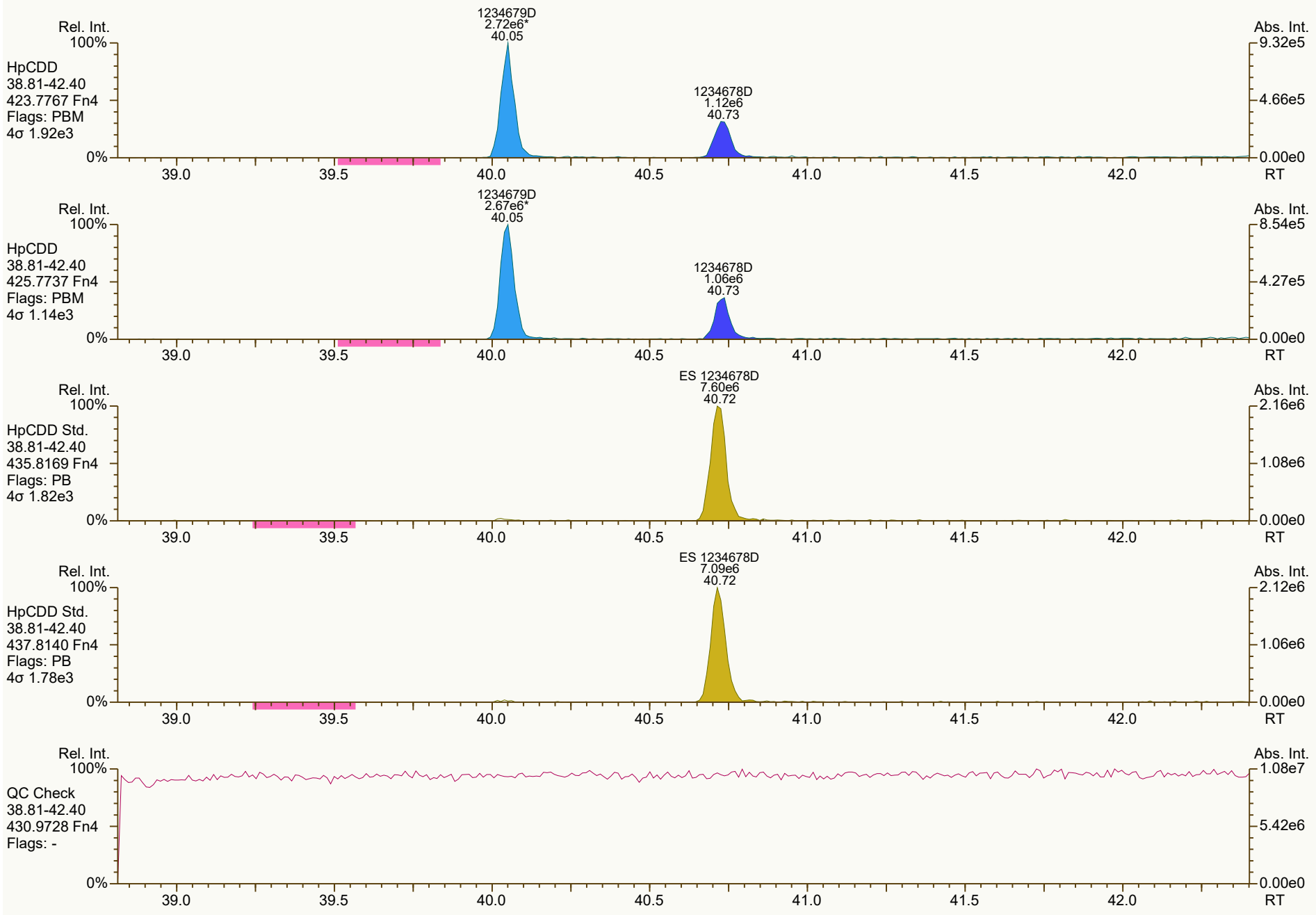

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.42e3
0%
1469D
2.25e5*
26.11
2378D
8.09e4*
28.23
Abs. Int.
5.21e4
2.60e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.20e3
0%
1469D
2.97e5*
26.11
2378D
1.03e5*
28.23
Abs. Int.
6.72e4
3.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.27e3
0%
CS 37Cl-2378D
9.21e6
28.23
Abs. Int.
2.05e6
1.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.39e3
0%
JS 1234D
9.82e6
27.53
ES 2378D
7.62e6
28.21
Abs. Int.
2.24e6
1.12e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.40e3
0%
JS 1234D
1.18e7
27.53
ES 2378D
9.55e6
28.21
Abs. Int.
2.74e6
1.37e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

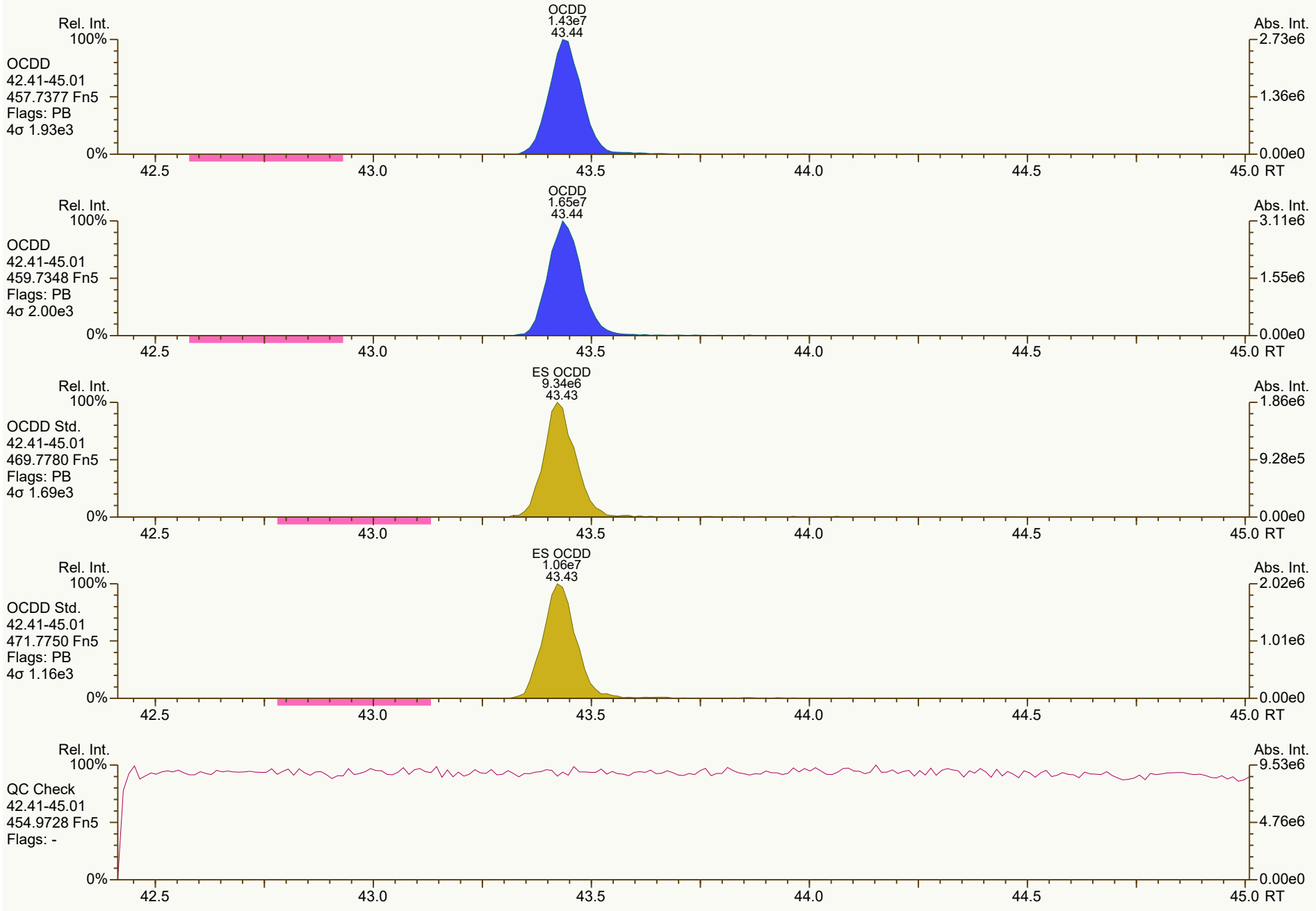
SGS ID: B6291_18925_DF_006 | Sample ID: 11215131-020522-S-SB-SW-B-26 | Acq: 22-Feb-2022 13:14:59
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 74 | User: DTF Datafile: 220221C36

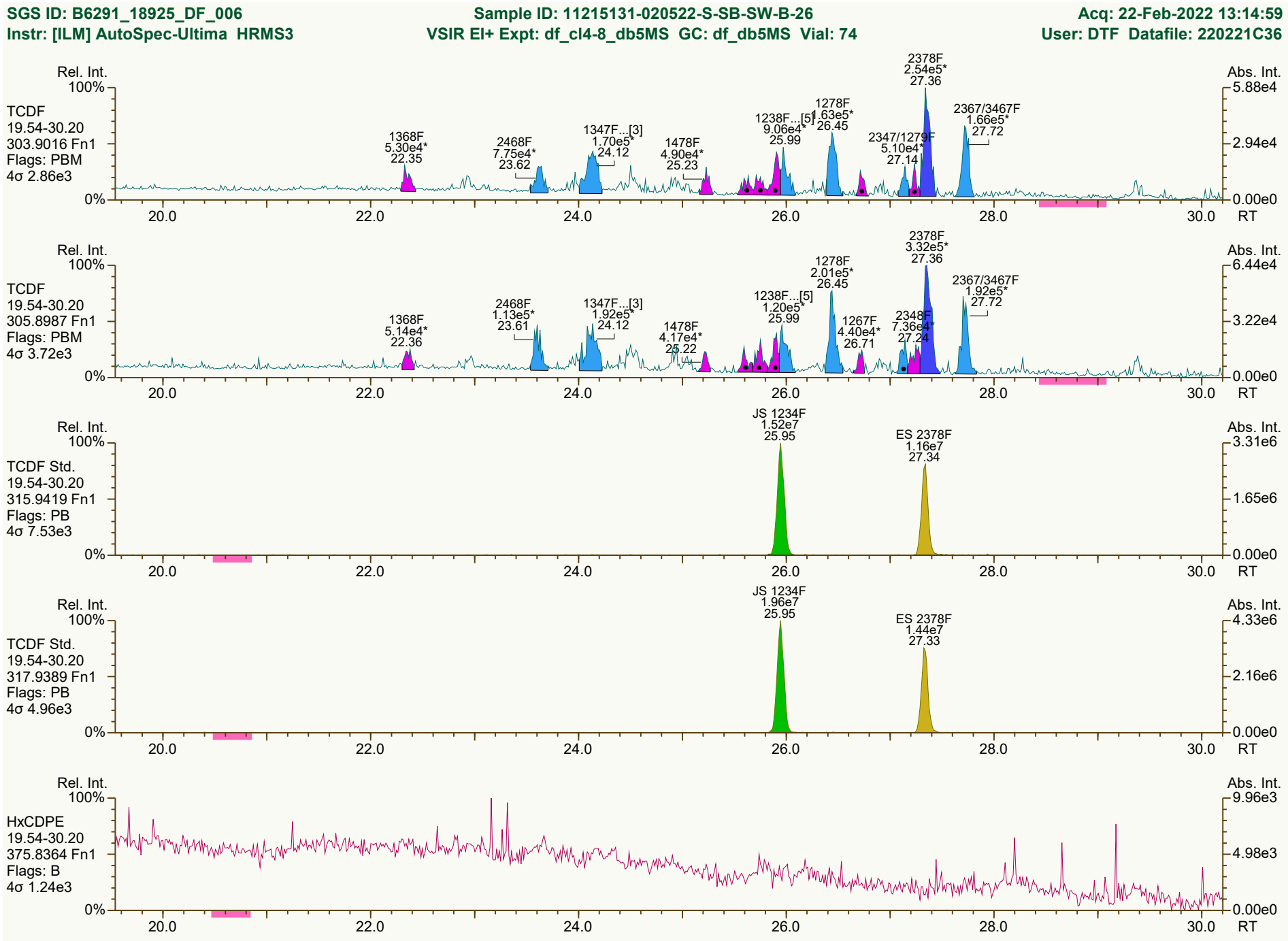


Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_006.utp_res, saved 22-Feb-2022 16:16 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7381, 8680 scc: 732-394 | Revised: 22-Feb-2022 16:08 (DTF) Printed: 23-Feb-2022 08:18 Page 3 of 12

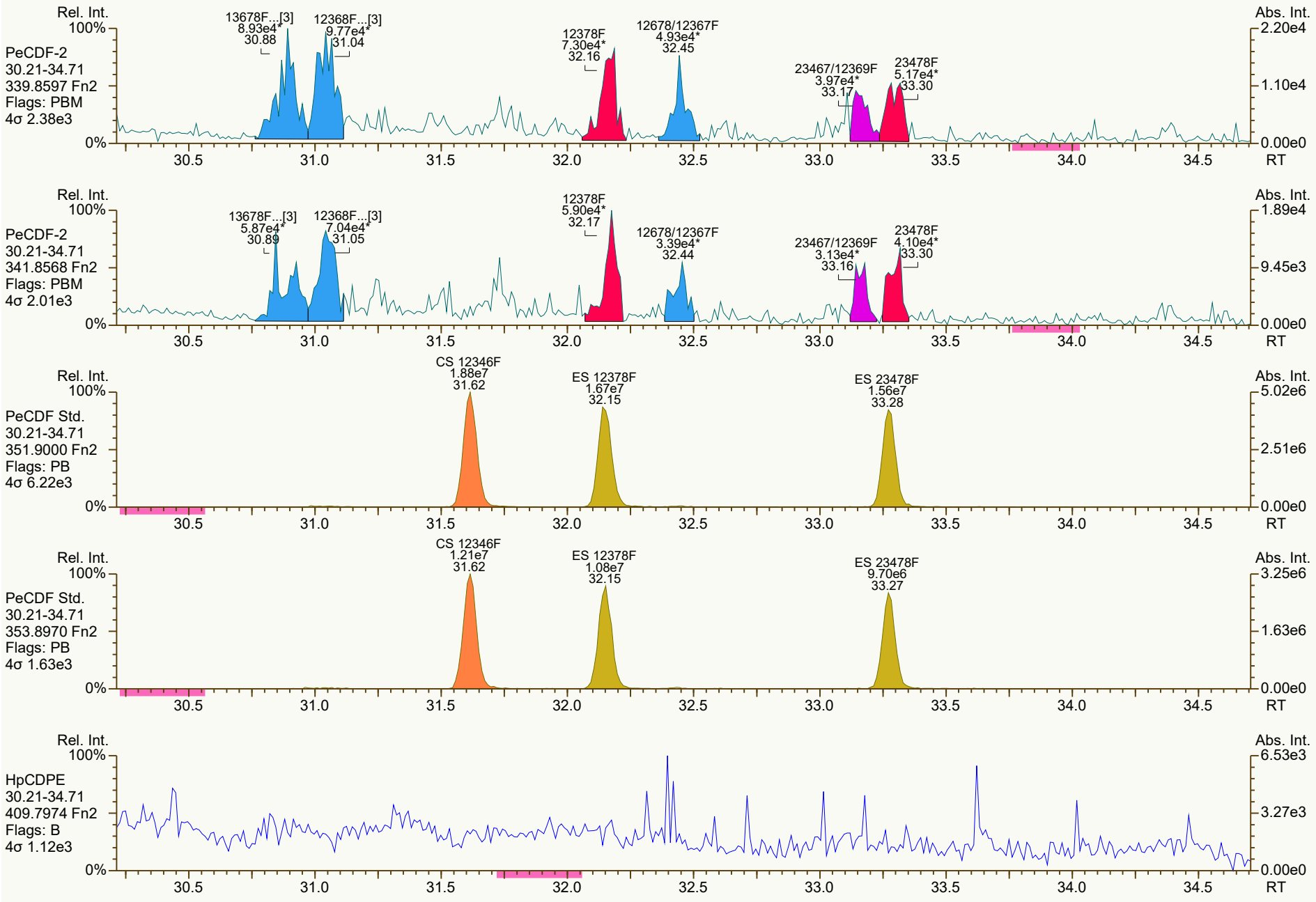

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 1.40e3
0%
124679/124689D
1.23e6*
35.82
123679/123689D
3.03e5*
36.78
123469D
5.93e4*
36.90
123678D
6.01e4*
37.70
123789D
9.05e4*
38.00
Abs. Int.
3.64e5
1.82e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 1.55e3
0%
124679/124689D
1.00e6*
35.82
123679/123689D
2.39e5*
36.77
123789D
7.57e4*
37.99
Abs. Int.
3.05e5
1.52e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 1.79e3
0%
ES 123678D
8.49e6
37.68
ES 123478D
8.48e6
37.55
ES 123789D
8.70e6*
37.98
JS 123467D
5.70e6*
37.87
Abs. Int.
2.50e6
1.25e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 1.58e3
0%
ES 123678D
7.19e6
37.68
ES 123478D
6.69e6
37.55
ES 123789D
7.20e6*
37.98
JS 123467D
4.14e6*
37.87
Abs. Int.
2.31e6
1.15e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.83e7
9.15e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

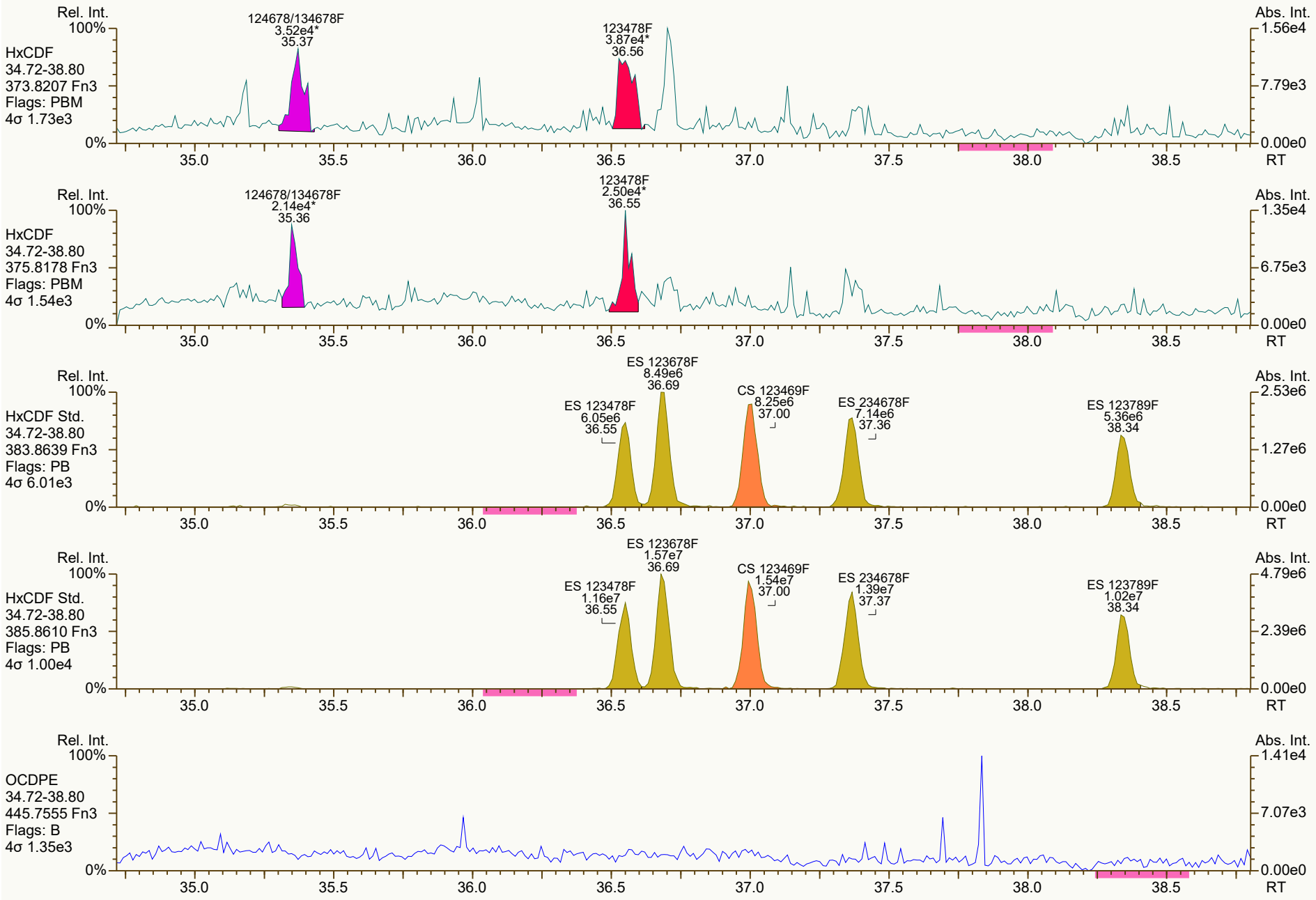

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 1.92e3
1234679D
2.72e6*
40.05
1234678D
1.12e6
40.73
Abs. Int.
9.32e5
4.66e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 1.14e3
1234679D
2.67e6*
40.05
1234678D
1.06e6
40.73
Abs. Int.
8.54e5
4.27e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 1.82e3
ES 1234678D
7.60e6
40.72
Abs. Int.
2.16e6
1.08e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.78e3
ES 1234678D
7.09e6
40.72
Abs. Int.
2.12e6
1.06e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.08e7
5.42e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

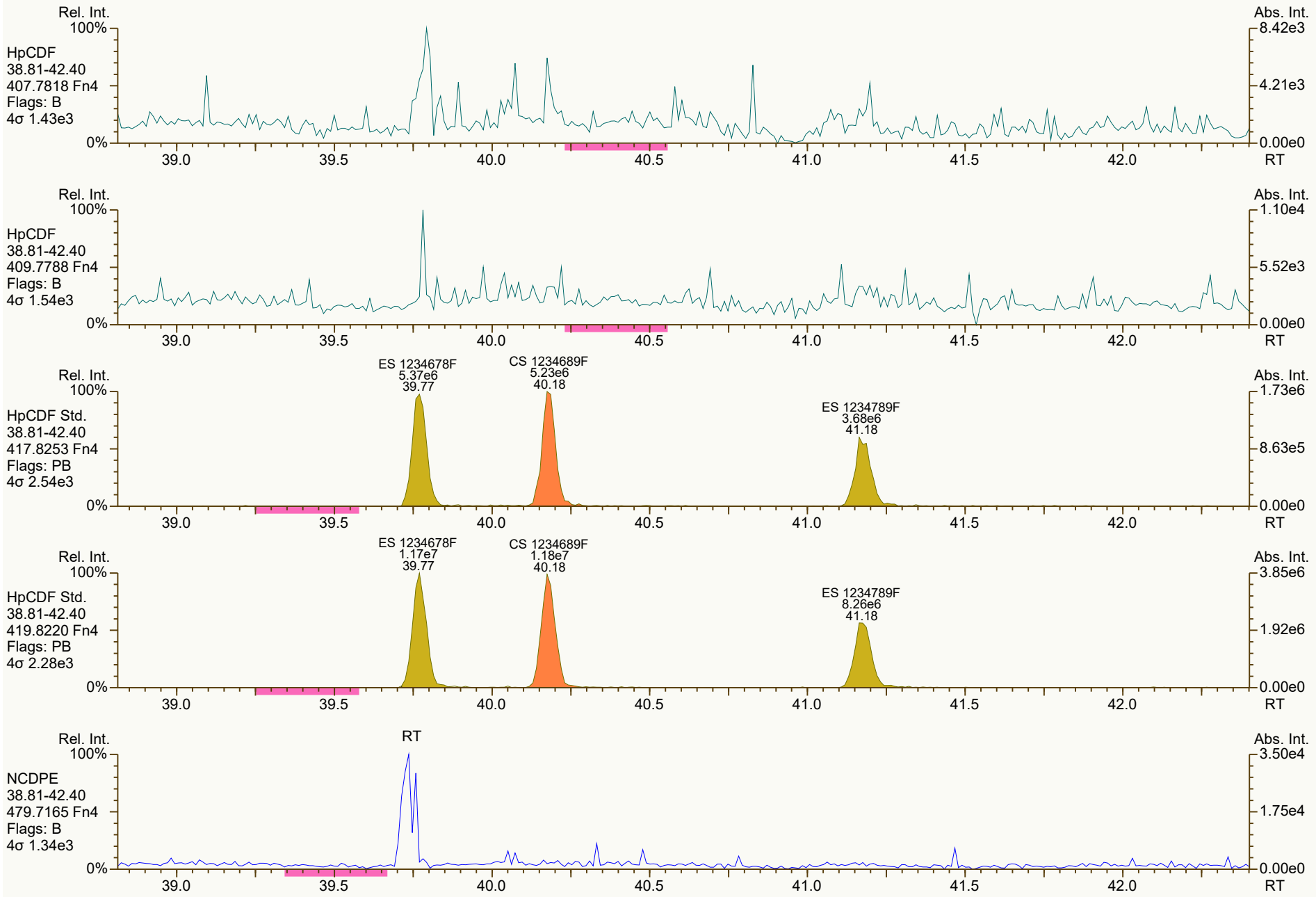

OCDD
1.43e7
43.44
Rel. Int.
Abs. Int.
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 1.93e3
OCDD
1.65e7
43.44
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 2.00e3
ES OCDD
9.34e6
43.43
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 1.69e3
ES OCDD
1.06e7
43.43
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.16e3
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
2.73e6
1.36e6
0.00e0
3.11e6
1.55e6
1.86e6
9.28e5
2.02e6
1.01e6
9.53e6
4.76e6


SGS ID: B6291_18925_DF_006
Sample ID: 11215131-020522-S-SB-SW-B-26
Acq: 22-Feb-2022 13:14:59
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 74
User: DTF Datafile: 220221C36
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 2.86e3
1368F 5.30e4* 22.35
2468F 7.75e4* 23.62
1347F...[3] 1.70e5* 24.12
1478F 4.90e4* 25.23
1238F...[5] 9.06e4* 25.99
1278F 1.63e5* 26.45
2347/1279F 5.10e4* 27.14
2378F 2.54e5* 27.36
2367/3467F 1.66e5* 27.72
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 3.72e3
1368F 5.14e4* 22.36
2468F 1.13e5* 23.61
1347F...[3] 1.92e5* 24.12
1478F 4.17e4* 25.22
1238F...[5] 1.20e5* 25.99
1278F 2.01e5* 26.45
1267F 4.40e4* 26.71
2348F 7.36e4* 27.24
2378F 3.32e5* 27.36
2367/3467F 1.92e5* 27.72
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 7.53e3
JS 1234F 1.52e7 25.95
ES 2378F 1.16e7 27.34
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.96e3
JS 1234F 1.96e7 25.95
ES 2378F 1.44e7 27.33
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.24e3
RT


Rel. Int.
100%
0%
Abs. Int.
1.78e4
8.91e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.56e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.34e4
6.68e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.07e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
5.51e6
2.75e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 2.38e3
13678F...[3] 8.93e4* 30.88
12368F...[3] 9.77e4* 31.04
12378F 7.30e4* 32.16
12678/12367F 4.93e4* 32.45
23467/12369F 3.97e4* 33.17
23478F 5.17e4* 33.30
Abs. Int.
2.20e4
1.10e4
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 2.01e3
13678F...[3] 5.87e4* 30.89
12368F...[3] 7.04e4* 31.05
12378F 5.90e4* 32.17
12678/12367F 3.39e4* 32.44
23467/12369F 3.13e4* 33.16
23478F 4.10e4* 33.30
Abs. Int.
1.89e4
9.45e3
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 6.22e3
CS 12346F 1.88e7 31.62
ES 12378F 1.67e7 32.15
ES 23478F 1.56e7 33.28
Abs. Int.
5.02e6
2.51e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 1.63e3
CS 12346F 1.21e7 31.62
ES 12378F 1.08e7 32.15
ES 23478F 9.70e6 33.27
Abs. Int.
3.25e6
1.63e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.12e3
Abs. Int.
6.53e3
3.27e3
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 1.73e3
124678/134678F
3.52e4*
35.37
123478F
3.87e4*
36.56
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 1.54e3
124678/134678F
2.14e4*
35.36
123478F
2.50e4*
36.55
Abs. Int.
1.35e4
6.75e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 6.01e3
ES 123678F
8.49e6
36.69
ES 123478F
6.05e6
36.55
CS 123469F
8.25e6
37.00
ES 234678F
7.14e6
37.36
ES 123789F
5.36e6
38.34
Abs. Int.
2.53e6
1.27e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 1.00e4
ES 123678F
1.57e7
36.69
ES 123478F
1.16e7
36.55
CS 123469F
1.54e7
37.00
ES 234678F
1.39e7
37.37
ES 123789F
1.02e7
38.34
Abs. Int.
4.79e6
2.39e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.35e3
Abs. Int.
1.41e4
7.07e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: B
4σ 1.43e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
HpCDF
38.81-42.40
409.7788 Fn4
Flags: B
4σ 1.54e3
1.10e4
5.52e3
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 2.54e3
ES 1234678F
5.37e6
39.77
CS 1234689F
5.23e6
40.18
ES 1234789F
3.68e6
41.18
1.73e6
8.63e5
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 2.28e3
ES 1234678F
1.17e7
39.77
CS 1234689F
1.18e7
40.18
ES 1234789F
8.26e6
41.18
3.85e6
1.92e6
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.34e3
RT
3.50e4
1.75e4


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: B
4σ 1.48e3
0%
Abs. Int.
1.37e4
6.84e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: B
4σ 1.54e3
0%
Abs. Int.
1.13e4
5.66e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.10e7
43.61
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 1.71e3
0%
Abs. Int.
2.17e6
1.09e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.19e7
43.60
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 2.01e3
0%
Abs. Int.
2.47e6
1.23e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
4.63e3
2.32e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6291_18925_DF_007 **Acq'd:** 22 Feb 2022 14:01 DTF **Wt/Vol:** 10.08 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020522-S-SB-NE-O-13 **UTP:** 23-Feb-2022 08:07:55 DTF **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 837-534-CNC

Datafile: 220221C37 **Report:** 23 Feb 2022 08:09 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	3946.076	0.386
12378-PeCDD	33.64	J EMPC	1.0007	1.0004	-0.6	5.98E+04	0.92	N	1.04	0.656	3405.389	0.315
123478-HxCDD	37.58	J EMPC	1.0004	1.0004	0	1.01E+05	1.74	N	1.09	1.23	2723.947	0.269
123678-HxCDD	37.70	EMPC	1.0036	1.0036	0	4.15E+05	1.03	N	1.15	4.6	2723.947	0.262
123789-HxCDD	38.00		1.0118	1.0117	-0.2	2.51E+05	1.29	Y	1.05	2.8	2723.947	0.273
1234678-HpCDD	40.75		1.0002	1.0003	+0.2	2.23E+07	1.03	Y	1.06	274	2459.267	0.261
OCDD	43.48	E	1.0003	1.0002	-0.3	8.67E+08	0.90	Y	1.13	12,600	5138.627	1
2378-TCDF	27.37		1.0008	1.0008	0	7.46E+05	0.85	Y	1.08	5.11	5315.861	0.396
12378-PeCDF	32.18	J	1.0005	1.0006	+0.2	1.50E+05	1.60	Y	1.02	1.13	3890.296	0.278
23478-PeCDF	33.31	J	1.0005	1.0007	+0.4	2.26E+05	1.75	Y	1.02	1.74	3890.296	0.27
123478-HxCDF	36.57	J	1.0004	1.0003	-0.2	2.22E+05	1.20	Y	1.27	1.87	4156.486	0.287
123678-HxCDF	36.71	J EMPC	1.0004	1.0004	0	1.60E+05	1.45	N	1.15	1.17	4156.486	0.279
234678-HxCDF	37.39	J	1.0005	1.0004	-0.2	2.12E+05	1.18	Y	1.19	1.71	4156.486	0.312
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4156.486	0.325
1234678-HpCDF	39.80		1.0003	1.0003	0	2.62E+06	1.02	Y	1.37	22.9	2664.4	0.185
1234789-HpCDF	41.20	J EMPC	1.0003	1.0002	-0.2	1.34E+05	1.35	N	1.31	1.46	2664.4	0.248
OCDF	43.64		1.0002	1.0002	0	6.62E+06	0.90	Y	1.07	85.8	3088.482	0.538

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.22		1.0243	1.0244	+0.2	1.80E+07	0.81	Y	1.05	76.2
ES 12378-PeCDD	33.62		1.2198	1.2208	+2.0	1.75E+07	1.65	Y	0.88	88.1
ES 123478-HxCDD	37.57		0.9916	0.9915	-0.2	1.50E+07	1.21	Y	0.97	80.8
ES 123678-HxCDD	37.69		0.9947	0.9947	0	1.56E+07	1.21	Y	0.94	86.8
ES 123789-HxCDD	37.99		1.0029	1.0028	-0.2	1.70E+07	1.28	Y	1.09	81.7
ES 1234678-HpCDD	40.74		1.0749	1.0752	+0.7	1.53E+07	1.09	Y	0.91	87.8
ES OCDD	43.47		1.1460	1.1473	+3.4	2.42E+07	0.92	Y	0.62	102
ES 2378-TCDF	27.35		1.0531	1.0536	+0.8	2.68E+07	0.83	Y	1.06	72.3
ES 12378-PeCDF	32.16		1.2378	1.2390	+2.3	2.58E+07	1.59	Y	0.91	80.9
ES 23478-PeCDF	33.28		1.2810	1.2823	+2.6	2.53E+07	1.58	Y	0.88	81.6
ES 123478-HxCDF	36.56		0.9650	0.9649	-0.2	1.86E+07	0.55	Y	1.20	81.5
ES 123678-HxCDF	36.70		0.9688	0.9686	-0.4	2.34E+07	0.53	Y	1.35	91.1
ES 234678-HxCDF	37.38		0.9866	0.9866	0	2.07E+07	0.54	Y	1.24	87.5
ES 123789-HxCDF	38.36		1.0125	1.0124	-0.2	1.83E+07	0.51	Y	1.16	83.4
ES 1234678-HpCDF	39.79		1.0501	1.0502	+0.2	1.66E+07	0.45	Y	0.97	90.1
ES 1234789-HpCDF	41.19		1.0870	1.0873	+0.7	1.40E+07	0.46	Y	0.85	86.4
ES OCDF	43.63		1.1505	1.1515	+2.6	2.86E+07	0.91	Y	0.81	92.9

Lab ID: B6291_18925_DF_007 **Acq'd:** 22 Feb 2022 14:01 DTF **Wt/Vol:** 10.08 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020522-S-SB-NE-O-13 **UTP:** 23-Feb-2022 08:07:55 DTF **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 837-534-CNC

Datafile: 220221C37 **Report:** 23 Feb 2022 08:09 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.54		-	-	-	2.25E+07	0.83	Y	-	-
JS 1234-TCDF	25.96		-	-	-	3.51E+07	0.78	Y	-	-
JS 123467-HxCDD	37.89		-	-	-	9.51E+06	1.23	Y	-	-
CS 37Cl-2378-TCDD	28.24		1.0251	1.0252	+0.2	7.99E+06	n/a	-	1.20	73.8
CS 12347-PeCDD	33.12		1.2016	1.2023	+1.4	1.53E+07	1.59	Y	0.75	90.3
CS 12346-PeCDF	31.62		1.2172	1.2184	+2.3	2.50E+07	1.58	Y	0.85	83.9
CS 123469-HxCDF	37.01		0.9771	0.9769	-0.4	1.97E+07	0.56	Y	1.12	92.6
CS 1234689-HpCDF	40.20		1.0608	1.0609	+0.2	1.59E+07	0.45	Y	0.89	94.4
SS 37Cl-2378-TCDD	28.24		1.0251	1.0252	+0.2	7.99E+06	n/a	-	1.15	97
SS 12347-PeCDD	33.12		1.2016	1.2023	+1.4	1.53E+07	1.59	Y	0.86	102
SS 12346-PeCDF	31.62		1.2172	1.2184	+2.3	2.50E+07	1.58	Y	0.94	104
SS 123469-HxCDF	37.01		0.9771	0.9769	-0.4	1.97E+07	0.56	Y	0.83	102
SS 1234689-HpCDF	40.20		1.0608	1.0609	+0.2	1.59E+07	0.45	Y	0.92	105

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	3.5	4.97
Total HxCDD	39	45.6
Total HpCDD	542	542
Total Tetra-Octa Dioxins	13200	13200
Total TCDF	12.2	15.9
Total PeCDF	14.2	16
Total HxCDF	26.8	28
Total HpCDF	79.6	81.7
Total Tetra-Octa Furans	219	227
Total Tetra-Octa Dioxins & Furans	13400	13400

Lab ID: B6291_18925_DF_007 | **Acq'd: 22 Feb 2022 14:01 DTF** | **Wt/Vol: 10.08 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020522-S-SB-NE-O-13 | **UTP: 23-Feb-2022 08:07:55 DTF** | **J-level: 0.496 pg/g** | **Split: 1** | **Checkcode: 837-534-CNC**

Datafile: 220221C37 | **Report: 23 Feb 2022 08:09 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		3946.076	0.386
1379-TCDD	NotFnd		0.8829						1.18		3946.076	0.386
1369-TCDD	NotFnd		0.8982						1.18		3946.076	0.386
1469-TCDD	NotFnd		0.9261						1.18		3946.076	0.386
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		3946.076	0.386
1378-TCDD	NotFnd		0.9417						1.18		3946.076	0.386
1268-TCDD	NotFnd		0.9487						1.18		3946.076	0.386
1478-TCDD	NotFnd		0.9576						1.18		3946.076	0.386
1279-TCDD	NotFnd		0.9636						1.18		3946.076	0.386
1234/1269-TCDD	NotFnd		0.9761						1.18		3946.076	0.386
1236-TCDD	NotFnd		0.9812						1.18		3946.076	0.386
1237/1238-TCDD	NotFnd		0.9905						1.18		3946.076	0.386
1239-TCDD	NotFnd		0.9951						1.18		3946.076	0.386
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**3946.076**	**0.386**
1278-TCDD	NotFnd		1.0124						1.18		3946.076	0.386
1267-TCDD	NotFnd		1.0172						1.18		3946.076	0.386
1289-TCDD	NotFnd		1.0354						1.18		3946.076	0.386
12479/12468-PeCDD	31.11	J	0.9255	0.9253	-0.4	1.42E+05	1.66	Y	1.04	1.56	3405.389	0.315
12469-PeCDD	31.66	J EMPC	0.9416	0.9416	0	7.47E+04	0.97	N	1.04	0.819	3405.389	0.315
12368-PeCDD	NotFnd		0.9582						1.04		3405.389	0.315
12478-PeCDD	32.40	J	0.9637	0.9637	0	8.89E+04	1.42	Y	1.04	0.976	3405.389	0.315
12379-PeCDD	NotFnd		0.9668						1.04		3405.389	0.315
12369/12467/12489-PeCDD	32.76	J	0.9746	0.9744	-0.4	8.79E+04	1.35	Y	1.04	0.964	3405.389	0.315
12346/12347-PeCDD	NotFnd		0.9858						1.04		3405.389	0.315
12378-PeCDD	33.64	J EMPC	**1.0007**	**1.0004**	**-0.6**	**5.98E+04**	**0.92**	**N**	**1.04**	**0.656**	**3405.389**	**0.315**
12367-PeCDD	NotFnd		1.0036						1.04		3405.389	0.315
12389-PeCDD	NotFnd		1.0137						1.04		3405.389	0.315
124679/124689-HxCDD	35.83		0.9540	0.9539	-0.2	1.25E+06	1.35	Y	1.10	14.3	2723.947	0.268
123468-HxCDD	36.49	J	0.9715	0.9714	-0.2	2.12E+05	1.33	Y	1.10	2.43	2723.947	0.268
123679/123689-HxCDD	36.79		0.9793	0.9793	0	1.57E+06	1.36	Y	1.10	17.9	2723.947	0.268
123469-HxCDD	36.92	J	0.9829	0.9828	-0.2	1.36E+05	1.37	Y	1.10	1.56	2723.947	0.268
123478-HxCDD	37.58	J EMPC	**1.0004**	**1.0004**	**0**	**1.01E+05**	**1.74**	**N**	1.09	**1.23**	**2723.947**	**0.269**
123678-HxCDD	37.70	EMPC	**1.0036**	**1.0036**	**0**	**4.15E+05**	**1.03**	**N**	1.15	**4.6**	**2723.947**	**0.262**
123467-HxCDD	37.90	J EMPC	1.0089	1.0090	+0.2	6.37E+04	0.77	N	1.10	0.729	2723.947	0.268
123789-HxCDD	38.00		**1.0118**	**1.0117**	**-0.2**	**2.51E+05**	**1.29**	**Y**	1.05	**2.8**	**2723.947**	**0.273**

Lab ID: B6291_18925_DF_007 **Acq'd: 22 Feb 2022 14:01 DTF** **Wt/Vol: 10.08 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020522-S-SB-NE-O-13 **UTP: 23-Feb-2022 08:07:55 DTF** **J-level: 0.496 pg/g** **Split: 1** **Checkcode: 837-534-CNC**

Datafile: 220221C37 **Report: 23 Feb 2022 08:09 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

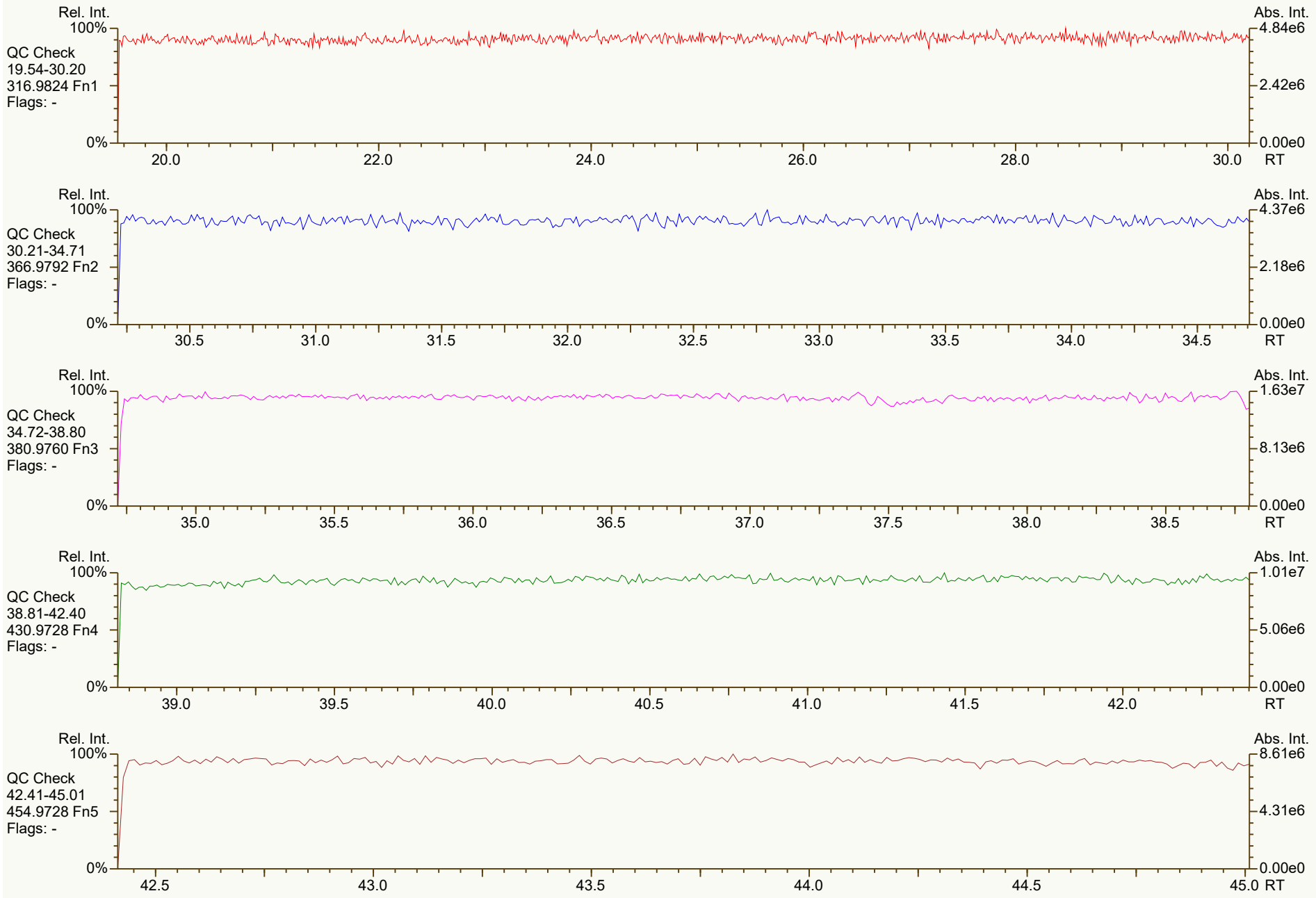
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.07		0.9836	0.9836	0	2.18E+07	1.03	Y	1.06	268	2459.267	0.261
1234678-HpCDD	**40.75**		**1.0002**	**1.0003**	**+0.2**	**2.23E+07**	**1.03**	**Y**	**1.06**	**274**	**2459.267**	**0.261**
OCDD	**43.48**	**E**	**1.0003**	**1.0002**	**-0.3**	**8.67E+08**	**0.90**	**Y**	**1.13**	**12,600**	**5138.627**	**1**
OCDD-a	43.48	E	1.0002	1.0002	0	5.44E+07	2.45	Y	0.07	12,400	2437.384	7.43
1368-TCDF	NotFnd		0.8191						1.08		5315.861	0.396
1468-TCDF	NotFnd		0.8408						1.08		5315.861	0.396
2468-TCDF	23.61		0.8645	0.8633	-1.7	1.79E+05	0.74	Y	1.08	1.23	5315.861	0.396
1346/1246-TCDF	NotFnd		0.8772						1.08		5315.861	0.396
1347/1378/1247-TCDF	24.13	EMPC	0.8833	0.8824	-1.3	1.54E+05	0.95	N	1.08	1.06	5315.861	0.396
1348-TCDF	NotFnd		0.8932						1.08		5315.861	0.396
1248/1367/1379-TCDF	24.50	EMPC	0.8980	0.8959	-3.1	1.34E+05	1.14	N	1.08	0.918	5315.861	0.396
1268-TCDF	NotFnd		0.9119						1.08		5315.861	0.396
1467-TCDF	NotFnd		0.9170						1.08		5315.861	0.396
1478-TCDF	25.23		0.9234	0.9225	-1.4	1.19E+05	0.69	Y	1.08	0.815	5315.861	0.396
1369/1237-TCDF	NotFnd		0.9369						1.08		5315.861	0.396
2467-TCDF	NotFnd		0.9415						1.08		5315.861	0.396
2368-TCDF	25.93		0.9475	0.9484	+1.4	2.25E+05	0.71	Y	1.08	1.54	5315.861	0.396
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		5315.861	0.396
1278-TCDF	26.46	EMPC	0.9676	0.9674	-0.3	1.82E+05	0.91	N	1.08	1.25	5315.861	0.396
1349-TCDF	NotFnd		0.9722						1.08		5315.861	0.396
1267-TCDF	NotFnd		0.9777						1.08		5315.861	0.396
2346/1249-TCDF	NotFnd		0.9843						1.08		5315.861	0.396
2347/1279-TCDF	27.15		0.9926	0.9927	+0.2	1.01E+05	0.74	Y	1.08	0.692	5315.861	0.396
2348-TCDF	27.25	J EMPC	0.9968	0.9965	-0.5	6.74E+04	0.94	N	1.08	0.462	5315.861	0.396
2378-TCDF	**27.37**		**1.0008**	**1.0008**	**0**	**7.46E+05**	**0.85**	**Y**	**1.08**	**5.11**	**5315.861**	**0.396**
2367/3467-TCDF	27.73		1.0142	1.0139	-0.5	4.09E+05	0.81	Y	1.08	2.8	5315.861	0.396
1269-TCDF	NotFnd		1.0235						1.08		5315.861	0.396
1239-TCDF	NotFnd		1.0329						1.08		5315.861	0.396
1289-TCDF	NotFnd		1.0742						1.08		5315.861	0.396
13468/12468-PeCDF	29.34		0.9122	0.9124	+0.4	5.56E+05	1.60	Y	1.02	4.22	2404.552	0.169
13678/13467/12467-PeCDF	30.91	J	0.9606	0.9610	+0.7	2.18E+05	1.59	Y	1.02	1.66	3890.296	0.274
12368/13478/12478-PeCDF	31.08		0.9655	0.9664	+1.7	5.41E+05	1.59	Y	1.02	4.11	3890.296	0.274
14678-PeCDF	NotFnd		0.9685						1.02		3890.296	0.274
13479-PeCDF	NotFnd		0.9716						1.02		3890.296	0.274
13469/12479-PeCDF	NotFnd		0.9794						1.02		3890.296	0.274
12346-PeCDF	NotFnd		0.9836						1.02		3890.296	0.274

Lab ID: B6291_18925_DF_007 **Acq'd: 22 Feb 2022 14:01 DTF** **Wt/Vol: 10.08 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020522-S-SB-NE-O-13 **UTP: 23-Feb-2022 08:07:55 DTF** **J-level: 0.496 pg/g** **Split: 1** **Checkcode: 837-534-CNC**

Datafile: 220221C37 **Report: 23 Feb 2022 08:09 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.73	J EMPC	0.9866	0.9867	+0.2	1.36E+05	1.28	N	1.02	1.04	3890.296	0.274
12347-PeCDF	NotFnd		0.9891						1.02		3890.296	0.274
12348-PeCDF	NotFnd		0.9938						1.02		3890.296	0.274
12378-PeCDF	**32.18**	J	**1.0005**	**1.0006**	**+0.2**	**1.50E+05**	**1.60**	**Y**	**1.02**	**1.13**	**3890.296**	**0.278**
12678/12367-PeCDF	32.45	J	1.0091	1.0091	0	1.76E+05	1.65	Y	1.02	1.34	3890.296	0.274
12379-PeCDF	NotFnd		1.0144						1.02		3890.296	0.274
12679-PeCDF	NotFnd		0.9927						1.02		3890.296	0.274
23467/12369-PeCDF	33.17	J EMPC	0.9965	0.9965	0	9.58E+04	2.03	N	1.02	0.729	3890.296	0.274
23478-PeCDF	**33.31**	J	**1.0005**	**1.0007**	**+0.4**	**2.26E+05**	**1.75**	**Y**	**1.02**	**1.74**	**3890.296**	**0.27**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3890.296	0.274
12349-PeCDF	NotFnd		1.0101						1.02		3890.296	0.274
12389-PeCDF	NotFnd		1.0330						1.02		3890.296	0.274
123468-HxCDF	35.18		0.9622	0.9622	0	3.10E+05	1.11	Y	1.19	2.54	4156.486	0.299
124678/134678-HxCDF	35.38		0.9678	0.9677	-0.2	1.09E+06	1.23	Y	1.19	8.91	4156.486	0.299
134679-HxCDF	NotFnd		0.9741						1.19		4156.486	0.299
124679-HxCDF	NotFnd		0.9795						1.19		4156.486	0.299
124689-HxCDF	36.03		0.9856	0.9856	0	1.37E+06	1.15	Y	1.19	11.2	4156.486	0.299
123467-HxCDF	36.45	J	0.9972	0.9971	-0.2	6.65E+04	1.42	Y	1.19	0.545	4156.486	0.299
123478-HxCDF	**36.57**	J	**1.0004**	**1.0003**	**-0.2**	**2.22E+05**	**1.20**	**Y**	**1.27**	**1.87**	**4156.486**	**0.287**
123678-HxCDF	**36.71**	J EMPC	**1.0004**	**1.0004**	**0**	**1.60E+05**	**1.45**	**N**	**1.15**	**1.17**	**4156.486**	**0.279**
123479-HxCDF	NotFnd		1.0048						1.19		4156.486	0.299
123469-HxCDF	NotFnd		1.0089						1.19		4156.486	0.299
123679-HxCDF	NotFnd		0.9942						1.19		4156.486	0.299
234678-HxCDF	**37.39**	J	**1.0005**	**1.0004**	**-0.2**	**2.12E+05**	**1.18**	**Y**	**1.19**	**1.71**	**4156.486**	**0.312**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4156.486	0.299
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4156.486**	**0.325**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		4156.486	0.299
1234678-HpCDF	**39.80**		**1.0003**	**1.0003**	**0**	**2.62E+06**	**1.02**	**Y**	**1.37**	**22.9**	**2664.4**	**0.185**
1234679-HpCDF	40.06	**J EMPC**	1.0068	1.0069	+0.2	6.70E+04	1.25	N	1.34	0.649	2664.4	0.213
1234689-HpCDF	40.21		1.0104	1.0105	+0.2	5.86E+06	1.02	Y	1.34	56.8	2664.4	0.213
1234789-HpCDF	**41.20**	**J EMPC**	**1.0003**	**1.0002**	**-0.2**	**1.34E+05**	**1.35**	**N**	**1.31**	**1.46**	**2664.4**	**0.248**
OCDF	**43.64**		**1.0002**	**1.0002**	**0**	**6.62E+06**	**0.90**	**Y**	**1.07**	**85.8**	**3088.482**	**0.538**
OCDF-a	NotFnd		1.0001						0.07		3201.117	9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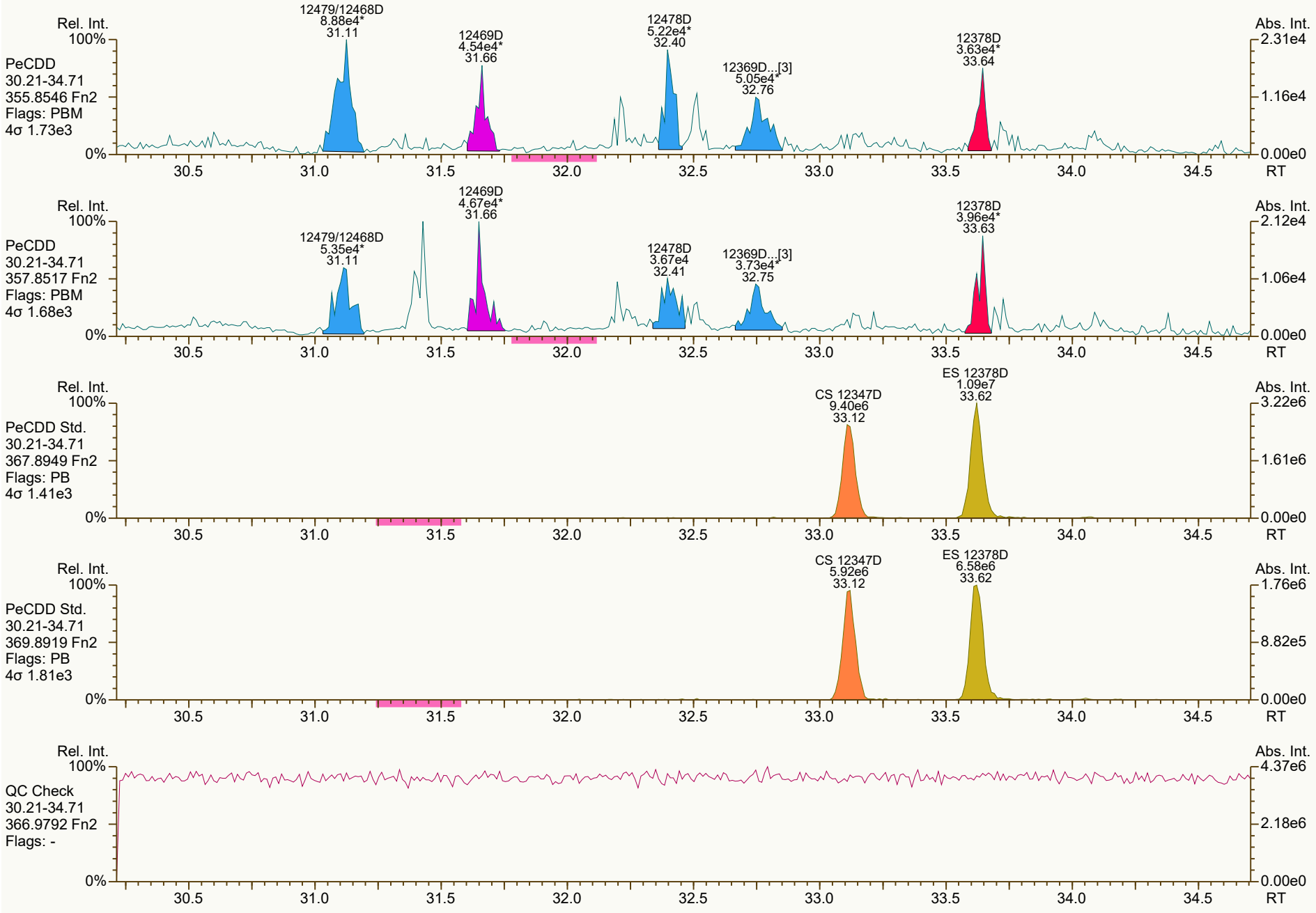
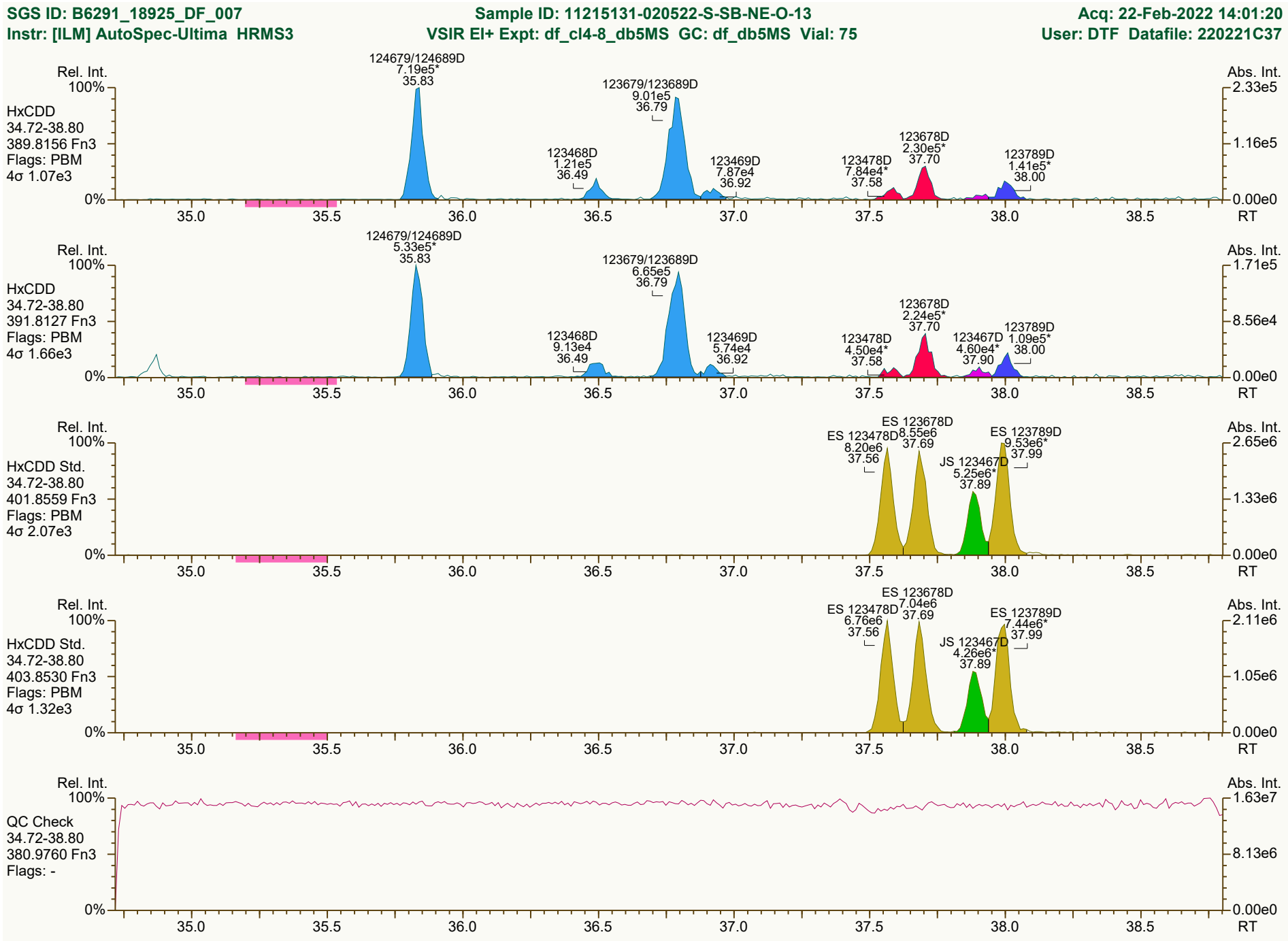
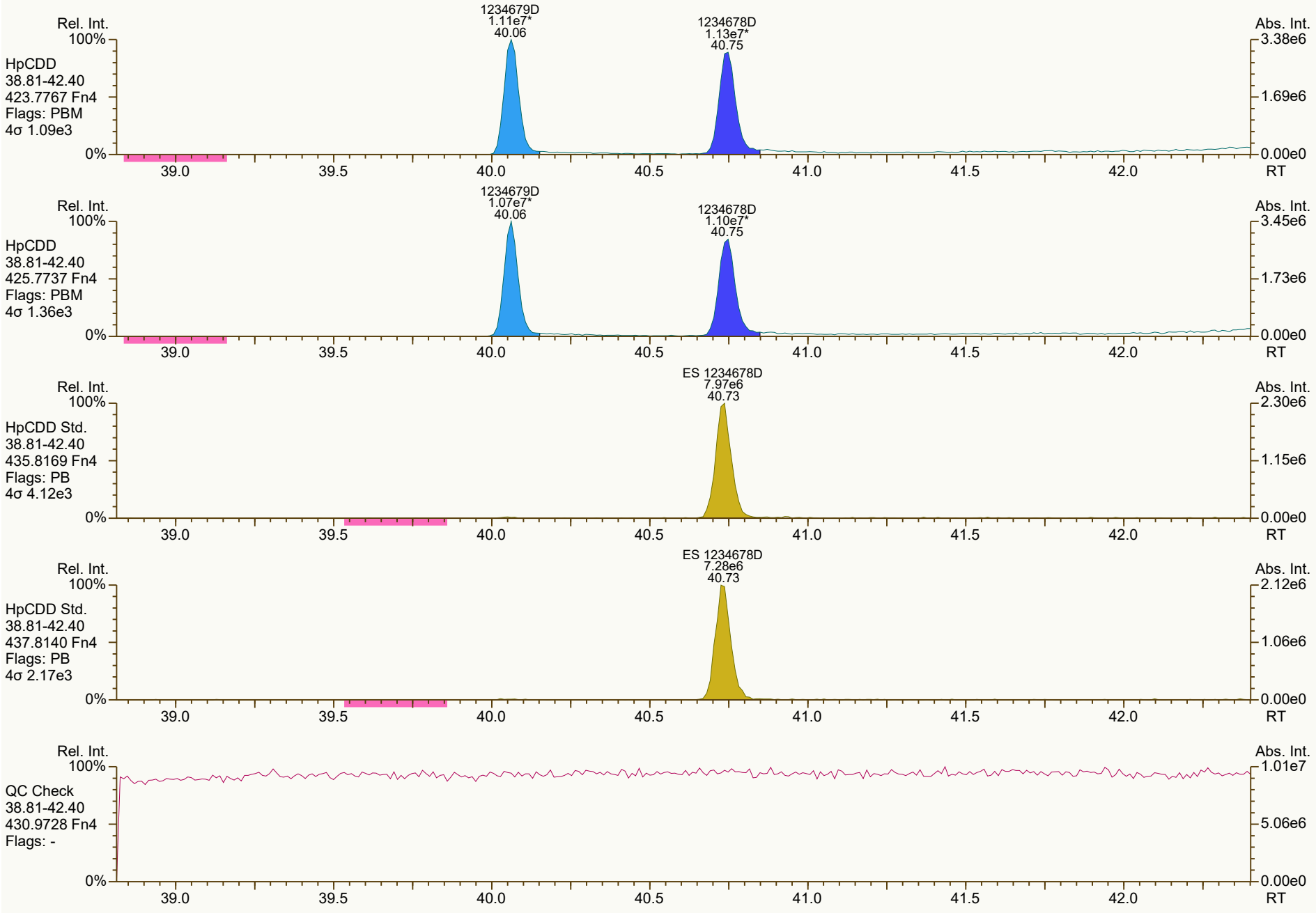
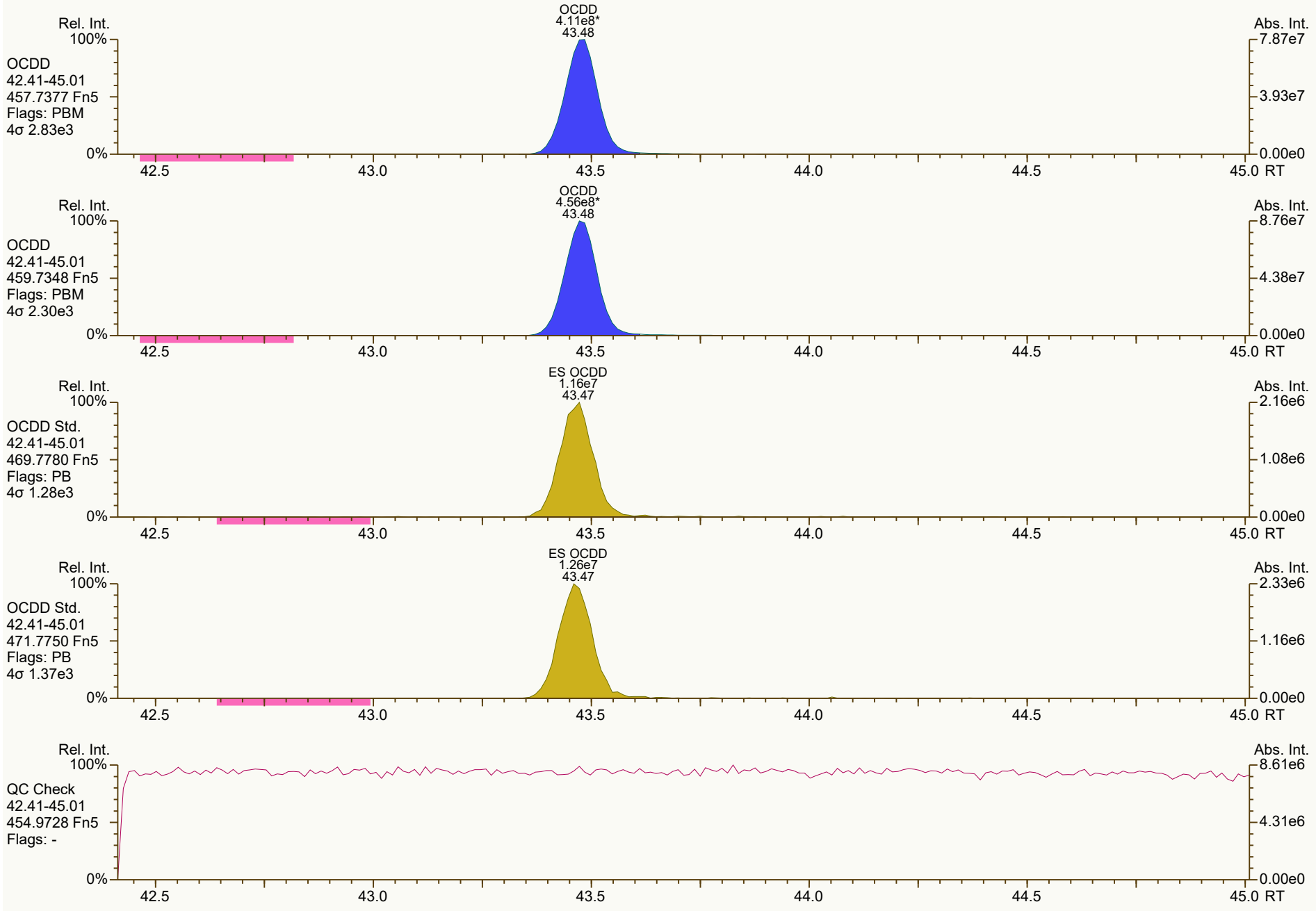
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
4.84e6
2.42e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.37e6
2.18e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.63e7
8.13e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.01e7
5.06e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
8.61e6
4.31e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT

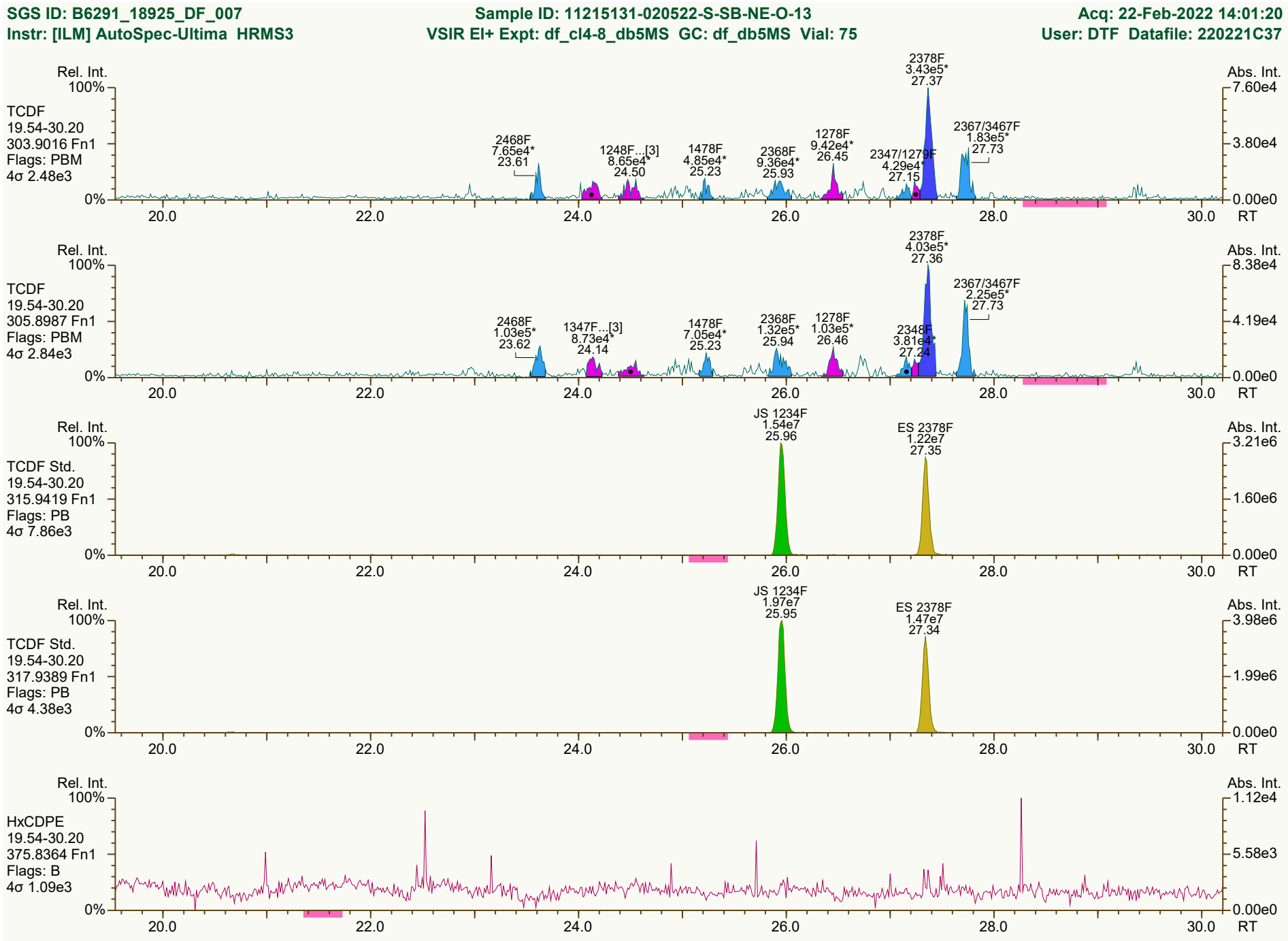

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 2.38e3
0%
Abs. Int.
1.60e4
7.98e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.56e3
0%
Abs. Int.
2.57e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.14e3
0%
CS 37Cl-2378D
7.99e6
28.24
Abs. Int.
1.81e6
9.04e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 7.51e3
0%
JS 1234D
1.02e7
27.54
ES 2378D
8.03e6
28.22
Abs. Int.
2.45e6
1.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 5.65e3
0%
JS 1234D
1.23e7
27.54
ES 2378D
9.93e6
28.22
Abs. Int.
2.77e6
1.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 1.73e3
12479/12468D
8.88e4*
31.11
12469D
4.54e4*
31.66
12478D
5.22e4*
32.40
12369D...[3]
5.05e4*
32.76
12378D
3.63e4*
33.64
Abs. Int.
2.31e4
1.16e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 1.68e3
12469D
4.67e4*
31.66
12479/12468D
5.35e4*
31.11
12478D
3.67e4
32.41
12369D...[3]
3.73e4*
32.75
12378D
3.96e4*
33.63
Abs. Int.
2.12e4
1.06e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 1.41e3
CS 12347D
9.40e6
33.12
ES 12378D
1.09e7
33.62
Abs. Int.
3.22e6
1.61e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.81e3
CS 12347D
5.92e6
33.12
ES 12378D
6.58e6
33.62
Abs. Int.
1.76e6
8.82e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Abs. Int.
4.37e6
2.18e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


SGS ID: B6291_18925_DF_007
Sample ID: 11215131-020522-S-SB-NE-O-13
Acq: 22-Feb-2022 14:01:20
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 75
User: DTF Datafile: 220221C37
Rel. Int.
Abs. Int.
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 1.07e3
124679/124689D
7.19e5*
35.83
123679/123689D
9.01e5
36.79
123468D
1.21e5
36.49
123469D
7.87e4
36.92
123478D
7.84e4*
37.58
123678D
2.30e5*
37.70
123789D
1.41e5*
38.00
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 1.66e3
124679/124689D
5.33e5*
35.83
123679/123689D
6.65e5
36.79
123468D
9.13e4
36.49
123469D
5.74e4
36.92
123478D
4.50e4*
37.58
123678D
2.24e5*
37.70
123467D
4.60e4*
37.90
123789D
1.09e5*
38.00
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 2.07e3
ES 123678D
8.55e6
37.69
ES 123478D
8.20e6
37.56
JS 123467D
5.25e6*
37.89
ES 123789D
9.53e6*
37.99
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 1.32e3
ES 123678D
7.04e6
37.69
ES 123478D
6.76e6
37.56
JS 123467D
4.26e6*
37.89
ES 123789D
7.44e6*
37.99
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
2.33e5
1.16e5
0.00e0
1.71e5
8.56e4
2.65e6
1.33e6
2.11e6
1.05e6
1.63e7
8.13e6
Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_007.utp_res, saved 22-Feb-2022 16:23 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4051, 4421 scc: 837-534
Revised: 22-Feb-2022 16:18 (DTF) Printed: 23-Feb-2022 08:18 Page 4 of 12


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 1.09e3
1234679D
1.11e7*
40.06
1234678D
1.13e7*
40.75
Abs. Int.
3.38e6
1.69e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 1.36e3
1234679D
1.07e7*
40.06
1234678D
1.10e7*
40.75
Abs. Int.
3.45e6
1.73e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 4.12e3
ES 1234678D
7.97e6
40.73
Abs. Int.
2.30e6
1.15e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.17e3
ES 1234678D
7.28e6
40.73
Abs. Int.
2.12e6
1.06e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.01e7
5.06e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
4.11e8*
43.48
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 2.83e3
0%
Abs. Int.
7.87e7
3.93e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.56e8*
43.48
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 2.30e3
0%
Abs. Int.
8.76e7
4.38e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.16e7
43.47
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
2.16e6
1.08e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.26e7
43.47
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.37e3
0%
Abs. Int.
2.33e6
1.16e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
8.61e6
4.31e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT



Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_007.utp_res, saved 22-Feb-2022 16:23 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8483, 4560, 9226 scc: 837-534
Revised: 22-Feb-2022 16:20 (DTF) Printed: 23-Feb-2022 08:18 Page 7 of 12

SGS ID: B6291_18925_DF_007
Instr: [ILM] AutoSpec-Ultima HRMS3

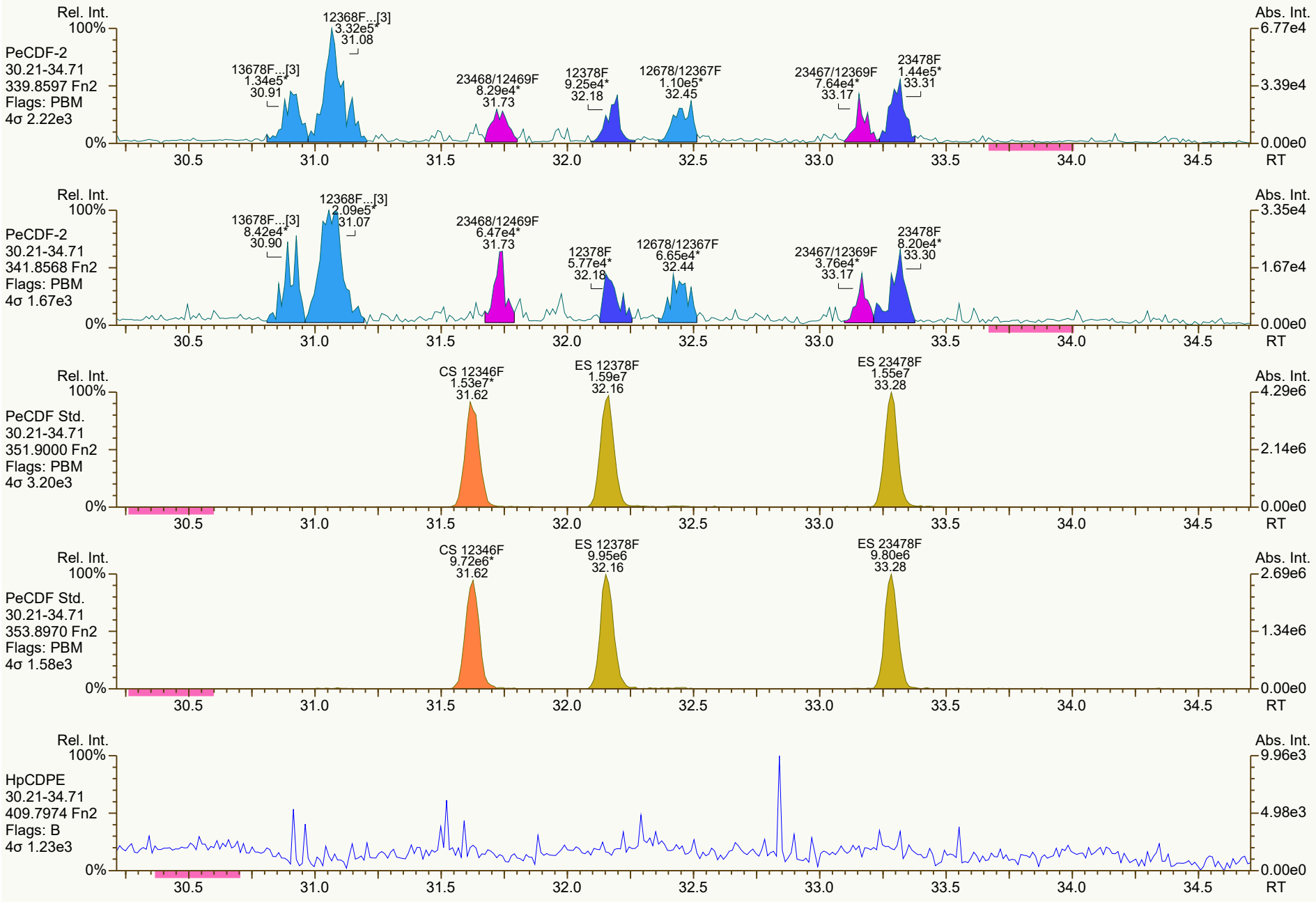
Sample ID: 11215131-020522-S-SB-NE-O-13
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 75

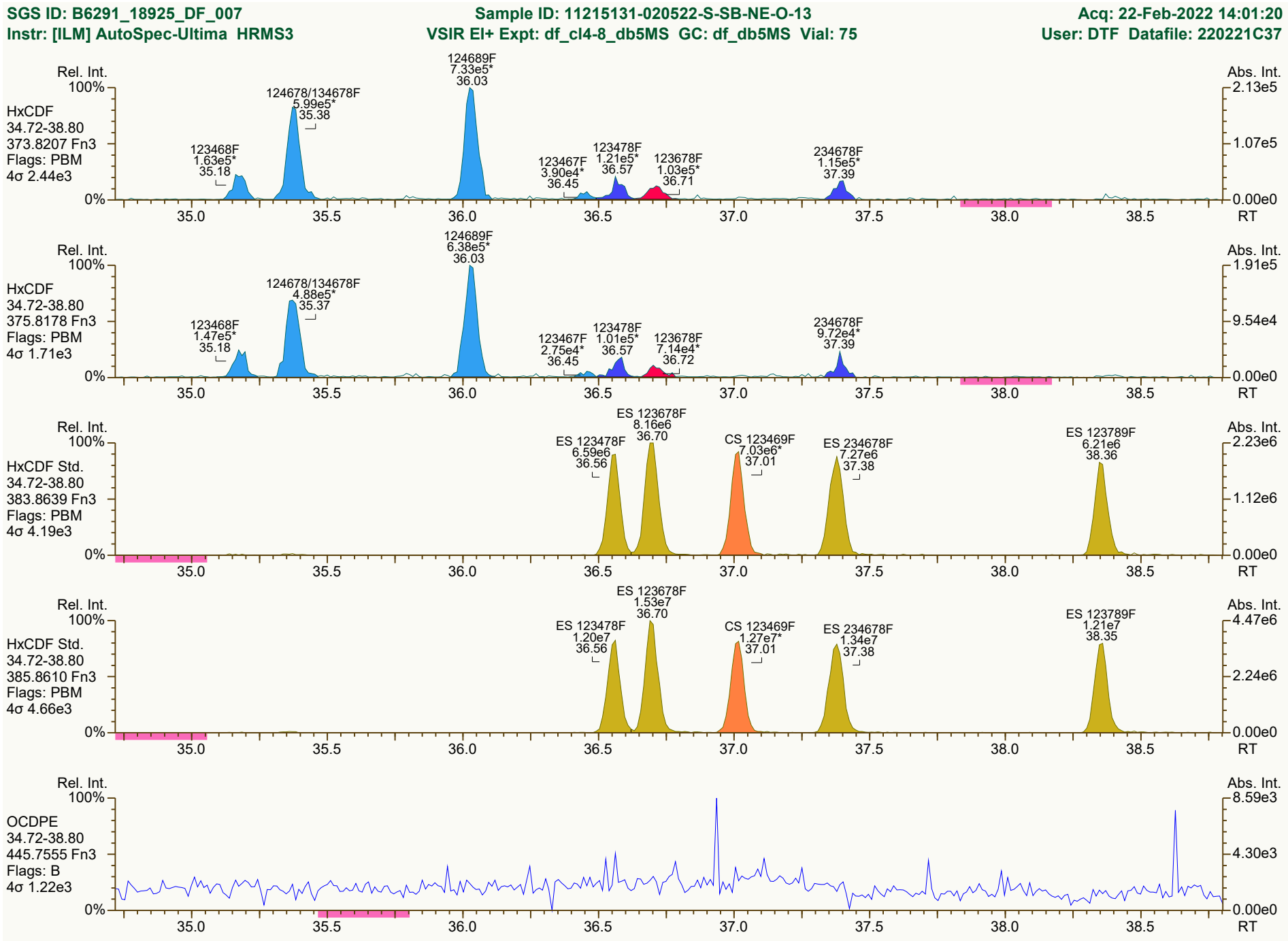
Acq: 22-Feb-2022 14:01:20
User: DTF Datafile: 220221C37

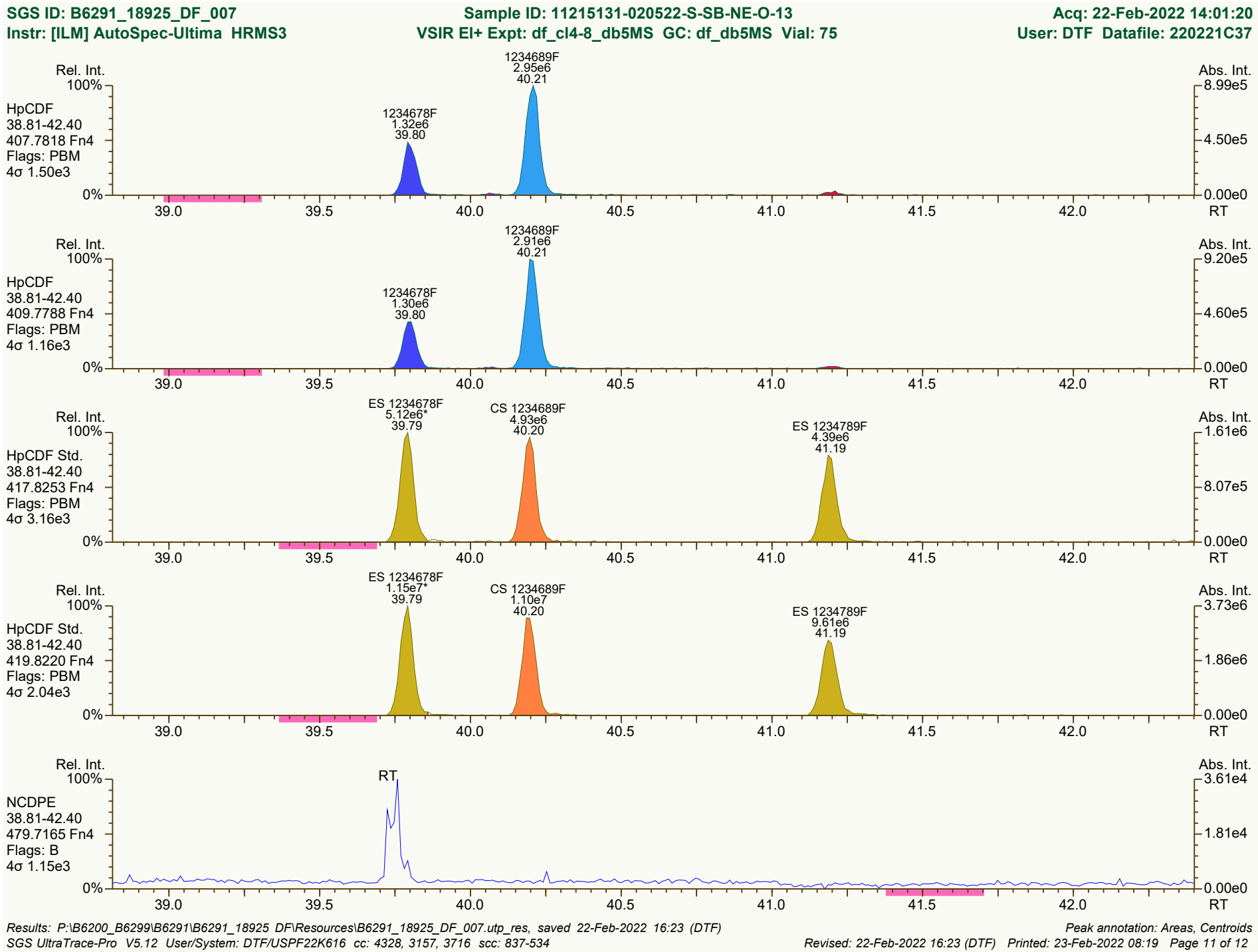


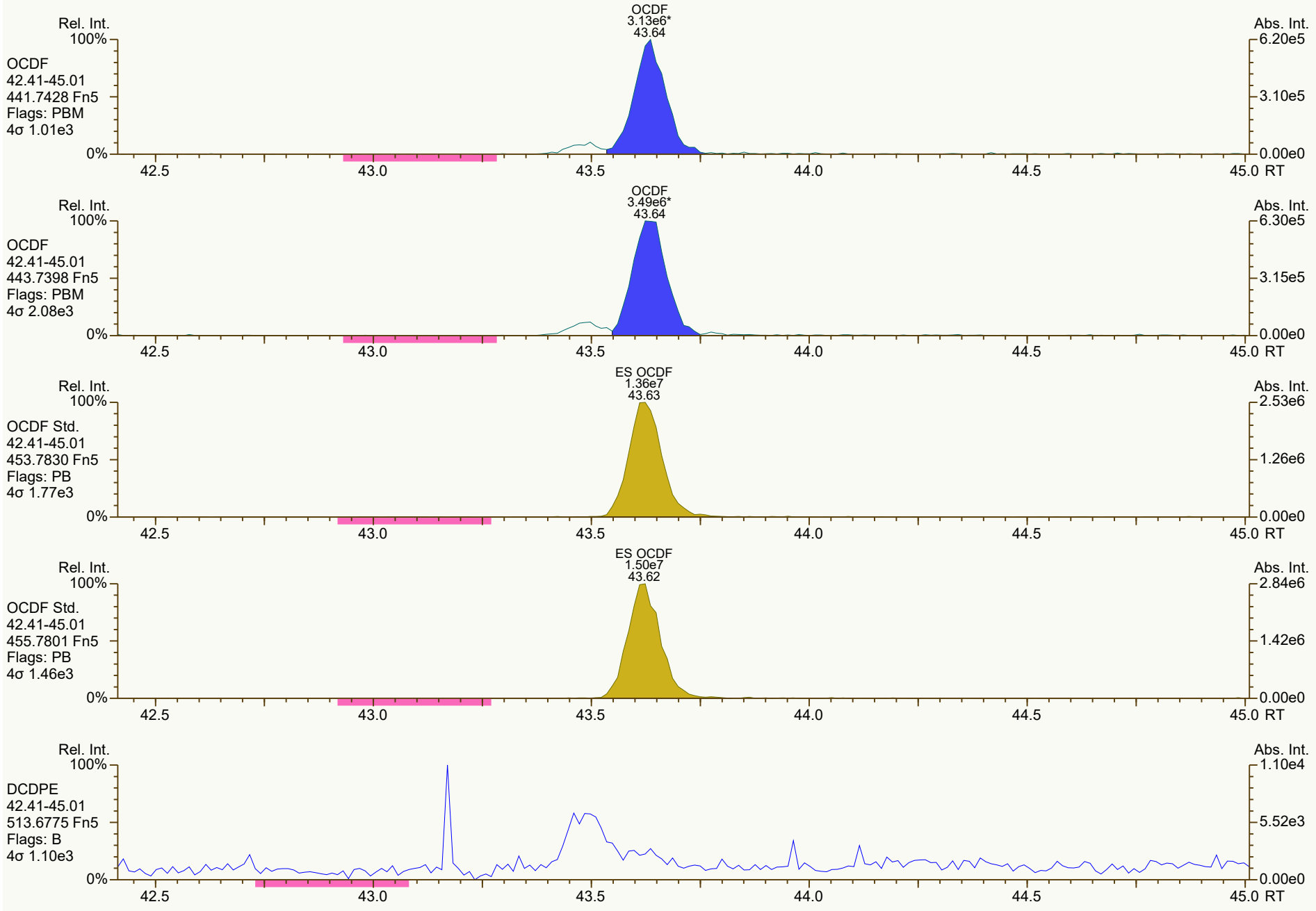
Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_007.utp_res, saved 22-Feb-2022 16:23 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6926 scc: 837-534

Peak annotation: Areas, Centroids
PKD: 22-Feb-2022 16:16 Printed: 23-Feb-2022 08:18 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 2.22e3
0%
13678F...[3]
1.34e5*
30.91
12368F...[3]
3.32e5*
31.08
23468/12469F
8.29e4*
31.73
12378F
9.25e4*
32.18
12678/12367F
1.10e5*
32.45
23467/12369F
7.64e4*
33.17
23478F
1.44e5*
33.31
Abs. Int.
6.77e4
3.39e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 1.67e3
0%
13678F...[3]
8.42e4*
30.90
12368F...[3]
2.09e5*
31.07
23468/12469F
6.47e4*
31.73
12378F
5.77e4*
32.18
12678/12367F
6.65e4*
32.44
23467/12369F
3.76e4*
33.17
23478F
8.20e4*
33.30
Abs. Int.
3.35e4
1.67e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PBM
4σ 3.20e3
0%
CS 12346F
1.53e7*
31.62
ES 12378F
1.59e7
32.16
ES 23478F
1.55e7
33.28
Abs. Int.
4.29e6
2.14e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PBM
4σ 1.58e3
0%
CS 12346F
9.72e6*
31.62
ES 12378F
9.95e6
32.16
ES 23478F
9.80e6
33.28
Abs. Int.
2.69e6
1.34e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.23e3
0%
Abs. Int.
9.96e3
4.98e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


SGS ID: B6291_18925_DF_007
Sample ID: 11215131-020522-S-SB-NE-O-13
Acq: 22-Feb-2022 14:01:20
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 75
User: DTF Datafile: 220221C37
Rel. Int.
Abs. Int.
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 2.44e3
123468F 1.63e5* 35.18
124678/134678F 5.99e5* 35.38
124689F 7.33e5* 36.03
123467F 3.90e4* 36.45
123478F 1.21e5* 36.57
123678F 1.03e5* 36.71
234678F 1.15e5* 37.39
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 1.71e3
123468F 1.47e5* 35.18
124678/134678F 4.88e5* 35.37
124689F 6.38e5* 36.03
123467F 2.75e4* 36.45
123478F 1.01e5* 36.57
123678F 7.14e4* 36.72
234678F 9.72e4* 37.39
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 4.19e3
ES 123478F 6.59e6 36.56
ES 123678F 8.16e6 36.70
CS 123469F 7.03e6* 37.01
ES 234678F 7.27e6 37.38
ES 123789F 6.21e6 38.36
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 4.66e3
ES 123478F 1.20e7 36.56
ES 123678F 1.53e7 36.70
CS 123469F 1.27e7* 37.01
ES 234678F 1.34e7 37.38
ES 123789F 1.21e7 38.35
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.22e3
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
2.13e5
1.07e5
0.00e0
1.91e5
9.54e4
2.23e6
1.12e6
4.47e6
2.24e6
8.59e3
4.30e3


SGS ID: B6291_18925_DF_007
Sample ID: 11215131-020522-S-SB-NE-O-13
Acq: 22-Feb-2022 14:01:20
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 75
User: DTF Datafile: 220221C37
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 1.50e3
1234689F
2.95e6
40.21
1234678F
1.32e6
39.80
8.99e5
4.50e5
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 1.16e3
1234689F
2.91e6
40.21
1234678F
1.30e6
39.80
9.20e5
4.60e5
0.00e0
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 3.16e3
ES 1234678F
5.12e6*
39.79
CS 1234689F
4.93e6
40.20
ES 1234789F
4.39e6
41.19
1.61e6
8.07e5
0.00e0
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 2.04e3
ES 1234678F
1.15e7*
39.79
CS 1234689F
1.10e7
40.20
ES 1234789F
9.61e6
41.19
3.73e6
1.86e6
0.00e0
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.15e3
RT
3.61e4
1.81e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_007.utp_res, saved 22-Feb-2022 16:23 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4328, 3157, 3716 scc: 837-534
Revised: 22-Feb-2022 16:23 (DTF) Printed: 23-Feb-2022 08:19 Page 11 of 12


OCDF
3.13e6*
43.64
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 1.01e3
0%
Abs. Int.
6.20e5
3.10e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.49e6*
43.64
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 2.08e3
0%
Abs. Int.
6.30e5
3.15e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.36e7
43.63
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 1.77e3
0%
Abs. Int.
2.53e6
1.26e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.50e7
43.62
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 1.46e3
0%
Abs. Int.
2.84e6
1.42e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.10e3
0%
Abs. Int.
1.10e4
5.52e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6291_18925_DF_008 **Acq'd:** 22 Feb 2022 14:47 DTF **Wt/Vol:** 10.02 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020522-S-SB-NE-O-14 **UTP:** 23-Feb-2022 08:08:01 DTF **J-level:** 0.499 pg/g **Split:** 1 **Checkcode:** 527-345-QPP

Datafile: 220221C38 **Report:** 23 Feb 2022 08:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.24		1.0008	1.0009	+0.2	2.32E+06	0.84	Y	1.18	20.5	4082.858	0.365
12378-PeCDD	33.64		1.0007	1.0006	-0.2	2.38E+05	1.54	Y	1.04	2.58	2755.833	0.269
123478-HxCDD	37.57		1.0004	1.0004	0	3.15E+05	1.15	Y	1.09	4.13	6188.885	0.745
123678-HxCDD	37.69		1.0036	1.0036	0	1.48E+06	1.27	Y	1.15	17.6	6188.885	0.682
123789-HxCDD	37.99		1.0118	1.0116	-0.5	6.94E+05	1.16	Y	1.05	9.09	6188.885	0.749
1234678-HpCDD	40.74		1.0002	1.0004	+0.5	4.21E+07	1.02	Y	1.06	696	3644.404	0.563
OCDD	43.45		1.0003	1.0003	0	2.92E+08	0.91	Y	1.13	9,660	5618.741	2.22
2378-TCDF	27.37		1.0008	1.0007	-0.2	9.45E+06	0.79	Y	1.08	65	4007.919	0.296
12378-PeCDF	32.17		1.0005	1.0004	-0.2	5.43E+05	1.52	Y	1.02	4.13	6930.485	0.488
23478-PeCDF	33.30		1.0005	1.0007	+0.4	8.23E+05	1.51	Y	1.02	6.85	6930.485	0.514
123478-HxCDF	36.57		1.0004	1.0005	+0.2	8.13E+05	1.27	Y	1.27	7.15	5740.73	0.414
123678-HxCDF	36.71		1.0004	1.0004	0	6.59E+05	1.21	Y	1.15	5.53	5740.73	0.412
234678-HxCDF	37.38		1.0005	1.0004	-0.2	6.59E+05	1.25	Y	1.19	6.68	5740.73	0.527
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	5740.73	0.535
1234678-HpCDF	39.79		1.0003	1.0003	0	6.13E+06	1.08	Y	1.37	70.9	3146.629	0.277
1234789-HpCDF	41.19		1.0003	1.0003	0	3.58E+05	1.03	Y	1.31	5.39	3146.629	0.424
OCDF	43.62		1.0002	1.0003	+0.3	2.18E+07	0.89	Y	1.07	533	4353.137	1.47

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.21	1.0243	1.0243	0	1.91E+07	0.79	Y	1.05	71.4
ES 12378-PeCDD	33.62	1.2198	1.2204	+1.2	1.78E+07	1.48	Y	0.88	79.3
ES 123478-HxCDD	37.56	0.9916	0.9915	-0.2	1.40E+07	1.25	Y	0.97	61.8
ES 123678-HxCDD	37.68	0.9947	0.9947	0	1.46E+07	1.30	Y	0.94	66.5
ES 123789-HxCDD	37.98	1.0029	1.0028	-0.2	1.45E+07	1.25	Y	1.09	57.2
ES 1234678-HpCDD	40.73	1.0749	1.0752	+0.7	1.14E+07	1.10	Y	0.91	53.5
ES OCDD	43.44	1.1460	1.1468	+2.1	1.07E+07	0.91	Y	0.62	36.9
ES 2378-TCDF	27.35	1.0531	1.0533	+0.3	2.69E+07	0.80	Y	1.06	64.3
ES 12378-PeCDF	32.16	1.2378	1.2386	+1.5	2.56E+07	1.55	Y	0.91	71.3
ES 23478-PeCDF	33.28	1.2810	1.2818	+1.6	2.35E+07	1.61	Y	0.88	67.5
ES 123478-HxCDF	36.55	0.9650	0.9650	0	1.78E+07	0.52	Y	1.20	63.9
ES 123678-HxCDF	36.69	0.9688	0.9687	-0.2	2.06E+07	0.51	Y	1.35	65.5
ES 234678-HxCDF	37.37	0.9866	0.9866	0	1.66E+07	0.55	Y	1.24	57.2
ES 123789-HxCDF	38.35	1.0125	1.0124	-0.2	1.57E+07	0.53	Y	1.16	58.5
ES 1234678-HpCDF	39.78	1.0501	1.0502	+0.2	1.26E+07	0.46	Y	0.97	55.9
ES 1234789-HpCDF	41.18	1.0870	1.0872	+0.5	1.01E+07	0.46	Y	0.85	51.1
ES OCDF	43.61	1.1505	1.1512	+1.8	1.52E+07	0.89	Y	0.81	40.4

Lab ID: B6291_18925_DF_008 **Acq'd:** 22 Feb 2022 14:47 DTF **Wt/Vol:** 10.02 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020522-S-SB-NE-O-14 **UTP:** 23-Feb-2022 08:08:01 DTF **J-level:** 0.499 pg/g **Split:** 1 **Checkcode:** 527-345-QPP

Datafile: 220221C38 **Report:** 23 Feb 2022 08:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.55		-	-	-	2.55E+07	0.80	Y	-	-
JS 1234-TCDF	25.96		-	-	-	3.95E+07	0.81	Y	-	-
JS 123467-HxCDD	37.88		-	-	-	1.16E+07	1.27	Y	-	-
CS 37Cl-2378-TCDD	28.24		1.0251	1.0252	+0.2	9.02E+06	n/a	-	1.20	73.5
CS 12347-PeCDD	33.11		1.2016	1.2020	+0.8	1.54E+07	1.63	Y	0.75	80.2
CS 12346-PeCDF	31.62		1.2172	1.2179	+1.3	2.53E+07	1.56	Y	0.85	75.5
CS 123469-HxCDF	37.00		0.9771	0.9770	-0.2	1.77E+07	0.53	Y	1.12	68.2
CS 1234689-HpCDF	40.19		1.0608	1.0610	+0.5	1.32E+07	0.45	Y	0.89	63.7
SS 37Cl-2378-TCDD	28.24		1.0251	1.0252	+0.2	9.02E+06	n/a	-	1.15	103
SS 12347-PeCDD	33.11		1.2016	1.2020	+0.8	1.54E+07	1.63	Y	0.86	101
SS 12346-PeCDF	31.62		1.2172	1.2179	+1.3	2.53E+07	1.56	Y	0.94	106
SS 123469-HxCDF	37.00		0.9771	0.9770	-0.2	1.77E+07	0.53	Y	0.83	104
SS 1234689-HpCDF	40.19		1.0608	1.0610	+0.5	1.32E+07	0.45	Y	0.92	114

Totals	Conc	EMPC
Total TCDD	32.7	41.2
Total PeCDD	26.6	30.2
Total HxCDD	169	169
Total HpCDD	1380	1380
Total Tetra-Octa Dioxins	11300	11300
Total TCDF	189	189
Total PeCDF	64.3	66.5
Total HxCDF	94.8	97.6
Total HpCDF	192	192
Total Tetra-Octa Furans	1,070	1080
Total Tetra-Octa Dioxins & Furans	12300	12400

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.835	0.84
Response	2.33E+06	2.32E+06

Lab ID: B6291_18925_DF_008 **Acq'd: 22 Feb 2022 14:47 DTF** **Wt/Vol: 10.02 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020522-S-SB-NE-O-14 **UTP: 23-Feb-2022 08:08:01 DTF** **J-level: 0.499 pg/g** **Split: 1** **Checkcode: 527-345-QPP**

Datafile: 220221C38 **Report: 23 Feb 2022 08:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.54	EMPC	0.8701	0.8697	-0.6	6.89E+05	0.92	N	1.18	6.08	4082.858	0.365
1379-TCDD	24.90		0.8829	0.8825	-0.6	3.59E+05	0.78	Y	1.18	3.17	4082.858	0.365
1369-TCDD	25.33	EMPC	0.8982	0.8978	-0.6	7.68E+04	1.00	N	1.18	0.679	4082.858	0.365
1469-TCDD	26.13	EMPC	0.9261	0.9262	+0.2	1.38E+05	0.90	N	1.18	1.22	4082.858	0.365
1247/1246/1248/1249-TCDD	26.37		0.9348	0.9346	-0.3	1.98E+05	0.82	Y	1.18	1.75	4082.858	0.365
1378-TCDD	26.56		0.9417	0.9414	-0.5	1.44E+05	0.69	Y	1.18	1.27	4082.858	0.365
1268-TCDD	26.75	J EMPC	0.9487	0.9482	-0.8	5.64E+04	0.63	N	1.18	0.498	4082.858	0.365
1478-TCDD	NotFnd		0.9576						1.18		4082.858	0.365
1279-TCDD	27.18		0.9636	0.9632	-0.7	9.40E+04	0.76	Y	1.18	0.83	4082.858	0.365
1234/1269-TCDD	27.54		0.9761	0.9761	0	1.19E+05	0.82	Y	1.18	1.05	4082.858	0.365
1236-TCDD	NotFnd		0.9812						1.18		4082.858	0.365
1237/1238-TCDD	27.95		0.9905	0.9906	+0.2	2.07E+05	0.71	Y	1.18	1.83	4082.858	0.365
1239-TCDD	NotFnd		0.9951						1.18		4082.858	0.365
2378-TCDD	**28.24**		**1.0008**	1.0009	**+0.2**	2.32E+06	0.84	Y	**1.18**	**20.5**	**4082.858**	**0.365**
1278-TCDD	28.57		1.0124	1.0126	+0.3	2.64E+05	0.75	Y	1.18	2.33	4082.858	0.365
1267-TCDD	NotFnd		1.0172						1.18		4082.858	0.365
1289-TCDD	NotFnd		1.0354						1.18		4082.858	0.365
12479/12468-PeCDD	31.11		0.9255	0.9253	-0.4	8.17E+05	1.48	Y	1.04	8.83	2755.833	0.269
12469-PeCDD	31.65	J EMPC	0.9416	0.9414	-0.4	1.97E+05	0.83	N	1.04	2.13	2755.833	0.269
12368-PeCDD	32.21		0.9582	0.9581	-0.2	4.22E+05	1.49	Y	1.04	4.56	2755.833	0.269
12478-PeCDD	32.40		0.9637	0.9637	0	2.68E+05	1.36	Y	1.04	2.9	2755.833	0.269
12379-PeCDD	32.50		0.9668	0.9669	+0.2	2.52E+05	1.57	Y	1.04	2.73	2755.833	0.269
12369/12467/12489-PeCDD	32.77		0.9746	0.9747	+0.2	2.97E+05	1.44	Y	1.04	3.21	2755.833	0.269
12346/12347-PeCDD	33.13	J EMPC	0.9858	0.9855	-0.6	1.34E+05	2.05	N	1.04	1.45	2755.833	0.269
12378-PeCDD	33.64		**1.0007**	**1.0006**	**-0.2**	**2.38E+05**	**1.54**	**Y**	**1.04**	**2.58**	**2755.833**	**0.269**
12367-PeCDD	33.73	J	1.0036	1.0034	-0.4	7.28E+04	1.43	Y	1.04	0.787	2755.833	0.269
12389-PeCDD	34.08	J	1.0137	1.0137	0	9.22E+04	1.37	Y	1.04	0.997	2755.833	0.269
124679/124689-HxCDD	35.82		0.9540	0.9539	-0.2	3.80E+06	1.26	Y	1.10	48.1	6188.885	0.724
123468-HxCDD	36.48		0.9715	0.9715	0	9.77E+05	1.20	Y	1.10	12.4	6188.885	0.724
123679/123689-HxCDD	36.78		0.9793	0.9794	+0.2	5.59E+06	1.22	Y	1.10	70.8	6188.885	0.724
123469-HxCDD	36.92		0.9829	0.9830	+0.2	2.62E+05	1.18	Y	1.10	3.33	6188.885	0.724
123478-HxCDD	37.57		**1.0004**	**1.0004**	**0**	**3.15E+05**	**1.15**	**Y**	1.09	**4.13**	**6188.885**	**0.745**
123678-HxCDD	37.69		**1.0036**	**1.0036**	**0**	**1.48E+06**	**1.27**	**Y**	1.15	**17.6**	**6188.885**	**0.682**
123467-HxCDD	37.89		1.0089	1.0088	-0.2	2.60E+05	1.13	Y	1.10	3.29	6188.885	0.724
123789-HxCDD	37.99		**1.0118**	**1.0116**	**-0.5**	**6.94E+05**	**1.16**	**Y**	1.05	**9.09**	**6188.885**	**0.749**

Lab ID: B6291_18925_DF_008 **Acq'd: 22 Feb 2022 14:47 DTF** **Wt/Vol: 10.02 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020522-S-SB-NE-O-14 **UTP: 23-Feb-2022 08:08:01 DTF** **J-level: 0.499 pg/g** **Split: 1** **Checkcode: 527-345-QPP**

Datafile: 220221C38 **Report: 23 Feb 2022 08:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

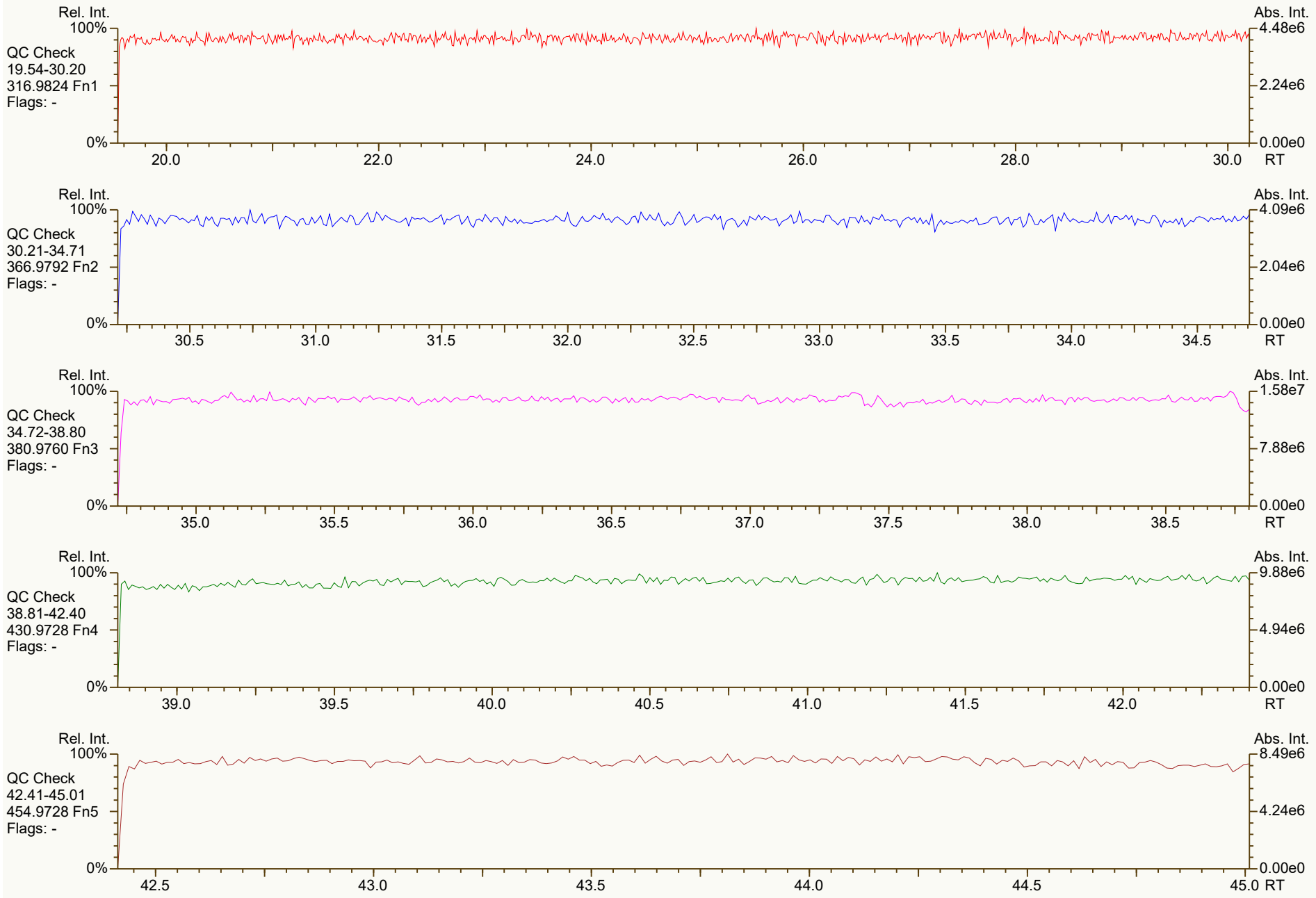
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.06		0.9836	0.9835	-0.2	4.12E+07	1.03	Y	1.06	681	3644.404	0.563
1234678-HpCDD	**40.74**		**1.0002**	**1.0004**	**+0.5**	**4.21E+07**	**1.02**	**Y**	**1.06**	**696**	**3644.404**	**0.563**
OCDD	**43.45**		**1.0003**	**1.0003**	**0**	**2.92E+08**	**0.91**	**Y**	**1.13**	**9,660**	**5618.741**	**2.22**
OCDD-a	43.45		1.0002	1.0002	0	1.88E+07	2.45	Y	0.07	9,690	4278.8	26.4
1368-TCDF	22.38		0.8191	0.8182	-1.2	2.52E+05	0.74	Y	1.08	1.73	4007.919	0.296
1468-TCDF	22.98		0.8408	0.8403	-0.7	3.34E+05	0.72	Y	1.08	2.3	4007.919	0.296
2468-TCDF	23.63		0.8645	0.8640	-0.7	5.20E+05	0.86	Y	1.08	3.57	4007.919	0.296
1346/1246-TCDF	24.03		0.8772	0.8788	+2.3	7.28E+05	0.71	Y	1.08	5.01	4007.919	0.296
1347/1378/1247-TCDF	24.16		0.8833	0.8834	+0.1	1.34E+06	0.75	Y	1.08	9.19	4007.919	0.296
1348-TCDF	24.41		0.8932	0.8927	-0.7	2.49E+05	0.79	Y	1.08	1.71	4007.919	0.296
1248/1367/1379-TCDF	24.52		0.8980	0.8967	-1.9	1.49E+06	0.79	Y	1.08	10.2	4007.919	0.296
1268-TCDF	24.93		0.9119	0.9116	-0.4	5.93E+05	0.88	Y	1.08	4.08	4007.919	0.296
1467-TCDF	25.07		0.9170	0.9166	-0.6	4.88E+05	0.79	Y	1.08	3.36	4007.919	0.296
1478-TCDF	25.24		0.9234	0.9229	-0.8	9.29E+05	0.75	Y	1.08	6.39	4007.919	0.296
1369/1237-TCDF	25.62		0.9369	0.9369	0	4.31E+05	0.82	Y	1.08	2.96	4007.919	0.296
2467-TCDF	25.75		0.9415	0.9415	0	5.15E+05	0.84	Y	1.08	3.54	4007.919	0.296
2368-TCDF	25.91		0.9475	0.9476	+0.2	1.18E+06	0.79	Y	1.08	8.11	4007.919	0.296
1238/1234/1678/1469/1236-TCDF	26.00		0.9507	0.9509	+0.3	9.60E+05	0.77	Y	1.08	6.6	4007.919	0.296
1278-TCDF	26.46		0.9676	0.9675	-0.2	3.48E+06	0.73	Y	1.08	23.9	4007.919	0.296
1349-TCDF	NotFnd		0.9722						1.08		4007.919	0.296
1267-TCDF	26.74		0.9777	0.9776	-0.2	5.60E+05	0.76	Y	1.08	3.85	4007.919	0.296
2346/1249-TCDF	26.93		0.9843	0.9847	+0.6	3.49E+05	0.84	Y	1.08	2.4	4007.919	0.296
2347/1279-TCDF	27.14		0.9926	0.9925	-0.2	5.59E+05	0.82	Y	1.08	3.84	4007.919	0.296
2348-TCDF	27.24		0.9968	0.9962	-1.0	6.11E+05	0.77	Y	1.08	4.21	4007.919	0.296
2378-TCDF	**27.37**		**1.0008**	**1.0007**	**-0.2**	**9.45E+06**	**0.79**	**Y**	**1.08**	**65**	**4007.919**	**0.296**
2367/3467-TCDF	27.73		1.0142	1.0139	-0.5	1.68E+06	0.74	Y	1.08	11.6	4007.919	0.296
1269-TCDF	27.98		1.0235	1.0232	-0.5	2.33E+05	0.66	Y	1.08	1.6	4007.919	0.296
1239-TCDF	NotFnd		1.0329						1.08		4007.919	0.296
1289-TCDF	29.39		1.0742	1.0748	+1.1	6.08E+05	0.83	Y	1.08	4.18	4007.919	0.296
13468/12468-PeCDF	29.34		0.9122	0.9125	+0.5	1.48E+06	1.75	Y	1.02	11.8	2509.745	0.181
13678/13467/12467-PeCDF	30.90		0.9606	0.9608	+0.4	1.00E+06	1.35	Y	1.02	7.97	6930.485	0.501
12368/13478/12478-PeCDF	31.07		0.9655	0.9661	+1.1	1.93E+06	1.69	Y	1.02	15.3	6930.485	0.501
14678-PeCDF	NotFnd		0.9685						1.02		6930.485	0.501
13479-PeCDF	NotFnd		0.9716						1.02		6930.485	0.501
13469/12479-PeCDF	31.49	J EMPC	0.9794	0.9791	-0.6	1.02E+05	2.13	N	1.02	0.807	6930.485	0.501
12346-PeCDF	31.63	J EMPC	0.9836	0.9836	0	1.68E+05	2.01	N	1.02	1.33	6930.485	0.501

Lab ID: B6291_18925_DF_008 **Acq'd: 22 Feb 2022 14:47 DTF** **Wt/Vol: 10.02 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020522-S-SB-NE-O-14 **UTP: 23-Feb-2022 08:08:01 DTF** **J-level: 0.499 pg/g** **Split: 1** **Checkcode: 527-345-QPP**

Datafile: 220221C38 **Report: 23 Feb 2022 08:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.73		0.9866	0.9865	-0.2	6.10E+05	1.47	Y	1.02	4.84	6930.485	0.501
12347-PeCDF	31.80	J	0.9891	0.9889	-0.4	2.36E+05	1.45	Y	1.02	1.87	6930.485	0.501
12348-PeCDF	31.96	J	0.9938	0.9937	-0.2	2.52E+05	1.67	Y	1.02	2	6930.485	0.501
12378-PeCDF	**32.17**		**1.0005**	**1.0004**	**-0.2**	**5.43E+05**	**1.52**	**Y**	**1.02**	**4.13**	**6930.485**	**0.488**
12678/12367-PeCDF	32.46		1.0091	1.0093	+0.4	7.60E+05	1.34	Y	1.02	6.03	6930.485	0.501
12379-PeCDF	NotFnd		1.0144						1.02		6930.485	0.501
12679-PeCDF	NotFnd		0.9927						1.02		6930.485	0.501
23467/12369-PeCDF	33.17		0.9965	0.9967	+0.4	4.44E+05	1.56	Y	1.02	3.52	6930.485	0.501
23478-PeCDF	**33.30**		**1.0005**	**1.0007**	**+0.4**	**8.23E+05**	**1.51**	**Y**	**1.02**	**6.85**	**6930.485**	**0.514**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6930.485	0.501
12349-PeCDF	NotFnd		1.0101						1.02		6930.485	0.501
12389-PeCDF	NotFnd		1.0330						1.02		6930.485	0.501
123468-HxCDF	35.17		0.9622	0.9623	+0.2	9.44E+05	1.24	Y	1.19	8.92	5740.73	0.466
124678/134678-HxCDF	35.37		0.9678	0.9677	-0.2	2.99E+06	1.20	Y	1.19	28.3	5740.73	0.466
134679-HxCDF	NotFnd		0.9741						1.19		5740.73	0.466
124679-HxCDF	35.80	J EMPC	0.9795	0.9796	+0.2	1.49E+05	0.79	N	1.19	1.4	5740.73	0.466
124689-HxCDF	36.02		0.9856	0.9856	0	3.42E+06	1.23	Y	1.19	32.3	5740.73	0.466
123467-HxCDF	36.45		0.9972	0.9973	+0.2	5.30E+05	1.26	Y	1.19	5.01	5740.73	0.466
123478-HxCDF	**36.57**		**1.0004**	**1.0005**	**+0.2**	**8.13E+05**	**1.27**	**Y**	**1.27**	**7.15**	**5740.73**	**0.414**
123678-HxCDF	**36.71**		**1.0004**	**1.0004**	**0**	**6.59E+05**	**1.21**	**Y**	**1.15**	**5.53**	**5740.73**	**0.412**
123479-HxCDF	NotFnd		1.0048						1.19		5740.73	0.466
123469-HxCDF	37.02	J	1.0089	1.0089	0	9.90E+04	1.39	Y	1.19	0.935	5740.73	0.466
123679-HxCDF	NotFnd		0.9942						1.19		5740.73	0.466
234678-HxCDF	**37.38**		**1.0005**	**1.0004**	**-0.2**	**6.59E+05**	**1.25**	**Y**	**1.19**	**6.68**	**5740.73**	**0.527**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		5740.73	0.466
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**5740.73**	**0.535**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.38	J EMPC	1.0006	1.0009	+0.7	1.50E+05	1.04	N	1.19	1.41	5740.73	0.466
1234678-HpCDF	**39.79**		**1.0003**	**1.0003**	**0**	**6.13E+06**	**1.08**	**Y**	**1.37**	**70.9**	**3146.629**	**0.277**
1234679-HpCDF	40.06		1.0068	1.0070	+0.5	3.49E+05	0.92	Y	1.34	4.58	3146.629	0.341
1234689-HpCDF	40.20		1.0104	1.0106	+0.5	8.46E+06	1.04	Y	1.34	111	3146.629	0.341
1234789-HpCDF	**41.19**		**1.0003**	**1.0003**	**0**	**3.58E+05**	**1.03**	**Y**	**1.31**	**5.39**	**3146.629**	**0.424**
OCDF	**43.62**		**1.0002**	**1.0003**	**+0.3**	**2.18E+07**	**0.89**	**Y**	**1.07**	**533**	**4353.137**	**1.47**
OCDF-a	43.61		1.0001	1.0002	+0.3	1.38E+06	2.20	Y	0.07	547	4726.491	25.8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100%
QC Check
19.54-30.20
316.9824 Fn1
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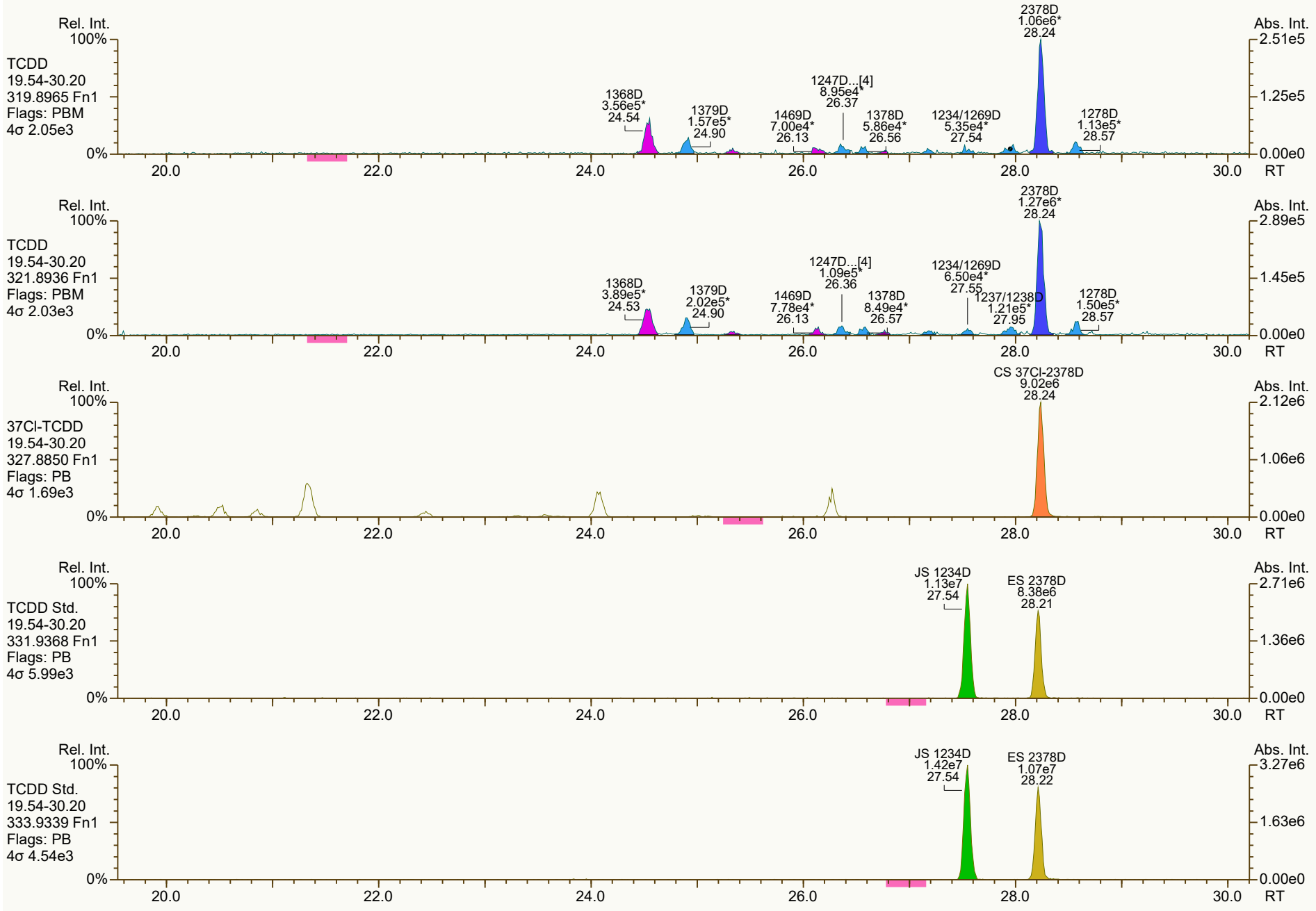
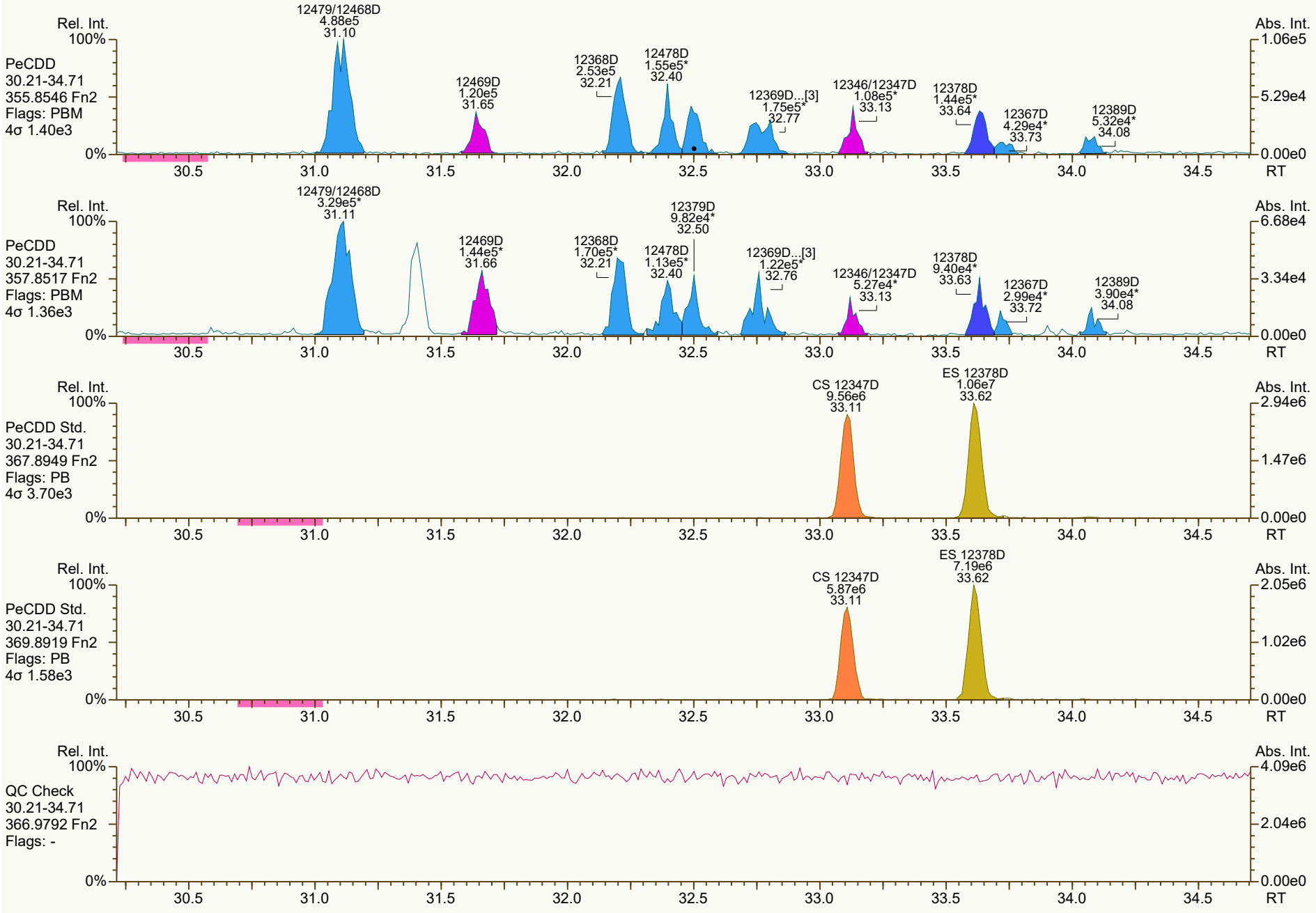
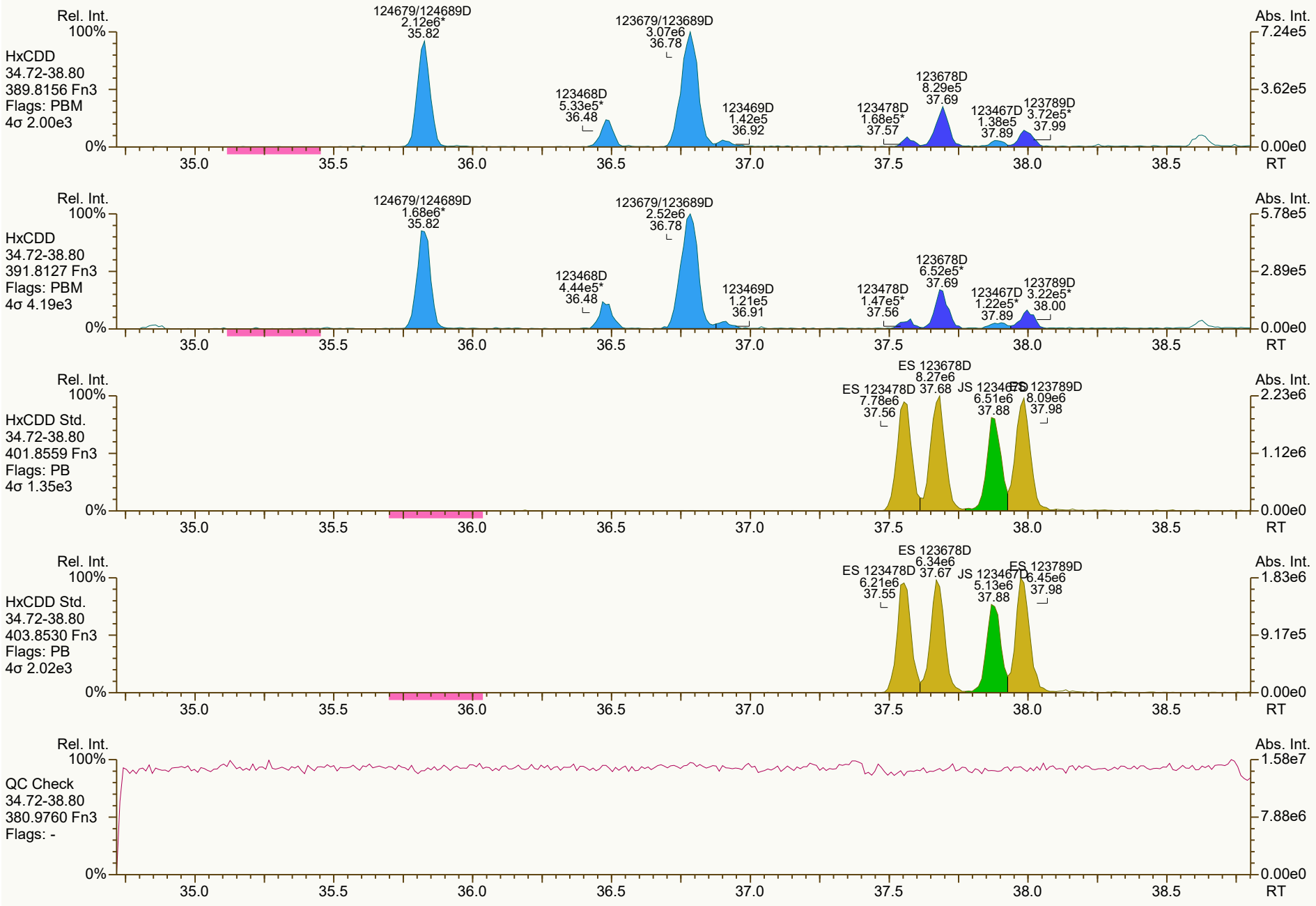
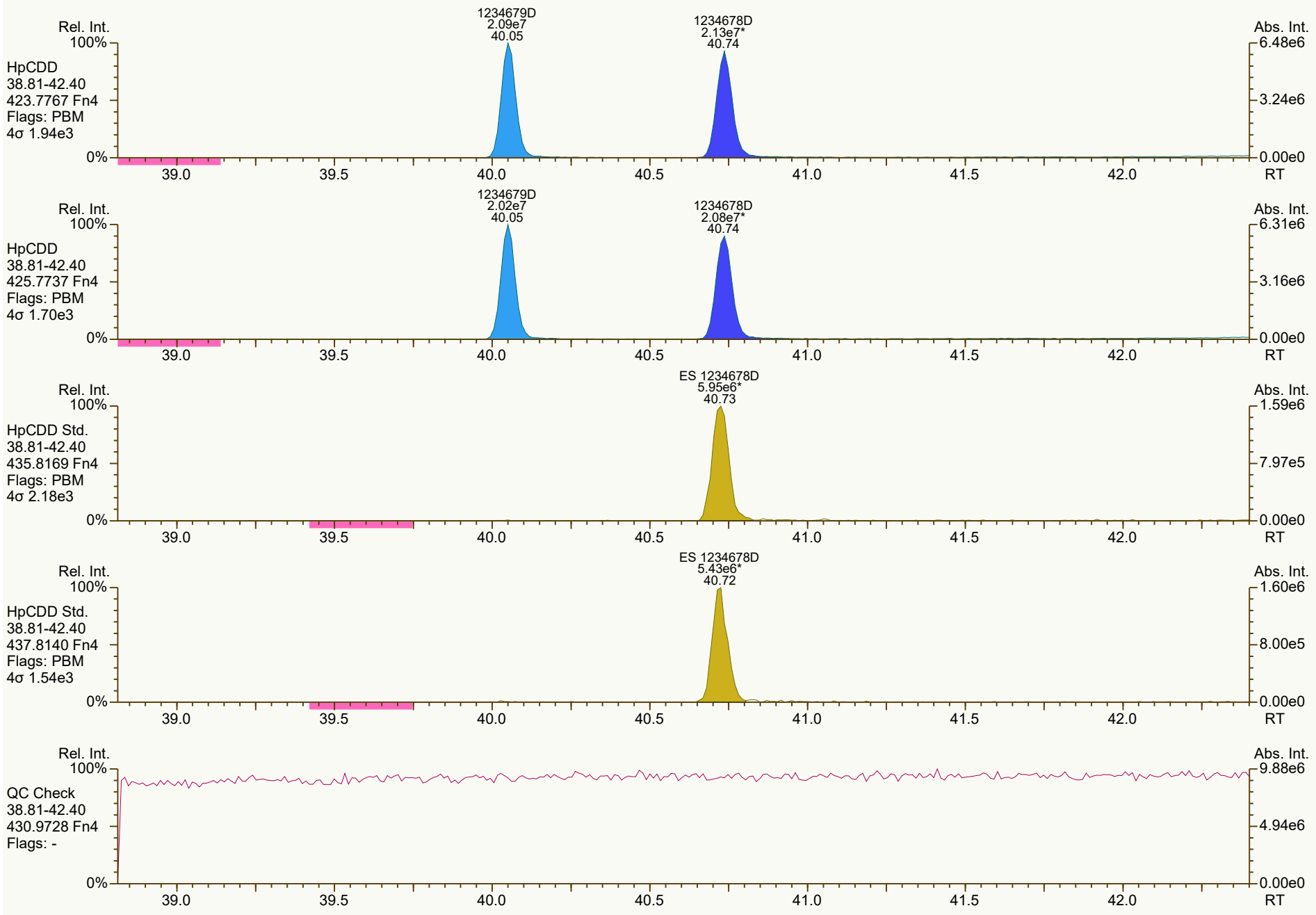
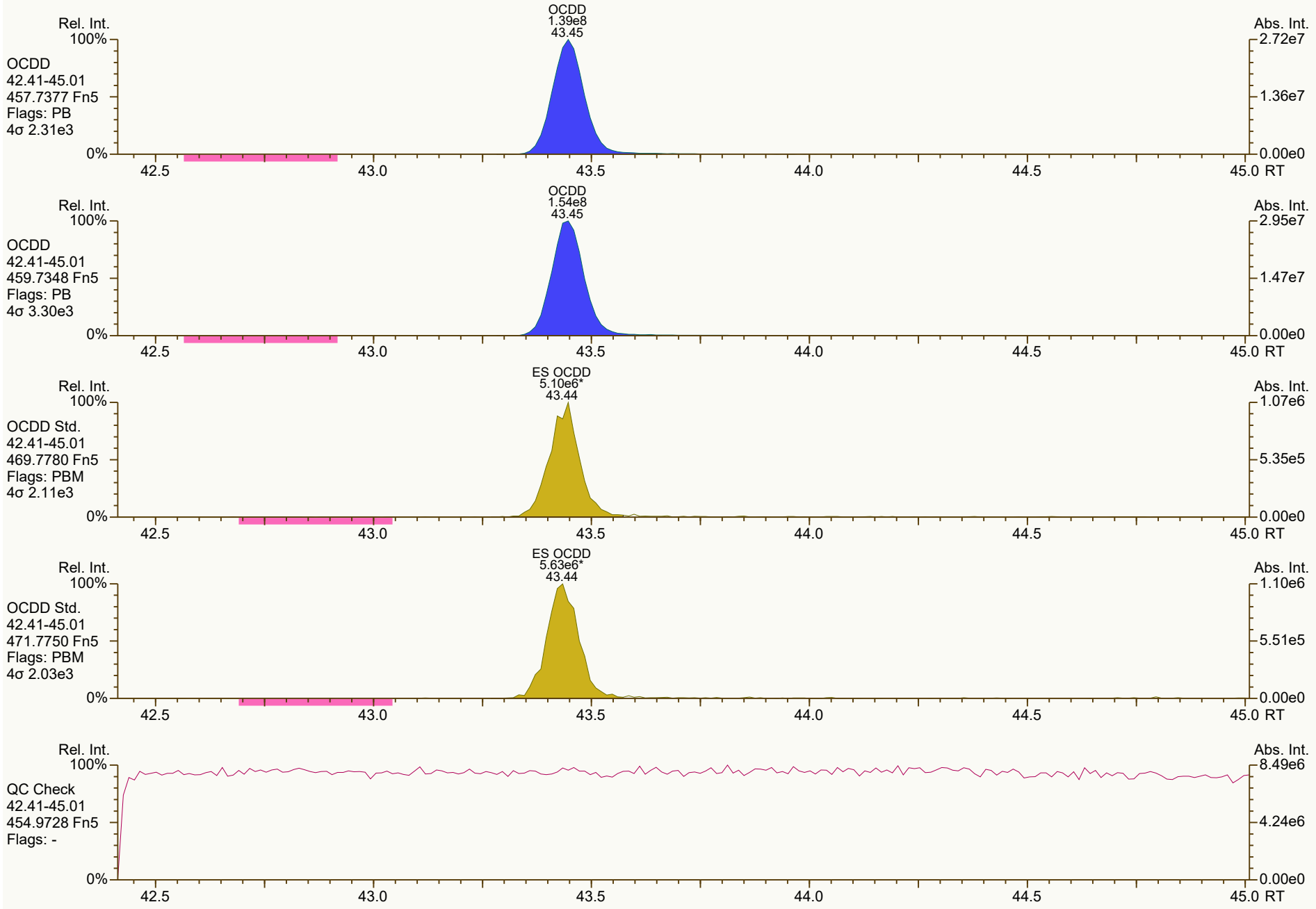
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.09e6
2.04e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.58e7
7.88e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
9.88e6
4.94e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
8.49e6
4.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT

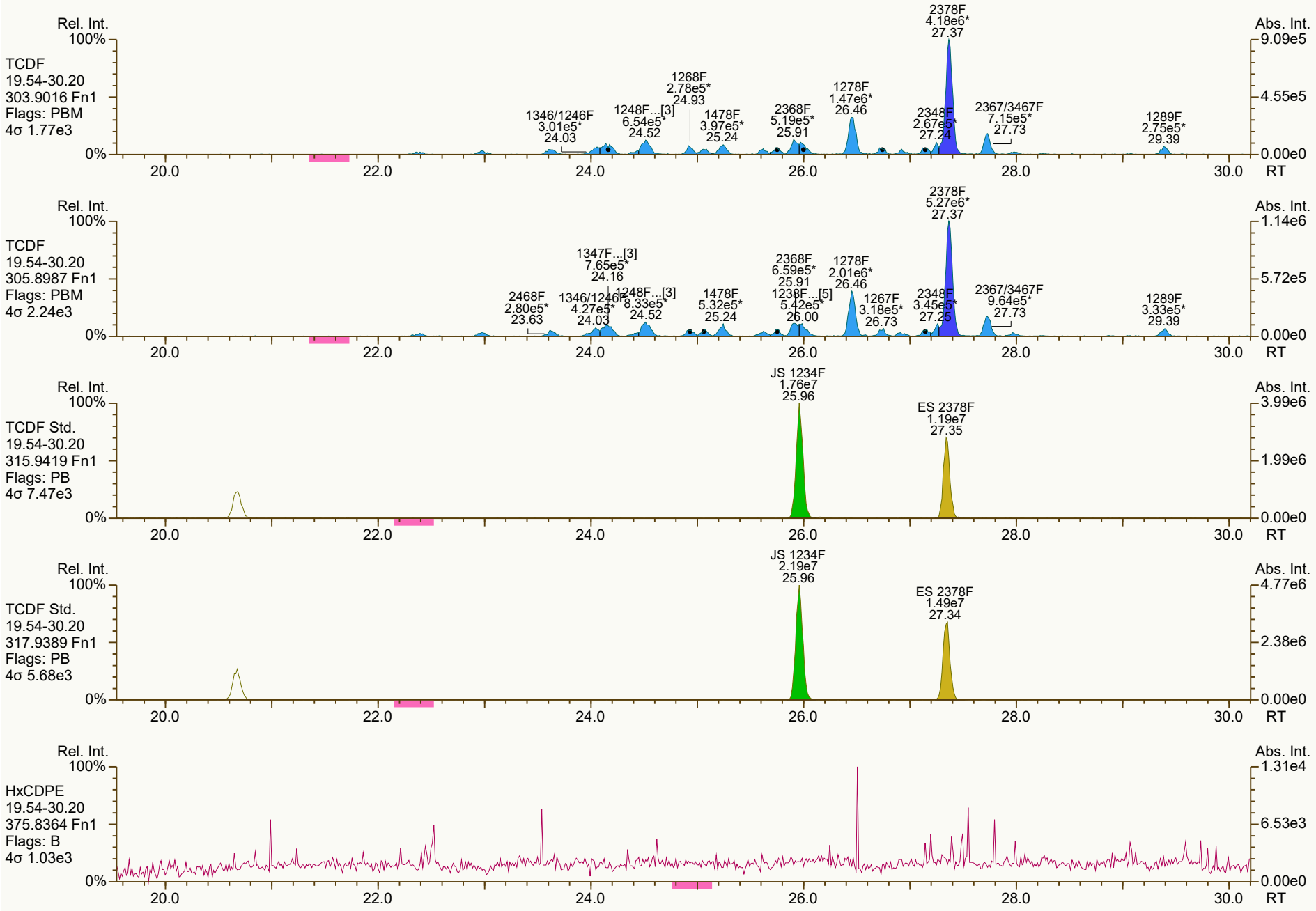

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.05e3
0%
1368D 3.56e5* 24.54
1379D 1.57e5* 24.90
1469D 7.00e4* 26.13
1247D...[4] 8.95e4* 26.37
1378D 5.86e4* 26.56
1234/1269D 5.35e4* 27.54
2378D 1.06e6* 28.24
1278D 1.13e5* 28.57
Abs. Int.
2.51e5
1.25e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.03e3
0%
1368D 3.89e5* 24.53
1379D 2.02e5* 24.90
1469D 7.78e4* 26.13
1247D...[4] 1.09e5* 26.36
1378D 8.49e4* 26.57
1234/1269D 6.50e4* 27.55
1237/1238D 1.21e5* 27.95
2378D 1.27e6* 28.24
1278D 1.50e5* 28.57
Abs. Int.
2.89e5
1.45e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.69e3
0%
CS 37Cl-2378D 9.02e6 28.24
Abs. Int.
2.12e6
1.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.99e3
0%
JS 1234D 1.13e7 27.54
ES 2378D 8.38e6 28.21
Abs. Int.
2.71e6
1.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.54e3
0%
JS 1234D 1.42e7 27.54
ES 2378D 1.07e7 28.22
Abs. Int.
3.27e6
1.63e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 1.40e3
0%
12479/12468D
4.88e5
31.10
12469D
1.20e5
31.65
12368D
2.53e5
32.21
12478D
1.55e5*
32.40
12369D...[3]
1.75e5*
32.77
12346/12347D
1.08e5*
33.13
12378D
1.44e5*
33.64
12367D
4.29e4*
33.73
12389D
5.32e4*
34.08
Abs. Int.
1.06e5
5.29e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 1.36e3
0%
12479/12468D
3.29e5*
31.11
12469D
1.44e5*
31.66
12368D
1.70e5*
32.21
12379D
9.82e4*
32.50
12478D
1.13e5*
32.40
12369D...[3]
1.22e5*
32.76
12346/12347D
5.27e4*
33.13
12378D
9.40e4*
33.63
12367D
2.99e4*
33.72
12389D
3.90e4*
34.08
Abs. Int.
6.68e4
3.34e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 3.70e3
0%
CS 12347D
9.56e6
33.11
ES 12378D
1.06e7
33.62
Abs. Int.
2.94e6
1.47e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.58e3
0%
CS 12347D
5.87e6
33.11
ES 12378D
7.19e6
33.62
Abs. Int.
2.05e6
1.02e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.09e6
2.04e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 2.00e3
124679/124689D
2.12e6*
35.82
123679/123689D
3.07e6
36.78
123468D
5.33e5*
36.48
123469D
1.42e5
36.92
123478D
1.68e5*
37.57
123678D
8.29e5
37.69
123467D
1.38e5
37.89
123789D
3.72e5*
37.99
Abs. Int.
7.24e5
3.62e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 4.19e3
124679/124689D
1.68e6*
35.82
123679/123689D
2.52e6
36.78
123468D
4.44e5*
36.48
123469D
1.21e5
36.91
123478D
1.47e5*
37.56
123678D
6.52e5*
37.69
123467D
1.22e5*
37.89
123789D
3.22e5*
38.00
Abs. Int.
5.78e5
2.89e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 1.35e3
ES 123678D
8.27e6
ES 123478D
7.78e6
37.56
37.68
JS 123467D
6.51e6
37.88
ES 123789D
8.09e6
37.98
Abs. Int.
2.23e6
1.12e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 2.02e3
ES 123678D
6.34e6
ES 123478D
6.21e6
37.55
37.67
JS 123467D
5.13e6
37.88
ES 123789D
6.45e6
37.98
Abs. Int.
1.83e6
9.17e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
1.58e7
7.88e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 1.94e3
1234679D
2.09e7
40.05
1234678D
2.13e7*
40.74
Abs. Int.
6.48e6
3.24e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 1.70e3
1234679D
2.02e7
40.05
1234678D
2.08e7*
40.74
Abs. Int.
6.31e6
3.16e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 2.18e3
ES 1234678D
5.95e6*
40.73
Abs. Int.
1.59e6
7.97e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 1.54e3
ES 1234678D
5.43e6*
40.72
Abs. Int.
1.60e6
8.00e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
9.88e6
4.94e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

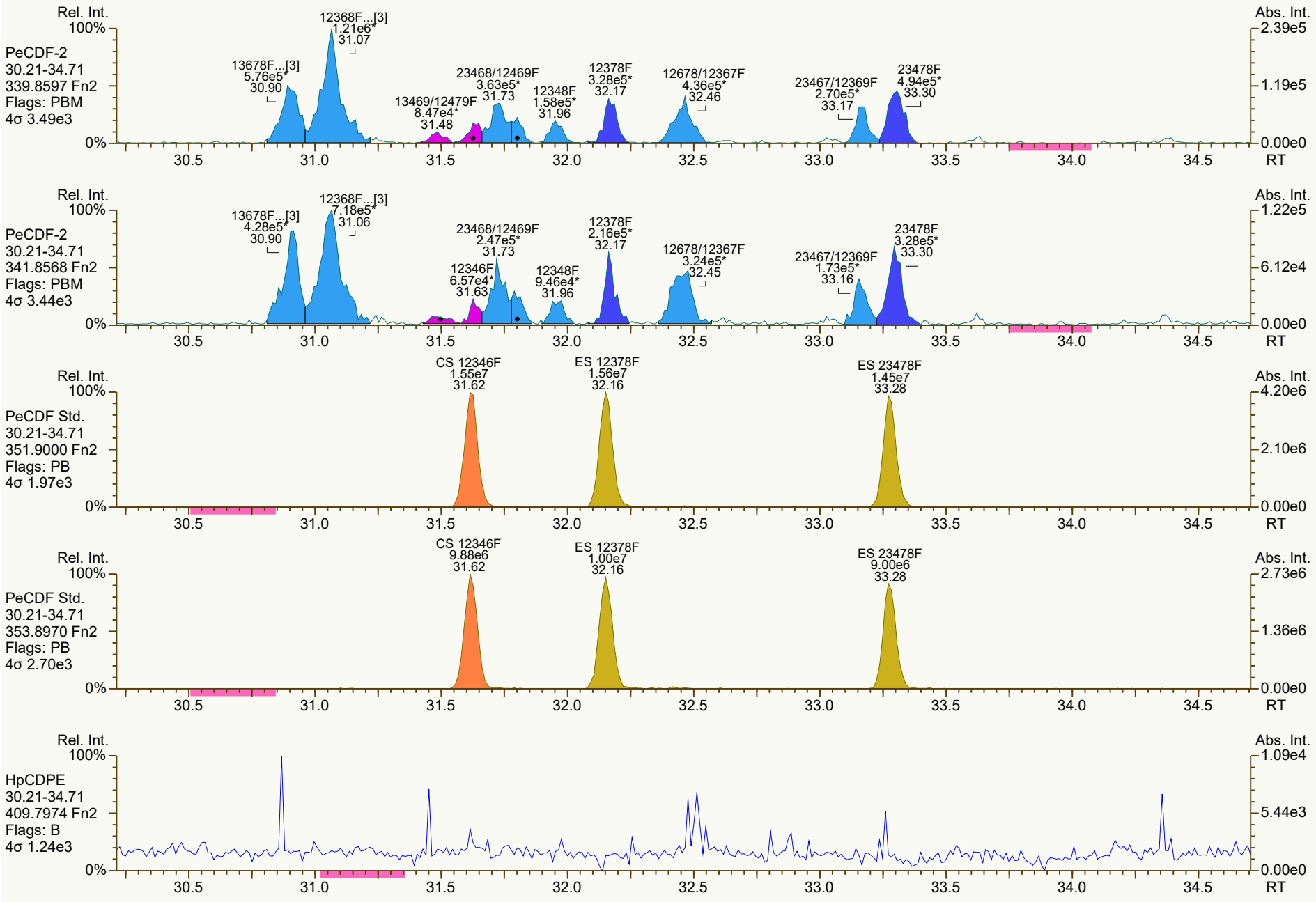

OCDD
1.39e8
43.45
Rel. Int.
100%
Abs. Int.
2.72e7
1.36e7
0.00e0
0%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 2.31e3
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.54e8
43.45
2.95e7
1.47e7
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 3.30e3
ES OCDD
5.10e6*
43.44
1.07e6
5.35e5
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 2.11e3
ES OCDD
5.63e6*
43.44
1.10e6
5.51e5
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 2.03e3
8.49e6
4.24e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -

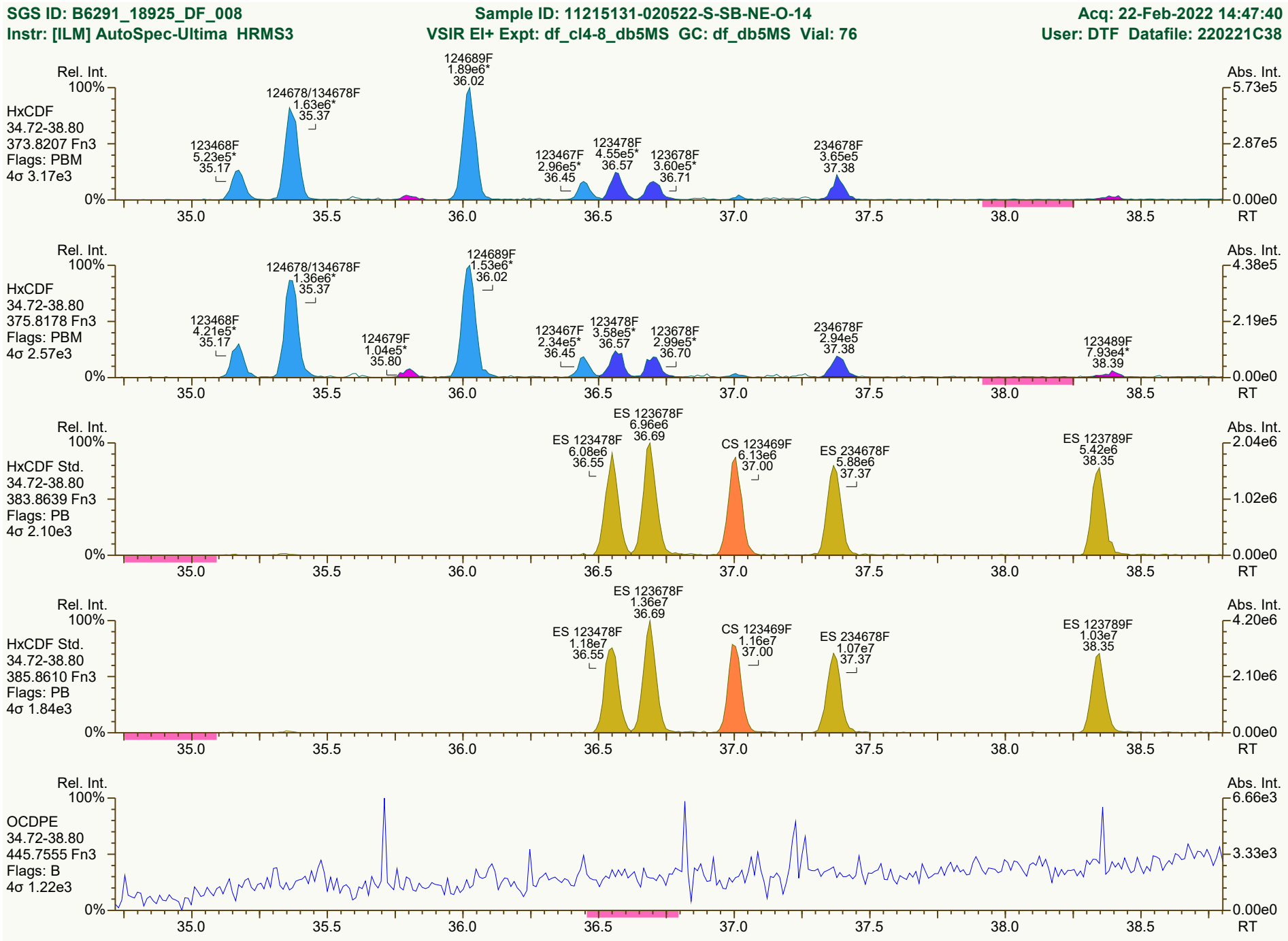

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.77e3
0%
Abs. Int.
9.09e5
4.55e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
2378F 4.18e6* 27.37
1346/1246F 3.01e5* 24.03
1248F...[3] 6.54e5* 24.52
1268F 2.78e5* 24.93
1478F 3.97e5* 25.24
2368F 5.19e5* 25.91
1278F 1.47e6* 26.46
2348F 2.67e5* 27.24
2367/3467F 7.15e5* 27.73
1289F 2.75e5* 29.39
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.24e3
0%
Abs. Int.
1.14e6
5.72e5
0.00e0
RT
2378F 5.27e6* 27.37
2468F 2.80e5* 23.63
1347F...[3] 7.65e5* 24.16
1346/1246F 4.27e5* 24.03
1248F...[3] 8.33e5* 24.52
1478F 5.32e5* 25.24
2368F 6.59e5* 25.91
1238F...[5] 5.42e5* 26.00
1278F 2.01e6* 26.46
1267F 3.18e5* 26.73
2348F 3.45e5* 27.25
2367/3467F 9.64e5* 27.73
1289F 3.33e5* 29.39
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 7.47e3
0%
Abs. Int.
3.99e6
1.99e6
0.00e0
RT
JS 1234F 1.76e7 25.96
ES 2378F 1.19e7 27.35
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 5.68e3
0%
Abs. Int.
4.77e6
2.38e6
0.00e0
RT
JS 1234F 2.19e7 25.96
ES 2378F 1.49e7 27.34
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.03e3
0%
Abs. Int.
1.31e4
6.53e3
0.00e0
RT

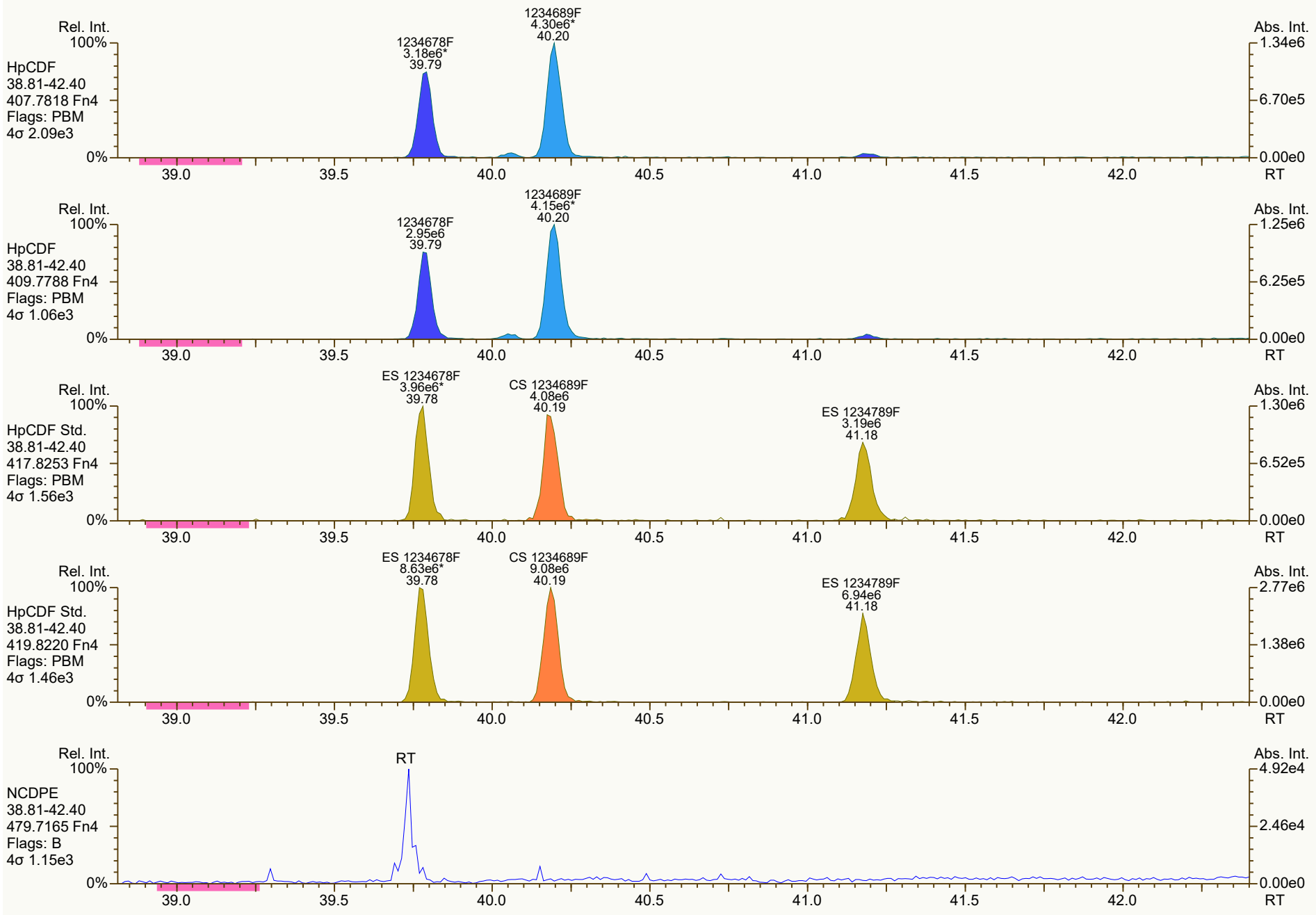
SGS ID: B6291_18925_DF_008
Sample ID: 11215131-020522-S-SB-NE-O-14
Acq: 22-Feb-2022 14:47:40
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 76
User: DTF Datafile: 220221C38

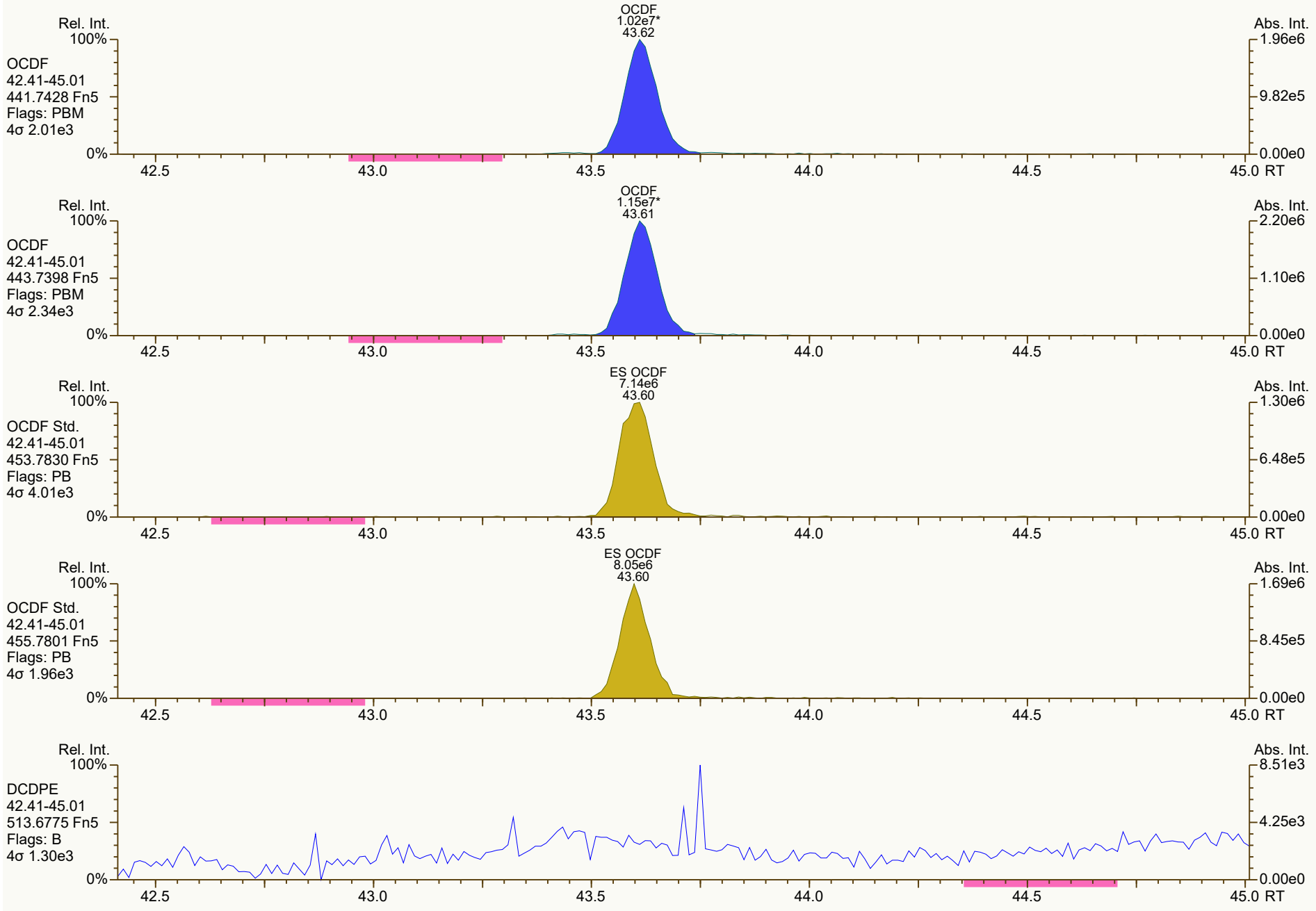


Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_008.utp_res, saved 22-Feb-2022 16:30 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6007 scc: 527-345
PKD: 22-Feb-2022 16:23 Printed: 23-Feb-2022 08:19 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 3.49e3
0%
12368F...[3]
1.21e6*
31.07
13678F...[3]
5.76e5*
30.90
13469/12479F
8.47e4*
31.48
23468/12469F
3.63e5*
31.73
12348F
1.58e5*
31.96
12378F
3.28e5*
32.17
12678/12367F
4.36e5*
32.46
23467/12369F
2.70e5*
33.17
23478F
4.94e5*
33.30
Abs. Int.
2.39e5
1.19e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 3.44e3
0%
13678F...[3]
4.28e5*
30.90
12368F...[3]
7.18e5*
31.06
12346F
6.57e4*
31.63
23468/12469F
2.47e5*
31.73
12348F
9.46e4*
31.96
12378F
2.16e5*
32.17
12678/12367F
3.24e5*
32.45
23467/12369F
1.73e5*
33.16
23478F
3.28e5*
33.30
Abs. Int.
1.22e5
6.12e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 1.97e3
0%
CS 12346F
1.55e7
31.62
ES 12378F
1.56e7
32.16
ES 23478F
1.45e7
33.28
Abs. Int.
4.20e6
2.10e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.70e3
0%
CS 12346F
9.88e6
31.62
ES 12378F
1.00e7
32.16
ES 23478F
9.00e6
33.28
Abs. Int.
2.73e6
1.36e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.24e3
0%
Abs. Int.
1.09e4
5.44e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


SGS ID: B6291_18925_DF_008
Sample ID: 11215131-020522-S-SB-NE-O-14
Acq: 22-Feb-2022 14:47:40
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 76
User: DTF Datafile: 220221C38
Rel. Int.
Abs. Int.
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 3.17e3
123468F 5.23e5* 35.17
124678/134678F 1.63e6* 35.37
124689F 1.89e6* 36.02
123467F 2.96e5* 36.45
123478F 4.55e5* 36.57
123678F 3.60e5* 36.71
234678F 3.65e5 37.38
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 2.57e3
123468F 4.21e5* 35.17
124678/134678F 1.36e6* 35.37
124679F 1.04e5* 35.80
124689F 1.53e6* 36.02
123467F 2.34e5* 36.45
123478F 3.58e5* 36.57
123678F 2.99e5* 36.70
234678F 2.94e5 37.38
123489F 7.93e4* 38.39
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 2.10e3
ES 123478F 6.08e6 36.55
ES 123678F 6.96e6 36.69
CS 123469F 6.13e6 37.00
ES 234678F 5.88e6 37.37
ES 123789F 5.42e6 38.35
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 1.84e3
ES 123478F 1.18e7 36.55
ES 123678F 1.36e7 36.69
CS 123469F 1.16e7 37.00
ES 234678F 1.07e7 37.37
ES 123789F 1.03e7 38.35
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.22e3
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
5.73e5
2.87e5
0.00e0
4.38e5
2.19e5
2.04e6
1.02e6
4.20e6
2.10e6
6.66e3
3.33e3


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 2.09e3
1234678F
3.18e6*
39.79
1234689F
4.30e6*
40.20
Abs. Int.
1.34e6
6.70e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 1.06e3
1234678F
2.95e6
39.79
1234689F
4.15e6*
40.20
Abs. Int.
1.25e6
6.25e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 1.56e3
ES 1234678F
3.96e6*
39.78
CS 1234689F
4.08e6
40.19
ES 1234789F
3.19e6
41.18
Abs. Int.
1.30e6
6.52e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 1.46e3
ES 1234678F
8.63e6*
39.78
CS 1234689F
9.08e6
40.19
ES 1234789F
6.94e6
41.18
Abs. Int.
2.77e6
1.38e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.15e3
RT
Abs. Int.
4.92e4
2.46e4
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
1.02e7*
43.62
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
1.96e6
9.82e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.15e7*
43.61
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
2.20e6
1.10e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
7.14e6
43.60
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 4.01e3
0%
Abs. Int.
1.30e6
6.48e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
8.05e6
43.60
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 1.96e3
0%
Abs. Int.
1.69e6
8.45e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.30e3
0%
Abs. Int.
8.51e3
4.25e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6291_18925_DF_009 **Acq'd:** 22 Feb 2022 15:34 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020522-S-SB-NE-B-5 **UTP:** 23-Feb-2022 08:08:08 DTF **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 615-350-RPC

Datafile: 220221C39 **Report:** 23 Feb 2022 08:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.25		1.0008	1.0008	0	3.27E+07	0.79	Y	1.18	239	4217.265	0.314
12378-PeCDD	33.65	EMPC	1.0007	1.0006	-0.2	5.26E+05	1.82	N	1.04	4.62	5866.107	0.469
123478-HxCDD	37.58		1.0004	1.0004	0	4.33E+05	1.16	Y	1.09	4.08	9324.944	0.762
123678-HxCDD	37.70		1.0036	1.0036	0	1.63E+06	1.16	Y	1.15	14.6	9324.944	0.772
123789-HxCDD	38.00		1.0118	1.0116	-0.5	9.61E+05	1.18	Y	1.05	8.41	9324.944	0.714
1234678-HpCDD	40.75		1.0002	1.0003	+0.2	2.97E+07	1.04	Y	1.06	283	6072.2	0.51
OCDD	43.47		1.0003	1.0003	0	3.70E+08	0.90	Y	1.13	4,590	6711.413	1.22
2378-TCDF	27.38		1.0008	1.0008	0	1.36E+08	0.78	Y	1.08	741	3605.287	0.208
12378-PeCDF	32.19		1.0005	1.0006	+0.2	2.92E+06	1.60	Y	1.02	17.3	8174.071	0.442
23478-PeCDF	33.32		1.0005	1.0008	+0.6	3.67E+06	1.52	Y	1.02	23.1	8174.071	0.459
123478-HxCDF	36.58		1.0004	1.0004	0	4.21E+06	1.23	Y	1.27	26	9573.67	0.515
123678-HxCDF	36.71		1.0004	1.0004	0	1.56E+06	1.22	Y	1.15	9.5	9573.67	0.515
234678-HxCDF	37.39		1.0005	1.0004	-0.2	1.38E+06	1.21	Y	1.19	8.77	9573.67	0.528
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	9573.67	0.577
1234678-HpCDF	39.79		1.0003	1.0003	0	2.62E+07	1.02	Y	1.37	171	4110.072	0.21
1234789-HpCDF	41.20		1.0003	1.0003	0	2.17E+06	1.08	Y	1.31	17.6	4110.072	0.314
OCDF	43.64		1.0002	1.0003	+0.3	6.10E+08	0.89	Y	1.07	5,950	5383.257	0.719

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.23	1.0243	1.0243	0	2.28E+07	0.81	Y	1.05	73.2
ES 12378-PeCDD	33.63	1.2198	1.2203	+1.0	2.17E+07	1.56	Y	0.88	82.8
ES 123478-HxCDD	37.57	0.9916	0.9915	-0.2	1.92E+07	1.29	Y	0.97	71.9
ES 123678-HxCDD	37.69	0.9947	0.9947	0	1.91E+07	1.26	Y	0.94	73.8
ES 123789-HxCDD	37.99	1.0029	1.0027	-0.5	2.15E+07	1.26	Y	1.09	71.7
ES 1234678-HpCDD	40.73	1.0749	1.0751	+0.5	1.96E+07	1.07	Y	0.91	78
ES OCDD	43.45	1.1460	1.1469	+2.3	2.82E+07	0.91	Y	0.62	82.3
ES 2378-TCDF	27.36	1.0531	1.0533	+0.3	3.35E+07	0.82	Y	1.06	69.2
ES 12378-PeCDF	32.17	1.2378	1.2385	+1.4	3.25E+07	1.55	Y	0.91	78.1
ES 23478-PeCDF	33.29	1.2810	1.2817	+1.4	3.08E+07	1.58	Y	0.88	76.3
ES 123478-HxCDF	36.56	0.9650	0.9650	0	2.52E+07	0.55	Y	1.20	76.4
ES 123678-HxCDF	36.70	0.9688	0.9687	-0.2	2.80E+07	0.54	Y	1.35	75.4
ES 234678-HxCDF	37.38	0.9866	0.9865	-0.2	2.61E+07	0.55	Y	1.24	76.4
ES 123789-HxCDF	38.36	1.0125	1.0124	-0.2	2.35E+07	0.52	Y	1.16	74
ES 1234678-HpCDF	39.78	1.0501	1.0500	-0.2	2.20E+07	0.45	Y	0.97	82.8
ES 1234789-HpCDF	41.19	1.0870	1.0872	+0.5	1.86E+07	0.45	Y	0.85	79.6
ES OCDF	43.63	1.1505	1.1516	+2.9	3.77E+07	0.92	Y	0.81	84.9

Lab ID: B6291_18925_DF_009 **Acq'd:** 22 Feb 2022 15:34 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020522-S-SB-NE-B-5 **UTP:** 23-Feb-2022 08:08:08 DTF **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 615-350-RPC

Datafile: 220221C39 **Report:** 23 Feb 2022 08:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.56		-	-	-	2.98E+07	0.83	Y	-	-
JS 1234-TCDF	25.97		-	-	-	4.57E+07	0.80	Y	-	-
JS 123467-HxCDD	37.89		-	-	-	1.37E+07	1.34	Y	-	-
CS 37Cl-2378-TCDD	28.25		1.0251	1.0251	0	1.04E+07	n/a	-	1.20	72.9
CS 12347-PeCDD	33.12		1.2016	1.2019	+0.6	1.90E+07	1.64	Y	0.75	84.9
CS 12346-PeCDF	31.63		1.2172	1.2179	+1.3	3.07E+07	1.61	Y	0.85	79.1
CS 123469-HxCDF	37.01		0.9771	0.9769	-0.4	2.38E+07	0.53	Y	1.12	77.6
CS 1234689-HpCDF	40.19		1.0608	1.0609	+0.2	2.02E+07	0.46	Y	0.89	82.9
SS 37Cl-2378-TCDD	28.25		1.0251	1.0251	0	1.04E+07	n/a	-	1.15	99.9
SS 12347-PeCDD	33.12		1.2016	1.2019	+0.6	1.90E+07	1.64	Y	0.86	102
SS 12346-PeCDF	31.63		1.2172	1.2179	+1.3	3.07E+07	1.61	Y	0.94	101
SS 123469-HxCDF	37.01		0.9771	0.9769	-0.4	2.38E+07	0.53	Y	0.83	103
SS 1234689-HpCDF	40.19		1.0608	1.0609	+0.2	2.02E+07	0.46	Y	0.92	99.9

Totals	Conc	EMPC
Total TCDD	292	294
Total PeCDD	37.1	41.7
Total HxCDD	172	172
Total HpCDD	677	677
Total Tetra-Octa Dioxins	5770	5770
Total TCDF	1,510	1510
Total PeCDF	140	142
Total HxCDF	149	150
Total HpCDF	332	332
Total Tetra-Octa Furans	8,080	8080
Total Tetra-Octa Dioxins & Furans	13800	13900

Lab ID: B6291_18925_DF_009 **Acq'd: 22 Feb 2022 15:34 DTF** **Wt/Vol: 10.14 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020522-S-SB-NE-B-5 **UTP: 23-Feb-2022 08:08:08 DTF** **J-level: 0.493 pg/g** **Split: 1** **Checkcode: 615-350-RPC**

Datafile: 220221C39 **Report: 23 Feb 2022 08:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.55		0.8701	0.8695	-0.9	8.30E+05	0.81	Y	1.18	6.07	4217.265	0.314
1379-TCDD	24.92		0.8829	0.8827	-0.3	2.66E+05	0.79	Y	1.18	1.95	4217.265	0.314
1369-TCDD	25.34		0.8982	0.8978	-0.6	1.91E+05	0.83	Y	1.18	1.4	4217.265	0.314
1469-TCDD	26.14		0.9261	0.9259	-0.3	1.35E+06	0.83	Y	1.18	9.85	4217.265	0.314
1247/1246/1248/1249-TCDD	26.38		0.9348	0.9346	-0.3	2.97E+05	0.79	Y	1.18	2.17	4217.265	0.314
1378-TCDD	26.58		0.9417	0.9415	-0.3	2.93E+05	0.86	Y	1.18	2.14	4217.265	0.314
1268-TCDD	26.76		0.9487	0.9479	-1.3	7.94E+04	0.79	Y	1.18	0.58	4217.265	0.314
1478-TCDD	27.03		0.9576	0.9577	+0.2	1.21E+05	0.72	Y	1.18	0.883	4217.265	0.314
1279-TCDD	27.19	EMPC	0.9636	0.9631	-0.8	1.04E+05	0.93	N	1.18	0.76	4217.265	0.314
1234/1269-TCDD	27.55		0.9761	0.9760	-0.2	3.14E+05	0.83	Y	1.18	2.3	4217.265	0.314
1236-TCDD	NotFnd		0.9812						1.18		4217.265	0.314
1237/1238-TCDD	27.96		0.9905	0.9903	-0.3	5.50E+05	0.78	Y	1.18	4.02	4217.265	0.314
1239-TCDD	NotFnd		0.9951						1.18		4217.265	0.314
2378-TCDD	**28.25**		**1.0008**	1.0008	**0**	3.27E+07	0.79	Y	**1.18**	**239**	**4217.265**	**0.314**
1278-TCDD	28.58		1.0124	1.0125	+0.2	3.00E+06	0.78	Y	1.18	21.9	4217.265	0.314
1267-TCDD	NotFnd		1.0172						1.18		4217.265	0.314
1289-TCDD	29.22	EMPC	1.0354	1.0353	-0.2	1.31E+05	1.27	N	1.18	0.958	4217.265	0.314
12479/12468-PeCDD	31.12		0.9255	0.9255	0	1.17E+06	1.45	Y	1.04	10.2	5866.107	0.469
12469-PeCDD	31.66		0.9416	0.9416	0	9.56E+05	1.49	Y	1.04	8.39	5866.107	0.469
12368-PeCDD	32.22		0.9582	0.9582	0	4.96E+05	1.40	Y	1.04	4.36	5866.107	0.469
12478-PeCDD	32.41		0.9637	0.9638	+0.2	3.38E+05	1.72	Y	1.04	2.97	5866.107	0.469
12379-PeCDD	32.51	J	0.9668	0.9667	-0.2	2.30E+05	1.54	Y	1.04	2.02	5866.107	0.469
12369/12467/12489-PeCDD	32.77		0.9746	0.9746	0	6.68E+05	1.68	Y	1.04	5.86	5866.107	0.469
12346/12347-PeCDD	33.15	J	0.9858	0.9857	-0.2	1.21E+05	1.54	Y	1.04	1.06	5866.107	0.469
12378-PeCDD	33.65	EMPC	**1.0007**	**1.0006**	**-0.2**	**5.26E+05**	**1.82**	**N**	**1.04**	**4.62**	**5866.107**	**0.469**
12367-PeCDD	33.75	J	1.0036	1.0035	-0.2	1.08E+05	1.48	Y	1.04	0.945	5866.107	0.469
12389-PeCDD	34.09	J	1.0137	1.0136	-0.2	1.40E+05	1.56	Y	1.04	1.23	5866.107	0.469
124679/124689-HxCDD	35.83		0.9540	0.9539	-0.2	8.74E+06	1.27	Y	1.10	78.9	9324.944	0.748
123468-HxCDD	36.49		0.9715	0.9715	0	1.07E+06	1.26	Y	1.10	9.7	9324.944	0.748
123679/123689-HxCDD	36.79		0.9793	0.9793	0	5.52E+06	1.24	Y	1.10	49.9	9324.944	0.748
123469-HxCDD	36.91		0.9829	0.9826	-0.7	3.81E+05	1.38	Y	1.10	3.44	9324.944	0.748
123478-HxCDD	37.58		**1.0004**	**1.0004**	**0**	**4.33E+05**	**1.16**	**Y**	1.09	**4.08**	**9324.944**	**0.762**
123678-HxCDD	37.70		**1.0036**	**1.0036**	**0**	**1.63E+06**	**1.16**	**Y**	1.15	**14.6**	**9324.944**	**0.772**
123467-HxCDD	37.90		1.0089	1.0088	-0.2	3.66E+05	1.39	Y	1.10	3.31	9324.944	0.748
123789-HxCDD	38.00		**1.0118**	**1.0116**	**-0.5**	**9.61E+05**	**1.18**	**Y**	1.05	**8.41**	**9324.944**	**0.714**

Lab ID: B6291_18925_DF_009 **Acq'd: 22 Feb 2022 15:34 DTF** **Wt/Vol: 10.14 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020522-S-SB-NE-B-5 **UTP: 23-Feb-2022 08:08:08 DTF** **J-level: 0.493 pg/g** **Split: 1** **Checkcode: 615-350-RPC**

Datafile: 220221C39 **Report: 23 Feb 2022 08:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

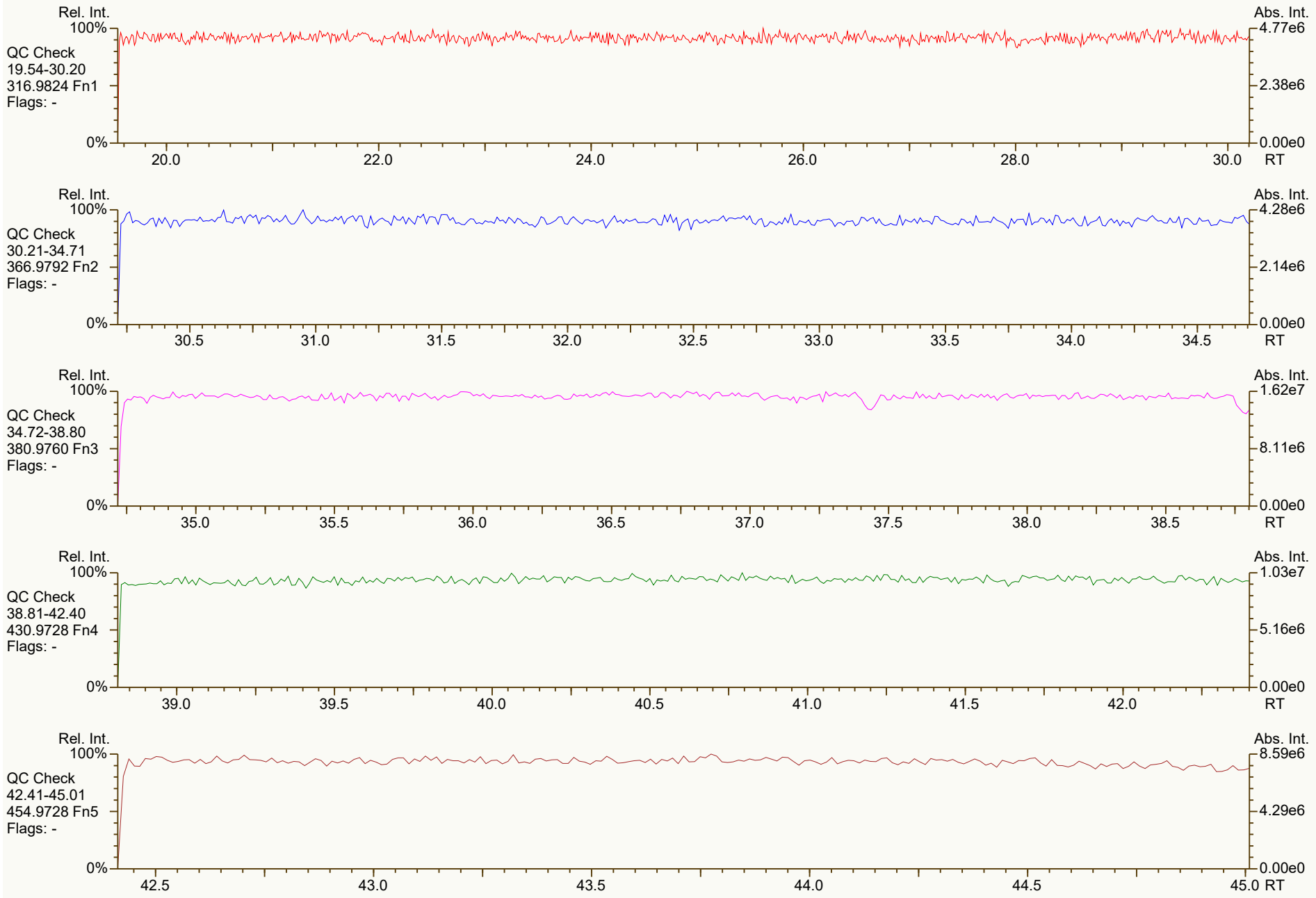
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.07		0.9836	0.9837	+0.2	4.15E+07	1.03	Y	1.06	395	6072.2	0.51
1234678-HpCDD	**40.75**		**1.0002**	**1.0003**	**+0.2**	**2.97E+07**	**1.04**	**Y**	**1.06**	**283**	**6072.2**	**0.51**
OCDD	**43.47**		**1.0003**	**1.0003**	**0**	**3.70E+08**	**0.90**	**Y**	**1.13**	**4,590**	**6711.413**	**1.22**
OCDD-a	43.46		1.0002	1.0002	0	2.33E+07	2.41	Y	0.07	4,530	7668.473	21.8
1368-TCDF	22.39		0.8191	0.8183	-1.1	3.23E+05	0.71	Y	1.08	1.77	3605.287	0.208
1468-TCDF	22.98		0.8408	0.8400	-1.1	9.41E+05	0.81	Y	1.08	5.14	3605.287	0.208
2468-TCDF	23.63		0.8645	0.8640	-0.7	2.14E+06	0.79	Y	1.08	11.7	3605.287	0.208
1346/1246-TCDF	NotFnd		0.8772						1.08		3605.287	0.208
1347/1378/1247-TCDF	24.14		0.8833	0.8826	-1.0	3.12E+06	0.76	Y	1.08	17.1	3605.287	0.208
1348-TCDF	NotFnd		0.8932						1.08		3605.287	0.208
1248/1367/1379-TCDF	24.51		0.8980	0.8961	-2.8	8.93E+06	0.77	Y	1.08	48.8	3605.287	0.208
1268-TCDF	24.94		0.9119	0.9117	-0.3	3.56E+06	0.73	Y	1.08	19.4	3605.287	0.208
1467-TCDF	25.08		0.9170	0.9168	-0.3	6.44E+05	0.78	Y	1.08	3.52	3605.287	0.208
1478-TCDF	25.25		0.9234	0.9230	-0.6	6.62E+06	0.81	Y	1.08	36.1	3605.287	0.208
1369/1237-TCDF	25.64		0.9369	0.9371	+0.3	1.48E+06	0.72	Y	1.08	8.09	3605.287	0.208
2467-TCDF	25.76		0.9415	0.9416	+0.2	5.75E+05	0.83	Y	1.08	3.14	3605.287	0.208
2368-TCDF	25.91		0.9475	0.9473	-0.3	5.01E+06	0.76	Y	1.08	27.3	3605.287	0.208
1238/1234/1678/1469/1236-TCDF	25.99		0.9507	0.9500	-1.1	6.35E+06	0.80	Y	1.08	34.7	3605.287	0.208
1278-TCDF	26.47		0.9676	0.9674	-0.3	6.53E+07	0.78	Y	1.08	356	3605.287	0.208
1349-TCDF	NotFnd		0.9722						1.08		3605.287	0.208
1267-TCDF	26.74		0.9777	0.9776	-0.2	3.84E+06	0.79	Y	1.08	20.9	3605.287	0.208
2346/1249-TCDF	26.94		0.9843	0.9849	+1.0	5.13E+05	0.70	Y	1.08	2.8	3605.287	0.208
2347/1279-TCDF	27.15		0.9926	0.9925	-0.2	1.46E+06	0.77	Y	1.08	7.99	3605.287	0.208
2348-TCDF	27.26		0.9968	0.9963	-0.8	5.95E+06	0.78	Y	1.08	32.5	3605.287	0.208
2378-TCDF	**27.38**		**1.0008**	**1.0008**	**0**	**1.36E+08**	**0.78**	**Y**	**1.08**	**741**	**3605.287**	**0.208**
2367/3467-TCDF	27.74		1.0142	1.0139	-0.5	1.16E+07	0.79	Y	1.08	63.1	3605.287	0.208
1269-TCDF	27.99		1.0235	1.0233	-0.3	2.04E+06	0.78	Y	1.08	11.1	3605.287	0.208
1239-TCDF	NotFnd		1.0329						1.08		3605.287	0.208
1289-TCDF	29.41		1.0742	1.0750	+1.4	9.91E+06	0.77	Y	1.08	54.1	3605.287	0.208
13468/12468-PeCDF	29.36		0.9122	0.9127	+0.9	5.30E+06	1.68	Y	1.02	32.4	2678.006	0.148
13678/13467/12467-PeCDF	30.92		0.9606	0.9611	+0.9	1.03E+06	1.51	Y	1.02	6.3	8174.071	0.451
12368/13478/12478-PeCDF	31.08		0.9655	0.9662	+1.3	4.75E+06	1.45	Y	1.02	29	8174.071	0.451
14678-PeCDF	NotFnd		0.9685						1.02		8174.071	0.451
13479-PeCDF	NotFnd		0.9716						1.02		8174.071	0.451
13469/12479-PeCDF	31.48	J	0.9794	0.9788	-1.1	2.50E+05	1.35	Y	1.02	1.53	8174.071	0.451
12346-PeCDF	31.64	J	0.9836	0.9837	+0.2	2.22E+05	1.37	Y	1.02	1.35	8174.071	0.451

Lab ID: B6291_18925_DF_009 **Acq'd: 22 Feb 2022 15:34 DTF** **Wt/Vol: 10.14 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020522-S-SB-NE-B-5 **UTP: 23-Feb-2022 08:08:08 DTF** **J-level: 0.493 pg/g** **Split: 1** **Checkcode: 615-350-RPC**

Datafile: 220221C39 **Report: 23 Feb 2022 08:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.74		0.9866	0.9867	+0.2	1.33E+06	1.46	Y	1.02	8.13	8174.071	0.451
12347-PeCDF	31.82	J	0.9891	0.9891	0	3.59E+05	1.36	Y	1.02	2.19	8174.071	0.451
12348-PeCDF	31.98		0.9938	0.9940	+0.4	7.29E+05	1.53	Y	1.02	4.45	8174.071	0.451
12378-PeCDF	**32.19**		**1.0005**	**1.0006**	**+0.2**	**2.92E+06**	**1.60**	**Y**	**1.02**	**17.3**	**8174.071**	**0.442**
12678/12367-PeCDF	32.48		1.0091	1.0097	+1.2	1.74E+06	1.47	Y	1.02	10.6	8174.071	0.451
12379-PeCDF	NotFnd		1.0144						1.02		8174.071	0.451
12679-PeCDF	NotFnd		0.9927						1.02		8174.071	0.451
23467/12369-PeCDF	33.18		0.9965	0.9966	+0.2	6.53E+05	1.46	Y	1.02	3.99	8174.071	0.451
23478-PeCDF	**33.32**		**1.0005**	**1.0008**	**+0.6**	**3.67E+06**	**1.52**	**Y**	**1.02**	**23.1**	**8174.071**	**0.459**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		8174.071	0.451
12349-PeCDF	NotFnd		1.0101						1.02		8174.071	0.451
12389-PeCDF	34.39	J EMPC	1.0330	1.0330	0	2.09E+05	1.30	N	1.02	1.28	8174.071	0.451
123468-HxCDF	35.18		0.9622	0.9622	0	1.99E+06	1.18	Y	1.19	12.8	9573.67	0.532
124678/134678-HxCDF	35.38		0.9678	0.9677	-0.2	6.01E+06	1.25	Y	1.19	38.7	9573.67	0.532
134679-HxCDF	35.62	J EMPC	0.9741	0.9742	+0.2	1.26E+05	1.04	N	1.19	0.811	9573.67	0.532
124679-HxCDF	35.81		0.9795	0.9794	-0.2	3.86E+05	1.11	Y	1.19	2.48	9573.67	0.532
124689-HxCDF	36.03		0.9856	0.9856	0	5.91E+06	1.23	Y	1.19	38	9573.67	0.532
123467-HxCDF	36.45		0.9972	0.9971	-0.2	9.41E+05	1.33	Y	1.19	6.05	9573.67	0.532
123478-HxCDF	**36.58**		**1.0004**	**1.0004**	**0**	**4.21E+06**	**1.23**	**Y**	**1.27**	**26**	**9573.67**	**0.515**
123678-HxCDF	**36.71**		**1.0004**	**1.0004**	**0**	**1.56E+06**	**1.22**	**Y**	**1.15**	**9.5**	**9573.67**	**0.515**
123479-HxCDF	NotFnd		1.0048						1.19		9573.67	0.532
123469-HxCDF	37.03		1.0089	1.0090	+0.2	4.37E+05	1.17	Y	1.19	2.81	9573.67	0.532
123679-HxCDF	NotFnd		0.9942						1.19		9573.67	0.532
234678-HxCDF	**37.39**		**1.0005**	**1.0004**	**-0.2**	**1.38E+06**	**1.21**	**Y**	**1.19**	**8.77**	**9573.67**	**0.528**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		9573.67	0.532
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**9573.67**	**0.577**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.40		1.0006	1.0012	+1.4	6.01E+05	1.26	Y	1.19	3.87	9573.67	0.532
1234678-HpCDF	**39.79**		**1.0003**	**1.0003**	**0**	**2.62E+07**	**1.02**	**Y**	**1.37**	**171**	**4110.072**	**0.21**
1234679-HpCDF	40.06		1.0068	1.0070	+0.5	1.67E+06	1.04	Y	1.34	12.1	4110.072	0.257
1234689-HpCDF	40.20		1.0104	1.0106	+0.5	1.81E+07	1.06	Y	1.34	131	4110.072	0.257
1234789-HpCDF	**41.20**		**1.0003**	**1.0003**	**0**	**2.17E+06**	**1.08**	**Y**	**1.31**	**17.6**	**4110.072**	**0.314**
OCDF	**43.64**		**1.0002**	**1.0003**	**+0.3**	**6.10E+08**	**0.89**	**Y**	**1.07**	**5,950**	**5383.257**	**0.719**
OCDF-a	43.64		1.0001	1.0001	0	3.70E+07	2.40	Y	0.07	5,840	3271.682	7.05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Abs. Int.
QC Check
19.54-30.20
316.9824 Fn1
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2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
4.28e6
2.14e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
0%
Abs. Int.
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
1.62e7
8.11e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
0%
Abs. Int.
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
1.03e7
5.16e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
0%
Abs. Int.
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
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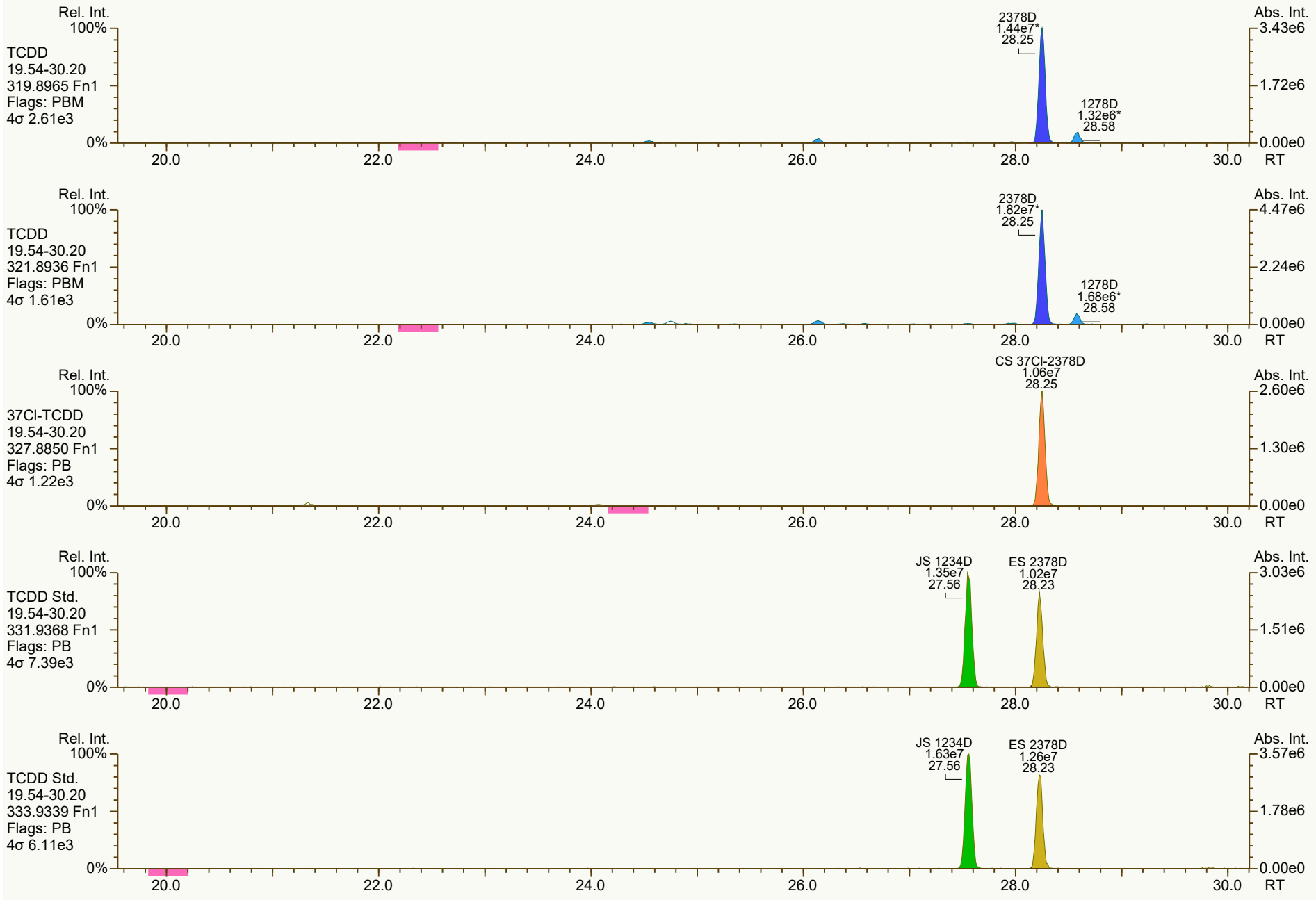
4.29e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.61e3
0%
2378D
1.44e7*
28.25
1278D
1.32e6*
28.58
Abs. Int.
3.43e6
1.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.61e3
0%
2378D
1.82e7*
28.25
1278D
1.68e6*
28.58
Abs. Int.
4.47e6
2.24e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.22e3
0%
CS 37Cl-2378D
1.06e7
28.25
Abs. Int.
2.60e6
1.30e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 7.39e3
0%
JS 1234D
1.35e7
27.56
ES 2378D
1.02e7
28.23
Abs. Int.
3.03e6
1.51e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 6.11e3
0%
JS 1234D
1.63e7
27.56
ES 2378D
1.26e7
28.23
Abs. Int.
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1.78e6
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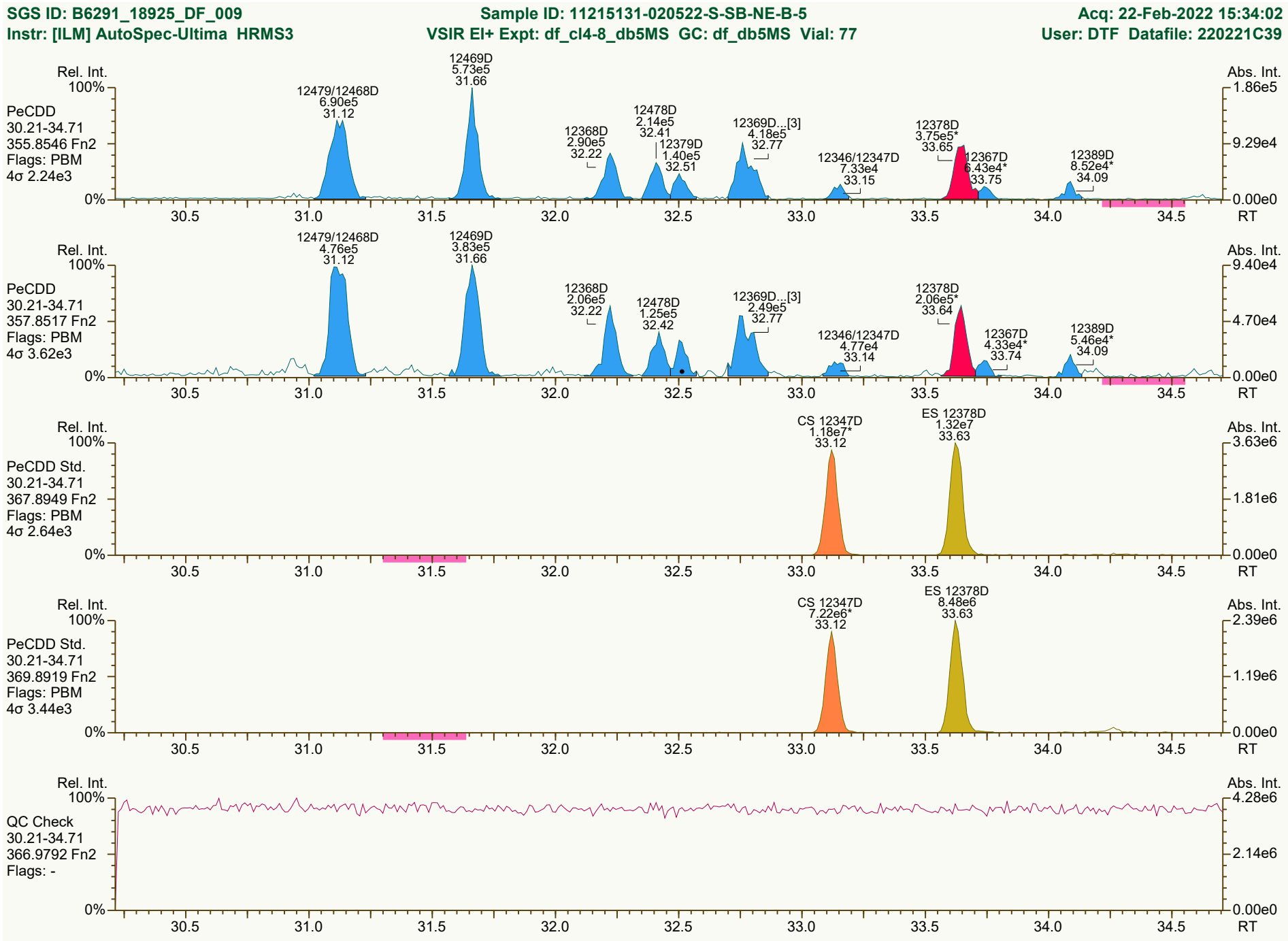
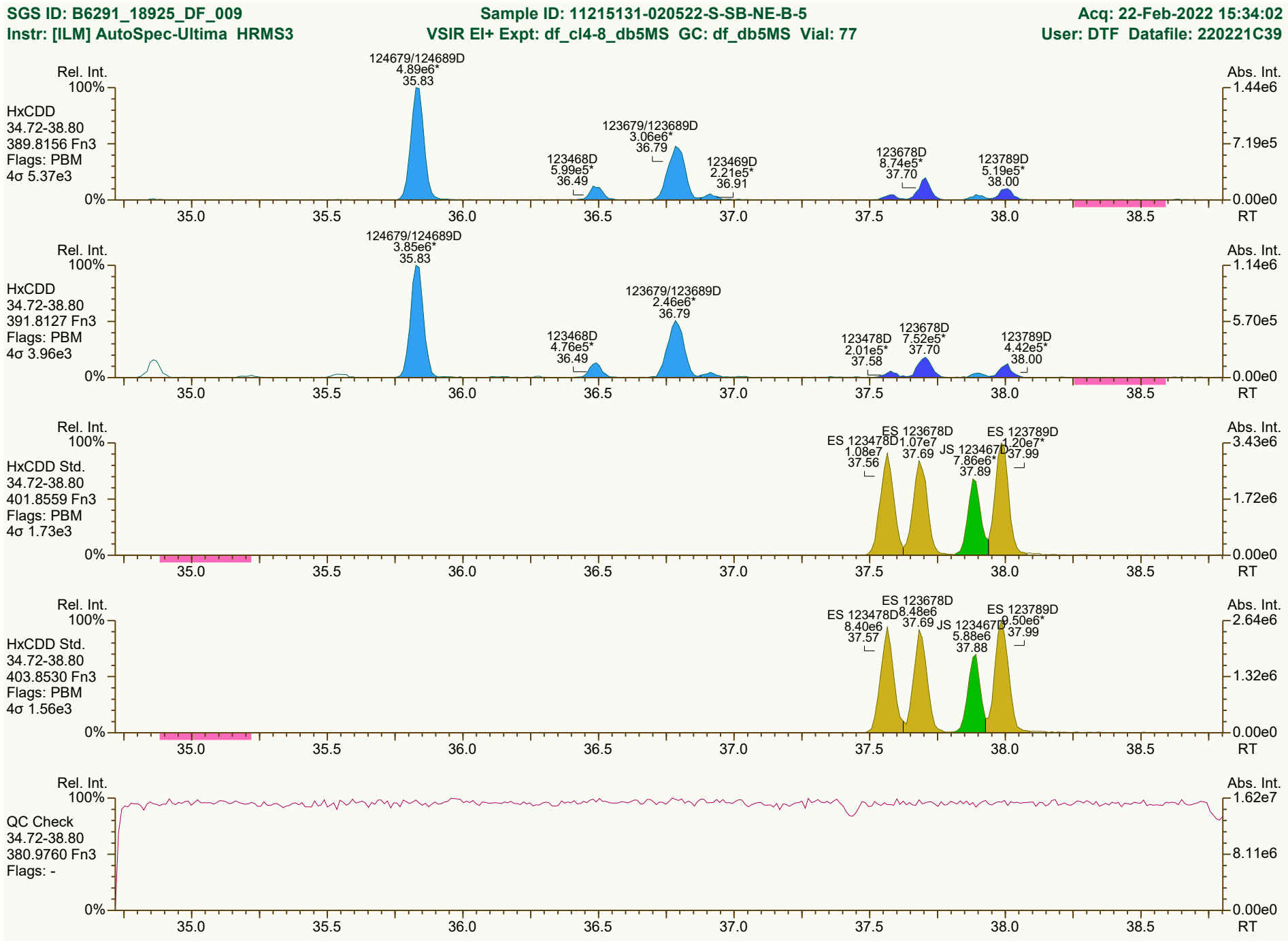
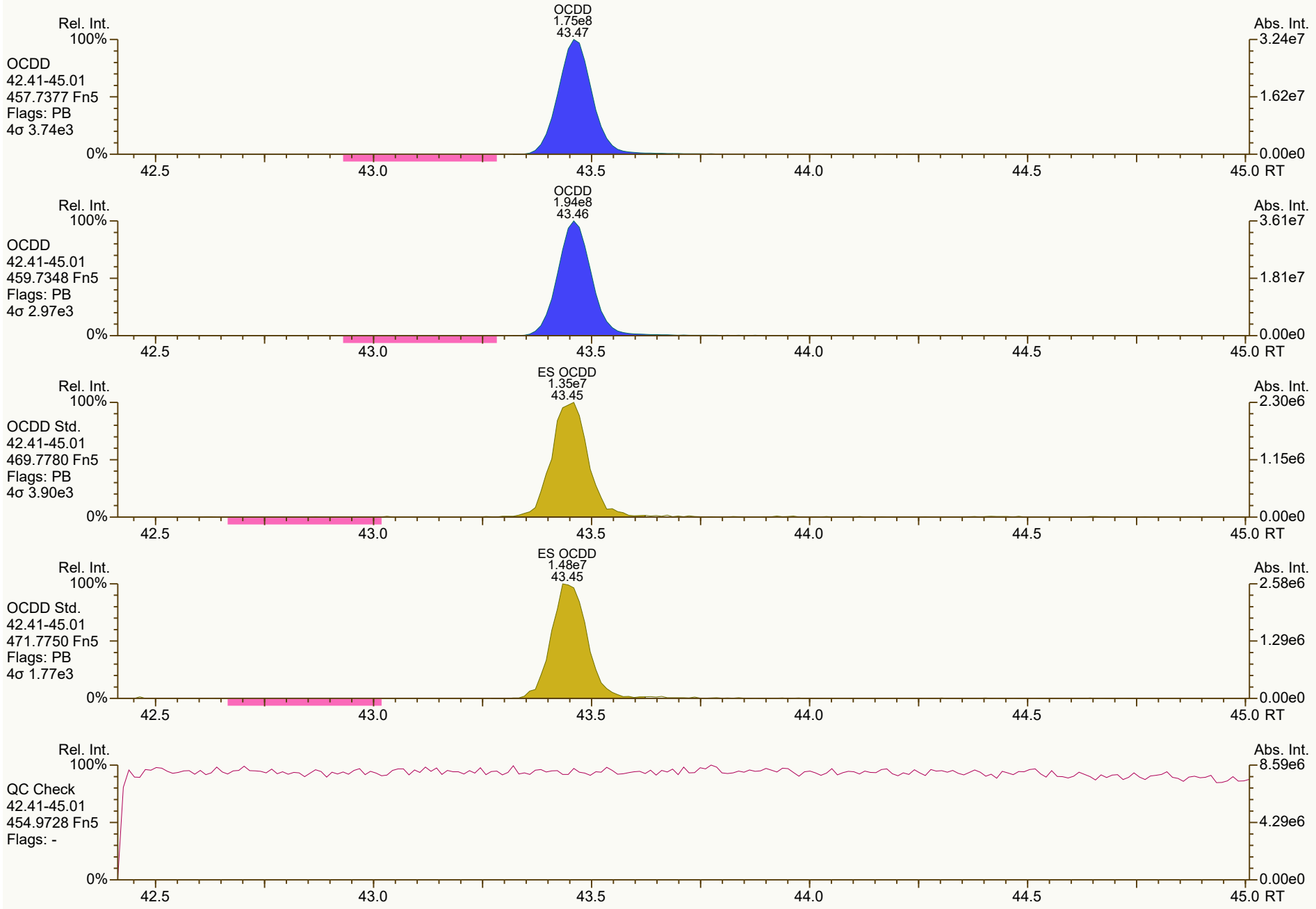
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6291_18925_DF_009
Sample ID: 11215131-020522-S-SB-NE-B-5
Acq: 22-Feb-2022 15:34:02
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 77
User: DTF Datafile: 220221C39
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 2.24e3
12479/12468D 6.90e5 31.12
12469D 5.73e5 31.66
12368D 2.90e5 32.22
12478D 2.14e5 32.41
12379D 1.40e5 32.51
12369D...[3] 4.18e5 32.77
12346/12347D 7.33e4 33.15
12378D 3.75e5* 33.65
12367D 6.43e4* 33.75
12389D 8.52e4* 34.09
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 3.62e3
12479/12468D 4.76e5 31.12
12469D 3.83e5 31.66
12368D 2.06e5 32.22
12478D 1.25e5 32.42
12369D...[3] 2.49e5 32.77
12346/12347D 4.77e4 33.14
12378D 2.06e5* 33.64
12367D 4.33e4* 33.74
12389D 5.46e4* 34.09
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PBM
4σ 2.64e3
CS 12347D 1.18e7* 33.12
ES 12378D 1.32e7 33.63
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PBM
4σ 3.44e3
CS 12347D 7.22e6* 33.12
ES 12378D 8.48e6 33.63
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Rel. Int.
Abs. Int.
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_009.utp_res, saved 22-Feb-2022 16:56 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7379, 3262 scc: 615-350
Revised: 22-Feb-2022 16:34 (DTF) Printed: 23-Feb-2022 08:19 Page 3 of 12



Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_009.utp_res, saved 22-Feb-2022 16:56 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5353, 7660 scc: 615-350
Revised: 22-Feb-2022 16:34 (DTF) Printed: 23-Feb-2022 08:19 Page 4 of 12


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 3.17e3
1234679D
2.11e7*
40.07
1234678D
1.51e7
40.75
Abs. Int.
6.65e6
3.32e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 2.90e3
1234679D
2.04e7*
40.07
1234678D
1.46e7
40.74
Abs. Int.
6.44e6
3.22e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 2.09e3
ES 1234678D
1.01e7
40.73
Abs. Int.
2.86e6
1.43e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.93e3
ES 1234678D
9.48e6
40.73
Abs. Int.
2.73e6
1.36e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.03e7
5.16e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
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43.47
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
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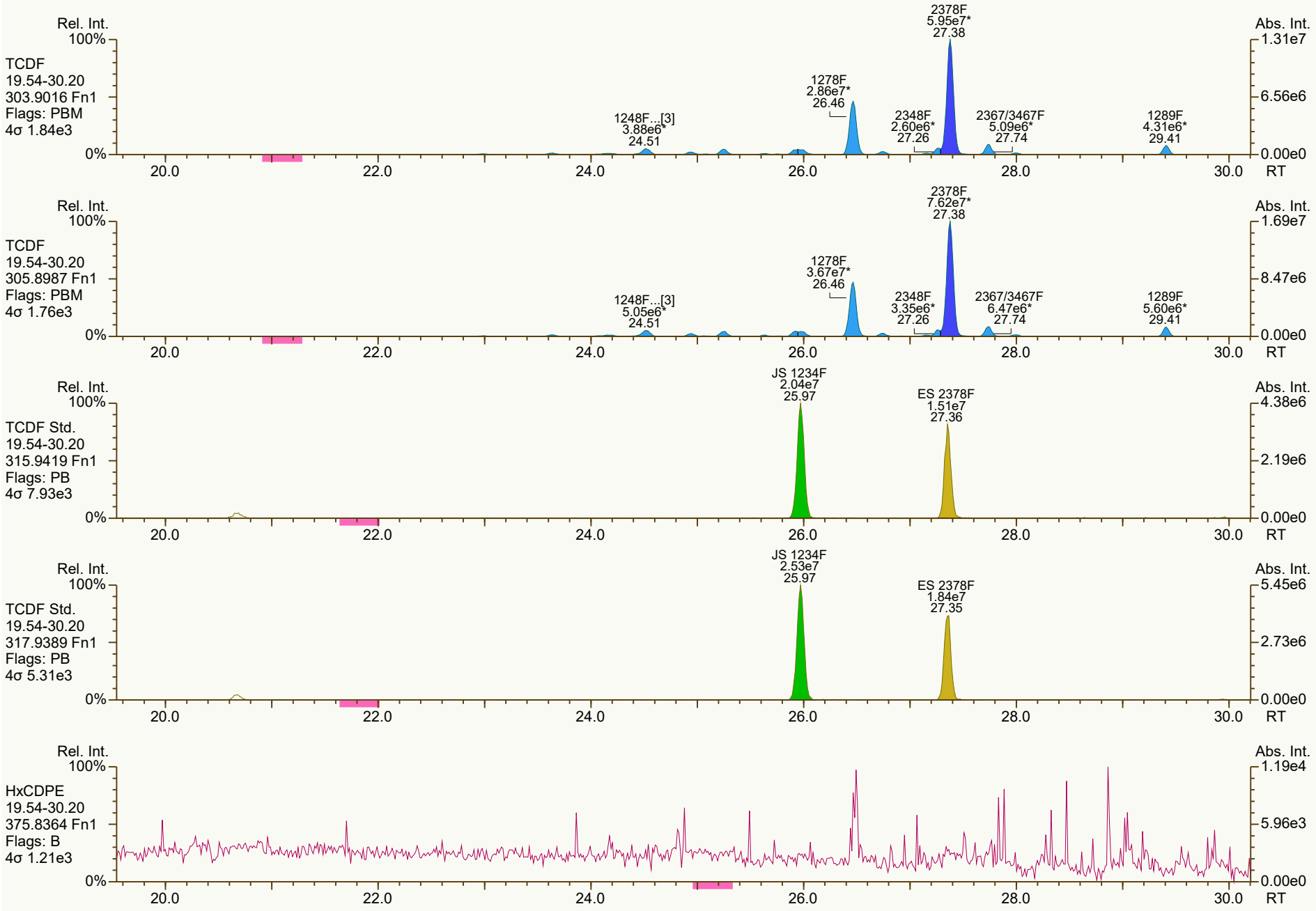
4σ 3.74e3
0%
Abs. Int.
3.24e7
1.62e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.94e8
43.46
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 2.97e3
0%
Abs. Int.
3.61e7
1.81e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.35e7
43.45
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 3.90e3
0%
Abs. Int.
2.30e6
1.15e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.48e7
43.45
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.77e3
0%
Abs. Int.
2.58e6
1.29e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
8.59e6
4.29e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: B6291_18925_DF_009 | Sample ID: 11215131-020522-S-SB-NE-B-5 | Acq: 22-Feb-2022 15:34:02

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 77 | User: DTF Datafile: 220221C39



Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_009.utp_res, saved 22-Feb-2022 16:56 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4840, 2984, 1390 scc: 615-350 *Revised: 22-Feb-2022 16:36 (DTF) Printed: 23-Feb-2022 08:19 Page 7 of 12*

SGS ID: B6291_18925_DF_009 | Sample ID: 11215131-020522-S-SB-NE-B-5 | Acq: 22-Feb-2022 15:34:02

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 77 | User: DTF Datafile: 220221C39

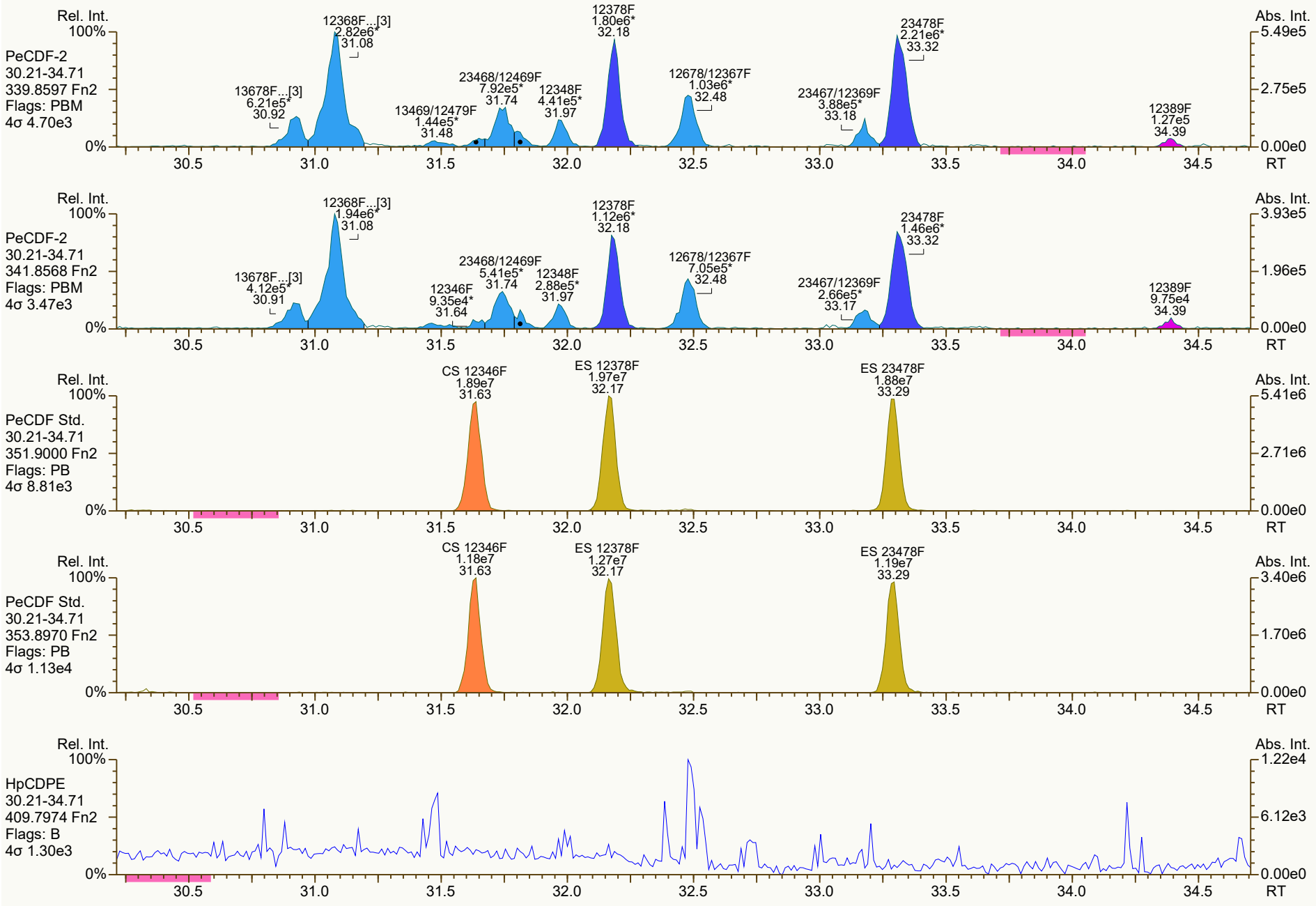


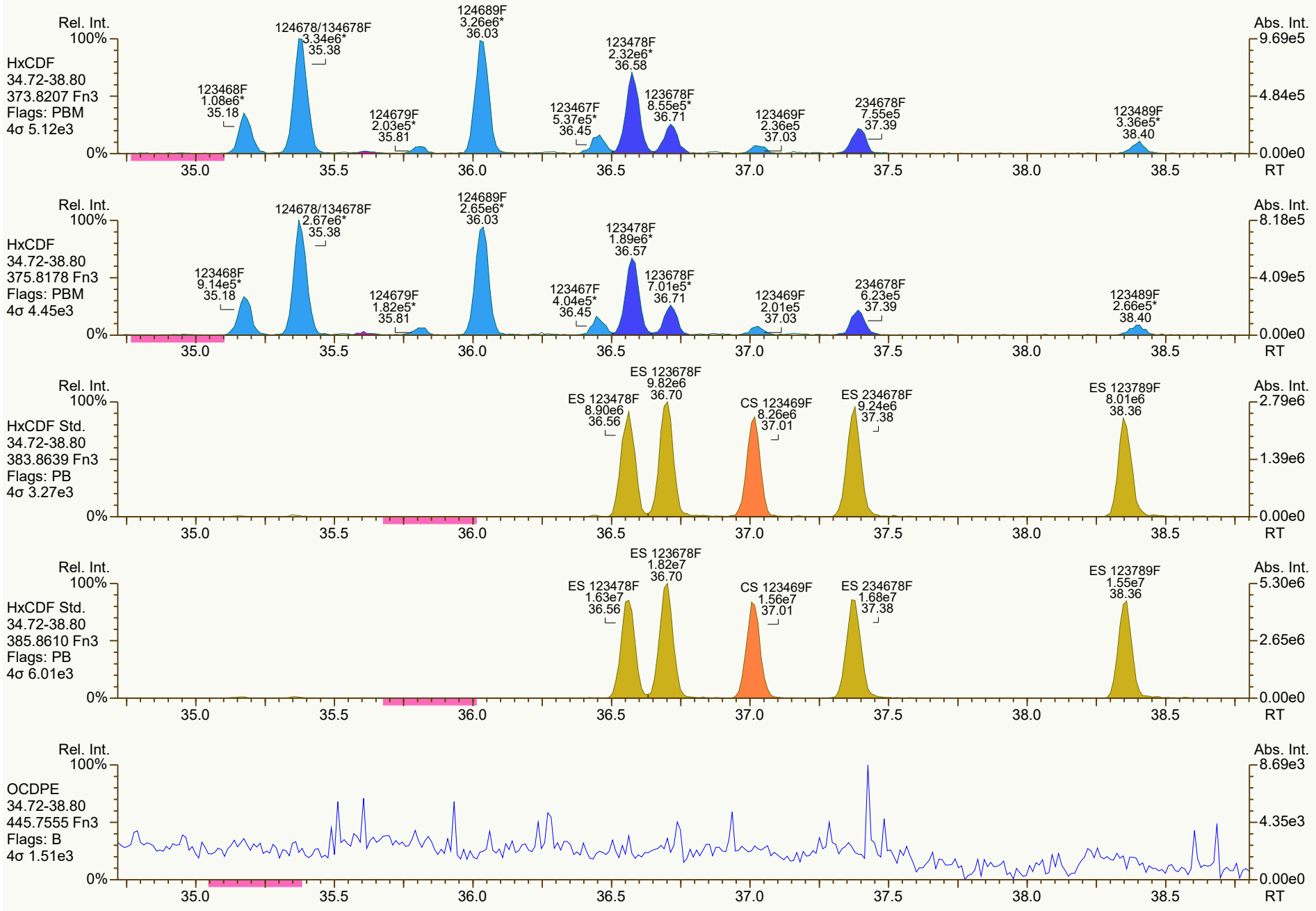
Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\B6291_18925_DF_009.utp_res, saved 22-Feb-2022 16:56 (DTF)

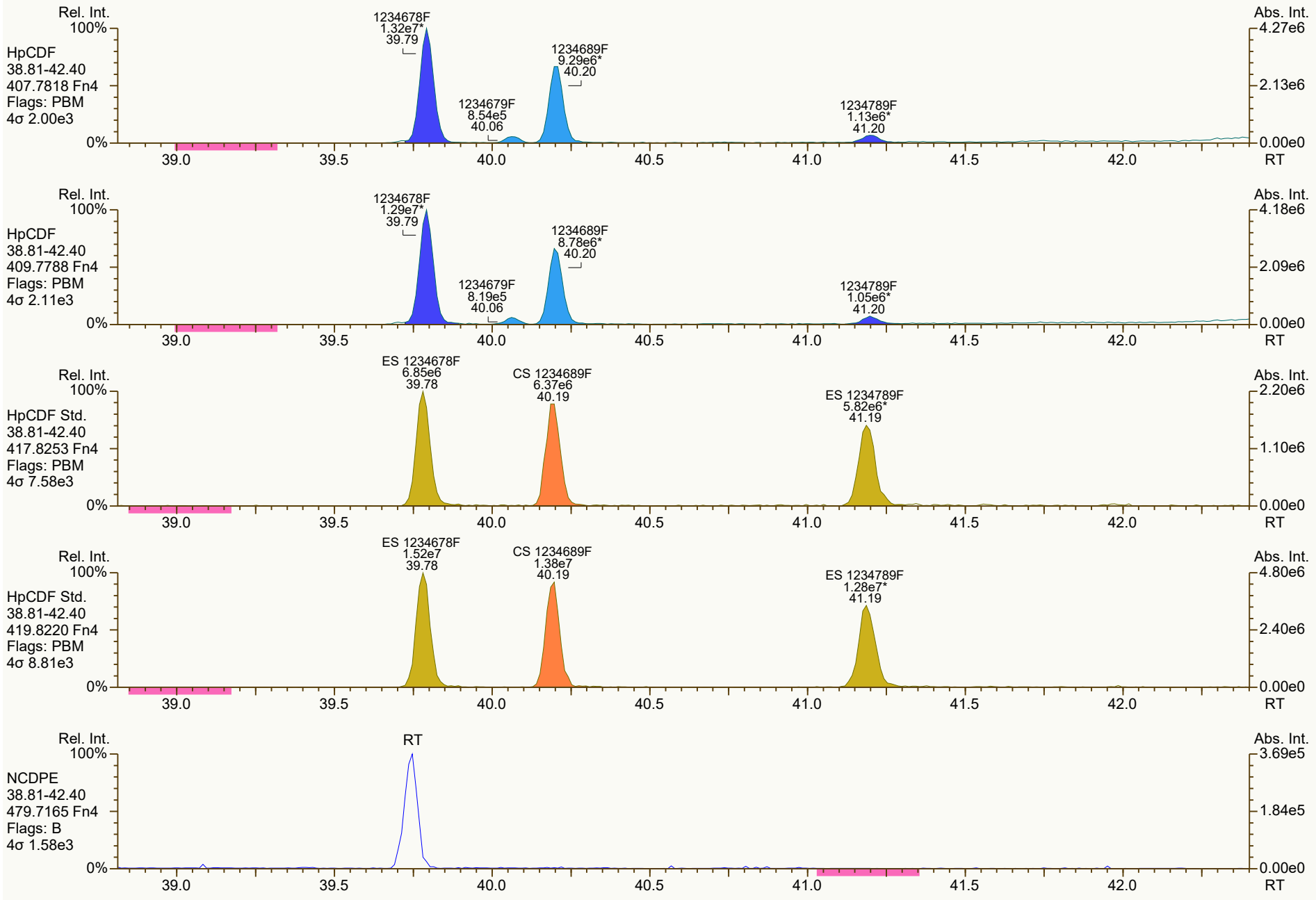
Peak annotation: Areas, Centroids

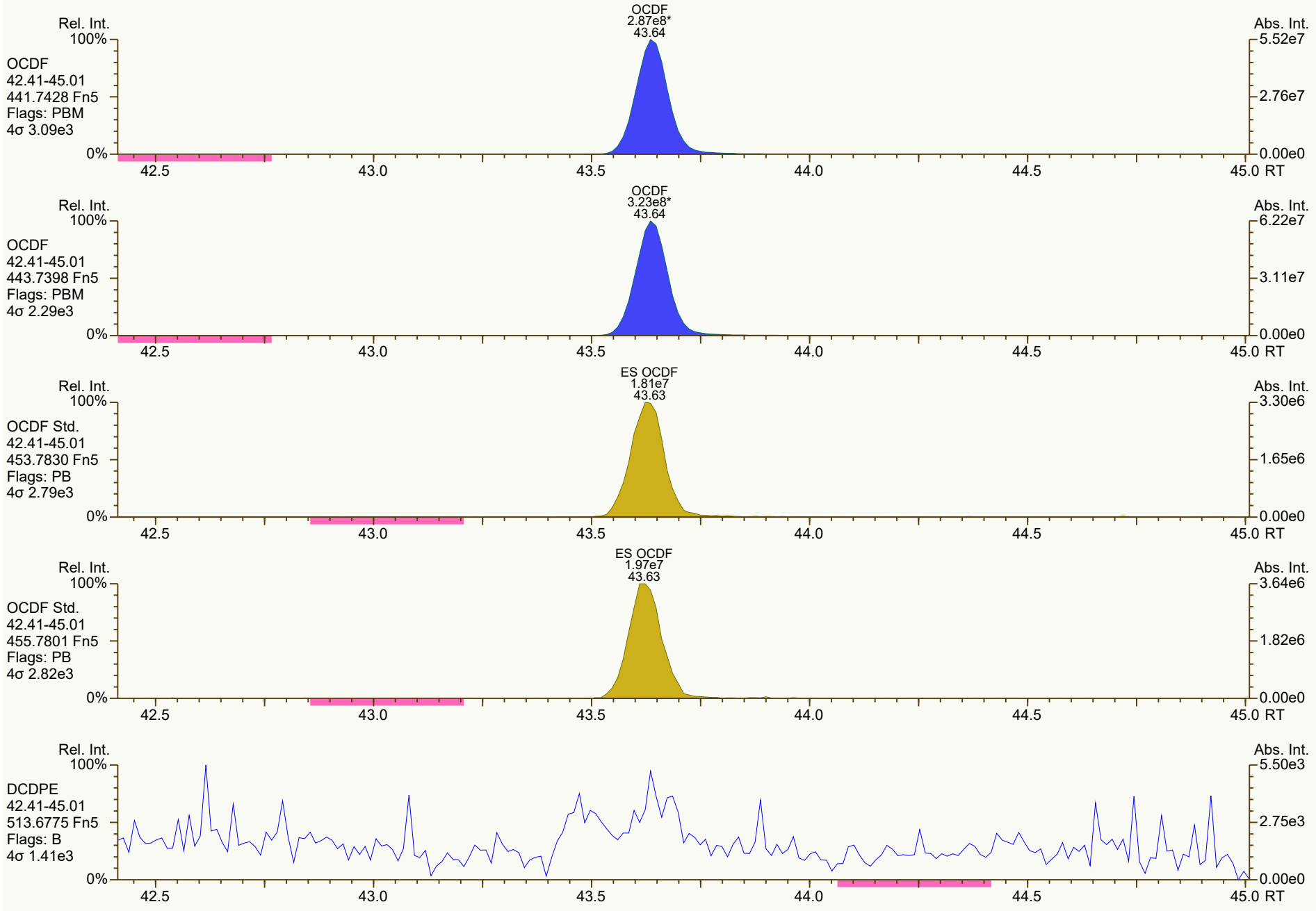
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8304 scc: 615-350

PKD: 22-Feb-2022 16:32 Printed: 23-Feb-2022 08:19 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 4.70e3
0%
12368F...[3]
2.82e6*
31.08
13678F...[3]
6.21e5*
30.92
13469/12479F
1.44e5*
31.48
23468/12469F
7.92e5*
31.74
12348F
4.41e5*
31.97
12378F
1.80e6*
32.18
12678/12367F
1.03e6*
32.48
23467/12369F
3.88e5*
33.18
23478F
2.21e6*
33.32
12389F
1.27e5
34.39
Abs. Int.
5.49e5
2.75e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 3.47e3
0%
12368F...[3]
1.94e6*
31.08
13678F...[3]
4.12e5*
30.91
12346F
9.35e4*
31.64
23468/12469F
5.41e5*
31.74
12348F
2.88e5*
31.97
12378F
1.12e6*
32.18
12678/12367F
7.05e5*
32.48
23467/12369F
2.66e5*
33.17
23478F
1.46e6*
33.32
12389F
9.75e4
34.39
Abs. Int.
3.93e5
1.96e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 8.81e3
0%
CS 12346F
1.89e7
31.63
ES 12378F
1.97e7
32.17
ES 23478F
1.88e7
33.29
Abs. Int.
5.41e6
2.71e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 1.13e4
0%
CS 12346F
1.18e7
31.63
ES 12378F
1.27e7
32.17
ES 23478F
1.19e7
33.29
Abs. Int.
3.40e6
1.70e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.30e3
0%
Abs. Int.
1.22e4
6.12e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 5.12e3
123468F 1.08e6* 35.18
124678/134678F 3.34e6* 35.38
124679F 2.03e5* 35.81
124689F 3.26e6* 36.03
123467F 5.37e5* 36.45
123478F 2.32e6* 36.58
123678F 8.55e5* 36.71
123469F 2.36e5 37.03
234678F 7.55e5 37.39
123489F 3.36e5* 38.40
Abs. Int.
9.69e5
4.84e5
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 4.45e3
123468F 9.14e5* 35.18
124678/134678F 2.67e6* 35.38
124679F 1.82e5* 35.81
124689F 2.65e6* 36.03
123467F 4.04e5* 36.45
123478F 1.89e6* 36.57
123678F 7.01e5* 36.71
123469F 2.01e5 37.03
234678F 6.23e5 37.39
123489F 2.66e5* 38.40
Abs. Int.
8.18e5
4.09e5
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 3.27e3
ES 123478F 8.90e6 36.56
ES 123678F 9.82e6 36.70
CS 123469F 8.26e6 37.01
ES 234678F 9.24e6 37.38
ES 123789F 8.01e6 38.36
Abs. Int.
2.79e6
1.39e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 6.01e3
ES 123478F 1.63e7 36.56
ES 123678F 1.82e7 36.70
CS 123469F 1.56e7 37.01
ES 234678F 1.68e7 37.38
ES 123789F 1.55e7 38.36
Abs. Int.
5.30e6
2.65e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.51e3
Abs. Int.
8.69e3
4.35e3
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 2.00e3
1234678F
1.32e7*
39.79
1234679F
8.54e5
40.06
1234689F
9.29e6*
40.20
1234789F
1.13e6*
41.20
Abs. Int.
4.27e6
2.13e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 2.11e3
1234678F
1.29e7*
39.79
1234679F
8.19e5
40.06
1234689F
8.78e6*
40.20
1234789F
1.05e6*
41.20
Abs. Int.
4.18e6
2.09e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 7.58e3
ES 1234678F
6.85e6
39.78
CS 1234689F
6.37e6
40.19
ES 1234789F
5.82e6*
41.19
Abs. Int.
2.20e6
1.10e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 8.81e3
ES 1234678F
1.52e7
39.78
CS 1234689F
1.38e7
40.19
ES 1234789F
1.28e7*
41.19
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.58e3
RT
Abs. Int.
3.69e5
1.84e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
2.87e8*
43.64
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 3.09e3
0%
Abs. Int.
5.52e7
2.76e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.23e8*
43.64
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 2.29e3
0%
Abs. Int.
6.22e7
3.11e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.81e7
43.63
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 2.79e3
0%
Abs. Int.
3.30e6
1.65e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.97e7
43.63
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 2.82e3
0%
Abs. Int.
3.64e6
1.82e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.41e3
0%
Abs. Int.
5.50e3
2.75e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
25	220221C25	3	CS3_220221_DF_CC	1.00	25-347-1	DTF	063-910	22-Feb-2022	04:45:14
26	220221C26	66	OPR1_18925_DF	10.04	0_18925_OPR001	DTF	501-256	22-Feb-2022	05:31:33
27	220221C27	2	SBS_220221_DF_CE	1.00	20-61-1	DTF	215-926	22-Feb-2022	06:17:54
28	220221C28	65	MB1_18925_DF_SDS	10.00	Method Blank	DTF	511-768	22-Feb-2022	07:04:14
29	220221C29	67	B6291_18925_DF_001	10.13	11215131-020422-S-SB-SW-O-22	DTF	951-246	22-Feb-2022	07:50:34
30	220221C30	68	B6291_18925_DF_002	10.04	11215131-020422-S-SB-SW-B-24	DTF	638-649	22-Feb-2022	08:36:55
31	220221C31	69	B6291_18925_DF_002MS	10.11	11215131-020422-S-SB-SW-B-24-MS	DTF	119-369	22-Feb-2022	09:23:16
32	220221C32	70	B6291_18925_DF_002MSD	10.14	11215131-020422-S-SB-SW-B-24-MSD	DTF	863-560	22-Feb-2022	10:09:36
33	220221C33	71	B6291_18925_DF_003	10.04	11215131-020422-S-SB-SW-B-24H	DTF	690-600	22-Feb-2022	10:55:58
34	220221C34	72	B6291_18925_DF_004	10.08	11215131-020422-S-SB-DUP-15	DTF	911-691	22-Feb-2022	11:42:19
35	220221C35	73	B6291_18925_DF_005	10.18	11215131-020522-S-SB-SW-O-24	DTF	366-008	22-Feb-2022	12:28:38
36	220221C36	74	B6291_18925_DF_006	10.17	11215131-020522-S-SB-SW-B-26	DTF	732-394	22-Feb-2022	13:14:59
37	220221C37	75	B6291_18925_DF_007	10.08	11215131-020522-S-SB-NE-O-13	DTF	837-534	22-Feb-2022	14:01:20
38	220221C38	76	B6291_18925_DF_008	10.02	11215131-020522-S-SB-NE-O-14	DTF	527-345	22-Feb-2022	14:47:40
39	220221C39	77	B6291_18925_DF_009	10.14	11215131-020522-S-SB-NE-B-5	DTF	615-350	22-Feb-2022	15:34:02

REVIEWED
Tyler_Fritz , 2/23/2022, 8:33:18 AM

APPROVED
Amy_Boehm , 2/23/2022, 10:21:54 AM

Dioxin/Furan QC Summary	Acq'd: 22 Feb 2022 04:45 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220221_DF_CC	UTP: 22-Feb-2022 14:52:57 DTF	Checkcode: 063-910-GLS
Sample ID: 25-347-1	Report: 23 Feb 2022 08:08 TF	Datafile: 220221C25

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.24	3.75E+06	0.81	Y	1.18	1.24	5%
12378-PeCDD	33.63	1.48E+07	1.55	Y	1.04	1.06	2%
123478-HxCDD	37.56	1.37E+07	1.23	Y	1.09	1.13	3%
123678-HxCDD	37.68	1.39E+07	1.24	Y	1.15	1.19	4%
123789-HxCDD	37.99	1.46E+07	1.24	Y	1.05	1.06	1%
1234678-HpCDD	40.72	1.34E+07	1.01	Y	1.06	1.06	0%
OCDD	43.41	2.27E+07	0.88	Y	1.13	1.12	0%
2378-TCDF	27.38	5.68E+06	0.78	Y	1.08	1.21	12%
12378-PeCDF	32.17	2.16E+07	1.59	Y	1.02	1.05	2%
23478-PeCDF	33.29	2.09E+07	1.50	Y	1.02	1.03	1%
123478-HxCDF	36.56	2.01E+07	1.26	Y	1.27	1.24	-2%
123678-HxCDF	36.70	2.07E+07	1.27	Y	1.15	1.09	-5%
234678-HxCDF	37.38	1.95E+07	1.27	Y	1.19	1.13	-5%
123789-HxCDF	38.35	1.79E+07	1.27	Y	1.16	1.12	-3%
1234678-HpCDF	39.78	1.84E+07	1.03	Y	1.37	1.36	-1%
1234789-HpCDF	41.17	1.65E+07	1.01	Y	1.31	1.33	1%
OCDF	43.58	2.76E+07	0.93	Y	1.07	1.06	-1%
ES 2378-TCDD	28.22	3.03E+07	0.83	Y	1.05	1.00	-4%
ES 12378-PeCDD	33.614	2.80E+07	1.54	Y	0.88	0.93	5%
ES 123478-HxCDD	37.549	2.43E+07	1.15	Y	0.97	0.98	1%
ES 123678-HxCDD	37.668	2.32E+07	1.16	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.974	2.77E+07	1.19	Y	1.09	1.11	2%
ES 1234678-HpCDD	40.704	2.54E+07	0.99	Y	0.91	1.02	12%
ES OCDD	43.4	4.03E+07	0.89	Y	0.62	0.81	30%
ES 2378-TCDF	27.354	4.68E+07	0.78	Y	1.06	1.00	-5%
ES 12378-PeCDF	32.153	4.14E+07	1.47	Y	0.91	0.89	-3%
ES 23478-PeCDF	33.274	4.05E+07	1.48	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.542	3.22E+07	0.53	Y	1.20	1.30	8%
ES 123678-HxCDF	36.682	3.79E+07	0.53	Y	1.35	1.53	13%
ES 234678-HxCDF	37.358	3.47E+07	0.52	Y	1.24	1.39	12%
ES 123789-HxCDF	38.338	3.19E+07	0.54	Y	1.16	1.28	11%
ES 1234678-HpCDF	39.764	2.71E+07	0.45	Y	0.97	1.09	13%
ES 1234789-HpCDF	41.158	2.49E+07	0.44	Y	0.85	1.00	17%
ES OCDF	43.571	5.21E+07	0.87	Y	0.81	1.05	30%

Dioxin/Furan QC Summary	Acq'd: 22 Feb 2022 04:45 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220221_DF_CC	UTP: 22-Feb-2022 14:52:57 DTF	Checkcode: 063-910-GLS
Sample ID: 25-347-1	Report: 23 Feb 2022 08:08 TF	Datafile: 220221C25

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.55	3.03E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.97	4.67E+07	0.77	Y	-	-	-
JS 123467-HxCDD	37.87	1.24E+07	1.24	Y	-	-	-
CS 37Cl-2378-TCDD	28.24	3.75E+06	n/a	-	1.20	1.24	3%
CS 12347-PeCDD	33.11	2.59E+07	1.62	Y	0.75	0.86	14%
CS 12346-PeCDF	31.62	4.00E+07	1.50	Y	0.85	0.86	1%
CS 123469-HxCDF	37.00	3.39E+07	0.52	Y	1.12	1.36	22%
CS 1234689-HpCDF	40.17	2.83E+07	0.47	Y	0.89	1.14	28%
SS 37Cl-2378-TCDD	28.24	3.75E+06	n/a	-	1.15	1.24	8%
SS 12347-PeCDD	33.11	2.59E+07	1.62	Y	0.86	0.93	8%
SS 12346-PeCDF	31.62	4.00E+07	1.50	Y	0.94	0.97	3%
SS 123469-HxCDF	37.00	3.39E+07	0.52	Y	0.83	0.89	8%
SS 1234689-HpCDF	40.17	2.83E+07	0.47	Y	0.92	1.04	14%
OCDD-a	43.41	1.19E+06	2.05	N	0.07	0.06	-18%
OCDF-a	43.58	1.77E+06	2.59	Y	0.07	0.07	2%

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220221C25 Analysis Date: 22-FEB-2022 04:45:14

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.81	0.65 - 0.89	Y	10.5	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32 - 1.78	Y	51.1	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.23	1.05 - 1.43	Y	51.7	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	52	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	50.5	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.01	0.88 - 1.20	Y	49.8	43 - 58	Y
OCDD	M+2/M+4	0.88	0.76 - 1.02	Y	99.8	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.78	0.65 - 0.89	Y	11.2	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32 - 1.78	Y	51	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.50	1.32 - 1.78	Y	50.7	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	49	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.27	1.05 - 1.43	Y	47.4	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.27	1.05 - 1.43	Y	47.4	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.27	1.05 - 1.43	Y	48.3	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	49.5	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.01	0.88 - 1.20	Y	50.7	43 - 58	Y
OCDF	M+2/M+4	0.93	0.76 - 1.02	Y	98.7	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 23 Feb 2022 08:08 Analyst: TF

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

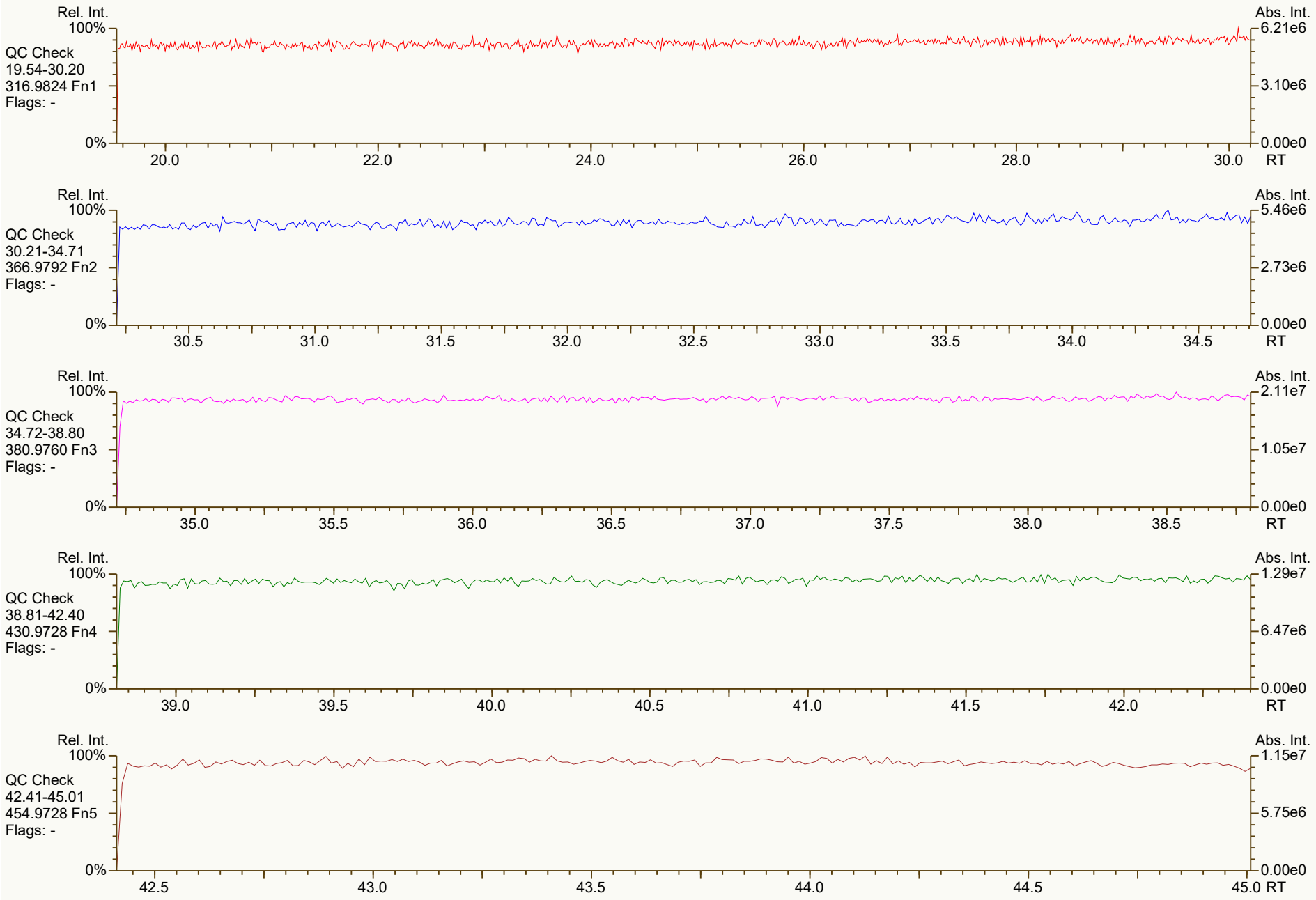
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

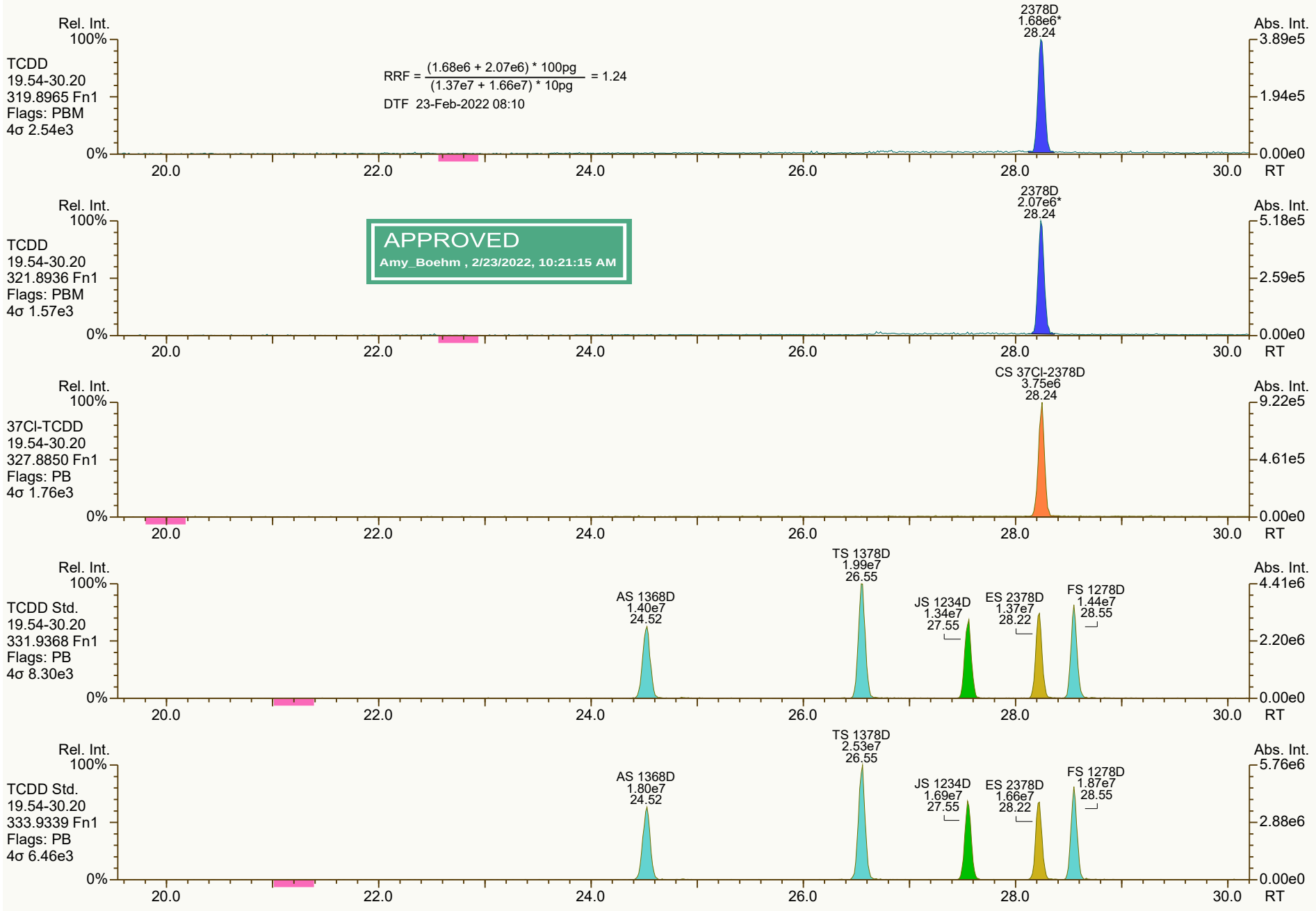
Instrument ID: HRMS3 GC Column ID: ZB-5ms

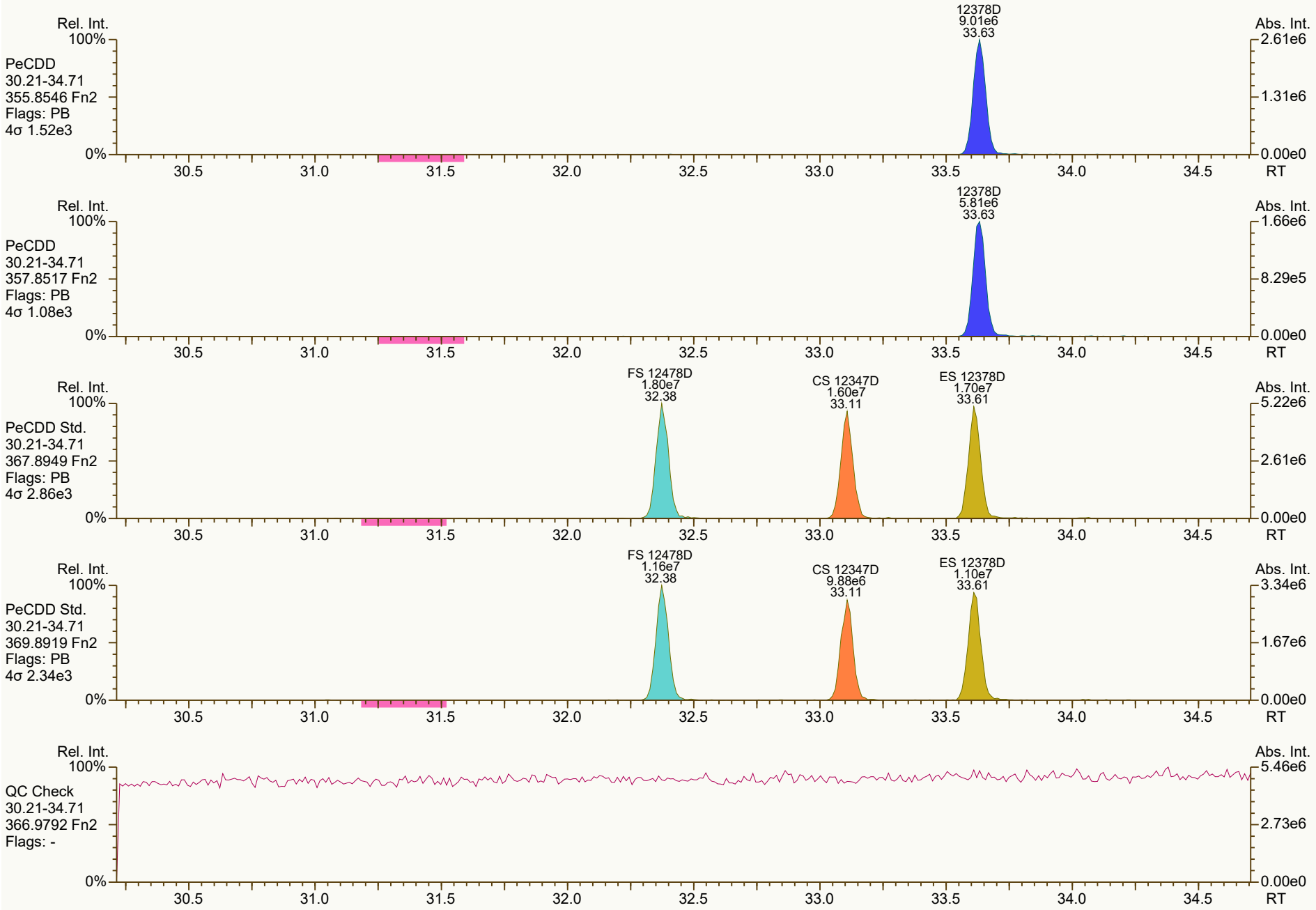
VER Data Filename: 220221C25 Analysis Date: 22-FEB-2022 04:45:14

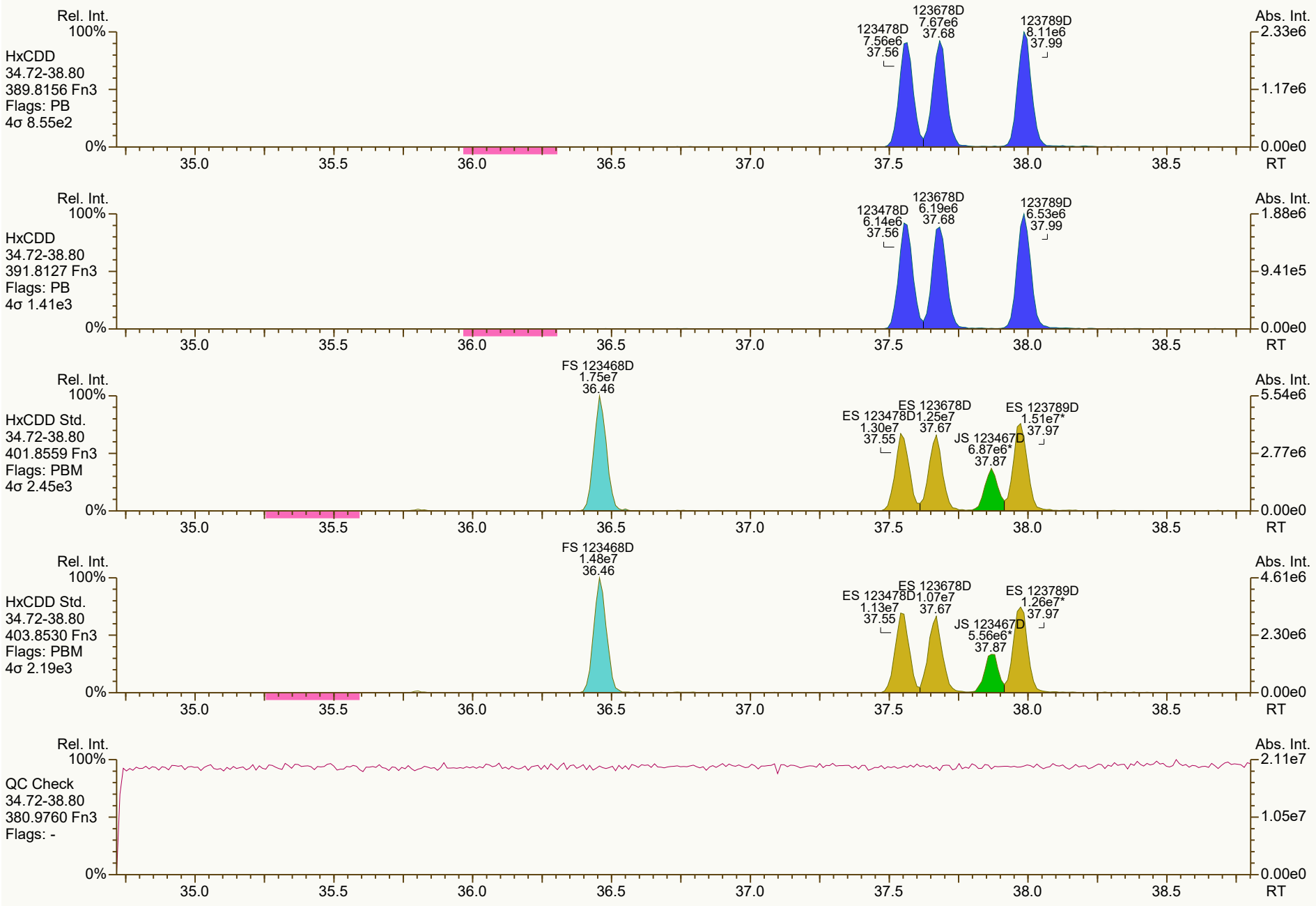
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.83	0.65	-	0.89	Y	95.7	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.54	1.32	-	1.78	Y	105	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.15	1.05	-	1.43	Y	101	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.16	1.05	-	1.43	Y	98.9	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.19	1.05	-	1.43	Y	102	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	0.99	0.88	-	1.20	Y	112	72	-	138	Y
13C-OCDD	M+2/M+4	0.89	0.76	-	1.02	Y	260	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.78	0.65	-	0.89	Y	94.6	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.47	1.32	-	1.78	Y	97.4	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.48	1.32	-	1.78	Y	98.1	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	108	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	113	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	112	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	111	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	113	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.44	0.37	-	0.51	Y	117	77	-	129	Y
13C-OCDF	M+2/M+4	0.87	0.76	-	1.02	Y	259	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						10.3	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.62	1.32	-	1.78	Y	114	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.50	1.32	-	1.78	Y	101	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	122	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.47	0.37	-	0.51	Y	128	70	-	130	Y

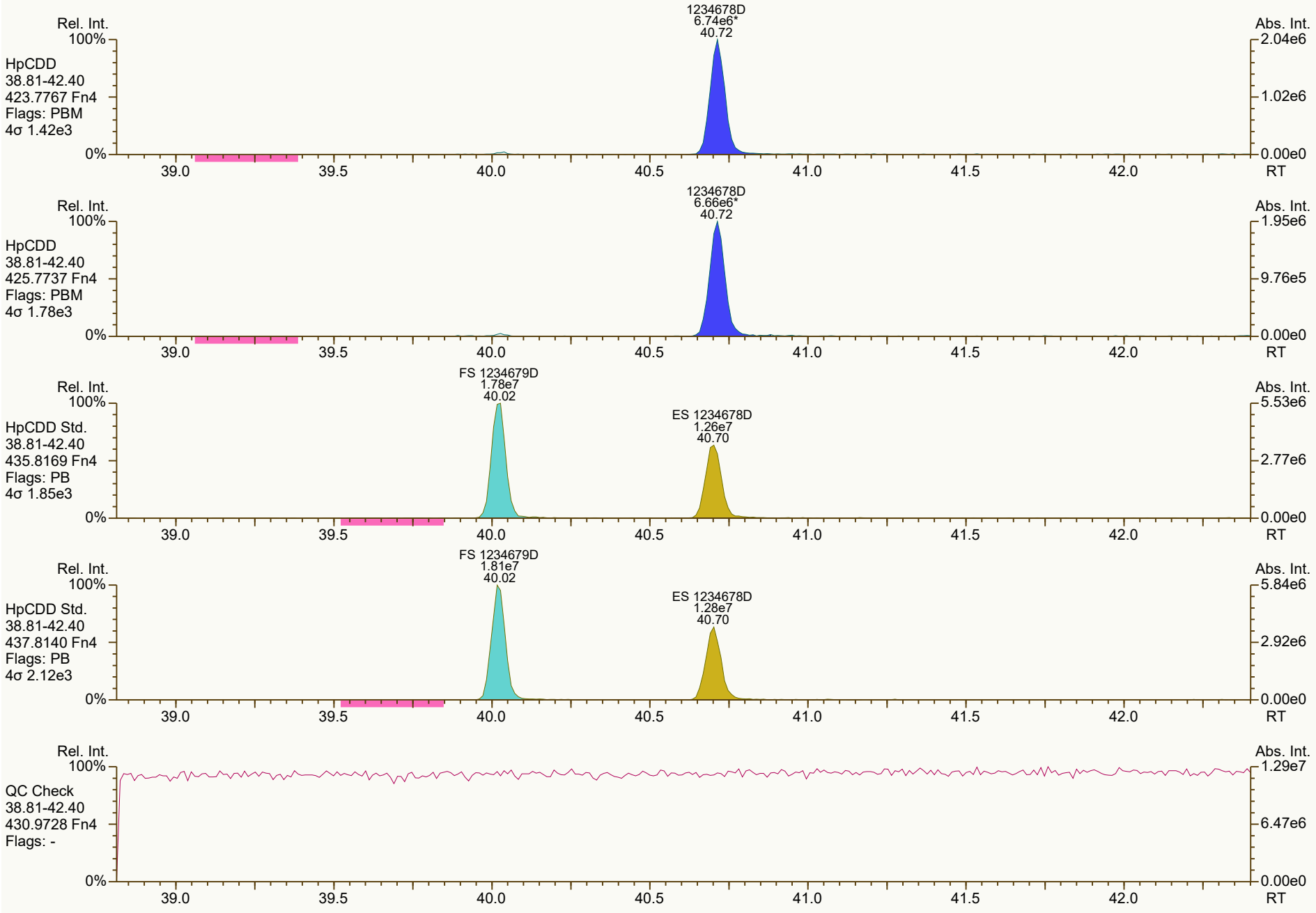
Processed: 23 Feb 2022 08:08 Analyst: TF

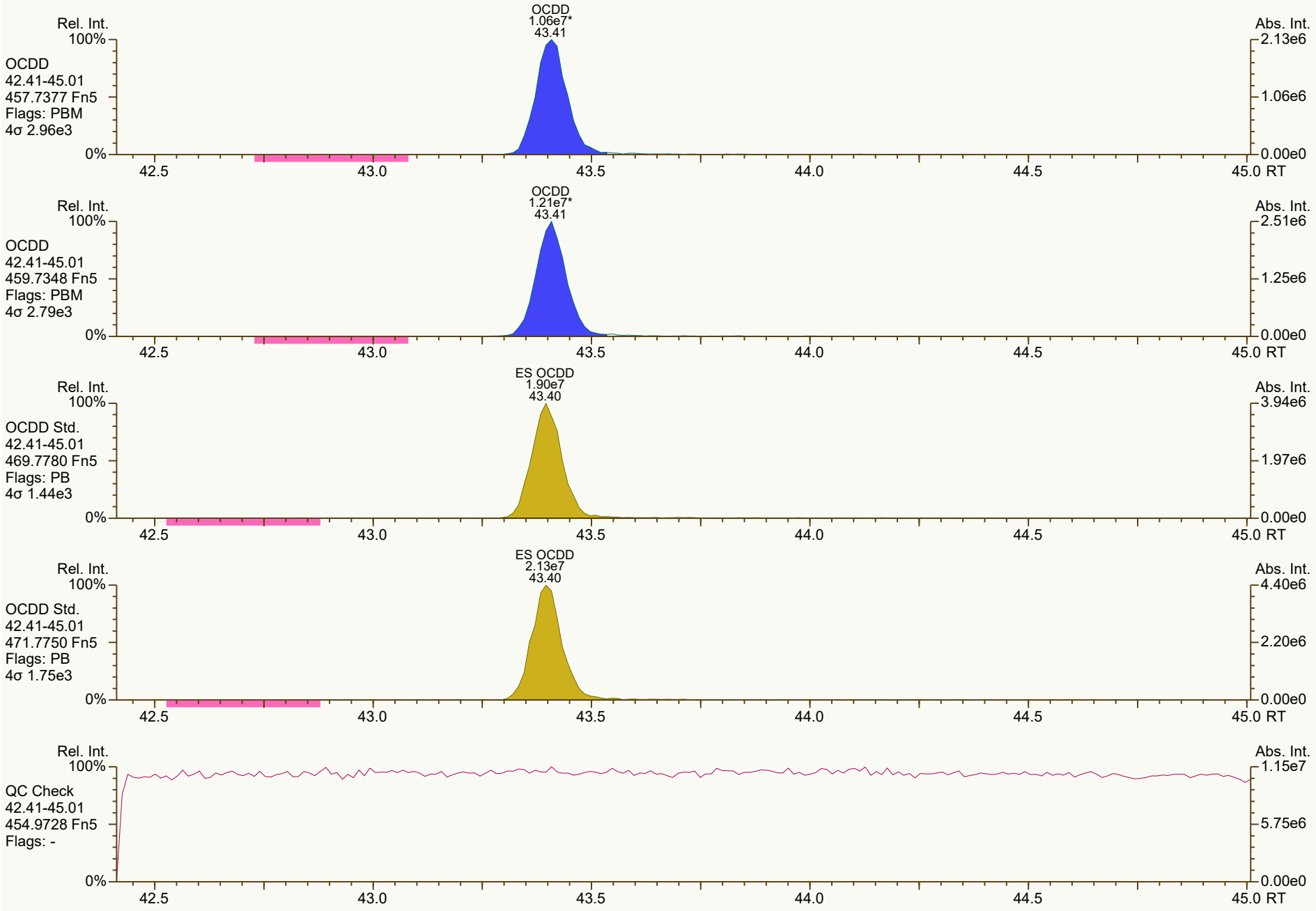

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
6.21e6
3.10e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
5.46e6
2.73e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.11e7
1.05e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.29e7
6.47e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.15e7
5.75e6
0.00e0

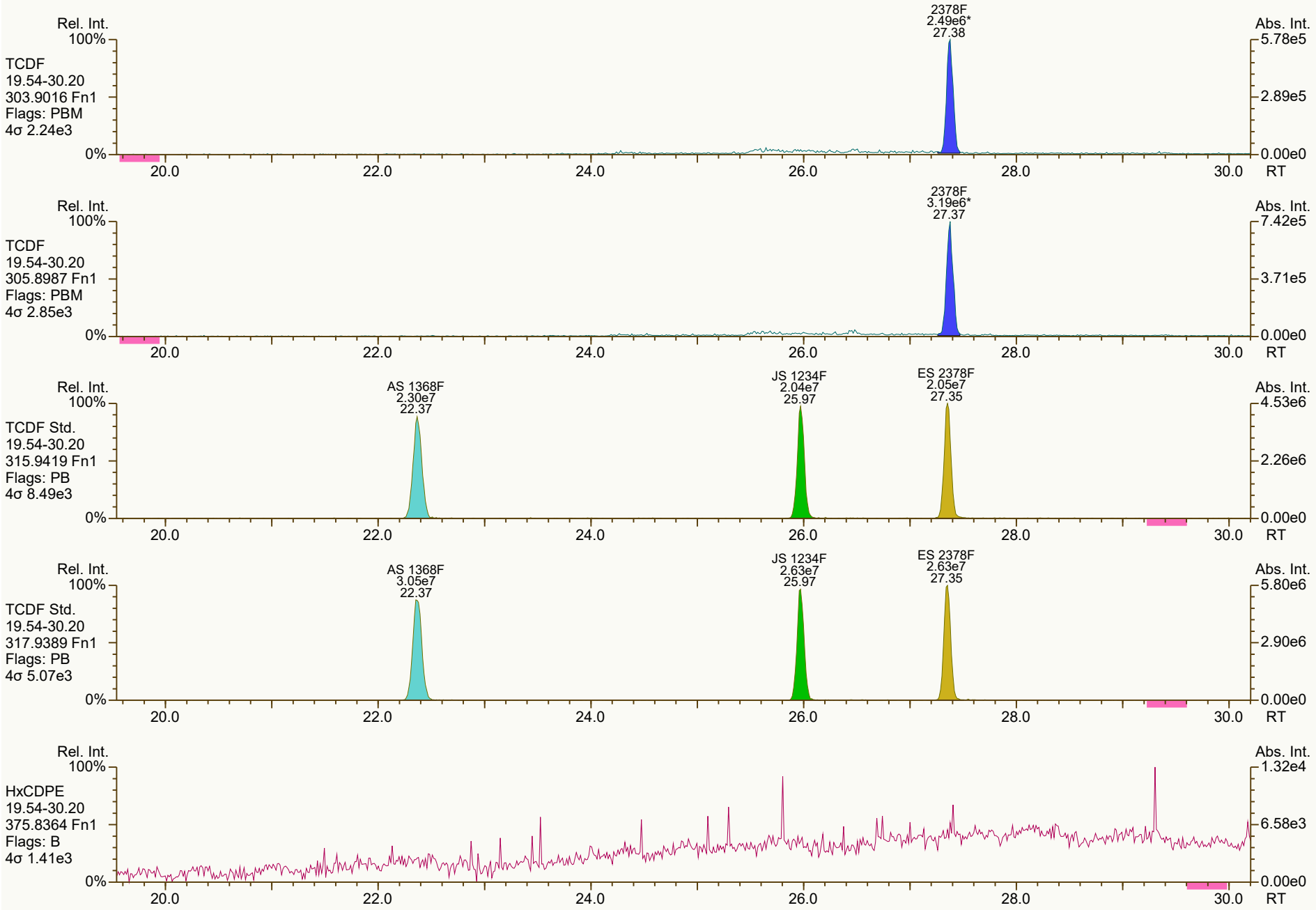

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.54e3
0%
RRF = (1.68e6 + 2.07e6) * 100pg / (1.37e7 + 1.66e7) * 10pg = 1.24
DTF 23-Feb-2022 08:10
2378D
1.68e6*
28.24
Abs. Int.
3.89e5
1.94e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.57e3
APPROVED
Amy_Boehm , 2/23/2022, 10:21:15 AM
2378D
2.07e6*
28.24
Abs. Int.
5.18e5
2.59e5
0.00e0
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.76e3
CS 37Cl-2378D
3.75e6
28.24
Abs. Int.
9.22e5
4.61e5
0.00e0
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 8.30e3
AS 1368D
1.40e7
24.52
TS 1378D
1.99e7
26.55
JS 1234D
1.34e7
27.55
ES 2378D
1.37e7
28.22
FS 1278D
1.44e7
28.55
Abs. Int.
4.41e6
2.20e6
0.00e0
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 6.46e3
AS 1368D
1.80e7
24.52
TS 1378D
2.53e7
26.55
JS 1234D
1.69e7
27.55
ES 2378D
1.66e7
28.22
FS 1278D
1.87e7
28.55
Abs. Int.
5.76e6
2.88e6
0.00e0


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.52e3
0%
12378D
9.01e6
33.63
Abs. Int.
2.61e6
1.31e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.08e3
0%
12378D
5.81e6
33.63
Abs. Int.
1.66e6
8.29e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.86e3
0%
FS 12478D
1.80e7
32.38
CS 12347D
1.60e7
33.11
ES 12378D
1.70e7
33.61
Abs. Int.
5.22e6
2.61e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.34e3
0%
FS 12478D
1.16e7
32.38
CS 12347D
9.88e6
33.11
ES 12378D
1.10e7
33.61
Abs. Int.
3.34e6
1.67e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.46e6
2.73e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

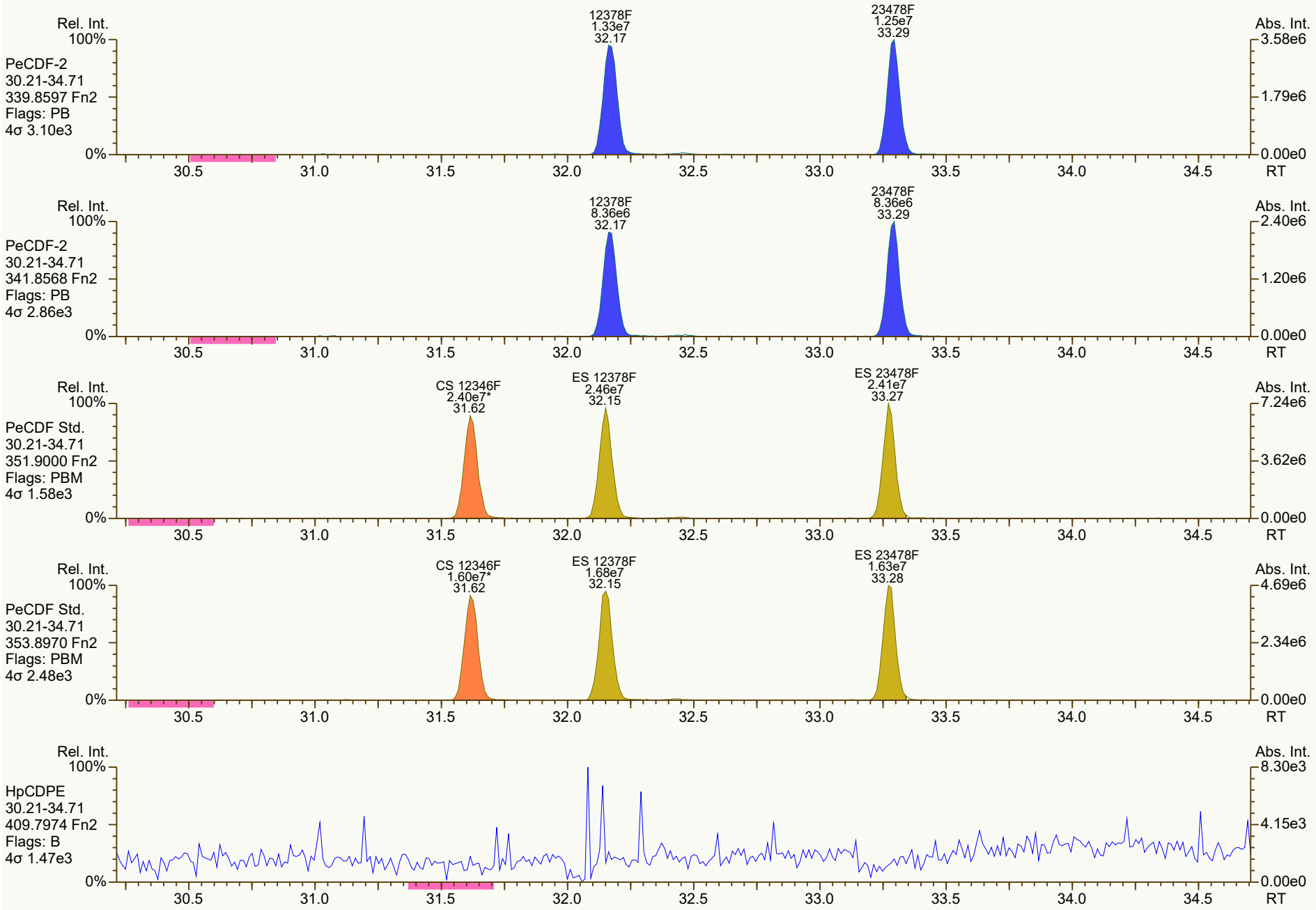

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 8.55e2
123478D
7.56e6
37.56
123678D
7.67e6
37.68
123789D
8.11e6
37.99
Abs. Int.
2.33e6
1.17e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.41e3
123478D
6.14e6
37.56
123678D
6.19e6
37.68
123789D
6.53e6
37.99
Abs. Int.
1.88e6
9.41e5
0.00e0
0%
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 2.45e3
FS 123468D
1.75e7
36.46
ES 123478D
1.30e7
37.55
ES 123678D
1.25e7
37.67
JS 123467D
6.87e6*
37.87
ES 123789D
1.51e7*
37.97
Abs. Int.
5.54e6
2.77e6
0.00e0
0%
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 2.19e3
FS 123468D
1.48e7
36.46
ES 123478D
1.13e7
37.55
ES 123678D
1.07e7
37.67
JS 123467D
5.56e6*
37.87
ES 123789D
1.26e7*
37.97
Abs. Int.
4.61e6
2.30e6
0.00e0
0%
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
RT

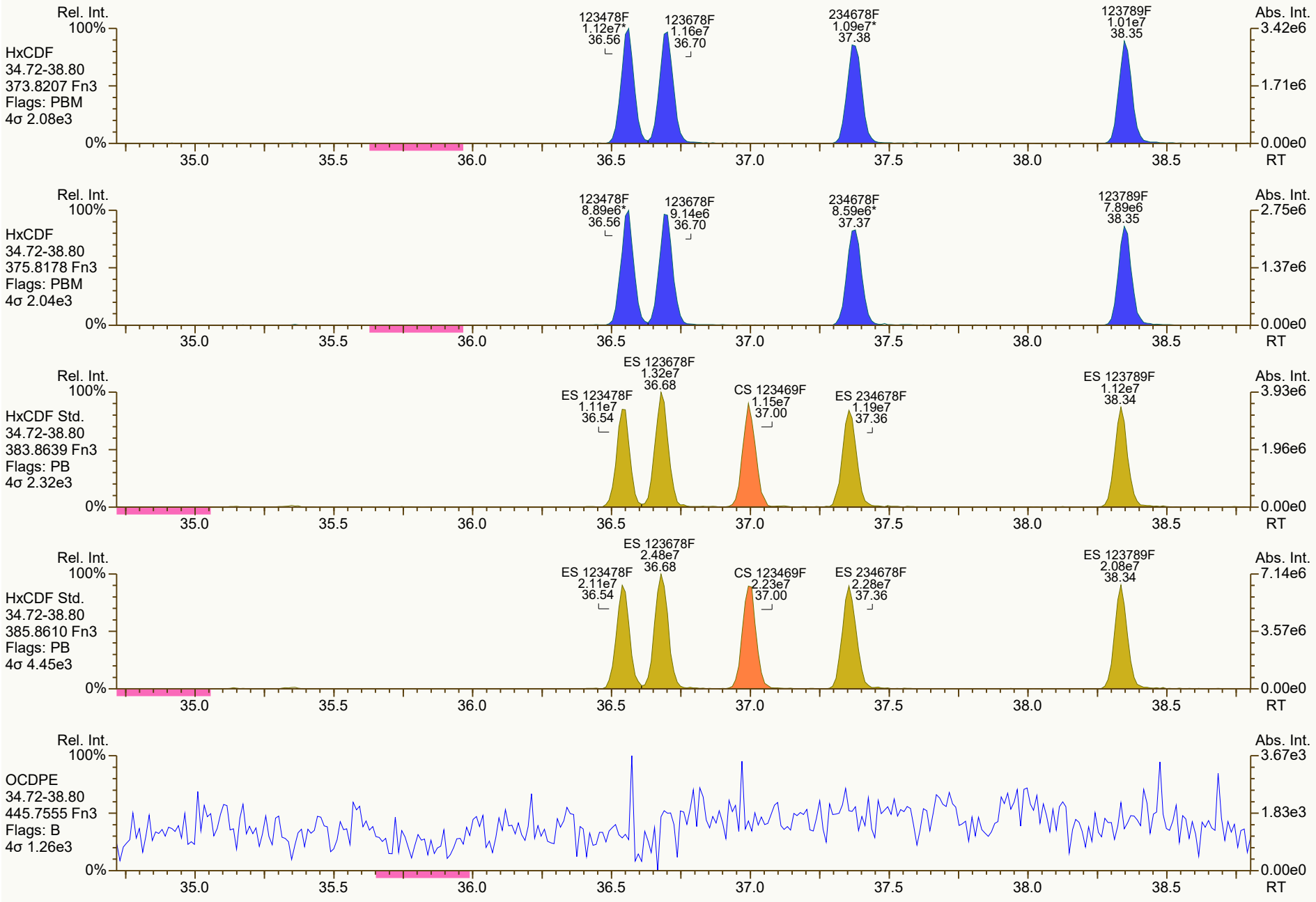

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 1.42e3
1234678D
6.74e6*
40.72
Abs. Int.
2.04e6
1.02e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 1.78e3
1234678D
6.66e6*
40.72
Abs. Int.
1.95e6
9.76e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 1.85e3
FS 1234679D
1.78e7
40.02
ES 1234678D
1.26e7
40.70
Abs. Int.
5.53e6
2.77e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.12e3
FS 1234679D
1.81e7
40.02
ES 1234678D
1.28e7
40.70
Abs. Int.
5.84e6
2.92e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.29e7
6.47e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

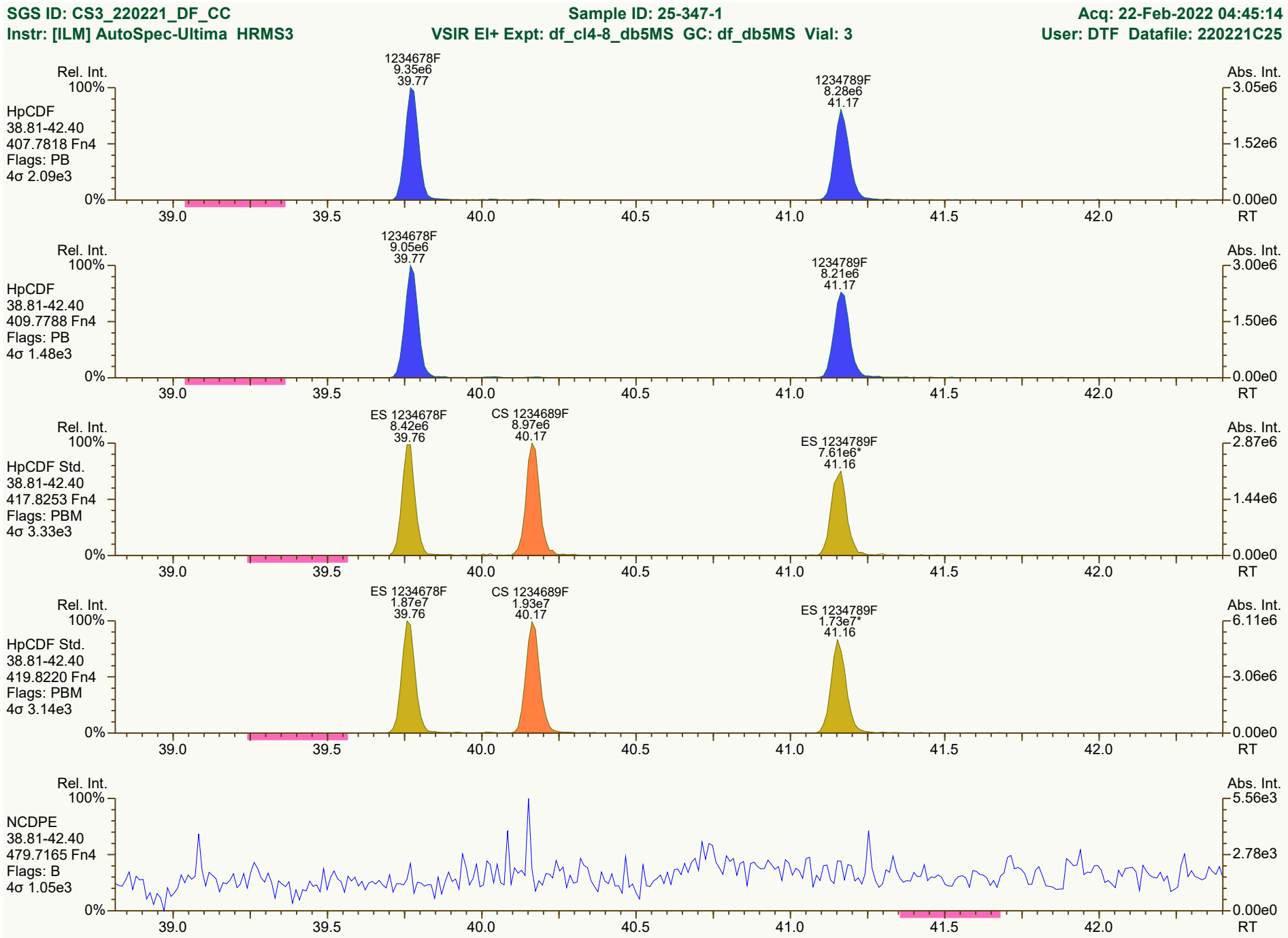

OCDD
1.06e7*
43.41
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 2.96e3
0%
Abs. Int.
2.13e6
1.06e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.21e7*
43.41
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 2.79e3
2.51e6
1.25e6
ES OCDD
1.90e7
43.40
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 1.44e3
3.94e6
1.97e6
ES OCDD
2.13e7
43.40
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.75e3
4.40e6
2.20e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.15e7
5.75e6


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 2.24e3
0%
2378F
2.49e6*
27.38
Abs. Int.
5.78e5
2.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.85e3
0%
2378F
3.19e6*
27.37
Abs. Int.
7.42e5
3.71e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 8.49e3
0%
AS 1368F
2.30e7
22.37
JS 1234F
2.04e7
25.97
ES 2378F
2.05e7
27.35
Abs. Int.
4.53e6
2.26e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 5.07e3
0%
AS 1368F
3.05e7
22.37
JS 1234F
2.63e7
25.97
ES 2378F
2.63e7
27.35
Abs. Int.
5.80e6
2.90e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.41e3
0%
Abs. Int.
1.32e4
6.58e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

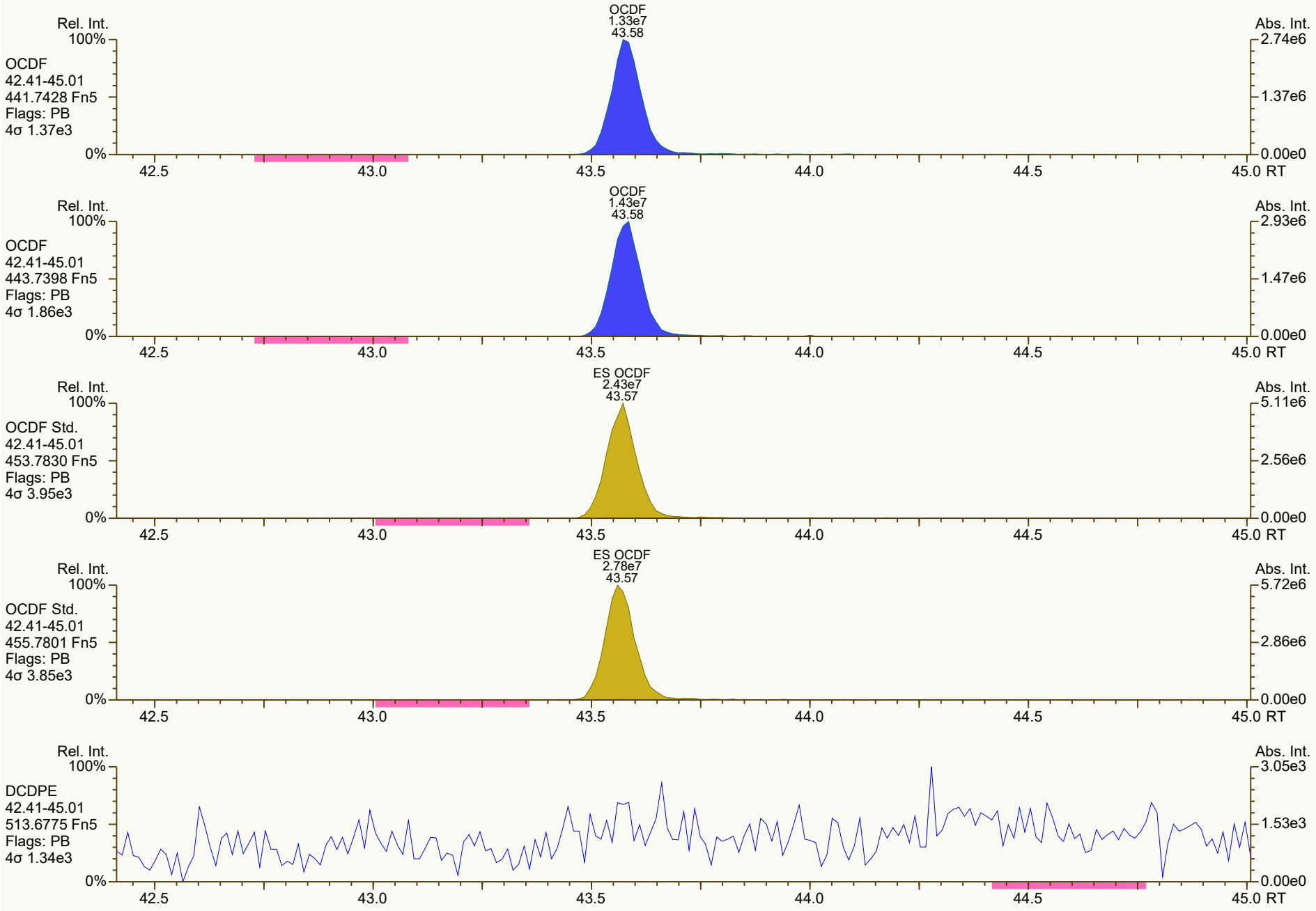

Rel. Int.
100%
0%
Abs. Int.
1.16e4
5.78e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.23e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.33e4
6.63e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 2.15e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
6.21e6
3.10e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT

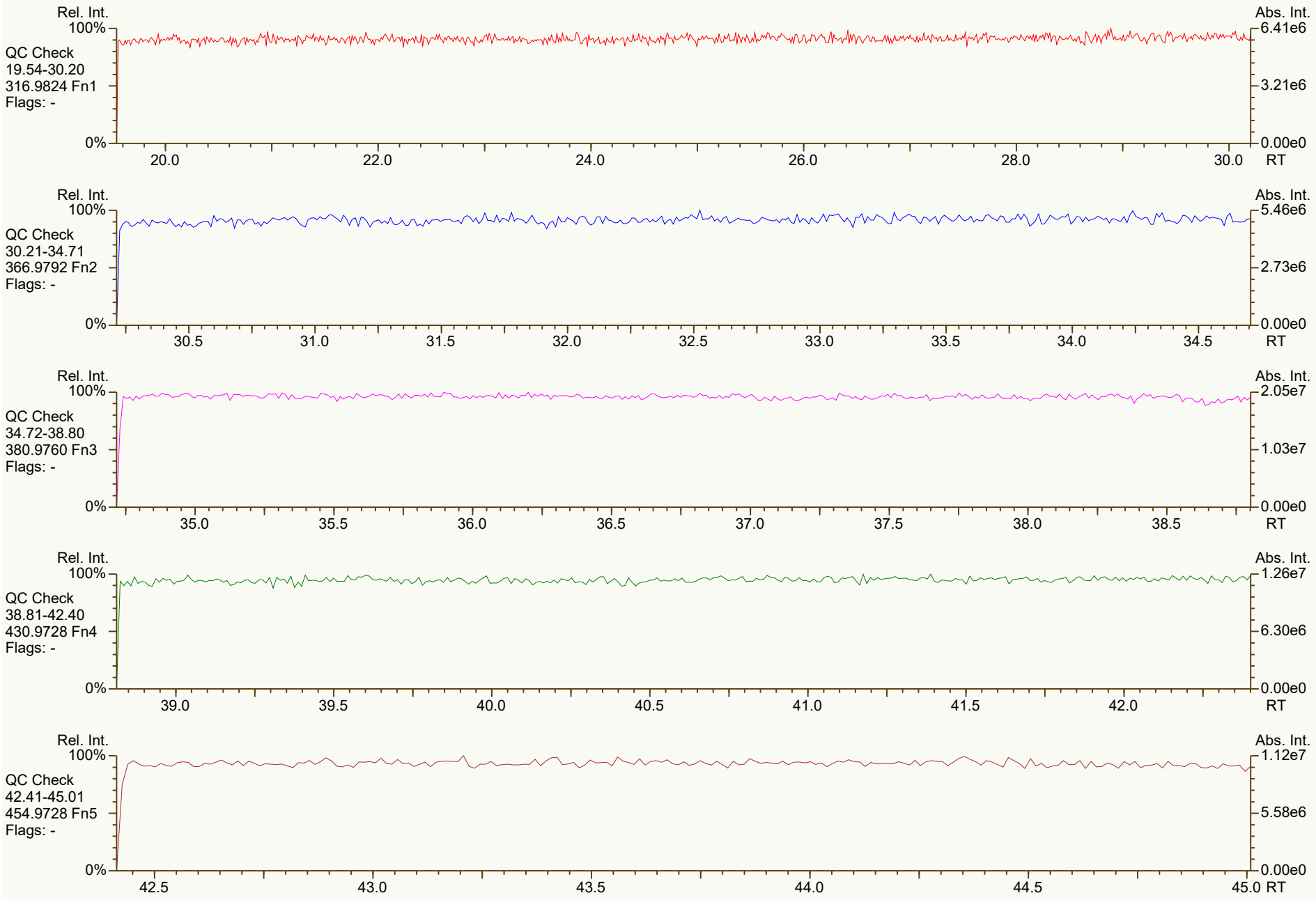

Rel. Int.
100%
0%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 3.10e3
12378F
1.33e7
32.17
23478F
1.25e7
33.29
Abs. Int.
3.58e6
1.79e6
0.00e0
RT
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 2.86e3
12378F
8.36e6
32.17
23478F
8.36e6
33.29
2.40e6
1.20e6
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PBM
4σ 1.58e3
CS 12346F
2.40e7*
31.62
ES 12378F
2.46e7
32.15
ES 23478F
2.41e7
33.27
7.24e6
3.62e6
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PBM
4σ 2.48e3
CS 12346F
1.60e7*
31.62
ES 12378F
1.68e7
32.15
ES 23478F
1.63e7
33.28
4.69e6
2.34e6
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.47e3
8.30e3
4.15e3
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5

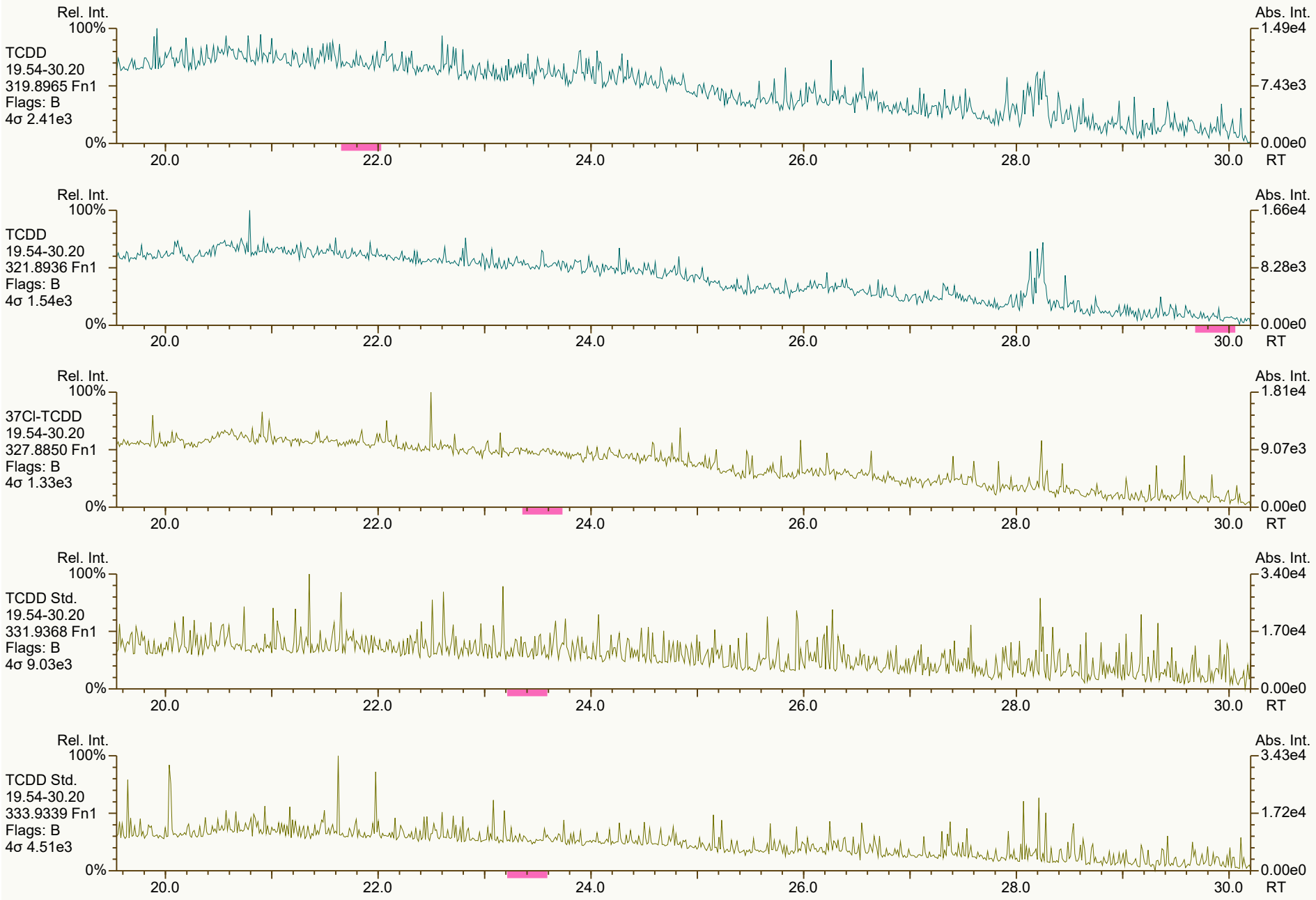

Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 2.08e3
0%
123478F
1.12e7*
36.56
123678F
1.16e7
36.70
234678F
1.09e7*
37.38
123789F
1.01e7
38.35
Abs. Int.
3.42e6
1.71e6
0.00e0
RT
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 2.04e3
123478F
8.89e6*
36.56
123678F
9.14e6
36.70
234678F
8.59e6*
37.37
123789F
7.89e6
38.35
2.75e6
1.37e6
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 2.32e3
ES 123678F
1.32e7
36.68
ES 123478F
1.11e7
36.54
CS 123469F
1.15e7
37.00
ES 234678F
1.19e7
37.36
ES 123789F
1.12e7
38.34
3.93e6
1.96e6
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 4.45e3
ES 123678F
2.48e7
36.68
ES 123478F
2.11e7
36.54
CS 123469F
2.23e7
37.00
ES 234678F
2.28e7
37.36
ES 123789F
2.08e7
38.34
7.14e6
3.57e6
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.26e3
3.67e3
1.83e3

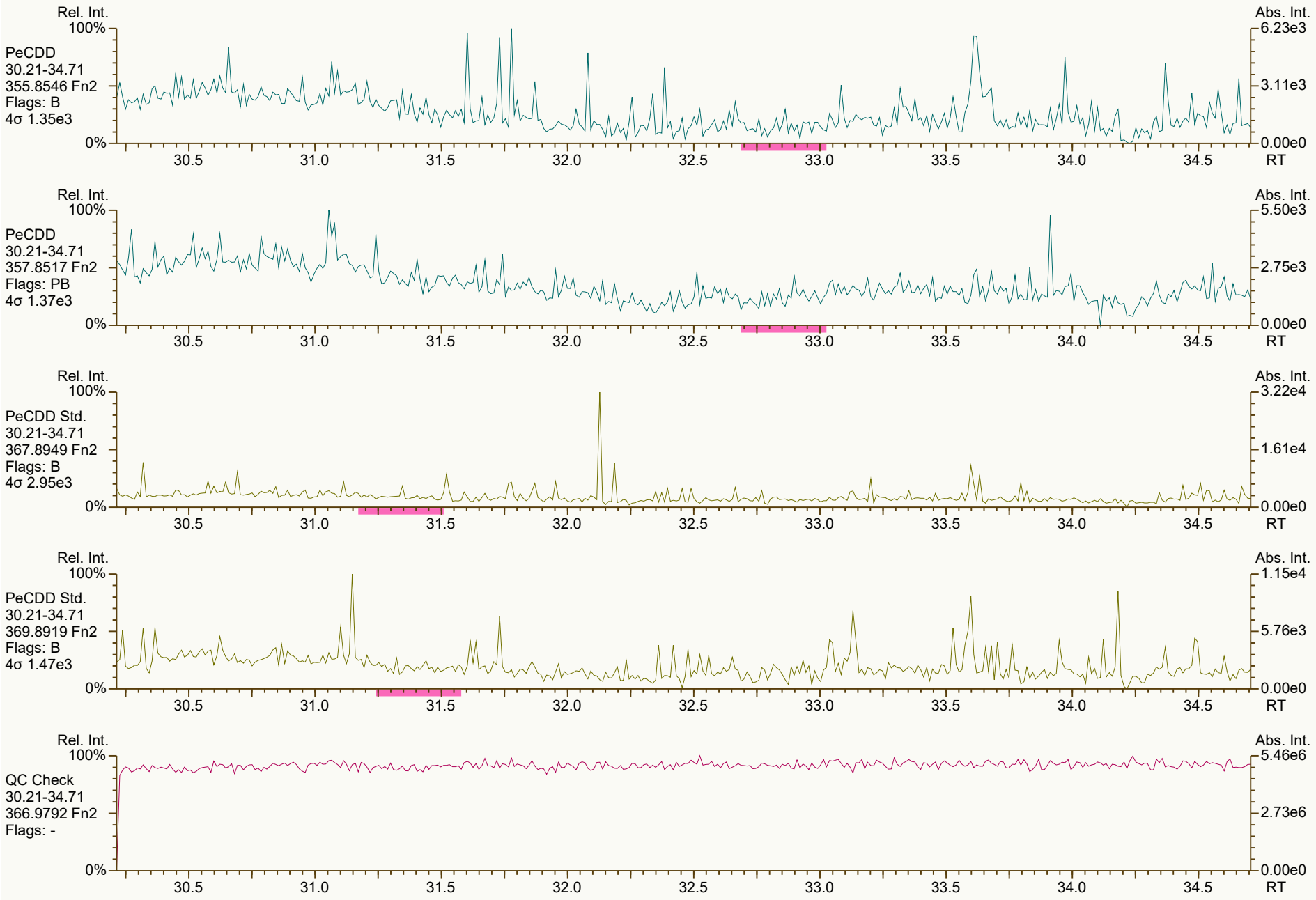


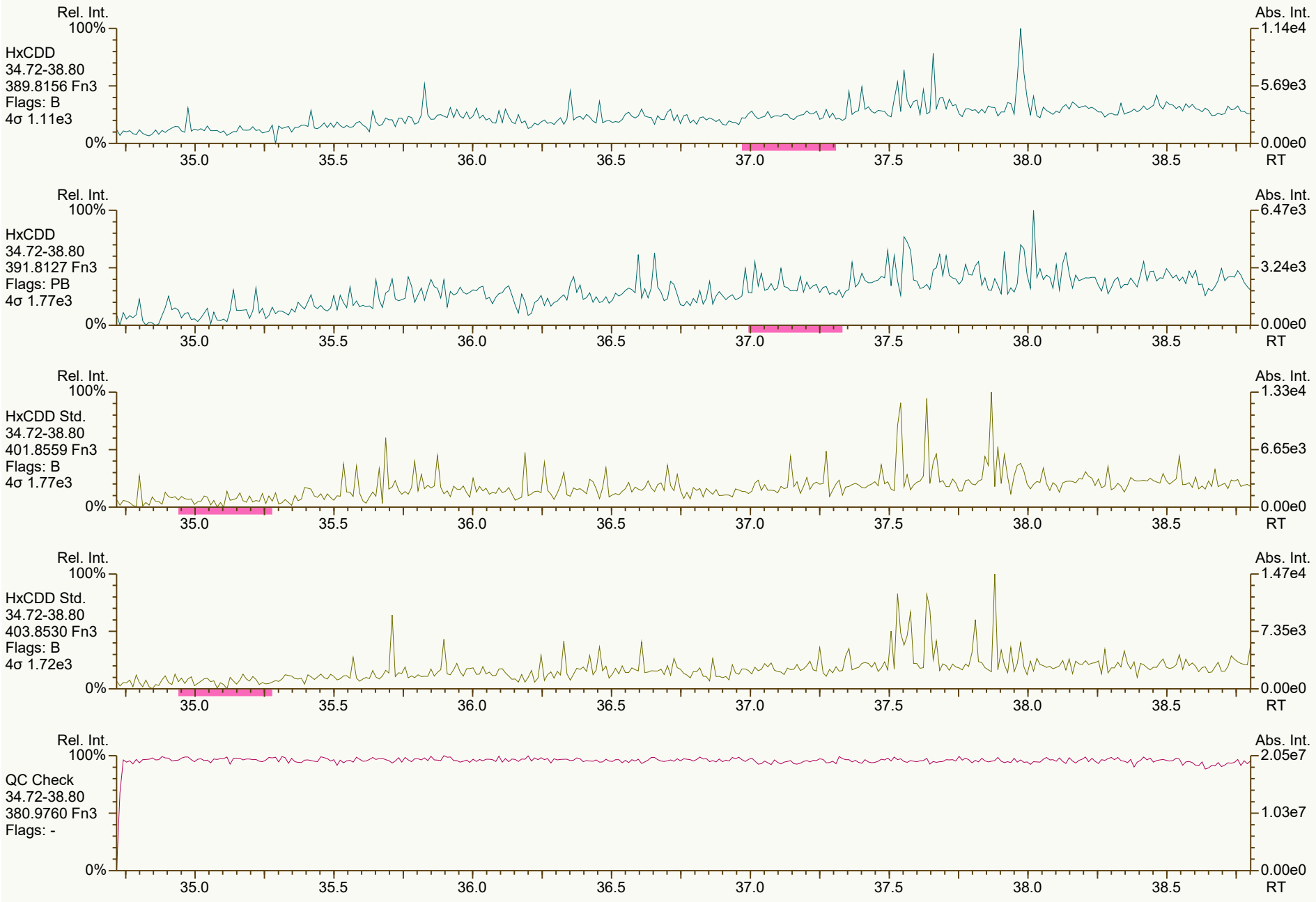
Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\CS3_220221_DF_CC.utp_res, saved 23-Feb-2022 08:10 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4780, 3827, 4394 scc: 063-910
Peak annotation: Areas, Centroids
Revised: 22-Feb-2022 07:59 (DTF) Printed: 23-Feb-2022 08:15 Page 11 of 12

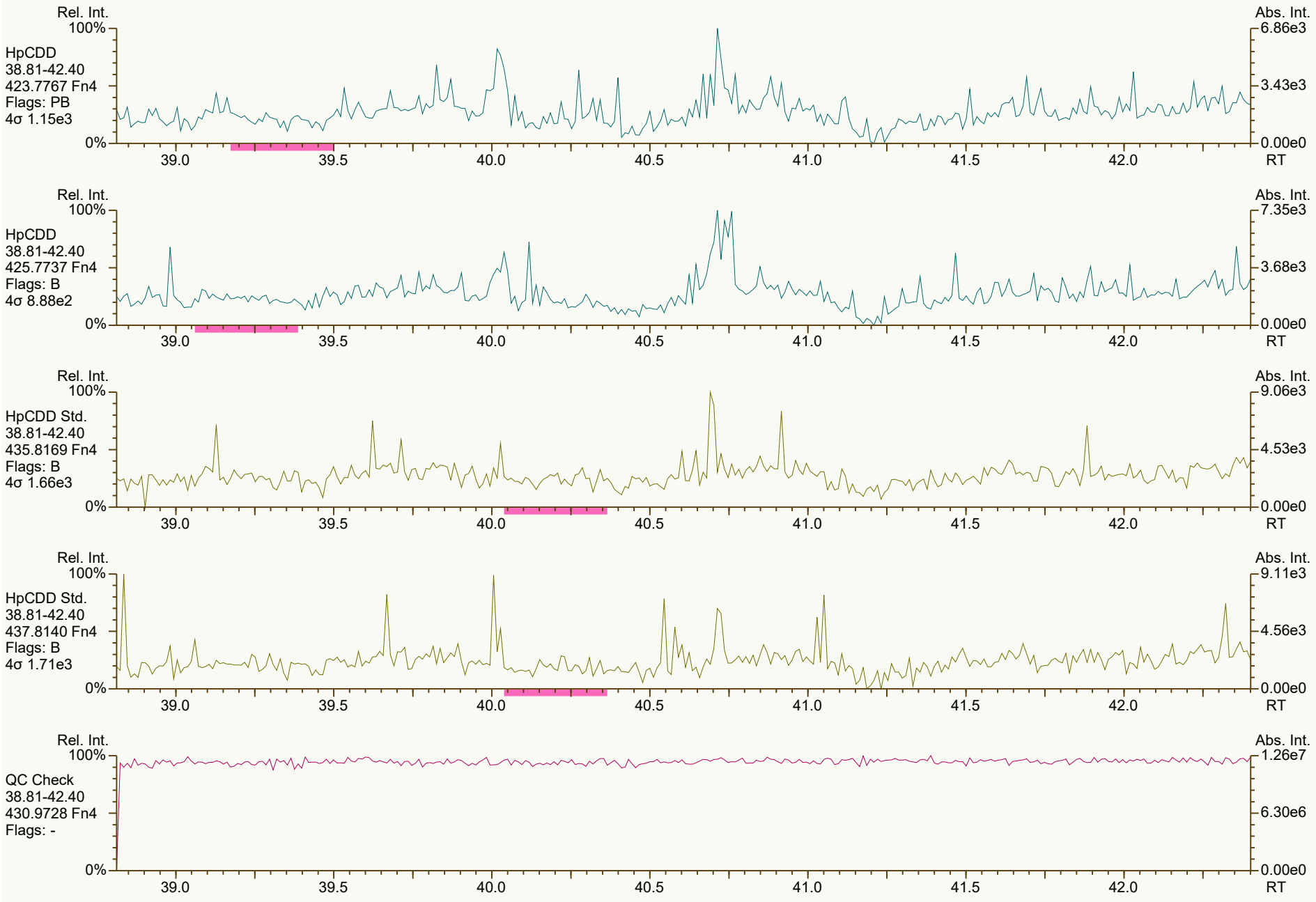

Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.37e3
0%
OCDF
1.33e7
43.58
Abs. Int.
2.74e6
1.37e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.86e3
0%
OCDF
1.43e7
43.58
Abs. Int.
2.93e6
1.47e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 3.95e3
0%
ES OCDF
2.43e7
43.57
Abs. Int.
5.11e6
2.56e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 3.85e3
0%
ES OCDF
2.78e7
43.57
Abs. Int.
5.72e6
2.86e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.34e3
0%
Abs. Int.
3.05e3
1.53e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
6.41e6
3.21e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
5.46e6
2.73e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.05e7
1.03e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.26e7
6.30e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.12e7
5.58e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 2.41e3
0%
Abs. Int.
1.49e4
7.43e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.54e3
0%
Abs. Int.
1.66e4
8.28e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: B
4σ 1.33e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 9.03e3
0%
Abs. Int.
3.40e4
1.70e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 4.51e3
0%
Abs. Int.
3.43e4
1.72e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: B
4σ 1.35e3
0%
Abs. Int.
6.23e3
3.11e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.37e3
0%
Abs. Int.
5.50e3
2.75e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: B
4σ 2.95e3
0%
Abs. Int.
3.22e4
1.61e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: B
4σ 1.47e3
0%
Abs. Int.
1.15e4
5.76e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.46e6
2.73e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: B
4σ 1.11e3
0%
Abs. Int.
1.14e4
5.69e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.77e3
0%
Abs. Int.
6.47e3
3.24e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: B
4σ 1.77e3
0%
Abs. Int.
1.33e4
6.65e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: B
4σ 1.72e3
0%
Abs. Int.
1.47e4
7.35e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.05e7
1.03e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

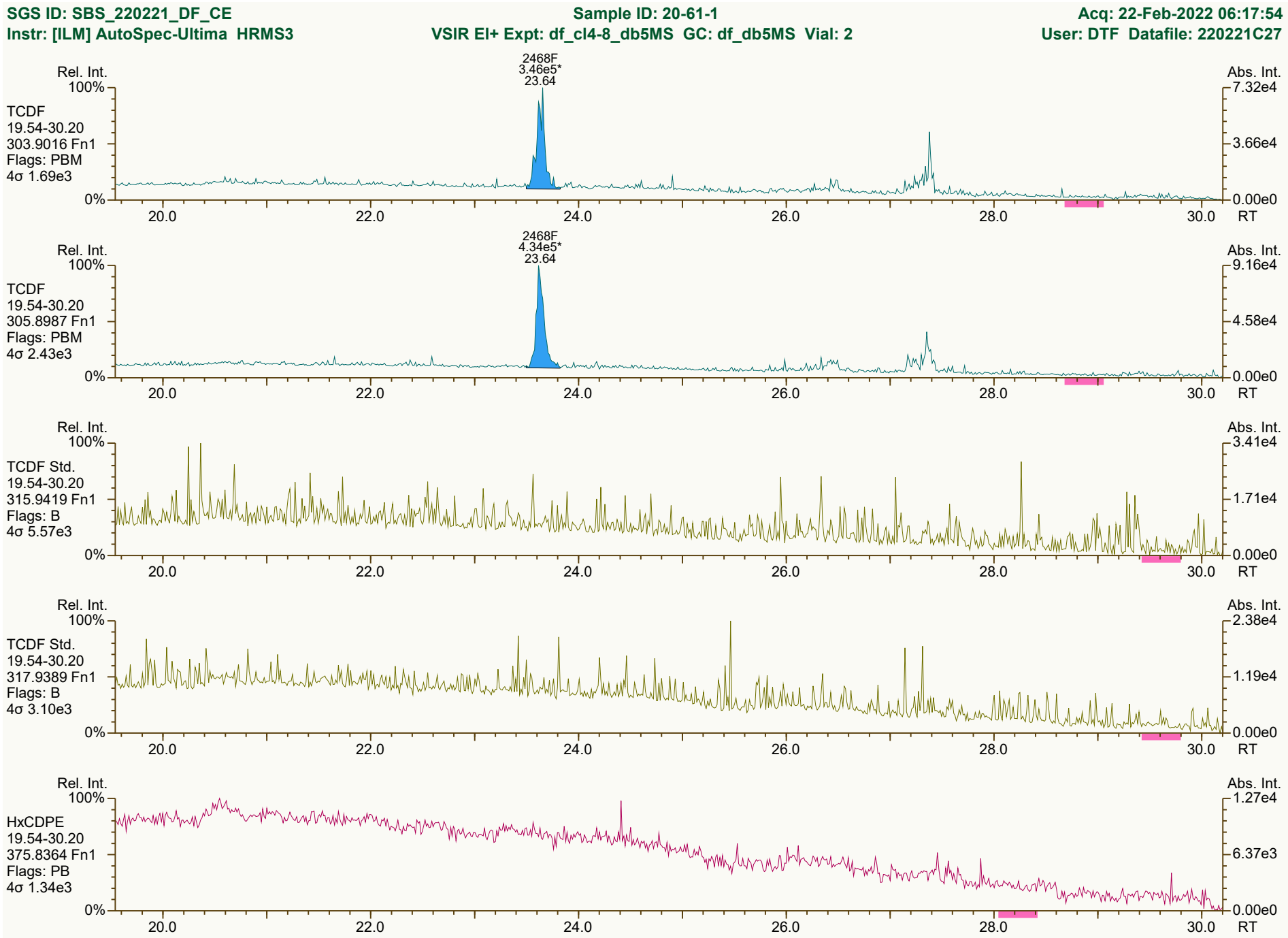

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 1.15e3
0%
Abs. Int.
6.86e3
3.43e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: B
4σ 8.88e2
0%
Abs. Int.
7.35e3
3.68e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: B
4σ 1.66e3
0%
Abs. Int.
9.06e3
4.53e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: B
4σ 1.71e3
0%
Abs. Int.
9.11e3
4.56e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.26e7
6.30e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 1.24e3
0%
Abs. Int.
8.85e3
4.42e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 2.37e3
0%
Abs. Int.
1.40e4
7.00e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: B
4σ 1.54e3
0%
Abs. Int.
1.30e4
6.52e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: B
4σ 1.48e3
0%
Abs. Int.
1.96e4
9.79e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.12e7
5.58e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: SBS_220221_DF_CE
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 20-61-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2

Acq: 22-Feb-2022 06:17:54
User: DTF Datafile: 220221C27

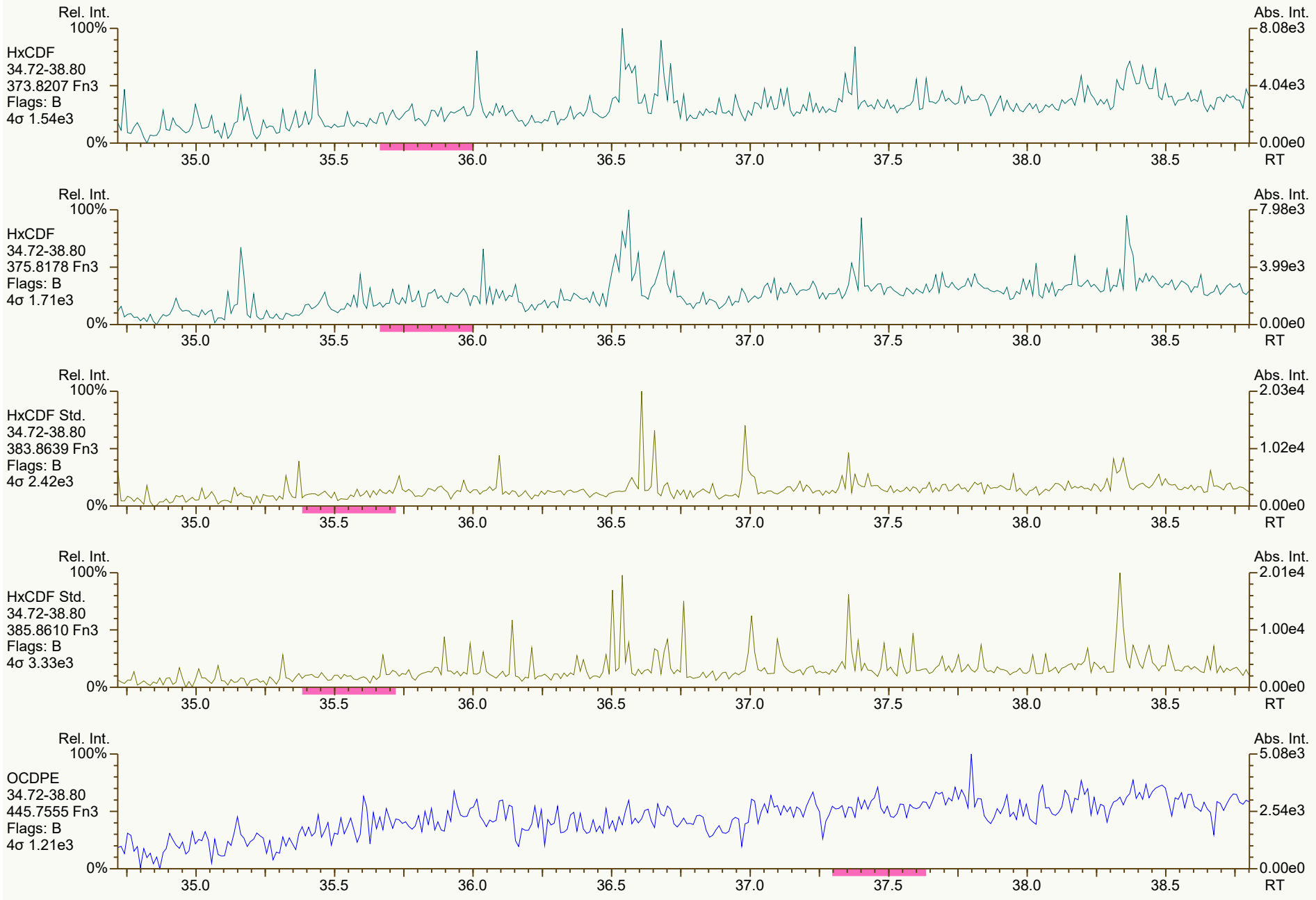


Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\SBS_220221_DF_CE.utp_res, saved 22-Feb-2022 14:45 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5113, 1927, 0509 scc: 215-926

Peak annotation: Areas, Centroids
Revised: 22-Feb-2022 14:45 (DTF) Printed: 23-Feb-2022 08:16 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.74e4
8.71e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.15e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.66e4
8.30e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.59e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
6.41e6
3.21e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: B
4σ 9.36e2
0%
Abs. Int.
1.28e4
6.38e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: B
4σ 1.89e3
0%
Abs. Int.
7.44e3
3.72e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.28e4
6.40e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.92e4
9.58e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.22e3
0%
Abs. Int.
9.01e3
4.50e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: B
4σ 1.54e3
0%
Abs. Int.
8.08e3
4.04e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: B
4σ 1.71e3
0%
Abs. Int.
7.98e3
3.99e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.03e4
1.02e4
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: B
4σ 3.33e3
0%
Abs. Int.
2.01e4
1.00e4
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.21e3
0%
Abs. Int.
5.08e3
2.54e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: B
4σ 1.78e3
0%
Abs. Int.
8.59e3
4.30e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: B
4σ 1.52e3
0%
Abs. Int.
6.05e3
3.03e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: B
4σ 2.57e3
0%
Abs. Int.
2.01e4
1.01e4
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: B
4σ 1.48e3
0%
Abs. Int.
1.49e4
7.44e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.18e3
0%
Abs. Int.
6.75e3
3.38e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.09e3
0%
Abs. Int.
4.70e3
2.35e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: B
4σ 1.62e3
0%
Abs. Int.
7.52e3
3.76e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: B
4σ 1.66e3
0%
Abs. Int.
1.41e4
7.03e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.21e3
0%
Abs. Int.
9.17e3
4.58e3
0.00e0
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43.5
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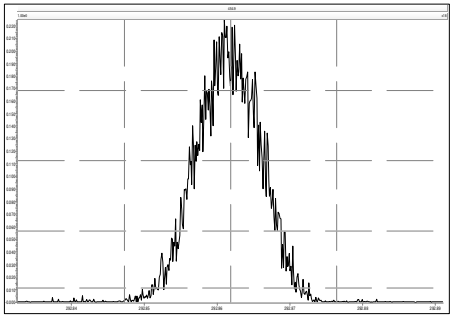
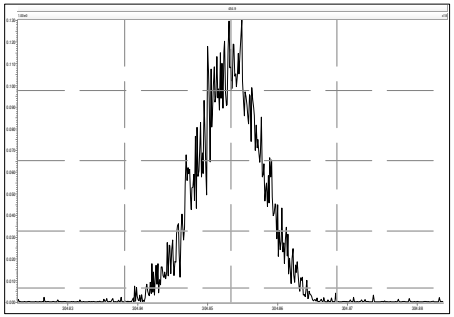
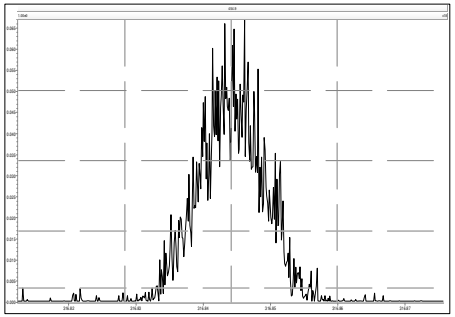
M 292.9824 R 15203



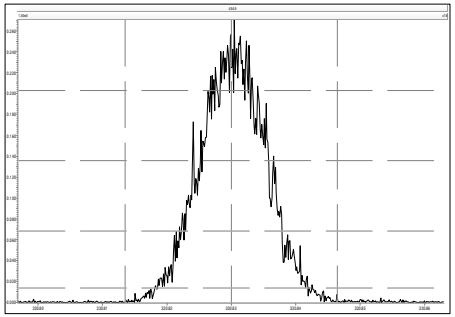
M 304.9824 R 15853



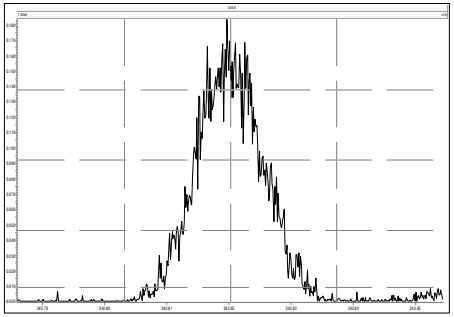
M 316.9824 R 15395



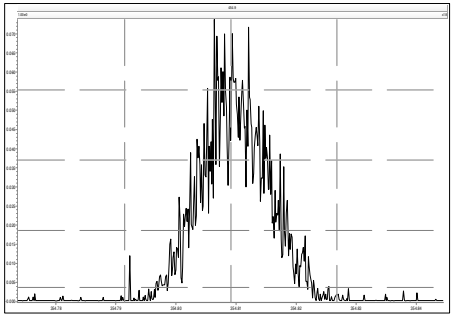
M 330.9792 R 14211



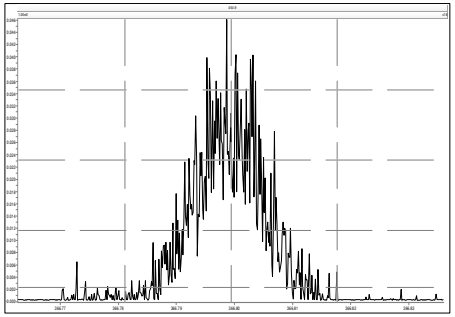
M 342.9792 R 13993



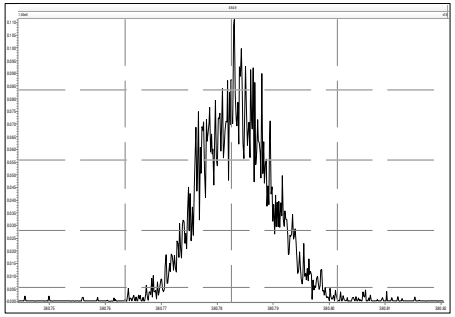
M 354.9792 R 14323



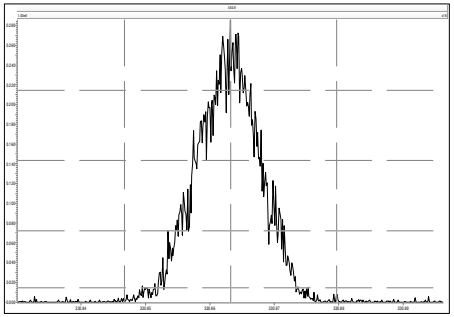
M 366.9792 R 15925



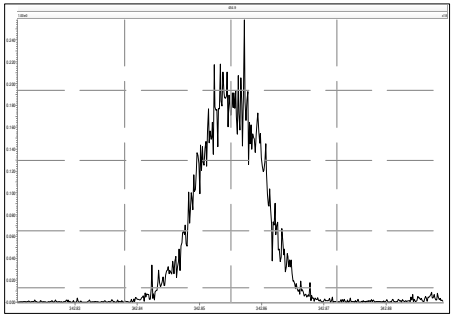
M 380.9760 R 14450



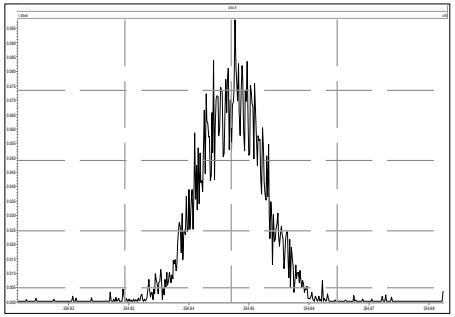
M 330.9792 R 15728



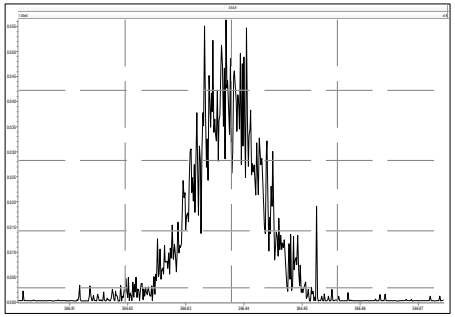
M 342.9792 R 15469



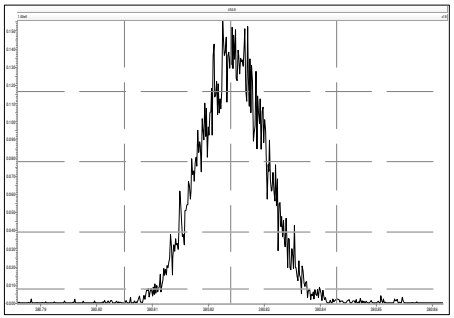
M 354.9792 R 16288



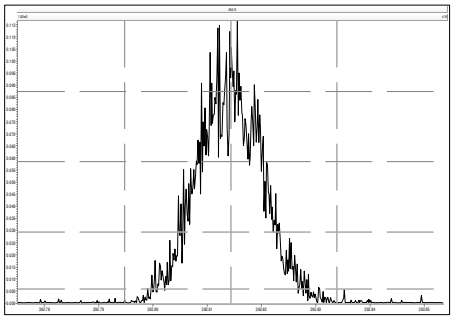
M 366.9792 R 16684



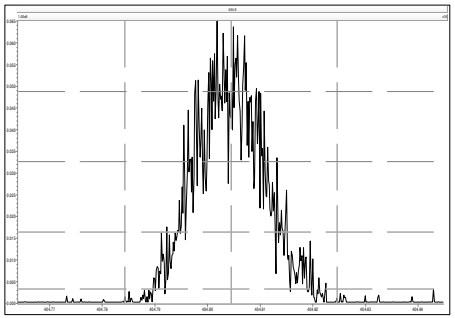
M 380.9760 R 15151



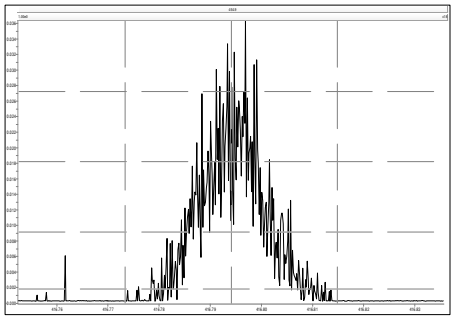
M 392.9760 R 14045



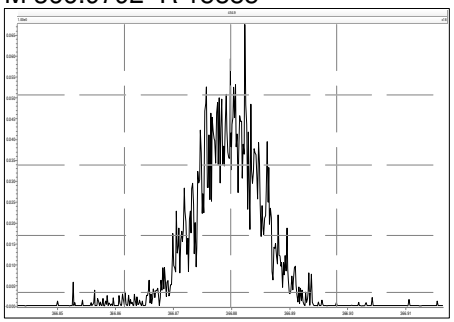
M 404.9760 R 14440



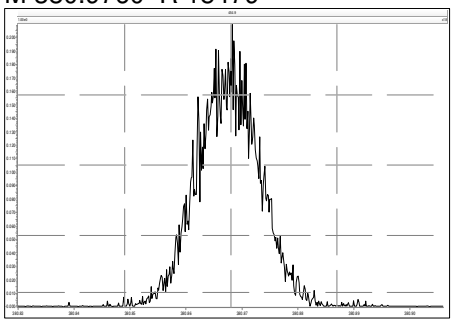
M 416.9760 R 17301



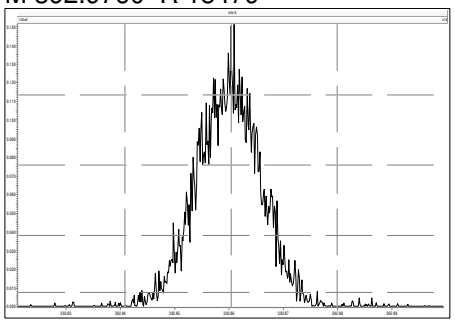
M 366.9792 R 15885



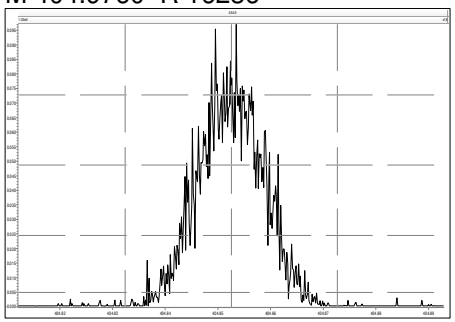
M 380.9760 R 15479



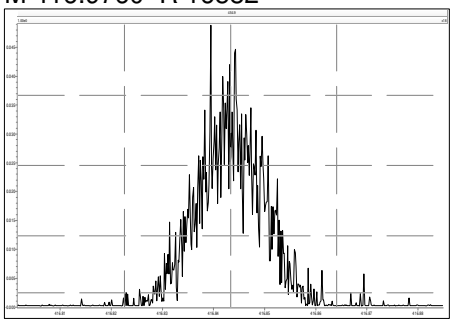
M 392.9760 R 15479



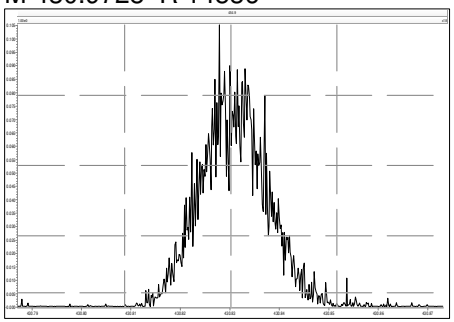
M 404.9760 R 16236



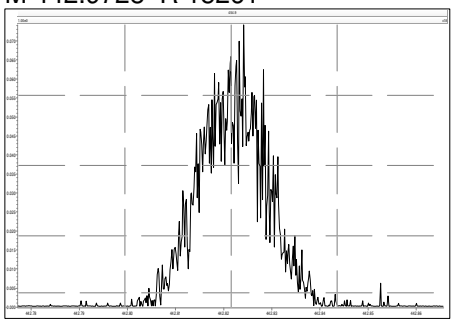
M 416.9760 R 16582



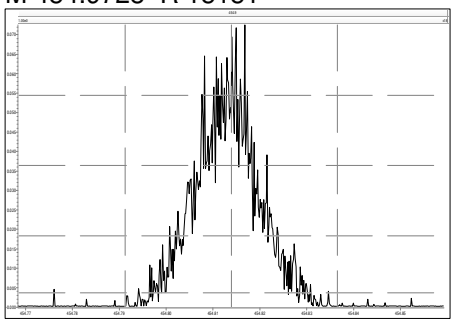
M 430.9728 R 14536



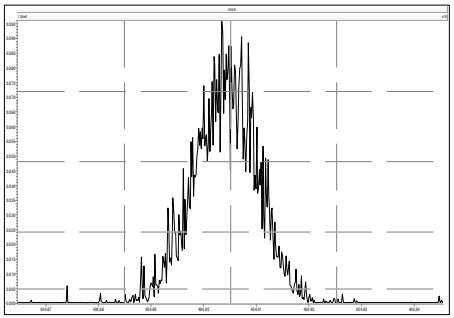
M 442.9728 R 15261



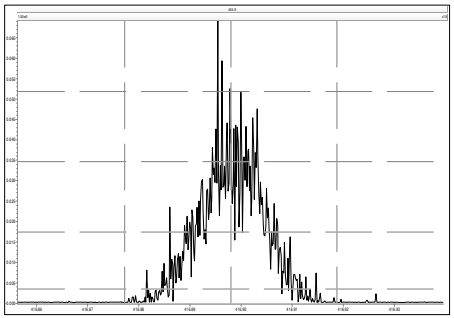
M 454.9728 R 15151



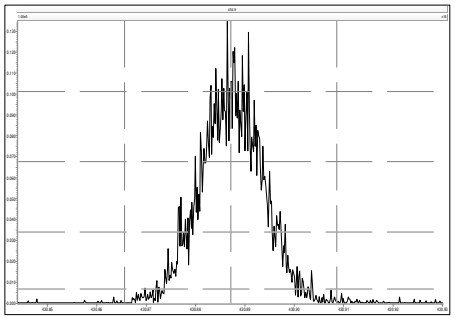
M 404.9760 R 16407



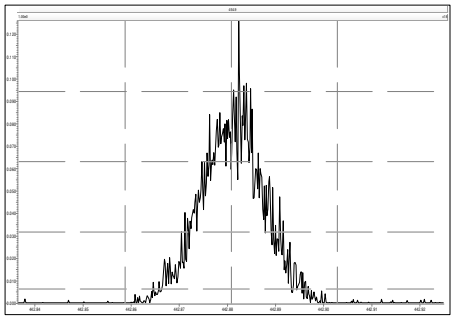
M 416.9760 R 17554



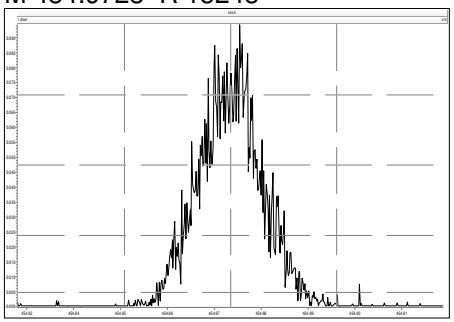
M 430.9728 R 15601



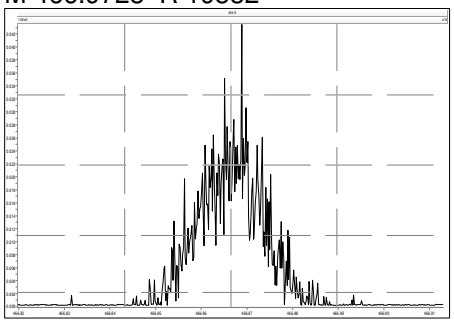
M 442.9728 R 14637



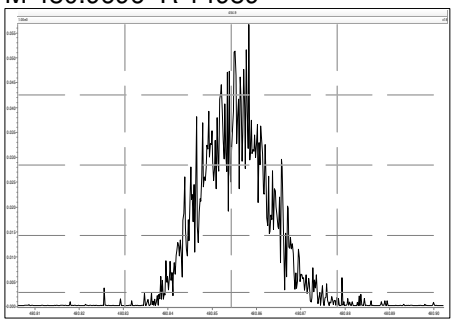
M 454.9728 R 15248



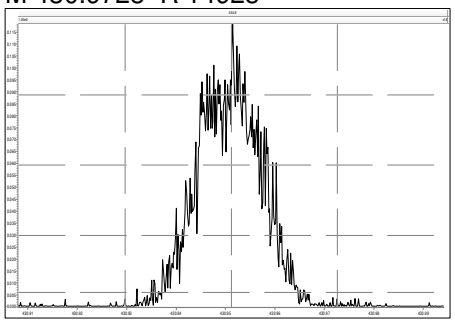
M 466.9728 R 19532



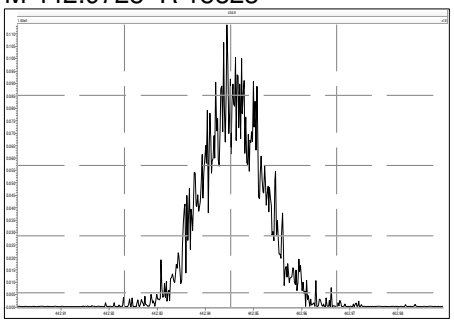
M 480.9696 R 14989



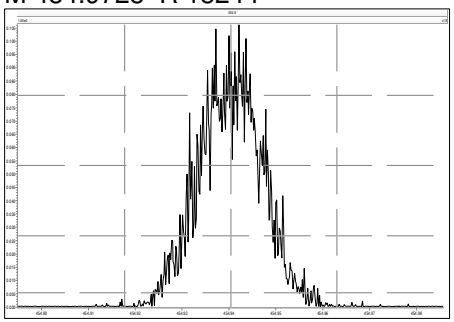
M 430.9728 R 14925



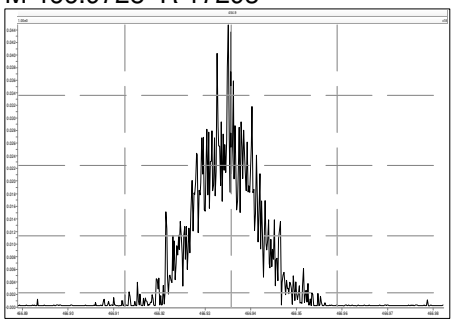
M 442.9728 R 15823



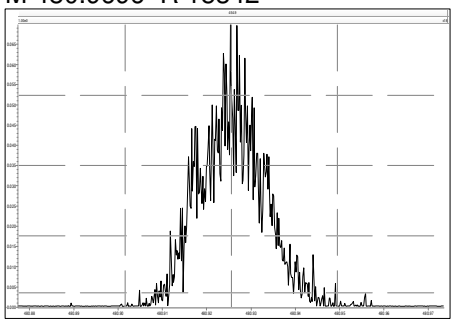
M 454.9728 R 15244



M 466.9728 R 17293



M 480.9696 R 15342



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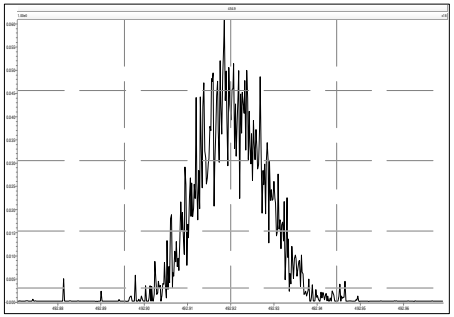
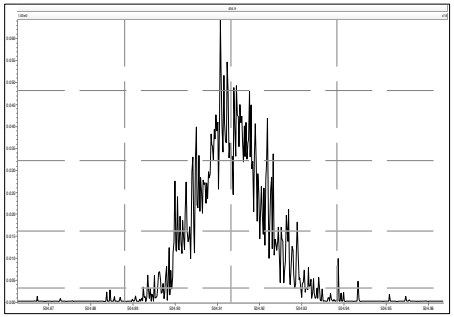
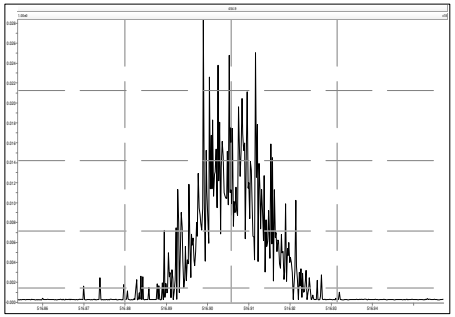
M 492.9696 R 16325



M 504.9696 R 17375

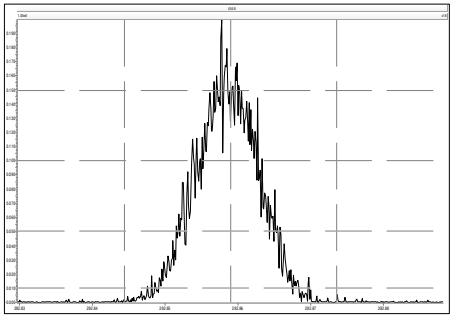


M 516.9697 R 17052

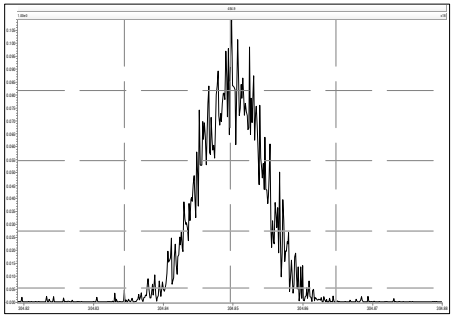


Printed: Tuesday, February 22, 2022 16:28:26 Eastern Standard Time

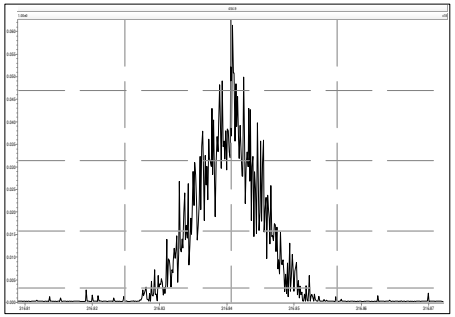
M 292.9824 R 15537



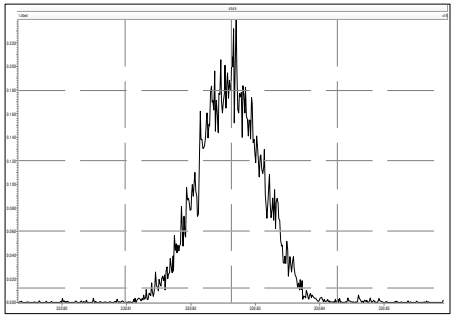
M 304.9824 R 16464



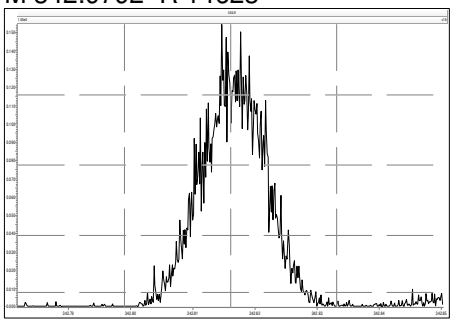
M 316.9824 R 17490



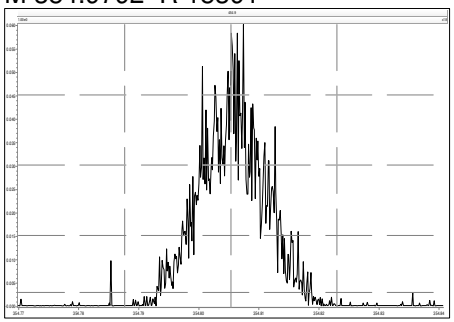
M 330.9792 R 14579



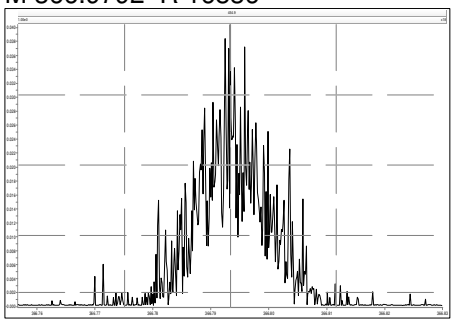
M 342.9792 R 14623



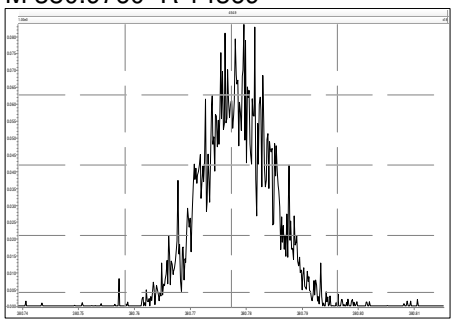
M 354.9792 R 15391



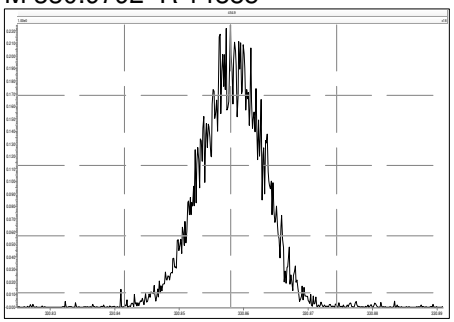
M 366.9792 R 16836



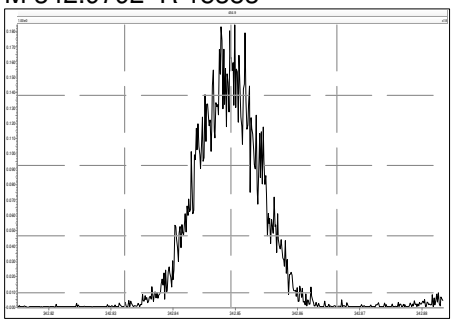
M 380.9760 R 14369



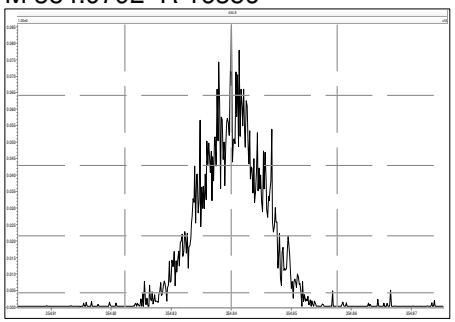
M 330.9792 R 14885



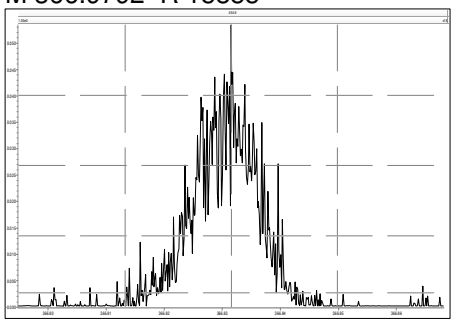
M 342.9792 R 15383



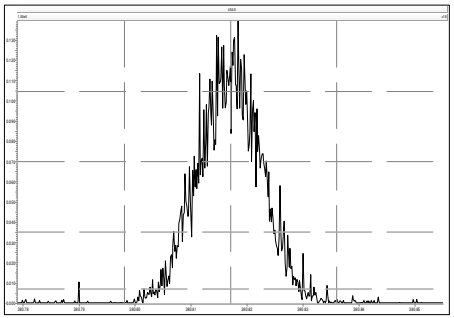
M 354.9792 R 16356



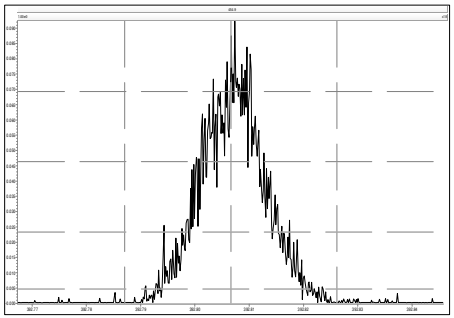
M 366.9792 R 15855



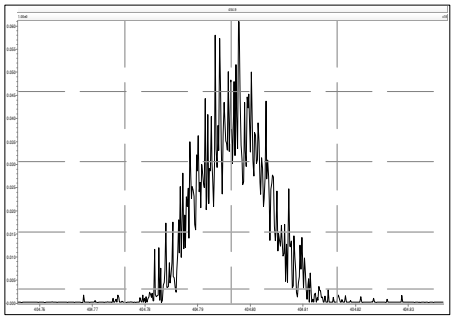
M 380.9760 R 15037



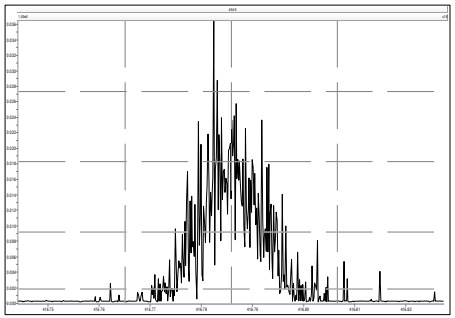
M 392.9760 R 14597



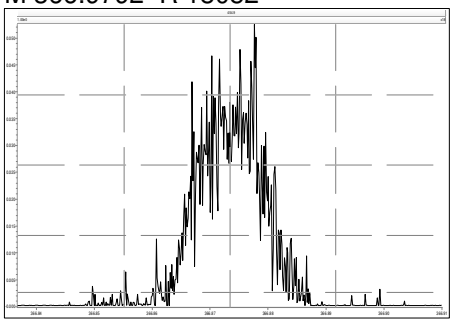
M 404.9760 R 15674



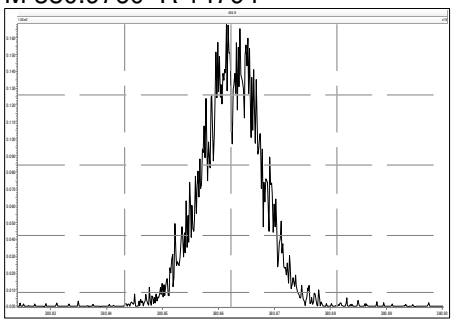
M 416.9760 R 21003



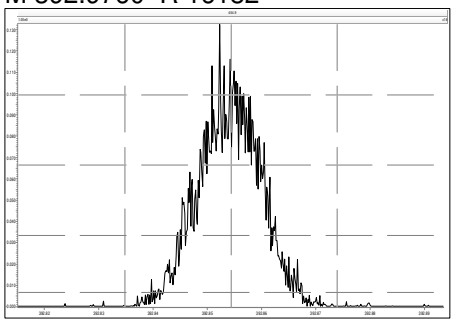
M 366.9792 R 18052



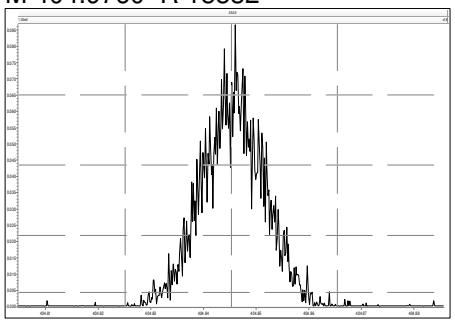
M 380.9760 R 14794



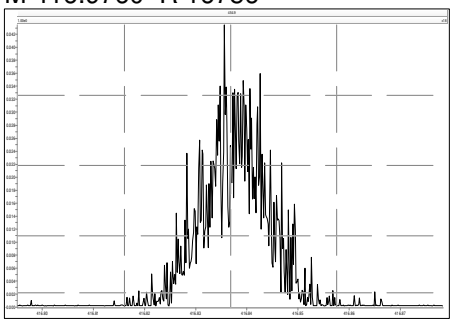
M 392.9760 R 16182



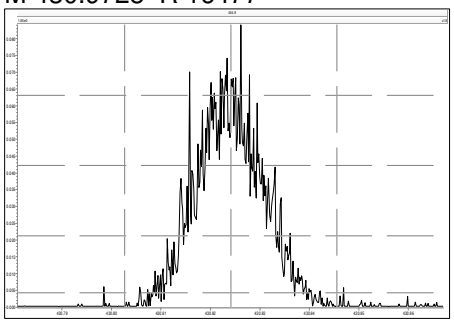
M 404.9760 R 15532



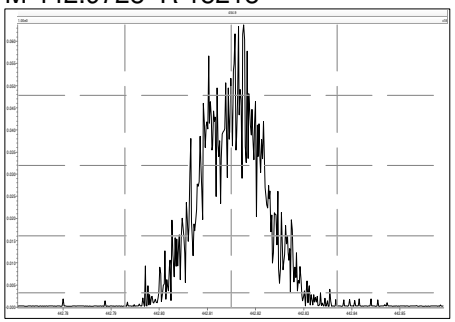
M 416.9760 R 16756



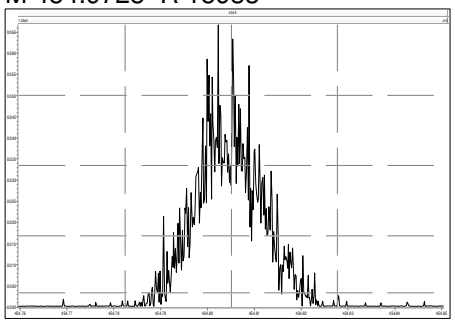
M 430.9728 R 16477



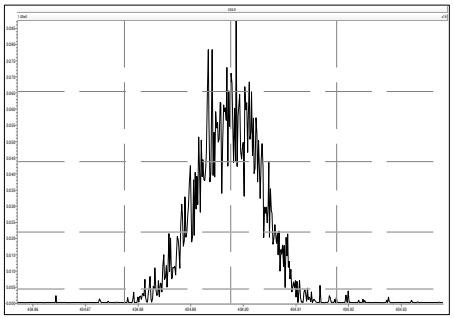
M 442.9728 R 15218



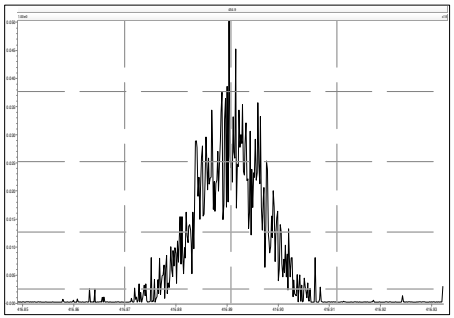
M 454.9728 R 15933



M 404.9760 R 16804



M 416.9760 R 16693



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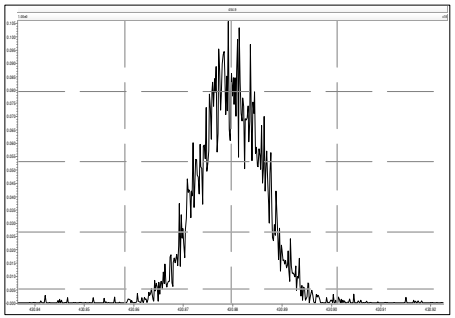
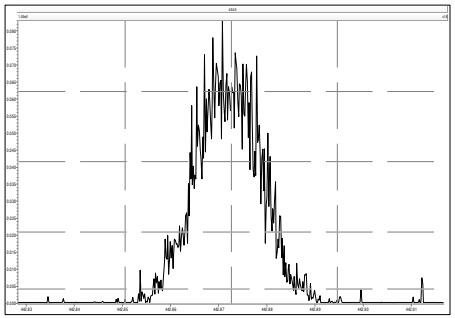
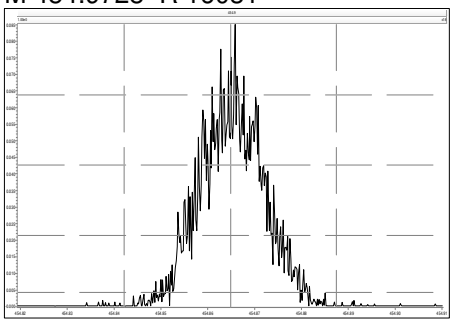


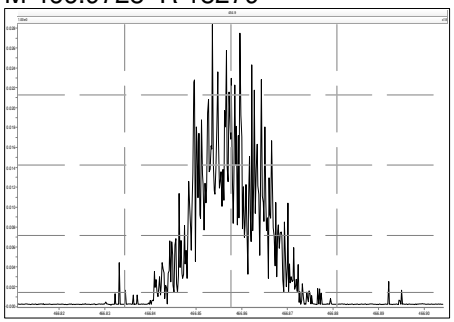
M 442.9728 R 16756



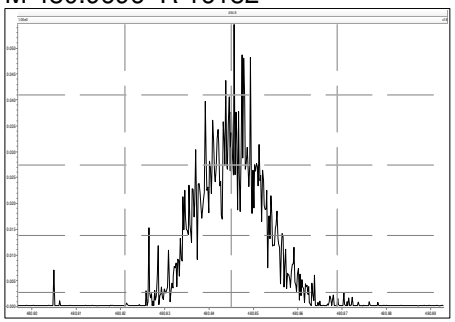
M 454.9728 R 16031



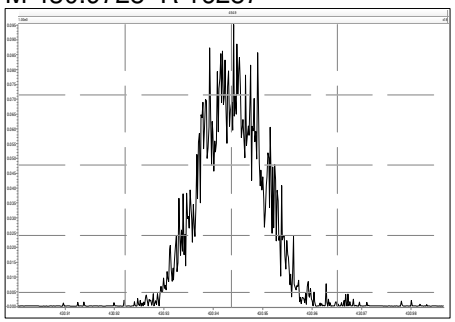
M 466.9728 R 18279



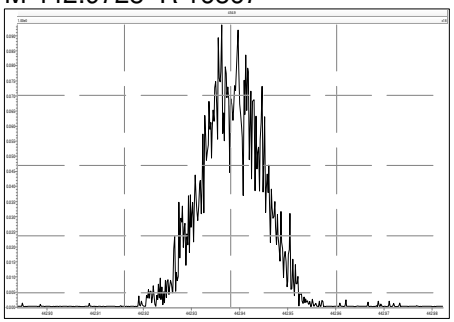
M 480.9696 R 16182



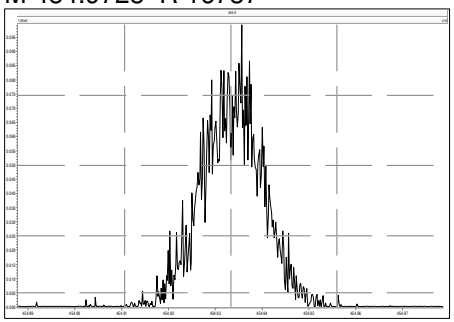
M 430.9728 R 16287



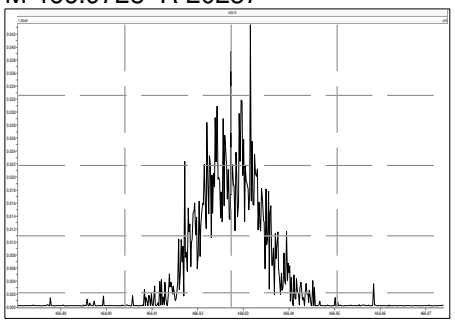
M 442.9728 R 16867



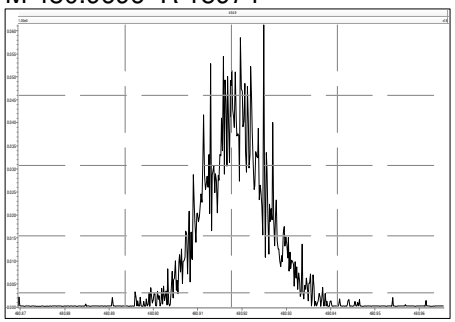
M 454.9728 R 16737



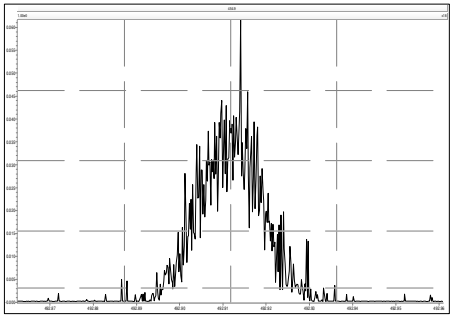
M 466.9728 R 20237



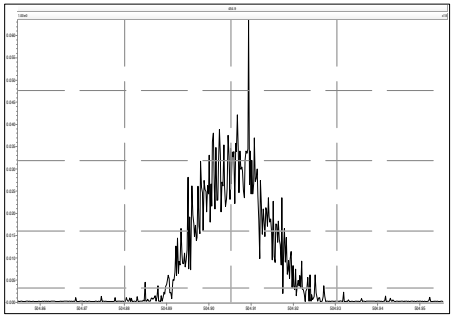
M 480.9696 R 15974



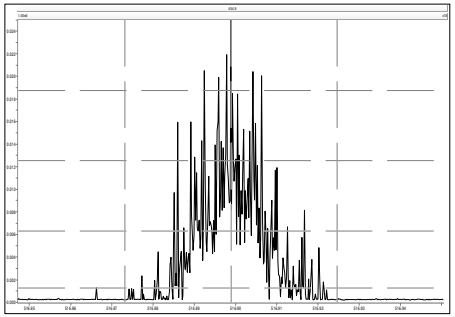
M 492.9696 R 15780



M 504.9696 R 16523



M 516.9697 R 20995



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34 ✓	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98 ✓
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84 ✓	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86 ✓	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07 ✓	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10 ✓	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28 ✓	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
Tyler_Fritz , 11/11/2021, 4:44:03 PM

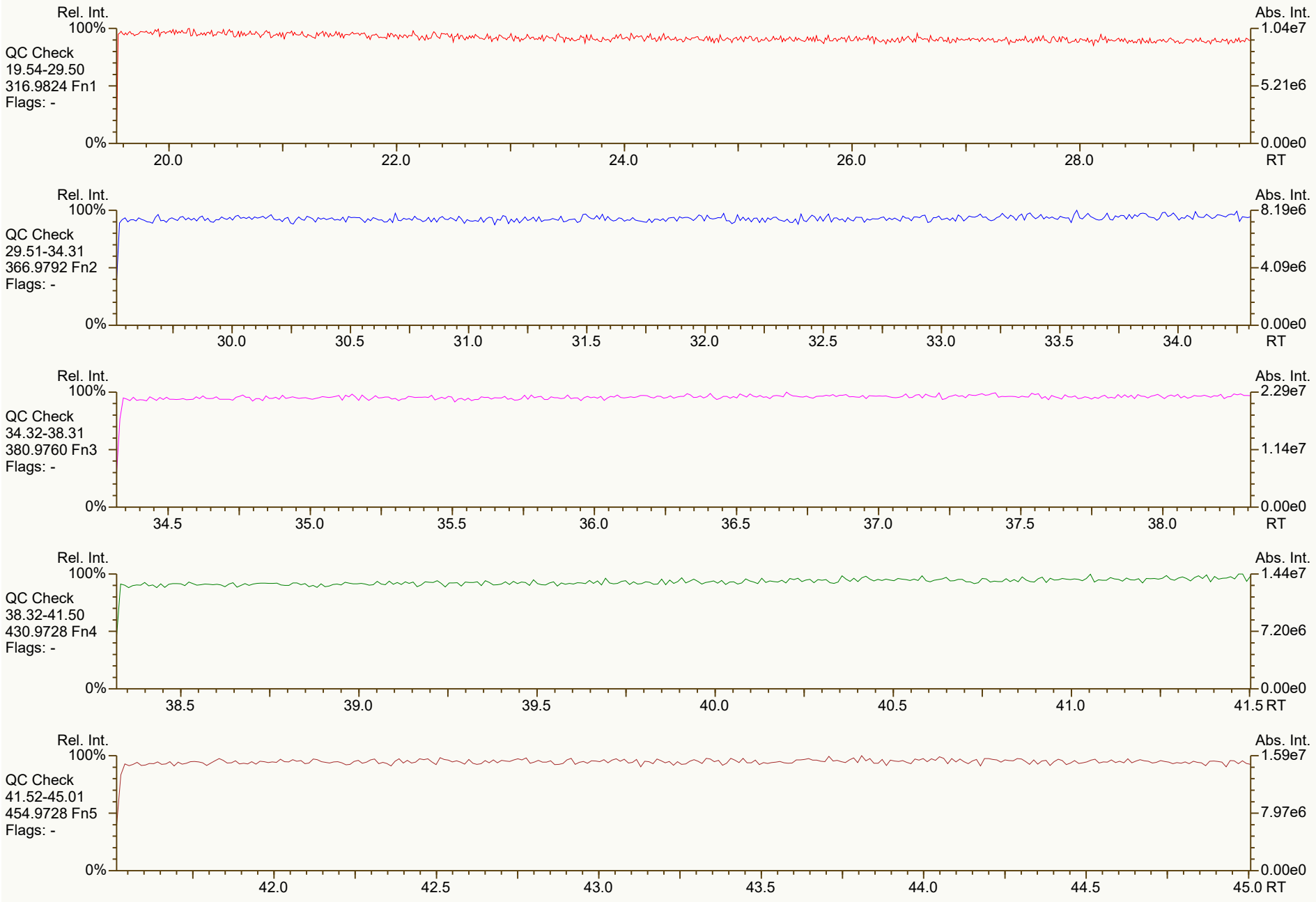
APPROVED
Amy_Boehm , 11/11/2021, 5:28:50 PM

Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

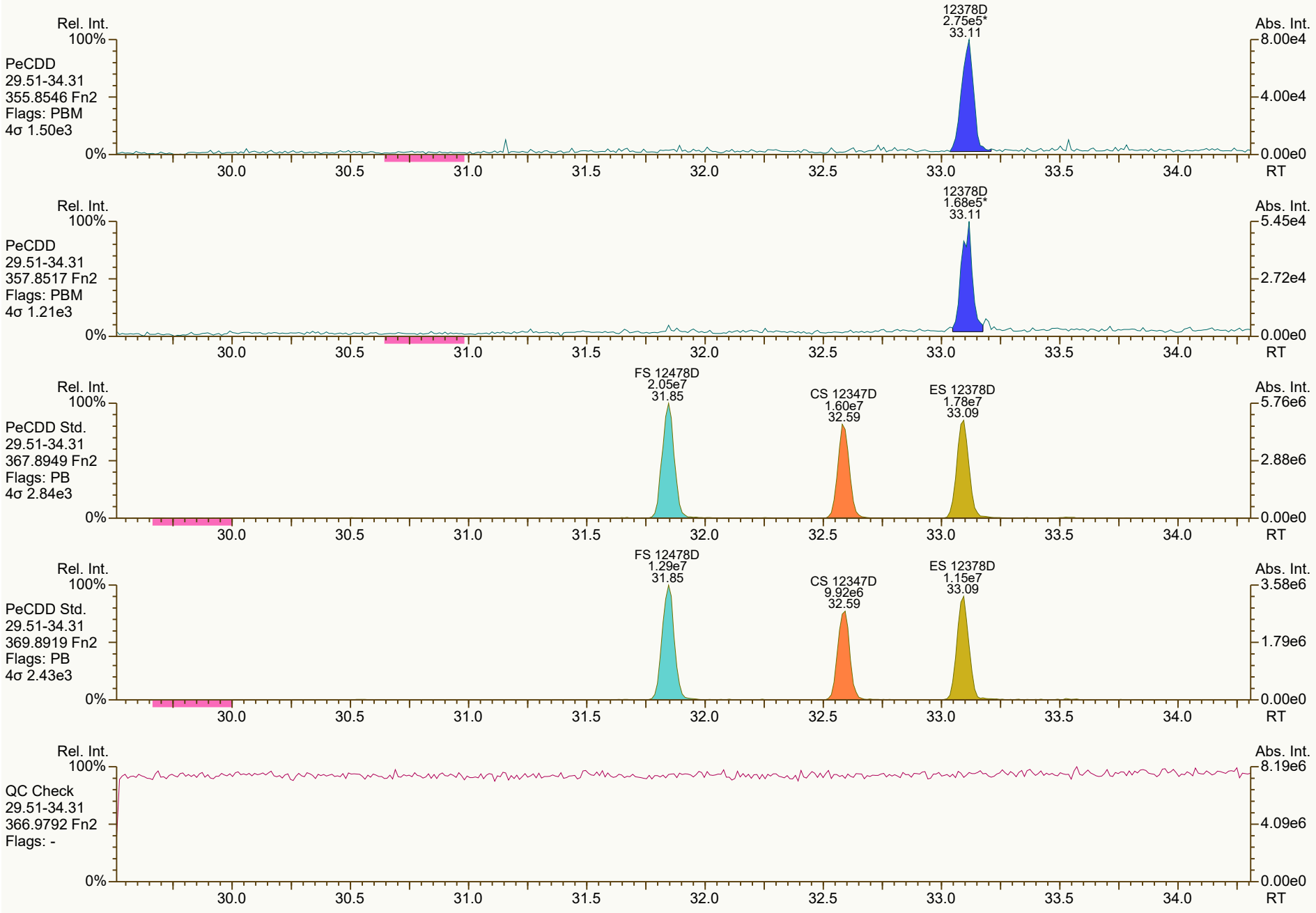
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

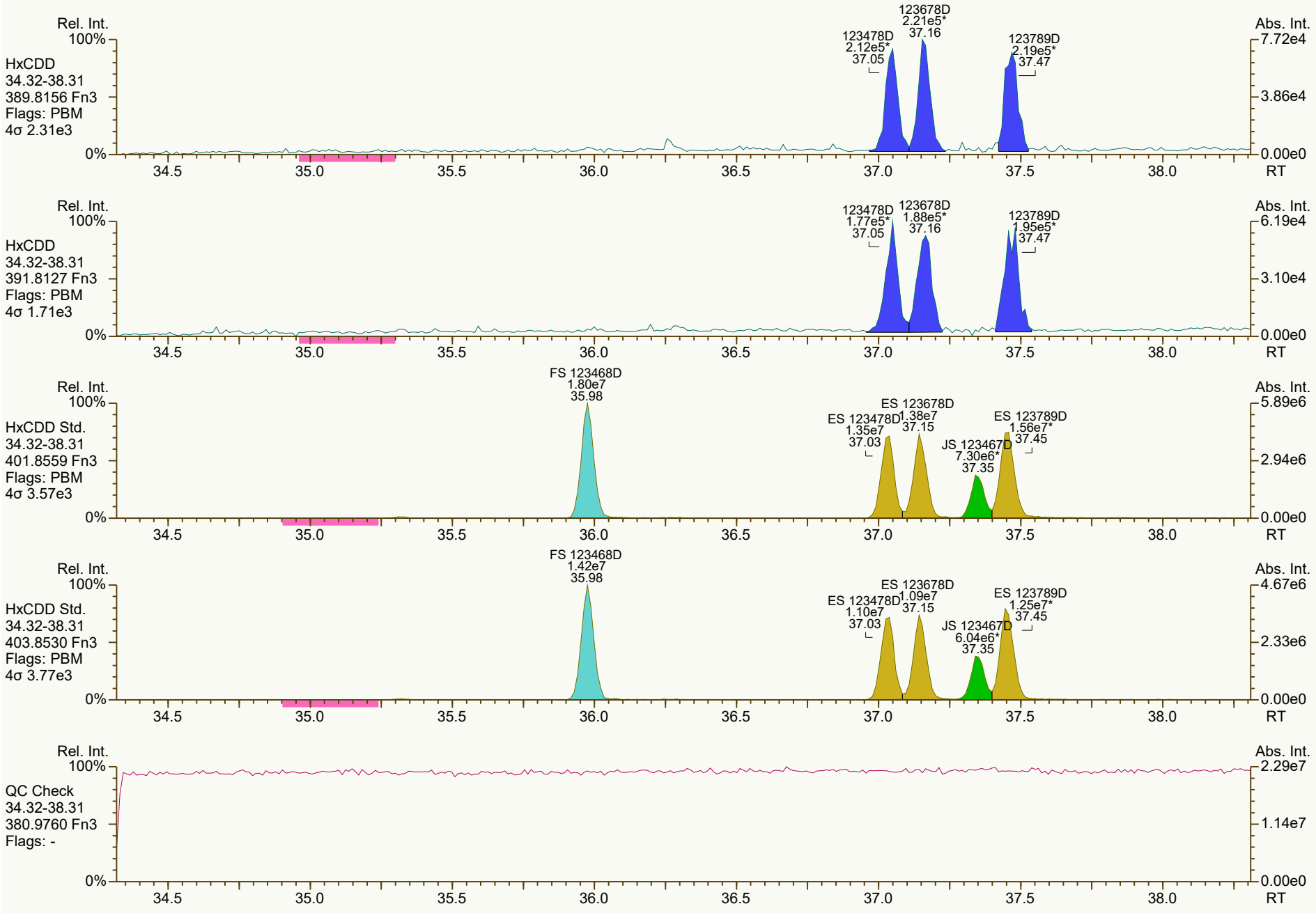
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

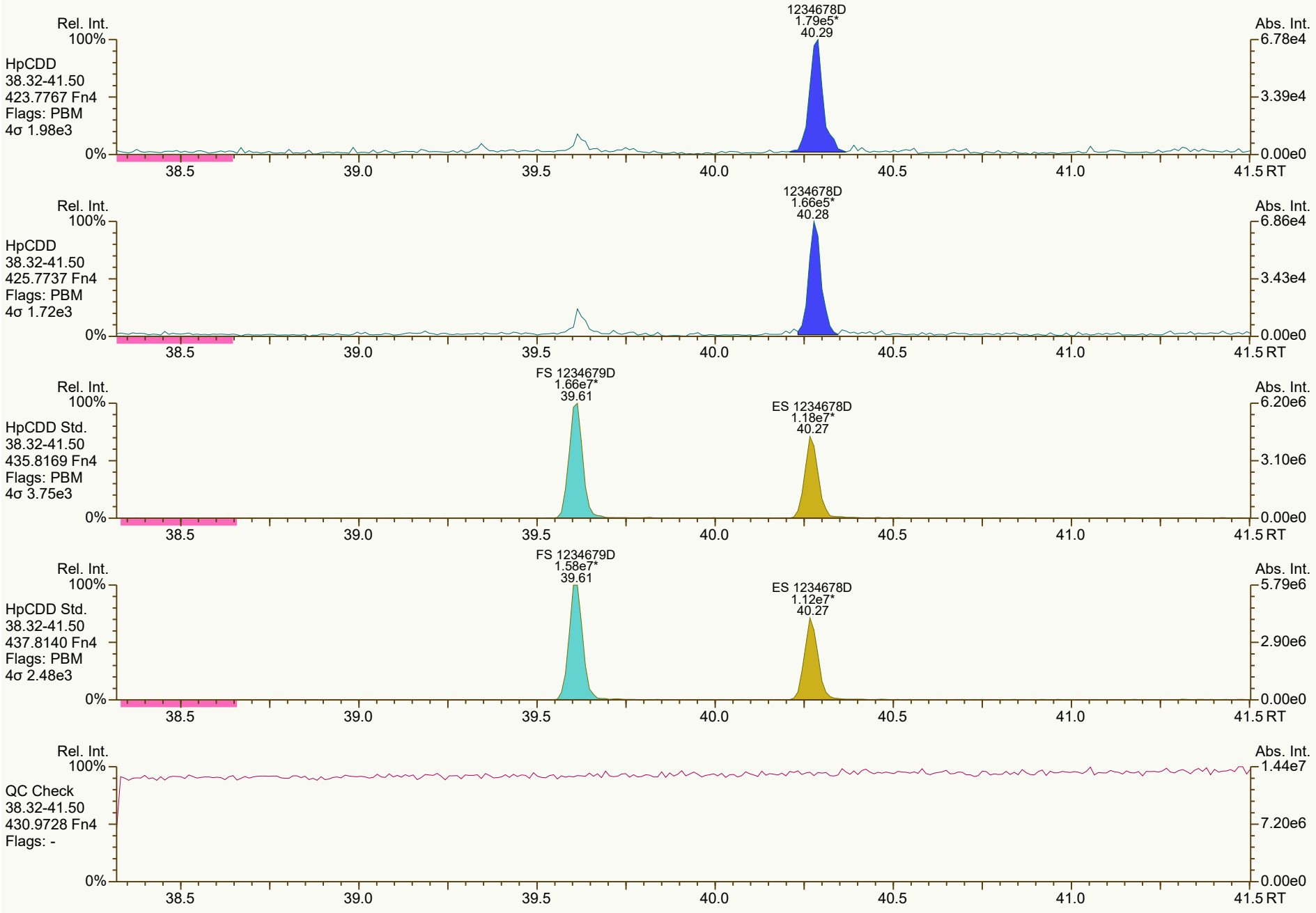
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF				Checkcode: 245-007-QLD	
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C04	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%

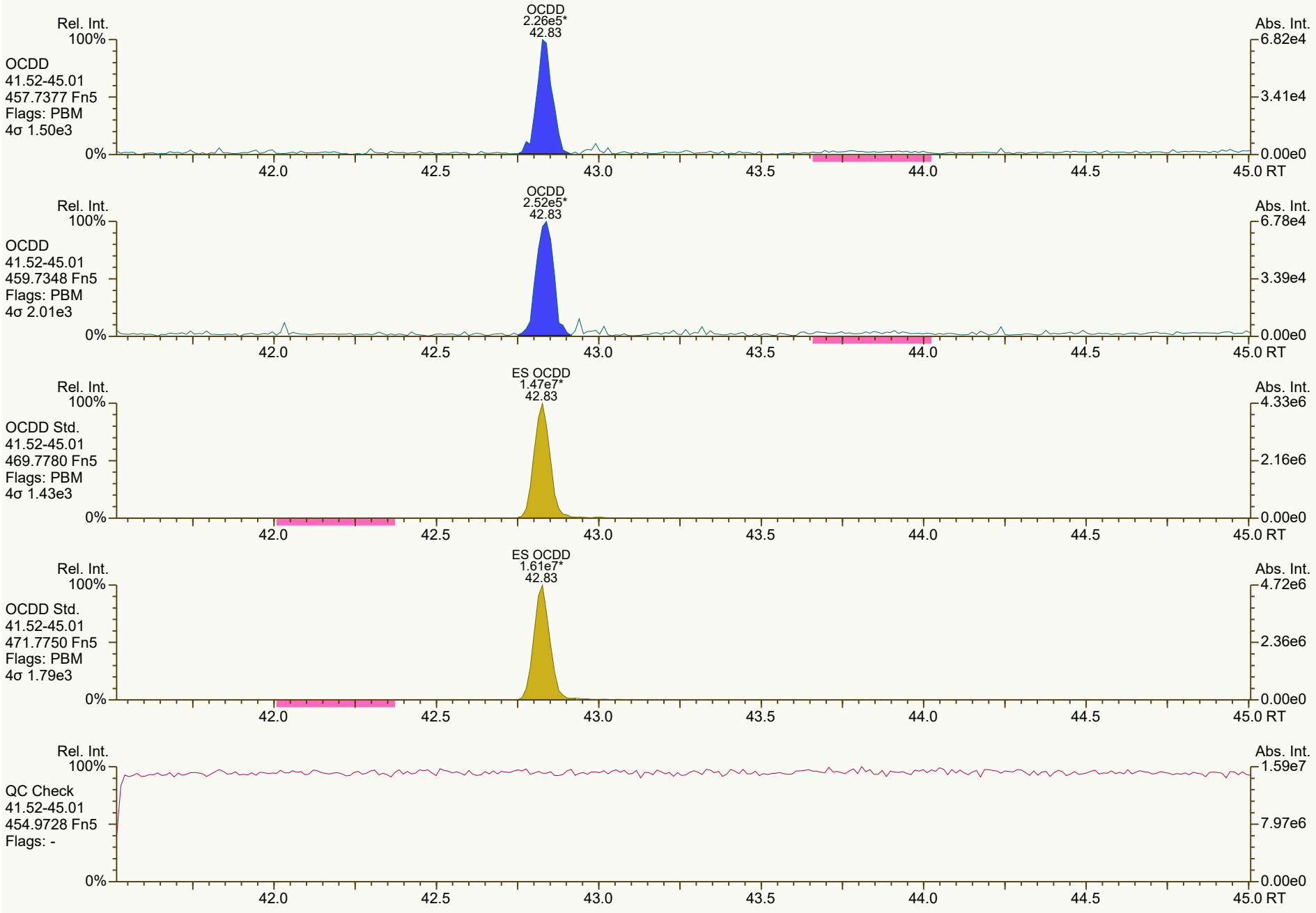

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.04e7
5.21e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.19e6
4.09e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.29e7
1.14e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.44e7
7.20e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.97e6
0.00e0

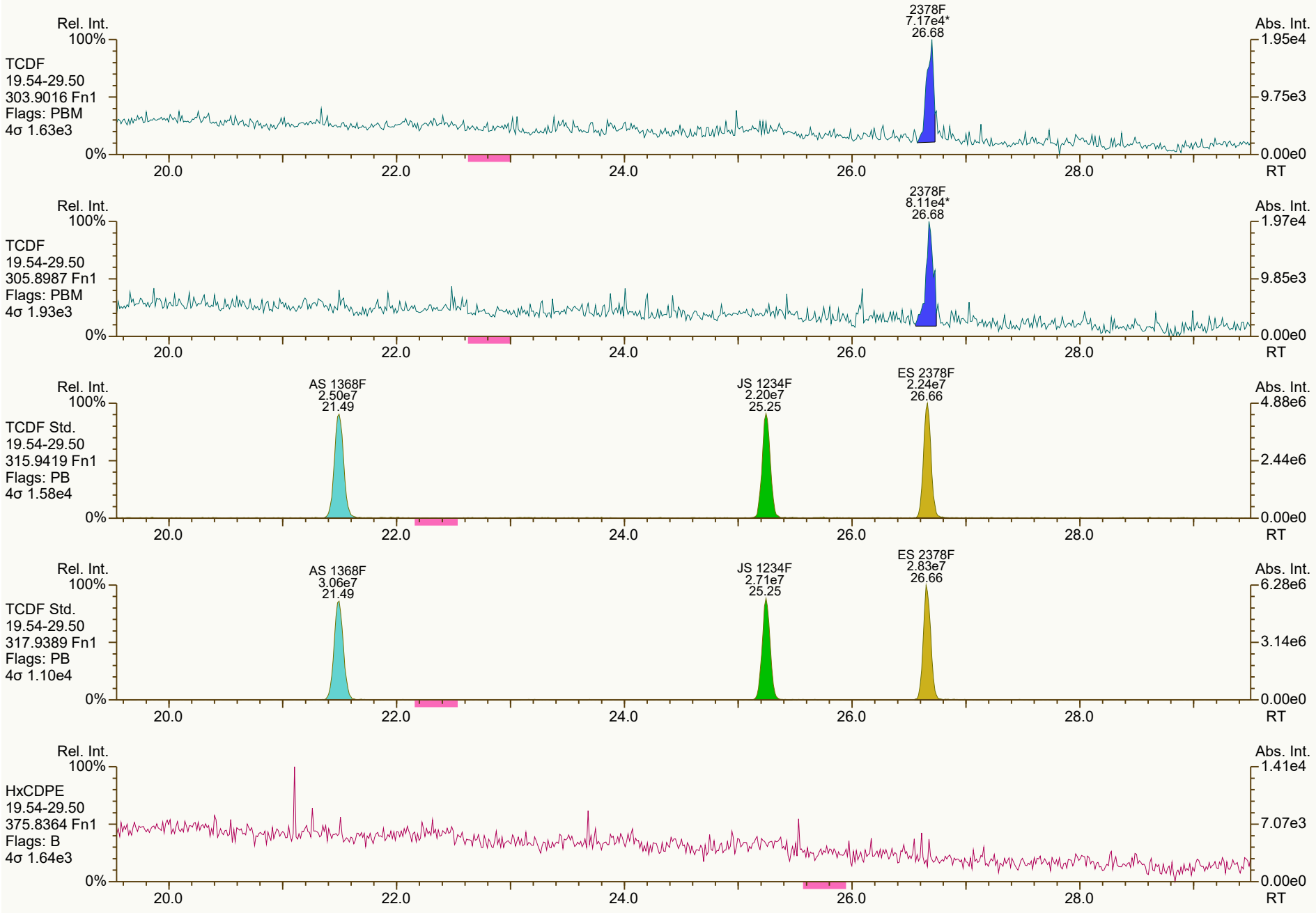

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
2378D
5.29e4*
27.60
1.67e4
8.35e3
0.00e0
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
2.13e4
1.06e4
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6
0%
100%
20.0
22.0
24.0
26.0
28.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3504, 1483, 2998 scc: 245-007
Revised: 11-Nov-2021 16:18 (DTF) Printed: 11-Nov-2021 16:32 Page 2 of 12


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
123478D 2.12e5* 37.05
123678D 2.21e5* 37.16
123789D 2.19e5* 37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
123478D 1.77e5* 37.05
123678D 1.88e5* 37.16
123789D 1.95e5* 37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
FS 123468D 1.80e7 35.98
ES 123478D 1.35e7 37.03
ES 123678D 1.38e7 37.15
JS 123467D 7.30e6* 37.35
ES 123789D 1.56e7* 37.45
Abs. Int.
5.89e6
2.94e6
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
FS 123468D 1.42e7 35.98
ES 123478D 1.10e7 37.03
ES 123678D 1.09e7 37.15
JS 123467D 6.04e6* 37.35
ES 123789D 1.25e7* 37.45
Abs. Int.
4.67e6
2.33e6
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.29e7
1.14e7
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

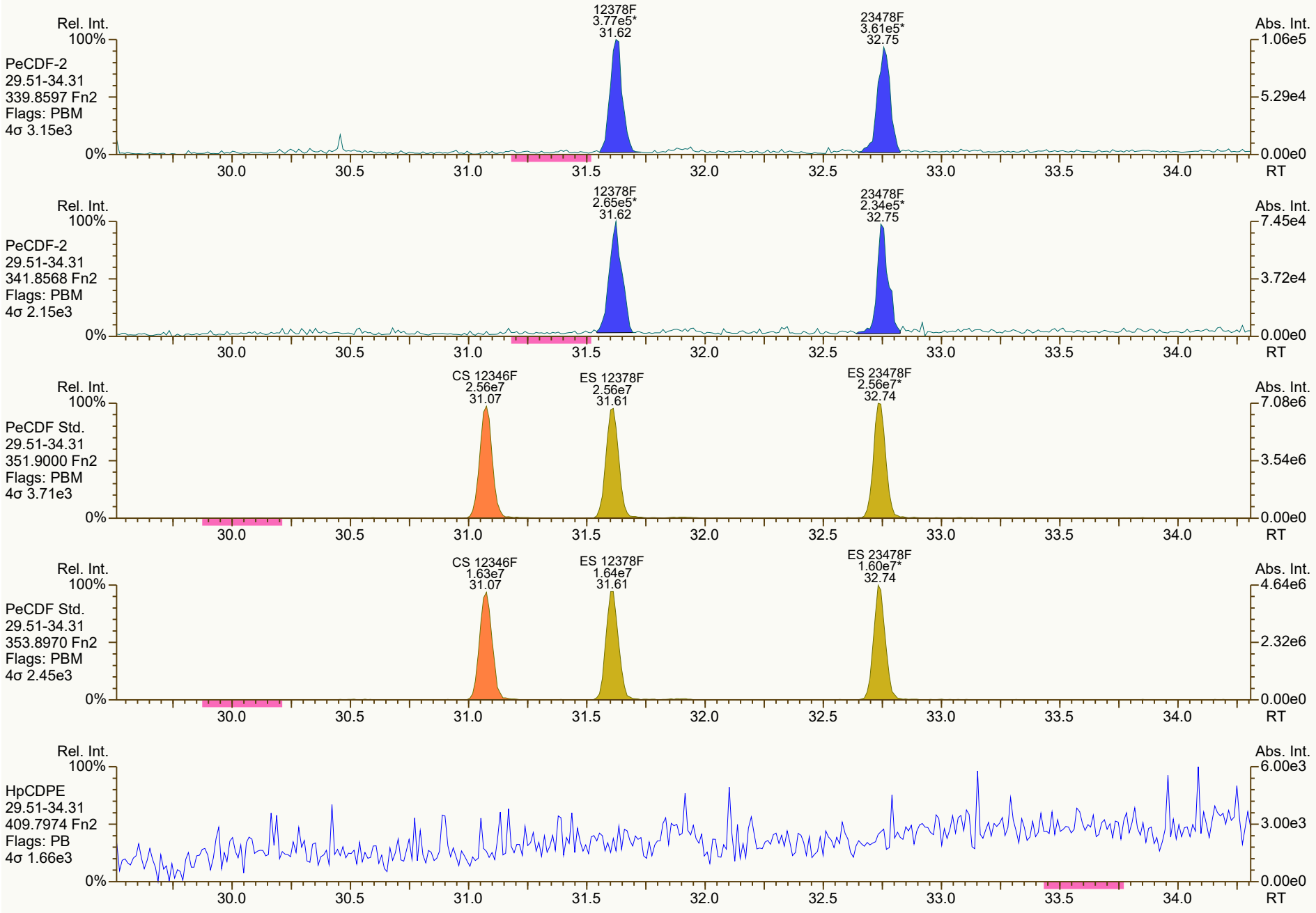

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
ES OCDD
1.47e7*
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
4.33e6
2.16e6
ES OCDD
1.61e7*
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
4.72e6
2.36e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.59e7
7.97e6

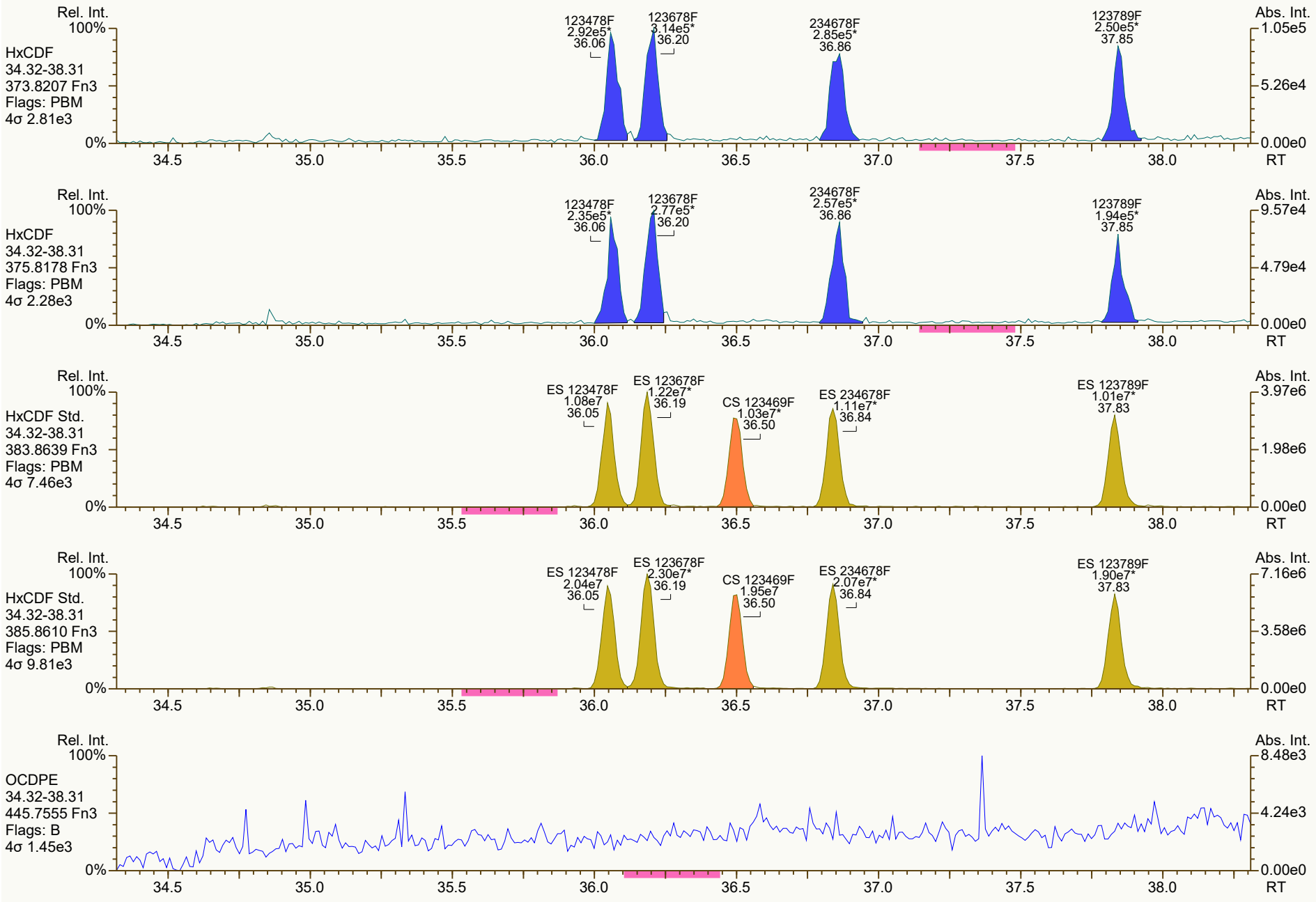

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
0%
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
0%
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
0%
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.41e4
7.07e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

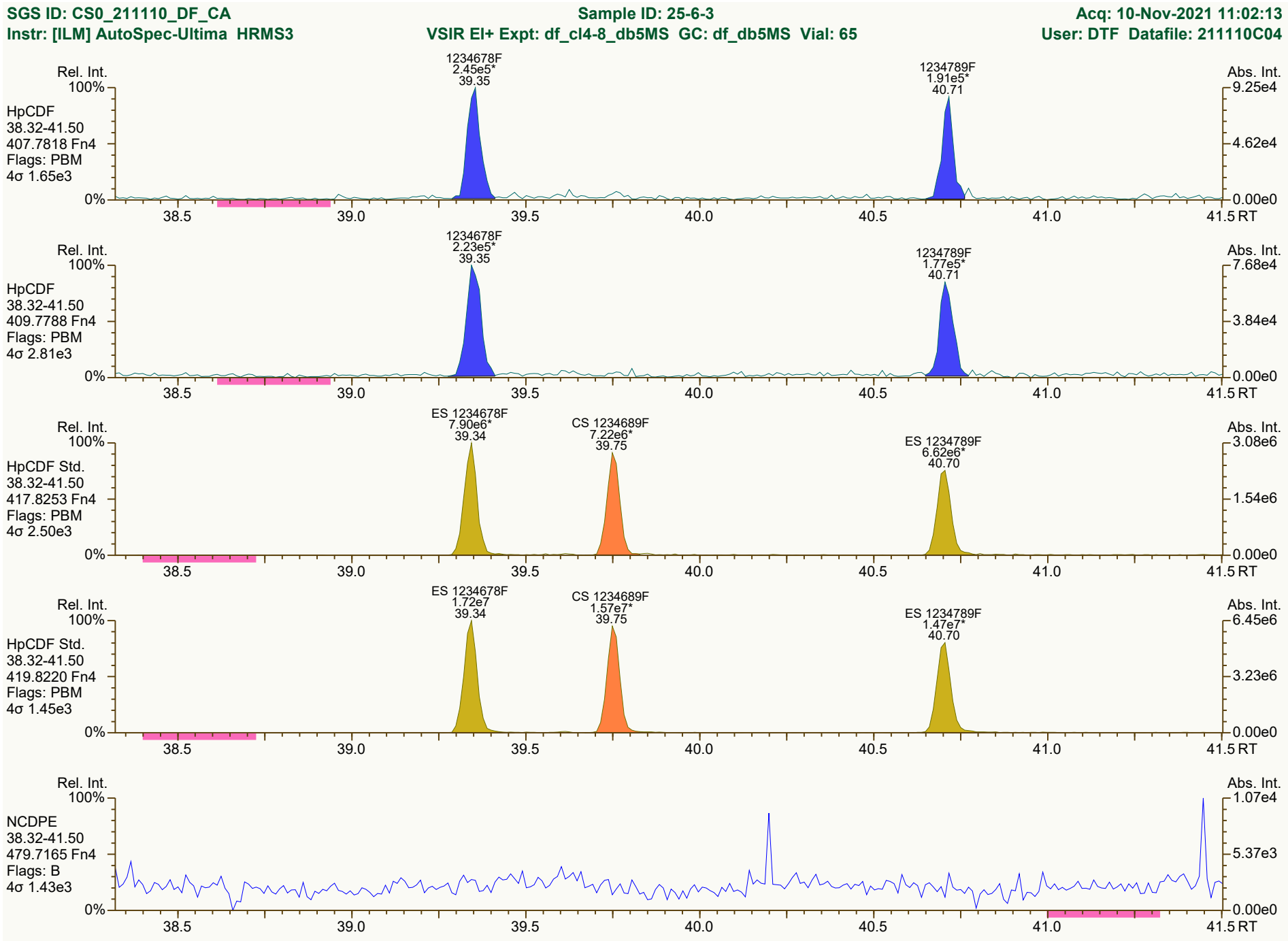
SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6412 scc: 245-007
PKD: 10-Nov-2021 13:30 Printed: 11-Nov-2021 16:32 Page 8 of 12


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

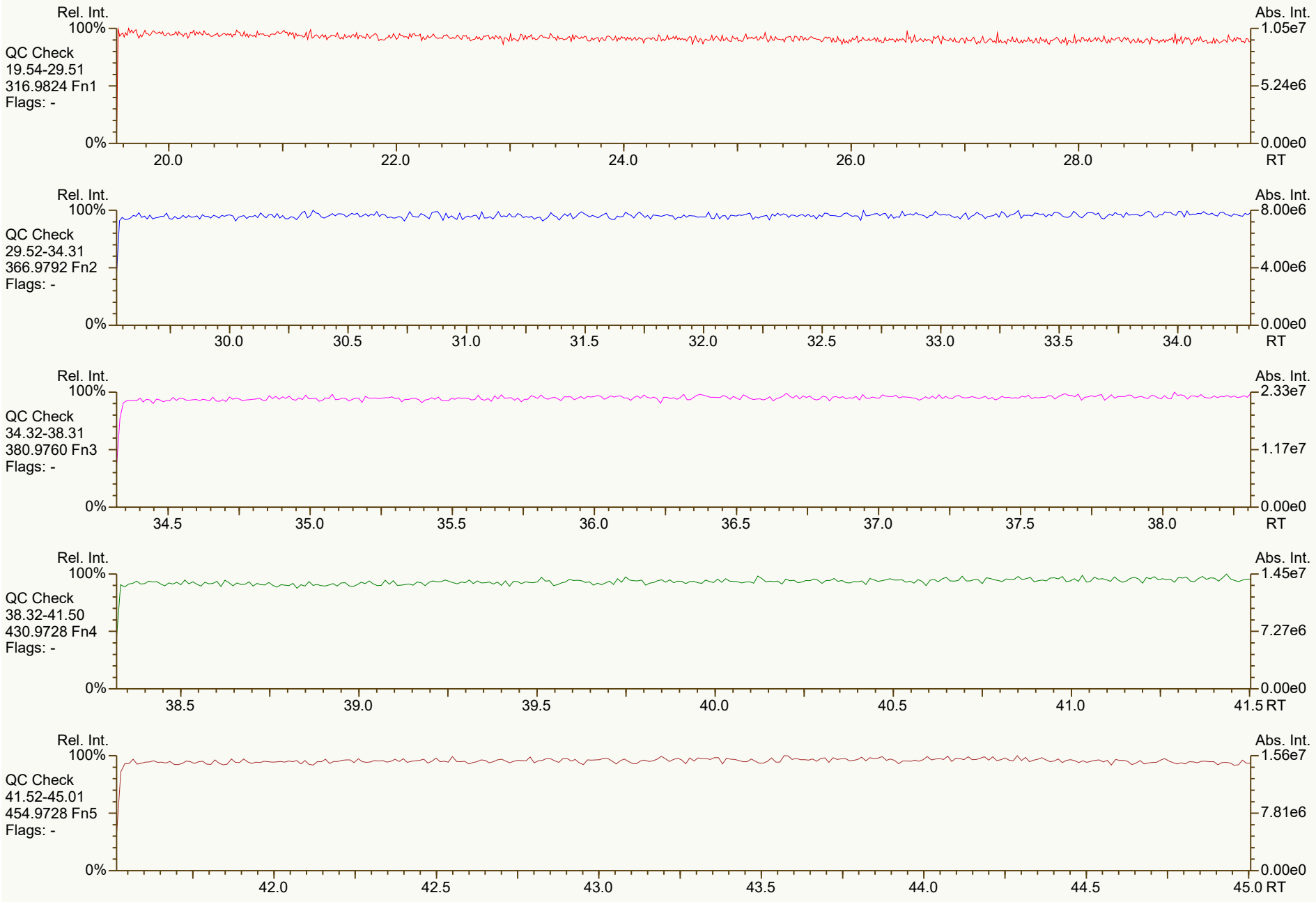

Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
Abs. Int.
8.48e3
4.24e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
9.25e4
4.62e4
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
7.68e4
3.84e4
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
3.08e6
1.54e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
6.45e6
3.23e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
1.07e4
5.37e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0834, 2511, 5505 scc: 245-007
Revised: 10-Nov-2021 13:36 (DTF) Printed: 11-Nov-2021 16:32 Page 11 of 12

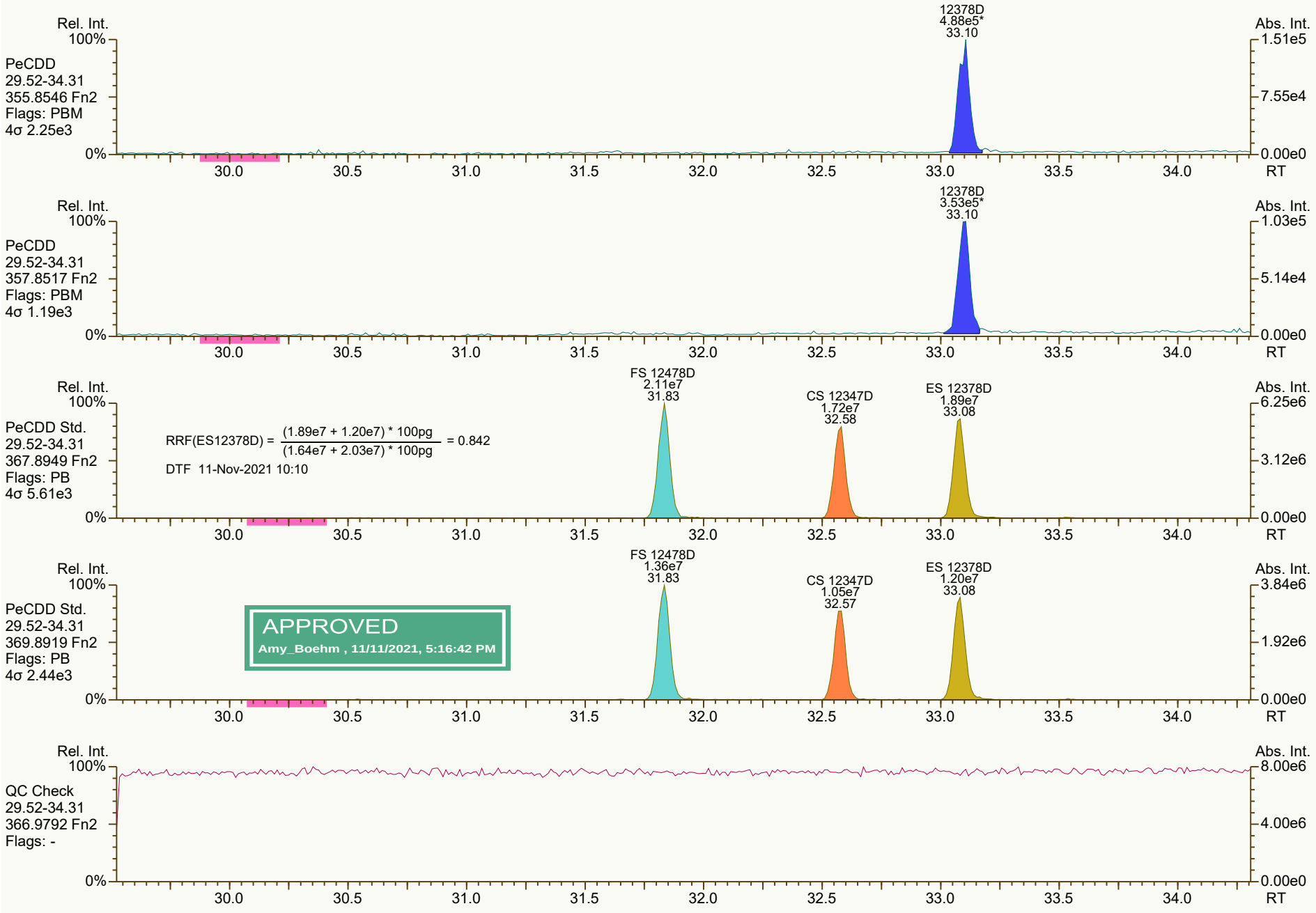

OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

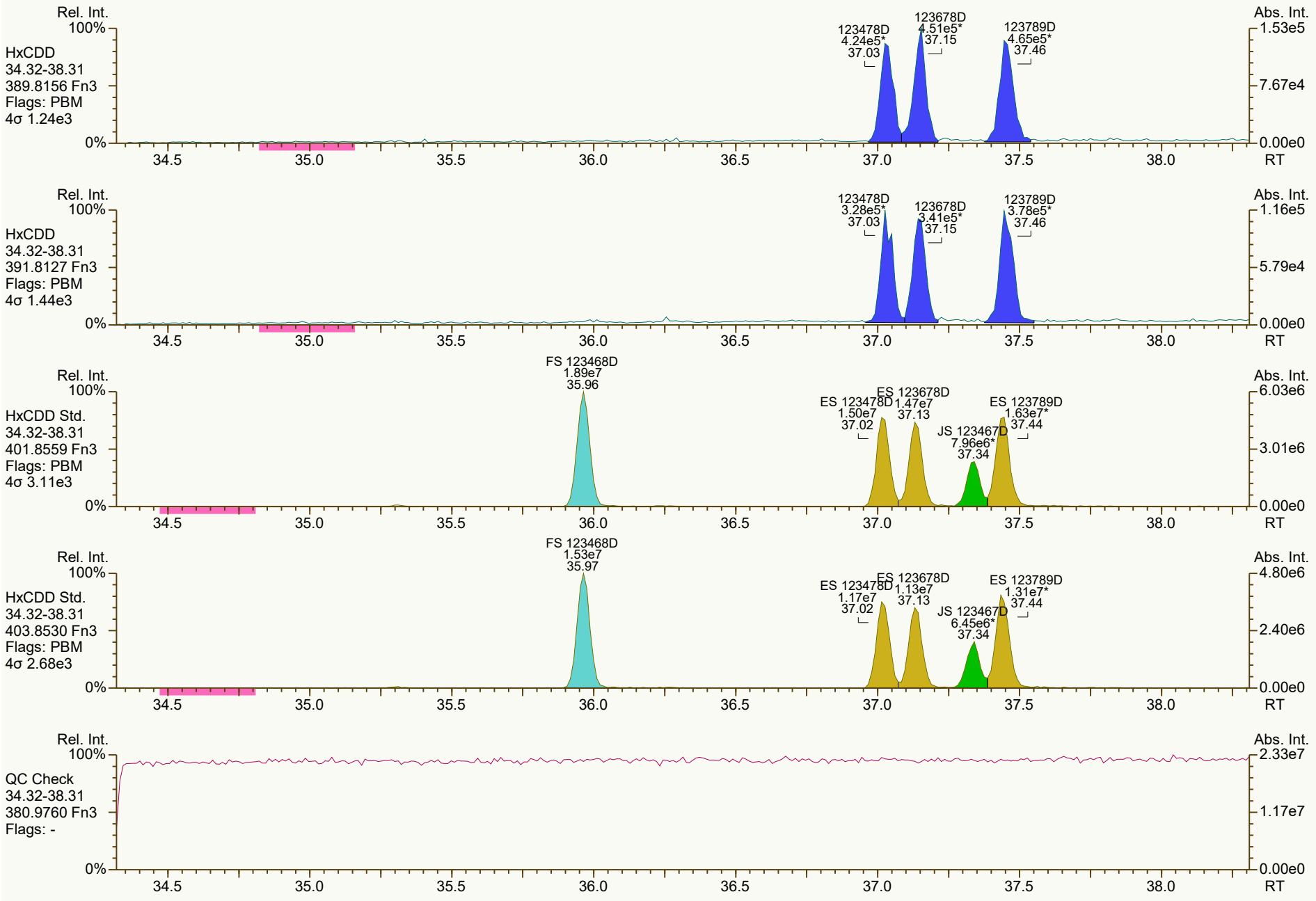
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

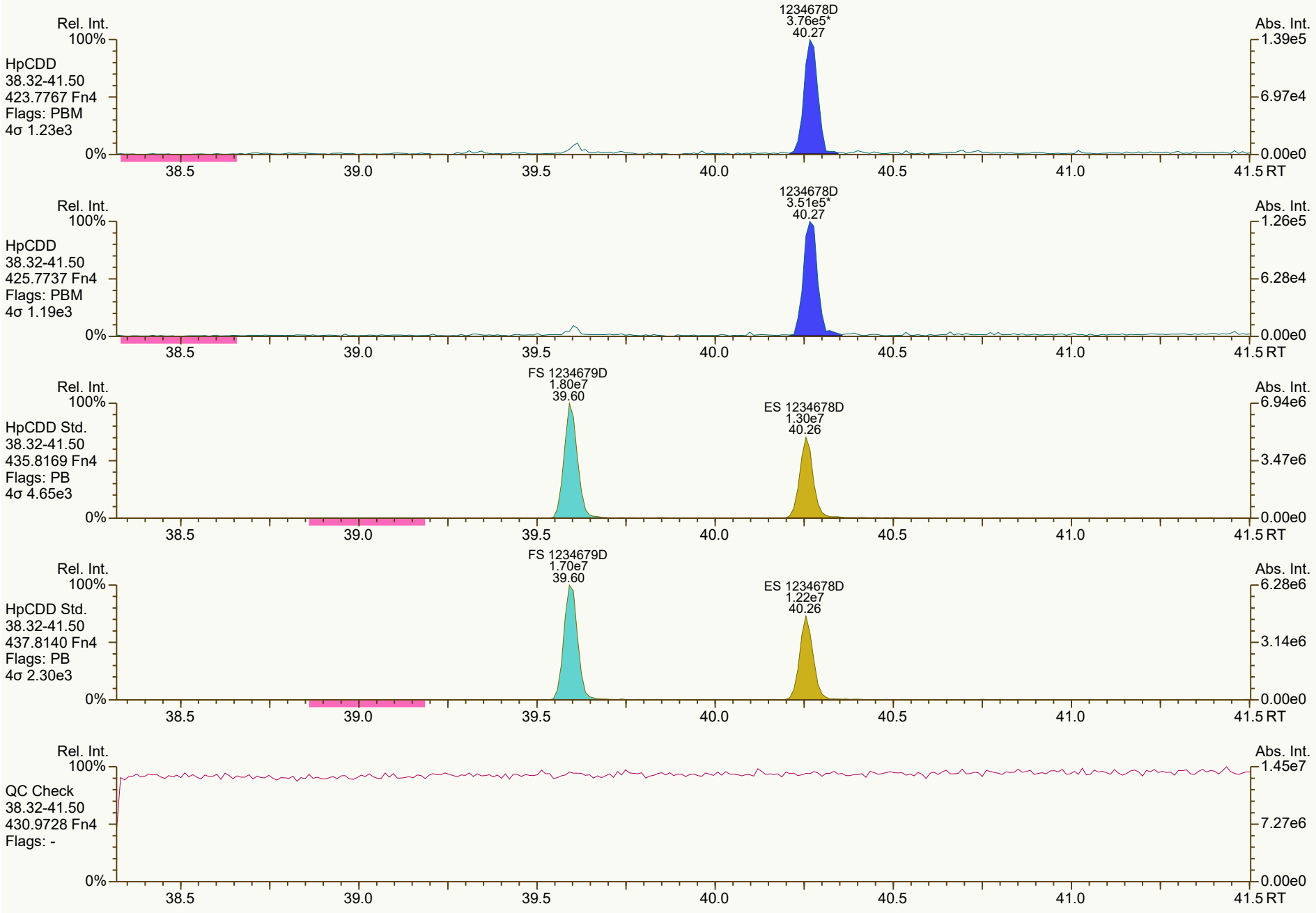
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF					Checkcode: 419-111-CRN
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C05
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

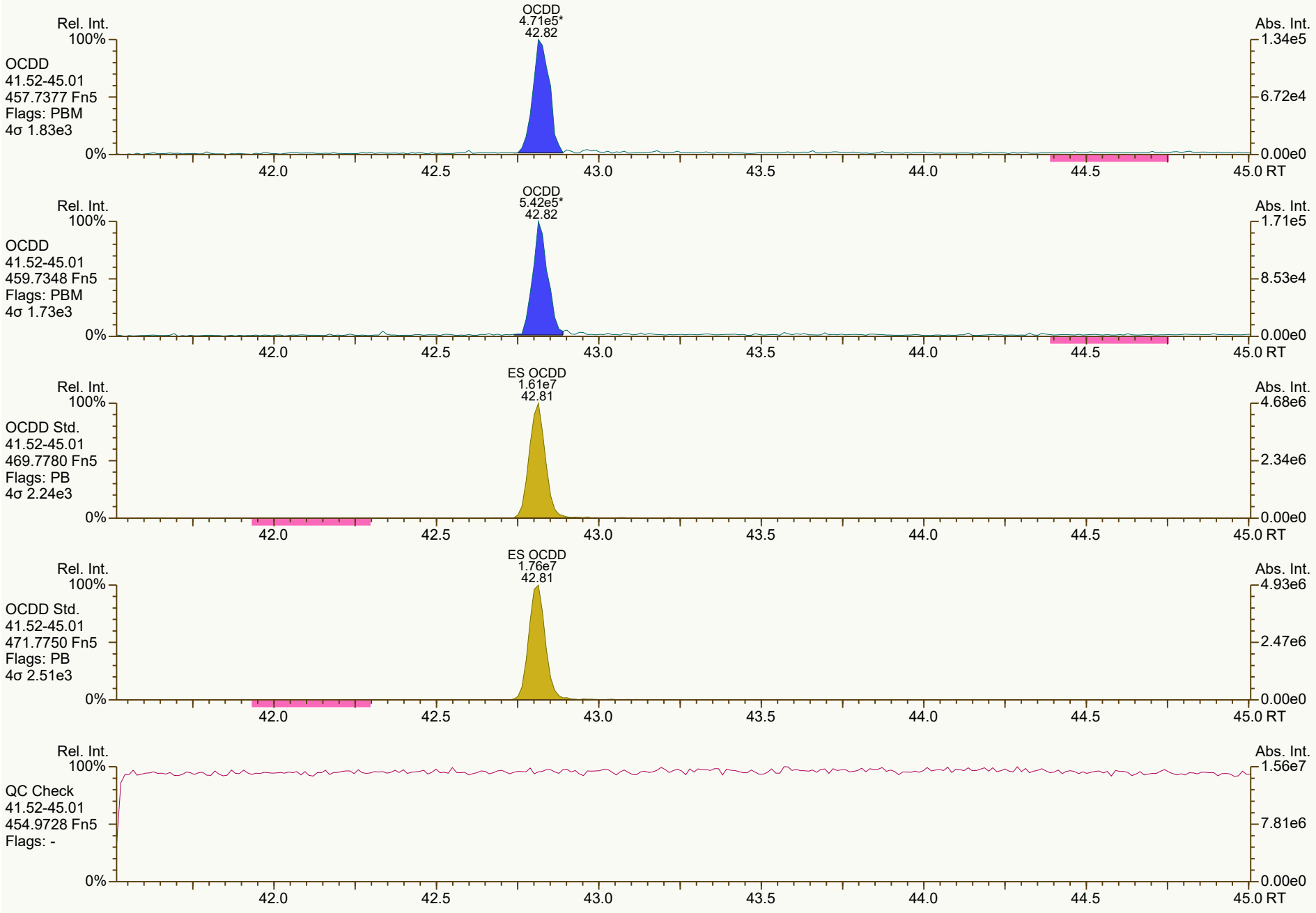

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.05e7
5.24e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.00e6
4.00e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.27e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.56e7
7.81e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

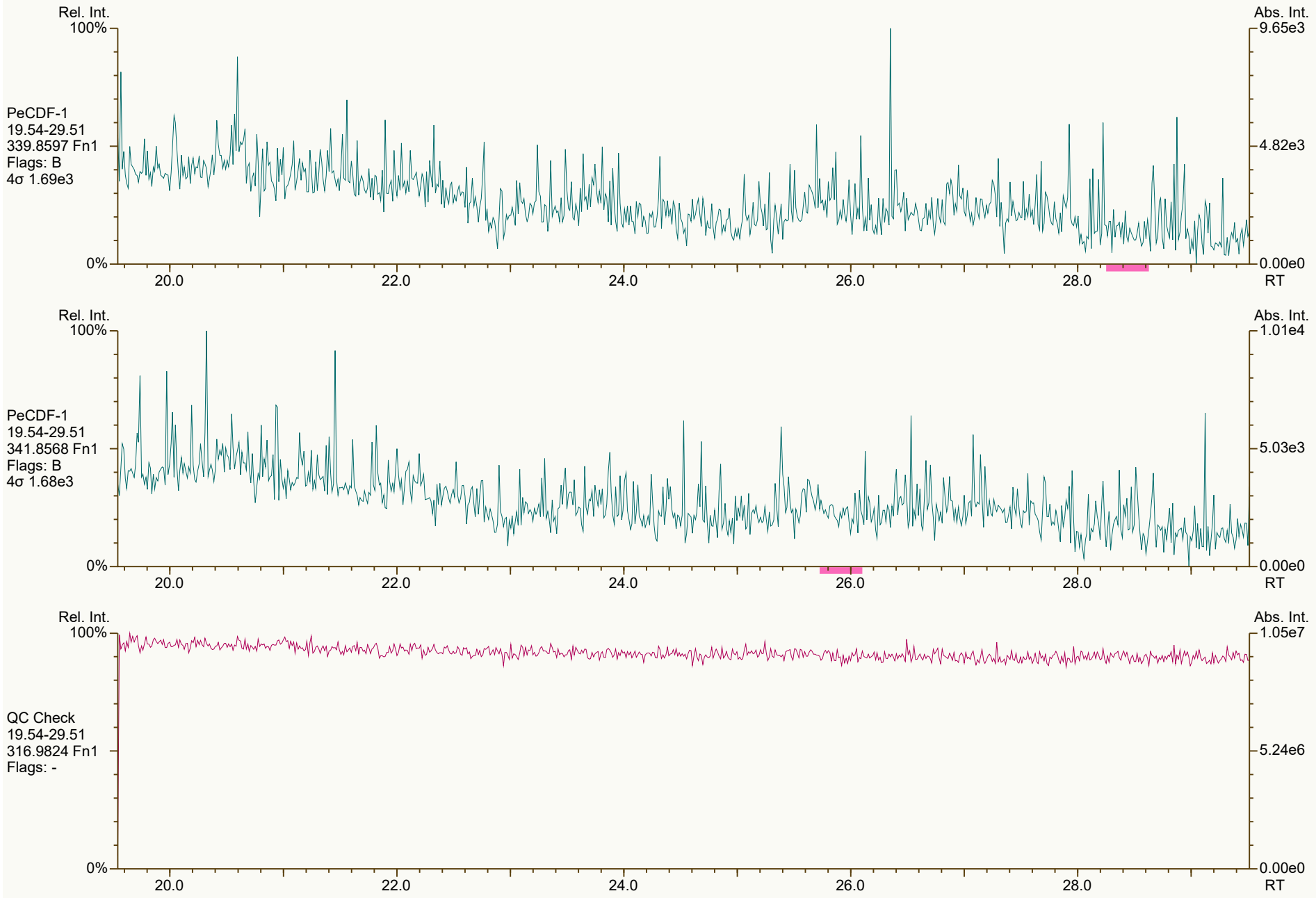

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123678D
1.47e7
37.13
ES 123478D
1.50e7
37.02
ES 123789D
1.63e7*
37.44
JS 123467D
7.96e6*
37.34
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123678D
1.13e7
37.13
ES 123478D
1.17e7
37.02
ES 123789D
1.31e7*
37.44
JS 123467D
6.45e6*
37.34
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

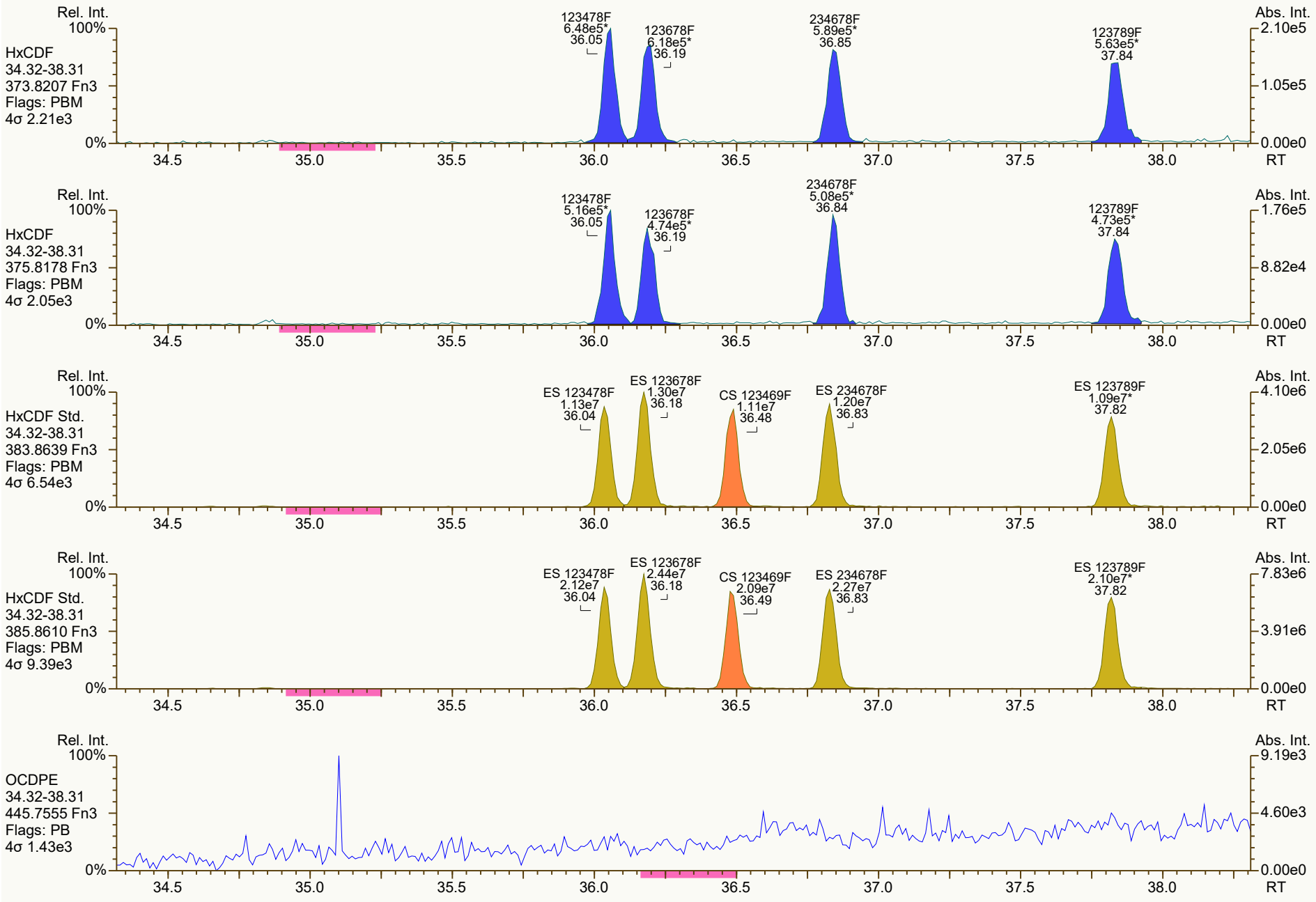

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

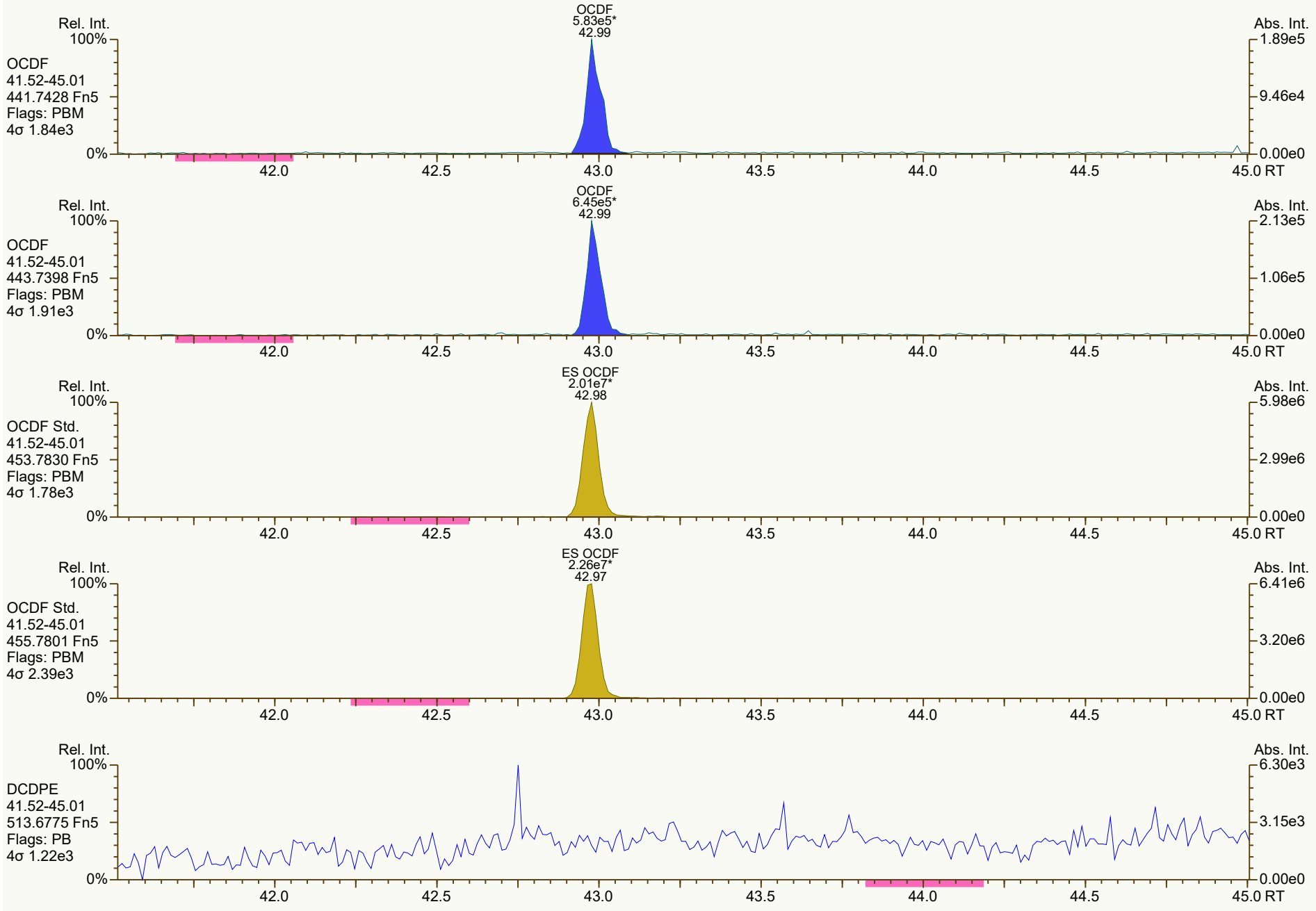

SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
2378F
1.28e5*
26.67
2.58e4
1.29e4
0.00e0
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
2378F
1.70e5*
26.67
3.72e4
1.86e4
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
5.19e6
2.60e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
6.71e6
3.36e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
8.27e3
4.13e3
100%
0%
20.0
22.0
24.0
26.0
28.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6036, 5912, 9463 scc: 419-111
Revised: 10-Nov-2021 13:38 (DTF) Printed: 11-Nov-2021 10:40 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
Abs. Int.
1.40e5
7.02e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
Abs. Int.
7.54e6
3.77e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
Abs. Int.
4.85e6
2.42e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
Abs. Int.
1.10e4
5.51e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
0%
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
0%
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
Abs. Int.
1.76e5
8.82e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
0%
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
Abs. Int.
4.10e6
2.05e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
0%
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
Abs. Int.
7.83e6
3.91e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
0%
Abs. Int.
9.19e3
4.60e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
0%
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
Abs. Int.
2.00e5
9.99e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
0%
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
Abs. Int.
1.67e5
8.36e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
0%
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
Abs. Int.
3.13e6
1.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
0%
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
Abs. Int.
6.42e6
3.21e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
0%
Abs. Int.
3.72e3
1.86e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

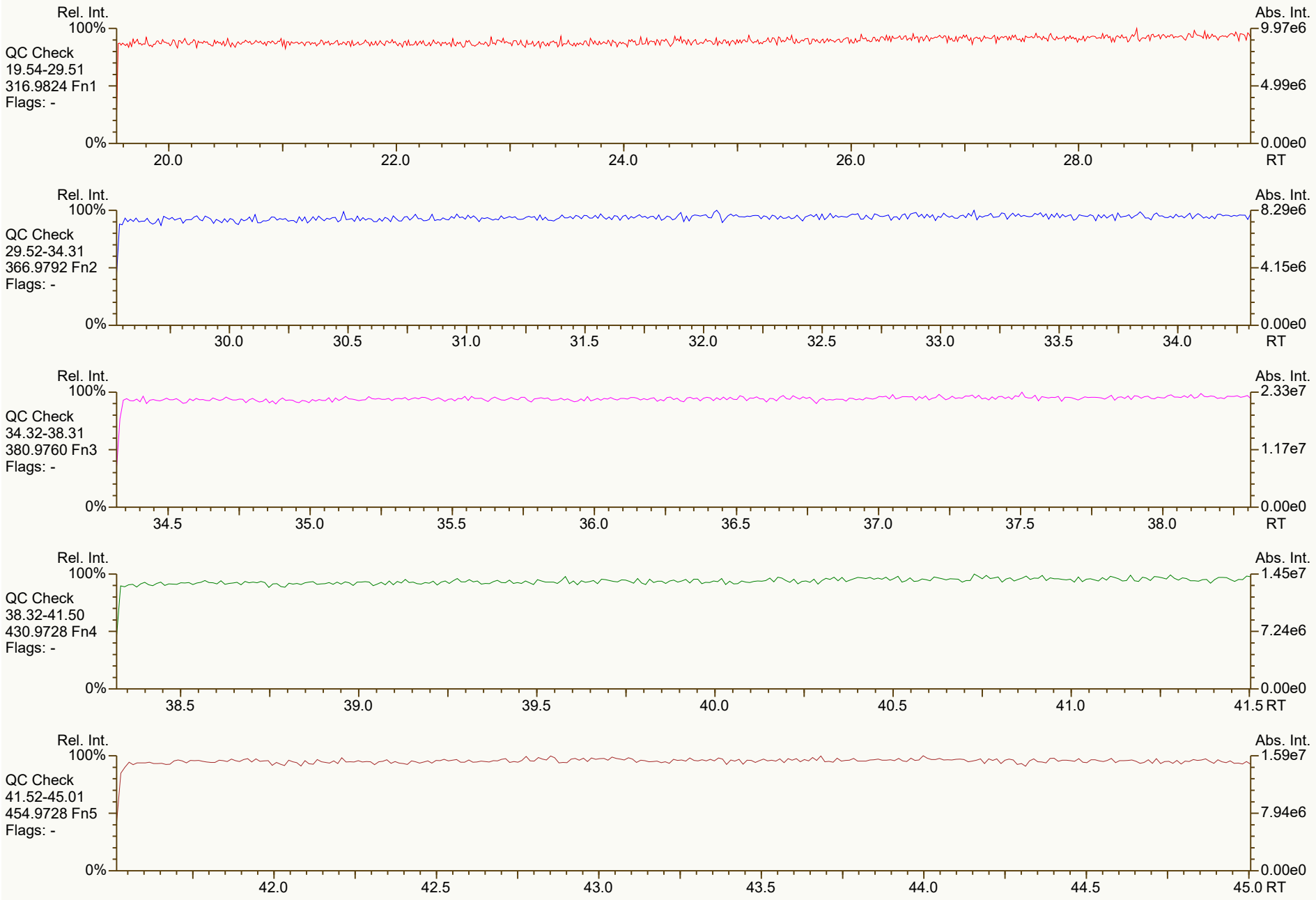

OCDF
5.83e5*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
6.45e5*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.26e7*
42.97
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

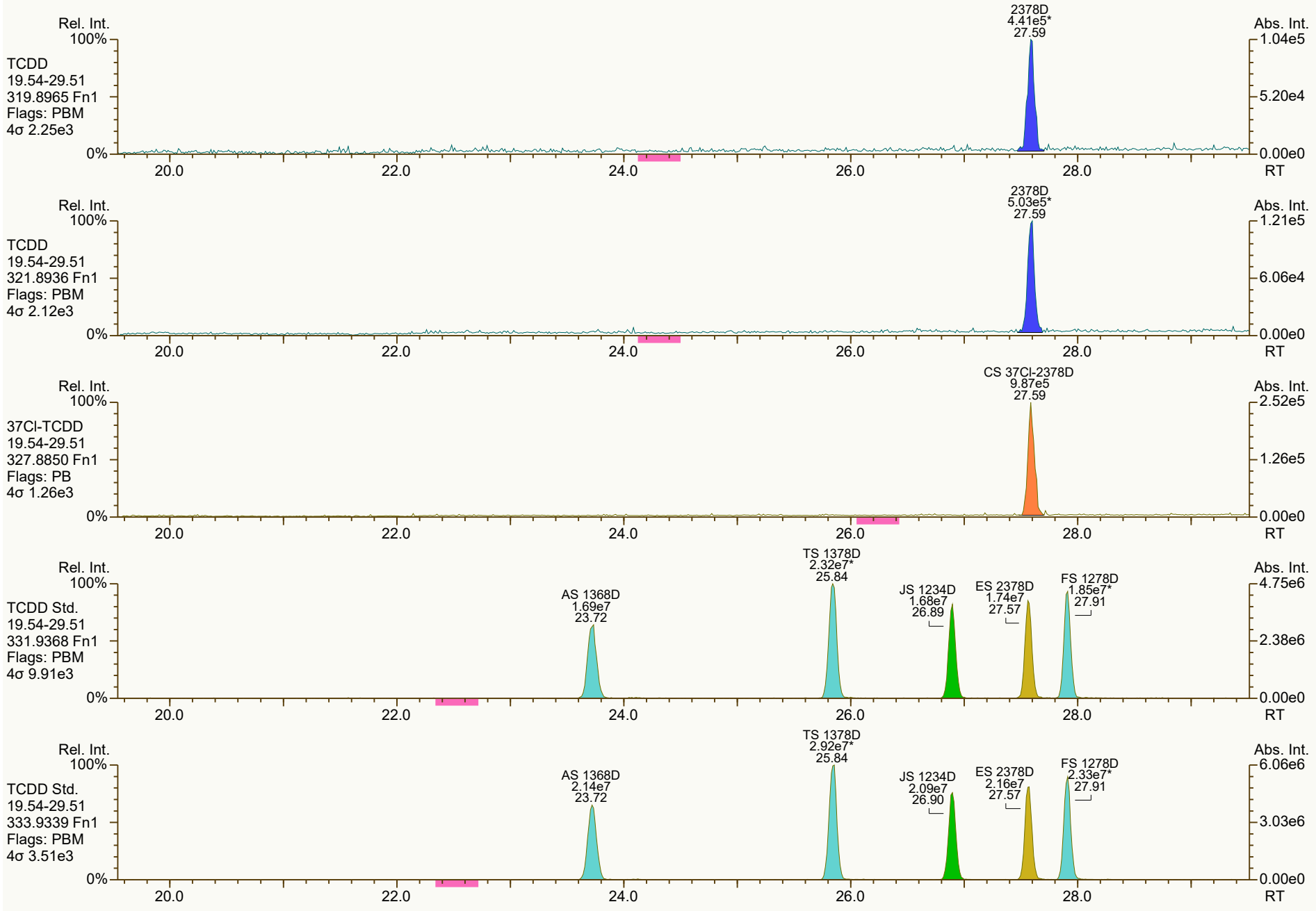
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

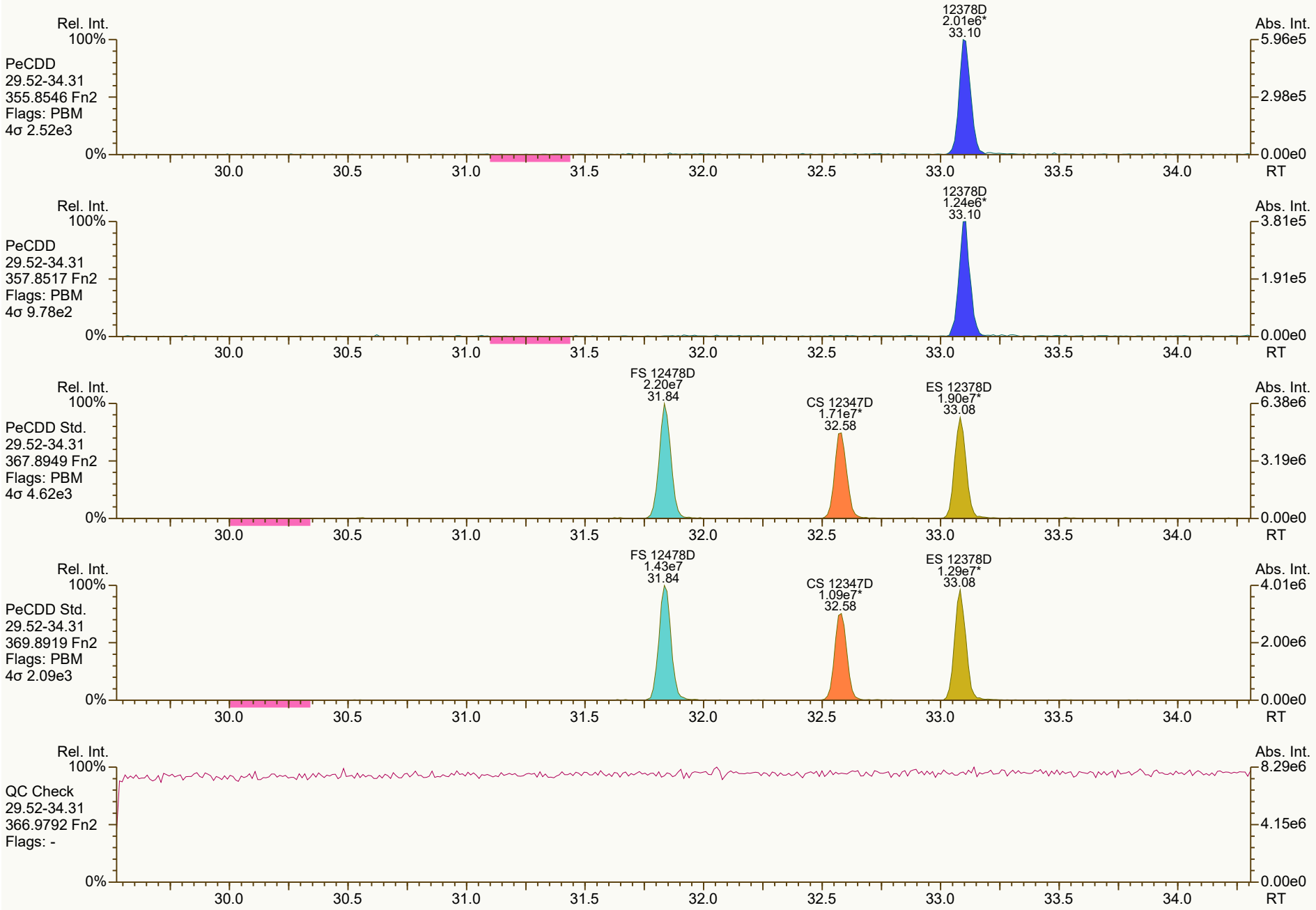
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

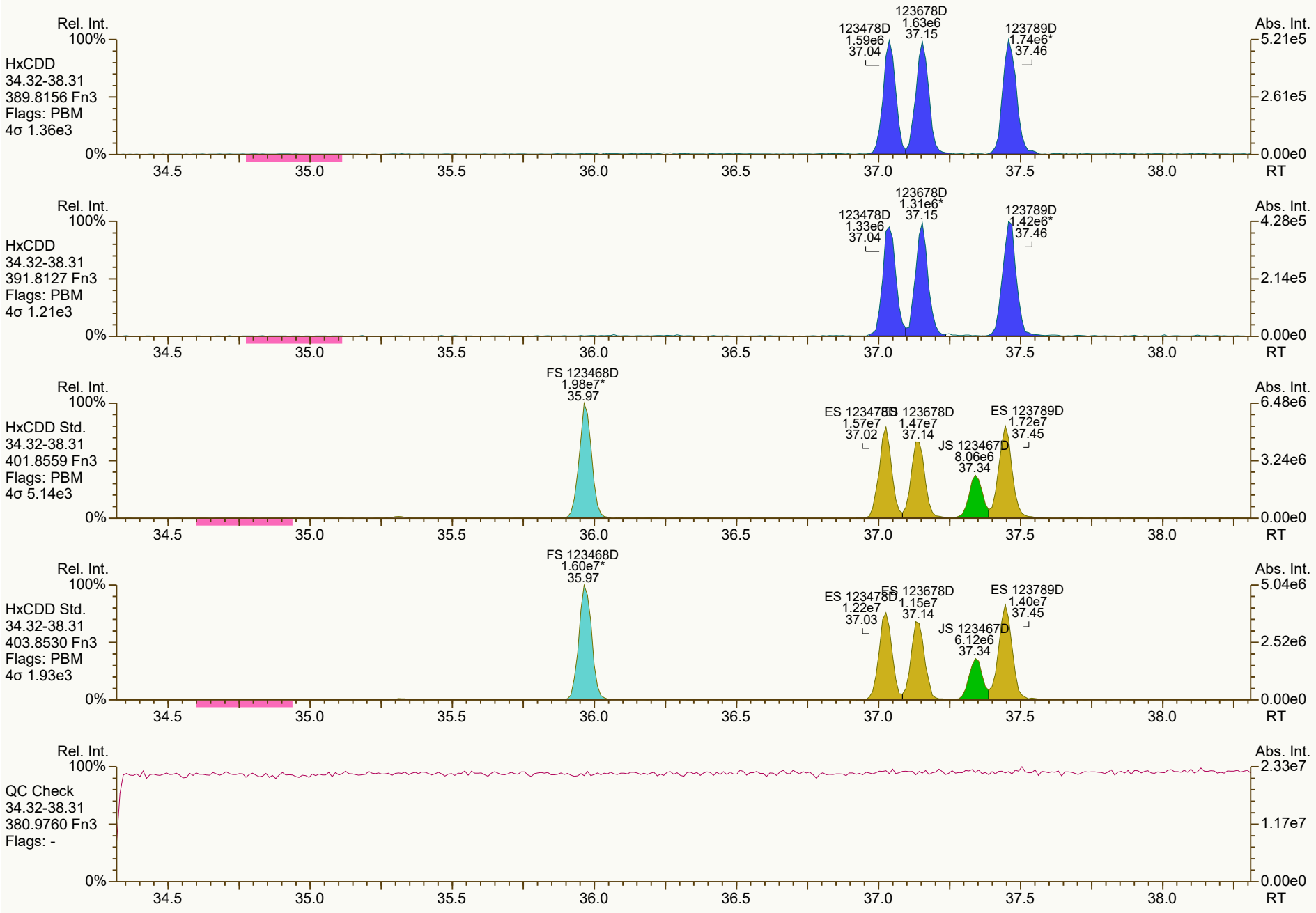
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

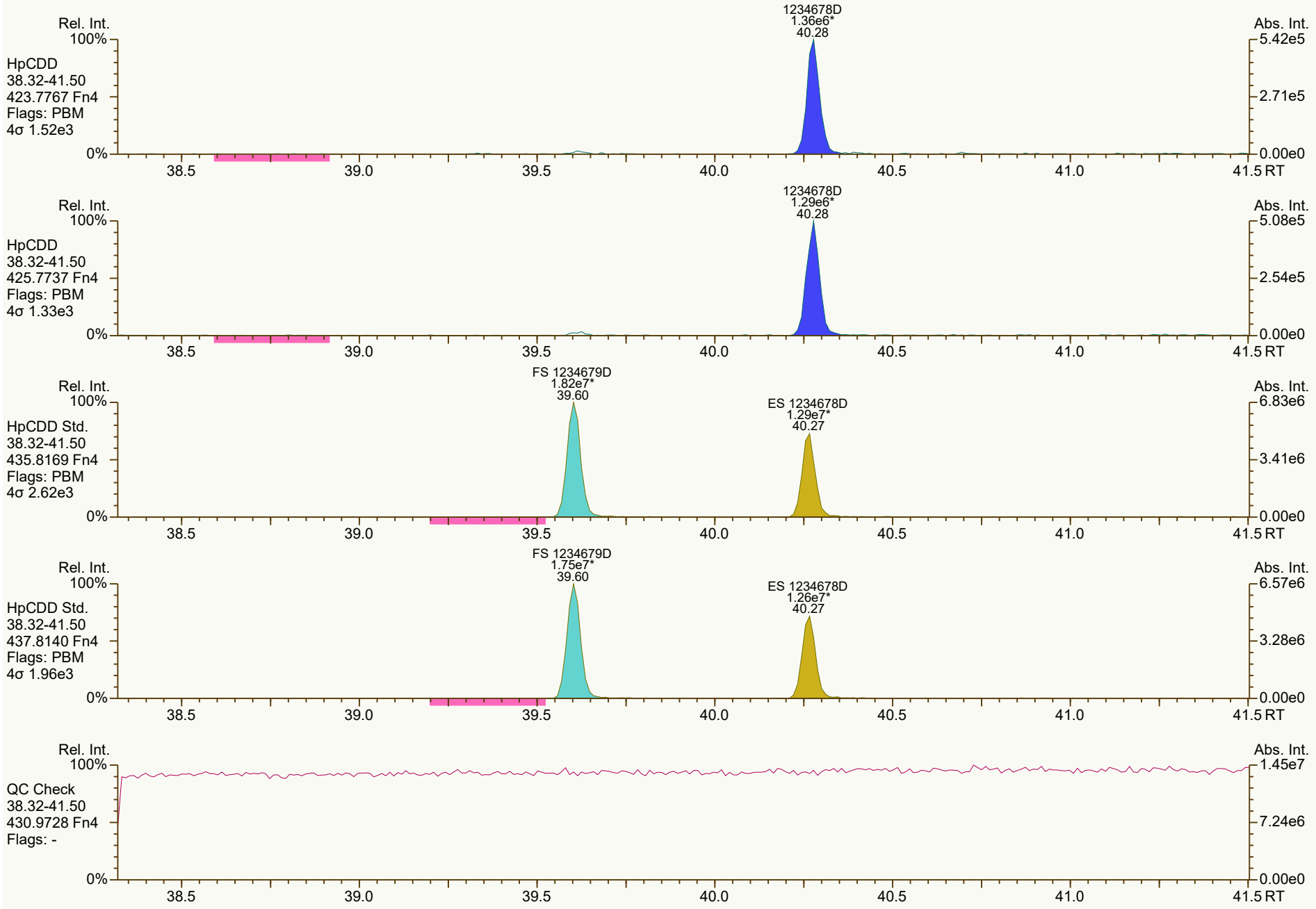
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

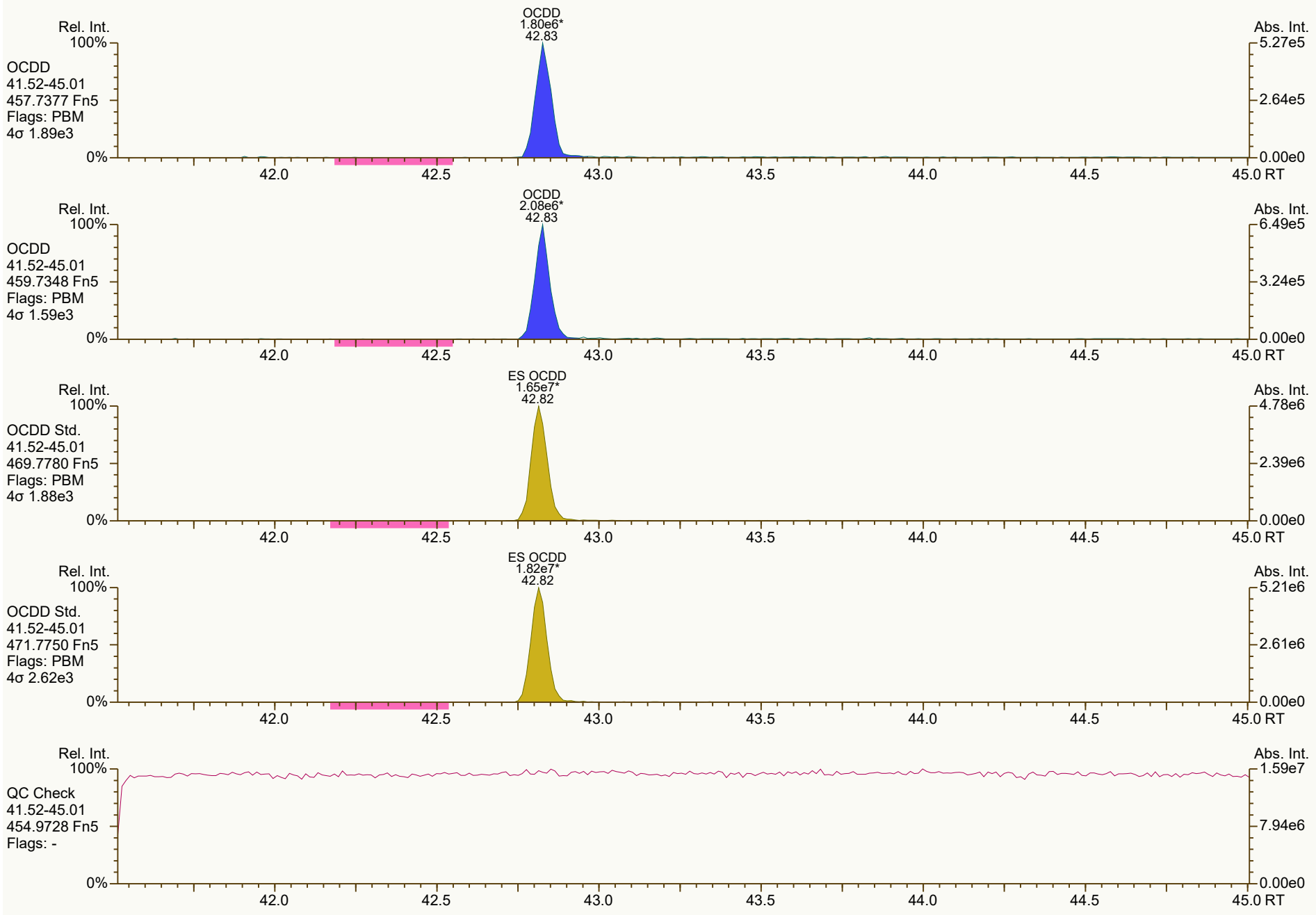

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0

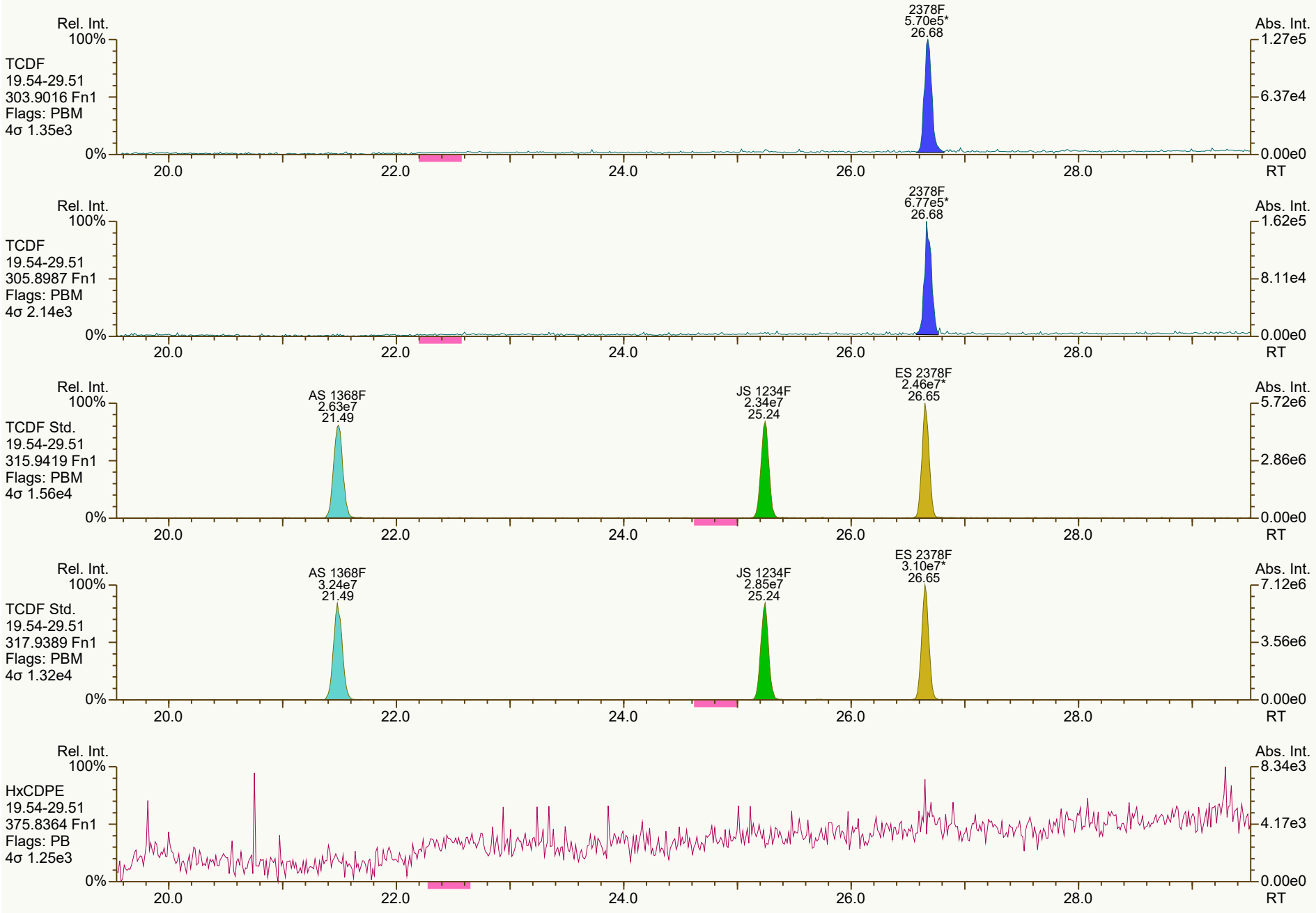

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
Abs. Int.
4.28e5
2.14e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
Abs. Int.
6.48e6
3.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
Abs. Int.
5.04e6
2.52e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

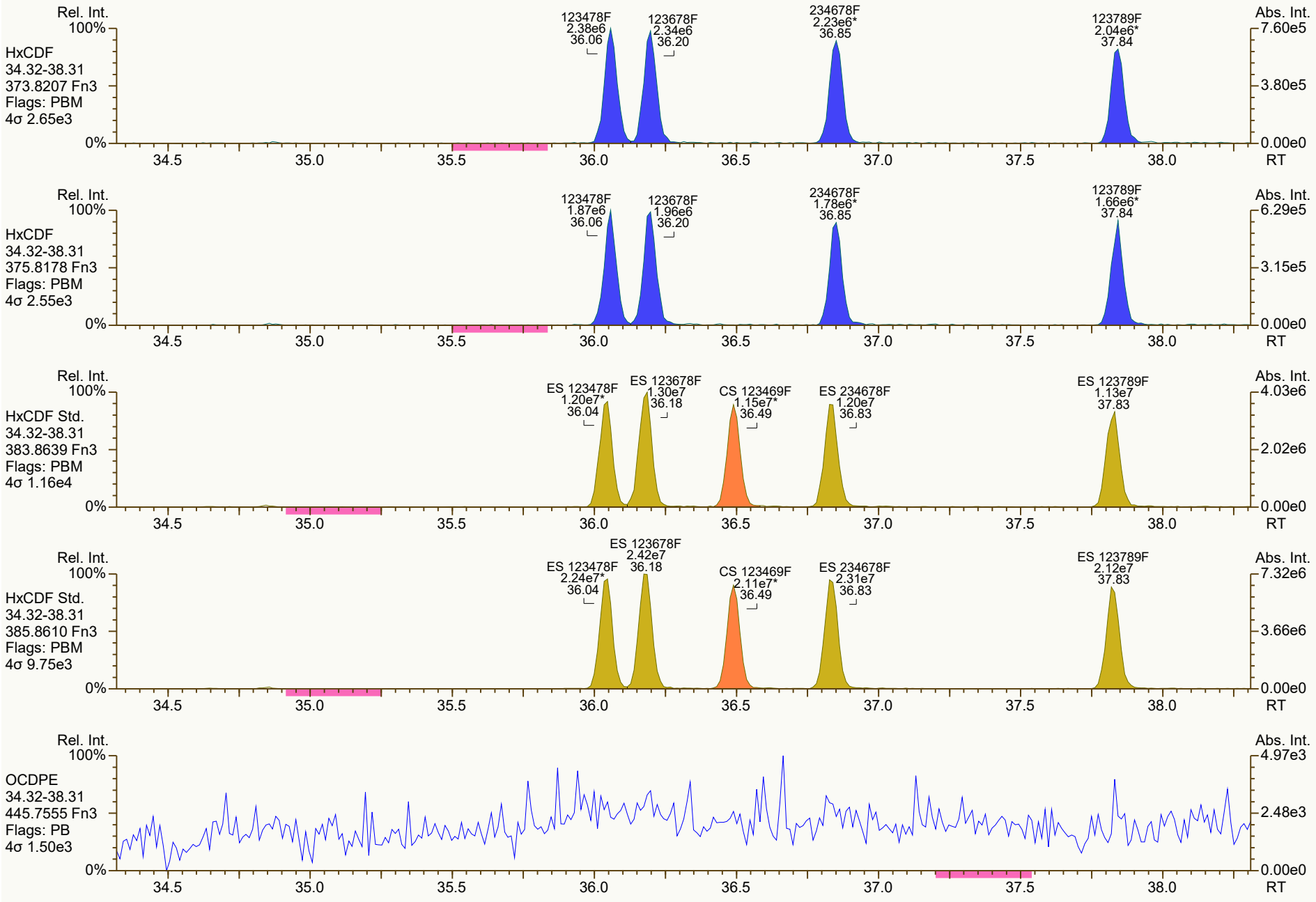

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

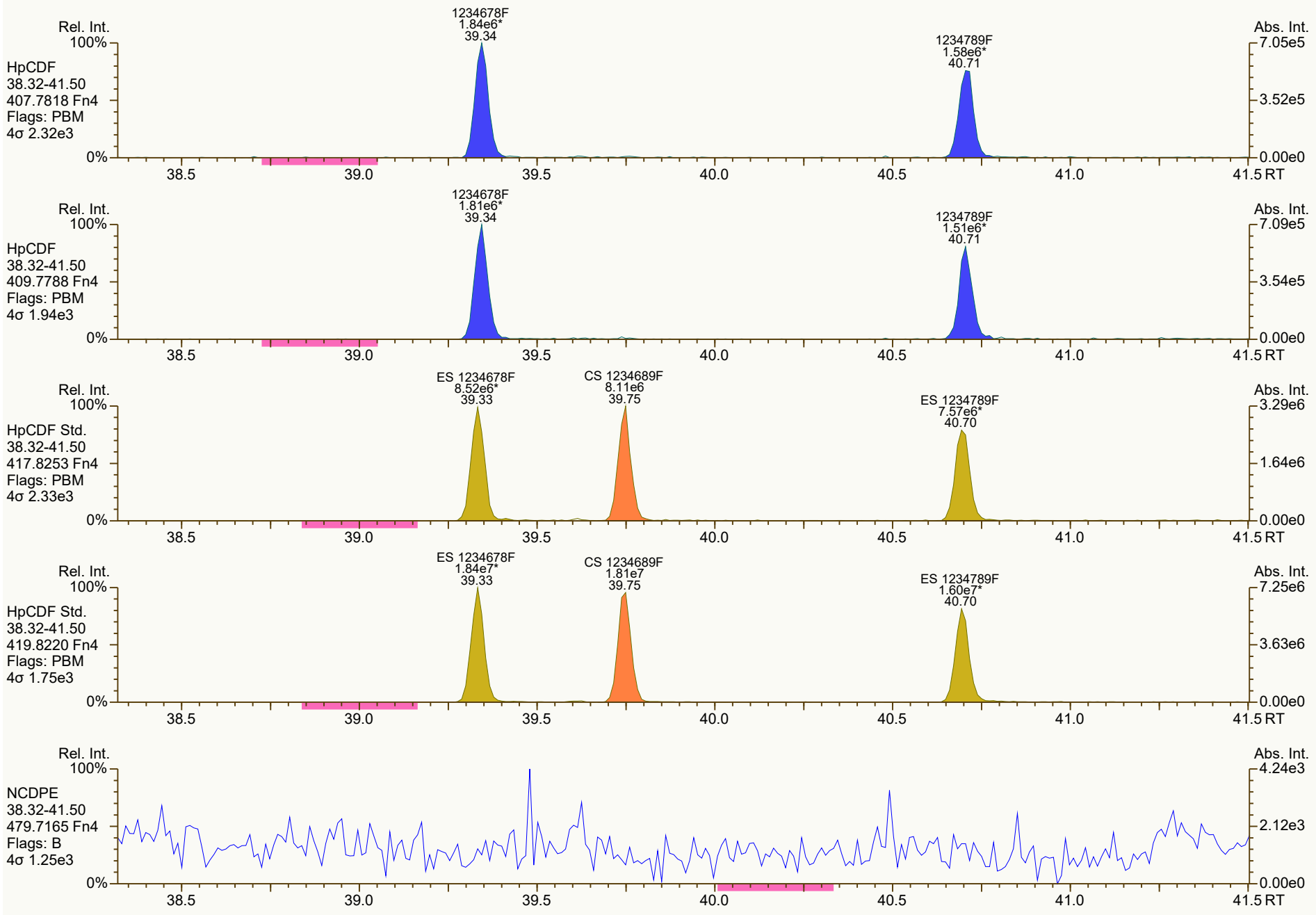

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
6.49e5
3.24e5
ES OCDD
1.65e7*
42.82
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
4.78e6
2.39e6
ES OCDD
1.82e7*
42.82
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
5.21e6
2.61e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.59e7
7.94e6

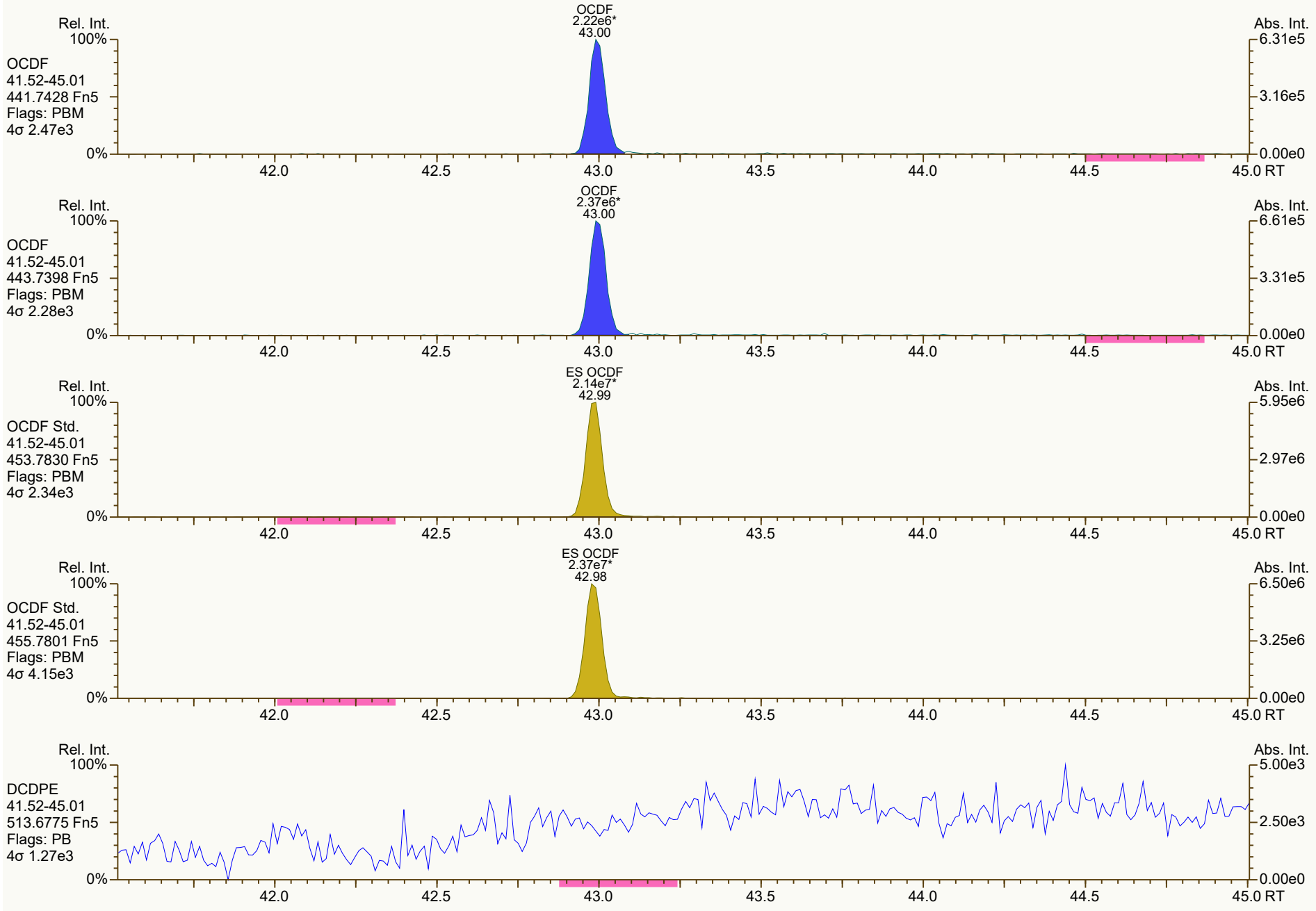

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
0%
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
0%
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
0%
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
0%
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
Abs. Int.
5.27e5
2.63e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
0%
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
Abs. Int.
8.01e6
4.01e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
0%
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
Abs. Int.
5.19e6
2.59e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
6.67e3
3.33e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
6.29e5
3.15e5
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
4.03e6
2.02e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
ES 123478F
2.24e7*
36.04
ES 123678F
2.42e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
7.32e6
3.66e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
4.97e3
2.48e3

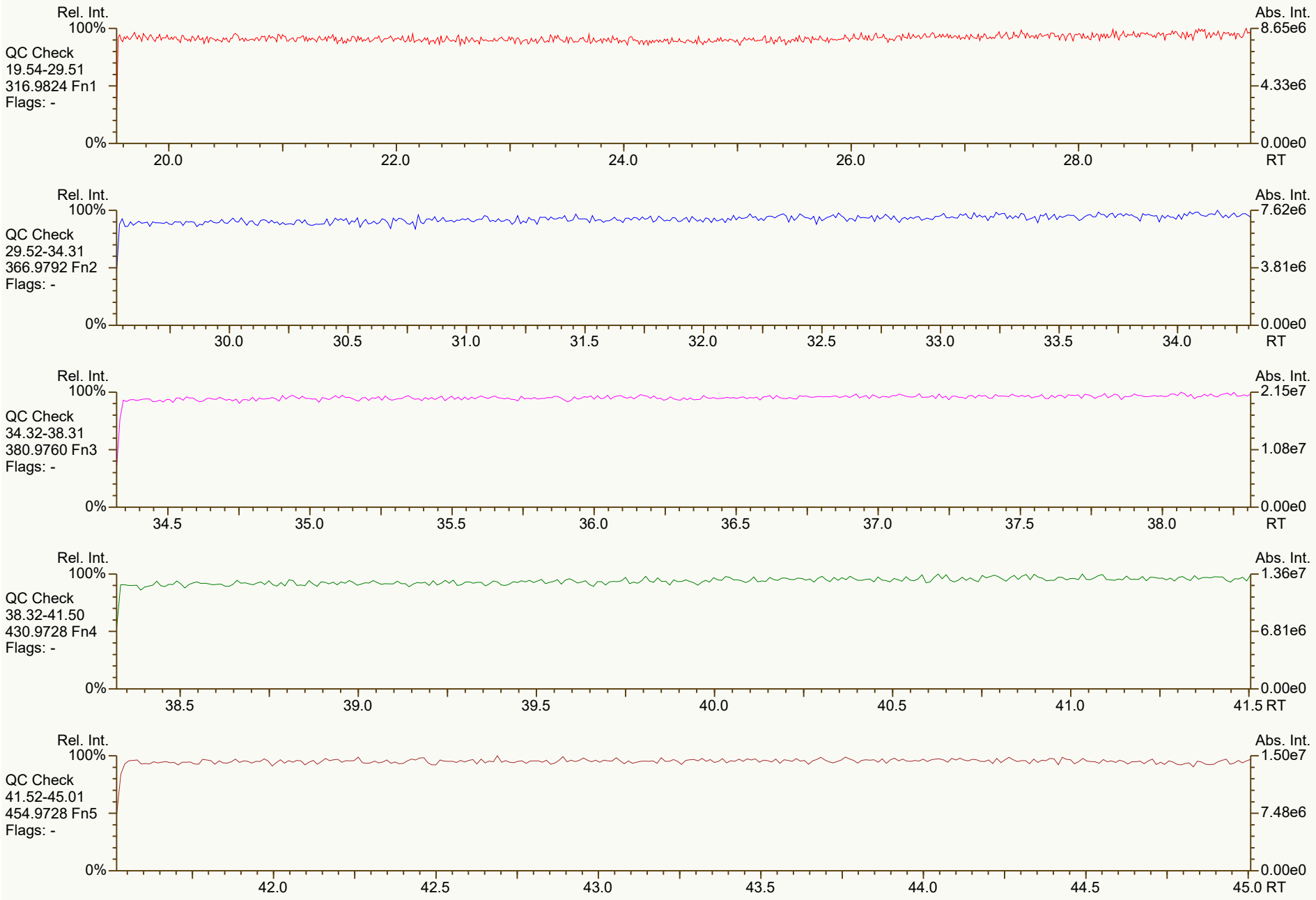

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
Abs. Int.
4.24e3
2.12e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
2.22e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
0%
Abs. Int.
6.31e5
3.16e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.37e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
0%
Abs. Int.
6.61e5
3.31e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.14e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
5.95e6
2.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.37e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
0%
Abs. Int.
6.50e6
3.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

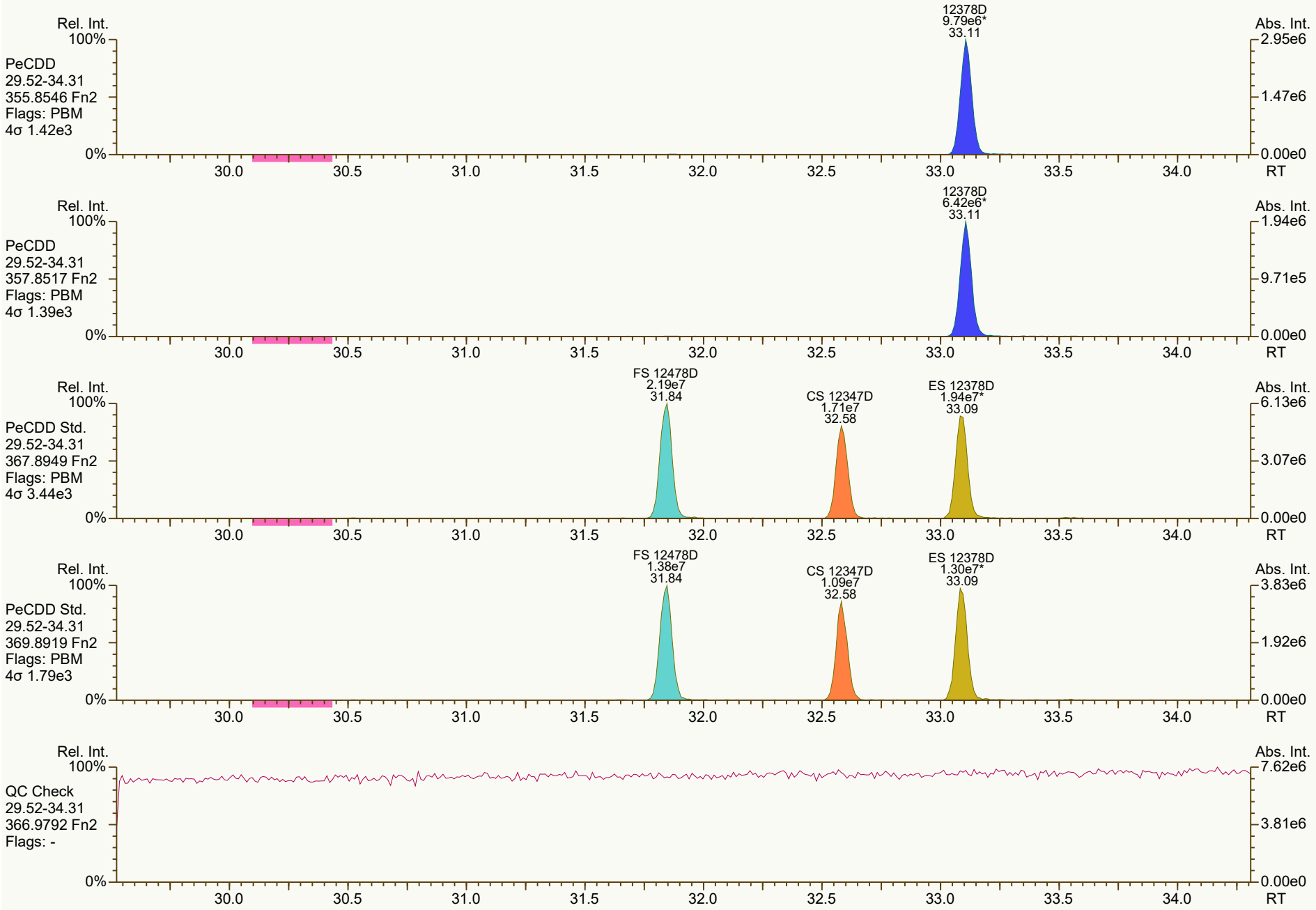
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

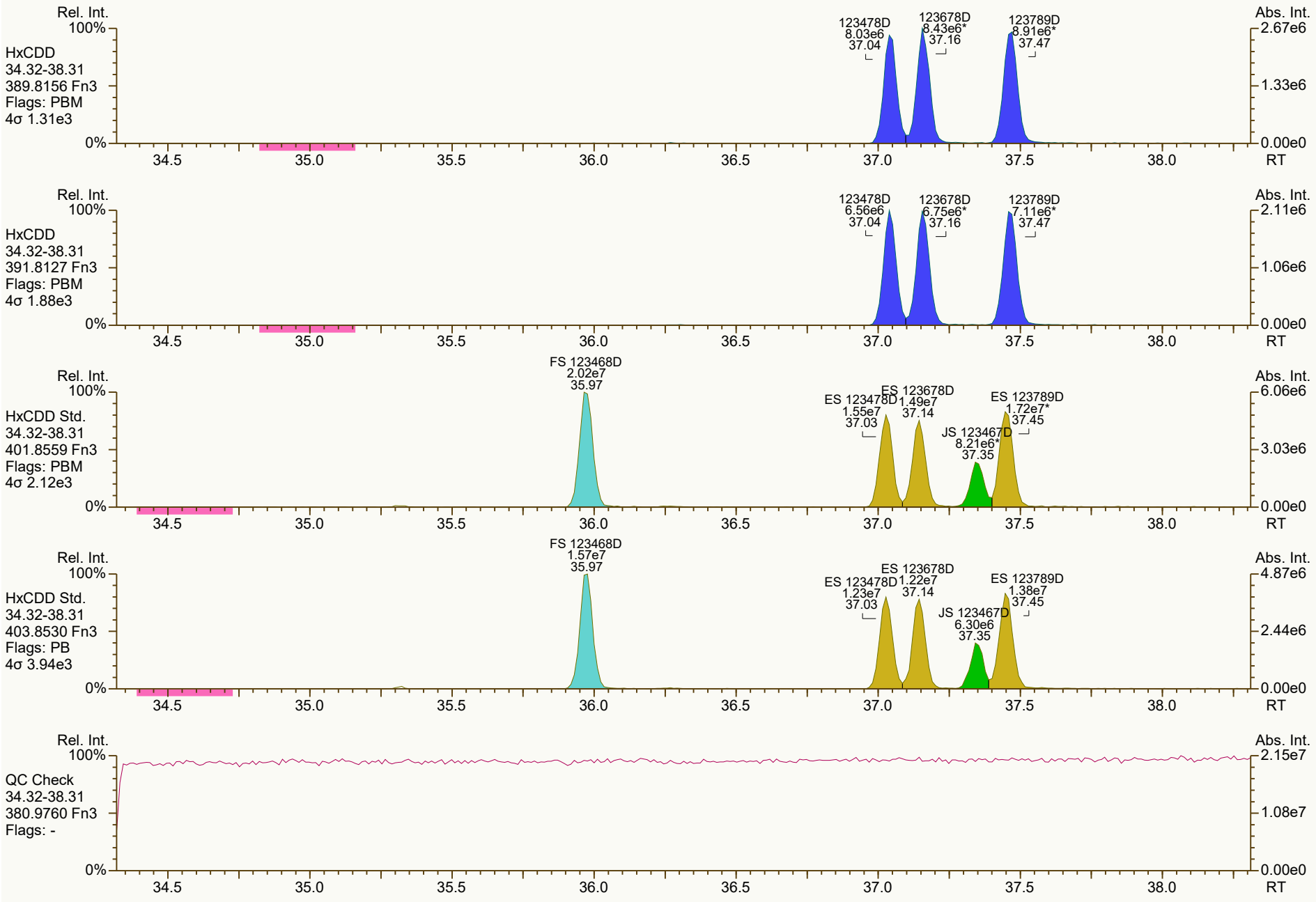
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

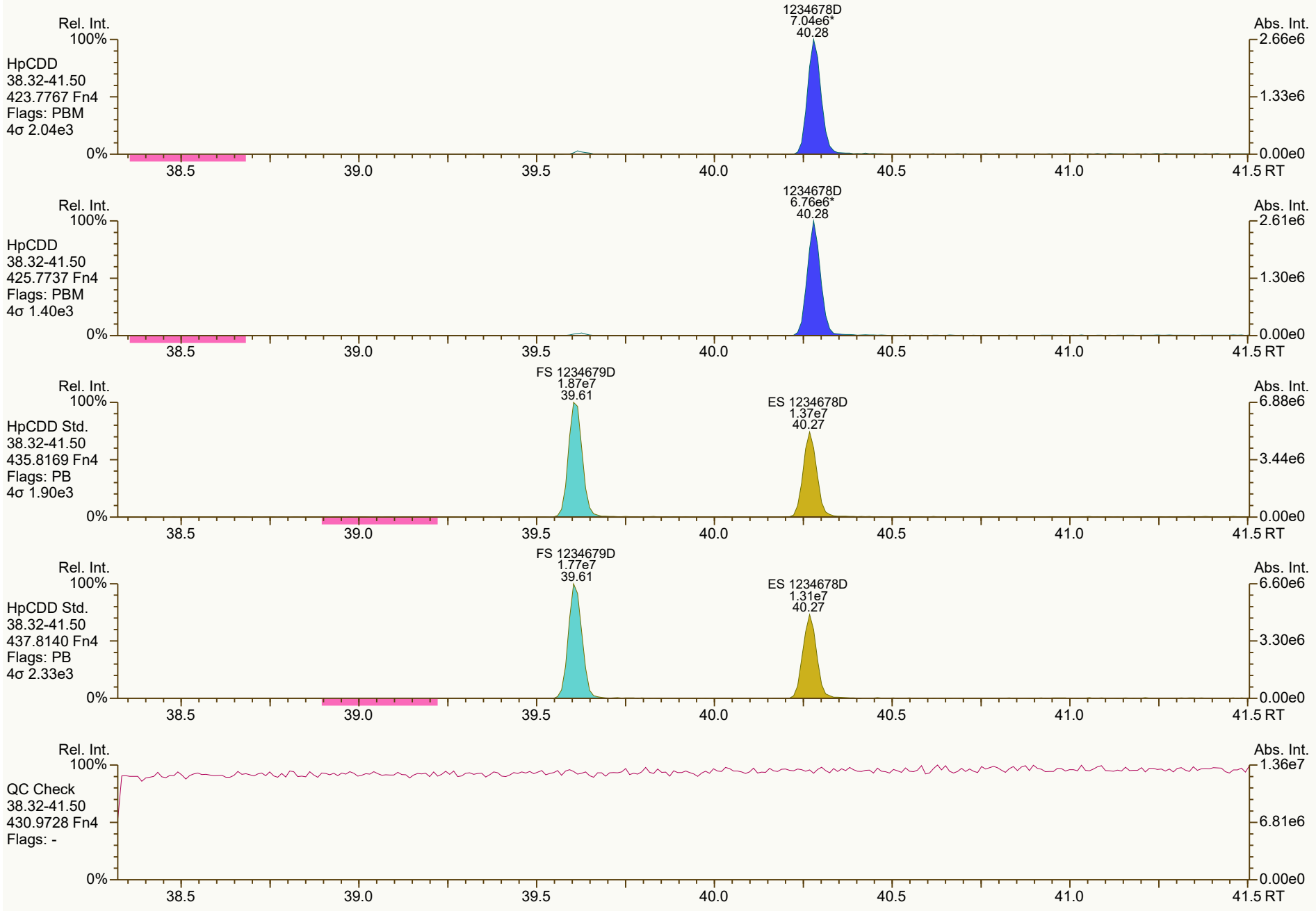
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%


Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
0%
2378D
1.99e6
27.60
Abs. Int.
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
0%
2378D
2.55e6
27.60
Abs. Int.
5.98e5
2.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
Abs. Int.
1.03e6
5.16e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
0%
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
Abs. Int.
4.80e6
2.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
0%
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
0%
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
0%
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
0%
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
0%
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.62e6
3.81e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
9.25e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.02e7*
42.83
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
2.86e6
1.43e6
ES OCDD
1.70e7
42.82
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
4.76e6
2.38e6
ES OCDD
1.86e7
42.82
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
5.07e6
2.54e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.50e7
7.48e6

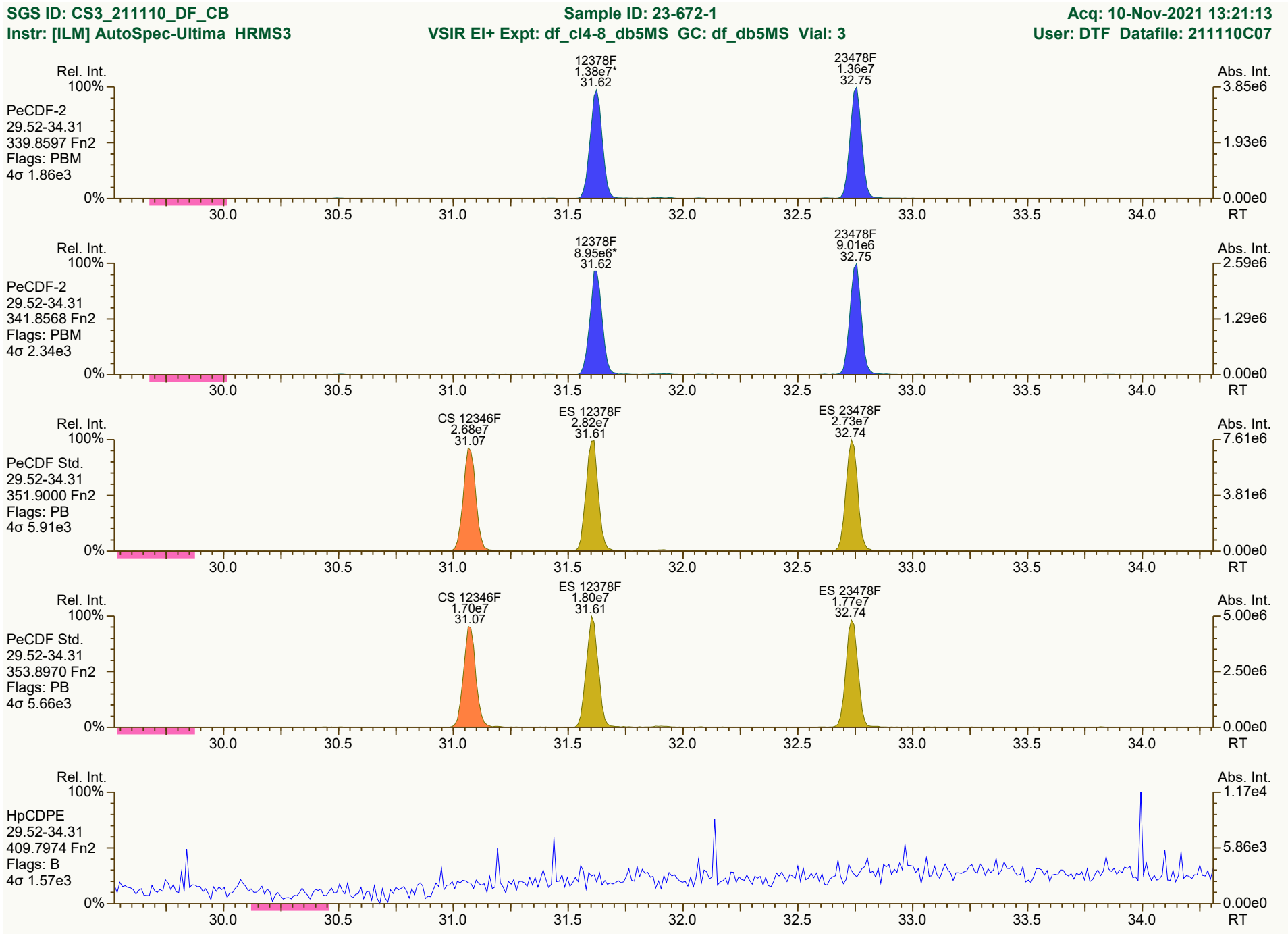

Rel. Int.
100%
0%
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
2378F
2.58e6
26.68
5.81e5
2.91e5
0.00e0
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
2378F
3.32e6
26.68
7.66e5
3.83e5
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
5.45e6
2.73e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
6.76e6
3.38e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
6.84e3
3.42e3
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT

SGS ID: CS3_211110_DF_CB
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 23-672-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3

Acq: 10-Nov-2021 13:21:13
User: DTF Datafile: 211110C07

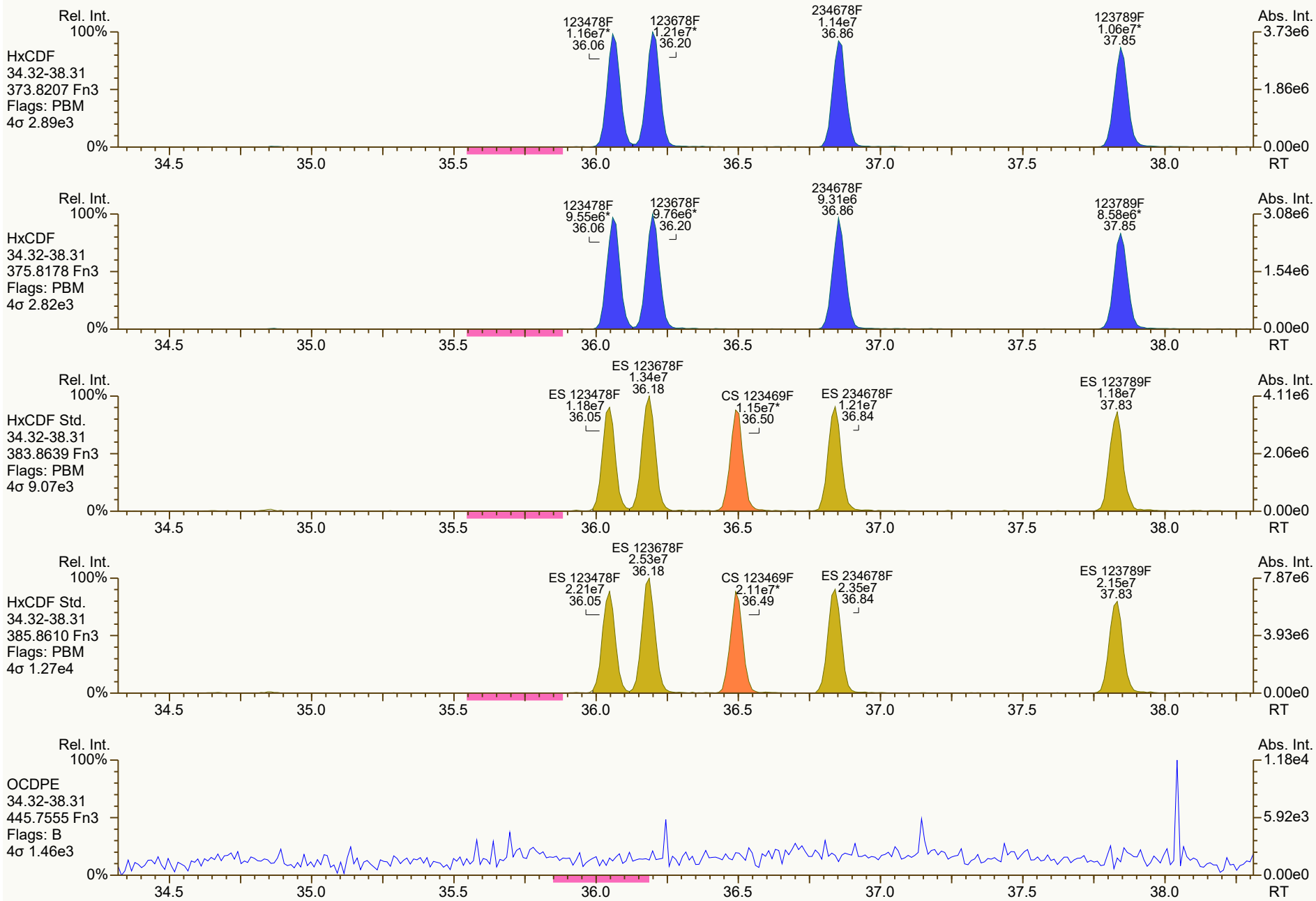


Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0728, 8378, 8418 scc: 507-474
Revised: 10-Nov-2021 14:17 (DTF) Printed: 11-Nov-2021 10:41 Page 9 of 12

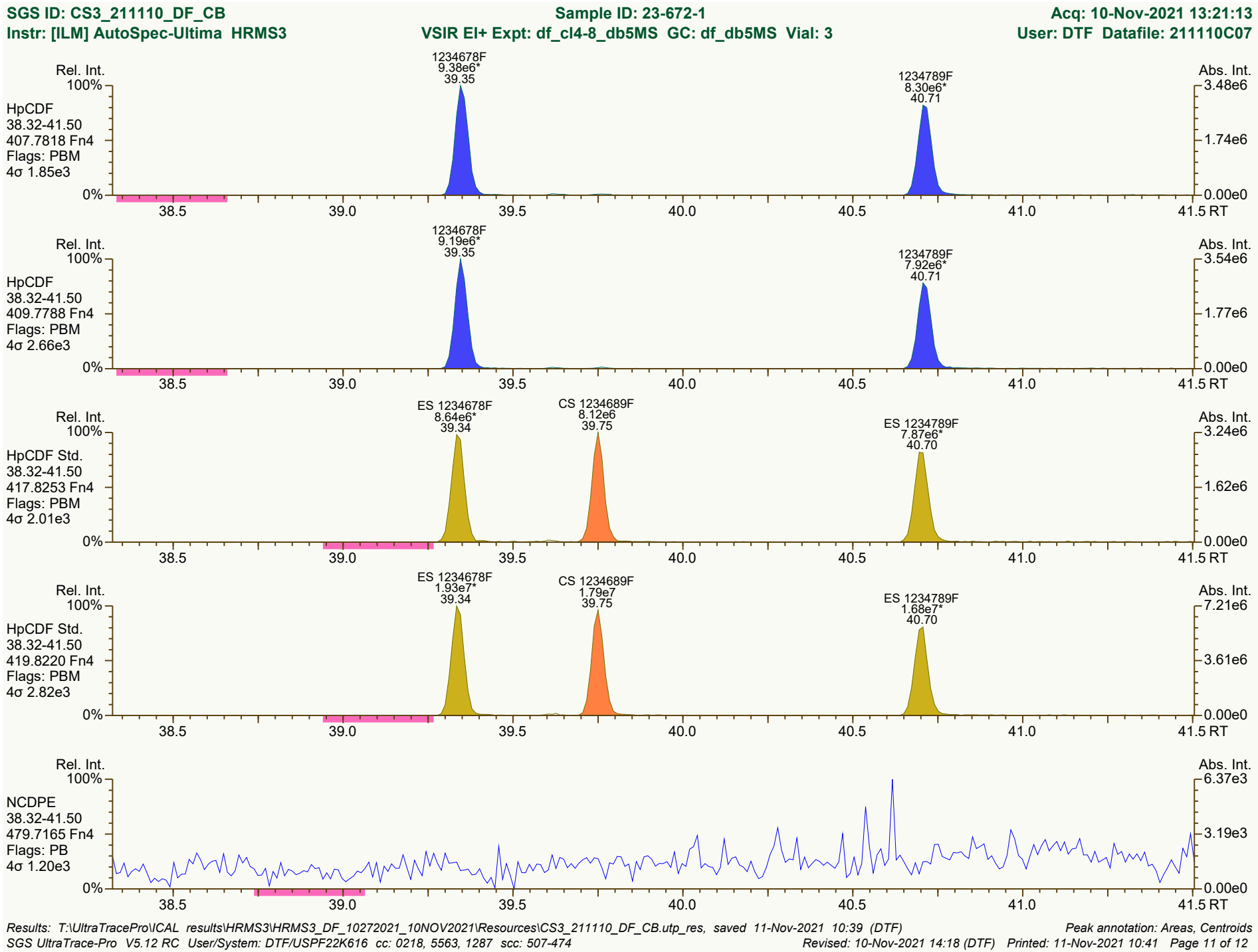
SGS ID: CS3_211110_DF_CB
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 23-672-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3

Acq: 10-Nov-2021 13:21:13
User: DTF Datafile: 211110C07



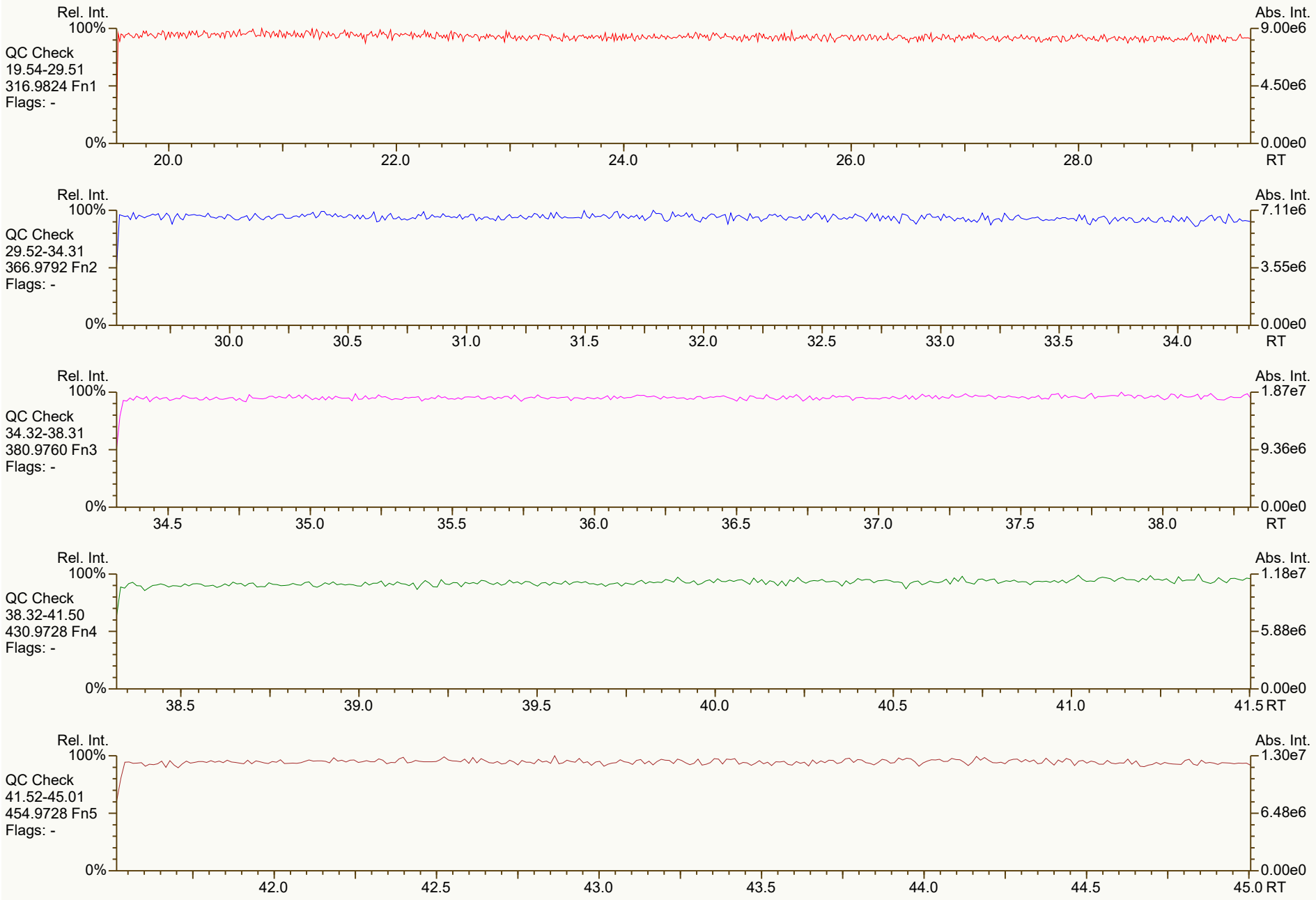
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0985, 9027, 6556 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 10 of 12

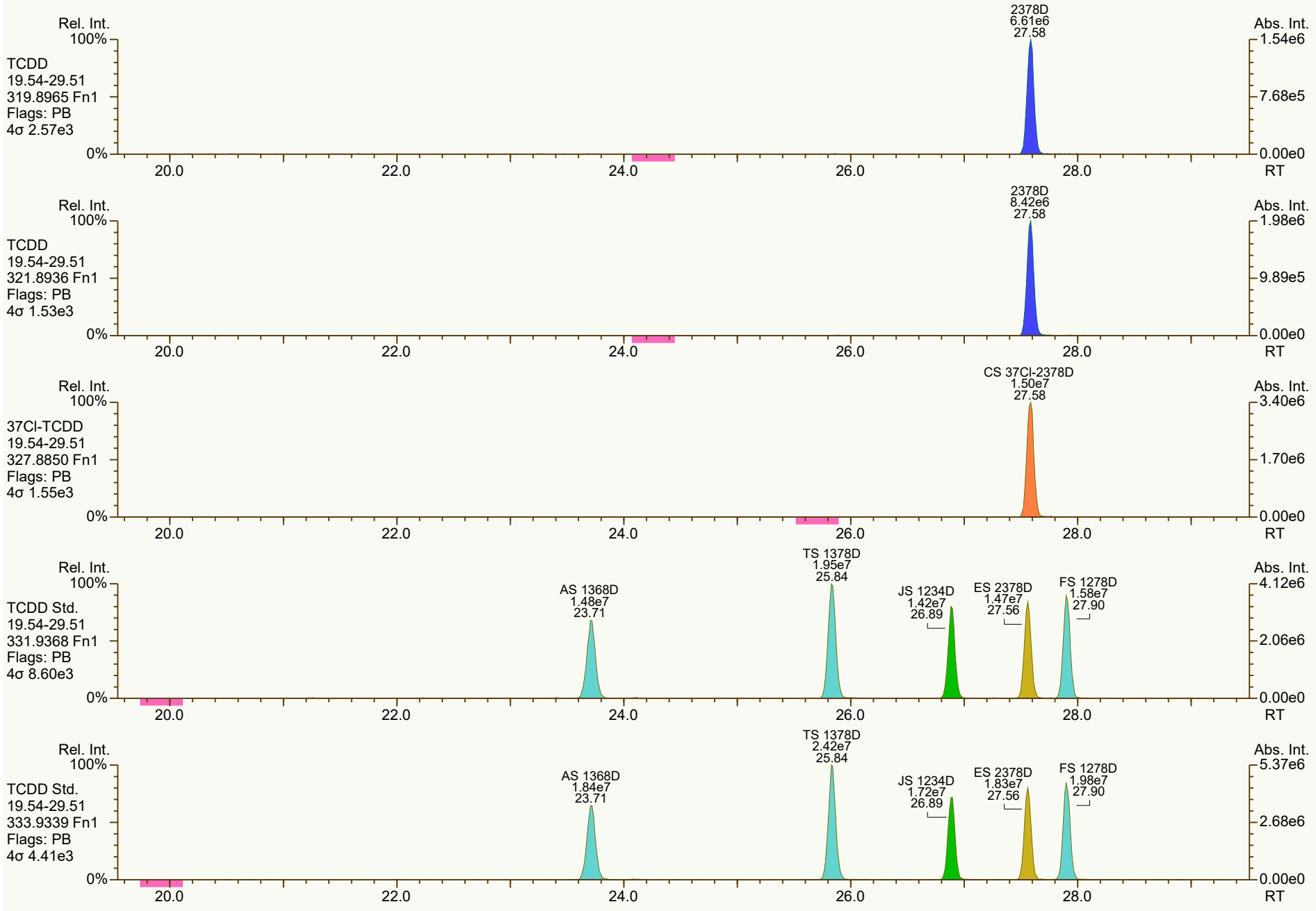

SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
3.48e6
1.74e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
3.54e6
1.77e6
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
3.24e6
1.62e6
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
7.21e6
3.61e6
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
6.37e3
3.19e3
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

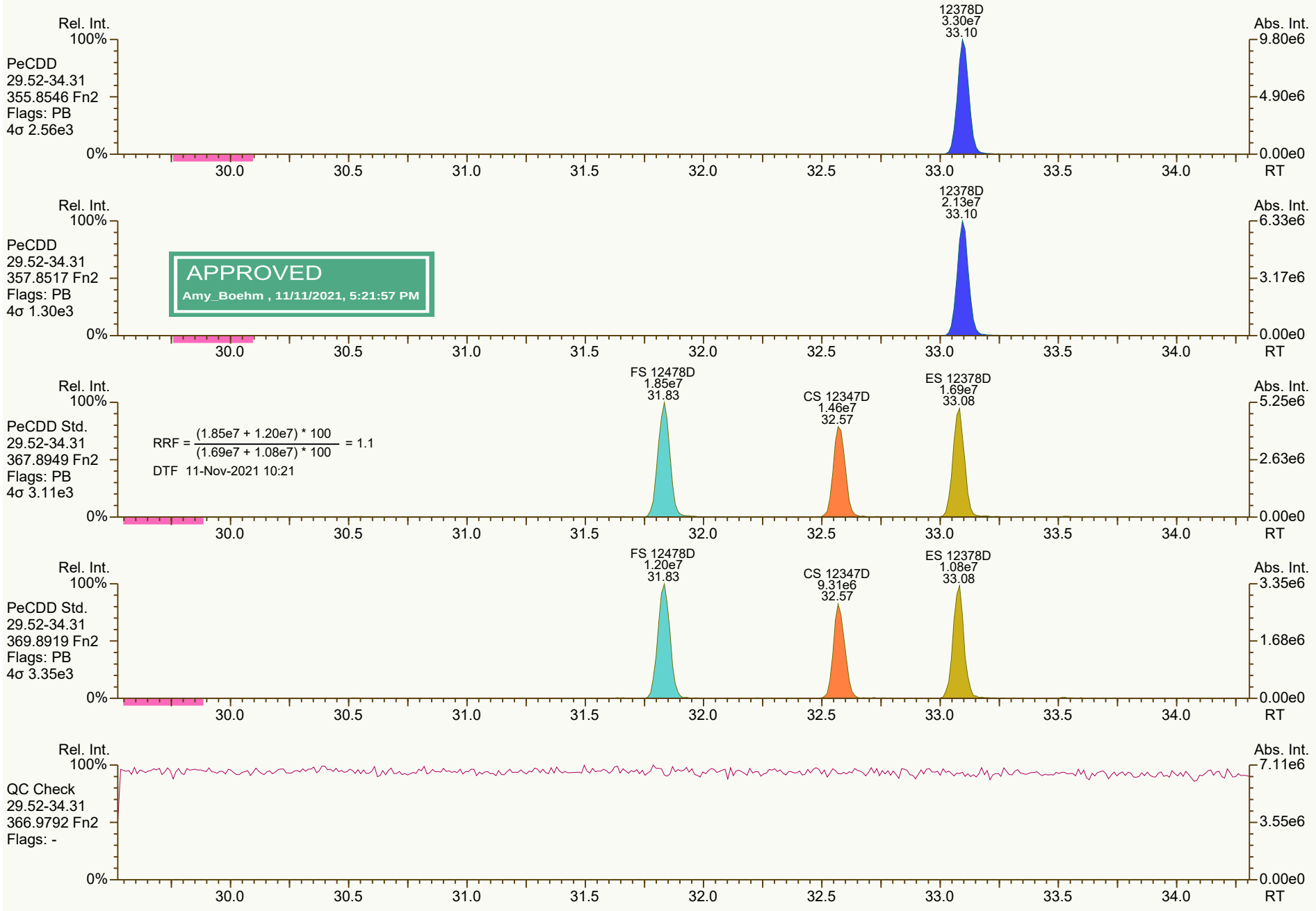

OCDF
1.15e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
3.25e6
1.62e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
0%
Abs. Int.
3.53e6
1.76e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.21e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
0%
Abs. Int.
6.08e6
3.04e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.39e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
0%
Abs. Int.
6.65e6
3.32e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
0%
Abs. Int.
4.82e3
2.41e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

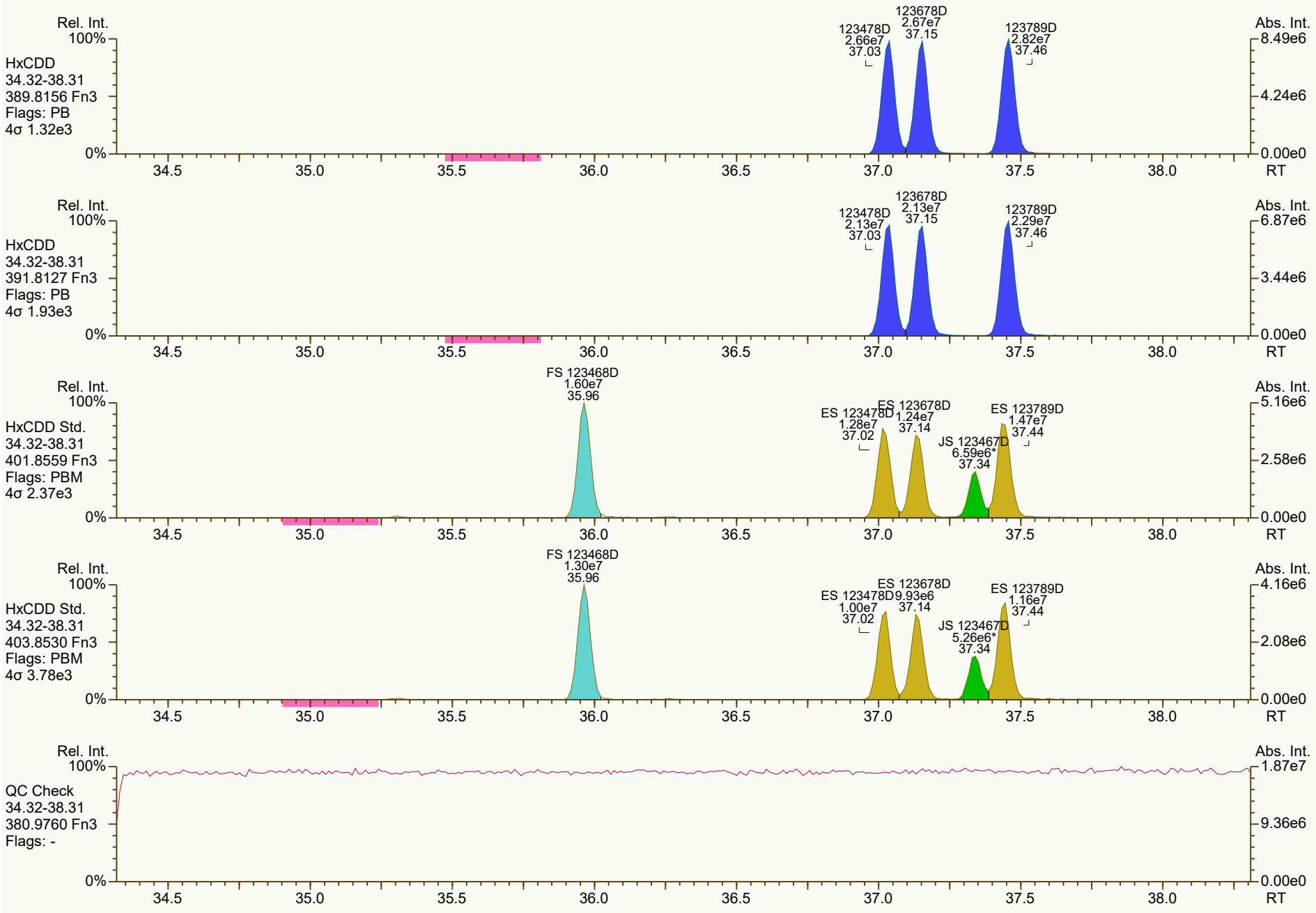
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:07 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS4_211110_DF_CA		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 855-576-PGM	
Sample ID: 25-5-4		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C08	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

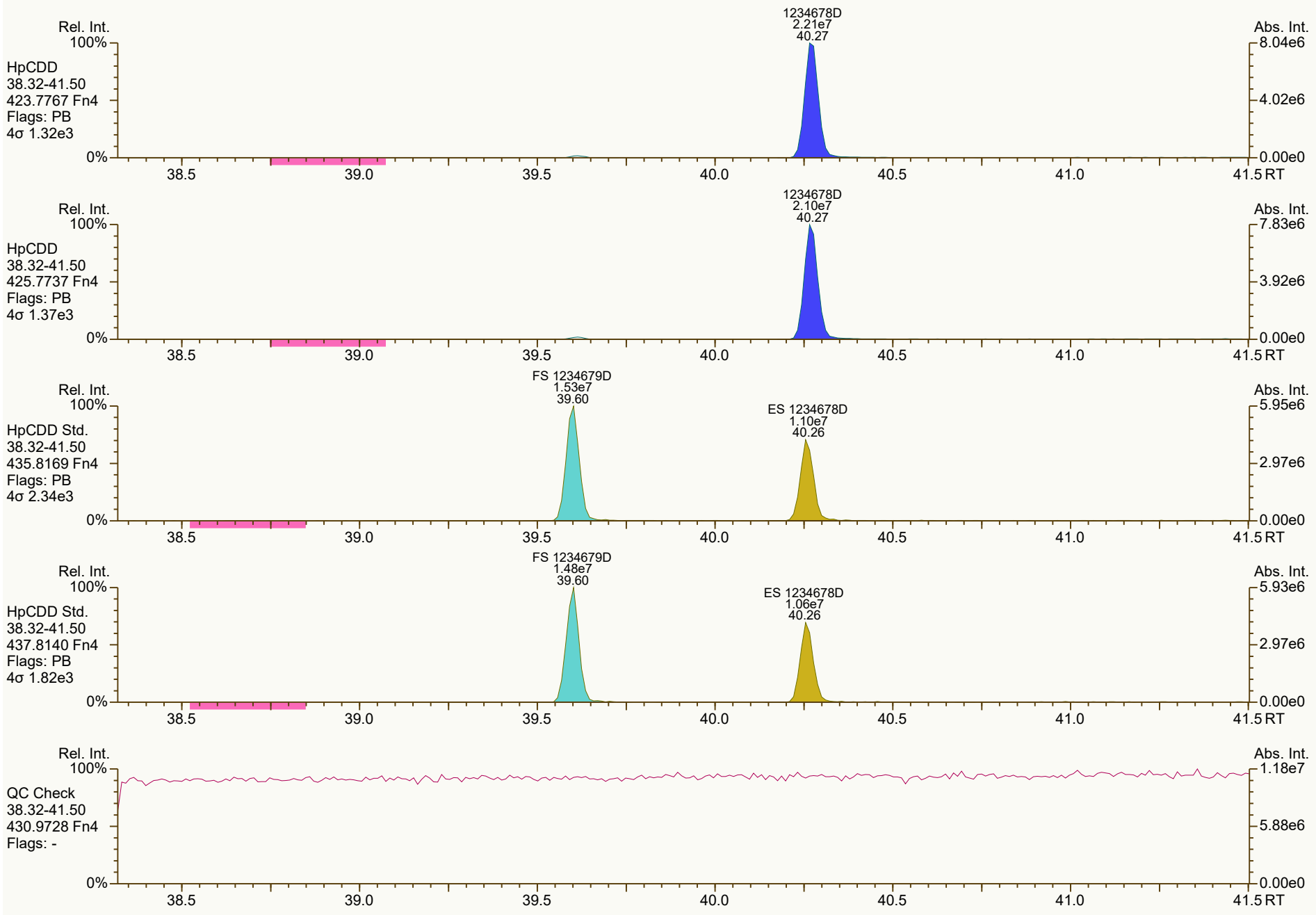
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:07 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS4_211110_DF_CA		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 855-576-PGM	
Sample ID: 25-5-4		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C08	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

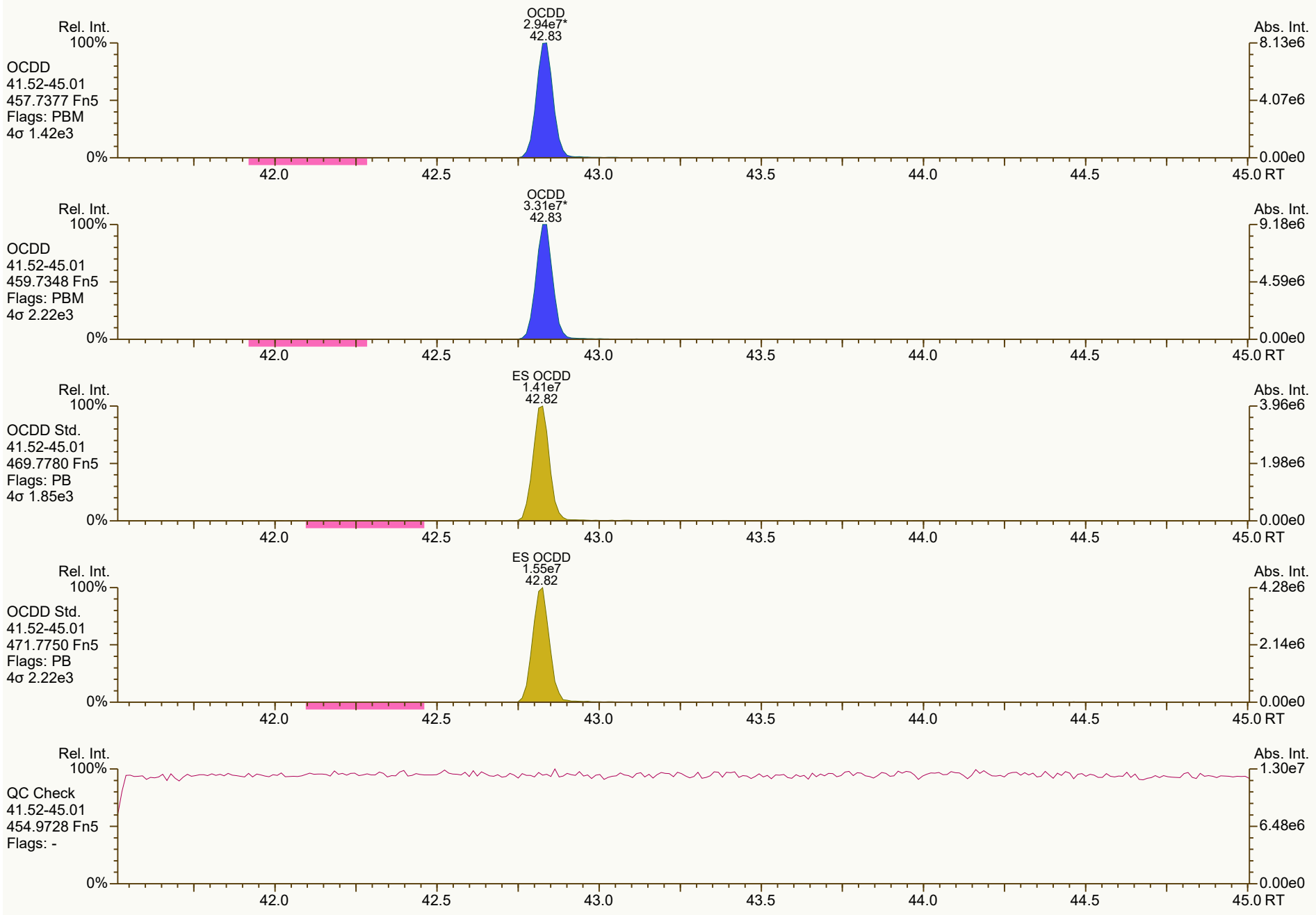

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
9.00e6
4.50e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
7.11e6
3.55e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
1.87e7
9.36e6
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.18e7
5.88e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.30e7
6.48e6
0.00e0
RT


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
0%
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
0%
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

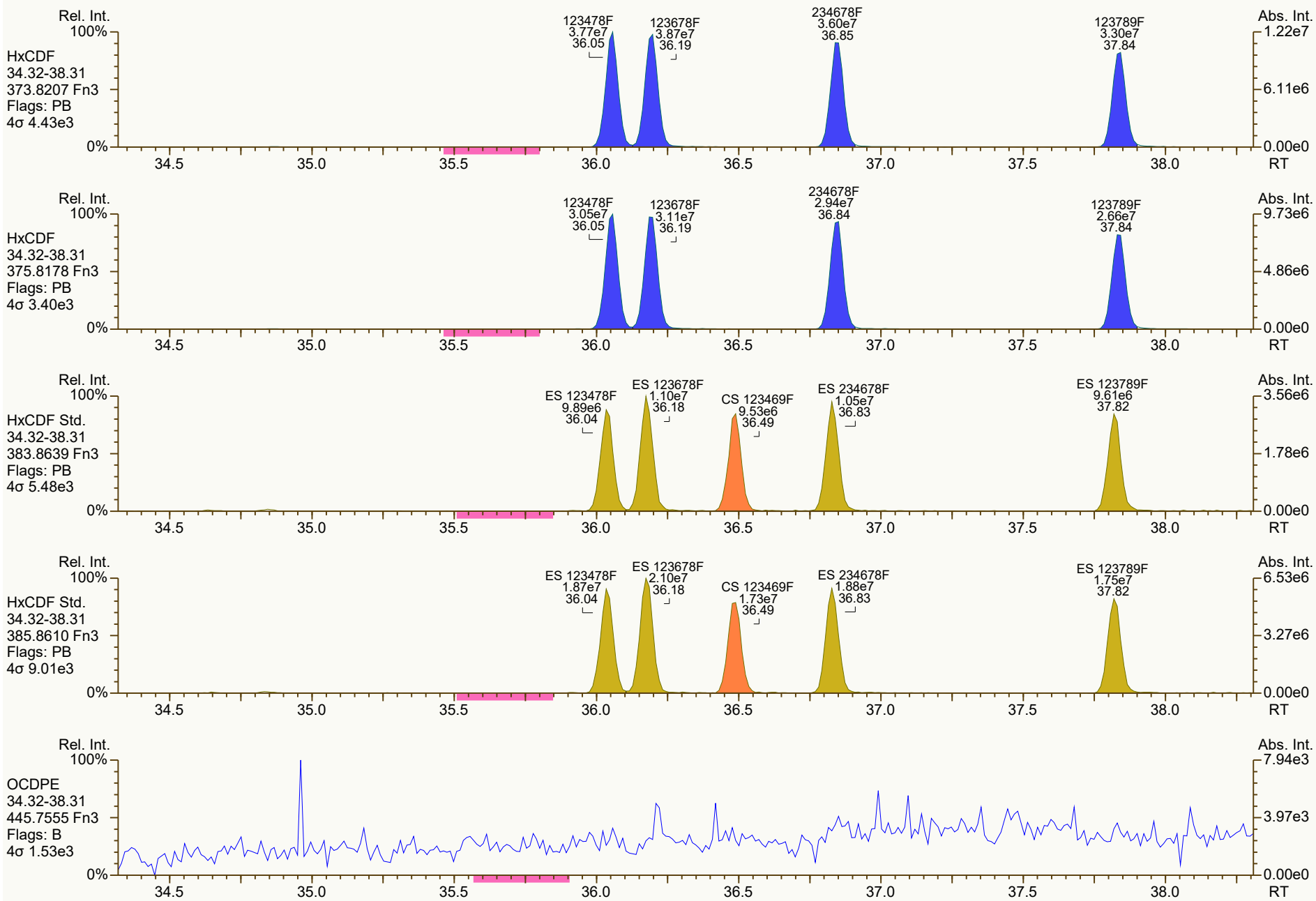

Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
RT
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
8.94e3
4.47e3
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
9.00e6
4.50e6
20.0
22.0
24.0
26.0
28.0


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
Abs. Int.
7.51e3
3.76e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

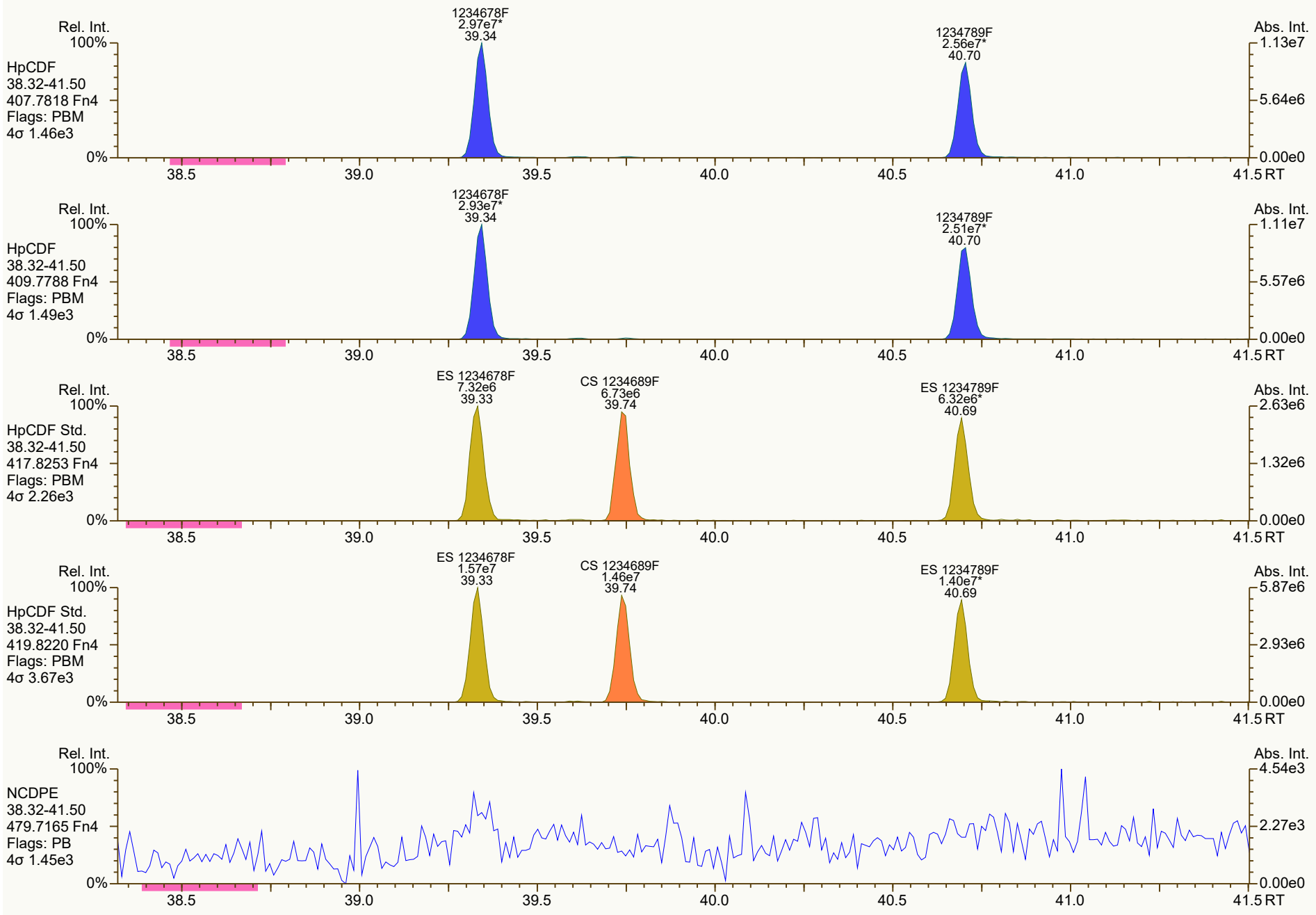
SGS ID: CS4_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

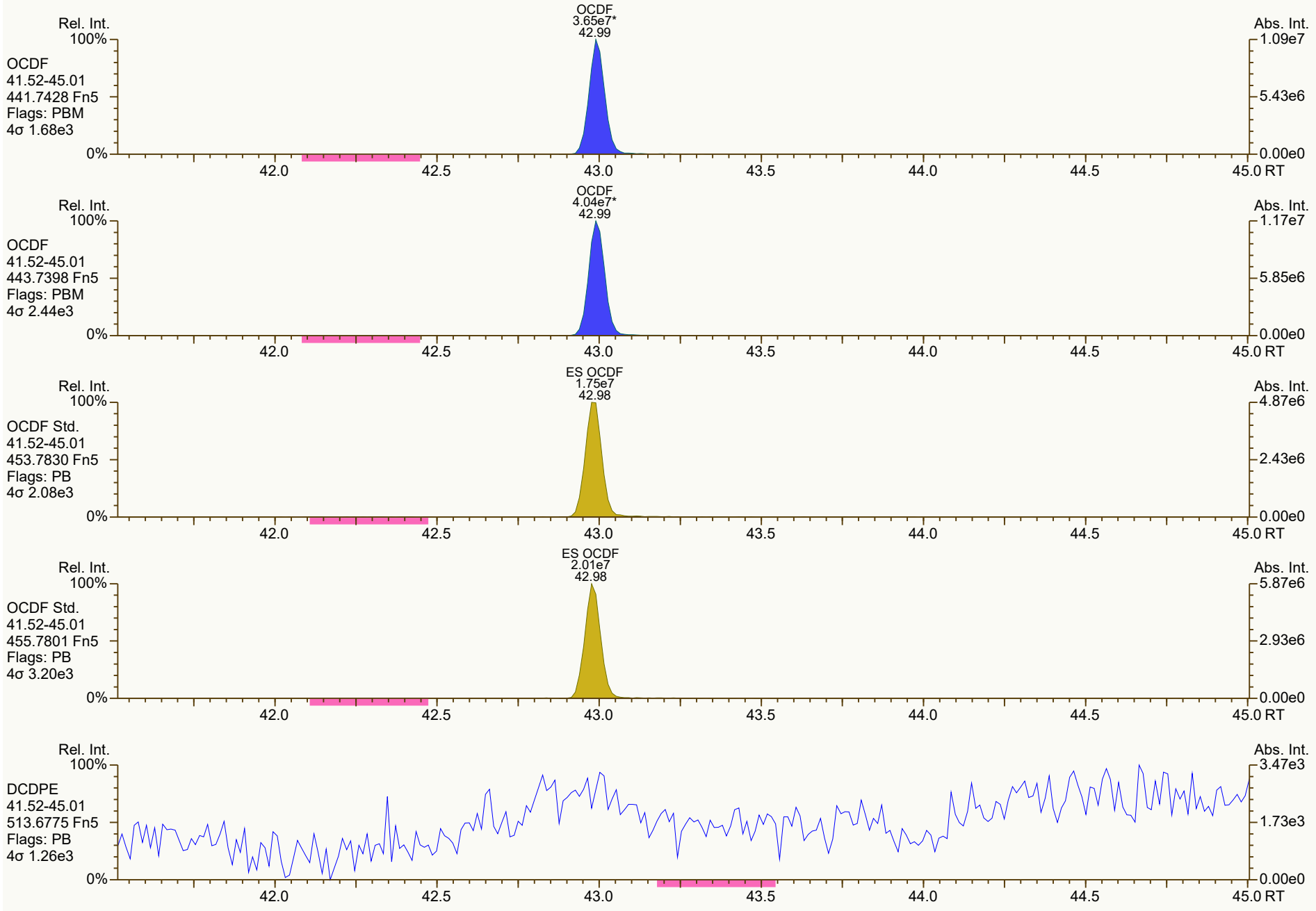
Sample ID: 25-5-4
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69

Acq: 10-Nov-2021 14:07:32
User: DTF Datafile: 211110C08



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0495, 2507, 5312 scc: 855-576
PKD: 10-Nov-2021 15:17 Printed: 11-Nov-2021 10:41 Page 10 of 12

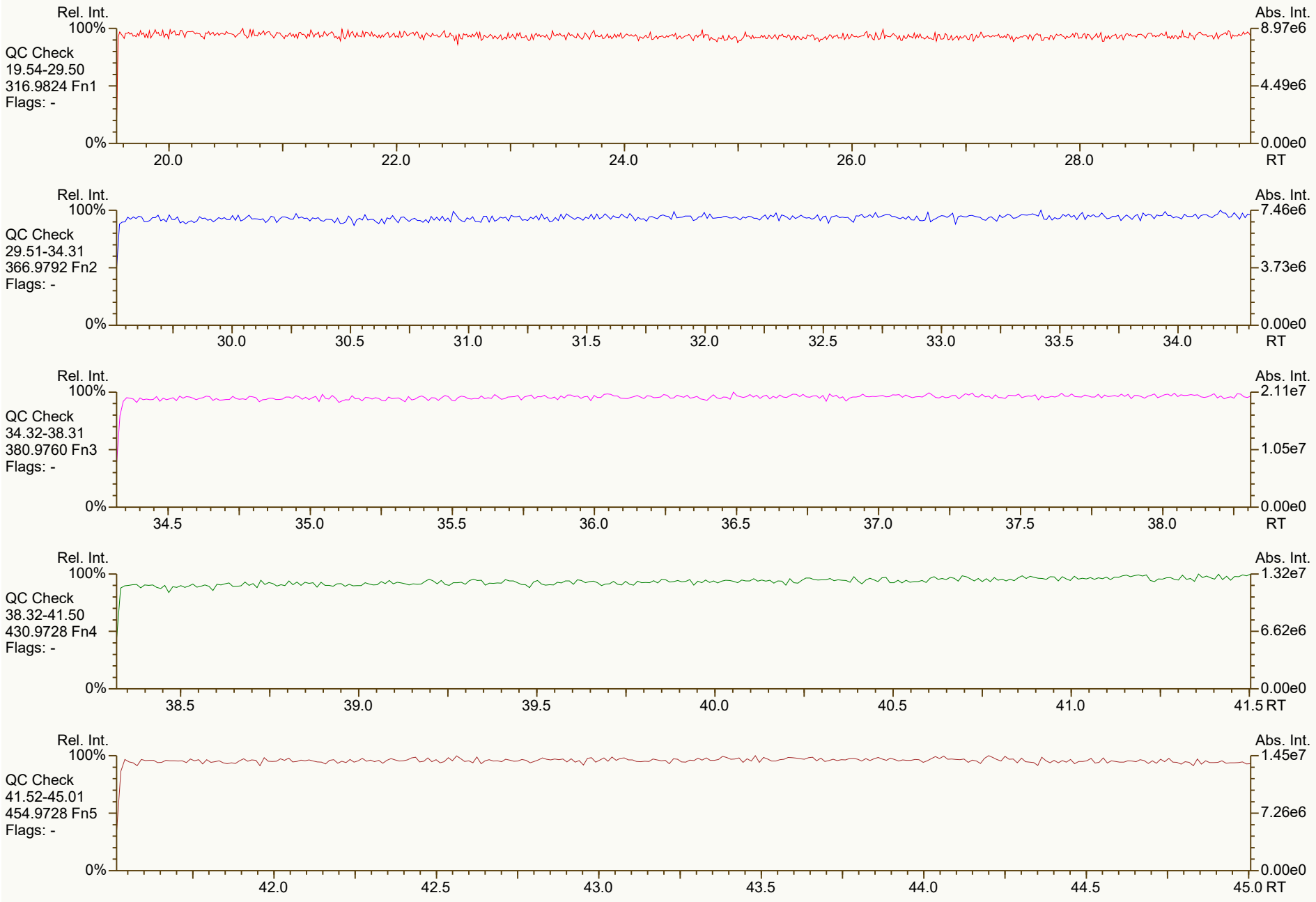

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
0%
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
Abs. Int.
1.13e7
5.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
0%
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
Abs. Int.
1.11e7
5.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
0%
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
Abs. Int.
2.63e6
1.32e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
0%
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
Abs. Int.
5.87e6
2.93e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
0%
Abs. Int.
4.54e3
2.27e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

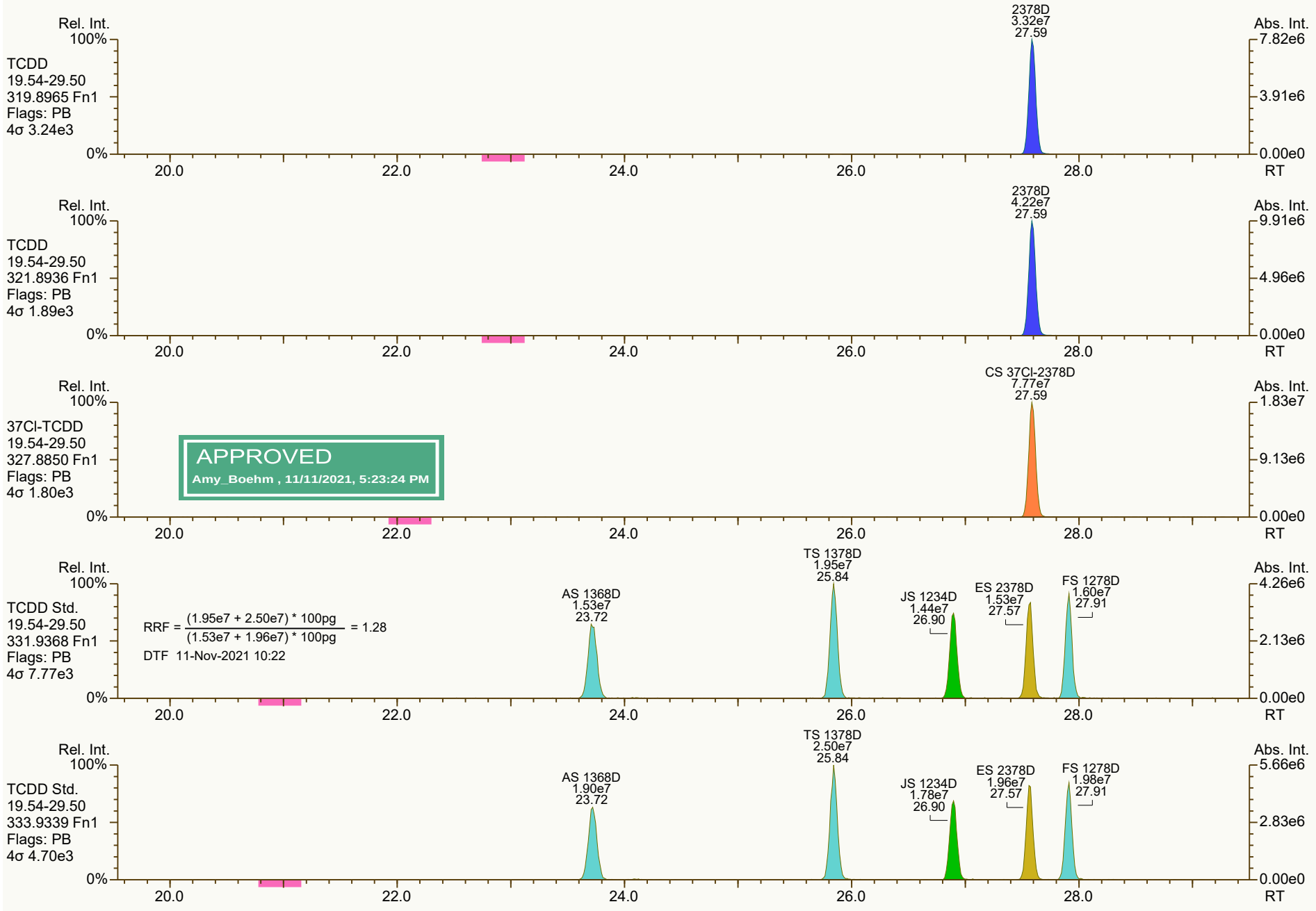

OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

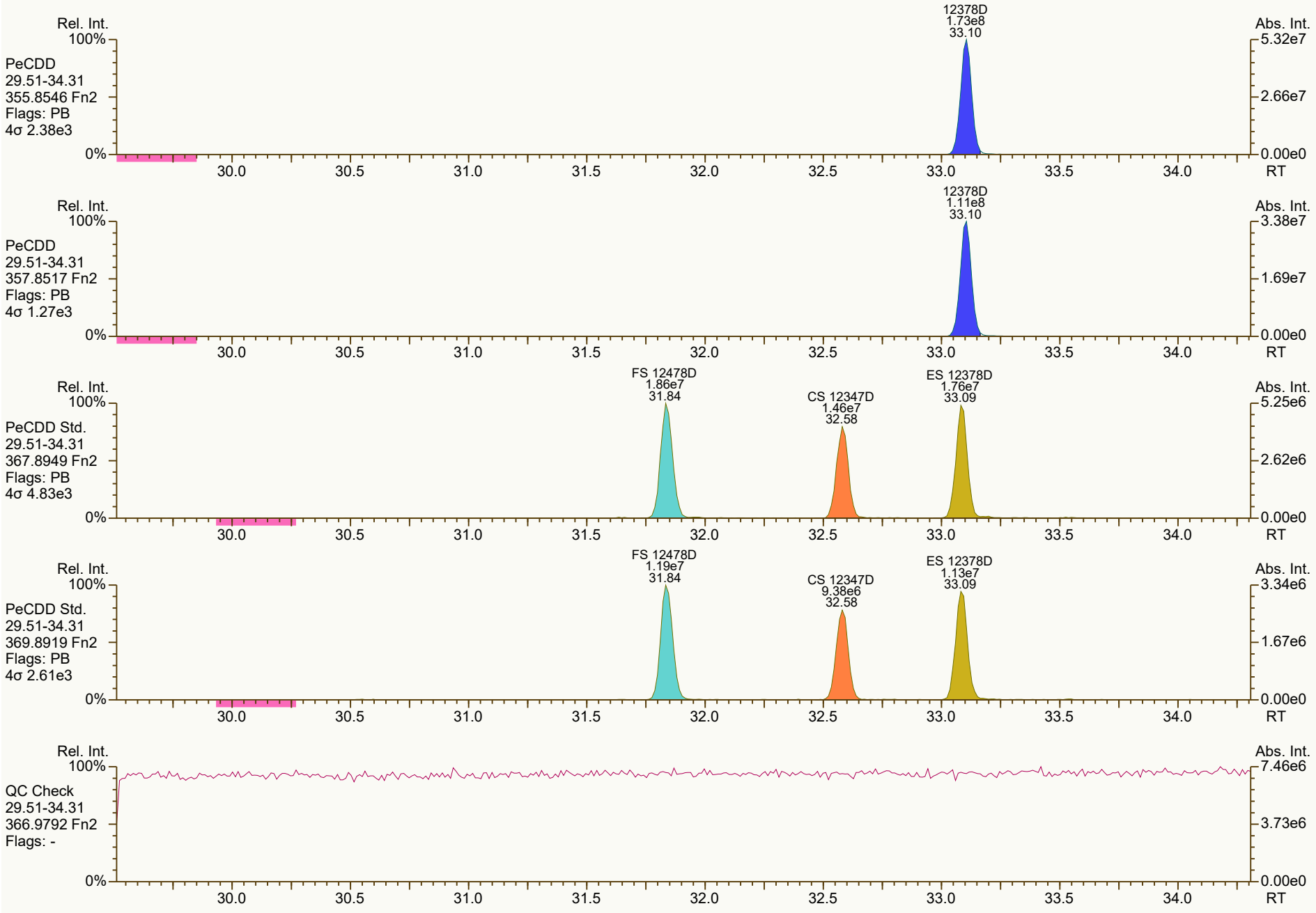
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:53 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS5_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 573-489-BMZ	
Sample ID: 25-5-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C09	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

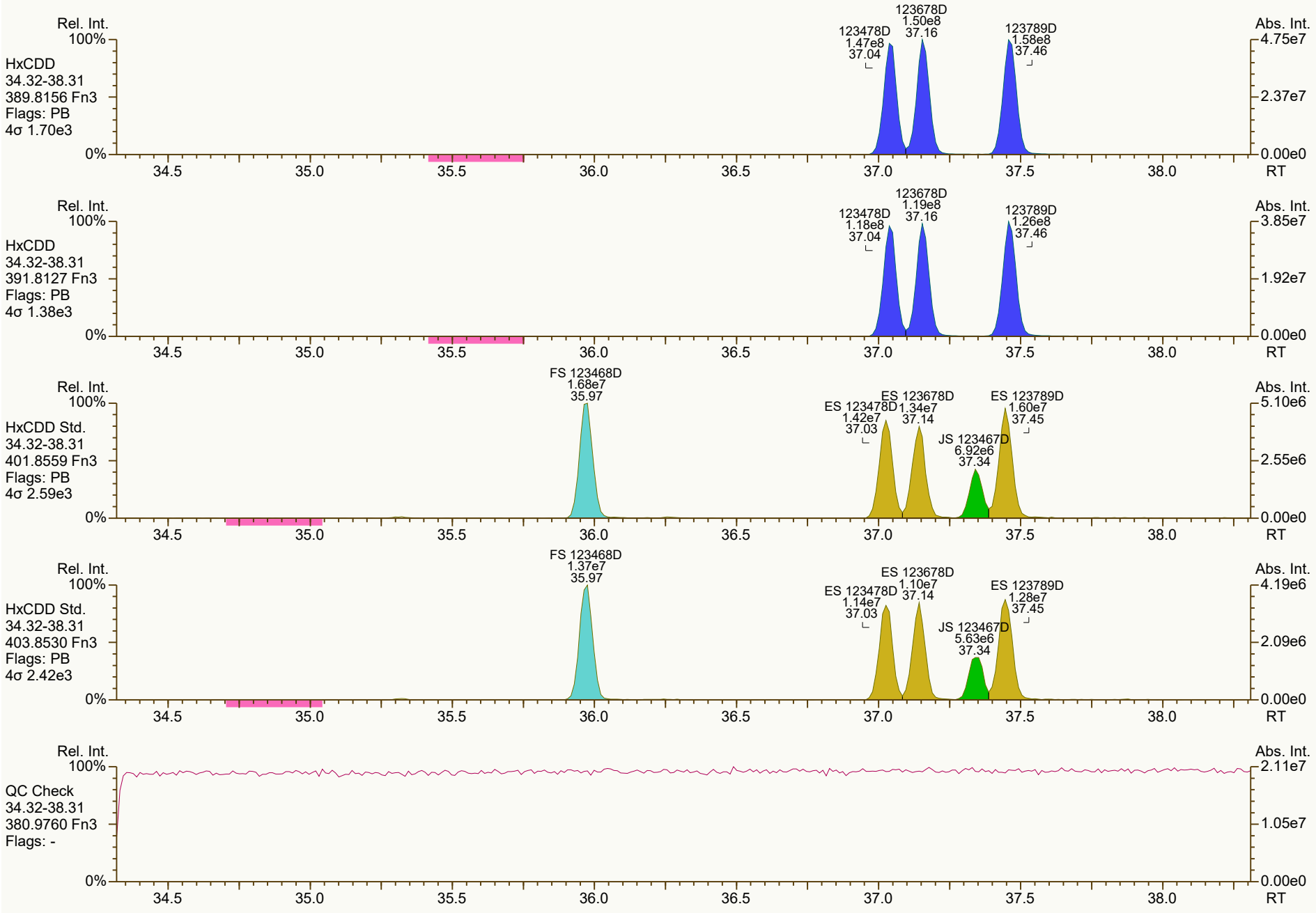
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

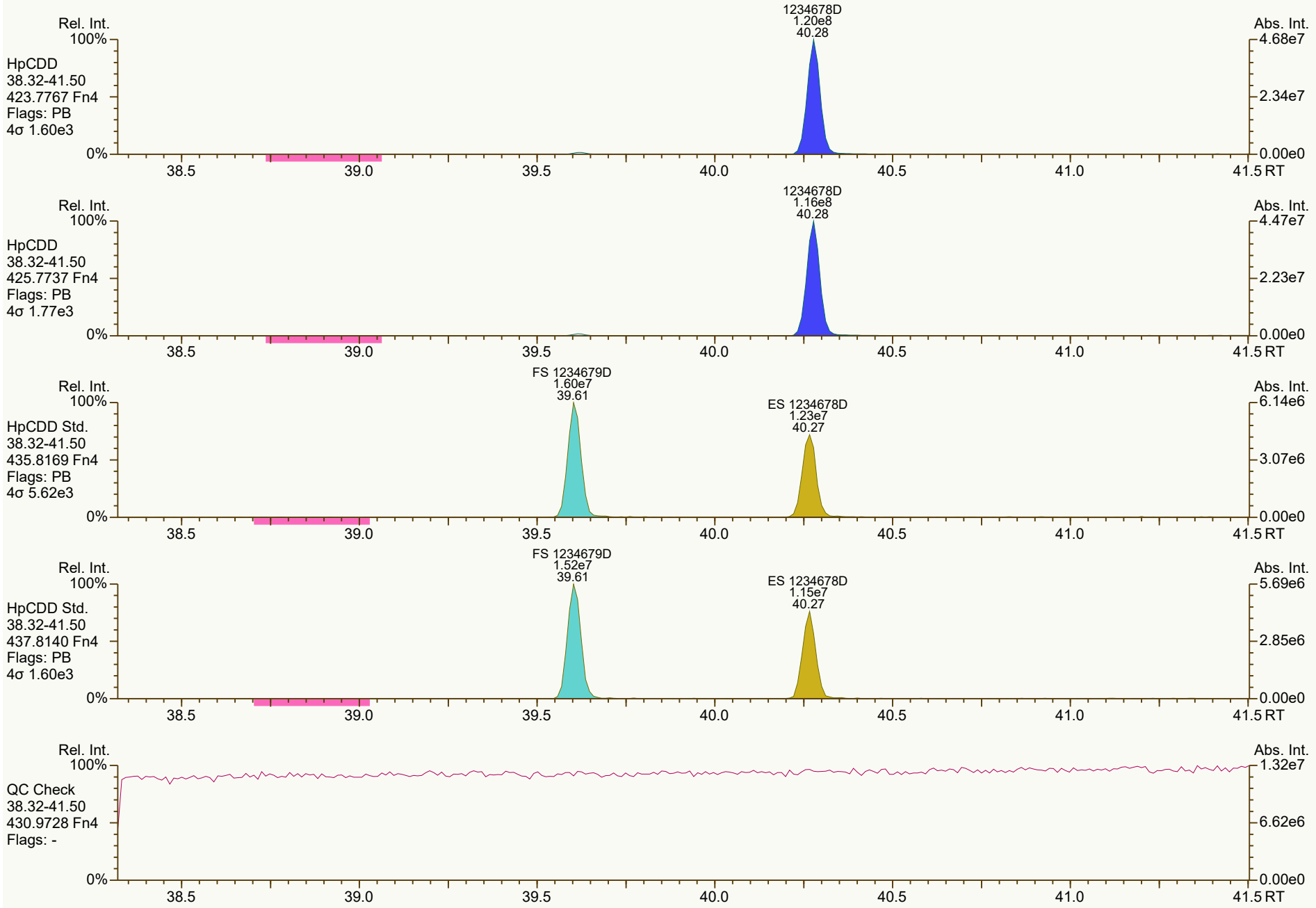
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

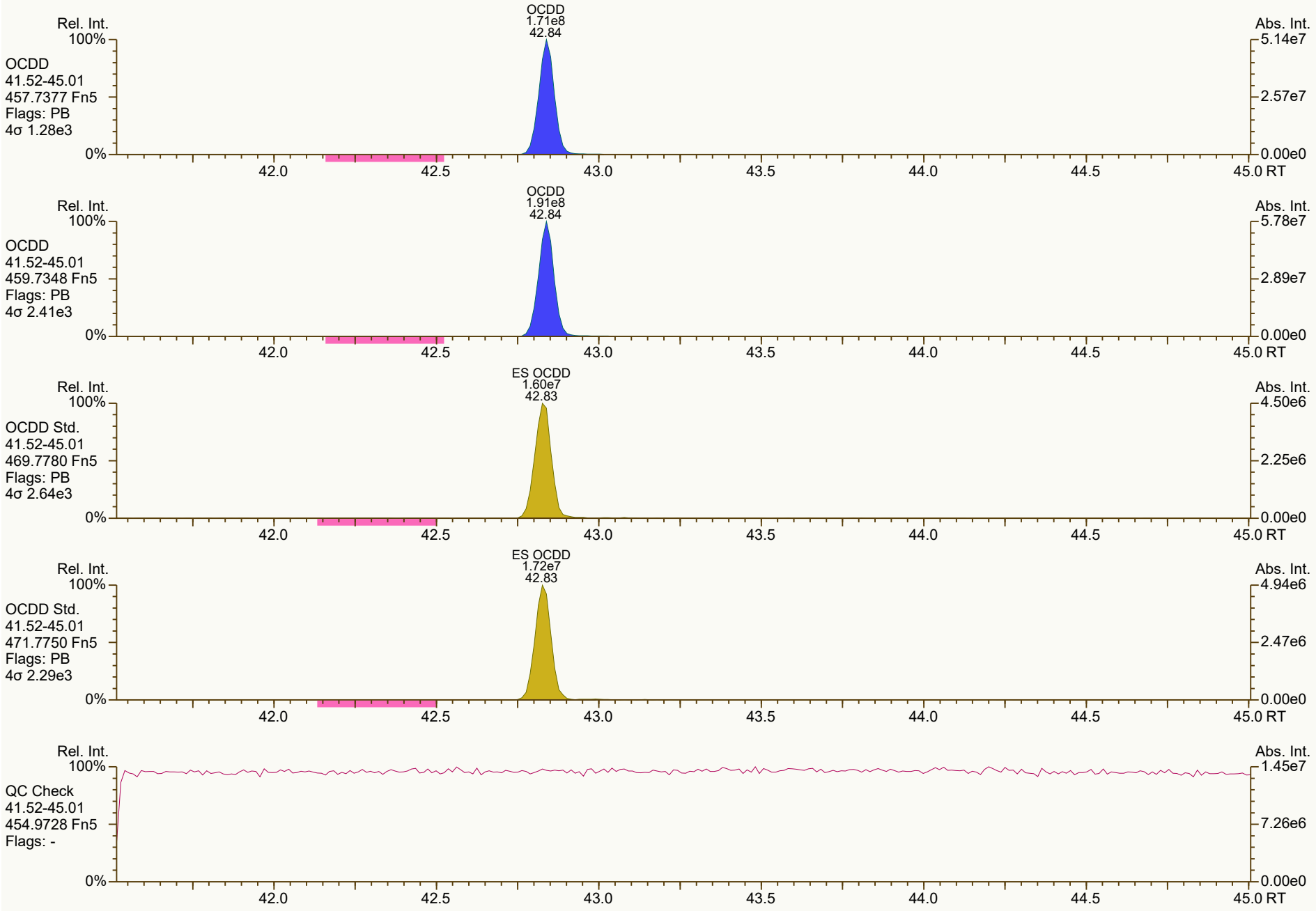

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.11e7
1.05e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.32e7
6.62e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.45e7
7.26e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
0%
2378D
4.22e7
27.59
Abs. Int.
9.91e6
4.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
Abs. Int.
1.83e7
9.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
0%
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
Abs. Int.
4.26e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
0%
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
Abs. Int.
5.66e6
2.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
0%
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
0%
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
0%
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
0%
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

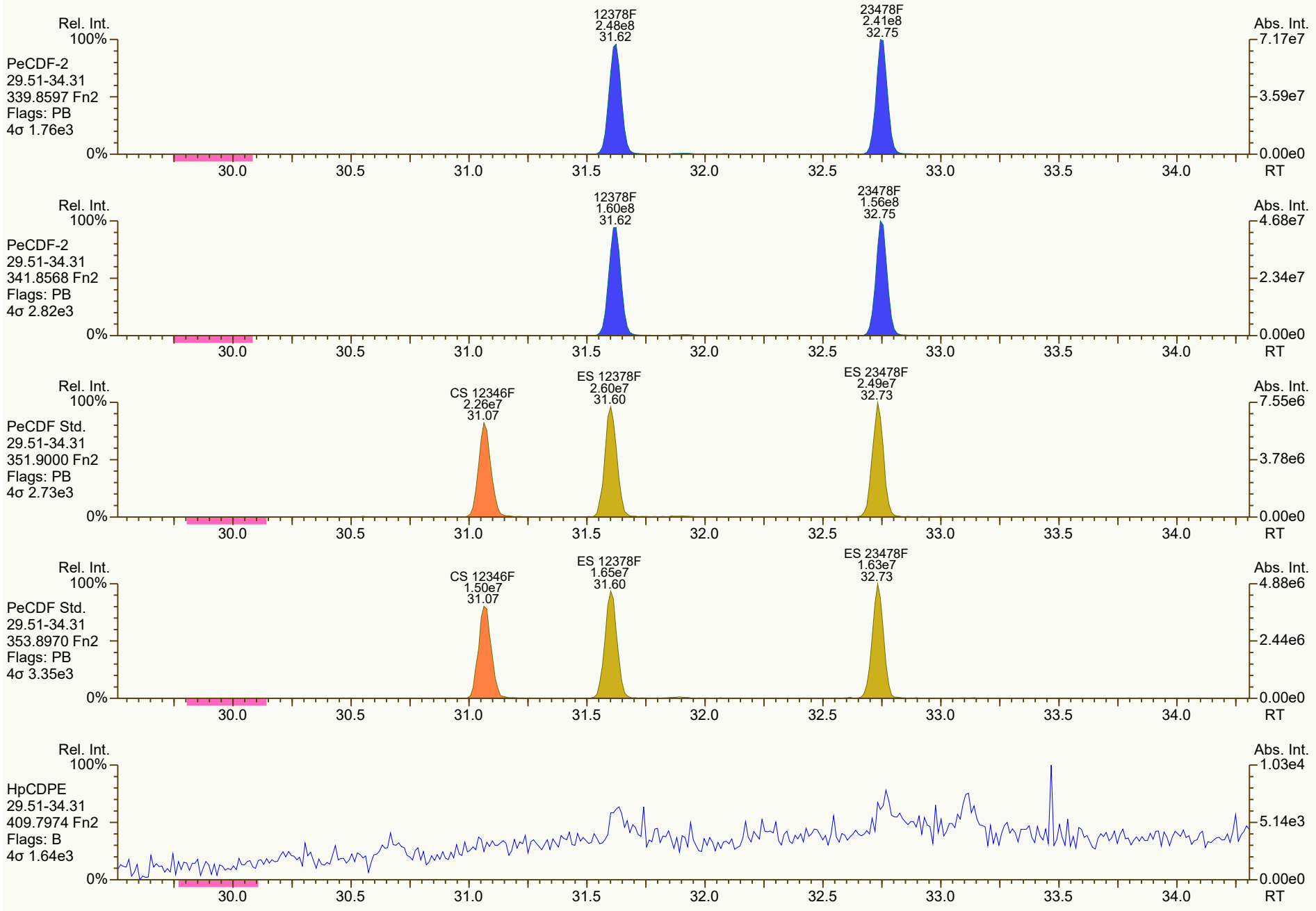

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

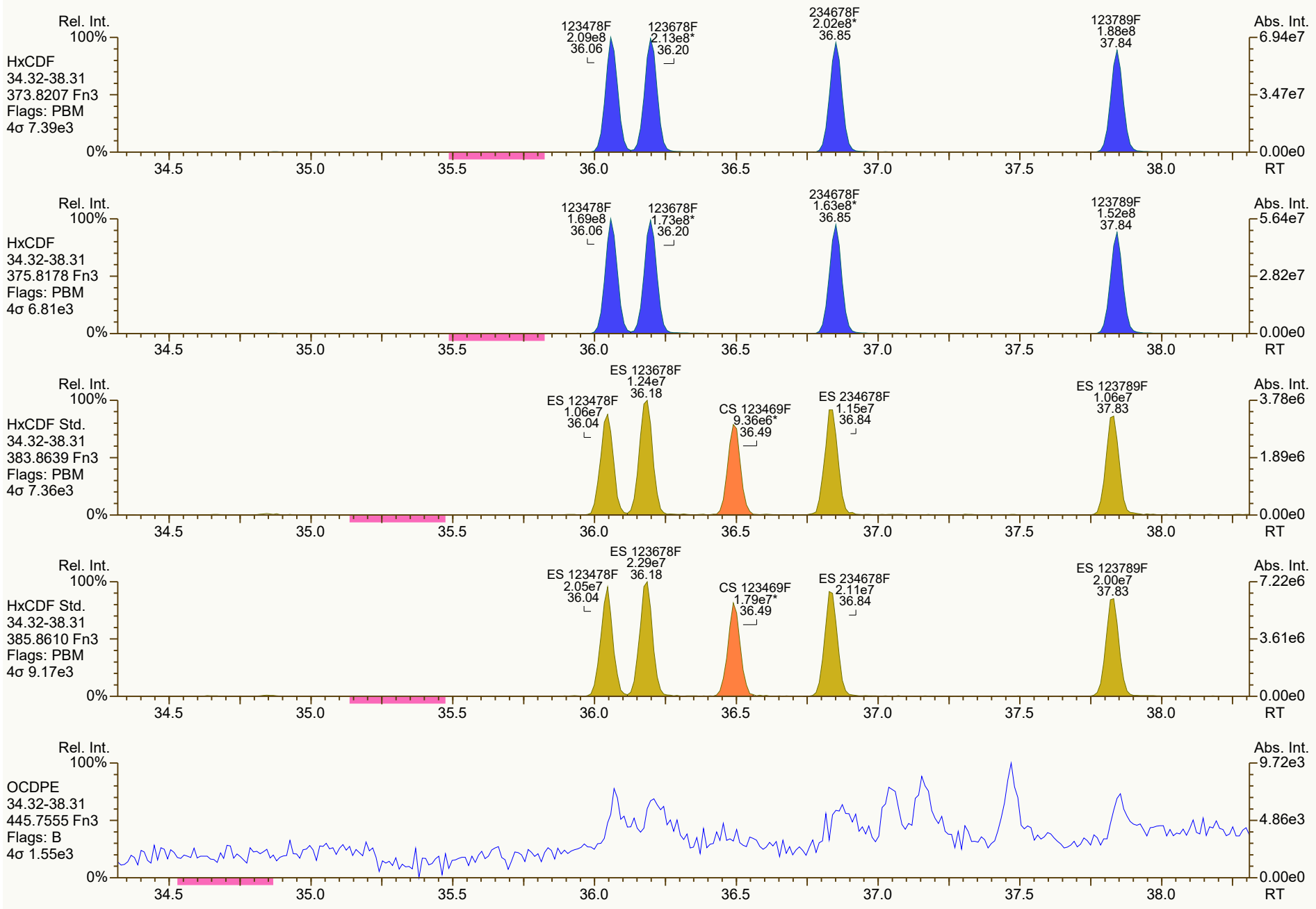

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

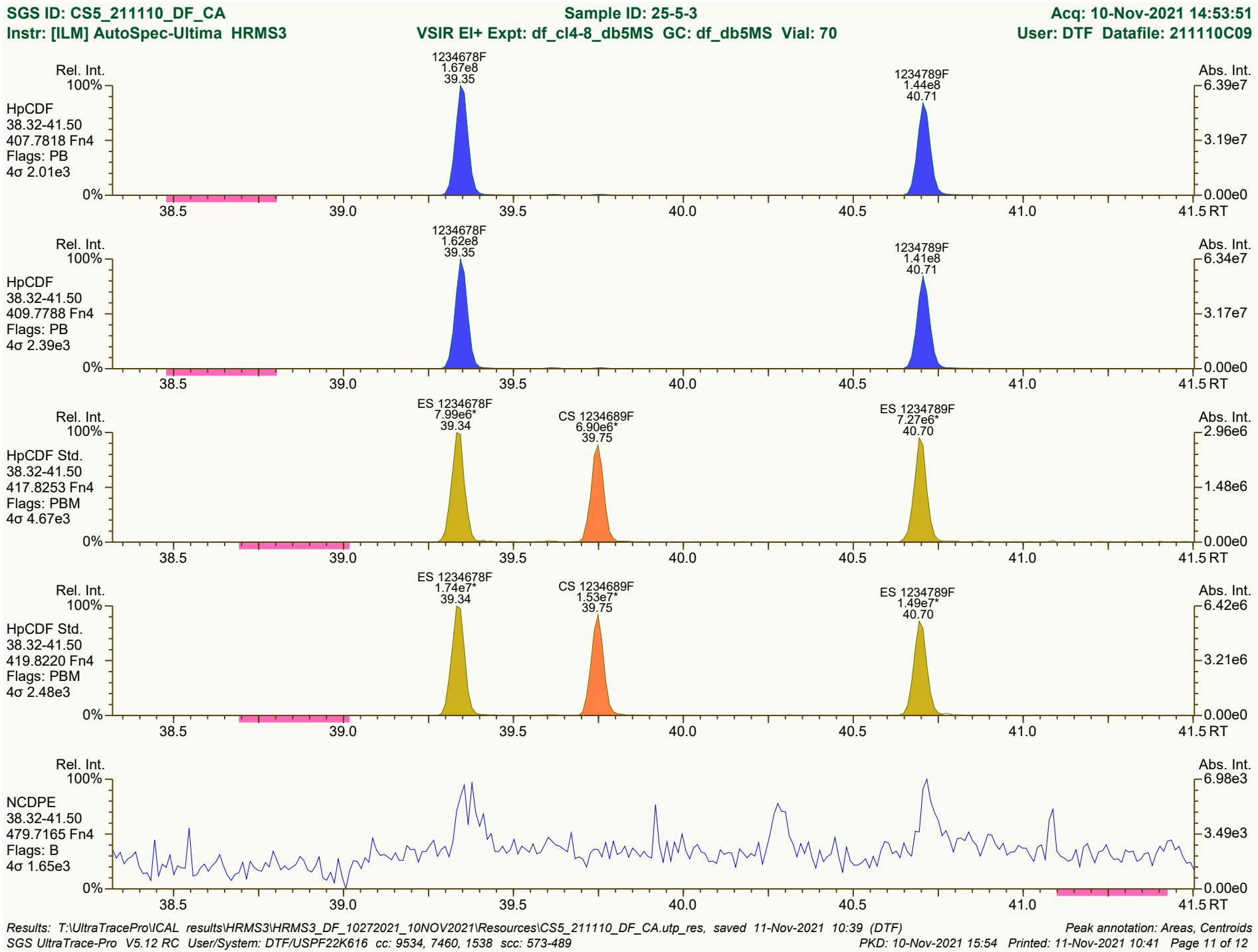

OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6

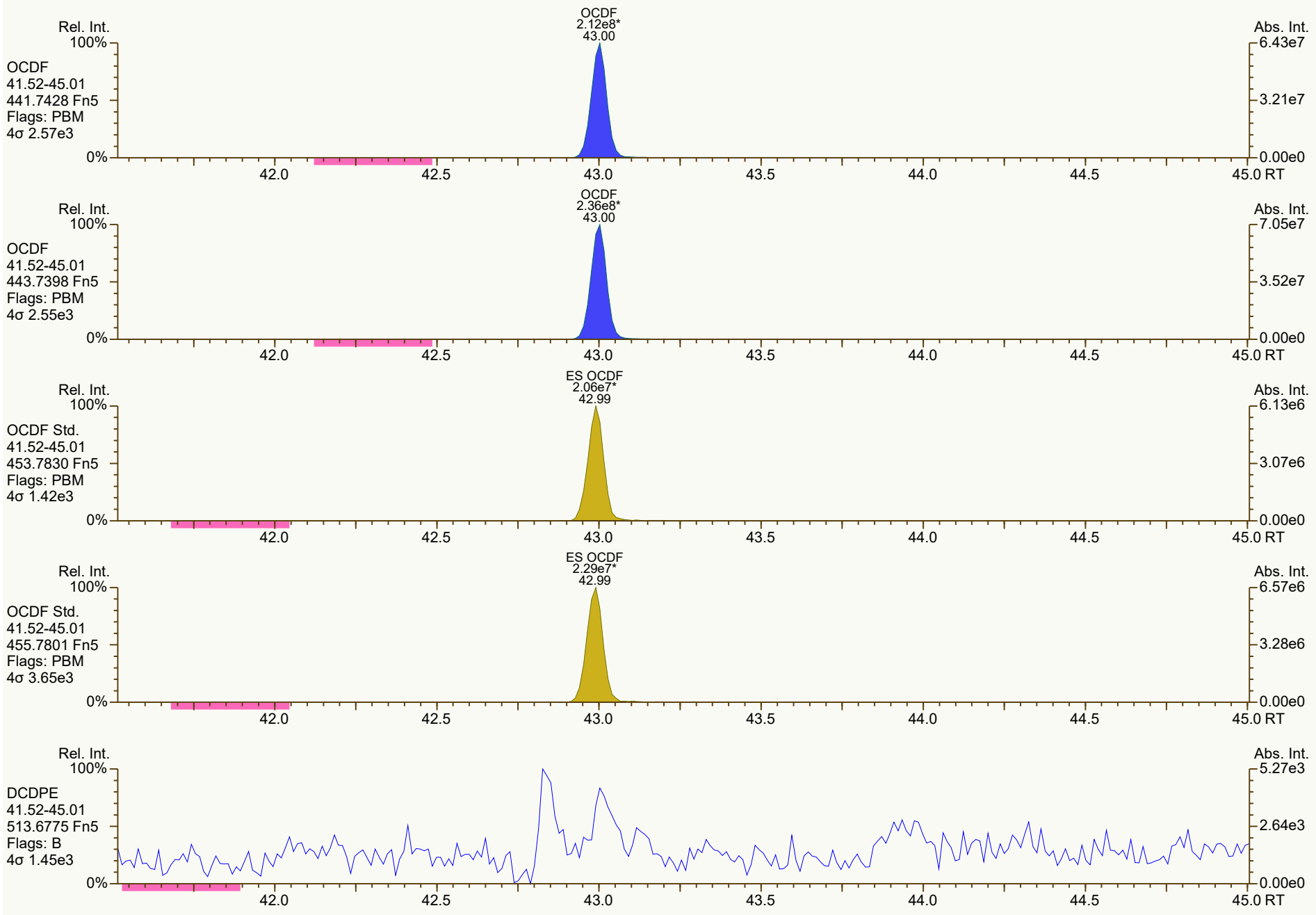

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
Abs. Int.
1.03e4
5.14e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
123478F
2.09e8
36.06
123678F
2.13e8*
36.20
234678F
2.02e8*
36.85
123789F
1.88e8
37.84
Abs. Int.
6.94e7
3.47e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
123478F
1.69e8
36.06
123678F
1.73e8*
36.20
234678F
1.63e8*
36.85
123789F
1.52e8
37.84
Abs. Int.
5.64e7
2.82e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
ES 123678F
1.24e7
36.18
ES 123478F
1.06e7
36.04
CS 123469F
9.36e6*
36.49
ES 234678F
1.15e7
36.84
ES 123789F
1.06e7
37.83
Abs. Int.
3.78e6
1.89e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
ES 123678F
2.29e7
36.18
ES 123478F
2.05e7
36.04
CS 123469F
1.79e7*
36.49
ES 234678F
2.11e7
36.84
ES 123789F
2.00e7
37.83
Abs. Int.
7.22e6
3.61e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
Abs. Int.
9.72e3
4.86e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: CS5_211110_DF_CA
Sample ID: 25-5-3
Acq: 10-Nov-2021 14:53:51
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 211110C09
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9534, 7460, 1538 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 11 of 12

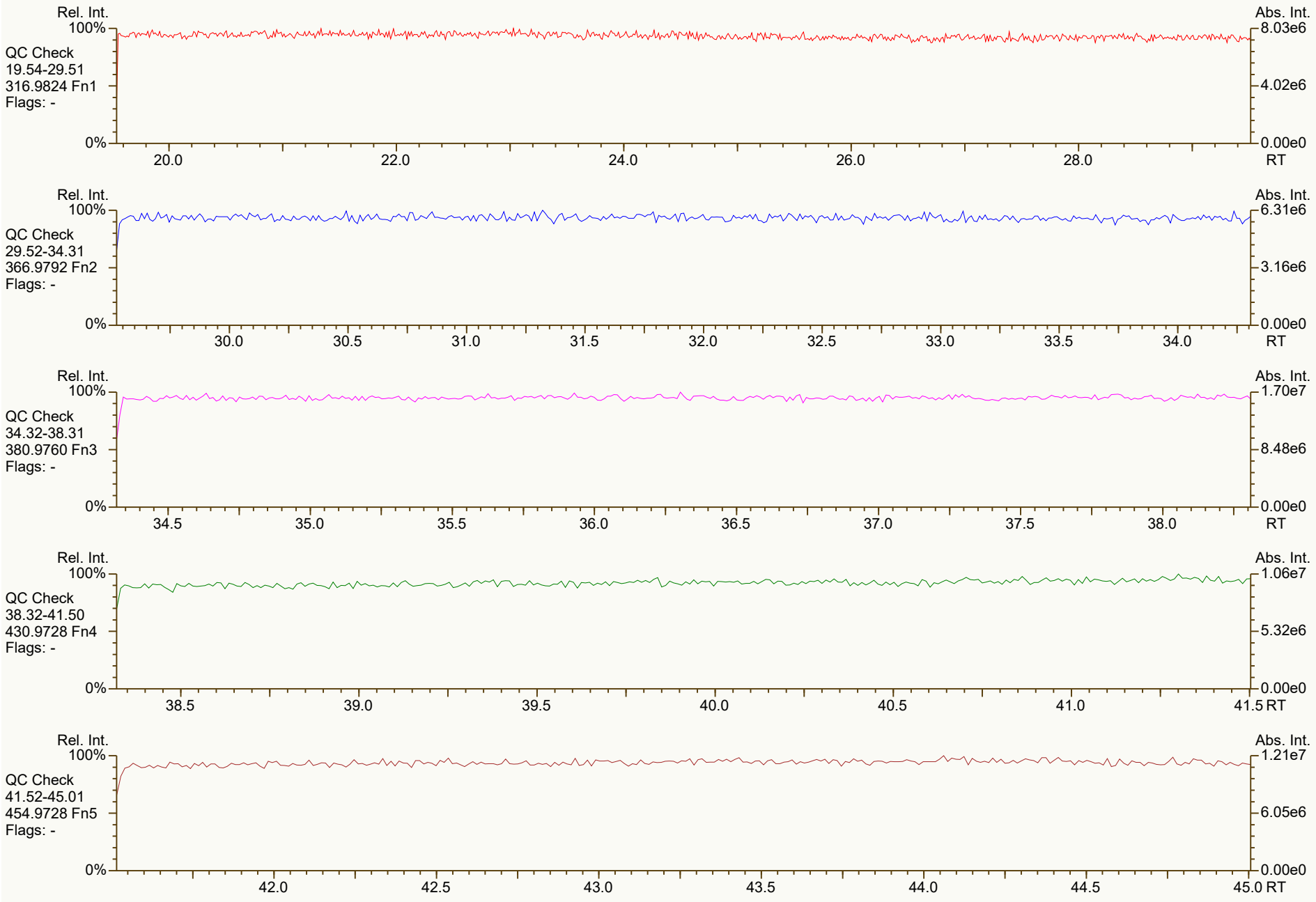

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

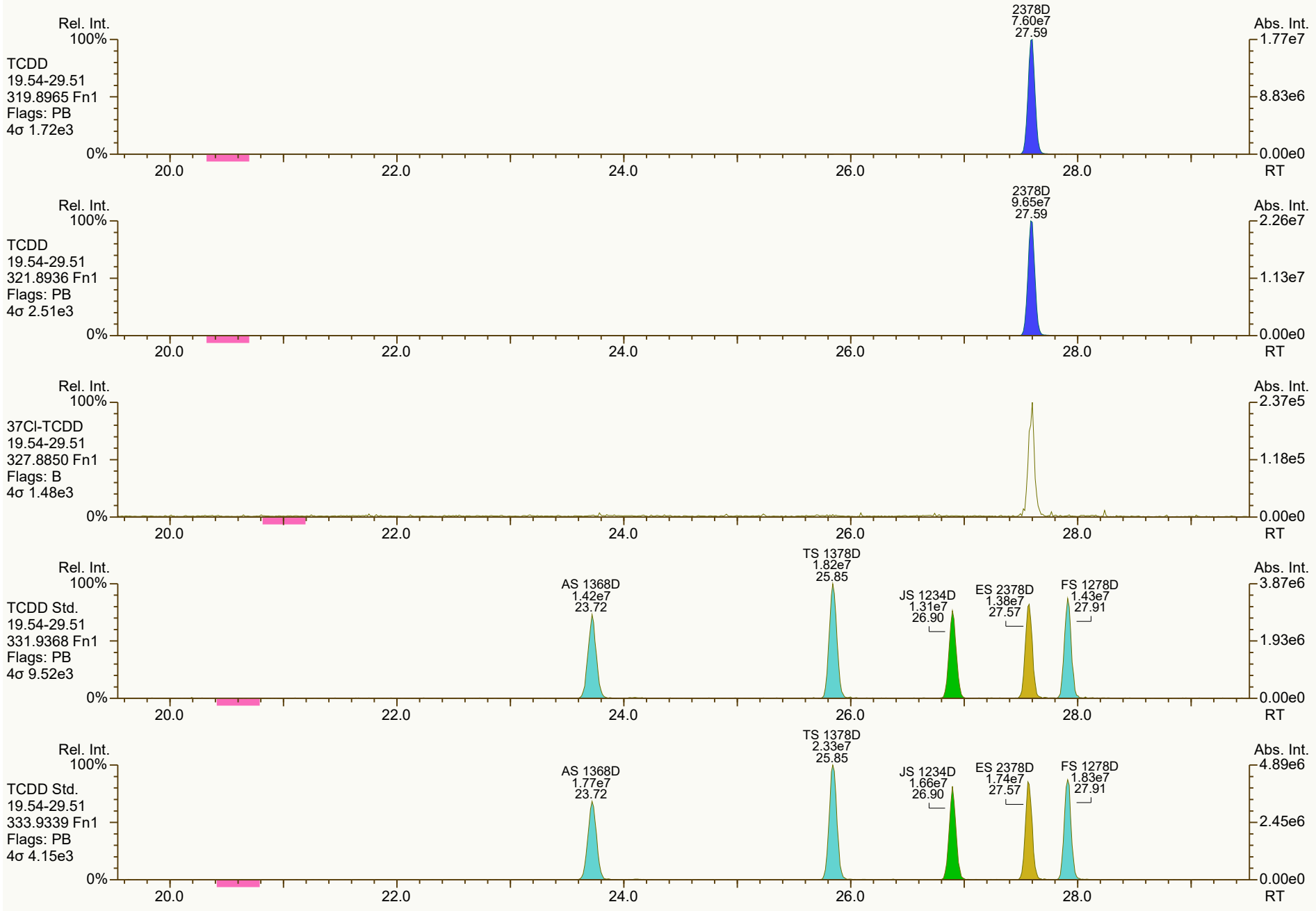
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

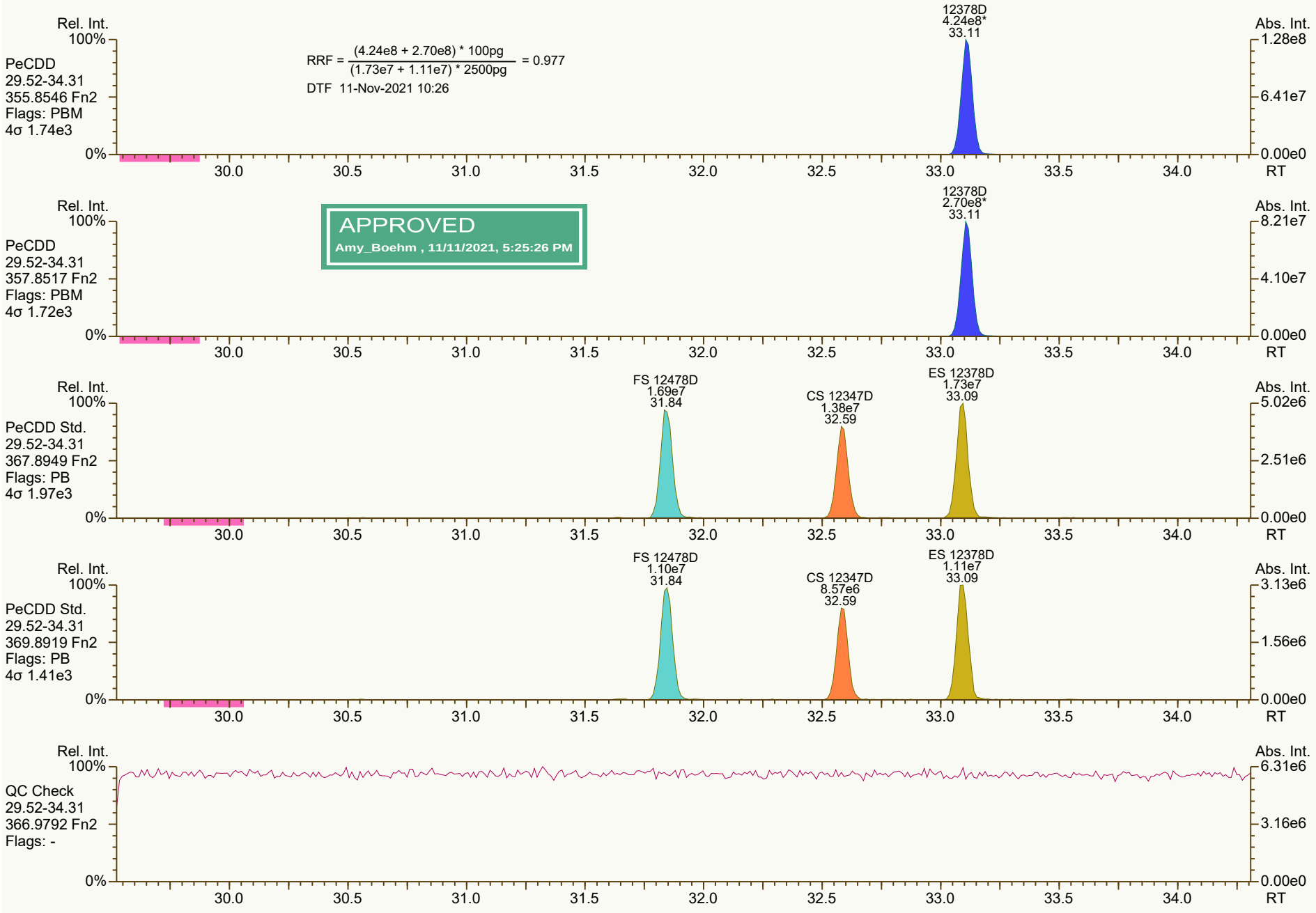
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

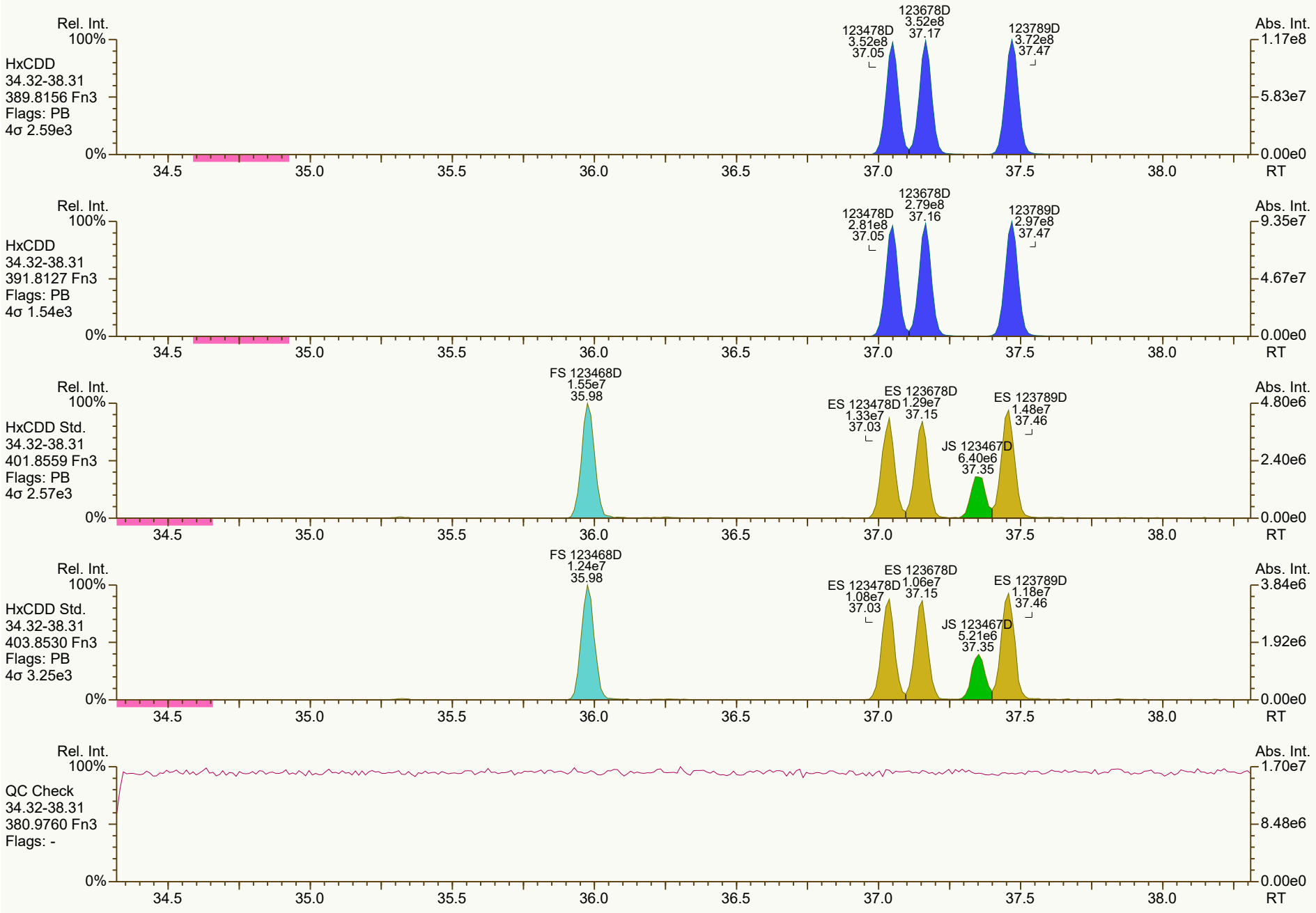
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

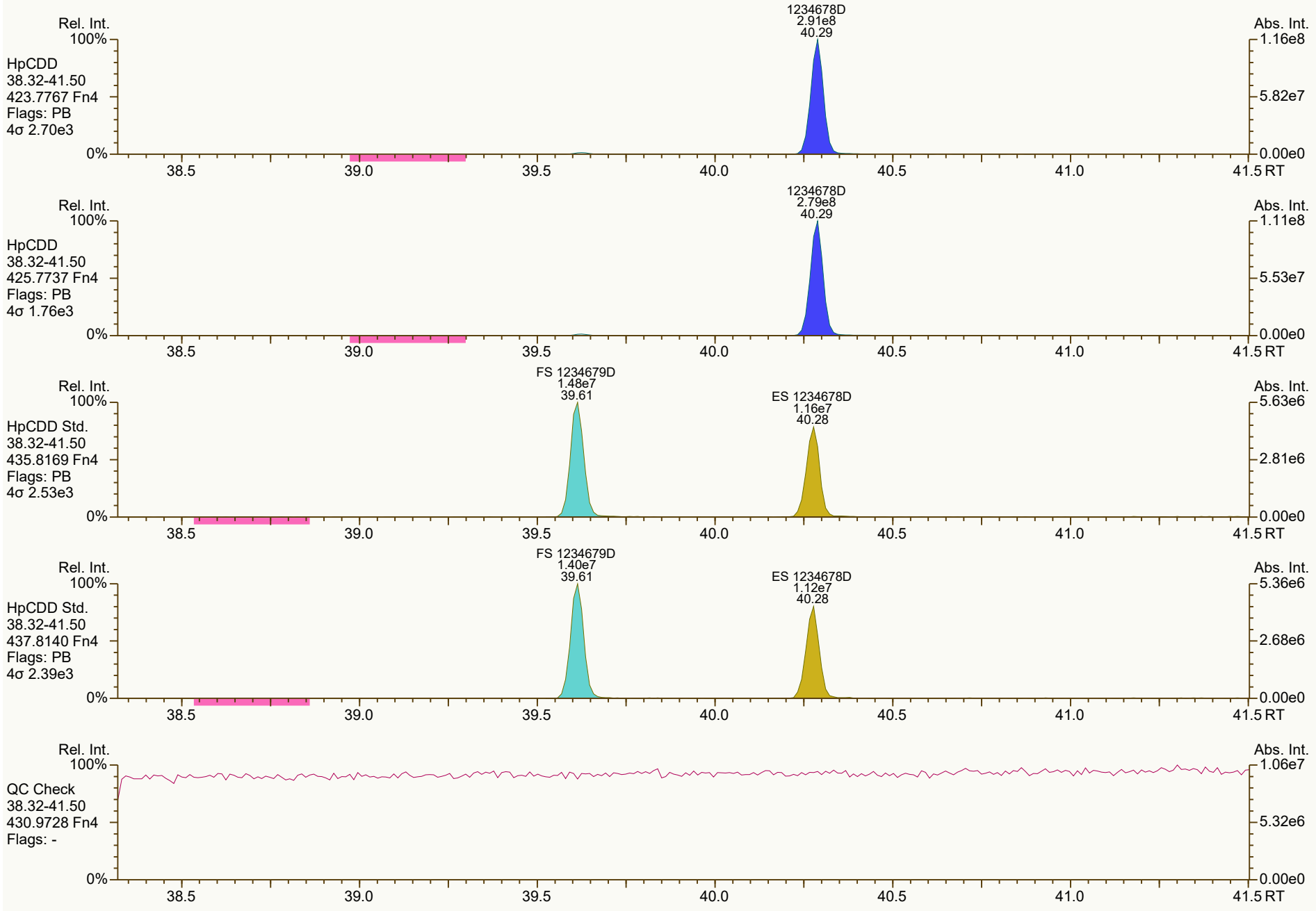
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

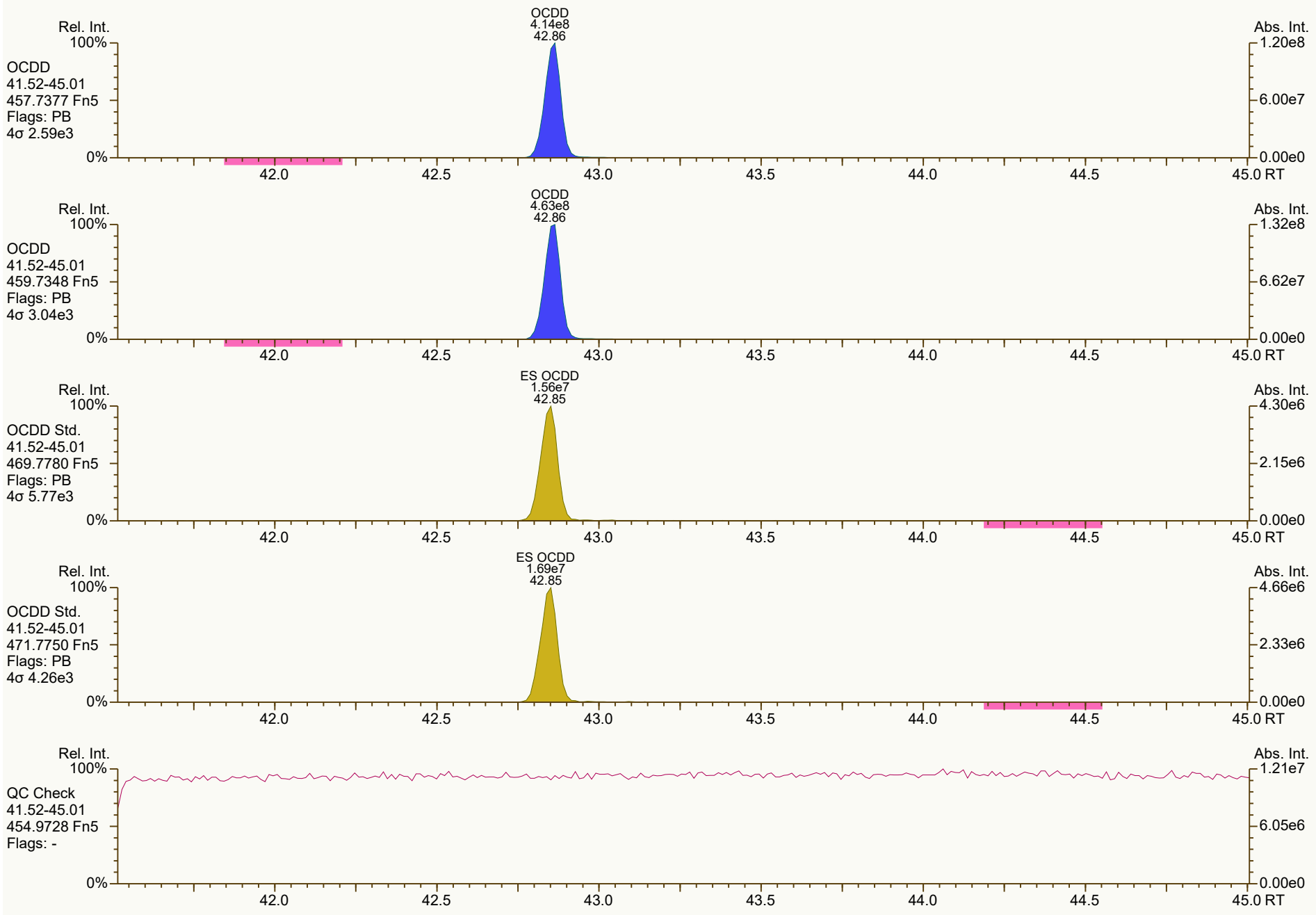

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
0%
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
0%
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.31e6
3.16e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

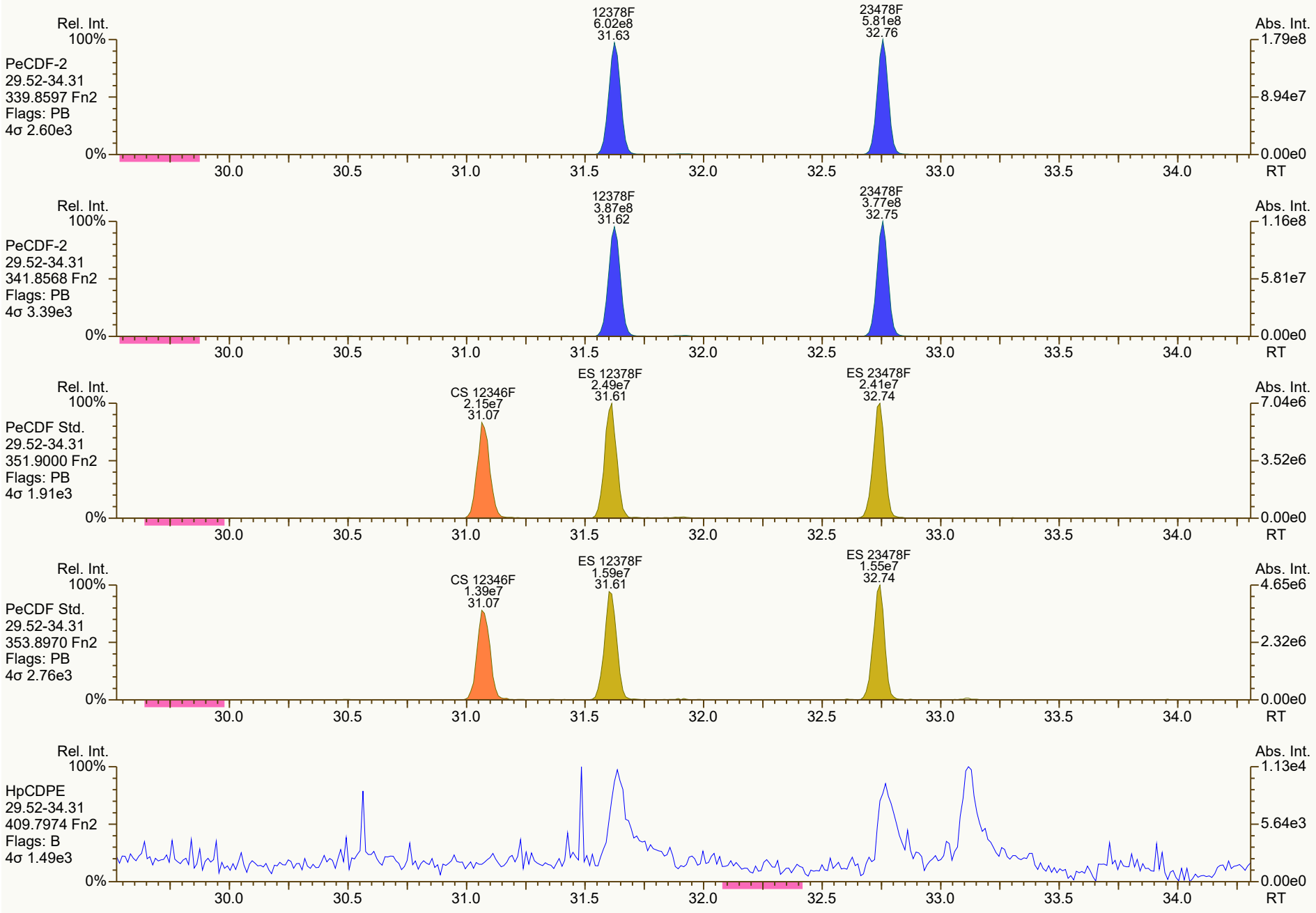

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.70e7
8.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

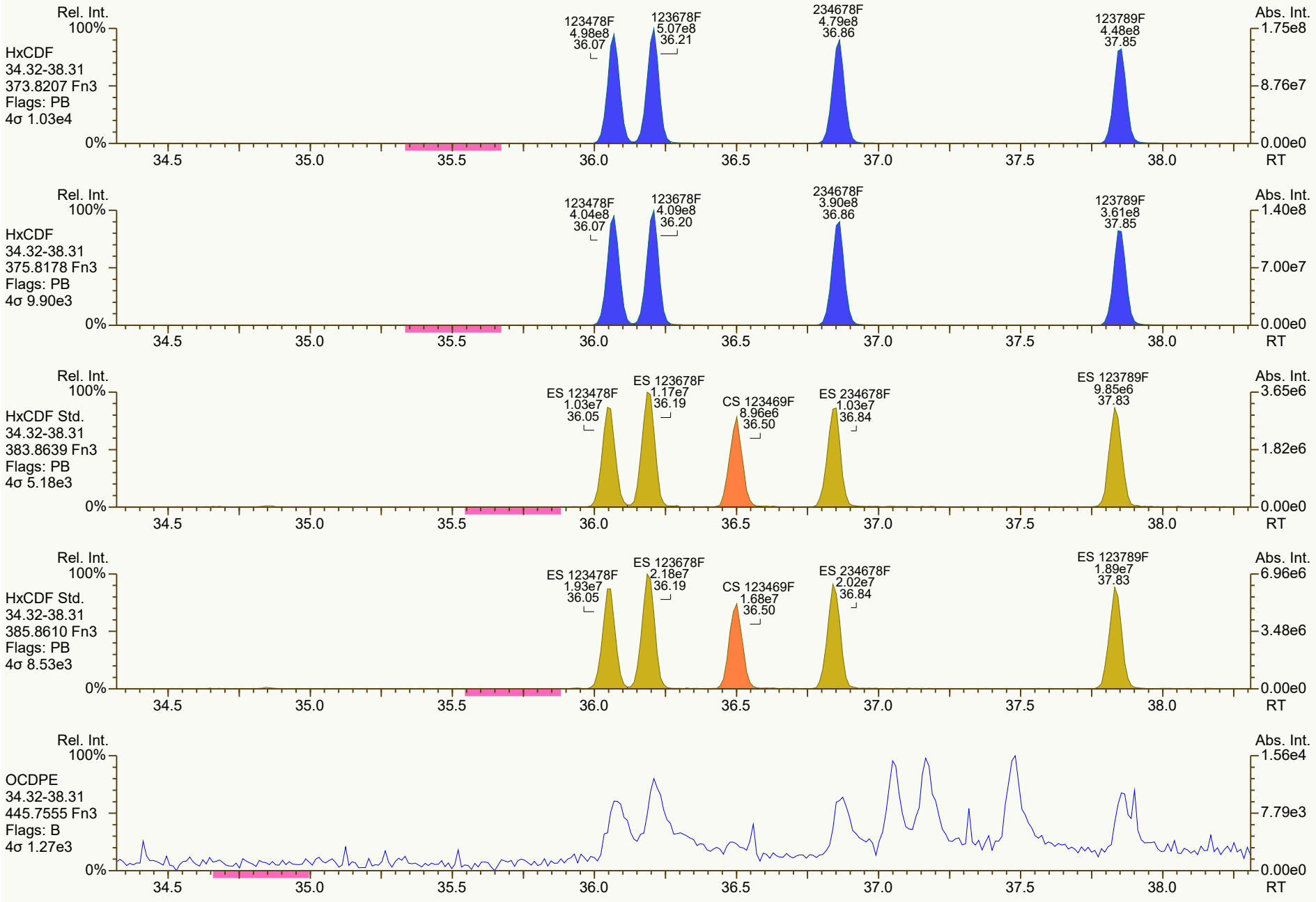

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

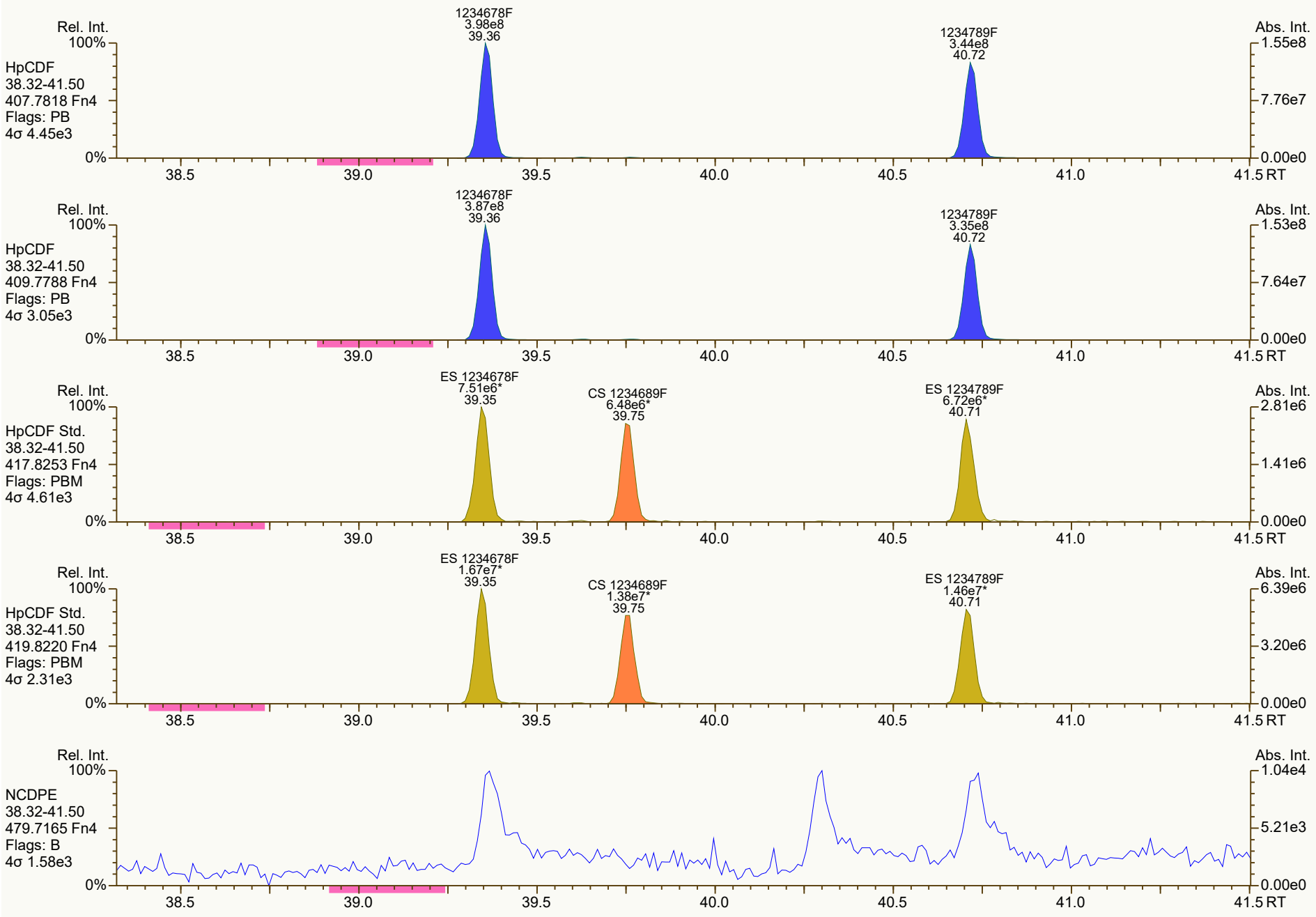

OCDD
4.14e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.63e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.56e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.69e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

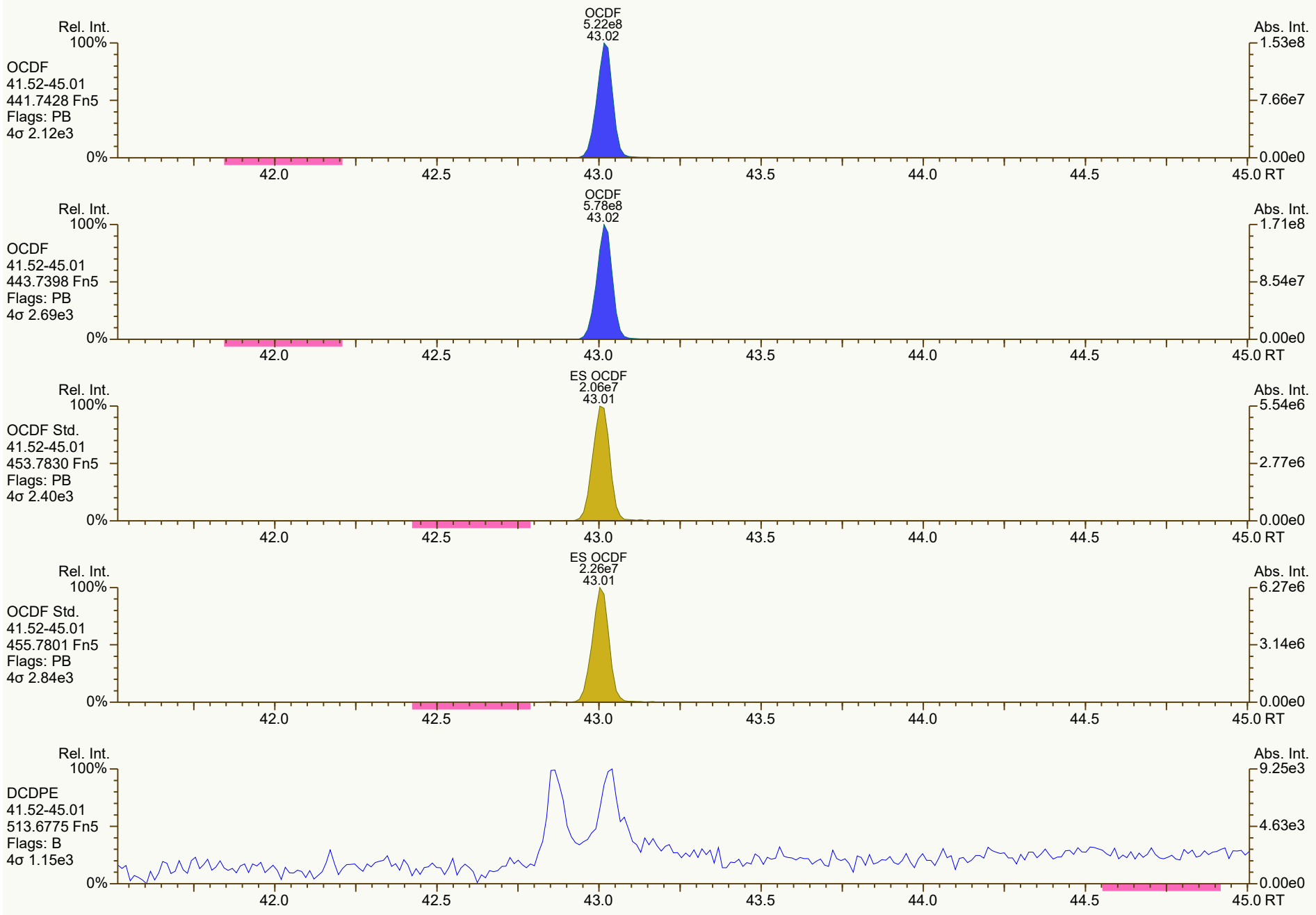

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

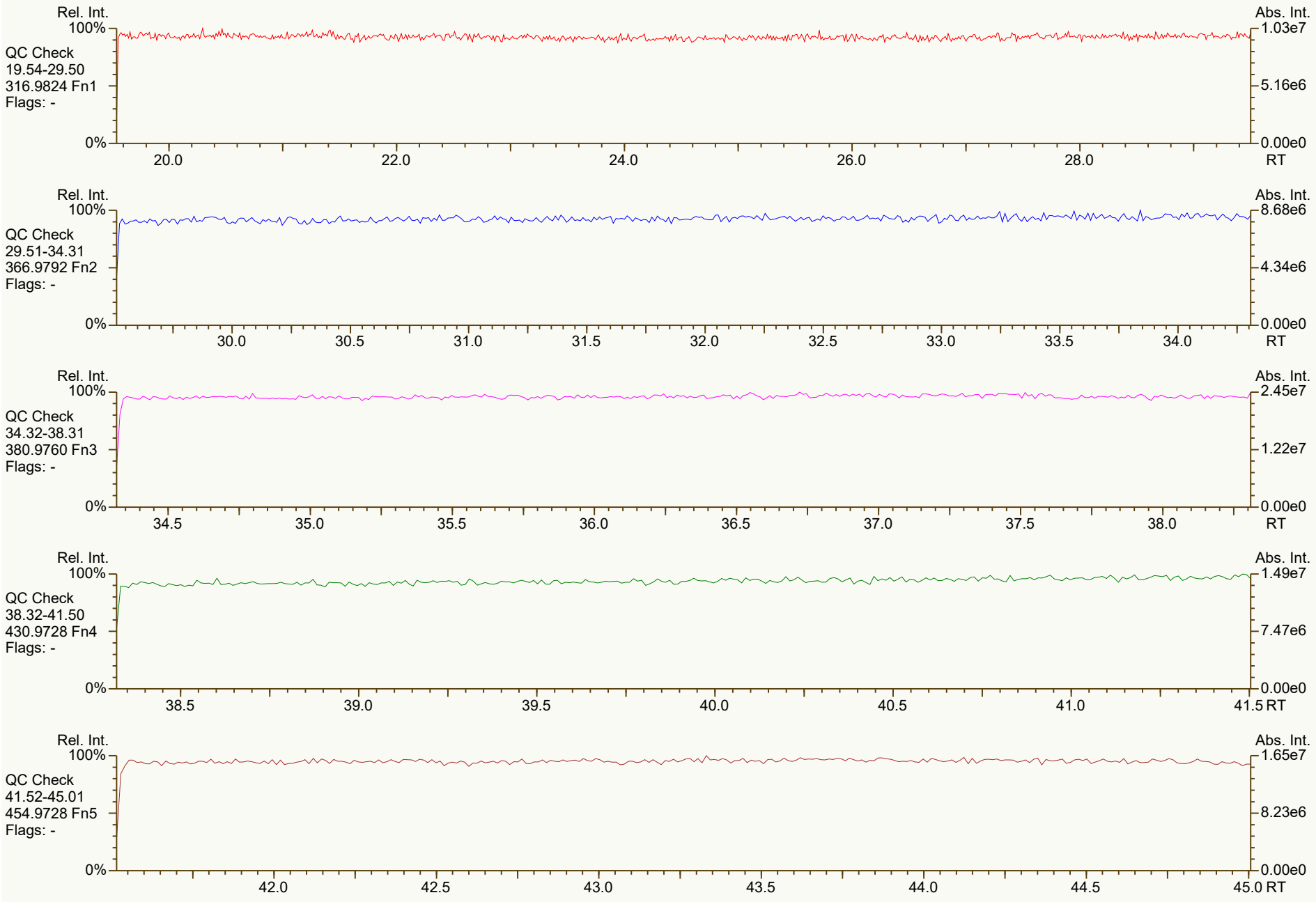

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
Abs. Int.
1.13e4
5.64e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.65e7
8.23e6
0.00e0

SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

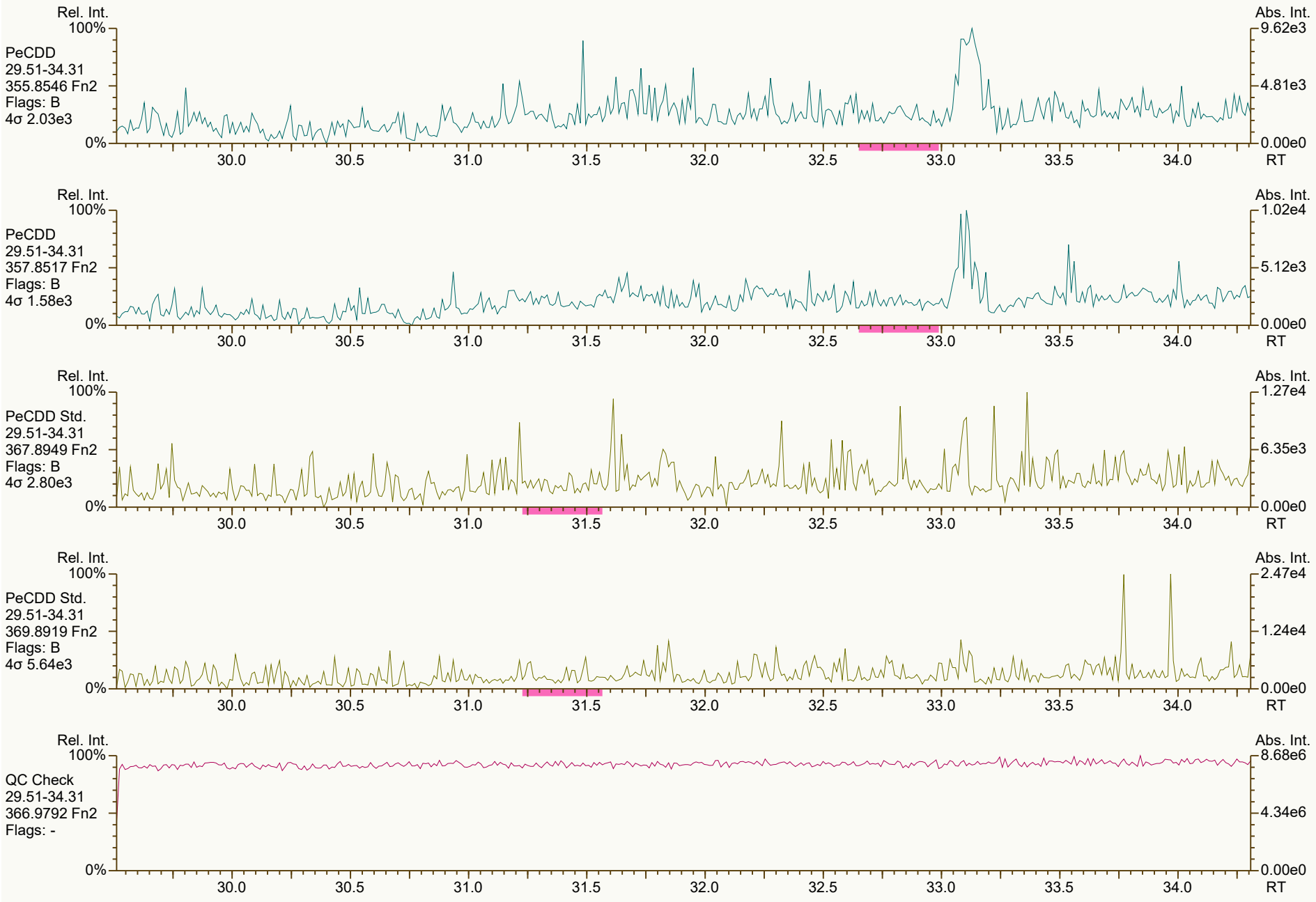
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1*


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

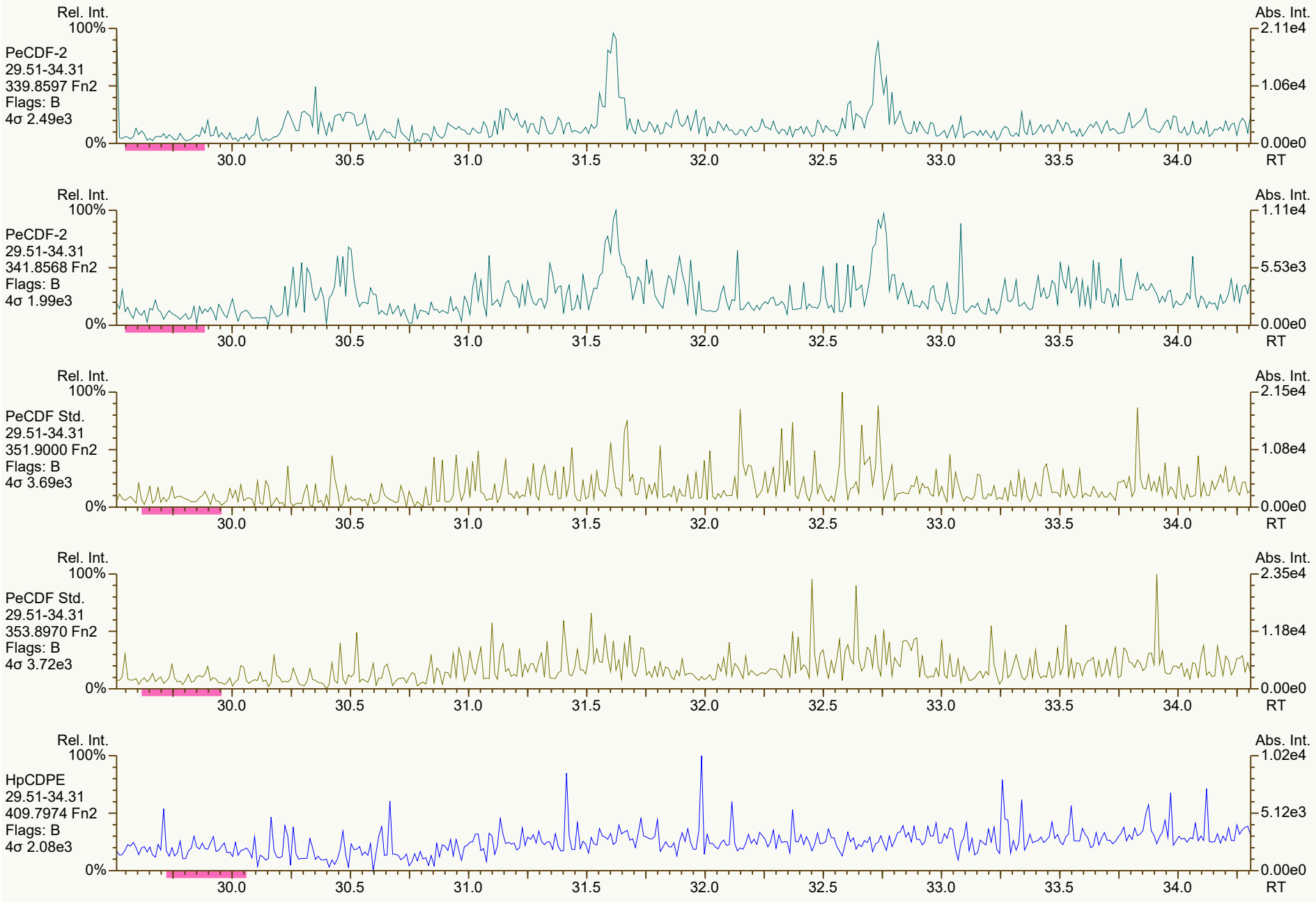

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

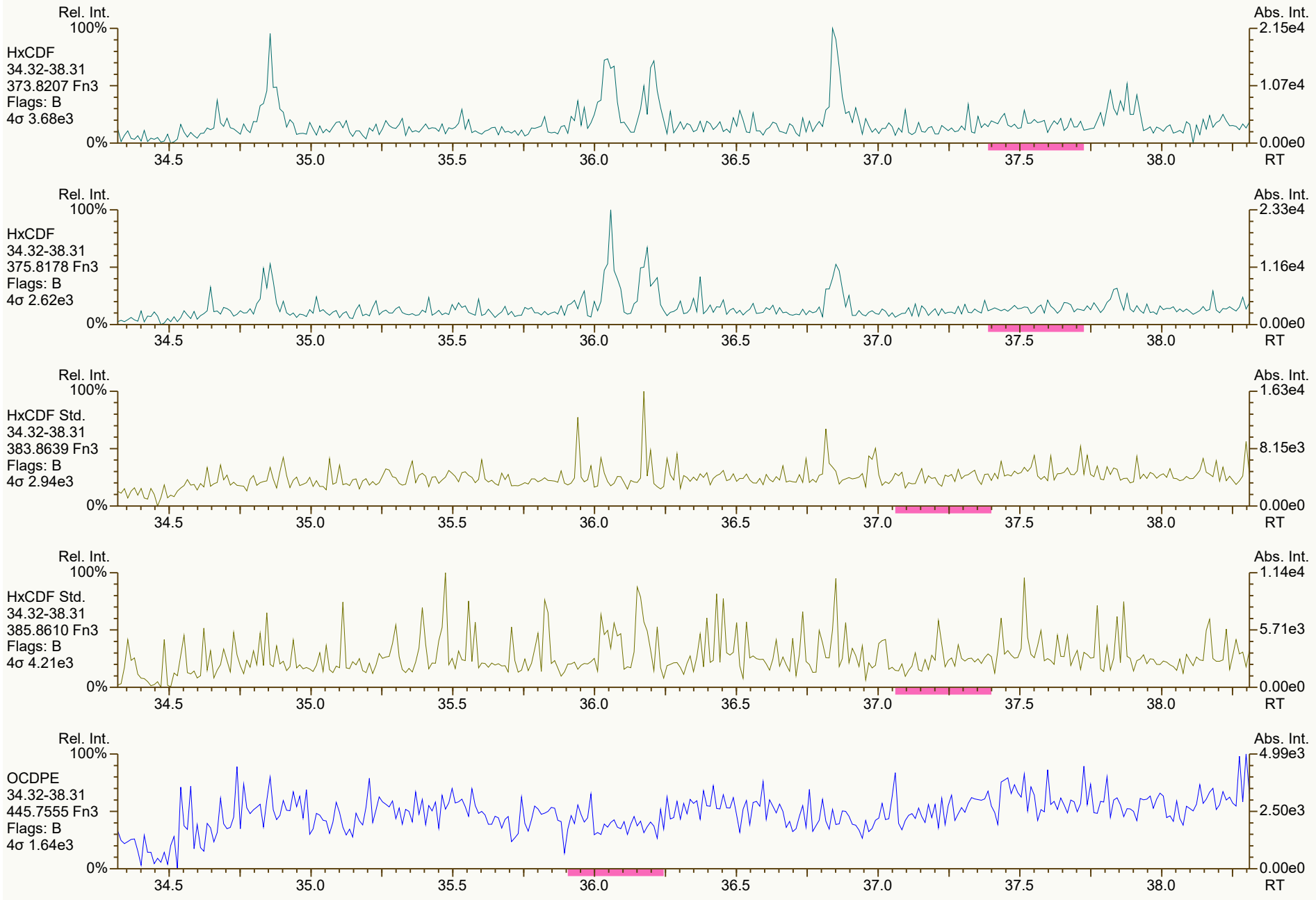

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
Abs. Int.
7.07e4
3.53e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
Abs. Int.
1.06e5
5.32e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
Abs. Int.
5.11e4
2.56e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
Abs. Int.
2.83e4
1.42e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
Abs. Int.
9.47e3
4.73e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

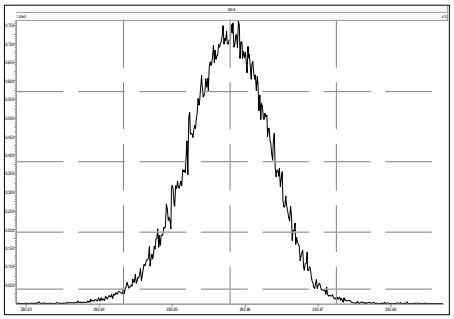

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

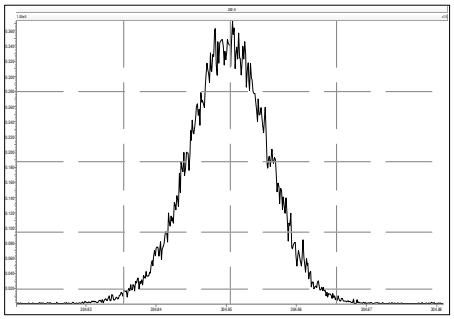
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

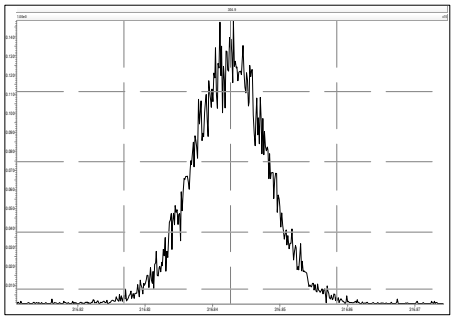
M 292.9824 R 10731



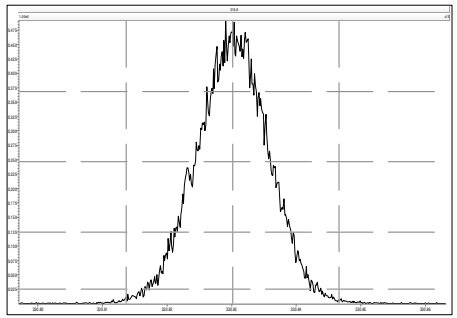
M 304.9824 R 11311



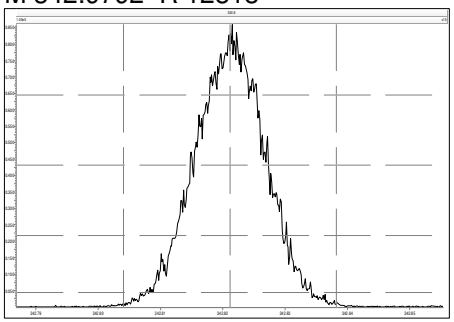
M 316.9824 R 12373



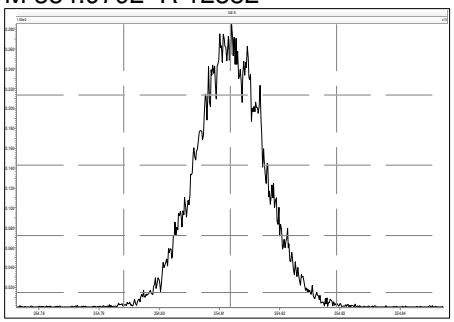
M 330.9792 R 12887



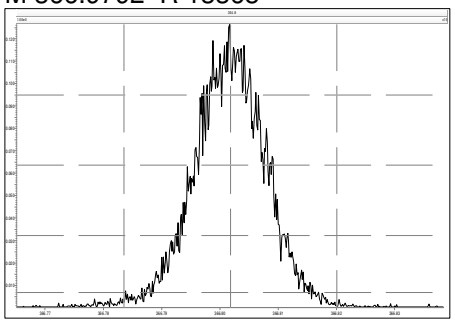
M 342.9792 R 12818



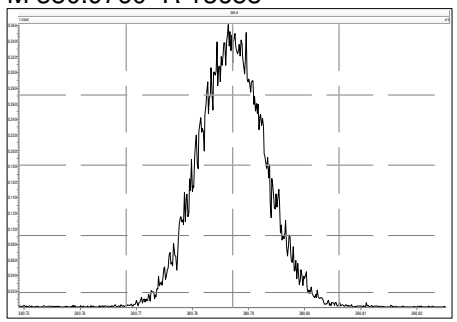
M 354.9792 R 12882



M 366.9792 R 13368



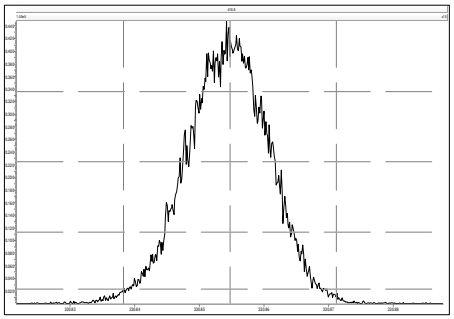
M 380.9760 R 13658



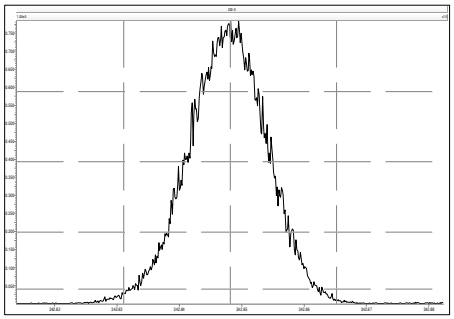
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

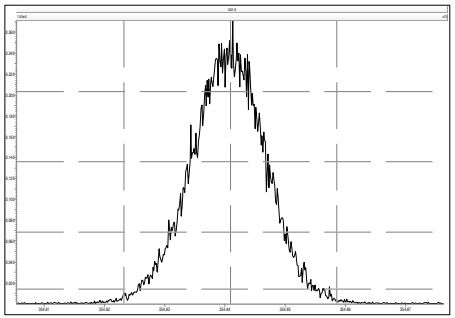
M 330.9792 R 11112



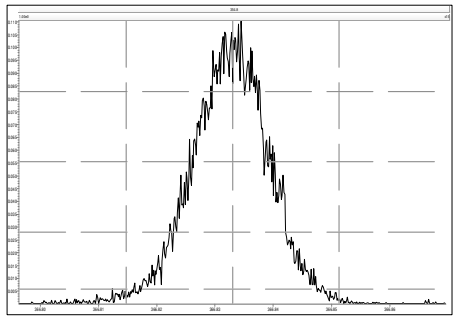
M 342.9792 R 11909



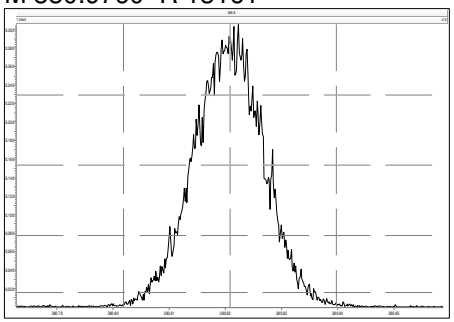
M 354.9792 R 11684



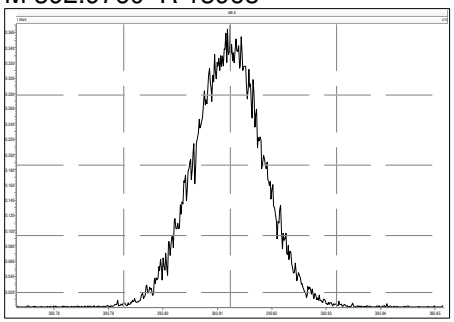
M 366.9792 R 11962



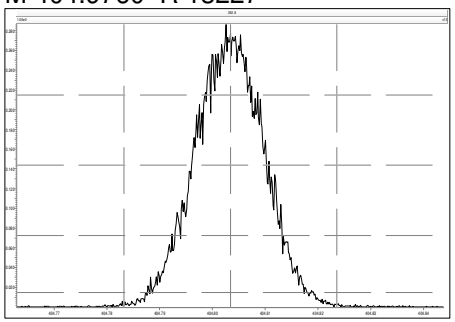
M 380.9760 R 13161



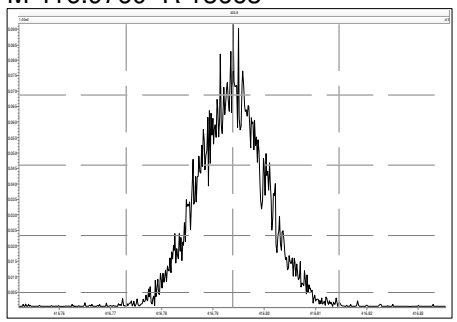
M 392.9760 R 13968



M 404.9760 R 13227



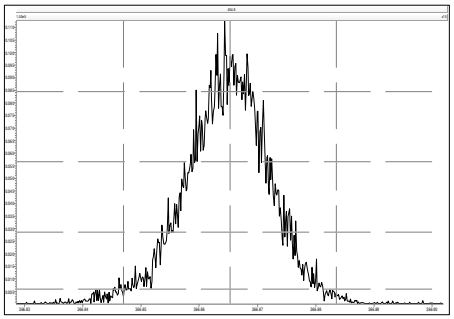
M 416.9760 R 13663



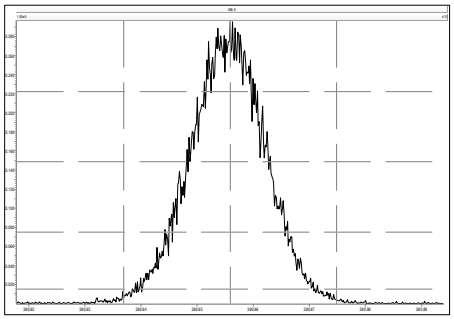
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

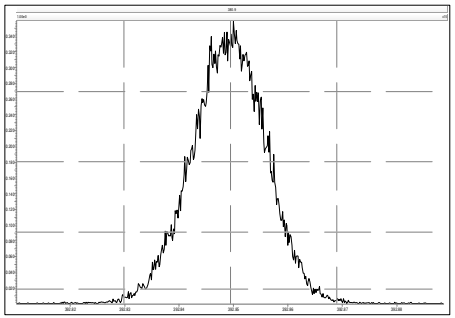
M 366.9792 R 10680



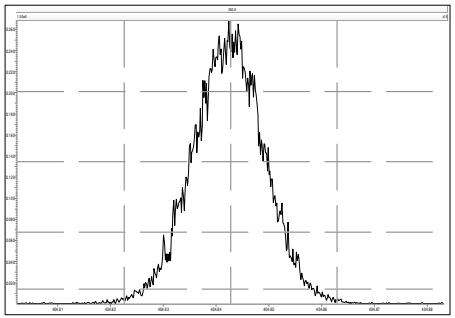
M 380.9760 R 12315



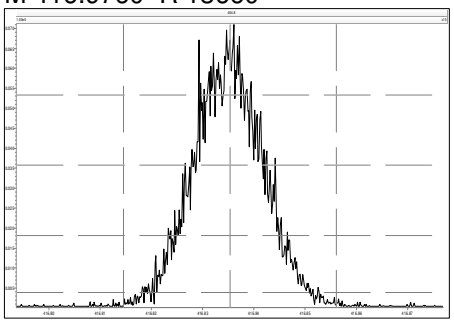
M 392.9760 R 12197



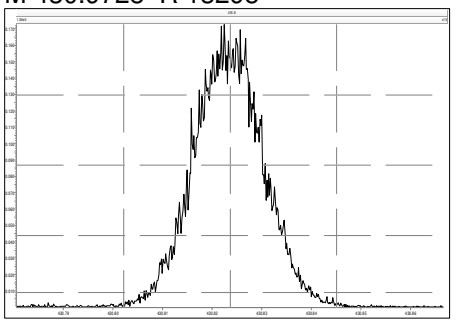
M 404.9760 R 12433



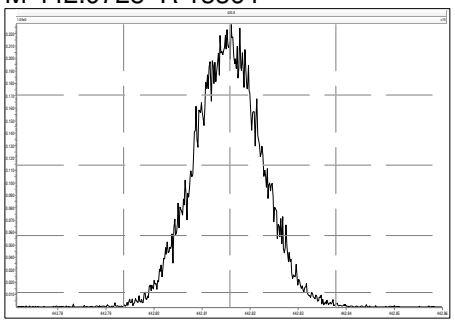
M 416.9760 R 13660



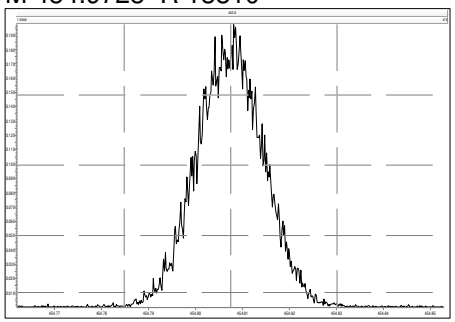
M 430.9728 R 13295



M 442.9728 R 13364



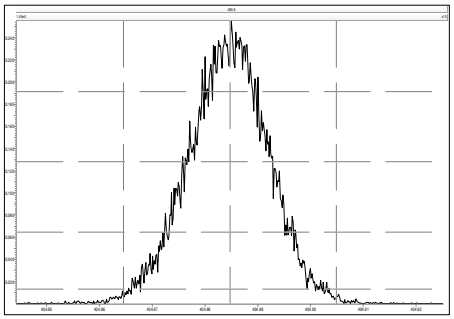
M 454.9728 R 13810



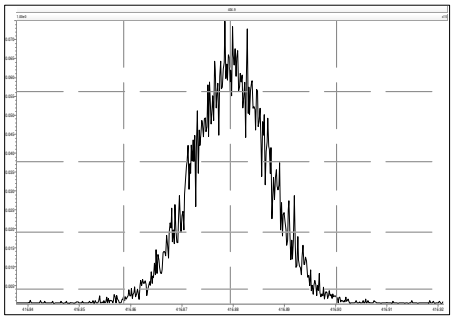
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

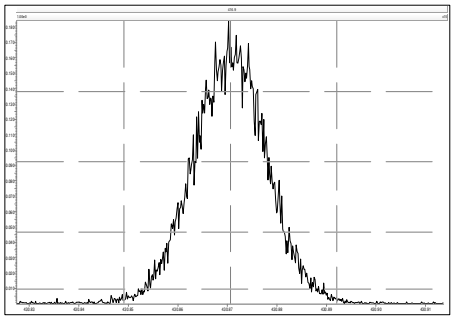
M 404.9760 R 11679



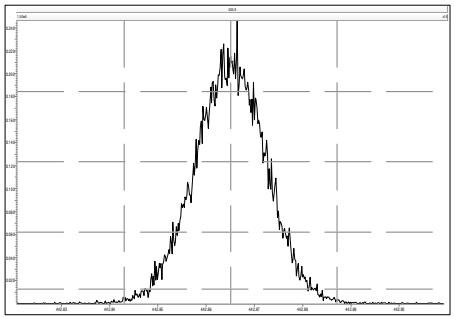
M 416.9760 R 12886



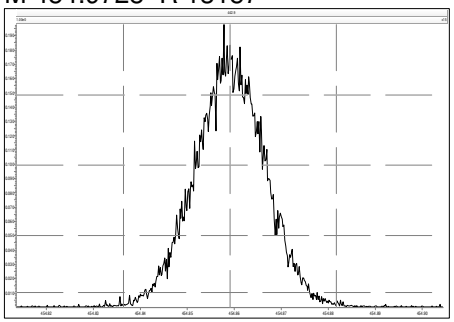
M 430.9728 R 12253



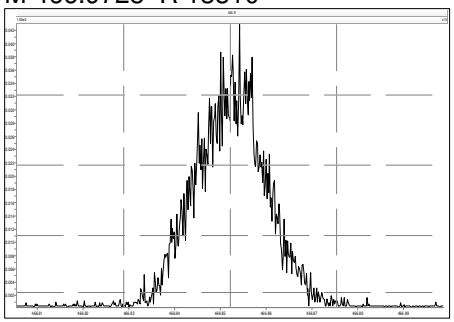
M 442.9728 R 12756



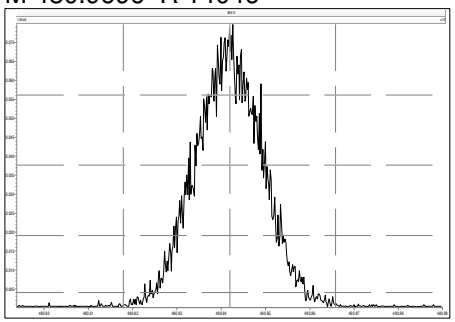
M 454.9728 R 13157



M 466.9728 R 13810



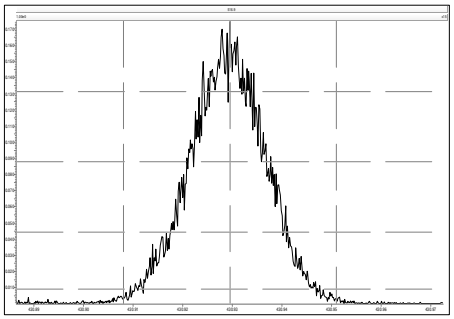
M 480.9696 R 14046



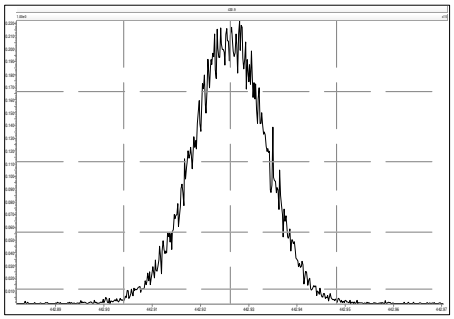
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

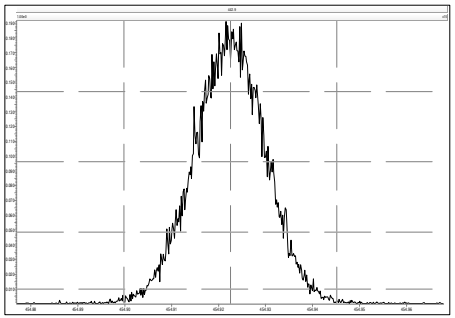
M 430.9728 R 11574



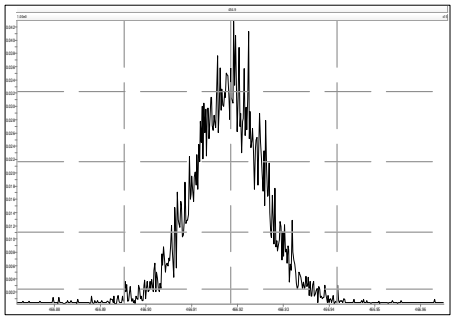
M 442.9728 R 12198



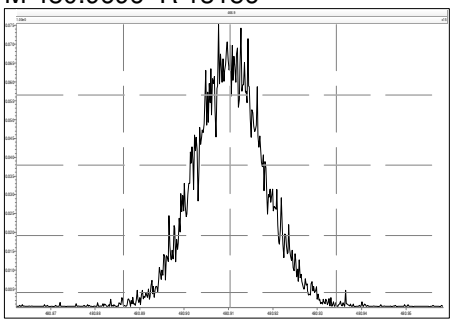
M 454.9728 R 12950



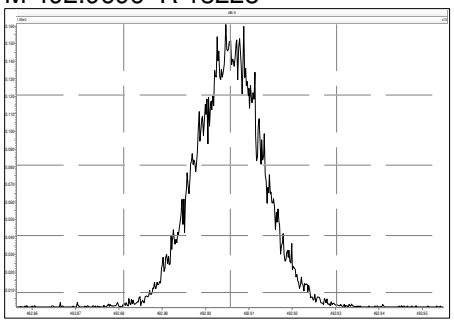
M 466.9728 R 13088



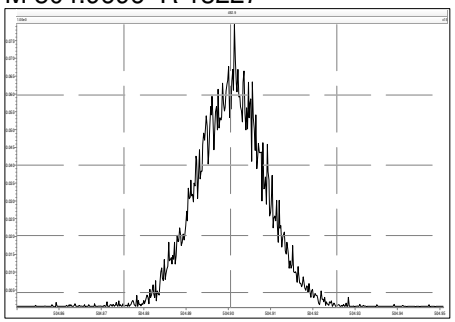
M 480.9696 R 13156



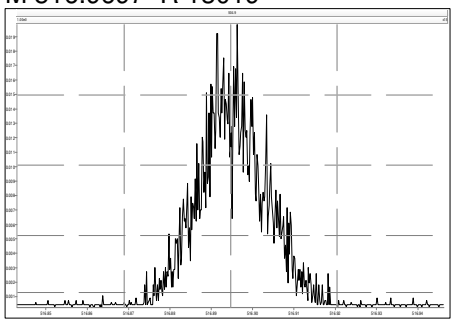
M 492.9696 R 13228



M 504.9696 R 13227



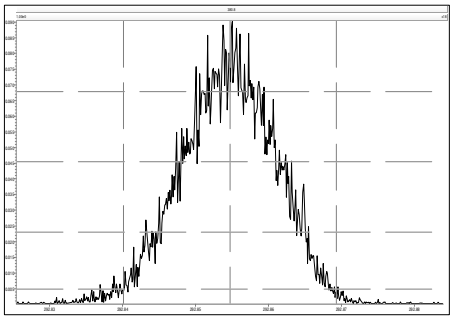
M 516.9697 R 13019



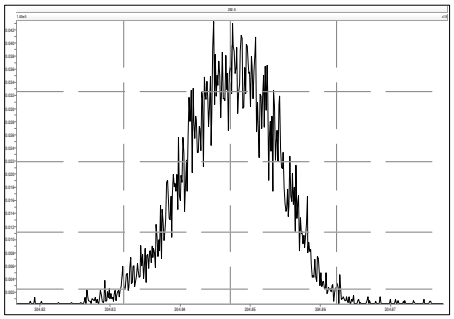
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

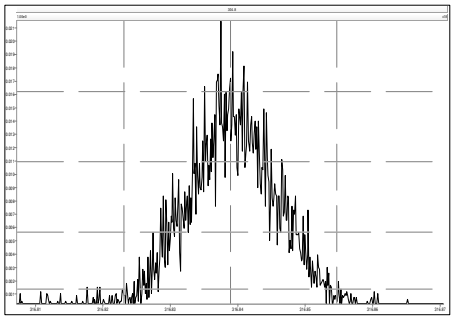
M 292.9824 R 10122



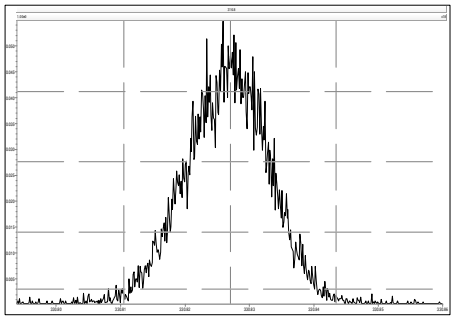
M 304.9824 R 10329



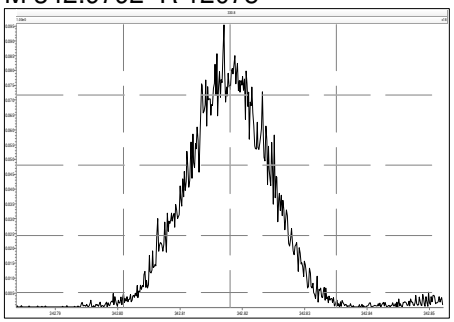
M 316.9824 R 11964



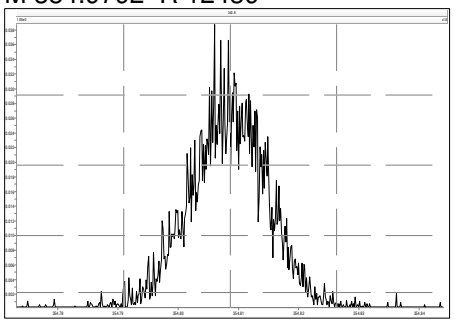
M 330.9792 R 11062



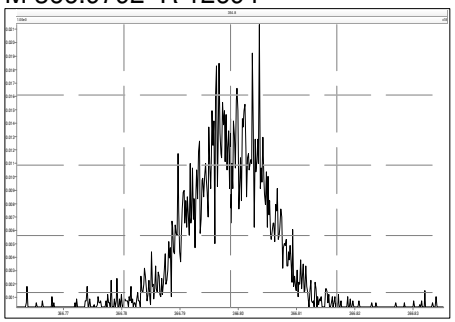
M 342.9792 R 12075



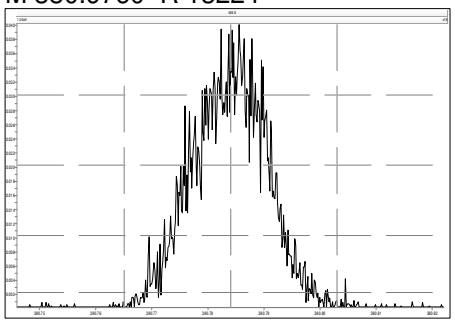
M 354.9792 R 12439



M 366.9792 R 12694



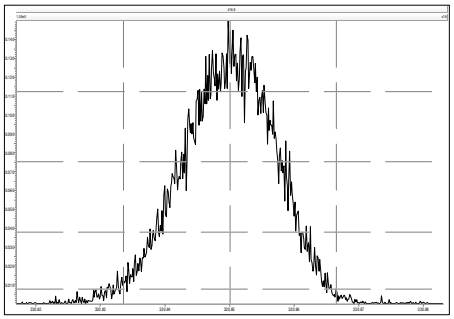
M 380.9760 R 13224



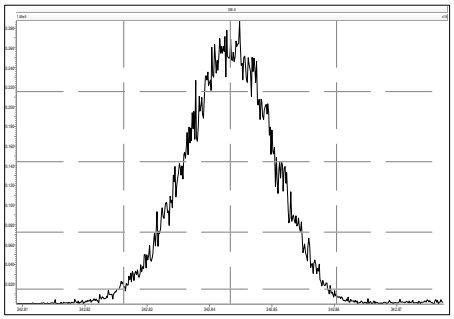
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

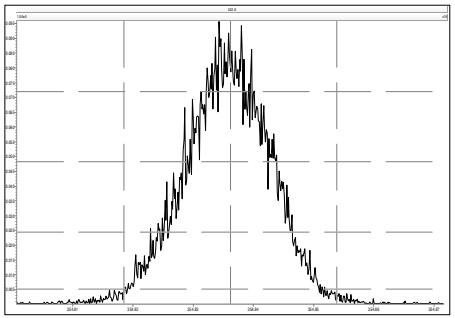
M 330.9792 R 10730



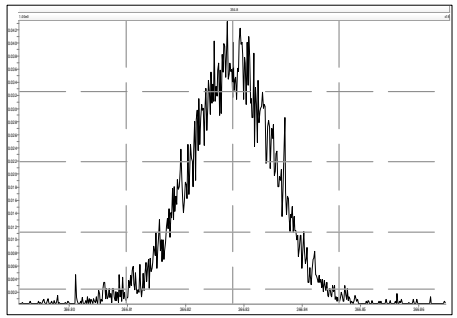
M 342.9792 R 10039



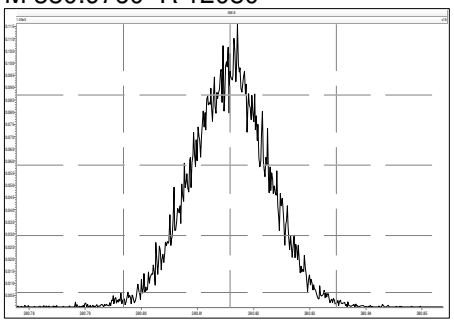
M 354.9792 R 11108



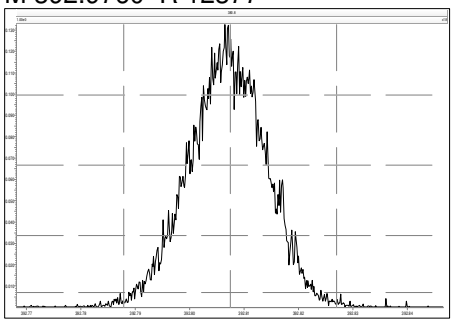
M 366.9792 R 11520



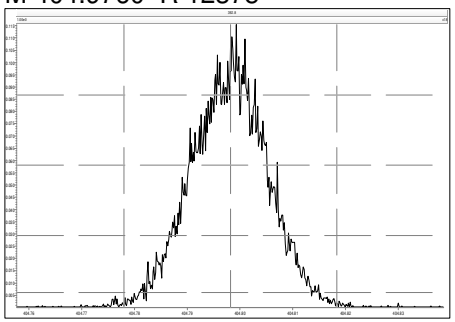
M 380.9760 R 12080



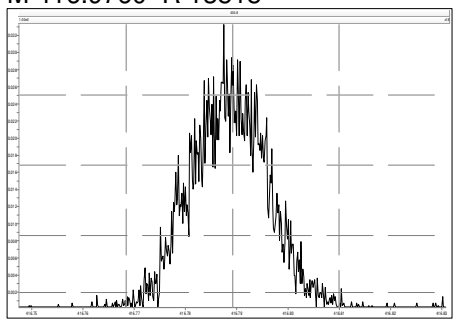
M 392.9760 R 12377



M 404.9760 R 12375



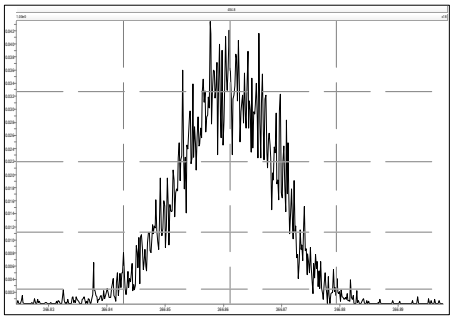
M 416.9760 R 13515



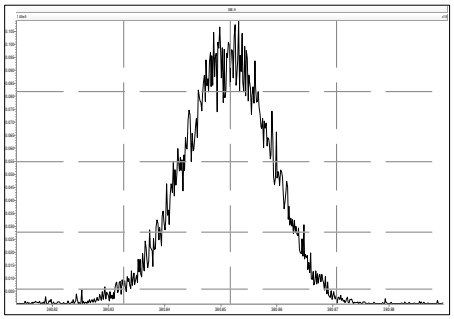
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

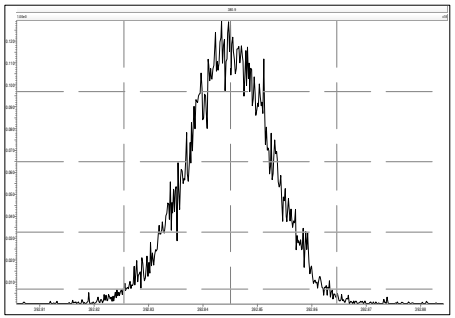
M 366.9792 R 10866



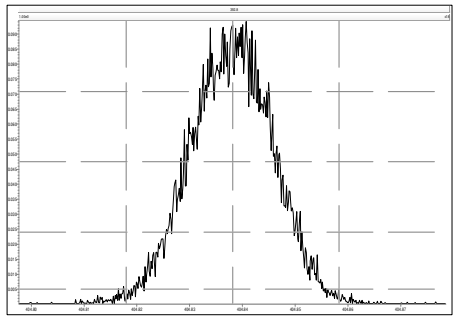
M 380.9760 R 10416



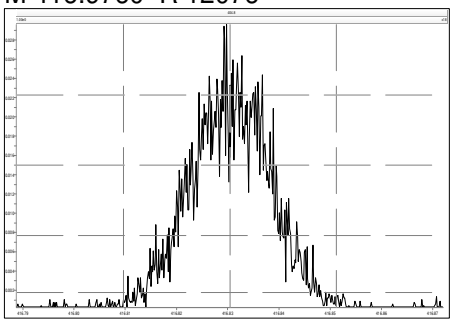
M 392.9760 R 10640



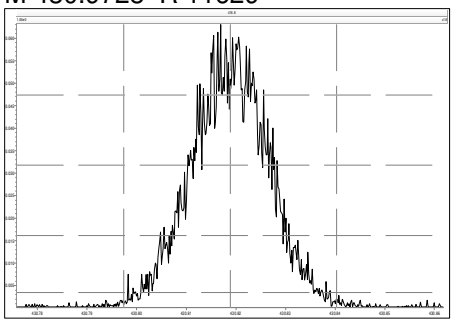
M 404.9760 R 11957



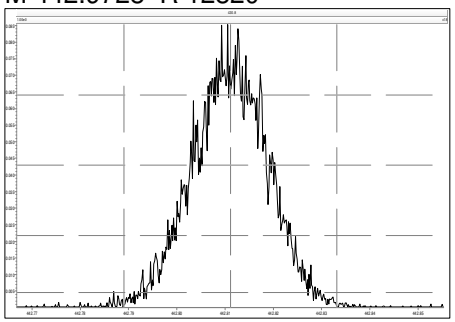
M 416.9760 R 12076



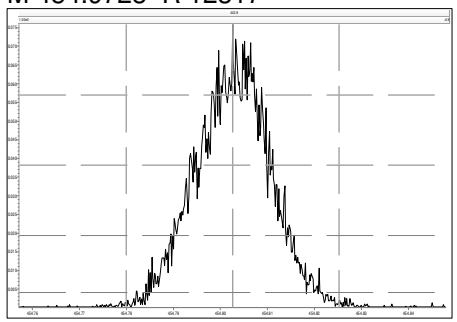
M 430.9728 R 11629



M 442.9728 R 12820



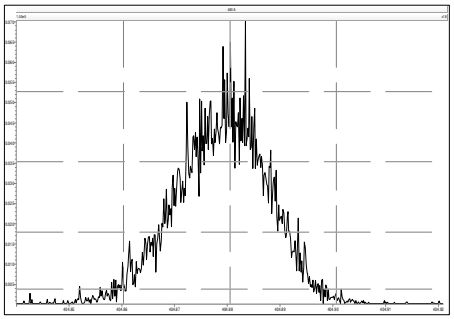
M 454.9728 R 12317



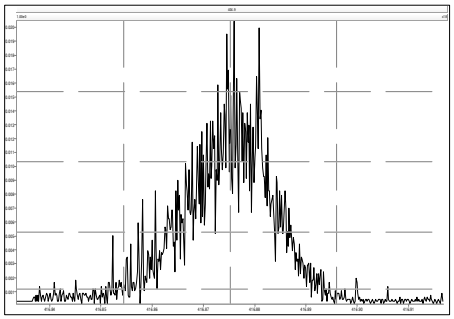
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

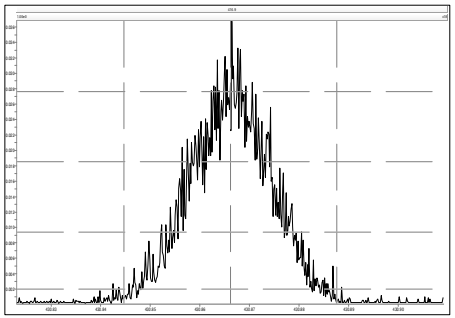
M 404.9760 R 10505



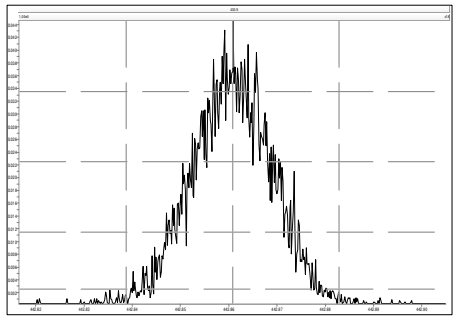
M 416.9760 R 12500



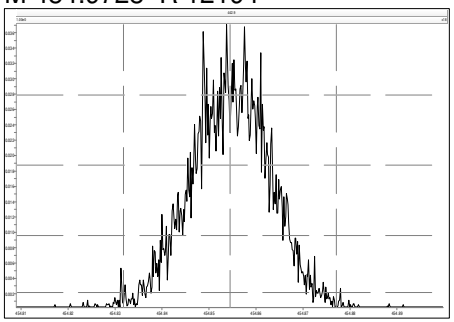
M 430.9728 R 11362



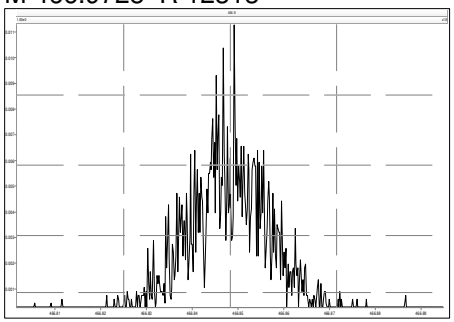
M 442.9728 R 12756



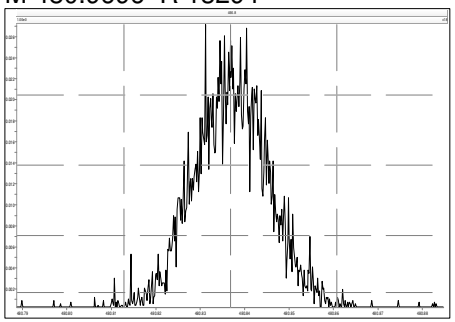
M 454.9728 R 12194



M 466.9728 R 12313



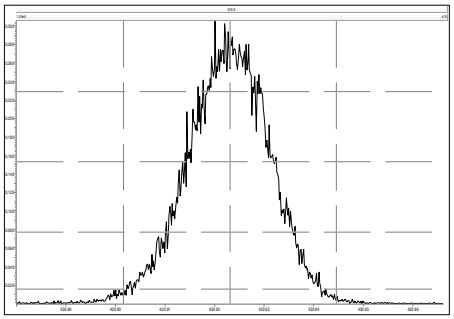
M 480.9696 R 13294



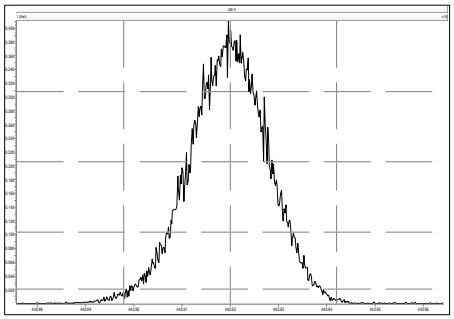
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

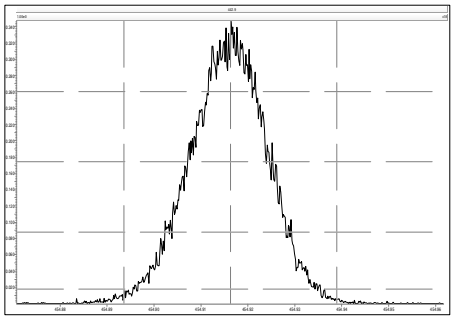
M 430.9728 R 11312



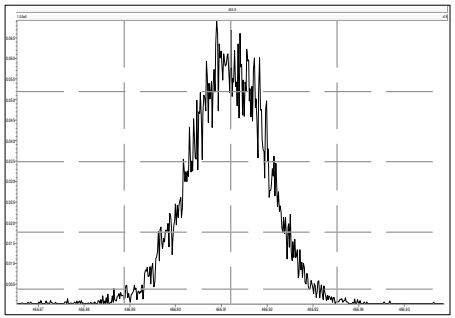
M 442.9728 R 11110



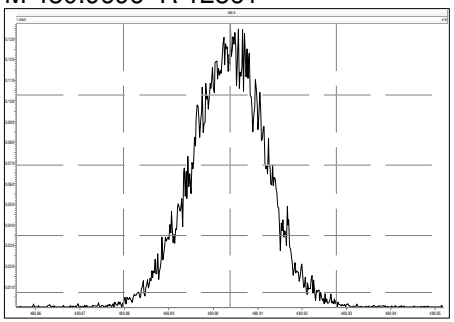
M 454.9728 R 11906



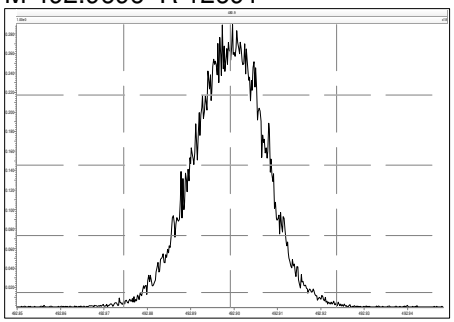
M 466.9728 R 12562



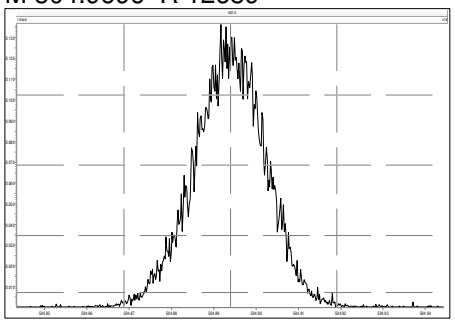
M 480.9696 R 12561



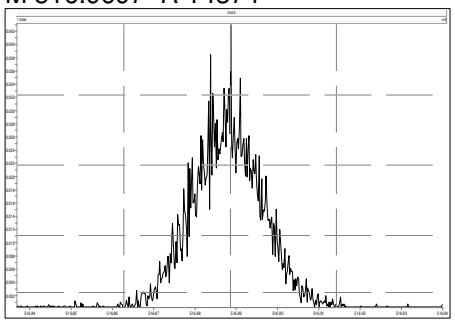
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



Lab ID: OPR1_18925_DF **Acq'd:** 22 Feb 2022 05:31 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18925_OPR001 **UTP:** 23-Feb-2022 10:28:34 DTF **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 501-256-SDM

Datafile: 220221C26 **Report:** 23 Feb 2022 10:30 TF **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.24		1.0008	1.0008	0	3.75E+06	0.84	Y	1.18	13.7	4344.626	0.176
12378-PeCDD	33.63		1.0007	1.0006	-0.2	1.37E+07	1.58	Y	1.04	57.3	3807.101	0.144
123478-HxCDD	37.56		1.0004	1.0004	0	1.39E+07	1.20	Y	1.09	63.4	2913.278	0.118
123678-HxCDD	37.68		1.0036	1.0036	0	1.54E+07	1.26	Y	1.15	66.8	2913.278	0.112
123789-HxCDD	37.98		1.0118	1.0117	-0.2	1.38E+07	1.23	Y	1.05	61.5	2913.278	0.112
1234678-HpCDD	40.72		1.0002	1.0003	+0.2	1.28E+07	1.05	Y	1.06	60.8	2936.31	0.113
OCDD	43.42		1.0003	1.0003	0	1.92E+07	0.91	Y	1.13	128	3499.543	0.298
2378-TCDF	27.37		1.0008	1.0008	0	5.02E+06	0.79	Y	1.08	14.2	4618.145	0.14
12378-PeCDF	32.17		1.0005	1.0005	0	2.21E+07	1.54	Y	1.02	60	6874.65	0.172
23478-PeCDF	33.29		1.0005	1.0005	0	2.03E+07	1.52	Y	1.02	63.1	6874.65	0.195
123478-HxCDF	36.56		1.0004	1.0005	+0.2	1.66E+07	1.23	Y	1.27	59.4	5559.688	0.161
123678-HxCDF	36.70		1.0004	1.0005	+0.2	2.24E+07	1.25	Y	1.15	58.9	5559.688	0.123
234678-HxCDF	37.37		1.0005	1.0005	0	2.03E+07	1.27	Y	1.19	61.9	5559.688	0.151
123789-HxCDF	38.35		1.0004	1.0004	0	1.26E+07	1.24	Y	1.16	56.5	5559.688	0.218
1234678-HpCDF	39.77		1.0003	1.0003	0	2.04E+07	1.04	Y	1.37	59.1	3213.088	0.0681
1234789-HpCDF	41.17		1.0003	1.0003	0	1.11E+07	1.06	Y	1.31	60	3213.088	0.146
OCDF	43.59		1.0002	1.0003	+0.3	1.64E+07	0.91	Y	1.07	116	3193.753	0.267

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.21	1.0243	1.0243	0	2.31E+07	0.81	Y	1.05	78.5
ES 12378-PeCDD	33.61	1.2198	1.2202	+0.8	2.30E+07	1.61	Y	0.88	93
ES 123478-HxCDD	37.54	0.9916	0.9915	-0.2	2.01E+07	1.22	Y	0.97	83.9
ES 123678-HxCDD	37.67	0.9947	0.9948	+0.2	2.01E+07	1.18	Y	0.94	86.3
ES 123789-HxCDD	37.97	1.0029	1.0027	-0.5	2.14E+07	1.22	Y	1.09	79.8
ES 1234678-HpCDD	40.70	1.0749	1.0750	+0.2	1.99E+07	1.05	Y	0.91	88.3
ES OCDD	43.40	1.1460	1.1462	+0.5	2.66E+07	0.89	Y	0.62	86.5
ES 2378-TCDF	27.35	1.0531	1.0533	+0.3	3.28E+07	0.76	Y	1.06	65.9
ES 12378-PeCDF	32.15	1.2378	1.2383	+1.0	3.59E+07	1.49	Y	0.91	84
ES 23478-PeCDF	33.27	1.2810	1.2815	+1.0	3.16E+07	1.53	Y	0.88	76.3
ES 123478-HxCDF	36.54	0.9650	0.9650	0	2.19E+07	0.55	Y	1.20	74.3
ES 123678-HxCDF	36.68	0.9688	0.9687	-0.2	3.30E+07	0.54	Y	1.35	99
ES 234678-HxCDF	37.36	0.9866	0.9866	0	2.76E+07	0.52	Y	1.24	90.3
ES 123789-HxCDF	38.34	1.0125	1.0125	0	1.91E+07	0.53	Y	1.16	67.1
ES 1234678-HpCDF	39.76	1.0501	1.0500	-0.2	2.52E+07	0.44	Y	0.97	106
ES 1234789-HpCDF	41.16	1.0870	1.0870	0	1.41E+07	0.45	Y	0.85	67.2
ES OCDF	43.58	1.1505	1.1509	+1.0	2.65E+07	0.91	Y	0.81	66.5

APPROVED
Amy_Boehm , 2/23/2022, 10:48:12 AM

Lab ID: OPR1_18925_DF **Acq'd:** 22 Feb 2022 05:31 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18925_OPR001 **UTP:** 23-Feb-2022 10:28:34 DTF **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 501-256-SDM

Datafile: 220221C26 **Report:** 23 Feb 2022 10:30 TF **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.54		-	-	-	2.81E+07	0.80	Y	-	-
JS 1234-TCDF	25.96		-	-	-	4.70E+07	0.76	Y	-	-
JS 123467-HxCDD	37.86		-	-	-	1.23E+07	1.15	Y	-	-
CS 37Cl-2378-TCDD	28.24		1.0251	1.0251	0	1.12E+07	n/a	-	1.20	82.9
CS 12347-PeCDD	33.10		1.2016	1.2019	+0.6	2.41E+07	1.61	Y	0.75	114
CS 12346-PeCDF	31.62		1.2172	1.2178	+1.1	4.05E+07	1.42	Y	0.85	101
CS 123469-HxCDF	36.99		0.9771	0.9770	-0.2	3.08E+07	0.54	Y	1.12	112
CS 1234689-HpCDF	40.17		1.0608	1.0608	0	2.38E+07	0.44	Y	0.89	109
SS 37Cl-2378-TCDD	28.24		1.0251	1.0251	0	1.12E+07	n/a	-	1.15	106
SS 12347-PeCDD	33.10		1.2016	1.2019	+0.6	2.41E+07	1.61	Y	0.86	122
SS 12346-PeCDF	31.62		1.2172	1.2178	+1.1	4.05E+07	1.42	Y	0.94	121
SS 123469-HxCDF	36.99		0.9771	0.9770	-0.2	3.08E+07	0.54	Y	0.83	113
SS 1234689-HpCDF	40.17		1.0608	1.0608	0	2.38E+07	0.44	Y	0.92	103

Totals	Conc	EMPC
Total TCDD	66.6	66.6
Total PeCDD	89.3	89.3
Total HxCDD	212	212
Total HpCDD	76.6	76.6
Total Tetra-Octa Dioxins	573	573
Total TCDF	78.8	78.8
Total PeCDF	232	232
Total HxCDF	376	376
Total HpCDF	119	119
Total Tetra-Octa Furans	922	922
Total Tetra-Octa Dioxins & Furans	1490	1490

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.838	0.84
Response	3.76E+06	3.75E+06

Lab ID: OPR1_18925_DF **Acq'd: 22 Feb 2022 05:31 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18925_OPR001 **UTP: 23-Feb-2022 10:28:34 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 501-256-SDM**

Datafile: 220221C26 **Report: 23 Feb 2022 10:30 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.54		0.8701	0.8700	-0.1	5.27E+06	0.84	Y	1.18	19.3	4344.626	0.176
1379-TCDD	NotFnd		0.8829						1.18		4344.626	0.176
1369-TCDD	NotFnd		0.8982						1.18		4344.626	0.176
1469-TCDD	NotFnd		0.9261						1.18		4344.626	0.176
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4344.626	0.176
1378-TCDD	NotFnd		0.9417						1.18		4344.626	0.176
1268-TCDD	NotFnd		0.9487						1.18		4344.626	0.176
1478-TCDD	NotFnd		0.9576						1.18		4344.626	0.176
1279-TCDD	NotFnd		0.9636						1.18		4344.626	0.176
1234/1269-TCDD	NotFnd		0.9761						1.18		4344.626	0.176
1236-TCDD	NotFnd		0.9812						1.18		4344.626	0.176
1237/1238-TCDD	NotFnd		0.9905						1.18		4344.626	0.176
1239-TCDD	28.08		0.9951	0.9951	0	3.77E+06	0.82	Y	1.18	13.8	4344.626	0.176
2378-TCDD	**28.24**		**1.0008**	1.0008	**0**	3.75E+06	0.84	Y	**1.18**	**13.7**	**4344.626**	**0.176**
1278-TCDD	NotFnd		1.0124						1.18		4344.626	0.176
1267-TCDD	NotFnd		1.0172						1.18		4344.626	0.176
1289-TCDD	29.22		1.0354	1.0355	+0.2	5.43E+06	0.85	Y	1.18	19.8	4344.626	0.176
12479/12468-PeCDD	31.11		0.9255	0.9255	0	3.67E+06	1.55	Y	1.04	15.4	3807.101	0.144
12469-PeCDD	NotFnd		0.9416						1.04		3807.101	0.144
12368-PeCDD	NotFnd		0.9582						1.04		3807.101	0.144
12478-PeCDD	NotFnd		0.9637						1.04		3807.101	0.144
12379-PeCDD	NotFnd		0.9668						1.04		3807.101	0.144
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		3807.101	0.144
12346/12347-PeCDD	NotFnd		0.9858						1.04		3807.101	0.144
12378-PeCDD	33.63		**1.0007**	**1.0006**	**-0.2**	**1.37E+07**	**1.58**	**Y**	**1.04**	**57.3**	**3807.101**	**0.144**
12367-PeCDD	NotFnd		1.0036						1.04		3807.101	0.144
12389-PeCDD	34.07		1.0137	1.0137	0	3.96E+06	1.59	Y	1.04	16.6	3807.101	0.144
124679/124689-HxCDD	35.81		0.9540	0.9539	-0.2	4.61E+06	1.20	Y	1.10	20.5	2913.278	0.114
123468-HxCDD	NotFnd		0.9715						1.10		2913.278	0.114
123679/123689-HxCDD	NotFnd		0.9793						1.10		2913.278	0.114
123469-HxCDD	NotFnd		0.9829						1.10		2913.278	0.114
123478-HxCDD	37.56		**1.0004**	**1.0004**	**0**	**1.39E+07**	**1.20**	**Y**	1.09	**63.4**	**2913.278**	**0.118**
123678-HxCDD	37.68		**1.0036**	**1.0036**	**0**	**1.54E+07**	**1.26**	**Y**	1.15	**66.8**	**2913.278**	**0.112**
123467-HxCDD	NotFnd		1.0089						1.10		2913.278	0.114
123789-HxCDD	37.98		**1.0118**	**1.0117**	**-0.2**	**1.38E+07**	**1.23**	**Y**	1.05	**61.5**	**2913.278**	**0.112**

Lab ID: OPR1_18925_DF **Acq'd: 22 Feb 2022 05:31 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18925_OPR001 **UTP: 23-Feb-2022 10:28:34 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 501-256-SDM**

Datafile: 220221C26 **Report: 23 Feb 2022 10:30 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.04		0.9836	0.9836	0	3.33E+06	1.01	Y	1.06	15.8	2936.31	0.113
1234678-HpCDD	**40.72**		**1.0002**	**1.0003**	**+0.2**	**1.28E+07**	**1.05**	**Y**	**1.06**	**60.8**	**2936.31**	**0.113**
OCDD	**43.42**		**1.0003**	**1.0003**	**0**	**1.92E+07**	**0.91**	**Y**	**1.13**	**128**	**3499.543**	**0.298**
OCDD-a	43.41		1.0002	1.0003	+0.3	1.23E+06	2.61	Y	0.07	129	3481.338	4.64
1368-TCDF	22.40		0.8191	0.8190	-0.1	7.02E+06	0.83	Y	1.08	19.8	4618.145	0.14
1468-TCDF	NotFnd		0.8408						1.08		4618.145	0.14
2468-TCDF	23.64		0.8645	0.8645	0	1.79E+06	0.75	Y	1.08	5.06	4618.145	0.14
1346/1246-TCDF	NotFnd		0.8772						1.08		4618.145	0.14
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		4618.145	0.14
1348-TCDF	NotFnd		0.8932						1.08		4618.145	0.14
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		4618.145	0.14
1268-TCDF	NotFnd		0.9119						1.08		4618.145	0.14
1467-TCDF	NotFnd		0.9170						1.08		4618.145	0.14
1478-TCDF	NotFnd		0.9234						1.08		4618.145	0.14
1369/1237-TCDF	NotFnd		0.9369						1.08		4618.145	0.14
2467-TCDF	NotFnd		0.9415						1.08		4618.145	0.14
2368-TCDF	NotFnd		0.9475						1.08		4618.145	0.14
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		4618.145	0.14
1278-TCDF	NotFnd		0.9676						1.08		4618.145	0.14
1349-TCDF	NotFnd		0.9722						1.08		4618.145	0.14
1267-TCDF	NotFnd		0.9777						1.08		4618.145	0.14
2346/1249-TCDF	NotFnd		0.9843						1.08		4618.145	0.14
2347/1279-TCDF	NotFnd		0.9926						1.08		4618.145	0.14
2348-TCDF	27.26		0.9968	0.9967	-0.2	6.80E+06	0.77	Y	1.08	19.2	4618.145	0.14
2378-TCDF	**27.37**		**1.0008**	**1.0008**	**0**	**5.02E+06**	**0.79**	**Y**	**1.08**	**14.2**	**4618.145**	**0.14**
2367/3467-TCDF	NotFnd		1.0142						1.08		4618.145	0.14
1269-TCDF	NotFnd		1.0235						1.08		4618.145	0.14
1239-TCDF	NotFnd		1.0329						1.08		4618.145	0.14
1289-TCDF	29.38		1.0742	1.0745	+0.5	7.23E+06	0.81	Y	1.08	20.4	4618.145	0.14
13468/12468-PeCDF	29.31		0.9122	0.9117	-0.9	3.33E+07	1.46	Y	1.02	96.4	2779.066	0.0738
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		6874.65	0.183
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		6874.65	0.183
14678-PeCDF	NotFnd		0.9685						1.02		6874.65	0.183
13479-PeCDF	NotFnd		0.9716						1.02		6874.65	0.183
13469/12479-PeCDF	NotFnd		0.9794						1.02		6874.65	0.183
12346-PeCDF	NotFnd		0.9836						1.02		6874.65	0.183

Lab ID: OPR1_18925_DF | **Acq'd: 22 Feb 2022 05:31 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18925_OPR001 | **UTP: 23-Feb-2022 10:28:34 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 501-256-SDM**

Datafile: 220221C26 | **Report: 23 Feb 2022 10:30 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		6874.65	0.183
12347-PeCDF	NotFnd		0.9891						1.02		6874.65	0.183
12348-PeCDF	NotFnd		0.9938						1.02		6874.65	0.183
12378-PeCDF	**32.17**		**1.0005**	**1.0005**	**0**	**2.21E+07**	**1.54**	**Y**	**1.02**	**60**	**6874.65**	**0.172**
12678/12367-PeCDF	NotFnd		1.0091						1.02		6874.65	0.183
12379-PeCDF	NotFnd		1.0144						1.02		6874.65	0.183
12679-PeCDF	NotFnd		0.9927						1.02		6874.65	0.183
23467/12369-PeCDF	NotFnd		0.9965						1.02		6874.65	0.183
23478-PeCDF	**33.29**		**1.0005**	**1.0005**	**0**	**2.03E+07**	**1.52**	**Y**	**1.02**	**63.1**	**6874.65**	**0.195**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6874.65	0.183
12349-PeCDF	NotFnd		1.0101						1.02		6874.65	0.183
12389-PeCDF	34.37		1.0330	1.0330	0	4.29E+06	1.65	Y	1.02	12.4	6874.65	0.183
123468-HxCDF	35.16		0.9622	0.9622	0	4.22E+07	1.24	Y	1.19	139	5559.688	0.156
124678/134678-HxCDF	NotFnd		0.9678						1.19		5559.688	0.156
134679-HxCDF	NotFnd		0.9741						1.19		5559.688	0.156
124679-HxCDF	NotFnd		0.9795						1.19		5559.688	0.156
124689-HxCDF	NotFnd		0.9856						1.19		5559.688	0.156
123467-HxCDF	NotFnd		0.9972						1.19		5559.688	0.156
123478-HxCDF	**36.56**		**1.0004**	**1.0005**	**+0.2**	**1.66E+07**	**1.23**	**Y**	**1.27**	**59.4**	**5559.688**	**0.161**
123678-HxCDF	**36.70**		**1.0004**	**1.0005**	**+0.2**	**2.24E+07**	**1.25**	**Y**	**1.15**	**58.9**	**5559.688**	**0.123**
123479-HxCDF	NotFnd		1.0048						1.19		5559.688	0.156
123469-HxCDF	NotFnd		1.0089						1.19		5559.688	0.156
123679-HxCDF	NotFnd		0.9942						1.19		5559.688	0.156
234678-HxCDF	**37.37**		**1.0005**	**1.0005**	**0**	**2.03E+07**	**1.27**	**Y**	**1.19**	**61.9**	**5559.688**	**0.151**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		5559.688	0.156
123789-HxCDF	**38.35**		**1.0004**	**1.0004**	**0**	**1.26E+07**	**1.24**	**Y**	**1.16**	**56.5**	**5559.688**	**0.218**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		5559.688	0.156
1234678-HpCDF	**39.77**		**1.0003**	**1.0003**	**0**	**2.04E+07**	**1.04**	**Y**	**1.37**	**59.1**	**3213.088**	**0.0681**
1234679-HpCDF	NotFnd		1.0068						1.34		3213.088	0.0958
1234689-HpCDF	NotFnd		1.0104						1.34		3213.088	0.0958
1234789-HpCDF	**41.17**		**1.0003**	**1.0003**	**0**	**1.11E+07**	**1.06**	**Y**	**1.31**	**60**	**3213.088**	**0.146**
OCDF	**43.59**		**1.0002**	**1.0003**	**+0.3**	**1.64E+07**	**0.91**	**Y**	**1.07**	**116**	**3193.753**	**0.267**
OCDF-a	43.59		1.0001	1.0002	+0.3	9.94E+05	2.68	Y	0.07	113	3804.043	5.13

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220221C26	Analysis Date:	22-FEB-2022 05:31:33
Lab ID:	OPR1_18925_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	13.7	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	57.3	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	63.4	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	66.8	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	61.5	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	60.8	35	-	70	Y
OCDD	100	128	78	-	144	Y
2,3,7,8-TCDF	10	14.2	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	60	40	-	67	Y
2,3,4,7,8-PeCDF	50	63.1	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	59.4	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	58.9	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	61.9	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	56.5	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	59.1	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	60	39	-	69	Y
OCDF	100	116	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 23 Feb 2022 10:30 Analyst: TF

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220221C26	Analysis Date:	22-FEB-2022 05:31:33
Lab ID:	OPR1_18925_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	78.5	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	93	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	83.9	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	86.3	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	79.8	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	88.3	26	-	166	Y
13C-OCDD	200	173	26	-	397	Y
13C-2,3,7,8-TCDF	100	65.9	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	84	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	76.3	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	74.3	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	99	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	90.3	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	67.1	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	106	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	67.2	20	-	186	Y
13C-OCDF	200	133	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	33.2	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

Processed: 23 Feb 2022 10:30 Analyst: TF

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220221C26	Analysis Date:	22-FEB-2022 05:31:33
Lab ID:	OPR1_18925_DF		

Window Defining Standards Results

First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.54	1289-TCDD	29.22
12479/12468-PeCDD	31.11	12389-PeCDD	34.07
124679/124689-HxCDD	35.81	123789-HxCDD	37.98
1234679-HpCDD	40.04	1234678-HpCDD	40.72
1368-TCDF	22.40	1289-TCDF	29.38
13468/12468-PeCDF	29.31	12389-PeCDF	34.37
123468-HxCDF	35.16	123789-HxCDF	38.35
1234678-HpCDF	39.77	1234789-HpCDF	41.17

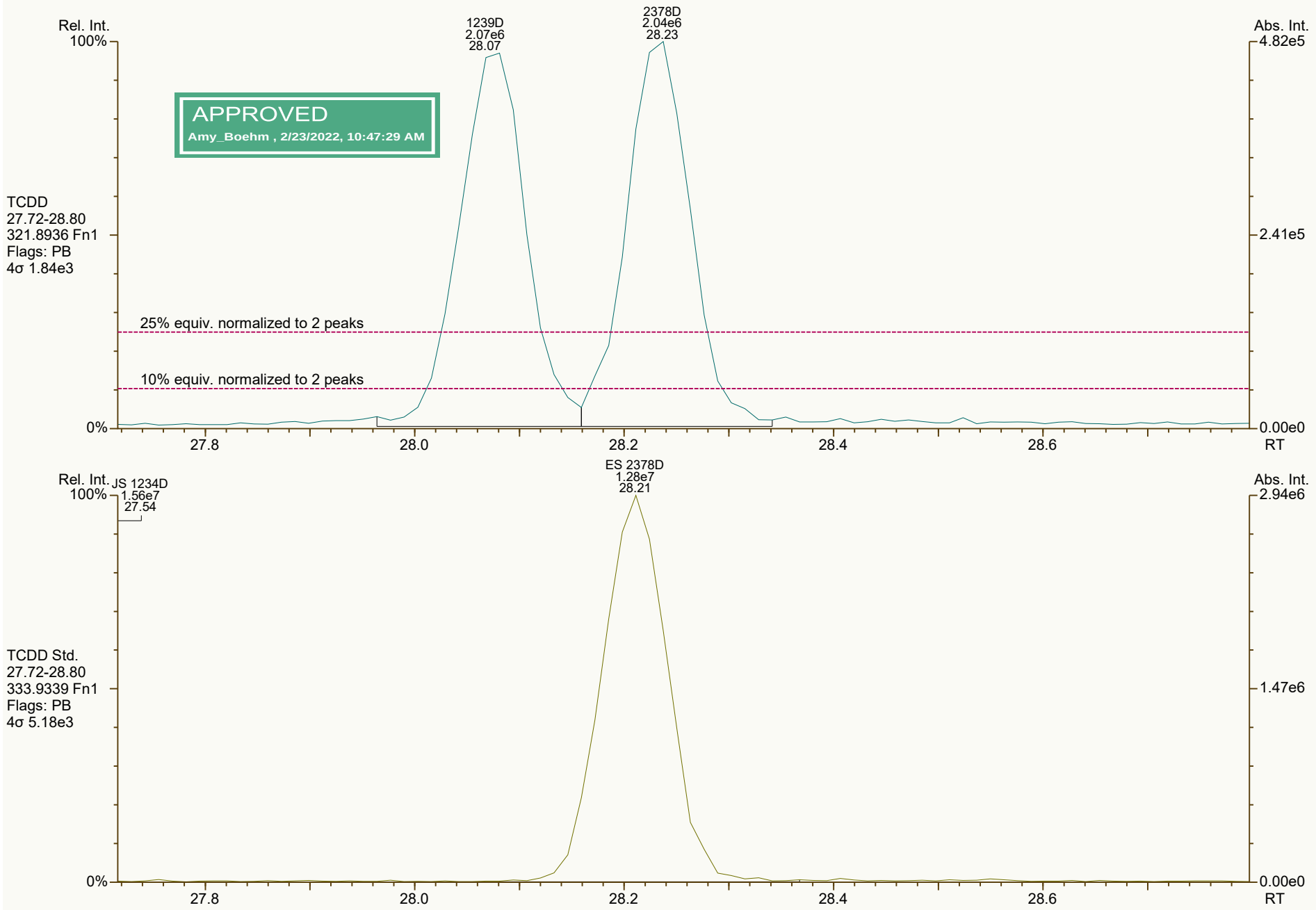
Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.08	2378-TCDD	28.24
2348-TCDF	27.26	2378-TCDF	27.37

Processed: 23 Feb 2022 10:30 Analyst: TF

SGS ID: OPR1_18925_DF | Sample ID: 0_18925_OPR001 | Acq: 22-Feb-2022 05:31:33

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66 | User: DTF Datafile: 220221C26



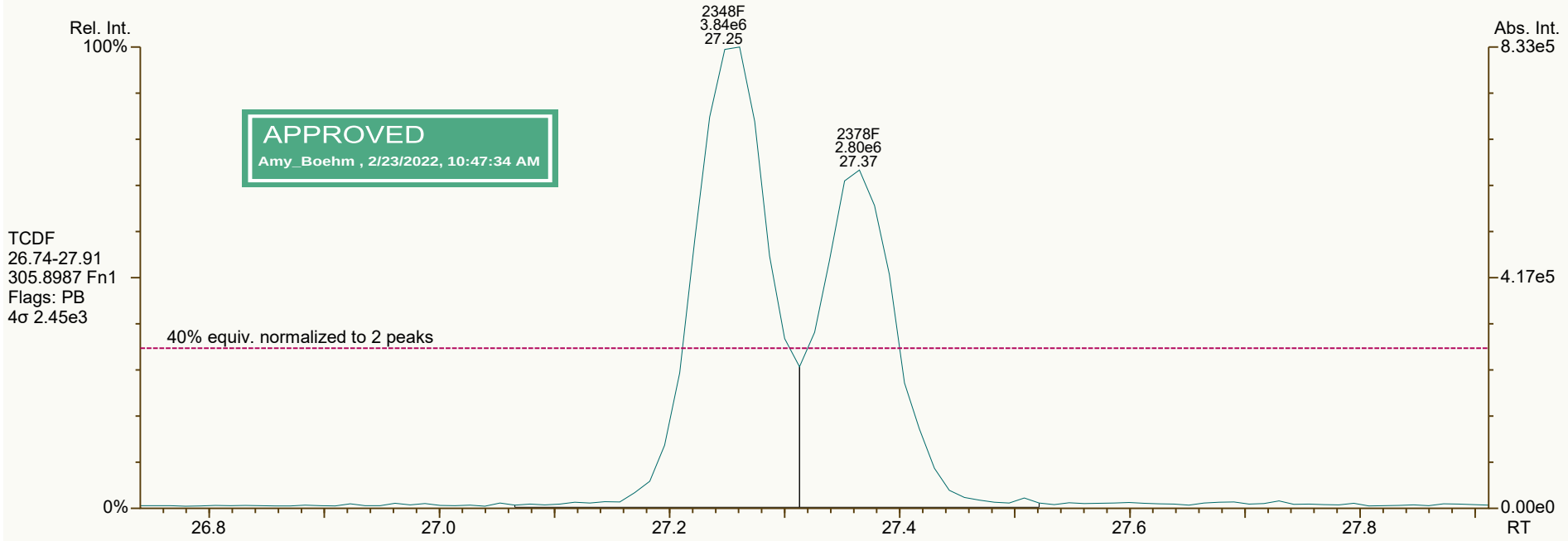
Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\OPR1_18925_DF.utp_res, saved 23-Feb-2022 08:15 (DTF)

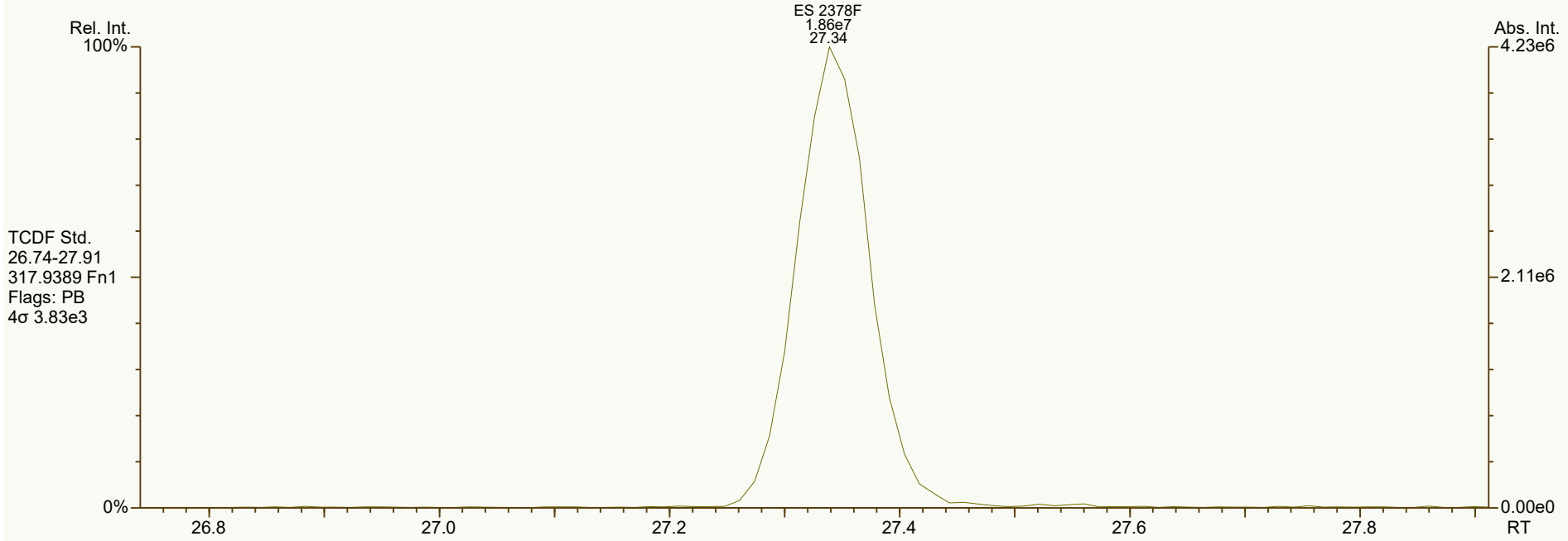
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616

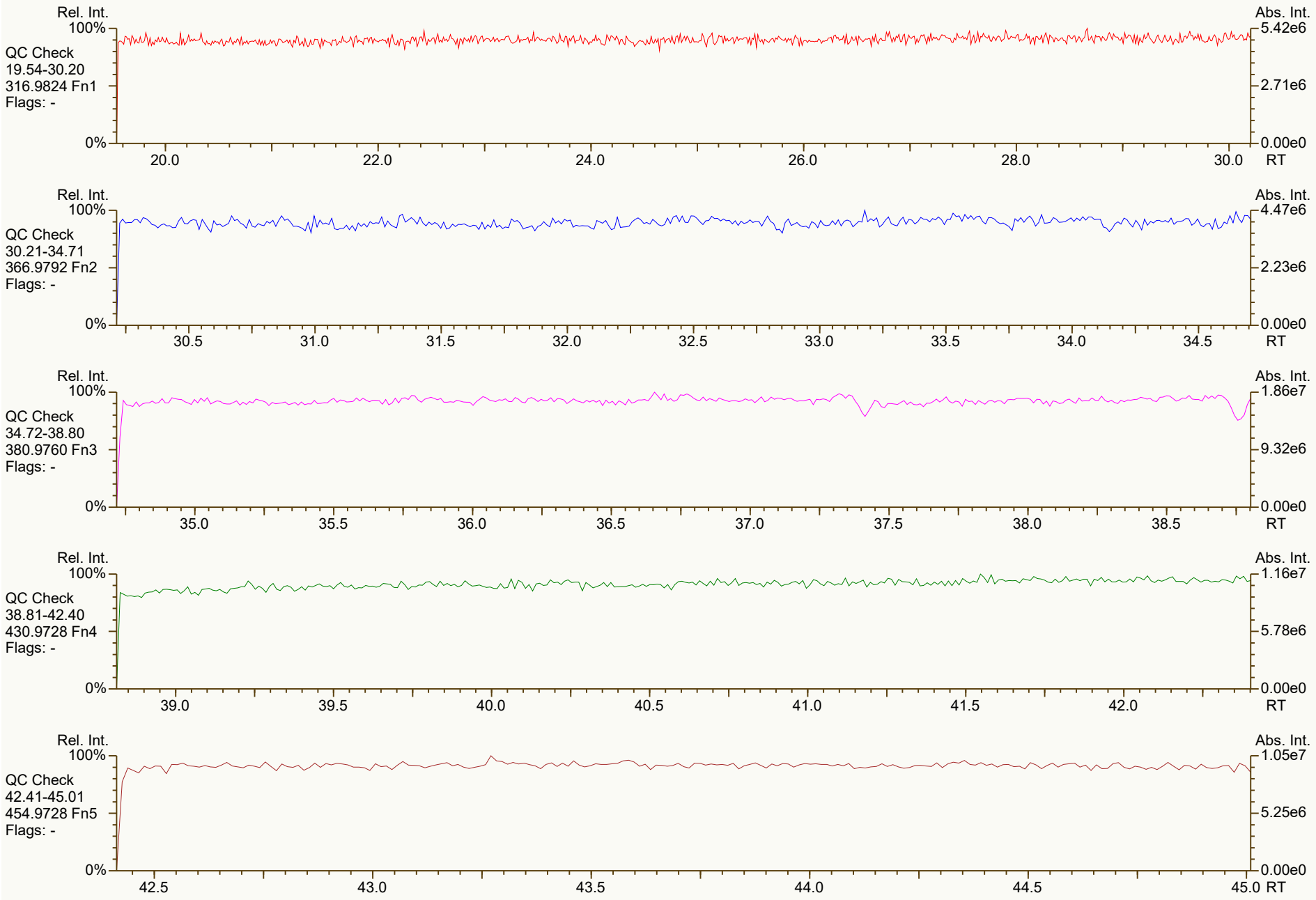
PKD: 22-Feb-2022 14:45 Printed: 23-Feb-2022 08:29

SGS ID: OPR1_18925_DF
Sample ID: 0_18925_OPR001
Acq: 22-Feb-2022 05:31:33
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 220221C26





Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\OPR1_18925_DF.utp_res, saved 22-Feb-2022 14:56 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
PKD: 22-Feb-2022 14:45 Printed: 23-Feb-2022 08:13


Rel. Int.
100%
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
RT
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
4.47e6
2.23e6
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
1.86e7
9.32e6
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
QC Check
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430.9728 Fn4
Flags: -
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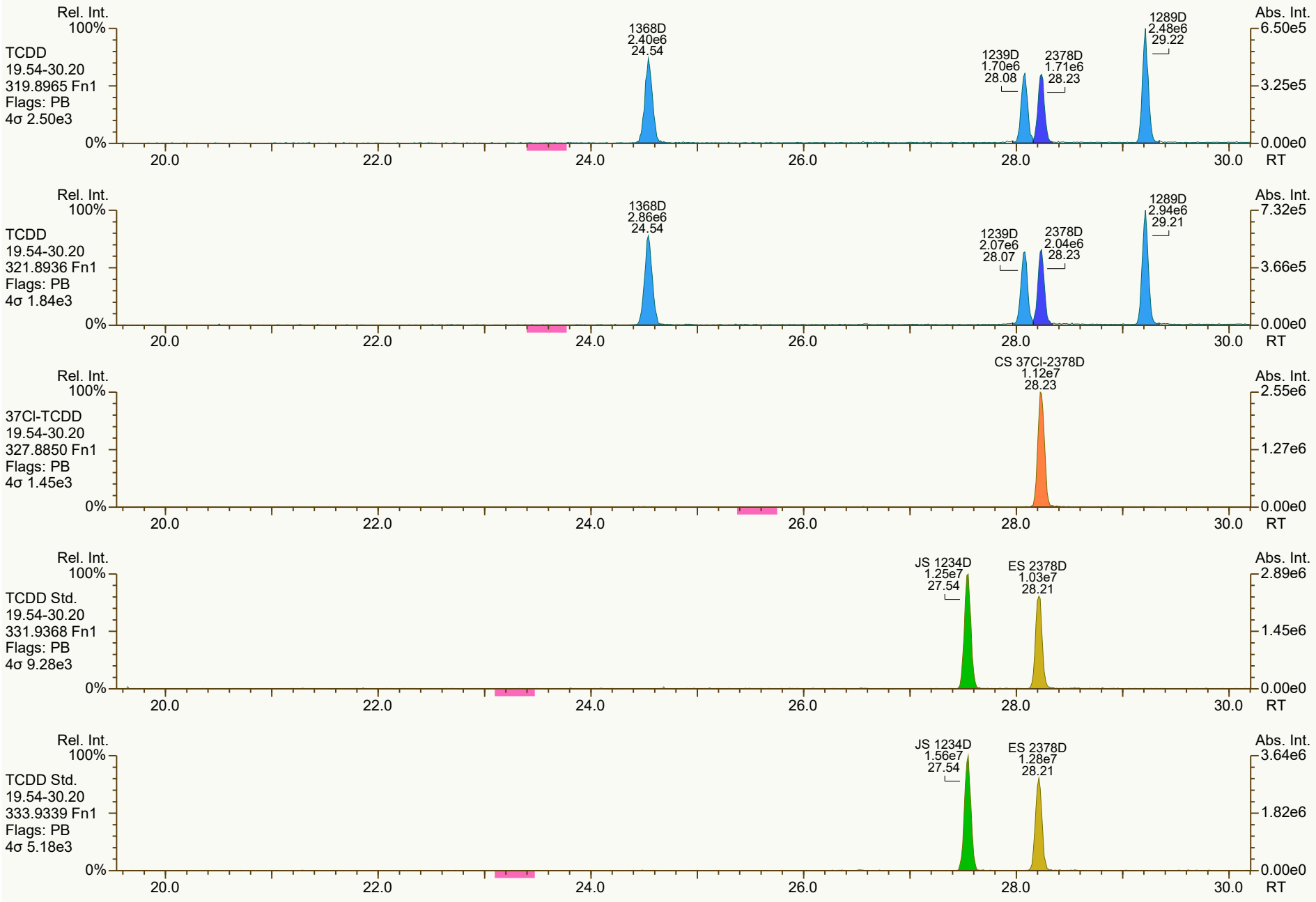
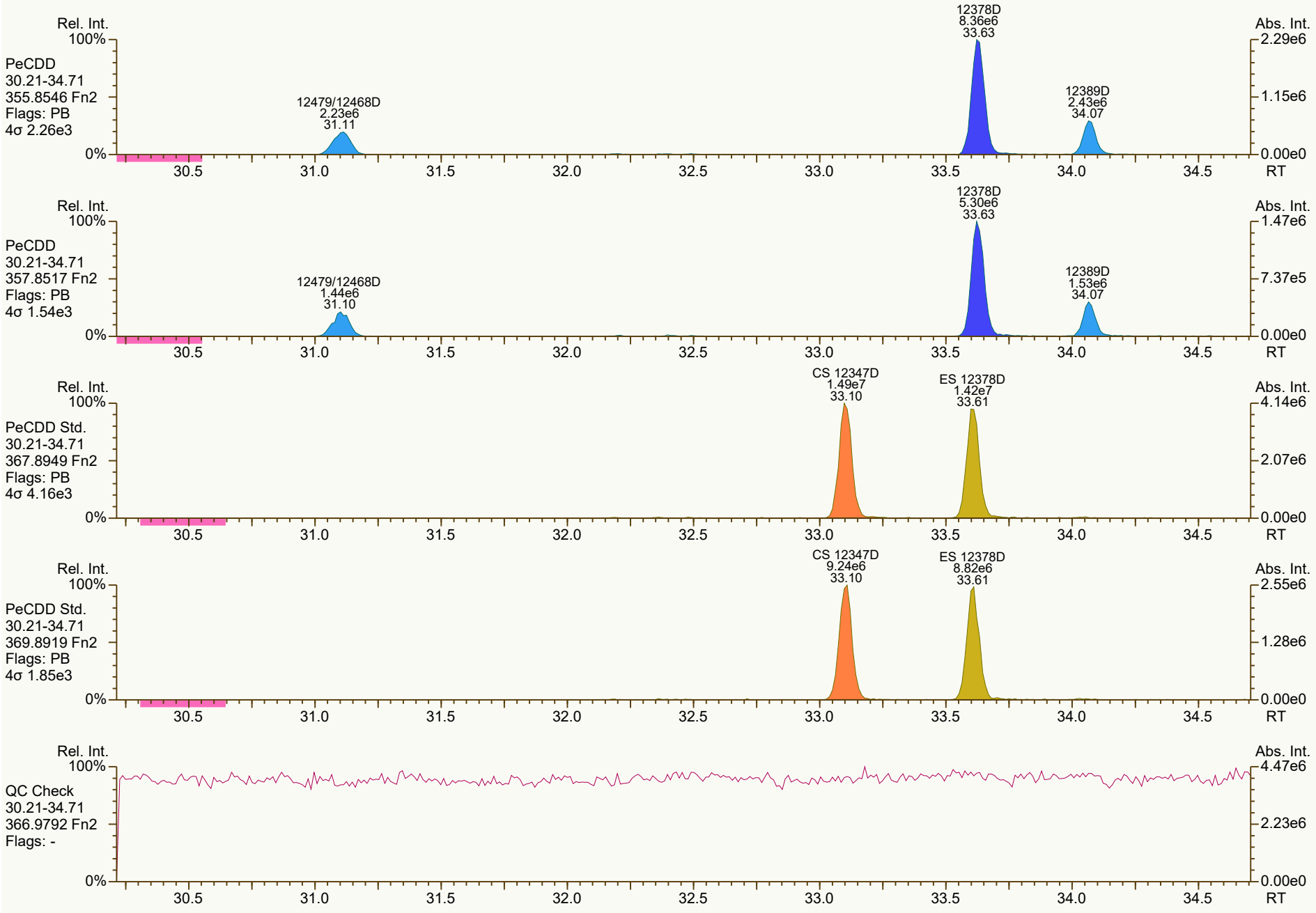
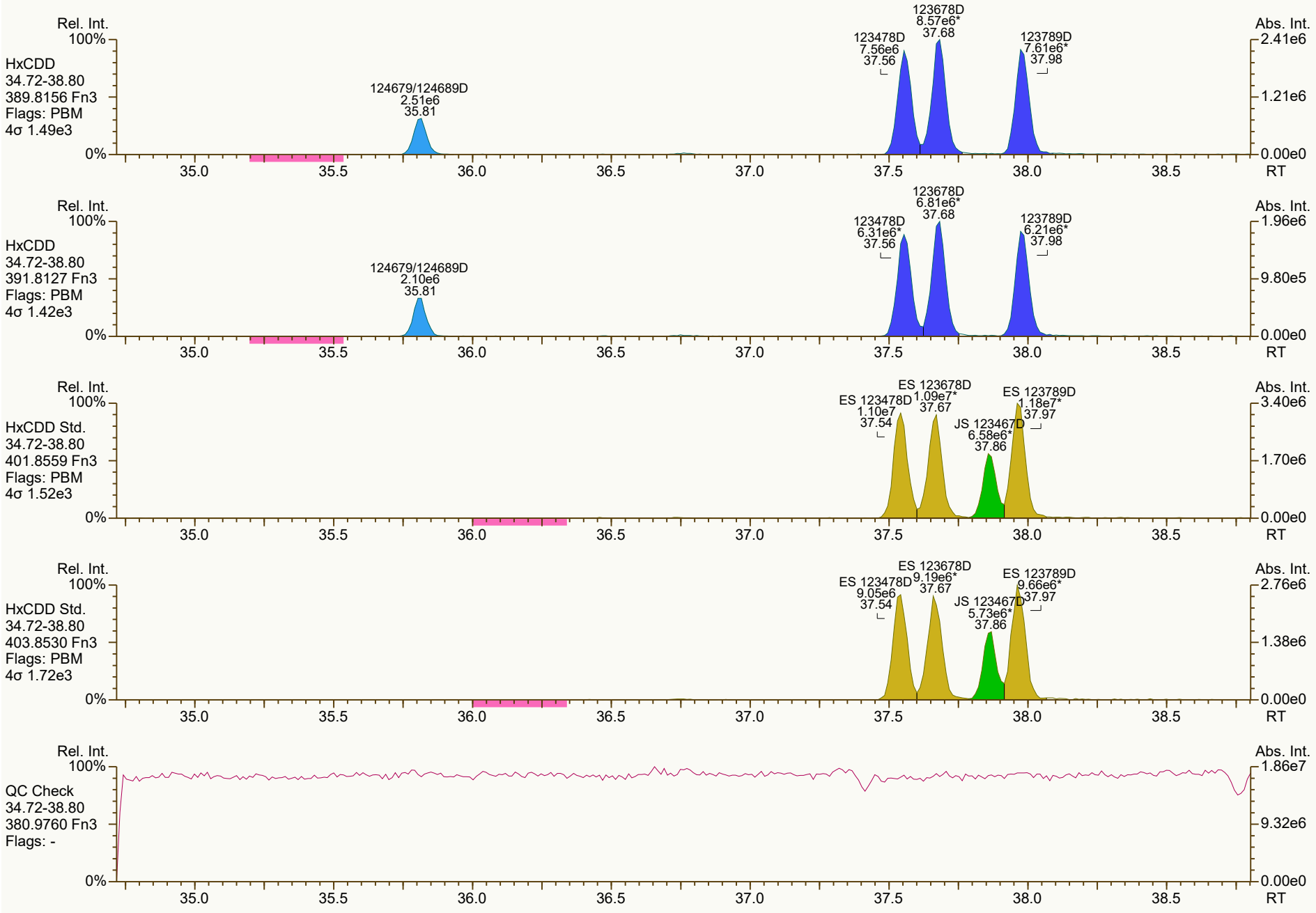
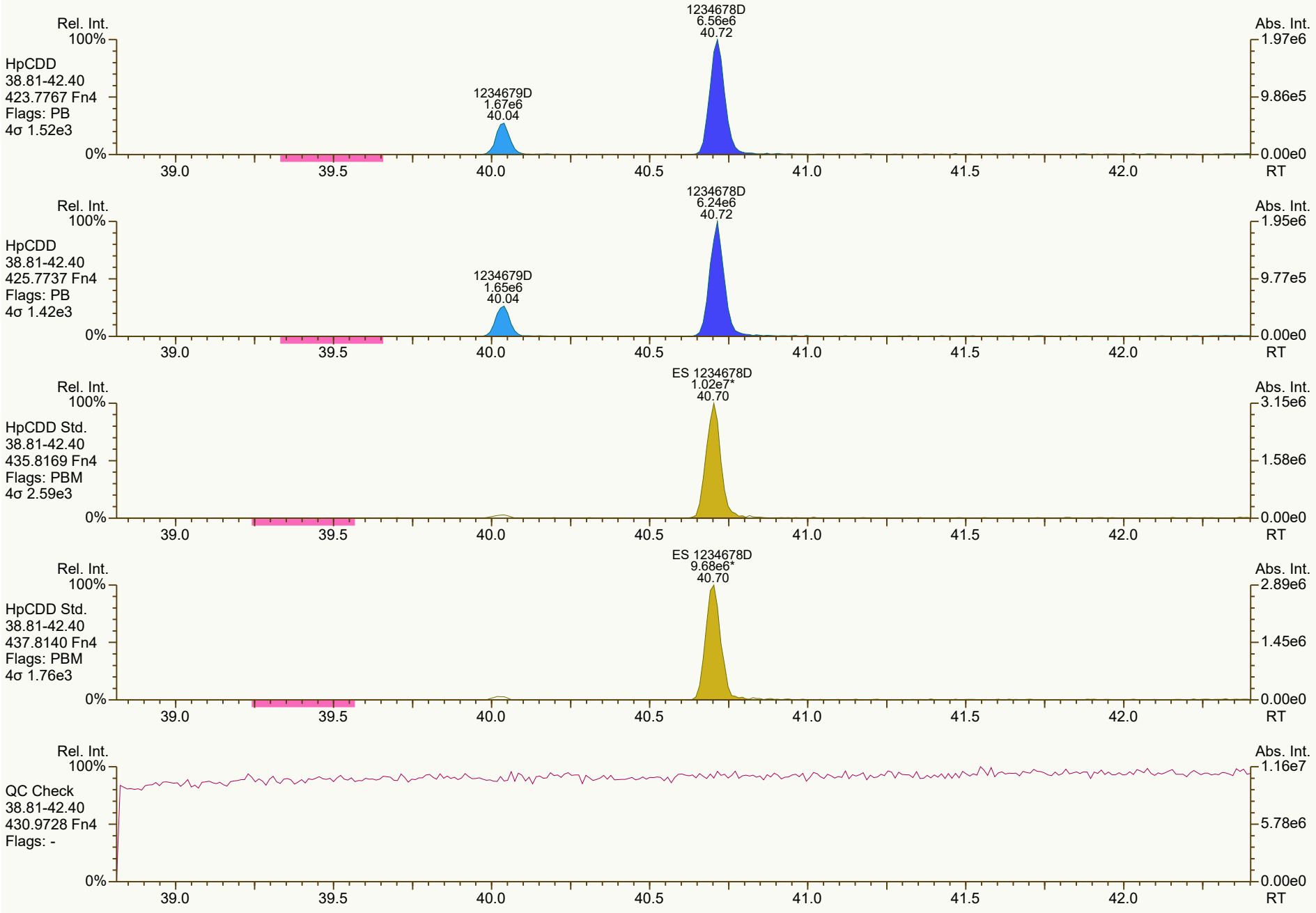
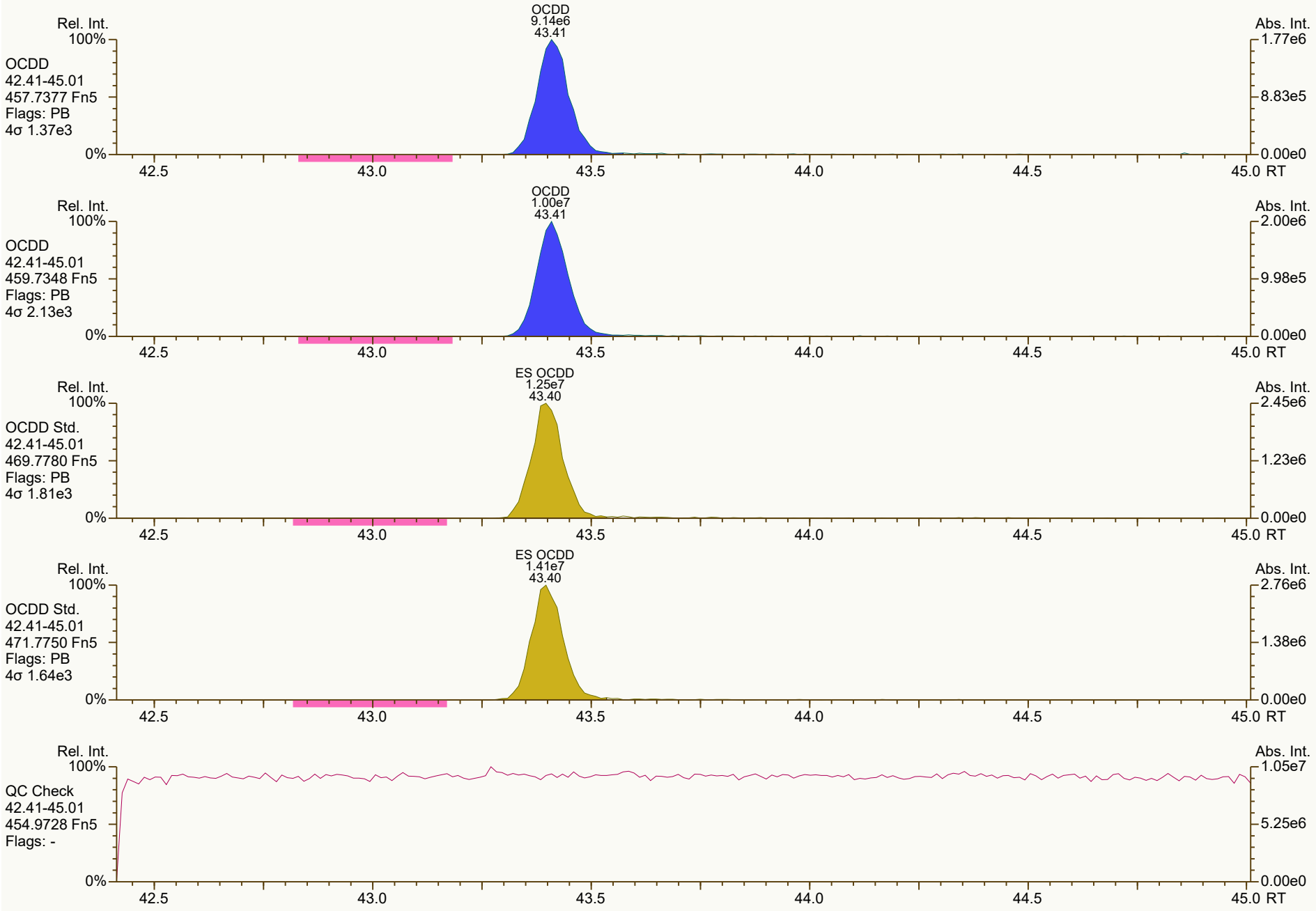
5.78e6
39.0
39.5
40.0
40.5
41.0
41.5
42.0
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.05e7
5.25e6
42.5
43.0
43.5
44.0
44.5
45.0

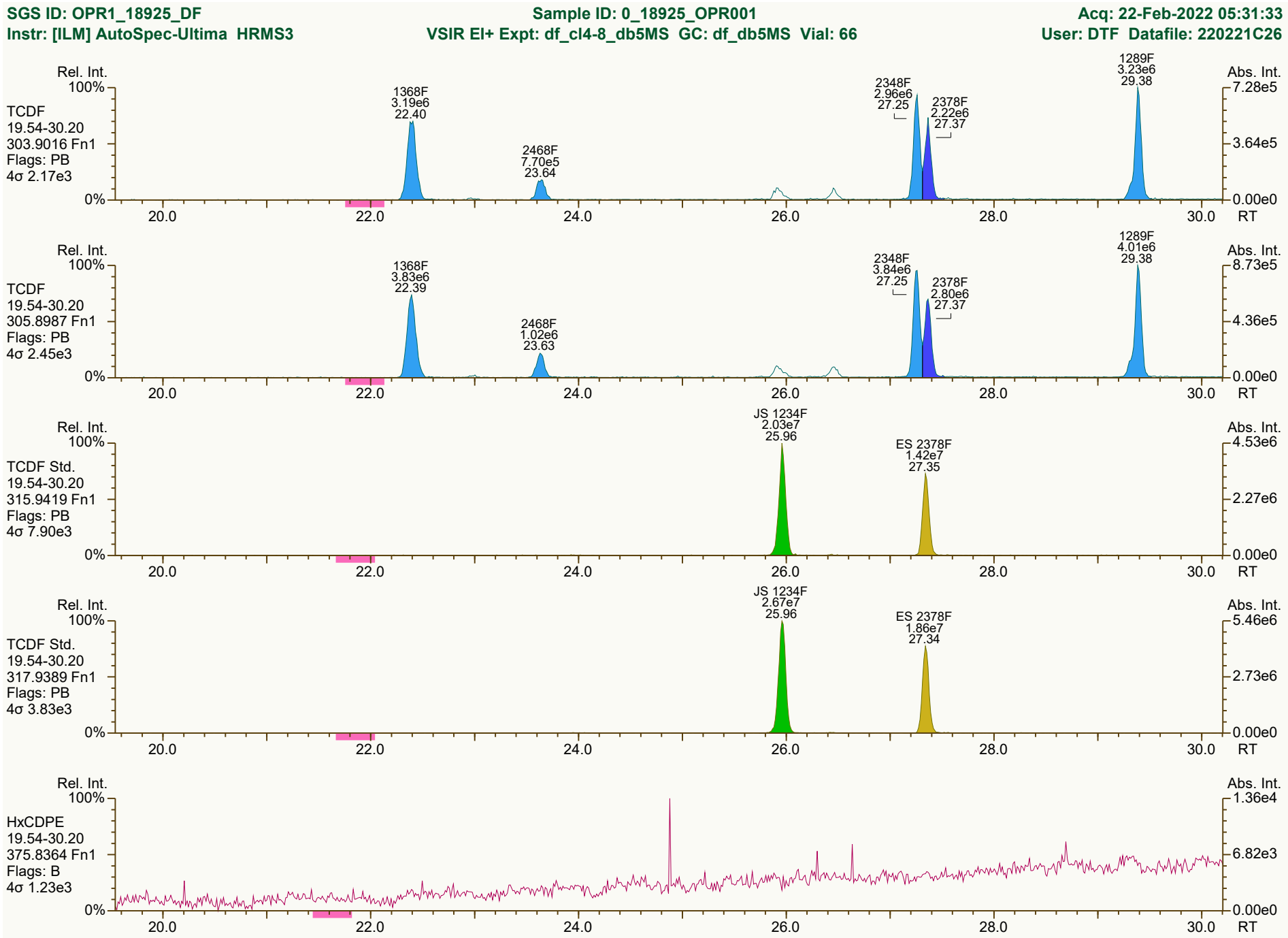

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.50e3
0%
1368D
2.40e6
24.54
1239D
1.70e6
28.08
2378D
1.71e6
28.23
1289D
2.48e6
29.22
Abs. Int.
6.50e5
3.25e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.84e3
0%
1368D
2.86e6
24.54
1239D
2.07e6
28.07
2378D
2.04e6
28.23
1289D
2.94e6
29.21
Abs. Int.
7.32e5
3.66e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.45e3
0%
CS 37Cl-2378D
1.12e7
28.23
Abs. Int.
2.55e6
1.27e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 9.28e3
0%
JS 1234D
1.25e7
27.54
ES 2378D
1.03e7
28.21
Abs. Int.
2.89e6
1.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 5.18e3
0%
JS 1234D
1.56e7
27.54
ES 2378D
1.28e7
28.21
Abs. Int.
3.64e6
1.82e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 2.26e3
12479/12468D
2.23e6
31.11
12378D
8.36e6
33.63
12389D
2.43e6
34.07
Abs. Int.
2.29e6
1.15e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.54e3
12479/12468D
1.44e6
31.10
12378D
5.30e6
33.63
12389D
1.53e6
34.07
Abs. Int.
1.47e6
7.37e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 4.16e3
CS 12347D
1.49e7
33.10
ES 12378D
1.42e7
33.61
Abs. Int.
4.14e6
2.07e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.85e3
CS 12347D
9.24e6
33.10
ES 12378D
8.82e6
33.61
Abs. Int.
2.55e6
1.28e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Abs. Int.
4.47e6
2.23e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 1.49e3
0%
124679/124689D
2.51e6
35.81
123478D
7.56e6
37.56
123678D
8.57e6*
37.68
123789D
7.61e6*
37.98
Abs. Int.
2.41e6
1.21e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 1.42e3
0%
124679/124689D
2.10e6
35.81
123478D
6.31e6*
37.56
123678D
6.81e6*
37.68
123789D
6.21e6*
37.98
Abs. Int.
1.96e6
9.80e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 1.52e3
0%
ES 123478D
1.10e7
37.54
ES 123678D
1.09e7*
37.67
JS 123467D
6.58e6*
37.86
ES 123789D
1.18e7*
37.97
Abs. Int.
3.40e6
1.70e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 1.72e3
0%
ES 123478D
9.05e6
37.54
ES 123678D
9.19e6*
37.67
JS 123467D
5.73e6*
37.86
ES 123789D
9.66e6*
37.97
Abs. Int.
2.76e6
1.38e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.86e7
9.32e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

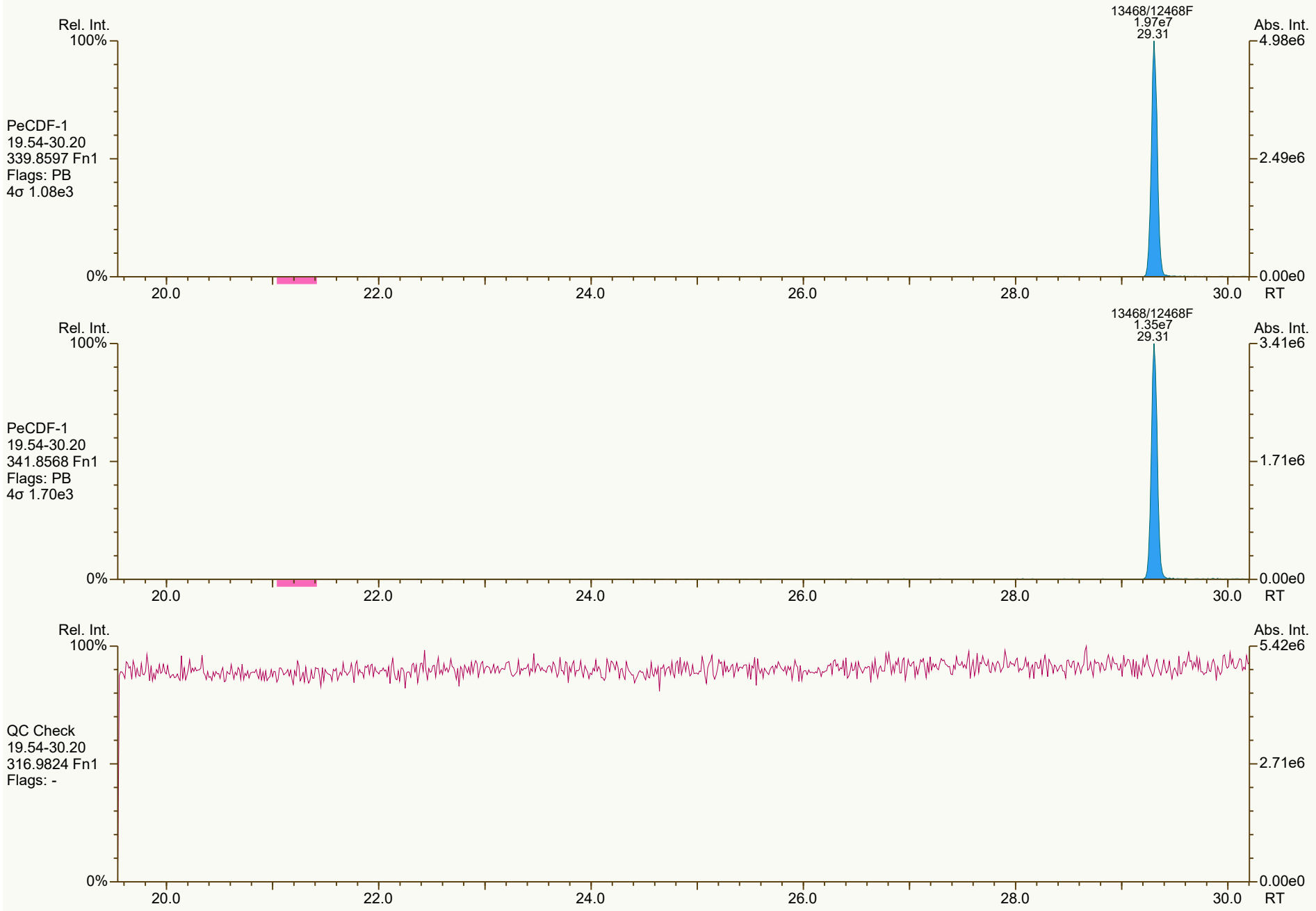

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 1.52e3
1234678D
6.56e6
40.72
1234679D
1.67e6
40.04
Abs. Int.
1.97e6
9.86e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.42e3
1234678D
6.24e6
40.72
1234679D
1.65e6
40.04
Abs. Int.
1.95e6
9.77e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 2.59e3
ES 1234678D
1.02e7*
40.70
Abs. Int.
3.15e6
1.58e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 1.76e3
ES 1234678D
9.68e6*
40.70
Abs. Int.
2.89e6
1.45e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.16e7
5.78e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 1.37e3
0%
OCDD
9.14e6
43.41
Abs. Int.
1.77e6
8.83e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 2.13e3
0%
OCDD
1.00e7
43.41
Abs. Int.
2.00e6
9.98e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 1.81e3
0%
ES OCDD
1.25e7
43.40
Abs. Int.
2.45e6
1.23e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.64e3
0%
ES OCDD
1.41e7
43.40
Abs. Int.
2.76e6
1.38e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.05e7
5.25e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

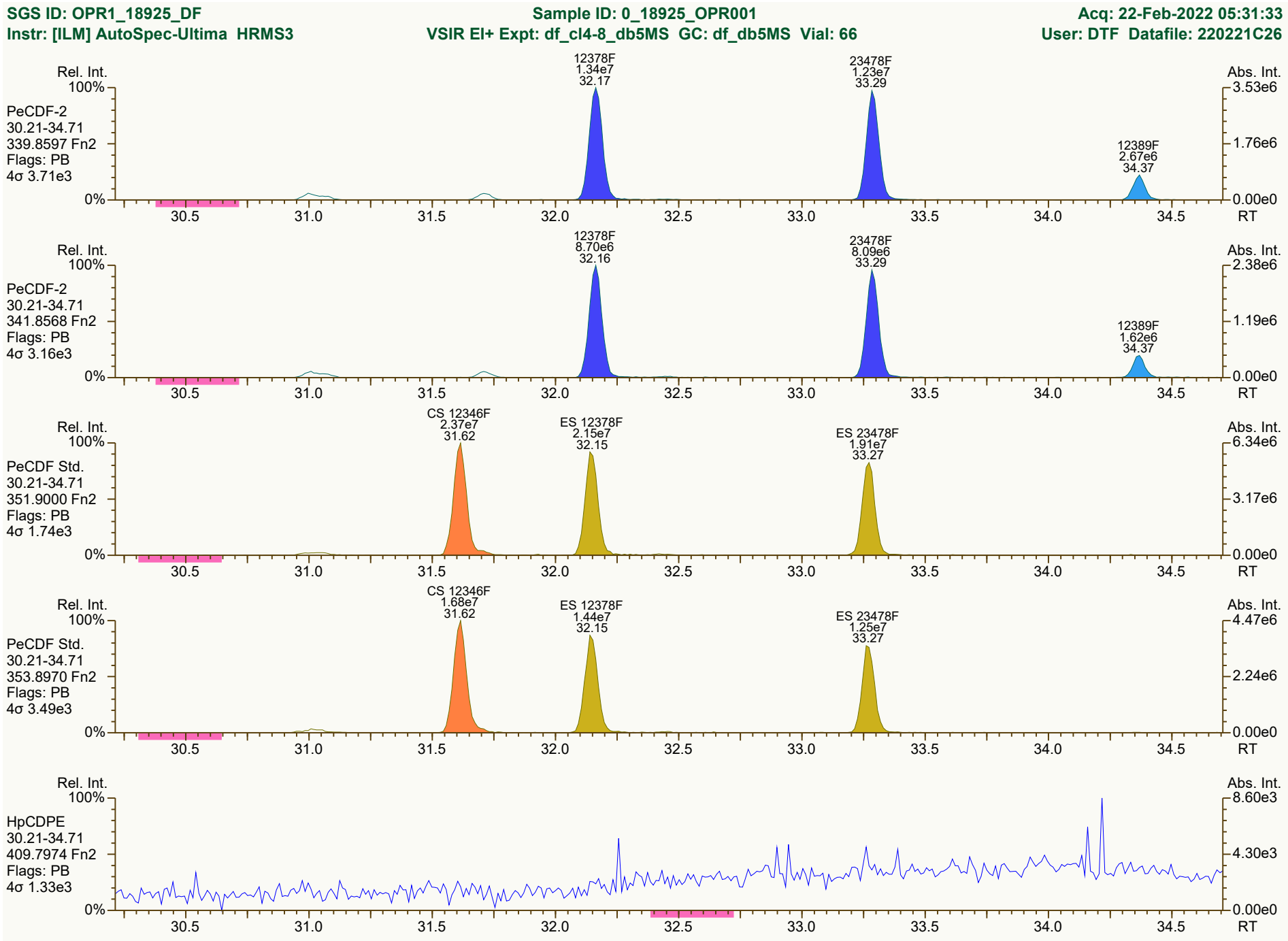


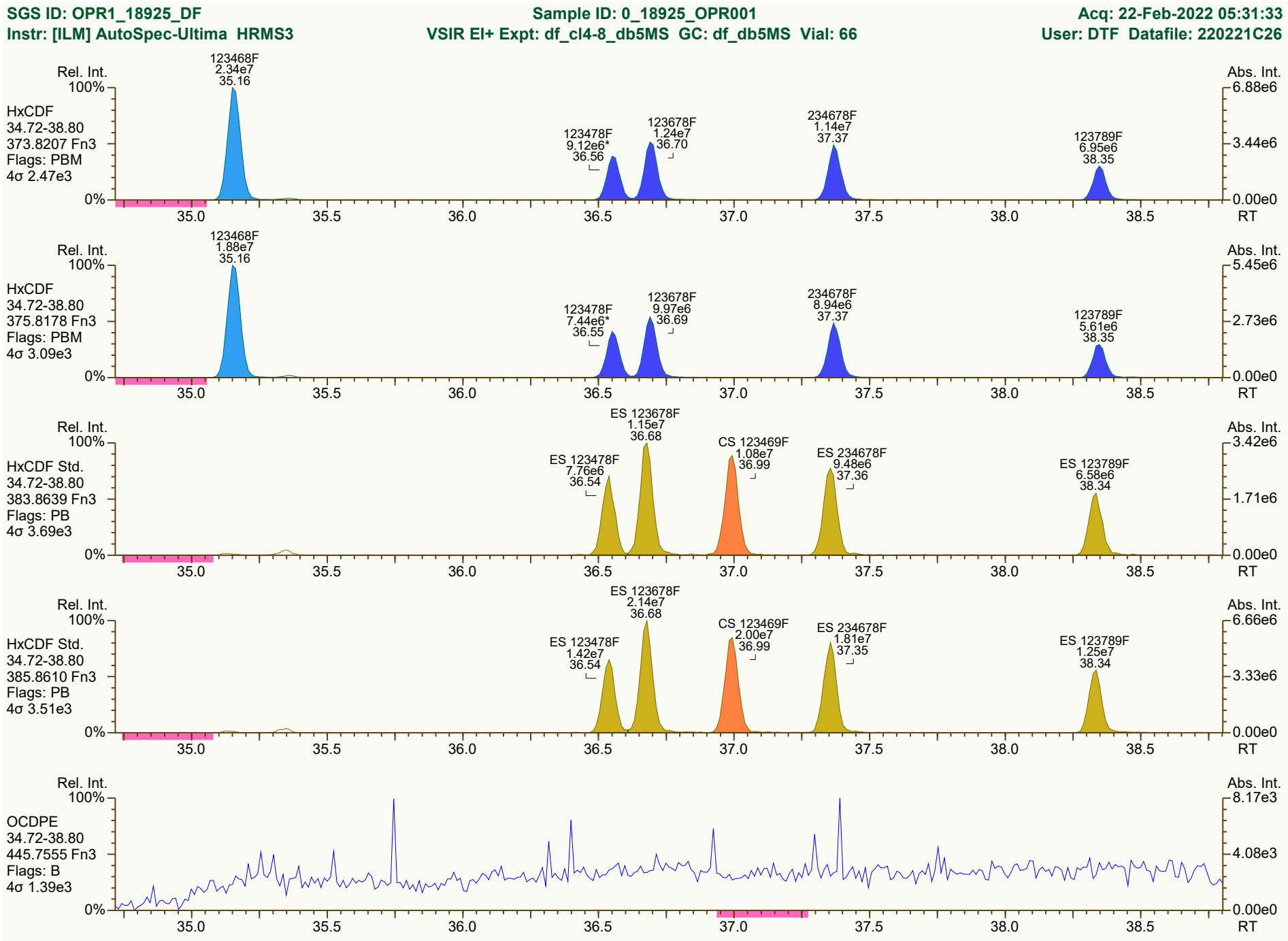
Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\OPR1_18925_DF.utp_res, saved 23-Feb-2022 08:15 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1574, 5752, 1906 scc: 501-256
PKD: 22-Feb-2022 14:45 Printed: 23-Feb-2022 08:16 Page 7 of 12

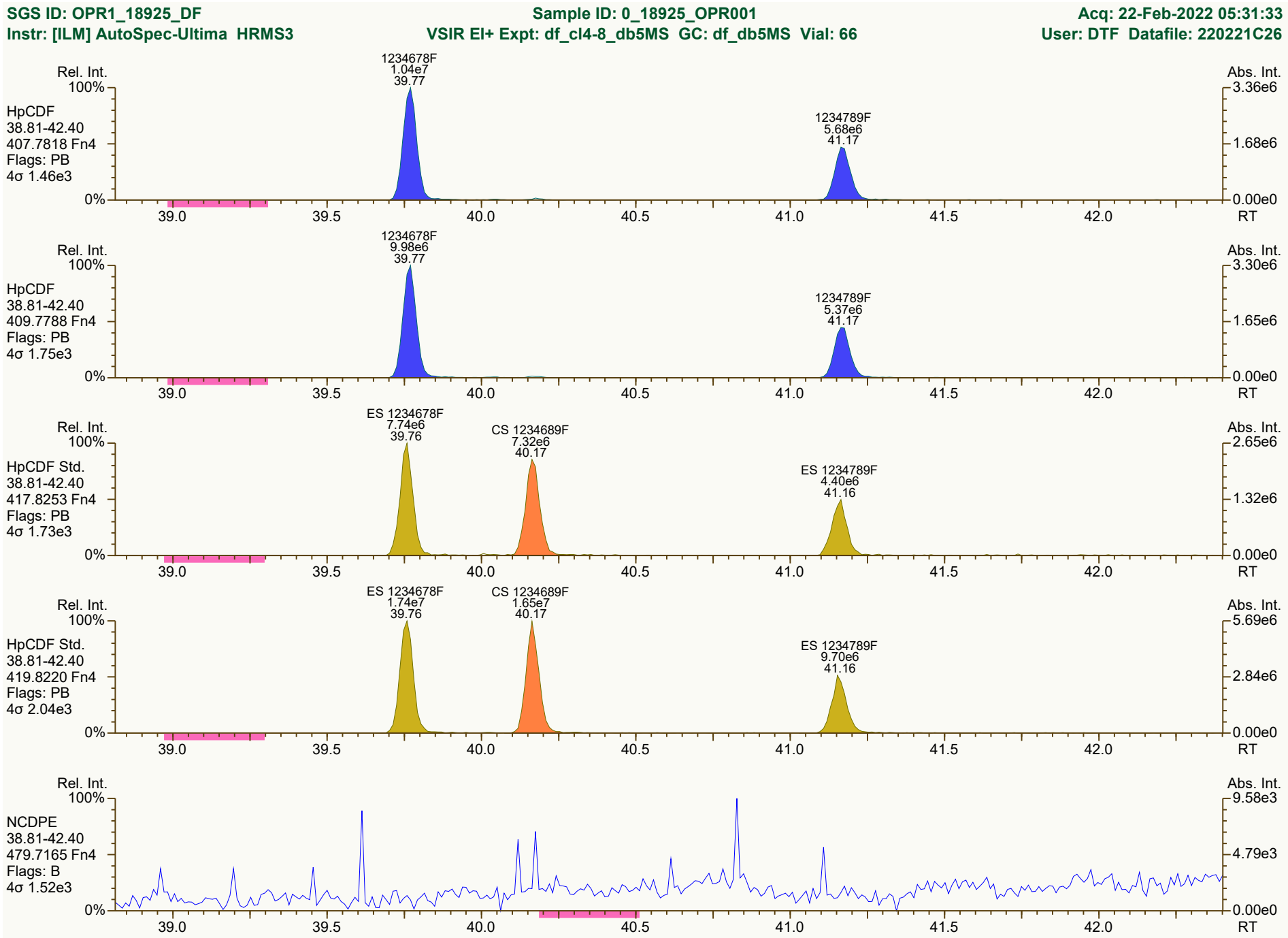
SGS ID: OPR1_18925_DF
Sample ID: 0_18925_OPR001
Acq: 22-Feb-2022 05:31:33
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 220221C26



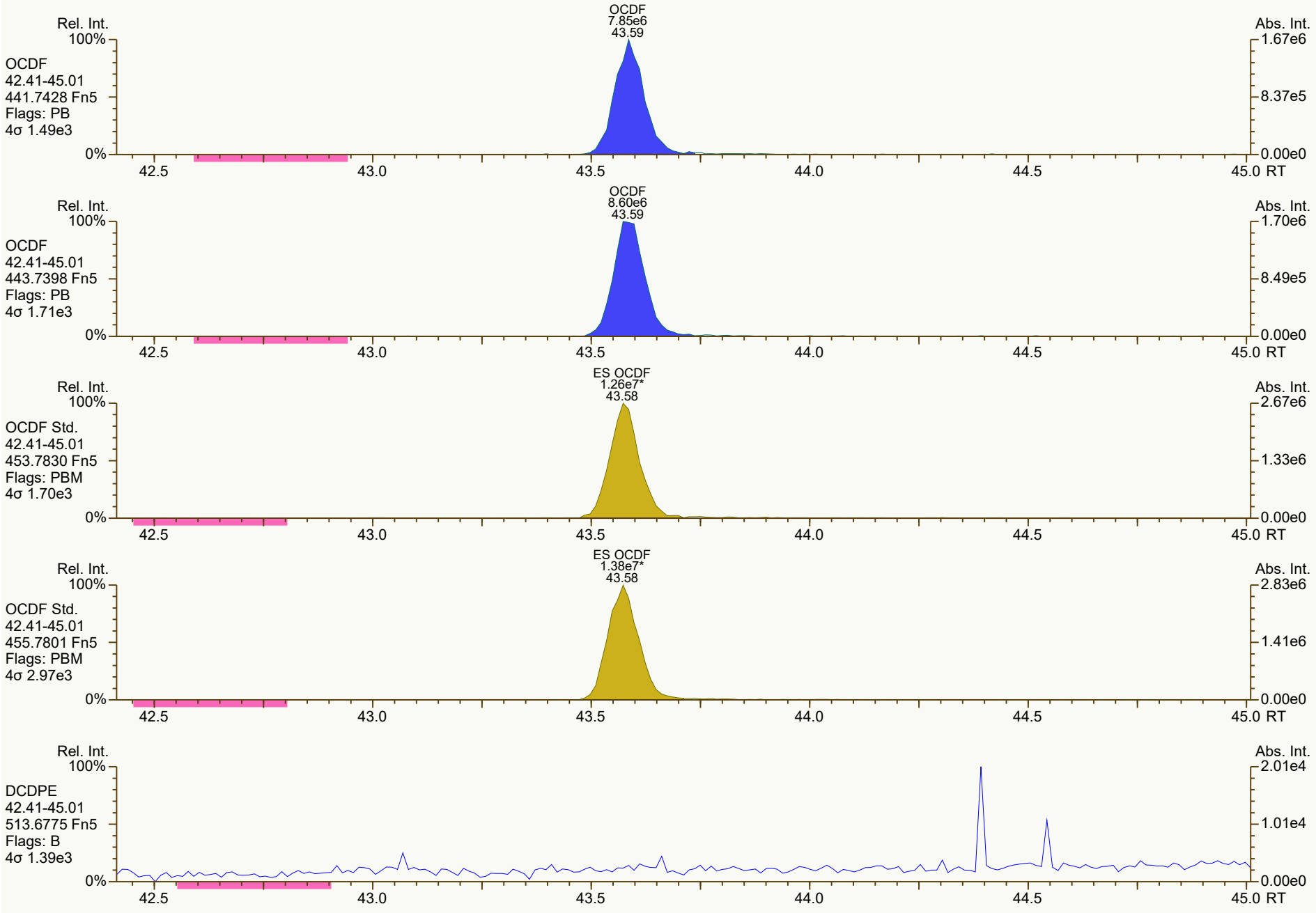
Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\OPR1_18925_DF.utp_res, saved 23-Feb-2022 08:15 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1905 scc: 501-256
PKD: 22-Feb-2022 14:44 Printed: 23-Feb-2022 08:16 Page 8 of 12


SGS ID: OPR1_18925_DF
Sample ID: 0_18925_OPR001
Acq: 22-Feb-2022 05:31:33
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 220221C26
Rel. Int.
Abs. Int.
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 3.71e3
12378F
1.34e7
32.17
23478F
1.23e7
33.29
12389F
2.67e6
34.37
3.53e6
1.76e6
0.00e0
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 3.16e3
12378F
8.70e6
32.16
23478F
8.09e6
33.29
12389F
1.62e6
34.37
2.38e6
1.19e6
0.00e0
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 1.74e3
CS 12346F
2.37e7
31.62
ES 12378F
2.15e7
32.15
ES 23478F
1.91e7
33.27
6.34e6
3.17e6
0.00e0
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 3.49e3
CS 12346F
1.68e7
31.62
ES 12378F
1.44e7
32.15
ES 23478F
1.25e7
33.27
4.47e6
2.24e6
0.00e0
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: PB
4σ 1.33e3
8.60e3
4.30e3
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\OPR1_18925_DF.utp_res, saved 23-Feb-2022 08:15 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0600, 4366, 7761 scc: 501-256
PKD: 22-Feb-2022 14:45 Printed: 23-Feb-2022 08:16 Page 9 of 12


SGS ID: OPR1_18925_DF
Sample ID: 0_18925_OPR001
Acq: 22-Feb-2022 05:31:33
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 220221C26
Rel. Int.
Abs. Int.
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 2.47e3
123468F 2.34e7 35.16
123478F 9.12e6* 36.56
123678F 1.24e7 36.70
234678F 1.14e7 37.37
123789F 6.95e6 38.35
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 3.09e3
123468F 1.88e7 35.16
123478F 7.44e6* 36.55
123678F 9.97e6 36.69
234678F 8.94e6 37.37
123789F 5.61e6 38.35
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 3.69e3
ES 123678F 1.15e7 36.68
ES 123478F 7.76e6 36.54
CS 123469F 1.08e7 36.99
ES 234678F 9.48e6 37.36
ES 123789F 6.58e6 38.34
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 3.51e3
ES 123678F 2.14e7 36.68
ES 123478F 1.42e7 36.54
CS 123469F 2.00e7 36.99
ES 234678F 1.81e7 37.35
ES 123789F 1.25e7 38.34
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.39e3
RT
Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\OPR1_18925_DF.utp_res, saved 23-Feb-2022 08:15 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9896, 9401, 3271 scc: 501-256
PKD: 22-Feb-2022 14:45 Printed: 23-Feb-2022 08:16 Page 10 of 12


SGS ID: OPR1_18925_DF
Sample ID: 0_18925_OPR001
Acq: 22-Feb-2022 05:31:33
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 220221C26
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.46e3
1234678F
1.04e7
39.77
1234789F
5.68e6
41.17
3.36e6
1.68e6
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.75e3
1234678F
9.98e6
39.77
1234789F
5.37e6
41.17
3.30e6
1.65e6
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 1.73e3
ES 1234678F
7.74e6
39.76
CS 1234689F
7.32e6
40.17
ES 1234789F
4.40e6
41.16
2.65e6
1.32e6
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 2.04e3
ES 1234678F
1.74e7
39.76
CS 1234689F
1.65e7
40.17
ES 1234789F
9.70e6
41.16
5.69e6
2.84e6
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.52e3
9.58e3
4.79e3
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\OPR1_18925_DF.utp_res, saved 23-Feb-2022 08:15 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0459, 2349, 7472 scc: 501-256
Revised: 22-Feb-2022 14:45 (DTF) Printed: 23-Feb-2022 08:16 Page 11 of 12

SGS ID: OPR1_18925_DF
Sample ID: 0_18925_OPR001
Acq: 22-Feb-2022 05:31:33
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 220221C26



Results: P:\B6200_B6299\B6291\B6291_18925 DF\Resources\OPR1_18925_DF.utp_res, saved 23-Feb-2022 08:15 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4654, 0785, 9990 scc: 501-256
Revised: 22-Feb-2022 14:44 (DTF) Printed: 23-Feb-2022 08:16 Page 12 of 12



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6234

28-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

Meagan Willis

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This report is approved by

Tamara Burkamper

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Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6234
Analytical Protocol(s)	1613B
No. Samples Submitted	9
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	26-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	0.2, 0.0
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.14.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements, except for the following: the reported percent deviation of CS 1,2,3,4,6,8,9-HpCDF is above SOP criteria. There is no method specified criteria for these standards and no adverse impact on results.

No re-extractions or dilutions were required.

B6234_005: the reported ion ratio of labeled standard ES 1,2,3,7,8,9-HxCDD is outside method criteria.

OPR1/OPR2_18872 meet accuracy and precision criteria, except for the following: RPD of 2,3,7,8-TCDF is >20%.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-020622-S-SB-SC-O-21 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID	B6292_18927_DF_001	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	79.1 %	QC Batch No:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:46:31

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	199				ES 2378-TCDD	73.1	
12378-PeCDD	9.84				ES 12378-PeCDD	81.1	
123478-HxCDD	8.52				ES 123478-HxCDD	73.4	
123678-HxCDD	71.5				ES 123678-HxCDD	75.6	
123789-HxCDD	44.4				ES 123789-HxCDD	72.5	
1234678-HpCDD	3,170				ES 1234678-HpCDD	81.1	
OCDD	26,100			E	ES OCDD	83.5	
2378-TCDF	510				ES 2378-TCDF	71	
12378-PeCDF	32.4				ES 12378-PeCDF	76.2	
23478-PeCDF	49.6				ES 23478-PeCDF	75.2	
123478-HxCDF	92.6				ES 123478-HxCDF	77.4	
123678-HxCDF	35.9				ES 123678-HxCDF	78.1	
234678-HxCDF	28.2				ES 234678-HxCDF	79.9	
123789-HxCDF	ND	0.688			ES 123789-HxCDF	72.6	
1234678-HpCDF	161				ES 1234678-HpCDF	78.5	
1234789-HpCDF	34.7				ES 1234789-HpCDF	78.9	
OCDF	390				ES OCDF	80.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	71.8	
Total TCDD	249		261		CS 12347-PeCDD	82.2	
Total PeCDD	67.7		82.9		CS 12346-PeCDF	77.1	
Total HxCDD	748		748		CS 123469-HxCDF	85	
Total HpCDD	5,890		5,890		CS 1234689-HpCDF	88.6	
Total TCDF	1,230		1,230				
Total PeCDF	289		290				
Total HxCDF	399		399				
Total HpCDF	499		499				
Total PCDD/Fs	**35,800**		**35,900**				
WHO-2005 TEQs							
TEQ: ND=0	345		345				
TEQ: ND=DL/2	345	0.912	345				
TEQ: ND=DL	345	1.82	345				

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Sample ID: 11215131-020622-S-SB-SC-O-21 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID:	B6292_18927_DF_001	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	79.1 %	QC Batch No.:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:46:31

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	9.64		12479/12468D	19.6		124679/124689D	228		1234679D	2720	
1379D	5.53		12469D	[5.93]		123468D	24.6		1234678D	3170	
1369D	[1.69]		12368D	9.69		123679/123689D	351				
1469D	[1.1]		12478D	[9.35]		123469D	11.5				
1247D...[4]	[4.1]		12379D	6.11		123478D	8.52				
1378D	4.3		12369D...[3]	9.73		123678D	71.5				
1268D	1.54		12346/12347D	5.07		123467D	9.57				
1478D	[1.39]		12378D	9.84		123789D	44.4		**Conc.**	5,890	
1279D	[1.72]		12367D	3.27					**EMPC**	5,890	
1234/1269D	2.43		12389D	4.33							
1236D	[0.858]								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	5.17										
1239D	1.01								OCDD	26100	E
2378D	199										
1278D	19.6										
1267D	0.99										
1289D	[1.32]										
Conc.	249		**Conc.**	67.7		**Conc.**	748				
EMPC	261		**EMPC**	82.9		**EMPC**	748				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	345	345
TEQ: ND=DL/2	345	345
TEQ: ND=DL	345	345

	Conc.	EMPC
Total PCDD/Fs	35,800	35,900

Checkcode: 306-766-LCC

Report Created: 22-Feb-2022 09:28 Analyst: TF

Sample ID: 11215131-020622-S-SB-SC-O-21 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID:	B6292_18927_DF_001	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	79.1 %	QC Batch No.:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:46:31

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	4.02		13468/12468F	38.8		123468F	18.3		1234678F	161	
1468F	6.79		13678F...[3]	19		124678/134678F	90.7		1234679F	12.4	
2468F	11		12368F...[3]	75.8		134679F	(0.576)		1234689F	291	
1346/1246F	3.68		14678F	(0.479)		124679F	6.13		1234789F	34.7	
1347F...[3]	30.8		13479F	(0.479)		124689F	91.6				
1348F	6.57		13469/12479F	2.29	J	123467F	14.3				
1248F...[3]	44.9		12346F	2.88		123478F	92.6				
1268F	19.4		23468/12469F	11.9		123678F	35.9				
1467F	7.24		12347F	5.67		123479F	2.03	J			
1478F	33.2		12348F	10.1		123469F	3.24				
1369/1237F	11		12378F	32.4		123679F	2.27	J			
2467F	6.97		12678/12367F	26.4		234678F	28.2		**Conc.**	499	
2368F	73.6		12379F	0.821	J	234678/123689F	0		**EMPC**	499	
1238F...[5]	(0.206)		12679F	[1.12]	J	123689F	(0.576)				
1278F	237		23467/12369F	9.93		123789F	(0.688)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.206)		23478F	49.6		123789/123489F	0				
1267F	21.8		23478/12489F	0		123489F	14.2		OCDF	390	
2346/1249F	7.36		12489F	(0.479)							
2347/1279F	15.2		12349F	1.13	J						
2348F	46.8		12389F	1.87	J						
2378F	510										
2367/3467F	72.5										
1269F	17.4										
1239F	[1.19]										
1289F	45.5										
Conc.	1,230		**Conc.**	289		**Conc.**	399				
EMPC	1,230		**EMPC**	290		**EMPC**	399				

Checkcode: 306-766-LCC

Report Created: 22-Feb-2022 09:28 Analyst: TF

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Sample ID: 11215131-020622-S-SB-SC-O-21 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6292_18927_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	QC Batch No.:	18927
Date Collected:	06-Feb-2022	Split:	-	Date Extracted:	15-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	21-Feb-2022 12:46
Lab Project No:	B6292	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	199		0.374	199	199	199
12378-PeCDD	9.84		0.605	4.92	9.84	9.84
123478-HxCDD	8.52		1.41	0.852	0.852	0.852
123678-HxCDD	71.5		1.45	7.15	7.15	7.15
123789-HxCDD	44.4		1.33	4.44	4.44	4.44
1234678-HpCDD	3170		0.396	31.7	31.7	31.7
OCDD	26100	E	0.669	26.1	2.61	7.82
2378-TCDF	510		0.206	51	51	51
12378-PeCDF	32.4		0.482	1.62	1.62	0.973
23478-PeCDF	49.6		0.476	24.8	24.8	14.9
123478-HxCDF	92.6		0.543	9.26	9.26	9.26
123678-HxCDF	35.9		0.529	3.59	3.59	3.59
234678-HxCDF	28.2		0.566	2.82	2.82	2.82
123789-HxCDF	(0.688)		0.688	(0.0688)	(0.0688)	(0.0688)
1234678-HpCDF	161		0.45	1.61	1.61	1.61
1234789-HpCDF	34.7		0.659	0.347	0.347	0.347
OCDF	390		0.546	0.39	0.039	0.117

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TEQ Summaries			
EMPC = 0, ND = 0	369	350	345
EMPC = 0, ND = DL / 2	369	350	345
EMPC = 0, ND = DL	369	351	345
EMPC = 0, < J-level = 0	369	350	345
EMPC = EMPC, ND = 0	369	350	345
EMPC = EMPC, ND = DL / 2	369	350	345
EMPC = EMPC, ND = DL	369	351	345
EMPC = EMPC, < J-level = 0	369	350	345

Checkcode: 306-766-LCC

Sample ID: 11215131-020622-S-SB-SC-B-15 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.15 g	Lab Sample ID	B6292_18927_DF_002	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	69.5 %	QC Batch No:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:32:51

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	8,140			E	ES 2378-TCDD	71.6	
12378-PeCDD	81.4				ES 12378-PeCDD	79.1	
123478-HxCDD	5.32				ES 123478-HxCDD	77.6	
123678-HxCDD	22				ES 123678-HxCDD	77.2	
123789-HxCDD	12.9				ES 123789-HxCDD	73.5	
1234678-HpCDD	778				ES 1234678-HpCDD	81.3	
OCDD	8,540				ES OCDD	85.6	
2378-TCDF	21,300			E	ES 2378-TCDF	71	
12378-PeCDF	994				ES 12378-PeCDF	76.2	
23478-PeCDF	682				ES 23478-PeCDF	77.1	
123478-HxCDF	1,730				ES 123478-HxCDF	78.4	
123678-HxCDF	418				ES 123678-HxCDF	79.4	
234678-HxCDF	87.6				ES 234678-HxCDF	77.7	
123789-HxCDF	ND	0.594			ES 123789-HxCDF	78	
1234678-HpCDF	566				ES 1234678-HpCDF	85.2	
1234789-HpCDF	202				ES 1234789-HpCDF	86.2	
OCDF	3,200				ES OCDF	86.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	63.7	
Total TCDD	9,110		9,120		CS 12347-PeCDD	81.2	
Total PeCDD	123		132		CS 12346-PeCDF	77.4	
Total HxCDD	366		366		CS 123469-HxCDF	80.7	
Total HpCDD	2,220		2,220		CS 1234689-HpCDF	91.8	
Total TCDF	39,800		39,800				
Total PeCDF	2,630		2,630				
Total HxCDF	2,650		2,650				
Total HpCDF	1,030		1,030				
Total PCDD/Fs	**69,700**		**69,700**				
WHO-2005 TEQs							
TEQ: ND=0	10800		10800				
TEQ: ND=DL/2	10800	1.01	10800				
TEQ: ND=DL	10800	2.01	10800				

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Sample ID: 11215131-020622-S-SB-SC-B-15 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.15 g	Lab Sample ID:	B6292_18927_DF_002	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	69.5 %	QC Batch No.:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:32:51

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	7.12		12479/12468D	11		124679/124689D	155		1234679D	1450	
1379D	3.81		12469D	[6.54]		123468D	26.6		1234678D	778	
1369D	[0.859]		12368D	9		123679/123689D	106				
1469D	3.72		12478D	7.48		123469D	27.5				
1247D...[4]	12.2		12379D	3.99		123478D	5.32				
1378D	25.1		12369D...[3]	5.38		123678D	22				
1268D	[1.79]		12346/12347D	2.68		123467D	11				
1478D	16.6		12378D	81.4		123789D	12.9		**Conc.**	2,220	
1279D	[1.16]		12367D	[3.38]					**EMPC**	2,220	
1234/1269D	[2.95]		12389D	1.67	J						
1236D	[1.36]								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	128										
1239D	(0.53)								OCDD	8540	
2378D	8140	E									
1278D	736										
1267D	19.4										
1289D	12										
Conc.	9,110		**Conc.**	123		**Conc.**	366				
EMPC	9,120		**EMPC**	132		**EMPC**	366				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	10,800	10,800
TEQ: ND=DL/2	10,800	10,800
TEQ: ND=DL	10,800	10,800

	Conc.	EMPC
Total PCDD/Fs	69,700	69,700

Checkcode: 032-563-GMG

Report Created: 22-Feb-2022 09:29 Analyst: TF

Sample ID: 11215131-020622-S-SB-SC-B-15 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.15 g	Lab Sample ID:	B6292_18927_DF_002	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	69.5 %	QC Batch No.:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:32:51

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	3.75		13468/12468F	36.1		123468F	20.6		1234678F	566	
1468F	26.3		13678F...[3]	13		124678/134678F	147		1234679F	12.3	
2468F	24.2		12368F...[3]	434		134679F	(0.566)		1234689F	246	
1346/1246F	(0.247)		14678F	(0.445)		124679F	(0.566)		1234789F	202	
1347F...[3]	138		13479F	(0.445)		124689F	94.6				
1348F	(0.247)		13469/12479F	(0.445)		123467F	10.6				
1248F...[3]	458		12346F	(0.445)		123478F	1730				
1268F	188		23468/12469F	19.7		123678F	418				
1467F	50.5		12347F	18.9		123479F	(0.566)				
1478F	473		12348F	90.2		123469F	6.03				
1369/1237F	186		12378F	994		123679F	(0.566)				
2467F	21.6		12678/12367F	290		234678F	87.6		**Conc.**	1,030	
2368F	1440	E	12379F	(0.445)		234678/123689F	0		**EMPC**	1,030	
1238F...[5]	(0.247)		12679F	[2.02]	J	123689F	(0.566)				
1278F	9900	E	23467/12369F	12.4		123789F	(0.594)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.247)		23478F	682		123789/123489F	0				
1267F	375		23478/12489F	0		123489F	135		OCDF	3200	
2346/1249F	48.4		12489F	(0.445)							
2347/1279F	236		12349F	(0.445)							
2348F	1350	E	12389F	38.4							
2378F	21300	E									
2367/3467F	1680	E									
1269F	200										
1239F	24.5										
1289F	1710	E									
Conc.	39,800		**Conc.**	2,630		**Conc.**	2,650				
EMPC	39,800		**EMPC**	2,630		**EMPC**	2,650				

Checkcode: 032-563-GMG

Report Created: 22-Feb-2022 09:29 Analyst: TF

Sample ID: 11215131-020622-S-SB-SC-B-15 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6292_18927_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.15 g	QC Batch No.:	18927
Date Collected:	06-Feb-2022	Split:	-	Date Extracted:	15-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	21-Feb-2022 13:32
Lab Project No:	B6292	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	8140	E	0.53	8140	8140	8140
12378-PeCDD	81.4		0.741	40.7	81.4	81.4
123478-HxCDD	5.32		1.12	0.532	0.532	0.532
123678-HxCDD	22		1.1	2.2	2.2	2.2
123789-HxCDD	12.9		1.01	1.29	1.29	1.29
1234678-HpCDD	778		0.642	7.78	7.78	7.78
OCDD	8540		1.85	8.54	0.854	2.56
2378-TCDF	21300	E	0.247	2130	2130	2130
12378-PeCDF	994		0.414	49.7	49.7	29.8
23478-PeCDF	682		0.476	341	341	205
123478-HxCDF	1730		0.552	173	173	173
123678-HxCDF	418		0.545	41.8	41.8	41.8
234678-HxCDF	87.6		0.578	8.76	8.76	8.76
123789-HxCDF	(0.594)		0.594	(0.0594)	(0.0594)	(0.0594)
1234678-HpCDF	566		0.249	5.66	5.66	5.66
1234789-HpCDF	202		0.34	2.02	2.02	2.02
OCDF	3200		0.523	3.2	0.32	0.961

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TEQ Summaries			
EMPC = 0, ND = 0	11000	11000	10800
EMPC = 0, ND = DL / 2	11000	11000	10800
EMPC = 0, ND = DL	11000	11000	10800
EMPC = 0, < J-level = 0	11000	11000	10800
EMPC = EMPC, ND = 0	11000	11000	10800
EMPC = EMPC, ND = DL / 2	11000	11000	10800
EMPC = EMPC, ND = DL	11000	11000	10800
EMPC = EMPC, < J-level = 0	11000	11000	10800

Checkcode: 032-563-GMG

SGS North America - DF v0.99

Sample ID: 11215131-020622-S-SB-SC-B-15H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	Lab Sample ID	B6292_18927_DF_003	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	74.2 %	QC Batch No:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:19:09

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	121				ES 2378-TCDD	82	
12378-PeCDD	2.14			J	ES 12378-PeCDD	93.4	
123478-HxCDD	EMPC		1.17	J	ES 123478-HxCDD	84.9	
123678-HxCDD	4.26				ES 123678-HxCDD	90	
123789-HxCDD	3.31				ES 123789-HxCDD	87.2	
1234678-HpCDD	112				ES 1234678-HpCDD	95	
OCDD	1,650				ES OCDD	99.4	
2378-TCDF	341				ES 2378-TCDF	81.1	
12378-PeCDF	25.8				ES 12378-PeCDF	90.1	
23478-PeCDF	14				ES 23478-PeCDF	90.1	
123478-HxCDF	69.4				ES 123478-HxCDF	90.6	
123678-HxCDF	14.8				ES 123678-HxCDF	92.7	
234678-HxCDF	3.75				ES 234678-HxCDF	96.9	
123789-HxCDF	ND	0.381			ES 123789-HxCDF	90.7	
1234678-HpCDF	64.2				ES 1234678-HpCDF	98.2	
1234789-HpCDF	12.9				ES 1234789-HpCDF	97.6	
OCDF	1,320				ES OCDF	103	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	81.7	
Total TCDD	137		144		CS 12347-PeCDD	98	
Total PeCDD	12.9		13.4		CS 12346-PeCDF	94.8	
Total HxCDD	63.1		64.2		CS 123469-HxCDF	97.5	
Total HpCDD	282		282		CS 1234689-HpCDF	103	
Total TCDF	693		696				
Total PeCDF	75		76.8				
Total HxCDF	121		123				
Total HpCDF	122		122				
Total PCDD/Fs	**4,480**		**4,500**				
WHO-2005 TEQs							
TEQ: ND=0	175		175				
TEQ: ND=DL/2	175	0.546	175				
TEQ: ND=DL	175	1.09	175				

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Sample ID: 11215131-020622-S-SB-SC-B-15H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	Lab Sample ID:	B6292_18927_DF_003	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	74.2 %	QC Batch No.:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:19:09

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[1.66]		12479/12468D	2.96		124679/124689D	32.5		1234679D	170	
1379D	[0.692]		12469D	3.23		123468D	3.04		1234678D	112	
1369D	(0.291)		12368D	1.2	J	123679/123689D	17				
1469D	4.44		12478D	1.01	J	123469D	1.81	J			
1247D...[4]	[0.674]		12379D	[0.519]	J	123478D	[1.17]	J			
1378D	[0.64]		12369D...[3]	2.32	J	123678D	4.26				
1268D	(0.291)		12346/12347D	(0.374)		123467D	1.15	J			
1478D	(0.291)		12378D	2.14	J	123789D	3.31		**Conc.**	282	
1279D	(0.291)		12367D	(0.374)					**EMPC**	282	
1234/1269D	[0.894]		12389D	(0.374)							
1236D	(0.291)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	[2.28]										
1239D	(0.291)								OCDD	1650	
2378D	121										
1278D	11.3										
1267D	(0.291)										
1289D	[0.564]										
Conc.	137		**Conc.**	12.9		**Conc.**	63.1				
EMPC	144		**EMPC**	13.4		**EMPC**	64.2				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	175	175
TEQ: ND=DL/2	175	175
TEQ: ND=DL	175	175

	Conc.	EMPC
Total PCDD/Fs	4,480	4,500

Checkcode: 099-258-DSW

Report Created: 22-Feb-2022 09:29 Analyst: TF

Sample ID: 11215131-020622-S-SB-SC-B-15H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	Lab Sample ID:	B6292_18927_DF_003	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	74.2 %	QC Batch No.:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:19:09

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	0.641		13468/12468F	7.89		123468F	3.04		1234678F	64.2	
1468F	1.57		13678F...[3]	[1.04]	J	124678/134678F	12.8		1234679F	2.95	
2468F	3.61		12368F...[3]	14.8		134679F	(0.337)		1234689F	42.1	
1346/1246F	(0.272)		14678F	(0.314)		124679F	(0.337)		1234789F	12.9	
1347F...[3]	5.56		13479F	(0.314)		124689F	11.2				
1348F	(0.272)		13469/12479F	(0.314)		123467F	[1.44]	J			
1248F...[3]	19.5		12346F	(0.314)		123478F	69.4				
1268F	7.49		23468/12469F	2.95		123678F	14.8				
1467F	[1.2]		12347F	(0.314)		123479F	(0.337)				
1478F	16.1		12348F	2.34	J	123469F	0.776	J			
1369/1237F	3.93		12378F	25.8		123679F	(0.337)				
2467F	0.919		12678/12367F	6.82		234678F	3.75		**Conc.**	122	
2368F	13.9		12379F	(0.314)		234678/123689F	0		**EMPC**	122	
1238F...[5]	15.9		12679F	(0.314)		123689F	(0.337)				
1278F	160		23467/12369F	0.423	J	123789F	(0.381)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.272)		23478F	14		123789/123489F	0				
1267F	9.62		23478/12489F	0		123489F	5.59		OCDF	1320	
2346/1249F	[1.42]		12489F	(0.314)							
2347/1279F	5.05		12349F	(0.314)							
2348F	25.2		12389F	[0.777]	J						
2378F	341										
2367/3467F	29.4										
1269F	5.77										
1239F	(0.272)										
1289F	27.9										
Conc.	693		**Conc.**	75		**Conc.**	121				
EMPC	696		**EMPC**	76.8		**EMPC**	123				

Checkcode: 099-258-DSW

Report Created: 22-Feb-2022 09:29 Analyst: TF

Sample ID: 11215131-020622-S-SB-SC-B-15H TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6292_18927_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	QC Batch No.:	18927
Date Collected:	06-Feb-2022	Split:	-	Date Extracted:	15-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	21-Feb-2022 14:19
Lab Project No:	B6292	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	121		0.291	121	121	121
12378-PeCDD	2.14	J	0.374	1.07	2.14	2.14
123478-HxCDD	[1.17]	J	0.525	[0.117]	[0.117]	[0.117]
123678-HxCDD	4.26		0.514	0.426	0.426	0.426
123789-HxCDD	3.31		0.518	0.331	0.331	0.331
1234678-HpCDD	112		0.339	1.12	1.12	1.12
OCDD	1650		0.763	1.65	0.165	0.495
2378-TCDF	341		0.272	34.1	34.1	34.1
12378-PeCDF	25.8		0.324	1.29	1.29	0.775
23478-PeCDF	14		0.303	6.99	6.99	4.2
123478-HxCDF	69.4		0.334	6.94	6.94	6.94
123678-HxCDF	14.8		0.307	1.48	1.48	1.48
234678-HxCDF	3.75		0.334	0.375	0.375	0.375
123789-HxCDF	(0.381)		0.381	(0.0381)	(0.0381)	(0.0381)
1234678-HpCDF	64.2		0.199	0.642	0.642	0.642
1234789-HpCDF	12.9		0.276	0.129	0.129	0.129
OCDF	1320		0.357	1.32	0.132	0.397

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TEQ Summaries			
EMPC = 0, ND = 0	179	177	175
EMPC = 0, ND = DL / 2	179	177	175
EMPC = 0, ND = DL	179	177	175
EMPC = 0, < J-level = 0	178	175	172
EMPC = EMPC, ND = 0	179	177	175
EMPC = EMPC, ND = DL / 2	179	177	175
EMPC = EMPC, ND = DL	179	177	175
EMPC = EMPC, < J-level = 0	178	175	172

Checkcode: 099-258-DSW

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Sample ID: 11215131-020622-S-SB-SC-B-15H-MS — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.04 g	Lab Sample ID	B6292_18927_DF_003MS	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	74.2 %	QC Batch No:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	15:05:28

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	187				ES 2378-TCDD	89.3	
12378-PeCDD	105				ES 12378-PeCDD	101	
123478-HxCDD	107				ES 123478-HxCDD	92.5	
123678-HxCDD	117				ES 123678-HxCDD	96.4	
123789-HxCDD	110				ES 123789-HxCDD	91.1	
1234678-HpCDD	213				ES 1234678-HpCDD	96.7	
OCDD	1,840				ES OCDD	100	
2378-TCDF	479				ES 2378-TCDF	84.1	
12378-PeCDF	115				ES 12378-PeCDF	93.3	
23478-PeCDF	121				ES 23478-PeCDF	94.3	
123478-HxCDF	132				ES 123478-HxCDF	96.2	
123678-HxCDF	112				ES 123678-HxCDF	96.3	
234678-HxCDF	108				ES 234678-HxCDF	104	
123789-HxCDF	102				ES 123789-HxCDF	95.1	
1234678-HpCDF	166				ES 1234678-HpCDF	103	
1234789-HpCDF	112				ES 1234789-HpCDF	97.8	
OCDF	1,570				ES OCDF	105	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	91.5	
Total TCDD	303		303		CS 12347-PeCDD	107	
Total PeCDD	171		172		CS 12346-PeCDF	96.8	
Total HxCDD	425		426		CS 123469-HxCDF	108	
Total HpCDD	412		412		CS 1234689-HpCDF	109	
Total TCDF	1,030		1,040				
Total PeCDF	471		472				
Total HxCDF	734		735				
Total HpCDF	325		325				
Total PCDD/Fs	**7,270**		**7,280**				
WHO-2005 TEQs							
TEQ: ND=0	465		465				
TEQ: ND=DL/2	465	0.546	465				
TEQ: ND=DL	465	1.09	465				

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Sample ID: 11215131-020622-S-SB-SC-B-15H-MSD — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID	B6292_18927_DF_003MSD	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	74.2 %	QC Batch No:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	15:51:46

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	141				ES 2378-TCDD	86.5	
12378-PeCDD	101				ES 12378-PeCDD	93	
123478-HxCDD	112				ES 123478-HxCDD	85.2	
123678-HxCDD	116				ES 123678-HxCDD	90.3	
123789-HxCDD	110				ES 123789-HxCDD	83.7	
1234678-HpCDD	182				ES 1234678-HpCDD	90.7	
OCDD	1,420				ES OCDD	91.2	
2378-TCDF	347				ES 2378-TCDF	82	
12378-PeCDF	109				ES 12378-PeCDF	86.9	
23478-PeCDF	118				ES 23478-PeCDF	88.1	
123478-HxCDF	124				ES 123478-HxCDF	86.5	
123678-HxCDF	106				ES 123678-HxCDF	89.8	
234678-HxCDF	108				ES 234678-HxCDF	99.8	
123789-HxCDF	102				ES 123789-HxCDF	86.6	
1234678-HpCDF	136				ES 1234678-HpCDF	97.7	
1234789-HpCDF	108				ES 1234789-HpCDF	89.7	
OCDF	1,090				ES OCDF	96.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	86.5	
Total TCDD	250		251		CS 12347-PeCDD	97.3	
Total PeCDD	160		162		CS 12346-PeCDF	91.7	
Total HxCDD	424		426		CS 123469-HxCDF	101	
Total HpCDD	344		344		CS 1234689-HpCDF	100	
Total TCDF	752		778				
Total PeCDF	452		453				
Total HxCDF	700		700				
Total HpCDF	273		273				
Total PCDD/Fs	**5,860**		**5,890**				
WHO-2005 TEQs							
TEQ: ND=0	398		398				
TEQ: ND=DL/2	398	0.548	398				
TEQ: ND=DL	398	1.1	398				

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MS/MSD Comparison

Method 1613B

Sample ID: 11215131-020622-S-SB-SC-B-15H

Analyte	Native Conc.	MS Spike	MS Conc.	MS Rec.	MSD Spike	MSD Conc.	MSD Rec.	RPD
	(pg/g)	(pg/g)	(pg/g)	%	(pg/g)	(pg/g)	%	
2,3,7,8-TCDD	121	19.9	187	333	19.8	141	103	106%
1,2,3,7,8-PeCDD	2.14	99.6	105	103	98.8	101	99.6	3%
1,2,3,4,7,8-HxCDD	1.17	99.6	107	107	98.8	112	112	5%
1,2,3,6,7,8-HxCDD	4.26	99.6	117	113	98.8	116	113	0%
1,2,3,7,8,9-HxCDD	3.31	99.6	110	107	98.8	110	108	1%
1,2,3,4,6,7,8-HpCDD	112	99.6	213	102	98.8	182	70.8	36%
OCDD	1650	199	1840	93.3	198	1420	-116	*
2,3,7,8-TCDF	341	19.9	479	691	19.8	347	27.1	185%
1,2,3,7,8-PeCDF	25.8	99.6	115	89	98.8	109	84	6%
2,3,4,7,8-PeCDF	14	99.6	121	108	98.8	118	105	3%
1,2,3,4,7,8-HxCDF	69.4	99.6	132	63	98.8	124	55.1	13%
1,2,3,6,7,8-HxCDF	14.8	99.6	112	98.1	98.8	106	92.1	6%
2,3,4,6,7,8-HxCDF	3.75	99.6	108	105	98.8	108	105	0%
1,2,3,7,8,9-HxCDF	0	99.6	102	102	98.8	102	104	2%
1,2,3,4,6,7,8-HpCDF	64.2	99.6	166	102	98.8	136	72.2	34%
1,2,3,4,7,8,9-HpCDF	12.9	99.6	112	99.1	98.8	108	96.3	3%
OCDF	1320	199	1570	121	198	1090	-120	*

* % Recovery limits for MS and MSD: 70-130% of expected value, if native < RL
* RPD limit for MS vs. MSD recoveries: +/- 20%, if native < RL

Sample ID: 11215131-020622-S-SB-DUP-16 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID	B6292_18927_DF_004	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	71.1 %	QC Batch No:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:38:04

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	7,630			E	ES 2378-TCDD	76.4	
12378-PeCDD	74.9				ES 12378-PeCDD	86.4	
123478-HxCDD	7.51				ES 123478-HxCDD	79.5	
123678-HxCDD	22.6				ES 123678-HxCDD	82.1	
123789-HxCDD	11.9				ES 123789-HxCDD	79.7	
1234678-HpCDD	844				ES 1234678-HpCDD	82.6	
OCDD	8,580				ES OCDD	85.3	
2378-TCDF	19,000			E	ES 2378-TCDF	73.3	
12378-PeCDF	951				ES 12378-PeCDF	80.7	
23478-PeCDF	598				ES 23478-PeCDF	84.8	
123478-HxCDF	1,620				ES 123478-HxCDF	83.1	
123678-HxCDF	403				ES 123678-HxCDF	83.2	
234678-HxCDF	84.7				ES 234678-HxCDF	83.8	
123789-HxCDF	ND	0.567			ES 123789-HxCDF	79.3	
1234678-HpCDF	533				ES 1234678-HpCDF	87.2	
1234789-HpCDF	176				ES 1234789-HpCDF	87.9	
OCDF	3,360				ES OCDF	89.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	78.2	
Total TCDD	8,560		8,560		CS 12347-PeCDD	94.9	
Total PeCDD	123		137		CS 12346-PeCDF	87.6	
Total HxCDD	467		467		CS 123469-HxCDF	94.7	
Total HpCDD	2,540		2,540		CS 1234689-HpCDF	93.4	
Total TCDF	34,800		34,800				
Total PeCDF	2,380		2,380				
Total HxCDF	2,510		2,510				
Total HpCDF	988		988				
Total PCDD/Fs	**64,300**		**64,300**				
WHO-2005 TEQs							
TEQ: ND=0	10100		10100				
TEQ: ND=DL/2	10100	0.874	10100				
TEQ: ND=DL	10100	1.75	10100				

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Sample ID: 11215131-020622-S-SB-DUP-16 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID:	B6292_18927_DF_004	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	71.1 %	QC Batch No.:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:38:04

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	5.53		12479/12468D	13.1		124679/124689D	196		1234679D	1700	
1379D	3.97		12469D	[11.3]		123468D	47.8		1234678D	844	
1369D	(0.444)		12368D	10.8		123679/123689D	121				
1469D	5.04		12478D	7.19		123469D	38.3				
1247D...[4]	10.7		12379D	4.13		123478D	7.51				
1378D	22.7		12369D...[3]	7.51		123678D	22.6				
1268D	[1.76]		12346/12347D	[2.43]	J	123467D	21.9				
1478D	12.8		12378D	74.9		123789D	11.9		**Conc.**	2,540	
1279D	(0.444)		12367D	3.48					**EMPC**	2,540	
1234/1269D	3.17		12389D	2.02	J						
1236D	1.55								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	121										
1239D	(0.444)								OCDD	8580	
2378D	7630	E									
1278D	715										
1267D	16.9										
1289D	11.6										
Conc.	8,560		**Conc.**	123		**Conc.**	467				
EMPC	8,560		**EMPC**	137		**EMPC**	467				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	10,100	10,100
TEQ: ND=DL/2	10,100	10,100
TEQ: ND=DL	10,100	10,100

	Conc.	EMPC
Total PCDD/Fs	64,300	64,300

Checkcode: 175-075-NYM

Report Created: 22-Feb-2022 09:29 Analyst: TF

Sample ID: 11215131-020622-S-SB-DUP-16 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID:	B6292_18927_DF_004	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	71.1 %	QC Batch No.:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:38:04

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[2.28]		13468/12468F	32.2		123468F	20.1		1234678F	533	
1468F	19.4		13678F...[3]	10.8		124678/134678F	149		1234679F	11.7	
2468F	22		12368F...[3]	387		134679F	(0.504)		1234689F	268	
1346/1246F	(0.314)		14678F	(0.632)		124679F	2.76		1234789F	176	
1347F...[3]	84.6		13479F	(0.632)		124689F	96.8				
1348F	43.4		13469/12479F	[1.89]	J	123467F	9.91				
1248F...[3]	164		12346F	[1.26]	J	123478F	1620				
1268F	99.6		23468/12469F	17.4		123678F	403				
1467F	42.8		12347F	14.2		123479F	(0.504)				
1478F	234		12348F	71.2		123469F	(0.504)				
1369/1237F	137		12378F	951		123679F	(0.504)				
2467F	23		12678/12367F	255		234678F	84.7		**Conc.**	988	
2368F	392		12379F	(0.632)		234678/123689F	0		**EMPC**	988	
1238F...[5]	783		12679F	[1.19]	J	123689F	(0.504)				
1278F	8660	E	23467/12369F	10.6		123789F	(0.567)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.314)		23478F	598		123789/123489F	0				
1267F	238		23478/12489F	0		123489F	129		OCDF	3360	
2346/1249F	43.2		12489F	(0.632)							
2347/1279F	247		12349F	(0.632)							
2348F	1100	E	12389F	33.1							
2378F	19000	E									
2367/3467F	1580	E									
1269F	124										
1239F	20.4										
1289F	1650	E									
Conc.	34,800		**Conc.**	2,380		**Conc.**	2,510				
EMPC	34,800		**EMPC**	2,380		**EMPC**	2,510				

Checkcode: 175-075-NYM

Report Created: 22-Feb-2022 09:29 Analyst: TF

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Sample ID: 11215131-020622-S-SB-DUP-16 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6292_18927_DF_004
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	QC Batch No.:	18927
Date Collected:	06-Feb-2022	Split:	-	Date Extracted:	15-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	21-Feb-2022 16:38
Lab Project No:	B6292	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	7630	E	0.444	7630	7630	7630
12378-PeCDD	74.9		0.436	37.5	74.9	74.9
123478-HxCDD	7.51		1.45	0.751	0.751	0.751
123678-HxCDD	22.6		1.36	2.26	2.26	2.26
123789-HxCDD	11.9		1.18	1.19	1.19	1.19
1234678-HpCDD	844		0.576	8.44	8.44	8.44
OCDD	8580		2.14	8.58	0.858	2.57
2378-TCDF	19000	E	0.314	1900	1900	1900
12378-PeCDF	951		0.59	47.5	47.5	28.5
23478-PeCDF	598		0.674	299	299	179
123478-HxCDF	1620		0.477	162	162	162
123678-HxCDF	403		0.458	40.3	40.3	40.3
234678-HxCDF	84.7		0.526	8.47	8.47	8.47
123789-HxCDF	(0.567)		0.567	(0.0567)	(0.0567)	(0.0567)
1234678-HpCDF	533		0.293	5.33	5.33	5.33
1234789-HpCDF	176		0.419	1.76	1.76	1.76
OCDF	3360		0.738	3.36	0.336	1.01

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TEQ Summaries			
EMPC = 0, ND = 0	10200	10200	10100
EMPC = 0, ND = DL / 2	10200	10200	10100
EMPC = 0, ND = DL	10200	10200	10100
EMPC = 0, < J-level = 0	10200	10200	10100
EMPC = EMPC, ND = 0	10200	10200	10100
EMPC = EMPC, ND = DL / 2	10200	10200	10100
EMPC = EMPC, ND = DL	10200	10200	10100
EMPC = EMPC, < J-level = 0	10200	10200	10100

Checkcode: 175-075-NYM

Sample ID: 11215131-020622-S-SB-SC-O-22 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.06 g	Lab Sample ID	B6292_18927_DF_005	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	78.6 %	QC Batch No:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:24:22

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	7.9				ES 2378-TCDD	63	
12378-PeCDD	1.22			J	ES 12378-PeCDD	71.5	
123478-HxCDD	EMPC		1.86	J	ES 123478-HxCDD	68.3	
123678-HxCDD	7.93				ES 123678-HxCDD	72.1	
123789-HxCDD	5.9				ES 123789-HxCDD	66.1	
1234678-HpCDD	388				ES 1234678-HpCDD	73	
OCDD	4,450				ES OCDD	74.6	
2378-TCDF	21.7				ES 2378-TCDF	60.2	
12378-PeCDF	2.25			J	ES 12378-PeCDF	67.8	
23478-PeCDF	3.68				ES 23478-PeCDF	66.5	
123478-HxCDF	4.82				ES 123478-HxCDF	72.7	
123678-HxCDF	2.8				ES 123678-HxCDF	72.1	
234678-HxCDF	EMPC		2.3	J	ES 234678-HxCDF	71.3	
123789-HxCDF	ND	0.42			ES 123789-HxCDF	67.3	
1234678-HpCDF	33.1				ES 1234678-HpCDF	75.1	
1234789-HpCDF	3.16				ES 1234789-HpCDF	72.8	
OCDF	124				ES OCDF	76.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	65.7	
Total TCDD	7.9		7.9		CS 12347-PeCDD	79.7	
Total PeCDD	3.29		8.75		CS 12346-PeCDF	72.1	
Total HxCDD	78		83.8		CS 123469-HxCDF	79.2	
Total HpCDD	794		794		CS 1234689-HpCDF	81.6	
Total TCDF	48.1		59.1				
Total PeCDF	28.9		28.9				
Total HxCDF	42.2		47.1				
Total HpCDF	115		115				
Total PCDD/Fs	**5,690**		**5,720**				
WHO-2005 TEQs							
TEQ: ND=0	20.2		20.6				
TEQ: ND=DL/2	20.2	0.824	20.7				
TEQ: ND=DL	20.3	1.65	20.7				

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Sample ID: 11215131-020622-S-SB-SC-O-22 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.06 g	Lab Sample ID:	B6292_18927_DF_005	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	78.6 %	QC Batch No.:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:24:22

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.771)		12479/12468D	[2.4]	J	124679/124689D	27.3		1234679D	406	
1379D	(0.771)		12469D	[1.14]	J	123468D	[2.98]		1234678D	388	
1369D	(0.771)		12368D	0.967	J	123679/123689D	35				
1469D	(0.771)		12478D	[1.29]	J	123469D	1.96	J			
1247D...[4]	(0.771)		12379D	1.1	J	123478D	[1.86]	J			
1378D	(0.771)		12369D...[3]	(0.42)		123678D	7.93				
1268D	(0.771)		12346/12347D	[0.63]	J	123467D	[0.981]	J			
1478D	(0.771)		12378D	1.22	J	123789D	5.9		**Conc.**	794	
1279D	(0.771)		12367D	(0.42)					**EMPC**	794	
1234/1269D	(0.771)		12389D	(0.42)							
1236D	(0.771)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.771)										
1239D	(0.771)								OCDD	4450	
2378D	7.9										
1278D	(0.771)										
1267D	(0.771)										
1289D	(0.771)										
Conc.	7.9		**Conc.**	3.29		**Conc.**	78				
EMPC	7.9		**EMPC**	8.75		**EMPC**	83.8				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	20.2	20.6
TEQ: ND=DL/2	20.2	20.7
TEQ: ND=DL	20.3	20.7

	Conc.	EMPC
Total PCDD/Fs	5,690	5,720

Checkcode: 136-442-NGV

Report Created: 22-Feb-2022 09:29 Analyst: TF

Sample ID: 11215131-020622-S-SB-SC-O-22 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.06 g	Lab Sample ID:	B6292_18927_DF_005	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	78.6 %	QC Batch No.:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:24:22

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.468)		13468/12468F	7.17		123468F	4.21		1234678F	33.1	
1468F	(0.468)		13678F...[3]	2.49		124678/134678F	14.9		1234679F	1.76	J
2468F	[1.9]		12368F...[3]	6.94		134679F	(0.359)		1234689F	76.9	
1346/1246F	(0.468)		14678F	(0.338)		124679F	[0.859]	J	1234789F	3.16	
1347F...[3]	2.68		13479F	(0.338)		124689F	15.5				
1348F	(0.468)		13469/12479F	(0.338)		123467F	[1.71]	J			
1248F...[3]	[2.14]		12346F	(0.338)		123478F	4.82				
1268F	[1.05]		23468/12469F	2.7		123678F	2.8				
1467F	[0.98]		12347F	(0.338)		123479F	(0.359)				
1478F	2.17		12348F	(0.338)		123469F	(0.359)				
1369/1237F	(0.468)		12378F	2.25	J	123679F	(0.359)				
2467F	[1.03]		12678/12367F	2.27	J	234678F	[2.3]	J	**Conc.**	115	
2368F	[2.77]		12379F	(0.338)		234678/123689F	0		**EMPC**	115	
1238F...[5]	[1.14]		12679F	(0.338)		123689F	(0.359)				
1278F	8.43		23467/12369F	1.46	J	123789F	(0.42)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.468)		23478F	3.68		123789/123489F	0				
1267F	(0.468)		23478/12489F	0		123489F	(0.359)		OCDF	124	
2346/1249F	(0.468)		12489F	(0.338)							
2347/1279F	(0.468)		12349F	(0.338)							
2348F	6.48		12389F	(0.338)							
2378F	21.7										
2367/3467F	4.98										
1269F	(0.468)										
1239F	(0.468)										
1289F	1.69										
Conc.	48.1		**Conc.**	28.9		**Conc.**	42.2				
EMPC	59.1		**EMPC**	28.9		**EMPC**	47.1				

Checkcode: 136-442-NGV

Report Created: 22-Feb-2022 09:29 Analyst: TF

Sample ID: 11215131-020622-S-SB-SC-O-22 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6292_18927_DF_005
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.06 g	QC Batch No.:	18927
Date Collected:	06-Feb-2022	Split:	-	Date Extracted:	15-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	21-Feb-2022 17:24
Lab Project No:	B6292	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	7.9		0.771	7.9	7.9	7.9
12378-PeCDD	1.22	J	0.42	0.608	1.22	1.22
123478-HxCDD	[1.86]	J	0.485	[0.186]	[0.186]	[0.186]
123678-HxCDD	7.93		0.456	0.793	0.793	0.793
123789-HxCDD	5.9		0.482	0.59	0.59	0.59
1234678-HpCDD	388		0.437	3.88	3.88	3.88
OCDD	4450		1.76	4.45	0.445	1.34
2378-TCDF	21.7		0.468	2.17	2.17	2.17
12378-PeCDF	2.25	J	0.327	0.112	0.112	0.0674
23478-PeCDF	3.68		0.35	1.84	1.84	1.11
123478-HxCDF	4.82		0.324	0.482	0.482	0.482
123678-HxCDF	2.8		0.361	0.28	0.28	0.28
234678-HxCDF	[2.3]	J	0.343	[0.23]	[0.23]	[0.23]
123789-HxCDF	(0.42)		0.42	(0.042)	(0.042)	(0.042)
1234678-HpCDF	33.1		0.19	0.331	0.331	0.331
1234789-HpCDF	3.16		0.279	0.0316	0.0316	0.0316
OCDF	124		0.722	0.124	0.0124	0.0373

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TEQ Summaries			
EMPC = 0, ND = 0	23.6	20.1	20.2
EMPC = 0, ND = DL / 2	23.6	20.1	20.2
EMPC = 0, ND = DL	23.6	20.1	20.3
EMPC = 0, < J-level = 0	22.9	18.8	18.9
EMPC = EMPC, ND = 0	24	20.5	20.6
EMPC = EMPC, ND = DL / 2	24	20.5	20.7
EMPC = EMPC, ND = DL	24	20.5	20.7
EMPC = EMPC, < J-level = 0	22.9	18.8	18.9

Checkcode: 136-442-NGV

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Sample ID: 11215131-020622-S-SB-SC-O-23 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.01 g	Lab Sample ID	B6292_18927_DF_006	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	70.5 %	QC Batch No:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:10:39

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	15.1				ES 2378-TCDD	45.9	
12378-PeCDD	EMPC		6.94		ES 12378-PeCDD	50.3	
123478-HxCDD	9.95				ES 123478-HxCDD	48	
123678-HxCDD	57.2				ES 123678-HxCDD	51.5	
123789-HxCDD	36.9				ES 123789-HxCDD	49.4	
1234678-HpCDD	2,560				ES 1234678-HpCDD	56	
OCDD	28,100			E	ES OCDD	65.2	
2378-TCDF	68.4				ES 2378-TCDF	43.3	
12378-PeCDF	11				ES 12378-PeCDF	49.4	
23478-PeCDF	30.1				ES 23478-PeCDF	48.5	
123478-HxCDF	34.8				ES 123478-HxCDF	50.4	
123678-HxCDF	17				ES 123678-HxCDF	52.4	
234678-HxCDF	20.8				ES 234678-HxCDF	52.8	
123789-HxCDF	ND	0.89			ES 123789-HxCDF	51.1	
1234678-HpCDF	157				ES 1234678-HpCDF	54.9	
1234789-HpCDF	23.5				ES 1234789-HpCDF	57.6	
OCDF	455				ES OCDF	60.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	49	
Total TCDD	34		51.5		CS 12347-PeCDD	61.1	
Total PeCDD	41.3		72.7		CS 12346-PeCDF	55.4	
Total HxCDD	605		605		CS 123469-HxCDF	58.3	
Total HpCDD	5,000		5,000		CS 1234689-HpCDF	66.4	
Total TCDF	346		351				
Total PeCDF	232		233				
Total HxCDF	277		279				
Total HpCDF	474		474				
Total PCDD/Fs	**35,600**		**35,600**				
WHO-2005 TEQs							
TEQ: ND=0	85		92				
TEQ: ND=DL/2	85.1	0.97	92				
TEQ: ND=DL	85.1	1.94	92				

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Sample ID: 11215131-020622-S-SB-SC-O-23 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.01 g	Lab Sample ID:	B6292_18927_DF_006	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	70.5 %	QC Batch No.:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:10:39

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	9.5		12479/12468D	16.8		124679/124689D	188		1234679D	2440	
1379D	4.65		12469D	[6.29]		123468D	19.4		1234678D	2560	
1369D	[1.43]		12368D	[7.95]		123679/123689D	272				
1469D	[0.977]		12478D	8.65		123469D	11				
1247D...[4]	[3.79]		12379D	6.05		123478D	9.95				
1378D	[3.35]		12369D...[3]	[8.31]		123678D	57.2				
1268D	[1.48]		12346/12347D	5.28		123467D	9.66				
1478D	0.651		12378D	[6.94]		123789D	36.9		**Conc.**	5,000	
1279D	1.56		12367D	[1.97]	J				**EMPC**	5,000	
1234/1269D	[1.97]		12389D	4.46							
1236D	(0.479)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	2.53										
1239D	[1.63]								OCDD	28100	E
2378D	15.1										
1278D	[2.83]										
1267D	(0.479)										
1289D	(0.479)										
Conc.	34		**Conc.**	41.3		**Conc.**	605				
EMPC	51.5		**EMPC**	72.7		**EMPC**	605				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	85	92
TEQ: ND=DL/2	85.1	92
TEQ: ND=DL	85.1	92

	Conc.	EMPC
Total PCDD/Fs	35,600	35,600

Checkcode: 686-027-PBP

Report Created: 22-Feb-2022 09:29 Analyst: TF

Sample ID: 11215131-020622-S-SB-SC-O-23 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.01 g	Lab Sample ID:	B6292_18927_DF_006	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	70.5 %	QC Batch No.:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:10:39

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	3.85		13468/12468F	52		123468F	19.3		1234678F	157	
1468F	6.3		13678F...[3]	17.1		124678/134678F	83.3		1234679F	11	
2468F	14.4		12368F...[3]	57.6		134679F	(0.741)		1234689F	283	
1346/1246F	[4.8]		14678F	8.18		124679F	5.36		1234789F	23.5	
1347F...[3]	25		13479F	1.07	J	124689F	77.7				
1348F	6.33		13469/12479F	[1.61]	J	123467F	9.9				
1248F...[3]	22.4		12346F	2.51		123478F	34.8				
1268F	13.2		23468/12469F	11.6		123678F	17				
1467F	6.55		12347F	6.82		123479F	[0.936]	J			
1478F	15.5		12348F	6.24		123469F	1.98	J			
1369/1237F	5.66		12378F	11		123679F	[1.63]	J			
2467F	5.77		12678/12367F	16.1		234678F	20.8		**Conc.**	474	
2368F	18.3		12379F	(0.458)		234678/123689F	0		**EMPC**	474	
1238F...[5]	12.8		12679F	1.14	J	123689F	(0.741)				
1278F	31.5		23467/12369F	9.24		123789F	(0.89)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.451)		23478F	30.1		123789/123489F	0				
1267F	9.73		23478/12489F	0		123489F	6.41		OCDF	455	
2346/1249F	5.41		12489F	(0.458)							
2347/1279F	10.8		12349F	(0.458)							
2348F	13.9		12389F	1.02	J						
2378F	68.4										
2367/3467F	40.7										
1269F	3.17										
1239F	(0.451)										
1289F	6.14										
Conc.	346		**Conc.**	232		**Conc.**	277				
EMPC	351		**EMPC**	233		**EMPC**	279				

Checkcode: 686-027-PBP

Report Created: 22-Feb-2022 09:29 Analyst: TF

Sample ID: 11215131-020622-S-SB-SC-O-23 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6292_18927_DF_006
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.01 g	QC Batch No.:	18927
Date Collected:	06-Feb-2022	Split:	-	Date Extracted:	15-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	21-Feb-2022 18:10
Lab Project No:	B6292	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	15.1		0.479	15.1	15.1	15.1
12378-PeCDD	[6.94]		0.702	[3.47]	[6.94]	[6.94]
123478-HxCDD	9.95		0.837	0.995	0.995	0.995
123678-HxCDD	57.2		0.825	5.72	5.72	5.72
123789-HxCDD	36.9		0.771	3.69	3.69	3.69
1234678-HpCDD	2560		0.359	25.6	25.6	25.6
OCDD	28100	E	1.08	28.1	2.81	8.43
2378-TCDF	68.4		0.451	6.84	6.84	6.84
12378-PeCDF	11		0.455	0.548	0.548	0.329
23478-PeCDF	30.1		0.462	15.1	15.1	9.04
123478-HxCDF	34.8		0.695	3.48	3.48	3.48
123678-HxCDF	17		0.681	1.7	1.7	1.7
234678-HxCDF	20.8		0.724	2.08	2.08	2.08
123789-HxCDF	(0.89)		0.89	(0.089)	(0.089)	(0.089)
1234678-HpCDF	157		0.653	1.57	1.57	1.57
1234789-HpCDF	23.5		0.809	0.235	0.235	0.235
OCDF	455		0.972	0.455	0.0455	0.137

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TEQ Summaries			
EMPC = 0, ND = 0	111	85.5	85
EMPC = 0, ND = DL / 2	111	85.6	85.1
EMPC = 0, ND = DL	111	85.6	85.1
EMPC = 0, < J-level = 0	111	85.5	85
EMPC = EMPC, ND = 0	115	92.5	92
EMPC = EMPC, ND = DL / 2	115	92.5	92
EMPC = EMPC, ND = DL	115	92.6	92
EMPC = EMPC, < J-level = 0	115	92.5	92

Checkcode: 686-027-PBP

Sample ID: 11215131-020622-S-SB-SC-B-16 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.09 g	Lab Sample ID	B6292_18927_DF_007	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	75.6 %	QC Batch No:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:56:58

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	2,450			E	ES 2378-TCDD	82.4	
12378-PeCDD	25.6				ES 12378-PeCDD	91.8	
123478-HxCDD	EMPC		2.47	J	ES 123478-HxCDD	83	
123678-HxCDD	9.41				ES 123678-HxCDD	87.2	
123789-HxCDD	4.77				ES 123789-HxCDD	88	
1234678-HpCDD	255				ES 1234678-HpCDD	92.8	
OCDD	3,330				ES OCDD	97.7	
2378-TCDF	6,670			E	ES 2378-TCDF	79	
12378-PeCDF	400				ES 12378-PeCDF	86.7	
23478-PeCDF	242				ES 23478-PeCDF	89.7	
123478-HxCDF	991				ES 123478-HxCDF	90.7	
123678-HxCDF	221				ES 123678-HxCDF	90.2	
234678-HxCDF	43.1				ES 234678-HxCDF	93.7	
123789-HxCDF	ND	0.562			ES 123789-HxCDF	86.9	
1234678-HpCDF	360				ES 1234678-HpCDF	99.7	
1234789-HpCDF	122				ES 1234789-HpCDF	92.7	
OCDF	2,660				ES OCDF	97.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	81.8	
Total TCDD	2,740		2,760		CS 12347-PeCDD	94.9	
Total PeCDD	48		50		CS 12346-PeCDF	89	
Total HxCDD	129		132		CS 123469-HxCDF	96.8	
Total HpCDD	663		663		CS 1234689-HpCDF	103	
Total TCDF	13,000		13,000				
Total PeCDF	1,020		1,020				
Total HxCDF	1,480		1,490				
Total HpCDF	626		626				
Total PCDD/Fs	**25,700**		**25,800**				
WHO-2005 TEQs							
TEQ: ND=0	3360		3360				
TEQ: ND=DL/2	3360	0.623	3360				
TEQ: ND=DL	3360	1.25	3360				

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Sample ID: 11215131-020622-S-SB-SC-B-16 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.09 g	Lab Sample ID:	B6292_18927_DF_007	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	75.6 %	QC Batch No.:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:56:58

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	4.66		12479/12468D	5.37		124679/124689D	56.5		1234679D	408	
1379D	1.61		12469D	4.14		123468D	10.1		1234678D	255	
1369D	(0.293)		12368D	4.49		123679/123689D	36.6				
1469D	3.37		12478D	2.59		123469D	6.87				
1247D...[4]	[4.52]		12379D	1.58	J	123478D	[2.47]	J			
1378D	7.5		12369D...[3]	3.33		123678D	9.41				
1268D	[0.733]		12346/12347D	[0.77]	J	123467D	4.86				
1478D	7		12378D	25.6		123789D	4.77		**Conc.**	663	
1279D	(0.293)		12367D	[1.26]	J				**EMPC**	663	
1234/1269D	1.58		12389D	0.871	J						
1236D	(0.293)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	40.2										
1239D	(0.293)								OCDD	3330	
2378D	2450	E									
1278D	229										
1267D	[5.99]										
1289D	[3.23]										
Conc.	2,740		**Conc.**	48		**Conc.**	129				
EMPC	2,760		**EMPC**	50		**EMPC**	132				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	3,360	3,360
TEQ: ND=DL/2	3,360	3,360
TEQ: ND=DL	3,360	3,360

	Conc.	EMPC
Total PCDD/Fs	25,700	25,800

Checkcode: 977-059-RSZ

Report Created: 22-Feb-2022 09:29 Analyst: TF

Sample ID: 11215131-020622-S-SB-SC-B-16 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.09 g	Lab Sample ID:	B6292_18927_DF_007	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	75.6 %	QC Batch No.:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:56:58

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	2.04		13468/12468F	17.8		123468F	11.5		1234678F	360	
1468F	11.1		13678F...[3]	5.08		124678/134678F	85.8		1234679F	8.47	
2468F	9.93		12368F...[3]	175		134679F	(0.515)		1234689F	136	
1346/1246F	(0.211)		14678F	(0.376)		124679F	[1.3]	J	1234789F	122	
1347F...[3]	73.9		13479F	(0.376)		124689F	52.2				
1348F	(0.211)		13469/12479F	(0.376)		123467F	4.98				
1248F...[3]	318		12346F	(0.376)		123478F	991				
1268F	105		23468/12469F	7.92		123678F	221				
1467F	16.3		12347F	5.74		123479F	(0.515)				
1478F	270		12348F	32		123469F	3.46				
1369/1237F	72.7		12378F	400		123679F	(0.515)				
2467F	7.31		12678/12367F	117		234678F	43.1		**Conc.**	626	
2368F	159		12379F	(0.376)		234678/123689F	0		**EMPC**	626	
1238F...[5]	360		12679F	[0.738]	J	123689F	(0.515)				
1278F	3140	E	23467/12369F	4.3		123789F	(0.562)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.211)		23478F	242		123789/123489F	0				
1267F	162		23478/12489F	0		123489F	71		OCDF	2660	
2346/1249F	19.4		12489F	(0.376)							
2347/1279F	77		12349F	(0.376)							
2348F	418		12389F	13.5							
2378F	6670	E									
2367/3467F	519										
1269F	102										
1239F	8.13										
1289F	528										
Conc.	13,000		**Conc.**	1,020		**Conc.**	1,480				
EMPC	13,000		**EMPC**	1,020		**EMPC**	1,490				

Checkcode: 977-059-RSZ

Report Created: 22-Feb-2022 09:29 Analyst: TF

Sample ID: 11215131-020622-S-SB-SC-B-16 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6292_18927_DF_007
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.09 g	QC Batch No.:	18927
Date Collected:	06-Feb-2022	Split:	-	Date Extracted:	15-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	21-Feb-2022 18:56
Lab Project No:	B6292	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	2450	E	0.293	2450	2450	2450
12378-PeCDD	25.6		0.412	12.8	25.6	25.6
123478-HxCDD	[2.47]	J	0.642	[0.247]	[0.247]	[0.247]
123678-HxCDD	9.41		0.587	0.941	0.941	0.941
123789-HxCDD	4.77		0.538	0.477	0.477	0.477
1234678-HpCDD	255		0.406	2.55	2.55	2.55
OCDD	3330		1.54	3.33	0.333	0.998
2378-TCDF	6670	E	0.211	667	667	667
12378-PeCDF	400		0.365	20	20	12
23478-PeCDF	242		0.387	121	121	72.5
123478-HxCDF	991		0.487	99.1	99.1	99.1
123678-HxCDF	221		0.489	22.1	22.1	22.1
234678-HxCDF	43.1		0.53	4.31	4.31	4.31
123789-HxCDF	(0.562)		0.562	(0.0562)	(0.0562)	(0.0562)
1234678-HpCDF	360		0.206	3.6	3.6	3.6
1234789-HpCDF	122		0.281	1.22	1.22	1.22
OCDF	2660		0.36	2.66	0.266	0.797

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TEQ Summaries			
EMPC = 0, ND = 0	3410	3420	3360
EMPC = 0, ND = DL / 2	3410	3420	3360
EMPC = 0, ND = DL	3410	3420	3360
EMPC = 0, < J-level = 0	3410	3420	3360
EMPC = EMPC, ND = 0	3410	3420	3360
EMPC = EMPC, ND = DL / 2	3410	3420	3360
EMPC = EMPC, ND = DL	3410	3420	3360
EMPC = EMPC, < J-level = 0	3410	3420	3360

Checkcode: 977-059-RSZ

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Sample ID: 11215131-020622-S-SB-SC-B-16H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.24 g	Lab Sample ID	B6292_18927_DF_008	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	80.4 %	QC Batch No:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:43:17

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	41.8				ES 2378-TCDD	81	
12378-PeCDD	EMPC		0.702	J	ES 12378-PeCDD	88.4	
123478-HxCDD	EMPC		0.624	J	ES 123478-HxCDD	84.5	
123678-HxCDD	0.765			J	ES 123678-HxCDD	90.9	
123789-HxCDD	1.43			J	ES 123789-HxCDD	81.2	
1234678-HpCDD	20.6				ES 1234678-HpCDD	89.5	
OCDD	356				ES OCDD	91.5	
2378-TCDF	114				ES 2378-TCDF	72.9	
12378-PeCDF	6.1				ES 12378-PeCDF	86.4	
23478-PeCDF	4.25				ES 23478-PeCDF	80.3	
123478-HxCDF	15.5				ES 123478-HxCDF	79.3	
123678-HxCDF	EMPC		3.06		ES 123678-HxCDF	87.1	
234678-HxCDF	0.829			J	ES 234678-HxCDF	97.6	
123789-HxCDF	ND	0.364			ES 123789-HxCDF	76.9	
1234678-HpCDF	4.92				ES 1234678-HpCDF	105	
1234789-HpCDF	2.15			J	ES 1234789-HpCDF	82.9	
OCDF	11.5				ES OCDF	80	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	88	
Total TCDD	51.9		51.9		CS 12347-PeCDD	103	
Total PeCDD	5.6		6.3		CS 12346-PeCDF	94.8	
Total HxCDD	31.3		31.9		CS 123469-HxCDF	109	
Total HpCDD	70.2		70.2		CS 1234689-HpCDF	108	
Total TCDF	220		233				
Total PeCDF	15		15				
Total HxCDF	17.8		22				
Total HpCDF	8.5		8.5				
Total PCDD/Fs	**787**		**806**				
WHO-2005 TEQs							
TEQ: ND=0	56.8		57.9				
TEQ: ND=DL/2	56.9	0.581	57.9				
TEQ: ND=DL	56.9	1.16	58				

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Sample ID: 11215131-020622-S-SB-SC-B-16H Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.24 g	Lab Sample ID:	B6292_18927_DF_008	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	80.4 %	QC Batch No.:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:43:17

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.448)		12479/12468D	(0.373)		124679/124689D	24.1		1234679D	49.6	
1379D	(0.448)		12469D	4.1		123468D	(0.268)		1234678D	20.6	
1369D	(0.448)		12368D	(0.373)		123679/123689D	4.55				
1469D	6.04		12478D	(0.373)		123469D	(0.268)				
1247D...[4]	(0.448)		12379D	(0.373)		123478D	[0.624]	J			
1378D	(0.448)		12369D...[3]	1.5	J	123678D	0.765	J			
1268D	(0.448)		12346/12347D	(0.373)		123467D	0.437	J			
1478D	(0.448)		12378D	[0.702]	J	123789D	1.43	J	**Conc.**	70.2	
1279D	(0.448)		12367D	(0.373)					**EMPC**	70.2	
1234/1269D	(0.448)		12389D	(0.373)							
1236D	(0.448)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.448)										
1239D	(0.448)								OCDD	356	
2378D	41.8										
1278D	4.13										
1267D	(0.448)										
1289D	(0.448)										
Conc.	51.9		**Conc.**	5.6		**Conc.**	31.3				
EMPC	51.9		**EMPC**	6.3		**EMPC**	31.9				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	56.8	57.9
TEQ: ND=DL/2	56.9	57.9
TEQ: ND=DL	56.9	58

	Conc.	EMPC
Total PCDD/Fs	787	806

Checkcode: 106-893-KGS

Report Created: 22-Feb-2022 09:29 Analyst: TF

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Sample ID: 11215131-020622-S-SB-SC-B-16H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.24 g	Lab Sample ID:	B6292_18927_DF_008	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	80.4 %	QC Batch No.:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:43:17

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.298)		13468/12468F	(0.198)		123468F	(0.298)		1234678F	4.92	
1468F	(0.298)		13678F...[3]	(0.288)		124678/134678F	[1.18]	J	1234679F	(0.337)	
2468F	(0.298)		12368F...[3]	2.92		134679F	(0.298)		1234689F	1.42	J
1346/1246F	(0.298)		14678F	(0.288)		124679F	(0.298)		1234789F	2.15	J
1347F...[3]	1.65		13479F	(0.288)		124689F	(0.298)				
1348F	(0.298)		13469/12479F	(0.288)		123467F	(0.298)				
1248F...[3]	6.5		12346F	(0.288)		123478F	15.5				
1268F	[1.97]		23468/12469F	(0.288)		123678F	[3.06]				
1467F	(0.298)		12347F	(0.288)		123479F	(0.298)				
1478F	5.07		12348F	(0.288)		123469F	(0.298)				
1369/1237F	[1.54]		12378F	6.1		123679F	(0.298)				
2467F	(0.298)		12678/12367F	1.73	J	234678F	0.829	J	**Conc.**	8.5	
2368F	[9.3]		12379F	(0.288)		234678/123689F	0		**EMPC**	8.5	
1238F...[5]	(0.298)		12679F	(0.288)		123689F	(0.298)				
1278F	57.3		23467/12369F	(0.288)		123789F	(0.364)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.298)		23478F	4.25		123789/123489F	0			(pg/g)	
1267F	2.69		23478/12489F	0		123489F	1.47	J	OCDF	11.5	
2346/1249F	(0.298)		12489F	(0.288)							
2347/1279F	1.82		12349F	(0.288)							
2348F	10.3		12389F	(0.288)							
2378F	114										
2367/3467F	9.04										
1269F	1.72										
1239F	(0.298)										
1289F	10.2										
Conc.	220		**Conc.**	15		**Conc.**	17.8				
EMPC	233		**EMPC**	15		**EMPC**	22				

Checkcode: 106-893-KGS

Report Created: 22-Feb-2022 09:29 Analyst: TF

Sample ID: 11215131-020622-S-SB-SC-B-16H TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6292_18927_DF_008
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.24 g	QC Batch No.:	18927
Date Collected:	06-Feb-2022	Split:	-	Date Extracted:	15-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	21-Feb-2022 19:43
Lab Project No:	B6292	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	41.8		0.448	41.8	41.8	41.8
12378-PeCDD	[0.702]	J	0.373	[0.351]	[0.702]	[0.702]
123478-HxCDD	[0.624]	J	0.289	[0.0624]	[0.0624]	[0.0624]
123678-HxCDD	0.765	J	0.256	0.0765	0.0765	0.0765
123789-HxCDD	1.43	J	0.26	0.143	0.143	0.143
1234678-HpCDD	20.6		0.43	0.206	0.206	0.206
OCDD	356		1.02	0.356	0.0356	0.107
2378-TCDF	114		0.298	11.4	11.4	11.4
12378-PeCDF	6.1		0.281	0.305	0.305	0.183
23478-PeCDF	4.25		0.297	2.13	2.13	1.28
123478-HxCDF	15.5		0.307	1.55	1.55	1.55
123678-HxCDF	[3.06]		0.272	[0.306]	[0.306]	[0.306]
234678-HxCDF	0.829	J	0.271	0.0829	0.0829	0.0829
123789-HxCDF	(0.364)		0.364	(0.0364)	(0.0364)	(0.0364)
1234678-HpCDF	4.92		0.264	0.0492	0.0492	0.0492
1234789-HpCDF	2.15	J	0.443	0.0215	0.0215	0.0215
OCDF	11.5		0.619	0.0115	0.00115	0.00345

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TEQ Summaries			
EMPC = 0, ND = 0	58.1	57.7	56.8
EMPC = 0, ND = DL / 2	58.1	57.8	56.9
EMPC = 0, ND = DL	58.1	57.8	56.9
EMPC = 0, < J-level = 0	57.8	57.4	56.5
EMPC = EMPC, ND = 0	58.8	58.8	57.9
EMPC = EMPC, ND = DL / 2	58.8	58.8	57.9
EMPC = EMPC, ND = DL	58.8	58.9	58
EMPC = EMPC, < J-level = 0	58.1	57.7	56.8

Checkcode: 106-893-KGS

Sample ID: 11215131-020622-S-SB-SC-O-20 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.17 g	Lab Sample ID	B6292_18927_DF_010	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	82.4 %	QC Batch No:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:29:35

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	15.2				ES 2378-TCDD	63.1	
12378-PeCDD	EMPC		0.764	J	ES 12378-PeCDD	68	
123478-HxCDD	1.87			J	ES 123478-HxCDD	64.1	
123678-HxCDD	4.94				ES 123678-HxCDD	69.1	
123789-HxCDD	3.22				ES 123789-HxCDD	61.2	
1234678-HpCDD	160				ES 1234678-HpCDD	66	
OCDD	1,590				ES OCDD	61.1	
2378-TCDF	34.4				ES 2378-TCDF	57.9	
12378-PeCDF	1.94			J	ES 12378-PeCDF	62.1	
23478-PeCDF	2.95				ES 23478-PeCDF	62.1	
123478-HxCDF	3.77				ES 123478-HxCDF	63.8	
123678-HxCDF	1.91			J	ES 123678-HxCDF	68	
234678-HxCDF	2.47				ES 234678-HxCDF	73.9	
123789-HxCDF	ND	0.313			ES 123789-HxCDF	61.6	
1234678-HpCDF	21.4				ES 1234678-HpCDF	69	
1234789-HpCDF	2.31			J	ES 1234789-HpCDF	64.6	
OCDF	100				ES OCDF	61.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	61.4	
Total TCDD	17.8		19.5		CS 12347-PeCDD	74.2	
Total PeCDD	5.68		10.6		CS 12346-PeCDF	65.7	
Total HxCDD	72.8		74.4		CS 123469-HxCDF	73.9	
Total HpCDD	505		505		CS 1234689-HpCDF	75.2	
Total TCDF	64.7		80.8				
Total PeCDF	23.7		25				
Total HxCDF	32.5		33.5				
Total HpCDF	67.4		67.4				
Total PCDD/Fs	**2,480**		**2,510**				
WHO-2005 TEQs							
TEQ: ND=0	23.8		24.6				
TEQ: ND=DL/2	23.8	0.612	24.6				
TEQ: ND=DL	23.8	1.22	24.6				

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Sample ID: 11215131-020622-S-SB-SC-O-20 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.17 g	Lab Sample ID:	B6292_18927_DF_010	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	82.4 %	QC Batch No.:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:29:35

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[1.73]		12479/12468D	3		124679/124689D	26.8		1234679D	345	
1379D	(0.467)		12469D	[1.63]	J	123468D	6.65		1234678D	160	
1369D	(0.467)		12368D	1.6	J	123679/123689D	22.8				
1469D	1.18		12478D	[0.923]	J	123469D	6.49				
1247D...[4]	(0.467)		12379D	1.08	J	123478D	1.87	J			
1378D	(0.467)		12369D...[3]	[0.976]	J	123678D	4.94				
1268D	(0.467)		12346/12347D	[0.601]	J	123467D	[1.66]	J			
1478D	(0.467)		12378D	[0.764]	J	123789D	3.22		**Conc.**	505	
1279D	(0.467)		12367D	(0.357)					**EMPC**	505	
1234/1269D	(0.467)		12389D	(0.357)							
1236D	(0.467)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.467)										
1239D	(0.467)								OCDD	1590	
2378D	15.2										
1278D	1.38										
1267D	(0.467)										
1289D	(0.467)										
Conc.	17.8		**Conc.**	5.68		**Conc.**	72.8				
EMPC	19.5		**EMPC**	10.6		**EMPC**	74.4				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	23.8	24.6
TEQ: ND=DL/2	23.8	24.6
TEQ: ND=DL	23.8	24.6

	Conc.	EMPC
Total PCDD/Fs	2,480	2,510

Checkcode: 627-336-YMV

Report Created: 22-Feb-2022 09:29 Analyst: TF

Sample ID: 11215131-020622-S-SB-SC-O-20 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.17 g	Lab Sample ID:	B6292_18927_DF_010	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	82.4 %	QC Batch No.:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:29:35

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.245)		13468/12468F	5.25		123468F	2.99		1234678F	21.4	
1468F	[0.64]		13678F...[3]	2.69		124678/134678F	10.3		1234679F	1.6	J
2468F	[1.84]		12368F...[3]	5.63		134679F	(0.264)		1234689F	42	
1346/1246F	(0.245)		14678F	(0.217)		124679F	[0.53]	J	1234789F	2.31	J
1347F...[3]	3.46		13479F	(0.217)		124689F	9.67				
1348F	0.953		13469/12479F	(0.217)		123467F	1.38	J			
1248F...[3]	2.03		12346F	[0.64]	J	123478F	3.77				
1268F	[1.31]		23468/12469F	1.96	J	123678F	1.91	J			
1467F	[0.698]		12347F	(0.217)		123479F	(0.264)				
1478F	2.18		12348F	[0.684]	J	123469F	(0.264)				
1369/1237F	0.864		12378F	1.94	J	123679F	(0.264)				
2467F	[1.08]		12678/12367F	1.7	J	234678F	2.47		**Conc.**	67.4	
2368F	[3.28]		12379F	(0.217)		234678/123689F	0		**EMPC**	67.4	
1238F...[5]	[1.32]		12679F	(0.217)		123689F	(0.264)				
1278F	12.2		23467/12369F	1.54	J	123789F	(0.313)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.245)		23478F	2.95		123789/123489F	0				
1267F	1.86		23478/12489F	0		123489F	[0.551]	J	OCDF	100	
2346/1249F	(0.245)		12489F	(0.217)							
2347/1279F	[1.03]		12349F	(0.217)							
2348F	[1.6]		12389F	(0.217)							
2378F	34.4										
2367/3467F	6.77										
1269F	[0.558]										
1239F	(0.245)										
1289F	[2.72]										
Conc.	64.7		**Conc.**	23.7		**Conc.**	32.5				
EMPC	80.8		**EMPC**	25		**EMPC**	33.5				

Checkcode: 627-336-YMV

Report Created: 22-Feb-2022 09:29 Analyst: TF

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Sample ID: 11215131-020622-S-SB-SC-O-20 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6292_18927_DF_010
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.17 g	QC Batch No.:	18927
Date Collected:	06-Feb-2022	Split:	-	Date Extracted:	15-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	21-Feb-2022 20:29
Lab Project No:	B6292	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	15.2		0.467	15.2	15.2	15.2
12378-PeCDD	[0.764]	J	0.357	[0.382]	[0.764]	[0.764]
123478-HxCDD	1.87	J	0.644	0.187	0.187	0.187
123678-HxCDD	4.94		0.596	0.494	0.494	0.494
123789-HxCDD	3.22		0.619	0.322	0.322	0.322
1234678-HpCDD	160		0.301	1.6	1.6	1.6
OCDD	1590		0.944	1.59	0.159	0.477
2378-TCDF	34.4		0.245	3.44	3.44	3.44
12378-PeCDF	1.94	J	0.211	0.0972	0.0972	0.0583
23478-PeCDF	2.95		0.223	1.47	1.47	0.884
123478-HxCDF	3.77		0.269	0.377	0.377	0.377
123678-HxCDF	1.91	J	0.239	0.191	0.191	0.191
234678-HxCDF	2.47		0.248	0.247	0.247	0.247
123789-HxCDF	(0.313)		0.313	(0.0313)	(0.0313)	(0.0313)
1234678-HpCDF	21.4		0.24	0.214	0.214	0.214
1234789-HpCDF	2.31	J	0.306	0.0231	0.0231	0.0231
OCDF	100		0.851	0.1	0.01	0.0301

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TEQ Summaries			
EMPC = 0, ND = 0	25.6	24.1	23.8
EMPC = 0, ND = DL / 2	25.6	24.1	23.8
EMPC = 0, ND = DL	25.6	24.1	23.8
EMPC = 0, < J-level = 0	25.1	23.6	23.3
EMPC = EMPC, ND = 0	26	24.9	24.6
EMPC = EMPC, ND = DL / 2	26	24.9	24.6
EMPC = EMPC, ND = DL	26	24.9	24.6
EMPC = EMPC, < J-level = 0	25.1	23.6	23.3

Checkcode: 627-336-YMV

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Sample ID: 11215131-020622-S-SB-SC-B-14 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.03 g	Lab Sample ID	B6292_18927_DF_011	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	77.1 %	QC Batch No:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:15:54

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	EMPC		2.62		ES 2378-TCDD	82.7	
12378-PeCDD	ND	0.346			ES 12378-PeCDD	90.8	
123478-HxCDD	EMPC		0.376	J	ES 123478-HxCDD	88.7	
123678-HxCDD	0.699			J	ES 123678-HxCDD	96.4	
123789-HxCDD	0.969			J	ES 123789-HxCDD	85.9	
1234678-HpCDD	18				ES 1234678-HpCDD	92.8	
OCDD	386				ES OCDD	90.6	
2378-TCDF	7.49				ES 2378-TCDF	75.9	
12378-PeCDF	EMPC		0.486	J	ES 12378-PeCDF	88.5	
23478-PeCDF	ND	0.263			ES 23478-PeCDF	84.4	
123478-HxCDF	ND	0.255			ES 123478-HxCDF	83.1	
123678-HxCDF	ND	0.208			ES 123678-HxCDF	93.6	
234678-HxCDF	ND	0.223			ES 234678-HxCDF	101	
123789-HxCDF	ND	0.289			ES 123789-HxCDF	77.8	
1234678-HpCDF	ND	0.233			ES 1234678-HpCDF	108	
1234789-HpCDF	ND	0.407			ES 1234789-HpCDF	79.9	
OCDF	ND	1.95			ES OCDF	80.5	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	83	
Total TCDD	12.1		14.7		CS 12347-PeCDD	103	
Total PeCDD	5.59		7.4		CS 12346-PeCDF	93.3	
Total HxCDD	39.7		40.4		CS 123469-HxCDF	106	
Total HpCDD	83.6		83.6		CS 1234689-HpCDF	106	
Total TCDF	8.49		14.1				
Total PeCDF	ND		0.486				
Total HxCDF	ND	0.239	ND				
Total HpCDF	ND	0.301	ND				
Total PCDD/Fs	**535**		**547**				
WHO-2005 TEQs							
TEQ: ND=0	1.21		3.89				
TEQ: ND=DL/2	1.48	0.543	4.15				
TEQ: ND=DL	1.74	1.09	4.42				

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Sample ID: 11215131-020622-S-SB-SC-B-14 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.03 g	Lab Sample ID:	B6292_18927_DF_011	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	77.1 %	QC Batch No.:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:15:54

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.416)		12479/12468D	[0.745]	J	124679/124689D	32		1234679D	65.5	
1379D	(0.416)		12469D	5.59		123468D	(0.277)		1234678D	18	
1369D	(0.416)		12368D	(0.346)		123679/123689D	5.32				
1469D	10.7		12478D	(0.346)		123469D	0.762	J			
1247D...[4]	(0.416)		12379D	(0.346)		123478D	[0.376]	J			
1378D	(0.416)		12369D...[3]	[1.06]	J	123678D	0.699	J			
1268D	(0.416)		12346/12347D	(0.346)		123467D	[0.298]	J			
1478D	(0.416)		12378D	(0.346)		123789D	0.969	J	**Conc.**	83.6	
1279D	(0.416)		12367D	(0.346)					**EMPC**	83.6	
1234/1269D	1.33		12389D	(0.346)							
1236D	(0.416)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.416)										
1239D	(0.416)								OCDD	386	
2378D	[2.62]										
1278D	(0.416)										
1267D	(0.416)										
1289D	(0.416)										
Conc.	12.1		**Conc.**	5.59		**Conc.**	39.7				
EMPC	14.7		**EMPC**	7.4		**EMPC**	40.4				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	1.21	3.89
TEQ: ND=DL/2	1.48	4.15
TEQ: ND=DL	1.74	4.42

	Conc.	EMPC
Total PCDD/Fs	535	547

Checkcode: 355-038-RDY

Report Created: 22-Feb-2022 09:30 Analyst: TF

Sample ID: 11215131-020622-S-SB-SC-B-14 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.03 g	Lab Sample ID:	B6292_18927_DF_011	Date Extracted:	15-Feb-2022
Date Collected:	06-Feb-2022	% Solid:	77.1 %	QC Batch No.:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:15:54

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.455)		13468/12468F	(0.168)		123468F	(0.239)		1234678F	(0.233)	
1468F	(0.455)		13678F...[3]	(0.25)		124678/134678F	(0.239)		1234679F	(0.301)	
2468F	(0.455)		12368F...[3]	(0.25)		134679F	(0.239)		1234689F	(0.301)	
1346/1246F	(0.455)		14678F	(0.25)		124679F	(0.239)		1234789F	(0.407)	
1347F...[3]	[0.811]		13479F	(0.25)		124689F	(0.239)				
1348F	(0.455)		13469/12479F	(0.25)		123467F	(0.239)				
1248F...[3]	(0.455)		12346F	(0.25)		123478F	(0.255)				
1268F	(0.455)		23468/12469F	(0.25)		123678F	(0.208)				
1467F	(0.455)		12347F	(0.25)		123479F	(0.239)				
1478F	(0.455)		12348F	(0.25)		123469F	(0.239)				
1369/1237F	(0.455)		12378F	[0.486]	J	123679F	(0.239)				
2467F	(0.455)		12678/12367F	(0.25)		234678F	(0.223)		**Conc.**	0	
2368F	[1.14]		12379F	(0.25)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.455)		12679F	(0.25)		123689F	(0.239)				
1278F	[3.09]		23467/12369F	(0.25)		123789F	(0.289)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.455)		23478F	(0.263)		123789/123489F	0				
1267F	(0.455)		23478/12489F	0		123489F	(0.239)		OCDF	(1.95)	
2346/1249F	(0.455)		12489F	(0.25)							
2347/1279F	(0.455)		12349F	(0.25)							
2348F	(0.455)		12389F	(0.25)							
2378F	7.49										
2367/3467F	0.999										
1269F	(0.455)										
1239F	(0.455)										
1289F	[0.581]										
Conc.	8.49		**Conc.**	0		**Conc.**	0				
EMPC	14.1		**EMPC**	0.486		**EMPC**	0				

Checkcode: 355-038-RDY

Report Created: 22-Feb-2022 09:30 Analyst: TF

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Sample ID: 11215131-020622-S-SB-SC-B-14 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6292_18927_DF_011
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.03 g	QC Batch No.:	18927
Date Collected:	06-Feb-2022	Split:	-	Date Extracted:	15-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	21-Feb-2022 21:15
Lab Project No:	B6292	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	[2.62]		0.416	[2.62]	[2.62]	[2.62]
12378-PeCDD	(0.346)		0.346	(0.173)	(0.346)	(0.346)
123478-HxCDD	[0.376]	J	0.283	[0.0376]	[0.0376]	[0.0376]
123678-HxCDD	0.699	J	0.276	0.0699	0.0699	0.0699
123789-HxCDD	0.969	J	0.273	0.0969	0.0969	0.0969
1234678-HpCDD	18		0.357	0.18	0.18	0.18
OCDD	386		1.14	0.386	0.0386	0.116
2378-TCDF	7.49		0.455	0.749	0.749	0.749
12378-PeCDF	[0.486]	J	0.239	[0.0243]	[0.0243]	[0.0146]
23478-PeCDF	(0.263)		0.263	(0.132)	(0.132)	(0.079)
123478-HxCDF	(0.255)		0.255	(0.0255)	(0.0255)	(0.0255)
123678-HxCDF	(0.208)		0.208	(0.0208)	(0.0208)	(0.0208)
234678-HxCDF	(0.223)		0.223	(0.0223)	(0.0223)	(0.0223)
123789-HxCDF	(0.289)		0.289	(0.0289)	(0.0289)	(0.0289)
1234678-HpCDF	(0.233)		0.233	(0.00233)	(0.00233)	(0.00233)
1234789-HpCDF	(0.407)		0.407	(0.00407)	(0.00407)	(0.00407)
OCDF	(1.95)		1.95	(0.00195)	(0.000195)	(0.000586)

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TEQ Summaries			
EMPC = 0, ND = 0	1.48	1.13	1.21
EMPC = 0, ND = DL / 2	1.69	1.43	1.48
EMPC = 0, ND = DL	1.89	1.72	1.74
EMPC = 0, < J-level = 0	1.32	0.968	1.05
EMPC = EMPC, ND = 0	4.17	3.82	3.89
EMPC = EMPC, ND = DL / 2	4.37	4.11	4.15
EMPC = EMPC, ND = DL	4.58	4.4	4.42
EMPC = EMPC, < J-level = 0	3.94	3.59	3.67

Checkcode: 355-038-RDY

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Sample ID: Method Blank B6292_18927 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18927_DF_SDS	Date Extracted:	15-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:00:14

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.395			ES 2378-TCDD	86.2	
12378-PeCDD	ND	0.314			ES 12378-PeCDD	93.5	
123478-HxCDD	ND	0.339			ES 123478-HxCDD	92	
123678-HxCDD	ND	0.336			ES 123678-HxCDD	98.7	
123789-HxCDD	ND	0.326			ES 123789-HxCDD	84.9	
1234678-HpCDD	ND	0.247			ES 1234678-HpCDD	93.5	
OCDD	ND	0.831			ES OCDD	89.3	
2378-TCDF	ND	0.238			ES 2378-TCDF	71.9	
12378-PeCDF	ND	0.246			ES 12378-PeCDF	80.7	
23478-PeCDF	ND	0.244			ES 23478-PeCDF	79.4	
123478-HxCDF	ND	0.155			ES 123478-HxCDF	86	
123678-HxCDF	ND	0.157			ES 123678-HxCDF	90.5	
234678-HxCDF	ND	0.164			ES 234678-HxCDF	102	
123789-HxCDF	ND	0.204			ES 123789-HxCDF	83.8	
1234678-HpCDF	ND	0.227			ES 1234678-HpCDF	104	
1234789-HpCDF	ND	0.369			ES 1234789-HpCDF	84.7	
OCDF	ND	0.589			ES OCDF	84.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	90.3	
Total TCDD	ND	0.395	ND		CS 12347-PeCDD	109	
Total PeCDD	ND	0.314	ND		CS 12346-PeCDF	91	
Total HxCDD	ND	0.334	ND		CS 123469-HxCDF	109	
Total HpCDD	ND	0.247	ND		CS 1234689-HpCDF	105	
Total TCDF	ND	0.238	ND				
Total PeCDF	ND	0.245	ND				
Total HxCDF	ND	0.168	ND				
Total HpCDF	ND	0.286	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	0.495	0.495	0.495				
TEQ: ND=DL	0.99	0.99	0.99				

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Sample ID: Method Blank B6292_18927 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18927_DF_SDS	Date Extracted:	15-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:00:14

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.395)		12479/12468D	(0.314)		124679/124689D	(0.334)		1234679D	(0.247)	
1379D	(0.395)		12469D	(0.314)		123468D	(0.334)		1234678D	(0.247)	
1369D	(0.395)		12368D	(0.314)		123679/123689D	(0.334)				
1469D	(0.395)		12478D	(0.314)		123469D	(0.334)				
1247D...[4]	(0.395)		12379D	(0.314)		123478D	(0.339)				
1378D	(0.395)		12369D...[3]	(0.314)		123678D	(0.336)				
1268D	(0.395)		12346/12347D	(0.314)		123467D	(0.334)				
1478D	(0.395)		12378D	(0.314)		123789D	(0.326)		**Conc.**	0	
1279D	(0.395)		12367D	(0.314)					**EMPC**	0	
1234/1269D	(0.395)		12389D	(0.314)							
1236D	(0.395)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.395)										
1239D	(0.395)								OCDD	(0.831)	
2378D	(0.395)										
1278D	(0.395)										
1267D	(0.395)										
1289D	(0.395)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	0.495	0.495
TEQ: ND=DL	0.99	0.99

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 177-830-LNN

Report Created: 22-Feb-2022 09:28 Analyst: TF

Sample ID: Method Blank B6292_18927 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18927_DF_SDS	Date Extracted:	15-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	12:00:14

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.238)		13468/12468F	(0.226)		123468F	(0.168)		1234678F	(0.227)	
1468F	(0.238)		13678F...[3]	(0.245)		124678/134678F	(0.168)		1234679F	(0.286)	
2468F	(0.238)		12368F...[3]	(0.245)		134679F	(0.168)		1234689F	(0.286)	
1346/1246F	(0.238)		14678F	(0.245)		124679F	(0.168)		1234789F	(0.369)	
1347F...[3]	(0.238)		13479F	(0.245)		124689F	(0.168)				
1348F	(0.238)		13469/12479F	(0.245)		123467F	(0.168)				
1248F...[3]	(0.238)		12346F	(0.245)		123478F	(0.155)				
1268F	(0.238)		23468/12469F	(0.245)		123678F	(0.157)				
1467F	(0.238)		12347F	(0.245)		123479F	(0.168)				
1478F	(0.238)		12348F	(0.245)		123469F	(0.168)				
1369/1237F	(0.238)		12378F	(0.246)		123679F	(0.168)				
2467F	(0.238)		12678/12367F	(0.245)		234678F	(0.164)		**Conc.**	0	
2368F	(0.238)		12379F	(0.245)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.238)		12679F	(0.245)		123689F	(0.168)				
1278F	(0.238)		23467/12369F	(0.245)		123789F	(0.204)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.238)		23478F	(0.244)		123789/123489F	0				
1267F	(0.238)		23478/12489F	0		123489F	(0.168)		OCDF	(0.589)	
2346/1249F	(0.238)		12489F	(0.245)							
2347/1279F	(0.238)		12349F	(0.245)							
2348F	(0.238)		12389F	(0.245)							
2378F	(0.238)										
2367/3467F	(0.238)										
1269F	(0.238)										
1239F	(0.238)										
1289F	(0.238)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 177-830-LNN

Report Created: 22-Feb-2022 09:28 Analyst: TF

Sample ID: Method Blank B6292_18927 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18927_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18927
Date Collected:	n/a	Split:	-	Date Extracted:	15-Feb-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	21-Feb-2022 12:00
Lab Project No:	B6292	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.395)		0.395	(0.395)	(0.395)	(0.395)
12378-PeCDD	(0.314)		0.314	(0.157)	(0.314)	(0.314)
123478-HxCDD	(0.339)		0.339	(0.0339)	(0.0339)	(0.0339)
123678-HxCDD	(0.336)		0.336	(0.0336)	(0.0336)	(0.0336)
123789-HxCDD	(0.326)		0.326	(0.0326)	(0.0326)	(0.0326)
1234678-HpCDD	(0.247)		0.247	(0.00247)	(0.00247)	(0.00247)
OCDD	(0.831)		0.831	(0.000831)	(0.0000831)	(0.000249)
2378-TCDF	(0.238)		0.238	(0.0238)	(0.0238)	(0.0238)
12378-PeCDF	(0.246)		0.246	(0.0123)	(0.0123)	(0.00738)
23478-PeCDF	(0.244)		0.244	(0.122)	(0.122)	(0.0733)
123478-HxCDF	(0.155)		0.155	(0.0155)	(0.0155)	(0.0155)
123678-HxCDF	(0.157)		0.157	(0.0157)	(0.0157)	(0.0157)
234678-HxCDF	(0.164)		0.164	(0.0164)	(0.0164)	(0.0164)
123789-HxCDF	(0.204)		0.204	(0.0204)	(0.0204)	(0.0204)
1234678-HpCDF	(0.227)		0.227	(0.00227)	(0.00227)	(0.00227)
1234789-HpCDF	(0.369)		0.369	(0.00369)	(0.00369)	(0.00369)
OCDF	(0.589)		0.589	(0.000589)	(0.0000589)	(0.000177)

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TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.444	0.522	0.495
EMPC = 0, ND = DL	0.888	1.04	0.99
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.444	0.522	0.495
EMPC = EMPC, ND = DL	0.888	1.04	0.99
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 177-830-LNN

Sample ID: 0_18927_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6292	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18927_DF	Date Extracted:	15-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18927	Date Analyzed:	21-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	10:27:39

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.4				ES 2378-TCDD	82	
12378-PeCDD	49.3				ES 12378-PeCDD	89.6	
123478-HxCDD	52.4				ES 123478-HxCDD	89	
123678-HxCDD	53				ES 123678-HxCDD	91.5	
123789-HxCDD	49.1				ES 123789-HxCDD	90.7	
1234678-HpCDD	53.4				ES 1234678-HpCDD	87.5	
OCDD	108				ES OCDD	85.4	
2378-TCDF	10.6				ES 2378-TCDF	76.2	
12378-PeCDF	48.1				ES 12378-PeCDF	84.3	
23478-PeCDF	51.8				ES 23478-PeCDF	81.4	
123478-HxCDF	50.5				ES 123478-HxCDF	86.7	
123678-HxCDF	50.7				ES 123678-HxCDF	91.4	
234678-HxCDF	50.3				ES 234678-HxCDF	86.5	
123789-HxCDF	47.9				ES 123789-HxCDF	82.7	
1234678-HpCDF	50.1				ES 1234678-HpCDF	99.4	
1234789-HpCDF	50.6				ES 1234789-HpCDF	82.8	
OCDF	104				ES OCDF	78.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	88.9	
Total TCDD	53.6		53.6		CS 12347-PeCDD	98.3	
Total PeCDD	74		74		CS 12346-PeCDF	91.7	
Total HxCDD	169		169		CS 123469-HxCDF	102	
Total HpCDD	66.5		66.5		CS 1234689-HpCDF	99.5	
Total TCDF	61.1		61.1				
Total PeCDF	200		200				
Total HxCDF	321		321				
Total HpCDF	101		101				
Total PCDD/Fs	**1,260**		**1,260**				
WHO-2005 TEQs							
TEQ: ND=0	116		116				
TEQ: ND=DL/2	116	0.219	116				
TEQ: ND=DL	116	0.439	116				

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Sample Receipt Notification

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*08-Feb-22 at 11:48*
AP Project name:	*B6292*
Requested TAT:	*10 business days*
Projected due date:	*22-Feb-22*
Matrix:	*Soil*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-020622-S-SB-SC-O-21	B6292_001	Solid	1	4 oz	06-Feb-22	09:20	0.5	1	4905 2704 5391
11215131-020622-S-SB-SC-B-15	B6292_002	Solid	1	4 oz	06-Feb-22	09:30	0.5	1	4905 2704 5391
11215131-020622-S-SB-SC-B-15H	B6292_003	Solid - MS/MSD	1	4 oz	06-Feb-22	09:40	0.5	1	4905 2704 5391
11215131-020622-S-SB-DUP-16	B6292_004	Solid - DUP	1	4 oz	06-Feb-22	00:00	0.5	1	4905 2704 5391
11215131-020622-S-SB-SC-O-22	B6292_005	Solid	1	4 oz	06-Feb-22	10:40	0.5	1	4905 2704 5391
11215131-020622-S-SB-SC-O-23	B6292_006	Solid	1	4 oz	06-Feb-22	10:45	0.5	1	4905 2704 5391
11215131-020622-S-SB-SC-B-16	B6292_007	Solid	1	4 oz	06-Feb-22	10:50	0.5	1	4905 2704 5391
11215131-020622-S-SB-SC-B-16H	B6292_008	Solid	1	4 oz	06-Feb-22	10:55	0.5	1	4905 2704 5391
11215131-020622-S-SB-SC-O-20	B6292_010	Solid	1	4 oz	06-Feb-22	11:40	0.5	1	4905 2704 5391
11215131-020622-S-SB-SC-B-14	B6292_011	Solid	1	4 oz	06-Feb-22	11:50	0.5	1	4905 2704 5391

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact. No sample 009 in project.

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Tamara Burkamper *Logged in by: Tamara Burkamper* *QC'ed by:* AK 9 Feb 22

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

B6292 1/2

SGS CHAIN OF CUSTODY

this project contains ALL NON-RUSH samples

TB 2/8/22

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ☒ Level II ☒ Level IV
SPECIAL DELIVERABLES:
☐ DoD ☒ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

(Cpy)

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston, T
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (☒ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

PRESERVATIVE: None

ANALYSIS & METHOD: M1613B, ~~M8290A~~, ~~M1668A~~, ~~M1668C~~, ~~HR-PAH~~, ~~M1699~~

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	QC MS	QC MSD	QC DUP	QTY	REMARKS
15131-020622-S-SB-SC-S-32	2/6/22	0910	C	S	4oz				1	RUSH
15131-020622-S-SB-SC-0-21		0920	C	S						
15131-020622-S-SB-SC-B-15		0930	C	S						
15131-020622-S-SB-SC-B-15H		0940	C	S		X	X			MS/MSD
215131-020622-S-SB-DUP-16		—	C	S				X		Duplicate sample
215131-020622-S-SB-SC-0-22		1040	C	S						
215131-020622-S-SB-SC-0-23		1045	C	S						
15131-020622-S-SB-SC-B-16		1050	C	S						
15131-020622-S-SB-SC-B-16H		1055	C	S						
45131-020622-S-SB-SC-S-30		1120	C	S						RUSH

See SOW

	DATE:	TIME:		
COLLECTED/RELINQUISHED BY (1): Amanda Belanger	2/6/22	1645	RECEIVED BY: Meagan Wells	RECEIVED BY LABORATORY: Samara Burkemper DATE: 2/8/22 TIME: 1148
RELINQUISHED BY (2): Meagan Wells	2/7/22	0810	RECEIVED BY: 0911	COOLER SEAL: ☒ INTACT ☐ BROKEN ☐ ABSENT
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:	CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☒ ABSENT
				CARRIER: FEDEX TEMP: °C 0.5 (TB)
				TRACKING #: attached

SGS NORTH AMERICA INC | ENVIRONMENT, HEALTH & SAFETY | 5500 Business Drive Wilmington, NC 28405 910 350 1903 | 866 846 8290 www.sgs.com/ehs

Member of the SGS Group (SGS SA)

B6292 2/8

SGS CHAIN OF CUSTODY

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

Copy

SPECIAL INSTRUCTIONS / COMMENTS

PRESERVATIVE: None

ANALYSIS & METHOD

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400, Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

See SJRW

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B	~~M8290A~~	~~M1668A~~	~~M1668C~~	~~HP PAH~~	~~M1699~~	QC MS	QC MSD	QC DUP	QTY	REMARKS
15131-020622-S-SB-SC-S-31	2/6/22	1130	C	S	4oz	X									1	RUSH
215131-020622-S-SB-SC-O-20		1140	C	S	4oz	X									1	
215131-020622-S-SB-SC-B-14	↓	1150	C	S	4oz	X									1	

SB

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:
Sarah Belanger	2/6/22	1645	Meagan Willis
RELINQUISHED BY (2):	DATE:	TIME:	RECEIVED BY:
Meagan Willis	2/07/22	0810	[illegible] 2/7/22 0810
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:
Fedex			

RECEIVED BY LABORATORY: Tamara Bukamper DATE: 2/8/22 TIME: 1148
COOLER SEAL: ☒ INTACT ☐ BROKEN ☐ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☒ ABSENT
CARRIER: FedEx TEMP: °C 0.5°C Ice
TRACKING #: Attached (TB)

SGS NORTH AMERICA INC | ENVIRONMENT, HEALTH & SAFETY 5500 Business Drive Wilmington, NC 28405 910 350 1903 | 866 846 8290 www.sgs.com/ehs

Member of the SGS Group (SGS SA)

B6292 1/1

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 07FEB22
ACTWGT: 45.00 LB MAN
CAD: 0317565/CAFE3313

BILL RECIPIENT

TO **SAMPLE RECEIVING**
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 360-1903
REF: GHD SAMPLE 1

FedEx Express

E

TUE - 08 FEB 10:30A
PRIORITY OVERNIGHT

TRK# 0201 4905 2704 5391

NL ILMA

28405
NC-US RDU

Part # 158148-434 MTW EXP 07/22

TB 2/8/22

SGS

Project Initiation Form

Project Number: B6292

Initiation Date: 09-Feb-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Soil

TAT: 10 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR

10 g DWE extraction

Sample 003 is MS/MSD

Read and understood, initial and date: Prep Lab: VE 2/15/22 RAS 2/17/22 HRMS Lab:

Reporting Instructions

M1613B
Full Report

Sample 003 MS/MSD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab:

PM Initials: akornegay Date: 09-Feb-2022

SGS

Methods: PCB PAH | (PCDD/F) WHO-2 | QUANTICS USV | DoD PCDD/F PEST 2 ajb 2/22/22 | Extraction Type: (SDS) CLL | TALEX Carbon SPE | Solid | Final Volume: 20µL

Batch# 18927 | Split: ~~1/2~~ ~~1/4~~ | Extract Initial/Date: ~~MF~~ 2/15/22 | Clean-up Initial/Date: ~~SB~~ 2/17/22 | Transfer Init/Date: ~~SB~~ 2/19/22

Lab Sample ID	Extraction Position / Solvent: ~~TOL~~	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B6292_18927_001	19	12.89				brown, sandy
B6292_18927_002	20	14.60				gray, clay-like, oil smell
B6292_18927_003	21	13.58				gray, clay-like, oil smell
B6292_18927_003MS	22	13.52				see 003
B6292_18927_003MSD	23	13.63				see 003
B6292_18927_004	24	14.22				gray, clay-like
B6292_18927_005	43	12.80				brown, clay-like, wet, chemical smell
B6292_18927_006	44	14.20				brown, clay-like, chemical smell
B6292_18927_007	45	13.34				gray, clay-like
B6292_18927_008	46	12.74				gray, wet, sandy
B6292_18927_010	47	12.35				brown/orange, clay-like
B6292_18927_011	48	13.01				gray, clay-like
MB1_18927	17	10.00				sodium sulfate
OPR1_18927	18	10.00				sodium sulfate

ajb 2/22/22

Supply IDs

Toluene	STL 14-14
MeCHL	STL14.17
Florisil	SPLS.83
Hexane	STL14.29
Silica	SPLS.69
S Nitrate	N/A
Base Silica	SPLS.86
HydroMatrix	N/A
Tetradecane	SPLS-735
H_2SO_4	N/A
A Silica	SPLS.90
Sodium Sulfate	SPLS-503

Acid Partition Date/Initial:

Mini-Acid Date/Initial:

Carbon Column Date/Initial:

GPC Date/Initial:

Bond-Elute Date/Initial:

Additional Cleanup

ajb 2/22/22

Cycle Time

TOL	Start: 1700	Stop: 0930
HEX	Start:	Stop:
DCM	Start:	Stop:

ajb 2/22/22

RPD 2/19/22

SGS

Methods: PCB PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST

Solid

Batch# 18927

Inter-Department Communication Sheet

APPROVED
Amy_Boehm , 2/22/2022, 3:11:47 PM

SGS

Wt. Volume Results

Batch #: 18927 Comments:

ajc 2/22/22

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6292_001	2.38	4.77	4.27	79.08%	79.08%			12.65	12.89	10.19
B6292_002	2.37	4.7	3.99	69.53%	69.53%			14.38	14.6	10.15
B6292_003	2.3	5.21	4.46	74.23%	74.23%			13.47	13.58	10.08
B6292_003MS	2.3	5.21	4.46	74.23%	74.23%			13.47	13.52	10.04
B6292_003MSD	2.3	5.21	4.46	74.23%	74.23%			13.47	13.63	10.12
B6292_004	2.31	4.7	4.01	71.13%	71.13%			14.06	14.22	10.11
B6292_005	2.39	4.91	4.37	78.57%	78.57%			12.73	12.8	10.06
B6292_006	2.35	4.96	4.19	70.50%	70.50%			14.18	14.2	10.01
B6292_007	2.38	4.76	4.18	75.63%	75.63%			13.22	13.34	10.09
B6292_008	2.37	4.41	4.01	80.39%	80.39%			12.44	12.74	10.24
B6292_010	2.37	5.09	4.61	82.35%	82.35%			12.14	12.35	10.17
B6292_011	2.38	5	4.4	77.10%	77.10%			12.97	13.01	10.03

ajb 2/22/22

ajb 2/22/22

% Solid Determination WorkSheet

SGS

Batch: 18927

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample+ Boat Wt.	%g Dry	Comments
B6292_18927_001	2.38	4.77	4.27	12.65	
B6292_18927_002	2.37	4.70	3.99	14.38	
B6292_18927_003	2.30	5.21	4.46	13.47	
B6292_18927_003MS	—	—	—	13.47	
B6292_18927_003MSD	—	—	—	13.47	
B6292_18927_004	2.31	4.70	4.01	14.06	
B6292_18927_005	2.39	4.91	4.37	12.73	
B6292_18927_006	2.35	4.96	4.19	14.18	
B6292_18927_007	2.38	4.76	4.18	13.22	
B6292_18927_008	2.37	4.41	4.01	12.44	
B6292_18927_010	2.37	5.09	4.61	12.14	
B6292_18927_011	2.38	5.02	4.40	12.97	

2/19/22

Date/Initials:

SGS Methods: PCB / PAH | PCDD/F / WHO-2 | QUANTICS / USV | DoD PCDD/F / PEST | Solid

Batch # 18927

Lab Sample ID	Spiker Initials/Date: JRH 2/15/22	JRH 2/15/22	JRH 2/15/22	2/17/22	2/18/22		
	D/F Ax-A Amount: 20µL Observer Initials	D/F Ax-B Amount: 20µL Observer Initials	D/F ES Amount: 20µL Observer Initials	D/F CS Amount: 20µL Observer Initials	D/F JS Amount: 20µL Observer Initials	Amount: Observer Initials	Amount: Observer Initials
B6292_18927_001	—	—	KE	JRH	JRH		
B6292_18927_002	—	—	KE	JRH	JRH		
B6292_18927_003	—	—	KE	JRH	JRH		
B6292_18927_003MS	KE	KE	KE	JRH	JRH		
B6292_18927_003MSD	KE	KE	KE	JRH	JRH		
B6292_18927_004	—	—	KE	JRH	JRH		
B6292_18927_005	—	—	KE	JRH	JRH		
B6292_18927_006	—	—	KE	JRH	JRH		
B6292_18927_007	—	—	KE	JRH	JRH		
B6292_18927_008	—	—	KE	JRH	JRH		
B6292_18927_010	—	—	KE	JRH	JRH		
B6292_18927_011	—	—	KE	JRH	JRH		
MB1_18927	—	—	KE	JRH	JRH		
OPR1_18927							

2/19/22

Standard Information

Pipette ID	—	—	—	—	—		
Spike ID	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS		
SIL#	26-2-8	25-187-2	26-2-9	25-338.1	25-384.1		
Concentration	10 pg/µL	10 pg/µL	100 pg/µL	100 pg/µL	100 pg/µL		
Exoiration Date	7/9/28	6/22/22	8/2028	11/16/22	1/28/23		

2/18/22

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	220221C01	3	CS3_220221_DF_CA	1.00	25-347-1	DTF	138-412	21-Feb-2022	09:41:20
2	220221C02	46	OPR1_18927_DF	1.00	0_18927_OPR001	DTF	611-851	21-Feb-2022	10:27:39
3	220221C03	2	SBS_220221_DF_CA	1.00	20-61-1	DTF	696-429	21-Feb-2022	11:13:57
4	220221C04	45	MB1_18927_DF_SDS	10.00	Method Blank	DTF	177-830	21-Feb-2022	12:00:14
5	220221C05	47	B6292_18927_DF_001	10.19	11215131-020622-S-SB-SC-O-21	DTF	306-766	21-Feb-2022	12:46:31
6	220221C06	48	B6292_18927_DF_002	10.15	11215131-020622-S-SB-SC-B-15	DTF	032-563	21-Feb-2022	13:32:51
7	220221C07	49	B6292_18927_DF_003	10.08	11215131-020622-S-SB-SC-B-15H	DTF	099-258	21-Feb-2022	14:19:09
8	220221C08	50	B6292_18927_DF_003MS	10.04	11215131-020622-S-SB-SC-B-15H-MS	DTF	986-756	21-Feb-2022	15:05:28
9	220221C09	51	B6292_18927_DF_003MSD	10.12	11215131-020622-S-SB-SC-B-15H-MSD	DTF	194-418	21-Feb-2022	15:51:46
10	220221C10	52	B6292_18927_DF_004	10.11	11215131-020622-S-SB-DUP-16	DTF	175-075	21-Feb-2022	16:38:04
11	220221C11	53	B6292_18927_DF_005	10.06	11215131-020622-S-SB-SC-O-22	DTF	136-442	21-Feb-2022	17:24:22
12	220221C12	54	B6292_18927_DF_006	10.01	11215131-020622-S-SB-SC-O-23	DTF	686-027	21-Feb-2022	18:10:39
13	220221C13	55	B6292_18927_DF_007	10.09	11215131-020622-S-SB-SC-B-16	DTF	977-059	21-Feb-2022	18:56:58
14	220221C14	56	B6292_18927_DF_008	10.24	11215131-020622-S-SB-SC-B-16H	DTF	106-893	21-Feb-2022	19:43:17
15	220221C15	57	B6292_18927_DF_010	10.17	11215131-020622-S-SB-SC-O-20	DTF	627-336	21-Feb-2022	20:29:35
16	220221C16	58	B6292_18927_DF_011	10.03	11215131-020622-S-SB-SC-B-14	DTF	355-038	21-Feb-2022	21:15:54

REVIEWED
Tyler_Fritz , 2/22/2022, 9:47:43 AM

APPROVED
Amy_Boehm , 2/22/2022, 3:38:59 PM

Lab ID: MB1_18927_DF_SDS **Acq'd:** 21 Feb 2022 12:00 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6292_18927 **UTP:** 22-Feb-2022 09:25:53 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 177-830-LNN

Datafile: 220221C04 **Report:** 22 Feb 2022 09:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	4139.18	0.395
12378-PeCDD	NotFnd		1.0007	-		-	-	-	1.04	-	3146.093	0.314
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	3515.908	0.339
123678-HxCDD	NotFnd		1.0036	-		-	-	-	1.15	-	3515.908	0.336
123789-HxCDD	NotFnd		1.0118	-		-	-	-	1.05	-	3515.908	0.326
1234678-HpCDD	NotFnd		1.0002	-		-	-	-	1.06	-	2402.144	0.247
OCDD	NotFnd		1.0003	-		-	-	-	1.13	-	3605.11	0.831
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	2938.246	0.238
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3383.668	0.246
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3383.668	0.244
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2400.419	0.155
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2400.419	0.157
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2400.419	0.164
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2400.419	0.204
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	3691.618	0.227
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	3691.618	0.369
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	3179.781	0.589

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.21	1.0243	1.0244	+0.2	1.88E+07	0.79	Y	1.05	86.2
ES 12378-PeCDD	33.61	1.2198	1.2206	+1.6	1.72E+07	1.59	Y	0.88	93.5
ES 123478-HxCDD	37.54	0.9916	0.9915	-0.2	1.66E+07	1.26	Y	0.97	92
ES 123678-HxCDD	37.67	0.9947	0.9947	0	1.73E+07	1.22	Y	0.94	98.7
ES 123789-HxCDD	37.97	1.0029	1.0028	-0.2	1.72E+07	1.23	Y	1.09	84.9
ES 1234678-HpCDD	40.71	1.0749	1.0750	+0.2	1.59E+07	1.06	Y	0.91	93.5
ES OCDD	43.40	1.1460	1.1461	+0.3	2.07E+07	0.89	Y	0.62	89.3
ES 2378-TCDF	27.34	1.0531	1.0534	+0.5	2.71E+07	0.79	Y	1.06	71.9
ES 12378-PeCDF	32.15	1.2378	1.2388	+1.9	2.61E+07	1.57	Y	0.91	80.7
ES 23478-PeCDF	33.27	1.2810	1.2820	+2.0	2.49E+07	1.55	Y	0.88	79.4
ES 123478-HxCDF	36.54	0.9650	0.9649	-0.2	1.92E+07	0.54	Y	1.20	86
ES 123678-HxCDF	36.68	0.9688	0.9687	-0.2	2.27E+07	0.56	Y	1.35	90.5
ES 234678-HxCDF	37.36	0.9866	0.9866	0	2.36E+07	0.54	Y	1.24	102
ES 123789-HxCDF	38.34	1.0125	1.0125	0	1.80E+07	0.55	Y	1.16	83.8
ES 1234678-HpCDF	39.76	1.0501	1.0500	-0.2	1.87E+07	0.46	Y	0.97	104
ES 1234789-HpCDF	41.16	1.0870	1.0869	-0.2	1.34E+07	0.44	Y	0.85	84.7
ES OCDF	43.57	1.1505	1.1507	+0.5	2.54E+07	0.88	Y	0.81	84.8

Lab ID: MB1_18927_DF_SDS | **Acq'd:** 21 Feb 2022 12:00 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6292_18927 | **UTP:** 22-Feb-2022 09:25:53 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 177-830-LNN

Datafile: 220221C04 | **Report:** 22 Feb 2022 09:28 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.54		-	-	-	2.09E+07	0.81	Y	-	-
JS 1234-TCDF	25.95		-	-	-	3.56E+07	0.81	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	9.29E+06	1.24	Y	-	-
CS 37Cl-2378-TCDD	28.23		1.0251	1.0252	+0.2	9.07E+06	n/a	-	1.20	90.3
CS 12347-PeCDD	33.10		1.2016	1.2022	+1.2	1.71E+07	1.60	Y	0.75	109
CS 12346-PeCDF	31.61		1.2172	1.2182	+1.9	2.75E+07	1.55	Y	0.85	91
CS 123469-HxCDF	36.99		0.9771	0.9769	-0.4	2.26E+07	0.55	Y	1.12	109
CS 1234689-HpCDF	40.17		1.0608	1.0608	0	1.73E+07	0.47	Y	0.89	105
SS 37Cl-2378-TCDD	28.23		1.0251	1.0252	+0.2	9.07E+06	n/a	-	1.15	105
SS 12347-PeCDD	33.10		1.2016	1.2022	+1.2	1.71E+07	1.60	Y	0.86	116
SS 12346-PeCDF	31.61		1.2172	1.2182	+1.9	2.75E+07	1.55	Y	0.94	113
SS 123469-HxCDF	36.99		0.9771	0.9769	-0.4	2.26E+07	0.55	Y	0.83	120
SS 1234689-HpCDF	40.17		1.0608	1.0608	0	1.73E+07	0.47	Y	0.92	101

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: MB1_18927_DF_SDS **Acq'd: 21 Feb 2022 12:00 DTF** **Wt/Vol: 10.00 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6292_18927 **UTP: 22-Feb-2022 09:25:53 DTF** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 177-830-LNN**

Datafile: 220221C04 **Report: 22 Feb 2022 09:28 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		4139.18	0.395
1379-TCDD	NotFnd		0.8829						1.18		4139.18	0.395
1369-TCDD	NotFnd		0.8982						1.18		4139.18	0.395
1469-TCDD	NotFnd		0.9261						1.18		4139.18	0.395
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4139.18	0.395
1378-TCDD	NotFnd		0.9417						1.18		4139.18	0.395
1268-TCDD	NotFnd		0.9487						1.18		4139.18	0.395
1478-TCDD	NotFnd		0.9576						1.18		4139.18	0.395
1279-TCDD	NotFnd		0.9636						1.18		4139.18	0.395
1234/1269-TCDD	NotFnd		0.9761						1.18		4139.18	0.395
1236-TCDD	NotFnd		0.9812						1.18		4139.18	0.395
1237/1238-TCDD	NotFnd		0.9905						1.18		4139.18	0.395
1239-TCDD	NotFnd		0.9951						1.18		4139.18	0.395
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**4139.18**	**0.395**
1278-TCDD	NotFnd		1.0124						1.18		4139.18	0.395
1267-TCDD	NotFnd		1.0172						1.18		4139.18	0.395
1289-TCDD	NotFnd		1.0354						1.18		4139.18	0.395
12479/12468-PeCDD	NotFnd		0.9255						1.04		3146.093	0.314
12469-PeCDD	NotFnd		0.9416						1.04		3146.093	0.314
12368-PeCDD	NotFnd		0.9582						1.04		3146.093	0.314
12478-PeCDD	NotFnd		0.9637						1.04		3146.093	0.314
12379-PeCDD	NotFnd		0.9668						1.04		3146.093	0.314
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		3146.093	0.314
12346/12347-PeCDD	NotFnd		0.9858						1.04		3146.093	0.314
12378-PeCDD	NotFnd		**1.0007**						**1.04**		**3146.093**	**0.314**
12367-PeCDD	NotFnd		1.0036						1.04		3146.093	0.314
12389-PeCDD	NotFnd		1.0137						1.04		3146.093	0.314
124679/124689-HxCDD	NotFnd		0.9540						1.10		3515.908	0.334
123468-HxCDD	NotFnd		0.9715						1.10		3515.908	0.334
123679/123689-HxCDD	NotFnd		0.9793						1.10		3515.908	0.334
123469-HxCDD	NotFnd		0.9829						1.10		3515.908	0.334
123478-HxCDD	NotFnd		**1.0004**						1.09		**3515.908**	**0.339**
123678-HxCDD	NotFnd		**1.0036**						1.15		**3515.908**	**0.336**
123467-HxCDD	NotFnd		1.0089						1.10		3515.908	0.334
123789-HxCDD	NotFnd		**1.0118**						1.05		**3515.908**	**0.326**

Lab ID: MB1_18927_DF_SDS **Acq'd:** 21 Feb 2022 12:00 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6292_18927 **UTP:** 22-Feb-2022 09:25:53 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 177-830-LNN

Datafile: 220221C04 **Report:** 22 Feb 2022 09:28 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

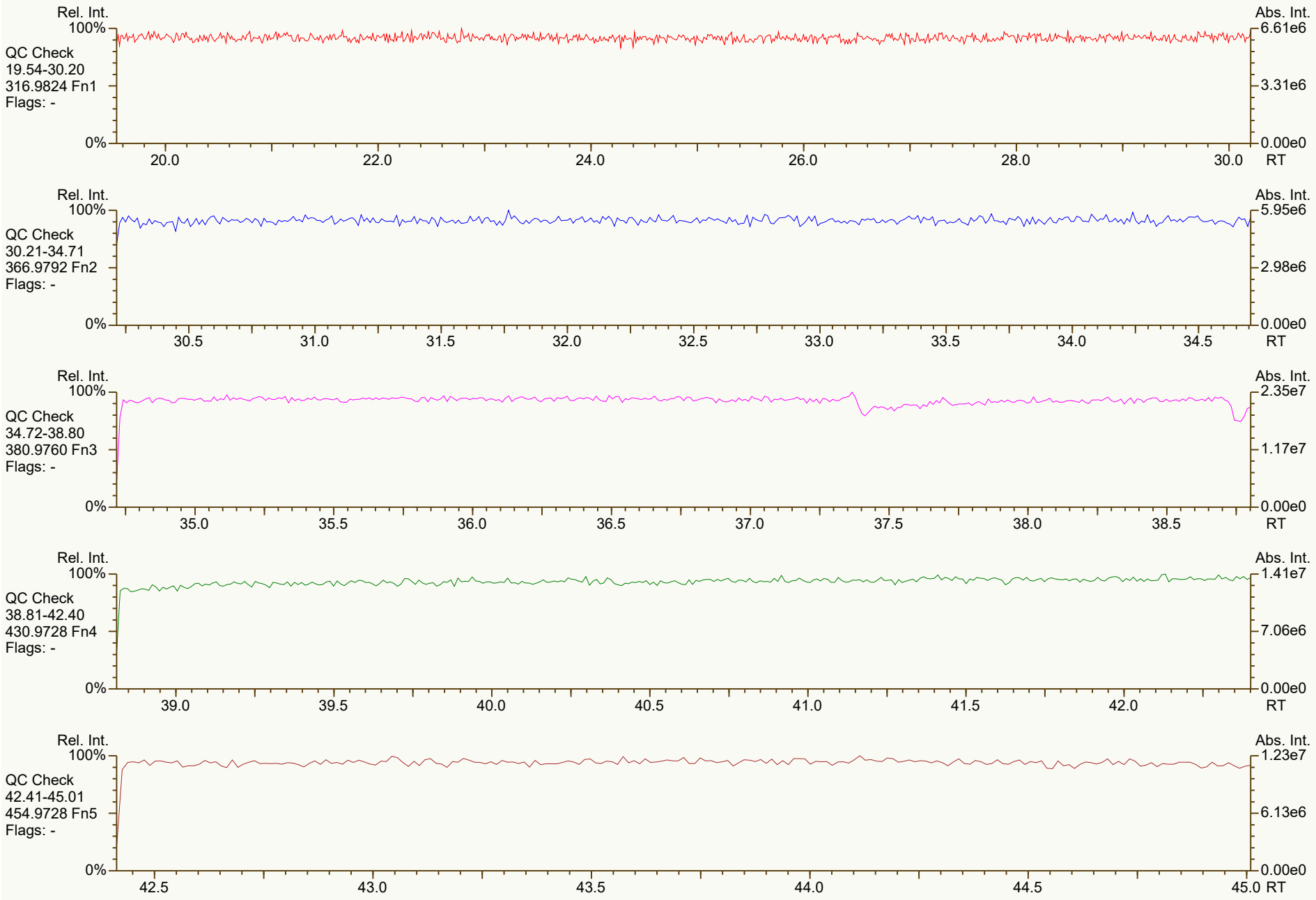
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9836						1.06		2402.144	0.247
1234678-HpCDD	**NotFnd**		**1.0002**						**1.06**		**2402.144**	**0.247**
OCDD	**NotFnd**		**1.0003**						**1.13**		**3605.11**	**0.831**
OCDD-a	NotFnd		1.0002						0.07		3701.763	13.3
1368-TCDF	NotFnd		0.8191						1.08		2938.246	0.238
1468-TCDF	NotFnd		0.8408						1.08		2938.246	0.238
2468-TCDF	NotFnd		0.8645						1.08		2938.246	0.238
1346/1246-TCDF	NotFnd		0.8772						1.08		2938.246	0.238
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		2938.246	0.238
1348-TCDF	NotFnd		0.8932						1.08		2938.246	0.238
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		2938.246	0.238
1268-TCDF	NotFnd		0.9119						1.08		2938.246	0.238
1467-TCDF	NotFnd		0.9170						1.08		2938.246	0.238
1478-TCDF	NotFnd		0.9234						1.08		2938.246	0.238
1369/1237-TCDF	NotFnd		0.9369						1.08		2938.246	0.238
2467-TCDF	NotFnd		0.9415						1.08		2938.246	0.238
2368-TCDF	NotFnd		0.9475						1.08		2938.246	0.238
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		2938.246	0.238
1278-TCDF	NotFnd		0.9676						1.08		2938.246	0.238
1349-TCDF	NotFnd		0.9722						1.08		2938.246	0.238
1267-TCDF	NotFnd		0.9777						1.08		2938.246	0.238
2346/1249-TCDF	NotFnd		0.9843						1.08		2938.246	0.238
2347/1279-TCDF	NotFnd		0.9926						1.08		2938.246	0.238
2348-TCDF	NotFnd		0.9968						1.08		2938.246	0.238
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**2938.246**	**0.238**
2367/3467-TCDF	NotFnd		1.0142						1.08		2938.246	0.238
1269-TCDF	NotFnd		1.0235						1.08		2938.246	0.238
1239-TCDF	NotFnd		1.0329						1.08		2938.246	0.238
1289-TCDF	NotFnd		1.0742						1.08		2938.246	0.238
13468/12468-PeCDF	NotFnd		0.9122						1.02		3121.547	0.226
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		3383.668	0.245
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		3383.668	0.245
14678-PeCDF	NotFnd		0.9685						1.02		3383.668	0.245
13479-PeCDF	NotFnd		0.9716						1.02		3383.668	0.245
13469/12479-PeCDF	NotFnd		0.9794						1.02		3383.668	0.245
12346-PeCDF	NotFnd		0.9836						1.02		3383.668	0.245

Lab ID: MB1_18927_DF_SDS | **Acq'd:** 21 Feb 2022 12:00 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6292_18927 | **UTP:** 22-Feb-2022 09:25:53 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 177-830-LNN

Datafile: 220221C04 | **Report:** 22 Feb 2022 09:28 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		3383.668	0.245
12347-PeCDF	NotFnd		0.9891						1.02		3383.668	0.245
12348-PeCDF	NotFnd		0.9938						1.02		3383.668	0.245
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3383.668**	**0.246**
12678/12367-PeCDF	NotFnd		1.0091						1.02		3383.668	0.245
12379-PeCDF	NotFnd		1.0144						1.02		3383.668	0.245
12679-PeCDF	NotFnd		0.9927						1.02		3383.668	0.245
23467/12369-PeCDF	NotFnd		0.9965						1.02		3383.668	0.245
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3383.668**	**0.244**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3383.668	0.245
12349-PeCDF	NotFnd		1.0101						1.02		3383.668	0.245
12389-PeCDF	NotFnd		1.0330						1.02		3383.668	0.245
123468-HxCDF	NotFnd		0.9622						1.19		2400.419	0.168
124678/134678-HxCDF	NotFnd		0.9678						1.19		2400.419	0.168
134679-HxCDF	NotFnd		0.9741						1.19		2400.419	0.168
124679-HxCDF	NotFnd		0.9795						1.19		2400.419	0.168
124689-HxCDF	NotFnd		0.9856						1.19		2400.419	0.168
123467-HxCDF	NotFnd		0.9972						1.19		2400.419	0.168
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2400.419**	**0.155**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2400.419**	**0.157**
123479-HxCDF	NotFnd		1.0048						1.19		2400.419	0.168
123469-HxCDF	NotFnd		1.0089						1.19		2400.419	0.168
123679-HxCDF	NotFnd		0.9942						1.19		2400.419	0.168
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2400.419**	**0.164**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2400.419	0.168
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2400.419**	**0.204**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		2400.419	0.168
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**3691.618**	**0.227**
1234679-HpCDF	NotFnd		1.0068						1.34		3691.618	0.286
1234689-HpCDF	NotFnd		1.0104						1.34		3691.618	0.286
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**3691.618**	**0.369**
OCDF	**NotFnd**		**1.0002**						**1.07**		**3179.781**	**0.589**
OCDF-a	NotFnd		1.0001						0.07		4088.494	12.2


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
6.61e6
3.31e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.95e6
2.98e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.35e7
1.17e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.41e7
7.06e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.23e7
6.13e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 2.13e3
0%
Abs. Int.
9.05e3
4.53e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 2.01e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.15e3
0%
CS 37Cl-2378D
9.07e6
28.23
Abs. Int.
2.10e6
1.05e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.72e3
0%
JS 1234D
9.36e6
27.54
ES 2378D
8.32e6
28.21
Abs. Int.
2.20e6
1.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.85e3
0%
JS 1234D
1.15e7
27.54
ES 2378D
1.05e7
28.21
Abs. Int.
2.53e6
1.26e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: B
4σ 1.96e3
0%
Abs. Int.
6.63e3
3.31e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.19e3
0%
Abs. Int.
5.61e3
2.80e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.03e3
0%
CS 12347D
1.05e7
33.10
ES 12378D
1.06e7
33.61
Abs. Int.
2.98e6
1.49e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 3.05e3
0%
CS 12347D
6.58e6
33.10
ES 12378D
6.62e6
33.61
Abs. Int.
1.98e6
9.90e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.95e6
2.98e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: B
4σ 1.29e3
0%
Abs. Int.
1.09e4
5.43e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 2.23e3
0%
Abs. Int.
7.71e3
3.85e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 1.92e3
0%
ES 123478D
9.25e6
37.54
ES 123678D
9.52e6
37.67
JS 123467D
5.14e6
37.87
ES 123789D
9.49e6*
37.97
Abs. Int.
2.84e6
1.42e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 3.96e3
0%
ES 123478D
7.37e6
37.54
ES 123678D
7.79e6
37.67
JS 123467D
4.14e6
37.87
ES 123789D
7.72e6*
37.97
Abs. Int.
2.27e6
1.14e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.35e7
1.17e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 1.38e3
0%
Abs. Int.
9.21e3
4.60e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: B
4σ 1.03e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
8.17e6
40.71
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 1.76e3
0%
Abs. Int.
2.36e6
1.18e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
7.69e6
40.71
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.01e3
0%
Abs. Int.
2.25e6
1.12e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.41e7
7.06e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 1.10e3
0%
Abs. Int.
1.56e4
7.78e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 2.50e3
0%
Abs. Int.
1.16e4
5.81e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
9.76e6
43.40
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 1.63e3
0%
Abs. Int.
1.82e6
9.08e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.09e7
43.40
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.91e3
0%
Abs. Int.
2.32e6
1.16e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.23e7
6.13e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: MB1_18927_DF_SDS
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: Method Blank
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 45

Acq: 21-Feb-2022 12:00:14
User: DTF Datafile: 220221C04



Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\MB1_18927_DF_SDS.utp_res, saved 22-Feb-2022 09:25 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4382, 4835, 3445 scc: 177-830

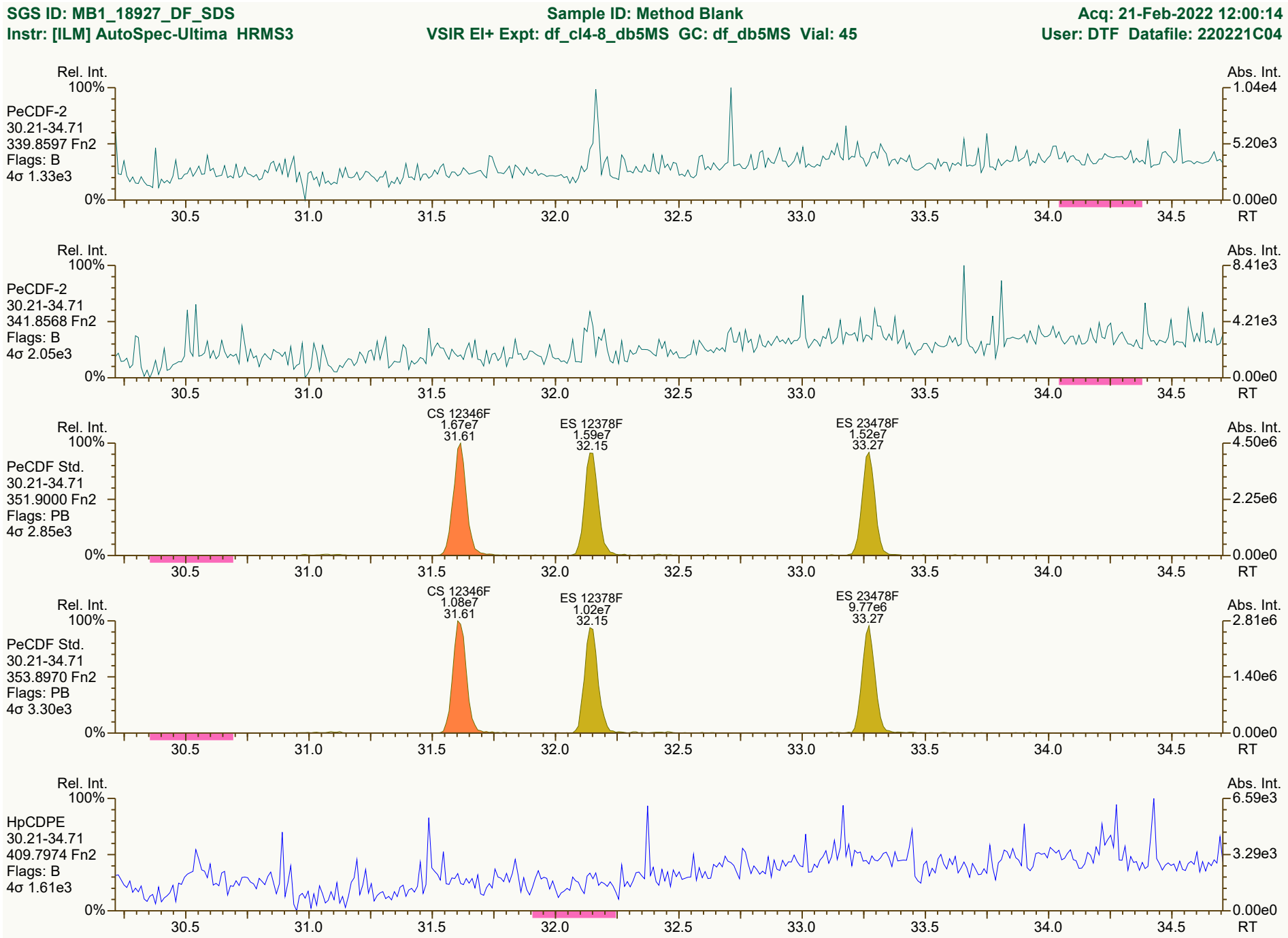
Peak annotation: Areas, Centroids
PKD: 21-Feb-2022 14:41 Printed: 22-Feb-2022 09:34 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.34e4
6.70e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.66e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.12e4
5.58e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.46e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
6.61e6
3.31e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: MB1_18927_DF_SDS
Instr: [ILM] AutoSpec-Ultima HRMS3

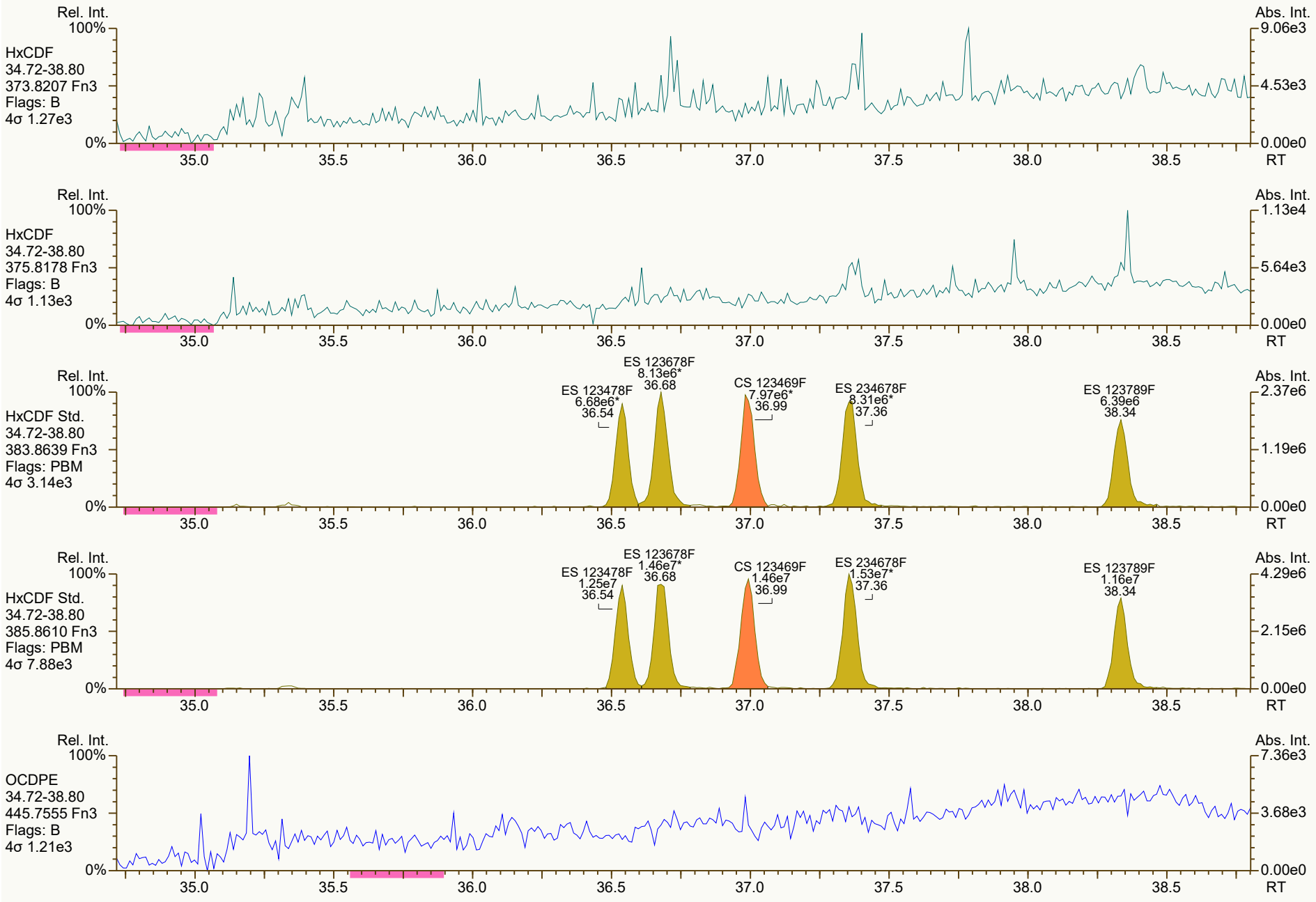
Sample ID: Method Blank
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 45

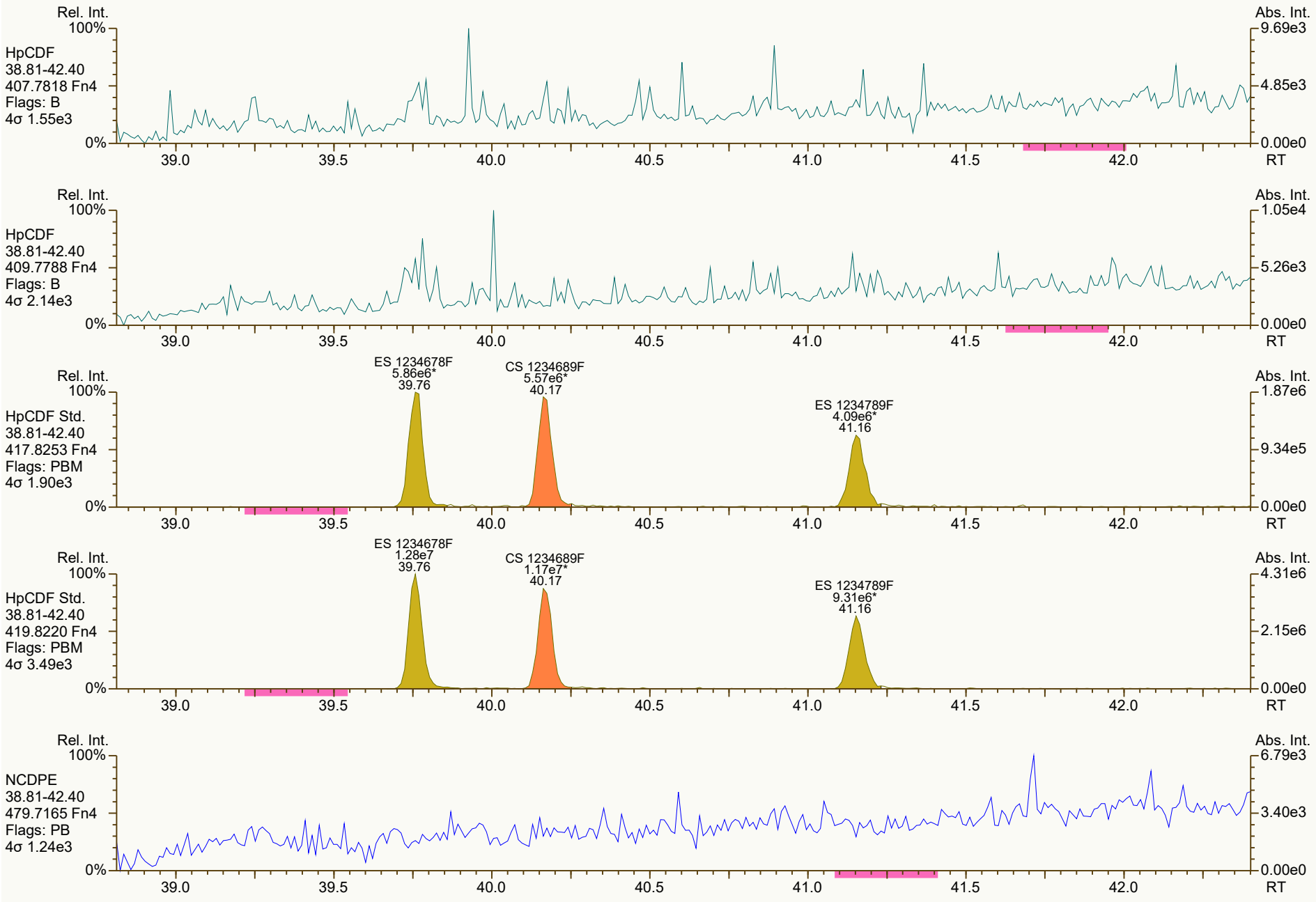
Acq: 21-Feb-2022 12:00:14
User: DTF Datafile: 220221C04



Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\MB1_18927_DF_SDS.utp_res, saved 22-Feb-2022 09:25 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9958, 3734, 4168 scc: 177-830

Peak annotation: Areas, Centroids
PKD: 21-Feb-2022 14:41 Printed: 22-Feb-2022 09:34 Page 9 of 12


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: B
4σ 1.27e3
0%
Abs. Int.
9.06e3
4.53e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: B
4σ 1.13e3
0%
Abs. Int.
1.13e4
5.64e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 3.14e3
0%
ES 123478F
6.68e6*
36.54
ES 123678F
8.13e6*
36.68
CS 123469F
7.97e6*
36.99
ES 234678F
8.31e6*
37.36
ES 123789F
6.39e6
38.34
Abs. Int.
2.37e6
1.19e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 7.88e3
0%
ES 123478F
1.25e7
36.54
ES 123678F
1.46e7*
36.68
CS 123469F
1.46e7
36.99
ES 234678F
1.53e7*
37.36
ES 123789F
1.16e7
38.34
Abs. Int.
4.29e6
2.15e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.21e3
0%
Abs. Int.
7.36e3
3.68e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: B
4σ 1.55e3
0%
Abs. Int.
9.69e3
4.85e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: B
4σ 2.14e3
0%
Abs. Int.
1.05e4
5.26e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 1.90e3
0%
ES 1234678F
5.86e6*
39.76
CS 1234689F
5.57e6*
40.17
ES 1234789F
4.09e6*
41.16
Abs. Int.
1.87e6
9.34e5
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 3.49e3
0%
ES 1234678F
1.28e7
39.76
CS 1234689F
1.17e7*
40.17
ES 1234789F
9.31e6*
41.16
Abs. Int.
4.31e6
2.15e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.24e3
0%
Abs. Int.
6.79e3
3.40e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: B
4σ 1.24e3
0%
Abs. Int.
5.17e3
2.58e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: B
4σ 1.94e3
0%
Abs. Int.
6.55e3
3.27e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.19e7
43.57
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 1.45e3
0%
Abs. Int.
2.36e6
1.18e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.36e7
43.57
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 2.37e3
0%
Abs. Int.
2.64e6
1.32e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.36e3
0%
Abs. Int.
1.06e4
5.30e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6292_18927_DF_001 **Acq'd:** 21 Feb 2022 12:46 DTF **Wt/Vol:** 10.19 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-O-21 **UTP:** 22-Feb-2022 09:25:53 DTF **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 306-766-LCC

Datafile: 220221C05 **Report:** 22 Feb 2022 09:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.24		1.0008	1.0008	0	2.88E+07	0.80	Y	1.18	199	4891.189	0.374
12378-PeCDD	33.64		1.0007	1.0005	-0.4	1.16E+06	1.47	Y	1.04	9.84	8092.526	0.605
123478-HxCDD	37.57		1.0004	1.0004	0	8.86E+05	1.31	Y	1.09	8.52	16687.647	1.41
123678-HxCDD	37.70		1.0036	1.0037	+0.2	7.83E+06	1.27	Y	1.15	71.5	16687.647	1.45
123789-HxCDD	38.00		1.0118	1.0117	-0.2	4.92E+06	1.28	Y	1.05	44.4	16687.647	1.33
1234678-HpCDD	40.74		1.0002	1.0003	+0.2	3.32E+08	1.03	Y	1.06	3,170	4629.283	0.396
OCDD	43.45	E	1.0003	1.0003	0	2.04E+09	0.90	Y	1.13	26,100	3860.579	0.669
2378-TCDF	27.37		1.0008	1.0008	0	1.02E+08	0.78	Y	1.08	510	3714.865	0.206
12378-PeCDF	32.18		1.0005	1.0005	0	5.67E+06	1.57	Y	1.02	32.4	9070.023	0.482
23478-PeCDF	33.31		1.0005	1.0007	+0.4	8.28E+06	1.53	Y	1.02	49.6	9070.023	0.476
123478-HxCDF	36.57		1.0004	1.0004	0	1.46E+07	1.24	Y	1.27	92.6	9815.896	0.543
123678-HxCDF	36.71		1.0004	1.0004	0	5.84E+06	1.32	Y	1.15	35.9	9815.896	0.529
234678-HxCDF	37.39		1.0005	1.0004	-0.2	4.45E+06	1.23	Y	1.19	28.2	9815.896	0.566
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	9815.896	0.688
1234678-HpCDF	39.79		1.0003	1.0003	0	2.24E+07	1.03	Y	1.37	161	8287.297	0.45
1234789-HpCDF	41.19		1.0003	1.0003	0	4.08E+06	1.05	Y	1.31	34.7	8287.297	0.659
OCDF	43.61		1.0002	1.0002	0	3.65E+07	0.87	Y	1.07	390	4051.087	0.546

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.22	1.0243	1.0244	+0.2	2.40E+07	0.79	Y	1.05	73.1
ES 12378-PeCDD	33.62	1.2198	1.2205	+1.4	2.24E+07	1.56	Y	0.88	81.1
ES 123478-HxCDD	37.56	0.9916	0.9916	0	1.87E+07	1.22	Y	0.97	73.4
ES 123678-HxCDD	37.68	0.9947	0.9948	+0.2	1.87E+07	1.23	Y	0.94	75.6
ES 123789-HxCDD	37.98	1.0029	1.0028	-0.2	2.08E+07	1.24	Y	1.09	72.5
ES 1234678-HpCDD	40.73	1.0749	1.0751	+0.5	1.94E+07	1.07	Y	0.91	81.1
ES OCDD	43.44	1.1460	1.1468	+2.1	2.73E+07	0.94	Y	0.62	83.5
ES 2378-TCDF	27.35	1.0531	1.0533	+0.3	3.63E+07	0.76	Y	1.06	71
ES 12378-PeCDF	32.16	1.2378	1.2387	+1.7	3.35E+07	1.53	Y	0.91	76.2
ES 23478-PeCDF	33.28	1.2810	1.2820	+2.0	3.21E+07	1.57	Y	0.88	75.2
ES 123478-HxCDF	36.56	0.9650	0.9650	0	2.44E+07	0.53	Y	1.20	77.4
ES 123678-HxCDF	36.69	0.9688	0.9687	-0.2	2.77E+07	0.53	Y	1.35	78.1
ES 234678-HxCDF	37.37	0.9866	0.9866	0	2.60E+07	0.55	Y	1.24	79.9
ES 123789-HxCDF	38.35	1.0125	1.0125	0	2.20E+07	0.55	Y	1.16	72.6
ES 1234678-HpCDF	39.78	1.0501	1.0501	0	1.99E+07	0.46	Y	0.97	78.5
ES 1234789-HpCDF	41.18	1.0870	1.0872	+0.5	1.76E+07	0.48	Y	0.85	78.9
ES OCDF	43.60	1.1505	1.1511	+1.6	3.43E+07	0.92	Y	0.81	80.9

Lab ID: B6292_18927_DF_001 **Acq'd:** 21 Feb 2022 12:46 DTF **Wt/Vol:** 10.19 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-O-21 **UTP:** 22-Feb-2022 09:25:53 DTF **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 306-766-LCC

Datafile: 220221C05 **Report:** 22 Feb 2022 09:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.55		-	-	-	3.14E+07	0.83	Y	-	-
JS 1234-TCDF	25.96		-	-	-	4.83E+07	0.79	Y	-	-
JS 123467-HxCDD	37.88		-	-	-	1.31E+07	1.21	Y	-	-
CS 37Cl-2378-TCDD	28.24		1.0251	1.0251	0	1.09E+07	n/a	-	1.20	71.8
CS 12347-PeCDD	33.12		1.2016	1.2021	+1.0	1.94E+07	1.64	Y	0.75	82.2
CS 12346-PeCDF	31.62		1.2172	1.2181	+1.7	3.17E+07	1.55	Y	0.85	77.1
CS 123469-HxCDF	37.01		0.9771	0.9770	-0.2	2.49E+07	0.54	Y	1.12	85
CS 1234689-HpCDF	40.19		1.0608	1.0609	+0.2	2.06E+07	0.47	Y	0.89	88.6
SS 37Cl-2378-TCDD	28.24		1.0251	1.0251	0	1.09E+07	n/a	-	1.15	98.5
SS 12347-PeCDD	33.12		1.2016	1.2021	+1.0	1.94E+07	1.64	Y	0.86	101
SS 12346-PeCDF	31.62		1.2172	1.2181	+1.7	3.17E+07	1.55	Y	0.94	101
SS 123469-HxCDF	37.01		0.9771	0.9770	-0.2	2.49E+07	0.54	Y	0.83	109
SS 1234689-HpCDF	40.19		1.0608	1.0609	+0.2	2.06E+07	0.47	Y	0.92	113

Totals	Conc	EMPC
Total TCDD	249	261
Total PeCDD	67.7	82.9
Total HxCDD	748	748
Total HpCDD	5890	5890
Total Tetra-Octa Dioxins	33000	33000
Total TCDF	1,230	1230
Total PeCDF	289	290
Total HxCDF	399	399
Total HpCDF	499	499
Total Tetra-Octa Furans	2,810	2810
Total Tetra-Octa Dioxins & Furans	35800	35900

Lab ID: B6292_18927_DF_001 **Acq'd: 21 Feb 2022 12:46 DTF** **Wt/Vol: 10.19 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-O-21 **UTP: 22-Feb-2022 09:25:53 DTF** **J-level: 0.491 pg/g** **Split: 1** **Checkcode: 306-766-LCC**

Datafile: 220221C05 **Report: 22 Feb 2022 09:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.54		0.8701	0.8694	-1.0	1.40E+06	0.76	Y	1.18	9.64	4891.189	0.374
1379-TCDD	24.90		0.8829	0.8822	-1.0	8.01E+05	0.88	Y	1.18	5.53	4891.189	0.374
1369-TCDD	25.33	EMPC	0.8982	0.8976	-0.9	2.45E+05	1.00	N	1.18	1.69	4891.189	0.374
1469-TCDD	26.12	EMPC	0.9261	0.9256	-0.8	1.59E+05	1.02	N	1.18	1.1	4891.189	0.374
1247/1246/1248/1249-TCDD	26.37	EMPC	0.9348	0.9346	-0.3	5.94E+05	0.93	N	1.18	4.1	4891.189	0.374
1378-TCDD	26.57		0.9417	0.9415	-0.3	6.24E+05	0.74	Y	1.18	4.3	4891.189	0.374
1268-TCDD	26.77		0.9487	0.9485	-0.3	2.23E+05	0.73	Y	1.18	1.54	4891.189	0.374
1478-TCDD	27.02	EMPC	0.9576	0.9575	-0.2	2.01E+05	1.05	N	1.18	1.39	4891.189	0.374
1279-TCDD	27.19	EMPC	0.9636	0.9635	-0.2	2.50E+05	0.94	N	1.18	1.72	4891.189	0.374
1234/1269-TCDD	27.55		0.9761	0.9764	+0.5	3.53E+05	0.80	Y	1.18	2.43	4891.189	0.374
1236-TCDD	27.68	EMPC	0.9812	0.9810	-0.3	1.24E+05	0.97	N	1.18	0.858	4891.189	0.374
1237/1238-TCDD	27.95		0.9905	0.9903	-0.3	7.50E+05	0.81	Y	1.18	5.17	4891.189	0.374
1239-TCDD	28.08		0.9951	0.9951	0	1.47E+05	0.88	Y	1.18	1.01	4891.189	0.374
2378-TCDD	**28.24**		**1.0008**	1.0008	**0**	2.88E+07	0.80	Y	**1.18**	**199**	**4891.189**	**0.374**
1278-TCDD	28.57		1.0124	1.0125	+0.2	2.85E+06	0.82	Y	1.18	19.6	4891.189	0.374
1267-TCDD	28.71		1.0172	1.0172	0	1.44E+05	0.86	Y	1.18	0.99	4891.189	0.374
1289-TCDD	29.22	EMPC	1.0354	1.0353	-0.2	1.91E+05	0.98	N	1.18	1.32	4891.189	0.374
12479/12468-PeCDD	31.11		0.9255	0.9253	-0.4	2.32E+06	1.59	Y	1.04	19.6	8092.526	0.605
12469-PeCDD	31.65	EMPC	0.9416	0.9414	-0.4	7.01E+05	0.74	N	1.04	5.93	8092.526	0.605
12368-PeCDD	32.21		0.9582	0.9580	-0.4	1.15E+06	1.36	Y	1.04	9.69	8092.526	0.605
12478-PeCDD	32.40	EMPC	0.9637	0.9637	0	1.11E+06	1.27	N	1.04	9.35	8092.526	0.605
12379-PeCDD	32.50		0.9668	0.9667	-0.2	7.24E+05	1.49	Y	1.04	6.11	8092.526	0.605
12369/12467/12489-PeCDD	32.76		0.9746	0.9745	-0.2	1.15E+06	1.66	Y	1.04	9.73	8092.526	0.605
12346/12347-PeCDD	33.14		0.9858	0.9856	-0.4	6.00E+05	1.76	Y	1.04	5.07	8092.526	0.605
12378-PeCDD	33.64		**1.0007**	**1.0005**	**-0.4**	**1.16E+06**	**1.47**	**Y**	**1.04**	**9.84**	**8092.526**	**0.605**
12367-PeCDD	33.73		1.0036	1.0032	-0.8	3.87E+05	1.46	Y	1.04	3.27	8092.526	0.605
12389-PeCDD	34.08		1.0137	1.0137	0	5.12E+05	1.60	Y	1.04	4.33	8092.526	0.605
124679/124689-HxCDD	35.83		0.9540	0.9539	-0.2	2.46E+07	1.26	Y	1.10	228	16687.647	1.4
123468-HxCDD	36.49		0.9715	0.9715	0	2.67E+06	1.28	Y	1.10	24.6	16687.647	1.4
123679/123689-HxCDD	36.78		0.9793	0.9793	0	3.80E+07	1.28	Y	1.10	351	16687.647	1.4
123469-HxCDD	36.92		0.9829	0.9830	+0.2	1.25E+06	1.40	Y	1.10	11.5	16687.647	1.4
123478-HxCDD	37.57		**1.0004**	**1.0004**	**0**	**8.86E+05**	**1.31**	**Y**	1.09	**8.52**	**16687.647**	**1.41**
123678-HxCDD	37.70		**1.0036**	**1.0037**	**+0.2**	**7.83E+06**	**1.27**	**Y**	1.15	**71.5**	**16687.647**	**1.45**
123467-HxCDD	37.89		1.0089	1.0089	0	1.04E+06	1.41	Y	1.10	9.57	16687.647	1.4
123789-HxCDD	38.00		**1.0118**	**1.0117**	**-0.2**	**4.92E+06**	**1.28**	**Y**	1.05	**44.4**	**16687.647**	**1.33**

Lab ID: B6292_18927_DF_001 **Acq'd: 21 Feb 2022 12:46 DTF** **Wt/Vol: 10.19 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-O-21 **UTP: 22-Feb-2022 09:25:53 DTF** **J-level: 0.491 pg/g** **Split: 1** **Checkcode: 306-766-LCC**

Datafile: 220221C05 **Report: 22 Feb 2022 09:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

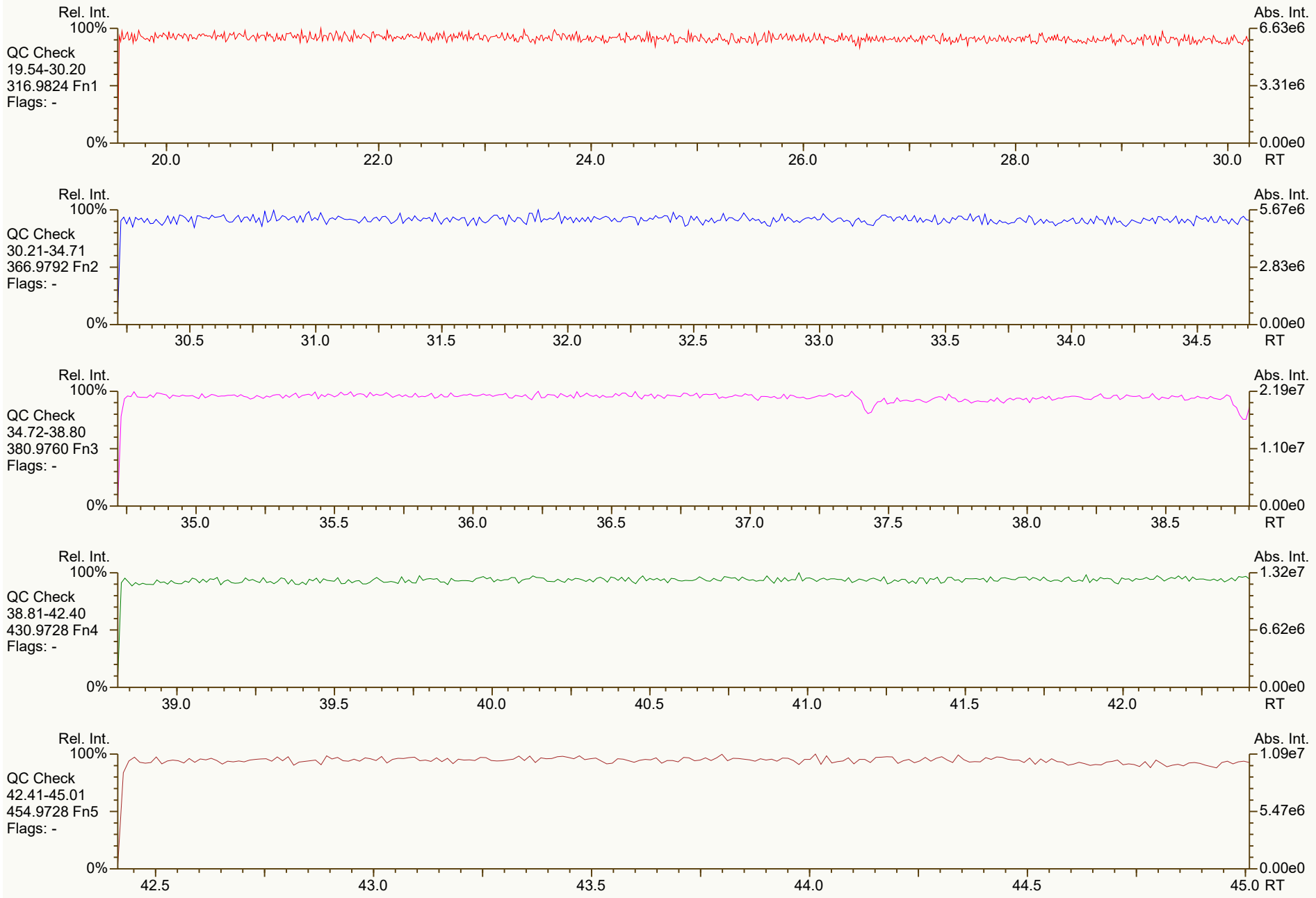
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.06		0.9836	0.9836	0	2.86E+08	1.04	Y	1.06	2,720	4629.283	0.396
1234678-HpCDD	**40.74**		**1.0002**	**1.0003**	**+0.2**	**3.32E+08**	**1.03**	**Y**	**1.06**	**3,170**	**4629.283**	**0.396**
OCDD	**43.45**	**E**	**1.0003**	**1.0003**	**0**	**2.04E+09**	**0.90**	**Y**	**1.13**	**26,100**	**3860.579**	**0.669**
OCDD-a	43.45	**E**	1.0002	1.0002	0	1.25E+08	2.47	Y	0.07	24,900	3830.817	10.4
1368-TCDF	22.37		0.8191	0.8181	-1.3	8.03E+05	0.82	Y	1.08	4.02	3714.865	0.206
1468-TCDF	22.97		0.8408	0.8399	-1.2	1.36E+06	0.79	Y	1.08	6.79	3714.865	0.206
2468-TCDF	23.62		0.8645	0.8638	-1.0	2.20E+06	0.72	Y	1.08	11	3714.865	0.206
1346/1246-TCDF	23.98		0.8772	0.8768	-0.6	7.35E+05	0.77	Y	1.08	3.68	3714.865	0.206
1347/1378/1247-TCDF	24.14		0.8833	0.8829	-0.6	6.16E+06	0.75	Y	1.08	30.8	3714.865	0.206
1348-TCDF	24.40		0.8932	0.8923	-1.3	1.31E+06	0.72	Y	1.08	6.57	3714.865	0.206
1248/1367/1379-TCDF	24.51		0.8980	0.8963	-2.5	8.98E+06	0.76	Y	1.08	44.9	3714.865	0.206
1268-TCDF	24.93		0.9119	0.9117	-0.3	3.88E+06	0.81	Y	1.08	19.4	3714.865	0.206
1467-TCDF	25.07		0.9170	0.9166	-0.6	1.45E+06	0.76	Y	1.08	7.24	3714.865	0.206
1478-TCDF	25.24		0.9234	0.9229	-0.8	6.63E+06	0.80	Y	1.08	33.2	3714.865	0.206
1369/1237-TCDF	25.62		0.9369	0.9369	0	2.20E+06	0.74	Y	1.08	11	3714.865	0.206
2467-TCDF	25.74		0.9415	0.9414	-0.2	1.39E+06	0.75	Y	1.08	6.97	3714.865	0.206
2368-TCDF	25.96		0.9475	0.9493	+2.8	1.47E+07	0.79	Y	1.08	73.6	3714.865	0.206
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		3714.865	0.206
1278-TCDF	26.46		0.9676	0.9675	-0.2	4.74E+07	0.78	Y	1.08	237	3714.865	0.206
1349-TCDF	NotFnd		0.9722						1.08		3714.865	0.206
1267-TCDF	26.74		0.9777	0.9776	-0.2	4.35E+06	0.83	Y	1.08	21.8	3714.865	0.206
2346/1249-TCDF	26.93		0.9843	0.9848	+0.8	1.47E+06	0.75	Y	1.08	7.36	3714.865	0.206
2347/1279-TCDF	27.14		0.9926	0.9924	-0.3	3.03E+06	0.79	Y	1.08	15.2	3714.865	0.206
2348-TCDF	27.25		0.9968	0.9965	-0.5	9.35E+06	0.80	Y	1.08	46.8	3714.865	0.206
2378-TCDF	**27.37**		**1.0008**	**1.0008**	**0**	**1.02E+08**	**0.78**	**Y**	**1.08**	**510**	**3714.865**	**0.206**
2367/3467-TCDF	27.73		1.0142	1.0140	-0.3	1.45E+07	0.81	Y	1.08	72.5	3714.865	0.206
1269-TCDF	27.98		1.0235	1.0231	-0.7	3.47E+06	0.80	Y	1.08	17.4	3714.865	0.206
1239-TCDF	28.26	EMPC	1.0329	1.0332	+0.5	2.38E+05	0.60	N	1.08	1.19	3714.865	0.206
1289-TCDF	29.40		1.0742	1.0750	+1.4	9.10E+06	0.82	Y	1.08	45.5	3714.865	0.206
13468/12468-PeCDF	29.34		0.9122	0.9124	+0.4	6.64E+06	1.55	Y	1.02	38.8	3890.102	0.205
13678/13467/12467-PeCDF	30.90		0.9606	0.9609	+0.6	3.25E+06	1.53	Y	1.02	19	9070.023	0.479
12368/13478/12478-PeCDF	31.08		0.9655	0.9663	+1.5	1.30E+07	1.59	Y	1.02	75.8	9070.023	0.479
14678-PeCDF	NotFnd		0.9685						1.02		9070.023	0.479
13479-PeCDF	NotFnd		0.9716						1.02		9070.023	0.479
13469/12479-PeCDF	31.50	J	0.9794	0.9793	-0.2	3.91E+05	1.40	Y	1.02	2.29	9070.023	0.479
12346-PeCDF	31.64		0.9836	0.9838	+0.4	4.93E+05	1.51	Y	1.02	2.88	9070.023	0.479

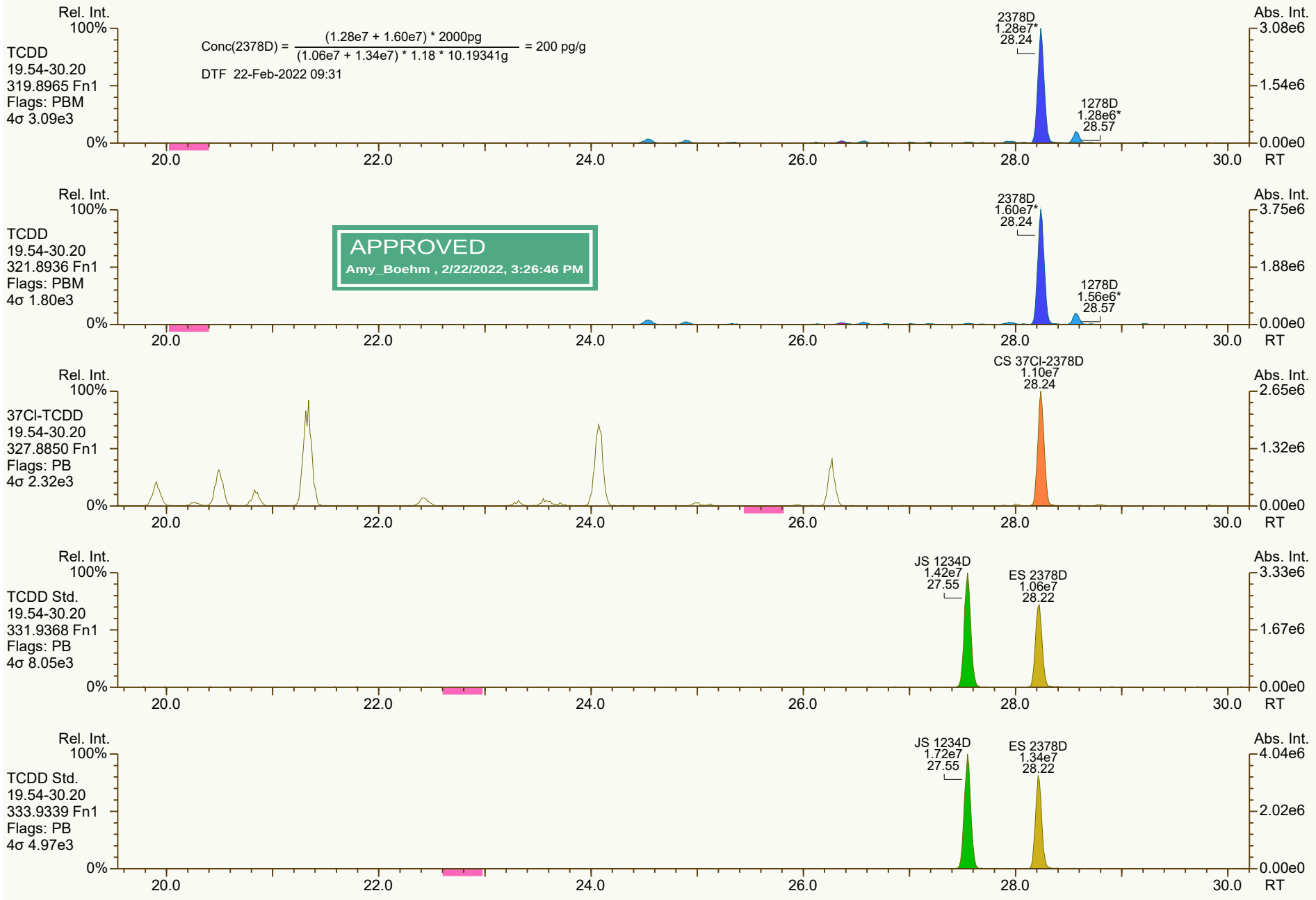
Lab ID: B6292_18927_DF_001 **Acq'd: 21 Feb 2022 12:46 DTF** **Wt/Vol: 10.19 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

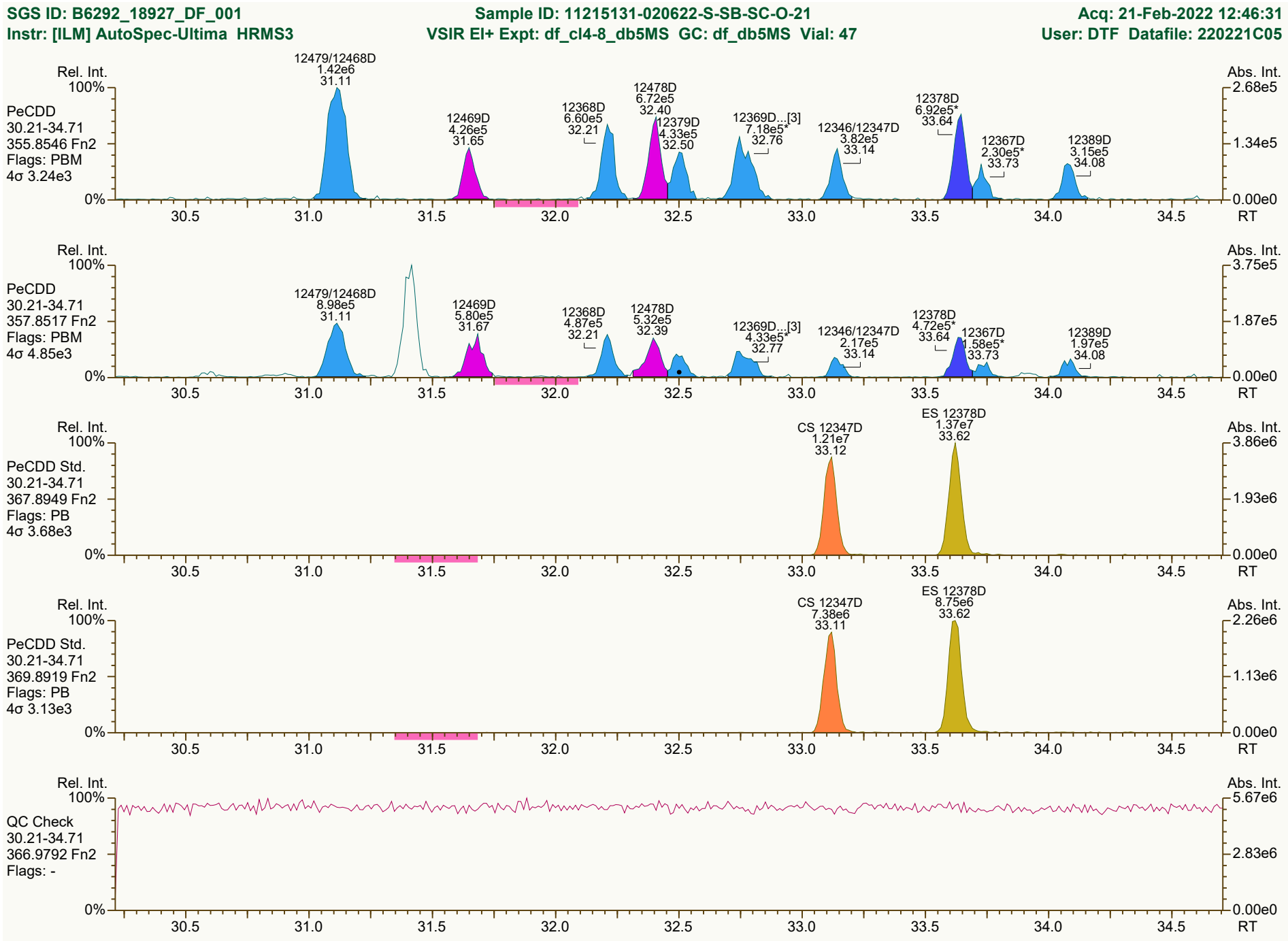
Client ID: 11215131-020622-S-SB-SC-O-21 **UTP: 22-Feb-2022 09:25:53 DTF** **J-level: 0.491 pg/g** **Split: 1** **Checkcode: 306-766-LCC**

Datafile: 220221C05 **Report: 22 Feb 2022 09:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

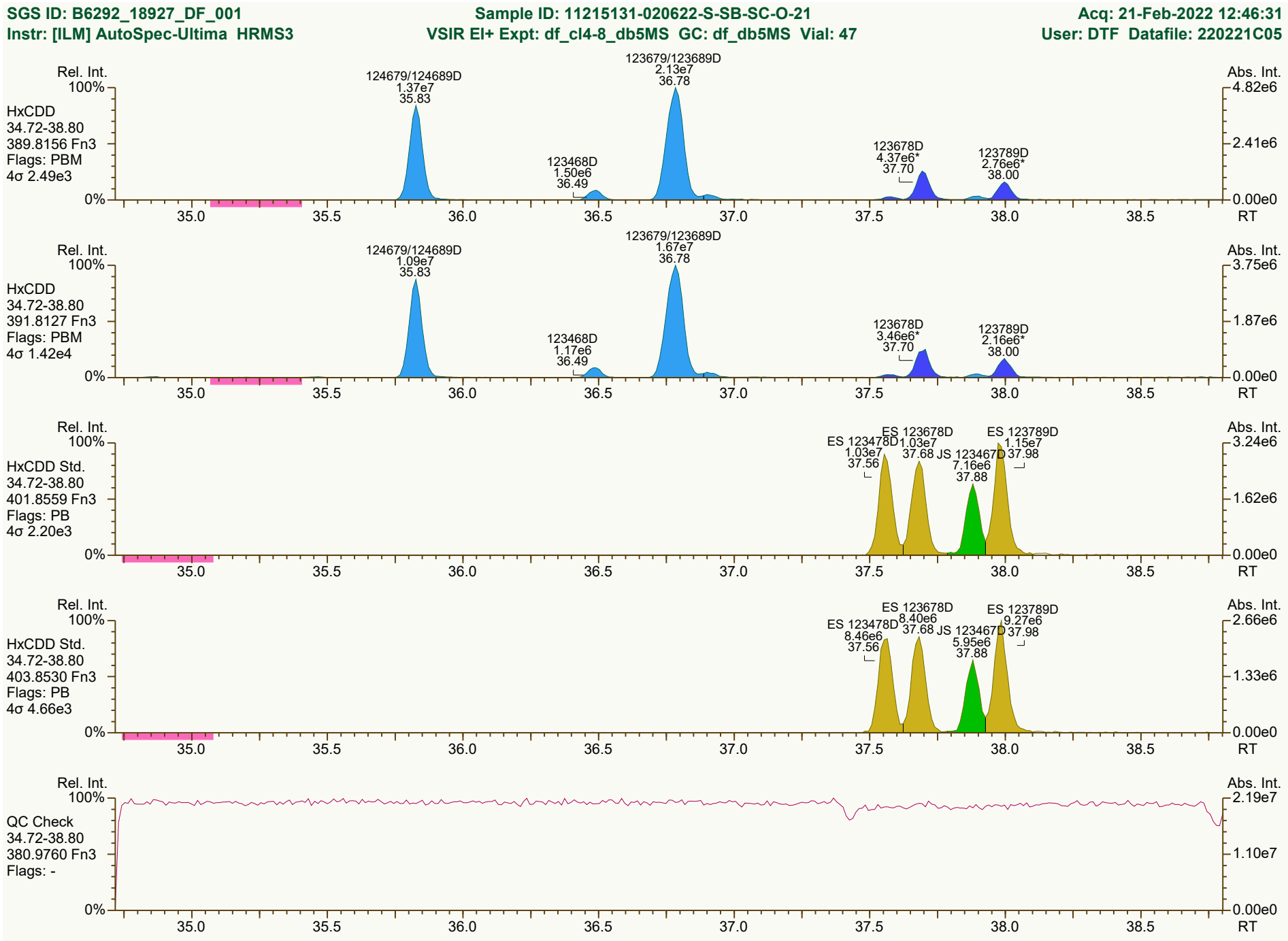
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.73		0.9866	0.9867	+0.2	2.03E+06	1.57	Y	1.02	11.9	9070.023	0.479
12347-PeCDF	31.81		0.9891	0.9890	-0.2	9.69E+05	1.54	Y	1.02	5.67	9070.023	0.479
12348-PeCDF	31.96		0.9938	0.9938	0	1.73E+06	1.47	Y	1.02	10.1	9070.023	0.479
12378-PeCDF	**32.18**		**1.0005**	**1.0005**	**0**	**5.67E+06**	**1.57**	**Y**	**1.02**	**32.4**	**9070.023**	**0.482**
12678/12367-PeCDF	32.47		1.0091	1.0095	+0.8	4.51E+06	1.55	Y	1.02	26.4	9070.023	0.479
12379-PeCDF	32.62	J	1.0144	1.0144	0	1.40E+05	1.48	Y	1.02	0.821	9070.023	0.479
12679-PeCDF	33.04	J EMPC	0.9927	0.9927	0	1.92E+05	1.80	N	1.02	1.12	9070.023	0.479
23467/12369-PeCDF	33.17		0.9965	0.9966	+0.2	1.70E+06	1.49	Y	1.02	9.93	9070.023	0.479
23478-PeCDF	**33.31**		**1.0005**	**1.0007**	**+0.4**	**8.28E+06**	**1.53**	**Y**	**1.02**	**49.6**	**9070.023**	**0.476**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		9070.023	0.479
12349-PeCDF	33.62	J	1.0101	1.0102	+0.2	1.94E+05	1.36	Y	1.02	1.13	9070.023	0.479
12389-PeCDF	34.38	J	1.0330	1.0329	-0.2	3.20E+05	1.53	Y	1.02	1.87	9070.023	0.479
123468-HxCDF	35.17		0.9622	0.9622	0	2.78E+06	1.18	Y	1.19	18.3	9815.896	0.576
124678/134678-HxCDF	35.37		0.9678	0.9677	-0.2	1.38E+07	1.25	Y	1.19	90.7	9815.896	0.576
134679-HxCDF	NotFnd		0.9741						1.19		9815.896	0.576
124679-HxCDF	35.80		0.9795	0.9794	-0.2	9.34E+05	1.29	Y	1.19	6.13	9815.896	0.576
124689-HxCDF	36.03		0.9856	0.9856	0	1.39E+07	1.23	Y	1.19	91.6	9815.896	0.576
123467-HxCDF	36.45		0.9972	0.9971	-0.2	2.18E+06	1.19	Y	1.19	14.3	9815.896	0.576
123478-HxCDF	**36.57**		**1.0004**	**1.0004**	**0**	**1.46E+07**	**1.24**	**Y**	**1.27**	**92.6**	**9815.896**	**0.543**
123678-HxCDF	**36.71**		**1.0004**	**1.0004**	**0**	**5.84E+06**	**1.32**	**Y**	**1.15**	**35.9**	**9815.896**	**0.529**
123479-HxCDF	36.87	J	1.0048	1.0048	0	3.10E+05	1.28	Y	1.19	2.03	9815.896	0.576
123469-HxCDF	37.02		1.0089	1.0090	+0.2	4.93E+05	1.19	Y	1.19	3.24	9815.896	0.576
123679-HxCDF	37.16	J	0.9942	0.9943	+0.2	3.46E+05	1.22	Y	1.19	2.27	9815.896	0.576
234678-HxCDF	**37.39**		**1.0005**	**1.0004**	**-0.2**	**4.45E+06**	**1.23**	**Y**	**1.19**	**28.2**	**9815.896**	**0.566**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		9815.896	0.576
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**9815.896**	**0.688**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.40		1.0006	1.0011	+1.2	2.16E+06	1.23	Y	1.19	14.2	9815.896	0.576
1234678-HpCDF	**39.79**		**1.0003**	**1.0003**	**0**	**2.24E+07**	**1.03**	**Y**	**1.37**	**161**	**8287.297**	**0.45**
1234679-HpCDF	40.06		1.0068	1.0070	+0.5	1.59E+06	1.04	Y	1.34	12.4	8287.297	0.546
1234689-HpCDF	40.20		1.0104	1.0105	+0.2	3.73E+07	1.02	Y	1.34	291	8287.297	0.546
1234789-HpCDF	**41.19**		**1.0003**	**1.0003**	**0**	**4.08E+06**	**1.05**	**Y**	**1.31**	**34.7**	**8287.297**	**0.659**
OCDF	**43.61**		**1.0002**	**1.0002**	**0**	**3.65E+07**	**0.87**	**Y**	**1.07**	**390**	**4051.087**	**0.546**
OCDF-a	NotFnd		1.0001						0.07		3304.999	7.19


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
6.63e6
3.31e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.67e6
2.83e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.19e7
1.10e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.32e7
6.62e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.09e7
5.47e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT

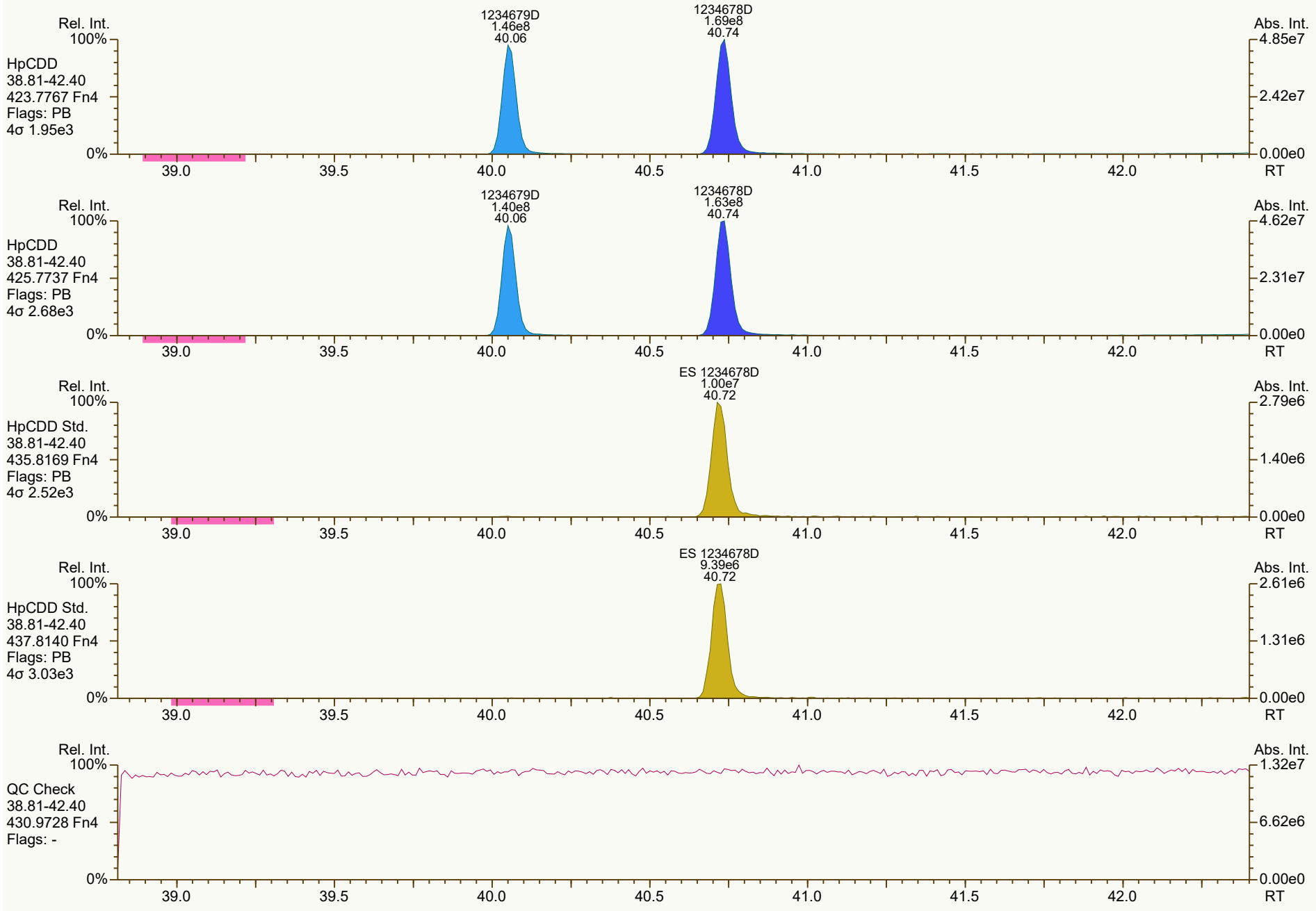

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 3.09e3
0%
Conc(2378D) = (1.28e7 + 1.60e7) * 2000pg / (1.06e7 + 1.34e7) * 1.18 * 10.19341g = 200 pg/g
DTF 22-Feb-2022 09:31
2378D
1.28e7*
28.24
1278D
1.28e6*
28.57
Abs. Int.
3.08e6
1.54e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.80e3
0%
APPROVED
Amy_Boehm , 2/22/2022, 3:26:46 PM
2378D
1.60e7*
28.24
1278D
1.56e6*
28.57
Abs. Int.
3.75e6
1.88e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.32e3
0%
CS 37Cl-2378D
1.10e7
28.24
Abs. Int.
2.65e6
1.32e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 8.05e3
0%
JS 1234D
1.42e7
27.55
ES 2378D
1.06e7
28.22
Abs. Int.
3.33e6
1.67e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.97e3
0%
JS 1234D
1.72e7
27.55
ES 2378D
1.34e7
28.22
Abs. Int.
4.04e6
2.02e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

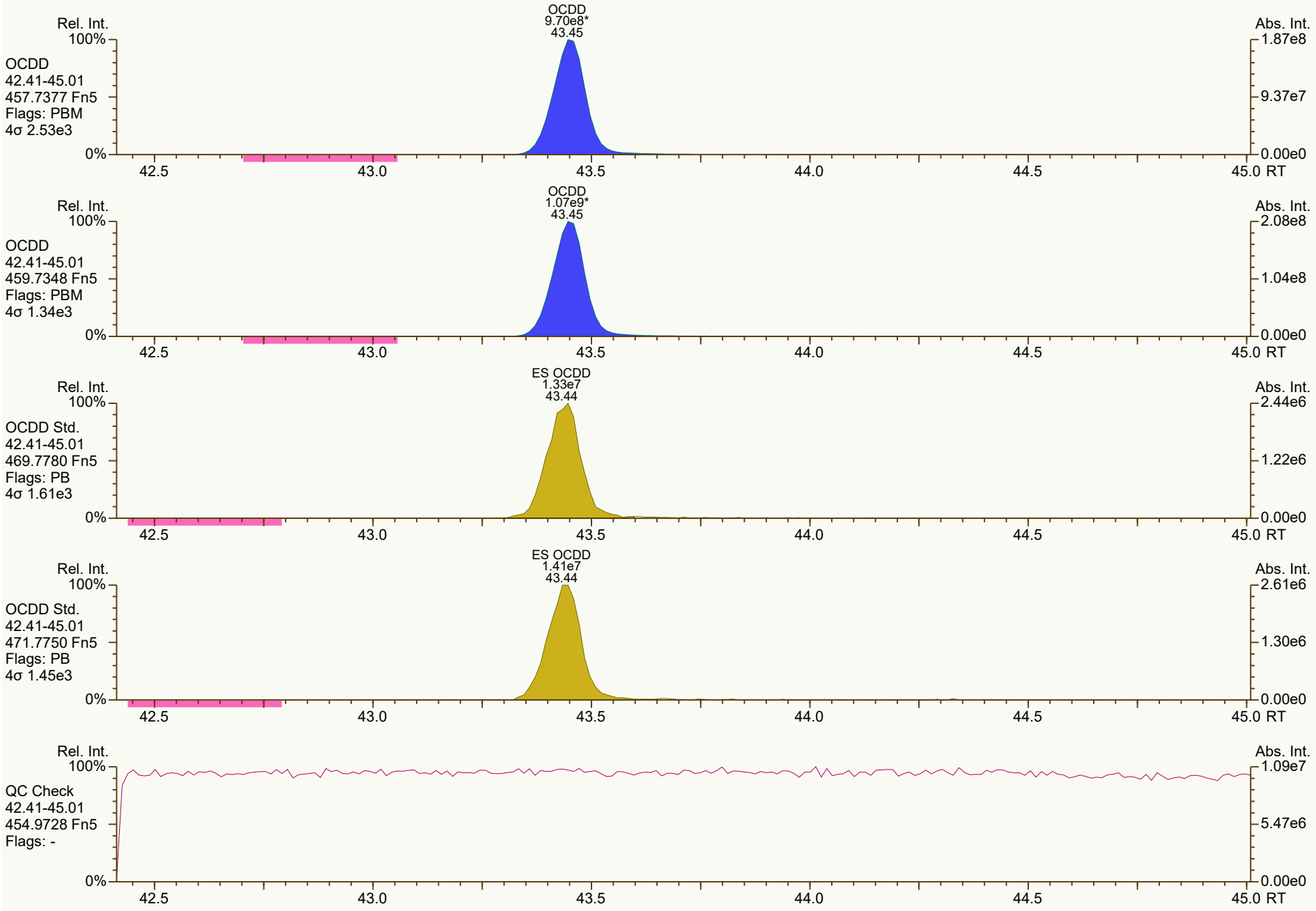

SGS ID: B6292_18927_DF_001
Sample ID: 11215131-020622-S-SB-SC-O-21
Acq: 21-Feb-2022 12:46:31
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 47
User: DTF Datafile: 220221C05
Rel. Int.
Abs. Int.
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 3.24e3
12479/12468D 1.42e6 31.11
12469D 4.26e5 31.65
12368D 6.60e5 32.21
12478D 6.72e5 32.40
12379D 4.33e5 32.50
12369D...[3] 7.18e5* 32.76
12346/12347D 3.82e5 33.14
12378D 6.92e5* 33.64
12367D 2.30e5* 33.73
12389D 3.15e5 34.08
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 4.85e3
12479/12468D 8.98e5 31.11
12469D 5.80e5 31.67
12368D 4.87e5 32.21
12478D 5.32e5 32.39
12369D...[3] 4.33e5* 32.77
12346/12347D 2.17e5 33.14
12378D 4.72e5* 33.64
12367D 1.58e5* 33.73
12389D 1.97e5 34.08
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 3.68e3
CS 12347D 1.21e7 33.12
ES 12378D 1.37e7 33.62
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 3.13e3
CS 12347D 7.38e6 33.11
ES 12378D 8.75e6 33.62
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
RT
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_001.utp_res, saved 22-Feb-2022 09:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1986, 6653 scc: 306-766
Revised: 21-Feb-2022 14:53 (DTF) Printed: 22-Feb-2022 09:34 Page 3 of 12

SGS ID: B6292_18927_DF_001 | Sample ID: 11215131-020622-S-SB-SC-O-21 | Acq: 21-Feb-2022 12:46:31
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 47 | User: DTF Datafile: 220221C05

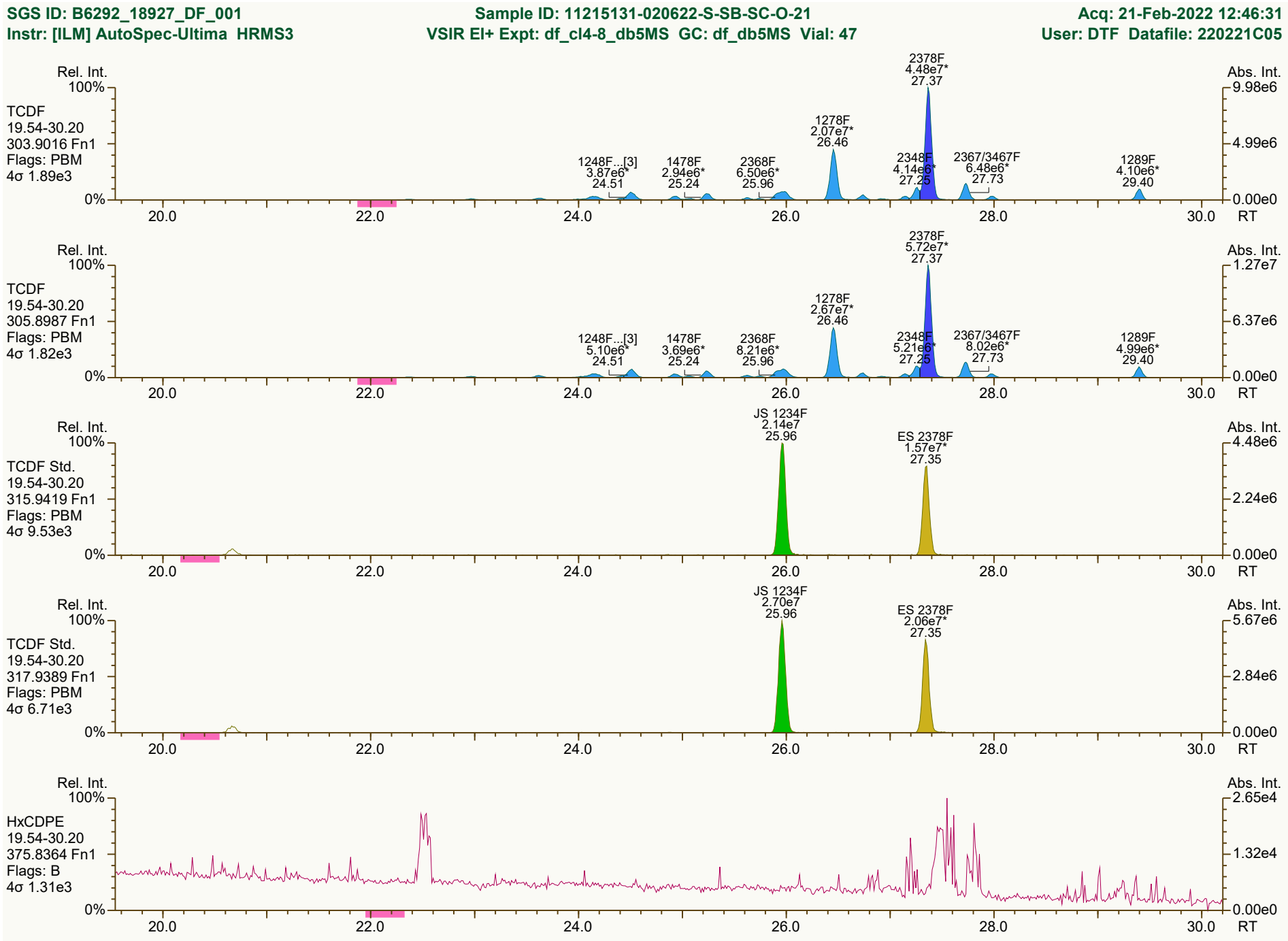


Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_001.utp_res, saved 22-Feb-2022 09:31 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6715, 8841 scc: 306-766 | Revised: 21-Feb-2022 14:53 (DTF) Printed: 22-Feb-2022 09:34 Page 4 of 12


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 1.95e3
1234679D
1.46e8
40.06
1234678D
1.69e8
40.74
Abs. Int.
4.85e7
2.42e7
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 2.68e3
1234679D
1.40e8
40.06
1234678D
1.63e8
40.74
Abs. Int.
4.62e7
2.31e7
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 2.52e3
ES 1234678D
1.00e7
40.72
Abs. Int.
2.79e6
1.40e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 3.03e3
ES 1234678D
9.39e6
40.72
Abs. Int.
2.61e6
1.31e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

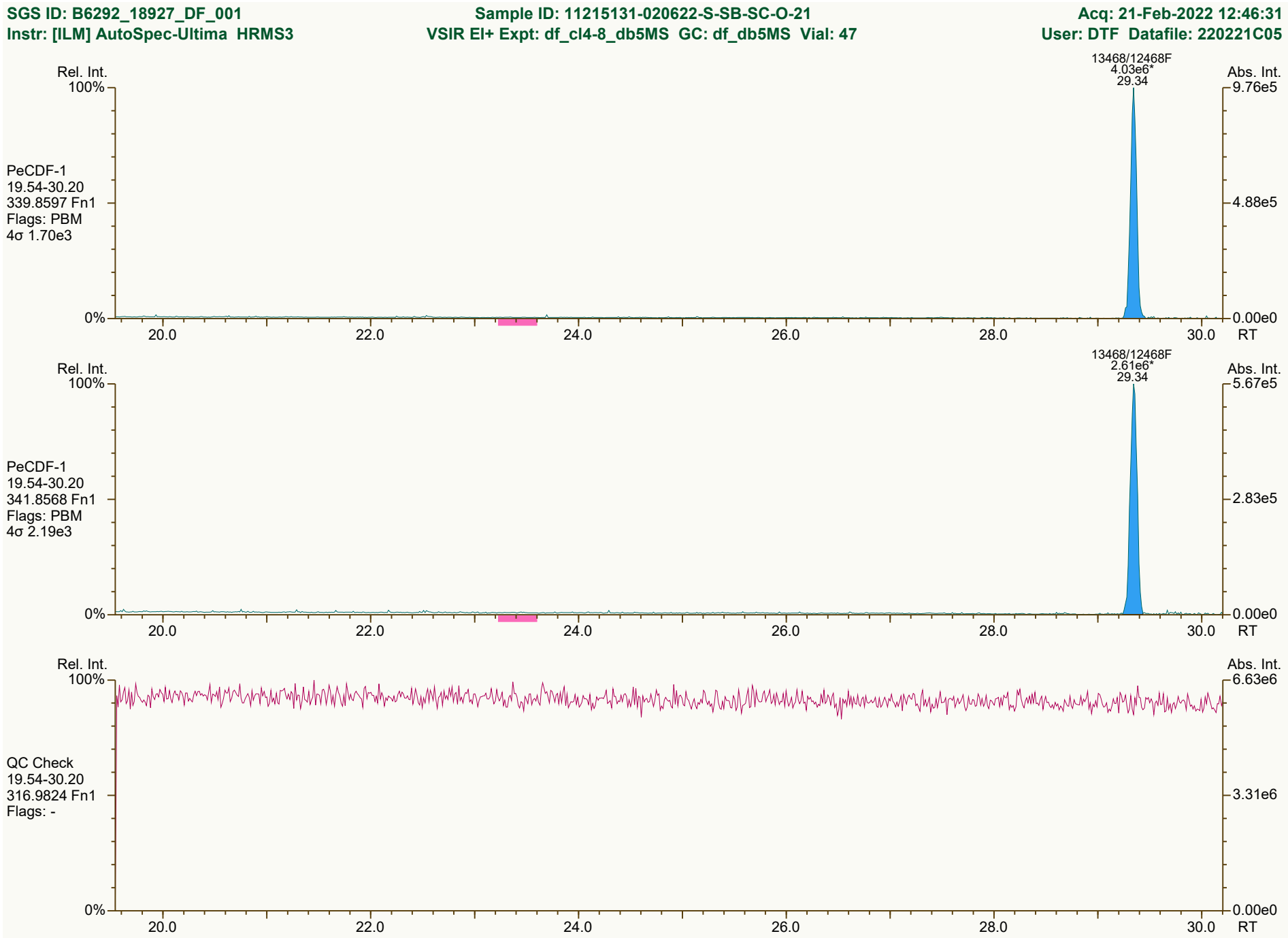

Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 2.53e3
0%
OCDD
9.70e8*
43.45
Abs. Int.
1.87e8
9.37e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 1.34e3
0%
OCDD
1.07e9*
43.45
Abs. Int.
2.08e8
1.04e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 1.61e3
0%
ES OCDD
1.33e7
43.44
Abs. Int.
2.44e6
1.22e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.45e3
0%
ES OCDD
1.41e7
43.44
Abs. Int.
2.61e6
1.30e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.09e7
5.47e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: B6292_18927_DF_001 | Sample ID: 11215131-020622-S-SB-SC-O-21 | Acq: 21-Feb-2022 12:46:31
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 47 | User: DTF Datafile: 220221C05

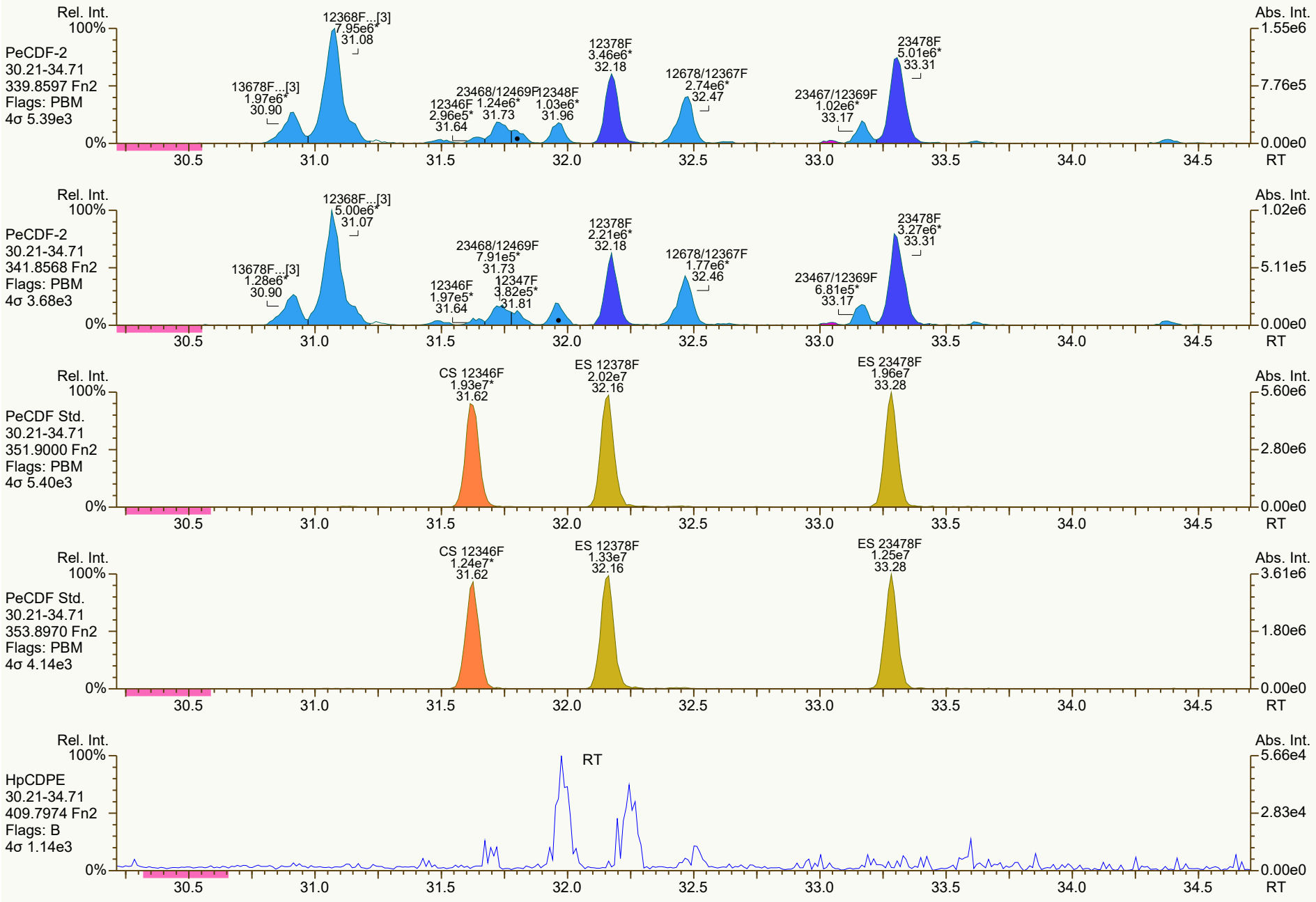


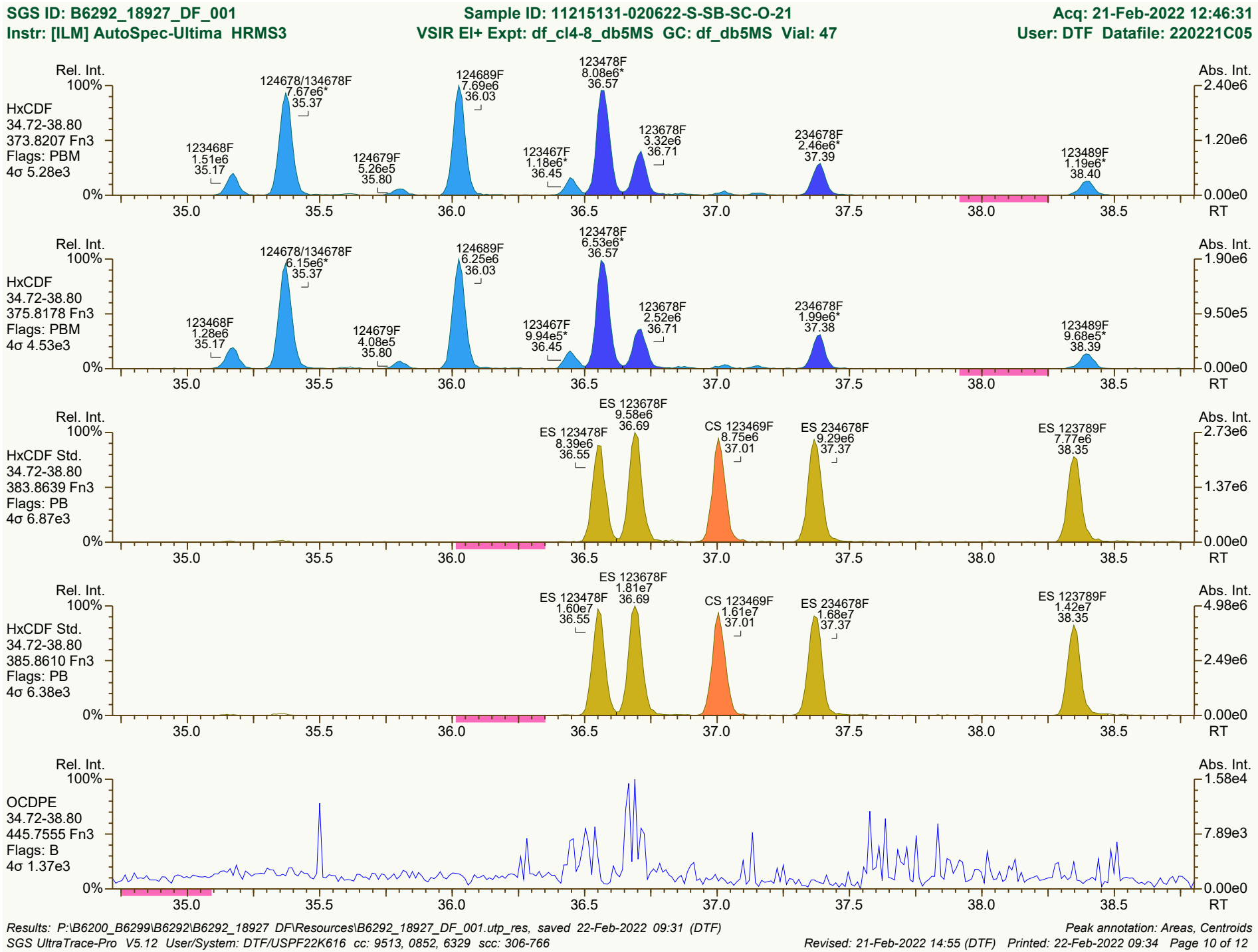
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_001.utp_res, saved 22-Feb-2022 09:31 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5070, 8164, 2480 scc: 306-766 | Revised: 21-Feb-2022 14:54 (DTF) Printed: 22-Feb-2022 09:34 Page 7 of 12

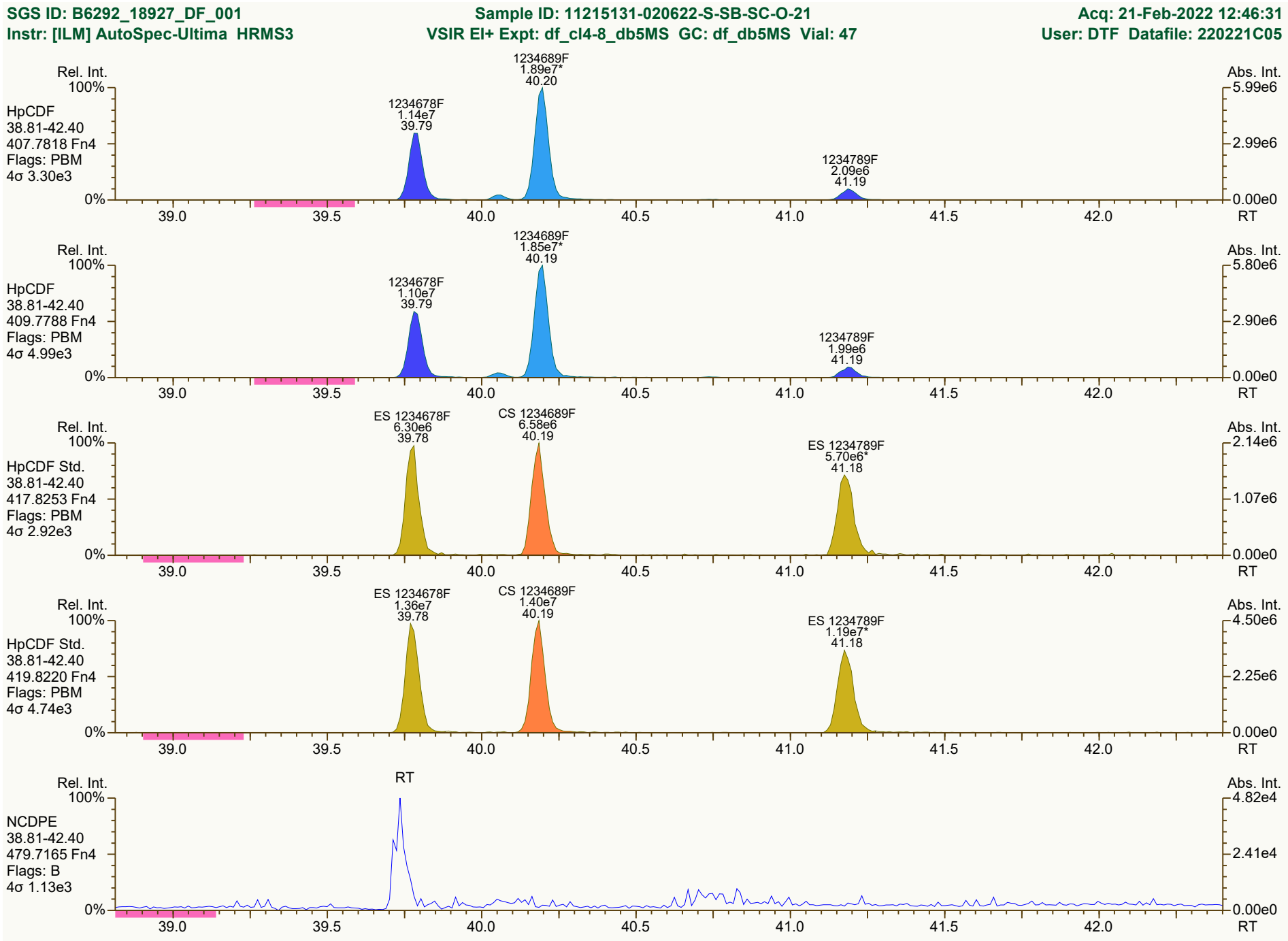
SGS ID: B6292_18927_DF_001 | Sample ID: 11215131-020622-S-SB-SC-O-21 | Acq: 21-Feb-2022 12:46:31
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 47 | User: DTF Datafile: 220221C05

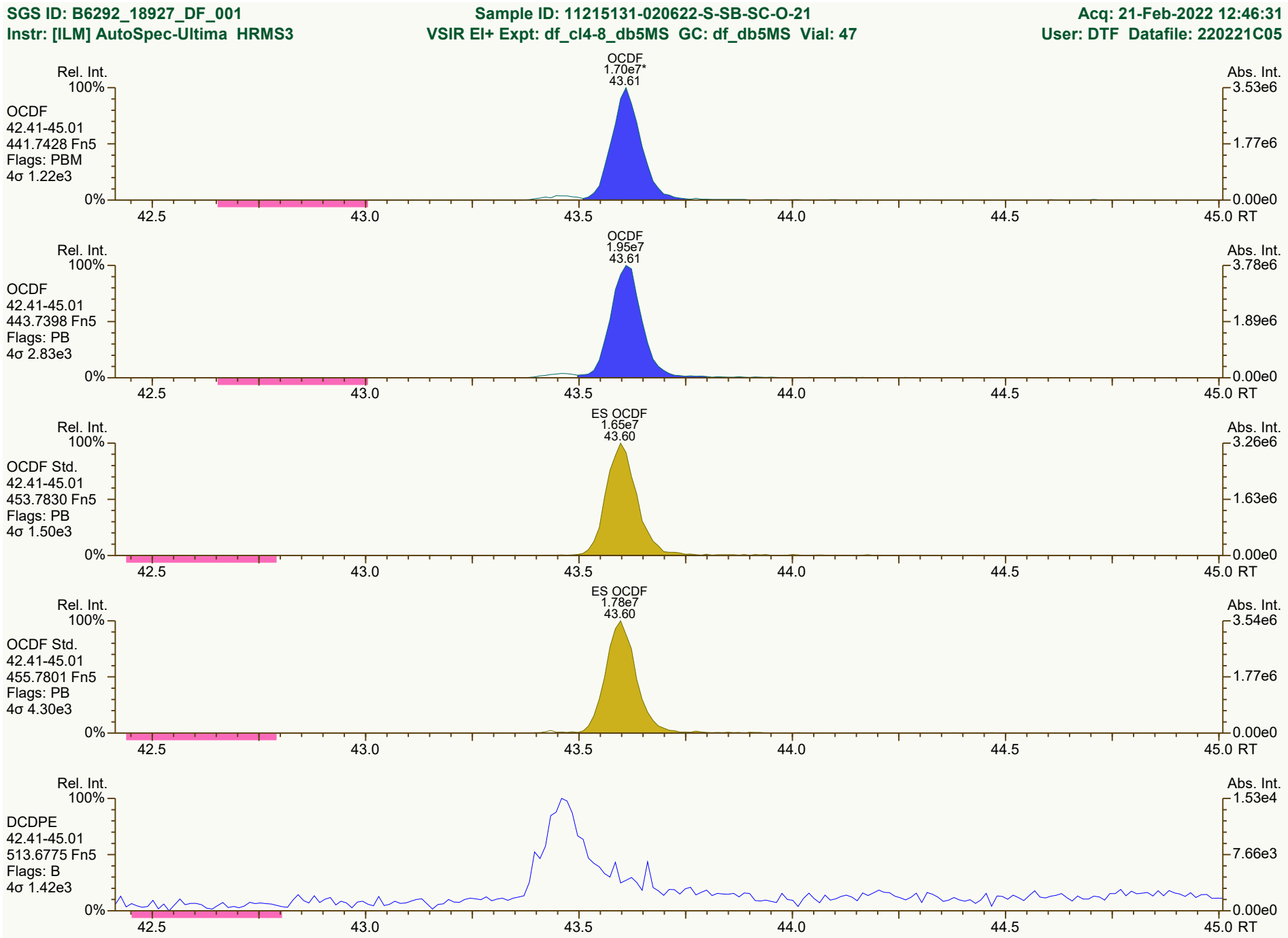


Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_001.utp_res, saved 22-Feb-2022 09:31 (DTF) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8826 scc: 306-766 | *Revised: 21-Feb-2022 14:54 (DTF) Printed: 22-Feb-2022 09:34 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 5.39e3
0%
12368F...[3]
7.95e6*
31.08
13678F...[3]
1.97e6*
30.90
12346F
2.96e5*
31.64
23468/12469F
1.24e6*
31.73
12348F
1.03e6*
31.96
12378F
3.46e6*
32.18
12678/12367F
2.74e6*
32.47
23467/12369F
1.02e6*
33.17
23478F
5.01e6*
33.31
Abs. Int.
1.55e6
7.76e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 3.68e3
0%
12368F...[3]
5.00e6*
31.07
13678F...[3]
1.28e6*
30.90
12346F
1.97e5*
31.64
23468/12469F
7.91e5*
31.73
12347F
3.82e5*
31.81
12378F
2.21e6*
32.18
12678/12367F
1.77e6*
32.46
23467/12369F
6.81e5*
33.17
23478F
3.27e6*
33.31
Abs. Int.
1.02e6
5.11e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PBM
4σ 5.40e3
0%
CS 12346F
1.93e7*
31.62
ES 12378F
2.02e7
32.16
ES 23478F
1.96e7
33.28
Abs. Int.
5.60e6
2.80e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PBM
4σ 4.14e3
0%
CS 12346F
1.24e7*
31.62
ES 12378F
1.33e7
32.16
ES 23478F
1.25e7
33.28
Abs. Int.
3.61e6
1.80e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.14e3
0%
RT
Abs. Int.
5.66e4
2.83e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


SGS ID: B6292_18927_DF_001
Sample ID: 11215131-020622-S-SB-SC-O-21
Acq: 21-Feb-2022 12:46:31
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 47
User: DTF Datafile: 220221C05
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 5.28e3
123468F 1.51e6 35.17
124678/134678F 7.67e6* 35.37
124679F 5.26e5 35.80
124689F 7.69e6 36.03
123467F 1.18e6* 36.45
123478F 8.08e6* 36.57
123678F 3.32e6 36.71
234678F 2.46e6* 37.39
123489F 1.19e6* 38.40
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 4.53e3
123468F 1.28e6 35.17
124678/134678F 6.15e6* 35.37
124679F 4.08e5 35.80
124689F 6.25e6 36.03
123467F 9.94e5* 36.45
123478F 6.53e6* 36.57
123678F 2.52e6 36.71
234678F 1.99e6* 37.38
123489F 9.68e5* 38.39
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 6.87e3
ES 123478F 8.39e6 36.55
ES 123678F 9.58e6 36.69
CS 123469F 8.75e6 37.01
ES 234678F 9.29e6 37.37
ES 123789F 7.77e6 38.35
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 6.38e3
ES 123478F 1.60e7 36.55
ES 123678F 1.81e7 36.69
CS 123469F 1.61e7 37.01
ES 234678F 1.68e7 37.37
ES 123789F 1.42e7 38.35
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.37e3
Rel. Int.
Abs. Int.
RT
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_001.utp_res, saved 22-Feb-2022 09:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9513, 0852, 6329 scc: 306-766
Revised: 21-Feb-2022 14:55 (DTF) Printed: 22-Feb-2022 09:34 Page 10 of 12


SGS ID: B6292_18927_DF_001
Sample ID: 11215131-020622-S-SB-SC-O-21
Acq: 21-Feb-2022 12:46:31
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 47
User: DTF Datafile: 220221C05
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 3.30e3
1234678F
1.14e7
39.79
1234689F
1.89e7*
40.20
1234789F
2.09e6
41.19
5.99e6
2.99e6
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 4.99e3
1234678F
1.10e7
39.79
1234689F
1.85e7*
40.19
1234789F
1.99e6
41.19
5.80e6
2.90e6
0.00e0
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 2.92e3
ES 1234678F
6.30e6
39.78
CS 1234689F
6.58e6
40.19
ES 1234789F
5.70e6*
41.18
2.14e6
1.07e6
0.00e0
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 4.74e3
ES 1234678F
1.36e7
39.78
CS 1234689F
1.40e7
40.19
ES 1234789F
1.19e7*
41.18
4.50e6
2.25e6
0.00e0
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.13e3
RT
4.82e4
2.41e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_001.utp_res, saved 22-Feb-2022 09:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6375, 1701, 4765 scc: 306-766
Revised: 21-Feb-2022 14:55 (DTF) Printed: 22-Feb-2022 09:34 Page 11 of 12


SGS ID: B6292_18927_DF_001
Sample ID: 11215131-020622-S-SB-SC-O-21
Acq: 21-Feb-2022 12:46:31
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 47
User: DTF Datafile: 220221C05
OCDF
1.70e7*
43.61
Rel. Int.
Abs. Int.
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 1.22e3
OCDF
1.95e7
43.61
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 2.83e3
ES OCDF
1.65e7
43.60
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 1.50e3
ES OCDF
1.78e7
43.60
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 4.30e3
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.42e3
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_001.utp_res, saved 22-Feb-2022 09:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9468, 4284, 0353 scc: 306-766
Revised: 21-Feb-2022 14:56 (DTF) Printed: 22-Feb-2022 09:34 Page 12 of 12

Lab ID: B6292_18927_DF_002 **Acq'd:** 21 Feb 2022 13:32 DTF **Wt/Vol:** 10.15 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-B-15 **UTP:** 22-Feb-2022 09:25:54 DTF **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 032-563-GMG

Datafile: 220221C06 **Report:** 22 Feb 2022 09:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.27	E	1.0008	1.0008	0	1.30E+09	0.80	Y	1.18	8,140	8095.433	0.53
12378-PeCDD	33.66		1.0007	1.0006	-0.2	1.05E+07	1.56	Y	1.04	81.4	10635.995	0.741
123478-HxCDD	37.57		1.0004	1.0003	-0.2	6.92E+05	1.29	Y	1.09	5.32	16302.447	1.12
123678-HxCDD	37.70		1.0036	1.0037	+0.2	2.92E+06	1.27	Y	1.15	22	16302.447	1.1
123789-HxCDD	38.00		1.0118	1.0117	-0.2	1.72E+06	1.25	Y	1.05	12.9	16302.447	1.01
1234678-HpCDD	40.73		1.0002	1.0003	+0.2	9.68E+07	1.04	Y	1.06	778	9764.672	0.642
OCDD	43.44		1.0003	1.0003	0	8.14E+08	0.90	Y	1.13	8,540	12338.489	1.85
2378-TCDF	27.40	E	1.0008	1.0008	0	4.73E+09	0.78	Y	1.08	21,300	4516.943	0.247
12378-PeCDF	32.20		1.0005	1.0005	0	1.94E+08	1.54	Y	1.02	994	9066.084	0.414
23478-PeCDF	33.34		1.0005	1.0008	+0.6	1.30E+08	1.55	Y	1.02	682	9066.084	0.476
123478-HxCDF	36.58		1.0004	1.0005	+0.2	3.27E+08	1.23	Y	1.27	1,730	12226.57	0.552
123678-HxCDF	36.72		1.0004	1.0005	+0.2	8.20E+07	1.25	Y	1.15	418	12226.57	0.545
234678-HxCDF	37.39		1.0005	1.0004	-0.2	1.59E+07	1.25	Y	1.19	87.6	12226.57	0.578
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	12226.57	0.594
1234678-HpCDF	39.78		1.0003	1.0002	-0.2	1.01E+08	1.02	Y	1.37	566	5833.301	0.249
1234789-HpCDF	41.19		1.0003	1.0003	0	3.07E+07	1.06	Y	1.31	202	5833.301	0.34
OCDF	43.61		1.0002	1.0003	+0.3	3.81E+08	0.88	Y	1.07	3,200	4977.642	0.523

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.24	1.0243	1.0239	-0.7	2.65E+07	0.83	Y	1.05	71.6
ES 12378-PeCDD	33.64	1.2198	1.2196	-0.4	2.46E+07	1.62	Y	0.88	79.1
ES 123478-HxCDD	37.56	0.9916	0.9915	-0.2	2.35E+07	1.22	Y	0.97	77.6
ES 123678-HxCDD	37.68	0.9947	0.9947	0	2.27E+07	1.24	Y	0.94	77.2
ES 123789-HxCDD	37.99	1.0029	1.0027	-0.5	2.50E+07	1.30	Y	1.09	73.5
ES 1234678-HpCDD	40.72	1.0749	1.0748	-0.2	2.31E+07	1.08	Y	0.91	81.3
ES OCDD	43.42	1.1460	1.1462	+0.5	3.33E+07	0.92	Y	0.62	85.6
ES 2378-TCDF	27.38	1.0531	1.0533	+0.3	4.07E+07	0.82	Y	1.06	71
ES 12378-PeCDF	32.19	1.2378	1.2384	+1.2	3.75E+07	1.55	Y	0.91	76.2
ES 23478-PeCDF	33.31	1.2810	1.2816	+1.2	3.68E+07	1.62	Y	0.88	77.1
ES 123478-HxCDF	36.56	0.9650	0.9651	+0.2	2.93E+07	0.53	Y	1.20	78.4
ES 123678-HxCDF	36.70	0.9688	0.9688	0	3.35E+07	0.53	Y	1.35	79.4
ES 234678-HxCDF	37.37	0.9866	0.9866	0	3.01E+07	0.54	Y	1.24	77.7
ES 123789-HxCDF	38.35	1.0125	1.0124	-0.2	2.81E+07	0.55	Y	1.16	78
ES 1234678-HpCDF	39.77	1.0501	1.0499	-0.5	2.57E+07	0.47	Y	0.97	85.2
ES 1234789-HpCDF	41.17	1.0870	1.0869	-0.2	2.29E+07	0.47	Y	0.85	86.2
ES OCDF	43.60	1.1505	1.1509	+1.0	4.37E+07	0.91	Y	0.81	86.8

Lab ID: B6292_18927_DF_002 **Acq'd:** 21 Feb 2022 13:32 DTF **Wt/Vol:** 10.15 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-B-15 **UTP:** 22-Feb-2022 09:25:54 DTF **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 032-563-GMG

Datafile: 220221C06 **Report:** 22 Feb 2022 09:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.58		-	-	-	3.53E+07	0.84	Y	-	-
JS 1234-TCDF	25.99		-	-	-	5.41E+07	0.79	Y	-	-
JS 123467-HxCDD	37.88		-	-	-	1.56E+07	1.16	Y	-	-
CS 37Cl-2378-TCDD	28.27		1.0251	1.0248	-0.5	1.08E+07	n/a	-	1.20	63.7
CS 12347-PeCDD	33.14		1.2016	1.2014	-0.4	2.16E+07	1.55	Y	0.75	81.2
CS 12346-PeCDF	31.66		1.2172	1.2180	+1.5	3.56E+07	1.57	Y	0.85	77.4
CS 123469-HxCDF	37.01		0.9771	0.9771	0	2.81E+07	0.55	Y	1.12	80.7
CS 1234689-HpCDF	40.18		1.0608	1.0607	-0.2	2.54E+07	0.48	Y	0.89	91.8
SS 37Cl-2378-TCDD	28.27		1.0251	1.0248	-0.5	1.08E+07	n/a	-	1.15	89.3
SS 12347-PeCDD	33.14		1.2016	1.2014	-0.4	2.16E+07	1.55	Y	0.86	103
SS 12346-PeCDF	31.66		1.2172	1.2180	+1.5	3.56E+07	1.57	Y	0.94	101
SS 123469-HxCDF	37.01		0.9771	0.9771	0	2.81E+07	0.55	Y	0.83	101
SS 1234689-HpCDF	40.18		1.0608	1.0607	-0.2	2.54E+07	0.48	Y	0.92	108

Totals	Conc	EMPC
Total TCDD	9110	9120
Total PeCDD	123	132
Total HxCDD	366	366
Total HpCDD	2220	2220
Total Tetra-Octa Dioxins	20400	20400
Total TCDF	39,800	39800
Total PeCDF	2,630	2630
Total HxCDF	2,650	2650
Total HpCDF	1,030	1030
Total Tetra-Octa Furans	49,300	49300
Total Tetra-Octa Dioxins & Furans	69700	69700

Lab ID: B6292_18927_DF_002 **Acq'd: 21 Feb 2022 13:32 DTF** **Wt/Vol: 10.15 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-B-15 **UTP: 22-Feb-2022 09:25:54 DTF** **J-level: 0.493 pg/g** **Split: 1** **Checkcode: 032-563-GMG**

Datafile: 220221C06 **Report: 22 Feb 2022 09:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.58		0.8701	0.8703	+0.3	1.13E+06	0.88	Y	1.18	7.12	8095.433	0.53
1379-TCDD	24.93		0.8829	0.8828	-0.1	6.05E+05	0.84	Y	1.18	3.81	8095.433	0.53
1369-TCDD	25.37	EMPC	0.8982	0.8984	+0.3	1.37E+05	0.92	N	1.18	0.859	8095.433	0.53
1469-TCDD	26.15		0.9261	0.9261	0	5.92E+05	0.81	Y	1.18	3.72	8095.433	0.53
1247/1246/1248/1249-TCDD	26.39		0.9348	0.9344	-0.6	1.95E+06	0.88	Y	1.18	12.2	8095.433	0.53
1378-TCDD	26.59		0.9417	0.9414	-0.5	4.00E+06	0.83	Y	1.18	25.1	8095.433	0.53
1268-TCDD	26.80	EMPC	0.9487	0.9489	+0.3	2.85E+05	1.07	N	1.18	1.79	8095.433	0.53
1478-TCDD	27.05		0.9576	0.9578	+0.3	2.64E+06	0.78	Y	1.18	16.6	8095.433	0.53
1279-TCDD	27.23	EMPC	0.9636	0.9641	+0.8	1.85E+05	1.09	N	1.18	1.16	8095.433	0.53
1234/1269-TCDD	27.57	EMPC	0.9761	0.9762	+0.2	4.69E+05	0.96	N	1.18	2.95	8095.433	0.53
1236-TCDD	27.72	EMPC	0.9812	0.9817	+0.8	2.16E+05	1.21	N	1.18	1.36	8095.433	0.53
1237/1238-TCDD	27.97		0.9905	0.9904	-0.2	2.04E+07	0.80	Y	1.18	128	8095.433	0.53
1239-TCDD	NotFnd		0.9951						1.18		8095.433	0.53
2378-TCDD	**28.27**	E	**1.0008**	1.0008	**0**	1.30E+09	0.80	Y	**1.18**	**8,140**	**8095.433**	**0.53**
1278-TCDD	28.60		1.0124	1.0128	+0.7	1.17E+08	0.80	Y	1.18	736	8095.433	0.53
1267-TCDD	28.75		1.0172	1.0179	+1.2	3.08E+06	0.81	Y	1.18	19.4	8095.433	0.53
1289-TCDD	29.25		1.0354	1.0358	+0.7	1.90E+06	0.87	Y	1.18	12	8095.433	0.53
12479/12468-PeCDD	31.14		0.9255	0.9259	+0.7	1.42E+06	1.55	Y	1.04	11	10635.995	0.741
12469-PeCDD	31.68	EMPC	0.9416	0.9419	+0.6	8.45E+05	1.14	N	1.04	6.54	10635.995	0.741
12368-PeCDD	32.23		0.9582	0.9582	0	1.16E+06	1.57	Y	1.04	9	10635.995	0.741
12478-PeCDD	32.42		0.9637	0.9639	+0.4	9.66E+05	1.68	Y	1.04	7.48	10635.995	0.741
12379-PeCDD	32.53		0.9668	0.9670	+0.4	5.16E+05	1.74	Y	1.04	3.99	10635.995	0.741
12369/12467/12489-PeCDD	32.79		0.9746	0.9747	+0.2	6.96E+05	1.78	Y	1.04	5.38	10635.995	0.741
12346/12347-PeCDD	33.16		0.9858	0.9858	0	3.47E+05	1.51	Y	1.04	2.68	10635.995	0.741
12378-PeCDD	33.66		**1.0007**	**1.0006**	**-0.2**	**1.05E+07**	**1.56**	**Y**	**1.04**	**81.4**	**10635.995**	**0.741**
12367-PeCDD	33.76	EMPC	1.0036	1.0035	-0.2	4.37E+05	1.79	N	1.04	3.38	10635.995	0.741
12389-PeCDD	34.09	J	1.0137	1.0135	-0.4	2.16E+05	1.62	Y	1.04	1.67	10635.995	0.741
124679/124689-HxCDD	35.84		0.9540	0.9542	+0.4	2.05E+07	1.24	Y	1.10	155	16302.447	1.07
123468-HxCDD	36.50		0.9715	0.9716	+0.2	3.51E+06	1.27	Y	1.10	26.6	16302.447	1.07
123679/123689-HxCDD	36.78		0.9793	0.9793	0	1.39E+07	1.27	Y	1.10	106	16302.447	1.07
123469-HxCDD	36.92		0.9829	0.9829	0	3.63E+06	1.28	Y	1.10	27.5	16302.447	1.07
123478-HxCDD	37.57		**1.0004**	**1.0003**	**-0.2**	**6.92E+05**	**1.29**	**Y**	1.09	**5.32**	**16302.447**	**1.12**
123678-HxCDD	37.70		**1.0036**	**1.0037**	**+0.2**	**2.92E+06**	**1.27**	**Y**	1.15	**22**	**16302.447**	**1.1**
123467-HxCDD	37.90		1.0089	1.0090	+0.2	1.45E+06	1.22	Y	1.10	11	16302.447	1.07
123789-HxCDD	38.00		**1.0118**	**1.0117**	**-0.2**	**1.72E+06**	**1.25**	**Y**	1.05	**12.9**	**16302.447**	**1.01**

Lab ID: B6292_18927_DF_002 **Acq'd:** 21 Feb 2022 13:32 DTF **Wt/Vol:** 10.15 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-B-15 **UTP:** 22-Feb-2022 09:25:54 DTF **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 032-563-GMG

Datafile: 220221C06 **Report:** 22 Feb 2022 09:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

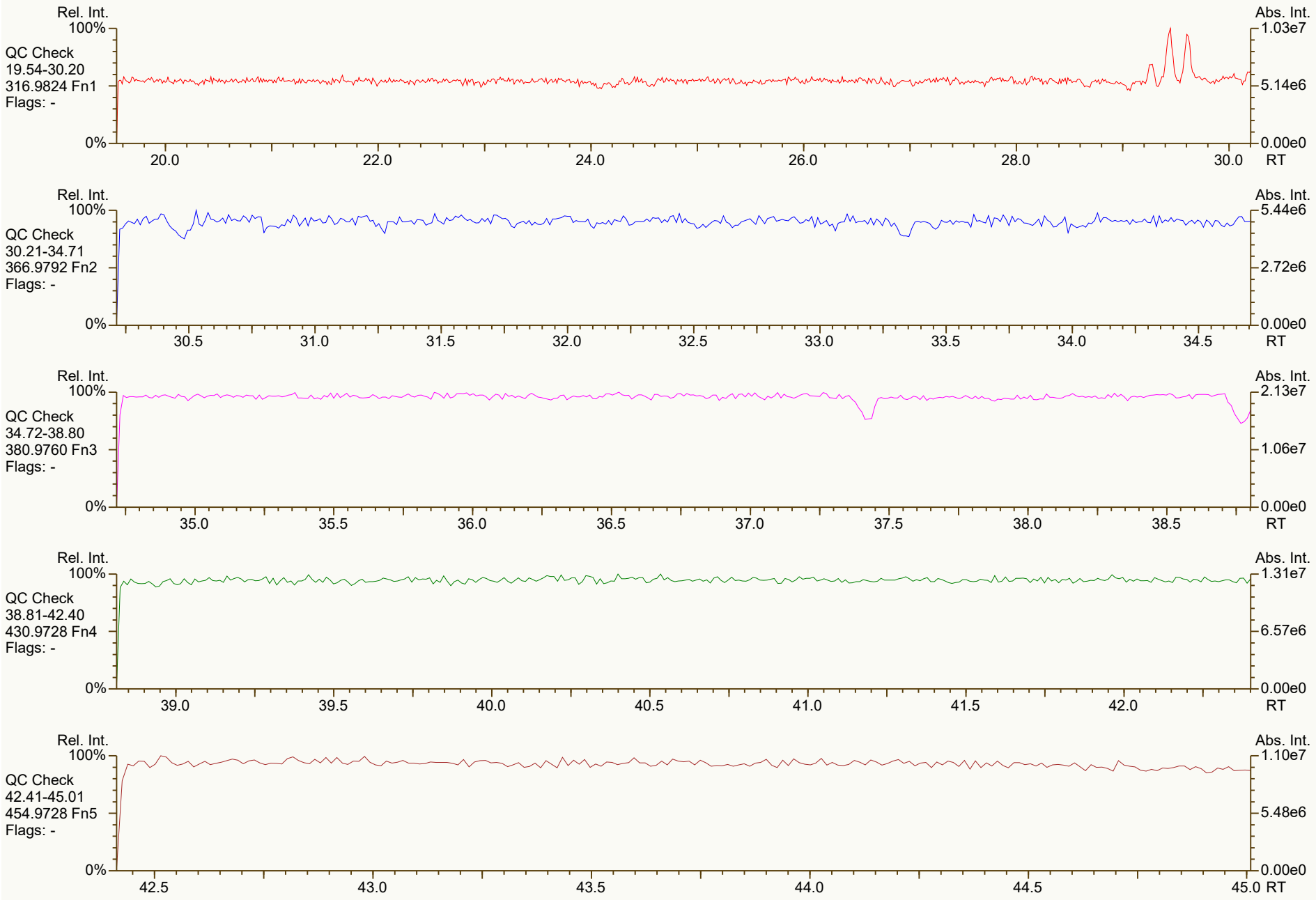
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.05		0.9836	0.9837	+0.2	1.80E+08	1.04	Y	1.06	1,450	9764.672	0.642
1234678-HpCDD	**40.73**		**1.0002**	**1.0003**	**+0.2**	**9.68E+07**	**1.04**	**Y**	**1.06**	**778**	**9764.672**	**0.642**
OCDD	**43.44**		**1.0003**	**1.0003**	**0**	**8.14E+08**	**0.90**	**Y**	**1.13**	**8,540**	**12338.489**	**1.85**
OCDD-a	43.43		1.0002	1.0002	0	5.07E+07	2.46	Y	0.07	8,330	8237.328	19.4
1368-TCDF	22.40		0.8191	0.8184	-0.9	8.36E+05	0.79	Y	1.08	3.75	4516.943	0.247
1468-TCDF	23.02		0.8408	0.8407	-0.1	5.86E+06	0.79	Y	1.08	26.3	4516.943	0.247
2468-TCDF	23.67		0.8645	0.8645	0	5.38E+06	0.77	Y	1.08	24.2	4516.943	0.247
1346/1246-TCDF	NotFnd		0.8772						1.08		4516.943	0.247
1347/1378/1247-TCDF	24.20		0.8833	0.8838	+0.7	3.06E+07	0.78	Y	1.08	138	4516.943	0.247
1348-TCDF	NotFnd		0.8932						1.08		4516.943	0.247
1248/1367/1379-TCDF	24.55		0.8980	0.8968	-1.8	1.02E+08	0.78	Y	1.08	458	4516.943	0.247
1268-TCDF	24.97		0.9119	0.9120	+0.1	4.19E+07	0.78	Y	1.08	188	4516.943	0.247
1467-TCDF	25.10		0.9170	0.9169	-0.2	1.12E+07	0.79	Y	1.08	50.5	4516.943	0.247
1478-TCDF	25.27		0.9234	0.9232	-0.3	1.05E+08	0.77	Y	1.08	473	4516.943	0.247
1369/1237-TCDF	25.66		0.9369	0.9374	+0.8	4.13E+07	0.79	Y	1.08	186	4516.943	0.247
2467-TCDF	25.78		0.9415	0.9418	+0.5	4.81E+06	0.78	Y	1.08	21.6	4516.943	0.247
2368-TCDF	25.98	E	0.9475	0.9490	+2.3	3.21E+08	0.78	Y	1.08	1,440	4516.943	0.247
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		4516.943	0.247
1278-TCDF	26.48	E	0.9676	0.9673	-0.5	2.20E+09	0.78	Y	1.08	9,900	4516.943	0.247
1349-TCDF	NotFnd		0.9722						1.08		4516.943	0.247
1267-TCDF	26.76		0.9777	0.9775	-0.3	8.35E+07	0.78	Y	1.08	375	4516.943	0.247
2346/1249-TCDF	26.95		0.9843	0.9846	+0.5	1.08E+07	0.77	Y	1.08	48.4	4516.943	0.247
2347/1279-TCDF	27.16		0.9926	0.9922	-0.7	5.25E+07	0.78	Y	1.08	236	4516.943	0.247
2348-TCDF	27.28	E	0.9968	0.9963	-0.8	3.01E+08	0.77	Y	1.08	1,350	4516.943	0.247
2378-TCDF	**27.40**	E	**1.0008**	**1.0008**	**0**	**4.73E+09**	**0.78**	**Y**	**1.08**	**21,300**	**4516.943**	**0.247**
2367/3467-TCDF	27.76	E	1.0142	1.0139	-0.5	3.74E+08	0.78	Y	1.08	1,680	4516.943	0.247
1269-TCDF	28.01		1.0235	1.0231	-0.7	4.45E+07	0.79	Y	1.08	200	4516.943	0.247
1239-TCDF	28.27		1.0329	1.0327	-0.3	5.46E+06	0.77	Y	1.08	24.5	4516.943	0.247
1289-TCDF	29.44	E	1.0742	1.0755	+2.3	3.80E+08	0.80	Y	1.08	1,710	4516.943	0.247
13468/12468-PeCDF	29.39		0.9122	0.9132	+1.8	6.96E+06	1.44	Y	1.02	36.1	3222.022	0.158
13678/13467/12467-PeCDF	30.95		0.9606	0.9615	+1.7	2.52E+06	1.59	Y	1.02	13	9066.084	0.445
12368/13478/12478-PeCDF	31.11		0.9655	0.9665	+1.9	8.37E+07	1.53	Y	1.02	434	9066.084	0.445
14678-PeCDF	NotFnd		0.9685						1.02		9066.084	0.445
13479-PeCDF	NotFnd		0.9716						1.02		9066.084	0.445
13469/12479-PeCDF	NotFnd		0.9794						1.02		9066.084	0.445
12346-PeCDF	NotFnd		0.9836						1.02		9066.084	0.445

Lab ID: B6292_18927_DF_002 **Acq'd: 21 Feb 2022 13:32 DTF** **Wt/Vol: 10.15 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-B-15 **UTP: 22-Feb-2022 09:25:54 DTF** **J-level: 0.493 pg/g** **Split: 1** **Checkcode: 032-563-GMG**

Datafile: 220221C06 **Report: 22 Feb 2022 09:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.75		0.9866	0.9863	-0.6	3.80E+06	1.51	Y	1.02	19.7	9066.084	0.445
12347-PeCDF	31.83		0.9891	0.9890	-0.2	3.65E+06	1.49	Y	1.02	18.9	9066.084	0.445
12348-PeCDF	31.99		0.9938	0.9940	+0.4	1.74E+07	1.54	Y	1.02	90.2	9066.084	0.445
12378-PeCDF	**32.20**		**1.0005**	**1.0005**	**0**	**1.94E+08**	**1.54**	**Y**	**1.02**	**994**	**9066.084**	**0.414**
12678/12367-PeCDF	32.50		1.0091	1.0096	+1.0	5.59E+07	1.52	Y	1.02	290	9066.084	0.445
12379-PeCDF	NotFnd		1.0144						1.02		9066.084	0.445
12679-PeCDF	33.06	J EMPC	0.9927	0.9926	-0.2	3.90E+05	1.83	N	1.02	2.02	9066.084	0.445
23467/12369-PeCDF	33.19		0.9965	0.9963	-0.4	2.40E+06	1.66	Y	1.02	12.4	9066.084	0.445
23478-PeCDF	**33.34**		**1.0005**	**1.0008**	**+0.6**	**1.30E+08**	**1.55**	**Y**	**1.02**	**682**	**9066.084**	**0.476**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		9066.084	0.445
12349-PeCDF	NotFnd		1.0101						1.02		9066.084	0.445
12389-PeCDF	34.39		1.0330	1.0325	-1.0	7.40E+06	1.55	Y	1.02	38.4	9066.084	0.445
123468-HxCDF	35.19		0.9622	0.9625	+0.6	3.78E+06	1.25	Y	1.19	20.6	12226.57	0.566
124678/134678-HxCDF	35.39		0.9678	0.9679	+0.2	2.70E+07	1.23	Y	1.19	147	12226.57	0.566
134679-HxCDF	NotFnd		0.9741						1.19		12226.57	0.566
124679-HxCDF	NotFnd		0.9795						1.19		12226.57	0.566
124689-HxCDF	36.04		0.9856	0.9858	+0.4	1.73E+07	1.27	Y	1.19	94.6	12226.57	0.566
123467-HxCDF	36.46		0.9972	0.9971	-0.2	1.94E+06	1.14	Y	1.19	10.6	12226.57	0.566
123478-HxCDF	**36.58**		**1.0004**	**1.0005**	**+0.2**	**3.27E+08**	**1.23**	**Y**	**1.27**	**1,730**	**12226.57**	**0.552**
123678-HxCDF	**36.72**		**1.0004**	**1.0005**	**+0.2**	**8.20E+07**	**1.25**	**Y**	**1.15**	**418**	**12226.57**	**0.545**
123479-HxCDF	NotFnd		1.0048						1.19		12226.57	0.566
123469-HxCDF	37.03		1.0089	1.0089	0	1.11E+06	1.18	Y	1.19	6.03	12226.57	0.566
123679-HxCDF	NotFnd		0.9942						1.19		12226.57	0.566
234678-HxCDF	**37.39**		**1.0005**	**1.0004**	**-0.2**	**1.59E+07**	**1.25**	**Y**	**1.19**	**87.6**	**12226.57**	**0.578**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		12226.57	0.566
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**12226.57**	**0.594**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.39		1.0006	1.0011	+1.2	2.48E+07	1.22	Y	1.19	135	12226.57	0.566
1234678-HpCDF	**39.78**		**1.0003**	**1.0002**	**-0.2**	**1.01E+08**	**1.02**	**Y**	**1.37**	**566**	**5833.301**	**0.249**
1234679-HpCDF	40.05		1.0068	1.0069	+0.2	2.03E+06	1.08	Y	1.34	12.3	5833.301	0.291
1234689-HpCDF	40.19		1.0104	1.0106	+0.5	4.06E+07	1.03	Y	1.34	246	5833.301	0.291
1234789-HpCDF	**41.19**		**1.0003**	**1.0003**	**0**	**3.07E+07**	**1.06**	**Y**	**1.31**	**202**	**5833.301**	**0.34**
OCDF	**43.61**		**1.0002**	**1.0003**	**+0.3**	**3.81E+08**	**0.88**	**Y**	**1.07**	**3,200**	**4977.642**	**0.523**
OCDF-a	43.61		1.0001	1.0002	+0.3	2.45E+07	2.41	Y	0.07	3,320	3936.767	6.68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QC Check
19.54-30.20
316.9824 Fn1
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0%
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22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.03e7
5.14e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
5.44e6
2.72e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.13e7
1.06e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.31e7
6.57e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
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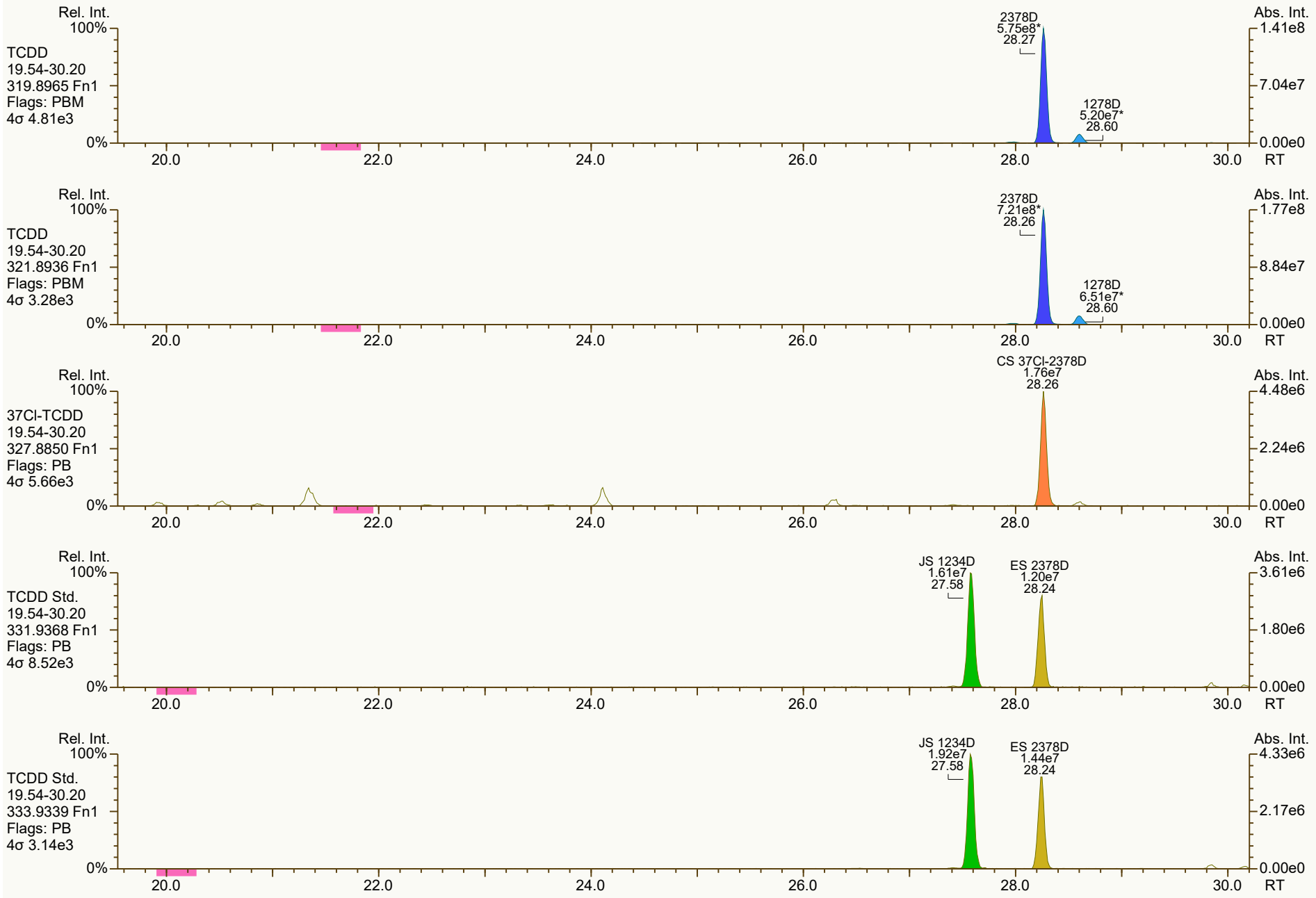
5.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
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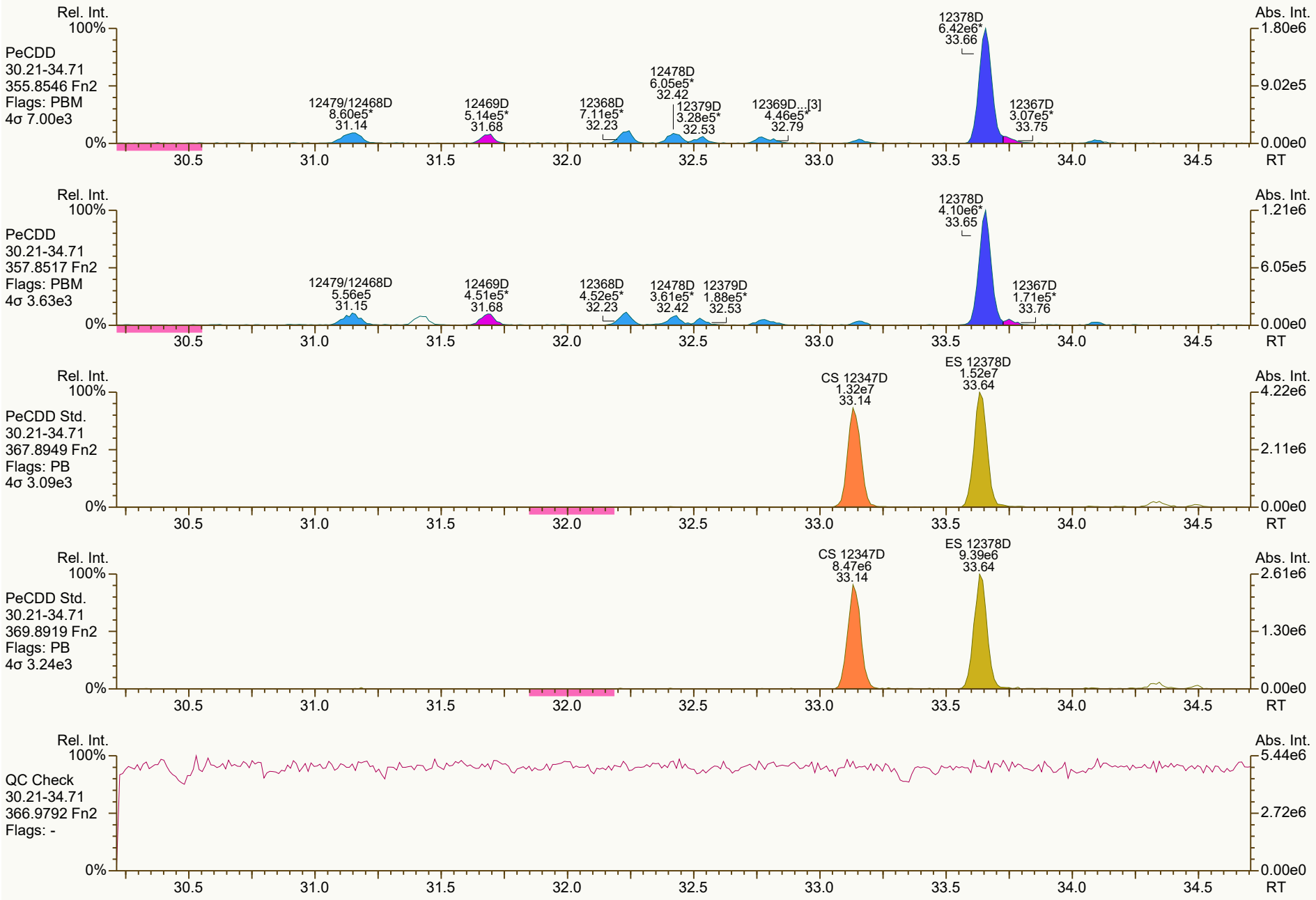
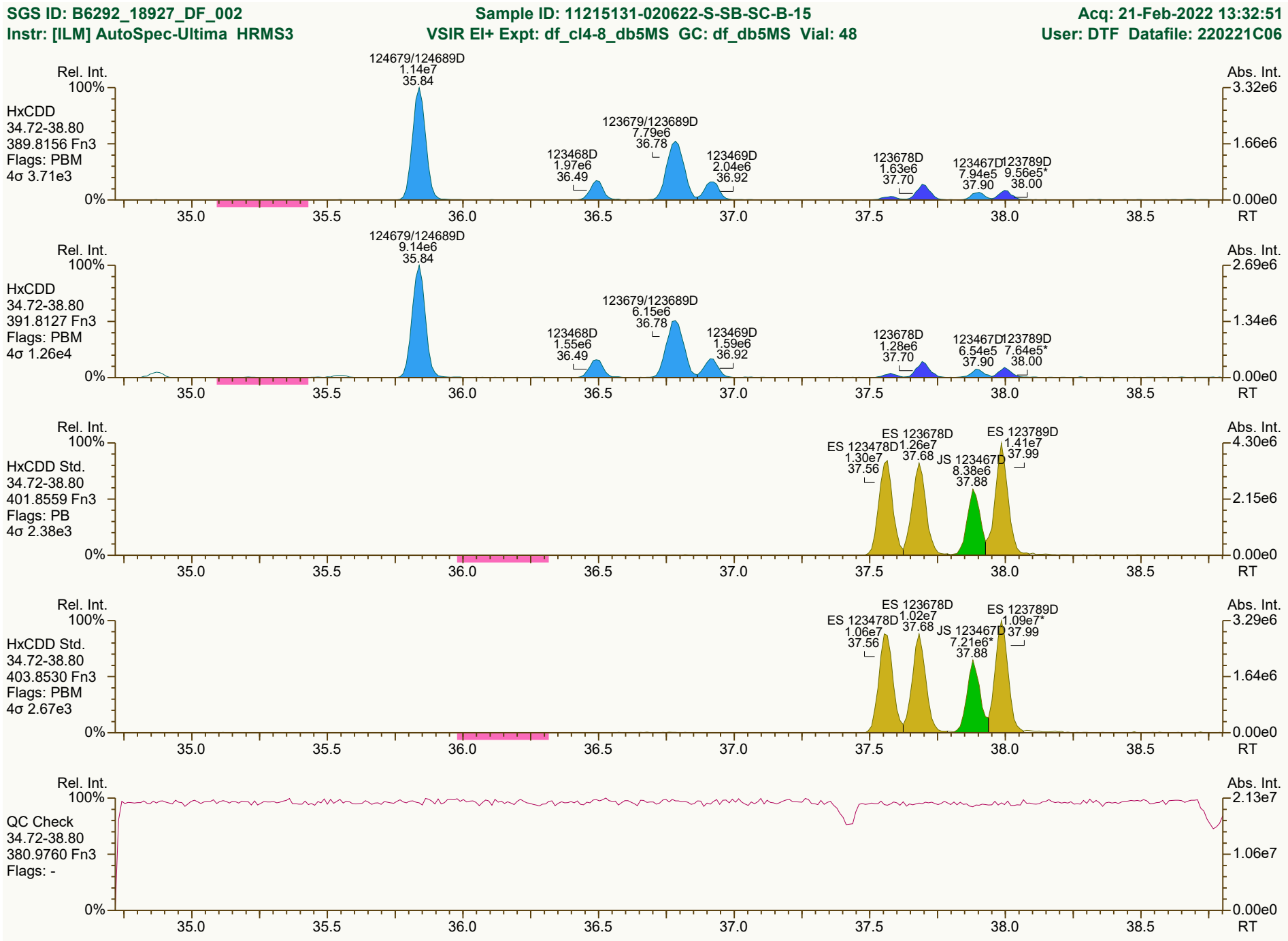
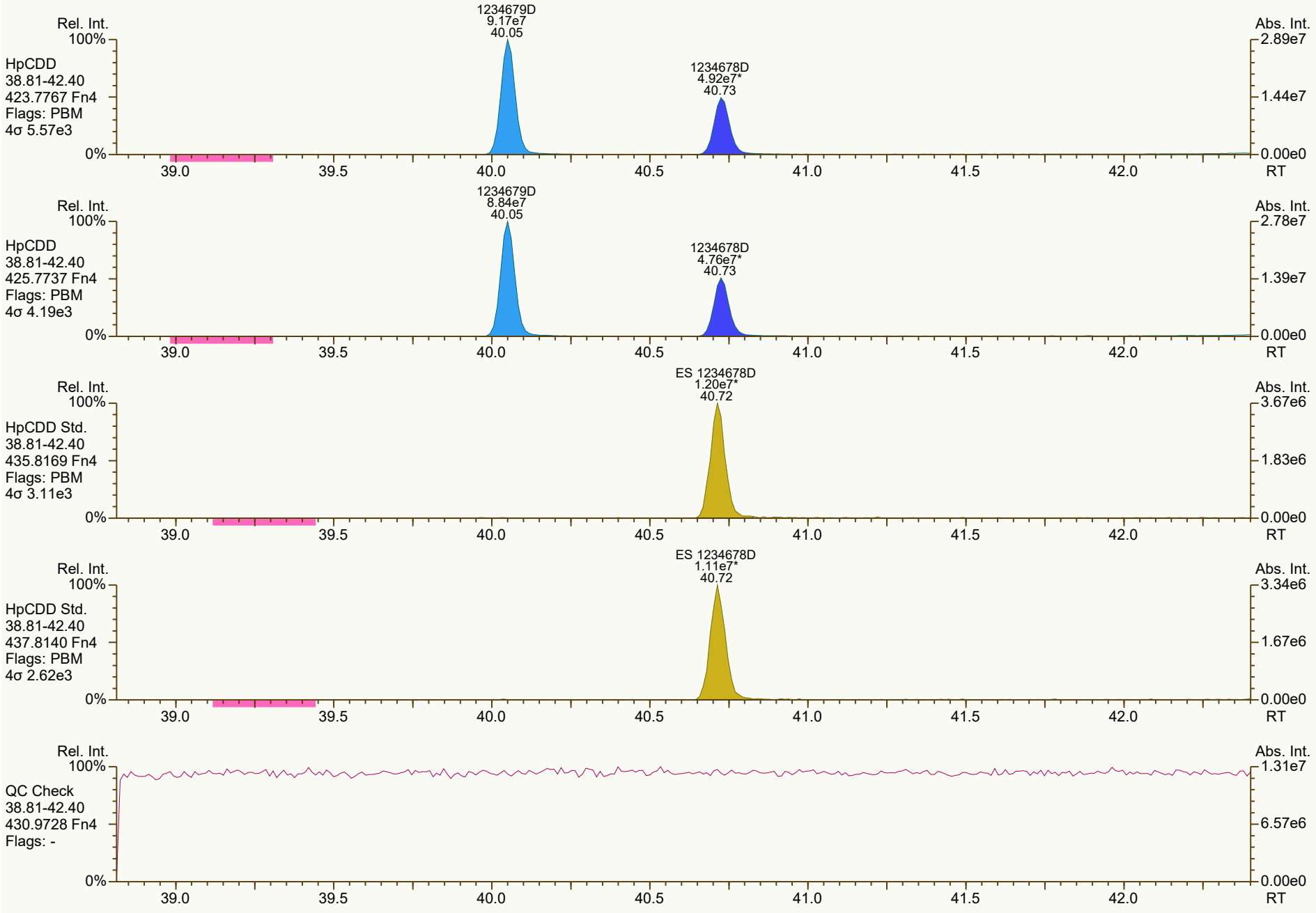
4σ 4.81e3
0%
2378D
5.75e8*
28.27
1278D
5.20e7*
28.60
Abs. Int.
1.41e8
7.04e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 3.28e3
0%
2378D
7.21e8*
28.26
1278D
6.51e7*
28.60
Abs. Int.
1.77e8
8.84e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 5.66e3
0%
CS 37Cl-2378D
1.76e7
28.26
Abs. Int.
4.48e6
2.24e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 8.52e3
0%
JS 1234D
1.61e7
27.58
ES 2378D
1.20e7
28.24
Abs. Int.
3.61e6
1.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.14e3
0%
JS 1234D
1.92e7
27.58
ES 2378D
1.44e7
28.24
Abs. Int.
4.33e6
2.17e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

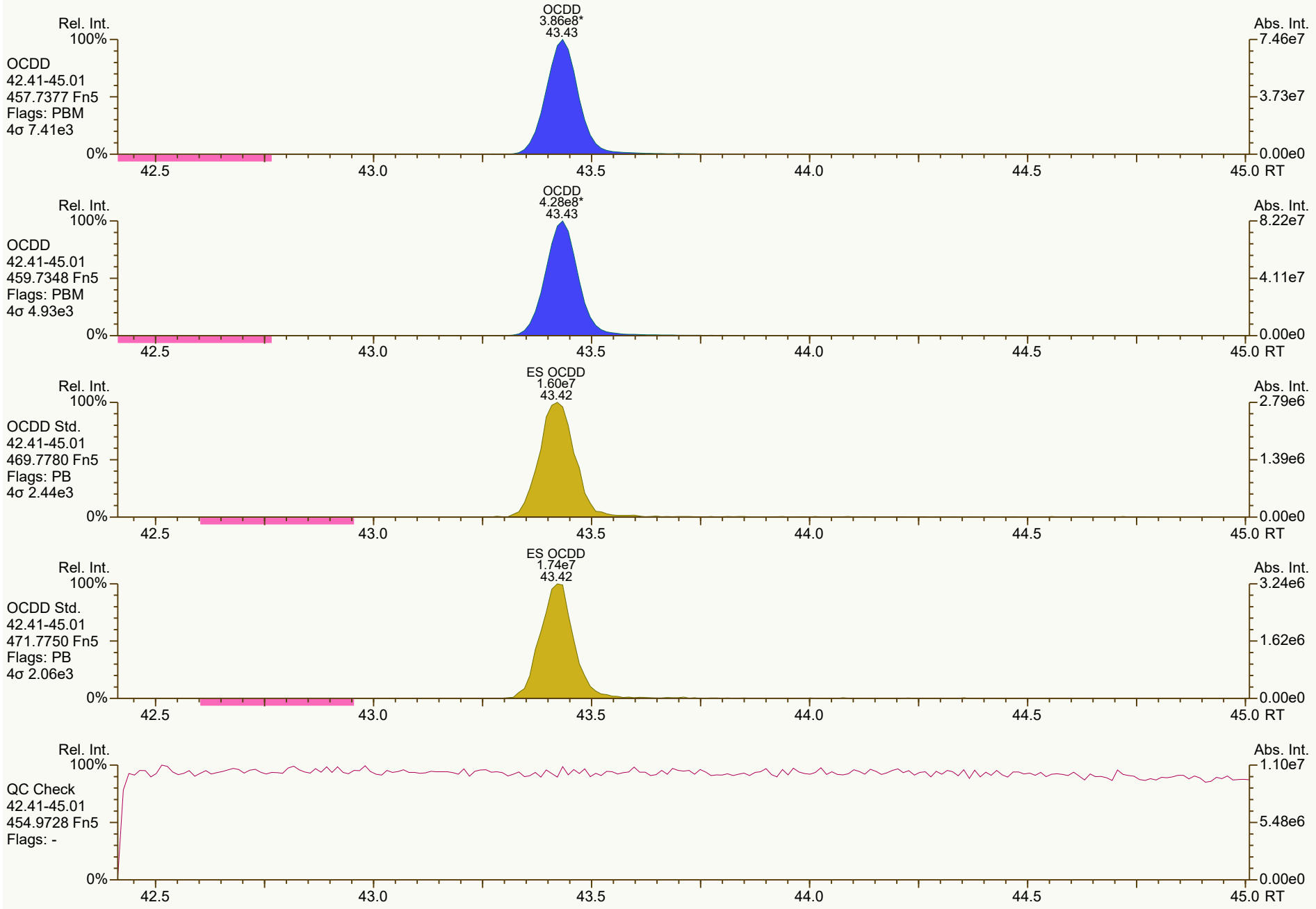

Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 7.00e3
0%
12479/12468D
8.60e5*
31.14
12469D
5.14e5*
31.68
12368D
7.11e5*
32.23
12478D
6.05e5*
32.42
12379D
3.28e5*
32.53
12369D...[3]
4.46e5*
32.79
12378D
6.42e6*
33.66
12367D
3.07e5*
33.75
Abs. Int.
1.80e6
9.02e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 3.63e3
0%
12479/12468D
5.56e5
31.15
12469D
4.51e5*
31.68
12368D
4.52e5*
32.23
12478D
3.61e5*
32.42
12379D
1.88e5*
32.53
12378D
4.10e6*
33.65
12367D
1.71e5*
33.76
Abs. Int.
1.21e6
6.05e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 3.09e3
0%
CS 12347D
1.32e7
33.14
ES 12378D
1.52e7
33.64
Abs. Int.
4.22e6
2.11e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 3.24e3
0%
CS 12347D
8.47e6
33.14
ES 12378D
9.39e6
33.64
Abs. Int.
2.61e6
1.30e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.44e6
2.72e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

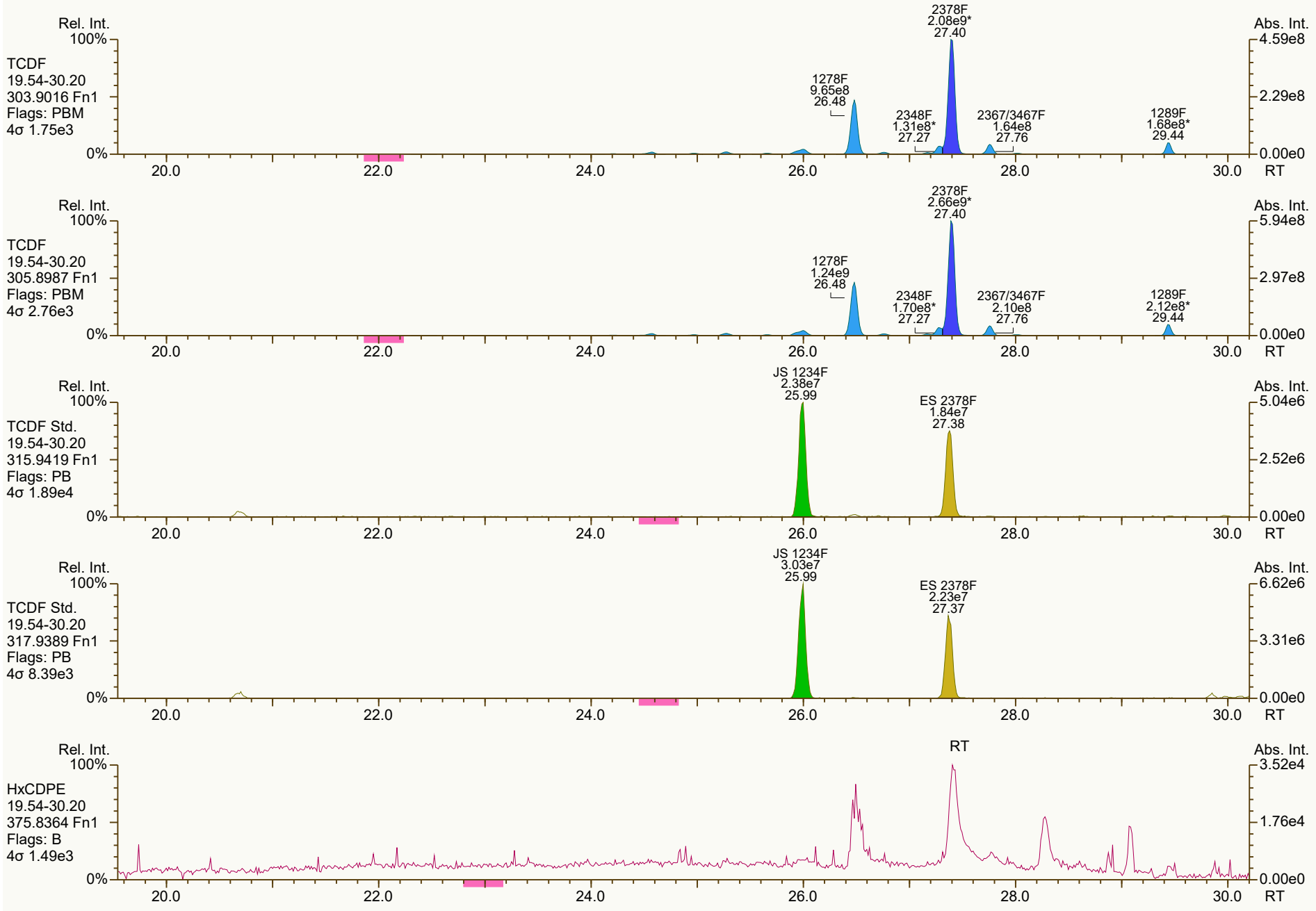
SGS ID: B6292_18927_DF_002 | Sample ID: 11215131-020622-S-SB-SC-B-15 | Acq: 21-Feb-2022 13:32:51
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 48 | User: DTF Datafile: 220221C06



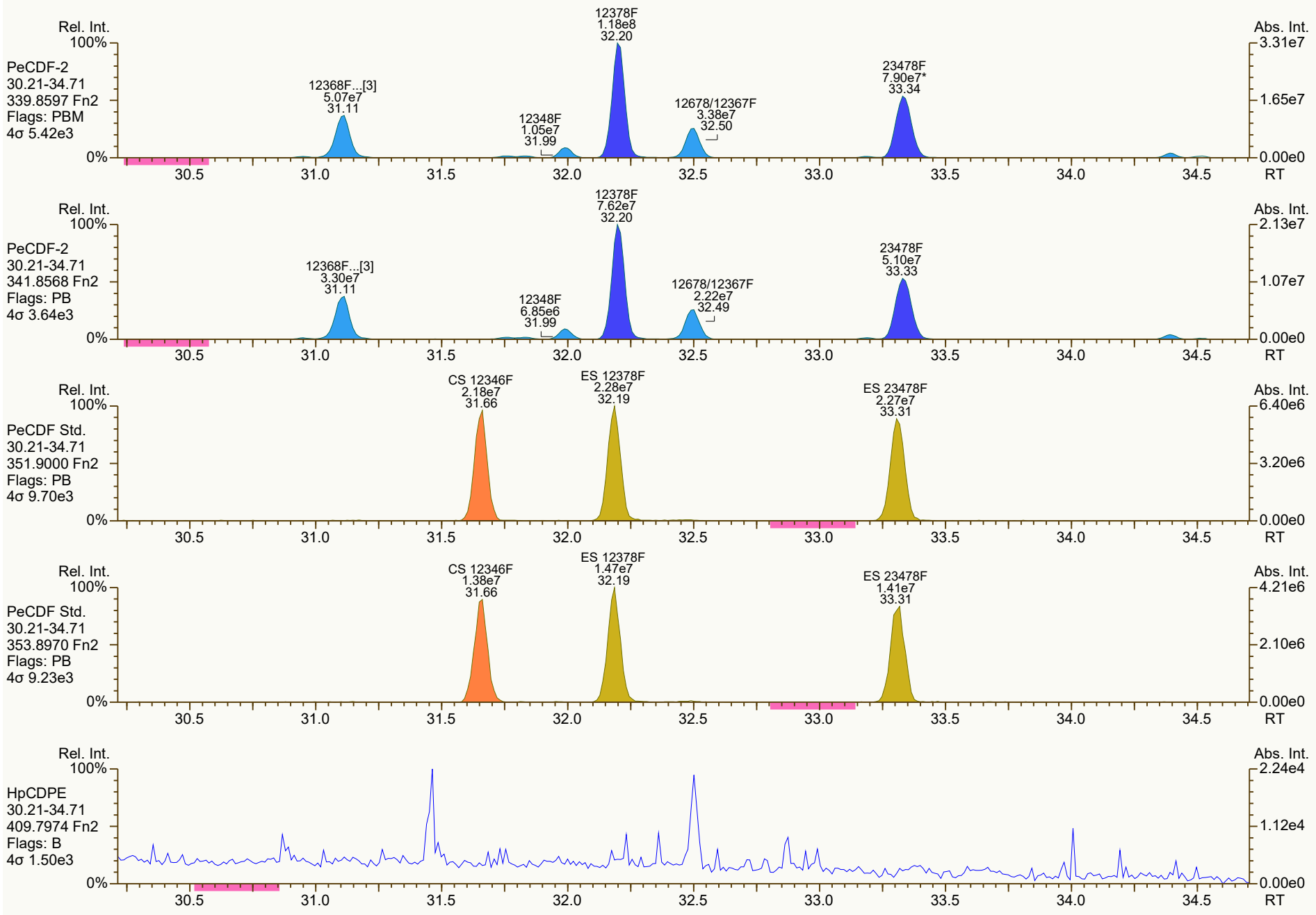
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_002.utp_res, saved 22-Feb-2022 09:25 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4309, 7206 scc: 032-563 | Revised: 21-Feb-2022 15:01 (DTF) Printed: 22-Feb-2022 09:34 Page 4 of 12

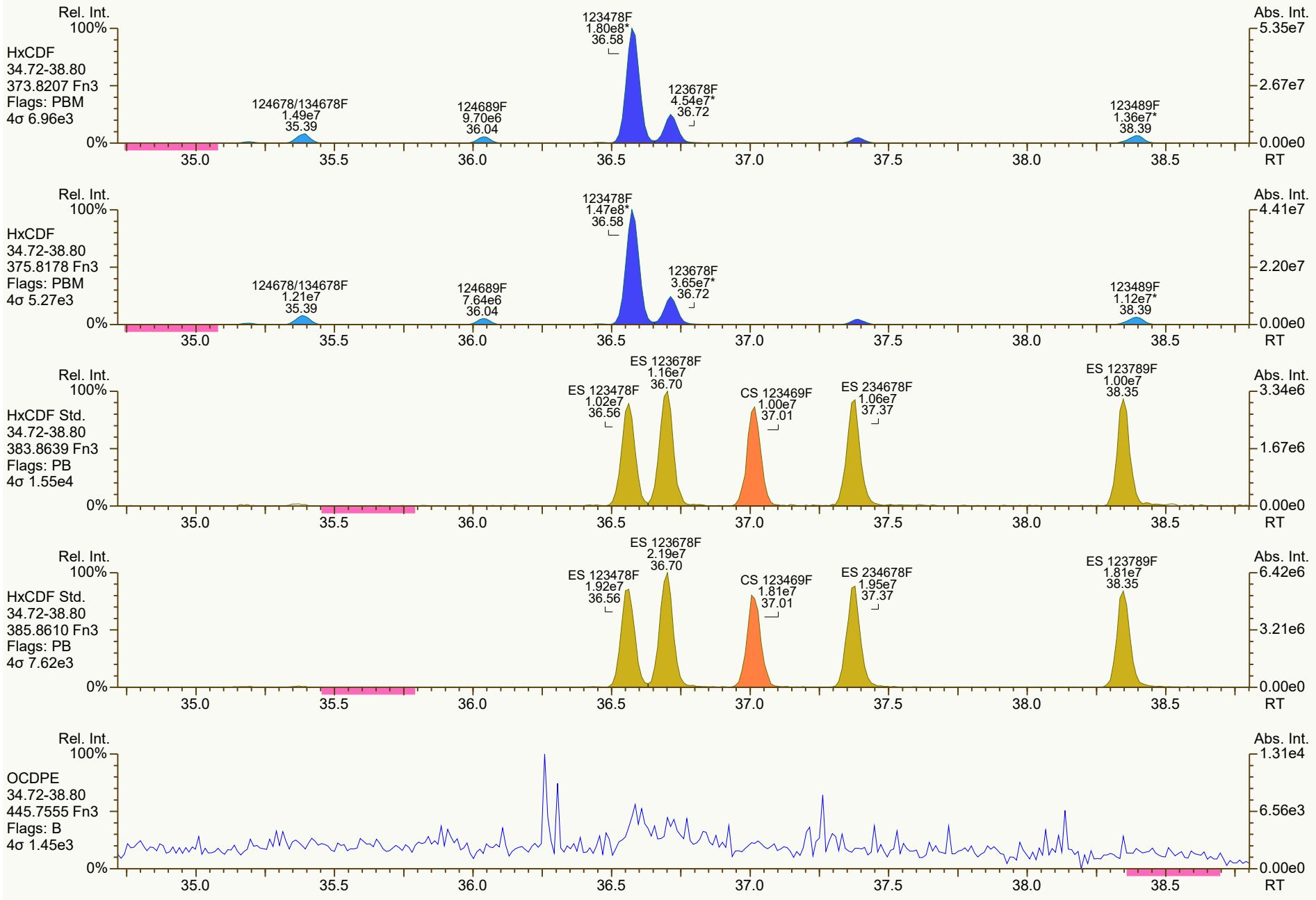

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 5.57e3
1234679D
9.17e7
40.05
1234678D
4.92e7*
40.73
Abs. Int.
2.89e7
1.44e7
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 4.19e3
1234679D
8.84e7
40.05
1234678D
4.76e7*
40.73
Abs. Int.
2.78e7
1.39e7
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 3.11e3
ES 1234678D
1.20e7*
40.72
Abs. Int.
3.67e6
1.83e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 2.62e3
ES 1234678D
1.11e7*
40.72
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.31e7
6.57e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

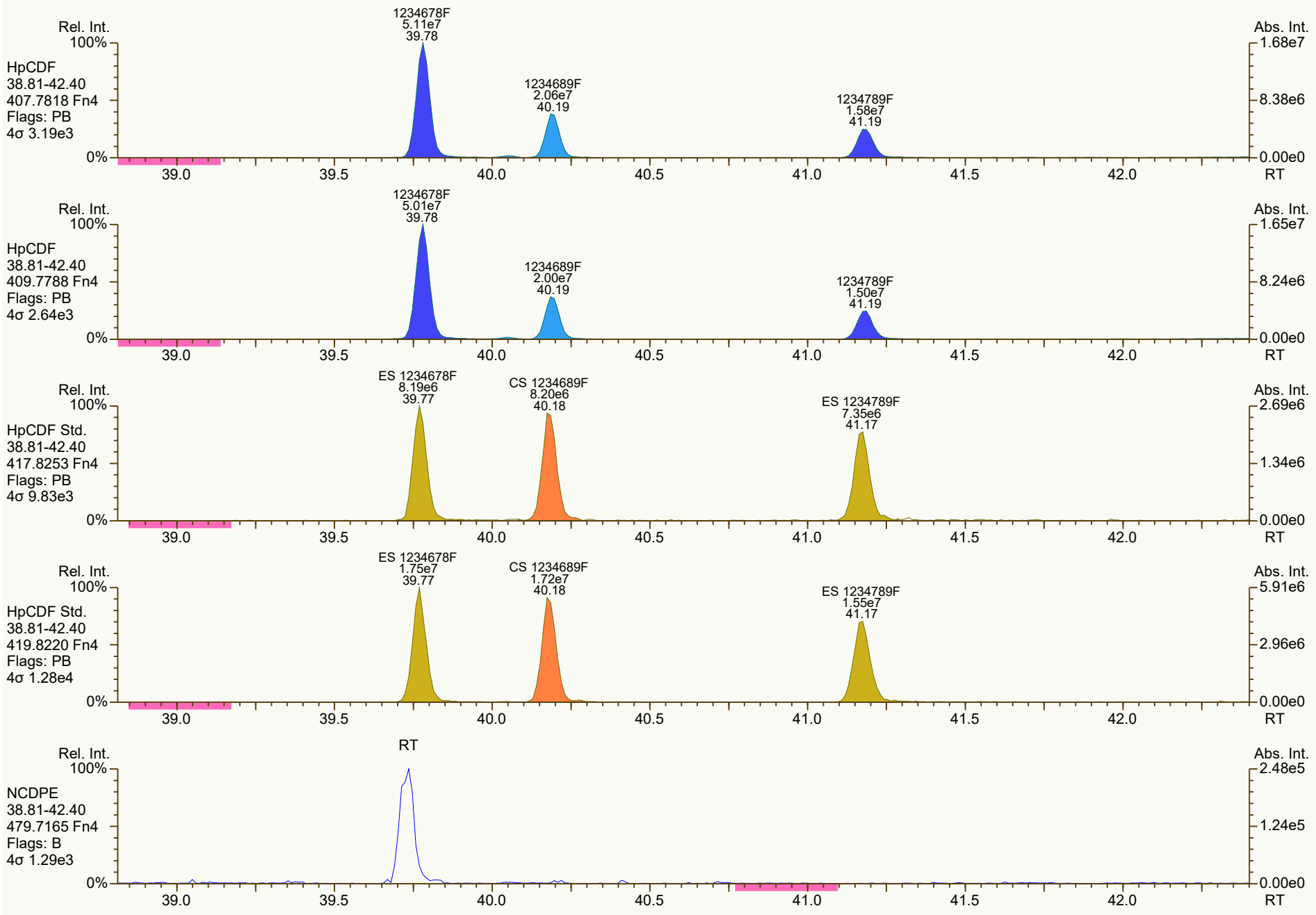

OCDD
3.86e8*
43.43
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 7.41e3
0%
Abs. Int.
7.46e7
3.73e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.28e8*
43.43
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 4.93e3
0%
Abs. Int.
8.22e7
4.11e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.60e7
43.42
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 2.44e3
0%
Abs. Int.
2.79e6
1.39e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.74e7
43.42
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 2.06e3
0%
Abs. Int.
3.24e6
1.62e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.10e7
5.48e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

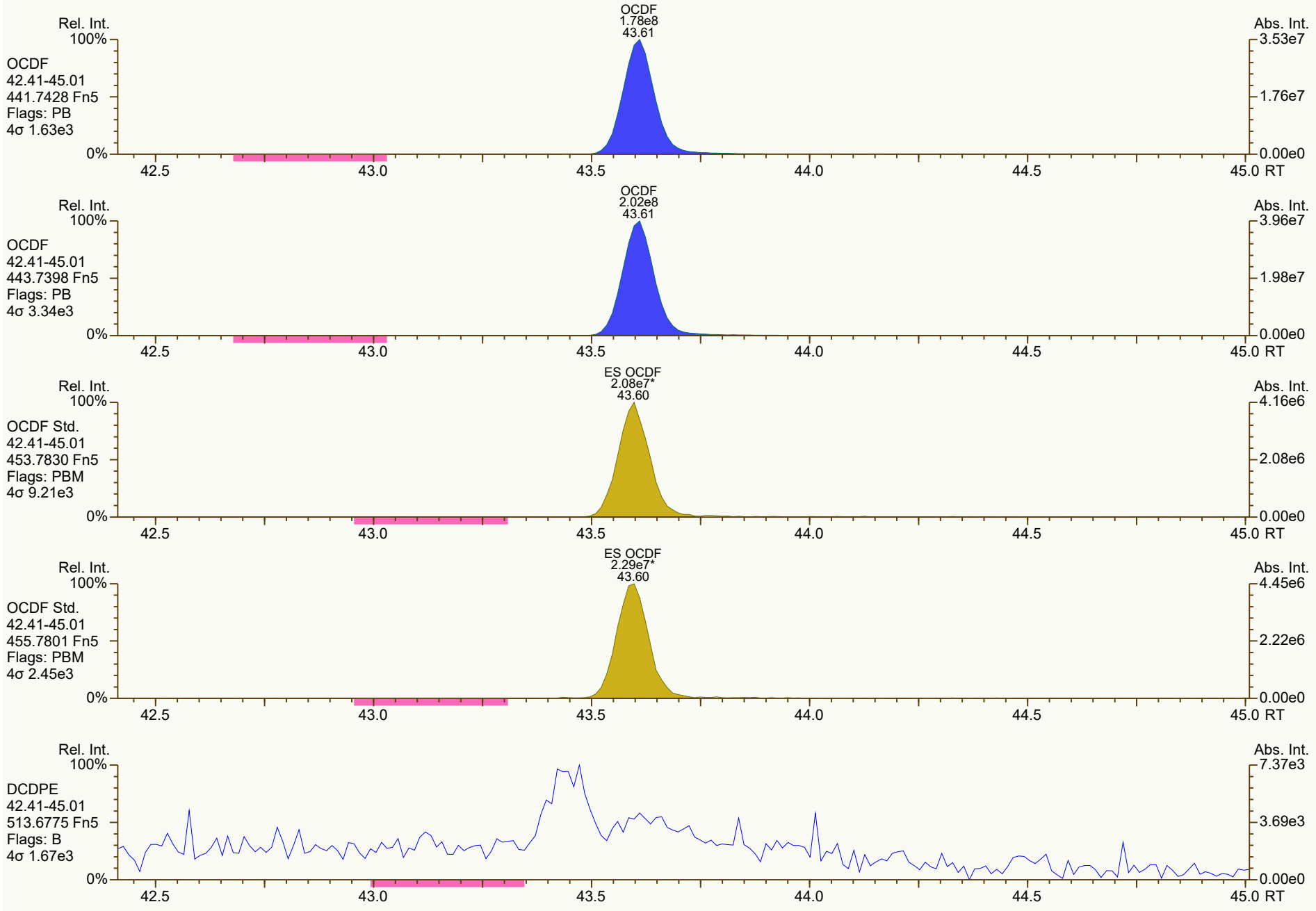

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.75e3
0%
2378F
2.08e9*
27.40
1278F
9.65e8
26.48
2348F
1.31e8*
27.27
2367/3467F
1.64e8
27.76
1289F
1.68e8*
29.44
Abs. Int.
4.59e8
2.29e8
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.76e3
0%
2378F
2.66e9*
27.40
1278F
1.24e9
26.48
2348F
1.70e8*
27.27
2367/3467F
2.10e8
27.76
1289F
2.12e8*
29.44
Abs. Int.
5.94e8
2.97e8
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 1.89e4
0%
JS 1234F
2.38e7
25.99
ES 2378F
1.84e7
27.38
Abs. Int.
5.04e6
2.52e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 8.39e3
0%
JS 1234F
3.03e7
25.99
ES 2378F
2.23e7
27.37
Abs. Int.
6.62e6
3.31e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.49e3
0%
RT
Abs. Int.
3.52e4
1.76e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.72e3
13468/12468F
4.11e6*
29.39
Abs. Int.
1.03e6
5.13e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.51e3
13468/12468F
2.85e6*
29.39
Abs. Int.
7.03e5
3.51e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
1.03e7
5.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 5.42e3
12368F...[3]
5.07e7
31.11
12348F
1.05e7
31.99
12378F
1.18e8
32.20
12678/12367F
3.38e7
32.50
23478F
7.90e7*
33.34
Abs. Int.
3.31e7
1.65e7
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 3.64e3
12368F...[3]
3.30e7
31.11
12348F
6.85e6
31.99
12378F
7.62e7
32.20
12678/12367F
2.22e7
32.49
23478F
5.10e7
33.33
Abs. Int.
2.13e7
1.07e7
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 9.70e3
CS 12346F
2.18e7
31.66
ES 12378F
2.28e7
32.19
ES 23478F
2.27e7
33.31
Abs. Int.
6.40e6
3.20e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 9.23e3
CS 12346F
1.38e7
31.66
ES 12378F
1.47e7
32.19
ES 23478F
1.41e7
33.31
Abs. Int.
4.21e6
2.10e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.50e3
Abs. Int.
2.24e4
1.12e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 6.96e3
123478F
1.80e8*
36.58
124678/134678F
1.49e7
35.39
124689F
9.70e6
36.04
123678F
4.54e7*
36.72
123489F
1.36e7*
38.39
Abs. Int.
5.35e7
2.67e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 5.27e3
123478F
1.47e8*
36.58
124678/134678F
1.21e7
35.39
124689F
7.64e6
36.04
123678F
3.65e7*
36.72
123489F
1.12e7*
38.39
Abs. Int.
4.41e7
2.20e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 1.55e4
ES 123678F
1.16e7
36.70
ES 123478F
1.02e7
36.56
CS 123469F
1.00e7
37.01
ES 234678F
1.06e7
37.37
ES 123789F
1.00e7
38.35
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 7.62e3
ES 123678F
2.19e7
36.70
ES 123478F
1.92e7
36.56
CS 123469F
1.81e7
37.01
ES 234678F
1.95e7
37.37
ES 123789F
1.81e7
38.35
Abs. Int.
6.42e6
3.21e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.45e3
Abs. Int.
1.31e4
6.56e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 3.19e3
1234678F
5.11e7
39.78
1234689F
2.06e7
40.19
1234789F
1.58e7
41.19
Abs. Int.
1.68e7
8.38e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 2.64e3
1234678F
5.01e7
39.78
1234689F
2.00e7
40.19
1234789F
1.50e7
41.19
Abs. Int.
1.65e7
8.24e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 9.83e3
ES 1234678F
8.19e6
39.77
CS 1234689F
8.20e6
40.18
ES 1234789F
7.35e6
41.17
Abs. Int.
2.69e6
1.34e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 1.28e4
ES 1234678F
1.75e7
39.77
CS 1234689F
1.72e7
40.18
ES 1234789F
1.55e7
41.17
Abs. Int.
5.91e6
2.96e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.29e3
RT
Abs. Int.
2.48e5
1.24e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
1.78e8
43.61
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.63e3
0%
Abs. Int.
3.53e7
1.76e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.02e8
43.61
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 3.34e3
0%
Abs. Int.
3.96e7
1.98e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
43.60
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 9.21e3
0%
Abs. Int.
4.16e6
2.08e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
43.60
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 2.45e3
0%
Abs. Int.
4.45e6
2.22e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
7.37e3
3.69e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6292_18927_DF_003 **Acq'd:** 21 Feb 2022 14:19 DTF **Wt/Vol:** 10.08 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-B-15H **UTP:** 22-Feb-2022 09:25:55 DTF **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 099-258-DSW

Datafile: 220221C07 **Report:** 22 Feb 2022 09:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.25		1.0008	1.0008	0	2.22E+07	0.79	Y	1.18	121	5196.948	0.291
12378-PeCDD	33.65	J	1.0007	1.0007	0	3.29E+05	1.68	Y	1.04	2.14	6089.407	0.374
123478-HxCDD	37.57	J EMPC	1.0004	1.0004	0	1.69E+05	1.54	N	1.09	1.17	8739.354	0.525
123678-HxCDD	37.69		1.0036	1.0036	0	6.65E+05	1.31	Y	1.15	4.26	8739.354	0.514
123789-HxCDD	37.99		1.0118	1.0117	-0.2	5.28E+05	1.33	Y	1.05	3.31	8739.354	0.518
1234678-HpCDD	40.73		1.0002	1.0004	+0.5	1.64E+07	1.06	Y	1.06	112	5796.379	0.339
OCDD	43.42		1.0003	1.0003	0	1.85E+08	0.90	Y	1.13	1,650	6745.317	0.763
2378-TCDF	27.38		1.0008	1.0008	0	8.63E+07	0.79	Y	1.08	341	6363.207	0.272
12378-PeCDF	32.18		1.0005	1.0005	0	5.92E+06	1.60	Y	1.02	25.8	7808.063	0.324
23478-PeCDF	33.31		1.0005	1.0007	+0.4	3.09E+06	1.58	Y	1.02	14	7808.063	0.303
123478-HxCDF	36.57		1.0004	1.0005	+0.2	1.53E+07	1.26	Y	1.27	69.4	8841.128	0.334
123678-HxCDF	36.71		1.0004	1.0004	0	3.41E+06	1.25	Y	1.15	14.8	8841.128	0.307
234678-HxCDF	37.38		1.0005	1.0003	-0.4	8.57E+05	1.16	Y	1.19	3.75	8841.128	0.334
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	8841.128	0.381
1234678-HpCDF	39.78		1.0003	1.0002	-0.2	1.34E+07	1.05	Y	1.37	64.2	5202.756	0.199
1234789-HpCDF	41.18		1.0003	1.0003	0	2.24E+06	1.01	Y	1.31	12.9	5202.756	0.276
OCDF	43.59		1.0002	1.0003	+0.3	1.88E+08	0.88	Y	1.07	1,320	4126.435	0.357

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.23	1.0243	1.0243	0	3.08E+07	0.82	Y	1.05	82
ES 12378-PeCDD	33.63	1.2198	1.2203	+1.0	2.95E+07	1.57	Y	0.88	93.4
ES 123478-HxCDD	37.55	0.9916	0.9915	-0.2	2.62E+07	1.29	Y	0.97	84.9
ES 123678-HxCDD	37.68	0.9947	0.9948	+0.2	2.70E+07	1.21	Y	0.94	90
ES 123789-HxCDD	37.98	1.0029	1.0027	-0.5	3.02E+07	1.25	Y	1.09	87.2
ES 1234678-HpCDD	40.72	1.0749	1.0750	+0.2	2.75E+07	1.10	Y	0.91	95
ES OCDD	43.41	1.1460	1.1462	+0.5	3.94E+07	0.89	Y	0.62	99.4
ES 2378-TCDF	27.36	1.0531	1.0532	+0.2	4.65E+07	0.81	Y	1.06	81.1
ES 12378-PeCDF	32.16	1.2378	1.2382	+0.8	4.44E+07	1.57	Y	0.91	90.1
ES 23478-PeCDF	33.29	1.2810	1.2815	+1.0	4.30E+07	1.58	Y	0.88	90.1
ES 123478-HxCDF	36.55	0.9650	0.9651	+0.2	3.44E+07	0.53	Y	1.20	90.6
ES 123678-HxCDF	36.69	0.9688	0.9688	0	3.97E+07	0.54	Y	1.35	92.7
ES 234678-HxCDF	37.37	0.9866	0.9866	0	3.82E+07	0.54	Y	1.24	96.9
ES 123789-HxCDF	38.34	1.0125	1.0125	0	3.33E+07	0.52	Y	1.16	90.7
ES 1234678-HpCDF	39.77	1.0501	1.0501	0	3.02E+07	0.46	Y	0.97	98.2
ES 1234789-HpCDF	41.17	1.0870	1.0871	+0.2	2.64E+07	0.48	Y	0.85	97.6
ES OCDF	43.58	1.1505	1.1507	+0.5	5.26E+07	0.91	Y	0.81	103

Lab ID: B6292_18927_DF_003 **Acq'd:** 21 Feb 2022 14:19 DTF **Wt/Vol:** 10.08 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-B-15H **UTP:** 22-Feb-2022 09:25:55 DTF **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 099-258-DSW

Datafile: 220221C07 **Report:** 22 Feb 2022 09:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.56		-	-	-	3.59E+07	0.82	Y	-	-
JS 1234-TCDF	25.97		-	-	-	5.41E+07	0.79	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	1.59E+07	1.20	Y	-	-
CS 37Cl-2378-TCDD	28.25		1.0251	1.0251	0	1.41E+07	n/a	-	1.20	81.7
CS 12347-PeCDD	33.12		1.2016	1.2017	+0.2	2.65E+07	1.54	Y	0.75	98
CS 12346-PeCDF	31.63		1.2172	1.2176	+0.8	4.37E+07	1.58	Y	0.85	94.8
CS 123469-HxCDF	37.00		0.9771	0.9770	-0.2	3.46E+07	0.55	Y	1.12	97.5
CS 1234689-HpCDF	40.18		1.0608	1.0609	+0.2	2.90E+07	0.46	Y	0.89	103
SS 37Cl-2378-TCDD	28.25		1.0251	1.0251	0	1.41E+07	n/a	-	1.15	100
SS 12347-PeCDD	33.12		1.2016	1.2017	+0.2	2.65E+07	1.54	Y	0.86	105
SS 12346-PeCDF	31.63		1.2172	1.2176	+0.8	4.37E+07	1.58	Y	0.94	105
SS 123469-HxCDF	37.00		0.9771	0.9770	-0.2	3.46E+07	0.55	Y	0.83	105
SS 1234689-HpCDF	40.18		1.0608	1.0609	+0.2	2.90E+07	0.46	Y	0.92	105

Totals	Conc	EMPC
Total TCDD	137	144
Total PeCDD	12.9	13.4
Total HxCDD	63.1	64.2
Total HpCDD	282	282
Total Tetra-Octa Dioxins	2150	2150
Total TCDF	693	696
Total PeCDF	75	76.8
Total HxCDF	121	123
Total HpCDF	122	122
Total Tetra-Octa Furans	2,340	2340
Total Tetra-Octa Dioxins & Furans	4480	4500

Lab ID: B6292_18927_DF_003 **Acq'd: 21 Feb 2022 14:19 DTF** **Wt/Vol: 10.08 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-B-15H **UTP: 22-Feb-2022 09:25:55 DTF** **J-level: 0.496 pg/g** **Split: 1** **Checkcode: 099-258-DSW**

Datafile: 220221C07 **Report: 22 Feb 2022 09:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.55	EMPC	0.8701	0.8698	-0.4	3.05E+05	1.04	N	1.18	1.66	5196.948	0.291
1379-TCDD	24.91	EMPC	0.8829	0.8827	-0.3	1.27E+05	0.65	N	1.18	0.692	5196.948	0.291
1369-TCDD	NotFnd		0.8982						1.18		5196.948	0.291
1469-TCDD	26.14		0.9261	0.9261	0	8.16E+05	0.69	Y	1.18	4.44	5196.948	0.291
1247/1246/1248/1249-TCDD	26.37	EMPC	0.9348	0.9342	-0.9	1.24E+05	0.92	N	1.18	0.674	5196.948	0.291
1378-TCDD	26.57	EMPC	0.9417	0.9415	-0.3	1.18E+05	1.12	N	1.18	0.64	5196.948	0.291
1268-TCDD	NotFnd		0.9487						1.18		5196.948	0.291
1478-TCDD	NotFnd		0.9576						1.18		5196.948	0.291
1279-TCDD	NotFnd		0.9636						1.18		5196.948	0.291
1234/1269-TCDD	27.55	EMPC	0.9761	0.9762	+0.2	1.64E+05	0.90	N	1.18	0.894	5196.948	0.291
1236-TCDD	NotFnd		0.9812						1.18		5196.948	0.291
1237/1238-TCDD	27.95	EMPC	0.9905	0.9904	-0.2	4.18E+05	0.91	N	1.18	2.28	5196.948	0.291
1239-TCDD	NotFnd		0.9951						1.18		5196.948	0.291
2378-TCDD	**28.25**		**1.0008**	1.0008	**0**	2.22E+07	0.79	Y	**1.18**	**121**	**5196.948**	**0.291**
1278-TCDD	28.58		1.0124	1.0124	0	2.08E+06	0.80	Y	1.18	11.3	5196.948	0.291
1267-TCDD	NotFnd		1.0172						1.18		5196.948	0.291
1289-TCDD	29.22	EMPC	1.0354	1.0352	-0.4	1.04E+05	1.26	N	1.18	0.564	5196.948	0.291
12479/12468-PeCDD	31.11		0.9255	0.9253	-0.4	4.57E+05	1.53	Y	1.04	2.96	6089.407	0.374
12469-PeCDD	31.66		0.9416	0.9414	-0.4	4.98E+05	1.70	Y	1.04	3.23	6089.407	0.374
12368-PeCDD	32.21	J	0.9582	0.9579	-0.6	1.84E+05	1.73	Y	1.04	1.2	6089.407	0.374
12478-PeCDD	32.41	J	0.9637	0.9637	0	1.55E+05	1.41	Y	1.04	1.01	6089.407	0.374
12379-PeCDD	32.51	J EMPC	0.9668	0.9667	-0.2	7.99E+04	1.20	N	1.04	0.519	6089.407	0.374
12369/12467/12489-PeCDD	32.77	J	0.9746	0.9745	-0.2	3.57E+05	1.73	Y	1.04	2.32	6089.407	0.374
12346/12347-PeCDD	NotFnd		0.9858						1.04		6089.407	0.374
12378-PeCDD	33.65	J	**1.0007**	**1.0007**	**0**	**3.29E+05**	**1.68**	**Y**	**1.04**	**2.14**	**6089.407**	**0.374**
12367-PeCDD	NotFnd		1.0036						1.04		6089.407	0.374
12389-PeCDD	NotFnd		1.0137						1.04		6089.407	0.374
124679/124689-HxCDD	35.82		0.9540	0.9540	0	4.98E+06	1.31	Y	1.10	32.5	8739.354	0.518
123468-HxCDD	36.48		0.9715	0.9715	0	4.66E+05	1.43	Y	1.10	3.04	8739.354	0.518
123679/123689-HxCDD	36.78		0.9793	0.9793	0	2.61E+06	1.24	Y	1.10	17	8739.354	0.518
123469-HxCDD	36.90	J	0.9829	0.9825	-0.9	2.78E+05	1.32	Y	1.10	1.81	8739.354	0.518
123478-HxCDD	37.57	J EMPC	**1.0004**	**1.0004**	**0**	**1.69E+05**	**1.54**	**N**	1.09	**1.17**	**8739.354**	**0.525**
123678-HxCDD	37.69		**1.0036**	**1.0036**	**0**	**6.65E+05**	**1.31**	**Y**	1.15	**4.26**	**8739.354**	**0.514**
123467-HxCDD	37.89	J	1.0089	1.0090	+0.2	1.76E+05	1.33	Y	1.10	1.15	8739.354	0.518
123789-HxCDD	37.99		**1.0118**	**1.0117**	**-0.2**	**5.28E+05**	**1.33**	**Y**	1.05	**3.31**	**8739.354**	**0.518**

Lab ID: B6292_18927_DF_003 **Acq'd: 21 Feb 2022 14:19 DTF** **Wt/Vol: 10.08 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-B-15H **UTP: 22-Feb-2022 09:25:55 DTF** **J-level: 0.496 pg/g** **Split: 1** **Checkcode: 099-258-DSW**

Datafile: 220221C07 **Report: 22 Feb 2022 09:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

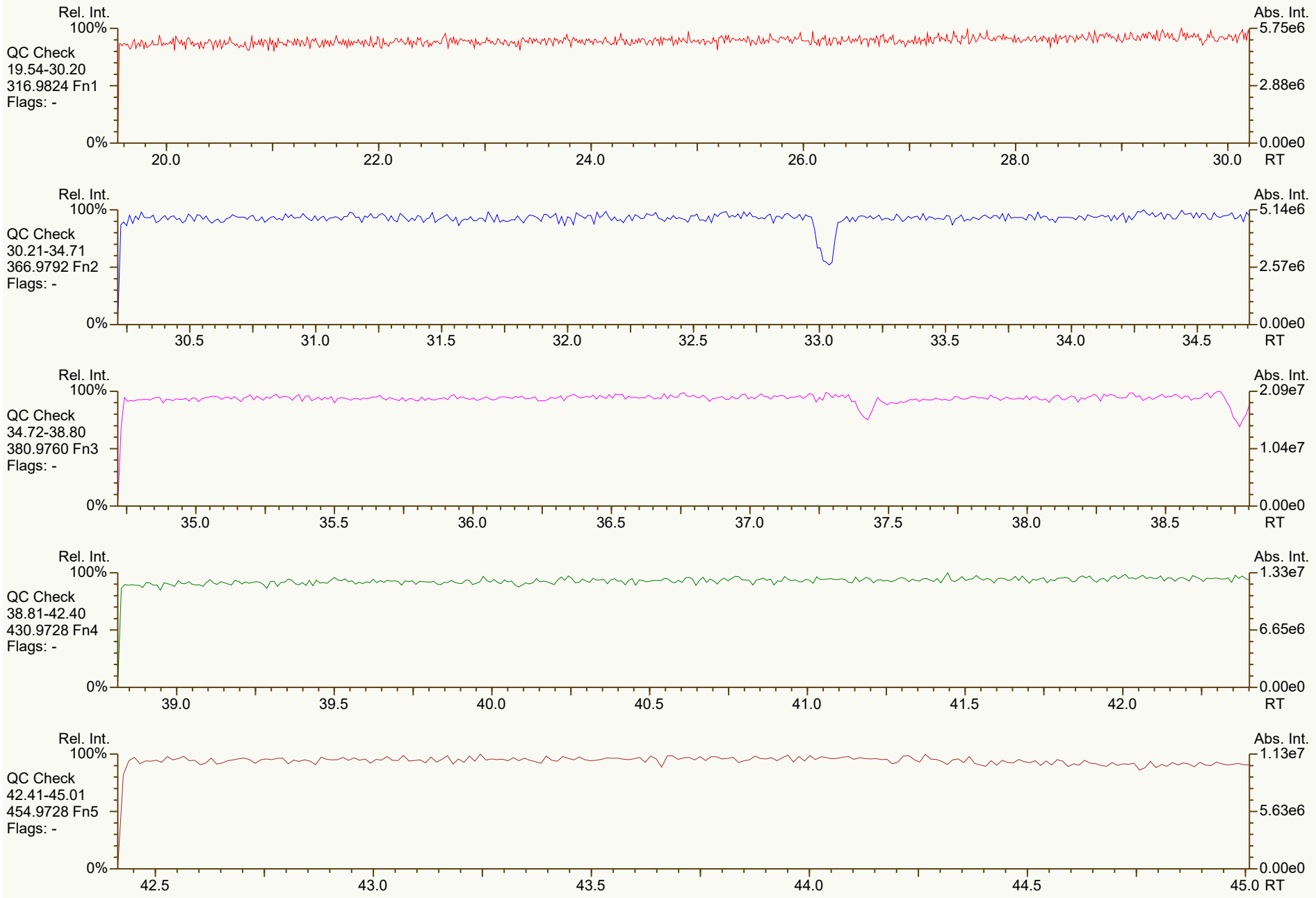
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.05		0.9836	0.9836	0	2.51E+07	1.04	Y	1.06	170	5796.379	0.339
1234678-HpCDD	**40.73**		**1.0002**	**1.0004**	**+0.5**	**1.64E+07**	**1.06**	**Y**	**1.06**	**112**	**5796.379**	**0.339**
OCDD	**43.42**		**1.0003**	**1.0003**	**0**	**1.85E+08**	**0.90**	**Y**	**1.13**	**1,650**	**6745.317**	**0.763**
OCDD-a	43.42		1.0002	1.0002	0	1.16E+07	2.45	Y	0.07	1,620	8273.151	14.6
1368-TCDF	22.40		0.8191	0.8187	-0.5	1.62E+05	0.79	Y	1.08	0.641	6363.207	0.272
1468-TCDF	22.99		0.8408	0.8404	-0.6	3.98E+05	0.79	Y	1.08	1.57	6363.207	0.272
2468-TCDF	23.64		0.8645	0.8642	-0.4	9.12E+05	0.79	Y	1.08	3.61	6363.207	0.272
1346/1246-TCDF	NotFnd		0.8772						1.08		6363.207	0.272
1347/1378/1247-TCDF	24.17		0.8833	0.8834	+0.1	1.41E+06	0.73	Y	1.08	5.56	6363.207	0.272
1348-TCDF	NotFnd		0.8932						1.08		6363.207	0.272
1248/1367/1379-TCDF	24.52		0.8980	0.8962	-2.6	4.93E+06	0.75	Y	1.08	19.5	6363.207	0.272
1268-TCDF	24.95		0.9119	0.9119	0	1.89E+06	0.74	Y	1.08	7.49	6363.207	0.272
1467-TCDF	25.08	EMPC	0.9170	0.9168	-0.3	3.04E+05	0.92	N	1.08	1.2	6363.207	0.272
1478-TCDF	25.25		0.9234	0.9230	-0.6	4.08E+06	0.76	Y	1.08	16.1	6363.207	0.272
1369/1237-TCDF	25.64		0.9369	0.9371	+0.3	9.94E+05	0.77	Y	1.08	3.93	6363.207	0.272
2467-TCDF	25.76		0.9415	0.9418	+0.5	2.32E+05	0.75	Y	1.08	0.919	6363.207	0.272
2368-TCDF	25.92		0.9475	0.9476	+0.2	3.52E+06	0.79	Y	1.08	13.9	6363.207	0.272
1238/1234/1678/1469/1236-TCDF	26.00		0.9507	0.9504	-0.5	4.01E+06	0.82	Y	1.08	15.9	6363.207	0.272
1278-TCDF	26.47		0.9676	0.9675	-0.2	4.04E+07	0.78	Y	1.08	160	6363.207	0.272
1349-TCDF	NotFnd		0.9722						1.08		6363.207	0.272
1267-TCDF	26.75		0.9777	0.9777	0	2.43E+06	0.83	Y	1.08	9.62	6363.207	0.272
2346/1249-TCDF	26.96	EMPC	0.9843	0.9854	+1.8	3.59E+05	0.98	N	1.08	1.42	6363.207	0.272
2347/1279-TCDF	27.15		0.9926	0.9925	-0.2	1.28E+06	0.79	Y	1.08	5.05	6363.207	0.272
2348-TCDF	27.26		0.9968	0.9966	-0.3	6.38E+06	0.78	Y	1.08	25.2	6363.207	0.272
2378-TCDF	**27.38**		**1.0008**	**1.0008**	**0**	**8.63E+07**	**0.79**	**Y**	**1.08**	**341**	**6363.207**	**0.272**
2367/3467-TCDF	27.73		1.0142	1.0139	-0.5	7.44E+06	0.76	Y	1.08	29.4	6363.207	0.272
1269-TCDF	27.99		1.0235	1.0231	-0.7	1.46E+06	0.87	Y	1.08	5.77	6363.207	0.272
1239-TCDF	NotFnd		1.0329						1.08		6363.207	0.272
1289-TCDF	29.40		1.0742	1.0749	+1.2	7.06E+06	0.81	Y	1.08	27.9	6363.207	0.272
13468/12468-PeCDF	29.35		0.9122	0.9127	+0.9	1.78E+06	1.63	Y	1.02	7.89	2753.589	0.111
13678/13467/12467-PeCDF	30.91	J EMPC	0.9606	0.9612	+1.1	2.35E+05	1.92	N	1.02	1.04	7808.063	0.314
12368/13478/12478-PeCDF	31.07		0.9655	0.9662	+1.3	3.33E+06	1.47	Y	1.02	14.8	7808.063	0.314
14678-PeCDF	NotFnd		0.9685						1.02		7808.063	0.314
13479-PeCDF	NotFnd		0.9716						1.02		7808.063	0.314
13469/12479-PeCDF	NotFnd		0.9794						1.02		7808.063	0.314
12346-PeCDF	NotFnd		0.9836						1.02		7808.063	0.314

Lab ID: B6292_18927_DF_003 **Acq'd: 21 Feb 2022 14:19 DTF** **Wt/Vol: 10.08 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-B-15H **UTP: 22-Feb-2022 09:25:55 DTF** **J-level: 0.496 pg/g** **Split: 1** **Checkcode: 099-258-DSW**

Datafile: 220221C07 **Report: 22 Feb 2022 09:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.74		0.9866	0.9869	+0.6	6.65E+05	1.43	Y	1.02	2.95	7808.063	0.314
12347-PeCDF	NotFnd		0.9891						1.02		7808.063	0.314
12348-PeCDF	31.96	J	0.9938	0.9939	+0.2	5.26E+05	1.40	Y	1.02	2.34	7808.063	0.314
12378-PeCDF	**32.18**		**1.0005**	**1.0005**	**0**	**5.92E+06**	**1.60**	**Y**	**1.02**	**25.8**	**7808.063**	**0.324**
12678/12367-PeCDF	32.47		1.0091	1.0097	+1.2	1.54E+06	1.62	Y	1.02	6.82	7808.063	0.314
12379-PeCDF	NotFnd		1.0144						1.02		7808.063	0.314
12679-PeCDF	NotFnd		0.9927						1.02		7808.063	0.314
23467/12369-PeCDF	33.17	J	0.9965	0.9965	0	9.52E+04	1.63	Y	1.02	0.423	7808.063	0.314
23478-PeCDF	**33.31**		**1.0005**	**1.0007**	**+0.4**	**3.09E+06**	**1.58**	**Y**	**1.02**	**14**	**7808.063**	**0.303**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7808.063	0.314
12349-PeCDF	NotFnd		1.0101						1.02		7808.063	0.314
12389-PeCDF	34.39	J EMPC	1.0330	1.0331	+0.2	1.75E+05	1.23	N	1.02	0.777	7808.063	0.314
123468-HxCDF	35.17		0.9622	0.9622	0	6.66E+05	1.30	Y	1.19	3.04	8841.128	0.337
124678/134678-HxCDF	35.37		0.9678	0.9677	-0.2	2.80E+06	1.18	Y	1.19	12.8	8841.128	0.337
134679-HxCDF	NotFnd		0.9741						1.19		8841.128	0.337
124679-HxCDF	NotFnd		0.9795						1.19		8841.128	0.337
124689-HxCDF	36.02		0.9856	0.9856	0	2.45E+06	1.18	Y	1.19	11.2	8841.128	0.337
123467-HxCDF	36.45	J EMPC	0.9972	0.9972	0	3.17E+05	2.06	N	1.19	1.44	8841.128	0.337
123478-HxCDF	**36.57**		**1.0004**	**1.0005**	**+0.2**	**1.53E+07**	**1.26**	**Y**	**1.27**	**69.4**	**8841.128**	**0.334**
123678-HxCDF	**36.71**		**1.0004**	**1.0004**	**0**	**3.41E+06**	**1.25**	**Y**	**1.15**	**14.8**	**8841.128**	**0.307**
123479-HxCDF	NotFnd		1.0048						1.19		8841.128	0.337
123469-HxCDF	37.01	J	1.0089	1.0088	-0.2	1.70E+05	1.38	Y	1.19	0.776	8841.128	0.337
123679-HxCDF	NotFnd		0.9942						1.19		8841.128	0.337
234678-HxCDF	**37.38**		**1.0005**	**1.0003**	**-0.4**	**8.57E+05**	**1.16**	**Y**	**1.19**	**3.75**	**8841.128**	**0.334**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		8841.128	0.337
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**8841.128**	**0.381**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.38		1.0006	1.0010	+0.9	1.22E+06	1.29	Y	1.19	5.59	8841.128	0.337
1234678-HpCDF	**39.78**		**1.0003**	**1.0002**	**-0.2**	**1.34E+07**	**1.05**	**Y**	**1.37**	**64.2**	**5202.756**	**0.199**
1234679-HpCDF	40.05		1.0068	1.0069	+0.2	5.63E+05	1.13	Y	1.34	2.95	5202.756	0.235
1234689-HpCDF	40.19		1.0104	1.0105	+0.2	8.03E+06	1.01	Y	1.34	42.1	5202.756	0.235
1234789-HpCDF	**41.18**		**1.0003**	**1.0003**	**0**	**2.24E+06**	**1.01**	**Y**	**1.31**	**12.9**	**5202.756**	**0.276**
OCDF	**43.59**		**1.0002**	**1.0003**	**+0.3**	**1.88E+08**	**0.88**	**Y**	**1.07**	**1,320**	**4126.435**	**0.357**
OCDF-a	43.59		1.0001	1.0002	+0.3	1.20E+07	2.48	Y	0.07	1,360	3485.309	4.87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100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
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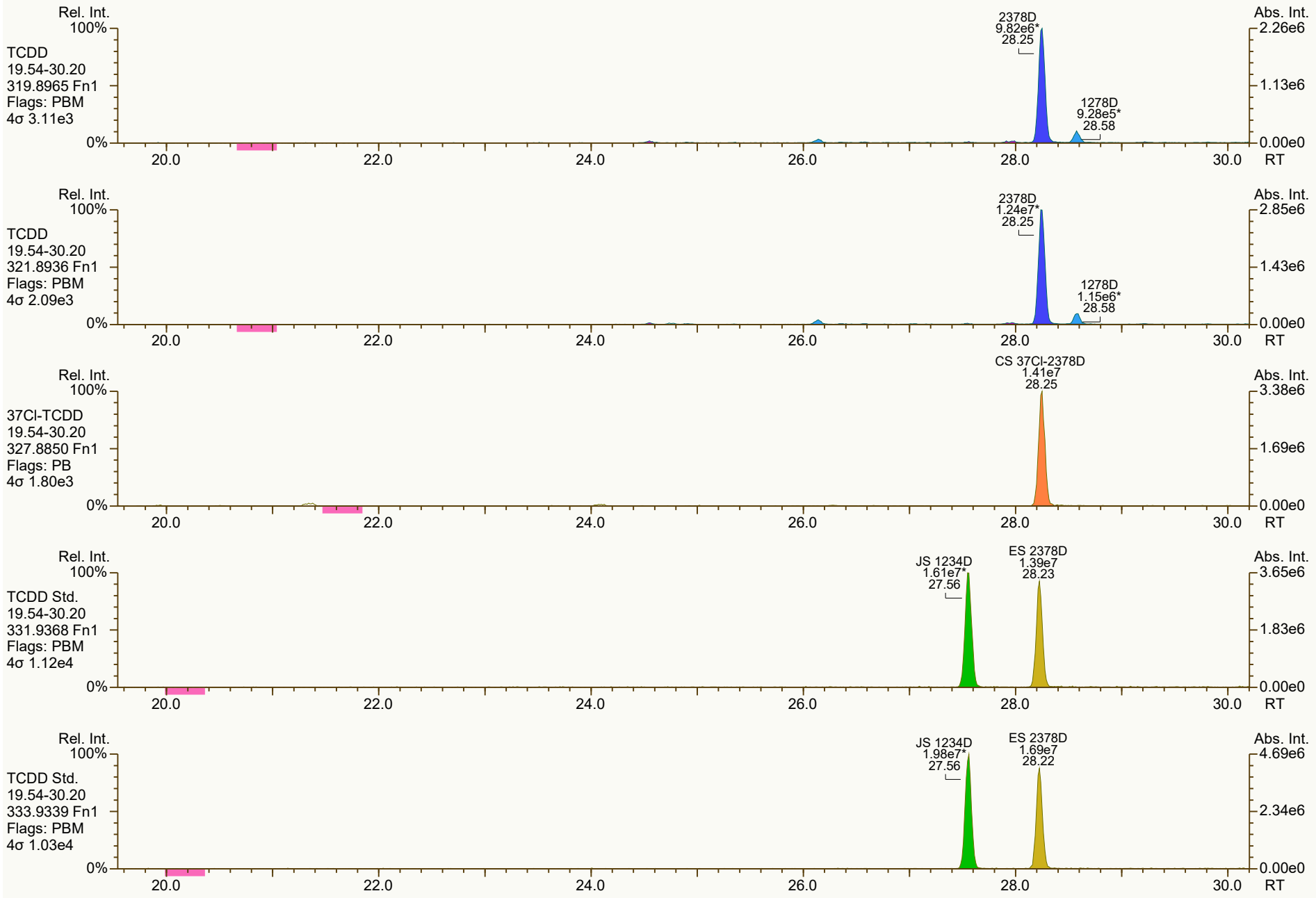
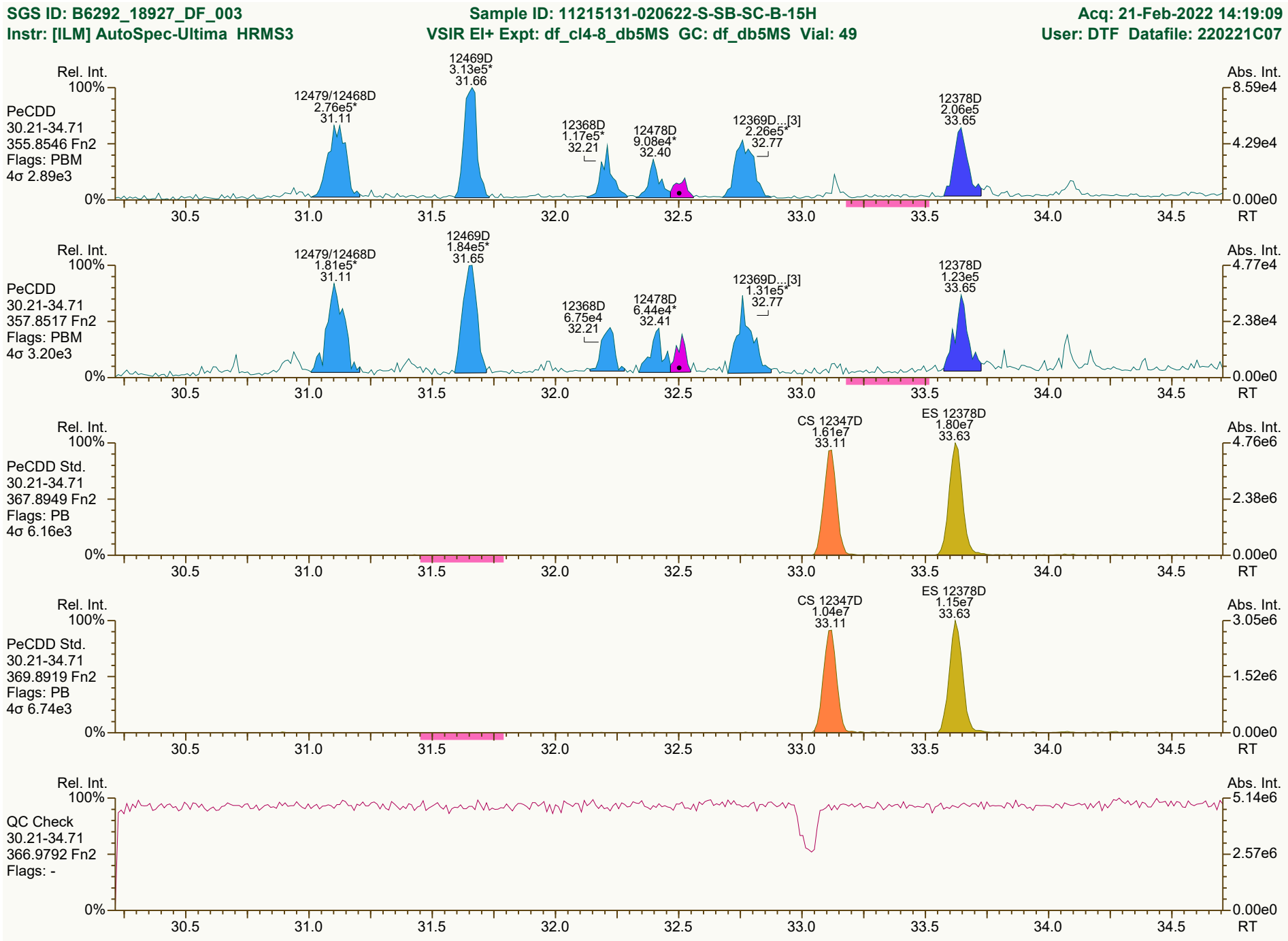
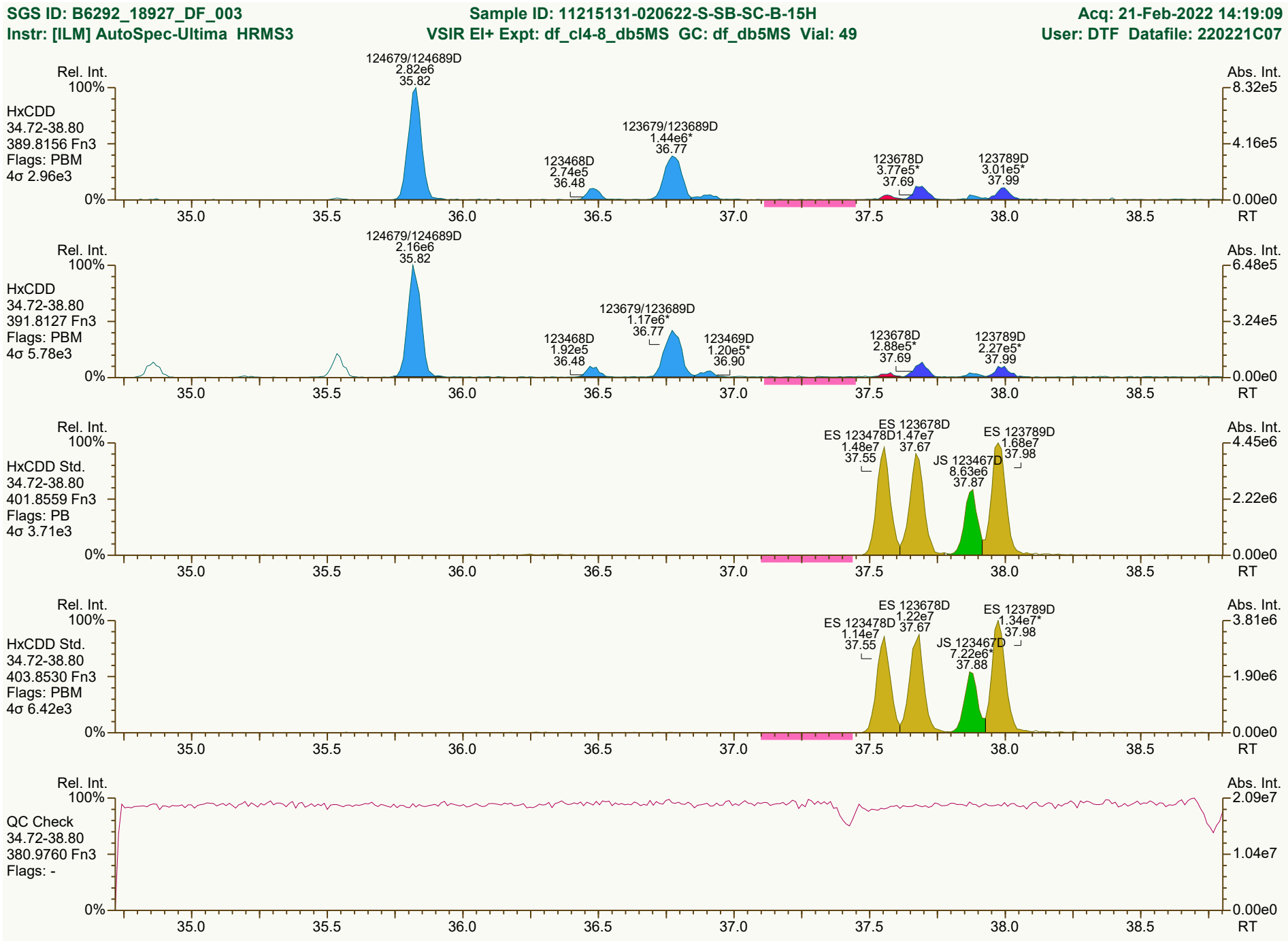
2.88e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.14e6
2.57e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.09e7
1.04e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.33e7
6.65e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.13e7
5.63e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT

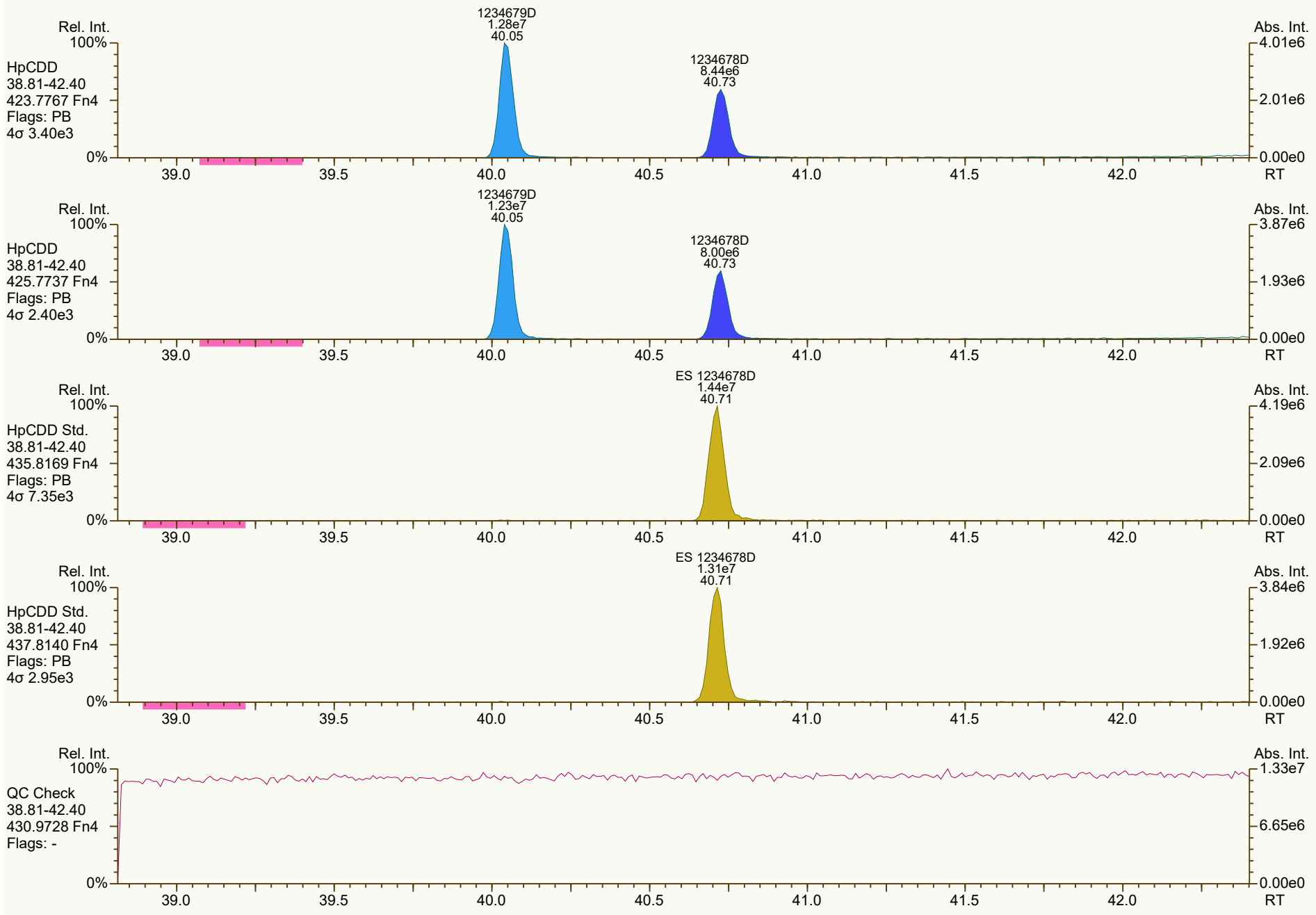

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 3.11e3
0%
2378D
9.82e6*
28.25
1278D
9.28e5*
28.58
Abs. Int.
2.26e6
1.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.09e3
0%
2378D
1.24e7*
28.25
1278D
1.15e6*
28.58
Abs. Int.
2.85e6
1.43e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.80e3
0%
CS 37Cl-2378D
1.41e7
28.25
Abs. Int.
3.38e6
1.69e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PBM
4σ 1.12e4
0%
JS 1234D
1.61e7*
27.56
ES 2378D
1.39e7
28.23
Abs. Int.
3.65e6
1.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PBM
4σ 1.03e4
0%
JS 1234D
1.98e7*
27.56
ES 2378D
1.69e7
28.22
Abs. Int.
4.69e6
2.34e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

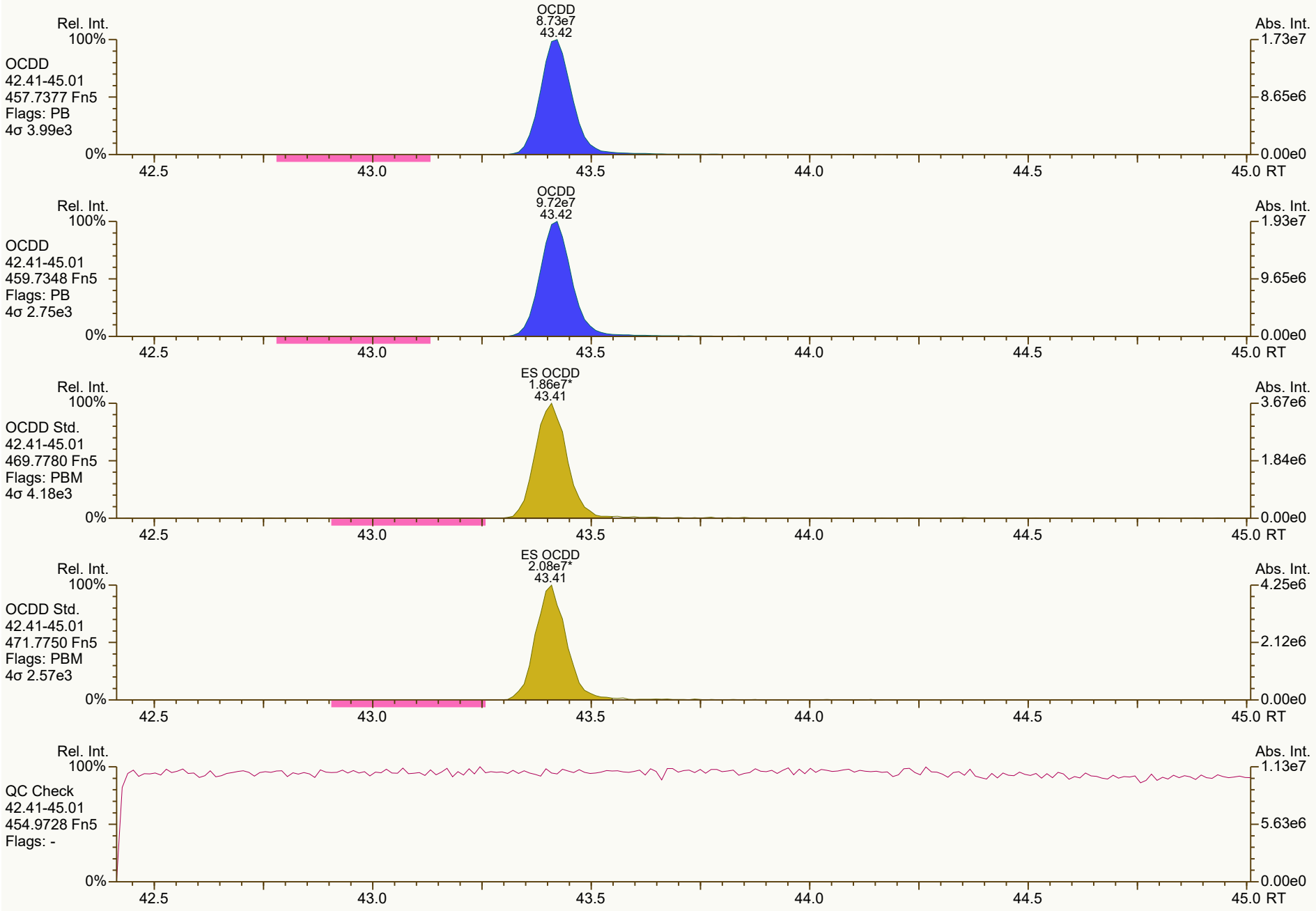


Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_003.utp_res, saved 22-Feb-2022 09:25 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1903, 1830 scc: 099-258 *Revised: 21-Feb-2022 15:56 (DTF) Printed: 22-Feb-2022 09:35 Page 3 of 12*

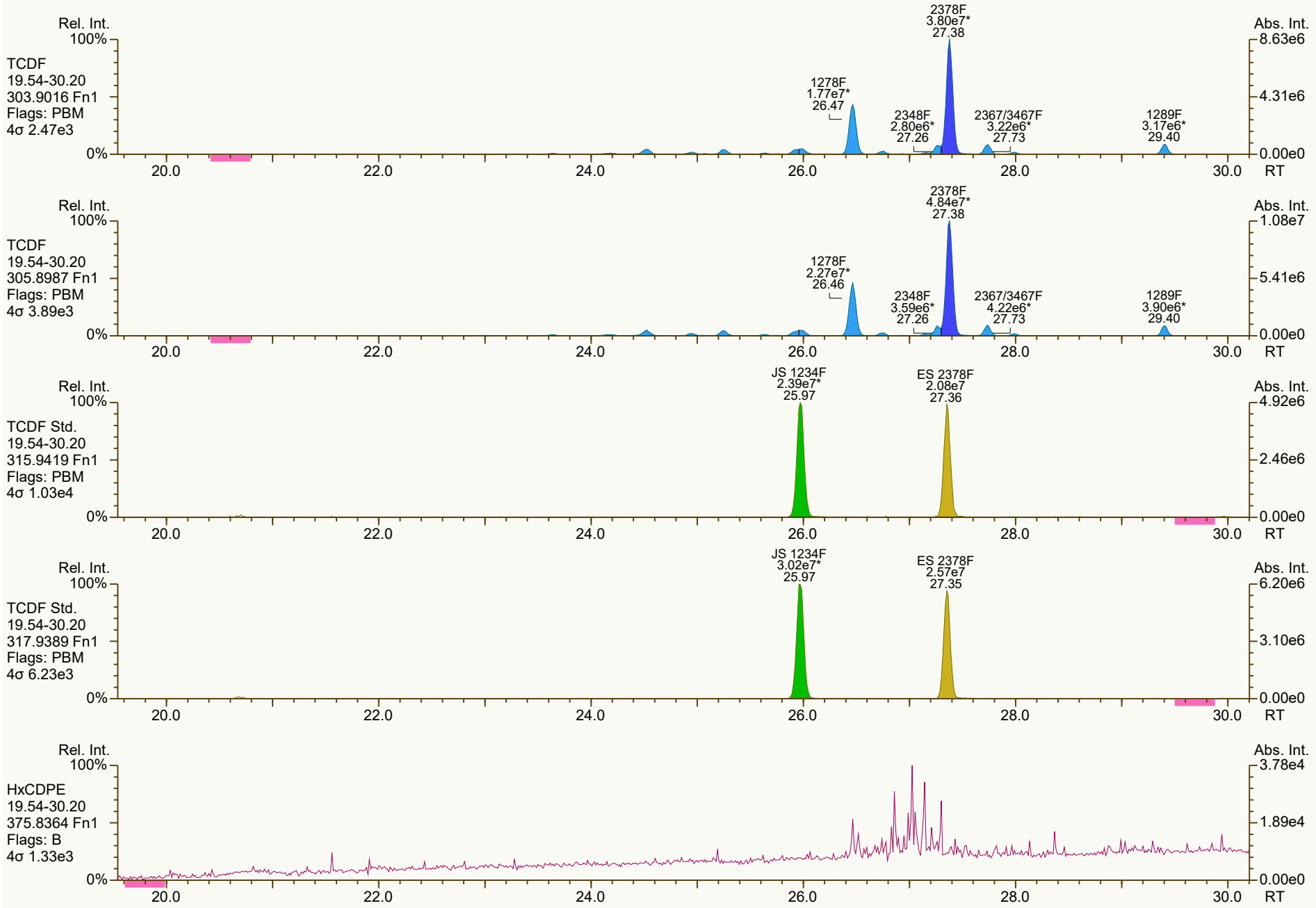

SGS ID: B6292_18927_DF_003
Sample ID: 11215131-020622-S-SB-SC-B-15H
Acq: 21-Feb-2022 14:19:09
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 49
User: DTF Datafile: 220221C07
Rel. Int.
Abs. Int.
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 2.96e3
124679/124689D
2.82e6
35.82
123679/123689D
1.44e6*
36.77
123468D
2.74e5
36.48
123678D
3.77e5*
37.69
123789D
3.01e5*
37.99
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 5.78e3
124679/124689D
2.16e6
35.82
123679/123689D
1.17e6*
36.77
123468D
1.92e5
36.48
123469D
1.20e5*
36.90
123678D
2.88e5*
37.69
123789D
2.27e5*
37.99
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 3.71e3
ES 123678D
1.47e7
37.67
ES 123478D
1.48e7
37.55
ES 123789D
1.68e7
37.98
JS 123467D
8.63e6
37.87
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 6.42e3
ES 123678D
1.22e7
37.67
ES 123478D
1.14e7
37.55
ES 123789D
1.34e7*
37.98
JS 123467D
7.22e6*
37.88
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
8.32e5
4.16e5
0.00e0
6.48e5
3.24e5
4.45e6
2.22e6
3.81e6
1.90e6
2.09e7
1.04e7
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_003.utp_res, saved 22-Feb-2022 09:25 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7848, 6394 scc: 099-258
Revised: 21-Feb-2022 15:57 (DTF) Printed: 22-Feb-2022 09:35 Page 4 of 12


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 3.40e3
1234679D
1.28e7
40.05
1234678D
8.44e6
40.73
Abs. Int.
4.01e6
2.01e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 2.40e3
1234679D
1.23e7
40.05
1234678D
8.00e6
40.73
Abs. Int.
3.87e6
1.93e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 7.35e3
ES 1234678D
1.44e7
40.71
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.95e3
ES 1234678D
1.31e7
40.71
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.33e7
6.65e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 3.99e3
0%
OCDD
8.73e7
43.42
Abs. Int.
1.73e7
8.65e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 2.75e3
0%
OCDD
9.72e7
43.42
Abs. Int.
1.93e7
9.65e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 4.18e3
0%
ES OCDD
1.86e7*
43.41
Abs. Int.
3.67e6
1.84e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 2.57e3
0%
ES OCDD
2.08e7*
43.41
Abs. Int.
4.25e6
2.12e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.13e7
5.63e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

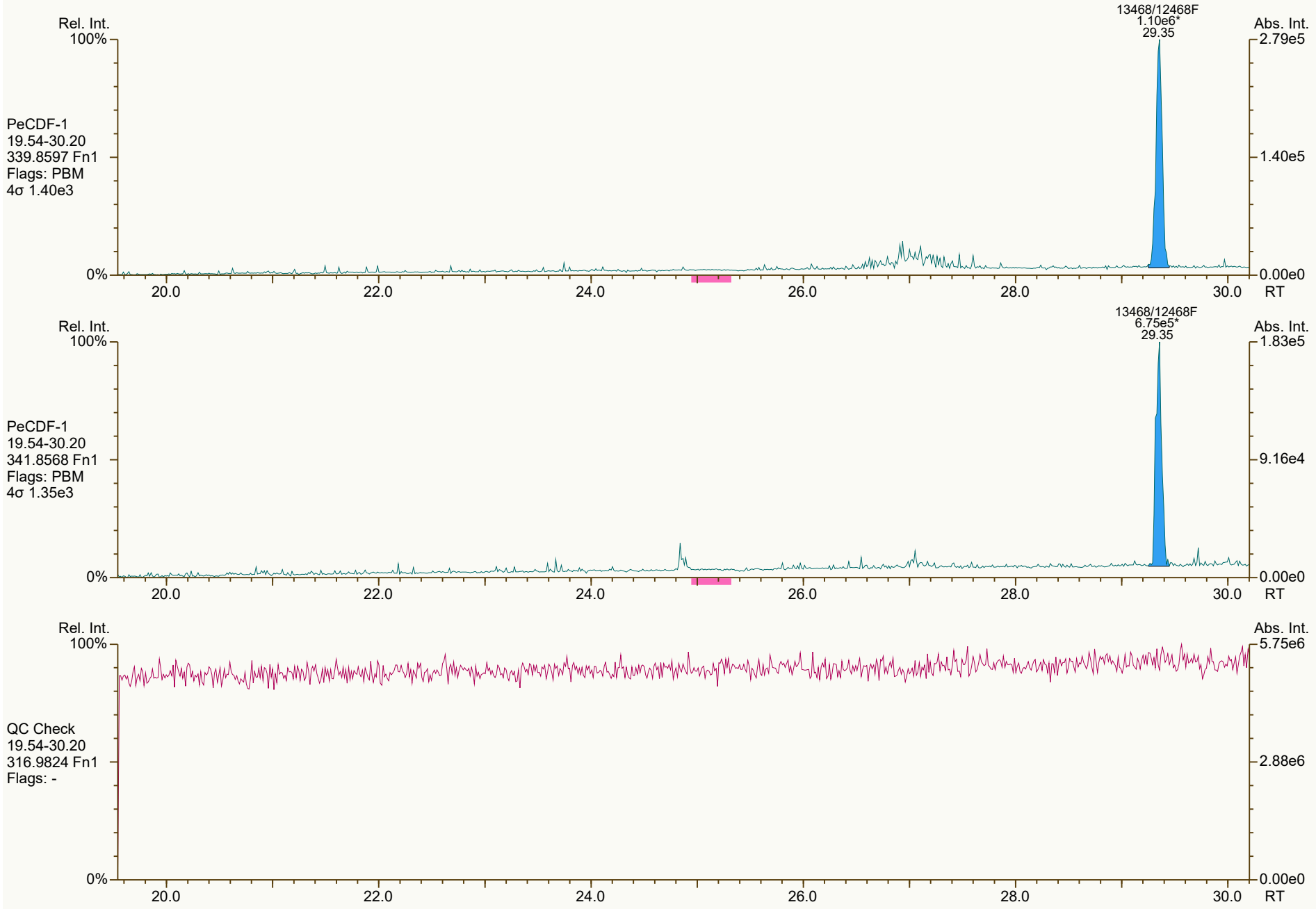
SGS ID: B6292_18927_DF_003 | Sample ID: 11215131-020622-S-SB-SC-B-15H | Acq: 21-Feb-2022 14:19:09

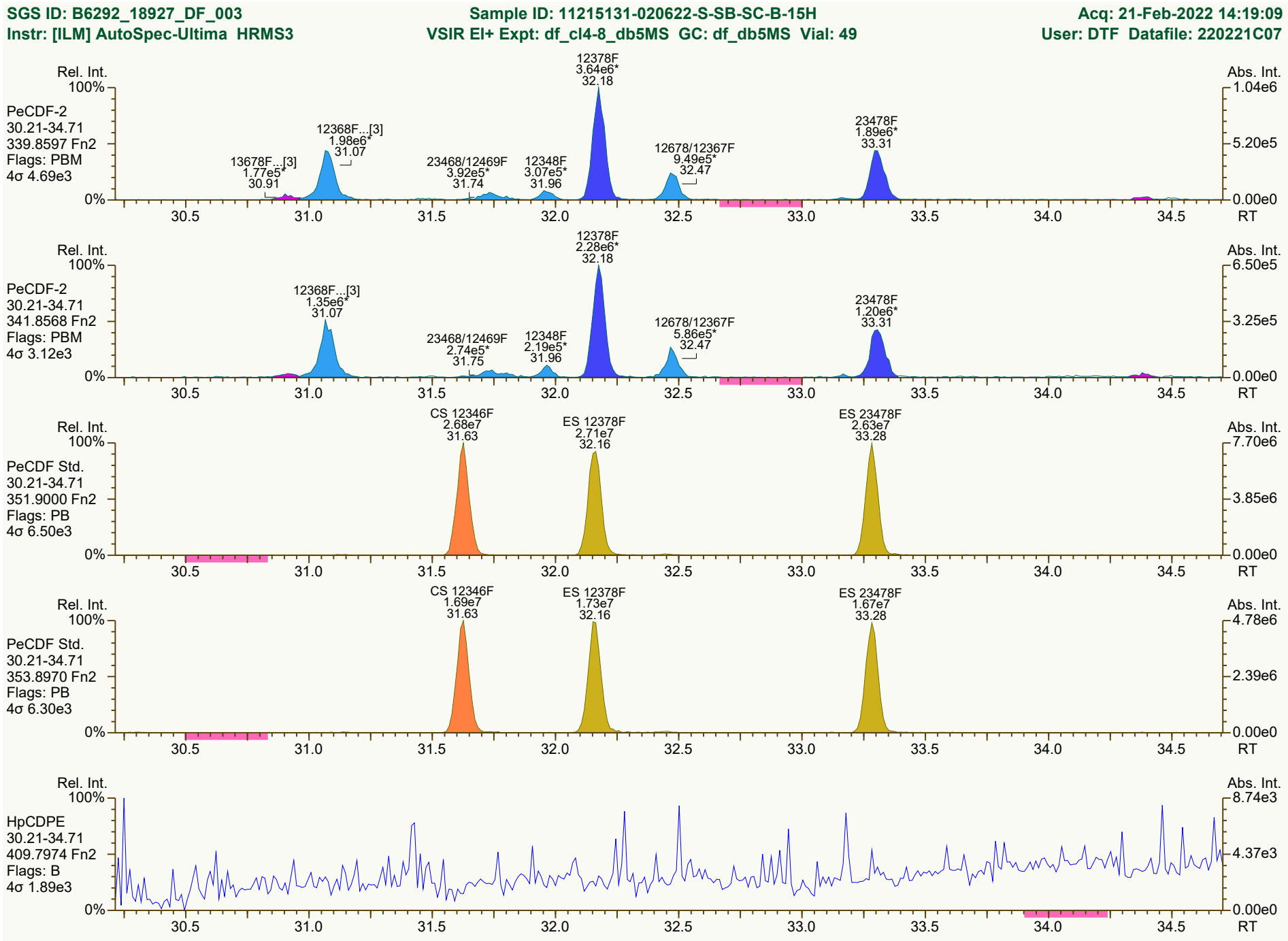
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 49 | User: DTF Datafile: 220221C07

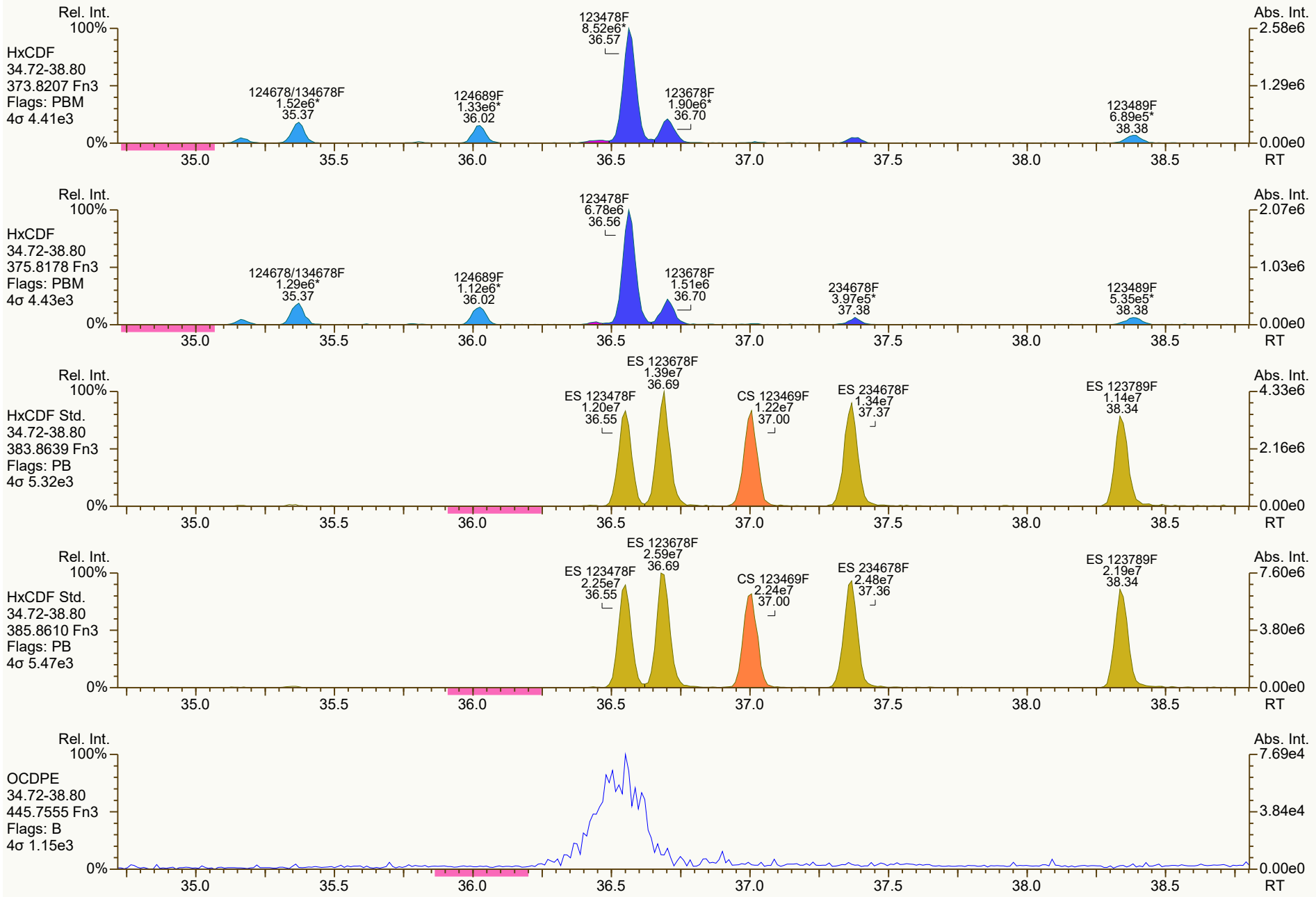


Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_003.utp_res, saved 22-Feb-2022 09:25 (DTF) | *Peak annotation: Areas, Centroids*

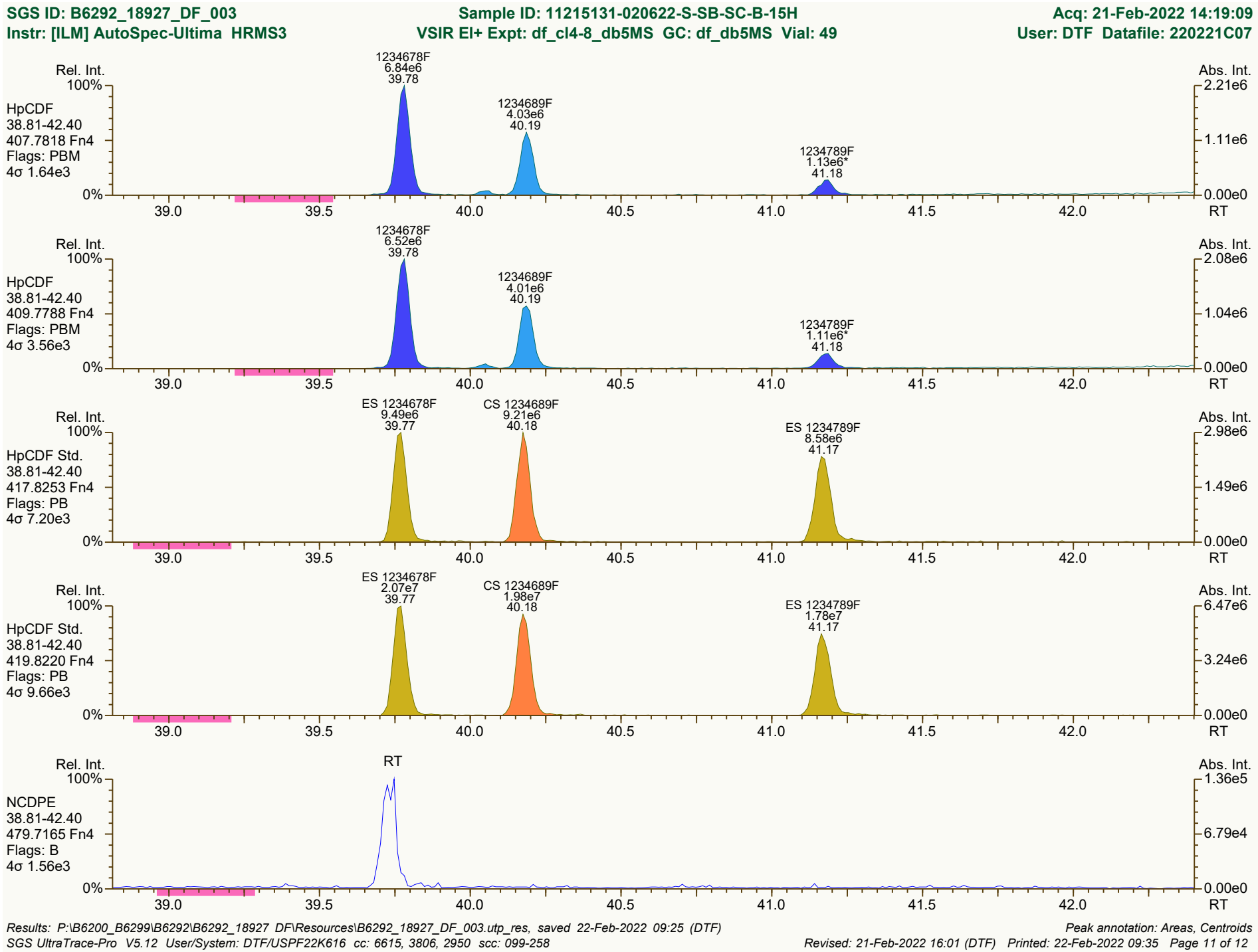
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4247, 3175, 1122 scc: 099-258 | *Revised: 21-Feb-2022 15:58 (DTF) Printed: 22-Feb-2022 09:35 Page 7 of 12*


Rel. Int.
100%
0%
Abs. Int.
2.79e5
1.40e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
13468/12468F
1.10e6*
29.35
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.40e3
13468/12468F
6.75e5*
29.35
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.35e3
Abs. Int.
1.83e5
9.16e4
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
5.75e6
2.88e6


SGS ID: B6292_18927_DF_003
Sample ID: 11215131-020622-S-SB-SC-B-15H
Acq: 21-Feb-2022 14:19:09
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 49
User: DTF Datafile: 220221C07
Rel. Int.
Abs. Int.
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 4.69e3
13678F...[3] 1.77e5* 30.91
12368F...[3] 1.98e6* 31.07
23468/12469F 3.92e5* 31.74
12348F 3.07e5* 31.96
12378F 3.64e6* 32.18
12678/12367F 9.49e5* 32.47
23478F 1.89e6* 33.31
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 3.12e3
12368F...[3] 1.35e6* 31.07
23468/12469F 2.74e5* 31.75
12348F 2.19e5* 31.96
12378F 2.28e6* 32.18
12678/12367F 5.86e5* 32.47
23478F 1.20e6* 33.31
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 6.50e3
CS 12346F 2.68e7 31.63
ES 12378F 2.71e7 32.16
ES 23478F 2.63e7 33.28
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 6.30e3
CS 12346F 1.69e7 31.63
ES 12378F 1.73e7 32.16
ES 23478F 1.67e7 33.28
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.89e3
RT
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_003.utp_res, saved 22-Feb-2022 09:25 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3539, 8543, 0535 scc: 099-258
Revised: 21-Feb-2022 15:59 (DTF) Printed: 22-Feb-2022 09:35 Page 9 of 12



Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_003.utp_res, saved 22-Feb-2022 09:25 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8317, 1142, 9891 scc: 099-258 *Revised: 21-Feb-2022 16:00 (DTF) Printed: 22-Feb-2022 09:35 Page 10 of 12*


SGS ID: B6292_18927_DF_003
Sample ID: 11215131-020622-S-SB-SC-B-15H
Acq: 21-Feb-2022 14:19:09
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 49
User: DTF Datafile: 220221C07
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 1.64e3
1234678F
6.84e6
39.78
1234689F
4.03e6
40.19
1234789F
1.13e6*
41.18
2.21e6
1.11e6
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 3.56e3
1234678F
6.52e6
39.78
1234689F
4.01e6
40.19
1234789F
1.11e6*
41.18
2.08e6
1.04e6
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 7.20e3
ES 1234678F
9.49e6
39.77
CS 1234689F
9.21e6
40.18
ES 1234789F
8.58e6
41.17
2.98e6
1.49e6
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 9.66e3
ES 1234678F
2.07e7
39.77
CS 1234689F
1.98e7
40.18
ES 1234789F
1.78e7
41.17
6.47e6
3.24e6
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.56e3
RT
1.36e5
6.79e4
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
0.00e0
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_003.utp_res, saved 22-Feb-2022 09:25 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6615, 3806, 2950 scc: 099-258
Revised: 21-Feb-2022 16:01 (DTF) Printed: 22-Feb-2022 09:35 Page 11 of 12

SGS ID: B6292_18927_DF_003 | Sample ID: 11215131-020622-S-SB-SC-B-15H | Acq: 21-Feb-2022 14:19:09

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 49 | User: DTF Datafile: 220221C07



Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_003.utp_res, saved 22-Feb-2022 09:25 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7554, 5688, 1678 scc: 099-258 | *PKD: 21-Feb-2022 15:53 Printed: 22-Feb-2022 09:35 Page 12 of 12*

Lab ID: B6292_18927_DF_003MS **Acq'd:** 21 Feb 2022 15:05 DTF **Wt/Vol:** 10.04 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-B-15H-MS **UTP:** 22-Feb-2022 09:25:56 DTF **J-level:** 0.498 pg/g **Split:** 1 **Checkcode:** 986-756-CWN

Datafile: 220221C08 **Report:** 22 Feb 2022 09:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.24		1.0008	1.0008	0	2.66E+07	0.79	Y	1.18	187	4535.778	0.341
12378-PeCDD	33.64		1.0007	1.0005	-0.4	1.24E+07	1.59	Y	1.04	105	4233.146	0.303
123478-HxCDD	37.57		1.0004	1.0004	0	1.21E+07	1.34	Y	1.09	107	9021.101	0.633
123678-HxCDD	37.69		1.0036	1.0036	0	1.41E+07	1.21	Y	1.15	117	9021.101	0.68
123789-HxCDD	38.00		1.0118	1.0117	-0.2	1.32E+07	1.28	Y	1.05	110	9021.101	0.686
1234678-HpCDD	40.73		1.0002	1.0004	+0.5	2.30E+07	1.04	Y	1.06	213	5104.974	0.389
OCDD	43.44		1.0003	1.0003	0	1.49E+08	0.91	Y	1.13	1,840	7854.791	1.18
2378-TCDF	27.37		1.0008	1.0008	0	9.49E+07	0.78	Y	1.08	479	4276.933	0.232
12378-PeCDF	32.18		1.0005	1.0005	0	2.05E+07	1.52	Y	1.02	115	6186.253	0.316
23478-PeCDF	33.30		1.0005	1.0006	+0.2	2.12E+07	1.55	Y	1.02	121	6186.253	0.322
123478-HxCDF	36.57		1.0004	1.0005	+0.2	2.23E+07	1.23	Y	1.27	132	5329.502	0.268
123678-HxCDF	36.71		1.0004	1.0004	0	1.95E+07	1.25	Y	1.15	112	5329.502	0.258
234678-HxCDF	37.39		1.0005	1.0005	0	1.91E+07	1.22	Y	1.19	108	5329.502	0.255
123789-HxCDF	38.36		1.0004	1.0004	0	1.50E+07	1.22	Y	1.16	102	5329.502	0.312
1234678-HpCDF	39.79		1.0003	1.0003	0	2.62E+07	1.04	Y	1.37	166	4114.059	0.204
1234789-HpCDF	41.18		1.0003	1.0002	-0.2	1.40E+07	1.03	Y	1.31	112	4114.059	0.296
OCDF	43.60		1.0002	1.0003	+0.3	1.65E+08	0.89	Y	1.07	1,570	3521.187	0.429

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.22	1.0243	1.0243	0	2.38E+07	0.80	Y	1.05	89.3
ES 12378-PeCDD	33.62	1.2198	1.2204	+1.2	2.28E+07	1.56	Y	0.88	101
ES 123478-HxCDD	37.56	0.9916	0.9915	-0.2	2.07E+07	1.35	Y	0.97	92.5
ES 123678-HxCDD	37.68	0.9947	0.9947	0	2.09E+07	1.35	Y	0.94	96.4
ES 123789-HxCDD	37.98	1.0029	1.0028	-0.2	2.29E+07	1.26	Y	1.09	91.1
ES 1234678-HpCDD	40.72	1.0749	1.0750	+0.2	2.03E+07	1.03	Y	0.91	96.7
ES OCDD	43.42	1.1460	1.1464	+1.0	2.87E+07	0.93	Y	0.62	100
ES 2378-TCDF	27.35	1.0531	1.0534	+0.5	3.66E+07	0.80	Y	1.06	84.1
ES 12378-PeCDF	32.16	1.2378	1.2386	+1.5	3.49E+07	1.61	Y	0.91	93.3
ES 23478-PeCDF	33.28	1.2810	1.2819	+1.8	3.42E+07	1.60	Y	0.88	94.3
ES 123478-HxCDF	36.55	0.9650	0.9649	-0.2	2.65E+07	0.53	Y	1.20	96.2
ES 123678-HxCDF	36.69	0.9688	0.9687	-0.2	2.99E+07	0.53	Y	1.35	96.3
ES 234678-HxCDF	37.37	0.9866	0.9866	0	2.97E+07	0.55	Y	1.24	104
ES 123789-HxCDF	38.35	1.0125	1.0124	-0.2	2.53E+07	0.55	Y	1.16	95.1
ES 1234678-HpCDF	39.78	1.0501	1.0501	0	2.29E+07	0.46	Y	0.97	103
ES 1234789-HpCDF	41.18	1.0870	1.0870	0	1.92E+07	0.47	Y	0.85	97.8
ES OCDF	43.59	1.1505	1.1508	+0.8	3.91E+07	0.92	Y	0.81	105

Lab ID: B6292_18927_DF_003MS | **Acq'd:** 21 Feb 2022 15:05 DTF | **Wt/Vol:** 10.04 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-B-15H-MS | **UTP:** 22-Feb-2022 09:25:56 DTF | **J-level:** 0.498 pg/g | **Split:** 1 | **Checkcode:** 986-756-CWN

Datafile: 220221C08 | **Report:** 22 Feb 2022 09:29 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.55		-	-	-	2.55E+07	0.83	Y	-	-
JS 1234-TCDF	25.96		-	-	-	4.11E+07	0.81	Y	-	-
JS 123467-HxCDD	37.88		-	-	-	1.15E+07	1.22	Y	-	-
CS 37Cl-2378-TCDD	28.24		1.0251	1.0251	0	1.12E+07	n/a	-	1.20	91.5
CS 12347-PeCDD	33.11		1.2016	1.2020	+0.8	2.06E+07	1.60	Y	0.75	107
CS 12346-PeCDF	31.62		1.2172	1.2180	+1.5	3.38E+07	1.60	Y	0.85	96.8
CS 123469-HxCDF	37.01		0.9771	0.9770	-0.2	2.76E+07	0.52	Y	1.12	108
CS 1234689-HpCDF	40.18		1.0608	1.0608	0	2.23E+07	0.46	Y	0.89	109
SS 37Cl-2378-TCDD	28.24		1.0251	1.0251	0	1.12E+07	n/a	-	1.15	103
SS 12347-PeCDD	33.11		1.2016	1.2020	+0.8	2.06E+07	1.60	Y	0.86	105
SS 12346-PeCDF	31.62		1.2172	1.2180	+1.5	3.38E+07	1.60	Y	0.94	104
SS 123469-HxCDF	37.01		0.9771	0.9770	-0.2	2.76E+07	0.52	Y	0.83	112
SS 1234689-HpCDF	40.18		1.0608	1.0608	0	2.23E+07	0.46	Y	0.92	106

Totals	Conc	EMPC
Total TCDD	303	303
Total PeCDD	171	172
Total HxCDD	425	426
Total HpCDD	412	412
Total Tetra-Octa Dioxins	3150	3150
Total TCDF	1,030	1040
Total PeCDF	471	472
Total HxCDF	734	735
Total HpCDF	325	325
Total Tetra-Octa Furans	4,130	4130
Total Tetra-Octa Dioxins & Furans	7270	7280

Lab ID: B6292_18927_DF_003MS **Acq'd: 21 Feb 2022 15:05 DTF** **Wt/Vol: 10.04 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-B-15H-MS **UTP: 22-Feb-2022 09:25:56 DTF** **J-level: 0.498 pg/g** **Split: 1** **Checkcode: 986-756-CWN**

Datafile: 220221C08 **Report: 22 Feb 2022 09:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.54		0.8701	0.8695	-0.9	4.90E+06	0.77	Y	1.18	34.5	4535.778	0.341
1379-TCDD	NotFnd		0.8829						1.18		4535.778	0.341
1369-TCDD	NotFnd		0.8982						1.18		4535.778	0.341
1469-TCDD	26.13		0.9261	0.9258	-0.5	8.18E+05	0.82	Y	1.18	5.77	4535.778	0.341
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4535.778	0.341
1378-TCDD	26.56	EMPC	0.9417	0.9413	-0.6	1.19E+05	0.97	N	1.18	0.837	4535.778	0.341
1268-TCDD	NotFnd		0.9487						1.18		4535.778	0.341
1478-TCDD	NotFnd		0.9576						1.18		4535.778	0.341
1279-TCDD	NotFnd		0.9636						1.18		4535.778	0.341
1234/1269-TCDD	27.54		0.9761	0.9759	-0.3	1.29E+05	0.88	Y	1.18	0.91	4535.778	0.341
1236-TCDD	NotFnd		0.9812						1.18		4535.778	0.341
1237/1238-TCDD	27.94		0.9905	0.9900	-0.8	4.06E+05	0.82	Y	1.18	2.86	4535.778	0.341
1239-TCDD	28.08		0.9951	0.9951	0	3.20E+06	0.79	Y	1.18	22.5	4535.778	0.341
2378-TCDD	**28.24**		**1.0008**	1.0008	**0**	2.66E+07	0.79	Y	**1.18**	**187**	**4535.778**	**0.341**
1278-TCDD	28.57		1.0124	1.0124	0	2.19E+06	0.79	Y	1.18	15.5	4535.778	0.341
1267-TCDD	NotFnd		1.0172						1.18		4535.778	0.341
1289-TCDD	29.22		1.0354	1.0356	+0.4	4.69E+06	0.81	Y	1.18	33.1	4535.778	0.341
12479/12468-PeCDD	31.12		0.9255	0.9255	0	3.30E+06	1.52	Y	1.04	27.8	4233.146	0.303
12469-PeCDD	31.65		0.9416	0.9414	-0.4	4.94E+05	1.75	Y	1.04	4.17	4233.146	0.303
12368-PeCDD	32.21	J	0.9582	0.9579	-0.6	1.87E+05	1.65	Y	1.04	1.58	4233.146	0.303
12478-PeCDD	32.41	J	0.9637	0.9640	+0.6	1.37E+05	1.55	Y	1.04	1.16	4233.146	0.303
12379-PeCDD	32.50	J EMPC	0.9668	0.9668	0	9.52E+04	1.83	N	1.04	0.804	4233.146	0.303
12369/12467/12489-PeCDD	32.77	J	0.9746	0.9747	+0.2	2.92E+05	1.61	Y	1.04	2.47	4233.146	0.303
12346/12347-PeCDD	NotFnd		0.9858						1.04		4233.146	0.303
12378-PeCDD	33.64		**1.0007**	**1.0005**	**-0.4**	**1.24E+07**	**1.59**	**Y**	**1.04**	**105**	**4233.146**	**0.303**
12367-PeCDD	33.76	J	1.0036	1.0040	+0.8	1.31E+05	1.63	Y	1.04	1.11	4233.146	0.303
12389-PeCDD	34.08		1.0137	1.0137	0	3.30E+06	1.51	Y	1.04	27.9	4233.146	0.303
124679/124689-HxCDD	35.83		0.9540	0.9540	0	7.79E+06	1.25	Y	1.10	66	9021.101	0.666
123468-HxCDD	36.49		0.9715	0.9715	0	4.09E+05	1.32	Y	1.10	3.46	9021.101	0.666
123679/123689-HxCDD	36.78		0.9793	0.9793	0	2.28E+06	1.29	Y	1.10	19.3	9021.101	0.666
123469-HxCDD	36.91	J	0.9829	0.9828	-0.2	1.95E+05	1.30	Y	1.10	1.65	9021.101	0.666
123478-HxCDD	37.57		**1.0004**	**1.0004**	**0**	**1.21E+07**	**1.34**	**Y**	1.09	**107**	**9021.101**	**0.633**
123678-HxCDD	37.69		**1.0036**	**1.0036**	**0**	**1.41E+07**	**1.21**	**Y**	1.15	**117**	**9021.101**	**0.68**
123467-HxCDD	37.89	J EMPC	1.0089	1.0089	0	1.96E+05	1.02	N	1.10	1.66	9021.101	0.666
123789-HxCDD	38.00		**1.0118**	**1.0117**	**-0.2**	**1.32E+07**	**1.28**	**Y**	1.05	**110**	**9021.101**	**0.686**

Lab ID: B6292_18927_DF_003MS | **Acq'd:** 21 Feb 2022 15:05 DTF | **Wt/Vol:** 10.04 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-B-15H-MS | **UTP:** 22-Feb-2022 09:25:56 DTF | **J-level:** 0.498 pg/g | **Split:** 1 | **Checkcode:** 986-756-CWN

Datafile: 220221C08 | **Report:** 22 Feb 2022 09:29 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

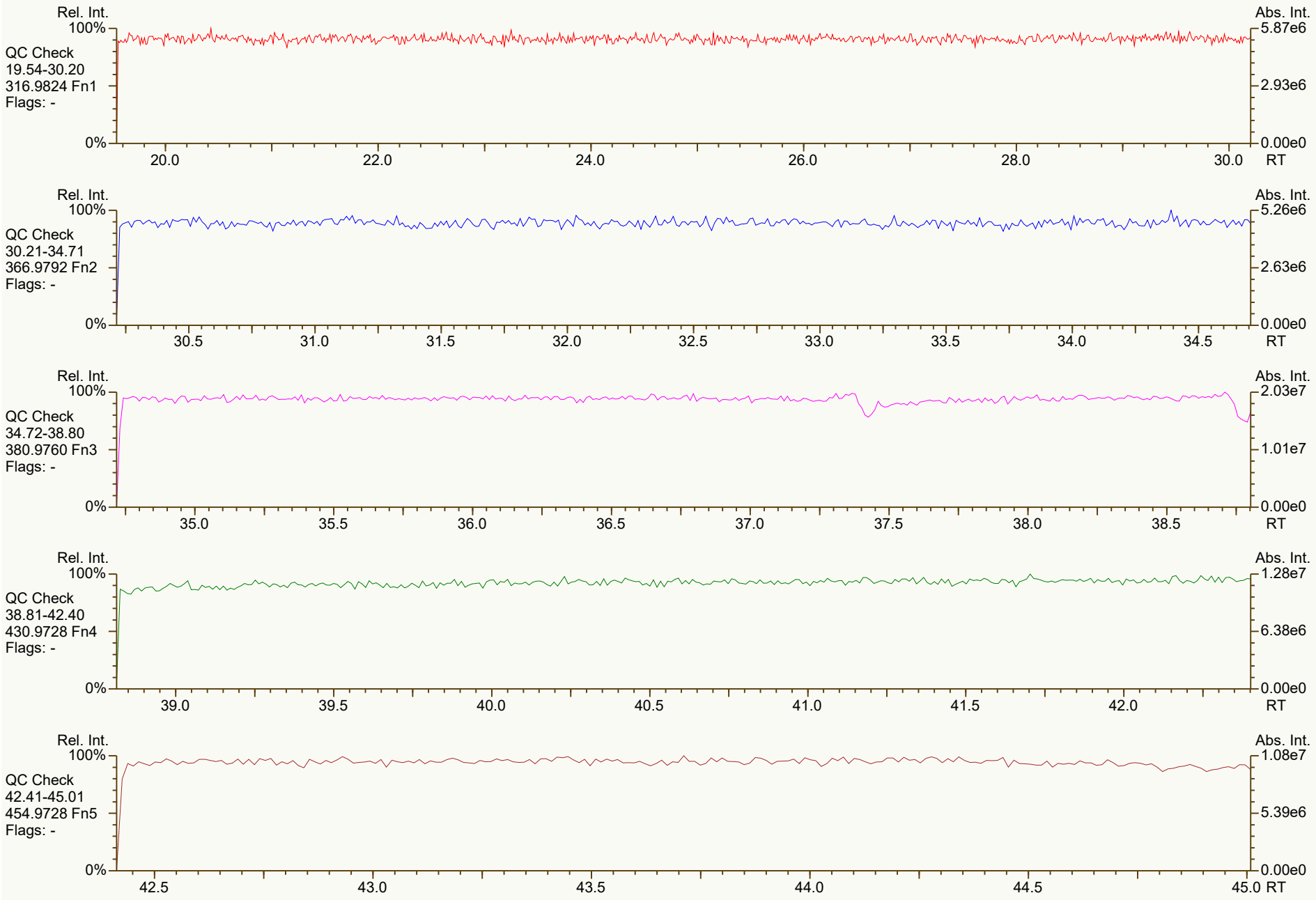
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.05		0.9836	0.9836	0	2.14E+07	1.05	Y	1.06	198	5104.974	0.389
1234678-HpCDD	**40.73**		**1.0002**	**1.0004**	**+0.5**	**2.30E+07**	**1.04**	**Y**	**1.06**	**213**	**5104.974**	**0.389**
OCDD	**43.44**		**1.0003**	**1.0003**	**0**	**1.49E+08**	**0.91**	**Y**	**1.13**	**1,840**	**7854.791**	**1.18**
OCDD-a	43.44		1.0002	1.0003	+0.3	9.53E+06	2.45	Y	0.07	1,840	5356.841	12.6
1368-TCDF	22.38		0.8191	0.8181	-1.3	6.17E+06	0.78	Y	1.08	31.1	4276.933	0.232
1468-TCDF	22.97		0.8408	0.8399	-1.2	3.23E+05	0.73	Y	1.08	1.63	4276.933	0.232
2468-TCDF	23.62		0.8645	0.8638	-1.0	2.19E+06	0.79	Y	1.08	11.1	4276.933	0.232
1346/1246-TCDF	NotFnd		0.8772						1.08		4276.933	0.232
1347/1378/1247-TCDF	24.14		0.8833	0.8828	-0.7	1.37E+06	0.78	Y	1.08	6.92	4276.933	0.232
1348-TCDF	NotFnd		0.8932						1.08		4276.933	0.232
1248/1367/1379-TCDF	24.50		0.8980	0.8959	-3.1	5.26E+06	0.74	Y	1.08	26.5	4276.933	0.232
1268-TCDF	24.94		0.9119	0.9118	-0.1	1.89E+06	0.75	Y	1.08	9.53	4276.933	0.232
1467-TCDF	25.07	EMPC	0.9170	0.9167	-0.5	2.10E+05	0.58	N	1.08	1.06	4276.933	0.232
1478-TCDF	25.24		0.9234	0.9229	-0.8	4.16E+06	0.77	Y	1.08	21	4276.933	0.232
1369/1237-TCDF	25.63	EMPC	0.9369	0.9370	+0.2	8.75E+05	0.90	N	1.08	4.42	4276.933	0.232
2467-TCDF	25.76	EMPC	0.9415	0.9418	+0.5	1.84E+05	1.08	N	1.08	0.929	4276.933	0.232
2368-TCDF	25.90		0.9475	0.9472	-0.5	2.75E+06	0.79	Y	1.08	13.9	4276.933	0.232
1238/1234/1678/1469/1236-TCDF	25.98		0.9507	0.9500	-1.1	5.00E+06	0.82	Y	1.08	25.3	4276.933	0.232
1278-TCDF	26.46		0.9676	0.9674	-0.3	4.21E+07	0.80	Y	1.08	212	4276.933	0.232
1349-TCDF	NotFnd		0.9722						1.08		4276.933	0.232
1267-TCDF	26.74		0.9777	0.9776	-0.2	2.48E+06	0.80	Y	1.08	12.5	4276.933	0.232
2346/1249-TCDF	NotFnd		0.9843						1.08		4276.933	0.232
2347/1279-TCDF	27.14		0.9926	0.9924	-0.3	1.16E+06	0.77	Y	1.08	5.86	4276.933	0.232
2348-TCDF	27.25		0.9968	0.9965	-0.5	1.15E+07	0.76	Y	1.08	57.9	4276.933	0.232
2378-TCDF	**27.37**		**1.0008**	**1.0008**	**0**	**9.49E+07**	**0.78**	**Y**	**1.08**	**479**	**4276.933**	**0.232**
2367/3467-TCDF	27.73		1.0142	1.0138	-0.7	7.84E+06	0.80	Y	1.08	39.6	4276.933	0.232
1269-TCDF	27.98		1.0235	1.0232	-0.5	1.41E+06	0.80	Y	1.08	7.12	4276.933	0.232
1239-TCDF	NotFnd		1.0329						1.08		4276.933	0.232
1289-TCDF	29.40		1.0742	1.0749	+1.2	1.38E+07	0.77	Y	1.08	69.7	4276.933	0.232
13468/12468-PeCDF	29.32		0.9122	0.9117	-0.9	3.25E+07	1.58	Y	1.02	183	3377.59	0.174
13678/13467/12467-PeCDF	30.91	J	0.9606	0.9610	+0.7	2.54E+05	1.64	Y	1.02	1.43	6186.253	0.319
12368/13478/12478-PeCDF	31.06		0.9655	0.9659	+0.7	2.65E+06	1.53	Y	1.02	14.9	6186.253	0.319
14678-PeCDF	NotFnd		0.9685						1.02		6186.253	0.319
13479-PeCDF	NotFnd		0.9716						1.02		6186.253	0.319
13469/12479-PeCDF	NotFnd		0.9794						1.02		6186.253	0.319
12346-PeCDF	31.63	J EMPC	0.9836	0.9837	+0.2	4.84E+04	2.03	N	1.02	0.273	6186.253	0.319

Lab ID: B6292_18927_DF_003MS | **Acq'd: 21 Feb 2022 15:05 DTF** | **Wt/Vol: 10.04 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-B-15H-MS | **UTP: 22-Feb-2022 09:25:56 DTF** | **J-level: 0.498 pg/g** | **Split: 1** | **Checkcode: 986-756-CWN**

Datafile: 220221C08 | **Report: 22 Feb 2022 09:29 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

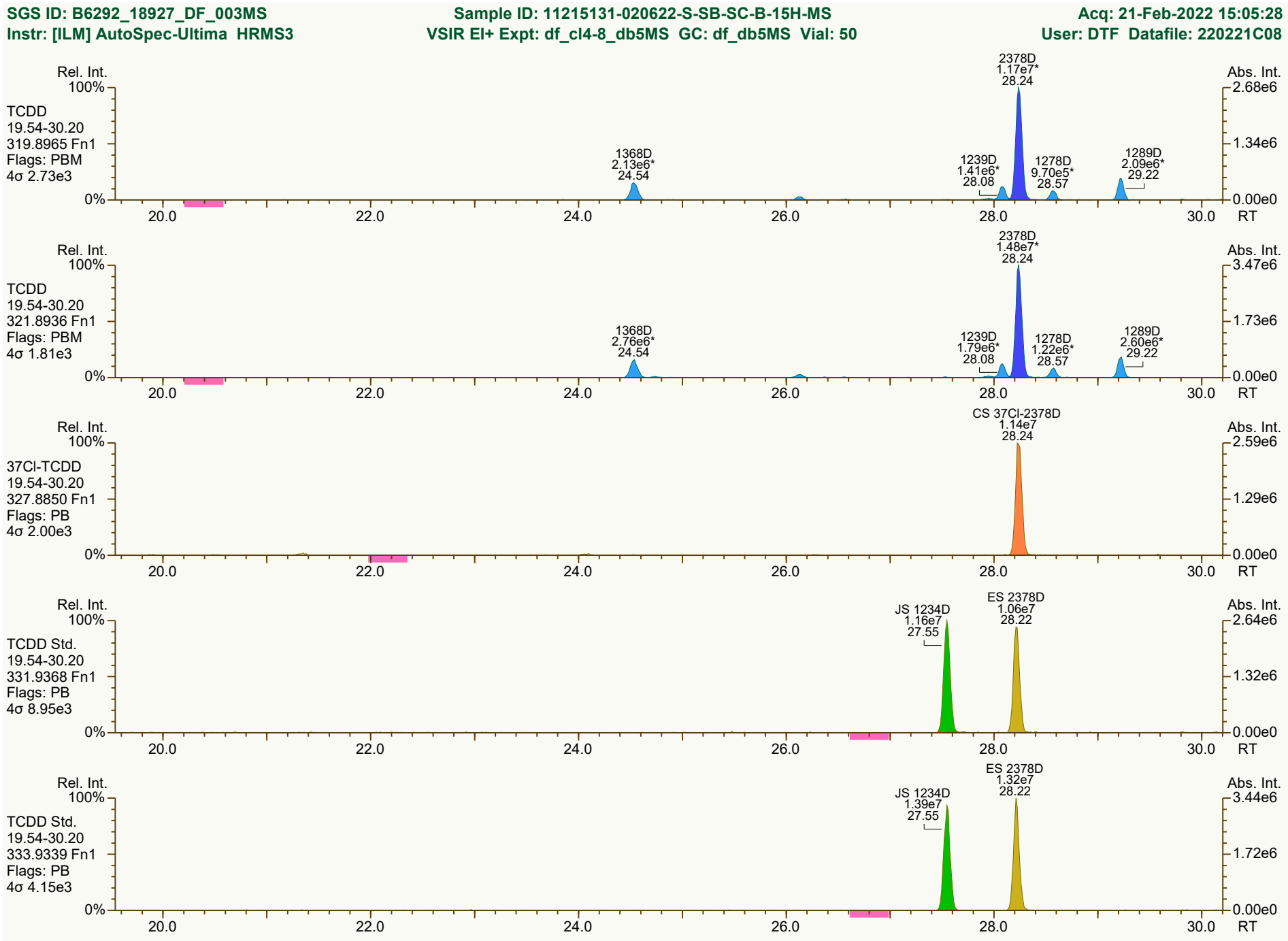
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.74		0.9866	0.9870	+0.8	5.71E+05	1.48	Y	1.02	3.22	6186.253	0.319
12347-PeCDF	NotFnd		0.9891						1.02		6186.253	0.319
12348-PeCDF	31.96	J	0.9938	0.9939	+0.2	3.99E+05	1.43	Y	1.02	2.25	6186.253	0.319
12378-PeCDF	**32.18**		**1.0005**	**1.0005**	**0**	**2.05E+07**	**1.52**	**Y**	**1.02**	**115**	**6186.253**	**0.316**
12678/12367-PeCDF	32.47		1.0091	1.0097	+1.2	1.16E+06	1.50	Y	1.02	6.53	6186.253	0.319
12379-PeCDF	NotFnd		1.0144						1.02		6186.253	0.319
12679-PeCDF	NotFnd		0.9927						1.02		6186.253	0.319
23467/12369-PeCDF	NotFnd		0.9965						1.02		6186.253	0.319
23478-PeCDF	**33.30**		**1.0005**	**1.0006**	**+0.2**	**2.12E+07**	**1.55**	**Y**	**1.02**	**121**	**6186.253**	**0.322**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6186.253	0.319
12349-PeCDF	NotFnd		1.0101						1.02		6186.253	0.319
12389-PeCDF	34.38		1.0330	1.0330	0	4.27E+06	1.52	Y	1.02	24.1	6186.253	0.319
123468-HxCDF	35.17		0.9622	0.9623	+0.2	4.25E+07	1.21	Y	1.19	254	5329.502	0.272
124678/134678-HxCDF	35.37		0.9678	0.9677	-0.2	2.25E+06	1.24	Y	1.19	13.5	5329.502	0.272
134679-HxCDF	NotFnd		0.9741						1.19		5329.502	0.272
124679-HxCDF	NotFnd		0.9795						1.19		5329.502	0.272
124689-HxCDF	36.03		0.9856	0.9856	0	2.01E+06	1.31	Y	1.19	12	5329.502	0.272
123467-HxCDF	36.45	J EMPC	0.9972	0.9972	0	1.71E+05	1.44	N	1.19	1.02	5329.502	0.272
123478-HxCDF	**36.57**		**1.0004**	**1.0005**	**+0.2**	**2.23E+07**	**1.23**	**Y**	**1.27**	**132**	**5329.502**	**0.268**
123678-HxCDF	**36.71**		**1.0004**	**1.0004**	**0**	**1.95E+07**	**1.25**	**Y**	**1.15**	**112**	**5329.502**	**0.258**
123479-HxCDF	NotFnd		1.0048						1.19		5329.502	0.272
123469-HxCDF	NotFnd		1.0089						1.19		5329.502	0.272
123679-HxCDF	NotFnd		0.9942						1.19		5329.502	0.272
234678-HxCDF	**37.39**		**1.0005**	**1.0005**	**0**	**1.91E+07**	**1.22**	**Y**	**1.19**	**108**	**5329.502**	**0.255**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		5329.502	0.272
123789-HxCDF	**38.36**		**1.0004**	**1.0004**	**0**	**1.50E+07**	**1.22**	**Y**	**1.16**	**102**	**5329.502**	**0.312**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		5329.502	0.272
1234678-HpCDF	**39.79**		**1.0003**	**1.0003**	**0**	**2.62E+07**	**1.04**	**Y**	**1.37**	**166**	**4114.059**	**0.204**
1234679-HpCDF	40.04		1.0068	1.0067	-0.2	5.98E+05	1.06	Y	1.34	4.23	4114.059	0.246
1234689-HpCDF	40.19		1.0104	1.0105	+0.2	6.08E+06	1.04	Y	1.34	43	4114.059	0.246
1234789-HpCDF	**41.18**		**1.0003**	**1.0002**	**-0.2**	**1.40E+07**	**1.03**	**Y**	**1.31**	**112**	**4114.059**	**0.296**
OCDF	**43.60**		**1.0002**	**1.0003**	**+0.3**	**1.65E+08**	**0.89**	**Y**	**1.07**	**1,570**	**3521.187**	**0.429**
OCDF-a	43.60		1.0001	1.0002	+0.3	1.06E+07	2.49	Y	0.07	1,630	4099.824	8.06


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
5.87e6
2.93e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
5.26e6
2.63e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.03e7
1.01e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.28e7
6.38e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.08e7
5.39e6
0.00e0

SGS ID: B6292_18927_DF_003MS
Instr: [ILM] AutoSpec-Ultima HRMS3

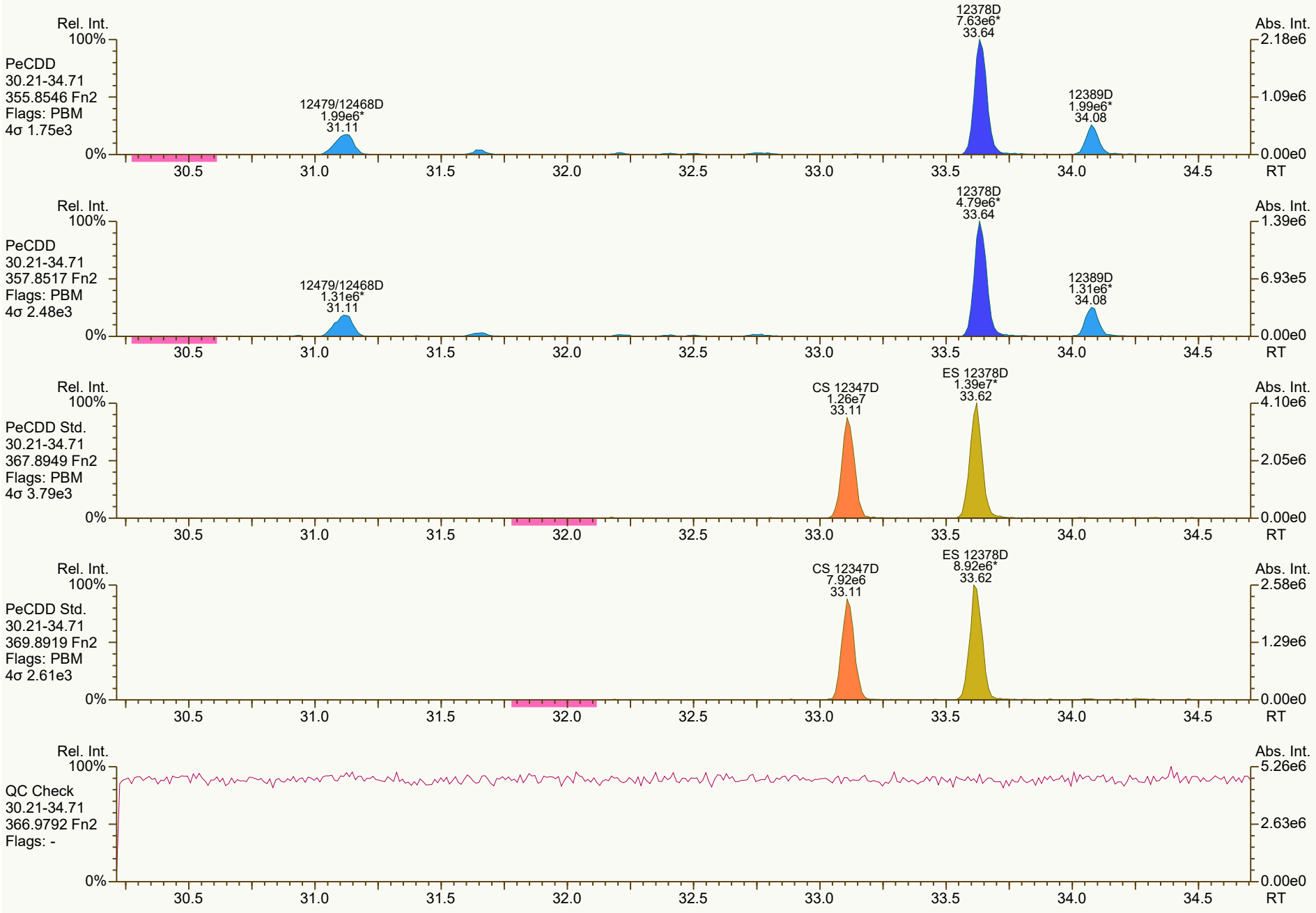
Sample ID: 11215131-020622-S-SB-SC-B-15H-MS
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 50

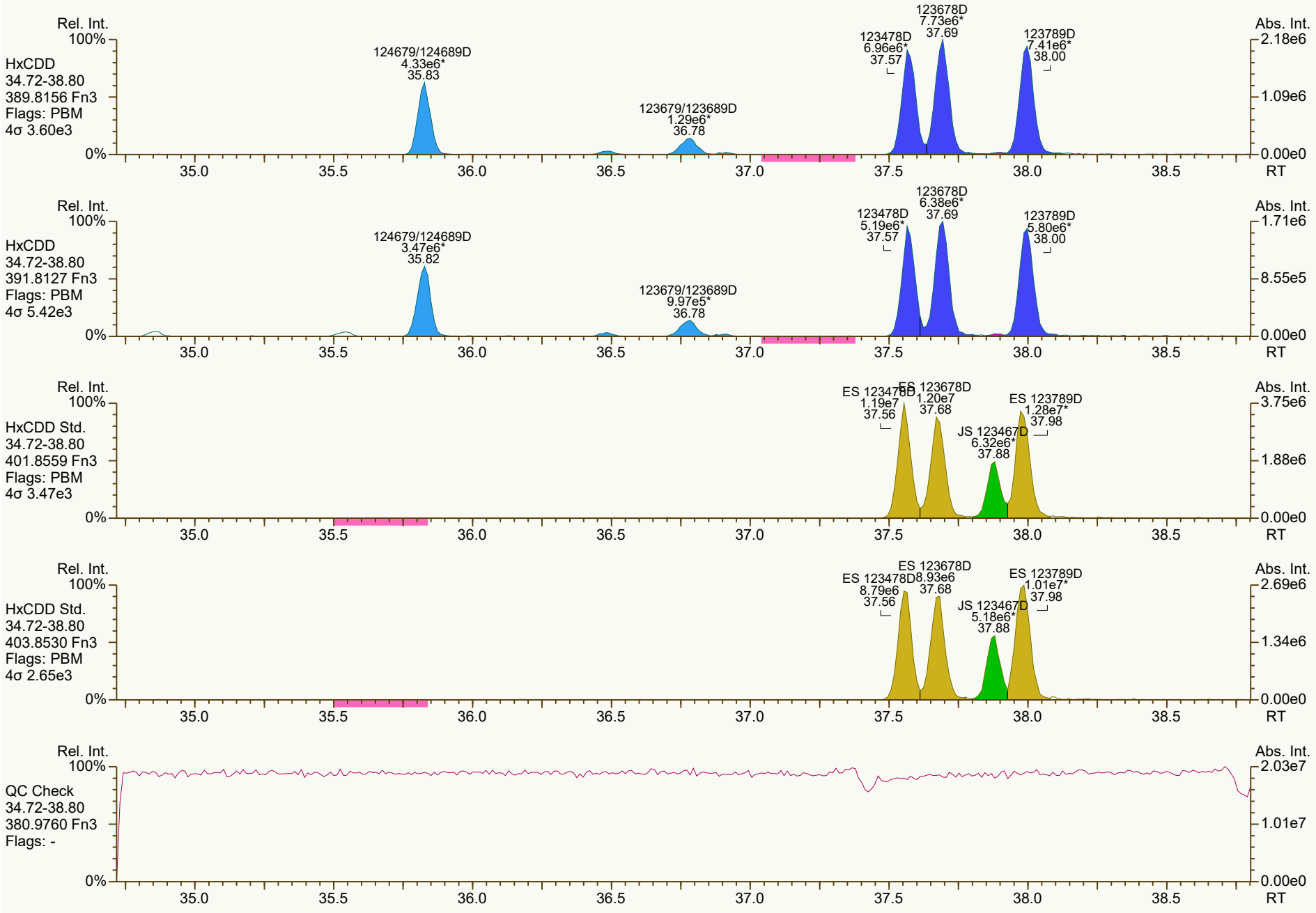
Acq: 21-Feb-2022 15:05:28
User: DTF Datafile: 220221C08



Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_003MS.utp_res, saved 22-Feb-2022 09:25 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0707, 0231, 0837 scc: 986-756

Peak annotation: Areas, Centroids
PKD: 21-Feb-2022 16:06 Printed: 22-Feb-2022 09:35 Page 2 of 12

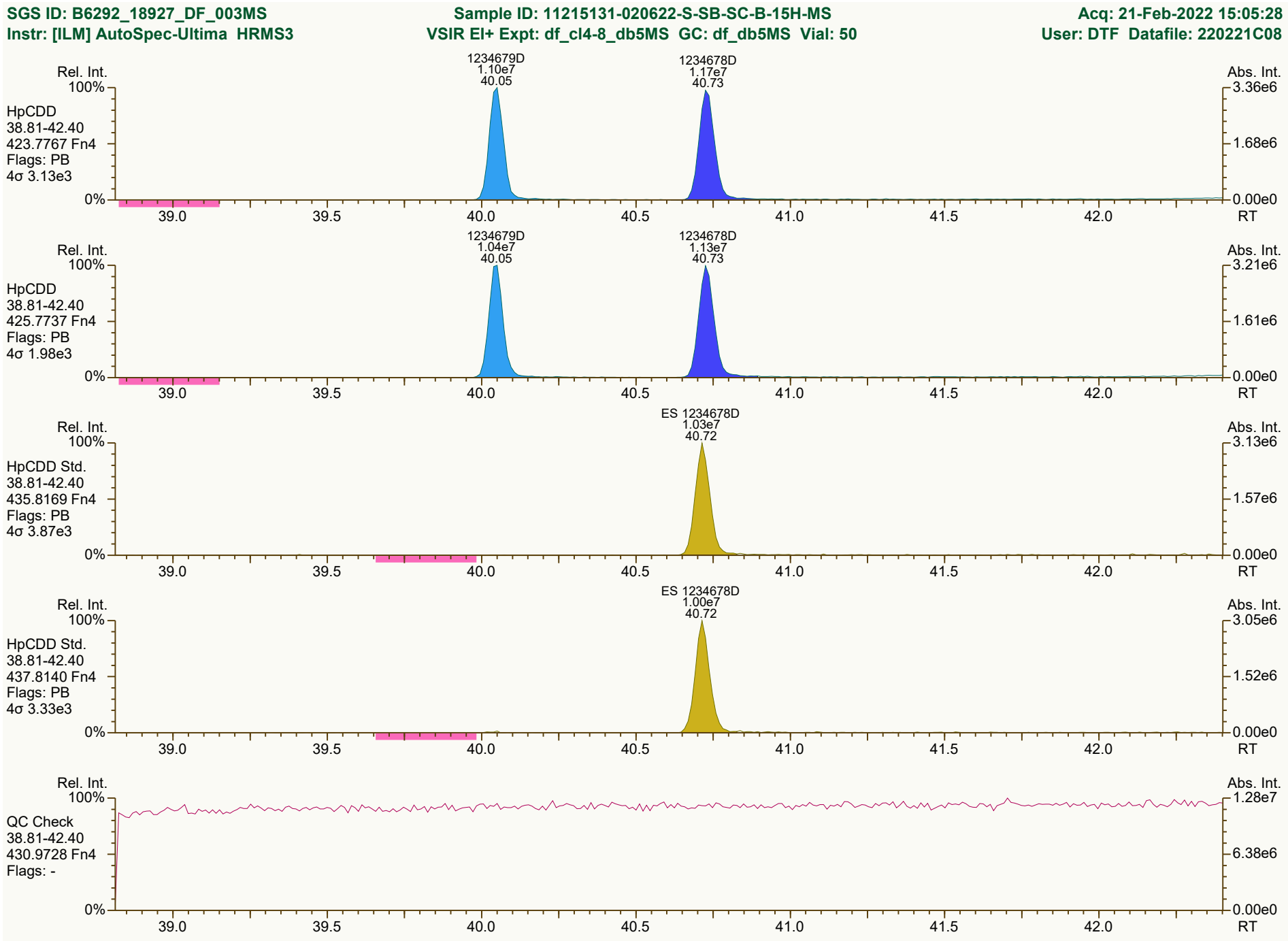

Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 1.75e3
0%
12479/12468D
1.99e6*
31.11
12378D
7.63e6*
33.64
12389D
1.99e6*
34.08
Abs. Int.
2.18e6
1.09e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 2.48e3
0%
12479/12468D
1.31e6*
31.11
12378D
4.79e6*
33.64
12389D
1.31e6*
34.08
Abs. Int.
1.39e6
6.93e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PBM
4σ 3.79e3
0%
CS 12347D
1.26e7
33.11
ES 12378D
1.39e7*
33.62
Abs. Int.
4.10e6
2.05e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PBM
4σ 2.61e3
0%
CS 12347D
7.92e6
33.11
ES 12378D
8.92e6*
33.62
Abs. Int.
2.58e6
1.29e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.26e6
2.63e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 3.60e3
0%
124679/124689D
4.33e6*
35.83
123679/123689D
1.29e6*
36.78
123478D
6.96e6*
37.57
123678D
7.73e6*
37.69
123789D
7.41e6*
38.00
Abs. Int.
2.18e6
1.09e6
0.00e0
RT
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 5.42e3
124679/124689D
3.47e6*
35.82
123679/123689D
9.97e5*
36.78
123478D
5.19e6*
37.57
123678D
6.38e6*
37.69
123789D
5.80e6*
38.00
1.71e6
8.55e5
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 3.47e3
ES 123478D
1.19e7
37.56
ES 123678D
1.20e7
37.68
JS 123467D
6.32e6*
37.88
ES 123789D
1.28e7*
37.98
3.75e6
1.88e6
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 2.65e3
ES 123478D
8.79e6
37.56
ES 123678D
8.93e6
37.68
JS 123467D
5.18e6*
37.88
ES 123789D
1.01e7*
37.98
2.69e6
1.34e6
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
2.03e7
1.01e7

SGS ID: B6292_18927_DF_003MS
Instr: [ILM] AutoSpec-Ultima HRMS3

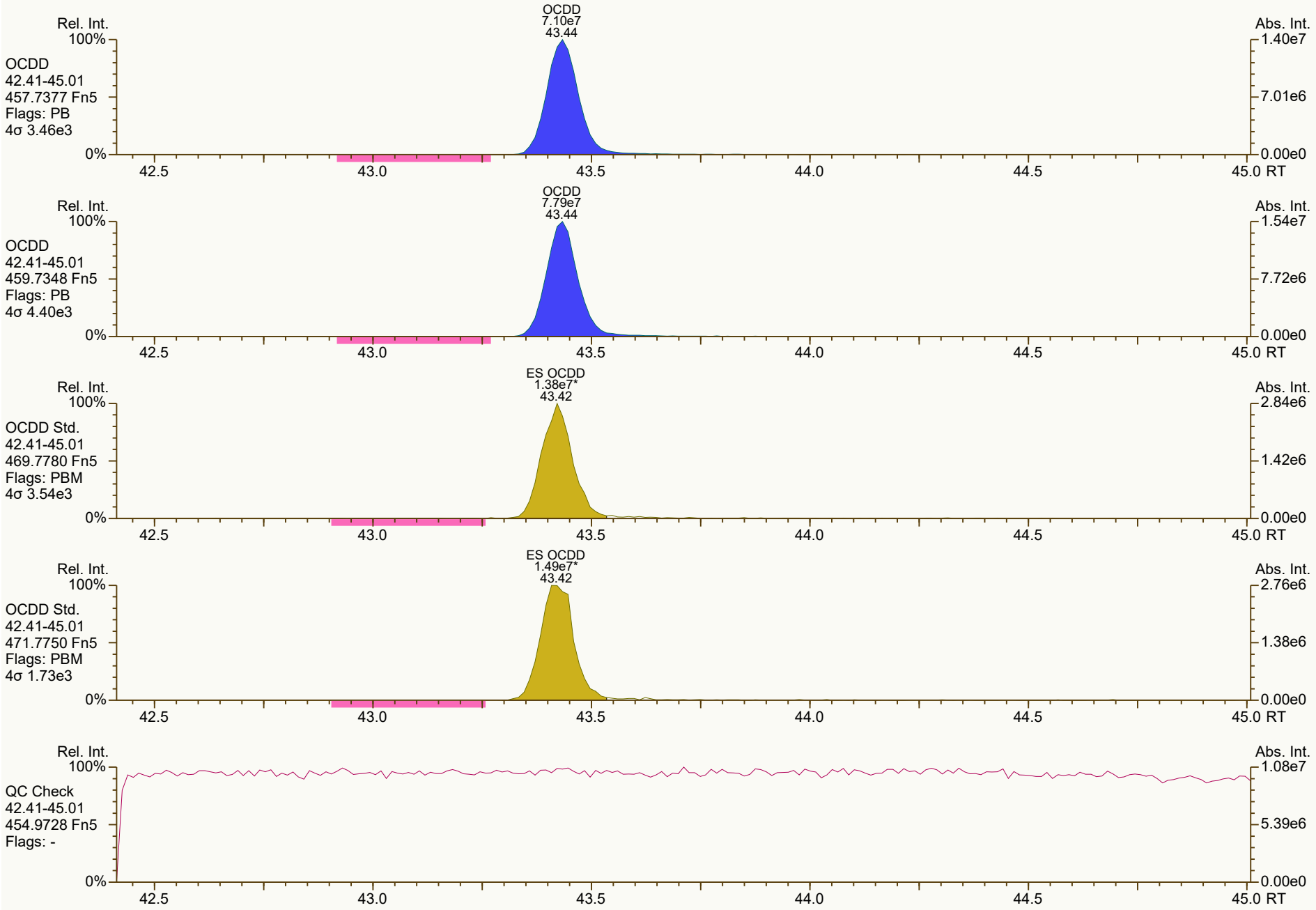
Sample ID: 11215131-020622-S-SB-SC-B-15H-MS
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 50

Acq: 21-Feb-2022 15:05:28
User: DTF Datafile: 220221C08



Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_003MS.utp_res, saved 22-Feb-2022 09:25 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9390, 3262 scc: 986-756

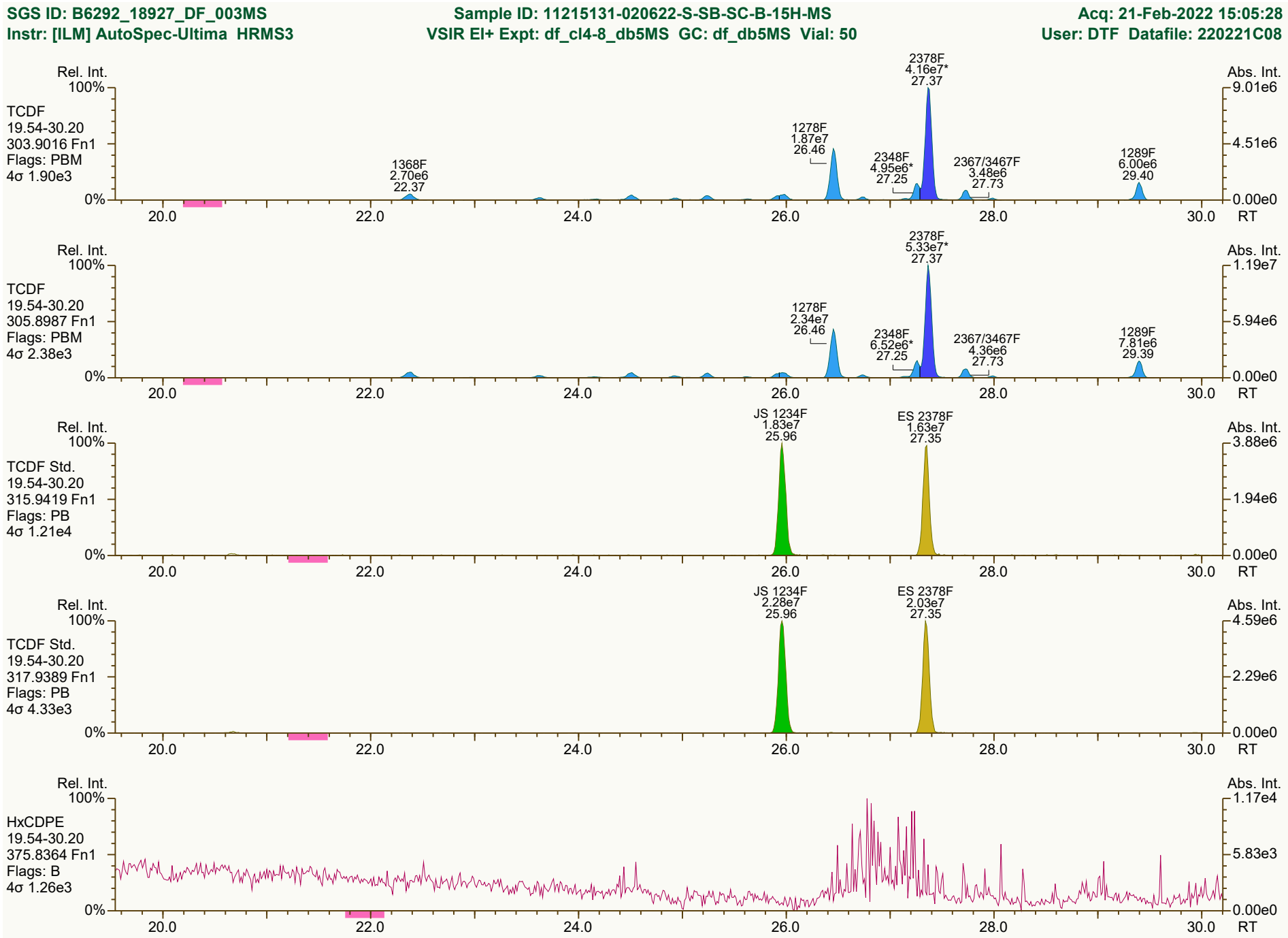
Peak annotation: Areas, Centroids
PKD: 21-Feb-2022 16:01 Printed: 22-Feb-2022 09:35 Page 5 of 12


OCDD
7.10e7
43.44
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 3.46e3
0%
Abs. Int.
1.40e7
7.01e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
7.79e7
43.44
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 4.40e3
1.54e7
7.72e6
ES OCDD
1.38e7*
43.42
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 3.54e3
2.84e6
1.42e6
ES OCDD
1.49e7*
43.42
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.73e3
2.76e6
1.38e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.08e7
5.39e6

SGS ID: B6292_18927_DF_003MS
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 11215131-020622-S-SB-SC-B-15H-MS
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 50

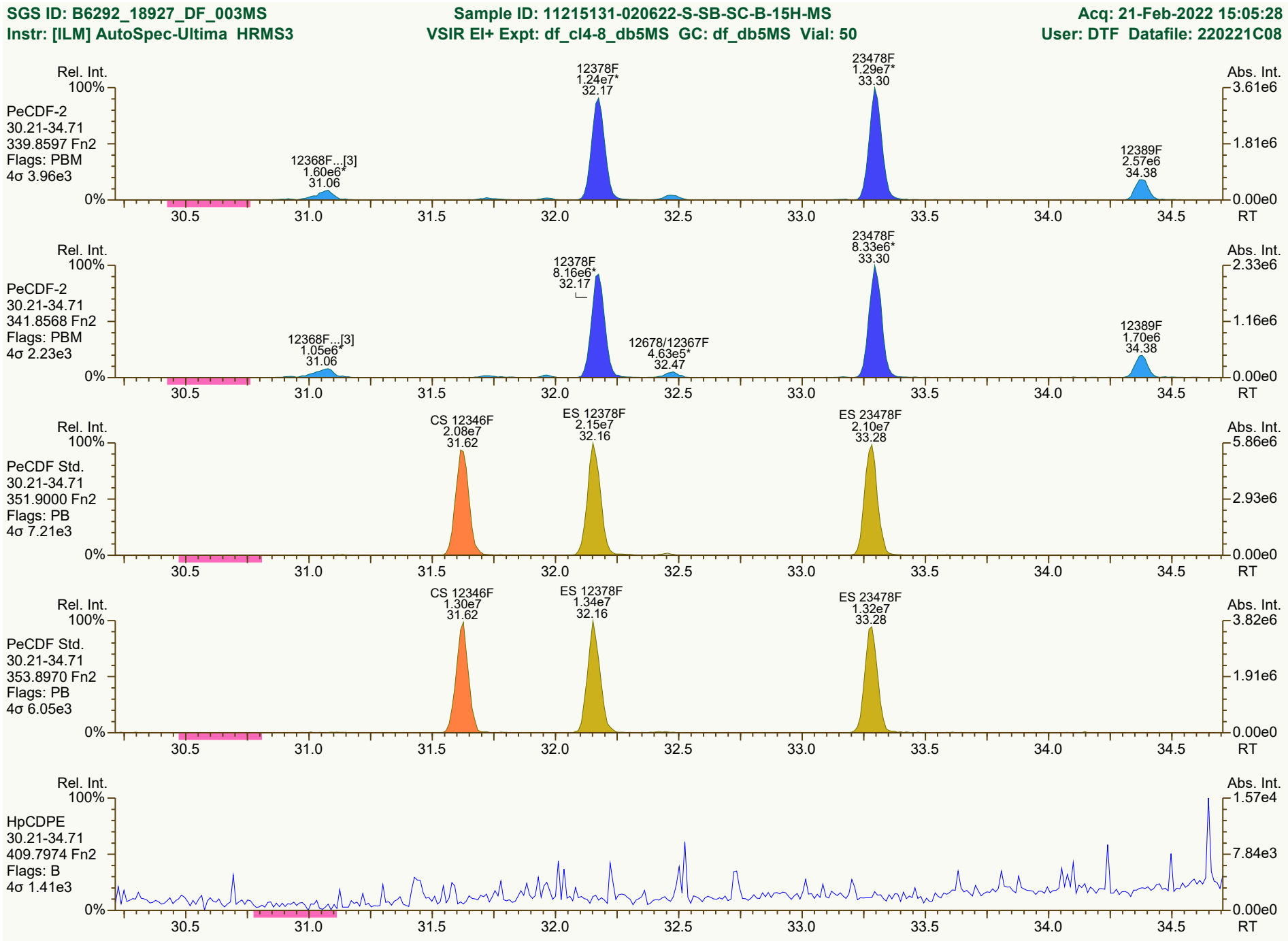
Acq: 21-Feb-2022 15:05:28
User: DTF Datafile: 220221C08



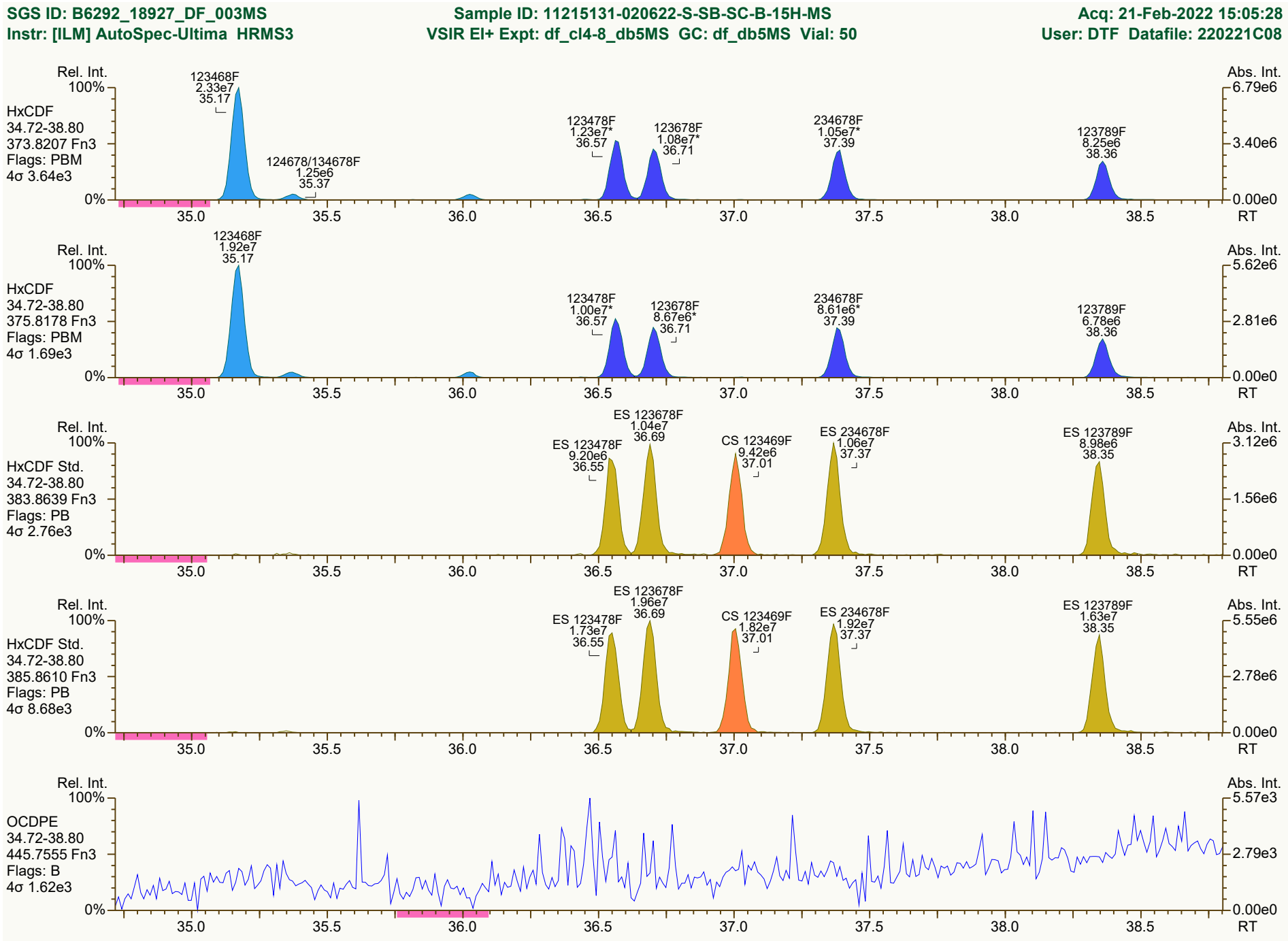
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_003MS.utp_res, saved 22-Feb-2022 09:25 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2180, 6371, 0100 scc: 986-756

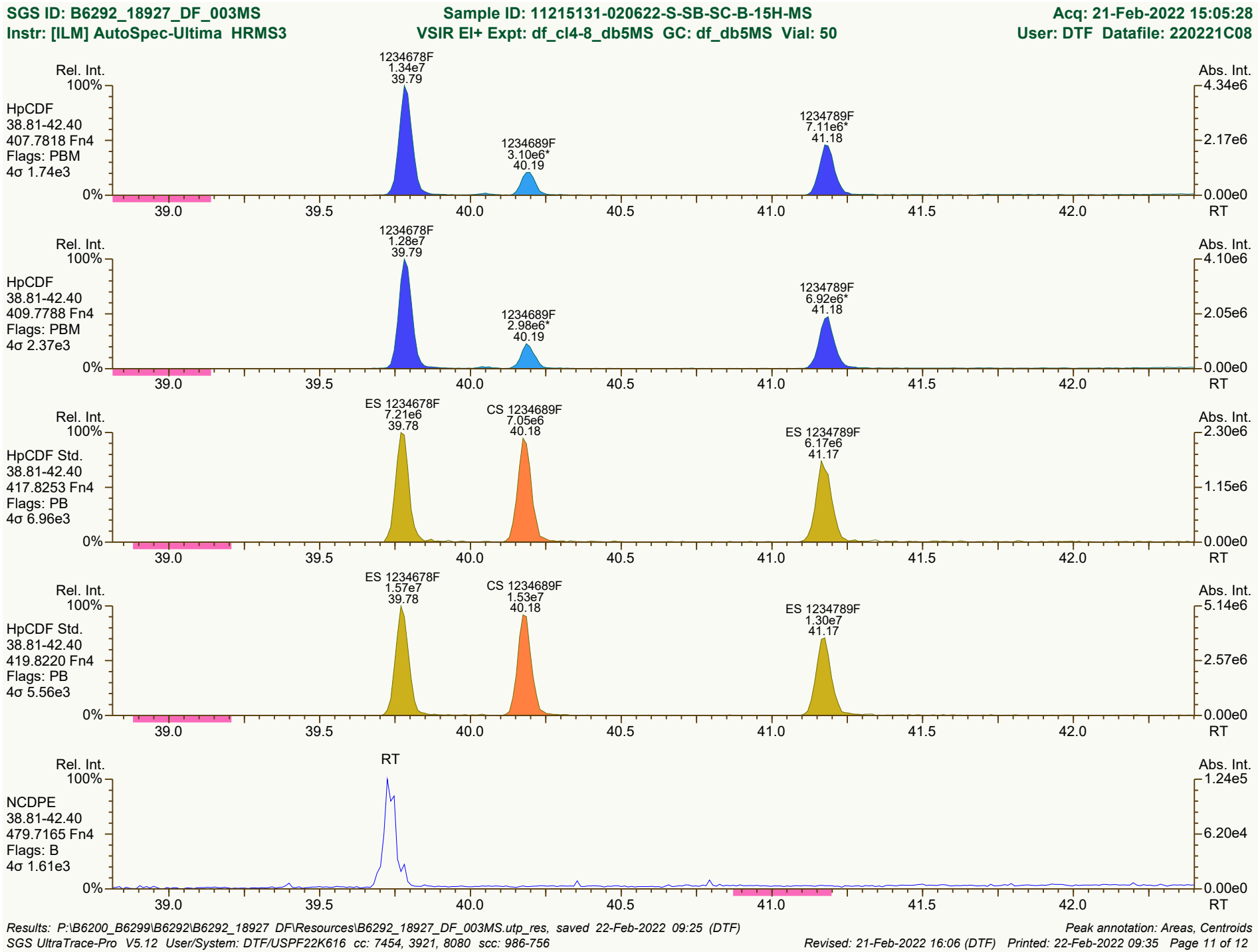
Peak annotation: Areas, Centroids
Revised: 21-Feb-2022 16:04 (DTF) Printed: 22-Feb-2022 09:35 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.22e3
13468/12468F
1.99e7
29.32
Abs. Int.
5.03e6
2.52e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 2.15e3
13468/12468F
1.26e7
29.32
Abs. Int.
3.29e6
1.65e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
5.87e6
2.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT



Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_003MS.utp_res, saved 22-Feb-2022 09:25 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1993, 3499, 5326 scc: 986-756
Revised: 21-Feb-2022 16:05 (DTF) Printed: 22-Feb-2022 09:35 Page 9 of 12

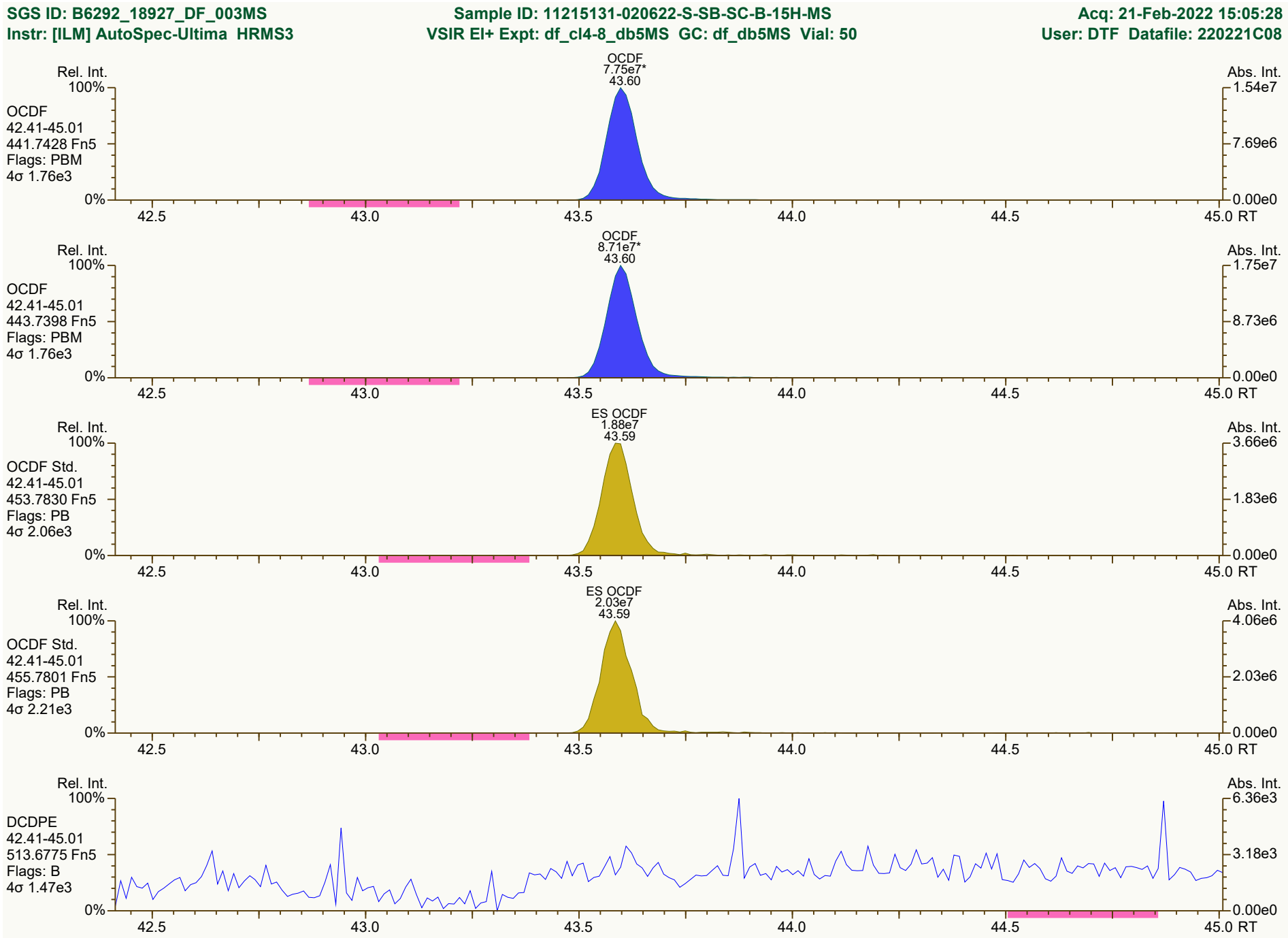

SGS ID: B6292_18927_DF_003MS
Sample ID: 11215131-020622-S-SB-SC-B-15H-MS
Acq: 21-Feb-2022 15:05:28
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 50
User: DTF Datafile: 220221C08
Rel. Int.
Abs. Int.
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 3.64e3
123468F
2.33e7
35.17
124678/134678F
1.25e6
35.37
123478F
1.23e7*
36.57
123678F
1.08e7*
36.71
234678F
1.05e7*
37.39
123789F
8.25e6
38.36
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 1.69e3
123468F
1.92e7
35.17
123478F
1.00e7*
36.57
123678F
8.67e6*
36.71
234678F
8.61e6*
37.39
123789F
6.78e6
38.36
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 2.76e3
ES 123478F
9.20e6
36.55
ES 123678F
1.04e7
36.69
CS 123469F
9.42e6
37.01
ES 234678F
1.06e7
37.37
ES 123789F
8.98e6
38.35
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 8.68e3
ES 123478F
1.73e7
36.55
ES 123678F
1.96e7
36.69
CS 123469F
1.82e7
37.01
ES 234678F
1.92e7
37.37
ES 123789F
1.63e7
38.35
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.62e3
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
6.79e6
3.40e6
0.00e0
5.62e6
2.81e6
3.12e6
1.56e6
5.55e6
2.78e6
5.57e3
2.79e3
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_003MS.utp_res, saved 22-Feb-2022 09:25 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9398, 2457, 1738 scc: 986-756
Revised: 21-Feb-2022 16:06 (DTF) Printed: 22-Feb-2022 09:35 Page 10 of 12


SGS ID: B6292_18927_DF_003MS
Sample ID: 11215131-020622-S-SB-SC-B-15H-MS
Acq: 21-Feb-2022 15:05:28
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 50
User: DTF Datafile: 220221C08
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 1.74e3
1234678F
1.34e7
39.79
1234689F
3.10e6*
40.19
1234789F
7.11e6*
41.18
4.34e6
2.17e6
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 2.37e3
1234678F
1.28e7
39.79
1234689F
2.98e6*
40.19
1234789F
6.92e6*
41.18
4.10e6
2.05e6
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 6.96e3
ES 1234678F
7.21e6
39.78
CS 1234689F
7.05e6
40.18
ES 1234789F
6.17e6
41.17
2.30e6
1.15e6
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 5.56e3
ES 1234678F
1.57e7
39.78
CS 1234689F
1.53e7
40.18
ES 1234789F
1.30e7
41.17
5.14e6
2.57e6
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.61e3
RT
1.24e5
6.20e4
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_003MS.utp_res, saved 22-Feb-2022 09:25 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7454, 3921, 8080 scc: 986-756
Revised: 21-Feb-2022 16:06 (DTF) Printed: 22-Feb-2022 09:35 Page 11 of 12

SGS ID: B6292_18927_DF_003MS
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 11215131-020622-S-SB-SC-B-15H-MS
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 50

Acq: 21-Feb-2022 15:05:28
User: DTF Datafile: 220221C08



Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_003MS.utp_res, saved 22-Feb-2022 09:25 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7220, 8874, 9495 scc: 986-756

Peak annotation: Areas, Centroids
Revised: 21-Feb-2022 16:06 (DTF) Printed: 22-Feb-2022 09:35 Page 12 of 12

Lab ID: B6292_18927_DF_003MSD **Acq'd:** 21 Feb 2022 15:51 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-B-15H-MSD **UTP:** 22-Feb-2022 09:25:56 DTF **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 194-418-WDY

Datafile: 220221C09 **Report:** 22 Feb 2022 09:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.23		1.0008	1.0008	0	2.20E+07	0.79	Y	1.18	141	4354.443	0.295
12378-PeCDD	33.63		1.0007	1.0005	-0.4	1.24E+07	1.53	Y	1.04	101	5399.605	0.39
123478-HxCDD	37.56		1.0004	1.0005	+0.2	1.29E+07	1.27	Y	1.09	112	7510.904	0.56
123678-HxCDD	37.68		1.0036	1.0037	+0.2	1.45E+07	1.20	Y	1.15	116	7510.904	0.55
123789-HxCDD	37.99		1.0118	1.0118	0	1.35E+07	1.24	Y	1.05	110	7510.904	0.548
1234678-HpCDD	40.73		1.0002	1.0003	+0.2	2.04E+07	1.04	Y	1.06	182	4933.386	0.393
OCDD	43.43		1.0003	1.0003	0	1.17E+08	0.91	Y	1.13	1,420	6775.874	1.07
2378-TCDF	27.36		1.0008	1.0008	0	7.38E+07	0.78	Y	1.08	347	4331.672	0.225
12378-PeCDF	32.16		1.0005	1.0005	0	2.00E+07	1.53	Y	1.02	109	5385.301	0.277
23478-PeCDF	33.29		1.0005	1.0005	0	2.12E+07	1.51	Y	1.02	118	5385.301	0.25
123478-HxCDF	36.56		1.0004	1.0004	0	2.09E+07	1.24	Y	1.27	124	6493.122	0.301
123678-HxCDF	36.69		1.0004	1.0004	0	1.90E+07	1.22	Y	1.15	106	6493.122	0.313
234678-HxCDF	37.38		1.0005	1.0005	0	2.03E+07	1.24	Y	1.19	108	6493.122	0.315
123789-HxCDF	38.35		1.0004	1.0004	0	1.53E+07	1.24	Y	1.16	102	6493.122	0.38
1234678-HpCDF	39.78		1.0003	1.0003	0	2.25E+07	1.03	Y	1.37	136	3171.21	0.145
1234789-HpCDF	41.18		1.0003	1.0003	0	1.38E+07	1.01	Y	1.31	108	3171.21	0.213
OCDF	43.60		1.0002	1.0003	+0.3	1.16E+08	0.89	Y	1.07	1,090	3161.841	0.373

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.21	1.0243	1.0243	0	2.60E+07	0.81	Y	1.05	86.5
ES 12378-PeCDD	33.61	1.2198	1.2205	+1.4	2.35E+07	1.58	Y	0.88	93
ES 123478-HxCDD	37.55	0.9916	0.9915	-0.2	2.10E+07	1.23	Y	0.97	85.2
ES 123678-HxCDD	37.67	0.9947	0.9947	0	2.16E+07	1.21	Y	0.94	90.3
ES 123789-HxCDD	37.97	1.0029	1.0028	-0.2	2.32E+07	1.21	Y	1.09	83.7
ES 1234678-HpCDD	40.71	1.0749	1.0751	+0.5	2.10E+07	1.05	Y	0.91	90.7
ES OCDD	43.42	1.1460	1.1466	+1.6	2.88E+07	0.94	Y	0.62	91.2
ES 2378-TCDF	27.34	1.0531	1.0533	+0.3	3.90E+07	0.82	Y	1.06	82
ES 12378-PeCDF	32.15	1.2378	1.2386	+1.5	3.55E+07	1.59	Y	0.91	86.9
ES 23478-PeCDF	33.27	1.2810	1.2819	+1.8	3.49E+07	1.58	Y	0.88	88.1
ES 123478-HxCDF	36.54	0.9650	0.9649	-0.2	2.63E+07	0.55	Y	1.20	86.5
ES 123678-HxCDF	36.68	0.9688	0.9686	-0.4	3.08E+07	0.55	Y	1.35	89.8
ES 234678-HxCDF	37.36	0.9866	0.9866	0	3.14E+07	0.56	Y	1.24	99.8
ES 123789-HxCDF	38.34	1.0125	1.0125	0	2.53E+07	0.51	Y	1.16	86.6
ES 1234678-HpCDF	39.77	1.0501	1.0502	+0.2	2.40E+07	0.47	Y	0.97	97.7
ES 1234789-HpCDF	41.17	1.0870	1.0872	+0.5	1.94E+07	0.47	Y	0.85	89.7
ES OCDF	43.59	1.1505	1.1511	+1.6	3.94E+07	0.90	Y	0.81	96.2

Lab ID: B6292_18927_DF_003MSD | **Acq'd:** 21 Feb 2022 15:51 DTF | **Wt/Vol:** 10.12 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-B-15H-MSD | **UTP:** 22-Feb-2022 09:25:56 DTF | **J-level:** 0.494 pg/g | **Split:** 1 | **Checkcode:** 194-418-WDY

Datafile: 220221C09 | **Report:** 22 Feb 2022 09:29 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.54		-	-	-	2.87E+07	0.80	Y	-	-
JS 1234-TCDF	25.95		-	-	-	4.49E+07	0.82	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	1.27E+07	1.24	Y	-	-
CS 37Cl-2378-TCDD	28.23		1.0251	1.0251	0	1.19E+07	n/a	-	1.20	86.5
CS 12347-PeCDD	33.10		1.2016	1.2021	+1.0	2.11E+07	1.60	Y	0.75	97.3
CS 12346-PeCDF	31.61		1.2172	1.2180	+1.5	3.50E+07	1.59	Y	0.85	91.7
CS 123469-HxCDF	36.99		0.9771	0.9769	-0.4	2.85E+07	0.55	Y	1.12	101
CS 1234689-HpCDF	40.17		1.0608	1.0609	+0.2	2.25E+07	0.46	Y	0.89	100
SS 37Cl-2378-TCDD	28.23		1.0251	1.0251	0	1.19E+07	n/a	-	1.15	100
SS 12347-PeCDD	33.10		1.2016	1.2021	+1.0	2.11E+07	1.60	Y	0.86	104
SS 12346-PeCDF	31.61		1.2172	1.2180	+1.5	3.50E+07	1.59	Y	0.94	105
SS 123469-HxCDF	36.99		0.9771	0.9769	-0.4	2.85E+07	0.55	Y	0.83	112
SS 1234689-HpCDF	40.17		1.0608	1.0609	+0.2	2.25E+07	0.46	Y	0.92	102

Totals	Conc	EMPC
Total TCDD	250	251
Total PeCDD	160	162
Total HxCDD	424	426
Total HpCDD	344	344
Total Tetra-Octa Dioxins	2600	2600
Total TCDF	752	778
Total PeCDF	452	453
Total HxCDF	700	700
Total HpCDF	273	273
Total Tetra-Octa Furans	3,260	3290
Total Tetra-Octa Dioxins & Furans	5860	5890

Lab ID: B6292_18927_DF_003MSD | **Acq'd: 21 Feb 2022 15:51 DTF** | **Wt/Vol: 10.12 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-B-15H-MSD | **UTP: 22-Feb-2022 09:25:56 DTF** | **J-level: 0.494 pg/g** | **Split: 1** | **Checkcode: 194-418-WDY**

Datafile: 220221C09 | **Report: 22 Feb 2022 09:29 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.53		0.8701	0.8695	-0.9	5.01E+06	0.77	Y	1.18	32.2	4354.443	0.295
1379-TCDD	24.89		0.8829	0.8824	-0.7	1.19E+05	0.86	Y	1.18	0.761	4354.443	0.295
1369-TCDD	25.34		0.8982	0.8982	0	1.13E+05	0.66	Y	1.18	0.728	4354.443	0.295
1469-TCDD	26.12		0.9261	0.9259	-0.3	1.07E+06	0.82	Y	1.18	6.89	4354.443	0.295
1247/1246/1248/1249-TCDD	26.35		0.9348	0.9342	-0.9	8.73E+04	0.75	Y	1.18	0.561	4354.443	0.295
1378-TCDD	26.56	EMPC	0.9417	0.9415	-0.3	8.23E+04	1.10	N	1.18	0.529	4354.443	0.295
1268-TCDD	NotFnd		0.9487						1.18		4354.443	0.295
1478-TCDD	27.01	J	0.9576	0.9575	-0.2	6.71E+04	0.78	Y	1.18	0.431	4354.443	0.295
1279-TCDD	NotFnd		0.9636						1.18		4354.443	0.295
1234/1269-TCDD	27.52		0.9761	0.9757	-0.7	1.39E+05	0.87	Y	1.18	0.896	4354.443	0.295
1236-TCDD	NotFnd		0.9812						1.18		4354.443	0.295
1237/1238-TCDD	27.92		0.9905	0.9899	-1.0	3.34E+05	0.84	Y	1.18	2.14	4354.443	0.295
1239-TCDD	28.07		0.9951	0.9951	0	3.38E+06	0.77	Y	1.18	21.7	4354.443	0.295
2378-TCDD	**28.23**		**1.0008**	1.0008	**0**	2.20E+07	0.79	Y	**1.18**	**141**	**4354.443**	**0.295**
1278-TCDD	28.56		1.0124	1.0124	0	1.73E+06	0.87	Y	1.18	11.1	4354.443	0.295
1267-TCDD	NotFnd		1.0172						1.18		4354.443	0.295
1289-TCDD	29.21		1.0354	1.0355	+0.2	4.88E+06	0.80	Y	1.18	31.3	4354.443	0.295
12479/12468-PeCDD	31.10		0.9255	0.9254	-0.2	3.16E+06	1.50	Y	1.04	25.7	5399.605	0.39
12469-PeCDD	31.64		0.9416	0.9414	-0.4	6.02E+05	1.45	Y	1.04	4.89	5399.605	0.39
12368-PeCDD	32.20	J	0.9582	0.9581	-0.2	1.27E+05	1.39	Y	1.04	1.03	5399.605	0.39
12478-PeCDD	32.39	J EMPC	0.9637	0.9636	-0.2	8.48E+04	1.09	N	1.04	0.689	5399.605	0.39
12379-PeCDD	32.50	J EMPC	0.9668	0.9669	+0.2	6.86E+04	1.28	N	1.04	0.557	5399.605	0.39
12369/12467/12489-PeCDD	32.75	J	0.9746	0.9745	-0.2	2.46E+05	1.52	Y	1.04	2	5399.605	0.39
12346/12347-PeCDD	33.12	J EMPC	0.9858	0.9854	-0.8	5.33E+04	1.19	N	1.04	0.433	5399.605	0.39
12378-PeCDD	33.63		**1.0007**	**1.0005**	**-0.4**	**1.24E+07**	**1.53**	**Y**	**1.04**	**101**	**5399.605**	**0.39**
12367-PeCDD	33.72	J EMPC	1.0036	1.0034	-0.4	1.11E+05	2.13	N	1.04	0.901	5399.605	0.39
12389-PeCDD	34.07		1.0137	1.0137	0	3.14E+06	1.47	Y	1.04	25.5	5399.605	0.39
124679/124689-HxCDD	35.81		0.9540	0.9539	-0.2	8.17E+06	1.28	Y	1.10	67.3	7510.904	0.552
123468-HxCDD	36.47	J EMPC	0.9715	0.9715	0	2.67E+05	1.50	N	1.10	2.2	7510.904	0.552
123679/123689-HxCDD	36.77		0.9793	0.9793	0	1.86E+06	1.23	Y	1.10	15.3	7510.904	0.552
123469-HxCDD	36.89	J	0.9829	0.9826	-0.7	1.79E+05	1.32	Y	1.10	1.48	7510.904	0.552
123478-HxCDD	37.56		**1.0004**	**1.0005**	**+0.2**	**1.29E+07**	**1.27**	**Y**	1.09	**112**	**7510.904**	**0.56**
123678-HxCDD	37.68		**1.0036**	**1.0037**	**+0.2**	**1.45E+07**	**1.20**	**Y**	1.15	**116**	**7510.904**	**0.55**
123467-HxCDD	37.87	J	1.0089	1.0087	-0.5	1.88E+05	1.08	Y	1.10	1.55	7510.904	0.552
123789-HxCDD	37.99		**1.0118**	**1.0118**	**0**	**1.35E+07**	**1.24**	**Y**	1.05	**110**	**7510.904**	**0.548**

Lab ID: B6292_18927_DF_003MSD | **Acq'd: 21 Feb 2022 15:51 DTF** | **Wt/Vol: 10.12 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-B-15H-MSD | **UTP: 22-Feb-2022 09:25:56 DTF** | **J-level: 0.494 pg/g** | **Split: 1** | **Checkcode: 194-418-WDY**

Datafile: 220221C09 | **Report: 22 Feb 2022 09:29 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

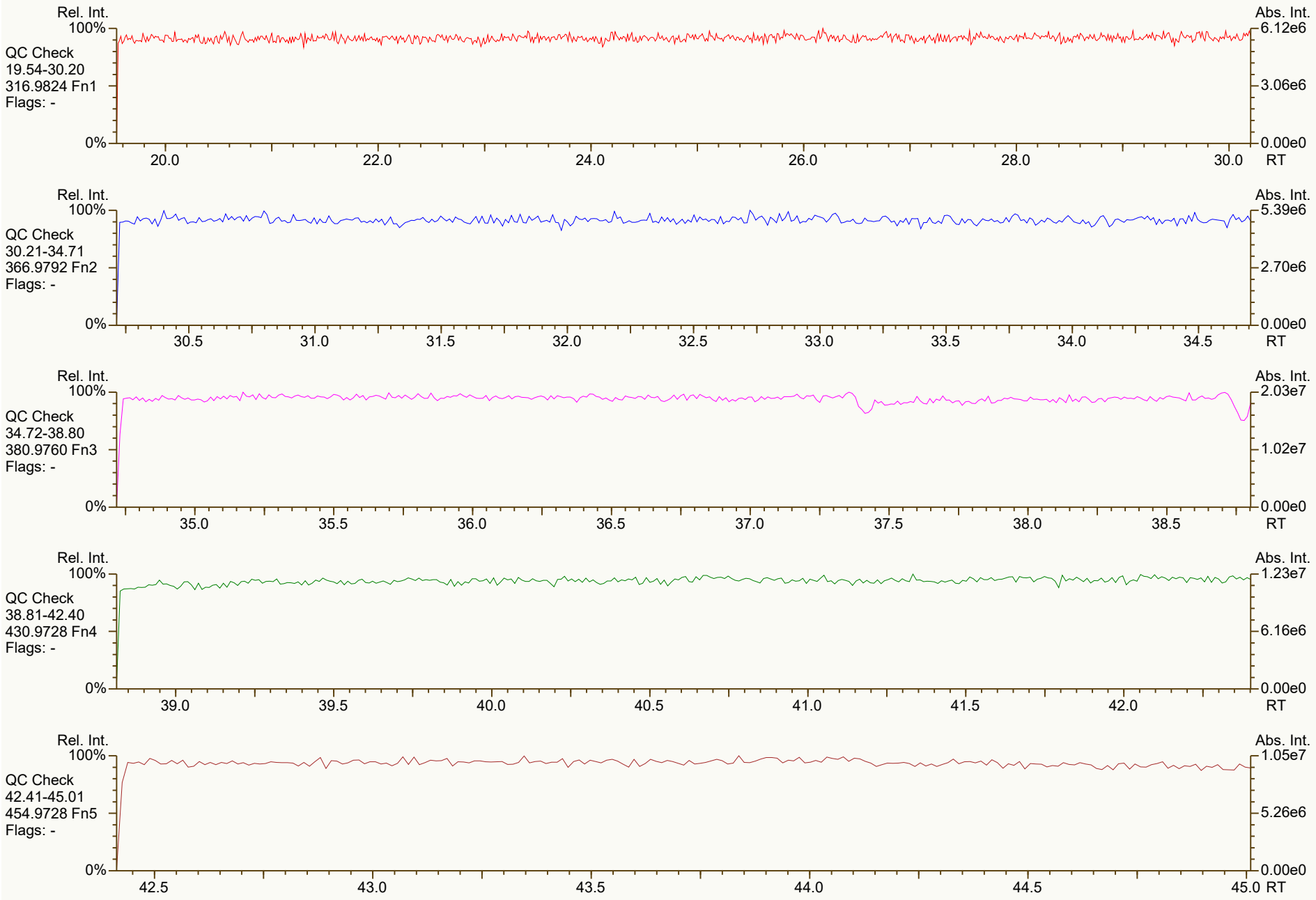
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.04		0.9836	0.9836	0	1.82E+07	1.05	Y	1.06	162	4933.386	0.393
1234678-HpCDD	**40.73**		**1.0002**	**1.0003**	**+0.2**	**2.04E+07**	**1.04**	**Y**	**1.06**	**182**	**4933.386**	**0.393**
OCDD	**43.43**		**1.0003**	**1.0003**	**0**	**1.17E+08**	**0.91**	**Y**	**1.13**	**1,420**	**6775.874**	**1.07**
OCDD-a	43.43		1.0002	1.0001	-0.3	7.27E+06	2.45	Y	0.07	1,380	6110.355	15.1
1368-TCDF	22.36		0.8191	0.8181	-1.3	6.43E+06	0.80	Y	1.08	30.2	4331.672	0.225
1468-TCDF	22.96		0.8408	0.8398	-1.4	3.15E+05	0.72	Y	1.08	1.48	4331.672	0.225
2468-TCDF	23.61		0.8645	0.8638	-1.0	2.13E+06	0.72	Y	1.08	10	4331.672	0.225
1346/1246-TCDF	NotFnd		0.8772						1.08		4331.672	0.225
1347/1378/1247-TCDF	24.12		0.8833	0.8825	-1.2	1.06E+06	0.77	Y	1.08	4.98	4331.672	0.225
1348-TCDF	NotFnd		0.8932						1.08		4331.672	0.225
1248/1367/1379-TCDF	24.49		0.8980	0.8960	-2.9	4.00E+06	0.76	Y	1.08	18.8	4331.672	0.225
1268-TCDF	24.92		0.9119	0.9116	-0.4	1.47E+06	0.83	Y	1.08	6.89	4331.672	0.225
1467-TCDF	25.06	EMPC	0.9170	0.9167	-0.5	1.89E+05	0.93	N	1.08	0.89	4331.672	0.225
1478-TCDF	25.23		0.9234	0.9228	-0.9	3.20E+06	0.80	Y	1.08	15.1	4331.672	0.225
1369/1237-TCDF	25.62		0.9369	0.9372	+0.5	8.41E+05	0.78	Y	1.08	3.95	4331.672	0.225
2467-TCDF	25.74	J	0.9415	0.9414	-0.2	9.72E+04	0.76	Y	1.08	0.457	4331.672	0.225
2368-TCDF	25.89	EMPC	0.9475	0.9472	-0.5	1.99E+06	0.60	N	1.08	9.37	4331.672	0.225
1238/1234/1678/1469/1236-TCDF	25.97	EMPC	0.9507	0.9499	-1.2	3.41E+06	0.94	N	1.08	16	4331.672	0.225
1278-TCDF	26.45		0.9676	0.9674	-0.3	3.27E+07	0.79	Y	1.08	154	4331.672	0.225
1349-TCDF	NotFnd		0.9722						1.08		4331.672	0.225
1267-TCDF	26.72		0.9777	0.9775	-0.3	1.84E+06	0.82	Y	1.08	8.65	4331.672	0.225
2346/1249-TCDF	NotFnd		0.9843						1.08		4331.672	0.225
2347/1279-TCDF	27.13		0.9926	0.9924	-0.3	9.59E+05	0.80	Y	1.08	4.51	4331.672	0.225
2348-TCDF	27.25		0.9968	0.9966	-0.3	1.13E+07	0.77	Y	1.08	53.1	4331.672	0.225
2378-TCDF	**27.36**		**1.0008**	**1.0008**	**0**	**7.38E+07**	**0.78**	**Y**	**1.08**	**347**	**4331.672**	**0.225**
2367/3467-TCDF	27.72		1.0142	1.0139	-0.5	6.10E+06	0.77	Y	1.08	28.7	4331.672	0.225
1269-TCDF	27.97		1.0235	1.0231	-0.7	1.23E+06	0.84	Y	1.08	5.78	4331.672	0.225
1239-TCDF	NotFnd		1.0329						1.08		4331.672	0.225
1289-TCDF	29.39		1.0742	1.0749	+1.2	1.26E+07	0.80	Y	1.08	59.1	4331.672	0.225
13468/12468-PeCDF	29.31		0.9122	0.9116	-1.1	3.34E+07	1.51	Y	1.02	184	2680.762	0.131
13678/13467/12467-PeCDF	30.89	J EMPC	0.9606	0.9609	+0.6	1.26E+05	1.98	N	1.02	0.69	5385.301	0.264
12368/13478/12478-PeCDF	31.05		0.9655	0.9658	+0.6	2.09E+06	1.55	Y	1.02	11.5	5385.301	0.264
14678-PeCDF	NotFnd		0.9685						1.02		5385.301	0.264
13479-PeCDF	NotFnd		0.9716						1.02		5385.301	0.264
13469/12479-PeCDF	NotFnd		0.9794						1.02		5385.301	0.264
12346-PeCDF	NotFnd		0.9836						1.02		5385.301	0.264

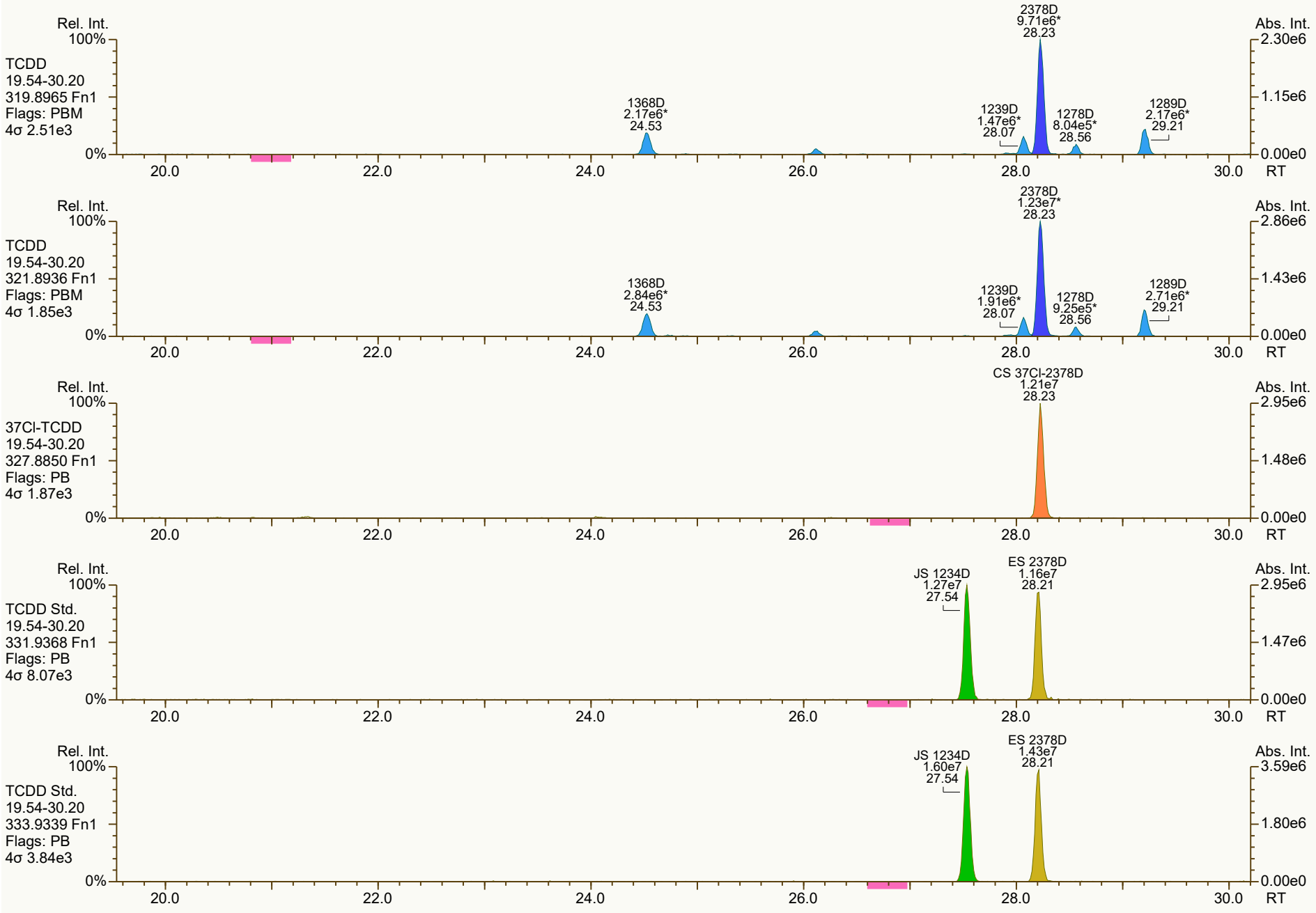
Lab ID: B6292_18927_DF_003MSD | **Acq'd: 21 Feb 2022 15:51 DTF** | **Wt/Vol: 10.12 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

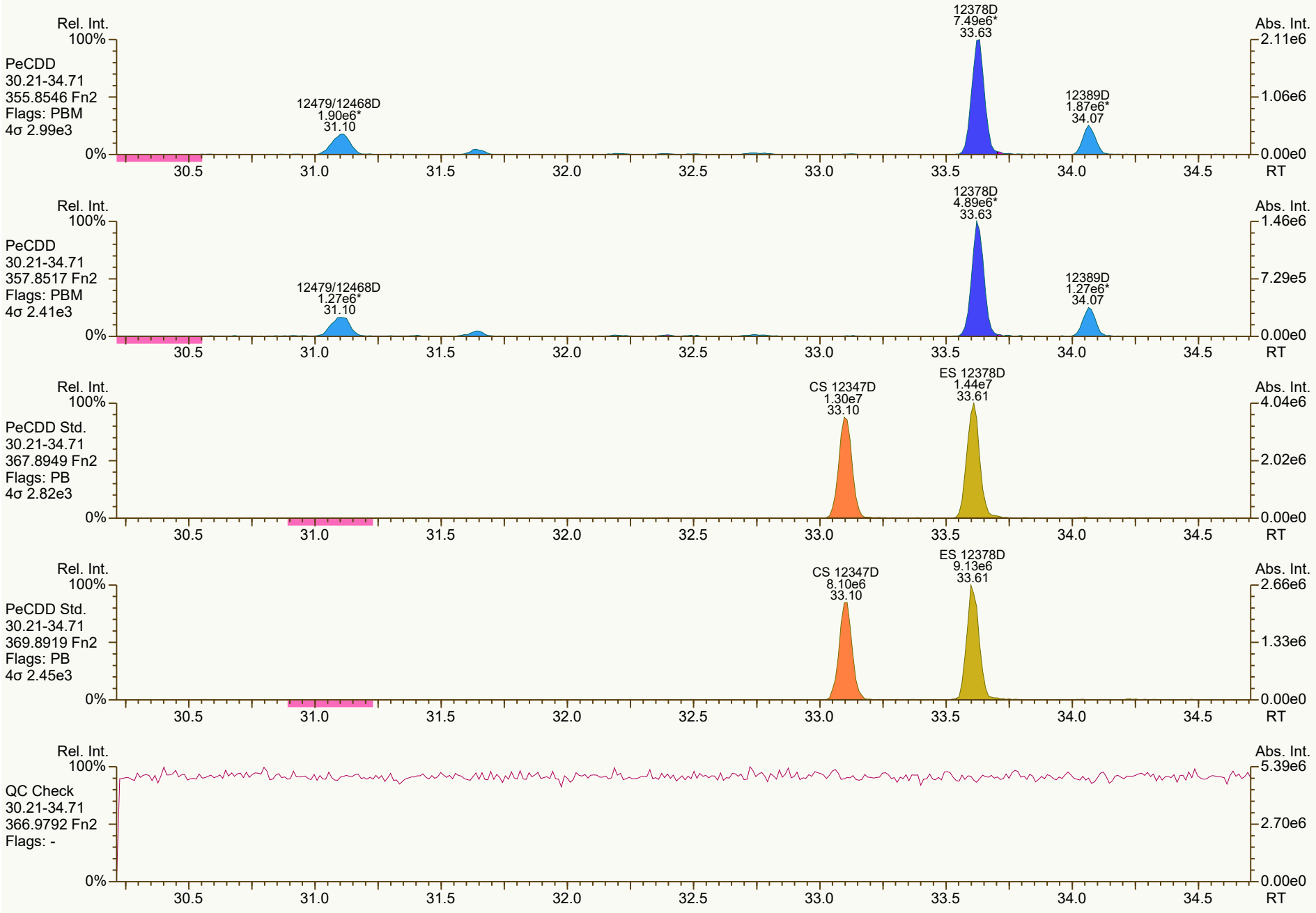
Client ID: 11215131-020622-S-SB-SC-B-15H-MSD | **UTP: 22-Feb-2022 09:25:56 DTF** | **J-level: 0.494 pg/g** | **Split: 1** | **Checkcode: 194-418-WDY**

Datafile: 220221C09 | **Report: 22 Feb 2022 09:29 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.73	J	0.9866	0.9870	+0.8	3.48E+05	1.61	Y	1.02	1.91	5385.301	0.264
12347-PeCDF	NotFnd		0.9891						1.02		5385.301	0.264
12348-PeCDF	31.95	J	0.9938	0.9940	+0.4	2.51E+05	1.38	Y	1.02	1.38	5385.301	0.264
12378-PeCDF	**32.16**		**1.0005**	**1.0005**	**0**	**2.00E+07**	**1.53**	**Y**	**1.02**	**109**	**5385.301**	**0.277**
12678/12367-PeCDF	32.46		1.0091	1.0097	+1.2	9.00E+05	1.71	Y	1.02	4.95	5385.301	0.264
12379-PeCDF	NotFnd		1.0144						1.02		5385.301	0.264
12679-PeCDF	NotFnd		0.9927						1.02		5385.301	0.264
23467/12369-PeCDF	NotFnd		0.9965						1.02		5385.301	0.264
23478-PeCDF	**33.29**		**1.0005**	**1.0005**	**0**	**2.12E+07**	**1.51**	**Y**	**1.02**	**118**	**5385.301**	**0.25**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5385.301	0.264
12349-PeCDF	NotFnd		1.0101						1.02		5385.301	0.264
12389-PeCDF	34.37		1.0330	1.0330	0	3.96E+06	1.56	Y	1.02	21.8	5385.301	0.264
123468-HxCDF	35.16		0.9622	0.9622	0	4.17E+07	1.22	Y	1.19	243	6493.122	0.325
124678/134678-HxCDF	35.35		0.9678	0.9675	-0.6	1.71E+06	1.17	Y	1.19	9.98	6493.122	0.325
134679-HxCDF	NotFnd		0.9741						1.19		6493.122	0.325
124679-HxCDF	NotFnd		0.9795						1.19		6493.122	0.325
124689-HxCDF	36.01		0.9856	0.9856	0	1.35E+06	1.32	Y	1.19	7.87	6493.122	0.325
123467-HxCDF	NotFnd		0.9972						1.19		6493.122	0.325
123478-HxCDF	**36.56**		**1.0004**	**1.0004**	**0**	**2.09E+07**	**1.24**	**Y**	**1.27**	**124**	**6493.122**	**0.301**
123678-HxCDF	**36.69**		**1.0004**	**1.0004**	**0**	**1.90E+07**	**1.22**	**Y**	**1.15**	**106**	**6493.122**	**0.313**
123479-HxCDF	NotFnd		1.0048						1.19		6493.122	0.325
123469-HxCDF	NotFnd		1.0089						1.19		6493.122	0.325
123679-HxCDF	NotFnd		0.9942						1.19		6493.122	0.325
234678-HxCDF	**37.38**		**1.0005**	**1.0005**	**0**	**2.03E+07**	**1.24**	**Y**	**1.19**	**108**	**6493.122**	**0.315**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6493.122	0.325
123789-HxCDF	**38.35**		**1.0004**	**1.0004**	**0**	**1.53E+07**	**1.24**	**Y**	**1.16**	**102**	**6493.122**	**0.38**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		6493.122	0.325
1234678-HpCDF	**39.78**		**1.0003**	**1.0003**	**0**	**2.25E+07**	**1.03**	**Y**	**1.37**	**136**	**3171.21**	**0.145**
1234679-HpCDF	40.04		1.0068	1.0068	0	3.79E+05	1.01	Y	1.34	2.59	3171.21	0.175
1234689-HpCDF	40.18		1.0104	1.0105	+0.2	3.92E+06	1.02	Y	1.34	26.7	3171.21	0.175
1234789-HpCDF	**41.18**		**1.0003**	**1.0003**	**0**	**1.38E+07**	**1.01**	**Y**	**1.31**	**108**	**3171.21**	**0.213**
OCDF	**43.60**		**1.0002**	**1.0003**	**+0.3**	**1.16E+08**	**0.89**	**Y**	**1.07**	**1,090**	**3161.841**	**0.373**
OCDF-a	43.60		1.0001	1.0002	+0.3	7.74E+06	2.55	Y	0.07	1,170	3270.421	6.22


Rel. Int.
100%
0%
Abs. Int.
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
6.12e6
3.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
5.39e6
2.70e6
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
2.03e7
1.02e7
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
1.23e7
6.16e6
39.0
39.5
40.0
40.5
41.0
41.5
42.0
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.05e7
5.26e6
42.5
43.0
43.5
44.0
44.5
45.0

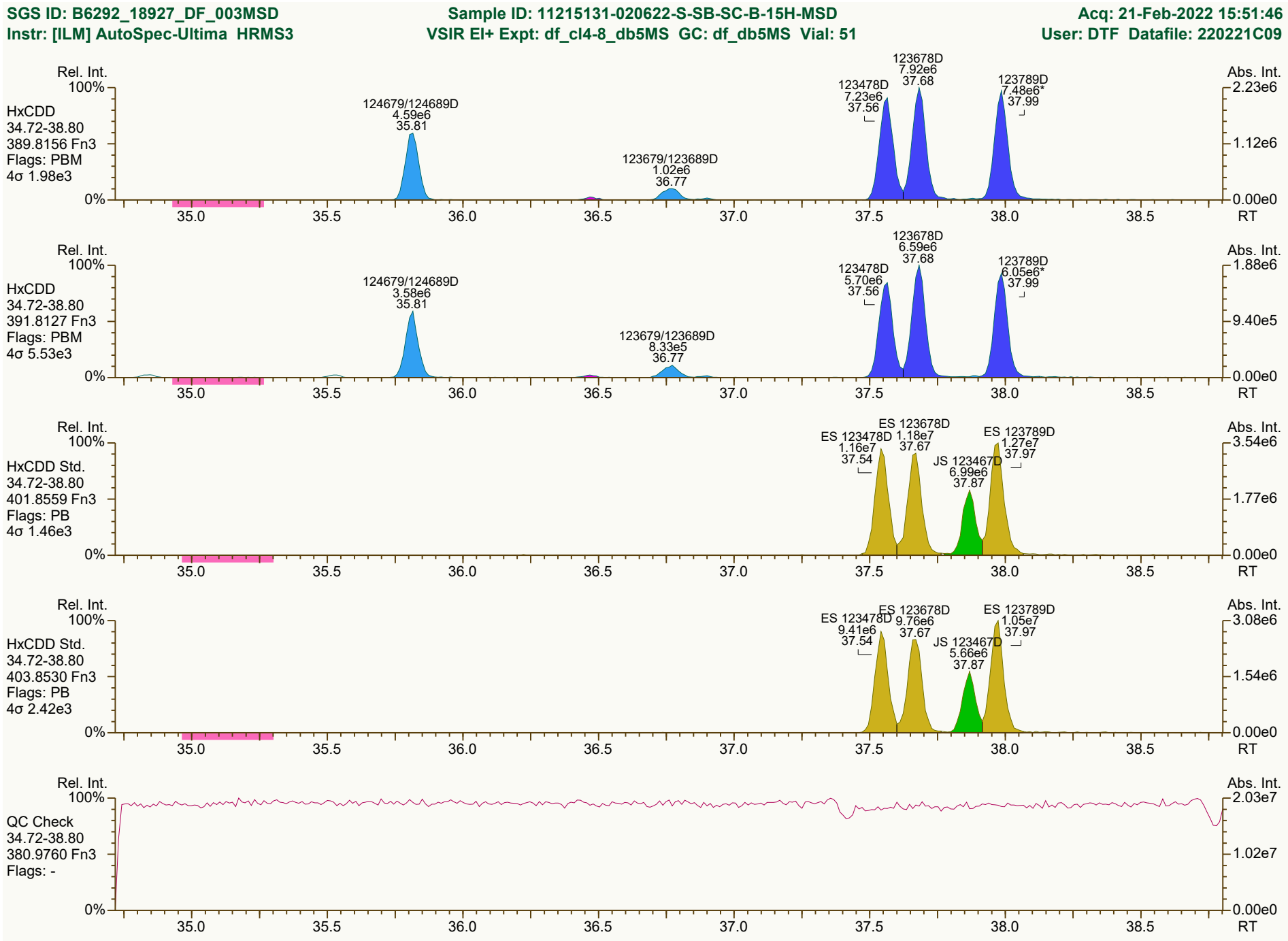

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.51e3
0%
1368D
2.17e6*
24.53
1239D
1.47e6*
28.07
2378D
9.71e6*
28.23
1278D
8.04e5*
28.56
1289D
2.17e6*
29.21
Abs. Int.
2.30e6
1.15e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.85e3
0%
1368D
2.84e6*
24.53
1239D
1.91e6*
28.07
2378D
1.23e7*
28.23
1278D
9.25e5*
28.56
1289D
2.71e6*
29.21
Abs. Int.
2.86e6
1.43e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.87e3
0%
CS 37Cl-2378D
1.21e7
28.23
Abs. Int.
2.95e6
1.48e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 8.07e3
0%
JS 1234D
1.27e7
27.54
ES 2378D
1.16e7
28.21
Abs. Int.
2.95e6
1.47e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.84e3
0%
JS 1234D
1.60e7
27.54
ES 2378D
1.43e7
28.21
Abs. Int.
3.59e6
1.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 2.99e3
0%
12479/12468D
1.90e6*
31.10
12378D
7.49e6*
33.63
12389D
1.87e6*
34.07
Abs. Int.
2.11e6
1.06e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 2.41e3
0%
12479/12468D
1.27e6*
31.10
12378D
4.89e6*
33.63
12389D
1.27e6*
34.07
Abs. Int.
1.46e6
7.29e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.82e3
0%
CS 12347D
1.30e7
33.10
ES 12378D
1.44e7
33.61
Abs. Int.
4.04e6
2.02e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.45e3
0%
CS 12347D
8.10e6
33.10
ES 12378D
9.13e6
33.61
Abs. Int.
2.66e6
1.33e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.39e6
2.70e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

SGS ID: B6292_18927_DF_003MSD
Instr: [ILM] AutoSpec-Ultima HRMS3

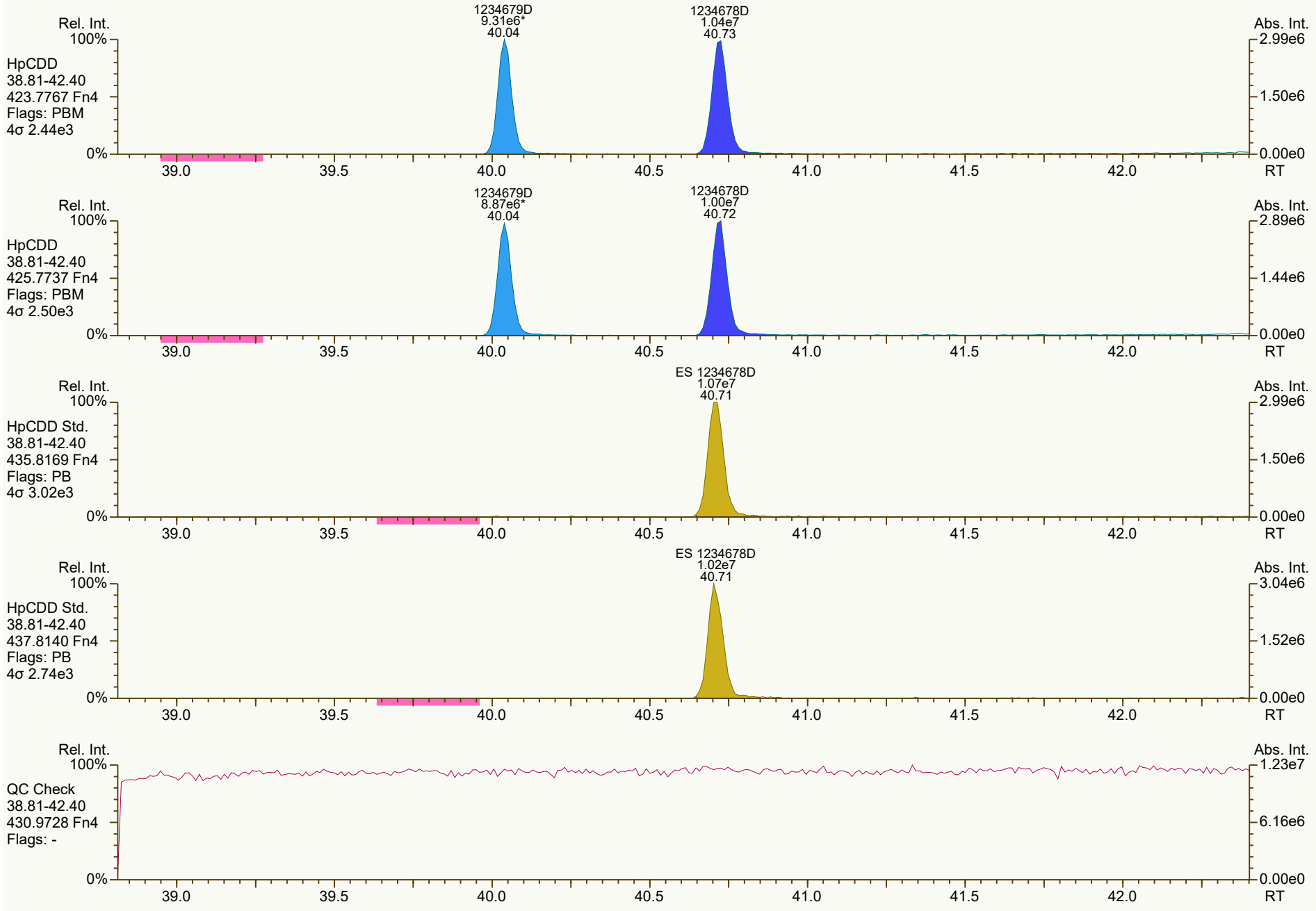
Sample ID: 11215131-020622-S-SB-SC-B-15H-MSD
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 51

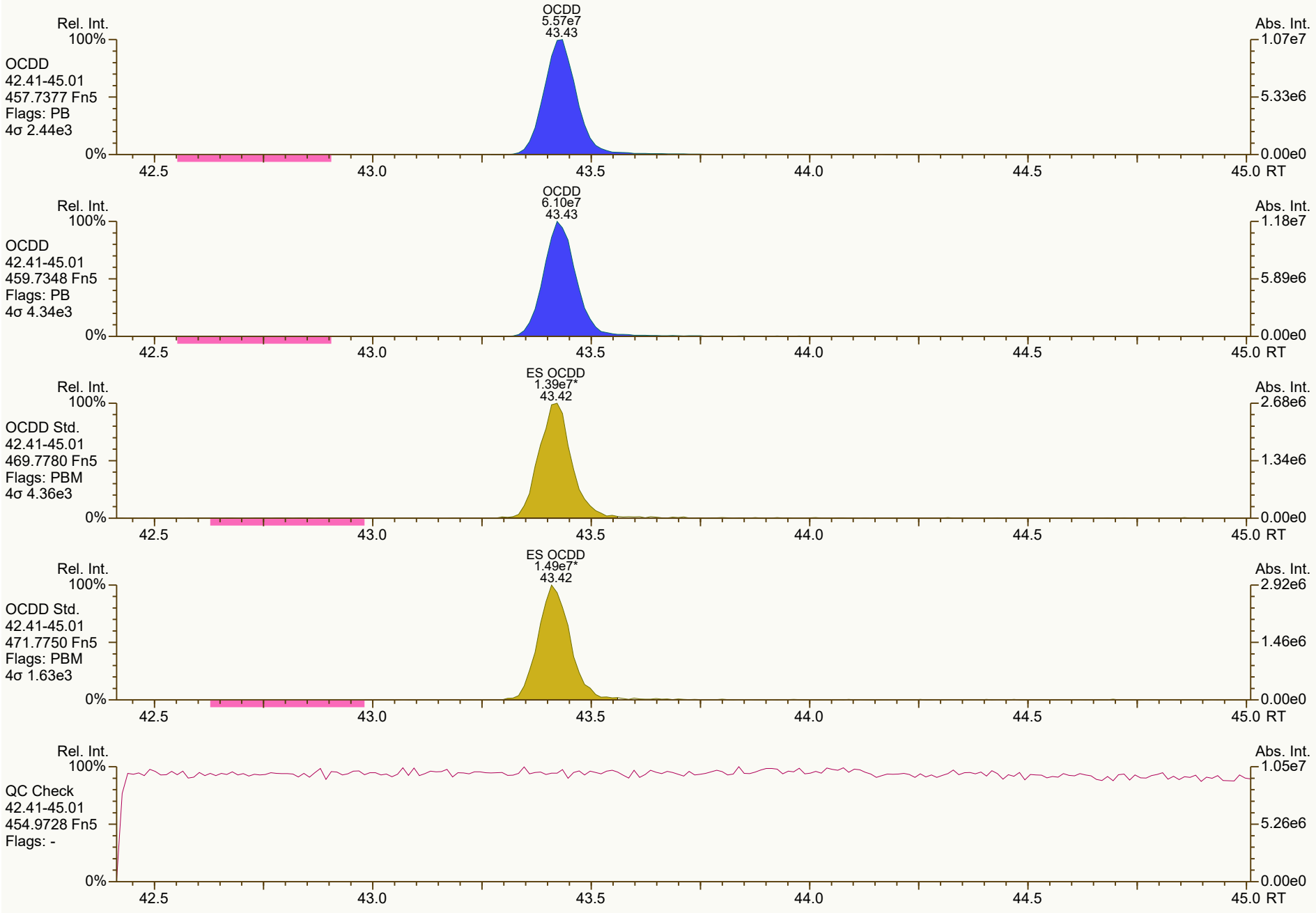
Acq: 21-Feb-2022 15:51:46
User: DTF Datafile: 220221C09

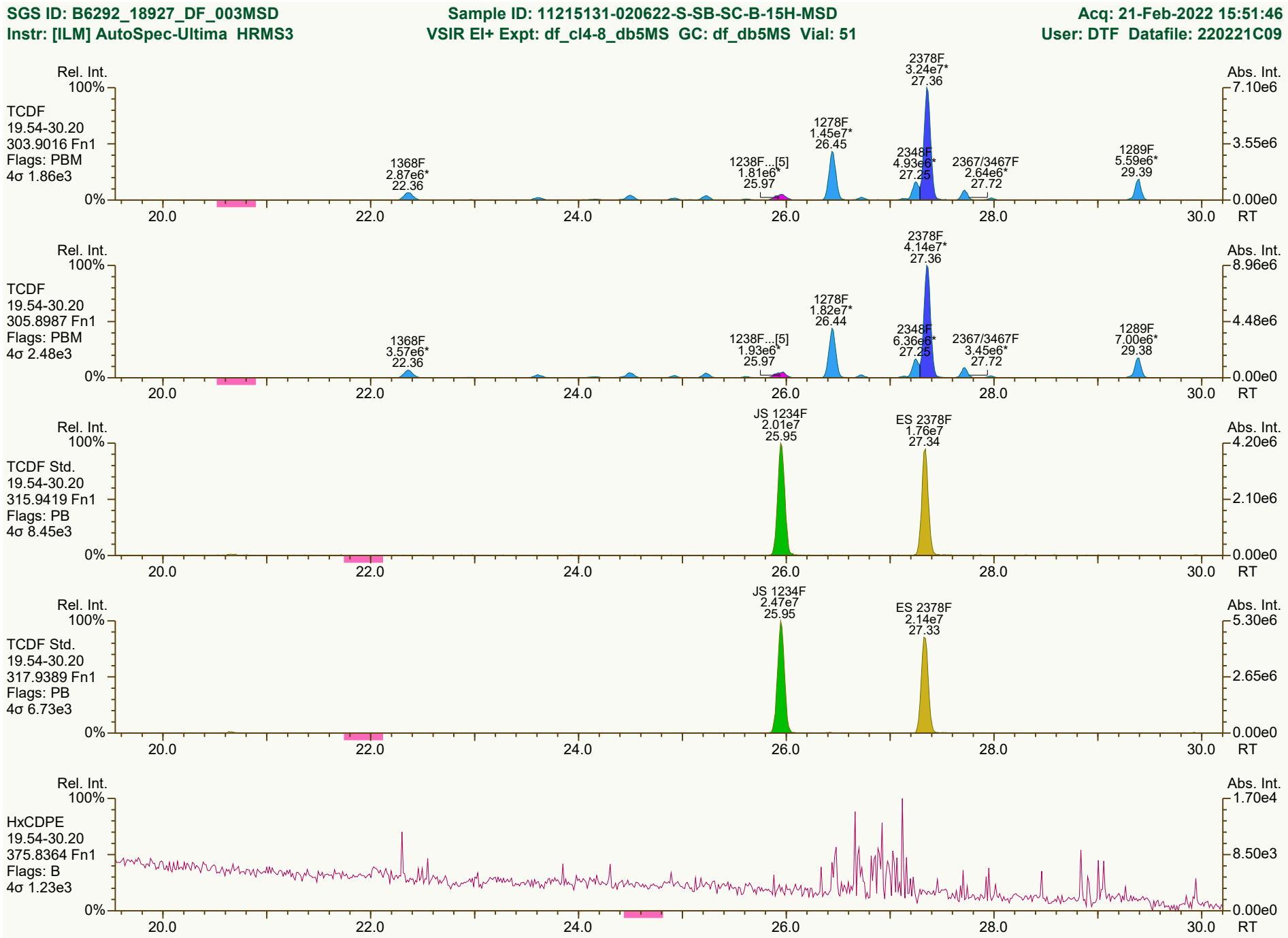


Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_003MSD.utp_res, saved 22-Feb-2022 09:25 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3195, 0521 scc: 194-418

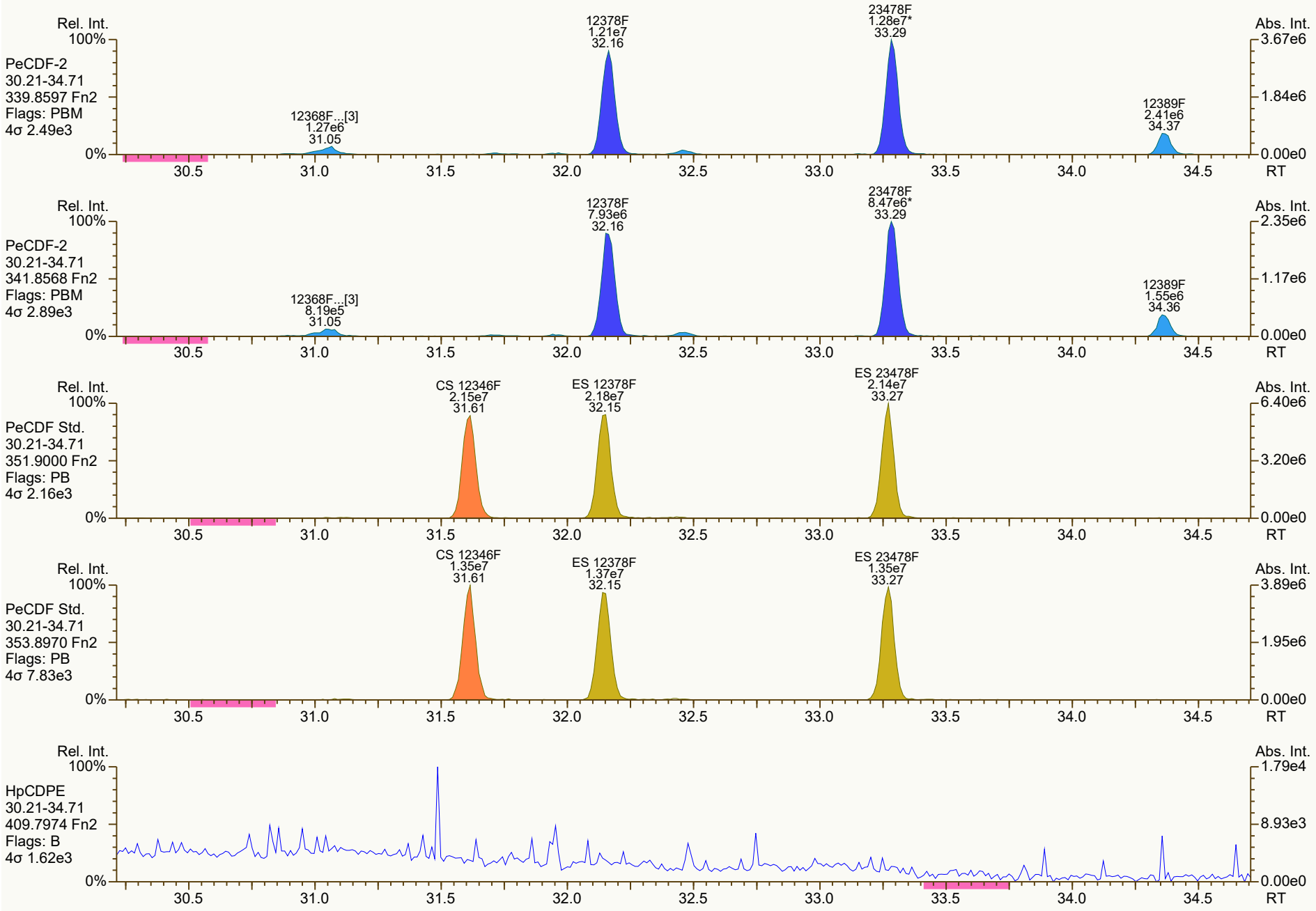
Peak annotation: Areas, Centroids
Revised: 22-Feb-2022 08:18 (DTF) Printed: 22-Feb-2022 09:35 Page 4 of 12

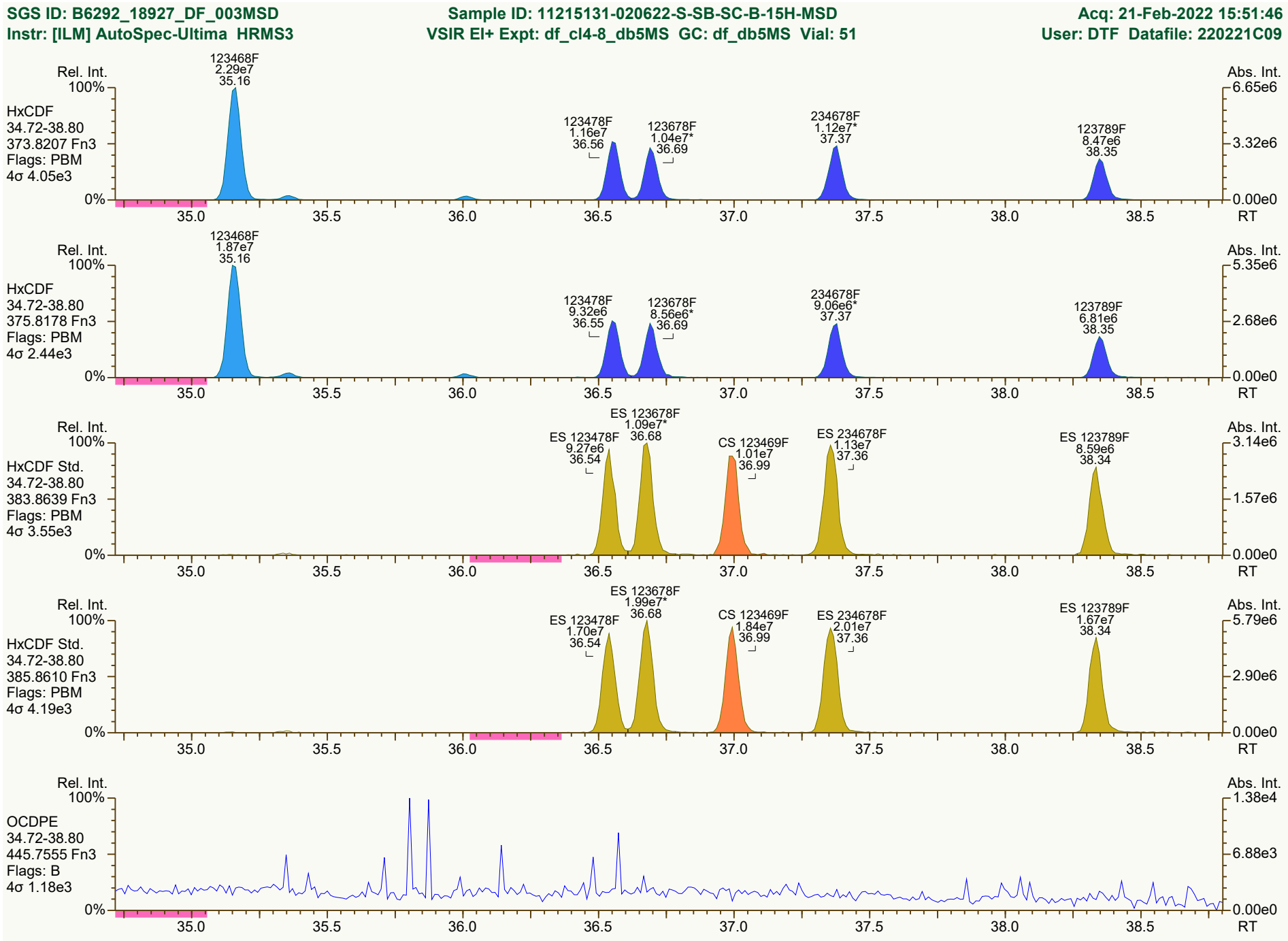

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 2.44e3
1234679D
9.31e6*
40.04
1234678D
1.04e7
40.73
Abs. Int.
2.99e6
1.50e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 2.50e3
1234679D
8.87e6*
40.04
1234678D
1.00e7
40.72
Abs. Int.
2.89e6
1.44e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 3.02e3
ES 1234678D
1.07e7
40.71
Abs. Int.
2.99e6
1.50e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.74e3
ES 1234678D
1.02e7
40.71
Abs. Int.
3.04e6
1.52e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.23e7
6.16e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

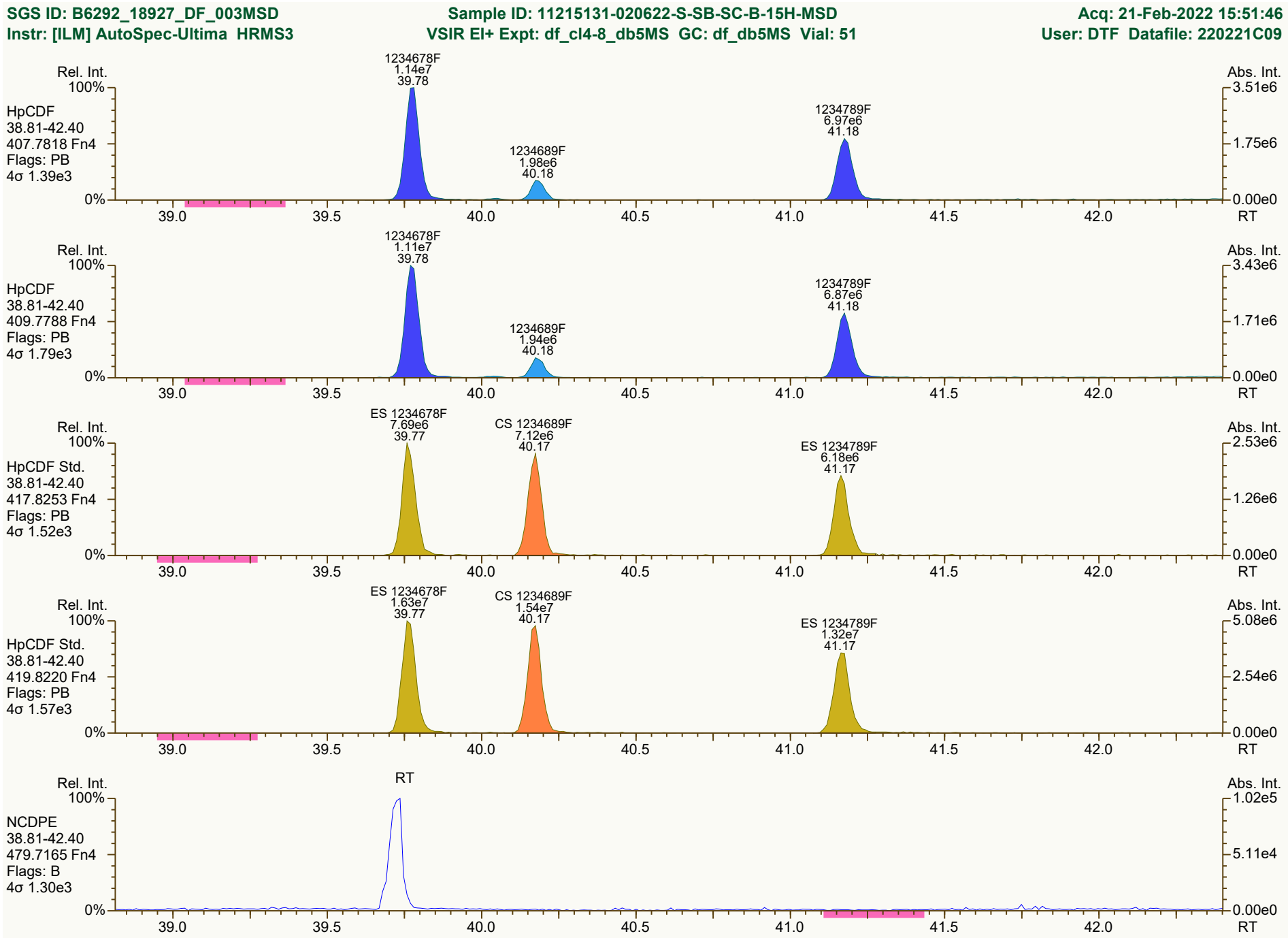

OCDD
5.57e7
43.43
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 2.44e3
0%
Abs. Int.
1.07e7
5.33e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
6.10e7
43.43
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 4.34e3
0%
Abs. Int.
1.18e7
5.89e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.39e7*
43.42
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 4.36e3
0%
Abs. Int.
2.68e6
1.34e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.49e7*
43.42
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
2.92e6
1.46e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.05e7
5.26e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

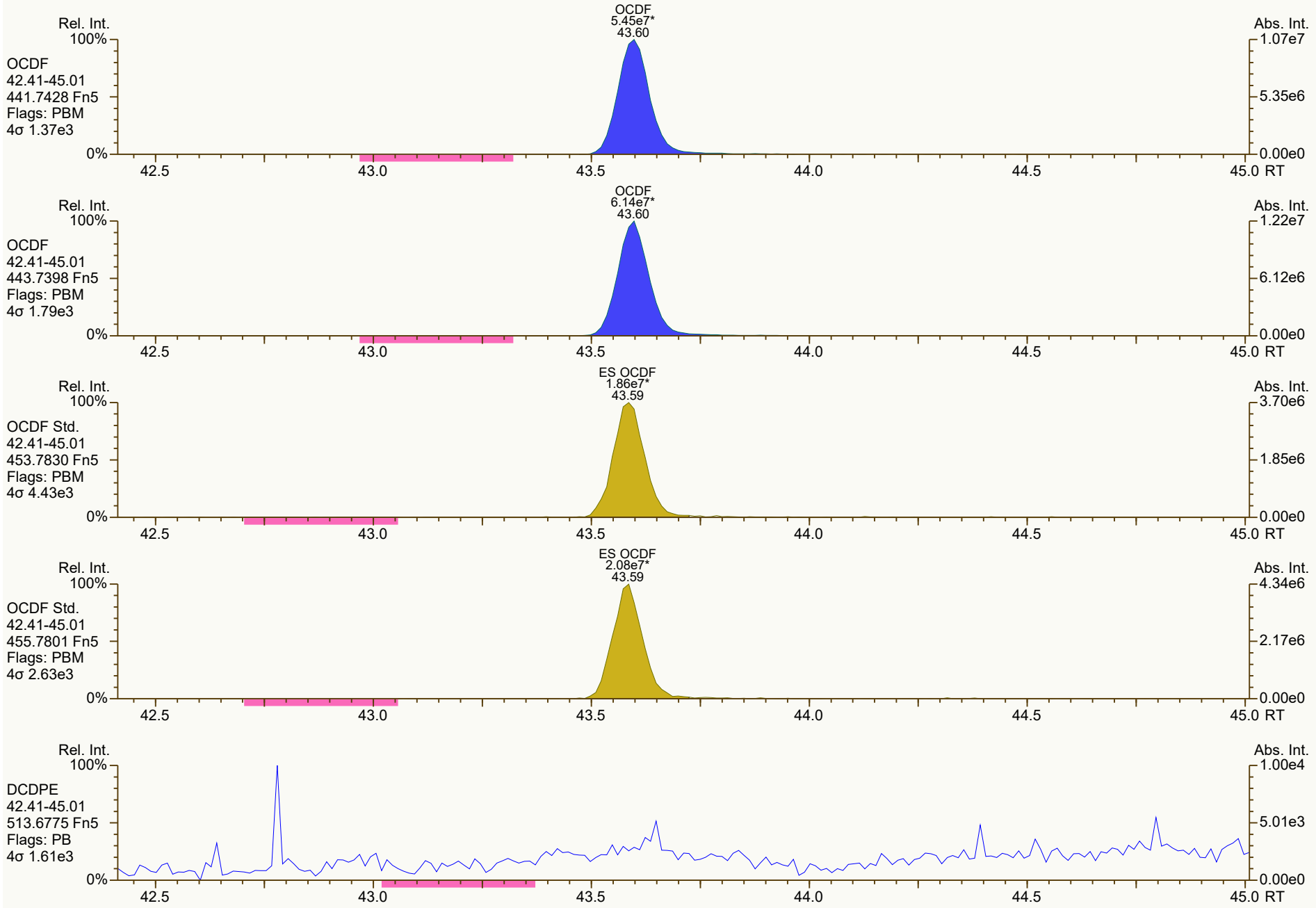

SGS ID: B6292_18927_DF_003MSD
Sample ID: 11215131-020622-S-SB-SC-B-15H-MSD
Acq: 21-Feb-2022 15:51:46
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 51
User: DTF Datafile: 220221C09
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.86e3
1368F 2.87e6* 22.36
1238F...[5] 1.81e6* 25.97
1278F 1.45e7* 26.45
2378F 3.24e7* 27.36
2348F 4.93e6* 27.25
2367/3467F 2.64e6* 27.72
1289F 5.59e6* 29.39
7.10e6
3.55e6
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.48e3
1368F 3.57e6* 22.36
1238F...[5] 1.93e6* 25.97
1278F 1.82e7* 26.44
2378F 4.14e7* 27.36
2348F 6.36e6* 27.25
2367/3467F 3.45e6* 27.72
1289F 7.00e6* 29.38
8.96e6
4.48e6
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 8.45e3
JS 1234F 2.01e7 25.95
ES 2378F 1.76e7 27.34
4.20e6
2.10e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 6.73e3
JS 1234F 2.47e7 25.95
ES 2378F 2.14e7 27.33
5.30e6
2.65e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.23e3
1.70e4
8.50e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_003MSD.utp_res, saved 22-Feb-2022 09:25 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6217, 9347, 2130 scc: 194-418
Revised: 22-Feb-2022 08:19 (DTF) Printed: 22-Feb-2022 09:35 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.47e3
13468/12468F
2.01e7
29.31
Abs. Int.
5.09e6
2.54e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.21e3
13468/12468F
1.33e7
29.31
Abs. Int.
3.25e6
1.62e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
6.12e6
3.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 2.49e3
12368F...[3]
1.27e6
31.05
12378F
1.21e7
32.16
23478F
1.28e7*
33.29
12389F
2.41e6
34.37
0%
Abs. Int.
3.67e6
1.84e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 2.89e3
12368F...[3]
8.19e5
31.05
12378F
7.93e6
32.16
23478F
8.47e6*
33.29
12389F
1.55e6
34.36
0%
Abs. Int.
2.35e6
1.17e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 2.16e3
CS 12346F
2.15e7
31.61
ES 12378F
2.18e7
32.15
ES 23478F
2.14e7
33.27
0%
Abs. Int.
6.40e6
3.20e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 7.83e3
CS 12346F
1.35e7
31.61
ES 12378F
1.37e7
32.15
ES 23478F
1.35e7
33.27
0%
Abs. Int.
3.89e6
1.95e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.62e3
0%
Abs. Int.
1.79e4
8.93e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


SGS ID: B6292_18927_DF_003MSD
Sample ID: 11215131-020622-S-SB-SC-B-15H-MSD
Acq: 21-Feb-2022 15:51:46
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 51
User: DTF Datafile: 220221C09
Rel. Int.
Abs. Int.
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 4.05e3
123468F 2.29e7 35.16
123478F 1.16e7 36.56
123678F 1.04e7* 36.69
234678F 1.12e7* 37.37
123789F 8.47e6 38.35
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 2.44e3
123468F 1.87e7 35.16
123478F 9.32e6 36.55
123678F 8.56e6* 36.69
234678F 9.06e6* 37.37
123789F 6.81e6 38.35
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 3.55e3
ES 123678F 1.09e7* 36.68
ES 123478F 9.27e6 36.54
CS 123469F 1.01e7 36.99
ES 234678F 1.13e7 37.36
ES 123789F 8.59e6 38.34
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 4.19e3
ES 123678F 1.99e7* 36.68
ES 123478F 1.70e7 36.54
CS 123469F 1.84e7 36.99
ES 234678F 2.01e7 37.36
ES 123789F 1.67e7 38.34
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.18e3
RT
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_003MSD.utp_res, saved 22-Feb-2022 09:25 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4433, 9174, 0691 scc: 194-418
Revised: 22-Feb-2022 08:19 (DTF) Printed: 22-Feb-2022 09:35 Page 10 of 12


SGS ID: B6292_18927_DF_003MSD
Sample ID: 11215131-020622-S-SB-SC-B-15H-MSD
Acq: 21-Feb-2022 15:51:46
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 51
User: DTF Datafile: 220221C09
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.39e3
1234678F
1.14e7
39.78
1234689F
1.98e6
40.18
1234789F
6.97e6
41.18
3.51e6
1.75e6
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.79e3
1234678F
1.11e7
39.78
1234689F
1.94e6
40.18
1234789F
6.87e6
41.18
3.43e6
1.71e6
0.00e0
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 1.52e3
ES 1234678F
7.69e6
39.77
CS 1234689F
7.12e6
40.17
ES 1234789F
6.18e6
41.17
2.53e6
1.26e6
0.00e0
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 1.57e3
ES 1234678F
1.63e7
39.77
CS 1234689F
1.54e7
40.17
ES 1234789F
1.32e7
41.17
5.08e6
2.54e6
0.00e0
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.30e3
RT
1.02e5
5.11e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_003MSD.utp_res, saved 22-Feb-2022 09:25 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2566, 0692, 1928 scc: 194-418
PKD: 22-Feb-2022 08:16 Printed: 22-Feb-2022 09:35 Page 11 of 12


OCDF
5.45e7*
43.60
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 1.37e3
0%
Abs. Int.
1.07e7
5.35e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
6.14e7*
43.60
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 1.79e3
1.22e7
6.12e6
ES OCDF
1.86e7*
43.59
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 4.43e3
3.70e6
1.85e6
ES OCDF
2.08e7*
43.59
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 2.63e3
4.34e6
2.17e6
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.61e3
1.00e4
5.01e3

Lab ID: B6292_18927_DF_004 **Acq'd:** 21 Feb 2022 16:38 DTF **Wt/Vol:** 10.11 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-DUP-16 **UTP:** 22-Feb-2022 09:25:57 DTF **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 175-075-NYM

Datafile: 220221C10 **Report:** 22 Feb 2022 09:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.25	E	1.0008	1.0008	0	8.85E+08	0.79	Y	1.18	7,630	4855.97	0.444
12378-PeCDD	33.65		1.0007	1.0006	-0.2	7.22E+06	1.54	Y	1.04	74.9	4739.802	0.436
123478-HxCDD	37.58		1.0004	1.0004	0	6.95E+05	1.24	Y	1.09	7.51	14261.836	1.45
123678-HxCDD	37.70		1.0036	1.0036	0	2.21E+06	1.23	Y	1.15	22.6	14261.836	1.36
123789-HxCDD	38.00		1.0118	1.0117	-0.2	1.19E+06	1.29	Y	1.05	11.9	14261.836	1.18
1234678-HpCDD	40.74		1.0002	1.0003	+0.2	7.42E+07	1.04	Y	1.06	844	5952.304	0.576
OCDD	43.45		1.0003	1.0003	0	5.66E+08	0.89	Y	1.13	8,580	10275.699	2.14
2378-TCDF	27.38	E	1.0008	1.0008	0	3.15E+09	0.78	Y	1.08	19,000	4671.734	0.314
12378-PeCDF	32.20		1.0005	1.0006	+0.2	1.41E+08	1.54	Y	1.02	951	10047.183	0.59
23478-PeCDF	33.33		1.0005	1.0007	+0.4	9.02E+07	1.53	Y	1.02	598	10047.183	0.674
123478-HxCDF	36.58		1.0004	1.0005	+0.2	2.25E+08	1.23	Y	1.27	1,620	8247.219	0.477
123678-HxCDF	36.72		1.0004	1.0004	0	5.75E+07	1.21	Y	1.15	403	8247.219	0.458
234678-HxCDF	37.39		1.0005	1.0004	-0.2	1.15E+07	1.25	Y	1.19	84.7	8247.219	0.526
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	8247.219	0.567
1234678-HpCDF	39.79		1.0003	1.0003	0	6.77E+07	1.02	Y	1.37	533	4909.757	0.293
1234789-HpCDF	41.19		1.0003	1.0003	0	1.89E+07	1.03	Y	1.31	176	4909.757	0.419
OCDF	43.62		1.0002	1.0003	+0.3	2.87E+08	0.89	Y	1.07	3,360	5219.249	0.738

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.23	1.0243	1.0242	-0.2	1.94E+07	0.84	Y	1.05	76.4
ES 12378-PeCDD	33.63	1.2198	1.2202	+0.8	1.84E+07	1.59	Y	0.88	86.4
ES 123478-HxCDD	37.57	0.9916	0.9915	-0.2	1.68E+07	1.26	Y	0.97	79.5
ES 123678-HxCDD	37.69	0.9947	0.9947	0	1.69E+07	1.27	Y	0.94	82.1
ES 123789-HxCDD	37.99	1.0029	1.0027	-0.5	1.89E+07	1.30	Y	1.09	79.7
ES 1234678-HpCDD	40.73	1.0749	1.0749	0	1.64E+07	1.07	Y	0.91	82.6
ES OCDD	43.43	1.1460	1.1463	+0.8	2.31E+07	0.90	Y	0.62	85.3
ES 2378-TCDF	27.36	1.0531	1.0534	+0.5	3.04E+07	0.84	Y	1.06	73.3
ES 12378-PeCDF	32.18	1.2378	1.2388	+1.9	2.87E+07	1.60	Y	0.91	80.7
ES 23478-PeCDF	33.30	1.2810	1.2822	+2.4	2.93E+07	1.67	Y	0.88	84.8
ES 123478-HxCDF	36.56	0.9650	0.9650	0	2.17E+07	0.54	Y	1.20	83.1
ES 123678-HxCDF	36.70	0.9688	0.9687	-0.2	2.45E+07	0.54	Y	1.35	83.2
ES 234678-HxCDF	37.38	0.9866	0.9866	0	2.26E+07	0.55	Y	1.24	83.8
ES 123789-HxCDF	38.36	1.0125	1.0123	-0.5	1.99E+07	0.53	Y	1.16	79.3
ES 1234678-HpCDF	39.78	1.0501	1.0499	-0.5	1.84E+07	0.50	Y	0.97	87.2
ES 1234789-HpCDF	41.18	1.0870	1.0869	-0.2	1.63E+07	0.50	Y	0.85	87.9
ES OCDF	43.61	1.1505	1.1510	+1.3	3.15E+07	0.94	Y	0.81	89.8

Lab ID: B6292_18927_DF_004 **Acq'd:** 21 Feb 2022 16:38 DTF **Wt/Vol:** 10.11 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-DUP-16 **UTP:** 22-Feb-2022 09:25:57 DTF **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 175-075-NYM

Datafile: 220221C10 **Report:** 22 Feb 2022 09:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.56		-	-	-	2.42E+07	0.80	Y	-	-
JS 1234-TCDF	25.98		-	-	-	3.91E+07	0.83	Y	-	-
JS 123467-HxCDD	37.89		-	-	-	1.09E+07	1.34	Y	-	-
CS 37Cl-2378-TCDD	28.25		1.0251	1.0250	-0.2	9.10E+06	n/a	-	1.20	78.2
CS 12347-PeCDD	33.13		1.2016	1.2020	+0.8	1.73E+07	1.53	Y	0.75	94.9
CS 12346-PeCDF	31.64		1.2172	1.2183	+2.1	2.91E+07	1.65	Y	0.85	87.6
CS 123469-HxCDF	37.02		0.9771	0.9770	-0.2	2.30E+07	0.52	Y	1.12	94.7
CS 1234689-HpCDF	40.19		1.0608	1.0607	-0.2	1.80E+07	0.48	Y	0.89	93.4
SS 37Cl-2378-TCDD	28.25		1.0251	1.0250	-0.2	9.10E+06	n/a	-	1.15	103
SS 12347-PeCDD	33.13		1.2016	1.2020	+0.8	1.73E+07	1.53	Y	0.86	110
SS 12346-PeCDF	31.64		1.2172	1.2183	+2.1	2.91E+07	1.65	Y	0.94	108
SS 123469-HxCDF	37.02		0.9771	0.9770	-0.2	2.30E+07	0.52	Y	0.83	114
SS 1234689-HpCDF	40.19		1.0608	1.0607	-0.2	1.80E+07	0.48	Y	0.92	107

Totals	Conc	EMPC
Total TCDD	8560	8560
Total PeCDD	123	137
Total HxCDD	467	467
Total HpCDD	2540	2540
Total Tetra-Octa Dioxins	20300	20300
Total TCDF	34,800	34800
Total PeCDF	2,380	2380
Total HxCDF	2,510	2510
Total HpCDF	988	988
Total Tetra-Octa Furans	44,000	44000
Total Tetra-Octa Dioxins & Furans	64300	64300

Lab ID: B6292_18927_DF_004 **Acq'd: 21 Feb 2022 16:38 DTF** **Wt/Vol: 10.11 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-DUP-16 **UTP: 22-Feb-2022 09:25:57 DTF** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 175-075-NYM**

Datafile: 220221C10 **Report: 22 Feb 2022 09:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.55		0.8701	0.8697	-0.6	6.41E+05	0.75	Y	1.18	5.53	4855.97	0.444
1379-TCDD	24.92		0.8829	0.8825	-0.6	4.61E+05	0.76	Y	1.18	3.97	4855.97	0.444
1369-TCDD	NotFnd		0.8982						1.18		4855.97	0.444
1469-TCDD	26.14		0.9261	0.9261	0	5.85E+05	0.79	Y	1.18	5.04	4855.97	0.444
1247/1246/1248/1249-TCDD	26.38		0.9348	0.9344	-0.6	1.25E+06	0.85	Y	1.18	10.7	4855.97	0.444
1378-TCDD	26.58		0.9417	0.9415	-0.3	2.63E+06	0.83	Y	1.18	22.7	4855.97	0.444
1268-TCDD	26.78	EMPC	0.9487	0.9485	-0.3	2.04E+05	0.96	N	1.18	1.76	4855.97	0.444
1478-TCDD	27.03		0.9576	0.9576	0	1.48E+06	0.82	Y	1.18	12.8	4855.97	0.444
1279-TCDD	NotFnd		0.9636						1.18		4855.97	0.444
1234/1269-TCDD	27.56		0.9761	0.9763	+0.3	3.67E+05	0.85	Y	1.18	3.17	4855.97	0.444
1236-TCDD	27.71		0.9812	0.9816	+0.7	1.79E+05	0.86	Y	1.18	1.55	4855.97	0.444
1237/1238-TCDD	27.96		0.9905	0.9903	-0.3	1.40E+07	0.82	Y	1.18	121	4855.97	0.444
1239-TCDD	NotFnd		0.9951						1.18		4855.97	0.444
2378-TCDD	**28.25**	E	**1.0008**	1.0008	**0**	8.85E+08	0.79	Y	**1.18**	**7,630**	**4855.97**	**0.444**
1278-TCDD	28.59		1.0124	1.0127	+0.5	8.29E+07	0.80	Y	1.18	715	4855.97	0.444
1267-TCDD	28.73		1.0172	1.0176	+0.7	1.96E+06	0.81	Y	1.18	16.9	4855.97	0.444
1289-TCDD	29.23		1.0354	1.0354	0	1.35E+06	0.88	Y	1.18	11.6	4855.97	0.444
12479/12468-PeCDD	31.13		0.9255	0.9257	+0.4	1.27E+06	1.51	Y	1.04	13.1	4739.802	0.436
12469-PeCDD	31.67	EMPC	0.9416	0.9417	+0.2	1.09E+06	1.24	N	1.04	11.3	4739.802	0.436
12368-PeCDD	32.23		0.9582	0.9581	-0.2	1.04E+06	1.54	Y	1.04	10.8	4739.802	0.436
12478-PeCDD	32.42		0.9637	0.9639	+0.4	6.93E+05	1.33	Y	1.04	7.19	4739.802	0.436
12379-PeCDD	32.52		0.9668	0.9670	+0.4	3.98E+05	1.44	Y	1.04	4.13	4739.802	0.436
12369/12467/12489-PeCDD	32.78		0.9746	0.9745	-0.2	7.24E+05	1.60	Y	1.04	7.51	4739.802	0.436
12346/12347-PeCDD	33.15	J EMPC	0.9858	0.9857	-0.2	2.35E+05	1.79	N	1.04	2.43	4739.802	0.436
12378-PeCDD	33.65		**1.0007**	**1.0006**	**-0.2**	**7.22E+06**	**1.54**	**Y**	**1.04**	**74.9**	**4739.802**	**0.436**
12367-PeCDD	33.75		1.0036	1.0036	0	3.36E+05	1.66	Y	1.04	3.48	4739.802	0.436
12389-PeCDD	34.09	J	1.0137	1.0136	-0.2	1.95E+05	1.57	Y	1.04	2.02	4739.802	0.436
124679/124689-HxCDD	35.84		0.9540	0.9540	0	1.90E+07	1.23	Y	1.10	196	14261.836	1.32
123468-HxCDD	36.49		0.9715	0.9715	0	4.64E+06	1.22	Y	1.10	47.8	14261.836	1.32
123679/123689-HxCDD	36.79		0.9793	0.9793	0	1.18E+07	1.26	Y	1.10	121	14261.836	1.32
123469-HxCDD	36.92		0.9829	0.9828	-0.2	3.72E+06	1.29	Y	1.10	38.3	14261.836	1.32
123478-HxCDD	37.58		**1.0004**	**1.0004**	**0**	**6.95E+05**	**1.24**	**Y**	1.09	**7.51**	**14261.836**	**1.45**
123678-HxCDD	37.70		**1.0036**	**1.0036**	**0**	**2.21E+06**	**1.23**	**Y**	1.15	**22.6**	**14261.836**	**1.36**
123467-HxCDD	37.90		1.0089	1.0090	+0.2	2.12E+06	1.38	Y	1.10	21.9	14261.836	1.32
123789-HxCDD	38.00		**1.0118**	**1.0117**	**-0.2**	**1.19E+06**	**1.29**	**Y**	1.05	**11.9**	**14261.836**	**1.18**

Lab ID: B6292_18927_DF_004 **Acq'd:** 21 Feb 2022 16:38 DTF **Wt/Vol:** 10.11 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-DUP-16 **UTP:** 22-Feb-2022 09:25:57 DTF **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 175-075-NYM

Datafile: 220221C10 **Report:** 22 Feb 2022 09:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

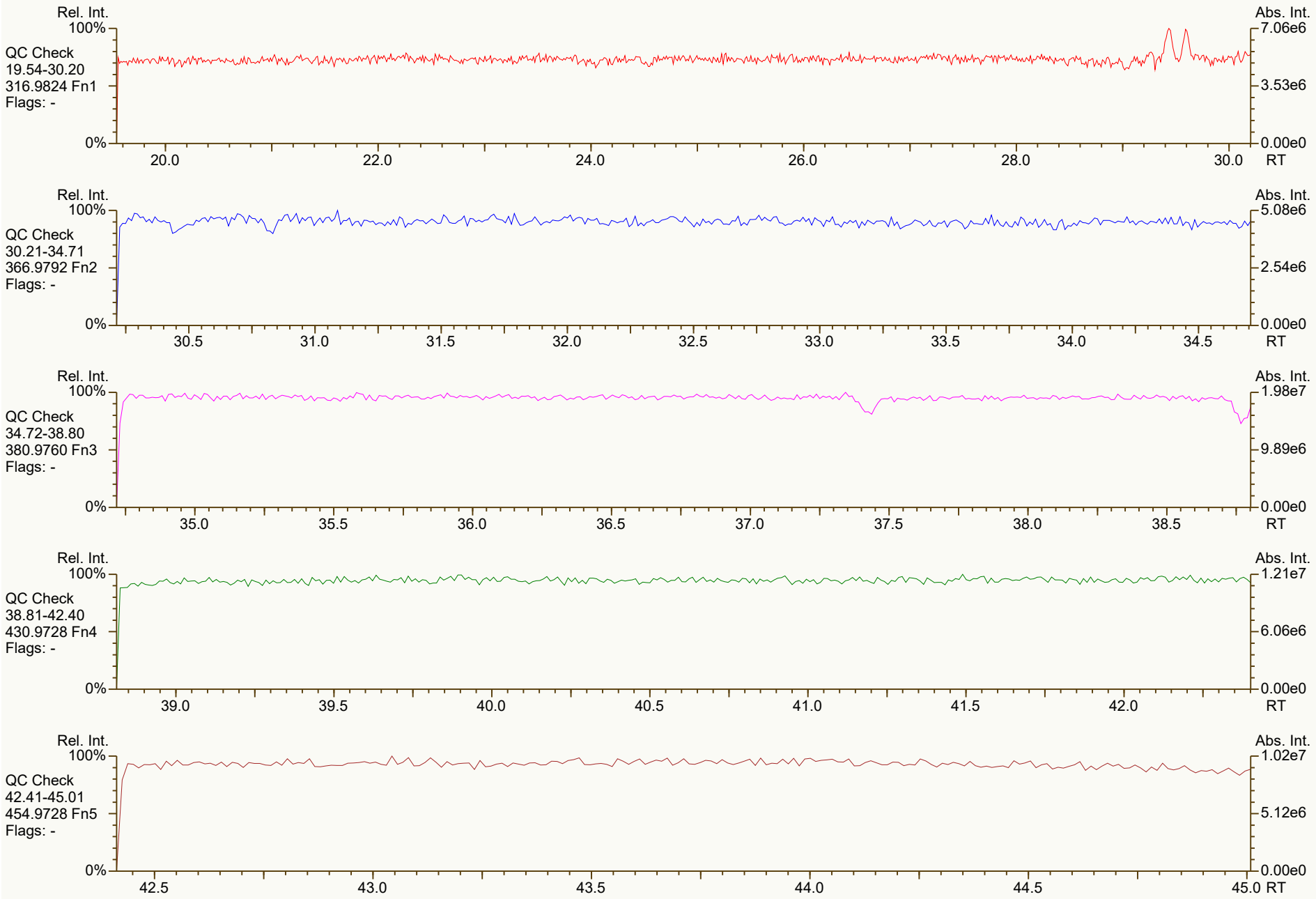
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.06		0.9836	0.9836	0	1.49E+08	1.04	Y	1.06	1,700	5952.304	0.576
1234678-HpCDD	**40.74**		**1.0002**	**1.0003**	**+0.2**	**7.42E+07**	**1.04**	**Y**	**1.06**	**844**	**5952.304**	**0.576**
OCDD	**43.45**		**1.0003**	**1.0003**	**0**	**5.66E+08**	**0.89**	**Y**	**1.13**	**8,580**	**10275.699**	**2.14**
OCDD-a	43.44		1.0002	1.0002	0	3.50E+07	2.47	Y	0.07	8,310	7526.495	24.5
1368-TCDF	22.38	EMPC	0.8191	0.8179	-1.6	3.77E+05	0.91	N	1.08	2.28	4671.734	0.314
1468-TCDF	22.99		0.8408	0.8400	-1.1	3.22E+06	0.80	Y	1.08	19.4	4671.734	0.314
2468-TCDF	23.64		0.8645	0.8639	-0.9	3.65E+06	0.79	Y	1.08	22	4671.734	0.314
1346/1246-TCDF	NotFnd		0.8772						1.08		4671.734	0.314
1347/1378/1247-TCDF	24.15		0.8833	0.8827	-0.9	1.40E+07	0.77	Y	1.08	84.6	4671.734	0.314
1348-TCDF	24.44		0.8932	0.8931	-0.1	7.18E+06	0.77	Y	1.08	43.4	4671.734	0.314
1248/1367/1379-TCDF	24.54		0.8980	0.8967	-1.9	2.72E+07	0.79	Y	1.08	164	4671.734	0.314
1268-TCDF	24.95		0.9119	0.9117	-0.3	1.65E+07	0.76	Y	1.08	99.6	4671.734	0.314
1467-TCDF	25.08		0.9170	0.9166	-0.6	7.09E+06	0.80	Y	1.08	42.8	4671.734	0.314
1478-TCDF	25.25		0.9234	0.9229	-0.8	3.87E+07	0.78	Y	1.08	234	4671.734	0.314
1369/1237-TCDF	25.64		0.9369	0.9371	+0.3	2.26E+07	0.77	Y	1.08	137	4671.734	0.314
2467-TCDF	25.76		0.9415	0.9415	0	3.81E+06	0.80	Y	1.08	23	4671.734	0.314
2368-TCDF	25.92		0.9475	0.9471	-0.6	6.50E+07	0.76	Y	1.08	392	4671.734	0.314
1238/1234/1678/1469/1236-TCDF	25.99		0.9507	0.9499	-1.2	1.30E+08	0.78	Y	1.08	783	4671.734	0.314
1278-TCDF	26.47	E	0.9676	0.9673	-0.5	1.43E+09	0.78	Y	1.08	8,660	4671.734	0.314
1349-TCDF	NotFnd		0.9722						1.08		4671.734	0.314
1267-TCDF	26.75		0.9777	0.9775	-0.3	3.95E+07	0.78	Y	1.08	238	4671.734	0.314
2346/1249-TCDF	26.94		0.9843	0.9844	+0.2	7.16E+06	0.78	Y	1.08	43.2	4671.734	0.314
2347/1279-TCDF	27.15		0.9926	0.9924	-0.3	4.10E+07	0.78	Y	1.08	247	4671.734	0.314
2348-TCDF	27.26	E	0.9968	0.9964	-0.7	1.83E+08	0.77	Y	1.08	1,100	4671.734	0.314
2378-TCDF	**27.38**	E	**1.0008**	**1.0008**	**0**	**3.15E+09**	**0.78**	**Y**	**1.08**	**19,000**	**4671.734**	**0.314**
2367/3467-TCDF	27.74	E	1.0142	1.0139	-0.5	2.62E+08	0.79	Y	1.08	1,580	4671.734	0.314
1269-TCDF	27.99		1.0235	1.0230	-0.8	2.05E+07	0.77	Y	1.08	124	4671.734	0.314
1239-TCDF	28.25		1.0329	1.0326	-0.5	3.39E+06	0.79	Y	1.08	20.4	4671.734	0.314
1289-TCDF	29.43	E	1.0742	1.0754	+2.1	2.74E+08	0.78	Y	1.08	1,650	4671.734	0.314
13468/12468-PeCDF	29.38		0.9122	0.9130	+1.4	4.82E+06	1.46	Y	1.02	32.2	3601.345	0.227
13678/13467/12467-PeCDF	30.93		0.9606	0.9614	+1.5	1.62E+06	1.62	Y	1.02	10.8	10047.183	0.632
12368/13478/12478-PeCDF	31.10		0.9655	0.9664	+1.7	5.80E+07	1.53	Y	1.02	387	10047.183	0.632
14678-PeCDF	NotFnd		0.9685						1.02		10047.183	0.632
13479-PeCDF	NotFnd		0.9716						1.02		10047.183	0.632
13469/12479-PeCDF	31.49	J EMPC	0.9794	0.9785	-1.7	2.84E+05	1.87	N	1.02	1.89	10047.183	0.632
12346-PeCDF	31.65	J EMPC	0.9836	0.9836	0	1.89E+05	1.84	N	1.02	1.26	10047.183	0.632

Lab ID: B6292_18927_DF_004 **Acq'd: 21 Feb 2022 16:38 DTF** **Wt/Vol: 10.11 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-DUP-16 **UTP: 22-Feb-2022 09:25:57 DTF** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 175-075-NYM**

Datafile: 220221C10 **Report: 22 Feb 2022 09:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.75		0.9866	0.9866	0	2.60E+06	1.56	Y	1.02	17.4	10047.183	0.632
12347-PeCDF	31.83		0.9891	0.9890	-0.2	2.13E+06	1.64	Y	1.02	14.2	10047.183	0.632
12348-PeCDF	31.98		0.9938	0.9939	+0.2	1.07E+07	1.54	Y	1.02	71.2	10047.183	0.632
12378-PeCDF	**32.20**		**1.0005**	**1.0006**	**+0.2**	**1.41E+08**	**1.54**	**Y**	**1.02**	**951**	**10047.183**	**0.59**
12678/12367-PeCDF	32.49		1.0091	1.0096	+1.0	3.82E+07	1.52	Y	1.02	255	10047.183	0.632
12379-PeCDF	NotFnd		1.0144						1.02		10047.183	0.632
12679-PeCDF	33.06	J EMPC	0.9927	0.9925	-0.4	1.78E+05	1.96	N	1.02	1.19	10047.183	0.632
23467/12369-PeCDF	33.18		0.9965	0.9963	-0.4	1.60E+06	1.51	Y	1.02	10.6	10047.183	0.632
23478-PeCDF	**33.33**		**1.0005**	**1.0007**	**+0.4**	**9.02E+07**	**1.53**	**Y**	**1.02**	**598**	**10047.183**	**0.674**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		10047.183	0.632
12349-PeCDF	NotFnd		1.0101						1.02		10047.183	0.632
12389-PeCDF	34.39		1.0330	1.0326	-0.8	4.95E+06	1.57	Y	1.02	33.1	10047.183	0.632
123468-HxCDF	35.19		0.9622	0.9624	+0.4	2.68E+06	1.26	Y	1.19	20.1	8247.219	0.504
124678/134678-HxCDF	35.39		0.9678	0.9678	0	2.00E+07	1.24	Y	1.19	149	8247.219	0.504
134679-HxCDF	NotFnd		0.9741						1.19		8247.219	0.504
124679-HxCDF	35.82		0.9795	0.9796	+0.2	3.69E+05	1.32	Y	1.19	2.76	8247.219	0.504
124689-HxCDF	36.04		0.9856	0.9857	+0.2	1.30E+07	1.21	Y	1.19	96.8	8247.219	0.504
123467-HxCDF	36.46		0.9972	0.9971	-0.2	1.33E+06	1.27	Y	1.19	9.91	8247.219	0.504
123478-HxCDF	**36.58**		**1.0004**	**1.0005**	**+0.2**	**2.25E+08**	**1.23**	**Y**	**1.27**	**1,620**	**8247.219**	**0.477**
123678-HxCDF	**36.72**		**1.0004**	**1.0004**	**0**	**5.75E+07**	**1.21**	**Y**	**1.15**	**403**	**8247.219**	**0.458**
123479-HxCDF	NotFnd		1.0048						1.19		8247.219	0.504
123469-HxCDF	NotFnd		1.0089						1.19		8247.219	0.504
123679-HxCDF	NotFnd		0.9942						1.19		8247.219	0.504
234678-HxCDF	**37.39**		**1.0005**	**1.0004**	**-0.2**	**1.15E+07**	**1.25**	**Y**	**1.19**	**84.7**	**8247.219**	**0.526**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		8247.219	0.504
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**8247.219**	**0.567**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.40		1.0006	1.0011	+1.2	1.73E+07	1.23	Y	1.19	129	8247.219	0.504
1234678-HpCDF	**39.79**		**1.0003**	**1.0003**	**0**	**6.77E+07**	**1.02**	**Y**	**1.37**	**533**	**4909.757**	**0.293**
1234679-HpCDF	40.05		1.0068	1.0069	+0.2	1.37E+06	0.99	Y	1.34	11.7	4909.757	0.352
1234689-HpCDF	40.20		1.0104	1.0106	+0.5	3.14E+07	1.04	Y	1.34	268	4909.757	0.352
1234789-HpCDF	**41.19**		**1.0003**	**1.0003**	**0**	**1.89E+07**	**1.03**	**Y**	**1.31**	**176**	**4909.757**	**0.419**
OCDF	**43.62**		**1.0002**	**1.0003**	**+0.3**	**2.87E+08**	**0.89**	**Y**	**1.07**	**3,360**	**5219.249**	**0.738**
OCDF-a	43.62		1.0001	1.0002	+0.3	1.88E+07	2.40	Y	0.07	3,540	4290.918	9.8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19.54-30.20
316.9824 Fn1
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0%
Abs. Int.
7.06e6
3.53e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.08e6
2.54e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.98e7
9.89e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.21e7
6.06e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
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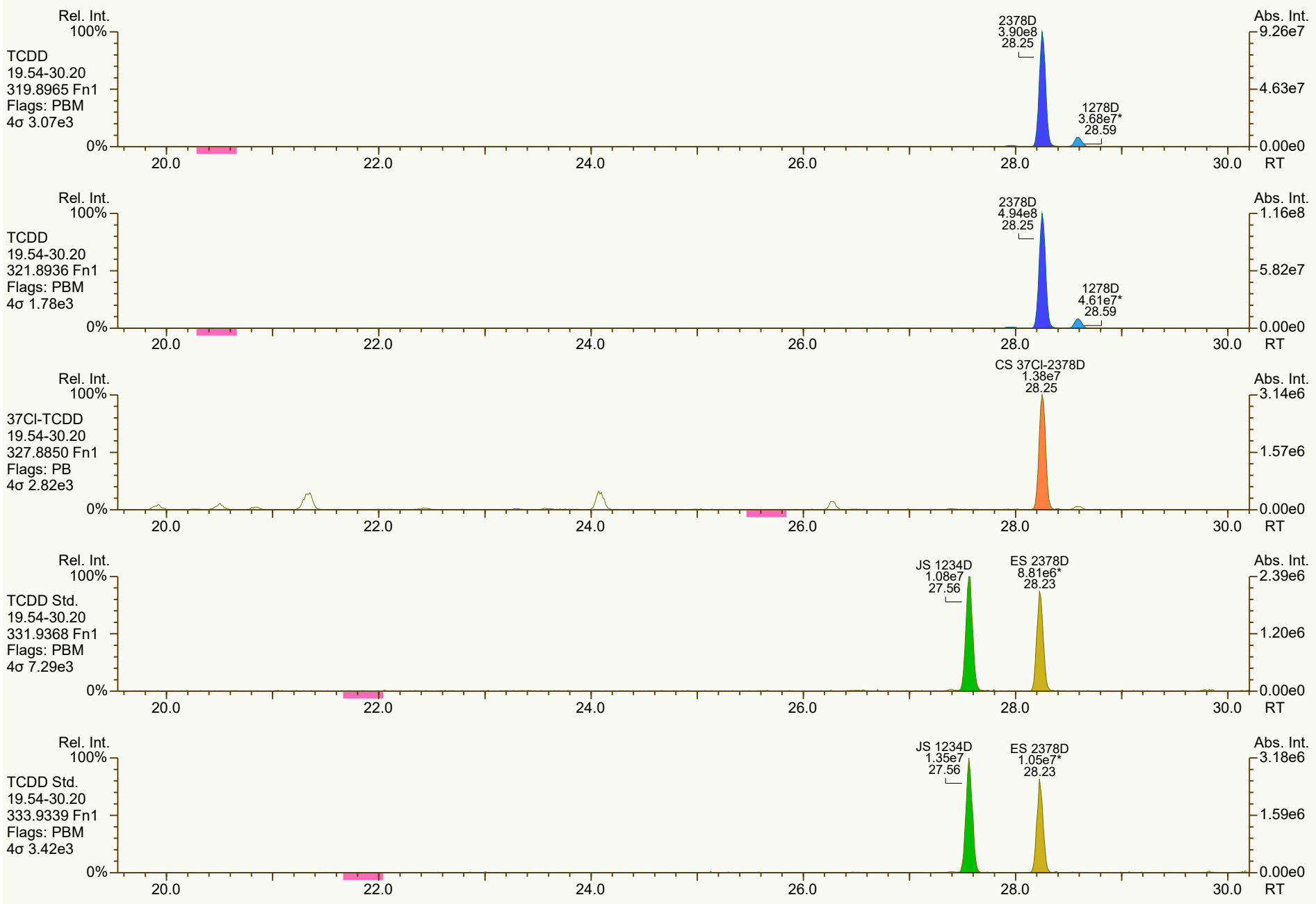
5.12e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
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4σ 3.07e3
0%
2378D
3.90e8
28.25
1278D
3.68e7*
28.59
Abs. Int.
9.26e7
4.63e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.78e3
0%
2378D
4.94e8
28.25
1278D
4.61e7*
28.59
Abs. Int.
1.16e8
5.82e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.82e3
0%
CS 37Cl-2378D
1.38e7
28.25
Abs. Int.
3.14e6
1.57e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PBM
4σ 7.29e3
0%
JS 1234D
1.08e7
27.56
ES 2378D
8.81e6*
28.23
Abs. Int.
2.39e6
1.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PBM
4σ 3.42e3
0%
JS 1234D
1.35e7
27.56
ES 2378D
1.05e7*
28.23
Abs. Int.
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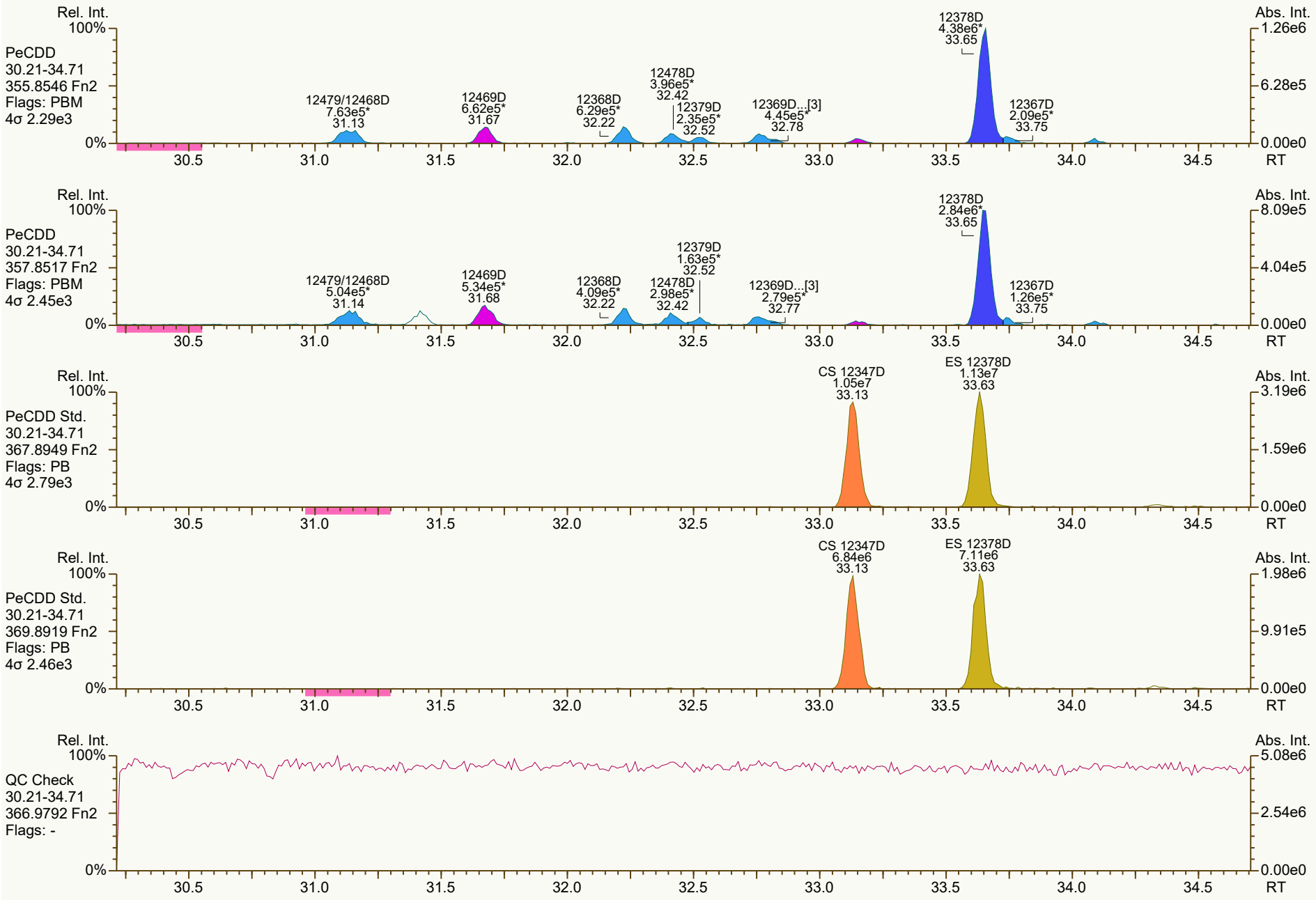
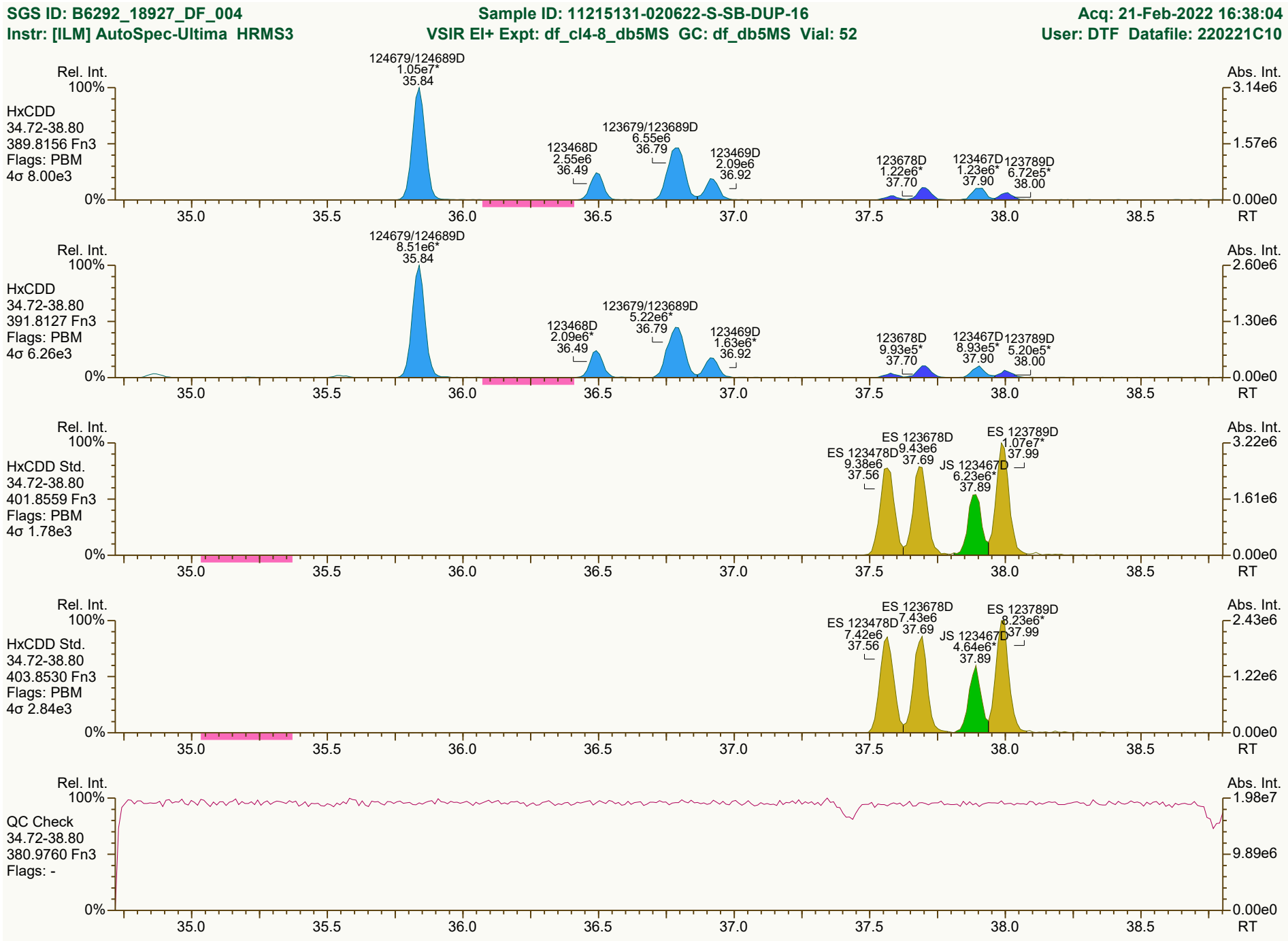
1.59e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 2.29e3
0%
12479/12468D
7.63e5*
31.13
12469D
6.62e5*
31.67
12368D
6.29e5*
32.22
12478D
3.96e5*
32.42
12379D
2.35e5*
32.52
12369D...[3]
4.45e5*
32.78
12378D
4.38e6*
33.65
12367D
2.09e5*
33.75
Abs. Int.
1.26e6
6.28e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 2.45e3
0%
12479/12468D
5.04e5*
31.14
12469D
5.34e5*
31.68
12368D
4.09e5*
32.22
12379D
1.63e5*
32.52
12478D
2.98e5*
32.42
12369D...[3]
2.79e5*
32.77
12378D
2.84e6*
33.65
12367D
1.26e5*
33.75
Abs. Int.
8.09e5
4.04e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.79e3
0%
CS 12347D
1.05e7
33.13
ES 12378D
1.13e7
33.63
Abs. Int.
3.19e6
1.59e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.46e3
0%
CS 12347D
6.84e6
33.13
ES 12378D
7.11e6
33.63
Abs. Int.
1.98e6
9.91e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.08e6
2.54e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

SGS ID: B6292_18927_DF_004 | Sample ID: 11215131-020622-S-SB-DUP-16 | Acq: 21-Feb-2022 16:38:04
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 52 | User: DTF Datafile: 220221C10



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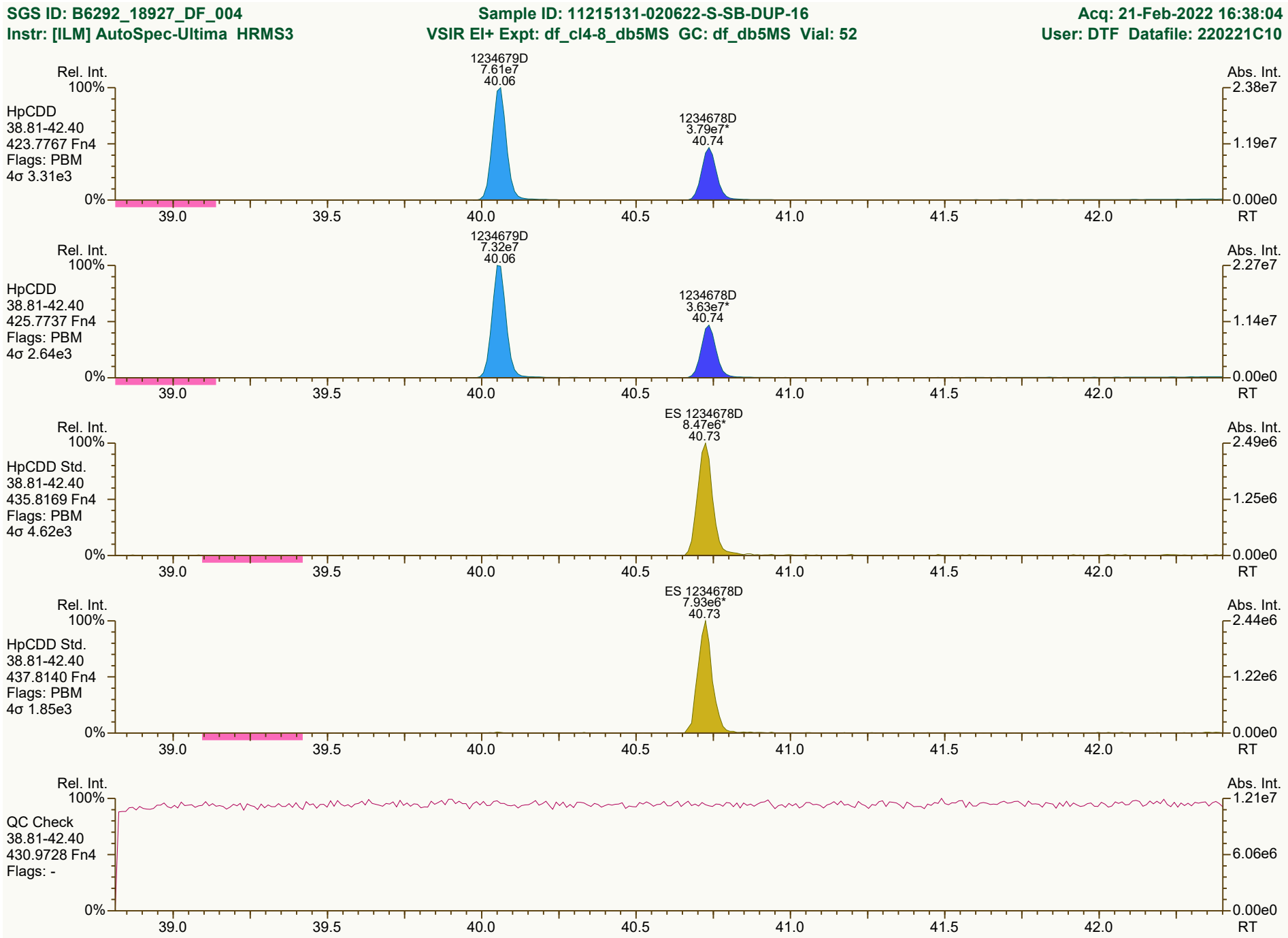
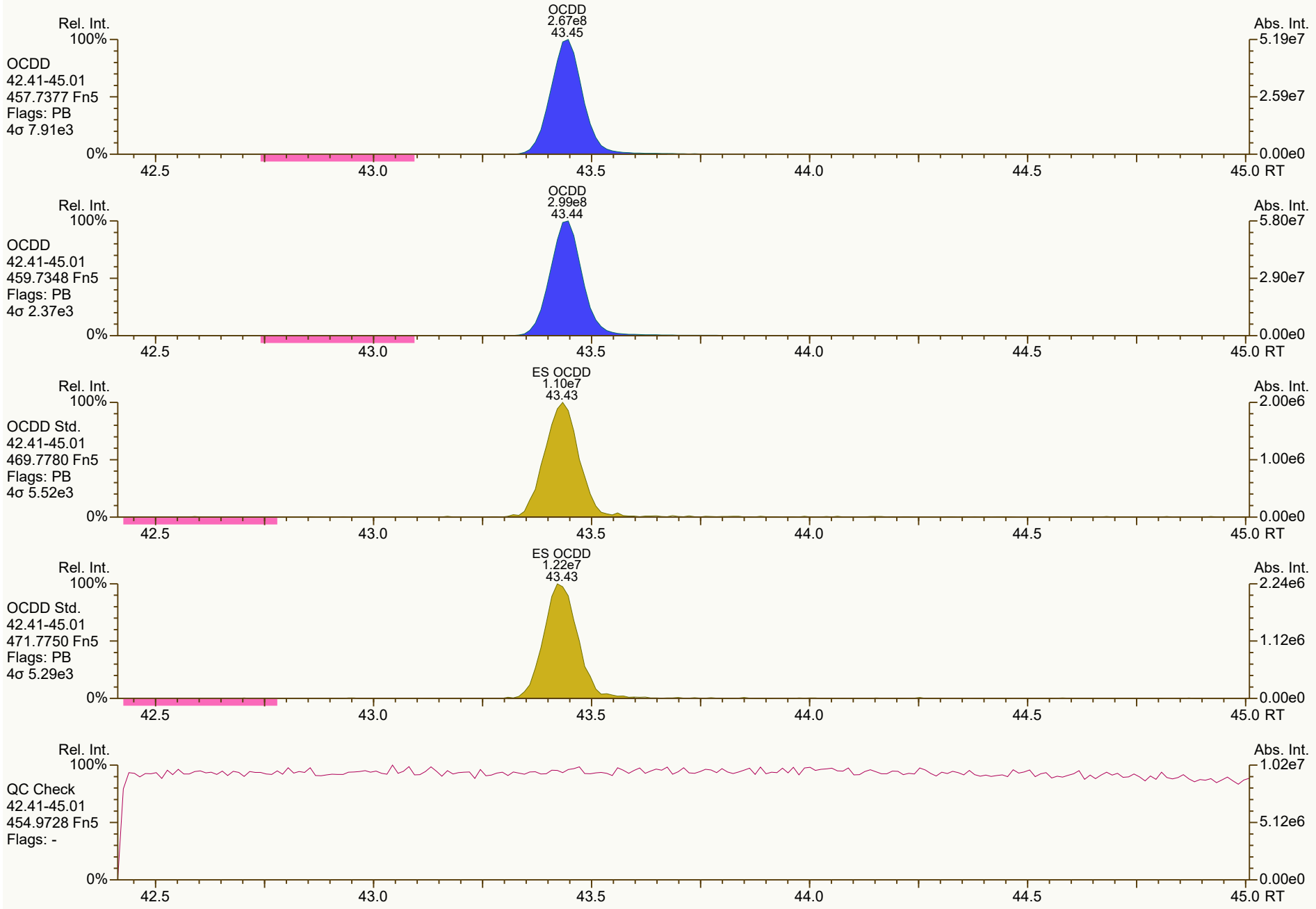
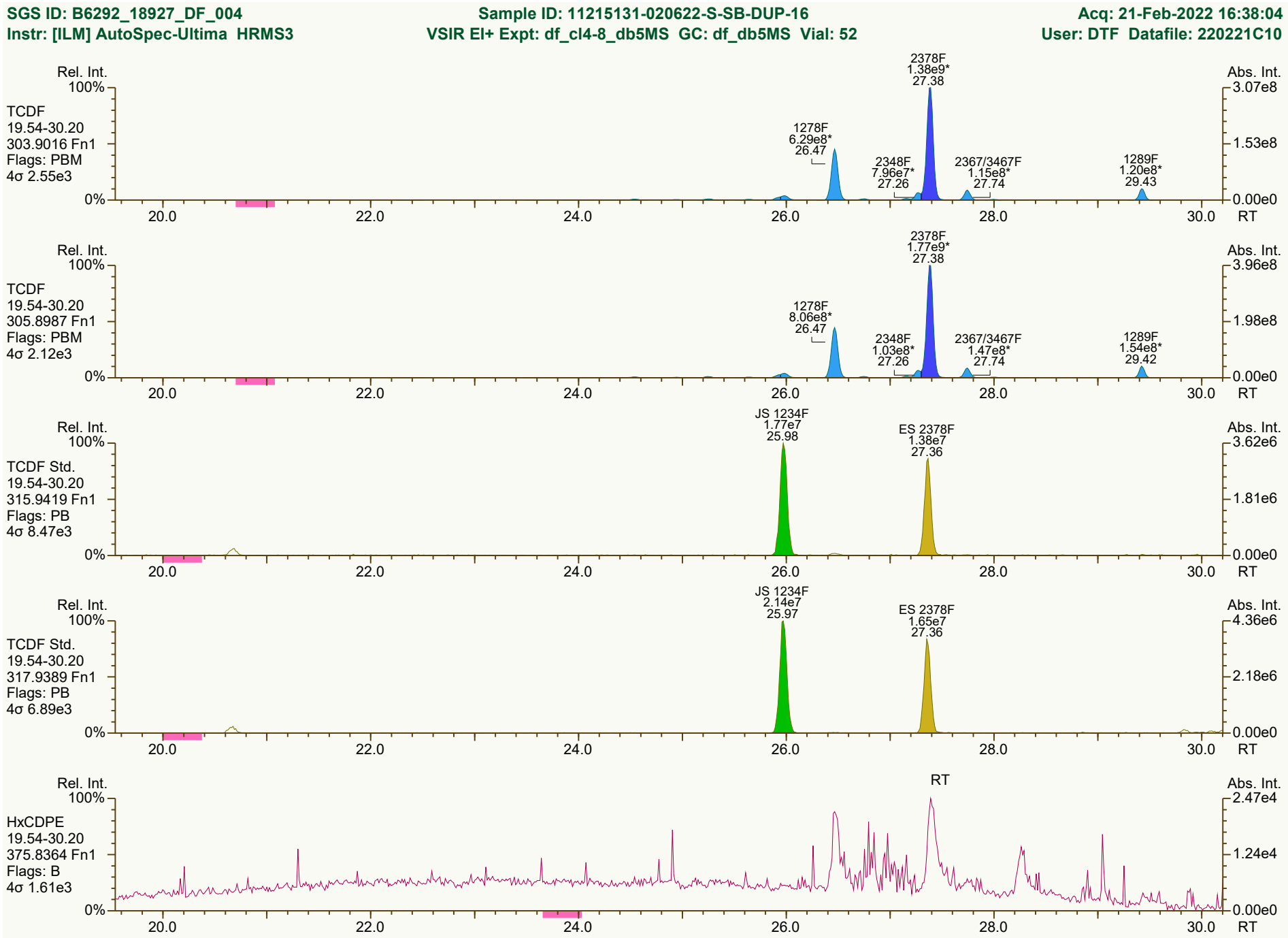
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5705, 0389 scc: 175-075 | Revised: 22-Feb-2022 08:34 (DTF) Printed: 22-Feb-2022 09:36 Page 4 of 12



Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_004.utp_res, saved 22-Feb-2022 09:25 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7441, 1869 scc: 175-075
Revised: 22-Feb-2022 08:34 (DTF) Printed: 22-Feb-2022 09:36 Page 5 of 12


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 7.91e3
0%
OCDD
2.67e8
43.45
Abs. Int.
5.19e7
2.59e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 2.37e3
0%
OCDD
2.99e8
43.44
Abs. Int.
5.80e7
2.90e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 5.52e3
0%
ES OCDD
1.10e7
43.43
Abs. Int.
2.00e6
1.00e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 5.29e3
0%
ES OCDD
1.22e7
43.43
Abs. Int.
2.24e6
1.12e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.02e7
5.12e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: B6292_18927_DF_004 | Sample ID: 11215131-020622-S-SB-DUP-16 | Acq: 21-Feb-2022 16:38:04
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 52 | User: DTF Datafile: 220221C10



Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_004.utp_res, saved 22-Feb-2022 09:25 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1136, 1494, 7961 scc: 175-075 | Revised: 22-Feb-2022 08:35 (DTF) Printed: 22-Feb-2022 09:36 Page 7 of 12

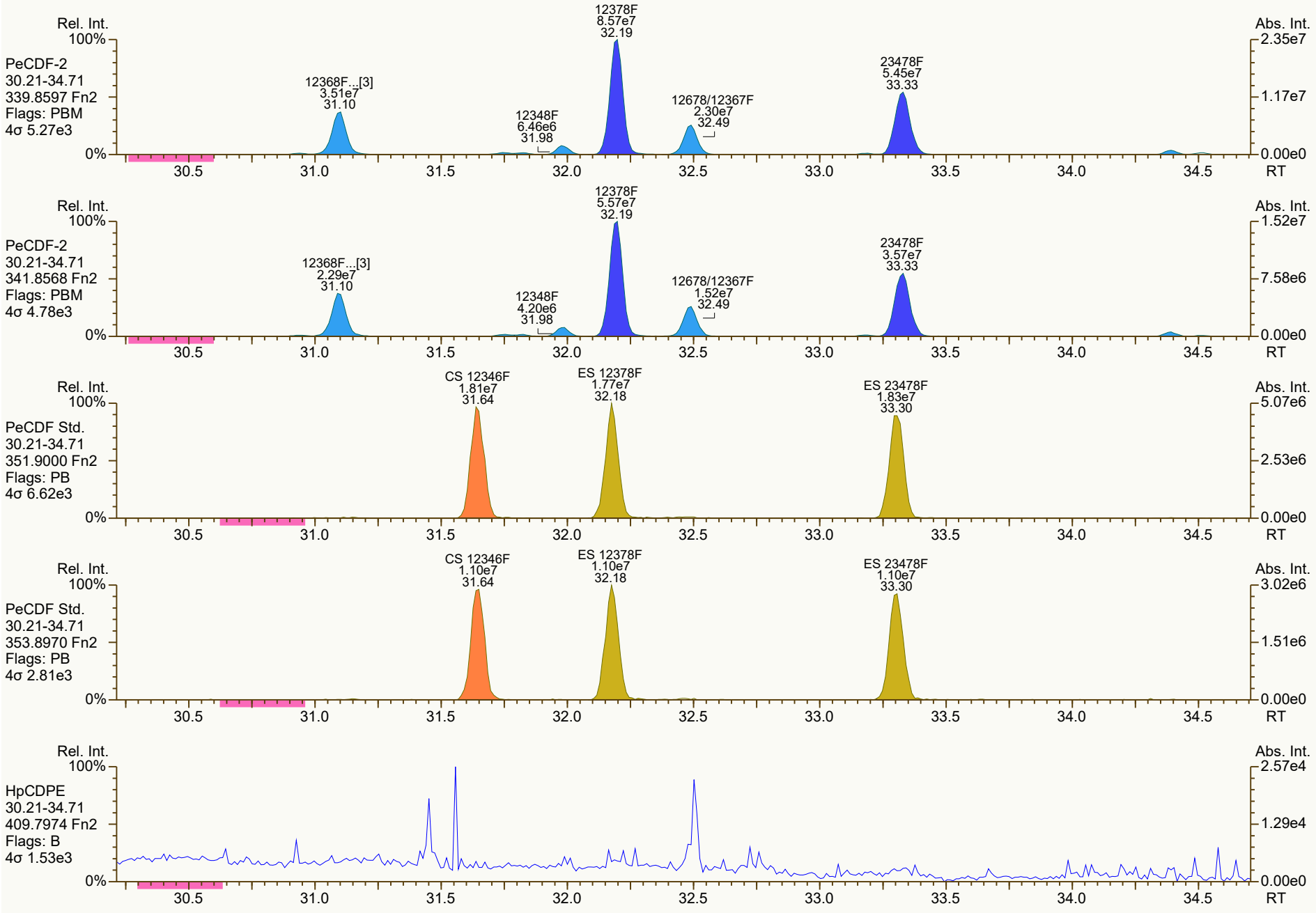
SGS ID: B6292_18927_DF_004 | Sample ID: 11215131-020622-S-SB-DUP-16 | Acq: 21-Feb-2022 16:38:04

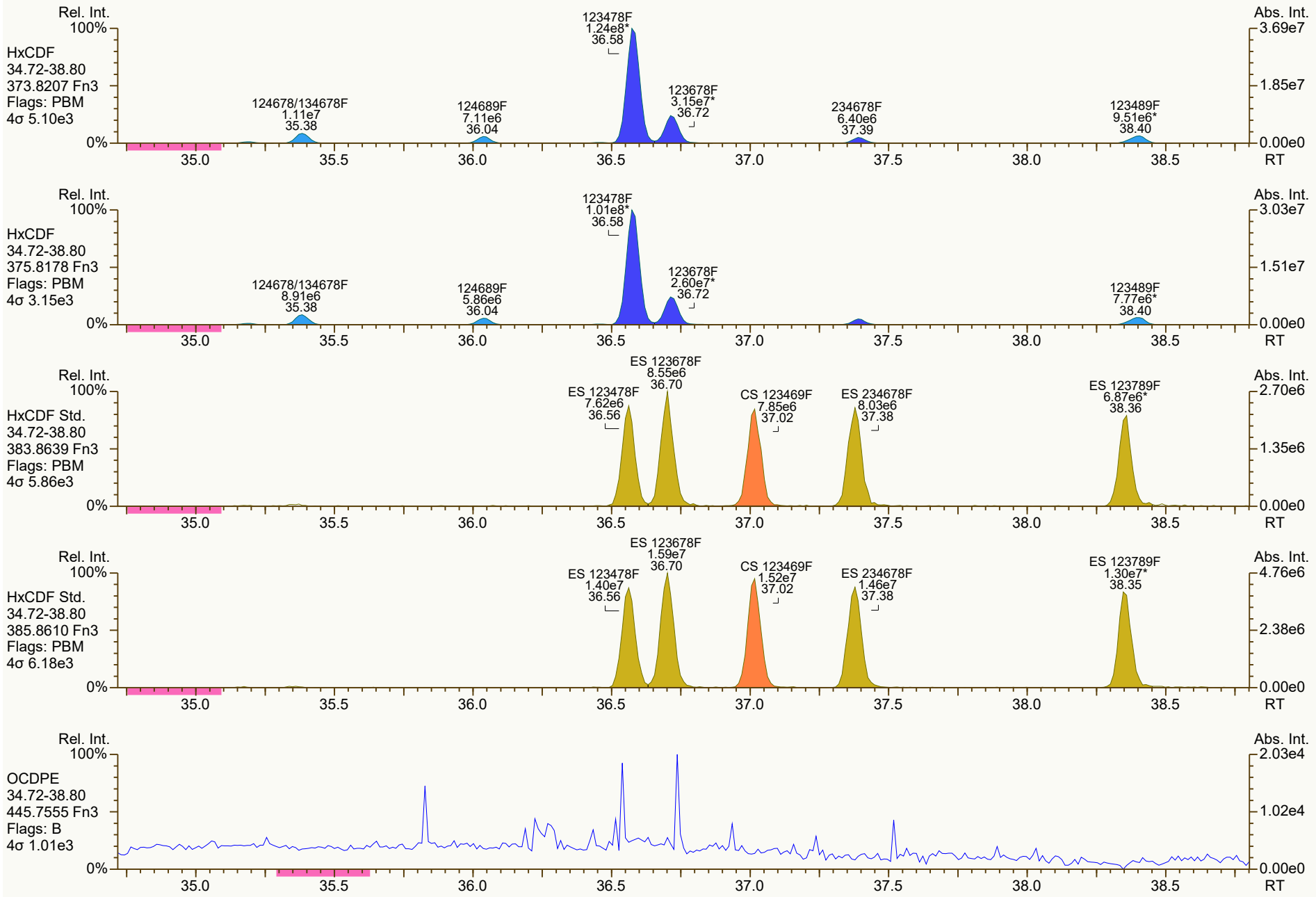
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 52 | User: DTF Datafile: 220221C10

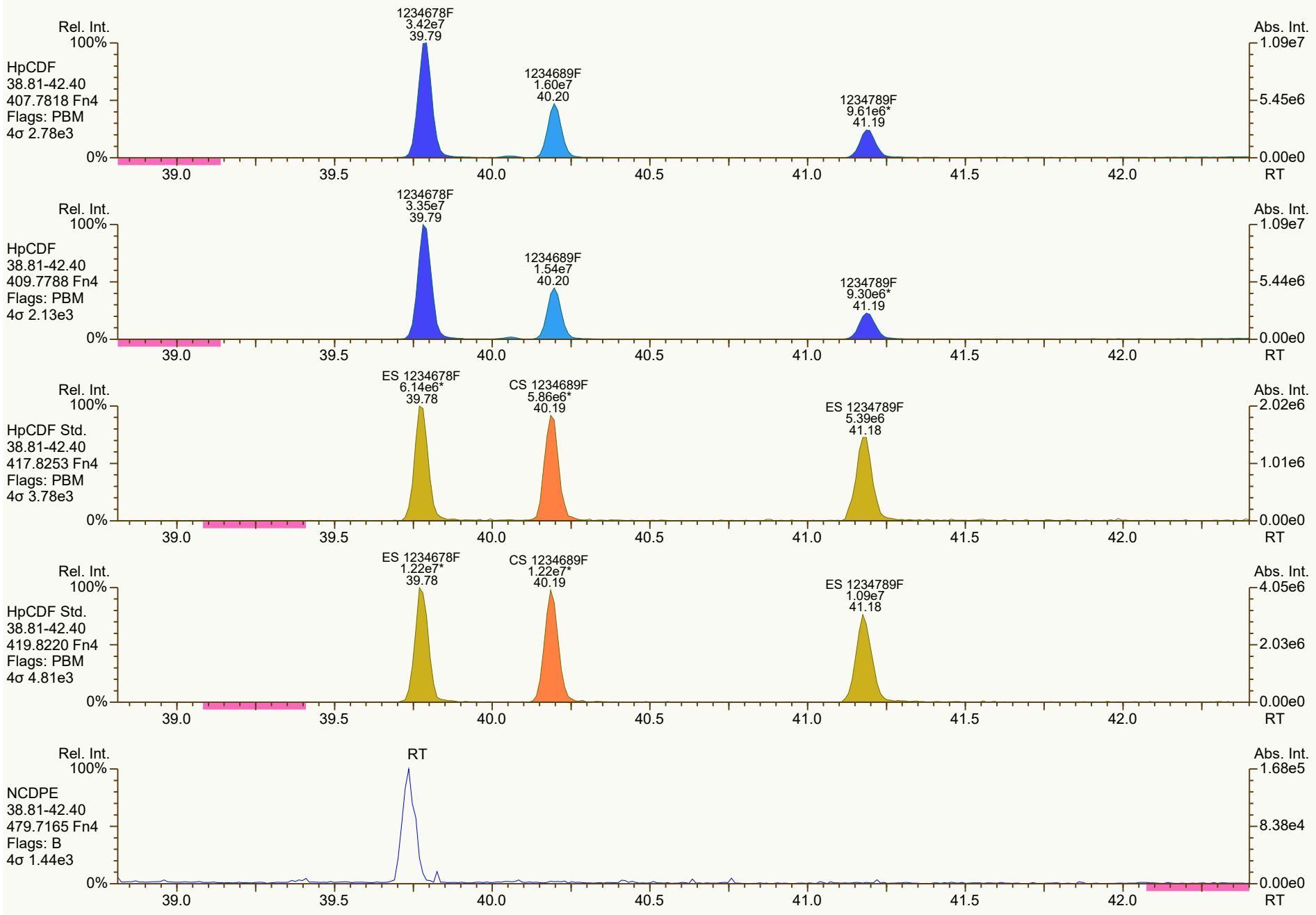


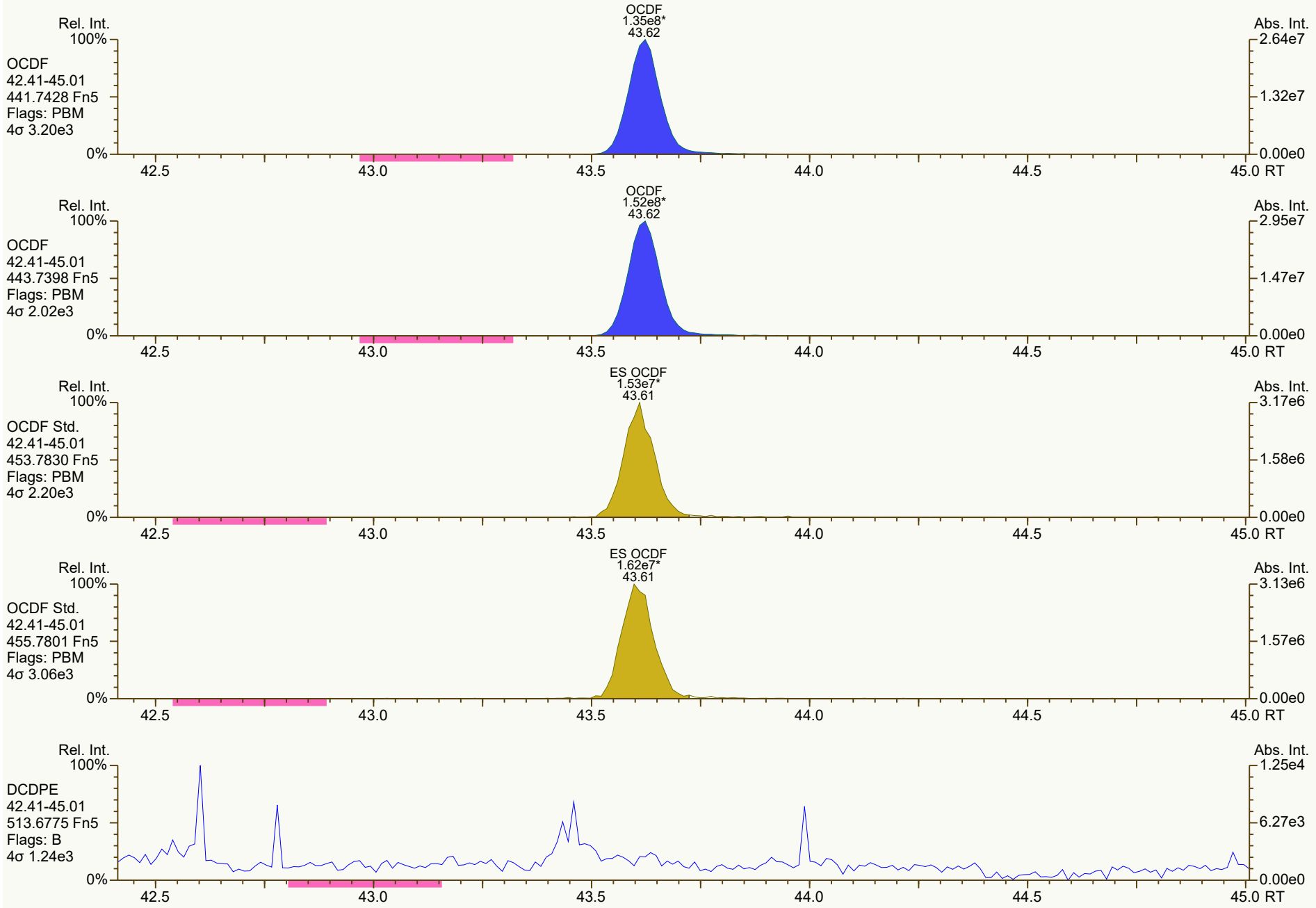
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_004.utp_res, saved 22-Feb-2022 09:25 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9471 scc: 175-075 *Revised: 22-Feb-2022 08:35 (DTF) Printed: 22-Feb-2022 09:36 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 5.27e3
12368F...[3]
3.51e7
31.10
12348F
6.46e6
31.98
12378F
8.57e7
32.19
12678/12367F
2.30e7
32.49
23478F
5.45e7
33.33
Abs. Int.
2.35e7
1.17e7
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 4.78e3
12368F...[3]
2.29e7
31.10
12348F
4.20e6
31.98
12378F
5.57e7
32.19
12678/12367F
1.52e7
32.49
23478F
3.57e7
33.33
Abs. Int.
1.52e7
7.58e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 6.62e3
CS 12346F
1.81e7
31.64
ES 12378F
1.77e7
32.18
ES 23478F
1.83e7
33.30
Abs. Int.
5.07e6
2.53e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.81e3
CS 12346F
1.10e7
31.64
ES 12378F
1.10e7
32.18
ES 23478F
1.10e7
33.30
Abs. Int.
3.02e6
1.51e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.53e3
Abs. Int.
2.57e4
1.29e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 5.10e3
0%
123478F
1.24e8*
36.58
124678/134678F
1.11e7
35.38
124689F
7.11e6
36.04
123678F
3.15e7*
36.72
234678F
6.40e6
37.39
123489F
9.51e6*
38.40
Abs. Int.
3.69e7
1.85e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 3.15e3
123478F
1.01e8*
36.58
124678/134678F
8.91e6
35.38
124689F
5.86e6
36.04
123678F
2.60e7*
36.72
123489F
7.77e6*
38.40
3.03e7
1.51e7
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 5.86e3
ES 123678F
8.55e6
36.70
ES 123478F
7.62e6
36.56
CS 123469F
7.85e6
37.02
ES 234678F
8.03e6
37.38
ES 123789F
6.87e6*
38.36
2.70e6
1.35e6
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 6.18e3
ES 123678F
1.59e7
36.70
ES 123478F
1.40e7
36.56
CS 123469F
1.52e7
37.02
ES 234678F
1.46e7
37.38
ES 123789F
1.30e7*
38.35
4.76e6
2.38e6
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.01e3
2.03e4
1.02e4


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 2.78e3
1234678F
3.42e7
39.79
1234689F
1.60e7
40.20
1234789F
9.61e6*
41.19
Abs. Int.
1.09e7
5.45e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 2.13e3
1234678F
3.35e7
39.79
1234689F
1.54e7
40.20
1234789F
9.30e6*
41.19
Abs. Int.
1.09e7
5.44e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 3.78e3
ES 1234678F
6.14e6*
39.78
CS 1234689F
5.86e6*
40.19
ES 1234789F
5.39e6
41.18
Abs. Int.
2.02e6
1.01e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 4.81e3
ES 1234678F
1.22e7*
39.78
CS 1234689F
1.22e7*
40.19
ES 1234789F
1.09e7
41.18
Abs. Int.
4.05e6
2.03e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.44e3
RT
Abs. Int.
1.68e5
8.38e4
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 3.20e3
0%
OCDF
1.35e8*
43.62
Abs. Int.
2.64e7
1.32e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 2.02e3
0%
OCDF
1.52e8*
43.62
Abs. Int.
2.95e7
1.47e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 2.20e3
0%
ES OCDF
1.53e7*
43.61
Abs. Int.
3.17e6
1.58e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 3.06e3
0%
ES OCDF
1.62e7*
43.61
Abs. Int.
3.13e6
1.57e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.24e3
0%
Abs. Int.
1.25e4
6.27e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6292_18927_DF_005 **Acq'd:** 21 Feb 2022 17:24 DTF **Wt/Vol:** 10.06 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-O-22 **UTP:** 22-Feb-2022 09:25:58 DTF **J-level:** 0.497 pg/g **Split:** 1 **Checkcode:** 136-442-NGV

Datafile: 220221C11 **Report:** 22 Feb 2022 09:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.24		1.0008	1.0006	-0.3	8.34E+05	0.82	Y	1.18	7.9	7789.594	0.771
12378-PeCDD	33.64	J	1.0007	1.0005	-0.4	1.07E+05	1.60	Y	1.04	1.22	4308.828	0.42
123478-HxCDD	37.57	J EMPC	1.0004	1.0003	-0.2	1.53E+05	1.57	N	1.09	1.86	4583.428	0.485
123678-HxCDD	37.69		1.0036	1.0037	+0.2	7.08E+05	1.32	Y	1.15	7.93	4583.428	0.456
123789-HxCDD	38.00		1.0118	1.0117	-0.2	5.10E+05	1.25	Y	1.05	5.9	4583.428	0.482
1234678-HpCDD	40.74		1.0002	1.0003	+0.2	3.13E+07	1.03	Y	1.06	388	4125.621	0.437
OCDD	43.44		1.0003	1.0003	0	2.67E+08	0.91	Y	1.13	4,450	8424.379	1.76
2378-TCDF	27.37		1.0008	1.0006	-0.3	3.19E+06	0.77	Y	1.08	21.7	6051.038	0.468
12378-PeCDF	32.17	J	1.0005	1.0004	-0.2	3.04E+05	1.44	Y	1.02	2.25	4884.712	0.327
23478-PeCDF	33.31		1.0005	1.0006	+0.2	4.72E+05	1.61	Y	1.02	3.68	4884.712	0.35
123478-HxCDF	36.57		1.0004	1.0004	0	6.10E+05	1.28	Y	1.27	4.82	4889.412	0.324
123678-HxCDF	36.71		1.0004	1.0004	0	3.59E+05	1.38	Y	1.15	2.8	4889.412	0.361
234678-HxCDF	37.39	J EMPC	1.0005	1.0005	0	2.77E+05	1.64	N	1.19	2.3	4889.412	0.343
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4889.412	0.42
1234678-HpCDF	39.79		1.0003	1.0003	0	3.77E+06	1.02	Y	1.37	33.1	2849.546	0.19
1234789-HpCDF	41.19		1.0003	1.0003	0	2.92E+05	1.11	Y	1.31	3.16	2849.546	0.279
OCDF	43.62		1.0002	1.0003	+0.3	9.46E+06	0.87	Y	1.07	124	4107.495	0.722

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.22		1.0243	1.0243	0	1.77E+07	0.81	Y	1.05	63
ES 12378-PeCDD	33.62		1.2198	1.2202	+0.8	1.69E+07	1.51	Y	0.88	71.5
ES 123478-HxCDD	37.56		0.9916	0.9914	-0.5	1.51E+07	1.15	Y	0.97	68.3
ES 123678-HxCDD	37.68		0.9947	0.9947	0	1.55E+07	1.24	Y	0.94	72.1
ES 123789-HxCDD	37.98		1.0029	1.0027	-0.5	1.64E+07	1.25	Y	1.09	66.1
ES 1234678-HpCDD	40.73		1.0749	1.0751	+0.5	1.51E+07	1.10	Y	0.91	73
ES OCDD	43.43		1.1460	1.1464	+1.0	2.12E+07	0.88	Y	0.62	74.6
ES 2378-TCDF	27.36		1.0531	1.0533	+0.3	2.71E+07	0.85	Y	1.06	60.2
ES 12378-PeCDF	32.16		1.2378	1.2384	+1.2	2.62E+07	1.66	Y	0.91	67.8
ES 23478-PeCDF	33.29		1.2810	1.2817	+1.4	2.50E+07	1.67	Y	0.88	66.5
ES 123478-HxCDF	36.55		0.9650	0.9649	-0.2	1.98E+07	0.51	Y	1.20	72.7
ES 123678-HxCDF	36.70		0.9688	0.9687	-0.2	2.21E+07	0.53	Y	1.35	72.1
ES 234678-HxCDF	37.37		0.9866	0.9866	0	2.01E+07	0.54	Y	1.24	71.3
ES 123789-HxCDF	38.35		1.0125	1.0124	-0.2	1.77E+07	0.52	Y	1.16	67.3
ES 1234678-HpCDF	39.78		1.0501	1.0500	-0.2	1.65E+07	0.48	Y	0.97	75.1
ES 1234789-HpCDF	41.18		1.0870	1.0871	+0.2	1.41E+07	0.47	Y	0.85	72.8
ES OCDF	43.61		1.1505	1.1511	+1.6	2.82E+07	0.90	Y	0.81	76.9

Lab ID: B6292_18927_DF_005 **Acq'd:** 21 Feb 2022 17:24 DTF **Wt/Vol:** 10.06 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-O-22 **UTP:** 22-Feb-2022 09:25:58 DTF **J-level:** 0.497 pg/g **Split:** 1 **Checkcode:** 136-442-NGV

Datafile: 220221C11 **Report:** 22 Feb 2022 09:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.55		-	-	-	2.69E+07	0.84	Y	-	-
JS 1234-TCDF	25.97		-	-	-	4.25E+07	0.82	Y	-	-
JS 123467-HxCDD	37.88		-	-	-	1.14E+07	1.28	Y	-	-
CS 37Cl-2378-TCDD	28.25		1.0251	1.0251	0	8.49E+06	n/a	-	1.20	65.7
CS 12347-PeCDD	33.12		1.2016	1.2019	+0.6	1.61E+07	1.64	Y	0.75	79.7
CS 12346-PeCDF	31.63		1.2172	1.2178	+1.1	2.61E+07	1.67	Y	0.85	72.1
CS 123469-HxCDF	37.01		0.9771	0.9769	-0.4	2.01E+07	0.55	Y	1.12	79.2
CS 1234689-HpCDF	40.19		1.0608	1.0609	+0.2	1.65E+07	0.46	Y	0.89	81.6
SS 37Cl-2378-TCDD	28.25		1.0251	1.0251	0	8.49E+06	n/a	-	1.15	104
SS 12347-PeCDD	33.12		1.2016	1.2019	+0.6	1.61E+07	1.64	Y	0.86	111
SS 12346-PeCDF	31.63		1.2172	1.2178	+1.1	2.61E+07	1.67	Y	0.94	106
SS 123469-HxCDF	37.01		0.9771	0.9769	-0.4	2.01E+07	0.55	Y	0.83	110
SS 1234689-HpCDF	40.19		1.0608	1.0609	+0.2	1.65E+07	0.46	Y	0.92	109

Totals	Conc	EMPC
Total TCDD	7.9	7.9
Total PeCDD	3.29	8.75
Total HxCDD	78	83.8
Total HpCDD	794	794
Total Tetra-Octa Dioxins	5330	5350
Total TCDF	48.1	59.1
Total PeCDF	28.9	28.9
Total HxCDF	42.2	47.1
Total HpCDF	115	115
Total Tetra-Octa Furans	359	374
Total Tetra-Octa Dioxins & Furans	5690	5720

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.815	0.82
Response	8.39E+05	8.34E+05

Lab ID: B6292_18927_DF_005 **Acq'd: 21 Feb 2022 17:24 DTF** **Wt/Vol: 10.06 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-O-22 **UTP: 22-Feb-2022 09:25:58 DTF** **J-level: 0.497 pg/g** **Split: 1** **Checkcode: 136-442-NGV**

Datafile: 220221C11 **Report: 22 Feb 2022 09:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		7789.594	0.771
1379-TCDD	NotFnd		0.8829						1.18		7789.594	0.771
1369-TCDD	NotFnd		0.8982						1.18		7789.594	0.771
1469-TCDD	NotFnd		0.9261						1.18		7789.594	0.771
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		7789.594	0.771
1378-TCDD	NotFnd		0.9417						1.18		7789.594	0.771
1268-TCDD	NotFnd		0.9487						1.18		7789.594	0.771
1478-TCDD	NotFnd		0.9576						1.18		7789.594	0.771
1279-TCDD	NotFnd		0.9636						1.18		7789.594	0.771
1234/1269-TCDD	NotFnd		0.9761						1.18		7789.594	0.771
1236-TCDD	NotFnd		0.9812						1.18		7789.594	0.771
1237/1238-TCDD	NotFnd		0.9905						1.18		7789.594	0.771
1239-TCDD	NotFnd		0.9951						1.18		7789.594	0.771
2378-TCDD	**28.24**		**1.0008**	1.0006	**-0.3**	8.34E+05	0.82	Y	**1.18**	**7.9**	**7789.594**	**0.771**
1278-TCDD	NotFnd		1.0124						1.18		7789.594	0.771
1267-TCDD	NotFnd		1.0172						1.18		7789.594	0.771
1289-TCDD	NotFnd		1.0354						1.18		7789.594	0.771
12479/12468-PeCDD	31.12	J EMPC	0.9255	0.9255	0	2.12E+05	1.25	N	1.04	2.4	4308.828	0.42
12469-PeCDD	31.66	J EMPC	0.9416	0.9416	0	1.01E+05	1.25	N	1.04	1.14	4308.828	0.42
12368-PeCDD	32.22	J	0.9582	0.9584	+0.4	8.52E+04	1.41	Y	1.04	0.967	4308.828	0.42
12478-PeCDD	32.40	J EMPC	0.9637	0.9637	0	1.13E+05	1.12	N	1.04	1.29	4308.828	0.42
12379-PeCDD	32.50	J	0.9668	0.9667	-0.2	9.71E+04	1.57	Y	1.04	1.1	4308.828	0.42
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		4308.828	0.42
12346/12347-PeCDD	33.13	J EMPC	0.9858	0.9854	-0.8	5.55E+04	1.20	N	1.04	0.63	4308.828	0.42
12378-PeCDD	33.64	J	**1.0007**	**1.0005**	**-0.4**	**1.07E+05**	**1.60**	**Y**	**1.04**	**1.22**	**4308.828**	**0.42**
12367-PeCDD	NotFnd		1.0036						1.04		4308.828	0.42
12389-PeCDD	NotFnd		1.0137						1.04		4308.828	0.42
124679/124689-HxCDD	35.83		0.9540	0.9540	0	2.35E+06	1.38	Y	1.10	27.3	4583.428	0.474
123468-HxCDD	36.48	EMPC	0.9715	0.9715	0	2.56E+05	1.63	N	1.10	2.98	4583.428	0.474
123679/123689-HxCDD	36.78		0.9793	0.9795	+0.4	3.01E+06	1.21	Y	1.10	35	4583.428	0.474
123469-HxCDD	36.91	J	0.9829	0.9828	-0.2	1.68E+05	1.18	Y	1.10	1.96	4583.428	0.474
123478-HxCDD	37.57	J EMPC	**1.0004**	**1.0003**	**-0.2**	**1.53E+05**	**1.57**	**N**	1.09	**1.86**	**4583.428**	**0.485**
123678-HxCDD	37.69		**1.0036**	**1.0037**	**+0.2**	**7.08E+05**	**1.32**	**Y**	1.15	**7.93**	**4583.428**	**0.456**
123467-HxCDD	37.89	J EMPC	1.0089	1.0089	0	8.45E+04	2.11	N	1.10	0.981	4583.428	0.474
123789-HxCDD	38.00		**1.0118**	**1.0117**	**-0.2**	**5.10E+05**	**1.25**	**Y**	1.05	**5.9**	**4583.428**	**0.482**

Lab ID: B6292_18927_DF_005 **Acq'd: 21 Feb 2022 17:24 DTF** **Wt/Vol: 10.06 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-O-22 **UTP: 22-Feb-2022 09:25:58 DTF** **J-level: 0.497 pg/g** **Split: 1** **Checkcode: 136-442-NGV**

Datafile: 220221C11 **Report: 22 Feb 2022 09:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

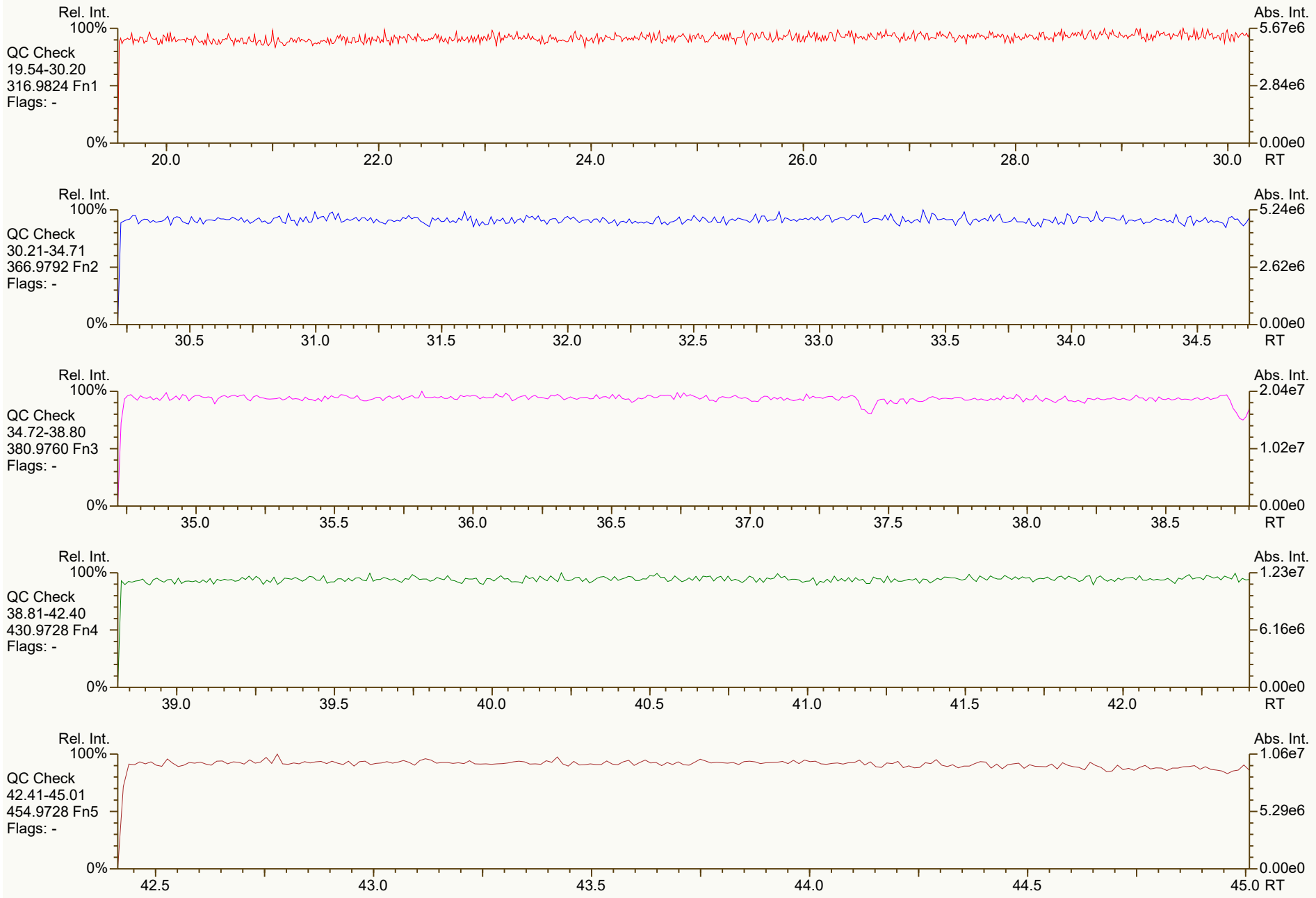
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.06		0.9836	0.9835	-0.2	3.28E+07	1.04	Y	1.06	406	4125.621	0.437
1234678-HpCDD	**40.74**		**1.0002**	**1.0003**	**+0.2**	**3.13E+07**	**1.03**	**Y**	**1.06**	**388**	**4125.621**	**0.437**
OCDD	**43.44**		**1.0003**	**1.0003**	**0**	**2.67E+08**	**0.91**	**Y**	**1.13**	**4,450**	**8424.379**	**1.76**
OCDD-a	43.44		1.0002	1.0002	0	1.69E+07	2.45	Y	0.07	4,420	5306.01	17.3
1368-TCDF	NotFnd		0.8191						1.08		6051.038	0.468
1468-TCDF	NotFnd		0.8408						1.08		6051.038	0.468
2468-TCDF	23.64	EMPC	0.8645	0.8640	-0.7	2.80E+05	0.65	N	1.08	1.9	6051.038	0.468
1346/1246-TCDF	NotFnd		0.8772						1.08		6051.038	0.468
1347/1378/1247-TCDF	24.17		0.8833	0.8837	+0.6	3.95E+05	0.68	Y	1.08	2.68	6051.038	0.468
1348-TCDF	NotFnd		0.8932						1.08		6051.038	0.468
1248/1367/1379-TCDF	24.54	EMPC	0.8980	0.8971	-1.3	3.15E+05	0.65	N	1.08	2.14	6051.038	0.468
1268-TCDF	24.94	EMPC	0.9119	0.9116	-0.4	1.54E+05	0.51	N	1.08	1.05	6051.038	0.468
1467-TCDF	25.07	EMPC	0.9170	0.9166	-0.6	1.44E+05	1.14	N	1.08	0.98	6051.038	0.468
1478-TCDF	25.26		0.9234	0.9234	0	3.19E+05	0.70	Y	1.08	2.17	6051.038	0.468
1369/1237-TCDF	NotFnd		0.9369						1.08		6051.038	0.468
2467-TCDF	25.76	EMPC	0.9415	0.9418	+0.5	1.52E+05	0.92	N	1.08	1.03	6051.038	0.468
2368-TCDF	25.92	EMPC	0.9475	0.9477	+0.3	4.07E+05	0.61	N	1.08	2.77	6051.038	0.468
1238/1234/1678/1469/1236-TCDF	26.03	EMPC	0.9507	0.9516	+1.4	1.68E+05	0.97	N	1.08	1.14	6051.038	0.468
1278-TCDF	26.46		0.9676	0.9673	-0.5	1.24E+06	0.78	Y	1.08	8.43	6051.038	0.468
1349-TCDF	NotFnd		0.9722						1.08		6051.038	0.468
1267-TCDF	NotFnd		0.9777						1.08		6051.038	0.468
2346/1249-TCDF	NotFnd		0.9843						1.08		6051.038	0.468
2347/1279-TCDF	NotFnd		0.9926						1.08		6051.038	0.468
2348-TCDF	27.20		0.9968	0.9944	-3.9	9.53E+05	0.85	Y	1.08	6.48	6051.038	0.468
2378-TCDF	**27.37**		**1.0008**	**1.0006**	**-0.3**	**3.19E+06**	**0.77**	**Y**	**1.08**	**21.7**	**6051.038**	**0.468**
2367/3467-TCDF	27.74		1.0142	1.0140	-0.3	7.32E+05	0.80	Y	1.08	4.98	6051.038	0.468
1269-TCDF	NotFnd		1.0235						1.08		6051.038	0.468
1239-TCDF	NotFnd		1.0329						1.08		6051.038	0.468
1289-TCDF	29.39		1.0742	1.0745	+0.5	2.48E+05	0.69	Y	1.08	1.69	6051.038	0.468
13468/12468-PeCDF	29.35		0.9122	0.9126	+0.7	9.44E+05	1.67	Y	1.02	7.17	3975.902	0.275
13678/13467/12467-PeCDF	30.92		0.9606	0.9612	+1.1	3.27E+05	1.47	Y	1.02	2.49	4884.712	0.338
12368/13478/12478-PeCDF	31.08		0.9655	0.9662	+1.3	9.13E+05	1.45	Y	1.02	6.94	4884.712	0.338
14678-PeCDF	NotFnd		0.9685						1.02		4884.712	0.338
13479-PeCDF	NotFnd		0.9716						1.02		4884.712	0.338
13469/12479-PeCDF	NotFnd		0.9794						1.02		4884.712	0.338
12346-PeCDF	NotFnd		0.9836						1.02		4884.712	0.338

Lab ID: B6292_18927_DF_005 **Acq'd: 21 Feb 2022 17:24 DTF** **Wt/Vol: 10.06 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-O-22 **UTP: 22-Feb-2022 09:25:58 DTF** **J-level: 0.497 pg/g** **Split: 1** **Checkcode: 136-442-NGV**

Datafile: 220221C11 **Report: 22 Feb 2022 09:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.75		0.9866	0.9872	+1.1	3.55E+05	1.43	Y	1.02	2.7	4884.712	0.338
12347-PeCDF	NotFnd		0.9891						1.02		4884.712	0.338
12348-PeCDF	NotFnd		0.9938						1.02		4884.712	0.338
12378-PeCDF	**32.17**	J	**1.0005**	**1.0004**	**-0.2**	**3.04E+05**	**1.44**	**Y**	**1.02**	**2.25**	**4884.712**	**0.327**
12678/12367-PeCDF	32.46	J	1.0091	1.0093	+0.4	2.99E+05	1.62	Y	1.02	2.27	4884.712	0.338
12379-PeCDF	NotFnd		1.0144						1.02		4884.712	0.338
12679-PeCDF	NotFnd		0.9927						1.02		4884.712	0.338
23467/12369-PeCDF	33.17	J	0.9965	0.9964	-0.2	1.92E+05	1.51	Y	1.02	1.46	4884.712	0.338
23478-PeCDF	**33.31**		**1.0005**	**1.0006**	**+0.2**	**4.72E+05**	**1.61**	**Y**	**1.02**	**3.68**	**4884.712**	**0.35**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4884.712	0.338
12349-PeCDF	NotFnd		1.0101						1.02		4884.712	0.338
12389-PeCDF	NotFnd		1.0330						1.02		4884.712	0.338
123468-HxCDF	35.17		0.9622	0.9623	+0.2	5.03E+05	1.24	Y	1.19	4.21	4889.412	0.359
124678/134678-HxCDF	35.37		0.9678	0.9677	-0.2	1.78E+06	1.25	Y	1.19	14.9	4889.412	0.359
134679-HxCDF	NotFnd		0.9741						1.19		4889.412	0.359
124679-HxCDF	35.80	J EMPC	0.9795	0.9795	0	1.03E+05	1.66	N	1.19	0.859	4889.412	0.359
124689-HxCDF	36.03		0.9856	0.9856	0	1.85E+06	1.21	Y	1.19	15.5	4889.412	0.359
123467-HxCDF	36.45	J EMPC	0.9972	0.9973	+0.2	2.04E+05	1.47	N	1.19	1.71	4889.412	0.359
123478-HxCDF	**36.57**		**1.0004**	**1.0004**	**0**	**6.10E+05**	**1.28**	**Y**	**1.27**	**4.82**	**4889.412**	**0.324**
123678-HxCDF	**36.71**		**1.0004**	**1.0004**	**0**	**3.59E+05**	**1.38**	**Y**	**1.15**	**2.8**	**4889.412**	**0.361**
123479-HxCDF	NotFnd		1.0048						1.19		4889.412	0.359
123469-HxCDF	NotFnd		1.0089						1.19		4889.412	0.359
123679-HxCDF	NotFnd		0.9942						1.19		4889.412	0.359
234678-HxCDF	**37.39**	J EMPC	**1.0005**	**1.0005**	**0**	**2.77E+05**	**1.64**	**N**	**1.19**	**2.3**	**4889.412**	**0.343**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4889.412	0.359
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4889.412**	**0.42**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		4889.412	0.359
1234678-HpCDF	**39.79**		**1.0003**	**1.0003**	**0**	**3.77E+06**	**1.02**	**Y**	**1.37**	**33.1**	**2849.546**	**0.19**
1234679-HpCDF	40.06	**J**	1.0068	1.0071	+0.7	1.81E+05	1.16	Y	1.34	1.76	2849.546	0.23
1234689-HpCDF	40.20		1.0104	1.0106	+0.5	7.92E+06	1.04	Y	1.34	76.9	2849.546	0.23
1234789-HpCDF	**41.19**		**1.0003**	**1.0003**	**0**	**2.92E+05**	**1.11**	**Y**	**1.31**	**3.16**	**2849.546**	**0.279**
OCDF	**43.62**		**1.0002**	**1.0003**	**+0.3**	**9.46E+06**	**0.87**	**Y**	**1.07**	**124**	**4107.495**	**0.722**
OCDF-a	43.61	**EMPC**	1.0001	1.0002	+0.3	4.65E+05	2.92	N	0.07	98.6	4365.164	12.4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316.9824 Fn1
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26.0
28.0
30.0
RT
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2.84e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
5.24e6
2.62e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.04e7
1.02e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.23e7
6.16e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
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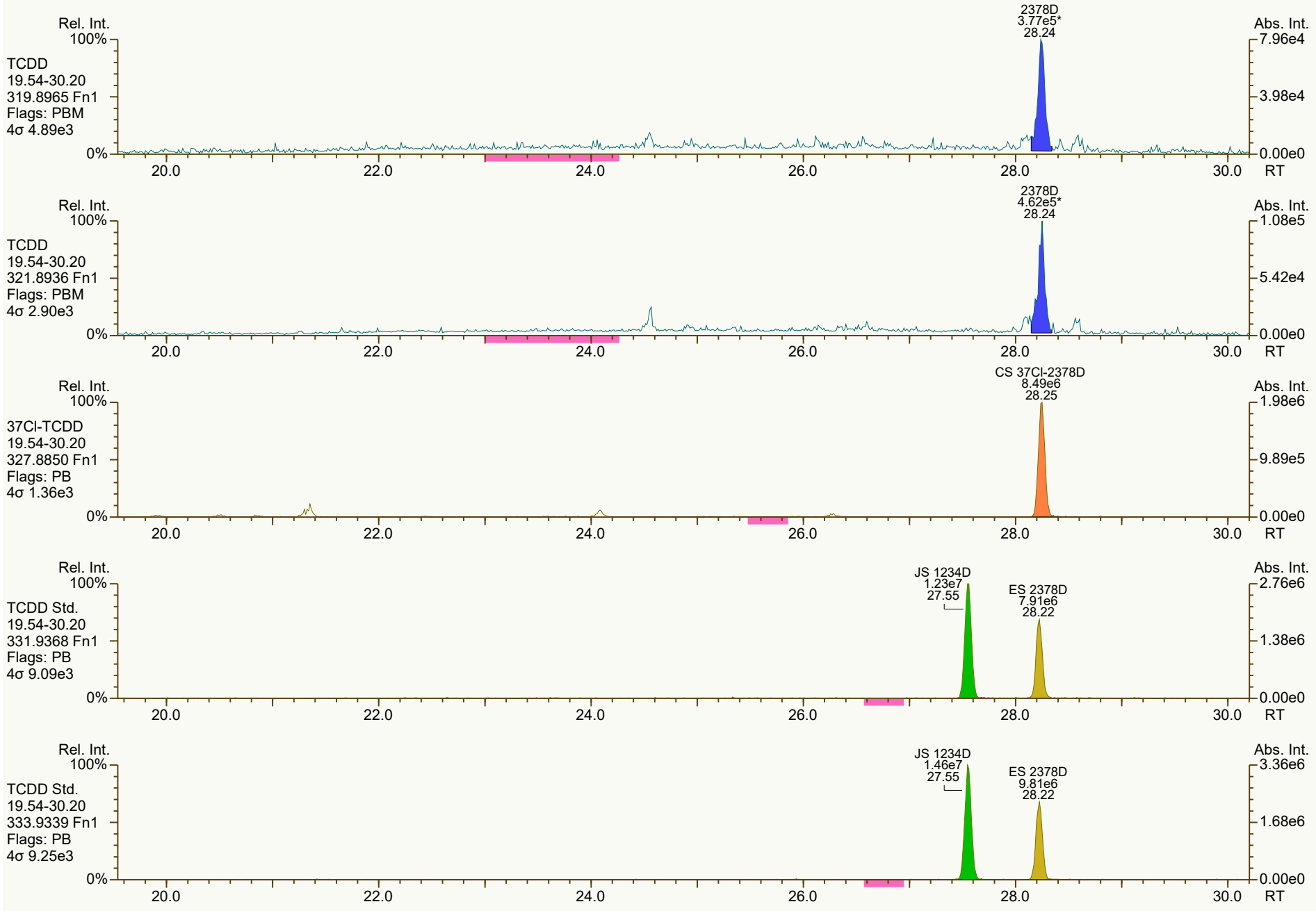
0.00e0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100%
TCDD
19.54-30.20
319.8965 Fn1
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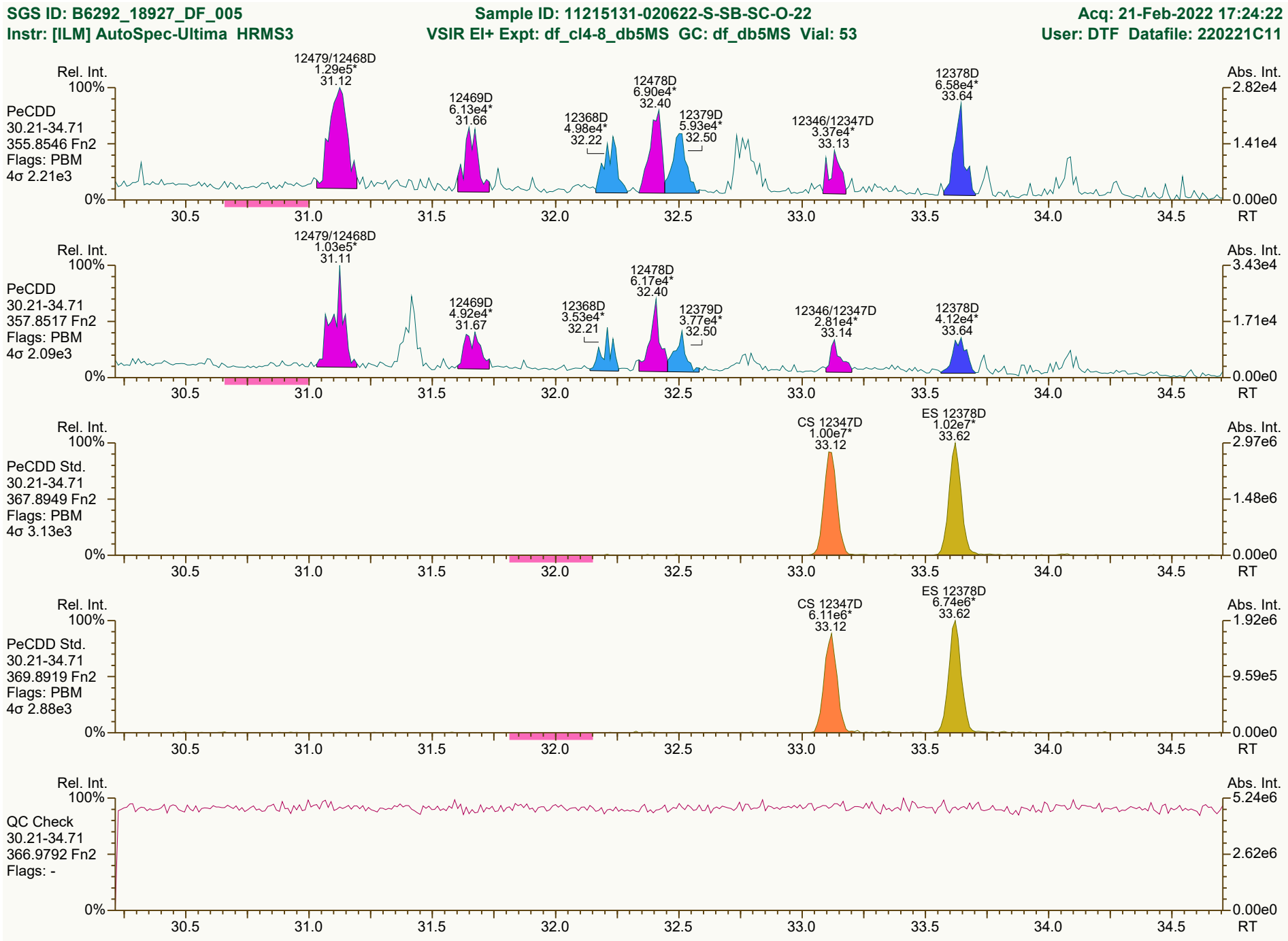
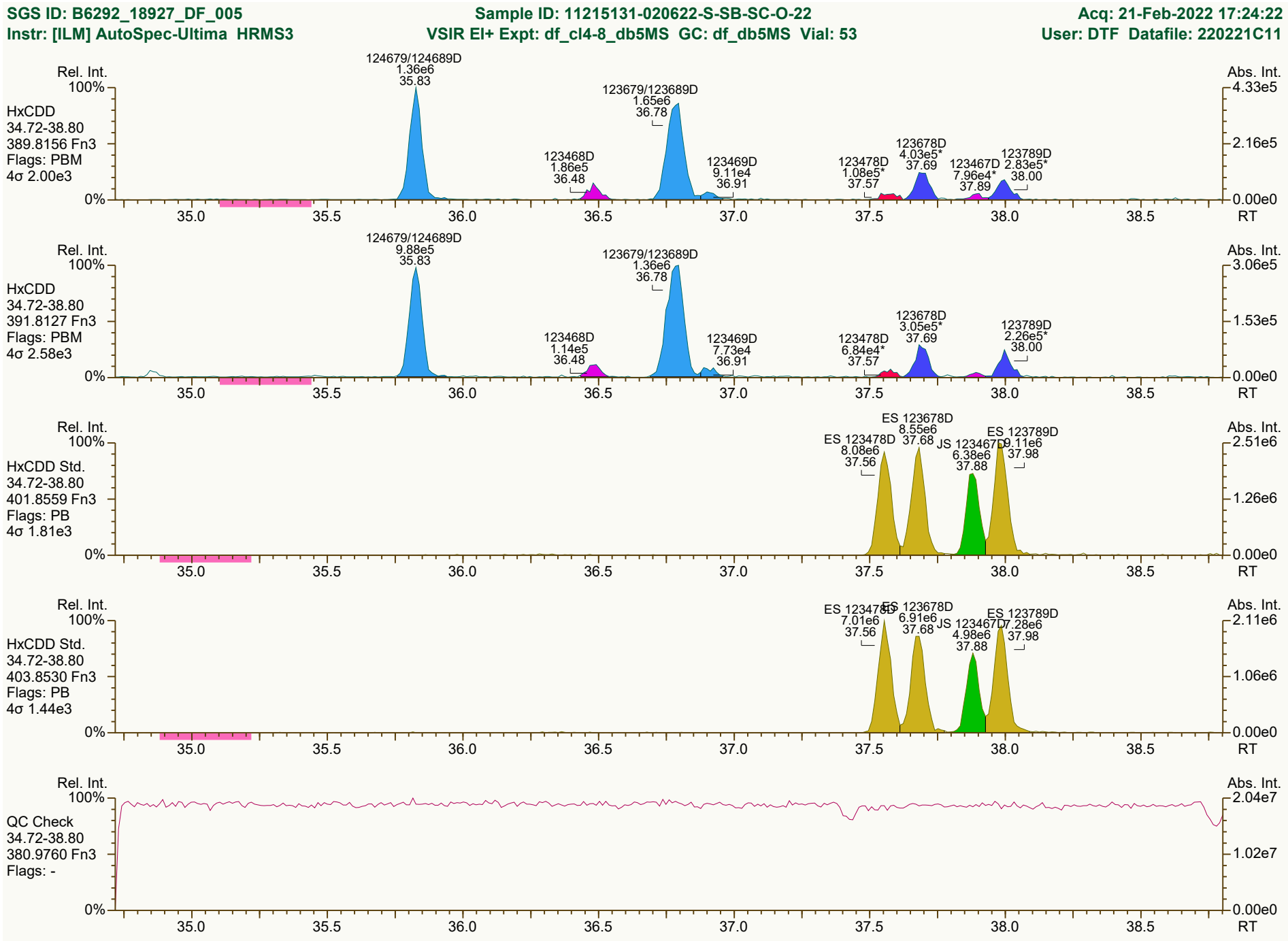
4σ 4.89e3
0%
2378D
3.77e5*
28.24
Abs. Int.
7.96e4
3.98e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.90e3
0%
2378D
4.62e5*
28.24
Abs. Int.
1.08e5
5.42e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.36e3
0%
CS 37Cl-2378D
8.49e6
28.25
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 9.09e3
0%
JS 1234D
1.23e7
27.55
ES 2378D
7.91e6
28.22
Abs. Int.
2.76e6
1.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 9.25e3
0%
JS 1234D
1.46e7
27.55
ES 2378D
9.81e6
28.22
Abs. Int.
3.36e6
1.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: B6292_18927_DF_005 | Sample ID: 11215131-020622-S-SB-SC-O-22 | Acq: 21-Feb-2022 17:24:22
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 53 | User: DTF Datafile: 220221C11



Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_005.utp_res, saved 22-Feb-2022 09:25 (DTF) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5368, 2618 scc: 136-442 | *Revised: 22-Feb-2022 08:38 (DTF) Printed: 22-Feb-2022 09:36 Page 3 of 12*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Sample ID: 11215131-020622-S-SB-SC-O-22
Acq: 21-Feb-2022 17:24:22
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 53
User: DTF Datafile: 220221C11
Rel. Int.
Abs. Int.
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 2.00e3
124679/124689D
1.36e6
35.83
123679/123689D
1.65e6
36.78
123468D
1.86e5
36.48
123469D
9.11e4
36.91
123478D
1.08e5*
37.57
123678D
4.03e5*
37.69
123467D
7.96e4*
37.89
123789D
2.83e5*
38.00
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 2.58e3
124679/124689D
9.88e5
35.83
123679/123689D
1.36e6
36.78
123468D
1.14e5
36.48
123469D
7.73e4
36.91
123478D
6.84e4*
37.57
123678D
3.05e5*
37.69
123789D
2.26e5*
38.00
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 1.81e3
ES 123678D
8.55e6
37.68
ES 123478D
8.08e6
37.56
JS 123467D
6.38e6
37.88
ES 123789D
9.11e6
37.98
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 1.44e3
ES 123678D
6.91e6
37.68
7.01e6
37.56
JS 123467D
4.98e6
37.88
ES 123789D
7.28e6
37.98
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
RT
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
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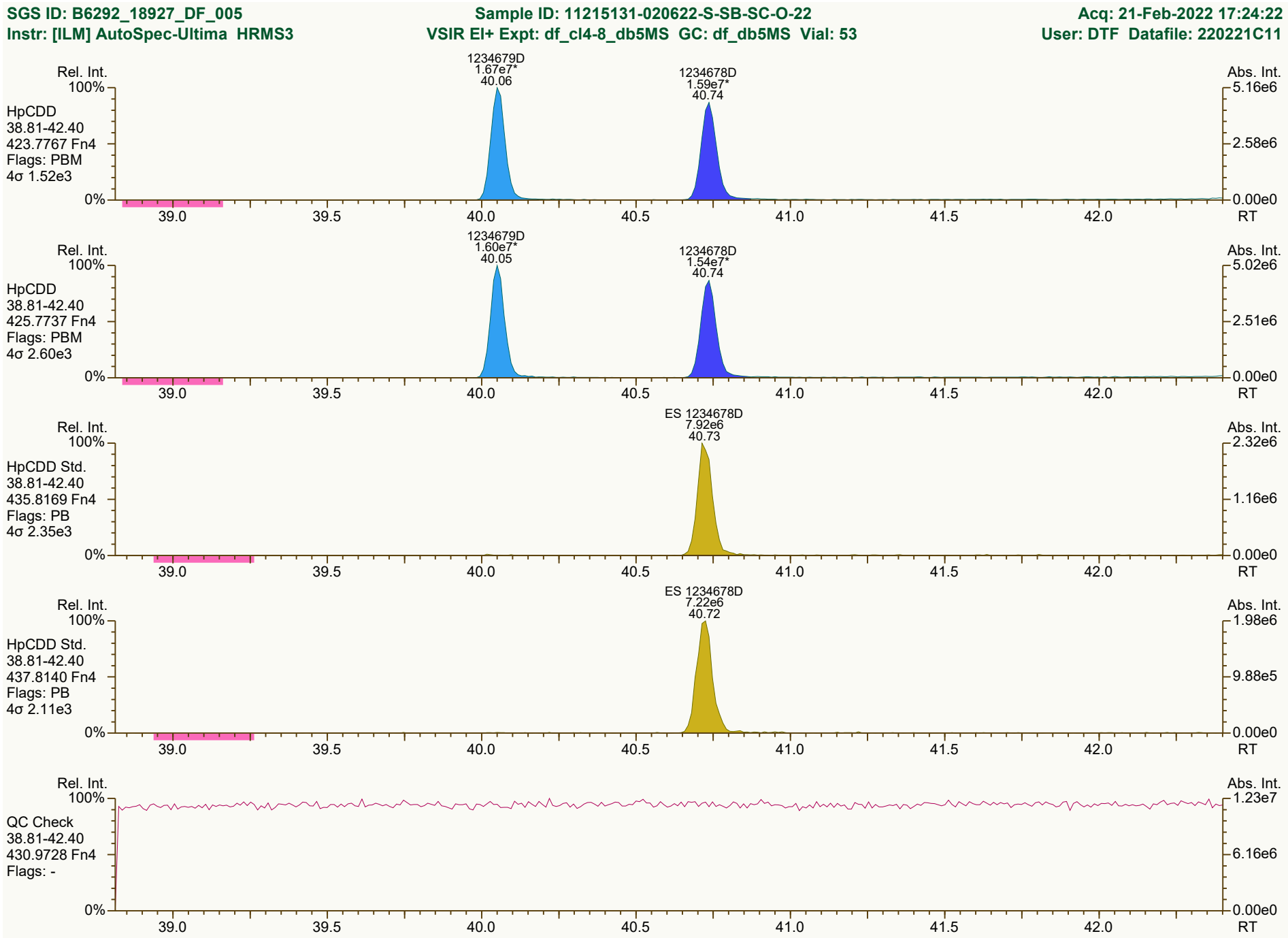
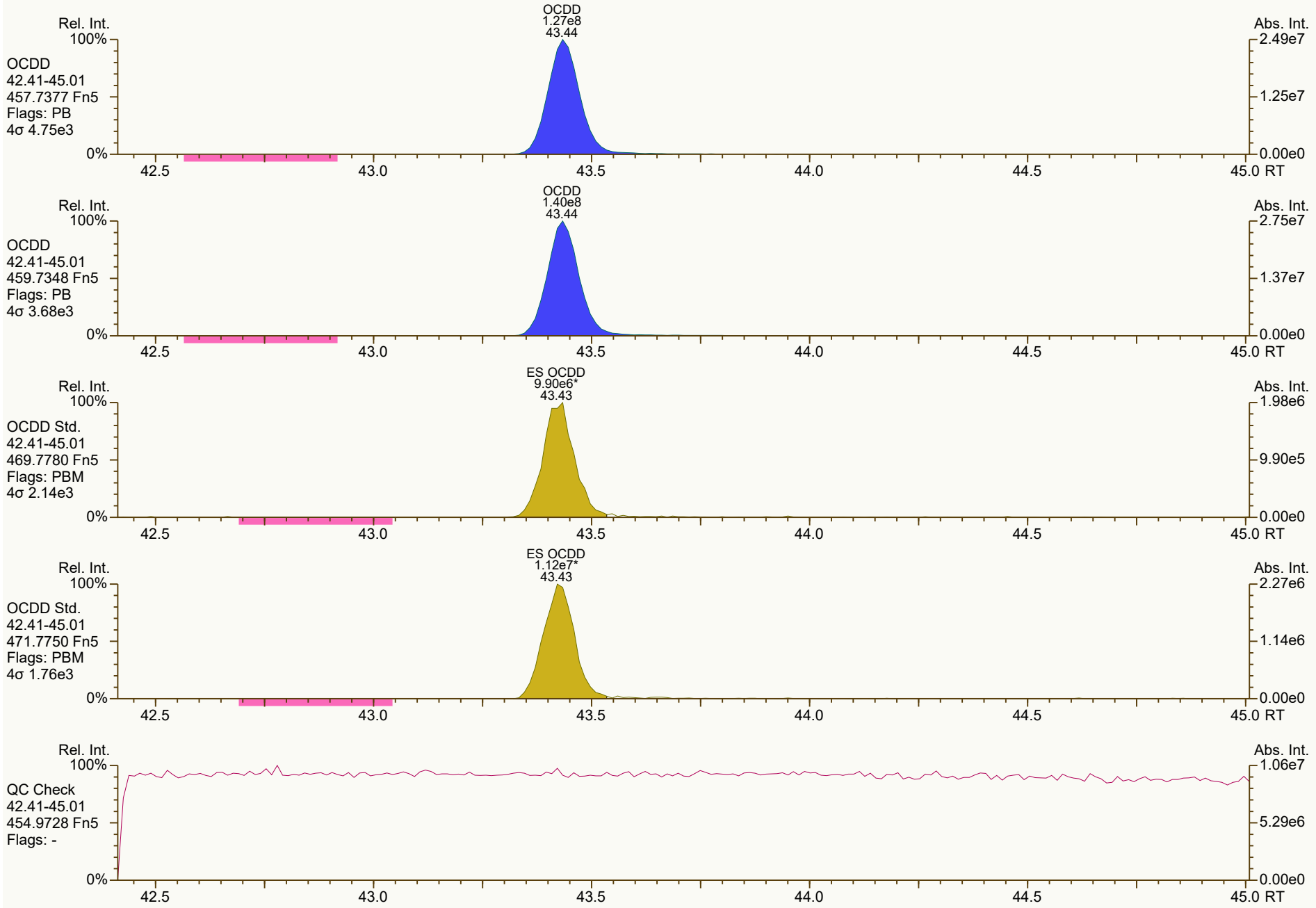
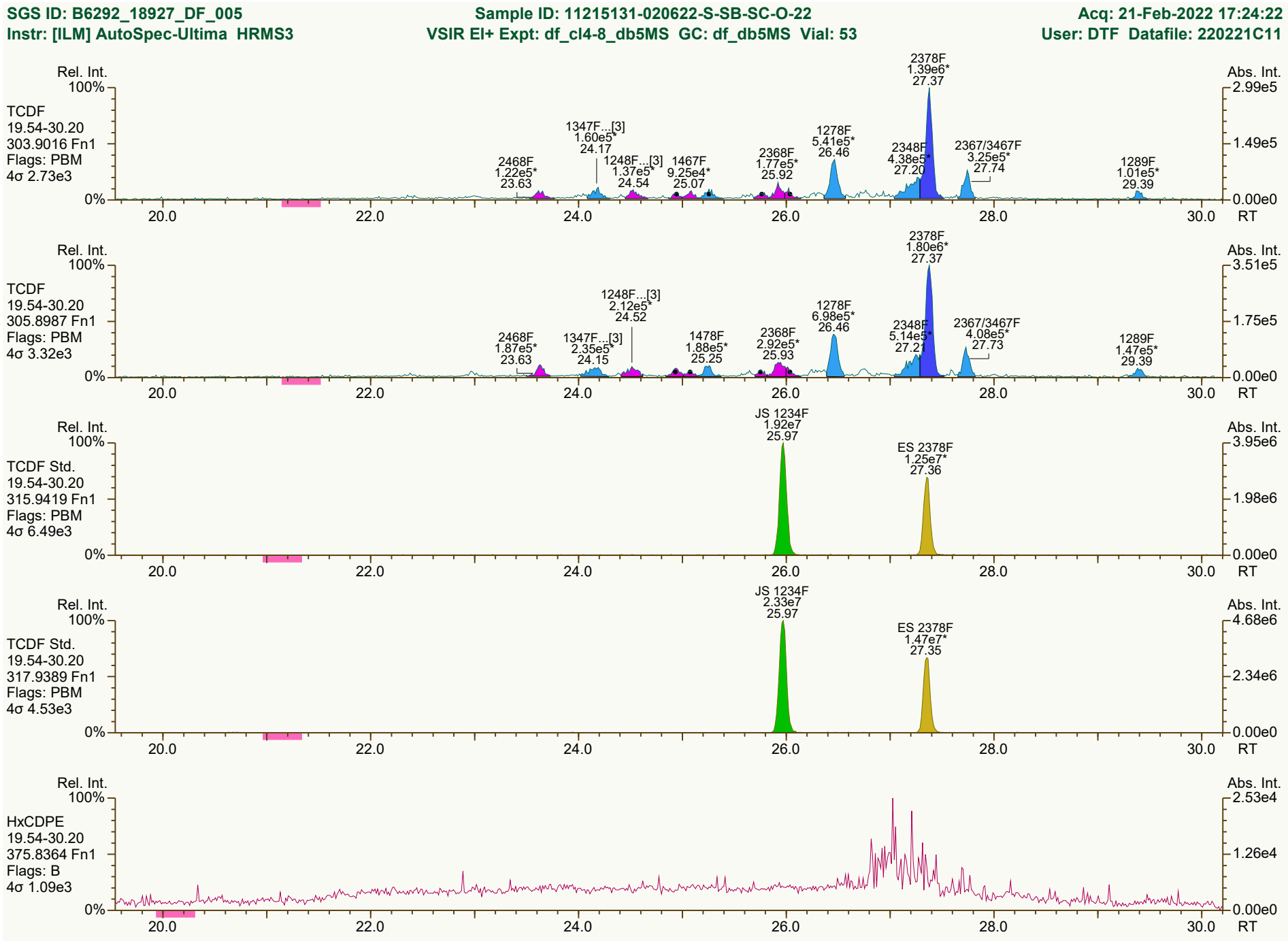
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9443, 1468 scc: 136-442
Revised: 22-Feb-2022 08:39 (DTF) Printed: 22-Feb-2022 09:36 Page 4 of 12

SGS ID: B6292_18927_DF_005 | Sample ID: 11215131-020622-S-SB-SC-O-22 | Acq: 21-Feb-2022 17:24:22
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 53 | User: DTF Datafile: 220221C11

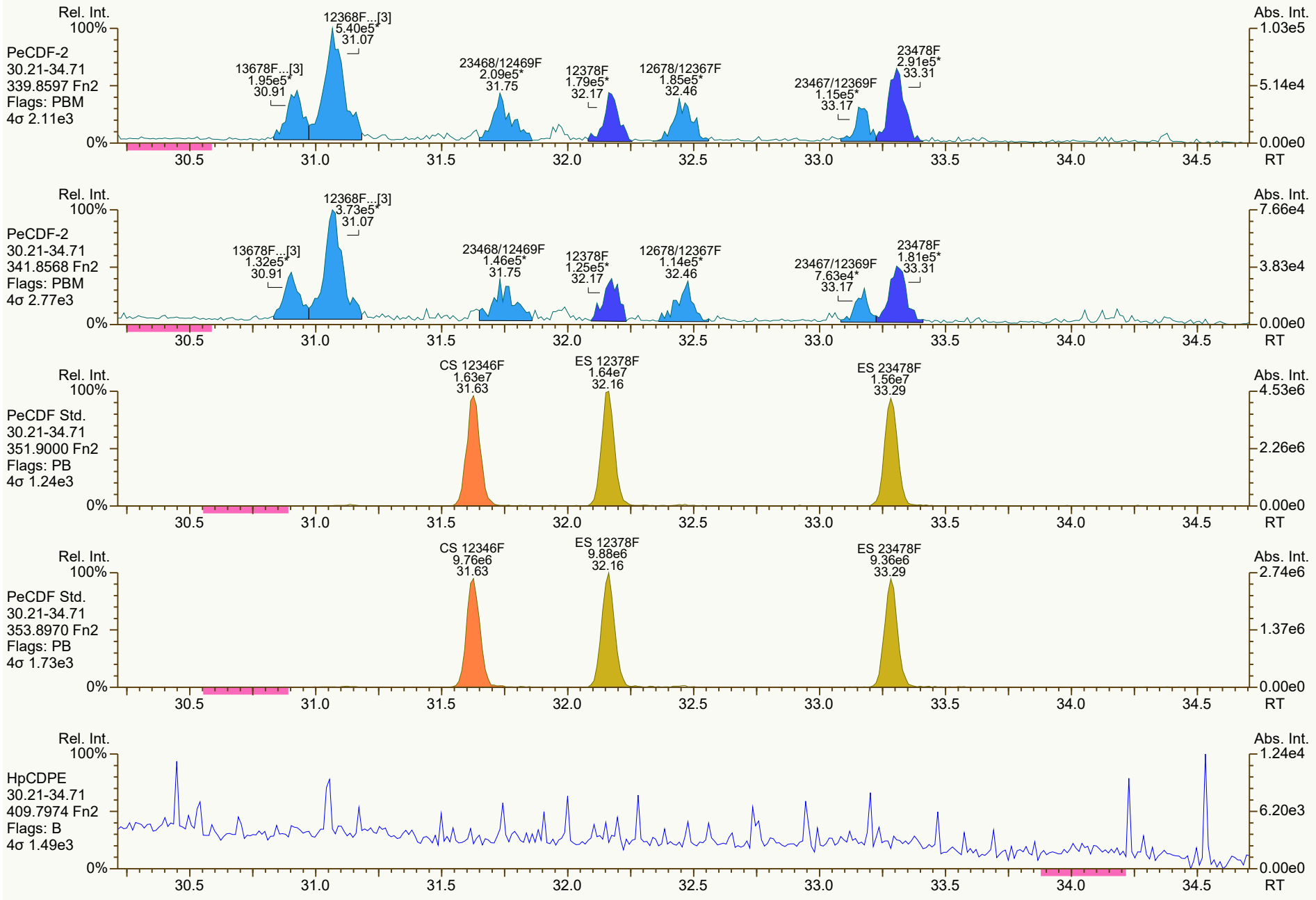


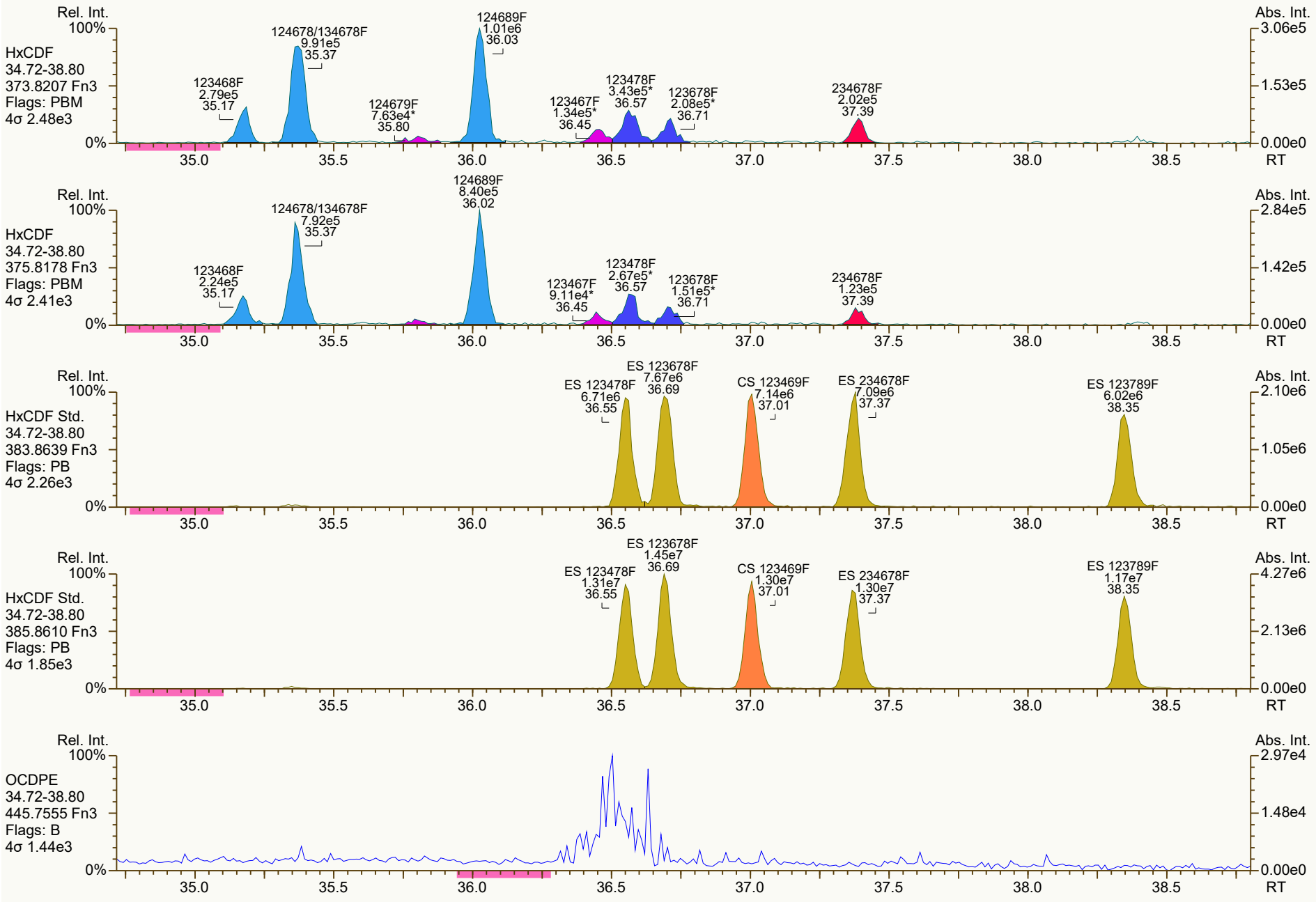
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_005.utp_res, saved 22-Feb-2022 09:25 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8892, 0199 scc: 136-442 | Revised: 22-Feb-2022 08:39 (DTF) Printed: 22-Feb-2022 09:36 Page 5 of 12

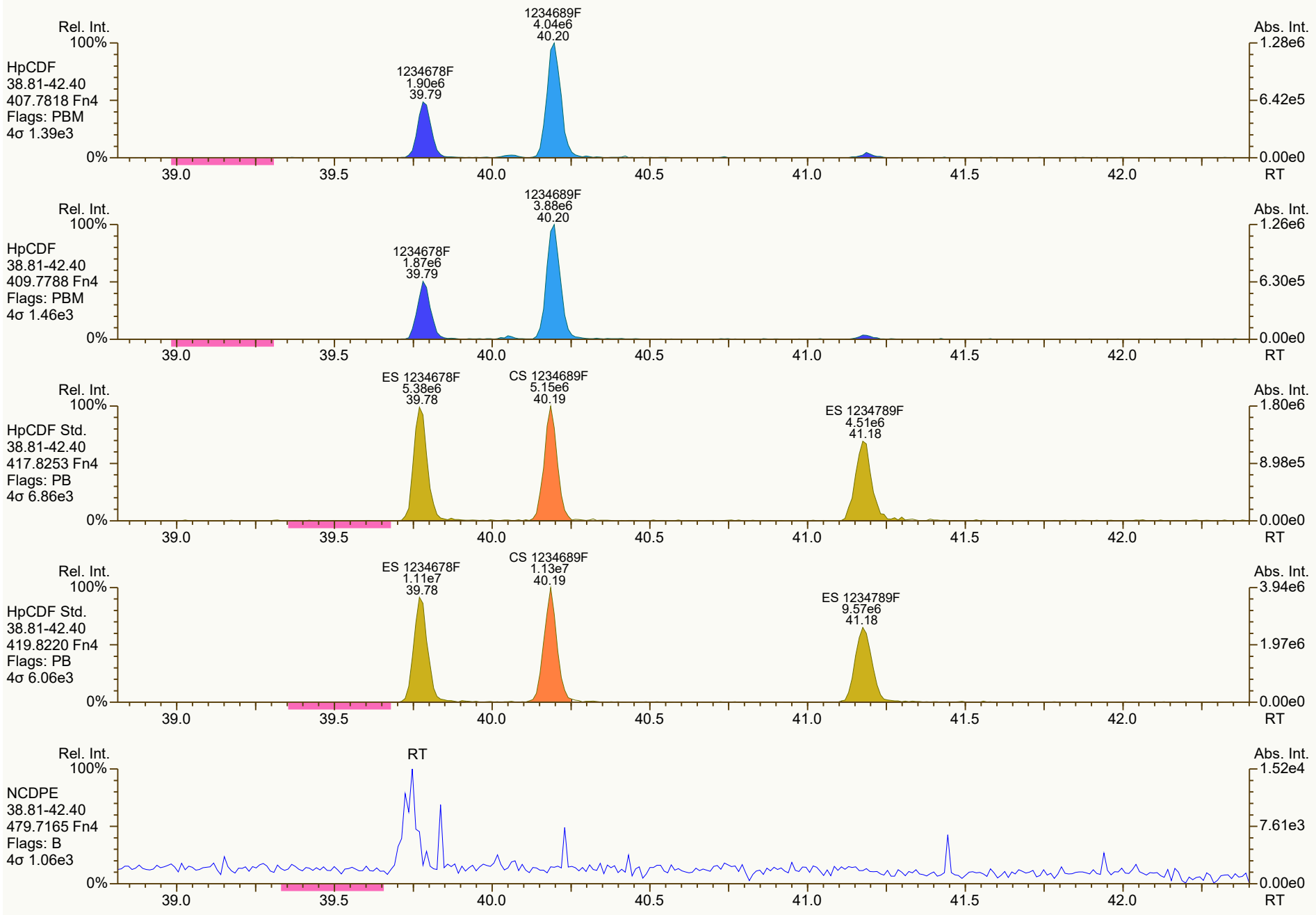

OCDD
1.27e8
43.44
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 4.75e3
0%
Abs. Int.
2.49e7
1.25e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.40e8
43.44
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 3.68e3
2.75e7
1.37e7
ES OCDD
9.90e6*
43.43
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 2.14e3
1.98e6
9.90e5
ES OCDD
1.12e7*
43.43
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.76e3
2.27e6
1.14e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.06e7
5.29e6


SGS ID: B6292_18927_DF_005
Sample ID: 11215131-020622-S-SB-SC-O-22
Acq: 21-Feb-2022 17:24:22
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 53
User: DTF Datafile: 220221C11
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 2.73e3
2468F 1.22e5* 23.63
1347F...[3] 1.60e5* 24.17
1248F...[3] 1.37e5* 24.54
1467F 9.25e4* 25.07
2368F 1.77e5* 25.92
1278F 5.41e5* 26.46
2348F 4.38e5* 27.20
2378F 1.39e6* 27.37
2367/3467F 3.25e5* 27.74
1289F 1.01e5* 29.39
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 3.32e3
2468F 1.87e5* 23.63
1347F...[3] 2.35e5* 24.15
1248F...[3] 2.12e5* 24.52
1478F 1.88e5* 25.25
2368F 2.92e5* 25.93
1278F 6.98e5* 26.46
2348F 5.14e5* 27.21
2378F 1.80e6* 27.37
2367/3467F 4.08e5* 27.73
1289F 1.47e5* 29.39
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PBM
4σ 6.49e3
JS 1234F 1.92e7 25.97
ES 2378F 1.25e7* 27.36
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PBM
4σ 4.53e3
JS 1234F 2.33e7 25.97
ES 2378F 1.47e7* 27.35
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.09e3
RT
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_005.utp_res, saved 22-Feb-2022 09:25 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9084, 8194, 1477 scc: 136-442
PKD: 22-Feb-2022 08:43 Printed: 22-Feb-2022 09:36 Page 7 of 12

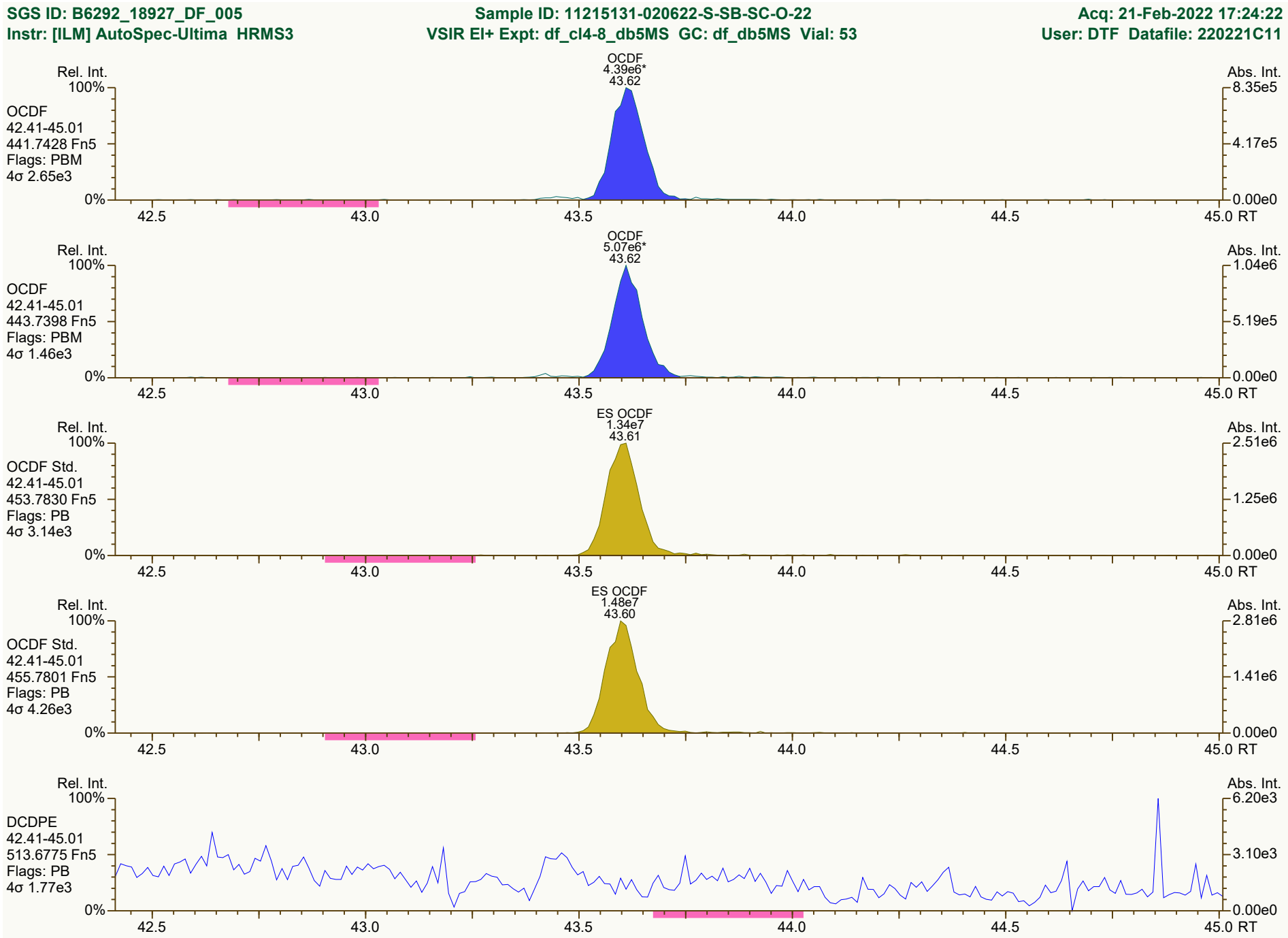

Rel. Int.
100%
0%
Abs. Int.
1.52e5
7.60e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.68e3
13468/12468F
5.91e5*
29.35
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 2.30e3
13468/12468F
3.53e5*
29.35
7.92e4
3.96e4
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
5.67e6
2.84e6


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 2.11e3
0%
13678F...[3]
1.95e5*
30.91
12368F...[3]
5.40e5*
31.07
23468/12469F
2.09e5*
31.75
12378F
1.79e5*
32.17
12678/12367F
1.85e5*
32.46
23467/12369F
1.15e5*
33.17
23478F
2.91e5*
33.31
Abs. Int.
1.03e5
5.14e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 2.77e3
0%
13678F...[3]
1.32e5*
30.91
12368F...[3]
3.73e5*
31.07
23468/12469F
1.46e5*
31.75
12378F
1.25e5*
32.17
12678/12367F
1.14e5*
32.46
23467/12369F
7.63e4*
33.17
23478F
1.81e5*
33.31
Abs. Int.
7.66e4
3.83e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 1.24e3
0%
CS 12346F
1.63e7
31.63
ES 12378F
1.64e7
32.16
ES 23478F
1.56e7
33.29
Abs. Int.
4.53e6
2.26e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 1.73e3
0%
CS 12346F
9.76e6
31.63
ES 12378F
9.88e6
32.16
ES 23478F
9.36e6
33.29
Abs. Int.
2.74e6
1.37e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.49e3
0%
Abs. Int.
1.24e4
6.20e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 2.48e3
123468F 2.79e5 35.17
124678/134678F 9.91e5 35.37
124679F 7.63e4* 35.80
124689F 1.01e6 36.03
123467F 1.34e5* 36.45
123478F 3.43e5* 36.57
123678F 2.08e5* 36.71
234678F 2.02e5 37.39
Abs. Int.
3.06e5
1.53e5
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 2.41e3
123468F 2.24e5 35.17
124678/134678F 7.92e5 35.37
124689F 8.40e5 36.02
123467F 9.11e4* 36.45
123478F 2.67e5* 36.57
123678F 1.51e5* 36.71
234678F 1.23e5 37.39
Abs. Int.
2.84e5
1.42e5
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 2.26e3
ES 123478F 6.71e6 36.55
ES 123678F 7.67e6 36.69
CS 123469F 7.14e6 37.01
ES 234678F 7.09e6 37.37
ES 123789F 6.02e6 38.35
Abs. Int.
2.10e6
1.05e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 1.85e3
ES 123478F 1.31e7 36.55
ES 123678F 1.45e7 36.69
CS 123469F 1.30e7 37.01
ES 234678F 1.30e7 37.37
ES 123789F 1.17e7 38.35
Abs. Int.
4.27e6
2.13e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.44e3
Abs. Int.
2.97e4
1.48e4
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 1.39e3
1234678F
1.90e6
39.79
1234689F
4.04e6
40.20
Abs. Int.
1.28e6
6.42e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 1.46e3
1234678F
1.87e6
39.79
1234689F
3.88e6
40.20
Abs. Int.
1.26e6
6.30e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 6.86e3
ES 1234678F
5.38e6
39.78
CS 1234689F
5.15e6
40.19
ES 1234789F
4.51e6
41.18
Abs. Int.
1.80e6
8.98e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 6.06e3
ES 1234678F
1.11e7
39.78
CS 1234689F
1.13e7
40.19
ES 1234789F
9.57e6
41.18
Abs. Int.
3.94e6
1.97e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.06e3
RT
Abs. Int.
1.52e4
7.61e3
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

SGS ID: B6292_18927_DF_005 | Sample ID: 11215131-020622-S-SB-SC-O-22 | Acq: 21-Feb-2022 17:24:22
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 53 | User: DTF Datafile: 220221C11



Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_005.utp_res, saved 22-Feb-2022 09:25 (DTF) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6230, 4908, 1732 scc: 136-442 | *Revised: 22-Feb-2022 08:43 (DTF) Printed: 22-Feb-2022 09:36 Page 12 of 12*

Lab ID: B6292_18927_DF_006 **Acq'd:** 21 Feb 2022 18:10 DTF **Wt/Vol:** 10.01 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-O-23 **UTP:** 22-Feb-2022 09:25:59 DTF **J-level:** 0.499 pg/g **Split:** 1 **Checkcode:** 686-027-PBP

Datafile: 220221C12 **Report:** 22 Feb 2022 09:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.24		1.0008	1.0007	-0.2	1.30E+06	0.74	Y	1.18	15.1	3732.176	0.479
12378-PeCDD	33.63	EMPC	1.0007	1.0005	-0.4	4.79E+05	1.24	N	1.04	6.94	5216.784	0.702
123478-HxCDD	37.56		1.0004	1.0004	0	6.76E+05	1.42	Y	1.09	9.95	6540.961	0.837
123678-HxCDD	37.68		1.0036	1.0036	0	4.27E+06	1.31	Y	1.15	57.2	6540.961	0.825
123789-HxCDD	37.99		1.0118	1.0117	-0.2	2.79E+06	1.19	Y	1.05	36.9	6540.961	0.771
1234678-HpCDD	40.72		1.0002	1.0004	+0.5	1.86E+08	1.05	Y	1.06	2,560	3361.103	0.359
OCDD	43.43	E	1.0003	1.0003	0	1.72E+09	0.90	Y	1.13	28,100	5205.672	1.08
2378-TCDF	27.37		1.0008	1.0007	-0.2	8.04E+06	0.76	Y	1.08	68.4	4943.725	0.451
12378-PeCDF	32.17		1.0005	1.0005	0	1.20E+06	1.57	Y	1.02	11	5366.965	0.455
23478-PeCDF	33.30		1.0005	1.0008	+0.6	3.12E+06	1.56	Y	1.02	30.1	5366.965	0.462
123478-HxCDF	36.56		1.0004	1.0005	+0.2	3.58E+06	1.28	Y	1.27	34.8	8872.69	0.695
123678-HxCDF	36.69		1.0004	1.0004	0	1.86E+06	1.24	Y	1.15	17	8872.69	0.681
234678-HxCDF	37.37		1.0005	1.0004	-0.2	2.17E+06	1.18	Y	1.19	20.8	8872.69	0.724
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	8872.69	0.89
1234678-HpCDF	39.78		1.0003	1.0003	0	1.53E+07	1.01	Y	1.37	157	8231.968	0.653
1234789-HpCDF	41.17		1.0003	1.0003	0	2.02E+06	1.00	Y	1.31	23.5	8231.968	0.809
OCDF	43.59		1.0002	1.0002	0	3.20E+07	0.90	Y	1.07	455	5248.079	0.972

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.22		1.0243	1.0243	0	1.45E+07	0.80	Y	1.05	45.9
ES 12378-PeCDD	33.61		1.2198	1.2201	+0.6	1.33E+07	1.61	Y	0.88	50.3
ES 123478-HxCDD	37.55		0.9916	0.9915	-0.2	1.25E+07	1.27	Y	0.97	48
ES 123678-HxCDD	37.66		0.9947	0.9947	0	1.30E+07	1.23	Y	0.94	51.5
ES 123789-HxCDD	37.97		1.0029	1.0028	-0.2	1.44E+07	1.29	Y	1.09	49.4
ES 1234678-HpCDD	40.71		1.0749	1.0750	+0.2	1.37E+07	1.10	Y	0.91	56
ES OCDD	43.42		1.1460	1.1467	+1.8	2.18E+07	0.94	Y	0.62	65.2
ES 2378-TCDF	27.35		1.0531	1.0532	+0.2	2.18E+07	0.81	Y	1.06	43.3
ES 12378-PeCDF	32.15		1.2378	1.2379	+0.2	2.13E+07	1.75	Y	0.91	49.4
ES 23478-PeCDF	33.27		1.2810	1.2811	+0.2	2.03E+07	1.69	Y	0.88	48.5
ES 123478-HxCDF	36.54		0.9650	0.9649	-0.2	1.62E+07	0.57	Y	1.20	50.4
ES 123678-HxCDF	36.68		0.9688	0.9687	-0.2	1.89E+07	0.52	Y	1.35	52.4
ES 234678-HxCDF	37.36		0.9866	0.9866	0	1.75E+07	0.54	Y	1.24	52.8
ES 123789-HxCDF	38.34		1.0125	1.0124	-0.2	1.58E+07	0.55	Y	1.16	51.1
ES 1234678-HpCDF	39.76		1.0501	1.0502	+0.2	1.42E+07	0.50	Y	0.97	54.9
ES 1234789-HpCDF	41.16		1.0870	1.0870	0	1.31E+07	0.48	Y	0.85	57.6
ES OCDF	43.58		1.1505	1.1509	+1.0	2.62E+07	0.93	Y	0.81	60.7

Lab ID: B6292_18927_DF_006 **Acq'd:** 21 Feb 2022 18:10 DTF **Wt/Vol:** 10.01 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-O-23 **UTP:** 22-Feb-2022 09:25:59 DTF **J-level:** 0.499 pg/g **Split:** 1 **Checkcode:** 686-027-PBP

Datafile: 220221C12 **Report:** 22 Feb 2022 09:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.55		-	-	-	3.01E+07	0.82	Y	-	-
JS 1234-TCDF	25.97		-	-	-	4.74E+07	0.85	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	1.34E+07	1.27	Y	-	-
CS 37Cl-2378-TCDD	28.24		1.0251	1.0251	0	7.08E+06	n/a	-	1.20	49
CS 12347-PeCDD	33.11		1.2016	1.2017	+0.2	1.38E+07	1.55	Y	0.75	61.1
CS 12346-PeCDF	31.61		1.2172	1.2172	0	2.23E+07	1.64	Y	0.85	55.4
CS 123469-HxCDF	36.99		0.9771	0.9770	-0.2	1.74E+07	0.54	Y	1.12	58.3
CS 1234689-HpCDF	40.17		1.0608	1.0609	+0.2	1.58E+07	0.48	Y	0.89	66.4
SS 37Cl-2378-TCDD	28.24		1.0251	1.0251	0	7.08E+06	n/a	-	1.15	107
SS 12347-PeCDD	33.11		1.2016	1.2017	+0.2	1.38E+07	1.55	Y	0.86	121
SS 12346-PeCDF	31.61		1.2172	1.2172	0	2.23E+07	1.64	Y	0.94	112
SS 123469-HxCDF	36.99		0.9771	0.9770	-0.2	1.74E+07	0.54	Y	0.83	111
SS 1234689-HpCDF	40.17		1.0608	1.0609	+0.2	1.58E+07	0.48	Y	0.92	121

Totals	Conc	EMPC
Total TCDD	34	51.5
Total PeCDD	41.3	72.7
Total HxCDD	605	605
Total HpCDD	5000	5000
Total Tetra-Octa Dioxins	33800	33800
Total TCDF	346	351
Total PeCDF	232	233
Total HxCDF	277	279
Total HpCDF	474	474
Total Tetra-Octa Furans	1,780	1790
Total Tetra-Octa Dioxins & Furans	35600	35600

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.737	0.74
Response	1.30E+06	1.30E+06

Lab ID: B6292_18927_DF_006 **Acq'd: 21 Feb 2022 18:10 DTF** **Wt/Vol: 10.01 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-O-23 **UTP: 22-Feb-2022 09:25:59 DTF** **J-level: 0.499 pg/g** **Split: 1** **Checkcode: 686-027-PBP**

Datafile: 220221C12 **Report: 22 Feb 2022 09:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.55		0.8701	0.8700	-0.1	8.14E+05	0.73	Y	1.18	9.5	3732.176	0.479
1379-TCDD	24.91		0.8829	0.8826	-0.4	3.99E+05	0.76	Y	1.18	4.65	3732.176	0.479
1369-TCDD	25.34	EMPC	0.8982	0.8981	-0.2	1.22E+05	0.99	N	1.18	1.43	3732.176	0.479
1469-TCDD	26.14	EMPC	0.9261	0.9263	+0.3	8.38E+04	0.99	N	1.18	0.977	3732.176	0.479
1247/1246/1248/1249-TCDD	26.38	EMPC	0.9348	0.9347	-0.2	3.25E+05	1.02	N	1.18	3.79	3732.176	0.479
1378-TCDD	26.57	EMPC	0.9417	0.9415	-0.3	2.87E+05	0.94	N	1.18	3.35	3732.176	0.479
1268-TCDD	26.77	EMPC	0.9487	0.9486	-0.2	1.27E+05	0.95	N	1.18	1.48	3732.176	0.479
1478-TCDD	27.03		0.9576	0.9577	+0.2	5.58E+04	0.70	Y	1.18	0.651	3732.176	0.479
1279-TCDD	27.19		0.9636	0.9635	-0.2	1.34E+05	0.79	Y	1.18	1.56	3732.176	0.479
1234/1269-TCDD	27.56	EMPC	0.9761	0.9765	+0.7	1.69E+05	0.96	N	1.18	1.97	3732.176	0.479
1236-TCDD	NotFnd		0.9812						1.18		3732.176	0.479
1237/1238-TCDD	27.95		0.9905	0.9904	-0.2	2.17E+05	0.82	Y	1.18	2.53	3732.176	0.479
1239-TCDD	28.09	EMPC	0.9951	0.9953	+0.3	1.40E+05	1.11	N	1.18	1.63	3732.176	0.479
2378-TCDD	**28.24**		**1.0008**	1.0007	**-0.2**	1.30E+06	0.74	Y	**1.18**	**15.1**	**3732.176**	**0.479**
1278-TCDD	28.57	EMPC	1.0124	1.0124	0	2.43E+05	0.93	N	1.18	2.83	3732.176	0.479
1267-TCDD	NotFnd		1.0172						1.18		3732.176	0.479
1289-TCDD	NotFnd		1.0354						1.18		3732.176	0.479
12479/12468-PeCDD	31.10		0.9255	0.9254	-0.2	1.16E+06	1.77	Y	1.04	16.8	5216.784	0.702
12469-PeCDD	31.64	EMPC	0.9416	0.9415	-0.2	4.34E+05	1.09	N	1.04	6.29	5216.784	0.702
12368-PeCDD	32.20	EMPC	0.9582	0.9579	-0.6	5.48E+05	1.28	N	1.04	7.95	5216.784	0.702
12478-PeCDD	32.39		0.9637	0.9637	0	5.96E+05	1.37	Y	1.04	8.65	5216.784	0.702
12379-PeCDD	32.49		0.9668	0.9667	-0.2	4.17E+05	1.46	Y	1.04	6.05	5216.784	0.702
12369/12467/12489-PeCDD	32.76	EMPC	0.9746	0.9745	-0.2	5.73E+05	1.26	N	1.04	8.31	5216.784	0.702
12346/12347-PeCDD	33.13		0.9858	0.9856	-0.4	3.64E+05	1.59	Y	1.04	5.28	5216.784	0.702
12378-PeCDD	33.63	EMPC	**1.0007**	**1.0005**	**-0.4**	**4.79E+05**	**1.24**	**N**	**1.04**	**6.94**	**5216.784**	**0.702**
12367-PeCDD	33.72	J EMPC	1.0036	1.0033	-0.6	1.36E+05	1.17	N	1.04	1.97	5216.784	0.702
12389-PeCDD	34.07		1.0137	1.0137	0	3.07E+05	1.56	Y	1.04	4.46	5216.784	0.702
124679/124689-HxCDD	35.82		0.9540	0.9539	-0.2	1.37E+07	1.30	Y	1.10	188	6540.961	0.809
123468-HxCDD	36.47		0.9715	0.9714	-0.2	1.41E+06	1.32	Y	1.10	19.4	6540.961	0.809
123679/123689-HxCDD	36.77		0.9793	0.9793	0	1.98E+07	1.25	Y	1.10	272	6540.961	0.809
123469-HxCDD	36.91		0.9829	0.9830	+0.2	7.99E+05	1.28	Y	1.10	11	6540.961	0.809
123478-HxCDD	37.56		**1.0004**	**1.0004**	**0**	**6.76E+05**	**1.42**	**Y**	1.09	**9.95**	**6540.961**	**0.837**
123678-HxCDD	37.68		**1.0036**	**1.0036**	**0**	**4.27E+06**	**1.31**	**Y**	1.15	**57.2**	**6540.961**	**0.825**
123467-HxCDD	37.88		1.0089	1.0089	0	7.04E+05	1.20	Y	1.10	9.66	6540.961	0.809
123789-HxCDD	37.99		**1.0118**	**1.0117**	**-0.2**	**2.79E+06**	**1.19**	**Y**	1.05	**36.9**	**6540.961**	**0.771**

Lab ID: B6292_18927_DF_006 **Acq'd: 21 Feb 2022 18:10 DTF** **Wt/Vol: 10.01 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-O-23 **UTP: 22-Feb-2022 09:25:59 DTF** **J-level: 0.499 pg/g** **Split: 1** **Checkcode: 686-027-PBP**

Datafile: 220221C12 **Report: 22 Feb 2022 09:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

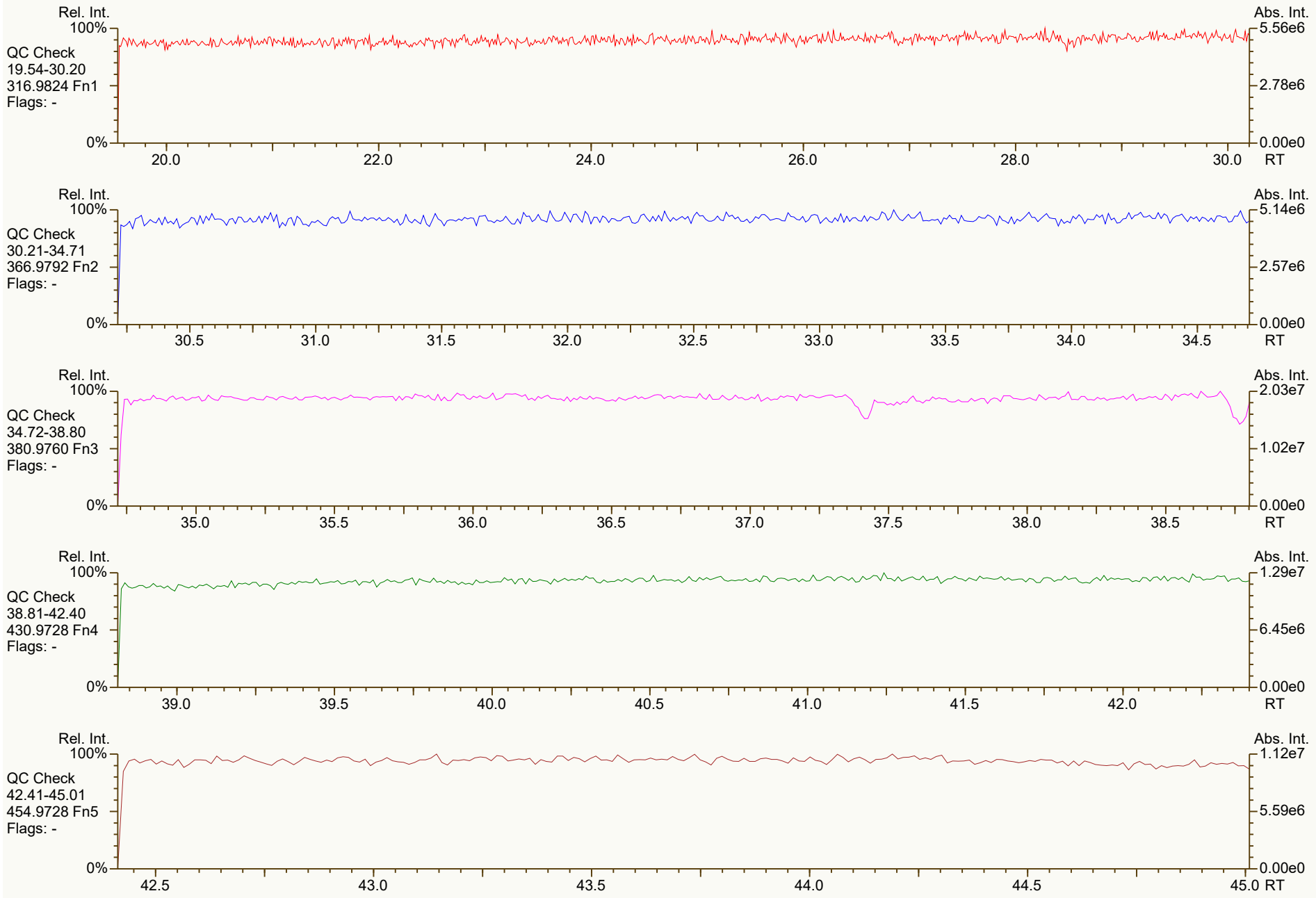
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.04		0.9836	0.9837	+0.2	1.77E+08	1.04	Y	1.06	2,440	3361.103	0.359
1234678-HpCDD	**40.72**		**1.0002**	**1.0004**	**+0.5**	**1.86E+08**	**1.05**	**Y**	**1.06**	**2,560**	**3361.103**	**0.359**
OCDD	**43.43**	**E**	**1.0003**	**1.0003**	**0**	**1.72E+09**	**0.90**	**Y**	**1.13**	**28,100**	**5205.672**	**1.08**
OCDD-a	43.43	E	1.0002	1.0003	+0.3	1.06E+08	2.55	Y	0.07	26,900	4791.787	15.6
1368-TCDF	22.40		0.8191	0.8190	-0.1	4.52E+05	0.68	Y	1.08	3.85	4943.725	0.451
1468-TCDF	22.99		0.8408	0.8406	-0.3	7.40E+05	0.79	Y	1.08	6.3	4943.725	0.451
2468-TCDF	23.64		0.8645	0.8643	-0.3	1.70E+06	0.86	Y	1.08	14.4	4943.725	0.451
1346/1246-TCDF	24.02	EMPC	0.8772	0.8781	+1.3	5.65E+05	0.94	N	1.08	4.8	4943.725	0.451
1347/1378/1247-TCDF	24.16		0.8833	0.8835	+0.3	2.94E+06	0.76	Y	1.08	25	4943.725	0.451
1348-TCDF	24.42		0.8932	0.8929	-0.4	7.45E+05	0.69	Y	1.08	6.33	4943.725	0.451
1248/1367/1379-TCDF	24.53		0.8980	0.8969	-1.6	2.64E+06	0.79	Y	1.08	22.4	4943.725	0.451
1268-TCDF	24.94		0.9119	0.9119	0	1.56E+06	0.85	Y	1.08	13.2	4943.725	0.451
1467-TCDF	25.08		0.9170	0.9169	-0.2	7.70E+05	0.86	Y	1.08	6.55	4943.725	0.451
1478-TCDF	25.25		0.9234	0.9232	-0.3	1.82E+06	0.83	Y	1.08	15.5	4943.725	0.451
1369/1237-TCDF	25.63		0.9369	0.9370	+0.2	6.65E+05	0.84	Y	1.08	5.66	4943.725	0.451
2467-TCDF	25.76		0.9415	0.9418	+0.5	6.78E+05	0.78	Y	1.08	5.77	4943.725	0.451
2368-TCDF	25.92		0.9475	0.9477	+0.3	2.15E+06	0.75	Y	1.08	18.3	4943.725	0.451
1238/1234/1678/1469/1236-TCDF	26.02		0.9507	0.9512	+0.8	1.51E+06	0.77	Y	1.08	12.8	4943.725	0.451
1278-TCDF	26.46		0.9676	0.9675	-0.2	3.70E+06	0.82	Y	1.08	31.5	4943.725	0.451
1349-TCDF	NotFnd		0.9722						1.08		4943.725	0.451
1267-TCDF	26.74		0.9777	0.9777	0	1.14E+06	0.78	Y	1.08	9.73	4943.725	0.451
2346/1249-TCDF	26.93		0.9843	0.9847	+0.6	6.36E+05	0.86	Y	1.08	5.41	4943.725	0.451
2347/1279-TCDF	27.15		0.9926	0.9925	-0.2	1.26E+06	0.73	Y	1.08	10.8	4943.725	0.451
2348-TCDF	27.26		0.9968	0.9964	-0.7	1.63E+06	0.80	Y	1.08	13.9	4943.725	0.451
2378-TCDF	**27.37**		**1.0008**	**1.0007**	**-0.2**	**8.04E+06**	**0.76**	**Y**	**1.08**	**68.4**	**4943.725**	**0.451**
2367/3467-TCDF	27.73		1.0142	1.0139	-0.5	4.78E+06	0.81	Y	1.08	40.7	4943.725	0.451
1269-TCDF	27.98		1.0235	1.0230	-0.8	3.73E+05	0.80	Y	1.08	3.17	4943.725	0.451
1239-TCDF	NotFnd		1.0329						1.08		4943.725	0.451
1289-TCDF	29.39		1.0742	1.0743	+0.2	7.22E+05	0.85	Y	1.08	6.14	4943.725	0.451
13468/12468-PeCDF	29.34		0.9122	0.9127	+0.9	5.54E+06	1.52	Y	1.02	52	3143.801	0.268
13678/13467/12467-PeCDF	30.90		0.9606	0.9611	+0.9	1.82E+06	1.63	Y	1.02	17.1	5366.965	0.458
12368/13478/12478-PeCDF	31.05		0.9655	0.9659	+0.7	6.14E+06	1.60	Y	1.02	57.6	5366.965	0.458
14678-PeCDF	31.14		0.9685	0.9686	+0.2	8.71E+05	1.51	Y	1.02	8.18	5366.965	0.458
13479-PeCDF	31.24	J	0.9716	0.9716	0	1.14E+05	1.43	Y	1.02	1.07	5366.965	0.458
13469/12479-PeCDF	31.49	J EMPC	0.9794	0.9795	+0.2	1.71E+05	1.13	N	1.02	1.61	5366.965	0.458
12346-PeCDF	31.63		0.9836	0.9839	+0.6	2.68E+05	1.43	Y	1.02	2.51	5366.965	0.458

Lab ID: B6292_18927_DF_006 **Acq'd: 21 Feb 2022 18:10 DTF** **Wt/Vol: 10.01 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-O-23 **UTP: 22-Feb-2022 09:25:59 DTF** **J-level: 0.499 pg/g** **Split: 1** **Checkcode: 686-027-PBP**

Datafile: 220221C12 **Report: 22 Feb 2022 09:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.72		0.9866	0.9866	0	1.23E+06	1.60	Y	1.02	11.6	5366.965	0.458
12347-PeCDF	31.79		0.9891	0.9888	-0.6	7.26E+05	1.47	Y	1.02	6.82	5366.965	0.458
12348-PeCDF	31.96		0.9938	0.9941	+0.6	6.64E+05	1.45	Y	1.02	6.24	5366.965	0.458
12378-PeCDF	**32.17**		**1.0005**	**1.0005**	**0**	**1.20E+06**	**1.57**	**Y**	**1.02**	**11**	**5366.965**	**0.455**
12678/12367-PeCDF	32.45		1.0091	1.0094	+0.6	1.71E+06	1.51	Y	1.02	16.1	5366.965	0.458
12379-PeCDF	NotFnd		1.0144						1.02		5366.965	0.458
12679-PeCDF	33.03	J	0.9927	0.9927	0	1.22E+05	1.35	Y	1.02	1.14	5366.965	0.458
23467/12369-PeCDF	33.16		0.9965	0.9966	+0.2	9.84E+05	1.60	Y	1.02	9.24	5366.965	0.458
23478-PeCDF	**33.30**		**1.0005**	**1.0008**	**+0.6**	**3.12E+06**	**1.56**	**Y**	**1.02**	**30.1**	**5366.965**	**0.462**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5366.965	0.458
12349-PeCDF	NotFnd		1.0101						1.02		5366.965	0.458
12389-PeCDF	34.37	J	1.0330	1.0329	-0.2	1.08E+05	1.73	Y	1.02	1.02	5366.965	0.458
123468-HxCDF	35.16		0.9622	0.9623	+0.2	1.97E+06	1.19	Y	1.19	19.3	8872.69	0.741
124678/134678-HxCDF	35.36		0.9678	0.9677	-0.2	8.52E+06	1.26	Y	1.19	83.3	8872.69	0.741
134679-HxCDF	NotFnd		0.9741						1.19		8872.69	0.741
124679-HxCDF	35.79		0.9795	0.9795	0	5.48E+05	1.32	Y	1.19	5.36	8872.69	0.741
124689-HxCDF	36.01		0.9856	0.9856	0	7.94E+06	1.19	Y	1.19	77.7	8872.69	0.741
123467-HxCDF	36.44		0.9972	0.9973	+0.2	1.01E+06	1.05	Y	1.19	9.9	8872.69	0.741
123478-HxCDF	**36.56**		**1.0004**	**1.0005**	**+0.2**	**3.58E+06**	**1.28**	**Y**	**1.27**	**34.8**	**8872.69**	**0.695**
123678-HxCDF	**36.69**		**1.0004**	**1.0004**	**0**	**1.86E+06**	**1.24**	**Y**	**1.15**	**17**	**8872.69**	**0.681**
123479-HxCDF	36.86	J EMPC	1.0048	1.0050	+0.4	9.56E+04	1.50	N	1.19	0.936	8872.69	0.741
123469-HxCDF	37.01	J	1.0089	1.0090	+0.2	2.02E+05	1.28	Y	1.19	1.98	8872.69	0.741
123679-HxCDF	37.14	J EMPC	0.9942	0.9941	-0.2	1.67E+05	1.50	N	1.19	1.63	8872.69	0.741
234678-HxCDF	**37.37**		**1.0005**	**1.0004**	**-0.2**	**2.17E+06**	**1.18**	**Y**	**1.19**	**20.8**	**8872.69**	**0.724**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		8872.69	0.741
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**8872.69**	**0.89**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.38		1.0006	1.0012	+1.4	6.55E+05	1.28	Y	1.19	6.41	8872.69	0.741
1234678-HpCDF	**39.78**		**1.0003**	**1.0003**	**0**	**1.53E+07**	**1.01**	**Y**	**1.37**	**157**	**8231.968**	**0.653**
1234679-HpCDF	40.04		1.0068	1.0069	+0.2	1.01E+06	0.89	Y	1.34	11	8231.968	0.727
1234689-HpCDF	40.18		1.0104	1.0105	+0.2	2.60E+07	1.05	Y	1.34	283	8231.968	0.727
1234789-HpCDF	**41.17**		**1.0003**	**1.0003**	**0**	**2.02E+06**	**1.00**	**Y**	**1.31**	**23.5**	**8231.968**	**0.809**
OCDF	**43.59**		**1.0002**	**1.0002**	**0**	**3.20E+07**	**0.90**	**Y**	**1.07**	**455**	**5248.079**	**0.972**
OCDF-a	43.59		1.0001	1.0001	0	2.03E+06	2.23	Y	0.07	466	3411.187	10.2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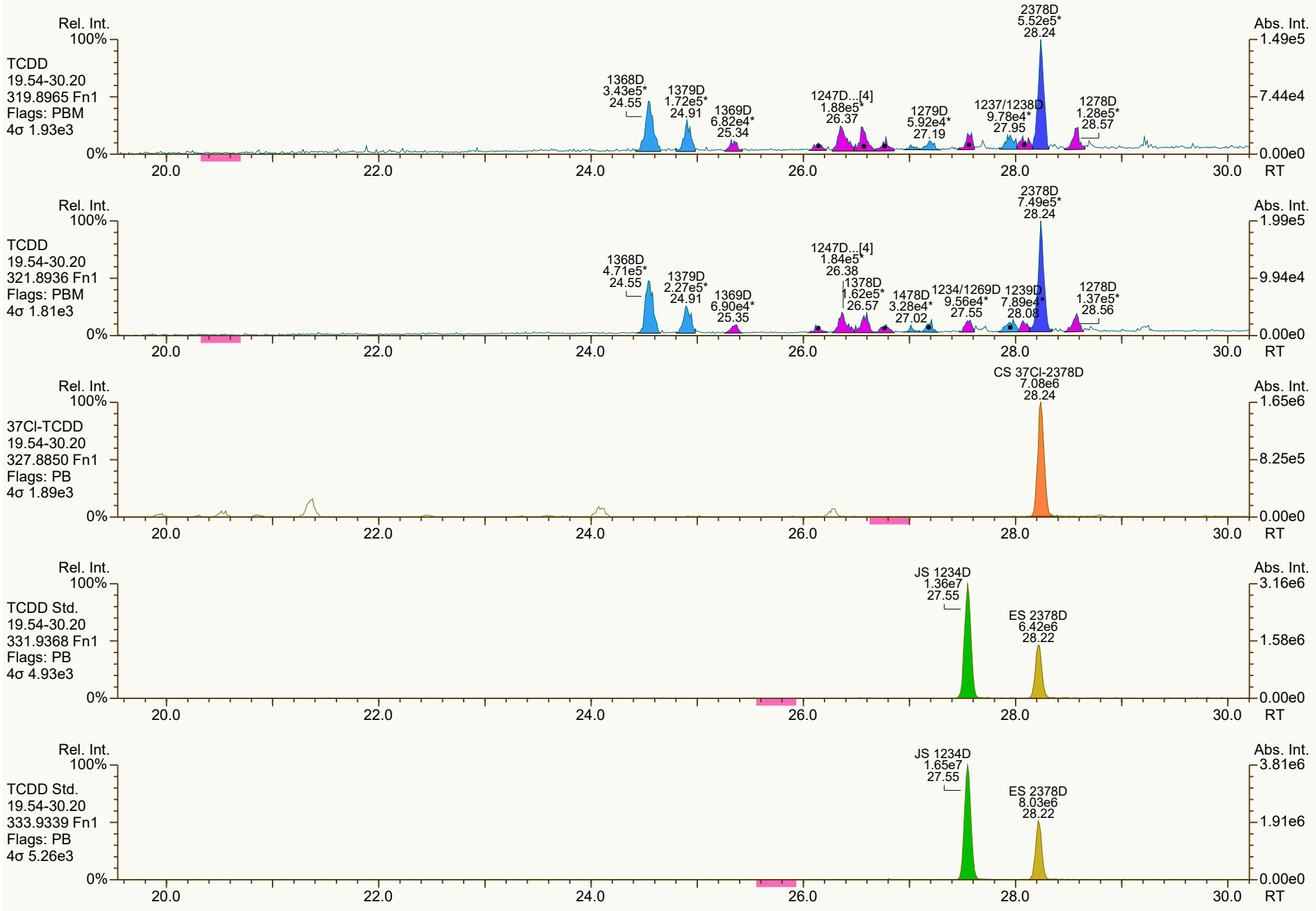
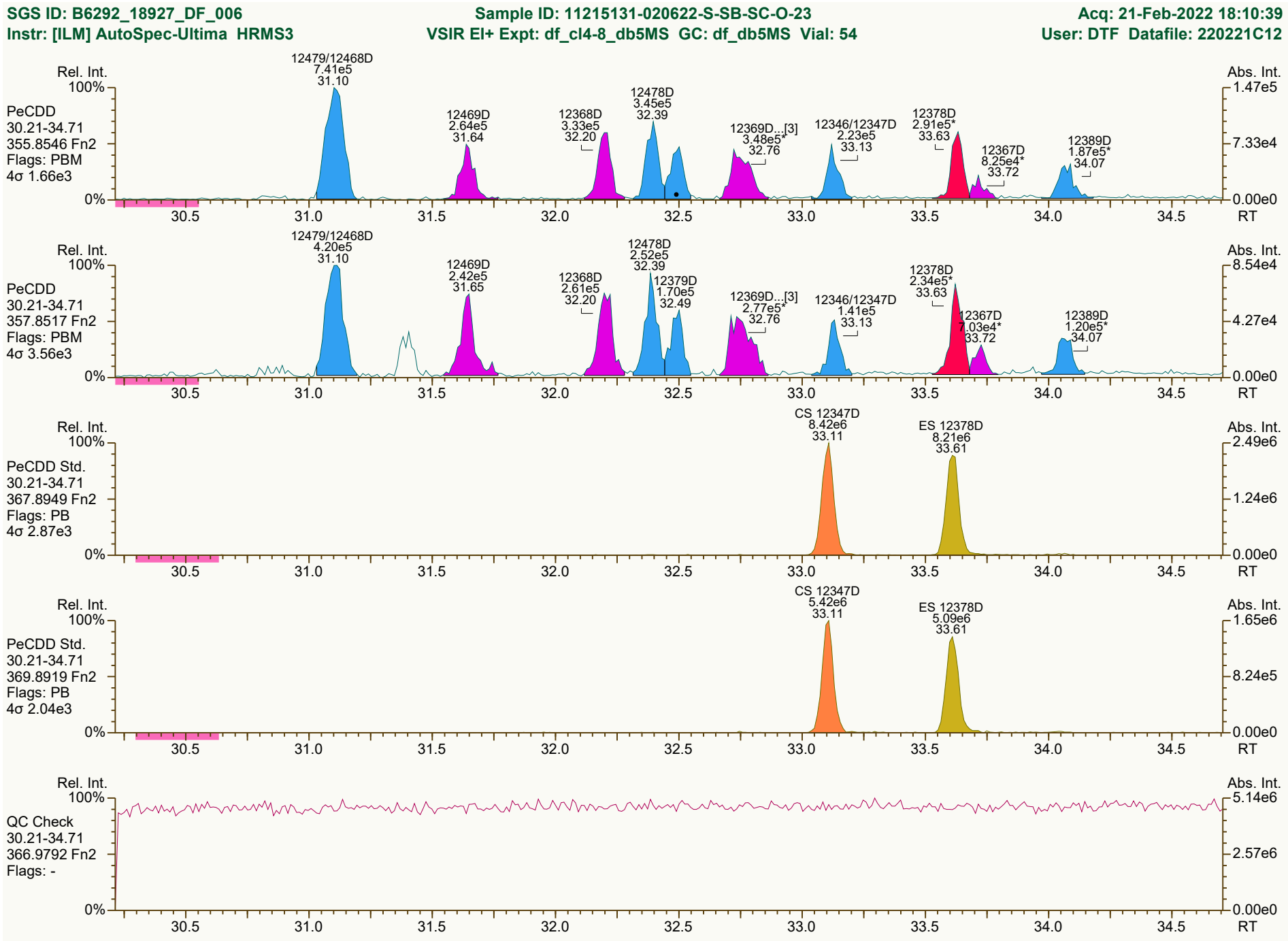
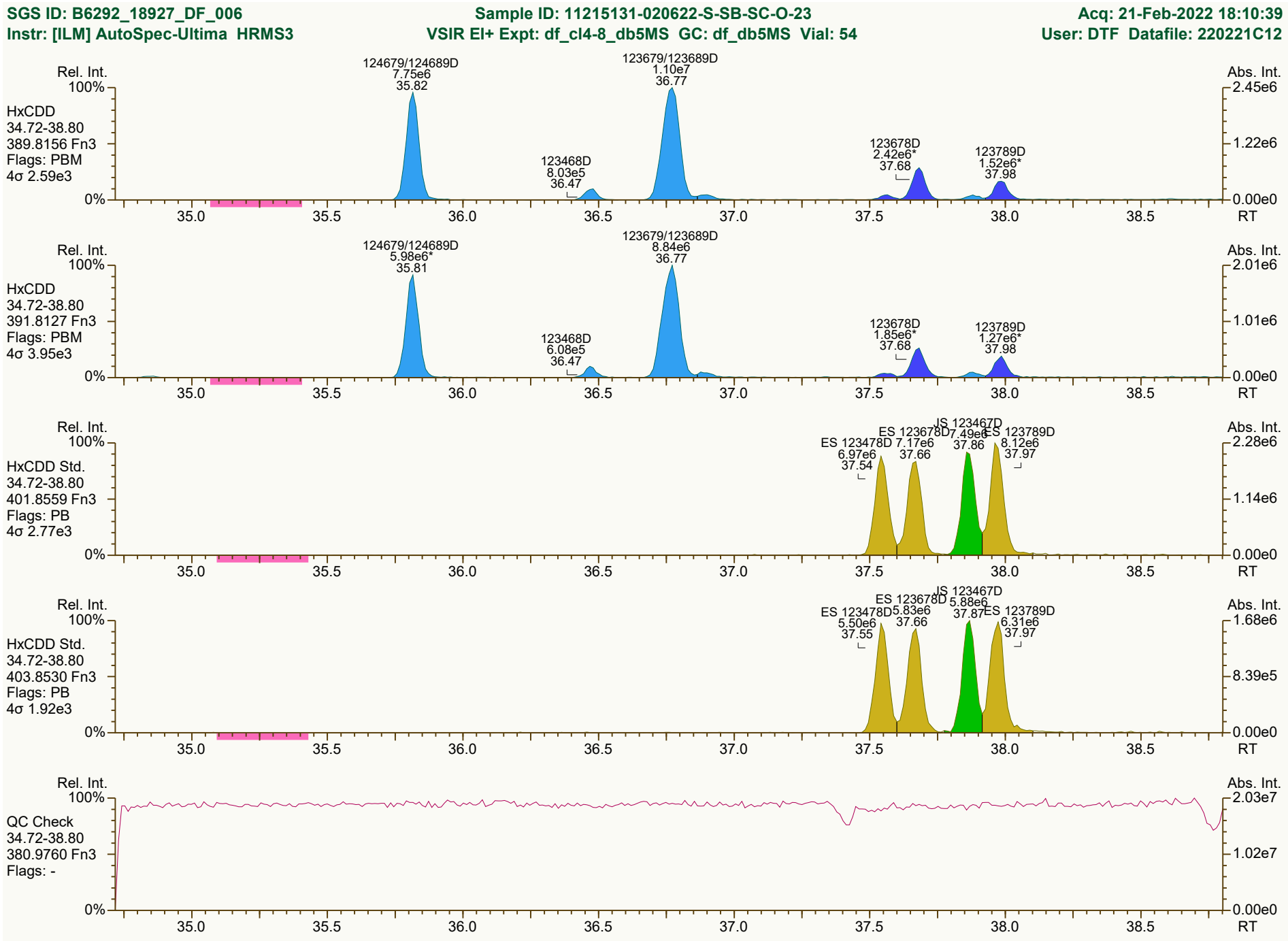
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
5.56e6
2.78e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
5.14e6
2.57e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.03e7
1.02e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.29e7
6.45e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.12e7
5.59e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.93e3
0%
1368D 3.43e5* 24.55
1379D 1.72e5* 24.91
1369D 6.82e4* 25.34
1247D...[4] 1.88e5* 26.37
1279D 5.92e4* 27.19
1237/1238D 9.78e4* 27.95
2378D 5.52e5* 28.24
1278D 1.28e5* 28.57
Abs. Int.
1.49e5
7.44e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.81e3
0%
1368D 4.71e5* 24.55
1379D 2.27e5* 24.91
1369D 6.90e4* 25.35
1247D...[4] 1.84e5* 26.38
1378D 1.62e5* 26.57
1478D 3.28e4* 27.02
1234/1269D 9.56e4* 27.55
1239D 7.89e4* 28.08
2378D 7.49e5* 28.24
1278D 1.37e5* 28.56
Abs. Int.
1.99e5
9.94e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.89e3
0%
CS 37Cl-2378D 7.08e6 28.24
Abs. Int.
1.65e6
8.25e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.93e3
0%
JS 1234D 1.36e7 27.55
ES 2378D 6.42e6 28.22
Abs. Int.
3.16e6
1.58e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 5.26e3
0%
JS 1234D 1.65e7 27.55
ES 2378D 8.03e6 28.22
Abs. Int.
3.81e6
1.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: B6292_18927_DF_006 | Sample ID: 11215131-020622-S-SB-SC-O-23 | Acq: 21-Feb-2022 18:10:39
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 54 | User: DTF Datafile: 220221C12

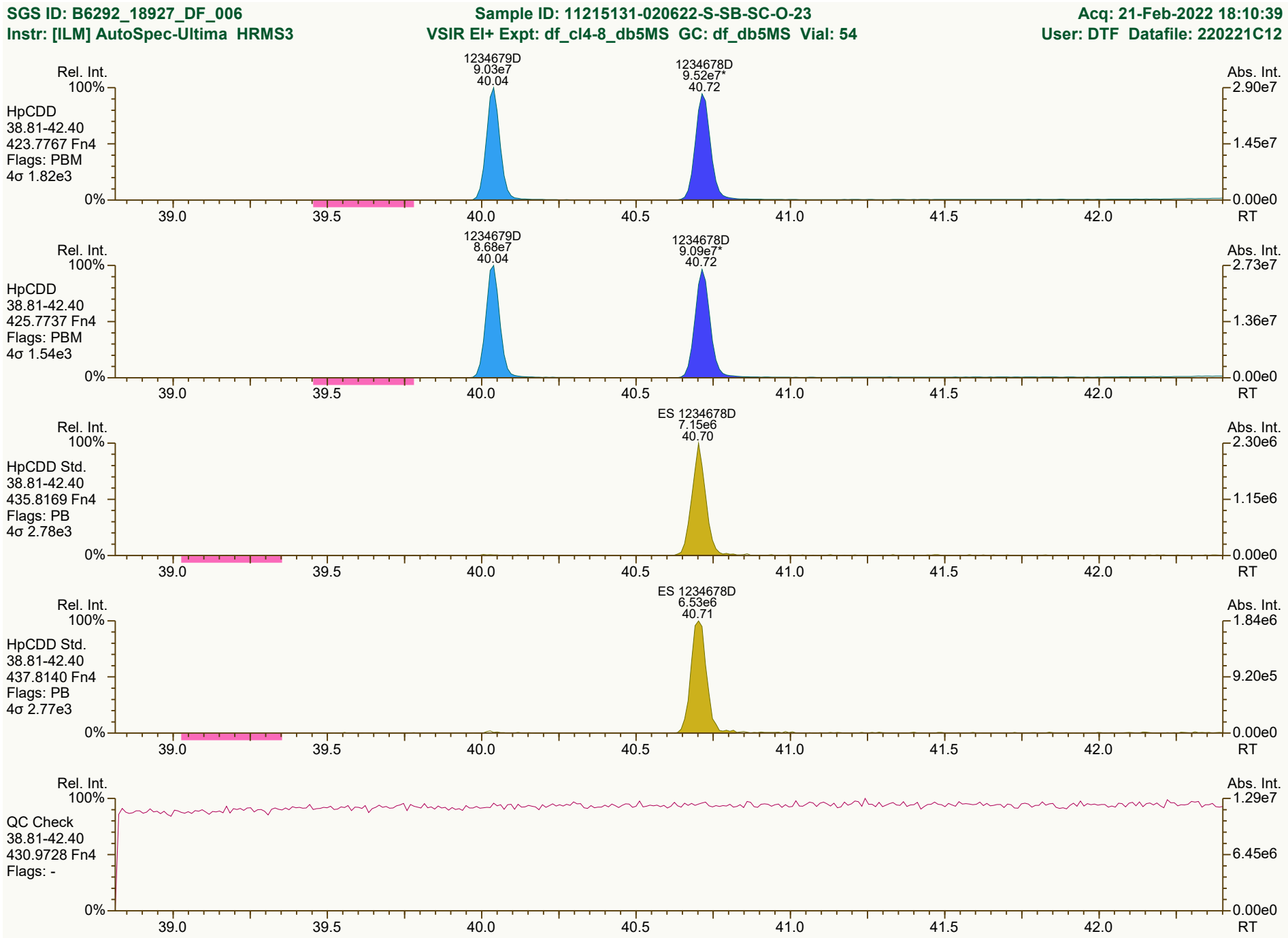


Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_006.utp_res, saved 22-Feb-2022 09:25 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7563, 8725 scc: 686-027 | Revised: 22-Feb-2022 08:46 (DTF) Printed: 22-Feb-2022 09:36 Page 3 of 12

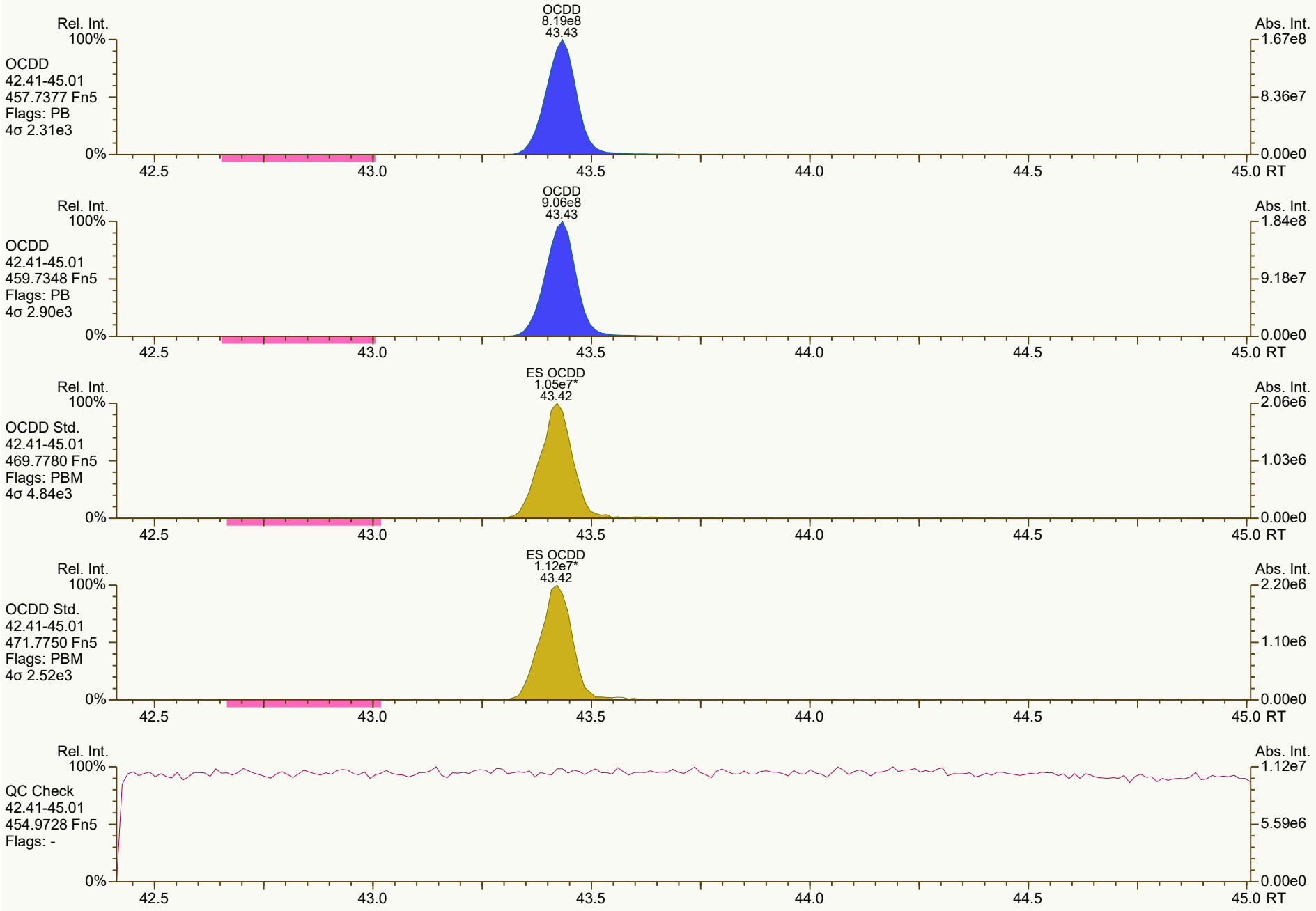


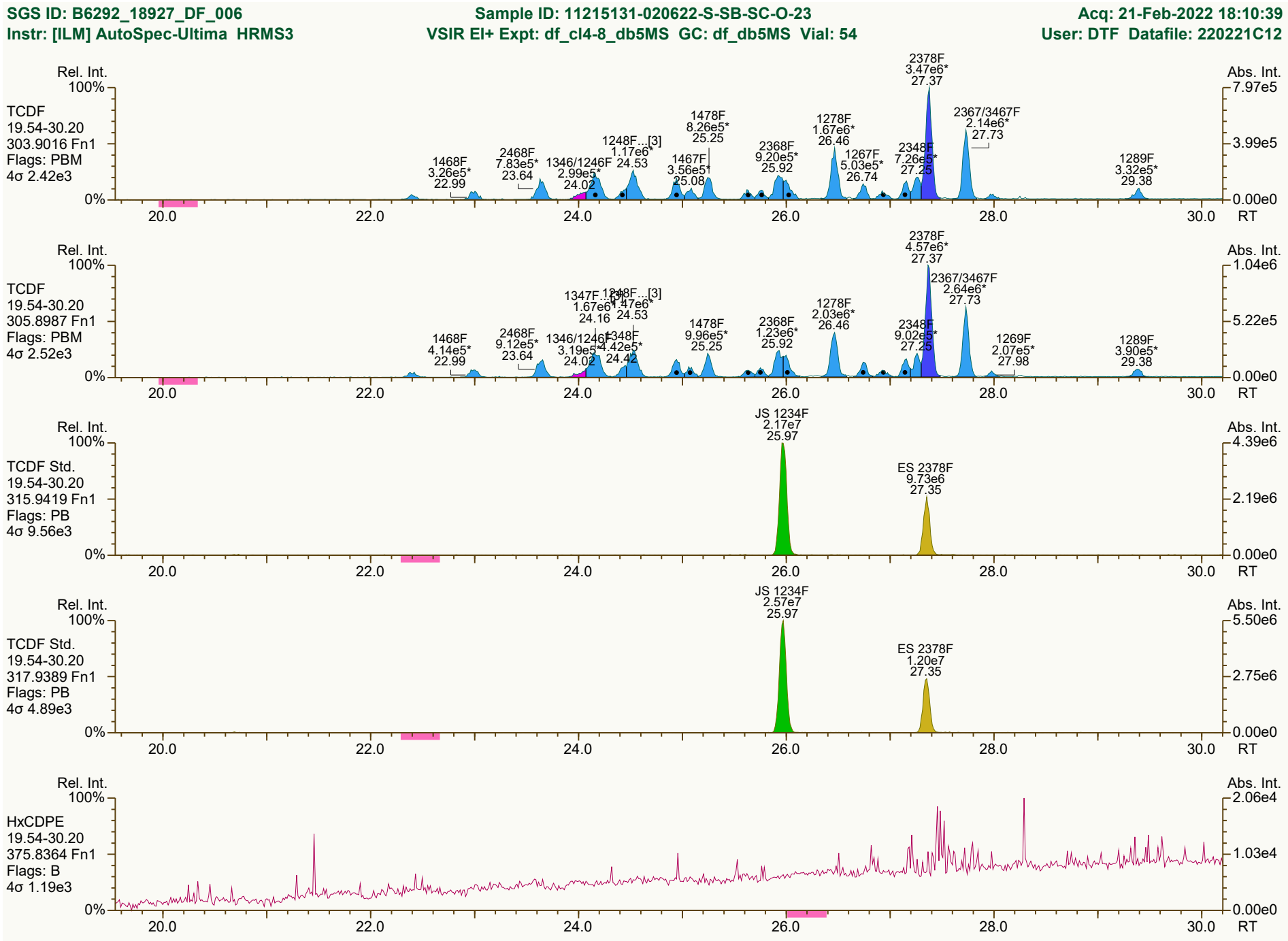
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_006.utp_res, saved 22-Feb-2022 09:25 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2454, 8243 scc: 686-027
Revised: 22-Feb-2022 08:47 (DTF) Printed: 22-Feb-2022 09:36 Page 4 of 12

SGS ID: B6292_18927_DF_006 | Sample ID: 11215131-020622-S-SB-SC-O-23 | Acq: 21-Feb-2022 18:10:39
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 54 | User: DTF Datafile: 220221C12



Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_006.utp_res, saved 22-Feb-2022 09:25 (DTF) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2030, 3273 scc: 686-027 | *Revised: 22-Feb-2022 08:47 (DTF) Printed: 22-Feb-2022 09:36 Page 5 of 12*


OCDD
8.19e8
43.43
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 2.31e3
0%
Abs. Int.
1.67e8
8.36e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
9.06e8
43.43
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 2.90e3
0%
Abs. Int.
1.84e8
9.18e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.05e7*
43.42
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 4.84e3
0%
Abs. Int.
2.06e6
1.03e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.12e7*
43.42
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 2.52e3
0%
Abs. Int.
2.20e6
1.10e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.12e7
5.59e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: B6292_18927_DF_006
Sample ID: 11215131-020622-S-SB-SC-O-23
Acq: 21-Feb-2022 18:10:39
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 54
User: DTF Datafile: 220221C12
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 2.42e3
1468F 3.26e5* 22.99
2468F 7.83e5* 23.64
1346/1246F 2.99e5* 24.02
1248F...[3] 1.17e6* 24.53
1478F 8.26e5* 25.25
1467F 3.56e5* 25.08
2368F 9.20e5* 25.92
1278F 1.67e6* 26.46
1267F 5.03e5* 26.74
2348F 7.26e5* 27.25
2378F 3.47e6* 27.37
2367/3467F 2.14e6* 27.73
1289F 3.32e5* 29.38
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.52e3
1468F 4.14e5* 22.99
2468F 9.12e5* 23.64
1346/1246F 3.19e5* 24.02
1347F...[3] 1.67e6* 24.16
1248F...[3] 1.47e6* 24.53
1348F 4.42e5* 24.42
1478F 9.96e5* 25.25
2368F 1.23e6* 25.92
1278F 2.03e6* 26.46
2348F 9.02e5* 27.25
2378F 4.57e6* 27.37
2367/3467F 2.64e6* 27.73
1269F 2.07e5* 27.98
1289F 3.90e5* 29.38
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 9.56e3
JS 1234F 2.17e7 25.97
ES 2378F 9.73e6 27.35
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.89e3
JS 1234F 2.57e7 25.97
ES 2378F 1.20e7 27.35
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.19e3
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
7.97e5
3.99e5
0.00e0
1.04e6
5.22e5
4.39e6
2.19e6
5.50e6
2.75e6
2.06e4
1.03e4
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_006.utp_res, saved 22-Feb-2022 09:25 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5677, 9399, 0200 scc: 686-027
Revised: 22-Feb-2022 08:48 (DTF) Printed: 22-Feb-2022 09:36 Page 7 of 12

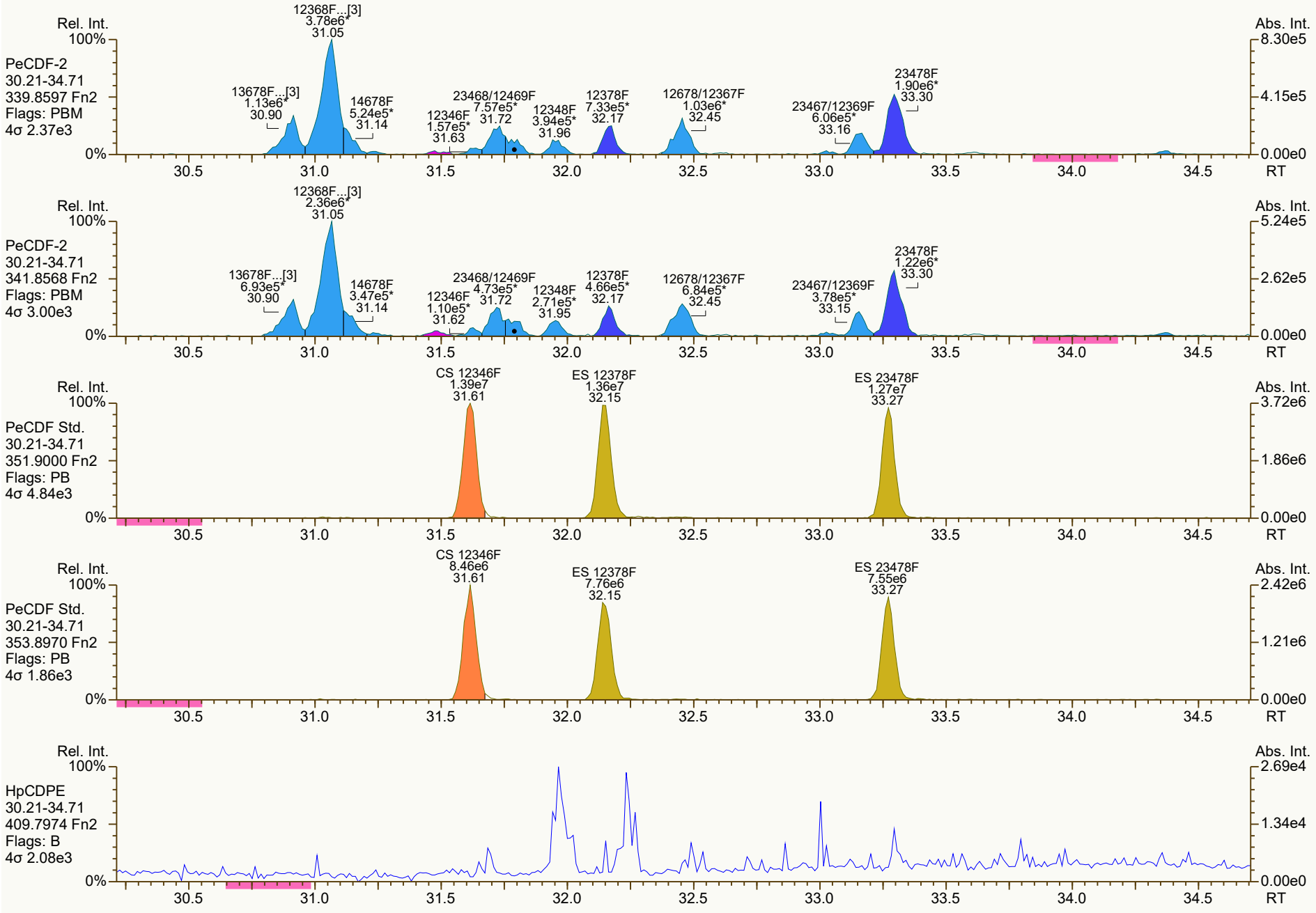
SGS ID: B6292_18927_DF_006 | Sample ID: 11215131-020622-S-SB-SC-O-23 | Acq: 21-Feb-2022 18:10:39

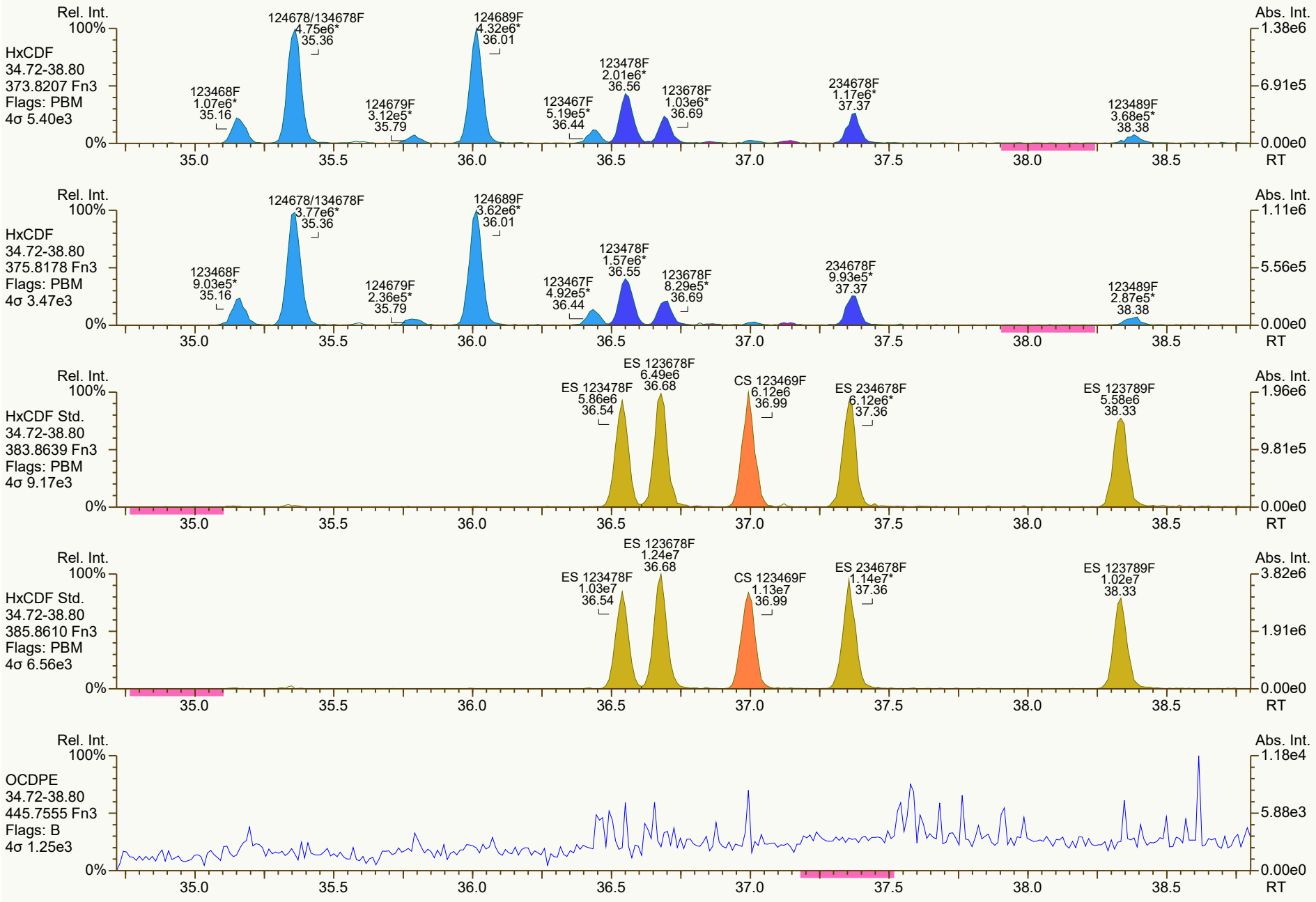
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 54 | User: DTF Datafile: 220221C12

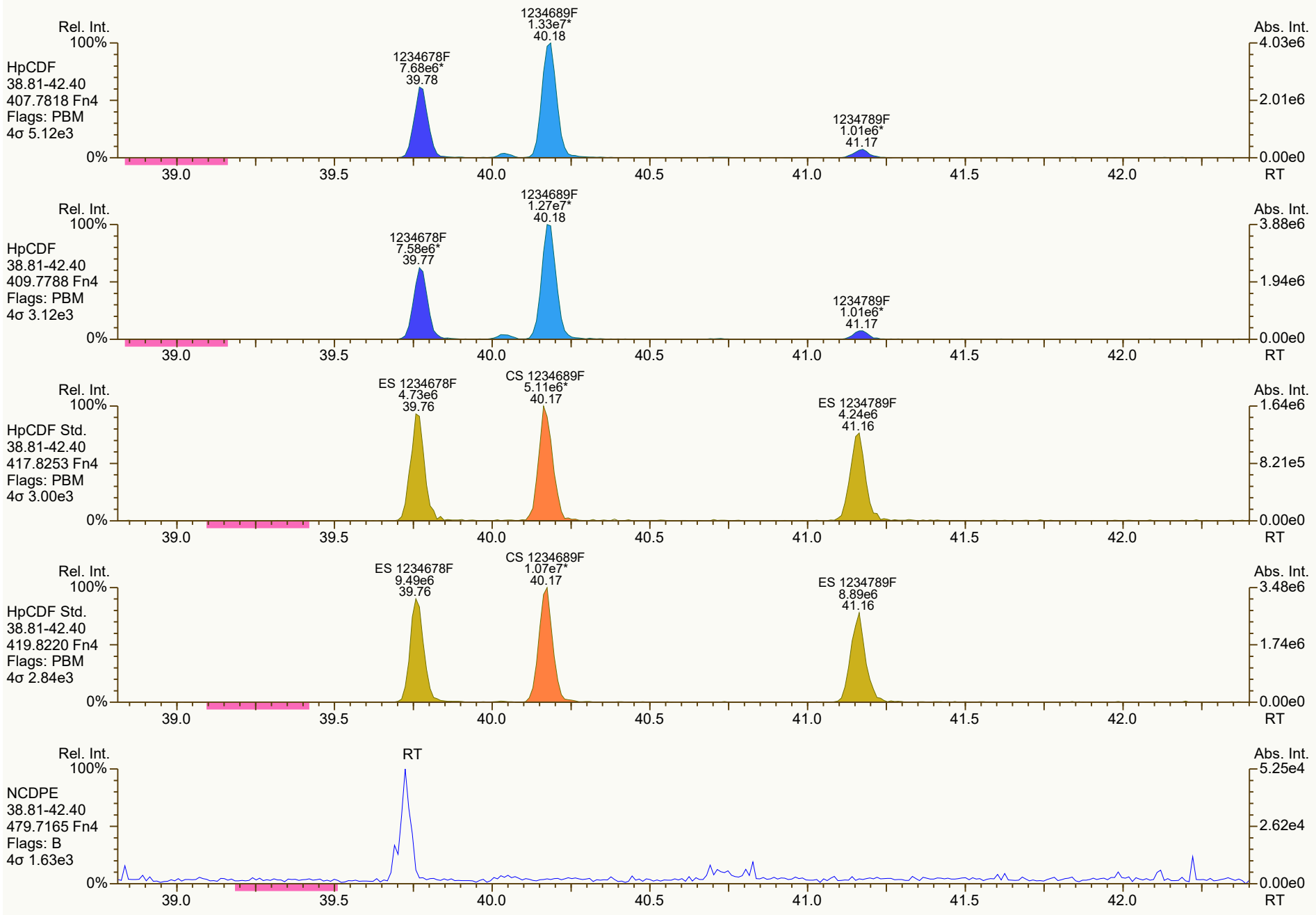


Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_006.utp_res, saved 22-Feb-2022 09:25 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8691 scc: 686-027 *Revised: 22-Feb-2022 08:48 (DTF) Printed: 22-Feb-2022 09:36 Page 8 of 12*

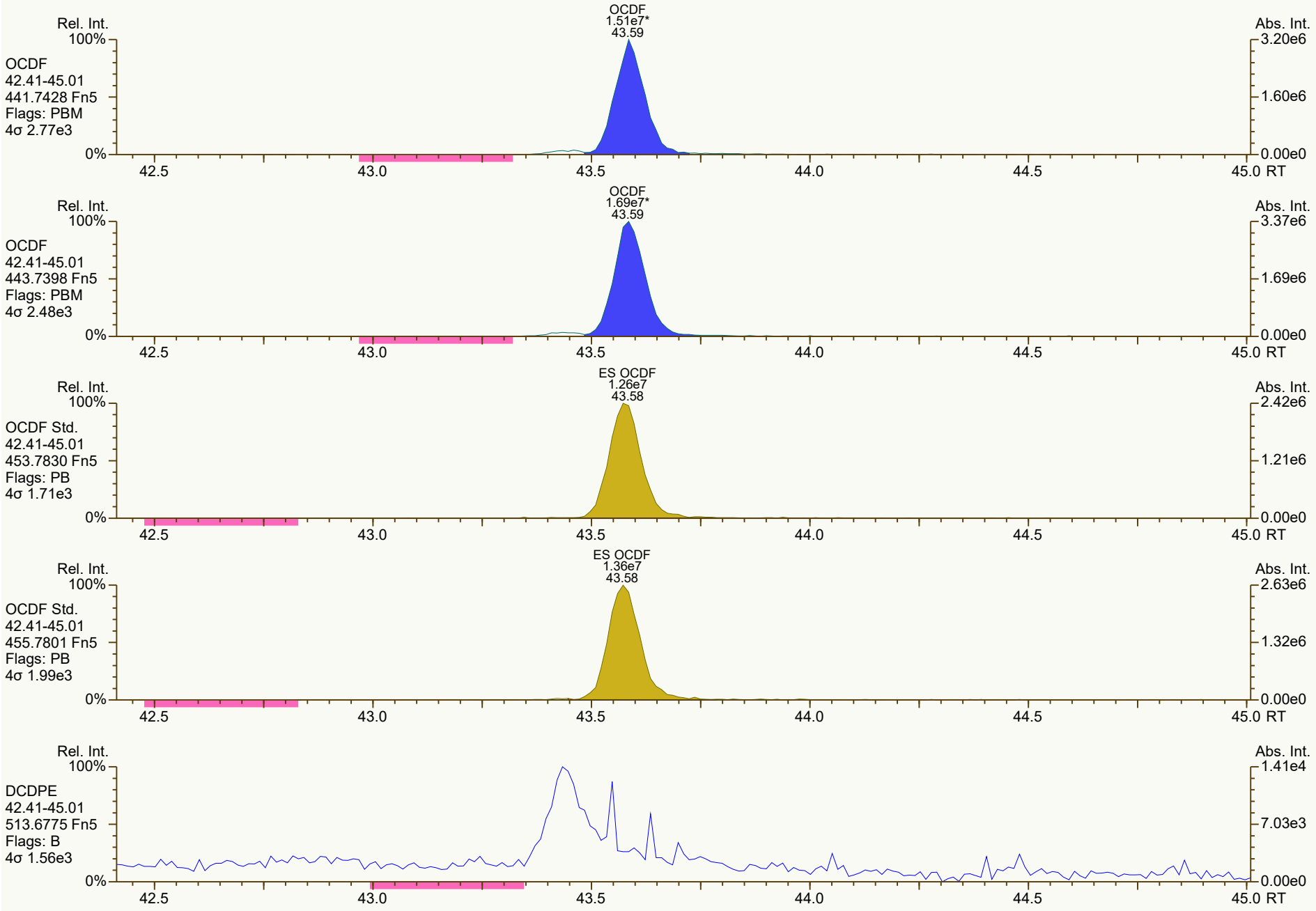

Rel. Int.
Abs. Int.
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 2.37e3
12368F...[3] 3.78e6* 31.05
13678F...[3] 1.13e6* 30.90
14678F 5.24e5* 31.14
12346F 1.57e5* 31.63
23468/12469F 7.57e5* 31.72
12348F 3.94e5* 31.96
12378F 7.33e5* 32.17
12678/12367F 1.03e6* 32.45
23467/12369F 6.06e5* 33.16
23478F 1.90e6* 33.30
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 3.00e3
12368F...[3] 2.36e6* 31.05
13678F...[3] 6.93e5* 30.90
14678F 3.47e5* 31.14
12346F 1.10e5* 31.62
23468/12469F 4.73e5* 31.72
12348F 2.71e5* 31.95
12378F 4.66e5* 32.17
12678/12367F 6.84e5* 32.45
23467/12369F 3.78e5* 33.15
23478F 1.22e6* 33.30
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 4.84e3
CS 12346F 1.39e7 31.61
ES 12378F 1.36e7 32.15
ES 23478F 1.27e7 33.27
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 1.86e3
CS 12346F 8.46e6 31.61
ES 12378F 7.76e6 32.15
ES 23478F 7.55e6 33.27
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 2.08e3
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
8.30e5
4.15e5
0.00e0
5.24e5
2.62e5
3.72e6
1.86e6
2.42e6
1.21e6
2.69e4
1.34e4


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 5.40e3
123468F 1.07e6* 35.16
124678/134678F 4.75e6* 35.36
124679F 3.12e5* 35.79
124689F 4.32e6* 36.01
123467F 5.19e5* 36.44
123478F 2.01e6* 36.56
123678F 1.03e6* 36.69
234678F 1.17e6* 37.37
123489F 3.68e5* 38.38
Abs. Int.
1.38e6
6.91e5
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 3.47e3
123468F 9.03e5* 35.16
124678/134678F 3.77e6* 35.36
124679F 2.36e5* 35.79
124689F 3.62e6* 36.01
123467F 4.92e5* 36.44
123478F 1.57e6* 36.55
123678F 8.29e5* 36.69
234678F 9.93e5* 37.37
123489F 2.87e5* 38.38
1.11e6
5.56e5
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 9.17e3
ES 123478F 5.86e6 36.54
ES 123678F 6.49e6 36.68
CS 123469F 6.12e6 36.99
ES 234678F 6.12e6* 37.36
ES 123789F 5.58e6 38.33
1.96e6
9.81e5
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 6.56e3
ES 123478F 1.03e7 36.54
ES 123678F 1.24e7 36.68
CS 123469F 1.13e7 36.99
ES 234678F 1.14e7* 37.36
ES 123789F 1.02e7 38.33
3.82e6
1.91e6
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.25e3
1.18e4
5.88e3


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 5.12e3
0%
1234678F
7.68e6*
39.78
1234689F
1.33e7*
40.18
1234789F
1.01e6*
41.17
Abs. Int.
4.03e6
2.01e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 3.12e3
0%
1234678F
7.58e6*
39.77
1234689F
1.27e7*
40.18
1234789F
1.01e6*
41.17
Abs. Int.
3.88e6
1.94e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 3.00e3
0%
ES 1234678F
4.73e6
39.76
CS 1234689F
5.11e6*
40.17
ES 1234789F
4.24e6
41.16
Abs. Int.
1.64e6
8.21e5
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 2.84e3
0%
ES 1234678F
9.49e6
39.76
CS 1234689F
1.07e7*
40.17
ES 1234789F
8.89e6
41.16
Abs. Int.
3.48e6
1.74e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.63e3
0%
RT
Abs. Int.
5.25e4
2.62e4
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

SGS ID: B6292_18927_DF_006 | Sample ID: 11215131-020622-S-SB-SC-O-23 | Acq: 21-Feb-2022 18:10:39

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 54 | User: DTF Datafile: 220221C12



Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_006.utp_res, saved 22-Feb-2022 09:25 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7412, 9430, 7772 scc: 686-027 | *Revised: 22-Feb-2022 08:51 (DTF) Printed: 22-Feb-2022 09:36 Page 12 of 12*

Lab ID: B6292_18927_DF_007 **Acq'd:** 21 Feb 2022 18:56 DTF **Wt/Vol:** 10.09 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-B-16 **UTP:** 22-Feb-2022 09:25:59 DTF **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 977-059-RSZ

Datafile: 220221C13 **Report:** 22 Feb 2022 09:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.25	E	1.0008	1.0008	0	3.78E+08	0.79	Y	1.18	2,450	4080.036	0.293
12378-PeCDD	33.64		1.0007	1.0006	-0.2	3.24E+06	1.57	Y	1.04	25.6	5809.931	0.412
123478-HxCDD	37.57	J EMPC	1.0004	1.0004	0	2.92E+05	1.53	N	1.09	2.47	8720.809	0.642
123678-HxCDD	37.69		1.0036	1.0036	0	1.20E+06	1.33	Y	1.15	9.41	8720.809	0.587
123789-HxCDD	37.99		1.0118	1.0116	-0.5	6.46E+05	1.21	Y	1.05	4.77	8720.809	0.538
1234678-HpCDD	40.72		1.0002	1.0003	+0.2	3.09E+07	1.03	Y	1.06	255	5746.603	0.406
OCDD	43.43		1.0003	1.0003	0	3.08E+08	0.91	Y	1.13	3,330	10847.845	1.54
2378-TCDF	27.38	E	1.0008	1.0008	0	1.49E+09	0.78	Y	1.08	6,670	4183.8	0.211
12378-PeCDF	32.18		1.0005	1.0005	0	8.00E+07	1.54	Y	1.02	400	8284.676	0.365
23478-PeCDF	33.31		1.0005	1.0007	+0.4	4.83E+07	1.52	Y	1.02	242	8284.676	0.387
123478-HxCDF	36.57		1.0004	1.0005	+0.2	1.84E+08	1.24	Y	1.27	991	10900.133	0.487
123678-HxCDF	36.70		1.0004	1.0004	0	4.19E+07	1.23	Y	1.15	221	10900.133	0.489
234678-HxCDF	37.38		1.0005	1.0004	-0.2	8.03E+06	1.22	Y	1.19	43.1	10900.133	0.53
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	10900.133	0.562
1234678-HpCDF	39.78		1.0003	1.0003	0	6.41E+07	1.02	Y	1.37	360	4870.524	0.206
1234789-HpCDF	41.18		1.0003	1.0002	-0.2	1.70E+07	0.99	Y	1.31	122	4870.524	0.281
OCDF	43.60		1.0002	1.0002	0	3.03E+08	0.88	Y	1.07	2,660	3340.772	0.36

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.22	1.0243	1.0241	-0.3	2.58E+07	0.82	Y	1.05	82.4
ES 12378-PeCDD	33.62	1.2198	1.2200	+0.4	2.42E+07	1.51	Y	0.88	91.8
ES 123478-HxCDD	37.55	0.9916	0.9915	-0.2	2.16E+07	1.29	Y	0.97	83
ES 123678-HxCDD	37.67	0.9947	0.9948	+0.2	2.20E+07	1.26	Y	0.94	87.2
ES 123789-HxCDD	37.98	1.0029	1.0028	-0.2	2.56E+07	1.25	Y	1.09	88
ES 1234678-HpCDD	40.71	1.0749	1.0749	0	2.26E+07	1.06	Y	0.91	92.8
ES OCDD	43.42	1.1460	1.1464	+1.0	3.26E+07	0.91	Y	0.62	97.7
ES 2378-TCDF	27.35	1.0531	1.0533	+0.3	4.10E+07	0.86	Y	1.06	79
ES 12378-PeCDF	32.17	1.2378	1.2386	+1.5	3.87E+07	1.63	Y	0.91	86.7
ES 23478-PeCDF	33.29	1.2810	1.2819	+1.8	3.88E+07	1.67	Y	0.88	89.7
ES 123478-HxCDF	36.55	0.9650	0.9651	+0.2	2.90E+07	0.56	Y	1.20	90.7
ES 123678-HxCDF	36.69	0.9688	0.9687	-0.2	3.26E+07	0.54	Y	1.35	90.2
ES 234678-HxCDF	37.37	0.9866	0.9866	0	3.11E+07	0.55	Y	1.24	93.7
ES 123789-HxCDF	38.34	1.0125	1.0124	-0.2	2.68E+07	0.53	Y	1.16	86.9
ES 1234678-HpCDF	39.77	1.0501	1.0501	0	2.58E+07	0.50	Y	0.97	99.7
ES 1234789-HpCDF	41.17	1.0870	1.0870	0	2.11E+07	0.45	Y	0.85	92.7
ES OCDF	43.59	1.1505	1.1509	+1.0	4.22E+07	0.93	Y	0.81	97.9

Lab ID: B6292_18927_DF_007 **Acq'd:** 21 Feb 2022 18:56 DTF **Wt/Vol:** 10.09 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-B-16 **UTP:** 22-Feb-2022 09:25:59 DTF **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 977-059-RSZ

Datafile: 220221C13 **Report:** 22 Feb 2022 09:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.56		-	-	-	3.00E+07	0.85	Y	-	-
JS 1234-TCDF	25.97		-	-	-	4.90E+07	0.84	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	1.33E+07	1.21	Y	-	-
CS 37Cl-2378-TCDD	28.25		1.0251	1.0249	-0.3	1.18E+07	n/a	-	1.20	81.8
CS 12347-PeCDD	33.12		1.2016	1.2017	+0.2	2.14E+07	1.55	Y	0.75	94.9
CS 12346-PeCDF	31.63		1.2172	1.2181	+1.7	3.71E+07	1.69	Y	0.85	89
CS 123469-HxCDF	37.00		0.9771	0.9770	-0.2	2.89E+07	0.53	Y	1.12	96.8
CS 1234689-HpCDF	40.18		1.0608	1.0608	0	2.43E+07	0.48	Y	0.89	103
SS 37Cl-2378-TCDD	28.25		1.0251	1.0249	-0.3	1.18E+07	n/a	-	1.15	99.5
SS 12347-PeCDD	33.12		1.2016	1.2017	+0.2	2.14E+07	1.55	Y	0.86	103
SS 12346-PeCDF	31.63		1.2172	1.2181	+1.7	3.71E+07	1.69	Y	0.94	102
SS 123469-HxCDF	37.00		0.9771	0.9770	-0.2	2.89E+07	0.53	Y	0.83	107
SS 1234689-HpCDF	40.18		1.0608	1.0608	0	2.43E+07	0.48	Y	0.92	103

Totals	Conc	EMPC
Total TCDD	2740	2760
Total PeCDD	48	50
Total HxCDD	129	132
Total HpCDD	663	663
Total Tetra-Octa Dioxins	6910	6930
Total TCDF	13,000	13000
Total PeCDF	1,020	1020
Total HxCDF	1,480	1490
Total HpCDF	626	626
Total Tetra-Octa Furans	18,800	18800
Total Tetra-Octa Dioxins & Furans	25700	25800

Lab ID: B6292_18927_DF_007 **Acq'd: 21 Feb 2022 18:56 DTF** **Wt/Vol: 10.09 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-B-16 **UTP: 22-Feb-2022 09:25:59 DTF** **J-level: 0.496 pg/g** **Split: 1** **Checkcode: 977-059-RSZ**

Datafile: 220221C13 **Report: 22 Feb 2022 09:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.55		0.8701	0.8697	-0.6	7.18E+05	0.71	Y	1.18	4.66	4080.036	0.293
1379-TCDD	24.90		0.8829	0.8824	-0.7	2.49E+05	0.76	Y	1.18	1.61	4080.036	0.293
1369-TCDD	NotFnd		0.8982						1.18		4080.036	0.293
1469-TCDD	26.14		0.9261	0.9261	0	5.20E+05	0.75	Y	1.18	3.37	4080.036	0.293
1247/1246/1248/1249-TCDD	26.37	EMPC	0.9348	0.9342	-0.9	6.98E+05	0.89	N	1.18	4.52	4080.036	0.293
1378-TCDD	26.57		0.9417	0.9415	-0.3	1.16E+06	0.83	Y	1.18	7.5	4080.036	0.293
1268-TCDD	26.77	EMPC	0.9487	0.9487	0	1.13E+05	1.01	N	1.18	0.733	4080.036	0.293
1478-TCDD	27.03		0.9576	0.9577	+0.2	1.08E+06	0.81	Y	1.18	7	4080.036	0.293
1279-TCDD	NotFnd		0.9636						1.18		4080.036	0.293
1234/1269-TCDD	27.55		0.9761	0.9762	+0.2	2.44E+05	0.84	Y	1.18	1.58	4080.036	0.293
1236-TCDD	NotFnd		0.9812						1.18		4080.036	0.293
1237/1238-TCDD	27.95		0.9905	0.9904	-0.2	6.21E+06	0.80	Y	1.18	40.2	4080.036	0.293
1239-TCDD	NotFnd		0.9951						1.18		4080.036	0.293
2378-TCDD	**28.25**	E	**1.0008**	1.0008	**0**	3.78E+08	0.79	Y	**1.18**	**2,450**	**4080.036**	**0.293**
1278-TCDD	28.58		1.0124	1.0126	+0.3	3.53E+07	0.80	Y	1.18	229	4080.036	0.293
1267-TCDD	28.71	EMPC	1.0172	1.0172	0	9.25E+05	0.92	N	1.18	5.99	4080.036	0.293
1289-TCDD	29.23	EMPC	1.0354	1.0357	+0.5	4.98E+05	0.91	N	1.18	3.23	4080.036	0.293
12479/12468-PeCDD	31.12		0.9255	0.9256	+0.2	6.79E+05	1.59	Y	1.04	5.37	5809.931	0.412
12469-PeCDD	31.66		0.9416	0.9416	0	5.23E+05	1.59	Y	1.04	4.14	5809.931	0.412
12368-PeCDD	32.22		0.9582	0.9582	0	5.68E+05	1.48	Y	1.04	4.49	5809.931	0.412
12478-PeCDD	32.40		0.9637	0.9638	+0.2	3.28E+05	1.38	Y	1.04	2.59	5809.931	0.412
12379-PeCDD	32.51	J	0.9668	0.9670	+0.4	2.00E+05	1.60	Y	1.04	1.58	5809.931	0.412
12369/12467/12489-PeCDD	32.77		0.9746	0.9747	+0.2	4.22E+05	1.41	Y	1.04	3.33	5809.931	0.412
12346/12347-PeCDD	33.14	J EMPC	0.9858	0.9858	0	9.73E+04	1.95	N	1.04	0.77	5809.931	0.412
12378-PeCDD	33.64		**1.0007**	**1.0006**	**-0.2**	**3.24E+06**	**1.57**	**Y**	**1.04**	**25.6**	**5809.931**	**0.412**
12367-PeCDD	33.74	J EMPC	1.0036	1.0035	-0.2	1.60E+05	1.99	N	1.04	1.26	5809.931	0.412
12389-PeCDD	34.08	J	1.0137	1.0137	0	1.10E+05	1.65	Y	1.04	0.871	5809.931	0.412
124679/124689-HxCDD	35.83		0.9540	0.9540	0	7.20E+06	1.28	Y	1.10	56.5	8720.809	0.586
123468-HxCDD	36.48		0.9715	0.9715	0	1.28E+06	1.30	Y	1.10	10.1	8720.809	0.586
123679/123689-HxCDD	36.78		0.9793	0.9793	0	4.66E+06	1.28	Y	1.10	36.6	8720.809	0.586
123469-HxCDD	36.90		0.9829	0.9828	-0.2	8.75E+05	1.21	Y	1.10	6.87	8720.809	0.586
123478-HxCDD	37.57	J EMPC	**1.0004**	**1.0004**	**0**	**2.92E+05**	**1.53**	**N**	1.09	**2.47**	**8720.809**	**0.642**
123678-HxCDD	37.69		**1.0036**	**1.0036**	**0**	**1.20E+06**	**1.33**	**Y**	1.15	**9.41**	**8720.809**	**0.587**
123467-HxCDD	37.89		1.0089	1.0089	0	6.19E+05	1.25	Y	1.10	4.86	8720.809	0.586
123789-HxCDD	37.99		**1.0118**	**1.0116**	**-0.5**	**6.46E+05**	**1.21**	**Y**	1.05	**4.77**	**8720.809**	**0.538**

Lab ID: B6292_18927_DF_007 **Acq'd: 21 Feb 2022 18:56 DTF** **Wt/Vol: 10.09 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-B-16 **UTP: 22-Feb-2022 09:25:59 DTF** **J-level: 0.496 pg/g** **Split: 1** **Checkcode: 977-059-RSZ**

Datafile: 220221C13 **Report: 22 Feb 2022 09:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

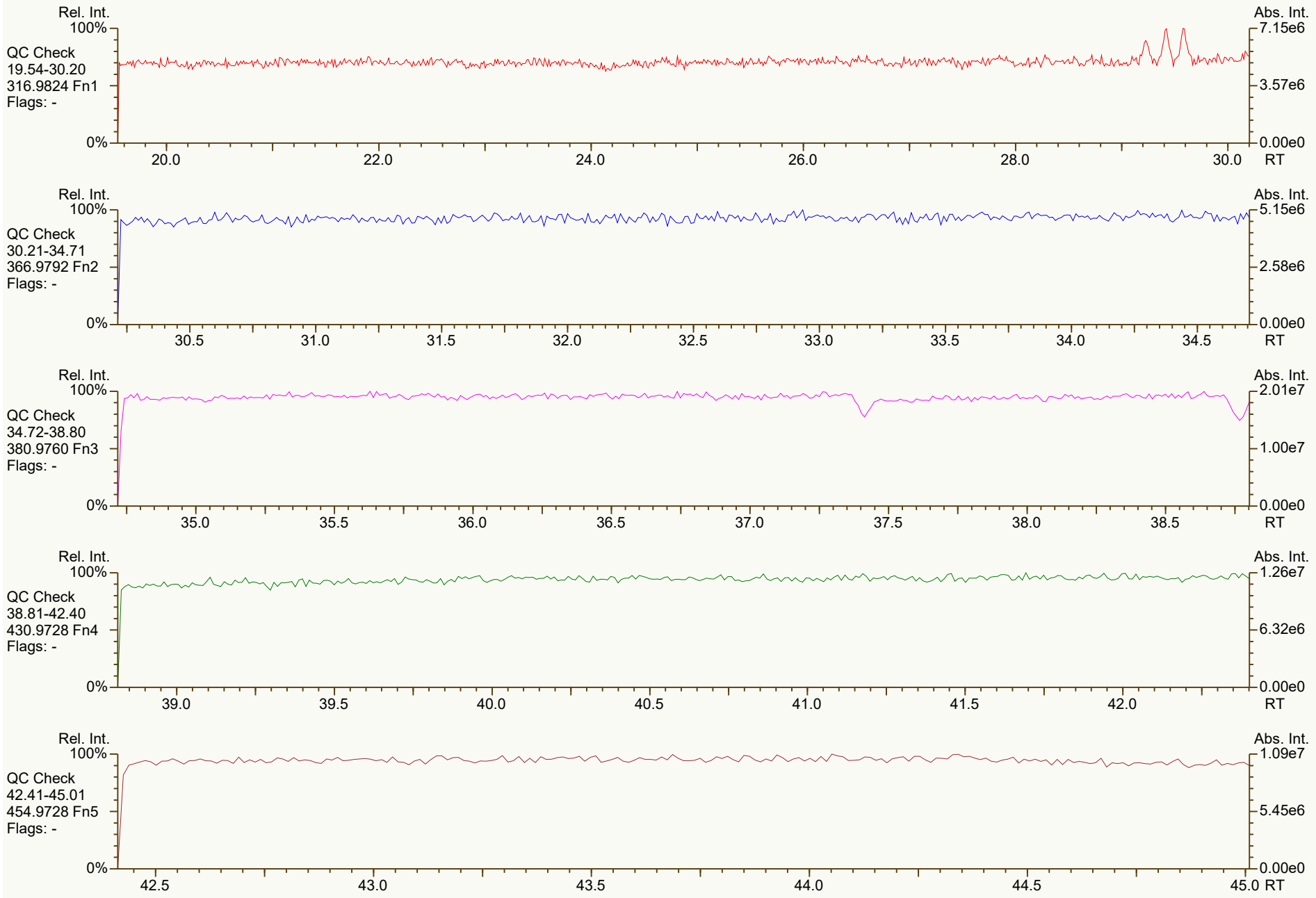
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.04		0.9836	0.9837	+0.2	4.93E+07	1.03	Y	1.06	408	5746.603	0.406
1234678-HpCDD	**40.72**		**1.0002**	**1.0003**	**+0.2**	**3.09E+07**	**1.03**	**Y**	**1.06**	**255**	**5746.603**	**0.406**
OCDD	**43.43**		**1.0003**	**1.0003**	**0**	**3.08E+08**	**0.91**	**Y**	**1.13**	**3,330**	**10847.845**	**1.54**
OCDD-a	43.43		1.0002	1.0002	0	1.96E+07	2.42	Y	0.07	3,310	6948.335	15.4
1368-TCDF	22.38		0.8191	0.8182	-1.2	4.55E+05	0.78	Y	1.08	2.04	4183.8	0.211
1468-TCDF	22.99		0.8408	0.8403	-0.7	2.47E+06	0.82	Y	1.08	11.1	4183.8	0.211
2468-TCDF	23.64		0.8645	0.8641	-0.6	2.22E+06	0.80	Y	1.08	9.93	4183.8	0.211
1346/1246-TCDF	NotFnd		0.8772						1.08		4183.8	0.211
1347/1378/1247-TCDF	24.18		0.8833	0.8838	+0.7	1.65E+07	0.78	Y	1.08	73.9	4183.8	0.211
1348-TCDF	NotFnd		0.8932						1.08		4183.8	0.211
1248/1367/1379-TCDF	24.52		0.8980	0.8963	-2.5	7.08E+07	0.78	Y	1.08	318	4183.8	0.211
1268-TCDF	24.94		0.9119	0.9118	-0.1	2.34E+07	0.79	Y	1.08	105	4183.8	0.211
1467-TCDF	25.08		0.9170	0.9168	-0.3	3.64E+06	0.76	Y	1.08	16.3	4183.8	0.211
1478-TCDF	25.25		0.9234	0.9230	-0.6	6.02E+07	0.79	Y	1.08	270	4183.8	0.211
1369/1237-TCDF	25.63		0.9369	0.9371	+0.3	1.62E+07	0.78	Y	1.08	72.7	4183.8	0.211
2467-TCDF	25.76		0.9415	0.9417	+0.3	1.63E+06	0.79	Y	1.08	7.31	4183.8	0.211
2368-TCDF	25.91		0.9475	0.9470	-0.8	3.54E+07	0.77	Y	1.08	159	4183.8	0.211
1238/1234/1678/1469/1236-TCDF	25.98		0.9507	0.9498	-1.4	8.02E+07	0.78	Y	1.08	360	4183.8	0.211
1278-TCDF	26.46	E	0.9676	0.9673	-0.5	7.00E+08	0.78	Y	1.08	3,140	4183.8	0.211
1349-TCDF	NotFnd		0.9722						1.08		4183.8	0.211
1267-TCDF	26.74		0.9777	0.9775	-0.3	3.62E+07	0.78	Y	1.08	162	4183.8	0.211
2346/1249-TCDF	26.93		0.9843	0.9846	+0.5	4.33E+06	0.79	Y	1.08	19.4	4183.8	0.211
2347/1279-TCDF	27.15		0.9926	0.9923	-0.5	1.72E+07	0.77	Y	1.08	77	4183.8	0.211
2348-TCDF	27.25		0.9968	0.9963	-0.8	9.32E+07	0.77	Y	1.08	418	4183.8	0.211
2378-TCDF	**27.38**	E	**1.0008**	**1.0008**	**0**	**1.49E+09**	**0.78**	**Y**	**1.08**	**6,670**	**4183.8**	**0.211**
2367/3467-TCDF	27.74		1.0142	1.0139	-0.5	1.16E+08	0.78	Y	1.08	519	4183.8	0.211
1269-TCDF	27.99		1.0235	1.0232	-0.5	2.27E+07	0.78	Y	1.08	102	4183.8	0.211
1239-TCDF	28.25		1.0329	1.0328	-0.2	1.81E+06	0.79	Y	1.08	8.13	4183.8	0.211
1289-TCDF	29.41		1.0742	1.0753	+1.9	1.18E+08	0.78	Y	1.08	528	4183.8	0.211
13468/12468-PeCDF	29.36		0.9122	0.9128	+1.1	3.56E+06	1.55	Y	1.02	17.8	3314.65	0.15
13678/13467/12467-PeCDF	30.92		0.9606	0.9613	+1.3	1.01E+06	1.64	Y	1.02	5.08	8284.676	0.376
12368/13478/12478-PeCDF	31.08		0.9655	0.9664	+1.7	3.50E+07	1.54	Y	1.02	175	8284.676	0.376
14678-PeCDF	NotFnd		0.9685						1.02		8284.676	0.376
13479-PeCDF	NotFnd		0.9716						1.02		8284.676	0.376
13469/12479-PeCDF	NotFnd		0.9794						1.02		8284.676	0.376
12346-PeCDF	NotFnd		0.9836						1.02		8284.676	0.376

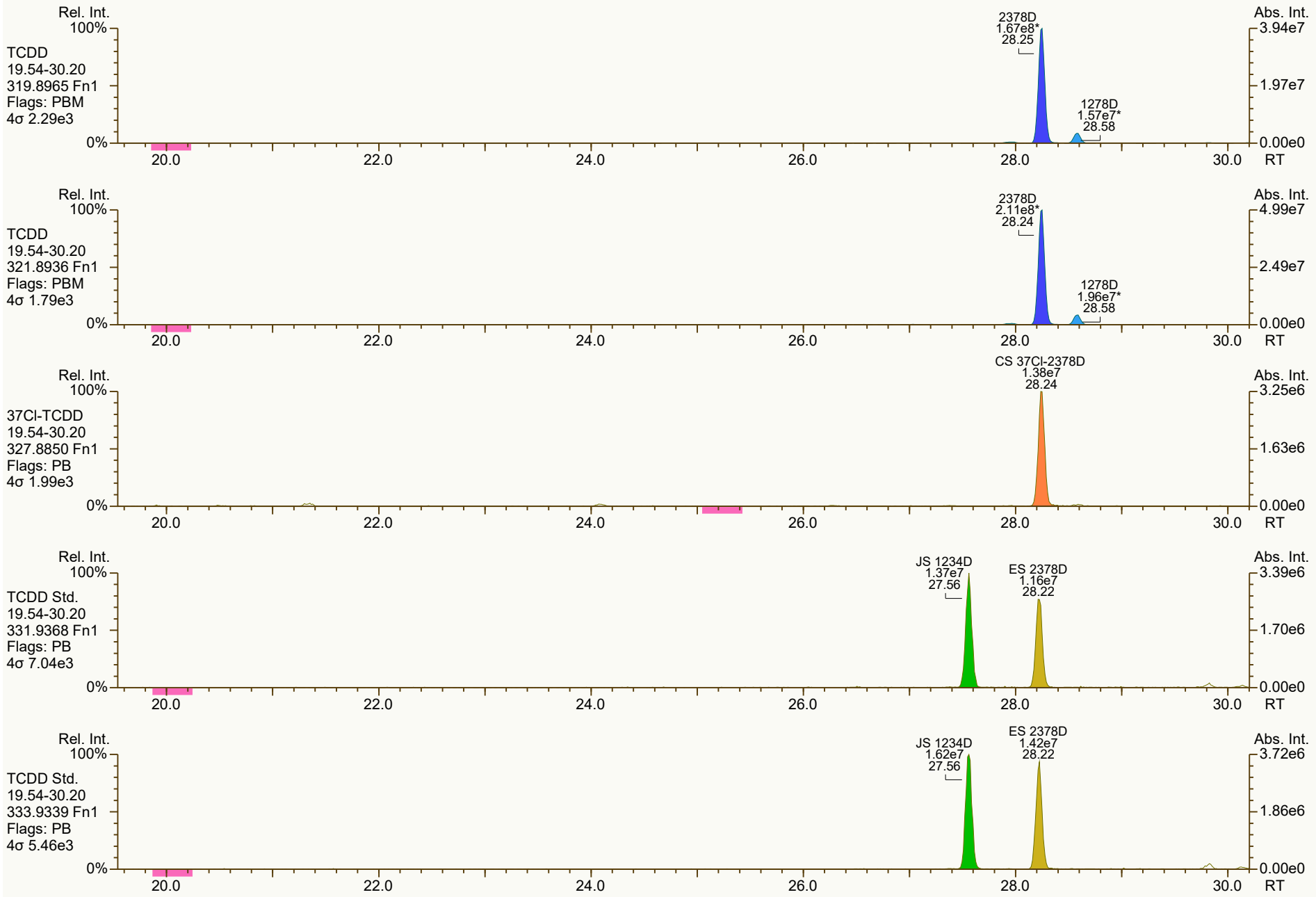
Lab ID: B6292_18927_DF_007 | **Acq'd: 21 Feb 2022 18:56 DTF** | **Wt/Vol: 10.09 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

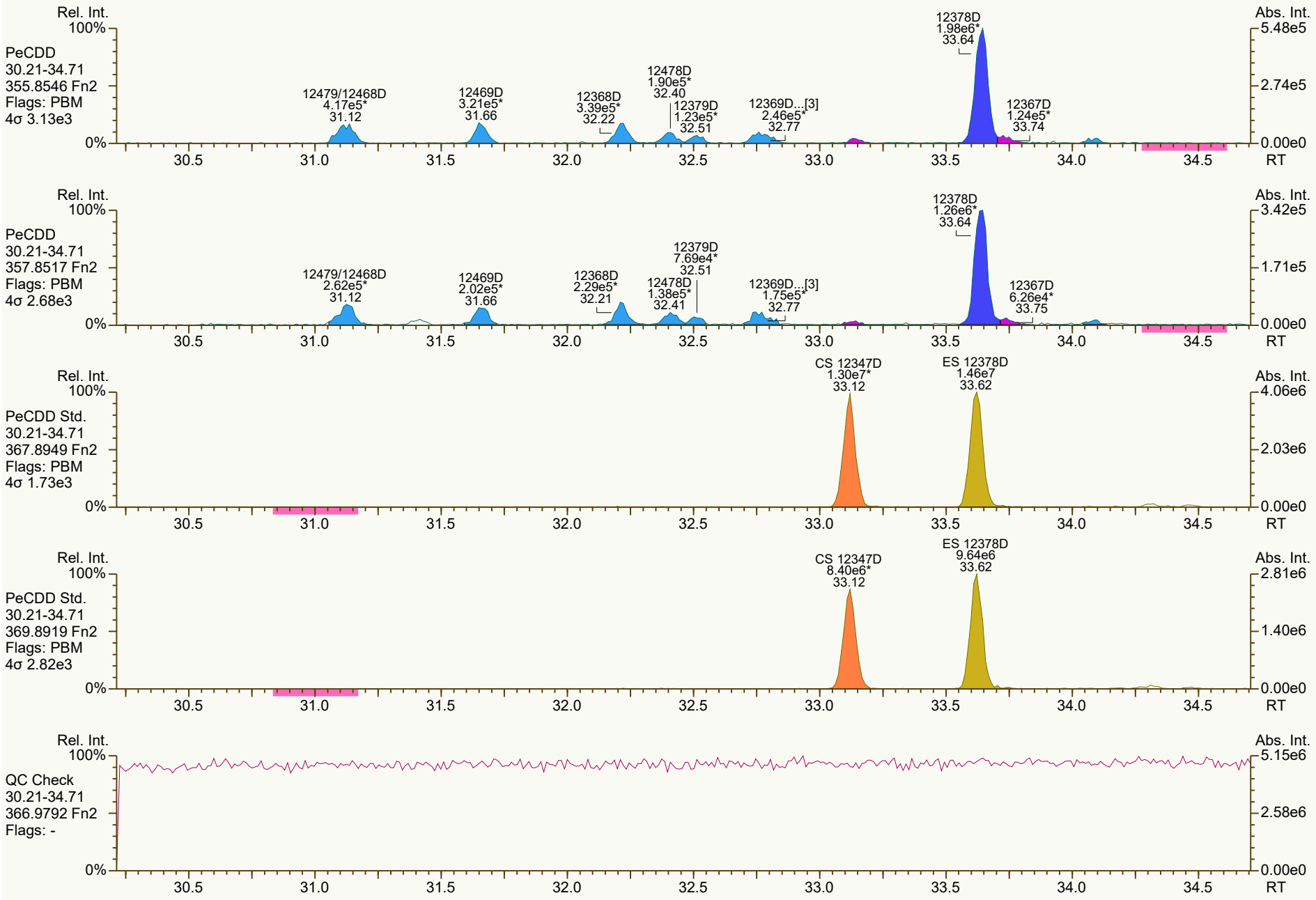
Client ID: 11215131-020622-S-SB-SC-B-16 | **UTP: 22-Feb-2022 09:25:59 DTF** | **J-level: 0.496 pg/g** | **Split: 1** | **Checkcode: 977-059-RSZ**

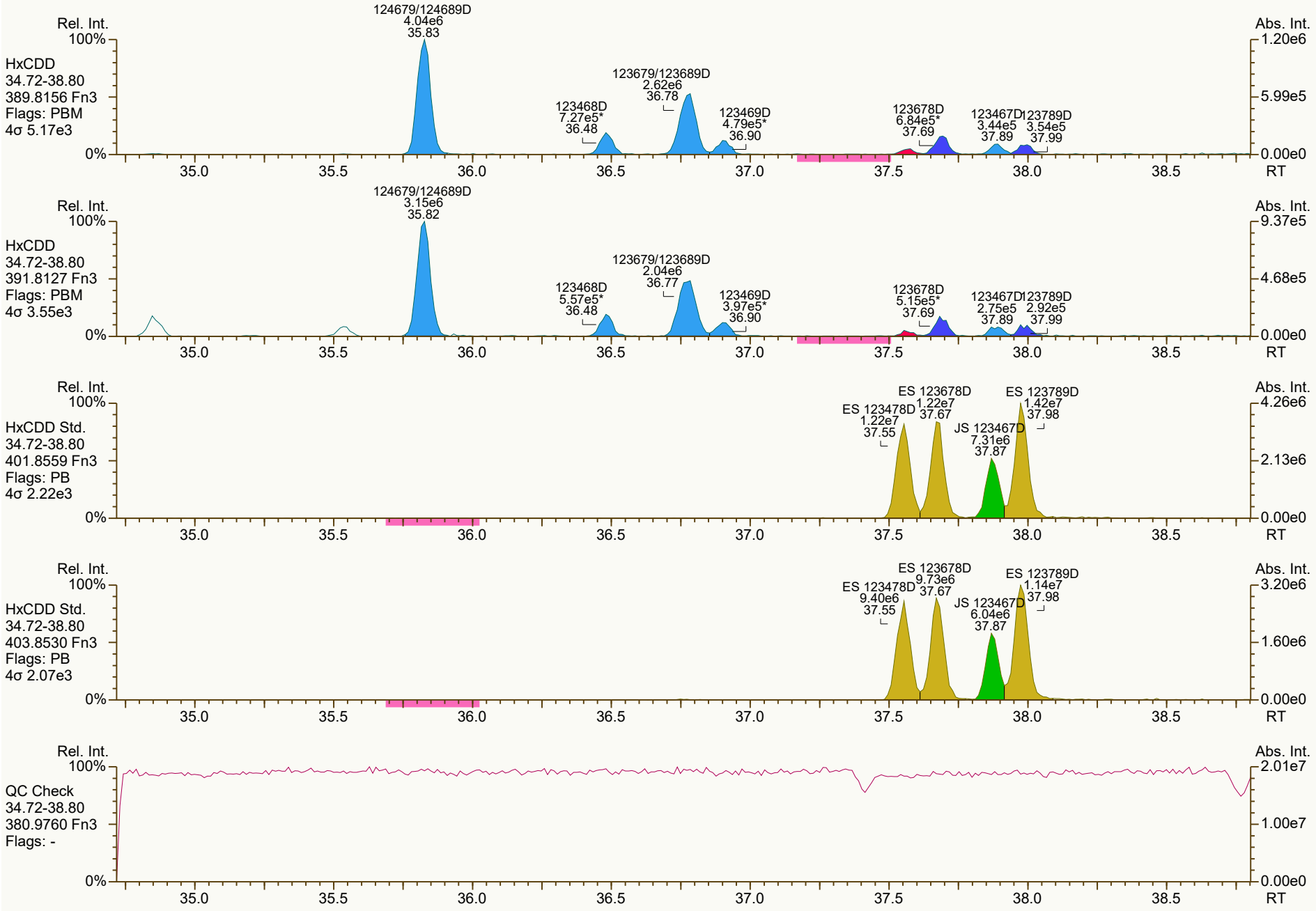
Datafile: 220221C13 | **Report: 22 Feb 2022 09:29 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

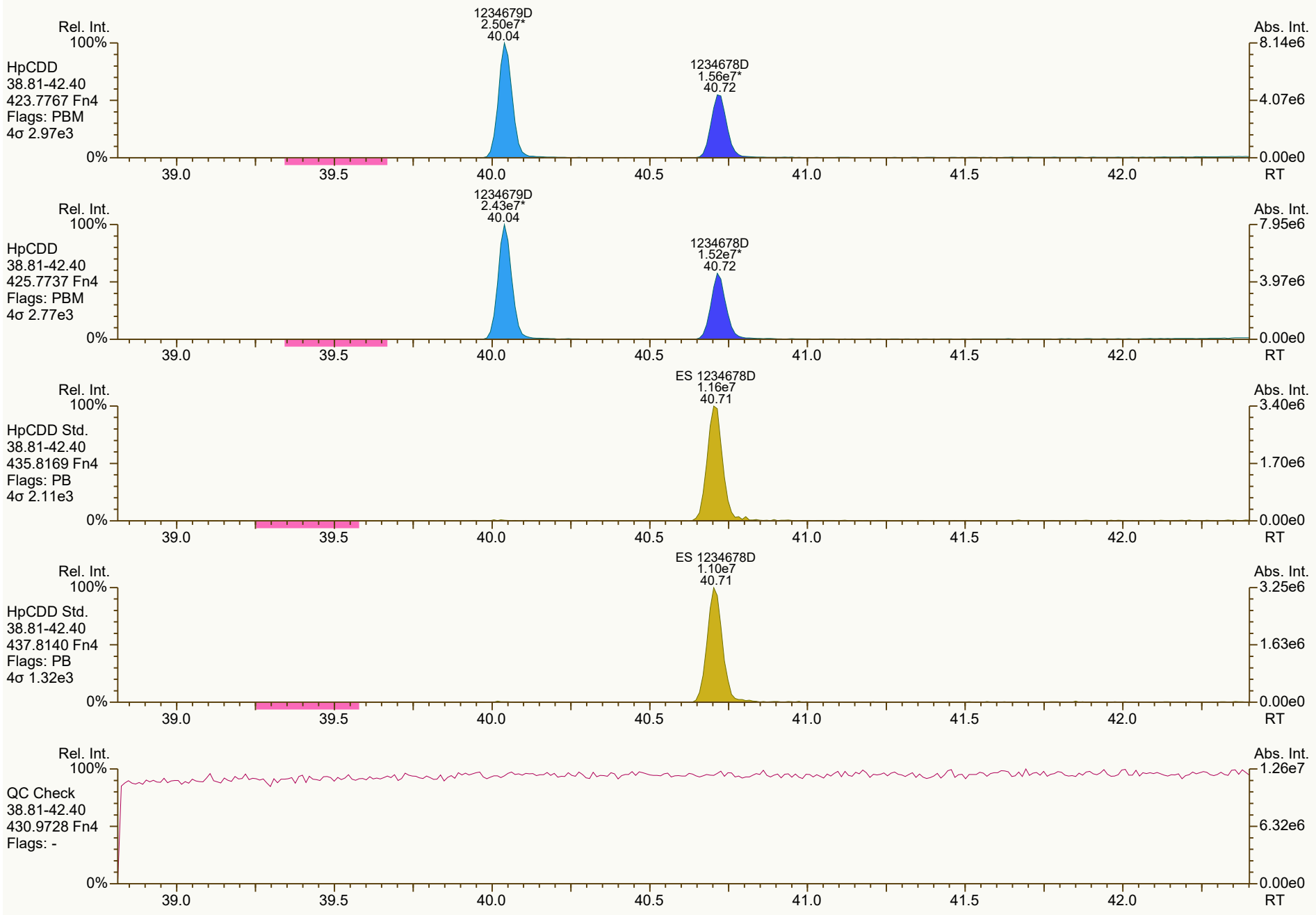
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.73		0.9866	0.9863	-0.6	1.58E+06	1.57	Y	1.02	7.92	8284.676	0.376
12347-PeCDF	31.81		0.9891	0.9891	0	1.15E+06	1.39	Y	1.02	5.74	8284.676	0.376
12348-PeCDF	31.97		0.9938	0.9940	+0.4	6.39E+06	1.55	Y	1.02	32	8284.676	0.376
12378-PeCDF	**32.18**		**1.0005**	**1.0005**	**0**	**8.00E+07**	**1.54**	**Y**	**1.02**	**400**	**8284.676**	**0.365**
12678/12367-PeCDF	32.48		1.0091	1.0098	+1.4	2.34E+07	1.52	Y	1.02	117	8284.676	0.376
12379-PeCDF	NotFnd		1.0144						1.02		8284.676	0.376
12679-PeCDF	33.04	J EMPC	0.9927	0.9925	-0.4	1.47E+05	1.23	N	1.02	0.738	8284.676	0.376
23467/12369-PeCDF	33.17		0.9965	0.9965	0	8.60E+05	1.47	Y	1.02	4.3	8284.676	0.376
23478-PeCDF	**33.31**		**1.0005**	**1.0007**	**+0.4**	**4.83E+07**	**1.52**	**Y**	**1.02**	**242**	**8284.676**	**0.387**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		8284.676	0.376
12349-PeCDF	NotFnd		1.0101						1.02		8284.676	0.376
12389-PeCDF	34.38		1.0330	1.0327	-0.6	2.70E+06	1.66	Y	1.02	13.5	8284.676	0.376
123468-HxCDF	35.17		0.9622	0.9624	+0.4	2.07E+06	1.26	Y	1.19	11.5	10900.133	0.515
124678/134678-HxCDF	35.37		0.9678	0.9678	0	1.54E+07	1.24	Y	1.19	85.8	10900.133	0.515
134679-HxCDF	NotFnd		0.9741						1.19		10900.133	0.515
124679-HxCDF	35.80	J EMPC	0.9795	0.9795	0	2.34E+05	0.94	N	1.19	1.3	10900.133	0.515
124689-HxCDF	36.03		0.9856	0.9857	+0.2	9.39E+06	1.25	Y	1.19	52.2	10900.133	0.515
123467-HxCDF	36.45		0.9972	0.9971	-0.2	8.95E+05	1.18	Y	1.19	4.98	10900.133	0.515
123478-HxCDF	**36.57**		**1.0004**	**1.0005**	**+0.2**	**1.84E+08**	**1.24**	**Y**	**1.27**	**991**	**10900.133**	**0.487**
123678-HxCDF	**36.70**		**1.0004**	**1.0004**	**0**	**4.19E+07**	**1.23**	**Y**	**1.15**	**221**	**10900.133**	**0.489**
123479-HxCDF	NotFnd		1.0048						1.19		10900.133	0.515
123469-HxCDF	37.01		1.0089	1.0087	-0.4	6.22E+05	1.30	Y	1.19	3.46	10900.133	0.515
123679-HxCDF	NotFnd		0.9942						1.19		10900.133	0.515
234678-HxCDF	**37.38**		**1.0005**	**1.0004**	**-0.2**	**8.03E+06**	**1.22**	**Y**	**1.19**	**43.1**	**10900.133**	**0.53**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		10900.133	0.515
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**10900.133**	**0.562**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.39		1.0006	1.0012	+1.4	1.28E+07	1.22	Y	1.19	71	10900.133	0.515
1234678-HpCDF	**39.78**		**1.0003**	**1.0003**	**0**	**6.41E+07**	**1.02**	**Y**	**1.37**	**360**	**4870.524**	**0.206**
1234679-HpCDF	40.04		1.0068	1.0068	0	1.34E+06	0.95	Y	1.34	8.47	4870.524	0.239
1234689-HpCDF	40.18		1.0104	1.0104	0	2.14E+07	1.04	Y	1.34	136	4870.524	0.239
1234789-HpCDF	**41.18**		**1.0003**	**1.0002**	**-0.2**	**1.70E+07**	**0.99**	**Y**	**1.31**	**122**	**4870.524**	**0.281**
OCDF	**43.60**		**1.0002**	**1.0002**	**0**	**3.03E+08**	**0.88**	**Y**	**1.07**	**2,660**	**3340.772**	**0.36**
OCDF-a	43.60		1.0001	1.0002	+0.3	1.95E+07	2.34	Y	0.07	2,760	3540.525	6.16

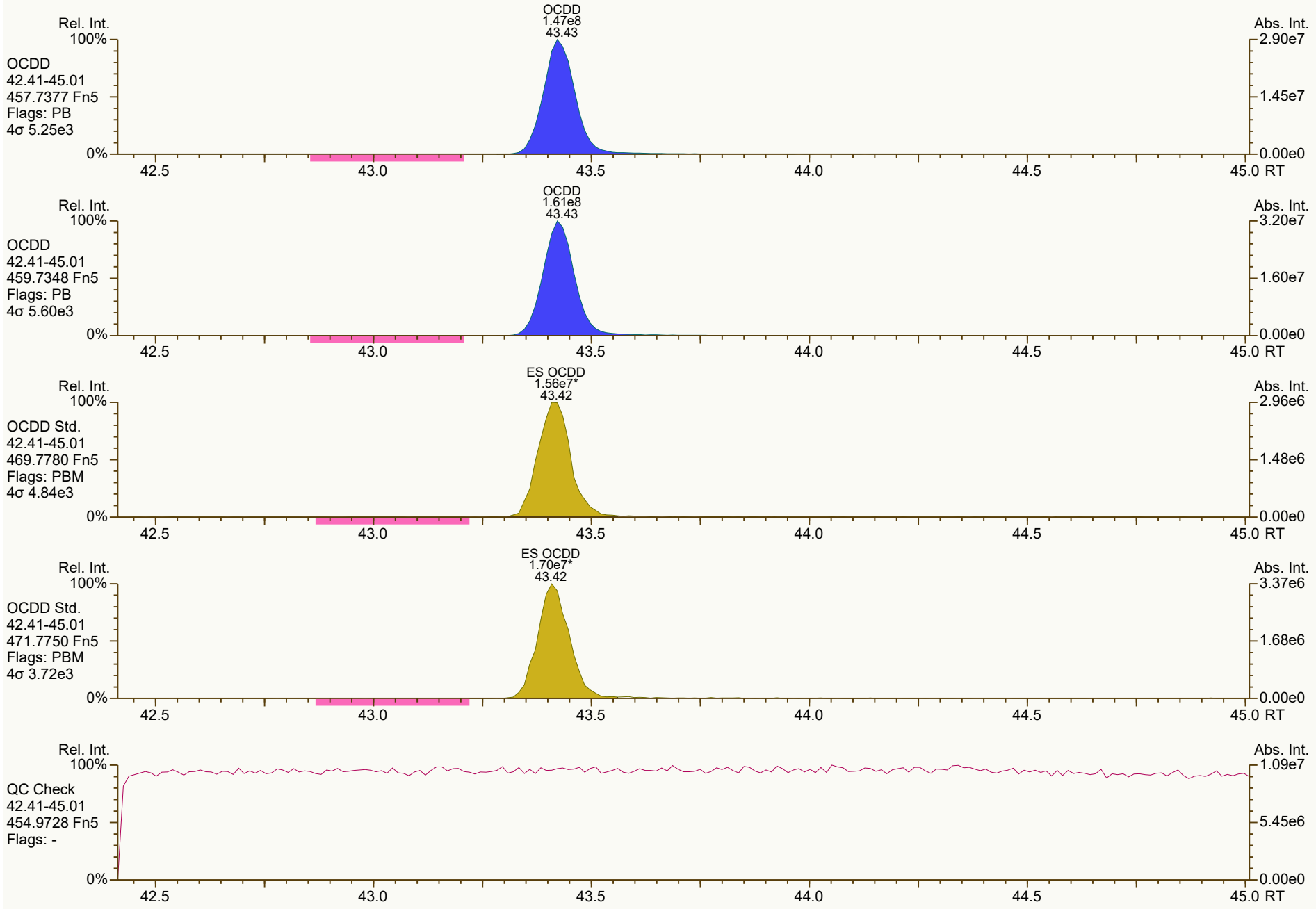

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
7.15e6
3.57e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.15e6
2.58e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.01e7
1.00e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.26e7
6.32e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.09e7
5.45e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.29e3
0%
2378D
1.67e8*
28.25
1278D
1.57e7*
28.58
Abs. Int.
3.94e7
1.97e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.79e3
0%
2378D
2.11e8*
28.24
1278D
1.96e7*
28.58
Abs. Int.
4.99e7
2.49e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.99e3
0%
CS 37Cl-2378D
1.38e7
28.24
Abs. Int.
3.25e6
1.63e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 7.04e3
0%
JS 1234D
1.37e7
27.56
ES 2378D
1.16e7
28.22
Abs. Int.
3.39e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 5.46e3
0%
JS 1234D
1.62e7
27.56
ES 2378D
1.42e7
28.22
Abs. Int.
3.72e6
1.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 3.13e3
0%
12479/12468D
4.17e5*
31.12
12469D
3.21e5*
31.66
12368D
3.39e5*
32.22
12478D
1.90e5*
32.40
12379D
1.23e5*
32.51
12369D...[3]
2.46e5*
32.77
12378D
1.98e6*
33.64
12367D
1.24e5*
33.74
Abs. Int.
5.48e5
2.74e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 2.68e3
0%
12479/12468D
2.62e5*
31.12
12469D
2.02e5*
31.66
12368D
2.29e5*
32.21
12379D
7.69e4*
32.51
12478D
1.38e5*
32.41
12369D...[3]
1.75e5*
32.77
12378D
1.26e6*
33.64
12367D
6.26e4*
33.75
Abs. Int.
3.42e5
1.71e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PBM
4σ 1.73e3
0%
CS 12347D
1.30e7*
33.12
ES 12378D
1.46e7
33.62
Abs. Int.
4.06e6
2.03e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PBM
4σ 2.82e3
0%
CS 12347D
8.40e6*
33.12
ES 12378D
9.64e6
33.62
Abs. Int.
2.81e6
1.40e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.15e6
2.58e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

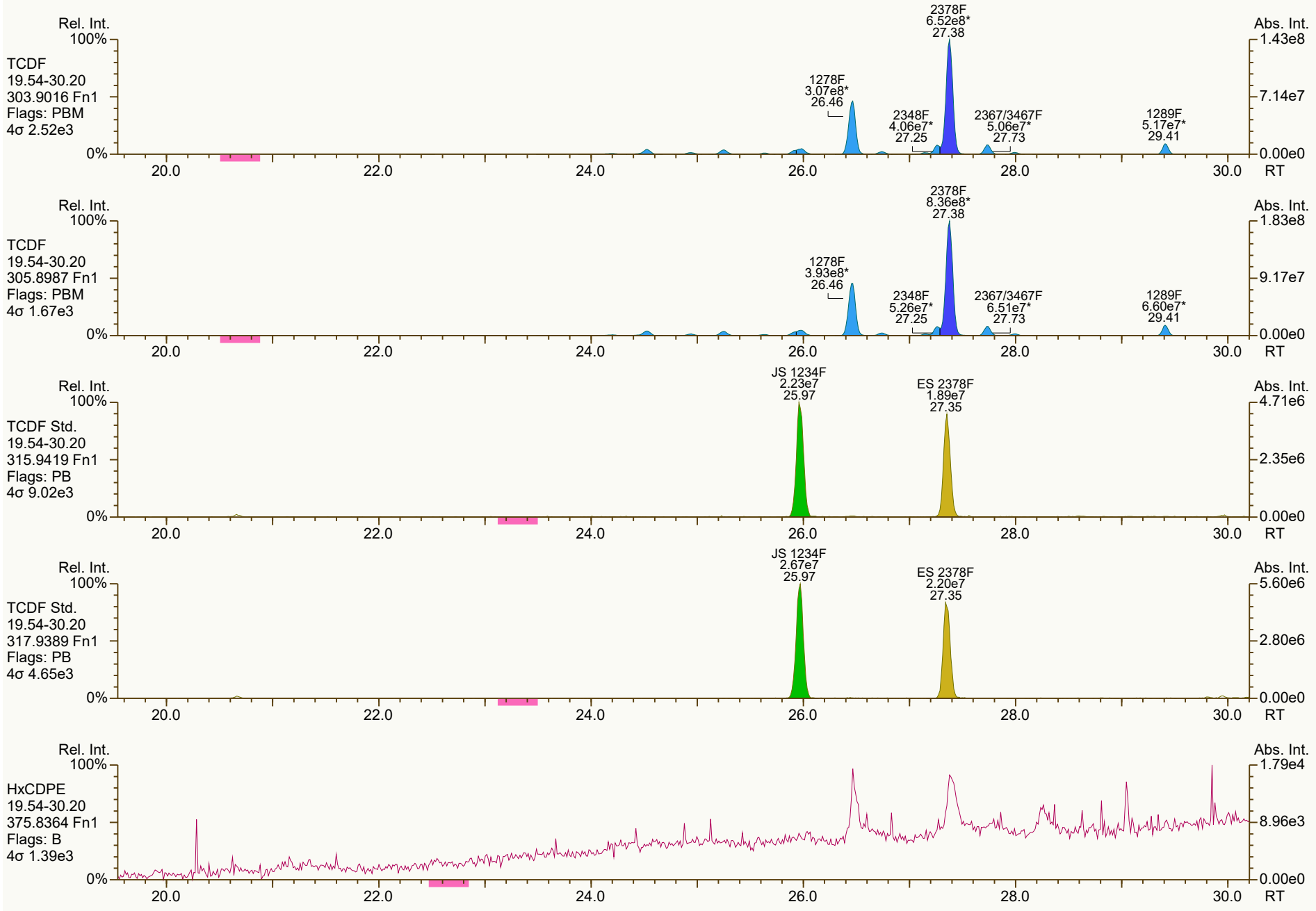

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 5.17e3
124679/124689D
4.04e6
35.83
123679/123689D
2.62e6
36.78
123468D
7.27e5*
36.48
123469D
4.79e5*
36.90
123678D
6.84e5*
37.69
123467D
3.44e5
37.89
123789D
3.54e5
37.99
Abs. Int.
1.20e6
5.99e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 3.55e3
124679/124689D
3.15e6
35.82
123679/123689D
2.04e6
36.77
123468D
5.57e5*
36.48
123469D
3.97e5*
36.90
123678D
5.15e5*
37.69
123467D
2.75e5
37.89
123789D
2.92e5
37.99
Abs. Int.
9.37e5
4.68e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 2.22e3
ES 123678D
1.22e7
37.67
ES 123478D
1.22e7
37.55
ES 123789D
1.42e7
37.98
JS 123467D
7.31e6
37.87
Abs. Int.
4.26e6
2.13e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 2.07e3
ES 123678D
9.73e6
37.67
ES 123478D
9.40e6
37.55
ES 123789D
1.14e7
37.98
JS 123467D
6.04e6
37.87
Abs. Int.
3.20e6
1.60e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
2.01e7
1.00e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 2.97e3
1234679D
2.50e7*
40.04
1234678D
1.56e7*
40.72
Abs. Int.
8.14e6
4.07e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 2.77e3
1234679D
2.43e7*
40.04
1234678D
1.52e7*
40.72
Abs. Int.
7.95e6
3.97e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 2.11e3
ES 1234678D
1.16e7
40.71
Abs. Int.
3.40e6
1.70e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.32e3
ES 1234678D
1.10e7
40.71
Abs. Int.
3.25e6
1.63e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.26e7
6.32e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
1.47e8
43.43
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 5.25e3
0%
Abs. Int.
2.90e7
1.45e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.61e8
43.43
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 5.60e3
3.20e7
1.60e7
ES OCDD
1.56e7*
43.42
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 4.84e3
2.96e6
1.48e6
ES OCDD
1.70e7*
43.42
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 3.72e3
3.37e6
1.68e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.09e7
5.45e6

SGS ID: B6292_18927_DF_007 | Sample ID: 11215131-020622-S-SB-SC-B-16 | Acq: 21-Feb-2022 18:56:58

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 55 | User: DTF Datafile: 220221C13



Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_007.utp_res, saved 22-Feb-2022 09:25 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4294, 7772, 8196 scc: 977-059 *Revised: 22-Feb-2022 08:56 (DTF) Printed: 22-Feb-2022 09:36 Page 7 of 12*

SGS ID: B6292_18927_DF_007
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 11215131-020622-S-SB-SC-B-16
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 55

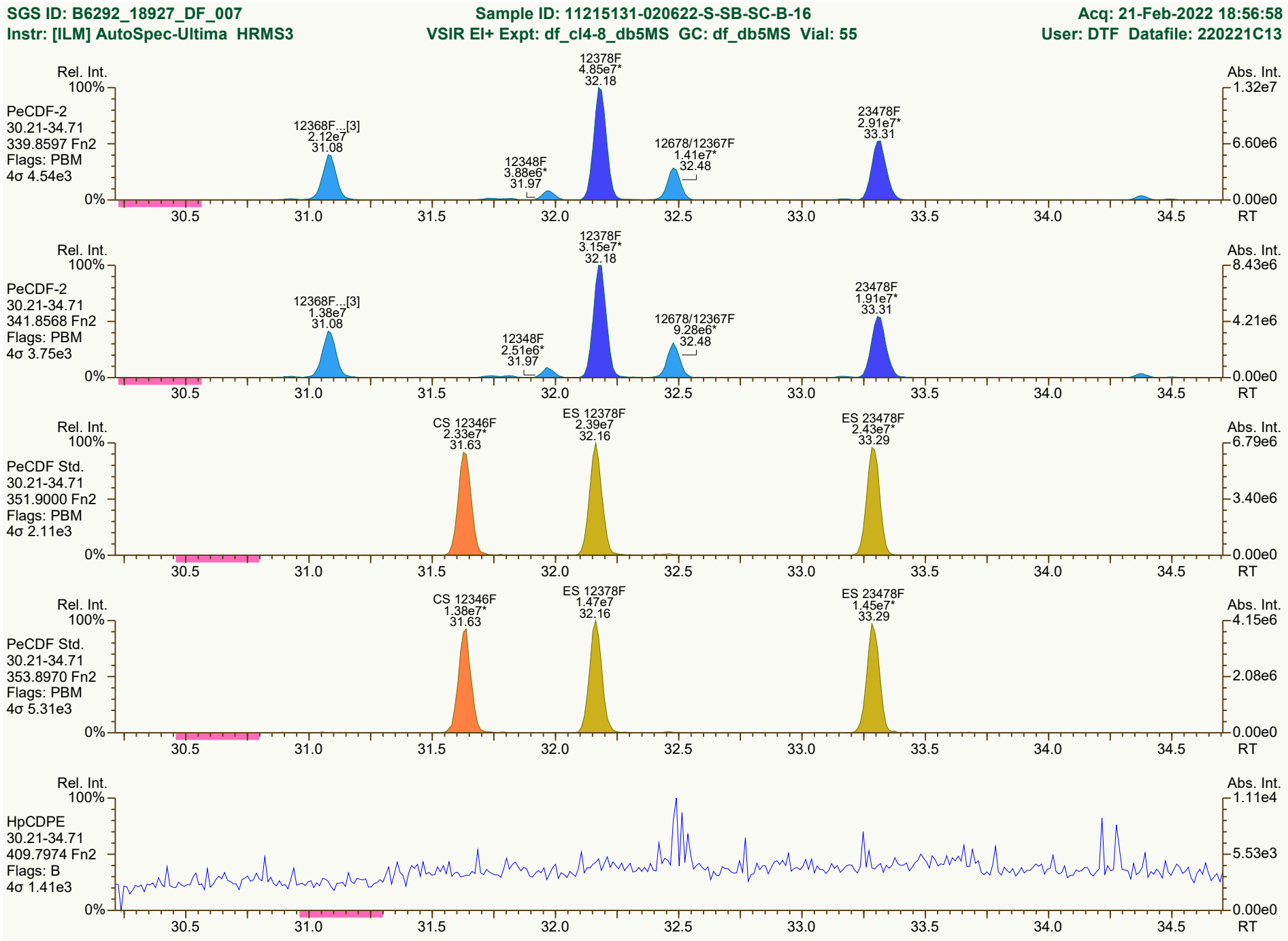
Acq: 21-Feb-2022 18:56:58
User: DTF Datafile: 220221C13



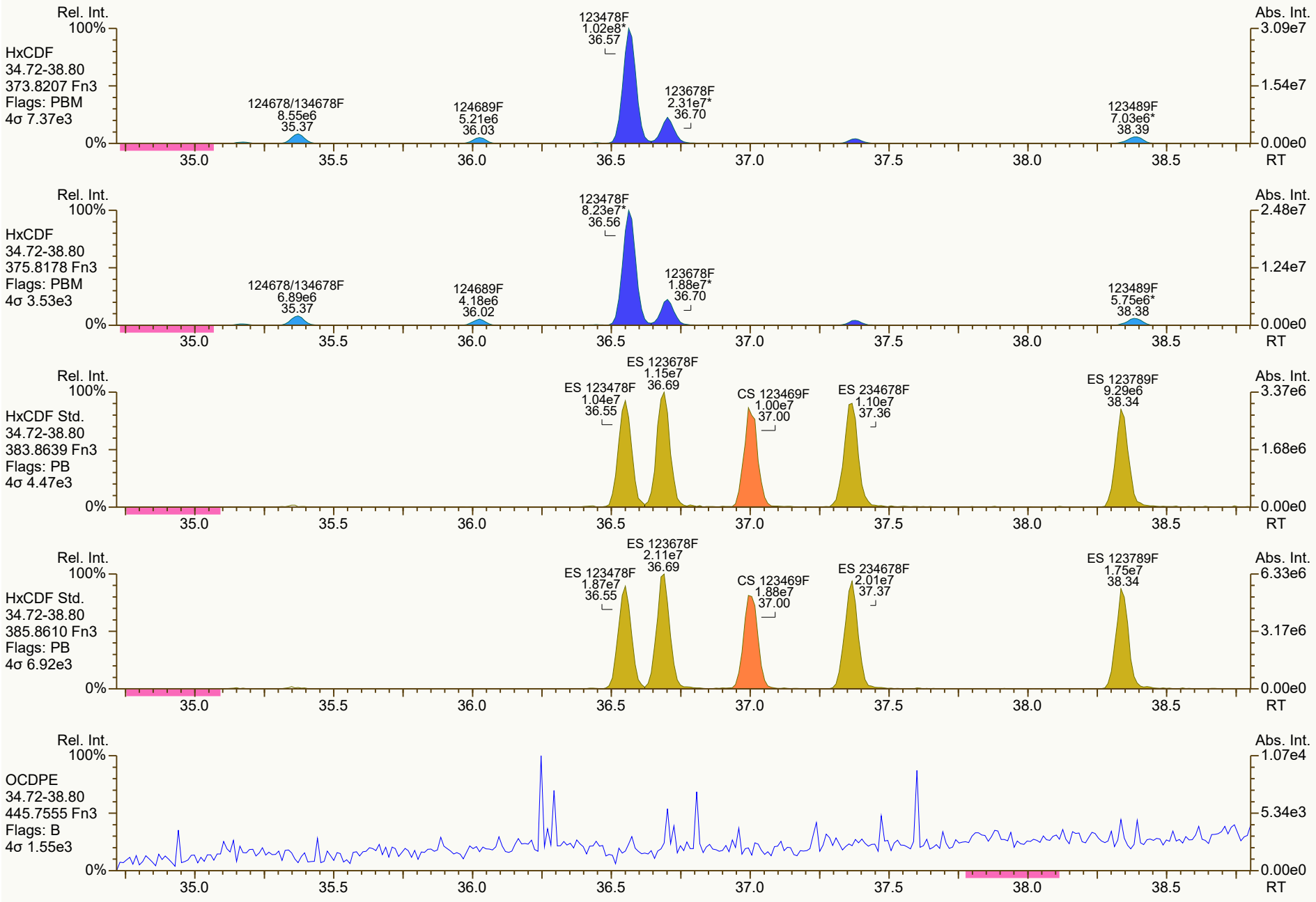
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_007.utp_res, saved 22-Feb-2022 09:25 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6134 scc: 977-059

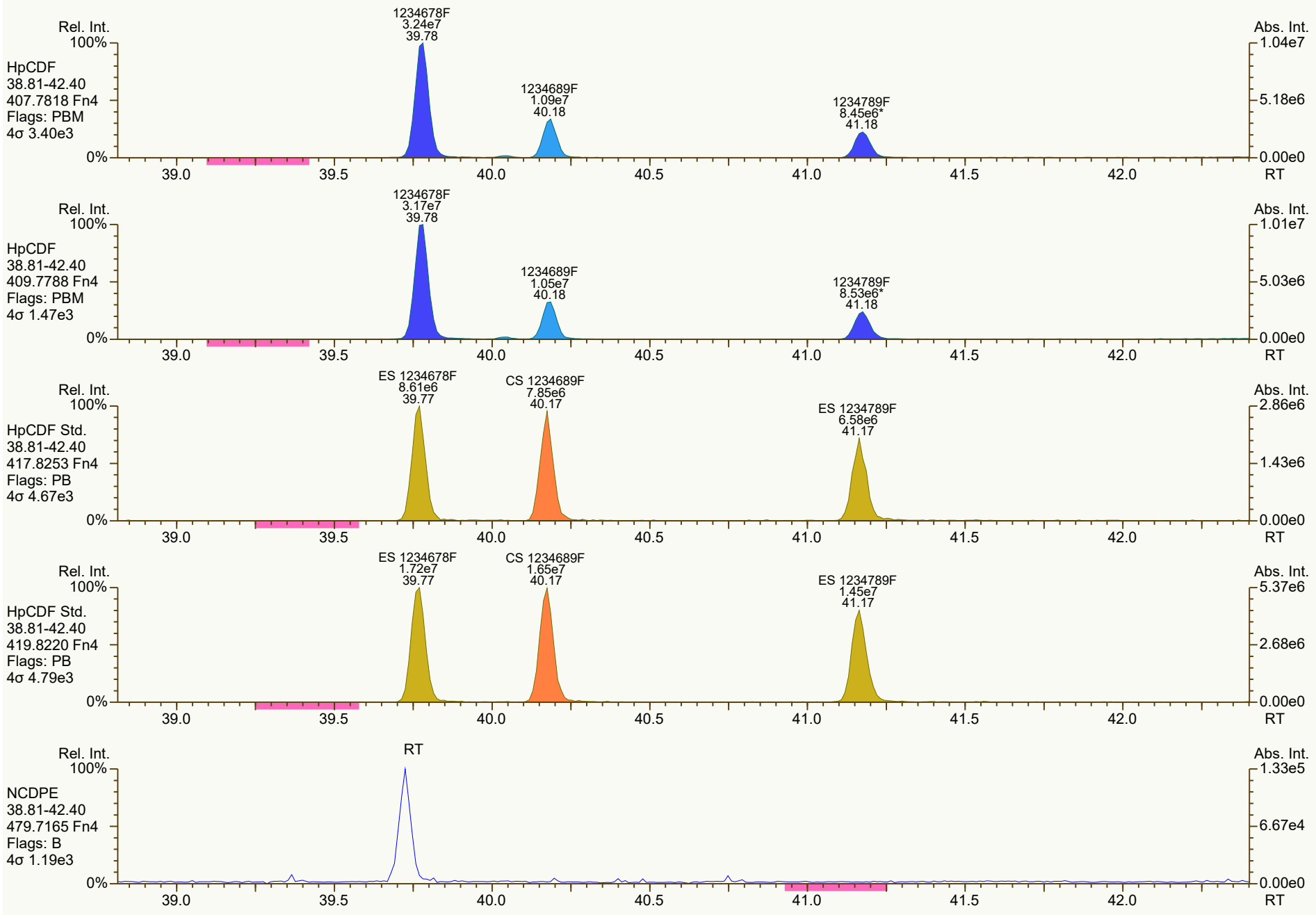
Peak annotation: Areas, Centroids
PKD: 22-Feb-2022 08:52 Printed: 22-Feb-2022 09:36 Page 8 of 12

SGS ID: B6292_18927_DF_007 | Sample ID: 11215131-020622-S-SB-SC-B-16 | Acq: 21-Feb-2022 18:56:58
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 55 | User: DTF Datafile: 220221C13



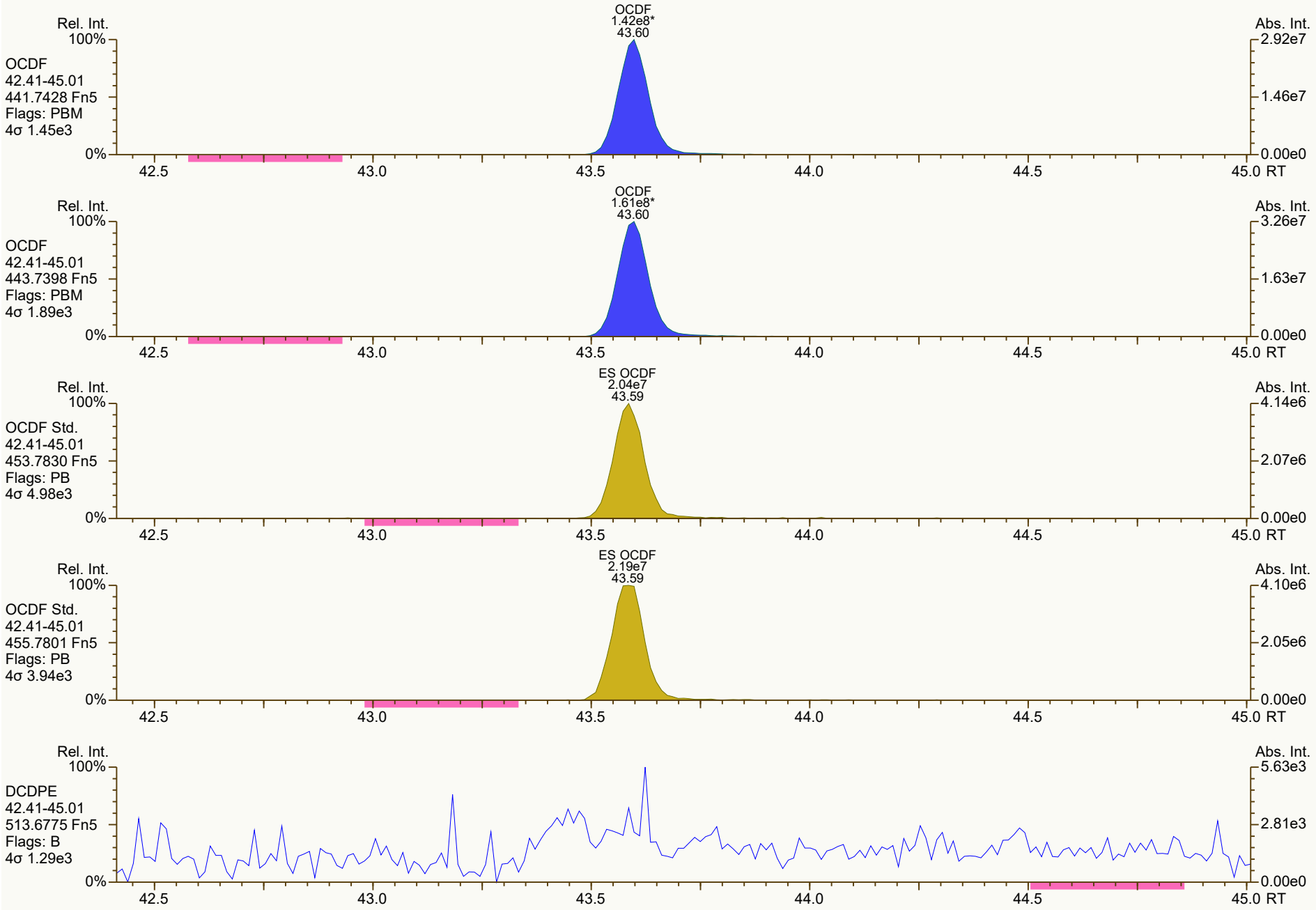
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_007.utp_res, saved 22-Feb-2022 09:25 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7435, 1558, 3414 scc: 977-059 | Revised: 22-Feb-2022 08:56 (DTF) Printed: 22-Feb-2022 09:36 Page 9 of 12


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 7.37e3
0%
124678/134678F
8.55e6
35.37
124689F
5.21e6
36.03
123478F
1.02e8*
36.57
123678F
2.31e7*
36.70
123489F
7.03e6*
38.39
Abs. Int.
3.09e7
1.54e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 3.53e3
0%
124678/134678F
6.89e6
35.37
124689F
4.18e6
36.02
123478F
8.23e7*
36.56
123678F
1.88e7*
36.70
123489F
5.75e6*
38.38
Abs. Int.
2.48e7
1.24e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 4.47e3
0%
ES 123478F
1.04e7
36.55
ES 123678F
1.15e7
36.69
CS 123469F
1.00e7
37.00
ES 234678F
1.10e7
37.36
ES 123789F
9.29e6
38.34
Abs. Int.
3.37e6
1.68e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 6.92e3
0%
ES 123478F
1.87e7
36.55
ES 123678F
2.11e7
36.69
CS 123469F
1.88e7
37.00
ES 234678F
2.01e7
37.37
ES 123789F
1.75e7
38.34
Abs. Int.
6.33e6
3.17e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.55e3
0%
Abs. Int.
1.07e4
5.34e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 3.40e3
1234678F
3.24e7
39.78
1234689F
1.09e7
40.18
1234789F
8.45e6*
41.18
Abs. Int.
1.04e7
5.18e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 1.47e3
1234678F
3.17e7
39.78
1234689F
1.05e7
40.18
1234789F
8.53e6*
41.18
Abs. Int.
1.01e7
5.03e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 4.67e3
ES 1234678F
8.61e6
39.77
CS 1234689F
7.85e6
40.17
ES 1234789F
6.58e6
41.17
Abs. Int.
2.86e6
1.43e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 4.79e3
ES 1234678F
1.72e7
39.77
CS 1234689F
1.65e7
40.17
ES 1234789F
1.45e7
41.17
Abs. Int.
5.37e6
2.68e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.19e3
RT
Abs. Int.
1.33e5
6.67e4
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

SGS ID: B6292_18927_DF_007 | Sample ID: 11215131-020622-S-SB-SC-B-16 | Acq: 21-Feb-2022 18:56:58

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 55 | User: DTF Datafile: 220221C13



Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_007.utp_res, saved 22-Feb-2022 09:25 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5252, 3871, 1998 scc: 977-059 | *Revised: 22-Feb-2022 08:57 (DTF) Printed: 22-Feb-2022 09:37 Page 12 of 12*

Lab ID: B6292_18927_DF_008 **Acq'd:** 21 Feb 2022 19:43 DTF **Wt/Vol:** 10.24 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-B-16H **UTP:** 22-Feb-2022 09:26:00 DTF **J-level:** 0.488 pg/g **Split:** 1 **Checkcode:** 106-893-KGS

Datafile: 220221C14 **Report:** 22 Feb 2022 09:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.24		1.0008	1.0008	0	4.58E+06	0.80	Y	1.18	41.8	4547.804	0.448
12378-PeCDD	33.63	J EMPC	1.0007	1.0003	-0.8	6.17E+04	1.28	N	1.04	0.702	3632.598	0.373
123478-HxCDD	37.55	J EMPC	1.0004	1.0000	-0.9	5.38E+04	1.00	N	1.09	0.624	2801.801	0.289
123678-HxCDD	37.69	J	1.0036	1.0035	-0.2	7.26E+04	1.09	Y	1.15	0.765	2801.801	0.256
123789-HxCDD	37.99	J	1.0118	1.0115	-0.7	1.28E+05	1.23	Y	1.05	1.43	2801.801	0.26
1234678-HpCDD	40.73		1.0002	1.0003	+0.2	1.72E+06	1.05	Y	1.06	20.6	4290.383	0.43
OCDD	43.43		1.0003	1.0003	0	2.20E+07	0.92	Y	1.13	356	5183.921	1.02
2378-TCDF	27.37		1.0008	1.0008	0	1.69E+07	0.77	Y	1.08	114	4287.637	0.298
12378-PeCDF	32.17		1.0005	1.0005	0	8.77E+05	1.60	Y	1.02	6.1	4289.657	0.281
23478-PeCDF	33.30		1.0005	1.0007	+0.4	5.48E+05	1.49	Y	1.02	4.25	4289.657	0.297
123478-HxCDF	36.57		1.0004	1.0005	+0.2	1.80E+06	1.22	Y	1.27	15.5	4186.876	0.307
123678-HxCDF	36.71	EMPC	1.0004	1.0005	+0.2	4.01E+05	1.45	N	1.15	3.06	4186.876	0.272
234678-HxCDF	37.38	J	1.0005	1.0003	-0.4	1.15E+05	1.20	Y	1.19	0.829	4186.876	0.271
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4186.876	0.364
1234678-HpCDF	39.78		1.0003	1.0002	-0.2	6.61E+05	1.16	Y	1.37	4.92	4588.777	0.264
1234789-HpCDF	41.19	J	1.0003	1.0003	0	1.91E+05	0.95	Y	1.31	2.15	4588.777	0.443
OCDF	43.60		1.0002	1.0003	+0.3	7.67E+05	0.86	Y	1.07	11.5	3449.016	0.619

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.22		1.0243	1.0244	+0.2	1.81E+07	0.83	Y	1.05	81
ES 12378-PeCDD	33.62		1.2198	1.2206	+1.6	1.66E+07	1.58	Y	0.88	88.4
ES 123478-HxCDD	37.56		0.9916	0.9915	-0.2	1.54E+07	1.27	Y	0.97	84.5
ES 123678-HxCDD	37.68		0.9947	0.9947	0	1.61E+07	1.23	Y	0.94	90.9
ES 123789-HxCDD	37.98		1.0029	1.0027	-0.5	1.67E+07	1.24	Y	1.09	81.2
ES 1234678-HpCDD	40.72		1.0749	1.0750	+0.2	1.54E+07	1.06	Y	0.91	89.5
ES OCDD	43.42		1.1460	1.1464	+1.0	2.15E+07	0.90	Y	0.62	91.5
ES 2378-TCDF	27.35		1.0531	1.0534	+0.5	2.69E+07	0.84	Y	1.06	72.9
ES 12378-PeCDF	32.16		1.2378	1.2387	+1.7	2.74E+07	1.60	Y	0.91	86.4
ES 23478-PeCDF	33.28		1.2810	1.2820	+2.0	2.47E+07	1.72	Y	0.88	80.3
ES 123478-HxCDF	36.55		0.9650	0.9649	-0.2	1.79E+07	0.54	Y	1.20	79.3
ES 123678-HxCDF	36.69		0.9688	0.9686	-0.4	2.22E+07	0.52	Y	1.35	87.1
ES 234678-HxCDF	37.37		0.9866	0.9866	0	2.28E+07	0.51	Y	1.24	97.6
ES 123789-HxCDF	38.35		1.0125	1.0124	-0.2	1.67E+07	0.56	Y	1.16	76.9
ES 1234678-HpCDF	39.77		1.0501	1.0500	-0.2	1.92E+07	0.48	Y	0.97	105
ES 1234789-HpCDF	41.18		1.0870	1.0871	+0.2	1.33E+07	0.50	Y	0.85	82.9
ES OCDF	43.59		1.1505	1.1509	+1.0	2.43E+07	0.94	Y	0.81	80

Lab ID: B6292_18927_DF_008 **Acq'd:** 21 Feb 2022 19:43 DTF **Wt/Vol:** 10.24 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-B-16H **UTP:** 22-Feb-2022 09:26:00 DTF **J-level:** 0.488 pg/g **Split:** 1 **Checkcode:** 106-893-KGS

Datafile: 220221C14 **Report:** 22 Feb 2022 09:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.55		-	-	-	2.13E+07	0.84	Y	-	-
JS 1234-TCDF	25.96		-	-	-	3.48E+07	0.85	Y	-	-
JS 123467-HxCDD	37.88		-	-	-	9.40E+06	1.35	Y	-	-
CS 37Cl-2378-TCDD	28.24		1.0251	1.0252	+0.2	9.03E+06	n/a	-	1.20	88
CS 12347-PeCDD	33.11		1.2016	1.2022	+1.2	1.65E+07	1.54	Y	0.75	103
CS 12346-PeCDF	31.62		1.2172	1.2182	+1.9	2.81E+07	1.59	Y	0.85	94.8
CS 123469-HxCDF	37.00		0.9771	0.9769	-0.4	2.29E+07	0.53	Y	1.12	109
CS 1234689-HpCDF	40.18		1.0608	1.0608	0	1.80E+07	0.49	Y	0.89	108
SS 37Cl-2378-TCDD	28.24		1.0251	1.0252	+0.2	9.03E+06	n/a	-	1.15	109
SS 12347-PeCDD	33.11		1.2016	1.2022	+1.2	1.65E+07	1.54	Y	0.86	116
SS 12346-PeCDF	31.62		1.2172	1.2182	+1.9	2.81E+07	1.59	Y	0.94	109
SS 123469-HxCDF	37.00		0.9771	0.9769	-0.4	2.29E+07	0.53	Y	0.83	125
SS 1234689-HpCDF	40.18		1.0608	1.0608	0	1.80E+07	0.49	Y	0.92	102

Totals	Conc	EMPC
Total TCDD	51.9	51.9
Total PeCDD	5.6	6.3
Total HxCDD	31.3	31.9
Total HpCDD	70.2	70.2
Total Tetra-Octa Dioxins	515	516
Total TCDF	220	233
Total PeCDF	15	15
Total HxCDF	17.8	22
Total HpCDF	8.5	8.5
Total Tetra-Octa Furans	273	290
Total Tetra-Octa Dioxins & Furans	787	806

Lab ID: B6292_18927_DF_008 **Acq'd: 21 Feb 2022 19:43 DTF** **Wt/Vol: 10.24 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-B-16H **UTP: 22-Feb-2022 09:26:00 DTF** **J-level: 0.488 pg/g** **Split: 1** **Checkcode: 106-893-KGS**

Datafile: 220221C14 **Report: 22 Feb 2022 09:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		4547.804	0.448
1379-TCDD	NotFnd		0.8829						1.18		4547.804	0.448
1369-TCDD	NotFnd		0.8982						1.18		4547.804	0.448
1469-TCDD	26.13		0.9261	0.9260	-0.2	6.63E+05	0.69	Y	1.18	6.04	4547.804	0.448
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4547.804	0.448
1378-TCDD	NotFnd		0.9417						1.18		4547.804	0.448
1268-TCDD	NotFnd		0.9487						1.18		4547.804	0.448
1478-TCDD	NotFnd		0.9576						1.18		4547.804	0.448
1279-TCDD	NotFnd		0.9636						1.18		4547.804	0.448
1234/1269-TCDD	NotFnd		0.9761						1.18		4547.804	0.448
1236-TCDD	NotFnd		0.9812						1.18		4547.804	0.448
1237/1238-TCDD	NotFnd		0.9905						1.18		4547.804	0.448
1239-TCDD	NotFnd		0.9951						1.18		4547.804	0.448
2378-TCDD	**28.24**		**1.0008**	1.0008	**0**	4.58E+06	0.80	Y	**1.18**	**41.8**	**4547.804**	**0.448**
1278-TCDD	28.57		1.0124	1.0126	+0.3	4.53E+05	0.75	Y	1.18	4.13	4547.804	0.448
1267-TCDD	NotFnd		1.0172						1.18		4547.804	0.448
1289-TCDD	NotFnd		1.0354						1.18		4547.804	0.448
12479/12468-PeCDD	NotFnd		0.9255						1.04		3632.598	0.373
12469-PeCDD	31.65		0.9416	0.9413	-0.6	3.61E+05	1.59	Y	1.04	4.1	3632.598	0.373
12368-PeCDD	NotFnd		0.9582						1.04		3632.598	0.373
12478-PeCDD	NotFnd		0.9637						1.04		3632.598	0.373
12379-PeCDD	NotFnd		0.9668						1.04		3632.598	0.373
12369/12467/12489-PeCDD	32.77	J	0.9746	0.9747	+0.2	1.32E+05	1.67	Y	1.04	1.5	3632.598	0.373
12346/12347-PeCDD	NotFnd		0.9858						1.04		3632.598	0.373
12378-PeCDD	33.63	J EMPC	**1.0007**	**1.0003**	**-0.8**	**6.17E+04**	**1.28**	**N**	**1.04**	**0.702**	**3632.598**	**0.373**
12367-PeCDD	NotFnd		1.0036						1.04		3632.598	0.373
12389-PeCDD	NotFnd		1.0137						1.04		3632.598	0.373
124679/124689-HxCDD	35.82		0.9540	0.9539	-0.2	2.18E+06	1.20	Y	1.10	24.1	2801.801	0.268
123468-HxCDD	NotFnd		0.9715						1.10		2801.801	0.268
123679/123689-HxCDD	36.77		0.9793	0.9792	-0.2	4.10E+05	1.36	Y	1.10	4.55	2801.801	0.268
123469-HxCDD	NotFnd		0.9829						1.10		2801.801	0.268
123478-HxCDD	37.55	J EMPC	**1.0004**	**1.0000**	**-0.9**	**5.38E+04**	**1.00**	**N**	1.09	**0.624**	**2801.801**	**0.289**
123678-HxCDD	37.69	J	**1.0036**	**1.0035**	**-0.2**	**7.26E+04**	**1.09**	**Y**	1.15	**0.765**	**2801.801**	**0.256**
123467-HxCDD	37.89	J	1.0089	1.0089	0	3.95E+04	1.23	Y	1.10	0.437	2801.801	0.268
123789-HxCDD	37.99	J	**1.0118**	**1.0115**	**-0.7**	**1.28E+05**	**1.23**	**Y**	1.05	**1.43**	**2801.801**	**0.26**

Lab ID: B6292_18927_DF_008 **Acq'd: 21 Feb 2022 19:43 DTF** **Wt/Vol: 10.24 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-B-16H **UTP: 22-Feb-2022 09:26:00 DTF** **J-level: 0.488 pg/g** **Split: 1** **Checkcode: 106-893-KGS**

Datafile: 220221C14 **Report: 22 Feb 2022 09:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

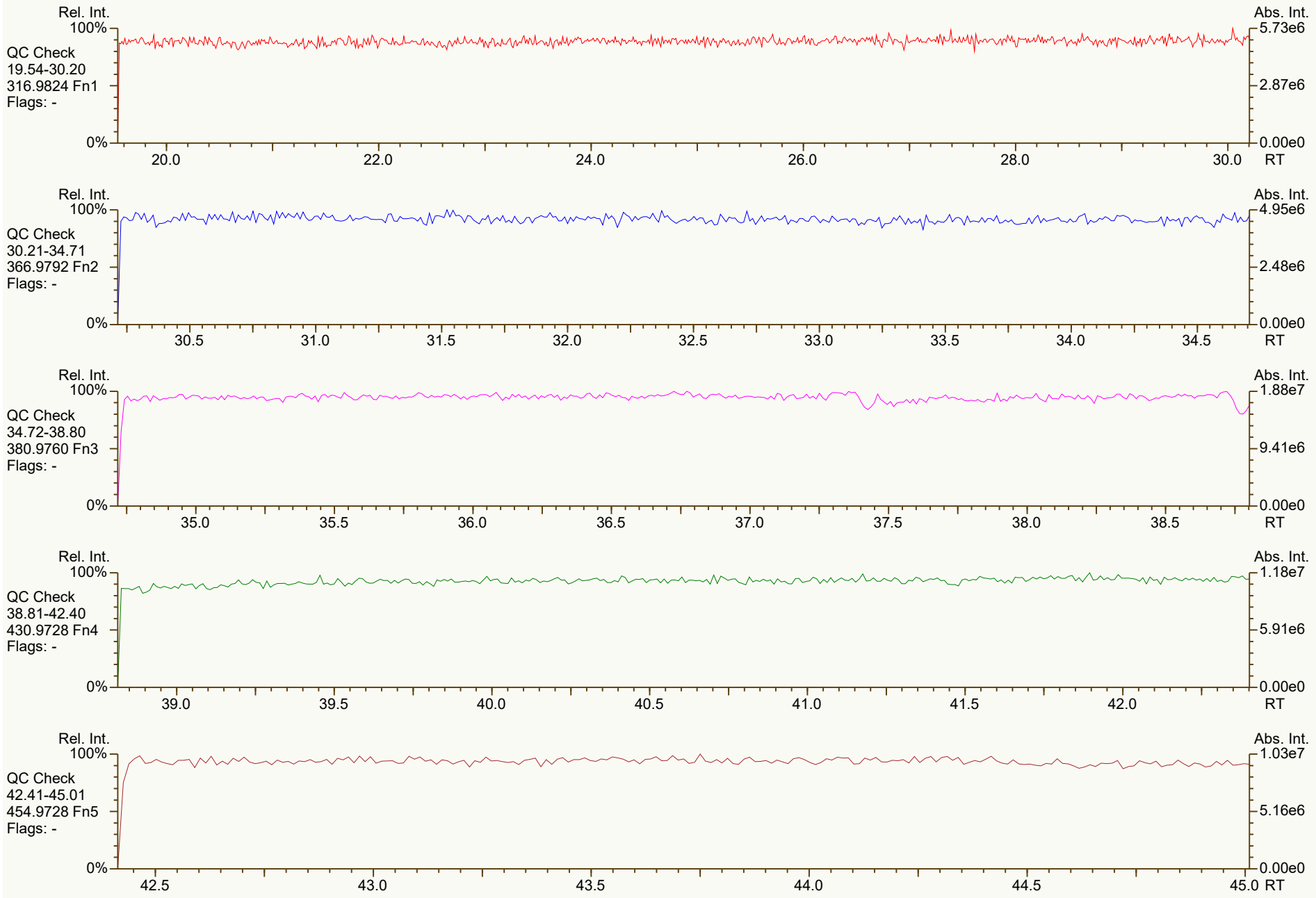
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.05		0.9836	0.9836	0	4.14E+06	1.04	Y	1.06	49.6	4290.383	0.43
1234678-HpCDD	**40.73**		**1.0002**	**1.0003**	**+0.2**	**1.72E+06**	**1.05**	**Y**	**1.06**	**20.6**	**4290.383**	**0.43**
OCDD	**43.43**		**1.0003**	**1.0003**	**0**	**2.20E+07**	**0.92**	**Y**	**1.13**	**356**	**5183.921**	**1.02**
OCDD-a	43.43	**EMPC**	1.0002	1.0002	0	1.04E+06	3.04	N	0.07	263	3803.024	11.7
1368-TCDF	NotFnd		0.8191						1.08		4287.637	0.298
1468-TCDF	NotFnd		0.8408						1.08		4287.637	0.298
2468-TCDF	NotFnd		0.8645						1.08		4287.637	0.298
1346/1246-TCDF	NotFnd		0.8772						1.08		4287.637	0.298
1347/1378/1247-TCDF	24.15		0.8833	0.8832	-0.1	2.45E+05	0.73	Y	1.08	1.65	4287.637	0.298
1348-TCDF	NotFnd		0.8932						1.08		4287.637	0.298
1248/1367/1379-TCDF	24.50		0.8980	0.8959	-3.1	9.65E+05	0.80	Y	1.08	6.5	4287.637	0.298
1268-TCDF	24.93	EMPC	0.9119	0.9116	-0.4	2.93E+05	0.99	N	1.08	1.97	4287.637	0.298
1467-TCDF	NotFnd		0.9170						1.08		4287.637	0.298
1478-TCDF	25.24		0.9234	0.9229	-0.8	7.53E+05	0.74	Y	1.08	5.07	4287.637	0.298
1369/1237-TCDF	25.63	EMPC	0.9369	0.9371	+0.3	2.29E+05	0.98	N	1.08	1.54	4287.637	0.298
2467-TCDF	NotFnd		0.9415						1.08		4287.637	0.298
2368-TCDF	25.95	EMPC	0.9475	0.9490	+2.3	1.38E+06	0.91	N	1.08	9.3	4287.637	0.298
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		4287.637	0.298
1278-TCDF	26.45		0.9676	0.9674	-0.3	8.50E+06	0.76	Y	1.08	57.3	4287.637	0.298
1349-TCDF	NotFnd		0.9722						1.08		4287.637	0.298
1267-TCDF	26.74		0.9777	0.9779	+0.3	4.00E+05	0.76	Y	1.08	2.69	4287.637	0.298
2346/1249-TCDF	NotFnd		0.9843						1.08		4287.637	0.298
2347/1279-TCDF	27.14		0.9926	0.9923	-0.5	2.70E+05	0.86	Y	1.08	1.82	4287.637	0.298
2348-TCDF	27.25		0.9968	0.9964	-0.7	1.52E+06	0.72	Y	1.08	10.3	4287.637	0.298
2378-TCDF	**27.37**		**1.0008**	**1.0008**	**0**	**1.69E+07**	**0.77**	**Y**	**1.08**	**114**	**4287.637**	**0.298**
2367/3467-TCDF	27.73		1.0142	1.0139	-0.5	1.34E+06	0.72	Y	1.08	9.04	4287.637	0.298
1269-TCDF	27.97		1.0235	1.0229	-1.0	2.55E+05	0.76	Y	1.08	1.72	4287.637	0.298
1239-TCDF	NotFnd		1.0329						1.08		4287.637	0.298
1289-TCDF	29.40		1.0742	1.0750	+1.4	1.51E+06	0.78	Y	1.08	10.2	4287.637	0.298
13468/12468-PeCDF	NotFnd		0.9122						1.02		2951.667	0.198
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		4289.657	0.288
12368/13478/12478-PeCDF	31.07		0.9655	0.9661	+1.1	3.97E+05	1.34	Y	1.02	2.92	4289.657	0.288
14678-PeCDF	NotFnd		0.9685						1.02		4289.657	0.288
13479-PeCDF	NotFnd		0.9716						1.02		4289.657	0.288
13469/12479-PeCDF	NotFnd		0.9794						1.02		4289.657	0.288
12346-PeCDF	NotFnd		0.9836						1.02		4289.657	0.288

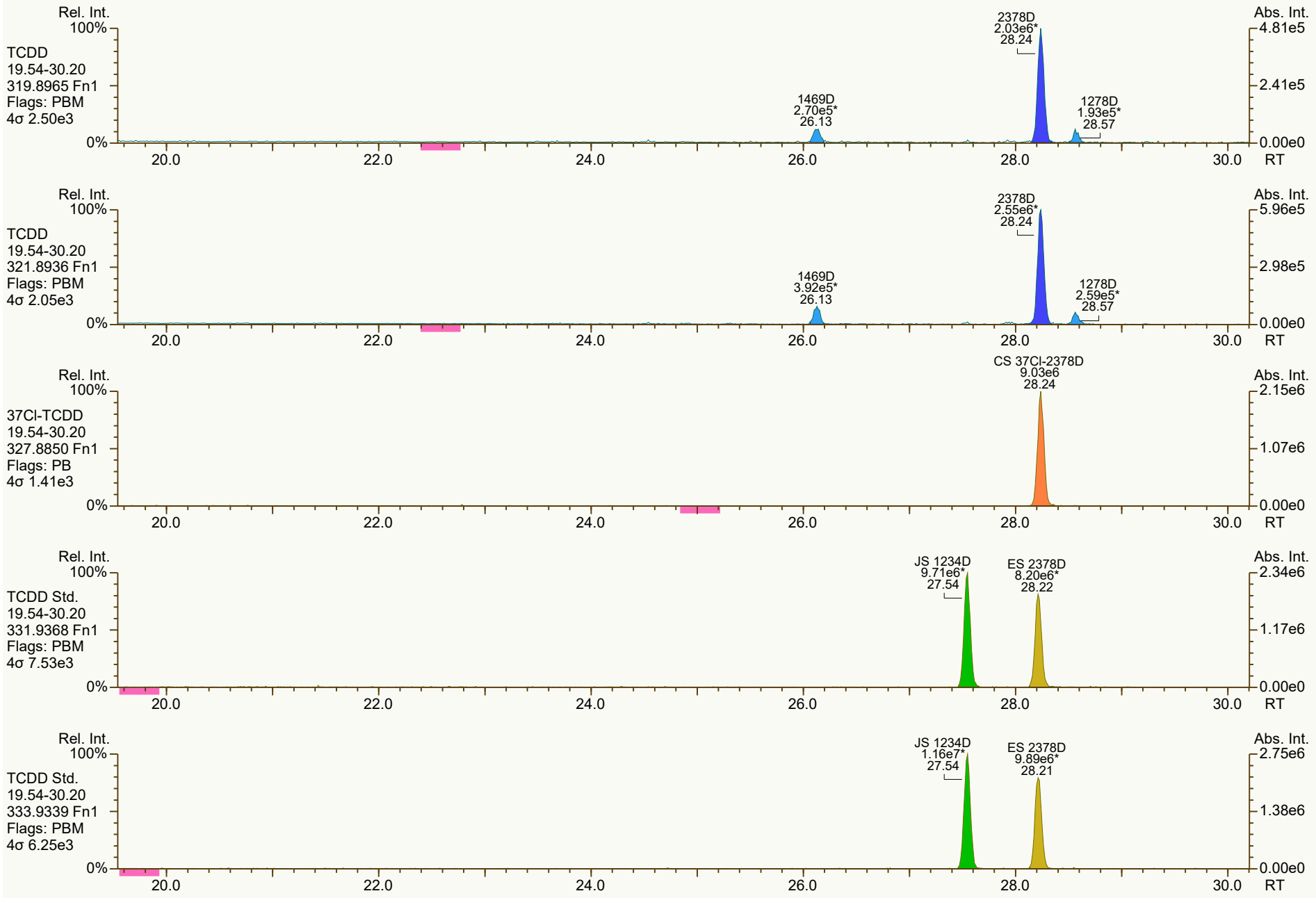
Lab ID: B6292_18927_DF_008 | **Acq'd: 21 Feb 2022 19:43 DTF** | **Wt/Vol: 10.24 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-B-16H | **UTP: 22-Feb-2022 09:26:00 DTF** | **J-level: 0.488 pg/g** | **Split: 1** | **Checkcode: 106-893-KGS**

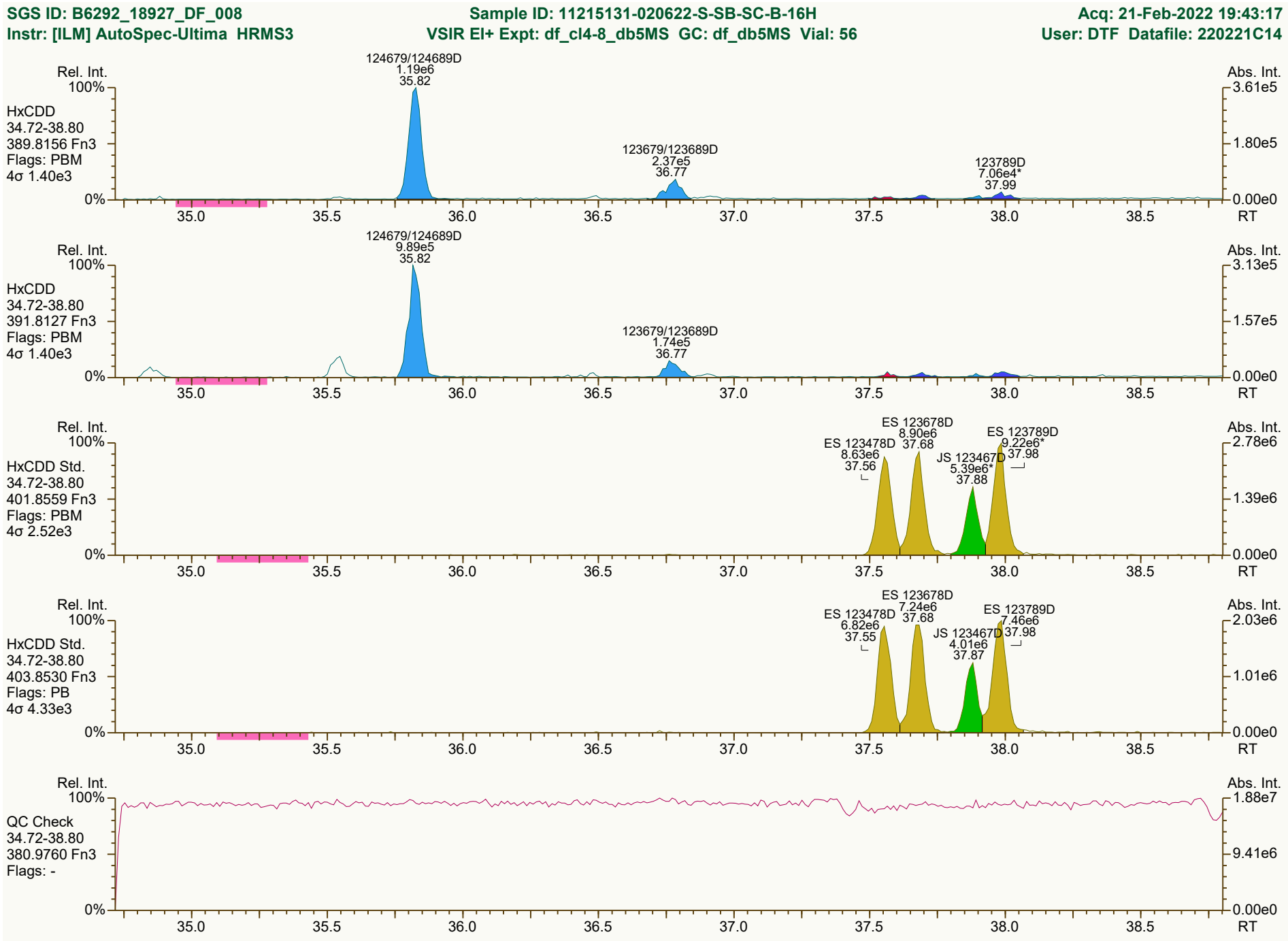
Datafile: 220221C14 | **Report: 22 Feb 2022 09:29 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

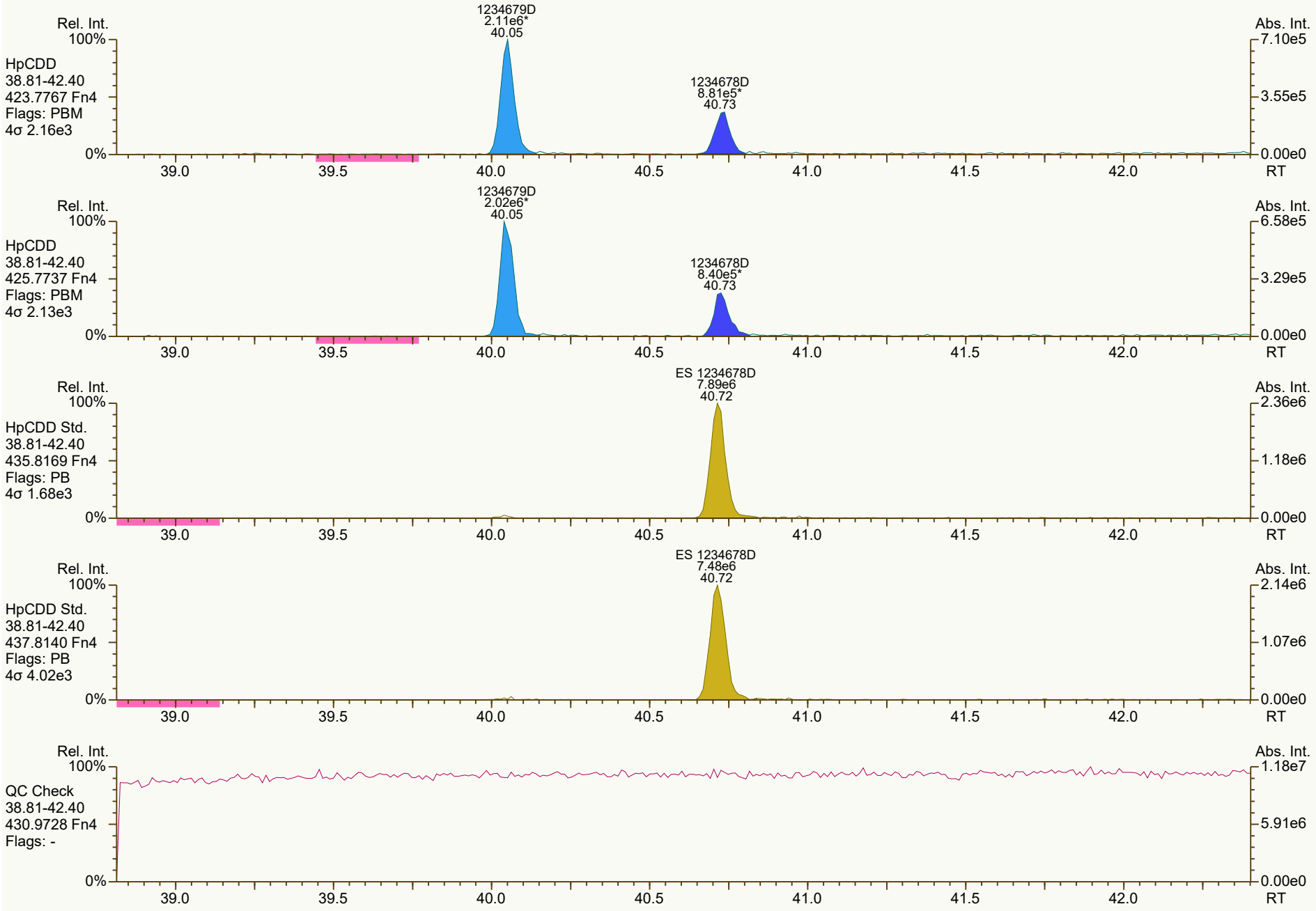
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		4289.657	0.288
12347-PeCDF	NotFnd		0.9891						1.02		4289.657	0.288
12348-PeCDF	NotFnd		0.9938						1.02		4289.657	0.288
12378-PeCDF	**32.17**		**1.0005**	**1.0005**	**0**	**8.77E+05**	**1.60**	**Y**	**1.02**	**6.1**	**4289.657**	**0.281**
12678/12367-PeCDF	32.47	J	1.0091	1.0097	+1.2	2.35E+05	1.64	Y	1.02	1.73	4289.657	0.288
12379-PeCDF	NotFnd		1.0144						1.02		4289.657	0.288
12679-PeCDF	NotFnd		0.9927						1.02		4289.657	0.288
23467/12369-PeCDF	NotFnd		0.9965						1.02		4289.657	0.288
23478-PeCDF	**33.30**		**1.0005**	**1.0007**	**+0.4**	**5.48E+05**	**1.49**	**Y**	**1.02**	**4.25**	**4289.657**	**0.297**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4289.657	0.288
12349-PeCDF	NotFnd		1.0101						1.02		4289.657	0.288
12389-PeCDF	NotFnd		1.0330						1.02		4289.657	0.288
123468-HxCDF	NotFnd		0.9622						1.19		4186.876	0.298
124678/134678-HxCDF	35.37	J EMPC	0.9678	0.9676	-0.4	1.44E+05	1.05	N	1.19	1.18	4186.876	0.298
134679-HxCDF	NotFnd		0.9741						1.19		4186.876	0.298
124679-HxCDF	NotFnd		0.9795						1.19		4186.876	0.298
124689-HxCDF	NotFnd		0.9856						1.19		4186.876	0.298
123467-HxCDF	NotFnd		0.9972						1.19		4186.876	0.298
123478-HxCDF	**36.57**		**1.0004**	**1.0005**	**+0.2**	**1.80E+06**	**1.22**	**Y**	**1.27**	**15.5**	**4186.876**	**0.307**
123678-HxCDF	**36.71**	EMPC	**1.0004**	**1.0005**	**+0.2**	**4.01E+05**	**1.45**	**N**	**1.15**	**3.06**	**4186.876**	**0.272**
123479-HxCDF	NotFnd		1.0048						1.19		4186.876	0.298
123469-HxCDF	NotFnd		1.0089						1.19		4186.876	0.298
123679-HxCDF	NotFnd		0.9942						1.19		4186.876	0.298
234678-HxCDF	**37.38**	J	**1.0005**	**1.0003**	**-0.4**	**1.15E+05**	**1.20**	**Y**	**1.19**	**0.829**	**4186.876**	**0.271**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4186.876	0.298
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4186.876**	**0.364**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.38	J	1.0006	1.0009	+0.7	1.79E+05	1.09	Y	1.19	1.47	4186.876	0.298
1234678-HpCDF	**39.78**		**1.0003**	**1.0002**	**-0.2**	**6.61E+05**	**1.16**	**Y**	**1.37**	**4.92**	**4588.777**	**0.264**
1234679-HpCDF	NotFnd		1.0068						1.34		4588.777	0.337
1234689-HpCDF	40.19	**J**	1.0104	1.0105	+0.2	1.58E+05	0.97	Y	1.34	1.42	4588.777	0.337
1234789-HpCDF	**41.19**	**J**	**1.0003**	**1.0003**	**0**	**1.91E+05**	**0.95**	**Y**	**1.31**	**2.15**	**4588.777**	**0.443**
OCDF	**43.60**		**1.0002**	**1.0003**	**+0.3**	**7.67E+05**	**0.86**	**Y**	**1.07**	**11.5**	**3449.016**	**0.619**
OCDF-a	NotFnd		1.0001						0.07		3356.755	9.73

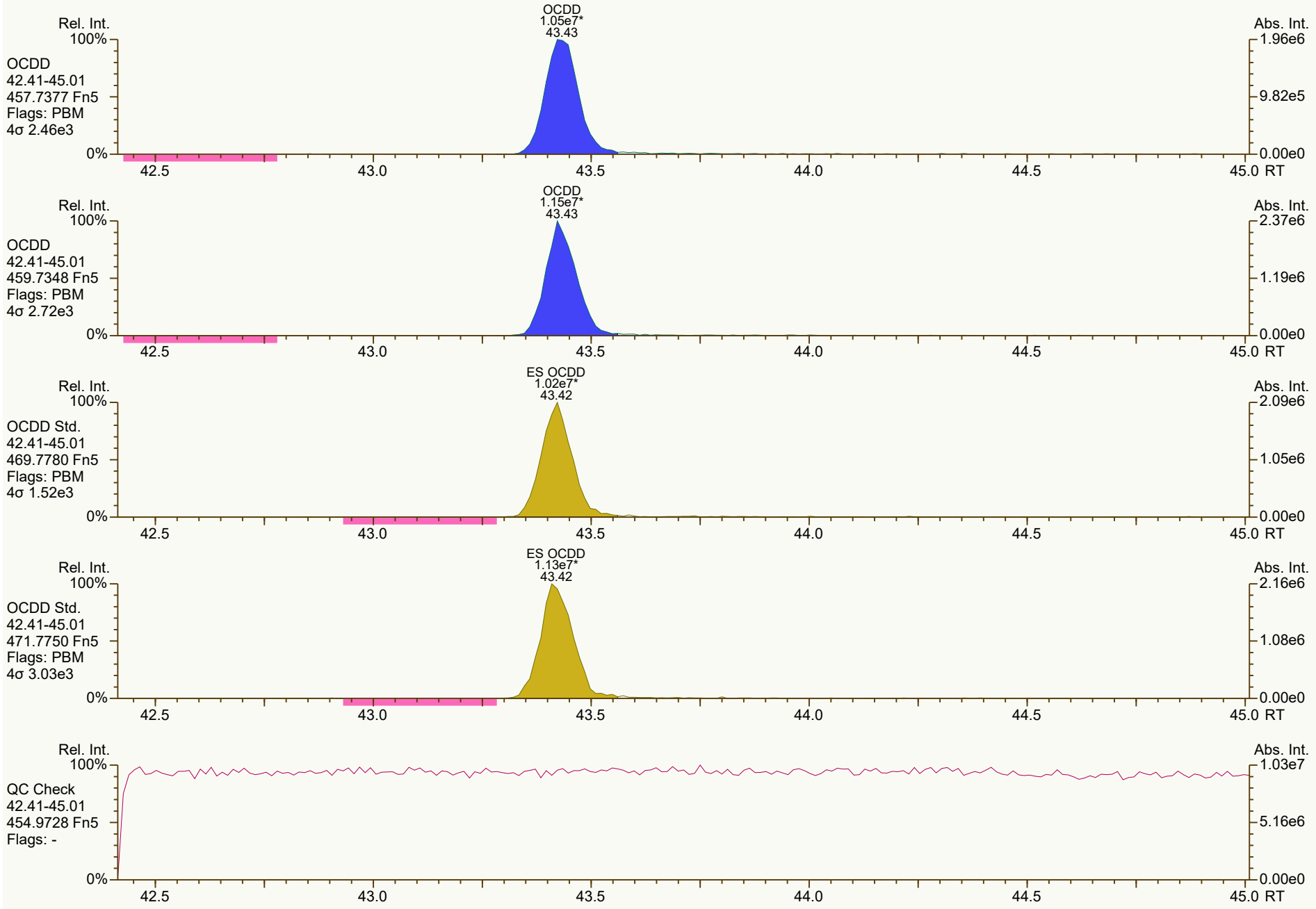

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
5.73e6
2.87e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.95e6
2.48e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.88e7
9.41e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.18e7
5.91e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT

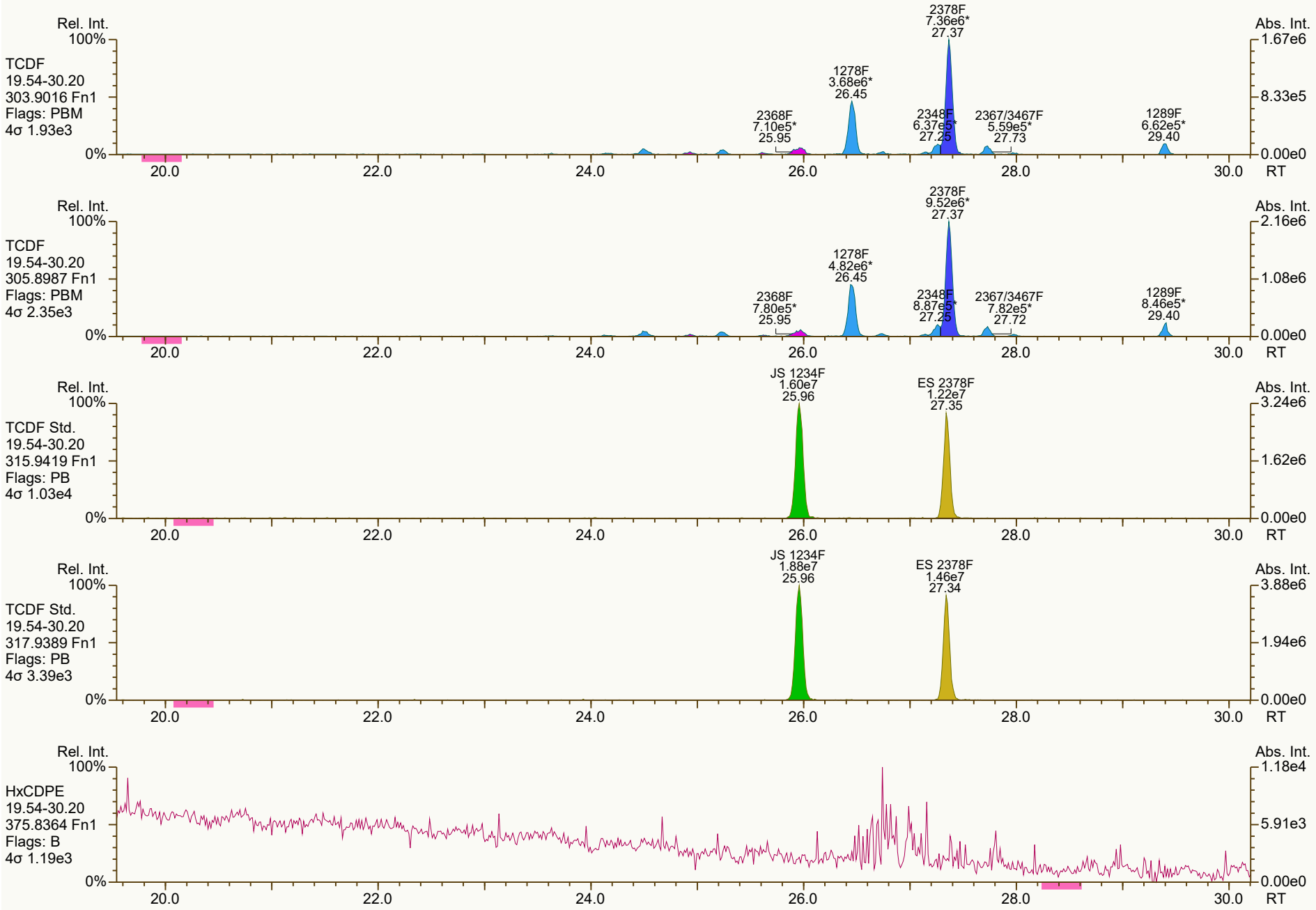

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.50e3
0%
2378D
2.03e6*
28.24
1469D
2.70e5*
26.13
1278D
1.93e5*
28.57
Abs. Int.
4.81e5
2.41e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.05e3
0%
2378D
2.55e6*
28.24
1469D
3.92e5*
26.13
1278D
2.59e5*
28.57
Abs. Int.
5.96e5
2.98e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.41e3
0%
CS 37Cl-2378D
9.03e6
28.24
Abs. Int.
2.15e6
1.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PBM
4σ 7.53e3
0%
JS 1234D
9.71e6*
27.54
ES 2378D
8.20e6*
28.22
Abs. Int.
2.34e6
1.17e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PBM
4σ 6.25e3
0%
JS 1234D
1.16e7*
27.54
ES 2378D
9.89e6*
28.21
Abs. Int.
2.75e6
1.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 1.64e3
12469D
2.21e5*
31.65
12369D...[3]
8.25e4*
32.77
12378D
3.75e4*
33.63
Abs. Int.
6.61e4
3.31e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 1.99e3
12469D
1.39e5*
31.65
12369D...[3]
4.94e4*
32.75
12378D
2.92e4*
33.64
Abs. Int.
3.86e4
1.93e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.98e3
CS 12347D
1.00e7
33.11
ES 12378D
1.01e7
33.62
Abs. Int.
2.82e6
1.41e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 3.98e3
CS 12347D
6.50e6
33.11
ES 12378D
6.43e6
33.62
Abs. Int.
1.83e6
9.15e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Abs. Int.
4.95e6
2.48e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


SGS ID: B6292_18927_DF_008
Sample ID: 11215131-020622-S-SB-SC-B-16H
Acq: 21-Feb-2022 19:43:17
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 56
User: DTF Datafile: 220221C14
Rel. Int.
Abs. Int.
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 1.40e3
124679/124689D
1.19e6
35.82
123679/123689D
2.37e5
36.77
123789D
7.06e4*
37.99
3.61e5
1.80e5
0.00e0
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 1.40e3
124679/124689D
9.89e5
35.82
123679/123689D
1.74e5
36.77
3.13e5
1.57e5
0.00e0
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 2.52e3
ES 123678D
8.90e6
37.68
ES 123478D
8.63e6
37.56
JS 123467D
5.39e6*
37.88
ES 123789D
9.22e6*
37.98
2.78e6
1.39e6
0.00e0
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 4.33e3
ES 123678D
7.24e6
37.68
ES 123478D
6.82e6
37.55
JS 123467D
4.01e6
37.87
ES 123789D
7.46e6
37.98
2.03e6
1.01e6
0.00e0
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
1.88e7
9.41e6
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_008.utp_res, saved 22-Feb-2022 09:26 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2296, 5157 scc: 106-893
Revised: 22-Feb-2022 09:01 (DTF) Printed: 22-Feb-2022 09:37 Page 4 of 12


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 2.16e3
1234679D
2.11e6*
40.05
1234678D
8.81e5*
40.73
Abs. Int.
7.10e5
3.55e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 2.13e3
1234679D
2.02e6*
40.05
1234678D
8.40e5*
40.73
Abs. Int.
6.58e5
3.29e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 1.68e3
ES 1234678D
7.89e6
40.72
Abs. Int.
2.36e6
1.18e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 4.02e3
ES 1234678D
7.48e6
40.72
Abs. Int.
2.14e6
1.07e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.91e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
1.05e7*
43.43
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 2.46e3
0%
Abs. Int.
1.96e6
9.82e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.15e7*
43.43
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 2.72e3
2.37e6
1.19e6
ES OCDD
1.02e7*
43.42
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.52e3
2.09e6
1.05e6
ES OCDD
1.13e7*
43.42
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 3.03e3
2.16e6
1.08e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.03e7
5.16e6


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.93e3
0%
2378F
7.36e6*
27.37
1278F
3.68e6*
26.45
2368F
7.10e5*
25.95
2348F
6.37e5*
27.25
2367/3467F
5.59e5*
27.73
1289F
6.62e5*
29.40
Abs. Int.
1.67e6
8.33e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.35e3
0%
2378F
9.52e6*
27.37
1278F
4.82e6*
26.45
2368F
7.80e5*
25.95
2348F
8.87e5*
27.25
2367/3467F
7.82e5*
27.72
1289F
8.46e5*
29.40
Abs. Int.
2.16e6
1.08e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 1.03e4
0%
JS 1234F
1.60e7
25.96
ES 2378F
1.22e7
27.35
Abs. Int.
3.24e6
1.62e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.39e3
0%
JS 1234F
1.88e7
25.96
ES 2378F
1.46e7
27.34
Abs. Int.
3.88e6
1.94e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.19e3
0%
Abs. Int.
1.18e4
5.91e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: B6292_18927_DF_008 | Sample ID: 11215131-020622-S-SB-SC-B-16H | Acq: 21-Feb-2022 19:43:17

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 56 | User: DTF Datafile: 220221C14

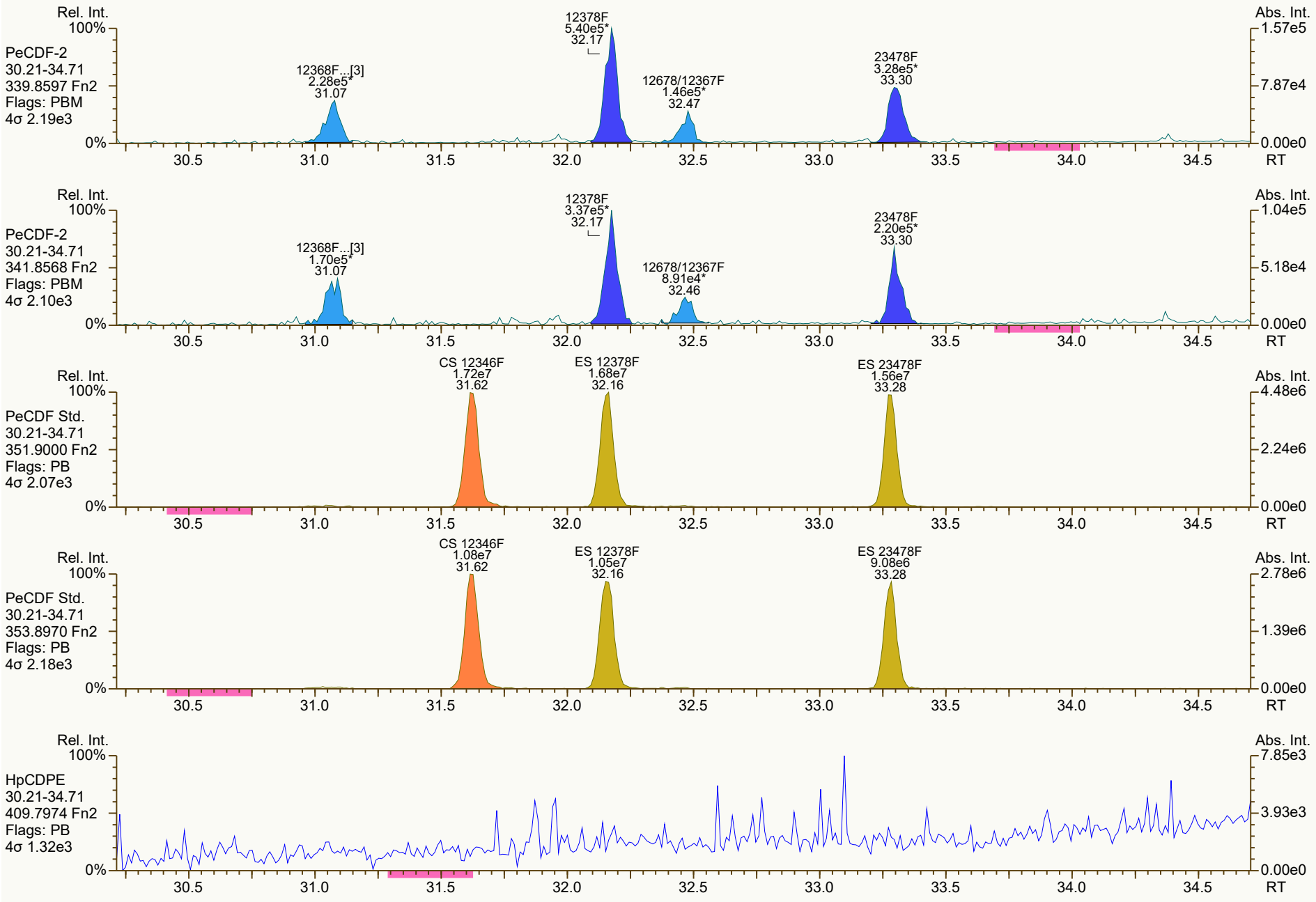


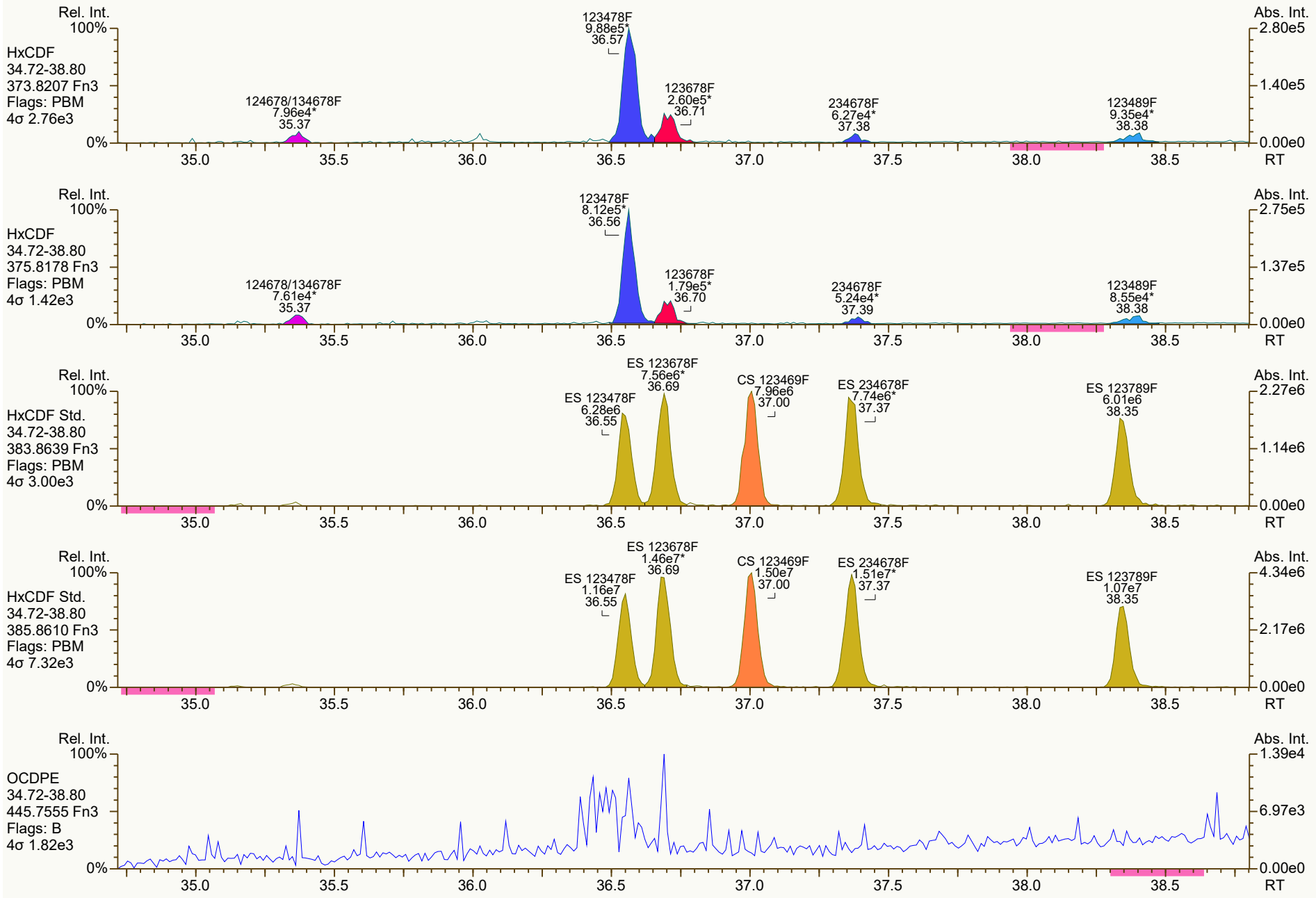
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_008.utp_res, saved 22-Feb-2022 09:26 (DTF)

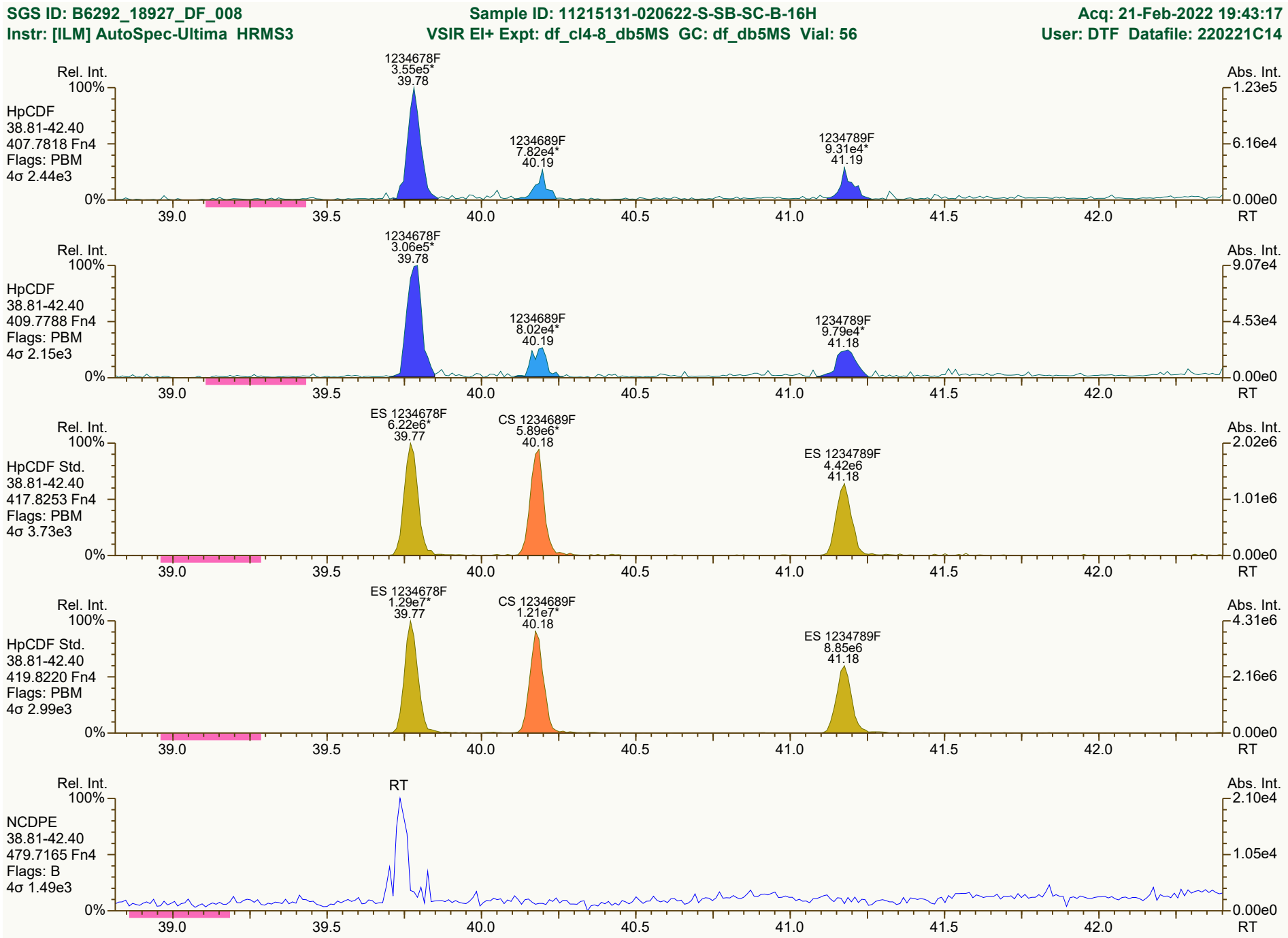
Peak annotation: Areas, Centroids

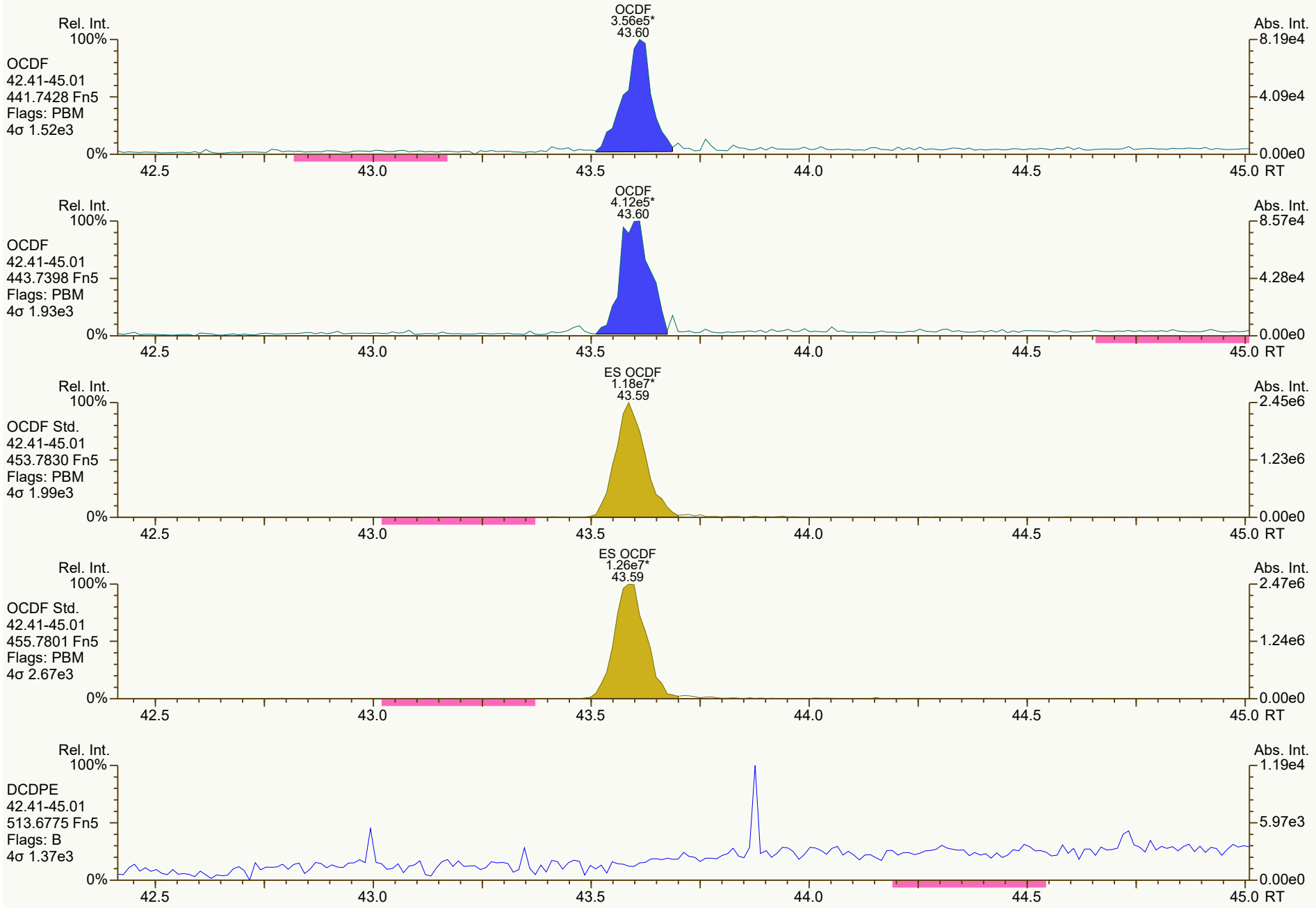
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8522 scc: 106-893

PKD: 22-Feb-2022 08:58 Printed: 22-Feb-2022 09:37 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 2.19e3
12368F...[3]
2.28e5*
31.07
12378F
5.40e5*
32.17
12678/12367F
1.46e5*
32.47
23478F
3.28e5*
33.30
0%
Abs. Int.
1.57e5
7.87e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 2.10e3
12368F...[3]
1.70e5*
31.07
12378F
3.37e5*
32.17
12678/12367F
8.91e4*
32.46
23478F
2.20e5*
33.30
0%
Abs. Int.
1.04e5
5.18e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 2.07e3
CS 12346F
1.72e7
31.62
ES 12378F
1.68e7
32.16
ES 23478F
1.56e7
33.28
0%
Abs. Int.
4.48e6
2.24e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.18e3
CS 12346F
1.08e7
31.62
ES 12378F
1.05e7
32.16
ES 23478F
9.08e6
33.28
0%
Abs. Int.
2.78e6
1.39e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: PB
4σ 1.32e3
0%
Abs. Int.
7.85e3
3.93e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 2.76e3
123478F
9.88e5*
36.57
123678F
2.60e5*
36.71
124678/134678F
7.96e4*
35.37
234678F
6.27e4*
37.38
123489F
9.35e4*
38.38
Abs. Int.
2.80e5
1.40e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 1.42e3
123478F
8.12e5*
36.56
123678F
1.79e5*
36.70
124678/134678F
7.61e4*
35.37
234678F
5.24e4*
37.39
123489F
8.55e4*
38.38
Abs. Int.
2.75e5
1.37e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 3.00e3
ES 123678F
7.56e6*
36.69
ES 123478F
6.28e6
36.55
CS 123469F
7.96e6
37.00
ES 234678F
7.74e6*
37.37
ES 123789F
6.01e6
38.35
Abs. Int.
2.27e6
1.14e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 7.32e3
ES 123678F
1.46e7*
36.69
ES 123478F
1.16e7
36.55
CS 123469F
1.50e7
37.00
ES 234678F
1.51e7*
37.37
ES 123789F
1.07e7
38.35
Abs. Int.
4.34e6
2.17e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.82e3
Abs. Int.
1.39e4
6.97e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


SGS ID: B6292_18927_DF_008
Sample ID: 11215131-020622-S-SB-SC-B-16H
Acq: 21-Feb-2022 19:43:17
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 56
User: DTF Datafile: 220221C14
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 2.44e3
1234678F
3.55e5*
39.78
1234689F
7.82e4*
40.19
1234789F
9.31e4*
41.19
1.23e5
6.16e4
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 2.15e3
1234678F
3.06e5*
39.78
1234689F
8.02e4*
40.19
1234789F
9.79e4*
41.18
9.07e4
4.53e4
0.00e0
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 3.73e3
ES 1234678F
6.22e6*
39.77
CS 1234689F
5.89e6*
40.18
ES 1234789F
4.42e6
41.18
2.02e6
1.01e6
0.00e0
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 2.99e3
ES 1234678F
1.29e7*
39.77
CS 1234689F
1.21e7*
40.18
ES 1234789F
8.85e6
41.18
4.31e6
2.16e6
0.00e0
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.49e3
RT
2.10e4
1.05e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_008.utp_res, saved 22-Feb-2022 09:26 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0204, 5411, 1011 scc: 106-893
Revised: 22-Feb-2022 09:05 (DTF) Printed: 22-Feb-2022 09:37 Page 11 of 12


OCDF
3.56e5*
43.60
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 1.52e3
0%
Abs. Int.
8.19e4
4.09e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.12e5*
43.60
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 1.93e3
8.57e4
4.28e4
ES OCDF
1.18e7*
43.59
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 1.99e3
2.45e6
1.23e6
ES OCDF
1.26e7*
43.59
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 2.67e3
2.47e6
1.24e6
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.37e3
1.19e4
5.97e3

Lab ID: B6292_18927_DF_010 **Acq'd:** 21 Feb 2022 20:29 DTF **Wt/Vol:** 10.17 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-O-20 **UTP:** 22-Feb-2022 09:26:01 DTF **J-level:** 0.492 pg/g **Split:** 1 **Checkcode:** 627-336-YMV

Datafile: 220221C15 **Report:** 22 Feb 2022 09:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.23		1.0008	1.0008	0	1.74E+06	0.86	Y	1.18	15.2	4830.567	0.467
12378-PeCDD	33.62	J EMPC	1.0007	1.0004	-0.6	6.93E+04	1.90	N	1.04	0.764	3655.422	0.357
123478-HxCDD	37.56	J	1.0004	1.0004	0	1.60E+05	1.40	Y	1.09	1.87	6139.628	0.644
123678-HxCDD	37.68		1.0036	1.0037	+0.2	4.66E+05	1.18	Y	1.15	4.94	6139.628	0.596
123789-HxCDD	37.99		1.0118	1.0118	0	2.84E+05	1.27	Y	1.05	3.22	6139.628	0.619
1234678-HpCDD	40.72		1.0002	1.0004	+0.5	1.29E+07	1.07	Y	1.06	160	2903.093	0.301
OCDD	43.42		1.0003	1.0003	0	8.61E+07	0.91	Y	1.13	1,590	3821.783	0.944
2378-TCDF	27.36		1.0008	1.0007	-0.2	5.35E+06	0.84	Y	1.08	34.4	3451.471	0.245
12378-PeCDF	32.17	J	1.0005	1.0006	+0.2	2.64E+05	1.63	Y	1.02	1.94	3284.101	0.211
23478-PeCDF	33.30		1.0005	1.0007	+0.4	3.87E+05	1.49	Y	1.02	2.95	3284.101	0.223
123478-HxCDF	36.55		1.0004	1.0004	0	4.62E+05	1.40	Y	1.27	3.77	3980.371	0.269
123678-HxCDF	36.69	J	1.0004	1.0004	0	2.55E+05	1.27	Y	1.15	1.91	3980.371	0.239
234678-HxCDF	37.37		1.0005	1.0003	-0.4	3.40E+05	1.09	Y	1.19	2.47	3980.371	0.248
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3980.371	0.313
1234678-HpCDF	39.77		1.0003	1.0003	0	2.47E+06	0.96	Y	1.37	21.4	3489.185	0.24
1234789-HpCDF	41.18	J	1.0003	1.0003	0	2.09E+05	1.00	Y	1.31	2.31	3489.185	0.306
OCDF	43.60		1.0002	1.0003	+0.3	6.76E+06	0.90	Y	1.07	100	4344.934	0.851

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.21	1.0243	1.0243	0	1.90E+07	0.78	Y	1.05	63.1
ES 12378-PeCDD	33.61	1.2198	1.2204	+1.2	1.72E+07	1.64	Y	0.88	68
ES 123478-HxCDD	37.54	0.9916	0.9914	-0.5	1.54E+07	1.27	Y	0.97	64.1
ES 123678-HxCDD	37.67	0.9947	0.9947	0	1.62E+07	1.20	Y	0.94	69.1
ES 123789-HxCDD	37.97	1.0029	1.0027	-0.5	1.65E+07	1.28	Y	1.09	61.2
ES 1234678-HpCDD	40.71	1.0749	1.0750	+0.2	1.49E+07	1.02	Y	0.91	66
ES OCDD	43.40	1.1460	1.1461	+0.3	1.89E+07	0.86	Y	0.62	61.1
ES 2378-TCDF	27.34	1.0531	1.0533	+0.3	2.83E+07	0.86	Y	1.06	57.9
ES 12378-PeCDF	32.15	1.2378	1.2385	+1.4	2.61E+07	1.63	Y	0.91	62.1
ES 23478-PeCDF	33.27	1.2810	1.2818	+1.6	2.53E+07	1.62	Y	0.88	62.1
ES 123478-HxCDF	36.54	0.9650	0.9650	0	1.90E+07	0.53	Y	1.20	63.8
ES 123678-HxCDF	36.68	0.9688	0.9686	-0.4	2.28E+07	0.53	Y	1.35	68
ES 234678-HxCDF	37.36	0.9866	0.9866	0	2.28E+07	0.54	Y	1.24	73.9
ES 123789-HxCDF	38.34	1.0125	1.0124	-0.2	1.76E+07	0.53	Y	1.16	61.6
ES 1234678-HpCDF	39.76	1.0501	1.0500	-0.2	1.65E+07	0.50	Y	0.97	69
ES 1234789-HpCDF	41.16	1.0870	1.0870	0	1.36E+07	0.49	Y	0.85	64.6
ES OCDF	43.58	1.1505	1.1510	+1.3	2.47E+07	0.92	Y	0.81	61.8

Lab ID: B6292_18927_DF_010 **Acq'd:** 21 Feb 2022 20:29 DTF **Wt/Vol:** 10.17 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-O-20 **UTP:** 22-Feb-2022 09:26:01 DTF **J-level:** 0.492 pg/g **Split:** 1 **Checkcode:** 627-336-YMV

Datafile: 220221C15 **Report:** 22 Feb 2022 09:29 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.54		-	-	-	2.88E+07	0.83	Y	-	-
JS 1234-TCDF	25.96		-	-	-	4.61E+07	0.83	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	1.24E+07	1.25	Y	-	-
CS 37Cl-2378-TCDD	28.23		1.0251	1.0251	0	8.49E+06	n/a	-	1.20	61.4
CS 12347-PeCDD	33.10		1.2016	1.2020	+0.8	1.61E+07	1.58	Y	0.75	74.2
CS 12346-PeCDF	31.62		1.2172	1.2179	+1.3	2.58E+07	1.62	Y	0.85	65.7
CS 123469-HxCDF	36.99		0.9771	0.9769	-0.4	2.05E+07	0.53	Y	1.12	73.9
CS 1234689-HpCDF	40.18		1.0608	1.0609	+0.2	1.65E+07	0.47	Y	0.89	75.2
SS 37Cl-2378-TCDD	28.23		1.0251	1.0251	0	8.49E+06	n/a	-	1.15	97.5
SS 12347-PeCDD	33.10		1.2016	1.2020	+0.8	1.61E+07	1.58	Y	0.86	109
SS 12346-PeCDF	31.62		1.2172	1.2179	+1.3	2.58E+07	1.62	Y	0.94	106
SS 123469-HxCDF	36.99		0.9771	0.9769	-0.4	2.05E+07	0.53	Y	0.83	109
SS 1234689-HpCDF	40.18		1.0608	1.0609	+0.2	1.65E+07	0.47	Y	0.92	109

Totals	Conc	EMPC
Total TCDD	17.8	19.5
Total PeCDD	5.68	10.6
Total HxCDD	72.8	74.4
Total HpCDD	505	505
Total Tetra-Octa Dioxins	2190	2200
Total TCDF	64.7	80.8
Total PeCDF	23.7	25
Total HxCDF	32.5	33.5
Total HpCDF	67.4	67.4
Total Tetra-Octa Furans	289	307
Total Tetra-Octa Dioxins & Furans	2480	2510

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.857	0.86
Response	1.75E+06	1.74E+06

Lab ID: B6292_18927_DF_010 **Acq'd: 21 Feb 2022 20:29 DTF** **Wt/Vol: 10.17 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-O-20 **UTP: 22-Feb-2022 09:26:01 DTF** **J-level: 0.492 pg/g** **Split: 1** **Checkcode: 627-336-YMV**

Datafile: 220221C15 **Report: 22 Feb 2022 09:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.54	EMPC	0.8701	0.8697	-0.6	1.98E+05	0.91	N	1.18	1.73	4830.567	0.467
1379-TCDD	NotFnd		0.8829						1.18		4830.567	0.467
1369-TCDD	NotFnd		0.8982						1.18		4830.567	0.467
1469-TCDD	26.13		0.9261	0.9263	+0.3	1.35E+05	0.87	Y	1.18	1.18	4830.567	0.467
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4830.567	0.467
1378-TCDD	NotFnd		0.9417						1.18		4830.567	0.467
1268-TCDD	NotFnd		0.9487						1.18		4830.567	0.467
1478-TCDD	NotFnd		0.9576						1.18		4830.567	0.467
1279-TCDD	NotFnd		0.9636						1.18		4830.567	0.467
1234/1269-TCDD	NotFnd		0.9761						1.18		4830.567	0.467
1236-TCDD	NotFnd		0.9812						1.18		4830.567	0.467
1237/1238-TCDD	NotFnd		0.9905						1.18		4830.567	0.467
1239-TCDD	NotFnd		0.9951						1.18		4830.567	0.467
2378-TCDD	**28.23**		**1.0008**	1.0008	**0**	1.74E+06	0.86	Y	**1.18**	**15.2**	**4830.567**	**0.467**
1278-TCDD	28.56		1.0124	1.0125	+0.2	1.57E+05	0.74	Y	1.18	1.38	4830.567	0.467
1267-TCDD	NotFnd		1.0172						1.18		4830.567	0.467
1289-TCDD	NotFnd		1.0354						1.18		4830.567	0.467
12479/12468-PeCDD	31.10		0.9255	0.9254	-0.2	2.72E+05	1.40	Y	1.04	3	3655.422	0.357
12469-PeCDD	31.64	J EMPC	0.9416	0.9415	-0.2	1.47E+05	1.06	N	1.04	1.63	3655.422	0.357
12368-PeCDD	32.20	J	0.9582	0.9580	-0.4	1.45E+05	1.62	Y	1.04	1.6	3655.422	0.357
12478-PeCDD	32.40	J EMPC	0.9637	0.9638	+0.2	8.37E+04	1.05	N	1.04	0.923	3655.422	0.357
12379-PeCDD	32.49	J	0.9668	0.9668	0	9.78E+04	1.49	Y	1.04	1.08	3655.422	0.357
12369/12467/12489-PeCDD	32.75	J EMPC	0.9746	0.9744	-0.4	8.85E+04	1.21	N	1.04	0.976	3655.422	0.357
12346/12347-PeCDD	33.13	J EMPC	0.9858	0.9856	-0.4	5.45E+04	1.00	N	1.04	0.601	3655.422	0.357
12378-PeCDD	33.62	J EMPC	**1.0007**	**1.0004**	**-0.6**	**6.93E+04**	**1.90**	**N**	**1.04**	**0.764**	**3655.422**	**0.357**
12367-PeCDD	NotFnd		1.0036						1.04		3655.422	0.357
12389-PeCDD	NotFnd		1.0137						1.04		3655.422	0.357
124679/124689-HxCDD	35.81		0.9540	0.9539	-0.2	2.39E+06	1.20	Y	1.10	26.8	6139.628	0.619
123468-HxCDD	36.47		0.9715	0.9714	-0.2	5.94E+05	1.36	Y	1.10	6.65	6139.628	0.619
123679/123689-HxCDD	36.77		0.9793	0.9794	+0.2	2.04E+06	1.26	Y	1.10	22.8	6139.628	0.619
123469-HxCDD	36.89		0.9829	0.9827	-0.4	5.80E+05	1.29	Y	1.10	6.49	6139.628	0.619
123478-HxCDD	37.56	J	**1.0004**	**1.0004**	**0**	**1.60E+05**	**1.40**	**Y**	1.09	**1.87**	**6139.628**	**0.644**
123678-HxCDD	37.68		**1.0036**	**1.0037**	**+0.2**	**4.66E+05**	**1.18**	**Y**	1.15	**4.94**	**6139.628**	**0.596**
123467-HxCDD	37.88	J EMPC	1.0089	1.0090	+0.2	1.48E+05	1.54	N	1.10	1.66	6139.628	0.619
123789-HxCDD	37.99		**1.0118**	**1.0118**	**0**	**2.84E+05**	**1.27**	**Y**	1.05	**3.22**	**6139.628**	**0.619**

Lab ID: B6292_18927_DF_010 **Acq'd: 21 Feb 2022 20:29 DTF** **Wt/Vol: 10.17 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-O-20 **UTP: 22-Feb-2022 09:26:01 DTF** **J-level: 0.492 pg/g** **Split: 1** **Checkcode: 627-336-YMV**

Datafile: 220221C15 **Report: 22 Feb 2022 09:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

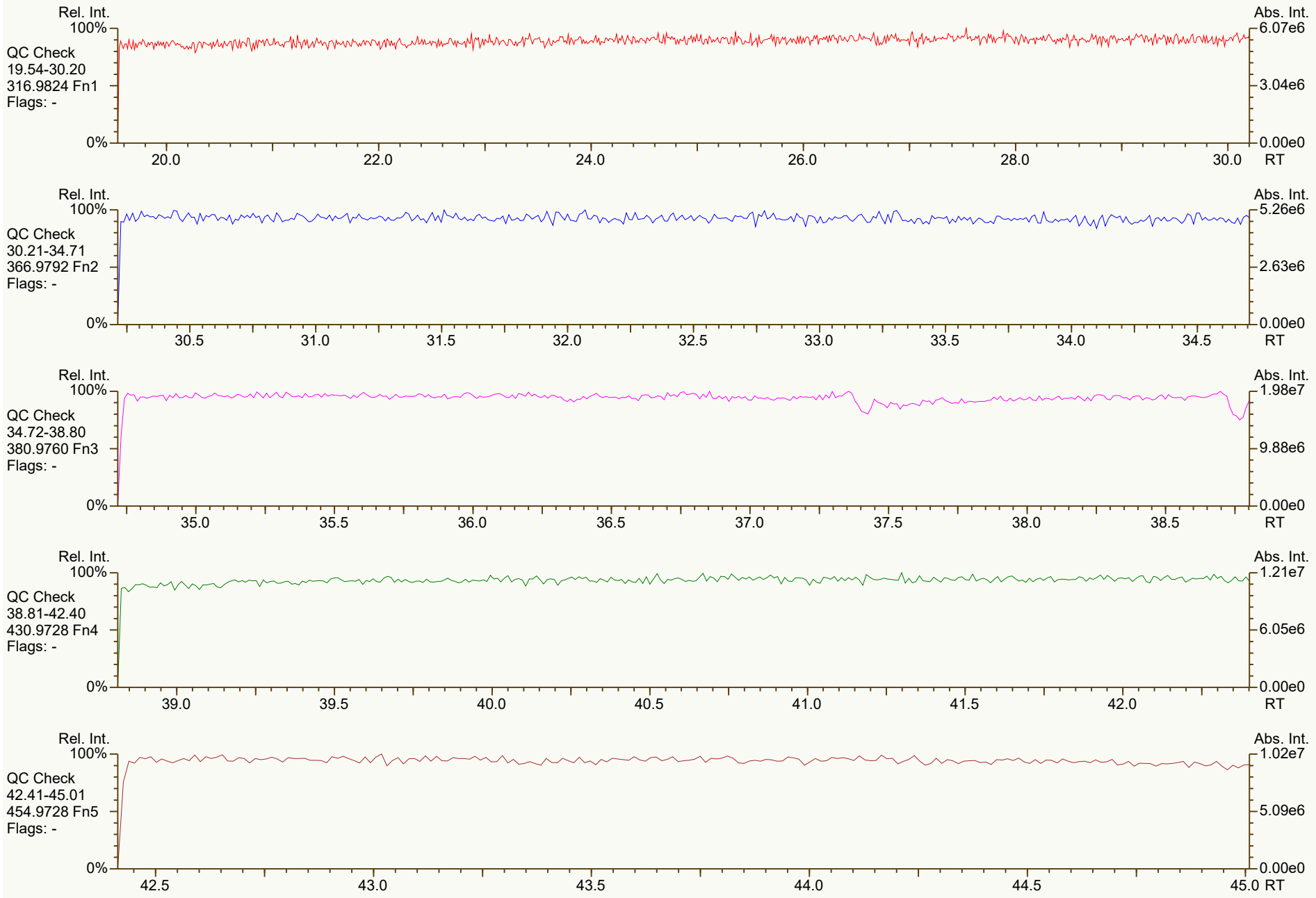
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.04		0.9836	0.9837	+0.2	2.78E+07	1.05	Y	1.06	345	2903.093	0.301
1234678-HpCDD	**40.72**		**1.0002**	**1.0004**	**+0.5**	**1.29E+07**	**1.07**	**Y**	**1.06**	**160**	**2903.093**	**0.301**
OCDD	**43.42**		**1.0003**	**1.0003**	**0**	**8.61E+07**	**0.91**	**Y**	**1.13**	**1,590**	**3821.783**	**0.944**
OCDD-a	43.41		1.0002	1.0002	0	5.67E+06	2.64	Y	0.07	1,640	4690.726	18.1
1368-TCDF	NotFnd		0.8191						1.08		3451.471	0.245
1468-TCDF	22.97	EMPC	0.8408	0.8400	-1.1	9.94E+04	1.03	N	1.08	0.64	3451.471	0.245
2468-TCDF	23.61	EMPC	0.8645	0.8636	-1.3	2.85E+05	0.95	N	1.08	1.84	3451.471	0.245
1346/1246-TCDF	NotFnd		0.8772						1.08		3451.471	0.245
1347/1378/1247-TCDF	24.12		0.8833	0.8823	-1.4	5.37E+05	0.83	Y	1.08	3.46	3451.471	0.245
1348-TCDF	24.43		0.8932	0.8934	+0.3	1.48E+05	0.83	Y	1.08	0.953	3451.471	0.245
1248/1367/1379-TCDF	24.53		0.8980	0.8970	-1.5	3.14E+05	0.77	Y	1.08	2.03	3451.471	0.245
1268-TCDF	24.92	EMPC	0.9119	0.9115	-0.6	2.04E+05	0.89	N	1.08	1.31	3451.471	0.245
1467-TCDF	25.05	EMPC	0.9170	0.9162	-1.2	1.08E+05	0.89	N	1.08	0.698	3451.471	0.245
1478-TCDF	25.23		0.9234	0.9228	-0.9	3.38E+05	0.87	Y	1.08	2.18	3451.471	0.245
1369/1237-TCDF	25.60		0.9369	0.9364	-0.8	1.34E+05	0.84	Y	1.08	0.864	3451.471	0.245
2467-TCDF	25.74	EMPC	0.9415	0.9413	-0.3	1.68E+05	0.92	N	1.08	1.08	3451.471	0.245
2368-TCDF	25.91	EMPC	0.9475	0.9477	+0.3	5.10E+05	0.64	N	1.08	3.28	3451.471	0.245
1238/1234/1678/1469/1236-TCDF	26.00	EMPC	0.9507	0.9510	+0.5	2.04E+05	1.24	N	1.08	1.32	3451.471	0.245
1278-TCDF	26.45		0.9676	0.9674	-0.3	1.89E+06	0.75	Y	1.08	12.2	3451.471	0.245
1349-TCDF	NotFnd		0.9722						1.08		3451.471	0.245
1267-TCDF	26.73		0.9777	0.9776	-0.2	2.89E+05	0.85	Y	1.08	1.86	3451.471	0.245
2346/1249-TCDF	NotFnd		0.9843						1.08		3451.471	0.245
2347/1279-TCDF	27.13	EMPC	0.9926	0.9922	-0.7	1.60E+05	1.24	N	1.08	1.03	3451.471	0.245
2348-TCDF	27.23	EMPC	0.9968	0.9960	-1.3	2.49E+05	0.43	N	1.08	1.6	3451.471	0.245
2378-TCDF	**27.36**		**1.0008**	**1.0007**	**-0.2**	**5.35E+06**	**0.84**	**Y**	**1.08**	**34.4**	**3451.471**	**0.245**
2367/3467-TCDF	27.72		1.0142	1.0139	-0.5	1.05E+06	0.75	Y	1.08	6.77	3451.471	0.245
1269-TCDF	27.96	EMPC	1.0235	1.0227	-1.3	8.67E+04	0.99	N	1.08	0.558	3451.471	0.245
1239-TCDF	NotFnd		1.0329						1.08		3451.471	0.245
1289-TCDF	29.37	EMPC	1.0742	1.0743	+0.2	4.22E+05	0.97	N	1.08	2.72	3451.471	0.245
13468/12468-PeCDF	29.34		0.9122	0.9125	+0.5	7.01E+05	1.61	Y	1.02	5.25	2621.562	0.173
13678/13467/12467-PeCDF	30.89		0.9606	0.9610	+0.7	3.59E+05	1.48	Y	1.02	2.69	3284.101	0.217
12368/13478/12478-PeCDF	31.06		0.9655	0.9662	+1.3	7.51E+05	1.50	Y	1.02	5.63	3284.101	0.217
14678-PeCDF	NotFnd		0.9685						1.02		3284.101	0.217
13479-PeCDF	NotFnd		0.9716						1.02		3284.101	0.217
13469/12479-PeCDF	NotFnd		0.9794						1.02		3284.101	0.217
12346-PeCDF	31.63	J EMPC	0.9836	0.9839	+0.6	8.55E+04	1.85	N	1.02	0.64	3284.101	0.217

Lab ID: B6292_18927_DF_010 **Acq'd: 21 Feb 2022 20:29 DTF** **Wt/Vol: 10.17 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-O-20 **UTP: 22-Feb-2022 09:26:01 DTF** **J-level: 0.492 pg/g** **Split: 1** **Checkcode: 627-336-YMV**

Datafile: 220221C15 **Report: 22 Feb 2022 09:29 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.74	J	0.9866	0.9873	+1.3	2.62E+05	1.68	Y	1.02	1.96	3284.101	0.217
12347-PeCDF	NotFnd		0.9891						1.02		3284.101	0.217
12348-PeCDF	31.95	J EMPC	0.9938	0.9939	+0.2	9.14E+04	1.99	N	1.02	0.684	3284.101	0.217
12378-PeCDF	**32.17**	J	**1.0005**	**1.0006**	**+0.2**	**2.64E+05**	**1.63**	**Y**	**1.02**	**1.94**	**3284.101**	**0.211**
12678/12367-PeCDF	32.46	J	1.0091	1.0095	+0.8	2.26E+05	1.62	Y	1.02	1.7	3284.101	0.217
12379-PeCDF	NotFnd		1.0144						1.02		3284.101	0.217
12679-PeCDF	NotFnd		0.9927						1.02		3284.101	0.217
23467/12369-PeCDF	33.16	J	0.9965	0.9968	+0.6	2.05E+05	1.43	Y	1.02	1.54	3284.101	0.217
23478-PeCDF	**33.30**		**1.0005**	**1.0007**	**+0.4**	**3.87E+05**	**1.49**	**Y**	**1.02**	**2.95**	**3284.101**	**0.223**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3284.101	0.217
12349-PeCDF	NotFnd		1.0101						1.02		3284.101	0.217
12389-PeCDF	NotFnd		1.0330						1.02		3284.101	0.217
123468-HxCDF	35.16		0.9622	0.9622	0	3.72E+05	1.21	Y	1.19	2.99	3980.371	0.264
124678/134678-HxCDF	35.36		0.9678	0.9676	-0.4	1.28E+06	1.24	Y	1.19	10.3	3980.371	0.264
134679-HxCDF	NotFnd		0.9741						1.19		3980.371	0.264
124679-HxCDF	35.79	J EMPC	0.9795	0.9795	0	6.60E+04	1.03	N	1.19	0.53	3980.371	0.264
124689-HxCDF	36.01		0.9856	0.9856	0	1.21E+06	1.33	Y	1.19	9.67	3980.371	0.264
123467-HxCDF	36.43	J	0.9972	0.9969	-0.7	1.72E+05	1.10	Y	1.19	1.38	3980.371	0.264
123478-HxCDF	**36.55**		**1.0004**	**1.0004**	**0**	**4.62E+05**	**1.40**	**Y**	**1.27**	**3.77**	**3980.371**	**0.269**
123678-HxCDF	**36.69**	J	**1.0004**	**1.0004**	**0**	**2.55E+05**	**1.27**	**Y**	**1.15**	**1.91**	**3980.371**	**0.239**
123479-HxCDF	NotFnd		1.0048						1.19		3980.371	0.264
123469-HxCDF	NotFnd		1.0089						1.19		3980.371	0.264
123679-HxCDF	NotFnd		0.9942						1.19		3980.371	0.264
234678-HxCDF	**37.37**		**1.0005**	**1.0003**	**-0.4**	**3.40E+05**	**1.09**	**Y**	**1.19**	**2.47**	**3980.371**	**0.248**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3980.371	0.264
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3980.371**	**0.313**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.38	J EMPC	1.0006	1.0010	+0.9	6.87E+04	0.77	N	1.19	0.551	3980.371	0.264
1234678-HpCDF	**39.77**		**1.0003**	**1.0003**	**0**	**2.47E+06**	**0.96**	**Y**	**1.37**	**21.4**	**3489.185**	**0.24**
1234679-HpCDF	40.05	**J**	1.0068	1.0072	+1.0	1.64E+05	0.94	Y	1.34	1.6	3489.185	0.27
1234689-HpCDF	40.18		1.0104	1.0106	+0.5	4.32E+06	1.00	Y	1.34	42	3489.185	0.27
1234789-HpCDF	**41.18**	**J**	**1.0003**	**1.0003**	**0**	**2.09E+05**	**1.00**	**Y**	**1.31**	**2.31**	**3489.185**	**0.306**
OCDF	**43.60**		**1.0002**	**1.0003**	**+0.3**	**6.76E+06**	**0.90**	**Y**	**1.07**	**100**	**4344.934**	**0.851**
OCDF-a	43.57	**EMPC**	1.0001	0.9996	-1.3	2.36E+05	2.03	N	0.07	56.5	2680.708	8.48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0%
Abs. Int.
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3.04e6
0.00e0
RT
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19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
5.26e6
2.63e6
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
1.98e7
9.88e6
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
1.21e7
6.05e6
39.0
39.5
40.0
40.5
41.0
41.5
42.0
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
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5.09e6
42.5
43.0
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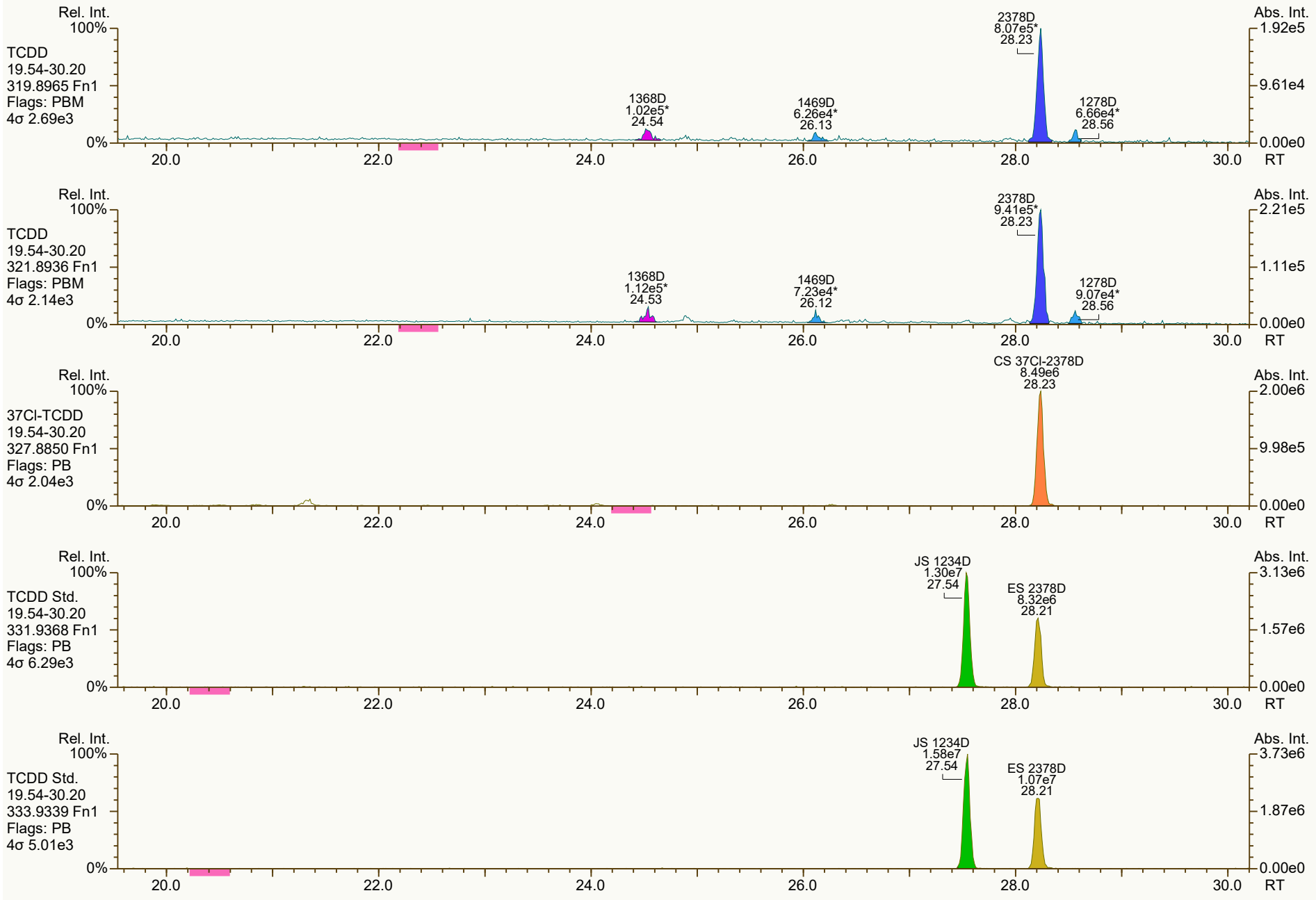
44.5
45.0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TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.69e3
0%
1368D
1.02e5*
24.54
1469D
6.26e4*
26.13
2378D
8.07e5*
28.23
1278D
6.66e4*
28.56
Abs. Int.
1.92e5
9.61e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.14e3
0%
1368D
1.12e5*
24.53
1469D
7.23e4*
26.12
2378D
9.41e5*
28.23
1278D
9.07e4*
28.56
Abs. Int.
2.21e5
1.11e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.04e3
0%
CS 37Cl-2378D
8.49e6
28.23
Abs. Int.
2.00e6
9.98e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.29e3
0%
JS 1234D
1.30e7
27.54
ES 2378D
8.32e6
28.21
Abs. Int.
3.13e6
1.57e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 5.01e3
0%
JS 1234D
1.58e7
27.54
ES 2378D
1.07e7
28.21
Abs. Int.
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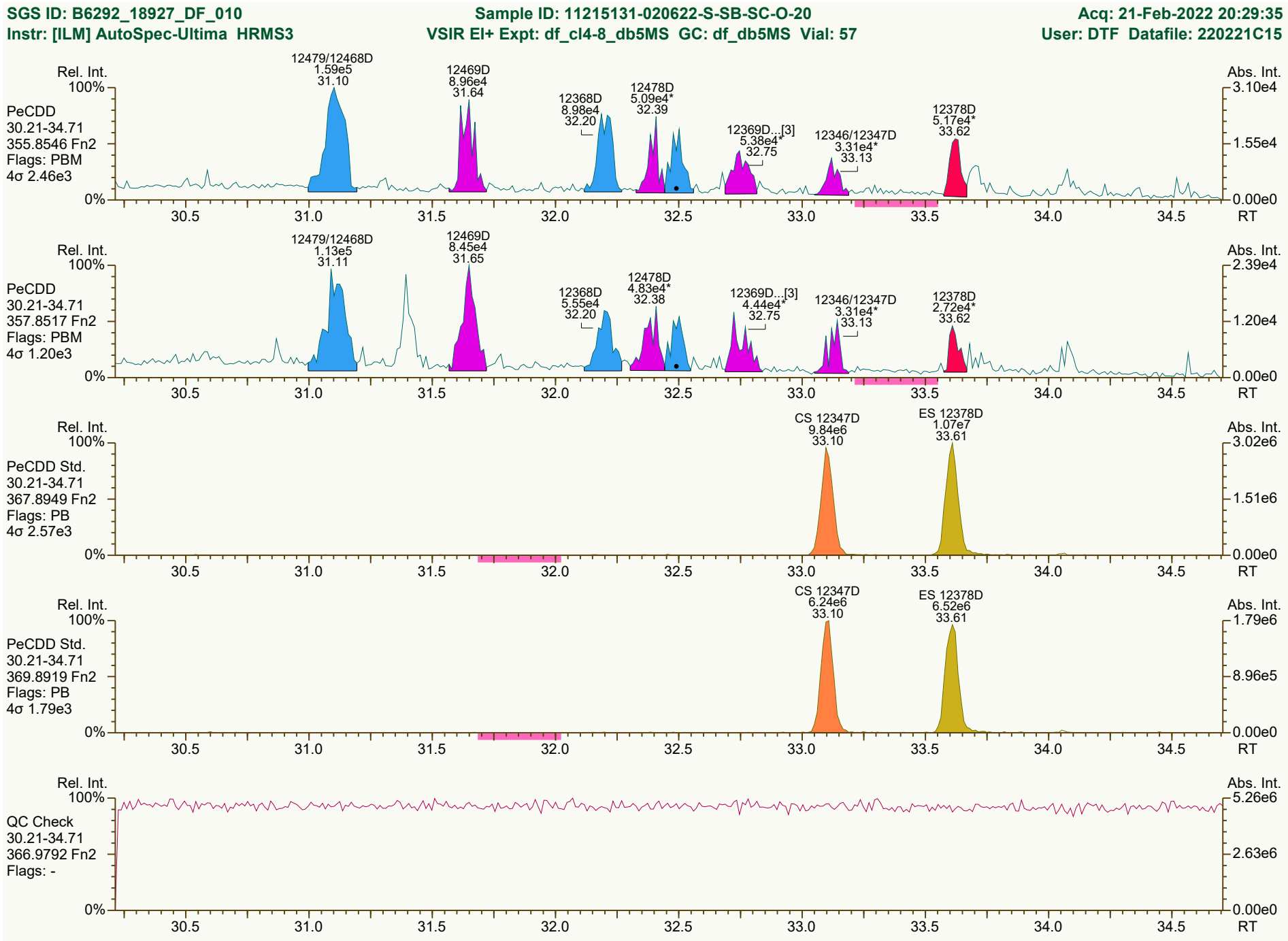
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6292_18927_DF_010
Sample ID: 11215131-020622-S-SB-SC-O-20
Acq: 21-Feb-2022 20:29:35
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 57
User: DTF Datafile: 220221C15
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 2.46e3
12479/12468D 1.59e5 31.10
12469D 8.96e4 31.64
12368D 8.98e4 32.20
12478D 5.09e4* 32.39
12369D...[3] 5.38e4* 32.75
12346/12347D 3.31e4* 33.13
12378D 5.17e4* 33.62
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 1.20e3
12479/12468D 1.13e5 31.11
12469D 8.45e4 31.65
12368D 5.55e4 32.20
12478D 4.83e4* 32.38
12369D...[3] 4.44e4* 32.75
12346/12347D 3.31e4* 33.13
12378D 2.72e4* 33.62
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.57e3
CS 12347D 9.84e6 33.10
ES 12378D 1.07e7 33.61
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.79e3
CS 12347D 6.24e6 33.10
ES 12378D 6.52e6 33.61
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Rel. Int.
Abs. Int.
RT
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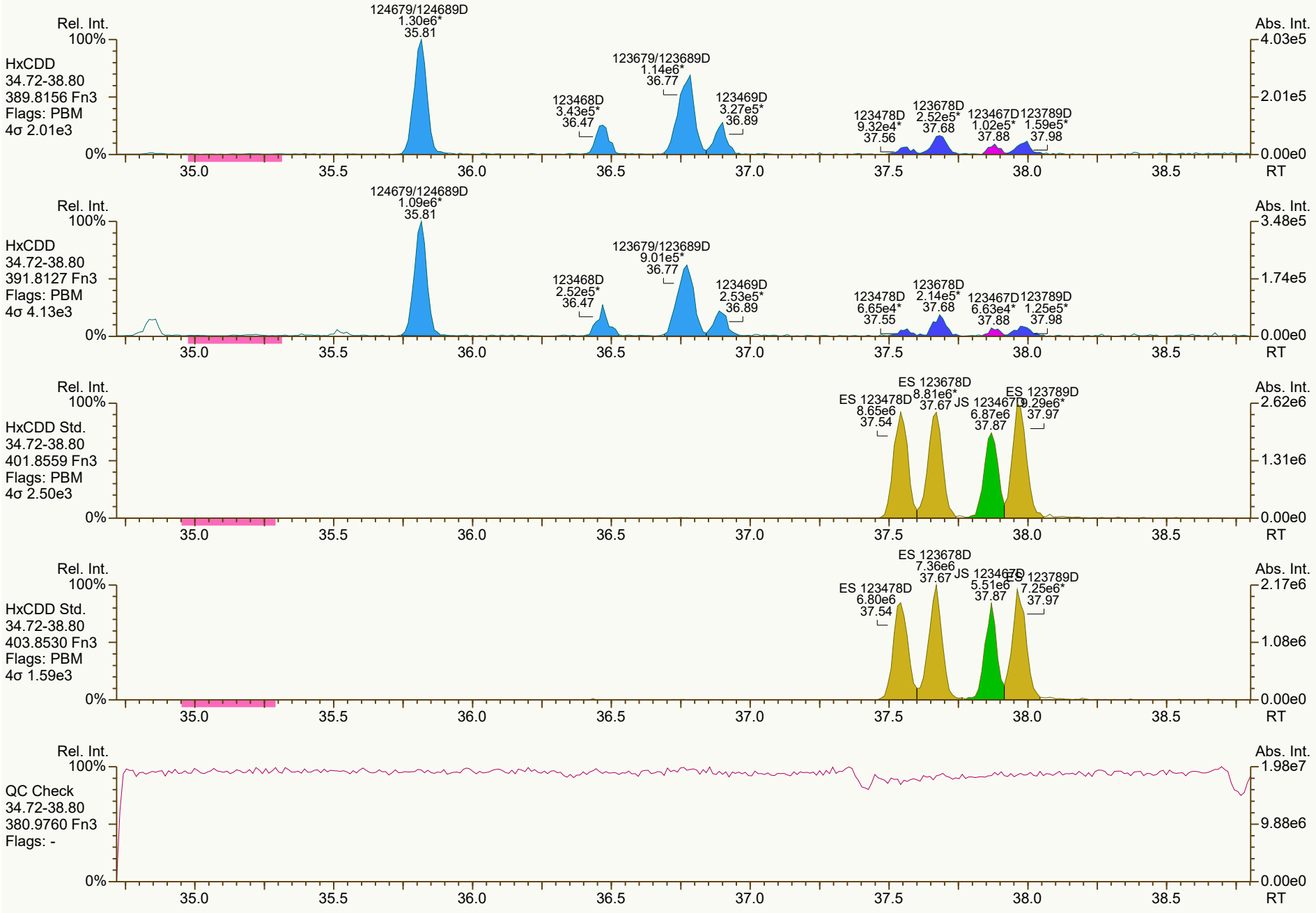
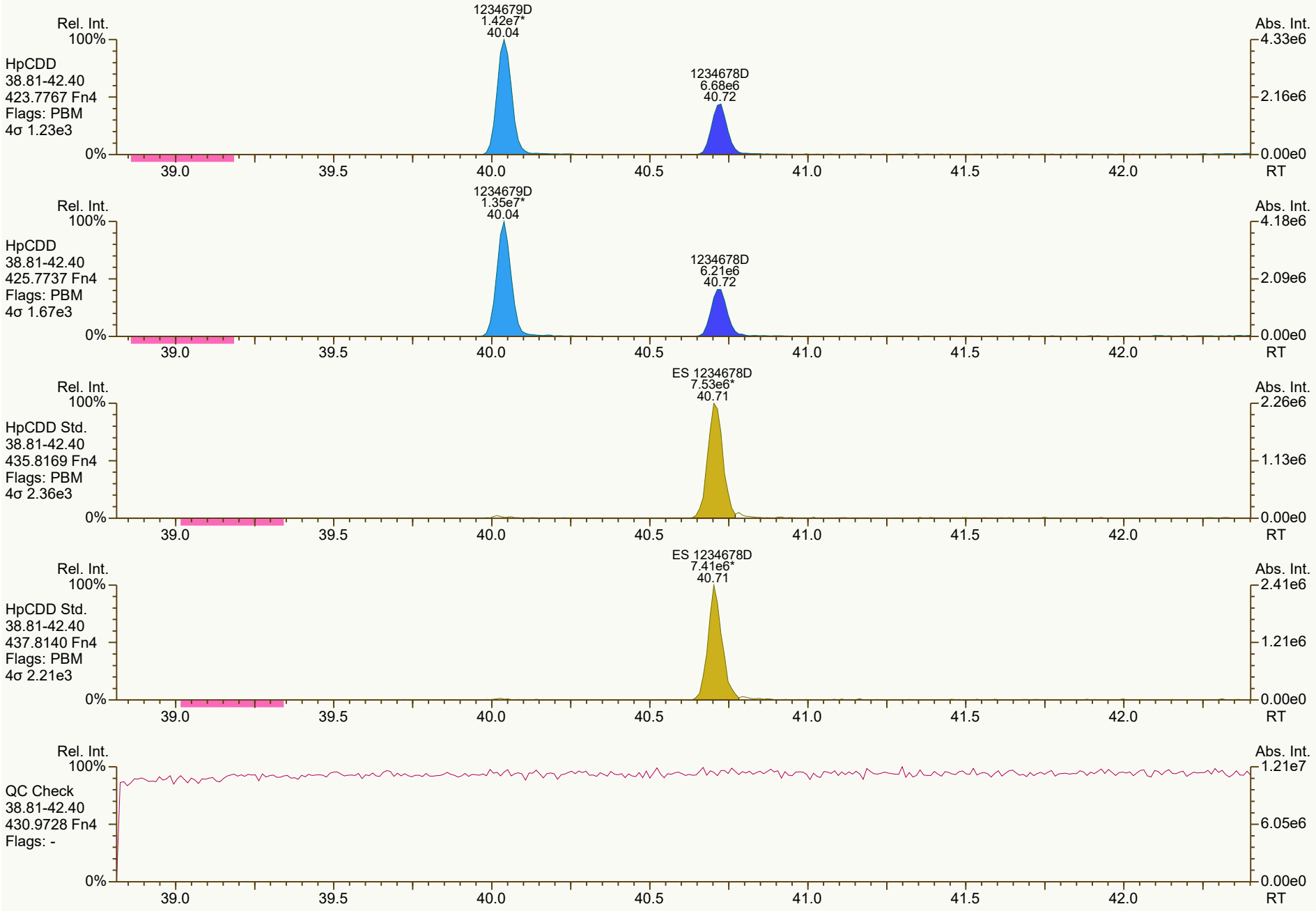
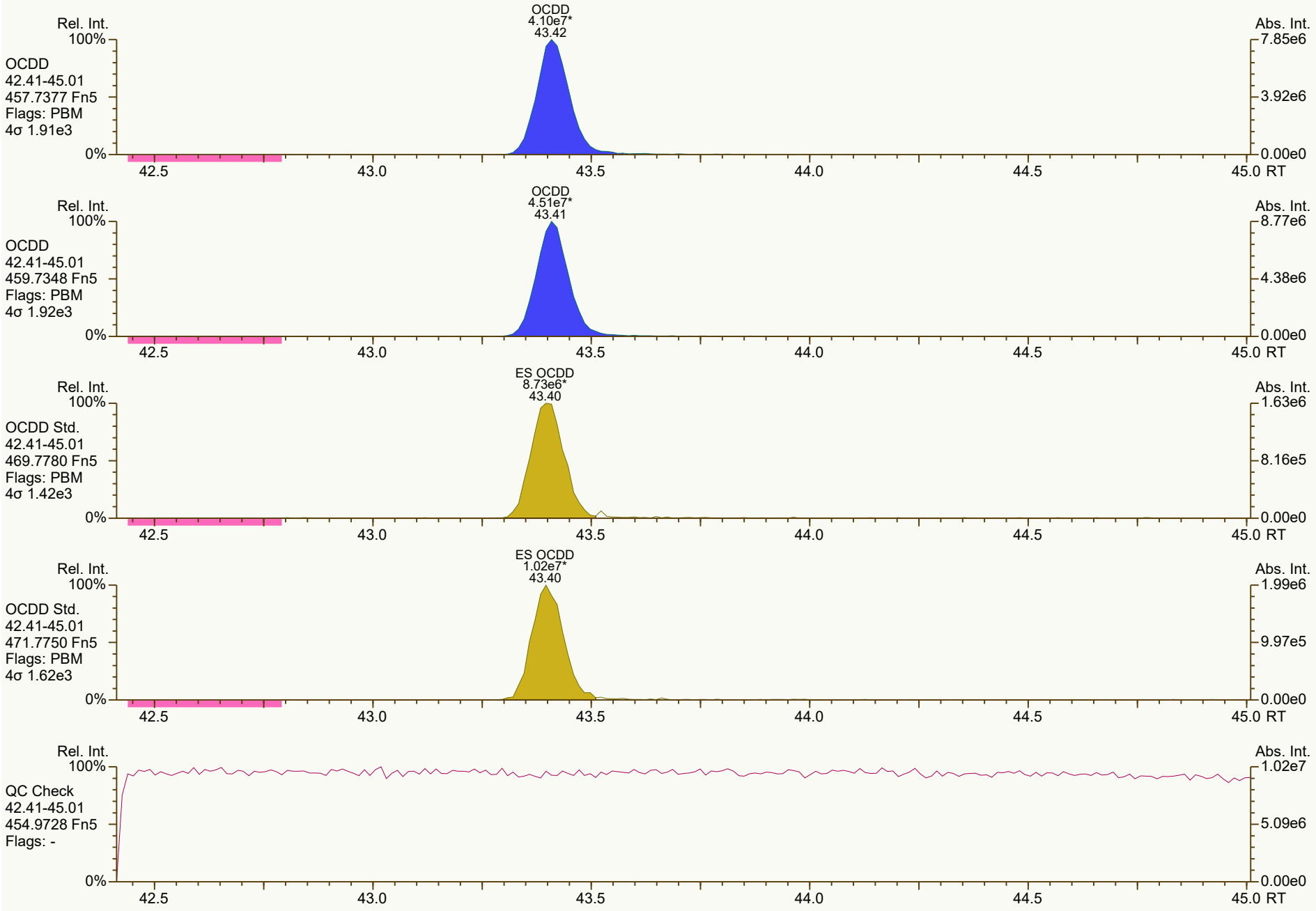
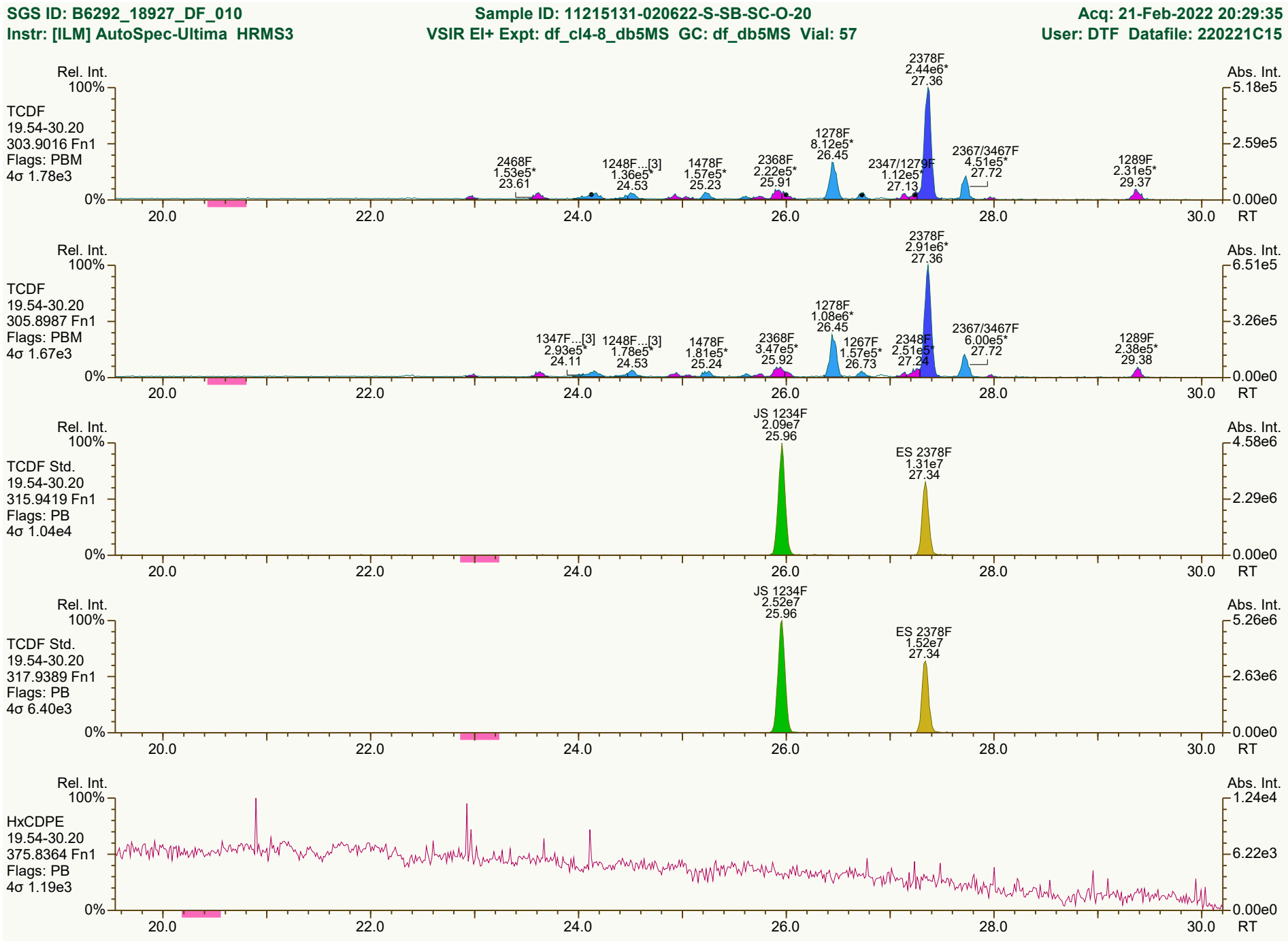
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8958, 4717 scc: 627-336
Revised: 22-Feb-2022 09:10 (DTF) Printed: 22-Feb-2022 09:37 Page 3 of 12


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 2.01e3
124679/124689D
1.30e6*
35.81
123679/123689D
1.14e6*
36.77
123468D
3.43e5*
36.47
123469D
3.27e5*
36.89
123478D
9.32e4*
37.56
123678D
2.52e5*
37.68
123467D
1.02e5*
37.88
123789D
1.59e5*
37.98
Abs. Int.
4.03e5
2.01e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 4.13e3
124679/124689D
1.09e6*
35.81
123679/123689D
9.01e5*
36.77
123468D
2.52e5*
36.47
123469D
2.53e5*
36.89
123478D
6.65e4*
37.55
123678D
2.14e5*
37.68
123467D
6.63e4*
37.88
123789D
1.25e5*
37.98
Abs. Int.
3.48e5
1.74e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 2.50e3
ES 123678D
8.81e6*
37.67
ES 123478D
8.65e6
37.54
JS 123467D
6.87e6
37.87
ES 123789D
9.29e6*
37.97
Abs. Int.
2.62e6
1.31e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 1.59e3
ES 123678D
7.36e6
37.67
ES 123478D
6.80e6
37.54
JS 123467D
5.51e6
37.87
ES 123789D
7.25e6*
37.97
Abs. Int.
2.17e6
1.08e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
1.98e7
9.88e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 1.23e3
1234679D
1.42e7*
40.04
1234678D
6.68e6
40.72
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 1.67e3
1234679D
1.35e7*
40.04
1234678D
6.21e6
40.72
0%
Abs. Int.
4.18e6
2.09e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 2.36e3
ES 1234678D
7.53e6*
40.71
0%
Abs. Int.
2.26e6
1.13e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 2.21e3
ES 1234678D
7.41e6*
40.71
0%
Abs. Int.
2.41e6
1.21e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
4.10e7*
43.42
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 1.91e3
0%
Abs. Int.
7.85e6
3.92e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.51e7*
43.41
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 1.92e3
8.77e6
4.38e6
ES OCDD
8.73e6*
43.40
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.42e3
1.63e6
8.16e5
ES OCDD
1.02e7*
43.40
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.62e3
1.99e6
9.97e5
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.02e7
5.09e6


SGS ID: B6292_18927_DF_010
Sample ID: 11215131-020622-S-SB-SC-O-20
Acq: 21-Feb-2022 20:29:35
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 57
User: DTF Datafile: 220221C15
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.78e3
2378F 2.44e6* 27.36
1278F 8.12e5* 26.45
2468F 1.53e5* 23.61
1248F...[3] 1.36e5* 24.53
1478F 1.57e5* 25.23
2368F 2.22e5* 25.91
2347/1279F 1.12e5* 27.13
2367/3467F 4.51e5* 27.72
1289F 2.31e5* 29.37
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.67e3
2378F 2.91e6* 27.36
1278F 1.08e6* 26.45
1347F...[3] 2.93e5* 24.11
1248F...[3] 1.78e5* 24.53
1478F 1.81e5* 25.24
2368F 3.47e5* 25.92
1267F 1.57e5* 26.73
2348F 2.51e5* 27.24
2367/3467F 6.00e5* 27.72
1289F 2.38e5* 29.38
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 1.04e4
JS 1234F 2.09e7 25.96
ES 2378F 1.31e7 27.34
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 6.40e3
JS 1234F 2.52e7 25.96
ES 2378F 1.52e7 27.34
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.19e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_010.utp_res, saved 22-Feb-2022 09:26 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2740, 8181, 3081 scc: 627-336
Revised: 22-Feb-2022 09:12 (DTF) Printed: 22-Feb-2022 09:37 Page 7 of 12

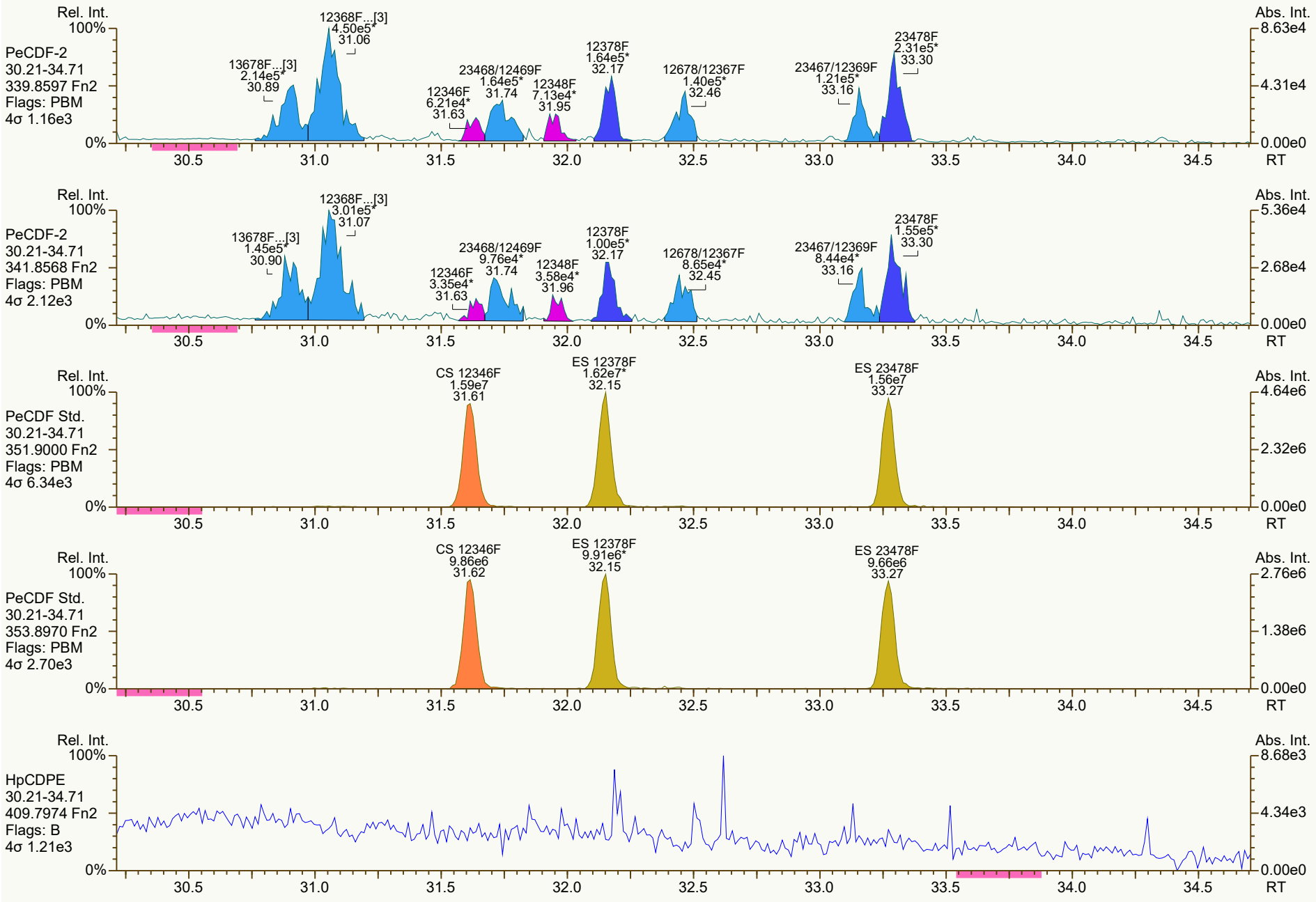
SGS ID: B6292_18927_DF_010 | Sample ID: 11215131-020622-S-SB-SC-O-20 | Acq: 21-Feb-2022 20:29:35

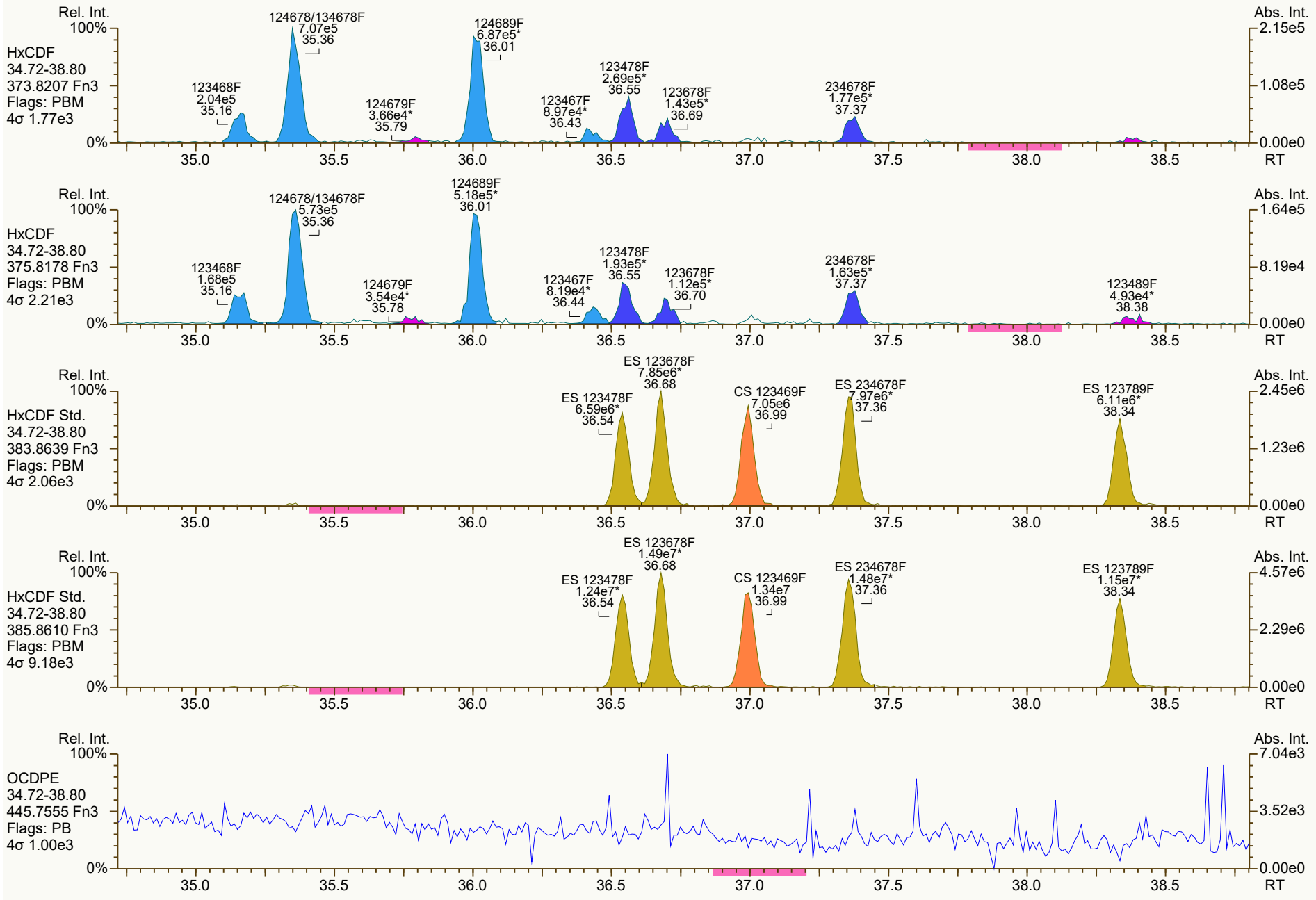
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 57 | User: DTF Datafile: 220221C15

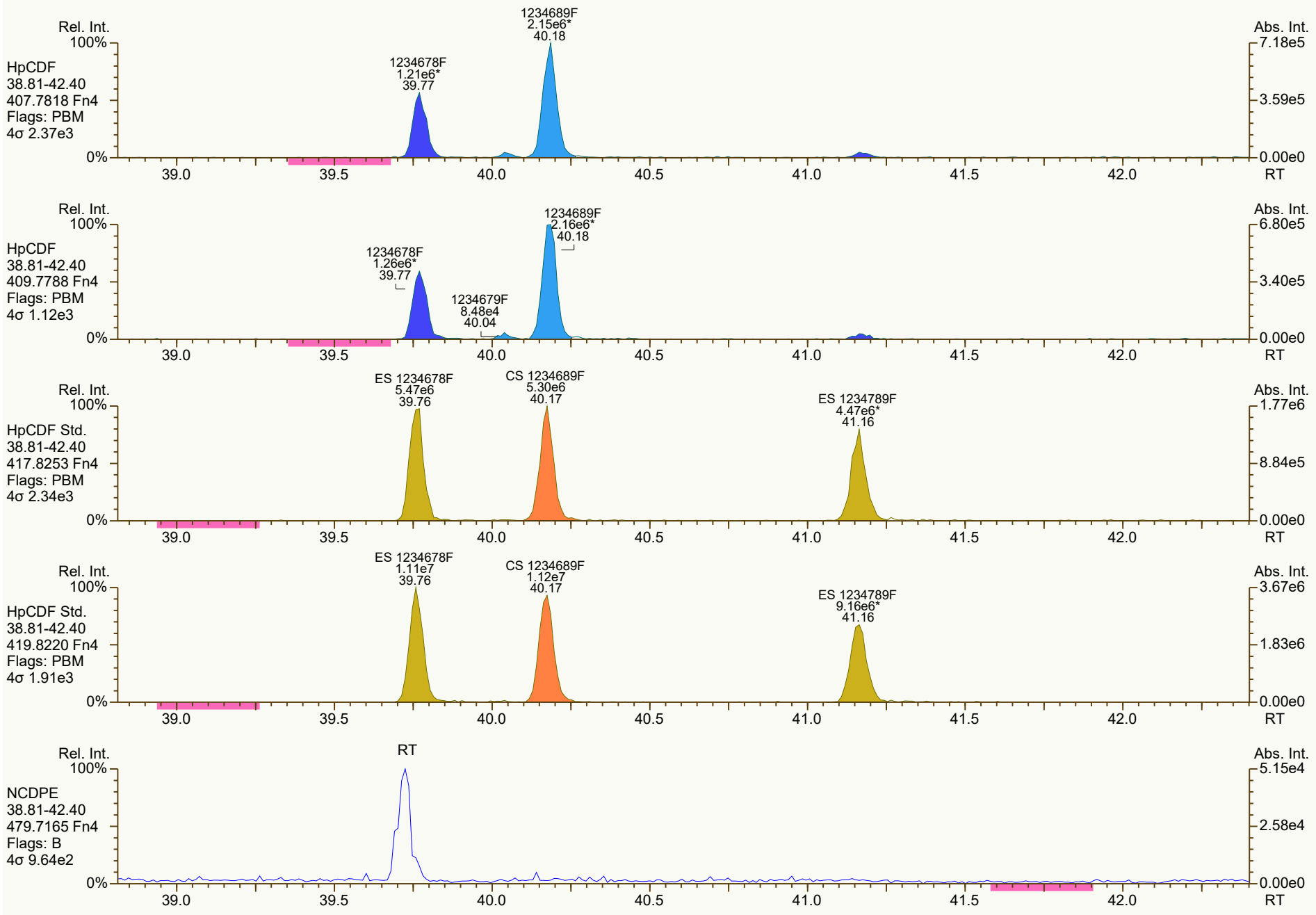


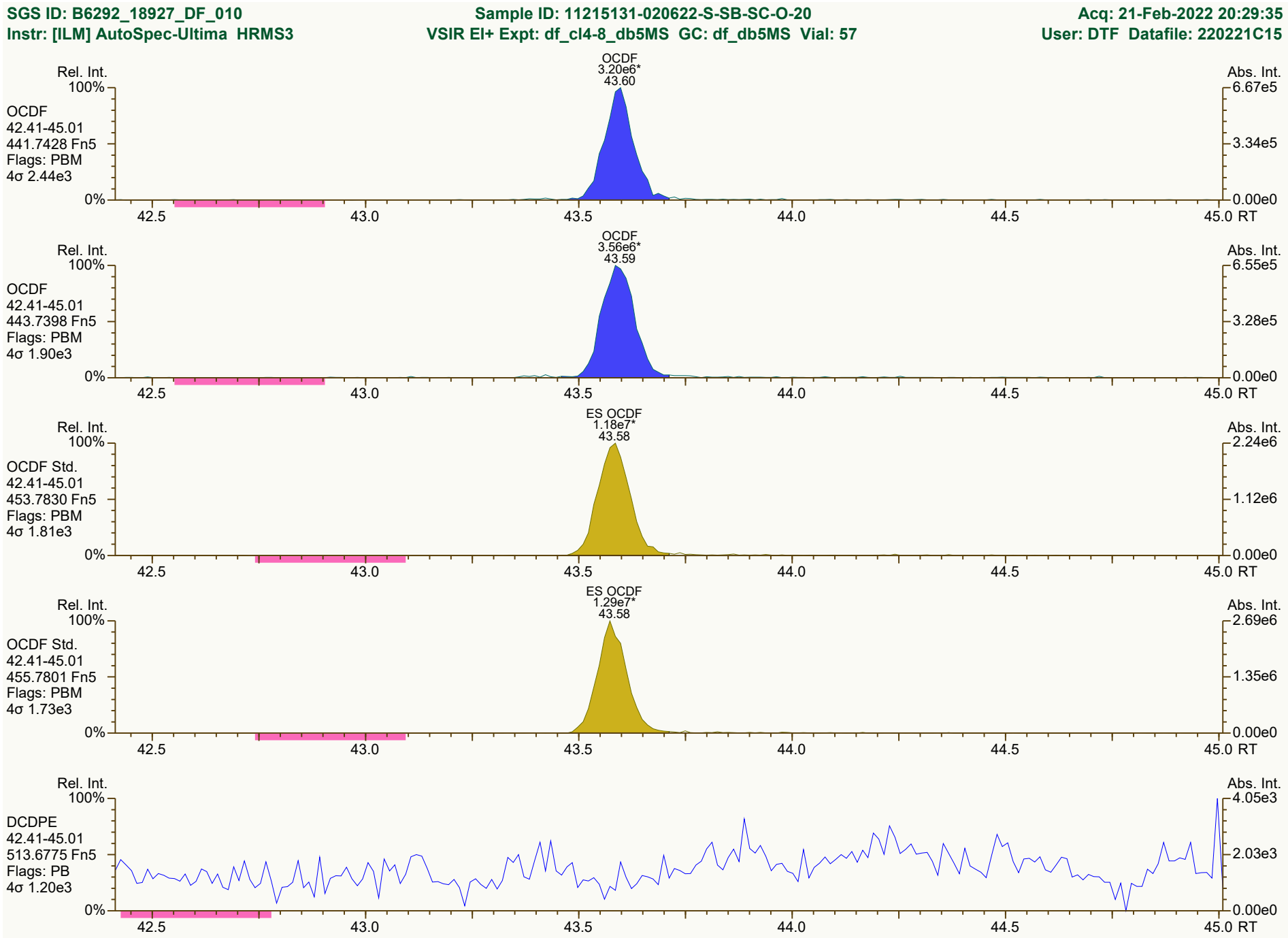
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_010.utp_res, saved 22-Feb-2022 09:26 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1156 scc: 627-336 *Revised: 22-Feb-2022 09:13 (DTF) Printed: 22-Feb-2022 09:37 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 1.16e3
0%
13678F...[3] 2.14e5* 30.89
12368F...[3] 4.50e5* 31.06
12346F 6.21e4* 31.63
23468/12469F 1.64e5* 31.74
12348F 7.13e4* 31.95
12378F 1.64e5* 32.17
12678/12367F 1.40e5* 32.46
23467/12369F 1.21e5* 33.16
23478F 2.31e5* 33.30
Abs. Int.
8.63e4
4.31e4
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 2.12e3
0%
13678F...[3] 1.45e5* 30.90
12368F...[3] 3.01e5* 31.07
12346F 3.35e4* 31.63
23468/12469F 9.76e4* 31.74
12348F 3.58e4* 31.96
12378F 1.00e5* 32.17
12678/12367F 8.65e4* 32.45
23467/12369F 8.44e4* 33.16
23478F 1.55e5* 33.30
Abs. Int.
5.36e4
2.68e4
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PBM
4σ 6.34e3
0%
CS 12346F 1.59e7 31.61
ES 12378F 1.62e7* 32.15
ES 23478F 1.56e7 33.27
Abs. Int.
4.64e6
2.32e6
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PBM
4σ 2.70e3
0%
CS 12346F 9.86e6 31.62
ES 12378F 9.91e6* 32.15
ES 23478F 9.66e6 33.27
Abs. Int.
2.76e6
1.38e6
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.21e3
0%
Abs. Int.
8.68e3
4.34e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 1.77e3
124678/134678F 7.07e5 35.36
124689F 6.87e5* 36.01
123468F 2.04e5 35.16
124679F 3.66e4* 35.79
123467F 8.97e4* 36.43
123478F 2.69e5* 36.55
123678F 1.43e5* 36.69
234678F 1.77e5* 37.37
Abs. Int.
2.15e5
1.08e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 2.21e3
124678/134678F 5.73e5 35.36
124689F 5.18e5* 36.01
123468F 1.68e5 35.16
124679F 3.54e4* 35.78
123467F 8.19e4* 36.44
123478F 1.93e5* 36.55
123678F 1.12e5* 36.70
234678F 1.63e5* 37.37
123489F 4.93e4* 38.38
Abs. Int.
1.64e5
8.19e4
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 2.06e3
ES 123678F 7.85e6* 36.68
ES 123478F 6.59e6* 36.54
CS 123469F 7.05e6 36.99
ES 234678F 7.97e6* 37.36
ES 123789F 6.11e6* 38.34
Abs. Int.
2.45e6
1.23e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 9.18e3
ES 123678F 1.49e7* 36.68
ES 123478F 1.24e7* 36.54
CS 123469F 1.34e7 36.99
ES 234678F 1.48e7* 37.36
ES 123789F 1.15e7* 38.34
Abs. Int.
4.57e6
2.29e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.00e3
Abs. Int.
7.04e3
3.52e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 2.37e3
1234678F
1.21e6*
39.77
1234689F
2.15e6*
40.18
Abs. Int.
7.18e5
3.59e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 1.12e3
1234678F
1.26e6*
39.77
1234679F
8.48e4
40.04
1234689F
2.16e6*
40.18
Abs. Int.
6.80e5
3.40e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 2.34e3
ES 1234678F
5.47e6
39.76
CS 1234689F
5.30e6
40.17
ES 1234789F
4.47e6*
41.16
Abs. Int.
1.77e6
8.84e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 1.91e3
ES 1234678F
1.11e7
39.76
CS 1234689F
1.12e7
40.17
ES 1234789F
9.16e6*
41.16
Abs. Int.
3.67e6
1.83e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 9.64e2
RT
Abs. Int.
5.15e4
2.58e4
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


SGS ID: B6292_18927_DF_010
Sample ID: 11215131-020622-S-SB-SC-O-20
Acq: 21-Feb-2022 20:29:35
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 57
User: DTF Datafile: 220221C15
OCDF
3.20e6*
43.60
Rel. Int.
Abs. Int.
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 2.44e3
OCDF
3.56e6*
43.59
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 1.90e3
ES OCDF
1.18e7*
43.58
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 1.81e3
ES OCDF
1.29e7*
43.58
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 1.73e3
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.20e3
RT
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_010.utp_res, saved 22-Feb-2022 09:26 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6033, 4948, 6956 scc: 627-336
Revised: 22-Feb-2022 09:16 (DTF) Printed: 22-Feb-2022 09:37 Page 12 of 12

Lab ID: B6292_18927_DF_011 **Acq'd:** 21 Feb 2022 21:15 DTF **Wt/Vol:** 10.03 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-B-14 **UTP:** 22-Feb-2022 09:26:02 DTF **J-level:** 0.498 pg/g **Split:** 1 **Checkcode:** 355-038-RDY

Datafile: 220221C16 **Report:** 22 Feb 2022 09:30 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.23	EMPC	1.0008	1.0008	0	2.92E+05	0.93	N	1.18	2.62	4336.867	0.416
12378-PeCDD	NotFnd		1.0007	-		-	-	-	1.04	-	3495.302	0.346
123478-HxCDD	37.56	J EMPC	1.0004	1.0004	0	3.30E+04	1.47	N	1.09	0.376	2934.233	0.283
123678-HxCDD	37.68	J	1.0036	1.0035	-0.2	6.82E+04	1.11	Y	1.15	0.699	2934.233	0.276
123789-HxCDD	37.99	J	1.0118	1.0118	0	8.88E+04	1.30	Y	1.05	0.969	2934.233	0.273
1234678-HpCDD	40.72		1.0002	1.0003	+0.2	1.51E+06	0.96	Y	1.06	18	3510.531	0.357
OCDD	43.41		1.0003	1.0002	-0.3	2.30E+07	0.89	Y	1.13	386	5111.877	1.14
2378-TCDF	27.35		1.0008	1.0005	-0.5	1.12E+06	0.78	Y	1.08	7.49	5781.539	0.455
12378-PeCDF	32.17	J EMPC	1.0005	1.0006	+0.2	6.94E+04	1.17	N	1.02	0.486	3744.07	0.239
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3744.07	0.263
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	3422.162	0.255
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	3422.162	0.208
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	3422.162	0.223
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3422.162	0.289
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	3830.06	0.233
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	3830.06	0.407
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	10502.711	1.95

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.20	1.0243	1.0243	0	1.87E+07	0.82	Y	1.05	82.7
ES 12378-PeCDD	33.61	1.2198	1.2206	+1.6	1.73E+07	1.52	Y	0.88	90.8
ES 123478-HxCDD	37.54	0.9916	0.9914	-0.5	1.60E+07	1.27	Y	0.97	88.7
ES 123678-HxCDD	37.67	0.9947	0.9946	-0.2	1.69E+07	1.26	Y	0.94	96.4
ES 123789-HxCDD	37.97	1.0029	1.0027	-0.5	1.74E+07	1.25	Y	1.09	85.9
ES 1234678-HpCDD	40.71	1.0749	1.0750	+0.2	1.58E+07	1.08	Y	0.91	92.8
ES OCDD	43.40	1.1460	1.1460	0	2.10E+07	0.89	Y	0.62	90.6
ES 2378-TCDF	27.34	1.0531	1.0535	+0.7	2.77E+07	0.79	Y	1.06	75.9
ES 12378-PeCDF	32.15	1.2378	1.2389	+2.1	2.78E+07	1.54	Y	0.91	88.5
ES 23478-PeCDF	33.27	1.2810	1.2822	+2.4	2.57E+07	1.61	Y	0.88	84.4
ES 123478-HxCDF	36.54	0.9650	0.9649	-0.2	1.85E+07	0.54	Y	1.20	83.1
ES 123678-HxCDF	36.68	0.9688	0.9686	-0.4	2.35E+07	0.55	Y	1.35	93.6
ES 234678-HxCDF	37.36	0.9866	0.9866	0	2.34E+07	0.52	Y	1.24	101
ES 123789-HxCDF	38.34	1.0125	1.0123	-0.5	1.67E+07	0.54	Y	1.16	77.8
ES 1234678-HpCDF	39.76	1.0501	1.0499	-0.5	1.94E+07	0.47	Y	0.97	108
ES 1234789-HpCDF	41.16	1.0870	1.0870	0	1.27E+07	0.44	Y	0.85	79.9
ES OCDF	43.58	1.1505	1.1507	+0.5	2.42E+07	0.91	Y	0.81	80.5

Lab ID: B6292_18927_DF_011 **Acq'd:** 21 Feb 2022 21:15 DTF **Wt/Vol:** 10.03 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-B-14 **UTP:** 22-Feb-2022 09:26:02 DTF **J-level:** 0.498 pg/g **Split:** 1 **Checkcode:** 355-038-RDY

Datafile: 220221C16 **Report:** 22 Feb 2022 09:30 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.53		-	-	-	2.17E+07	0.81	Y	-	-
JS 1234-TCDF	25.95		-	-	-	3.45E+07	0.83	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	9.30E+06	1.30	Y	-	-
CS 37Cl-2378-TCDD	28.23		1.0251	1.0252	+0.2	8.65E+06	n/a	-	1.20	83
CS 12347-PeCDD	33.10		1.2016	1.2023	+1.4	1.69E+07	1.63	Y	0.75	103
CS 12346-PeCDF	31.61		1.2172	1.2183	+2.1	2.74E+07	1.51	Y	0.85	93.3
CS 123469-HxCDF	36.99		0.9771	0.9769	-0.4	2.19E+07	0.55	Y	1.12	106
CS 1234689-HpCDF	40.17		1.0608	1.0608	0	1.75E+07	0.49	Y	0.89	106
SS 37Cl-2378-TCDD	28.23		1.0251	1.0252	+0.2	8.65E+06	n/a	-	1.15	101
SS 12347-PeCDD	33.10		1.2016	1.2023	+1.4	1.69E+07	1.63	Y	0.86	114
SS 12346-PeCDF	31.61		1.2172	1.2183	+2.1	2.74E+07	1.51	Y	0.94	105
SS 123469-HxCDF	36.99		0.9771	0.9769	-0.4	2.19E+07	0.55	Y	0.83	113
SS 1234689-HpCDF	40.17		1.0608	1.0608	0	1.75E+07	0.49	Y	0.92	98.2

Totals	Conc	EMPC
Total TCDD	12.1	14.7
Total PeCDD	5.59	7.4
Total HxCDD	39.7	40.4
Total HpCDD	83.6	83.6
Total Tetra-Octa Dioxins	527	532
Total TCDF	8.49	14.1
Total PeCDF	0	0.486
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	8.49	14.6
Total Tetra-Octa Dioxins & Furans	535	547

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.898	0.93
Response	3.23E+05	3.18E+05

Lab ID: B6292_18927_DF_011 | **Acq'd: 21 Feb 2022 21:15 DTF** | **Wt/Vol: 10.03 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-B-14 | **UTP: 22-Feb-2022 09:26:02 DTF** | **J-level: 0.498 pg/g** | **Split: 1** | **Checkcode: 355-038-RDY**

Datafile: 220221C16 | **Report: 22 Feb 2022 09:30 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		4336.867	0.416
1379-TCDD	NotFnd		0.8829						1.18		4336.867	0.416
1369-TCDD	NotFnd		0.8982						1.18		4336.867	0.416
1469-TCDD	26.11		0.9261	0.9259	-0.3	1.19E+06	0.82	Y	1.18	10.7	4336.867	0.416
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4336.867	0.416
1378-TCDD	NotFnd		0.9417						1.18		4336.867	0.416
1268-TCDD	NotFnd		0.9487						1.18		4336.867	0.416
1478-TCDD	NotFnd		0.9576						1.18		4336.867	0.416
1279-TCDD	NotFnd		0.9636						1.18		4336.867	0.416
1234/1269-TCDD	27.53		0.9761	0.9763	+0.3	1.48E+05	0.70	Y	1.18	1.33	4336.867	0.416
1236-TCDD	NotFnd		0.9812						1.18		4336.867	0.416
1237/1238-TCDD	NotFnd		0.9905						1.18		4336.867	0.416
1239-TCDD	NotFnd		0.9951						1.18		4336.867	0.416
2378-TCDD	**28.23**	EMPC	**1.0008**	1.0008	**0**	2.92E+05	0.93	N	**1.18**	**2.62**	**4336.867**	**0.416**
1278-TCDD	NotFnd		1.0124						1.18		4336.867	0.416
1267-TCDD	NotFnd		1.0172						1.18		4336.867	0.416
1289-TCDD	NotFnd		1.0354						1.18		4336.867	0.416
12479/12468-PeCDD	31.10	J EMPC	0.9255	0.9254	-0.2	6.70E+04	1.21	N	1.04	0.745	3495.302	0.346
12469-PeCDD	31.64		0.9416	0.9415	-0.2	5.02E+05	1.53	Y	1.04	5.59	3495.302	0.346
12368-PeCDD	NotFnd		0.9582						1.04		3495.302	0.346
12478-PeCDD	NotFnd		0.9637						1.04		3495.302	0.346
12379-PeCDD	NotFnd		0.9668						1.04		3495.302	0.346
12369/12467/12489-PeCDD	32.76	J EMPC	0.9746	0.9746	0	9.56E+04	1.19	N	1.04	1.06	3495.302	0.346
12346/12347-PeCDD	NotFnd		0.9858						1.04		3495.302	0.346
12378-PeCDD	NotFnd		**1.0007**						**1.04**		**3495.302**	**0.346**
12367-PeCDD	NotFnd		1.0036						1.04		3495.302	0.346
12389-PeCDD	NotFnd		1.0137						1.04		3495.302	0.346
124679/124689-HxCDD	35.81		0.9540	0.9539	-0.2	2.95E+06	1.32	Y	1.10	32	2934.233	0.277
123468-HxCDD	NotFnd		0.9715						1.10		2934.233	0.277
123679/123689-HxCDD	36.76		0.9793	0.9792	-0.2	4.91E+05	1.26	Y	1.10	5.32	2934.233	0.277
123469-HxCDD	36.89	J	0.9829	0.9827	-0.4	7.03E+04	1.35	Y	1.10	0.762	2934.233	0.277
123478-HxCDD	37.56	J EMPC	**1.0004**	**1.0004**	**0**	**3.30E+04**	**1.47**	**N**	1.09	**0.376**	**2934.233**	**0.283**
123678-HxCDD	37.68	J	**1.0036**	**1.0035**	**-0.2**	**6.82E+04**	**1.11**	**Y**	1.15	**0.699**	**2934.233**	**0.276**
123467-HxCDD	37.88	J EMPC	1.0089	1.0090	+0.2	2.75E+04	1.87	N	1.10	0.298	2934.233	0.277
123789-HxCDD	37.99	J	**1.0118**	**1.0118**	**0**	**8.88E+04**	**1.30**	**Y**	1.05	**0.969**	**2934.233**	**0.273**

Lab ID: B6292_18927_DF_011 **Acq'd:** 21 Feb 2022 21:15 DTF **Wt/Vol:** 10.03 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-SC-B-14 **UTP:** 22-Feb-2022 09:26:02 DTF **J-level:** 0.498 pg/g **Split:** 1 **Checkcode:** 355-038-RDY

Datafile: 220221C16 **Report:** 22 Feb 2022 09:30 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

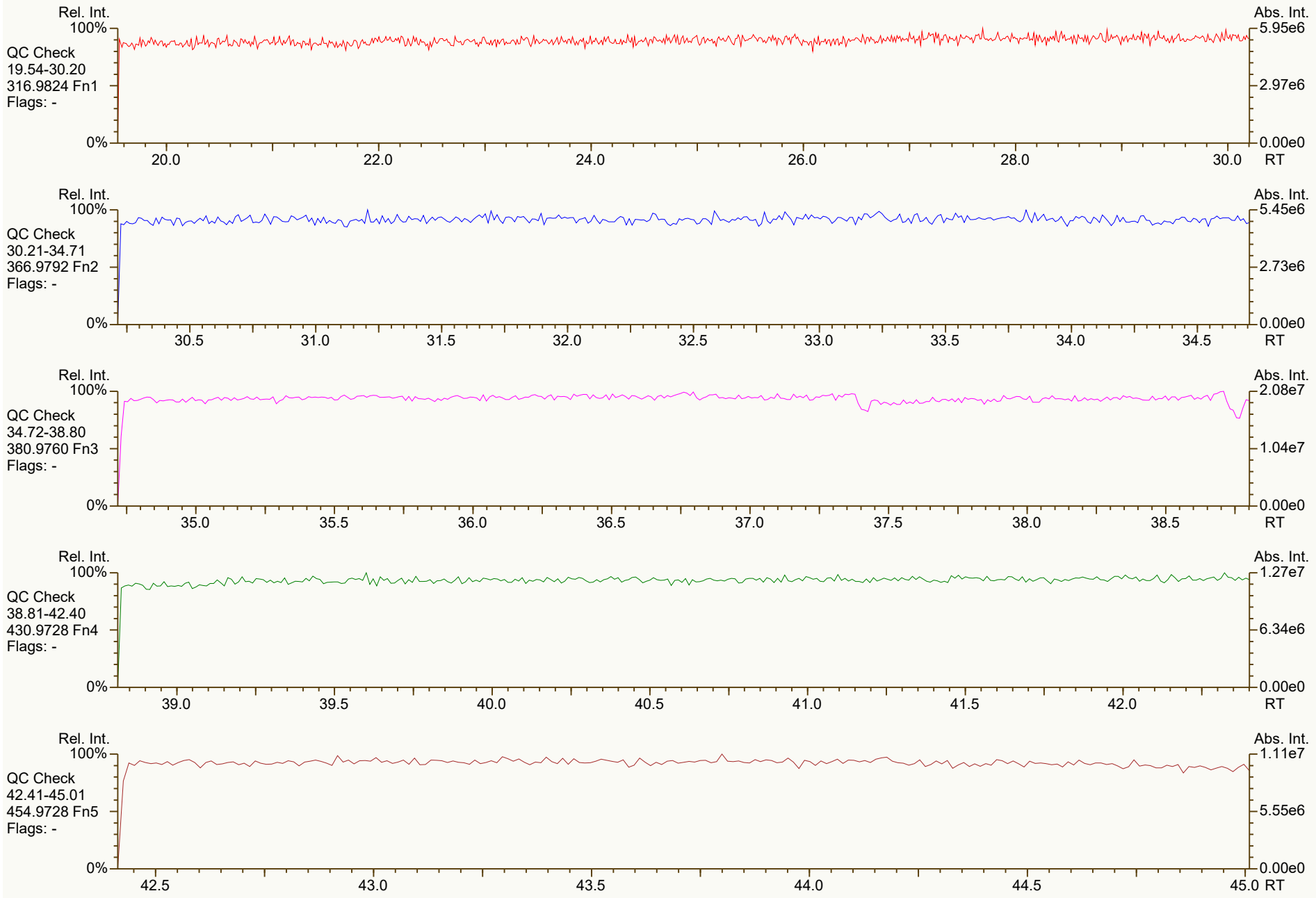
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.04		0.9836	0.9835	-0.2	5.49E+06	1.08	Y	1.06	65.5	3510.531	0.357
1234678-HpCDD	**40.72**		**1.0002**	**1.0003**	**+0.2**	**1.51E+06**	**0.96**	**Y**	**1.06**	**18**	**3510.531**	**0.357**
OCDD	**43.41**		**1.0003**	**1.0002**	**-0.3**	**2.30E+07**	**0.89**	**Y**	**1.13**	**386**	**5111.877**	**1.14**
OCDD-a	43.40		1.0002	1.0000	-0.5	1.42E+06	2.26	Y	0.07	373	3925.335	13.7
1368-TCDF	NotFnd		0.8191						1.08		5781.539	0.455
1468-TCDF	NotFnd		0.8408						1.08		5781.539	0.455
2468-TCDF	NotFnd		0.8645						1.08		5781.539	0.455
1346/1246-TCDF	NotFnd		0.8772						1.08		5781.539	0.455
1347/1378/1247-TCDF	24.11	EMPC	0.8833	0.8819	-2.0	1.22E+05	0.64	N	1.08	0.811	5781.539	0.455
1348-TCDF	NotFnd		0.8932						1.08		5781.539	0.455
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		5781.539	0.455
1268-TCDF	NotFnd		0.9119						1.08		5781.539	0.455
1467-TCDF	NotFnd		0.9170						1.08		5781.539	0.455
1478-TCDF	NotFnd		0.9234						1.08		5781.539	0.455
1369/1237-TCDF	NotFnd		0.9369						1.08		5781.539	0.455
2467-TCDF	NotFnd		0.9415						1.08		5781.539	0.455
2368-TCDF	25.95	EMPC	0.9475	0.9492	+2.6	1.71E+05	1.11	N	1.08	1.14	5781.539	0.455
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		5781.539	0.455
1278-TCDF	26.45	EMPC	0.9676	0.9675	-0.2	4.64E+05	0.95	N	1.08	3.09	5781.539	0.455
1349-TCDF	NotFnd		0.9722						1.08		5781.539	0.455
1267-TCDF	NotFnd		0.9777						1.08		5781.539	0.455
2346/1249-TCDF	NotFnd		0.9843						1.08		5781.539	0.455
2347/1279-TCDF	NotFnd		0.9926						1.08		5781.539	0.455
2348-TCDF	NotFnd		0.9968						1.08		5781.539	0.455
2378-TCDF	**27.35**		**1.0008**	**1.0005**	**-0.5**	**1.12E+06**	**0.78**	**Y**	**1.08**	**7.49**	**5781.539**	**0.455**
2367/3467-TCDF	27.71		1.0142	1.0136	-1.0	1.50E+05	0.84	Y	1.08	0.999	5781.539	0.455
1269-TCDF	NotFnd		1.0235						1.08		5781.539	0.455
1239-TCDF	NotFnd		1.0329						1.08		5781.539	0.455
1289-TCDF	29.38	EMPC	1.0742	1.0746	+0.7	8.72E+04	0.93	N	1.08	0.581	5781.539	0.455
13468/12468-PeCDF	NotFnd		0.9122						1.02		2506.086	0.168
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		3744.07	0.25
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		3744.07	0.25
14678-PeCDF	NotFnd		0.9685						1.02		3744.07	0.25
13479-PeCDF	NotFnd		0.9716						1.02		3744.07	0.25
13469/12479-PeCDF	NotFnd		0.9794						1.02		3744.07	0.25
12346-PeCDF	NotFnd		0.9836						1.02		3744.07	0.25

Lab ID: B6292_18927_DF_011 **Acq'd: 21 Feb 2022 21:15 DTF** **Wt/Vol: 10.03 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-SC-B-14 **UTP: 22-Feb-2022 09:26:02 DTF** **J-level: 0.498 pg/g** **Split: 1** **Checkcode: 355-038-RDY**

Datafile: 220221C16 **Report: 22 Feb 2022 09:30 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		3744.07	0.25
12347-PeCDF	NotFnd		0.9891						1.02		3744.07	0.25
12348-PeCDF	NotFnd		0.9938						1.02		3744.07	0.25
12378-PeCDF	**32.17**	J EMPC	**1.0005**	**1.0006**	**+0.2**	**6.94E+04**	**1.17**	**N**	**1.02**	**0.486**	**3744.07**	**0.239**
12678/12367-PeCDF	NotFnd		1.0091						1.02		3744.07	0.25
12379-PeCDF	NotFnd		1.0144						1.02		3744.07	0.25
12679-PeCDF	NotFnd		0.9927						1.02		3744.07	0.25
23467/12369-PeCDF	NotFnd		0.9965						1.02		3744.07	0.25
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3744.07**	**0.263**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3744.07	0.25
12349-PeCDF	NotFnd		1.0101						1.02		3744.07	0.25
12389-PeCDF	NotFnd		1.0330						1.02		3744.07	0.25
123468-HxCDF	NotFnd		0.9622						1.19		3422.162	0.239
124678/134678-HxCDF	NotFnd		0.9678						1.19		3422.162	0.239
134679-HxCDF	NotFnd		0.9741						1.19		3422.162	0.239
124679-HxCDF	NotFnd		0.9795						1.19		3422.162	0.239
124689-HxCDF	NotFnd		0.9856						1.19		3422.162	0.239
123467-HxCDF	NotFnd		0.9972						1.19		3422.162	0.239
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**3422.162**	**0.255**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**3422.162**	**0.208**
123479-HxCDF	NotFnd		1.0048						1.19		3422.162	0.239
123469-HxCDF	NotFnd		1.0089						1.19		3422.162	0.239
123679-HxCDF	NotFnd		0.9942						1.19		3422.162	0.239
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**3422.162**	**0.223**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3422.162	0.239
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3422.162**	**0.289**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		3422.162	0.239
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**3830.06**	**0.233**
1234679-HpCDF	NotFnd		1.0068						1.34		3830.06	0.301
1234689-HpCDF	NotFnd		1.0104						1.34		3830.06	0.301
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**3830.06**	**0.407**
OCDF	**NotFnd**		**1.0002**						**1.07**		**10502.711**	**1.95**
OCDF-a	NotFnd		1.0001						0.07		3053.064	9.17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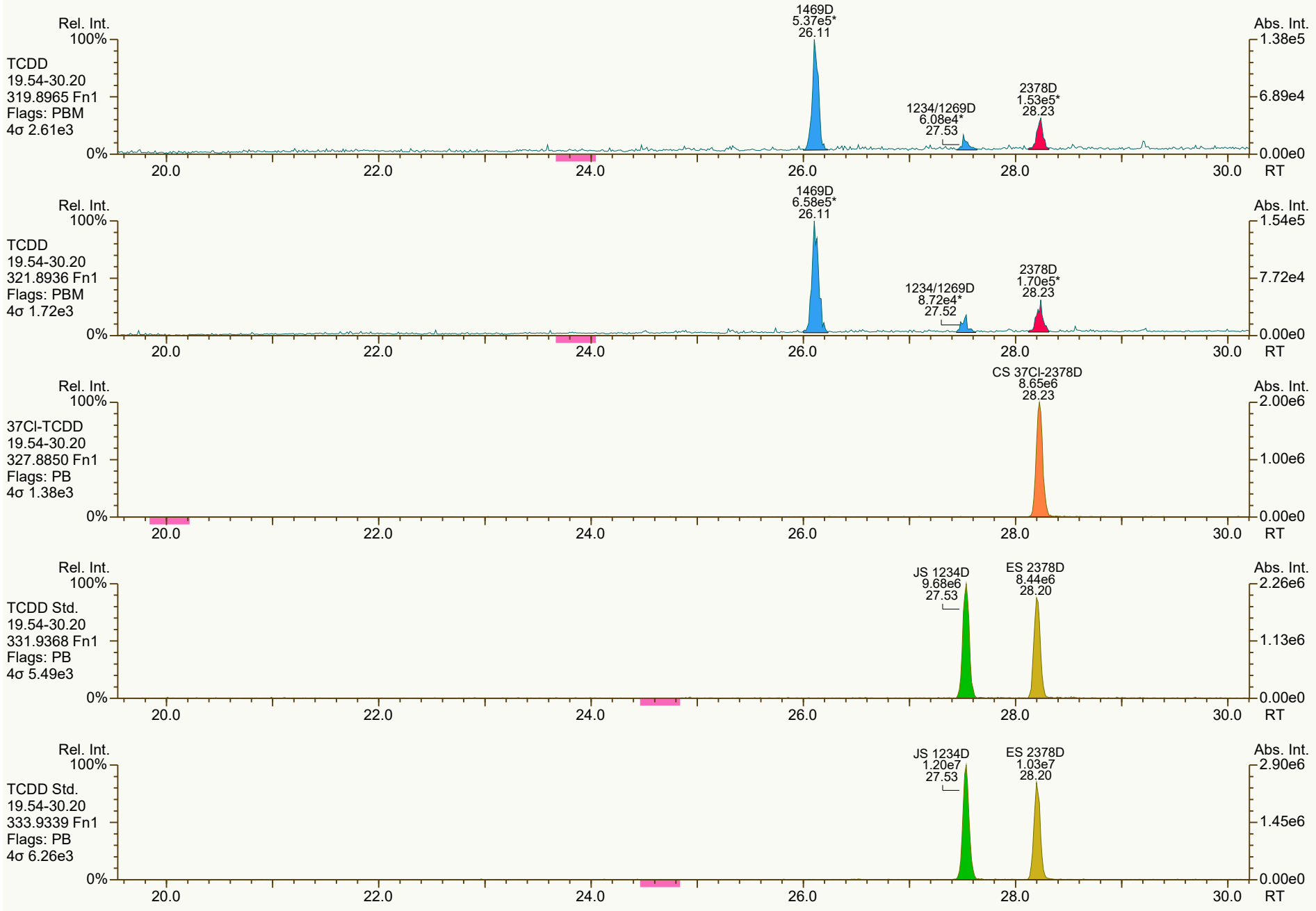
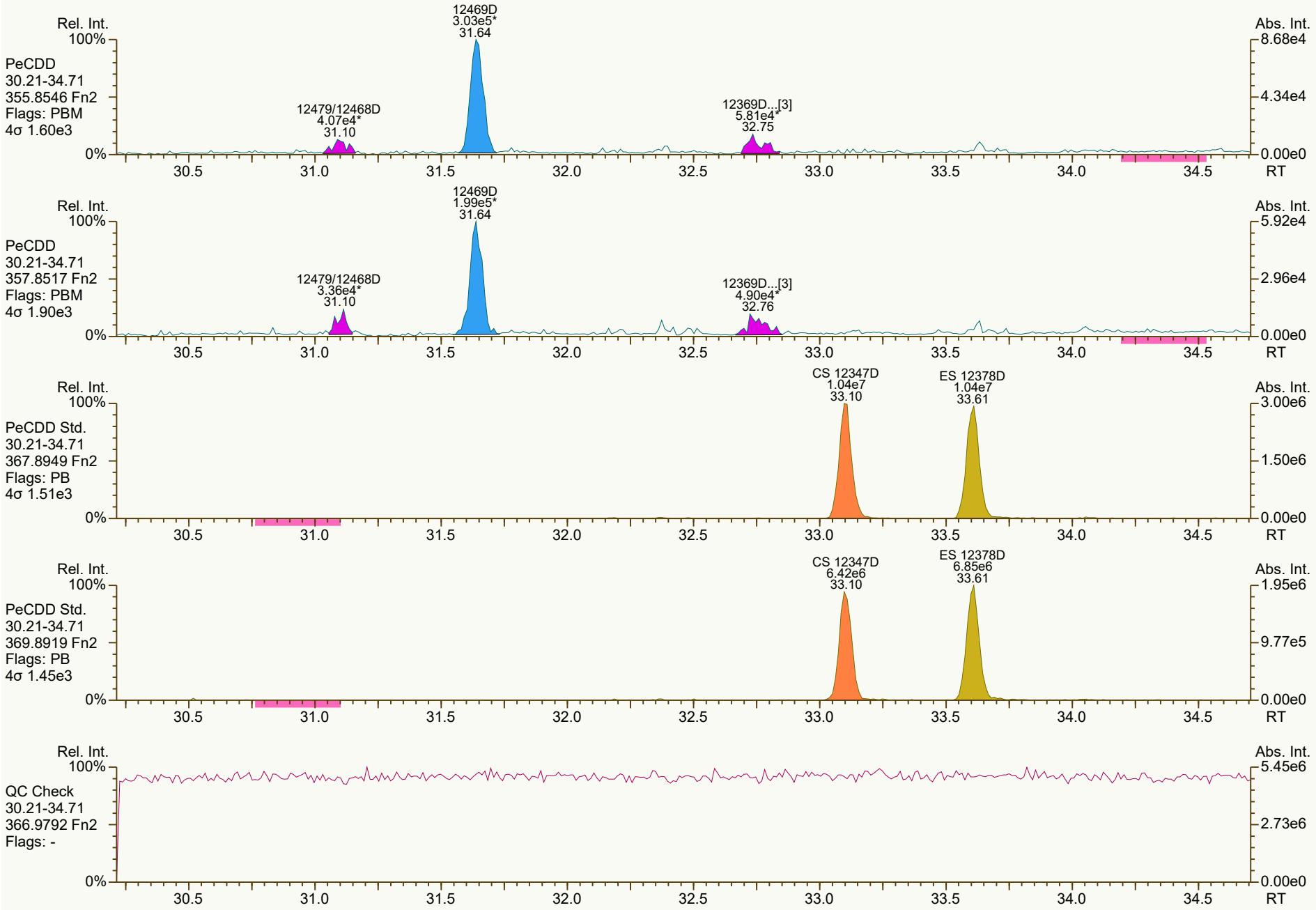
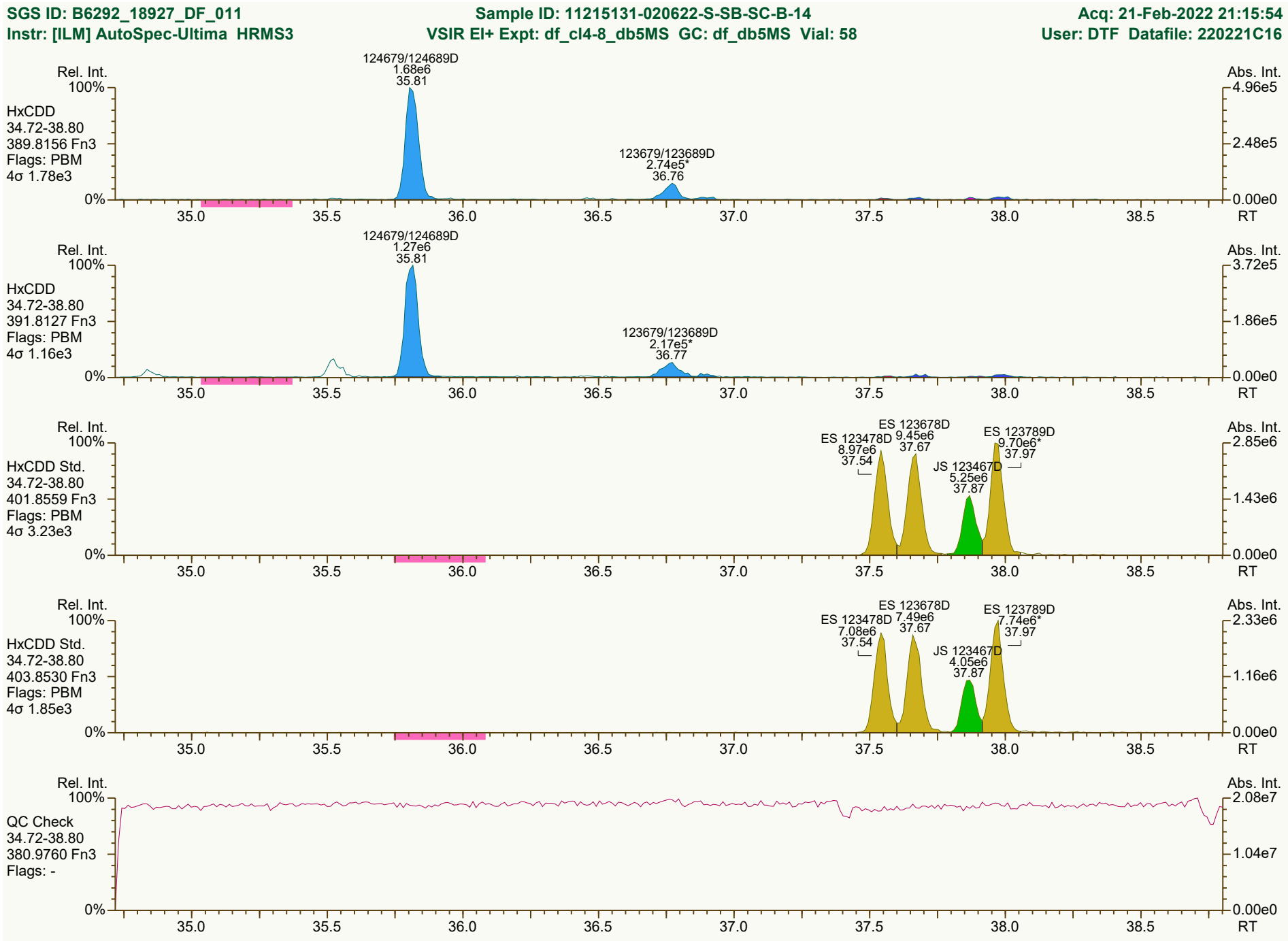
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
5.95e6
2.97e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
5.45e6
2.73e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.08e7
1.04e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.27e7
6.34e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.11e7
5.55e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.61e3
1469D
5.37e5*
26.11
1234/1269D
6.08e4*
27.53
2378D
1.53e5*
28.23
Abs. Int.
1.38e5
6.89e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.72e3
1469D
6.58e5*
26.11
1234/1269D
8.72e4*
27.52
2378D
1.70e5*
28.23
Abs. Int.
1.54e5
7.72e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.38e3
CS 37Cl-2378D
8.65e6
28.23
Abs. Int.
2.00e6
1.00e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.49e3
JS 1234D
9.68e6
27.53
ES 2378D
8.44e6
28.20
Abs. Int.
2.26e6
1.13e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 6.26e3
JS 1234D
1.20e7
27.53
ES 2378D
1.03e7
28.20
Abs. Int.
2.90e6
1.45e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 1.60e3
12469D
3.03e5*
31.64
12479/12468D
4.07e4*
31.10
12369D...[3]
5.81e4*
32.75
Abs. Int.
8.68e4
4.34e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 1.90e3
12469D
1.99e5*
31.64
12479/12468D
3.36e4*
31.10
12369D...[3]
4.90e4*
32.76
Abs. Int.
5.92e4
2.96e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 1.51e3
CS 12347D
1.04e7
33.10
ES 12378D
1.04e7
33.61
Abs. Int.
3.00e6
1.50e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.45e3
CS 12347D
6.42e6
33.10
ES 12378D
6.85e6
33.61
Abs. Int.
1.95e6
9.77e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Abs. Int.
5.45e6
2.73e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

SGS ID: B6292_18927_DF_011 | Sample ID: 11215131-020622-S-SB-SC-B-14 | Acq: 21-Feb-2022 21:15:54
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 58 | User: DTF Datafile: 220221C16



Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_011.utp_res, saved 22-Feb-2022 09:26 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1994, 6973 scc: 355-038 | Revised: 22-Feb-2022 09:19 (DTF) Printed: 22-Feb-2022 09:37 Page 4 of 12

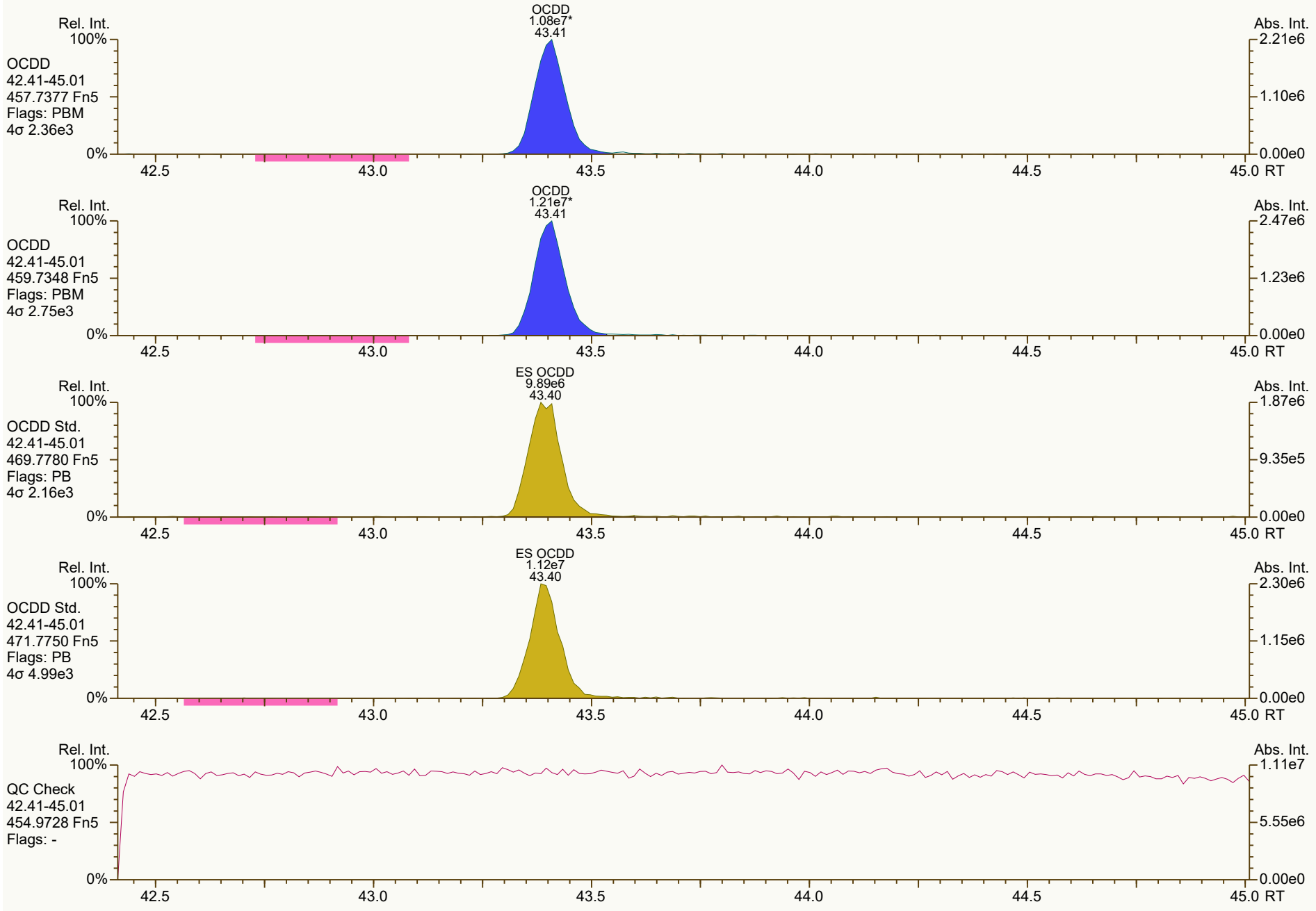
SGS ID: B6292_18927_DF_011 | Sample ID: 11215131-020622-S-SB-SC-B-14 | Acq: 21-Feb-2022 21:15:54

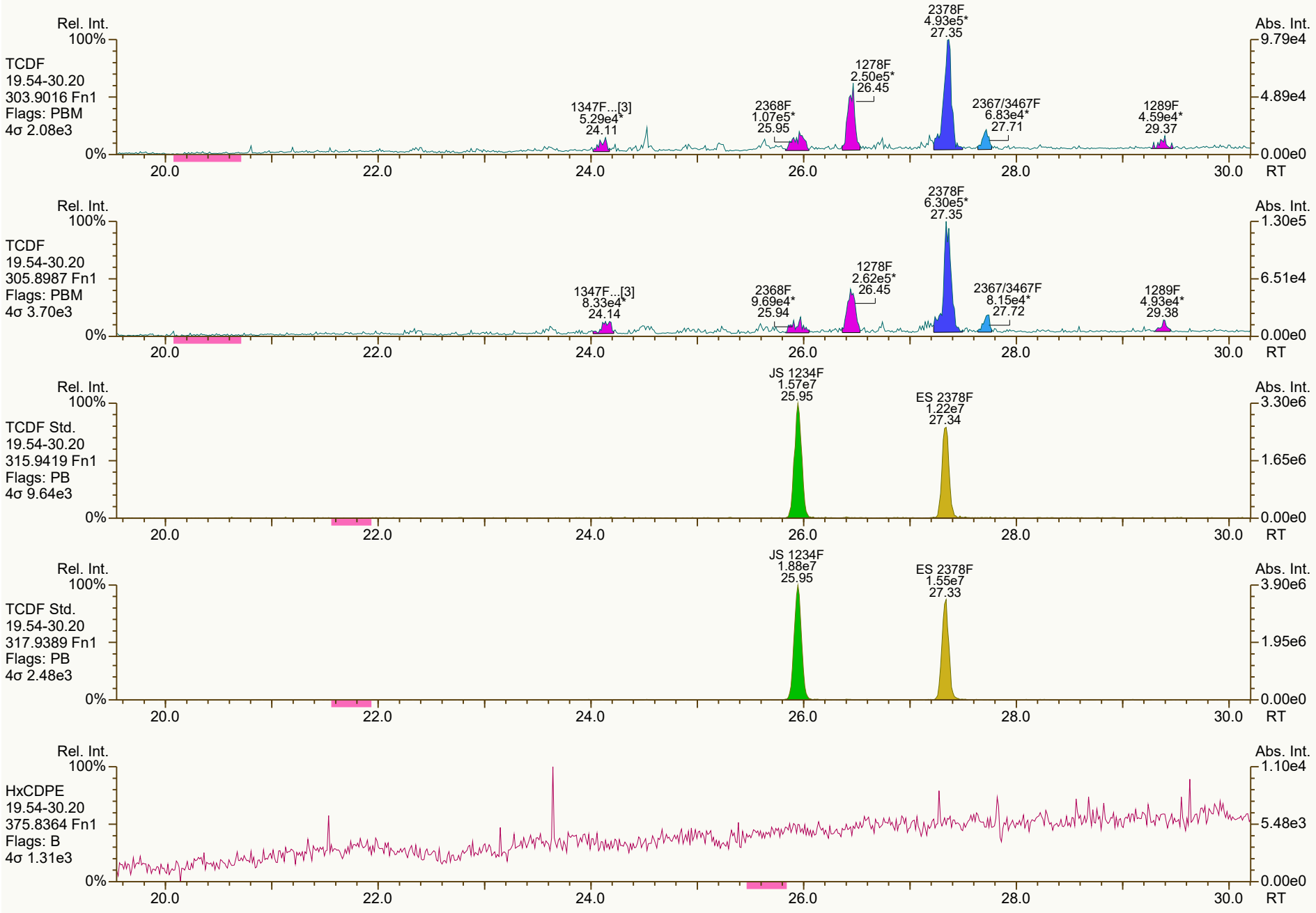
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 58 | User: DTF Datafile: 220221C16



Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_011.utp_res, saved 22-Feb-2022 09:26 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0213, 5234 scc: 355-038 *Revised: 22-Feb-2022 09:20 (DTF) Printed: 22-Feb-2022 09:37 Page 5 of 12*


OCDD
1.08e7*
43.41
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 2.36e3
0%
Abs. Int.
2.21e6
1.10e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.21e7*
43.41
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 2.75e3
2.47e6
1.23e6
ES OCDD
9.89e6
43.40
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 2.16e3
1.87e6
9.35e5
ES OCDD
1.12e7
43.40
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 4.99e3
2.30e6
1.15e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.11e7
5.55e6

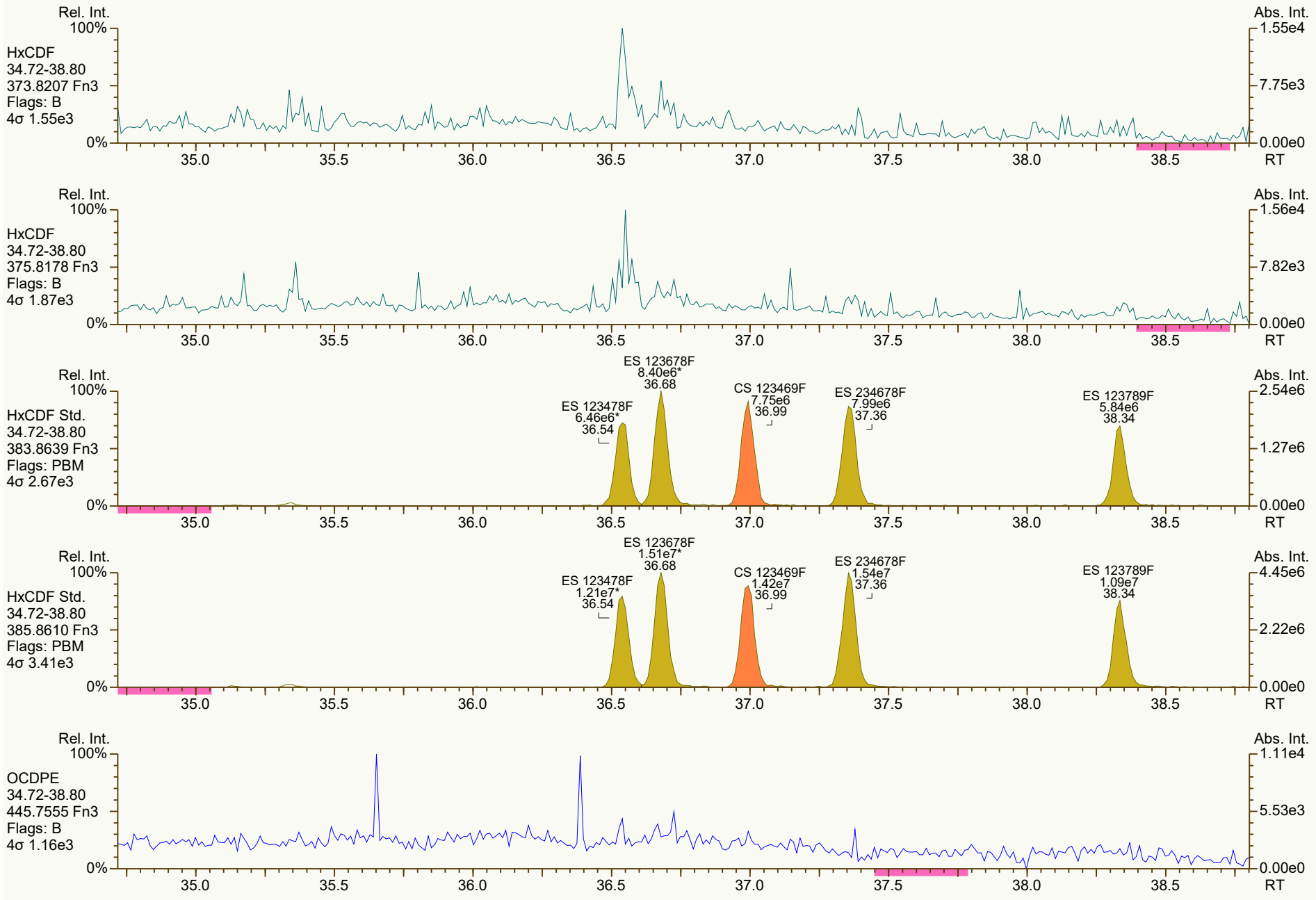

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 2.08e3
0%
1347F...[3]
5.29e4*
24.11
2368F
1.07e5*
25.95
1278F
2.50e5*
26.45
2378F
4.93e5*
27.35
2367/3467F
6.83e4*
27.71
1289F
4.59e4*
29.37
Abs. Int.
9.79e4
4.89e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 3.70e3
0%
1347F...[3]
8.33e4*
24.14
2368F
9.69e4*
25.94
1278F
2.62e5*
26.45
2378F
6.30e5*
27.35
2367/3467F
8.15e4*
27.72
1289F
4.93e4*
29.38
Abs. Int.
1.30e5
6.51e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 9.64e3
0%
JS 1234F
1.57e7
25.95
ES 2378F
1.22e7
27.34
Abs. Int.
3.30e6
1.65e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.48e3
0%
JS 1234F
1.88e7
25.95
ES 2378F
1.55e7
27.33
Abs. Int.
3.90e6
1.95e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.31e3
0%
Abs. Int.
1.10e4
5.48e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.10e4
5.52e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.20e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.32e4
6.58e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.31e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
5.95e6
2.97e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 1.76e3
12378F
4.22e4*
32.17
Abs. Int.
1.25e4
6.26e3
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 1.98e3
12378F
3.61e4*
32.17
Abs. Int.
1.32e4
6.59e3
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 1.89e3
CS 12346F
1.64e7
31.61
ES 12378F
1.68e7
32.15
ES 23478F
1.59e7
33.27
Abs. Int.
4.63e6
2.32e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.70e3
CS 12346F
1.09e7
31.61
ES 12378F
1.09e7
32.15
ES 23478F
9.82e6
33.27
Abs. Int.
3.00e6
1.50e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.42e3
Abs. Int.
1.66e4
8.31e3
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

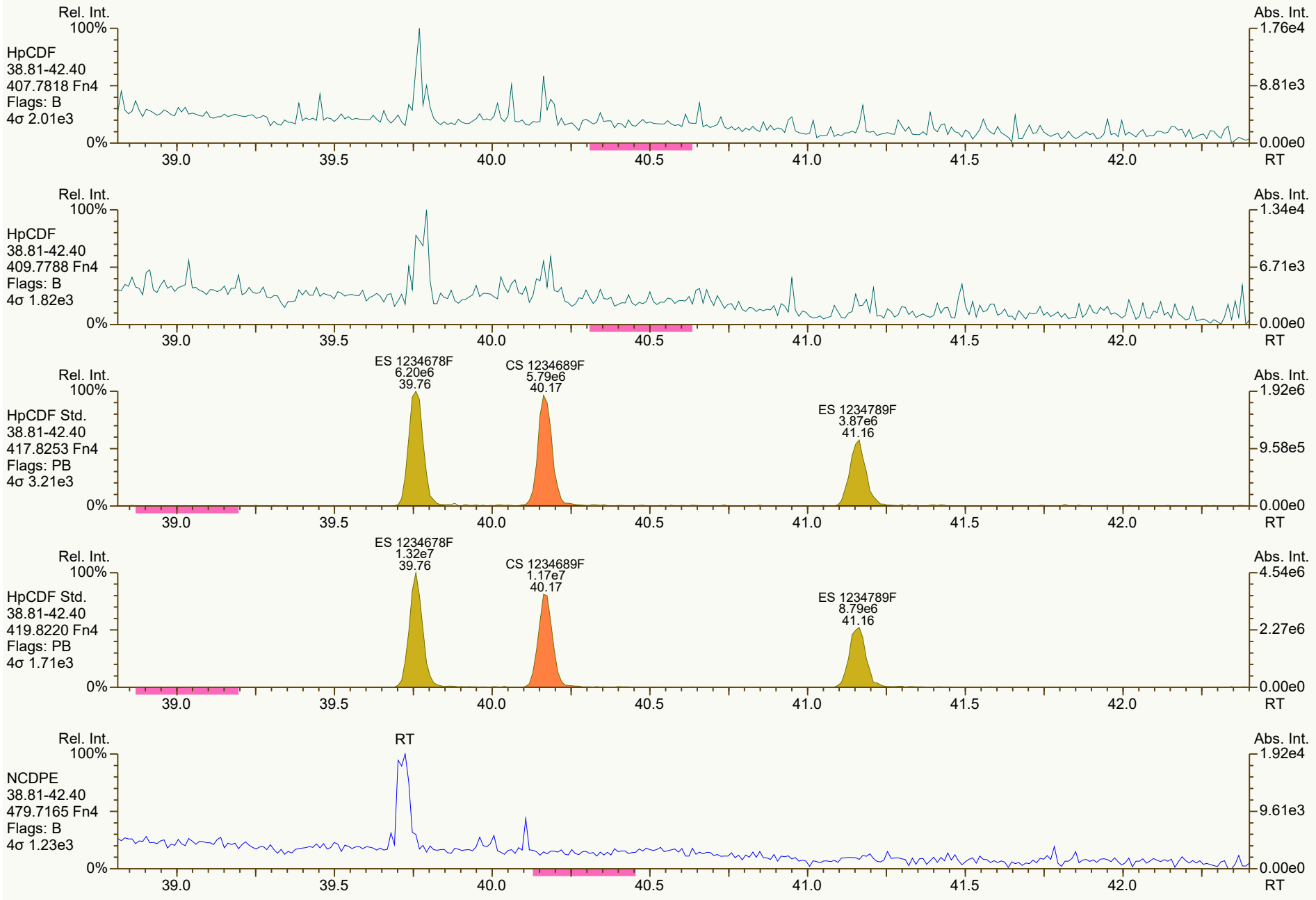
SGS ID: B6292_18927_DF_011 | Sample ID: 11215131-020622-S-SB-SC-B-14 | Acq: 21-Feb-2022 21:15:54

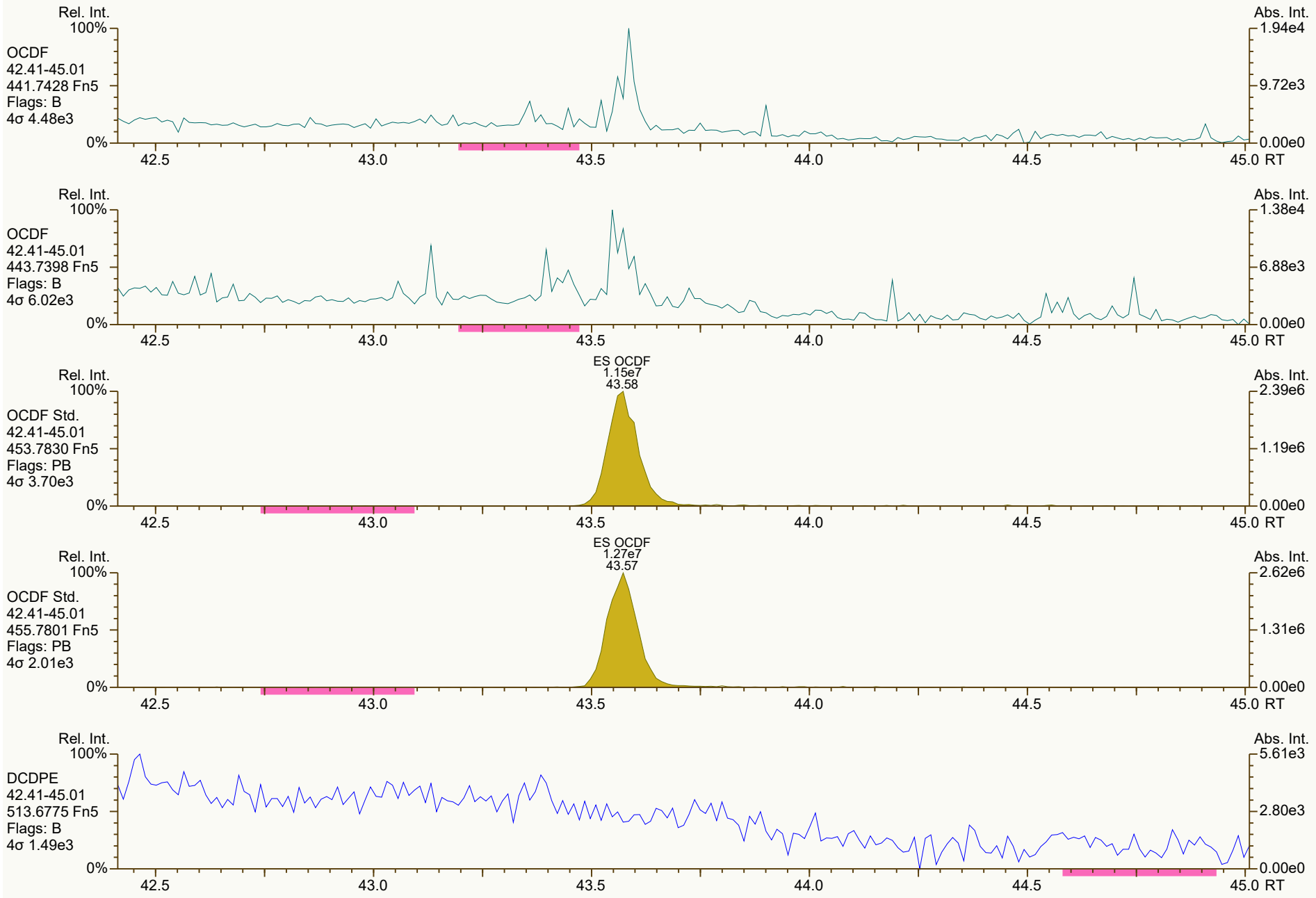
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 58 | User: DTF Datafile: 220221C16



Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\B6292_18927_DF_011.utp_res, saved 22-Feb-2022 09:26 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4037, 3322, 4681 scc: 355-038 | *Revised: 22-Feb-2022 09:22 (DTF) Printed: 22-Feb-2022 09:37 Page 10 of 12*


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: B
4σ 2.01e3
0%
Abs. Int.
1.76e4
8.81e3
0.00e0
RT
39.0
39.5
40.0
40.5
41.0
41.5
42.0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: B
4σ 1.82e3
1.34e4
6.71e3
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 3.21e3
ES 1234678F
6.20e6
39.76
CS 1234689F
5.79e6
40.17
ES 1234789F
3.87e6
41.16
1.92e6
9.58e5
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 1.71e3
ES 1234678F
1.32e7
39.76
CS 1234689F
1.17e7
40.17
ES 1234789F
8.79e6
41.16
4.54e6
2.27e6
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.23e3
RT
1.92e4
9.61e3


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: B
4σ 4.48e3
0%
Abs. Int.
1.94e4
9.72e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: B
4σ 6.02e3
0%
Abs. Int.
1.38e4
6.88e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.15e7
43.58
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 3.70e3
0%
Abs. Int.
2.39e6
1.19e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.27e7
43.57
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 2.01e3
0%
Abs. Int.
2.62e6
1.31e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.49e3
0%
Abs. Int.
5.61e3
2.80e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	220221C01	3	CS3_220221_DF_CA	1.00	25-347-1	DTF	138-412	21-Feb-2022	09:41:20
2	220221C02	46	OPR1_18927_DF	1.00	0_18927_OPR001	DTF	611-851	21-Feb-2022	10:27:39
3	220221C03	2	SBS_220221_DF_CA	1.00	20-61-1	DTF	696-429	21-Feb-2022	11:13:57
4	220221C04	45	MB1_18927_DF_SDS	10.00	Method Blank	DTF	177-830	21-Feb-2022	12:00:14
5	220221C05	47	B6292_18927_DF_001	10.19	11215131-020622-S-SB-SC-O-21	DTF	306-766	21-Feb-2022	12:46:31
6	220221C06	48	B6292_18927_DF_002	10.15	11215131-020622-S-SB-SC-B-15	DTF	032-563	21-Feb-2022	13:32:51
7	220221C07	49	B6292_18927_DF_003	10.08	11215131-020622-S-SB-SC-B-15H	DTF	099-258	21-Feb-2022	14:19:09
8	220221C08	50	B6292_18927_DF_003MS	10.04	11215131-020622-S-SB-SC-B-15H-MS	DTF	986-756	21-Feb-2022	15:05:28
9	220221C09	51	B6292_18927_DF_003MSD	10.12	11215131-020622-S-SB-SC-B-15H-MSD	DTF	194-418	21-Feb-2022	15:51:46
10	220221C10	52	B6292_18927_DF_004	10.11	11215131-020622-S-SB-DUP-16	DTF	175-075	21-Feb-2022	16:38:04
11	220221C11	53	B6292_18927_DF_005	10.06	11215131-020622-S-SB-SC-O-22	DTF	136-442	21-Feb-2022	17:24:22
12	220221C12	54	B6292_18927_DF_006	10.01	11215131-020622-S-SB-SC-O-23	DTF	686-027	21-Feb-2022	18:10:39
13	220221C13	55	B6292_18927_DF_007	10.09	11215131-020622-S-SB-SC-B-16	DTF	977-059	21-Feb-2022	18:56:58
14	220221C14	56	B6292_18927_DF_008	10.24	11215131-020622-S-SB-SC-B-16H	DTF	106-893	21-Feb-2022	19:43:17
15	220221C15	57	B6292_18927_DF_010	10.17	11215131-020622-S-SB-SC-O-20	DTF	627-336	21-Feb-2022	20:29:35
16	220221C16	58	B6292_18927_DF_011	10.03	11215131-020622-S-SB-SC-B-14	DTF	355-038	21-Feb-2022	21:15:54

REVIEWED
Tyler_Fritz , 2/22/2022, 9:47:43 AM

CS 1234689-HpCDF slightly out of QC limit for M1613. Will not affect any analyte quantitation. OK. ajb 2/22/22

APPROVED
Amy_Boehm , 2/22/2022, 3:18:58 PM

Dioxin/Furan QC Summary	Acq'd: 21 Feb 2022 09:41 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220221_DF_CA	UTP: 22-Feb-2022 09:25:51 DTF	Checkcode: 138-412-GMK
Sample ID: 25-347-1	Report: 22 Feb 2022 09:28 TF	Datafile: 220221C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.24	4.80E+06	0.82	Y	1.18	1.16	-2%
12378-PeCDD	33.63	1.94E+07	1.53	Y	1.04	1.03	-1%
123478-HxCDD	37.55	1.86E+07	1.24	Y	1.09	1.09	0%
123678-HxCDD	37.67	1.92E+07	1.26	Y	1.15	1.15	0%
123789-HxCDD	37.98	2.00E+07	1.26	Y	1.05	1.01	-3%
1234678-HpCDD	40.71	1.83E+07	1.07	Y	1.06	1.04	-2%
OCDD	43.39	2.90E+07	0.90	Y	1.13	1.11	-2%
2378-TCDF	27.38	6.70E+06	0.75	Y	1.08	1.06	-2%
12378-PeCDF	32.17	2.87E+07	1.54	Y	1.02	1.00	-2%
23478-PeCDF	33.29	2.85E+07	1.52	Y	1.02	0.99	-3%
123478-HxCDF	36.55	2.70E+07	1.22	Y	1.27	1.21	-5%
123678-HxCDF	36.69	2.87E+07	1.22	Y	1.15	1.11	-4%
234678-HxCDF	37.37	2.68E+07	1.26	Y	1.19	1.13	-5%
123789-HxCDF	38.35	2.40E+07	1.24	Y	1.16	1.12	-4%
1234678-HpCDF	39.76	2.58E+07	1.01	Y	1.37	1.33	-3%
1234789-HpCDF	41.16	2.20E+07	1.02	Y	1.31	1.28	-2%
OCDF	43.57	3.64E+07	0.91	Y	1.07	1.05	-2%
ES 2378-TCDD	28.22	4.14E+07	0.82	Y	1.05	1.05	1%
ES 12378-PeCDD	33.612	3.78E+07	1.63	Y	0.88	0.96	9%
ES 123478-HxCDD	37.537	3.40E+07	1.29	Y	0.97	1.01	4%
ES 123678-HxCDD	37.658	3.36E+07	1.25	Y	0.94	1.00	6%
ES 123789-HxCDD	37.964	3.95E+07	1.23	Y	1.09	1.17	7%
ES 1234678-HpCDD	40.693	3.53E+07	1.06	Y	0.91	1.05	15%
ES OCDD	43.383	5.23E+07	0.92	Y	0.62	0.78	24%
ES 2378-TCDF	27.355	6.35E+07	0.83	Y	1.06	1.02	-3%
ES 12378-PeCDF	32.151	5.72E+07	1.59	Y	0.91	0.92	1%
ES 23478-PeCDF	33.274	5.75E+07	1.66	Y	0.88	0.93	5%
ES 123478-HxCDF	36.534	4.48E+07	0.55	Y	1.20	1.33	11%
ES 123678-HxCDF	36.676	5.16E+07	0.54	Y	1.35	1.54	13%
ES 234678-HxCDF	37.351	4.75E+07	0.53	Y	1.24	1.41	14%
ES 123789-HxCDF	38.329	4.30E+07	0.53	Y	1.16	1.28	11%
ES 1234678-HpCDF	39.753	3.90E+07	0.45	Y	0.97	1.16	20%
ES 1234789-HpCDF	41.147	3.43E+07	0.46	Y	0.85	1.02	20%
ES OCDF	43.559	6.90E+07	0.91	Y	0.81	1.03	27%

Dioxin/Furan QC Summary	Acq'd: 21 Feb 2022 09:41 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220221_DF_CA	UTP: 22-Feb-2022 09:25:51 DTF	Checkcode: 138-412-GMK
Sample ID: 25-347-1	Report: 22 Feb 2022 09:28 TF	Datafile: 220221C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.55	3.93E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.98	6.20E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.86	1.68E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	28.24	5.45E+06	n/a	-	1.20	1.39	15%
CS 12347-PeCDD	33.11	3.39E+07	1.56	Y	0.75	0.86	15%
CS 12346-PeCDF	31.62	5.59E+07	1.57	Y	0.85	0.90	6%
CS 123469-HxCDF	36.99	4.65E+07	0.54	Y	1.12	1.38	24%
CS 1234689-HpCDF	40.16	3.93E+07	0.45	Y	0.89	1.17	32%
~~SS 37Cl-2378-TCDD~~	~~28.24~~	~~5.45E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.32~~	~~15%~~
~~SS 12347-PeCDD~~	~~33.11~~	~~3.39E+07~~	~~1.56~~	~~Y~~	~~0.86~~	~~0.90~~	~~5%~~
~~SS 12346-PeCDF~~	~~31.62~~	~~5.59E+07~~	~~1.57~~	~~Y~~	~~0.94~~	~~0.90~~	~~4%~~
~~SS 123469-HxCDF~~	~~36.99~~	~~4.65E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~0.90~~	~~9%~~
~~SS 1234689-HpCDF~~	~~40.16~~	~~3.93E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~1.01~~	~~10%~~
~~OCDD-a~~	~~43.39~~	~~1.98E+06~~	~~2.46~~	~~Y~~	~~0.07~~	~~0.08~~	~~5%~~
~~OCDF-a~~	~~43.56~~	~~2.37E+06~~	~~2.62~~	~~Y~~	~~0.07~~	~~0.07~~	~~3%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220221C01 Analysis Date: 21-FEB-2022 09:41:20

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.82	0.65 - 0.89	Y	9.79	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.53	1.32 - 1.78	Y	49.7	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	50.2	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05 - 1.43	Y	49.9	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05 - 1.43	Y	48.4	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88 - 1.20	Y	49	43 - 58	Y
OCDD	M+2/M+4	0.90	0.76 - 1.02	Y	98.4	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.75	0.65 - 0.89	Y	9.78	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.54	1.32 - 1.78	Y	49	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.52	1.32 - 1.78	Y	48.6	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05 - 1.43	Y	47.4	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.22	1.05 - 1.43	Y	48.2	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	47.6	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	48	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.01	0.88 - 1.20	Y	48.4	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.02	0.88 - 1.20	Y	49	43 - 58	Y
OCDF	M+2/M+4	0.91	0.76 - 1.02	Y	98.3	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 22 Feb 2022 09:28 Analyst: TF

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

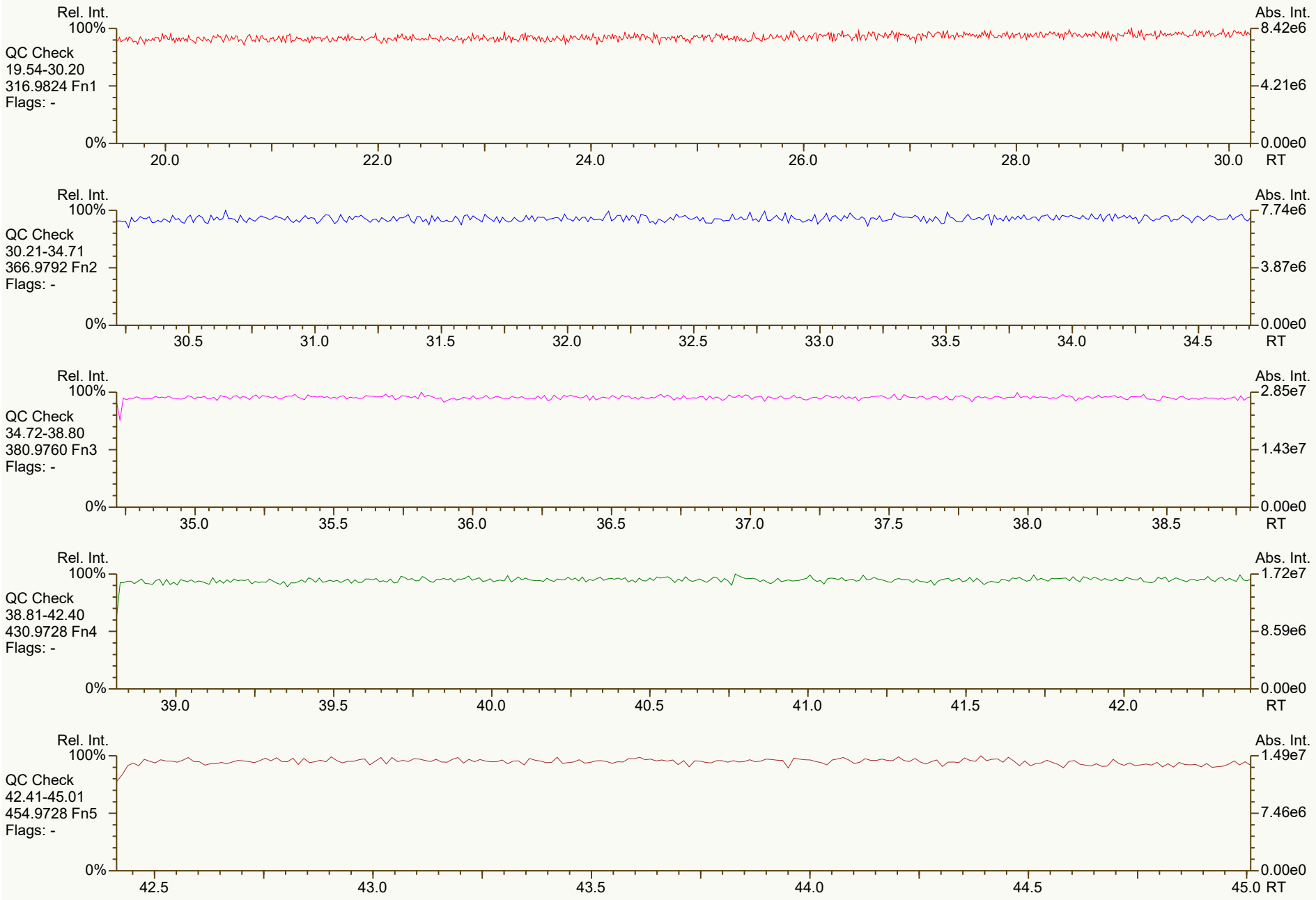
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

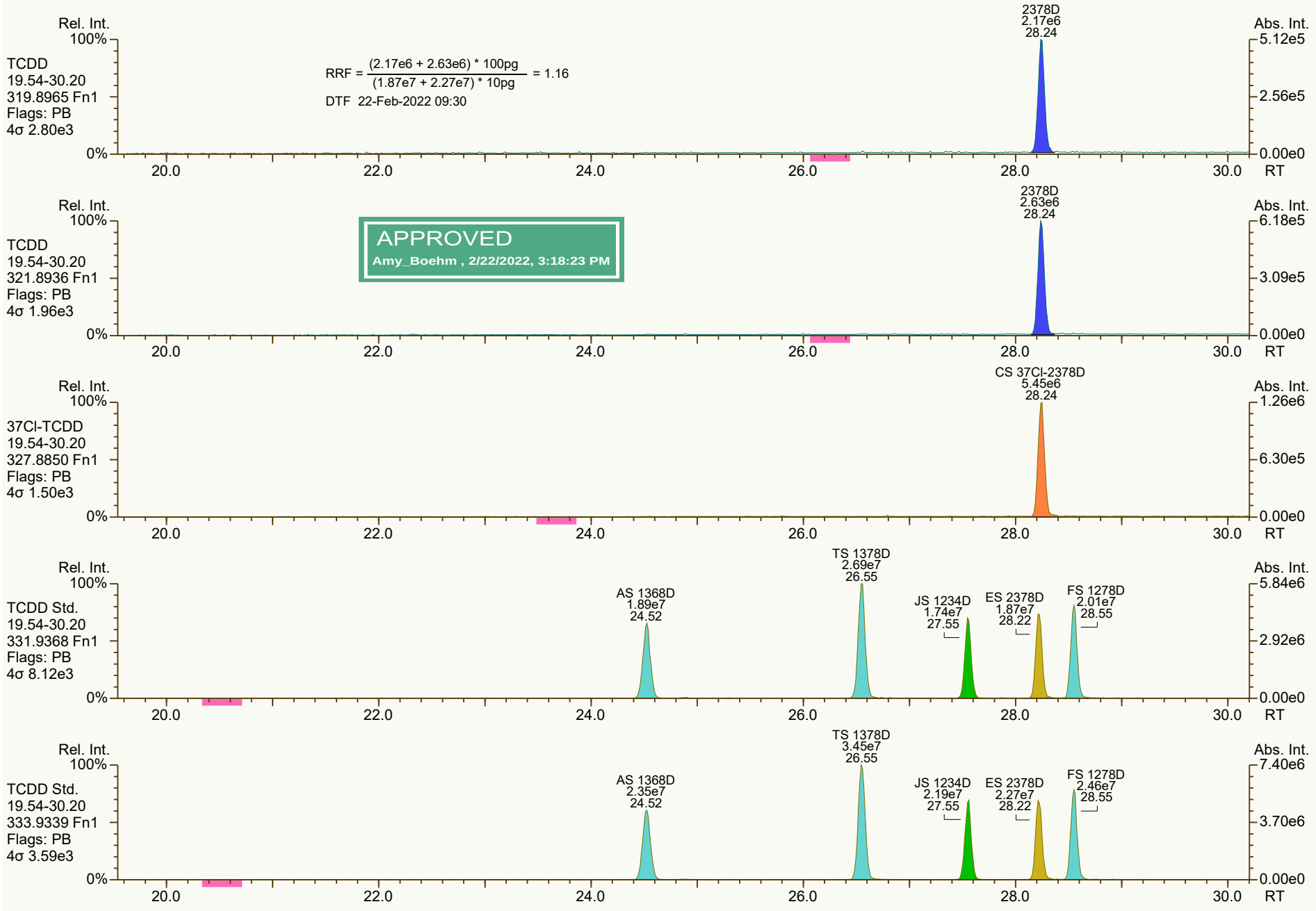
Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220221C01 Analysis Date: 21-FEB-2022 09:41:20

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.82	0.65	-	0.89	Y	101	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.63	1.32	-	1.78	Y	109	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.29	1.05	-	1.43	Y	104	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	106	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05	-	1.43	Y	107	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88	-	1.20	Y	115	72	-	138	Y
13C-OCDD	M+2/M+4	0.92	0.76	-	1.02	Y	249	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.83	0.65	-	0.89	Y	96.7	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32	-	1.78	Y	101	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.66	1.32	-	1.78	Y	105	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	111	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	113	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	114	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	111	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	120	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.46	0.37	-	0.51	Y	120	77	-	129	Y
13C-OCDF	M+2/M+4	0.91	0.76	-	1.02	Y	254	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						11.5	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.56	1.32	-	1.78	Y	115	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.57	1.32	-	1.78	Y	106	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	124	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	132	70	-	130	N

Processed: 22 Feb 2022 09:28 Analyst: TF


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
8.42e6
4.21e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
7.74e6
3.87e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.85e7
1.43e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.72e7
8.59e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.49e7
7.46e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.80e3
0%
RRF = (2.17e6 + 2.63e6) * 100pg / (1.87e7 + 2.27e7) * 10pg = 1.16
DTF 22-Feb-2022 09:30
2378D
2.17e6
28.24
Abs. Int.
5.12e5
2.56e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.96e3
0%
APPROVED
Amy_Boehm , 2/22/2022, 3:18:23 PM
2378D
2.63e6
28.24
Abs. Int.
6.18e5
3.09e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.50e3
0%
CS 37Cl-2378D
5.45e6
28.24
Abs. Int.
1.26e6
6.30e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 8.12e3
0%
AS 1368D
1.89e7
24.52
TS 1378D
2.69e7
26.55
JS 1234D
1.74e7
27.55
ES 2378D
1.87e7
28.22
FS 1278D
2.01e7
28.55
Abs. Int.
5.84e6
2.92e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.59e3
0%
AS 1368D
2.35e7
24.52
TS 1378D
3.45e7
26.55
JS 1234D
2.19e7
27.55
ES 2378D
2.27e7
28.22
FS 1278D
2.46e7
28.55
Abs. Int.
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3.70e6
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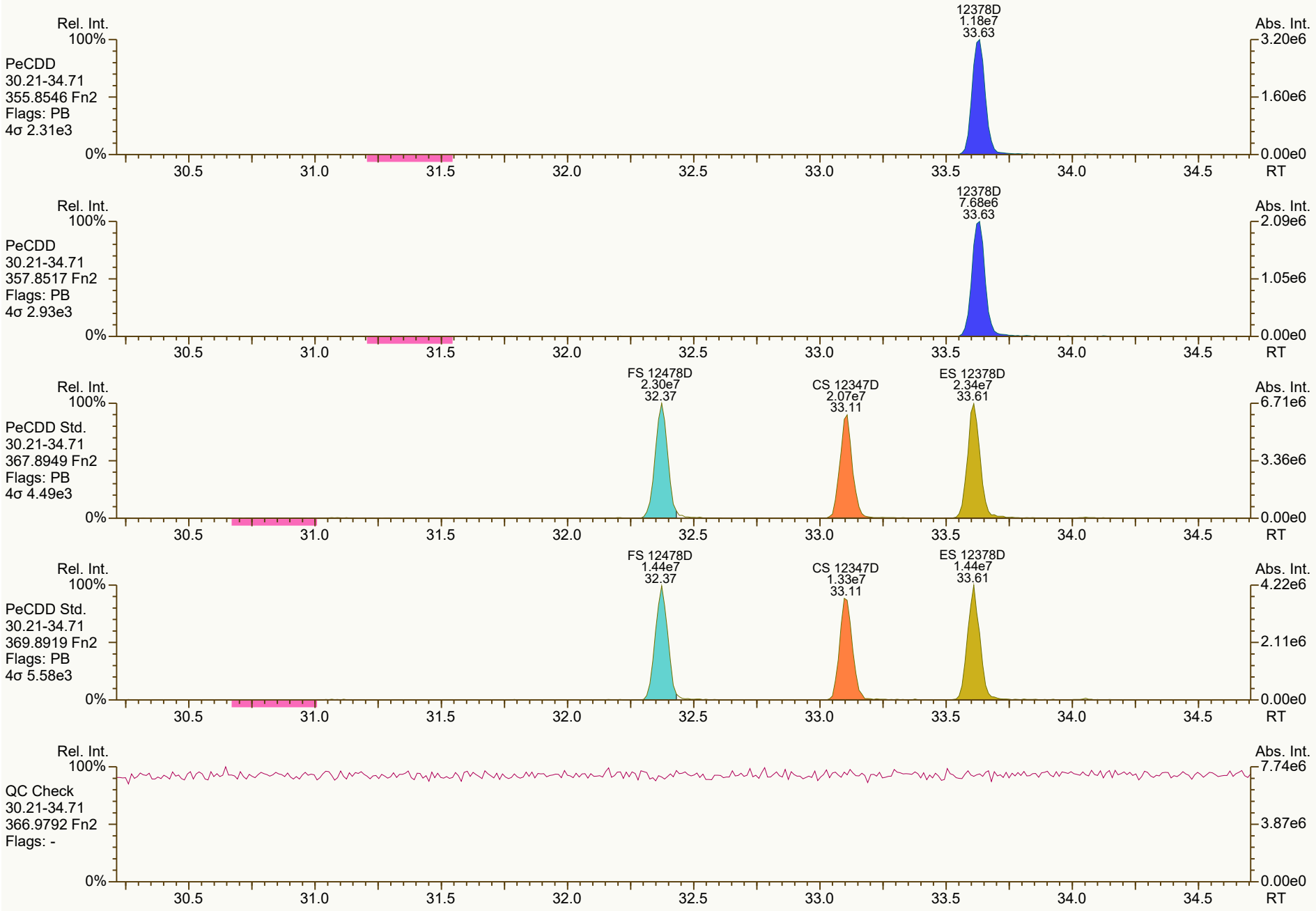
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 2.31e3
0%
12378D
1.18e7
33.63
Abs. Int.
3.20e6
1.60e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 2.93e3
0%
12378D
7.68e6
33.63
Abs. Int.
2.09e6
1.05e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 4.49e3
0%
FS 12478D
2.30e7
32.37
CS 12347D
2.07e7
33.11
ES 12378D
2.34e7
33.61
Abs. Int.
6.71e6
3.36e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 5.58e3
0%
FS 12478D
1.44e7
32.37
CS 12347D
1.33e7
33.11
ES 12378D
1.44e7
33.61
Abs. Int.
4.22e6
2.11e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.74e6
3.87e6
0.00e0
30.5
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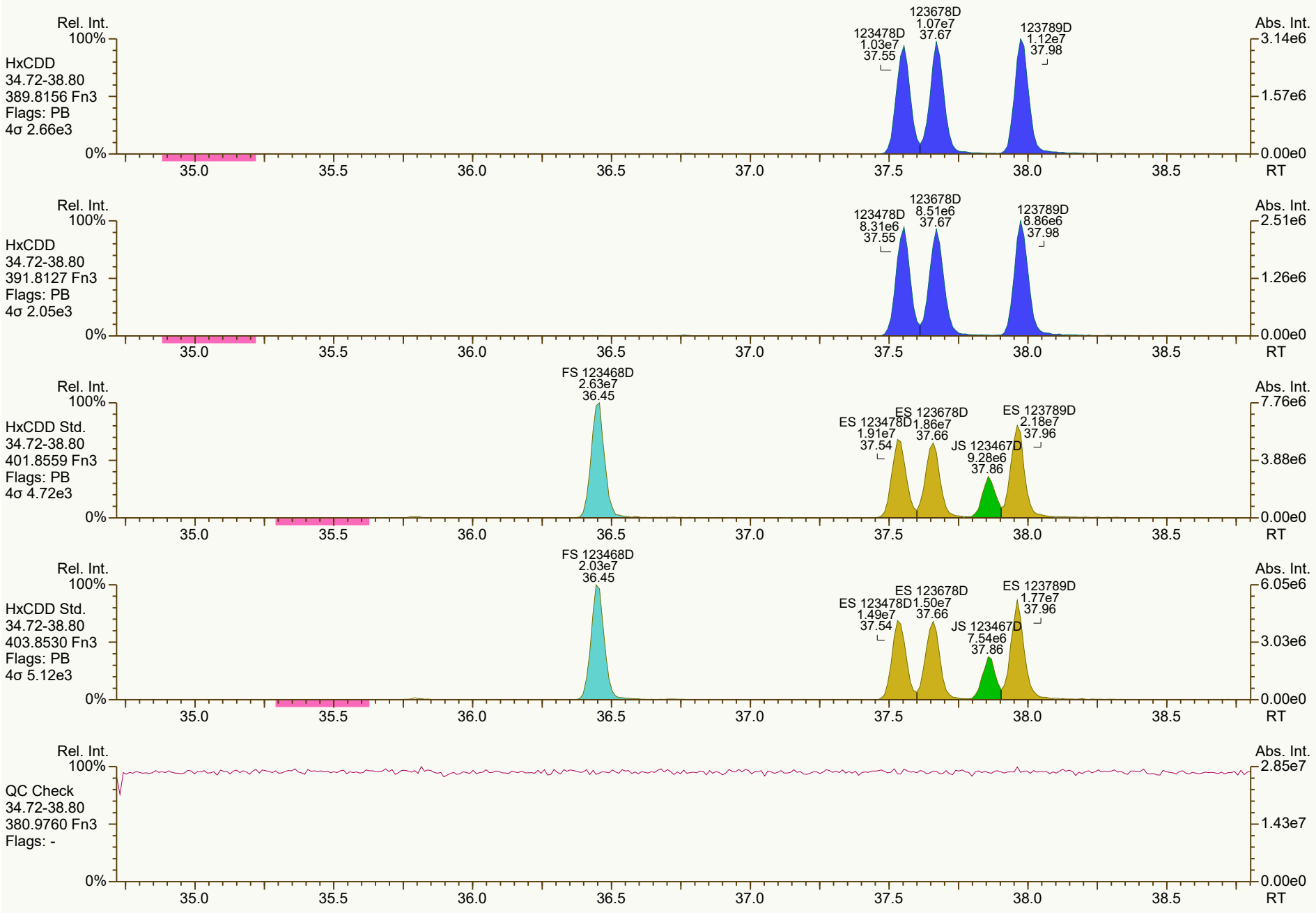
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 2.66e3
123478D
1.03e7
37.55
123678D
1.07e7
37.67
123789D
1.12e7
37.98
Abs. Int.
3.14e6
1.57e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 2.05e3
123478D
8.31e6
37.55
123678D
8.51e6
37.67
123789D
8.86e6
37.98
Abs. Int.
2.51e6
1.26e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 4.72e3
FS 123468D
2.63e7
36.45
ES 123478D
1.91e7
37.54
ES 123678D
1.86e7
37.66
JS 123467D
9.28e6
37.86
ES 123789D
2.18e7
37.96
Abs. Int.
7.76e6
3.88e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 5.12e3
FS 123468D
2.03e7
36.45
ES 123478D
1.49e7
37.54
ES 123678D
1.50e7
37.66
JS 123467D
7.54e6
37.86
ES 123789D
1.77e7
37.96
Abs. Int.
6.05e6
3.03e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
2.85e7
1.43e7
0.00e0
0%
35.0
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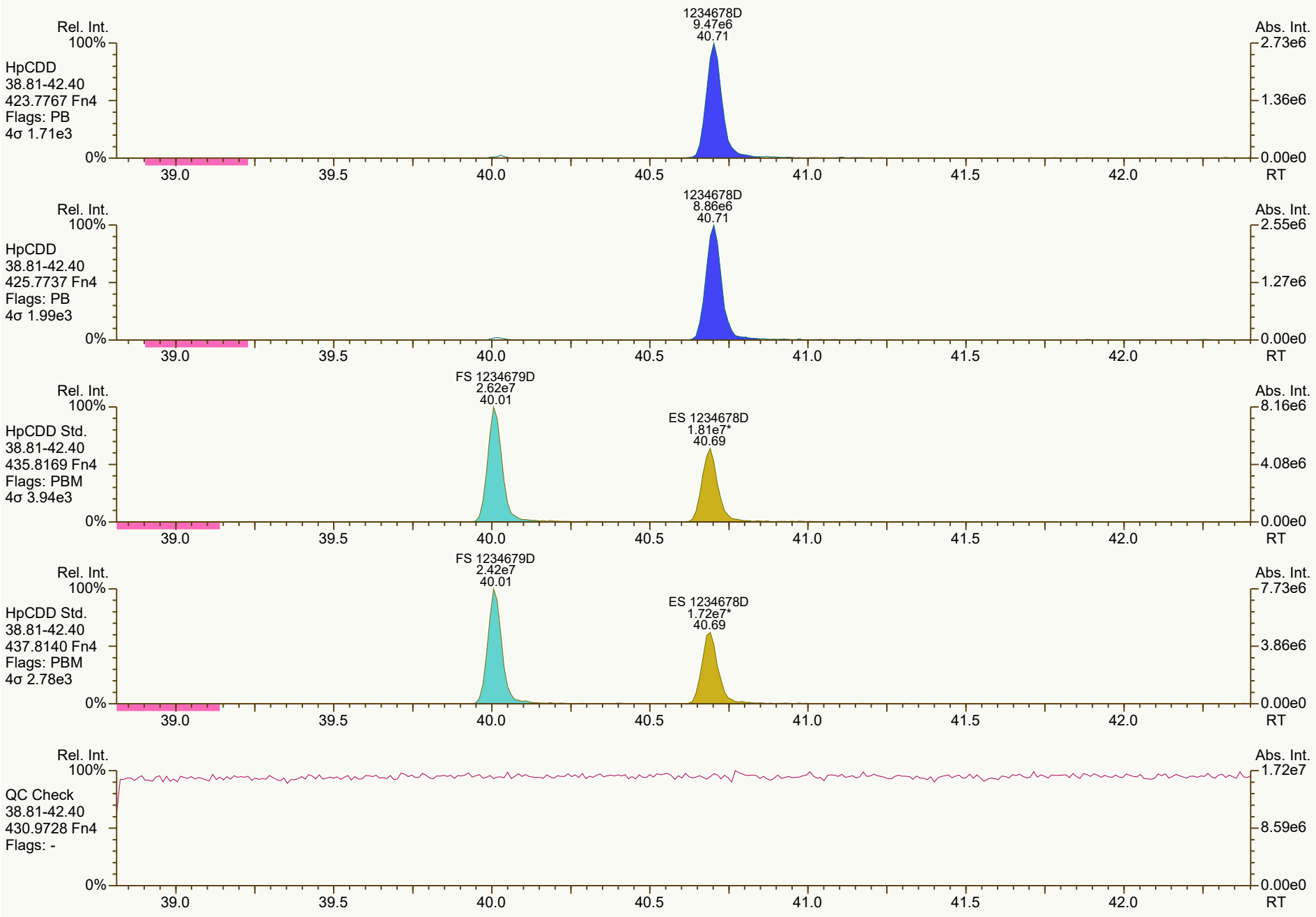
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 1.71e3
1234678D
9.47e6
40.71
Abs. Int.
2.73e6
1.36e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.99e3
1234678D
8.86e6
40.71
Abs. Int.
2.55e6
1.27e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 3.94e3
FS 1234679D
2.62e7
40.01
ES 1234678D
1.81e7*
40.69
Abs. Int.
8.16e6
4.08e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 2.78e3
FS 1234679D
2.42e7
40.01
ES 1234678D
1.72e7*
40.69
Abs. Int.
7.73e6
3.86e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.72e7
8.59e6
0.00e0
0%
39.0
39.5
40.0
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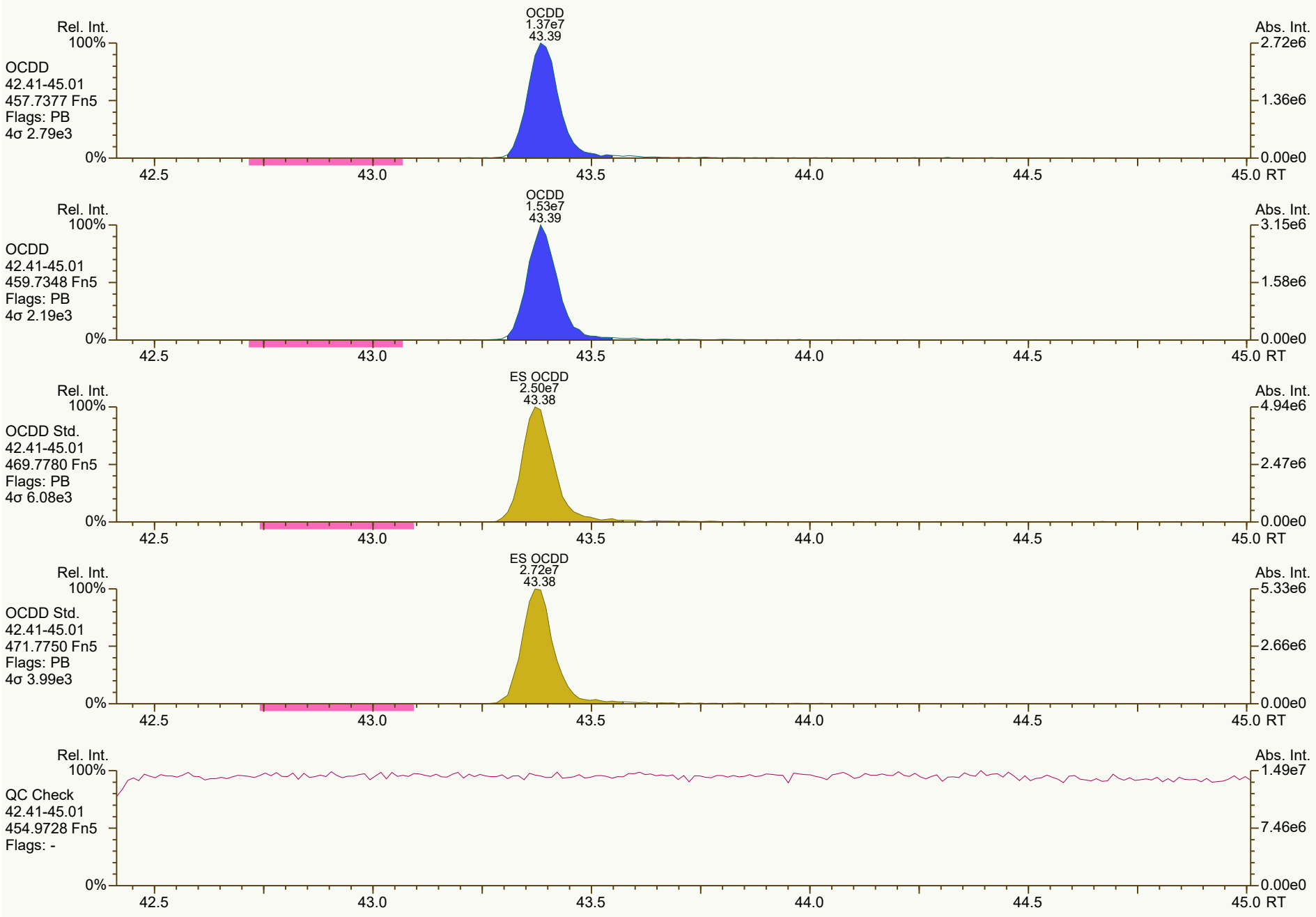
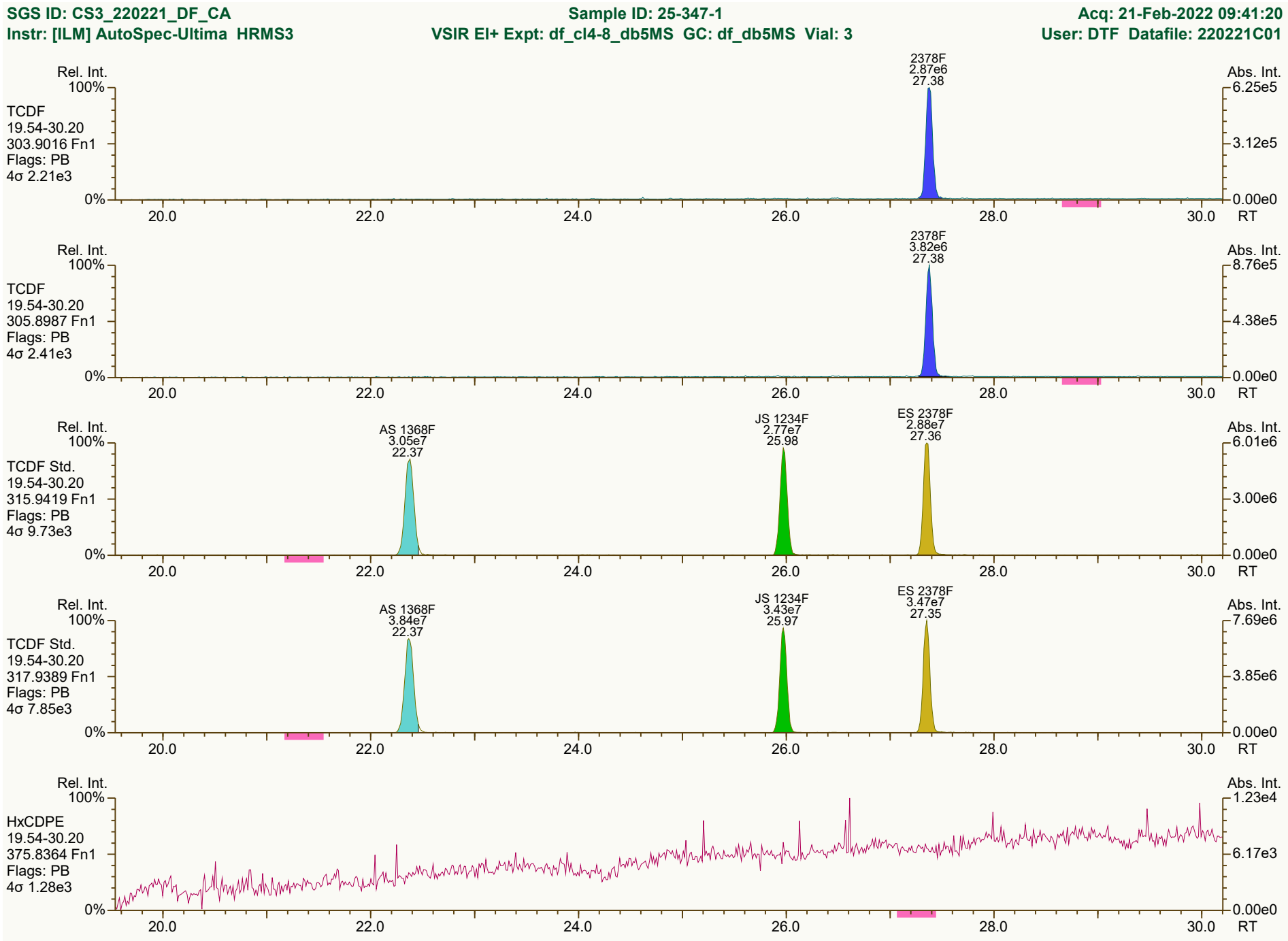
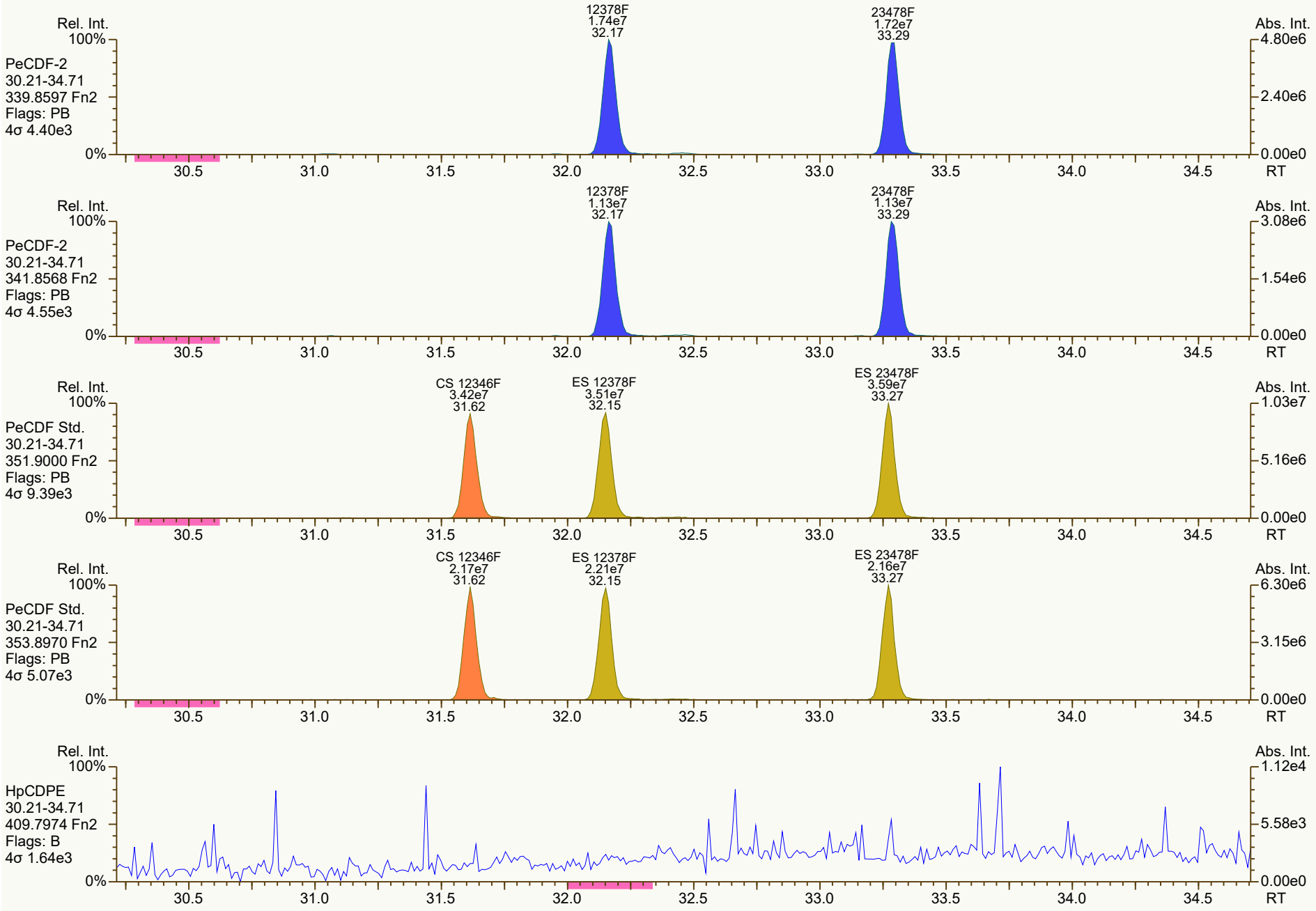
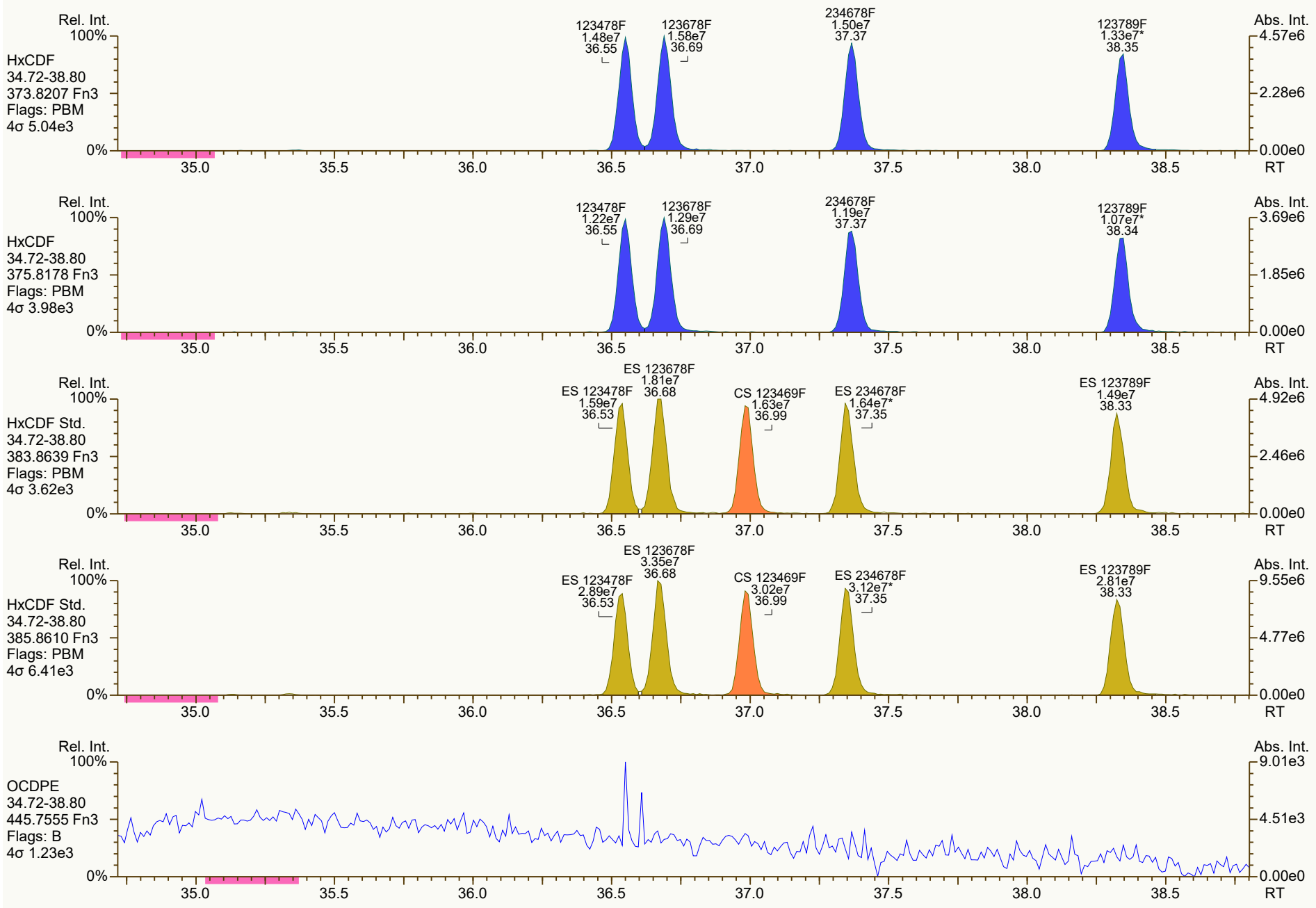
41.0
41.5
42.0
RT

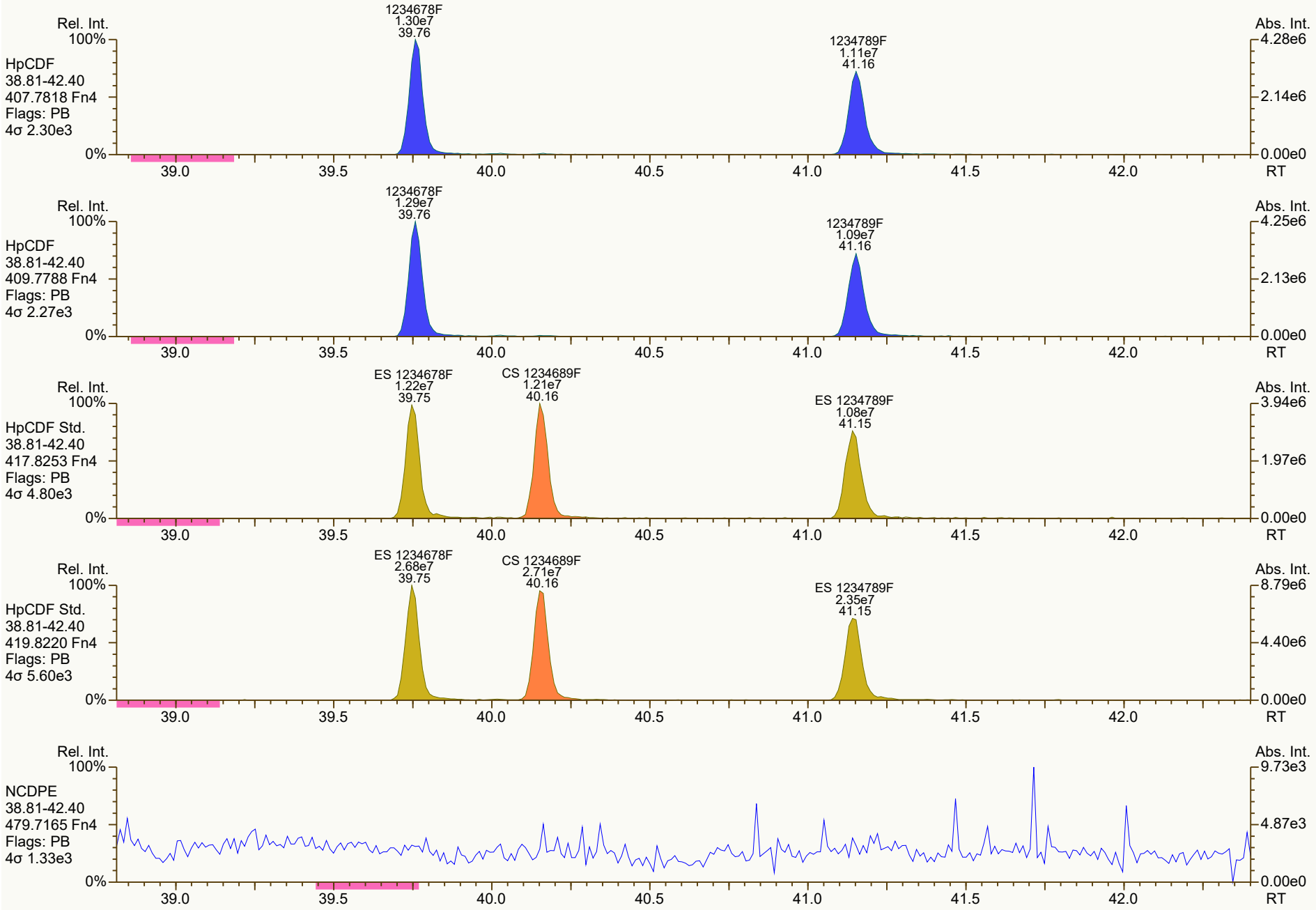

OCDD
1.37e7
43.39
Rel. Int.
Abs. Int.
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 2.79e3
OCDD
1.53e7
43.39
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 2.19e3
ES OCDD
2.50e7
43.38
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 6.08e3
ES OCDD
2.72e7
43.38
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 3.99e3
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
2.72e6
1.36e6
0.00e0
3.15e6
1.58e6
4.94e6
2.47e6
5.33e6
2.66e6
1.49e7
7.46e6


SGS ID: CS3_220221_DF_CA
Sample ID: 25-347-1
Acq: 21-Feb-2022 09:41:20
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220221C01
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 2.21e3
2378F
2.87e6
27.38
6.25e5
3.12e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 2.41e3
2378F
3.82e6
27.38
8.76e5
4.38e5
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 9.73e3
AS 1368F
3.05e7
22.37
JS 1234F
2.77e7
25.98
ES 2378F
2.88e7
27.36
6.01e6
3.00e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 7.85e3
AS 1368F
3.84e7
22.37
JS 1234F
3.43e7
25.97
ES 2378F
3.47e7
27.35
7.69e6
3.85e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.28e3
1.23e4
6.17e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\CS3_220221_DF_CA.utp_res, saved 22-Feb-2022 09:30 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2646, 4837, 1685 scc: 138-412
PKD: 21-Feb-2022 11:19 Printed: 22-Feb-2022 09:33 Page 7 of 12

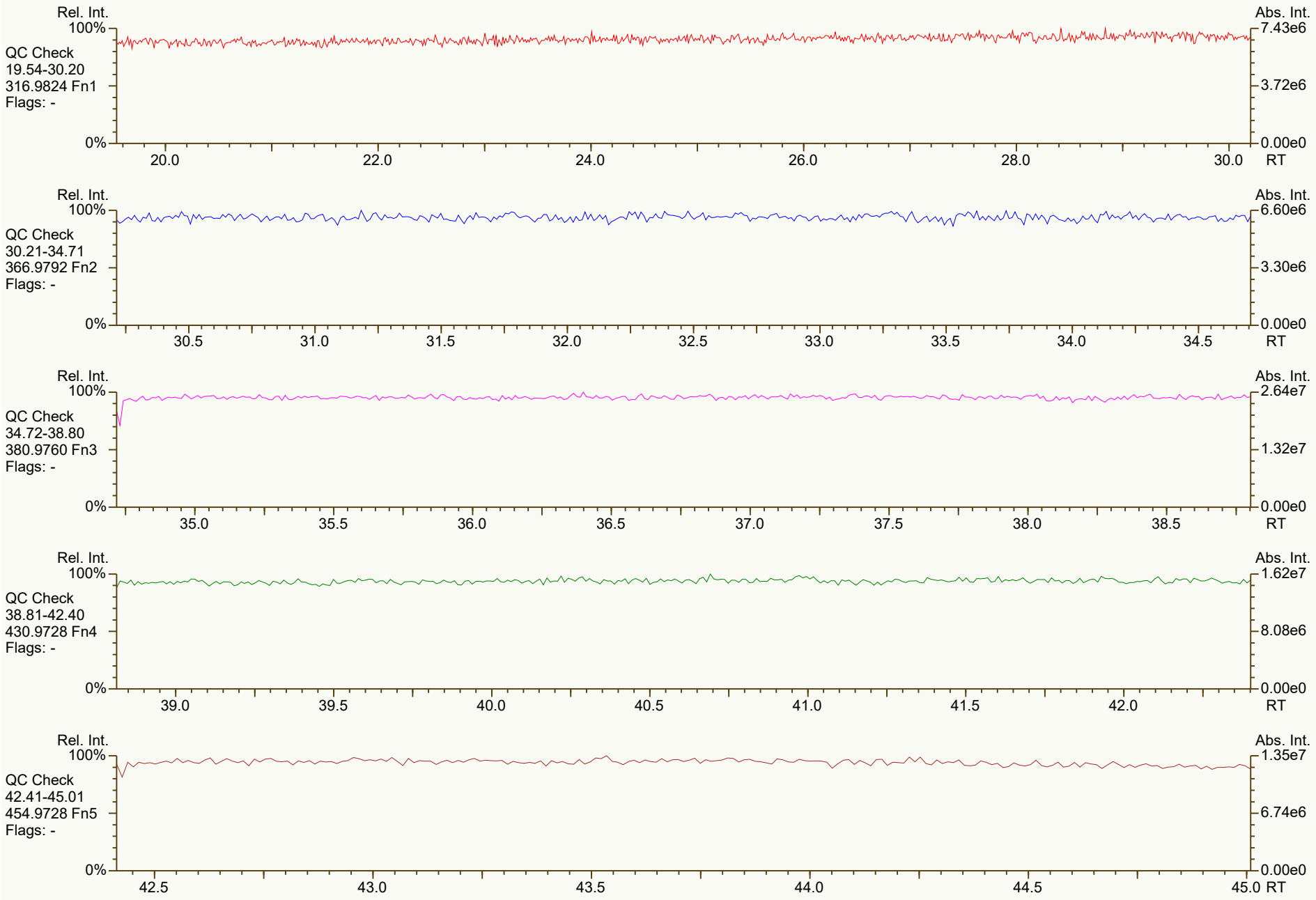

Rel. Int.
100%
0%
Abs. Int.
2.02e4
1.01e4
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 2.79e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.79e4
8.94e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.21e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.42e6
4.21e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT

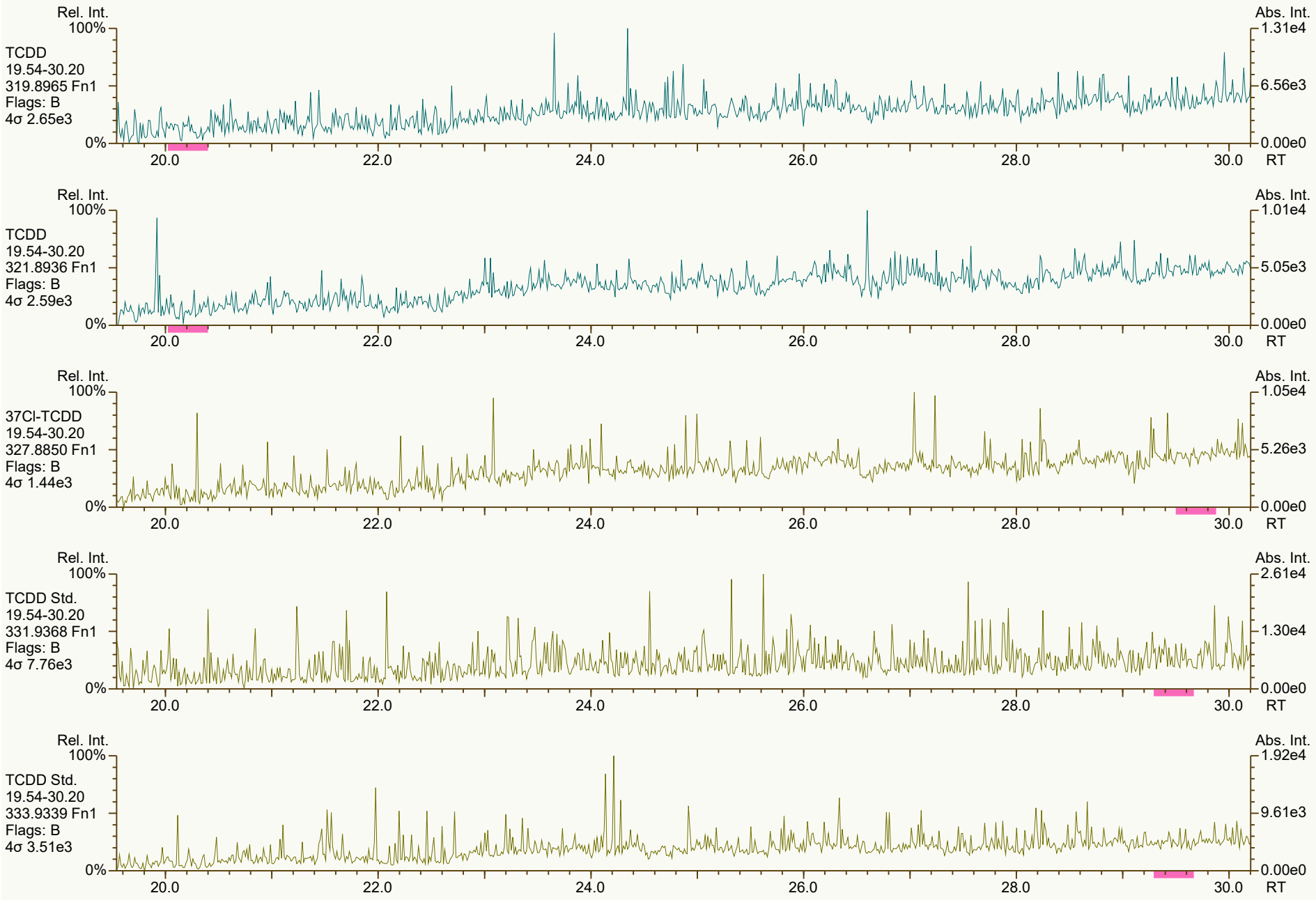

Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 4.40e3
0%
12378F
1.74e7
32.17
23478F
1.72e7
33.29
Abs. Int.
4.80e6
2.40e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 4.55e3
0%
12378F
1.13e7
32.17
23478F
1.13e7
33.29
Abs. Int.
3.08e6
1.54e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 9.39e3
0%
CS 12346F
3.42e7
31.62
ES 12378F
3.51e7
32.15
ES 23478F
3.59e7
33.27
Abs. Int.
1.03e7
5.16e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 5.07e3
0%
CS 12346F
2.17e7
31.62
ES 12378F
2.21e7
32.15
ES 23478F
2.16e7
33.27
Abs. Int.
6.30e6
3.15e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.12e4
5.58e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 5.04e3
0%
123478F
1.48e7
36.55
123678F
1.58e7
36.69
234678F
1.50e7
37.37
123789F
1.33e7*
38.35
Abs. Int.
4.57e6
2.28e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 3.98e3
0%
123478F
1.22e7
36.55
123678F
1.29e7
36.69
234678F
1.19e7
37.37
123789F
1.07e7*
38.34
Abs. Int.
3.69e6
1.85e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 3.62e3
0%
ES 123678F
1.81e7
36.68
ES 123478F
1.59e7
36.53
CS 123469F
1.63e7
36.99
ES 234678F
1.64e7*
37.35
ES 123789F
1.49e7
38.33
Abs. Int.
4.92e6
2.46e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 6.41e3
0%
ES 123678F
3.35e7
36.68
ES 123478F
2.89e7
36.53
CS 123469F
3.02e7
36.99
ES 234678F
3.12e7*
37.35
ES 123789F
2.81e7
38.33
Abs. Int.
9.55e6
4.77e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.23e3
0%
Abs. Int.
9.01e3
4.51e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 2.30e3
1234678F
1.30e7
39.76
1234789F
1.11e7
41.16
Abs. Int.
4.28e6
2.14e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 2.27e3
1234678F
1.29e7
39.76
1234789F
1.09e7
41.16
Abs. Int.
4.25e6
2.13e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 4.80e3
ES 1234678F
1.22e7
39.75
CS 1234689F
1.21e7
40.16
ES 1234789F
1.08e7
41.15
Abs. Int.
3.94e6
1.97e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 5.60e3
ES 1234678F
2.68e7
39.75
CS 1234689F
2.71e7
40.16
ES 1234789F
2.35e7
41.15
Abs. Int.
8.79e6
4.40e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.33e3
Abs. Int.
9.73e3
4.87e3
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.45e3
0%
OCDF
1.73e7
43.57
Abs. Int.
3.50e6
1.75e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.60e3
0%
OCDF
1.90e7
43.57
Abs. Int.
3.75e6
1.88e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 4.52e3
0%
ES OCDF
3.29e7
43.56
Abs. Int.
6.29e6
3.15e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 3.19e3
0%
ES OCDF
3.61e7
43.56
Abs. Int.
7.15e6
3.58e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.51e3
0%
Abs. Int.
3.88e3
1.94e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
7.43e6
3.72e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
6.60e6
3.30e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.64e7
1.32e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.62e7
8.08e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.35e7
6.74e6
0.00e0

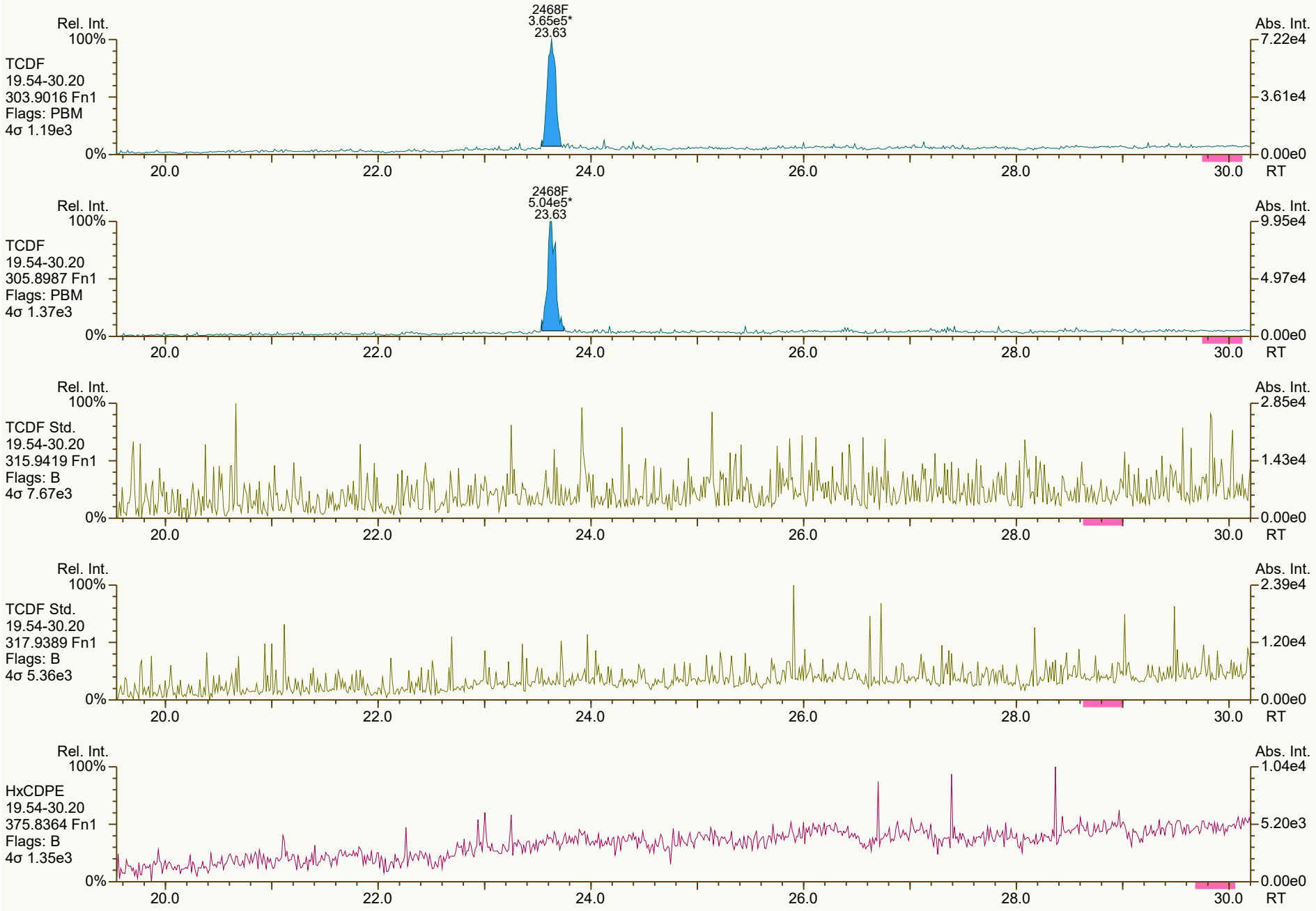

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 2.65e3
0%
Abs. Int.
1.31e4
6.56e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 2.59e3
0%
Abs. Int.
1.01e4
5.05e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: B
4σ 1.44e3
0%
Abs. Int.
1.05e4
5.26e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 7.76e3
0%
Abs. Int.
2.61e4
1.30e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 3.51e3
0%
Abs. Int.
1.92e4
9.61e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
7.04e3
3.52e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.17e3
0%
Abs. Int.
6.84e3
3.42e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: B
4σ 2.37e3
0%
Abs. Int.
1.67e4
8.36e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.22e4
6.08e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.60e6
3.30e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: B
4σ 1.42e3
0%
Abs. Int.
7.59e3
3.79e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: B
4σ 1.36e3
0%
Abs. Int.
6.58e3
3.29e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: B
4σ 1.96e3
0%
Abs. Int.
1.37e4
6.87e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: B
4σ 2.26e3
0%
Abs. Int.
1.48e4
7.40e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.64e7
1.32e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: B
4σ 1.59e3
0%
Abs. Int.
9.96e3
4.98e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: B
4σ 1.52e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: B
4σ 1.62e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: B
4σ 1.97e3
0%
Abs. Int.
1.77e4
8.85e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.62e7
8.08e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 1.66e3
0%
Abs. Int.
7.70e3
3.85e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 1.04e3
0%
Abs. Int.
1.20e4
6.00e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: B
4σ 1.65e3
0%
Abs. Int.
1.17e4
5.83e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: B
4σ 1.92e3
0%
Abs. Int.
1.52e4
7.62e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.35e7
6.74e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.19e3
2468F
3.65e5*
23.63
Abs. Int.
7.22e4
3.61e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.37e3
2468F
5.04e5*
23.63
Abs. Int.
9.95e4
4.97e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 7.67e3
Abs. Int.
2.85e4
1.43e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 5.36e3
Abs. Int.
2.39e4
1.20e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.35e3
Abs. Int.
1.04e4
5.20e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.44e4
7.22e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.85e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.72e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
7.43e6
3.72e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.18e4
5.88e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: B
4σ 1.77e3
0%
Abs. Int.
7.94e3
3.97e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: B
4σ 1.95e3
0%
Abs. Int.
3.11e4
1.56e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: B
4σ 2.00e3
0%
Abs. Int.
1.77e4
8.84e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.42e3
0%
Abs. Int.
9.60e3
4.80e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: B
4σ 1.70e3
0%
Abs. Int.
1.03e4
5.15e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: B
4σ 1.62e3
0%
Abs. Int.
8.37e3
4.19e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: B
4σ 4.11e3
0%
Abs. Int.
1.98e4
9.88e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: B
4σ 2.48e3
0%
Abs. Int.
2.20e4
1.10e4
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.21e3
0%
Abs. Int.
1.10e4
5.50e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

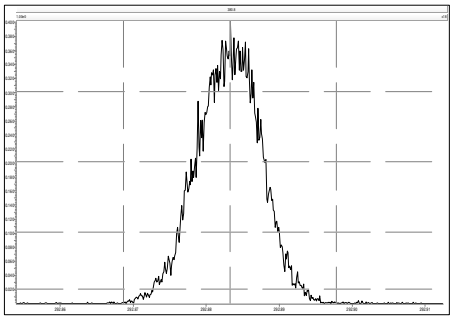

Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: B
4σ 1.44e3
0%
Abs. Int.
1.20e4
6.01e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: B
4σ 1.99e3
0%
Abs. Int.
7.82e3
3.91e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: B
4σ 2.03e3
0%
Abs. Int.
1.29e4
6.47e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: B
4σ 1.75e3
0%
Abs. Int.
2.50e4
1.25e4
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.25e3
0%
Abs. Int.
7.32e3
3.66e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: B
4σ 1.37e3
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: B
4σ 2.45e3
0%
Abs. Int.
7.81e3
3.91e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: B
4σ 1.78e3
0%
Abs. Int.
1.67e4
8.33e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: B
4σ 1.43e3
0%
Abs. Int.
1.30e4
6.51e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
6.44e3
3.22e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

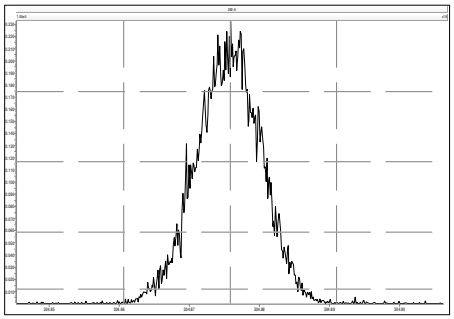
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Monday, February 21, 2022 08:25:27 Eastern Standard Time

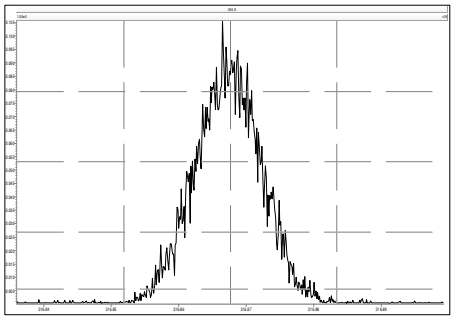
M 292.9824 R 14127



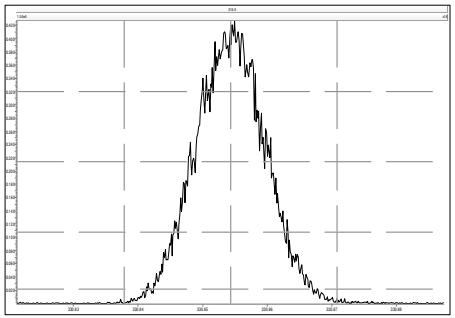
M 304.9824 R 14535



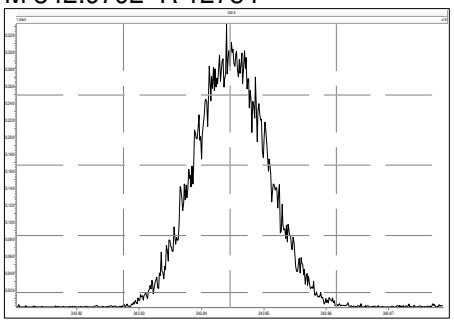
M 316.9824 R 14208



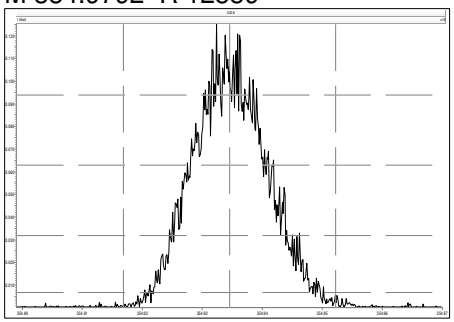
M 330.9792 R 13370



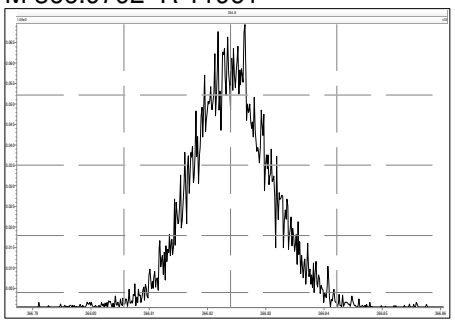
M 342.9792 R 12754



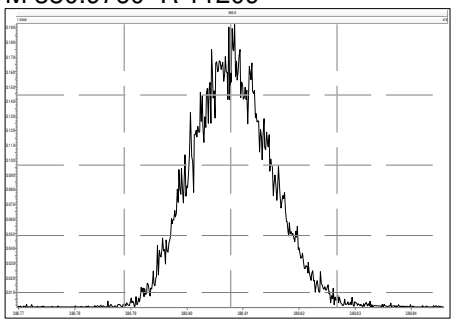
M 354.9792 R 12559



M 366.9792 R 11961



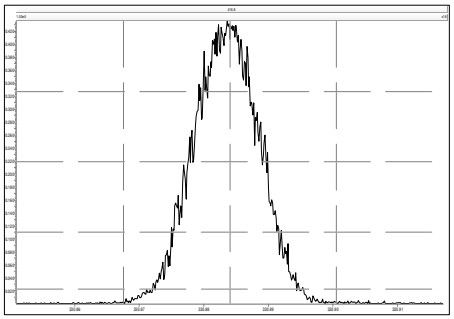
M 380.9760 R 11209



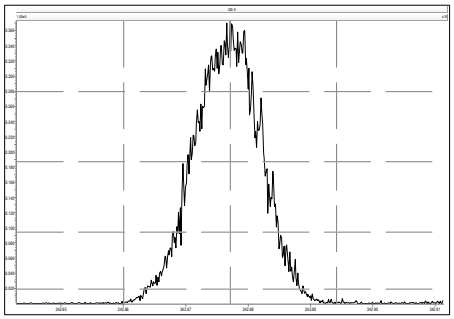
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Monday, February 21, 2022 08:25:44 Eastern Standard Time

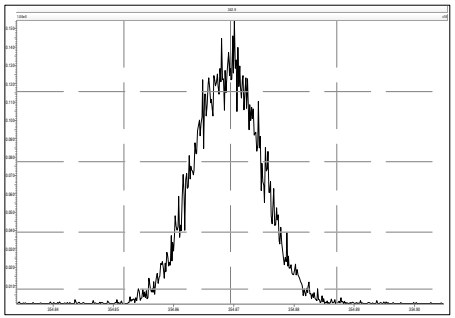
M 330.9792 R 14789



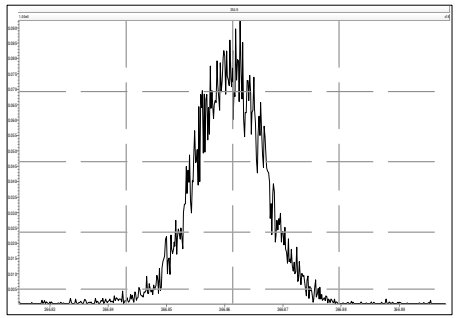
M 342.9792 R 13812



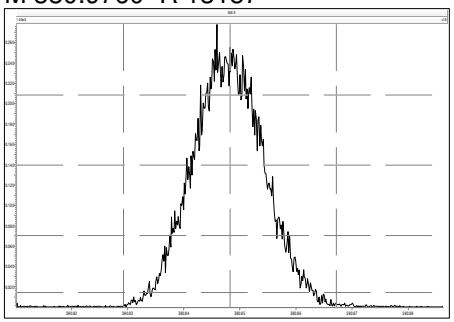
M 354.9792 R 14448



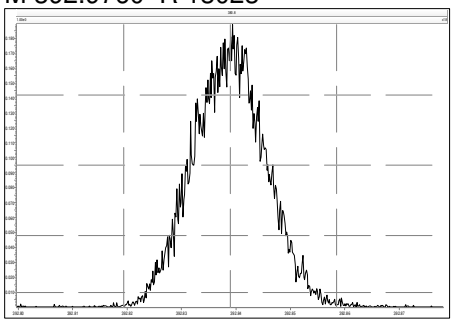
M 366.9792 R 13962



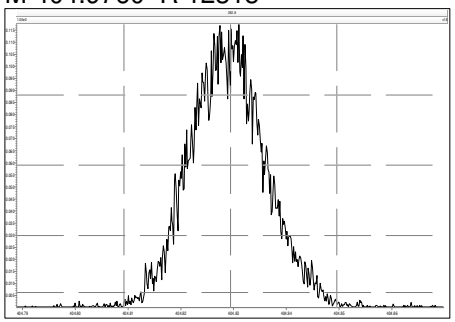
M 380.9760 R 13157



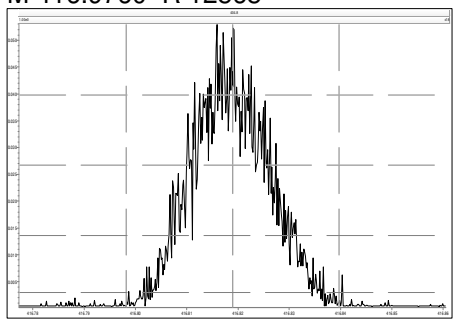
M 392.9760 R 13023



M 404.9760 R 12315



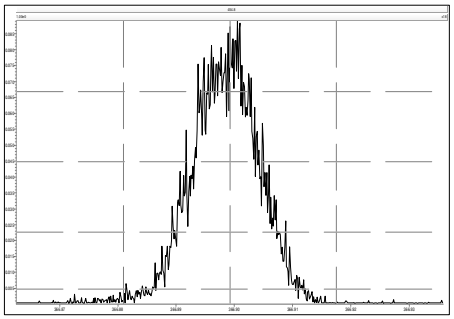
M 416.9760 R 12565



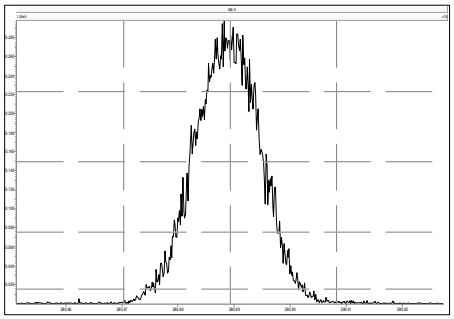
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Monday, February 21, 2022 08:26:01 Eastern Standard Time

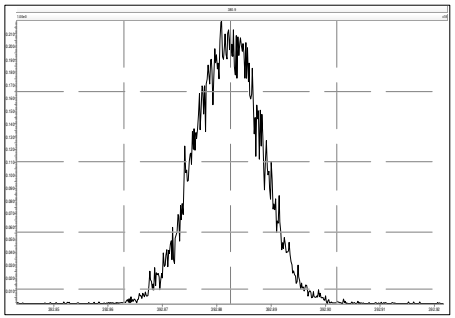
M 366.9792 R 14537



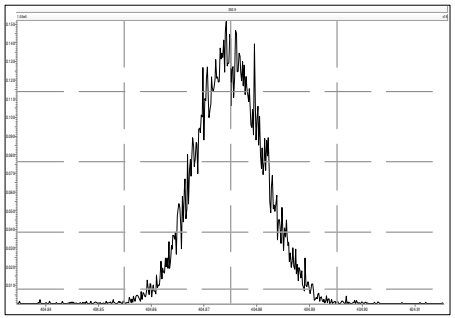
M 380.9760 R 14530



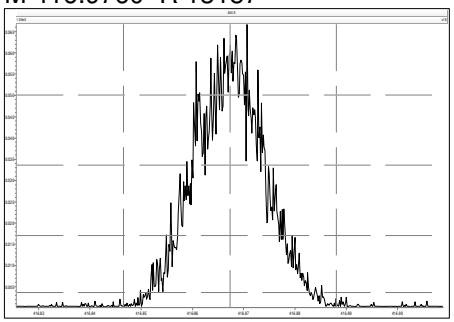
M 392.9760 R 13735



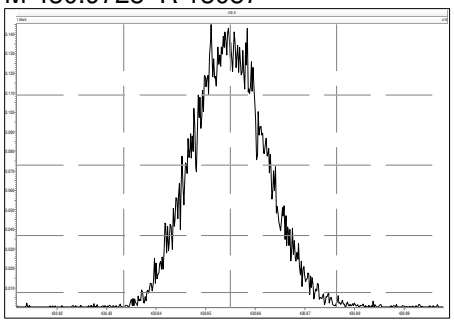
M 404.9760 R 13885



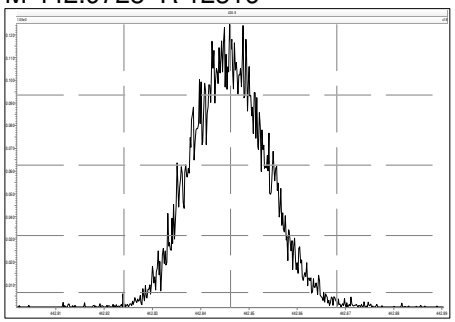
M 416.9760 R 13157



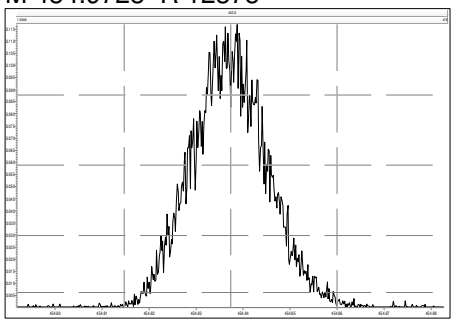
M 430.9728 R 13087



M 442.9728 R 12316



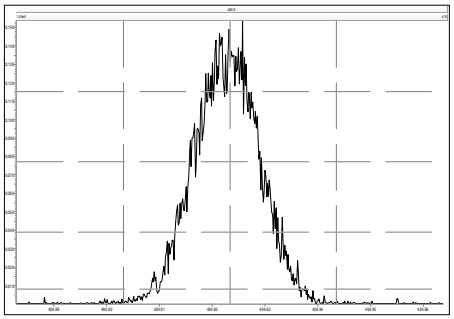
M 454.9728 R 12375



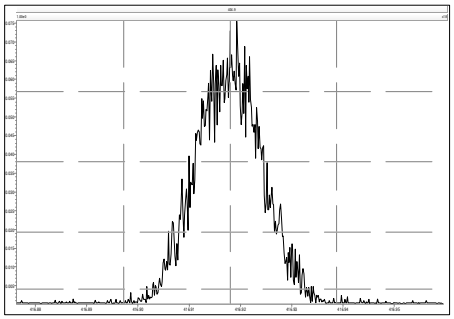
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Monday, February 21, 2022 08:26:16 Eastern Standard Time

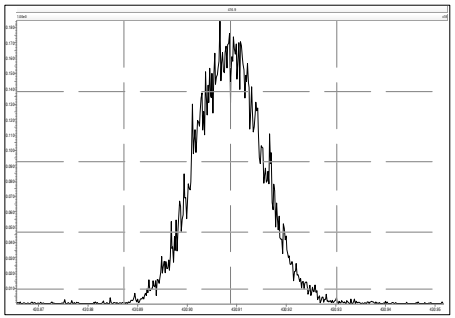
M 404.9760 R 13887



M 416.9760 R 14206



M 430.9728 R 14124



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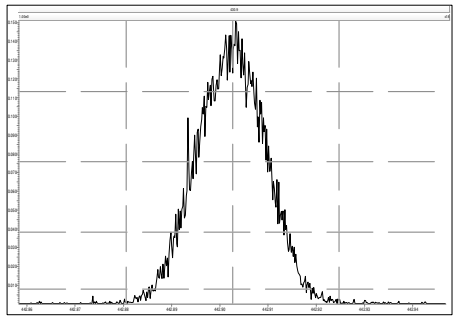

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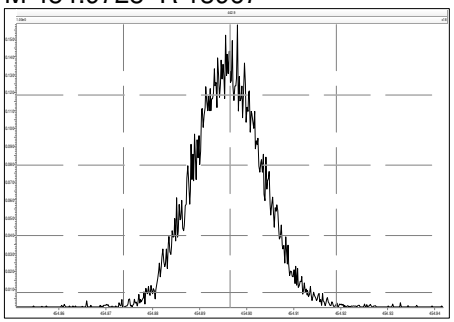

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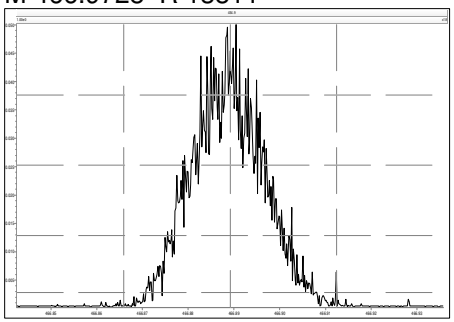

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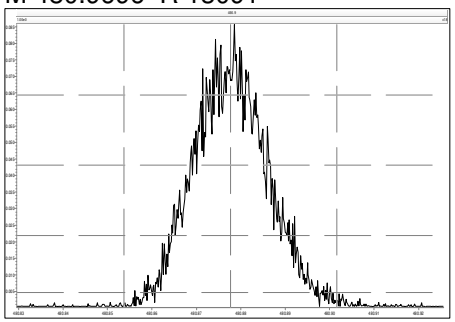

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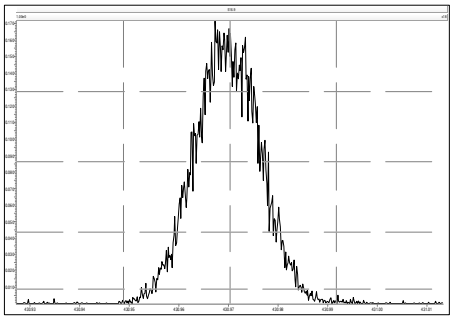

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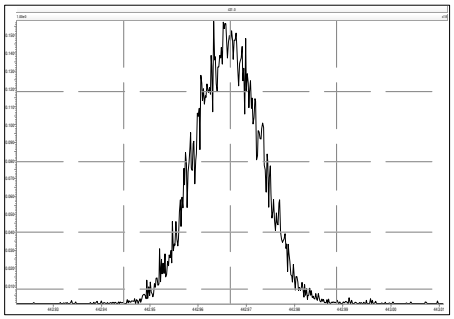

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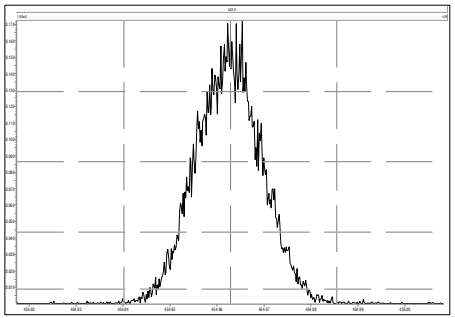

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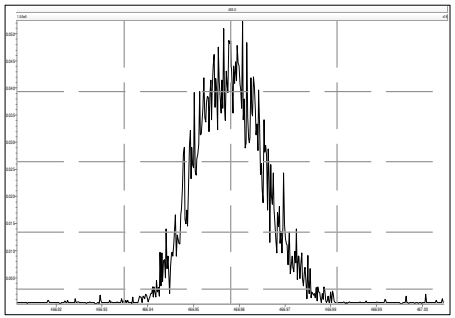

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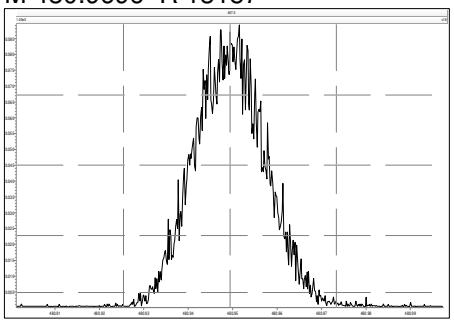

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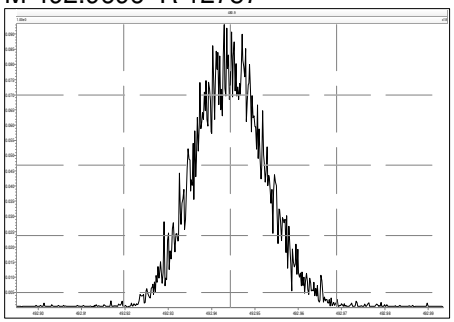

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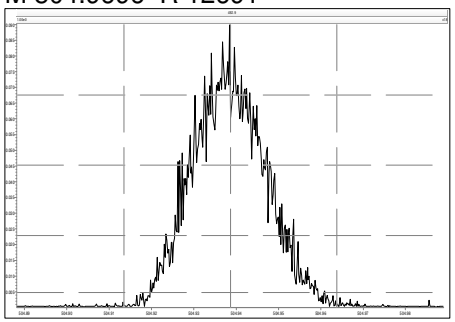

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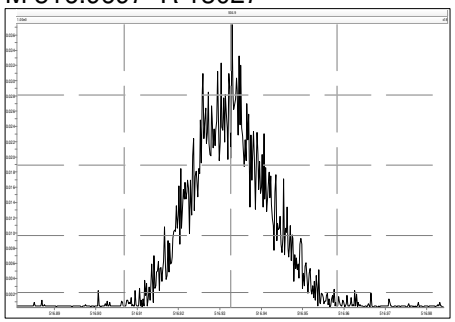

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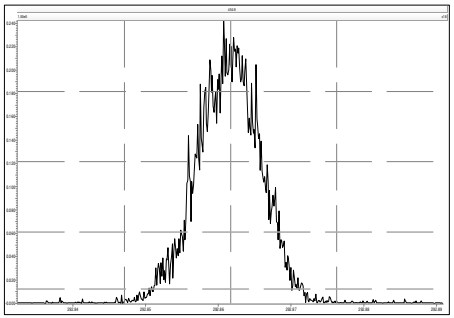

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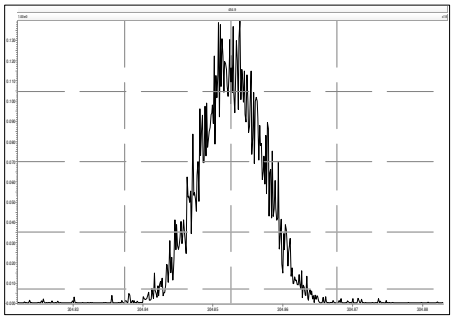

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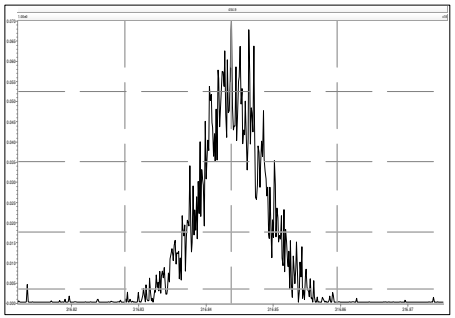

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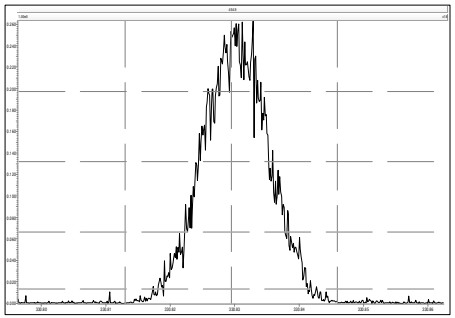

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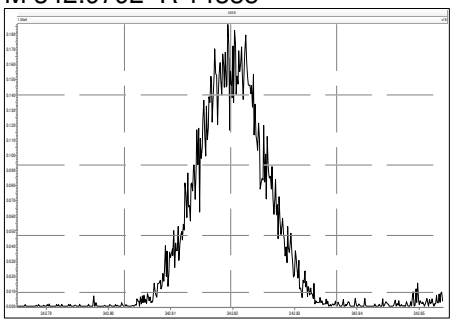

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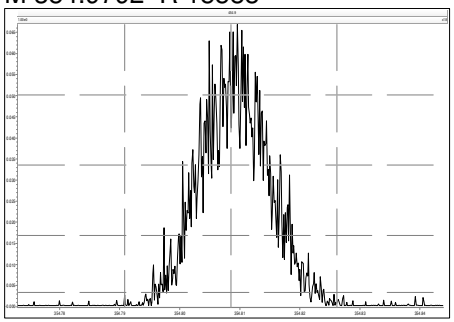

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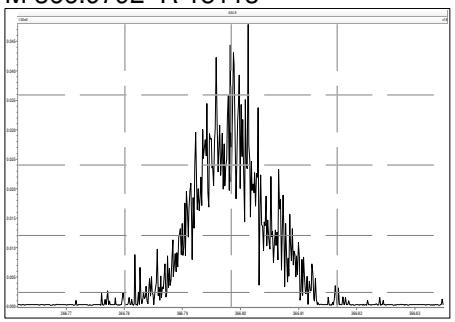

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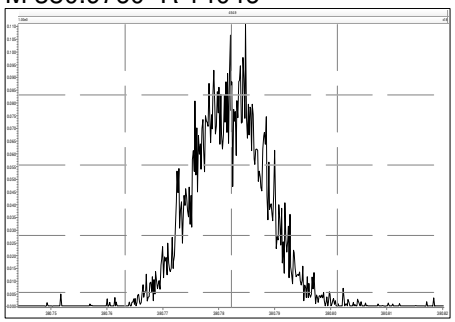

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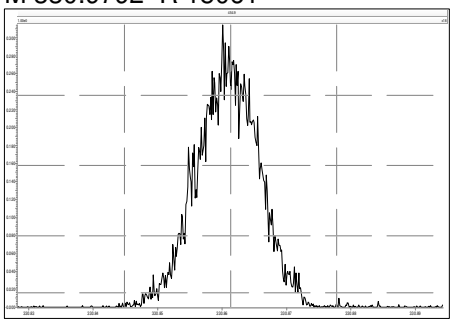

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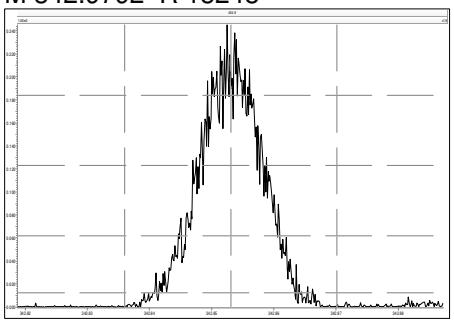

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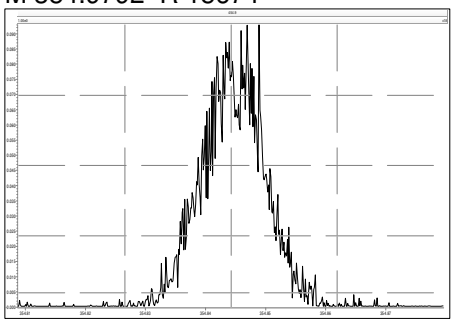

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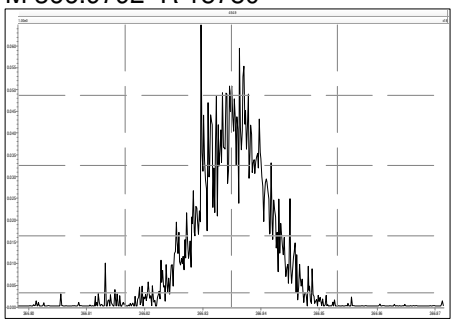

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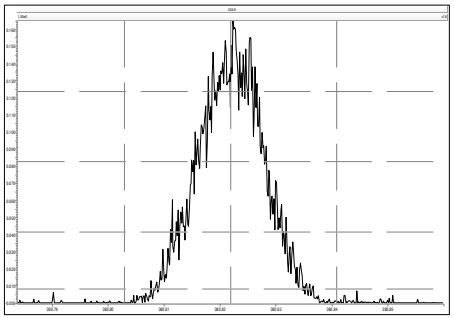

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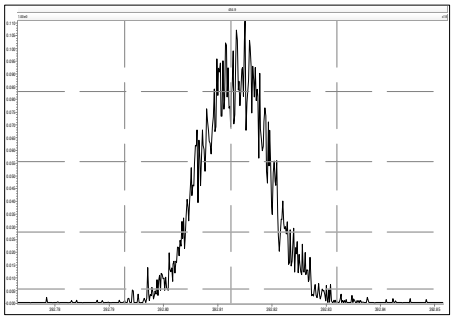

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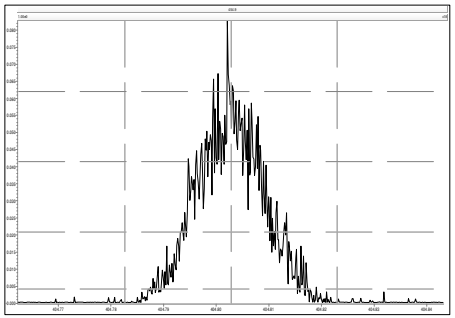

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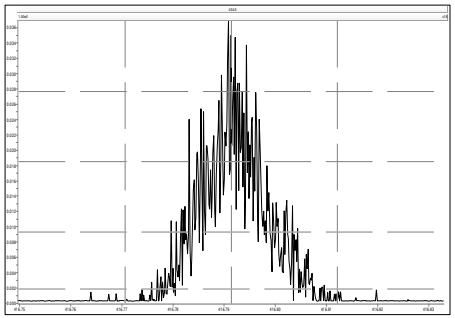

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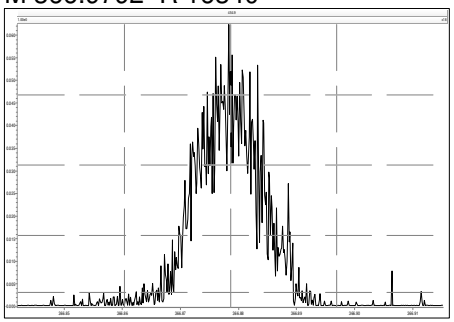

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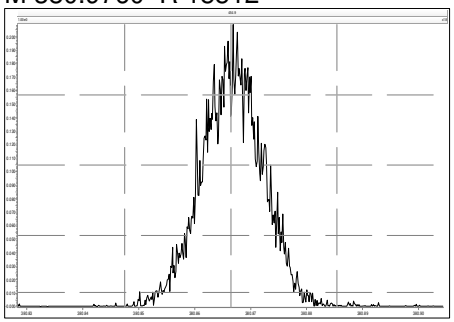

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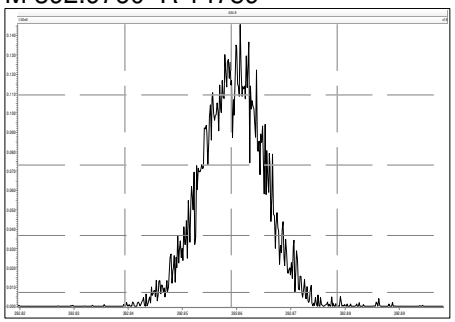

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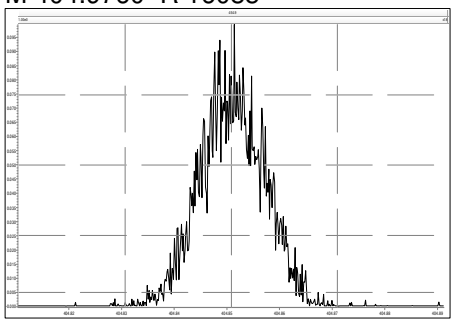

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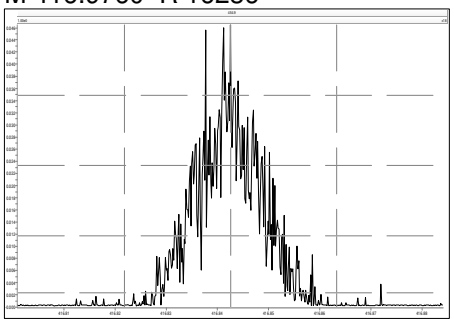

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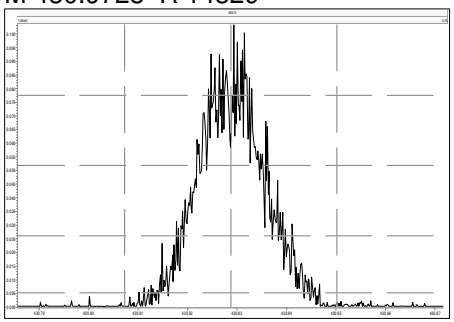

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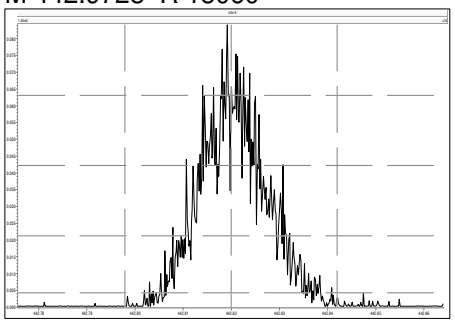

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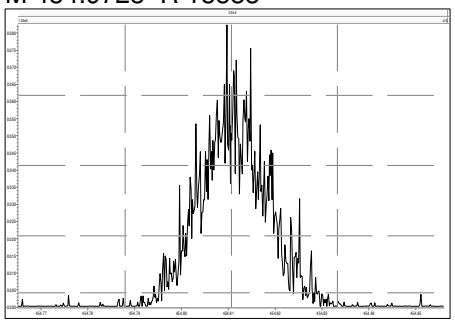

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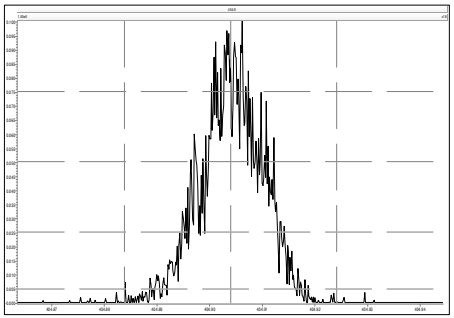

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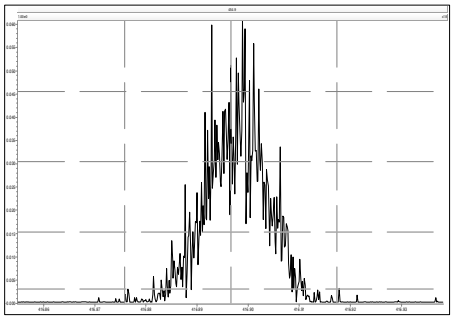

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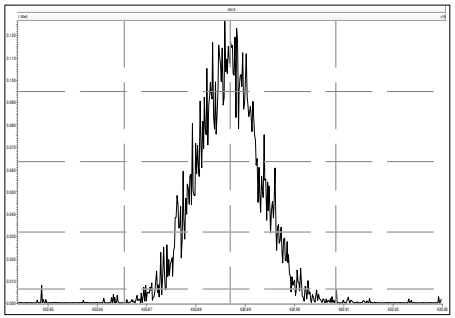

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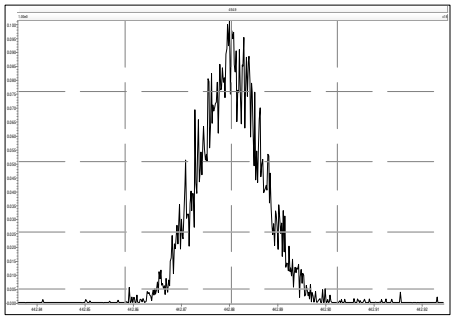

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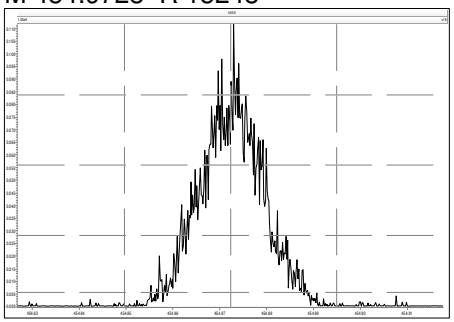

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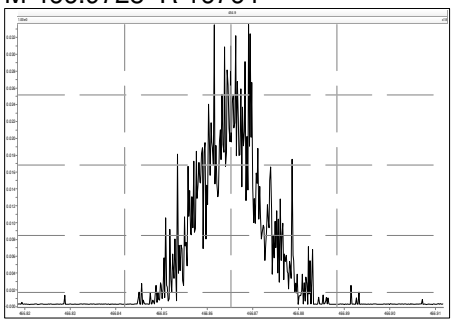

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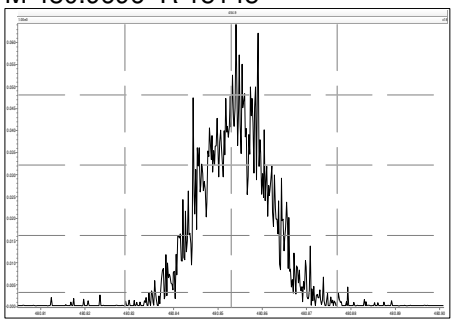

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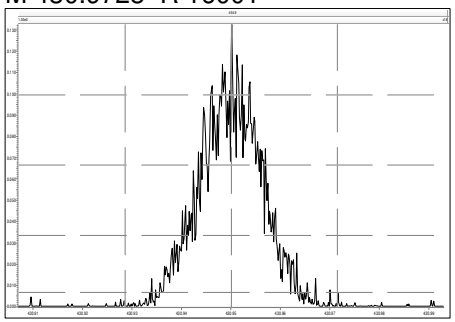

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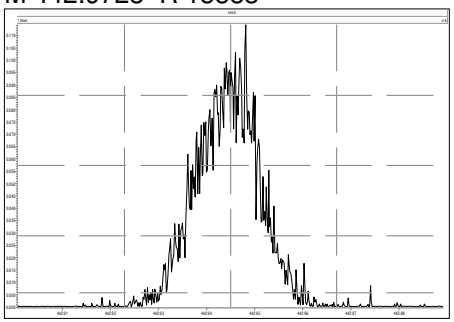

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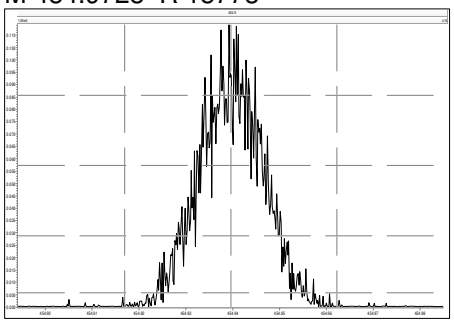

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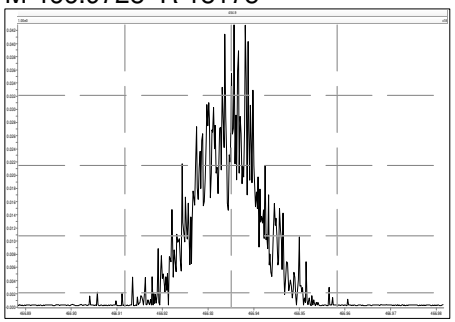

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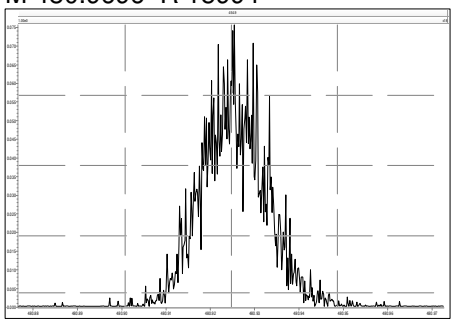

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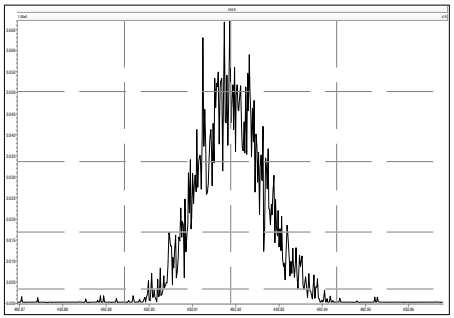

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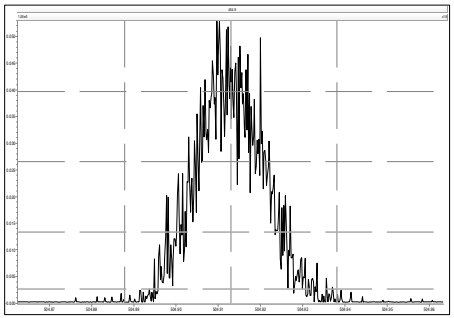

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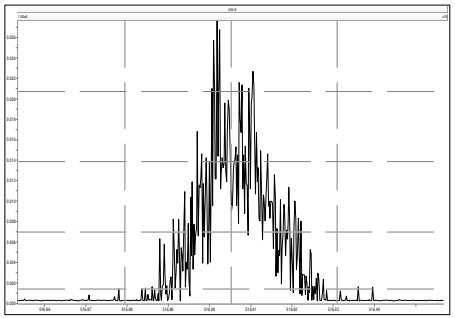


Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34 ✓	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98 ✓
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84 ✓	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86 ✓	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07 ✓	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10 ✓	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28 ✓	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
Tyler_Fritz , 11/11/2021, 4:44:03 PM

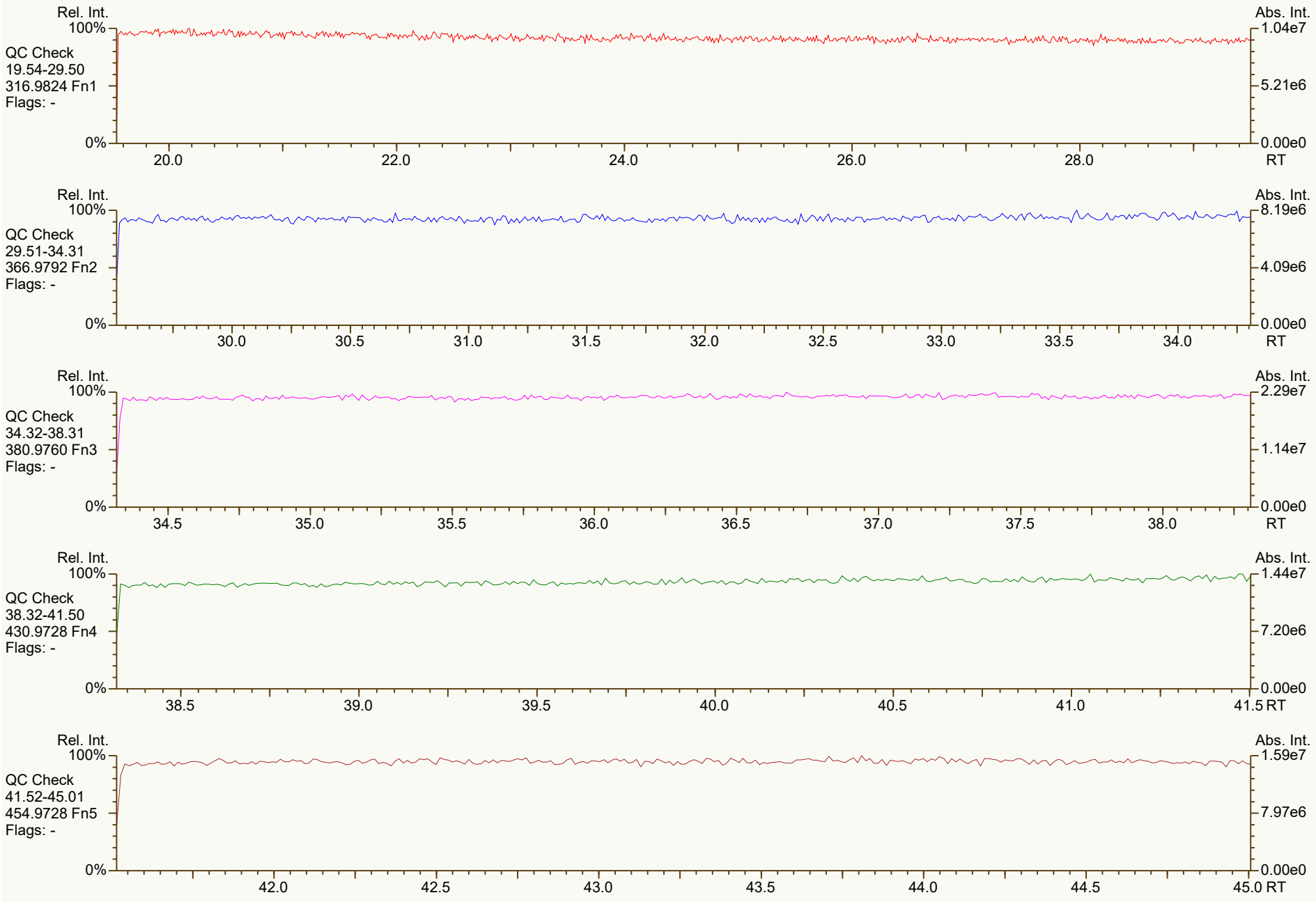
APPROVED
Amy_Boehm , 11/11/2021, 5:28:50 PM

Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

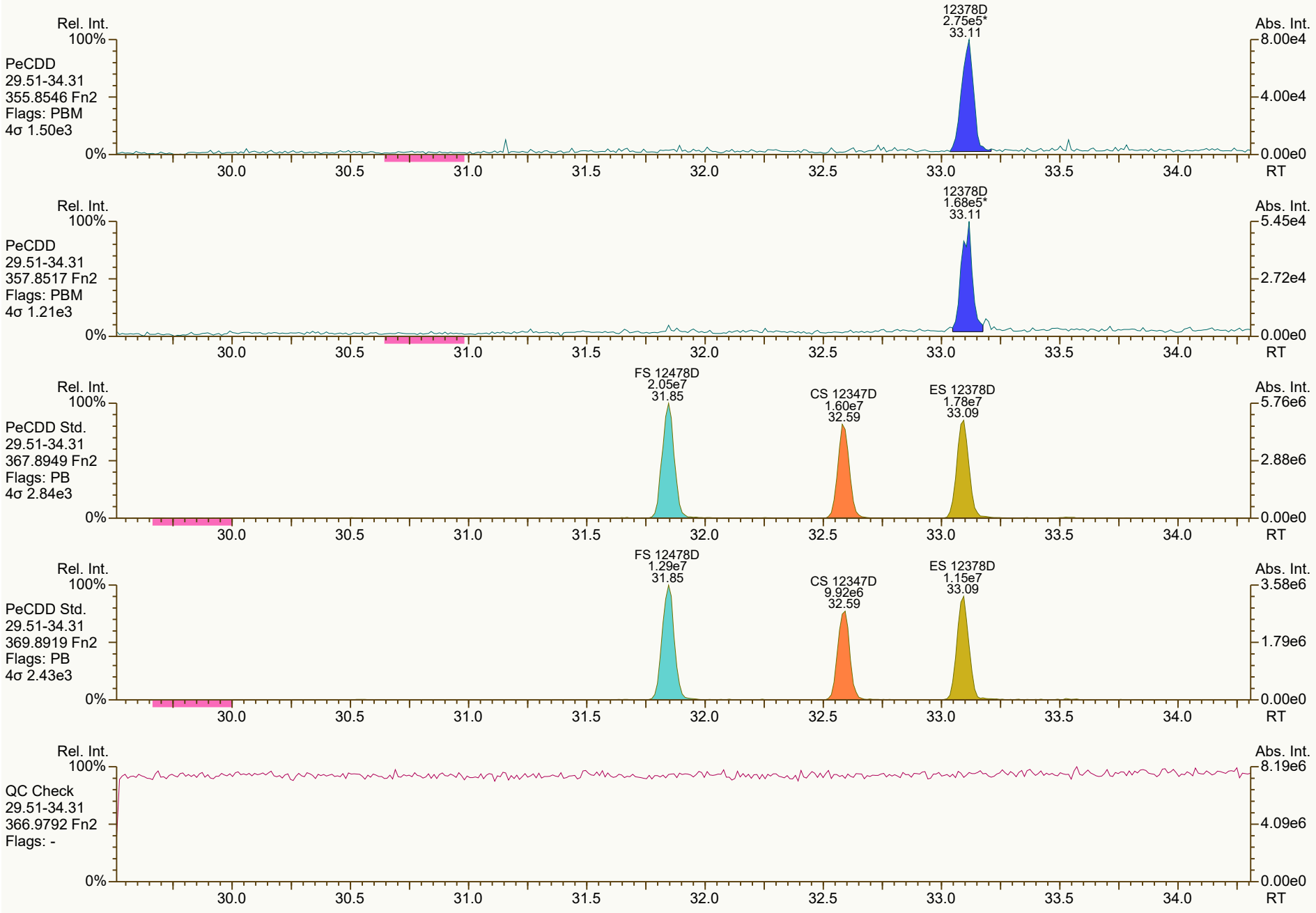
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

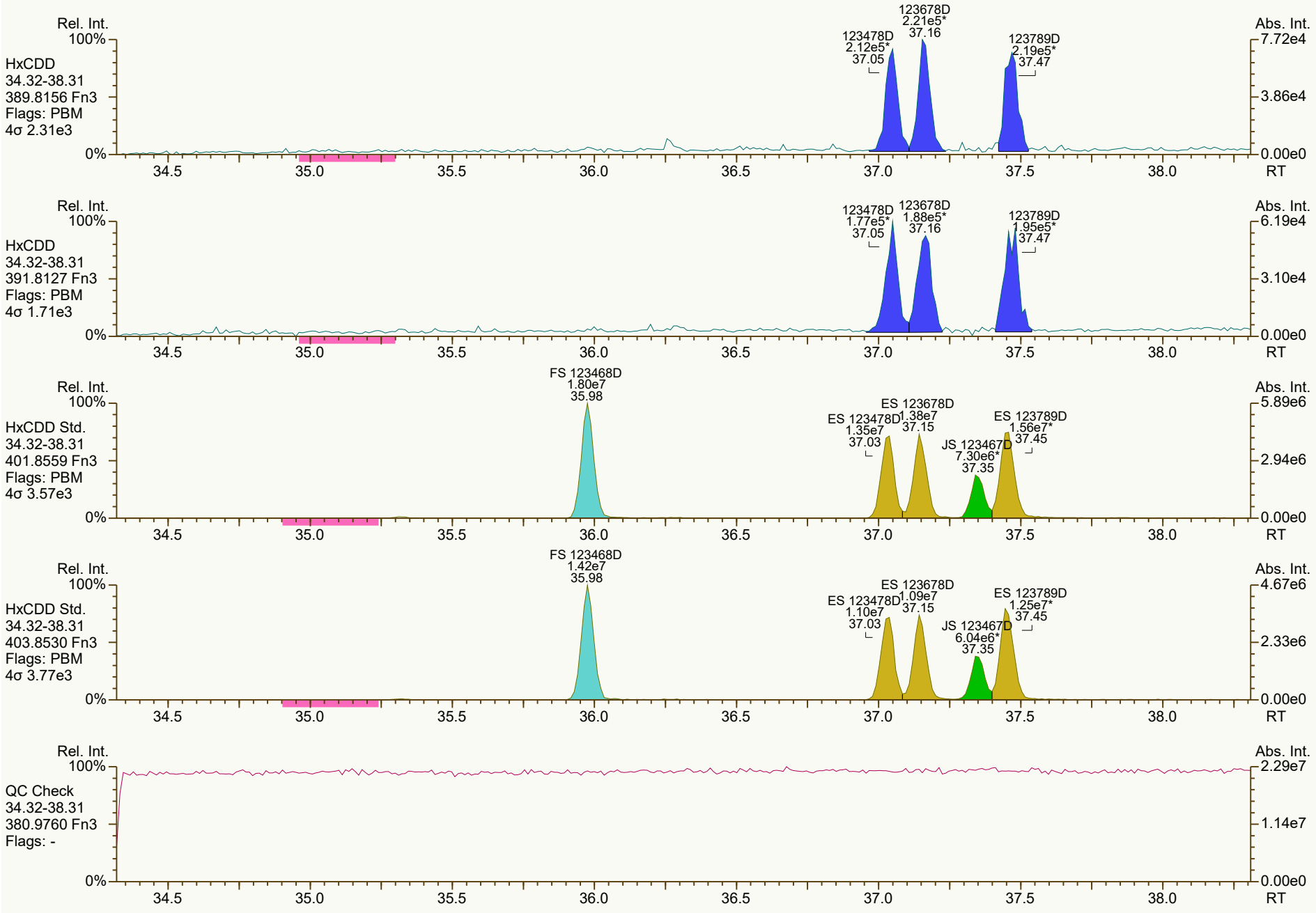
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

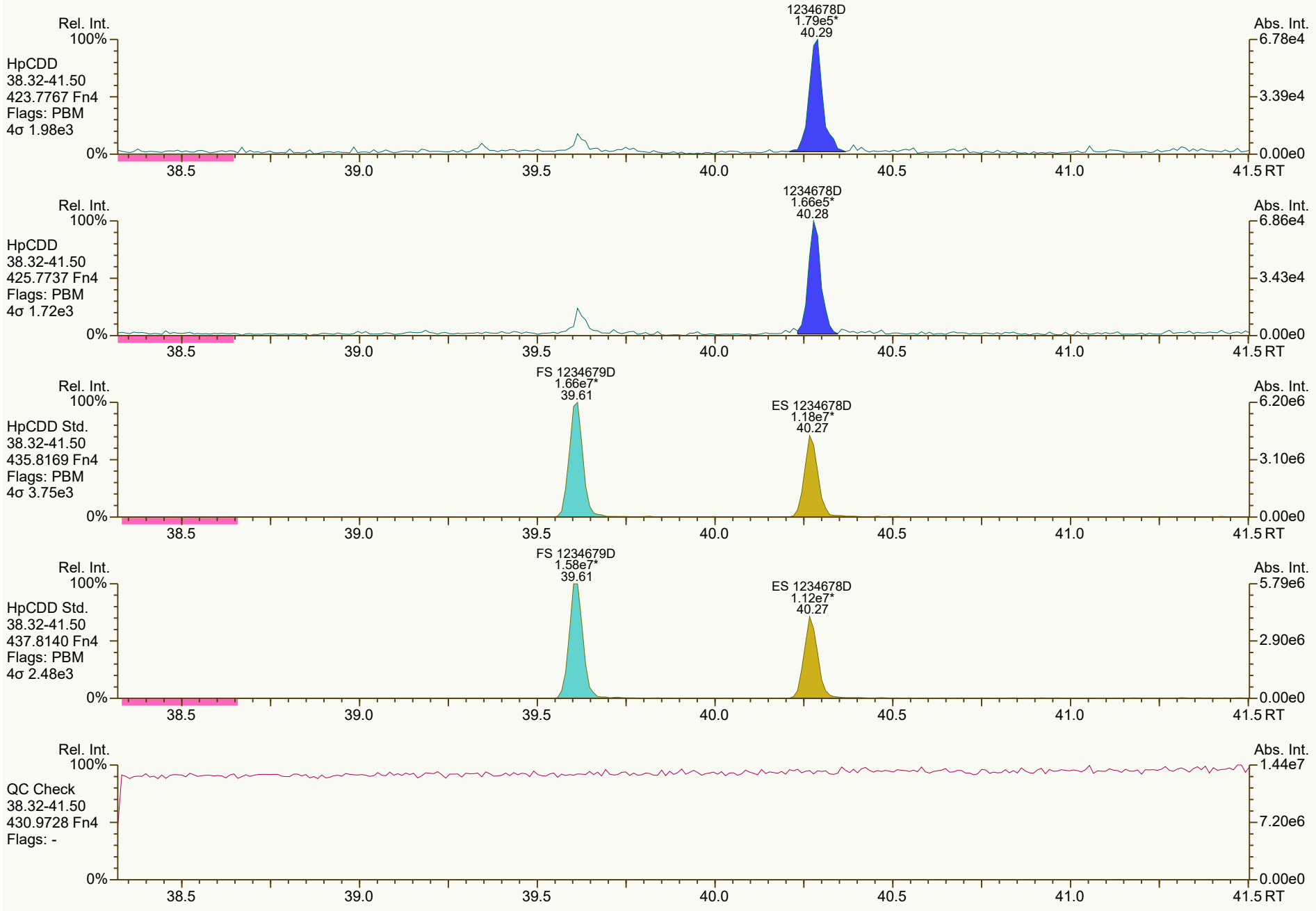
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF				Checkcode: 245-007-QLD	
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C04	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%

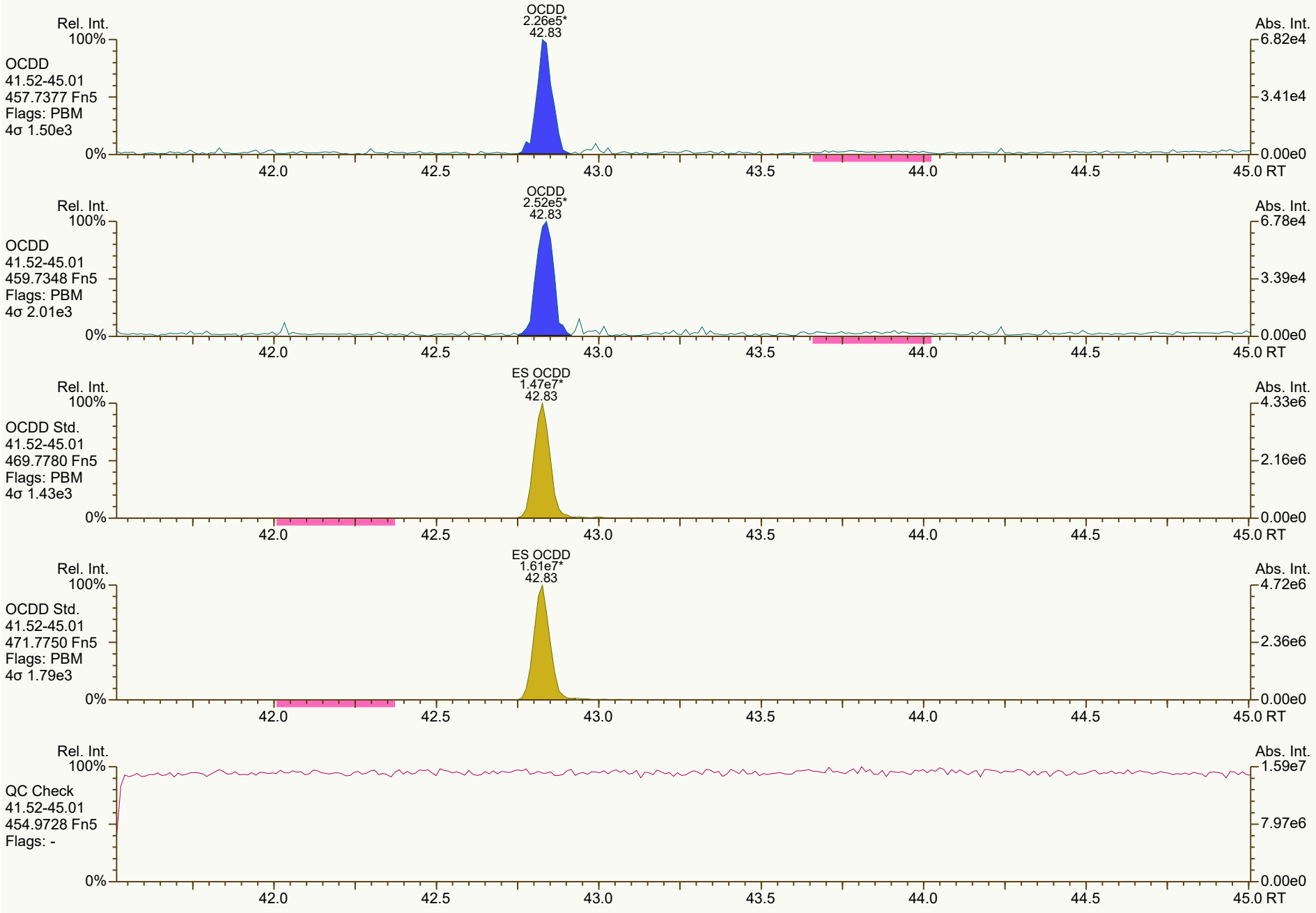

Rel. Int.
100%
0%
Abs. Int.
1.04e7
5.21e6
0.00e0
RT
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
8.19e6
4.09e6
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.29e7
1.14e7
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
1.44e7
7.20e6
38.5
39.0
39.5
40.0
40.5
41.0
41.5
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.59e7
7.97e6
42.0
42.5
43.0
43.5
44.0
44.5
45.0

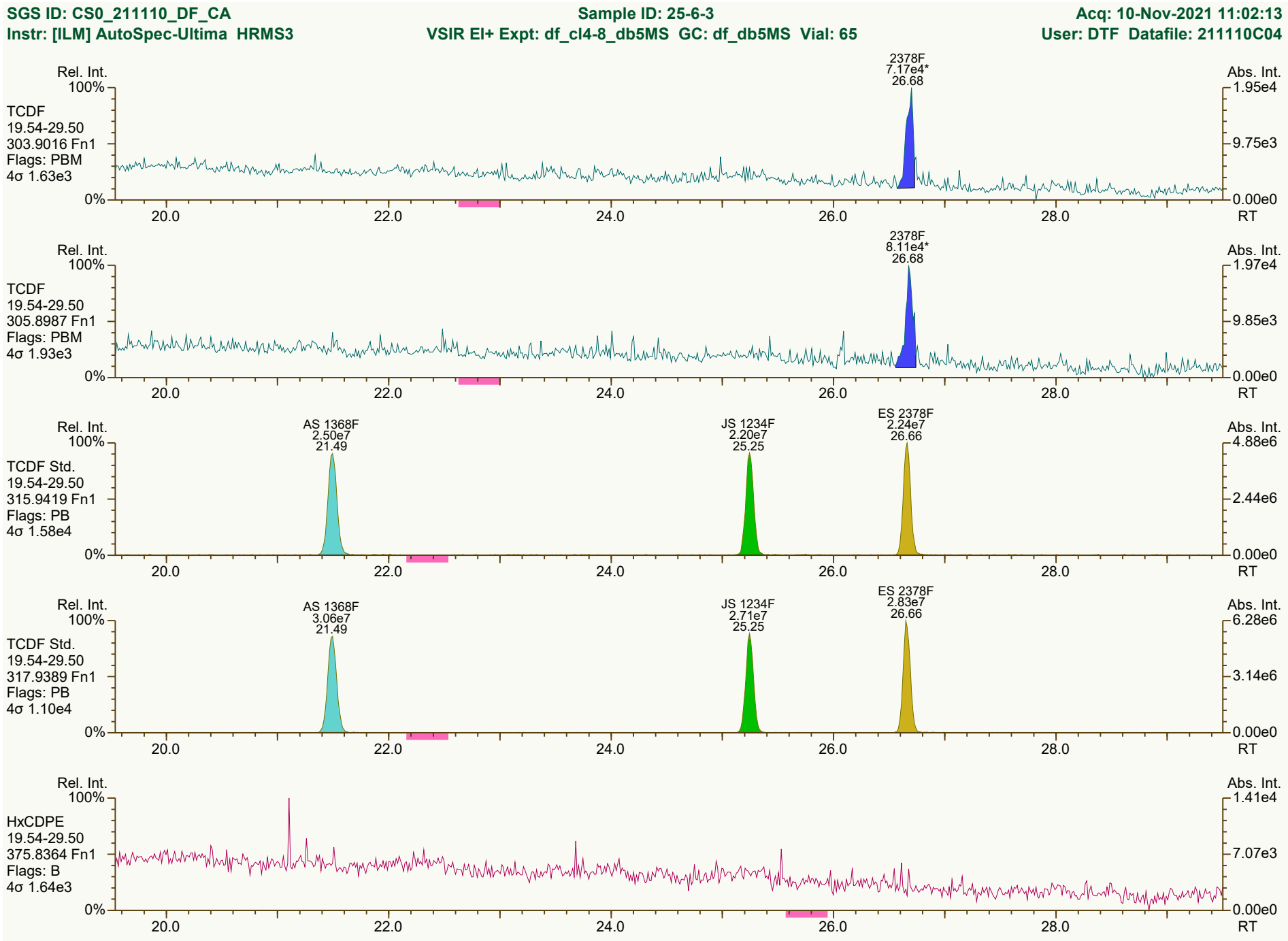

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
2378D
5.29e4*
27.60
1.67e4
8.35e3
0.00e0
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
2.13e4
1.06e4
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6
0%
100%
20.0
22.0
24.0
26.0
28.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3504, 1483, 2998 scc: 245-007
Revised: 11-Nov-2021 16:18 (DTF) Printed: 11-Nov-2021 16:32 Page 2 of 12


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
123478D 2.12e5* 37.05
123678D 2.21e5* 37.16
123789D 2.19e5* 37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
123478D 1.77e5* 37.05
123678D 1.88e5* 37.16
123789D 1.95e5* 37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
FS 123468D 1.80e7 35.98
ES 123478D 1.35e7 37.03
ES 123678D 1.38e7 37.15
JS 123467D 7.30e6* 37.35
ES 123789D 1.56e7* 37.45
Abs. Int.
5.89e6
2.94e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
FS 123468D 1.42e7 35.98
ES 123478D 1.10e7 37.03
ES 123678D 1.09e7 37.15
JS 123467D 6.04e6* 37.35
ES 123789D 1.25e7* 37.45
Abs. Int.
4.67e6
2.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.29e7
1.14e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

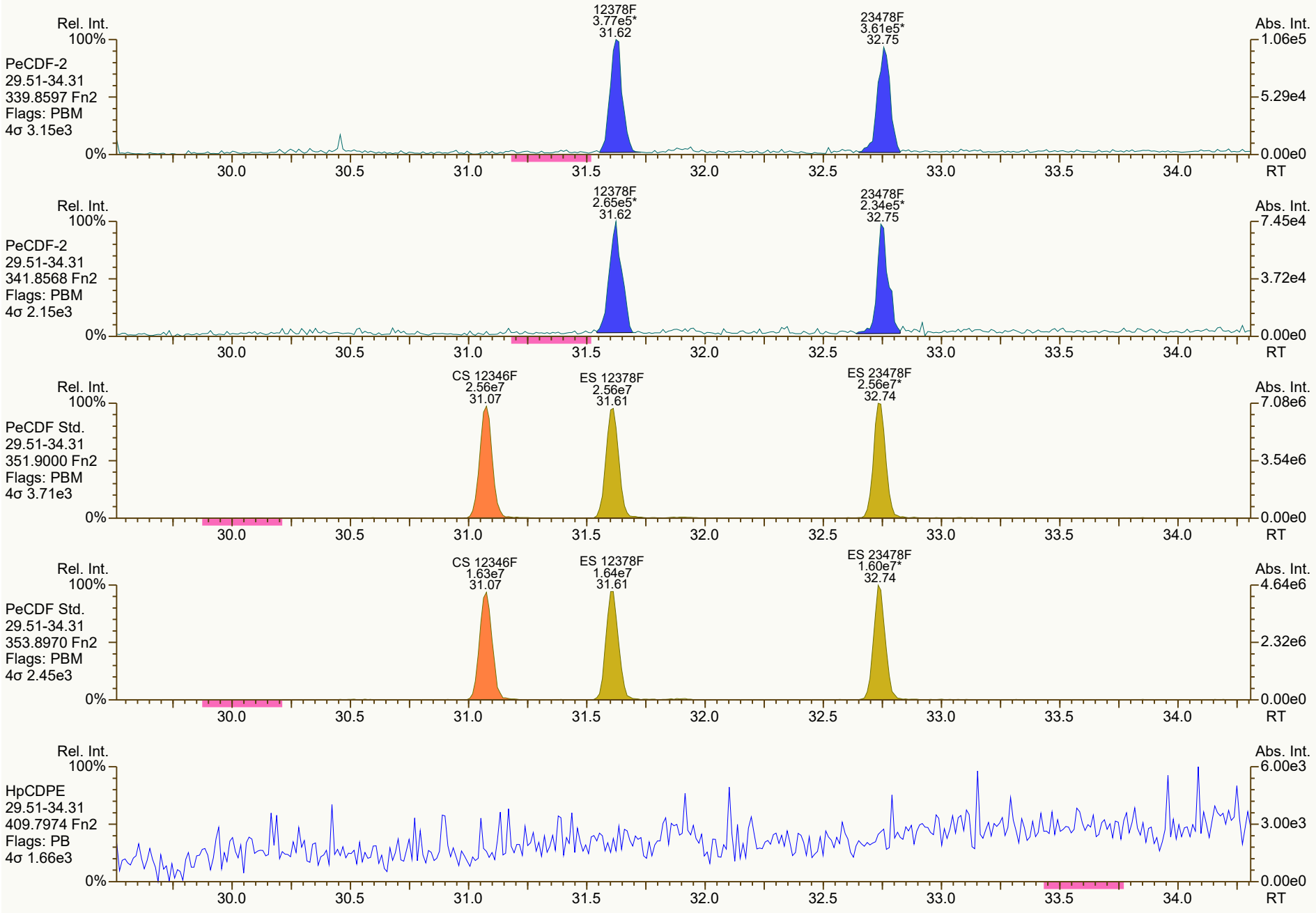

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

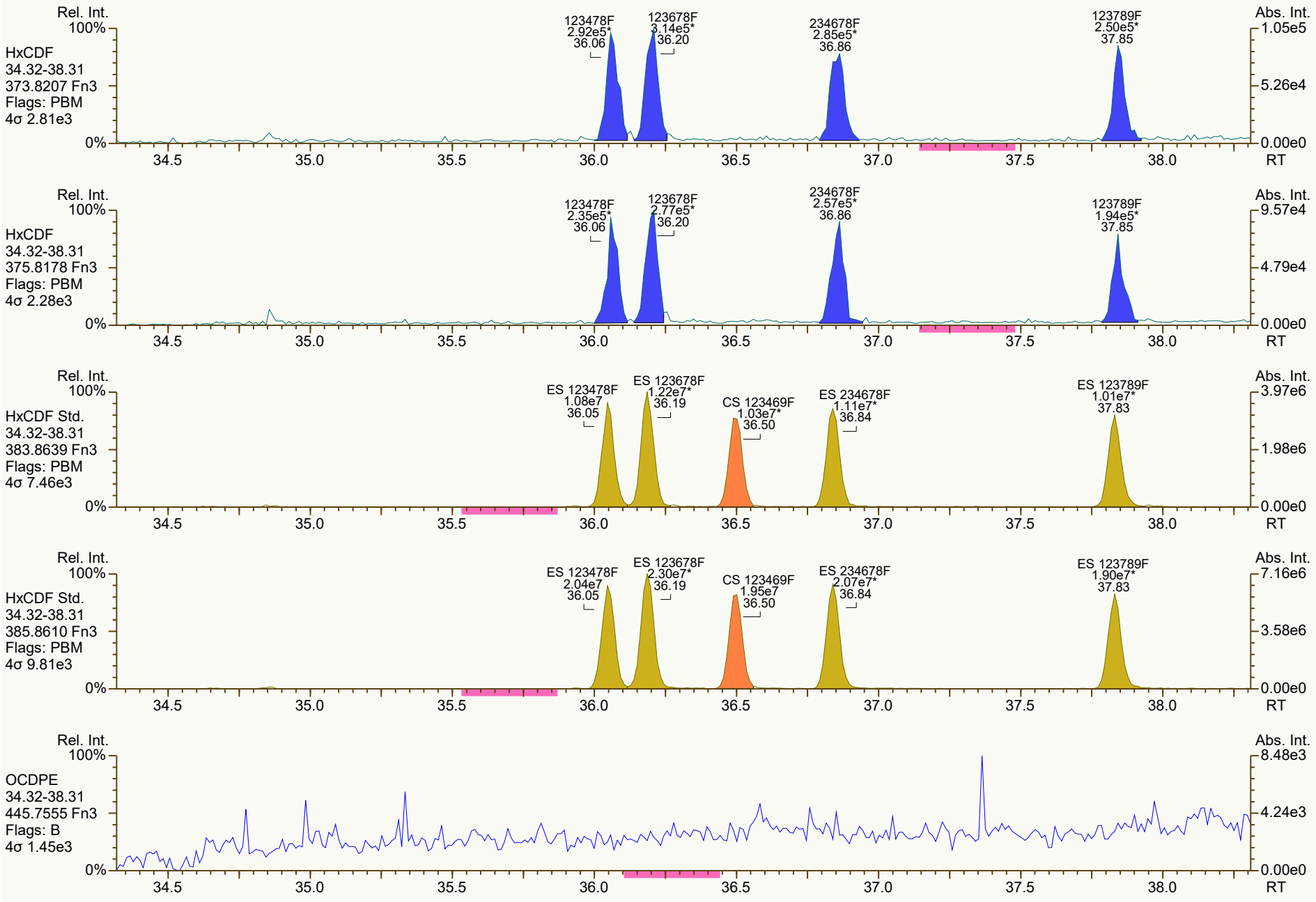

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
ES OCDD
1.47e7*
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
4.33e6
2.16e6
ES OCDD
1.61e7*
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
4.72e6
2.36e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.59e7
7.97e6

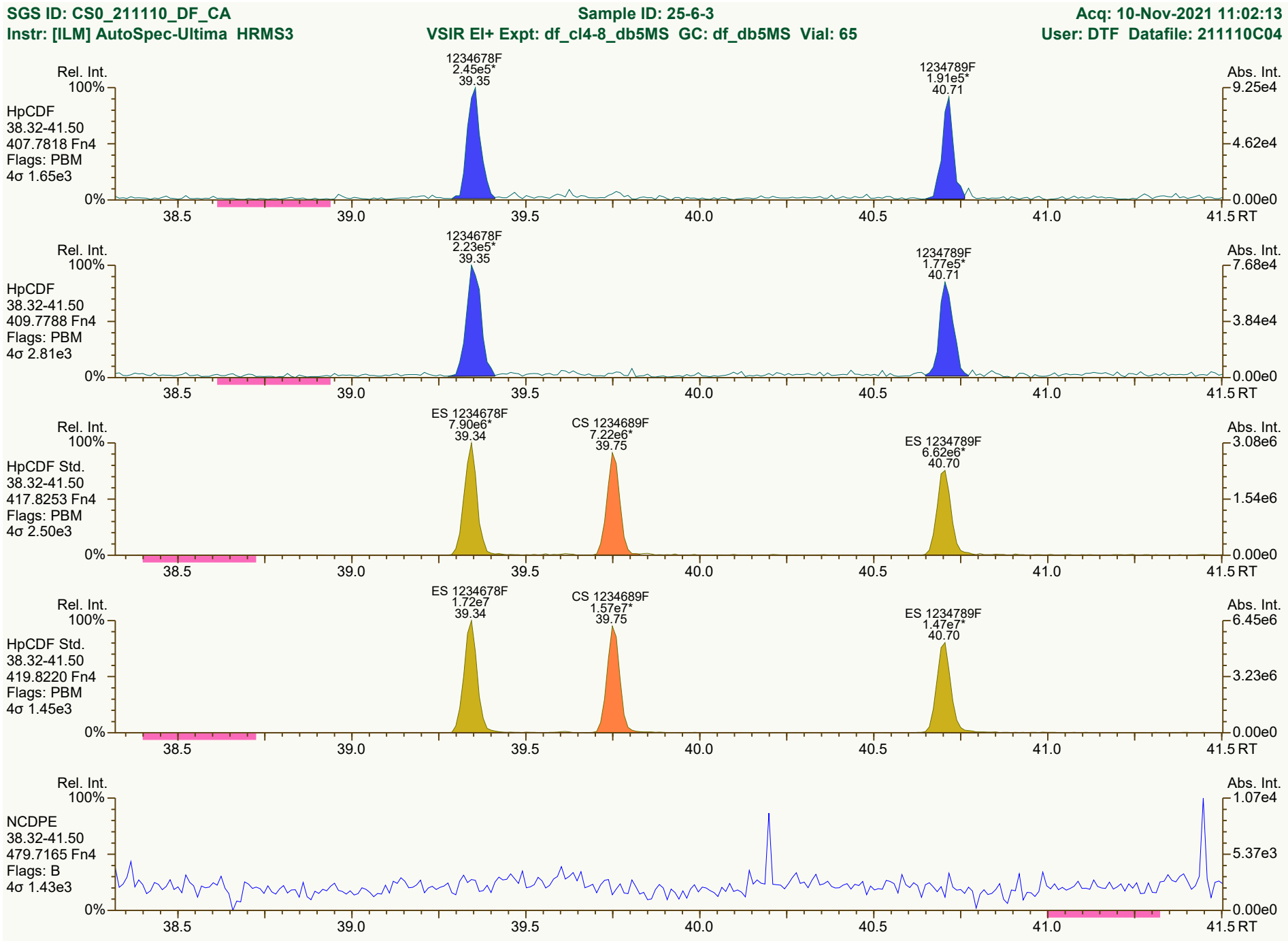

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
100%
0%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
2378F
8.11e4*
26.68
1.97e4
9.85e3
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
4.88e6
2.44e6
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
6.28e6
3.14e6
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
1.41e4
7.07e3
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 5762, 7924, 6610 scc: 245-007
Revised: 10-Nov-2021 13:35 (DTF) Printed: 11-Nov-2021 16:32 Page 7 of 12

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04




Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
0%
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
0%
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
0%
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
0%
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

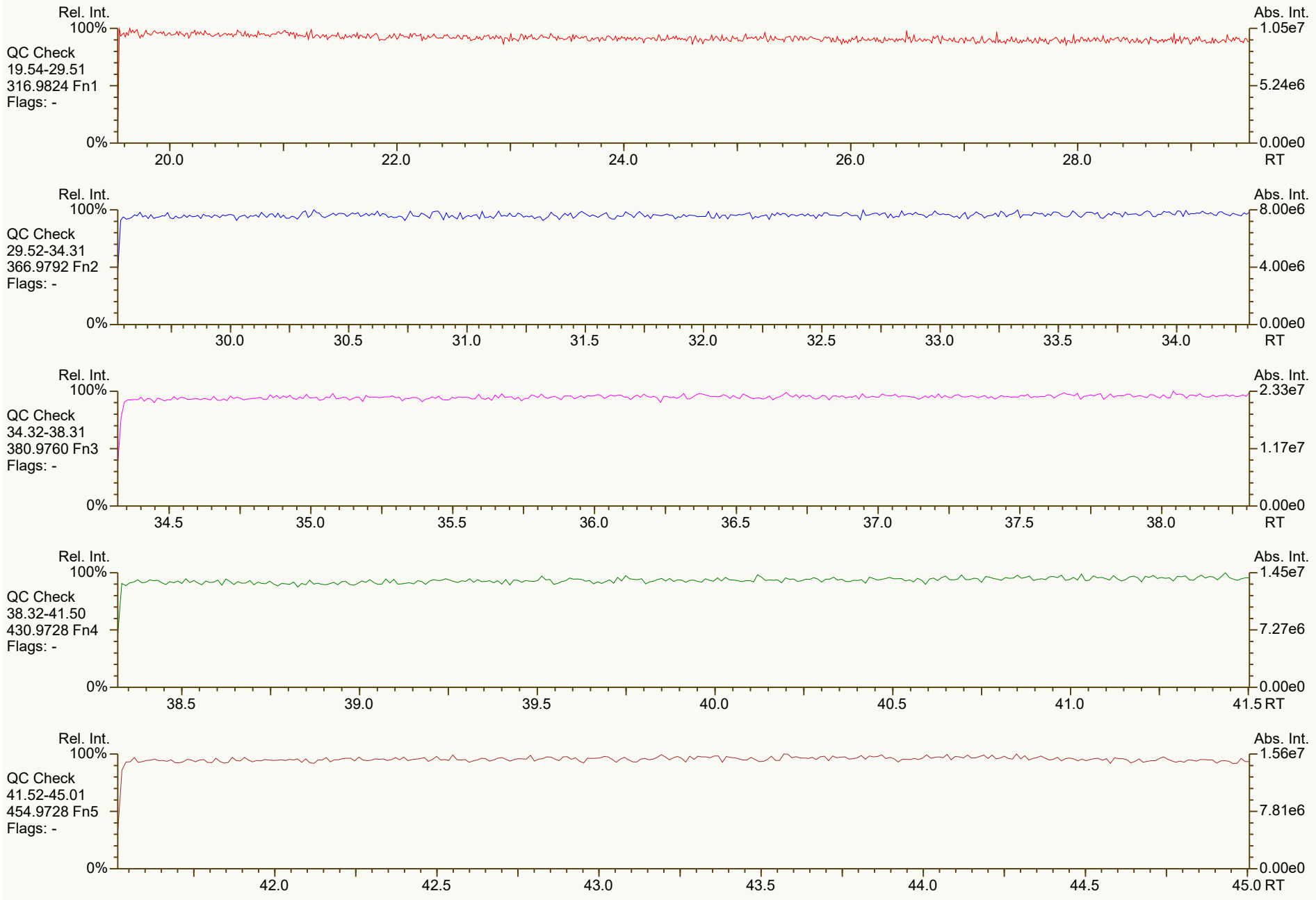

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
9.25e4
4.62e4
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
7.68e4
3.84e4
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
3.08e6
1.54e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
6.45e6
3.23e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
1.07e4
5.37e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0834, 2511, 5505 scc: 245-007
Revised: 10-Nov-2021 13:36 (DTF) Printed: 11-Nov-2021 16:32 Page 11 of 12


OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

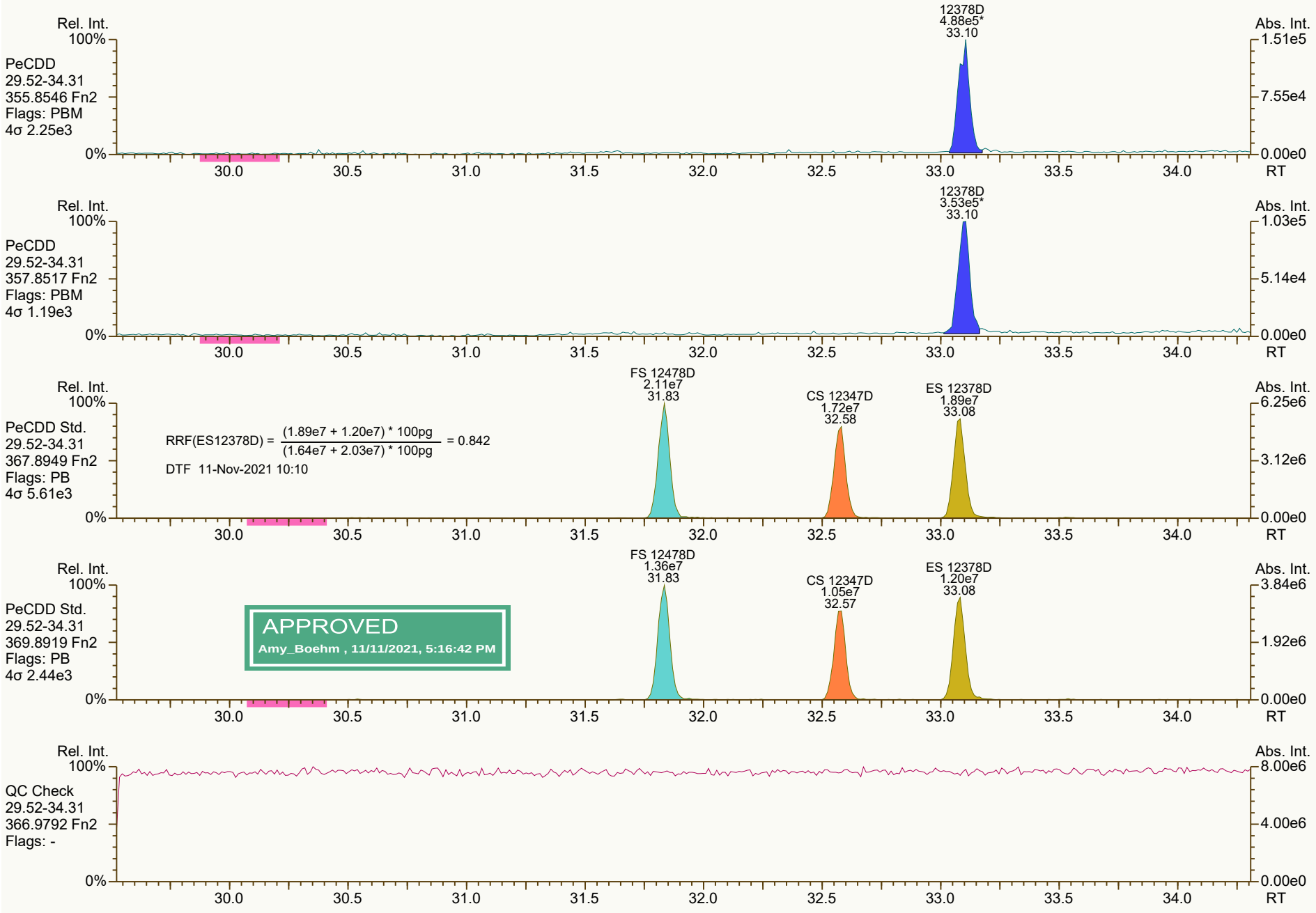
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:48 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 419-111-CRN
Sample ID: 25-6-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C05

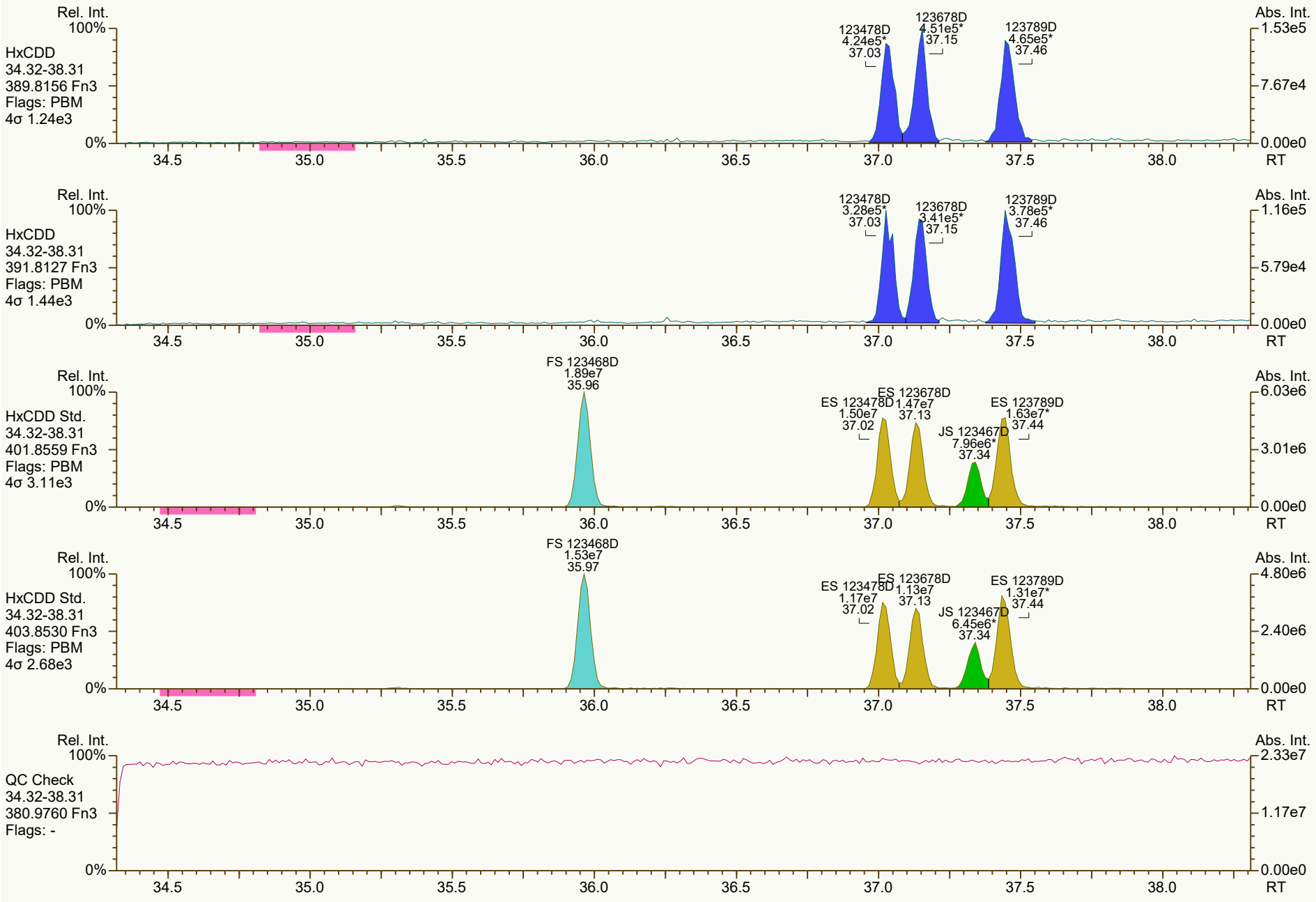
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

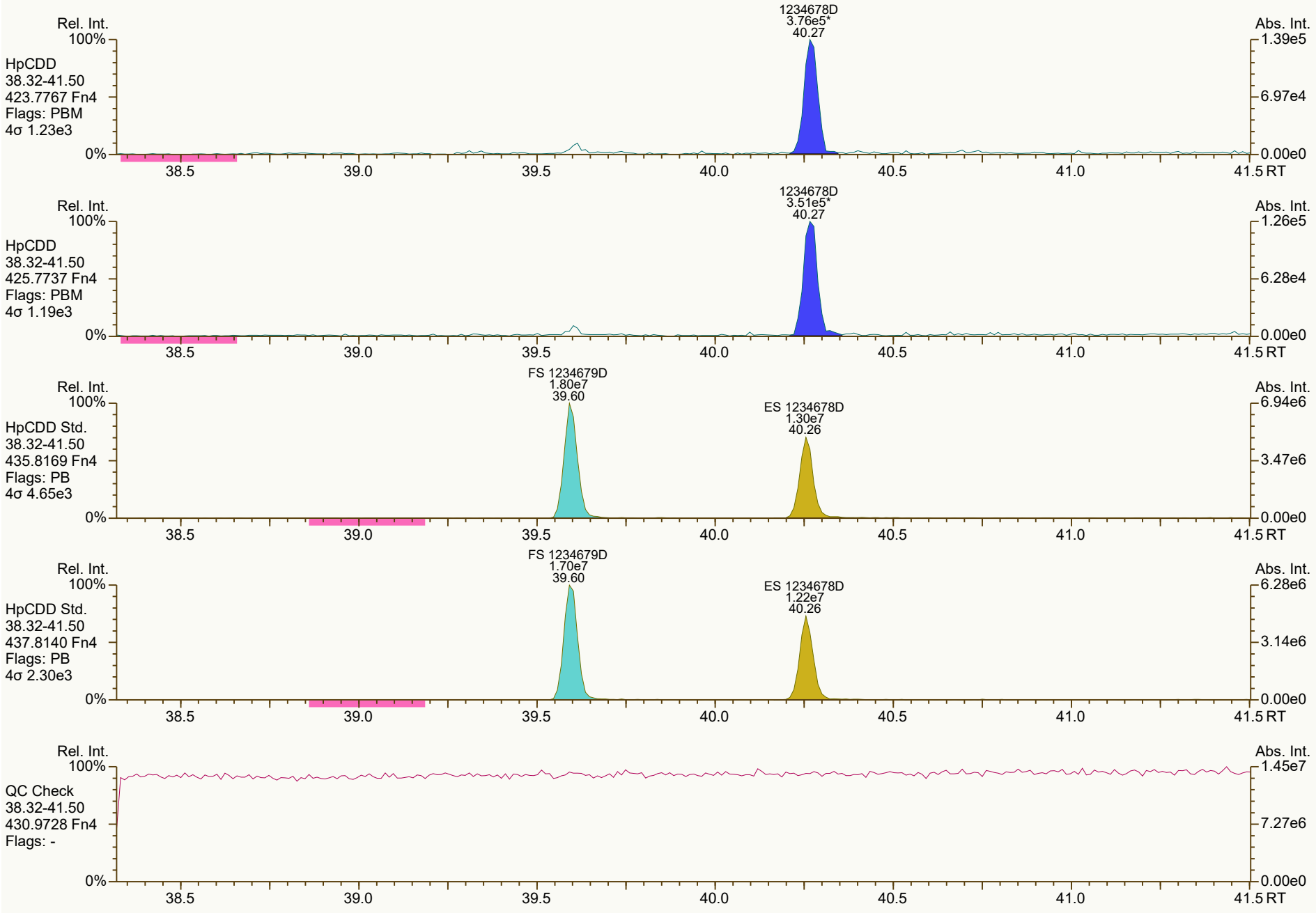
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

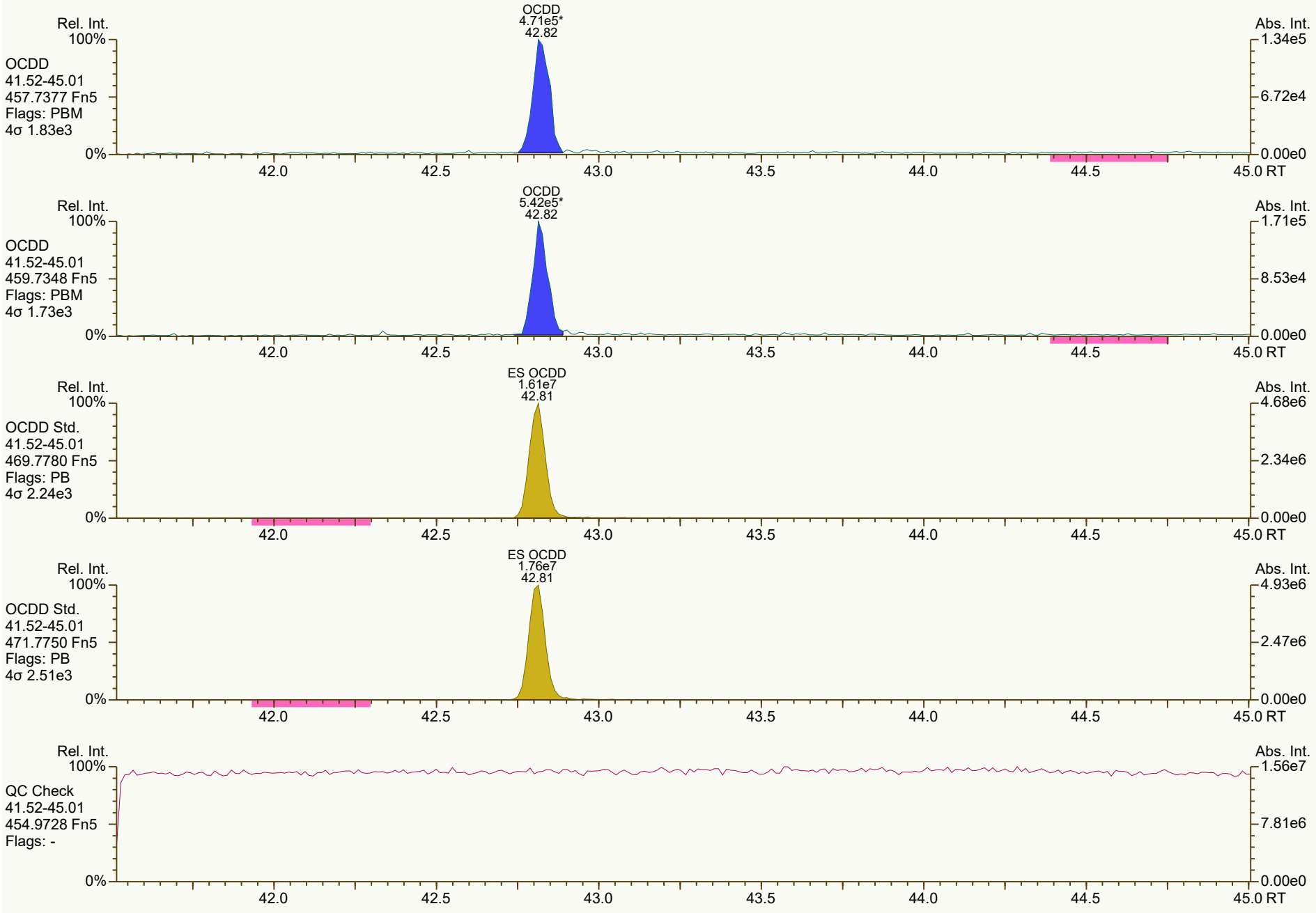

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.05e7
5.24e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.00e6
4.00e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.27e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.56e7
7.81e6
0.00e0

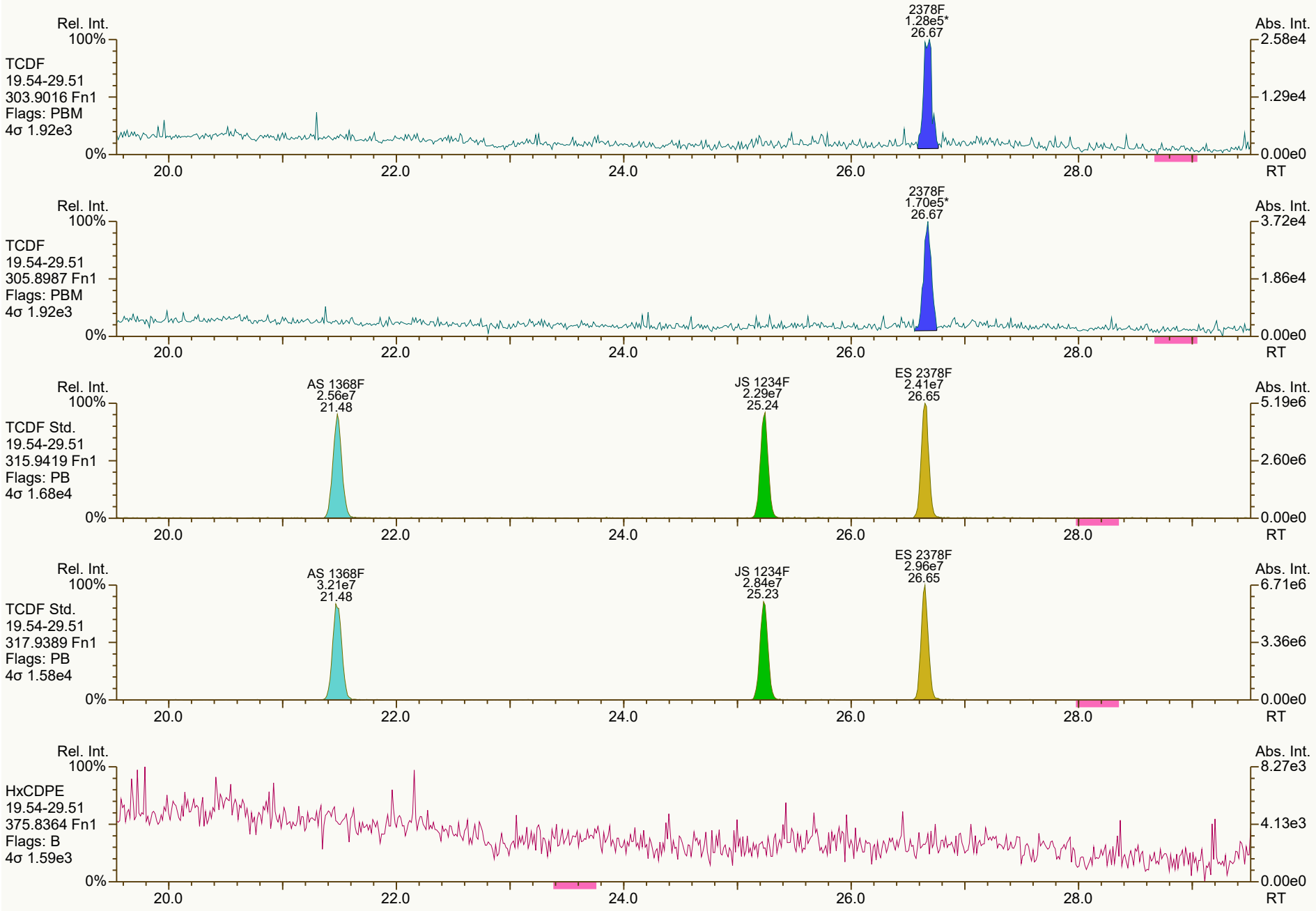

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123478D
1.50e7
37.02
ES 123678D
1.47e7
37.13
JS 123467D
7.96e6*
37.34
ES 123789D
1.63e7*
37.44
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123478D
1.17e7
37.02
ES 123678D
1.13e7
37.13
JS 123467D
6.45e6*
37.34
ES 123789D
1.31e7*
37.44
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

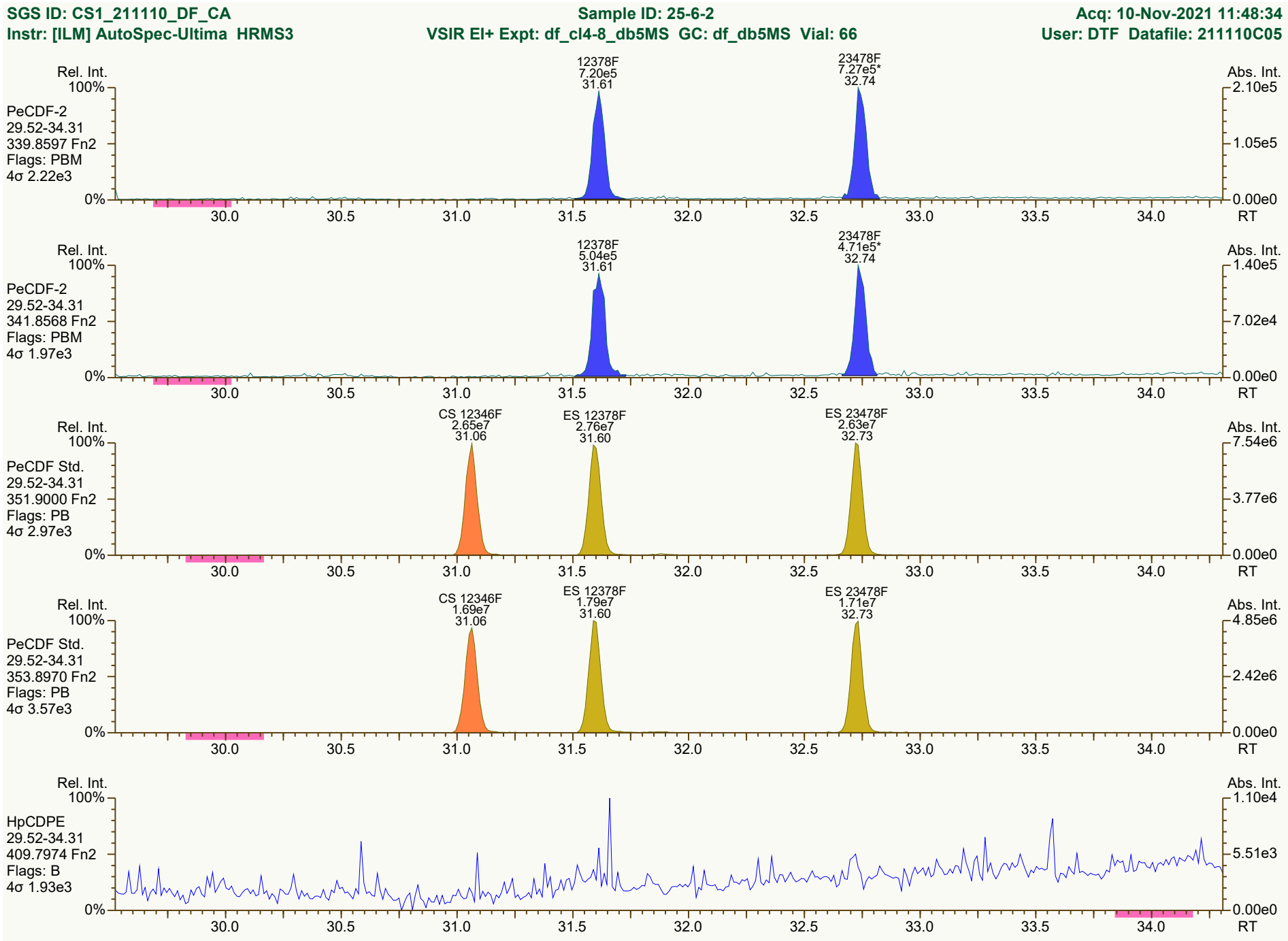

OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

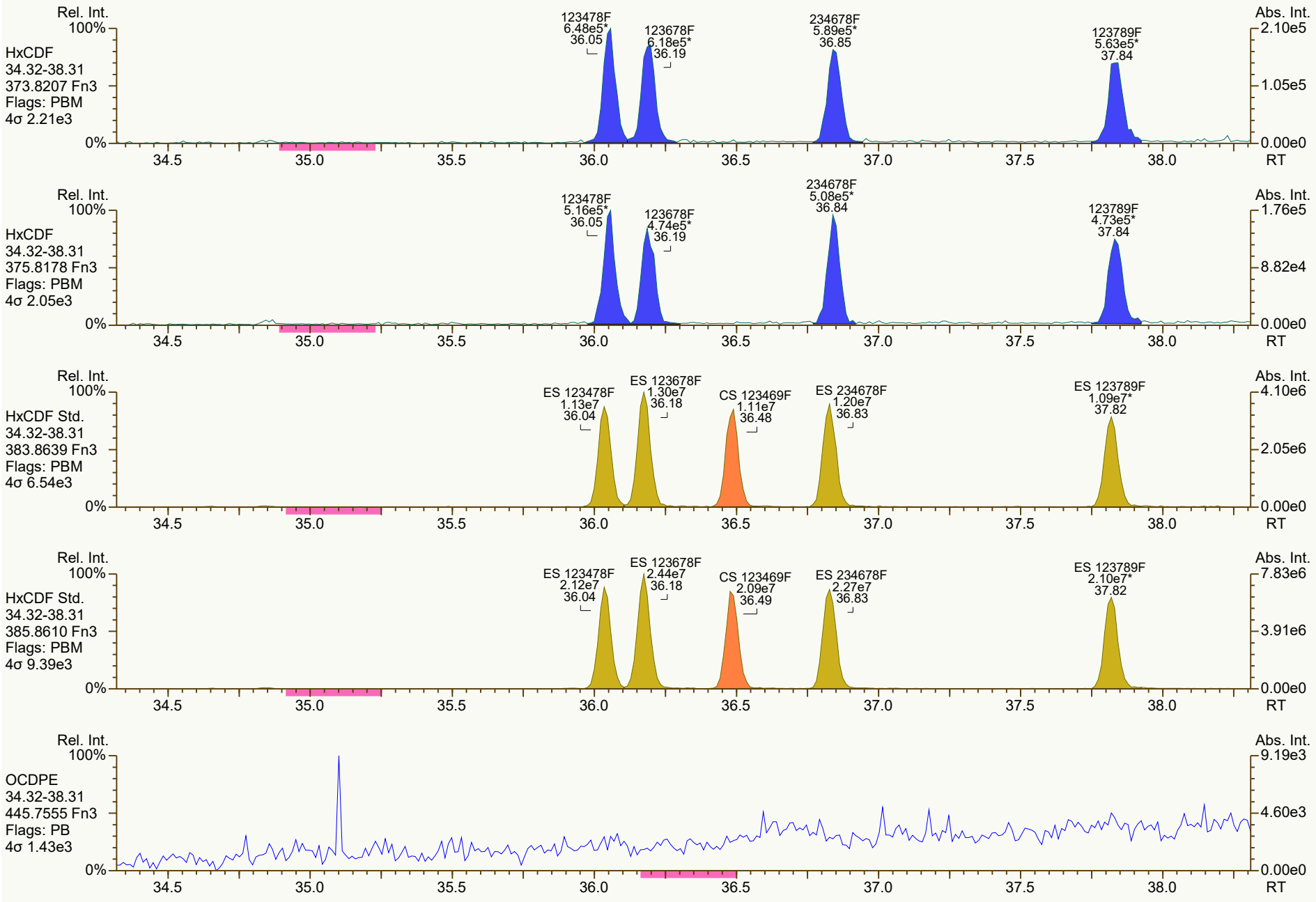

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0

SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05

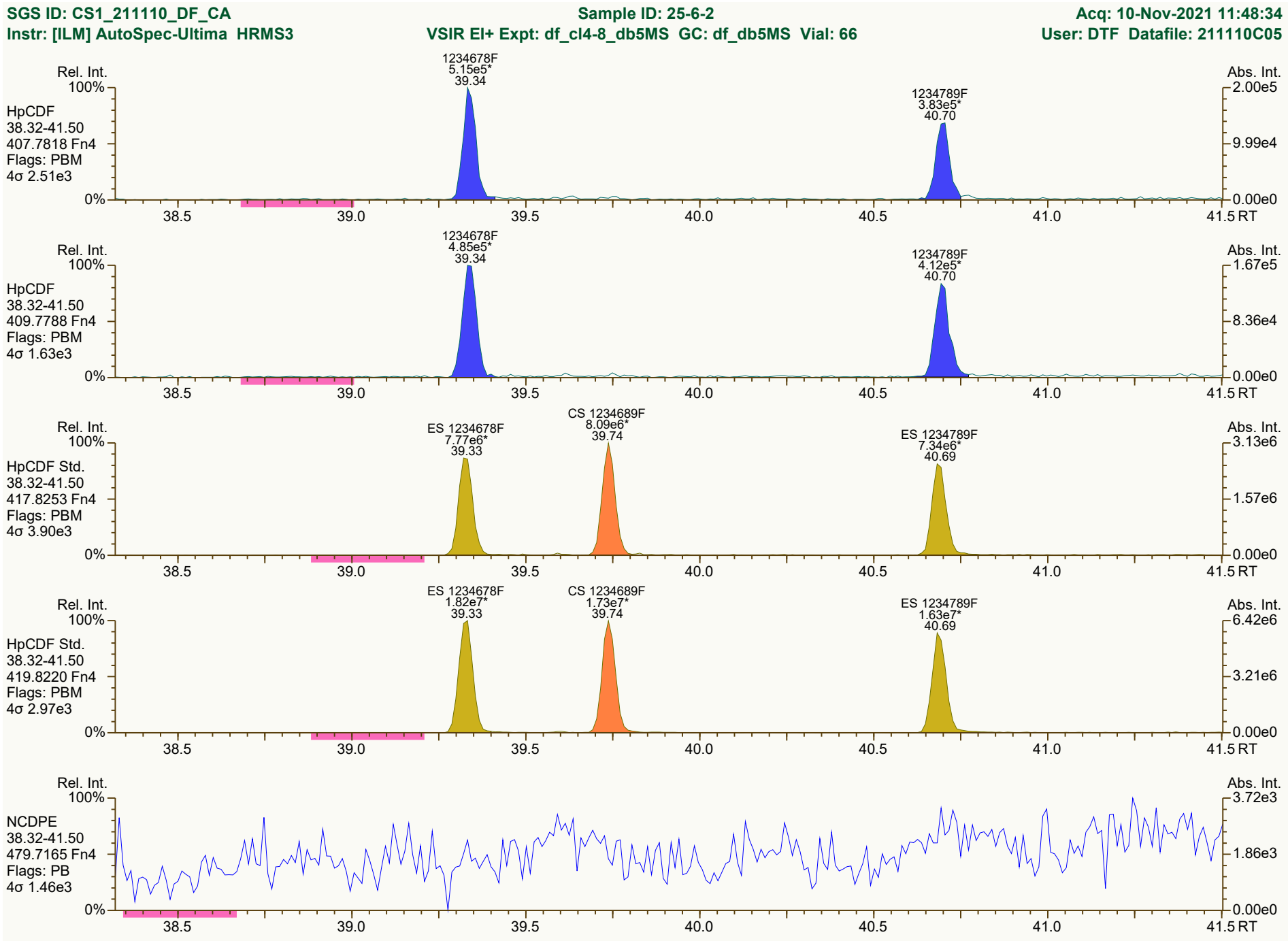


Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 2313 scc: 419-111
Revised: 10-Nov-2021 13:36 (DTF) Printed: 11-Nov-2021 10:40 Page 8 of 12

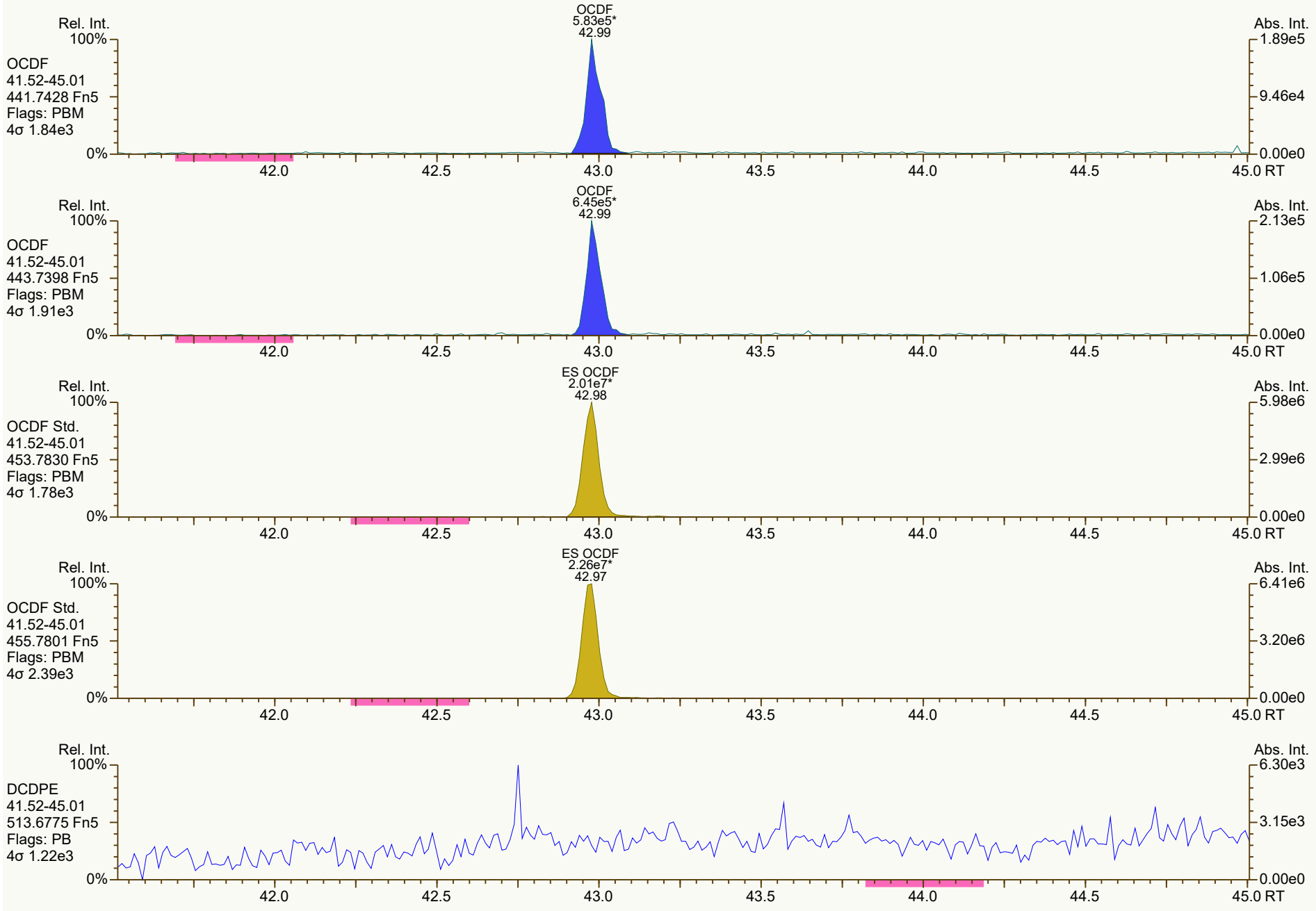

SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
2.10e5
1.05e5
0.00e0
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
1.40e5
7.02e4
0.00e0
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
7.54e6
3.77e6
0.00e0
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
4.85e6
2.42e6
0.00e0
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
1.10e4
5.51e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9368, 4994, 0902 scc: 419-111
Revised: 10-Nov-2021 13:38 (DTF) Printed: 11-Nov-2021 10:40 Page 9 of 12


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
0%
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
1.76e5
8.82e4
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
4.10e6
2.05e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
7.83e6
3.91e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
9.19e3
4.60e3

SGS ID: CS1_211110_DF_CA | Sample ID: 25-6-2 | Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66 | User: DTF Datafile: 211110C05



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3913, 8502, 2889 scc: 419-111 Revised: 10-Nov-2021 13:39 (DTF) Printed: 11-Nov-2021 10:40 Page 11 of 12

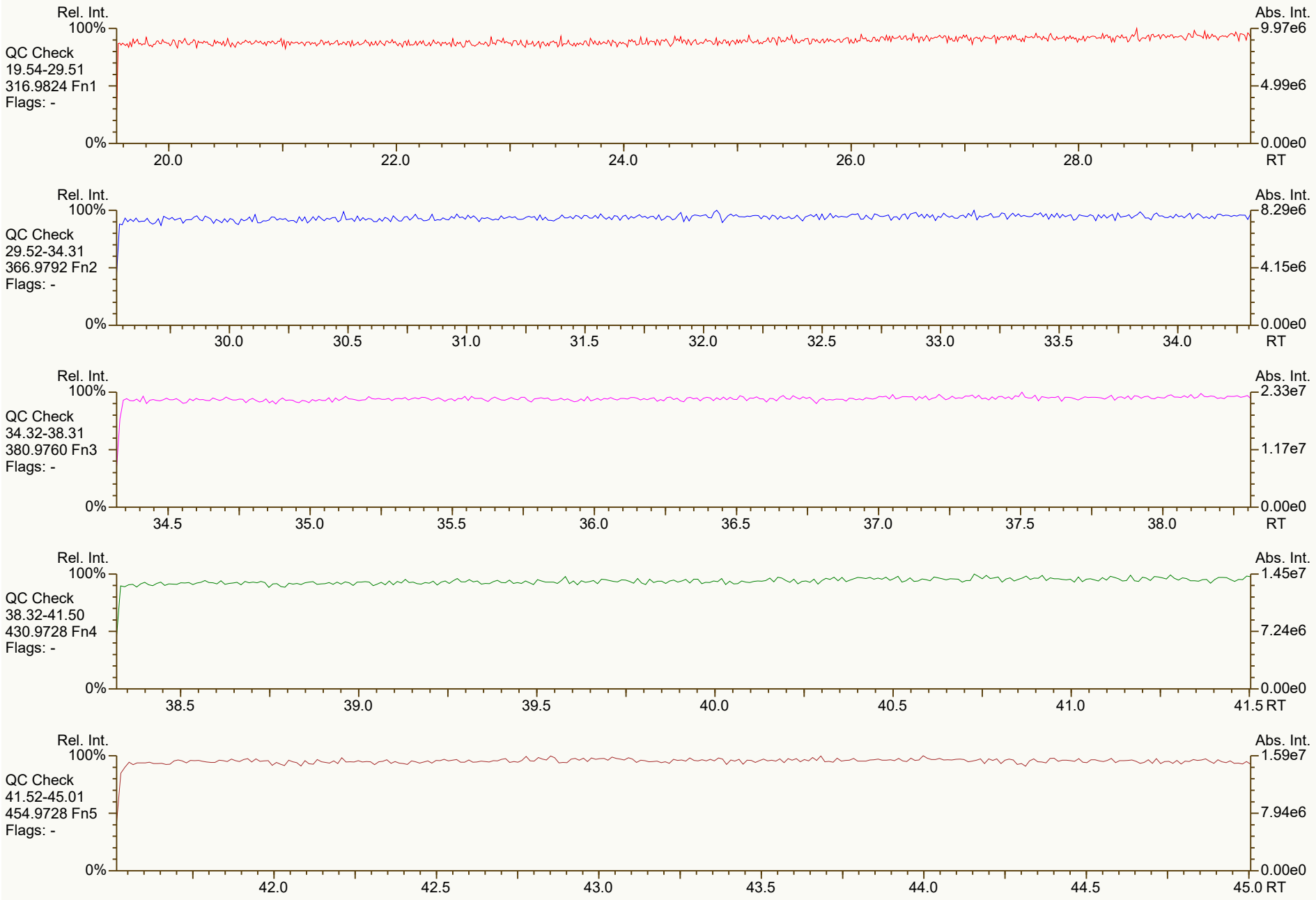

OCDF
5.83e5*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
6.45e5*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.26e7*
42.97
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

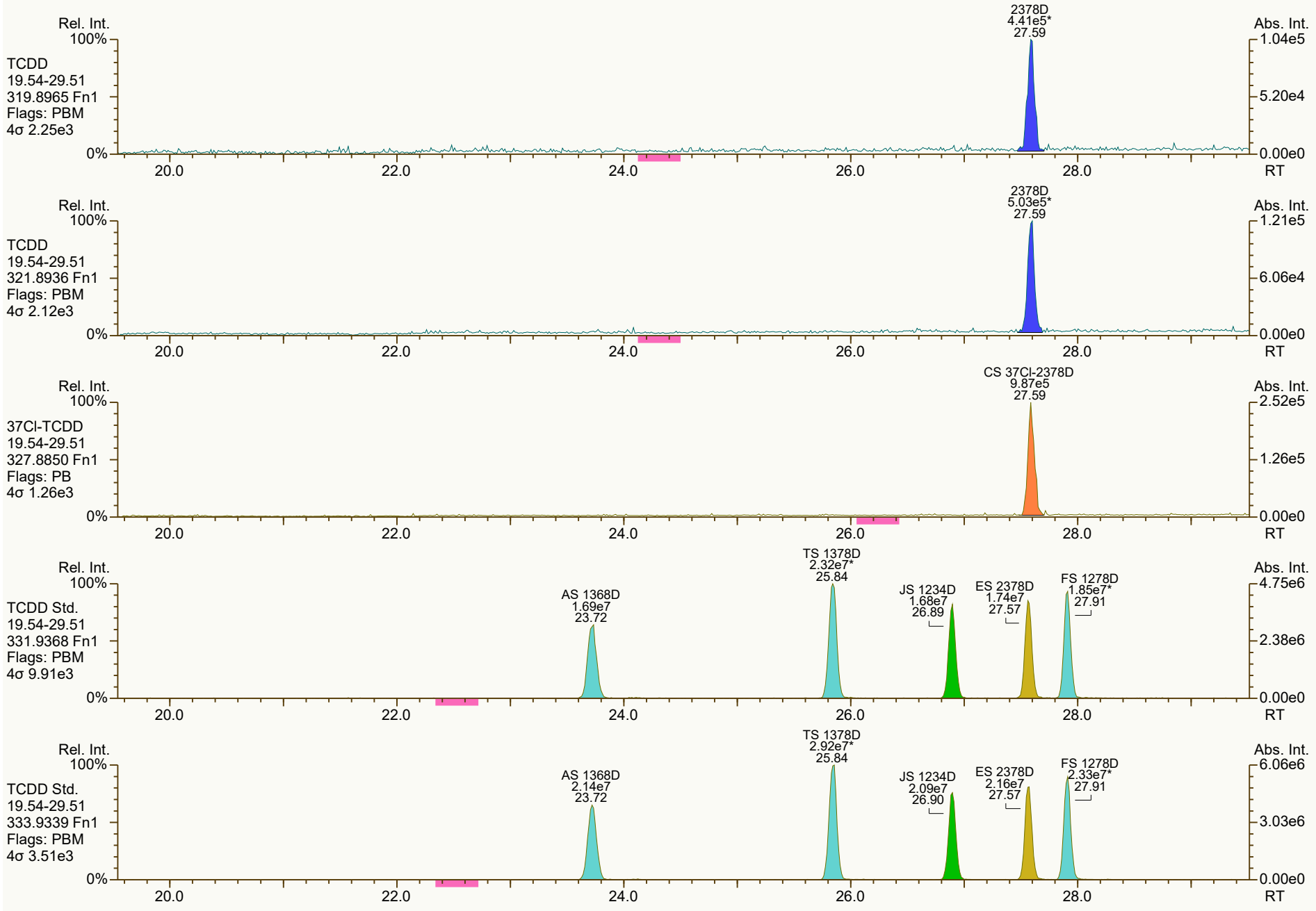
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

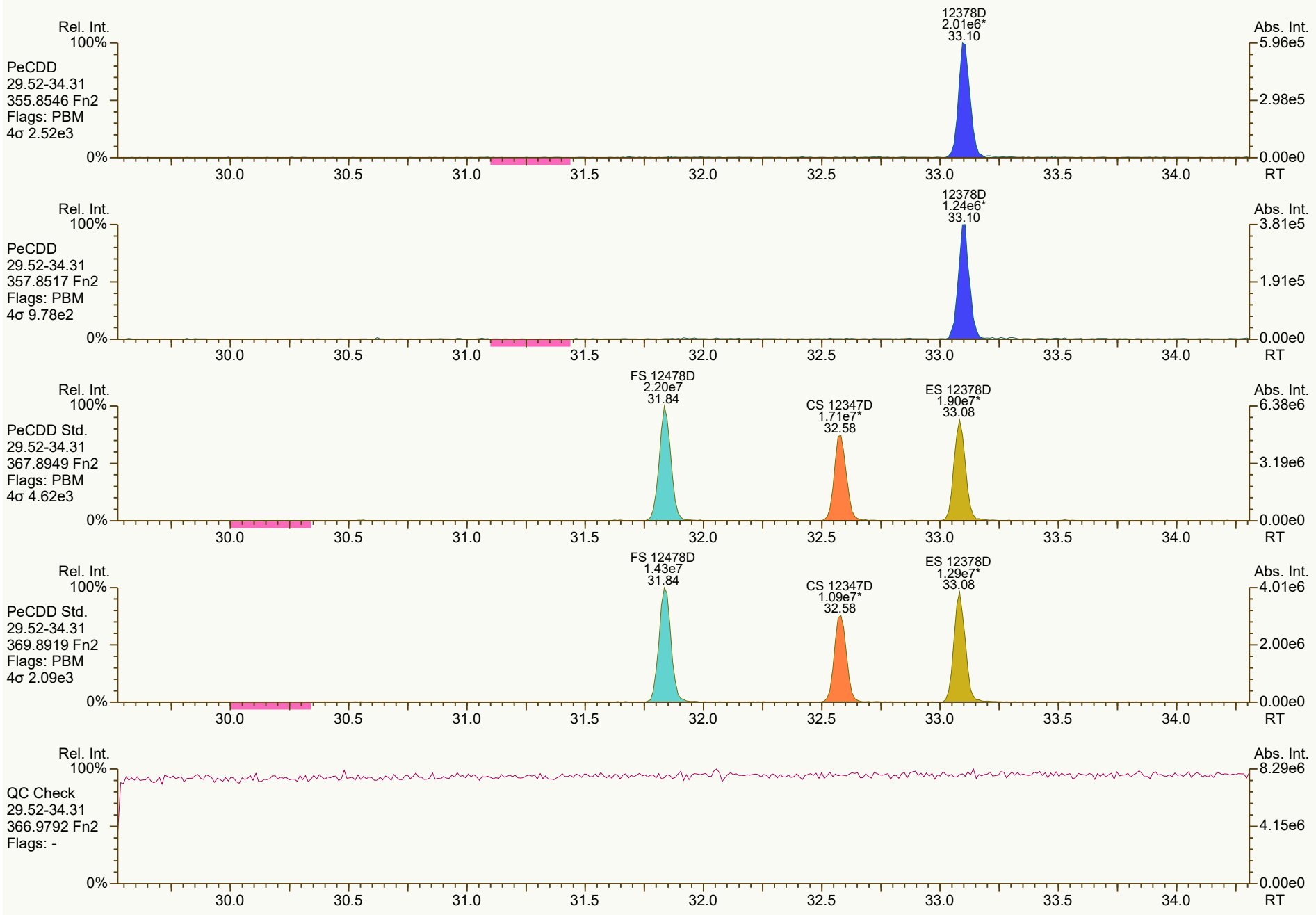
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

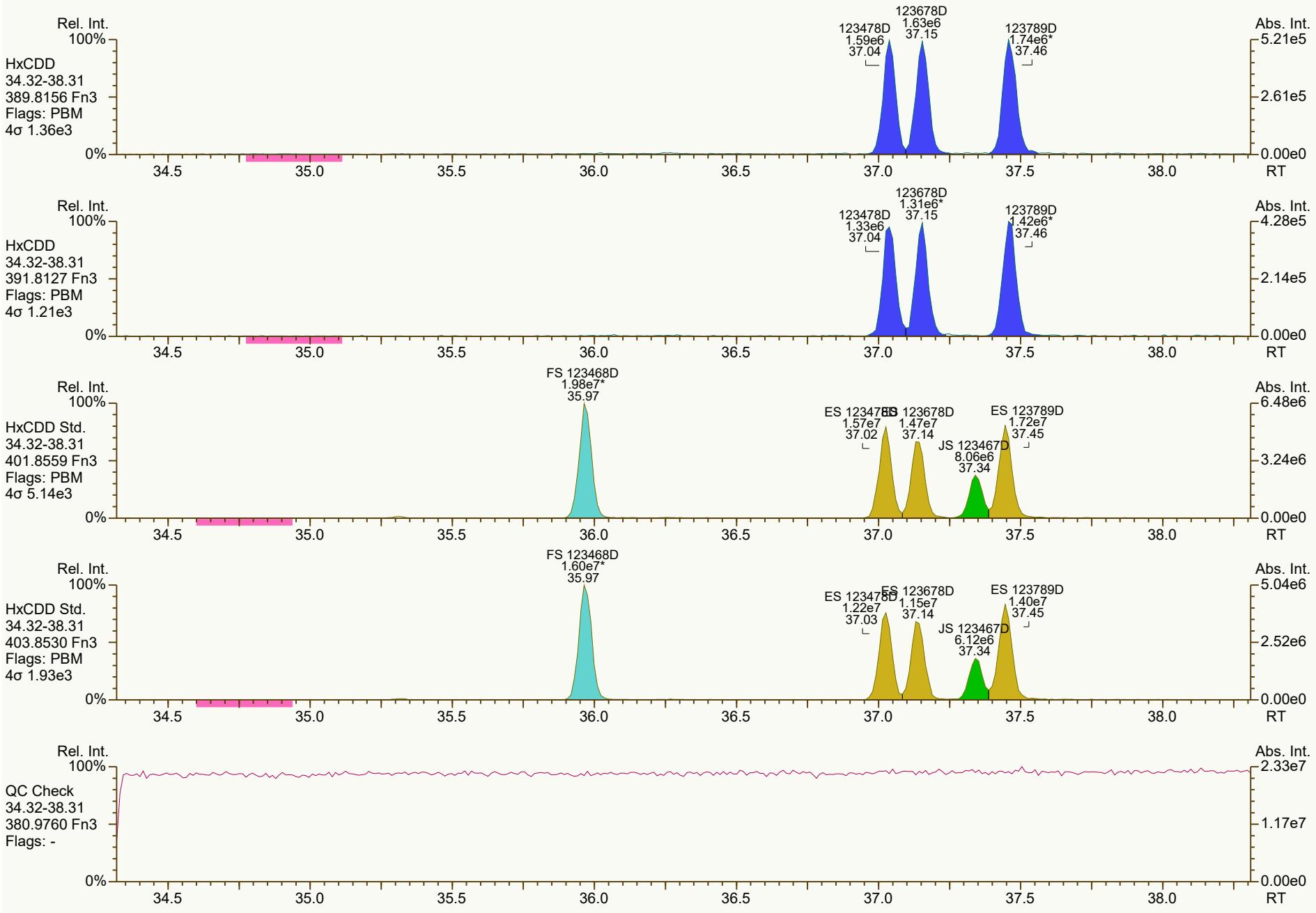
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

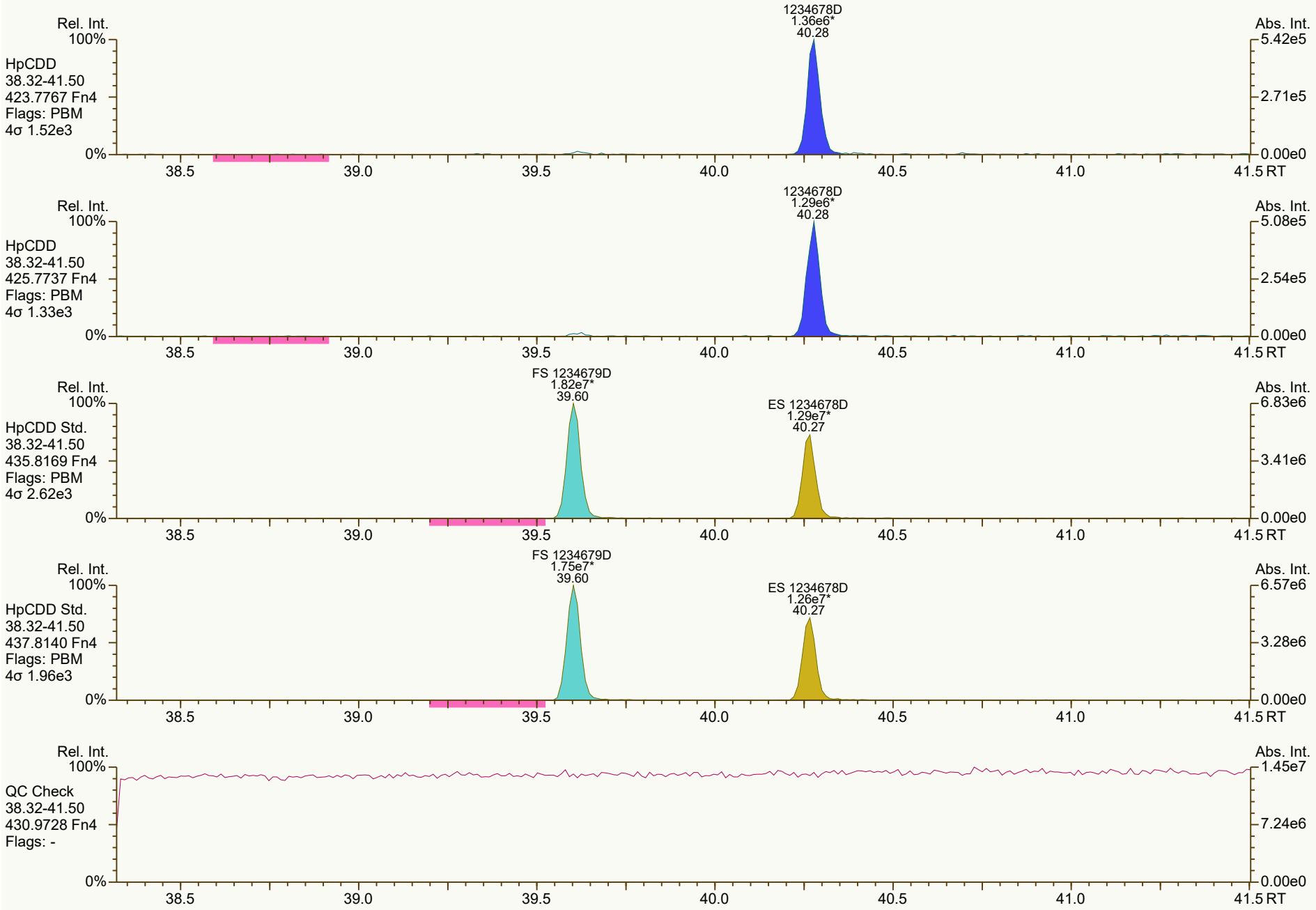
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

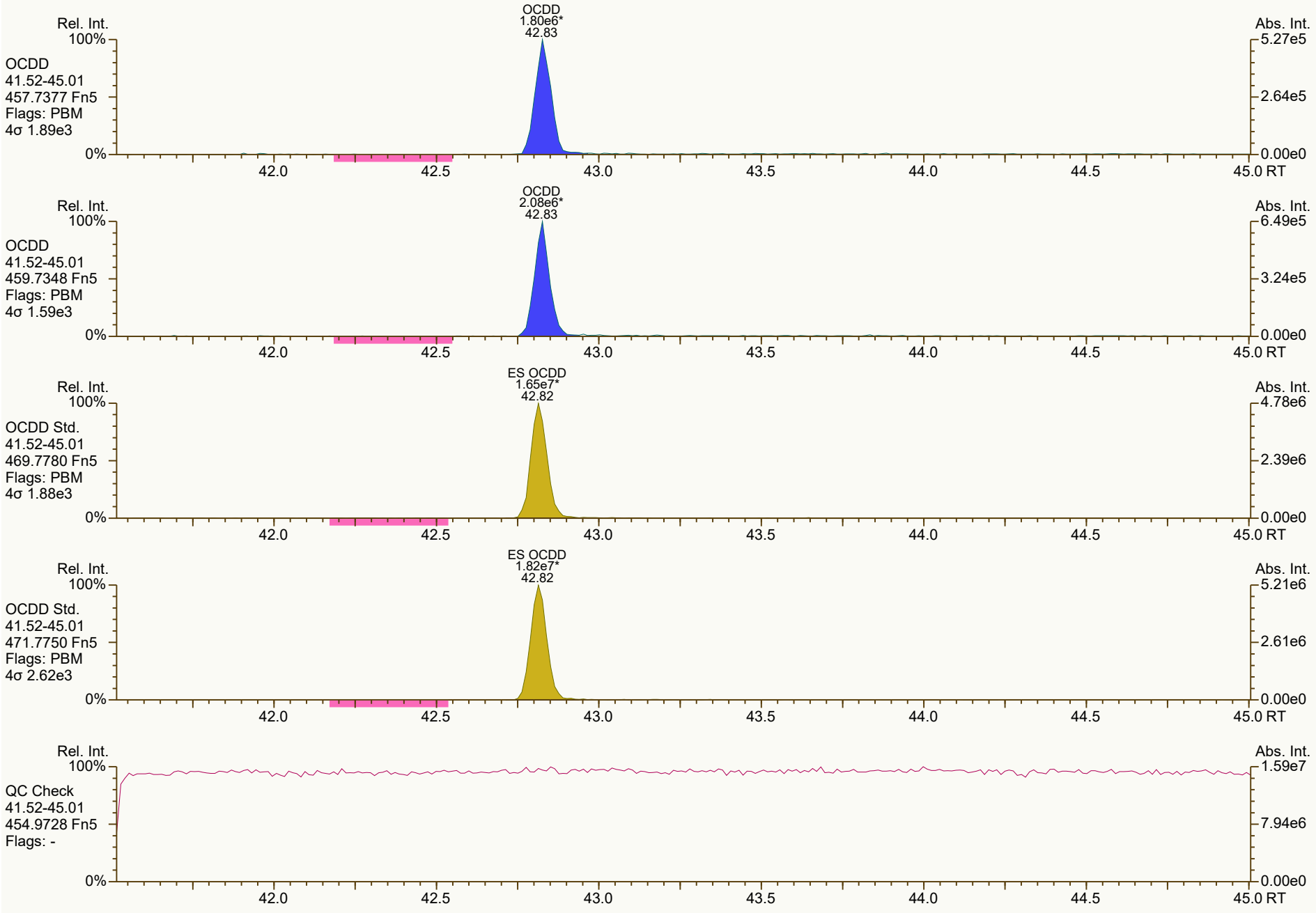

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
4.28e5
2.14e5
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
6.48e6
3.24e6
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
5.04e6
2.52e6
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.33e7
1.17e7


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
0%
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
0%
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
0%
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
0%
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

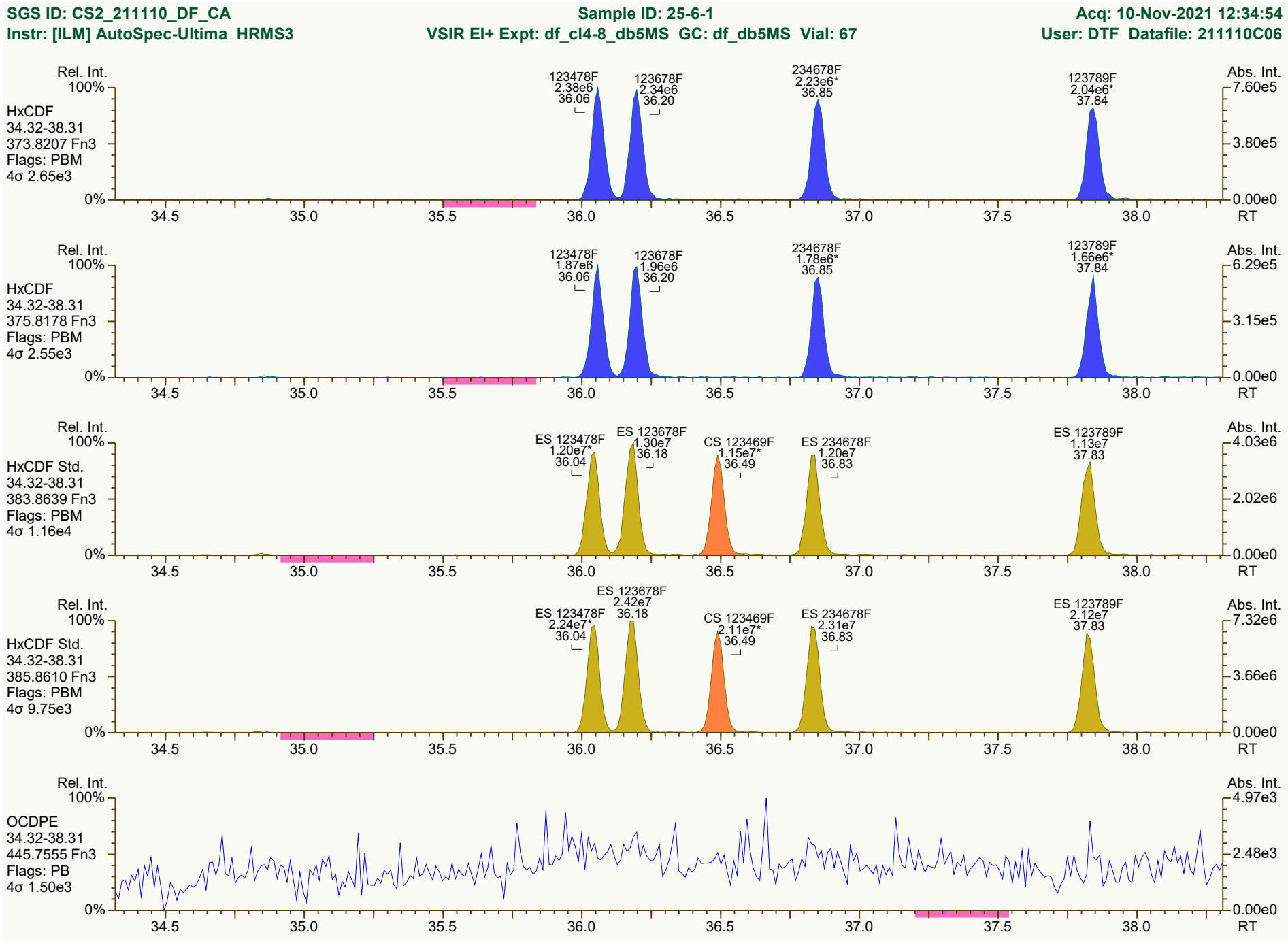

Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
Abs. Int.
5.27e5
2.63e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
0%
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
Abs. Int.
8.01e6
4.01e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
0%
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
Abs. Int.
5.19e6
2.59e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
6.67e3
3.33e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

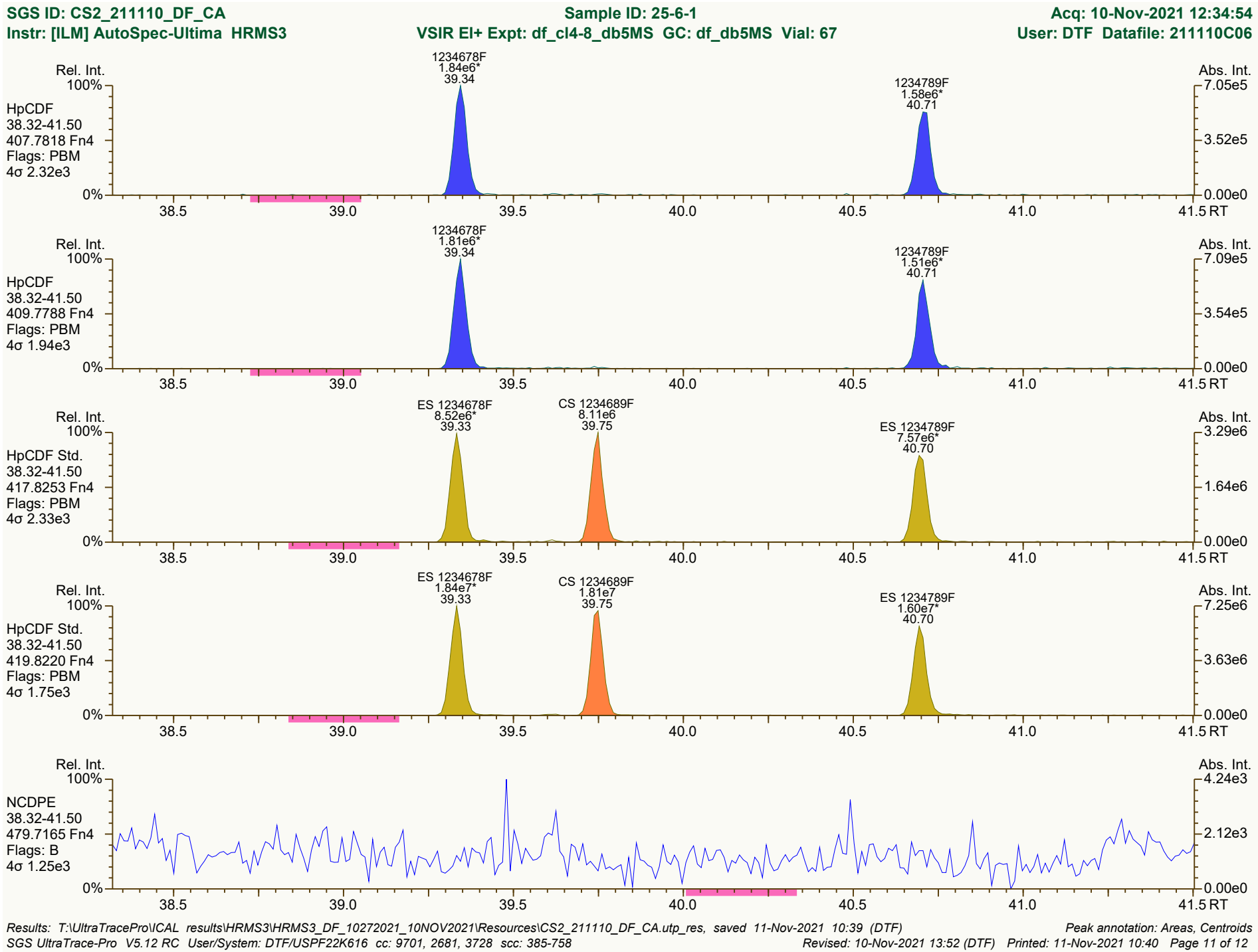
SGS ID: CS2_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

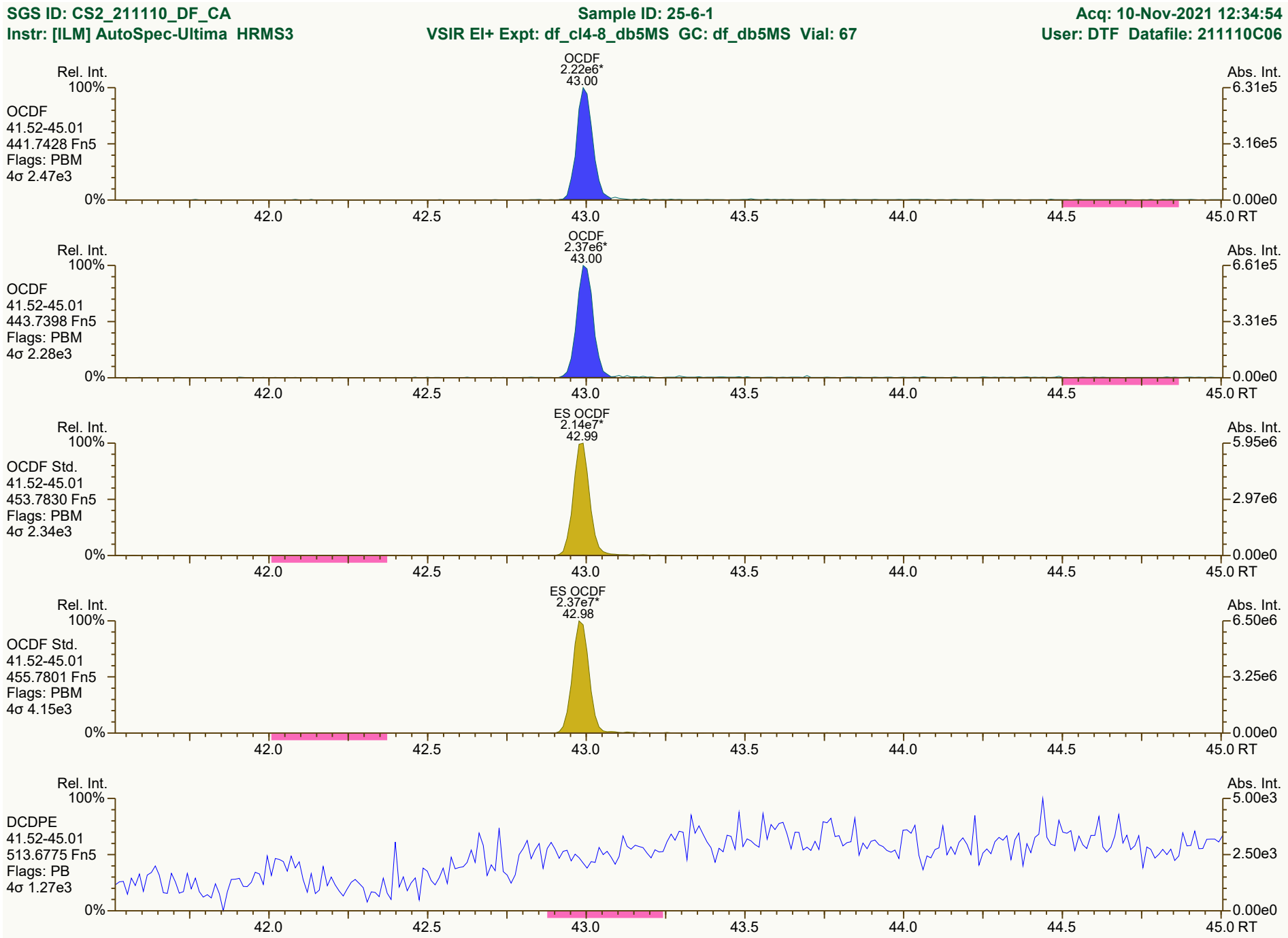
Sample ID: 25-6-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67

Acq: 10-Nov-2021 12:34:54
User: DTF Datafile: 211110C06



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 7496, 9123, 5141 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 10 of 12

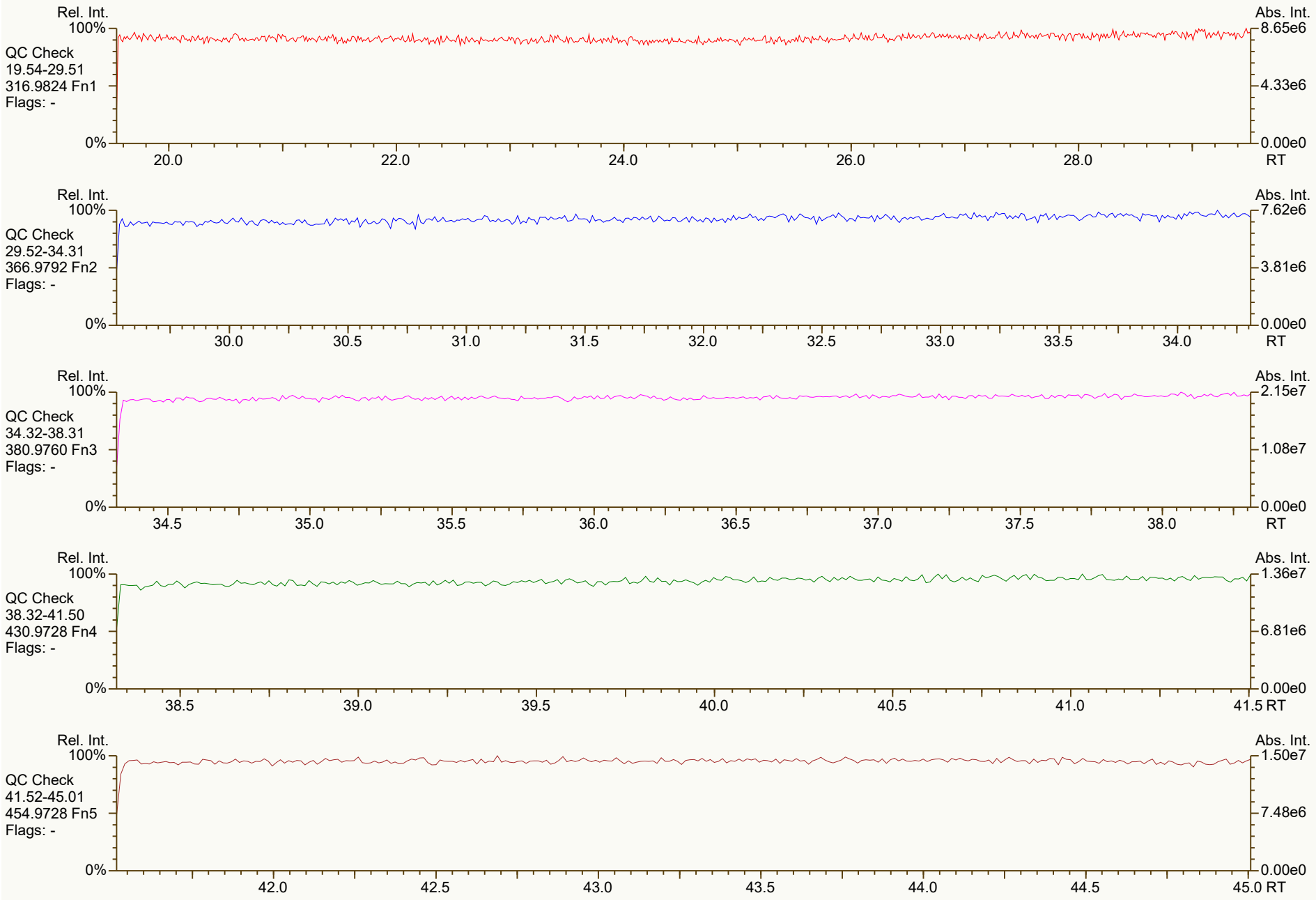

SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
7.05e5
3.52e5
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
7.09e5
3.54e5
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
3.29e6
1.64e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
7.25e6
3.63e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
4.24e3
2.12e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9701, 2681, 3728 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 11 of 12


SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
OCDF
2.22e6*
43.00
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
6.31e5
3.16e5
0.00e0
OCDF
2.37e6*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
6.61e5
3.31e5
ES OCDF
2.14e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
5.95e6
2.97e6
ES OCDF
2.37e7*
42.98
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
6.50e6
3.25e6
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
5.00e3
2.50e3
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 5547, 1929, 8450 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 12 of 12

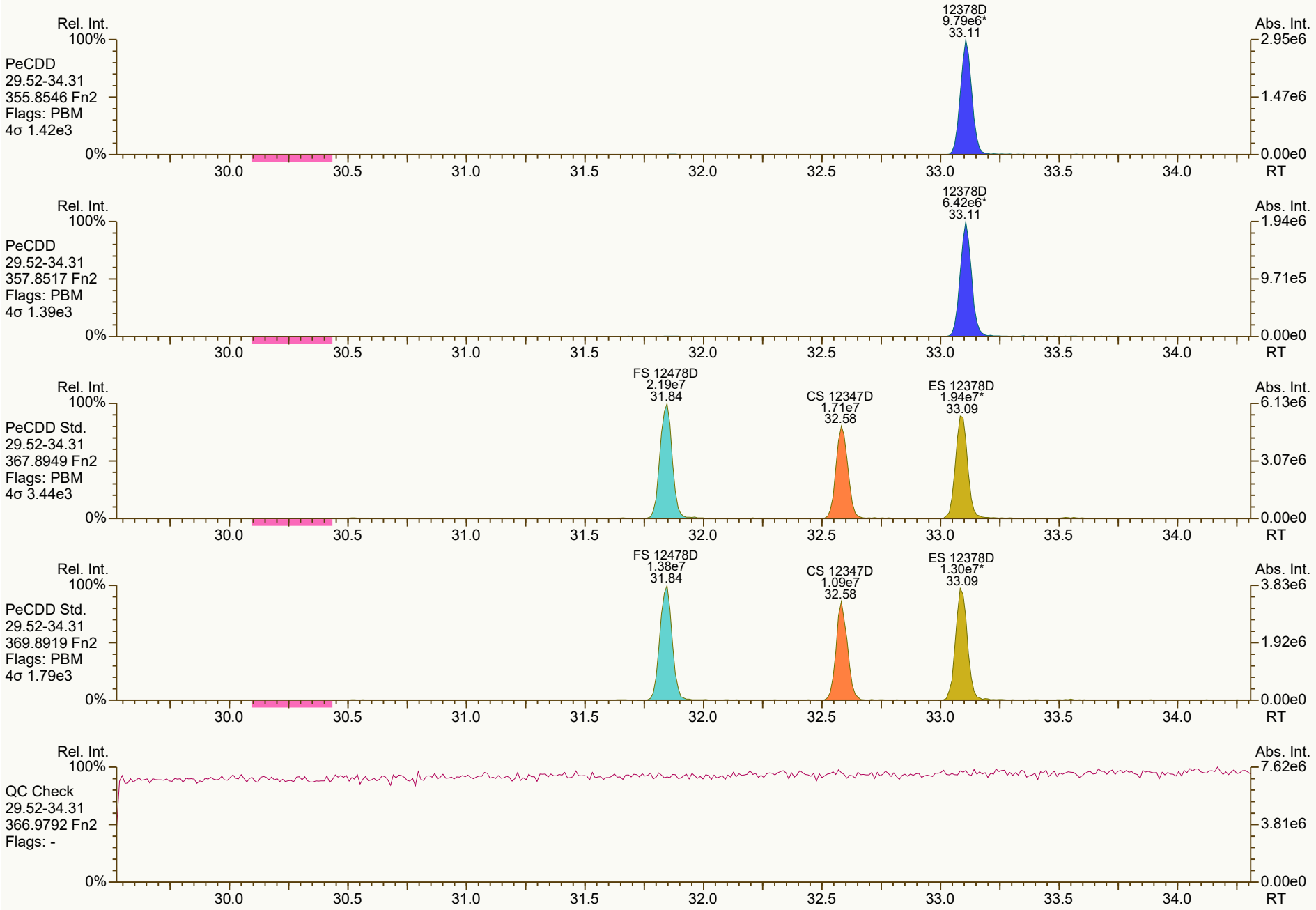
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

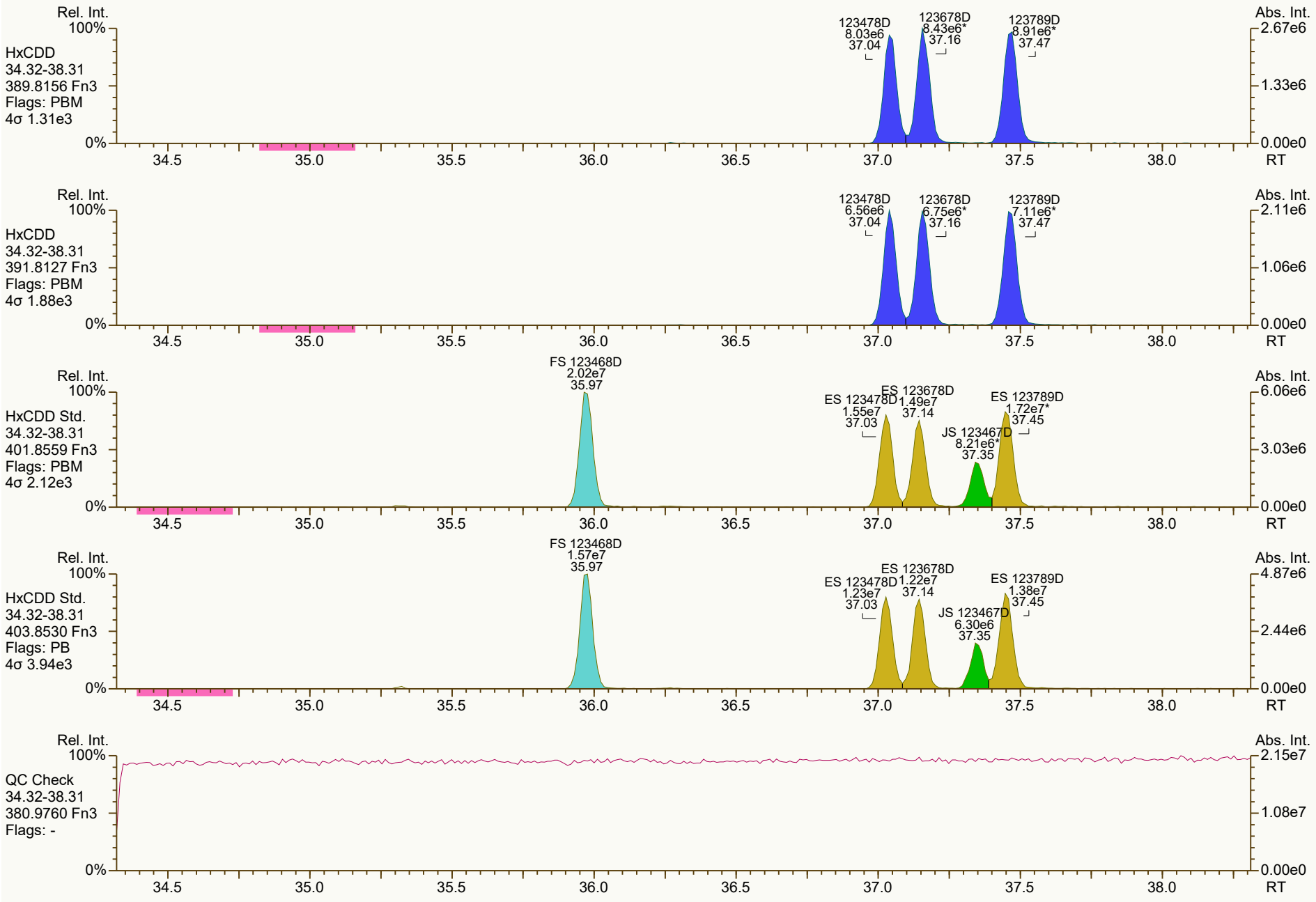
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

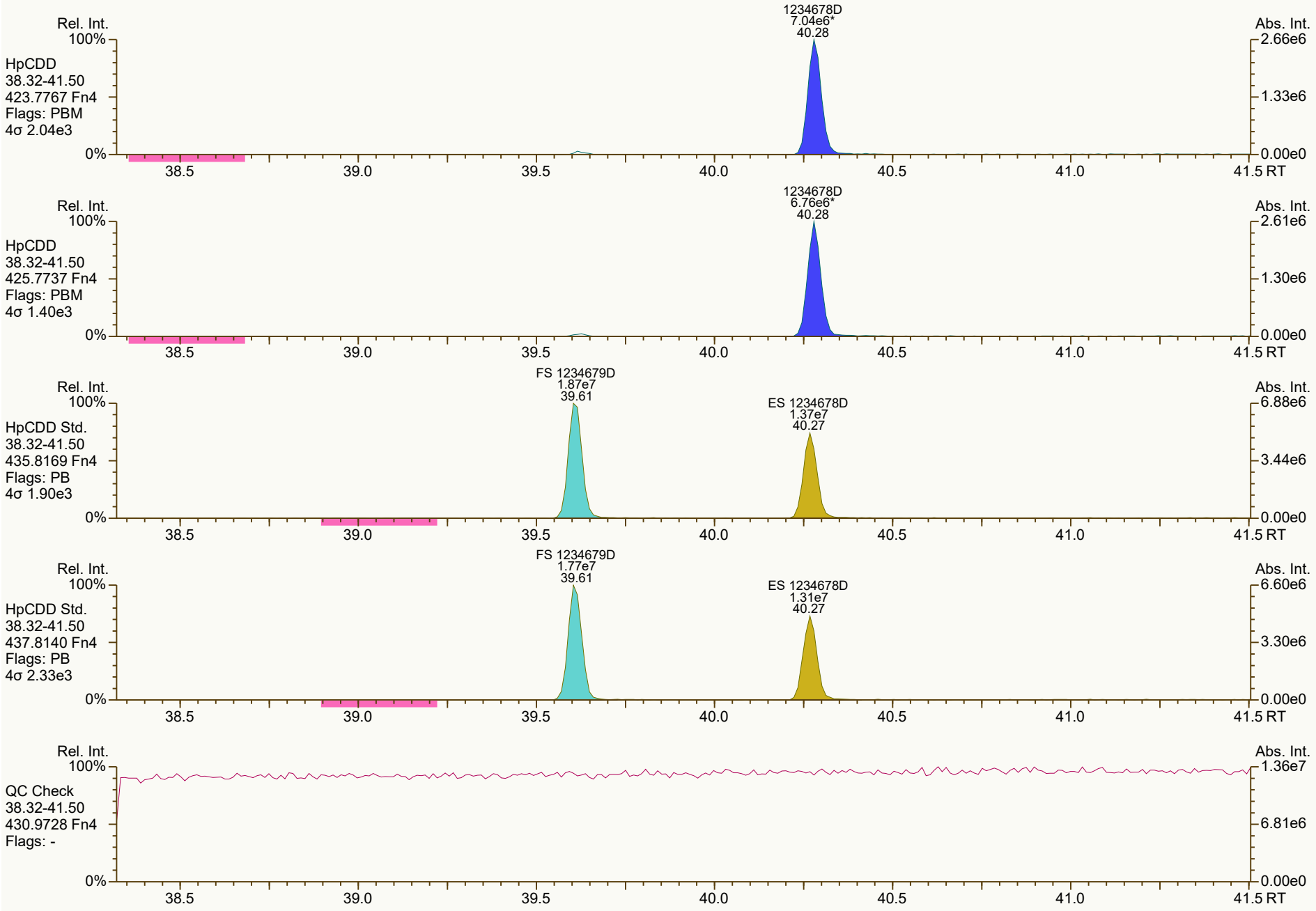
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%


Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
0%
2378D
1.99e6
27.60
Abs. Int.
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
0%
2378D
2.55e6
27.60
Abs. Int.
5.98e5
2.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
Abs. Int.
1.03e6
5.16e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
0%
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
Abs. Int.
4.80e6
2.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
0%
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
0%
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
0%
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
0%
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
0%
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.62e6
3.81e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

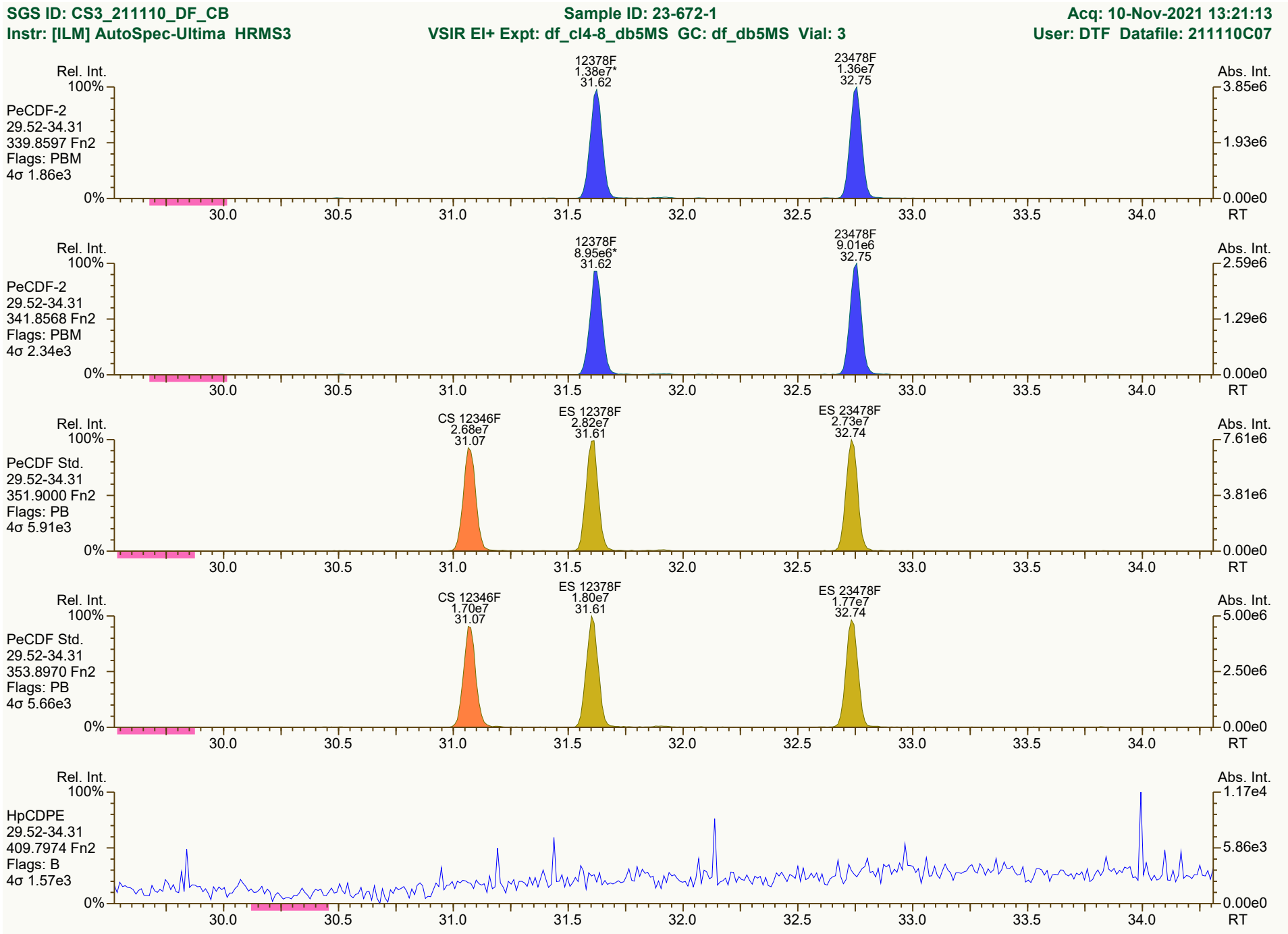

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
0%
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
0%
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
0%
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
0%
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.36e7
6.81e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
9.25e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.02e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.70e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.86e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

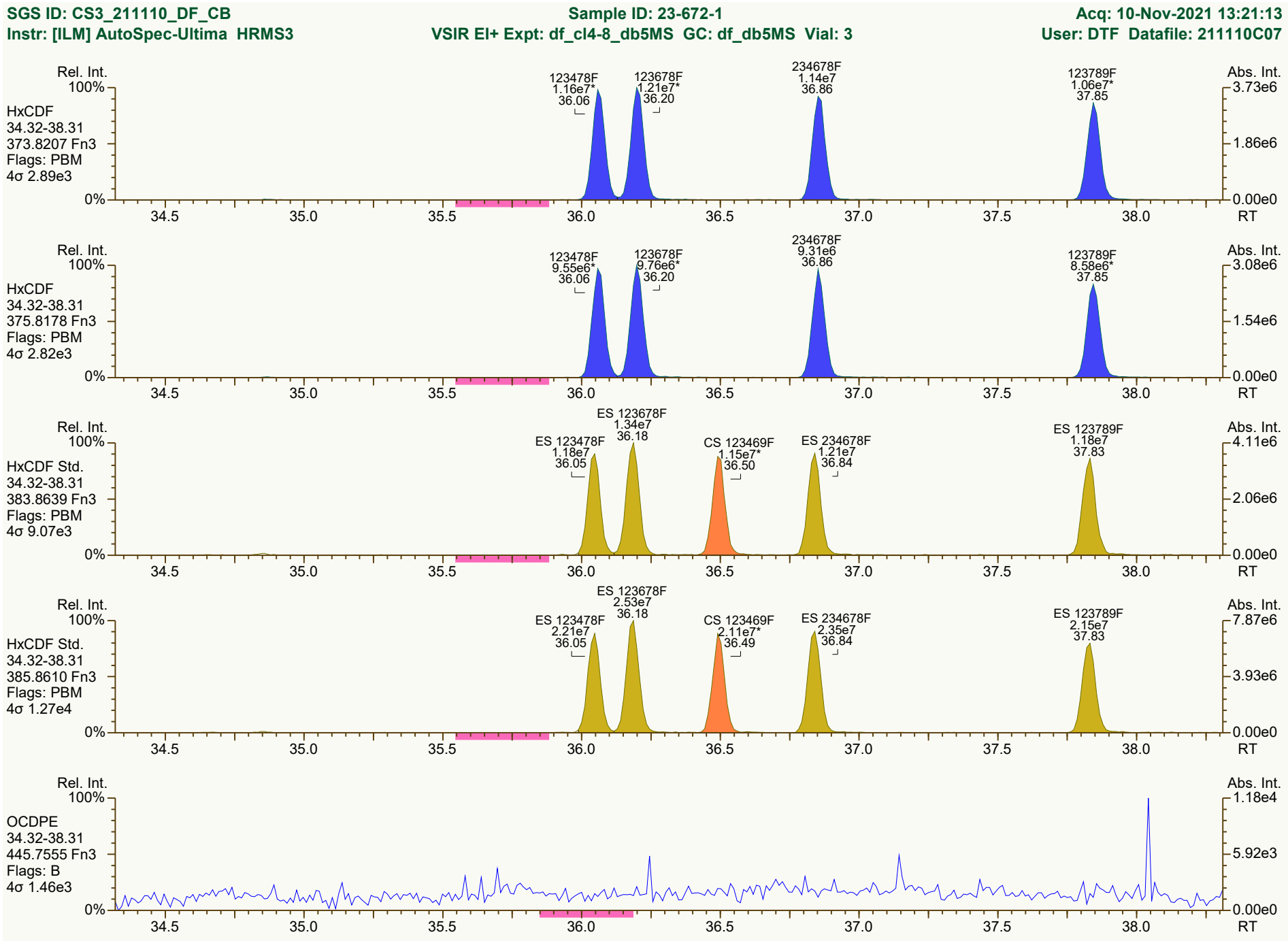

Rel. Int.
100%
0%
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
2378F
2.58e6
26.68
5.81e5
2.91e5
0.00e0
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
2378F
3.32e6
26.68
7.66e5
3.83e5
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
5.45e6
2.73e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
6.76e6
3.38e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
6.84e3
3.42e3
20.0
22.0
24.0
26.0
28.0
RT

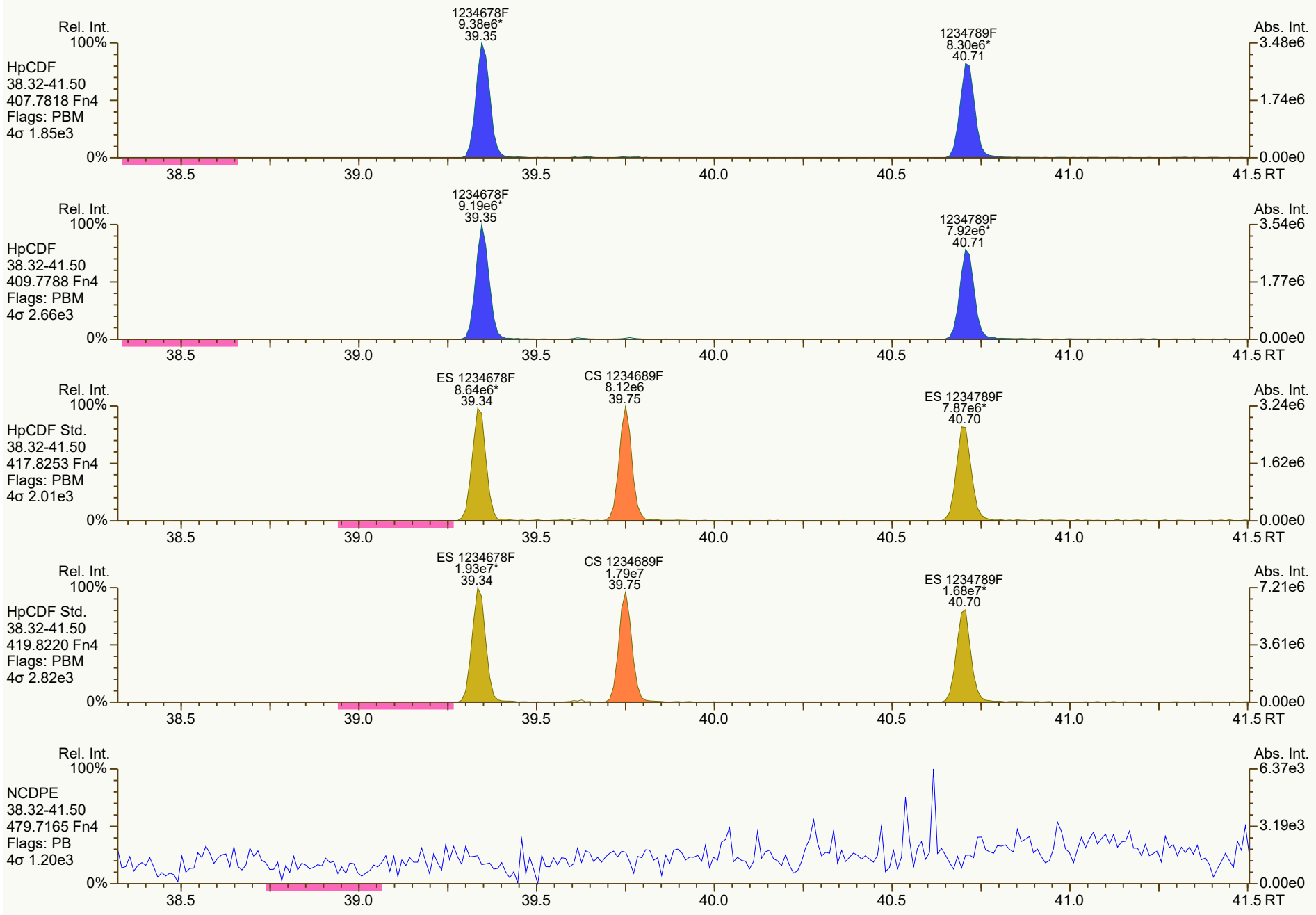

Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0728, 8378, 8418 scc: 507-474 *Revised: 10-Nov-2021 14:17 (DTF) Printed: 11-Nov-2021 10:41 Page 9 of 12*


SGS ID: CS3_211110_DF_CB
Instr: [ILM] AutoSpec-Ultima HRMS3
Sample ID: 23-672-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
Acq: 10-Nov-2021 13:21:13
User: DTF Datafile: 211110C07
Rel. Int.
100%
0%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
123478F 1.16e7* 36.06
123678F 1.21e7* 36.20
234678F 1.14e7 36.86
123789F 1.06e7* 37.85
Abs. Int.
3.73e6
1.86e6
0.00e0
RT
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
123478F 9.55e6* 36.06
123678F 9.76e6* 36.20
234678F 9.31e6 36.86
123789F 8.58e6* 37.85
3.08e6
1.54e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
ES 123478F 1.18e7 36.05
ES 123678F 1.34e7 36.18
CS 123469F 1.15e7* 36.50
ES 234678F 1.21e7 36.84
ES 123789F 1.18e7 37.83
4.11e6
2.06e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
ES 123478F 2.21e7 36.05
ES 123678F 2.53e7 36.18
CS 123469F 2.11e7* 36.49
ES 234678F 2.35e7 36.84
ES 123789F 2.15e7 37.83
7.87e6
3.93e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
1.18e4
5.92e3
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0985, 9027, 6556 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 10 of 12

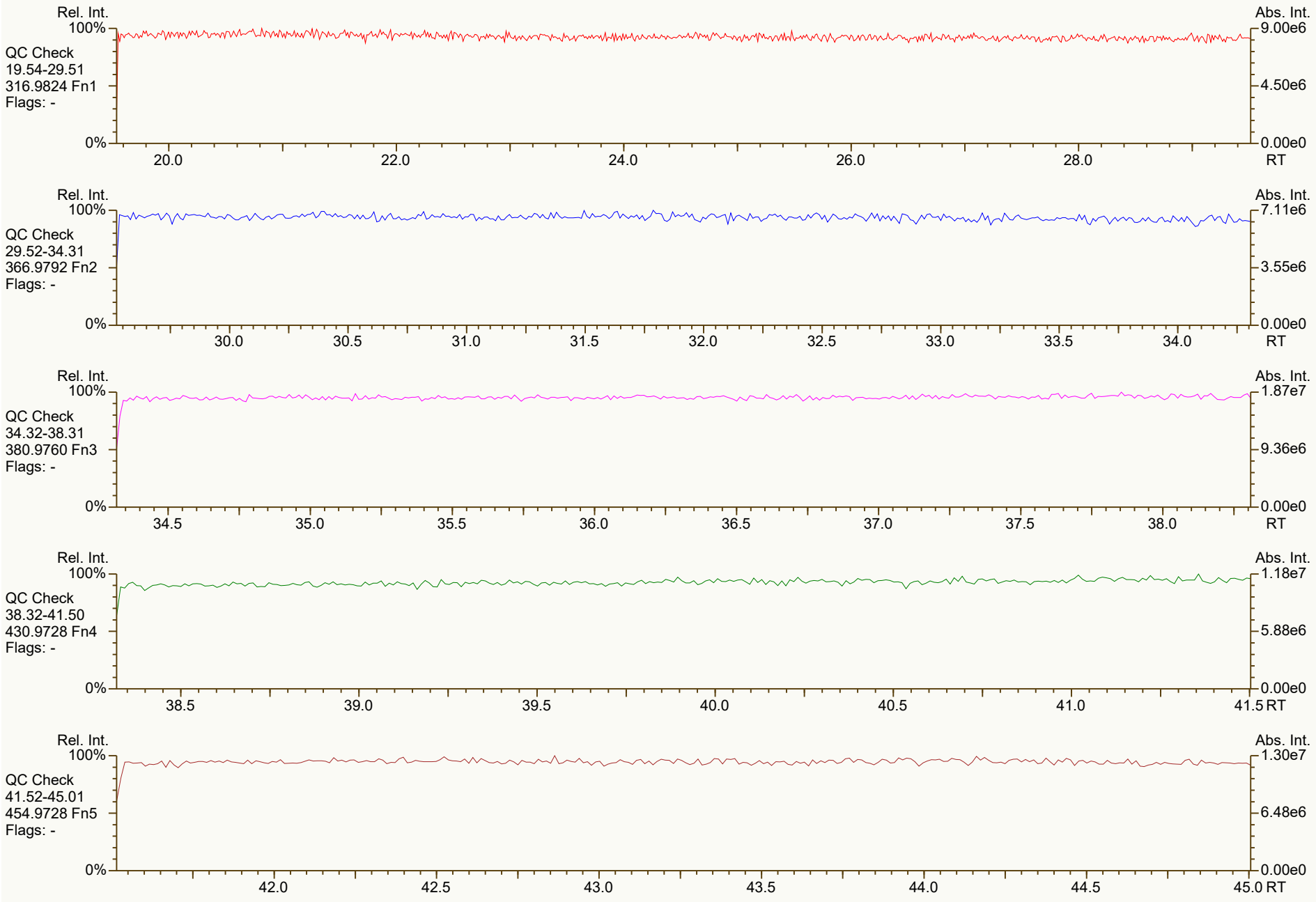

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
0%
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
Abs. Int.
3.48e6
1.74e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
0%
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
Abs. Int.
3.54e6
1.77e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
0%
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
Abs. Int.
3.24e6
1.62e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
0%
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
Abs. Int.
7.21e6
3.61e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
0%
Abs. Int.
6.37e3
3.19e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

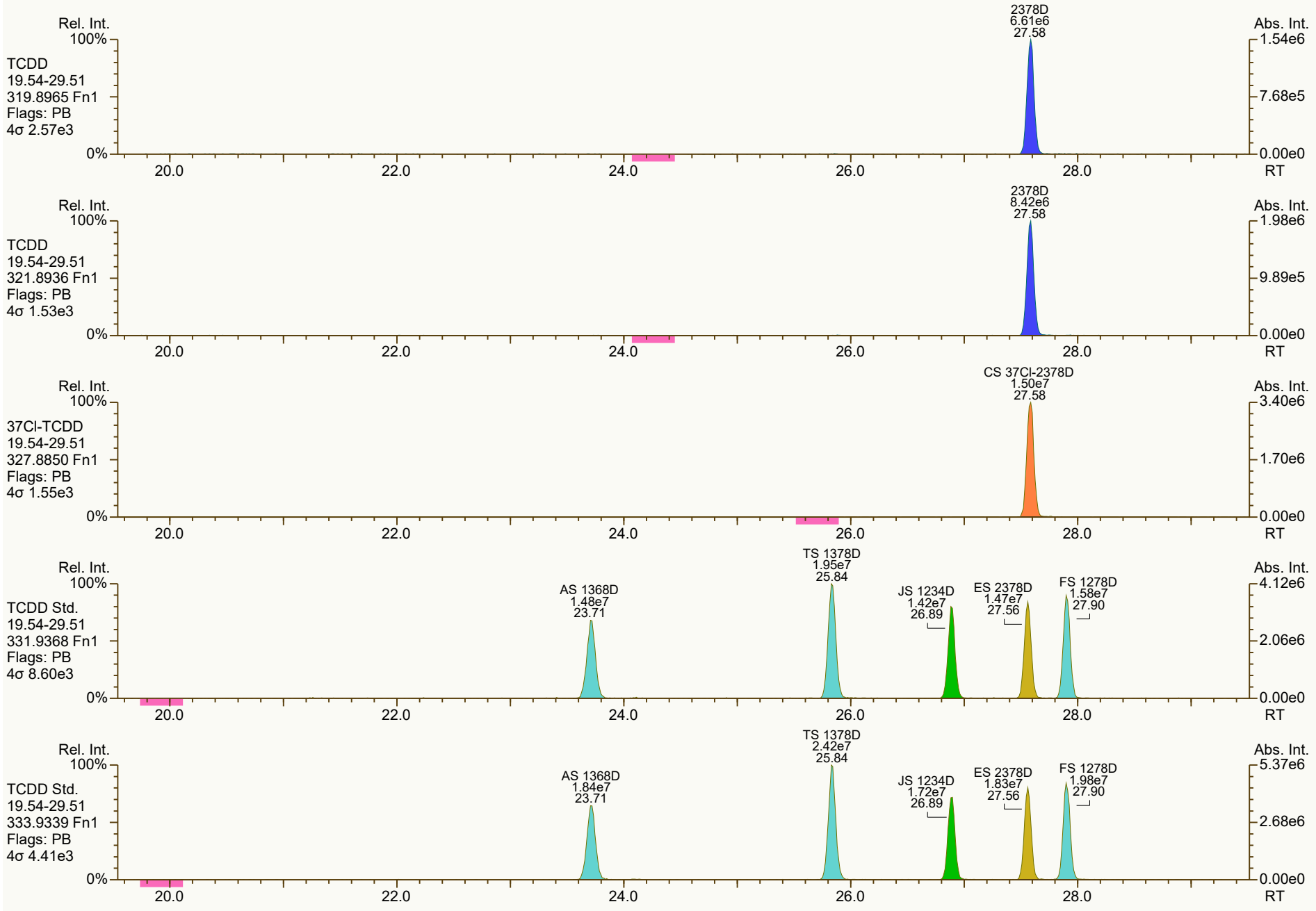

OCDF
1.15e7*
43.00
Rel. Int.
Abs. Int.
100%
0%
3.25e6
1.62e6
0.00e0
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
3.53e6
1.76e6
0.00e0
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
ES OCDF
2.21e7*
42.99
6.08e6
3.04e6
0.00e0
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
ES OCDF
2.39e7*
42.99
6.65e6
3.32e6
0.00e0
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
4.82e3
2.41e3
0.00e0
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3

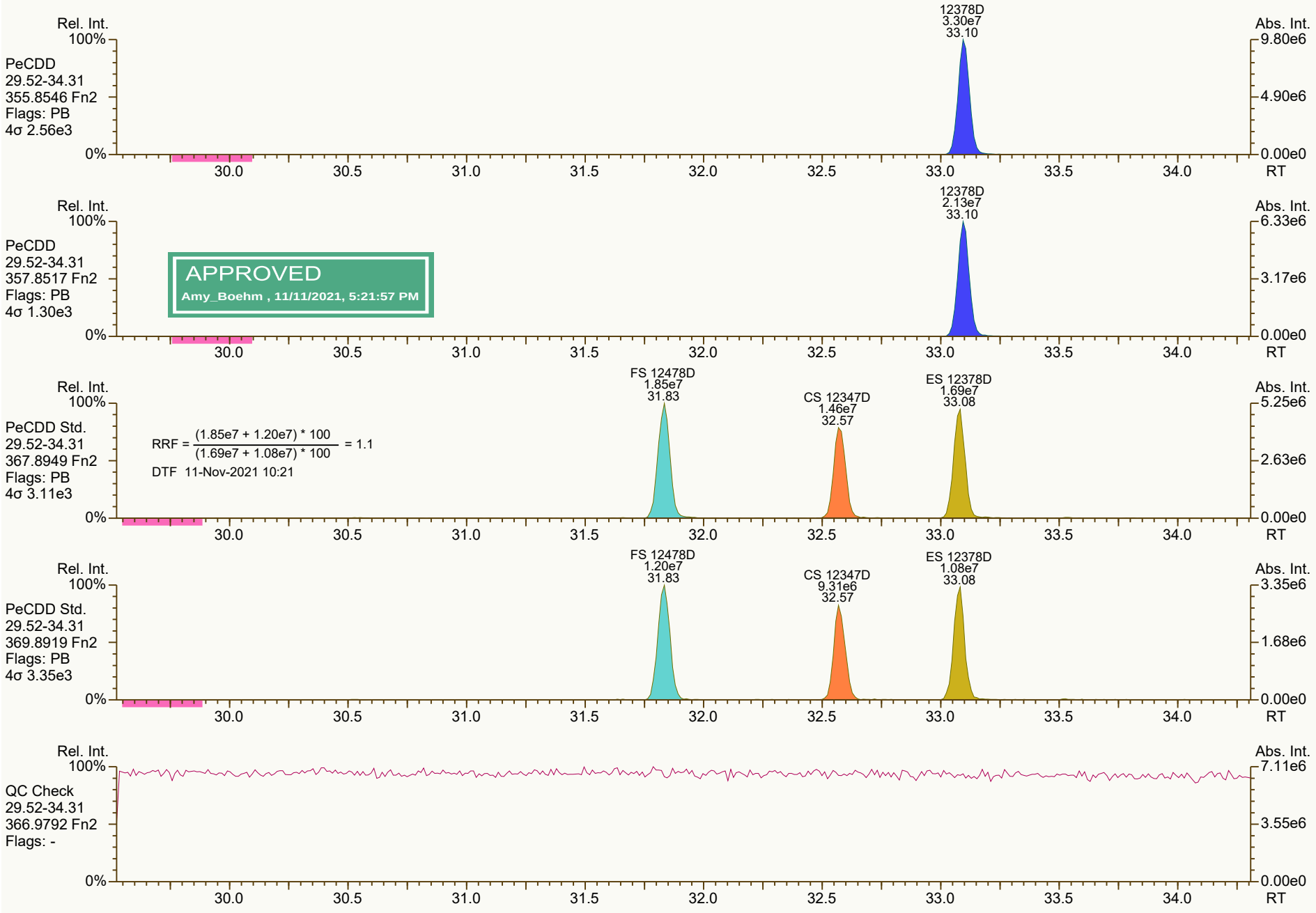
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

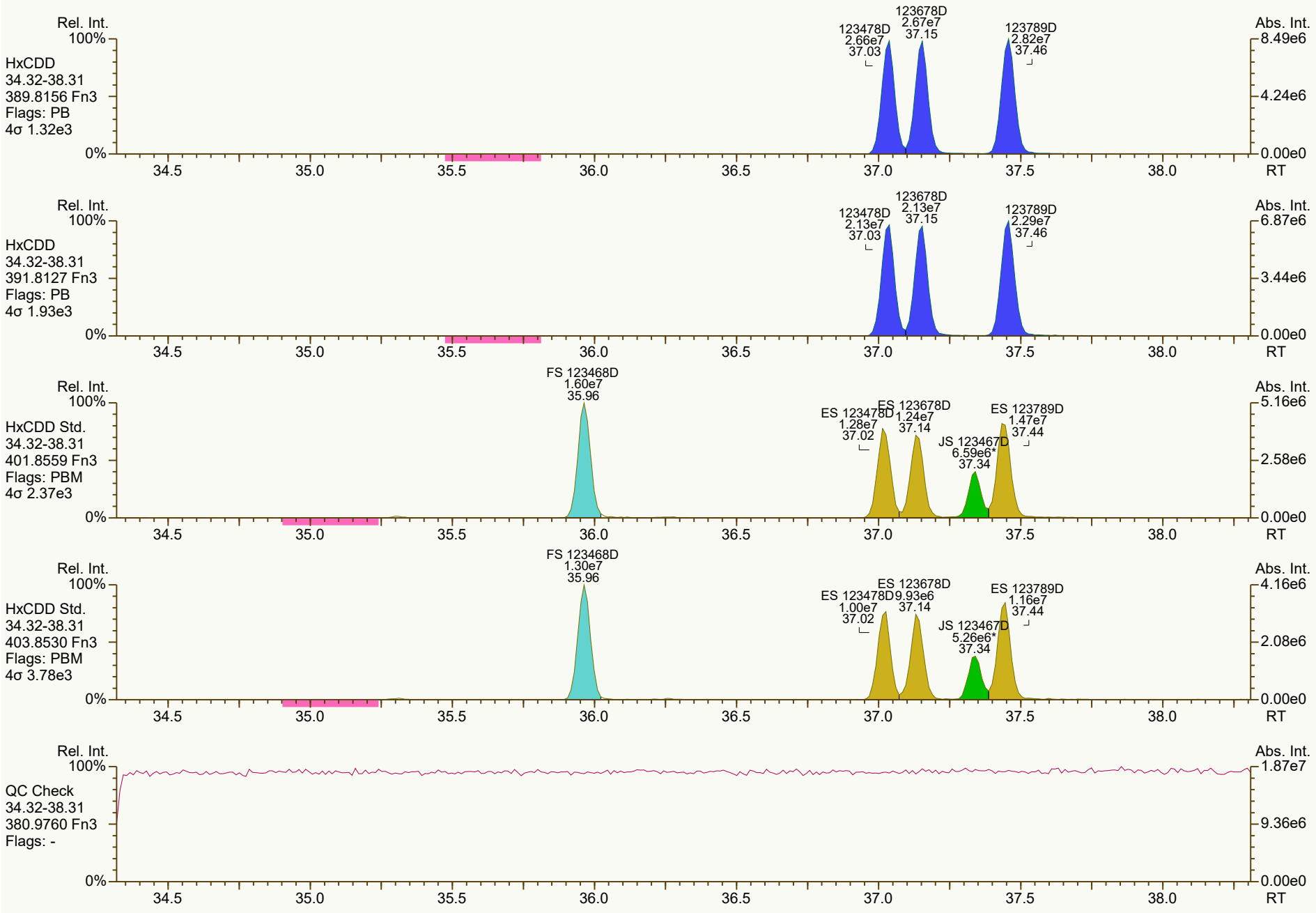
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

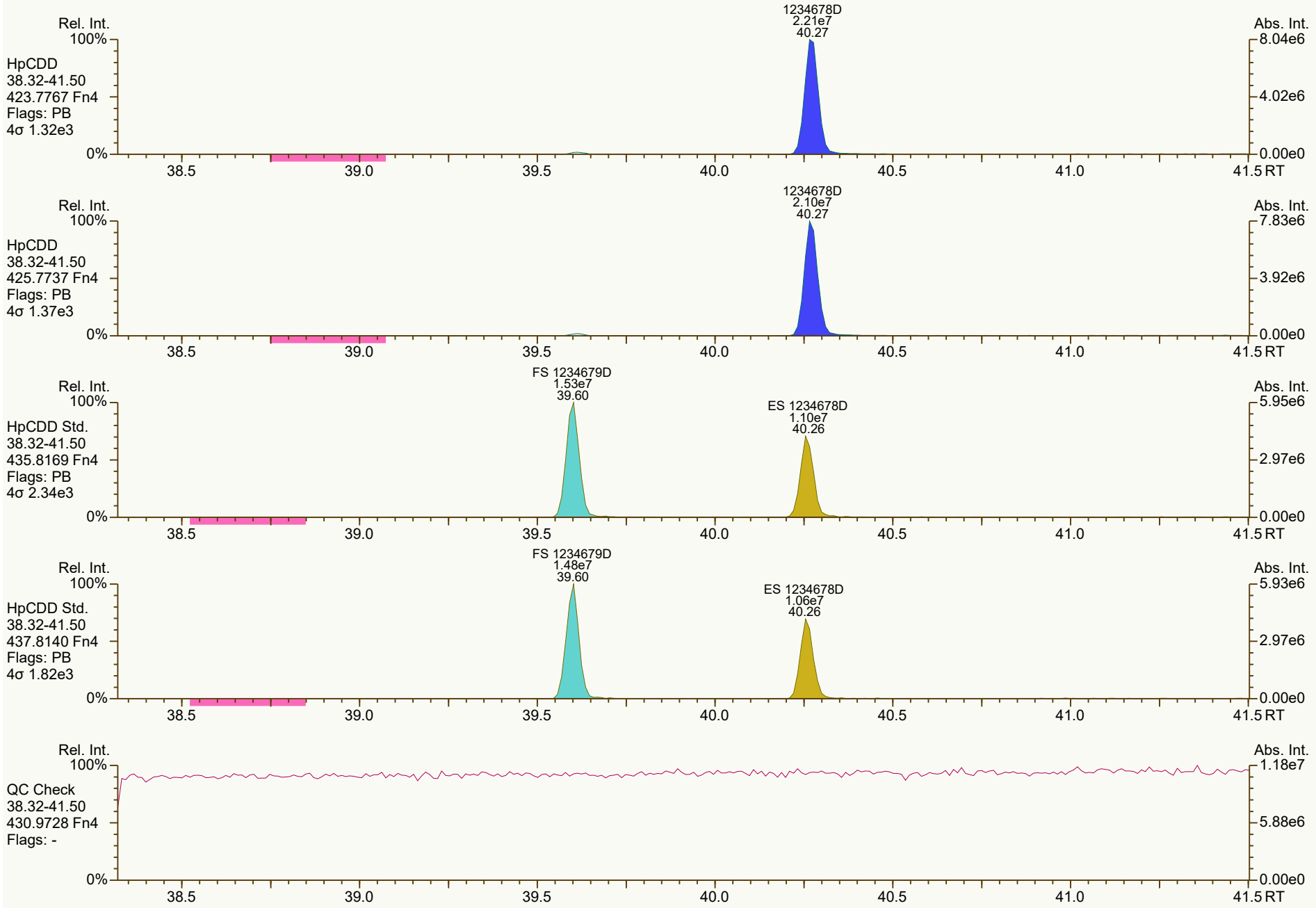
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:07 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS4_211110_DF_CA		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 855-576-PGM	
Sample ID: 25-5-4		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C08	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

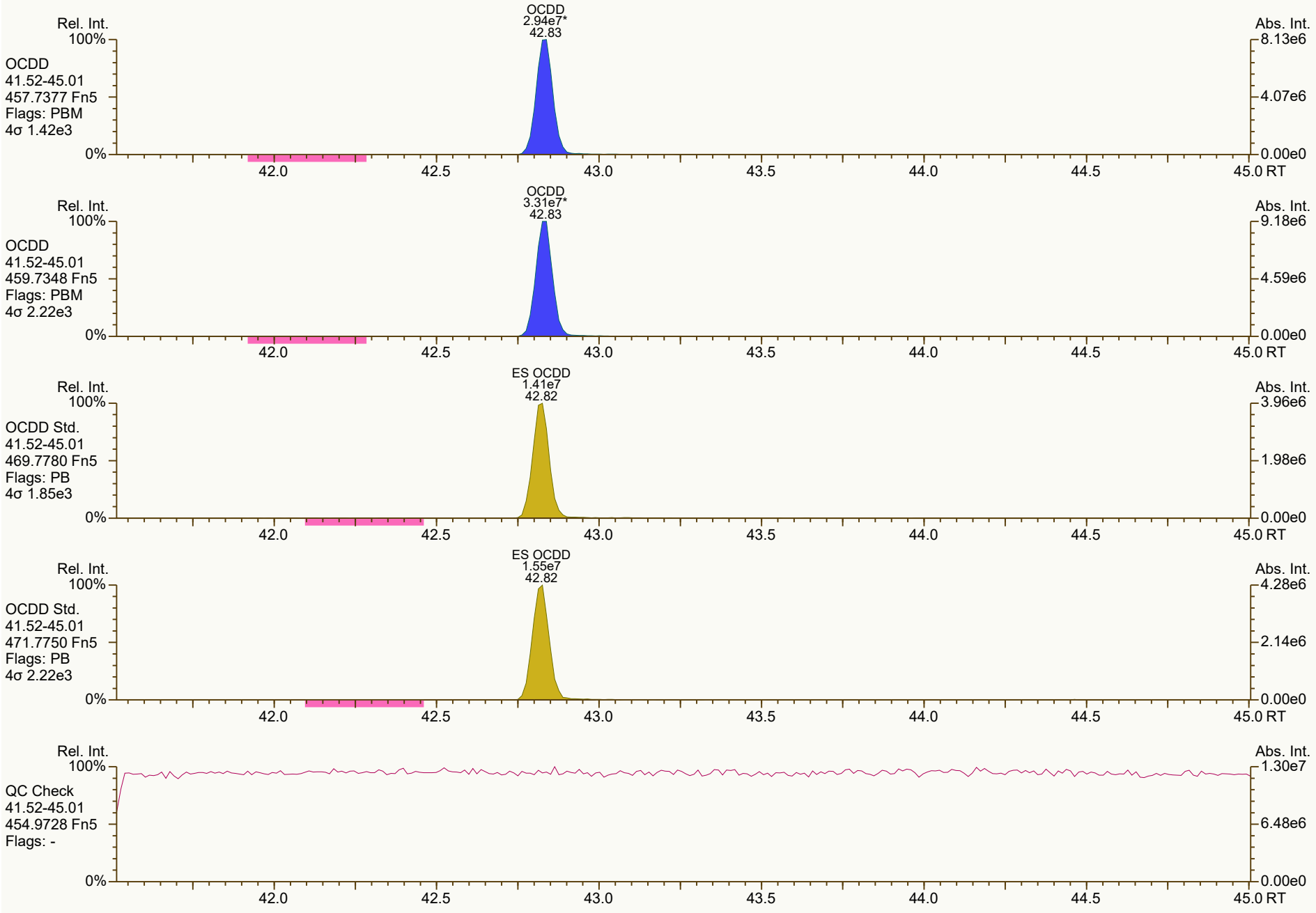

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
9.00e6
4.50e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
7.11e6
3.55e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
1.87e7
9.36e6
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.18e7
5.88e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.30e7
6.48e6
0.00e0
RT


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
0%
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
0%
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

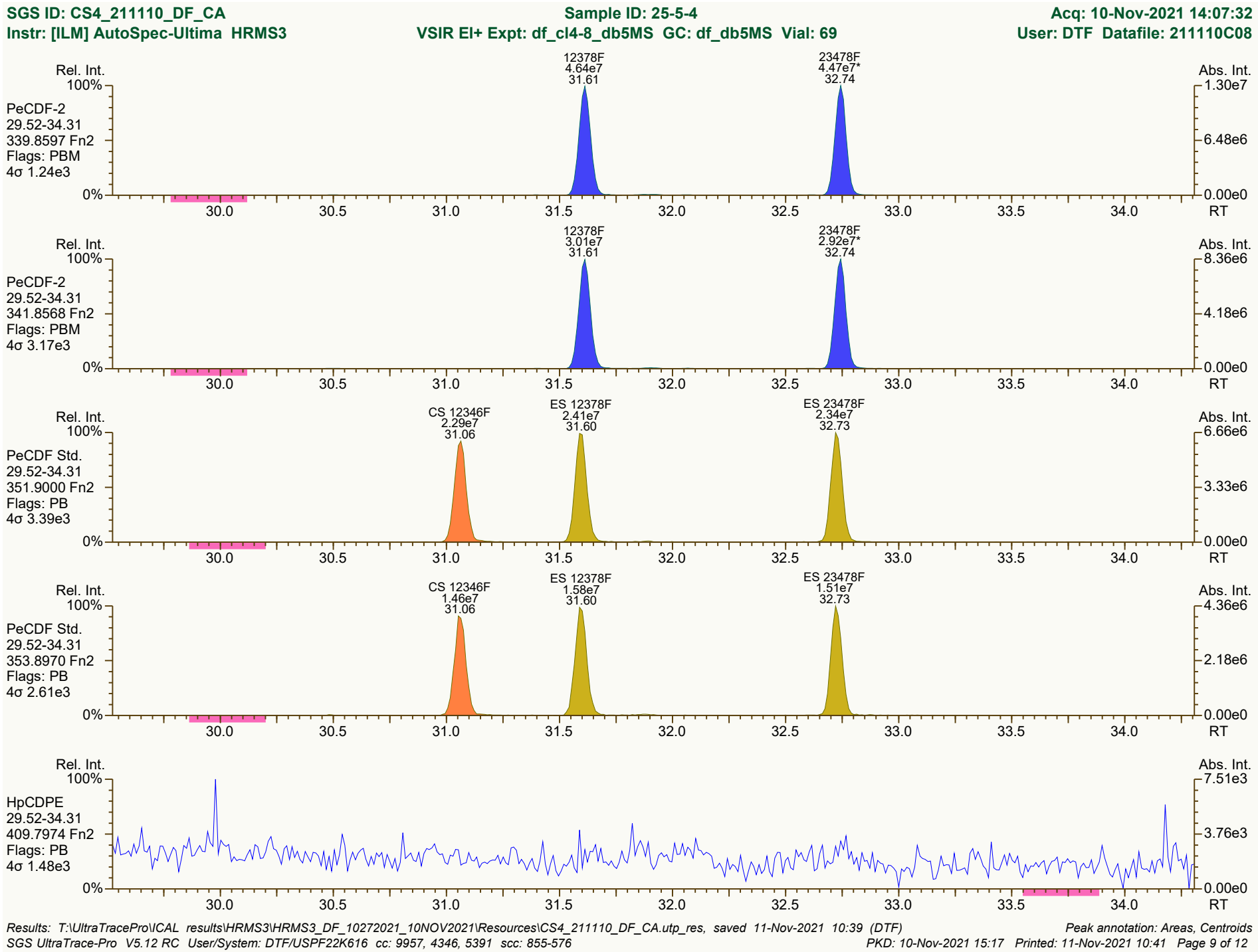

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

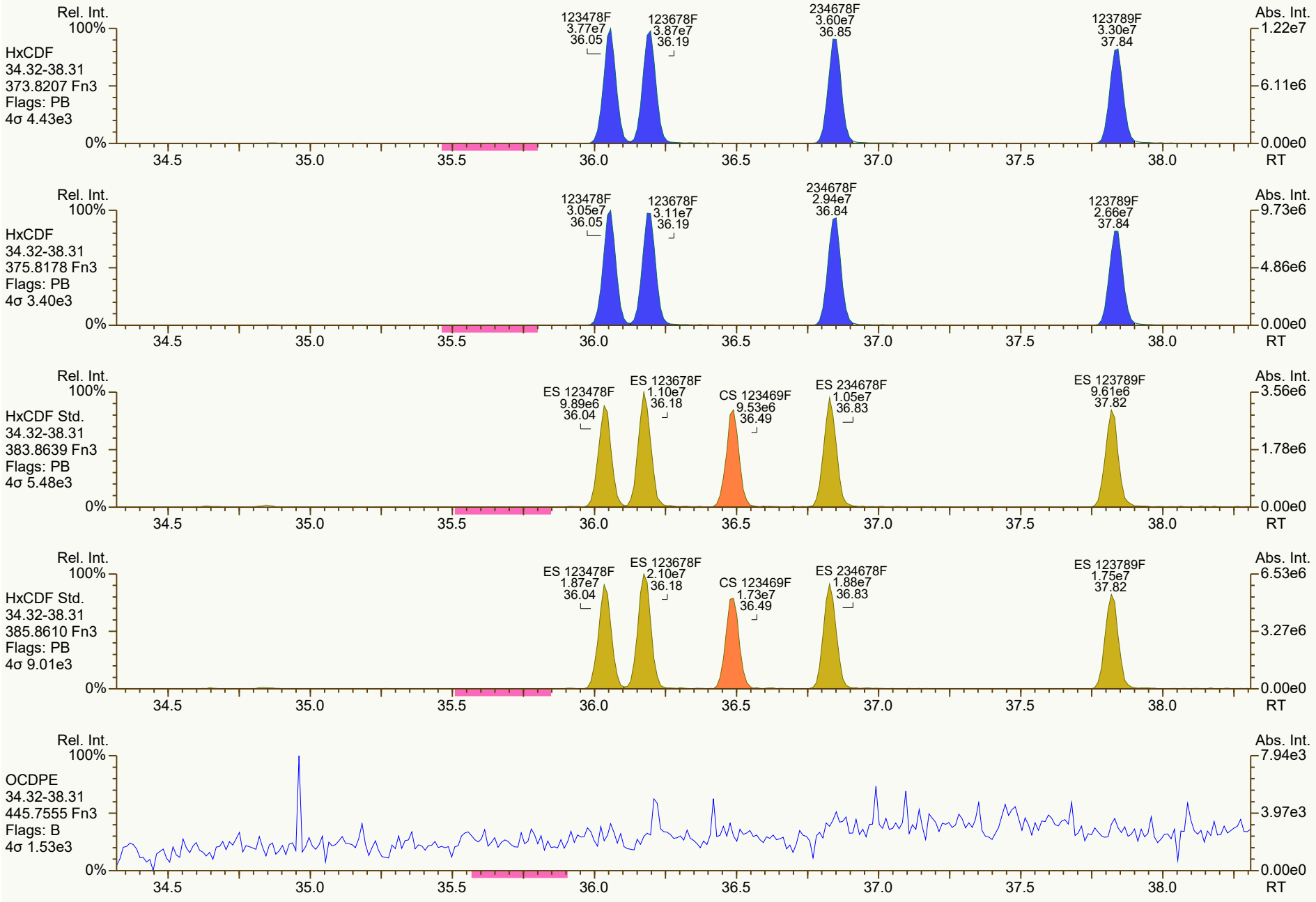

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

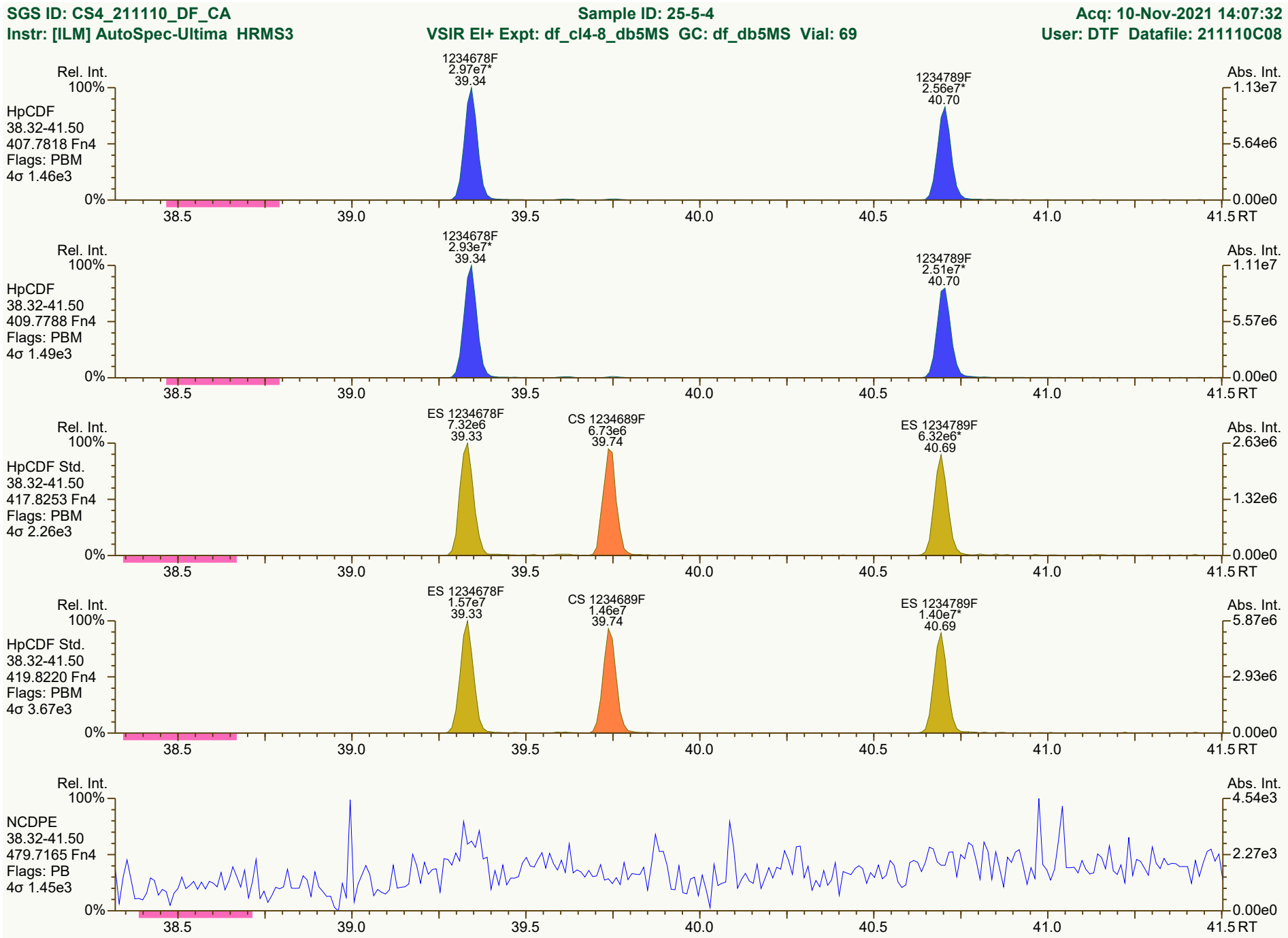

OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
8.94e3
4.47e3
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
9.00e6
4.50e6

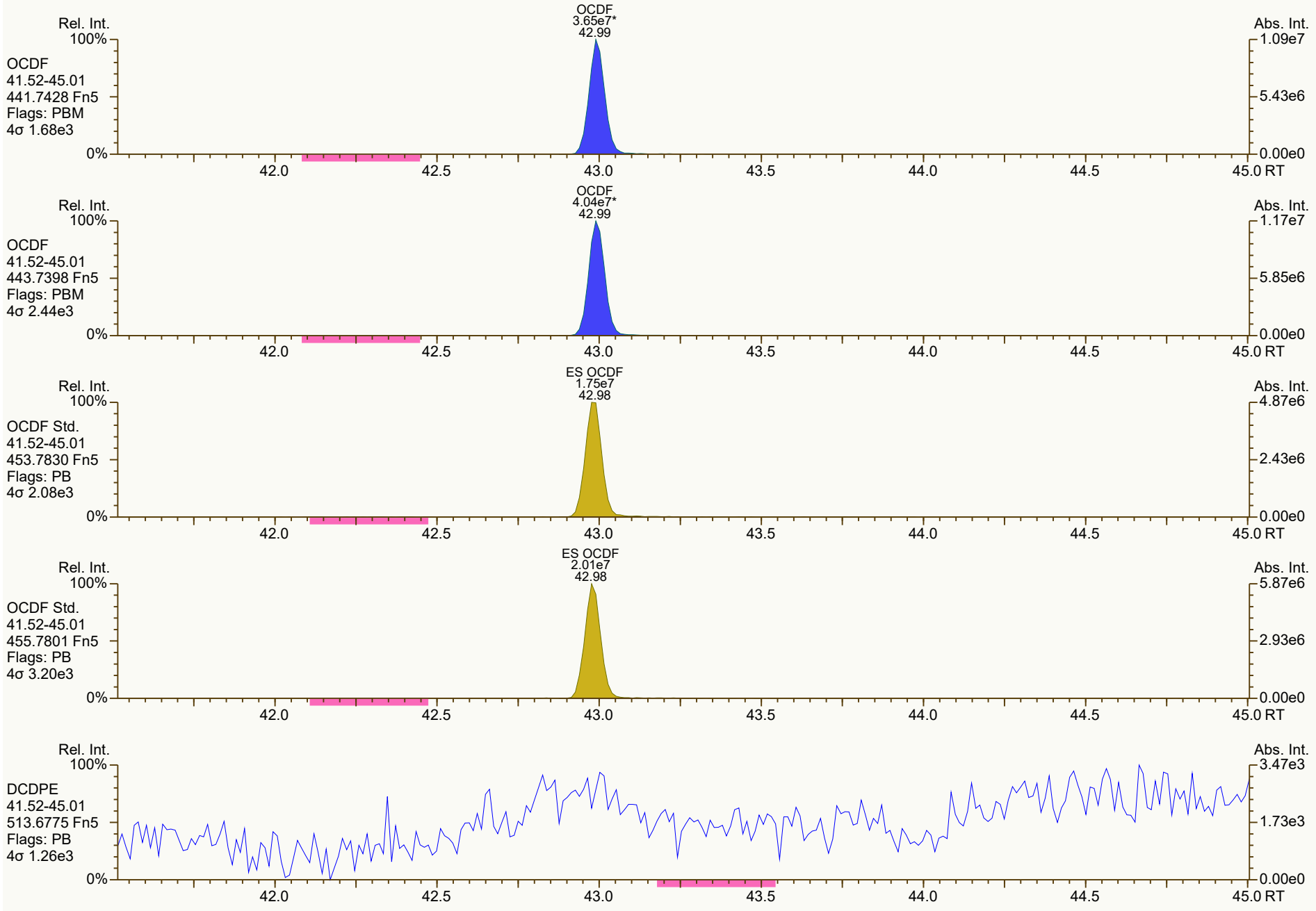

SGS ID: CS4_211110_DF_CA
Sample ID: 25-5-4
Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 211110C08
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
1.30e7
6.48e6
0.00e0
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
8.36e6
4.18e6
0.00e0
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
6.66e6
3.33e6
0.00e0
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
4.36e6
2.18e6
0.00e0
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
7.51e3
3.76e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9957, 4346, 5391 scc: 855-576
PKD: 10-Nov-2021 15:17 Printed: 11-Nov-2021 10:41 Page 9 of 12


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
0%
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
Abs. Int.
9.73e6
4.86e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
0%
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
Abs. Int.
3.56e6
1.78e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
0%
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
Abs. Int.
6.53e6
3.27e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
0%
Abs. Int.
7.94e3
3.97e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*

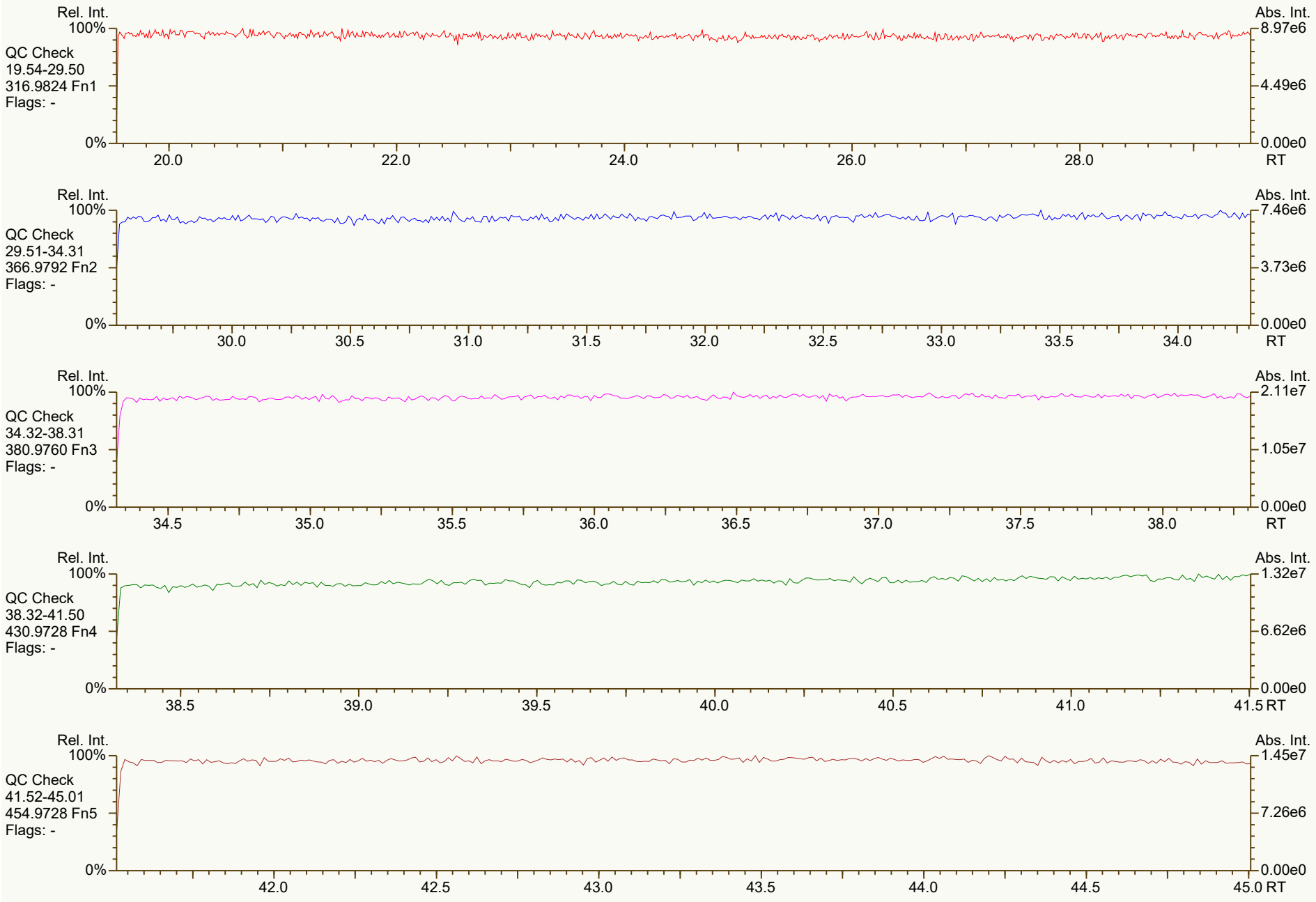
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 2764, 9565, 4492 scc: 855-576 *Revised: 10-Nov-2021 15:17 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12*

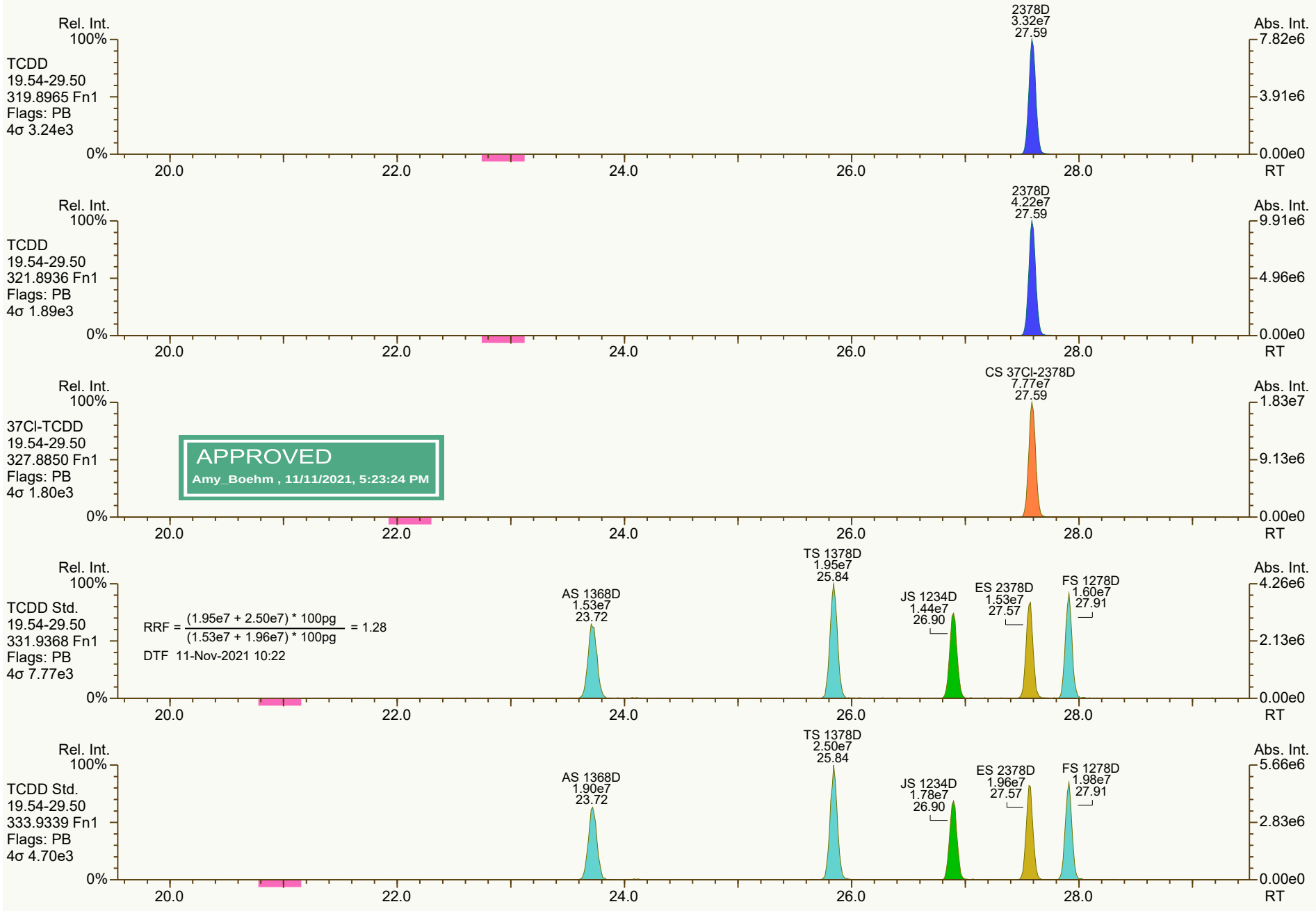

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
OCDF
3.65e7*
42.99
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
OCDF
4.04e7*
42.99
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
ES OCDF
1.75e7
42.98
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
ES OCDF
2.01e7
42.98
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

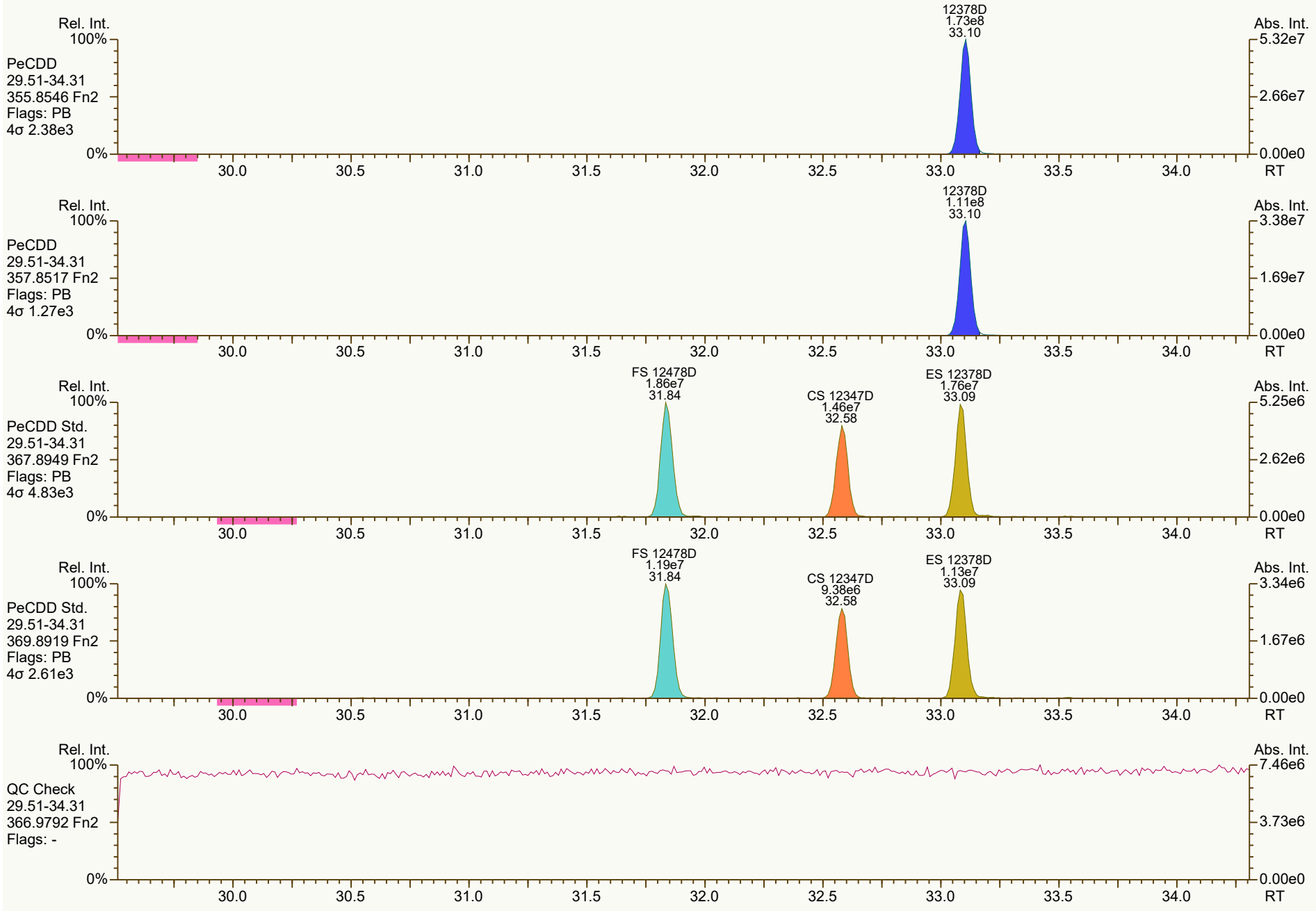
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:53 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS5_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 573-489-BMZ	
Sample ID: 25-5-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C09	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

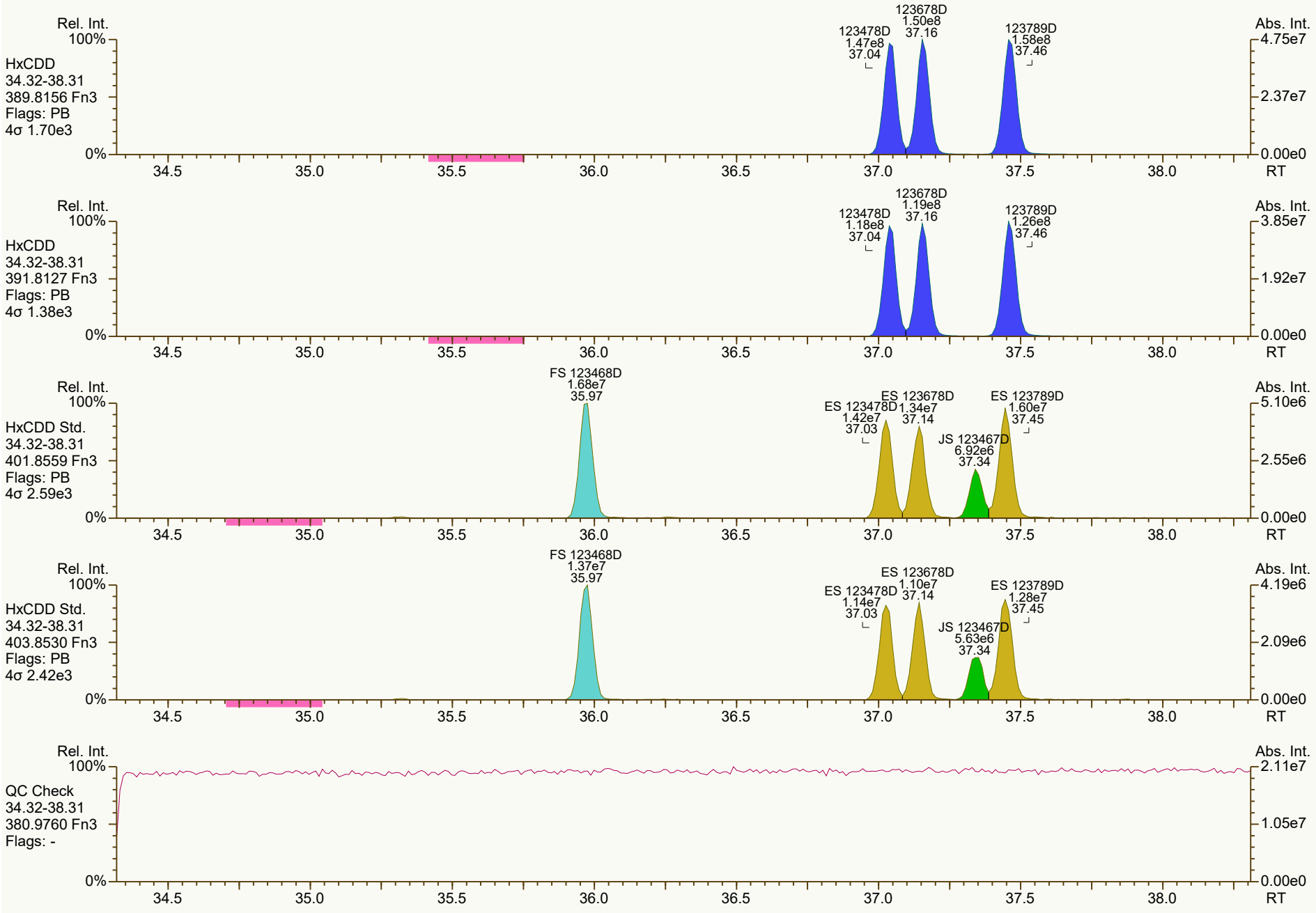
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

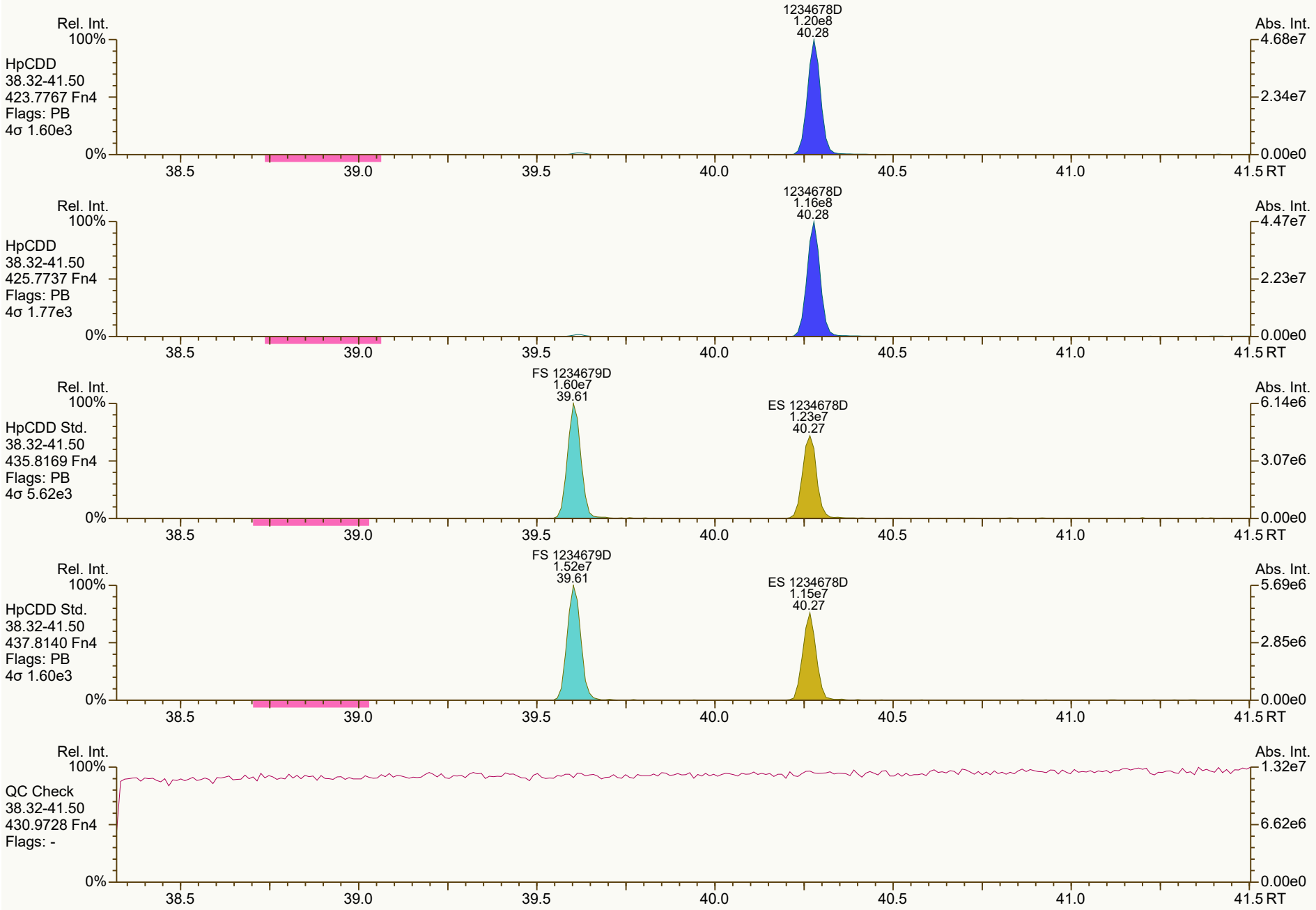
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%


Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.11e7
1.05e7
0.00e0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.32e7
6.62e6
0.00e0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
0%
Abs. Int.
1.45e7
7.26e6
0.00e0
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
0%
2378D
4.22e7
27.59
Abs. Int.
9.91e6
4.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
Abs. Int.
1.83e7
9.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
0%
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
Abs. Int.
4.26e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
0%
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
Abs. Int.
5.66e6
2.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
0%
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
0%
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
0%
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
0%
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

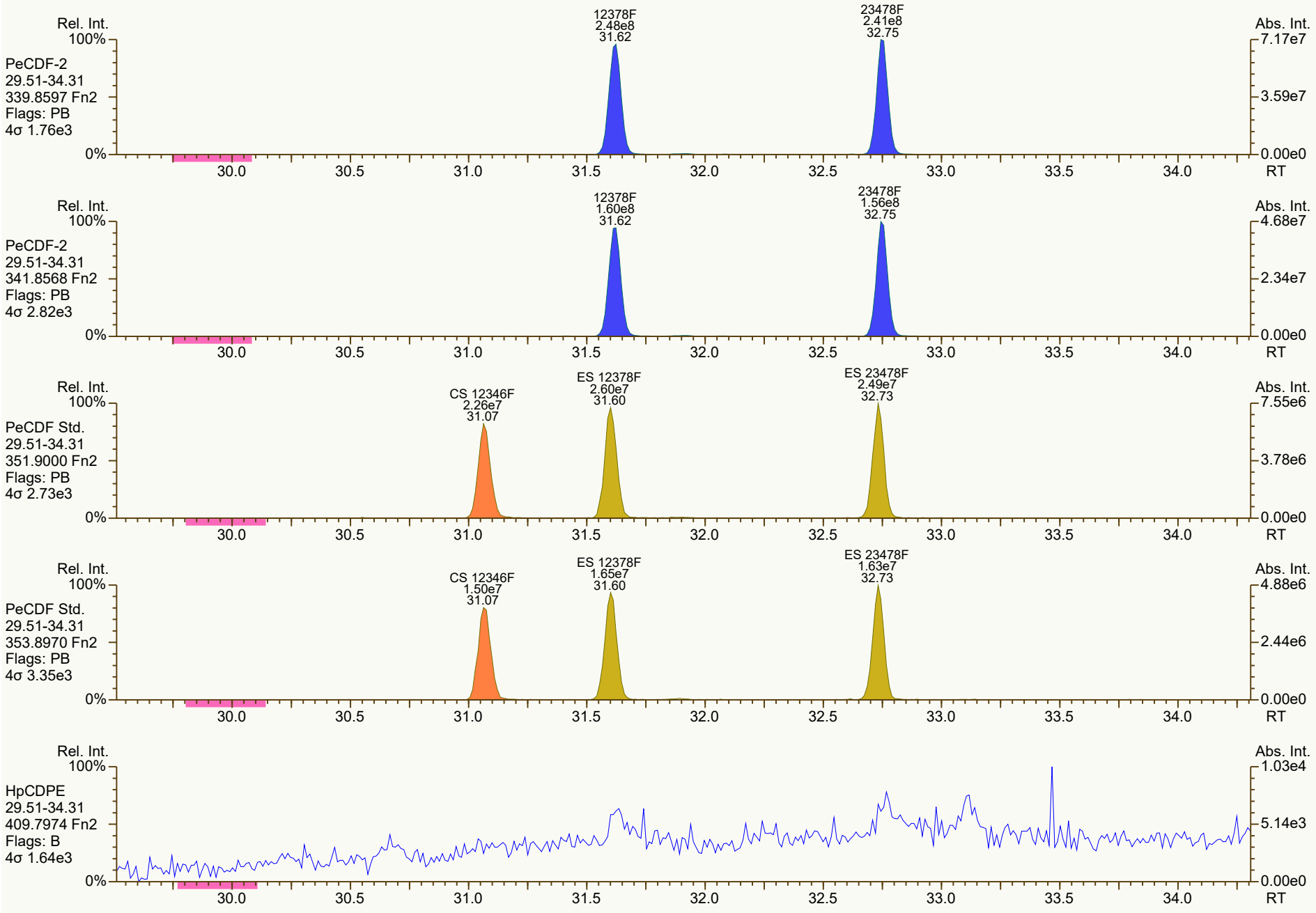

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

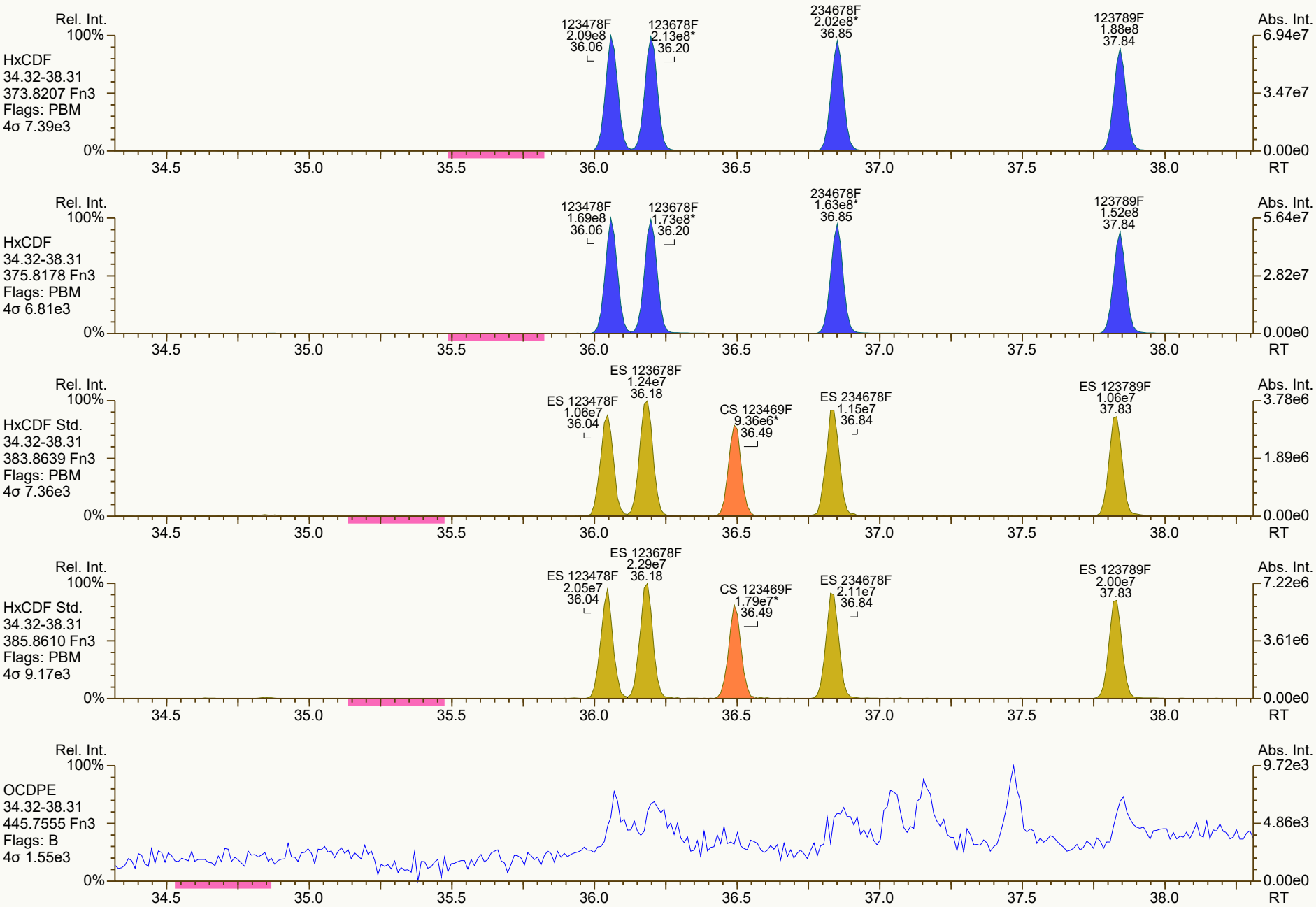

Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
Abs. Int.
1.03e4
5.14e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

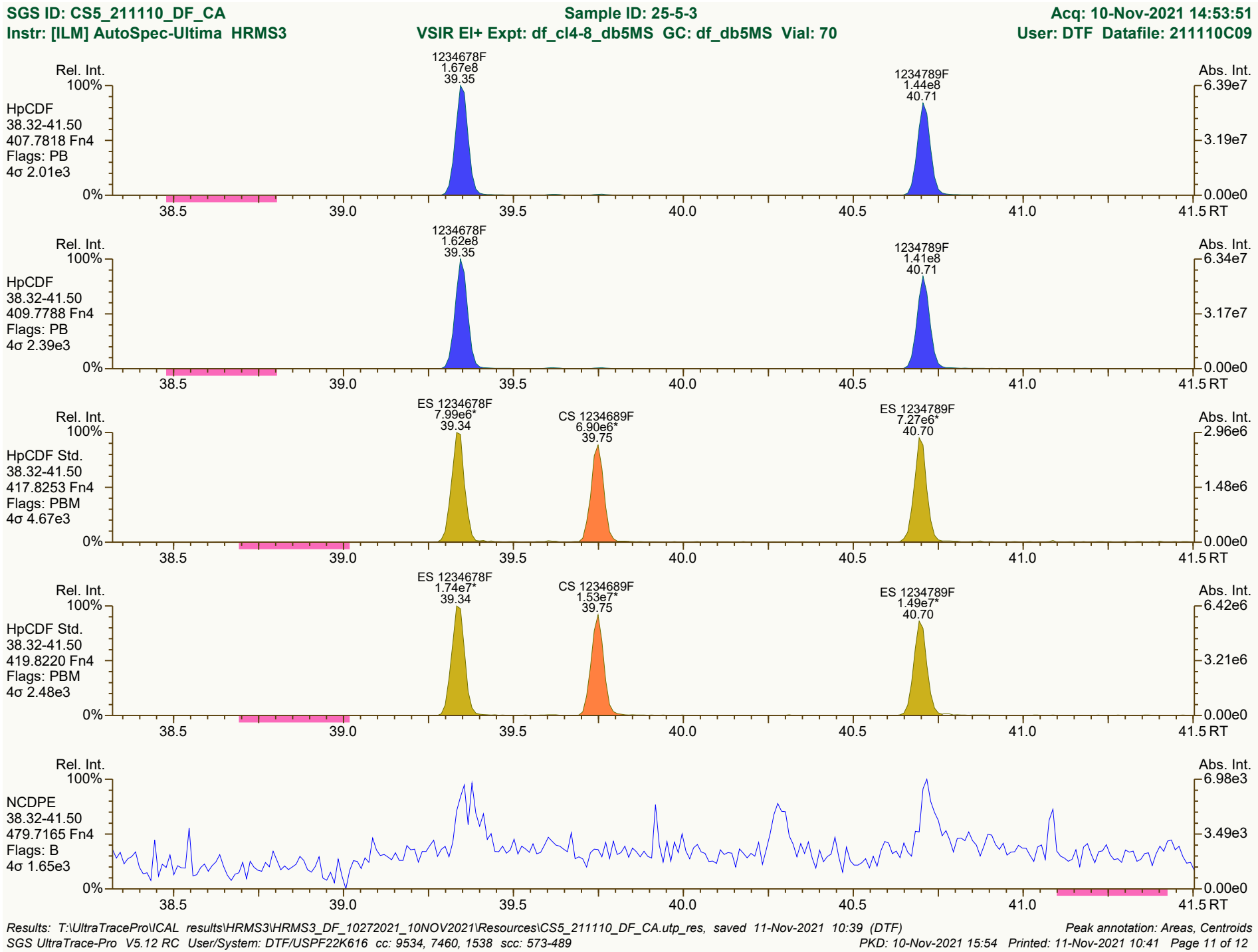
SGS ID: CS5_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

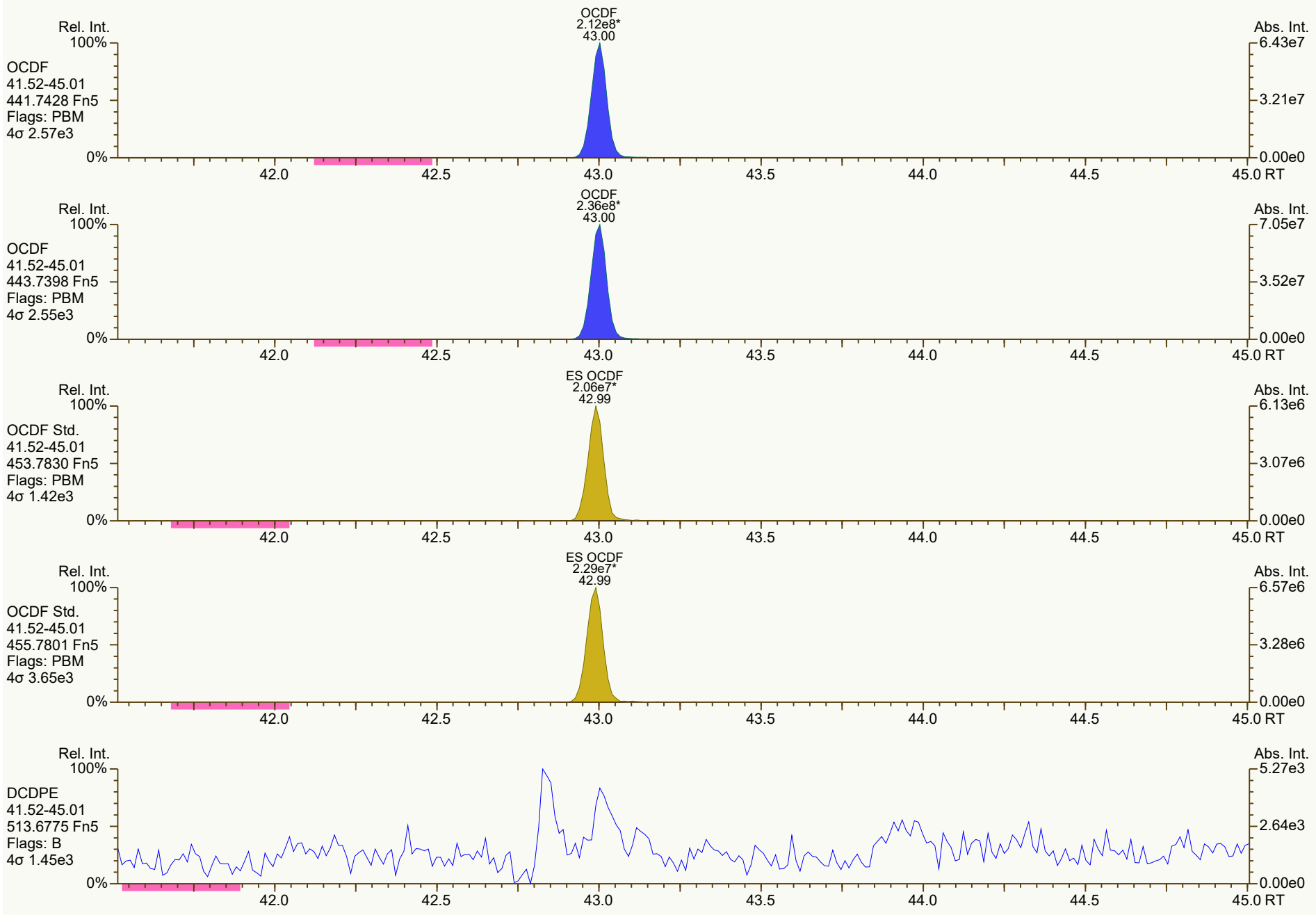
Sample ID: 25-5-3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70

Acq: 10-Nov-2021 14:53:51
User: DTF Datafile: 211110C09



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 7902, 6877, 1014 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 10 of 12

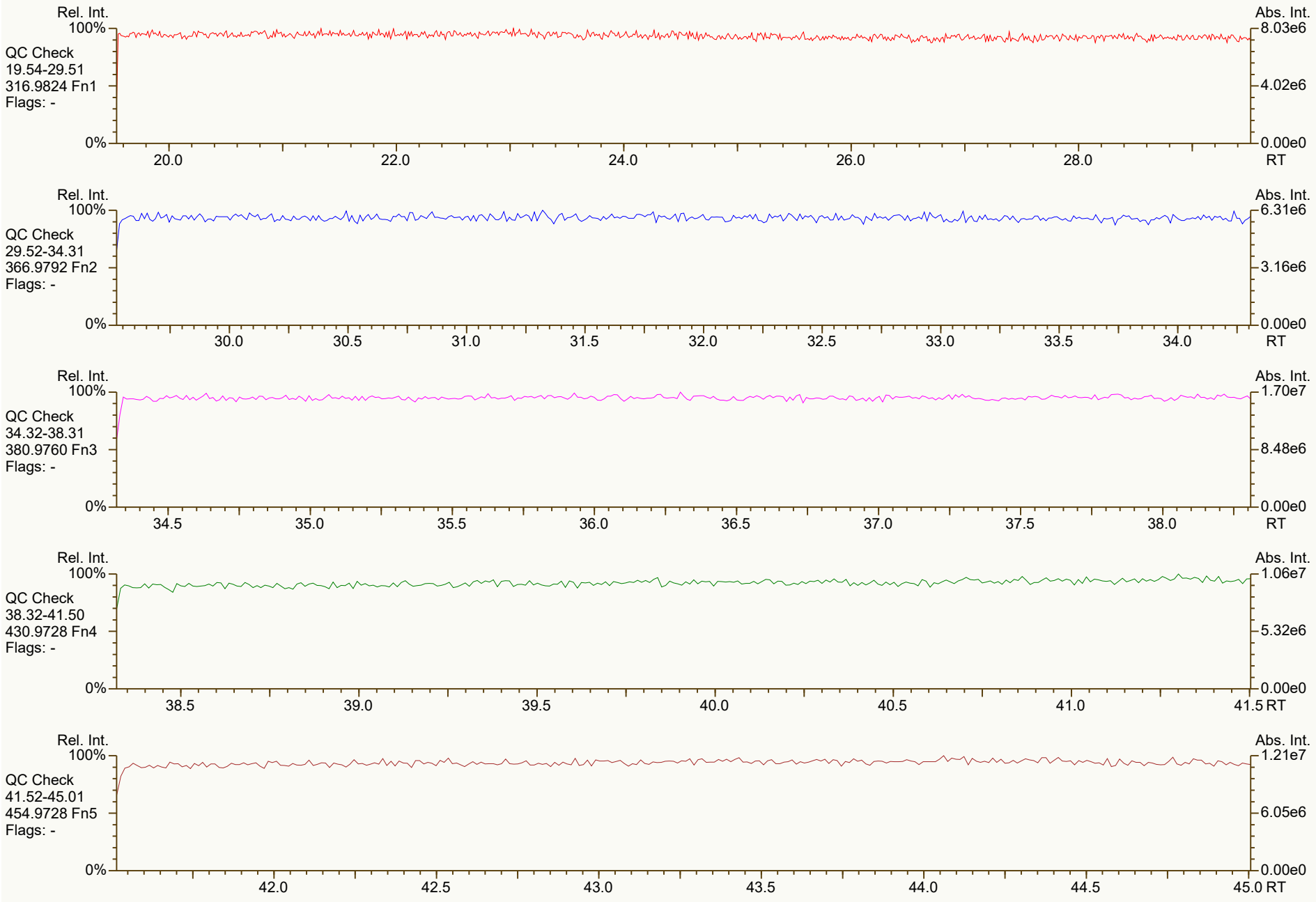

SGS ID: CS5_211110_DF_CA
Sample ID: 25-5-3
Acq: 10-Nov-2021 14:53:51
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 211110C09
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9534, 7460, 1538 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 11 of 12

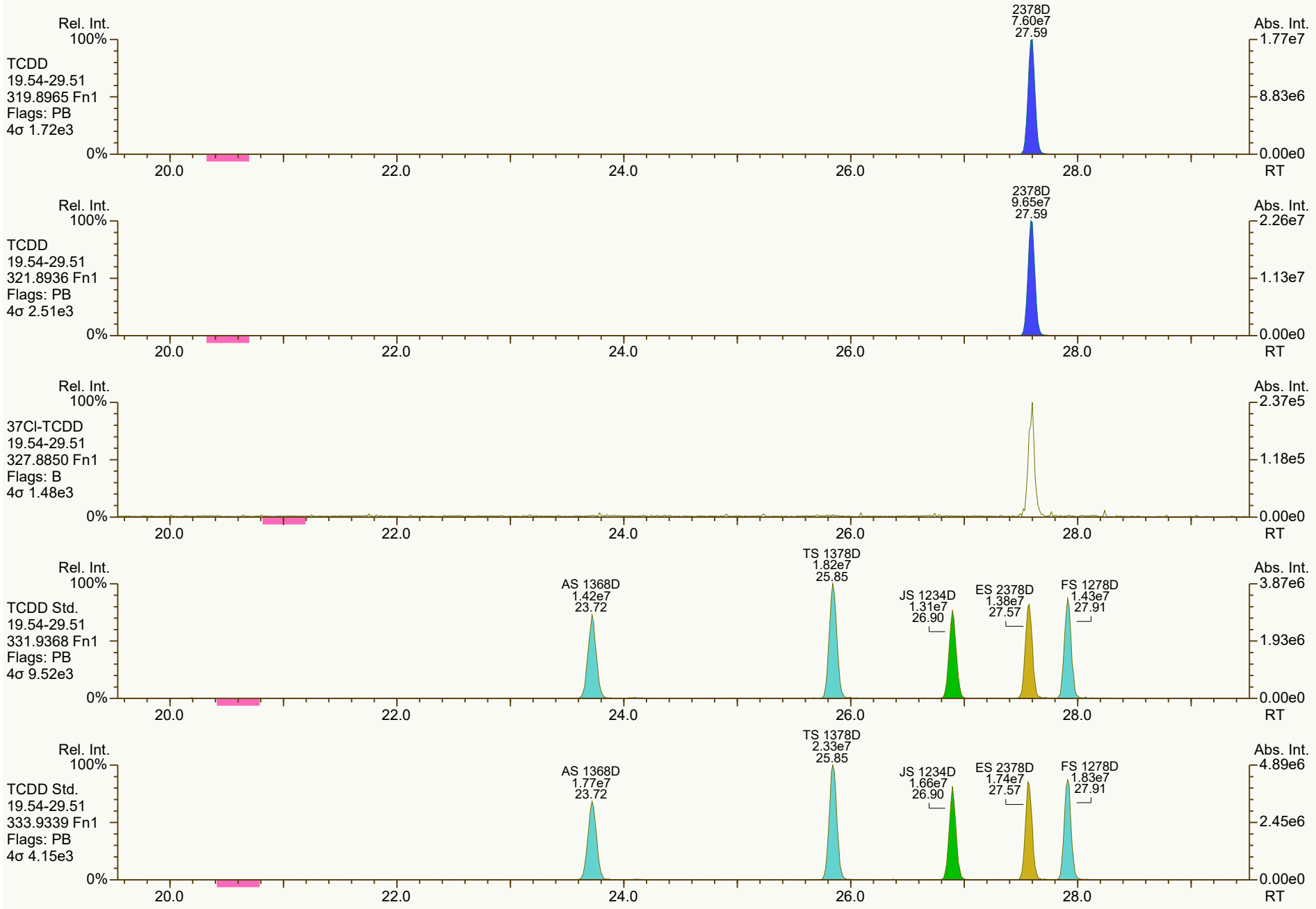

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

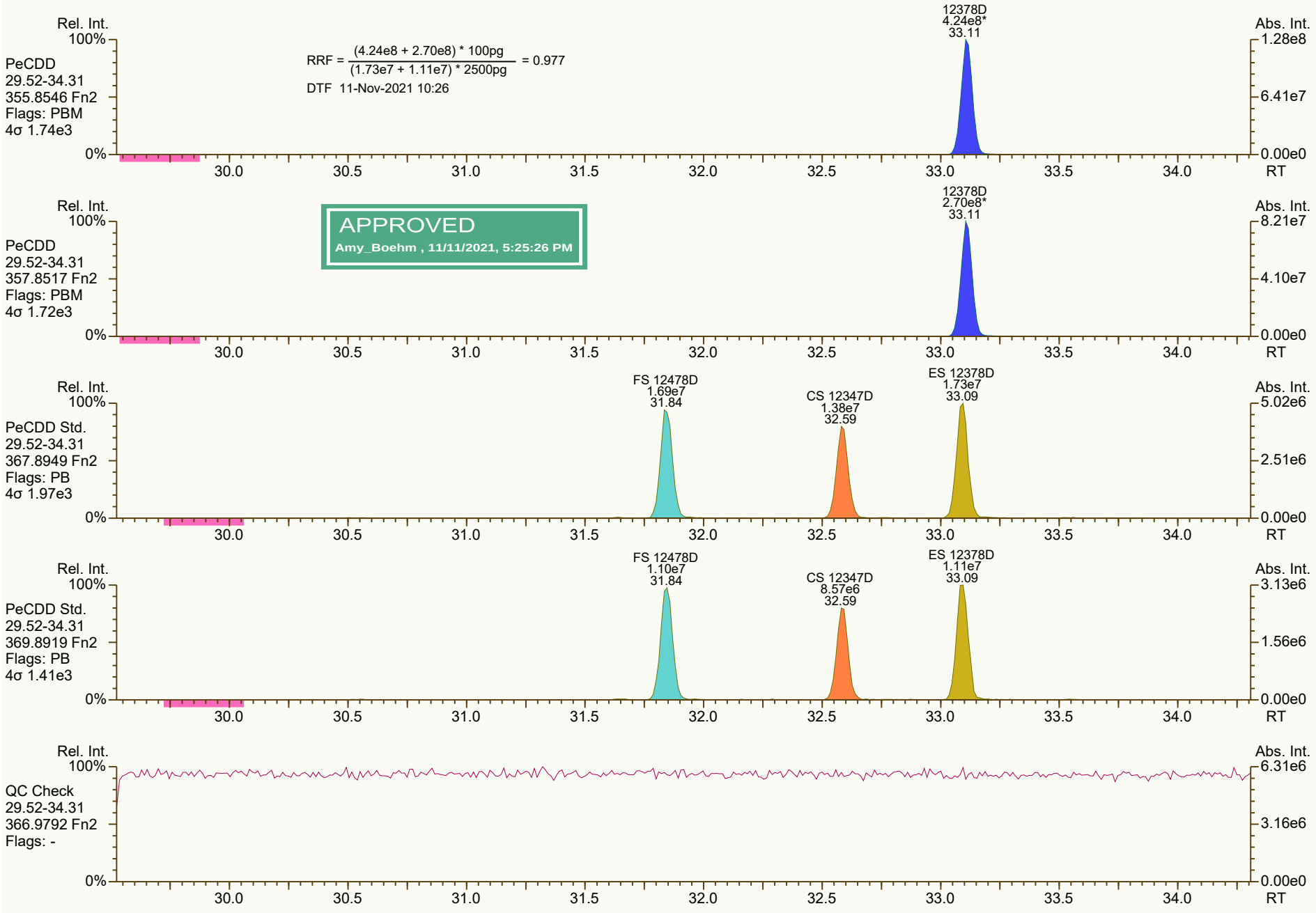
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

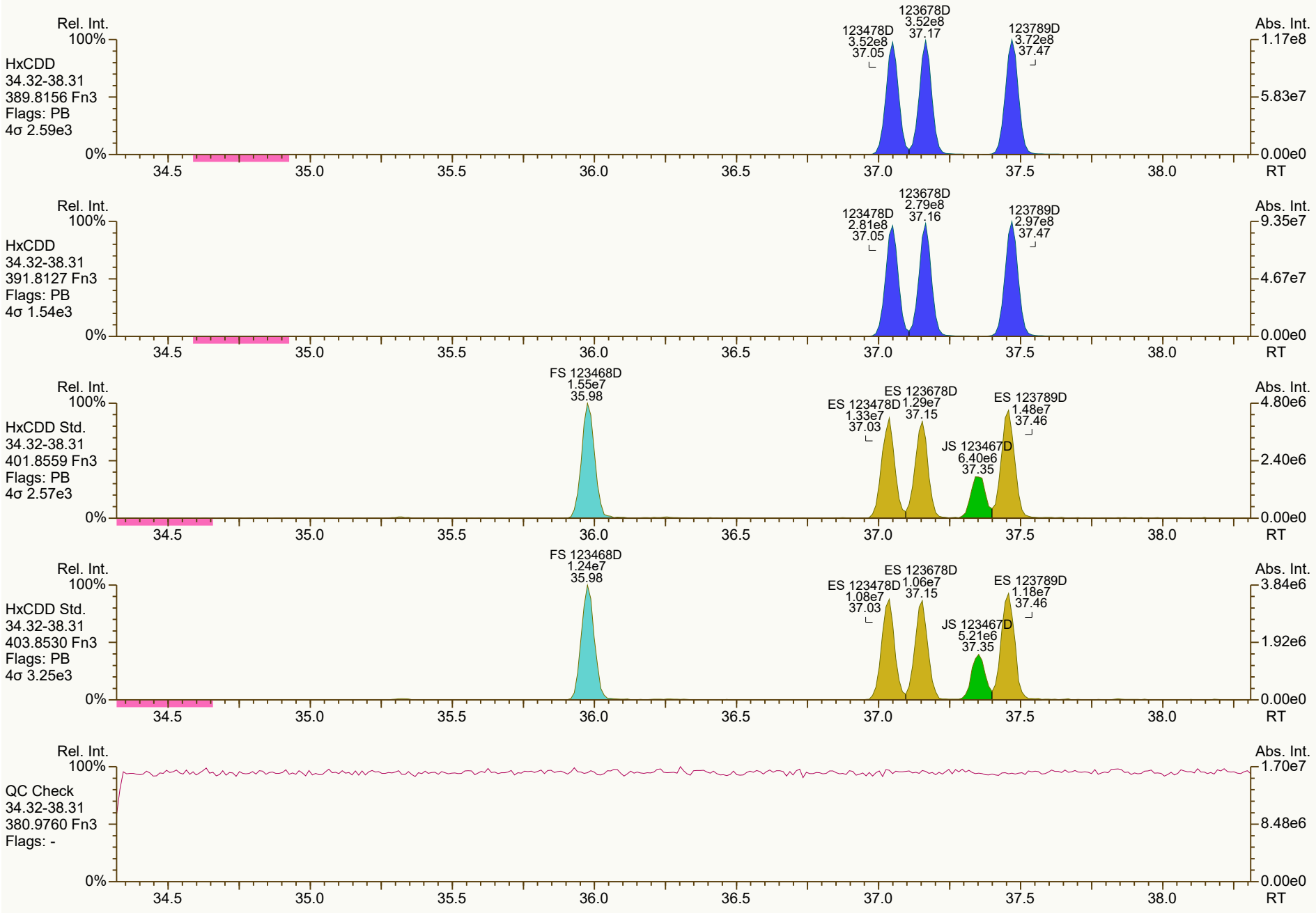
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

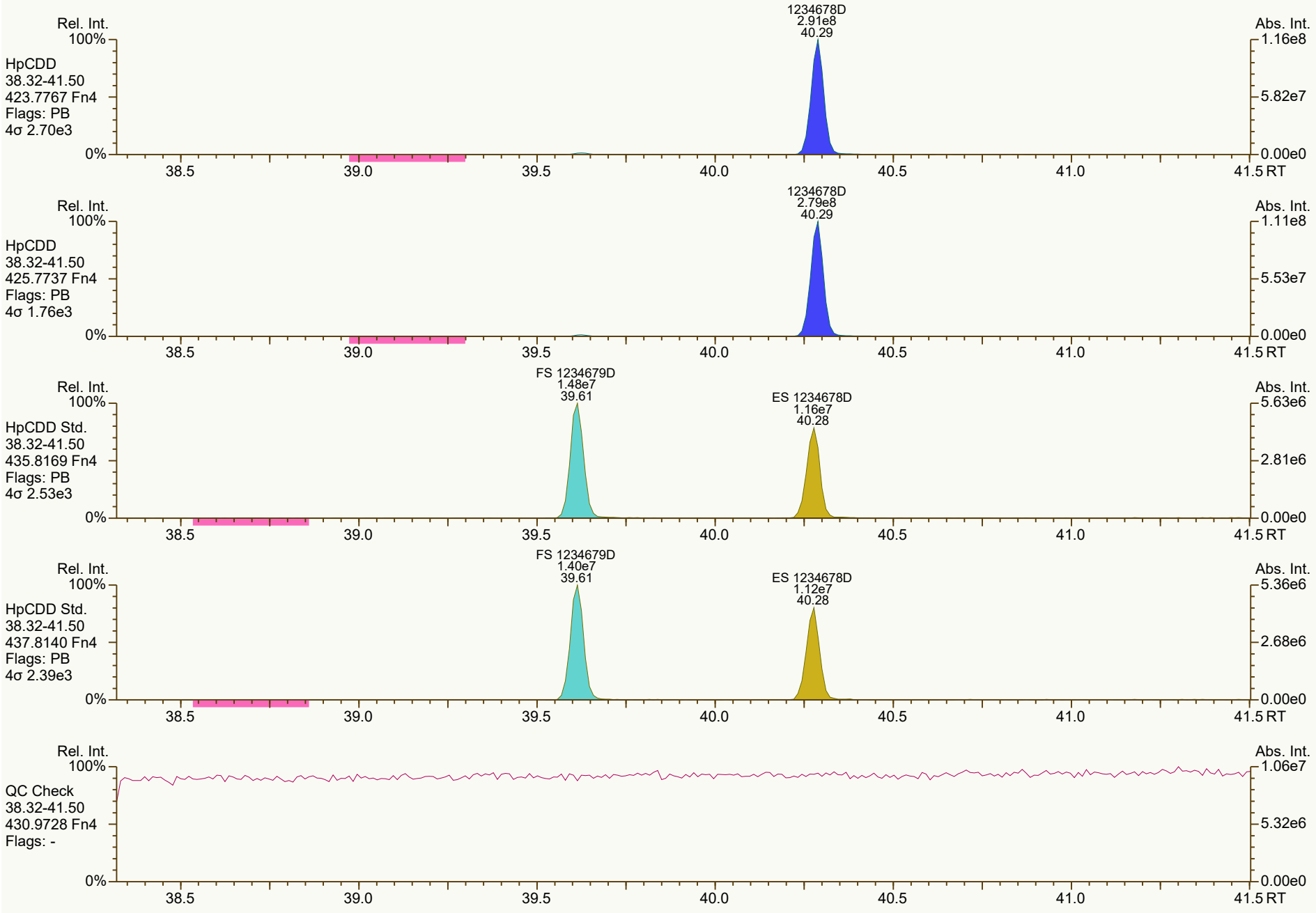
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 15:40 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS6_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 172-736-WQL	
Sample ID: 25-5-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C10	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

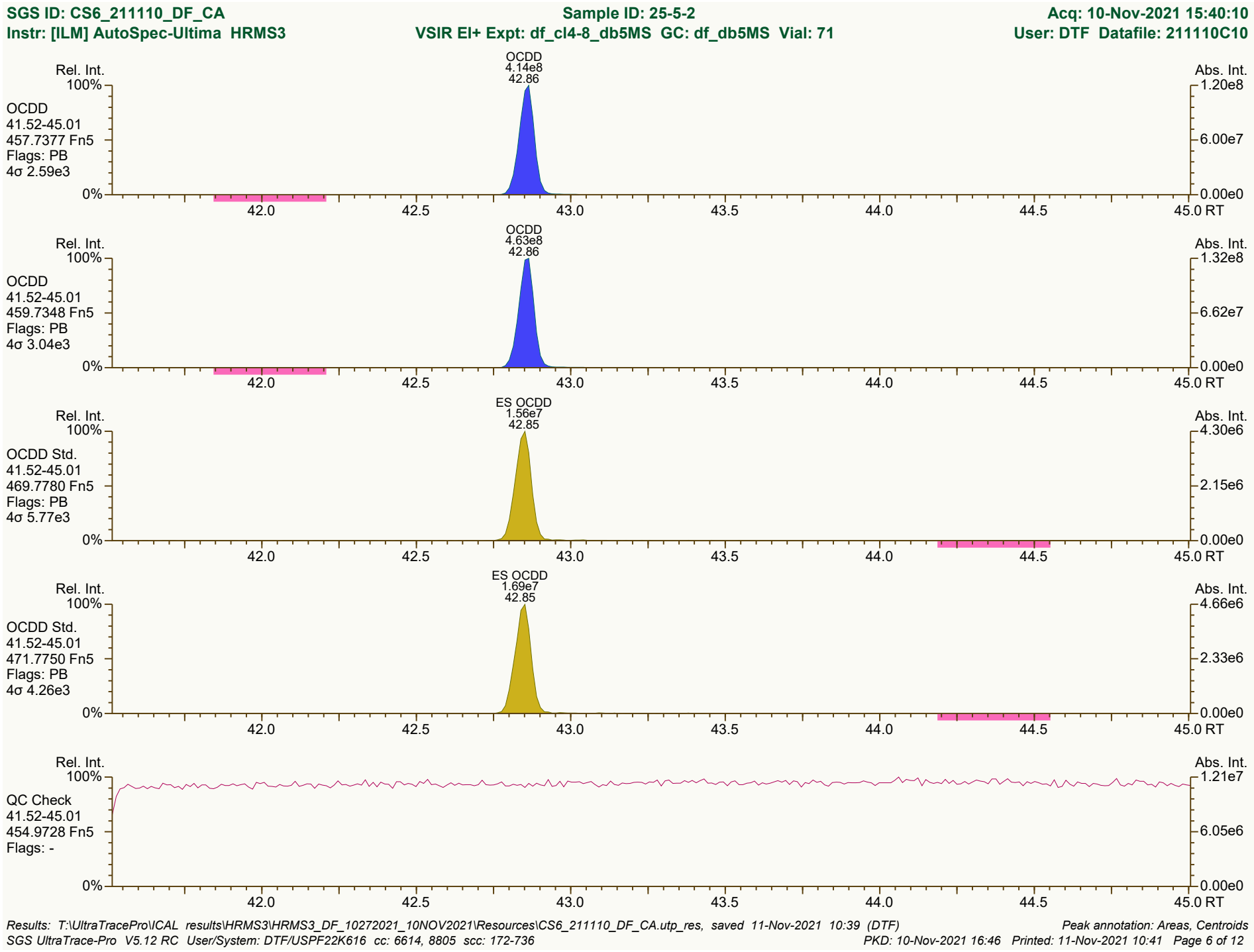

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
6.31e6
3.16e6
0.00e0

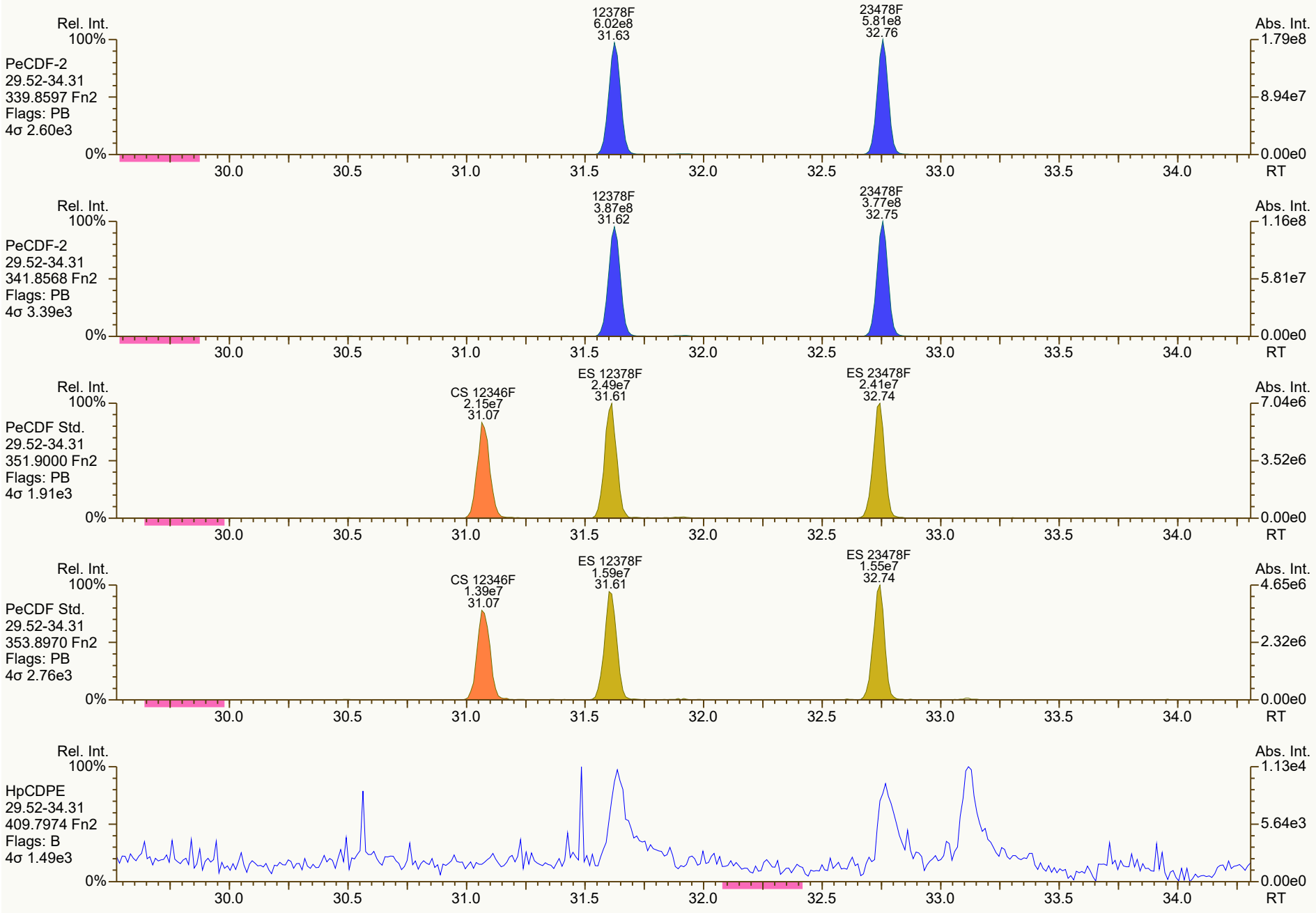

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.70e7
8.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

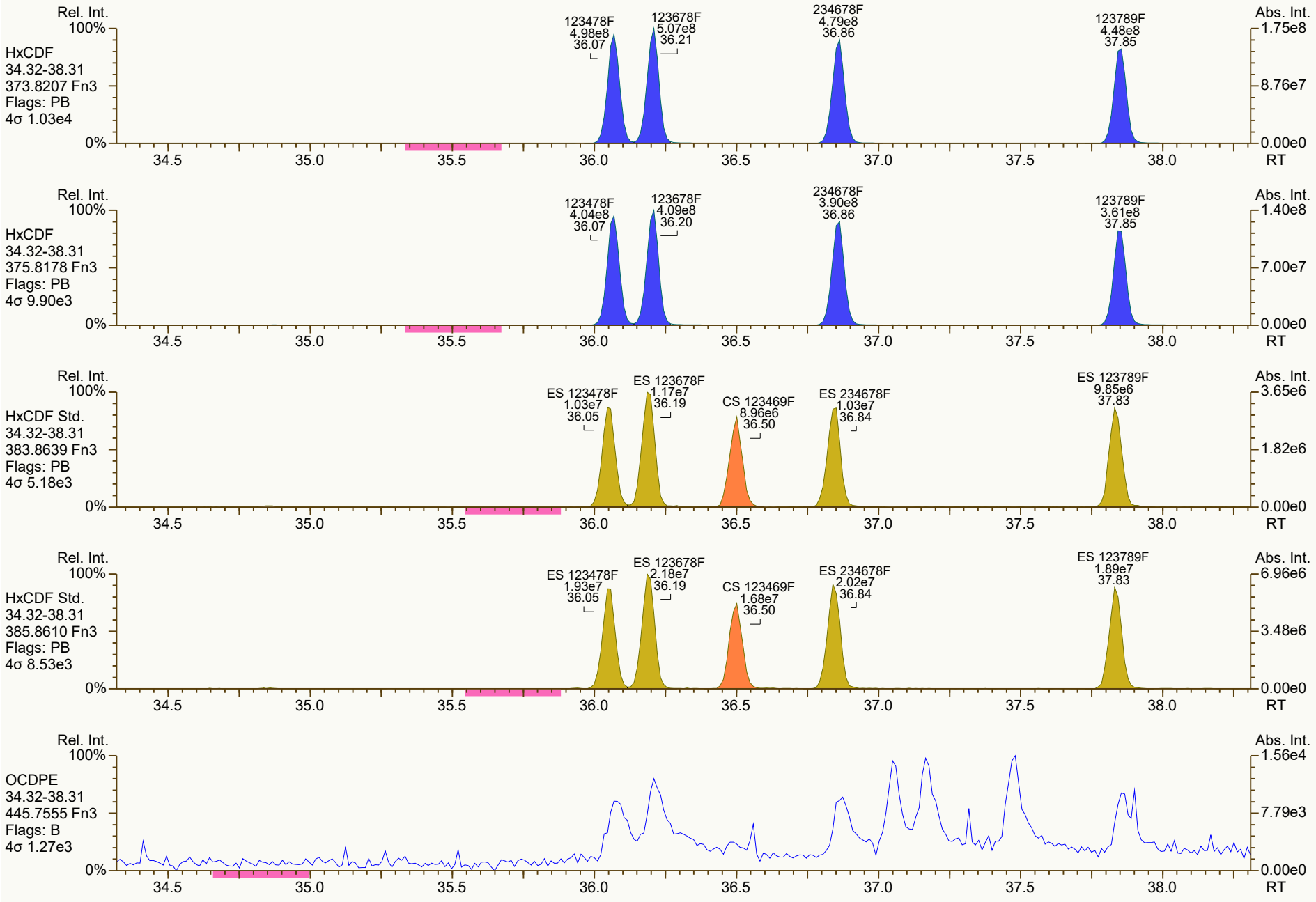

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

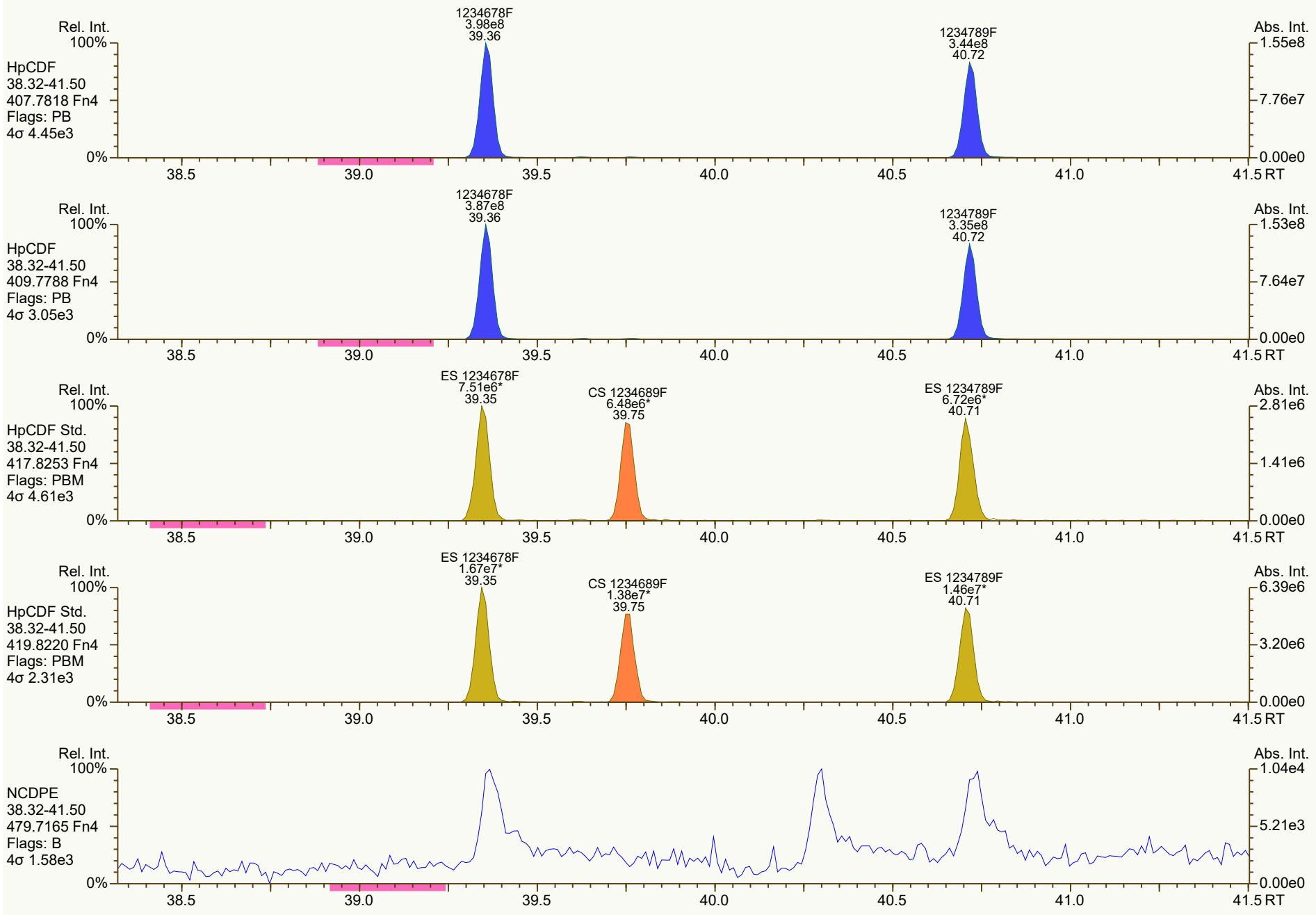

SGS ID: CS6_211110_DF_CA
Sample ID: 25-5-2
Acq: 10-Nov-2021 15:40:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 211110C10
Rel. Int.
Abs. Int.
OCDD
4.14e8
42.86
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
1.20e8
6.00e7
0.00e0
OCDD
4.63e8
42.86
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
1.32e8
6.62e7
ES OCDD
1.56e7
42.85
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
4.30e6
2.15e6
ES OCDD
1.69e7
42.85
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
4.66e6
2.33e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.21e7
6.05e6
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS6_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6614, 8805 scc: 172-736
PKD: 10-Nov-2021 16:46 Printed: 11-Nov-2021 10:41 Page 6 of 12

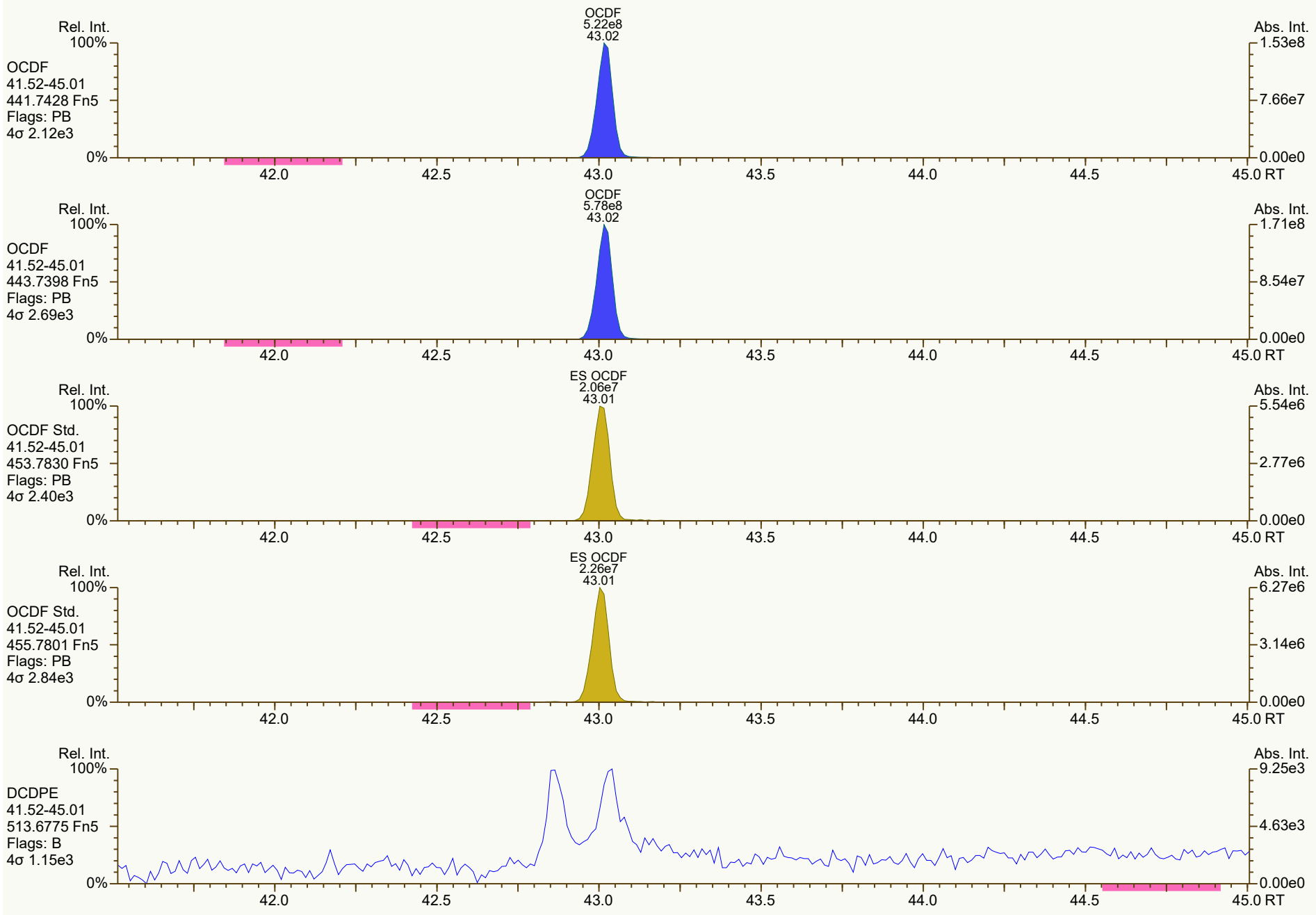

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

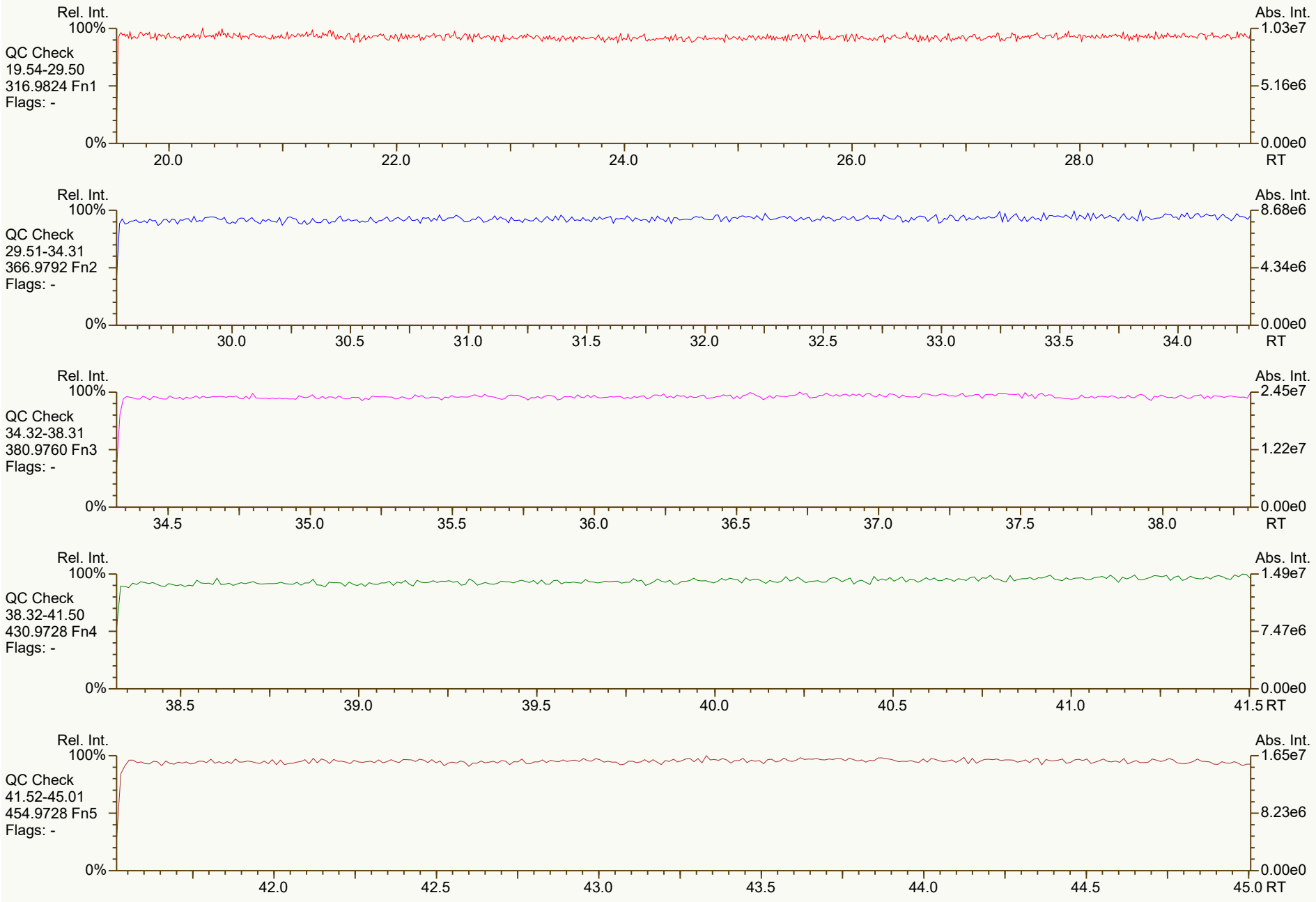

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
Abs. Int.
1.13e4
5.64e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

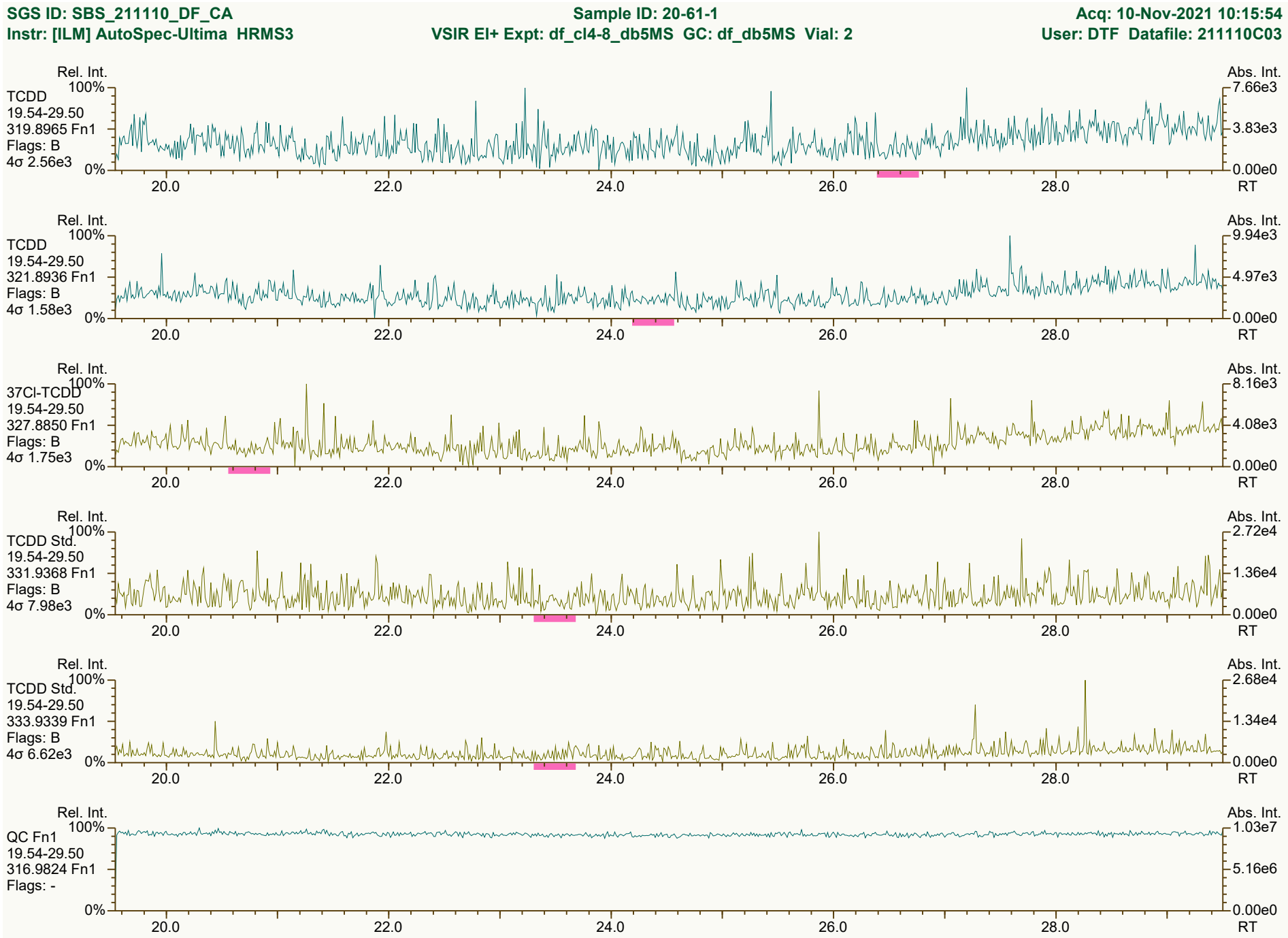

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
1.03e7
5.16e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
8.68e6
4.34e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
2.45e7
1.22e7
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.49e7
7.47e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.65e7
8.23e6
0.00e0
RT

SGS ID: SBS_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

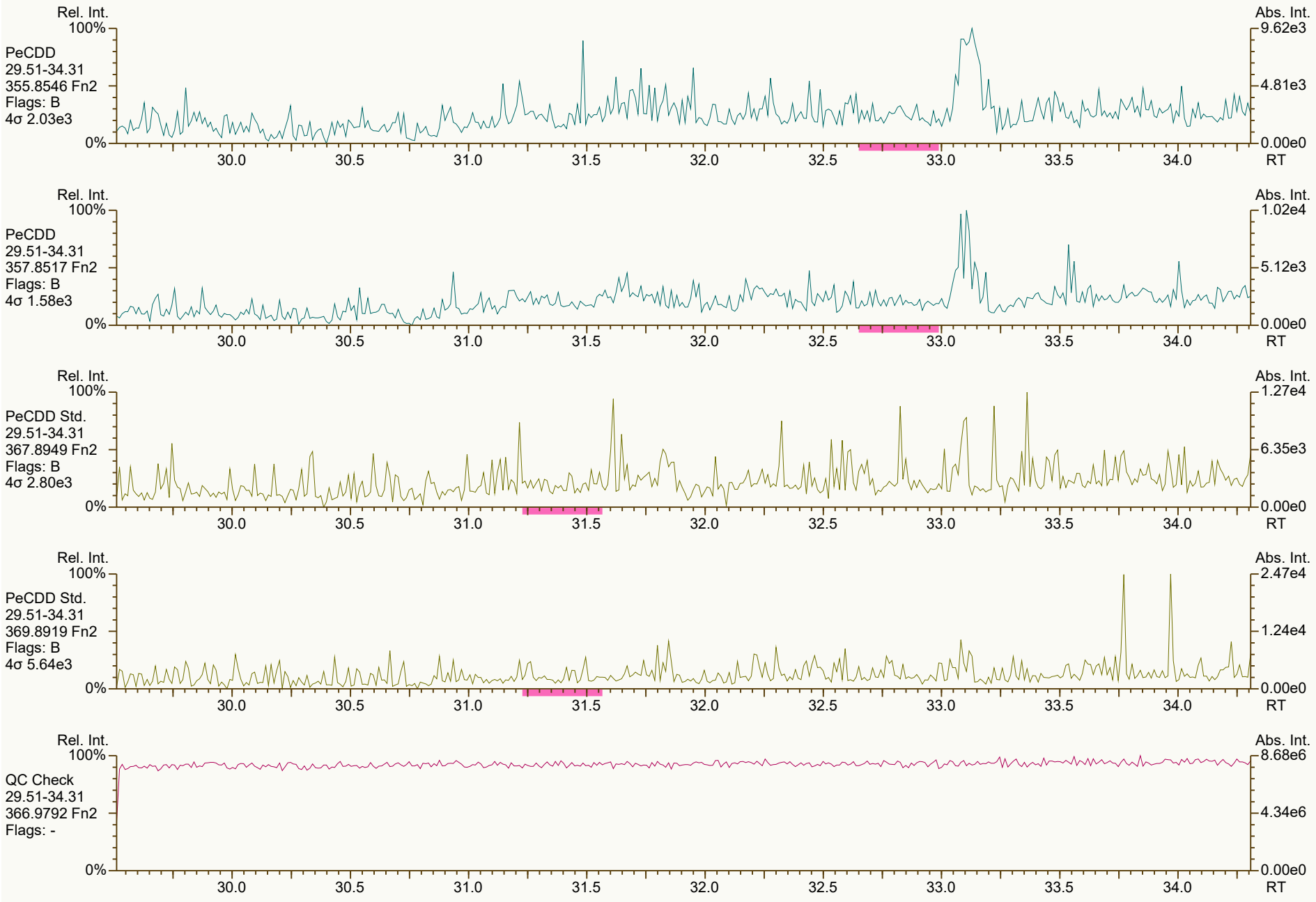
Sample ID: 20-61-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2

Acq: 10-Nov-2021 10:15:54
User: DTF Datafile: 211110C03



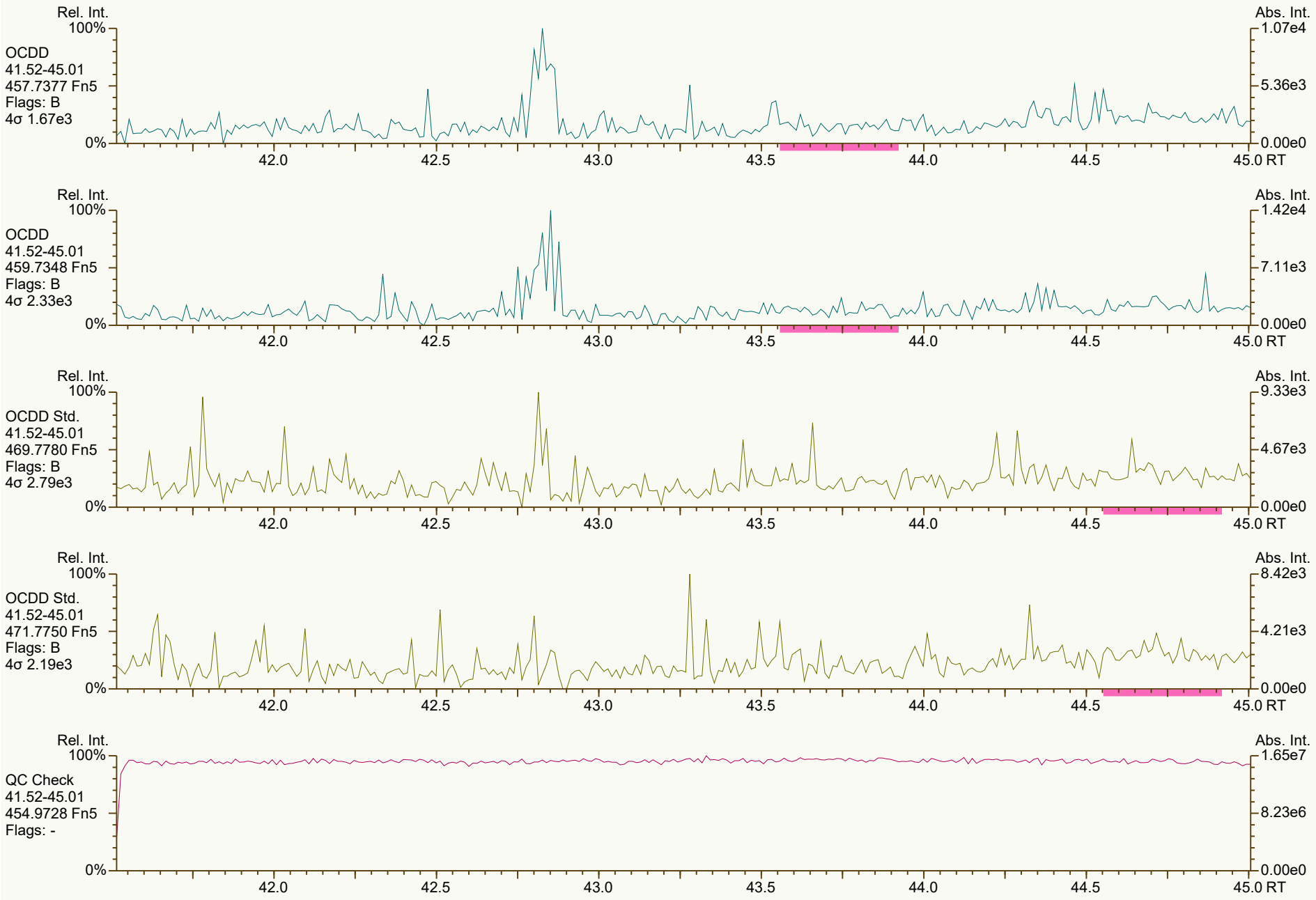
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647
PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

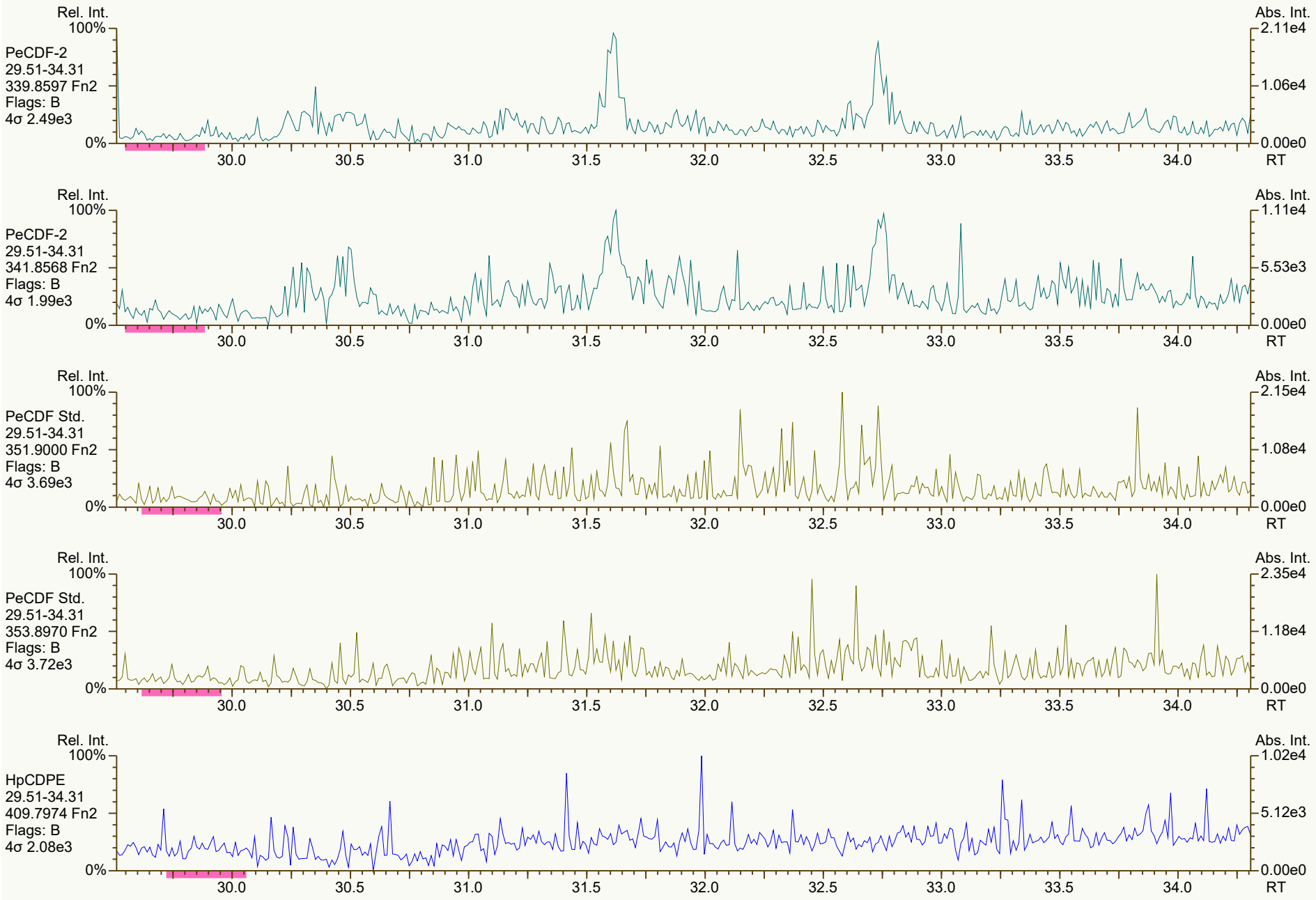

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

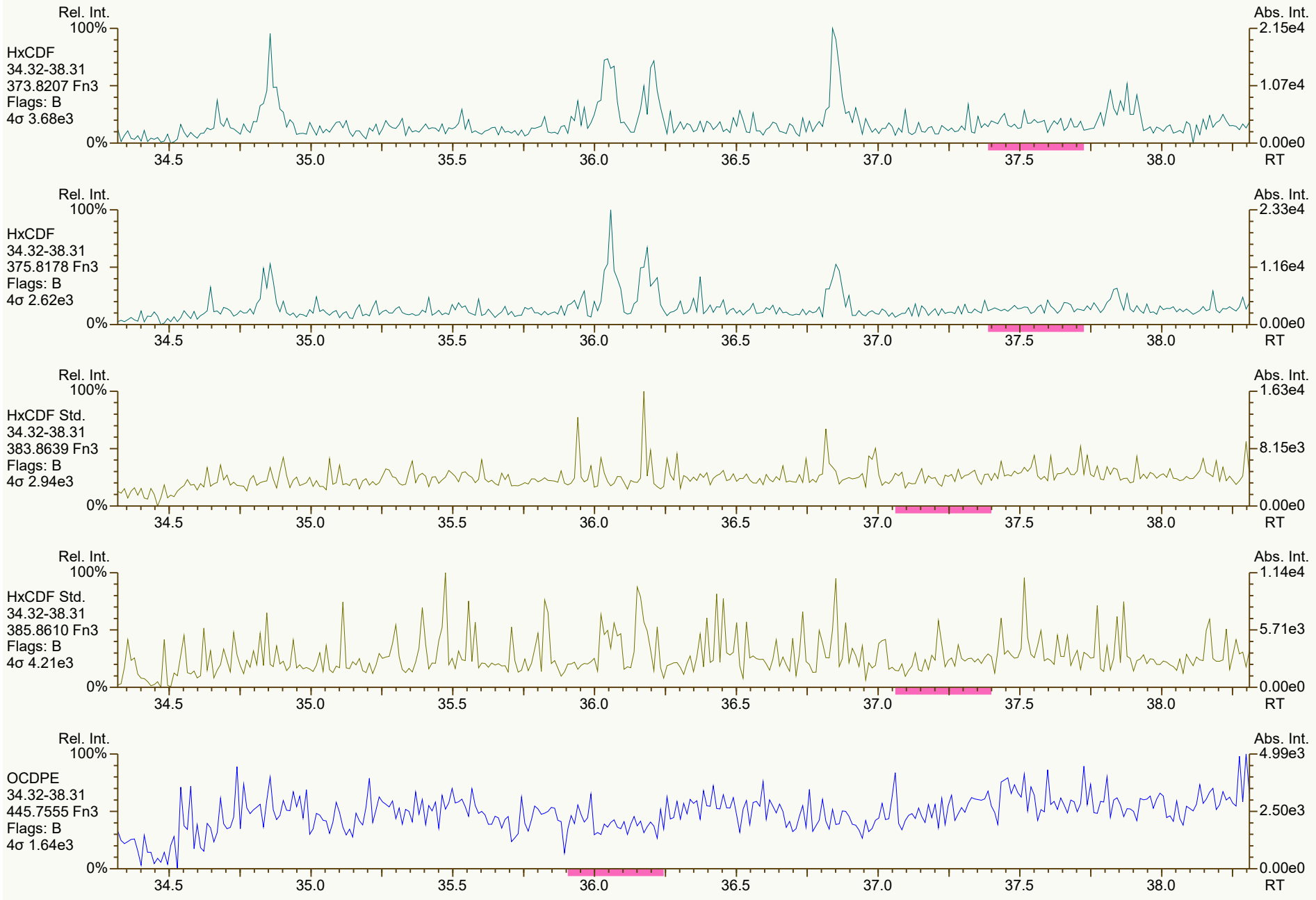

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: SBS_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3
Sample ID: 20-61-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
Acq: 10-Nov-2021 10:15:54
User: DTF Datafile: 211110C03




Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

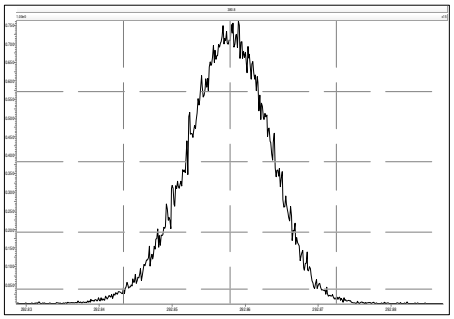

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

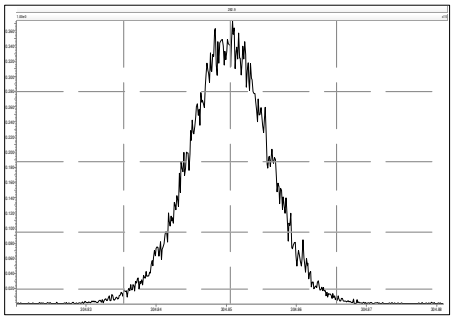
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

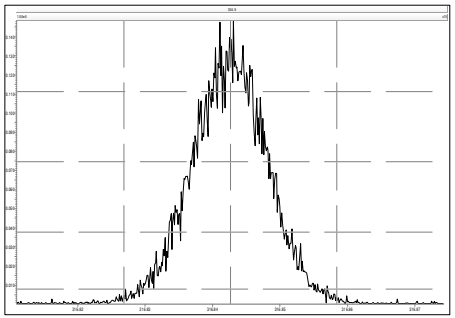
M 292.9824 R 10731



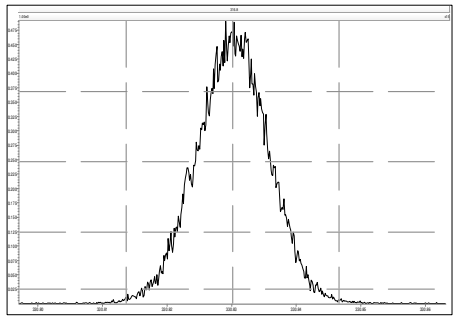
M 304.9824 R 11311



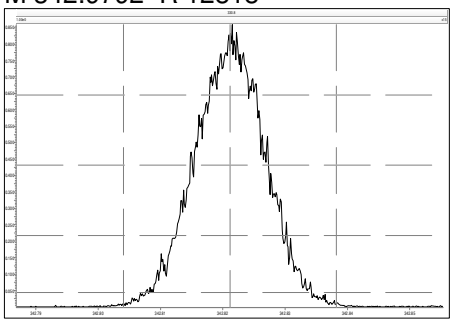
M 316.9824 R 12373



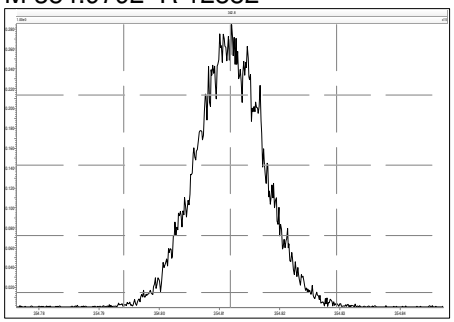
M 330.9792 R 12887



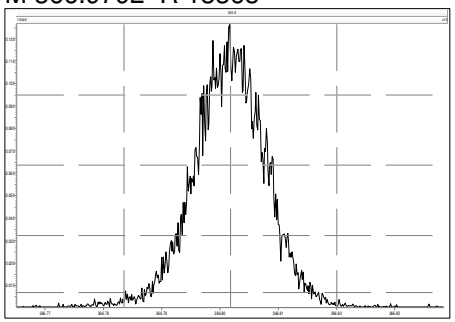
M 342.9792 R 12818



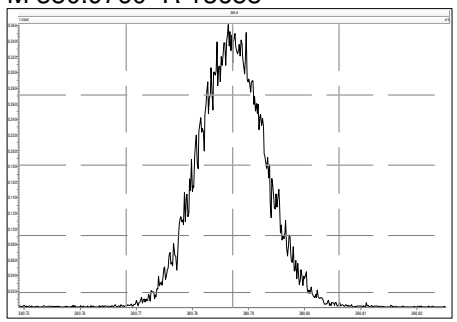
M 354.9792 R 12882



M 366.9792 R 13368



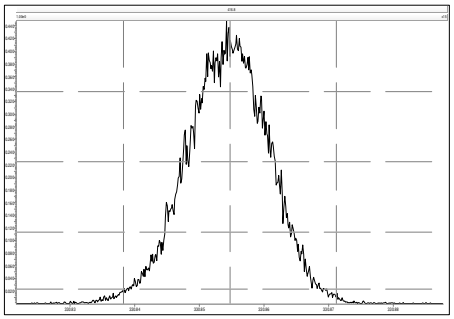
M 380.9760 R 13658



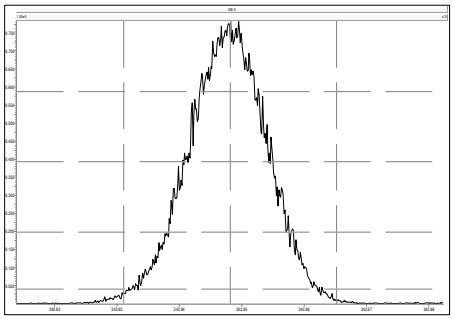
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

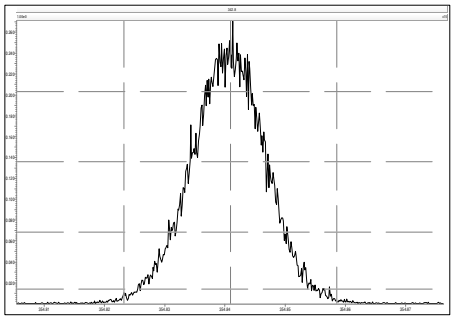
M 330.9792 R 11112



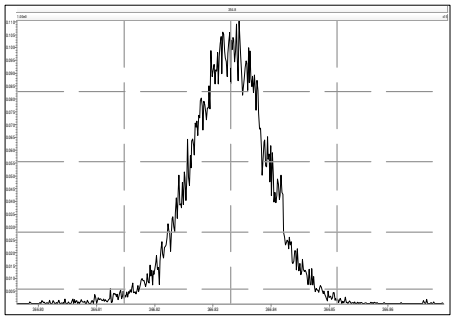
M 342.9792 R 11909



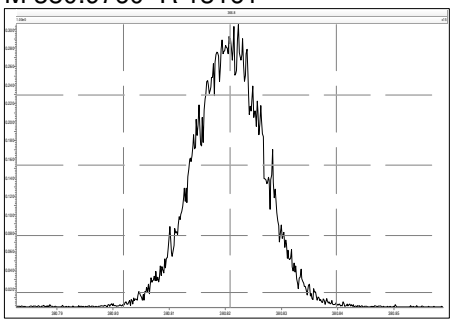
M 354.9792 R 11684



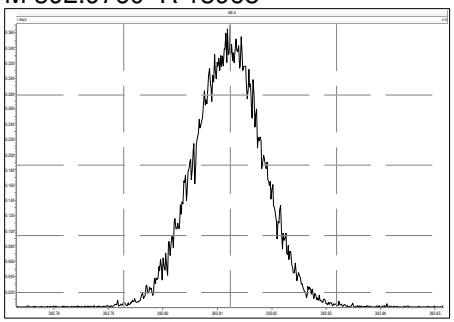
M 366.9792 R 11962



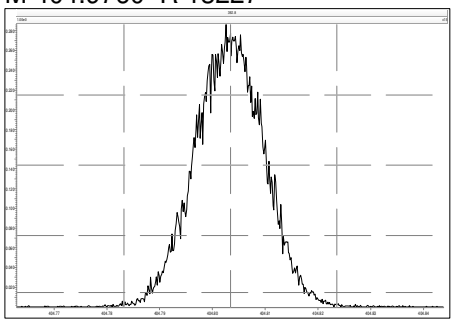
M 380.9760 R 13161



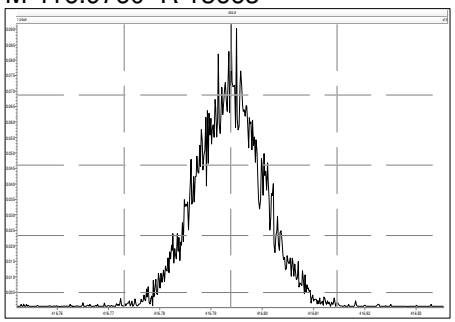
M 392.9760 R 13968



M 404.9760 R 13227



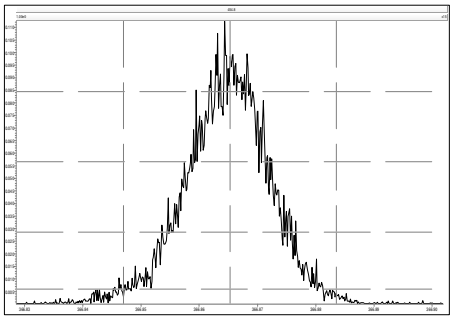
M 416.9760 R 13663



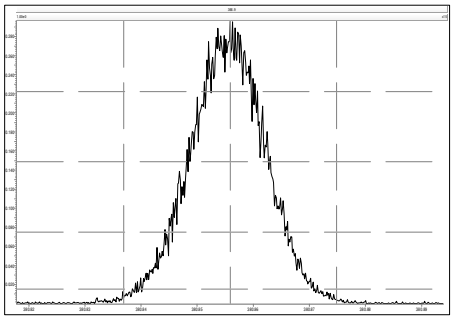
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

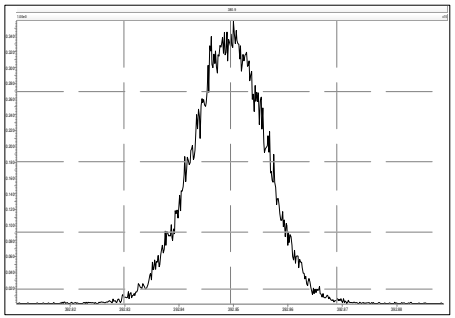
M 366.9792 R 10680



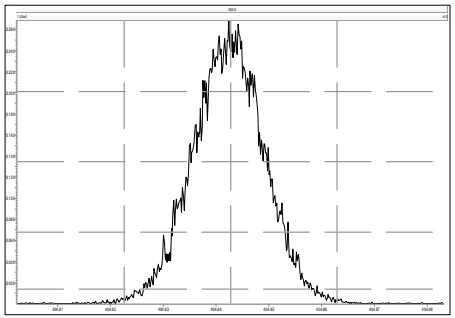
M 380.9760 R 12315



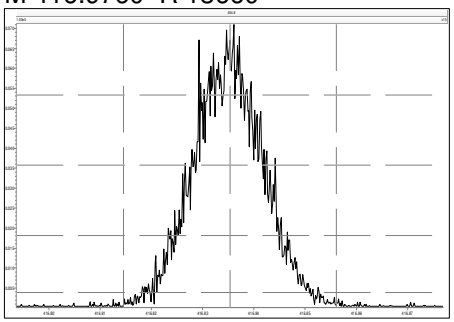
M 392.9760 R 12197



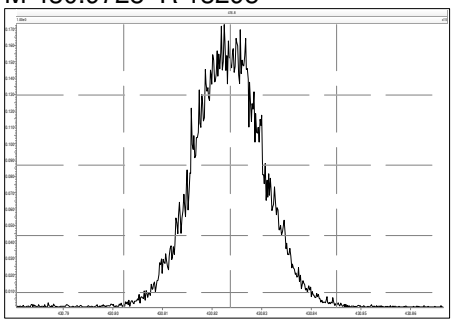
M 404.9760 R 12433



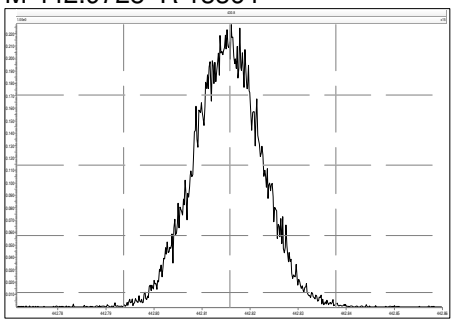
M 416.9760 R 13660



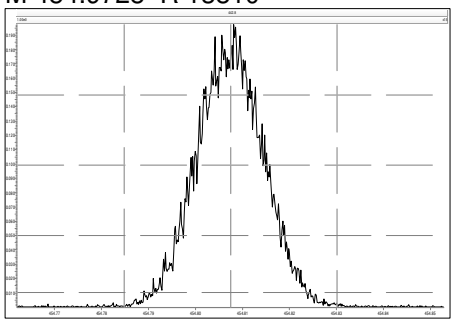
M 430.9728 R 13295



M 442.9728 R 13364



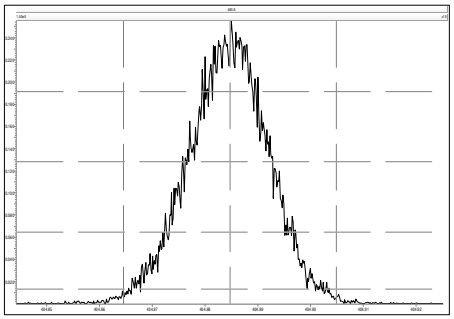
M 454.9728 R 13810



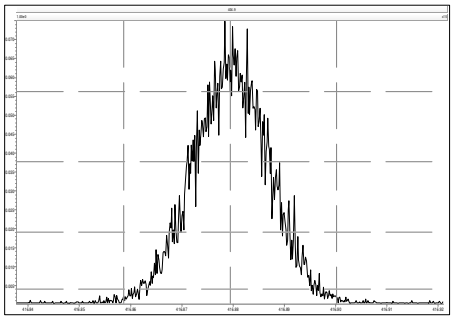
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

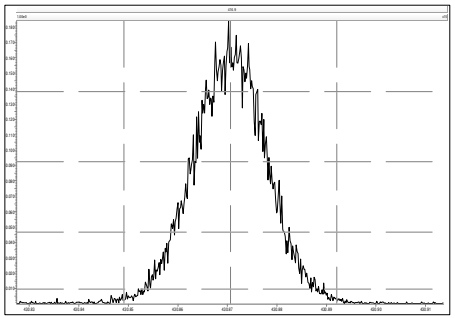
M 404.9760 R 11679



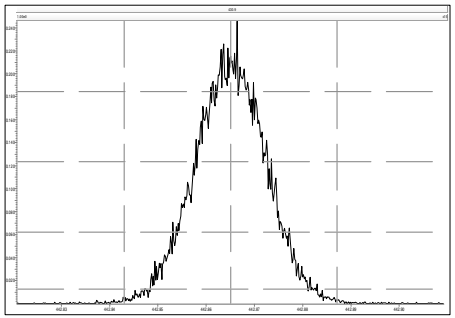
M 416.9760 R 12886



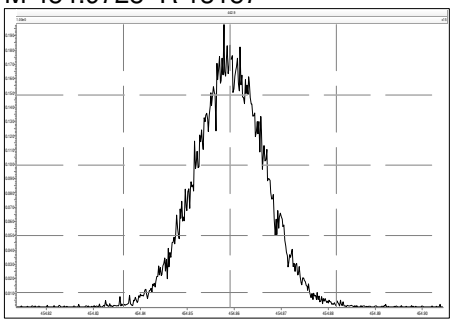
M 430.9728 R 12253



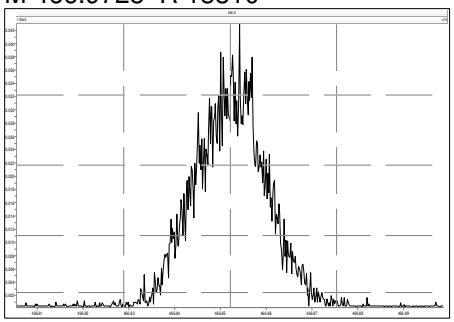
M 442.9728 R 12756



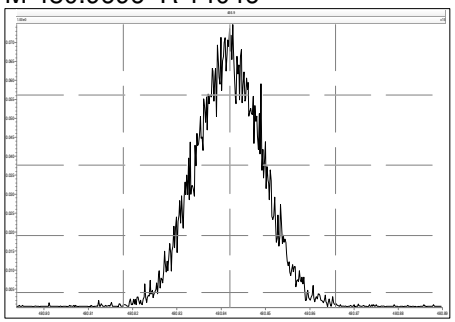
M 454.9728 R 13157



M 466.9728 R 13810



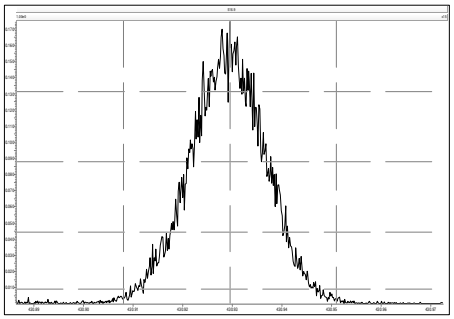
M 480.9696 R 14046



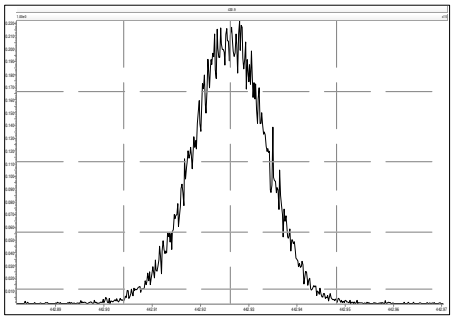
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

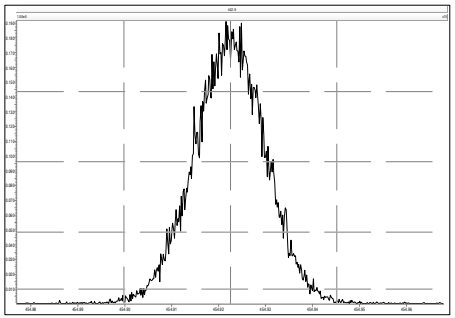
M 430.9728 R 11574



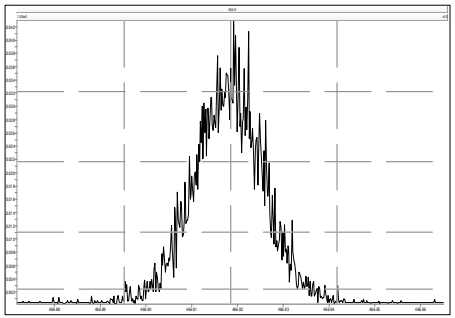
M 442.9728 R 12198



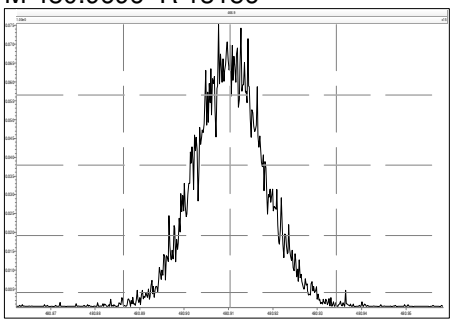
M 454.9728 R 12950



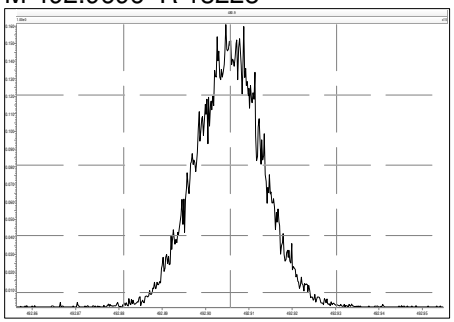
M 466.9728 R 13088



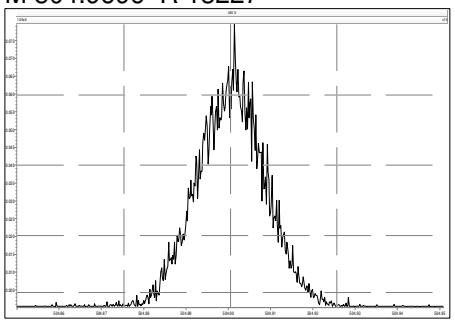
M 480.9696 R 13156



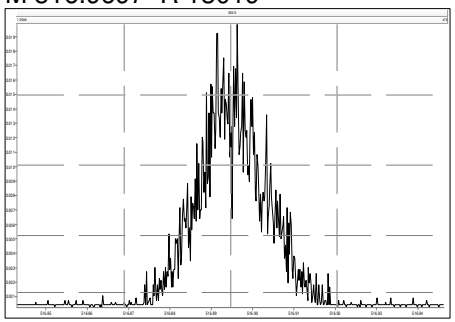
M 492.9696 R 13228



M 504.9696 R 13227



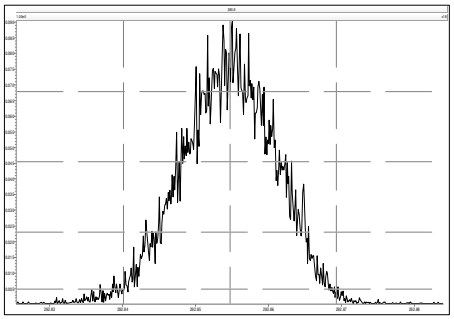
M 516.9697 R 13019



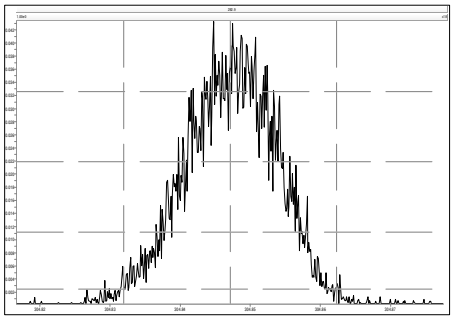
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

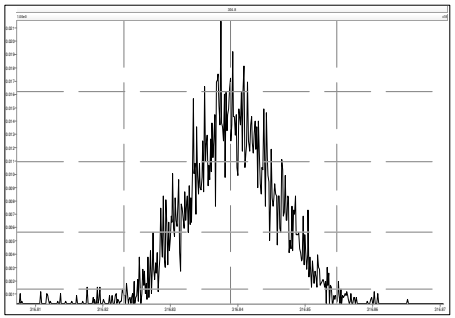
M 292.9824 R 10122



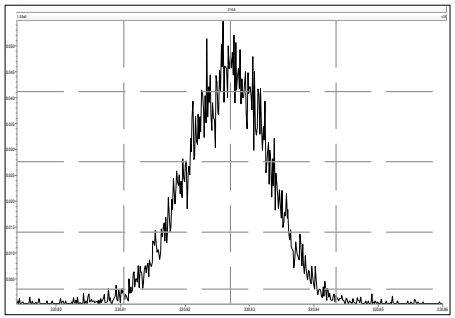
M 304.9824 R 10329



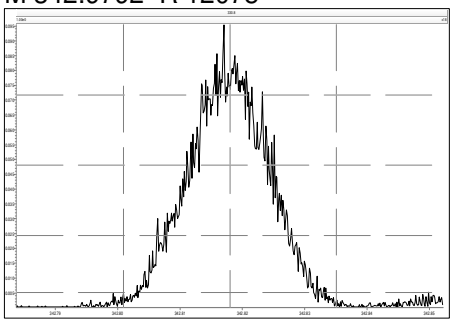
M 316.9824 R 11964



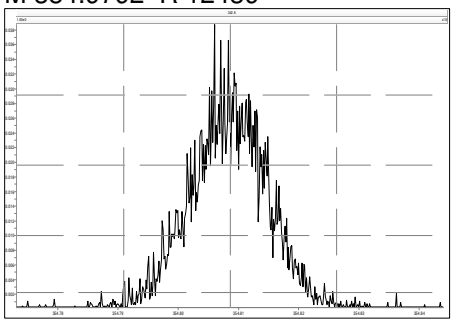
M 330.9792 R 11062



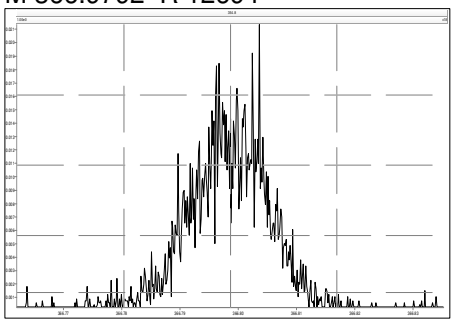
M 342.9792 R 12075



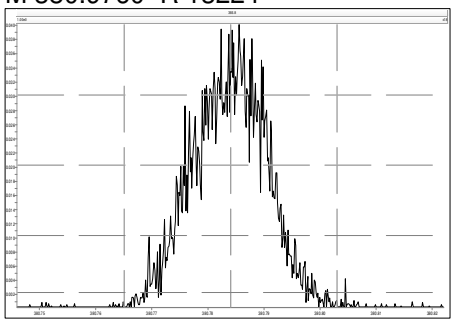
M 354.9792 R 12439



M 366.9792 R 12694



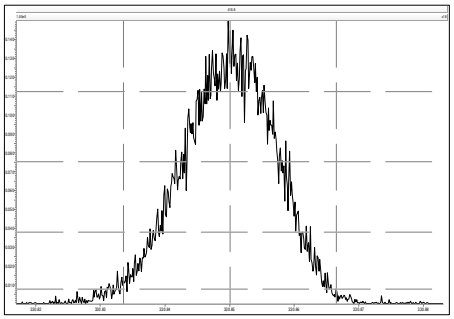
M 380.9760 R 13224



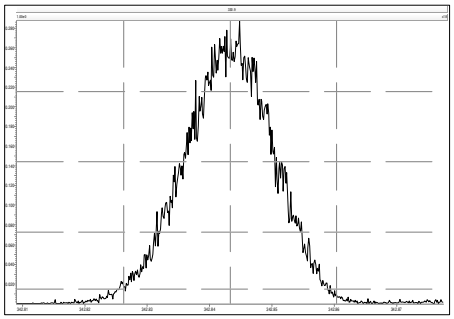
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

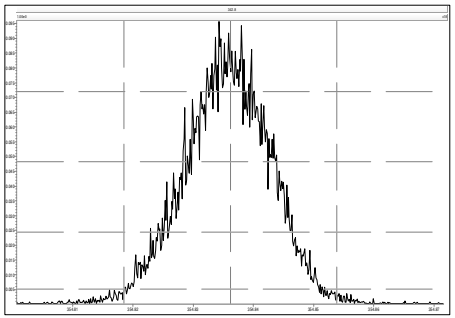
M 330.9792 R 10730



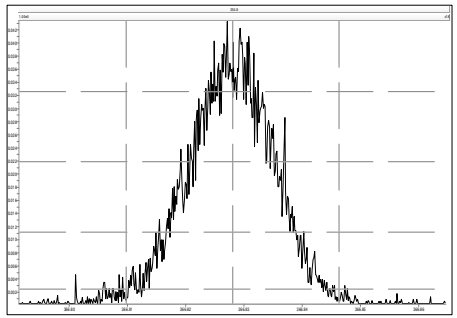
M 342.9792 R 10039



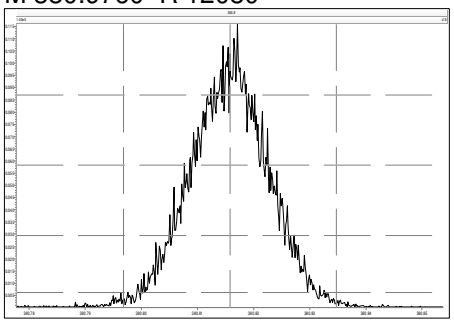
M 354.9792 R 11108



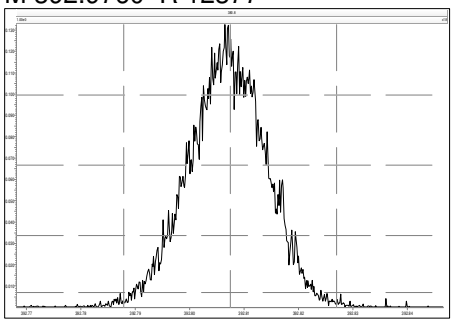
M 366.9792 R 11520



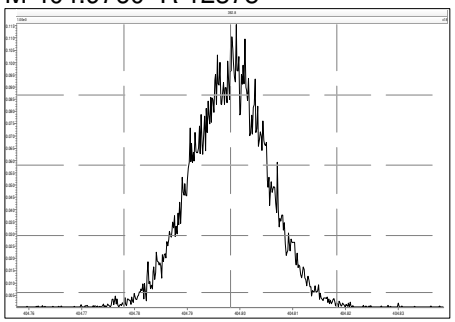
M 380.9760 R 12080



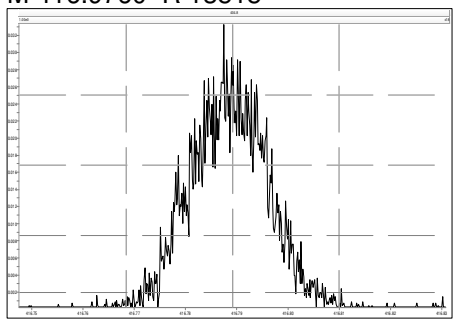
M 392.9760 R 12377



M 404.9760 R 12375



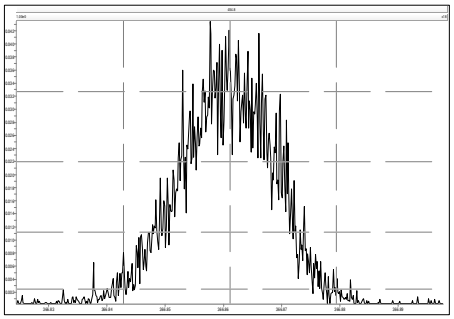
M 416.9760 R 13515



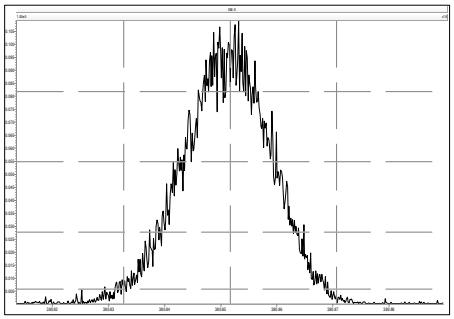
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

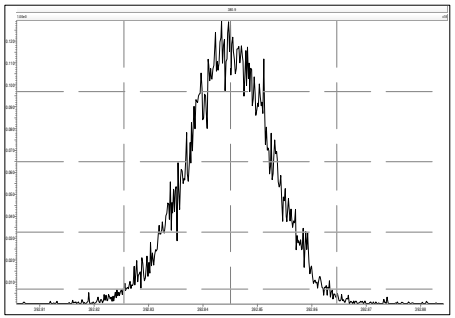
M 366.9792 R 10866



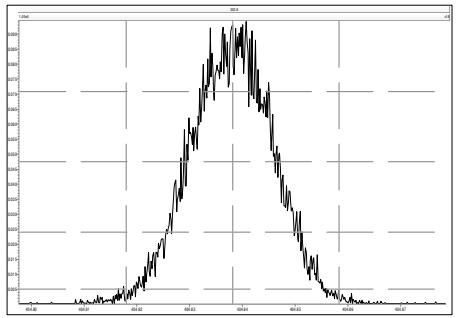
M 380.9760 R 10416



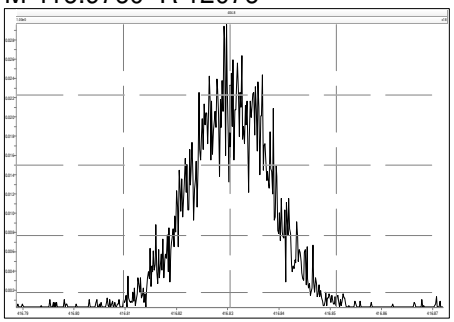
M 392.9760 R 10640



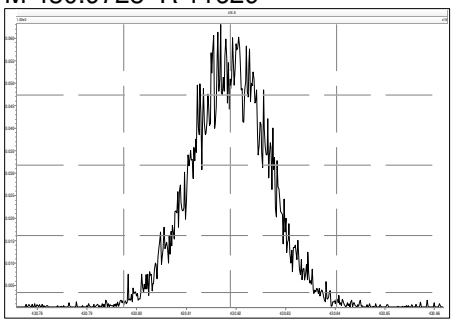
M 404.9760 R 11957



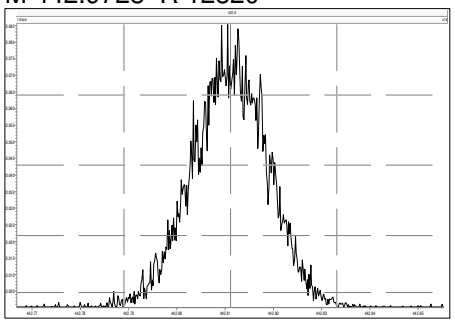
M 416.9760 R 12076



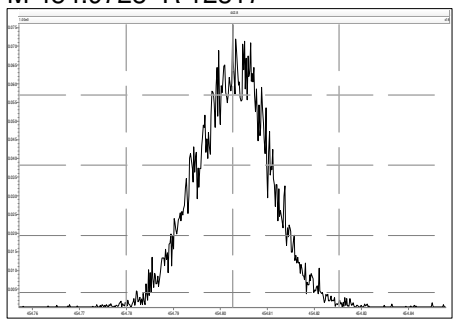
M 430.9728 R 11629



M 442.9728 R 12820



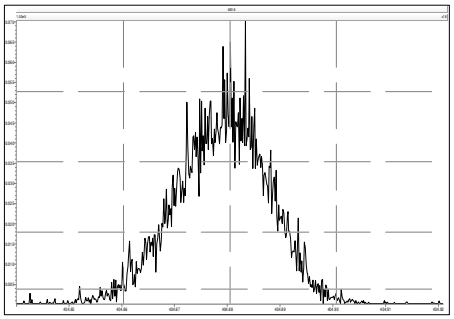
M 454.9728 R 12317



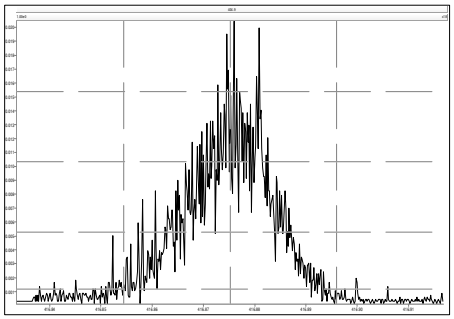
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

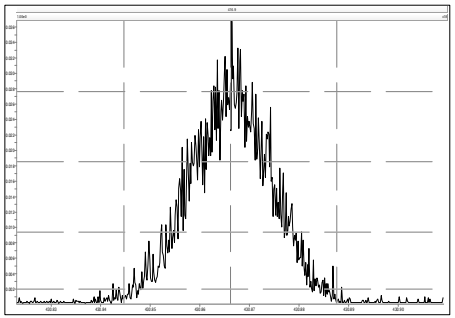
M 404.9760 R 10505



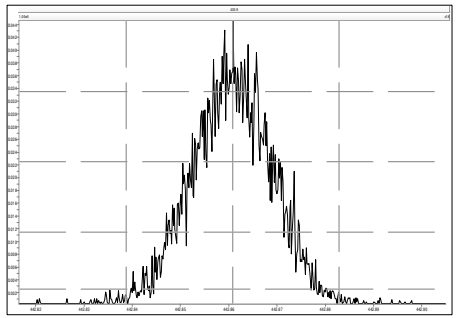
M 416.9760 R 12500



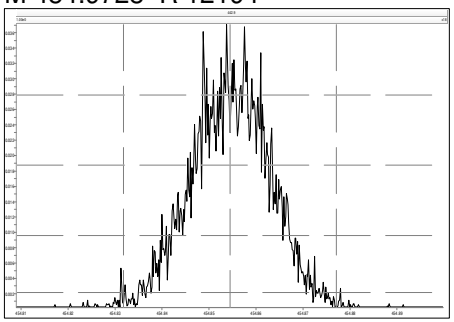
M 430.9728 R 11362



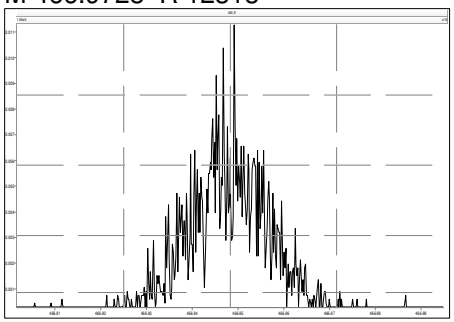
M 442.9728 R 12756



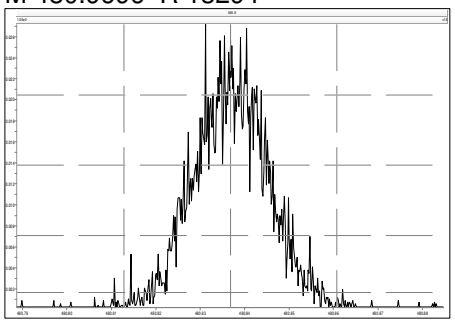
M 454.9728 R 12194



M 466.9728 R 12313



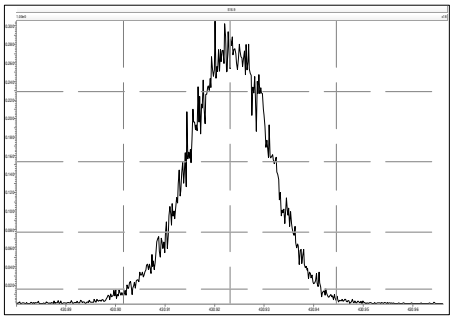
M 480.9696 R 13294



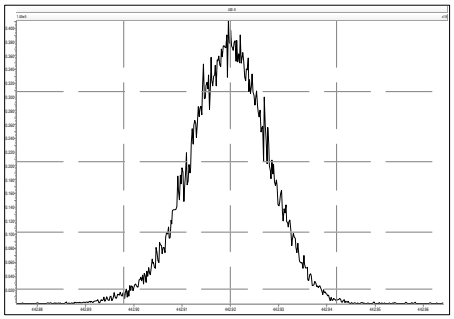
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

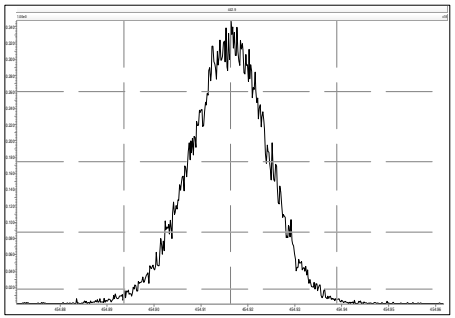
M 430.9728 R 11312



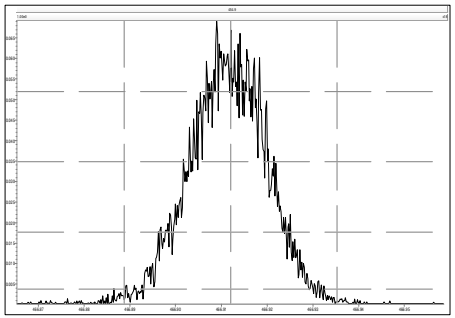
M 442.9728 R 11110



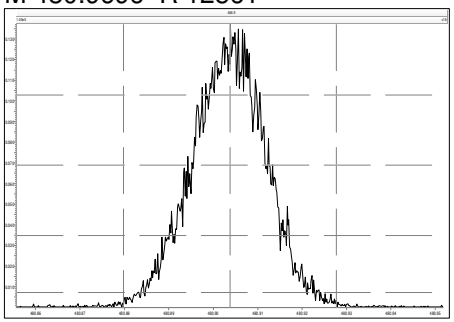
M 454.9728 R 11906



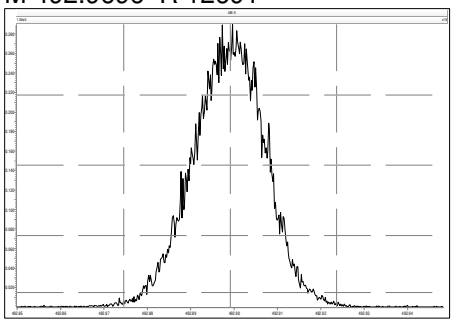
M 466.9728 R 12562



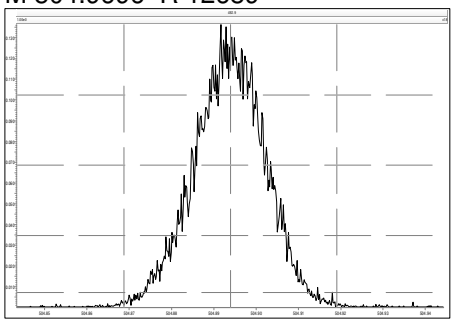
M 480.9696 R 12561



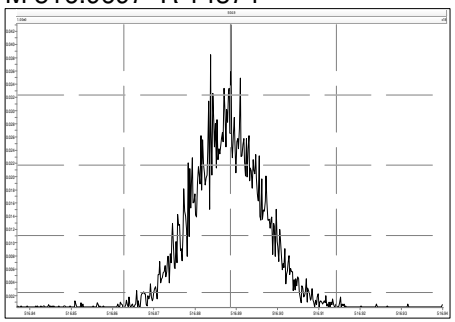
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



Lab ID: OPR1_18927_DF **Acq'd:** 21 Feb 2022 10:27 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18927_OPR001 **UTP:** 22-Feb-2022 09:25:52 DTF **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 611-851-KYD

Datafile: 220221C02 **Report:** 22 Feb 2022 09:28 TF **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.24		1.0008	1.0008	0	4.22E+06	0.75	Y	1.18	11.4	5332.441	0.161
12378-PeCDD	33.65		1.0007	1.0006	-0.2	1.47E+07	1.55	Y	1.04	49.3	3520.651	0.109
123478-HxCDD	37.58		1.0004	1.0004	0	1.50E+07	1.26	Y	1.09	52.4	3171.215	0.103
123678-HxCDD	37.70		1.0036	1.0036	0	1.59E+07	1.25	Y	1.15	53	3171.215	0.0952
123789-HxCDD	38.00		1.0118	1.0117	-0.2	1.54E+07	1.25	Y	1.05	49.1	3171.215	0.0899
1234678-HpCDD	40.73		1.0002	1.0003	+0.2	1.37E+07	1.06	Y	1.06	53.4	3516.812	0.116
OCDD	43.44		1.0003	1.0003	0	1.97E+07	0.90	Y	1.13	108	4394.128	0.313
2378-TCDF	27.37		1.0008	1.0007	-0.2	5.25E+06	0.77	Y	1.08	10.6	3773.99	0.0851
12378-PeCDF	32.18		1.0005	1.0005	0	2.15E+07	1.55	Y	1.02	48.1	9561.217	0.205
23478-PeCDF	33.30		1.0005	1.0005	0	2.15E+07	1.53	Y	1.02	51.8	9561.217	0.206
123478-HxCDF	36.57		1.0004	1.0005	+0.2	2.03E+07	1.23	Y	1.27	50.5	6542.195	0.137
123678-HxCDF	36.71		1.0004	1.0004	0	2.19E+07	1.27	Y	1.15	50.7	6542.195	0.135
234678-HxCDF	37.39		1.0005	1.0005	0	1.95E+07	1.23	Y	1.19	50.3	6542.195	0.151
123789-HxCDF	38.37		1.0004	1.0004	0	1.62E+07	1.26	Y	1.16	47.9	6542.195	0.17
1234678-HpCDF	39.79		1.0003	1.0003	0	2.00E+07	1.04	Y	1.37	50.1	4508.724	0.0876
1234789-HpCDF	41.19		1.0003	1.0002	-0.2	1.42E+07	1.03	Y	1.31	50.6	4508.724	0.138
OCDF	43.61		1.0002	1.0003	+0.3	2.14E+07	0.90	Y	1.07	104	4753.487	0.283

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.22	1.0243	1.0244	+0.2	3.13E+07	0.80	Y	1.05	82
ES 12378-PeCDD	33.63	1.2198	1.2207	+1.8	2.88E+07	1.60	Y	0.88	89.6
ES 123478-HxCDD	37.56	0.9916	0.9916	0	2.62E+07	1.30	Y	0.97	89
ES 123678-HxCDD	37.68	0.9947	0.9947	0	2.62E+07	1.22	Y	0.94	91.5
ES 123789-HxCDD	37.99	1.0029	1.0028	-0.2	3.00E+07	1.30	Y	1.09	90.7
ES 1234678-HpCDD	40.72	1.0749	1.0749	0	2.42E+07	1.03	Y	0.91	87.5
ES OCDD	43.43	1.1460	1.1463	+0.8	3.23E+07	0.92	Y	0.62	85.4
ES 2378-TCDF	27.35	1.0531	1.0535	+0.7	4.58E+07	0.82	Y	1.06	76.2
ES 12378-PeCDF	32.16	1.2378	1.2390	+2.3	4.36E+07	1.53	Y	0.91	84.3
ES 23478-PeCDF	33.29	1.2810	1.2823	+2.6	4.08E+07	1.58	Y	0.88	81.4
ES 123478-HxCDF	36.56	0.9650	0.9650	0	3.15E+07	0.53	Y	1.20	86.7
ES 123678-HxCDF	36.70	0.9688	0.9687	-0.2	3.75E+07	0.53	Y	1.35	91.4
ES 234678-HxCDF	37.37	0.9866	0.9865	-0.2	3.26E+07	0.52	Y	1.24	86.5
ES 123789-HxCDF	38.35	1.0125	1.0124	-0.2	2.90E+07	0.53	Y	1.16	82.7
ES 1234678-HpCDF	39.78	1.0501	1.0501	0	2.92E+07	0.46	Y	0.97	99.4
ES 1234789-HpCDF	41.18	1.0870	1.0870	0	2.14E+07	0.45	Y	0.85	82.8
ES OCDF	43.60	1.1505	1.1509	+1.0	3.85E+07	0.93	Y	0.81	78.6

APPROVED
Amy_Boehm , 2/22/2022, 3:20:42 PM

Lab ID: OPR1_18927_DF | **Acq'd:** 21 Feb 2022 10:27 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18927_OPR001 | **UTP:** 22-Feb-2022 09:25:52 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 611-851-KYD

Datafile: 220221C02 | **Report:** 22 Feb 2022 09:28 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.55		-	-	-	3.65E+07	0.81	Y	-	-
JS 1234-TCDF	25.96		-	-	-	5.68E+07	0.78	Y	-	-
JS 123467-HxCDD	37.88		-	-	-	1.52E+07	1.26	Y	-	-
CS 37Cl-2378-TCDD	28.24		1.0251	1.0252	+0.2	1.56E+07	n/a	-	1.20	88.9
CS 12347-PeCDD	33.12		1.2016	1.2023	+1.4	2.70E+07	1.63	Y	0.75	98.3
CS 12346-PeCDF	31.63		1.2172	1.2183	+2.1	4.43E+07	1.60	Y	0.85	91.7
CS 123469-HxCDF	37.01		0.9771	0.9770	-0.2	3.47E+07	0.53	Y	1.12	102
CS 1234689-HpCDF	40.18		1.0608	1.0607	-0.2	2.68E+07	0.46	Y	0.89	99.5
SS 37Cl-2378-TCDD	28.24		1.0251	1.0252	+0.2	1.56E+07	n/a	-	1.15	109
SS 12347-PeCDD	33.12		1.2016	1.2023	+1.4	2.70E+07	1.63	Y	0.86	110
SS 12346-PeCDF	31.63		1.2172	1.2183	+2.1	4.43E+07	1.60	Y	0.94	109
SS 123469-HxCDF	37.01		0.9771	0.9770	-0.2	3.47E+07	0.53	Y	0.83	112
SS 1234689-HpCDF	40.18		1.0608	1.0607	-0.2	2.68E+07	0.46	Y	0.92	99.9

Totals	Conc	EMPC
Total TCDD	53.6	53.6
Total PeCDD	74	74
Total HxCDD	169	169
Total HpCDD	66.5	66.5
Total Tetra-Octa Dioxins	472	472
Total TCDF	61.1	61.1
Total PeCDF	200	200
Total HxCDF	321	321
Total HpCDF	101	101
Total Tetra-Octa Furans	787	787
Total Tetra-Octa Dioxins & Furans	1260	1260

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.75	0.75
Response	4.23E+06	4.22E+06

Lab ID: OPR1_18927_DF **Acq'd: 21 Feb 2022 10:27 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18927_OPR001 **UTP: 22-Feb-2022 09:25:52 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 611-851-KYD**

Datafile: 220221C02 **Report: 22 Feb 2022 09:28 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.53		0.8701	0.8694	-1.0	5.86E+06	0.81	Y	1.18	15.8	5332.441	0.161
1379-TCDD	NotFnd		0.8829						1.18		5332.441	0.161
1369-TCDD	NotFnd		0.8982						1.18		5332.441	0.161
1469-TCDD	NotFnd		0.9261						1.18		5332.441	0.161
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		5332.441	0.161
1378-TCDD	NotFnd		0.9417						1.18		5332.441	0.161
1268-TCDD	NotFnd		0.9487						1.18		5332.441	0.161
1478-TCDD	NotFnd		0.9576						1.18		5332.441	0.161
1279-TCDD	NotFnd		0.9636						1.18		5332.441	0.161
1234/1269-TCDD	NotFnd		0.9761						1.18		5332.441	0.161
1236-TCDD	NotFnd		0.9812						1.18		5332.441	0.161
1237/1238-TCDD	NotFnd		0.9905						1.18		5332.441	0.161
1239-TCDD	28.08		0.9951	0.9951	0	3.98E+06	0.80	Y	1.18	10.7	5332.441	0.161
2378-TCDD	**28.24**		**1.0008**	1.0008	**0**	4.22E+06	0.75	Y	**1.18**	**11.4**	**5332.441**	**0.161**
1278-TCDD	NotFnd		1.0124						1.18		5332.441	0.161
1267-TCDD	NotFnd		1.0172						1.18		5332.441	0.161
1289-TCDD	29.22		1.0354	1.0356	+0.4	5.82E+06	0.78	Y	1.18	15.7	5332.441	0.161
12479/12468-PeCDD	31.12		0.9255	0.9255	0	3.52E+06	1.58	Y	1.04	11.8	3520.651	0.109
12469-PeCDD	NotFnd		0.9416						1.04		3520.651	0.109
12368-PeCDD	NotFnd		0.9582						1.04		3520.651	0.109
12478-PeCDD	NotFnd		0.9637						1.04		3520.651	0.109
12379-PeCDD	NotFnd		0.9668						1.04		3520.651	0.109
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		3520.651	0.109
12346/12347-PeCDD	NotFnd		0.9858						1.04		3520.651	0.109
12378-PeCDD	33.65		**1.0007**	**1.0006**	**-0.2**	**1.47E+07**	**1.55**	**Y**	**1.04**	**49.3**	**3520.651**	**0.109**
12367-PeCDD	NotFnd		1.0036						1.04		3520.651	0.109
12389-PeCDD	34.09		1.0137	1.0137	0	3.83E+06	1.62	Y	1.04	12.9	3520.651	0.109
124679/124689-HxCDD	35.83		0.9540	0.9539	-0.2	4.38E+06	1.29	Y	1.10	14.6	3171.215	0.0957
123468-HxCDD	NotFnd		0.9715						1.10		3171.215	0.0957
123679/123689-HxCDD	NotFnd		0.9793						1.10		3171.215	0.0957
123469-HxCDD	NotFnd		0.9829						1.10		3171.215	0.0957
123478-HxCDD	37.58		**1.0004**	**1.0004**	**0**	**1.50E+07**	**1.26**	**Y**	1.09	**52.4**	**3171.215**	**0.103**
123678-HxCDD	37.70		**1.0036**	**1.0036**	**0**	**1.59E+07**	**1.25**	**Y**	1.15	**53**	**3171.215**	**0.0952**
123467-HxCDD	NotFnd		1.0089						1.10		3171.215	0.0957
123789-HxCDD	38.00		**1.0118**	**1.0117**	**-0.2**	**1.54E+07**	**1.25**	**Y**	1.05	**49.1**	**3171.215**	**0.0899**

Lab ID: OPR1_18927_DF **Acq'd: 21 Feb 2022 10:27 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18927_OPR001 **UTP: 22-Feb-2022 09:25:52 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 611-851-KYD**

Datafile: 220221C02 **Report: 22 Feb 2022 09:28 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.05		0.9836	0.9836	0	3.37E+06	1.06	Y	1.06	13.1	3516.812	0.116
1234678-HpCDD	**40.73**		**1.0002**	**1.0003**	**+0.2**	**1.37E+07**	**1.06**	**Y**	**1.06**	**53.4**	**3516.812**	**0.116**
OCDD	**43.44**		**1.0003**	**1.0003**	**0**	**1.97E+07**	**0.90**	**Y**	**1.13**	**108**	**4394.128**	**0.313**
OCDD-a	43.43		1.0002	1.0001	-0.3	1.21E+06	2.51	Y	0.07	104	5426.797	6.04
1368-TCDF	22.37		0.8191	0.8180	-1.5	7.45E+06	0.79	Y	1.08	15.1	3773.99	0.0851
1468-TCDF	NotFnd		0.8408						1.08		3773.99	0.0851
2468-TCDF	23.62		0.8645	0.8637	-1.1	1.98E+06	0.75	Y	1.08	4.01	3773.99	0.0851
1346/1246-TCDF	NotFnd		0.8772						1.08		3773.99	0.0851
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		3773.99	0.0851
1348-TCDF	NotFnd		0.8932						1.08		3773.99	0.0851
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		3773.99	0.0851
1268-TCDF	NotFnd		0.9119						1.08		3773.99	0.0851
1467-TCDF	NotFnd		0.9170						1.08		3773.99	0.0851
1478-TCDF	NotFnd		0.9234						1.08		3773.99	0.0851
1369/1237-TCDF	NotFnd		0.9369						1.08		3773.99	0.0851
2467-TCDF	NotFnd		0.9415						1.08		3773.99	0.0851
2368-TCDF	NotFnd		0.9475						1.08		3773.99	0.0851
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		3773.99	0.0851
1278-TCDF	NotFnd		0.9676						1.08		3773.99	0.0851
1349-TCDF	NotFnd		0.9722						1.08		3773.99	0.0851
1267-TCDF	NotFnd		0.9777						1.08		3773.99	0.0851
2346/1249-TCDF	NotFnd		0.9843						1.08		3773.99	0.0851
2347/1279-TCDF	NotFnd		0.9926						1.08		3773.99	0.0851
2348-TCDF	27.26		0.9968	0.9967	-0.2	7.48E+06	0.78	Y	1.08	15.1	3773.99	0.0851
2378-TCDF	**27.37**		**1.0008**	**1.0007**	**-0.2**	**5.25E+06**	**0.77**	**Y**	**1.08**	**10.6**	**3773.99**	**0.0851**
2367/3467-TCDF	NotFnd		1.0142						1.08		3773.99	0.0851
1269-TCDF	NotFnd		1.0235						1.08		3773.99	0.0851
1239-TCDF	NotFnd		1.0329						1.08		3773.99	0.0851
1289-TCDF	29.39		1.0742	1.0748	+1.1	8.00E+06	0.75	Y	1.08	16.2	3773.99	0.0851
13468/12468-PeCDF	29.32		0.9122	0.9115	-1.2	3.86E+07	1.55	Y	1.02	89.6	3062.883	0.066
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		9561.217	0.206
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		9561.217	0.206
14678-PeCDF	NotFnd		0.9685						1.02		9561.217	0.206
13479-PeCDF	NotFnd		0.9716						1.02		9561.217	0.206
13469/12479-PeCDF	NotFnd		0.9794						1.02		9561.217	0.206
12346-PeCDF	NotFnd		0.9836						1.02		9561.217	0.206

Lab ID: OPR1_18927_DF | **Acq'd: 21 Feb 2022 10:27 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18927_OPR001 | **UTP: 22-Feb-2022 09:25:52 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 611-851-KYD**

Datafile: 220221C02 | **Report: 22 Feb 2022 09:28 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		9561.217	0.206
12347-PeCDF	NotFnd		0.9891						1.02		9561.217	0.206
12348-PeCDF	NotFnd		0.9938						1.02		9561.217	0.206
12378-PeCDF	**32.18**		**1.0005**	**1.0005**	**0**	**2.15E+07**	**1.55**	**Y**	**1.02**	**48.1**	**9561.217**	**0.205**
12678/12367-PeCDF	NotFnd		1.0091						1.02		9561.217	0.206
12379-PeCDF	NotFnd		1.0144						1.02		9561.217	0.206
12679-PeCDF	NotFnd		0.9927						1.02		9561.217	0.206
23467/12369-PeCDF	NotFnd		0.9965						1.02		9561.217	0.206
23478-PeCDF	**33.30**		**1.0005**	**1.0005**	**0**	**2.15E+07**	**1.53**	**Y**	**1.02**	**51.8**	**9561.217**	**0.206**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		9561.217	0.206
12349-PeCDF	NotFnd		1.0101						1.02		9561.217	0.206
12389-PeCDF	34.39		1.0330	1.0330	0	4.60E+06	1.53	Y	1.02	10.7	9561.217	0.206
123468-HxCDF	35.18		0.9622	0.9623	+0.2	4.74E+07	1.23	Y	1.19	122	6542.195	0.147
124678/134678-HxCDF	NotFnd		0.9678						1.19		6542.195	0.147
134679-HxCDF	NotFnd		0.9741						1.19		6542.195	0.147
124679-HxCDF	NotFnd		0.9795						1.19		6542.195	0.147
124689-HxCDF	NotFnd		0.9856						1.19		6542.195	0.147
123467-HxCDF	NotFnd		0.9972						1.19		6542.195	0.147
123478-HxCDF	**36.57**		**1.0004**	**1.0005**	**+0.2**	**2.03E+07**	**1.23**	**Y**	**1.27**	**50.5**	**6542.195**	**0.137**
123678-HxCDF	**36.71**		**1.0004**	**1.0004**	**0**	**2.19E+07**	**1.27**	**Y**	**1.15**	**50.7**	**6542.195**	**0.135**
123479-HxCDF	NotFnd		1.0048						1.19		6542.195	0.147
123469-HxCDF	NotFnd		1.0089						1.19		6542.195	0.147
123679-HxCDF	NotFnd		0.9942						1.19		6542.195	0.147
234678-HxCDF	**37.39**		**1.0005**	**1.0005**	**0**	**1.95E+07**	**1.23**	**Y**	**1.19**	**50.3**	**6542.195**	**0.151**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6542.195	0.147
123789-HxCDF	**38.37**		**1.0004**	**1.0004**	**0**	**1.62E+07**	**1.26**	**Y**	**1.16**	**47.9**	**6542.195**	**0.17**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		6542.195	0.147
1234678-HpCDF	**39.79**		**1.0003**	**1.0003**	**0**	**2.00E+07**	**1.04**	**Y**	**1.37**	**50.1**	**4508.724**	**0.0876**
1234679-HpCDF	NotFnd		1.0068						1.34		4508.724	0.109
1234689-HpCDF	NotFnd		1.0104						1.34		4508.724	0.109
1234789-HpCDF	**41.19**		**1.0003**	**1.0002**	**-0.2**	**1.42E+07**	**1.03**	**Y**	**1.31**	**50.6**	**4508.724**	**0.138**
OCDF	**43.61**		**1.0002**	**1.0003**	**+0.3**	**2.14E+07**	**0.90**	**Y**	**1.07**	**104**	**4753.487**	**0.283**
OCDF-a	43.61		1.0001	1.0002	+0.3	1.36E+06	2.13	Y	0.07	106	3888.249	3.74

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220221C02	Analysis Date:	21-FEB-2022 10:27:39
Lab ID:	OPR1_18927_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.4	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	49.3	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	52.4	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	53	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	49.1	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	53.4	35	-	70	Y
OCDD	100	108	78	-	144	Y
2,3,7,8-TCDF	10	10.6	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	48.1	40	-	67	Y
2,3,4,7,8-PeCDF	50	51.8	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	50.5	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	50.7	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	50.3	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	47.9	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	50.1	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	50.6	39	-	69	Y
OCDF	100	104	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 22 Feb 2022 09:28 Analyst: TF

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name: SGS North America
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021
Instrument ID: HRMS3 GC Column ID: ZB-5ms
VER Data Filename: 220221C02 Analysis Date: 21-FEB-2022 10:27:39
Lab ID: OPR1_18927_DF

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	82	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	89.6	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	89	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	91.5	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	90.7	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	87.5	26	-	166	Y
13C-OCDD	200	171	26	-	397	Y
13C-2,3,7,8-TCDF	100	76.2	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	84.3	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	81.4	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	86.7	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	91.4	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	86.5	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	82.7	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	99.4	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	82.8	20	-	186	Y
13C-OCDF	200	157	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	35.5	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

Processed: 22 Feb 2022 09:28 Analyst: TF

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220221C02	Analysis Date:	21-FEB-2022 10:27:39
Lab ID:	OPR1_18927_DF		

Window Defining Standards Results

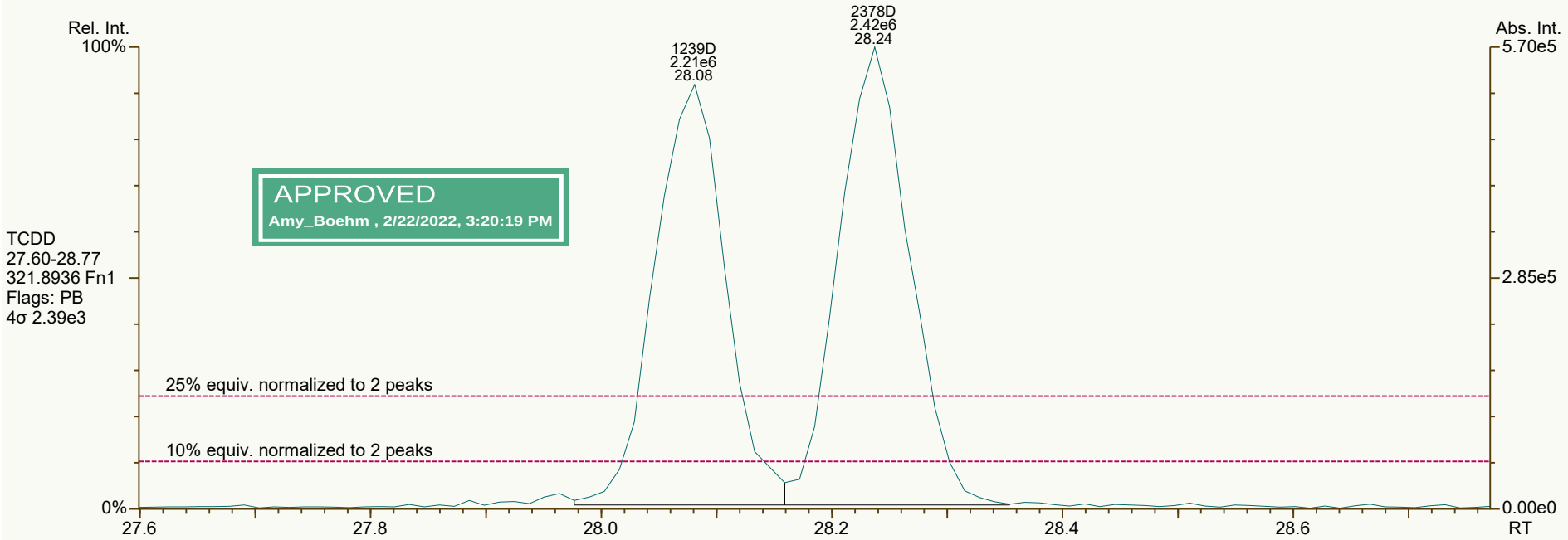
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.53	1289-TCDD	29.22
12479/12468-PeCDD	31.12	12389-PeCDD	34.09
124679/124689-HxCDD	35.83	123789-HxCDD	38.00
1234679-HpCDD	40.05	1234678-HpCDD	40.73
1368-TCDF	22.37	1289-TCDF	29.39
13468/12468-PeCDF	29.32	12389-PeCDF	34.39
123468-HxCDF	35.18	123789-HxCDF	38.37
1234678-HpCDF	39.79	1234789-HpCDF	41.19

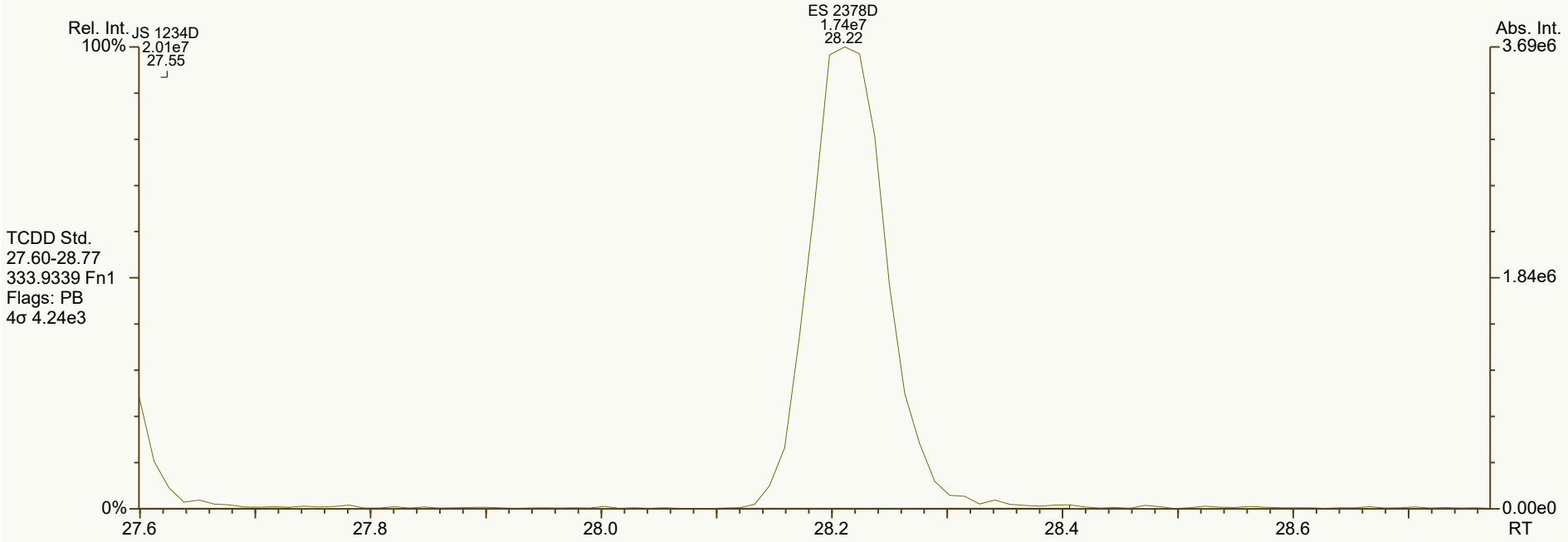
Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.08	2378-TCDD	28.24
2348-TCDF	27.26	2378-TCDF	27.37

Processed: 22 Feb 2022 09:28 Analyst: TF

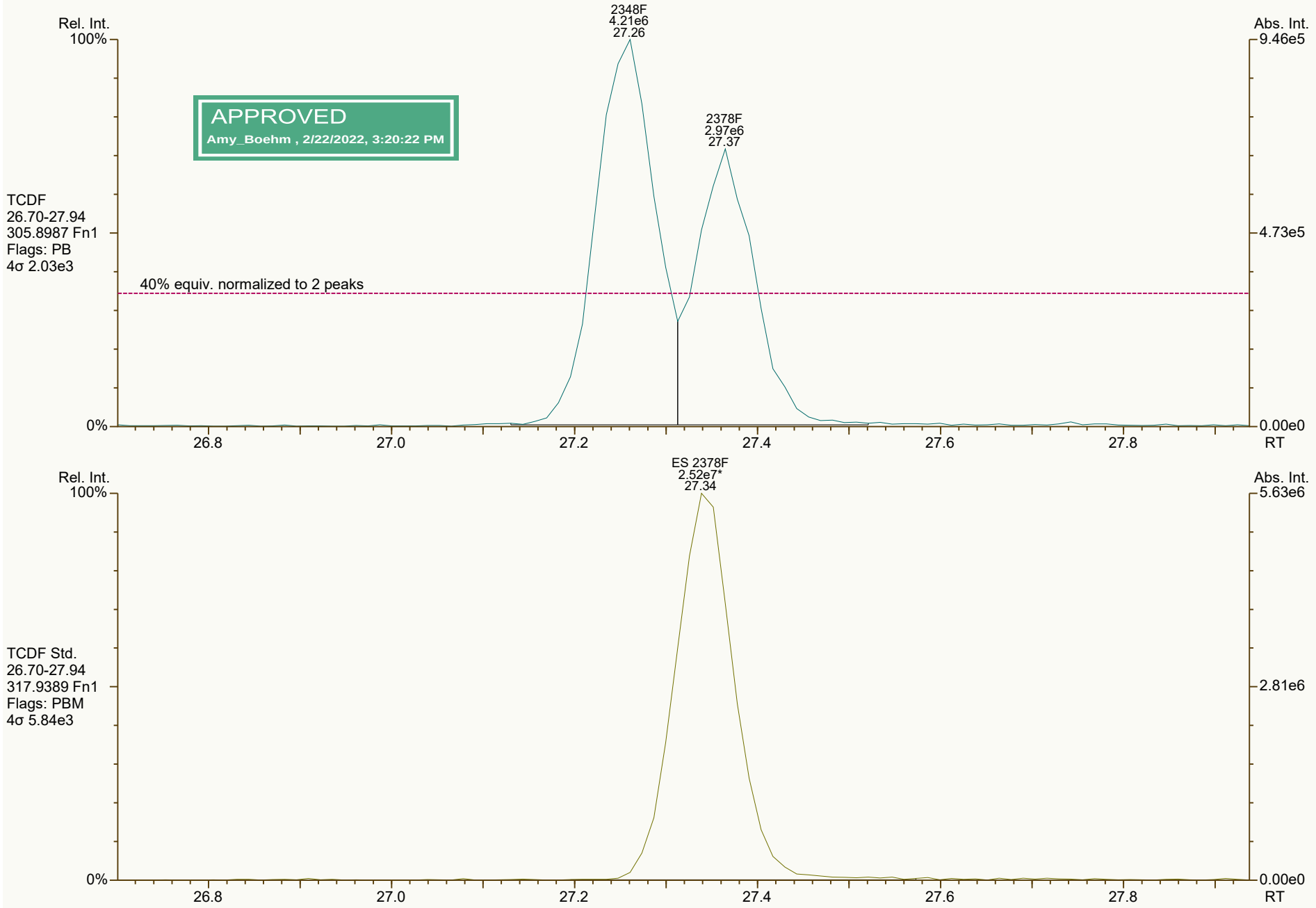
SGS ID: OPR1_18927_DF | Sample ID: 0_18927_OPR001 | Acq: 21-Feb-2022 10:27:39
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46 | User: DTF Datafile: 220221C02



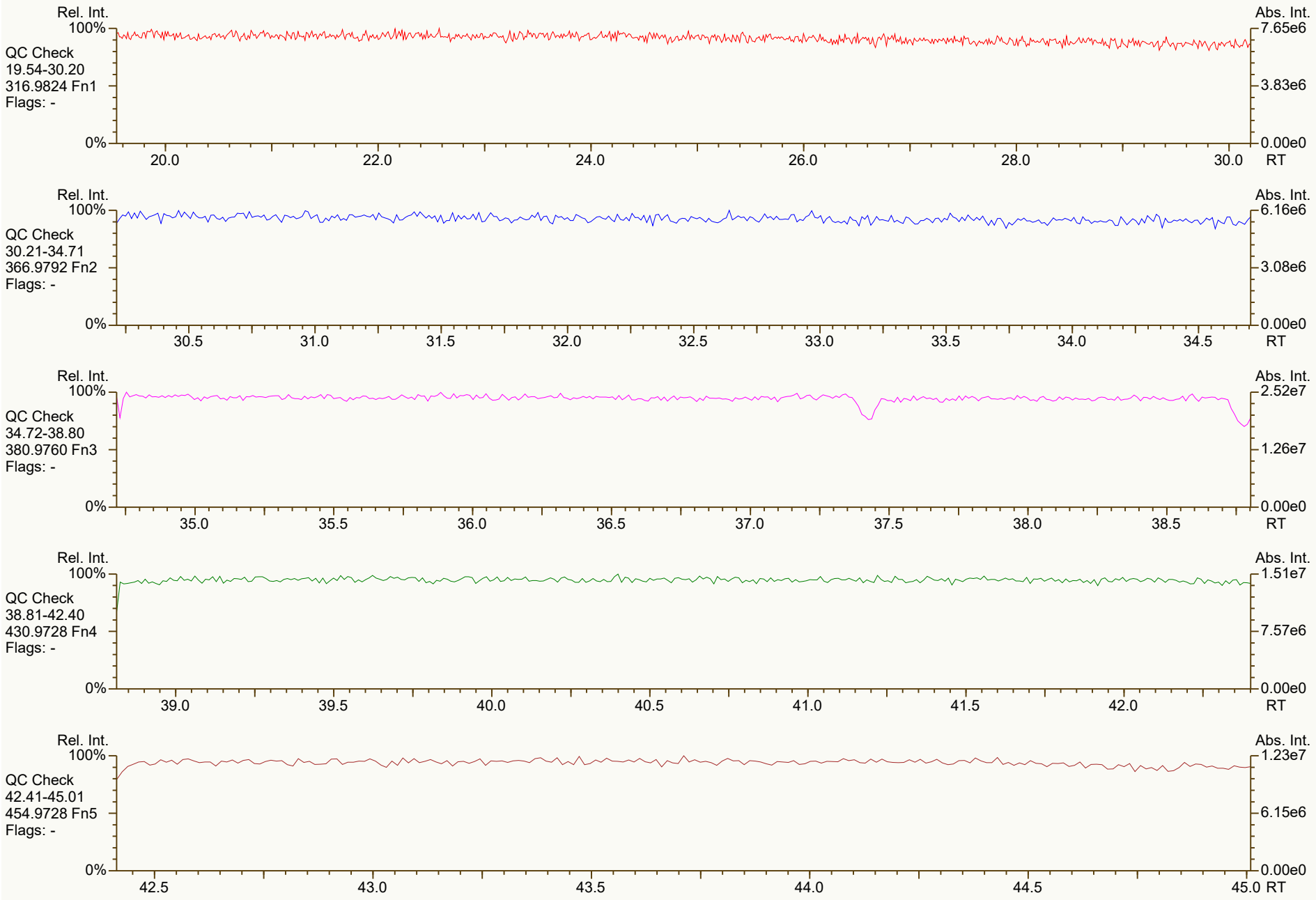


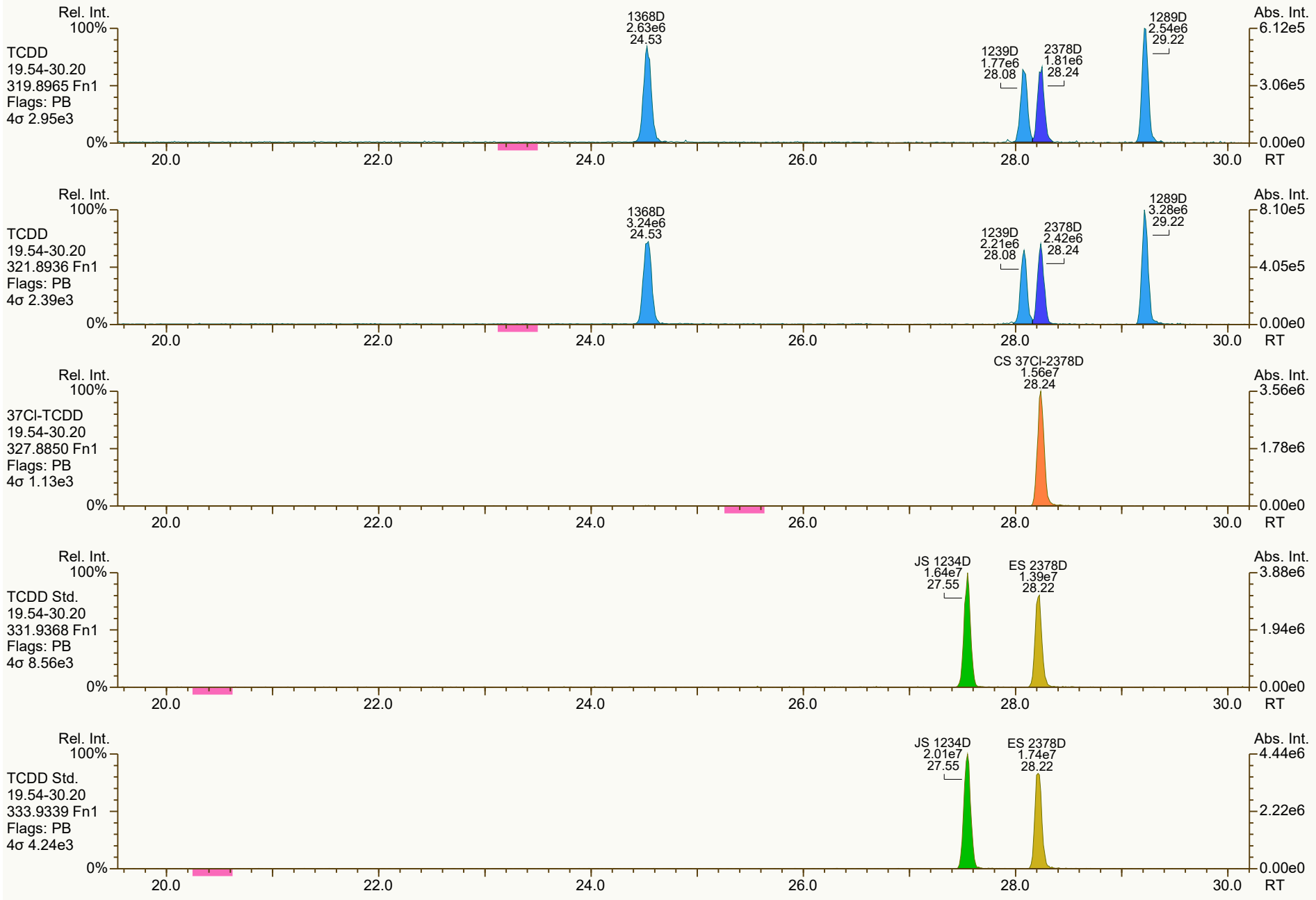
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\OPR1_18927_DF.utp_res, saved 22-Feb-2022 09:25 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
PKD: 21-Feb-2022 14:38 Printed: 22-Feb-2022 09:31

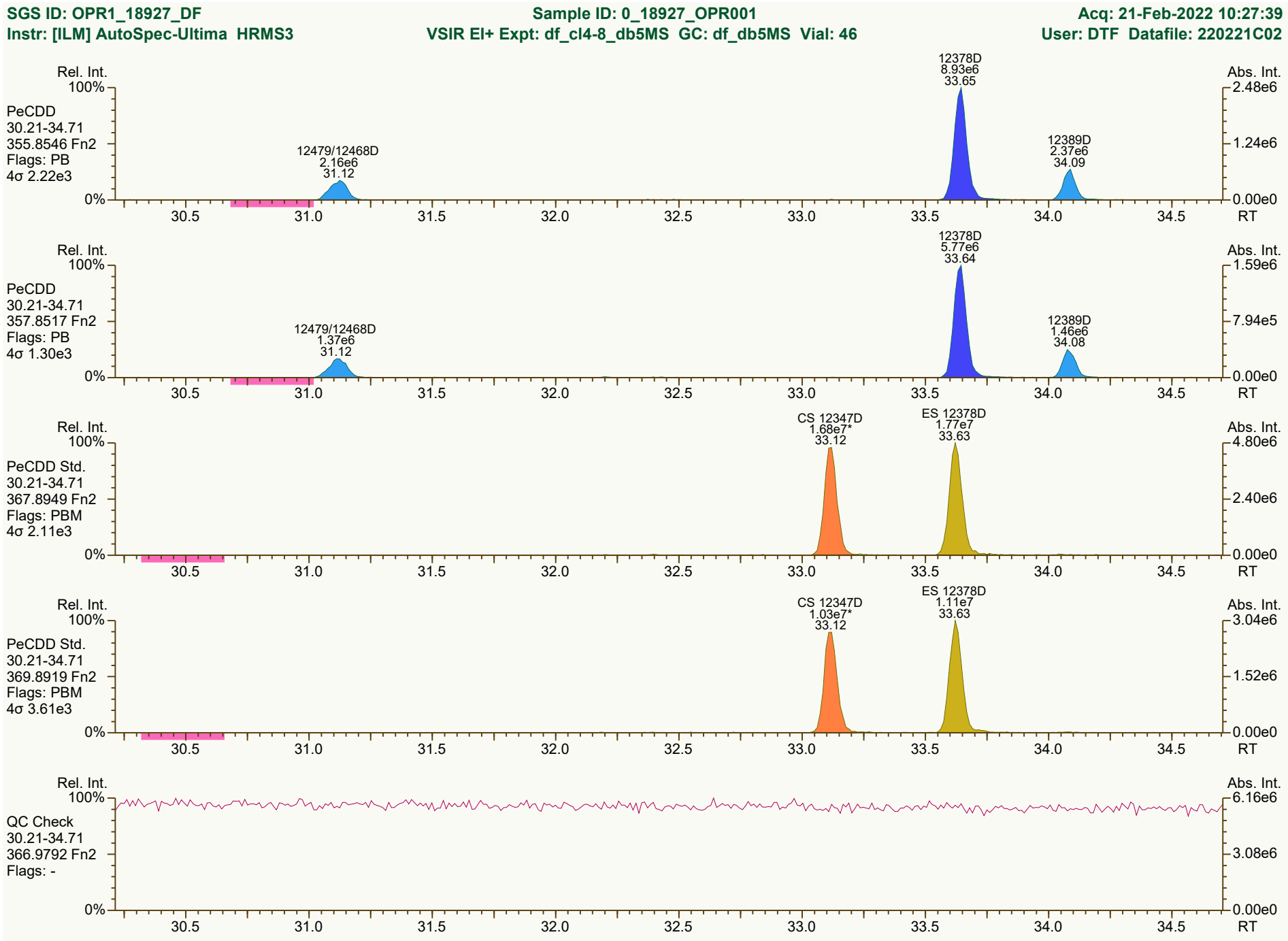
SGS ID: OPR1_18927_DF
Sample ID: 0_18927_OPR001
Acq: 21-Feb-2022 10:27:39
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46
User: DTF Datafile: 220221C02



Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\OPR1_18927_DF.utp_res, saved 22-Feb-2022 09:25 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 21-Feb-2022 14:40 (DTF) Printed: 22-Feb-2022 09:32


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
7.65e6
3.83e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
6.16e6
3.08e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
2.52e7
1.26e7
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.51e7
7.57e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.23e7
6.15e6
0.00e0

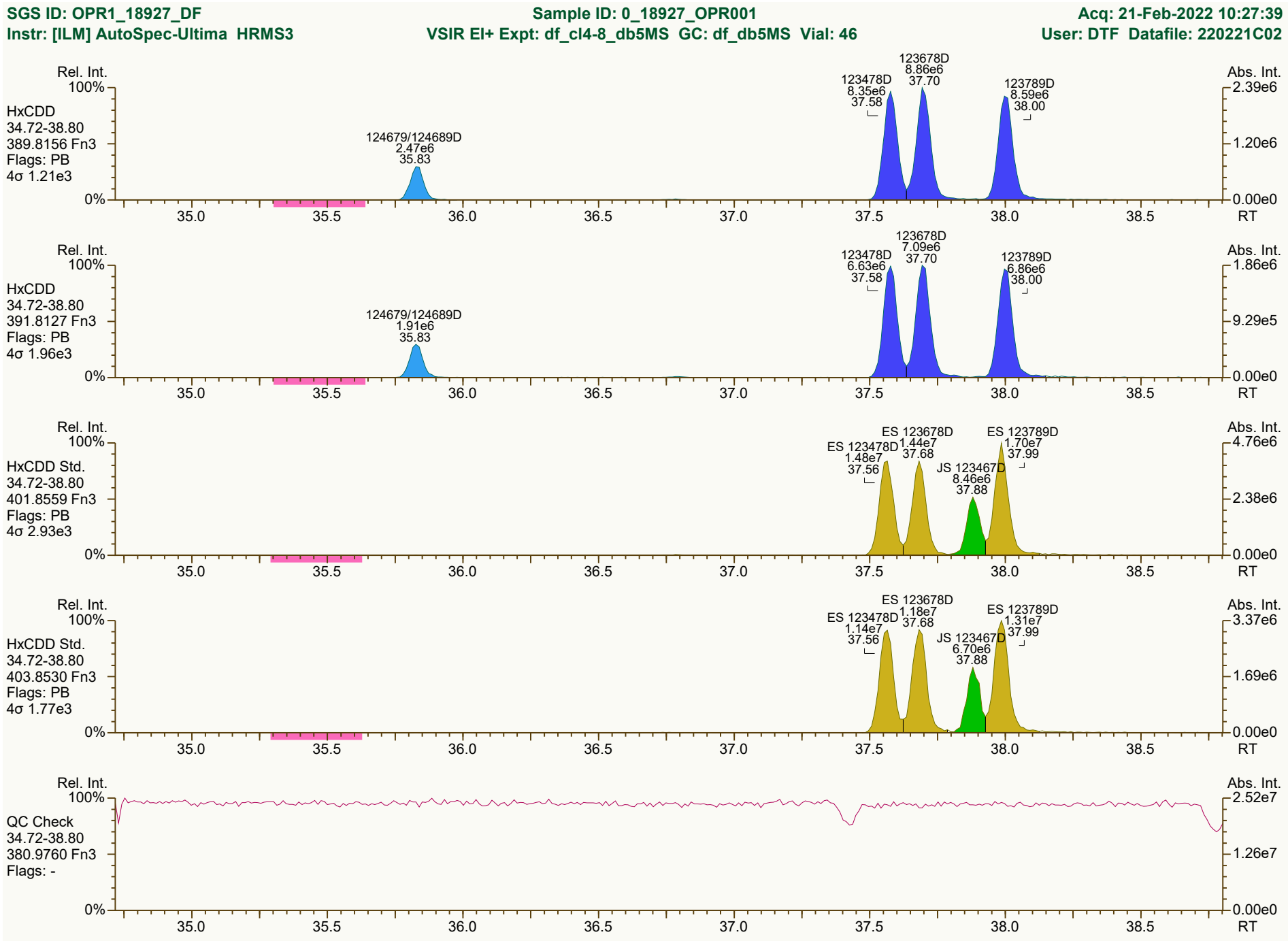

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.95e3
0%
1368D
2.63e6
24.53
1239D
1.77e6
28.08
2378D
1.81e6
28.24
1289D
2.54e6
29.22
Abs. Int.
6.12e5
3.06e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 2.39e3
0%
1368D
3.24e6
24.53
1239D
2.21e6
28.08
2378D
2.42e6
28.24
1289D
3.28e6
29.22
Abs. Int.
8.10e5
4.05e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.13e3
0%
CS 37Cl-2378D
1.56e7
28.24
Abs. Int.
3.56e6
1.78e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 8.56e3
0%
JS 1234D
1.64e7
27.55
ES 2378D
1.39e7
28.22
Abs. Int.
3.88e6
1.94e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.24e3
0%
JS 1234D
2.01e7
27.55
ES 2378D
1.74e7
28.22
Abs. Int.
4.44e6
2.22e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: OPR1_18927_DF
Sample ID: 0_18927_OPR001
Acq: 21-Feb-2022 10:27:39
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46
User: DTF Datafile: 220221C02
Rel. Int.
Abs. Int.
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 2.22e3
12479/12468D
2.16e6
31.12
12378D
8.93e6
33.65
12389D
2.37e6
34.09
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.30e3
12479/12468D
1.37e6
31.12
12378D
5.77e6
33.64
12389D
1.46e6
34.08
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PBM
4σ 2.11e3
CS 12347D
1.68e7*
33.12
ES 12378D
1.77e7
33.63
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PBM
4σ 3.61e3
CS 12347D
1.03e7*
33.12
ES 12378D
1.11e7
33.63
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
RT
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\OPR1_18927_DF.utp_res, saved 22-Feb-2022 09:25 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3438, 2383 scc: 611-851
Revised: 21-Feb-2022 14:39 (DTF) Printed: 22-Feb-2022 09:33 Page 3 of 12

SGS ID: OPR1_18927_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

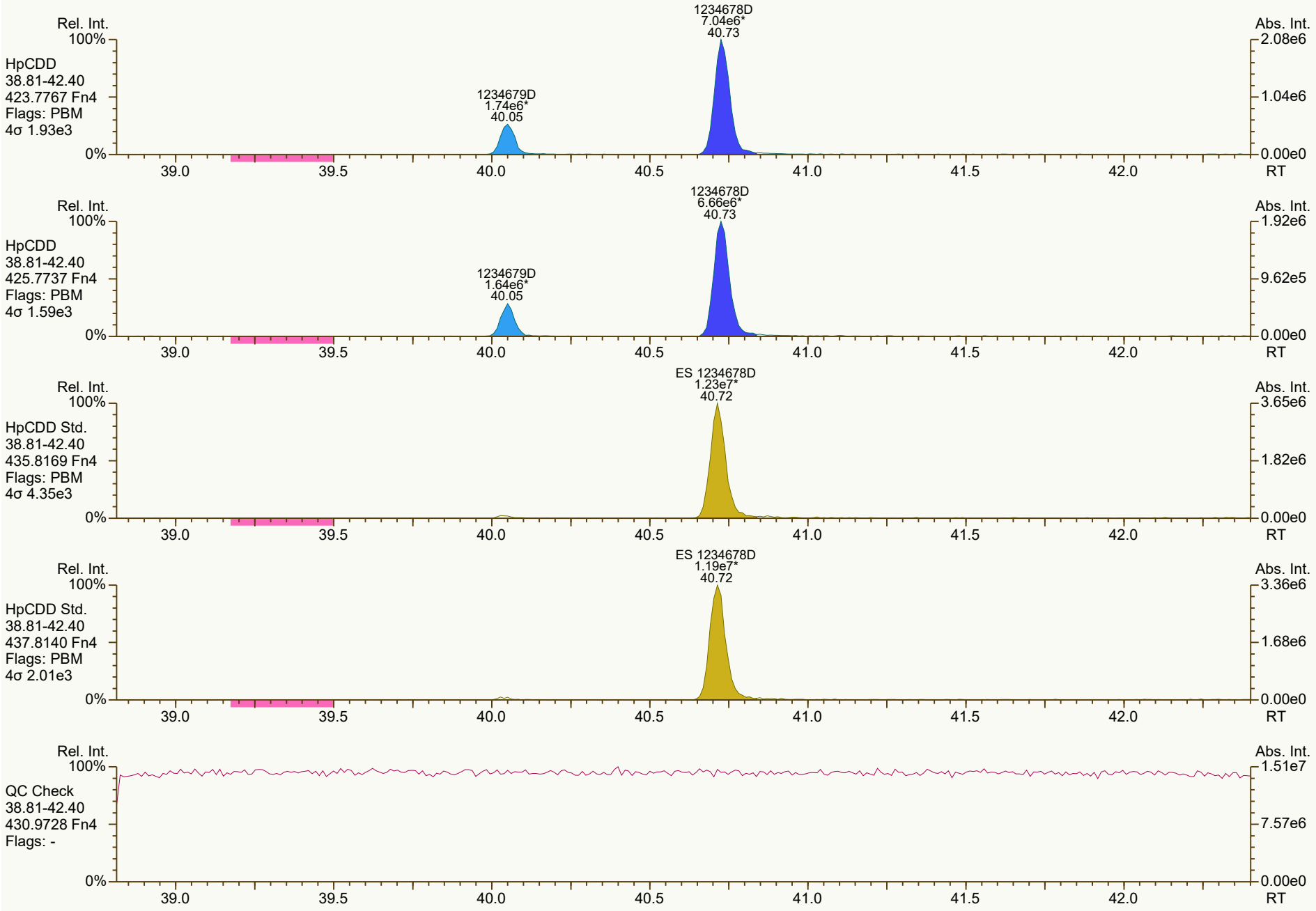
Sample ID: 0_18927_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46

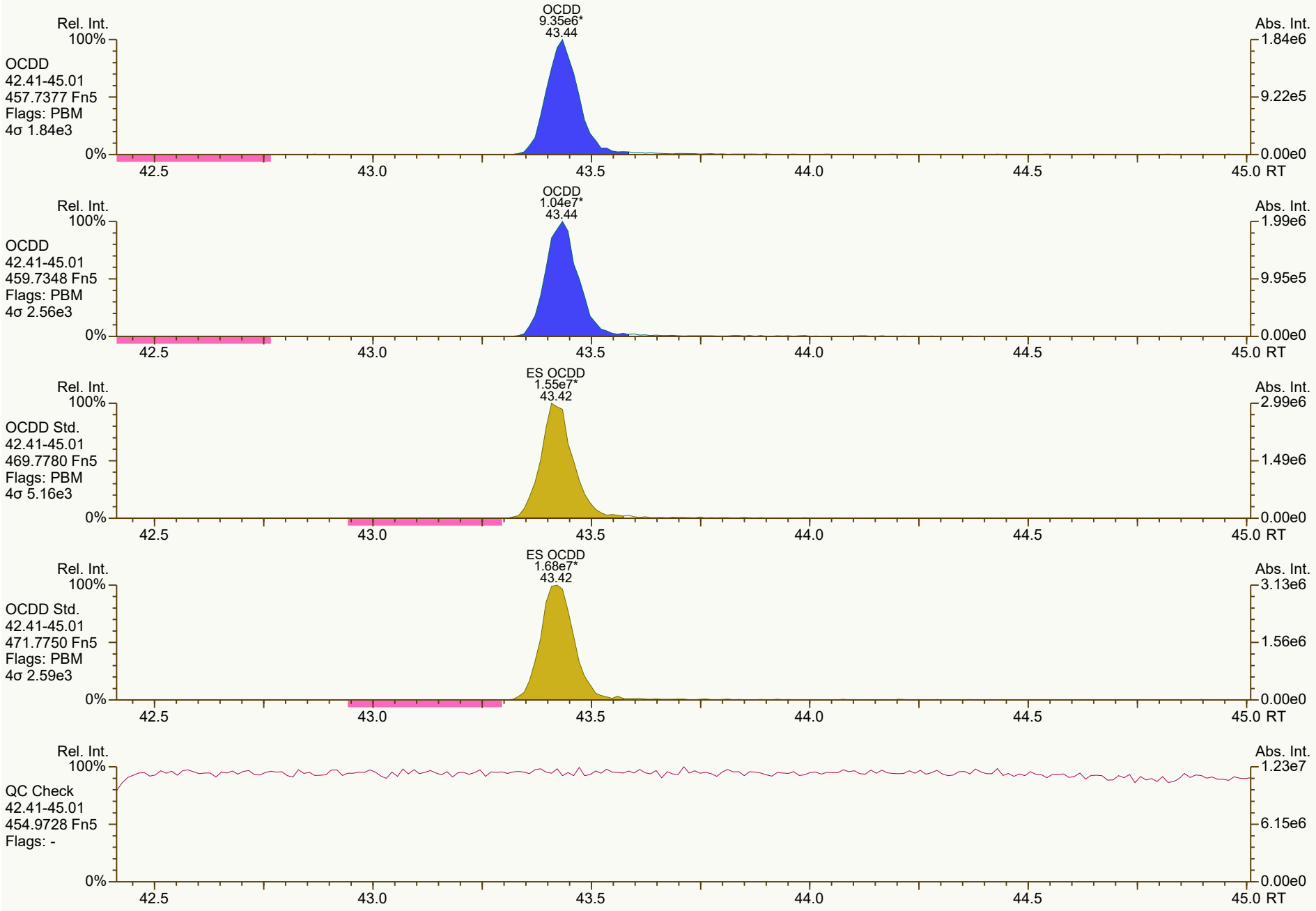
Acq: 21-Feb-2022 10:27:39
User: DTF Datafile: 220221C02

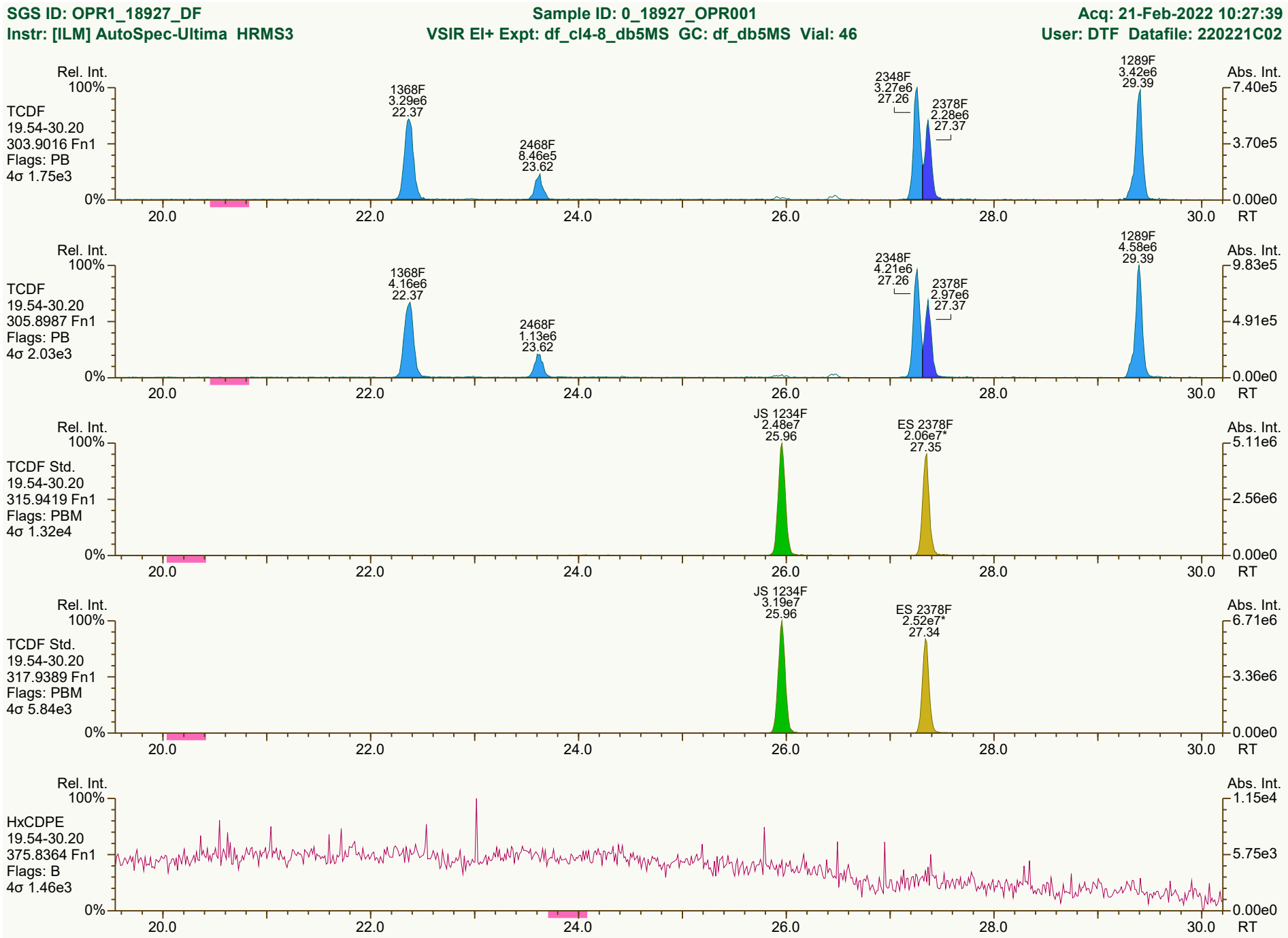


Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\OPR1_18927_DF.utp_res, saved 22-Feb-2022 09:25 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1203, 2279 scc: 611-851

Peak annotation: Areas, Centroids
PKD: 21-Feb-2022 14:40 Printed: 22-Feb-2022 09:33 Page 4 of 12


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 1.93e3
1234678D
7.04e6*
40.73
1234679D
1.74e6*
40.05
Abs. Int.
2.08e6
1.04e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 1.59e3
1234678D
6.66e6*
40.73
1234679D
1.64e6*
40.05
Abs. Int.
1.92e6
9.62e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 4.35e3
ES 1234678D
1.23e7*
40.72
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678D
1.19e7*
40.72
Abs. Int.
3.36e6
1.68e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.51e7
7.57e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

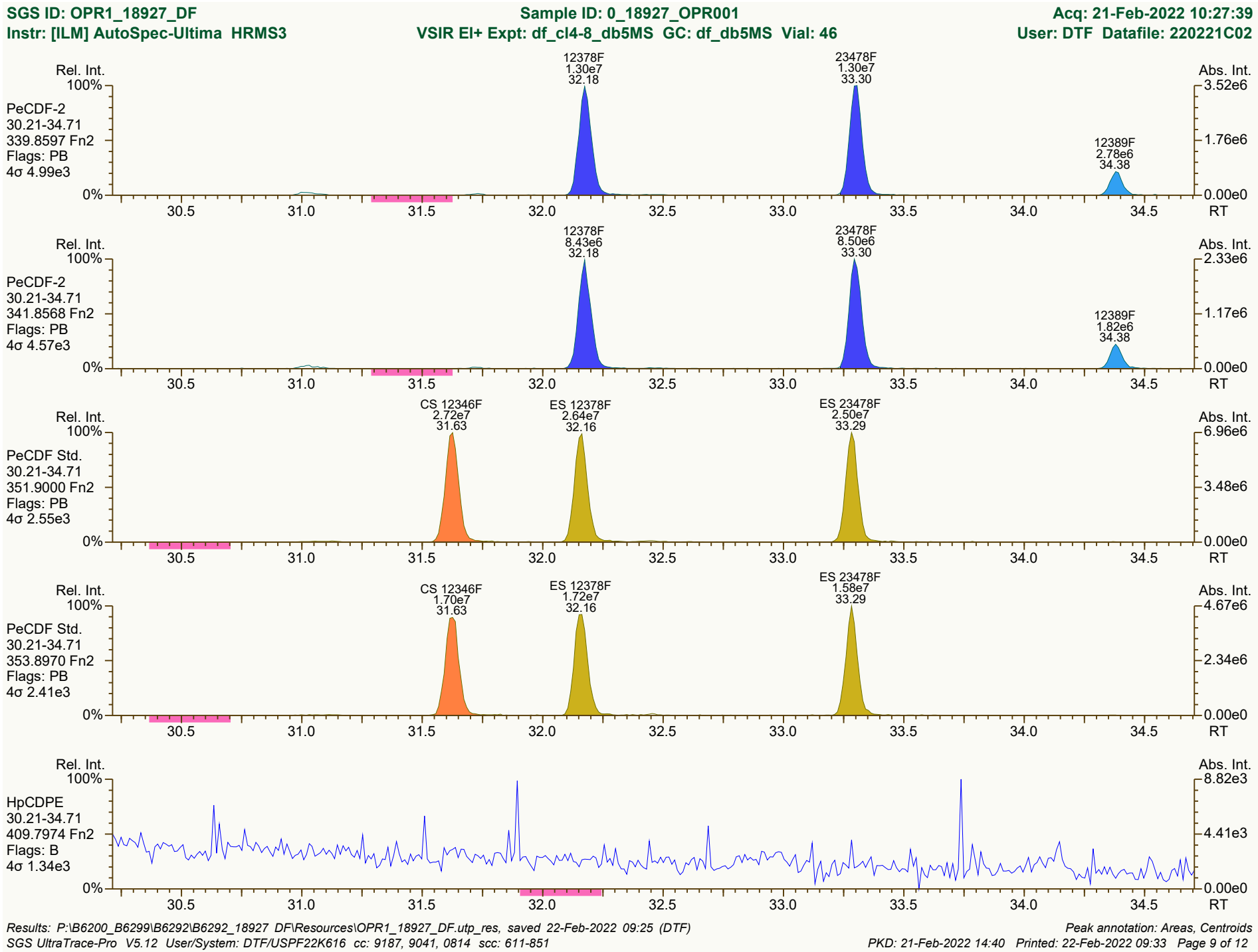

OCDD
9.35e6*
43.44
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 1.84e3
0%
Abs. Int.
1.84e6
9.22e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.04e7*
43.44
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 2.56e3
1.99e6
9.95e5
ES OCDD
1.55e7*
43.42
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 5.16e3
2.99e6
1.49e6
ES OCDD
1.68e7*
43.42
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 2.59e3
3.13e6
1.56e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.23e7
6.15e6

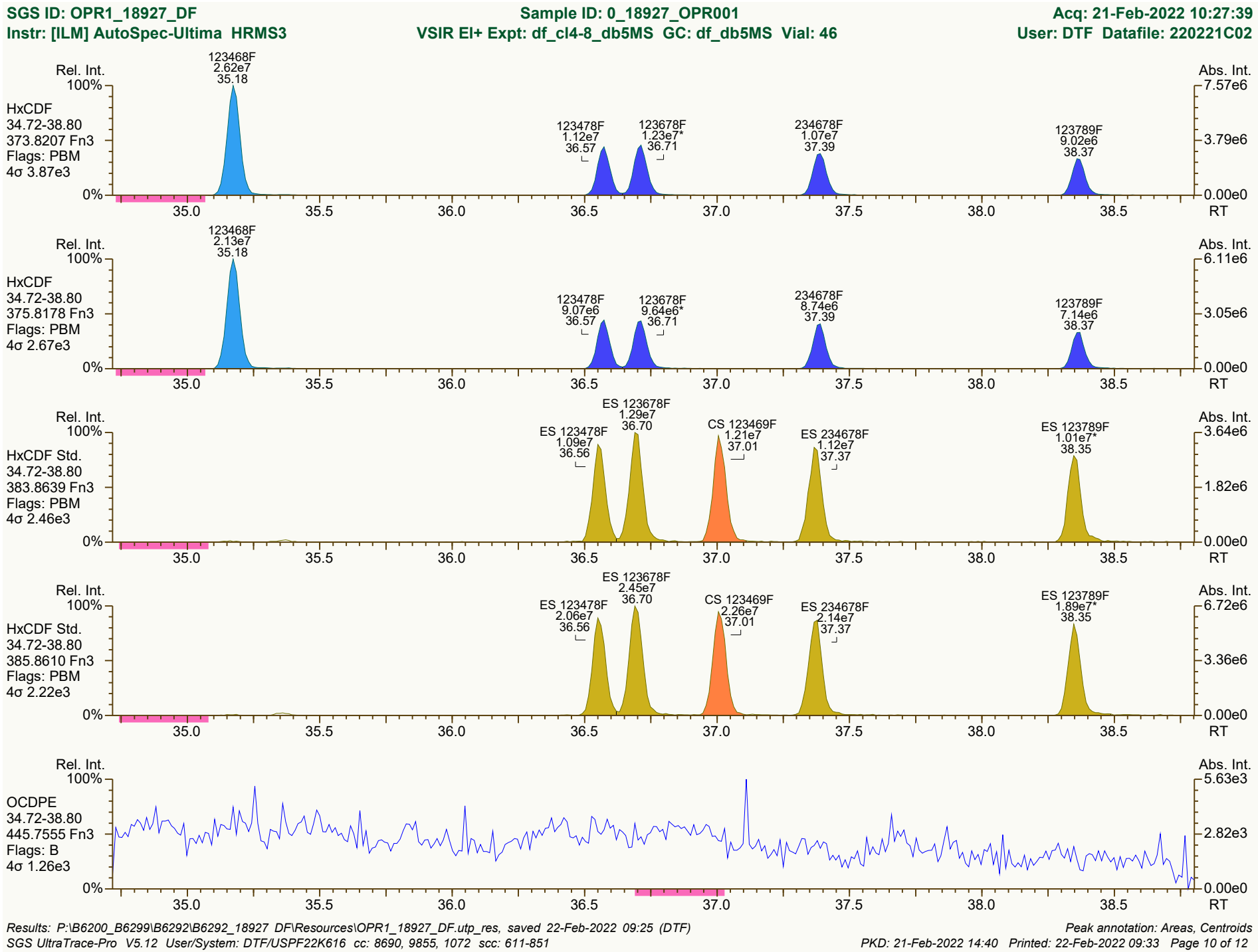

SGS ID: OPR1_18927_DF
Sample ID: 0_18927_OPR001
Acq: 21-Feb-2022 10:27:39
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46
User: DTF Datafile: 220221C02
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.75e3
1368F 3.29e6 22.37
2468F 8.46e5 23.62
2348F 3.27e6 27.26
2378F 2.28e6 27.37
1289F 3.42e6 29.39
7.40e5
3.70e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 2.03e3
1368F 4.16e6 22.37
2468F 1.13e6 23.62
2348F 4.21e6 27.26
2378F 2.97e6 27.37
1289F 4.58e6 29.39
9.83e5
4.91e5
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PBM
4σ 1.32e4
JS 1234F 2.48e7 25.96
ES 2378F 2.06e7* 27.35
5.11e6
2.56e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PBM
4σ 5.84e3
JS 1234F 3.19e7 25.96
ES 2378F 2.52e7* 27.34
6.71e6
3.36e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.46e3
1.15e4
5.75e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\OPR1_18927_DF.utp_res, saved 22-Feb-2022 09:25 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6686, 5400, 6282 scc: 611-851
PKD: 21-Feb-2022 14:40 Printed: 22-Feb-2022 09:33 Page 7 of 12

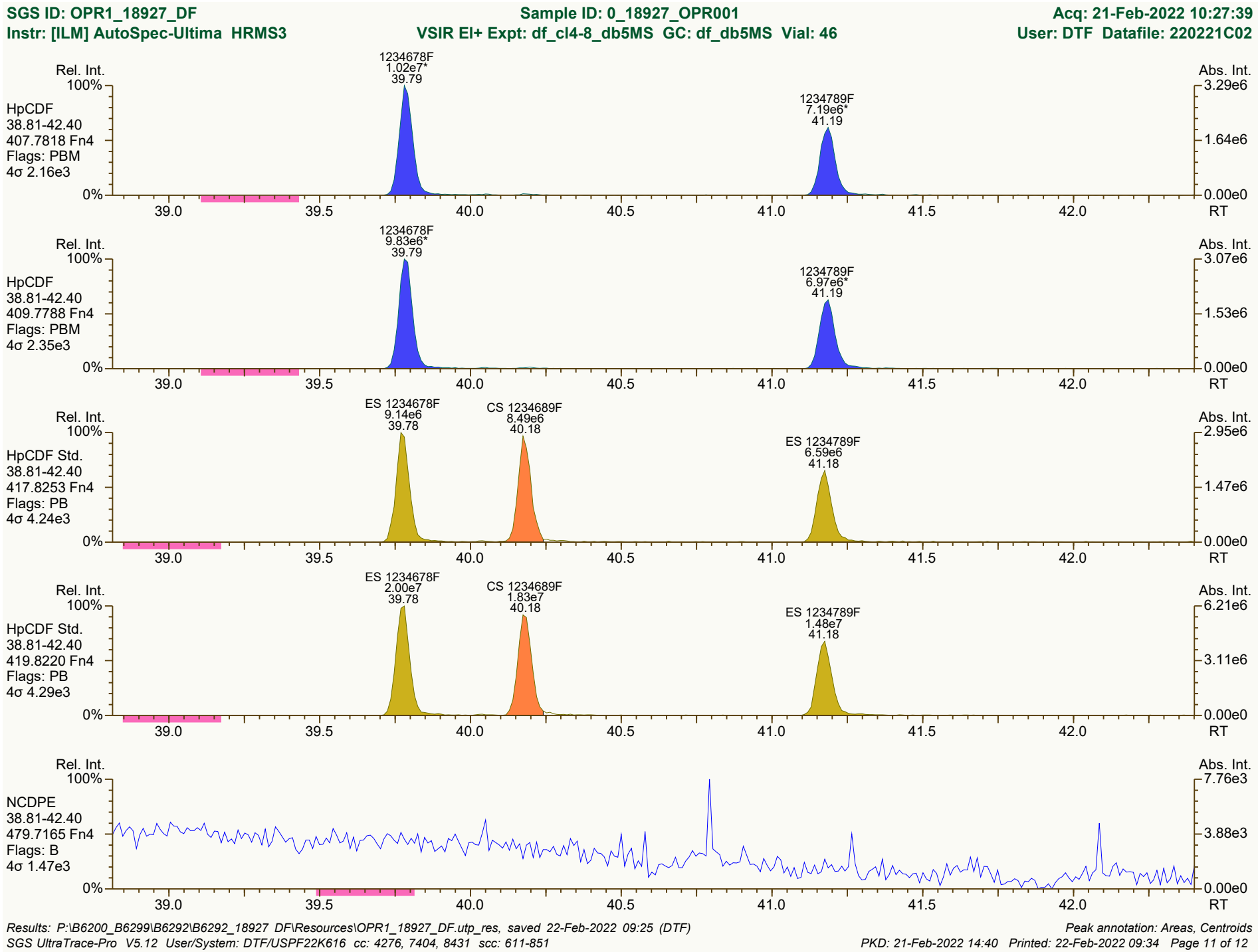
SGS ID: OPR1_18927_DF
Sample ID: 0_18927_OPR001
Acq: 21-Feb-2022 10:27:39
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46
User: DTF Datafile: 220221C02



Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\OPR1_18927_DF.utp_res, saved 22-Feb-2022 09:25 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7949 scc: 611-851
PKD: 21-Feb-2022 14:38 Printed: 22-Feb-2022 09:33 Page 8 of 12


SGS ID: OPR1_18927_DF
Sample ID: 0_18927_OPR001
Acq: 21-Feb-2022 10:27:39
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46
User: DTF Datafile: 220221C02
Rel. Int.
Abs. Int.
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 4.99e3
12378F
1.30e7
32.18
23478F
1.30e7
33.30
12389F
2.78e6
34.38
3.52e6
1.76e6
0.00e0
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 4.57e3
12378F
8.43e6
32.18
23478F
8.50e6
33.30
12389F
1.82e6
34.38
2.33e6
1.17e6
0.00e0
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 2.55e3
CS 12346F
2.72e7
31.63
ES 12378F
2.64e7
32.16
ES 23478F
2.50e7
33.29
6.96e6
3.48e6
0.00e0
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.41e3
CS 12346F
1.70e7
31.63
ES 12378F
1.72e7
32.16
ES 23478F
1.58e7
33.29
4.67e6
2.34e6
0.00e0
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.34e3
8.82e3
4.41e3
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\OPR1_18927_DF.utp_res, saved 22-Feb-2022 09:25 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9187, 9041, 0814 scc: 611-851
PKD: 21-Feb-2022 14:40 Printed: 22-Feb-2022 09:33 Page 9 of 12


SGS ID: OPR1_18927_DF
Sample ID: 0_18927_OPR001
Acq: 21-Feb-2022 10:27:39
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46
User: DTF Datafile: 220221C02
Rel. Int.
Abs. Int.
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 3.87e3
123468F 2.62e7 35.18
123478F 1.12e7 36.57
123678F 1.23e7* 36.71
234678F 1.07e7 37.39
123789F 9.02e6 38.37
7.57e6
3.79e6
0.00e0
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 2.67e3
123468F 2.13e7 35.18
123478F 9.07e6 36.57
123678F 9.64e6* 36.71
234678F 8.74e6 37.39
123789F 7.14e6 38.37
6.11e6
3.05e6
0.00e0
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 2.46e3
ES 123478F 1.09e7 36.56
ES 123678F 1.29e7 36.70
CS 123469F 1.21e7 37.01
ES 234678F 1.12e7 37.37
ES 123789F 1.01e7* 38.35
3.64e6
1.82e6
0.00e0
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 2.22e3
ES 123478F 2.06e7 36.56
ES 123678F 2.45e7 36.70
CS 123469F 2.26e7 37.01
ES 234678F 2.14e7 37.37
ES 123789F 1.89e7* 38.35
6.72e6
3.36e6
0.00e0
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.26e3
5.63e3
2.82e3
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\OPR1_18927_DF.utp_res, saved 22-Feb-2022 09:25 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8690, 9855, 1072 scc: 611-851
PKD: 21-Feb-2022 14:40 Printed: 22-Feb-2022 09:33 Page 10 of 12


SGS ID: OPR1_18927_DF
Sample ID: 0_18927_OPR001
Acq: 21-Feb-2022 10:27:39
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 46
User: DTF Datafile: 220221C02
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 2.16e3
1234678F
1.02e7*
39.79
1234789F
7.19e6*
41.19
3.29e6
1.64e6
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 2.35e3
1234678F
9.83e6*
39.79
1234789F
6.97e6*
41.19
3.07e6
1.53e6
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 4.24e3
ES 1234678F
9.14e6
39.78
CS 1234689F
8.49e6
40.18
ES 1234789F
6.59e6
41.18
2.95e6
1.47e6
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 4.29e3
ES 1234678F
2.00e7
39.78
CS 1234689F
1.83e7
40.18
ES 1234789F
1.48e7
41.18
6.21e6
3.11e6
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.47e3
7.76e3
3.88e3
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6292\B6292_18927 DF\Resources\OPR1_18927_DF.utp_res, saved 22-Feb-2022 09:25 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4276, 7404, 8431 scc: 611-851
PKD: 21-Feb-2022 14:40 Printed: 22-Feb-2022 09:34 Page 11 of 12


OCDF
1.02e7*
43.61
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 2.32e3
0%
Abs. Int.
2.09e6
1.05e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.13e7*
43.61
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 2.43e3
0%
Abs. Int.
2.33e6
1.16e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.86e7*
43.60
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 4.75e3
0%
Abs. Int.
3.78e6
1.89e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.99e7*
43.59
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 4.26e3
0%
Abs. Int.
3.99e6
1.99e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.20e3
0%
Abs. Int.
4.21e3
2.10e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6234

28-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

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This report is approved by

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Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6234
Analytical Protocol(s)	1613B
No. Samples Submitted	9
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	26-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	0.2, 0.0
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.14.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements, except for the following: the reported percent deviation of CS 1,2,3,4,6,8,9-HpCDF is above SOP criteria. There is no method specified criteria for these standards and no adverse impact on results.

No re-extractions or dilutions were required.

B6234_005: the reported ion ratio of labeled standard ES 1,2,3,7,8,9-HxCDD is outside method criteria.

OPR1/OPR2_18872 meet accuracy and precision criteria, except for the following: RPD of 2,3,7,8-TCDF is >20%.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-020522-S-SB-RB-15 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6293	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	0.98 L	Lab Sample ID	B6293_18936_DF_001	Date Extracted:	17-Feb-2022
Date Collected:	05-Feb-2022	pH:	5	QC Batch No:	18936	Date Analyzed:	23-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:11:16

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	2.17			ES 2378-TCDD	94.6	
12378-PeCDD	ND	2.67			ES 12378-PeCDD	101	
123478-HxCDD	ND	1.54			ES 123478-HxCDD	102	
123678-HxCDD	ND	1.49			ES 123678-HxCDD	107	
123789-HxCDD	ND	1.44			ES 123789-HxCDD	101	
1234678-HpCDD	ND	2.34			ES 1234678-HpCDD	109	
OCDD	ND	4.83			ES OCDD	108	
2378-TCDF	ND	1.64			ES 2378-TCDF	91	
12378-PeCDF	ND	1.25			ES 12378-PeCDF	103	
23478-PeCDF	ND	1.29			ES 23478-PeCDF	104	
123478-HxCDF	ND	1.11			ES 123478-HxCDF	99.9	
123678-HxCDF	ND	0.974			ES 123678-HxCDF	112	
234678-HxCDF	ND	0.989			ES 234678-HxCDF	121	
123789-HxCDF	ND	1.17			ES 123789-HxCDF	107	
1234678-HpCDF	ND	1.33			ES 1234678-HpCDF	109	
1234789-HpCDF	ND	1.86			ES 1234789-HpCDF	107	
OCDF	ND	2.65			ES OCDF	108	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	95.9	
Total TCDD	ND	2.17	ND		CS 12347-PeCDD	116	
Total PeCDD	ND	2.67	ND		CS 12346-PeCDF	106	
Total HxCDD	ND	1.49	ND		CS 123469-HxCDF	116	
Total HpCDD	ND	2.34	ND		CS 1234689-HpCDF	115	
Total TCDF	ND	1.64	ND				
Total PeCDF	ND	1.27	ND				
Total HxCDF	ND	1.05	ND				
Total HpCDF	ND	1.58	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	3.17	3.17	3.17				
TEQ: ND=DL	6.35	6.35	6.35				

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Sample ID: 11215131-020522-S-SB-RB-15 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6293	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	0.98 L	Lab Sample ID:	B6293_18936_DF_001	Date Extracted:	17-Feb-2022
Date Collected:	05-Feb-2022	pH:	5	QC Batch No.:	18936	Date Analyzed:	23-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:11:16

Tetra-Dioxins	Conc. (pg/L)	Qualifiers	Penta-Dioxins	Conc. (pg/L)	Qualifiers	Hexa-Dioxins	Conc (pg/L)	Qualifiers	Hepta-Dioxins	Conc (pg/L)	Qualifiers
1368D	(2.17)		12479/12468D	(2.67)		124679/124689D	(1.49)		1234679D	(2.34)	
1379D	(2.17)		12469D	(2.67)		123468D	(1.49)		1234678D	(2.34)	
1369D	(2.17)		12368D	(2.67)		123679/123689D	(1.49)				
1469D	(2.17)		12478D	(2.67)		123469D	(1.49)				
1247D...[4]	(2.17)		12379D	(2.67)		123478D	(1.54)				
1378D	(2.17)		12369D...[3]	(2.67)		123678D	(1.49)				
1268D	(2.17)		12346/12347D	(2.67)		123467D	(1.49)				
1478D	(2.17)		12378D	(2.67)		123789D	(1.44)		**Conc.**	0	
1279D	(2.17)		12367D	(2.67)					**EMPC**	0	
1234/1269D	(2.17)		12389D	(2.67)							
1236D	(2.17)								**Octa-Dioxin**	**Conc (pg/L)**	**Qualifiers**
1237/1238D	(2.17)										
1239D	(2.17)								OCDD	(4.83)	
2378D	(2.17)										
1278D	(2.17)										
1267D	(2.17)										
1289D	(2.17)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	3.17	3.17
TEQ: ND=DL	6.35	6.35

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 593-995-PGX

Report Created: 24-Feb-2022 13:09 Analyst: pw

Sample ID: 11215131-020522-S-SB-RB-15 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6293	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	0.98 L	Lab Sample ID:	B6293_18936_DF_001	Date Extracted:	17-Feb-2022
Date Collected:	05-Feb-2022	pH:	5	QC Batch No.:	18936	Date Analyzed:	23-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:11:16

Tetra-Furans	Conc. (pg/L)	Qualifiers	Penta-Furans	Conc. (pg/L)	Qualifiers	Hexa-Furans	Conc (pg/L)	Qualifiers	Hepta-Furans	Conc (pg/L)	Qualifiers
1368F	(1.64)		13468/12468F	(1.36)		123468F	(1.05)		1234678F	(1.33)	
1468F	(1.64)		13678F...[3]	(1.27)		124678/134678F	(1.05)		1234679F	(1.58)	
2468F	(1.64)		12368F...[3]	(1.27)		134679F	(1.05)		1234689F	(1.58)	
1346/1246F	(1.64)		14678F	(1.27)		124679F	(1.05)		1234789F	(1.86)	
1347F...[3]	(1.64)		13479F	(1.27)		124689F	(1.05)				
1348F	(1.64)		13469/12479F	(1.27)		123467F	(1.05)				
1248F...[3]	(1.64)		12346F	(1.27)		123478F	(1.11)				
1268F	(1.64)		23468/12469F	(1.27)		123678F	(0.974)				
1467F	(1.64)		12347F	(1.27)		123479F	(1.05)				
1478F	(1.64)		12348F	(1.27)		123469F	(1.05)				
1369/1237F	(1.64)		12378F	(1.25)		123679F	(1.05)				
2467F	(1.64)		12678/12367F	(1.27)		234678F	(0.989)		**Conc.**	0	
2368F	(1.64)		12379F	(1.27)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(1.64)		12679F	(1.27)		123689F	(1.05)				
1278F	(1.64)		23467/12369F	(1.27)		123789F	(1.17)		**Octa-Furan**	**Conc (pg/L)**	**Qualifiers**
1349F	(1.64)		23478F	(1.29)		123789/123489F	0				
1267F	(1.64)		23478/12489F	0		123489F	(1.05)		OCDF	(2.65)	
2346/1249F	(1.64)		12489F	(1.27)							
2347/1279F	(1.64)		12349F	(1.27)							
2348F	(1.64)		12389F	(1.27)							
2378F	(1.64)										
2367/3467F	(1.64)										
1269F	(1.64)										
1239F	(1.64)										
1289F	(1.64)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 593-995-PGX

Report Created: 24-Feb-2022 13:09 Analyst: pw

Sample ID: 11215131-020522-S-SB-RB-15 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Sample ID:	B6293_18936_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	0.98 L	QC Batch No.:	18936
Date Collected:	05-Feb-2022	Split:	-	Date Extracted:	17-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	23-Feb-2022 20:11
Lab Project No:	B6293	Units	pg/L		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(2.17)		2.17	(2.17)	(2.17)	(2.17)
12378-PeCDD	(2.67)		2.67	(1.33)	(2.67)	(2.67)
123478-HxCDD	(1.54)		1.54	(0.154)	(0.154)	(0.154)
123678-HxCDD	(1.49)		1.49	(0.149)	(0.149)	(0.149)
123789-HxCDD	(1.44)		1.44	(0.144)	(0.144)	(0.144)
1234678-HpCDD	(2.34)		2.34	(0.0234)	(0.0234)	(0.0234)
OCDD	(4.83)		4.83	(0.00483)	(0.000483)	(0.00145)
2378-TCDF	(1.64)		1.64	(0.164)	(0.164)	(0.164)
12378-PeCDF	(1.25)		1.25	(0.0624)	(0.0624)	(0.0374)
23478-PeCDF	(1.29)		1.29	(0.643)	(0.643)	(0.386)
123478-HxCDF	(1.11)		1.11	(0.111)	(0.111)	(0.111)
123678-HxCDF	(0.974)		0.974	(0.0974)	(0.0974)	(0.0974)
234678-HxCDF	(0.989)		0.989	(0.0989)	(0.0989)	(0.0989)
123789-HxCDF	(1.17)		1.17	(0.117)	(0.117)	(0.117)
1234678-HpCDF	(1.33)		1.33	(0.0133)	(0.0133)	(0.0133)
1234789-HpCDF	(1.86)		1.86	(0.0186)	(0.0186)	(0.0186)
OCDF	(2.65)		2.65	(0.00265)	(0.000265)	(0.000796)

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TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	2.65	3.31	3.17
EMPC = 0, ND = DL	5.3	6.63	6.35
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	2.65	3.31	3.17
EMPC = EMPC, ND = DL	5.3	6.63	6.35
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 593-995-PGX

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Sample ID: 11215131-020622-S-SB-RB-16 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6293	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	0.97 L	Lab Sample ID	B6293_18936_DF_002	Date Extracted:	17-Feb-2022
Date Collected:	06-Feb-2022	pH:	5	QC Batch No:	18936	Date Analyzed:	23-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:57:37

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	3.83			ES 2378-TCDD	89	
12378-PeCDD	ND	2.66			ES 12378-PeCDD	99	
123478-HxCDD	ND	2.57			ES 123478-HxCDD	93.3	
123678-HxCDD	ND	2.47			ES 123678-HxCDD	99.7	
123789-HxCDD	ND	2.37			ES 123789-HxCDD	91	
1234678-HpCDD	ND	2.54			ES 1234678-HpCDD	96.8	
OCDD	ND	4.58			ES OCDD	92.9	
2378-TCDF	ND	1.5			ES 2378-TCDF	87.8	
12378-PeCDF	ND	1.66			ES 12378-PeCDF	99.3	
23478-PeCDF	ND	1.58			ES 23478-PeCDF	106	
123478-HxCDF	ND	1.64			ES 123478-HxCDF	93.4	
123678-HxCDF	ND	1.5			ES 123678-HxCDF	104	
234678-HxCDF	ND	1.46			ES 234678-HxCDF	114	
123789-HxCDF	ND	1.84			ES 123789-HxCDF	99.6	
1234678-HpCDF	ND	1.66			ES 1234678-HpCDF	95.9	
1234789-HpCDF	ND	2.24			ES 1234789-HpCDF	96.9	
OCDF	ND	5.28			ES OCDF	94.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	92.3	
Total TCDD	ND	3.83	ND		CS 12347-PeCDD	116	
Total PeCDD	ND	2.66	ND		CS 12346-PeCDF	109	
Total HxCDD	ND	2.47	ND		CS 123469-HxCDF	110	
Total HpCDD	ND	2.54	ND		CS 1234689-HpCDF	108	
Total TCDF	ND	1.5	ND				
Total PeCDF	ND	1.62	ND				
Total HxCDF	ND	1.59	ND				
Total HpCDF	ND	1.93	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	4.31	4.31	4.31				
TEQ: ND=DL	8.62	8.62	8.62				

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Sample ID: 11215131-020622-S-SB-RB-16 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6293	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	0.97 L	Lab Sample ID:	B6293_18936_DF_002	Date Extracted:	17-Feb-2022
Date Collected:	06-Feb-2022	pH:	5	QC Batch No.:	18936	Date Analyzed:	23-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:57:37

Tetra-Dioxins	Conc. (pg/L)	Qualifiers	Penta-Dioxins	Conc. (pg/L)	Qualifiers	Hexa-Dioxins	Conc (pg/L)	Qualifiers	Hepta-Dioxins	Conc (pg/L)	Qualifiers
1368D	(3.83)		12479/12468D	(2.66)		124679/124689D	(2.47)		1234679D	(2.54)	
1379D	(3.83)		12469D	(2.66)		123468D	(2.47)		1234678D	(2.54)	
1369D	(3.83)		12368D	(2.66)		123679/123689D	(2.47)				
1469D	(3.83)		12478D	(2.66)		123469D	(2.47)				
1247D...[4]	(3.83)		12379D	(2.66)		123478D	(2.57)				
1378D	(3.83)		12369D...[3]	(2.66)		123678D	(2.47)				
1268D	(3.83)		12346/12347D	(2.66)		123467D	(2.47)				
1478D	(3.83)		12378D	(2.66)		123789D	(2.37)		**Conc.**	0	
1279D	(3.83)		12367D	(2.66)					**EMPC**	0	
1234/1269D	(3.83)		12389D	(2.66)							
1236D	(3.83)								**Octa-Dioxin**	**Conc (pg/L)**	**Qualifiers**
1237/1238D	(3.83)										
1239D	(3.83)								OCDD	(4.58)	
2378D	(3.83)										
1278D	(3.83)										
1267D	(3.83)										
1289D	(3.83)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	4.31	4.31
TEQ: ND=DL	8.62	8.62

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 572-353-RQV

Report Created: 24-Feb-2022 13:09 Analyst: pw

Sample ID: 11215131-020622-S-SB-RB-16 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6293	Date Received:	08-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	0.97 L	Lab Sample ID:	B6293_18936_DF_002	Date Extracted:	17-Feb-2022
Date Collected:	06-Feb-2022	pH:	5	QC Batch No.:	18936	Date Analyzed:	23-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:57:37

Tetra-Furans	Conc. (pg/L)	Qualifiers	Penta-Furans	Conc. (pg/L)	Qualifiers	Hexa-Furans	Conc (pg/L)	Qualifiers	Hepta-Furans	Conc (pg/L)	Qualifiers
1368F	(1.5)		13468/12468F	(1.82)		123468F	(1.59)		1234678F	(1.66)	
1468F	(1.5)		13678F...[3]	(1.62)		124678/134678F	(1.59)		1234679F	(1.93)	
2468F	(1.5)		12368F...[3]	(1.62)		134679F	(1.59)		1234689F	(1.93)	
1346/1246F	(1.5)		14678F	(1.62)		124679F	(1.59)		1234789F	(2.24)	
1347F...[3]	(1.5)		13479F	(1.62)		124689F	(1.59)				
1348F	(1.5)		13469/12479F	(1.62)		123467F	(1.59)				
1248F...[3]	(1.5)		12346F	(1.62)		123478F	(1.64)				
1268F	(1.5)		23468/12469F	(1.62)		123678F	(1.5)				
1467F	(1.5)		12347F	(1.62)		123479F	(1.59)				
1478F	(1.5)		12348F	(1.62)		123469F	(1.59)				
1369/1237F	(1.5)		12378F	(1.66)		123679F	(1.59)				
2467F	(1.5)		12678/12367F	(1.62)		234678F	(1.46)		**Conc.**	0	
2368F	(1.5)		12379F	(1.62)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(1.5)		12679F	(1.62)		123689F	(1.59)				
1278F	(1.5)		23467/12369F	(1.62)		123789F	(1.84)		**Octa-Furan**	**Conc (pg/L)**	**Qualifiers**
1349F	(1.5)		23478F	(1.58)		123789/123489F	0				
1267F	(1.5)		23478/12489F	0		123489F	(1.59)		OCDF	(5.28)	
2346/1249F	(1.5)		12489F	(1.62)							
2347/1279F	(1.5)		12349F	(1.62)							
2348F	(1.5)		12389F	(1.62)							
2378F	(1.5)										
2367/3467F	(1.5)										
1269F	(1.5)										
1239F	(1.5)										
1289F	(1.5)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 572-353-RQV

Report Created: 24-Feb-2022 13:09 Analyst: pw

Sample ID: 11215131-020622-S-SB-RB-16 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Sample ID:	B6293_18936_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	0.97 L	QC Batch No.:	18936
Date Collected:	06-Feb-2022	Split:	-	Date Extracted:	17-Feb-2022
Date Received:	08-Feb-2022	Dilution:	-	Date Analyzed:	23-Feb-2022 20:57
Lab Project No:	B6293	Units	pg/L		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(3.83)		3.83	(3.83)	(3.83)	(3.83)
12378-PeCDD	(2.66)		2.66	(1.33)	(2.66)	(2.66)
123478-HxCDD	(2.57)		2.57	(0.257)	(0.257)	(0.257)
123678-HxCDD	(2.47)		2.47	(0.247)	(0.247)	(0.247)
123789-HxCDD	(2.37)		2.37	(0.237)	(0.237)	(0.237)
1234678-HpCDD	(2.54)		2.54	(0.0254)	(0.0254)	(0.0254)
OCDD	(4.58)		4.58	(0.00458)	(0.000458)	(0.00137)
2378-TCDF	(1.5)		1.5	(0.15)	(0.15)	(0.15)
12378-PeCDF	(1.66)		1.66	(0.083)	(0.083)	(0.0498)
23478-PeCDF	(1.58)		1.58	(0.789)	(0.789)	(0.474)
123478-HxCDF	(1.64)		1.64	(0.164)	(0.164)	(0.164)
123678-HxCDF	(1.5)		1.5	(0.15)	(0.15)	(0.15)
234678-HxCDF	(1.46)		1.46	(0.146)	(0.146)	(0.146)
123789-HxCDF	(1.84)		1.84	(0.184)	(0.184)	(0.184)
1234678-HpCDF	(1.66)		1.66	(0.0166)	(0.0166)	(0.0166)
1234789-HpCDF	(2.24)		2.24	(0.0224)	(0.0224)	(0.0224)
OCDF	(5.28)		5.28	(0.00528)	(0.000528)	(0.00159)

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TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	3.82	4.48	4.31
EMPC = 0, ND = DL	7.64	8.96	8.62
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	3.82	4.48	4.31
EMPC = EMPC, ND = DL	7.64	8.96	8.62
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 572-353-RQV

Sample ID: Method Blank B6293_18936 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6293	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID	MB1_18936_DF_TLX	Date Extracted:	17-Feb-2022
Date Collected:	n/a	pH:	n/a	QC Batch No:	18936	Date Analyzed:	23-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:38:34

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	3.02			ES 2378-TCDD	91.5	
12378-PeCDD	ND	1.83			ES 12378-PeCDD	97.3	
123478-HxCDD	ND	2.13			ES 123478-HxCDD	93.9	
123678-HxCDD	ND	2.09			ES 123678-HxCDD	98.2	
123789-HxCDD	ND	2.04			ES 123789-HxCDD	91.3	
1234678-HpCDD	ND	2.24			ES 1234678-HpCDD	100	
OCDD	ND	5.38			ES OCDD	103	
2378-TCDF	ND	1.68			ES 2378-TCDF	80.2	
12378-PeCDF	ND	1.34			ES 12378-PeCDF	91.1	
23478-PeCDF	ND	1.31			ES 23478-PeCDF	92.5	
123478-HxCDF	ND	1.47			ES 123478-HxCDF	94.6	
123678-HxCDF	ND	1.29			ES 123678-HxCDF	101	
234678-HxCDF	ND	1.38			ES 234678-HxCDF	113	
123789-HxCDF	ND	1.59			ES 123789-HxCDF	98.4	
1234678-HpCDF	ND	1.42			ES 1234678-HpCDF	97.2	
1234789-HpCDF	ND	1.79			ES 1234789-HpCDF	98.3	
OCDF	ND	4.28			ES OCDF	103	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	93	
Total TCDD	ND	3.02	ND		CS 12347-PeCDD	113	
Total PeCDD	ND	1.83	ND		CS 12346-PeCDF	95	
Total HxCDD	ND	2.08	ND		CS 123469-HxCDF	112	
Total HpCDD	ND	2.24	ND		CS 1234689-HpCDF	105	
Total TCDF	ND	1.68	ND				
Total PeCDF	ND	1.32	ND				
Total HxCDF	ND	1.42	ND				
Total HpCDF	ND	1.59	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	3.36	3.36	3.36				
TEQ: ND=DL	6.71	6.71	6.71				

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Sample ID: Method Blank B6293_18936 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6293	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID:	MB1_18936_DF_TLX	Date Extracted:	17-Feb-2022
Date Collected:	n/a	pH:	n/a	QC Batch No.:	18936	Date Analyzed:	23-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:38:34

Tetra-Dioxins	Conc. (pg/L)	Qualifiers
1368D	(3.02)	
1379D	(3.02)	
1369D	(3.02)	
1469D	(3.02)	
1247D...[4]	(3.02)	
1378D	(3.02)	
1268D	(3.02)	
1478D	(3.02)	
1279D	(3.02)	
1234/1269D	(3.02)	
1236D	(3.02)	
1237/1238D	(3.02)	
1239D	(3.02)	
2378D	(3.02)	
1278D	(3.02)	
1267D	(3.02)	
1289D	(3.02)	
Conc.	0	
EMPC	0	

Penta-Dioxins	Conc. (pg/L)	Qualifiers
12479/12468D	(1.83)	
12469D	(1.83)	
12368D	(1.83)	
12478D	(1.83)	
12379D	(1.83)	
12369D...[3]	(1.83)	
12346/12347D	(1.83)	
12378D	(1.83)	
12367D	(1.83)	
12389D	(1.83)	
Conc.	0	
EMPC	0	

Hexa-Dioxins	Conc (pg/L)	Qualifiers
124679/124689D	(2.08)	
123468D	(2.08)	
123679/123689D	(2.08)	
123469D	(2.08)	
123478D	(2.13)	
123678D	(2.09)	
123467D	(2.08)	
123789D	(2.04)	
Conc.	0	
EMPC	0	

Hepta-Dioxins	Conc (pg/L)	Qualifiers
1234679D	(2.24)	
1234678D	(2.24)	
Conc.	0	
EMPC	0	

Octa-Dioxin	Conc (pg/L)	Qualifiers
OCDD	(5.38)	

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	3.36	3.36
TEQ: ND=DL	6.71	6.71

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 773-669-JXF

Report Created: 24-Feb-2022 13:09 Analyst: pw

Sample ID: Method Blank B6293_18936 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6293	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID:	MB1_18936_DF_TLX	Date Extracted:	17-Feb-2022
Date Collected:	n/a	pH:	n/a	QC Batch No.:	18936	Date Analyzed:	23-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:38:34

Tetra-Furans	Conc. (pg/L)	Qualifiers	Penta-Furans	Conc. (pg/L)	Qualifiers	Hexa-Furans	Conc (pg/L)	Qualifiers	Hepta-Furans	Conc (pg/L)	Qualifiers
1368F	(1.68)		13468/12468F	(1.59)		123468F	(1.42)		1234678F	(1.42)	
1468F	(1.68)		13678F...[3]	(1.32)		124678/134678F	(1.42)		1234679F	(1.59)	
2468F	(1.68)		12368F...[3]	(1.32)		134679F	(1.42)		1234689F	(1.59)	
1346/1246F	(1.68)		14678F	(1.32)		124679F	(1.42)		1234789F	(1.79)	
1347F...[3]	(1.68)		13479F	(1.32)		124689F	(1.42)				
1348F	(1.68)		13469/12479F	(1.32)		123467F	(1.42)				
1248F...[3]	(1.68)		12346F	(1.32)		123478F	(1.47)				
1268F	(1.68)		23468/12469F	(1.32)		123678F	(1.29)				
1467F	(1.68)		12347F	(1.32)		123479F	(1.42)				
1478F	(1.68)		12348F	(1.32)		123469F	(1.42)				
1369/1237F	(1.68)		12378F	(1.34)		123679F	(1.42)				
2467F	(1.68)		12678/12367F	(1.32)		234678F	(1.38)		**Conc.**	0	
2368F	(1.68)		12379F	(1.32)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(1.68)		12679F	(1.32)		123689F	(1.42)				
1278F	(1.68)		23467/12369F	(1.32)		123789F	(1.59)		**Octa-Furan**	**Conc (pg/L)**	**Qualifiers**
1349F	(1.68)		23478F	(1.31)		123789/123489F	0				
1267F	(1.68)		23478/12489F	0		123489F	(1.42)		OCDF	(4.28)	
2346/1249F	(1.68)		12489F	(1.32)							
2347/1279F	(1.68)		12349F	(1.32)							
2348F	(1.68)		12389F	(1.32)							
2378F	(1.68)										
2367/3467F	(1.68)										
1269F	(1.68)										
1239F	(1.68)										
1289F	(1.68)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 773-669-JXF

Report Created: 24-Feb-2022 13:09 Analyst: pw

Sample ID: Method Blank B6293_18936 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Sample ID:	MB1_18936_DF_TLX
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	QC Batch No.:	18936
Date Collected:	n/a	Split:	-	Date Extracted:	17-Feb-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	23-Feb-2022 18:38
Lab Project No:	B6293	Units	pg/L		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(3.02)		3.02	(3.02)	(3.02)	(3.02)
12378-PeCDD	(1.83)		1.83	(0.917)	(1.83)	(1.83)
123478-HxCDD	(2.13)		2.13	(0.213)	(0.213)	(0.213)
123678-HxCDD	(2.09)		2.09	(0.209)	(0.209)	(0.209)
123789-HxCDD	(2.04)		2.04	(0.204)	(0.204)	(0.204)
1234678-HpCDD	(2.24)		2.24	(0.0224)	(0.0224)	(0.0224)
OCDD	(5.38)		5.38	(0.00538)	(0.000538)	(0.00161)
2378-TCDF	(1.68)		1.68	(0.168)	(0.168)	(0.168)
12378-PeCDF	(1.34)		1.34	(0.0669)	(0.0669)	(0.0401)
23478-PeCDF	(1.31)		1.31	(0.655)	(0.655)	(0.393)
123478-HxCDF	(1.47)		1.47	(0.147)	(0.147)	(0.147)
123678-HxCDF	(1.29)		1.29	(0.129)	(0.129)	(0.129)
234678-HxCDF	(1.38)		1.38	(0.138)	(0.138)	(0.138)
123789-HxCDF	(1.59)		1.59	(0.159)	(0.159)	(0.159)
1234678-HpCDF	(1.42)		1.42	(0.0142)	(0.0142)	(0.0142)
1234789-HpCDF	(1.79)		1.79	(0.0179)	(0.0179)	(0.0179)
OCDF	(4.28)		4.28	(0.00428)	(0.000428)	(0.00128)

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Tel: +1 910 794-1613; Toll-Free 866 846-8290
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TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	3.04	3.5	3.36
EMPC = 0, ND = DL	6.09	7	6.71
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	3.04	3.5	3.36
EMPC = EMPC, ND = DL	6.09	7	6.71
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 773-669-JXF

SGS North America - DF v0.99

Sample ID: 0_18936_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6293	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18936_DF	Date Extracted:	17-Feb-2022
Date Collected:	n/a	pH:	n/a	QC Batch No:	18936	Date Analyzed:	23-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	15:30:05

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	10.5				ES 2378-TCDD	97.2	
12378-PeCDD	46.3				ES 12378-PeCDD	102	
123478-HxCDD	48.5				ES 123478-HxCDD	100	
123678-HxCDD	53.2				ES 123678-HxCDD	101	
123789-HxCDD	48.9				ES 123789-HxCDD	94.7	
1234678-HpCDD	51				ES 1234678-HpCDD	102	
OCDD	103				ES OCDD	107	
2378-TCDF	9.77				ES 2378-TCDF	88.5	
12378-PeCDF	47.3				ES 12378-PeCDF	100	
23478-PeCDF	49.4				ES 23478-PeCDF	102	
123478-HxCDF	48.4				ES 123478-HxCDF	94.1	
123678-HxCDF	49.1				ES 123678-HxCDF	109	
234678-HxCDF	51.8				ES 234678-HxCDF	112	
123789-HxCDF	47				ES 123789-HxCDF	97.5	
1234678-HpCDF	47.6				ES 1234678-HpCDF	99.1	
1234789-HpCDF	48.7				ES 1234789-HpCDF	101	
OCDF	98.2				ES OCDF	106	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	96.8	
Total TCDD	50.4		50.4		CS 12347-PeCDD	115	
Total PeCDD	71.8		71.8		CS 12346-PeCDF	104	
Total HxCDD	165		165		CS 123469-HxCDF	110	
Total HpCDD	62.3		62.3		CS 1234689-HpCDF	107	
Total TCDF	57.6		57.6				
Total PeCDF	189		189				
Total HxCDF	307		307				
Total HpCDF	96.3		96.3				
Total PCDD/Fs	**1,200**		**1,200**				
WHO-2005 TEQs							
TEQ: ND=0	110		110				
TEQ: ND=DL/2	110	0.258	110				
TEQ: ND=DL	110	0.516	110				

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Sample ID: 0_18936_OPR002

Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6293	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18936_DF	Date Extracted:	17-Feb-2022
Date Collected:	n/a	pH:	n/a	QC Batch No:	18936	Date Analyzed:	23-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:19:35

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	10.8				ES 2378-TCDD	92.9	
12378-PeCDD	46				ES 12378-PeCDD	101	
123478-HxCDD	50.5				ES 123478-HxCDD	99.3	
123678-HxCDD	52.6				ES 123678-HxCDD	104	
123789-HxCDD	48.7				ES 123789-HxCDD	97.6	
1234678-HpCDD	51.3				ES 1234678-HpCDD	104	
OCDD	102				ES OCDD	106	
2378-TCDF	9.74				ES 2378-TCDF	86.2	
12378-PeCDF	48.1				ES 12378-PeCDF	95.4	
23478-PeCDF	50.2				ES 23478-PeCDF	101	
123478-HxCDF	47.6				ES 123478-HxCDF	97.7	
123678-HxCDF	48.6				ES 123678-HxCDF	107	
234678-HxCDF	51.1				ES 234678-HxCDF	118	
123789-HxCDF	46.8				ES 123789-HxCDF	101	
1234678-HpCDF	48.3				ES 1234678-HpCDF	105	
1234789-HpCDF	48.7				ES 1234789-HpCDF	105	
OCDF	97.6				ES OCDF	109	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	94.3	
Total TCDD	51.4		51.4		CS 12347-PeCDD	114	
Total PeCDD	71.9		71.9		CS 12346-PeCDF	104	
Total HxCDD	167		167		CS 123469-HxCDF	113	
Total HpCDD	63.3		63.3		CS 1234689-HpCDF	113	
Total TCDF	59.3		59.3				
Total PeCDF	201		201				
Total HxCDF	311		311				
Total HpCDF	96.9		96.9				
Total PCDD/Fs	**1,220**		**1,220**				
WHO-2005 TEQs							
TEQ: ND=0	110		110				
TEQ: ND=DL/2	110	0.226	110				
TEQ: ND=DL	110	0.452	110				

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Sample DUP

Method 1613B

Sample ID: 0_18936_OPR001

Analyte	OPR1_18936_DF pg/uL	OPR2_18936_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	10.5	10.8	2.6%
1,2,3,7,8-PeCDD	46.3	46	0.8%
1,2,3,4,7,8-HxCDD	48.5	50.5	4.1%
1,2,3,6,7,8-HxCDD	53.2	52.6	1.1%
1,2,3,7,8,9-HxCDD	48.9	48.7	0.3%
1,2,3,4,6,7,8-HpCDD	51	51.3	0.5%
OCDD	103	102	0.5%
2,3,7,8-TCDF	9.77	9.74	0.4%
1,2,3,7,8-PeCDF	47.3	48.1	1.5%
2,3,4,7,8-PeCDF	49.4	50.2	1.7%
1,2,3,4,7,8-HxCDF	48.4	47.6	1.5%
1,2,3,6,7,8-HxCDF	49.1	48.6	1.0%
2,3,4,6,7,8-HxCDF	51.8	51.1	1.3%
1,2,3,7,8,9-HxCDF	47	46.8	0.3%
1,2,3,4,6,7,8-HpCDF	47.6	48.3	1.3%
1,2,3,4,7,8,9-HpCDF	48.7	48.7	0.1%
OCDF	98.2	97.6	0.6%
Totals			
Total TCDD	50.4	51.4	2.1%
Total PeCDD	71.8	71.9	0.1%
Total HxCDD	165	167	1.2%
Total HpCDD	62.3	63.3	1.6%
Total TCDF	57.6	59.3	3.0%
Total PeCDF	189	201	6.1%
Total HxCDF	307	311	1.3%
Total HpCDF	96.3	96.9	0.6%

Sample Receipt Notification

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*08-Feb-22 at 11:48*
AP Project name:	*B6293*
Requested TAT:	*10 business days*
Projected due date:	*22-Feb-22*
Matrix:	*Aqueous*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-020522-S-SB-RB-15	B6293_001	Rinse Blanks	2	1L Amber	05-Feb-22	13:40	0.3	1	4905 2704 5406
11215131-020622-S-SB-RB-16	B6293_002	Rinse Blanks	2	1L Amber	06-Feb-22	13:00	0.3	1	4905 2704 5406

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Tamara Burkamper *Logged in by: Tamara Burkamper* *QC'ed by:* AK 9 Feb 22

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

B62931/1

SGS CHAIN OF CUSTODY

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

PRESERVATIVE: None

ANALYSIS & METHOD: M1613B, ~~M8290A~~, ~~M1668A~~, ~~M4668C~~, ~~HR-PAH~~, ~~M1699~~

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B	~~M8290A~~	~~M1668A~~	~~M4668C~~	~~HR-PAH~~	~~M1699~~	QC MS	QC MSD	QC DUP	QTY	REMARKS
11215131-020522-S-SB-RB-15	2/5/22	1340		W	1L	X	1								2	Rinse blanks
11215131-020622-S-SB-RB-16	2/6/22	1300		W	1L	X									2	Rinse blanks

See SSOW

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:	RECEIVED BY LABORATORY:	DATE:	TIME:
Sarah Belanger	2/6/22	1045	Meagan Willis	Tamara Burkamper	2/8/22	1148
RELINQUISHED BY (2): Meagan Willis	DATE: 2/7/22	TIME: 0809	RECEIVED BY: [signature] 2/7/22 0909	COOLER SEAL: ☒ INTACT ☐ BROKEN ☐ ABSENT		
				CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☒ ABSENT		
RELINQUISHED BY (3): FedEx	DATE:	TIME:	RECEIVED BY:	CARRIER: FedEx	TEMP: °C 0.3°C IRY	
				TRACKING #: attached		

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Member of the SGS Group (SGS SA)

B6293 1

0:30 A
5406
02.08

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 07FEB22
ACTWGT: 30.00 LB MAN
CAD: 0317565/CAFE3313

BILL RECIPIENT

TO **SAMPLE RECEIVING**
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLE 2

SGSC2/027C/05A2

0.40 C
EE
TB 0.30 C

FedEx Express

E

J191216032001

TUE - 08 FEB 10:30A
PRIORITY OVERNIGHT

TRK# 0201 4905 2704 5406

NL ILMA

28405
NC-US RDU

Part # 156148-434 MTW EXP 07/22

TB 2/8/22

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Project Initiation Form

Project Number: B6293

Initiation Date: 09-Feb-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Aqueous

TAT: 10 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR & OPRD

IL extraction

Read and understood, initial and date: Prep Lab: 2/17/22 2/17/22 HRMS Lab: 2/24/22

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab: 2/24/22

PM Initials: akornegay Date: 09-Feb-2022

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Methods: PCB / PAH | (PCDD/F) / WHO-2 | QUANTICS / USV | DoD PCDD/F / PEST | Extraction Type: (SDS) / Cl. | TALEX / Carbon SPE | Aqueous | Final Volume: 20 µL

Batch# 18936 | Split: ~~1/2~~ ~~1/4~~ | Extract Initial/Date: JRH 2/17/22 | Clean-up Initial/Date: RAB 2/22/22 | Transfer Init/Date: RAB 2/22/22

Lab Sample ID	Extraction Position / Solvent: DCM	Extraction Weight/Volume g	mL	(Td)	ASECS #	pH	Cl⁻	Observations
B6293_18936_001	22	994.2				5	0	clear, colorless
B6293_18936_002	23	971.1				5	0	clear, colorless
B6301_18936_001	24	997.2				6	0	clear, colorless
B6301_18936_002	25	1001.3				6	0	clear, colorless
B6301_18936_003	26	1004.4				6	0	cloudy, off-white, chemical smell
MB1_18936	19	1000.0				5	0	Distilled H2O
OPR1_18936	20	1000.0				5	0	Distilled H2O
OPR2_18936	21	1000.0				5	0	Distilled H2O

JB 2/24/22

RAB 2/22/22

Supply IDs

Toluene	N/A
MeCHL	SRL 14-17
Florisil	SPLS-83
Hexane	STL14.29
Silica	SPLS-69
S Nitrate	SPLS-89
Base Silica	SPLS-86
HydroMatrix	N/A
Tetradecane	SRS-730
H_2SO_4	N/A
A Silica	SPLS-90
Sodium Sulfate	SPLS-503

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	JB 2/24/22
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start:	
	Stop:	JB 2/24/22
HEX	Start:	
	Stop:	
DCM	Start:	1730
	Stop:	1000

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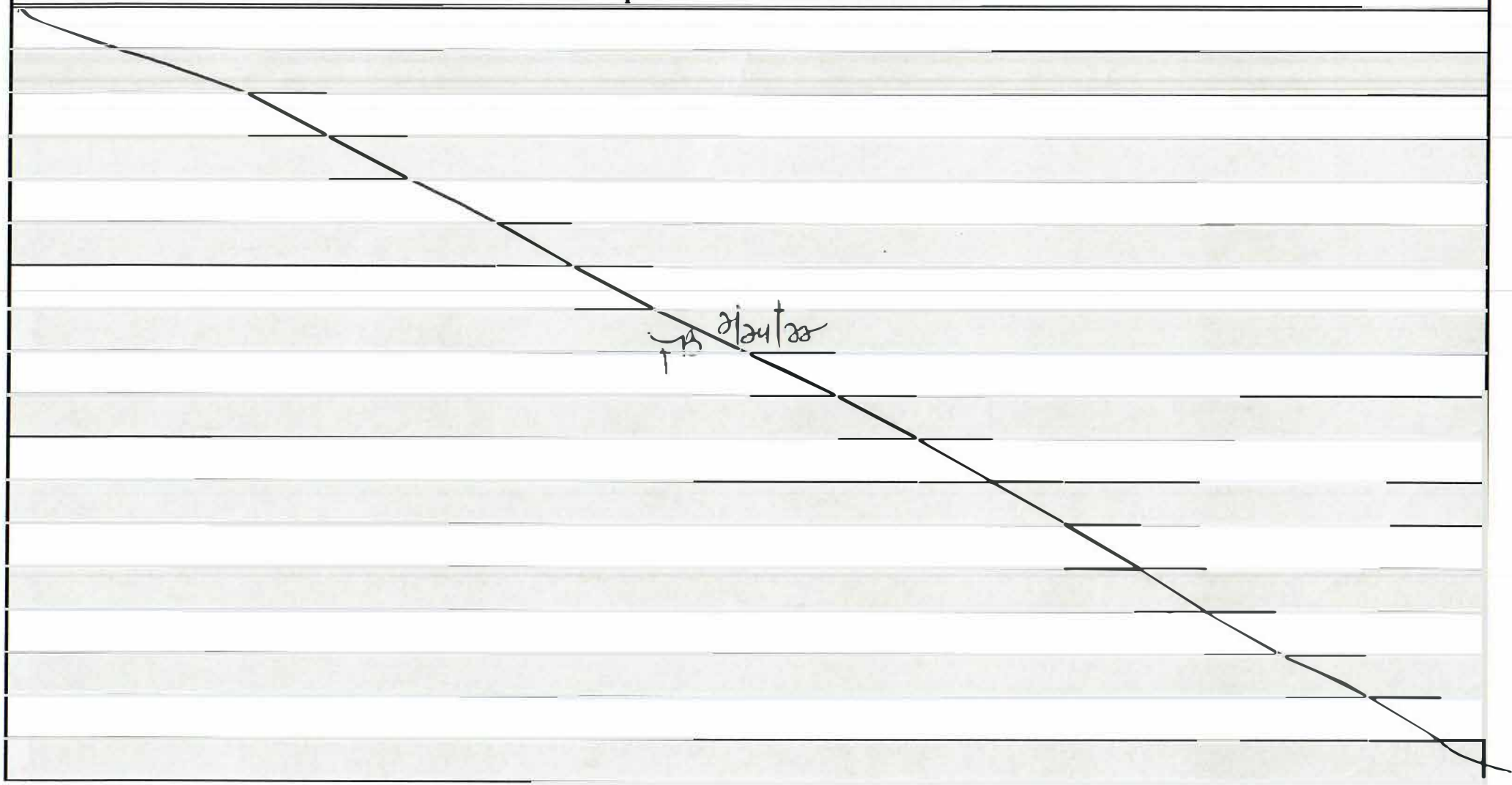
Methods: PCB PCDD/F QUANTICS DoD PCDD/F
PAH WHO-2 USV PEST

Aqueous

Batch# 18936

Inter-Department Communication Sheet



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Methods: PCB PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Aqueous

Batch # 18936

Lab Sample ID	Spiker Initials/Date: JRH 2/17/22	JRH 2/17/22	JRH 2/17/22	RAS 2/22/22	RAS 2/22/22		
	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS		
	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount:	Amount:
	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials
B6293_18936_001	—	—	RAS	JRH	JRH		
B6293_18936_002	—	—	RAS	JRH	JRH		
B6301_18936_001	—	—	RAS	JRH	JRH		
B6301_18936_002	—	—	RAS	JRH	JRH		
B6301_18936_003	—	—	RAS	JRH	JRH		
MB1_18936	—	—	RAS	JRH	JRH		
OPR1_18936	RAS	RAS	RAS	JRH	JRH		
OPR2_18936	RAS	RAS	RAS	JRH	JRH		

RAS 2/22/22

Standard Information							
Pipette ID	—	—	—	—	2/22/22	—	—
Spike ID	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS		
SIL #	26-2-8	25-187-2	26-2-9	25.338.1	ecl 25.384.1		
Concentration	10 pg/µL	10 pg/µL	100 pg/µL	100 pg/µL	100 pg/µL		
Expiration Date	7/9/28	6/22/22	8/2022	11/16/22	1/28/23		

REVIEWED
Tamara Burkamper , 2/24/2022, 2:34:02 PM

SGS Environmental Services — Run Log

Project: B6293_18936_DF

Instrument: HRMS3 (AutoSpec-Ultima)

MS Experiment: df_cl4-8_db5MS

GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	220223C01	3	CS3_220223_DF_CA ✓	1.00	25-347-1	DTF, PSW	301-797	23-Feb-2022	14:09:30
2	220223C02	7	OPR1_18936_DF	1.00	0_18936_OPR001 ✓	DTF, PSW	285-654	23-Feb-2022	15:30:05
3	220223C03	8	OPR2_18936_DF	1.00	0_18936_OPR002	DTF, PSW	714-601	23-Feb-2022	16:19:35
5	220223C05	2	SBS_220223_DF_CA	1.00	20-61-1	DTF	890-202	23-Feb-2022	17:52:14
6	220223C06	6	MB1_18936_DF_TLX	1.00	Method Blank	DTF, PSW	773-669	23-Feb-2022	18:38:34
7	220223C08	9	B6293_18936_DF_001	0.98	11215131-020522-S-SB-RB-15	DTF, PSW	593-995	23-Feb-2022	20:11:16
8	220223C09	10	B6293_18936_DF_002	0.97	11215131-020622-S-SB-RB-16	DTF, PSW	572-353	23-Feb-2022	20:57:37

REVIEWED
paul_walton , 2/24/2022, 1:18:49 PM

Lab ID: MB1_18936_DF_TLX **Acq'd:** 23 Feb 2022 18:38 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6293_18936 **UTP:** 24-Feb-2022 13:08:05 PSW **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 773-669-JXF

Datafile: 220223C06 **Report:** 24 Feb 2022 13:09 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	3760.62	3.02
12378-PeCDD	NotFnd		1.0007	-		-	-	-	1.04	-	2135.6055	1.83
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2375.0938	2.13
123678-HxCDD	NotFnd		1.0036	-		-	-	-	1.15	-	2375.0938	2.09
123789-HxCDD	NotFnd		1.0118	-		-	-	-	1.05	-	2375.0938	2.04
1234678-HpCDD	NotFnd		1.0002	-		-	-	-	1.06	-	2424.0389	2.24
OCDD	NotFnd		1.0003	-		-	-	-	1.13	-	3083.33	5.38
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	2659.162	1.68
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2393.5053	1.34
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2393.5053	1.31
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2417.4	1.47
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2417.4	1.29
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2417.4	1.38
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2417.4	1.59
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2163.3602	1.42
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2163.3602	1.79
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	2892.665	4.28

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.21	1.0243	1.0243	0	2.21E+07	0.80	Y	1.05	91.5
ES 12378-PeCDD	33.61	1.2198	1.2205	+1.4	1.98E+07	1.53	Y	0.88	97.3
ES 123478-HxCDD	37.54	0.9916	0.9914	-0.5	1.76E+07	1.22	Y	0.97	93.9
ES 123678-HxCDD	37.67	0.9947	0.9947	0	1.78E+07	1.25	Y	0.94	98.2
ES 123789-HxCDD	37.97	1.0029	1.0027	-0.5	1.92E+07	1.24	Y	1.09	91.3
ES 1234678-HpCDD	40.71	1.0749	1.0751	+0.5	1.76E+07	1.03	Y	0.91	100
ES OCDD	43.41	1.1460	1.1464	+1.0	2.47E+07	0.90	Y	0.62	103
ES 2378-TCDF	27.34	1.0531	1.0533	+0.3	3.28E+07	0.79	Y	1.06	80.2
ES 12378-PeCDF	32.15	1.2378	1.2386	+1.5	3.20E+07	1.56	Y	0.91	91.1
ES 23478-PeCDF	33.27	1.2810	1.2818	+1.6	3.15E+07	1.56	Y	0.88	92.5
ES 123478-HxCDF	36.54	0.9650	0.9650	0	2.18E+07	0.53	Y	1.20	94.6
ES 123678-HxCDF	36.68	0.9688	0.9687	-0.2	2.63E+07	0.54	Y	1.35	101
ES 234678-HxCDF	37.36	0.9866	0.9866	0	2.70E+07	0.53	Y	1.24	113
ES 123789-HxCDF	38.34	1.0125	1.0124	-0.2	2.19E+07	0.53	Y	1.16	98.4
ES 1234678-HpCDF	39.77	1.0501	1.0501	0	1.81E+07	0.48	Y	0.97	97.2
ES 1234789-HpCDF	41.17	1.0870	1.0872	+0.5	1.61E+07	0.47	Y	0.85	98.3
ES OCDF	43.59	1.1505	1.1512	+1.8	3.19E+07	0.92	Y	0.81	103

Lab ID: MB1_18936_DF_TLX | **Acq'd:** 23 Feb 2022 18:38 DTF | **Wt/Vol:** 1.00 L | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6293_18936 | **UTP:** 24-Feb-2022 13:08:05 PSW | **J-level:** 5 pg/L | **Split:** 1 | **Checkcode:** 773-669-JXF

Datafile: 220223C06 | **Report:** 24 Feb 2022 13:09 pw | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.54		-	-	-	2.31E+07	0.81	Y	-	-
JS 1234-TCDF	25.96		-	-	-	3.86E+07	0.80	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	9.62E+06	1.32	Y	-	-
CS 37Cl-2378-TCDD	28.23		1.0251	1.0252	+0.2	1.03E+07	n/a	-	1.20	93
CS 12347-PeCDD	33.10		1.2016	1.2021	+1.0	1.96E+07	1.54	Y	0.75	113
CS 12346-PeCDF	31.61		1.2172	1.2180	+1.5	3.12E+07	1.62	Y	0.85	95
CS 123469-HxCDF	36.99		0.9771	0.9769	-0.4	2.40E+07	0.53	Y	1.12	112
CS 1234689-HpCDF	40.18		1.0608	1.0609	+0.2	1.80E+07	0.45	Y	0.89	105
~~SS 37Cl-2378-TCDD~~	~~28.23~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.03E+07~~	~~n/a~~		~~1.15~~	~~102~~
~~SS 12347-PeCDD~~	~~33.10~~		~~1.2016~~	~~1.2021~~	~~+1.0~~	~~1.96E+07~~	~~1.54~~	~~Y~~	~~0.86~~	~~116~~
~~SS 12346-PeCDF~~	~~31.61~~		~~1.2172~~	~~1.2180~~	~~+1.5~~	~~3.12E+07~~	~~1.62~~	~~Y~~	~~0.94~~	~~104~~
~~SS 123469-HxCDF~~	~~36.99~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~2.40E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~111~~
~~SS 1234689-HpCDF~~	~~40.18~~		~~1.0608~~	~~1.0609~~	~~+0.2~~	~~1.80E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~108~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: MB1_18936_DF_TLX **Acq'd: 23 Feb 2022 18:38 DTF** **Wt/Vol: 1.00 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6293_18936 **UTP: 24-Feb-2022 13:08:05 PSW** **J-level: 5 pg/L** **Split: 1** **Checkcode: 773-669-JXF**

Datafile: 220223C06 **Report: 24 Feb 2022 13:09 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		3760.62	3.02
1379-TCDD	NotFnd		0.8829						1.18		3760.62	3.02
1369-TCDD	NotFnd		0.8982						1.18		3760.62	3.02
1469-TCDD	NotFnd		0.9261						1.18		3760.62	3.02
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		3760.62	3.02
1378-TCDD	NotFnd		0.9417						1.18		3760.62	3.02
1268-TCDD	NotFnd		0.9487						1.18		3760.62	3.02
1478-TCDD	NotFnd		0.9576						1.18		3760.62	3.02
1279-TCDD	NotFnd		0.9636						1.18		3760.62	3.02
1234/1269-TCDD	NotFnd		0.9761						1.18		3760.62	3.02
1236-TCDD	NotFnd		0.9812						1.18		3760.62	3.02
1237/1238-TCDD	NotFnd		0.9905						1.18		3760.62	3.02
1239-TCDD	NotFnd		0.9951						1.18		3760.62	3.02
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**3760.62**	**3.02**
1278-TCDD	NotFnd		1.0124						1.18		3760.62	3.02
1267-TCDD	NotFnd		1.0172						1.18		3760.62	3.02
1289-TCDD	NotFnd		1.0354						1.18		3760.62	3.02
12479/12468-PeCDD	NotFnd		0.9255						1.04		2135.6055	1.83
12469-PeCDD	NotFnd		0.9416						1.04		2135.6055	1.83
12368-PeCDD	NotFnd		0.9582						1.04		2135.6055	1.83
12478-PeCDD	NotFnd		0.9637						1.04		2135.6055	1.83
12379-PeCDD	NotFnd		0.9668						1.04		2135.6055	1.83
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		2135.6055	1.83
12346/12347-PeCDD	NotFnd		0.9858						1.04		2135.6055	1.83
12378-PeCDD	NotFnd		**1.0007**						**1.04**		**2135.6055**	**1.83**
12367-PeCDD	NotFnd		1.0036						1.04		2135.6055	1.83
12389-PeCDD	NotFnd		1.0137						1.04		2135.6055	1.83
124679/124689-HxCDD	NotFnd		0.9540						1.10		2375.0938	2.08
123468-HxCDD	NotFnd		0.9715						1.10		2375.0938	2.08
123679/123689-HxCDD	NotFnd		0.9793						1.10		2375.0938	2.08
123469-HxCDD	NotFnd		0.9829						1.10		2375.0938	2.08
123478-HxCDD	NotFnd		**1.0004**						1.09		**2375.0938**	**2.13**
123678-HxCDD	NotFnd		**1.0036**						1.15		**2375.0938**	**2.09**
123467-HxCDD	NotFnd		1.0089						1.10		2375.0938	2.08
123789-HxCDD	NotFnd		**1.0118**						1.05		**2375.0938**	**2.04**

Lab ID: MB1_18936_DF_TLX **Acq'd:** 23 Feb 2022 18:38 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6293_18936 **UTP:** 24-Feb-2022 13:08:05 PSW **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 773-669-JXF

Datafile: 220223C06 **Report:** 24 Feb 2022 13:09 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

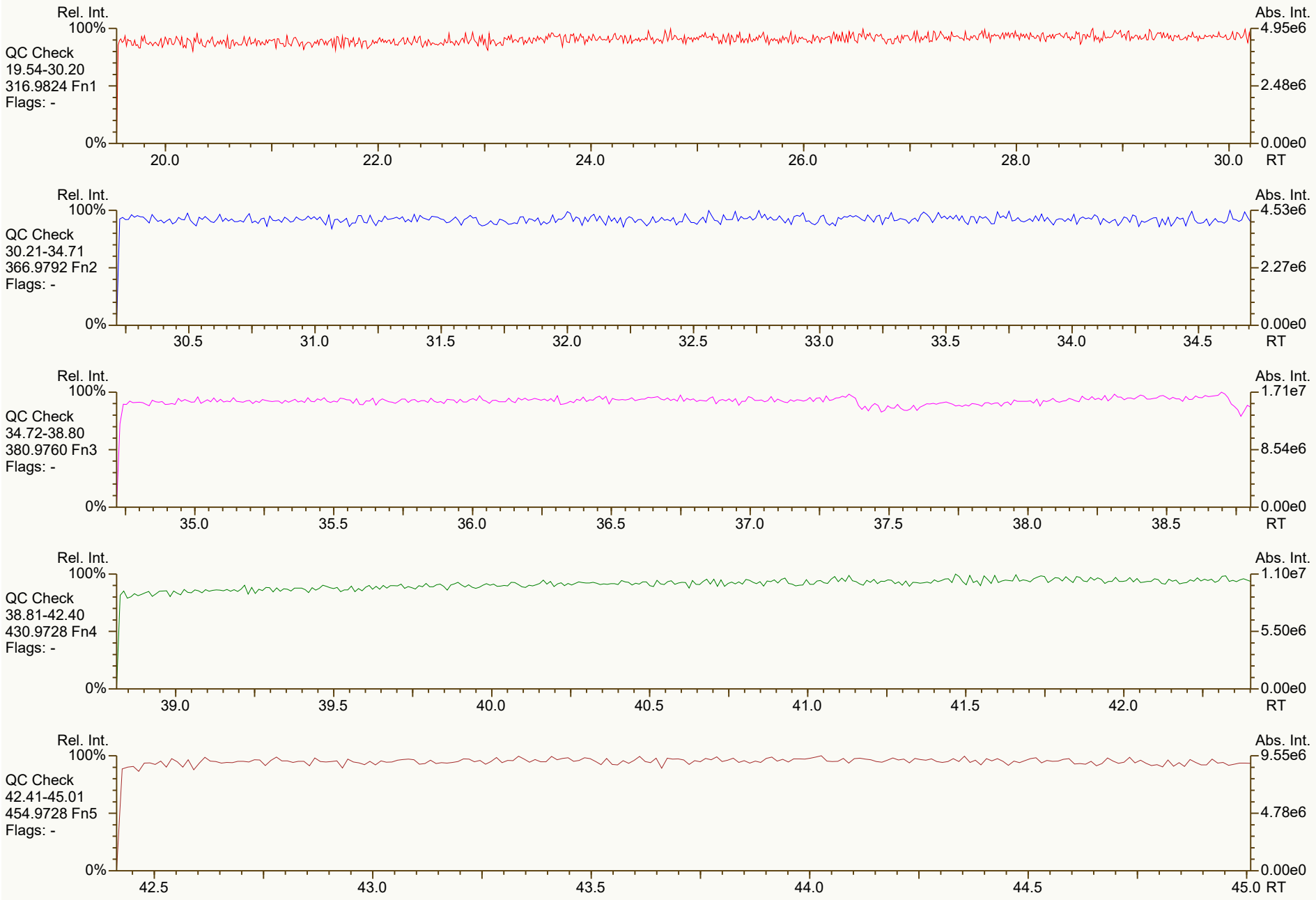
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9836						1.06		2424.0389	2.24
1234678-HpCDD	**NotFnd**		**1.0002**						**1.06**		**2424.0389**	**2.24**
OCDD	**NotFnd**		**1.0003**						**1.13**		**3083.33**	**5.38**
OCDD-a	NotFnd		1.0002						0.07		3580.898	97.8
1368-TCDF	NotFnd		0.8191						1.08		2659.162	1.68
1468-TCDF	NotFnd		0.8408						1.08		2659.162	1.68
2468-TCDF	NotFnd		0.8645						1.08		2659.162	1.68
1346/1246-TCDF	NotFnd		0.8772						1.08		2659.162	1.68
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		2659.162	1.68
1348-TCDF	NotFnd		0.8932						1.08		2659.162	1.68
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		2659.162	1.68
1268-TCDF	NotFnd		0.9119						1.08		2659.162	1.68
1467-TCDF	NotFnd		0.9170						1.08		2659.162	1.68
1478-TCDF	NotFnd		0.9234						1.08		2659.162	1.68
1369/1237-TCDF	NotFnd		0.9369						1.08		2659.162	1.68
2467-TCDF	NotFnd		0.9415						1.08		2659.162	1.68
2368-TCDF	NotFnd		0.9475						1.08		2659.162	1.68
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		2659.162	1.68
1278-TCDF	NotFnd		0.9676						1.08		2659.162	1.68
1349-TCDF	NotFnd		0.9722						1.08		2659.162	1.68
1267-TCDF	NotFnd		0.9777						1.08		2659.162	1.68
2346/1249-TCDF	NotFnd		0.9843						1.08		2659.162	1.68
2347/1279-TCDF	NotFnd		0.9926						1.08		2659.162	1.68
2348-TCDF	NotFnd		0.9968						1.08		2659.162	1.68
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**2659.162**	**1.68**
2367/3467-TCDF	NotFnd		1.0142						1.08		2659.162	1.68
1269-TCDF	NotFnd		1.0235						1.08		2659.162	1.68
1239-TCDF	NotFnd		1.0329						1.08		2659.162	1.68
1289-TCDF	NotFnd		1.0742						1.08		2659.162	1.68
13468/12468-PeCDF	NotFnd		0.9122						1.02		2868.688	1.59
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		2393.5053	1.32
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		2393.5053	1.32
14678-PeCDF	NotFnd		0.9685						1.02		2393.5053	1.32
13479-PeCDF	NotFnd		0.9716						1.02		2393.5053	1.32
13469/12479-PeCDF	NotFnd		0.9794						1.02		2393.5053	1.32
12346-PeCDF	NotFnd		0.9836						1.02		2393.5053	1.32

Lab ID: MB1_18936_DF_TLX **Acq'd: 23 Feb 2022 18:38 DTF** **Wt/Vol: 1.00 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

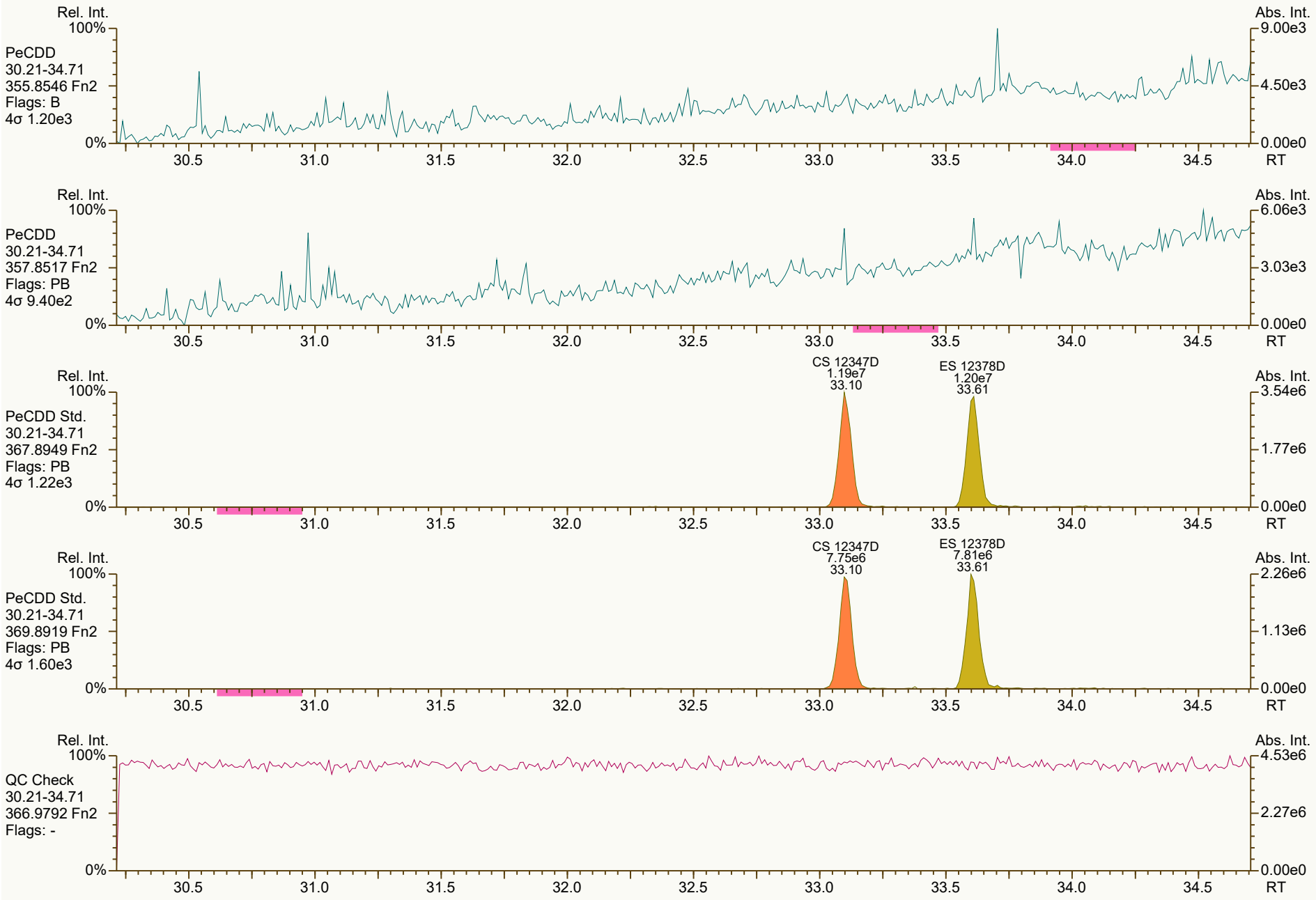
Client ID: Method Blank B6293_18936 **UTP: 24-Feb-2022 13:08:05 PSW** **J-level: 5 pg/L Split: 1** **Checkcode: 773-669-JXF**

Datafile: 220223C06 **Report: 24 Feb 2022 13:09 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

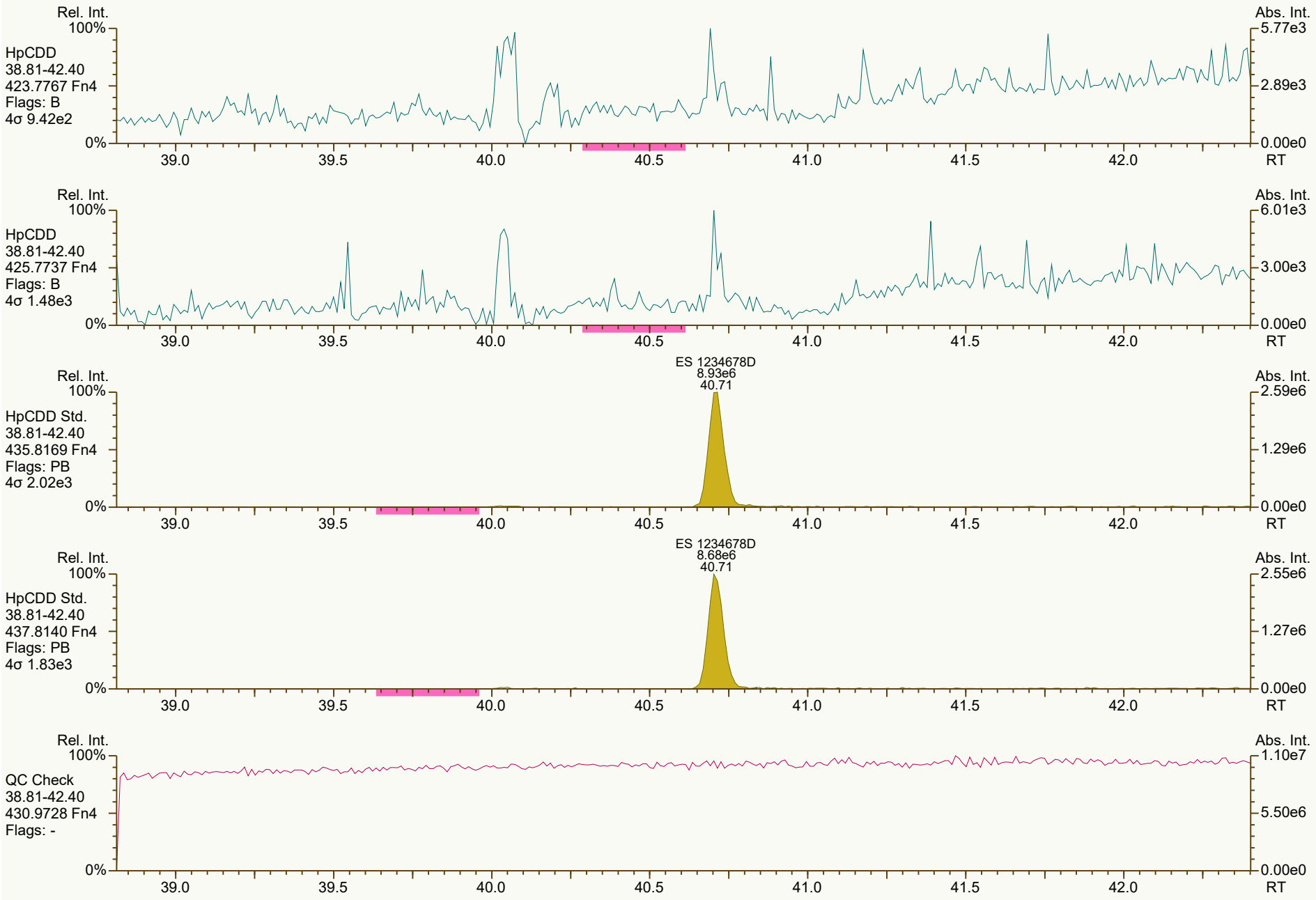
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		2393.5053	1.32
12347-PeCDF	NotFnd		0.9891						1.02		2393.5053	1.32
12348-PeCDF	NotFnd		0.9938						1.02		2393.5053	1.32
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2393.5053**	**1.34**
12678/12367-PeCDF	NotFnd		1.0091						1.02		2393.5053	1.32
12379-PeCDF	NotFnd		1.0144						1.02		2393.5053	1.32
12679-PeCDF	NotFnd		0.9927						1.02		2393.5053	1.32
23467/12369-PeCDF	NotFnd		0.9965						1.02		2393.5053	1.32
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2393.5053**	**1.31**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2393.5053	1.32
12349-PeCDF	NotFnd		1.0101						1.02		2393.5053	1.32
12389-PeCDF	NotFnd		1.0330						1.02		2393.5053	1.32
123468-HxCDF	NotFnd		0.9622						1.19		2417.4	1.42
124678/134678-HxCDF	NotFnd		0.9678						1.19		2417.4	1.42
134679-HxCDF	NotFnd		0.9741						1.19		2417.4	1.42
124679-HxCDF	NotFnd		0.9795						1.19		2417.4	1.42
124689-HxCDF	NotFnd		0.9856						1.19		2417.4	1.42
123467-HxCDF	NotFnd		0.9972						1.19		2417.4	1.42
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2417.4**	**1.47**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2417.4**	**1.29**
123479-HxCDF	NotFnd		1.0048						1.19		2417.4	1.42
123469-HxCDF	NotFnd		1.0089						1.19		2417.4	1.42
123679-HxCDF	NotFnd		0.9942						1.19		2417.4	1.42
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2417.4**	**1.38**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2417.4	1.42
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2417.4**	**1.59**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		2417.4	1.42
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2163.3602**	**1.42**
1234679-HpCDF	NotFnd		1.0068						1.34		2163.3602	1.59
1234689-HpCDF	NotFnd		1.0104						1.34		2163.3602	1.59
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2163.3602**	**1.79**
OCDF	**NotFnd**		**1.0002**						**1.07**		**2892.665**	**4.28**
OCDF-a	NotFnd		1.0001						0.07		2564.613	61.2

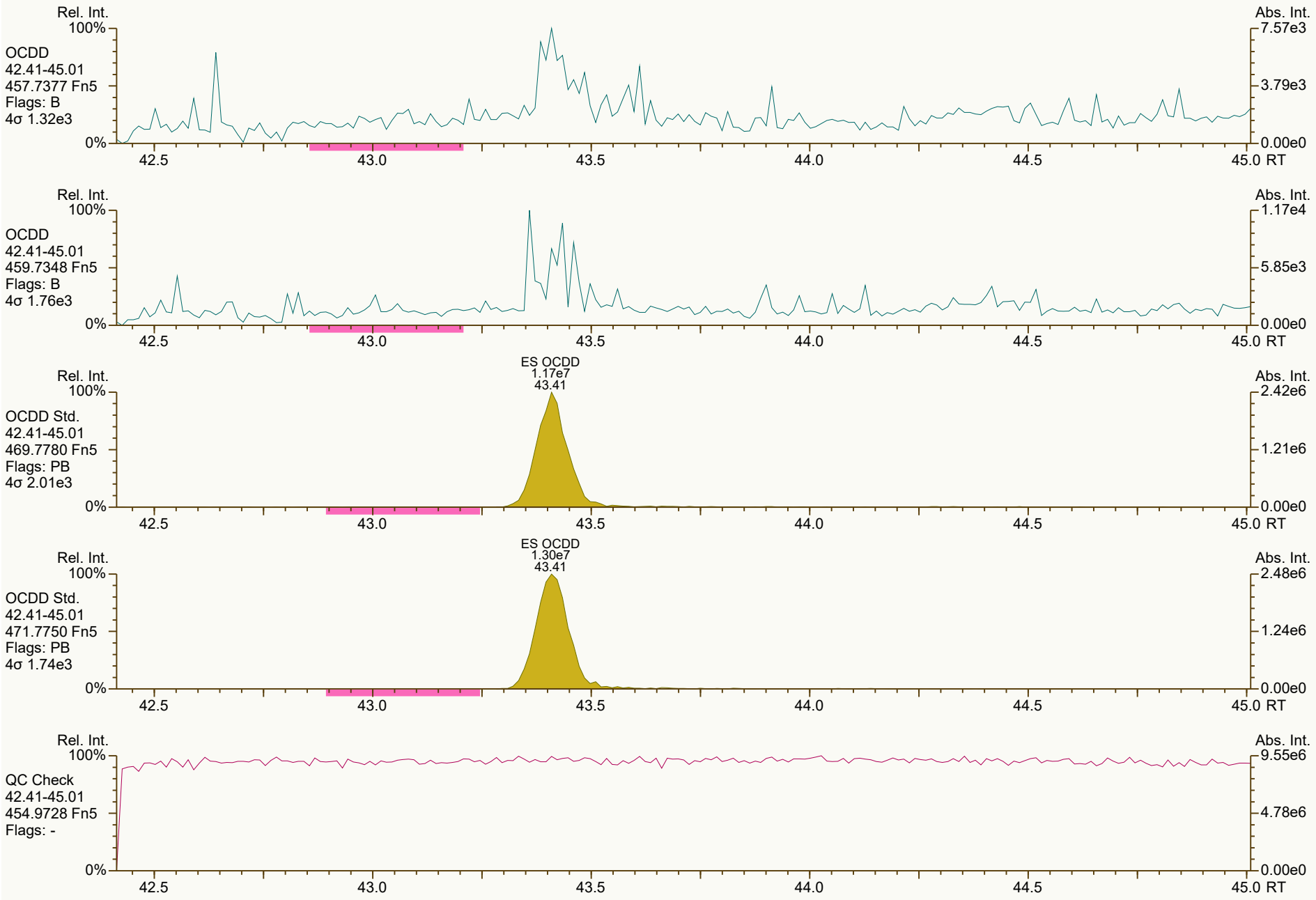

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.95e6
2.48e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.53e6
2.27e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.71e7
8.54e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.10e7
5.50e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
9.55e6
4.78e6
0.00e0

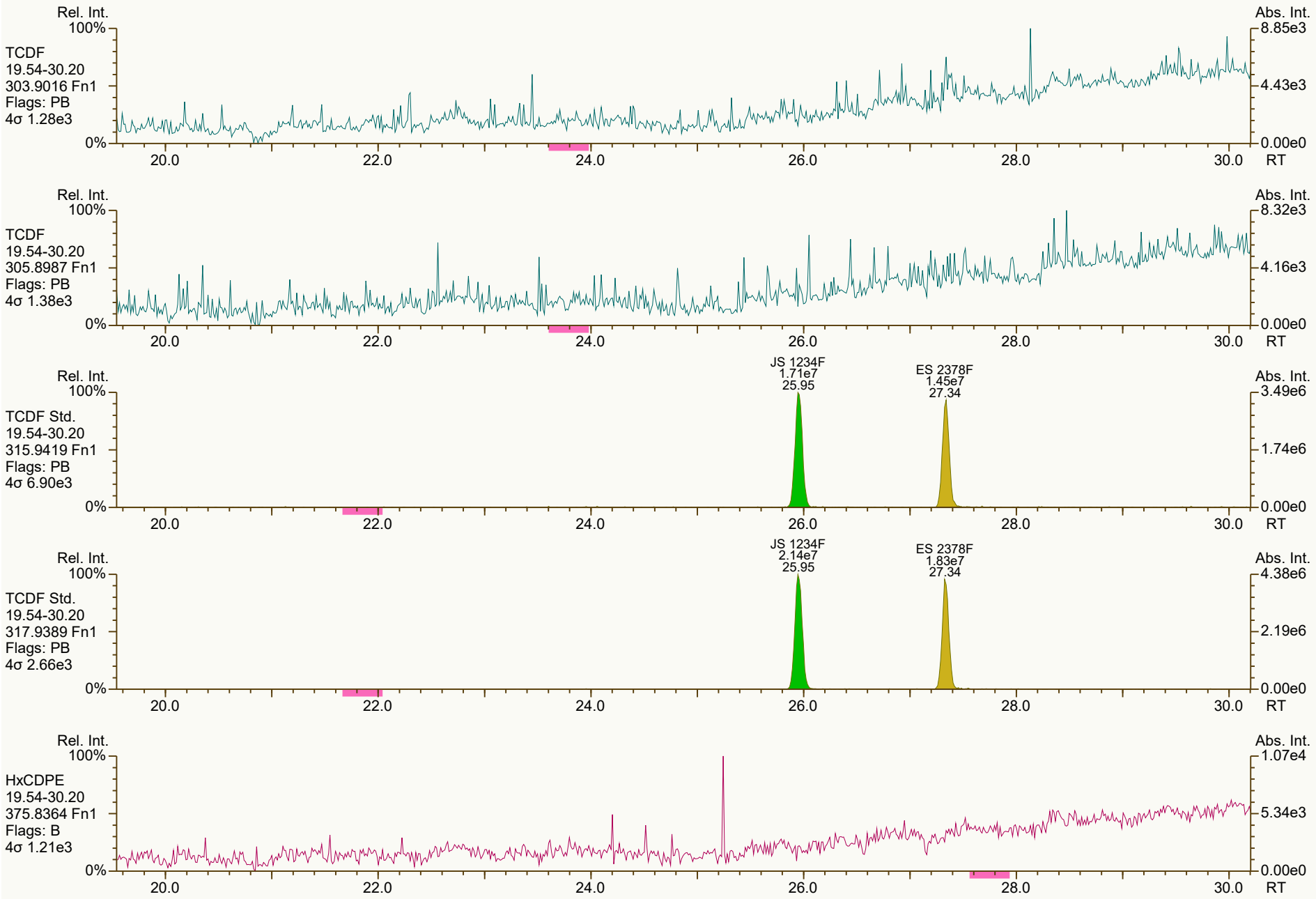

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.06e3
0%
Abs. Int.
9.36e3
4.68e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.70e3
0%
Abs. Int.
9.08e3
4.54e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.07e3
0%
CS 37Cl-2378D
1.03e7
28.23
Abs. Int.
2.33e6
1.17e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.53e3
0%
JS 1234D
1.03e7
27.54
ES 2378D
9.81e6
28.21
Abs. Int.
2.46e6
1.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 1.59e3
0%
JS 1234D
1.28e7
27.54
ES 2378D
1.23e7
28.21
Abs. Int.
3.01e6
1.51e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: B
4σ 1.20e3
0%
Abs. Int.
9.00e3
4.50e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 9.40e2
0%
Abs. Int.
6.06e3
3.03e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 1.22e3
0%
CS 12347D
1.19e7
33.10
ES 12378D
1.20e7
33.61
Abs. Int.
3.54e6
1.77e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.60e3
0%
CS 12347D
7.75e6
33.10
ES 12378D
7.81e6
33.61
Abs. Int.
2.26e6
1.13e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.53e6
2.27e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: B
4σ 1.39e3
0%
Abs. Int.
5.01e3
2.50e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: B
4σ 9.87e2
0%
Abs. Int.
7.23e3
3.61e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 1.65e3
0%
ES 123678D
9.90e6
37.67
ES 123478D
9.67e6
37.54
ES 123789D
1.06e7*
37.97
JS 123467D
5.48e6*
37.87
Abs. Int.
3.08e6
1.54e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 2.02e3
0%
ES 123678D
7.94e6
37.67
ES 123478D
7.90e6
37.54
ES 123789D
8.56e6*
37.97
JS 123467D
4.14e6*
37.86
Abs. Int.
2.39e6
1.20e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.71e7
8.54e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

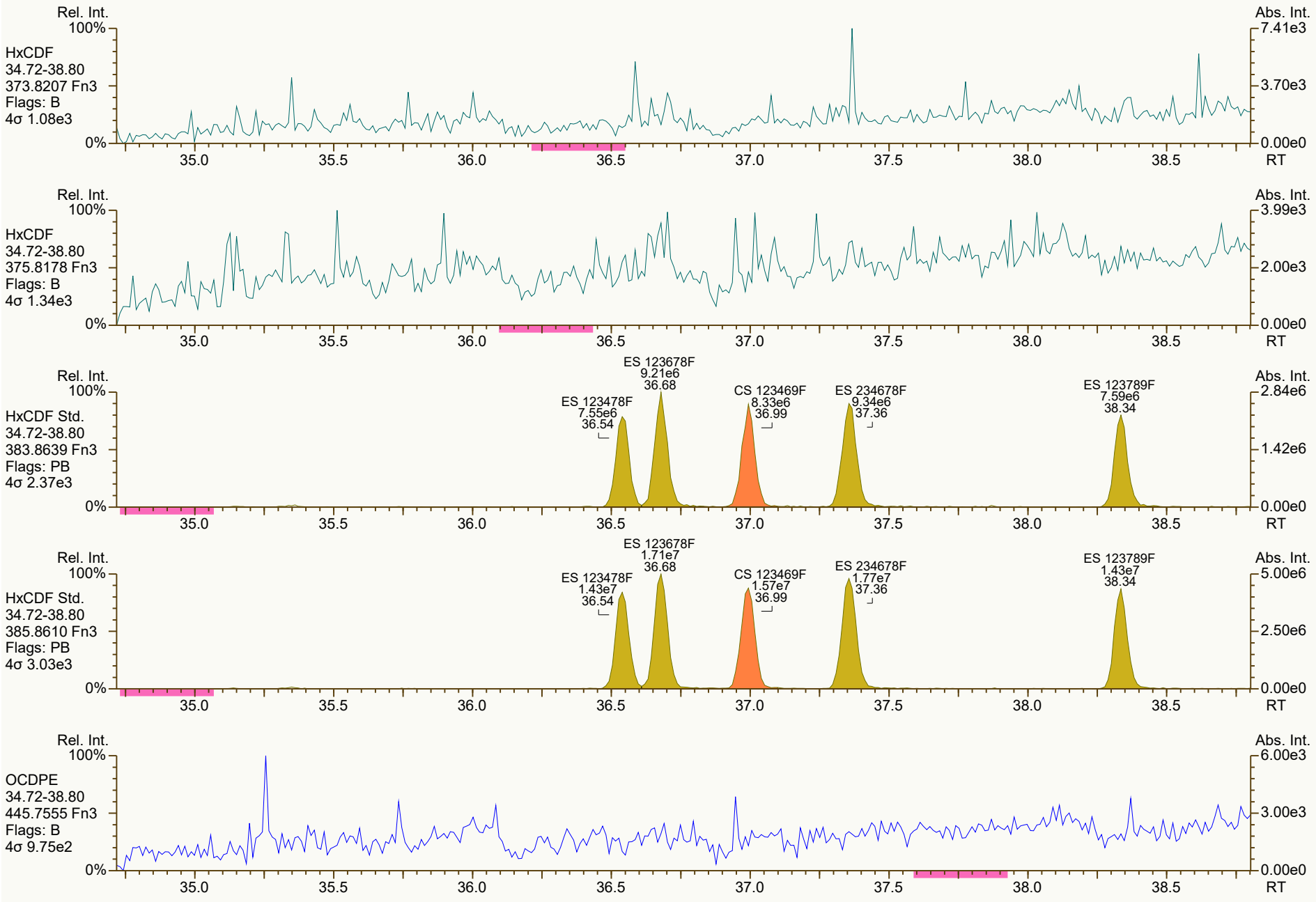

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: B
4σ 9.42e2
0%
Abs. Int.
5.77e3
2.89e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: B
4σ 1.48e3
0%
Abs. Int.
6.01e3
3.00e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
8.93e6
40.71
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 2.02e3
0%
Abs. Int.
2.59e6
1.29e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
8.68e6
40.71
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.83e3
0%
Abs. Int.
2.55e6
1.27e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.10e7
5.50e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

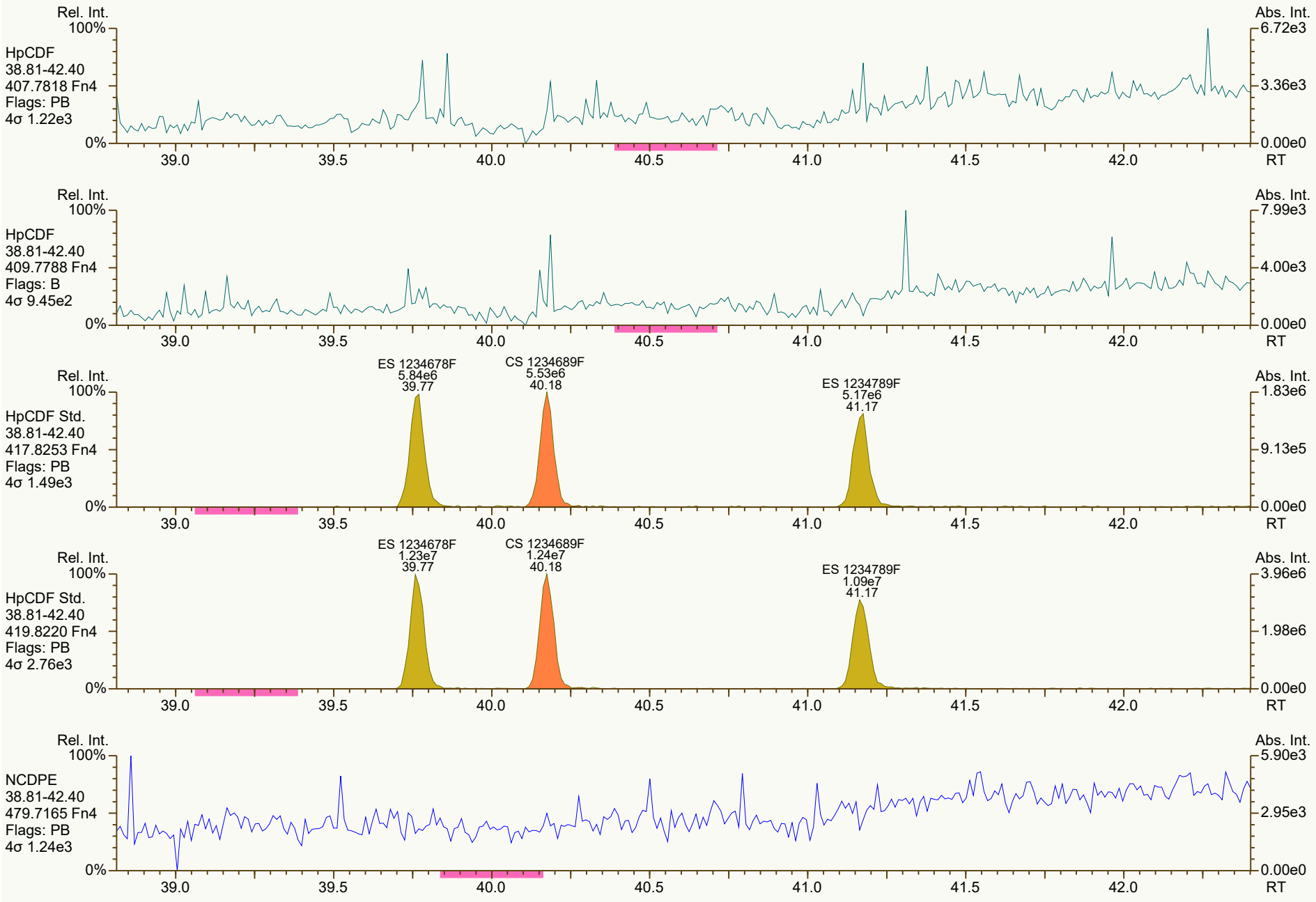

Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 1.32e3
0%
Abs. Int.
7.57e3
3.79e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 1.76e3
0%
Abs. Int.
1.17e4
5.85e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.17e7
43.41
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 2.01e3
0%
Abs. Int.
2.42e6
1.21e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.30e7
43.41
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.74e3
0%
Abs. Int.
2.48e6
1.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.55e6
4.78e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.28e3
0%
Abs. Int.
8.85e3
4.43e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 1.38e3
0%
Abs. Int.
8.32e3
4.16e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 6.90e3
0%
JS 1234F
1.71e7
25.95
ES 2378F
1.45e7
27.34
Abs. Int.
3.49e6
1.74e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.66e3
0%
JS 1234F
2.14e7
25.95
ES 2378F
1.83e7
27.34
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.21e3
0%
Abs. Int.
1.07e4
5.34e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.54e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.19e4
5.95e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.33e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.95e6
2.48e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: B
4σ 9.94e2
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 1.40e3
0%
Abs. Int.
9.48e3
4.74e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 1.89e3
0%
CS 12346F
1.93e7
31.61
ES 12378F
1.95e7
32.15
ES 23478F
1.92e7
33.27
Abs. Int.
5.47e6
2.73e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.23e3
0%
CS 12346F
1.19e7
31.61
ES 12378F
1.25e7
32.15
ES 23478F
1.23e7
33.27
Abs. Int.
3.50e6
1.75e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.09e3
0%
Abs. Int.
1.73e4
8.65e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: B
4σ 1.08e3
0%
Abs. Int.
7.41e3
3.70e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
HxCDF
34.72-38.80
375.8178 Fn3
Flags: B
4σ 1.34e3
3.99e3
2.00e3
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 2.37e3
ES 123678F
9.21e6
36.68
ES 123478F
7.55e6
36.54
CS 123469F
8.33e6
36.99
ES 234678F
9.34e6
37.36
ES 123789F
7.59e6
38.34
2.84e6
1.42e6
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 3.03e3
ES 123678F
1.71e7
36.68
ES 123478F
1.43e7
36.54
CS 123469F
1.57e7
36.99
ES 234678F
1.77e7
37.36
ES 123789F
1.43e7
38.34
5.00e6
2.50e6
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 9.75e2
6.00e3
3.00e3


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: B
4σ 9.45e2
0%
Abs. Int.
7.99e3
4.00e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 1.49e3
0%
ES 1234678F
5.84e6
39.77
CS 1234689F
5.53e6
40.18
ES 1234789F
5.17e6
41.17
Abs. Int.
1.83e6
9.13e5
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 2.76e3
0%
ES 1234678F
1.23e7
39.77
CS 1234689F
1.24e7
40.18
ES 1234789F
1.09e7
41.17
Abs. Int.
3.96e6
1.98e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.24e3
0%
Abs. Int.
5.90e3
2.95e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.49e3
0%
Abs. Int.
7.39e3
3.70e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
6.26e3
3.13e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.53e7
43.59
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 2.20e3
0%
Abs. Int.
3.03e6
1.51e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.66e7
43.59
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
3.24e6
1.62e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.51e3
0%
Abs. Int.
3.57e3
1.79e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6293_18936_DF_001 **Acq'd:** 23 Feb 2022 20:11 DTF **Wt/Vol:** 0.98 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020522-S-SB-RB-15 **UTP:** 24-Feb-2022 13:08:06 PSW **J-level:** 5.1 pg/L **Split:** 1 **Checkcode:** 593-995-PGX

Datafile: 220223C08 **Report:** 24 Feb 2022 13:09 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	2981.139	2.17
12378-PeCDD	NotFnd		1.0007	-		-	-	-	1.04	-	3147.754	2.67
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	1820.0506	1.54
123678-HxCDD	NotFnd		1.0036	-		-	-	-	1.15	-	1820.0506	1.49
123789-HxCDD	NotFnd		1.0118	-		-	-	-	1.05	-	1820.0506	1.44
1234678-HpCDD	NotFnd		1.0002	-		-	-	-	1.06	-	2910.26	2.34
OCDD	NotFnd		1.0003	-		-	-	-	1.13	-	2546.802	4.83
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	2701.754	1.64
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2400.627	1.25
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2400.627	1.29
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	1980.1783	1.11
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	1980.1783	0.974
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	1980.1783	0.989
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	1980.1783	1.17
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2256.2037	1.33
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2256.2037	1.86
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	1890.7951	2.65

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.20	1.0243	1.0243	0	2.31E+07	0.82	Y	1.05	94.6
ES 12378-PeCDD	33.60	1.2198	1.2206	+1.6	2.07E+07	1.53	Y	0.88	101
ES 123478-HxCDD	37.54	0.9916	0.9915	-0.2	1.94E+07	1.29	Y	0.97	102
ES 123678-HxCDD	37.66	0.9947	0.9948	+0.2	1.98E+07	1.25	Y	0.94	107
ES 123789-HxCDD	37.97	1.0029	1.0028	-0.2	2.17E+07	1.25	Y	1.09	101
ES 1234678-HpCDD	40.71	1.0749	1.0753	+1.0	1.96E+07	1.03	Y	0.91	109
ES OCDD	43.42	1.1460	1.1468	+2.1	2.64E+07	0.92	Y	0.62	108
ES 2378-TCDF	27.33	1.0531	1.0533	+0.3	3.49E+07	0.84	Y	1.06	91
ES 12378-PeCDF	32.14	1.2378	1.2387	+1.7	3.40E+07	1.56	Y	0.91	103
ES 23478-PeCDF	33.27	1.2810	1.2819	+1.8	3.33E+07	1.58	Y	0.88	104
ES 123478-HxCDF	36.54	0.9650	0.9650	0	2.35E+07	0.53	Y	1.20	99.9
ES 123678-HxCDF	36.68	0.9688	0.9687	-0.2	2.96E+07	0.54	Y	1.35	112
ES 234678-HxCDF	37.35	0.9866	0.9866	0	2.96E+07	0.52	Y	1.24	121
ES 123789-HxCDF	38.33	1.0125	1.0125	0	2.42E+07	0.56	Y	1.16	107
ES 1234678-HpCDF	39.76	1.0501	1.0502	+0.2	2.07E+07	0.45	Y	0.97	109
ES 1234789-HpCDF	41.17	1.0870	1.0873	+0.7	1.78E+07	0.46	Y	0.85	107
ES OCDF	43.60	1.1505	1.1515	+2.6	3.43E+07	0.90	Y	0.81	108

Lab ID: B6293_18936_DF_001 **Acq'd:** 23 Feb 2022 20:11 DTF **Wt/Vol:** 0.98 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020522-S-SB-RB-15 **UTP:** 24-Feb-2022 13:08:06 PSW **J-level:** 5.1 pg/L **Split:** 1 **Checkcode:** 593-995-PGX

Datafile: 220223C08 **Report:** 24 Feb 2022 13:09 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.53		-	-	-	2.34E+07	0.81	Y	-	-
JS 1234-TCDF	25.95		-	-	-	3.63E+07	0.79	Y	-	-
JS 123467-HxCDD	37.86		-	-	-	9.82E+06	1.26	Y	-	-
CS 37Cl-2378-TCDD	28.22		1.0251	1.0252	+0.2	1.08E+07	n/a	-	1.20	95.9
CS 12347-PeCDD	33.10		1.2016	1.2022	+1.2	2.04E+07	1.63	Y	0.75	116
CS 12346-PeCDF	31.61		1.2172	1.2181	+1.7	3.28E+07	1.58	Y	0.85	106
CS 123469-HxCDF	36.99		0.9771	0.9769	-0.4	2.55E+07	0.53	Y	1.12	116
CS 1234689-HpCDF	40.17		1.0608	1.0610	+0.5	2.01E+07	0.45	Y	0.89	115
~~SS 37Cl-2378-TCDD~~	~~28.22~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.08E+07~~	~~n/a~~		~~1.15~~	~~102~~
~~SS 12347-PeCDD~~	~~33.10~~		~~1.2016~~	~~1.2022~~	~~+1.2~~	~~2.04E+07~~	~~1.63~~	~~Y~~	~~0.86~~	~~115~~
~~SS 12346-PeCDF~~	~~31.61~~		~~1.2172~~	~~1.2181~~	~~+1.7~~	~~3.28E+07~~	~~1.58~~	~~Y~~	~~0.94~~	~~103~~
~~SS 123469-HxCDF~~	~~36.99~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~2.55E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~104~~
~~SS 1234689-HpCDF~~	~~40.17~~		~~1.0608~~	~~1.0610~~	~~+0.5~~	~~2.01E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~106~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: B6293_18936_DF_001 **Acq'd: 23 Feb 2022 20:11 DTF** **Wt/Vol: 0.98 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020522-S-SB-RB-15 **UTP: 24-Feb-2022 13:08:06 PSW** **J-level: 5.1 pg/L** **Split: 1** **Checkcode: 593-995-PGX**

Datafile: 220223C08 **Report: 24 Feb 2022 13:09 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		2981.139	2.17
1379-TCDD	NotFnd		0.8829						1.18		2981.139	2.17
1369-TCDD	NotFnd		0.8982						1.18		2981.139	2.17
1469-TCDD	NotFnd		0.9261						1.18		2981.139	2.17
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		2981.139	2.17
1378-TCDD	NotFnd		0.9417						1.18		2981.139	2.17
1268-TCDD	NotFnd		0.9487						1.18		2981.139	2.17
1478-TCDD	NotFnd		0.9576						1.18		2981.139	2.17
1279-TCDD	NotFnd		0.9636						1.18		2981.139	2.17
1234/1269-TCDD	NotFnd		0.9761						1.18		2981.139	2.17
1236-TCDD	NotFnd		0.9812						1.18		2981.139	2.17
1237/1238-TCDD	NotFnd		0.9905						1.18		2981.139	2.17
1239-TCDD	NotFnd		0.9951						1.18		2981.139	2.17
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**2981.139**	**2.17**
1278-TCDD	NotFnd		1.0124						1.18		2981.139	2.17
1267-TCDD	NotFnd		1.0172						1.18		2981.139	2.17
1289-TCDD	NotFnd		1.0354						1.18		2981.139	2.17
12479/12468-PeCDD	NotFnd		0.9255						1.04		3147.754	2.67
12469-PeCDD	NotFnd		0.9416						1.04		3147.754	2.67
12368-PeCDD	NotFnd		0.9582						1.04		3147.754	2.67
12478-PeCDD	NotFnd		0.9637						1.04		3147.754	2.67
12379-PeCDD	NotFnd		0.9668						1.04		3147.754	2.67
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		3147.754	2.67
12346/12347-PeCDD	NotFnd		0.9858						1.04		3147.754	2.67
12378-PeCDD	NotFnd		**1.0007**						**1.04**		**3147.754**	**2.67**
12367-PeCDD	NotFnd		1.0036						1.04		3147.754	2.67
12389-PeCDD	NotFnd		1.0137						1.04		3147.754	2.67
124679/124689-HxCDD	NotFnd		0.9540						1.10		1820.0506	1.49
123468-HxCDD	NotFnd		0.9715						1.10		1820.0506	1.49
123679/123689-HxCDD	NotFnd		0.9793						1.10		1820.0506	1.49
123469-HxCDD	NotFnd		0.9829						1.10		1820.0506	1.49
123478-HxCDD	NotFnd		**1.0004**						1.09		**1820.0506**	**1.54**
123678-HxCDD	NotFnd		**1.0036**						1.15		**1820.0506**	**1.49**
123467-HxCDD	NotFnd		1.0089						1.10		1820.0506	1.49
123789-HxCDD	NotFnd		**1.0118**						1.05		**1820.0506**	**1.44**

Lab ID: B6293_18936_DF_001 **Acq'd:** 23 Feb 2022 20:11 DTF **Wt/Vol:** 0.98 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020522-S-SB-RB-15 **UTP:** 24-Feb-2022 13:08:06 PSW **J-level:** 5.1 pg/L **Split:** 1 **Checkcode:** 593-995-PGX

Datafile: 220223C08 **Report:** 24 Feb 2022 13:09 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

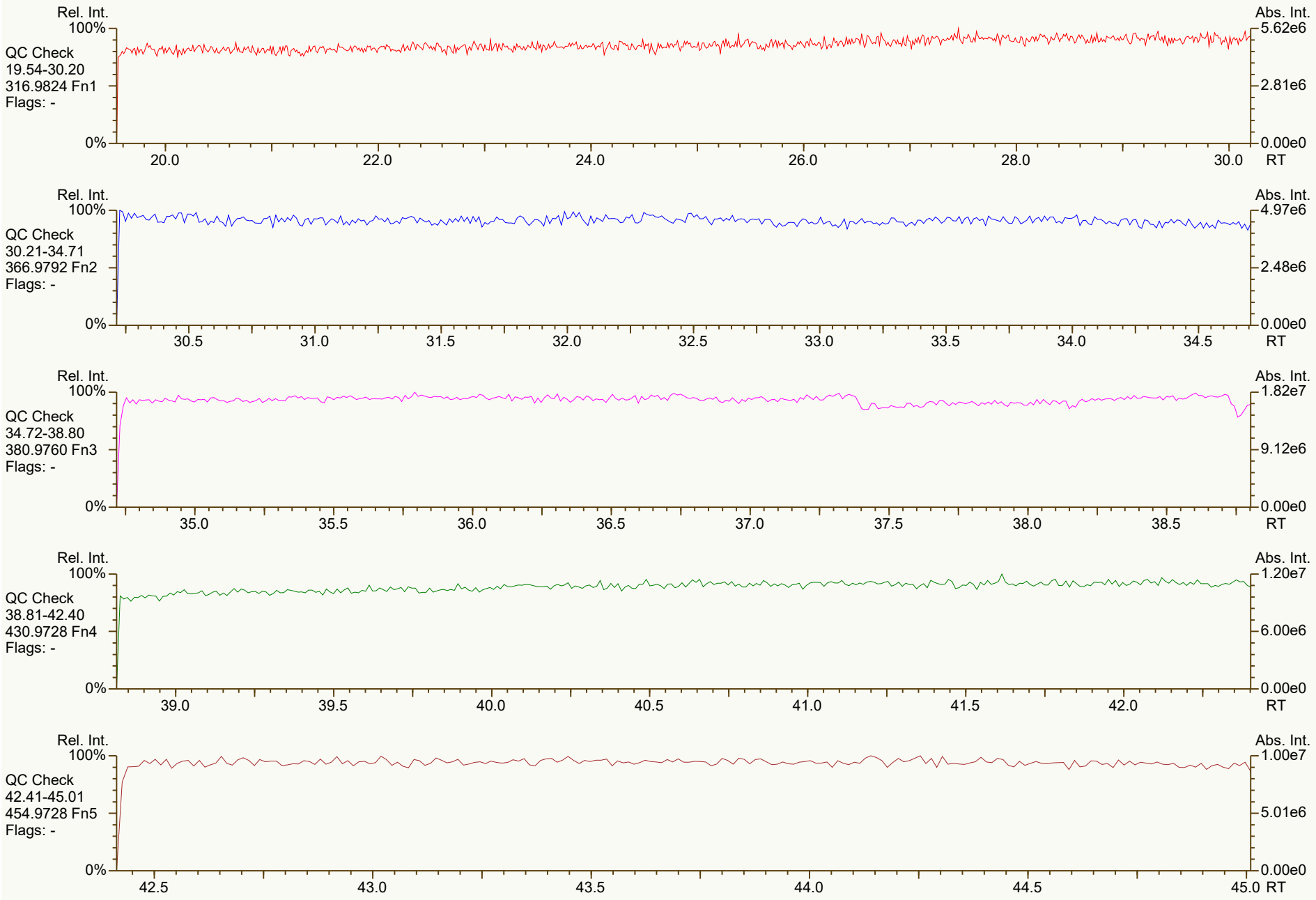
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9836						1.06		2910.26	2.34
1234678-HpCDD	**NotFnd**		**1.0002**						**1.06**		**2910.26**	**2.34**
OCDD	**NotFnd**		**1.0003**						**1.13**		**2546.802**	**4.83**
OCDD-a	NotFnd		1.0002						0.07		3227.567	95.7
1368-TCDF	NotFnd		0.8191						1.08		2701.754	1.64
1468-TCDF	NotFnd		0.8408						1.08		2701.754	1.64
2468-TCDF	NotFnd		0.8645						1.08		2701.754	1.64
1346/1246-TCDF	NotFnd		0.8772						1.08		2701.754	1.64
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		2701.754	1.64
1348-TCDF	NotFnd		0.8932						1.08		2701.754	1.64
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		2701.754	1.64
1268-TCDF	NotFnd		0.9119						1.08		2701.754	1.64
1467-TCDF	NotFnd		0.9170						1.08		2701.754	1.64
1478-TCDF	NotFnd		0.9234						1.08		2701.754	1.64
1369/1237-TCDF	NotFnd		0.9369						1.08		2701.754	1.64
2467-TCDF	NotFnd		0.9415						1.08		2701.754	1.64
2368-TCDF	NotFnd		0.9475						1.08		2701.754	1.64
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		2701.754	1.64
1278-TCDF	NotFnd		0.9676						1.08		2701.754	1.64
1349-TCDF	NotFnd		0.9722						1.08		2701.754	1.64
1267-TCDF	NotFnd		0.9777						1.08		2701.754	1.64
2346/1249-TCDF	NotFnd		0.9843						1.08		2701.754	1.64
2347/1279-TCDF	NotFnd		0.9926						1.08		2701.754	1.64
2348-TCDF	NotFnd		0.9968						1.08		2701.754	1.64
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**2701.754**	**1.64**
2367/3467-TCDF	NotFnd		1.0142						1.08		2701.754	1.64
1269-TCDF	NotFnd		1.0235						1.08		2701.754	1.64
1239-TCDF	NotFnd		1.0329						1.08		2701.754	1.64
1289-TCDF	NotFnd		1.0742						1.08		2701.754	1.64
13468/12468-PeCDF	NotFnd		0.9122						1.02		2581.188	1.36
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		2400.627	1.27
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		2400.627	1.27
14678-PeCDF	NotFnd		0.9685						1.02		2400.627	1.27
13479-PeCDF	NotFnd		0.9716						1.02		2400.627	1.27
13469/12479-PeCDF	NotFnd		0.9794						1.02		2400.627	1.27
12346-PeCDF	NotFnd		0.9836						1.02		2400.627	1.27

Lab ID: B6293_18936_DF_001 **Acq'd: 23 Feb 2022 20:11 DTF** **Wt/Vol: 0.98 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020522-S-SB-RB-15 **UTP: 24-Feb-2022 13:08:06 PSW** **J-level: 5.1 pg/L** **Split: 1** **Checkcode: 593-995-PGX**

Datafile: 220223C08 **Report: 24 Feb 2022 13:09 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		2400.627	1.27
12347-PeCDF	NotFnd		0.9891						1.02		2400.627	1.27
12348-PeCDF	NotFnd		0.9938						1.02		2400.627	1.27
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2400.627**	**1.25**
12678/12367-PeCDF	NotFnd		1.0091						1.02		2400.627	1.27
12379-PeCDF	NotFnd		1.0144						1.02		2400.627	1.27
12679-PeCDF	NotFnd		0.9927						1.02		2400.627	1.27
23467/12369-PeCDF	NotFnd		0.9965						1.02		2400.627	1.27
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2400.627**	**1.29**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2400.627	1.27
12349-PeCDF	NotFnd		1.0101						1.02		2400.627	1.27
12389-PeCDF	NotFnd		1.0330						1.02		2400.627	1.27
123468-HxCDF	NotFnd		0.9622						1.19		1980.1783	1.05
124678/134678-HxCDF	NotFnd		0.9678						1.19		1980.1783	1.05
134679-HxCDF	NotFnd		0.9741						1.19		1980.1783	1.05
124679-HxCDF	NotFnd		0.9795						1.19		1980.1783	1.05
124689-HxCDF	NotFnd		0.9856						1.19		1980.1783	1.05
123467-HxCDF	NotFnd		0.9972						1.19		1980.1783	1.05
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**1980.1783**	**1.11**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**1980.1783**	**0.974**
123479-HxCDF	NotFnd		1.0048						1.19		1980.1783	1.05
123469-HxCDF	NotFnd		1.0089						1.19		1980.1783	1.05
123679-HxCDF	NotFnd		0.9942						1.19		1980.1783	1.05
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**1980.1783**	**0.989**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		1980.1783	1.05
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**1980.1783**	**1.17**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		1980.1783	1.05
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2256.2037**	**1.33**
1234679-HpCDF	NotFnd		1.0068						1.34		2256.2037	1.58
1234689-HpCDF	NotFnd		1.0104						1.34		2256.2037	1.58
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2256.2037**	**1.86**
OCDF	**NotFnd**		**1.0002**						**1.07**		**1890.7951**	**2.65**
OCDF-a	NotFnd		1.0001						0.07		3258.243	73.8

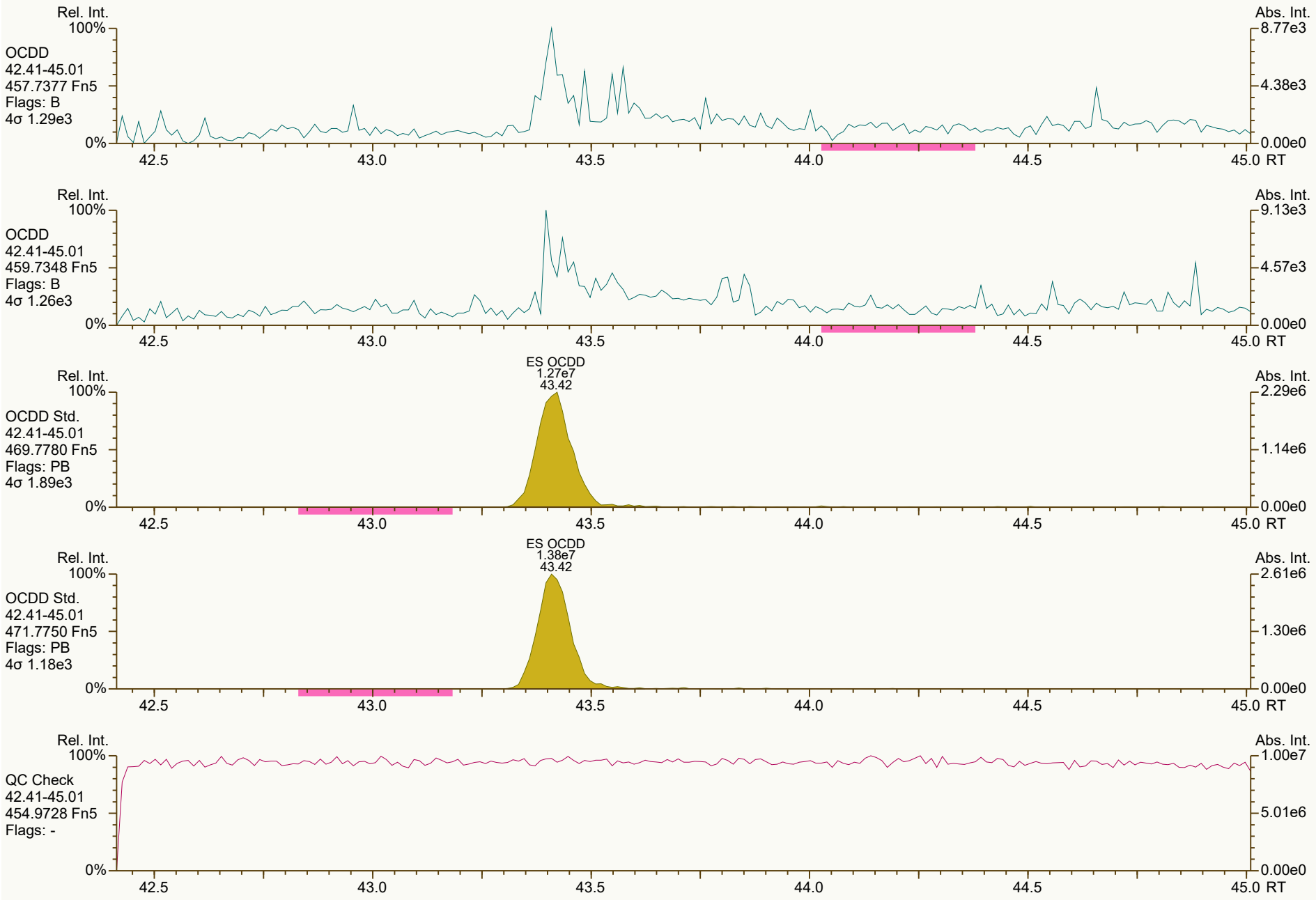

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
5.62e6
2.81e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.97e6
2.48e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.82e7
9.12e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.20e7
6.00e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.00e7
5.01e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 1.56e3
0%
Abs. Int.
9.40e3
4.70e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.42e3
0%
Abs. Int.
1.16e4
5.78e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.25e3
0%
CS 37Cl-2378D
1.08e7
28.22
Abs. Int.
2.66e6
1.33e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.09e3
0%
JS 1234D
1.04e7
27.53
ES 2378D
1.04e7
28.20
Abs. Int.
2.68e6
1.34e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 1.93e3
0%
JS 1234D
1.30e7
27.53
ES 2378D
1.27e7
28.20
Abs. Int.
3.00e6
1.50e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.81e3
0%
Abs. Int.
8.98e3
4.49e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.34e3
0%
Abs. Int.
5.54e3
2.77e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.09e3
0%
CS 12347D
1.27e7
33.10
ES 12378D
1.25e7
33.60
Abs. Int.
3.60e6
1.80e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.90e3
0%
CS 12347D
7.78e6
33.10
ES 12378D
8.18e6
33.60
Abs. Int.
2.27e6
1.14e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.97e6
2.48e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

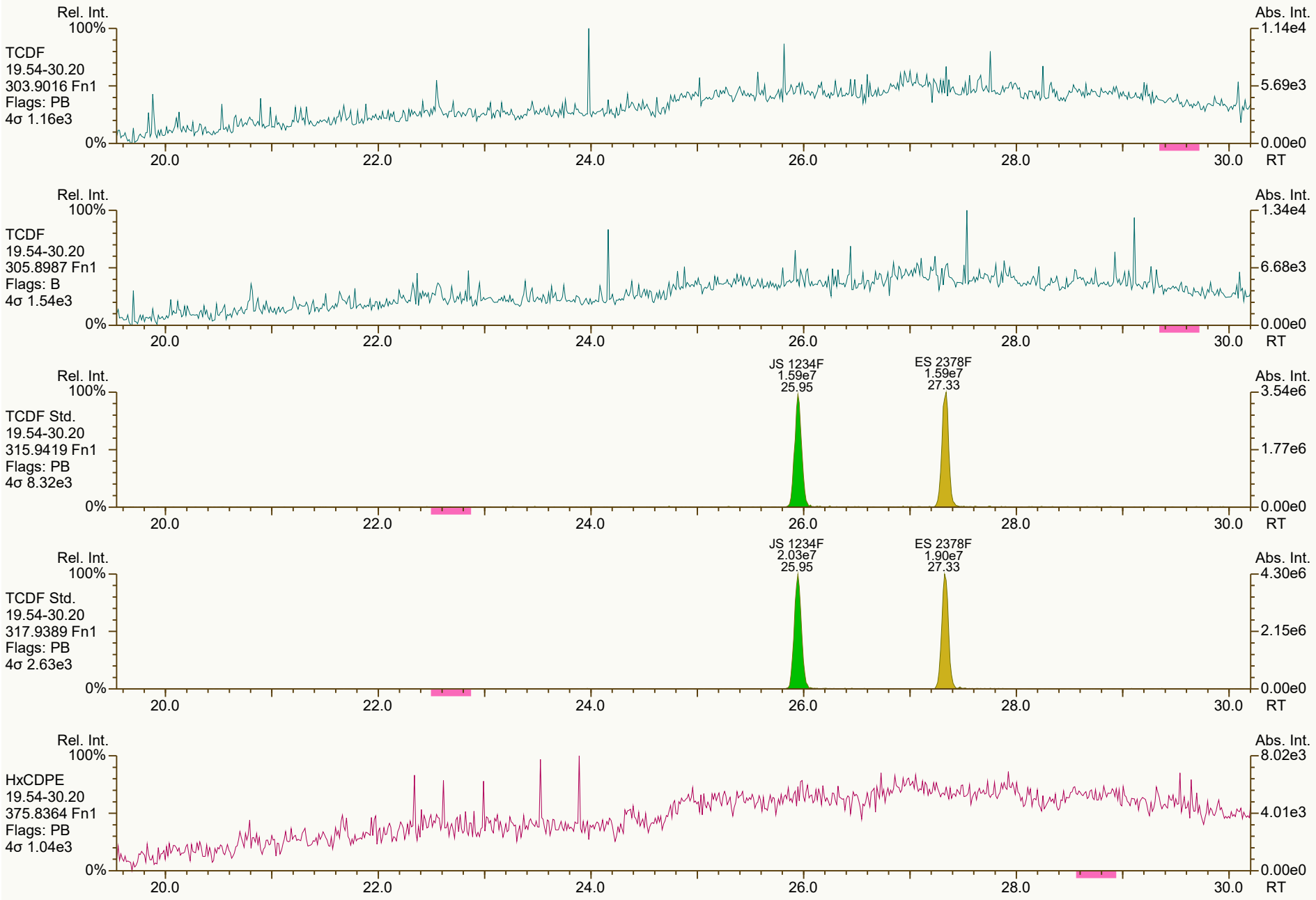

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: B
4σ 9.67e2
0%
Abs. Int.
6.93e3
3.47e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: B
4σ 8.53e2
0%
Abs. Int.
7.78e3
3.89e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 2.55e3
0%
ES 123678D
1.10e7
37.66
ES 123478D
1.09e7
37.54
ES 123789D
1.21e7
37.97
JS 123467D
5.47e6
37.86
Abs. Int.
3.41e6
1.71e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 1.81e3
0%
ES 123678D
8.80e6
37.66
ES 123478D
8.46e6
37.54
ES 123789D
9.63e6
37.97
JS 123467D
4.35e6
37.86
Abs. Int.
2.69e6
1.35e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.82e7
9.12e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: B
4σ 1.27e3
0%
Abs. Int.
8.08e3
4.04e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: B
4σ 1.64e3
0%
Abs. Int.
5.92e3
2.96e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
9.93e6
40.71
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 1.43e3
0%
Abs. Int.
3.05e6
1.52e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
9.65e6
40.71
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.44e3
0%
Abs. Int.
2.66e6
1.33e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.20e7
6.00e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 1.29e3
0%
Abs. Int.
8.77e3
4.38e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 1.26e3
0%
Abs. Int.
9.13e3
4.57e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.27e7
43.42
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 1.89e3
0%
Abs. Int.
2.29e6
1.14e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.38e7
43.42
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.18e3
0%
Abs. Int.
2.61e6
1.30e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.00e7
5.01e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: B6293_18936_DF_001 | Sample ID: 11215131-020522-S-SB-RB-15 | Acq: 23-Feb-2022 20:11:16

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 9 | User: DTF Datafile: 220223C08



Results: P:\B6200_B6299\B6293\B6293_18936 DF\Resources\B6293_18936_DF_001.utp_res, saved 24-Feb-2022 13:08 (PSW)

Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9244, 4619, 2572 scc: 593-995

PKD: 24-Feb-2022 13:07 Printed: 24-Feb-2022 13:14 Page 7 of 12

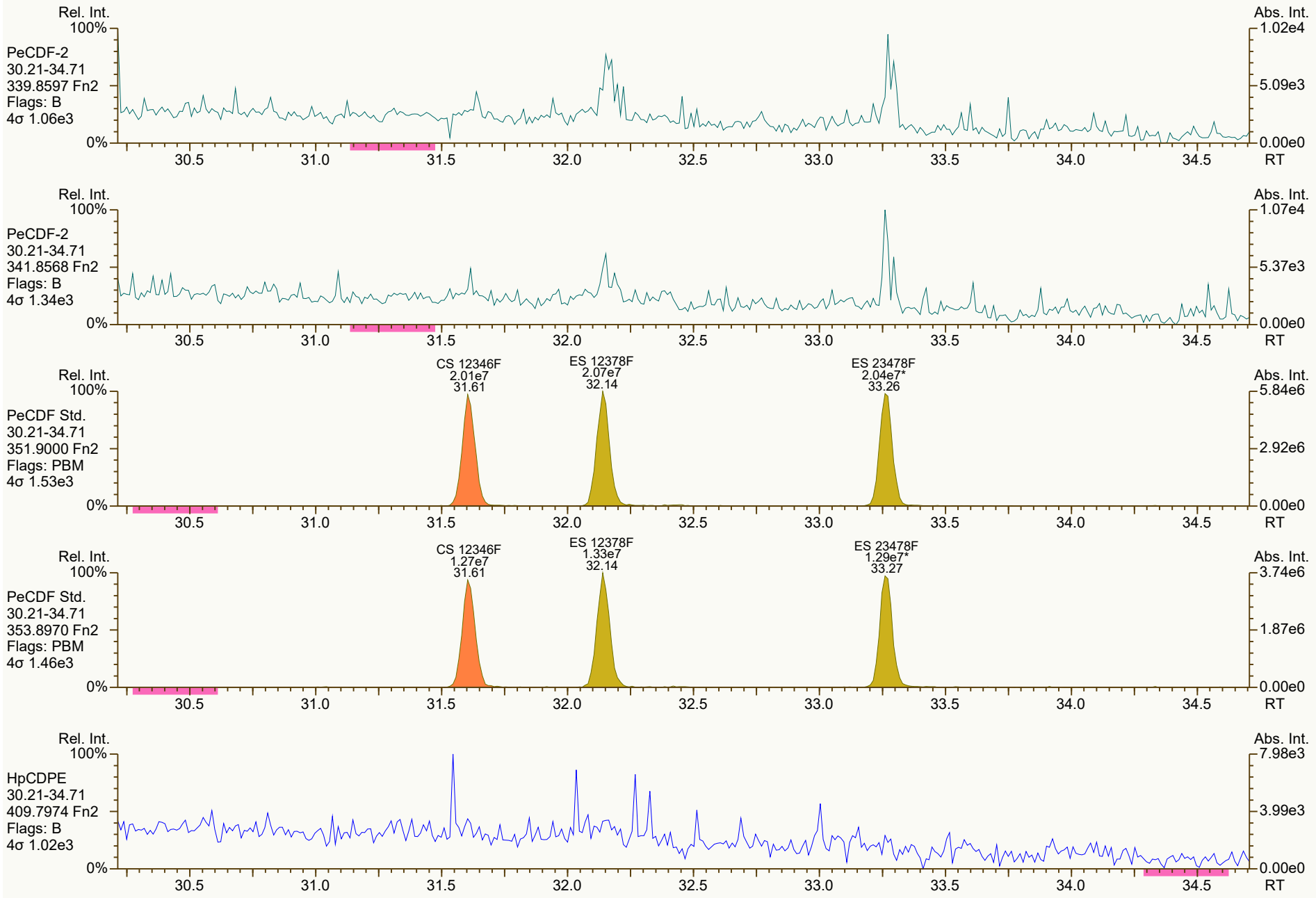
SGS ID: B6293_18936_DF_001 | Sample ID: 11215131-020522-S-SB-RB-15 | Acq: 23-Feb-2022 20:11:16

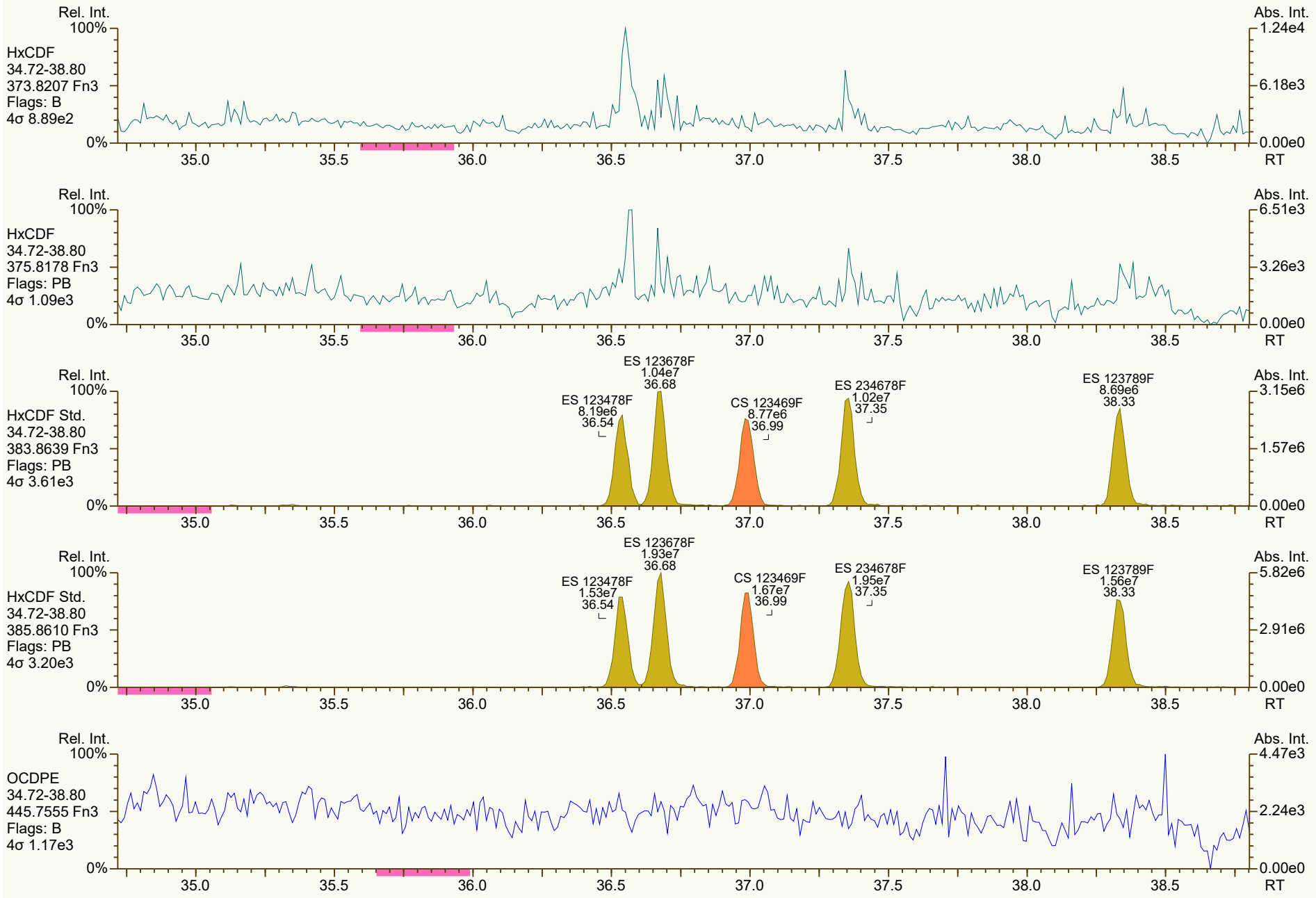
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 9 | User: DTF Datafile: 220223C08

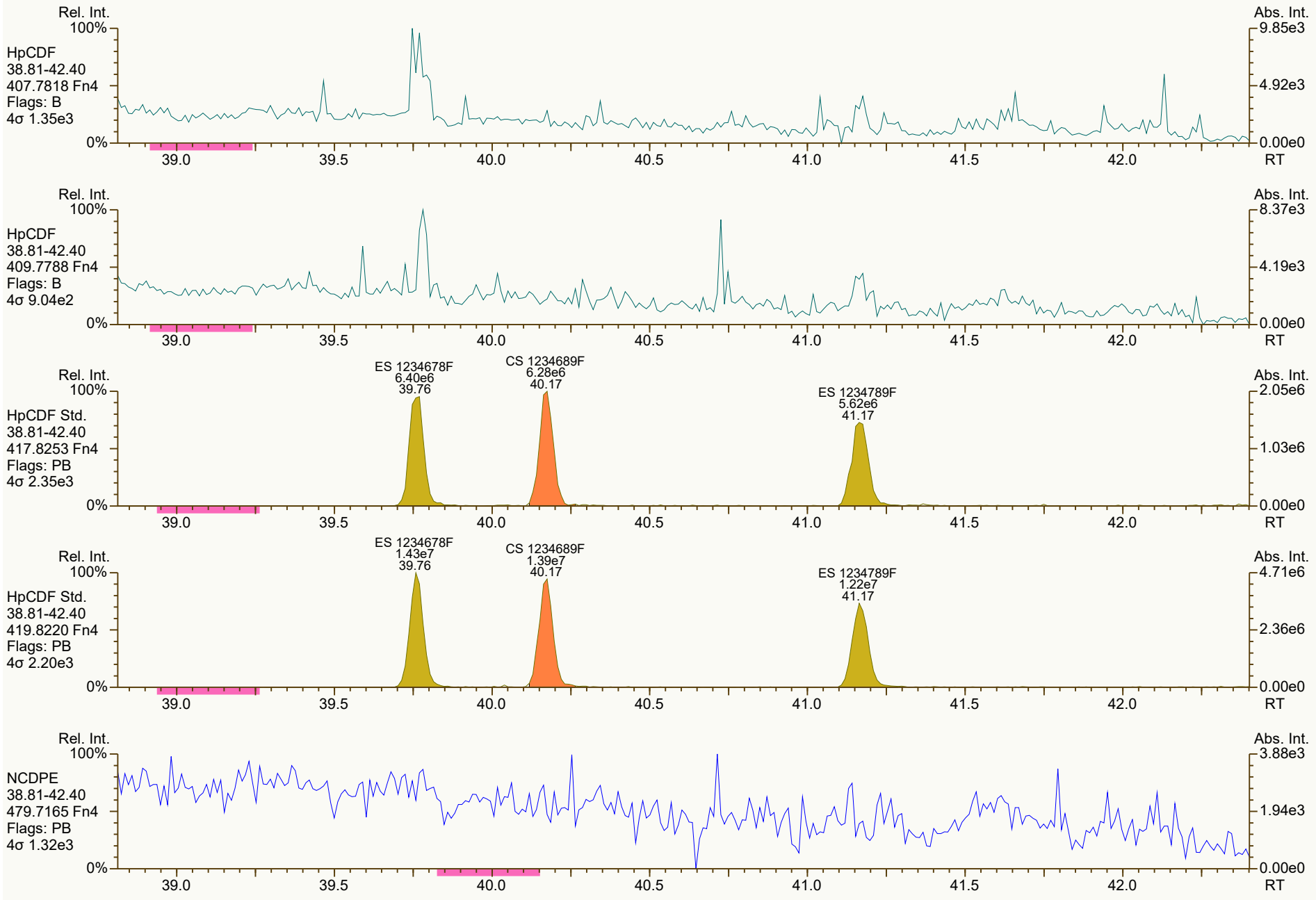


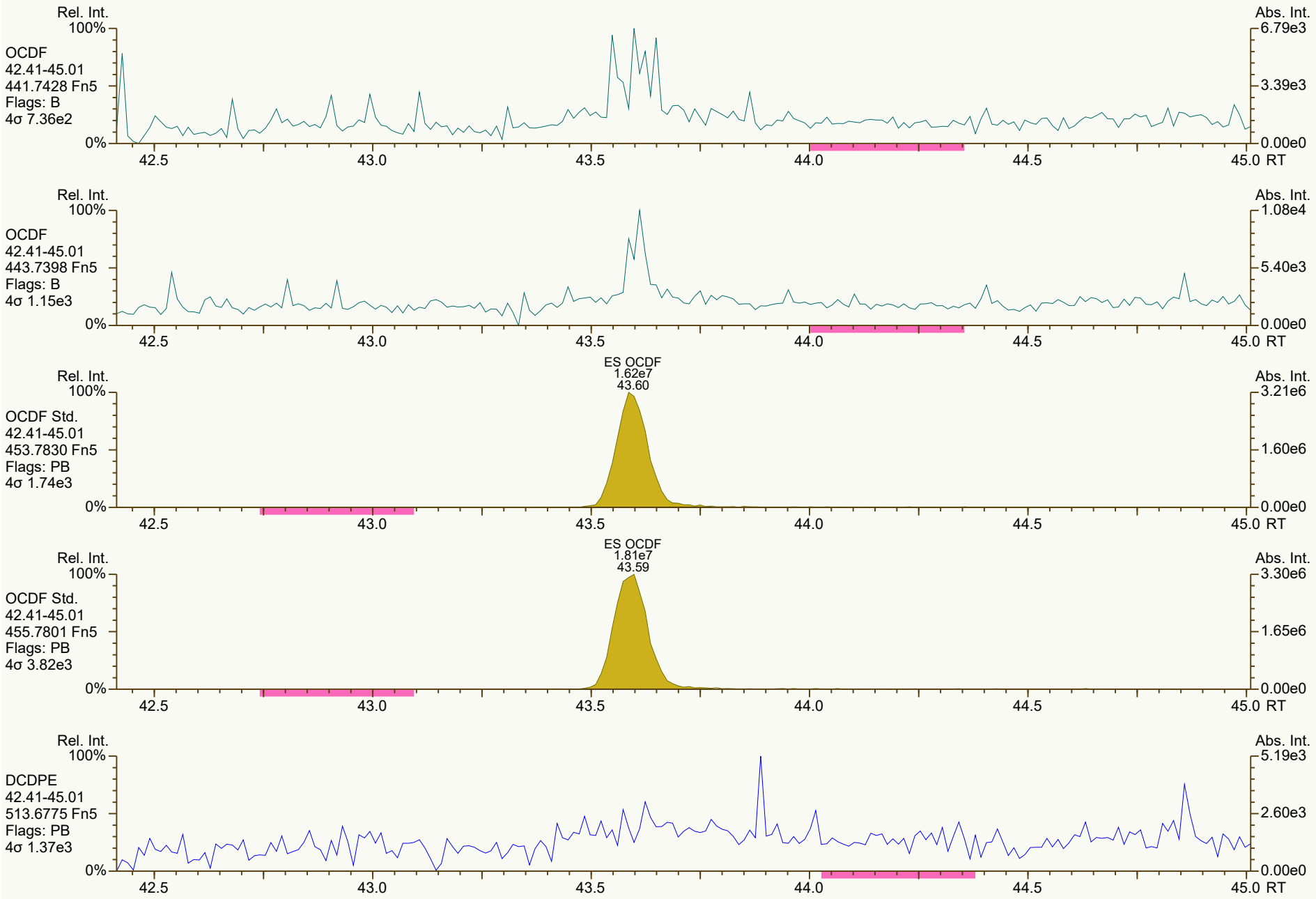
Results: P:\B6200_B6299\B6293\B6293_18936 DF\Resources\B6293_18936_DF_001.utp_res, saved 24-Feb-2022 13:08 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3366 scc: 593-995 | *PKD: 24-Feb-2022 13:07 Printed: 24-Feb-2022 13:14 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: B
4σ 1.06e3
0%
Abs. Int.
1.02e4
5.09e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: B
4σ 1.34e3
0%
Abs. Int.
1.07e4
5.37e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PBM
4σ 1.53e3
0%
CS 12346F
2.01e7
31.61
ES 12378F
2.07e7
32.14
ES 23478F
2.04e7*
33.26
Abs. Int.
5.84e6
2.92e6
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PBM
4σ 1.46e3
0%
CS 12346F
1.27e7
31.61
ES 12378F
1.33e7
32.14
ES 23478F
1.29e7*
33.27
Abs. Int.
3.74e6
1.87e6
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.02e3
0%
Abs. Int.
7.98e3
3.99e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: B
4σ 8.89e2
0%
Abs. Int.
1.24e4
6.18e3
0.00e0
RT
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PB
4σ 1.09e3
0%
Abs. Int.
6.51e3
3.26e3
0.00e0
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 3.61e3
0%
ES 123678F
1.04e7
36.68
ES 123478F
8.19e6
36.54
CS 123469F
8.77e6
36.99
ES 234678F
1.02e7
37.35
ES 123789F
8.69e6
38.33
Abs. Int.
3.15e6
1.57e6
0.00e0
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 3.20e3
0%
ES 123678F
1.93e7
36.68
ES 123478F
1.53e7
36.54
CS 123469F
1.67e7
36.99
ES 234678F
1.95e7
37.35
ES 123789F
1.56e7
38.33
Abs. Int.
5.82e6
2.91e6
0.00e0
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.17e3
0%
Abs. Int.
4.47e3
2.24e3
0.00e0
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: B
4σ 1.35e3
0%
Abs. Int.
9.85e3
4.92e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: B
4σ 9.04e2
0%
Abs. Int.
8.37e3
4.19e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 2.35e3
0%
ES 1234678F
6.40e6
39.76
CS 1234689F
6.28e6
40.17
ES 1234789F
5.62e6
41.17
Abs. Int.
2.05e6
1.03e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 2.20e3
0%
ES 1234678F
1.43e7
39.76
CS 1234689F
1.39e7
40.17
ES 1234789F
1.22e7
41.17
Abs. Int.
4.71e6
2.36e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.32e3
0%
Abs. Int.
3.88e3
1.94e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: B
4σ 7.36e2
0%
Abs. Int.
6.79e3
3.39e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
1.08e4
5.40e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.62e7
43.60
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 1.74e3
0%
Abs. Int.
3.21e6
1.60e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.81e7
43.59
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 3.82e3
0%
Abs. Int.
3.30e6
1.65e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.37e3
0%
Abs. Int.
5.19e3
2.60e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6293_18936_DF_002 **Acq'd:** 23 Feb 2022 20:57 DTF **Wt/Vol:** 0.97 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-RB-16 **UTP:** 24-Feb-2022 13:08:06 PSW **J-level:** 5.15 pg/L **Split:** 1 **Checkcode:** 572-353-RQV

Datafile: 220223C09 **Report:** 24 Feb 2022 13:09 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	4132.992	3.83
12378-PeCDD	NotFnd		1.0007	-		-	-	-	1.04	-	2859.564	2.66
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2668.15	2.57
123678-HxCDD	NotFnd		1.0036	-		-	-	-	1.15	-	2668.15	2.47
123789-HxCDD	NotFnd		1.0118	-		-	-	-	1.05	-	2668.15	2.37
1234678-HpCDD	NotFnd		1.0002	-		-	-	-	1.06	-	2531.3883	2.54
OCDD	NotFnd		1.0003	-		-	-	-	1.13	-	2287.121	4.58
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	2251.64	1.5
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2676.081	1.66
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2676.081	1.58
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2532.289	1.64
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2532.289	1.5
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2532.289	1.46
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2532.289	1.84
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2618.354	1.66
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2618.354	2.24
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	3096.954	5.28

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.20	1.0243	1.0243	0	2.08E+07	0.81	Y	1.05	89
ES 12378-PeCDD	33.61	1.2198	1.2207	+1.8	1.94E+07	1.56	Y	0.88	99
ES 123478-HxCDD	37.54	0.9916	0.9915	-0.2	1.71E+07	1.32	Y	0.97	93.3
ES 123678-HxCDD	37.66	0.9947	0.9947	0	1.78E+07	1.19	Y	0.94	99.7
ES 123789-HxCDD	37.97	1.0029	1.0028	-0.2	1.88E+07	1.24	Y	1.09	91
ES 1234678-HpCDD	40.71	1.0749	1.0750	+0.2	1.67E+07	1.06	Y	0.91	96.8
ES OCDD	43.41	1.1460	1.1463	+0.8	2.19E+07	0.91	Y	0.62	92.9
ES 2378-TCDF	27.33	1.0531	1.0534	+0.5	3.11E+07	0.82	Y	1.06	87.8
ES 12378-PeCDF	32.15	1.2378	1.2390	+2.3	3.02E+07	1.56	Y	0.91	99.3
ES 23478-PeCDF	33.27	1.2810	1.2823	+2.6	3.12E+07	1.55	Y	0.88	106
ES 123478-HxCDF	36.54	0.9650	0.9649	-0.2	2.11E+07	0.54	Y	1.20	93.4
ES 123678-HxCDF	36.68	0.9688	0.9687	-0.2	2.65E+07	0.52	Y	1.35	104
ES 234678-HxCDF	37.36	0.9866	0.9866	0	2.68E+07	0.55	Y	1.24	114
ES 123789-HxCDF	38.33	1.0125	1.0124	-0.2	2.17E+07	0.52	Y	1.16	99.6
ES 1234678-HpCDF	39.77	1.0501	1.0502	+0.2	1.75E+07	0.45	Y	0.97	95.9
ES 1234789-HpCDF	41.16	1.0870	1.0870	0	1.56E+07	0.43	Y	0.85	96.9
ES OCDF	43.58	1.1505	1.1508	+0.8	2.87E+07	0.91	Y	0.81	94.3

Lab ID: B6293_18936_DF_002 **Acq'd:** 23 Feb 2022 20:57 DTF **Wt/Vol:** 0.97 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020622-S-SB-RB-16 **UTP:** 24-Feb-2022 13:08:06 PSW **J-level:** 5.15 pg/L **Split:** 1 **Checkcode:** 572-353-RQV

Datafile: 220223C09 **Report:** 24 Feb 2022 13:09 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.53		-	-	-	2.23E+07	0.81	Y	-	-
JS 1234-TCDF	25.95		-	-	-	3.35E+07	0.82	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	9.43E+06	1.26	Y	-	-
CS 37Cl-2378-TCDD	28.22		1.0251	1.0251	0	9.91E+06	n/a	-	1.20	92.3
CS 12347-PeCDD	33.10		1.2016	1.2023	+1.4	1.96E+07	1.67	Y	0.75	116
CS 12346-PeCDF	31.61		1.2172	1.2184	+2.3	3.11E+07	1.64	Y	0.85	109
CS 123469-HxCDF	36.99		0.9771	0.9769	-0.4	2.33E+07	0.52	Y	1.12	110
CS 1234689-HpCDF	40.17		1.0608	1.0609	+0.2	1.81E+07	0.46	Y	0.89	108
~~SS 37Cl-2378-TCDD~~	~~28.22~~		~~1.0251~~	~~1.0251~~	~~0~~	~~9.91E+06~~	~~n/a~~		~~1.15~~	~~104~~
~~SS 12347-PeCDD~~	~~33.10~~		~~1.2016~~	~~1.2023~~	~~+1.4~~	~~1.96E+07~~	~~1.67~~	~~Y~~	~~0.86~~	~~117~~
~~SS 12346-PeCDF~~	~~31.61~~		~~1.2172~~	~~1.2184~~	~~+2.3~~	~~3.11E+07~~	~~1.64~~	~~Y~~	~~0.94~~	~~110~~
~~SS 123469-HxCDF~~	~~36.99~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~2.33E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~106~~
~~SS 1234689-HpCDF~~	~~40.17~~		~~1.0608~~	~~1.0609~~	~~+0.2~~	~~1.81E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~112~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: B6293_18936_DF_002 **Acq'd: 23 Feb 2022 20:57 DTF** **Wt/Vol: 0.97 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-RB-16 **UTP: 24-Feb-2022 13:08:06 PSW** **J-level: 5.15 pg/L** **Split: 1** **Checkcode: 572-353-RQV**

Datafile: 220223C09 **Report: 24 Feb 2022 13:09 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		4132.992	3.83
1379-TCDD	NotFnd		0.8829						1.18		4132.992	3.83
1369-TCDD	NotFnd		0.8982						1.18		4132.992	3.83
1469-TCDD	NotFnd		0.9261						1.18		4132.992	3.83
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4132.992	3.83
1378-TCDD	NotFnd		0.9417						1.18		4132.992	3.83
1268-TCDD	NotFnd		0.9487						1.18		4132.992	3.83
1478-TCDD	NotFnd		0.9576						1.18		4132.992	3.83
1279-TCDD	NotFnd		0.9636						1.18		4132.992	3.83
1234/1269-TCDD	NotFnd		0.9761						1.18		4132.992	3.83
1236-TCDD	NotFnd		0.9812						1.18		4132.992	3.83
1237/1238-TCDD	NotFnd		0.9905						1.18		4132.992	3.83
1239-TCDD	NotFnd		0.9951						1.18		4132.992	3.83
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**4132.992**	**3.83**
1278-TCDD	NotFnd		1.0124						1.18		4132.992	3.83
1267-TCDD	NotFnd		1.0172						1.18		4132.992	3.83
1289-TCDD	NotFnd		1.0354						1.18		4132.992	3.83
12479/12468-PeCDD	NotFnd		0.9255						1.04		2859.564	2.66
12469-PeCDD	NotFnd		0.9416						1.04		2859.564	2.66
12368-PeCDD	NotFnd		0.9582						1.04		2859.564	2.66
12478-PeCDD	NotFnd		0.9637						1.04		2859.564	2.66
12379-PeCDD	NotFnd		0.9668						1.04		2859.564	2.66
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		2859.564	2.66
12346/12347-PeCDD	NotFnd		0.9858						1.04		2859.564	2.66
12378-PeCDD	NotFnd		**1.0007**						**1.04**		**2859.564**	**2.66**
12367-PeCDD	NotFnd		1.0036						1.04		2859.564	2.66
12389-PeCDD	NotFnd		1.0137						1.04		2859.564	2.66
124679/124689-HxCDD	NotFnd		0.9540						1.10		2668.15	2.47
123468-HxCDD	NotFnd		0.9715						1.10		2668.15	2.47
123679/123689-HxCDD	NotFnd		0.9793						1.10		2668.15	2.47
123469-HxCDD	NotFnd		0.9829						1.10		2668.15	2.47
123478-HxCDD	NotFnd		**1.0004**						1.09		**2668.15**	**2.57**
123678-HxCDD	NotFnd		**1.0036**						1.15		**2668.15**	**2.47**
123467-HxCDD	NotFnd		1.0089						1.10		2668.15	2.47
123789-HxCDD	NotFnd		**1.0118**						1.05		**2668.15**	**2.37**

Lab ID: B6293_18936_DF_002 **Acq'd: 23 Feb 2022 20:57 DTF** **Wt/Vol: 0.97 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-020622-S-SB-RB-16 **UTP: 24-Feb-2022 13:08:06 PSW** **J-level: 5.15 pg/L** **Split: 1** **Checkcode: 572-353-RQV**

Datafile: 220223C09 **Report: 24 Feb 2022 13:09 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

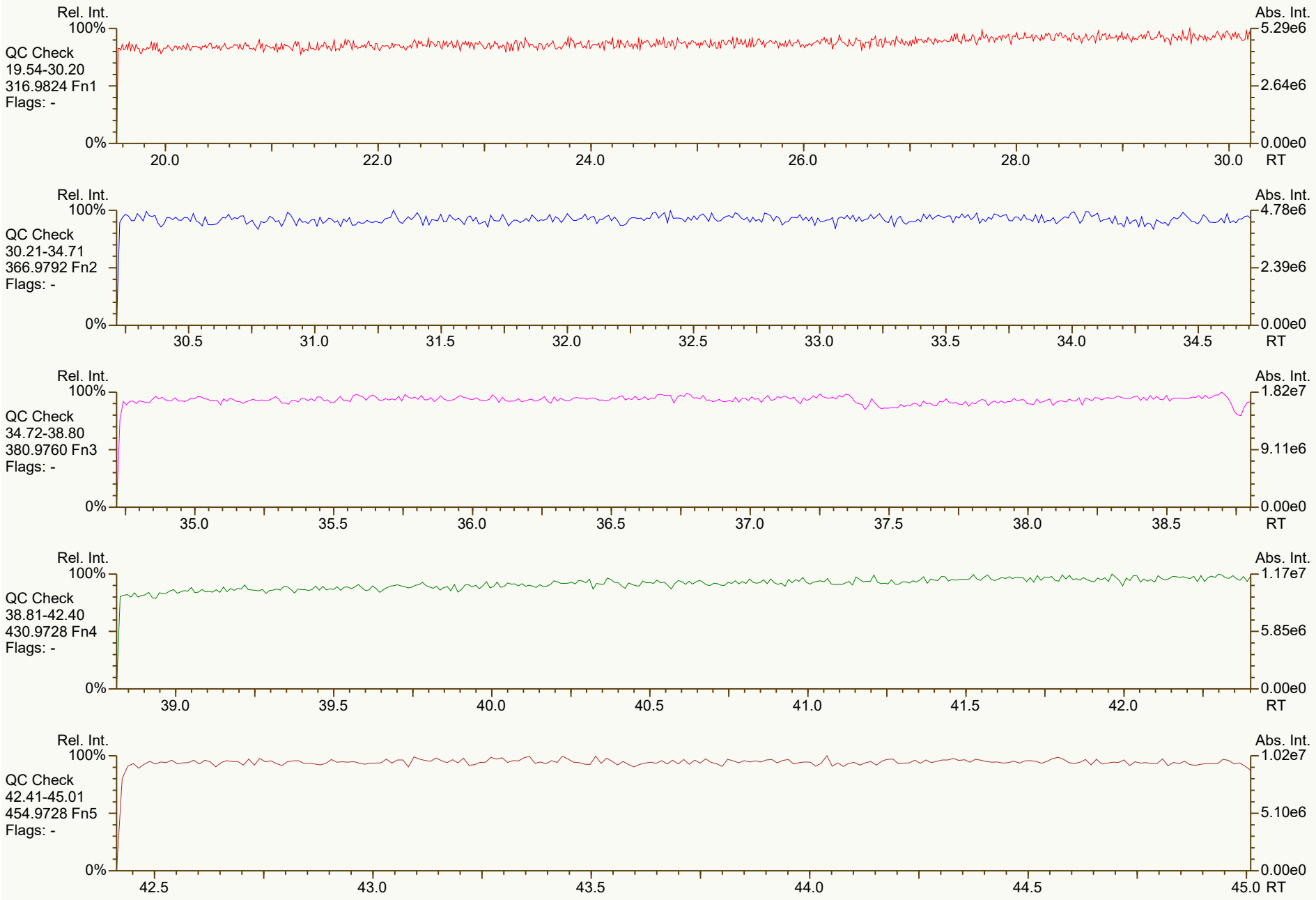
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9836						1.06		2531.3883	2.54
1234678-HpCDD	**NotFnd**		**1.0002**						**1.06**		**2531.3883**	**2.54**
OCDD	**NotFnd**		**1.0003**						**1.13**		**2287.121**	**4.58**
OCDD-a	NotFnd		1.0002						0.07		3183.037	99.7
1368-TCDF	NotFnd		0.8191						1.08		2251.64	1.5
1468-TCDF	NotFnd		0.8408						1.08		2251.64	1.5
2468-TCDF	NotFnd		0.8645						1.08		2251.64	1.5
1346/1246-TCDF	NotFnd		0.8772						1.08		2251.64	1.5
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		2251.64	1.5
1348-TCDF	NotFnd		0.8932						1.08		2251.64	1.5
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		2251.64	1.5
1268-TCDF	NotFnd		0.9119						1.08		2251.64	1.5
1467-TCDF	NotFnd		0.9170						1.08		2251.64	1.5
1478-TCDF	NotFnd		0.9234						1.08		2251.64	1.5
1369/1237-TCDF	NotFnd		0.9369						1.08		2251.64	1.5
2467-TCDF	NotFnd		0.9415						1.08		2251.64	1.5
2368-TCDF	NotFnd		0.9475						1.08		2251.64	1.5
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		2251.64	1.5
1278-TCDF	NotFnd		0.9676						1.08		2251.64	1.5
1349-TCDF	NotFnd		0.9722						1.08		2251.64	1.5
1267-TCDF	NotFnd		0.9777						1.08		2251.64	1.5
2346/1249-TCDF	NotFnd		0.9843						1.08		2251.64	1.5
2347/1279-TCDF	NotFnd		0.9926						1.08		2251.64	1.5
2348-TCDF	NotFnd		0.9968						1.08		2251.64	1.5
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**2251.64**	**1.5**
2367/3467-TCDF	NotFnd		1.0142						1.08		2251.64	1.5
1269-TCDF	NotFnd		1.0235						1.08		2251.64	1.5
1239-TCDF	NotFnd		1.0329						1.08		2251.64	1.5
1289-TCDF	NotFnd		1.0742						1.08		2251.64	1.5
13468/12468-PeCDF	NotFnd		0.9122						1.02		3008.22	1.82
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		2676.081	1.62
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		2676.081	1.62
14678-PeCDF	NotFnd		0.9685						1.02		2676.081	1.62
13479-PeCDF	NotFnd		0.9716						1.02		2676.081	1.62
13469/12479-PeCDF	NotFnd		0.9794						1.02		2676.081	1.62
12346-PeCDF	NotFnd		0.9836						1.02		2676.081	1.62

Lab ID: B6293_18936_DF_002 **Acq'd:** 23 Feb 2022 20:57 DTF **Wt/Vol:** 0.97 L **ICAL:** HRMS3_DF_10272021 10NOV2021

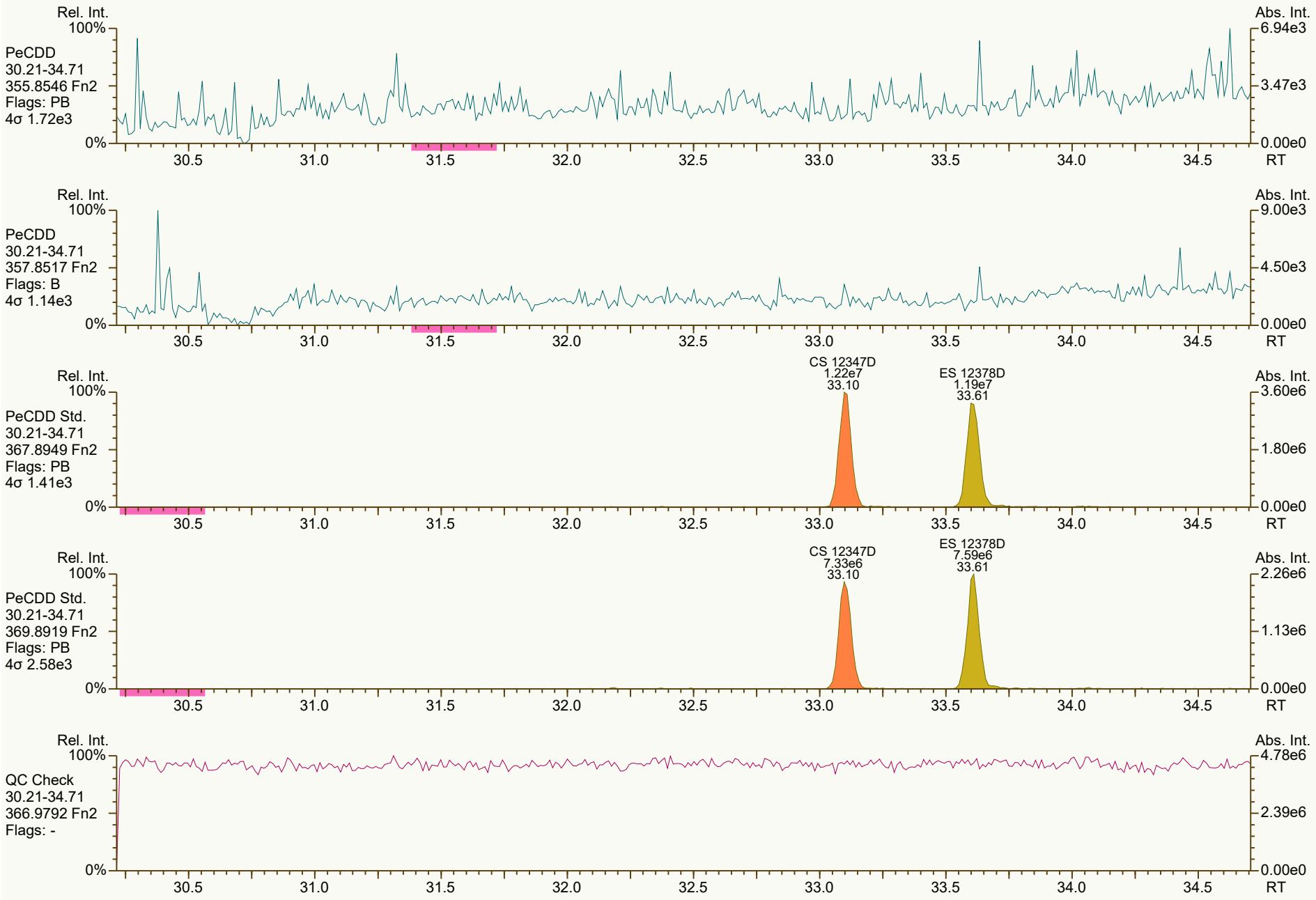
Client ID: 11215131-020622-S-SB-RB-16 **UTP:** 24-Feb-2022 13:08:06 PSW **J-level:** 5.15 pg/L **Split:** 1 **Checkcode:** 572-353-RQV

Datafile: 220223C09 **Report:** 24 Feb 2022 13:09 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		2676.081	1.62
12347-PeCDF	NotFnd		0.9891						1.02		2676.081	1.62
12348-PeCDF	NotFnd		0.9938						1.02		2676.081	1.62
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2676.081**	**1.66**
12678/12367-PeCDF	NotFnd		1.0091						1.02		2676.081	1.62
12379-PeCDF	NotFnd		1.0144						1.02		2676.081	1.62
12679-PeCDF	NotFnd		0.9927						1.02		2676.081	1.62
23467/12369-PeCDF	NotFnd		0.9965						1.02		2676.081	1.62
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2676.081**	**1.58**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2676.081	1.62
12349-PeCDF	NotFnd		1.0101						1.02		2676.081	1.62
12389-PeCDF	NotFnd		1.0330						1.02		2676.081	1.62
123468-HxCDF	NotFnd		0.9622						1.19		2532.289	1.59
124678/134678-HxCDF	NotFnd		0.9678						1.19		2532.289	1.59
134679-HxCDF	NotFnd		0.9741						1.19		2532.289	1.59
124679-HxCDF	NotFnd		0.9795						1.19		2532.289	1.59
124689-HxCDF	NotFnd		0.9856						1.19		2532.289	1.59
123467-HxCDF	NotFnd		0.9972						1.19		2532.289	1.59
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2532.289**	**1.64**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2532.289**	**1.5**
123479-HxCDF	NotFnd		1.0048						1.19		2532.289	1.59
123469-HxCDF	NotFnd		1.0089						1.19		2532.289	1.59
123679-HxCDF	NotFnd		0.9942						1.19		2532.289	1.59
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2532.289**	**1.46**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2532.289	1.59
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2532.289**	**1.84**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		2532.289	1.59
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2618.354**	**1.66**
1234679-HpCDF	NotFnd		1.0068						1.34		2618.354	1.93
1234689-HpCDF	NotFnd		1.0104						1.34		2618.354	1.93
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2618.354**	**2.24**
OCDF	**NotFnd**		**1.0002**						**1.07**		**3096.954**	**5.28**
OCDF-a	NotFnd		1.0001						0.07		2973.566	81.9


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
5.29e6
2.64e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.78e6
2.39e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.82e7
9.11e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.17e7
5.85e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.02e7
5.10e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.44e3
0%
Abs. Int.
1.19e4
5.94e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.69e3
0%
Abs. Int.
1.28e4
6.40e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.37e3
0%
CS 37Cl-2378D
9.91e6
28.22
Abs. Int.
2.26e6
1.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.29e3
0%
JS 1234D
9.99e6
27.53
ES 2378D
9.31e6
28.20
Abs. Int.
2.23e6
1.12e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.22e3
0%
JS 1234D
1.23e7
27.53
ES 2378D
1.15e7
28.20
Abs. Int.
2.70e6
1.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.72e3
0%
Abs. Int.
6.94e3
3.47e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: B
4σ 1.14e3
0%
Abs. Int.
9.00e3
4.50e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 1.41e3
0%
CS 12347D
1.22e7
33.10
ES 12378D
1.19e7
33.61
Abs. Int.
3.60e6
1.80e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.58e3
0%
CS 12347D
7.33e6
33.10
ES 12378D
7.59e6
33.61
Abs. Int.
2.26e6
1.13e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
30.5
31.0
31.5
32.0
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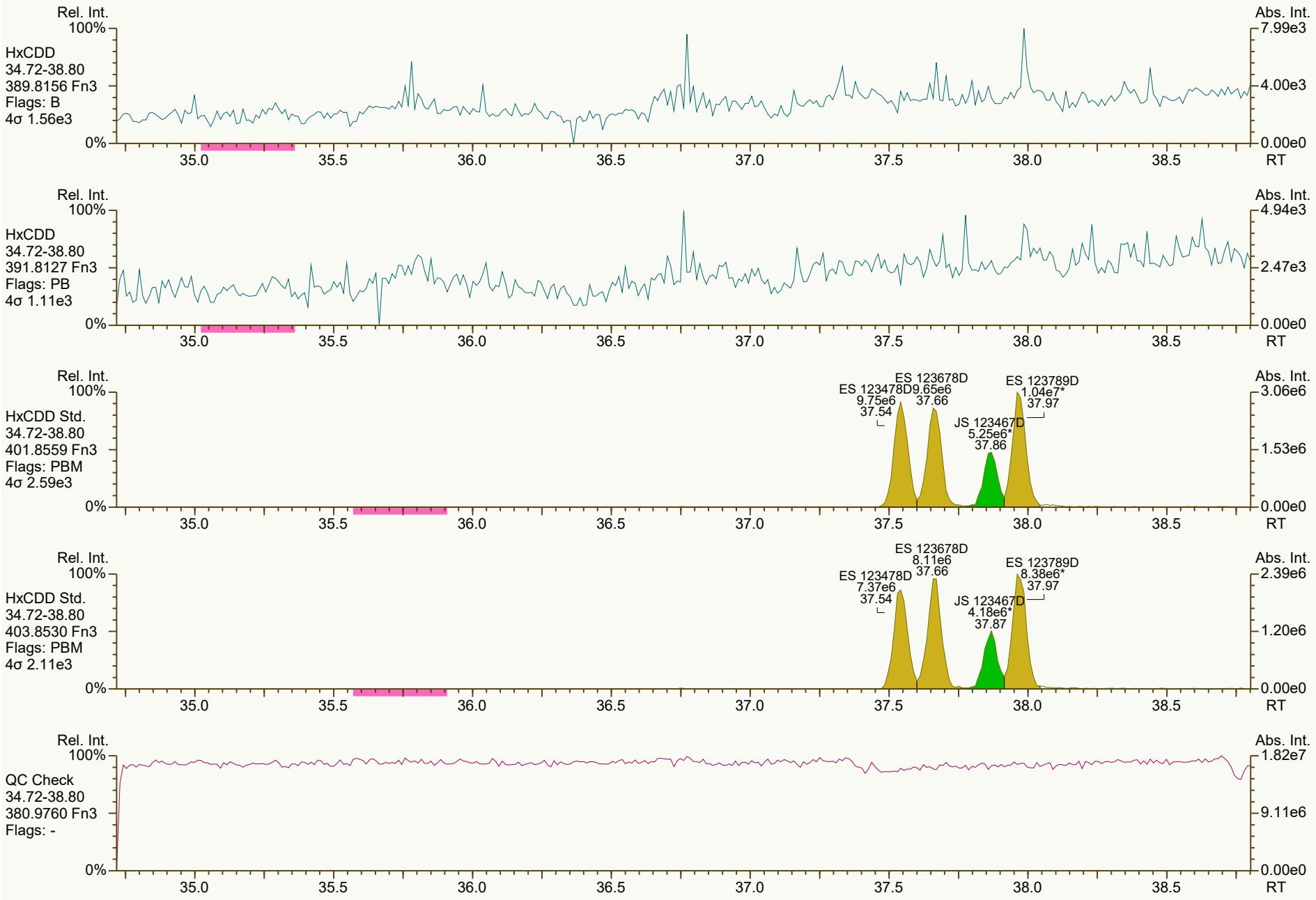
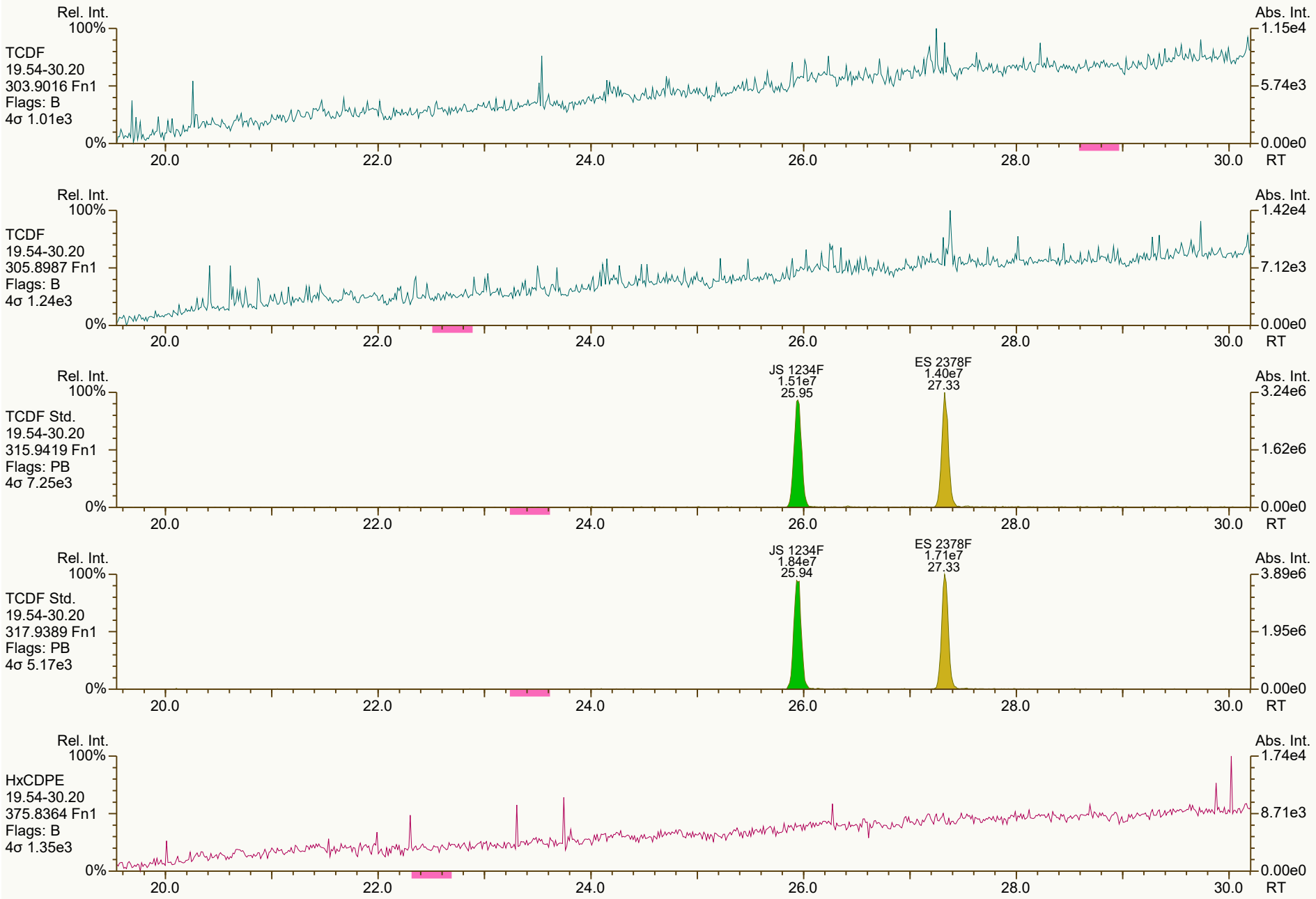
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: B
4σ 1.56e3
0%
Abs. Int.
7.99e3
4.00e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.11e3
0%
Abs. Int.
4.94e3
2.47e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 2.59e3
0%
ES 123678D
9.65e6
37.66
ES 123478D
9.75e6
37.54
ES 123789D
1.04e7*
37.97
JS 123467D
5.25e6*
37.86
Abs. Int.
3.06e6
1.53e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 2.11e3
0%
ES 123678D
8.11e6
37.66
ES 123478D
7.37e6
37.54
ES 123789D
8.38e6*
37.97
JS 123467D
4.18e6*
37.87
Abs. Int.
2.39e6
1.20e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.82e7
9.11e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: B
4σ 1.65e3
0%
Abs. Int.
6.55e3
3.28e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: B
4σ 8.86e2
0%
Abs. Int.
8.71e3
4.36e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
8.58e6
40.71
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 2.04e3
0%
Abs. Int.
2.49e6
1.25e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
8.09e6
40.71
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.12e3
0%
Abs. Int.
2.32e6
1.16e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 1.01e3
0%
Abs. Int.
1.05e4
5.23e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 1.27e3
0%
Abs. Int.
1.29e4
6.44e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.04e7
43.41
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 2.06e3
0%
Abs. Int.
2.17e6
1.09e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.15e7
43.41
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 2.00e3
0%
Abs. Int.
2.33e6
1.16e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.02e7
5.10e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: B
4σ 1.01e3
0%
Abs. Int.
1.15e4
5.74e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 1.24e3
0%
Abs. Int.
1.42e4
7.12e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 7.25e3
0%
JS 1234F
1.51e7
25.95
ES 2378F
1.40e7
27.33
Abs. Int.
3.24e6
1.62e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 5.17e3
0%
JS 1234F
1.84e7
25.94
ES 2378F
1.71e7
27.33
Abs. Int.
3.89e6
1.95e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.35e3
0%
Abs. Int.
1.74e4
8.71e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: B6293_18936_DF_002 | Sample ID: 11215131-020622-S-SB-RB-16 | Acq: 23-Feb-2022 20:57:37

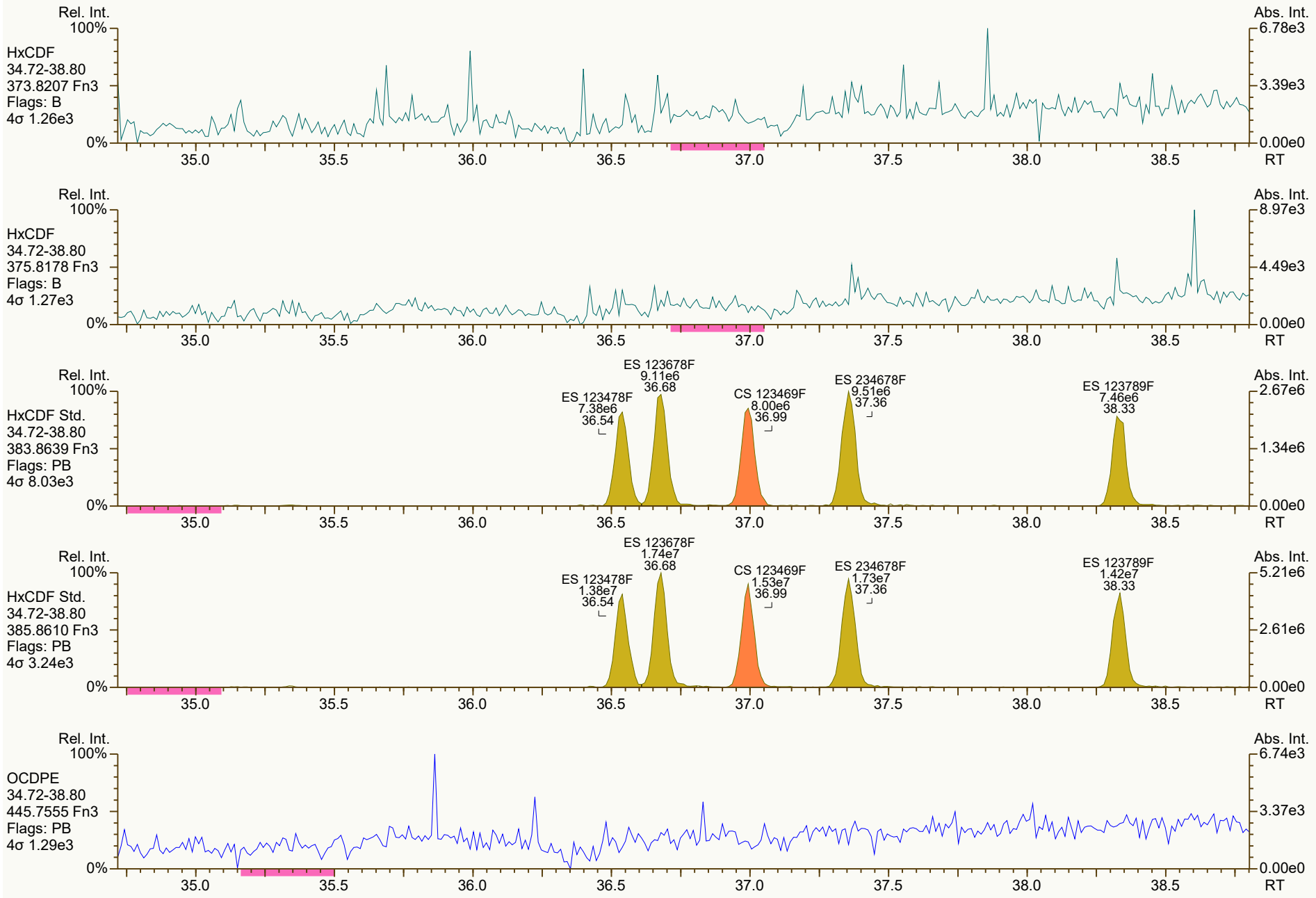
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 10 | User: DTF Datafile: 220223C09

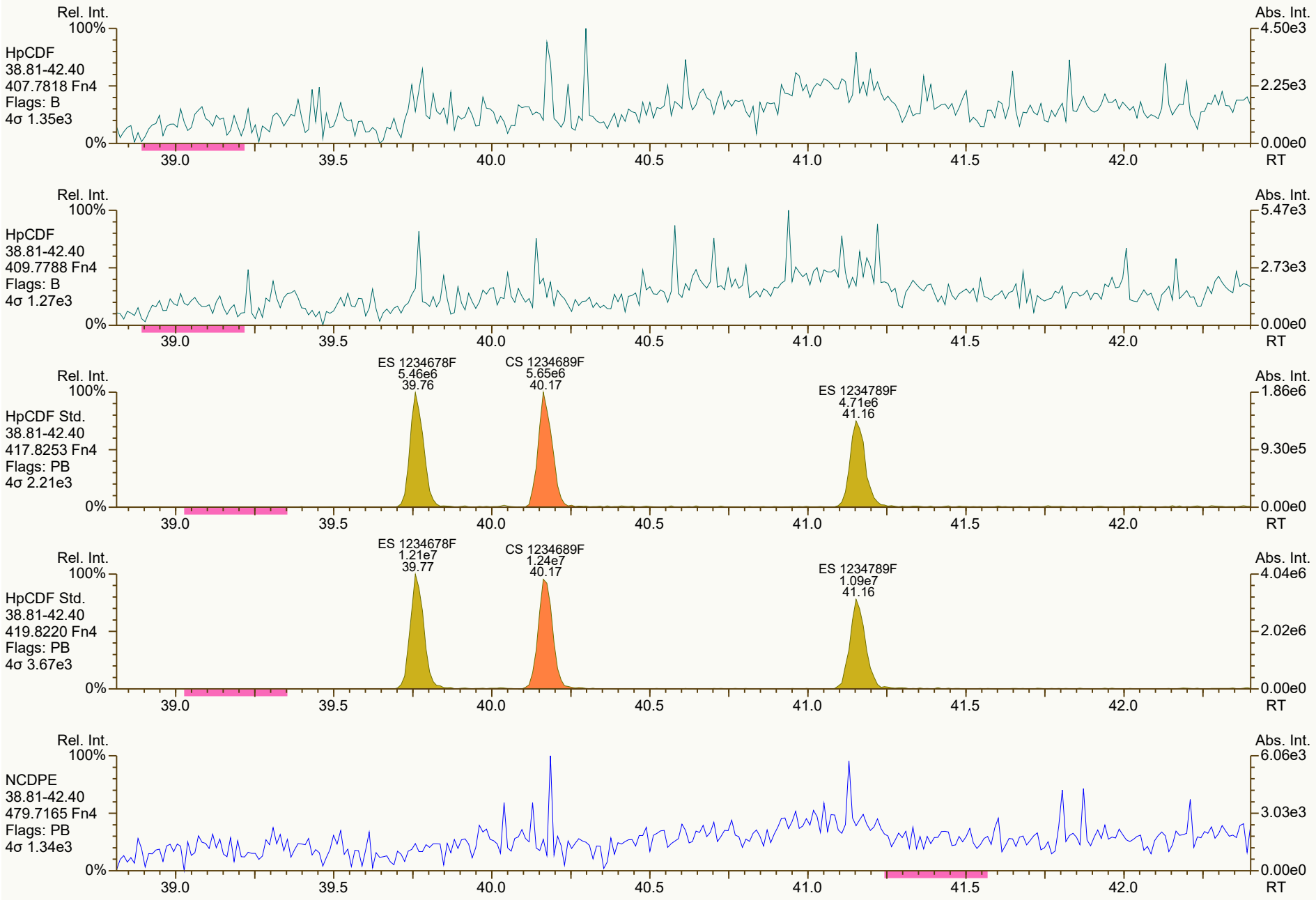


Results: P:\B6200_B6299\B6293\B6293_18936 DF\Resources\B6293_18936_DF_002.utp_res, saved 24-Feb-2022 13:08 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5194 scc: 572-353 | *PKD: 24-Feb-2022 13:07 Printed: 24-Feb-2022 13:14 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.24e3
0%
Abs. Int.
7.09e3
3.55e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: B
4σ 1.44e3
0%
Abs. Int.
6.15e3
3.07e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 1.84e3
0%
CS 12346F
1.93e7
31.61
ES 12378F
1.84e7
32.15
ES 23478F
1.90e7
33.27
Abs. Int.
5.21e6
2.61e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 1.66e3
0%
CS 12346F
1.18e7
31.61
ES 12378F
1.18e7
32.15
ES 23478F
1.22e7
33.27
Abs. Int.
3.53e6
1.76e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.20e3
0%
Abs. Int.
2.04e4
1.02e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: B
4σ 1.26e3
0%
Abs. Int.
6.78e3
3.39e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: B
4σ 1.27e3
0%
Abs. Int.
8.97e3
4.49e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 8.03e3
0%
ES 123678F
9.11e6
36.68
ES 123478F
7.38e6
36.54
CS 123469F
8.00e6
36.99
ES 234678F
9.51e6
37.36
ES 123789F
7.46e6
38.33
Abs. Int.
2.67e6
1.34e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 3.24e3
0%
ES 123678F
1.74e7
36.68
ES 123478F
1.38e7
36.54
CS 123469F
1.53e7
36.99
ES 234678F
1.73e7
37.36
ES 123789F
1.42e7
38.33
Abs. Int.
5.21e6
2.61e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.29e3
0%
Abs. Int.
6.74e3
3.37e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT



Results: P:\B6200_B6299\B6293\B6293_18936 DF\Resources\B6293_18936_DF_002.utp_res, saved 24-Feb-2022 13:08 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5153, 6643, 3735 scc: 572-353 *PKD: 24-Feb-2022 13:07 Printed: 24-Feb-2022 13:14 Page 11 of 12*

SGS ID: B6293_18936_DF_002 | Sample ID: 11215131-020622-S-SB-RB-16 | Acq: 23-Feb-2022 20:57:37

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 10 | User: DTF Datafile: 220223C09



Results: P:\B6200_B6299\B6293\B6293_18936 DF\Resources\B6293_18936_DF_002.utp_res, saved 24-Feb-2022 13:08 (PSW) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2533, 9226, 0062 scc: 572-353 | *PKD: 24-Feb-2022 13:07 Printed: 24-Feb-2022 13:14 Page 12 of 12*

REVIEWED
Tamara Burkamper , 2/24/2022, 2:26:19 PM

SGS Environmental Services — Run Log

Project: B6293_18936_DF

Instrument: HRMS3 (AutoSpec-Ultima)

MS Experiment: df_cl4-8_db5MS

GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	220223C01	3	CS3_220223_DF_CA ✓	1.00	25-347-1	DTF, PSW	301-797	23-Feb-2022	14:09:30
2	220223C02	7	OPR1_18936_DF	1.00	0_18936_OPR001 ✓	DTF, PSW	285-654	23-Feb-2022	15:30:05
3	220223C03	8	OPR2_18936_DF	1.00	0_18936_OPR002	DTF, PSW	714-601	23-Feb-2022	16:19:35
5	220223C05	2	SBS_220223_DF_CA	1.00	20-61-1	DTF	890-202	23-Feb-2022	17:52:14
6	220223C06	6	MB1_18936_DF_TLX	1.00	Method Blank	DTF, PSW	773-669	23-Feb-2022	18:38:34
7	220223C08	9	B6293_18936_DF_001	0.98	11215131-020522-S-SB-RB-15	DTF, PSW	593-995	23-Feb-2022	20:11:16
8	220223C09	10	B6293_18936_DF_002	0.97	11215131-020622-S-SB-RB-16	DTF, PSW	572-353	23-Feb-2022	20:57:37

REVIEWED
paul_walton , 2/24/2022, 1:18:49 PM

Dioxin/Furan QC Summary	Acq'd: 23 Feb 2022 14:09 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220223_DF_CA	UTP: 24-Feb-2022 13:08:04 PSW	Checkcode: 301-797-XFK
Sample ID: 25-347-1	Report: 24 Feb 2022 13:09 pw	Datafile: 220223C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.23	3.74E+06	0.79	Y	1.18	1.20	1%
12378-PeCDD	33.63	1.43E+07	1.55	Y	1.04	1.05	1%
123478-HxCDD	37.56	1.30E+07	1.24	Y	1.09	1.05	-4%
123678-HxCDD	37.69	1.31E+07	1.25	Y	1.15	1.14	0%
123789-HxCDD	37.99	1.37E+07	1.27	Y	1.05	1.01	-4%
1234678-HpCDD	40.74	1.24E+07	1.01	Y	1.06	1.03	-3%
OCDD	43.45	2.11E+07	0.87	Y	1.13	1.10	-2%
2378-TCDF	27.37	5.09E+06	0.80	Y	1.08	1.06	-2%
12378-PeCDF	32.16	2.06E+07	1.51	Y	1.02	0.99	-3%
23478-PeCDF	33.29	2.03E+07	1.51	Y	1.02	0.98	-4%
123478-HxCDF	36.56	1.92E+07	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.70	1.96E+07	1.23	Y	1.15	1.10	-5%
234678-HxCDF	37.38	1.86E+07	1.25	Y	1.19	1.15	-3%
123789-HxCDF	38.36	1.66E+07	1.25	Y	1.16	1.10	-6%
1234678-HpCDF	39.78	1.74E+07	1.04	Y	1.37	1.30	-5%
1234789-HpCDF	41.19	1.49E+07	1.04	Y	1.31	1.26	-4%
OCDF	43.63	2.59E+07	0.92	Y	1.07	1.03	-4%
ES 2378-TCDD	28.21	3.11E+07	0.82	Y	1.05	1.04	-1%
ES 12378-PeCDD	33.607	2.73E+07	1.63	Y	0.88	0.91	4%
ES 123478-HxCDD	37.548	2.49E+07	1.30	Y	0.97	1.01	4%
ES 123678-HxCDD	37.671	2.30E+07	1.23	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.974	2.72E+07	1.26	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.724	2.41E+07	1.04	Y	0.91	0.98	7%
ES OCDD	43.437	3.81E+07	0.90	Y	0.62	0.77	24%
ES 2378-TCDF	27.344	4.81E+07	0.80	Y	1.06	1.03	-3%
ES 12378-PeCDF	32.145	4.15E+07	1.54	Y	0.91	0.88	-3%
ES 23478-PeCDF	33.27	4.13E+07	1.56	Y	0.88	0.88	0%
ES 123478-HxCDF	36.542	3.14E+07	0.54	Y	1.20	1.28	6%
ES 123678-HxCDF	36.683	3.56E+07	0.54	Y	1.35	1.45	7%
ES 234678-HxCDF	37.359	3.24E+07	0.53	Y	1.24	1.31	6%
ES 123789-HxCDF	38.343	3.03E+07	0.54	Y	1.16	1.23	6%
ES 1234678-HpCDF	39.772	2.68E+07	0.48	Y	0.97	1.09	12%
ES 1234789-HpCDF	41.182	2.37E+07	0.48	Y	0.85	0.96	13%
ES OCDF	43.617	5.01E+07	0.92	Y	0.81	1.02	26%

Dioxin/Furan QC Summary	Acq'd: 23 Feb 2022 14:09 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220223_DF_CA	UTP: 24-Feb-2022 13:08:04 PSW	Checkcode: 301-797-XFK
Sample ID: 25-347-1	Report: 24 Feb 2022 13:09 pw	Datafile: 220223C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.54	3.00E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.96	4.69E+07	0.80	Y	-	-	-
JS 123467-HxCDD	37.87	1.23E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	28.23	3.84E+06	n/a	-	1.20	1.28	6%
CS 12347-PeCDD	33.10	2.50E+07	1.57	Y	0.75	0.83	11%
CS 12346-PeCDF	31.61	4.12E+07	1.58	Y	0.85	0.88	3%
CS 123469-HxCDF	37.00	3.17E+07	0.53	Y	1.12	1.29	15%
CS 1234689-HpCDF	40.18	2.58E+07	0.46	Y	0.89	1.05	18%
~~SS 37Cl-2378-TCDD~~	~~28.23~~	~~3.84E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.23~~	~~8%~~
~~SS 12347-PeCDD~~	~~33.10~~	~~2.50E+07~~	~~1.57~~	~~Y~~	~~0.86~~	~~0.91~~	~~7%~~
~~SS 12346-PeCDF~~	~~31.61~~	~~4.12E+07~~	~~1.58~~	~~Y~~	~~0.94~~	~~0.99~~	~~6%~~
~~SS 123469-HxCDF~~	~~37.00~~	~~3.17E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~0.89~~	~~8%~~
~~SS 1234689-HpCDF~~	~~40.18~~	~~2.58E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~0.96~~	~~5%~~
~~OCDD-a~~	~~43.45~~	~~1.28E+06~~	~~2.53~~	~~Y~~	~~0.07~~	~~0.07~~	~~-7%~~
~~OCDF-a~~	~~43.63~~	~~1.54E+06~~	~~2.00~~	~~N~~	~~0.07~~	~~0.06~~	~~-7%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220223C01 Analysis Date: 23-FEB-2022 14:09:30

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.79	0.65 - 0.89	Y	10.1	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32 - 1.78	Y	50.5	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	48	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	49.8	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	48	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.01	0.88 - 1.20	Y	48.6	43 - 58	Y
OCDD	M+2/M+4	0.87	0.76 - 1.02	Y	98.1	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.80	0.65 - 0.89	Y	9.81	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.51	1.32 - 1.78	Y	48.5	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.51	1.32 - 1.78	Y	48.2	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	48	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	47.6	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	48.3	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	47.1	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88 - 1.20	Y	47.3	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	0.88 - 1.20	Y	48.1	43 - 58	Y
OCDF	M+2/M+4	0.92	0.76 - 1.02	Y	96.4	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 24 Feb 2022 13:08 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

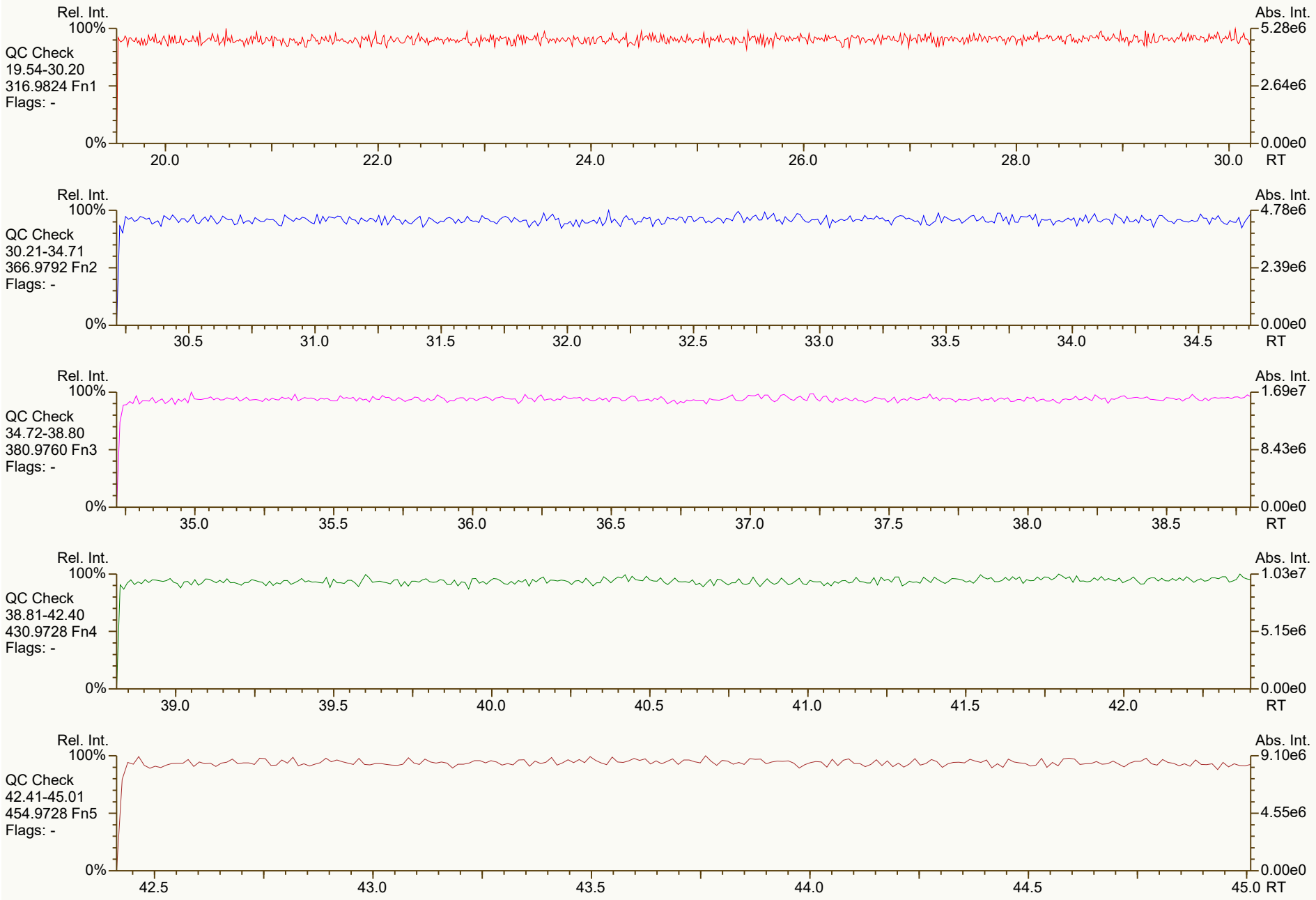
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

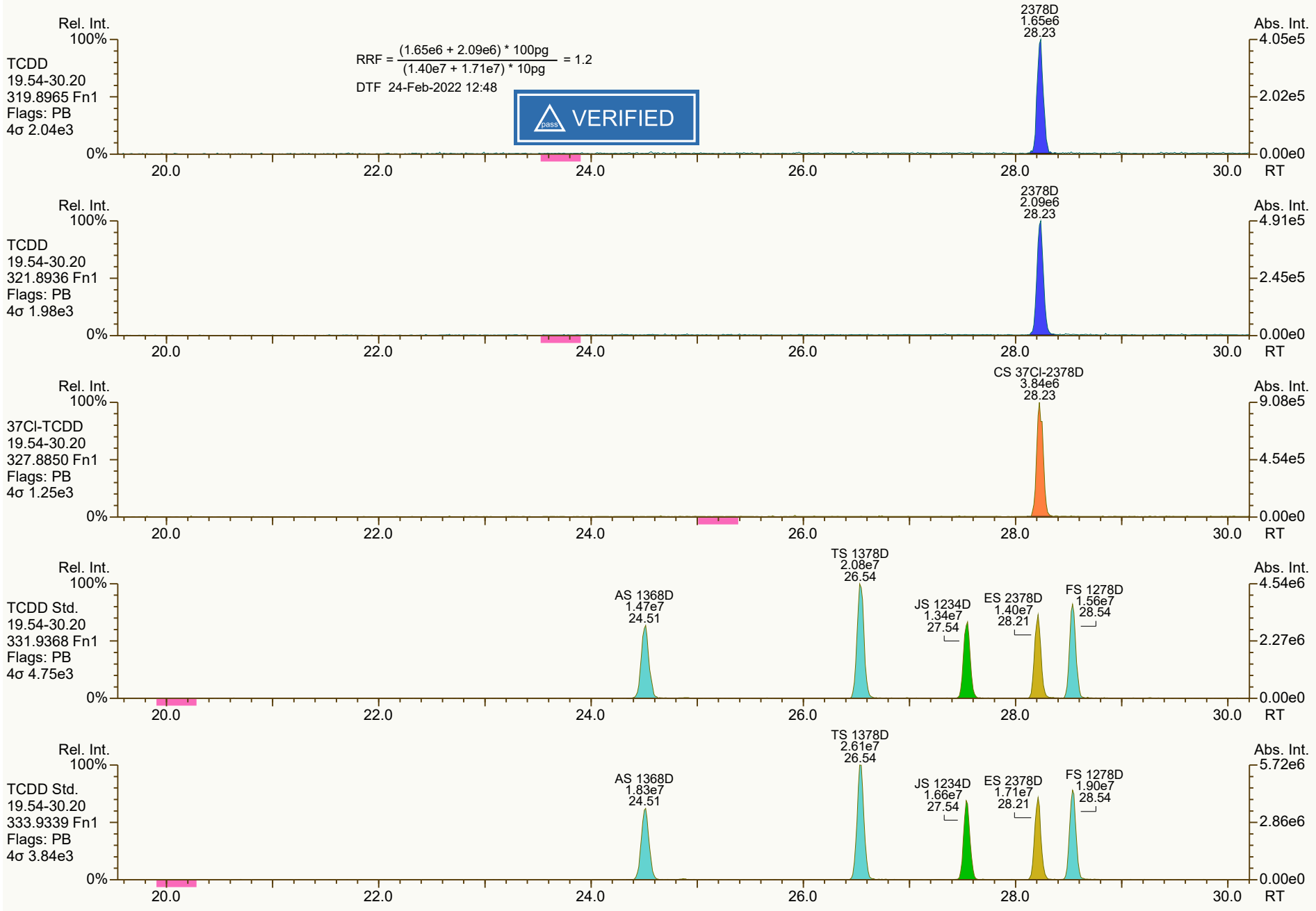
Instrument ID: HRMS3 GC Column ID: ZB-5ms

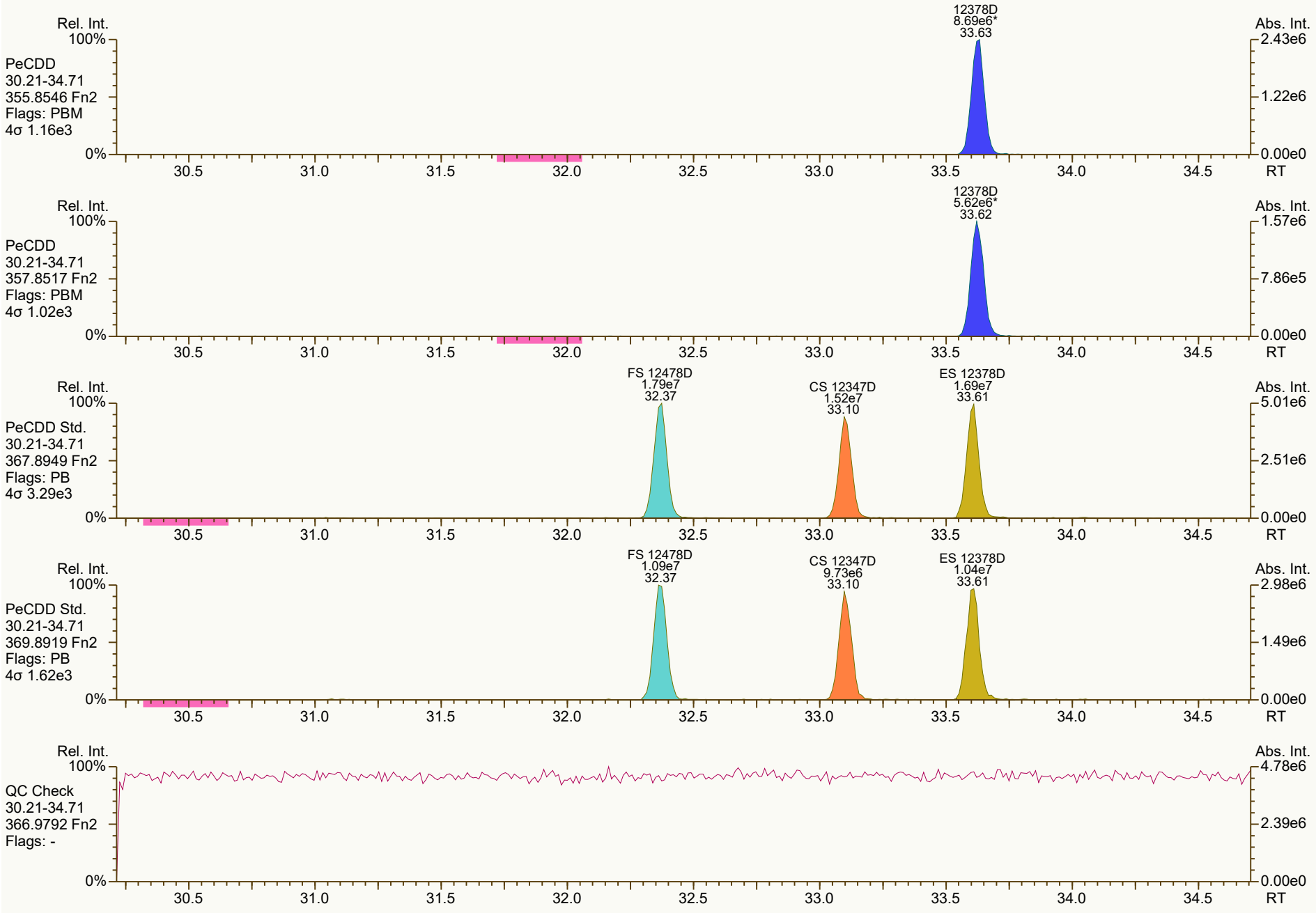
VER Data Filename: 220223C01 Analysis Date: 23-FEB-2022 14:09:30

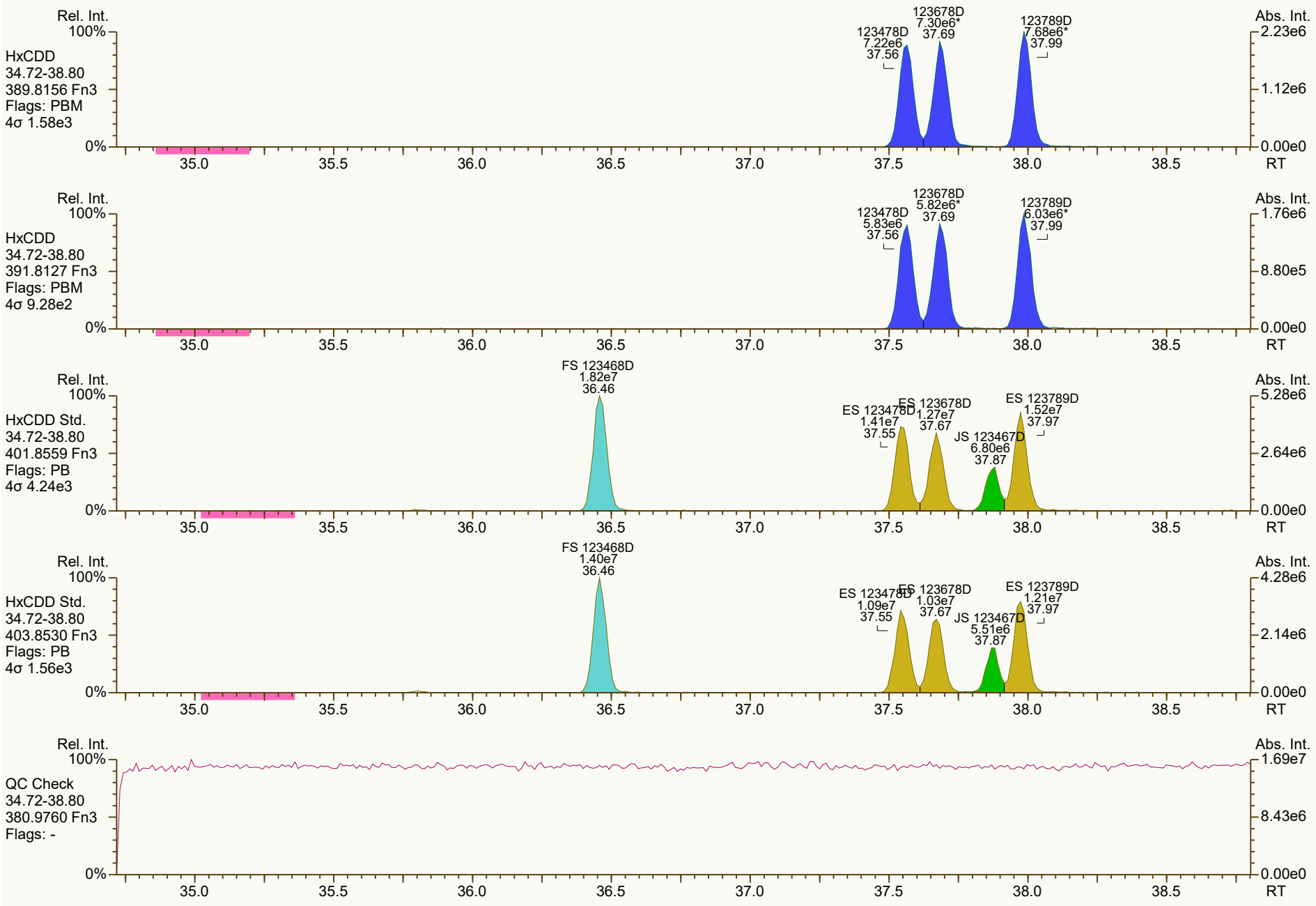
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
13C-2,3,7,8-TCDD	M/M+2	0.82	0.65 - 0.89	Y	99.2	82 - 121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.63	1.32 - 1.78	Y	104	62 - 160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.30	1.05 - 1.43	Y	104	85 - 117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.23	1.05 - 1.43	Y	98.7	85 - 118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05 - 1.43	Y	101	85 - 118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88 - 1.20	Y	107	72 - 138	Y
13C-OCDD	M+2/M+4	0.90	0.76 - 1.02	Y	248	96 - 415	Y
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65 - 0.89	Y	97	71 - 140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.54	1.32 - 1.78	Y	97.2	76 - 130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32 - 1.78	Y	99.9	77 - 130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	106	76 - 131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	107	70 - 143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.53	0.43 - 0.59	Y	106	73 - 137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	106	74 - 135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.48	0.37 - 0.51	Y	112	78 - 129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.48	0.37 - 0.51	Y	113	77 - 129	Y
13C-OCDF	M+2/M+4	0.92	0.76 - 1.02	Y	252	96 - 415	Y
CLEANUP STANDARDS							
37Cl-2,3,7,8-TCDD	n/a				10.6	7.9 - 12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.57	1.32 - 1.78	Y	111	70 - 130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.58	1.32 - 1.78	Y	103	70 - 130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.53	0.43 - 0.59	Y	115	70 - 130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.46	0.37 - 0.51	Y	118	70 - 130	Y

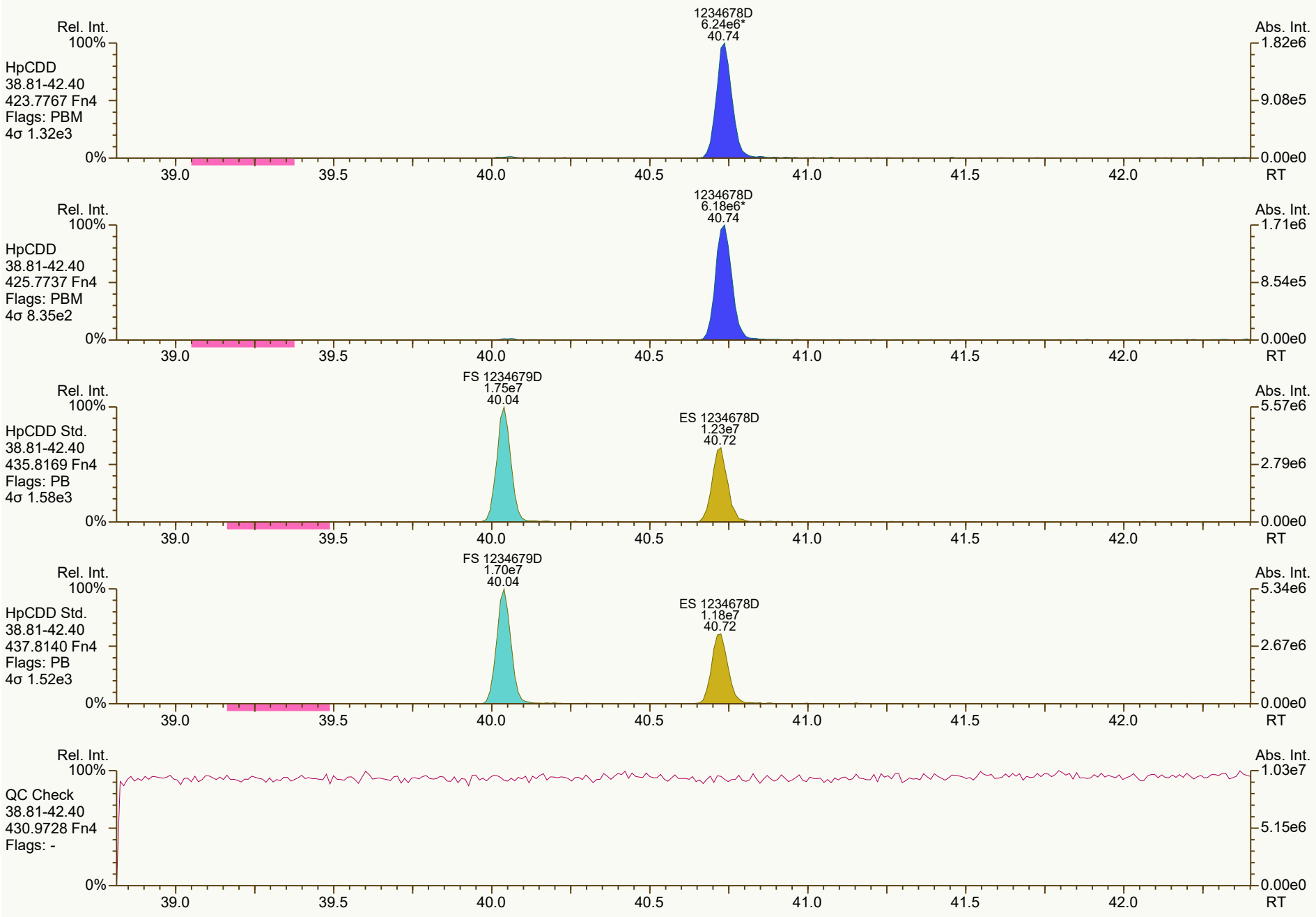
Processed: 24 Feb 2022 13:08 Analyst: pw

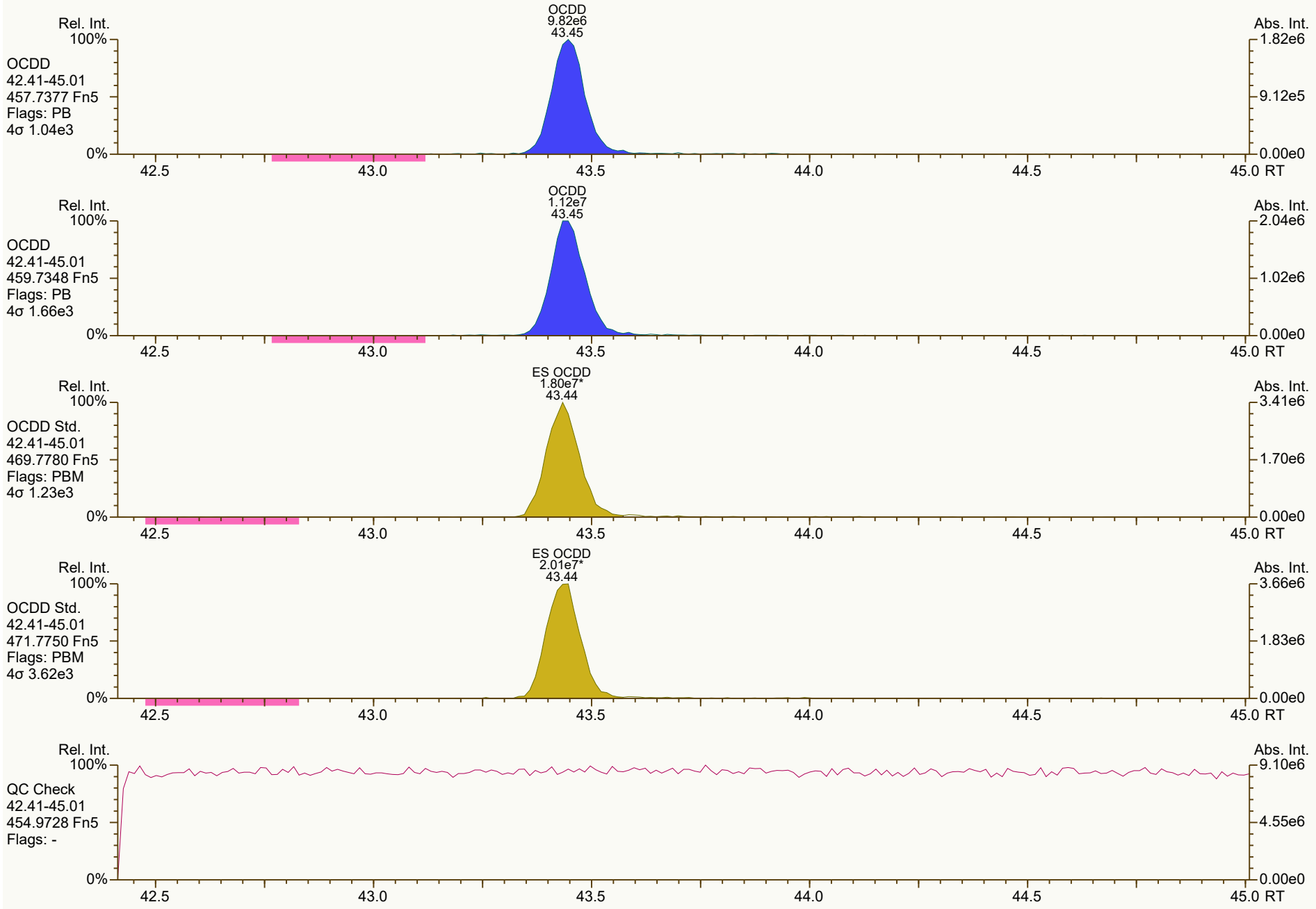

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
5.28e6
2.64e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.78e6
2.39e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.69e7
8.43e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.03e7
5.15e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
9.10e6
4.55e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.04e3
0%
RRF = (1.65e6 + 2.09e6) * 100pg / (1.40e7 + 1.71e7) * 10pg = 1.2
DTF 24-Feb-2022 12:48
VERIFIED
2378D
1.65e6
28.23
Abs. Int.
4.05e5
2.02e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.98e3
0%
2378D
2.09e6
28.23
Abs. Int.
4.91e5
2.45e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.25e3
0%
CS 37Cl-2378D
3.84e6
28.23
Abs. Int.
9.08e5
4.54e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.75e3
0%
AS 1368D
1.47e7
24.51
TS 1378D
2.08e7
26.54
JS 1234D
1.34e7
27.54
ES 2378D
1.40e7
28.21
FS 1278D
1.56e7
28.54
Abs. Int.
4.54e6
2.27e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.84e3
0%
AS 1368D
1.83e7
24.51
TS 1378D
2.61e7
26.54
JS 1234D
1.66e7
27.54
ES 2378D
1.71e7
28.21
FS 1278D
1.90e7
28.54
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 1.16e3
0%
12378D
8.69e6*
33.63
Abs. Int.
2.43e6
1.22e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 1.02e3
0%
12378D
5.62e6*
33.62
Abs. Int.
1.57e6
7.86e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 3.29e3
0%
FS 12478D
1.79e7
32.37
CS 12347D
1.52e7
33.10
ES 12378D
1.69e7
33.61
Abs. Int.
5.01e6
2.51e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.62e3
0%
FS 12478D
1.09e7
32.37
CS 12347D
9.73e6
33.10
ES 12378D
1.04e7
33.61
Abs. Int.
2.98e6
1.49e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

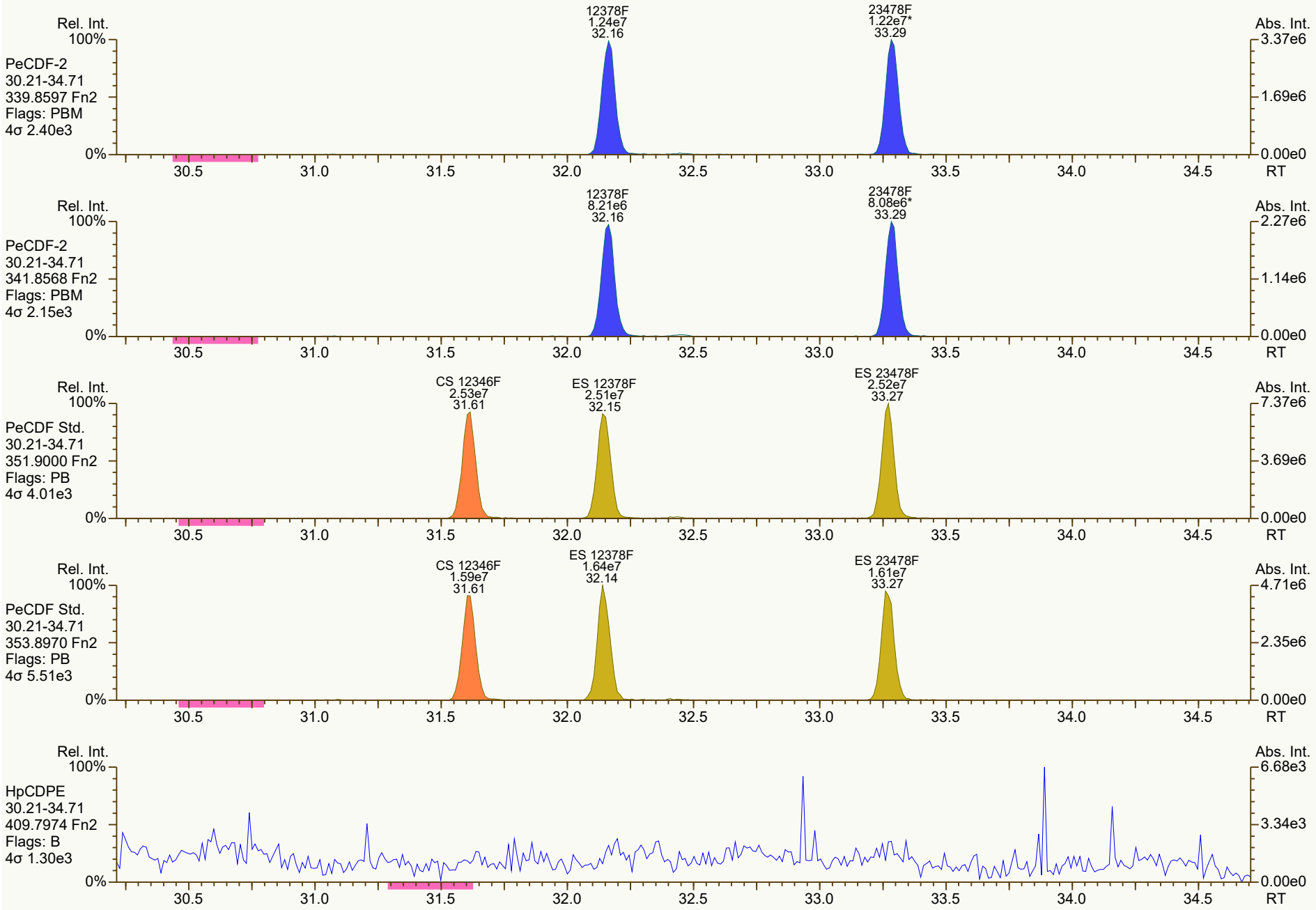

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 1.58e3
123478D
7.22e6
37.56
123678D
7.30e6*
37.69
123789D
7.68e6*
37.99
Abs. Int.
2.23e6
1.12e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 9.28e2
123478D
5.83e6
37.56
123678D
5.82e6*
37.69
123789D
6.03e6*
37.99
Abs. Int.
1.76e6
8.80e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 4.24e3
FS 123468D
1.82e7
36.46
ES 123478D
1.41e7
37.55
ES 123678D
1.27e7
37.67
JS 123467D
6.80e6
37.87
ES 123789D
1.52e7
37.97
Abs. Int.
5.28e6
2.64e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 1.56e3
FS 123468D
1.40e7
36.46
ES 123478D
1.09e7
37.55
ES 123678D
1.03e7
37.67
JS 123467D
5.51e6
37.87
ES 123789D
1.21e7
37.97
Abs. Int.
4.28e6
2.14e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
1.69e7
8.43e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 1.32e3
1234678D
6.24e6*
40.74
Abs. Int.
1.82e6
9.08e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 8.35e2
1234678D
6.18e6*
40.74
Abs. Int.
1.71e6
8.54e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 1.58e3
FS 1234679D
1.75e7
40.04
ES 1234678D
1.23e7
40.72
Abs. Int.
5.57e6
2.79e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.52e3
FS 1234679D
1.70e7
40.04
ES 1234678D
1.18e7
40.72
Abs. Int.
5.34e6
2.67e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.03e7
5.15e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

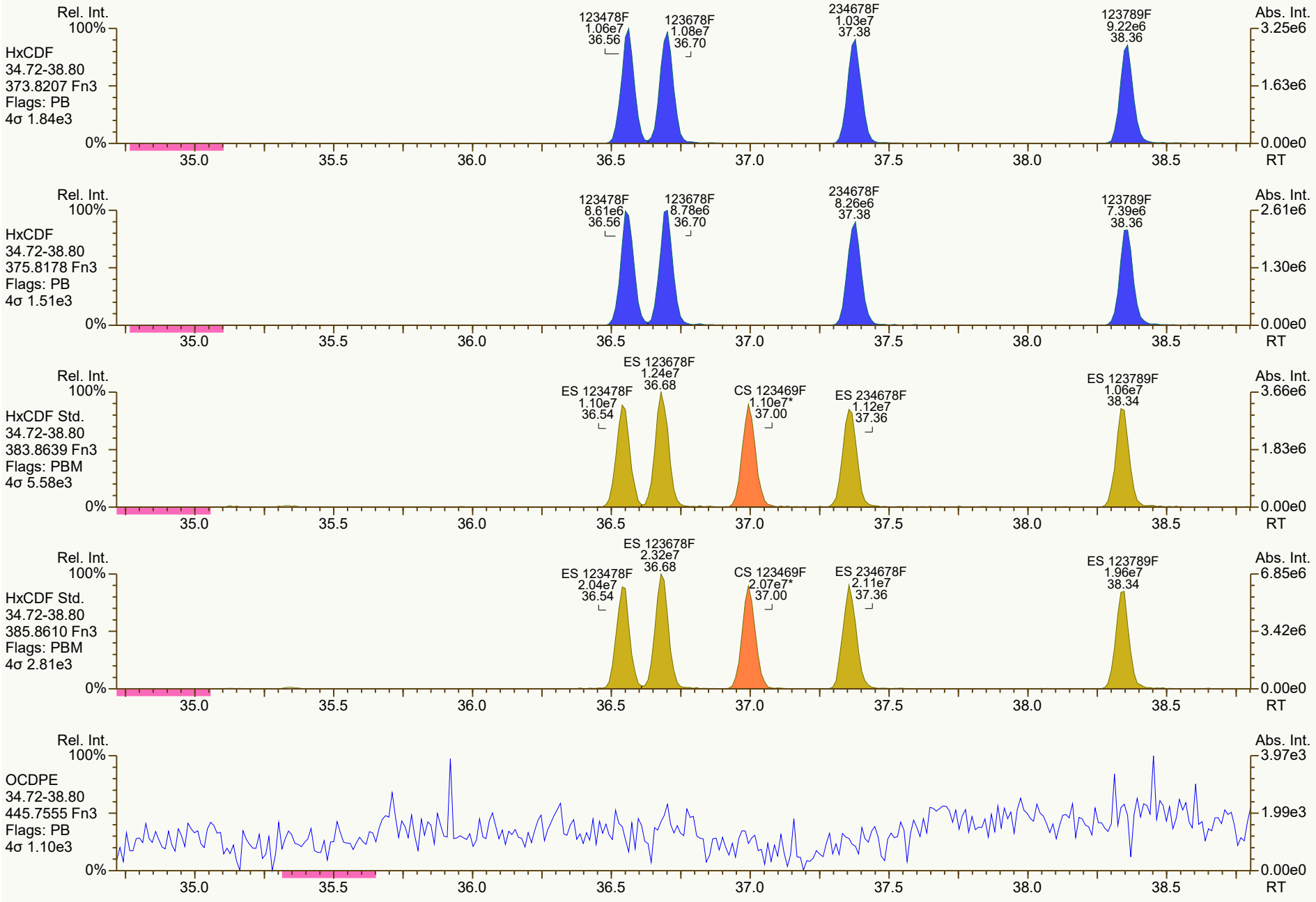

OCDD
9.82e6
43.45
Rel. Int.
Abs. Int.
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 1.04e3
OCDD
1.12e7
43.45
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 1.66e3
ES OCDD
1.80e7*
43.44
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.23e3
ES OCDD
2.01e7*
43.44
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 3.62e3
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
1.82e6
9.12e5
0.00e0
2.04e6
1.02e6
3.41e6
1.70e6
3.66e6
1.83e6
9.10e6
4.55e6

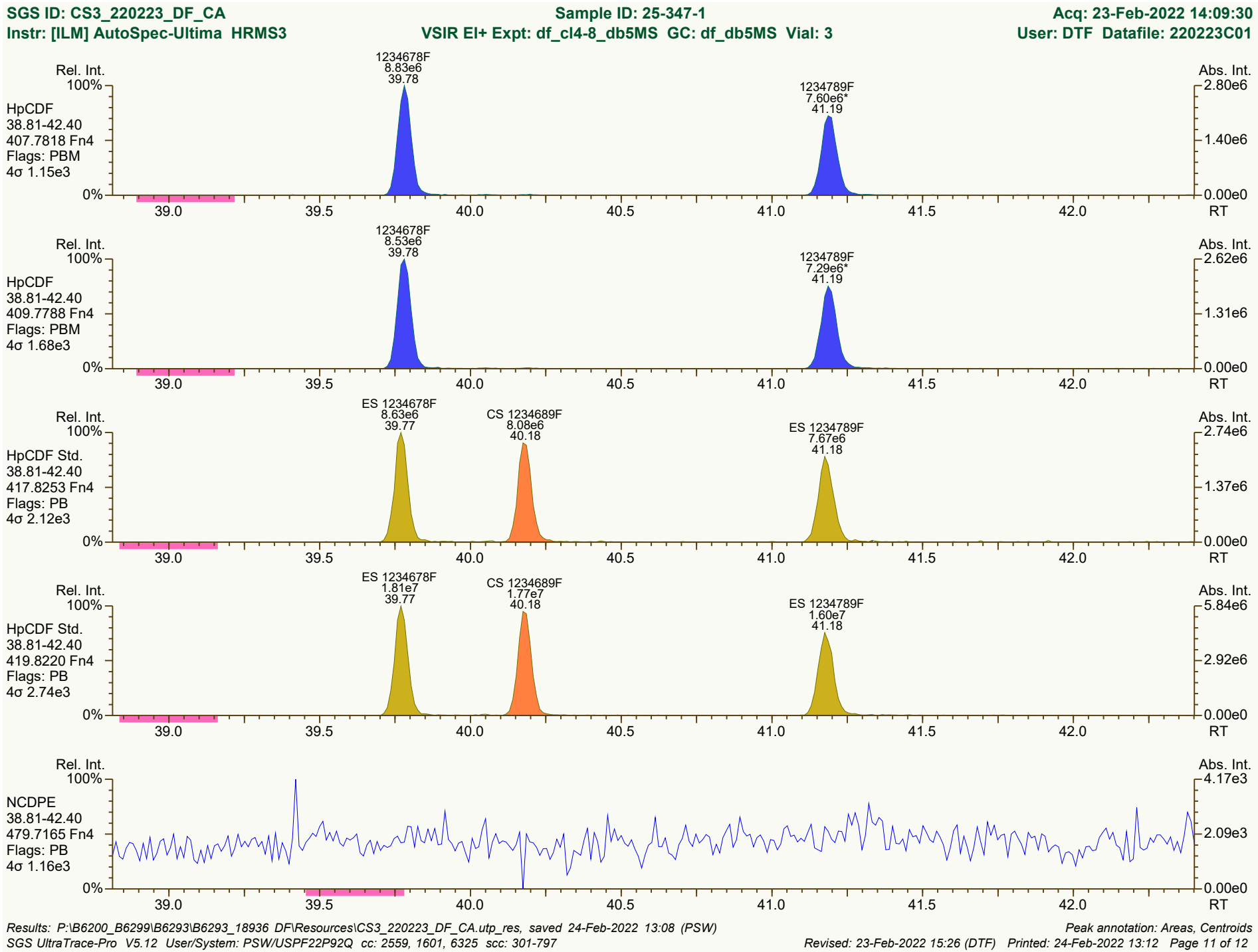

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.25e3
0%
2378F
2.27e6
27.37
Abs. Int.
5.21e5
2.61e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 2.05e3
0%
2378F
2.83e6
27.36
Abs. Int.
6.76e5
3.38e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 1.08e4
0%
AS 1368F
2.38e7
22.36
JS 1234F
2.08e7
25.96
ES 2378F
2.14e7
27.34
Abs. Int.
4.65e6
2.33e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.23e3
0%
AS 1368F
3.12e7
22.36
JS 1234F
2.60e7
25.96
ES 2378F
2.67e7
27.34
Abs. Int.
6.24e6
3.12e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.13e3
0%
Abs. Int.
8.55e3
4.28e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.06e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.24e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.21e4
6.05e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.44e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
5.28e6
2.64e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT

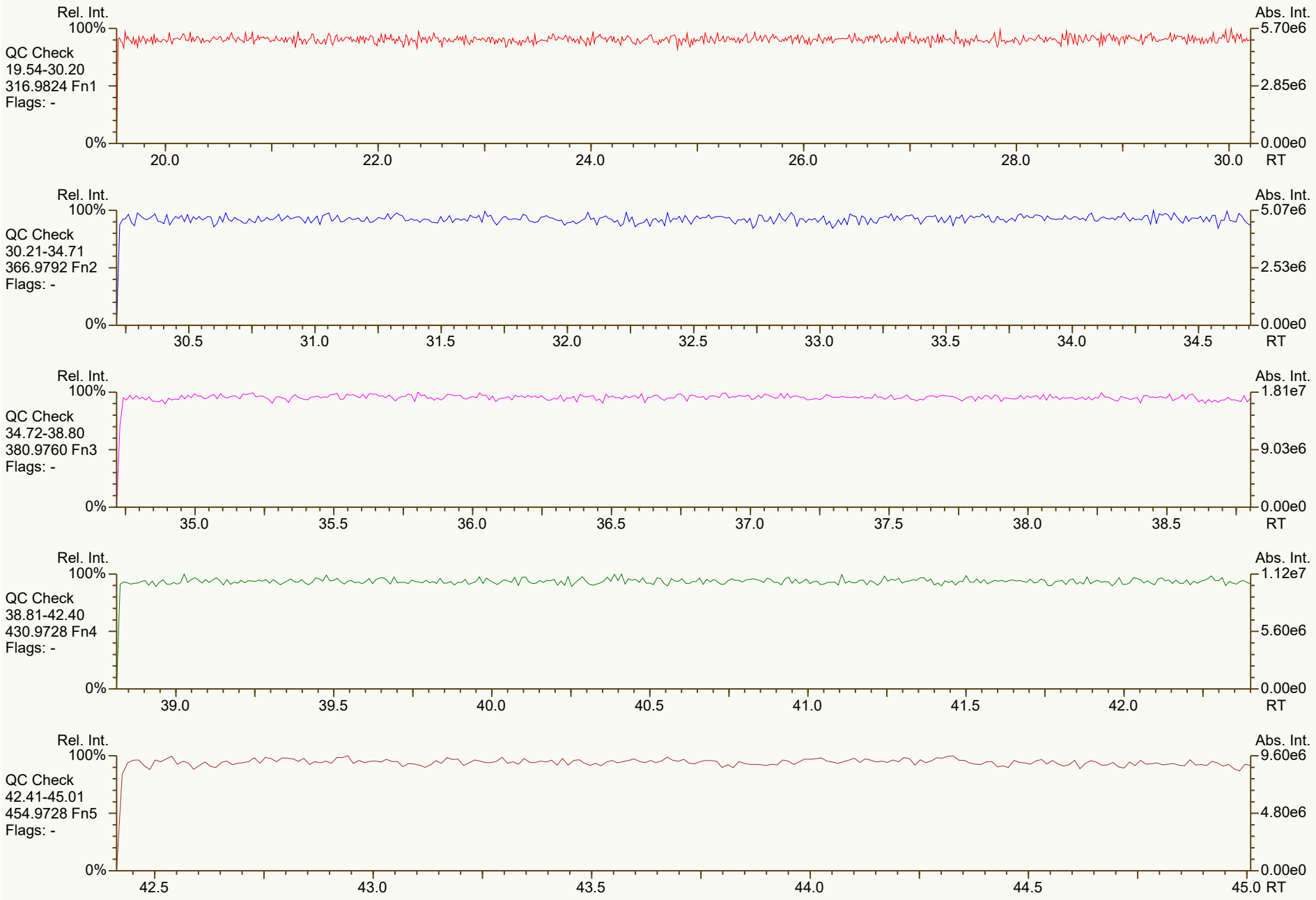


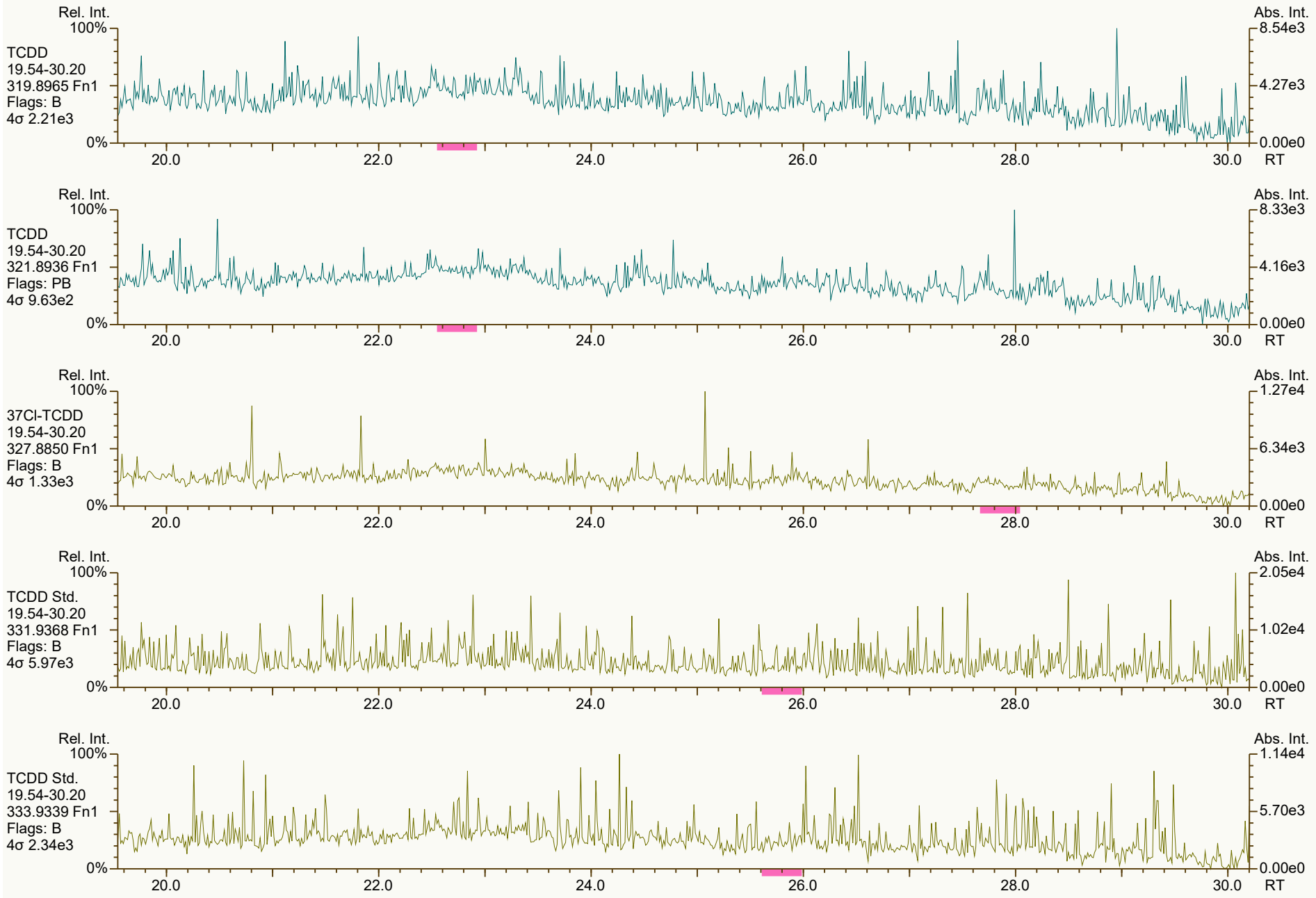
Results: P:\B6200_B6299\B6293\B6293_18936 DF\Resources\CS3_220223_DF_CA.utp_res, saved 24-Feb-2022 13:08 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3090, 6095, 1890 scc: 301-797
PKD: 23-Feb-2022 15:26 Printed: 24-Feb-2022 13:12 Page 9 of 12


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PB
4σ 1.84e3
0%
123478F
1.06e7
36.56
123678F
1.08e7
36.70
234678F
1.03e7
37.38
123789F
9.22e6
38.36
Abs. Int.
3.25e6
1.63e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PB
4σ 1.51e3
0%
123478F
8.61e6
36.56
123678F
8.78e6
36.70
234678F
8.26e6
37.38
123789F
7.39e6
38.36
Abs. Int.
2.61e6
1.30e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 5.58e3
0%
ES 123678F
1.24e7
36.68
ES 123478F
1.10e7
36.54
CS 123469F
1.10e7*
37.00
ES 234678F
1.12e7
37.36
ES 123789F
1.06e7
38.34
Abs. Int.
3.66e6
1.83e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 2.81e3
0%
ES 123678F
2.32e7
36.68
ES 123478F
2.04e7
36.54
CS 123469F
2.07e7*
37.00
ES 234678F
2.11e7
37.36
ES 123789F
1.96e7
38.34
Abs. Int.
6.85e6
3.42e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.10e3
0%
Abs. Int.
3.97e3
1.99e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


SGS ID: CS3_220223_DF_CA
Sample ID: 25-347-1
Acq: 23-Feb-2022 14:09:30
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220223C01
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 1.15e3
1234678F
8.83e6
39.78
1234789F
7.60e6*
41.19
2.80e6
1.40e6
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 1.68e3
1234678F
8.53e6
39.78
1234789F
7.29e6*
41.19
2.62e6
1.31e6
0.00e0
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 2.12e3
ES 1234678F
8.63e6
39.77
CS 1234689F
8.08e6
40.18
ES 1234789F
7.67e6
41.18
2.74e6
1.37e6
0.00e0
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 2.74e3
ES 1234678F
1.81e7
39.77
CS 1234689F
1.77e7
40.18
ES 1234789F
1.60e7
41.18
5.84e6
2.92e6
0.00e0
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.16e3
4.17e3
2.09e3
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6293\B6293_18936 DF\Resources\CS3_220223_DF_CA.utp_res, saved 24-Feb-2022 13:08 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2559, 1601, 6325 scc: 301-797
Revised: 23-Feb-2022 15:26 (DTF) Printed: 24-Feb-2022 13:12 Page 11 of 12


OCDF
1.24e7
43.63
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.60e3
0%
Abs. Int.
2.32e6
1.16e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.35e7
43.63
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.36e3
0%
Abs. Int.
2.54e6
1.27e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.40e7
43.62
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 2.53e3
0%
Abs. Int.
4.48e6
2.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.61e7
43.61
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 2.76e3
0%
Abs. Int.
4.86e6
2.43e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.22e3
0%
Abs. Int.
4.57e3
2.28e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
0%
Abs. Int.
5.70e6
2.85e6
0.00e0
RT
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
5.07e6
2.53e6
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
1.81e7
9.03e6
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
1.12e7
5.60e6
39.0
39.5
40.0
40.5
41.0
41.5
42.0
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
9.60e6
4.80e6
42.5
43.0
43.5
44.0
44.5
45.0

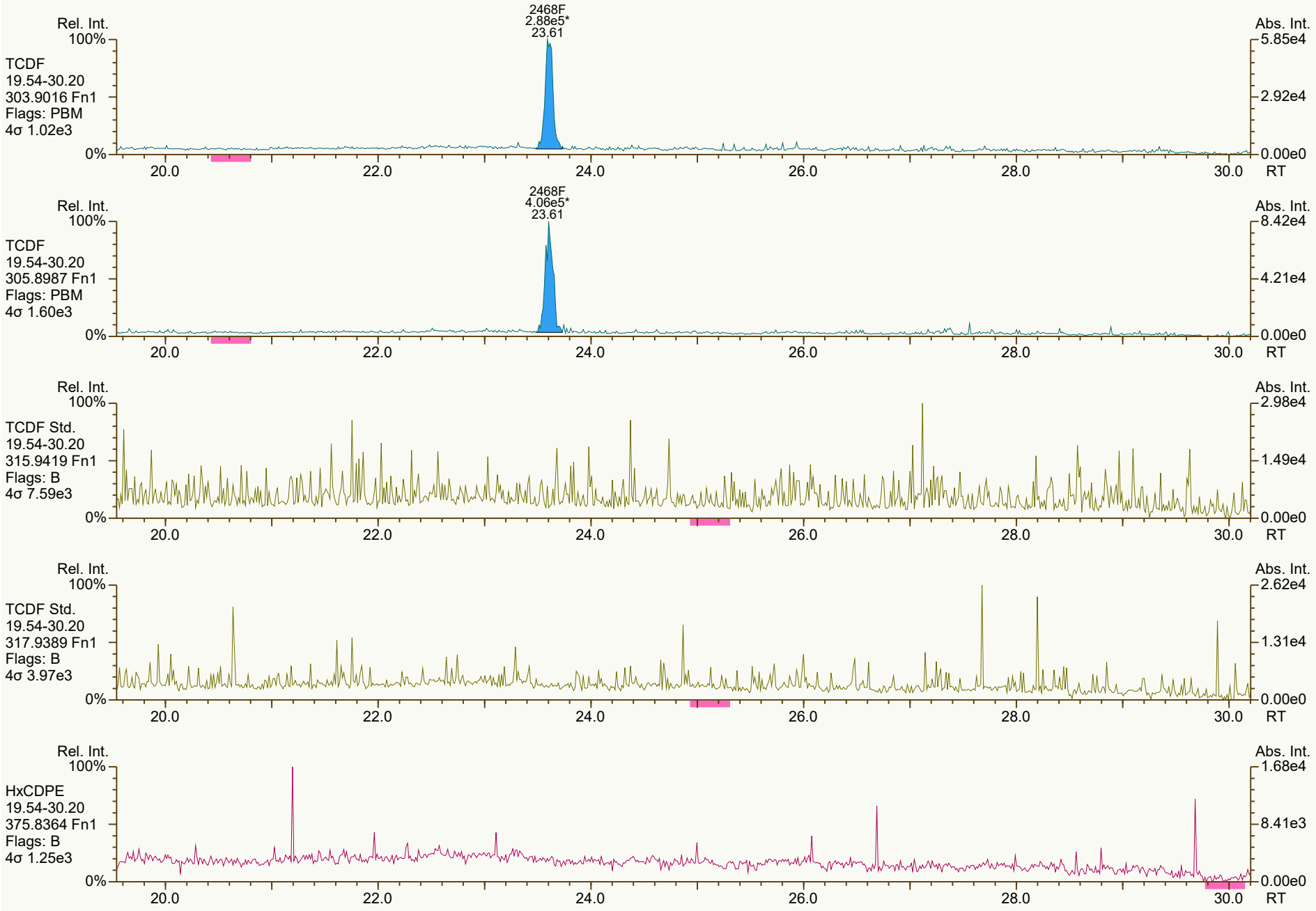

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 2.21e3
0%
Abs. Int.
8.54e3
4.27e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 9.63e2
0%
Abs. Int.
8.33e3
4.16e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: B
4σ 1.33e3
0%
Abs. Int.
1.27e4
6.34e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 5.97e3
0%
Abs. Int.
2.05e4
1.02e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 2.34e3
0%
Abs. Int.
1.14e4
5.70e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.64e3
0%
Abs. Int.
6.96e3
3.48e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 8.87e2
0%
Abs. Int.
5.97e3
2.99e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: B
4σ 1.75e3
0%
Abs. Int.
1.24e4
6.22e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: B
4σ 1.38e3
0%
Abs. Int.
1.64e4
8.19e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.07e6
2.53e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 9.76e2
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.64e3
0%
Abs. Int.
7.50e3
3.75e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: B
4σ 1.89e3
0%
Abs. Int.
1.29e4
6.46e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: B
4σ 1.88e3
0%
Abs. Int.
9.66e3
4.83e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.81e7
9.03e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 1.10e3
0%
Abs. Int.
4.96e3
2.48e3
0.00e0
RT
39.0
39.5
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.75e3
0%
Abs. Int.
3.88e3
1.94e3
0.00e0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: B
4σ 1.75e3
0%
Abs. Int.
1.35e4
6.77e3
0.00e0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: B
4σ 1.62e3
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.12e7
5.60e6
0.00e0
RT

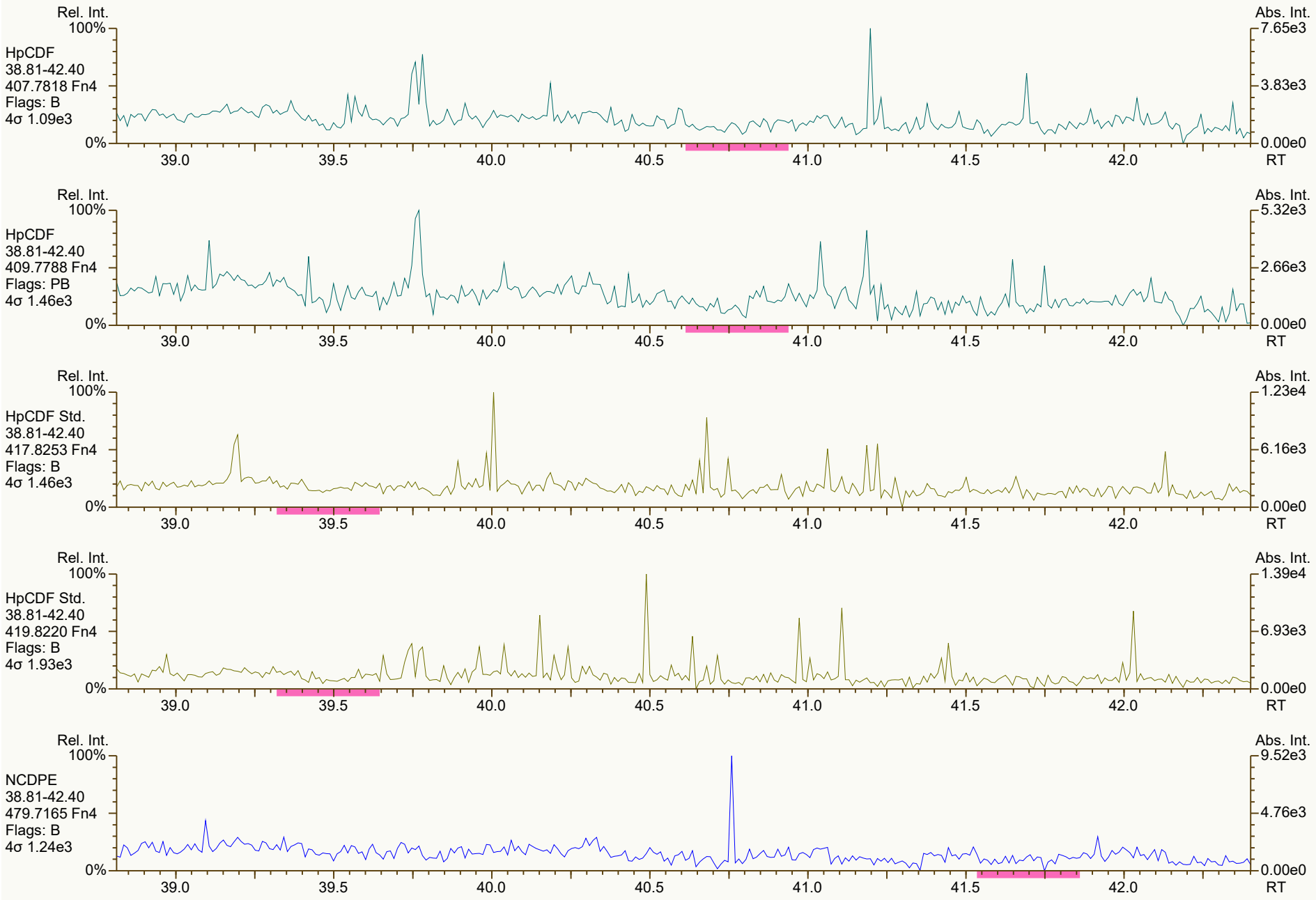

Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 1.36e3
0%
Abs. Int.
7.91e3
3.96e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 1.48e3
0%
Abs. Int.
9.59e3
4.80e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: B
4σ 1.51e3
0%
Abs. Int.
8.85e3
4.42e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: B
4σ 1.61e3
0%
Abs. Int.
8.53e3
4.27e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.60e6
4.80e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.02e3
2468F
2.88e5*
23.61
Abs. Int.
5.85e4
2.92e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.60e3
2468F
4.06e5*
23.61
Abs. Int.
8.42e4
4.21e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 7.59e3
Abs. Int.
2.98e4
1.49e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 3.97e3
Abs. Int.
2.62e4
1.31e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.25e3
Abs. Int.
1.68e4
8.41e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.20e4
6.02e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.13e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.86e3
4.43e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
5.70e6
2.85e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.08e3
0%
Abs. Int.
5.83e3
2.91e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: B
4σ 1.18e3
0%
Abs. Int.
8.46e3
4.23e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: B
4σ 1.63e3
0%
Abs. Int.
1.12e4
5.58e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: B
4σ 1.12e3
0%
Abs. Int.
1.00e4
5.00e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.19e3
0%
Abs. Int.
1.40e4
7.00e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: B
4σ 1.15e3
0%
Abs. Int.
7.23e3
3.62e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: B
4σ 1.01e3
0%
Abs. Int.
5.99e3
3.00e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: B
4σ 1.72e3
0%
Abs. Int.
8.04e3
4.02e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: B
4σ 1.54e3
0%
Abs. Int.
1.42e4
7.09e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.37e3
0%
Abs. Int.
8.32e3
4.16e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: B
4σ 1.09e3
0%
Abs. Int.
7.65e3
3.83e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.46e3
0%
Abs. Int.
5.32e3
2.66e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: B
4σ 1.46e3
0%
Abs. Int.
1.23e4
6.16e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: B
4σ 1.93e3
0%
Abs. Int.
1.39e4
6.93e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.24e3
0%
Abs. Int.
9.52e3
4.76e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: B
4σ 1.44e3
0%
Abs. Int.
4.22e3
2.11e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.44e3
2.72e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: B
4σ 1.38e3
0%
Abs. Int.
1.04e4
5.20e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 1.50e3
0%
Abs. Int.
5.82e3
2.91e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.14e3
0%
Abs. Int.
3.13e3
1.56e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

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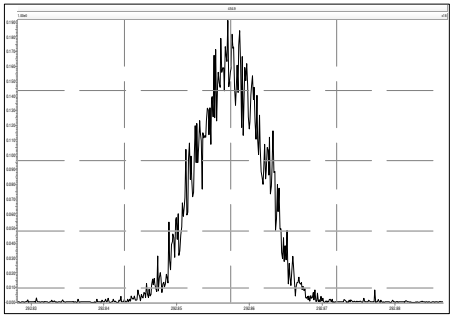
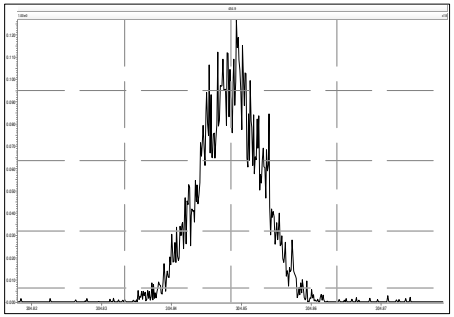
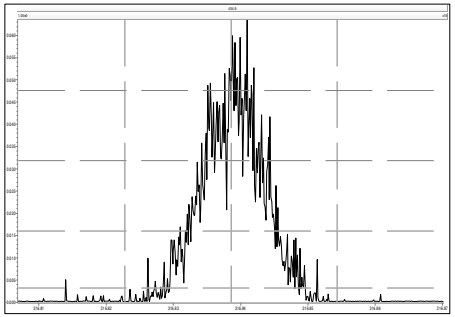
M 292.9824 R 15322



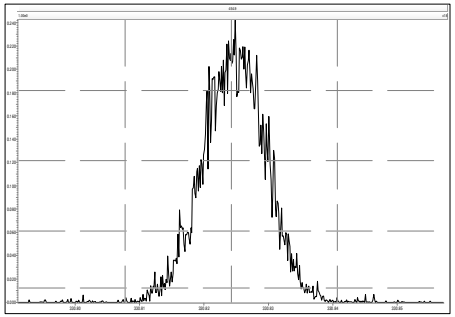
M 304.9824 R 15772



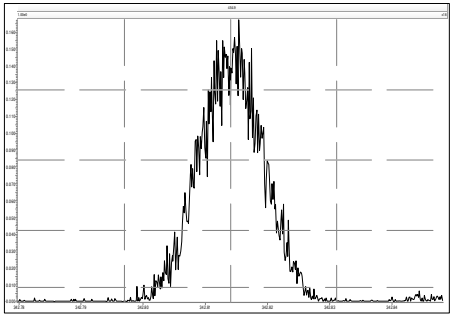
M 316.9824 R 18385



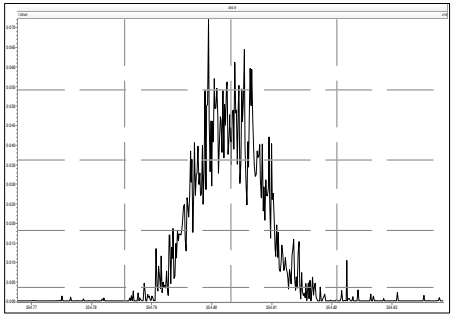
M 330.9792 R 14970



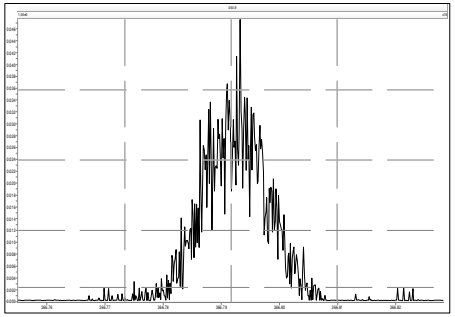
M 342.9792 R 15407



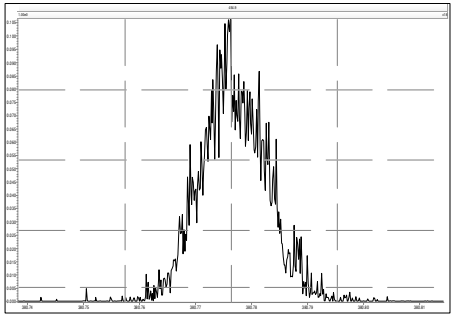
M 354.9792 R 15926



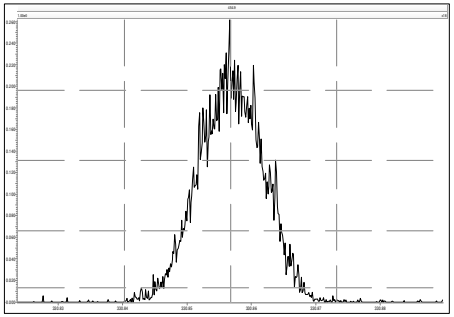
M 366.9792 R 15939



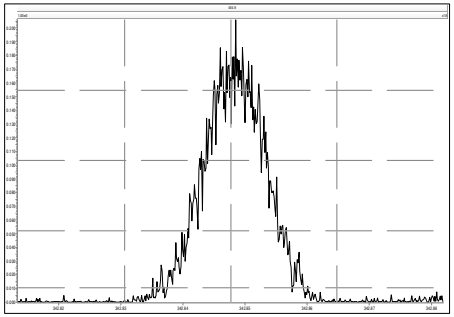
M 380.9760 R 15549



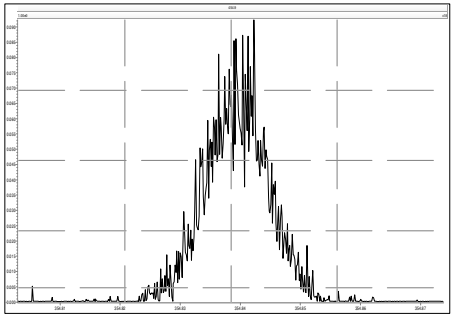
M 330.9792 R 14748



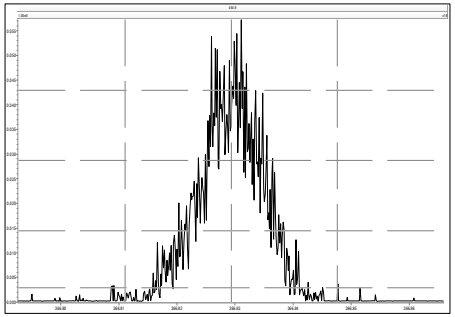
M 342.9792 R 16033



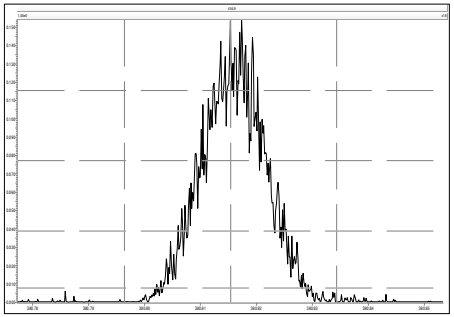
M 354.9792 R 16447



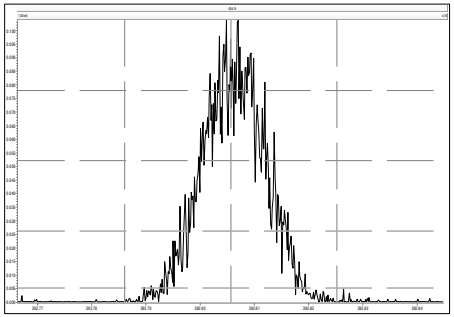
M 366.9792 R 17347



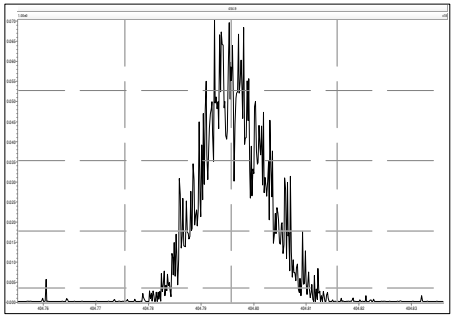
M 380.9760 R 15674



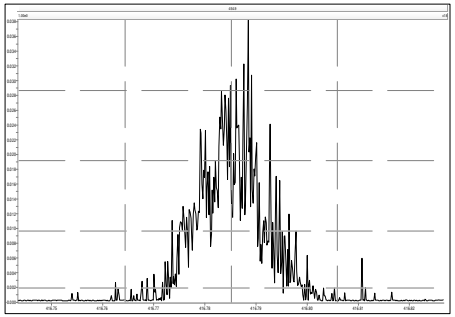
M 392.9760 R 15030



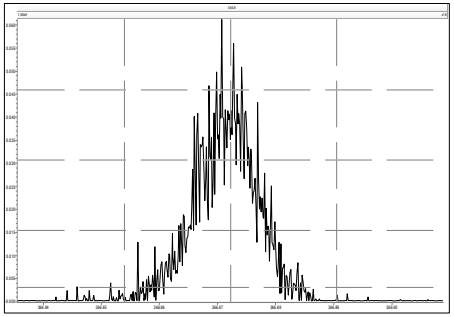
M 404.9760 R 17135



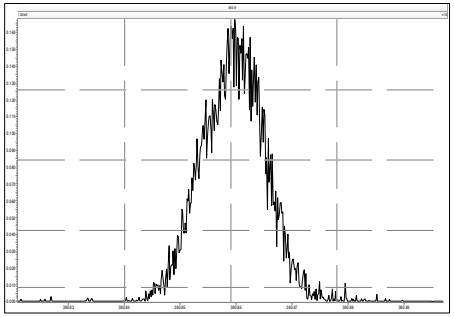
M 416.9760 R 18589



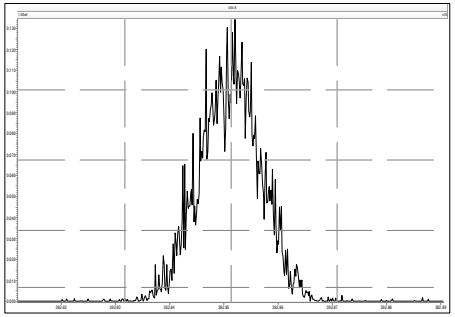
M 366.9792 R 17543



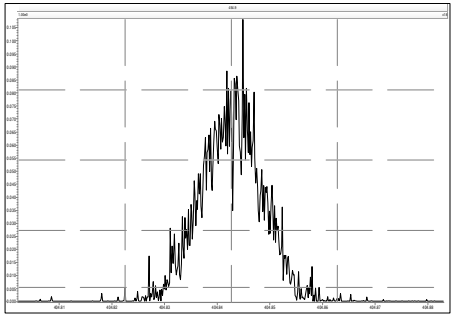
M 380.9760 R 15723



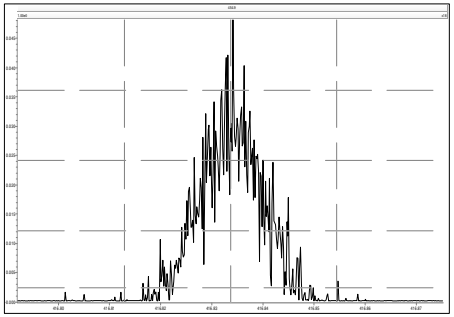
M 392.9760 R 16242



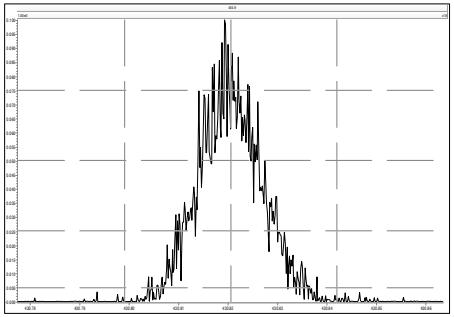
M 404.9760 R 16567



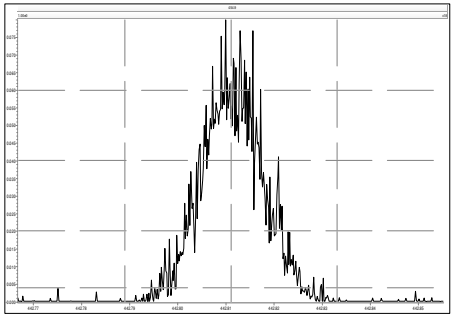
M 416.9760 R 17765



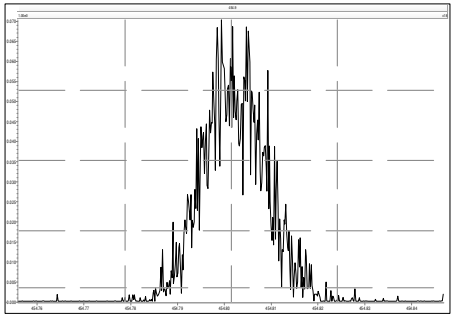
M 430.9728 R 15542



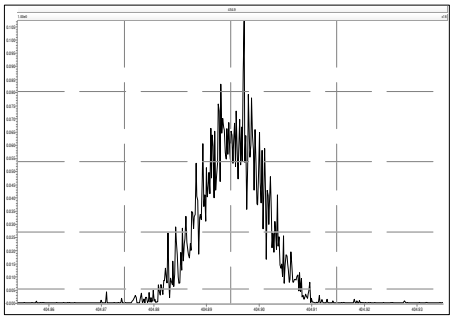
M 442.9728 R 16612



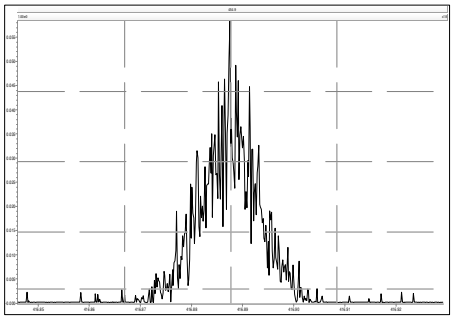
M 454.9728 R 17882



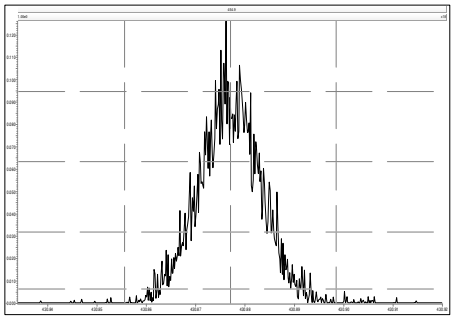
M 404.9760 R 16234



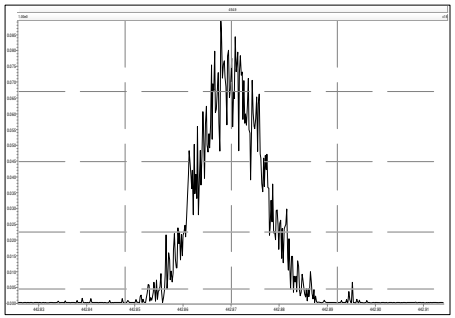
M 416.9760 R 16953



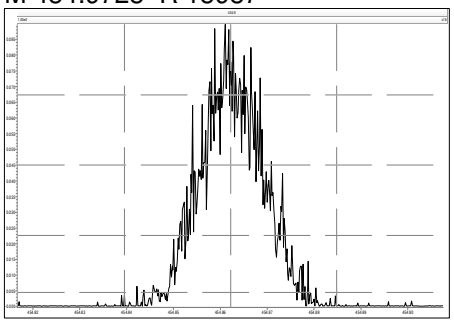
M 430.9728 R 15733



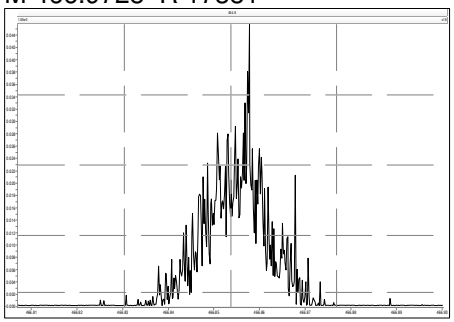
M 442.9728 R 16432



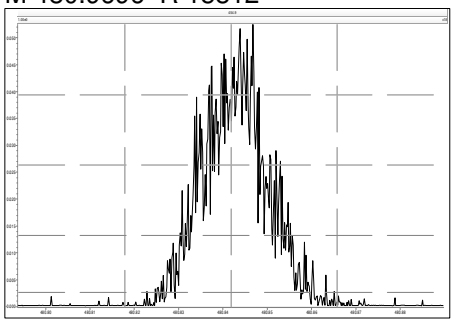
M 454.9728 R 15987



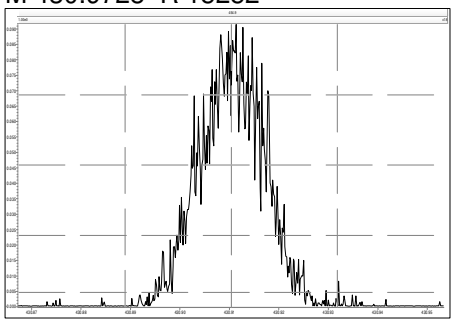
M 466.9728 R 17381



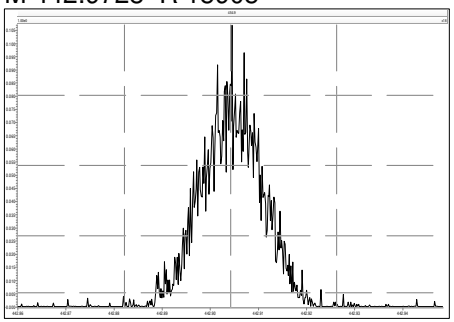
M 480.9696 R 15812



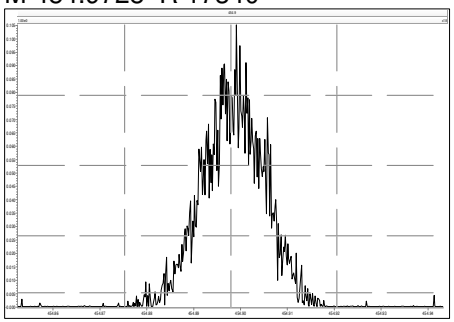
M 430.9728 R 15252



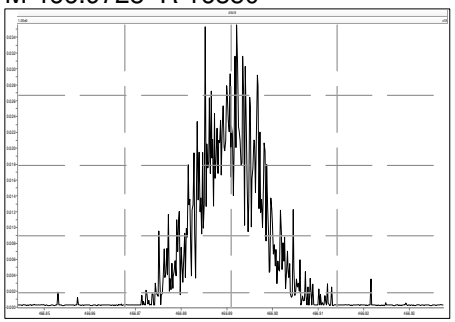
M 442.9728 R 15905



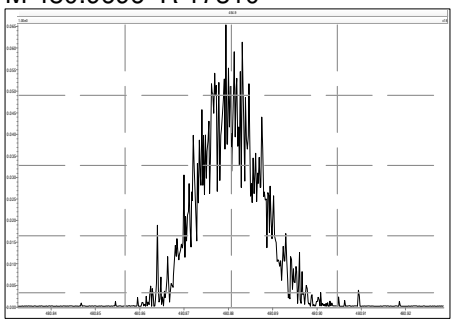
M 454.9728 R 17340



M 466.9728 R 16850



M 480.9696 R 17310



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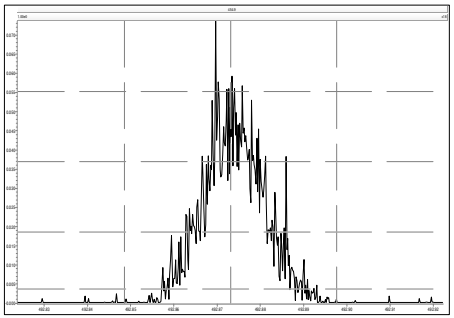
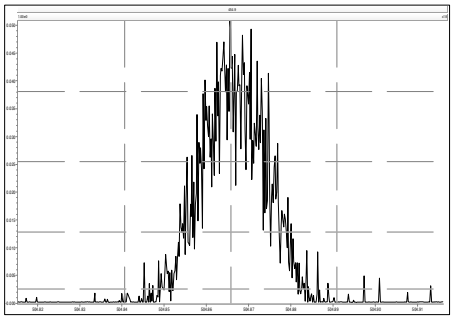
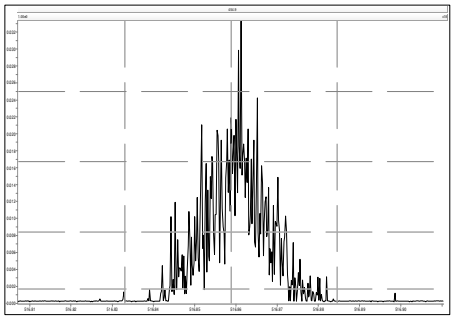
M 492.9696 R 17310



M 504.9696 R 16892

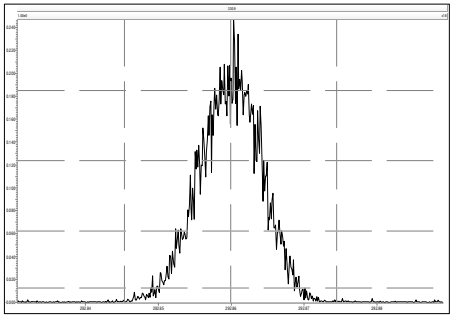


M 516.9697 R 18407

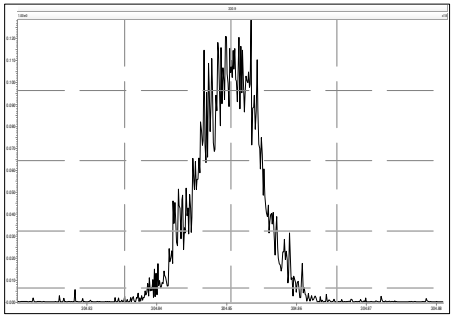


Printed: Thursday, February 24, 2022 01:43:40 Eastern Standard Time

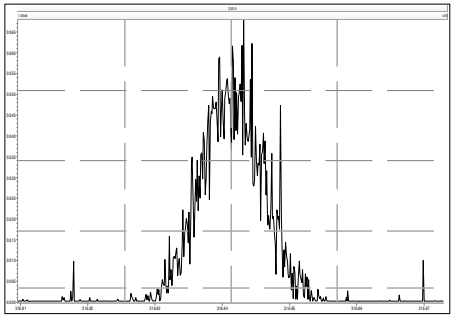
M 292.9824 R 14925



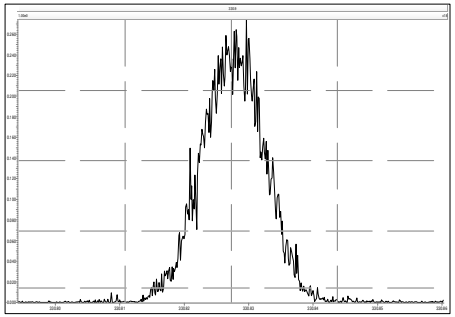
M 304.9824 R 15723



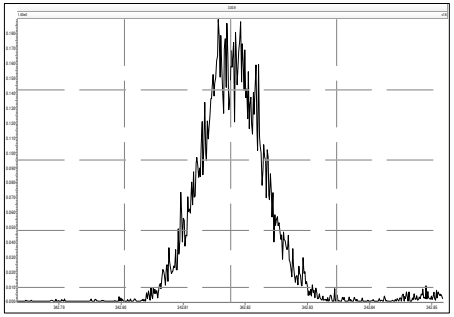
M 316.9824 R 16233



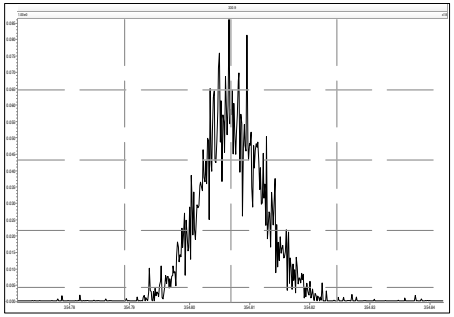
M 330.9792 R 14748



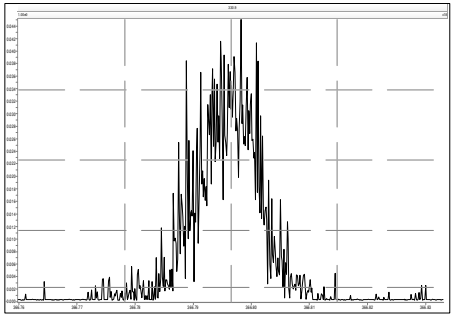
M 342.9792 R 14164



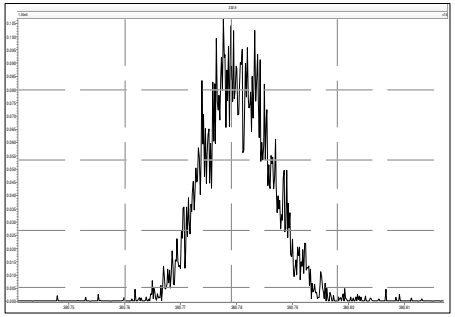
M 354.9792 R 16342



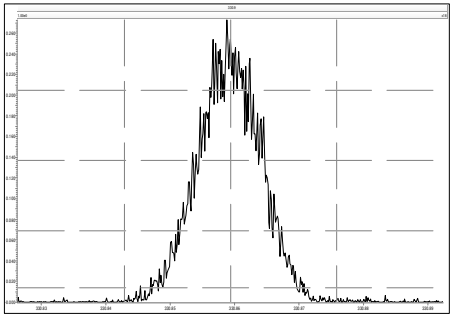
M 366.9792 R 16067



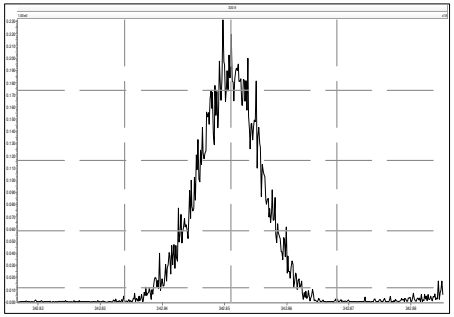
M 380.9760 R 14244



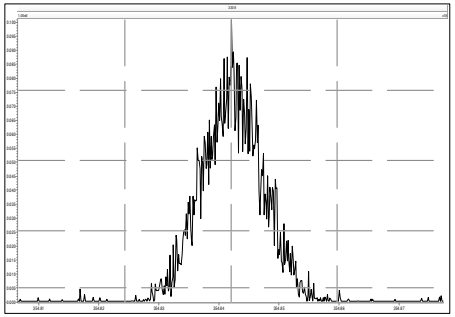
M 330.9792 R 15064



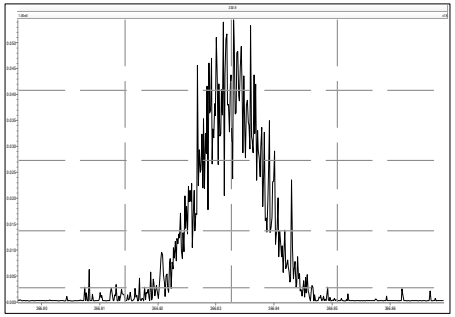
M 342.9792 R 15155



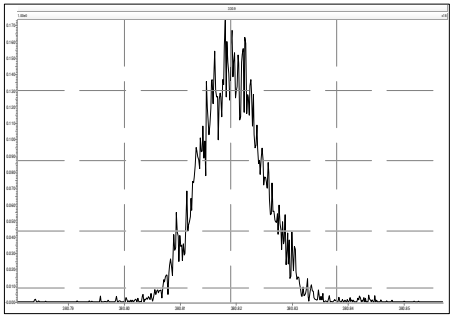
M 354.9792 R 16201



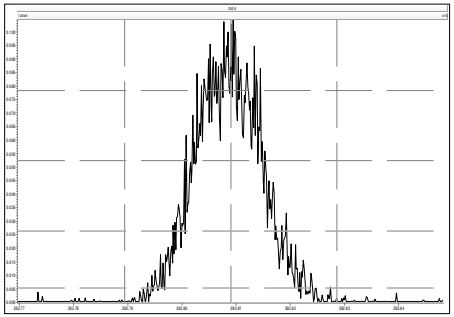
M 366.9792 R 15138



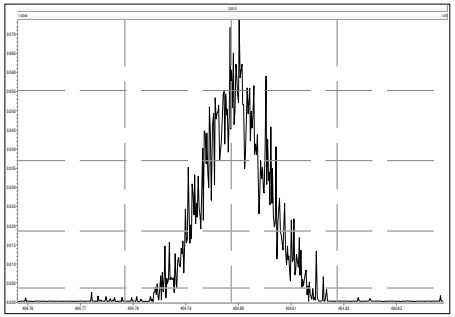
M 380.9760 R 15588



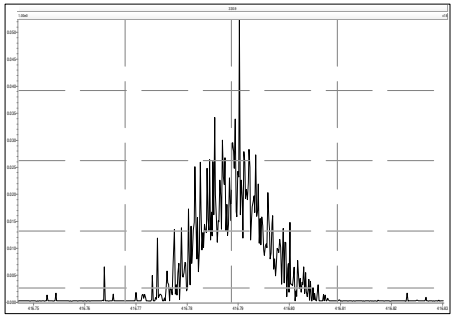
M 392.9760 R 14800



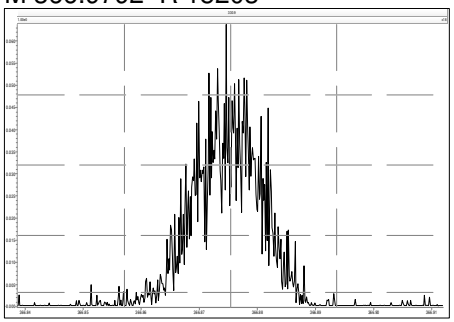
M 404.9760 R 15853



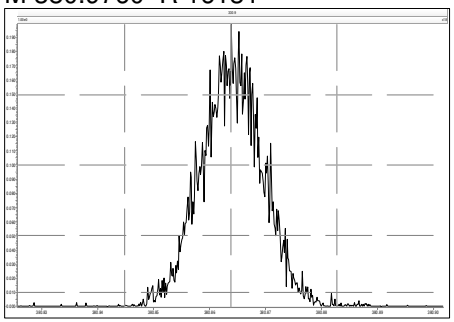
M 416.9760 R 18333



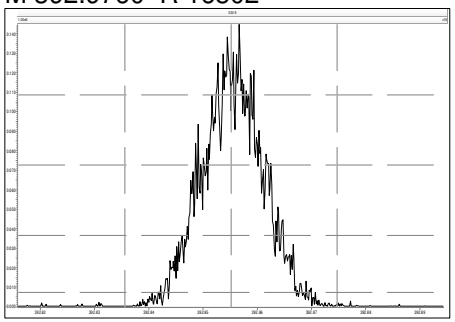
M 366.9792 R 15203



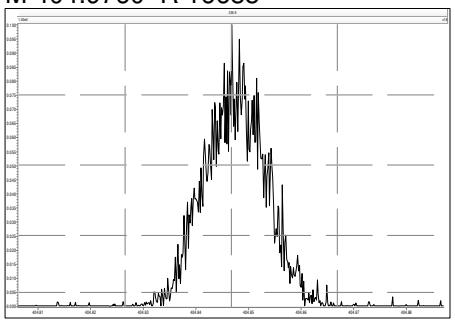
M 380.9760 R 16131



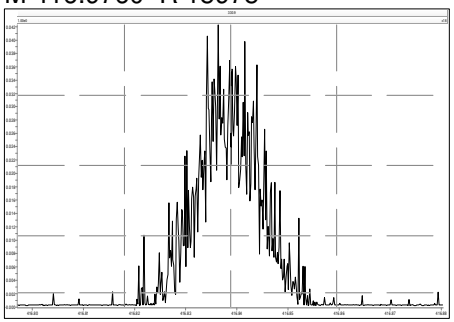
M 392.9760 R 16502



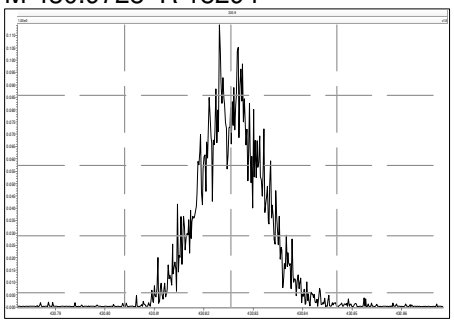
M 404.9760 R 16685



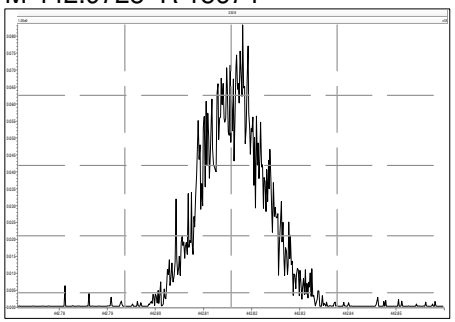
M 416.9760 R 15975



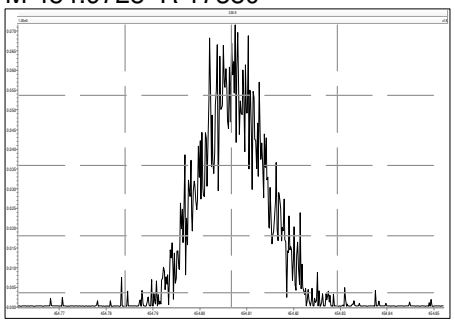
M 430.9728 R 15294



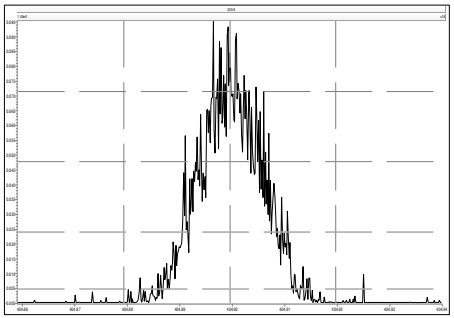
M 442.9728 R 15674



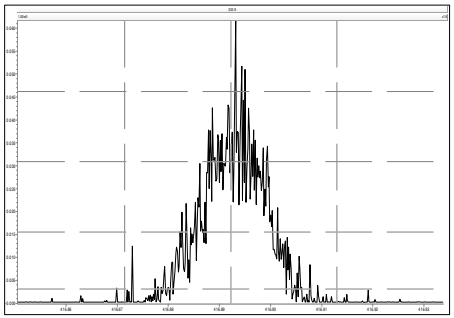
M 454.9728 R 17380



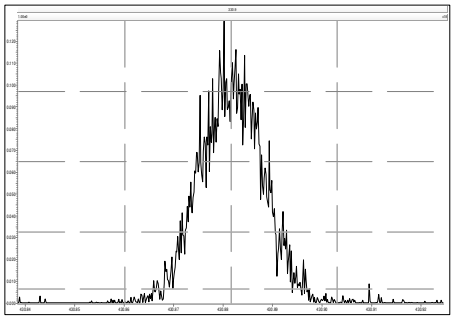
M 404.9760 R 16493



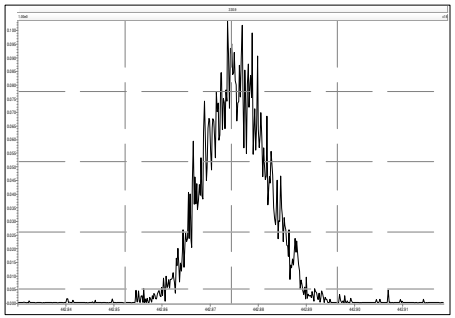
M 416.9760 R 16805



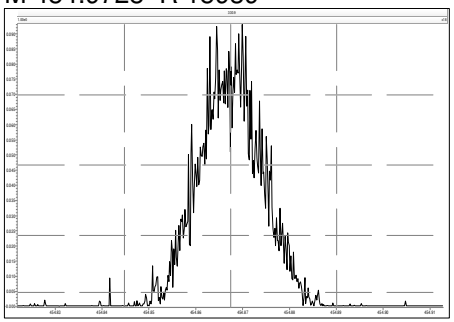
M 430.9728 R 15291



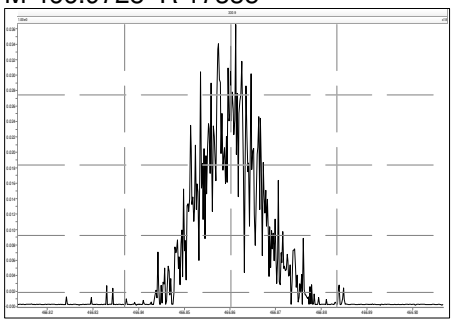
M 442.9728 R 15729



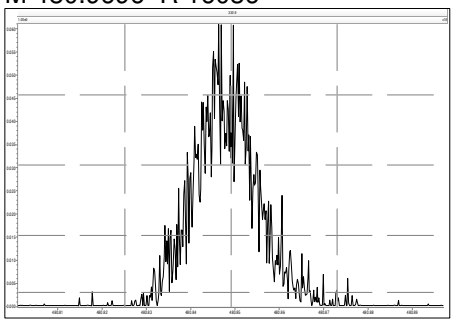
M 454.9728 R 15939



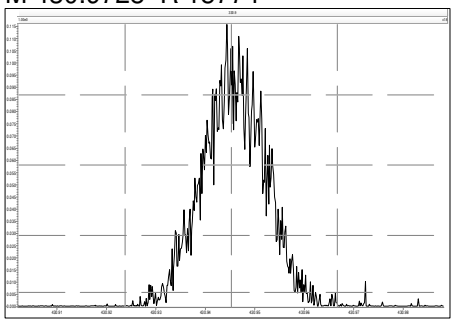
M 466.9728 R 17335



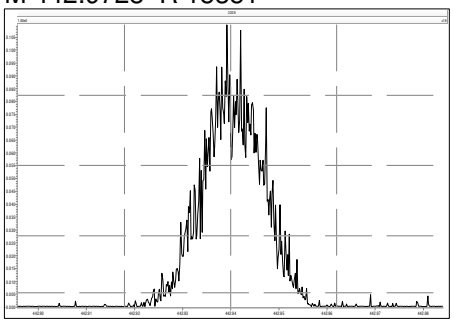
M 480.9696 R 16036



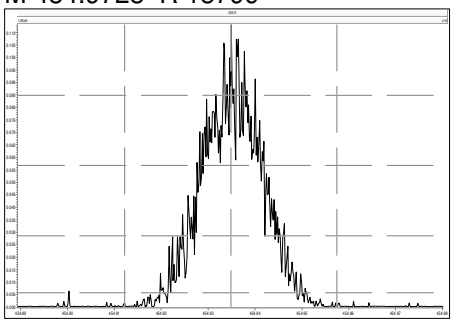
M 430.9728 R 15774



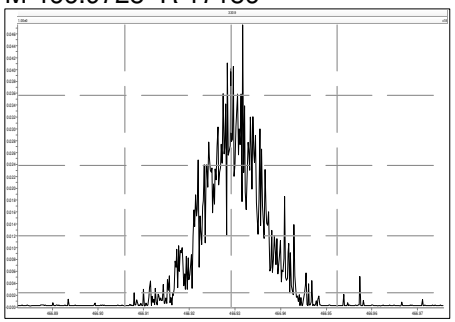
M 442.9728 R 15351



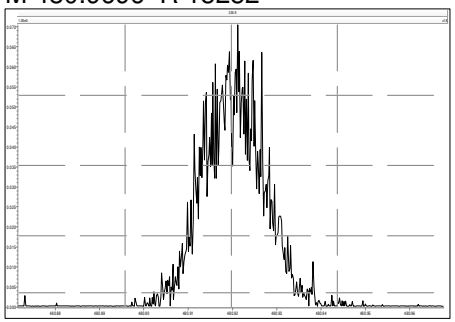
M 454.9728 R 15799



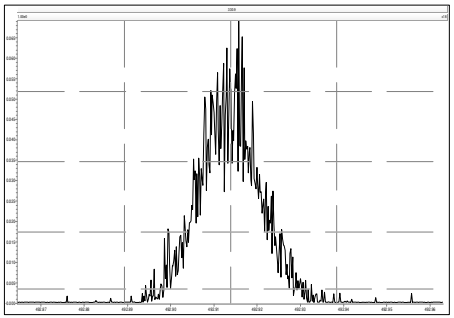
M 466.9728 R 17186



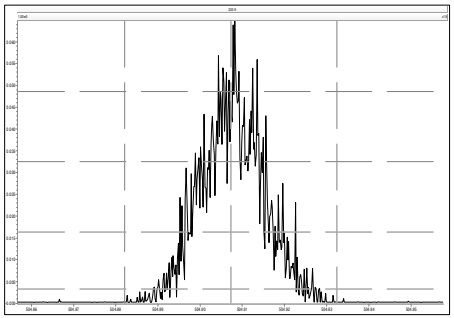
M 480.9696 R 15252



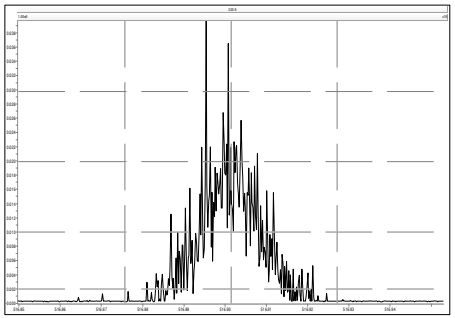
M 492.9696 R 16339



M 504.9696 R 16444



M 516.9697 R 21750



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

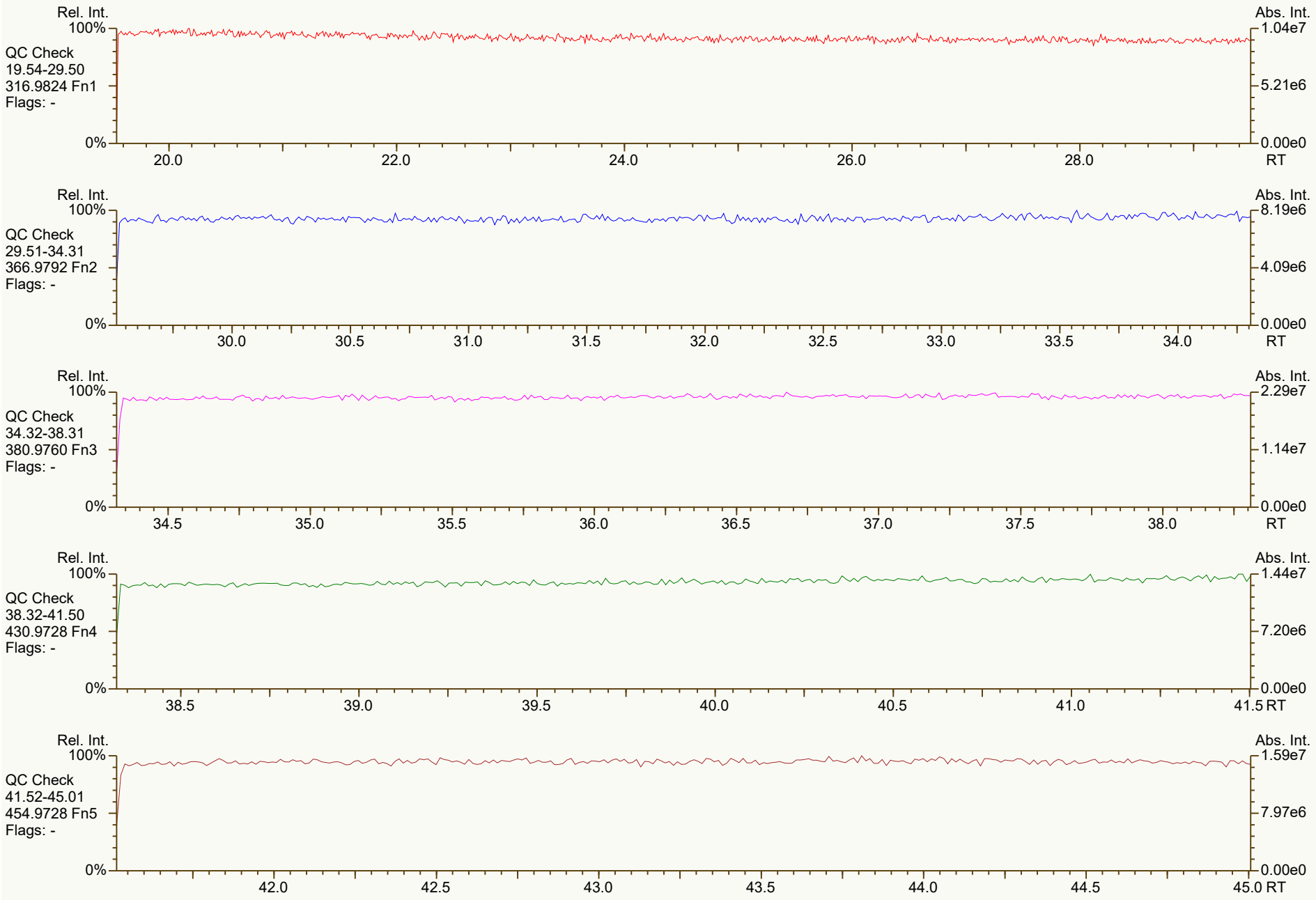
REVIEWED
Tyler_Fritz , 11/11/2021, 4:44:03 PM

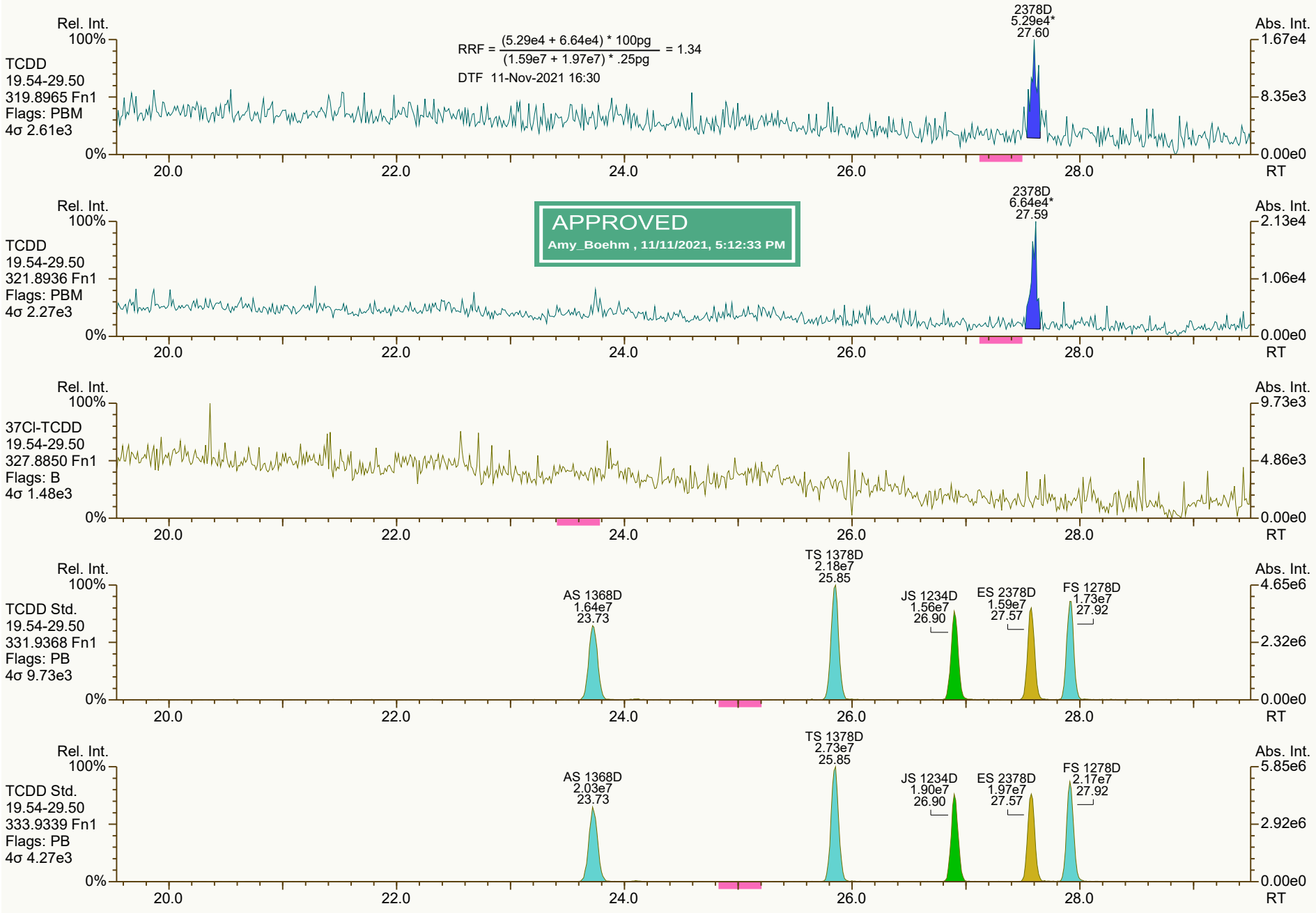
APPROVED
Amy_Boehm , 11/11/2021, 5:28:50 PM

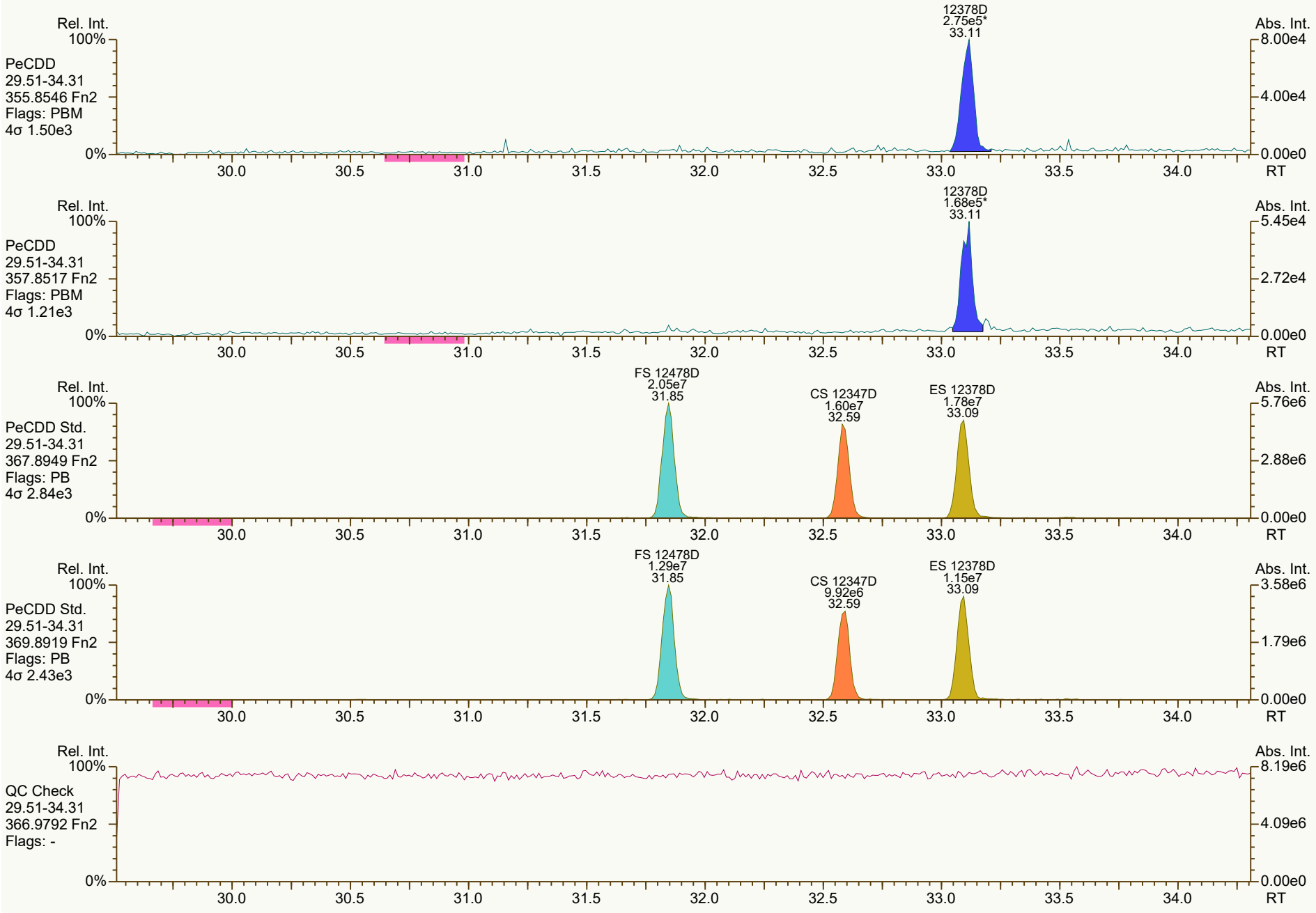
Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

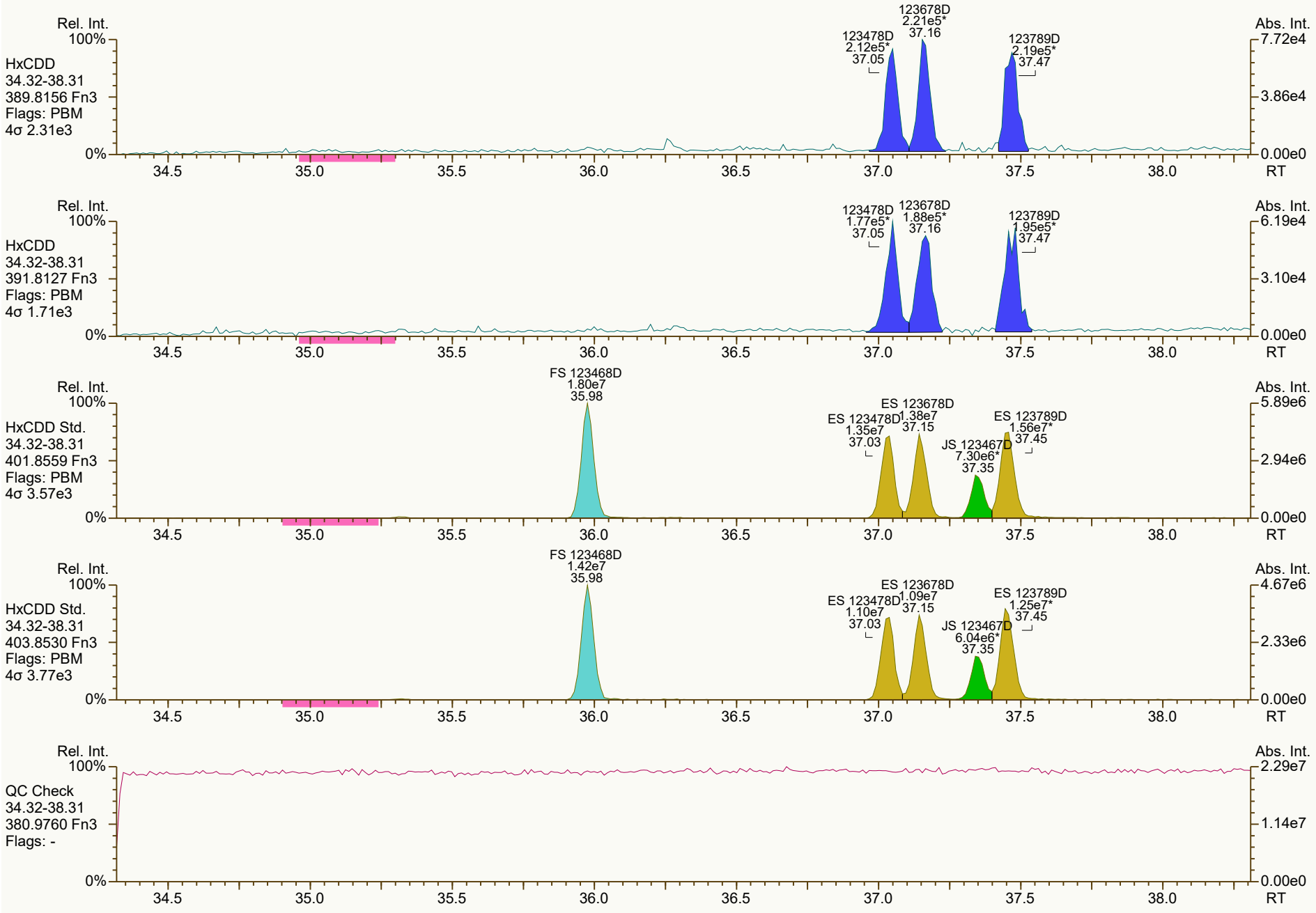
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF				Checkcode: 245-007-QLD	
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C04	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

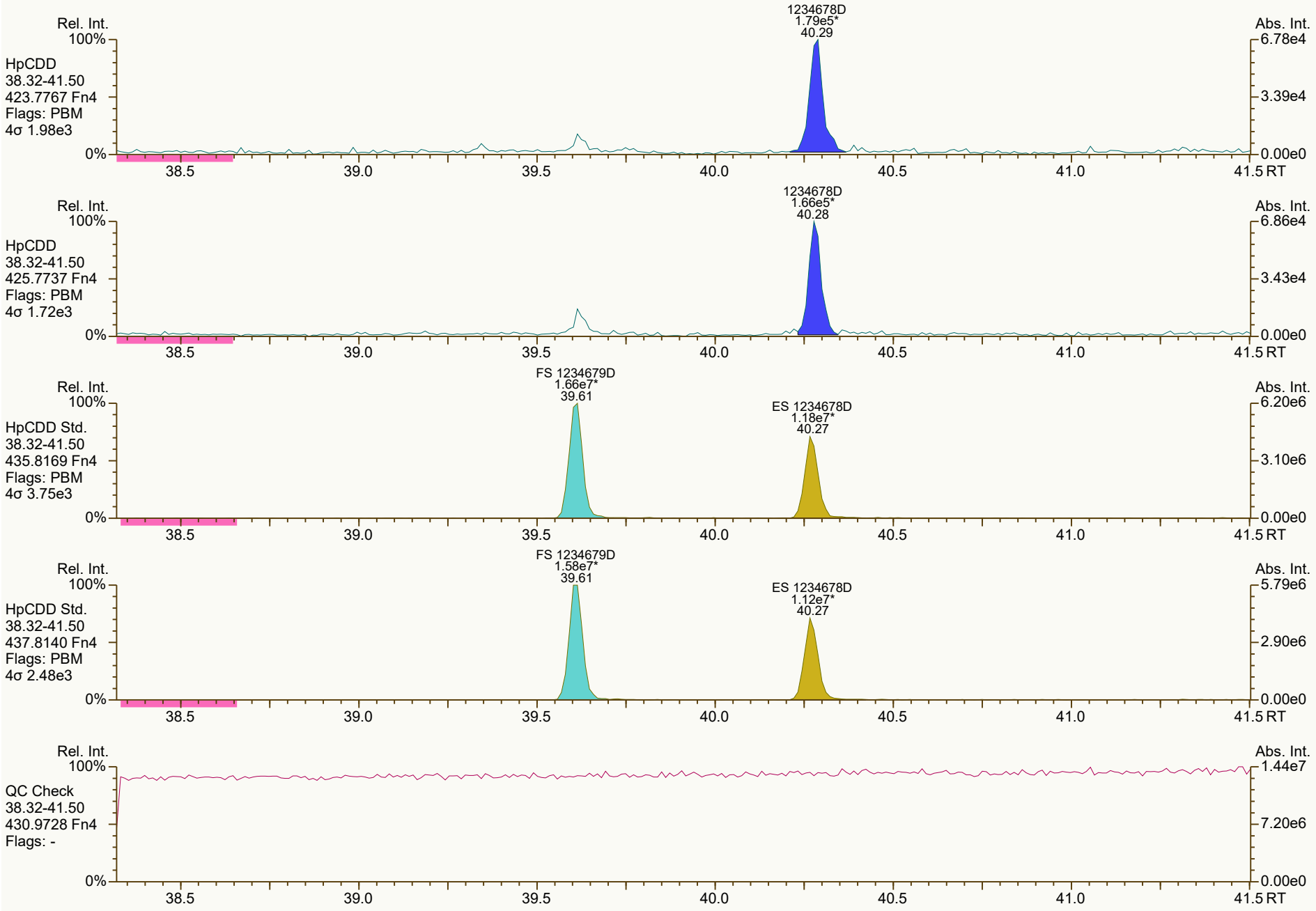
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF					Checkcode: 245-007-QLD
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C04
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%

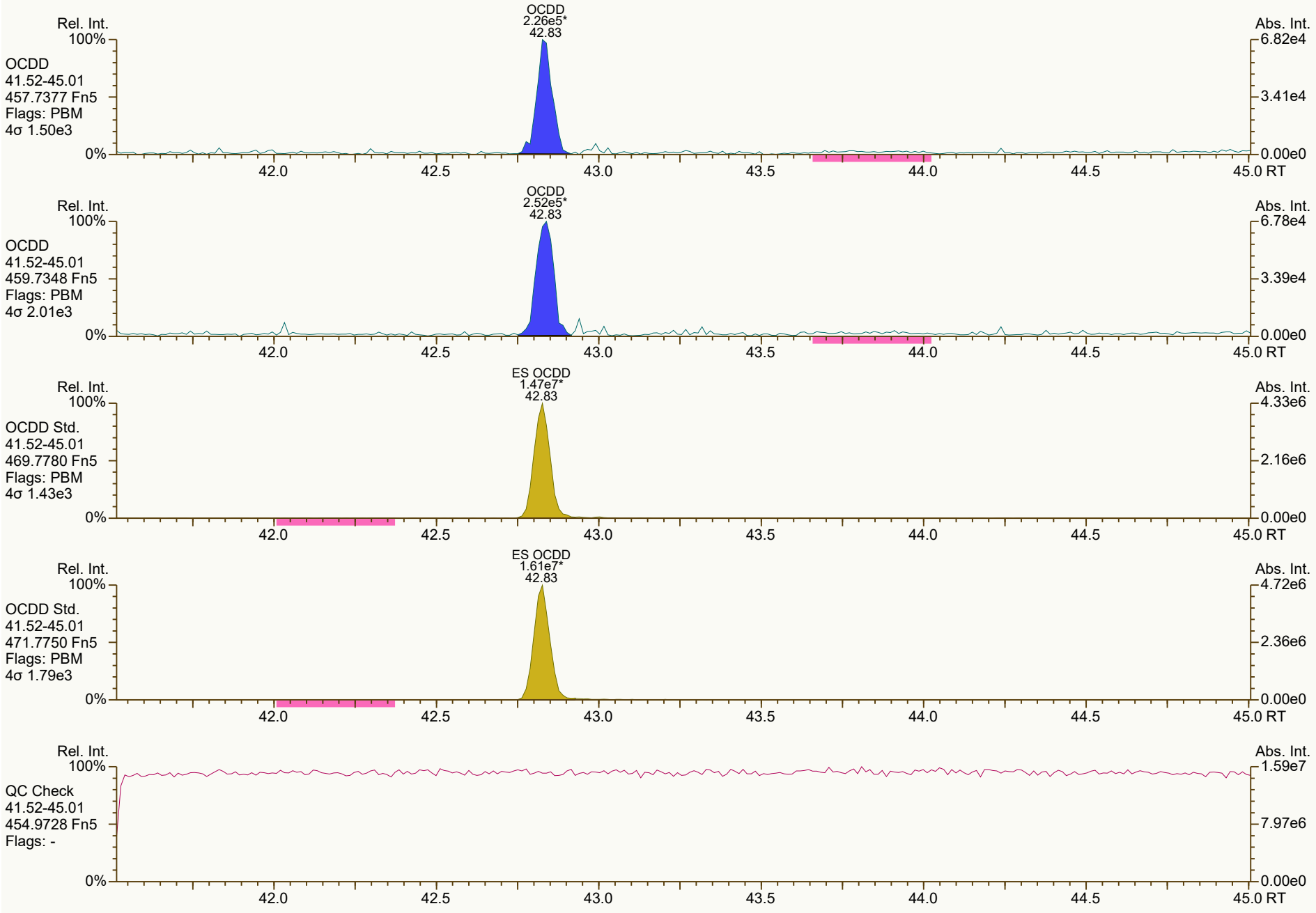

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.04e7
5.21e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.19e6
4.09e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.29e7
1.14e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.44e7
7.20e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.97e6
0.00e0

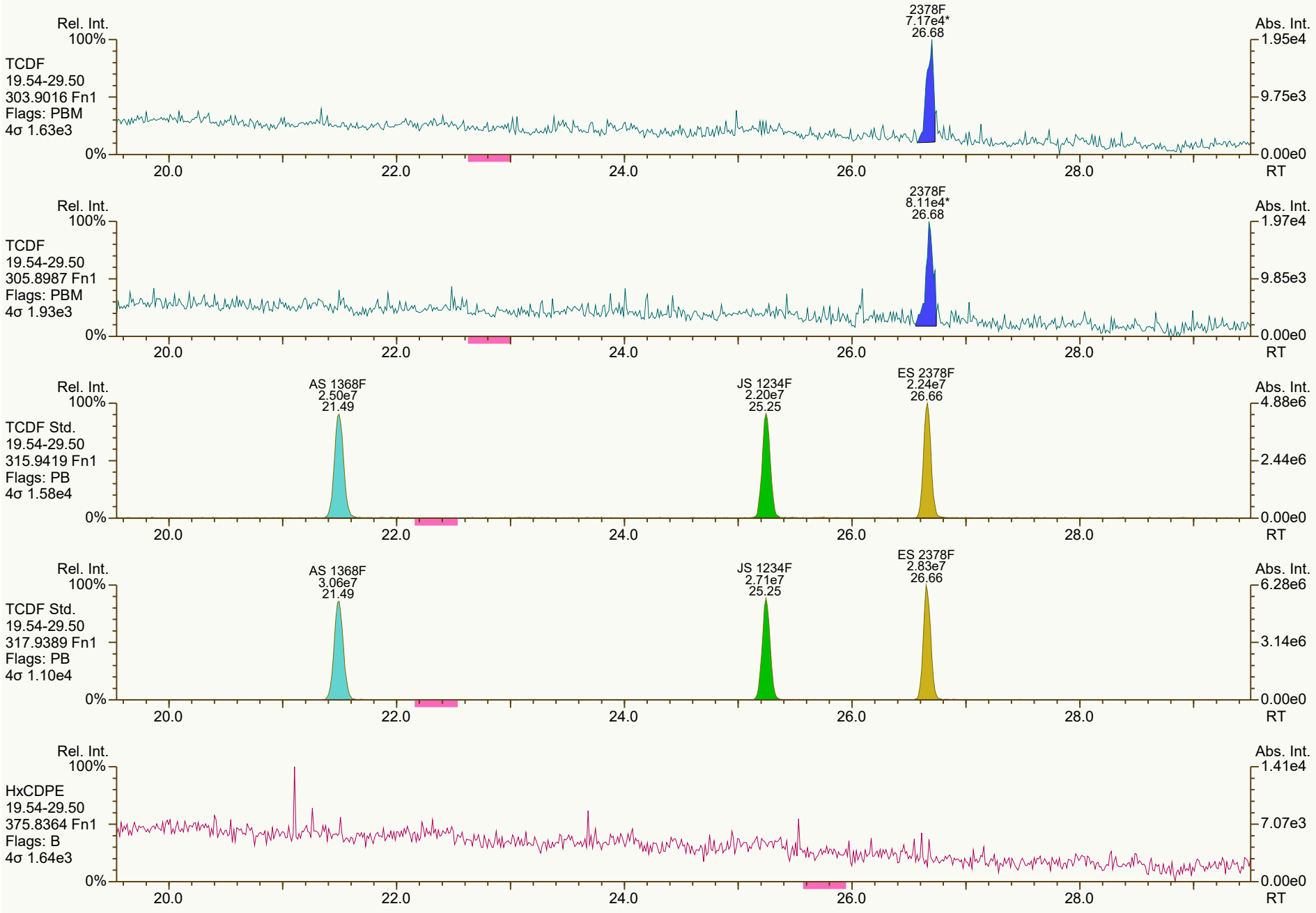

Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
0%
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
Abs. Int.
1.67e4
8.35e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
2.13e4
1.06e4
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

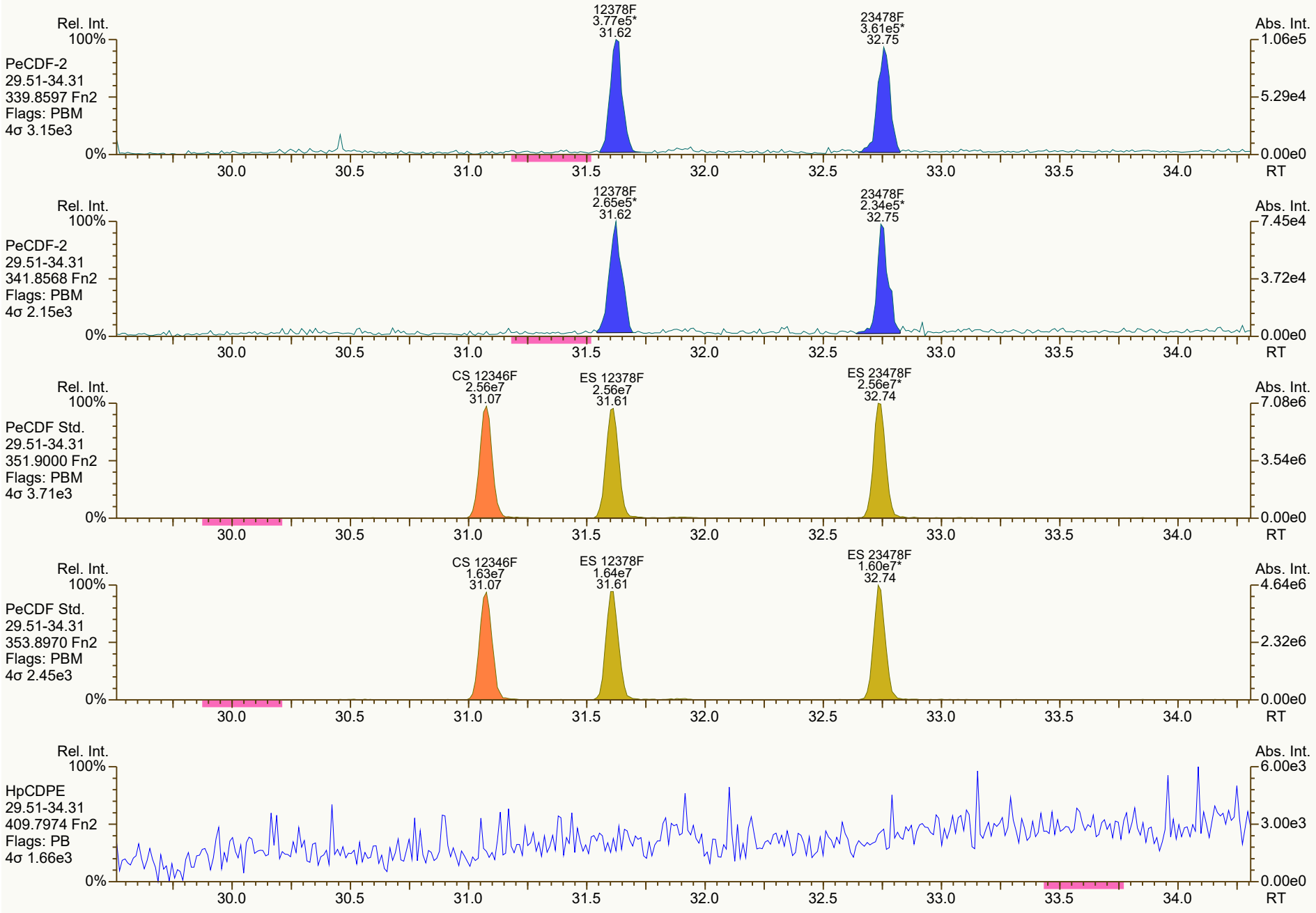

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
123478D
2.12e5*
37.05
123678D
2.21e5*
37.16
123789D
2.19e5*
37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
123478D
1.77e5*
37.05
123678D
1.88e5*
37.16
123789D
1.95e5*
37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
FS 123468D
1.80e7
35.98
ES 123478D
1.35e7
37.03
ES 123678D
1.38e7
37.15
JS 123467D
7.30e6*
37.35
ES 123789D
1.56e7*
37.45
Abs. Int.
5.89e6
2.94e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
FS 123468D
1.42e7
35.98
ES 123478D
1.10e7
37.03
ES 123678D
1.09e7
37.15
JS 123467D
6.04e6*
37.35
ES 123789D
1.25e7*
37.45
Abs. Int.
4.67e6
2.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.29e7
1.14e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

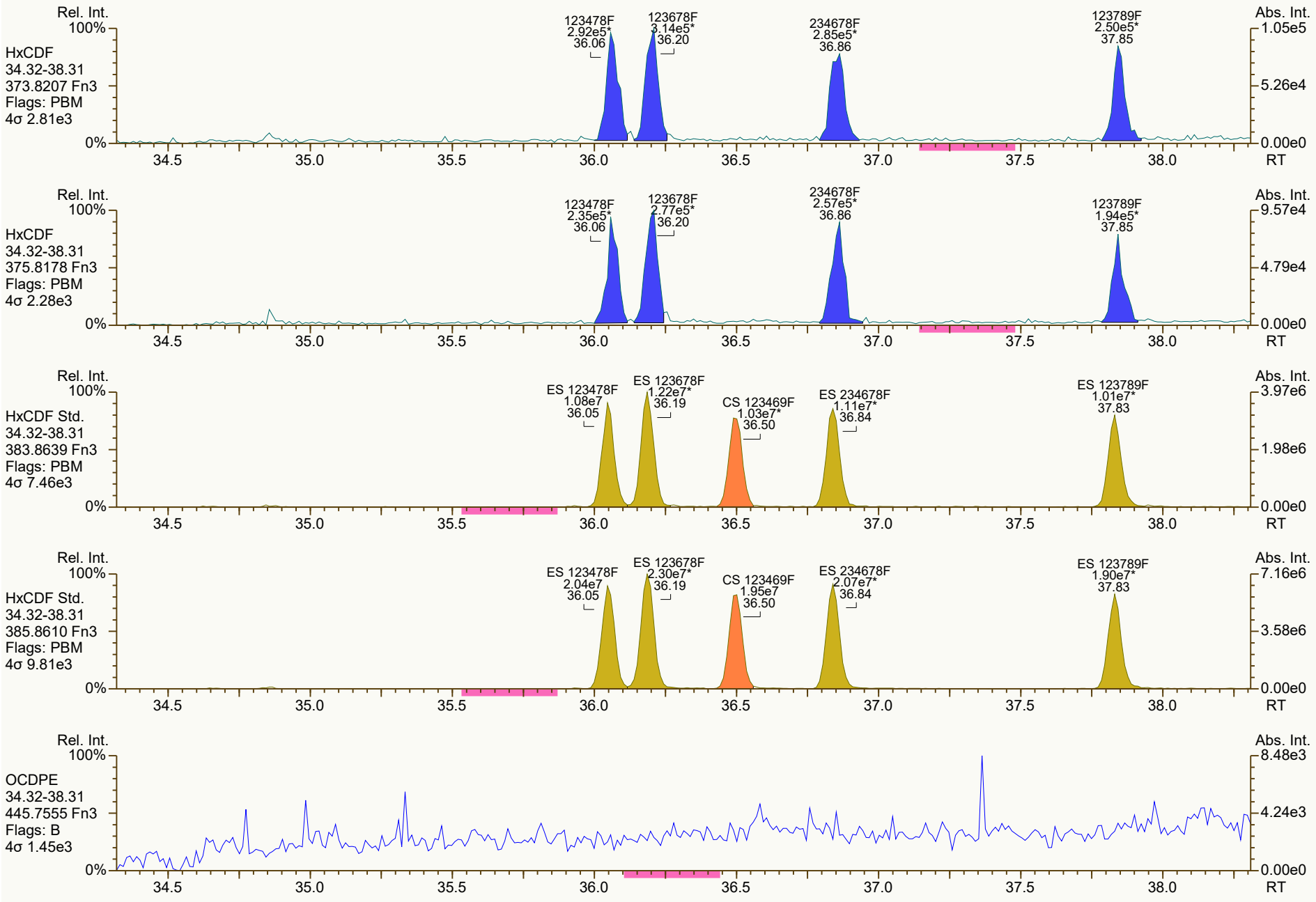

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

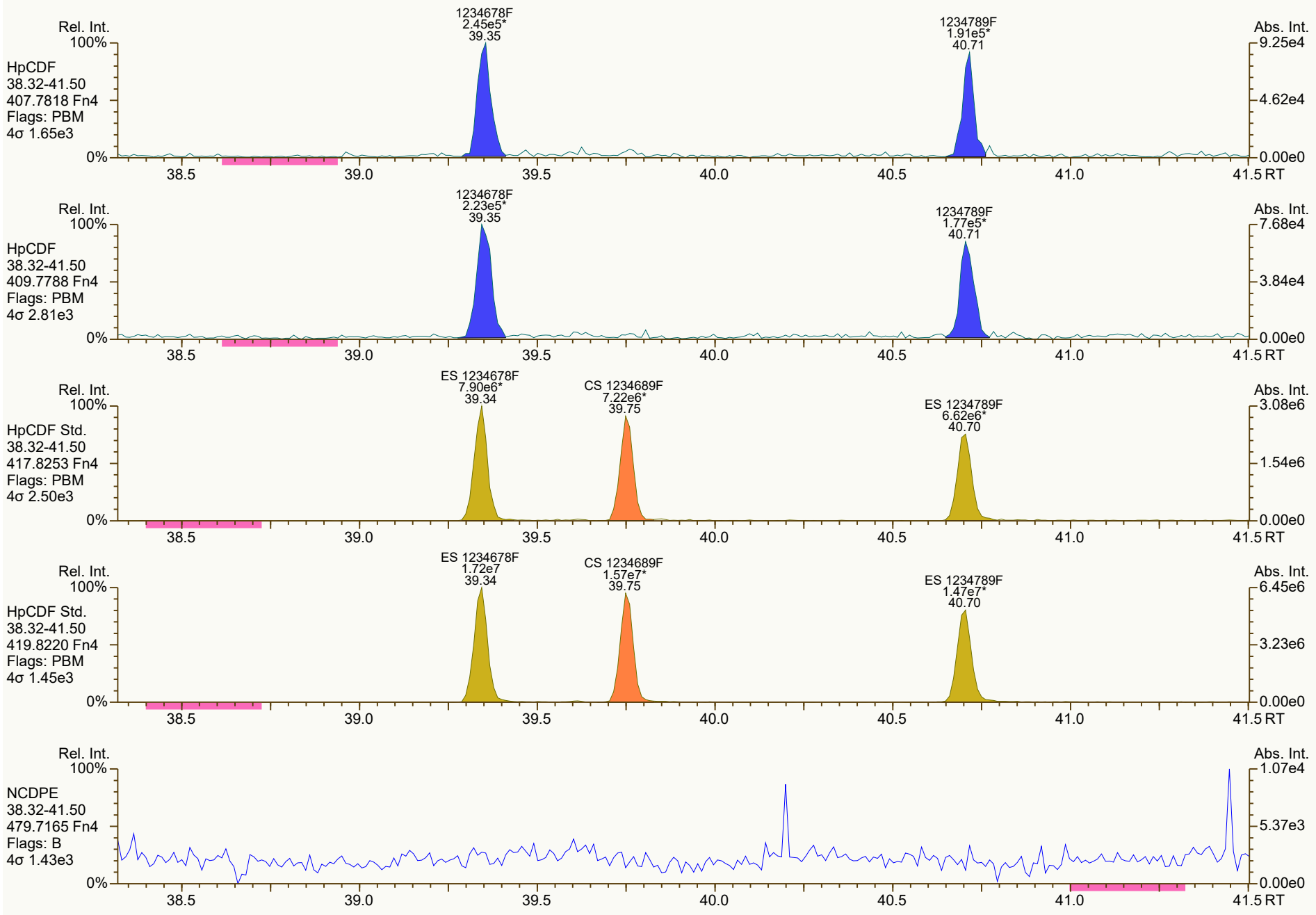

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
ES OCDD
1.47e7*
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
4.33e6
2.16e6
ES OCDD
1.61e7*
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
4.72e6
2.36e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.59e7
7.97e6


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
Abs. Int.
1.41e4
7.07e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.25e4
6.27e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: PB
4σ 2.44e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.40e4
7.01e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 1.85e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.04e7
5.21e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

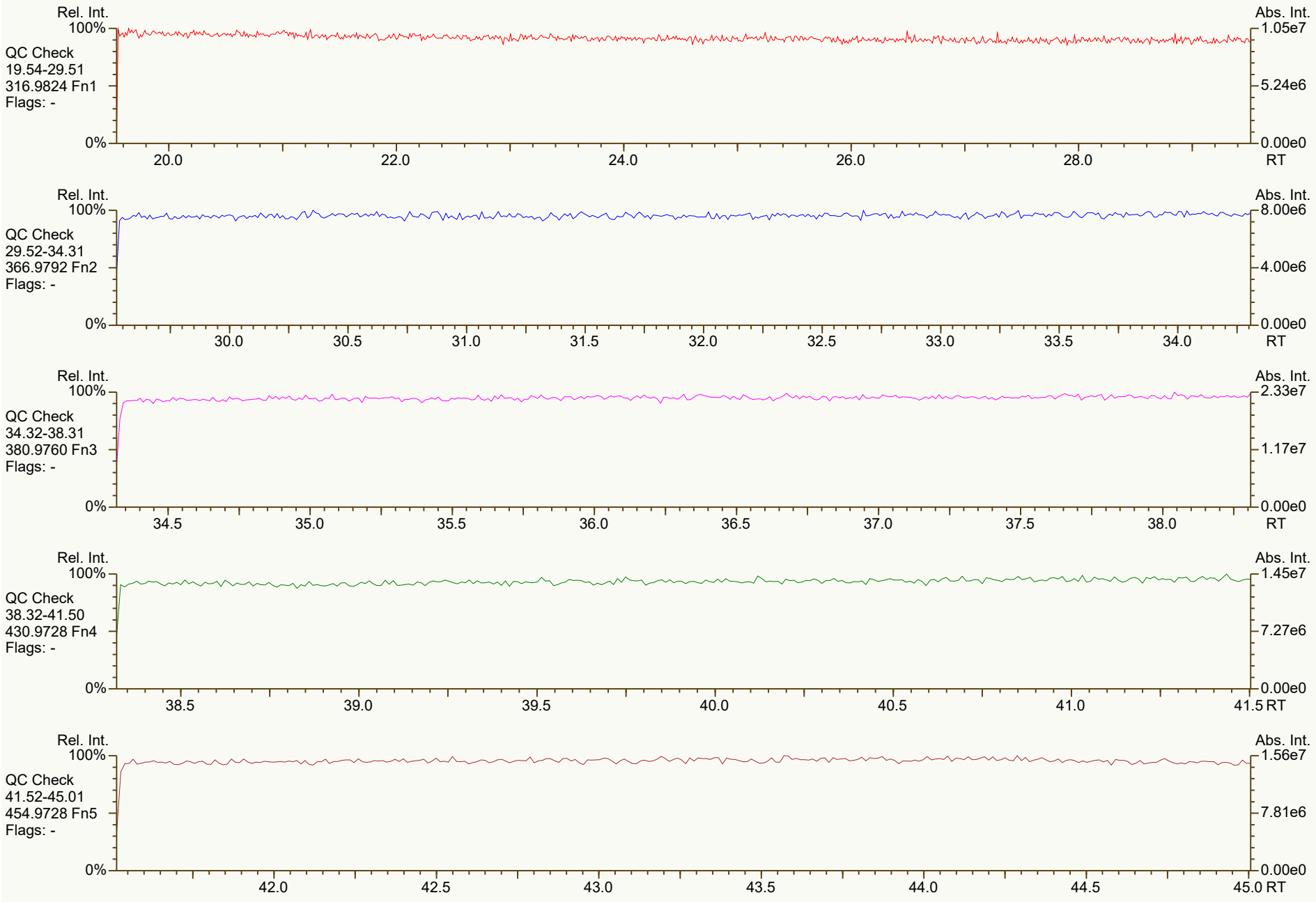

Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
0%
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
0%
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
0%
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
0%
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

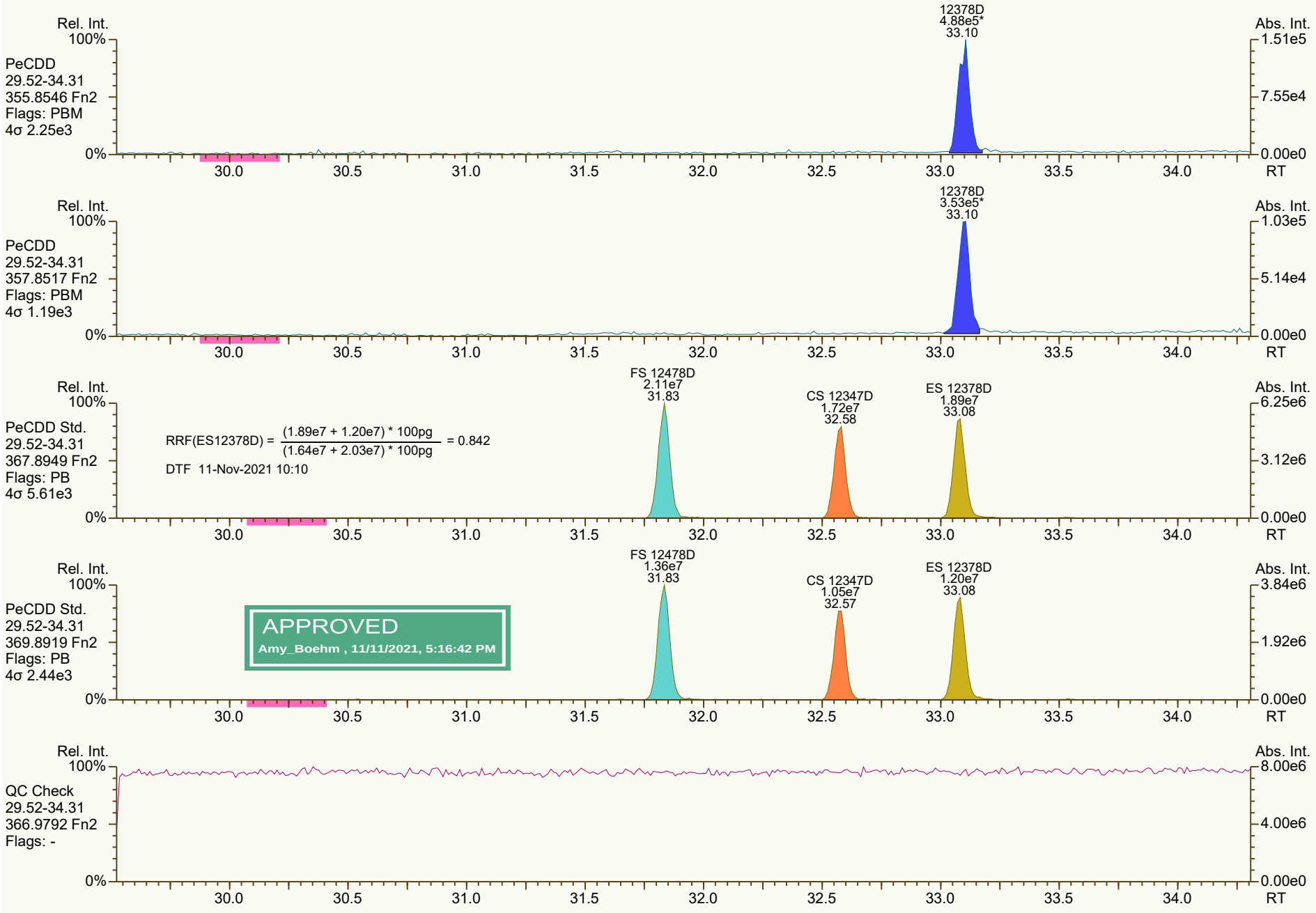

OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

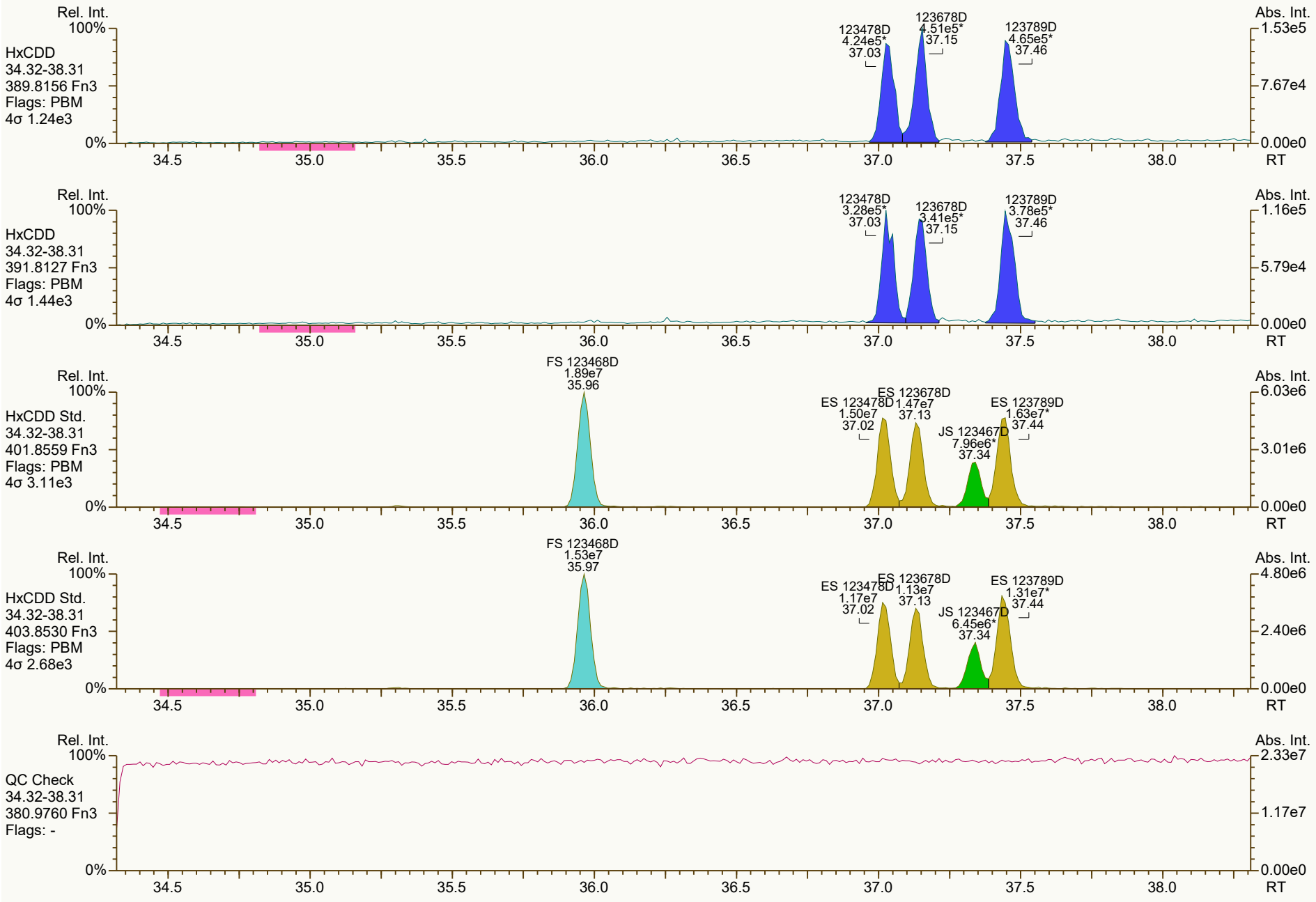
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

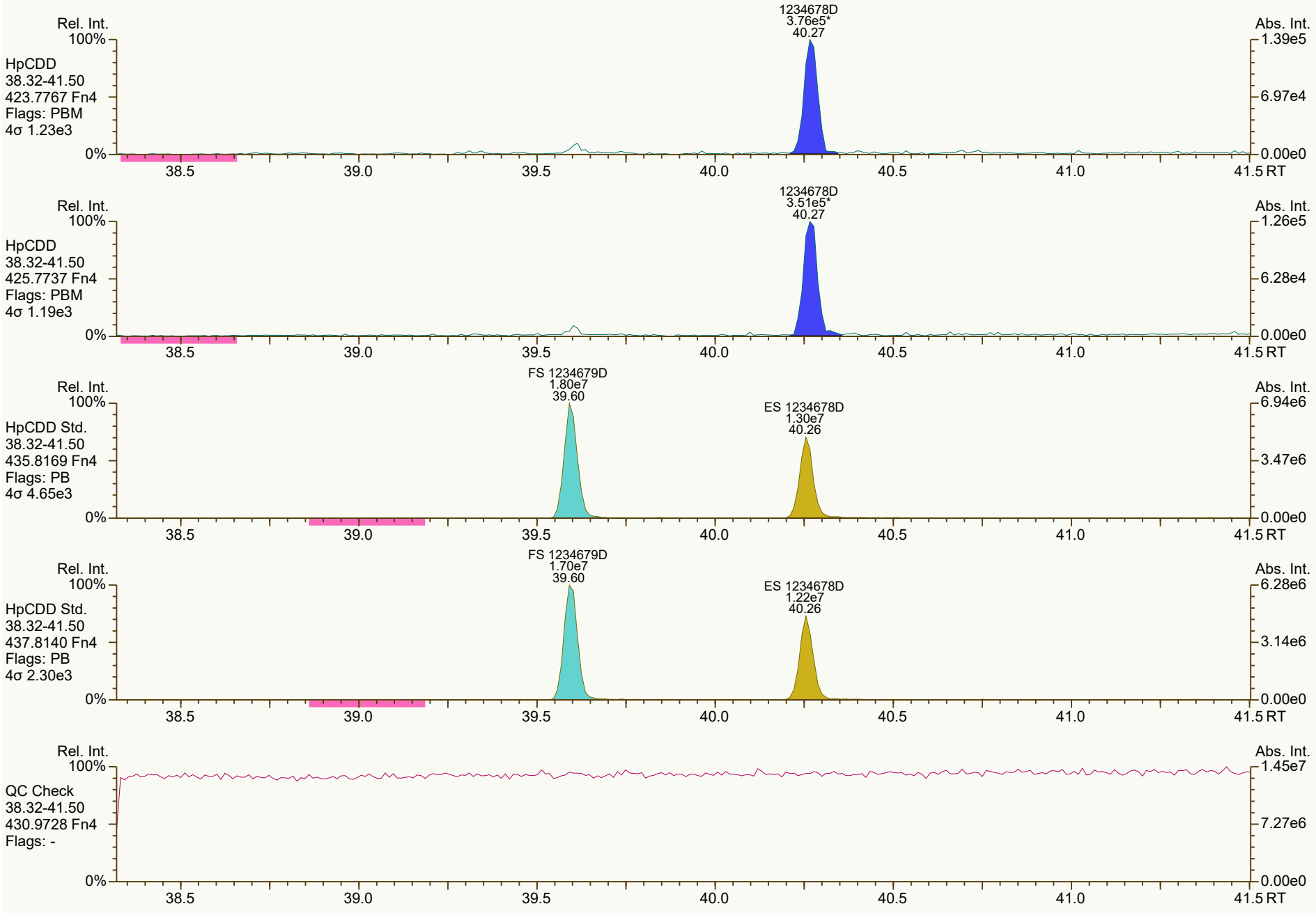
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF					Checkcode: 419-111-CRN
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C05
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		


Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.05e7
5.24e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.00e6
4.00e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.45e7
7.27e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.56e7
7.81e6
0.00e0

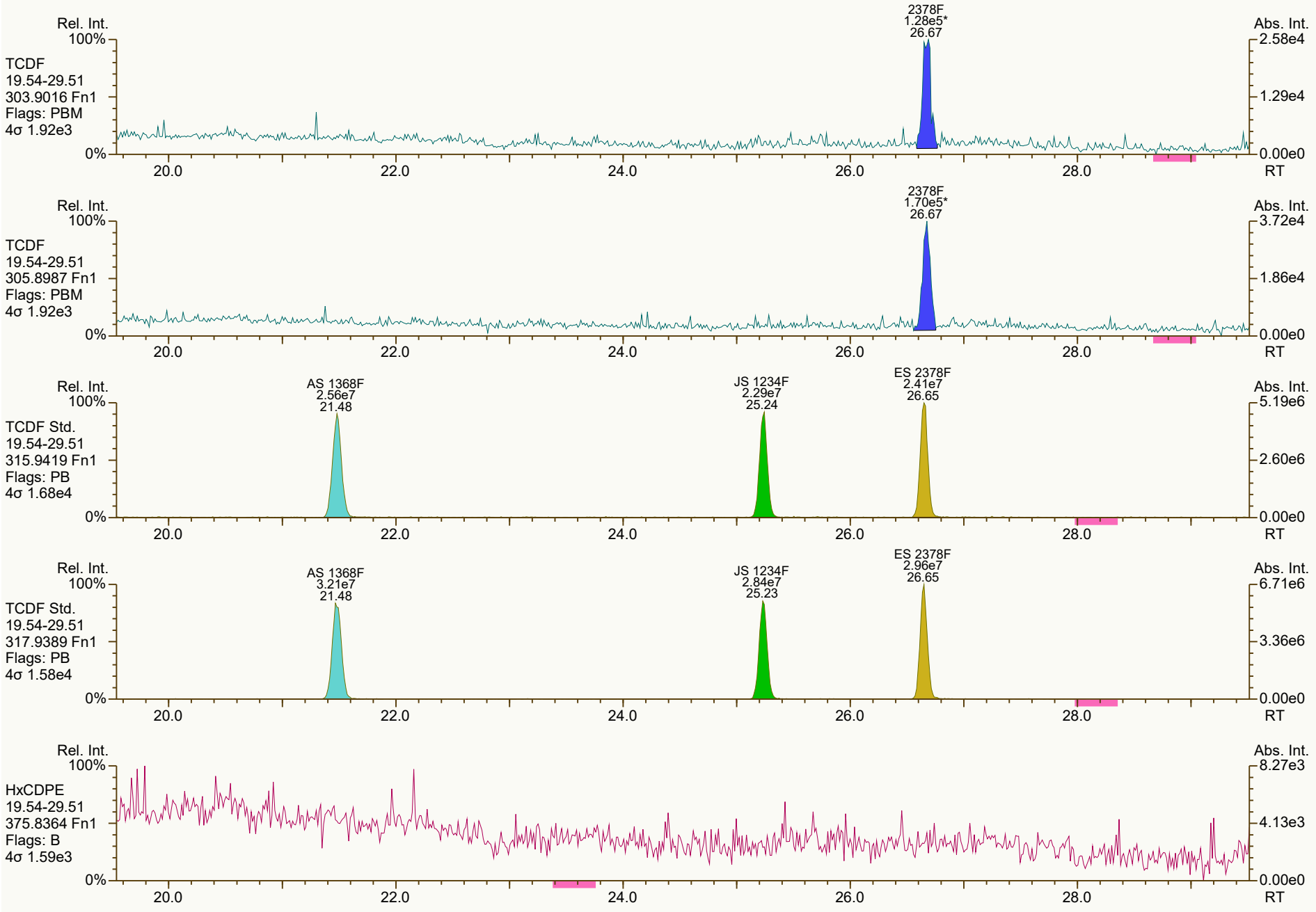

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
2378D
1.27e5*
27.58
2.99e4
1.49e4
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
CS 37Cl-2378D
2.01e5*
27.59
5.18e4
2.59e4
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
4.92e6
2.46e6
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
6.21e6
3.10e6

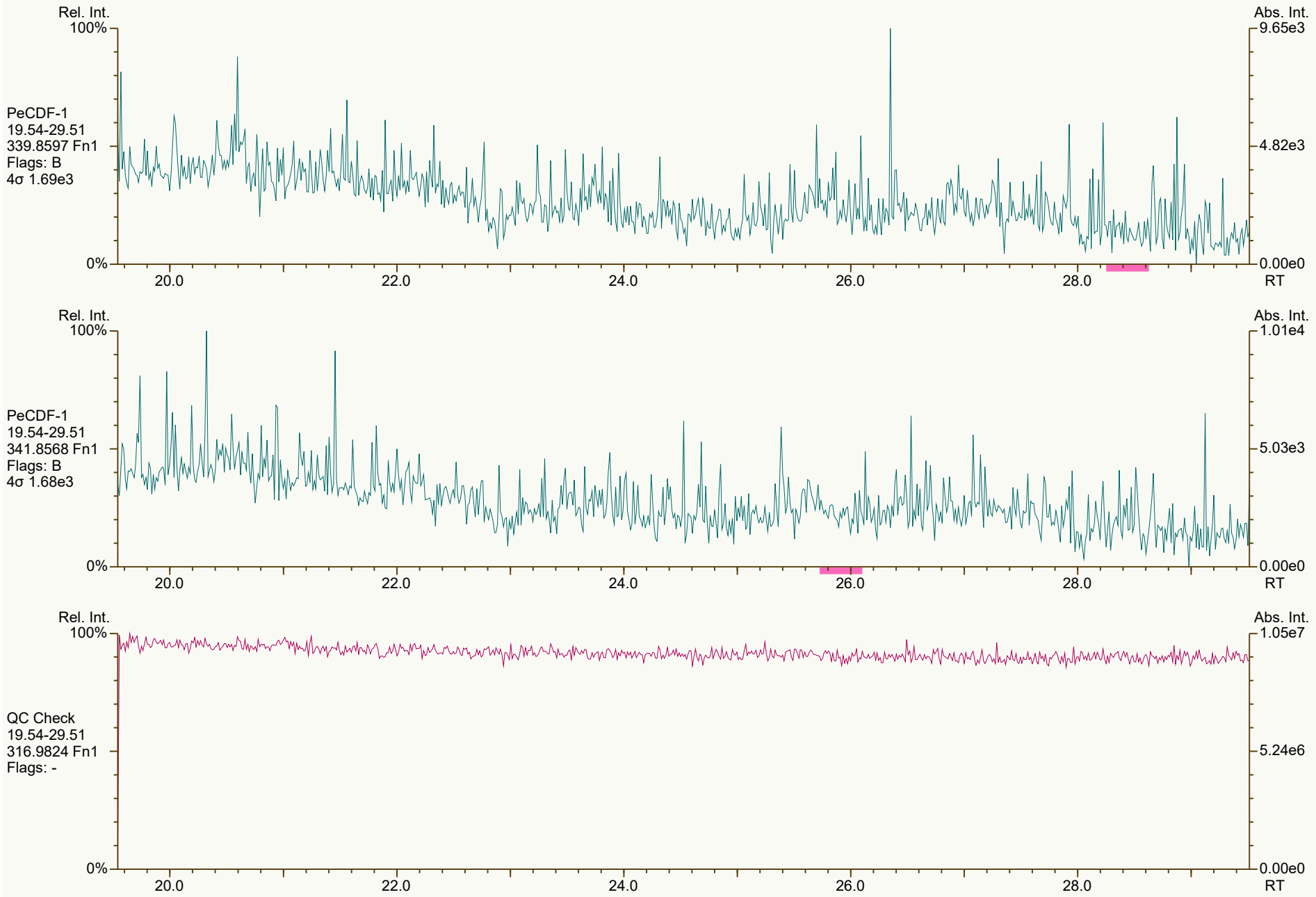

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123478D
1.50e7
37.02
ES 123678D
1.47e7
37.13
JS 123467D
7.96e6*
37.34
ES 123789D
1.63e7*
37.44
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123478D
1.17e7
37.02
ES 123678D
1.13e7
37.13
JS 123467D
6.45e6*
37.34
ES 123789D
1.31e7*
37.44
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

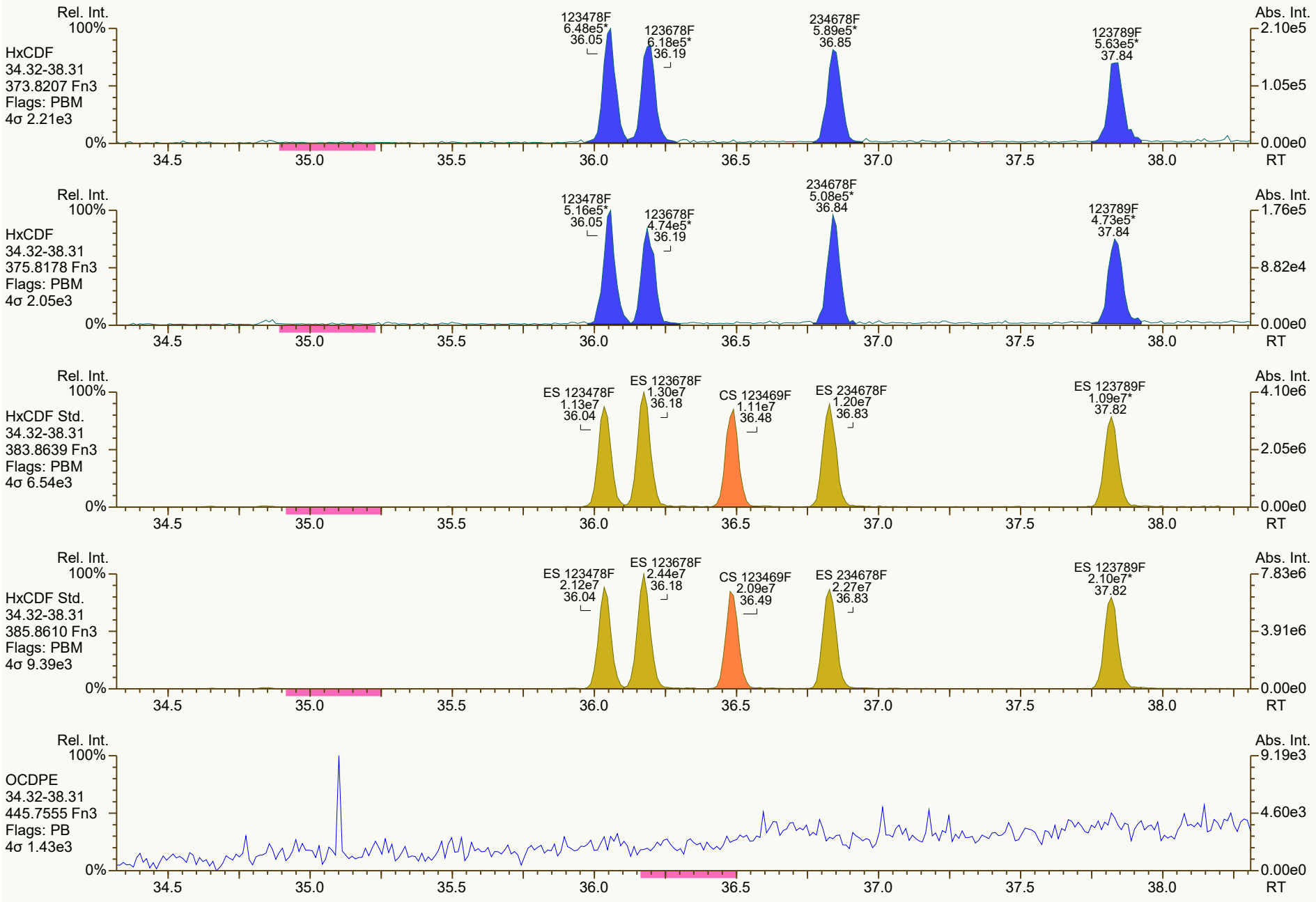

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

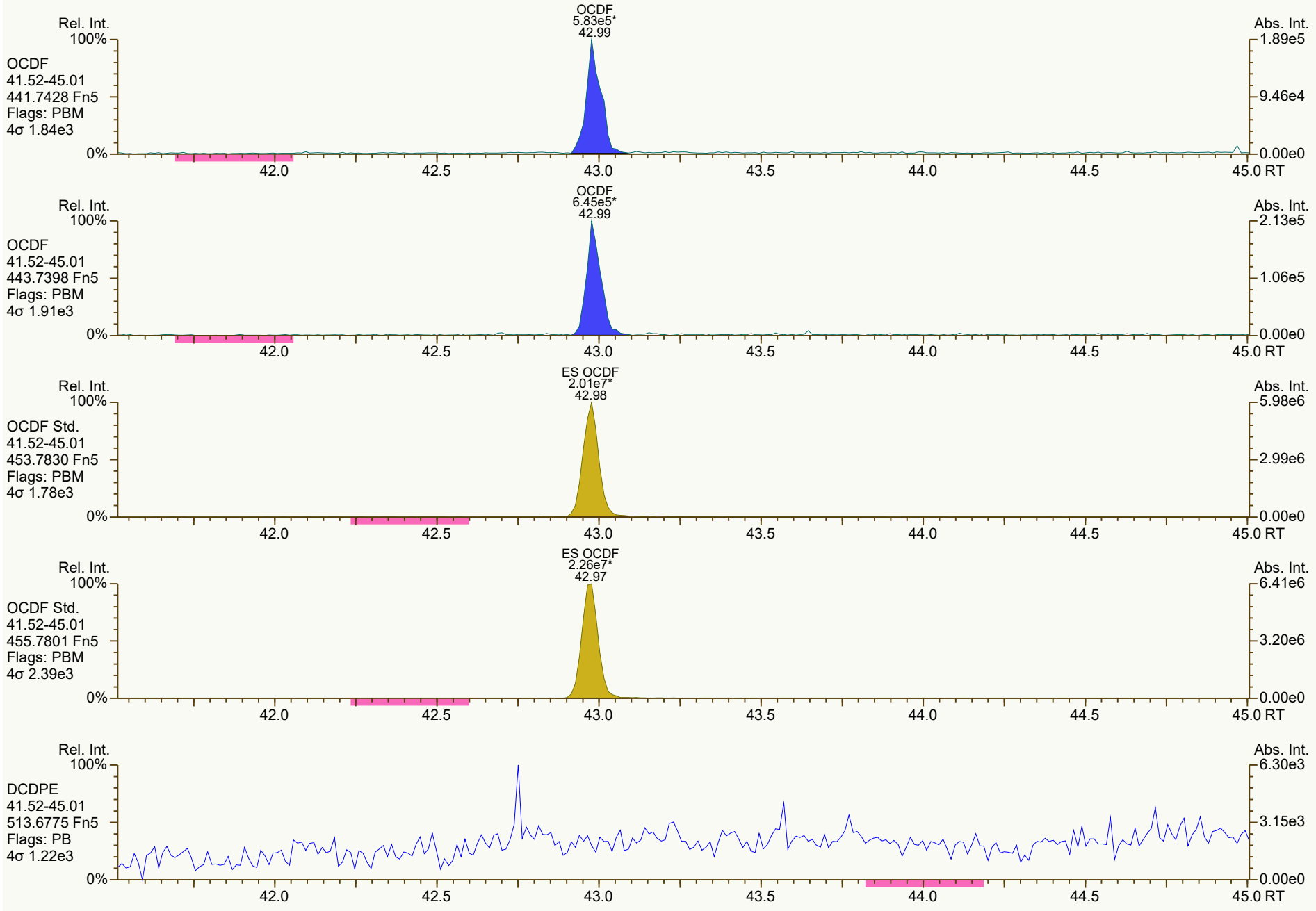

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
0%
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
Abs. Int.
2.10e5
1.05e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
0%
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
Abs. Int.
1.40e5
7.02e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
0%
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
Abs. Int.
7.54e6
3.77e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
0%
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
Abs. Int.
4.85e6
2.42e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
0%
Abs. Int.
1.10e4
5.51e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
0%
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
0%
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
Abs. Int.
1.76e5
8.82e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
0%
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
Abs. Int.
4.10e6
2.05e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
0%
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
Abs. Int.
7.83e6
3.91e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
0%
Abs. Int.
9.19e3
4.60e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
0%
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
Abs. Int.
2.00e5
9.99e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
0%
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
Abs. Int.
1.67e5
8.36e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
0%
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
Abs. Int.
3.13e6
1.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
0%
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
Abs. Int.
6.42e6
3.21e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
0%
Abs. Int.
3.72e3
1.86e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

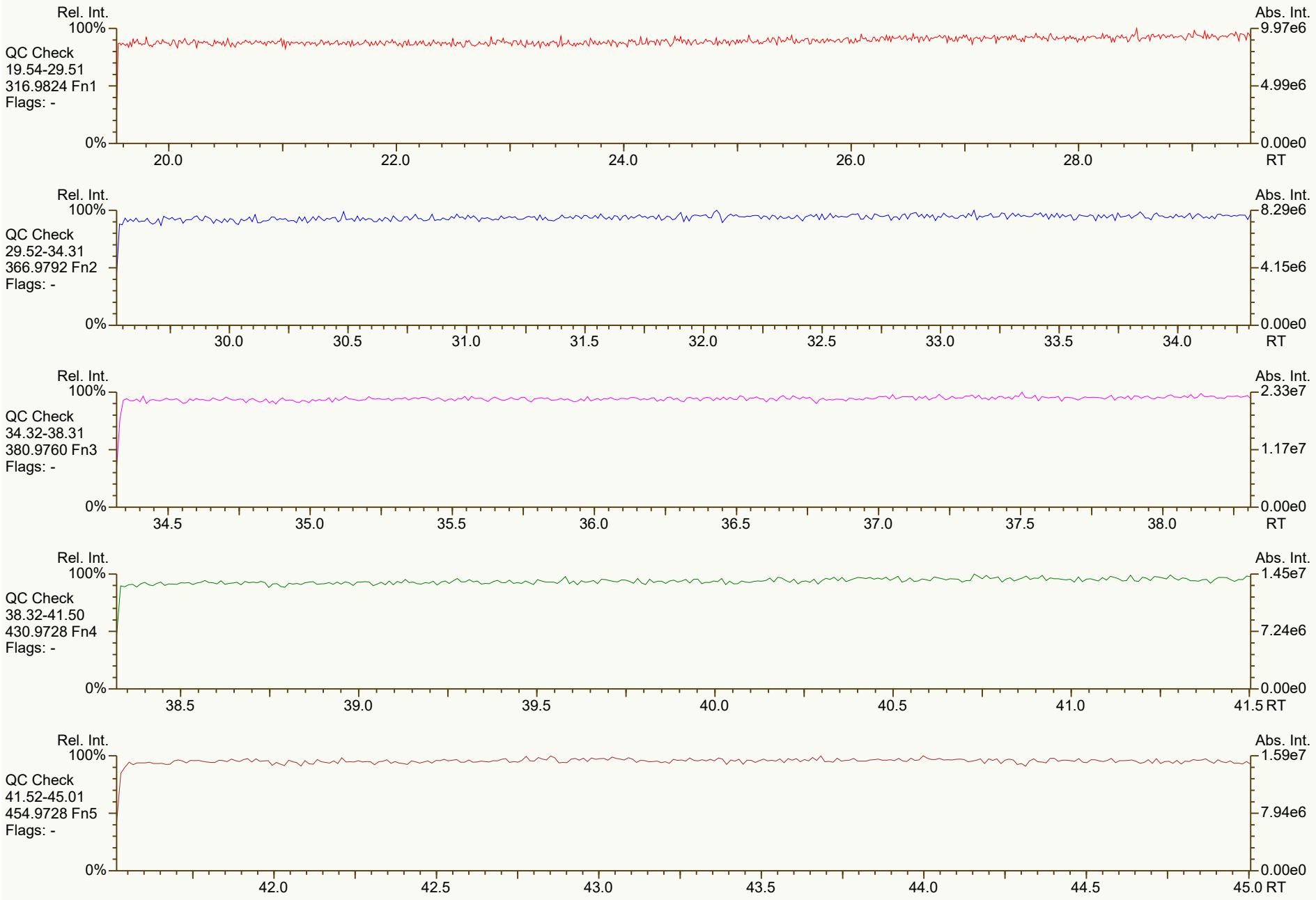

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
OCDF
5.83e5*
42.99
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
OCDF
6.45e5*
42.99
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
ES OCDF
2.01e7*
42.98
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
ES OCDF
2.26e7*
42.97
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

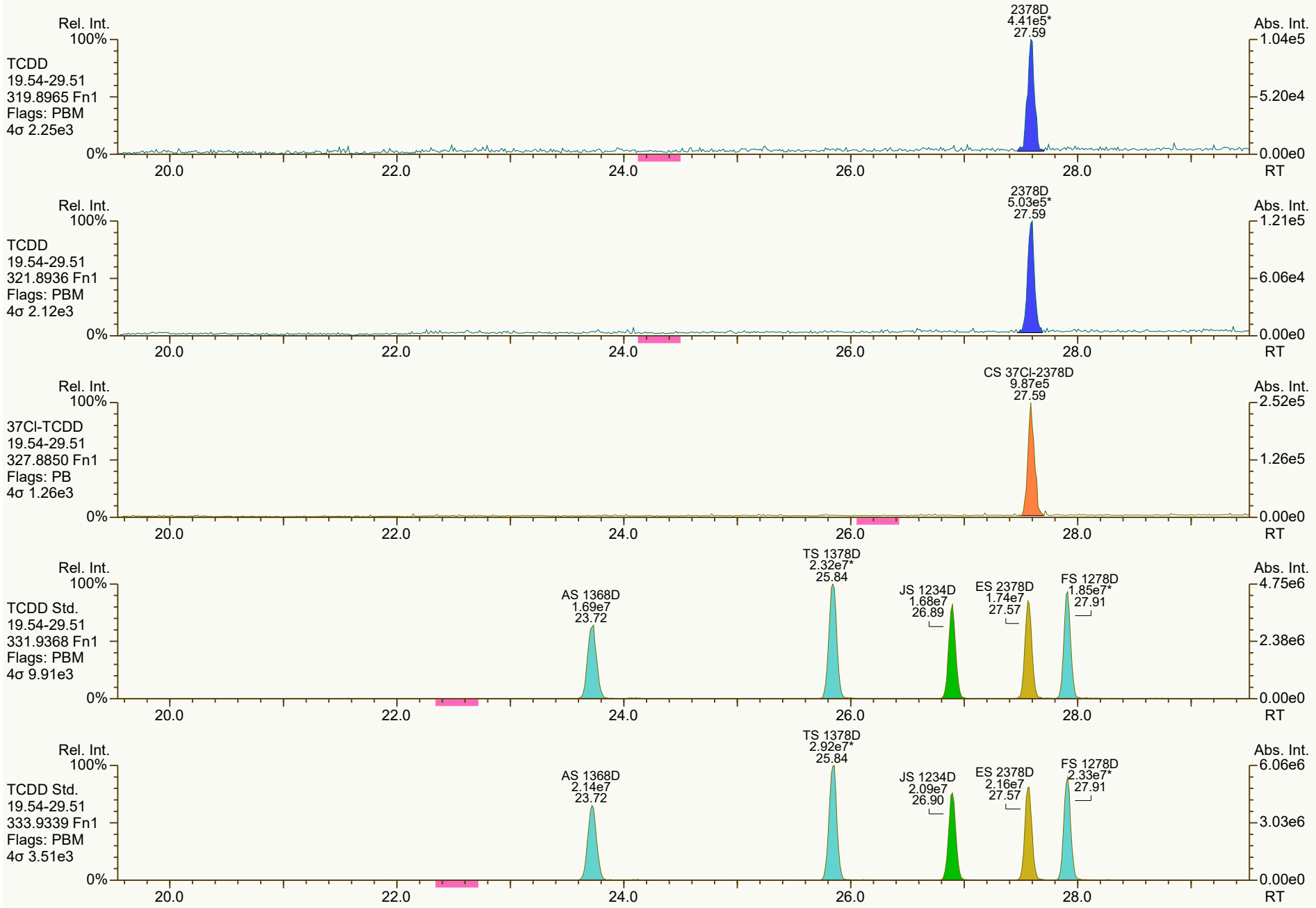
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

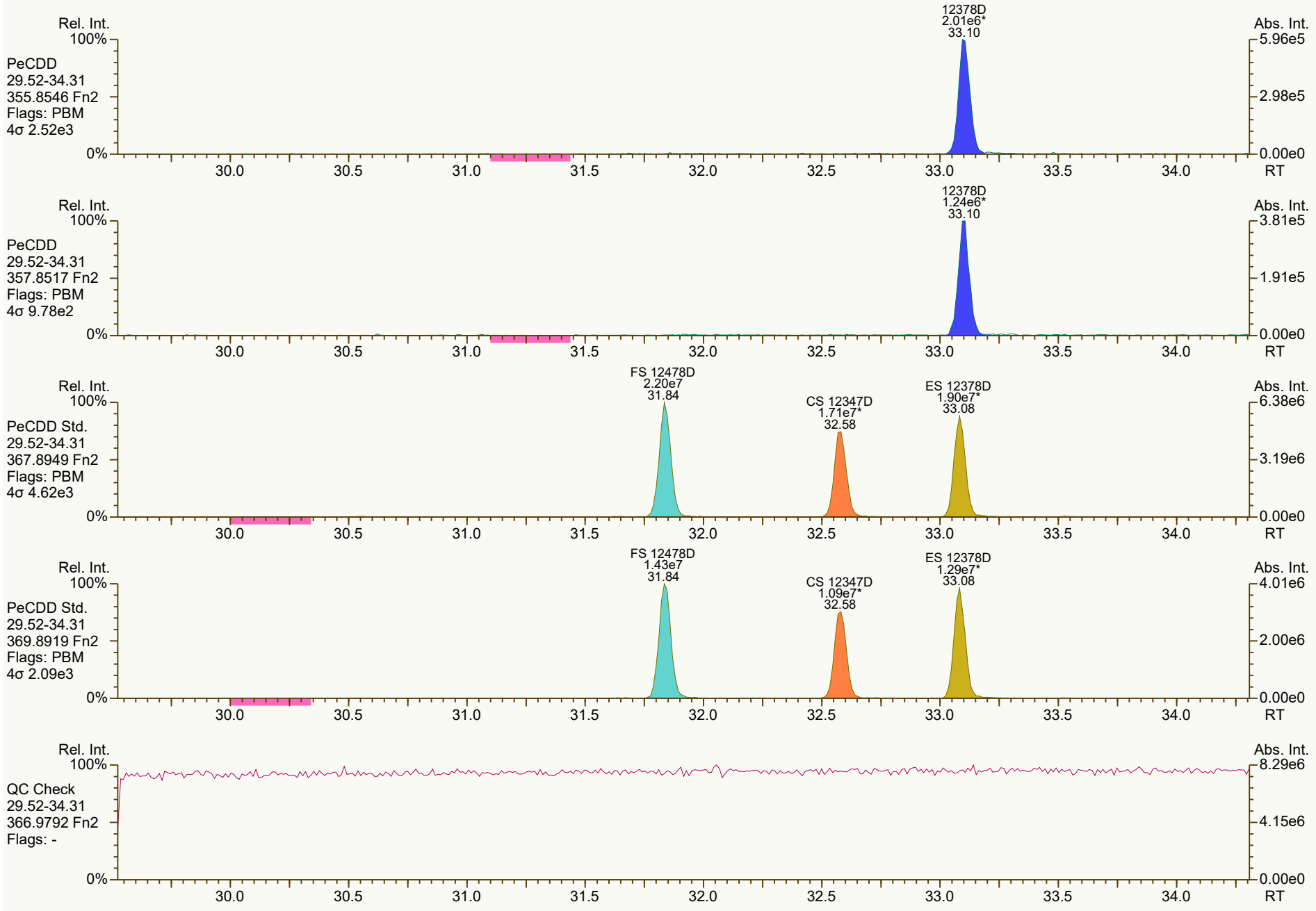
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

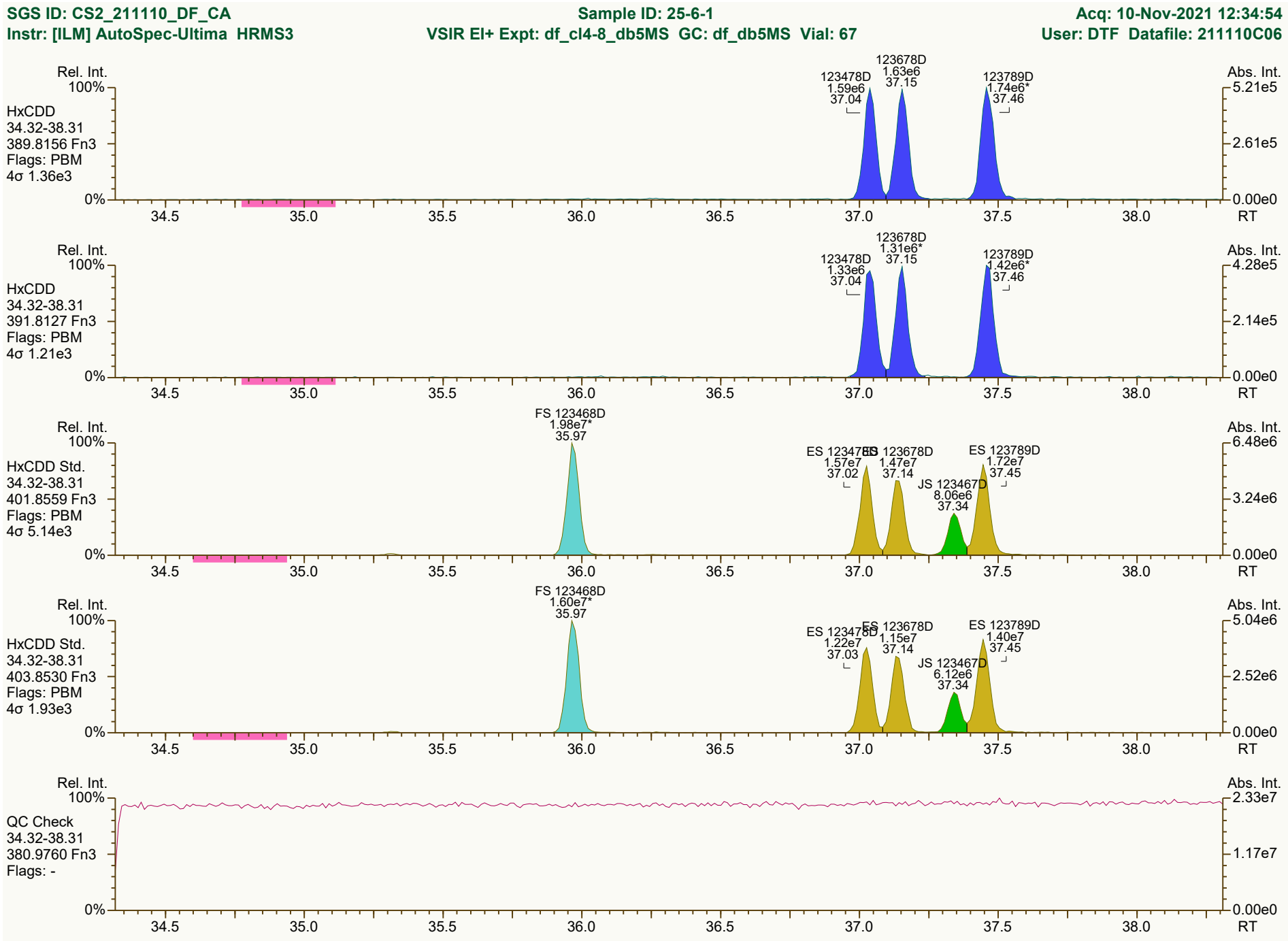
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

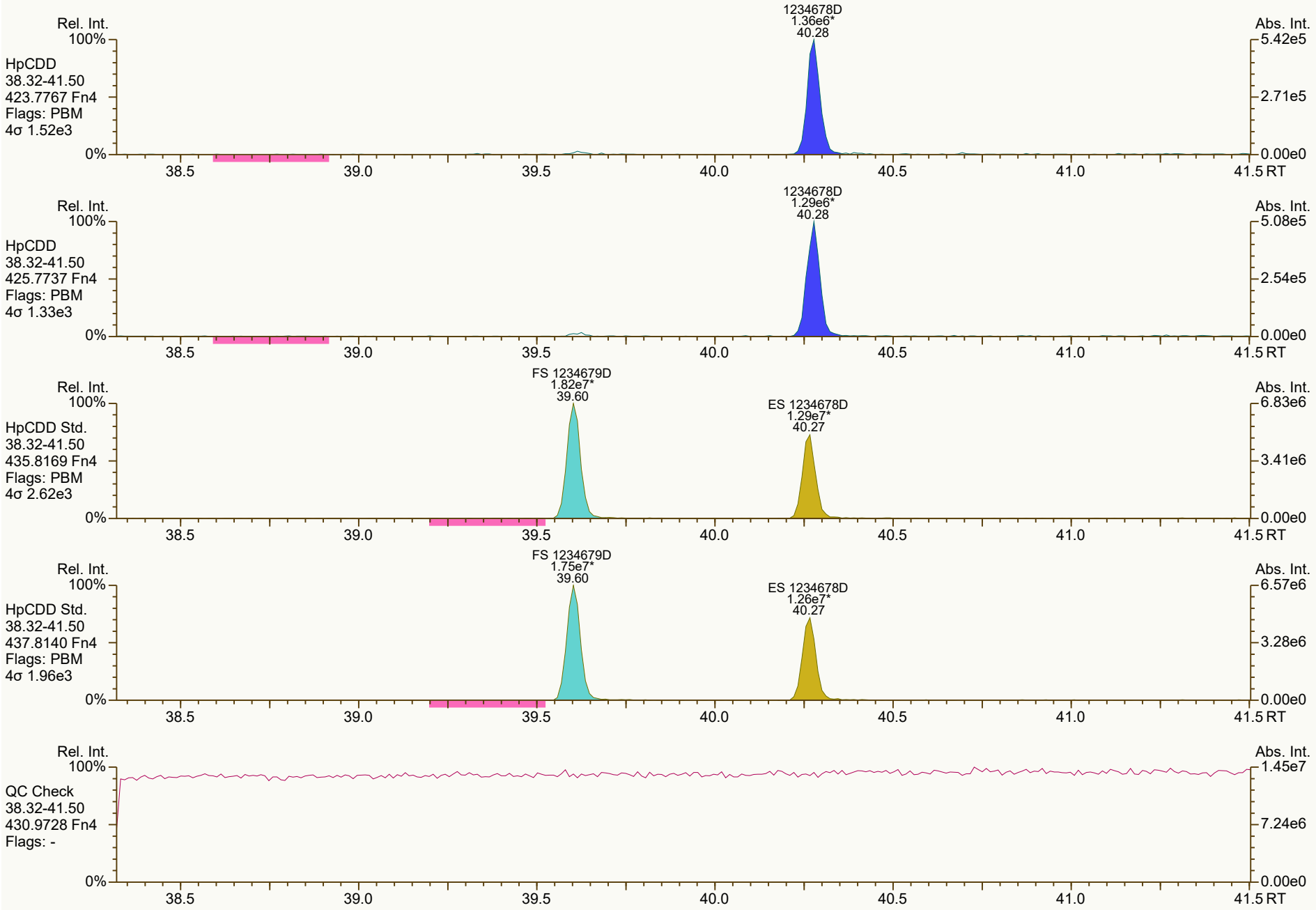

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

SGS ID: CS2_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3
Sample ID: 25-6-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
Acq: 10-Nov-2021 12:34:54
User: DTF Datafile: 211110C06



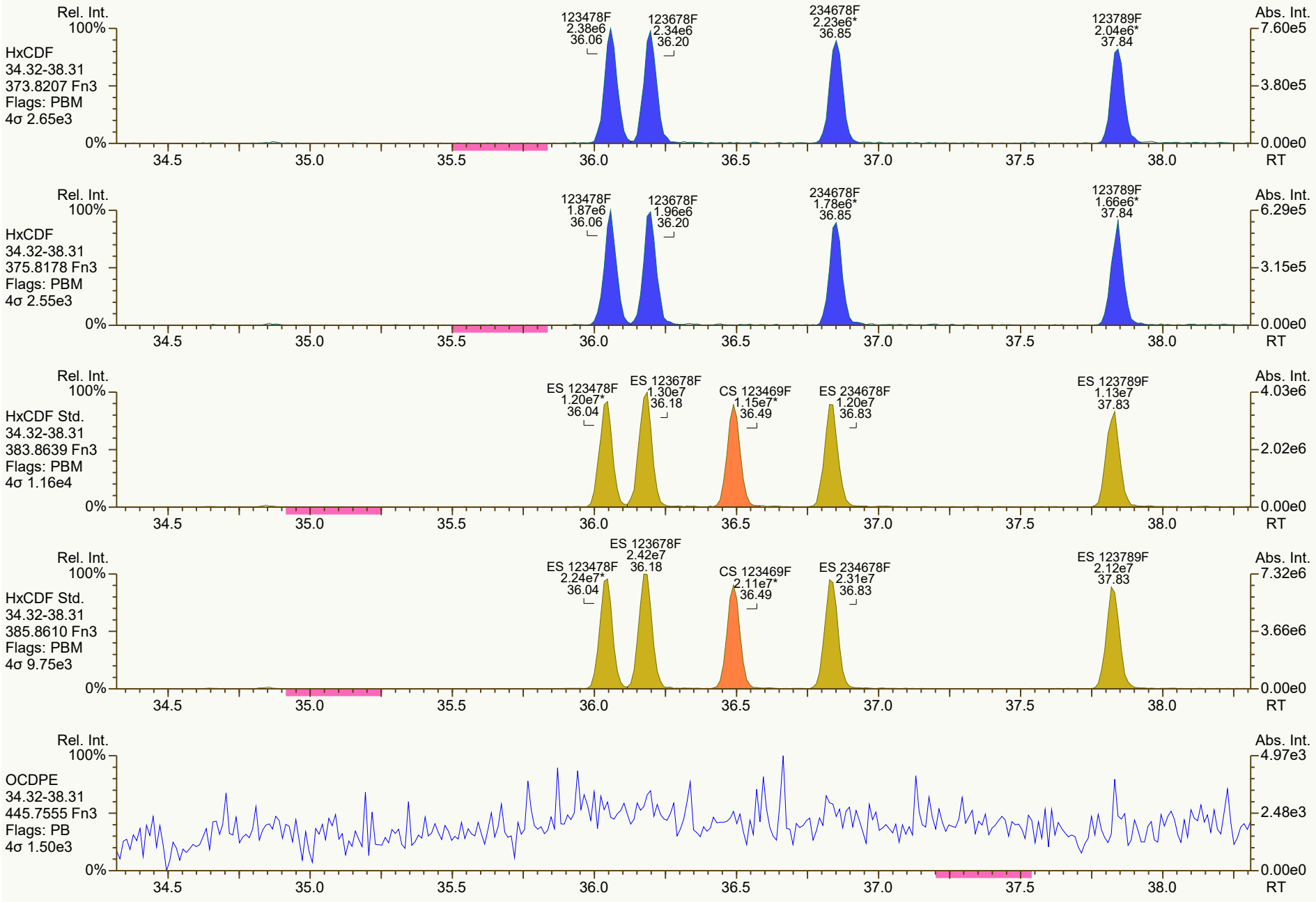

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

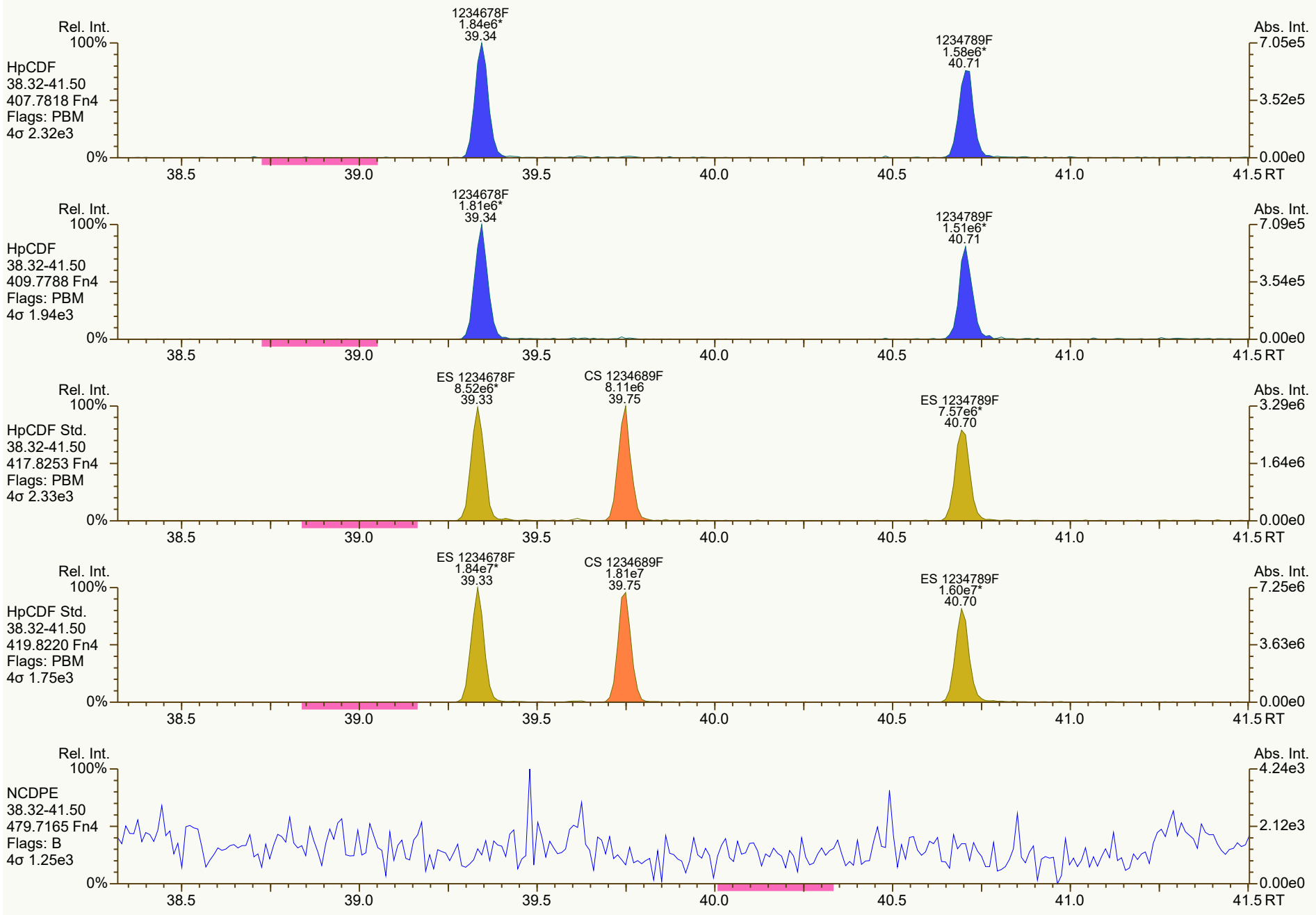

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

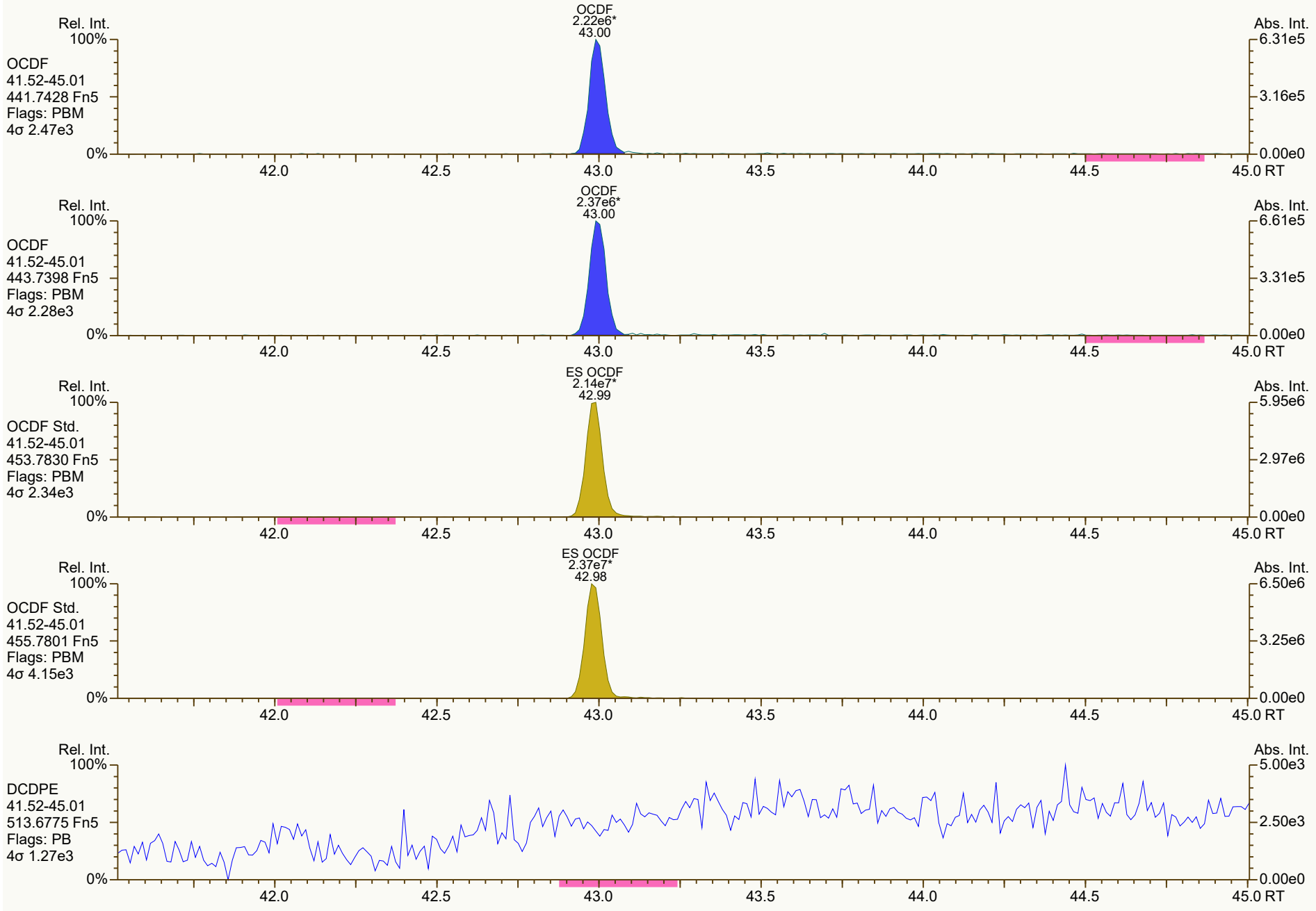

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
0%
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
0%
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
0%
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
0%
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
Abs. Int.
5.27e5
2.63e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
0%
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
Abs. Int.
8.01e6
4.01e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
0%
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
Abs. Int.
5.19e6
2.59e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
6.67e3
3.33e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
6.29e5
3.15e5
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
4.03e6
2.02e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
ES 123478F
2.24e7*
36.04
ES 123678F
2.42e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
7.32e6
3.66e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
4.97e3
2.48e3

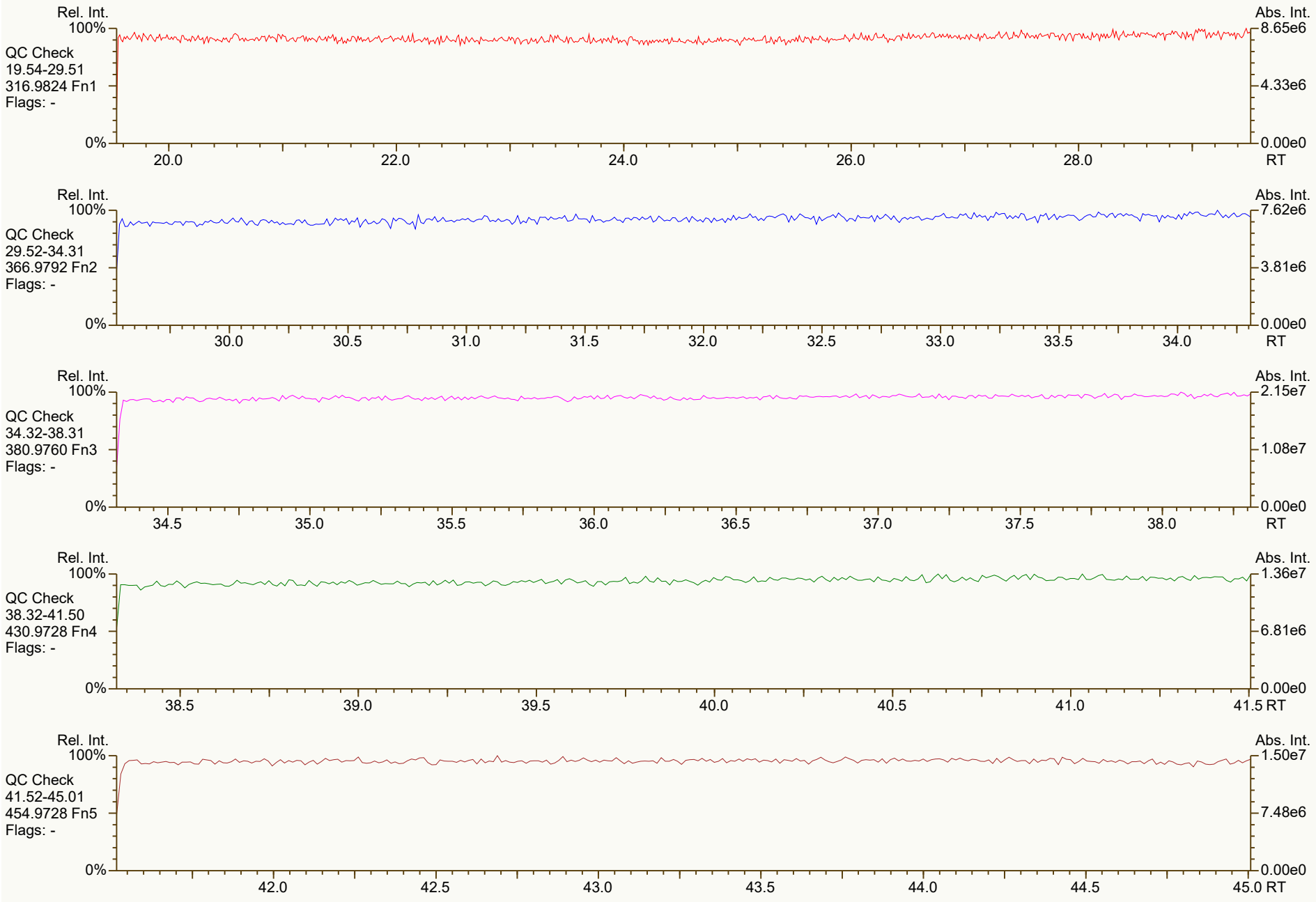

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
0%
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
0%
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
0%
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
0%
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
0%
Abs. Int.
4.24e3
2.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
2.22e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
0%
Abs. Int.
6.31e5
3.16e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.37e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
0%
Abs. Int.
6.61e5
3.31e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.14e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
5.95e6
2.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.37e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
0%
Abs. Int.
6.50e6
3.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

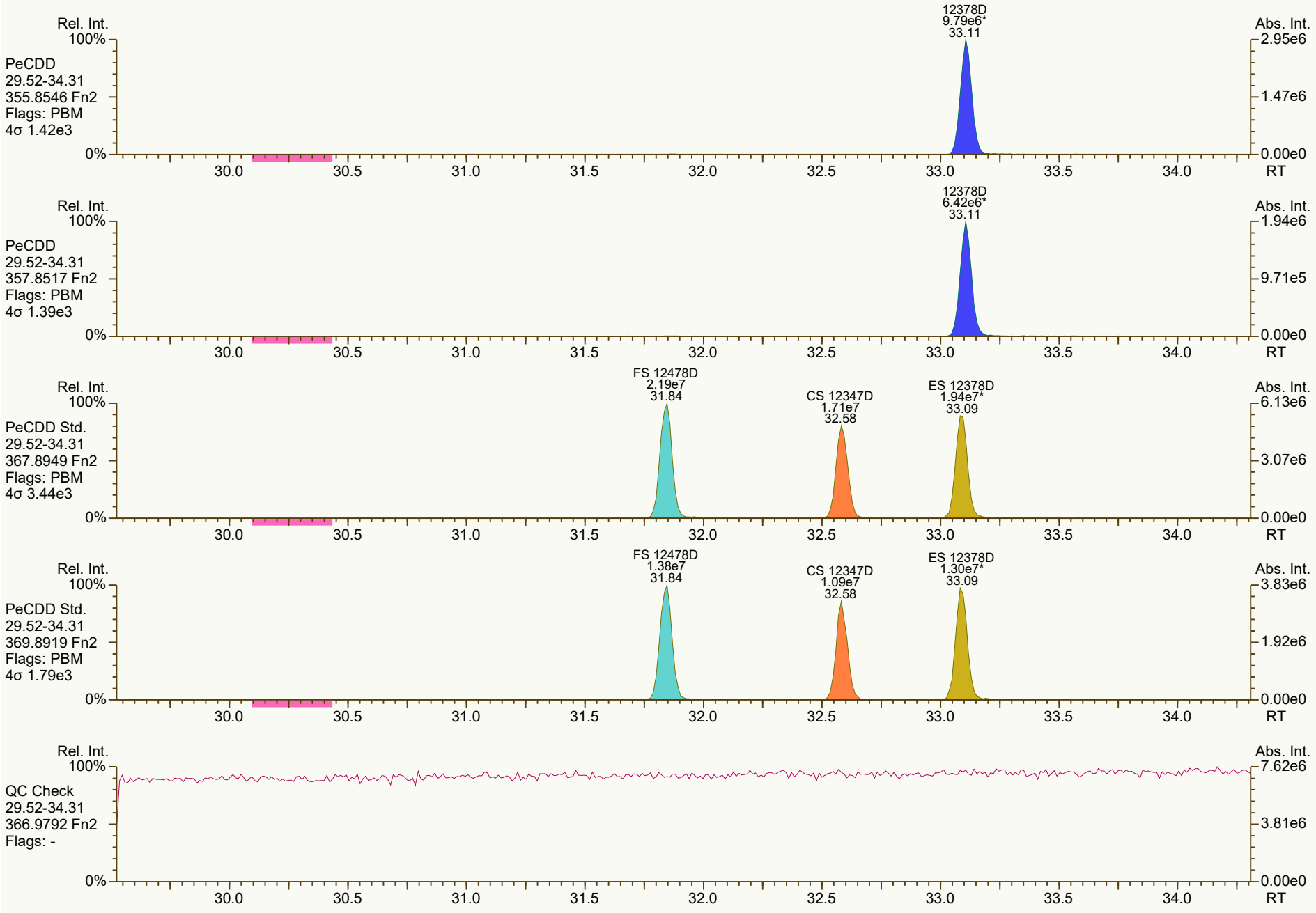
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

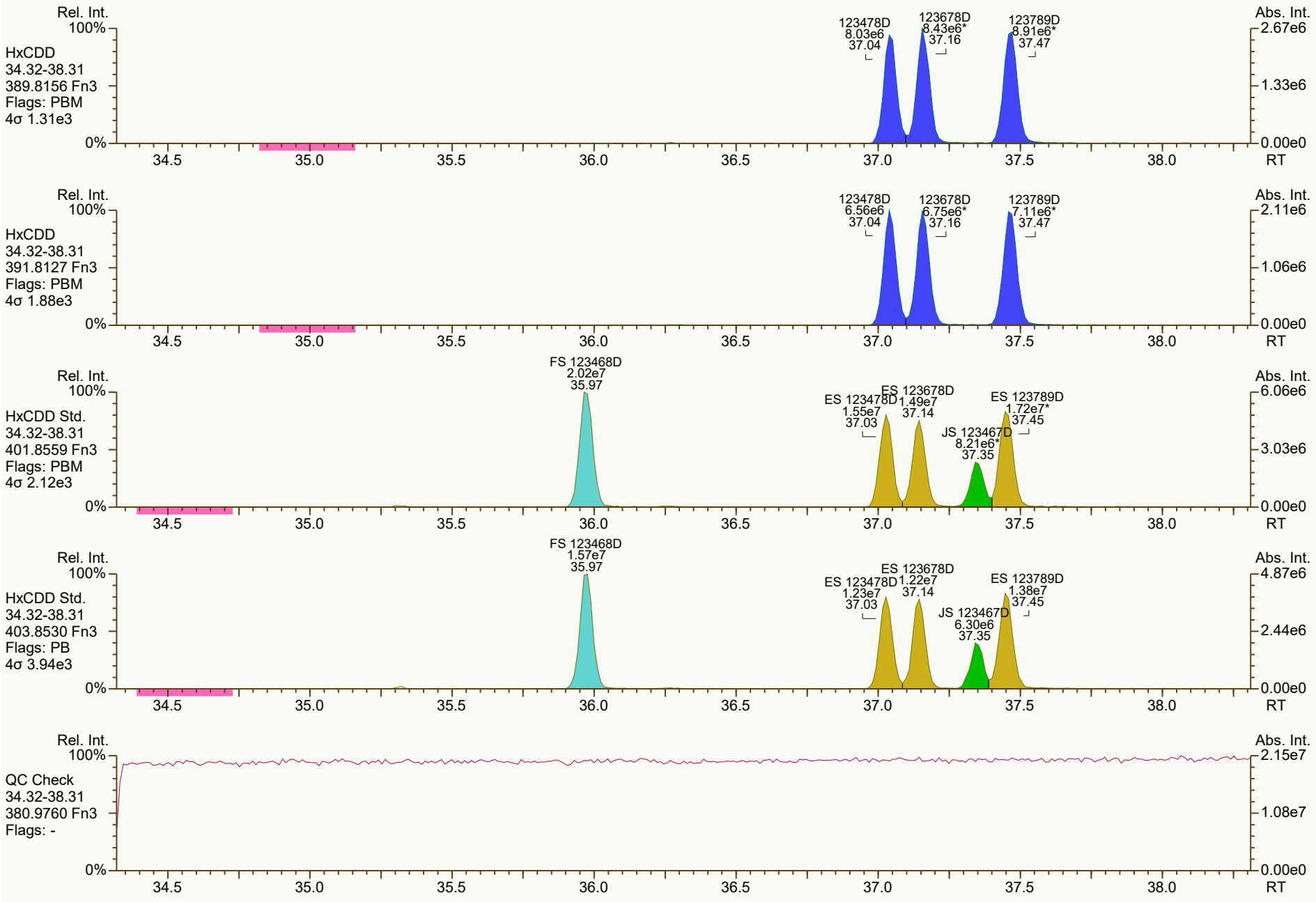
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

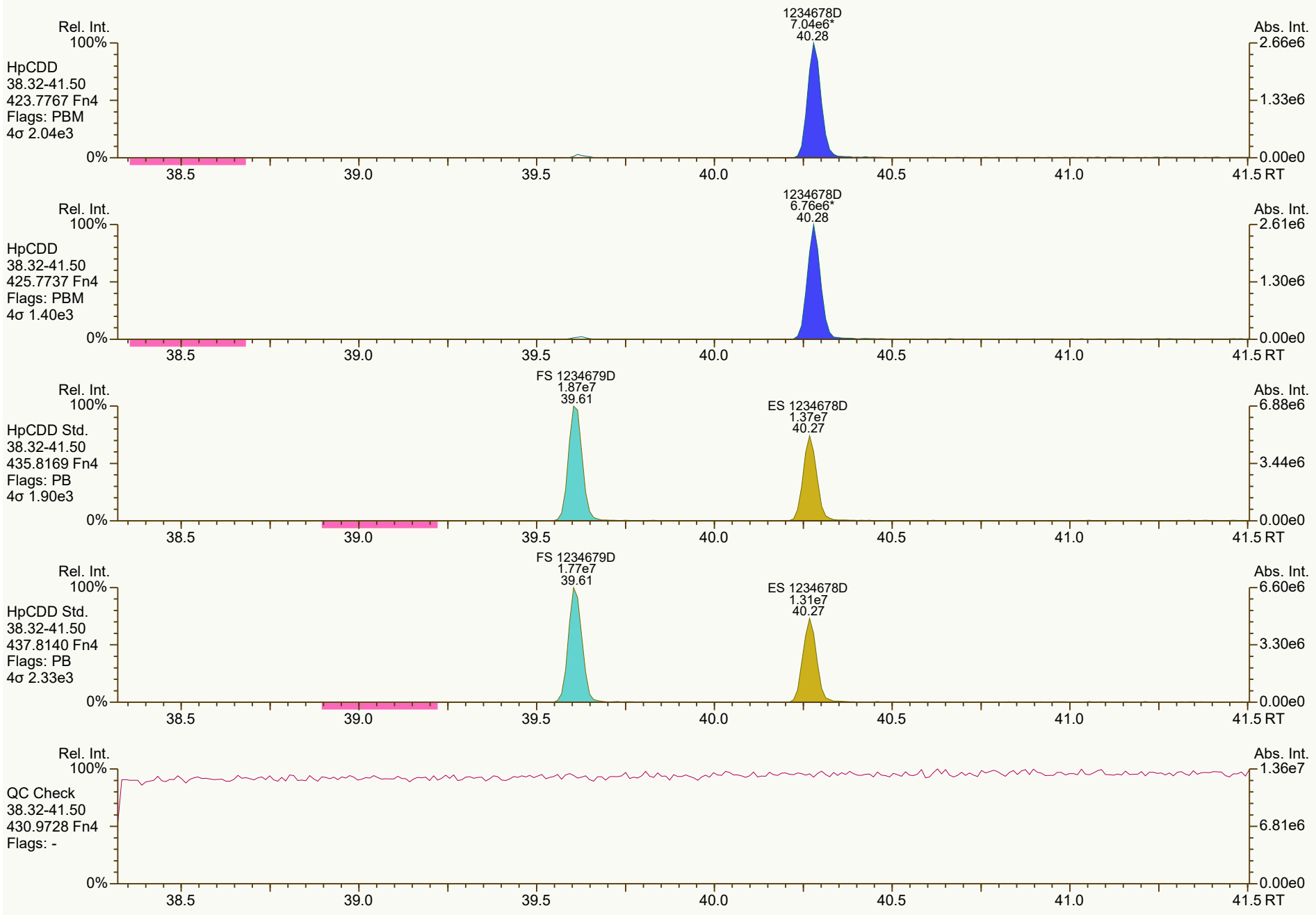
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%


Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
0%
2378D
1.99e6
27.60
Abs. Int.
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
0%
2378D
2.55e6
27.60
Abs. Int.
5.98e5
2.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
Abs. Int.
1.03e6
5.16e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
0%
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
Abs. Int.
4.80e6
2.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
0%
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.62e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
0%
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
0%
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
0%
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
0%
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.36e7
6.81e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

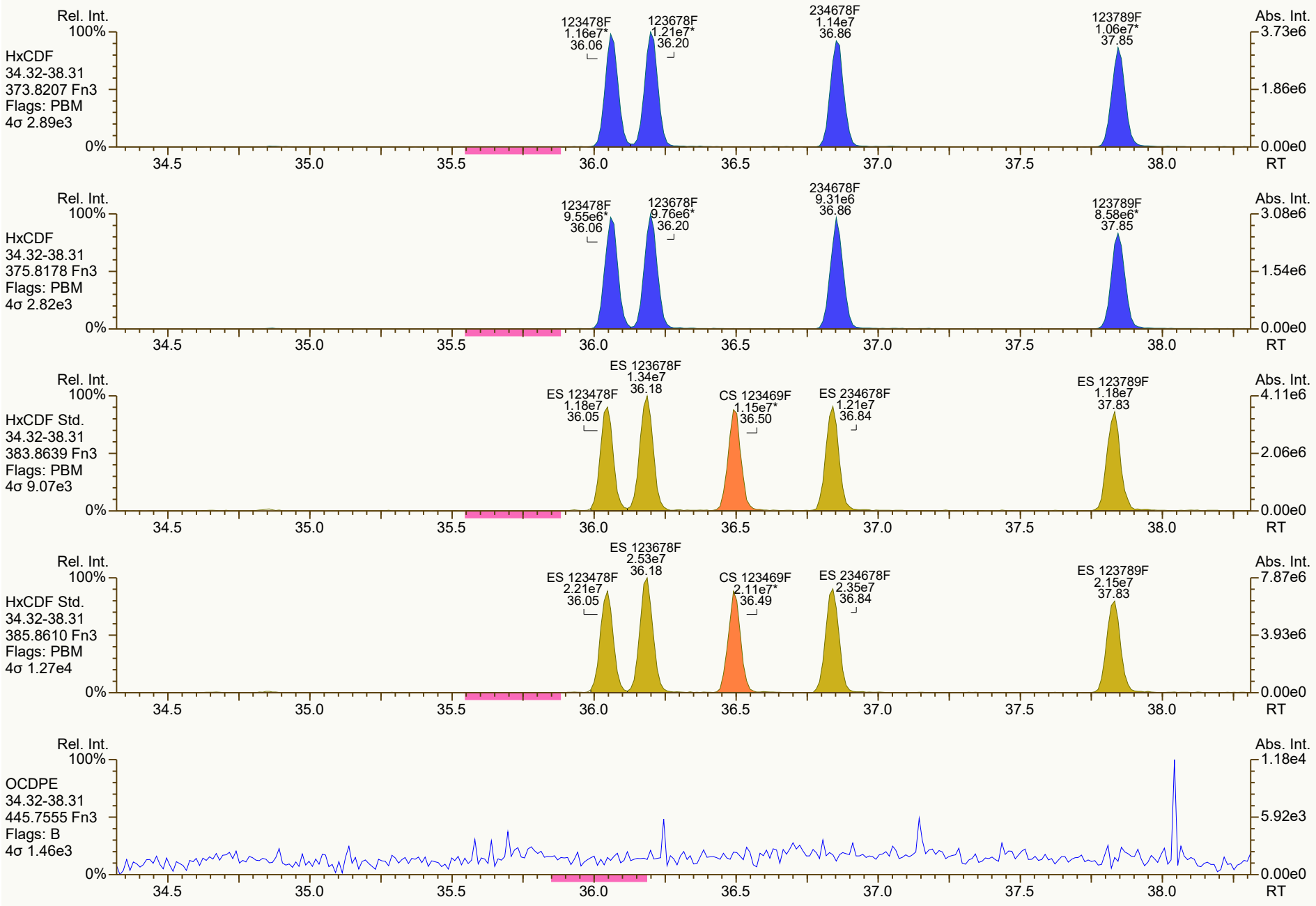

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
OCDD
9.25e6*
42.83
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
OCDD
1.02e7*
42.83
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
ES OCDD
1.70e7
42.82
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
ES OCDD
1.86e7
42.82
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
0%
2378F
2.58e6
26.68
Abs. Int.
5.81e5
2.91e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
0%
2378F
3.32e6
26.68
Abs. Int.
7.66e5
3.83e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
0%
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
Abs. Int.
5.45e6
2.73e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
0%
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
Abs. Int.
6.76e6
3.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
0%
Abs. Int.
6.84e3
3.42e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT

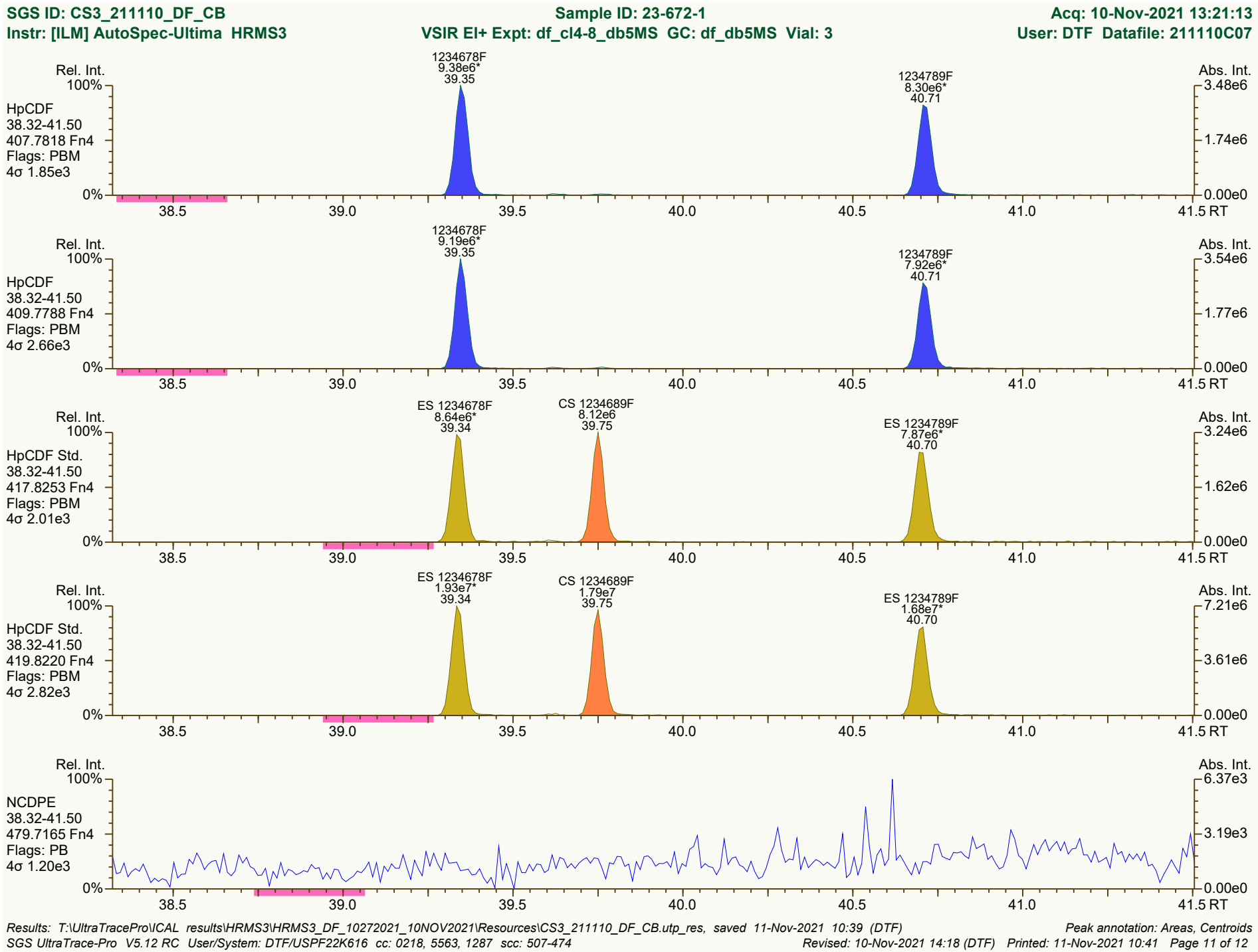

Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
Abs. Int.
3.85e6
1.93e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
Abs. Int.
2.59e6
1.29e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
Abs. Int.
7.61e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
Abs. Int.
5.00e6
2.50e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
Abs. Int.
1.17e4
5.86e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0985, 9027, 6556 scc: 507-474 *Revised: 10-Nov-2021 14:18 (DTF)* *Printed: 11-Nov-2021 10:41* *Page 10 of 12*

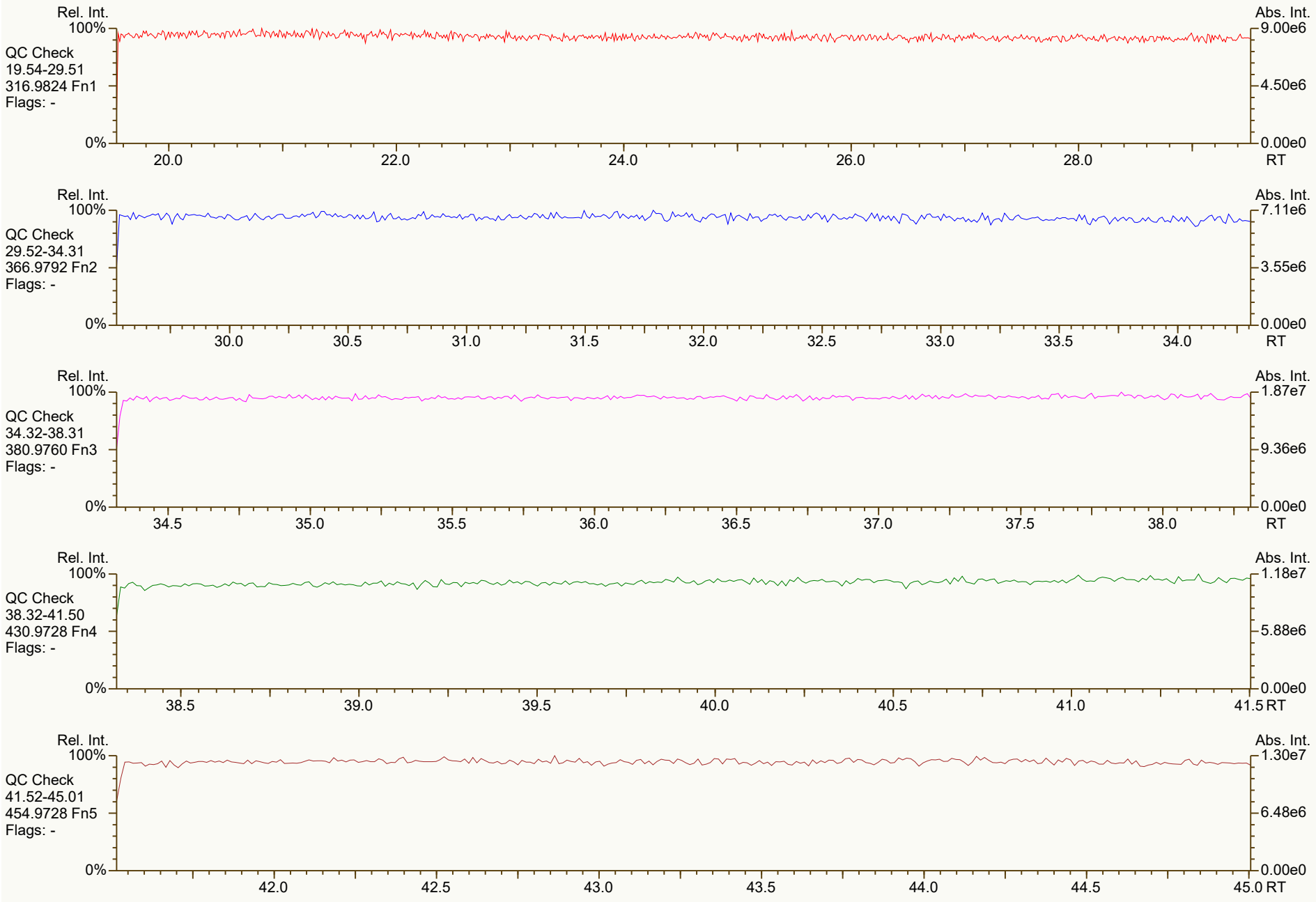

SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
3.48e6
1.74e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
3.54e6
1.77e6
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
3.24e6
1.62e6
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
7.21e6
3.61e6
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
6.37e3
3.19e3
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

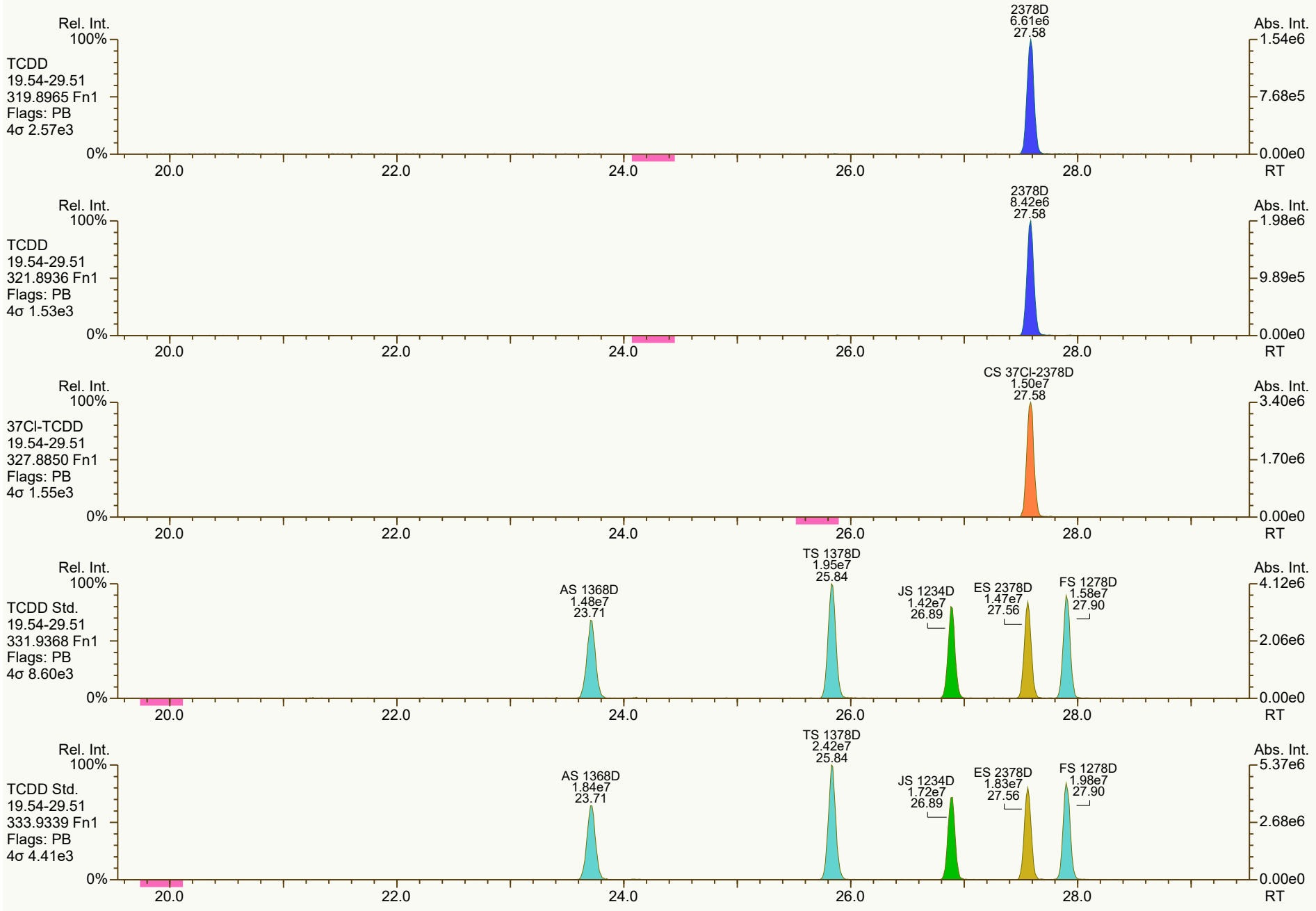

OCDF
1.15e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
3.25e6
1.62e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
0%
Abs. Int.
3.53e6
1.76e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.21e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
0%
Abs. Int.
6.08e6
3.04e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.39e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
0%
Abs. Int.
6.65e6
3.32e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
0%
Abs. Int.
4.82e3
2.41e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

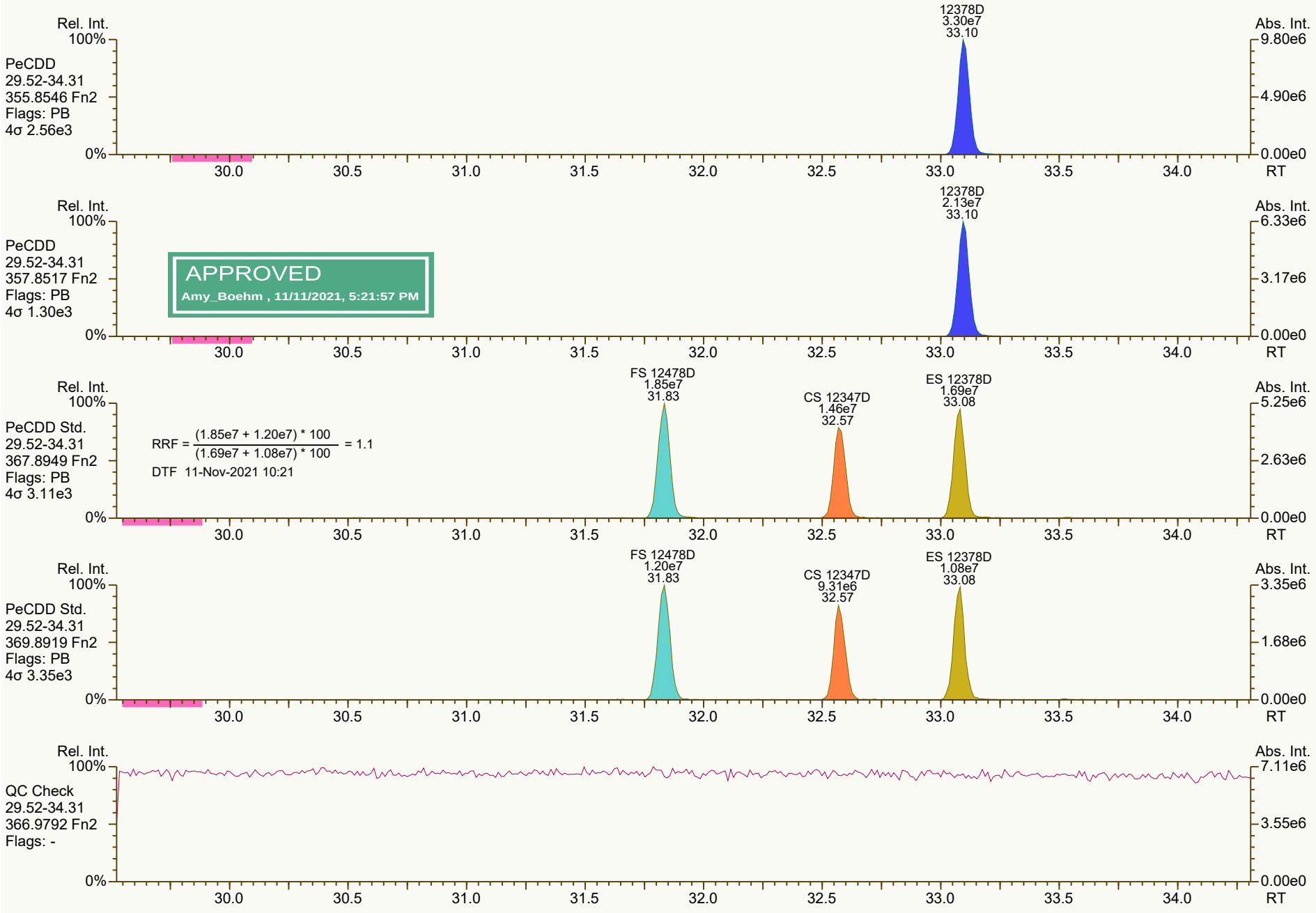
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:07 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS4_211110_DF_CA		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 855-576-PGM	
Sample ID: 25-5-4		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C08	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

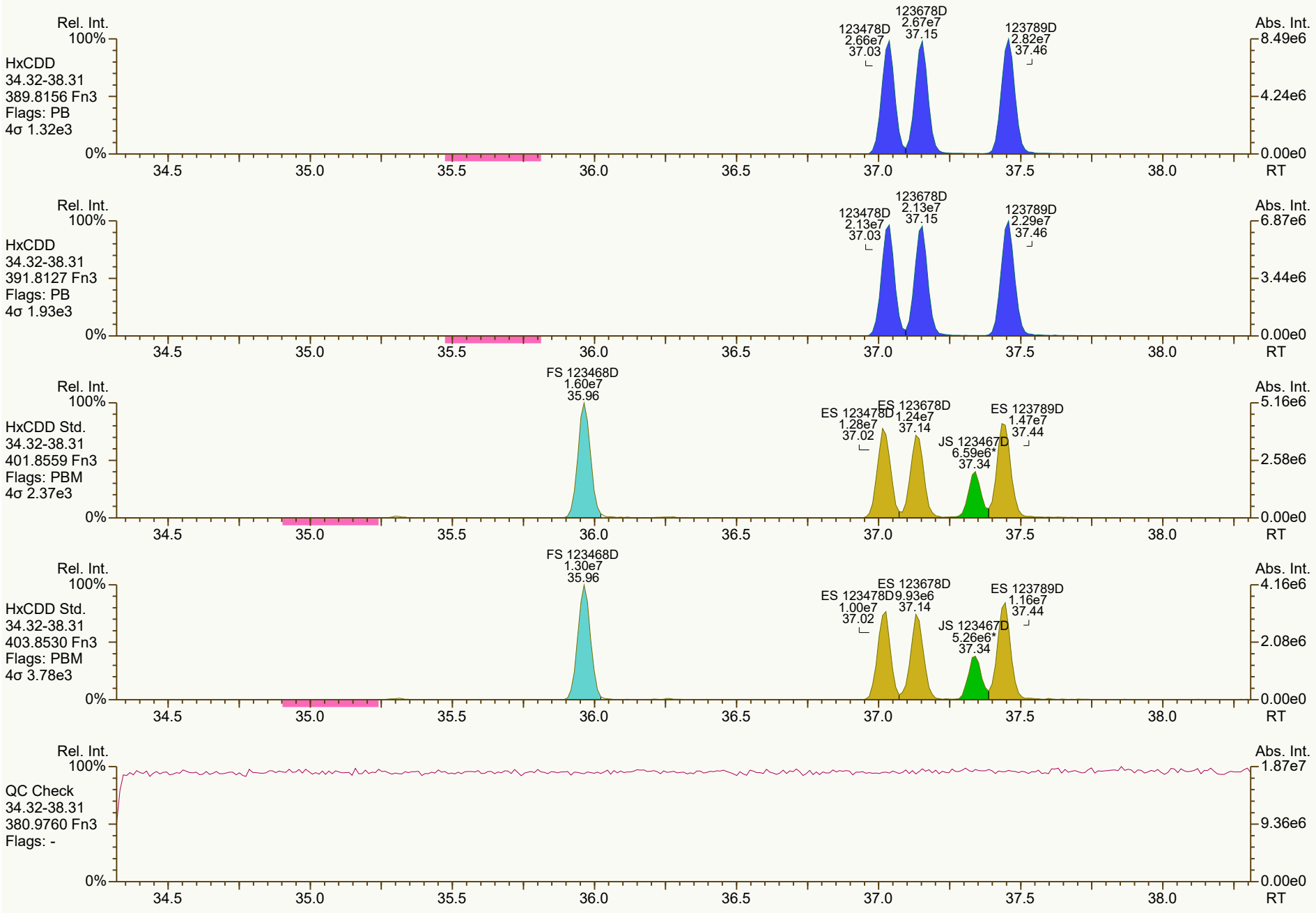
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

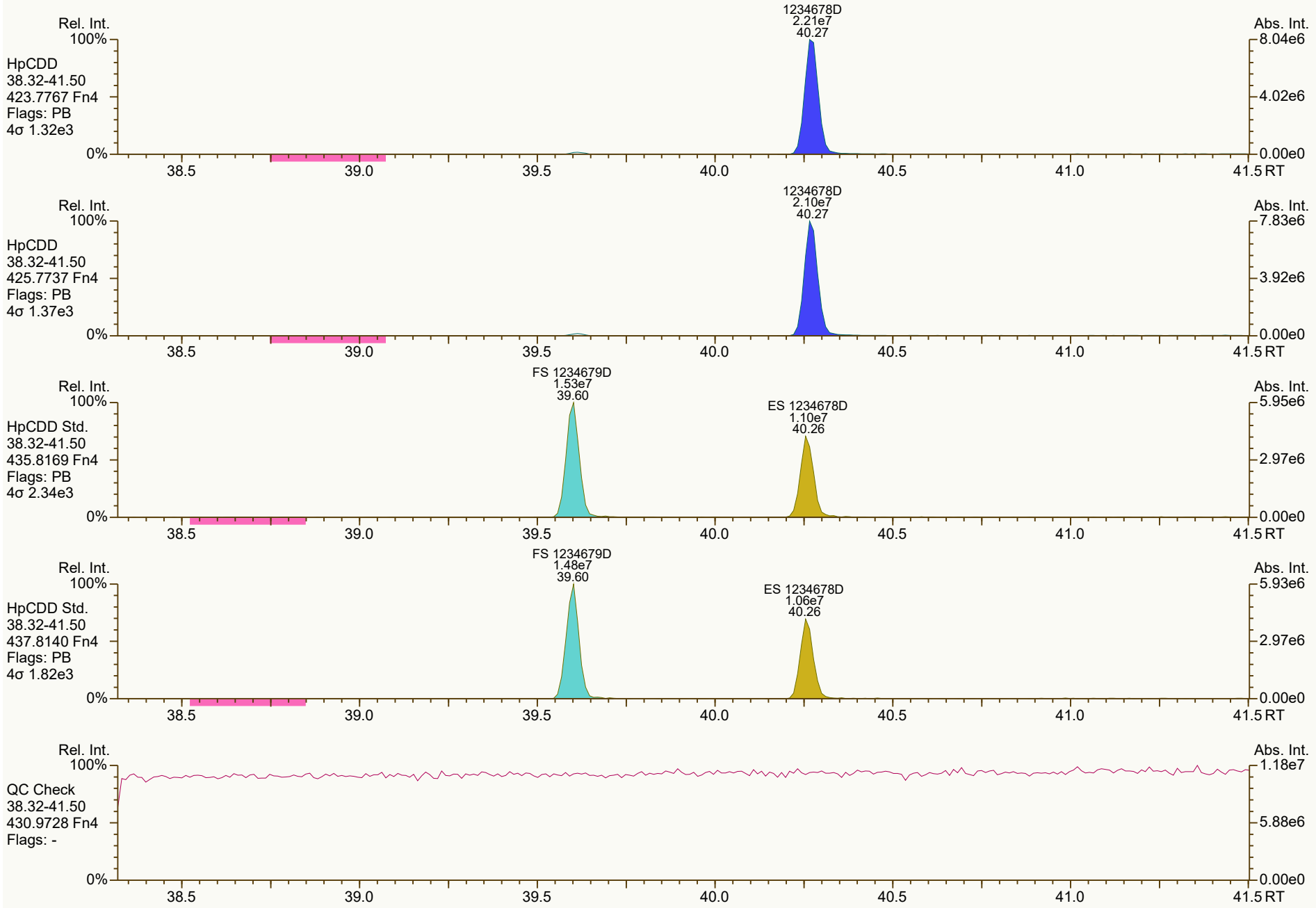
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

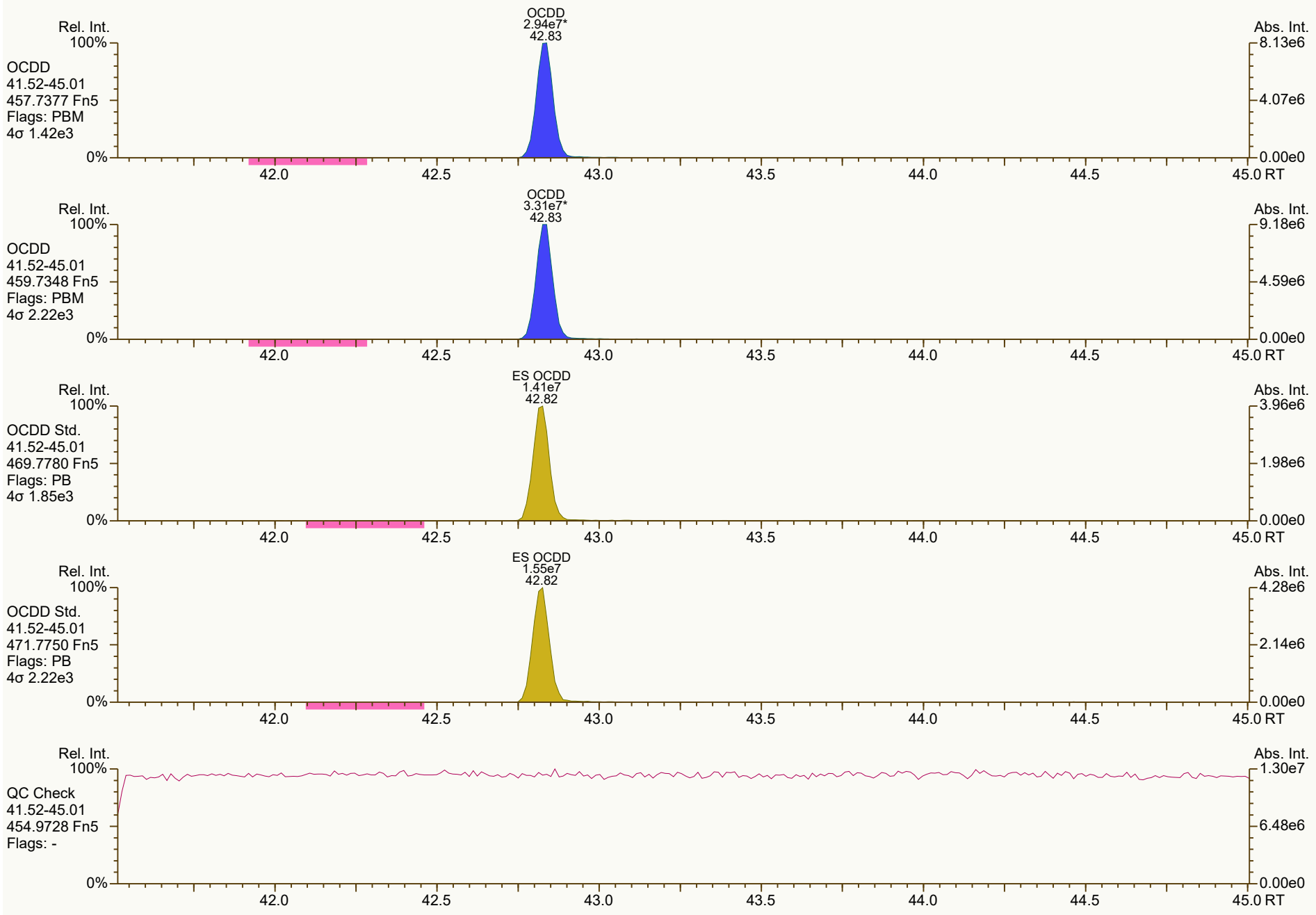

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
9.00e6
4.50e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
7.11e6
3.55e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
1.87e7
9.36e6
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.18e7
5.88e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.30e7
6.48e6
0.00e0
RT


Rel. Int.
100%
0%
Abs. Int.
RT
20.0
22.0
24.0
26.0
28.0
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
2378D
6.61e6
27.58
1.54e6
7.68e5
0.00e0
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
2378D
8.42e6
27.58
1.98e6
9.89e5
0.00e0
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
CS 37Cl-2378D
1.50e7
27.58
3.40e6
1.70e6
0.00e0
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
4.12e6
2.06e6
0.00e0
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
5.37e6
2.68e6
0.00e0


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
0%
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
0%
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

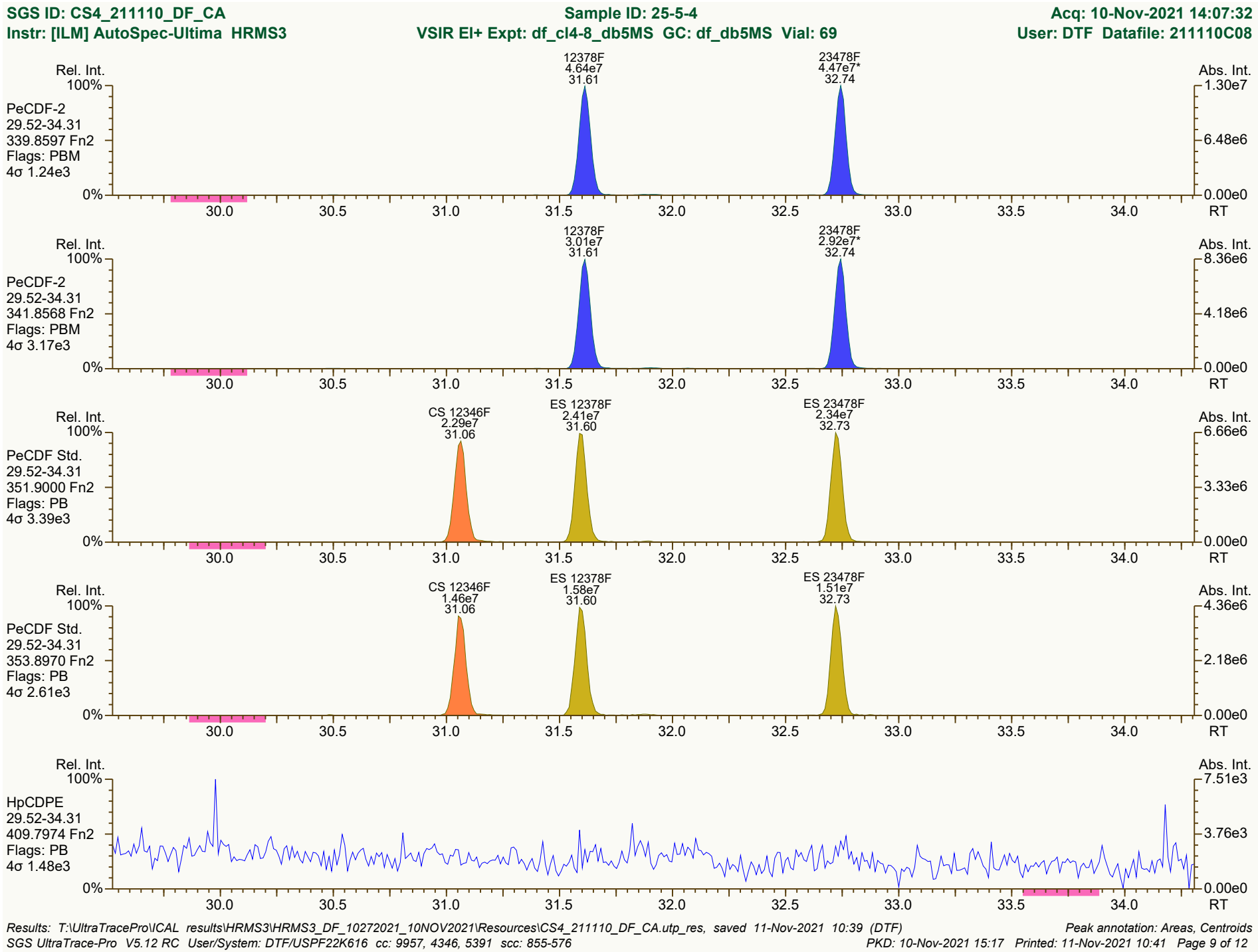

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

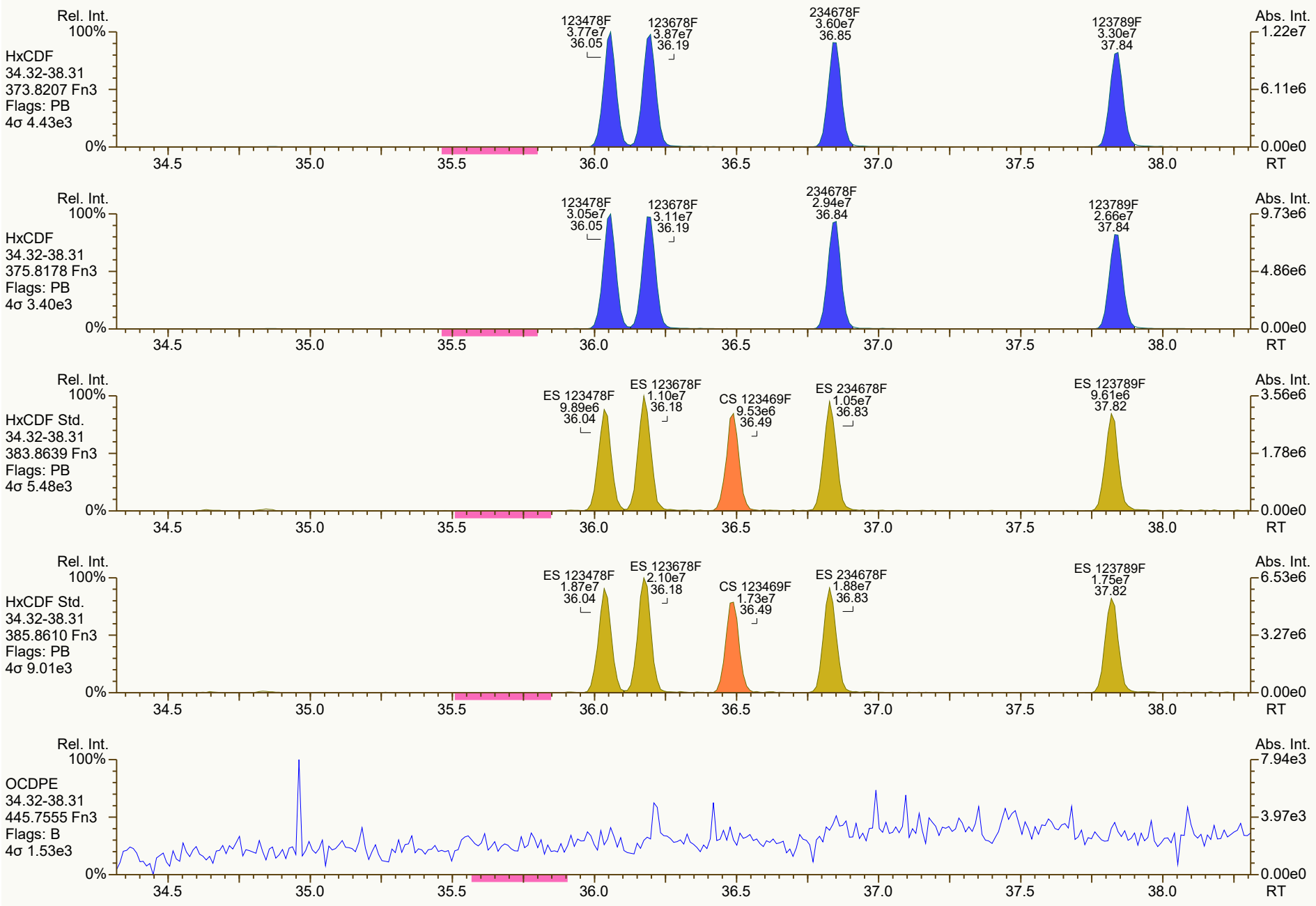

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

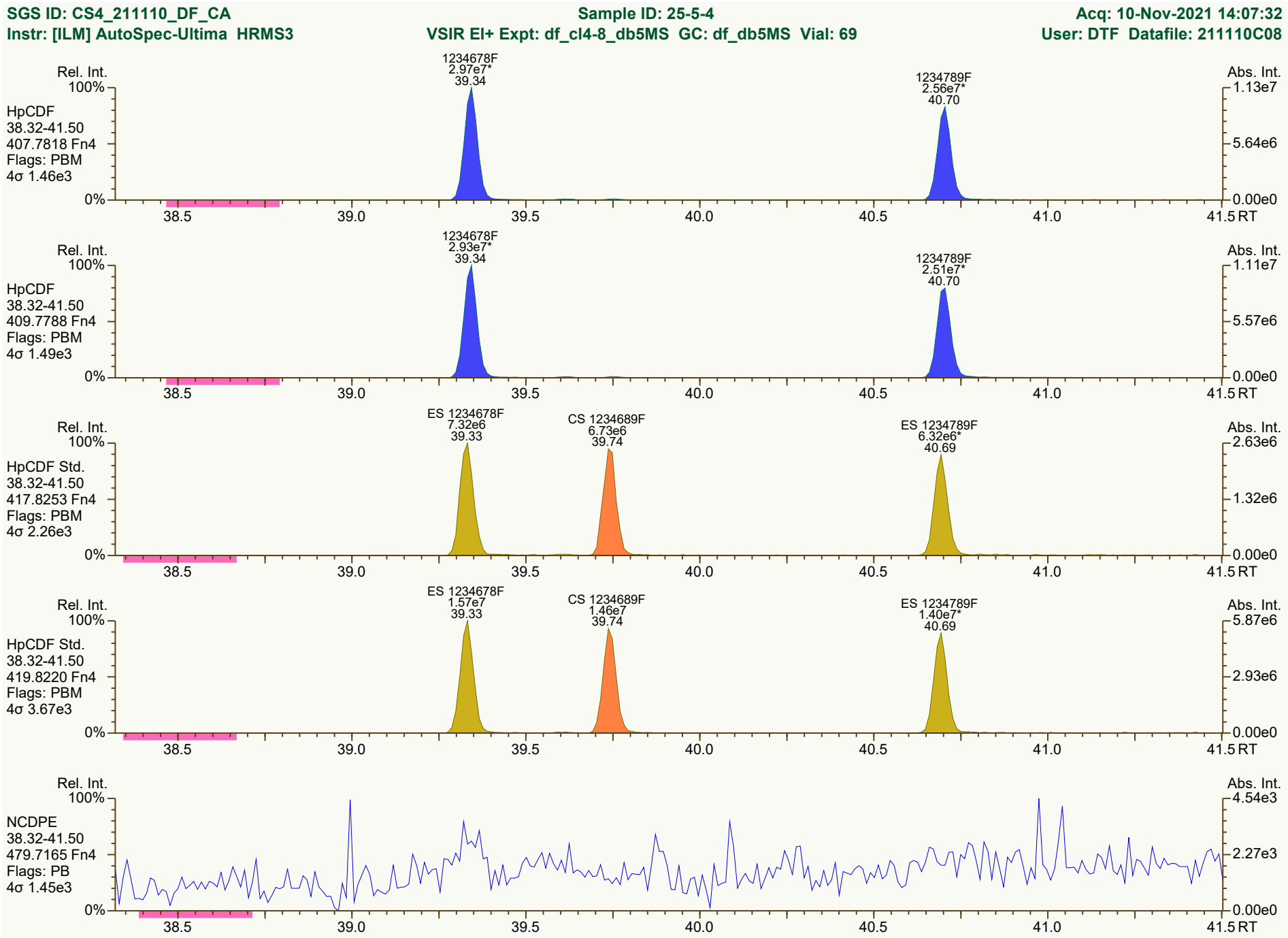

OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

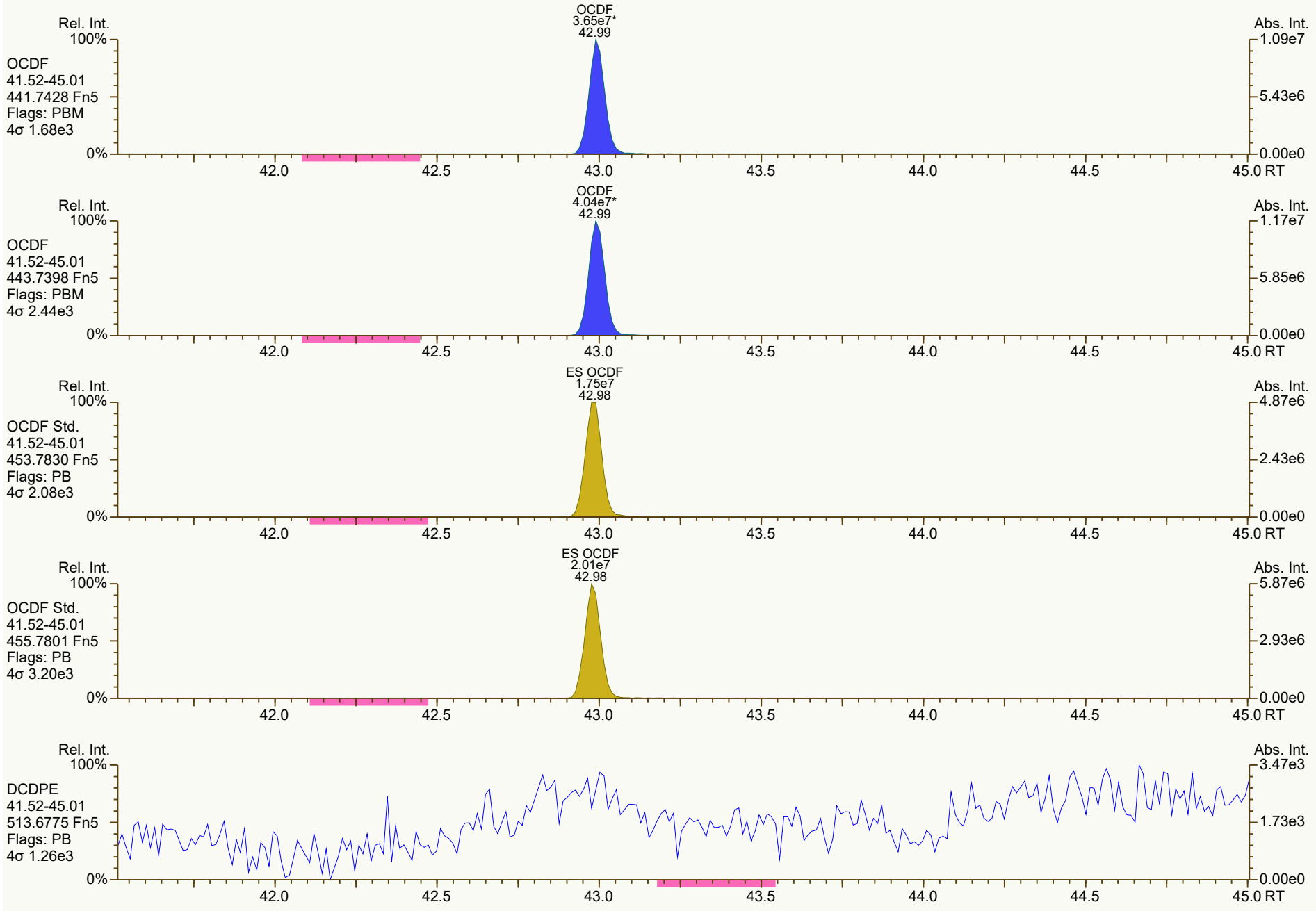

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.94e3
4.47e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.00e6
4.50e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


SGS ID: CS4_211110_DF_CA
Sample ID: 25-5-4
Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 211110C08
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9957, 4346, 5391 scc: 855-576
PKD: 10-Nov-2021 15:17 Printed: 11-Nov-2021 10:41 Page 9 of 12


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3

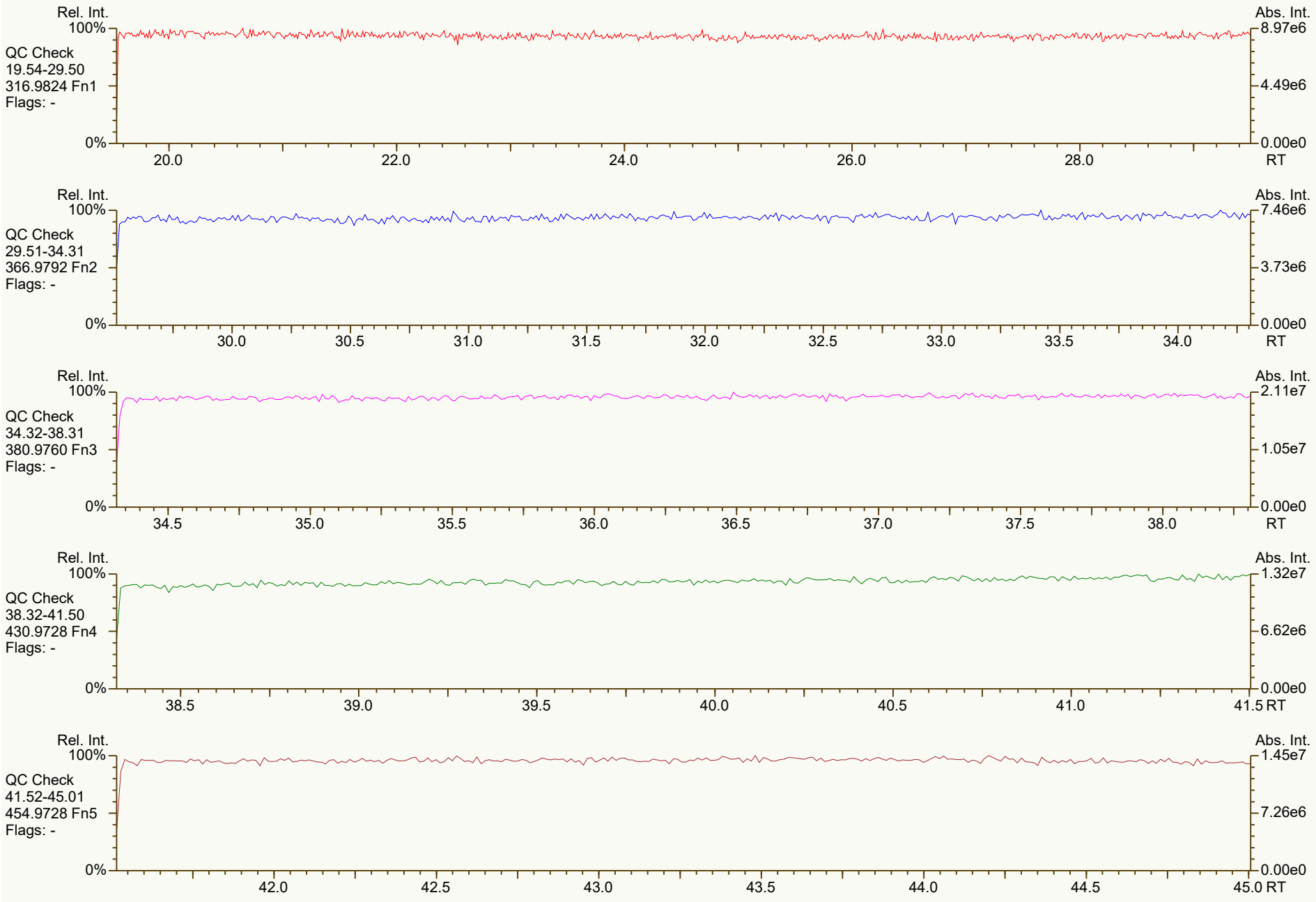

SGS ID: CS4_211110_DF_CA
Sample ID: 25-5-4
Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 211110C08
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
1.13e7
5.64e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
1.11e7
5.57e6
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
2.63e6
1.32e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
5.87e6
2.93e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
4.54e3
2.27e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 2764, 9565, 4492 scc: 855-576
Revised: 10-Nov-2021 15:17 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

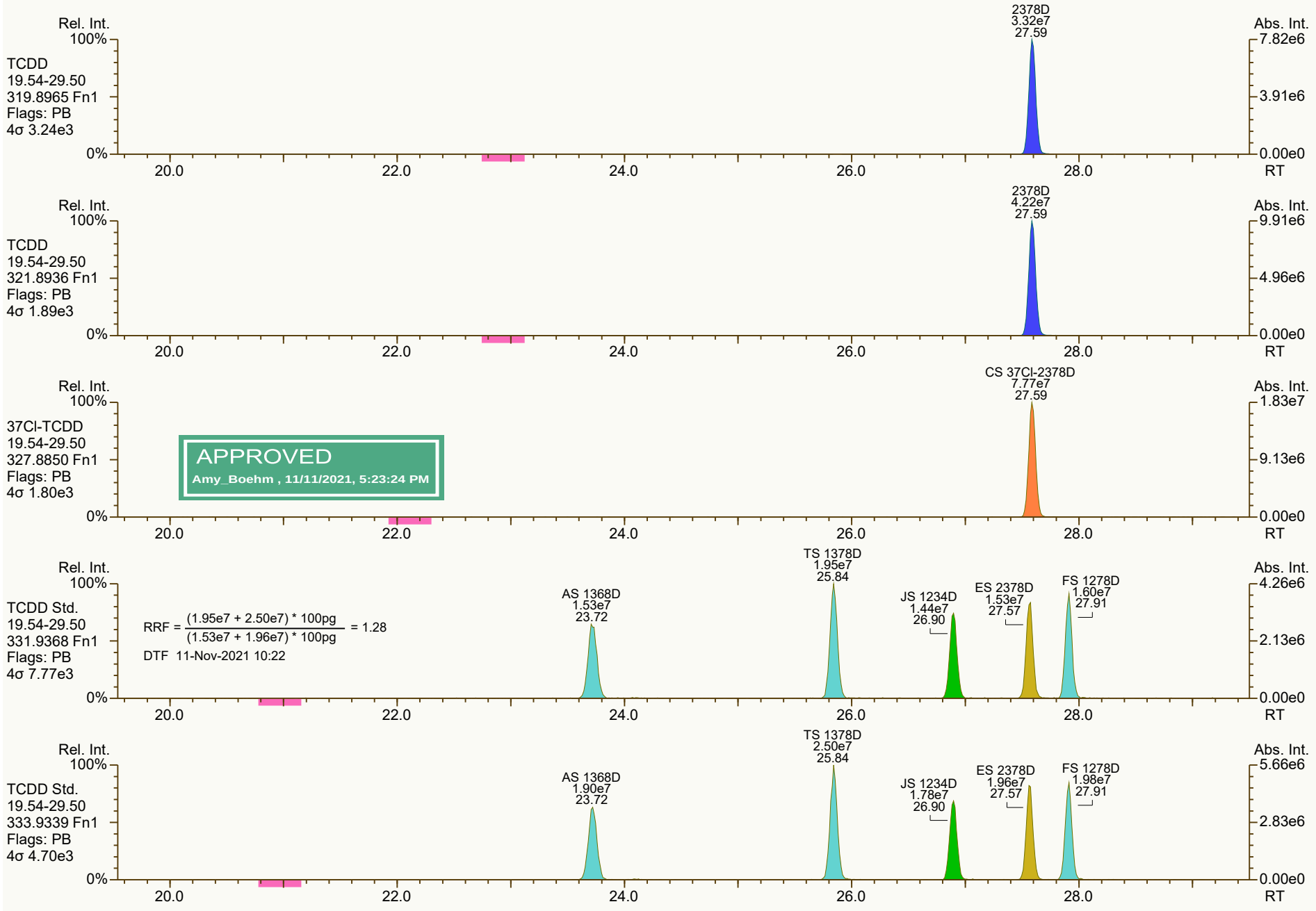

OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

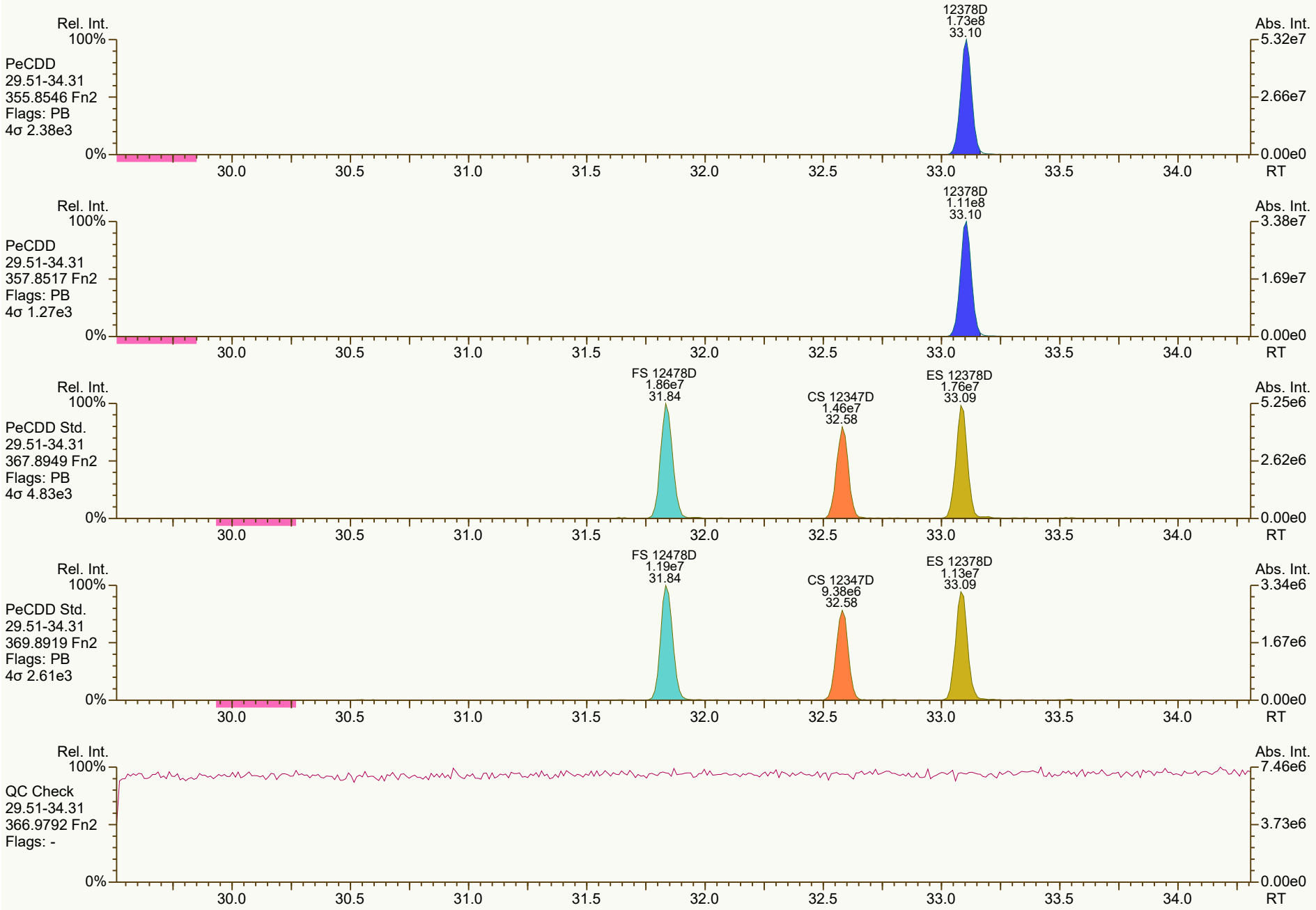
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:53 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS5_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 573-489-BMZ	
Sample ID: 25-5-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C09	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

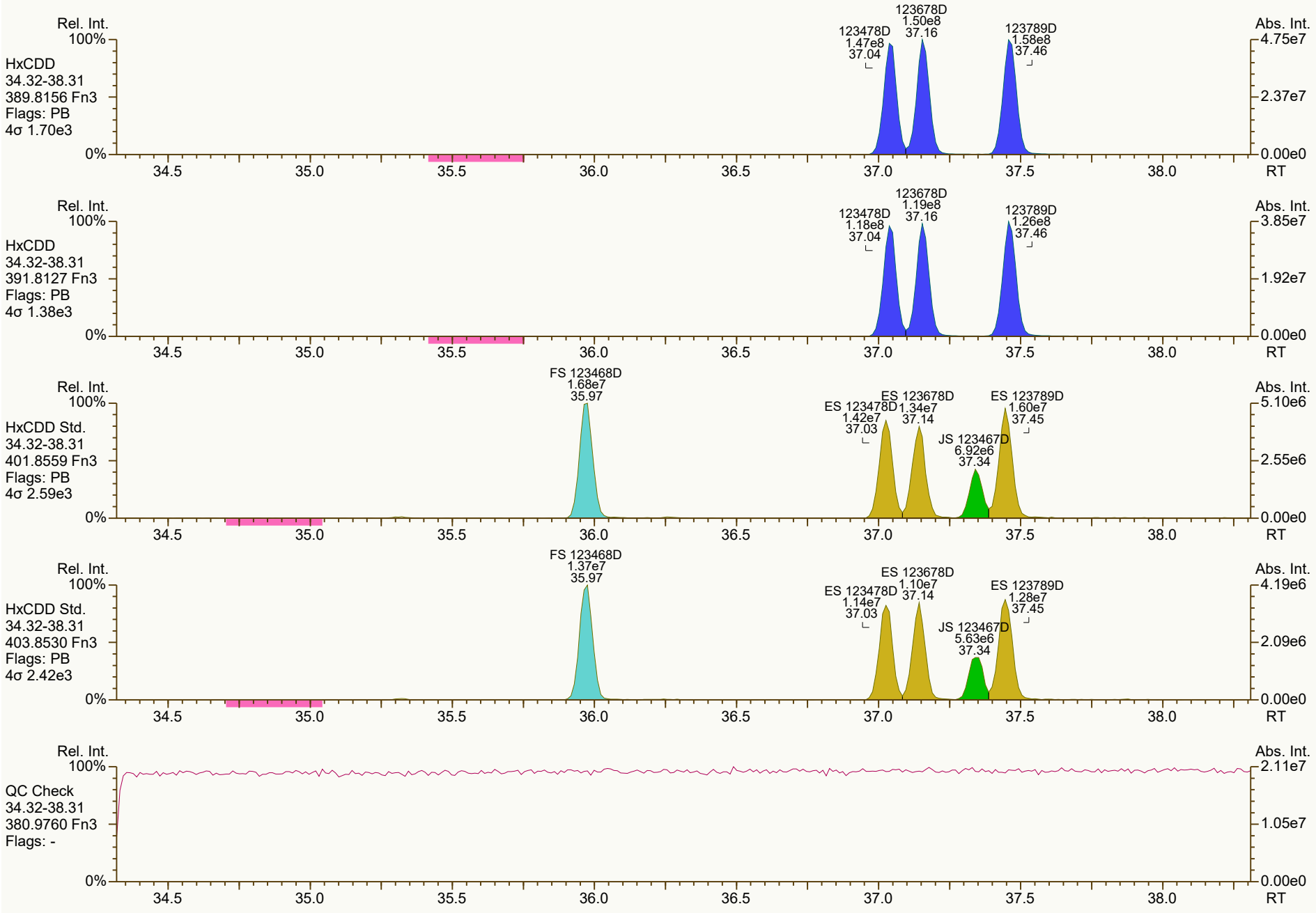
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

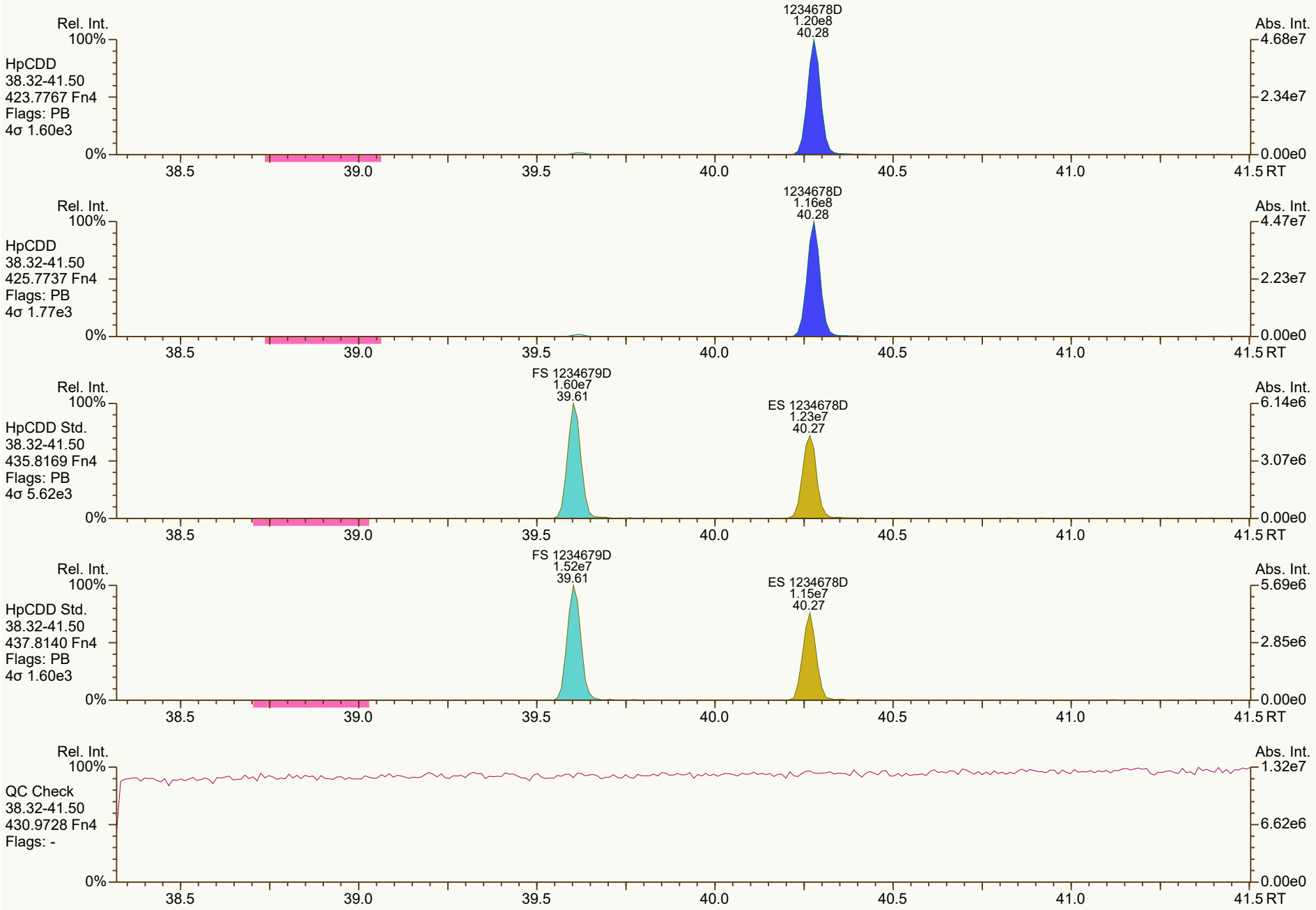
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

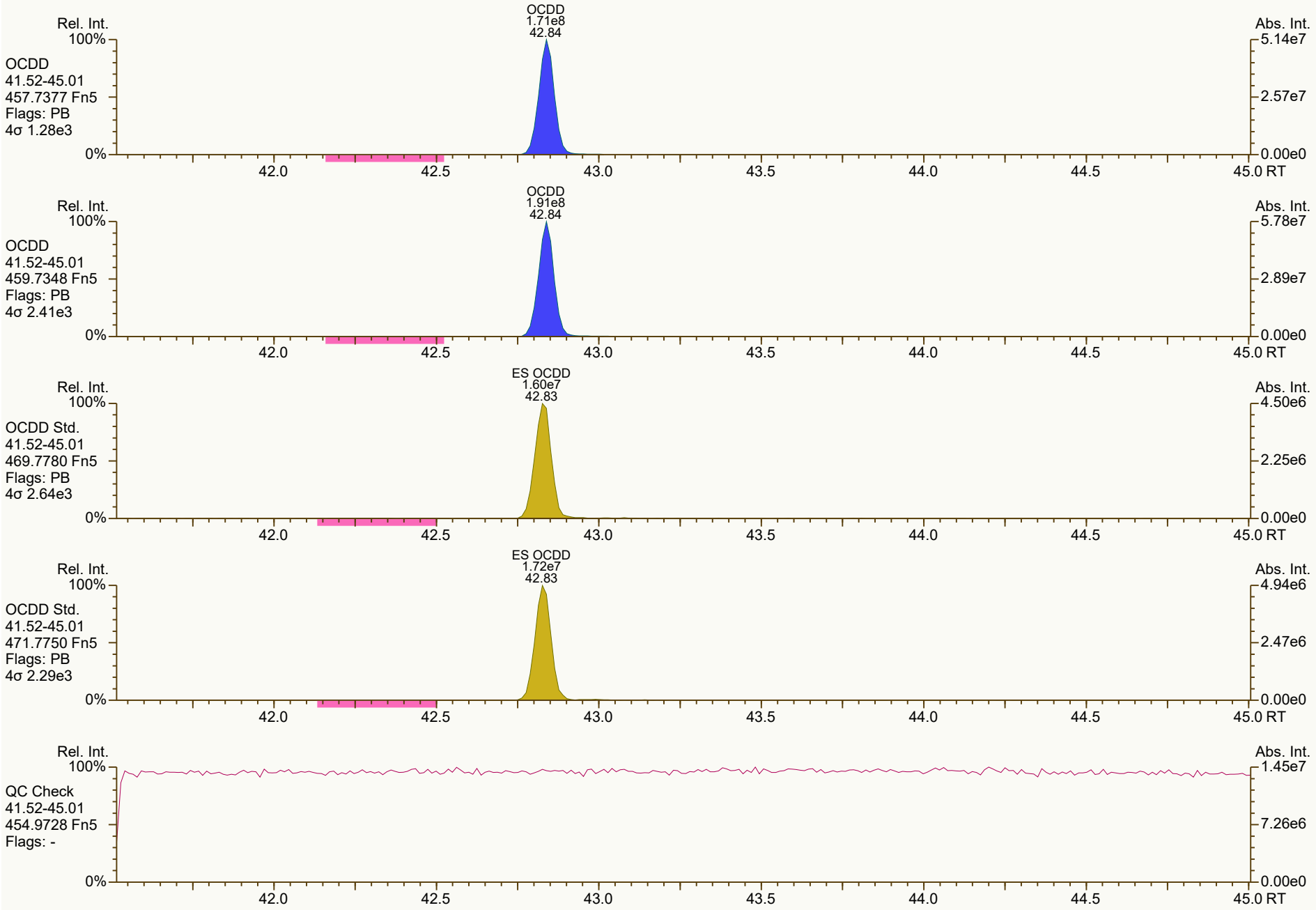

Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.11e7
1.05e7
0.00e0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.32e7
6.62e6
0.00e0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
0%
Abs. Int.
1.45e7
7.26e6
0.00e0
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
0%
2378D
4.22e7
27.59
Abs. Int.
9.91e6
4.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
Abs. Int.
1.83e7
9.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
0%
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
Abs. Int.
4.26e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
0%
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
Abs. Int.
5.66e6
2.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.46e6
3.73e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

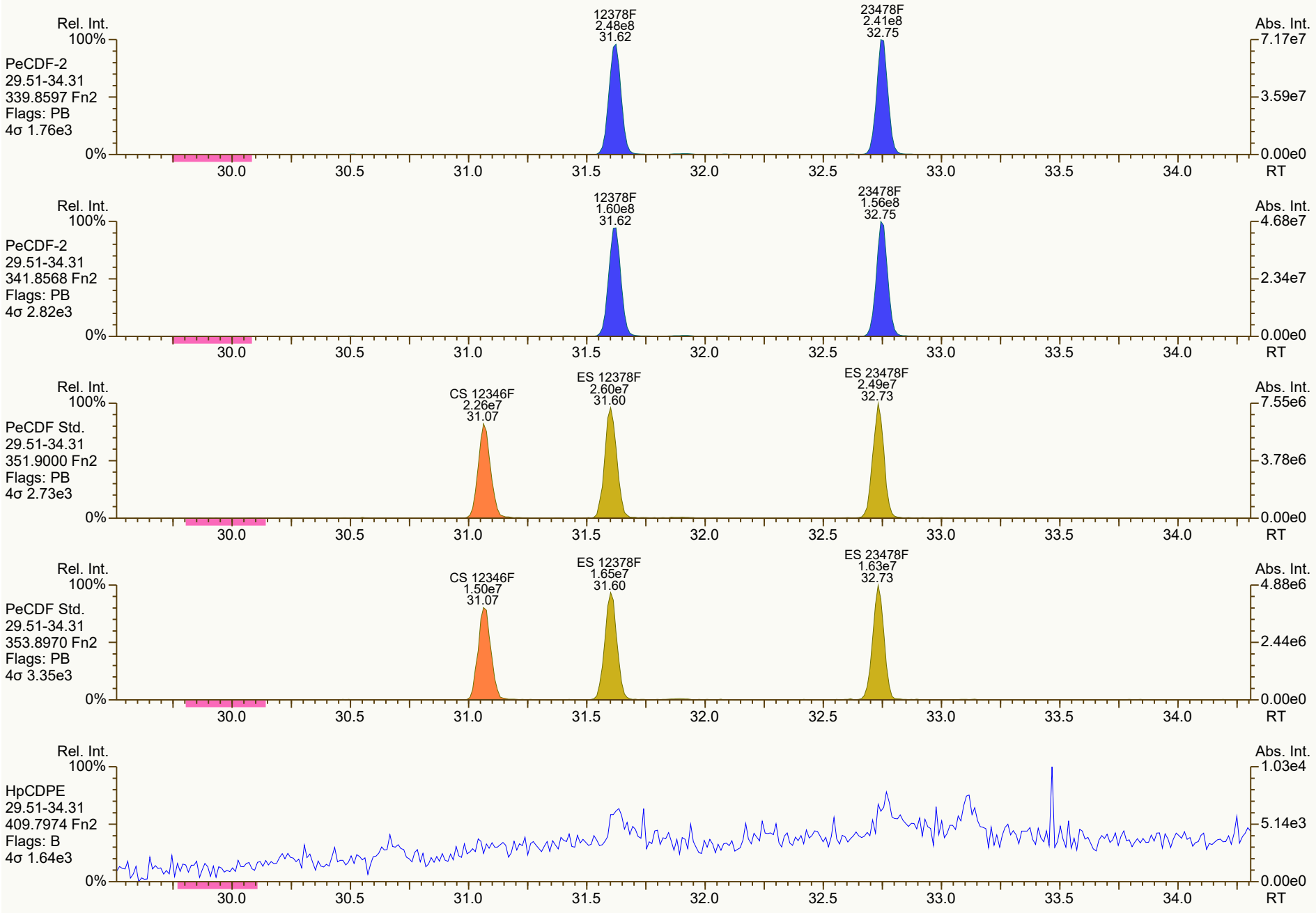

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123678D
1.50e8
37.16
123478D
1.47e8
37.04
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123678D
1.19e8
37.16
123478D
1.18e8
37.04
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123678D
1.34e7
37.14
ES 123478D
1.42e7
37.03
ES 123789D
1.60e7
37.45
JS 123467D
6.92e6
37.34
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123678D
1.10e7
37.14
ES 123478D
1.14e7
37.03
ES 123789D
1.28e7
37.45
JS 123467D
5.63e6
37.34
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

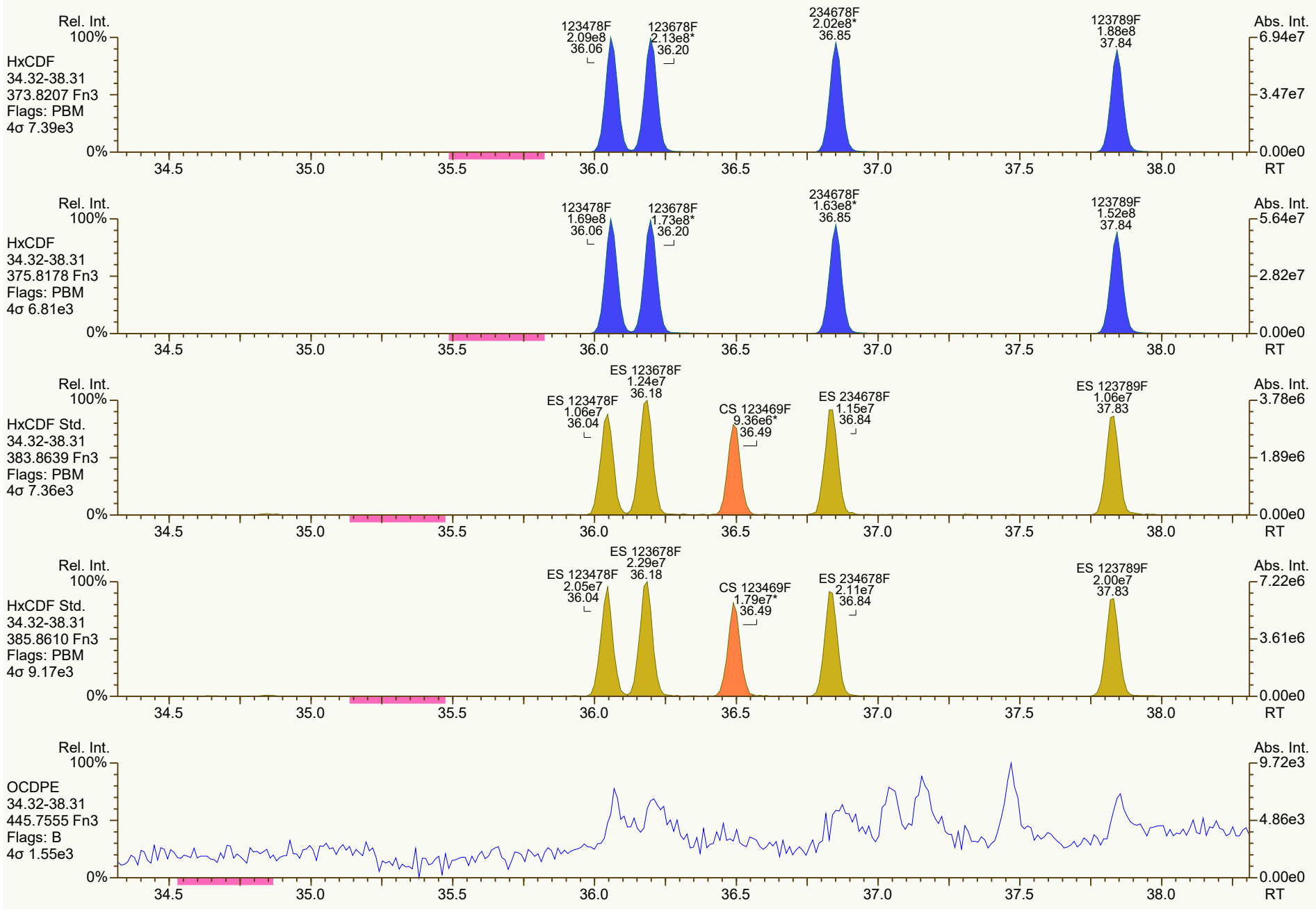

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

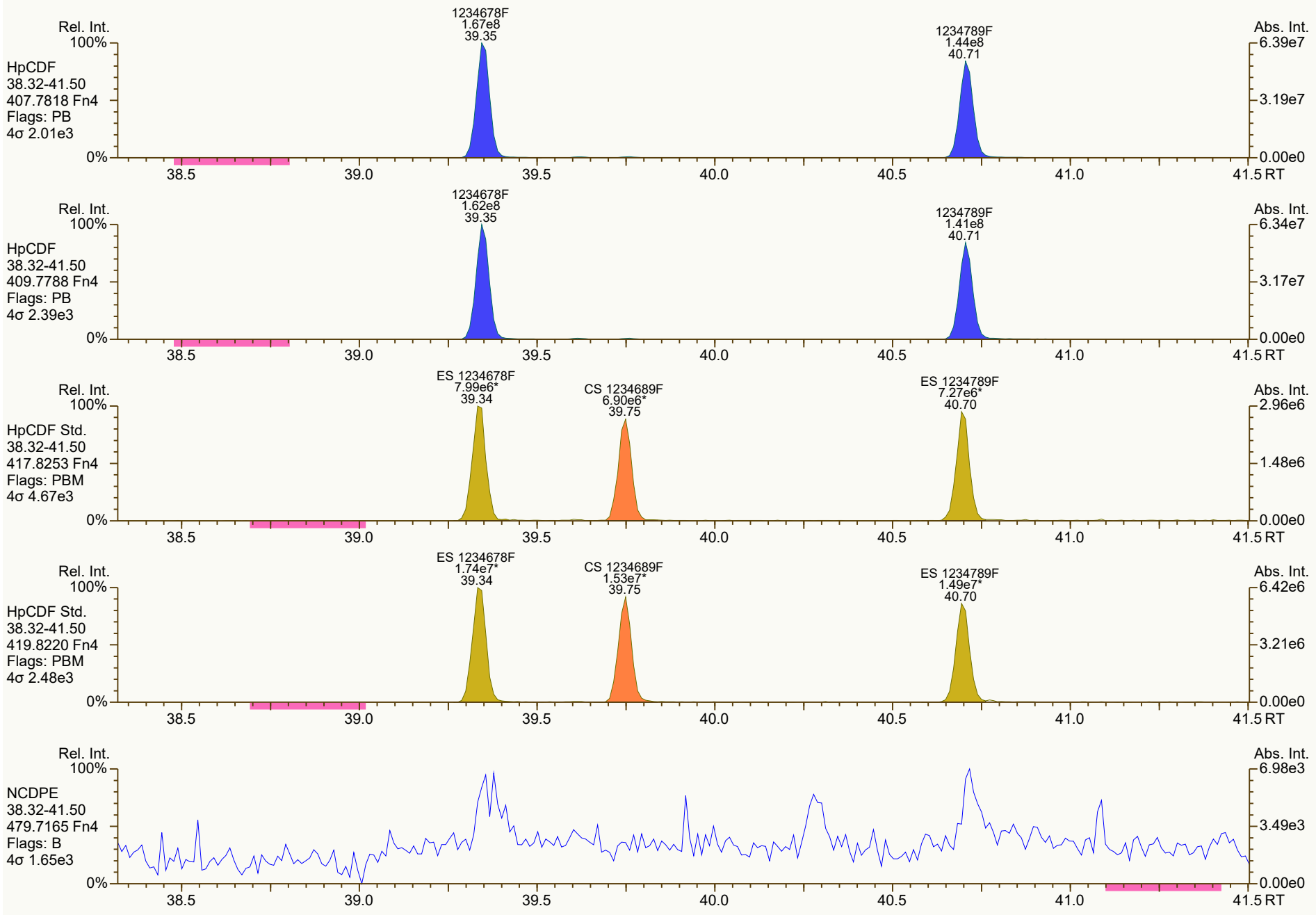

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
OCDD
1.71e8
42.84
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
0%
OCDD
1.91e8
42.84
Abs. Int.
5.78e7
2.89e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
0%
ES OCDD
1.60e7
42.83
Abs. Int.
4.50e6
2.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
0%
ES OCDD
1.72e7
42.83
Abs. Int.
4.94e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.45e7
7.26e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

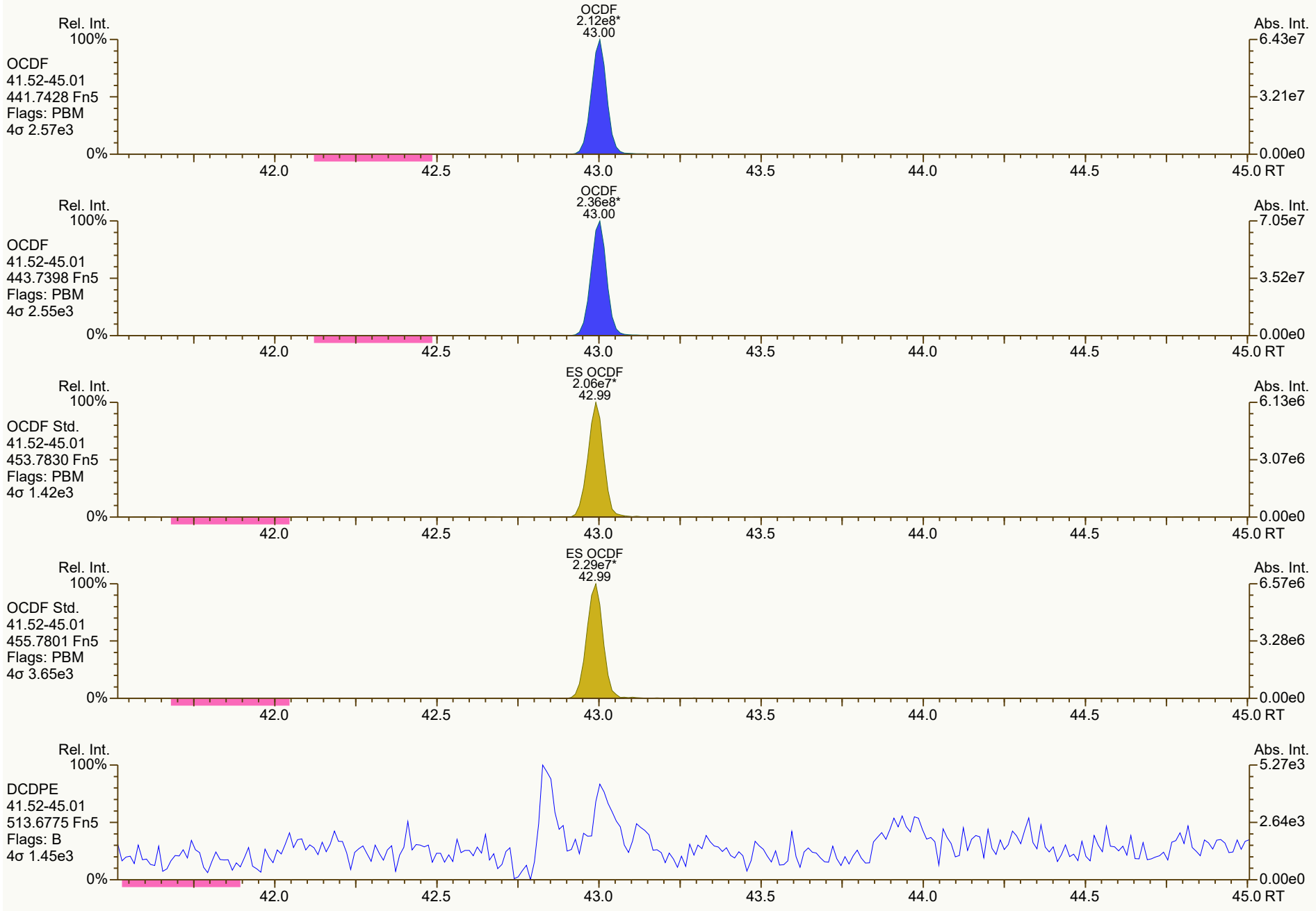

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
0%
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
0%
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
0%
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
0%
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.03e4
5.14e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
0%
123478F
2.09e8
36.06
123678F
2.13e8*
36.20
234678F
2.02e8*
36.85
123789F
1.88e8
37.84
Abs. Int.
6.94e7
3.47e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
0%
123478F
1.69e8
36.06
123678F
1.73e8*
36.20
234678F
1.63e8*
36.85
123789F
1.52e8
37.84
Abs. Int.
5.64e7
2.82e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
0%
ES 123478F
1.06e7
36.04
ES 123678F
1.24e7
36.18
CS 123469F
9.36e6*
36.49
ES 234678F
1.15e7
36.84
ES 123789F
1.06e7
37.83
Abs. Int.
3.78e6
1.89e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
0%
ES 123478F
2.05e7
36.04
ES 123678F
2.29e7
36.18
CS 123469F
1.79e7*
36.49
ES 234678F
2.11e7
36.84
ES 123789F
2.00e7
37.83
Abs. Int.
7.22e6
3.61e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
0%
Abs. Int.
9.72e3
4.86e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
0%
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

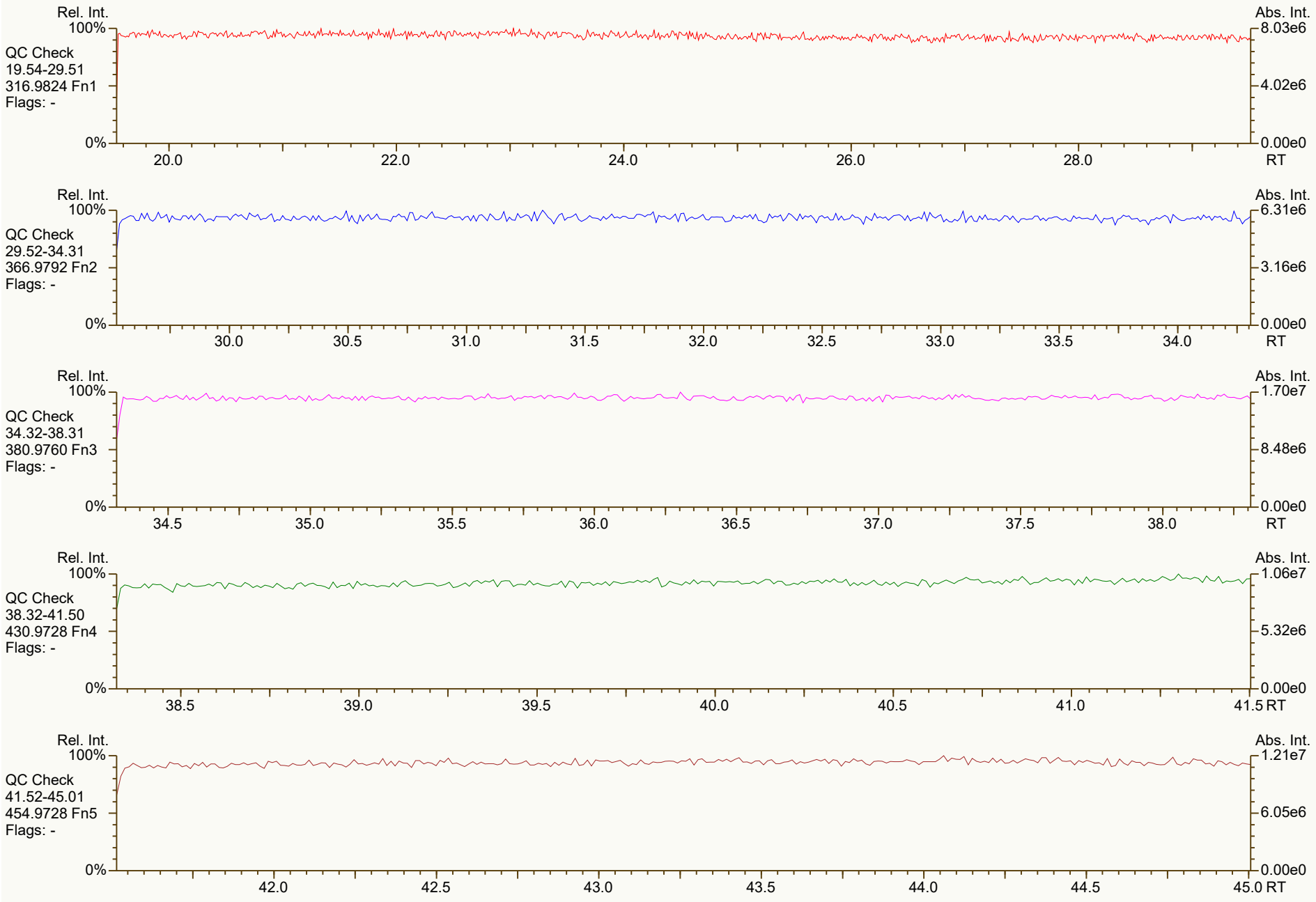

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
OCDF
2.12e8*
43.00
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
OCDF
2.36e8*
43.00
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
ES OCDF
2.06e7*
42.99
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
ES OCDF
2.29e7*
42.99
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

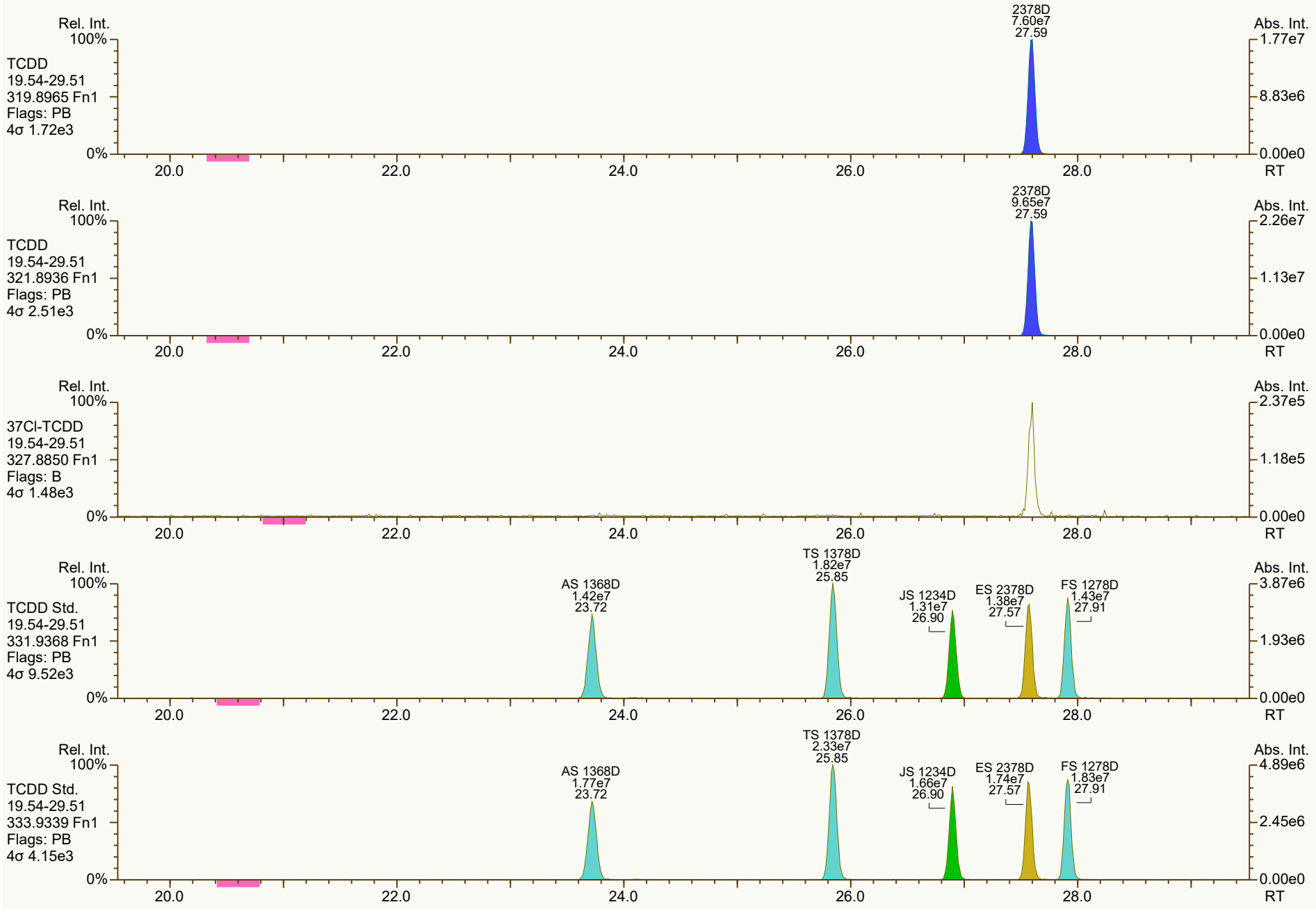
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

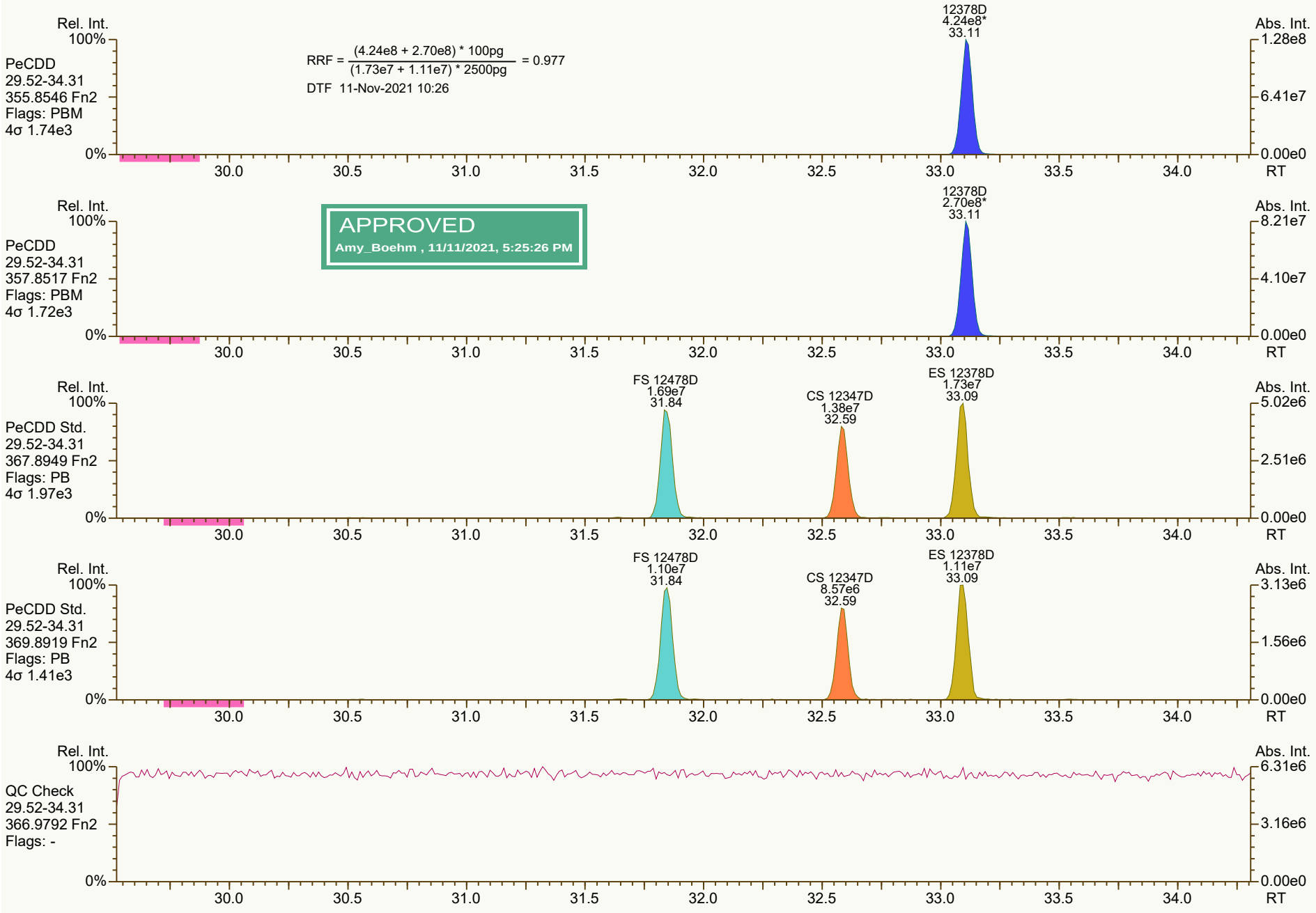
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

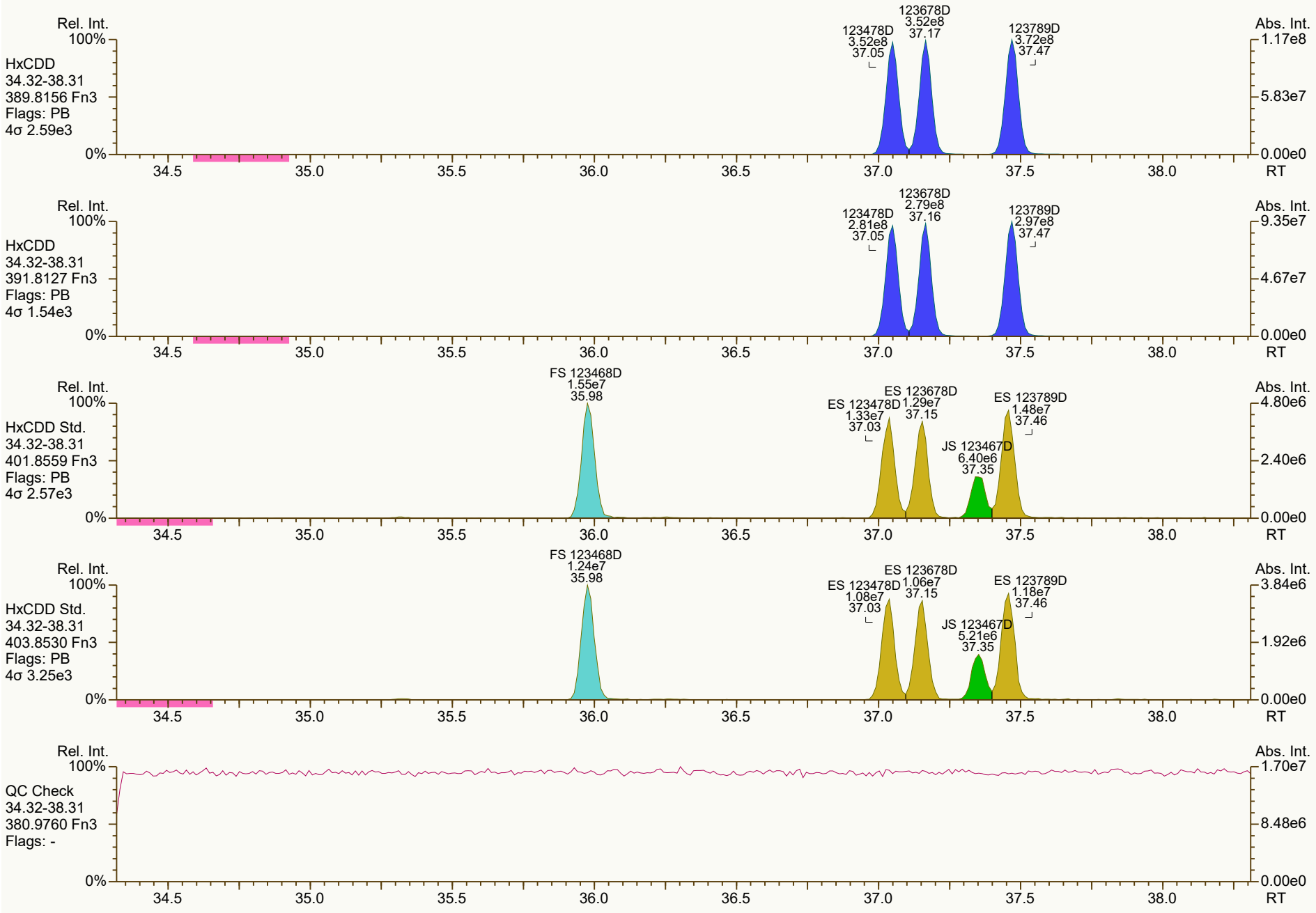
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

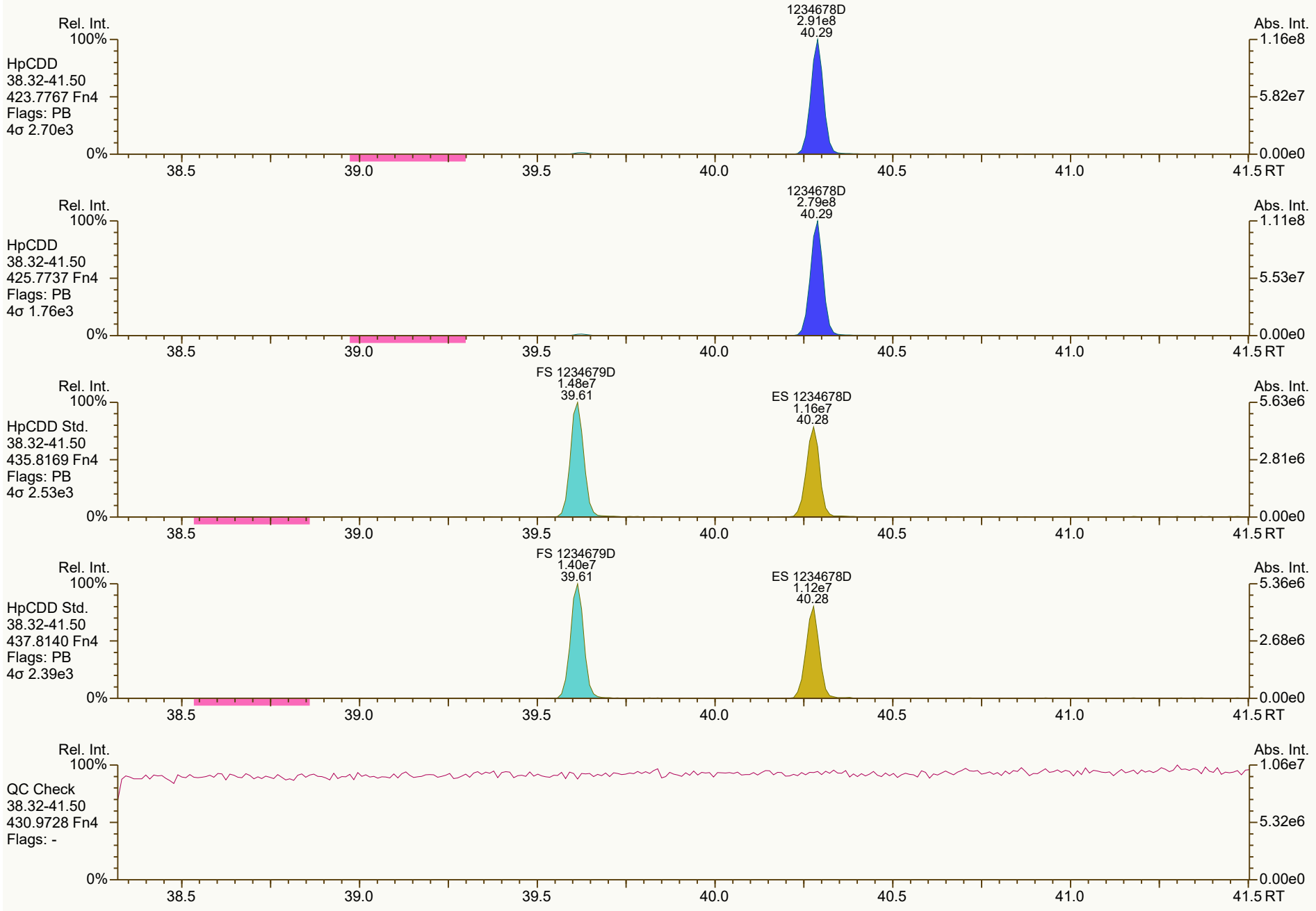
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

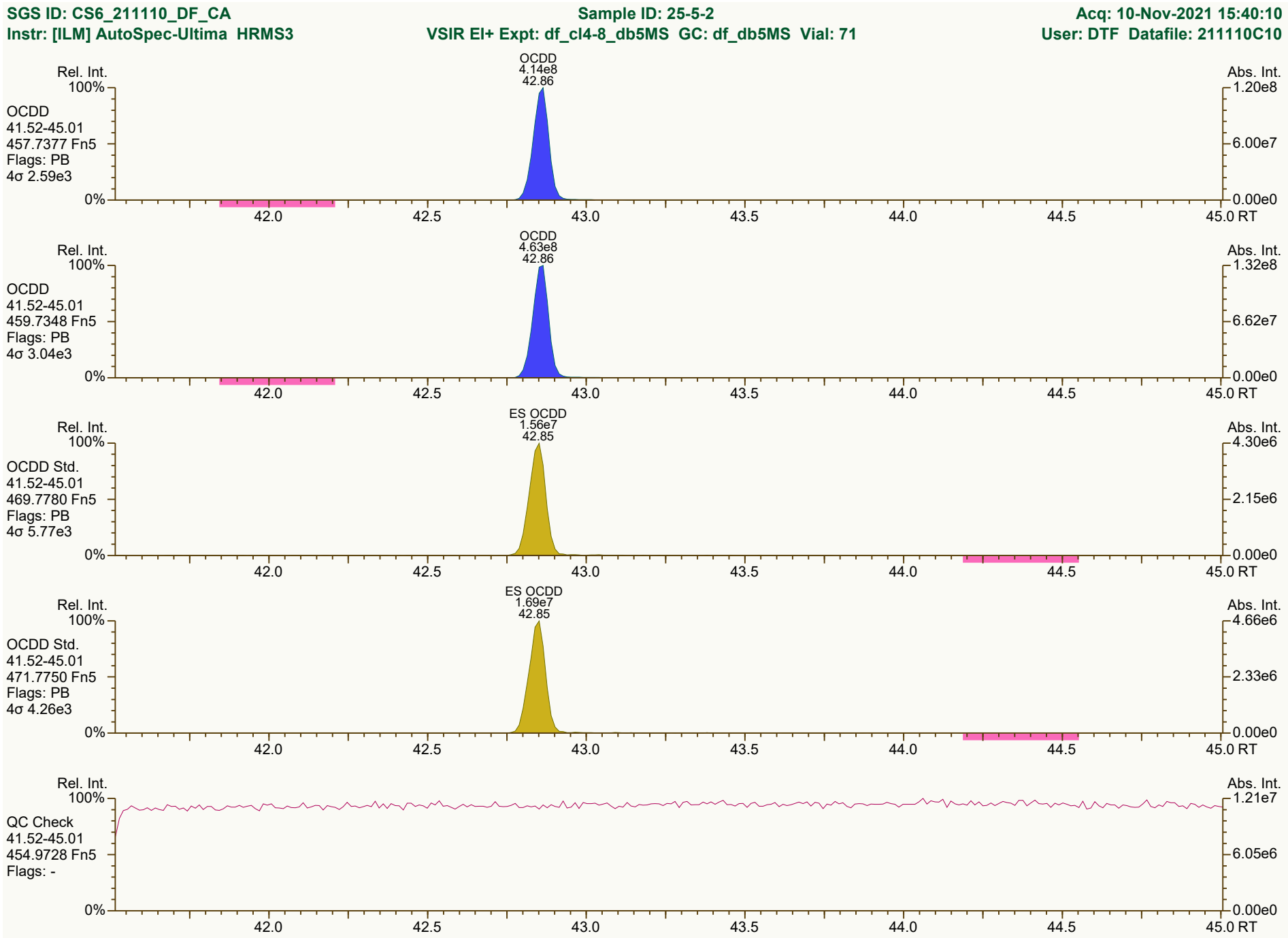

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
0%
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
0%
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.31e6
3.16e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

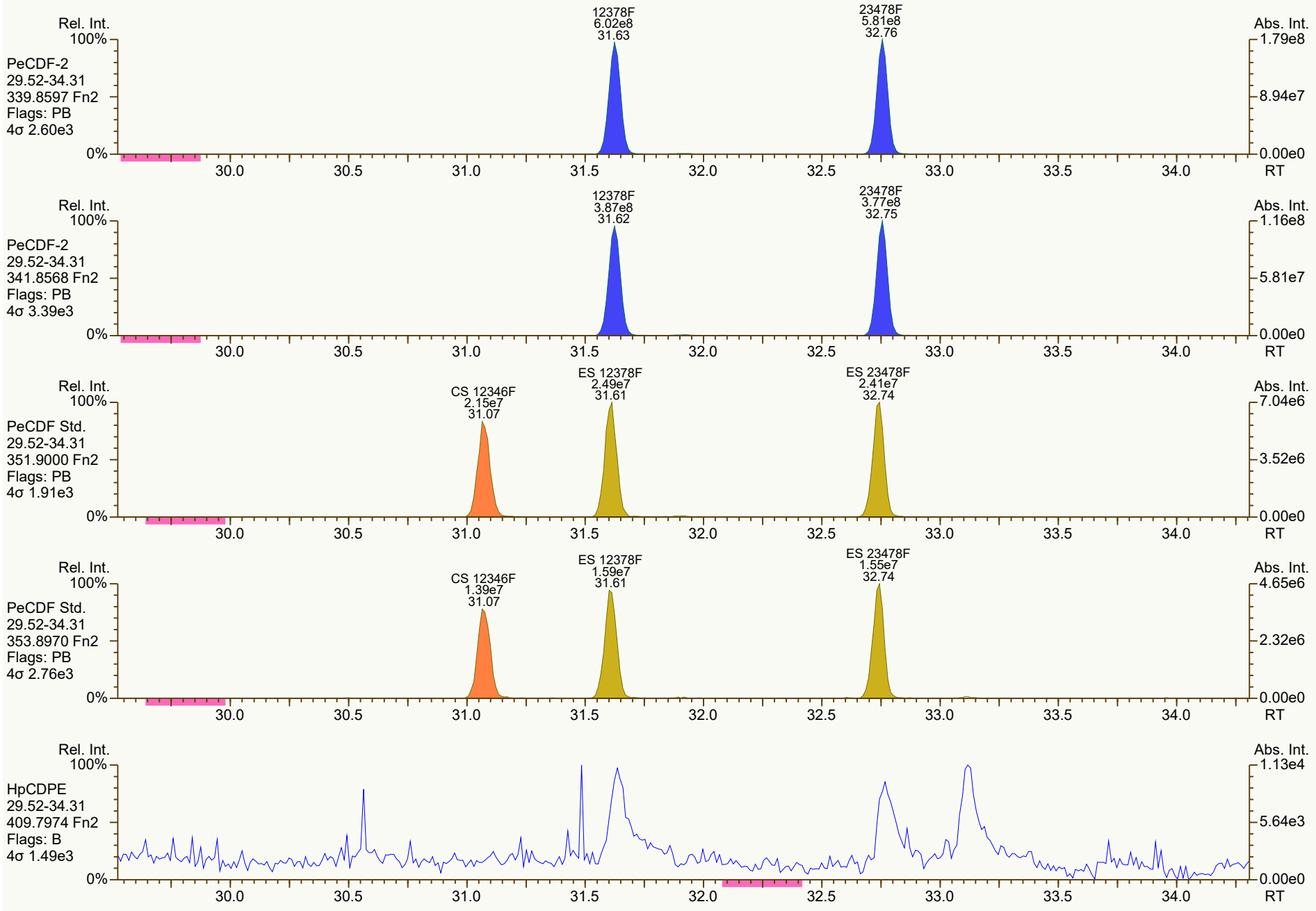

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.70e7
8.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

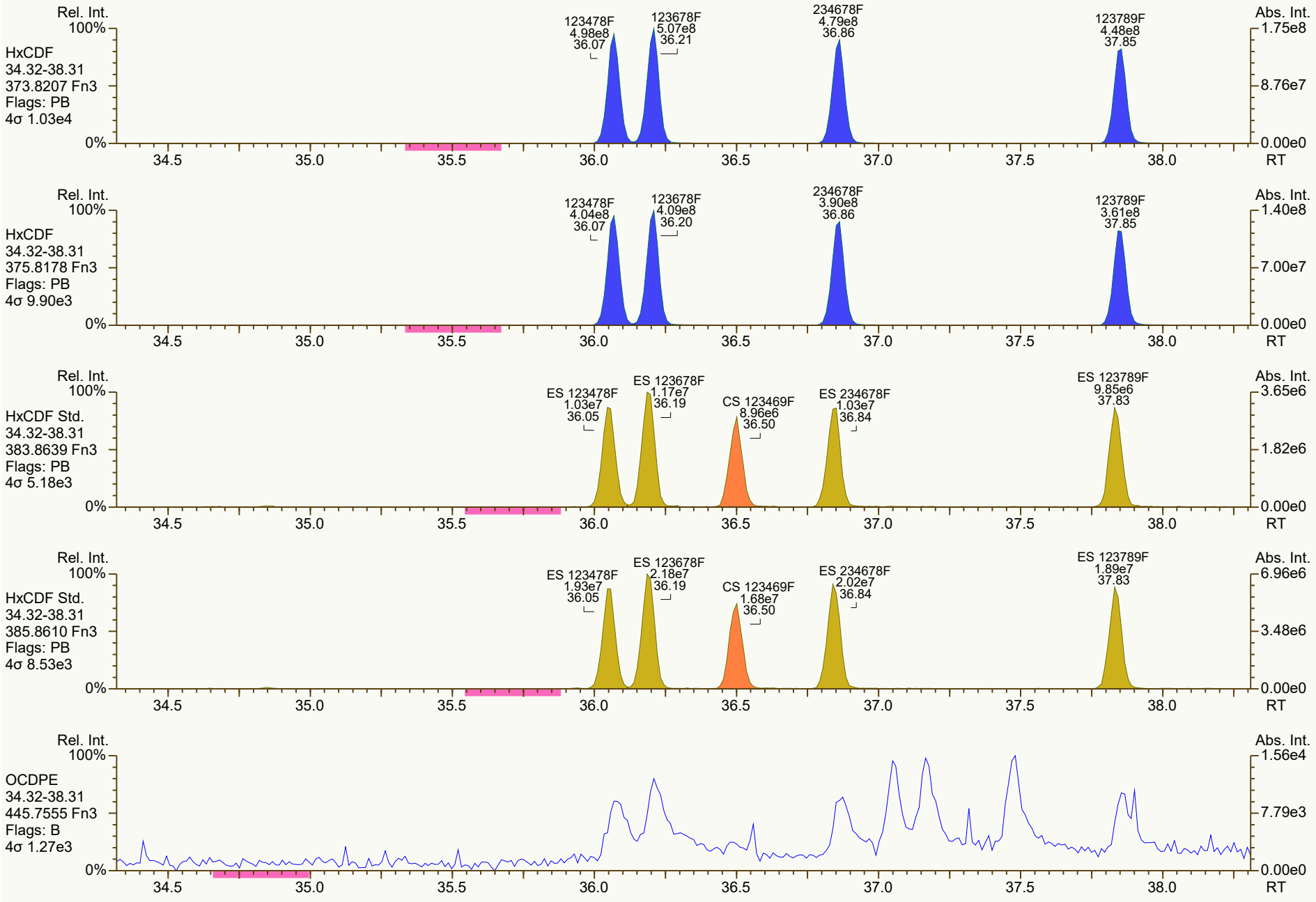

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

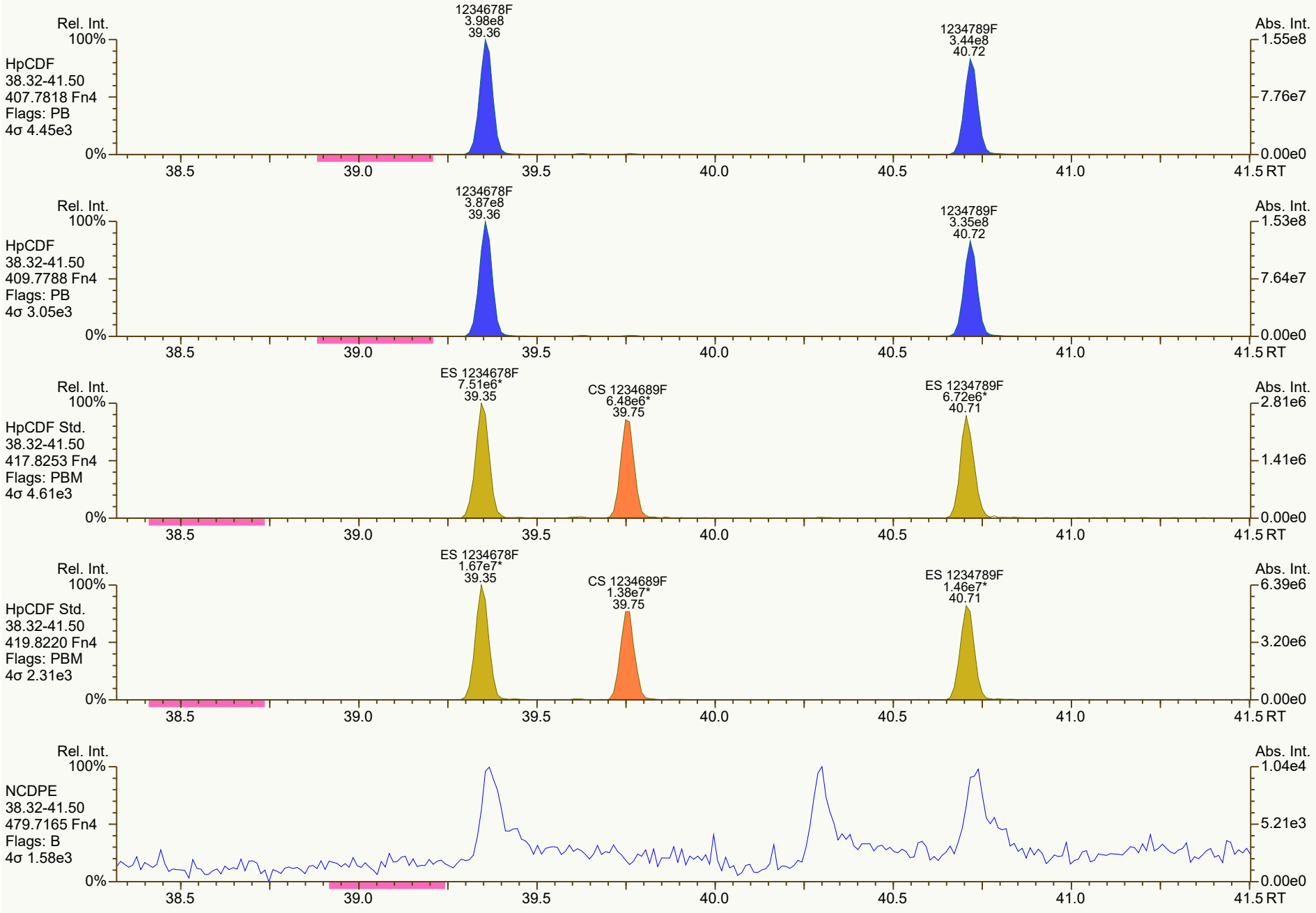

SGS ID: CS6_211110_DF_CA
Sample ID: 25-5-2
Acq: 10-Nov-2021 15:40:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 211110C10
Rel. Int.
Abs. Int.
OCDD
4.14e8
42.86
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
OCDD
4.63e8
42.86
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
ES OCDD
1.56e7
42.85
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
ES OCDD
1.69e7
42.85
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
1.20e8
6.00e7
0.00e0
1.32e8
6.62e7
4.30e6
2.15e6
4.66e6
2.33e6
1.21e7
6.05e6
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS6_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6614, 8805 scc: 172-736
PKD: 10-Nov-2021 16:46 Printed: 11-Nov-2021 10:41 Page 6 of 12

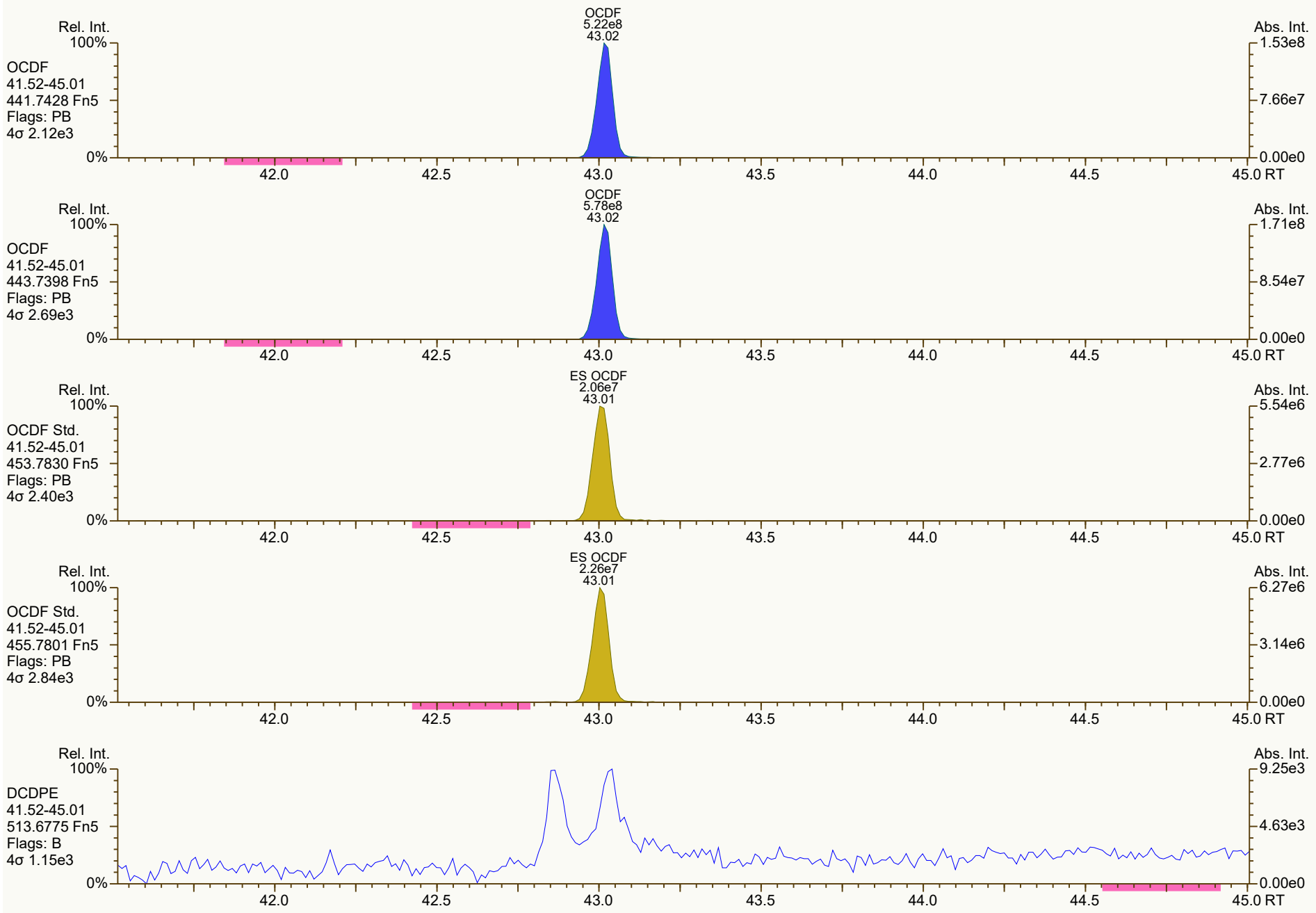

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

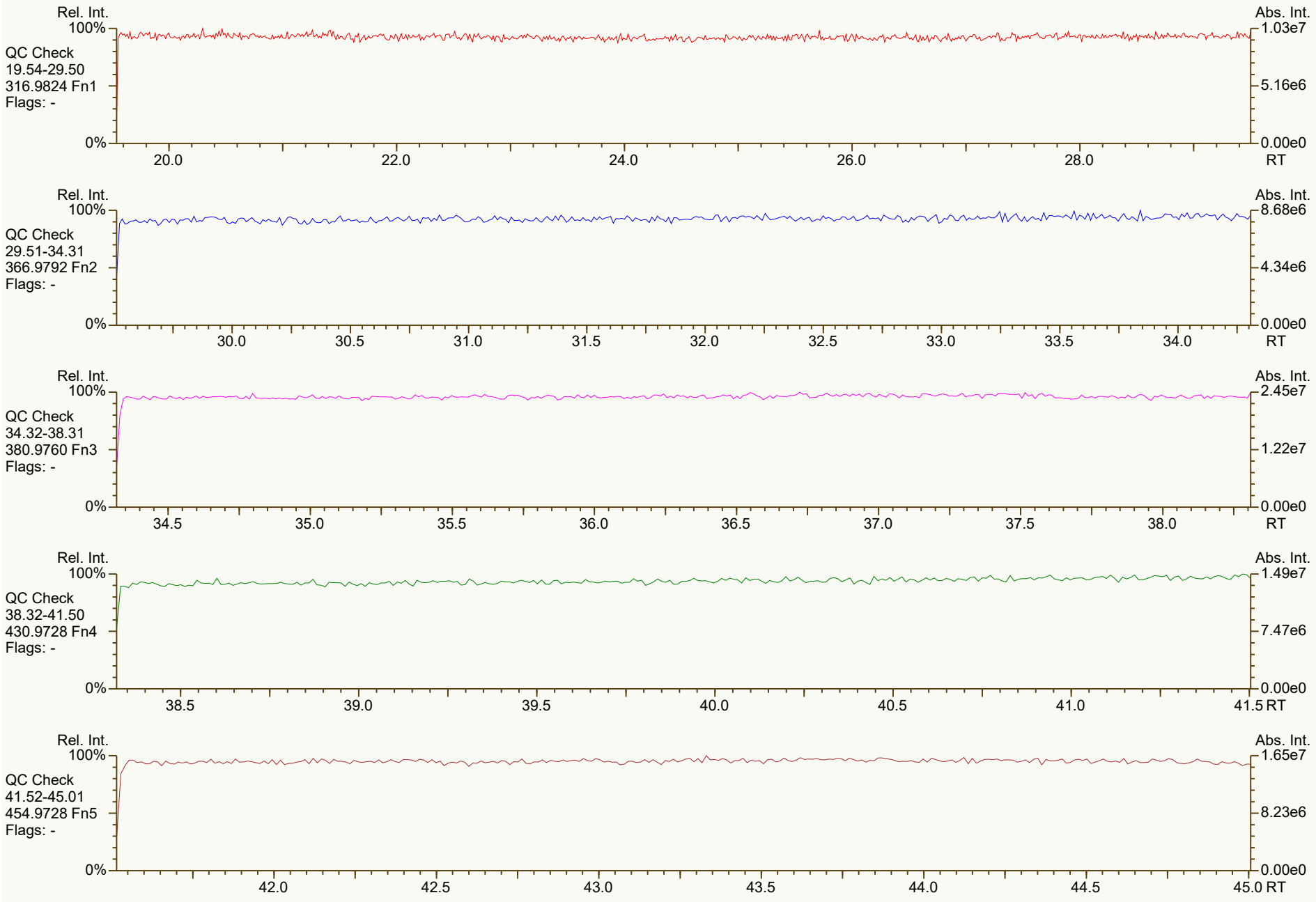

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
0%
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
0%
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
0%
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
0%
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
0%
Abs. Int.
1.13e4
5.64e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.65e7
8.23e6
0.00e0

SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

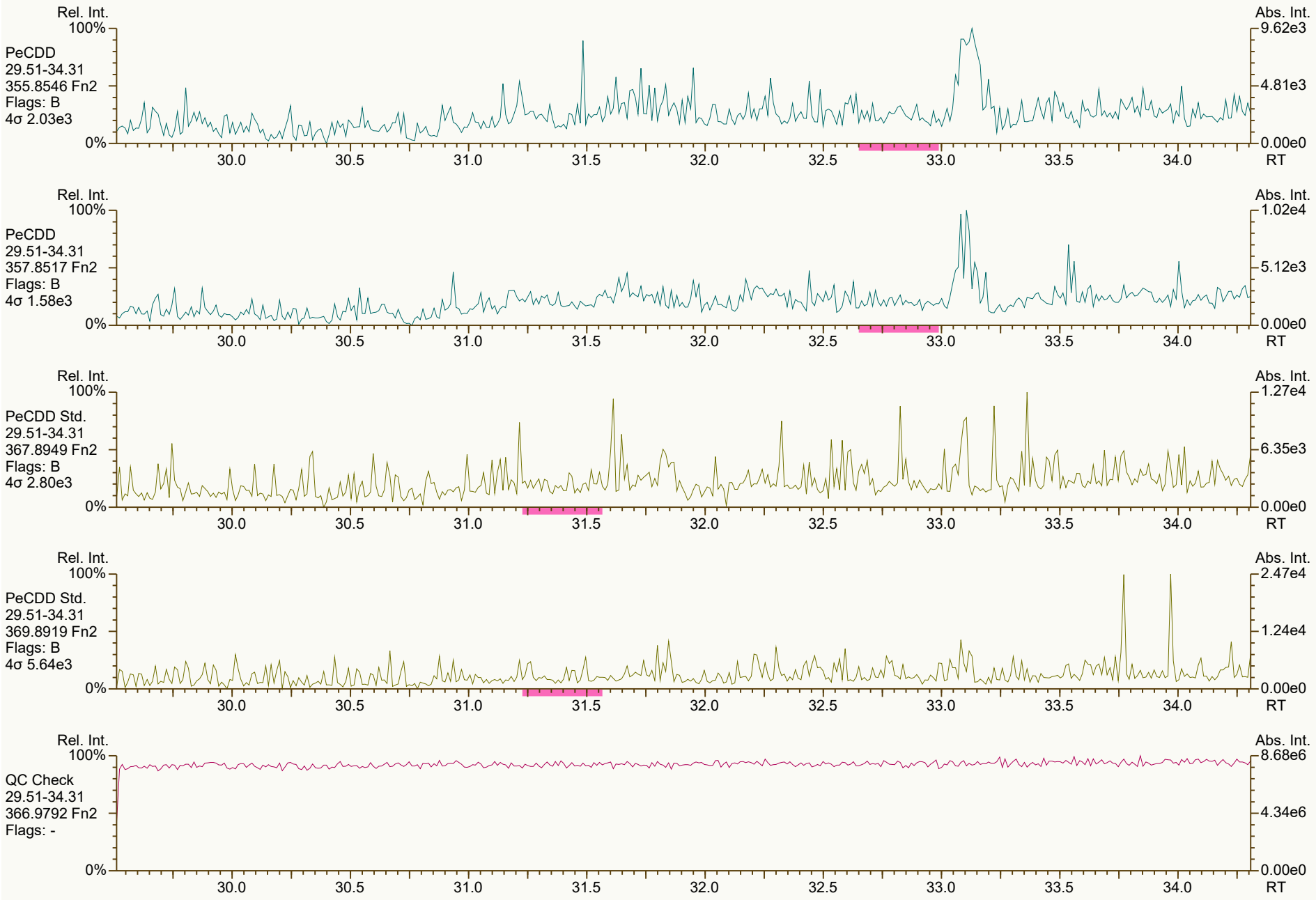
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF) *Peak annotation: Areas, Centroids*

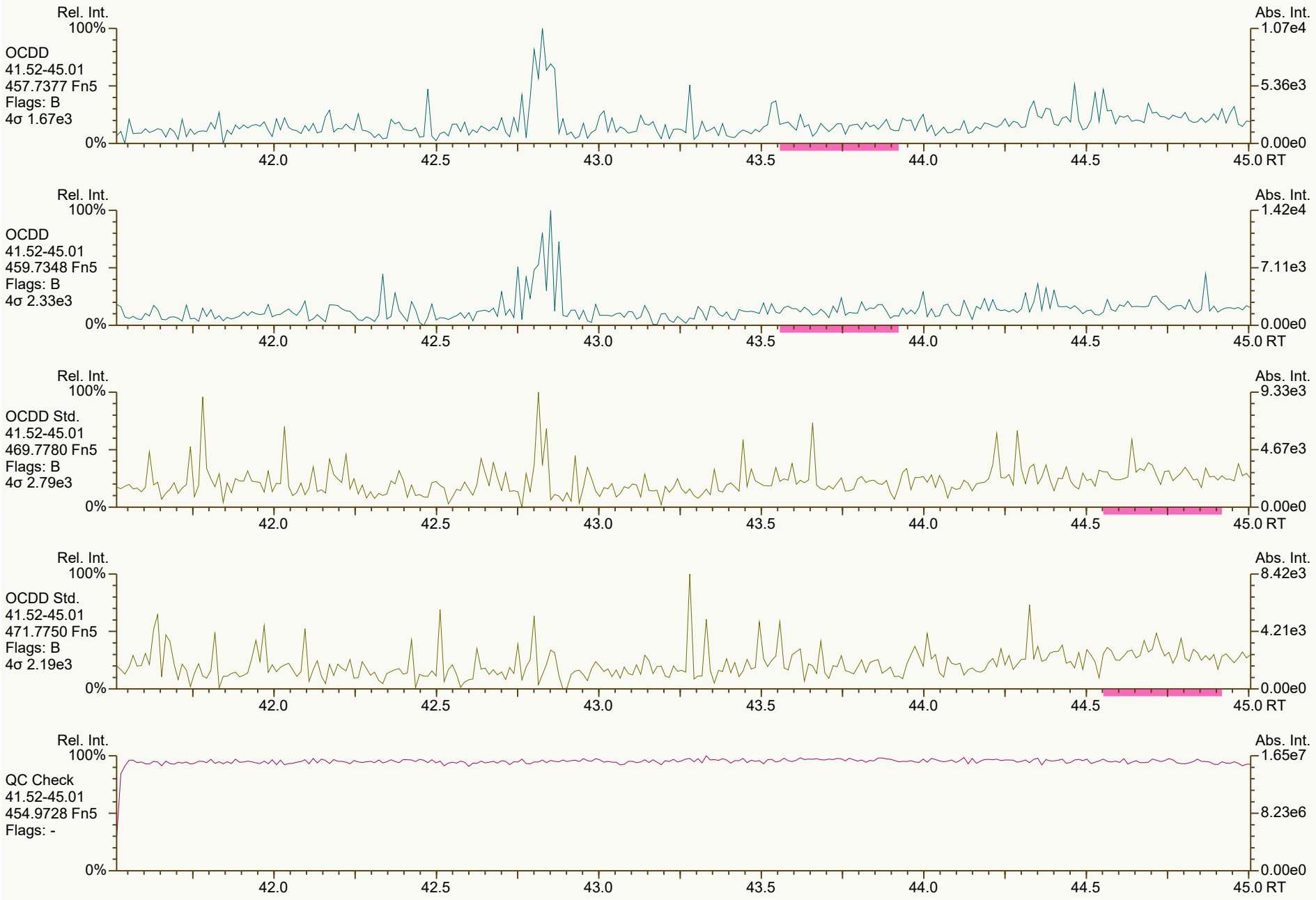
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1*


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

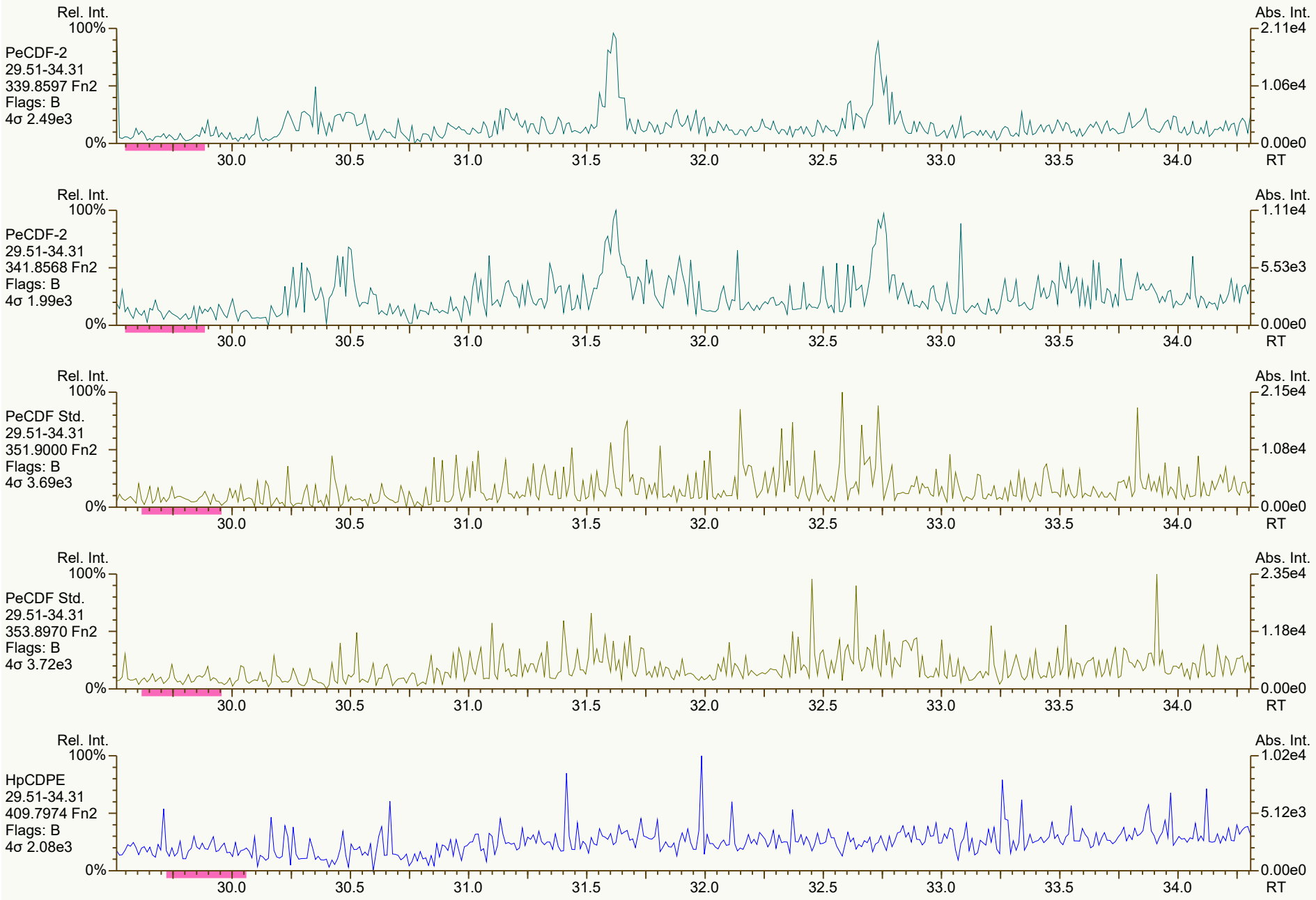

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
Abs. Int.
7.07e4
3.53e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
Abs. Int.
1.06e5
5.32e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
Abs. Int.
5.11e4
2.56e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
Abs. Int.
2.83e4
1.42e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
Abs. Int.
9.47e3
4.73e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

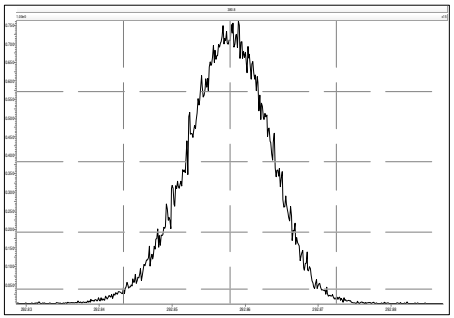

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

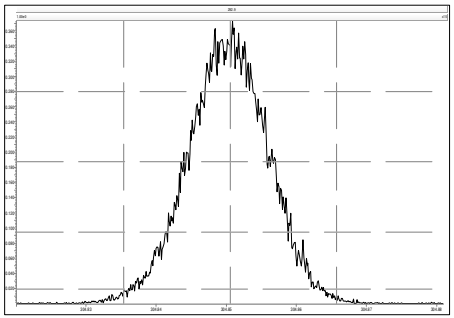
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

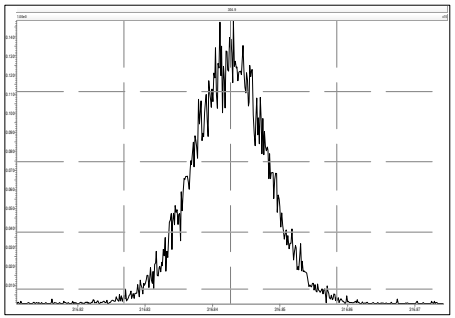
M 292.9824 R 10731



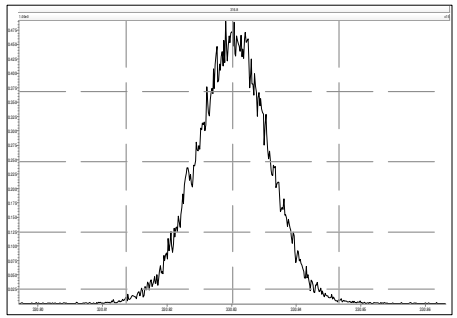
M 304.9824 R 11311



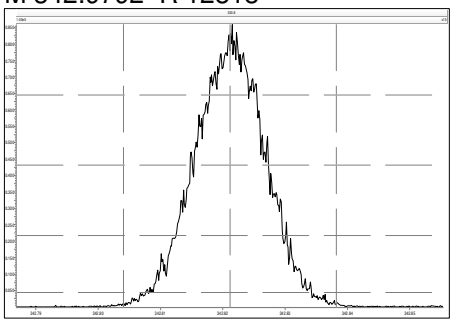
M 316.9824 R 12373



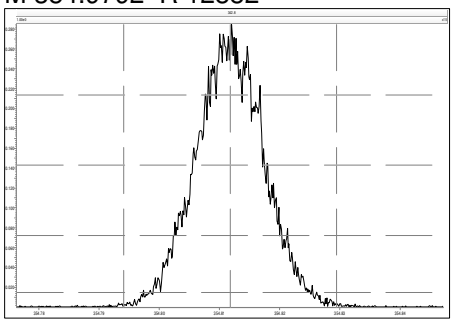
M 330.9792 R 12887



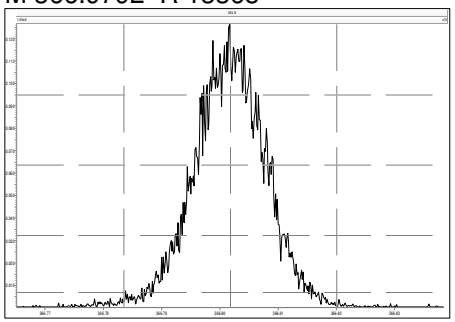
M 342.9792 R 12818



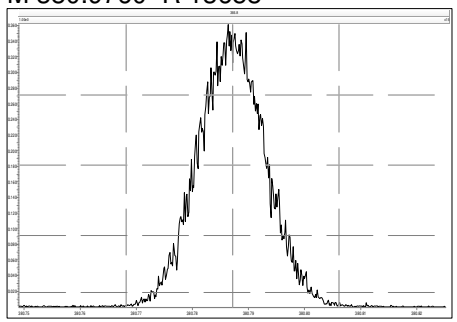
M 354.9792 R 12882



M 366.9792 R 13368



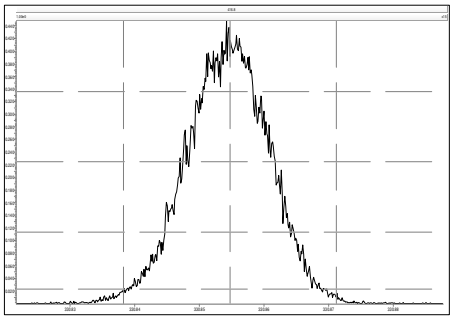
M 380.9760 R 13658



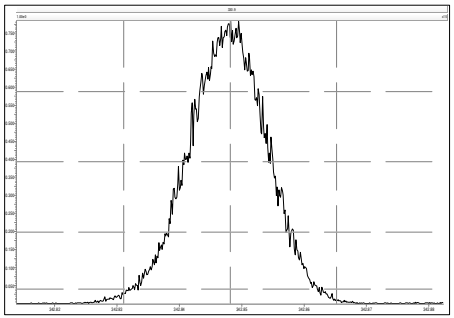
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

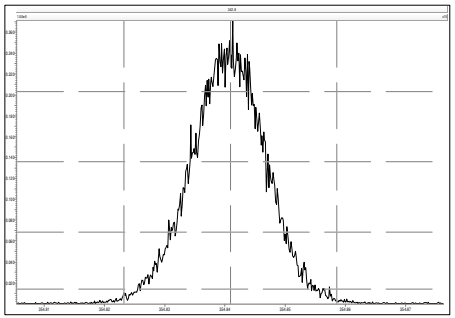
M 330.9792 R 11112



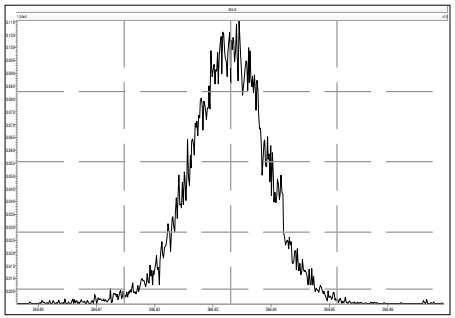
M 342.9792 R 11909



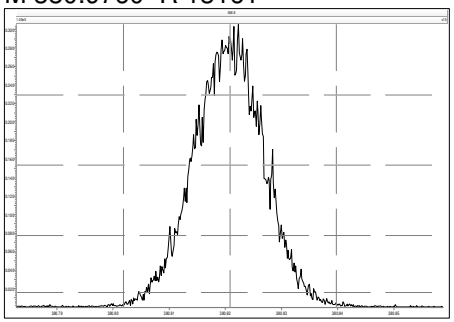
M 354.9792 R 11684



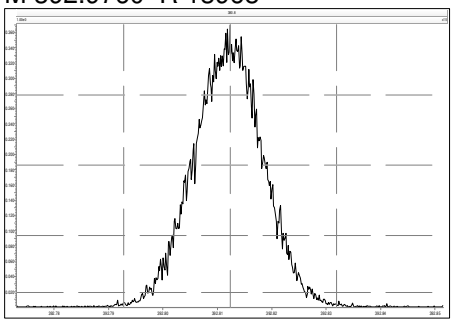
M 366.9792 R 11962



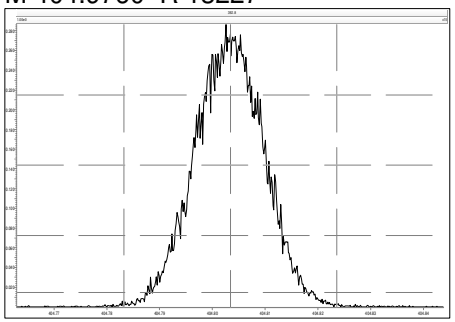
M 380.9760 R 13161



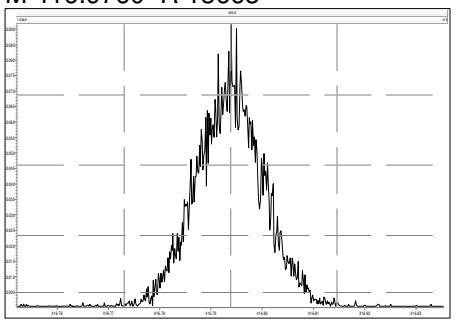
M 392.9760 R 13968



M 404.9760 R 13227



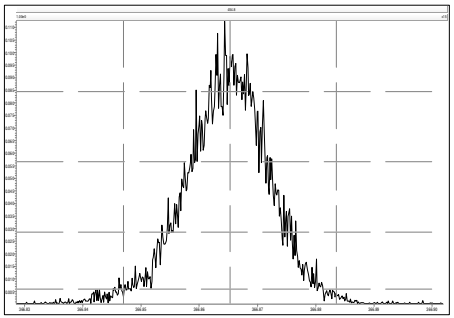
M 416.9760 R 13663



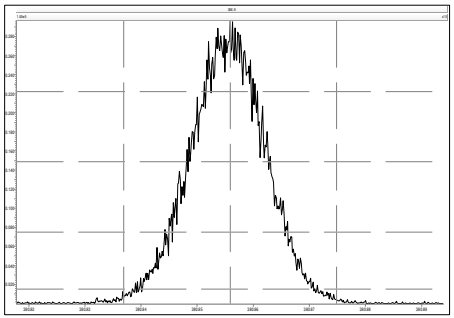
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

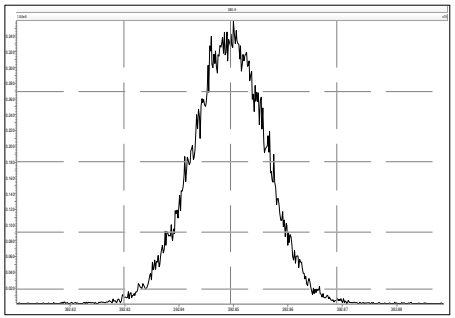
M 366.9792 R 10680



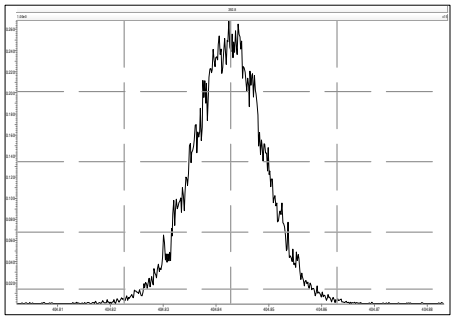
M 380.9760 R 12315



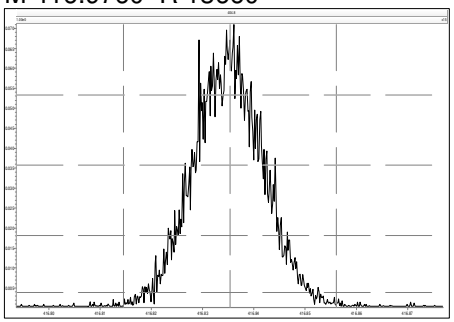
M 392.9760 R 12197



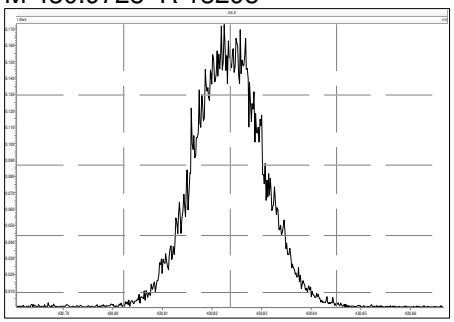
M 404.9760 R 12433



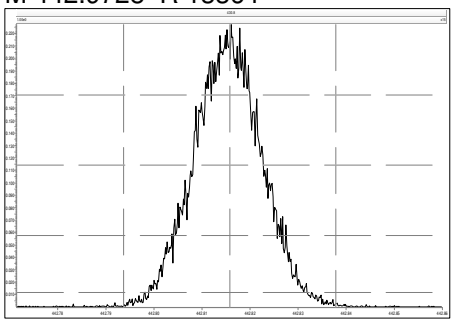
M 416.9760 R 13660



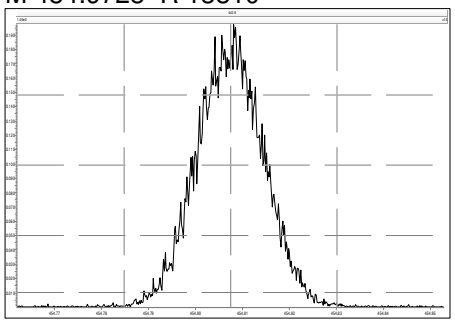
M 430.9728 R 13295



M 442.9728 R 13364



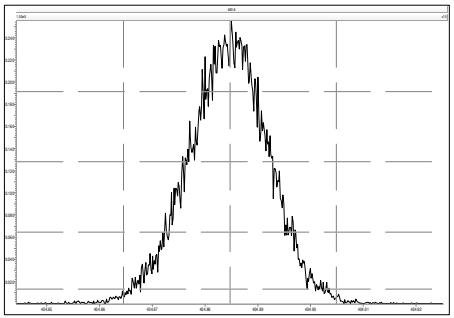
M 454.9728 R 13810



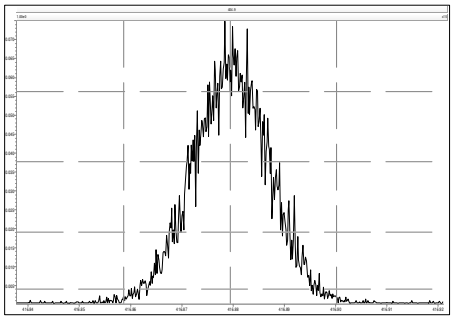
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

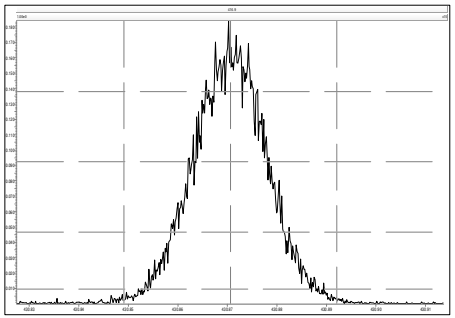
M 404.9760 R 11679



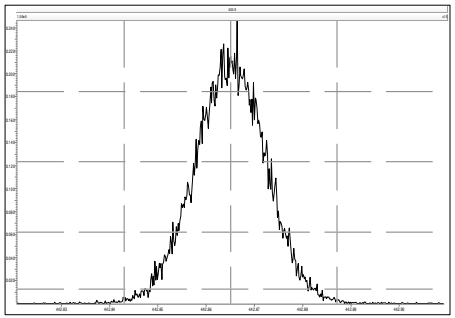
M 416.9760 R 12886



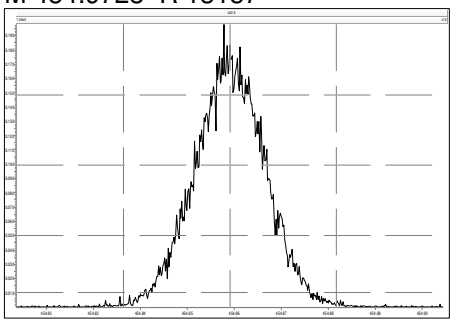
M 430.9728 R 12253



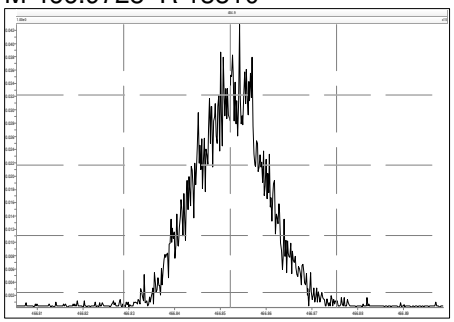
M 442.9728 R 12756



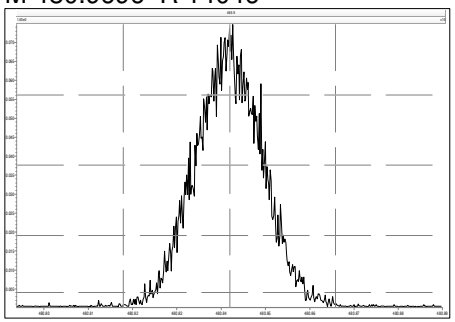
M 454.9728 R 13157



M 466.9728 R 13810



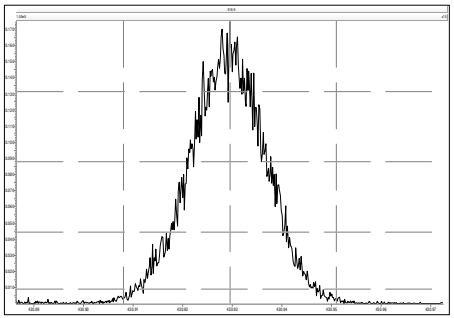
M 480.9696 R 14046



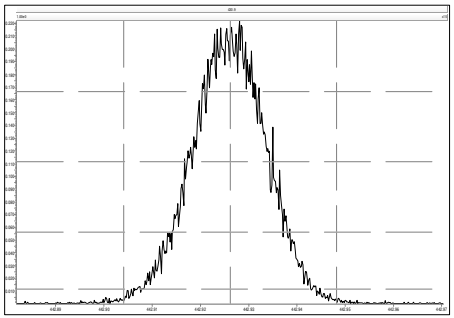
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

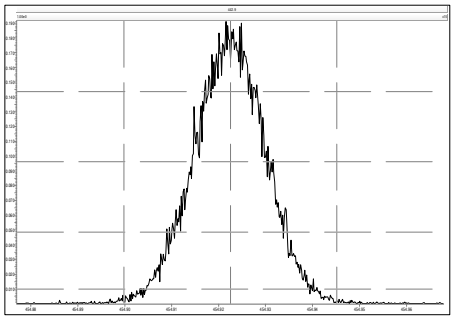
M 430.9728 R 11574



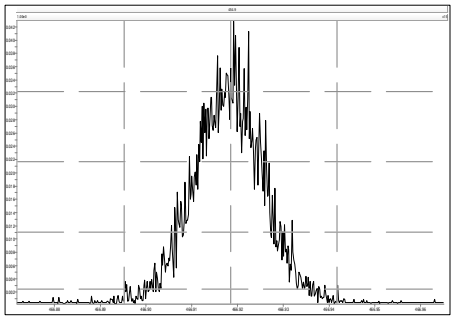
M 442.9728 R 12198



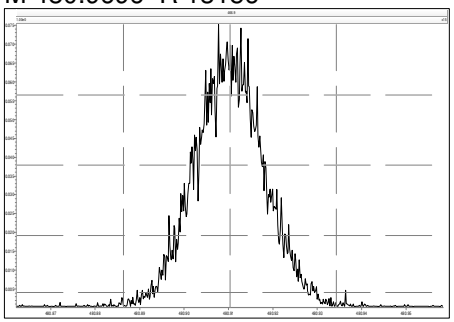
M 454.9728 R 12950



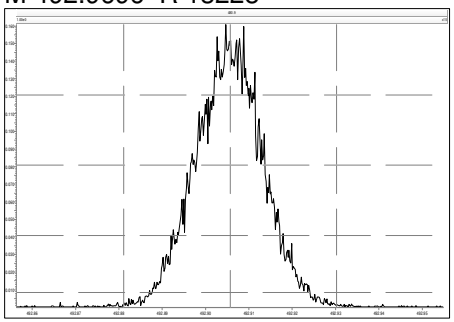
M 466.9728 R 13088



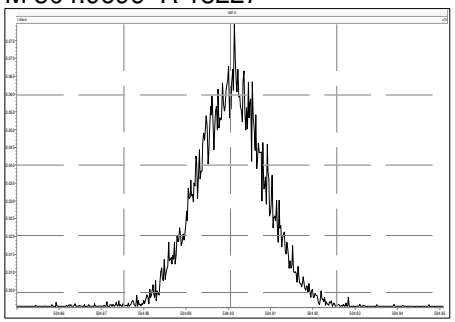
M 480.9696 R 13156



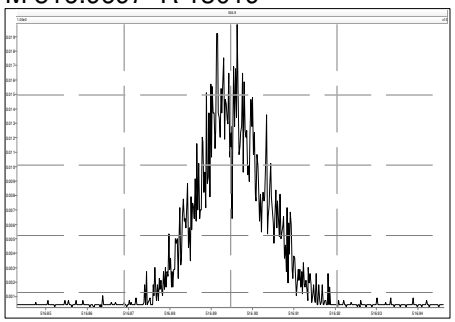
M 492.9696 R 13228



M 504.9696 R 13227



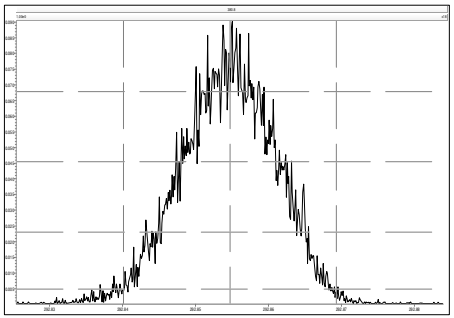
M 516.9697 R 13019



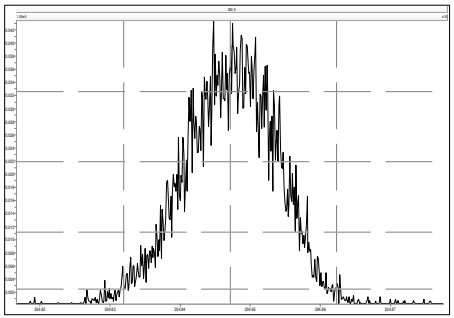
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

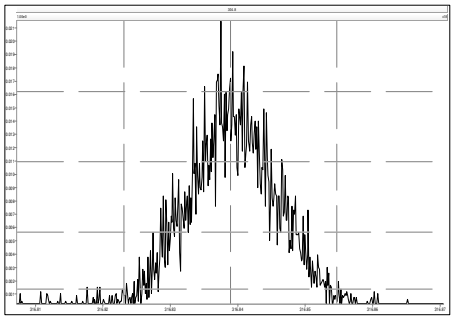
M 292.9824 R 10122



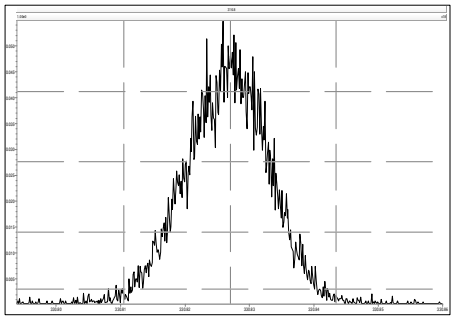
M 304.9824 R 10329



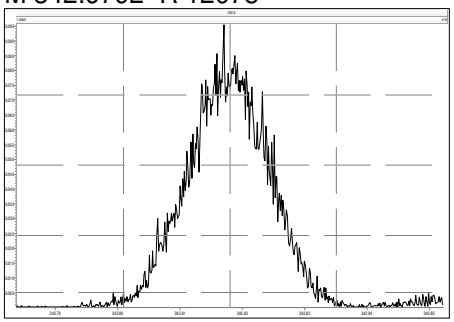
M 316.9824 R 11964



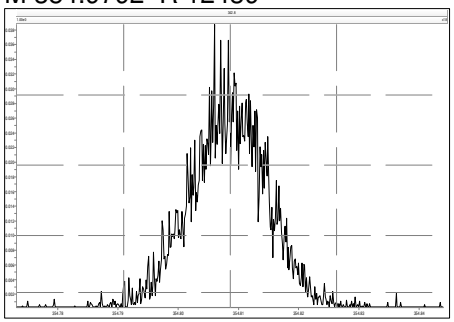
M 330.9792 R 11062



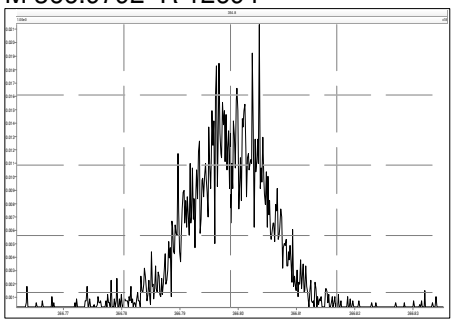
M 342.9792 R 12075



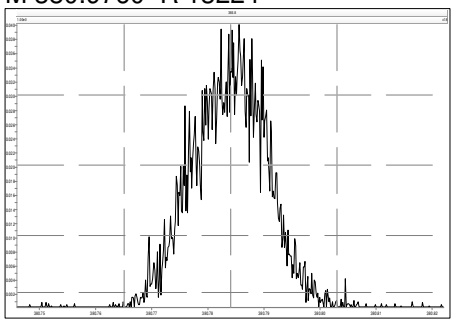
M 354.9792 R 12439



M 366.9792 R 12694



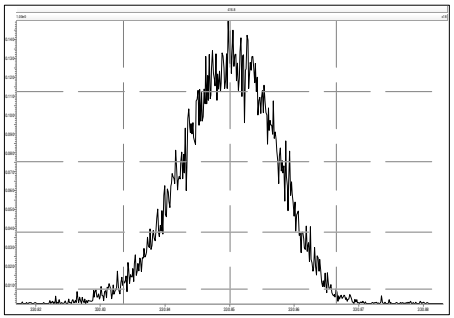
M 380.9760 R 13224



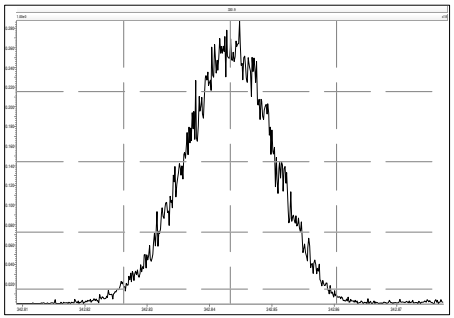
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

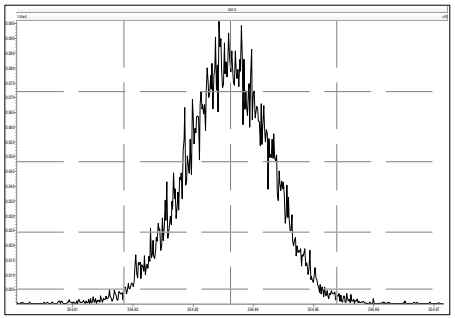
M 330.9792 R 10730



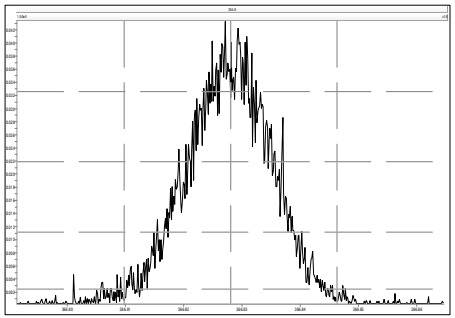
M 342.9792 R 10039



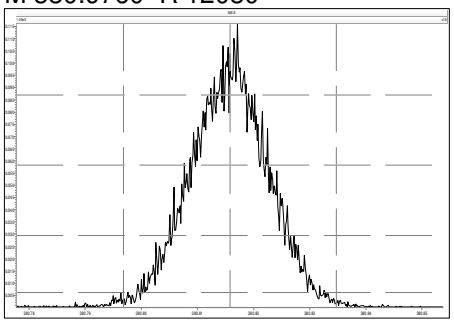
M 354.9792 R 11108



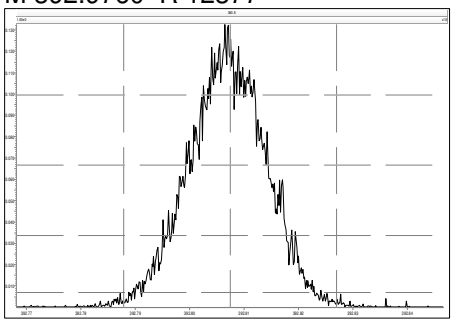
M 366.9792 R 11520



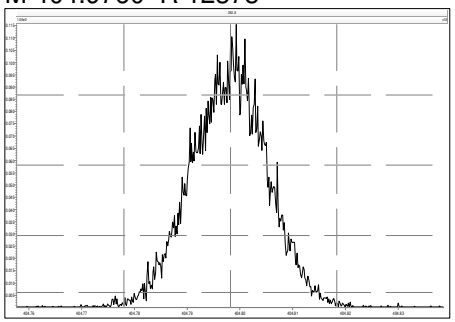
M 380.9760 R 12080



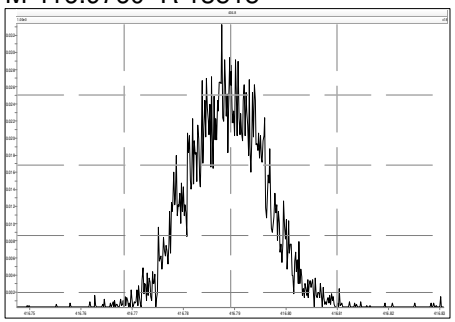
M 392.9760 R 12377



M 404.9760 R 12375



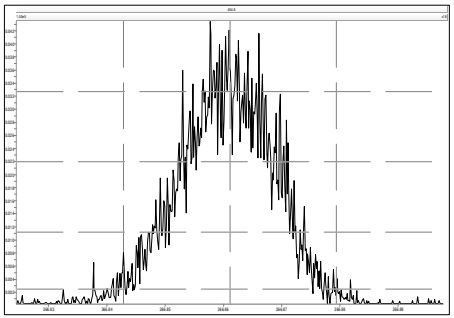
M 416.9760 R 13515



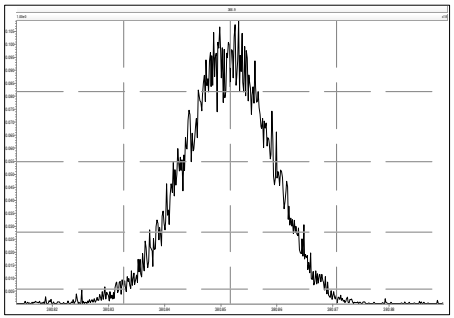
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

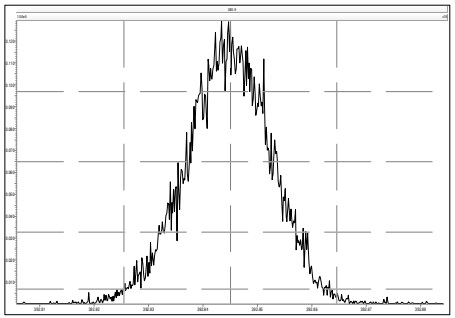
M 366.9792 R 10866



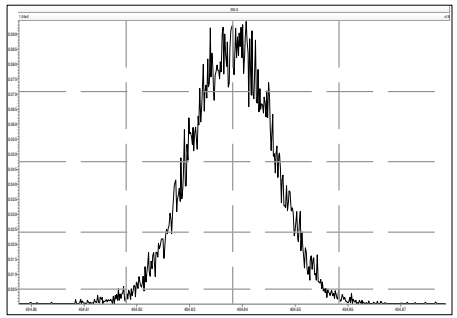
M 380.9760 R 10416



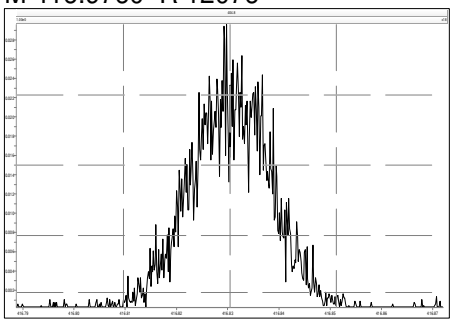
M 392.9760 R 10640



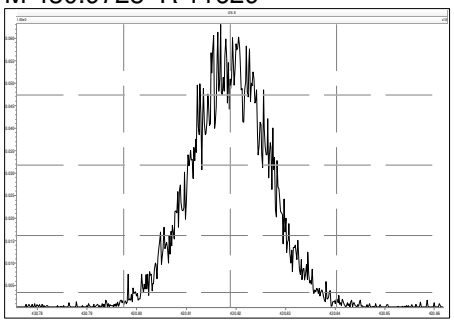
M 404.9760 R 11957



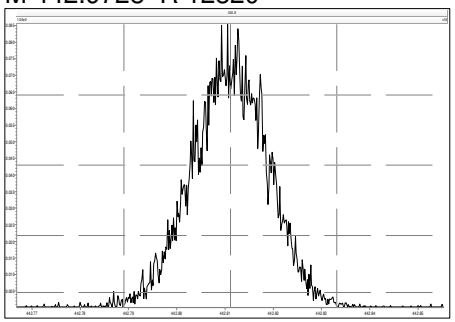
M 416.9760 R 12076



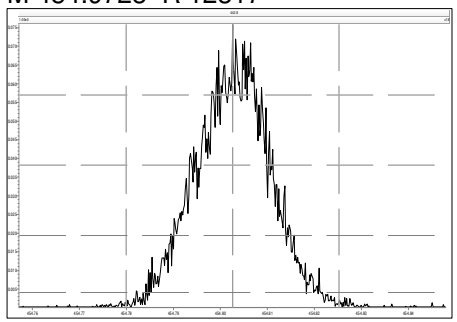
M 430.9728 R 11629



M 442.9728 R 12820



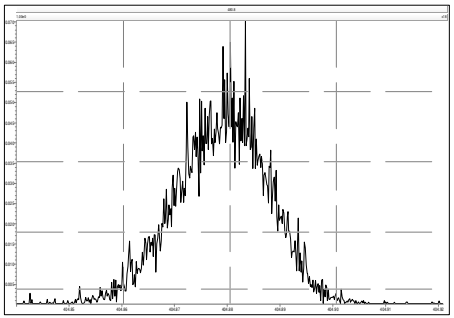
M 454.9728 R 12317



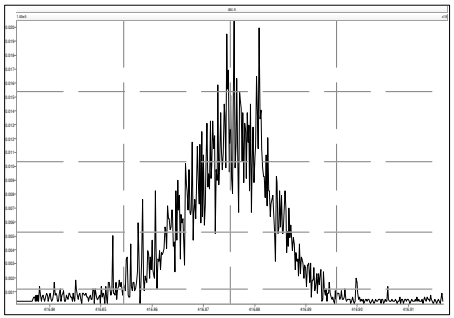
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

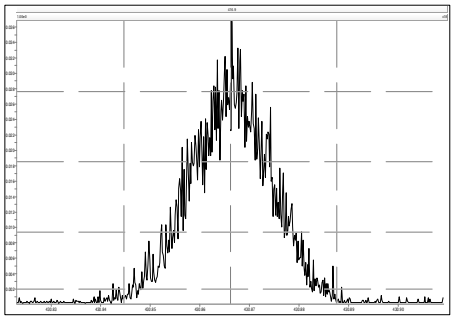
M 404.9760 R 10505



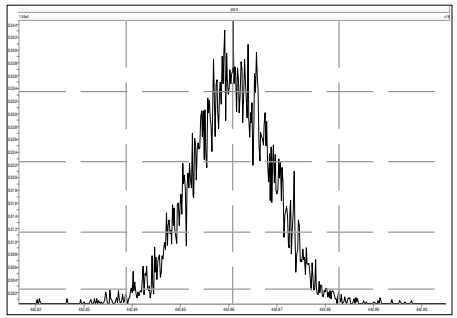
M 416.9760 R 12500



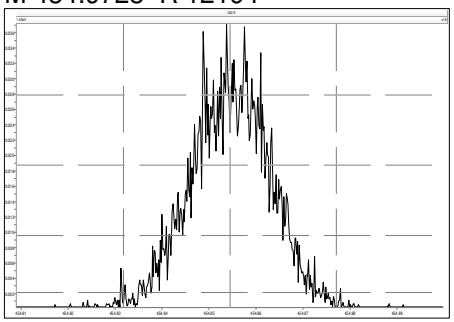
M 430.9728 R 11362



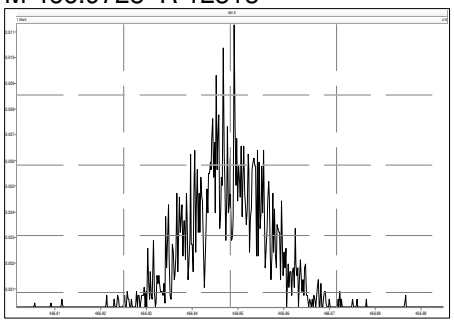
M 442.9728 R 12756



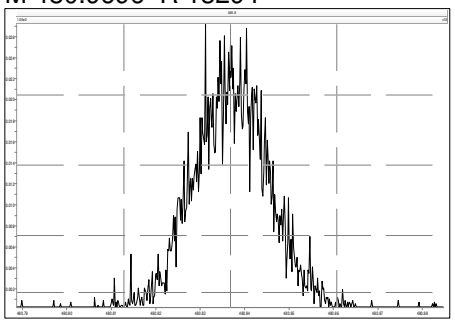
M 454.9728 R 12194



M 466.9728 R 12313



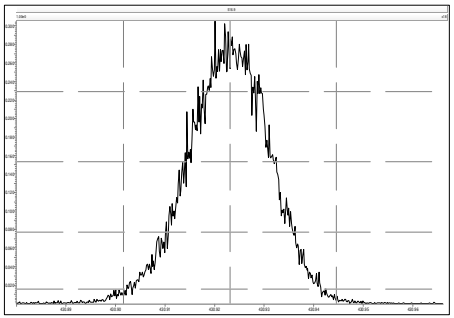
M 480.9696 R 13294



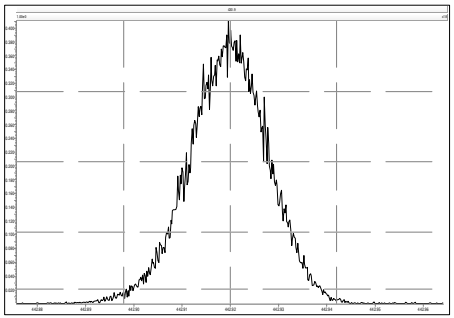
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

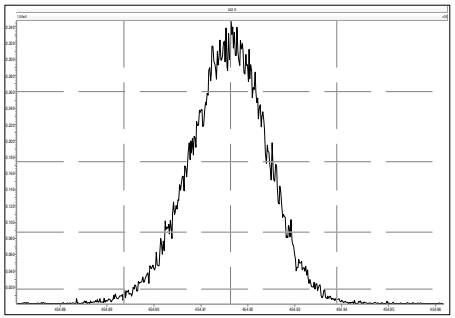
M 430.9728 R 11312



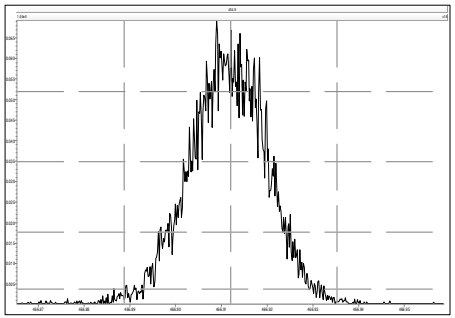
M 442.9728 R 11110



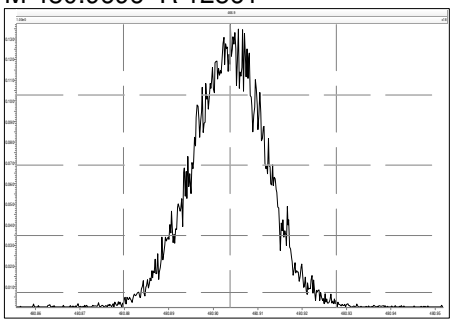
M 454.9728 R 11906



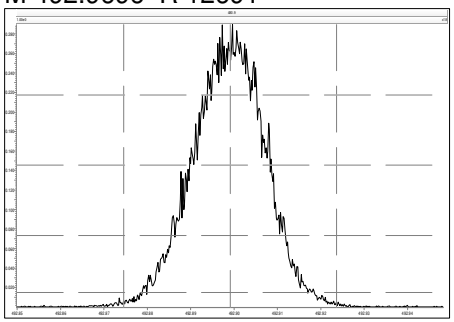
M 466.9728 R 12562



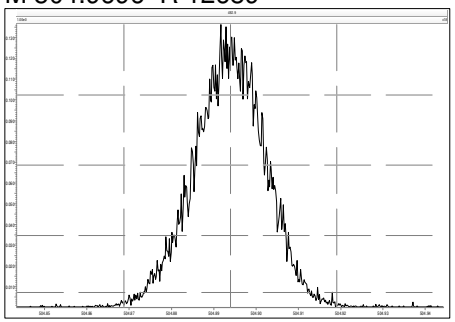
M 480.9696 R 12561



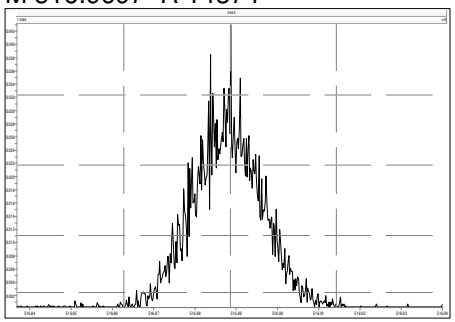
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



Lab ID: OPR1_18936_DF

REVIEWED
Tamara Burkamper , 2/24/2022, 2:30:18 PM

Acq'd: 23 Feb 2022 15:30 DTF

Wt/Vol: 1 uL

ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18936_OPR001

UTP: 24-Feb-2022 13:08:04 PSW

J-level: 0.25 pg/uL Split: 1

Checkcode: 285-654-CXK

Datafile: 220223C02

Report: 24 Feb 2022 13:09 pw

Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.23		1.0008	1.0008	0	2.63E+06	0.74	Y	1.18	10.5	3390.435	0.141
12378-PeCDD	33.63		1.0007	1.0006	-0.2	8.99E+06	1.50	Y	1.04	46.3	3854.005	0.176
123478-HxCDD	37.56		1.0004	1.0004	0	9.41E+06	1.28	Y	1.09	48.5	3901.013	0.189
123678-HxCDD	37.69		1.0036	1.0036	0	1.06E+07	1.26	Y	1.15	53.2	3901.013	0.177
123789-HxCDD	37.99		1.0118	1.0118	0	9.65E+06	1.24	Y	1.05	48.9	3901.013	0.185
1234678-HpCDD	40.73		1.0002	1.0003	+0.2	9.14E+06	1.04	Y	1.06	51	4443.681	0.198
OCDD	43.44		1.0003	1.0003	0	1.41E+07	0.89	Y	1.13	103	3398.47	0.324
2378-TCDF	27.36		1.0008	1.0008	0	3.32E+06	0.77	Y	1.08	9.77	3228.49	0.106
12378-PeCDF	32.17		1.0005	1.0005	0	1.49E+07	1.55	Y	1.02	47.3	7269.273	0.22
23478-PeCDF	33.29		1.0005	1.0005	0	1.52E+07	1.55	Y	1.02	49.4	7269.273	0.209
123478-HxCDF	36.56		1.0004	1.0005	+0.2	1.27E+07	1.24	Y	1.27	48.4	4860.142	0.15
123678-HxCDF	36.70		1.0004	1.0005	+0.2	1.52E+07	1.25	Y	1.15	49.1	4860.142	0.131
234678-HxCDF	37.38		1.0005	1.0005	0	1.56E+07	1.23	Y	1.19	51.8	4860.142	0.146
123789-HxCDF	38.36		1.0004	1.0004	0	1.12E+07	1.23	Y	1.16	47	4860.142	0.162
1234678-HpCDF	39.78		1.0003	1.0003	0	1.14E+07	1.05	Y	1.37	47.6	4483.183	0.149
1234789-HpCDF	41.18		1.0003	1.0003	0	1.00E+07	1.04	Y	1.31	48.7	4483.183	0.191
OCDF	43.62		1.0002	1.0003	+0.3	1.65E+07	0.86	Y	1.07	98.2	3570.554	0.295

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.21	1.0243	1.0243	0	2.11E+07	0.83	Y	1.05	97.2
ES 12378-PeCDD	33.61	1.2198	1.2203	+1.0	1.87E+07	1.58	Y	0.88	102
ES 123478-HxCDD	37.55	0.9916	0.9915	-0.2	1.78E+07	1.26	Y	0.97	100
ES 123678-HxCDD	37.67	0.9947	0.9947	0	1.74E+07	1.25	Y	0.94	101
ES 123789-HxCDD	37.98	1.0029	1.0027	-0.5	1.89E+07	1.25	Y	1.09	94.7
ES 1234678-HpCDD	40.72	1.0749	1.0752	+0.7	1.69E+07	1.06	Y	0.91	102
ES OCDD	43.43	1.1460	1.1468	+2.1	2.43E+07	0.95	Y	0.62	107
ES 2378-TCDF	27.34	1.0531	1.0532	+0.2	3.15E+07	0.82	Y	1.06	88.5
ES 12378-PeCDF	32.15	1.2378	1.2384	+1.2	3.06E+07	1.61	Y	0.91	100
ES 23478-PeCDF	33.27	1.2810	1.2817	+1.4	3.03E+07	1.61	Y	0.88	102
ES 123478-HxCDF	36.54	0.9650	0.9649	-0.2	2.06E+07	0.54	Y	1.20	94.1
ES 123678-HxCDF	36.68	0.9688	0.9686	-0.4	2.68E+07	0.54	Y	1.35	109
ES 234678-HxCDF	37.36	0.9866	0.9866	0	2.54E+07	0.51	Y	1.24	112
ES 123789-HxCDF	38.34	1.0125	1.0124	-0.2	2.05E+07	0.54	Y	1.16	97.5
ES 1234678-HpCDF	39.77	1.0501	1.0501	0	1.75E+07	0.47	Y	0.97	99.1
ES 1234789-HpCDF	41.17	1.0870	1.0871	+0.2	1.58E+07	0.45	Y	0.85	101
ES OCDF	43.60	1.1505	1.1514	+2.4	3.12E+07	0.90	Y	0.81	106

Lab ID: OPR1_18936_DF | **Acq'd:** 23 Feb 2022 15:30 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18936_OPR001 | **UTP:** 24-Feb-2022 13:08:04 PSW | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 285-654-CXK

Datafile: 220223C02 | **Report:** 24 Feb 2022 13:09 pw | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.54		-	-	-	2.08E+07	0.82	Y	-	-
JS 1234-TCDF	25.96		-	-	-	3.36E+07	0.80	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	9.12E+06	1.27	Y	-	-
CS 37Cl-2378-TCDD	28.23		1.0251	1.0251	0	9.68E+06	n/a	-	1.20	96.8
CS 12347-PeCDD	33.11		1.2016	1.2020	+0.8	1.80E+07	1.58	Y	0.75	115
CS 12346-PeCDF	31.62		1.2172	1.2179	+1.3	2.99E+07	1.58	Y	0.85	104
CS 123469-HxCDF	36.99		0.9771	0.9768	-0.7	2.25E+07	0.54	Y	1.12	110
CS 1234689-HpCDF	40.18		1.0608	1.0610	+0.5	1.74E+07	0.46	Y	0.89	107
~~SS 37Cl-2378-TCDD~~	~~28.23~~		~~1.0251~~	~~1.0251~~	~~0~~	~~9.68E+06~~	~~n/a~~		~~1.15~~	~~99.8~~
~~SS 12347-PeCDD~~	~~33.11~~		~~1.2016~~	~~1.2020~~	~~+0.8~~	~~1.80E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~112~~
~~SS 12346-PeCDF~~	~~31.62~~		~~1.2172~~	~~1.2179~~	~~+1.3~~	~~2.99E+07~~	~~1.58~~	~~Y~~	~~0.94~~	~~104~~
~~SS 123469-HxCDF~~	~~36.99~~		~~0.9771~~	~~0.9768~~	~~-0.7~~	~~2.25E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~101~~
~~SS 1234689-HpCDF~~	~~40.18~~		~~1.0608~~	~~1.0610~~	~~+0.5~~	~~1.74E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~108~~

Totals	Conc	EMPC
Total TCDD	50.4	50.4
Total PeCDD	71.8	71.8
Total HxCDD	165	165
Total HpCDD	62.3	62.3
Total Tetra-Octa Dioxins	453	453
Total TCDF	57.6	57.6
Total PeCDF	189	189
Total HxCDF	307	307
Total HpCDF	96.3	96.3
Total Tetra-Octa Furans	748	748
Total Tetra-Octa Dioxins & Furans	1200	1200

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.733	0.74
Response	2.64E+06	2.63E+06

Lab ID: OPR1_18936_DF **Acq'd: 23 Feb 2022 15:30 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18936_OPR001 **UTP: 24-Feb-2022 13:08:04 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 285-654-CXK**

Datafile: 220223C02 **Report: 24 Feb 2022 13:09 pw** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.54		0.8701	0.8698	-0.4	3.55E+06	0.79	Y	1.18	14.2	3390.435	0.141
1379-TCDD	NotFnd		0.8829						1.18		3390.435	0.141
1369-TCDD	NotFnd		0.8982						1.18		3390.435	0.141
1469-TCDD	NotFnd		0.9261						1.18		3390.435	0.141
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		3390.435	0.141
1378-TCDD	NotFnd		0.9417						1.18		3390.435	0.141
1268-TCDD	NotFnd		0.9487						1.18		3390.435	0.141
1478-TCDD	NotFnd		0.9576						1.18		3390.435	0.141
1279-TCDD	NotFnd		0.9636						1.18		3390.435	0.141
1234/1269-TCDD	NotFnd		0.9761						1.18		3390.435	0.141
1236-TCDD	NotFnd		0.9812						1.18		3390.435	0.141
1237/1238-TCDD	NotFnd		0.9905						1.18		3390.435	0.141
1239-TCDD	28.07		0.9951	0.9951	0	2.71E+06	0.78	Y	1.18	10.8	3390.435	0.141
2378-TCDD	**28.23**		**1.0008**	1.0008	**0**	2.63E+06	0.74	Y	**1.18**	**10.5**	**3390.435**	**0.141**
1278-TCDD	NotFnd		1.0124						1.18		3390.435	0.141
1267-TCDD	NotFnd		1.0172						1.18		3390.435	0.141
1289-TCDD	29.21		1.0354	1.0356	+0.4	3.72E+06	0.80	Y	1.18	14.9	3390.435	0.141
12479/12468-PeCDD	31.11		0.9255	0.9255	0	2.48E+06	1.53	Y	1.04	12.8	3854.005	0.176
12469-PeCDD	NotFnd		0.9416						1.04		3854.005	0.176
12368-PeCDD	NotFnd		0.9582						1.04		3854.005	0.176
12478-PeCDD	NotFnd		0.9637						1.04		3854.005	0.176
12379-PeCDD	NotFnd		0.9668						1.04		3854.005	0.176
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		3854.005	0.176
12346/12347-PeCDD	NotFnd		0.9858						1.04		3854.005	0.176
12378-PeCDD	33.63		**1.0007**	**1.0006**	**-0.2**	**8.99E+06**	**1.50**	**Y**	**1.04**	**46.3**	**3854.005**	**0.176**
12367-PeCDD	NotFnd		1.0036						1.04		3854.005	0.176
12389-PeCDD	34.07		1.0137	1.0138	+0.2	2.46E+06	1.58	Y	1.04	12.7	3854.005	0.176
124679/124689-HxCDD	35.82		0.9540	0.9539	-0.2	2.90E+06	1.22	Y	1.10	14.7	3901.013	0.183
123468-HxCDD	NotFnd		0.9715						1.10		3901.013	0.183
123679/123689-HxCDD	NotFnd		0.9793						1.10		3901.013	0.183
123469-HxCDD	NotFnd		0.9829						1.10		3901.013	0.183
123478-HxCDD	37.56		**1.0004**	**1.0004**	**0**	**9.41E+06**	**1.28**	**Y**	1.09	**48.5**	**3901.013**	**0.189**
123678-HxCDD	37.69		**1.0036**	**1.0036**	**0**	**1.06E+07**	**1.26**	**Y**	1.15	**53.2**	**3901.013**	**0.177**
123467-HxCDD	NotFnd		1.0089						1.10		3901.013	0.183
123789-HxCDD	37.99		**1.0118**	**1.0118**	**0**	**9.65E+06**	**1.24**	**Y**	1.05	**48.9**	**3901.013**	**0.185**

Lab ID: OPR1_18936_DF | **Acq'd: 23 Feb 2022 15:30 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18936_OPR001 | **UTP: 24-Feb-2022 13:08:04 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 285-654-CXK**

Datafile: 220223C02 | **Report: 24 Feb 2022 13:09 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.05		0.9836	0.9835	-0.2	2.02E+06	1.00	Y	1.06	11.3	4443.681	0.198
1234678-HpCDD	**40.73**		**1.0002**	**1.0003**	**+0.2**	**9.14E+06**	**1.04**	**Y**	**1.06**	**51**	**4443.681**	**0.198**
OCDD	**43.44**		**1.0003**	**1.0003**	**0**	**1.41E+07**	**0.89**	**Y**	**1.13**	**103**	**3398.47**	**0.324**
OCDD-a	43.44		1.0002	1.0002	0	9.57E+05	2.46	Y	0.07	109	3381.196	5.04
1368-TCDF	22.39		0.8191	0.8187	-0.5	4.78E+06	0.75	Y	1.08	14.1	3228.49	0.106
1468-TCDF	NotFnd		0.8408						1.08		3228.49	0.106
2468-TCDF	23.63		0.8645	0.8641	-0.6	1.22E+06	0.85	Y	1.08	3.6	3228.49	0.106
1346/1246-TCDF	NotFnd		0.8772						1.08		3228.49	0.106
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		3228.49	0.106
1348-TCDF	NotFnd		0.8932						1.08		3228.49	0.106
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		3228.49	0.106
1268-TCDF	NotFnd		0.9119						1.08		3228.49	0.106
1467-TCDF	NotFnd		0.9170						1.08		3228.49	0.106
1478-TCDF	NotFnd		0.9234						1.08		3228.49	0.106
1369/1237-TCDF	NotFnd		0.9369						1.08		3228.49	0.106
2467-TCDF	NotFnd		0.9415						1.08		3228.49	0.106
2368-TCDF	NotFnd		0.9475						1.08		3228.49	0.106
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		3228.49	0.106
1278-TCDF	NotFnd		0.9676						1.08		3228.49	0.106
1349-TCDF	NotFnd		0.9722						1.08		3228.49	0.106
1267-TCDF	NotFnd		0.9777						1.08		3228.49	0.106
2346/1249-TCDF	NotFnd		0.9843						1.08		3228.49	0.106
2347/1279-TCDF	NotFnd		0.9926						1.08		3228.49	0.106
2348-TCDF	27.25		0.9968	0.9968	0	4.82E+06	0.78	Y	1.08	14.2	3228.49	0.106
2378-TCDF	**27.36**		**1.0008**	**1.0008**	**0**	**3.32E+06**	**0.77**	**Y**	**1.08**	**9.77**	**3228.49**	**0.106**
2367/3467-TCDF	NotFnd		1.0142						1.08		3228.49	0.106
1269-TCDF	NotFnd		1.0235						1.08		3228.49	0.106
1239-TCDF	NotFnd		1.0329						1.08		3228.49	0.106
1289-TCDF	29.39		1.0742	1.0748	+1.1	5.43E+06	0.77	Y	1.08	16	3228.49	0.106
13468/12468-PeCDF	29.31		0.9122	0.9117	-0.9	2.55E+07	1.54	Y	1.02	81.8	2508.222	0.0741
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		7269.273	0.215
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		7269.273	0.215
14678-PeCDF	NotFnd		0.9685						1.02		7269.273	0.215
13479-PeCDF	NotFnd		0.9716						1.02		7269.273	0.215
13469/12479-PeCDF	NotFnd		0.9794						1.02		7269.273	0.215
12346-PeCDF	NotFnd		0.9836						1.02		7269.273	0.215

Lab ID: OPR1_18936_DF | **Acq'd: 23 Feb 2022 15:30 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18936_OPR001 | **UTP: 24-Feb-2022 13:08:04 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 285-654-CXK**

Datafile: 220223C02 | **Report: 24 Feb 2022 13:09 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		7269.273	0.215
12347-PeCDF	NotFnd		0.9891						1.02		7269.273	0.215
12348-PeCDF	NotFnd		0.9938						1.02		7269.273	0.215
12378-PeCDF	**32.17**		**1.0005**	**1.0005**	**0**	**1.49E+07**	**1.55**	**Y**	**1.02**	**47.3**	**7269.273**	**0.22**
12678/12367-PeCDF	NotFnd		1.0091						1.02		7269.273	0.215
12379-PeCDF	NotFnd		1.0144						1.02		7269.273	0.215
12679-PeCDF	NotFnd		0.9927						1.02		7269.273	0.215
23467/12369-PeCDF	NotFnd		0.9965						1.02		7269.273	0.215
23478-PeCDF	**33.29**		**1.0005**	**1.0005**	**0**	**1.52E+07**	**1.55**	**Y**	**1.02**	**49.4**	**7269.273**	**0.209**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7269.273	0.215
12349-PeCDF	NotFnd		1.0101						1.02		7269.273	0.215
12389-PeCDF	34.37		1.0330	1.0329	-0.2	3.29E+06	1.63	Y	1.02	10.6	7269.273	0.215
123468-HxCDF	35.16		0.9622	0.9623	+0.2	3.09E+07	1.24	Y	1.19	111	4860.142	0.146
124678/134678-HxCDF	NotFnd		0.9678						1.19		4860.142	0.146
134679-HxCDF	NotFnd		0.9741						1.19		4860.142	0.146
124679-HxCDF	NotFnd		0.9795						1.19		4860.142	0.146
124689-HxCDF	NotFnd		0.9856						1.19		4860.142	0.146
123467-HxCDF	NotFnd		0.9972						1.19		4860.142	0.146
123478-HxCDF	**36.56**		**1.0004**	**1.0005**	**+0.2**	**1.27E+07**	**1.24**	**Y**	**1.27**	**48.4**	**4860.142**	**0.15**
123678-HxCDF	**36.70**		**1.0004**	**1.0005**	**+0.2**	**1.52E+07**	**1.25**	**Y**	**1.15**	**49.1**	**4860.142**	**0.131**
123479-HxCDF	NotFnd		1.0048						1.19		4860.142	0.146
123469-HxCDF	NotFnd		1.0089						1.19		4860.142	0.146
123679-HxCDF	NotFnd		0.9942						1.19		4860.142	0.146
234678-HxCDF	**37.38**		**1.0005**	**1.0005**	**0**	**1.56E+07**	**1.23**	**Y**	**1.19**	**51.8**	**4860.142**	**0.146**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4860.142	0.146
123789-HxCDF	**38.36**		**1.0004**	**1.0004**	**0**	**1.12E+07**	**1.23**	**Y**	**1.16**	**47**	**4860.142**	**0.162**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		4860.142	0.146
1234678-HpCDF	**39.78**		**1.0003**	**1.0003**	**0**	**1.14E+07**	**1.05**	**Y**	**1.37**	**47.6**	**4483.183**	**0.149**
1234679-HpCDF	NotFnd		1.0068						1.34		4483.183	0.169
1234689-HpCDF	NotFnd		1.0104						1.34		4483.183	0.169
1234789-HpCDF	**41.18**		**1.0003**	**1.0003**	**0**	**1.00E+07**	**1.04**	**Y**	**1.31**	**48.7**	**4483.183**	**0.191**
OCDF	**43.62**		**1.0002**	**1.0003**	**+0.3**	**1.65E+07**	**0.86**	**Y**	**1.07**	**98.2**	**3570.554**	**0.295**
OCDF-a	43.61		1.0001	1.0002	+0.3	9.90E+05	2.32	Y	0.07	95.5	2790.183	3.72

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220223C02	Analysis Date:	23-FEB-2022 15:30:05
Lab ID:	OPR1_18936_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	10.5	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	46.3	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	48.5	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	53.2	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	48.9	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	51	35	-	70	Y
OCDD	100	103	78	-	144	Y
2,3,7,8-TCDF	10	9.77	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	47.3	40	-	67	Y
2,3,4,7,8-PeCDF	50	49.4	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	48.4	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	49.1	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	51.8	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	47	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	47.6	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	48.7	39	-	69	Y
OCDF	100	98.2	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 24 Feb 2022 13:09 Analyst: pw

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220223C02	Analysis Date:	23-FEB-2022 15:30:05
Lab ID:	OPR1_18936_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	97.2	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	102	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	100	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	101	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	94.7	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	102	26	-	166	Y
13C-OCDD	200	213	26	-	397	Y
13C-2,3,7,8-TCDF	100	88.5	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	100	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	102	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	94.1	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	109	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	112	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	97.5	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	99.1	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	101	20	-	186	Y
13C-OCDF	200	212	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	38.7	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 24 Feb 2022 13:09 Analyst: pw

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220223C02	Analysis Date:	23-FEB-2022 15:30:05
Lab ID:	OPR1_18936_DF		

Window Defining Standards Results

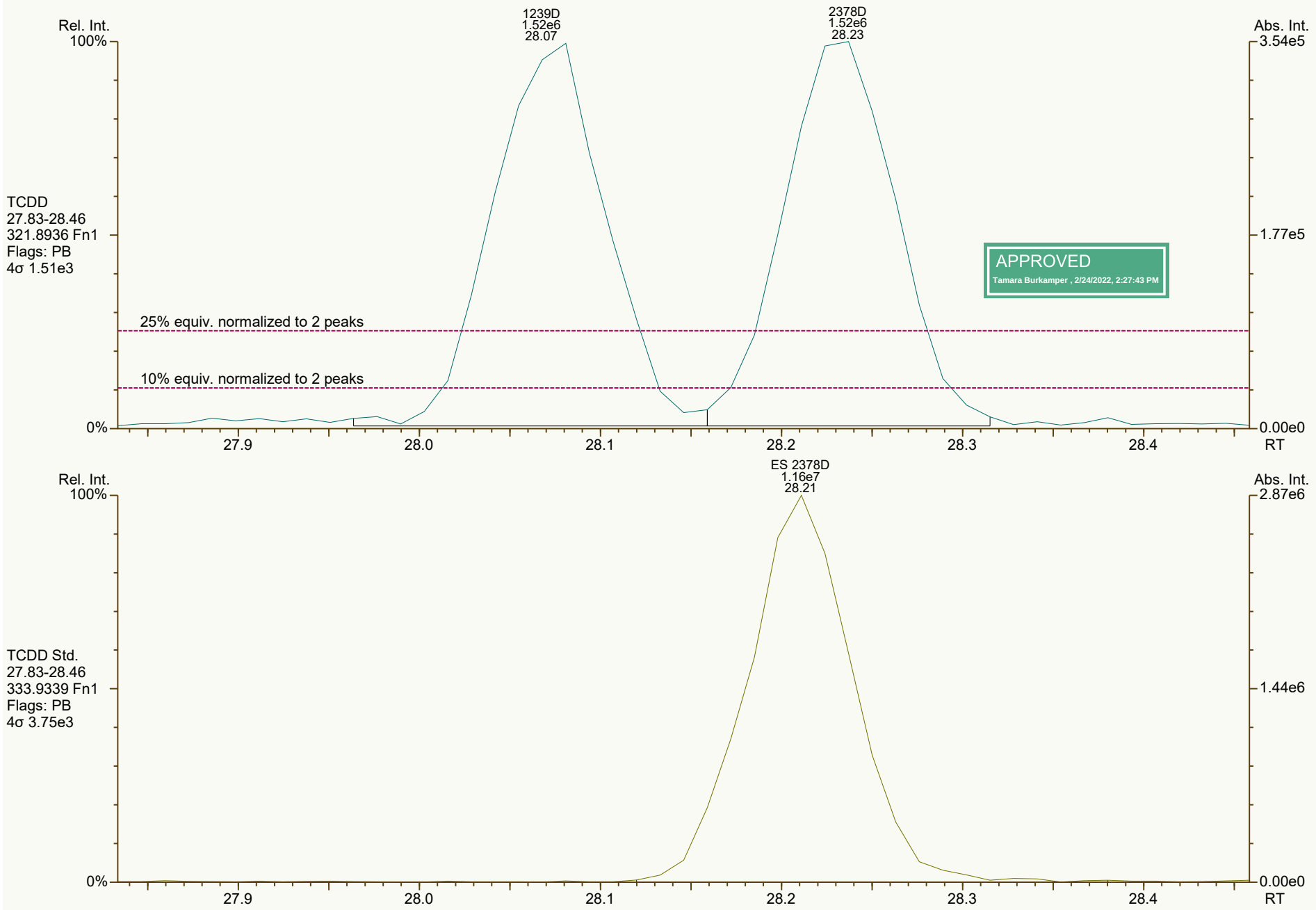
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.54	1289-TCDD	29.21
12479/12468-PeCDD	31.11	12389-PeCDD	34.07
124679/124689-HxCDD	35.82	123789-HxCDD	37.99
1234679-HpCDD	40.05	1234678-HpCDD	40.73
1368-TCDF	22.39	1289-TCDF	29.39
13468/12468-PeCDF	29.31	12389-PeCDF	34.37
123468-HxCDF	35.16	123789-HxCDF	38.36
1234678-HpCDF	39.78	1234789-HpCDF	41.18

Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.07	2378-TCDD	28.23
2348-TCDF	27.25	2378-TCDF	27.36

Processed: 24 Feb 2022 13:09 Analyst: pw

SGS ID: OPR1_18936_DF
Sample ID: 0_18936_OPR001
Acq: 23-Feb-2022 15:30:05
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: DTF Datafile: 220223C02



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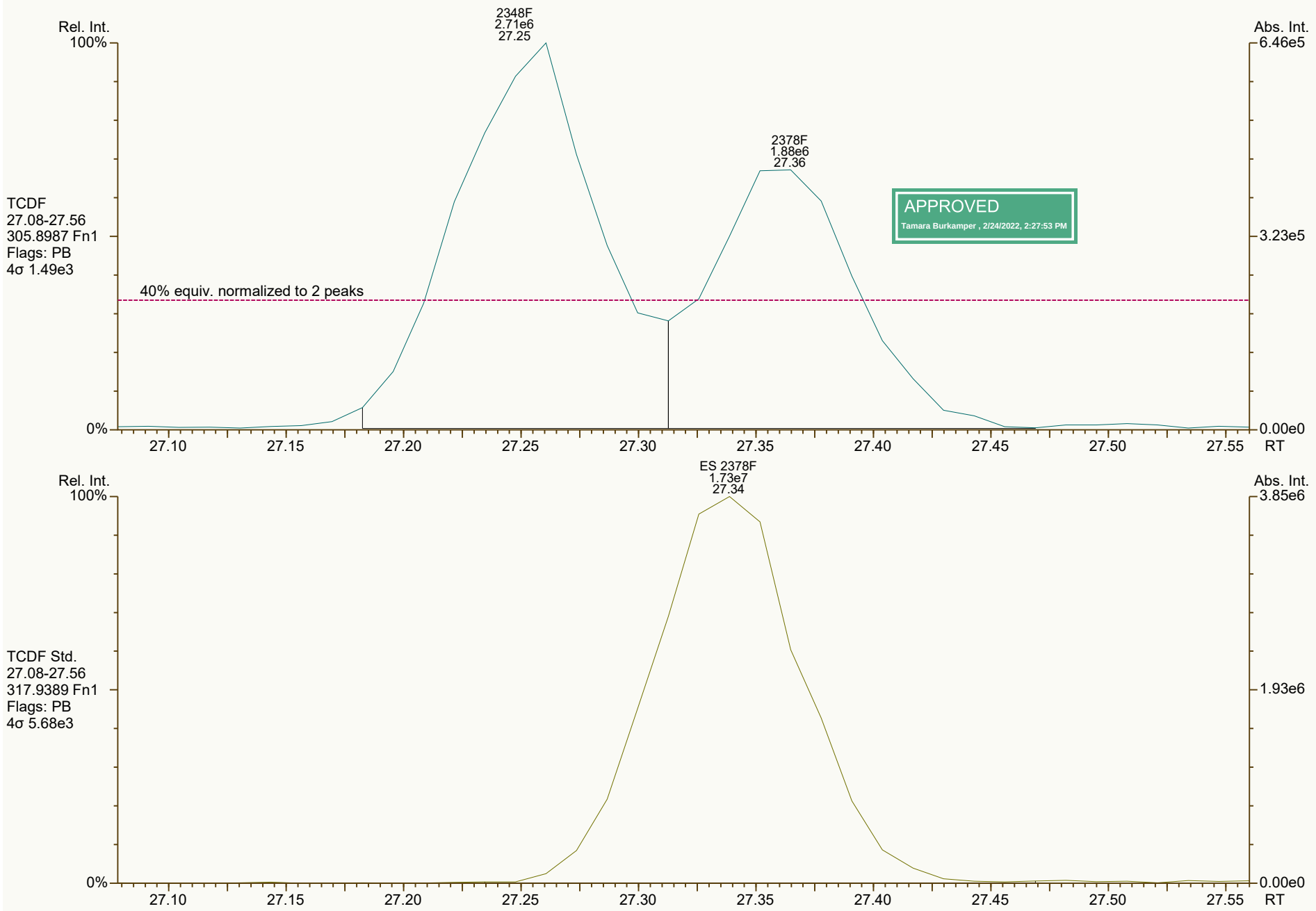
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
PKD: 24-Feb-2022 12:42 Printed: 24-Feb-2022 13:12

SGS ID: OPR1_18936_DF
Sample ID: 0_18936_OPR001
Acq: 23-Feb-2022 15:30:05
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: DTF Datafile: 220223C02



Results: P:\B6200_B6299\B6293\B6293_18936 DF\Resources\OPR1_18936_DF.utp_res, saved 24-Feb-2022 13:12 (PSW)
Peak annotation: Areas, Centroids
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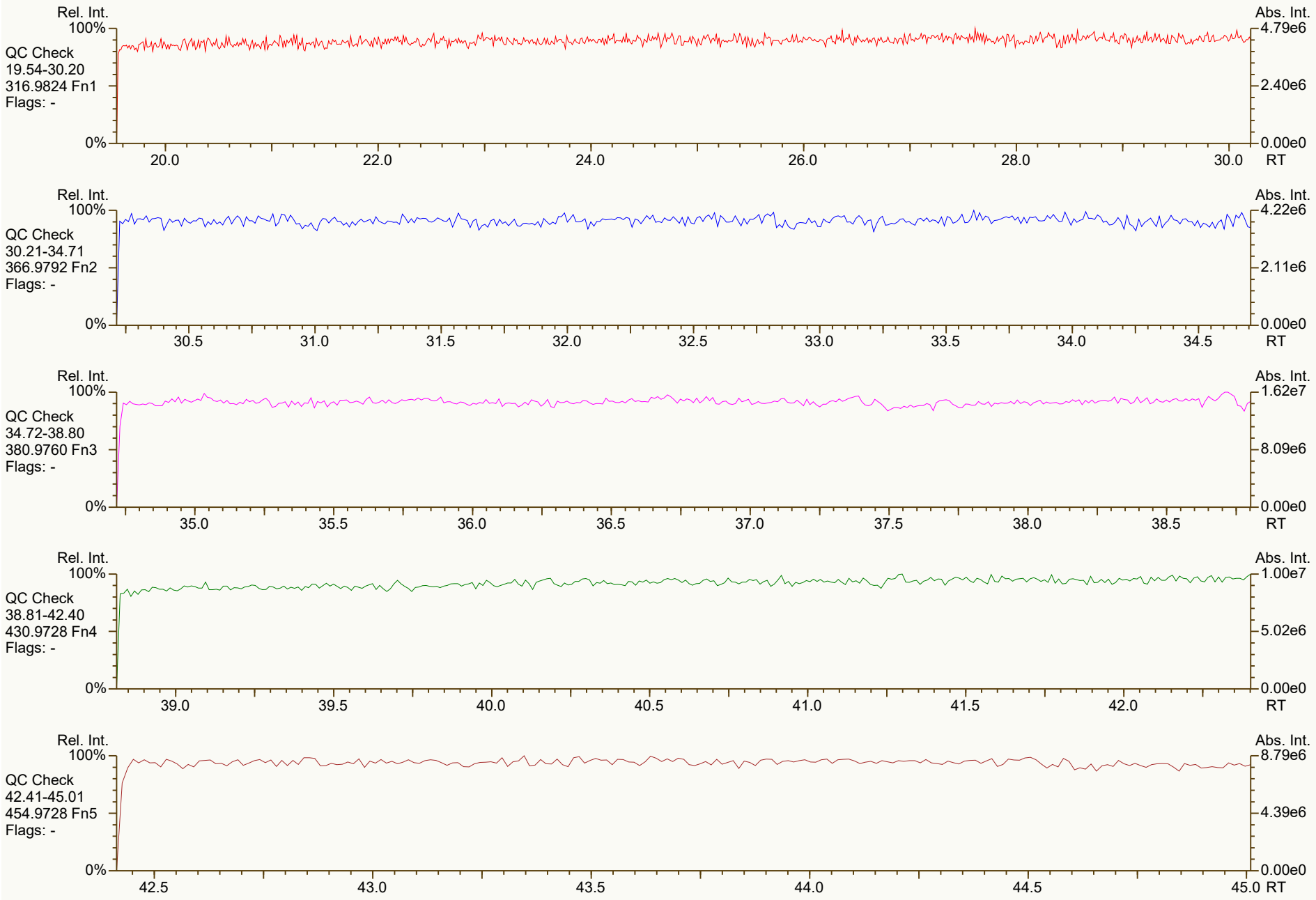
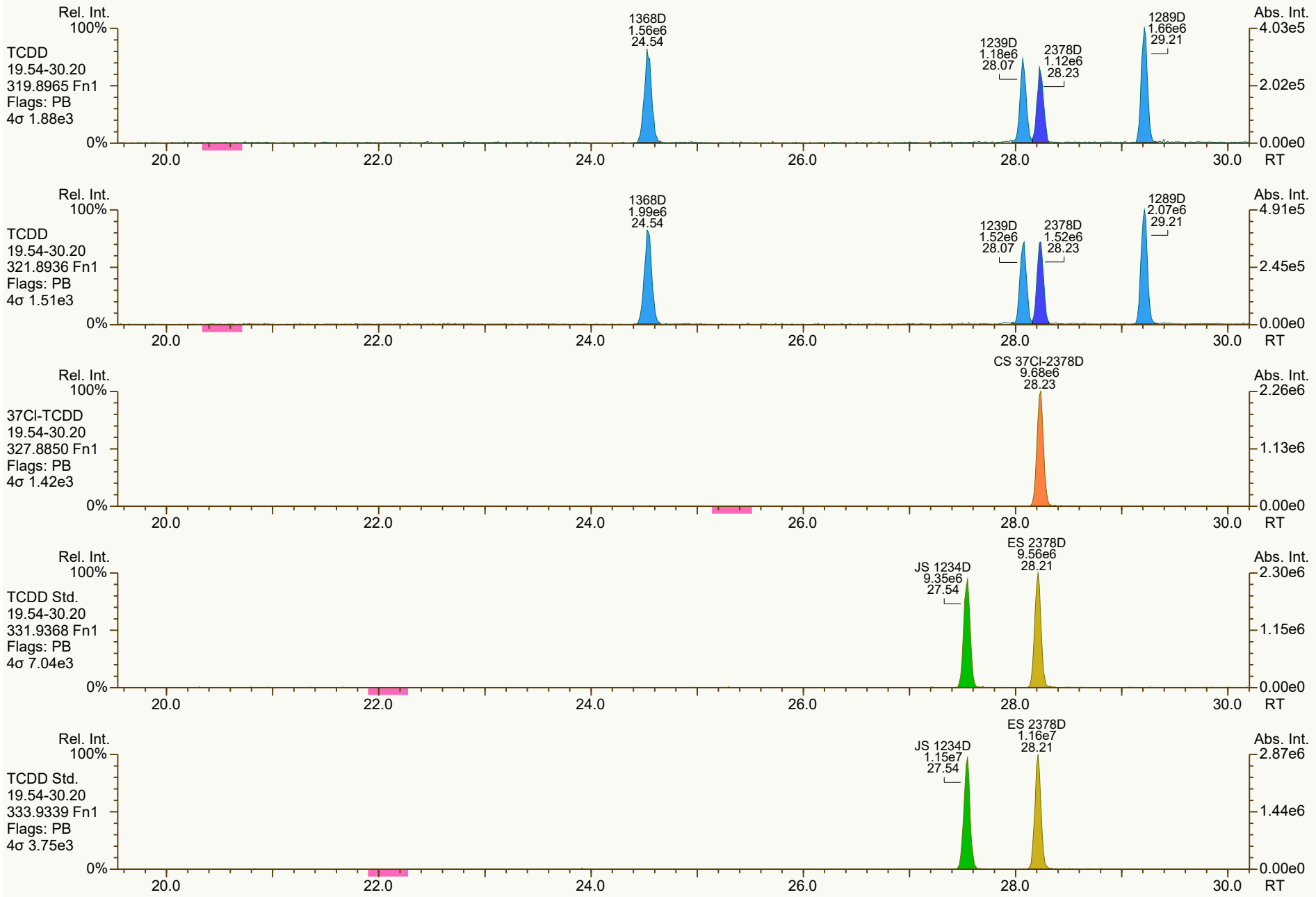
PKD: 24-Feb-2022 12:43 Printed: 24-Feb-2022 13:12

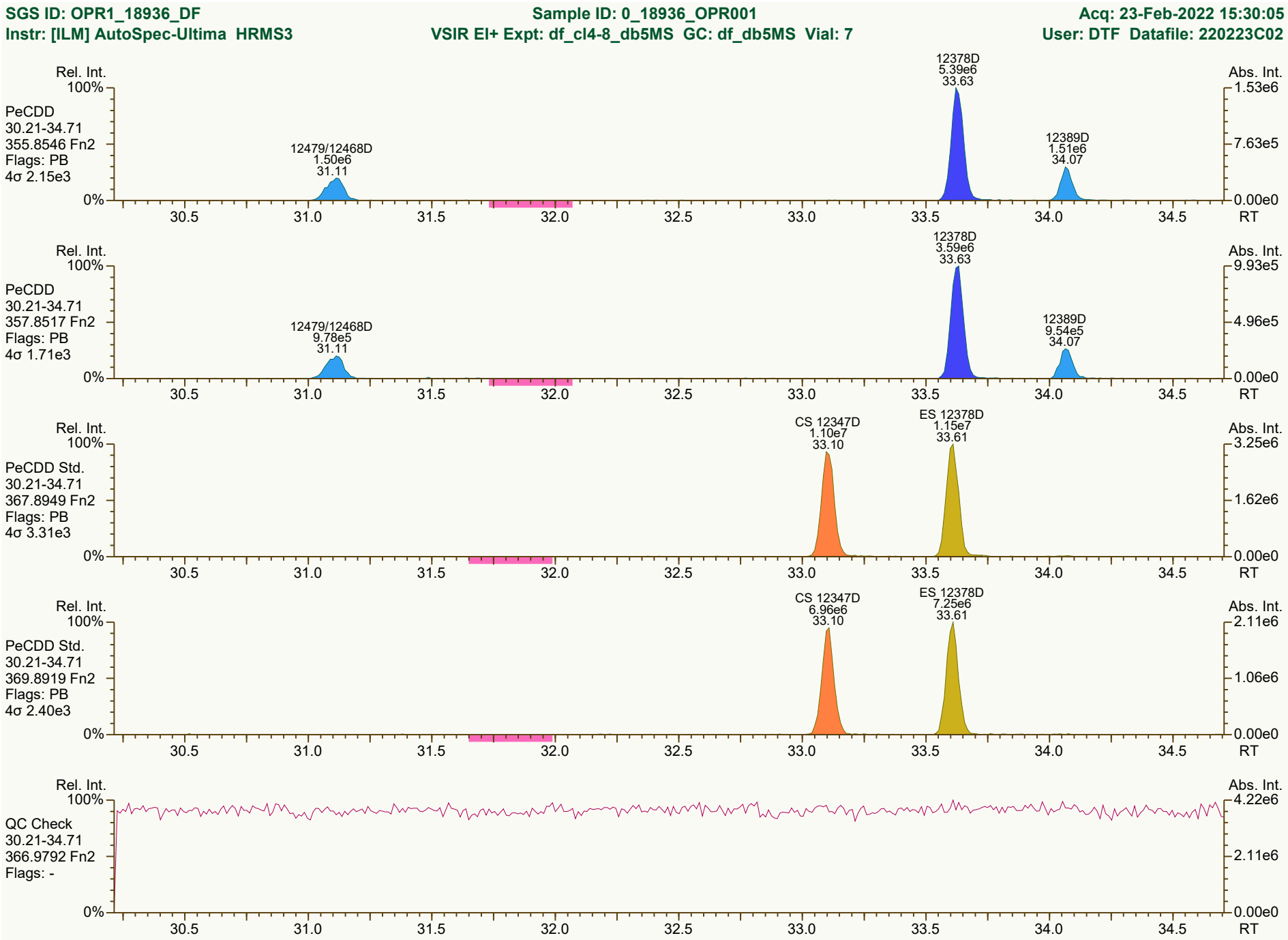

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.79e6
2.40e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.22e6
2.11e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.62e7
8.09e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.00e7
5.02e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
8.79e6
4.39e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 1.88e3
0%
1368D
1.56e6
24.54
1239D
1.18e6
28.07
2378D
1.12e6
28.23
1289D
1.66e6
29.21
Abs. Int.
4.03e5
2.02e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.51e3
0%
1368D
1.99e6
24.54
1239D
1.52e6
28.07
2378D
1.52e6
28.23
1289D
2.07e6
29.21
Abs. Int.
4.91e5
2.45e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.42e3
0%
CS 37Cl-2378D
9.68e6
28.23
Abs. Int.
2.26e6
1.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 7.04e3
0%
JS 1234D
9.35e6
27.54
ES 2378D
9.56e6
28.21
Abs. Int.
2.30e6
1.15e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.75e3
0%
JS 1234D
1.15e7
27.54
ES 2378D
1.16e7
28.21
Abs. Int.
2.87e6
1.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: OPR1_18936_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

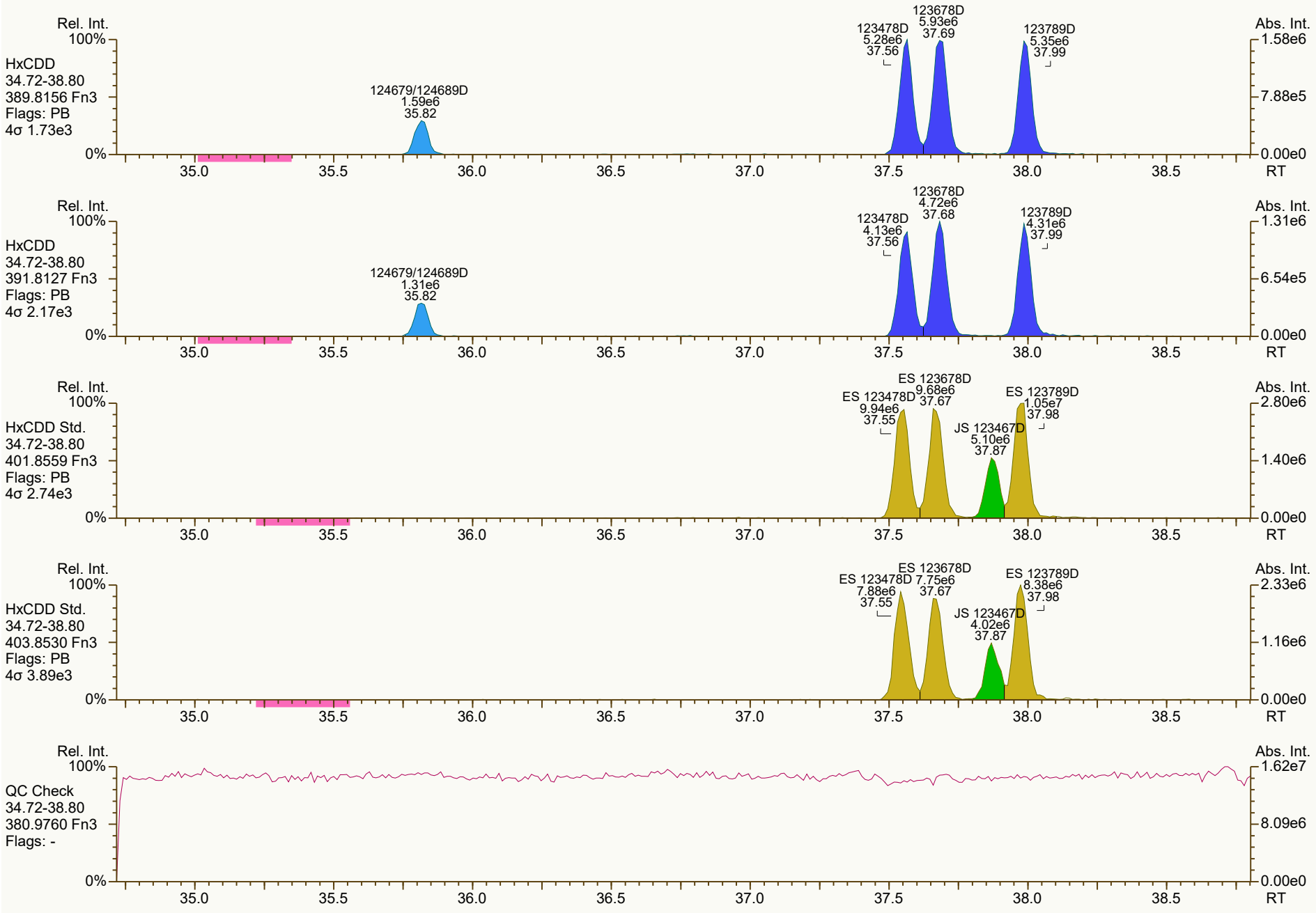
Sample ID: 0_18936_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7

Acq: 23-Feb-2022 15:30:05
User: DTF Datafile: 220223C02



Results: P:\B6200_B6299\B6293\B6293_18936 DF\Resources\OPR1_18936_DF.utp_res, saved 24-Feb-2022 13:12 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0999, 9304 scc: 285-654

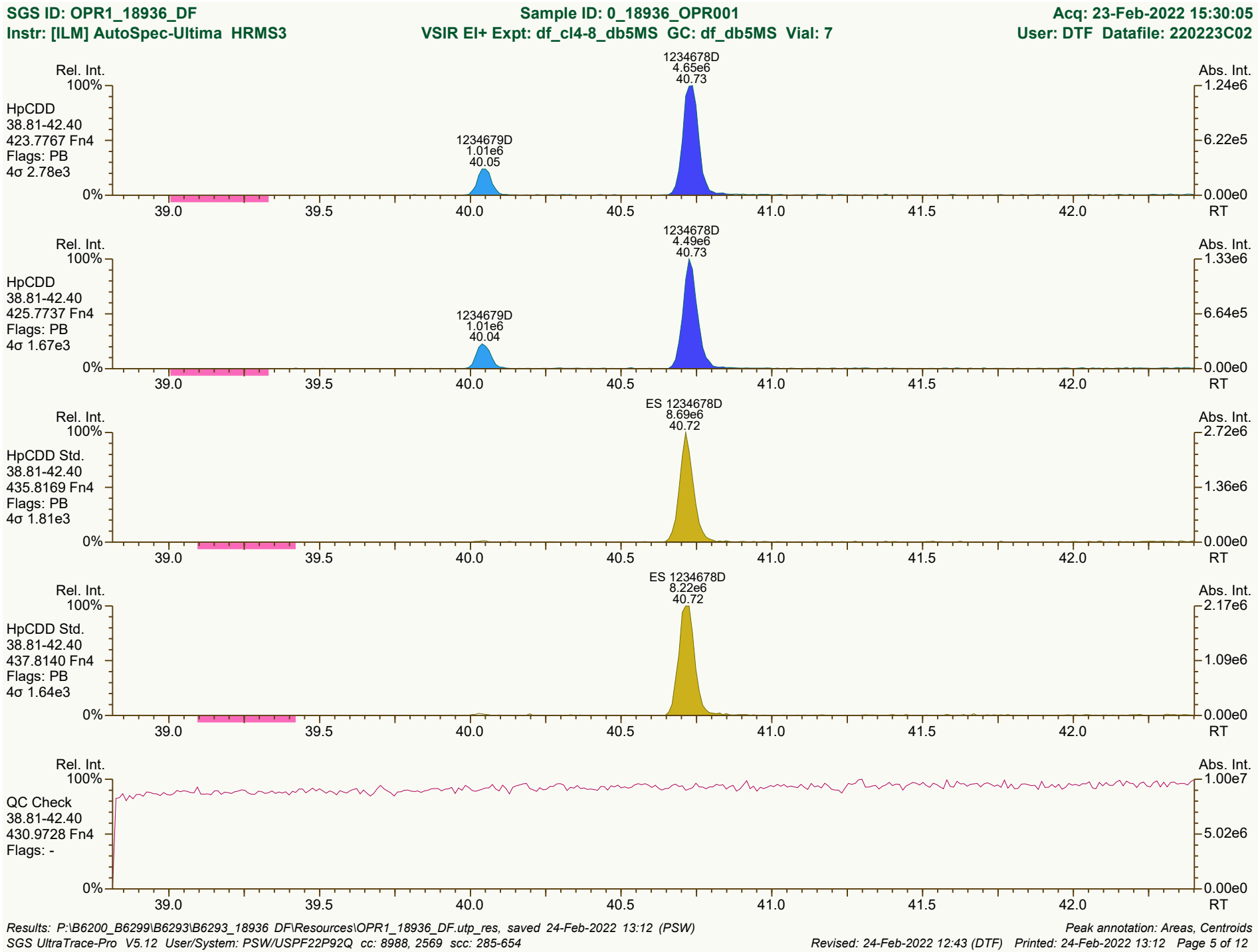
Peak annotation: Areas, Centroids
PKD: 24-Feb-2022 12:42 Printed: 24-Feb-2022 13:12 Page 3 of 12


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 1.73e3
124679/124689D
1.59e6
35.82
123478D
5.28e6
37.56
123678D
5.93e6
37.69
123789D
5.35e6
37.99
Abs. Int.
1.58e6
7.88e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 2.17e3
124679/124689D
1.31e6
35.82
123478D
4.13e6
37.56
123678D
4.72e6
37.68
123789D
4.31e6
37.99
Abs. Int.
1.31e6
6.54e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 2.74e3
ES 123478D
9.94e6
37.55
ES 123678D
9.68e6
37.67
JS 123467D
5.10e6
37.87
ES 123789D
1.05e7
37.98
Abs. Int.
2.80e6
1.40e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 3.89e3
ES 123478D
7.88e6
37.55
ES 123678D
7.75e6
37.67
JS 123467D
4.02e6
37.87
ES 123789D
8.38e6
37.98
Abs. Int.
2.33e6
1.16e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
1.62e7
8.09e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

SGS ID: OPR1_18936_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

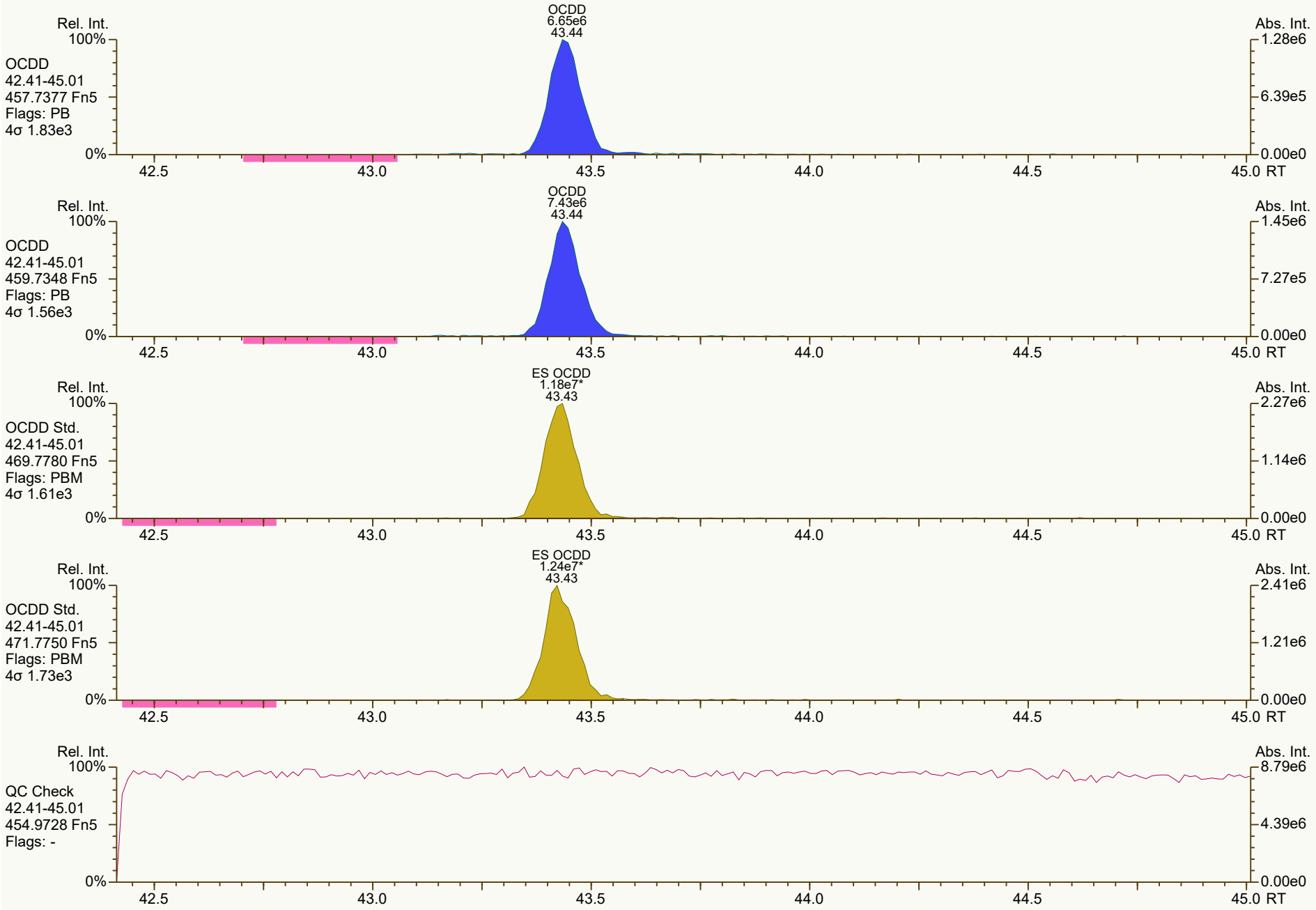
Sample ID: 0_18936_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7

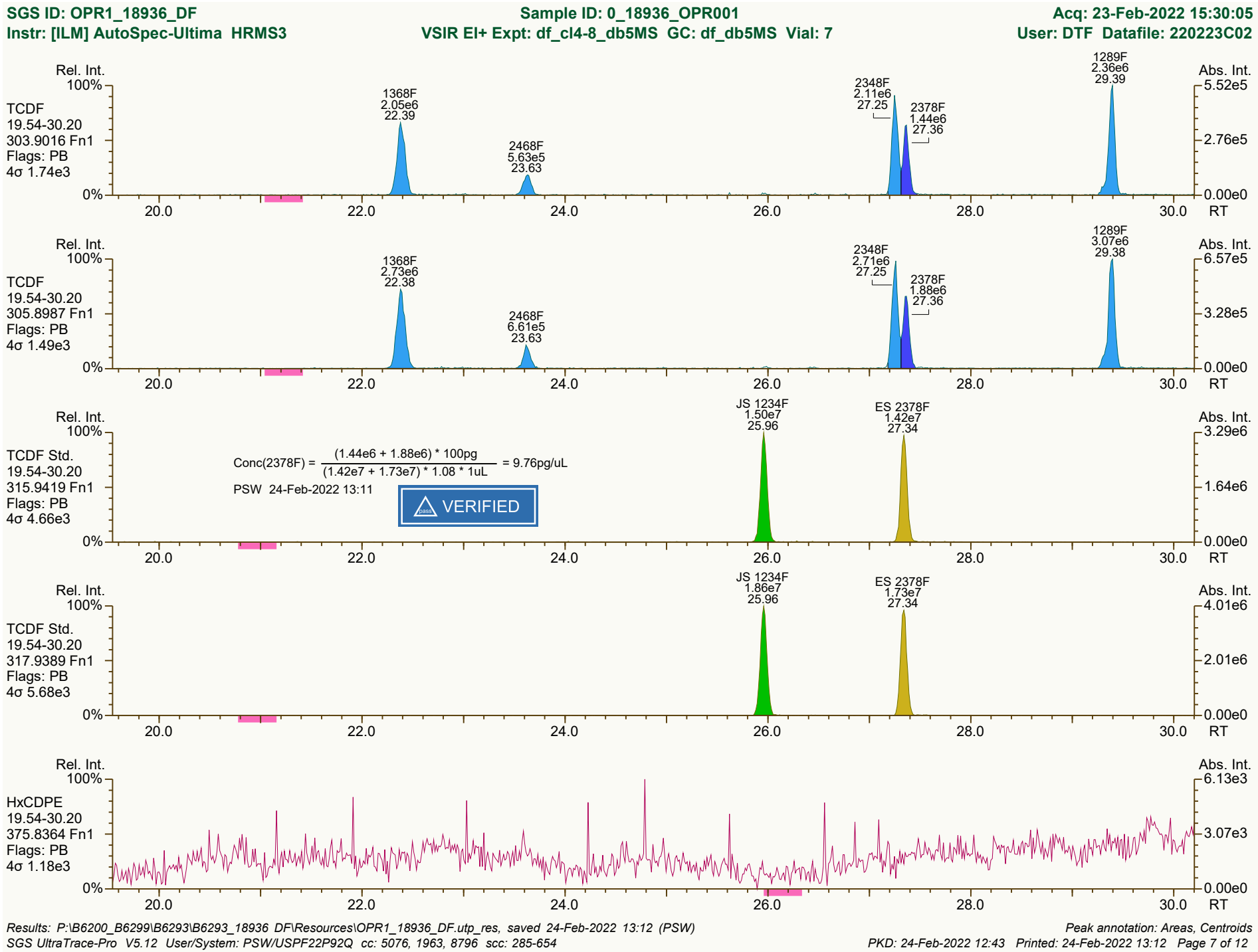
Acq: 23-Feb-2022 15:30:05
User: DTF Datafile: 220223C02



Results: P:\B6200_B6299\B6293\B6293_18936 DF\Resources\OPR1_18936_DF.utp_res, saved 24-Feb-2022 13:12 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8988, 2569 scc: 285-654

Peak annotation: Areas, Centroids
Revised: 24-Feb-2022 12:43 (DTF) Printed: 24-Feb-2022 13:12 Page 5 of 12

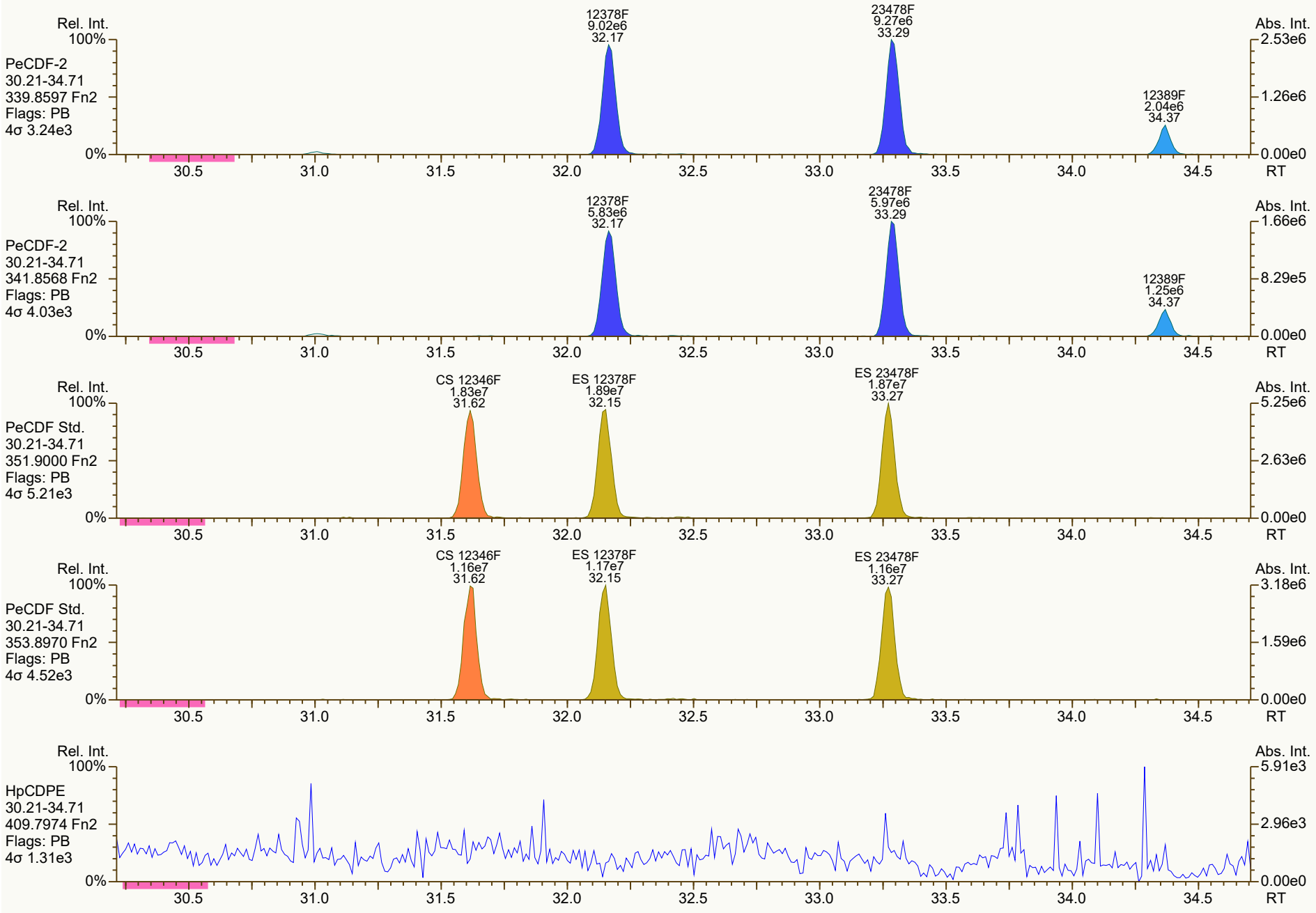

OCDD
6.65e6
43.44
Rel. Int.
Abs. Int.
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 1.83e3
OCDD
7.43e6
43.44
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 1.56e3
ES OCDD
1.18e7*
43.43
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.61e3
ES OCDD
1.24e7*
43.43
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.73e3
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0 RT

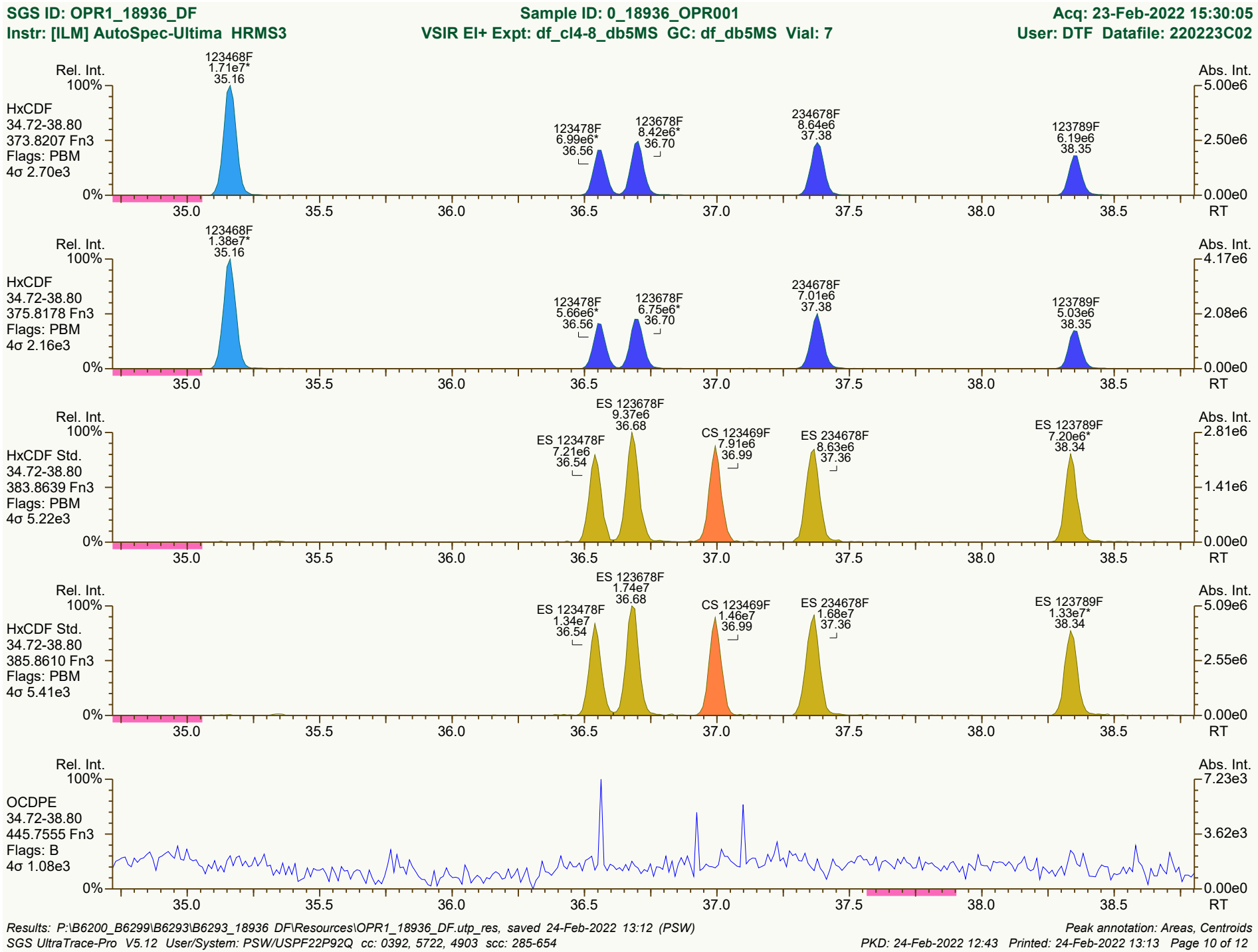

SGS ID: OPR1_18936_DF
Sample ID: 0_18936_OPR001
Acq: 23-Feb-2022 15:30:05
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: DTF Datafile: 220223C02
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.74e3
1368F 2.05e6 22.39
2468F 5.63e5 23.63
2348F 2.11e6 27.25
2378F 1.44e6 27.36
1289F 2.36e6 29.39
5.52e5
2.76e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 1.49e3
1368F 2.73e6 22.38
2468F 6.61e5 23.63
2348F 2.71e6 27.25
2378F 1.88e6 27.36
1289F 3.07e6 29.38
6.57e5
3.28e5
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 4.66e3
Conc(2378F) = (1.44e6 + 1.88e6) * 100pg / (1.42e7 + 1.73e7) * 1.08 * 1uL = 9.76pg/uL
PSW 24-Feb-2022 13:11
VERIFIED
JS 1234F 1.50e7 25.96
ES 2378F 1.42e7 27.34
3.29e6
1.64e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 5.68e3
JS 1234F 1.86e7 25.96
ES 2378F 1.73e7 27.34
4.01e6
2.01e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.18e3
6.13e3
3.07e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6293\B6293_18936 DF\Resources\OPR1_18936_DF.utp_res, saved 24-Feb-2022 13:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5076, 1963, 8796 scc: 285-654
PKD: 24-Feb-2022 12:43 Printed: 24-Feb-2022 13:12 Page 7 of 12

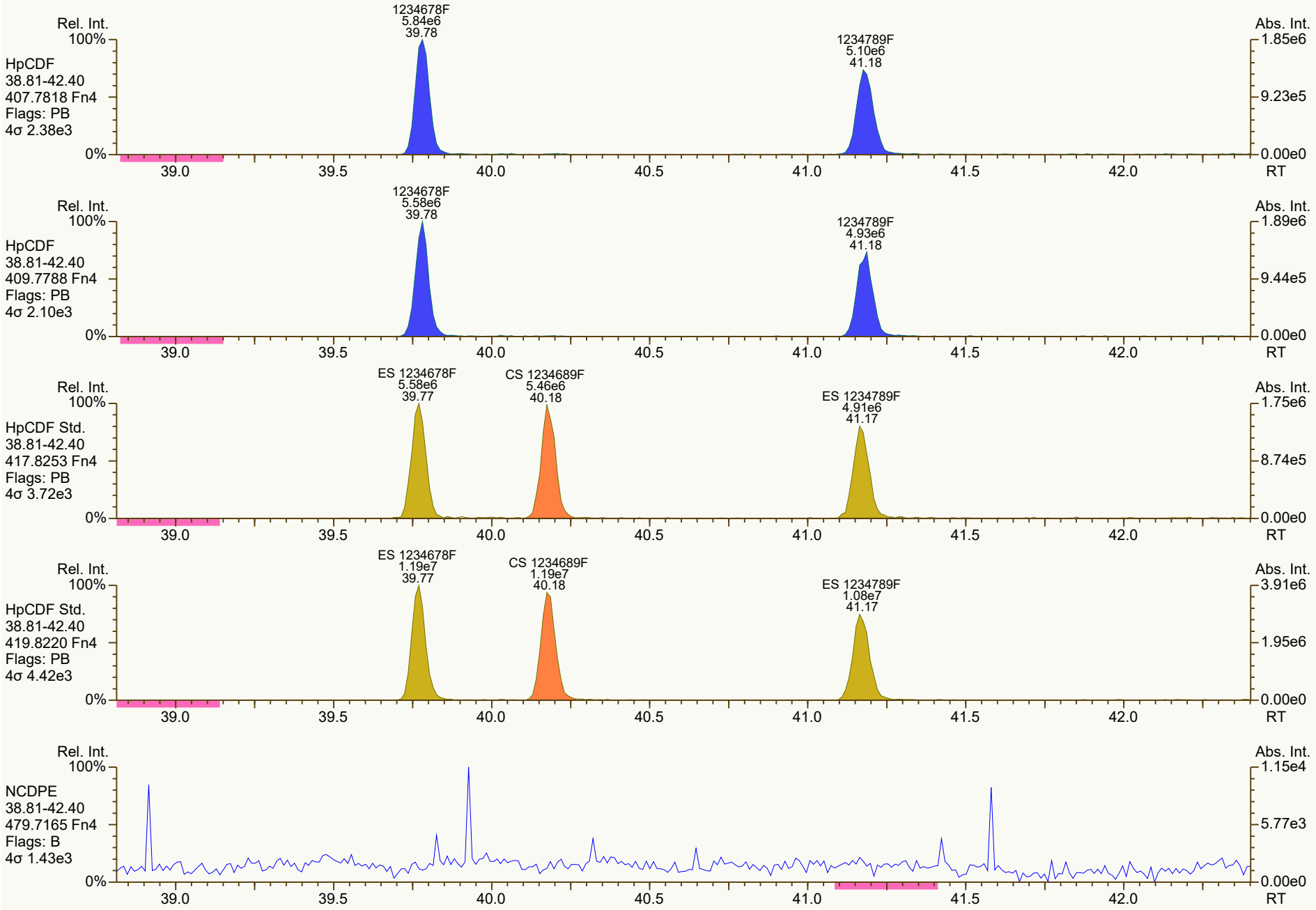
SGS ID: OPR1_18936_DF
Sample ID: 0_18936_OPR001
Acq: 23-Feb-2022 15:30:05
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
User: DTF Datafile: 220223C02



Results: P:\B6200_B6299\B6293\B6293_18936 DF\Resources\OPR1_18936_DF.utp_res, saved 24-Feb-2022 13:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8526 scc: 285-654
PKD: 24-Feb-2022 12:42 Printed: 24-Feb-2022 13:12 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 3.24e3
0%
12378F
9.02e6
32.17
23478F
9.27e6
33.29
12389F
2.04e6
34.37
Abs. Int.
2.53e6
1.26e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 4.03e3
0%
12378F
5.83e6
32.17
23478F
5.97e6
33.29
12389F
1.25e6
34.37
Abs. Int.
1.66e6
8.29e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 5.21e3
0%
CS 12346F
1.83e7
31.62
ES 12378F
1.89e7
32.15
ES 23478F
1.87e7
33.27
Abs. Int.
5.25e6
2.63e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 4.52e3
0%
CS 12346F
1.16e7
31.62
ES 12378F
1.17e7
32.15
ES 23478F
1.16e7
33.27
Abs. Int.
3.18e6
1.59e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: PB
4σ 1.31e3
0%
Abs. Int.
5.91e3
2.96e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

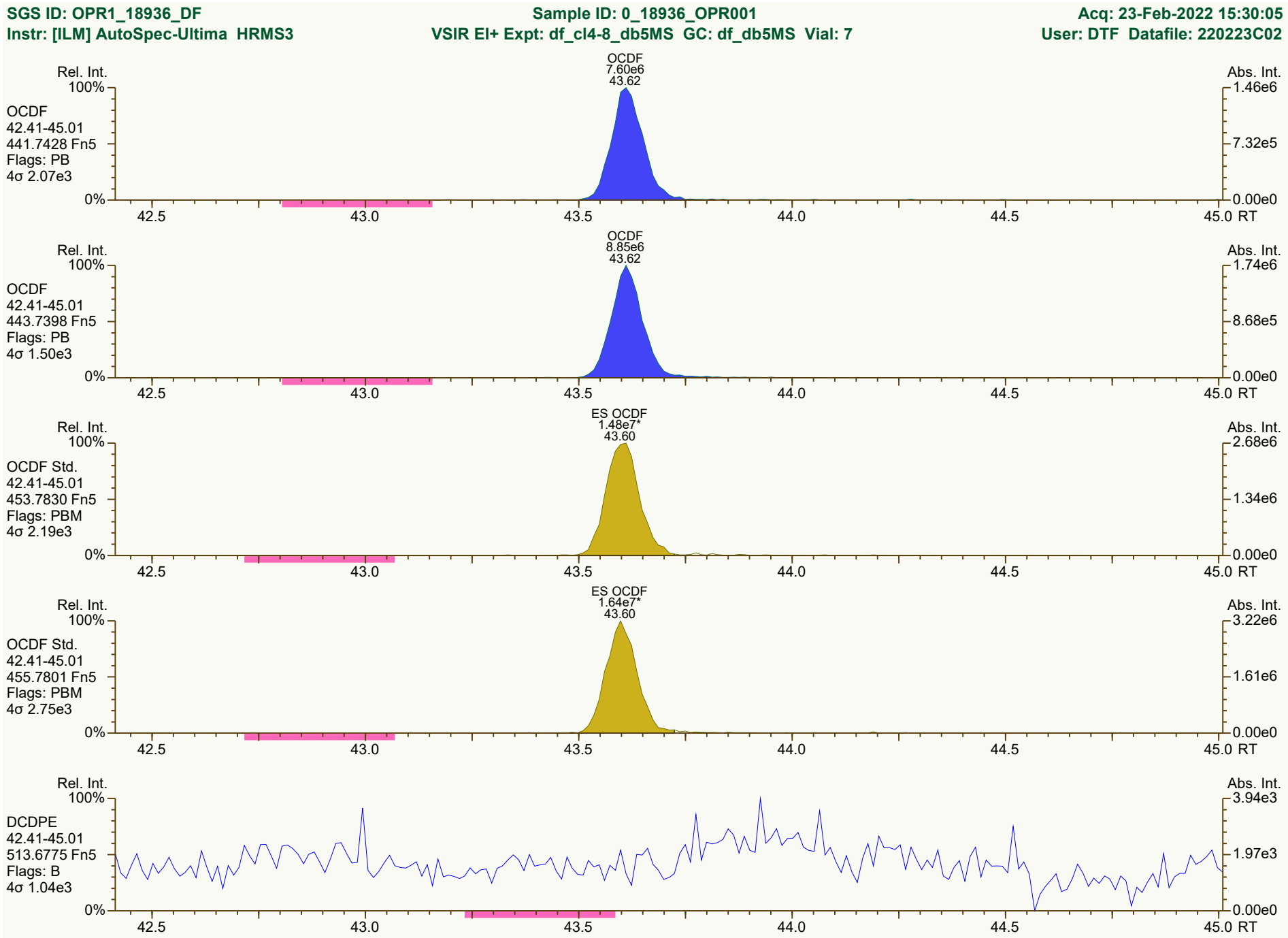

SGS ID: OPR1_18936_DF
Instr: [ILM] AutoSpec-Ultima HRMS3
Sample ID: 0_18936_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7
Acq: 23-Feb-2022 15:30:05
User: DTF Datafile: 220223C02
Rel. Int.
Abs. Int.
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 2.70e3
123468F 1.71e7* 35.16
123478F 6.99e6* 36.56
123678F 8.42e6* 36.70
234678F 8.64e6 37.38
123789F 6.19e6 38.35
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 2.16e3
123468F 1.38e7* 35.16
123478F 5.66e6* 36.56
123678F 6.75e6* 36.70
234678F 7.01e6 37.38
123789F 5.03e6 38.35
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 5.22e3
ES 123478F 7.21e6 36.54
ES 123678F 9.37e6 36.68
CS 123469F 7.91e6 36.99
ES 234678F 8.63e6 37.36
ES 123789F 7.20e6* 38.34
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 5.41e3
ES 123478F 1.34e7 36.54
ES 123678F 1.74e7 36.68
CS 123469F 1.46e7 36.99
ES 234678F 1.68e7 37.36
ES 123789F 1.33e7* 38.34
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.08e3
RT
Results: P:\B6200_B6299\B6293\B6293_18936 DF\Resources\OPR1_18936_DF.utp_res, saved 24-Feb-2022 13:12 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0392, 5722, 4903 scc: 285-654
Peak annotation: Areas, Centroids
PKD: 24-Feb-2022 12:43 Printed: 24-Feb-2022 13:13 Page 10 of 12


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 2.38e3
1234678F
5.84e6
39.78
1234789F
5.10e6
41.18
Abs. Int.
1.85e6
9.23e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 2.10e3
1234678F
5.58e6
39.78
1234789F
4.93e6
41.18
Abs. Int.
1.89e6
9.44e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 3.72e3
ES 1234678F
5.58e6
39.77
CS 1234689F
5.46e6
40.18
ES 1234789F
4.91e6
41.17
Abs. Int.
1.75e6
8.74e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 4.42e3
ES 1234678F
1.19e7
39.77
CS 1234689F
1.19e7
40.18
ES 1234789F
1.08e7
41.17
Abs. Int.
3.91e6
1.95e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.15e4
5.77e3
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

SGS ID: OPR1_18936_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18936_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 7

Acq: 23-Feb-2022 15:30:05
User: DTF Datafile: 220223C02



Results: P:\B6200_B6299\B6293\B6293_18936 DF\Resources\OPR1_18936_DF.utp_res, saved 24-Feb-2022 13:12 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8061, 5601, 8107 scc: 285-654

Peak annotation: Areas, Centroids
Revised: 24-Feb-2022 12:43 (DTF) Printed: 24-Feb-2022 13:13 Page 12 of 12

Lab ID: OPR2_18936_DF **Acq'd: 23 Feb 2022 16:19 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18936_OPR002 **UTP: 24-Feb-2022 13:08:05 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 714-601-LPL**

Datafile: 220223C03 **Report: 24 Feb 2022 13:09 pw** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.23		1.0008	1.0008	0	2.59E+06	0.82	Y	1.18	10.8	3626.504	0.163
12378-PeCDD	33.63		1.0007	1.0006	-0.2	8.82E+06	1.60	Y	1.04	46	3124.449	0.141
123478-HxCDD	37.56		1.0004	1.0004	0	9.14E+06	1.22	Y	1.09	50.5	2266.719	0.109
123678-HxCDD	37.69		1.0036	1.0037	+0.2	1.02E+07	1.30	Y	1.15	52.6	2266.719	0.113
123789-HxCDD	37.99		1.0118	1.0118	0	9.35E+06	1.27	Y	1.05	48.7	2266.719	0.105
1234678-HpCDD	40.74		1.0002	1.0004	+0.5	8.88E+06	1.02	Y	1.06	51.3	2537.278	0.13
OCDD	43.45		1.0003	1.0003	0	1.32E+07	0.89	Y	1.13	102	3518.9	0.369
2378-TCDF	27.35		1.0008	1.0007	-0.2	3.13E+06	0.81	Y	1.08	9.74	2647.082	0.089
12378-PeCDF	32.17		1.0005	1.0006	+0.2	1.40E+07	1.55	Y	1.02	48.1	5585.834	0.175
23478-PeCDF	33.29		1.0005	1.0005	0	1.48E+07	1.52	Y	1.02	50.2	5585.834	0.178
123478-HxCDF	36.56		1.0004	1.0005	+0.2	1.22E+07	1.23	Y	1.27	47.6	3544.096	0.116
123678-HxCDF	36.70		1.0004	1.0005	+0.2	1.39E+07	1.25	Y	1.15	48.6	3544.096	0.102
234678-HxCDF	37.38		1.0005	1.0005	0	1.53E+07	1.24	Y	1.19	51.1	3544.096	0.103
123789-HxCDF	38.36		1.0004	1.0004	0	1.09E+07	1.24	Y	1.16	46.8	3544.096	0.128
1234678-HpCDF	39.79		1.0003	1.0003	0	1.16E+07	1.02	Y	1.37	48.3	2340.308	0.0714
1234789-HpCDF	41.19		1.0003	1.0003	0	9.79E+06	1.05	Y	1.31	48.7	2340.308	0.116
OCDF	43.62		1.0002	1.0003	+0.3	1.58E+07	0.90	Y	1.07	97.6	3193.17	0.258

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.20	1.0243	1.0243	0	2.03E+07	0.79	Y	1.05	92.9
ES 12378-PeCDD	33.61	1.2198	1.2206	+1.6	1.85E+07	1.51	Y	0.88	101
ES 123478-HxCDD	37.55	0.9916	0.9914	-0.5	1.66E+07	1.26	Y	0.97	99.3
ES 123678-HxCDD	37.67	0.9947	0.9947	0	1.68E+07	1.18	Y	0.94	104
ES 123789-HxCDD	37.97	1.0029	1.0027	-0.5	1.83E+07	1.23	Y	1.09	97.6
ES 1234678-HpCDD	40.73	1.0749	1.0754	+1.2	1.63E+07	1.04	Y	0.91	104
ES OCDD	43.43	1.1460	1.1468	+2.1	2.28E+07	0.90	Y	0.62	106
ES 2378-TCDF	27.34	1.0531	1.0534	+0.5	2.98E+07	0.83	Y	1.06	86.2
ES 12378-PeCDF	32.15	1.2378	1.2388	+1.9	2.83E+07	1.65	Y	0.91	95.4
ES 23478-PeCDF	33.27	1.2810	1.2821	+2.2	2.90E+07	1.58	Y	0.88	101
ES 123478-HxCDF	36.54	0.9650	0.9649	-0.2	2.02E+07	0.56	Y	1.20	97.7
ES 123678-HxCDF	36.69	0.9688	0.9686	-0.4	2.48E+07	0.56	Y	1.35	107
ES 234678-HxCDF	37.36	0.9866	0.9866	0	2.52E+07	0.52	Y	1.24	118
ES 123789-HxCDF	38.34	1.0125	1.0125	0	2.00E+07	0.53	Y	1.16	101
ES 1234678-HpCDF	39.77	1.0501	1.0502	+0.2	1.76E+07	0.45	Y	0.97	105
ES 1234789-HpCDF	41.18	1.0870	1.0874	+1.0	1.54E+07	0.44	Y	0.85	105
ES OCDF	43.61	1.1505	1.1515	+2.6	3.02E+07	0.89	Y	0.81	109

Lab ID: OPR2_18936_DF | Acq'd: 23 Feb 2022 16:19 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18936_OPR002 | UTP: 24-Feb-2022 13:08:05 PSW | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 714-601-LPL

Datafile: 220223C03 | Report: 24 Feb 2022 13:09 pw | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.54		-	-	-	2.09E+07	0.79	Y	-	-
JS 1234-TCDF	25.95		-	-	-	3.26E+07	0.82	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	8.60E+06	1.31	Y	-	-
CS 37Cl-2378-TCDD	28.23		1.0251	1.0251	0	9.47E+06	n/a	-	1.20	94.3
CS 12347-PeCDD	33.10		1.2016	1.2022	+1.2	1.79E+07	1.56	Y	0.75	114
CS 12346-PeCDF	31.61		1.2172	1.2182	+1.9	2.89E+07	1.56	Y	0.85	104
CS 123469-HxCDF	37.00		0.9771	0.9768	-0.7	2.18E+07	0.52	Y	1.12	113
CS 1234689-HpCDF	40.19		1.0608	1.0611	+0.7	1.73E+07	0.47	Y	0.89	113
~~SS 37Cl-2378-TCDD~~	~~28.23~~		~~1.0251~~	~~1.0251~~	~~0~~	~~9.47E+06~~	~~n/a~~		~~1.15~~	~~102~~
~~SS 12347-PeCDD~~	~~33.10~~		~~1.2016~~	~~1.2022~~	~~+1.2~~	~~1.79E+07~~	~~1.56~~	~~Y~~	~~0.86~~	~~113~~
~~SS 12346-PeCDF~~	~~31.61~~		~~1.2172~~	~~1.2182~~	~~+1.9~~	~~2.89E+07~~	~~1.56~~	~~Y~~	~~0.94~~	~~109~~
~~SS 123469-HxCDF~~	~~37.00~~		~~0.9771~~	~~0.9768~~	~~-0.7~~	~~2.18E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~106~~
~~SS 1234689-HpCDF~~	~~40.19~~		~~1.0608~~	~~1.0611~~	~~+0.7~~	~~1.73E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~107~~

Totals	Conc	EMPC
Total TCDD	51.4	51.4
Total PeCDD	71.9	71.9
Total HxCDD	167	167
Total HpCDD	63.3	63.3
Total Tetra-Octa Dioxins	456	456
Total TCDF	59.3	59.3
Total PeCDF	201	201
Total HxCDF	311	311
Total HpCDF	96.9	96.9
Total Tetra-Octa Furans	766	766
Total Tetra-Octa Dioxins & Furans	1220	1220

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.821	0.82
Response	2.60E+06	2.59E+06

Lab ID: OPR2_18936_DF | **Acq'd: 23 Feb 2022 16:19 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18936_OPR002 | **UTP: 24-Feb-2022 13:08:05 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 714-601-LPL**

Datafile: 220223C03 | **Report: 24 Feb 2022 13:09 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.53		0.8701	0.8696	-0.7	3.53E+06	0.76	Y	1.18	14.7	3626.504	0.163
1379-TCDD	NotFnd		0.8829						1.18		3626.504	0.163
1369-TCDD	NotFnd		0.8982						1.18		3626.504	0.163
1469-TCDD	NotFnd		0.9261						1.18		3626.504	0.163
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		3626.504	0.163
1378-TCDD	NotFnd		0.9417						1.18		3626.504	0.163
1268-TCDD	NotFnd		0.9487						1.18		3626.504	0.163
1478-TCDD	NotFnd		0.9576						1.18		3626.504	0.163
1279-TCDD	NotFnd		0.9636						1.18		3626.504	0.163
1234/1269-TCDD	NotFnd		0.9761						1.18		3626.504	0.163
1236-TCDD	NotFnd		0.9812						1.18		3626.504	0.163
1237/1238-TCDD	NotFnd		0.9905						1.18		3626.504	0.163
1239-TCDD	28.07		0.9951	0.9951	0	2.55E+06	0.77	Y	1.18	10.6	3626.504	0.163
2378-TCDD	**28.23**		**1.0008**	1.0008	**0**	2.59E+06	0.82	Y	**1.18**	**10.8**	**3626.504**	**0.163**
1278-TCDD	NotFnd		1.0124						1.18		3626.504	0.163
1267-TCDD	NotFnd		1.0172						1.18		3626.504	0.163
1289-TCDD	29.21		1.0354	1.0356	+0.4	3.69E+06	0.80	Y	1.18	15.4	3626.504	0.163
12479/12468-PeCDD	31.11		0.9255	0.9255	0	2.45E+06	1.56	Y	1.04	12.8	3124.449	0.141
12469-PeCDD	NotFnd		0.9416						1.04		3124.449	0.141
12368-PeCDD	NotFnd		0.9582						1.04		3124.449	0.141
12478-PeCDD	NotFnd		0.9637						1.04		3124.449	0.141
12379-PeCDD	NotFnd		0.9668						1.04		3124.449	0.141
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		3124.449	0.141
12346/12347-PeCDD	NotFnd		0.9858						1.04		3124.449	0.141
12378-PeCDD	33.63		**1.0007**	**1.0006**	**-0.2**	**8.82E+06**	**1.60**	**Y**	**1.04**	**46**	**3124.449**	**0.141**
12367-PeCDD	NotFnd		1.0036						1.04		3124.449	0.141
12389-PeCDD	34.07		1.0137	1.0138	+0.2	2.52E+06	1.56	Y	1.04	13.2	3124.449	0.141
124679/124689-HxCDD	35.82		0.9540	0.9539	-0.2	2.90E+06	1.29	Y	1.10	15.3	2266.719	0.109
123468-HxCDD	NotFnd		0.9715						1.10		2266.719	0.109
123679/123689-HxCDD	NotFnd		0.9793						1.10		2266.719	0.109
123469-HxCDD	NotFnd		0.9829						1.10		2266.719	0.109
123478-HxCDD	37.56		**1.0004**	**1.0004**	**0**	**9.14E+06**	**1.22**	**Y**	1.09	**50.5**	**2266.719**	**0.109**
123678-HxCDD	37.69		**1.0036**	**1.0037**	**+0.2**	**1.02E+07**	**1.30**	**Y**	1.15	**52.6**	**2266.719**	**0.113**
123467-HxCDD	NotFnd		1.0089						1.10		2266.719	0.109
123789-HxCDD	37.99		**1.0118**	**1.0118**	**0**	**9.35E+06**	**1.27**	**Y**	1.05	**48.7**	**2266.719**	**0.105**

Lab ID: OPR2_18936_DF | Acq'd: 23 Feb 2022 16:19 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18936_OPR002 | UTP: 24-Feb-2022 13:08:05 PSW | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 714-601-LPL

Datafile: 220223C03 | Report: 24 Feb 2022 13:09 pw | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.06		0.9836	0.9835	-0.2	2.09E+06	1.07	Y	1.06	12	2537.278	0.13
1234678-HpCDD	**40.74**		**1.0002**	**1.0004**	**+0.5**	**8.88E+06**	**1.02**	**Y**	**1.06**	**51.3**	**2537.278**	**0.13**
OCDD	**43.45**		**1.0003**	**1.0003**	**0**	**1.32E+07**	**0.89**	**Y**	**1.13**	**102**	**3518.9**	**0.369**
OCDD-a	43.45		1.0002	1.0003	+0.3	7.75E+05	2.76	Y	0.07	94.2	2822.562	4.63
1368-TCDF	22.37		0.8191	0.8182	-1.2	4.42E+06	0.78	Y	1.08	13.8	2647.082	0.089
1468-TCDF	NotFnd		0.8408						1.08		2647.082	0.089
2468-TCDF	23.62		0.8645	0.8639	-0.9	1.12E+06	0.82	Y	1.08	3.49	2647.082	0.089
1346/1246-TCDF	NotFnd		0.8772						1.08		2647.082	0.089
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		2647.082	0.089
1348-TCDF	NotFnd		0.8932						1.08		2647.082	0.089
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		2647.082	0.089
1268-TCDF	NotFnd		0.9119						1.08		2647.082	0.089
1467-TCDF	NotFnd		0.9170						1.08		2647.082	0.089
1478-TCDF	NotFnd		0.9234						1.08		2647.082	0.089
1369/1237-TCDF	NotFnd		0.9369						1.08		2647.082	0.089
2467-TCDF	NotFnd		0.9415						1.08		2647.082	0.089
2368-TCDF	NotFnd		0.9475						1.08		2647.082	0.089
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		2647.082	0.089
1278-TCDF	NotFnd		0.9676						1.08		2647.082	0.089
1349-TCDF	NotFnd		0.9722						1.08		2647.082	0.089
1267-TCDF	NotFnd		0.9777						1.08		2647.082	0.089
2346/1249-TCDF	NotFnd		0.9843						1.08		2647.082	0.089
2347/1279-TCDF	NotFnd		0.9926						1.08		2647.082	0.089
2348-TCDF	27.25		0.9968	0.9967	-0.2	4.95E+06	0.74	Y	1.08	15.4	2647.082	0.089
2378-TCDF	**27.35**		**1.0008**	**1.0007**	**-0.2**	**3.13E+06**	**0.81**	**Y**	**1.08**	**9.74**	**2647.082**	**0.089**
2367/3467-TCDF	NotFnd		1.0142						1.08		2647.082	0.089
1269-TCDF	NotFnd		1.0235						1.08		2647.082	0.089
1239-TCDF	NotFnd		1.0329						1.08		2647.082	0.089
1289-TCDF	29.38		1.0742	1.0748	+1.1	5.43E+06	0.77	Y	1.08	16.9	2647.082	0.089
13468/12468-PeCDF	29.30		0.9122	0.9116	-1.1	2.67E+07	1.57	Y	1.02	91.1	2242.501	0.0708
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		5585.834	0.176
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		5585.834	0.176
14678-PeCDF	NotFnd		0.9685						1.02		5585.834	0.176
13479-PeCDF	NotFnd		0.9716						1.02		5585.834	0.176
13469/12479-PeCDF	NotFnd		0.9794						1.02		5585.834	0.176
12346-PeCDF	NotFnd		0.9836						1.02		5585.834	0.176

Lab ID: OPR2_18936_DF | **Acq'd: 23 Feb 2022 16:19 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18936_OPR002 | **UTP: 24-Feb-2022 13:08:05 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 714-601-LPL**

Datafile: 220223C03 | **Report: 24 Feb 2022 13:09 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		5585.834	0.176
12347-PeCDF	NotFnd		0.9891						1.02		5585.834	0.176
12348-PeCDF	NotFnd		0.9938						1.02		5585.834	0.176
12378-PeCDF	**32.17**		**1.0005**	**1.0006**	**+0.2**	**1.40E+07**	**1.55**	**Y**	**1.02**	**48.1**	**5585.834**	**0.175**
12678/12367-PeCDF	NotFnd		1.0091						1.02		5585.834	0.176
12379-PeCDF	NotFnd		1.0144						1.02		5585.834	0.176
12679-PeCDF	NotFnd		0.9927						1.02		5585.834	0.176
23467/12369-PeCDF	NotFnd		0.9965						1.02		5585.834	0.176
23478-PeCDF	**33.29**		**1.0005**	**1.0005**	**0**	**1.48E+07**	**1.52**	**Y**	**1.02**	**50.2**	**5585.834**	**0.178**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5585.834	0.176
12349-PeCDF	NotFnd		1.0101						1.02		5585.834	0.176
12389-PeCDF	34.37		1.0330	1.0330	0	3.37E+06	1.59	Y	1.02	11.5	5585.834	0.176
123468-HxCDF	35.16		0.9622	0.9622	0	3.14E+07	1.22	Y	1.19	117	3544.096	0.111
124678/134678-HxCDF	NotFnd		0.9678						1.19		3544.096	0.111
134679-HxCDF	NotFnd		0.9741						1.19		3544.096	0.111
124679-HxCDF	NotFnd		0.9795						1.19		3544.096	0.111
124689-HxCDF	NotFnd		0.9856						1.19		3544.096	0.111
123467-HxCDF	NotFnd		0.9972						1.19		3544.096	0.111
123478-HxCDF	**36.56**		**1.0004**	**1.0005**	**+0.2**	**1.22E+07**	**1.23**	**Y**	**1.27**	**47.6**	**3544.096**	**0.116**
123678-HxCDF	**36.70**		**1.0004**	**1.0005**	**+0.2**	**1.39E+07**	**1.25**	**Y**	**1.15**	**48.6**	**3544.096**	**0.102**
123479-HxCDF	NotFnd		1.0048						1.19		3544.096	0.111
123469-HxCDF	NotFnd		1.0089						1.19		3544.096	0.111
123679-HxCDF	NotFnd		0.9942						1.19		3544.096	0.111
234678-HxCDF	**37.38**		**1.0005**	**1.0005**	**0**	**1.53E+07**	**1.24**	**Y**	**1.19**	**51.1**	**3544.096**	**0.103**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3544.096	0.111
123789-HxCDF	**38.36**		**1.0004**	**1.0004**	**0**	**1.09E+07**	**1.24**	**Y**	**1.16**	**46.8**	**3544.096**	**0.128**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		3544.096	0.111
1234678-HpCDF	**39.79**		**1.0003**	**1.0003**	**0**	**1.16E+07**	**1.02**	**Y**	**1.37**	**48.3**	**2340.308**	**0.0714**
1234679-HpCDF	NotFnd		1.0068						1.34		2340.308	0.0919
1234689-HpCDF	NotFnd		1.0104						1.34		2340.308	0.0919
1234789-HpCDF	**41.19**		**1.0003**	**1.0003**	**0**	**9.79E+06**	**1.05**	**Y**	**1.31**	**48.7**	**2340.308**	**0.116**
OCDF	**43.62**		**1.0002**	**1.0003**	**+0.3**	**1.58E+07**	**0.90**	**Y**	**1.07**	**97.6**	**3193.17**	**0.258**
OCDF-a	43.59	**EMPC**	1.0001	0.9995	-1.6	3.56E+05	3.50	N	0.07	35.5	2756.17	3.6

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220223C03	Analysis Date:	23-FEB-2022 16:19:35
Lab ID:	OPR2_18936_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	10.8	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	46	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	50.5	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	52.6	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	48.7	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	51.3	35	-	70	Y
OCDD	100	102	78	-	144	Y
2,3,7,8-TCDF	10	9.74	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	48.1	40	-	67	Y
2,3,4,7,8-PeCDF	50	50.2	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	47.6	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	48.6	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	51.1	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	46.8	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	48.3	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	48.7	39	-	69	Y
OCDF	100	97.6	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 24 Feb 2022 13:09 Analyst: pw

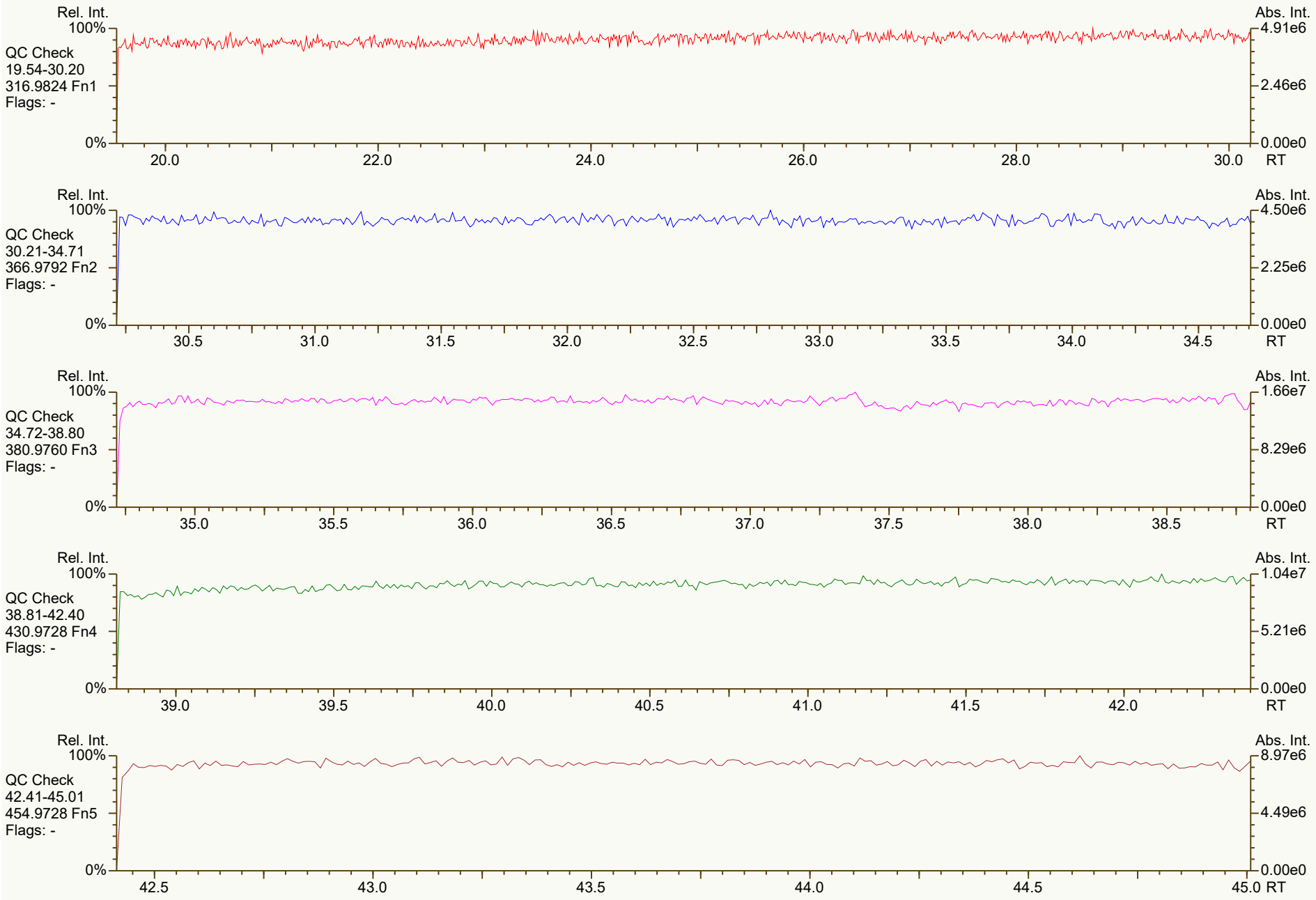
METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

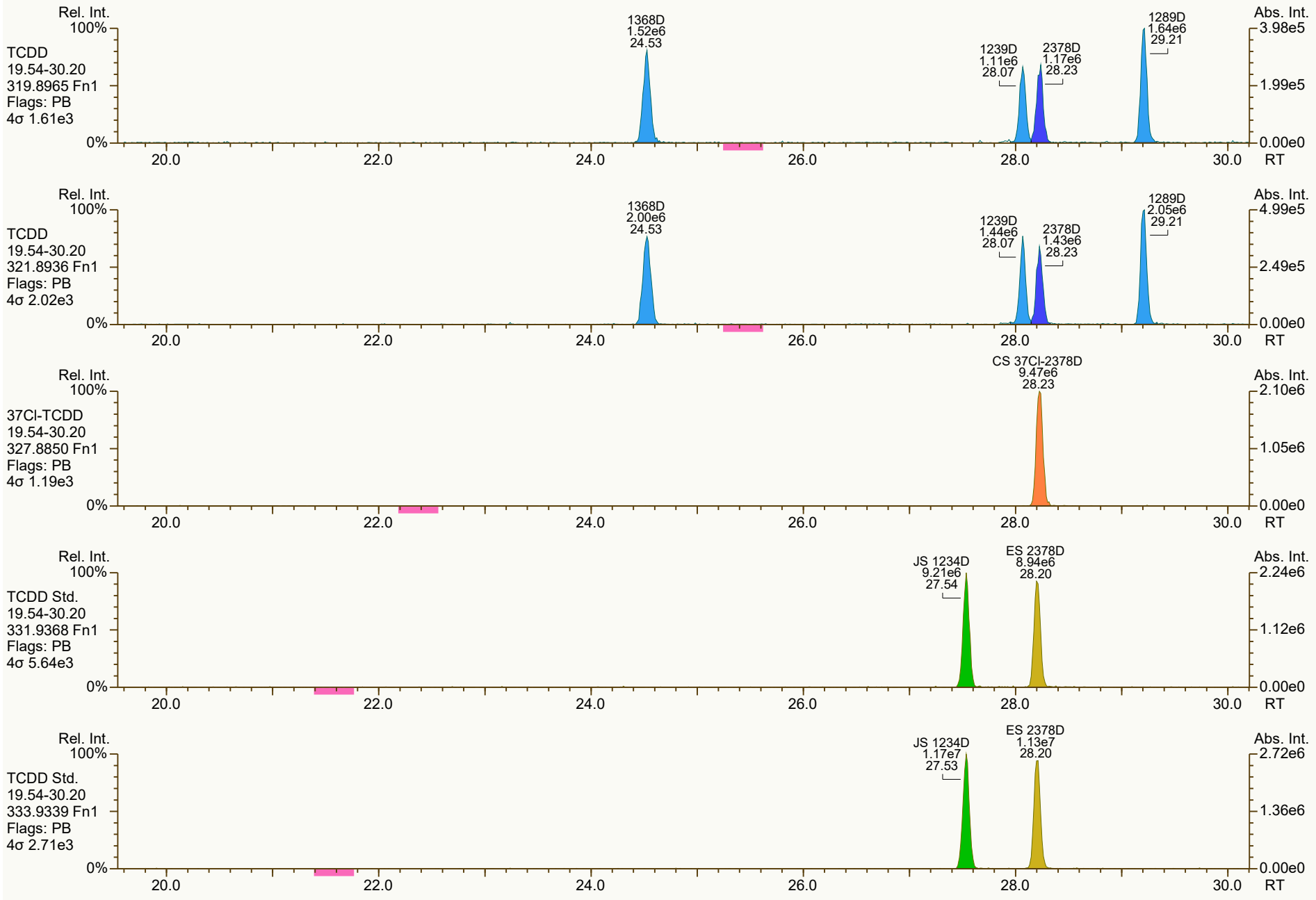
Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220223C03	Analysis Date:	23-FEB-2022 16:19:35
Lab ID:	OPR2_18936_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	92.9	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	101	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	99.3	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	104	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	97.6	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	104	26	-	166	Y
13C-OCDD	200	213	26	-	397	Y
13C-2,3,7,8-TCDF	100	86.2	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	95.4	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	101	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	97.7	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	107	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	118	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	101	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	105	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	105	20	-	186	Y
13C-OCDF	200	217	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	37.7	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 24 Feb 2022 13:09 Analyst: pw

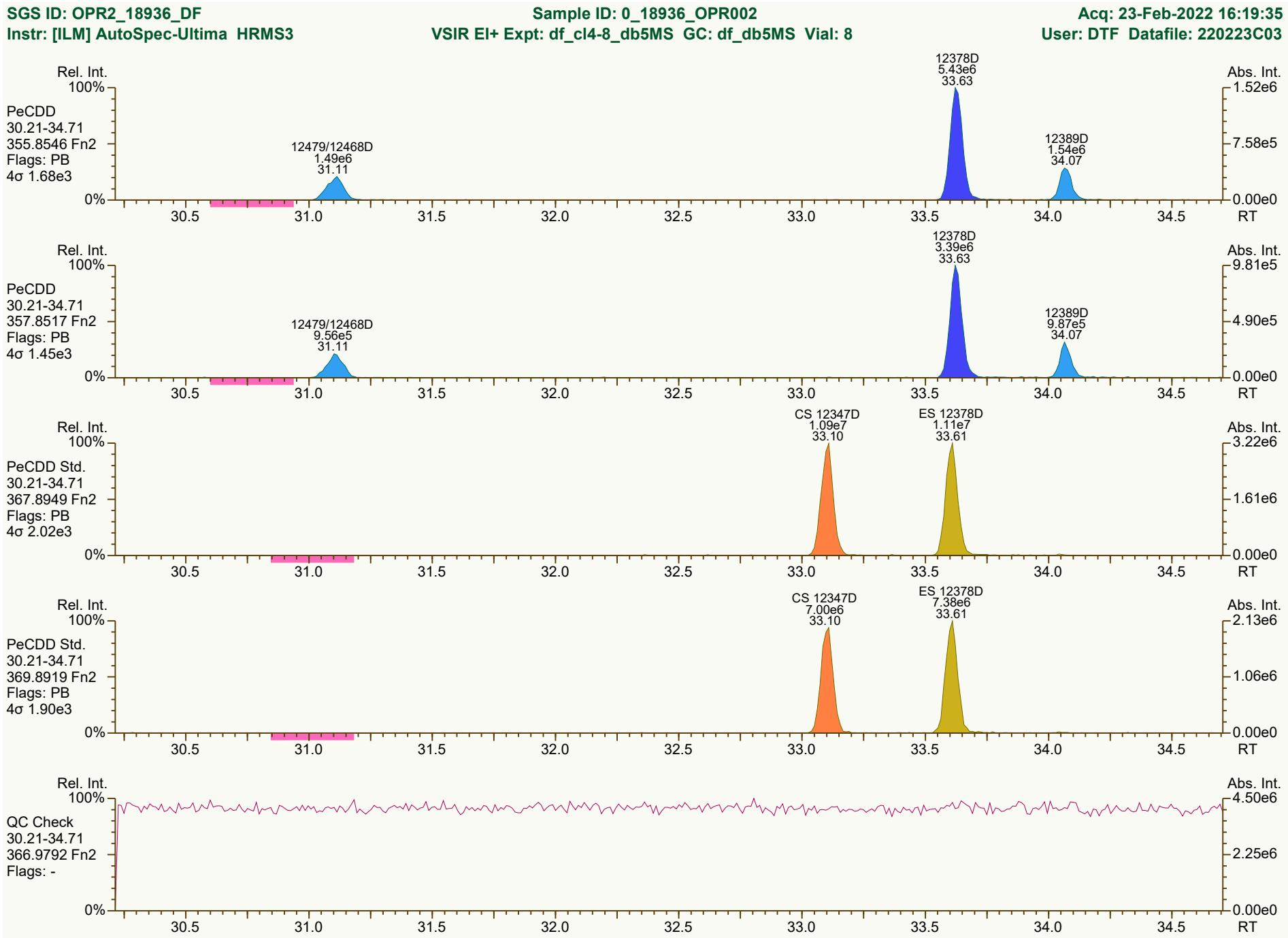

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.91e6
2.46e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.50e6
2.25e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.66e7
8.29e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.04e7
5.21e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
8.97e6
4.49e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 1.61e3
1368D
1.52e6
24.53
1239D
1.11e6
28.07
2378D
1.17e6
28.23
1289D
1.64e6
29.21
Abs. Int.
3.98e5
1.99e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 2.02e3
1368D
2.00e6
24.53
1239D
1.44e6
28.07
2378D
1.43e6
28.23
1289D
2.05e6
29.21
Abs. Int.
4.99e5
2.49e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.19e3
CS 37Cl-2378D
9.47e6
28.23
Abs. Int.
2.10e6
1.05e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.64e3
JS 1234D
9.21e6
27.54
ES 2378D
8.94e6
28.20
Abs. Int.
2.24e6
1.12e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.71e3
JS 1234D
1.17e7
27.53
ES 2378D
1.13e7
28.20
Abs. Int.
2.72e6
1.36e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: OPR2_18936_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

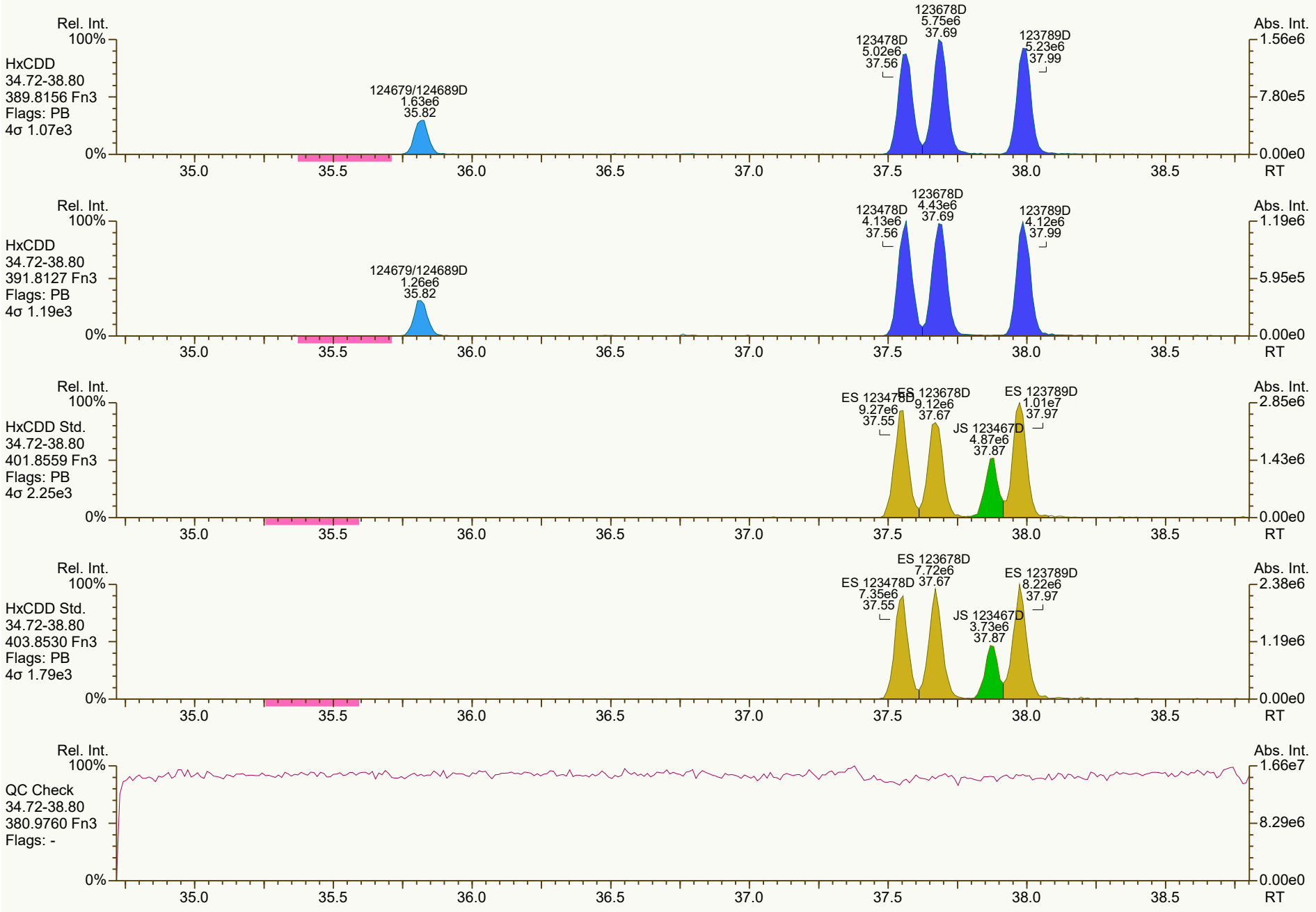
Sample ID: 0_18936_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 8

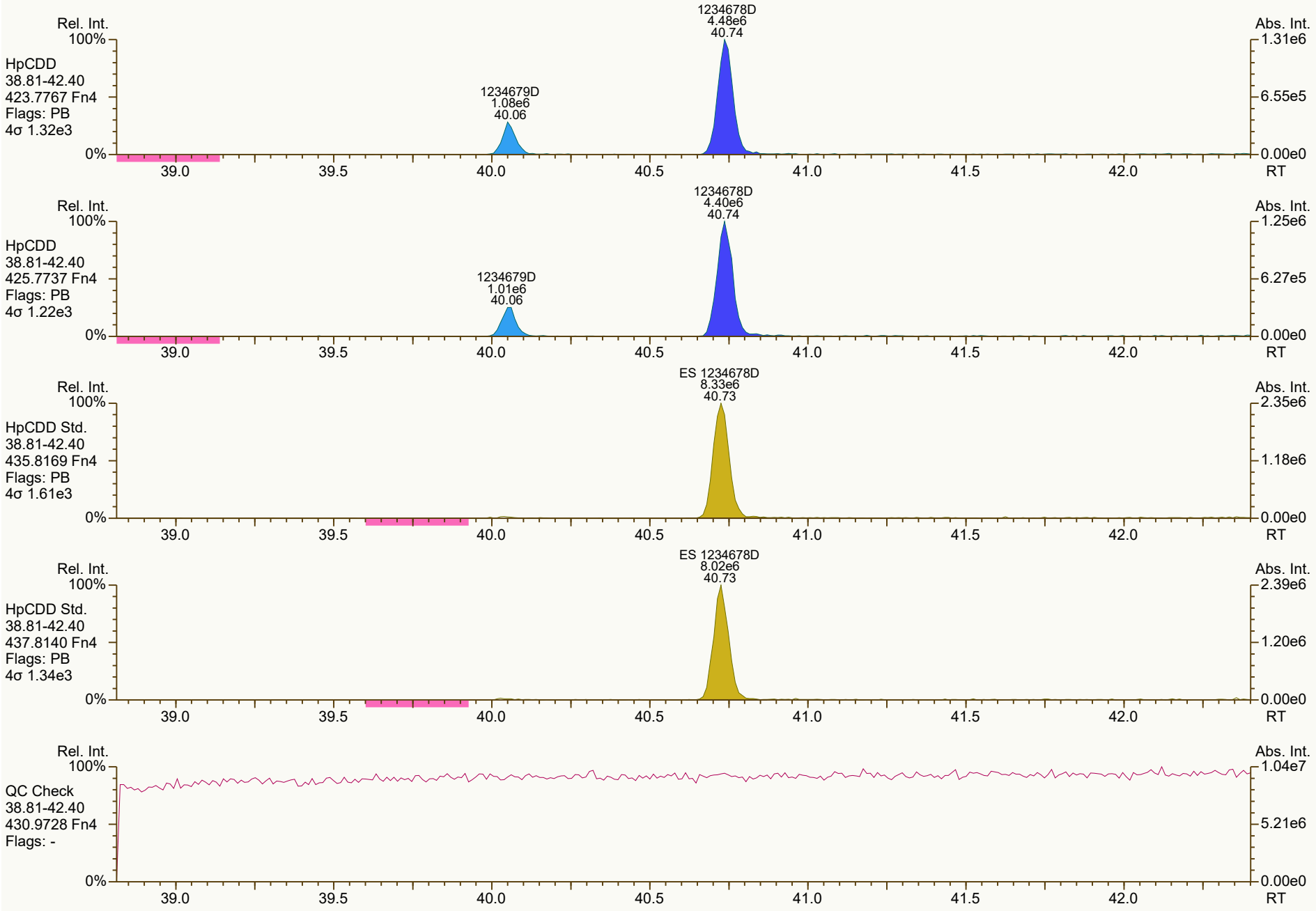
Acq: 23-Feb-2022 16:19:35
User: DTF Datafile: 220223C03

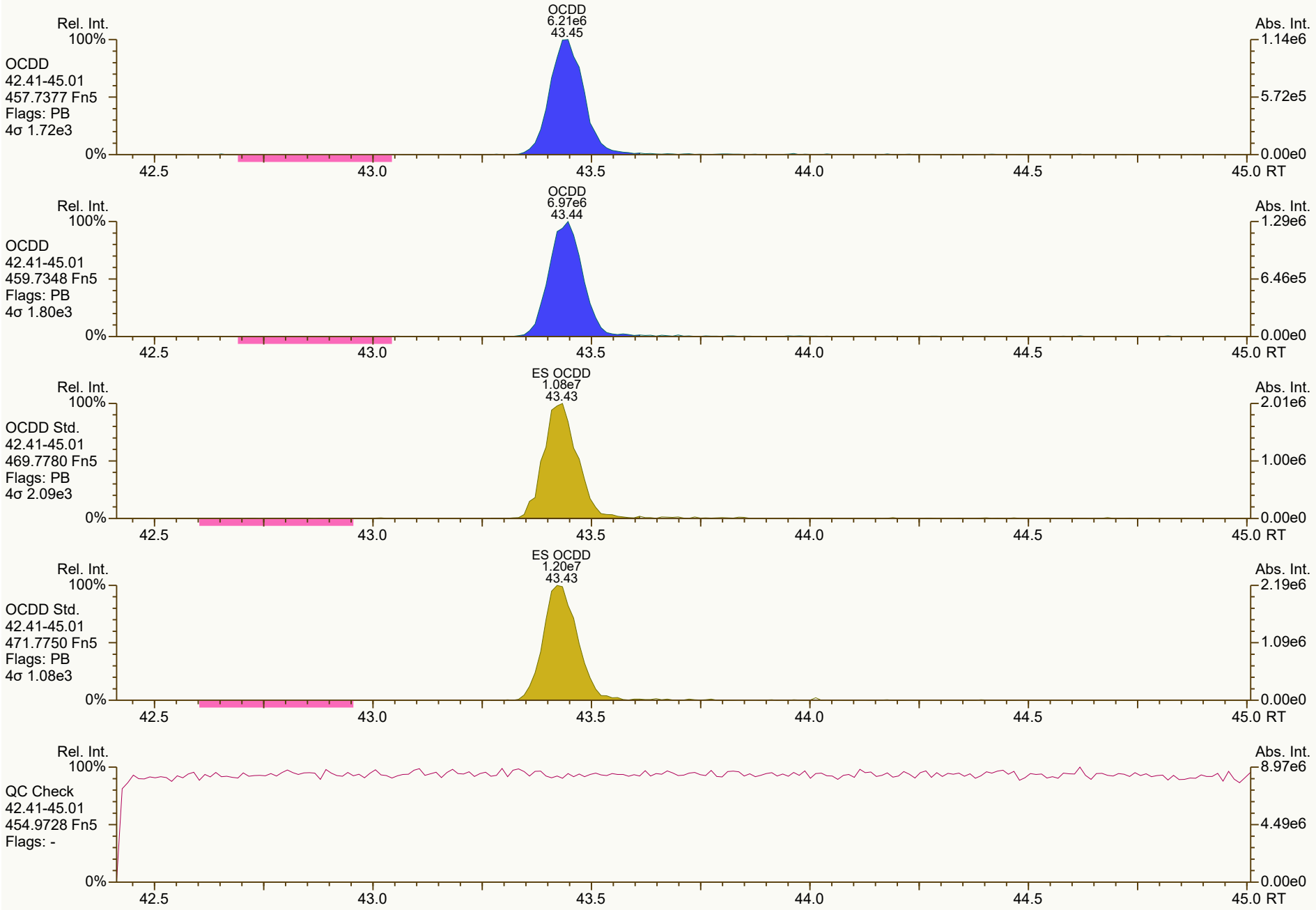


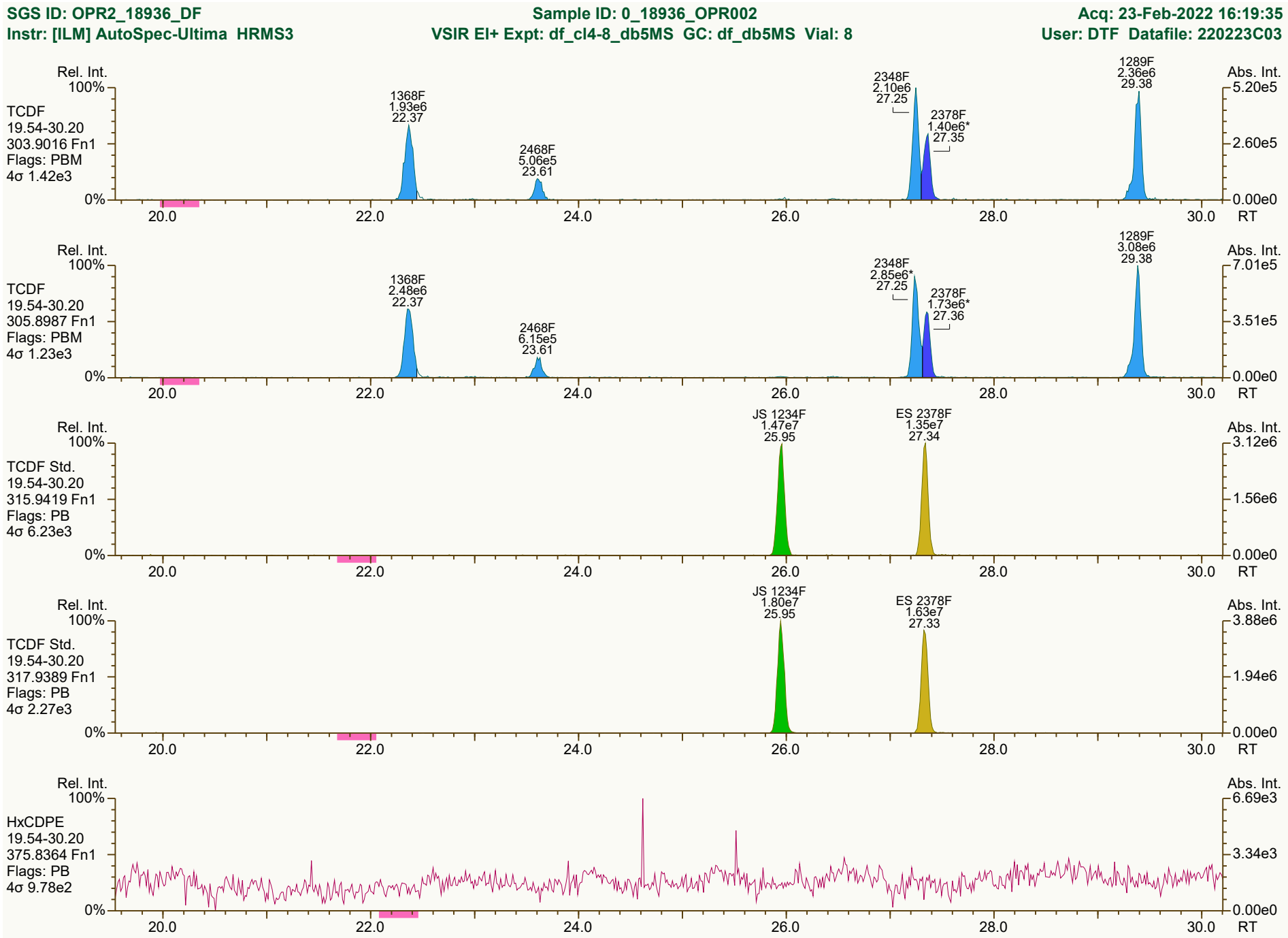
Results: P:\B6200_B6299\B6293\B6293_18936 DF\Resources\OPR2_18936_DF.utp_res, saved 24-Feb-2022 13:08 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9168, 4714 scc: 714-601

Peak annotation: Areas, Centroids
PKD: 24-Feb-2022 12:44 Printed: 24-Feb-2022 13:13 Page 3 of 12


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 1.07e3
124679/124689D
1.63e6
35.82
123478D
5.02e6
37.56
123678D
5.75e6
37.69
123789D
5.23e6
37.99
Abs. Int.
1.56e6
7.80e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.19e3
124679/124689D
1.26e6
35.82
123478D
4.13e6
37.56
123678D
4.43e6
37.69
123789D
4.12e6
37.99
Abs. Int.
1.19e6
5.95e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 2.25e3
ES 123478D
9.27e6
37.55
ES 123678D
9.12e6
37.67
JS 123467D
4.87e6
37.87
ES 123789D
1.01e7
37.97
Abs. Int.
2.85e6
1.43e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 1.79e3
ES 123678D
7.72e6
37.67
ES 123478D
7.35e6
37.55
JS 123467D
3.73e6
37.87
ES 123789D
8.22e6
37.97
Abs. Int.
2.38e6
1.19e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
1.66e7
8.29e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234679D
1.08e6
40.06
1234678D
4.48e6
40.74
Abs. Int.
1.31e6
6.55e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.22e3
1234679D
1.01e6
40.06
1234678D
4.40e6
40.74
Abs. Int.
1.25e6
6.27e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 1.61e3
ES 1234678D
8.33e6
40.73
Abs. Int.
2.35e6
1.18e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.34e3
ES 1234678D
8.02e6
40.73
Abs. Int.
2.39e6
1.20e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.04e7
5.21e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
6.21e6
43.45
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 1.72e3
0%
Abs. Int.
1.14e6
5.72e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
6.97e6
43.44
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 1.80e3
0%
Abs. Int.
1.29e6
6.46e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.08e7
43.43
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 2.09e3
0%
Abs. Int.
2.01e6
1.00e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.20e7
43.43
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.08e3
0%
Abs. Int.
2.19e6
1.09e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

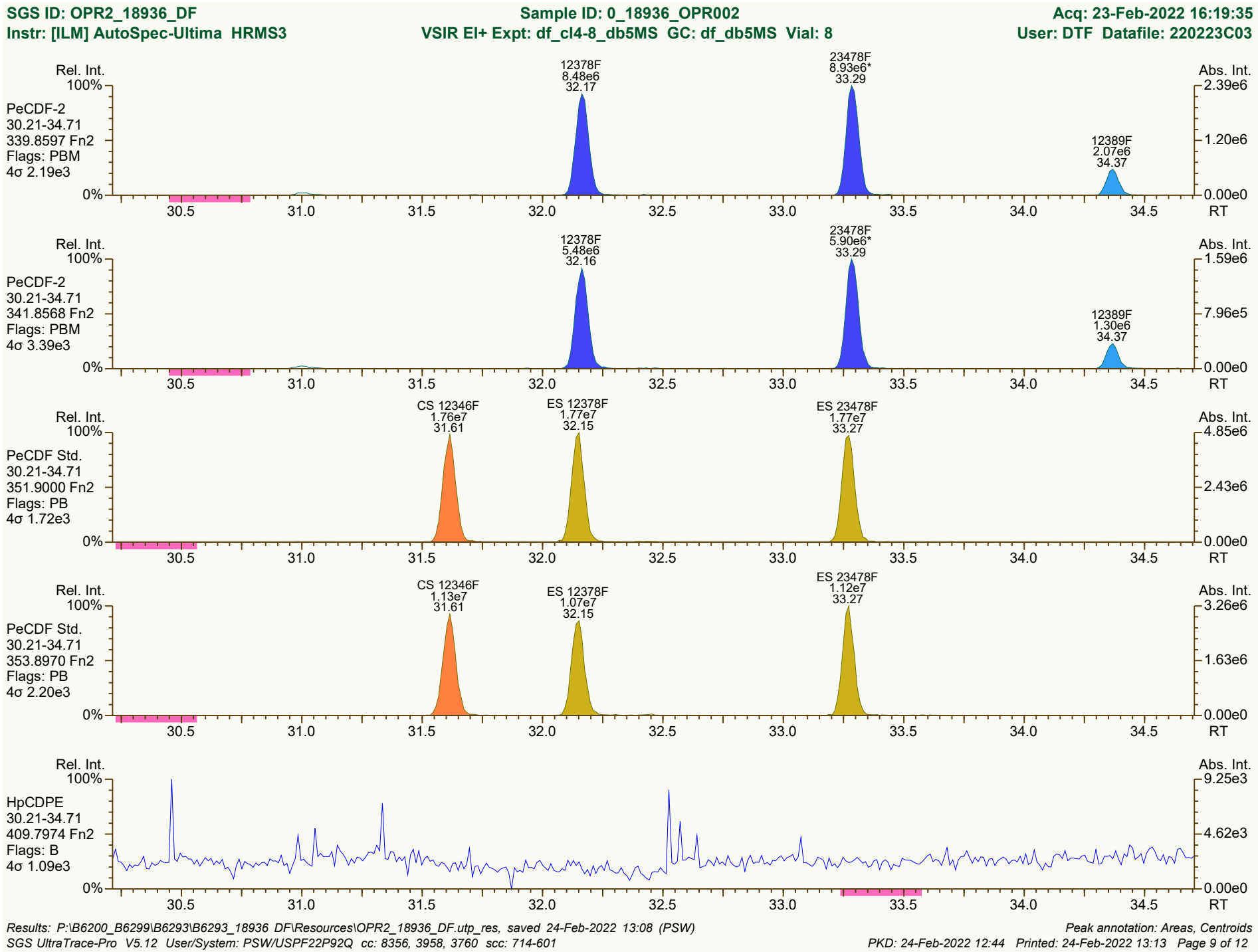


Results: P:\B6200_B6299\B6293\B6293_18936 DF\Resources\OPR2_18936_DF.utp_res, saved 24-Feb-2022 13:08 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0022, 7212, 1704 scc: 714-601
Revised: 24-Feb-2022 12:44 (DTF) Printed: 24-Feb-2022 13:13 Page 7 of 12

SGS ID: OPR2_18936_DF
Sample ID: 0_18936_OPR002
Acq: 23-Feb-2022 16:19:35
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 8
User: DTF Datafile: 220223C03

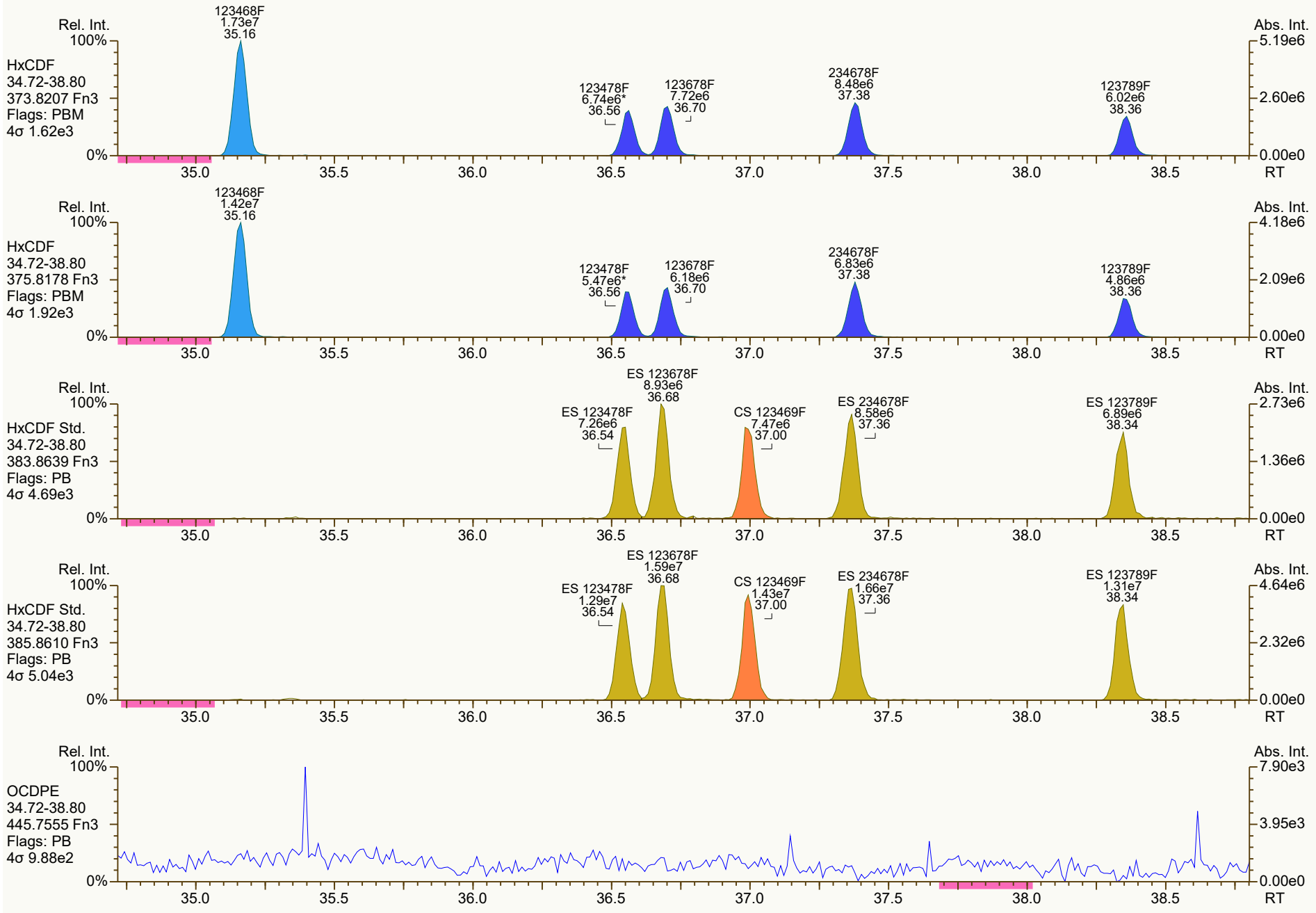


Results: P:\B6200_B6299\B6293\B6293_18936 DF\Resources\OPR2_18936_DF.utp_res, saved 24-Feb-2022 13:08 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6962 scc: 714-601
PKD: 24-Feb-2022 12:44 Printed: 24-Feb-2022 13:13 Page 8 of 12


SGS ID: OPR2_18936_DF
Instr: [ILM] AutoSpec-Ultima HRMS3
Sample ID: 0_18936_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 8
Acq: 23-Feb-2022 16:19:35
User: DTF Datafile: 220223C03
Rel. Int.
Abs. Int.
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 2.19e3
12378F
8.48e6
32.17
23478F
8.93e6*
33.29
12389F
2.07e6
34.37
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 3.39e3
12378F
5.48e6
32.16
23478F
5.90e6*
33.29
12389F
1.30e6
34.37
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 1.72e3
CS 12346F
1.76e7
31.61
ES 12378F
1.77e7
32.15
ES 23478F
1.77e7
33.27
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.20e3
CS 12346F
1.13e7
31.61
ES 12378F
1.07e7
32.15
ES 23478F
1.12e7
33.27
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.09e3
RT
Results: P:\B6200_B6299\B6293\B6293_18936 DF\Resources\OPR2_18936_DF.utp_res, saved 24-Feb-2022 13:08 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8356, 3958, 3760 scc: 714-601
Peak annotation: Areas, Centroids
PKD: 24-Feb-2022 12:44 Printed: 24-Feb-2022 13:13 Page 9 of 12

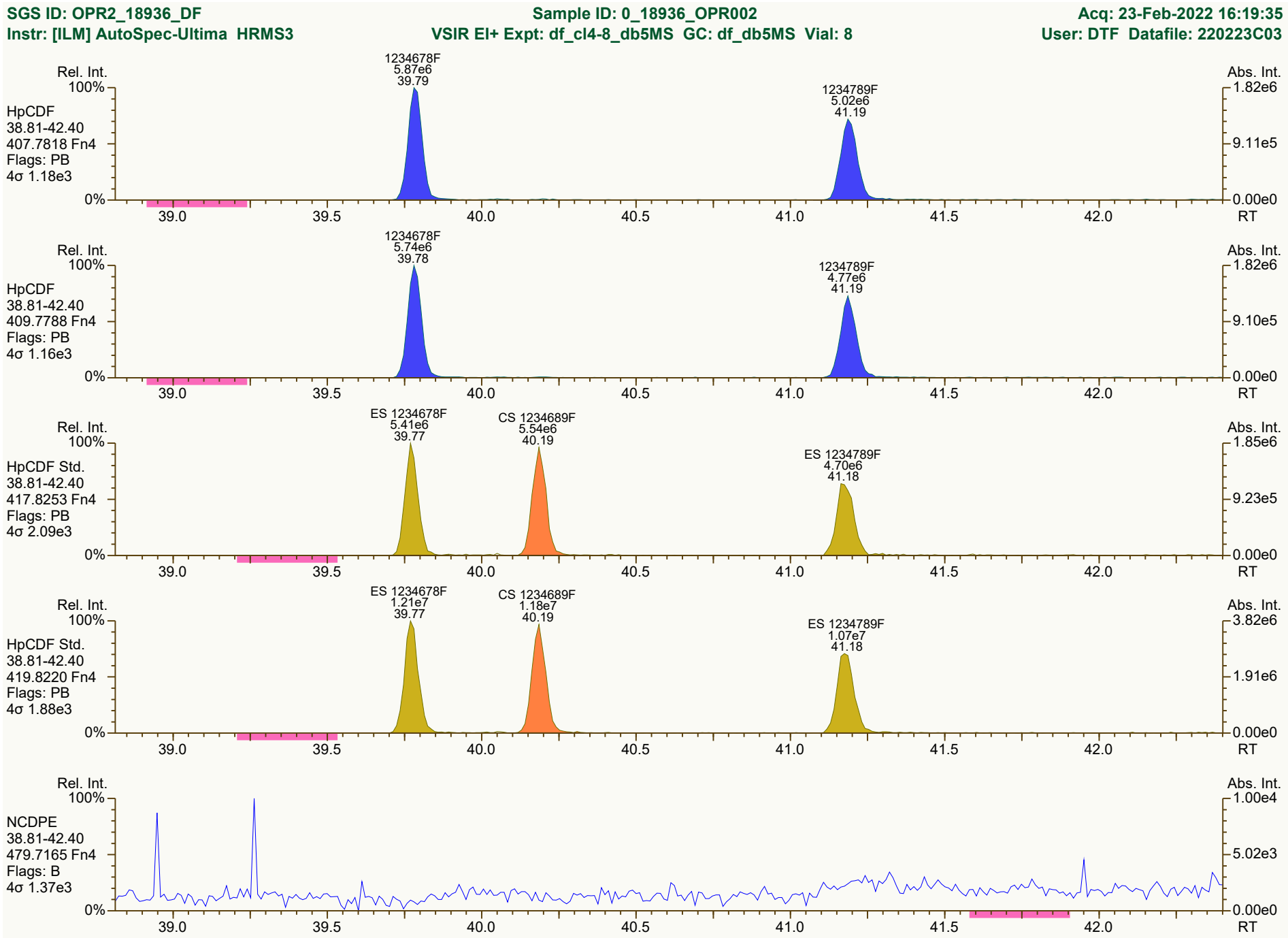
SGS ID: OPR2_18936_DF | Sample ID: 0_18936_OPR002 | Acq: 23-Feb-2022 16:19:35

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 8 | User: DTF Datafile: 220223C03



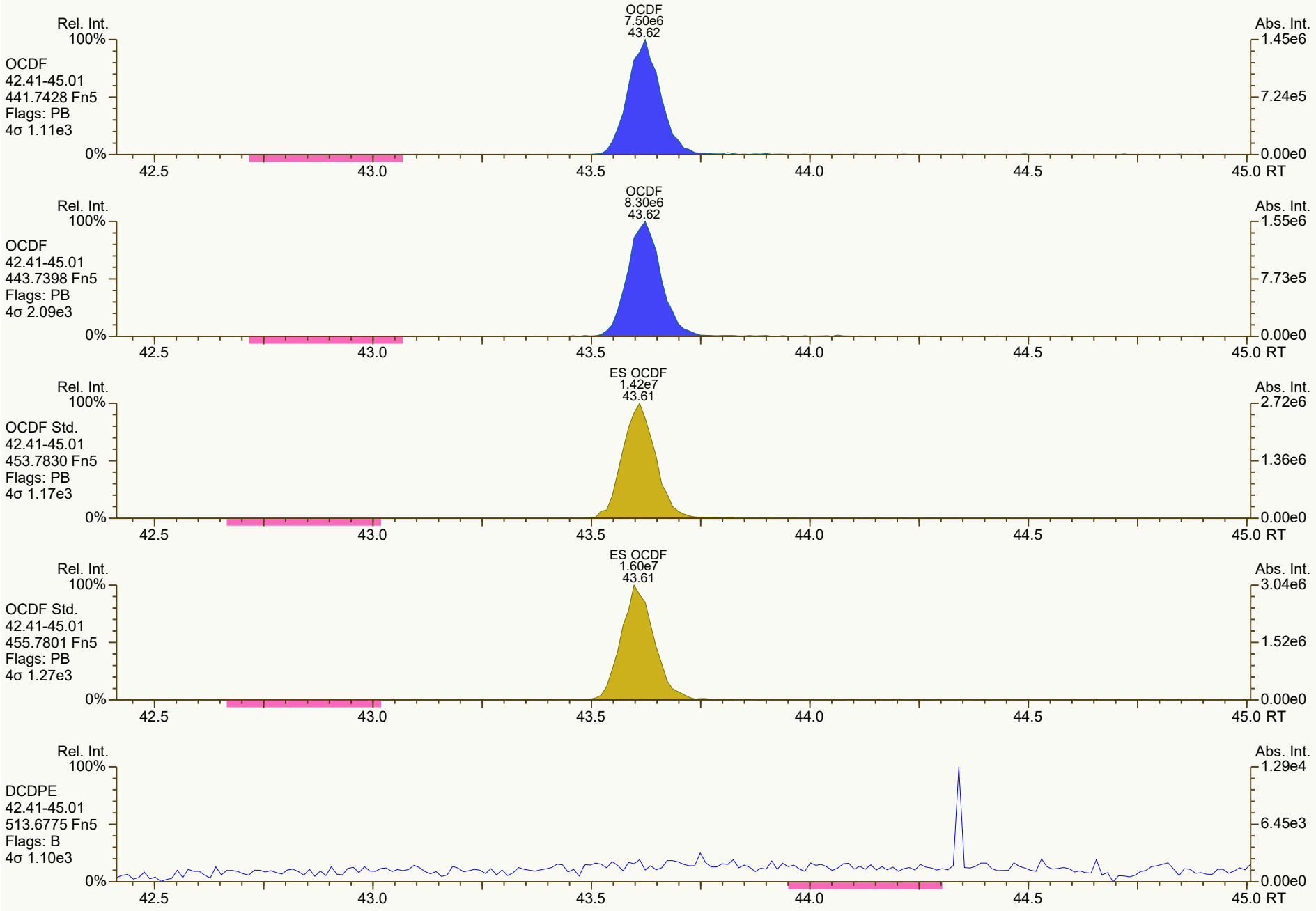
Results: P:\B6200_B6299\B6293\B6293_18936 DF\Resources\OPR2_18936_DF.utp_res, saved 24-Feb-2022 13:08 (PSW) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0378, 9292, 3290 scc: 714-601 *Revised: 24-Feb-2022 12:44 (DTF) Printed: 24-Feb-2022 13:13 Page 10 of 12*


SGS ID: OPR2_18936_DF
Sample ID: 0_18936_OPR002
Acq: 23-Feb-2022 16:19:35
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 8
User: DTF Datafile: 220223C03
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.18e3
1234678F
5.87e6
39.79
1234789F
5.02e6
41.19
1.82e6
9.11e5
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.16e3
1234678F
5.74e6
39.78
1234789F
4.77e6
41.19
1.82e6
9.10e5
0.00e0
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 2.09e3
ES 1234678F
5.41e6
39.77
CS 1234689F
5.54e6
40.19
ES 1234789F
4.70e6
41.18
1.85e6
9.23e5
0.00e0
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 1.88e3
ES 1234678F
1.21e7
39.77
CS 1234689F
1.18e7
40.19
ES 1234789F
1.07e7
41.18
3.82e6
1.91e6
0.00e0
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.37e3
1.00e4
5.02e3
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6200_B6299\B6293\B6293_18936 DF\Resources\OPR2_18936_DF.utp_res, saved 24-Feb-2022 13:08 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9989, 0793, 3572 scc: 714-601
PKD: 24-Feb-2022 12:44 Printed: 24-Feb-2022 13:13 Page 11 of 12

SGS ID: OPR2_18936_DF | Sample ID: 0_18936_OPR002 | Acq: 23-Feb-2022 16:19:35

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 8 | User: DTF Datafile: 220223C03



Results: P:\B6200_B6299\B6293\B6293_18936 DF\Resources\OPR2_18936_DF.utp_res, saved 24-Feb-2022 13:08 (PSW)

Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1238, 9923, 4751 scc: 714-601

PKD: 24-Feb-2022 12:44 Printed: 24-Feb-2022 13:13 Page 12 of 12



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6276

11-Feb-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

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I have reviewed this document
2022-02-11 11:23:35

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Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6276
Analytical Protocol(s)	1613B
No. Samples Submitted	3
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	04-Feb-22
Condition Received	Good
Temperature upon Receipt (ºC)	1.3
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996 and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.14.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements.

No dilutions were required.

All samples required re-extraction (R1) due to no OPRD with first extraction.

OPR1/OPR2_18917 meet accuracy and precision criteria.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-020222-S-SB-NC-S-47 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6276	Date Received:	04-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID	B6276_18917_DF_001-R1	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	75.2 %	QC Batch No:	18917	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:08:47

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1,240			E	ES 2378-TCDD	73.7	
12378-PeCDD	14.4				ES 12378-PeCDD	77	
123478-HxCDD	3.72				ES 123478-HxCDD	72.3	
123678-HxCDD	12.5				ES 123678-HxCDD	78.5	
123789-HxCDD	7.18				ES 123789-HxCDD	71.9	
1234678-HpCDD	353				ES 1234678-HpCDD	72.6	
OCDD	4,600				ES OCDD	69.7	
2378-TCDF	3,460			E	ES 2378-TCDF	71.5	
12378-PeCDF	110				ES 12378-PeCDF	78.4	
23478-PeCDF	91.9				ES 23478-PeCDF	77.3	
123478-HxCDF	192				ES 123478-HxCDF	77.9	
123678-HxCDF	51.7				ES 123678-HxCDF	82.2	
234678-HxCDF	12				ES 234678-HxCDF	82.5	
123789-HxCDF	ND	0.327			ES 123789-HxCDF	75.3	
1234678-HpCDF	141				ES 1234678-HpCDF	83.2	
1234789-HpCDF	31.3				ES 1234789-HpCDF	73.8	
OCDF	814				ES OCDF	70	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	85.1	
Total TCDD	1,370		1,380		CS 12347-PeCDD	93	
Total PeCDD	27.1		33.5		CS 12346-PeCDF	93.2	
Total HxCDD	125		127		CS 123469-HxCDF	97.4	
Total HpCDD	812		812		CS 1234689-HpCDF	98.9	
Total TCDF	6,680		6,680				
Total PeCDF	322		337				
Total HxCDF	358		358				
Total HpCDF	325		325				
Total PCDD/Fs	**15,400**		**15,500**				
WHO-2005 TEQs							
TEQ: ND=0	1670		1670				
TEQ: ND=DL/2	1670	0.404	1670				
TEQ: ND=DL	1670	0.807	1670				

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Sample ID: 11215131-020222-S-SB-NC-S-47 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6276	Date Received:	04-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6276_18917_DF_001-R1	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	75.2 %	QC Batch No.:	18917	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:08:47

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[2.48]		12479/12468D	[4.34]		124679/124689D	53.4		1234679D	458	
1379D	1.04		12469D	4.42		123468D	5.66		1234678D	353	
1369D	(0.267)		12368D	2.47	J	123679/123689D	39.8				
1469D	3.83		12478D	2.49		123469D	3.21				
1247D...[4]	2.32		12379D	[0.999]	J	123478D	3.72				
1378D	3.68		12369D...[3]	2.49		123678D	12.5				
1268D	(0.267)		12346/12347D	0.837	J	123467D	[1.62]	J			
1478D	3.03		12378D	14.4		123789D	7.18		**Conc.**	812	
1279D	(0.267)		12367D	[0.447]	J				**EMPC**	812	
1234/1269D	0.995		12389D	[0.621]	J						
1236D	(0.267)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	18.4										
1239D	(0.267)								OCDD	4600	
2378D	1240	E									
1278D	99.4										
1267D	(0.267)										
1289D	1.63										
Conc.	1,370		**Conc.**	27.1		**Conc.**	125				
EMPC	1,380		**EMPC**	33.5		**EMPC**	127				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	1,670	1,670
TEQ: ND=DL/2	1,670	1,670
TEQ: ND=DL	1,670	1,670

	Conc.	EMPC
Total PCDD/Fs	15,400	15,500

Checkcode: 845-329-QTW

Report Created: 11-Feb-2022 09:35 Analyst: TF

Sample ID: 11215131-020222-S-SB-NC-S-47 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6276	Date Received:	04-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6276_18917_DF_001-R1	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	75.2 %	QC Batch No.:	18917	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:08:47

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	0.893		13468/12468F	13.9		123468F	9.72		1234678F	141	
1468F	5.92		13678F...[3]	3.86		124678/134678F	40.4		1234679F	5.9	
2468F	5.88		12368F...[3]	59.2		134679F	(0.288)		1234689F	147	
1346/1246F	(0.134)		14678F	(0.195)		124679F	1.26	J	1234789F	31.3	
1347F...[3]	42		13479F	(0.195)		124689F	34.8				
1348F	(0.134)		13469/12479F	(0.195)		123467F	2.26	J			
1248F...[3]	168		12346F	(0.195)		123478F	192				
1268F	56.9		23468/12469F	[4.27]		123678F	51.7				
1467F	7.59		12347F	3.21		123479F	(0.288)				
1478F	140		12348F	[10.7]		123469F	(0.288)				
1369/1237F	38		12378F	110		123679F	(0.288)				
2467F	3.44		12678/12367F	33.8		234678F	12		**Conc.**	325	
2368F	72.3		12379F	(0.195)		234678/123689F	0		**EMPC**	325	
1238F...[5]	200		12679F	(0.195)		123689F	(0.288)				
1278F	1530	E	23467/12369F	2.18	J	123789F	(0.327)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.134)		23478F	91.9		123789/123489F	0				
1267F	87.9		23478/12489F	0		123489F	13.8		OCDF	814	
2346/1249F	9.79		12489F	(0.195)							
2347/1279F	45.5		12349F	(0.195)							
2348F	210		12389F	4.78							
2378F	3460	E									
2367/3467F	285										
1269F	52.2										
1239F	4.13										
1289F	256										
Conc.	6,680		**Conc.**	322		**Conc.**	358				
EMPC	6,680		**EMPC**	337		**EMPC**	358				

Checkcode: 845-329-QTW

Report Created: 11-Feb-2022 09:35 Analyst: TF

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Sample ID: 11215131-020222-S-SB-NC-S-47 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6276_18917_DF_001-R1
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	QC Batch No.:	18917
Date Collected:	02-Feb-2022	Split:	-	Date Extracted:	09-Feb-2022
Date Received:	04-Feb-2022	Dilution:	-	Date Analyzed:	10-Feb-2022 20:08
Lab Project No:	B6276	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1240	E	0.267	1240	1240	1240
12378-PeCDD	14.4		0.178	7.21	14.4	14.4
123478-HxCDD	3.72		0.576	0.372	0.372	0.372
123678-HxCDD	12.5		0.53	1.25	1.25	1.25
123789-HxCDD	7.18		0.49	0.718	0.718	0.718
1234678-HpCDD	353		0.349	3.53	3.53	3.53
OCDD	4600		0.866	4.6	0.46	1.38
2378-TCDF	3460	E	0.134	346	346	346
12378-PeCDF	110		0.194	5.48	5.48	3.29
23478-PeCDF	91.9		0.197	45.9	45.9	27.6
123478-HxCDF	192		0.284	19.2	19.2	19.2
123678-HxCDF	51.7		0.269	5.17	5.17	5.17
234678-HxCDF	12		0.282	1.2	1.2	1.2
123789-HxCDF	(0.327)		0.327	(0.0327)	(0.0327)	(0.0327)
1234678-HpCDF	141		0.162	1.41	1.41	1.41
1234789-HpCDF	31.3		0.259	0.313	0.313	0.313
OCDF	814		0.474	0.814	0.0814	0.244

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TEQ Summaries			
EMPC = 0, ND = 0	1680	1690	1670
EMPC = 0, ND = DL / 2	1680	1690	1670
EMPC = 0, ND = DL	1680	1690	1670
EMPC = 0, < J-level = 0	1680	1690	1670
EMPC = EMPC, ND = 0	1680	1690	1670
EMPC = EMPC, ND = DL / 2	1680	1690	1670
EMPC = EMPC, ND = DL	1680	1690	1670
EMPC = EMPC, < J-level = 0	1680	1690	1670

Sample ID: 11215131-020222-S-SB-NC-S-42 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6276	Date Received:	04-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	Lab Sample ID	B6276_18917_DF_002-R1	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	78.8 %	QC Batch No:	18917	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:55:06

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	261				ES 2378-TCDD	75	
12378-PeCDD	3.68				ES 12378-PeCDD	78.1	
123478-HxCDD	2			J	ES 123478-HxCDD	77.9	
123678-HxCDD	4.95				ES 123678-HxCDD	82.3	
123789-HxCDD	3.97				ES 123789-HxCDD	76	
1234678-HpCDD	149				ES 1234678-HpCDD	78.3	
OCDD	2,010				ES OCDD	63.8	
2378-TCDF	695				ES 2378-TCDF	69.6	
12378-PeCDF	29.7				ES 12378-PeCDF	78.8	
23478-PeCDF	21.7				ES 23478-PeCDF	76.8	
123478-HxCDF	44.9				ES 123478-HxCDF	80.1	
123678-HxCDF	10.6				ES 123678-HxCDF	90.9	
234678-HxCDF	3.8				ES 234678-HxCDF	92.1	
123789-HxCDF	ND	0.289			ES 123789-HxCDF	81.7	
1234678-HpCDF	43.6				ES 1234678-HpCDF	85	
1234789-HpCDF	8.62				ES 1234789-HpCDF	76.2	
OCDF	309				ES OCDF	64.5	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	88.5	
Total TCDD	292		296		CS 12347-PeCDD	102	
Total PeCDD	5.84		13.9		CS 12346-PeCDF	99.2	
Total HxCDD	59		63.9		CS 123469-HxCDF	105	
Total HpCDD	351		351		CS 1234689-HpCDF	101	
Total TCDF	1,310		1,330				
Total PeCDF	88.5		88.5				
Total HxCDF	91.4		92				
Total HpCDF	109		109				
Total PCDD/Fs	**4,630**		**4,670**				
WHO-2005 TEQs							
TEQ: ND=0	351		351				
TEQ: ND=DL/2	351	0.471	351				
TEQ: ND=DL	351	0.941	351				

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Sample ID: 11215131-020222-S-SB-NC-S-42 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6276	Date Received:	04-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	Lab Sample ID:	B6276_18917_DF_002-R1	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	78.8 %	QC Batch No.:	18917	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:55:06

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	1.03		12479/12468D	[2.6]		124679/124689D	30.1		1234679D	202	
1379D	(0.309)		12469D	[3.06]		123468D	[1.79]	J	1234678D	149	
1369D	(0.309)		12368D	[0.966]	J	123679/123689D	17.9				
1469D	4.38		12478D	[1.01]	J	123469D	[1.82]	J			
1247D...[4]	(0.309)		12379D	0.774	J	123478D	2	J			
1378D	0.947		12369D...[3]	1.39	J	123678D	4.95				
1268D	(0.309)		12346/12347D	(0.309)		123467D	[1.29]	J			
1478D	0.718		12378D	3.68		123789D	3.97		**Conc.**	351	
1279D	(0.309)		12367D	[0.458]	J				**EMPC**	351	
1234/1269D	(0.309)		12389D	(0.309)							
1236D	(0.309)								**Octa-Dioxin**	**Conc**	**Qualifiers**
1237/1238D	[4.36]									(pg/g)	
1239D	(0.309)								OCDD	2010	
2378D	261										
1278D	24										
1267D	(0.309)										
1289D	(0.309)										
Conc.	292		**Conc.**	5.84		**Conc.**	59				
EMPC	296		**EMPC**	13.9		**EMPC**	63.9				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	351	351
TEQ: ND=DL/2	351	351
TEQ: ND=DL	351	351

	Conc.	EMPC
Total PCDD/Fs	4,630	4,670

Checkcode: 053-011-BTP

Report Created: 11-Feb-2022 09:35 Analyst: TF

Sample ID: 11215131-020222-S-SB-NC-S-42 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6276	Date Received:	04-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	Lab Sample ID:	B6276_18917_DF_002-R1	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	78.8 %	QC Batch No.:	18917	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:55:06

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	0.691		13468/12468F	5.74		123468F	3.47		1234678F	43.6	
1468F	1.66		13678F...[3]	1.43	J	124678/134678F	13.1		1234679F	2.6	
2468F	2.82		12368F...[3]	15.8		134679F	(0.263)		1234689F	54.3	
1346/1246F	(0.204)		14678F	(0.187)		124679F	(0.263)		1234789F	8.62	
1347F...[3]	9.97		13479F	(0.187)		124689F	12.2				
1348F	(0.204)		13469/12479F	(0.187)		123467F	[0.595]	J			
1248F...[3]	34.2		12346F	(0.187)		123478F	44.9				
1268F	11.8		23468/12469F	2.2	J	123678F	10.6				
1467F	2.04		12347F	(0.187)		123479F	(0.263)				
1478F	29.2		12348F	2.4	J	123469F	(0.263)				
1369/1237F	8.03		12378F	29.7		123679F	(0.263)				
2467F	[1.15]		12678/12367F	7.76		234678F	3.8		**Conc.**	109	
2368F	[17.1]		12379F	(0.187)		234678/123689F	0		**EMPC**	109	
1238F...[5]	38.5		12679F	(0.187)		123689F	(0.263)				
1278F	281		23467/12369F	0.671	J	123789F	(0.289)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.204)		23478F	21.7		123789/123489F	0				
1267F	18.9		23478/12489F	0		123489F	3.36		OCDF	309	
2346/1249F	1.96		12489F	(0.187)							
2347/1279F	8.85		12349F	(0.187)							
2348F	45.6		12389F	1.11	J						
2378F	695										
2367/3467F	63.2										
1269F	10.3										
1239F	(0.204)										
1289F	50.5										
Conc.	1,310		**Conc.**	88.5		**Conc.**	91.4				
EMPC	1,330		**EMPC**	88.5		**EMPC**	92				

Checkcode: 053-011-BTP

Report Created: 11-Feb-2022 09:35 Analyst: TF

Sample ID: 11215131-020222-S-SB-NC-S-42 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6276_18917_DF_002-R1
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.08 g	QC Batch No.:	18917
Date Collected:	02-Feb-2022	Split:	-	Date Extracted:	09-Feb-2022
Date Received:	04-Feb-2022	Dilution:	-	Date Analyzed:	10-Feb-2022 20:55
Lab Project No:	B6276	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	261		0.309	261	261	261
12378-PeCDD	3.68		0.309	1.84	3.68	3.68
123478-HxCDD	2	J	0.428	0.2	0.2	0.2
123678-HxCDD	4.95		0.389	0.495	0.495	0.495
123789-HxCDD	3.97		0.411	0.397	0.397	0.397
1234678-HpCDD	149		0.507	1.49	1.49	1.49
OCDD	2010		1.12	2.01	0.201	0.604
2378-TCDF	695		0.204	69.5	69.5	69.5
12378-PeCDF	29.7		0.19	1.49	1.49	0.891
23478-PeCDF	21.7		0.184	10.8	10.8	6.5
123478-HxCDF	44.9		0.271	4.49	4.49	4.49
123678-HxCDF	10.6		0.245	1.06	1.06	1.06
234678-HxCDF	3.8		0.256	0.38	0.38	0.38
123789-HxCDF	(0.289)		0.289	(0.0289)	(0.0289)	(0.0289)
1234678-HpCDF	43.6		0.312	0.436	0.436	0.436
1234789-HpCDF	8.62		0.443	0.0862	0.0862	0.0862
OCDF	309		0.841	0.309	0.0309	0.0927

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TEQ Summaries			
EMPC = 0, ND = 0	356	356	351
EMPC = 0, ND = DL / 2	356	356	351
EMPC = 0, ND = DL	356	356	351
EMPC = 0, < J-level = 0	356	355	351
EMPC = EMPC, ND = 0	356	356	351
EMPC = EMPC, ND = DL / 2	356	356	351
EMPC = EMPC, ND = DL	356	356	351
EMPC = EMPC, < J-level = 0	356	355	351

Sample ID: 11215131-020222-S-SB-NC-S-43 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6276	Date Received:	04-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.17 g	Lab Sample ID	B6276_18917_DF_003-R1	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	67.5 %	QC Batch No:	18917	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:41:26

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	2,110			E	ES 2378-TCDD	78.2	
12378-PeCDD	23.1				ES 12378-PeCDD	83	
123478-HxCDD	4.82				ES 123478-HxCDD	79.3	
123678-HxCDD	18.4				ES 123678-HxCDD	82.7	
123789-HxCDD	9.1				ES 123789-HxCDD	80.8	
1234678-HpCDD	490				ES 1234678-HpCDD	79.9	
OCDD	7,280				ES OCDD	79.2	
2378-TCDF	5,800			E	ES 2378-TCDF	78	
12378-PeCDF	230				ES 12378-PeCDF	80.2	
23478-PeCDF	170				ES 23478-PeCDF	82.8	
123478-HxCDF	782				ES 123478-HxCDF	84	
123678-HxCDF	187				ES 123678-HxCDF	84.8	
234678-HxCDF	29.3				ES 234678-HxCDF	84.7	
123789-HxCDF	ND	0.655			ES 123789-HxCDF	80.9	
1234678-HpCDF	454				ES 1234678-HpCDF	89.3	
1234789-HpCDF	129				ES 1234789-HpCDF	82.4	
OCDF	4,740				ES OCDF	83.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	85	
Total TCDD	2,350		2,360		CS 12347-PeCDD	95.4	
Total PeCDD	61.1		61.1		CS 12346-PeCDF	92.8	
Total HxCDD	183		183		CS 123469-HxCDF	98.3	
Total HpCDD	1,080		1,080		CS 1234689-HpCDF	98.6	
Total TCDF	11,400		11,400				
Total PeCDF	685		685				
Total HxCDF	1,220		1,220				
Total HpCDF	811		811				
Total PCDD/Fs	**29,800**		**29,800**				
WHO-2005 TEQs							
TEQ: ND=0	2890		2890				
TEQ: ND=DL/2	2890	0.713	2890				
TEQ: ND=DL	2890	1.43	2890				

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Sample ID: 11215131-020222-S-SB-NC-S-43 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6276	Date Received:	04-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.17 g	Lab Sample ID:	B6276_18917_DF_003-R1	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	67.5 %	QC Batch No.:	18917	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:41:26

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	8.11		12479/12468D	10.2		124679/124689D	76.1		1234679D	585	
1379D	2.79		12469D	6.23		123468D	9.86		1234678D	490	
1369D	1.05		12368D	6.34		123679/123689D	57.2				
1469D	[4.18]		12478D	4.32		123469D	4.01				
1247D...[4]	4.62		12379D	3.35		123478D	4.82				
1378D	7.66		12369D...[3]	4.97		123678D	18.4				
1268D	1		12346/12347D	1.25	J	123467D	3.06				
1478D	5.7		12378D	23.1		123789D	9.1		**Conc.**	1,080	
1279D	0.562		12367D	1.28	J				**EMPC**	1,080	
1234/1269D	1.82		12389D	(0.457)							
1236D	(0.273)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	36.3										
1239D	(0.273)								OCDD	7280	
2378D	2110	E									
1278D	169										
1267D	5.71										
1289D	[2.45]										
Conc.	2,350		**Conc.**	61.1		**Conc.**	183				
EMPC	2,360		**EMPC**	61.1		**EMPC**	183				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	2,890	2,890
TEQ: ND=DL/2	2,890	2,890
TEQ: ND=DL	2,890	2,890

	Conc.	EMPC
Total PCDD/Fs	29,800	29,800

Checkcode: 858-373-KDK

Report Created: 11-Feb-2022 09:35 Analyst: TF

Sample ID: 11215131-020222-S-SB-NC-S-43 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6276	Date Received:	04-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.17 g	Lab Sample ID:	B6276_18917_DF_003-R1	Date Extracted:	09-Feb-2022
Date Collected:	02-Feb-2022	% Solid:	67.5 %	QC Batch No.:	18917	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:41:26

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	2.3		13468/12468F	30.3		123468F	15.5		1234678F	454	
1468F	11.9		13678F...[3]	6.86		124678/134678F	86.1		1234679F	12.1	
2468F	14.6		12368F...[3]	114		134679F	(0.591)		1234689F	215	
1346/1246F	(0.187)		14678F	(0.433)		124679F	2.42	J	1234789F	129	
1347F...[3]	70.7		13479F	(0.433)		124689F	61.6				
1348F	(0.187)		13469/12479F	2.33	J	123467F	4.63				
1248F...[3]	287		12346F	0.742	J	123478F	782				
1268F	102		23468/12469F	9.61		123678F	187				
1467F	15.3		12347F	6.43		123479F	5.48				
1478F	241		12348F	25.1		123469F	4.65				
1369/1237F	67.3		12378F	230		123679F	(0.591)				
2467F	7.32		12678/12367F	75.4		234678F	29.3		**Conc.**	811	
2368F	222		12379F	(0.433)		234678/123689F	0		**EMPC**	811	
1238F...[5]	253		12679F	(0.433)		123689F	(0.591)				
1278F	2700	E	23467/12369F	4.13		123789F	(0.655)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.187)		23478F	170		123789/123489F	0				
1267F	145		23478/12489F	0		123489F	40.3		OCDF	4740	
2346/1249F	17.5		12489F	(0.433)							
2347/1279F	64.8		12349F	(0.433)							
2348F	411		12389F	9.71							
2378F	5800	E									
2367/3467F	461										
1269F	89.1										
1239F	7.75										
1289F	443										
Conc.	11,400		**Conc.**	685		**Conc.**	1,220				
EMPC	11,400		**EMPC**	685		**EMPC**	1,220				

Checkcode: 858-373-KDK

Report Created: 11-Feb-2022 09:35 Analyst: TF

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Sample ID: 11215131-020222-S-SB-NC-S-43 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6276_18917_DF_003-R1
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.17 g	QC Batch No.:	18917
Date Collected:	02-Feb-2022	Split:	-	Date Extracted:	09-Feb-2022
Date Received:	04-Feb-2022	Dilution:	-	Date Analyzed:	10-Feb-2022 21:41
Lab Project No:	B6276	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	2110	E	0.273	2110	2110	2110
12378-PeCDD	23.1		0.457	11.6	23.1	23.1
123478-HxCDD	4.82		0.988	0.482	0.482	0.482
123678-HxCDD	18.4		0.97	1.84	1.84	1.84
123789-HxCDD	9.1		0.877	0.91	0.91	0.91
1234678-HpCDD	490		0.512	4.9	4.9	4.9
OCDD	7280		0.806	7.28	0.728	2.18
2378-TCDF	5800	E	0.187	580	580	580
12378-PeCDF	230		0.423	11.5	11.5	6.91
23478-PeCDF	170		0.442	85.1	85.1	51.1
123478-HxCDF	782		0.54	78.2	78.2	78.2
123678-HxCDF	187		0.571	18.7	18.7	18.7
234678-HxCDF	29.3		0.609	2.93	2.93	2.93
123789-HxCDF	(0.655)		0.655	(0.0655)	(0.0655)	(0.0655)
1234678-HpCDF	454		0.187	4.54	4.54	4.54
1234789-HpCDF	129		0.277	1.29	1.29	1.29
OCDF	4740		0.728	4.74	0.474	1.42

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TEQ Summaries			
EMPC = 0, ND = 0	2920	2920	2890
EMPC = 0, ND = DL / 2	2920	2920	2890
EMPC = 0, ND = DL	2920	2920	2890
EMPC = 0, < J-level = 0	2920	2920	2890
EMPC = EMPC, ND = 0	2920	2920	2890
EMPC = EMPC, ND = DL / 2	2920	2920	2890
EMPC = EMPC, ND = DL	2920	2920	2890
EMPC = EMPC, < J-level = 0	2920	2920	2890

Sample ID: Method Blank B6276_18917 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6276	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18917_DF_SDS	Date Extracted:	09-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18917	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:22:26

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.165			ES 2378-TCDD	93.4	
12378-PeCDD	ND	0.158			ES 12378-PeCDD	98	
123478-HxCDD	ND	0.229			ES 123478-HxCDD	91.5	
123678-HxCDD	ND	0.199			ES 123678-HxCDD	100	
123789-HxCDD	ND	0.218			ES 123789-HxCDD	86	
1234678-HpCDD	ND	0.252			ES 1234678-HpCDD	85.5	
OCDD	ND	0.513			ES OCDD	71.9	
2378-TCDF	ND	0.105			ES 2378-TCDF	80.1	
12378-PeCDF	ND	0.102			ES 12378-PeCDF	93.8	
23478-PeCDF	ND	0.105			ES 23478-PeCDF	93	
123478-HxCDF	ND	0.122			ES 123478-HxCDF	90.4	
123678-HxCDF	ND	0.111			ES 123678-HxCDF	110	
234678-HxCDF	ND	0.106			ES 234678-HxCDF	110	
123789-HxCDF	ND	0.134			ES 123789-HxCDF	87.3	
1234678-HpCDF	ND	0.0993			ES 1234678-HpCDF	102	
1234789-HpCDF	ND	0.163			ES 1234789-HpCDF	83.4	
OCDF	ND	0.292			ES OCDF	73.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	99.7	
Total TCDD	ND	0.165	ND		CS 12347-PeCDD	114	
Total PeCDD	ND	0.158	ND		CS 12346-PeCDF	107	
Total HxCDD	ND	0.215	ND		CS 123469-HxCDF	115	
Total HpCDD	ND	0.252	ND		CS 1234689-HpCDF	105	
Total TCDF	ND	0.105	ND				
Total PeCDF	ND	0.103	ND				
Total HxCDF	ND	0.116	ND				
Total HpCDF	ND	0.126	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	0.243	0.243	0.243				
TEQ: ND=DL	0.485	0.485	0.485				

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Sample ID: Method Blank B6276_18917 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6276	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18917_DF_SDS	Date Extracted:	09-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18917	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:22:26

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.165)		12479/12468D	(0.158)		124679/124689D	(0.215)		1234679D	(0.252)	
1379D	(0.165)		12469D	(0.158)		123468D	(0.215)		1234678D	(0.252)	
1369D	(0.165)		12368D	(0.158)		123679/123689D	(0.215)				
1469D	(0.165)		12478D	(0.158)		123469D	(0.215)				
1247D...[4]	(0.165)		12379D	(0.158)		123478D	(0.229)				
1378D	(0.165)		12369D...[3]	(0.158)		123678D	(0.199)				
1268D	(0.165)		12346/12347D	(0.158)		123467D	(0.215)				
1478D	(0.165)		12378D	(0.158)		123789D	(0.218)		**Conc.**	0	
1279D	(0.165)		12367D	(0.158)					**EMPC**	0	
1234/1269D	(0.165)		12389D	(0.158)							
1236D	(0.165)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.165)										
1239D	(0.165)								OCDD	(0.513)	
2378D	(0.165)										
1278D	(0.165)										
1267D	(0.165)										
1289D	(0.165)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	0.243	0.243
TEQ: ND=DL	0.485	0.485

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 608-418-MKY

Report Created: 11-Feb-2022 09:35 Analyst: TF

Sample ID: Method Blank B6276_18917 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6276	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18917_DF_SDS	Date Extracted:	09-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18917	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:22:26

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.105)		13468/12468F	(0.101)		123468F	(0.116)		1234678F	(0.0993)	
1468F	(0.105)		13678F...[3]	(0.103)		124678/134678F	(0.116)		1234679F	(0.126)	
2468F	(0.105)		12368F...[3]	(0.103)		134679F	(0.116)		1234689F	(0.126)	
1346/1246F	(0.105)		14678F	(0.103)		124679F	(0.116)		1234789F	(0.163)	
1347F...[3]	(0.105)		13479F	(0.103)		124689F	(0.116)				
1348F	(0.105)		13469/12479F	(0.103)		123467F	(0.116)				
1248F...[3]	(0.105)		12346F	(0.103)		123478F	(0.122)				
1268F	(0.105)		23468/12469F	(0.103)		123678F	(0.111)				
1467F	(0.105)		12347F	(0.103)		123479F	(0.116)				
1478F	(0.105)		12348F	(0.103)		123469F	(0.116)				
1369/1237F	(0.105)		12378F	(0.102)		123679F	(0.116)				
2467F	(0.105)		12678/12367F	(0.103)		234678F	(0.106)		**Conc.**	0	
2368F	(0.105)		12379F	(0.103)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.105)		12679F	(0.103)		123689F	(0.116)				
1278F	(0.105)		23467/12369F	(0.103)		123789F	(0.134)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.105)		23478F	(0.105)		123789/123489F	0			**(pg/g)**	
1267F	(0.105)		23478/12489F	0		123489F	(0.116)		OCDF	(0.292)	
2346/1249F	(0.105)		12489F	(0.103)							
2347/1279F	(0.105)		12349F	(0.103)							
2348F	(0.105)		12389F	(0.103)							
2378F	(0.105)										
2367/3467F	(0.105)										
1269F	(0.105)										
1239F	(0.105)										
1289F	(0.105)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 608-418-MKY

Report Created: 11-Feb-2022 09:35 Analyst: TF

Sample ID: Method Blank B6276_18917 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18917_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18917
Date Collected:	n/a	Split:	-	Date Extracted:	09-Feb-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	10-Feb-2022 19:22
Lab Project No:	B6276	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.165)		0.165	(0.165)	(0.165)	(0.165)
12378-PeCDD	(0.158)		0.158	(0.0789)	(0.158)	(0.158)
123478-HxCDD	(0.229)		0.229	(0.0229)	(0.0229)	(0.0229)
123678-HxCDD	(0.199)		0.199	(0.0199)	(0.0199)	(0.0199)
123789-HxCDD	(0.218)		0.218	(0.0218)	(0.0218)	(0.0218)
1234678-HpCDD	(0.252)		0.252	(0.00252)	(0.00252)	(0.00252)
OCDD	(0.513)		0.513	(0.000513)	(0.0000513)	(0.000154)
2378-TCDF	(0.105)		0.105	(0.0105)	(0.0105)	(0.0105)
12378-PeCDF	(0.102)		0.102	(0.00509)	(0.00509)	(0.00305)
23478-PeCDF	(0.105)		0.105	(0.0524)	(0.0524)	(0.0314)
123478-HxCDF	(0.122)		0.122	(0.0122)	(0.0122)	(0.0122)
123678-HxCDF	(0.111)		0.111	(0.0111)	(0.0111)	(0.0111)
234678-HxCDF	(0.106)		0.106	(0.0106)	(0.0106)	(0.0106)
123789-HxCDF	(0.134)		0.134	(0.0134)	(0.0134)	(0.0134)
1234678-HpCDF	(0.0993)		0.0993	(0.000993)	(0.000993)	(0.000993)
1234789-HpCDF	(0.163)		0.163	(0.00163)	(0.00163)	(0.00163)
OCDF	(0.292)		0.292	(0.000292)	(0.0000292)	(0.0000877)

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TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.215	0.254	0.243
EMPC = 0, ND = DL	0.43	0.508	0.485
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.215	0.254	0.243
EMPC = EMPC, ND = DL	0.43	0.508	0.485
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 608-418-MKY

Sample ID: 0_18917_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6276	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18917_DF	Date Extracted:	09-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18917	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:03:25

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.3				ES 2378-TCDD	90.9	
12378-PeCDD	49.4				ES 12378-PeCDD	95.1	
123478-HxCDD	53.4				ES 123478-HxCDD	91.7	
123678-HxCDD	54.4				ES 123678-HxCDD	98.3	
123789-HxCDD	51.1				ES 123789-HxCDD	95.1	
1234678-HpCDD	52.9				ES 1234678-HpCDD	89.4	
OCDD	112				ES OCDD	74.3	
2378-TCDF	10.8				ES 2378-TCDF	82.7	
12378-PeCDF	48.9				ES 12378-PeCDF	92	
23478-PeCDF	52.9				ES 23478-PeCDF	88.7	
123478-HxCDF	50.6				ES 123478-HxCDF	95.1	
123678-HxCDF	49.2				ES 123678-HxCDF	109	
234678-HxCDF	48.7				ES 234678-HxCDF	108	
123789-HxCDF	48.5				ES 123789-HxCDF	92.3	
1234678-HpCDF	50.6				ES 1234678-HpCDF	108	
1234789-HpCDF	49.3				ES 1234789-HpCDF	87.1	
OCDF	99.7				ES OCDF	73.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	97.8	
Total TCDD	53.1		53.1		CS 12347-PeCDD	105	
Total PeCDD	76.3		76.3		CS 12346-PeCDF	103	
Total HxCDD	175		175		CS 123469-HxCDF	114	
Total HpCDD	66.7		66.7		CS 1234689-HpCDF	110	
Total TCDF	63		63				
Total PeCDF	197		197				
Total HxCDF	314		314				
Total HpCDF	99.9		99.9				
Total PCDD/Fs	**1,260**		**1,260**				
WHO-2005 TEQs							
TEQ: ND=0	116		116				
TEQ: ND=DL/2	116	0.187	116				
TEQ: ND=DL	116	0.374	116				

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Sample ID: 0_18917_OPR002 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6276	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18917_DF	Date Extracted:	09-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18917	Date Analyzed:	10-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:49:46

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.8				ES 2378-TCDD	88.3	
12378-PeCDD	49.7				ES 12378-PeCDD	93.7	
123478-HxCDD	53.8				ES 123478-HxCDD	89.8	
123678-HxCDD	55.5				ES 123678-HxCDD	97.2	
123789-HxCDD	53.2				ES 123789-HxCDD	87.6	
1234678-HpCDD	54				ES 1234678-HpCDD	85.6	
OCDD	115				ES OCDD	71.1	
2378-TCDF	11.7				ES 2378-TCDF	76.9	
12378-PeCDF	50.9				ES 12378-PeCDF	94	
23478-PeCDF	54.2				ES 23478-PeCDF	87	
123478-HxCDF	52.9				ES 123478-HxCDF	88.3	
123678-HxCDF	51.3				ES 123678-HxCDF	106	
234678-HxCDF	52.7				ES 234678-HxCDF	107	
123789-HxCDF	50.2				ES 123789-HxCDF	85.8	
1234678-HpCDF	52.9				ES 1234678-HpCDF	104	
1234789-HpCDF	51.7				ES 1234789-HpCDF	83.4	
OCDF	104				ES OCDF	71.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	94.9	
Total TCDD	54.5		54.5		CS 12347-PeCDD	109	
Total PeCDD	78		78		CS 12346-PeCDF	107	
Total HxCDD	179		179		CS 123469-HxCDF	111	
Total HpCDD	69.2		69.2		CS 1234689-HpCDF	107	
Total TCDF	66.2		66.2				
Total PeCDF	202		202				
Total HxCDF	330		330				
Total HpCDF	105		105				
Total PCDD/Fs	**1,300**		**1,300**				
WHO-2005 TEQs							
TEQ: ND=0	119		119				
TEQ: ND=DL/2	119	0.275	119				
TEQ: ND=DL	119	0.549	119				

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Sample DUP			Method 1613B
Sample ID: 0_18917_OPR001			
Analyte	**OPR1_18917_DF pg/uL**	**OPR2_18917_DF (DUP) pg/uL**	**RPD**
2,3,7,8-TCDD	11.3	11.8	4.8%
1,2,3,7,8-PeCDD	49.4	49.7	0.5%
1,2,3,4,7,8-HxCDD	53.4	53.8	0.7%
1,2,3,6,7,8-HxCDD	54.4	55.5	2.0%
1,2,3,7,8,9-HxCDD	51.1	53.2	4.0%
1,2,3,4,6,7,8-HpCDD	52.9	54	2.0%
OCDD	112	115	2.4%
2,3,7,8-TCDF	10.8	11.7	7.5%
1,2,3,7,8-PeCDF	48.9	50.9	3.9%
2,3,4,7,8-PeCDF	52.9	54.2	2.4%
1,2,3,4,7,8-HxCDF	50.6	52.9	4.4%
1,2,3,6,7,8-HxCDF	49.2	51.3	4.0%
2,3,4,6,7,8-HxCDF	48.7	52.7	7.9%
1,2,3,7,8,9-HxCDF	48.5	50.2	3.6%
1,2,3,4,6,7,8-HpCDF	50.6	52.9	4.5%
1,2,3,4,7,8,9-HpCDF	49.3	51.7	4.7%
OCDF	99.7	104	4.6%
Totals			
Total TCDD	53.1	54.5	2.7%
Total PeCDD	76.3	78	2.3%
Total HxCDD	175	179	2.6%
Total HpCDD	66.7	69.2	3.6%
Total TCDF	63	66.2	5.0%
Total PeCDF	197	202	2.6%
Total HxCDF	314	330	4.9%
Total HpCDF	99.9	105	4.6%

Sample Receipt Notification

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Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*04-Feb-22 at 14:49*
AP Project name:	*B6276*
Requested TAT:	*3 business days*
Projected due date:	*9-Feb-22*
Matrix:	*Solid*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*n/a*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-020222-S-SB-NC-S-47	B6276_001	Solid	1	4oz Clear Glass	02-Feb-22	09:40	1.3	1	4905 2704 5211
11215131-020222-S-SB-NC-S-42	B6276_002	Solid	1	4oz Clear Glass	02-Feb-22	10:45	1.3	1	4905 2704 5211
11215131-020222-S-SB-NC-S-43	B6276_003	Solid	1	4oz Clear Glass	02-Feb-22	11:00	1.3	1	4905 2704 5211

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Ashley Owens *Logged in by: Ashley Owens* *QC'ed by:* AK 4 Feb 22

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

SGS CHAIN OF CUSTODY

B602716 1/1

PROJECT INFO

PROJECT: 11215131-SJRWP - PCFSE

P.O. #:

QUOTE #: file

SITE REF: International Paper

TURN AROUND TIME:

REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV

SPECIAL DELIVERABLES:

☐ DoD ■ EDD/Version: GHD EQuIS 4-file

☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

PRESERVATIVE

None

SEND DOCUMENTATION / RESULTS TO

COMPANY: GHD Services Inc.

CONTACT: Meagan Willis

ADDRESS: 11451 Katy Fwy #400,Houston, T

PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (■ CHECK IF SAME)

COMPANY:

CONTACT:

ADDRESS:

PHONE: EMAIL:

ANALYSIS & METHOD

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B	~~M0290A~~ SB	~~M1666A~~	~~M1668C~~	~~HP PAH~~	~~M1005~~	QC MS	QC MSD	QC DUP	QTY	REMARKS
11215131-020222_S-SB-NC-S-47	2/2/22	0745	C	S	4oz	X									1	RUSH *
11215131-020222-S-SB-NC-O-46	2/2/22	0750				X									1	
11215131-020222-S-SB-NC-B-14		1000				X									1	
11215131-020222-S-SB-NC-S-42		1045				X									1	RUSH *
11215131-020222-S-SB-NC-S-43		1100				X									1	RUSH *
11215131-020222-S-SB-NC-O-44		1115				X									1	
11215131-020222-S-SB-NC-B-13	↓	1130	↓	↓	↓	X									1	

See SSOW

COLLECTED/RELINQUISHED BY (1): Sarah Pellegrin — DATE: 2-2-22 TIME: 1455

RECEIVED BY: Eddie Cash

RELINQUISHED BY (2): Eddie Cash — DATE: 2-2-22 TIME: 1647

RECEIVED BY: — 2/3/22 1547

RELINQUISHED BY (3): Fedex — DATE: TIME:

RECEIVED BY:

RECEIVED BY LABORATORY: DATE: TIME:

2/4/22 14:49

COOLER SEAL: 0 ☐ INTACT ☐ BROKEN ■ ABSENT

CONTAINER SEALS: ☐ INTACT ☐ BROKEN ■ ABSENT

CARRIER: FedEx TEMP: °C 1.3°

TRACKING #: 4905 2704 5211

*=Samples in this project.

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Member of the SGS Group (SGS SA)

B6276

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 02FEB22
ACTWGT: 45.00 LB MAN
CAD: 0317565/CAFE3313

BILL RECIPIENT

TO **SAMPLE RECEIVING**
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405

(910) 350-1903 REF:
INV:
PO: DEPT:

2/4/2022
14:49
1.3°(T.B.)

565C2/027C/05A2

FedEx Express

E

J191219082001uv

TRK# 0201 4905 2704 5211

THU - 03 FEB 10:30A
PRIORITY OVERNIGHT

NL ILMA

28405
NC-US RDU

Part # 156148-434 MTW EXP 07/22

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Project Initiation Form

Project Number: B6276

Initiation Date: 04-Feb-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Solid

TAT: 3 days

Project Manager: Tamara

Special Instructions

M1613B w/ ●PR & ●PRD

10 g DWE extraction

Read and understood, initial and date: Prep Lab: 2/7/22 2/8/22 2/8/22

HRMS Lab:

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2●●5 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab:

PM Initials: akornegay Date: 04-Feb-2022

SGS

Methods: PCB PAH | (PCDD/F) WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Extraction Type: (SDS) CLL | TALEX Carbon SPE | [Solid] | Final Volume: 20 µL

Batch# 18917 | Split: ~~TL~~ ~~HL~~ | Extract Initial/Date: KE 2/9/22 | Clean-up Initial/Date: [illegible] 2/10/22 | Transfer Init/Date: [illegible] 2/11/22

Lab Sample ID	Extraction Position Solvent: TOL	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B6276_18917_001-R1	46	13.46				gray/brown, clay-like
B6276_18917_002-R1	47	12.79				gray/brown, clay-like
B6276_18917_003-R1	48	15.08				gray/brown, clay-like, oil smell
MB1_18917	43	10.00				sodium sulfate
OPR1_18917	44	10.00				sodium sulfate
OPR2_18917	45	10.00				Sodium sulfate

JB 2/11/22

JB 2/10/22

Supply IDs

Toluene	SPL 14-24
MeCHL	STL4.17
Florisil	SPLS.77
Hexane	STL14-22
Silica	SPLS.69
S Nitrate	N/A
Base Silica	SPLS.86
HydroMattrix	N/A
Tetradecane	SPLS-730
H_2SO_4	N/A
A Silica	SPLS.87
Sodium Sulfate	SPLS-808

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	JB 2/11/22
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start: 1000
	Stop: 0900
HEX	Start:
	Stop: JB 2/11/22
DCM	Start:
	Stop:

SGS

Methods: PCB PCDD/F QUANTICS DoD PCDD/F
PAH WHO-2 USV PEST

Solid

Batch# 18917

Inter-Department Communication Sheet



SGS

Wt. Volume Results

Batch #: 18917

Comments:

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6276_001-R1	2.4	6.35	5.37	75.19%	75.19%			13.3	13.46	10.12
B6276002-R1	2.26	6.22	5.38	78.79%	78.79%			12.69	12.79	10.08
B6276_003-R1	2.26	5.67	4.56	67.45%	67.45%			14.83	15.08	10.17

% Solid Determination WorkSheet

SGS

Batch: 18900

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	100 DWE	Comments
B6276_18900_001	2.40	6.35	5.37/5.37	13.30	
B6276_18900_002	2.26	6.22	5.38/5.38	12.69	
B6276_18900_003	2.26	5.67	4.56/4.56	14.83	

Date/Initials: KE 2/7/22

SGS

Methods: PCB / PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST | [Solid]

Batch # 18917

Spiker Initials/Date: JRH 2/9/22 | JRH 2/9/22 | JRH 2/9/22 | 2/10/22 | 2/10/22

Lab Sample ID	D/F Ax-A Amount: 20 µL Observer Initials	D/F Ax-B Amount: 20µL Observer Initials	D/F ES Amount: 20µL Observer Initials	D/F CS Amount: 20 µL Observer Initials	D/F JS Amount: 20 µL Observer Initials	Amount: Observer Initials	Amount: Observer Initials
B6276_18917_001-R1	—	—	KE	KE	JRH		
B6276_18917_002-R1	—	—	KE	KE	JRH		
B6276_18917_003-R1	—	—	KE	KE	JRH		
MB1_18917	—	—	KE	KE	JRH		
OPR1_18917	KE	KE	KE	KE	JRH		
OPR2_18917	KE	KE	KE	KE	JRH		

2/10/22

Standard Information

Pipette ID					
Spike ID	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS
SIL #	26-2-8	25-187-1	26-2-9	25-338.1	25-384.1
Concentration	10 pg/µL	10 pg/µL	100 pg/µL	100 PP/µL	100 P/µL
Expiration Date	7/9/28	6/22/22	8/2028	11/16/22	1/28/23

4/10/22

SGS

Methods: PCB PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST

Extraction Type: SDS CLI. | TALEX Carbon SPE

Solid

Final Volume: 20µL

Batch# 18900 | Split: 1/2 1/4 | Extract Initial/Date: VE 2/7/22 | Clean-up Initial/Date: [illegible] 2/8/22 | Transfer Init/Date: [illegible] 2/9/22

Lab Sample ID	Extraction Position Solvent: TOL	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B6276_18900_001	3	13.37				gray-brown, clay-like.
B6276_18900_002	4	12.87				amy/orange, clay-like.
B6276_18900_003	5	14.98				black/gray/brown, clay-like, oil smell
MB1_18900	1	10.00				Sodium sulfate
OPR1_18900	2	10.00				Sodium sulfate

TB 2/11/22

[illegible] 2/8/22

Supply IDs	
Toluene	SPL-124
MeCHL	SPL4.17
Flor sil	SPLS-77
Hexane	SPL4.22
Silica	SPLS.69
S Nitrate	N/A
Base Silica	SPLS-86
HydroMatrix	N/A
Tetradecane	SPLS-73D
H_2SO_4	N/A
A Silica	SPLS.82
Sodium Sulfate	SPLS-503

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	
GPC Date/Initial:	TB 2/11/22
Bond-Elute Date/Initial:	

CycleTime

TOL	Start: 1630 Stop: 0836
HEX	Start: Stop:
DCM	Start: Stop:

TB 2/11/22

SGS

Methods: PCB PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST

Solid

Batch# 18900

Inter-Department Communication Sheet

TV 2/9/22 Samples Require Rex due to missing CPRD

2/11/22

SGS

Wt. Volume Results

Batch #: 18900

Comments:

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6276_001	2.4	6.35	5.37	75.19%	75.19%			13.3	13.37	10.05
B6276_002	2.26	6.22	5.38	78.79%	78.79%			12.69	12.87	10.14
B6276_003	2.26	5.67	4.56	67.45%	67.45%			14.83	14.98	10.1

SGS

Methods: PCB, PAH, PCDD/F WHO-2, QUANTICS USV, DoD PCDD/F PEST — Solid

Batch # 18900

Spiker Initials/Date: 2/7/22 | 2/7/22 | 2/7/22 | 2/8/22 | 2/8/22

Lab Sample ID	D/F Ax-A Amount: 20 µL Observer Initials	D/F Ax-B Amount: 20 µL Observer Initials	D/F ES Amount: 20 µL Observer Initials	D/F CS Amount: 20 µL Observer Initials	D/F JS Amount: 20 µL Observer Initials	Amount: Observer Initials	Amount: Observer Initials
B6276_18900_001	—	—	KE	KE	KE		
B6276_18900_002	—	—	KE	KE	KE		
B6276_18900_003	—	—	KE	KE	KE		
MB1_18900	—	—	KE	KE	KE		
OPR1_18900	KE	KE	KE	KE	KE		

2/8/22

Standard Information

Pipette ID					
Spike ID	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS
SIL#	26-7-8	25-187-2	26-7-9	25-339-1	25-364-1
Concentration	100 pg/µL	100 pg/µL	100 pg/µL	100 P/µL	100 P/µL

2/8/22

REVIEWED
Tamara Burkamper , 2/11/2022, 10:27:15 AM

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
9	220210C09	3	CS3_220210_DF_CB	1.00	25-347-1	DTF	521-082	10-Feb-2022	16:17:06
10	220210C10	37	OPR1_18917_DF	1.00	0_18917_OPR001	DTF	456-279	10-Feb-2022	17:03:25
11	220210C11	38	OPR2_18917_DF	1.00	0_18917_OPR002	DTF	395-929	10-Feb-2022	17:49:46
12	220210C12	2	SBS_220210_DF_CB	1.00	30-61-1	DTF	737-611	10-Feb-2022	18:36:07
13	220210C13	36	MB1_18917_DF_SDS	10.00	Method Blank	DTF	608-418	10-Feb-2022	19:22:26
14	220210C14	39	B6276_18917_DF_001-R1	10.12	11215131-020222-S-SB-NC-S-47	DTF	845-329	10-Feb-2022	20:08:47
15	220210C15	40	B6276_18917_DF_002-R1	10.08	11215131-020222-S-SB-NC-S-42	DTF	053-011	10-Feb-2022	20:55:06
16	220210C16	41	B6276_18917_DF_003-R1	10.17	11215131-020222-S-SB-NC-S-43	DTF	858-373	10-Feb-2022	21:41:26

REVIEWED
Tyler_Fritz , 2/11/2022, 9:48:38 AM

Lab ID: MB1_18917_DF_SDS **Acq'd:** 10 Feb 2022 19:22 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6276_18917 **UTP:** 11-Feb-2022 09:27:44 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 608-418-MKY

Datafile: 220210C13 **Report:** 11 Feb 2022 09:35 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	2593.3461	0.165
12378-PeCDD	NotFnd		1.0005	-		-	-	-	1.04	-	2333.163	0.158
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	3294.801	0.229
123678-HxCDD	NotFnd		1.0035	-		-	-	-	1.15	-	3294.801	0.199
123789-HxCDD	NotFnd		1.0113	-		-	-	-	1.05	-	3294.801	0.218
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	1.06	-	3199.151	0.252
OCDD	NotFnd		1.0002	-		-	-	-	1.13	-	2926.801	0.513
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	2195.614	0.105
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2372.4647	0.102
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2372.4647	0.105
123478-HxCDF	NotFnd		1.0005	-		-	-	-	1.27	-	2690.389	0.122
123678-HxCDF	NotFnd		1.0005	-		-	-	-	1.15	-	2690.389	0.111
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2690.389	0.106
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2690.389	0.134
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2364.68	0.0993
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2364.68	0.163
OCDF	NotFnd		1.0003	-		-	-	-	1.07	-	2271.2006	0.292

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46	1.0238	1.0238	0	2.87E+07	0.79	Y	1.05	93.4
ES 12378-PeCDD	33.81	1.2160	1.2163	+0.6	2.53E+07	1.61	Y	0.88	98
ES 123478-HxCDD	37.72	0.9919	0.9919	0	2.32E+07	1.28	Y	0.97	91.5
ES 123678-HxCDD	37.85	0.9950	0.9950	0	2.47E+07	1.26	Y	0.94	100
ES 123789-HxCDD	38.14	1.0027	1.0027	0	2.45E+07	1.27	Y	1.09	86
ES 1234678-HpCDD	40.81	1.0730	1.0730	0	2.03E+07	1.07	Y	0.91	85.5
ES OCDD	43.50	1.1437	1.1436	-0.3	2.34E+07	0.88	Y	0.62	71.9
ES 2378-TCDF	27.60	1.0520	1.0519	-0.2	4.26E+07	0.80	Y	1.06	80.1
ES 12378-PeCDF	32.36	1.2330	1.2332	+0.4	4.28E+07	1.60	Y	0.91	93.8
ES 23478-PeCDF	33.47	1.2754	1.2757	+0.6	4.12E+07	1.61	Y	0.88	93
ES 123478-HxCDF	36.72	0.9653	0.9653	0	2.82E+07	0.54	Y	1.20	90.4
ES 123678-HxCDF	36.86	0.9691	0.9690	-0.2	3.86E+07	0.56	Y	1.35	110
ES 234678-HxCDF	37.54	0.9870	0.9869	-0.2	3.55E+07	0.52	Y	1.24	110
ES 123789-HxCDF	38.49	1.0121	1.0120	-0.2	2.63E+07	0.54	Y	1.16	87.3
ES 1234678-HpCDF	39.88	1.0484	1.0484	0	2.57E+07	0.47	Y	0.97	102
ES 1234789-HpCDF	41.27	1.0851	1.0851	0	1.85E+07	0.47	Y	0.85	83.4
ES OCDF	43.68	1.1483	1.1483	0	3.09E+07	0.93	Y	0.81	73.4

Lab ID: MB1_18917_DF_SDS | Acq'd: 10 Feb 2022 19:22 DTF | Wt/Vol: 10.00 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6276_18917 | UTP: 11-Feb-2022 09:27:44 DTF | J-level: 0.5 pg/g | Split: 1 | Checkcode: 608-418-MKY

Datafile: 220210C13 | Report: 11 Feb 2022 09:35 TF | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.79		-	-	-	2.94E+07	0.84	Y	-	-
JS 1234-TCDF	26.24		-	-	-	5.02E+07	0.81	Y	-	-
JS 123467-HxCDD	38.03		-	-	-	1.30E+07	1.35	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0245	1.0247	+0.3	1.41E+07	n/a	-	1.20	99.7
CS 12347-PeCDD	33.30		1.1979	1.1982	+0.6	2.51E+07	1.54	Y	0.75	114
CS 12346-PeCDF	31.83		1.2128	1.2130	+0.4	4.59E+07	1.59	Y	0.85	107
CS 123469-HxCDF	37.18		0.9774	0.9774	0	3.34E+07	0.55	Y	1.12	115
CS 1234689-HpCDF	40.28		1.0589	1.0590	+0.2	2.42E+07	0.46	Y	0.89	105
~~SS 37Cl-2378-TCDD~~	~~28.48~~		~~1.0245~~	~~1.0247~~	~~+0.3~~	~~1.41E+07~~	~~n/a~~		~~1.15~~	~~107~~
~~SS 12347-PeCDD~~	~~33.30~~		~~1.1979~~	~~1.1982~~	~~+0.6~~	~~2.51E+07~~	~~1.54~~	~~Y~~	~~0.86~~	~~116~~
~~SS 12346-PeCDF~~	~~31.83~~		~~1.2128~~	~~1.2130~~	~~+0.4~~	~~4.59E+07~~	~~1.59~~	~~Y~~	~~0.94~~	~~114~~
~~SS 123469-HxCDF~~	~~37.18~~		~~0.9774~~	~~0.9774~~	~~0~~	~~3.34E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~104~~
~~SS 1234689-HpCDF~~	~~40.28~~		~~1.0589~~	~~1.0590~~	~~+0.2~~	~~2.42E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~102~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: MB1_18917_DF_SDS **Acq'd:** 10 Feb 2022 19:22 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6276_18917 **UTP:** 11-Feb-2022 09:27:44 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 608-418-MKY

Datafile: 220210C13 **Report:** 11 Feb 2022 09:35 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8737						1.18		2593.3461	0.165
1379-TCDD	NotFnd		0.8860						1.18		2593.3461	0.165
1369-TCDD	NotFnd		0.9009						1.18		2593.3461	0.165
1469-TCDD	NotFnd		0.9281						1.18		2593.3461	0.165
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		2593.3461	0.165
1378-TCDD	NotFnd		0.9432						1.18		2593.3461	0.165
1268-TCDD	NotFnd		0.9500						1.18		2593.3461	0.165
1478-TCDD	NotFnd		0.9586						1.18		2593.3461	0.165
1279-TCDD	NotFnd		0.9645						1.18		2593.3461	0.165
1234/1269-TCDD	NotFnd		0.9770						1.18		2593.3461	0.165
1236-TCDD	NotFnd		0.9817						1.18		2593.3461	0.165
1237/1238-TCDD	NotFnd		0.9905						1.18		2593.3461	0.165
1239-TCDD	NotFnd		0.9952						1.18		2593.3461	0.165
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**2593.3461**	**0.165**
1278-TCDD	NotFnd		1.0121						1.18		2593.3461	0.165
1267-TCDD	NotFnd		1.0167						1.18		2593.3461	0.165
1289-TCDD	NotFnd		1.0345						1.18		2593.3461	0.165
12479/12468-PeCDD	NotFnd		0.9267						1.04		2333.163	0.158
12469-PeCDD	NotFnd		0.9425						1.04		2333.163	0.158
12368-PeCDD	NotFnd		0.9588						1.04		2333.163	0.158
12478-PeCDD	NotFnd		0.9643						1.04		2333.163	0.158
12379-PeCDD	NotFnd		0.9673						1.04		2333.163	0.158
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		2333.163	0.158
12346/12347-PeCDD	NotFnd		0.9858						1.04		2333.163	0.158
12378-PeCDD	NotFnd		**1.0005**						**1.04**		**2333.163**	**0.158**
12367-PeCDD	NotFnd		1.0033						1.04		2333.163	0.158
12389-PeCDD	NotFnd		1.0134						1.04		2333.163	0.158
124679/124689-HxCDD	NotFnd		0.9542						1.10		3294.801	0.215
123468-HxCDD	NotFnd		0.9715						1.10		3294.801	0.215
123679/123689-HxCDD	NotFnd		0.9793						1.10		3294.801	0.215
123469-HxCDD	NotFnd		0.9828						1.10		3294.801	0.215
123478-HxCDD	NotFnd		**1.0004**						1.09		**3294.801**	**0.229**
123678-HxCDD	NotFnd		**1.0035**						1.15		**3294.801**	**0.199**
123467-HxCDD	NotFnd		1.0085						1.10		3294.801	0.215
123789-HxCDD	NotFnd		**1.0113**						1.05		**3294.801**	**0.218**

Lab ID: MB1_18917_DF_SDS | Acq'd: 10 Feb 2022 19:22 DTF | Wt/Vol: 10.00 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6276_18917 | UTP: 11-Feb-2022 09:27:44 DTF | J-level: 0.5 pg/g | Split: 1 | Checkcode: 608-418-MKY

Datafile: 220210C13 | Report: 11 Feb 2022 09:35 TF | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

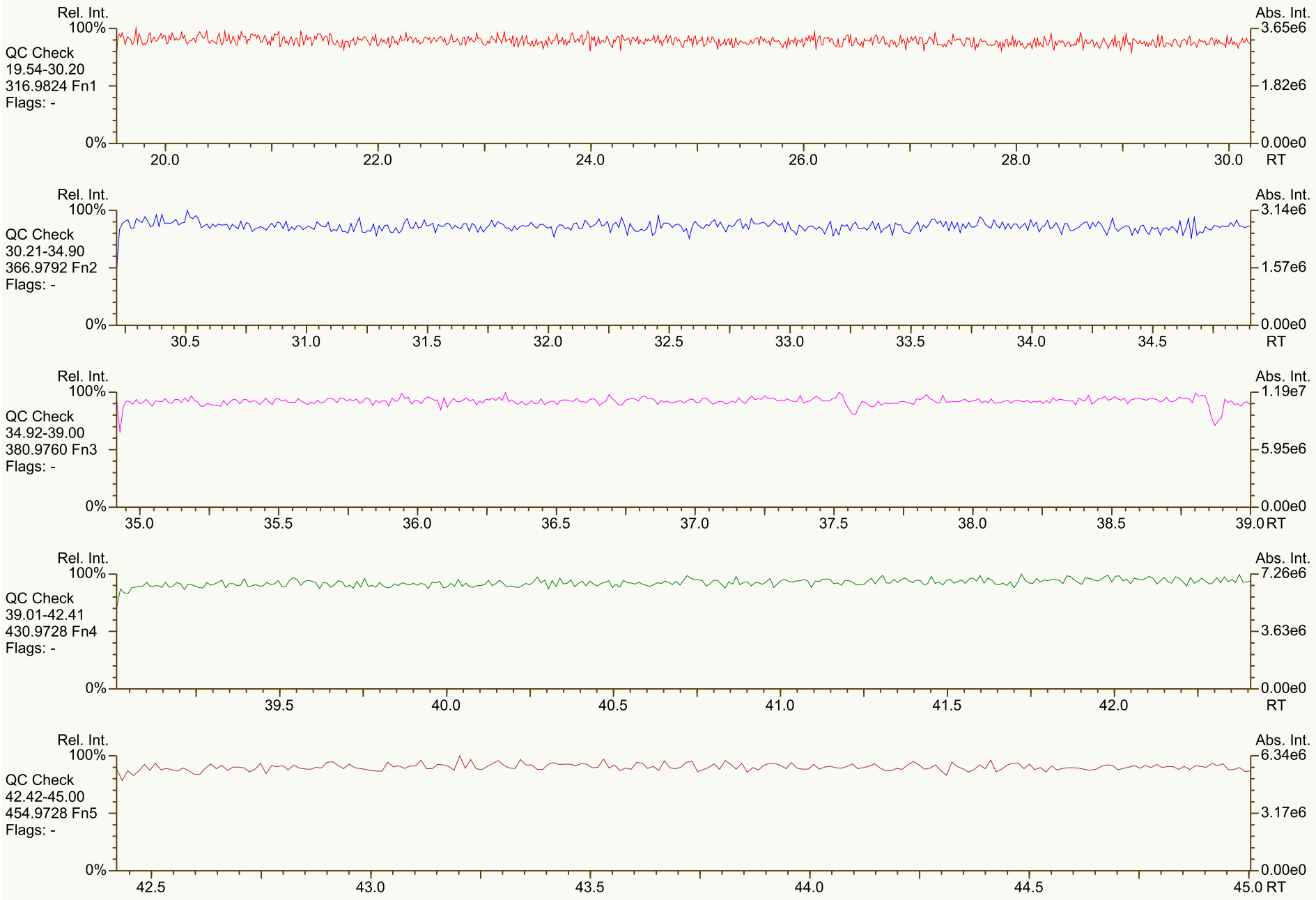
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9837						1.06		3199.151	0.252
1234678-HpCDD	**NotFnd**		**1.0003**						**1.06**		**3199.151**	**0.252**
OCDD	**NotFnd**		**1.0002**						**1.13**		**2926.801**	**0.513**
OCDD-a	NotFnd		1.0001						0.07		3057.021	8.37
1368-TCDF	NotFnd		0.8251						1.08		2195.614	0.105
1468-TCDF	NotFnd		0.8458						1.08		2195.614	0.105
2468-TCDF	NotFnd		0.8686						1.08		2195.614	0.105
1346/1246-TCDF	NotFnd		0.8814						1.08		2195.614	0.105
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2195.614	0.105
1348-TCDF	NotFnd		0.8962						1.08		2195.614	0.105
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2195.614	0.105
1268-TCDF	NotFnd		0.9145						1.08		2195.614	0.105
1467-TCDF	NotFnd		0.9193						1.08		2195.614	0.105
1478-TCDF	NotFnd		0.9254						1.08		2195.614	0.105
1369/1237-TCDF	NotFnd		0.9387						1.08		2195.614	0.105
2467-TCDF	NotFnd		0.9433						1.08		2195.614	0.105
2368-TCDF	NotFnd		0.9489						1.08		2195.614	0.105
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2195.614	0.105
1278-TCDF	NotFnd		0.9683						1.08		2195.614	0.105
1349-TCDF	NotFnd		0.9722						1.08		2195.614	0.105
1267-TCDF	NotFnd		0.9783						1.08		2195.614	0.105
2346/1249-TCDF	NotFnd		0.9850						1.08		2195.614	0.105
2347/1279-TCDF	NotFnd		0.9926						1.08		2195.614	0.105
2348-TCDF	NotFnd		0.9967						1.08		2195.614	0.105
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**2195.614**	**0.105**
2367/3467-TCDF	NotFnd		1.0137						1.08		2195.614	0.105
1269-TCDF	NotFnd		1.0223						1.08		2195.614	0.105
1239-TCDF	NotFnd		1.0321						1.08		2195.614	0.105
1289-TCDF	NotFnd		1.0722						1.08		2195.614	0.105
13468/12468-PeCDF	NotFnd		0.9139						1.02		2320.233	0.101
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		2372.4647	0.103
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		2372.4647	0.103
14678-PeCDF	NotFnd		0.9692						1.02		2372.4647	0.103
13479-PeCDF	NotFnd		0.9723						1.02		2372.4647	0.103
13469/12479-PeCDF	NotFnd		0.9797						1.02		2372.4647	0.103
12346-PeCDF	NotFnd		0.9840						1.02		2372.4647	0.103

Lab ID: MB1_18917_DF_SDS | **Acq'd:** 10 Feb 2022 19:22 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6276_18917 | **UTP:** 11-Feb-2022 09:27:44 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 608-418-MKY

Datafile: 220210C13 | **Report:** 11 Feb 2022 09:35 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		2372.4647	0.103
12347-PeCDF	NotFnd		0.9894						1.02		2372.4647	0.103
12348-PeCDF	NotFnd		0.9940						1.02		2372.4647	0.103
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2372.4647**	**0.102**
12678/12367-PeCDF	NotFnd		1.0089						1.02		2372.4647	0.103
12379-PeCDF	NotFnd		1.0142						1.02		2372.4647	0.103
12679-PeCDF	NotFnd		0.9929						1.02		2372.4647	0.103
23467/12369-PeCDF	NotFnd		0.9967						1.02		2372.4647	0.103
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2372.4647**	**0.105**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2372.4647	0.103
12349-PeCDF	NotFnd		1.0100						1.02		2372.4647	0.103
12389-PeCDF	NotFnd		1.0324						1.02		2372.4647	0.103
123468-HxCDF	NotFnd		0.9627						1.19		2690.389	0.116
124678/134678-HxCDF	NotFnd		0.9682						1.19		2690.389	0.116
134679-HxCDF	NotFnd		0.9744						1.19		2690.389	0.116
124679-HxCDF	NotFnd		0.9798						1.19		2690.389	0.116
124689-HxCDF	NotFnd		0.9858						1.19		2690.389	0.116
123467-HxCDF	NotFnd		0.9972						1.19		2690.389	0.116
123478-HxCDF	**NotFnd**		**1.0005**						**1.27**		**2690.389**	**0.122**
123678-HxCDF	**NotFnd**		**1.0005**						**1.15**		**2690.389**	**0.111**
123479-HxCDF	NotFnd		1.0049						1.19		2690.389	0.116
123469-HxCDF	NotFnd		1.0090						1.19		2690.389	0.116
123679-HxCDF	NotFnd		0.9942						1.19		2690.389	0.116
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2690.389**	**0.106**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2690.389	0.116
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2690.389**	**0.134**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		2690.389	0.116
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2364.68**	**0.0993**
1234679-HpCDF	NotFnd		1.0068						1.34		2364.68	0.126
1234689-HpCDF	NotFnd		1.0103						1.34		2364.68	0.126
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2364.68**	**0.163**
OCDF	**NotFnd**		**1.0003**						**1.07**		**2271.2006**	**0.292**
OCDF-a	NotFnd		1.0002						0.07		3138.398	6.52

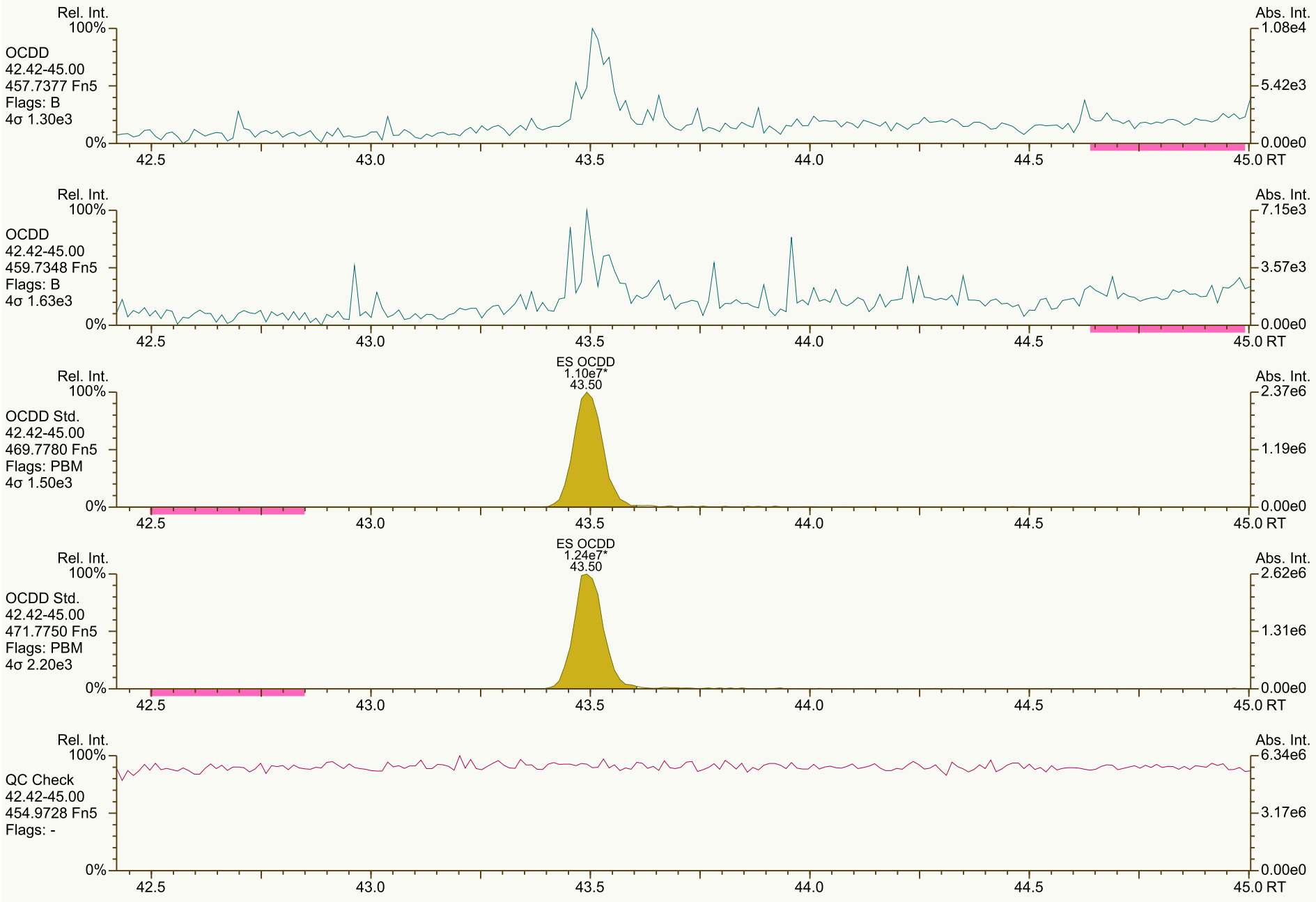

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.65e6
1.82e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.14e6
1.57e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.19e7
5.95e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
7.26e6
3.63e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
6.34e6
3.17e6
0.00e0

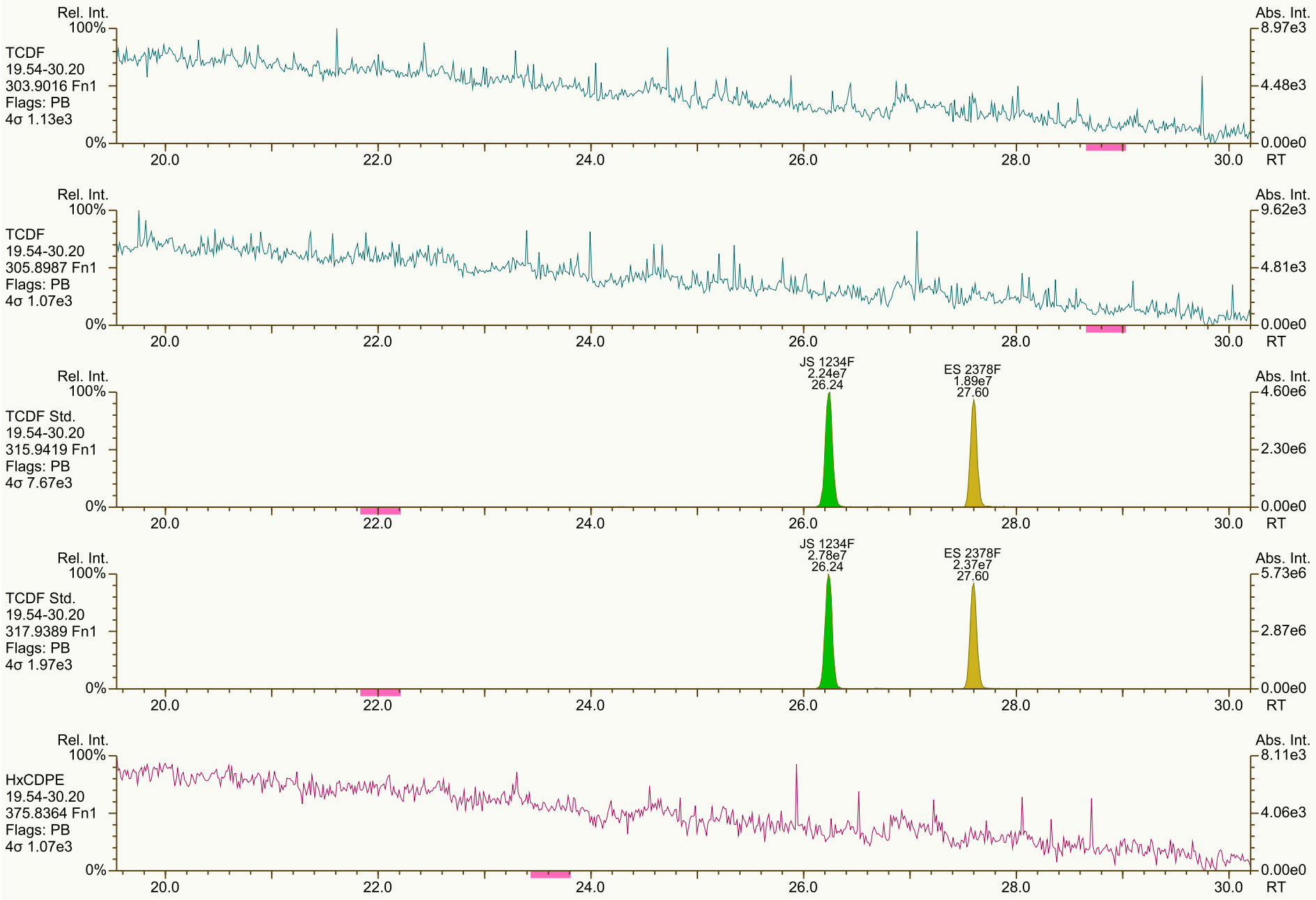

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 1.76e3
0%
Abs. Int.
1.27e4
6.36e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 8.35e2
0%
Abs. Int.
1.09e4
5.46e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.25e3
0%
CS 37Cl-2378D
1.41e7
28.48
Abs. Int.
3.31e6
1.66e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.00e3
0%
JS 1234D
1.34e7
27.79
ES 2378D
1.26e7
28.46
Abs. Int.
3.14e6
1.57e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.20e3
0%
JS 1234D
1.60e7
27.80
ES 2378D
1.61e7
28.46
Abs. Int.
3.80e6
1.90e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: B
4σ 1.15e3
0%
Abs. Int.
6.79e3
3.39e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: B
4σ 1.18e3
0%
Abs. Int.
4.96e3
2.48e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 1.70e3
0%
CS 12347D
1.52e7
33.30
ES 12378D
1.56e7
33.81
Abs. Int.
4.40e6
2.20e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.76e3
0%
CS 12347D
9.89e6
33.30
ES 12378D
9.72e6
33.81
Abs. Int.
2.81e6
1.40e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.14e6
1.57e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 1.29e3
0%
Abs. Int.
5.88e3
2.94e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: B
4σ 2.01e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PBM
4σ 2.38e3
0%
ES 123678D
1.37e7
37.84
ES 123478D
1.30e7
37.72
ES 123789D
1.37e7*
38.13
JS 123467D
7.48e6
38.03
Abs. Int.
4.04e6
2.02e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 1.53e3
0%
ES 123678D
1.09e7
37.84
ES 123478D
1.02e7
37.72
ES 123789D
1.08e7*
38.13
JS 123467D
5.54e6
38.03
Abs. Int.
3.36e6
1.68e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.19e7
5.95e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.79e3
3.40e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: B
4σ 1.54e3
0%
Abs. Int.
6.89e3
3.45e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
1.05e7
40.81
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.77e3
0%
Abs. Int.
3.10e6
1.55e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
9.82e6
40.81
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.68e3
0%
Abs. Int.
3.02e6
1.51e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.26e6
3.63e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: B
4σ 1.30e3
0%
Abs. Int.
1.08e4
5.42e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: B
4σ 1.63e3
0%
Abs. Int.
7.15e3
3.57e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.10e7*
43.50
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
2.37e6
1.19e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.24e7*
43.50
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 2.20e3
0%
Abs. Int.
2.62e6
1.31e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.34e6
3.17e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.13e3
0%
Abs. Int.
8.97e3
4.48e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 1.07e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 7.67e3
0%
JS 1234F
2.24e7
26.24
ES 2378F
1.89e7
27.60
Abs. Int.
4.60e6
2.30e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 1.97e3
0%
JS 1234F
2.78e7
26.24
ES 2378F
2.37e7
27.60
Abs. Int.
5.73e6
2.87e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.07e3
0%
Abs. Int.
8.11e3
4.06e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: MB1_18917_DF_SDS | Sample ID: Method Blank | Acq: 10-Feb-2022 19:22:26

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 36 | User: DTF Datafile: 220210C13



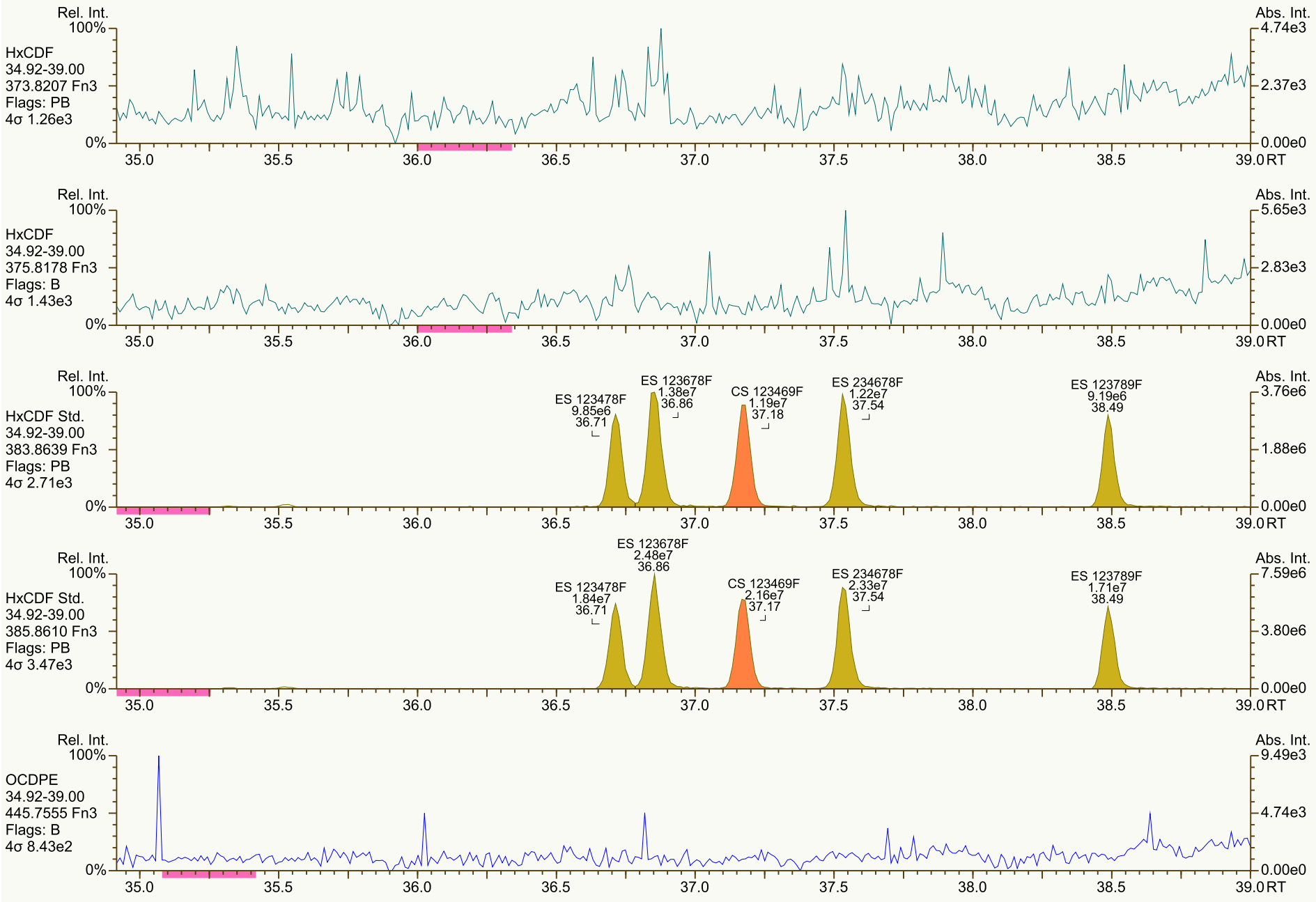
Results: P:\B6200_B6299\B6276\B6276_18917 DF\Resources\MB1_18917_DF_SDS.utp_res, saved 11-Feb-2022 09:27 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4643 scc: 608-418 | *PKD: 11-Feb-2022 08:45 Printed: 11-Feb-2022 09:44 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PB
4σ 9.55e2
0%
Abs. Int.
3.96e3
1.98e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: B
4σ 1.42e3
0%
Abs. Int.
7.20e3
3.60e3
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 2.37e3
0%
CS 12346F
2.81e7
31.83
ES 12378F
2.63e7
32.36
ES 23478F
2.54e7
33.47
Abs. Int.
7.51e6
3.76e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 1.85e3
0%
CS 12346F
1.78e7
31.83
ES 12378F
1.65e7
32.36
ES 23478F
1.58e7
33.47
Abs. Int.
4.87e6
2.44e6
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.22e3
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
RT

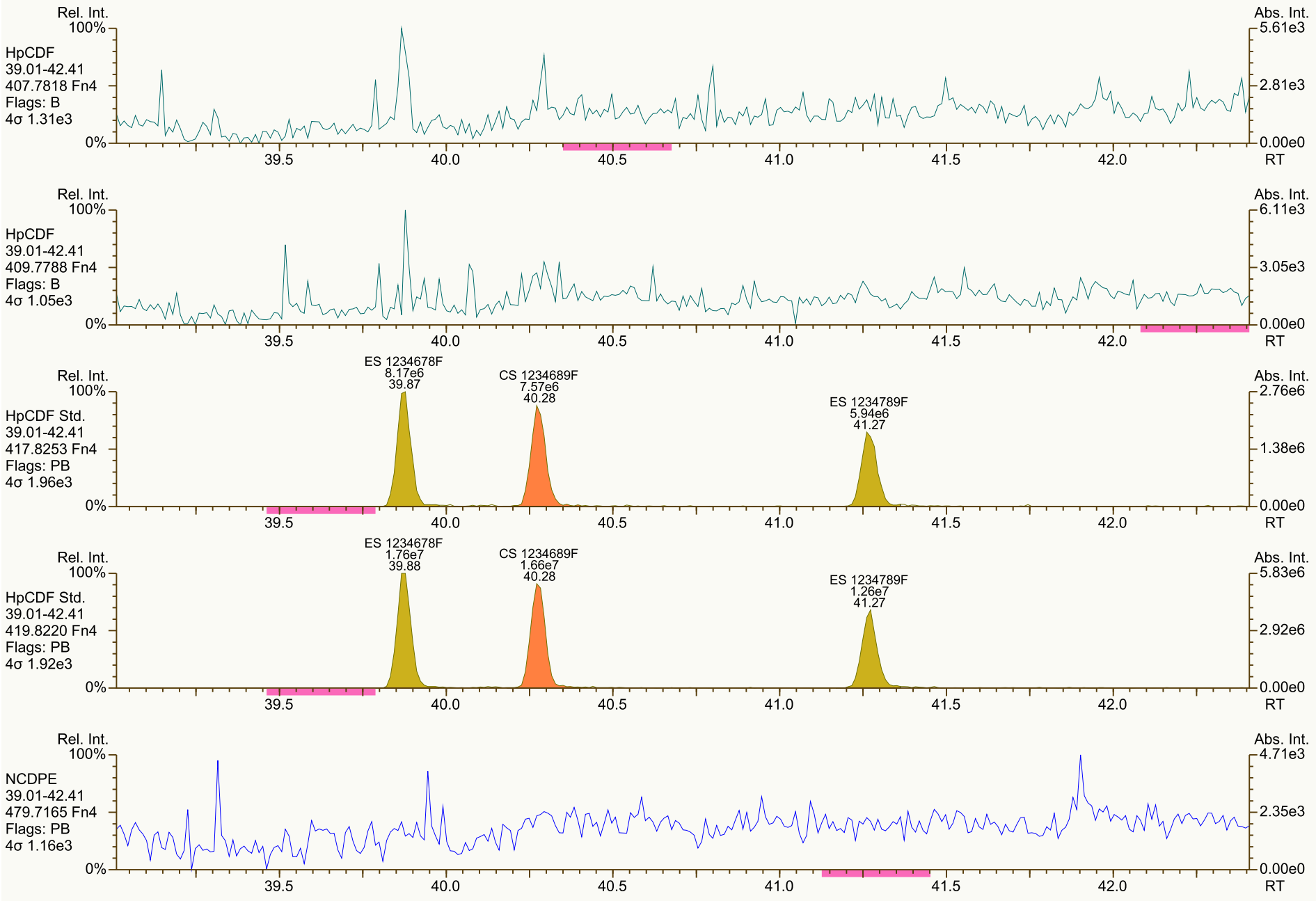
SGS ID: MB1_18917_DF_SDS | Sample ID: Method Blank | Acq: 10-Feb-2022 19:22:26

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 36 | User: DTF Datafile: 220210C13



Results: P:\B6200_B6299\B6276\B6276_18917 DF\Resources\MB1_18917_DF_SDS.utp_res, saved 11-Feb-2022 09:27 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5478, 1110, 5660 scc: 608-418 *PKD: 11-Feb-2022 08:45 Printed: 11-Feb-2022 09:44 Page 10 of 12*


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: B
4σ 1.31e3
0%
Abs. Int.
5.61e3
2.81e3
0.00e0
RT
39.5
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: B
4σ 1.05e3
0%
Abs. Int.
6.11e3
3.05e3
0.00e0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 1.96e3
0%
ES 1234678F
8.17e6
39.87
CS 1234689F
7.57e6
40.28
ES 1234789F
5.94e6
41.27
Abs. Int.
2.76e6
1.38e6
0.00e0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 1.92e3
0%
ES 1234678F
1.76e7
39.88
CS 1234689F
1.66e7
40.28
ES 1234789F
1.26e7
41.27
Abs. Int.
5.83e6
2.92e6
0.00e0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.16e3
0%
Abs. Int.
4.71e3
2.35e3
0.00e0
RT


Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: B
4σ 9.11e2
0%
Abs. Int.
7.60e3
3.80e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: B
4σ 1.36e3
0%
Abs. Int.
5.42e3
2.71e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.49e7*
43.67
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 1.92e3
0%
Abs. Int.
3.49e6
1.75e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.60e7*
43.67
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 2.07e3
0%
Abs. Int.
3.64e6
1.82e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.35e3
0%
Abs. Int.
1.01e4
5.04e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6276_18917_DF_001-R1 **Acq'd:** 10 Feb 2022 20:08 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020222-S-SB-NC-S-47 **UTP:** 11-Feb-2022 09:27:45 DTF **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 845-329-QTW

Datafile: 220210C14 **Report:** 11 Feb 2022 09:35 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.48	E	1.0008	1.0008	0	2.01E+08	0.80	Y	1.18	1,240	4155.561	0.267
12378-PeCDD	33.82		1.0005	1.0006	+0.2	1.79E+06	1.55	Y	1.04	14.4	2552.34	0.178
123478-HxCDD	37.73		1.0004	1.0004	0	4.28E+05	1.14	Y	1.09	3.72	7694.612	0.576
123678-HxCDD	37.85		1.0035	1.0036	+0.2	1.59E+06	1.27	Y	1.15	12.5	7694.612	0.53
123789-HxCDD	38.14		1.0113	1.0113	0	8.87E+05	1.18	Y	1.05	7.18	7694.612	0.49
1234678-HpCDD	40.82		1.0003	1.0004	+0.2	3.73E+07	1.05	Y	1.06	353	5168.355	0.349
OCDD	43.51		1.0002	1.0003	+0.3	3.39E+08	0.90	Y	1.13	4,600	5422.466	0.866
2378-TCDF	27.62	E	1.0008	1.0008	0	7.91E+08	0.79	Y	1.08	3,460	2722.824	0.134
12378-PeCDF	32.37		1.0005	1.0005	0	2.24E+07	1.53	Y	1.02	110	4345.308	0.194
23478-PeCDF	33.49		1.0005	1.0007	+0.4	1.79E+07	1.55	Y	1.02	91.9	4345.308	0.197
123478-HxCDF	36.73		1.0005	1.0005	0	3.42E+07	1.24	Y	1.27	192	6087.988	0.284
123678-HxCDF	36.87		1.0005	1.0005	0	9.94E+06	1.22	Y	1.15	51.7	6087.988	0.269
234678-HxCDF	37.55		1.0005	1.0004	-0.2	2.20E+06	1.21	Y	1.19	12	6087.988	0.282
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	6087.988	0.327
1234678-HpCDF	39.88		1.0003	1.0003	0	2.33E+07	1.05	Y	1.37	141	3756.835	0.162
1234789-HpCDF	41.28		1.0003	1.0003	0	3.87E+06	1.00	Y	1.31	31.3	3756.835	0.259
OCDF	43.69		1.0003	1.0003	0	7.41E+07	0.90	Y	1.07	814	3876.345	0.474

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46	1.0238	1.0237	-0.2	2.70E+07	0.80	Y	1.05	73.7
ES 12378-PeCDD	33.80	1.2160	1.2160	0	2.37E+07	1.61	Y	0.88	77
ES 123478-HxCDD	37.72	0.9919	0.9918	-0.2	2.09E+07	1.34	Y	0.97	72.3
ES 123678-HxCDD	37.84	0.9950	0.9949	-0.2	2.20E+07	1.22	Y	0.94	78.5
ES 123789-HxCDD	38.13	1.0027	1.0026	-0.2	2.33E+07	1.27	Y	1.09	71.9
ES 1234678-HpCDD	40.80	1.0730	1.0730	0	1.97E+07	1.09	Y	0.91	72.6
ES OCDD	43.50	1.1437	1.1438	+0.3	2.58E+07	0.93	Y	0.62	69.7
ES 2378-TCDF	27.60	1.0520	1.0520	0	4.19E+07	0.81	Y	1.06	71.5
ES 12378-PeCDF	32.35	1.2330	1.2331	+0.2	3.95E+07	1.57	Y	0.91	78.4
ES 23478-PeCDF	33.47	1.2754	1.2756	+0.4	3.78E+07	1.55	Y	0.88	77.3
ES 123478-HxCDF	36.71	0.9653	0.9653	0	2.77E+07	0.52	Y	1.20	77.9
ES 123678-HxCDF	36.85	0.9691	0.9690	-0.2	3.30E+07	0.54	Y	1.35	82.2
ES 234678-HxCDF	37.53	0.9870	0.9869	-0.2	3.05E+07	0.56	Y	1.24	82.5
ES 123789-HxCDF	38.48	1.0121	1.0120	-0.2	2.58E+07	0.53	Y	1.16	75.3
ES 1234678-HpCDF	39.87	1.0484	1.0484	0	2.39E+07	0.46	Y	0.97	83.2
ES 1234789-HpCDF	41.27	1.0851	1.0851	0	1.87E+07	0.47	Y	0.85	73.8
ES OCDF	43.67	1.1483	1.1485	+0.5	3.36E+07	0.90	Y	0.81	70

Lab ID: B6276_18917_DF_001-R1 | Acq'd: 10 Feb 2022 20:08 DTF | Wt/Vol: 10.12 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020222-S-SB-NC-S-47 | UTP: 11-Feb-2022 09:27:45 DTF | J-level: 0.494 pg/g | Split: 1 | Checkcode: 845-329-QTW

Datafile: 220210C14 | Report: 11 Feb 2022 09:35 TF | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.80		-	-	-	3.50E+07	0.80	Y	-	-
JS 1234-TCDF	26.24		-	-	-	5.53E+07	0.81	Y	-	-
JS 123467-HxCDD	38.03		-	-	-	1.48E+07	1.36	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0245	1.0245	0	1.43E+07	n/a	-	1.20	85.1
CS 12347-PeCDD	33.30		1.1979	1.1979	0	2.45E+07	1.58	Y	0.75	93
CS 12346-PeCDF	31.83		1.2128	1.2130	+0.4	4.39E+07	1.56	Y	0.85	93.2
CS 123469-HxCDF	37.17		0.9774	0.9774	0	3.23E+07	0.53	Y	1.12	97.4
CS 1234689-HpCDF	40.27		1.0589	1.0590	+0.2	2.61E+07	0.44	Y	0.89	98.9
~~SS 37Cl-2378-TCDD~~	~~28.48~~		~~1.0245~~	~~1.0245~~	~~0~~	~~1.43E+07~~	~~n/a~~		~~1.15~~	~~116~~
~~SS 12347-PeCDD~~	~~33.30~~		~~1.1979~~	~~1.1979~~	~~0~~	~~2.45E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~121~~
~~SS 12346-PeCDF~~	~~31.83~~		~~1.2128~~	~~1.2130~~	~~+0.4~~	~~4.39E+07~~	~~1.56~~	~~Y~~	~~0.94~~	~~119~~
~~SS 123469-HxCDF~~	~~37.17~~		~~0.9774~~	~~0.9774~~	~~0~~	~~3.23E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~110~~
~~SS 1234689-HpCDF~~	~~40.27~~		~~1.0589~~	~~1.0590~~	~~+0.2~~	~~2.61E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~119~~

Totals	Conc	EMPC
Total TCDD	1370	1380
Total PeCDD	27.1	33.5
Total HxCDD	125	127
Total HpCDD	812	812
Total Tetra-Octa Dioxins	6940	6950
Total TCDF	6,680	6680
Total PeCDF	322	337
Total HxCDF	358	358
Total HpCDF	325	325
Total Tetra-Octa Furans	8,500	8510
Total Tetra-Octa Dioxins & Furans	15400	15500

Lab ID: B6276_18917_DF_001-R1 | Acq'd: 10 Feb 2022 20:08 DTF | Wt/Vol: 10.12 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020222-S-SB-NC-S-47 | UTP: 11-Feb-2022 09:27:45 DTF | J-level: 0.494 pg/g | Split: 1 | Checkcode: 845-329-QTW

Datafile: 220210C14 | Report: 11 Feb 2022 09:35 TF | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.84	EMPC	0.8737	0.8729	-1.2	4.01E+05	0.91	N	1.18	2.48	4155.561	0.267
1379-TCDD	25.19		0.8860	0.8851	-1.4	1.68E+05	0.85	Y	1.18	1.04	4155.561	0.267
1369-TCDD	NotFnd		0.9009						1.18		4155.561	0.267
1469-TCDD	26.40		0.9281	0.9276	-0.8	6.20E+05	0.84	Y	1.18	3.83	4155.561	0.267
1247/1246/1248/1249-TCDD	26.62		0.9362	0.9356	-1.0	3.75E+05	0.85	Y	1.18	2.32	4155.561	0.267
1378-TCDD	26.83		0.9432	0.9430	-0.3	5.95E+05	0.87	Y	1.18	3.68	4155.561	0.267
1268-TCDD	NotFnd		0.9500						1.18		4155.561	0.267
1478-TCDD	27.27		0.9586	0.9585	-0.2	4.90E+05	0.85	Y	1.18	3.03	4155.561	0.267
1279-TCDD	NotFnd		0.9645						1.18		4155.561	0.267
1234/1269-TCDD	27.79		0.9770	0.9767	-0.5	1.61E+05	0.82	Y	1.18	0.995	4155.561	0.267
1236-TCDD	NotFnd		0.9817						1.18		4155.561	0.267
1237/1238-TCDD	28.19		0.9905	0.9905	0	2.98E+06	0.77	Y	1.18	18.4	4155.561	0.267
1239-TCDD	NotFnd		0.9952						1.18		4155.561	0.267
2378-TCDD	**28.48**	E	**1.0008**	1.0008	**0**	2.01E+08	0.80	Y	**1.18**	**1,240**	**4155.561**	**0.267**
1278-TCDD	28.80		1.0121	1.0122	+0.2	1.61E+07	0.80	Y	1.18	99.4	4155.561	0.267
1267-TCDD	NotFnd		1.0167						1.18		4155.561	0.267
1289-TCDD	29.46		1.0345	1.0352	+1.2	2.64E+05	0.68	Y	1.18	1.63	4155.561	0.267
12479/12468-PeCDD	31.31	EMPC	0.9267	0.9262	-0.9	5.40E+05	1.31	N	1.04	4.34	2552.34	0.178
12469-PeCDD	31.85		0.9425	0.9422	-0.6	5.50E+05	1.55	Y	1.04	4.42	2552.34	0.178
12368-PeCDD	32.40	J	0.9588	0.9585	-0.6	3.07E+05	1.53	Y	1.04	2.47	2552.34	0.178
12478-PeCDD	32.59		0.9643	0.9642	-0.2	3.10E+05	1.67	Y	1.04	2.49	2552.34	0.178
12379-PeCDD	32.69	J EMPC	0.9673	0.9672	-0.2	1.24E+05	1.27	N	1.04	0.999	2552.34	0.178
12369/12467/12489-PeCDD	32.96		0.9750	0.9750	0	3.10E+05	1.74	Y	1.04	2.49	2552.34	0.178
12346/12347-PeCDD	33.32	J	0.9858	0.9858	0	1.04E+05	1.48	Y	1.04	0.837	2552.34	0.178
12378-PeCDD	33.82		**1.0005**	**1.0006**	**+0.2**	**1.79E+06**	**1.55**	**Y**	**1.04**	**14.4**	**2552.34**	**0.178**
12367-PeCDD	33.92	J EMPC	1.0033	1.0035	+0.4	5.56E+04	0.92	N	1.04	0.447	2552.34	0.178
12389-PeCDD	34.25	J EMPC	1.0134	1.0134	0	7.72E+04	1.87	N	1.04	0.621	2552.34	0.178
124679/124689-HxCDD	35.98		0.9542	0.9541	-0.2	6.52E+06	1.23	Y	1.10	53.4	7694.612	0.531
123468-HxCDD	36.64		0.9715	0.9714	-0.2	6.92E+05	1.31	Y	1.10	5.66	7694.612	0.531
123679/123689-HxCDD	36.93		0.9793	0.9792	-0.2	4.87E+06	1.30	Y	1.10	39.8	7694.612	0.531
123469-HxCDD	37.06		0.9828	0.9826	-0.4	3.93E+05	1.20	Y	1.10	3.21	7694.612	0.531
123478-HxCDD	37.73		**1.0004**	**1.0004**	**0**	**4.28E+05**	**1.14**	**Y**	1.09	**3.72**	**7694.612**	**0.576**
123678-HxCDD	37.85		**1.0035**	**1.0036**	**+0.2**	**1.59E+06**	**1.27**	**Y**	1.15	**12.5**	**7694.612**	**0.53**
123467-HxCDD	38.04	J EMPC	1.0085	1.0086	+0.2	1.98E+05	1.58	N	1.10	1.62	7694.612	0.531
123789-HxCDD	38.14		**1.0113**	**1.0113**	**0**	**8.87E+05**	**1.18**	**Y**	1.05	**7.18**	**7694.612**	**0.49**

Lab ID: B6276_18917_DF_001-R1 | Acq'd: 10 Feb 2022 20:08 DTF | Wt/Vol: 10.12 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020222-S-SB-NC-S-47 | UTP: 11-Feb-2022 09:27:45 DTF | J-level: 0.494 pg/g | Split: 1 | Checkcode: 845-329-QTW

Datafile: 220210C14 | Report: 11 Feb 2022 09:35 TF | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

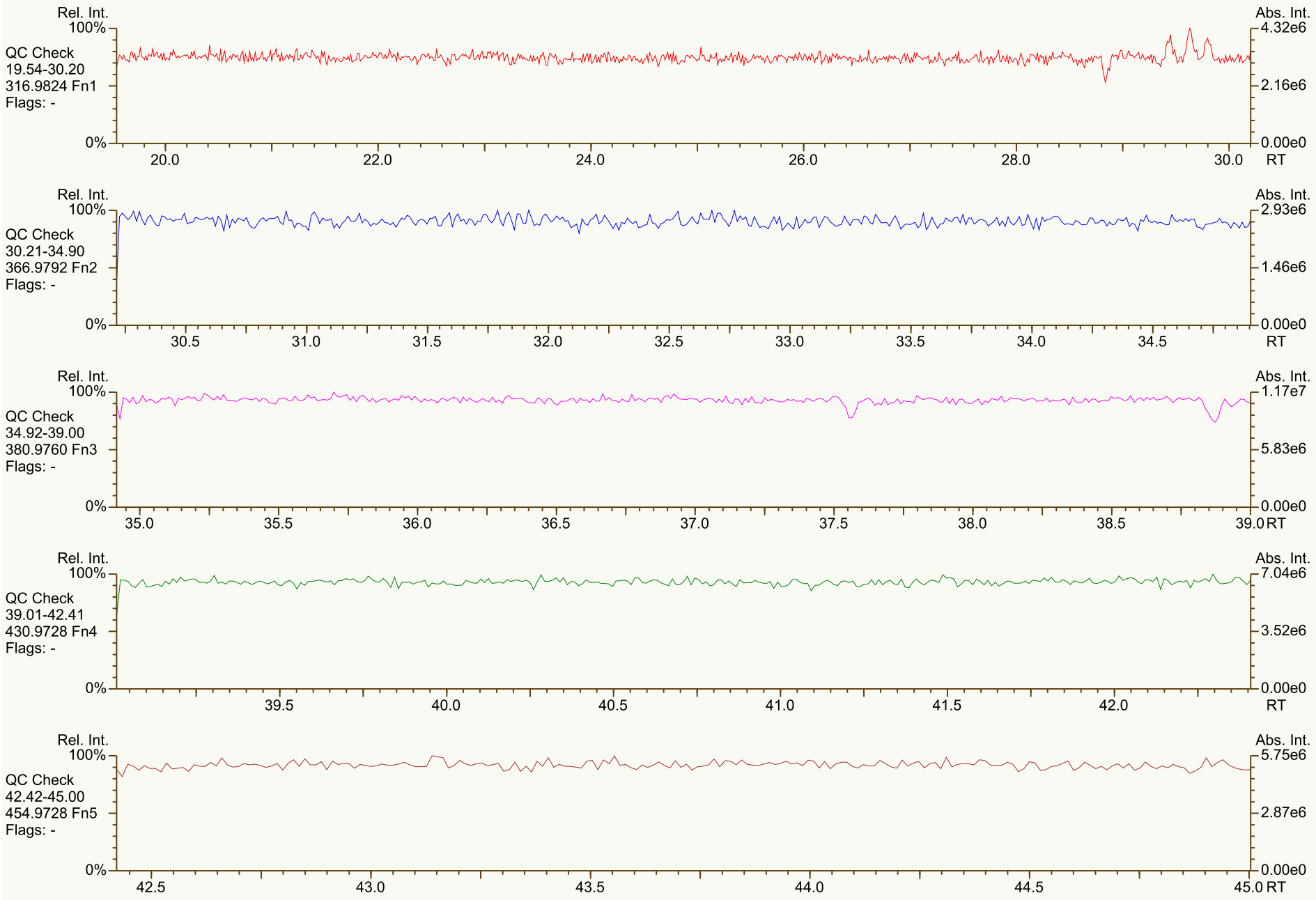
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.14		0.9837	0.9837	0	4.84E+07	1.05	Y	1.06	458	5168.355	0.349
1234678-HpCDD	**40.82**		**1.0003**	**1.0004**	**+0.2**	**3.73E+07**	**1.05**	**Y**	**1.06**	**353**	**5168.355**	**0.349**
OCDD	**43.51**		**1.0002**	**1.0003**	**+0.3**	**3.39E+08**	**0.90**	**Y**	**1.13**	**4,600**	**5422.466**	**0.866**
OCDD-a	43.50		1.0001	1.0002	+0.3	2.11E+07	2.43	Y	0.07	4,490	7040.459	17.6
1368-TCDF	22.73		0.8251	0.8236	-2.0	2.04E+05	0.87	Y	1.08	0.893	2722.824	0.134
1468-TCDF	23.31		0.8458	0.8446	-1.7	1.36E+06	0.75	Y	1.08	5.92	2722.824	0.134
2468-TCDF	23.95		0.8686	0.8676	-1.4	1.34E+06	0.72	Y	1.08	5.88	2722.824	0.134
1346/1246-TCDF	NotFnd		0.8814						1.08		2722.824	0.134
1347/1378/1247-TCDF	24.47		0.8867	0.8866	-0.1	9.62E+06	0.76	Y	1.08	42	2722.824	0.134
1348-TCDF	NotFnd		0.8962						1.08		2722.824	0.134
1248/1367/1379-TCDF	24.81		0.9009	0.8988	-3.1	3.85E+07	0.78	Y	1.08	168	2722.824	0.134
1268-TCDF	25.23		0.9145	0.9140	-0.8	1.30E+07	0.76	Y	1.08	56.9	2722.824	0.134
1467-TCDF	25.36		0.9193	0.9188	-0.8	1.74E+06	0.78	Y	1.08	7.59	2722.824	0.134
1478-TCDF	25.53		0.9254	0.9249	-0.8	3.19E+07	0.79	Y	1.08	140	2722.824	0.134
1369/1237-TCDF	25.91		0.9387	0.9386	-0.2	8.71E+06	0.78	Y	1.08	38	2722.824	0.134
2467-TCDF	26.03		0.9433	0.9431	-0.3	7.87E+05	0.88	Y	1.08	3.44	2722.824	0.134
2368-TCDF	26.17		0.9489	0.9481	-1.3	1.65E+07	0.79	Y	1.08	72.3	2722.824	0.134
1238/1234/1678/1469/1236-TCDF	26.25		0.9523	0.9510	-2.0	4.57E+07	0.80	Y	1.08	200	2722.824	0.134
1278-TCDF	26.72	E	0.9683	0.9681	-0.3	3.50E+08	0.79	Y	1.08	1,530	2722.824	0.134
1349-TCDF	NotFnd		0.9722						1.08		2722.824	0.134
1267-TCDF	27.00		0.9783	0.9781	-0.3	2.01E+07	0.78	Y	1.08	87.9	2722.824	0.134
2346/1249-TCDF	27.19		0.9850	0.9851	+0.2	2.24E+06	0.78	Y	1.08	9.79	2722.824	0.134
2347/1279-TCDF	27.40		0.9926	0.9927	+0.2	1.04E+07	0.78	Y	1.08	45.5	2722.824	0.134
2348-TCDF	27.50		0.9967	0.9965	-0.3	4.80E+07	0.78	Y	1.08	210	2722.824	0.134
2378-TCDF	**27.62**	E	**1.0008**	**1.0008**	**0**	**7.91E+08**	**0.79**	**Y**	**1.08**	**3,460**	**2722.824**	**0.134**
2367/3467-TCDF	27.97		1.0137	1.0135	-0.3	6.52E+07	0.78	Y	1.08	285	2722.824	0.134
1269-TCDF	28.22		1.0223	1.0226	+0.5	1.19E+07	0.77	Y	1.08	52.2	2722.824	0.134
1239-TCDF	28.48		1.0321	1.0320	-0.2	9.44E+05	0.82	Y	1.08	4.13	2722.824	0.134
1289-TCDF	29.63		1.0722	1.0735	+2.3	5.85E+07	0.79	Y	1.08	256	2722.824	0.134
13468/12468-PeCDF	29.57		0.9139	0.9139	0	2.78E+06	1.59	Y	1.02	13.9	2835.854	0.127
13678/13467/12467-PeCDF	31.12		0.9613	0.9617	+0.7	7.71E+05	1.53	Y	1.02	3.86	4345.308	0.195
12368/13478/12478-PeCDF	31.28		0.9662	0.9667	+0.9	1.18E+07	1.51	Y	1.02	59.2	4345.308	0.195
14678-PeCDF	NotFnd		0.9692						1.02		4345.308	0.195
13479-PeCDF	NotFnd		0.9723						1.02		4345.308	0.195
13469/12479-PeCDF	NotFnd		0.9797						1.02		4345.308	0.195
12346-PeCDF	NotFnd		0.9840						1.02		4345.308	0.195

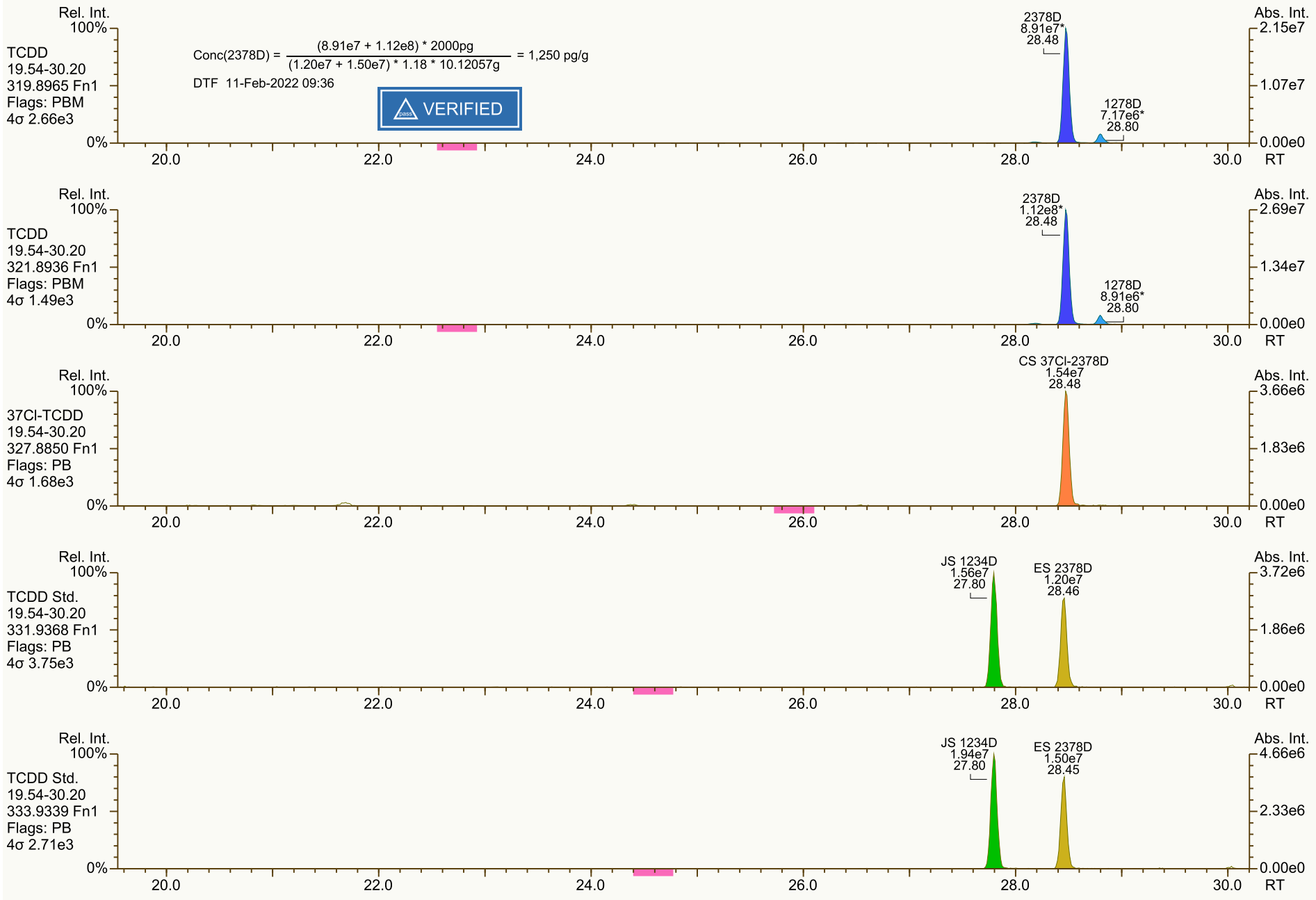
Lab ID: B6276_18917_DF_001-R1 **Acq'd:** 10 Feb 2022 20:08 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

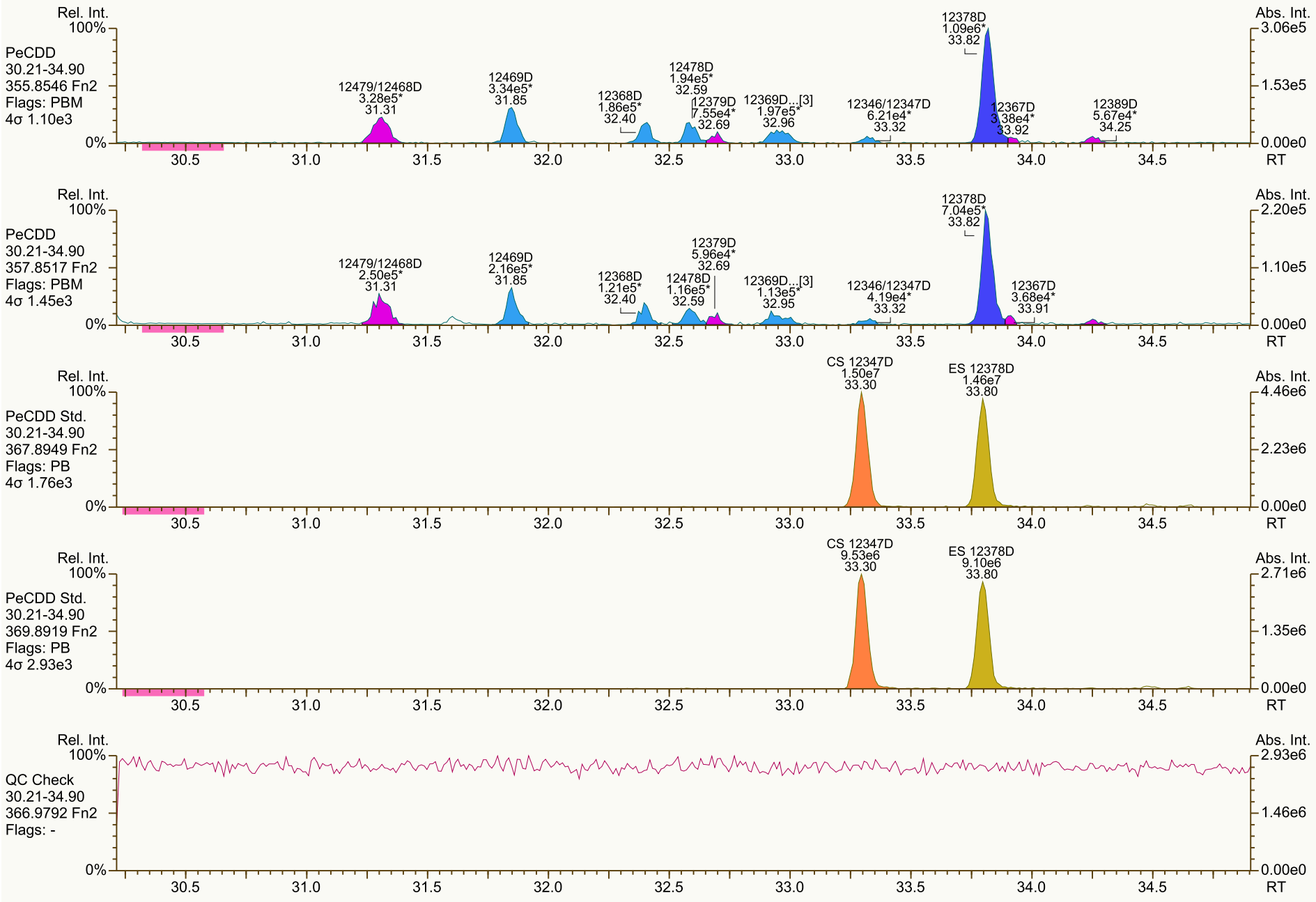
Client ID: 11215131-020222-S-SB-NC-S-47 **UTP:** 11-Feb-2022 09:27:45 DTF **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 845-329-QTW

Datafile: 220210C14 **Report:** 11 Feb 2022 09:35 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.92	EMPC	0.9868	0.9864	-0.8	8.52E+05	1.81	N	1.02	4.27	4345.308	0.195
12347-PeCDF	32.00		0.9894	0.9891	-0.6	6.40E+05	1.46	Y	1.02	3.21	4345.308	0.195
12348-PeCDF	32.16	EMPC	0.9940	0.9940	0	2.13E+06	1.78	N	1.02	10.7	4345.308	0.195
12378-PeCDF	**32.37**		**1.0005**	**1.0005**	**0**	**2.24E+07**	**1.53**	**Y**	**1.02**	**110**	**4345.308**	**0.194**
12678/12367-PeCDF	32.66		1.0089	1.0096	+1.4	6.74E+06	1.53	Y	1.02	33.8	4345.308	0.195
12379-PeCDF	NotFnd		1.0142						1.02		4345.308	0.195
12679-PeCDF	NotFnd		0.9929						1.02		4345.308	0.195
23467/12369-PeCDF	33.35	J	0.9967	0.9964	-0.6	4.36E+05	1.46	Y	1.02	2.18	4345.308	0.195
23478-PeCDF	**33.49**		**1.0005**	**1.0007**	**+0.4**	**1.79E+07**	**1.55**	**Y**	**1.02**	**91.9**	**4345.308**	**0.197**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4345.308	0.195
12349-PeCDF	NotFnd		1.0100						1.02		4345.308	0.195
12389-PeCDF	34.55		1.0324	1.0325	+0.2	9.55E+05	1.65	Y	1.02	4.78	4345.308	0.195
123468-HxCDF	35.34		0.9627	0.9626	-0.2	1.72E+06	1.34	Y	1.19	9.72	6087.988	0.288
124678/134678-HxCDF	35.53		0.9682	0.9680	-0.4	7.14E+06	1.25	Y	1.19	40.4	6087.988	0.288
134679-HxCDF	NotFnd		0.9744						1.19		6087.988	0.288
124679-HxCDF	35.96	J	0.9798	0.9797	-0.2	2.24E+05	1.23	Y	1.19	1.26	6087.988	0.288
124689-HxCDF	36.19		0.9858	0.9858	0	6.15E+06	1.20	Y	1.19	34.8	6087.988	0.288
123467-HxCDF	36.60	J	0.9972	0.9970	-0.4	3.99E+05	1.22	Y	1.19	2.26	6087.988	0.288
123478-HxCDF	**36.73**		**1.0005**	**1.0005**	**0**	**3.42E+07**	**1.24**	**Y**	**1.27**	**192**	**6087.988**	**0.284**
123678-HxCDF	**36.87**		**1.0005**	**1.0005**	**0**	**9.94E+06**	**1.22**	**Y**	**1.15**	**51.7**	**6087.988**	**0.269**
123479-HxCDF	NotFnd		1.0049						1.19		6087.988	0.288
123469-HxCDF	NotFnd		1.0090						1.19		6087.988	0.288
123679-HxCDF	NotFnd		0.9942						1.19		6087.988	0.288
234678-HxCDF	**37.55**		**1.0005**	**1.0004**	**-0.2**	**2.20E+06**	**1.21**	**Y**	**1.19**	**12**	**6087.988**	**0.282**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6087.988	0.288
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**6087.988**	**0.327**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.53		1.0009	1.0011	+0.5	2.43E+06	1.28	Y	1.19	13.8	6087.988	0.288
1234678-HpCDF	**39.88**		**1.0003**	**1.0003**	**0**	**2.33E+07**	**1.05**	**Y**	**1.37**	**141**	**3756.835**	**0.162**
1234679-HpCDF	40.14		1.0068	1.0068	0	8.50E+05	1.03	Y	1.34	5.9	3756.835	0.204
1234689-HpCDF	40.28		1.0103	1.0104	+0.2	2.12E+07	1.03	Y	1.34	147	3756.835	0.204
1234789-HpCDF	**41.28**		**1.0003**	**1.0003**	**0**	**3.87E+06**	**1.00**	**Y**	**1.31**	**31.3**	**3756.835**	**0.259**
OCDF	**43.69**		**1.0003**	**1.0003**	**0**	**7.41E+07**	**0.90**	**Y**	**1.07**	**814**	**3876.345**	**0.474**
OCDF-a	43.68		1.0002	1.0002	0	4.87E+06	2.48	Y	0.07	865	3301.089	6.52


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
4.32e6
2.16e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.93e6
1.46e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.17e7
5.83e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.04e6
3.52e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.75e6
2.87e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.66e3
0%
Conc(2378D) = (8.91e7 + 1.12e8) * 2000pg / (1.20e7 + 1.50e7) * 1.18 * 10.12057g = 1,250 pg/g
DTF 11-Feb-2022 09:36
VERIFIED
2378D
8.91e7*
28.48
1278D
7.17e6*
28.80
Abs. Int.
2.15e7
1.07e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.49e3
0%
2378D
1.12e8*
28.48
1278D
8.91e6*
28.80
Abs. Int.
2.69e7
1.34e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.68e3
0%
CS 37Cl-2378D
1.54e7
28.48
Abs. Int.
3.66e6
1.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 3.75e3
0%
JS 1234D
1.56e7
27.80
ES 2378D
1.20e7
28.46
Abs. Int.
3.72e6
1.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.71e3
0%
JS 1234D
1.94e7
27.80
ES 2378D
1.50e7
28.45
Abs. Int.
4.66e6
2.33e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PBM
4σ 1.10e3
0%
12479/12468D
3.28e5*
31.31
12469D
3.34e5*
31.85
12368D
1.86e5*
32.40
12478D
1.94e5*
32.59
12379D
7.55e4*
32.69
12369D...[3]
1.97e5*
32.96
12346/12347D
6.21e4*
33.32
12378D
1.09e6*
33.82
12367D
3.38e4*
33.92
12389D
5.67e4*
34.25
Abs. Int.
3.06e5
1.53e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PBM
4σ 1.45e3
0%
12479/12468D
2.50e5*
31.31
12469D
2.16e5*
31.85
12368D
1.21e5*
32.40
12379D
5.96e4*
32.69
12478D
1.16e5*
32.59
12369D...[3]
1.13e5*
32.95
12346/12347D
4.19e4*
33.32
12378D
7.04e5*
33.82
12367D
3.68e4*
33.91
Abs. Int.
2.20e5
1.10e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 1.76e3
0%
CS 12347D
1.50e7
33.30
ES 12378D
1.46e7
33.80
Abs. Int.
4.46e6
2.23e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 2.93e3
0%
CS 12347D
9.53e6
33.30
ES 12378D
9.10e6
33.80
Abs. Int.
2.71e6
1.35e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.93e6
1.46e6
0.00e0
30.5
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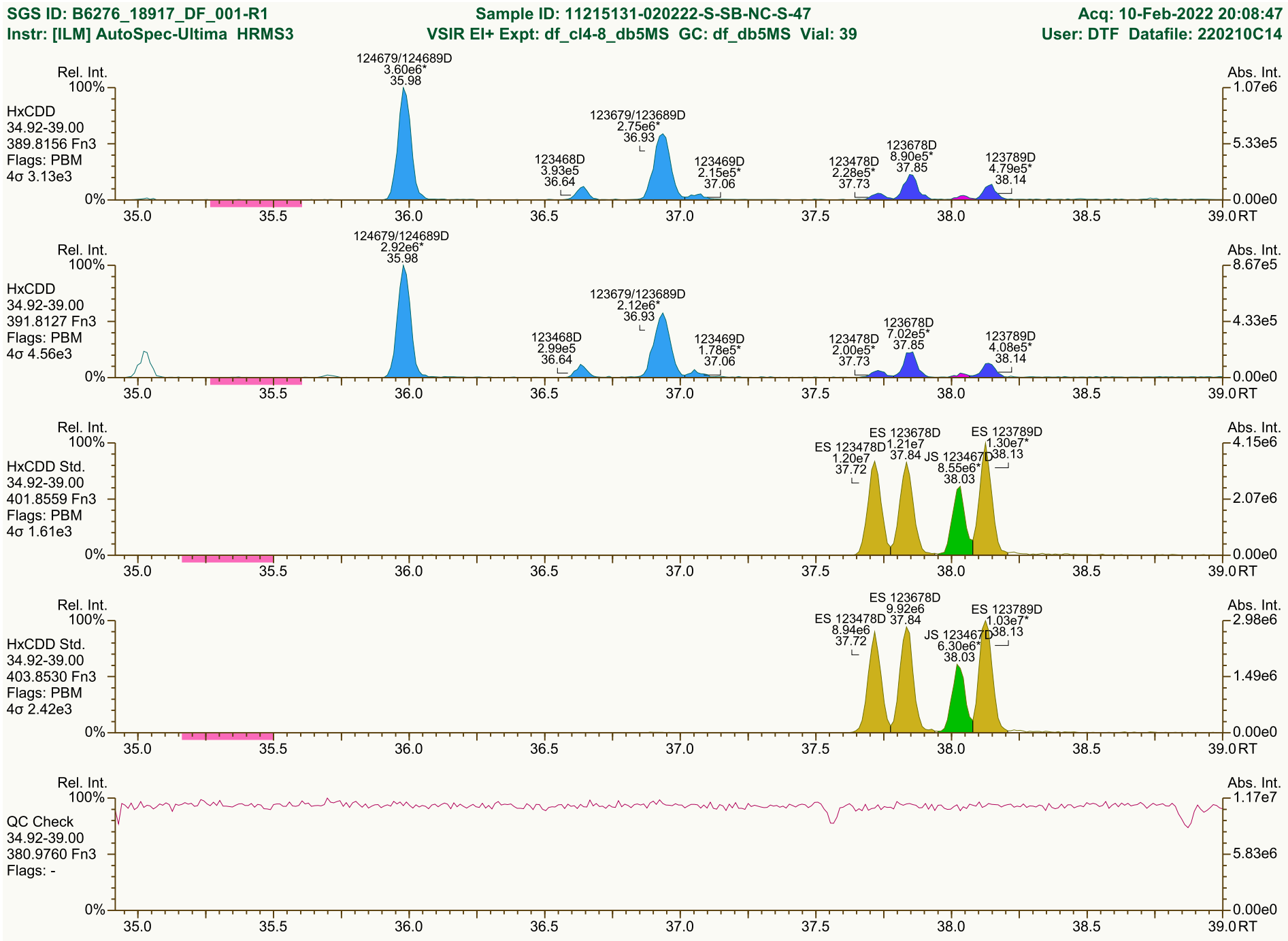
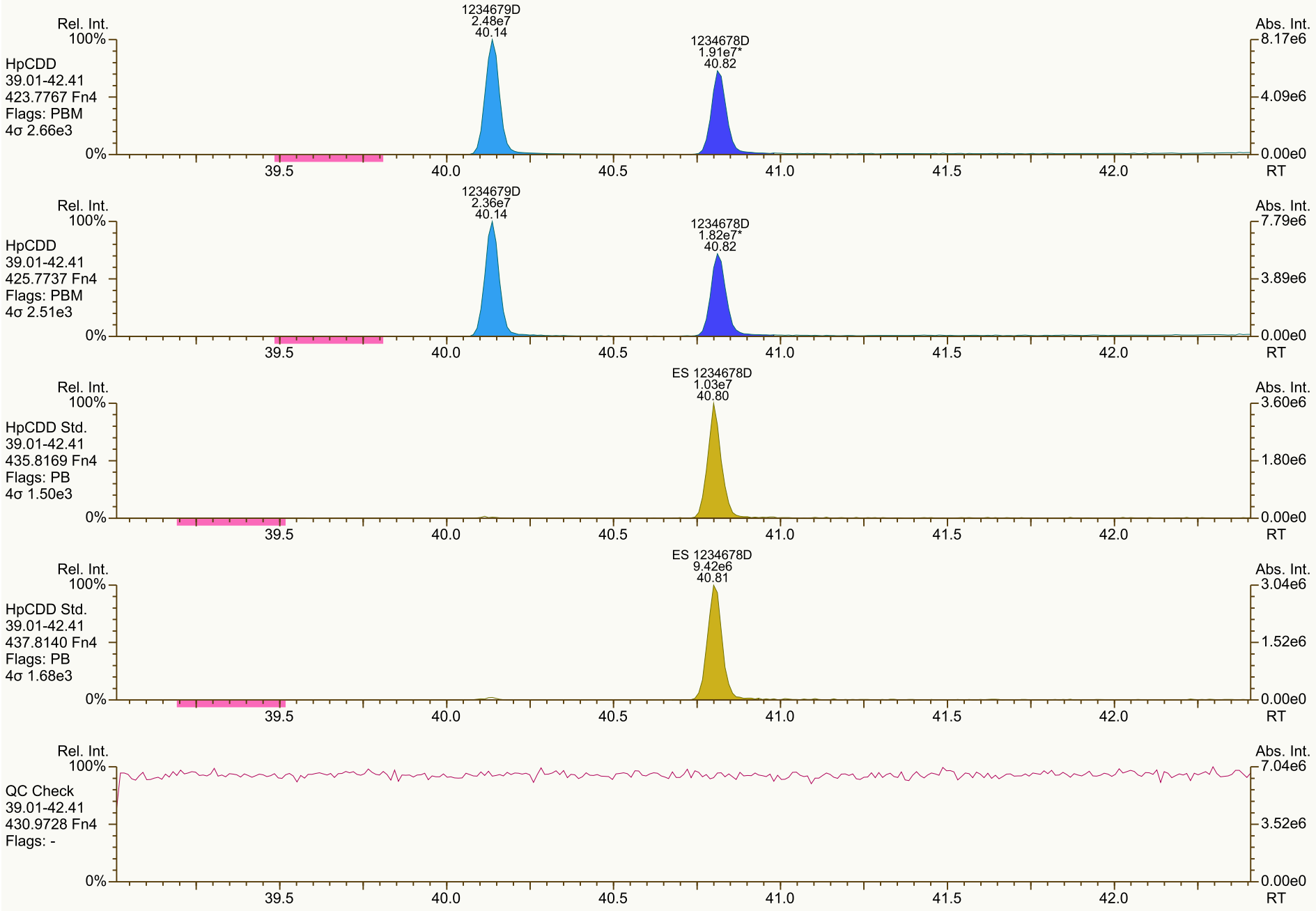
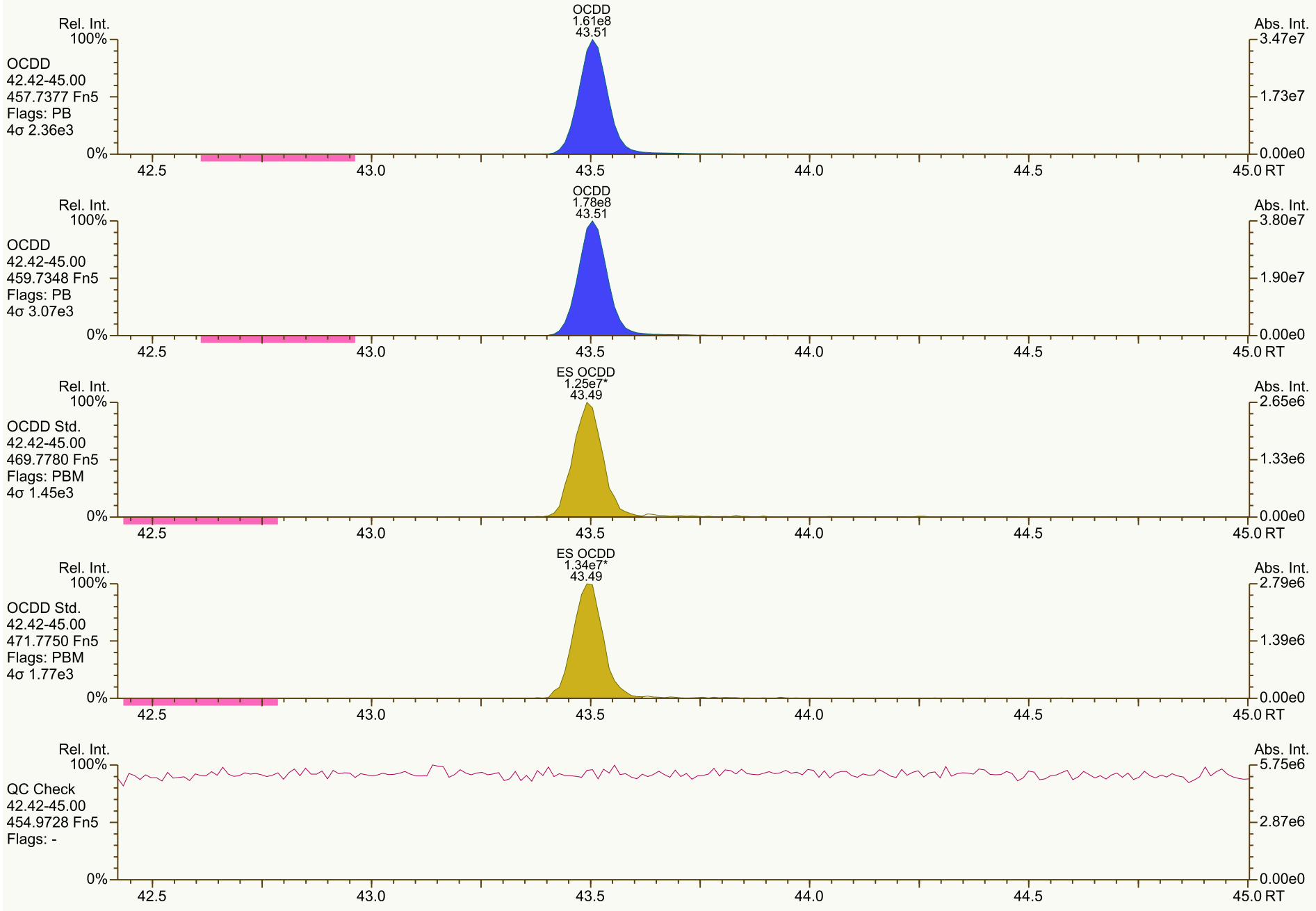
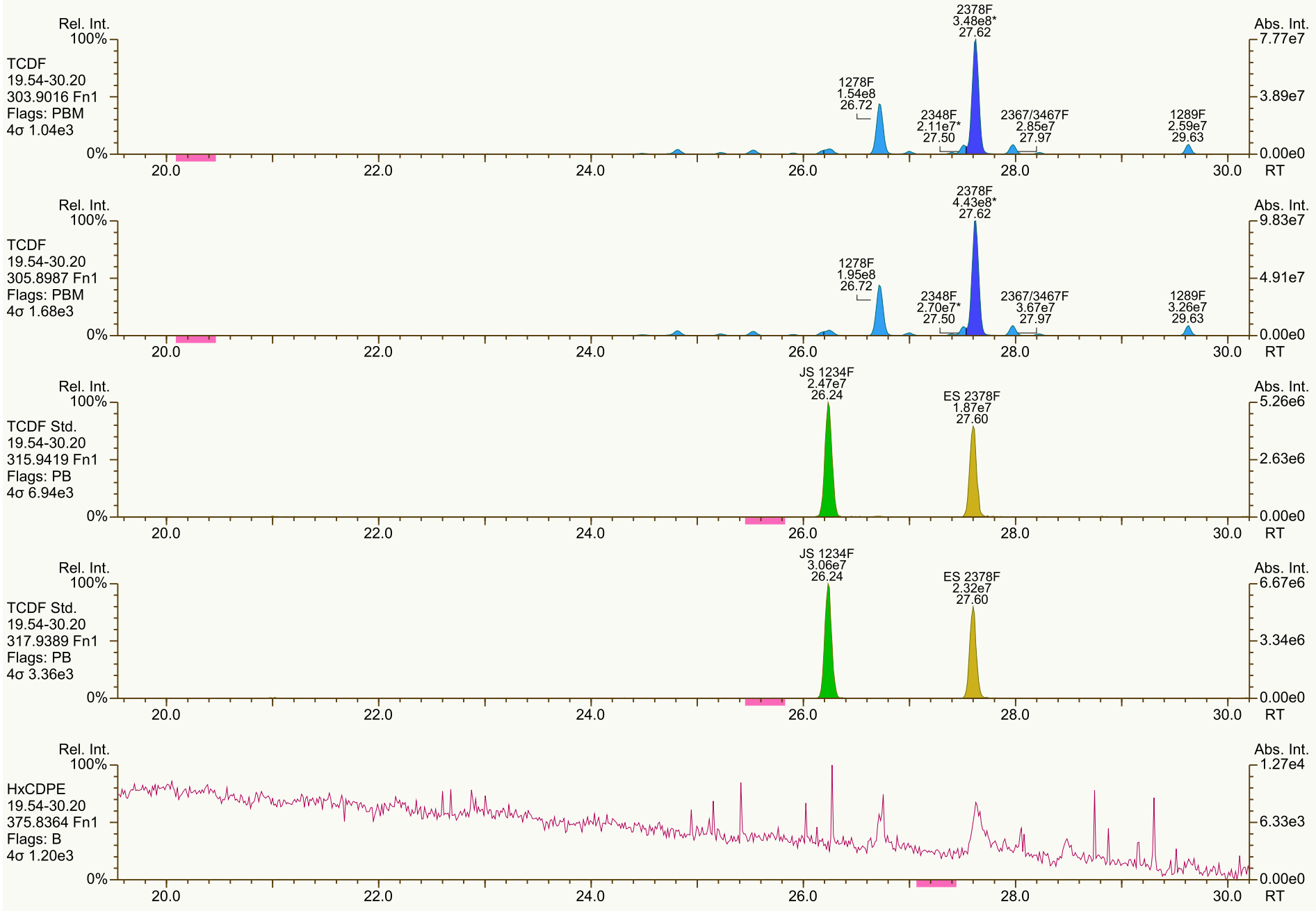
32.0
32.5
33.0
33.5
34.0
34.5
RT



Results: P:\B6200_B6299\B6276\B6276_18917 DF\Resources\B6276_18917_DF_001-R1.utp_res, saved 11-Feb-2022 09:37 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4571, 4101 scc: 845-329
PKD: 11-Feb-2022 08:54 Printed: 11-Feb-2022 09:44 Page 4 of 12


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 2.66e3
1234679D
2.48e7
40.14
1234678D
1.91e7*
40.82
Abs. Int.
8.17e6
4.09e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 2.51e3
1234679D
2.36e7
40.14
1234678D
1.82e7*
40.82
Abs. Int.
7.79e6
3.89e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 1.50e3
ES 1234678D
1.03e7
40.80
Abs. Int.
3.60e6
1.80e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.68e3
ES 1234678D
9.42e6
40.81
Abs. Int.
3.04e6
1.52e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
7.04e6
3.52e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
1.61e8
43.51
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 2.36e3
0%
Abs. Int.
3.47e7
1.73e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.78e8
43.51
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 3.07e3
3.80e7
1.90e7
ES OCDD
1.25e7*
43.49
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 1.45e3
2.65e6
1.33e6
ES OCDD
1.34e7*
43.49
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 1.77e3
2.79e6
1.39e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
5.75e6
2.87e6


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.04e3
0%
2378F
3.48e8*
27.62
1278F
1.54e8
26.72
2348F
2.11e7*
27.50
2367/3467F
2.85e7
27.97
1289F
2.59e7
29.63
Abs. Int.
7.77e7
3.89e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.68e3
0%
2378F
4.43e8*
27.62
1278F
1.95e8
26.72
2348F
2.70e7*
27.50
2367/3467F
3.67e7
27.97
1289F
3.26e7
29.63
Abs. Int.
9.83e7
4.91e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 6.94e3
0%
JS 1234F
2.47e7
26.24
ES 2378F
1.87e7
27.60
Abs. Int.
5.26e6
2.63e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.36e3
0%
JS 1234F
3.06e7
26.24
ES 2378F
2.32e7
27.60
Abs. Int.
6.67e6
3.34e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.20e3
0%
Abs. Int.
1.27e4
6.33e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

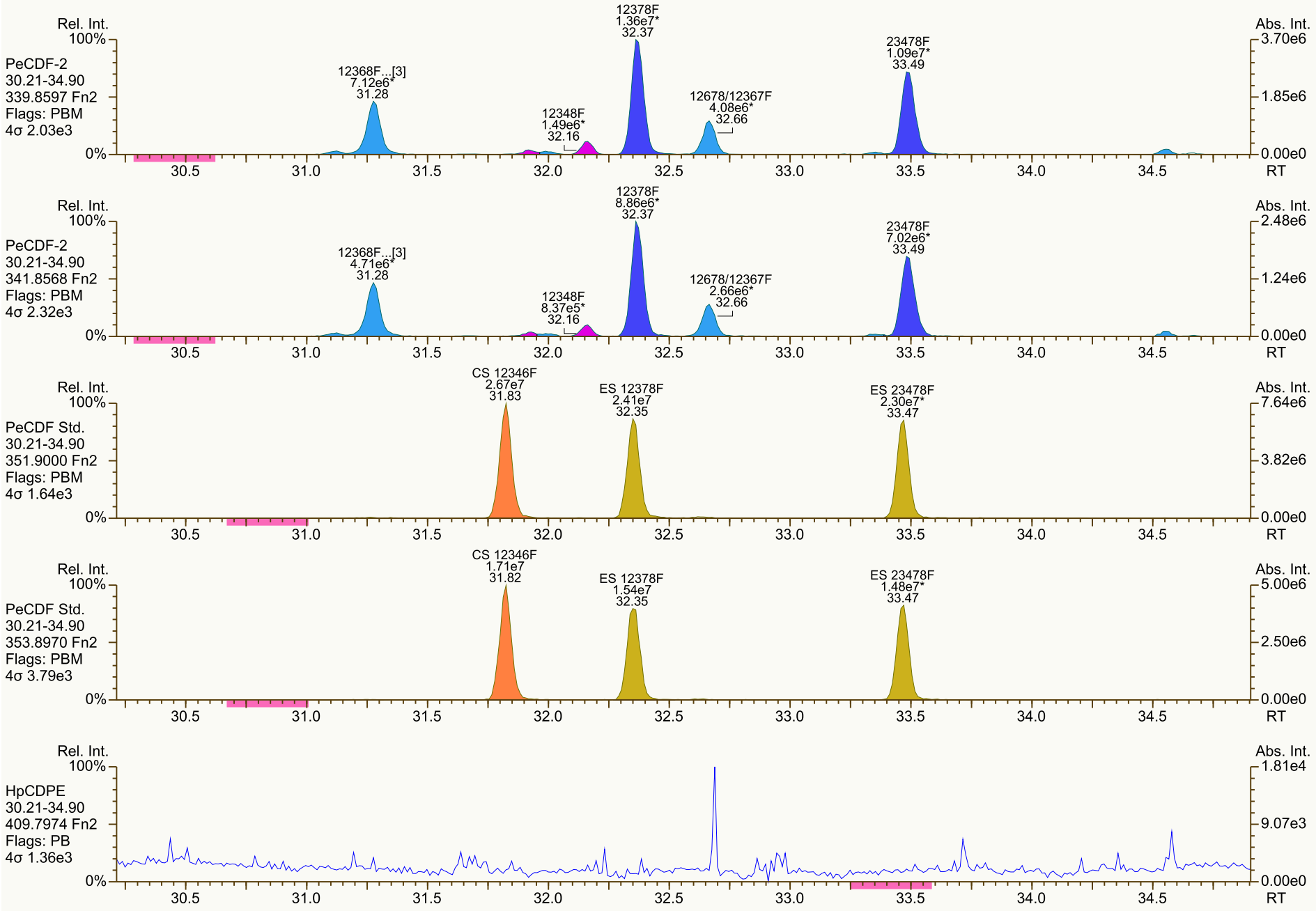
SGS ID: B6276_18917_DF_001-R1 | Sample ID: 11215131-020222-S-SB-NC-S-47 | Acq: 10-Feb-2022 20:08:47

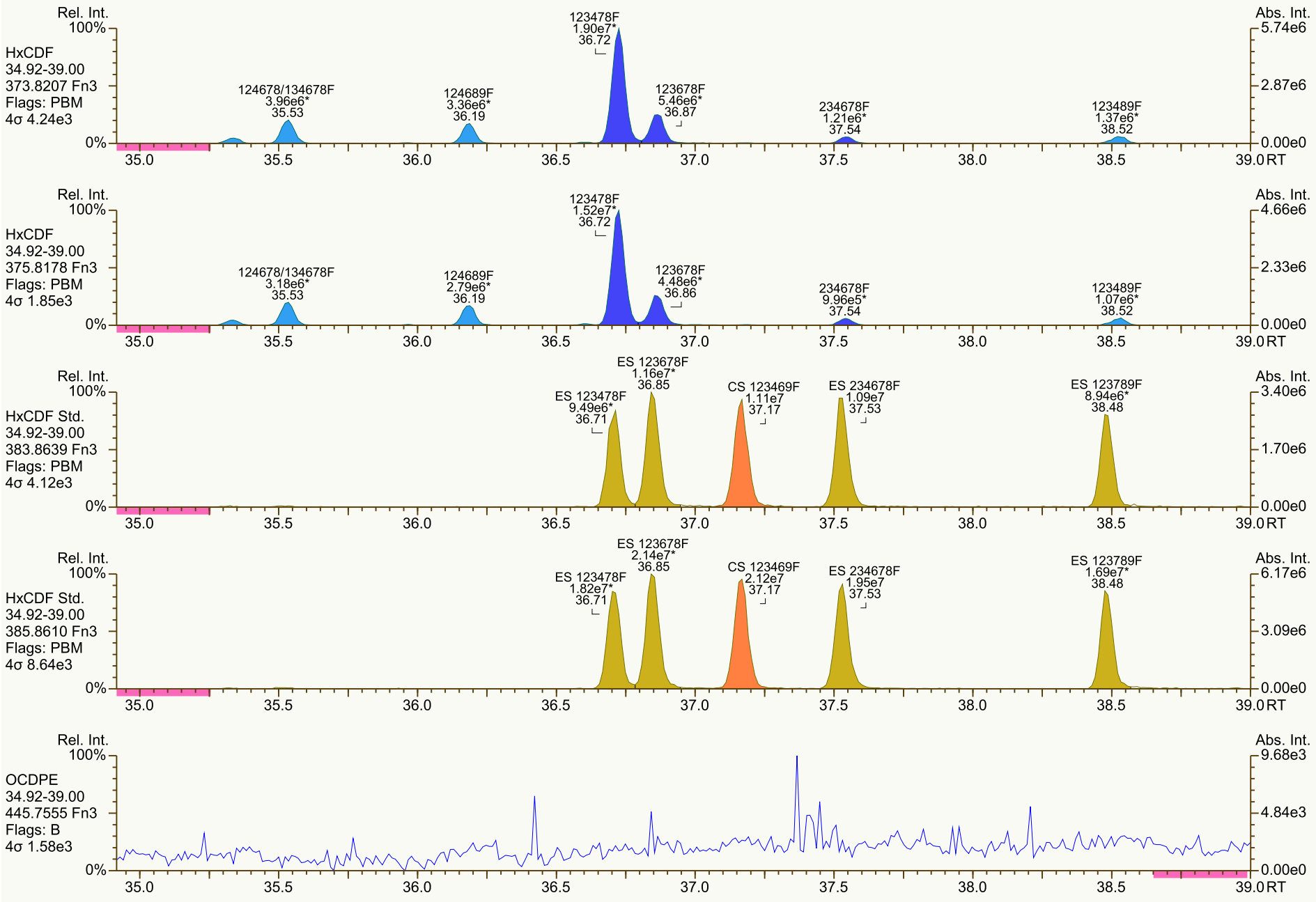
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 39 | User: DTF Datafile: 220210C14

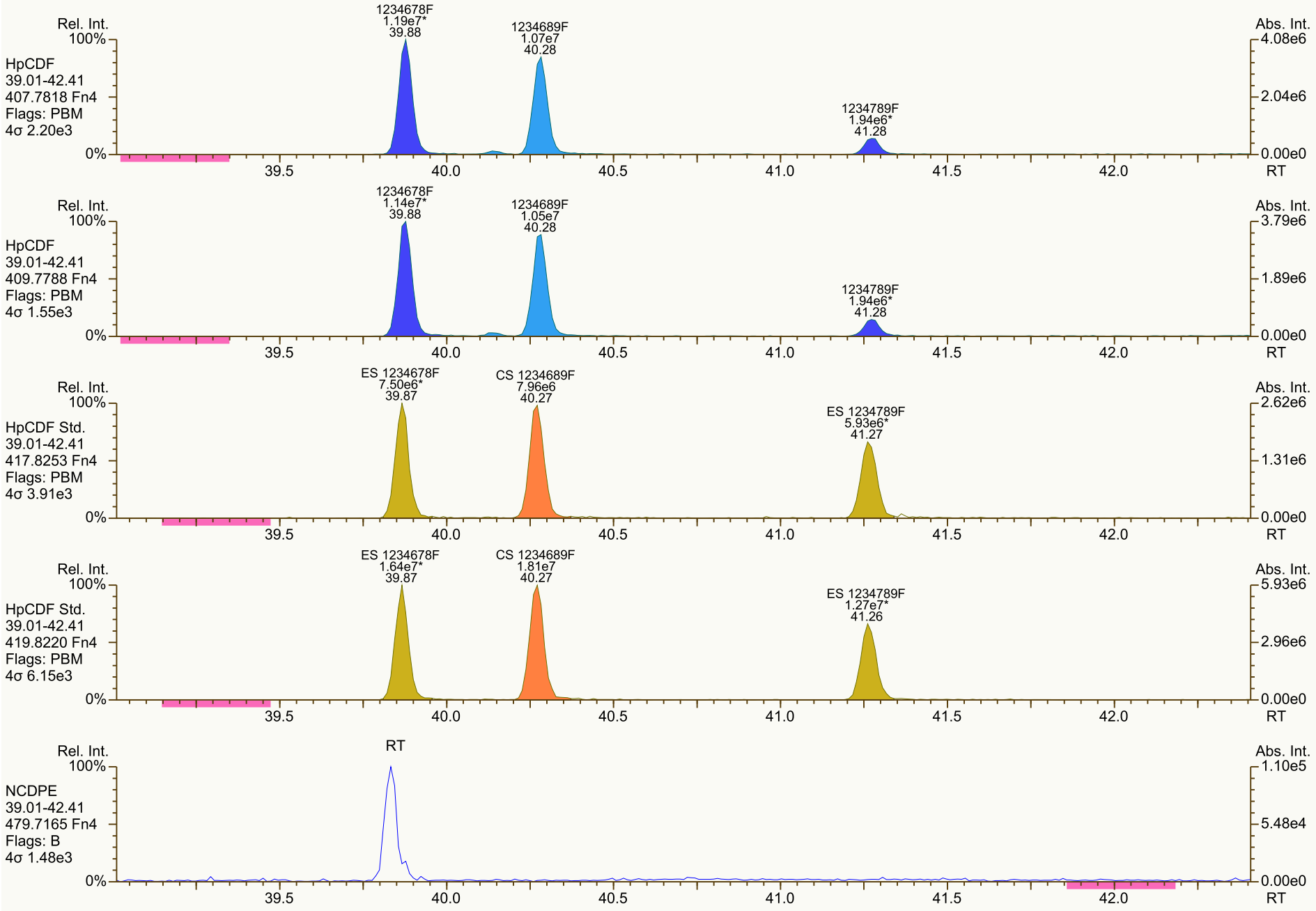


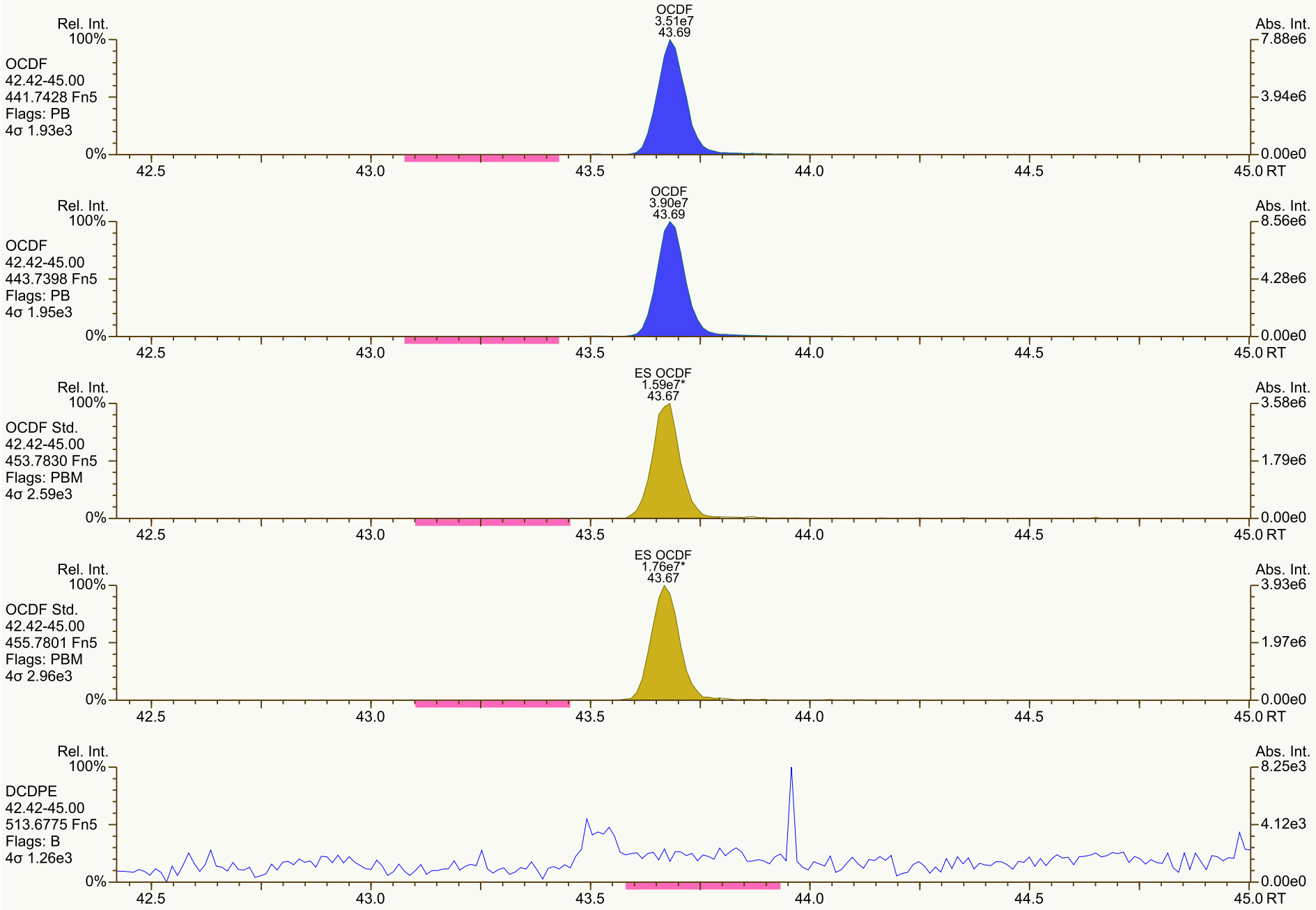
Results: P:\B6200_B6299\B6276\B6276_18917 DF\Resources\B6276_18917_DF_001-R1.utp_res, saved 11-Feb-2022 09:37 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8890 scc: 845-329 | *Revised: 11-Feb-2022 08:52 (DTF) Printed: 11-Feb-2022 09:44 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 2.03e3
0%
12368F...[3]
7.12e6*
31.28
12348F
1.49e6*
32.16
12378F
1.36e7*
32.37
12678/12367F
4.08e6*
32.66
23478F
1.09e7*
33.49
Abs. Int.
3.70e6
1.85e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 2.32e3
0%
12368F...[3]
4.71e6*
31.28
12348F
8.37e5*
32.16
12378F
8.86e6*
32.37
12678/12367F
2.66e6*
32.66
23478F
7.02e6*
33.49
Abs. Int.
2.48e6
1.24e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PBM
4σ 1.64e3
0%
CS 12346F
2.67e7
31.83
ES 12378F
2.41e7
32.35
ES 23478F
2.30e7*
33.47
Abs. Int.
7.64e6
3.82e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PBM
4σ 3.79e3
0%
CS 12346F
1.71e7
31.82
ES 12378F
1.54e7
32.35
ES 23478F
1.48e7*
33.47
Abs. Int.
5.00e6
2.50e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: PB
4σ 1.36e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 4.24e3
124678/134678F
3.96e6*
35.53
124689F
3.36e6*
36.19
123478F
1.90e7*
36.72
123678F
5.46e6*
36.87
234678F
1.21e6*
37.54
123489F
1.37e6*
38.52
Abs. Int.
5.74e6
2.87e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 1.85e3
124678/134678F
3.18e6*
35.53
124689F
2.79e6*
36.19
123478F
1.52e7*
36.72
123678F
4.48e6*
36.86
234678F
9.96e5*
37.54
123489F
1.07e6*
38.52
Abs. Int.
4.66e6
2.33e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 4.12e3
ES 123478F
9.49e6*
36.71
ES 123678F
1.16e7*
36.85
CS 123469F
1.11e7
37.17
ES 234678F
1.09e7
37.53
ES 123789F
8.94e6*
38.48
Abs. Int.
3.40e6
1.70e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 8.64e3
ES 123478F
1.82e7*
36.71
ES 123678F
2.14e7*
36.85
CS 123469F
2.12e7
37.17
ES 234678F
1.95e7
37.53
ES 123789F
1.69e7*
38.48
Abs. Int.
6.17e6
3.09e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.58e3
Abs. Int.
9.68e3
4.84e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 2.20e3
1234678F
1.19e7*
39.88
1234689F
1.07e7
40.28
1234789F
1.94e6*
41.28
Abs. Int.
4.08e6
2.04e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 1.55e3
1234678F
1.14e7*
39.88
1234689F
1.05e7
40.28
1234789F
1.94e6*
41.28
Abs. Int.
3.79e6
1.89e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 3.91e3
ES 1234678F
7.50e6*
39.87
CS 1234689F
7.96e6
40.27
ES 1234789F
5.93e6*
41.27
Abs. Int.
2.62e6
1.31e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 6.15e3
ES 1234678F
1.64e7*
39.87
CS 1234689F
1.81e7
40.27
ES 1234789F
1.27e7*
41.26
Abs. Int.
5.93e6
2.96e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.48e3
RT
Abs. Int.
1.10e5
5.48e4
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
3.51e7
43.69
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.93e3
0%
Abs. Int.
7.88e6
3.94e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.90e7
43.69
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 1.95e3
0%
Abs. Int.
8.56e6
4.28e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.59e7*
43.67
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 2.59e3
0%
Abs. Int.
3.58e6
1.79e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.76e7*
43.67
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 2.96e3
0%
Abs. Int.
3.93e6
1.97e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.26e3
0%
Abs. Int.
8.25e3
4.12e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6276_18917_DF_002-R1 **Acq'd:** 10 Feb 2022 20:55 DTF **Wt/Vol:** 10.08 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020222-S-SB-NC-S-42 **UTP:** 11-Feb-2022 09:27:46 DTF **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 053-011-BTP

Datafile: 220210C15 **Report:** 11 Feb 2022 09:35 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.48		1.0008	1.0009	+0.2	3.33E+07	0.81	Y	1.18	261	4017.463	0.309
12378-PeCDD	33.82		1.0005	1.0005	0	3.60E+05	1.65	Y	1.04	3.68	3394.453	0.309
123478-HxCDD	37.74	J	1.0004	1.0004	0	1.87E+05	1.26	Y	1.09	2	4662.656	0.428
123678-HxCDD	37.86		1.0035	1.0035	0	5.00E+05	1.29	Y	1.15	4.95	4662.656	0.389
123789-HxCDD	38.15		1.0113	1.0112	-0.2	3.92E+05	1.41	Y	1.05	3.97	4662.656	0.411
1234678-HpCDD	40.83		1.0003	1.0003	0	1.28E+07	1.04	Y	1.06	149	5003.7	0.507
OCDD	43.51		1.0002	1.0003	+0.3	1.02E+08	0.91	Y	1.13	2,010	5137.887	1.12
2378-TCDF	27.62		1.0008	1.0007	-0.2	1.25E+08	0.79	Y	1.08	695	3386.074	0.204
12378-PeCDF	32.38		1.0005	1.0005	0	4.94E+06	1.56	Y	1.02	29.7	3201.127	0.19
23478-PeCDF	33.50		1.0005	1.0007	+0.4	3.39E+06	1.58	Y	1.02	21.7	3201.127	0.184
123478-HxCDF	36.73		1.0005	1.0005	0	6.21E+06	1.21	Y	1.27	44.9	4690.05	0.271
123678-HxCDF	36.87		1.0005	1.0004	-0.2	1.70E+06	1.20	Y	1.15	10.6	4690.05	0.245
234678-HxCDF	37.56		1.0005	1.0005	0	5.85E+05	1.33	Y	1.19	3.8	4690.05	0.256
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4690.05	0.289
1234678-HpCDF	39.89		1.0003	1.0003	0	5.58E+06	1.00	Y	1.37	43.6	5505.736	0.312
1234789-HpCDF	41.28		1.0003	1.0003	0	8.28E+05	1.02	Y	1.31	8.62	5505.736	0.443
OCDF	43.69		1.0003	1.0003	0	1.96E+07	0.88	Y	1.07	309	4348.894	0.841

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.45	1.0238	1.0238	0	2.14E+07	0.83	Y	1.05	75
ES 12378-PeCDD	33.81	1.2160	1.2164	+0.8	1.87E+07	1.59	Y	0.88	78.1
ES 123478-HxCDD	37.72	0.9919	0.9918	-0.2	1.70E+07	1.26	Y	0.97	77.9
ES 123678-HxCDD	37.84	0.9950	0.9949	-0.2	1.75E+07	1.27	Y	0.94	82.3
ES 123789-HxCDD	38.14	1.0027	1.0027	0	1.87E+07	1.32	Y	1.09	76
ES 1234678-HpCDD	40.81	1.0730	1.0730	0	1.61E+07	1.08	Y	0.91	78.3
ES OCDD	43.50	1.1437	1.1436	-0.3	1.79E+07	0.94	Y	0.62	63.8
ES 2378-TCDF	27.60	1.0520	1.0520	0	3.31E+07	0.80	Y	1.06	69.6
ES 12378-PeCDF	32.36	1.2330	1.2335	+1.0	3.22E+07	1.59	Y	0.91	78.8
ES 23478-PeCDF	33.47	1.2754	1.2760	+1.2	3.04E+07	1.54	Y	0.88	76.8
ES 123478-HxCDF	36.72	0.9653	0.9653	0	2.16E+07	0.54	Y	1.20	80.1
ES 123678-HxCDF	36.86	0.9691	0.9690	-0.2	2.77E+07	0.55	Y	1.35	90.9
ES 234678-HxCDF	37.54	0.9870	0.9870	0	2.58E+07	0.53	Y	1.24	92.1
ES 123789-HxCDF	38.49	1.0121	1.0120	-0.2	2.12E+07	0.53	Y	1.16	81.7
ES 1234678-HpCDF	39.87	1.0484	1.0484	0	1.85E+07	0.48	Y	0.97	85
ES 1234789-HpCDF	41.27	1.0851	1.0850	-0.2	1.46E+07	0.46	Y	0.85	76.2
ES OCDF	43.68	1.1483	1.1483	0	2.34E+07	0.91	Y	0.81	64.5

Lab ID: B6276_18917_DF_002-R1 | Acq'd: 10 Feb 2022 20:55 DTF | Wt/Vol: 10.08 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020222-S-SB-NC-S-42 | UTP: 11-Feb-2022 09:27:46 DTF | J-level: 0.496 pg/g | Split: 1 | Checkcode: 053-011-BTP

Datafile: 220210C15 | Report: 11 Feb 2022 09:35 TF | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.79		-	-	-	2.73E+07	0.84	Y	-	-
JS 1234-TCDF	26.23		-	-	-	4.49E+07	0.82	Y	-	-
JS 123467-HxCDD	38.04		-	-	-	1.12E+07	1.21	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0245	1.0247	+0.3	1.16E+07	n/a	-	1.20	88.5
CS 12347-PeCDD	33.31		1.1979	1.1984	+1.0	2.09E+07	1.54	Y	0.75	102
CS 12346-PeCDF	31.83		1.2128	1.2133	+1.0	3.79E+07	1.58	Y	0.85	99.2
CS 123469-HxCDF	37.18		0.9774	0.9774	0	2.65E+07	0.54	Y	1.12	105
CS 1234689-HpCDF	40.28		1.0589	1.0590	+0.2	2.02E+07	0.46	Y	0.89	101
~~SS 37Cl-2378-TCDD~~	~~28.48~~		~~1.0245~~	~~1.0247~~	~~+0.3~~	~~1.16E+07~~	~~n/a~~		~~1.15~~	~~110~~
~~SS 12347-PeCDD~~	~~33.31~~		~~1.1979~~	~~1.1984~~	~~+1.0~~	~~2.09E+07~~	~~1.54~~	~~Y~~	~~0.86~~	~~130~~
~~SS 12346-PeCDF~~	~~31.83~~		~~1.2128~~	~~1.2133~~	~~+1.0~~	~~3.79E+07~~	~~1.58~~	~~Y~~	~~0.94~~	~~126~~
~~SS 123469-HxCDF~~	~~37.18~~		~~0.9774~~	~~0.9774~~	~~0~~	~~2.65E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~116~~
~~SS 1234689-HpCDF~~	~~40.28~~		~~1.0589~~	~~1.0590~~	~~+0.2~~	~~2.02E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~119~~

Totals	Conc	EMPC
Total TCDD	292	296
Total PeCDD	5.84	13.9
Total HxCDD	59	63.9
Total HpCDD	351	351
Total Tetra-Octa Dioxins	2720	2740
Total TCDF	1,310	1330
Total PeCDF	88.5	88.5
Total HxCDF	91.4	92
Total HpCDF	109	109
Total Tetra-Octa Furans	1,910	1930
Total Tetra-Octa Dioxins & Furans	4630	4670

Lab ID: B6276_18917_DF_002-R1 **Acq'd:** 10 Feb 2022 20:55 DTF **Wt/Vol:** 10.08 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020222-S-SB-NC-S-42 **UTP:** 11-Feb-2022 09:27:46 DTF **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 053-011-BTP

Datafile: 220210C15 **Report:** 11 Feb 2022 09:35 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.83		0.8737	0.8727	-1.5	1.31E+05	0.77	Y	1.18	1.03	4017.463	0.309
1379-TCDD	NotFnd		0.8860						1.18		4017.463	0.309
1369-TCDD	NotFnd		0.9009						1.18		4017.463	0.309
1469-TCDD	26.39		0.9281	0.9275	-1.0	5.60E+05	0.87	Y	1.18	4.38	4017.463	0.309
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		4017.463	0.309
1378-TCDD	26.82		0.9432	0.9427	-0.8	1.21E+05	0.67	Y	1.18	0.947	4017.463	0.309
1268-TCDD	NotFnd		0.9500						1.18		4017.463	0.309
1478-TCDD	27.28		0.9586	0.9587	+0.2	9.17E+04	0.87	Y	1.18	0.718	4017.463	0.309
1279-TCDD	NotFnd		0.9645						1.18		4017.463	0.309
1234/1269-TCDD	NotFnd		0.9770						1.18		4017.463	0.309
1236-TCDD	NotFnd		0.9817						1.18		4017.463	0.309
1237/1238-TCDD	28.19	EMPC	0.9905	0.9906	+0.2	5.57E+05	0.92	N	1.18	4.36	4017.463	0.309
1239-TCDD	NotFnd		0.9952						1.18		4017.463	0.309
2378-TCDD	**28.48**		**1.0008**	1.0009	**+0.2**	3.33E+07	0.81	Y	**1.18**	**261**	**4017.463**	**0.309**
1278-TCDD	28.80		1.0121	1.0123	+0.3	3.07E+06	0.79	Y	1.18	24	4017.463	0.309
1267-TCDD	NotFnd		1.0167						1.18		4017.463	0.309
1289-TCDD	NotFnd		1.0345						1.18		4017.463	0.309
12479/12468-PeCDD	31.32	EMPC	0.9267	0.9264	-0.6	2.54E+05	1.21	N	1.04	2.6	3394.453	0.309
12469-PeCDD	31.85	EMPC	0.9425	0.9422	-0.6	3.00E+05	1.31	N	1.04	3.06	3394.453	0.309
12368-PeCDD	32.40	J EMPC	0.9588	0.9585	-0.6	9.45E+04	1.11	N	1.04	0.966	3394.453	0.309
12478-PeCDD	32.60	J EMPC	0.9643	0.9643	0	9.84E+04	1.81	N	1.04	1.01	3394.453	0.309
12379-PeCDD	32.70	J	0.9673	0.9674	+0.2	7.57E+04	1.56	Y	1.04	0.774	3394.453	0.309
12369/12467/12489-PeCDD	32.96	J	0.9750	0.9750	0	1.36E+05	1.51	Y	1.04	1.39	3394.453	0.309
12346/12347-PeCDD	NotFnd		0.9858						1.04		3394.453	0.309
12378-PeCDD	33.82		**1.0005**	**1.0005**	**0**	**3.60E+05**	**1.65**	**Y**	**1.04**	**3.68**	**3394.453**	**0.309**
12367-PeCDD	33.91	J EMPC	1.0033	1.0031	-0.4	4.48E+04	0.85	N	1.04	0.458	3394.453	0.309
12389-PeCDD	NotFnd		1.0134						1.04		3394.453	0.309
124679/124689-HxCDD	35.99		0.9542	0.9540	-0.4	2.95E+06	1.28	Y	1.10	30.1	4662.656	0.409
123468-HxCDD	36.65	J EMPC	0.9715	0.9715	0	1.75E+05	1.90	N	1.10	1.79	4662.656	0.409
123679/123689-HxCDD	36.94		0.9793	0.9793	0	1.75E+06	1.26	Y	1.10	17.9	4662.656	0.409
123469-HxCDD	37.07	J EMPC	0.9828	0.9827	-0.2	1.78E+05	1.49	N	1.10	1.82	4662.656	0.409
123478-HxCDD	37.74	J	**1.0004**	**1.0004**	**0**	**1.87E+05**	**1.26**	**Y**	1.09	**2**	**4662.656**	**0.428**
123678-HxCDD	37.86		**1.0035**	**1.0035**	**0**	**5.00E+05**	**1.29**	**Y**	1.15	**4.95**	**4662.656**	**0.389**
123467-HxCDD	38.05	J EMPC	1.0085	1.0087	+0.5	1.26E+05	1.60	N	1.10	1.29	4662.656	0.409
123789-HxCDD	38.15		**1.0113**	**1.0112**	**-0.2**	**3.92E+05**	**1.41**	**Y**	1.05	**3.97**	**4662.656**	**0.411**

Lab ID: B6276_18917_DF_002-R1 **Acq'd:** 10 Feb 2022 20:55 DTF **Wt/Vol:** 10.08 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020222-S-SB-NC-S-42 **UTP:** 11-Feb-2022 09:27:46 DTF **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 053-011-BTP

Datafile: 220210C15 **Report:** 11 Feb 2022 09:35 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

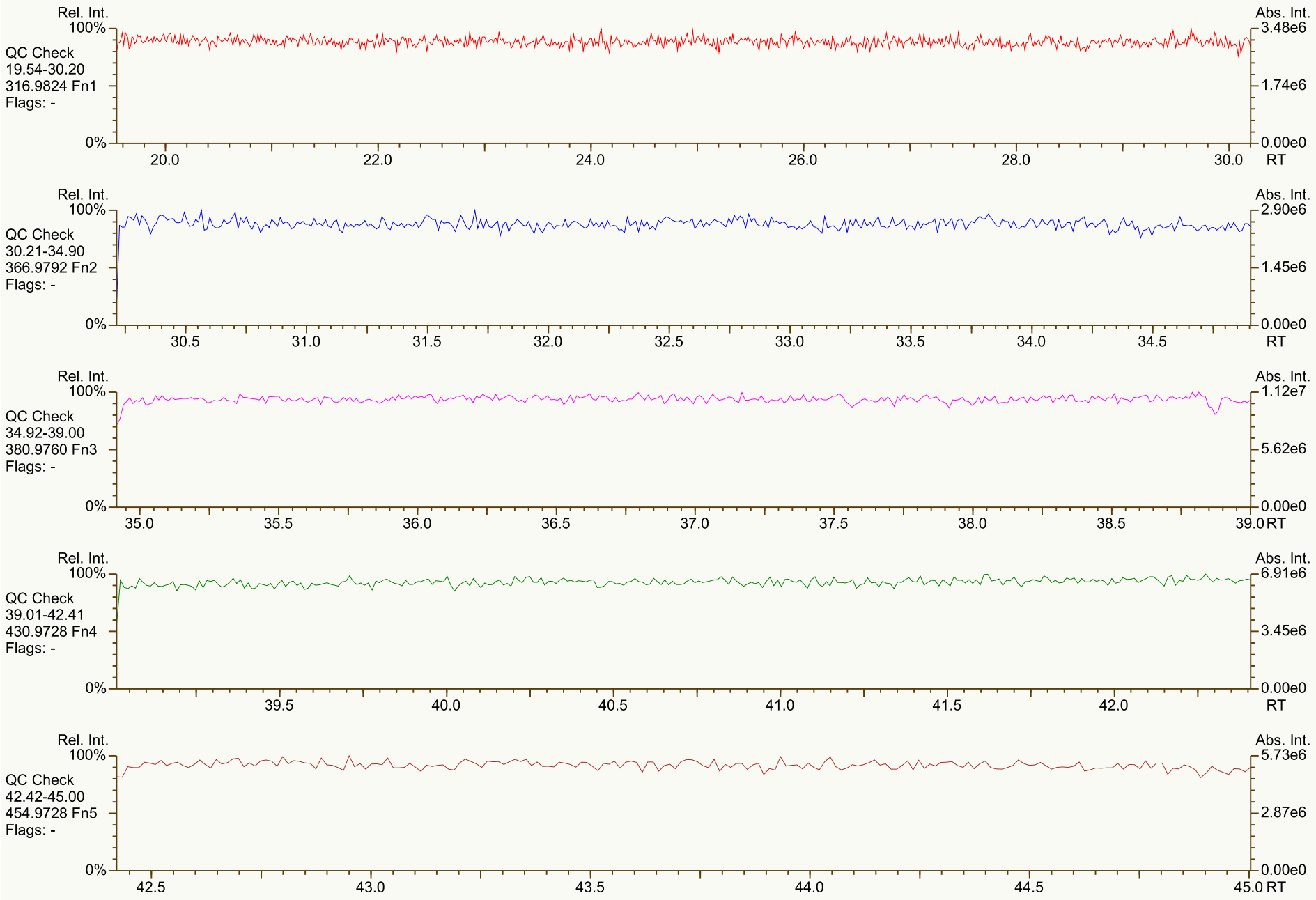
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.14		0.9837	0.9836	-0.2	1.74E+07	1.04	Y	1.06	202	5003.7	0.507
1234678-HpCDD	**40.83**		**1.0003**	**1.0003**	**0**	**1.28E+07**	**1.04**	**Y**	**1.06**	**149**	**5003.7**	**0.507**
OCDD	**43.51**		**1.0002**	**1.0003**	**+0.3**	**1.02E+08**	**0.91**	**Y**	**1.13**	**2,010**	**5137.887**	**1.12**
OCDD-a	43.51		1.0001	1.0002	+0.3	6.23E+06	2.36	Y	0.07	1,910	5289.063	18.1
1368-TCDF	22.71		0.8251	0.8230	-2.9	1.24E+05	0.84	Y	1.08	0.691	3386.074	0.204
1468-TCDF	23.30		0.8458	0.8444	-2.0	2.99E+05	0.72	Y	1.08	1.66	3386.074	0.204
2468-TCDF	23.93		0.8686	0.8672	-2.0	5.07E+05	0.85	Y	1.08	2.82	3386.074	0.204
1346/1246-TCDF	NotFnd		0.8814						1.08		3386.074	0.204
1347/1378/1247-TCDF	24.45		0.8867	0.8859	-1.2	1.79E+06	0.78	Y	1.08	9.97	3386.074	0.204
1348-TCDF	NotFnd		0.8962						1.08		3386.074	0.204
1248/1367/1379-TCDF	24.80		0.9009	0.8985	-3.6	6.16E+06	0.79	Y	1.08	34.2	3386.074	0.204
1268-TCDF	25.22		0.9145	0.9138	-1.1	2.13E+06	0.80	Y	1.08	11.8	3386.074	0.204
1467-TCDF	25.35		0.9193	0.9187	-0.9	3.67E+05	0.86	Y	1.08	2.04	3386.074	0.204
1478-TCDF	25.52		0.9254	0.9247	-1.1	5.25E+06	0.78	Y	1.08	29.2	3386.074	0.204
1369/1237-TCDF	25.90		0.9387	0.9385	-0.3	1.44E+06	0.76	Y	1.08	8.03	3386.074	0.204
2467-TCDF	26.02	EMPC	0.9433	0.9427	-0.9	2.07E+05	1.03	N	1.08	1.15	3386.074	0.204
2368-TCDF	26.17	EMPC	0.9489	0.9484	-0.8	3.07E+06	0.97	N	1.08	17.1	3386.074	0.204
1238/1234/1678/1469/1236-TCDF	26.25		0.9523	0.9512	-1.7	6.92E+06	0.70	Y	1.08	38.5	3386.074	0.204
1278-TCDF	26.72		0.9683	0.9682	-0.2	5.05E+07	0.79	Y	1.08	281	3386.074	0.204
1349-TCDF	NotFnd		0.9722						1.08		3386.074	0.204
1267-TCDF	26.99		0.9783	0.9781	-0.3	3.40E+06	0.80	Y	1.08	18.9	3386.074	0.204
2346/1249-TCDF	27.19		0.9850	0.9853	+0.5	3.53E+05	0.72	Y	1.08	1.96	3386.074	0.204
2347/1279-TCDF	27.39		0.9926	0.9926	0	1.59E+06	0.73	Y	1.08	8.85	3386.074	0.204
2348-TCDF	27.50		0.9967	0.9965	-0.3	8.20E+06	0.79	Y	1.08	45.6	3386.074	0.204
2378-TCDF	**27.62**		**1.0008**	**1.0007**	**-0.2**	**1.25E+08**	**0.79**	**Y**	**1.08**	**695**	**3386.074**	**0.204**
2367/3467-TCDF	27.97		1.0137	1.0136	-0.2	1.14E+07	0.78	Y	1.08	63.2	3386.074	0.204
1269-TCDF	28.22		1.0223	1.0226	+0.5	1.85E+06	0.85	Y	1.08	10.3	3386.074	0.204
1239-TCDF	NotFnd		1.0321						1.08		3386.074	0.204
1289-TCDF	29.63		1.0722	1.0735	+2.3	9.08E+06	0.79	Y	1.08	50.5	3386.074	0.204
13468/12468-PeCDF	29.57		0.9139	0.9137	-0.4	9.26E+05	1.46	Y	1.02	5.74	2795.951	0.163
13678/13467/12467-PeCDF	31.12	J	0.9613	0.9618	+0.9	2.31E+05	1.38	Y	1.02	1.43	3201.127	0.187
12368/13478/12478-PeCDF	31.28		0.9662	0.9666	+0.8	2.55E+06	1.59	Y	1.02	15.8	3201.127	0.187
14678-PeCDF	NotFnd		0.9692						1.02		3201.127	0.187
13479-PeCDF	NotFnd		0.9723						1.02		3201.127	0.187
13469/12479-PeCDF	NotFnd		0.9797						1.02		3201.127	0.187
12346-PeCDF	NotFnd		0.9840						1.02		3201.127	0.187

Lab ID: B6276_18917_DF_002-R1 **Acq'd:** 10 Feb 2022 20:55 DTF **Wt/Vol:** 10.08 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020222-S-SB-NC-S-42 **UTP:** 11-Feb-2022 09:27:46 DTF **J-level:** 0.496 pg/g **Split:** 1 **Checkcode:** 053-011-BTP

Datafile: 220210C15 **Report:** 11 Feb 2022 09:35 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.95	J	0.9868	0.9874	+1.2	3.55E+05	1.46	Y	1.02	2.2	3201.127	0.187
12347-PeCDF	NotFnd		0.9894						1.02		3201.127	0.187
12348-PeCDF	32.16	J	0.9940	0.9940	0	3.87E+05	1.46	Y	1.02	2.4	3201.127	0.187
12378-PeCDF	**32.38**		**1.0005**	**1.0005**	**0**	**4.94E+06**	**1.56**	**Y**	**1.02**	**29.7**	**3201.127**	**0.19**
12678/12367-PeCDF	32.67		1.0089	1.0096	+1.4	1.25E+06	1.60	Y	1.02	7.76	3201.127	0.187
12379-PeCDF	NotFnd		1.0142						1.02		3201.127	0.187
12679-PeCDF	NotFnd		0.9929						1.02		3201.127	0.187
23467/12369-PeCDF	33.36	J	0.9967	0.9967	0	1.08E+05	1.50	Y	1.02	0.671	3201.127	0.187
23478-PeCDF	**33.50**		**1.0005**	**1.0007**	**+0.4**	**3.39E+06**	**1.58**	**Y**	**1.02**	**21.7**	**3201.127**	**0.184**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3201.127	0.187
12349-PeCDF	NotFnd		1.0100						1.02		3201.127	0.187
12389-PeCDF	34.56	J	1.0324	1.0326	+0.4	1.79E+05	1.44	Y	1.02	1.11	3201.127	0.187
123468-HxCDF	35.35		0.9627	0.9627	0	5.03E+05	1.27	Y	1.19	3.47	4690.05	0.263
124678/134678-HxCDF	35.54		0.9682	0.9680	-0.4	1.90E+06	1.20	Y	1.19	13.1	4690.05	0.263
134679-HxCDF	NotFnd		0.9744						1.19		4690.05	0.263
124679-HxCDF	NotFnd		0.9798						1.19		4690.05	0.263
124689-HxCDF	36.19		0.9858	0.9858	0	1.76E+06	1.30	Y	1.19	12.2	4690.05	0.263
123467-HxCDF	36.61	J EMPC	0.9972	0.9972	0	8.62E+04	1.56	N	1.19	0.595	4690.05	0.263
123478-HxCDF	**36.73**		**1.0005**	**1.0005**	**0**	**6.21E+06**	**1.21**	**Y**	**1.27**	**44.9**	**4690.05**	**0.271**
123678-HxCDF	**36.87**		**1.0005**	**1.0004**	**-0.2**	**1.70E+06**	**1.20**	**Y**	**1.15**	**10.6**	**4690.05**	**0.245**
123479-HxCDF	NotFnd		1.0049						1.19		4690.05	0.263
123469-HxCDF	NotFnd		1.0090						1.19		4690.05	0.263
123679-HxCDF	NotFnd		0.9942						1.19		4690.05	0.263
234678-HxCDF	**37.56**		**1.0005**	**1.0005**	**0**	**5.85E+05**	**1.33**	**Y**	**1.19**	**3.8**	**4690.05**	**0.256**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4690.05	0.263
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4690.05**	**0.289**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.53		1.0009	1.0010	+0.2	4.86E+05	1.23	Y	1.19	3.36	4690.05	0.263
1234678-HpCDF	**39.89**		**1.0003**	**1.0003**	**0**	**5.58E+06**	**1.00**	**Y**	**1.37**	**43.6**	**5505.736**	**0.312**
1234679-HpCDF	40.15		1.0068	1.0068	0	2.90E+05	1.17	Y	1.34	2.6	5505.736	0.369
1234689-HpCDF	40.29		1.0103	1.0104	+0.2	6.06E+06	1.00	Y	1.34	54.3	5505.736	0.369
1234789-HpCDF	**41.28**		**1.0003**	**1.0003**	**0**	**8.28E+05**	**1.02**	**Y**	**1.31**	**8.62**	**5505.736**	**0.443**
OCDF	**43.69**		**1.0003**	**1.0003**	**0**	**1.96E+07**	**0.88**	**Y**	**1.07**	**309**	**4348.894**	**0.841**
OCDF-a	43.68	**EMPC**	1.0002	1.0002	0	1.02E+06	2.94	N	0.07	260	3163.657	9.87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30.0
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3.48e6
1.74e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
2.90e6
1.45e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.12e7
5.62e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
6.91e6
3.45e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
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44.0
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45.0
RT
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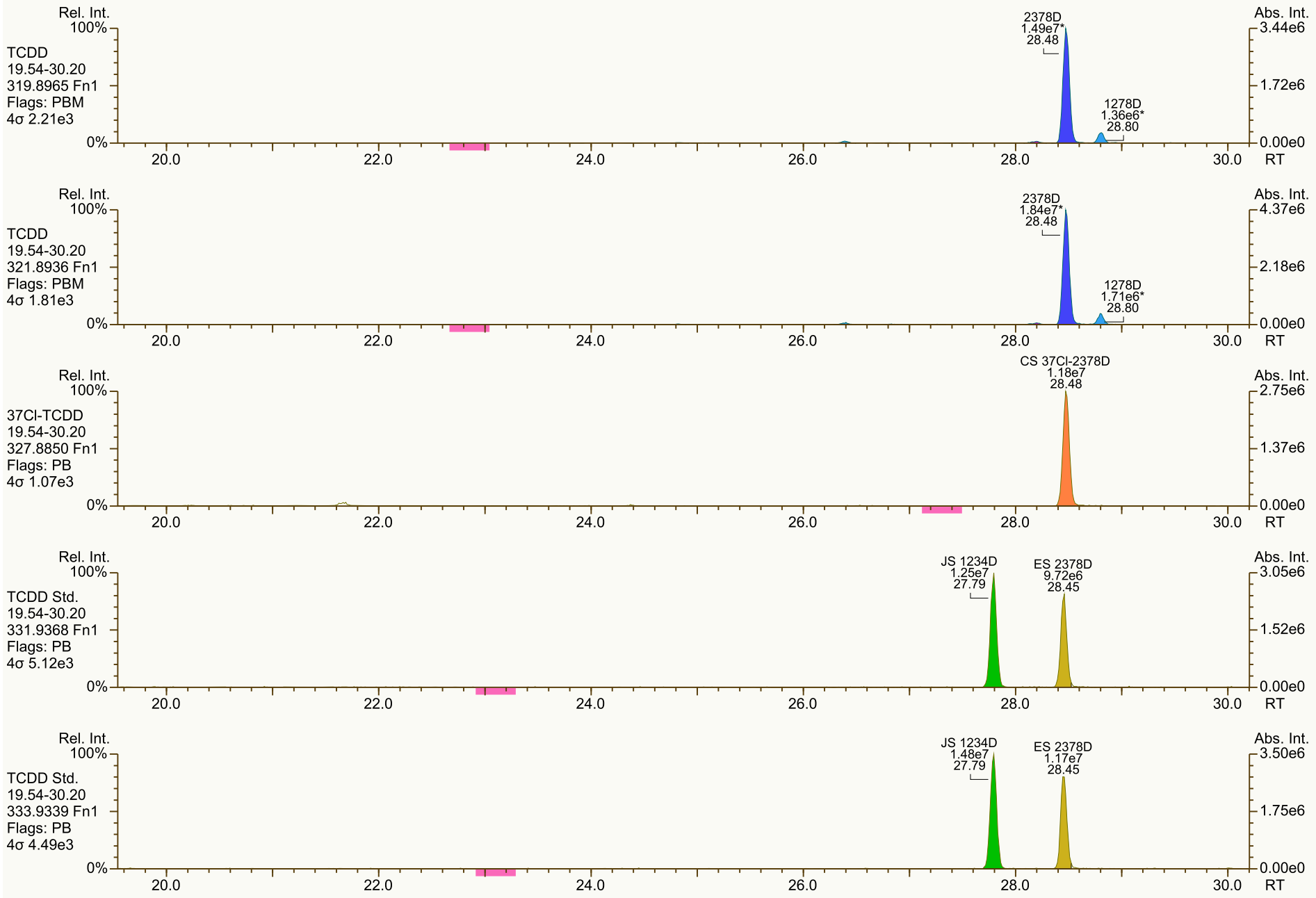
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19.54-30.20
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2378D
1.49e7*
28.48
1278D
1.36e6*
28.80
Abs. Int.
3.44e6
1.72e6
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20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.81e3
0%
2378D
1.84e7*
28.48
1278D
1.71e6*
28.80
Abs. Int.
4.37e6
2.18e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.07e3
0%
CS 37Cl-2378D
1.18e7
28.48
Abs. Int.
2.75e6
1.37e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.12e3
0%
JS 1234D
1.25e7
27.79
ES 2378D
9.72e6
28.45
Abs. Int.
3.05e6
1.52e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.49e3
0%
JS 1234D
1.48e7
27.79
ES 2378D
1.17e7
28.45
Abs. Int.
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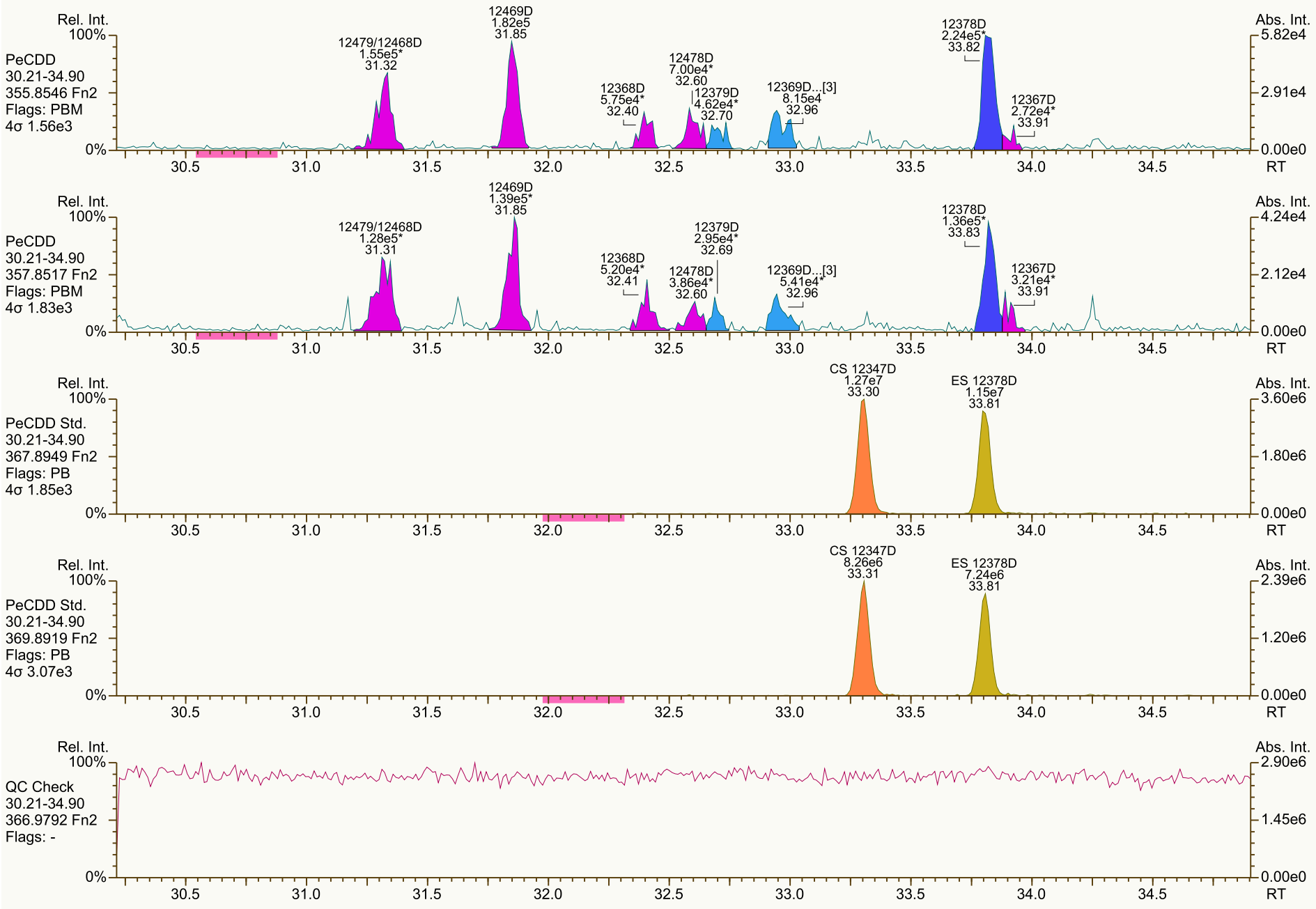
1.75e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT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30.21-34.90
355.8546 Fn2
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12479/12468D
1.55e5*
31.32
12469D
1.82e5
31.85
12368D
5.75e4*
32.40
12478D
7.00e4*
32.60
12379D
4.62e4*
32.70
12369D...[3]
8.15e4
32.96
12378D
2.24e5*
33.82
12367D
2.72e4*
33.91
Abs. Int.
5.82e4
2.91e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PBM
4σ 1.83e3
12479/12468D
1.28e5*
31.31
12469D
1.39e5*
31.85
12368D
5.20e4*
32.41
12379D
2.95e4*
32.69
12478D
3.86e4*
32.60
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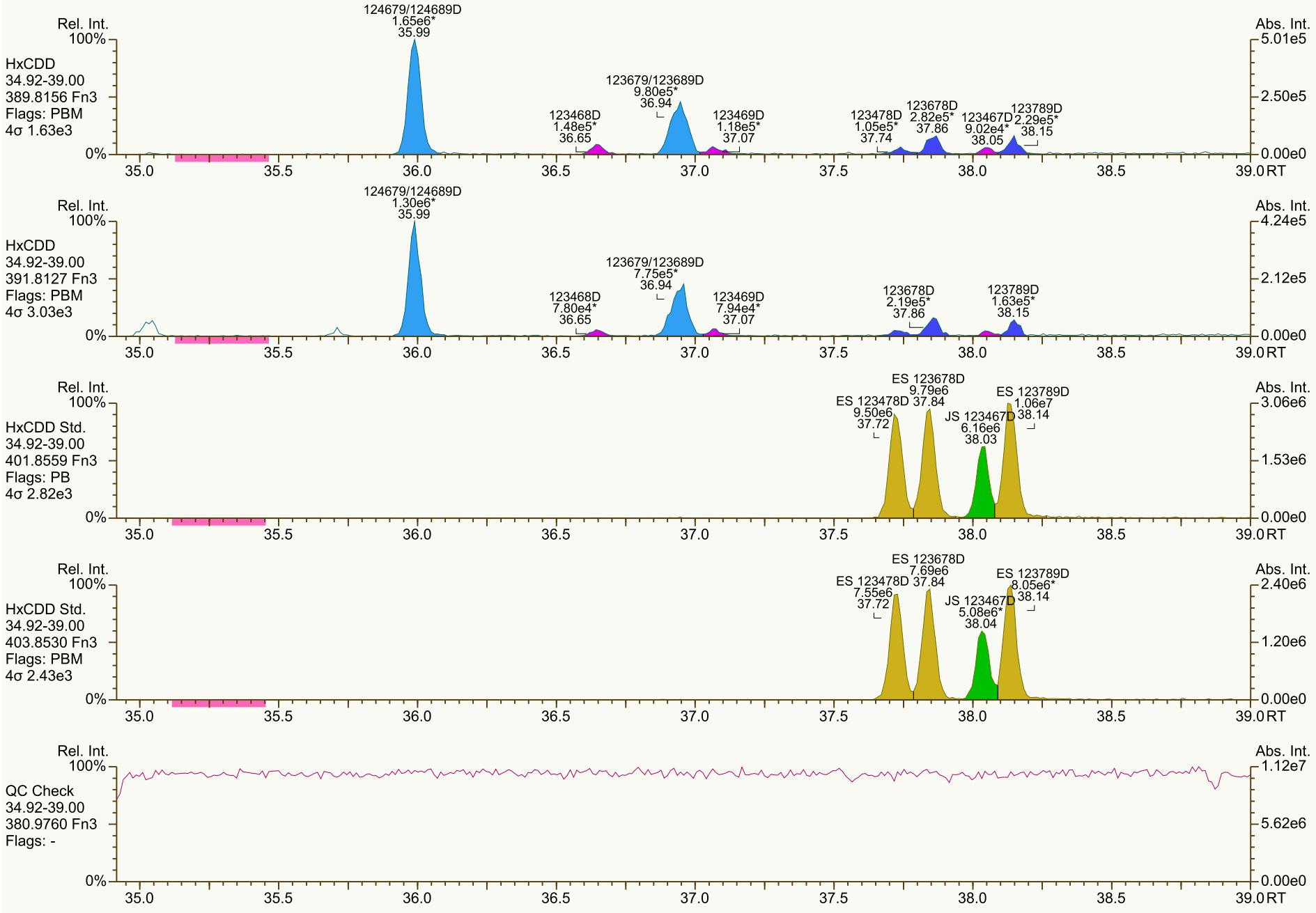
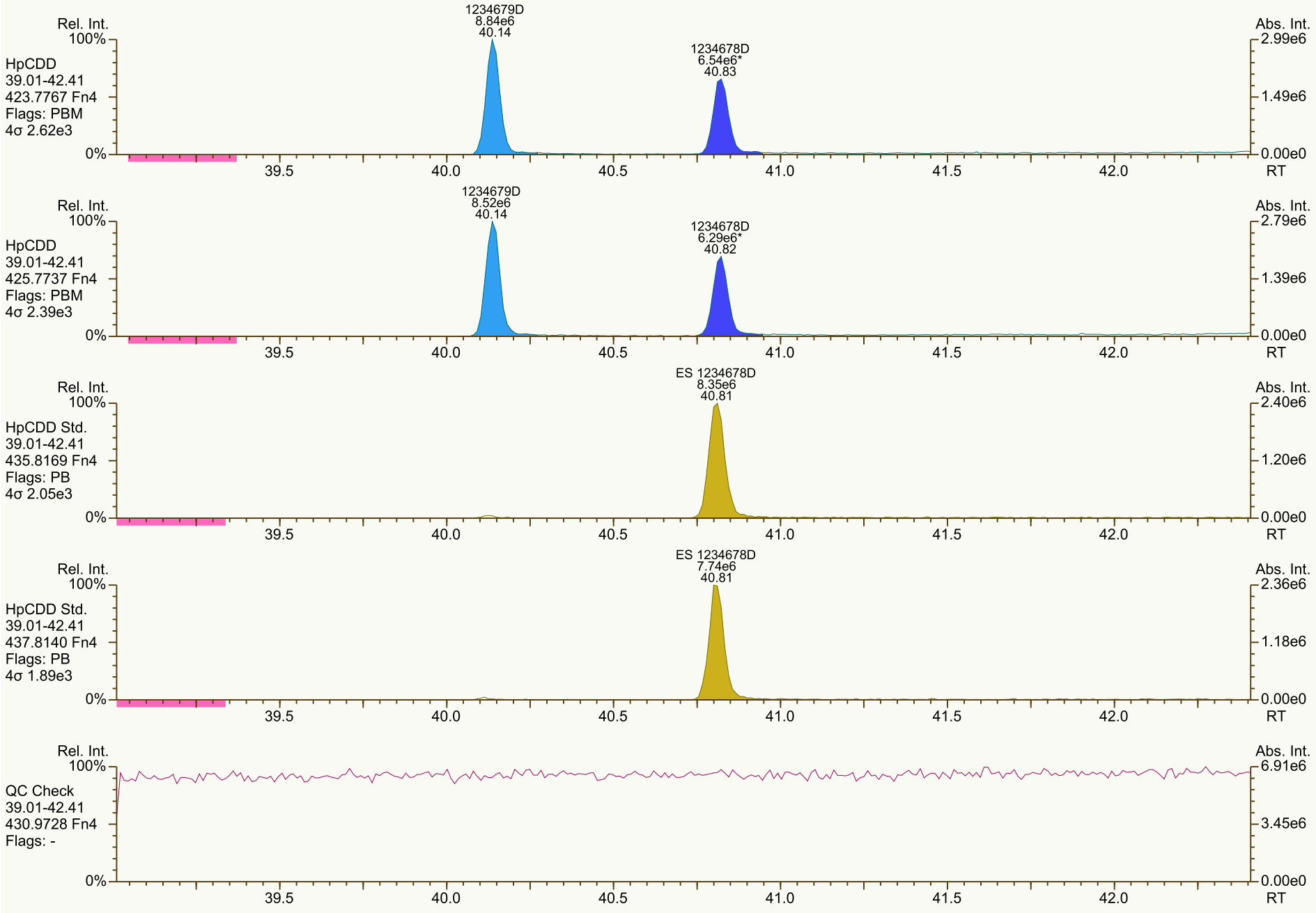
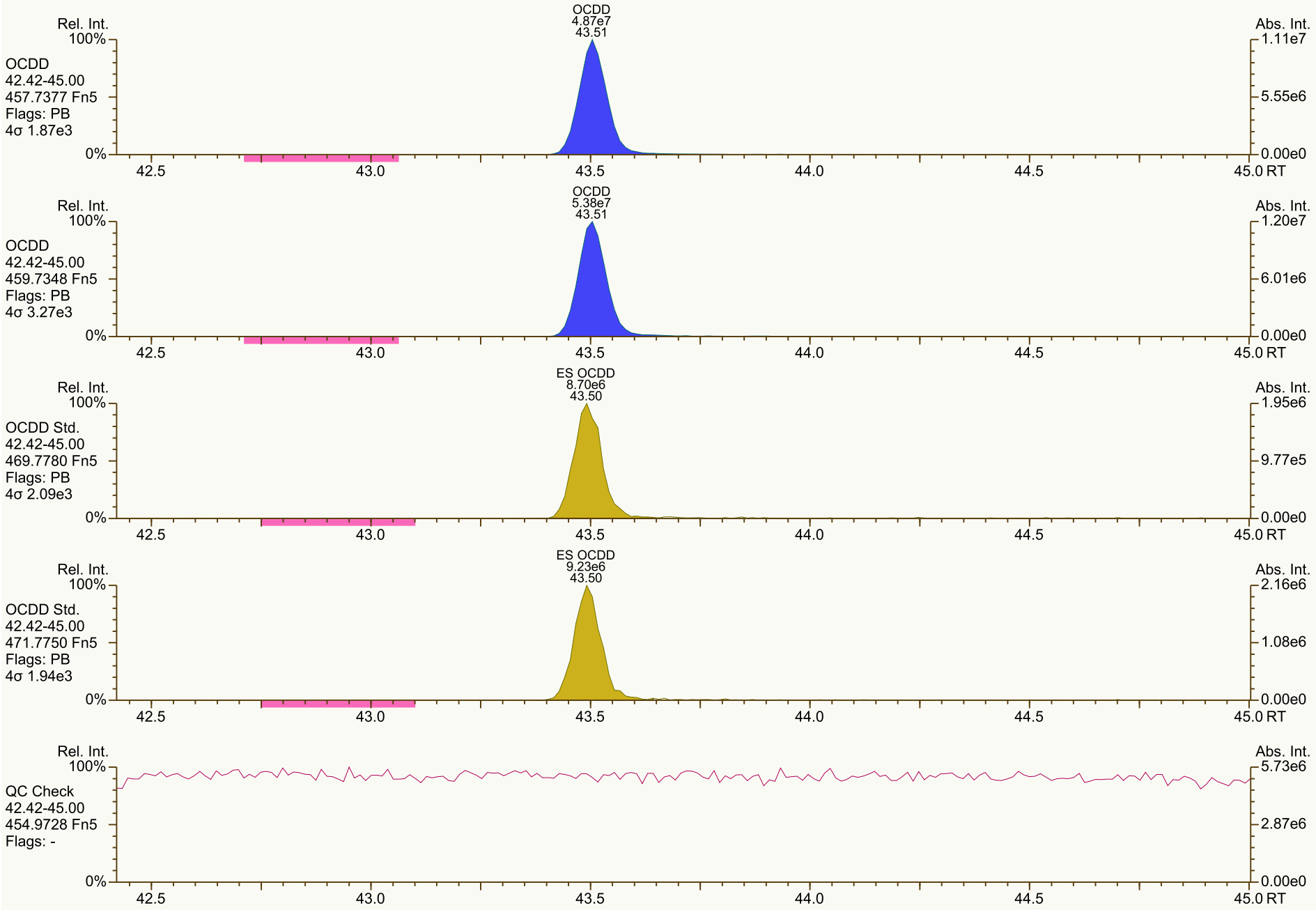
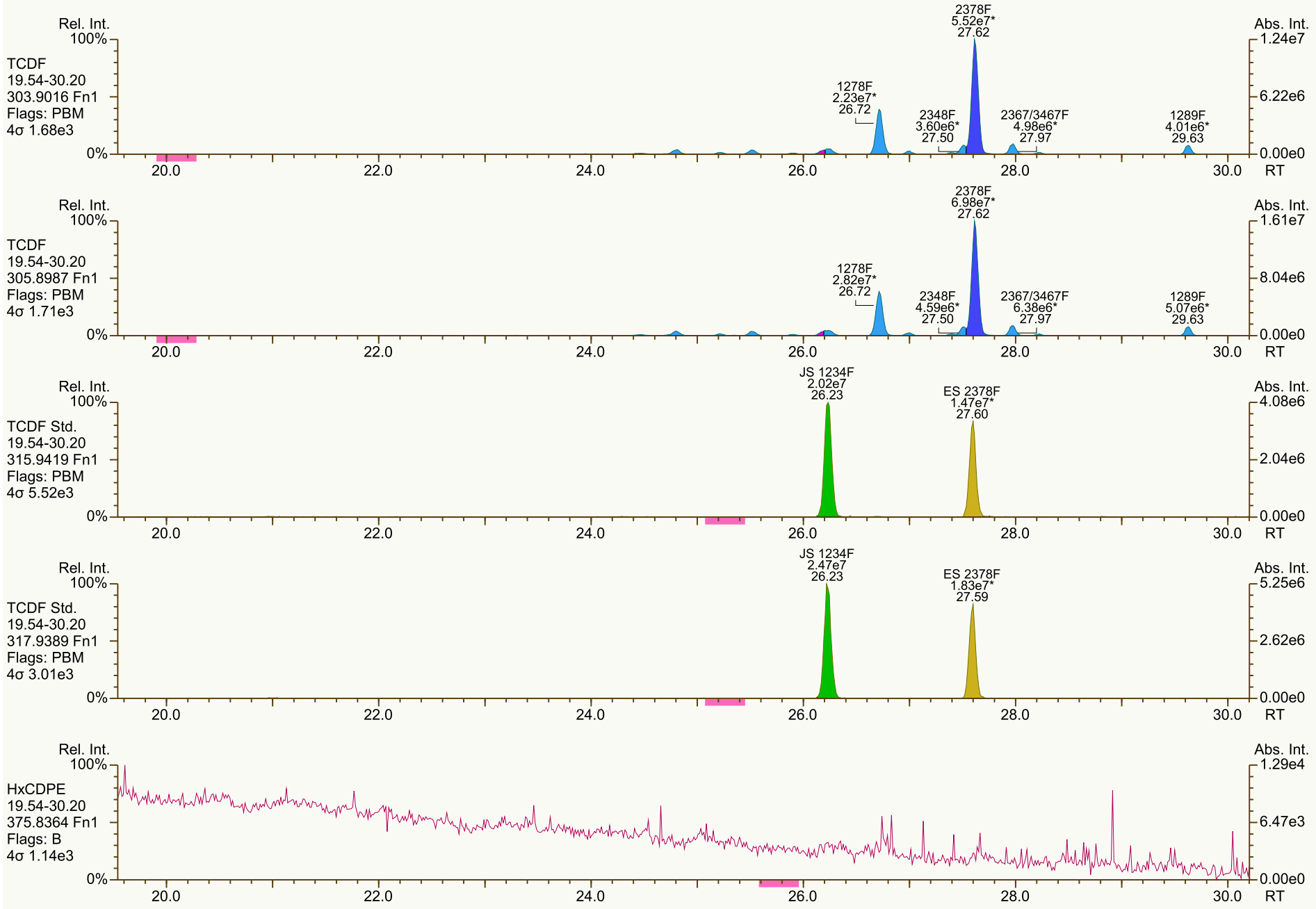
5.41e4*
32.96
12378D
1.36e5*
33.83
12367D
3.21e4*
33.91
Abs. Int.
4.24e4
2.12e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 1.85e3
CS 12347D
1.27e7
33.30
ES 12378D
1.15e7
33.81
Abs. Int.
3.60e6
1.80e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 3.07e3
CS 12347D
8.26e6
33.31
ES 12378D
7.24e6
33.81
Abs. Int.
2.39e6
1.20e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
Abs. Int.
2.90e6
1.45e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

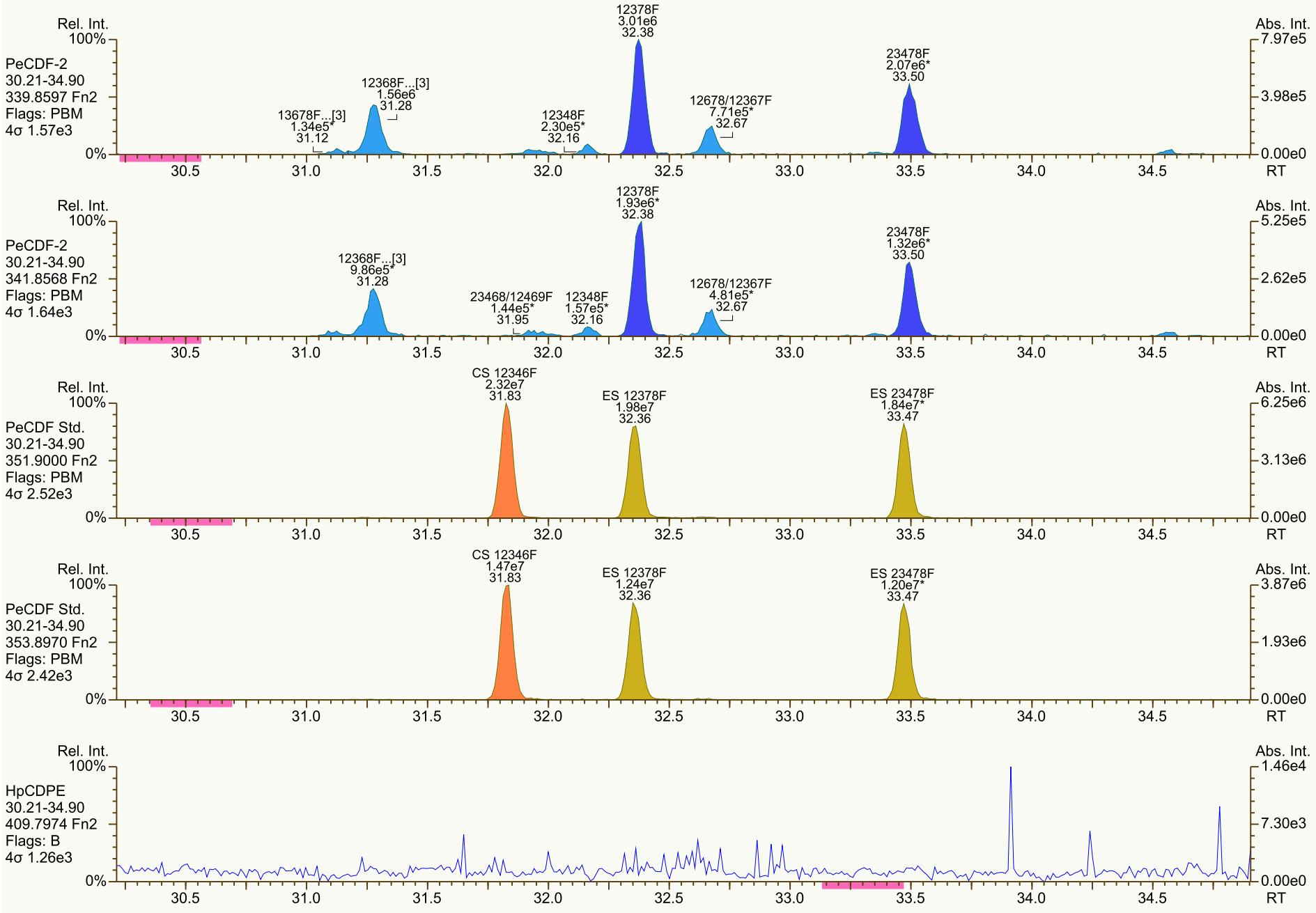

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 1.63e3
124679/124689D
1.65e6*
35.99
123679/123689D
9.80e5*
36.94
123468D
1.48e5*
36.65
123469D
1.18e5*
37.07
123478D
1.05e5*
37.74
123678D
2.82e5*
37.86
123467D
9.02e4*
38.05
123789D
2.29e5*
38.15
Abs. Int.
5.01e5
2.50e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 3.03e3
124679/124689D
1.30e6*
35.99
123679/123689D
7.75e5*
36.94
123468D
7.80e4*
36.65
123469D
7.94e4*
37.07
123678D
2.19e5*
37.86
123789D
1.63e5*
38.15
Abs. Int.
4.24e5
2.12e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 2.82e3
ES 123678D
9.79e6
37.84
ES 123478D
9.50e6
37.72
ES 123789D
1.06e7
38.14
JS 123467D
6.16e6
38.03
Abs. Int.
3.06e6
1.53e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PBM
4σ 2.43e3
ES 123678D
7.69e6
37.84
ES 123478D
7.55e6
37.72
ES 123789D
8.05e6*
38.14
JS 123467D
5.08e6*
38.04
Abs. Int.
2.40e6
1.20e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
Abs. Int.
1.12e7
5.62e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT

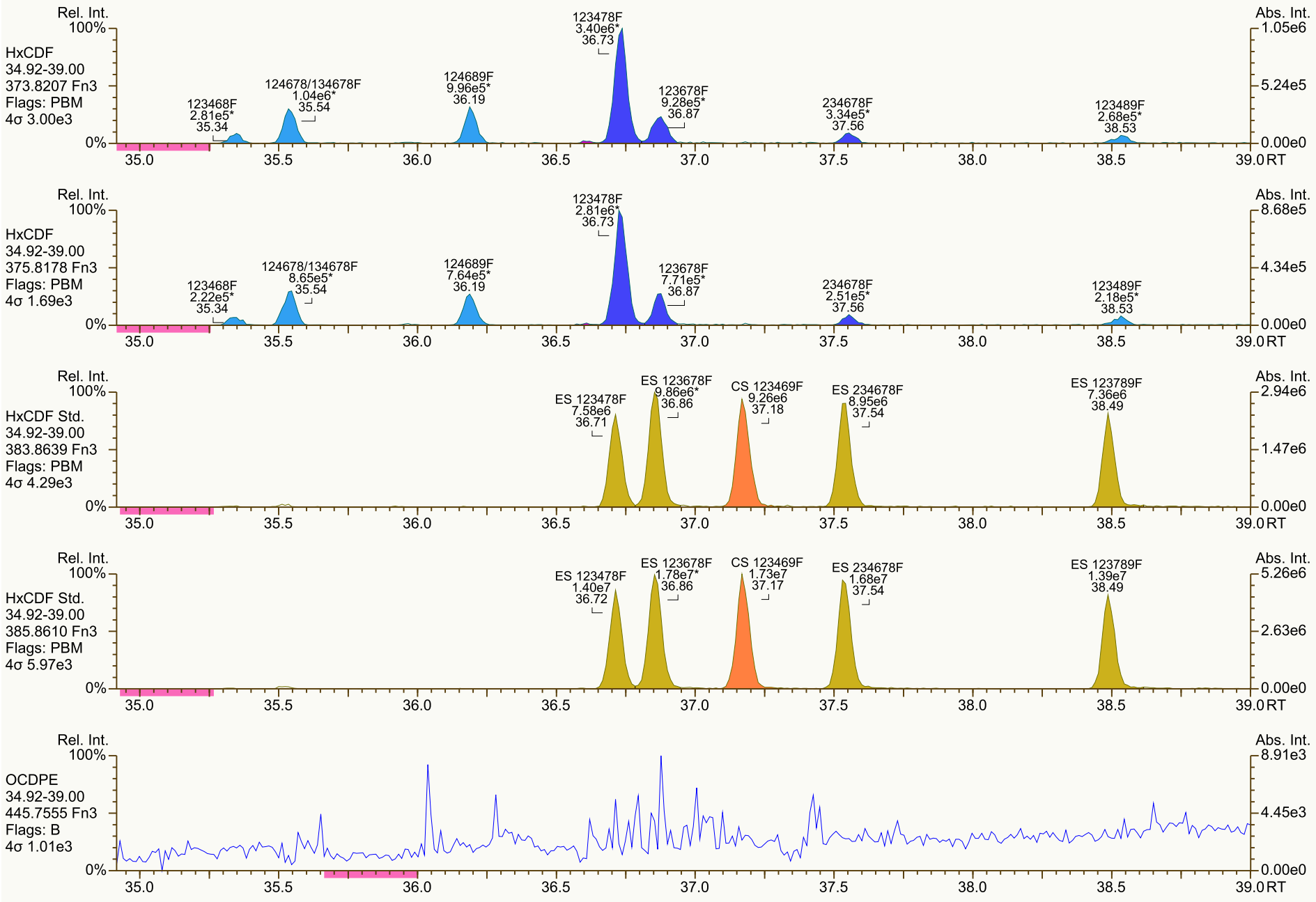

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 2.62e3
1234679D
8.84e6
40.14
1234678D
6.54e6*
40.83
Abs. Int.
2.99e6
1.49e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 2.39e3
1234679D
8.52e6
40.14
1234678D
6.29e6*
40.82
Abs. Int.
2.79e6
1.39e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 2.05e3
ES 1234678D
8.35e6
40.81
Abs. Int.
2.40e6
1.20e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.89e3
ES 1234678D
7.74e6
40.81
Abs. Int.
2.36e6
1.18e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
6.91e6
3.45e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

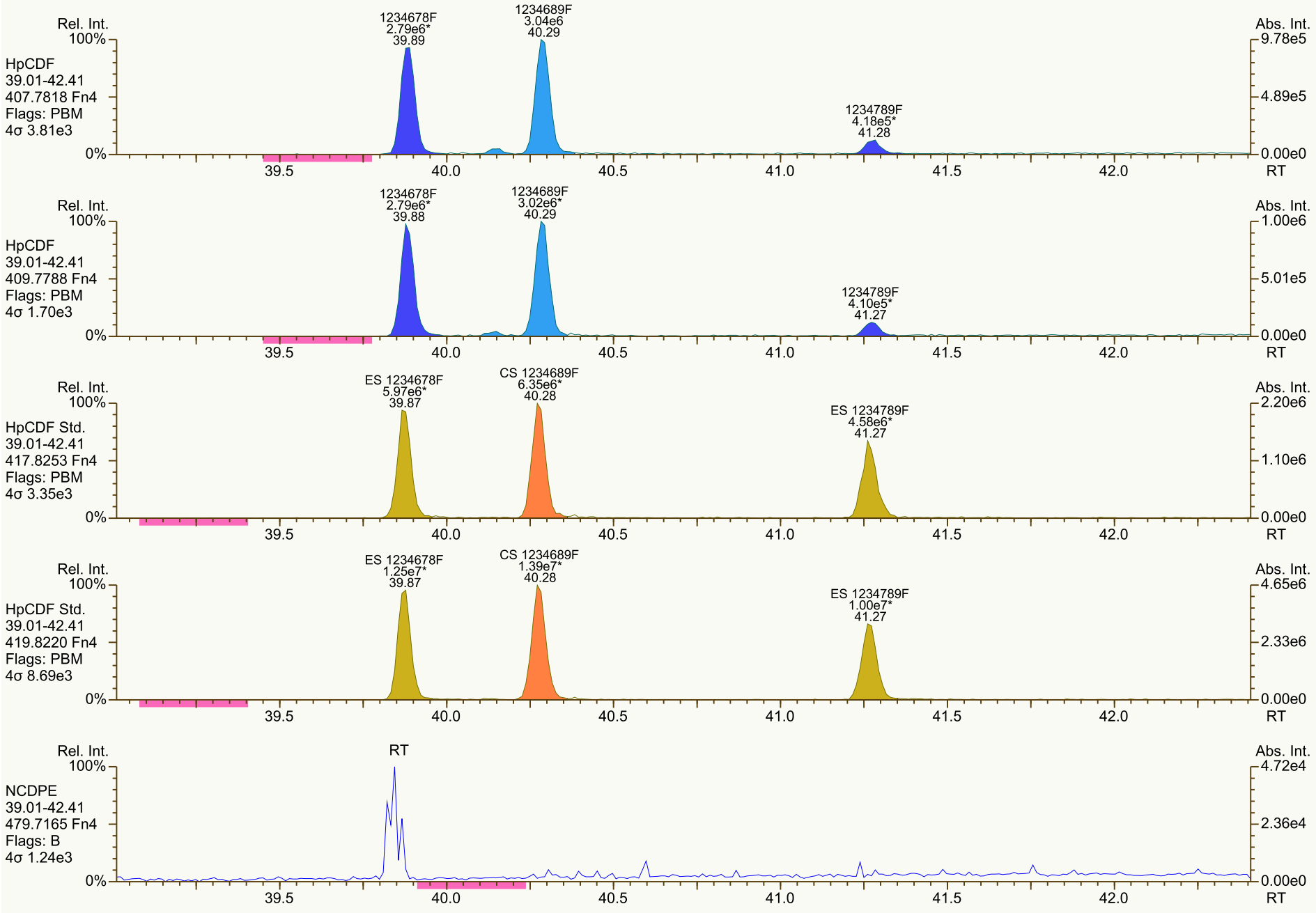

Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PB
4σ 1.87e3
0%
OCDD
4.87e7
43.51
Abs. Int.
1.11e7
5.55e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PB
4σ 3.27e3
0%
OCDD
5.38e7
43.51
Abs. Int.
1.20e7
6.01e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PB
4σ 2.09e3
0%
ES OCDD
8.70e6
43.50
Abs. Int.
1.95e6
9.77e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PB
4σ 1.94e3
0%
ES OCDD
9.23e6
43.50
Abs. Int.
2.16e6
1.08e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.73e6
2.87e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.68e3
0%
2378F
5.52e7*
27.62
1278F
2.23e7*
26.72
2348F
3.60e6*
27.50
2367/3467F
4.98e6*
27.97
1289F
4.01e6*
29.63
Abs. Int.
1.24e7
6.22e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.71e3
0%
2378F
6.98e7*
27.62
1278F
2.82e7*
26.72
2348F
4.59e6*
27.50
2367/3467F
6.38e6*
27.97
1289F
5.07e6*
29.63
Abs. Int.
1.61e7
8.04e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PBM
4σ 5.52e3
0%
JS 1234F
2.02e7
26.23
ES 2378F
1.47e7*
27.60
Abs. Int.
4.08e6
2.04e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PBM
4σ 3.01e3
0%
JS 1234F
2.47e7
26.23
ES 2378F
1.83e7*
27.59
Abs. Int.
5.25e6
2.62e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.14e3
0%
Abs. Int.
1.29e4
6.47e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.33e3
13468/12468F
5.49e5*
29.57
Abs. Int.
1.37e5
6.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.47e3
13468/12468F
3.77e5*
29.57
Abs. Int.
1.02e5
5.12e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
3.48e6
1.74e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 1.57e3
0%
13678F...[3]
1.34e5*
31.12
12368F...[3]
1.56e6
31.28
12348F
2.30e5*
32.16
12378F
3.01e6
32.38
12678/12367F
7.71e5*
32.67
23478F
2.07e6*
33.50
Abs. Int.
7.97e5
3.98e5
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 1.64e3
0%
12368F...[3]
9.86e5*
31.28
23468/12469F
1.44e5*
31.95
12348F
1.57e5*
32.16
12378F
1.93e6*
32.38
12678/12367F
4.81e5*
32.67
23478F
1.32e6*
33.50
Abs. Int.
5.25e5
2.62e5
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PBM
4σ 2.52e3
0%
CS 12346F
2.32e7
31.83
ES 12378F
1.98e7
32.36
ES 23478F
1.84e7*
33.47
Abs. Int.
6.25e6
3.13e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PBM
4σ 2.42e3
0%
CS 12346F
1.47e7
31.83
ES 12378F
1.24e7
32.36
ES 23478F
1.20e7*
33.47
Abs. Int.
3.87e6
1.93e6
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.26e3
0%
Abs. Int.
1.46e4
7.30e3
0.00e0
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 3.00e3
123468F 2.81e5* 35.34
124678/134678F 1.04e6* 35.54
124689F 9.96e5* 36.19
123478F 3.40e6* 36.73
123678F 9.28e5* 36.87
234678F 3.34e5* 37.56
123489F 2.68e5* 38.53
Abs. Int.
1.05e6
5.24e5
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 RT
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 1.69e3
123468F 2.22e5* 35.34
124678/134678F 8.65e5* 35.54
124689F 7.64e5* 36.19
123478F 2.81e6* 36.73
123678F 7.71e5* 36.87
234678F 2.51e5* 37.56
123489F 2.18e5* 38.53
8.68e5
4.34e5
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 4.29e3
ES 123478F 7.58e6 36.71
ES 123678F 9.86e6* 36.86
CS 123469F 9.26e6 37.18
ES 234678F 8.95e6 37.54
ES 123789F 7.36e6 38.49
2.94e6
1.47e6
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 5.97e3
ES 123478F 1.40e7 36.72
ES 123678F 1.78e7* 36.86
CS 123469F 1.73e7 37.17
ES 234678F 1.68e7 37.54
ES 123789F 1.39e7 38.49
5.26e6
2.63e6
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.01e3
8.91e3
4.45e3


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 3.81e3
1234678F
2.79e6*
39.89
1234689F
3.04e6
40.29
1234789F
4.18e5*
41.28
Abs. Int.
9.78e5
4.89e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 1.70e3
1234678F
2.79e6*
39.88
1234689F
3.02e6*
40.29
1234789F
4.10e5*
41.27
Abs. Int.
1.00e6
5.01e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 3.35e3
ES 1234678F
5.97e6*
39.87
CS 1234689F
6.35e6*
40.28
ES 1234789F
4.58e6*
41.27
Abs. Int.
2.20e6
1.10e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 8.69e3
ES 1234678F
1.25e7*
39.87
CS 1234689F
1.39e7*
40.28
ES 1234789F
1.00e7*
41.27
Abs. Int.
4.65e6
2.33e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.24e3
RT
Abs. Int.
4.72e4
2.36e4
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
9.18e6*
43.69
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PBM
4σ 2.71e3
0%
Abs. Int.
1.99e6
9.94e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.04e7*
43.69
OCDF
42.42-45.00
443.7398 Fn5
Flags: PBM
4σ 1.64e3
2.28e6
1.14e6
ES OCDF
1.12e7*
43.68
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 3.92e3
ES OCDF
1.23e7*
43.67
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 5.07e3
2.64e6
1.32e6
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.22e3
3.85e3
1.93e3

Lab ID: B6276_18917_DF_003-R1 **Acq'd:** 10 Feb 2022 21:41 DTF **Wt/Vol:** 10.17 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020222-S-SB-NC-S-43 **UTP:** 11-Feb-2022 09:27:47 DTF **J-level:** 0.492 pg/g **Split:** 1 **Checkcode:** 858-373-KDK

Datafile: 220210C16 **Report:** 11 Feb 2022 09:35 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.50	E	1.0008	1.0008	0	2.88E+08	0.80	Y	1.18	2,110	3634.609	0.273
12378-PeCDD	33.84		1.0005	1.0006	+0.2	2.47E+06	1.53	Y	1.04	23.1	5562.514	0.457
123478-HxCDD	37.75		1.0004	1.0004	0	4.73E+05	1.13	Y	1.09	4.82	11735.304	0.988
123678-HxCDD	37.87		1.0035	1.0035	0	1.92E+06	1.35	Y	1.15	18.4	11735.304	0.97
123789-HxCDD	38.16		1.0113	1.0113	0	9.82E+05	1.28	Y	1.05	9.1	11735.304	0.877
1234678-HpCDD	40.84		1.0003	1.0003	0	4.43E+07	1.04	Y	1.06	490	5988.633	0.512
OCDD	43.53		1.0002	1.0003	+0.3	4.74E+08	0.91	Y	1.13	7,280	4715.535	0.806
2378-TCDF	27.64	E	1.0008	1.0008	0	1.13E+09	0.79	Y	1.08	5,800	3201.162	0.187
12378-PeCDF	32.40		1.0005	1.0005	0	3.77E+07	1.52	Y	1.02	230	7775.53	0.423
23478-PeCDF	33.51		1.0005	1.0007	+0.4	2.78E+07	1.52	Y	1.02	170	7775.53	0.442
123478-HxCDF	36.75		1.0005	1.0005	0	1.17E+08	1.24	Y	1.27	782	10261.115	0.54
123678-HxCDF	36.89		1.0005	1.0005	0	2.89E+07	1.22	Y	1.15	187	10261.115	0.571
234678-HxCDF	37.57		1.0005	1.0004	-0.2	4.28E+06	1.19	Y	1.19	29.3	10261.115	0.609
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	10261.115	0.655
1234678-HpCDF	39.90		1.0003	1.0003	0	6.28E+07	1.03	Y	1.37	454	3573.9	0.187
1234789-HpCDF	41.30		1.0003	1.0003	0	1.39E+07	1.01	Y	1.31	129	3573.9	0.277
OCDF	43.72		1.0003	1.0003	0	4.00E+08	0.89	Y	1.07	4,740	5059.151	0.728

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.48	1.0238	1.0237	-0.2	2.27E+07	0.80	Y	1.05	78.2
ES 12378-PeCDD	33.82	1.2160	1.2156	-0.8	2.03E+07	1.56	Y	0.88	83
ES 123478-HxCDD	37.74	0.9919	0.9918	-0.2	1.77E+07	1.31	Y	0.97	79.3
ES 123678-HxCDD	37.86	0.9950	0.9949	-0.2	1.79E+07	1.25	Y	0.94	82.7
ES 123789-HxCDD	38.15	1.0027	1.0026	-0.2	2.03E+07	1.29	Y	1.09	80.8
ES 1234678-HpCDD	40.83	1.0730	1.0730	0	1.67E+07	1.01	Y	0.91	79.9
ES OCDD	43.52	1.1437	1.1438	+0.3	2.27E+07	0.91	Y	0.62	79.2
ES 2378-TCDF	27.62	1.0520	1.0520	0	3.56E+07	0.82	Y	1.06	78
ES 12378-PeCDF	32.38	1.2330	1.2331	+0.2	3.14E+07	1.62	Y	0.91	80.2
ES 23478-PeCDF	33.49	1.2754	1.2754	0	3.15E+07	1.59	Y	0.88	82.8
ES 123478-HxCDF	36.73	0.9653	0.9653	0	2.31E+07	0.55	Y	1.20	84
ES 123678-HxCDF	36.87	0.9691	0.9691	0	2.63E+07	0.54	Y	1.35	84.8
ES 234678-HxCDF	37.55	0.9870	0.9869	-0.2	2.42E+07	0.51	Y	1.24	84.7
ES 123789-HxCDF	38.51	1.0121	1.0120	-0.2	2.15E+07	0.52	Y	1.16	80.9
ES 1234678-HpCDF	39.89	1.0484	1.0484	0	1.99E+07	0.44	Y	0.97	89.3
ES 1234789-HpCDF	41.28	1.0851	1.0850	-0.2	1.61E+07	0.47	Y	0.85	82.4
ES OCDF	43.70	1.1483	1.1485	+0.5	3.09E+07	0.92	Y	0.81	83.4

Lab ID: B6276_18917_DF_003-R1 | Acq'd: 10 Feb 2022 21:41 DTF | Wt/Vol: 10.17 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020222-S-SB-NC-S-43 | UTP: 11-Feb-2022 09:27:47 DTF | J-level: 0.492 pg/g | Split: 1 | Checkcode: 858-373-KDK

Datafile: 220210C16 | Report: 11 Feb 2022 09:35 TF | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.82		-	-	-	2.77E+07	0.80	Y	-	-
JS 1234-TCDF	26.26		-	-	-	4.31E+07	0.79	Y	-	-
JS 123467-HxCDD	38.05		-	-	-	1.15E+07	1.21	Y	-	-
CS 37Cl-2378-TCDD	28.50		1.0245	1.0245	0	1.13E+07	n/a	-	1.20	85
CS 12347-PeCDD	33.32		1.1979	1.1977	-0.4	1.99E+07	1.58	Y	0.75	95.4
CS 12346-PeCDF	31.85		1.2128	1.2129	+0.2	3.40E+07	1.62	Y	0.85	92.8
CS 123469-HxCDF	37.19		0.9774	0.9774	0	2.52E+07	0.54	Y	1.12	98.3
CS 1234689-HpCDF	40.29		1.0589	1.0590	+0.2	2.01E+07	0.45	Y	0.89	98.6
~~SS 37Cl-2378-TCDD~~	~~28.50~~		~~1.0245~~	~~1.0245~~	~~0~~	~~1.13E+07~~	~~n/a~~		~~1.15~~	~~109~~
~~SS 12347-PeCDD~~	~~33.32~~		~~1.1979~~	~~1.1977~~	~~-0.4~~	~~1.99E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~115~~
~~SS 12346-PeCDF~~	~~31.85~~		~~1.2128~~	~~1.2129~~	~~+0.2~~	~~3.40E+07~~	~~1.62~~	~~Y~~	~~0.94~~	~~116~~
~~SS 123469-HxCDF~~	~~37.19~~		~~0.9774~~	~~0.9774~~	~~0~~	~~2.52E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~116~~
~~SS 1234689-HpCDF~~	~~40.29~~		~~1.0589~~	~~1.0590~~	~~+0.2~~	~~2.01E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~110~~

Totals	Conc	EMPC
Total TCDD	2350	2360
Total PeCDD	61.1	61.1
Total HxCDD	183	183
Total HpCDD	1080	1080
Total Tetra-Octa Dioxins	11000	11000
Total TCDF	11,400	11400
Total PeCDF	685	685
Total HxCDF	1,220	1220
Total HpCDF	811	811
Total Tetra-Octa Furans	18,900	18900
Total Tetra-Octa Dioxins & Furans	29800	29800

Lab ID: B6276_18917_DF_003-R1 | Acq'd: 10 Feb 2022 21:41 DTF | Wt/Vol: 10.17 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020222-S-SB-NC-S-43 | UTP: 11-Feb-2022 09:27:47 DTF | J-level: 0.492 pg/g | Split: 1 | Checkcode: 858-373-KDK

Datafile: 220210C16 | Report: 11 Feb 2022 09:35 TF | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.86		0.8737	0.8728	-1.3	1.11E+06	0.80	Y	1.18	8.11	3634.609	0.273
1379-TCDD	25.21		0.8860	0.8852	-1.2	3.81E+05	0.81	Y	1.18	2.79	3634.609	0.273
1369-TCDD	25.64		0.9009	0.9004	-0.8	1.43E+05	0.71	Y	1.18	1.05	3634.609	0.273
1469-TCDD	26.42	EMPC	0.9281	0.9277	-0.6	5.71E+05	0.90	N	1.18	4.18	3634.609	0.273
1247/1246/1248/1249-TCDD	26.65		0.9362	0.9359	-0.5	6.31E+05	0.88	Y	1.18	4.62	3634.609	0.273
1378-TCDD	26.85		0.9432	0.9427	-0.8	1.05E+06	0.80	Y	1.18	7.66	3634.609	0.273
1268-TCDD	27.05		0.9500	0.9496	-0.6	1.37E+05	0.73	Y	1.18	1	3634.609	0.273
1478-TCDD	27.30		0.9586	0.9585	-0.2	7.79E+05	0.79	Y	1.18	5.7	3634.609	0.273
1279-TCDD	27.47		0.9645	0.9644	-0.2	7.69E+04	0.83	Y	1.18	0.562	3634.609	0.273
1234/1269-TCDD	27.82		0.9770	0.9768	-0.3	2.49E+05	0.88	Y	1.18	1.82	3634.609	0.273
1236-TCDD	NotFnd		0.9817						1.18		3634.609	0.273
1237/1238-TCDD	28.21		0.9905	0.9906	+0.2	4.96E+06	0.83	Y	1.18	36.3	3634.609	0.273
1239-TCDD	NotFnd		0.9952						1.18		3634.609	0.273
2378-TCDD	**28.50**	E	**1.0008**	1.0008	**0**	2.88E+08	0.80	Y	**1.18**	**2,110**	**3634.609**	**0.273**
1278-TCDD	28.83		1.0121	1.0122	+0.2	2.31E+07	0.77	Y	1.18	169	3634.609	0.273
1267-TCDD	28.96		1.0167	1.0170	+0.5	7.81E+05	0.86	Y	1.18	5.71	3634.609	0.273
1289-TCDD	29.48	EMPC	1.0345	1.0350	+0.9	3.34E+05	1.04	N	1.18	2.45	3634.609	0.273
12479/12468-PeCDD	31.34		0.9267	0.9266	-0.2	1.09E+06	1.58	Y	1.04	10.2	5562.514	0.457
12469-PeCDD	31.88		0.9425	0.9425	0	6.65E+05	1.42	Y	1.04	6.23	5562.514	0.457
12368-PeCDD	32.43		0.9588	0.9588	0	6.77E+05	1.58	Y	1.04	6.34	5562.514	0.457
12478-PeCDD	32.61		0.9643	0.9643	0	4.61E+05	1.46	Y	1.04	4.32	5562.514	0.457
12379-PeCDD	32.72		0.9673	0.9674	+0.2	3.58E+05	1.51	Y	1.04	3.35	5562.514	0.457
12369/12467/12489-PeCDD	32.98		0.9750	0.9752	+0.4	5.31E+05	1.32	Y	1.04	4.97	5562.514	0.457
12346/12347-PeCDD	33.34	J	0.9858	0.9858	0	1.33E+05	1.62	Y	1.04	1.25	5562.514	0.457
12378-PeCDD	33.84		**1.0005**	**1.0006**	**+0.2**	**2.47E+06**	**1.53**	**Y**	**1.04**	**23.1**	**5562.514**	**0.457**
12367-PeCDD	33.93	J	1.0033	1.0033	0	1.37E+05	1.40	Y	1.04	1.28	5562.514	0.457
12389-PeCDD	NotFnd		1.0134						1.04		5562.514	0.457
124679/124689-HxCDD	36.01		0.9542	0.9541	-0.2	7.90E+06	1.25	Y	1.10	76.1	11735.304	0.942
123468-HxCDD	36.66		0.9715	0.9714	-0.2	1.02E+06	1.29	Y	1.10	9.86	11735.304	0.942
123679/123689-HxCDD	36.96		0.9793	0.9793	0	5.93E+06	1.25	Y	1.10	57.2	11735.304	0.942
123469-HxCDD	37.09		0.9828	0.9828	0	4.17E+05	1.19	Y	1.10	4.01	11735.304	0.942
123478-HxCDD	37.75		**1.0004**	**1.0004**	**0**	**4.73E+05**	**1.13**	**Y**	1.09	**4.82**	**11735.304**	**0.988**
123678-HxCDD	37.87		**1.0035**	**1.0035**	**0**	**1.92E+06**	**1.35**	**Y**	1.15	**18.4**	**11735.304**	**0.97**
123467-HxCDD	38.06		1.0085	1.0087	+0.5	3.18E+05	1.25	Y	1.10	3.06	11735.304	0.942
123789-HxCDD	38.16		**1.0113**	**1.0113**	**0**	**9.82E+05**	**1.28**	**Y**	1.05	**9.1**	**11735.304**	**0.877**

Lab ID: B6276_18917_DF_003-R1 | Acq'd: 10 Feb 2022 21:41 DTF | Wt/Vol: 10.17 g | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-020222-S-SB-NC-S-43 | UTP: 11-Feb-2022 09:27:47 DTF | J-level: 0.492 pg/g | Split: 1 | Checkcode: 858-373-KDK

Datafile: 220210C16 | Report: 11 Feb 2022 09:35 TF | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

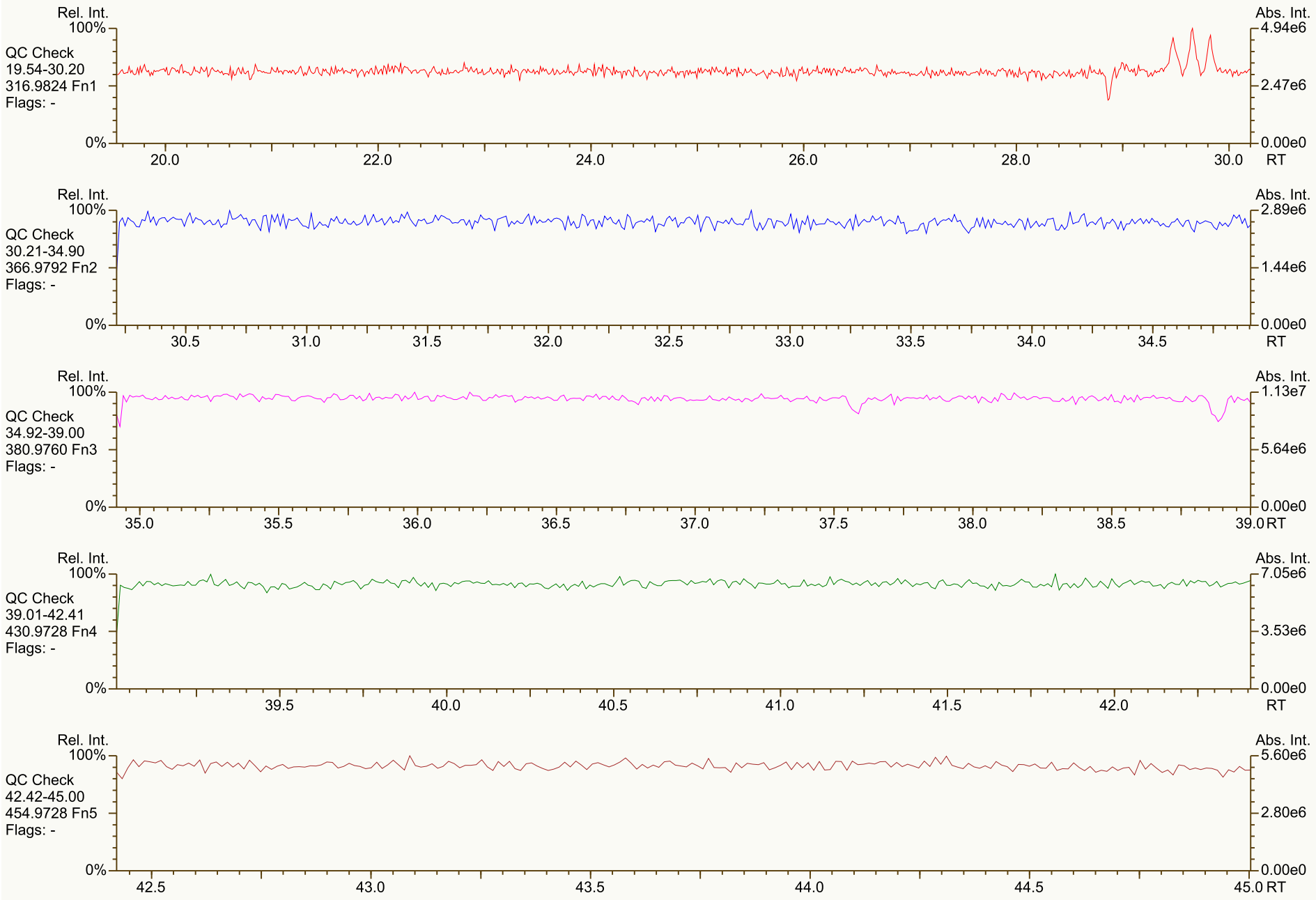
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.16		0.9837	0.9836	-0.2	5.28E+07	1.02	Y	1.06	585	5988.633	0.512
1234678-HpCDD	**40.84**		**1.0003**	**1.0003**	**0**	**4.43E+07**	**1.04**	**Y**	**1.06**	**490**	**5988.633**	**0.512**
OCDD	**43.53**		**1.0002**	**1.0003**	**+0.3**	**4.74E+08**	**0.91**	**Y**	**1.13**	**7,280**	**4715.535**	**0.806**
OCDD-a	43.53		1.0001	1.0002	+0.3	2.94E+07	2.35	Y	0.07	7,070	6354.872	17
1368-TCDF	22.75		0.8251	0.8236	-2.0	4.49E+05	0.82	Y	1.08	2.3	3201.162	0.187
1468-TCDF	23.34		0.8458	0.8448	-1.4	2.32E+06	0.82	Y	1.08	11.9	3201.162	0.187
2468-TCDF	23.97		0.8686	0.8678	-1.2	2.86E+06	0.75	Y	1.08	14.6	3201.162	0.187
1346/1246-TCDF	NotFnd		0.8814						1.08		3201.162	0.187
1347/1378/1247-TCDF	24.50		0.8867	0.8868	+0.1	1.38E+07	0.76	Y	1.08	70.7	3201.162	0.187
1348-TCDF	NotFnd		0.8962						1.08		3201.162	0.187
1248/1367/1379-TCDF	24.83		0.9009	0.8989	-3.0	5.60E+07	0.78	Y	1.08	287	3201.162	0.187
1268-TCDF	25.25		0.9145	0.9140	-0.8	1.99E+07	0.79	Y	1.08	102	3201.162	0.187
1467-TCDF	25.38		0.9193	0.9187	-0.9	2.98E+06	0.80	Y	1.08	15.3	3201.162	0.187
1478-TCDF	25.55		0.9254	0.9249	-0.8	4.71E+07	0.79	Y	1.08	241	3201.162	0.187
1369/1237-TCDF	25.93		0.9387	0.9387	0	1.31E+07	0.78	Y	1.08	67.3	3201.162	0.187
2467-TCDF	26.05		0.9433	0.9429	-0.6	1.43E+06	0.75	Y	1.08	7.32	3201.162	0.187
2368-TCDF	26.21		0.9489	0.9488	-0.2	4.33E+07	0.77	Y	1.08	222	3201.162	0.187
1238/1234/1678/1469/1236-TCDF	26.28		0.9523	0.9514	-1.4	4.93E+07	0.81	Y	1.08	253	3201.162	0.187
1278-TCDF	26.74	E	0.9683	0.9681	-0.3	5.26E+08	0.79	Y	1.08	2,700	3201.162	0.187
1349-TCDF	NotFnd		0.9722						1.08		3201.162	0.187
1267-TCDF	27.02		0.9783	0.9780	-0.5	2.82E+07	0.79	Y	1.08	145	3201.162	0.187
2346/1249-TCDF	27.21		0.9850	0.9852	+0.3	3.41E+06	0.78	Y	1.08	17.5	3201.162	0.187
2347/1279-TCDF	27.41		0.9926	0.9923	-0.5	1.26E+07	0.78	Y	1.08	64.8	3201.162	0.187
2348-TCDF	27.52		0.9967	0.9964	-0.5	8.02E+07	0.78	Y	1.08	411	3201.162	0.187
2378-TCDF	**27.64**	E	**1.0008**	**1.0008**	**0**	**1.13E+09**	**0.79**	**Y**	**1.08**	**5,800**	**3201.162**	**0.187**
2367/3467-TCDF	28.00		1.0137	1.0136	-0.2	9.00E+07	0.80	Y	1.08	461	3201.162	0.187
1269-TCDF	28.25		1.0223	1.0227	+0.7	1.74E+07	0.79	Y	1.08	89.1	3201.162	0.187
1239-TCDF	28.51		1.0321	1.0320	-0.2	1.51E+06	0.73	Y	1.08	7.75	3201.162	0.187
1289-TCDF	29.66		1.0722	1.0736	+2.5	8.64E+07	0.79	Y	1.08	443	3201.162	0.187
13468/12468-PeCDF	29.60		0.9139	0.9141	+0.4	4.95E+06	1.56	Y	1.02	30.3	2624.434	0.146
13678/13467/12467-PeCDF	31.14		0.9613	0.9617	+0.7	1.12E+06	1.54	Y	1.02	6.86	7775.53	0.433
12368/13478/12478-PeCDF	31.30		0.9662	0.9668	+1.1	1.86E+07	1.50	Y	1.02	114	7775.53	0.433
14678-PeCDF	NotFnd		0.9692						1.02		7775.53	0.433
13479-PeCDF	NotFnd		0.9723						1.02		7775.53	0.433
13469/12479-PeCDF	31.69	J	0.9797	0.9786	-2.1	3.82E+05	1.50	Y	1.02	2.33	7775.53	0.433
12346-PeCDF	31.85	J	0.9840	0.9836	-0.8	1.21E+05	1.39	Y	1.02	0.742	7775.53	0.433

Lab ID: B6276_18917_DF_003-R1 **Acq'd:** 10 Feb 2022 21:41 DTF **Wt/Vol:** 10.17 g **ICAL:** HRMS3_DF_10272021 10NOV2021

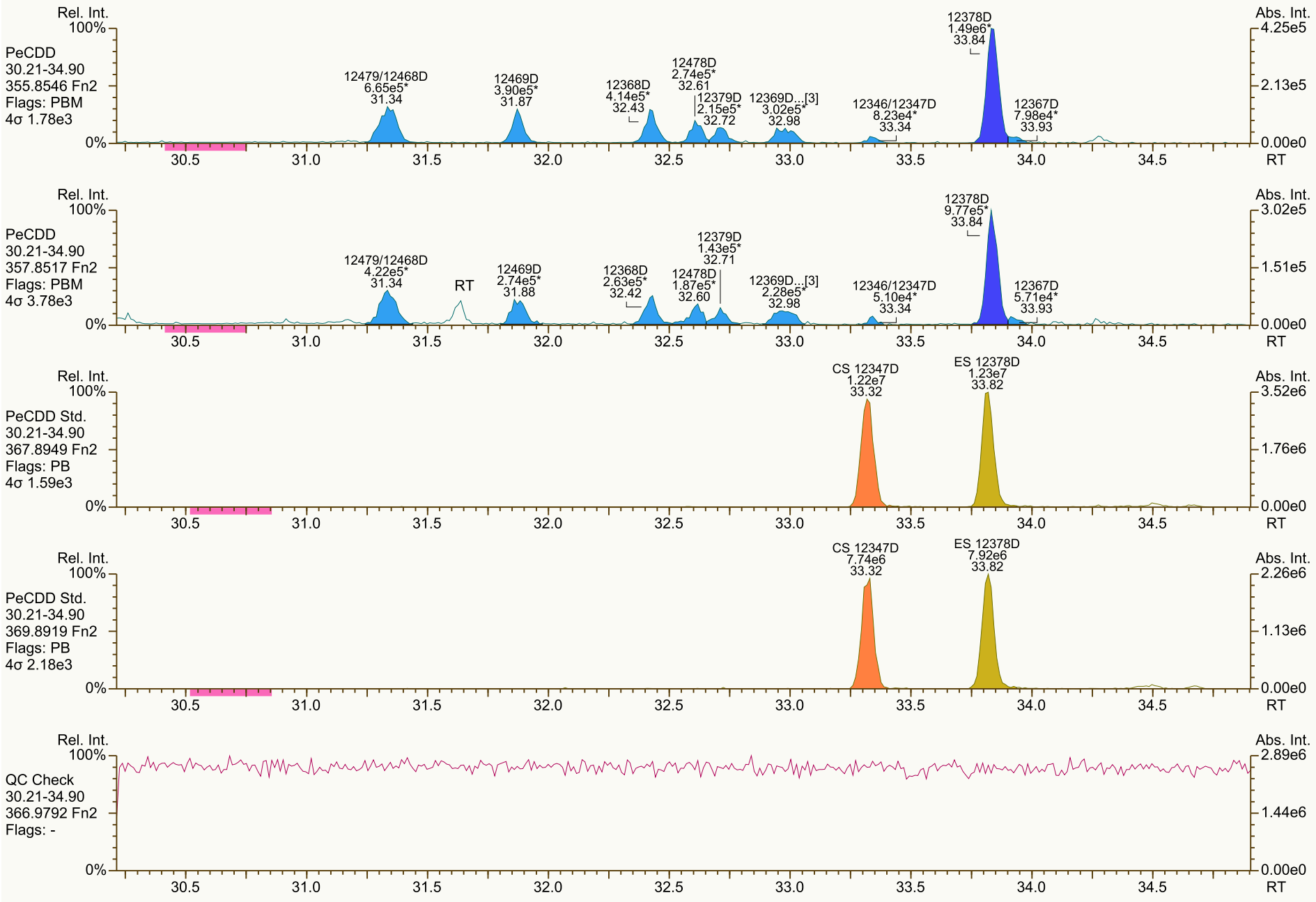
Client ID: 11215131-020222-S-SB-NC-S-43 **UTP:** 11-Feb-2022 09:27:47 DTF **J-level:** 0.492 pg/g **Split:** 1 **Checkcode:** 858-373-KDK

Datafile: 220210C16 **Report:** 11 Feb 2022 09:35 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

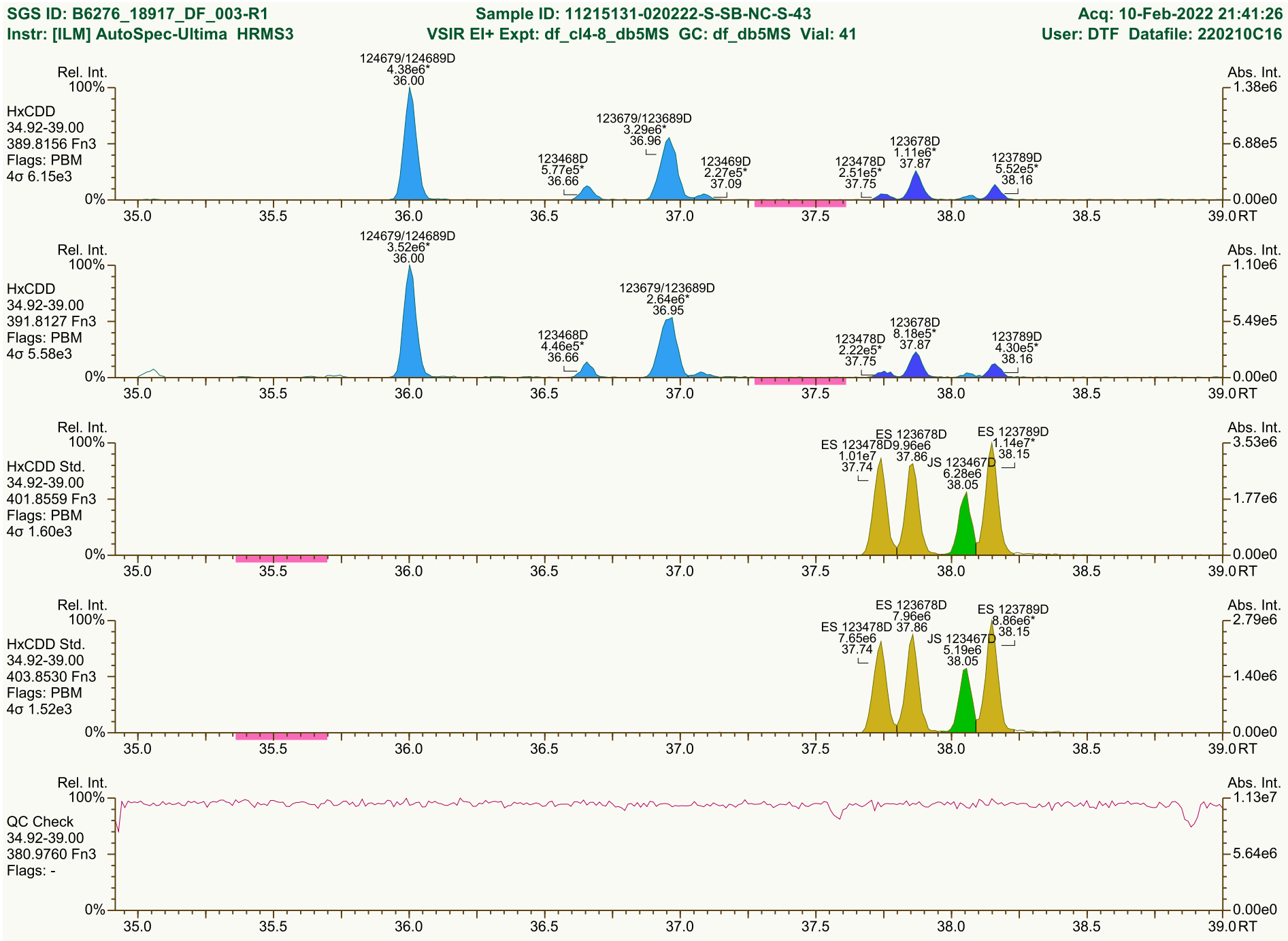
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.95		0.9868	0.9867	-0.2	1.57E+06	1.51	Y	1.02	9.61	7775.53	0.433
12347-PeCDF	32.02		0.9894	0.9891	-0.6	1.05E+06	1.59	Y	1.02	6.43	7775.53	0.433
12348-PeCDF	32.18		0.9940	0.9940	0	4.10E+06	1.60	Y	1.02	25.1	7775.53	0.433
12378-PeCDF	**32.40**		**1.0005**	**1.0005**	**0**	**3.77E+07**	**1.52**	**Y**	**1.02**	**230**	**7775.53**	**0.423**
12678/12367-PeCDF	32.69		1.0089	1.0096	+1.4	1.23E+07	1.56	Y	1.02	75.4	7775.53	0.433
12379-PeCDF	NotFnd		1.0142						1.02		7775.53	0.433
12679-PeCDF	NotFnd		0.9929						1.02		7775.53	0.433
23467/12369-PeCDF	33.38		0.9967	0.9966	-0.2	6.76E+05	1.52	Y	1.02	4.13	7775.53	0.433
23478-PeCDF	**33.51**		**1.0005**	**1.0007**	**+0.4**	**2.78E+07**	**1.52**	**Y**	**1.02**	**170**	**7775.53**	**0.442**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7775.53	0.433
12349-PeCDF	NotFnd		1.0100						1.02		7775.53	0.433
12389-PeCDF	34.58		1.0324	1.0325	+0.2	1.59E+06	1.44	Y	1.02	9.71	7775.53	0.433
123468-HxCDF	35.36		0.9627	0.9627	0	2.24E+06	1.30	Y	1.19	15.5	10261.115	0.591
124678/134678-HxCDF	35.56		0.9682	0.9681	-0.2	1.24E+07	1.23	Y	1.19	86.1	10261.115	0.591
134679-HxCDF	NotFnd		0.9744						1.19		10261.115	0.591
124679-HxCDF	35.99	J	0.9798	0.9798	0	3.49E+05	1.06	Y	1.19	2.42	10261.115	0.591
124689-HxCDF	36.21		0.9858	0.9858	0	8.89E+06	1.18	Y	1.19	61.6	10261.115	0.591
123467-HxCDF	36.62		0.9972	0.9971	-0.2	6.68E+05	1.35	Y	1.19	4.63	10261.115	0.591
123478-HxCDF	**36.75**		**1.0005**	**1.0005**	**0**	**1.17E+08**	**1.24**	**Y**	**1.27**	**782**	**10261.115**	**0.54**
123678-HxCDF	**36.89**		**1.0005**	**1.0005**	**0**	**2.89E+07**	**1.22**	**Y**	**1.15**	**187**	**10261.115**	**0.571**
123479-HxCDF	37.03		1.0049	1.0042	-1.6	7.91E+05	1.24	Y	1.19	5.48	10261.115	0.591
123469-HxCDF	37.19		1.0090	1.0087	-0.7	6.71E+05	1.37	Y	1.19	4.65	10261.115	0.591
123679-HxCDF	NotFnd		0.9942						1.19		10261.115	0.591
234678-HxCDF	**37.57**		**1.0005**	**1.0004**	**-0.2**	**4.28E+06**	**1.19**	**Y**	**1.19**	**29.3**	**10261.115**	**0.609**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		10261.115	0.591
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**10261.115**	**0.655**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.55		1.0009	1.0011	+0.5	5.82E+06	1.31	Y	1.19	40.3	10261.115	0.591
1234678-HpCDF	**39.90**		**1.0003**	**1.0003**	**0**	**6.28E+07**	**1.03**	**Y**	**1.37**	**454**	**3573.9**	**0.187**
1234679-HpCDF	40.16		1.0068	1.0067	-0.2	1.48E+06	1.01	Y	1.34	12.1	3573.9	0.227
1234689-HpCDF	40.31		1.0103	1.0104	+0.2	2.64E+07	1.03	Y	1.34	215	3573.9	0.227
1234789-HpCDF	**41.30**		**1.0003**	**1.0003**	**0**	**1.39E+07**	**1.01**	**Y**	**1.31**	**129**	**3573.9**	**0.277**
OCDF	**43.72**		**1.0003**	**1.0003**	**0**	**4.00E+08**	**0.89**	**Y**	**1.07**	**4,740**	**5059.151**	**0.728**
OCDF-a	43.71		1.0002	1.0003	+0.3	2.59E+07	2.42	Y	0.07	4,960	4258.491	9.9


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
4.94e6
2.47e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.89e6
1.44e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.13e7
5.64e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.05e6
3.53e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.60e6
2.80e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT

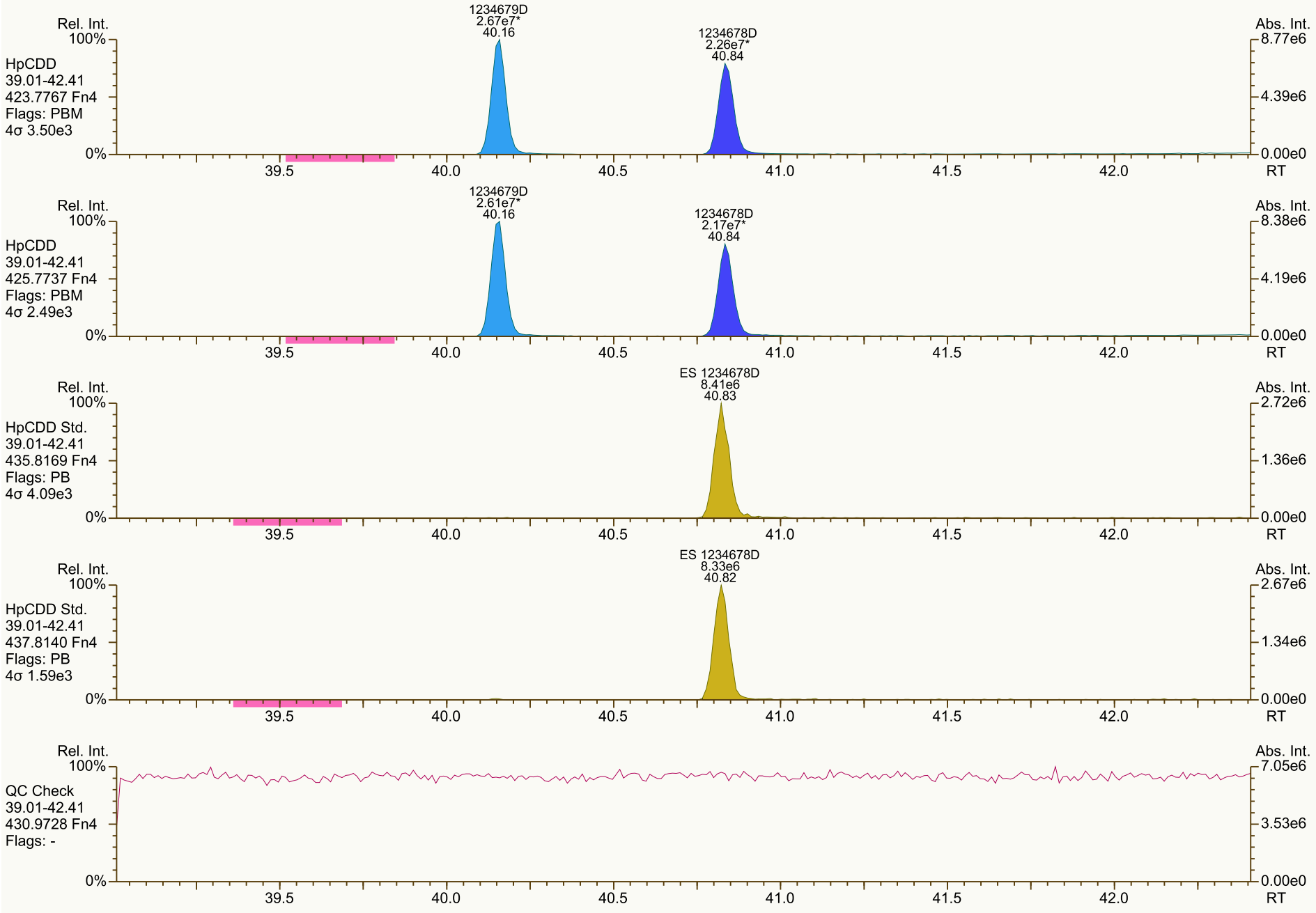

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.70e3
0%
2378D
1.28e8*
28.50
1278D
1.00e7*
28.83
Abs. Int.
3.12e7
1.56e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.94e3
0%
2378D
1.60e8*
28.50
1278D
1.30e7*
28.83
Abs. Int.
3.89e7
1.94e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.75e3
0%
CS 37Cl-2378D
1.28e7
28.50
Abs. Int.
3.07e6
1.53e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 7.59e3
0%
JS 1234D
1.23e7
27.82
ES 2378D
1.01e7
28.48
Abs. Int.
3.07e6
1.54e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.30e3
0%
JS 1234D
1.54e7
27.82
ES 2378D
1.26e7
28.48
Abs. Int.
3.72e6
1.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

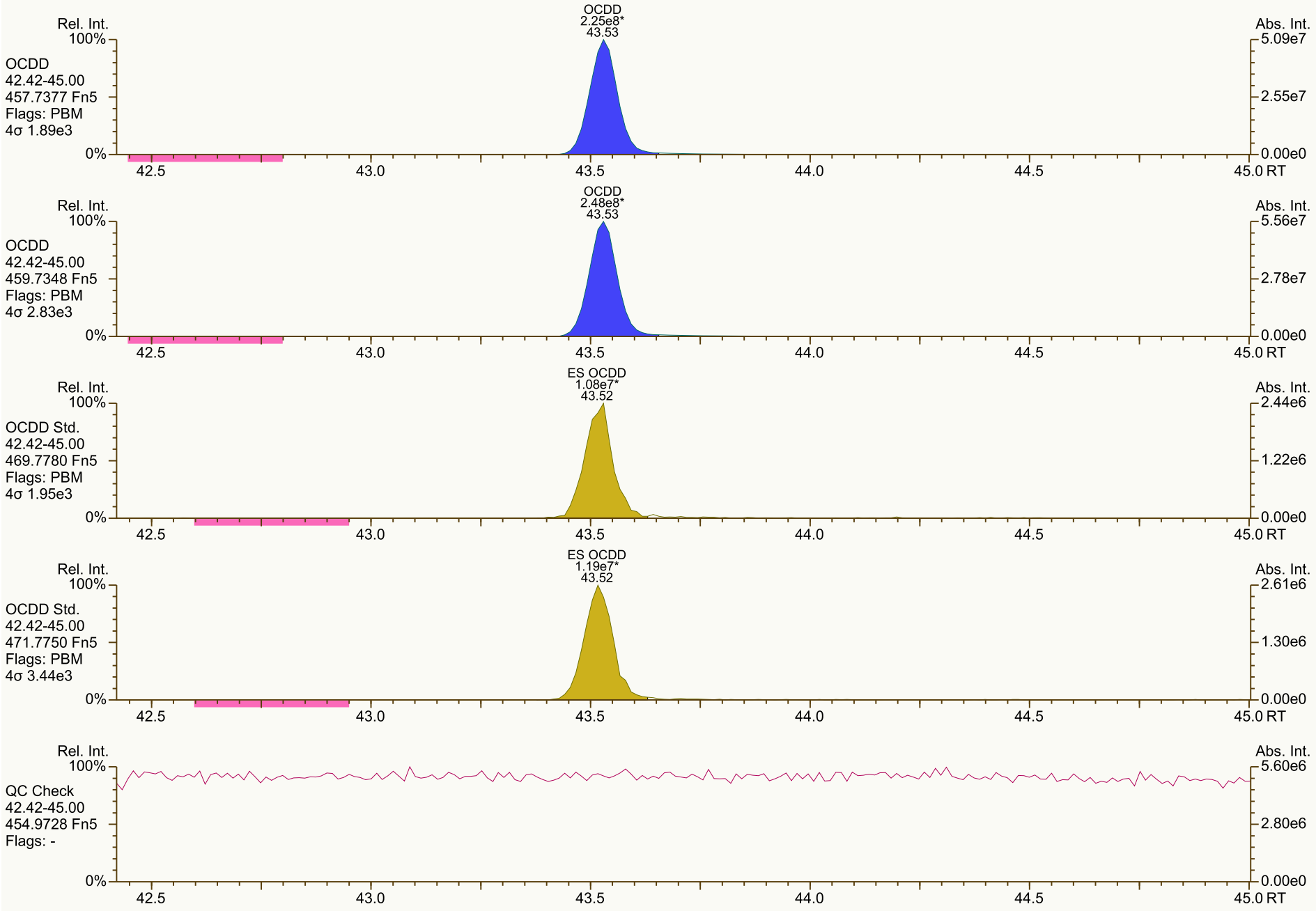

Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: PBM
4σ 1.78e3
0%
12479/12468D
6.65e5*
31.34
12469D
3.90e5*
31.87
12368D
4.14e5*
32.43
12478D
2.74e5*
32.61
12379D
2.15e5*
32.72
12369D...[3]
3.02e5*
32.98
12346/12347D
8.23e4*
33.34
12378D
1.49e6*
33.84
12367D
7.98e4*
33.93
Abs. Int.
4.25e5
2.13e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: PBM
4σ 3.78e3
0%
12479/12468D
4.22e5*
31.34
RT
12469D
2.74e5*
31.88
12368D
2.63e5*
32.42
12379D
1.43e5*
32.71
12478D
1.87e5*
32.60
12369D...[3]
2.28e5*
32.98
12346/12347D
5.10e4*
33.34
12378D
9.77e5*
33.84
12367D
5.71e4*
33.93
Abs. Int.
3.02e5
1.51e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: PB
4σ 1.59e3
0%
CS 12347D
1.22e7
33.32
ES 12378D
1.23e7
33.82
Abs. Int.
3.52e6
1.76e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 2.18e3
0%
CS 12347D
7.74e6
33.32
ES 12378D
7.92e6
33.82
Abs. Int.
2.26e6
1.13e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.89e6
1.44e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

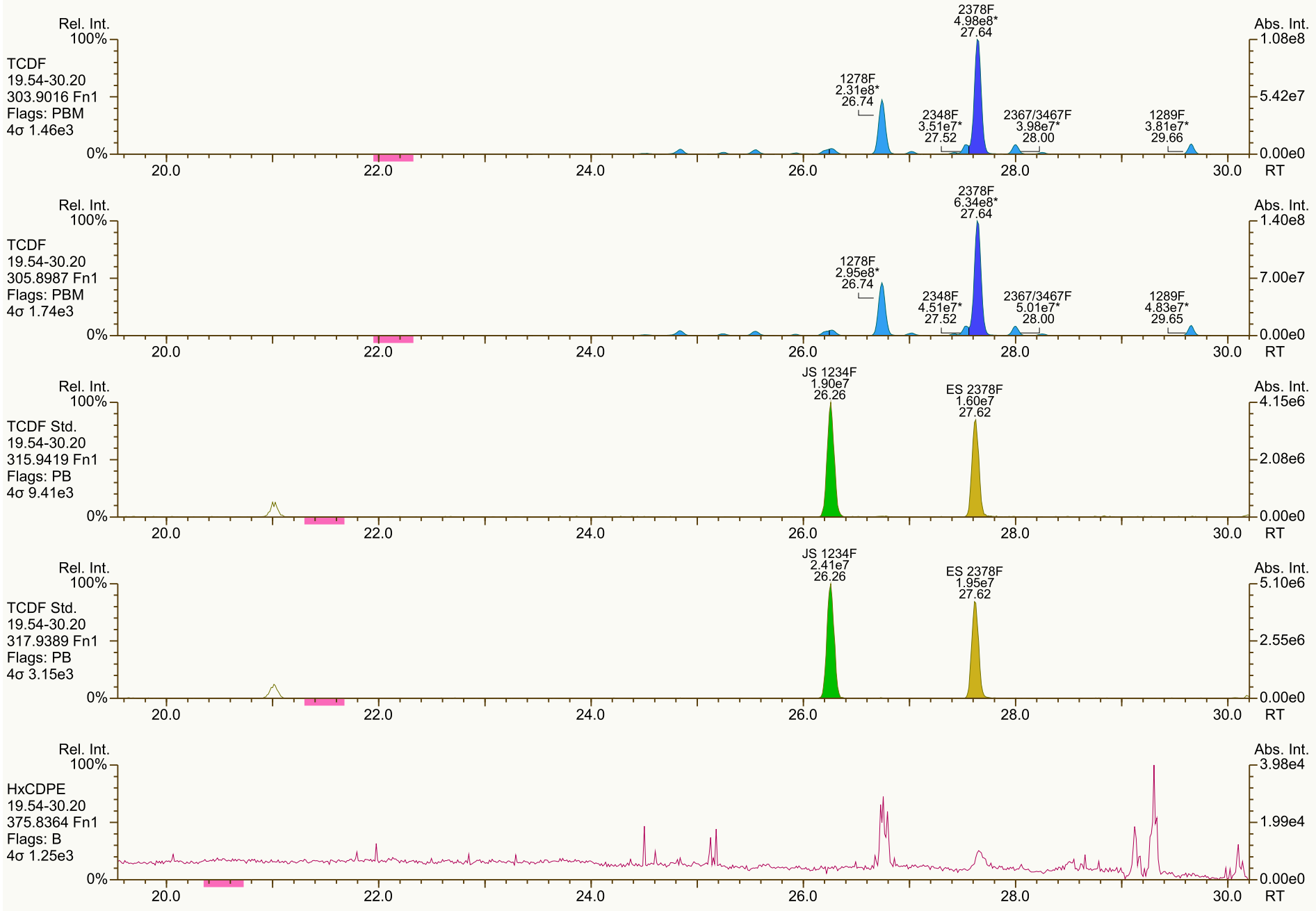
SGS ID: B6276_18917_DF_003-R1 | Sample ID: 11215131-020222-S-SB-NC-S-43 | Acq: 10-Feb-2022 21:41:26
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 41 | User: DTF Datafile: 220210C16



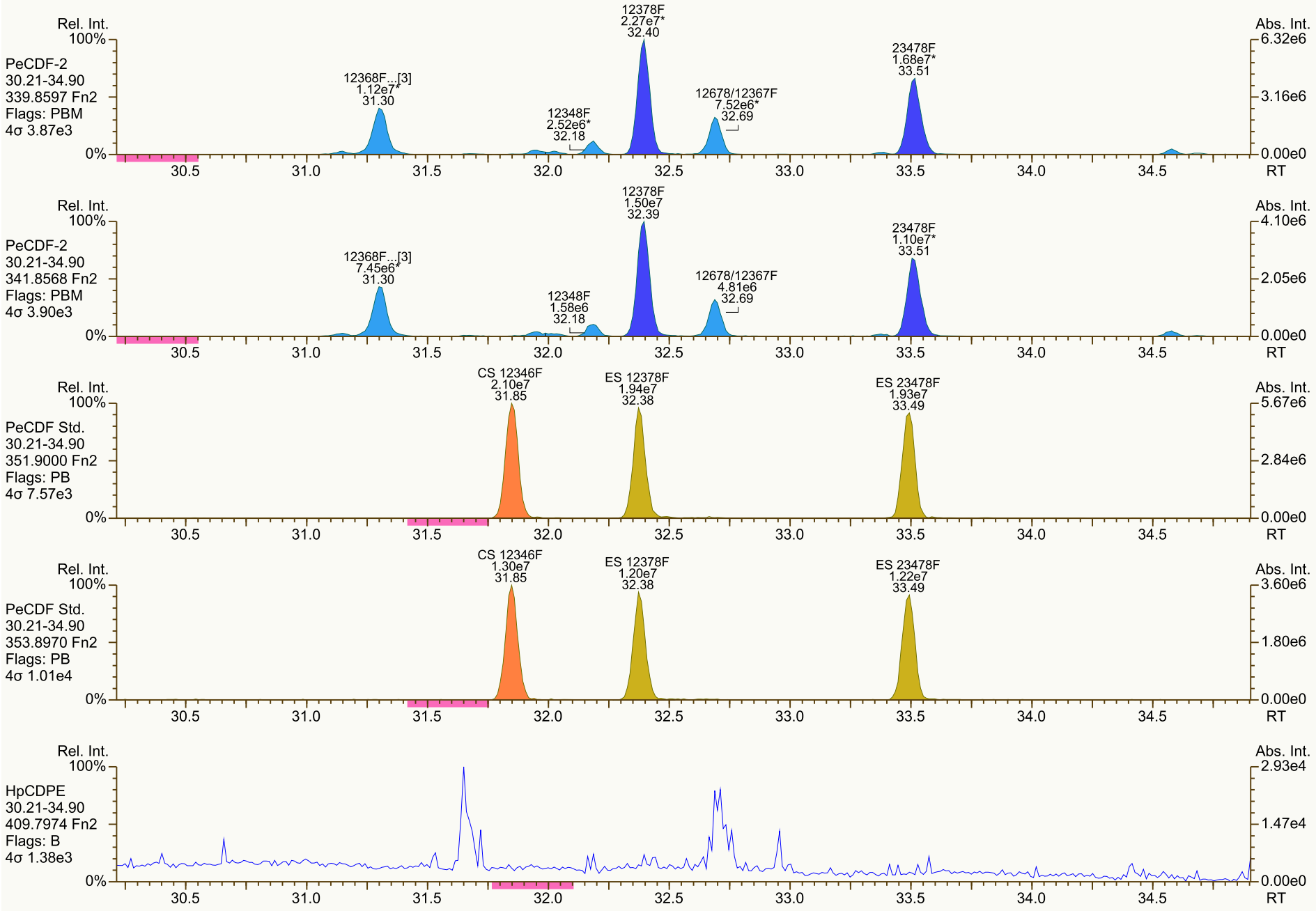
Results: P:\B6200_B6299\B6276\B6276_18917 DF\Resources\B6276_18917_DF_003-R1.utp_res, saved 11-Feb-2022 09:27 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9716, 4962 scc: 858-373 | Revised: 11-Feb-2022 09:24 (DTF) Printed: 11-Feb-2022 09:44 Page 4 of 12

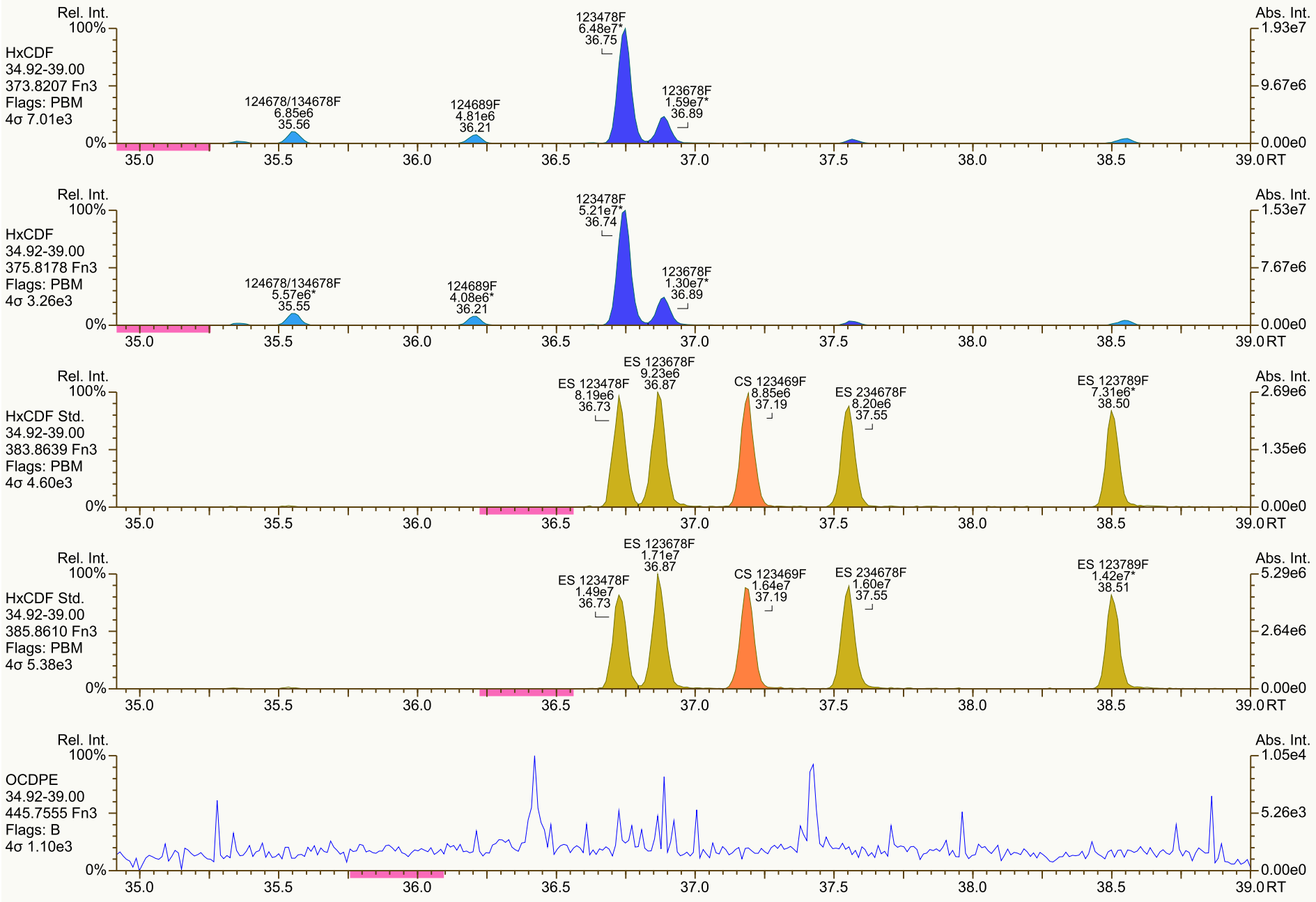

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 3.50e3
0%
1234679D
2.67e7*
40.16
1234678D
2.26e7*
40.84
Abs. Int.
8.77e6
4.39e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 2.49e3
0%
1234679D
2.61e7*
40.16
1234678D
2.17e7*
40.84
Abs. Int.
8.38e6
4.19e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PB
4σ 4.09e3
0%
ES 1234678D
8.41e6
40.83
Abs. Int.
2.72e6
1.36e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.59e3
0%
ES 1234678D
8.33e6
40.82
Abs. Int.
2.67e6
1.34e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.05e6
3.53e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

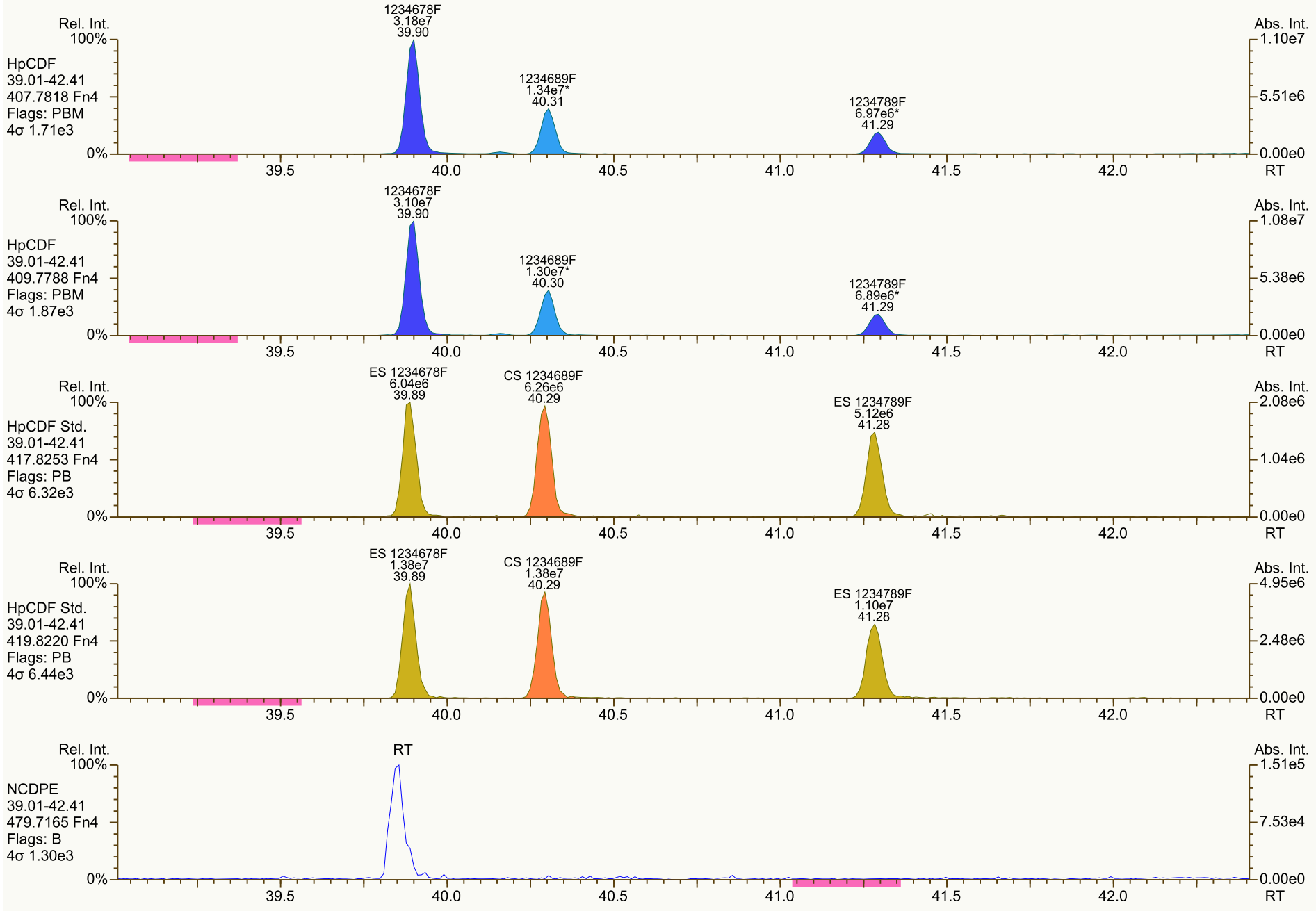

Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
OCDD
2.25e8*
43.53
Abs. Int.
5.09e7
2.55e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 2.83e3
0%
OCDD
2.48e8*
43.53
Abs. Int.
5.56e7
2.78e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 1.95e3
0%
ES OCDD
1.08e7*
43.52
Abs. Int.
2.44e6
1.22e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 3.44e3
0%
ES OCDD
1.19e7*
43.52
Abs. Int.
2.61e6
1.30e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.60e6
2.80e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

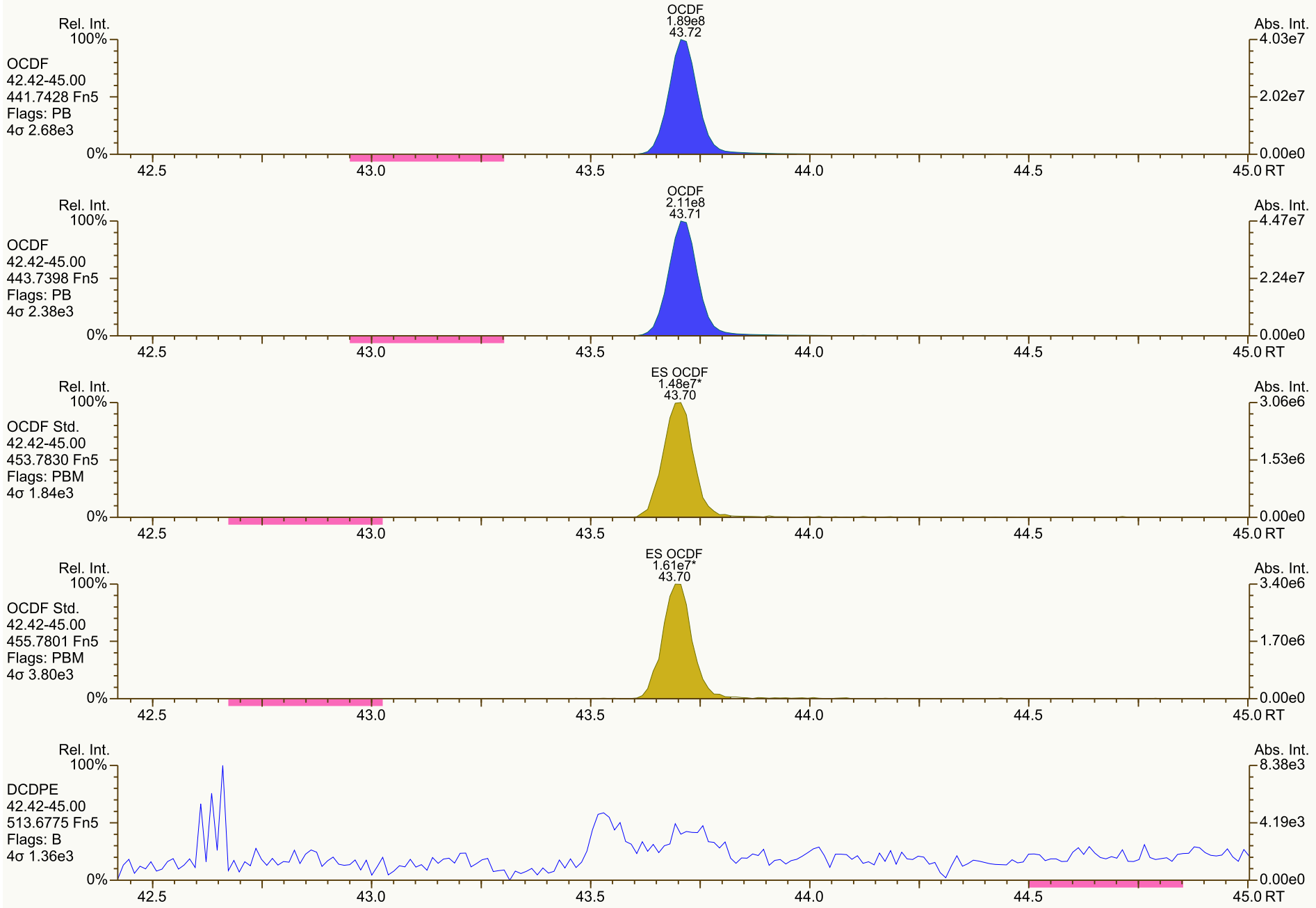

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.46e3
0%
2378F
4.98e8*
27.64
1278F
2.31e8*
26.74
2348F
3.51e7*
27.52
2367/3467F
3.98e7*
28.00
1289F
3.81e7*
29.66
Abs. Int.
1.08e8
5.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.74e3
0%
2378F
6.34e8*
27.64
1278F
2.95e8*
26.74
2348F
4.51e7*
27.52
2367/3467F
5.01e7*
28.00
1289F
4.83e7*
29.65
Abs. Int.
1.40e8
7.00e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 9.41e3
0%
JS 1234F
1.90e7
26.26
ES 2378F
1.60e7
27.62
Abs. Int.
4.15e6
2.08e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.15e3
0%
JS 1234F
2.41e7
26.26
ES 2378F
1.95e7
27.62
Abs. Int.
5.10e6
2.55e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.25e3
0%
Abs. Int.
3.98e4
1.99e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.21e3
13468/12468F
3.02e6*
29.60
Abs. Int.
7.48e5
3.74e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.41e3
13468/12468F
1.94e6*
29.60
Abs. Int.
4.79e5
2.40e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
4.94e6
2.47e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 3.87e3
0%
12368F...[3]
1.12e7*
31.30
12348F
2.52e6*
32.18
12378F
2.27e7*
32.40
12678/12367F
7.52e6*
32.69
23478F
1.68e7*
33.51
Abs. Int.
6.32e6
3.16e6
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 3.90e3
0%
12368F...[3]
7.45e6*
31.30
12348F
1.58e6
32.18
12378F
1.50e7
32.39
12678/12367F
4.81e6
32.69
23478F
1.10e7*
33.51
Abs. Int.
4.10e6
2.05e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 7.57e3
0%
CS 12346F
2.10e7
31.85
ES 12378F
1.94e7
32.38
ES 23478F
1.93e7
33.49
Abs. Int.
5.67e6
2.84e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 1.01e4
0%
CS 12346F
1.30e7
31.85
ES 12378F
1.20e7
32.38
ES 23478F
1.22e7
33.49
Abs. Int.
3.60e6
1.80e6
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.38e3
0%
Abs. Int.
2.93e4
1.47e4
0.00e0
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PBM
4σ 7.01e3
124678/134678F
6.85e6
35.56
124689F
4.81e6
36.21
123478F
6.48e7*
36.75
123678F
1.59e7*
36.89
0%
Abs. Int.
1.93e7
9.67e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PBM
4σ 3.26e3
124678/134678F
5.57e6*
35.55
124689F
4.08e6*
36.21
123478F
5.21e7*
36.74
123678F
1.30e7*
36.89
0%
Abs. Int.
1.53e7
7.67e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PBM
4σ 4.60e3
ES 123478F
8.19e6
36.73
ES 123678F
9.23e6
36.87
CS 123469F
8.85e6
37.19
ES 234678F
8.20e6
37.55
ES 123789F
7.31e6*
38.50
0%
Abs. Int.
2.69e6
1.35e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PBM
4σ 5.38e3
ES 123478F
1.49e7
36.73
ES 123678F
1.71e7
36.87
CS 123469F
1.64e7
37.19
ES 234678F
1.60e7
37.55
ES 123789F
1.42e7*
38.51
0%
Abs. Int.
5.29e6
2.64e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.10e3
0%
Abs. Int.
1.05e4
5.26e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PBM
4σ 1.71e3
1234678F
3.18e7
39.90
1234689F
1.34e7*
40.31
1234789F
6.97e6*
41.29
Abs. Int.
1.10e7
5.51e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PBM
4σ 1.87e3
1234678F
3.10e7
39.90
1234689F
1.30e7*
40.30
1234789F
6.89e6*
41.29
Abs. Int.
1.08e7
5.38e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 6.32e3
ES 1234678F
6.04e6
39.89
CS 1234689F
6.26e6
40.29
ES 1234789F
5.12e6
41.28
Abs. Int.
2.08e6
1.04e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 6.44e3
ES 1234678F
1.38e7
39.89
CS 1234689F
1.38e7
40.29
ES 1234789F
1.10e7
41.28
Abs. Int.
4.95e6
2.48e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.30e3
RT
Abs. Int.
1.51e5
7.53e4
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
1.89e8
43.72
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 2.68e3
0%
Abs. Int.
4.03e7
2.02e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.11e8
43.71
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 2.38e3
0%
Abs. Int.
4.47e7
2.24e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.48e7*
43.70
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PBM
4σ 1.84e3
0%
Abs. Int.
3.06e6
1.53e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.61e7*
43.70
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PBM
4σ 3.80e3
0%
Abs. Int.
3.40e6
1.70e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: B
4σ 1.36e3
0%
Abs. Int.
8.38e3
4.19e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

REVIEWED
Tamara Burkamper , 2/11/2022, 10:17:21 AM

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
9	220210C09	3	CS3_220210_DF_CB	1.00	25-347-1	DTF	521-082	10-Feb-2022	16:17:06
10	220210C10	37	OPR1_18917_DF	1.00	0_18917_OPR001	DTF	456-279	10-Feb-2022	17:03:25
11	220210C11	38	OPR2_18917_DF	1.00	0_18917_OPR002	DTF	395-929	10-Feb-2022	17:49:46
12	220210C12	2	SBS_220210_DF_CB	1.00	30-61-1	DTF	737-611	10-Feb-2022	18:36:07
13	220210C13	36	MB1_18917_DF_SDS	10.00	Method Blank	DTF	608-418	10-Feb-2022	19:22:26
14	220210C14	39	B6276_18917_DF_001-R1	10.12	11215131-020222-S-SB-NC-S-47	DTF	845-329	10-Feb-2022	20:08:47
15	220210C15	40	B6276_18917_DF_002-R1	10.08	11215131-020222-S-SB-NC-S-42	DTF	053-011	10-Feb-2022	20:55:06
16	220210C16	41	B6276_18917_DF_003-R1	10.17	11215131-020222-S-SB-NC-S-43	DTF	858-373	10-Feb-2022	21:41:26

REVIEWED
Tyler_Fritz , 2/11/2022, 9:48:38 AM

Dioxin/Furan QC Summary	Acq'd: 10 Feb 2022 16:17 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220210_DF_CB	UTP: 11-Feb-2022 09:27:42 DTF	Checkcode: 521-082-PFT
Sample ID: 25-347-1	Report: 11 Feb 2022 09:30 TF	Datafile: 220210C09

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.50	6.15E+05	0.75	Y	1.18	1.04	-12%
12378-PeCDD	33.83	2.45E+06	1.56	Y	1.04	1.05	1%
123478-HxCDD	37.74	2.13E+06	1.31	Y	1.09	1.07	-1%
123678-HxCDD	37.86	2.23E+06	1.28	Y	1.15	1.11	-4%
123789-HxCDD	38.15	2.36E+06	1.26	Y	1.05	1.09	4%
1234678-HpCDD	40.83	2.05E+06	1.01	Y	1.06	1.06	0%
OCDD	43.51	3.35E+06	0.91	Y	1.13	1.10	-3%
2378-TCDF	27.64	9.28E+05	0.80	Y	1.08	1.02	-5%
12378-PeCDF	32.39	3.80E+06	1.50	Y	1.02	1.01	-1%
23478-PeCDF	33.50	3.61E+06	1.59	Y	1.02	0.98	-4%
123478-HxCDF	36.73	3.22E+06	1.27	Y	1.27	1.23	-4%
123678-HxCDF	36.88	3.48E+06	1.24	Y	1.15	1.14	-1%
234678-HxCDF	37.56	3.17E+06	1.17	Y	1.19	1.11	-7%
123789-HxCDF	38.51	2.69E+06	1.24	Y	1.16	1.09	-6%
1234678-HpCDF	39.88	2.95E+06	1.06	Y	1.37	1.35	-2%
1234789-HpCDF	41.28	2.54E+06	1.05	Y	1.31	1.32	1%
OCDF	43.69	4.19E+06	0.89	Y	1.07	1.02	-5%
ES 2378-TCDD	28.47	5.90E+06	0.79	Y	1.05	1.05	1%
ES 12378-PeCDD	33.812	4.66E+06	1.65	Y	0.88	0.83	-5%
ES 123478-HxCDD	37.728	3.97E+06	1.18	Y	0.97	0.90	-7%
ES 123678-HxCDD	37.847	4.03E+06	1.14	Y	0.94	0.92	-3%
ES 123789-HxCDD	38.136	4.34E+06	1.35	Y	1.09	0.99	-10%
ES 1234678-HpCDD	40.811	3.89E+06	1.04	Y	0.91	0.88	-3%
ES OCDD	43.494	6.12E+06	0.95	Y	0.62	0.69	11%
ES 2378-TCDF	27.615	9.06E+06	0.78	Y	1.06	0.98	-7%
ES 12378-PeCDF	32.367	7.50E+06	1.54	Y	0.91	0.81	-10%
ES 23478-PeCDF	33.48	7.35E+06	1.63	Y	0.88	0.80	-9%
ES 123478-HxCDF	36.718	5.26E+06	0.51	Y	1.20	1.19	0%
ES 123678-HxCDF	36.859	6.10E+06	0.54	Y	1.35	1.38	2%
ES 234678-HxCDF	37.537	5.70E+06	0.49	Y	1.24	1.30	4%
ES 123789-HxCDF	38.494	4.95E+06	0.48	Y	1.16	1.12	-3%
ES 1234678-HpCDF	39.873	4.38E+06	0.42	Y	0.97	0.99	3%
ES 1234789-HpCDF	41.273	3.83E+06	0.43	Y	0.85	0.87	2%
ES OCDF	43.676	8.19E+06	0.88	Y	0.81	0.93	15%

Dioxin/Furan QC Summary	Acq'd: 10 Feb 2022 16:17 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220210_DF_CB	UTP: 11-Feb-2022 09:27:42 DTF	Checkcode: 521-082-PFT
Sample ID: 25-347-1	Report: 11 Feb 2022 09:30 TF	Datafile: 220210C09

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.81	5.61E+06	0.77	Y	-	-	-
JS 1234-TCDF	26.25	9.20E+06	0.77	Y	-	-	-
JS 123467-HxCDD	38.04	2.20E+06	1.40	Y	-	-	-
CS 37Cl-2378-TCDD	28.49	7.20E+05	n/a	-	1.20	1.28	7%
CS 12347-PeCDD	33.31	4.34E+06	1.61	Y	0.75	0.77	3%
CS 12346-PeCDF	31.84	7.16E+06	1.62	Y	0.85	0.78	-9%
CS 123469-HxCDF	37.18	5.80E+06	0.52	Y	1.12	1.32	18%
CS 1234689-HpCDF	40.28	4.39E+06	0.45	Y	0.89	1.00	12%
~~SS 37Cl-2378-TCDD~~	~~28.49~~	~~7.20E+05~~	~~n/a~~	~~-~~	~~1.15~~	~~1.22~~	~~6%~~
~~SS 12347-PeCDD~~	~~33.31~~	~~4.34E+06~~	~~1.61~~	~~Y~~	~~0.86~~	~~0.93~~	~~9%~~
~~SS 12346-PeCDF~~	~~31.84~~	~~7.16E+06~~	~~1.62~~	~~Y~~	~~0.94~~	~~0.96~~	~~2%~~
~~SS 123469-HxCDF~~	~~37.18~~	~~5.80E+06~~	~~0.52~~	~~Y~~	~~0.83~~	~~0.95~~	~~15%~~
~~SS 1234689-HpCDF~~	~~40.28~~	~~4.39E+06~~	~~0.45~~	~~Y~~	~~0.92~~	~~1.00~~	~~9%~~
~~OCDD-a~~	~~43.51~~	~~1.54E+05~~	~~1.74~~	~~N~~	~~0.07~~	~~0.05~~	~~-30%~~
~~OCDF-a~~	~~43.69~~	~~2.00E+05~~	~~2.40~~	~~Y~~	~~0.07~~	~~0.05~~	~~-26%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220210C09 Analysis Date: 10-FEB-2022 16:17:06

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.75	0.65 - 0.89	Y	8.79	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.56	1.32 - 1.78	Y	50.7	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.31	1.05 - 1.43	Y	49.3	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	48.2	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05 - 1.43	Y	51.9	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.01	0.88 - 1.20	Y	49.8	43 - 58	Y
OCDD	M+2/M+4	0.91	0.76 - 1.02	Y	97.2	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.80	0.65 - 0.89	Y	9.49	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.50	1.32 - 1.78	Y	49.4	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32 - 1.78	Y	48.1	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.27	1.05 - 1.43	Y	48.2	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	49.5	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.17	1.05 - 1.43	Y	46.7	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	46.8	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.06	0.88 - 1.20	Y	49.1	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88 - 1.20	Y	50.7	43 - 58	Y
OCDF	M+2/M+4	0.89	0.76 - 1.02	Y	95.4	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 11 Feb 2022 09:30 Analyst: TF

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

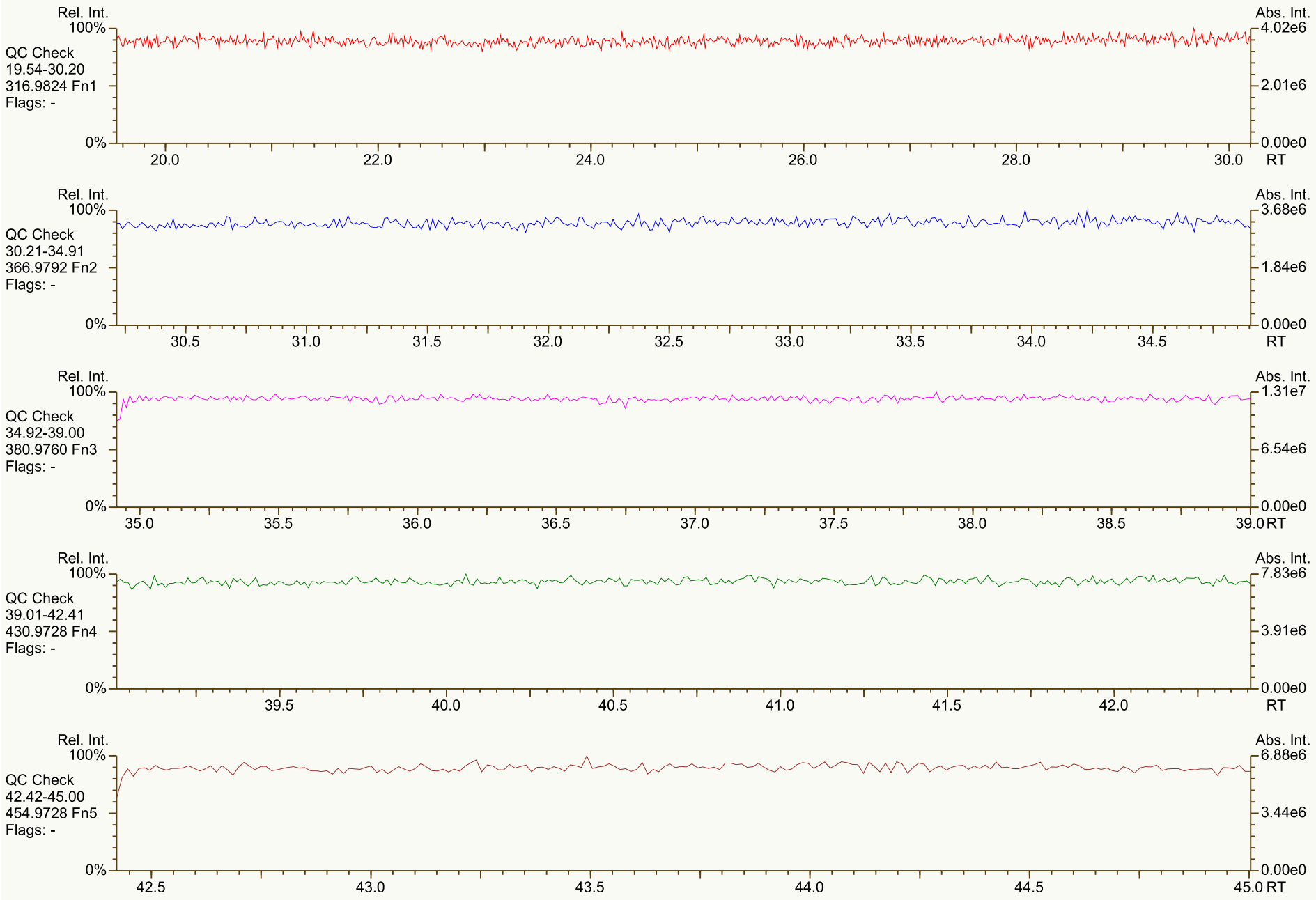
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220210C09 Analysis Date: 10-FEB-2022 16:17:06

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65	-	0.89	Y	101	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.65	1.32	-	1.78	Y	94.5	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.18	1.05	-	1.43	Y	92.8	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.14	1.05	-	1.43	Y	96.9	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.35	1.05	-	1.43	Y	90.3	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88	-	1.20	Y	96.6	72	-	138	Y
13C-OCDD	M+2/M+4	0.95	0.76	-	1.02	Y	222	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.78	0.65	-	0.89	Y	92.9	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.54	1.32	-	1.78	Y	89.5	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.63	1.32	-	1.78	Y	90.5	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43	-	0.59	Y	99.6	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	102	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.49	0.43	-	0.59	Y	104	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.48	0.43	-	0.59	Y	97.2	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.42	0.37	-	0.51	Y	103	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.43	0.37	-	0.51	Y	102	77	-	129	Y
13C-OCDF	M+2/M+4	0.88	0.76	-	1.02	Y	230	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						10.7	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.61	1.32	-	1.78	Y	103	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.62	1.32	-	1.78	Y	91.5	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	118	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	112	70	-	130	Y

Processed: 11 Feb 2022 09:30 Analyst: TF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316.9824 Fn1
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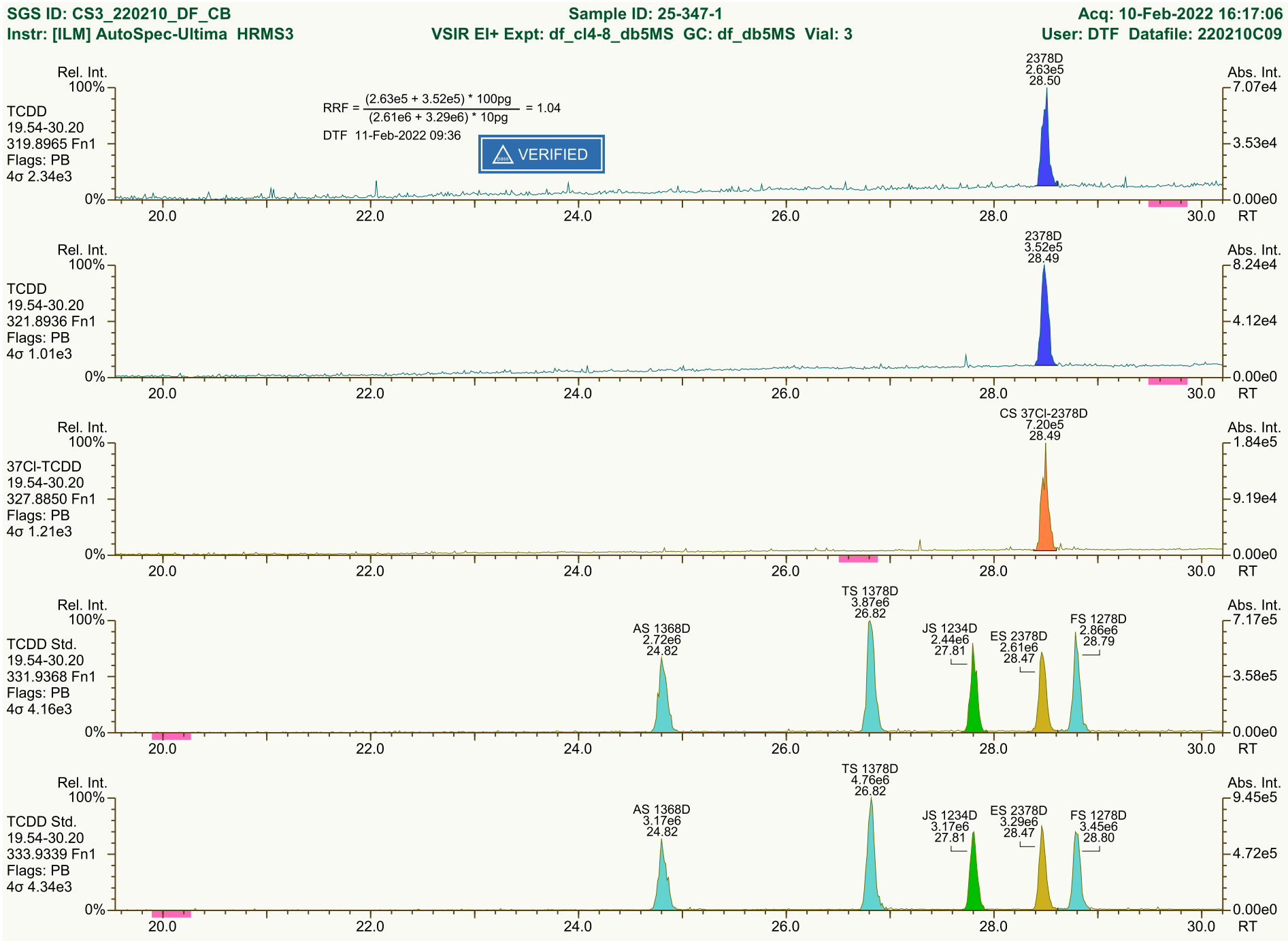
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.02e6
2.01e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.68e6
1.84e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.31e7
6.54e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
7.83e6
3.91e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
6.88e6
3.44e6
0.00e0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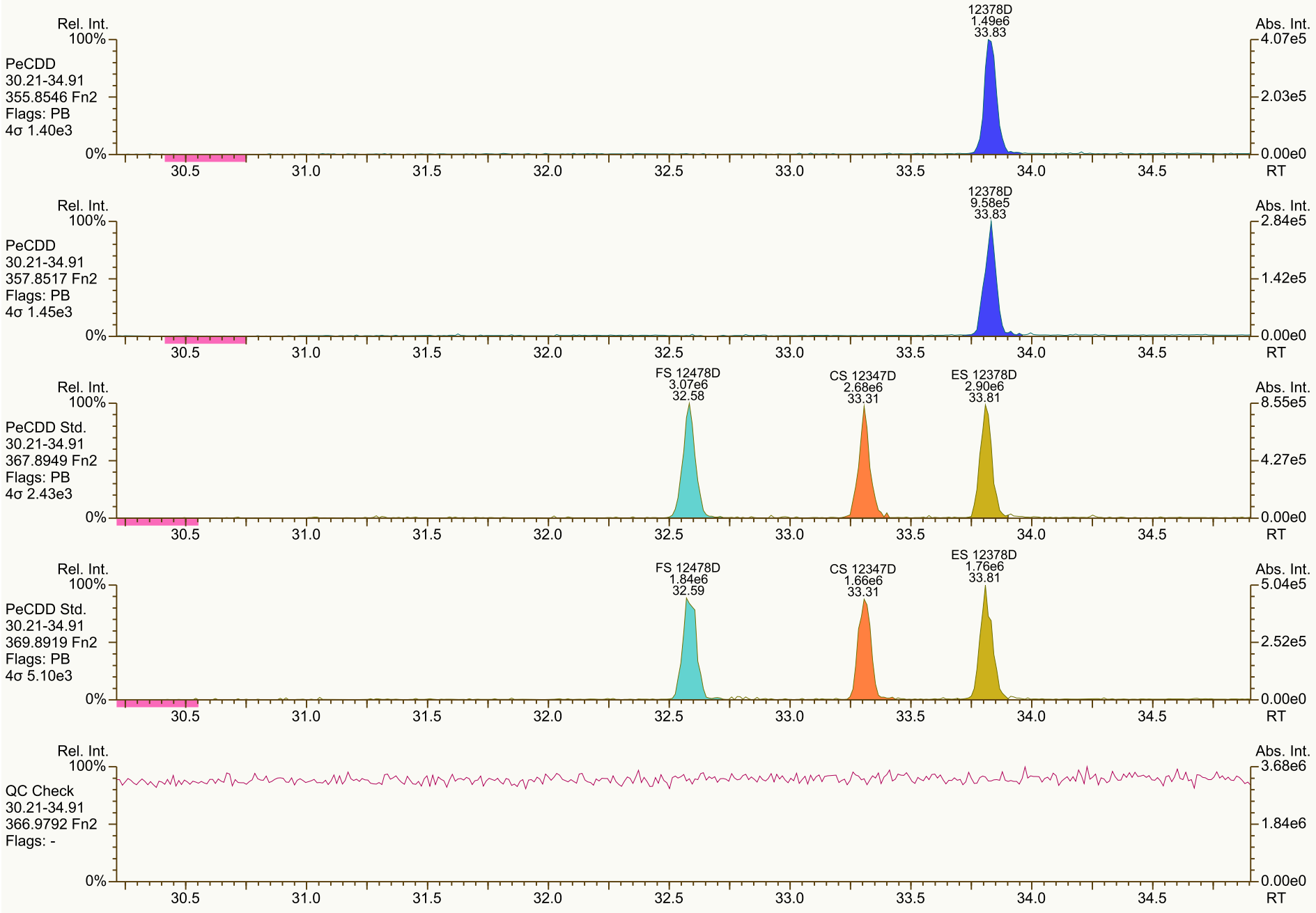
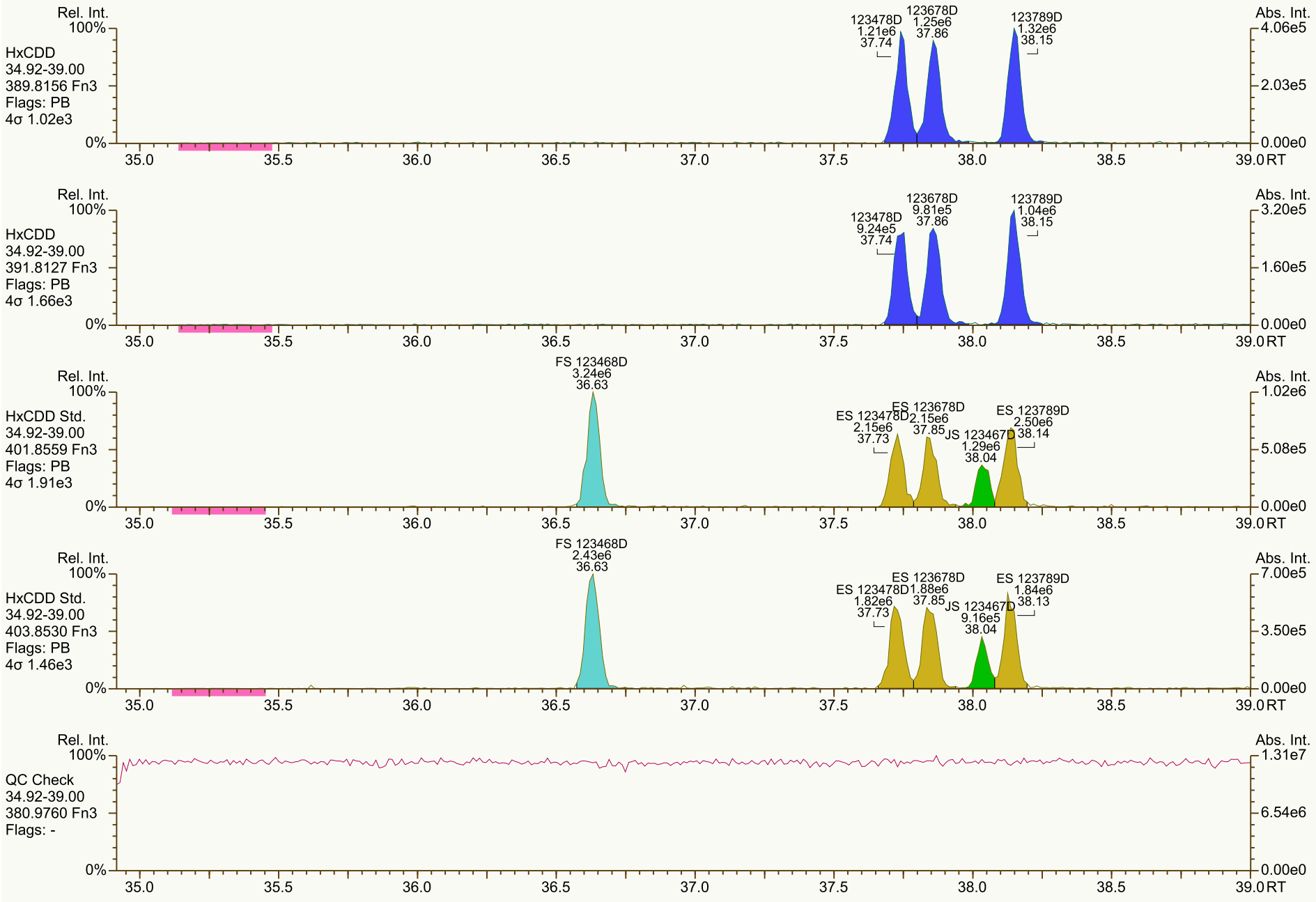
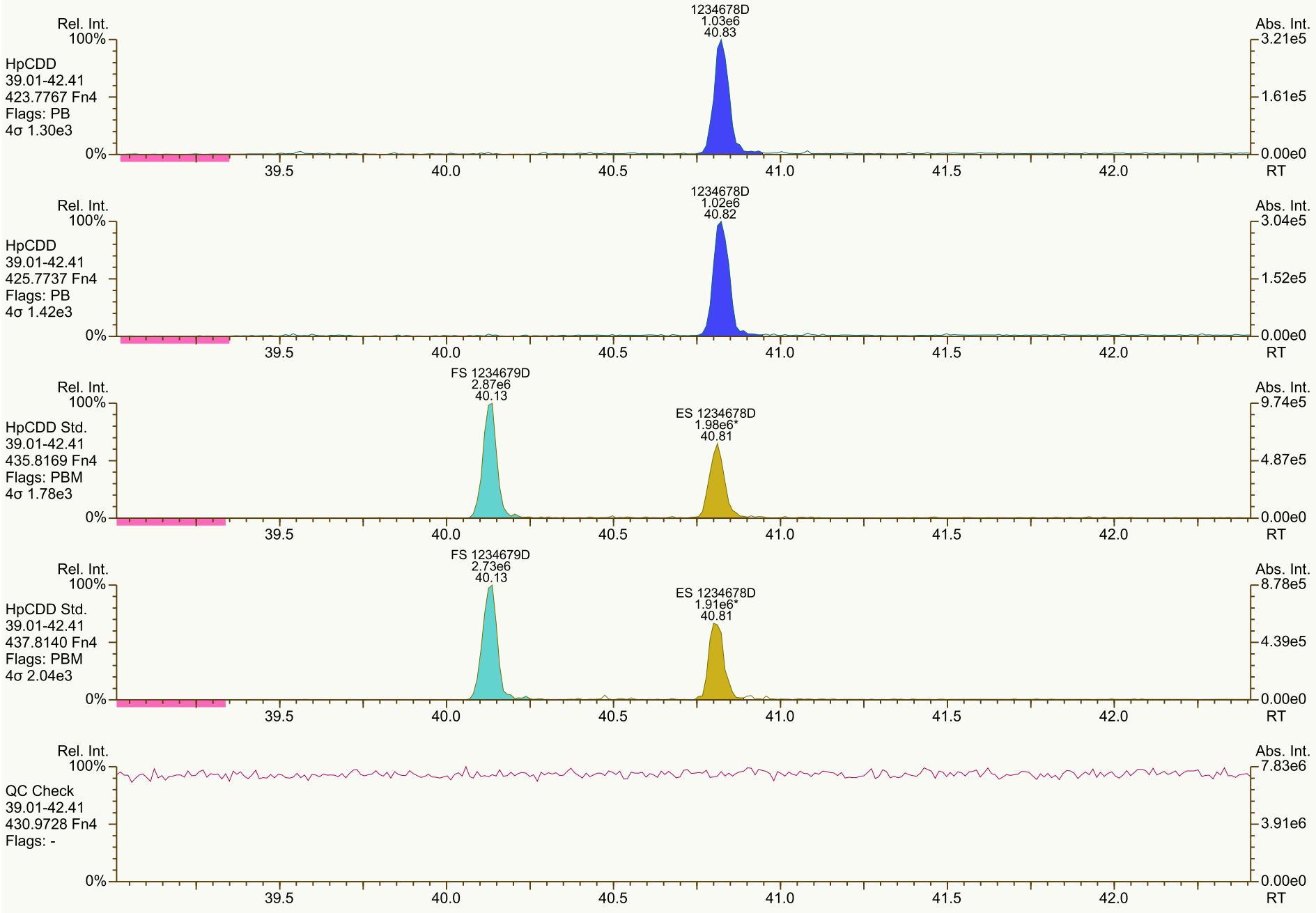
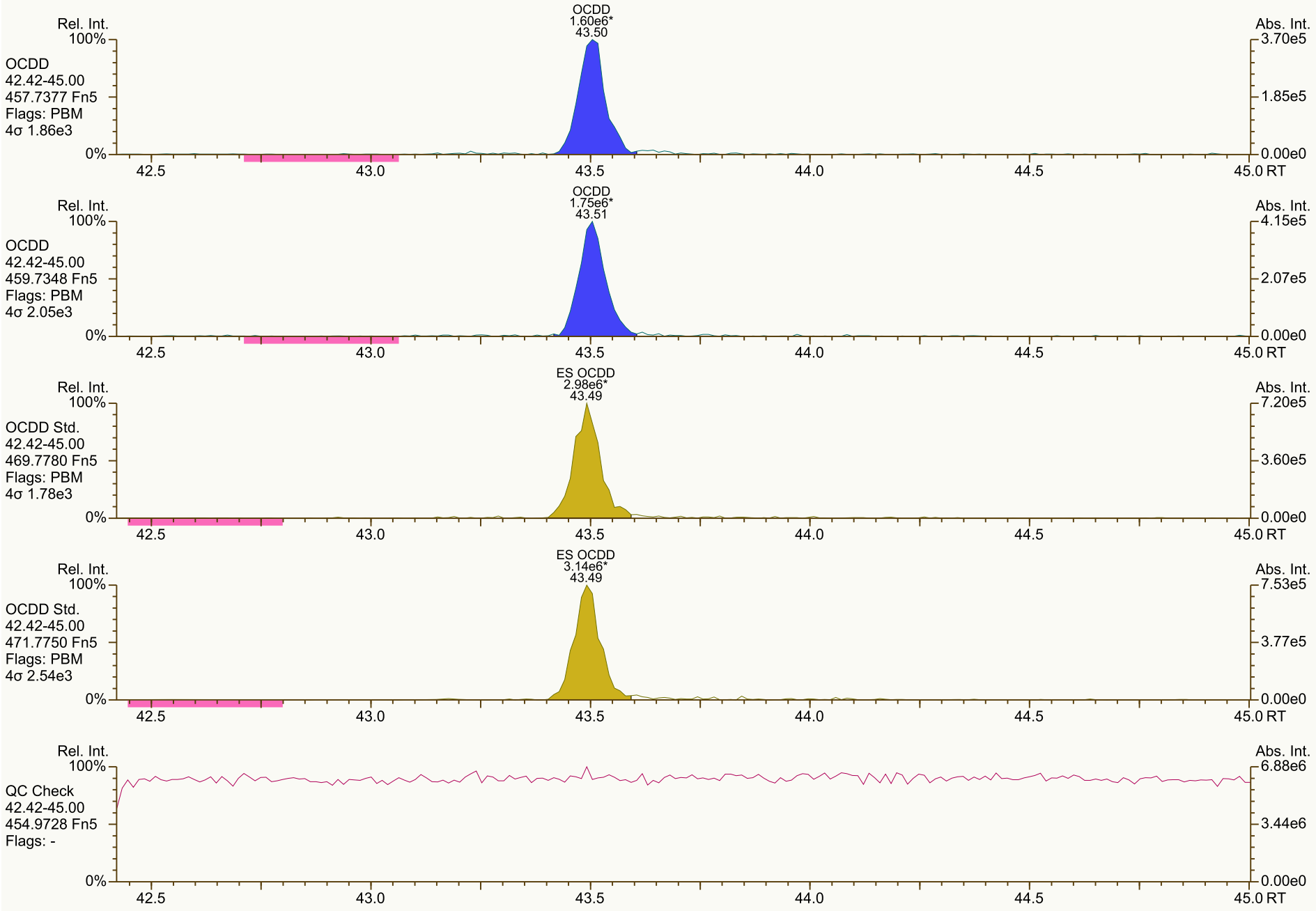
Sample ID: 25-347-1
Acq: 10-Feb-2022 16:17:06
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220210C09
Rel. Int.
Abs. Int.
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.34e3
RRF = (2.63e5 + 3.52e5) * 100pg / (2.61e6 + 3.29e6) * 10pg = 1.04
DTF 11-Feb-2022 09:36
VERIFIED
2378D
2.63e5
28.50
7.07e4
3.53e4
0.00e0
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.01e3
2378D
3.52e5
28.49
8.24e4
4.12e4
0.00e0
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.21e3
CS 37Cl-2378D
7.20e5
28.49
1.84e5
9.19e4
0.00e0
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.16e3
AS 1368D
2.72e6
24.82
TS 1378D
3.87e6
26.82
JS 1234D
2.44e6
27.81
ES 2378D
2.61e6
28.47
FS 1278D
2.86e6
28.79
7.17e5
3.58e5
0.00e0
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.34e3
AS 1368D
3.17e6
24.82
TS 1378D
4.76e6
26.82
JS 1234D
3.17e6
27.81
ES 2378D
3.29e6
28.47
FS 1278D
3.45e6
28.80
9.45e5
4.72e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6276\B6276_18917 DF\Resources\CS3_220210_DF_CB.utp_res, saved 11-Feb-2022 09:36 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0333, 7389, 9436 scc: 521-082
PKD: 11-Feb-2022 08:17 Printed: 11-Feb-2022 09:42 Page 2 of 12


Rel. Int.
100%
PeCDD
30.21-34.91
355.8546 Fn2
Flags: PB
4σ 1.40e3
0%
12378D
1.49e6
33.83
Abs. Int.
4.07e5
2.03e5
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDD
30.21-34.91
357.8517 Fn2
Flags: PB
4σ 1.45e3
0%
12378D
9.58e5
33.83
Abs. Int.
2.84e5
1.42e5
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
367.8949 Fn2
Flags: PB
4σ 2.43e3
0%
FS 12478D
3.07e6
32.58
CS 12347D
2.68e6
33.31
ES 12378D
2.90e6
33.81
Abs. Int.
8.55e5
4.27e5
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.91
369.8919 Fn2
Flags: PB
4σ 5.10e3
0%
FS 12478D
1.84e6
32.59
CS 12347D
1.66e6
33.31
ES 12378D
1.76e6
33.81
Abs. Int.
5.04e5
2.52e5
0.00e0
RT
Rel. Int.
100%
QC Check
30.21-34.91
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.68e6
1.84e6
0.00e0
RT


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 1.02e3
123478D
1.21e6
37.74
123678D
1.25e6
37.86
123789D
1.32e6
38.15
Abs. Int.
4.06e5
2.03e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 1.66e3
123478D
9.24e5
37.74
123678D
9.81e5
37.86
123789D
1.04e6
38.15
Abs. Int.
3.20e5
1.60e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 1.91e3
FS 123468D
3.24e6
36.63
ES 123478D
2.15e6
37.73
ES 123678D
2.15e6
37.85
JS 123467D
1.29e6
38.04
ES 123789D
2.50e6
38.14
Abs. Int.
1.02e6
5.08e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 1.46e3
FS 123468D
2.43e6
36.63
ES 123478D
1.82e6
37.73
ES 123678D
1.88e6
37.85
JS 123467D
9.16e5
38.04
ES 123789D
1.84e6
38.13
Abs. Int.
7.00e5
3.50e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
Abs. Int.
1.31e7
6.54e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT

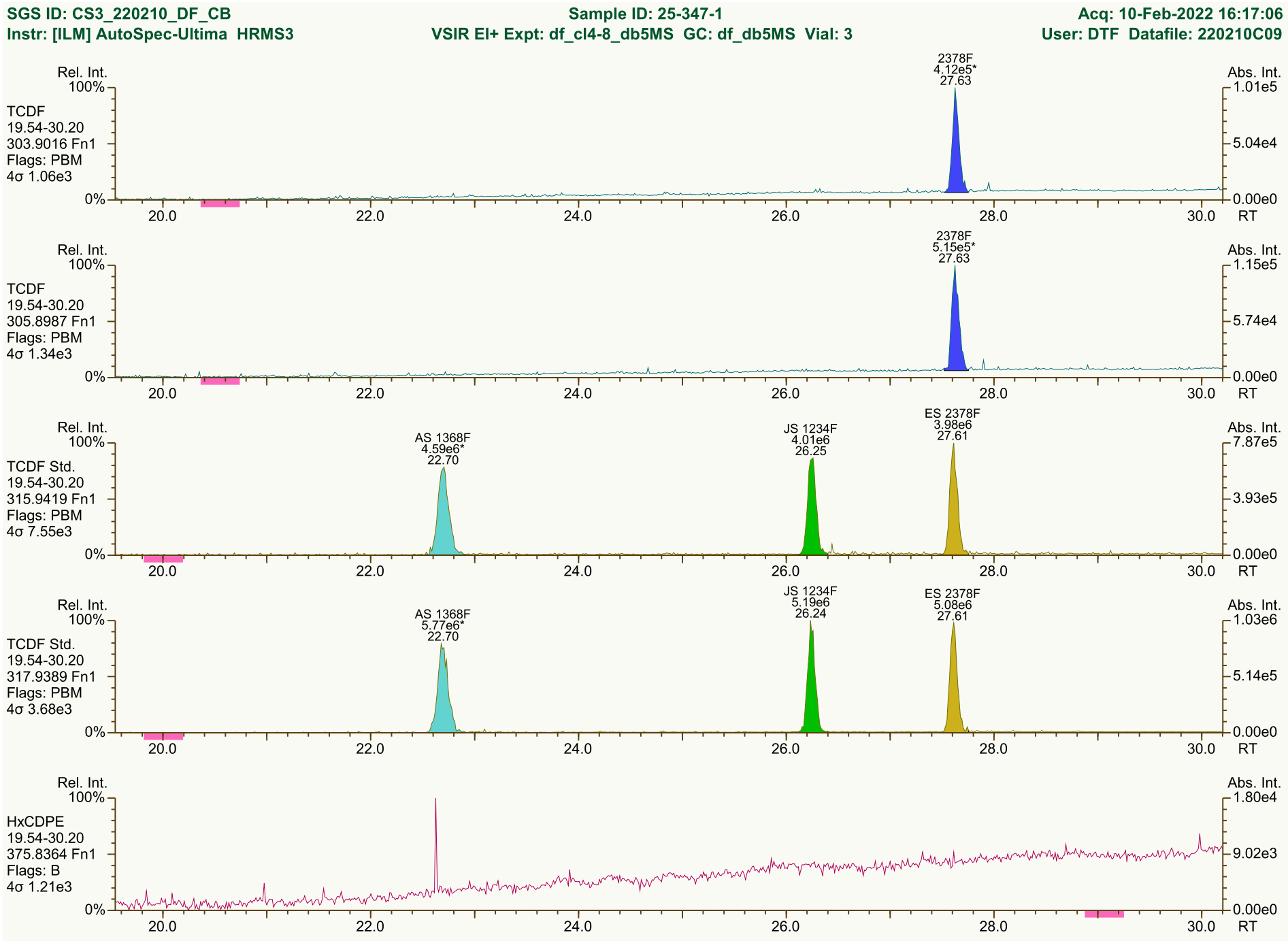

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PB
4σ 1.30e3
1234678D
1.03e6
40.83
Abs. Int.
3.21e5
1.61e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.42e3
1234678D
1.02e6
40.82
Abs. Int.
3.04e5
1.52e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 1.78e3
FS 1234679D
2.87e6
40.13
ES 1234678D
1.98e6*
40.81
Abs. Int.
9.74e5
4.87e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 2.04e3
FS 1234679D
2.73e6
40.13
ES 1234678D
1.91e6*
40.81
Abs. Int.
8.78e5
4.39e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
7.83e6
3.91e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
1.60e6*
43.50
Rel. Int.
Abs. Int.
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.86e3
OCDD
1.75e6*
43.51
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 2.05e3
ES OCDD
2.98e6*
43.49
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 1.78e3
ES OCDD
3.14e6*
43.49
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 2.54e3
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
3.70e5
1.85e5
0.00e0
4.15e5
2.07e5
7.20e5
3.60e5
7.53e5
3.77e5
6.88e6
3.44e6

SGS ID: CS3_220210_DF_CB
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 25-347-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3

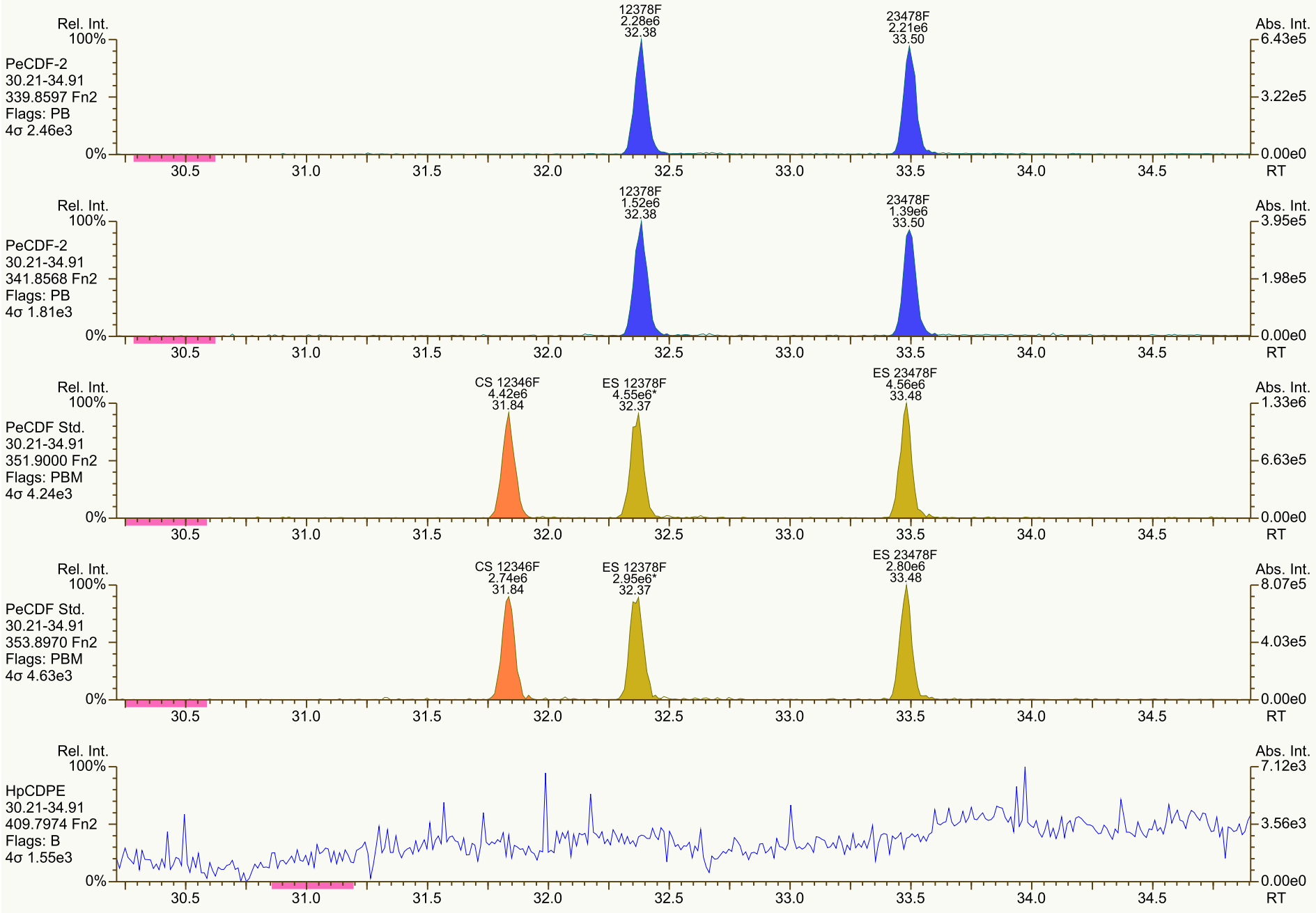
Acq: 10-Feb-2022 16:17:06
User: DTF Datafile: 220210C09

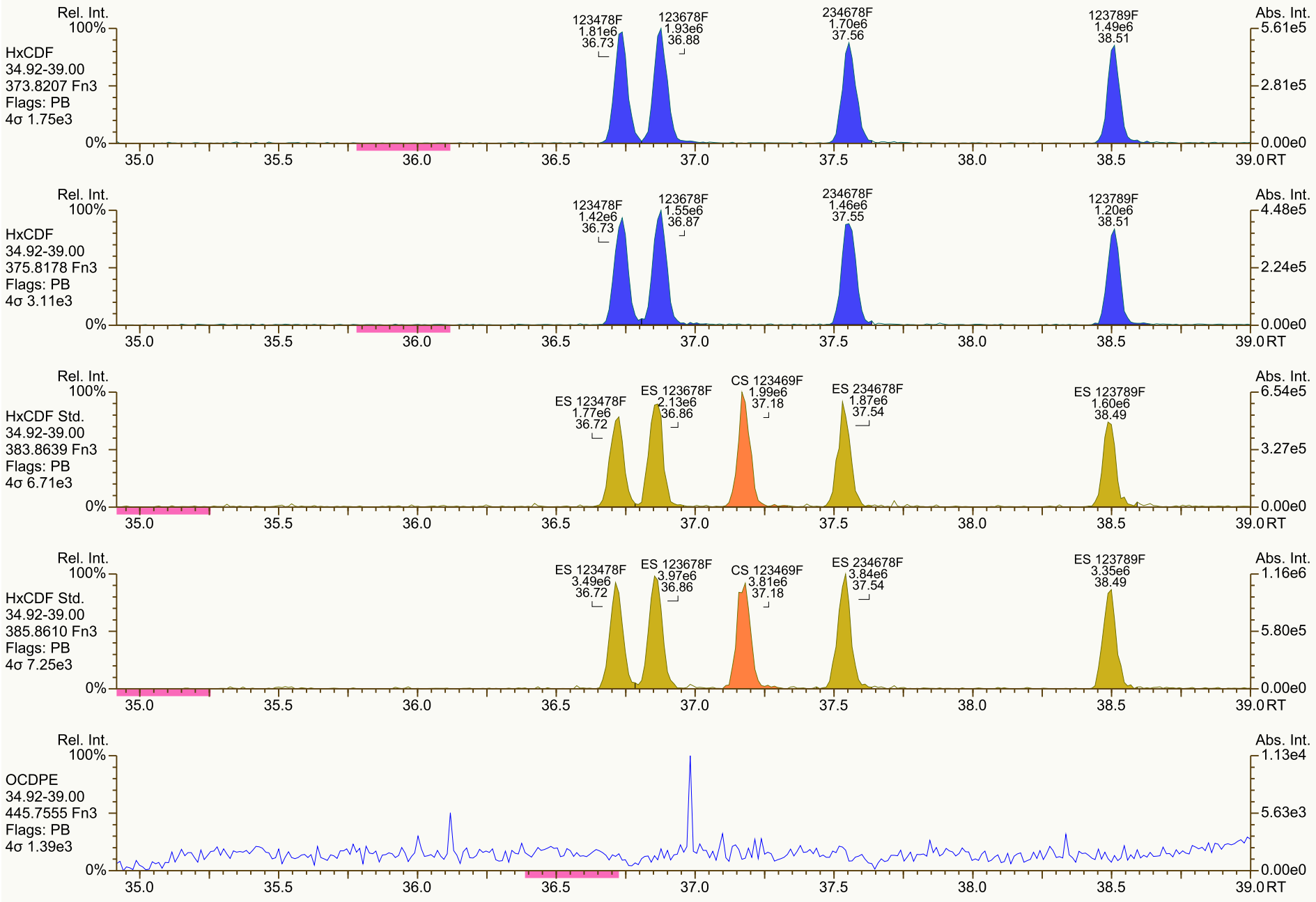


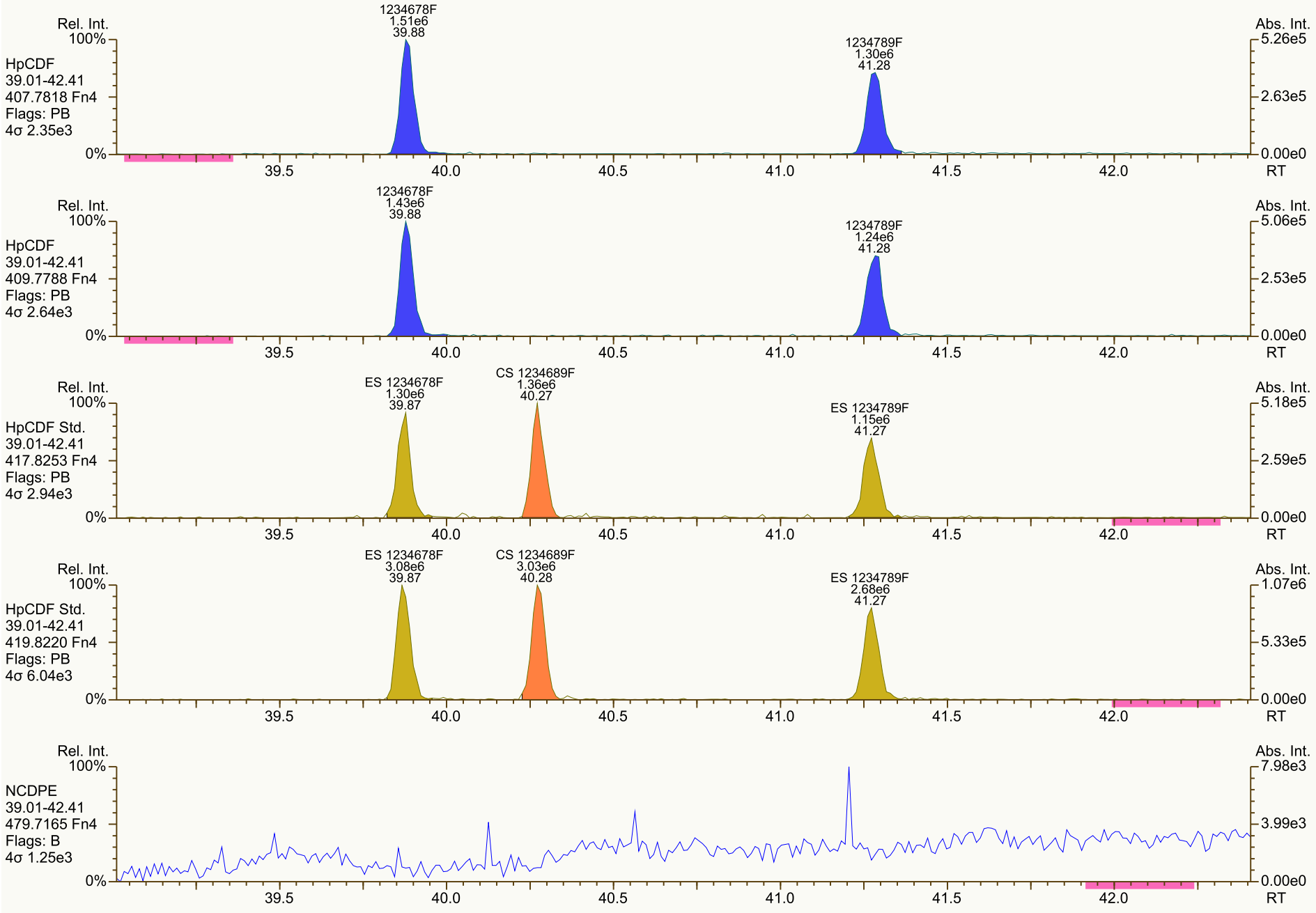
Results: P:\B6200_B6299\B6276\B6276_18917 DF\Resources\CS3_220210_DF_CB.utp_res, saved 11-Feb-2022 09:36 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7084, 4528, 7201 scc: 521-082

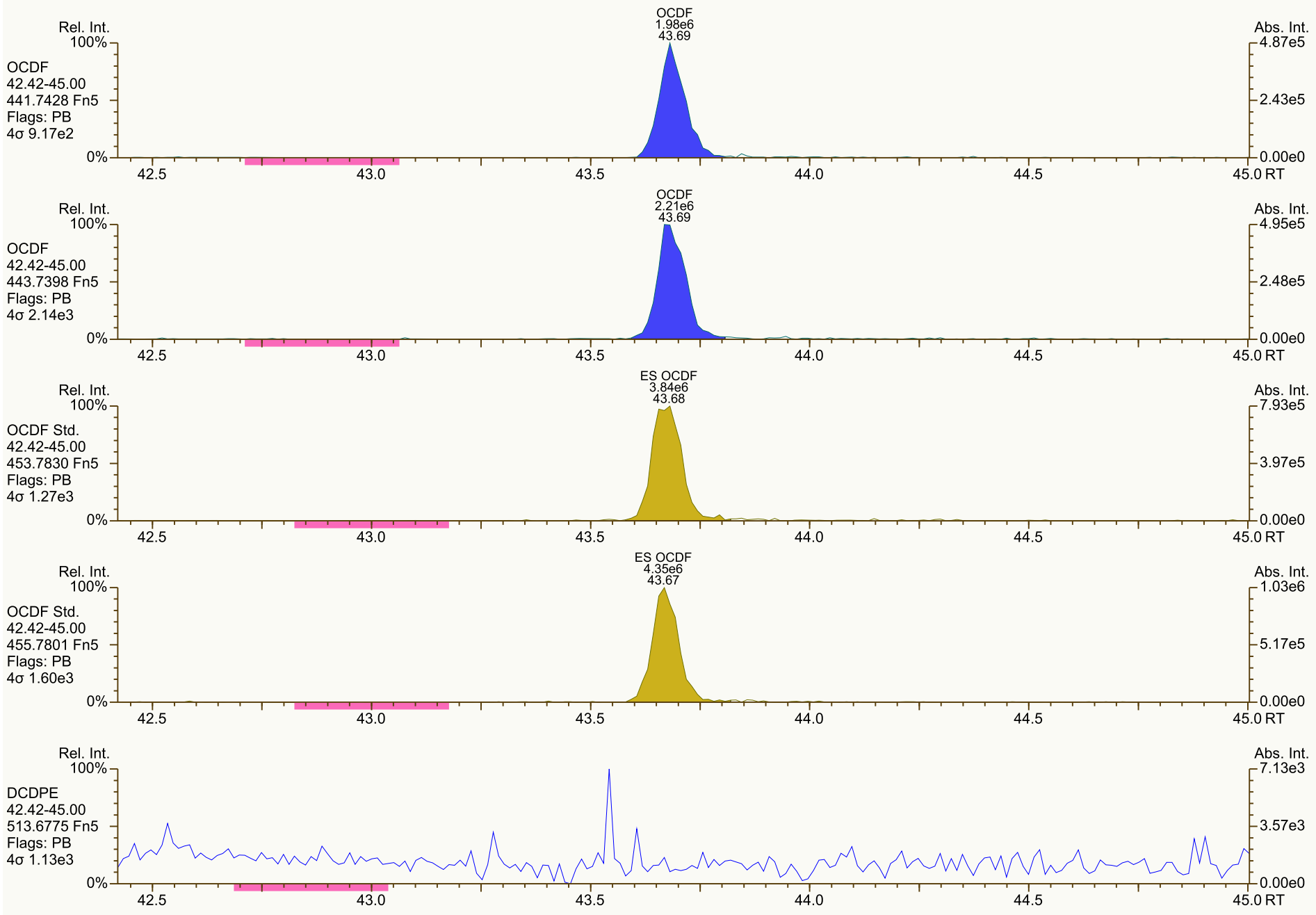
Peak annotation: Areas, Centroids
Revised: 11-Feb-2022 08:18 (DTF) Printed: 11-Feb-2022 09:43 Page 7 of 12

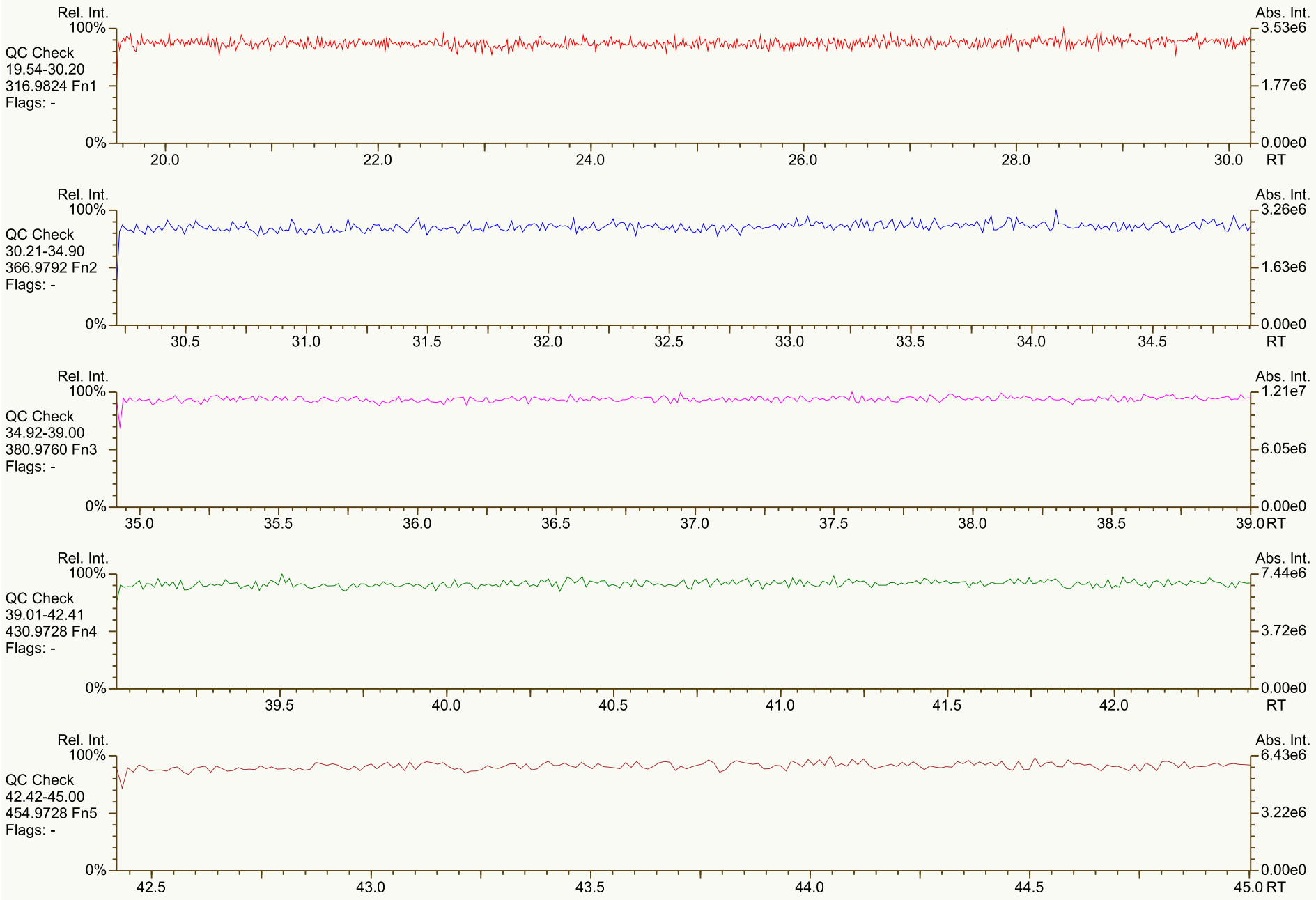

Rel. Int.
100%
0%
Abs. Int.
1.34e4
6.69e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.05e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.66e4
8.29e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.58e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.02e6
2.01e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.91
339.8597 Fn2
Flags: PB
4σ 2.46e3
0%
12378F
2.28e6
32.38
23478F
2.21e6
33.50
Abs. Int.
6.43e5
3.22e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.91
341.8568 Fn2
Flags: PB
4σ 1.81e3
0%
12378F
1.52e6
32.38
23478F
1.39e6
33.50
Abs. Int.
3.95e5
1.98e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
351.9000 Fn2
Flags: PBM
4σ 4.24e3
0%
CS 12346F
4.42e6
31.84
ES 12378F
4.55e6*
32.37
ES 23478F
4.56e6
33.48
Abs. Int.
1.33e6
6.63e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.91
353.8970 Fn2
Flags: PBM
4σ 4.63e3
0%
CS 12346F
2.74e6
31.84
ES 12378F
2.95e6*
32.37
ES 23478F
2.80e6
33.48
Abs. Int.
8.07e5
4.03e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.91
409.7974 Fn2
Flags: B
4σ 1.55e3
0%
Abs. Int.
7.12e3
3.56e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PB
4σ 1.75e3
123478F
1.81e6
36.73
123678F
1.93e6
36.88
234678F
1.70e6
37.56
123789F
1.49e6
38.51
Abs. Int.
5.61e5
2.81e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PB
4σ 3.11e3
123478F
1.42e6
36.73
123678F
1.55e6
36.87
234678F
1.46e6
37.55
123789F
1.20e6
38.51
Abs. Int.
4.48e5
2.24e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: PB
4σ 6.71e3
ES 123478F
1.77e6
36.72
ES 123678F
2.13e6
36.86
CS 123469F
1.99e6
37.18
ES 234678F
1.87e6
37.54
ES 123789F
1.60e6
38.49
Abs. Int.
6.54e5
3.27e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: PB
4σ 7.25e3
ES 123478F
3.49e6
36.72
ES 123678F
3.97e6
36.86
CS 123469F
3.81e6
37.18
ES 234678F
3.84e6
37.54
ES 123789F
3.35e6
38.49
Abs. Int.
1.16e6
5.80e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: PB
4σ 1.39e3
Abs. Int.
1.13e4
5.63e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 2.35e3
1234678F
1.51e6
39.88
1234789F
1.30e6
41.28
Abs. Int.
5.26e5
2.63e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 2.64e3
1234678F
1.43e6
39.88
1234789F
1.24e6
41.28
Abs. Int.
5.06e5
2.53e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PB
4σ 2.94e3
ES 1234678F
1.30e6
39.87
CS 1234689F
1.36e6
40.27
ES 1234789F
1.15e6
41.27
Abs. Int.
5.18e5
2.59e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PB
4σ 6.04e3
ES 1234678F
3.08e6
39.87
CS 1234689F
3.03e6
40.28
ES 1234789F
2.68e6
41.27
Abs. Int.
1.07e6
5.33e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: B
4σ 1.25e3
Abs. Int.
7.98e3
3.99e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
1.98e6
43.69
Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 9.17e2
0%
Abs. Int.
4.87e5
2.43e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.21e6
43.69
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 2.14e3
0%
Abs. Int.
4.95e5
2.48e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
3.84e6
43.68
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
7.93e5
3.97e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
4.35e6
43.67
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: PB
4σ 1.60e3
0%
Abs. Int.
1.03e6
5.17e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.13e3
0%
Abs. Int.
7.13e3
3.57e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.53e6
1.77e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.26e6
1.63e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.21e7
6.05e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
7.44e6
3.72e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
6.43e6
3.22e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 1.78e3
0%
Abs. Int.
8.58e3
4.29e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.44e3
0%
Abs. Int.
9.73e3
4.87e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: B
4σ 1.15e3
0%
Abs. Int.
8.94e3
4.47e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 5.33e3
0%
Abs. Int.
4.31e4
2.15e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 2.12e3
0%
Abs. Int.
1.55e4
7.75e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.90
355.8546 Fn2
Flags: B
4σ 1.43e3
0%
Abs. Int.
5.54e3
2.77e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.90
357.8517 Fn2
Flags: B
4σ 9.54e2
0%
Abs. Int.
9.26e3
4.63e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
367.8949 Fn2
Flags: B
4σ 1.68e3
0%
Abs. Int.
2.06e4
1.03e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.90
369.8919 Fn2
Flags: PB
4σ 1.28e3
0%
Abs. Int.
1.23e4
6.16e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.26e6
1.63e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

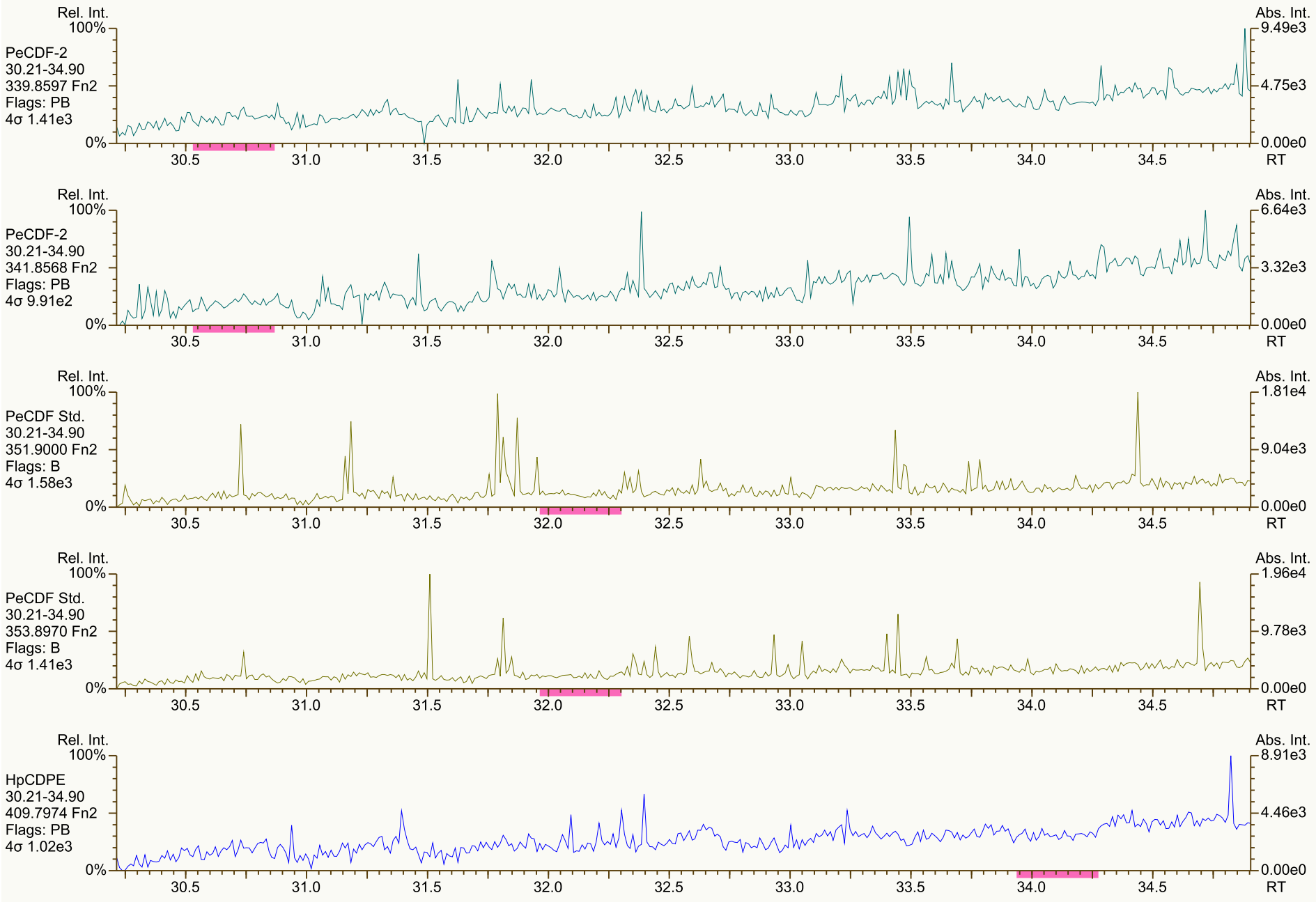

Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 1.36e3
0%
Abs. Int.
7.01e3
3.50e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 1.17e3
0%
Abs. Int.
6.84e3
3.42e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: B
4σ 1.40e3
0%
Abs. Int.
1.45e4
7.26e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: B
4σ 1.87e3
0%
Abs. Int.
1.27e4
6.34e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT

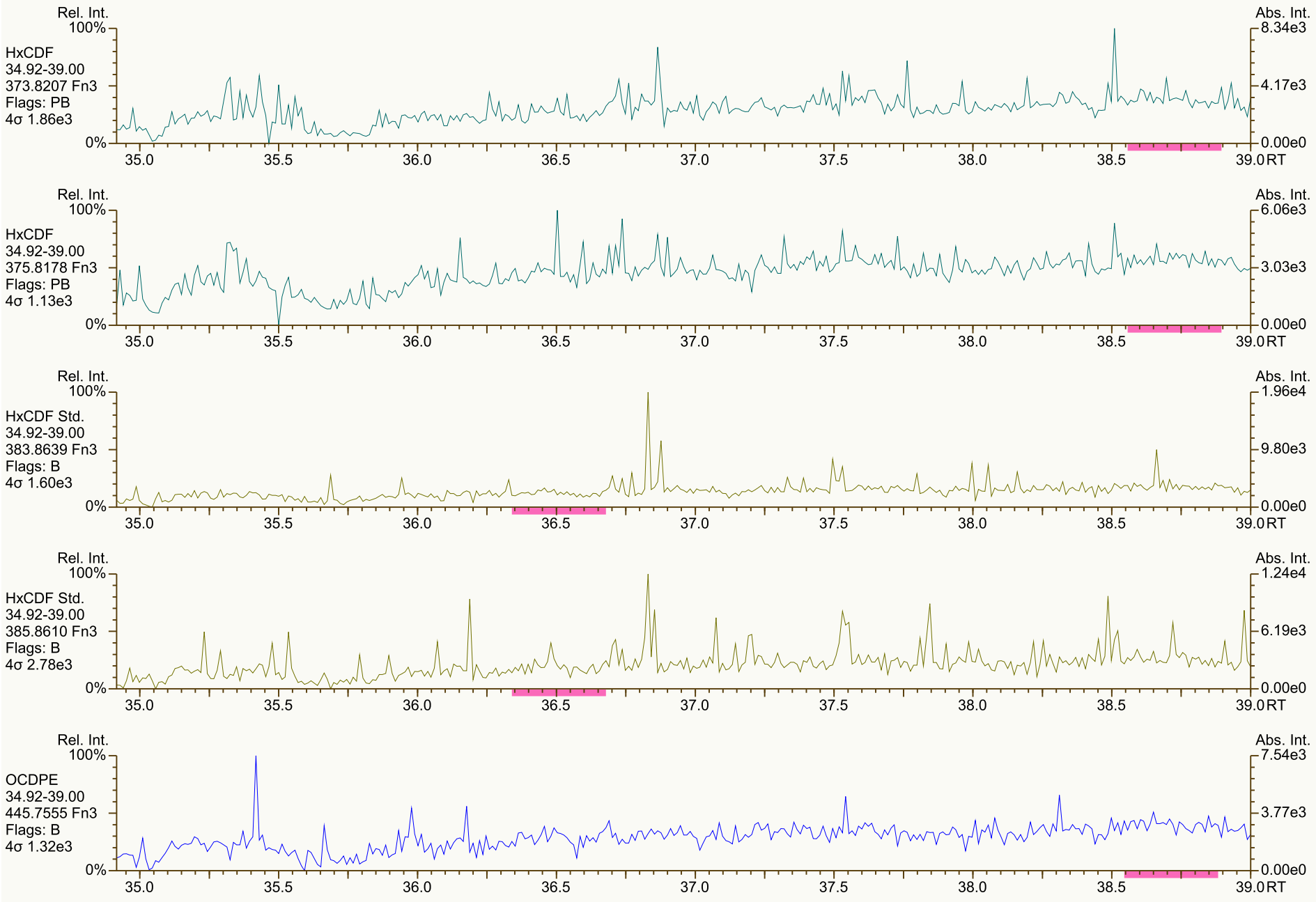

Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: B
4σ 1.07e3
0%
Abs. Int.
6.32e3
3.16e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PB
4σ 1.45e3
0%
Abs. Int.
7.00e3
3.50e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: B
4σ 1.40e3
0%
Abs. Int.
1.38e4
6.92e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PB
4σ 1.97e3
0%
Abs. Int.
1.35e4
6.75e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.44e6
3.72e6
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: B
4σ 1.26e3
0%
Abs. Int.
5.78e3
2.89e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.42-45.00
459.7348 Fn5
Flags: B
4σ 1.22e3
0%
Abs. Int.
6.64e3
3.32e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: B
4σ 1.53e3
0%
Abs. Int.
1.00e4
5.02e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: B
4σ 1.51e3
0%
Abs. Int.
1.10e4
5.52e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.43e6
3.22e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.35e3
2468F
3.29e5*
23.94
Abs. Int.
7.56e4
3.78e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.18e3
2468F
4.03e5*
23.94
Abs. Int.
8.01e4
4.01e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 6.01e3
Abs. Int.
3.21e4
1.60e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 1.48e3
Abs. Int.
1.28e4
6.39e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.03e3
Abs. Int.
2.15e4
1.08e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.46e4
7.32e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.46e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.80e3
4.40e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.19e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.53e6
1.77e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PB
4σ 1.41e3
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PB
4σ 9.91e2
0%
Abs. Int.
6.64e3
3.32e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.81e4
9.04e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: B
4σ 1.41e3
0%
Abs. Int.
1.96e4
9.78e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: PB
4σ 1.02e3
0%
Abs. Int.
8.91e3
4.46e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

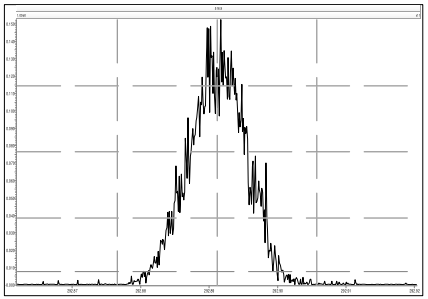

Rel. Int.
100%
HxCDF
34.92-39.00
373.8207 Fn3
Flags: PB
4σ 1.86e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
HxCDF
34.92-39.00
375.8178 Fn3
Flags: PB
4σ 1.13e3
0%
Abs. Int.
6.06e3
3.03e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
383.8639 Fn3
Flags: B
4σ 1.60e3
0%
Abs. Int.
1.96e4
9.80e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
HxCDF Std.
34.92-39.00
385.8610 Fn3
Flags: B
4σ 2.78e3
0%
Abs. Int.
1.24e4
6.19e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Rel. Int.
100%
OCDPE
34.92-39.00
445.7555 Fn3
Flags: B
4σ 1.32e3
0%
Abs. Int.
7.54e3
3.77e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.20e3
0%
Abs. Int.
7.38e3
3.69e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.04e3
0%
Abs. Int.
6.03e3
3.02e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: B
4σ 1.57e3
0%
Abs. Int.
1.15e4
5.73e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: B
4σ 1.51e3
0%
Abs. Int.
1.62e4
8.09e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.29e3
0%
Abs. Int.
4.94e3
2.47e3
0.00e0
39.5
40.0
40.5
41.0
41.5
42.0
RT

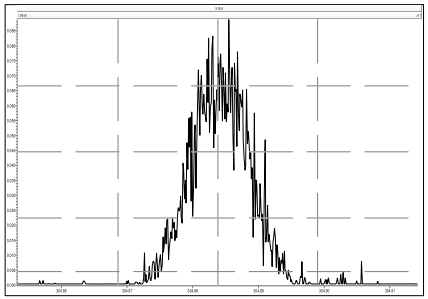

Rel. Int.
100%
OCDF
42.42-45.00
441.7428 Fn5
Flags: PB
4σ 1.33e3
0%
Abs. Int.
5.86e3
2.93e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.42-45.00
443.7398 Fn5
Flags: PB
4σ 2.19e3
0%
Abs. Int.
4.41e3
2.20e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
453.7830 Fn5
Flags: PB
4σ 1.86e3
0%
Abs. Int.
7.61e3
3.80e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.42-45.00
455.7801 Fn5
Flags: B
4σ 2.02e3
0%
Abs. Int.
8.64e3
4.32e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.42-45.00
513.6775 Fn5
Flags: PB
4σ 1.30e3
0%
Abs. Int.
6.05e3
3.02e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Printed: Thursday, February 10, 2022 15:45:02 Eastern Standard Time

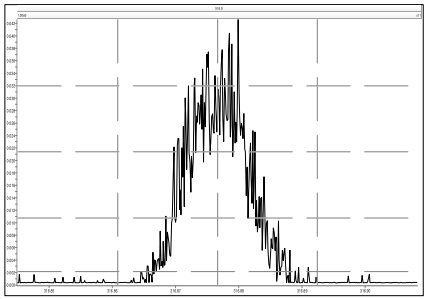
M 292.9824 R 15433



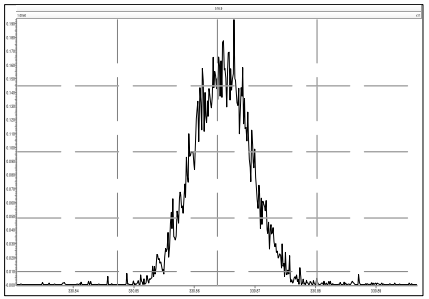
M 304.9824 R 15674



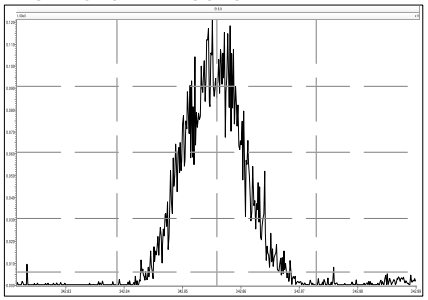
M 316.9824 R 17798



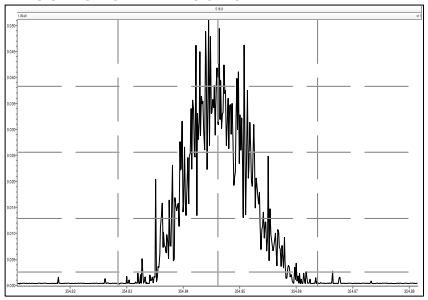
M 330.9792 R 15681



M 342.9792 R 15640



M 354.9792 R 15929



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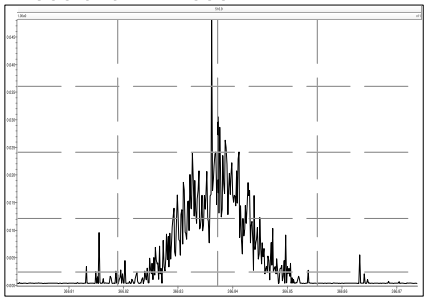

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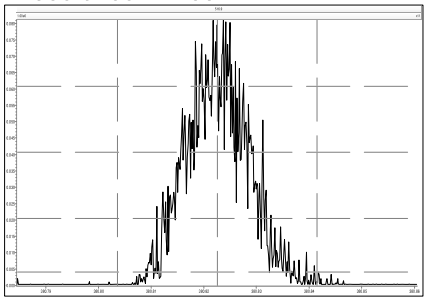

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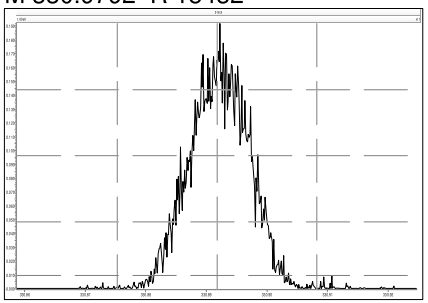

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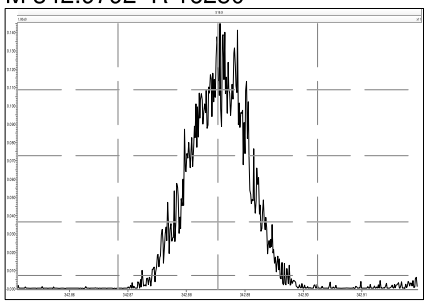
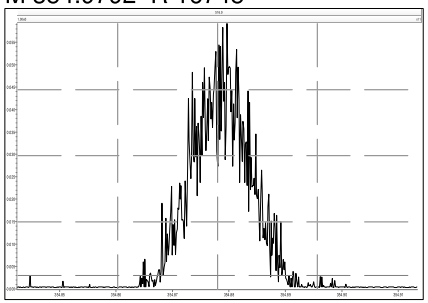


M 354.9792 R 16745



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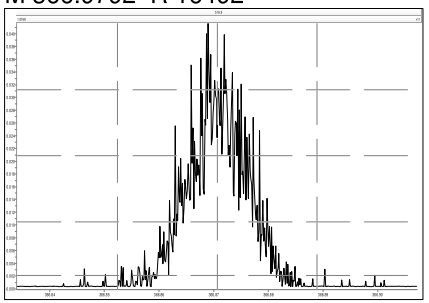

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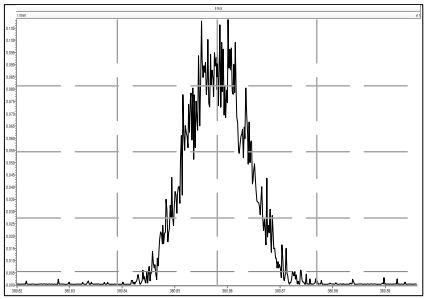

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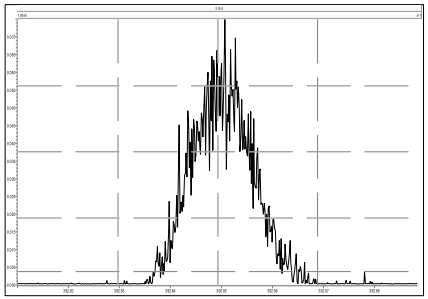
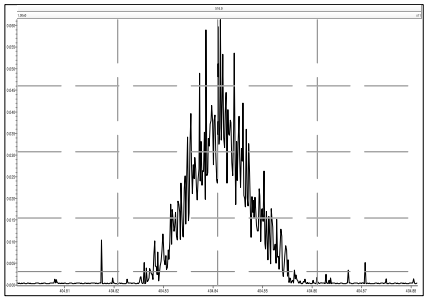


M 404.9760 R 15577



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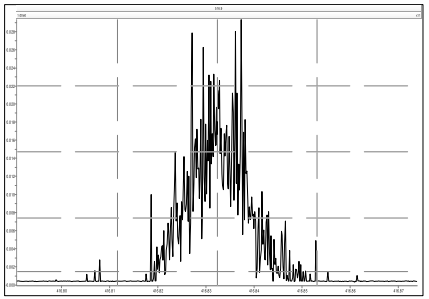

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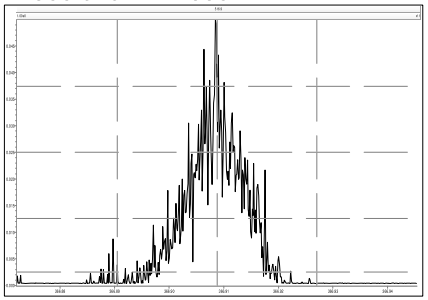

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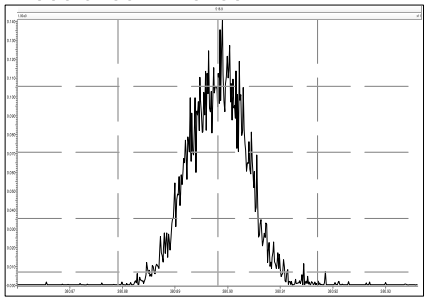

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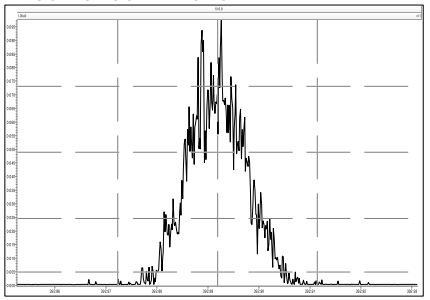

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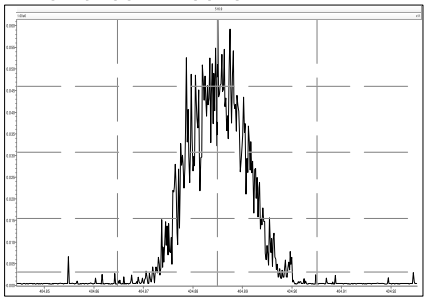

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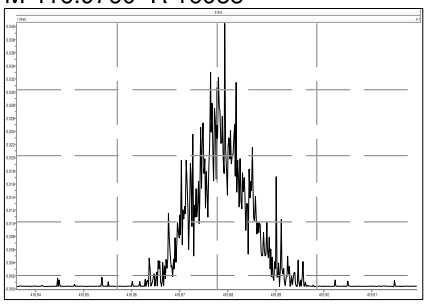

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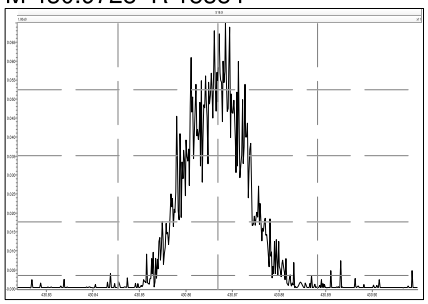

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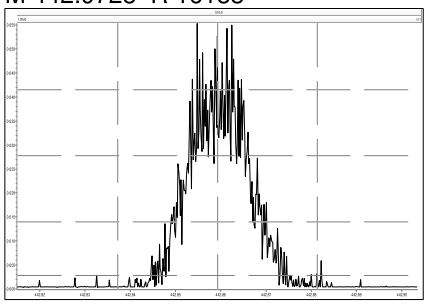

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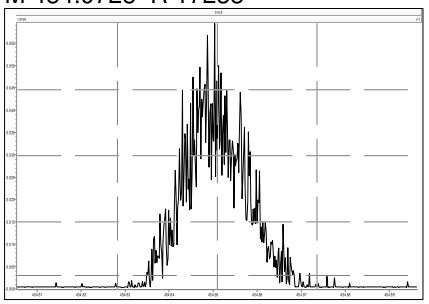

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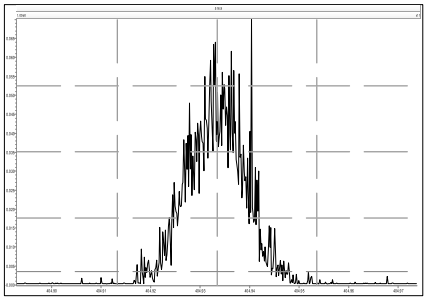

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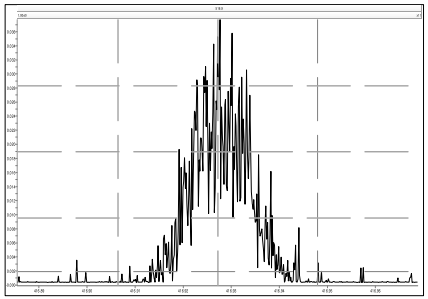

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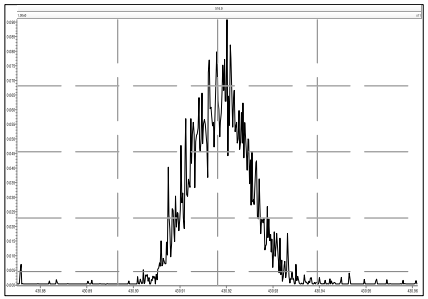

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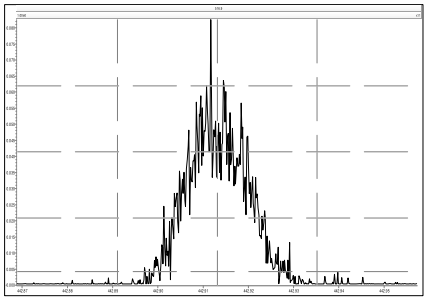

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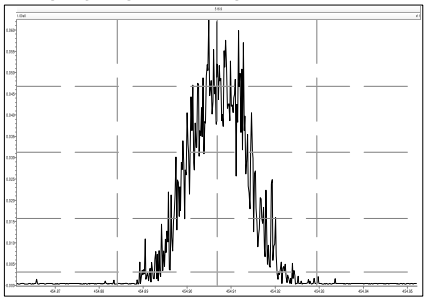

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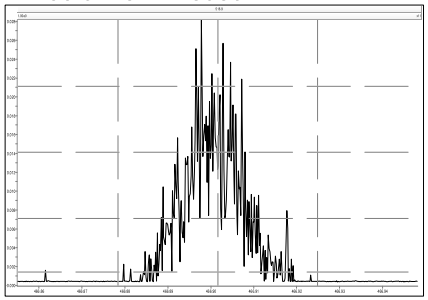

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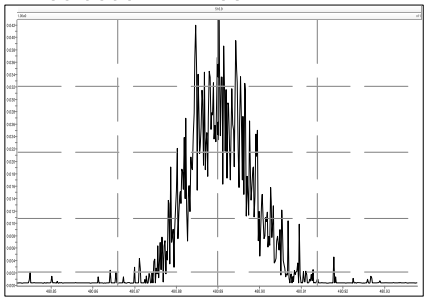

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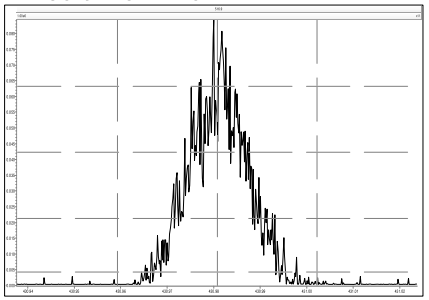

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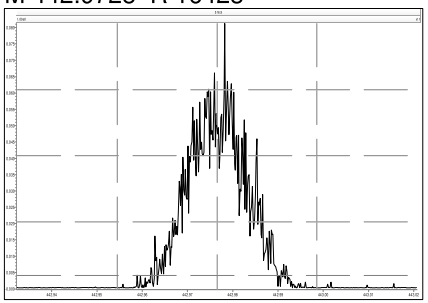

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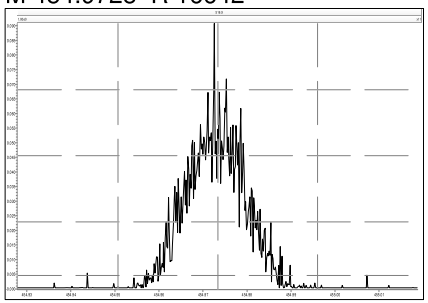

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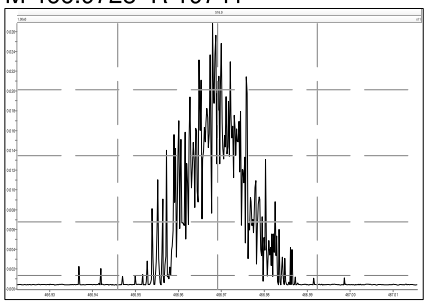

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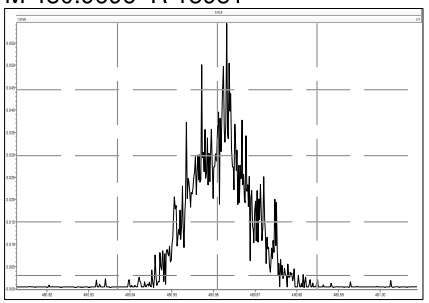

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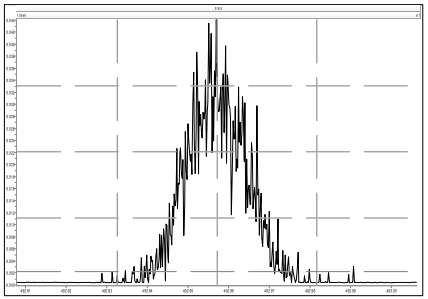

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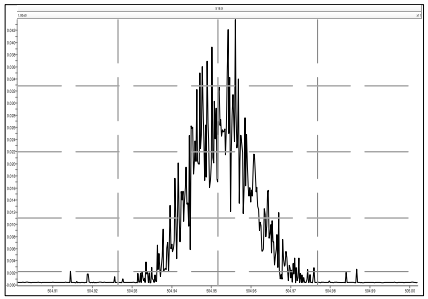

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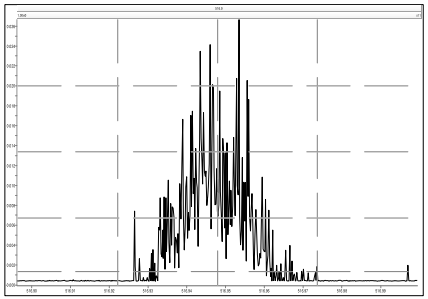

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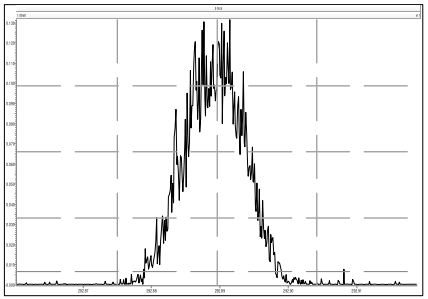

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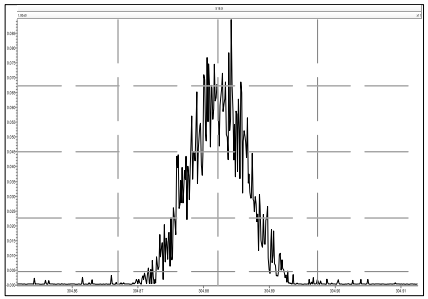

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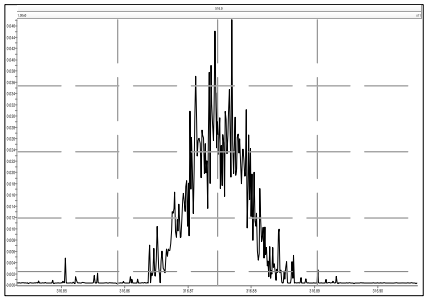

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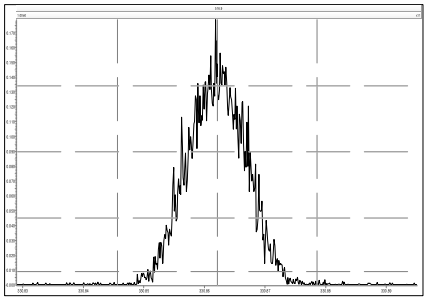

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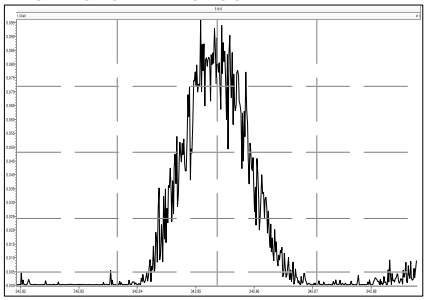
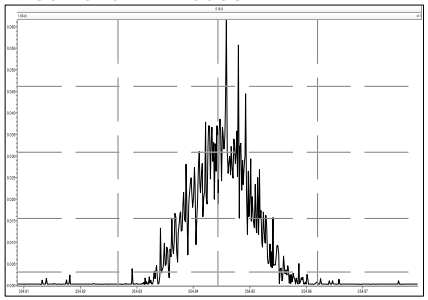


M 354.9792 R 16953



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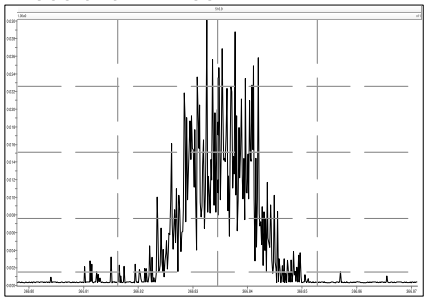

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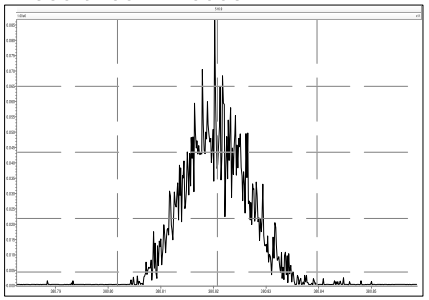

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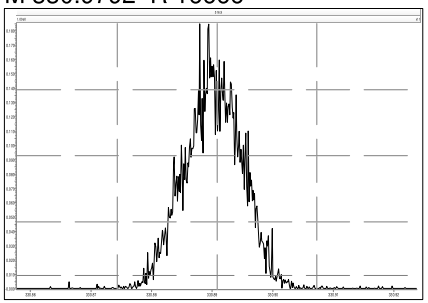

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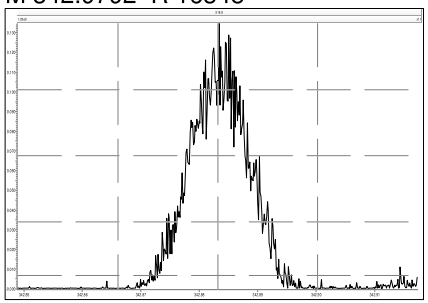

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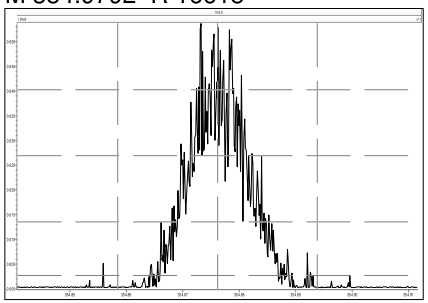

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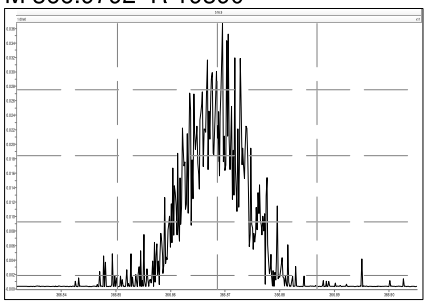

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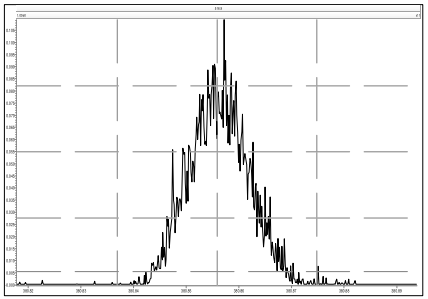

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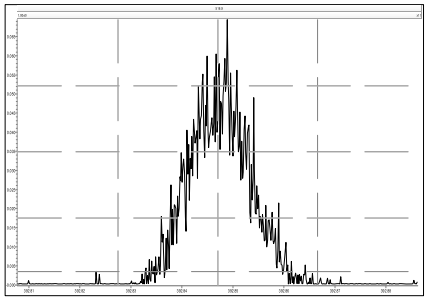

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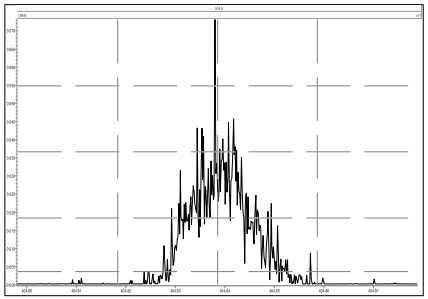

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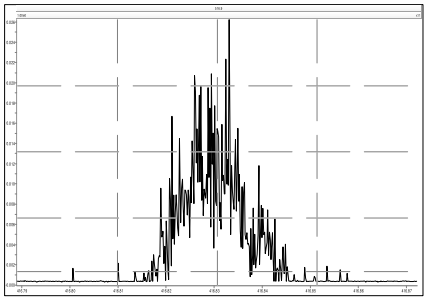

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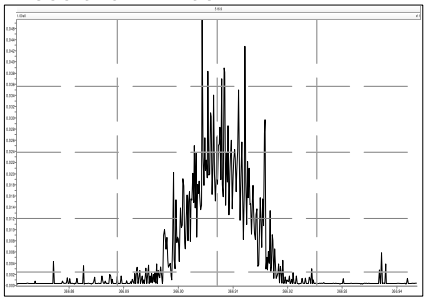
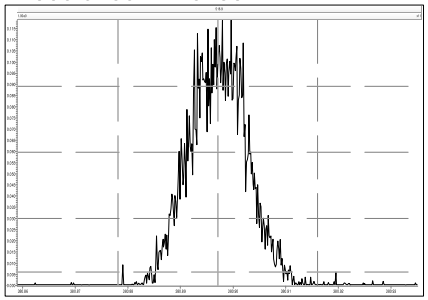


M 380.9760 R 16433



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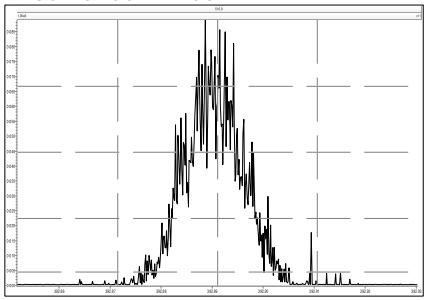

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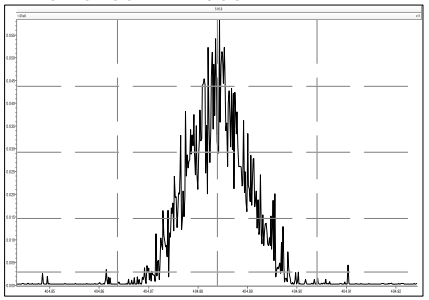
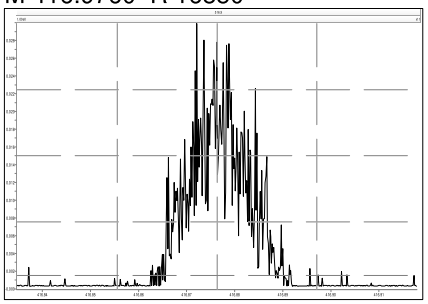
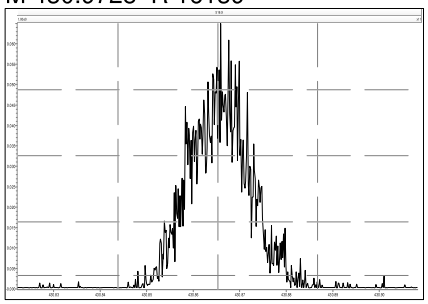


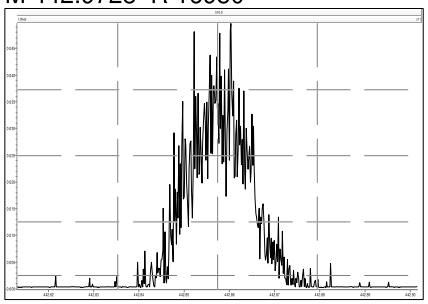
M 416.9760 R 16850



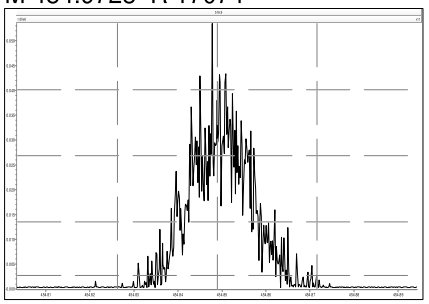
M 430.9728 R 16139



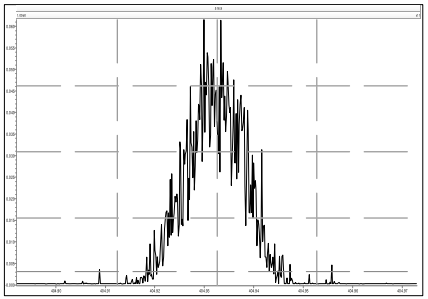
M 442.9728 R 16950



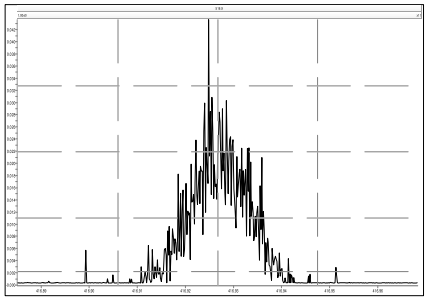
M 454.9728 R 17074



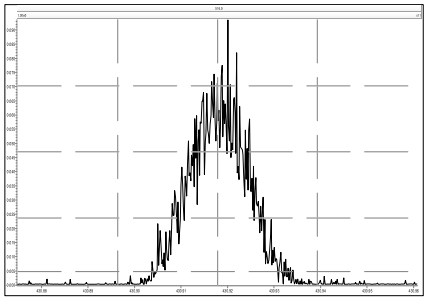
M 404.9760 R 17414



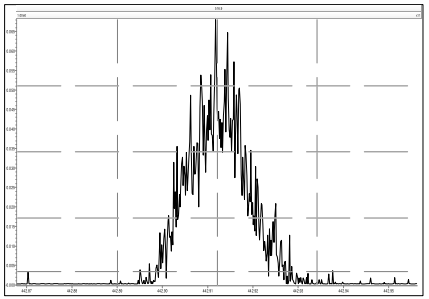
M 416.9760 R 20251



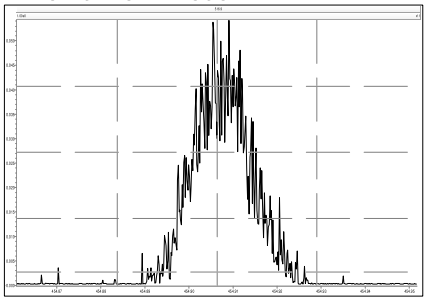
M 430.9728 R 16234



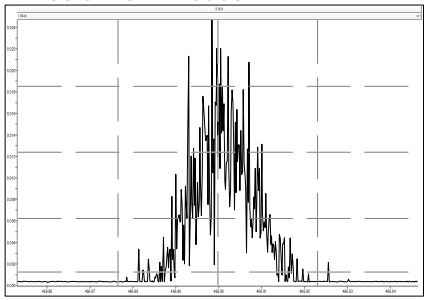
M 442.9728 R 16307



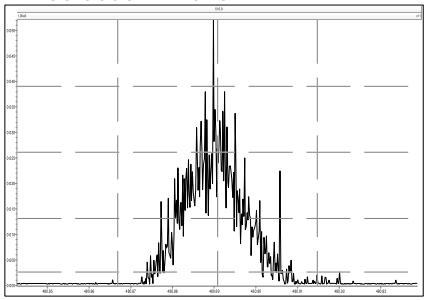
M 454.9728 R 15982



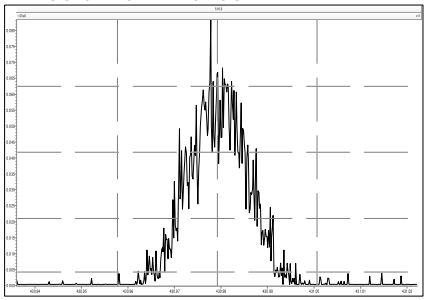
M 466.9728 R 18900



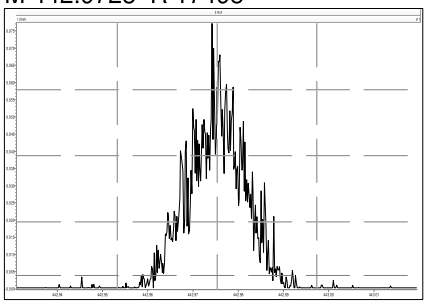
M 480.9696 R 16131



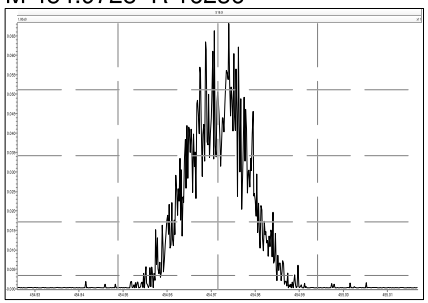
M 430.9728 R 16753



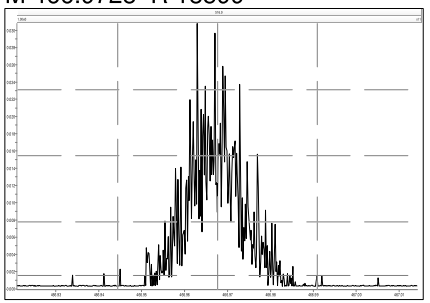
M 442.9728 R 17495



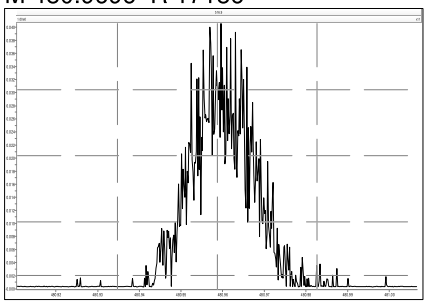
M 454.9728 R 16236



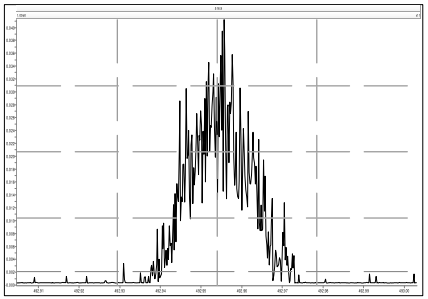
M 466.9728 R 18599



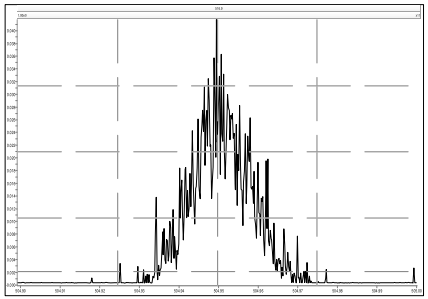
M 480.9696 R 17186



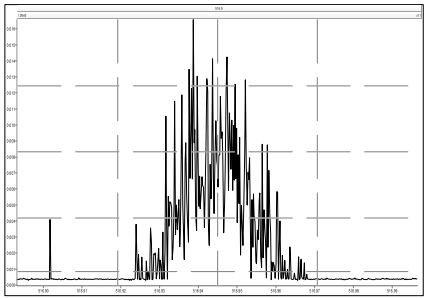
M 492.9696 R 17549



M 504.9696 R 16744



M 516.9697 R 18747



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34 ✓	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98 ✓
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84 ✓	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86 ✓	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07 ✓	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10 ✓	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28 ✓	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
Tyler_Fritz , 11/11/2021, 4:44:03 PM

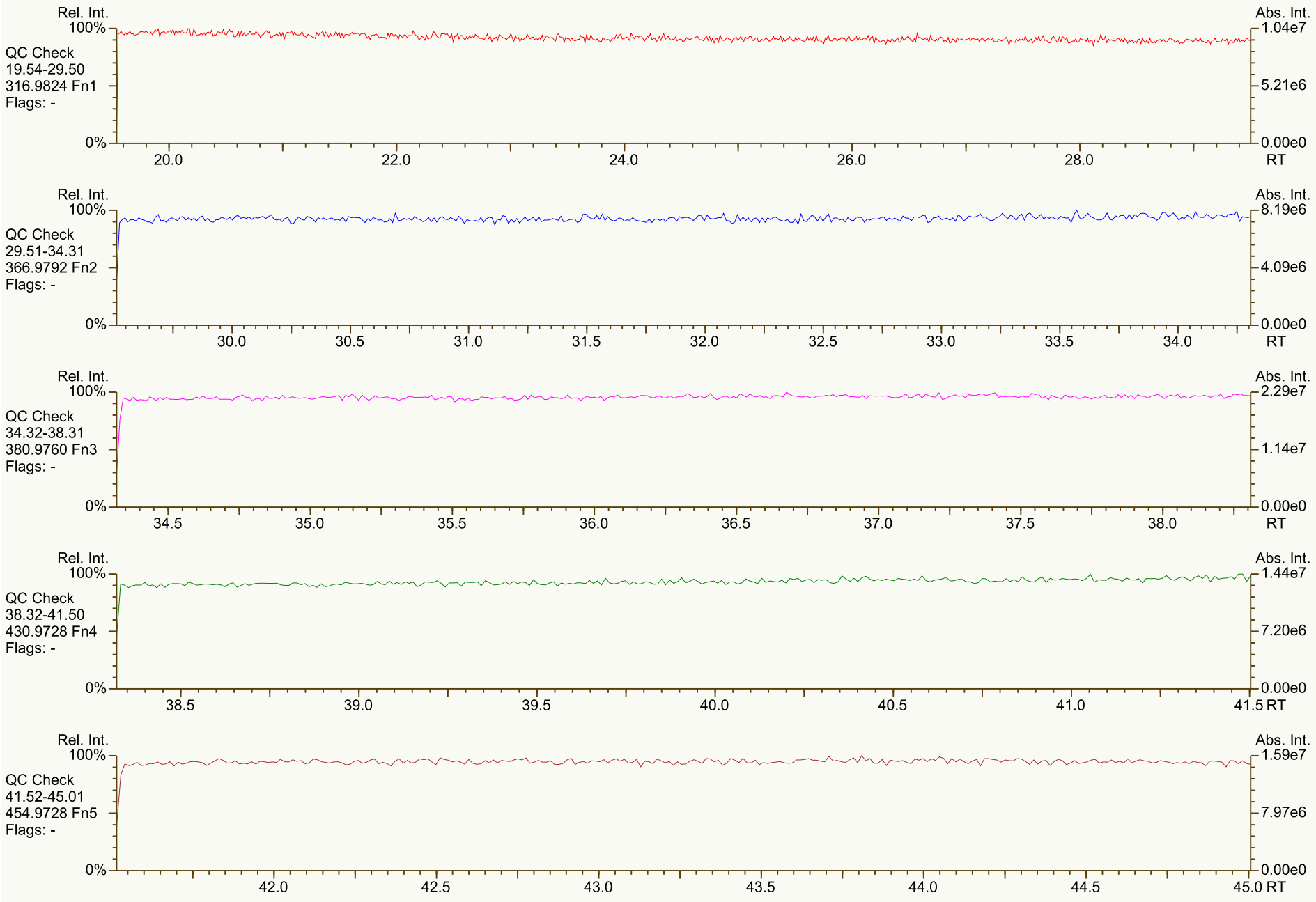
APPROVED
Amy_Boehm , 11/11/2021, 5:28:50 PM

Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

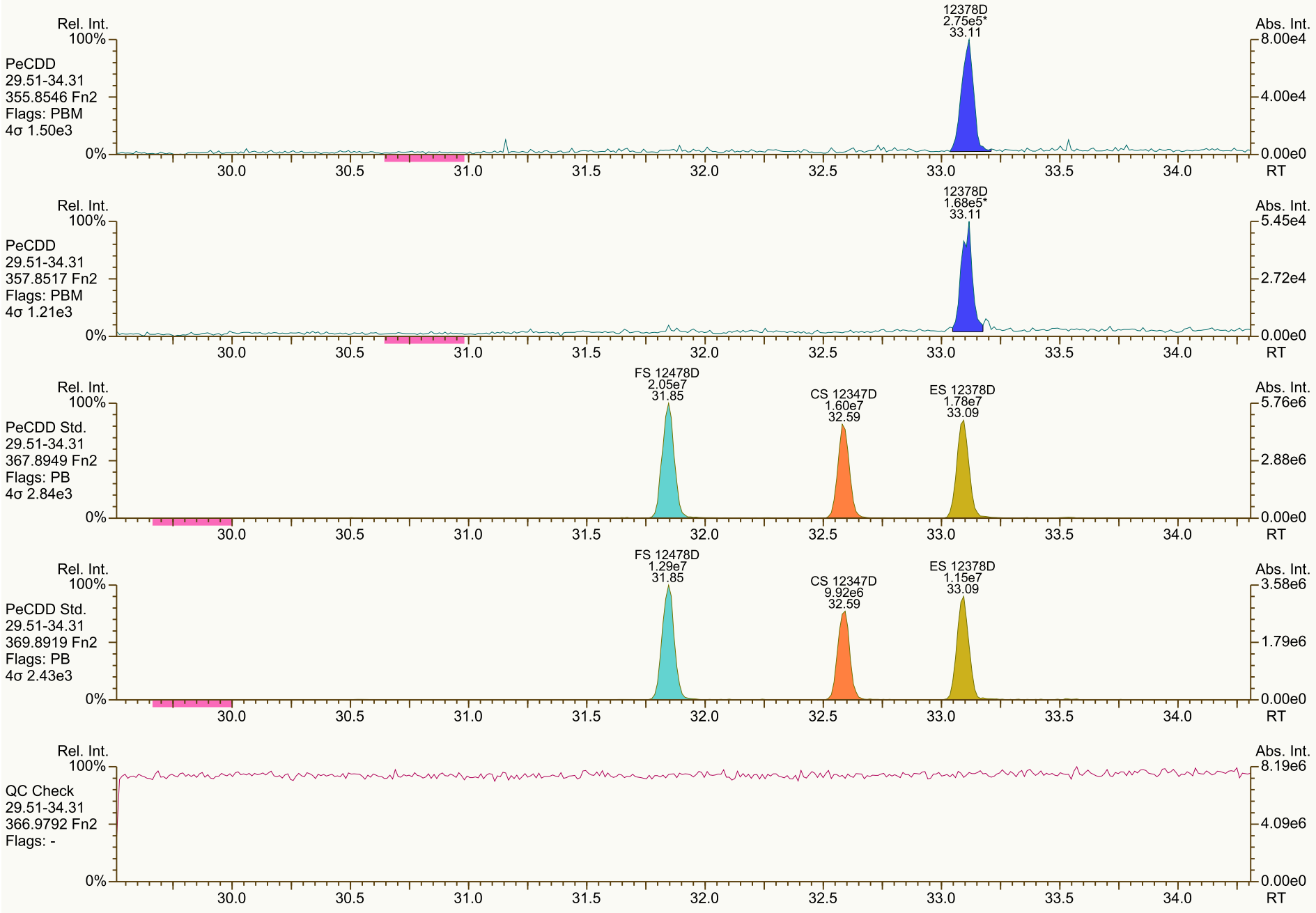
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

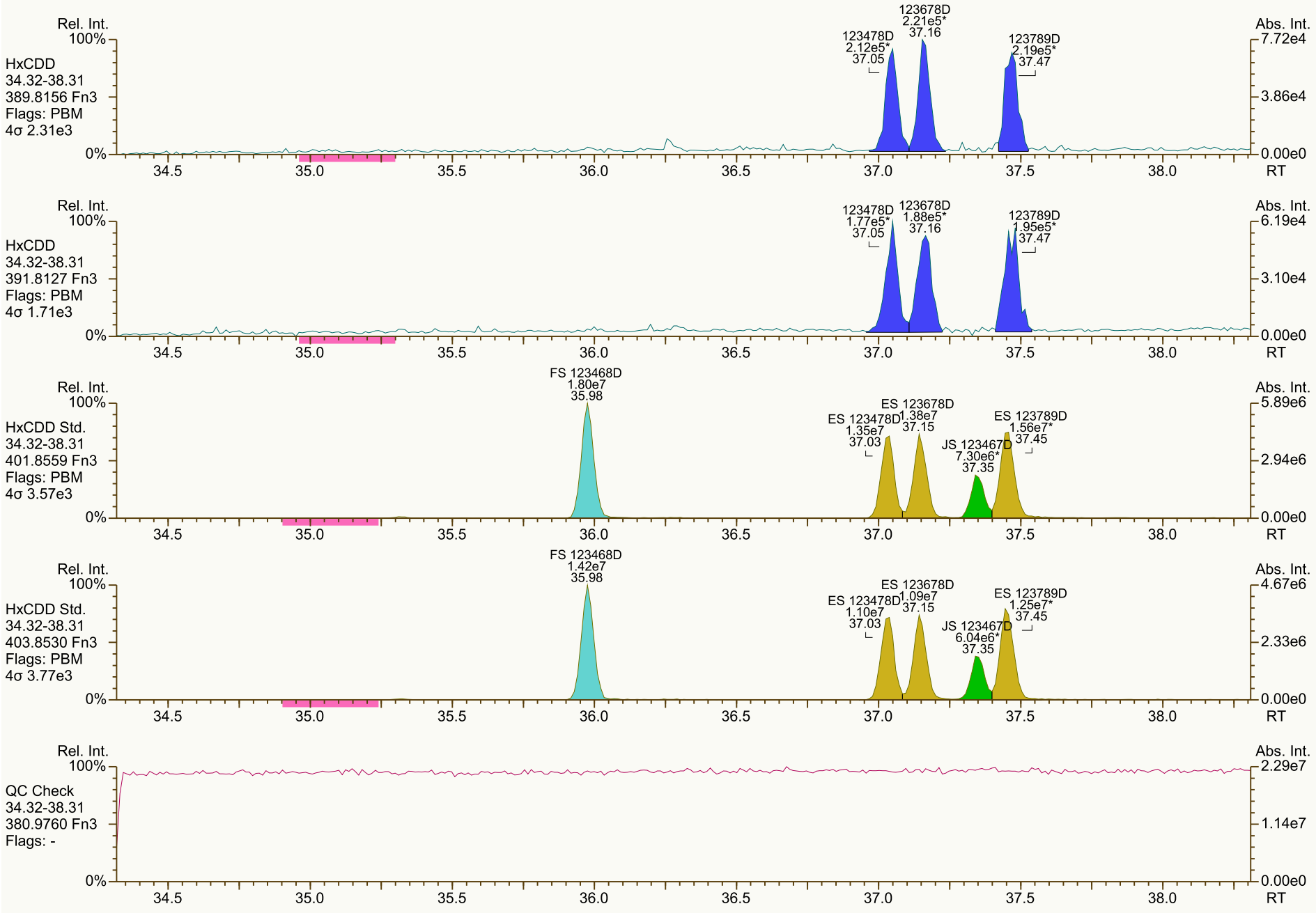
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF				Checkcode: 245-007-QLD	
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C04	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.04e7
5.21e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.19e6
4.09e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.29e7
1.14e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.44e7
7.20e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.97e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
0%
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
Abs. Int.
1.67e4
8.35e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
2.13e4
1.06e4
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6

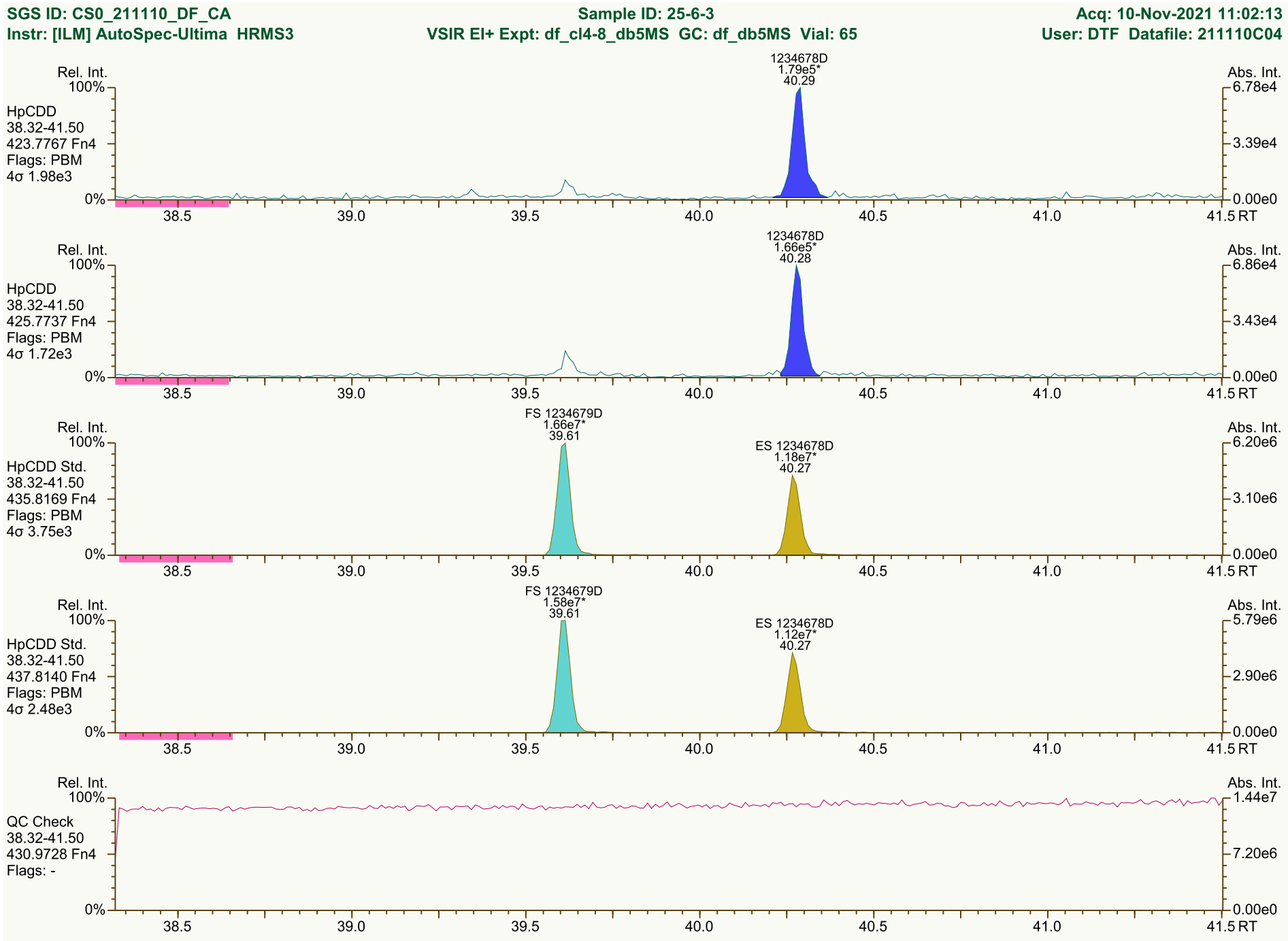

Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
123478D
2.12e5*
37.05
123678D
2.21e5*
37.16
123789D
2.19e5*
37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
123478D
1.77e5*
37.05
123678D
1.88e5*
37.16
123789D
1.95e5*
37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
FS 123468D
1.80e7
35.98
ES 123678D
1.38e7
37.15
ES 123478D
1.35e7
37.03
ES 123789D
1.56e7*
37.45
JS 123467D
7.30e6*
37.35
Abs. Int.
5.89e6
2.94e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
FS 123468D
1.42e7
35.98
ES 123678D
1.09e7
37.15
ES 123478D
1.10e7
37.03
ES 123789D
1.25e7*
37.45
JS 123467D
6.04e6*
37.35
Abs. Int.
4.67e6
2.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.29e7
1.14e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

SGS ID: CS0_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

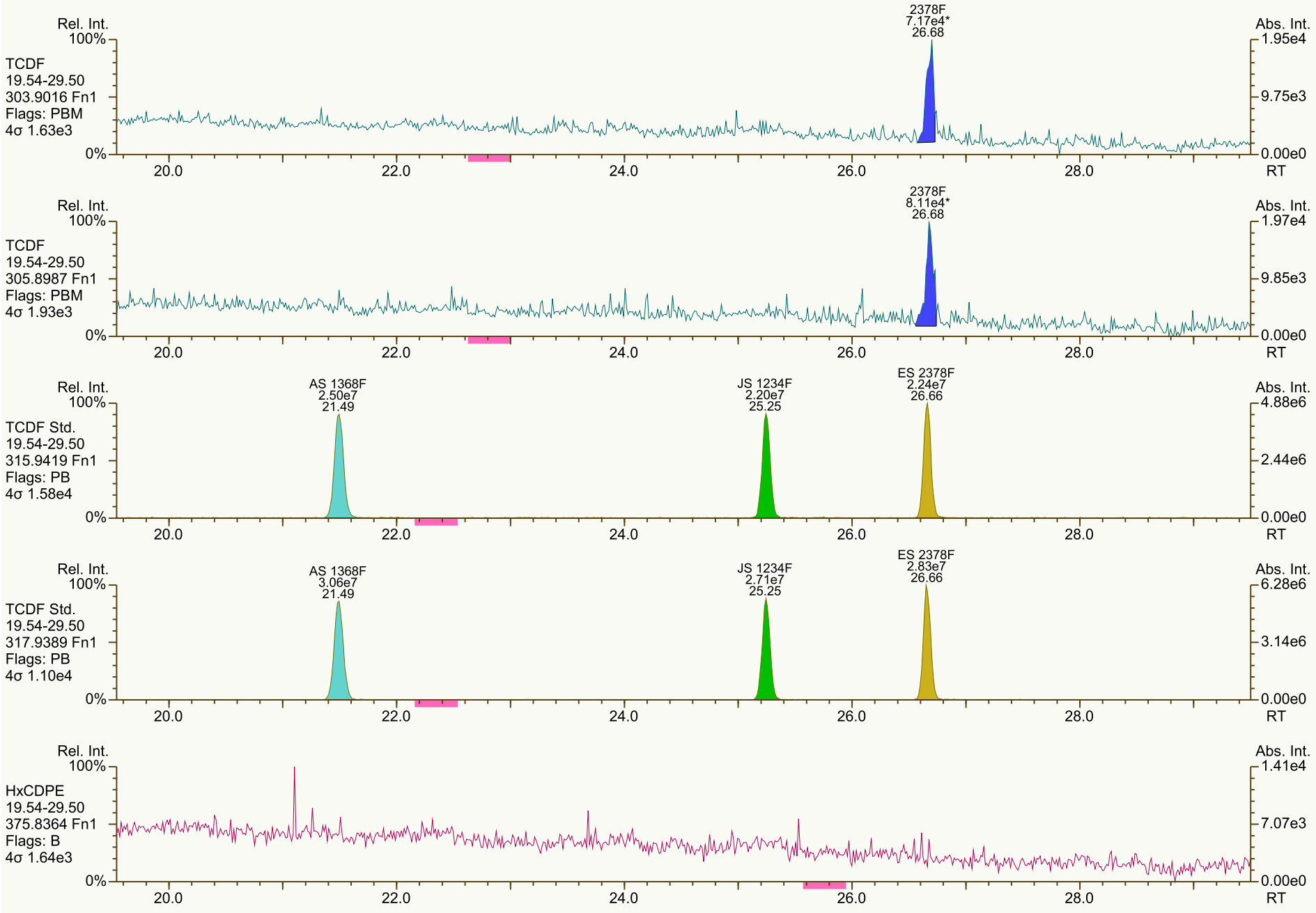
Sample ID: 25-6-3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65

Acq: 10-Nov-2021 11:02:13
User: DTF Datafile: 211110C04



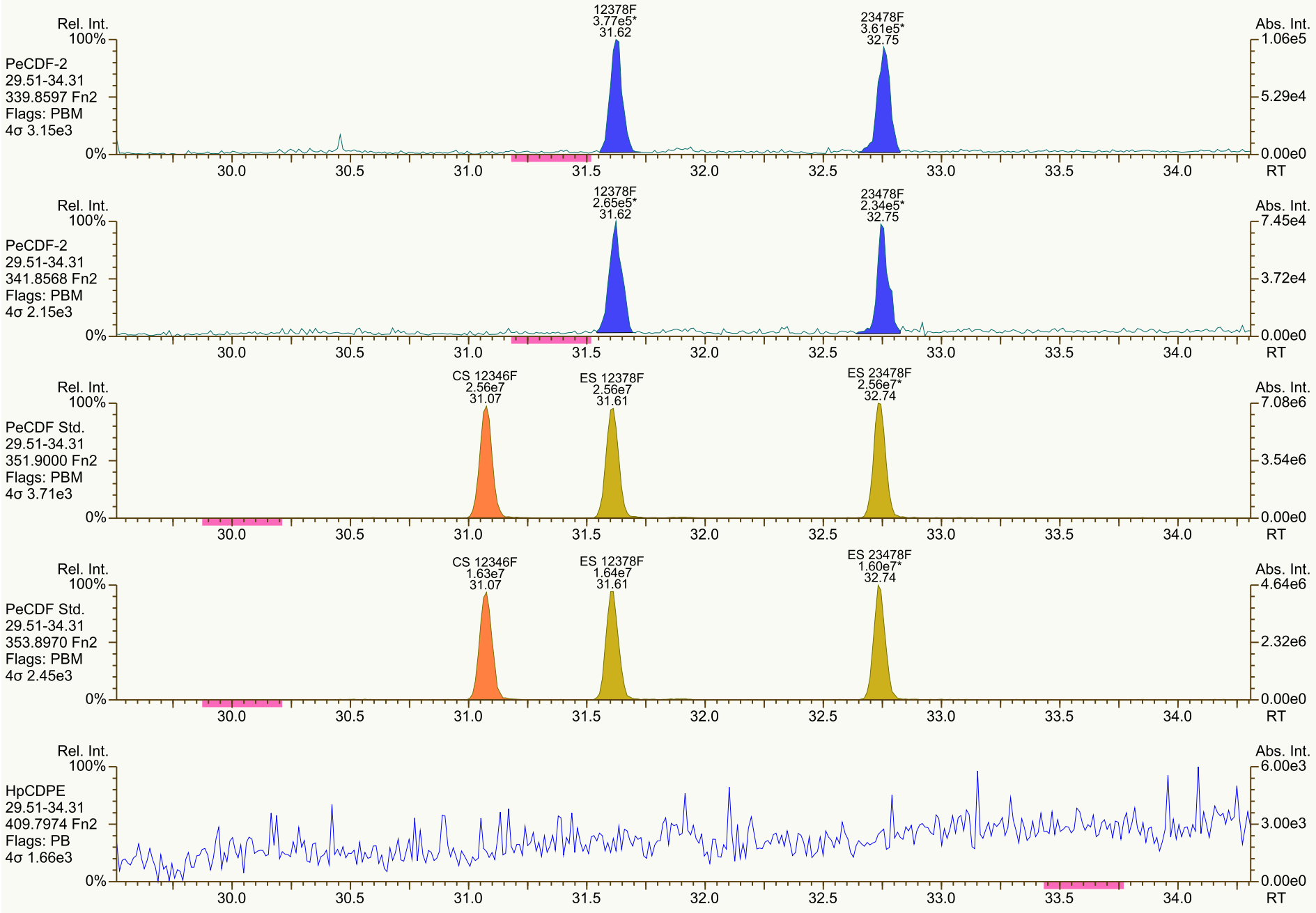
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4561, 9426 scc: 245-007
Revised: 10-Nov-2021 13:32 (DTF) Printed: 11-Nov-2021 16:32 Page 5 of 12

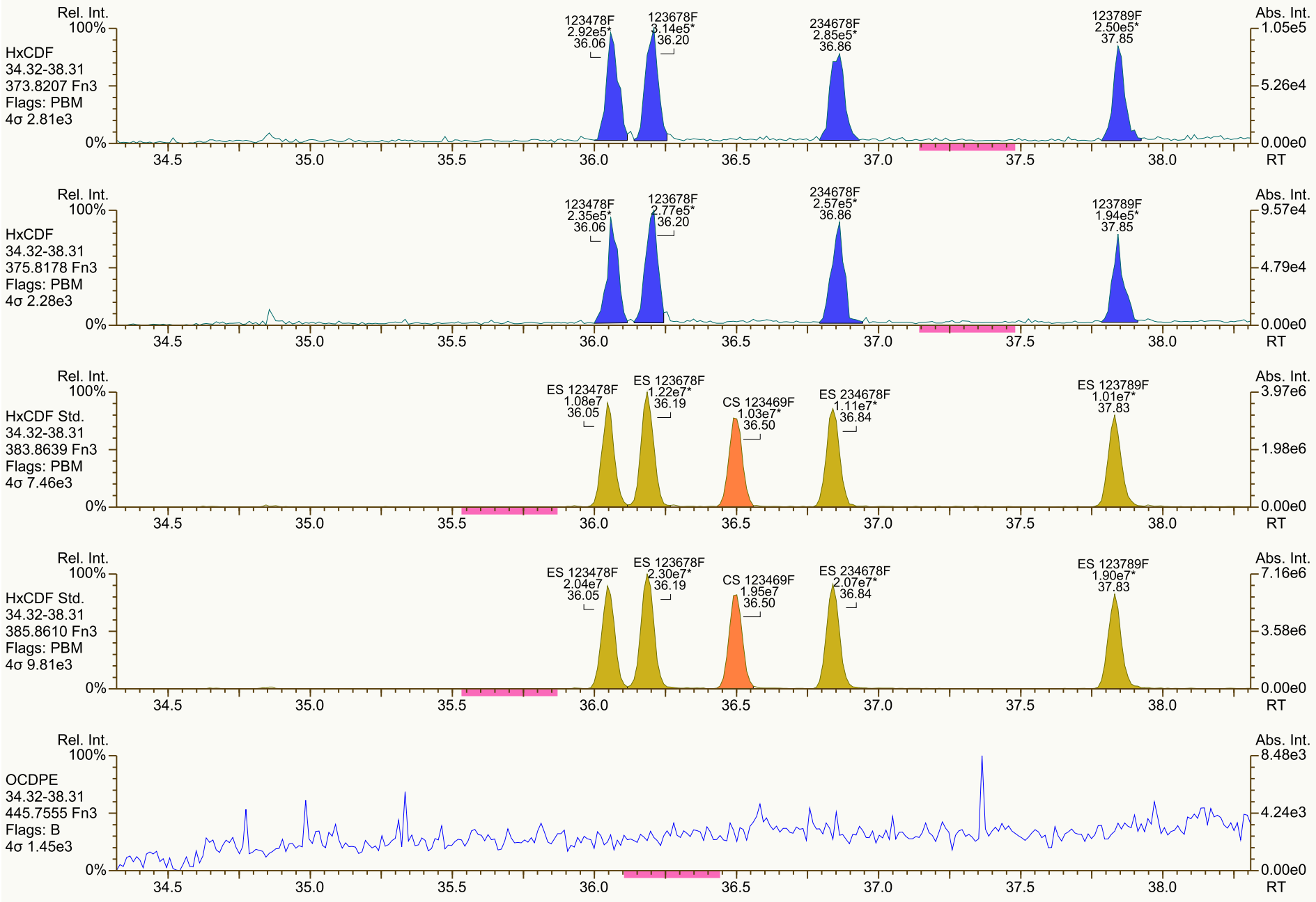

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

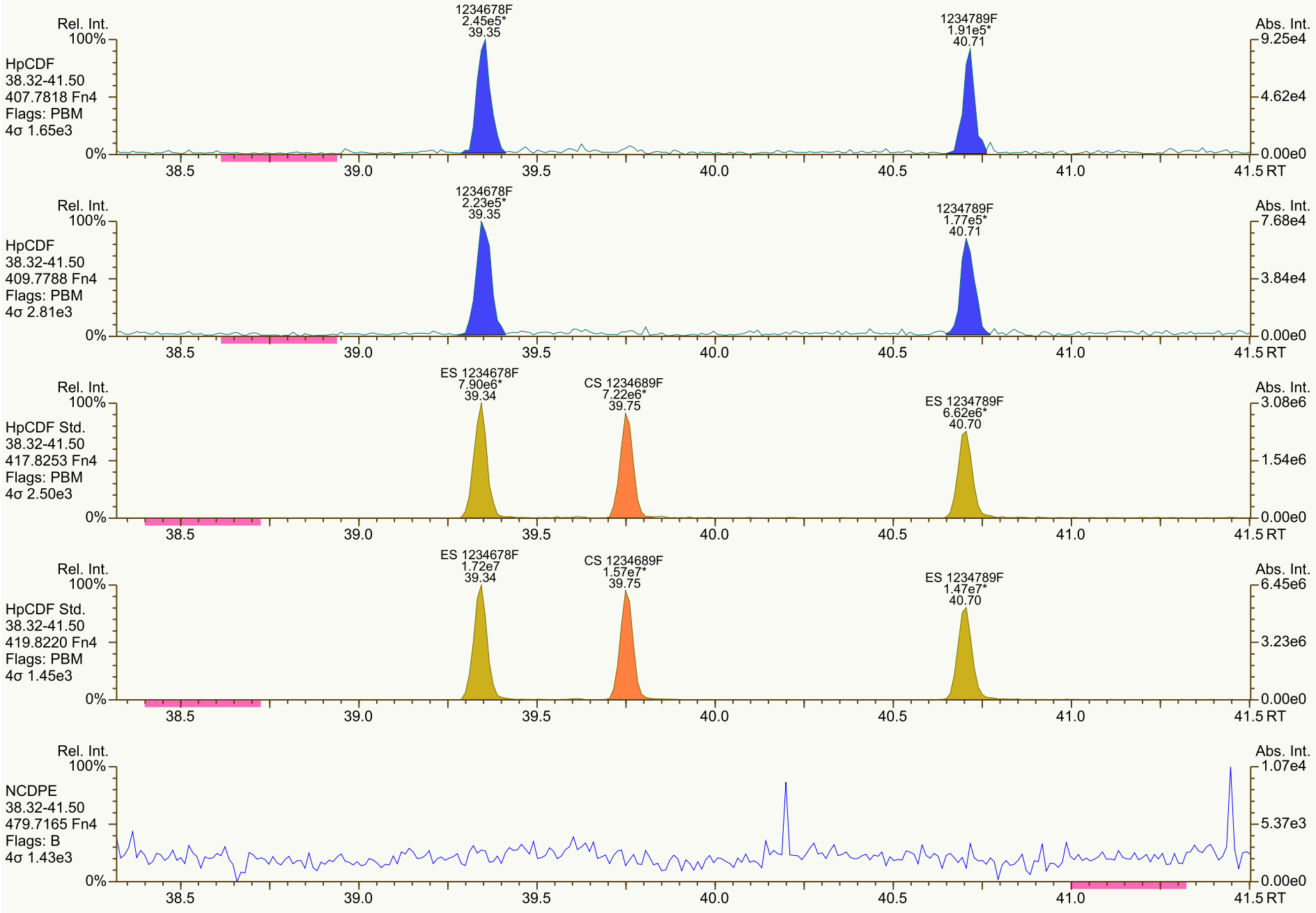

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
0%
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
0%
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
0%
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.41e4
7.07e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04




Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
0%
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
9.57e4
4.79e4
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
3.97e6
1.98e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
7.16e6
3.58e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
8.48e3
4.24e3

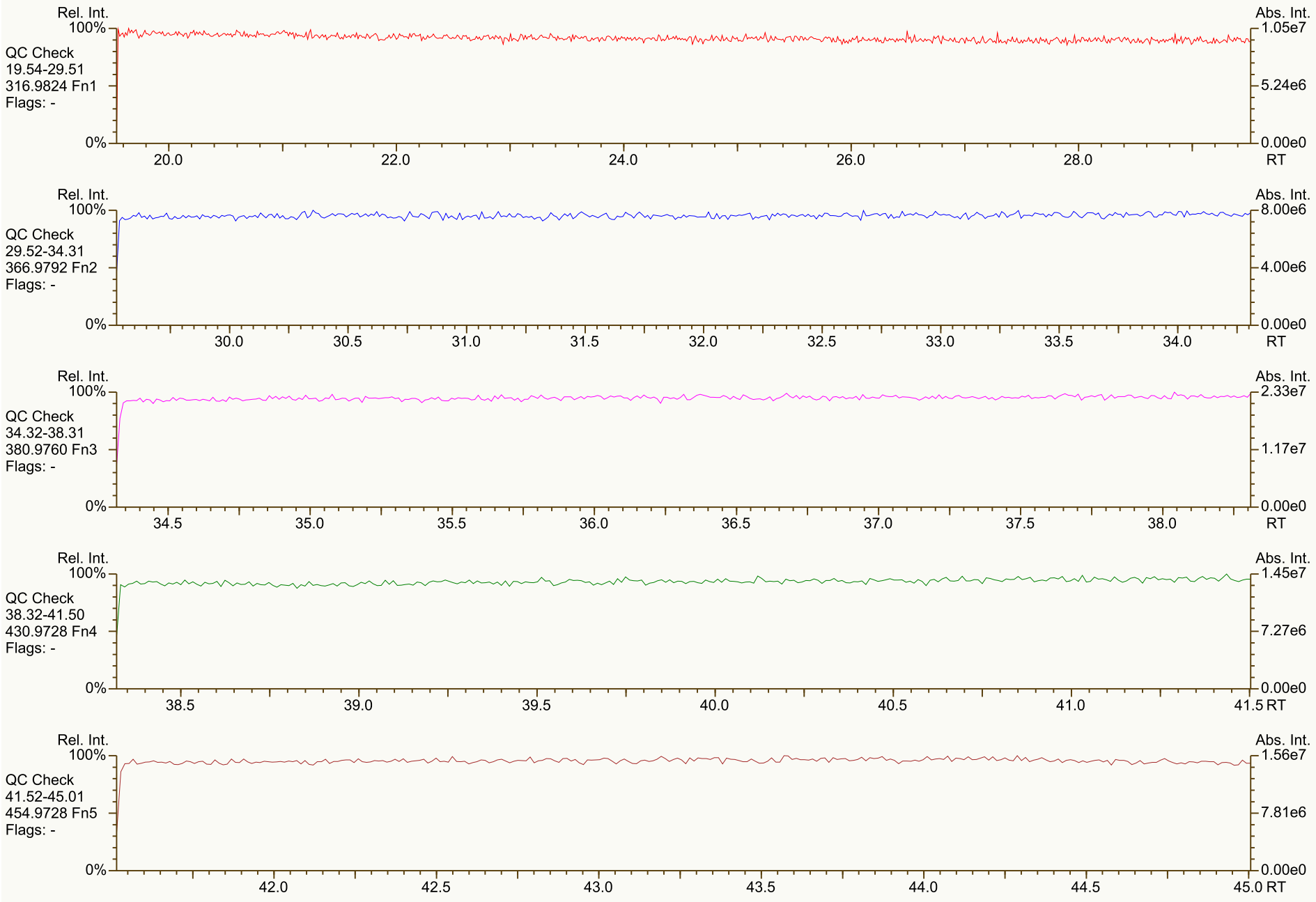

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

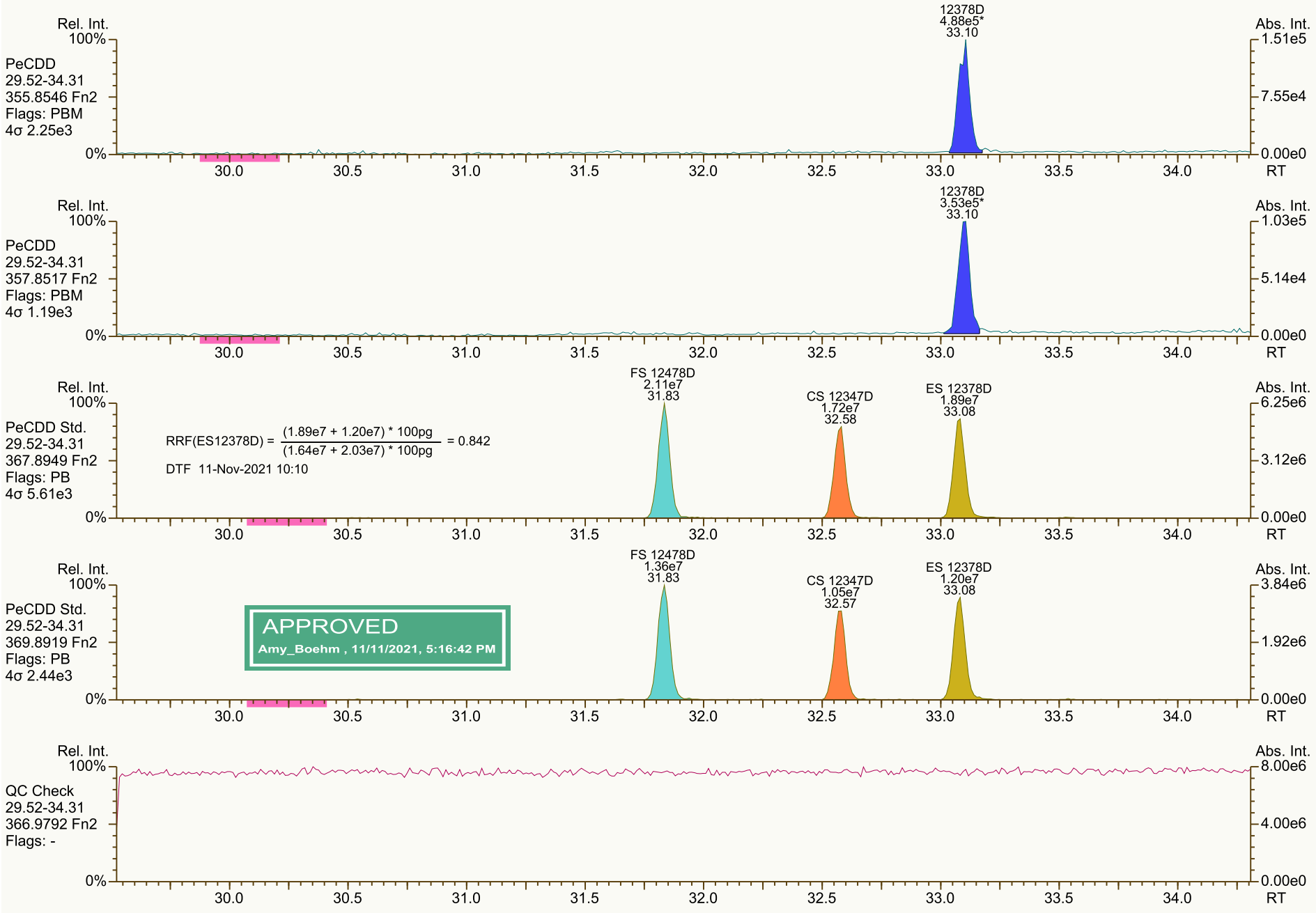
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:48 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 419-111-CRN
Sample ID: 25-6-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C05

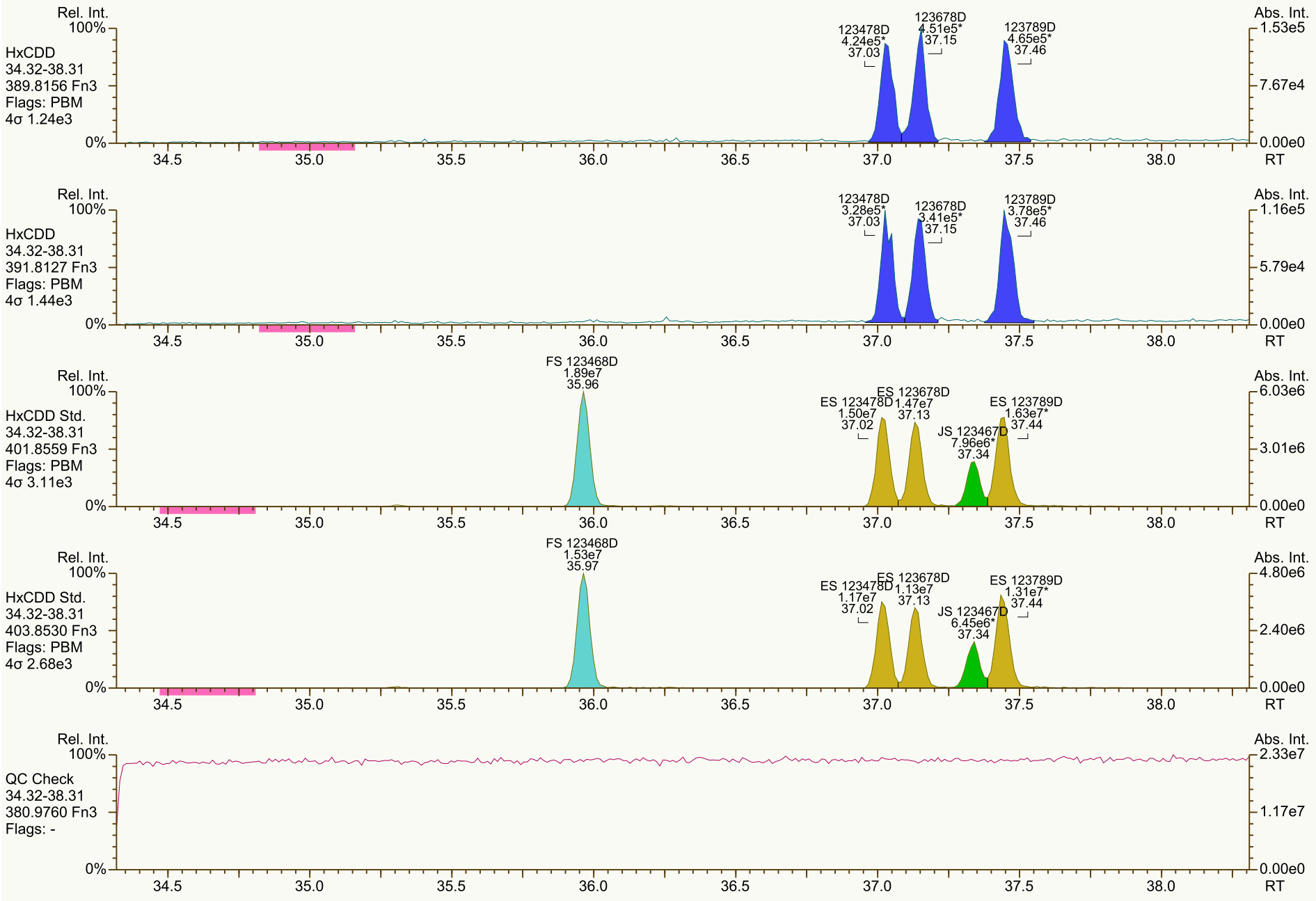
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

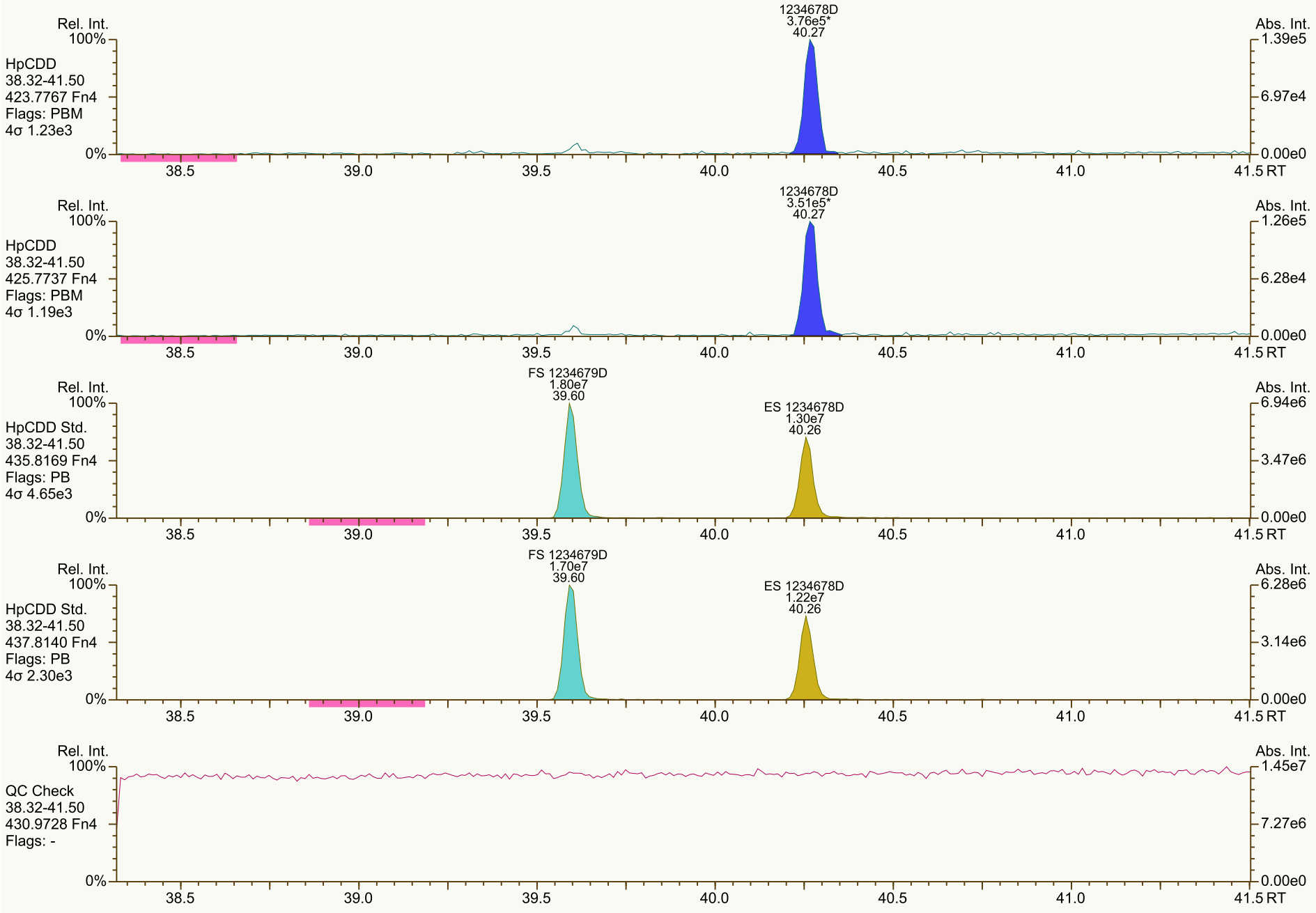
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF					Checkcode: 419-111-CRN
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C05
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

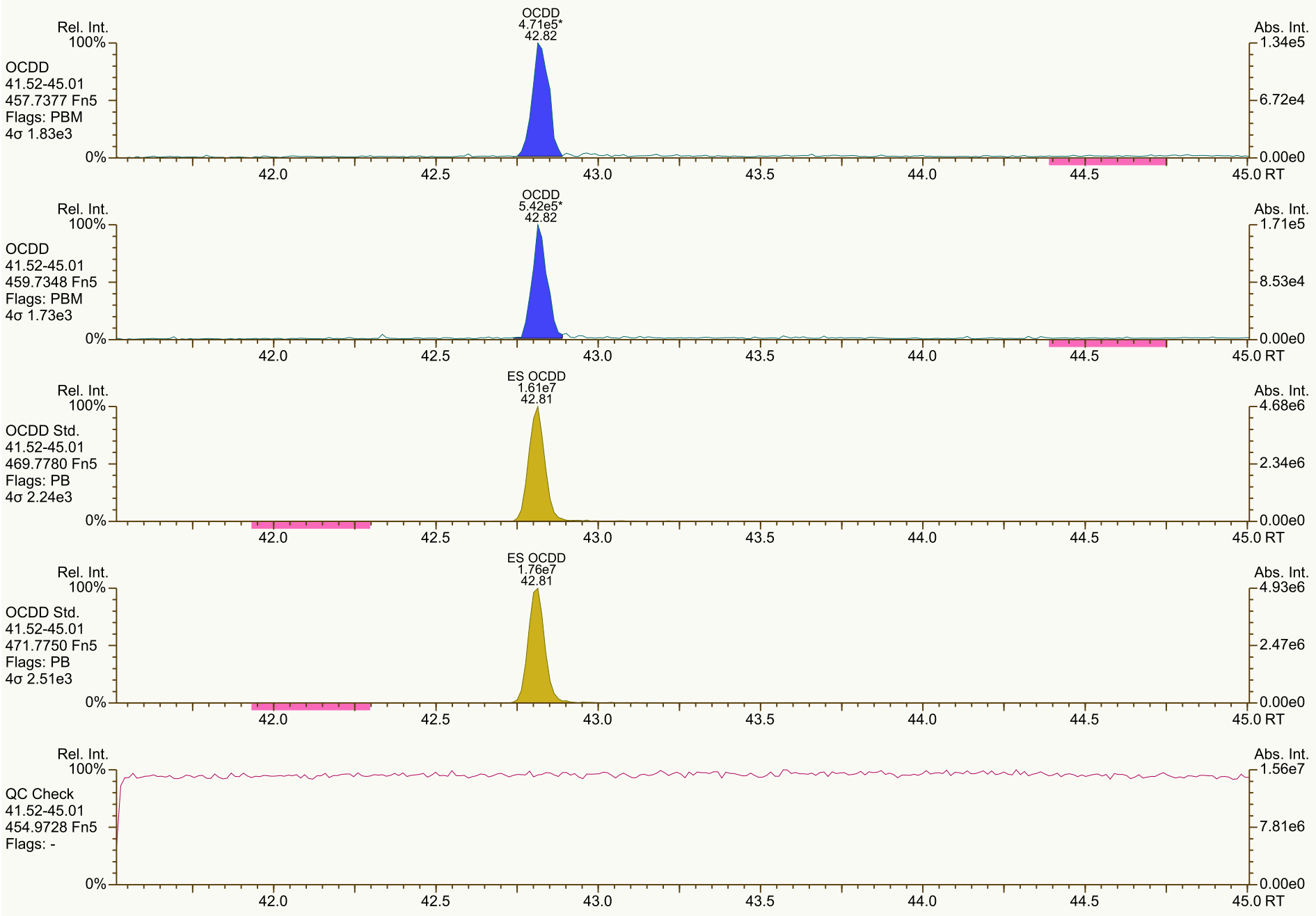

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.05e7
5.24e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.00e6
4.00e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.27e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.56e7
7.81e6
0.00e0

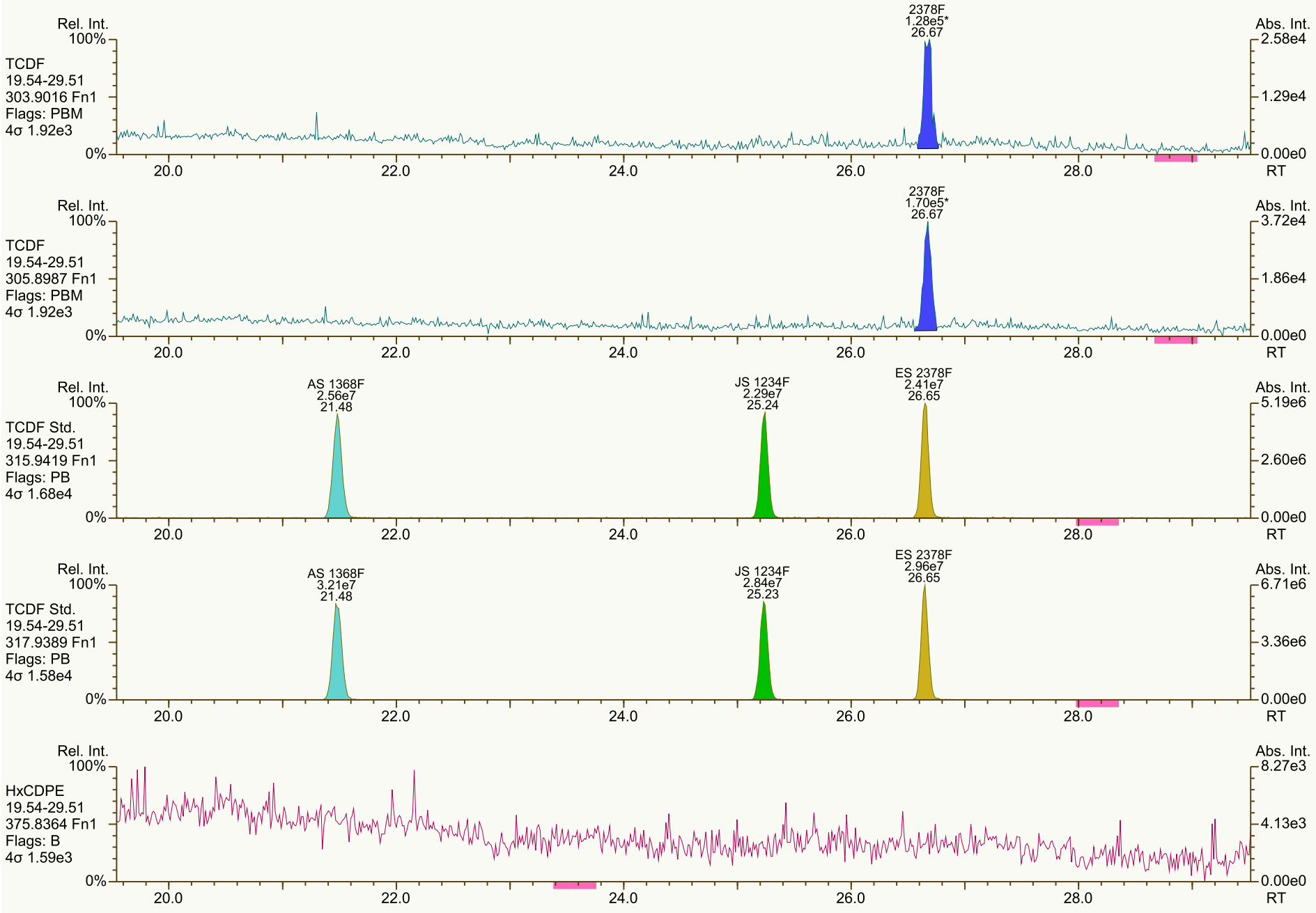

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT

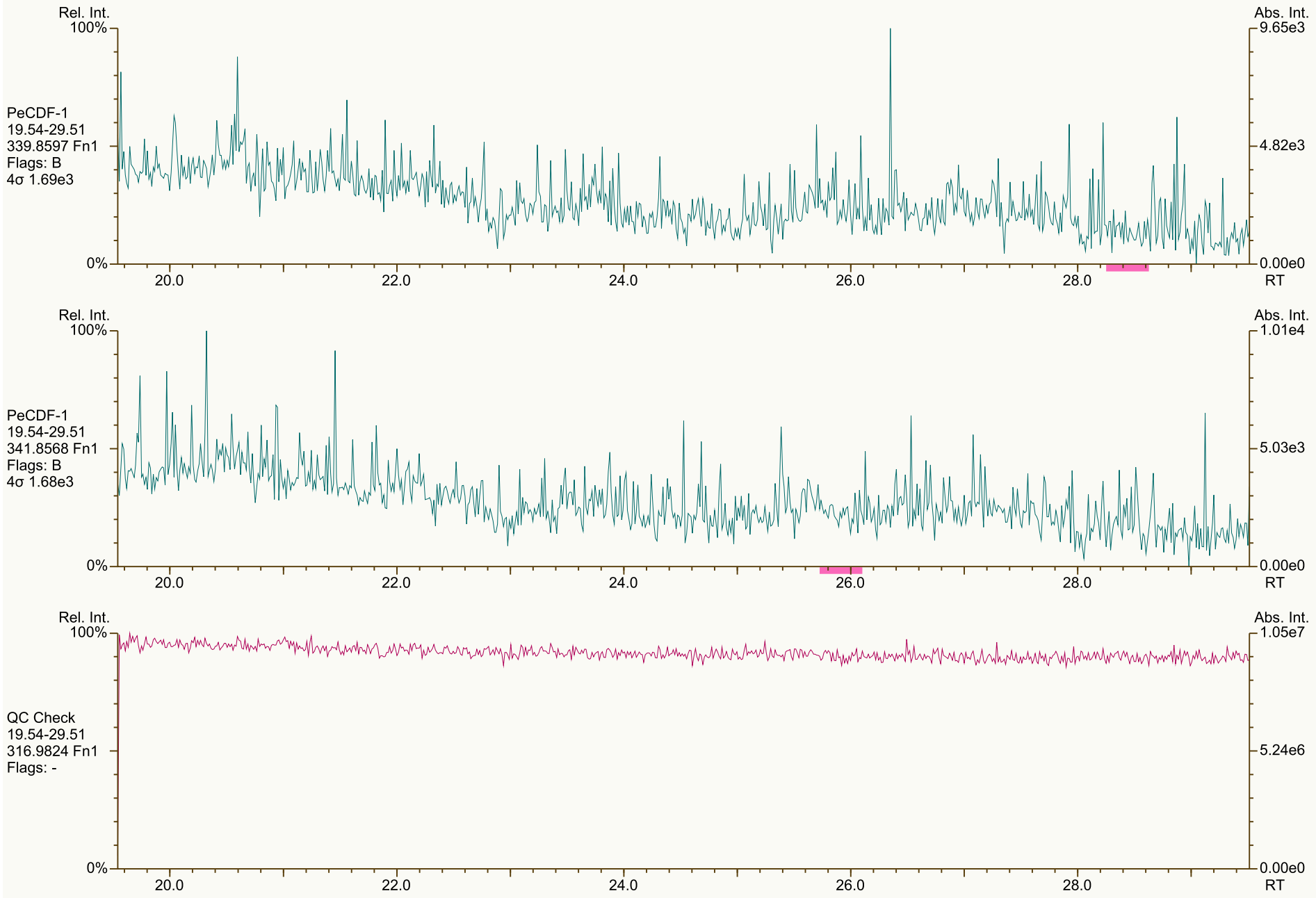

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123478D
1.50e7
37.02
ES 123678D
1.47e7
37.13
JS 123467D
7.96e6*
37.34
ES 123789D
1.63e7*
37.44
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123478D
1.17e7
37.02
ES 123678D
1.13e7
37.13
JS 123467D
6.45e6*
37.34
ES 123789D
1.31e7*
37.44
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

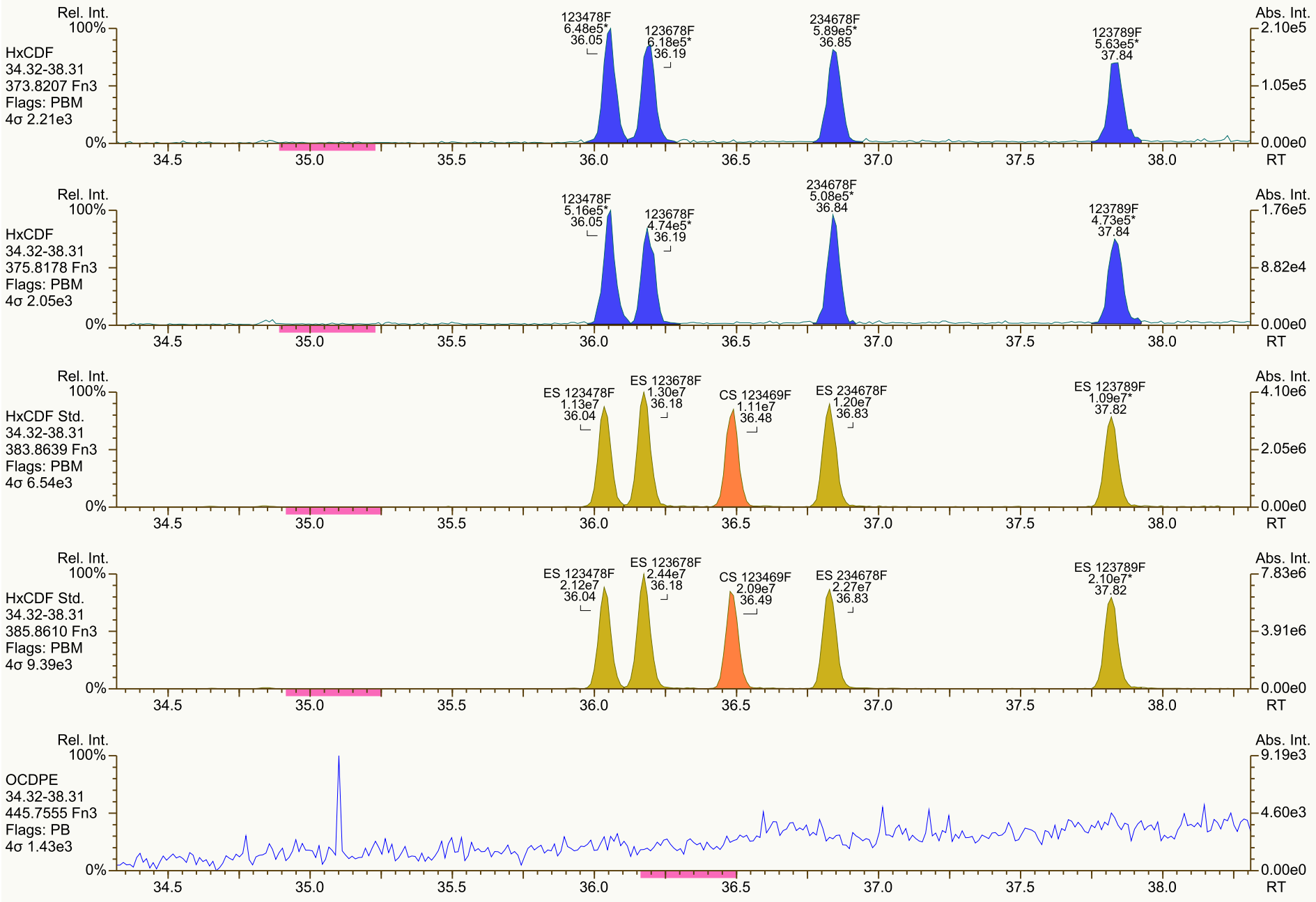

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT

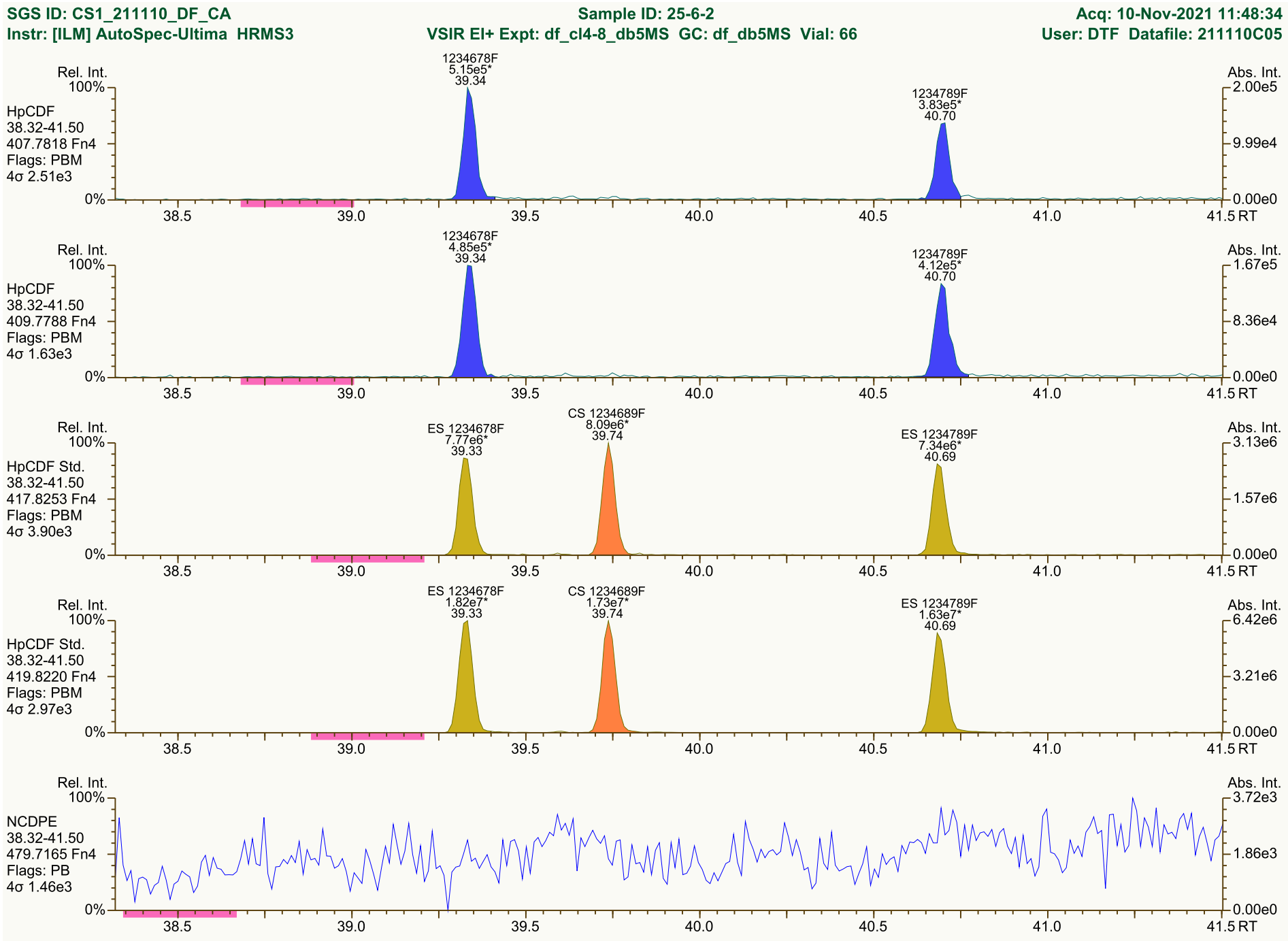

Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
Abs. Int.
1.40e5
7.02e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
Abs. Int.
7.54e6
3.77e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
Abs. Int.
4.85e6
2.42e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
Abs. Int.
1.10e4
5.51e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
0%
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
1.76e5
8.82e4
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
4.10e6
2.05e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
7.83e6
3.91e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
9.19e3
4.60e3

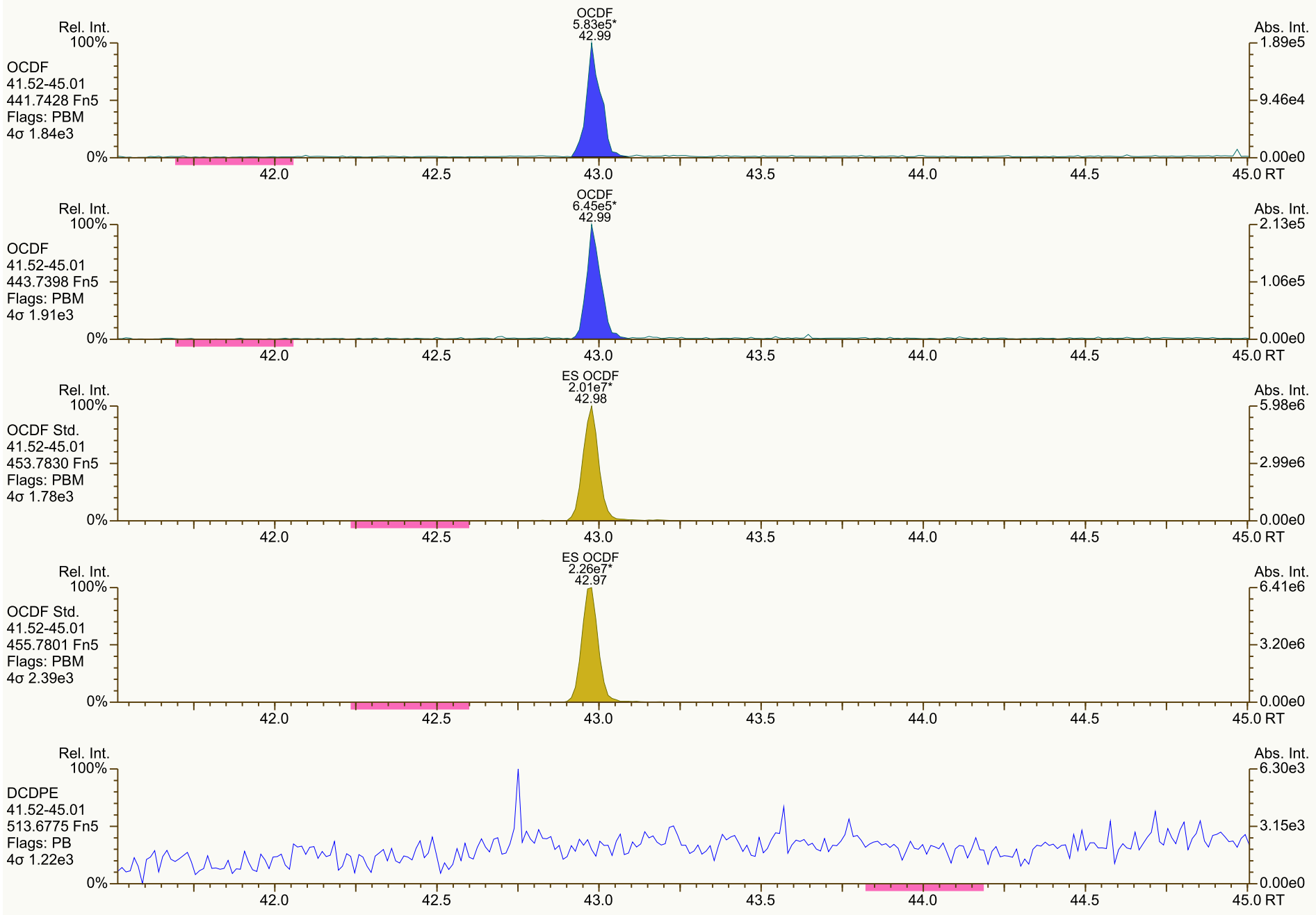
SGS ID: CS1_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 25-6-2
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66

Acq: 10-Nov-2021 11:48:34
User: DTF Datafile: 211110C05



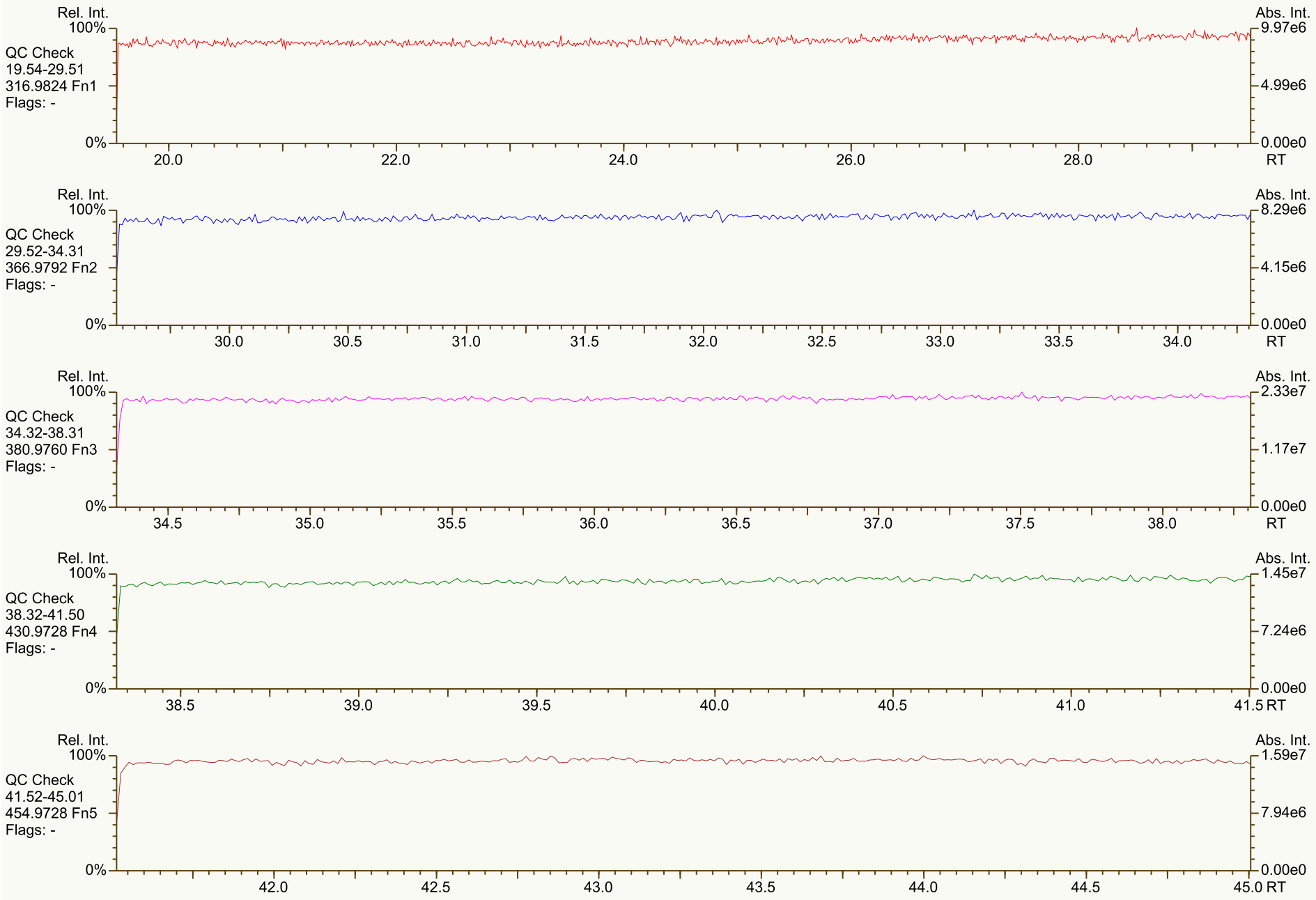
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3913, 8502, 2889 scc: 419-111
Revised: 10-Nov-2021 13:39 (DTF) Printed: 11-Nov-2021 10:40 Page 11 of 12


OCDF
5.83e5*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
6.45e5*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.26e7*
42.97
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

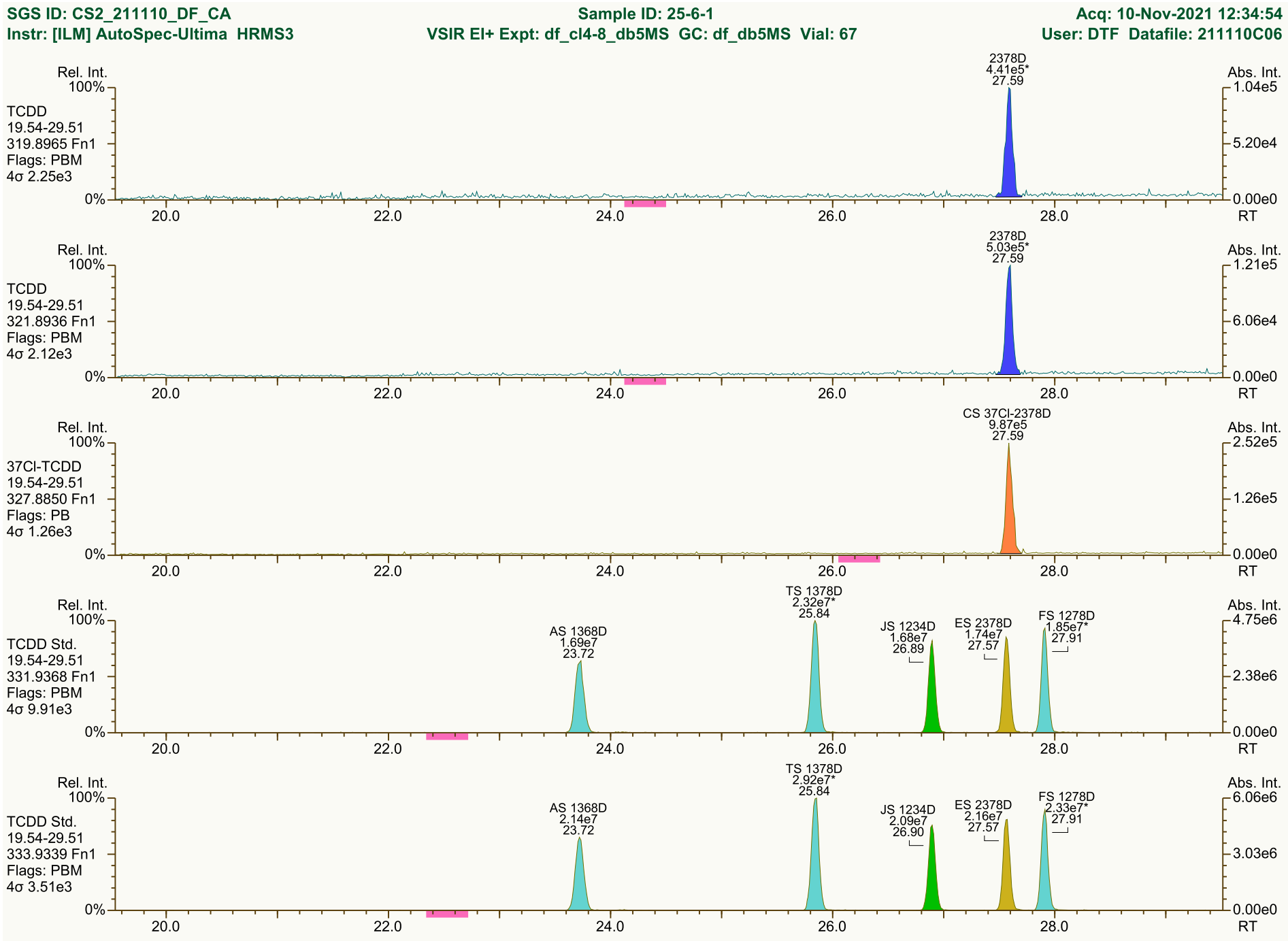
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

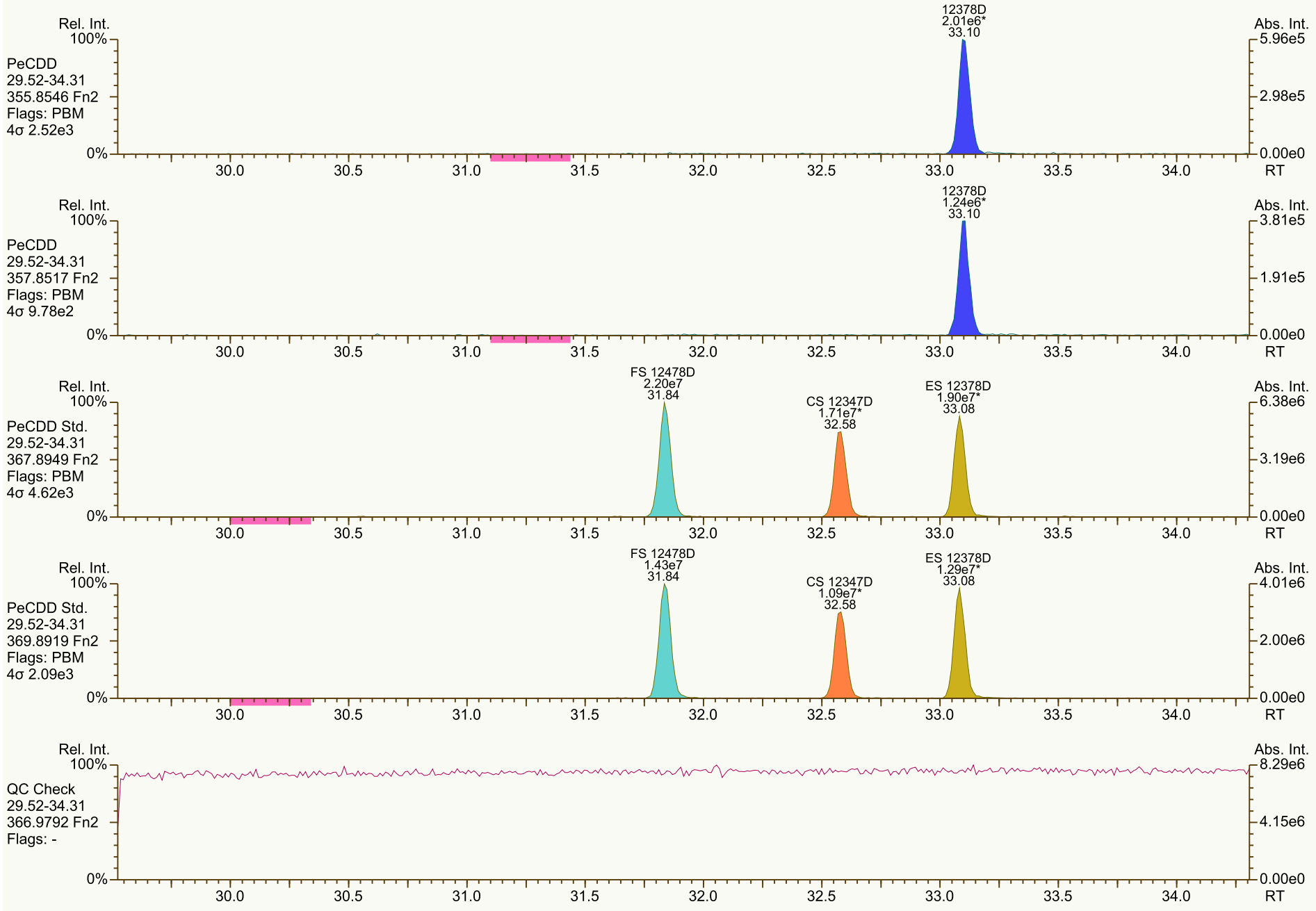
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

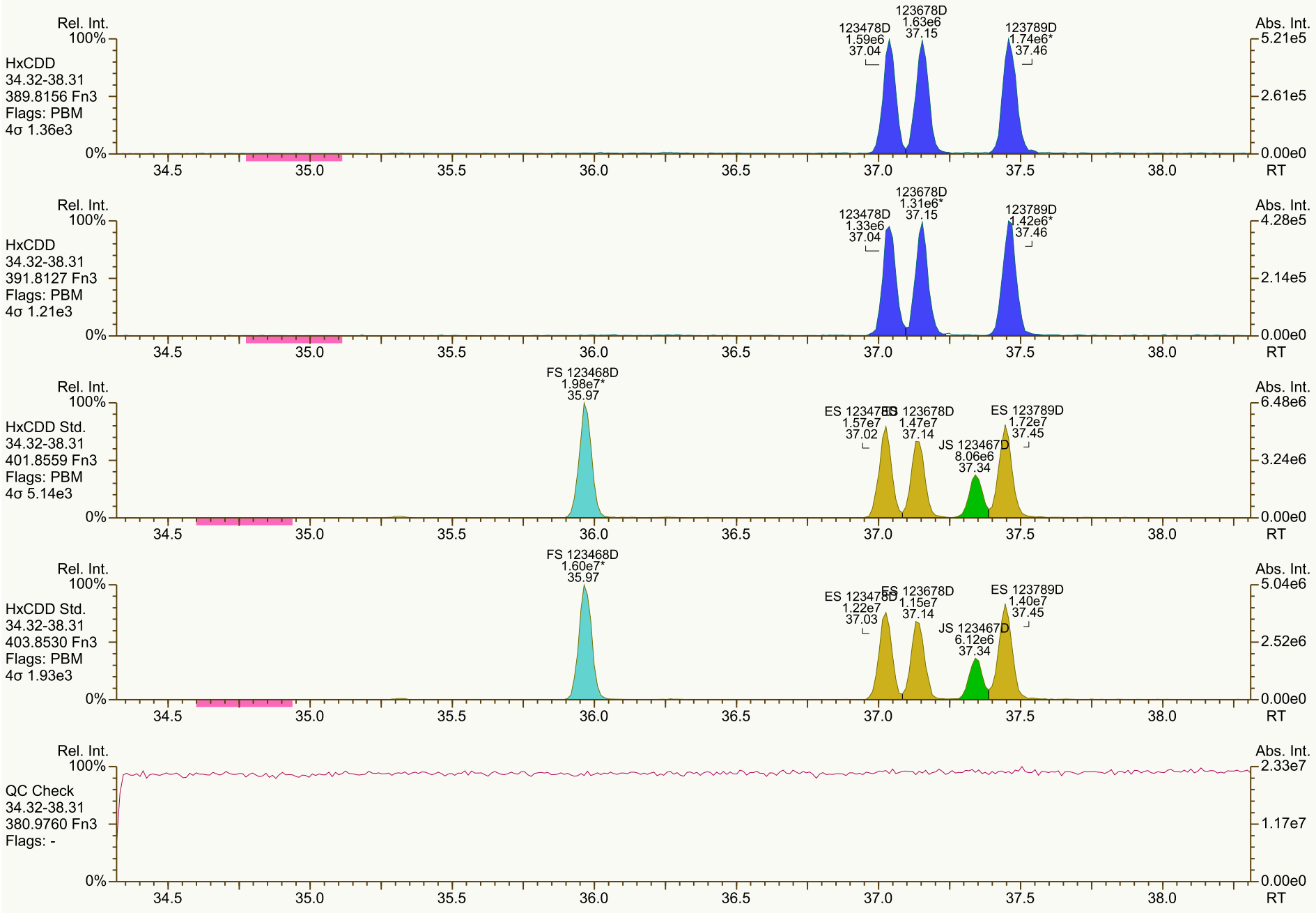
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 12:34 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS2_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 385-758-WQN	
Sample ID: 25-6-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C06	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

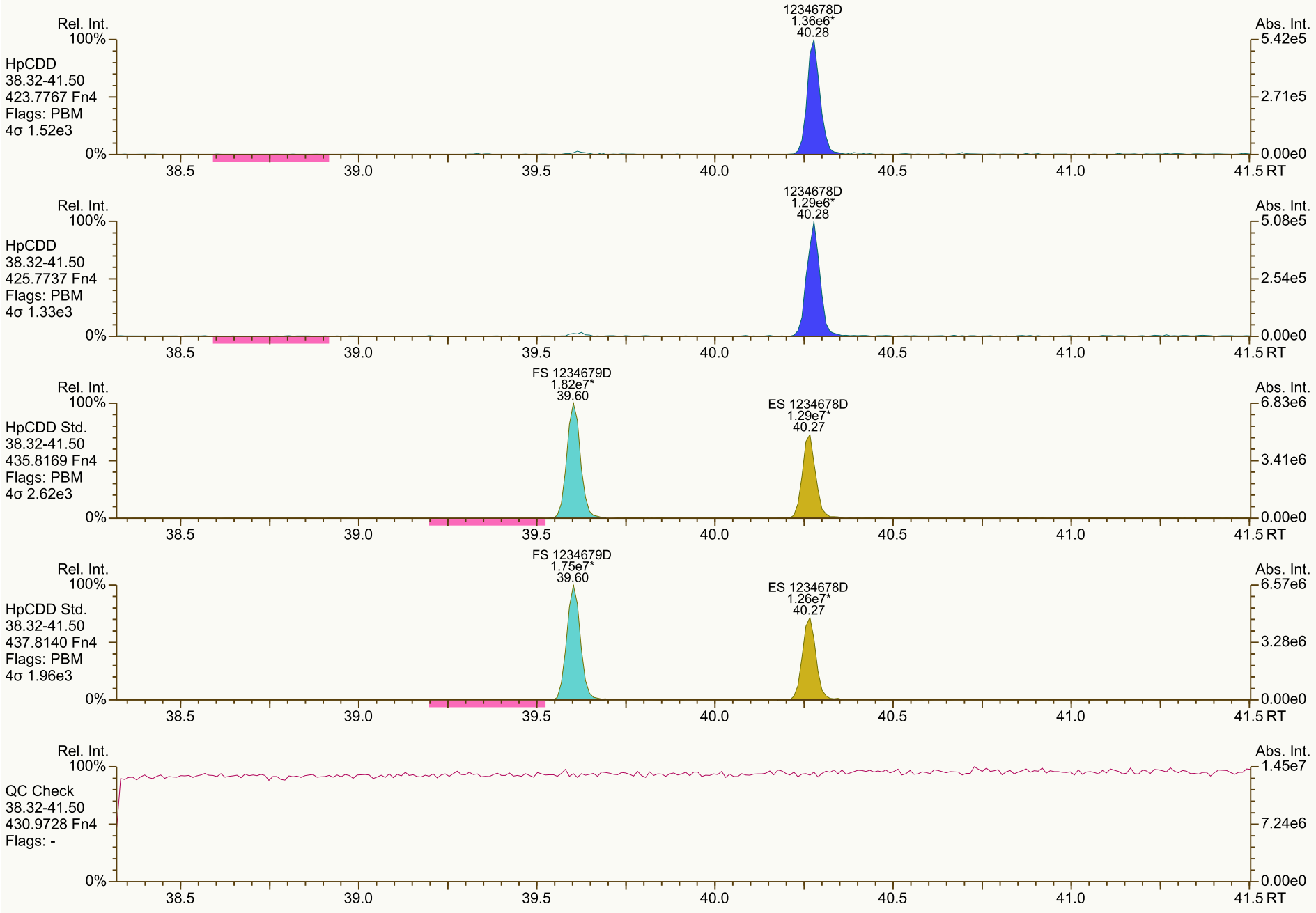

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0

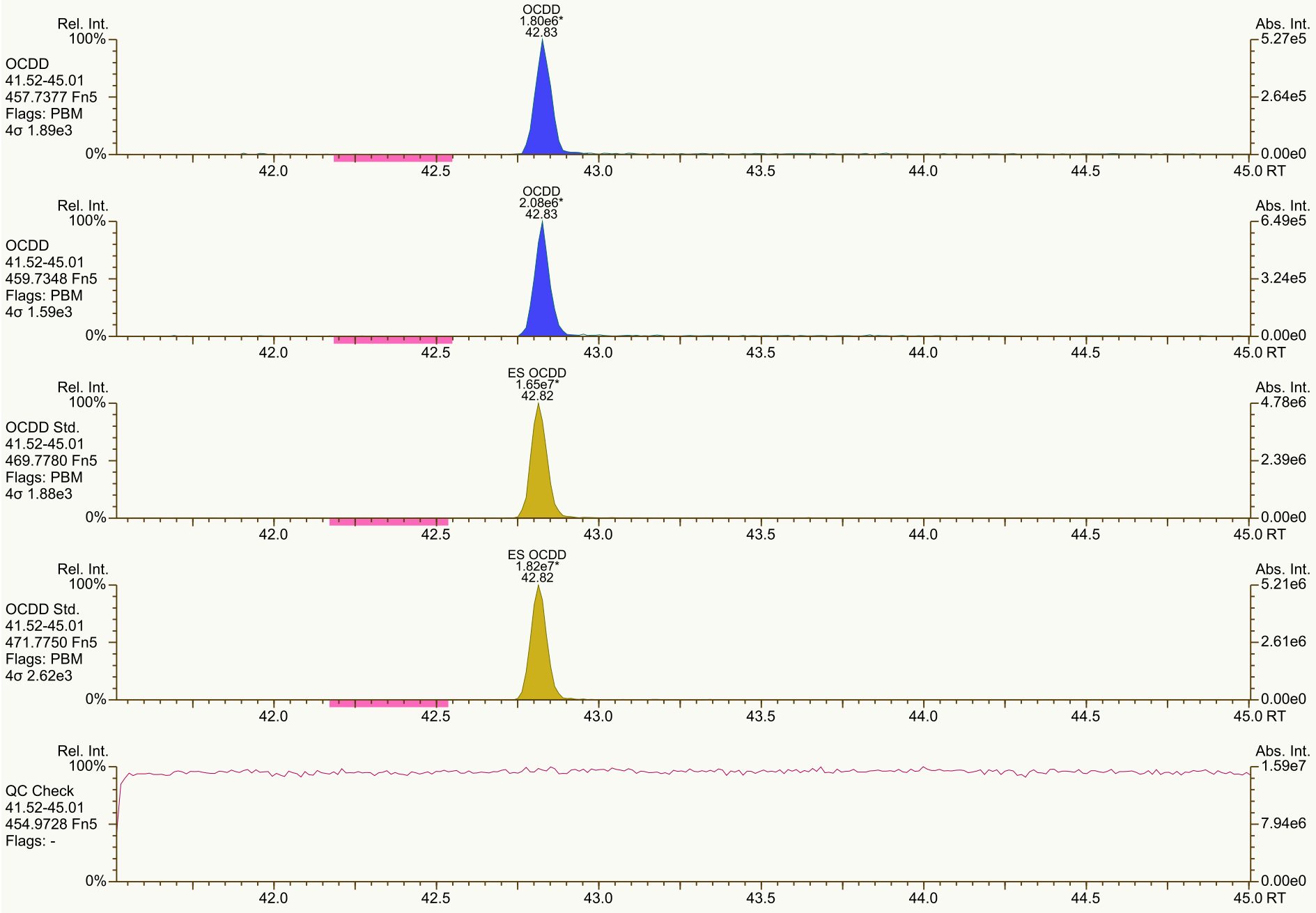
SGS ID: CS2_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3
Sample ID: 25-6-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
Acq: 10-Nov-2021 12:34:54
User: DTF Datafile: 211110C06

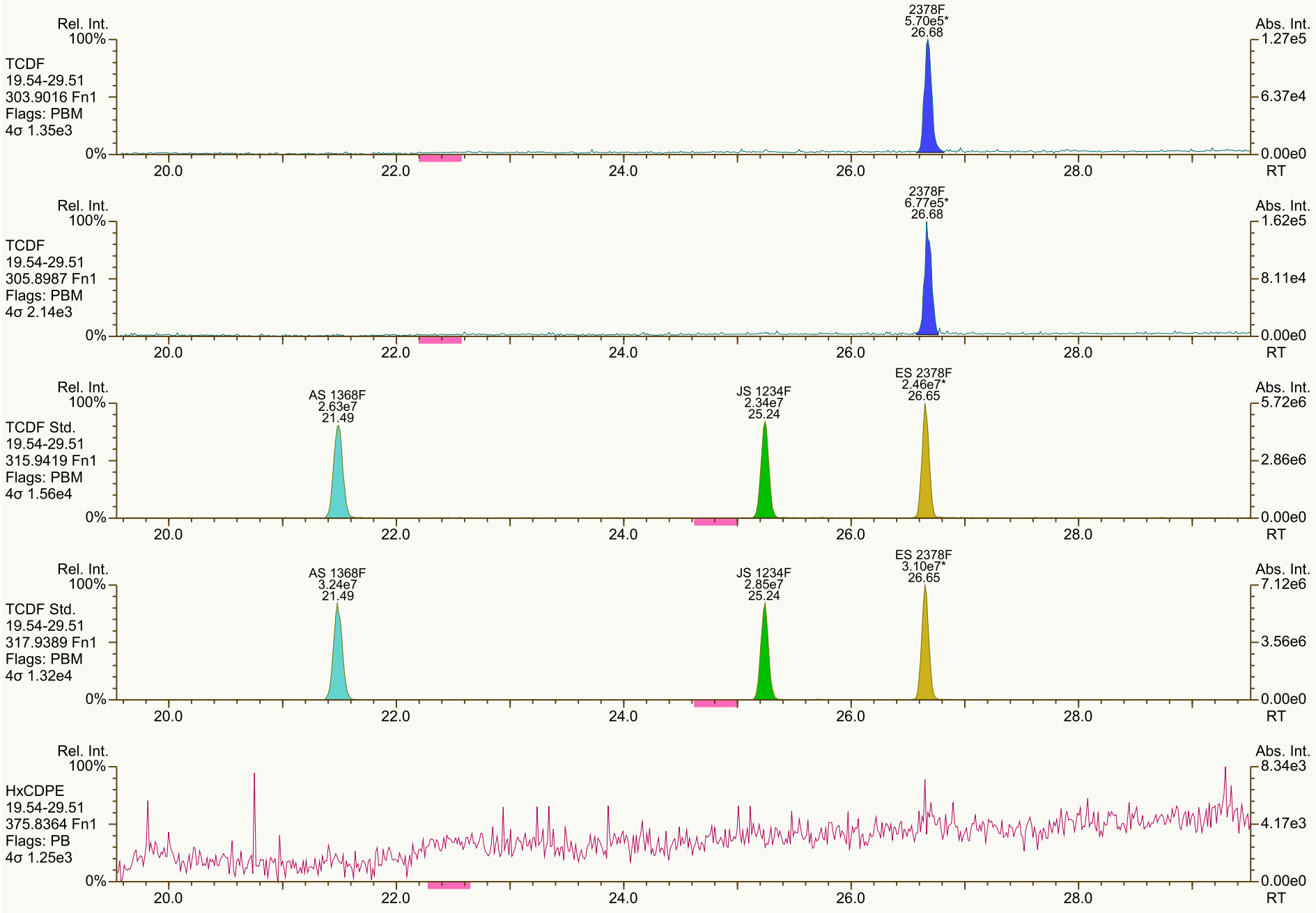



Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
0%
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
0%
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
0%
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
0%
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.29e6
4.15e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
Abs. Int.
4.28e5
2.14e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
Abs. Int.
6.48e6
3.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
Abs. Int.
5.04e6
2.52e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

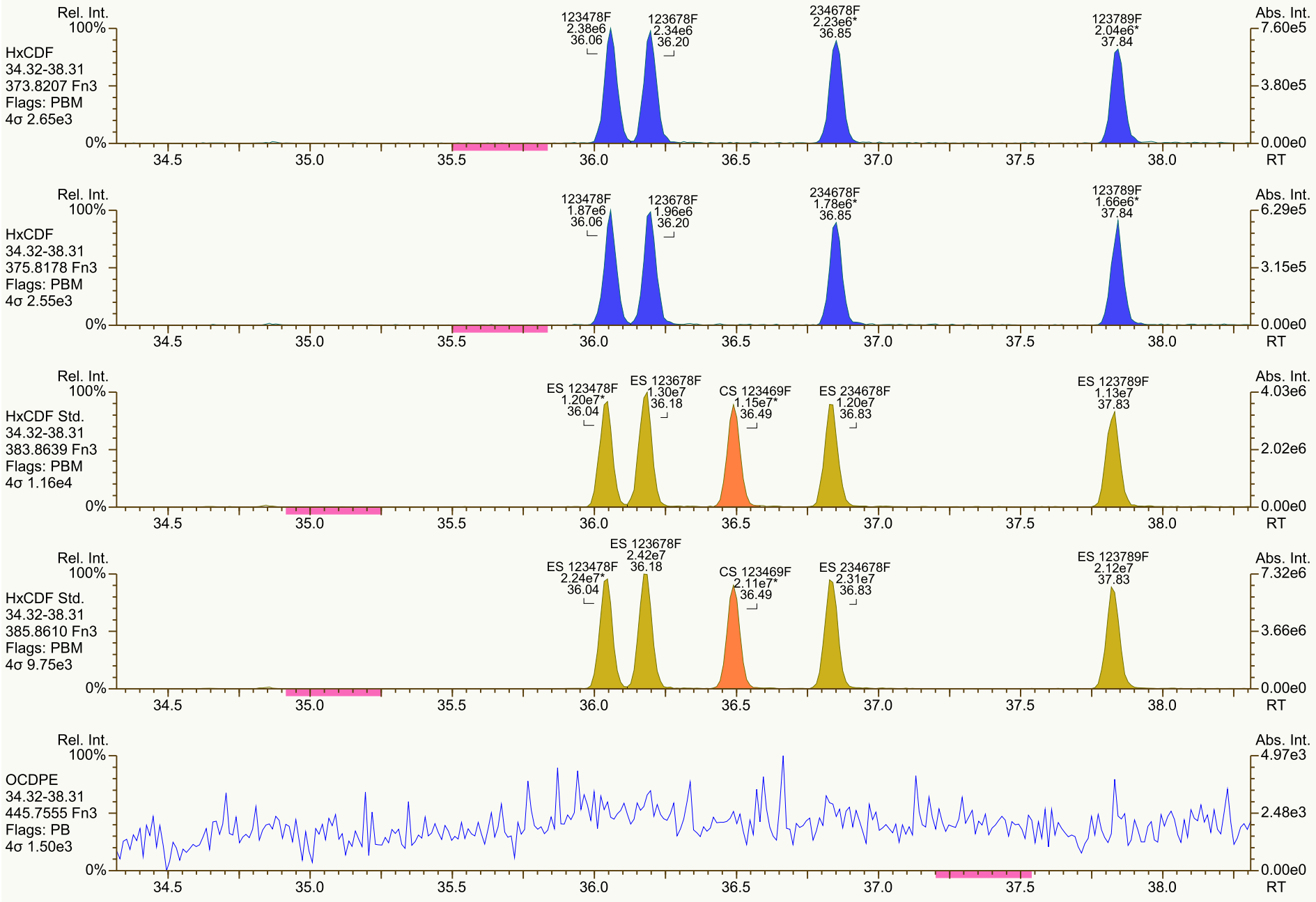

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

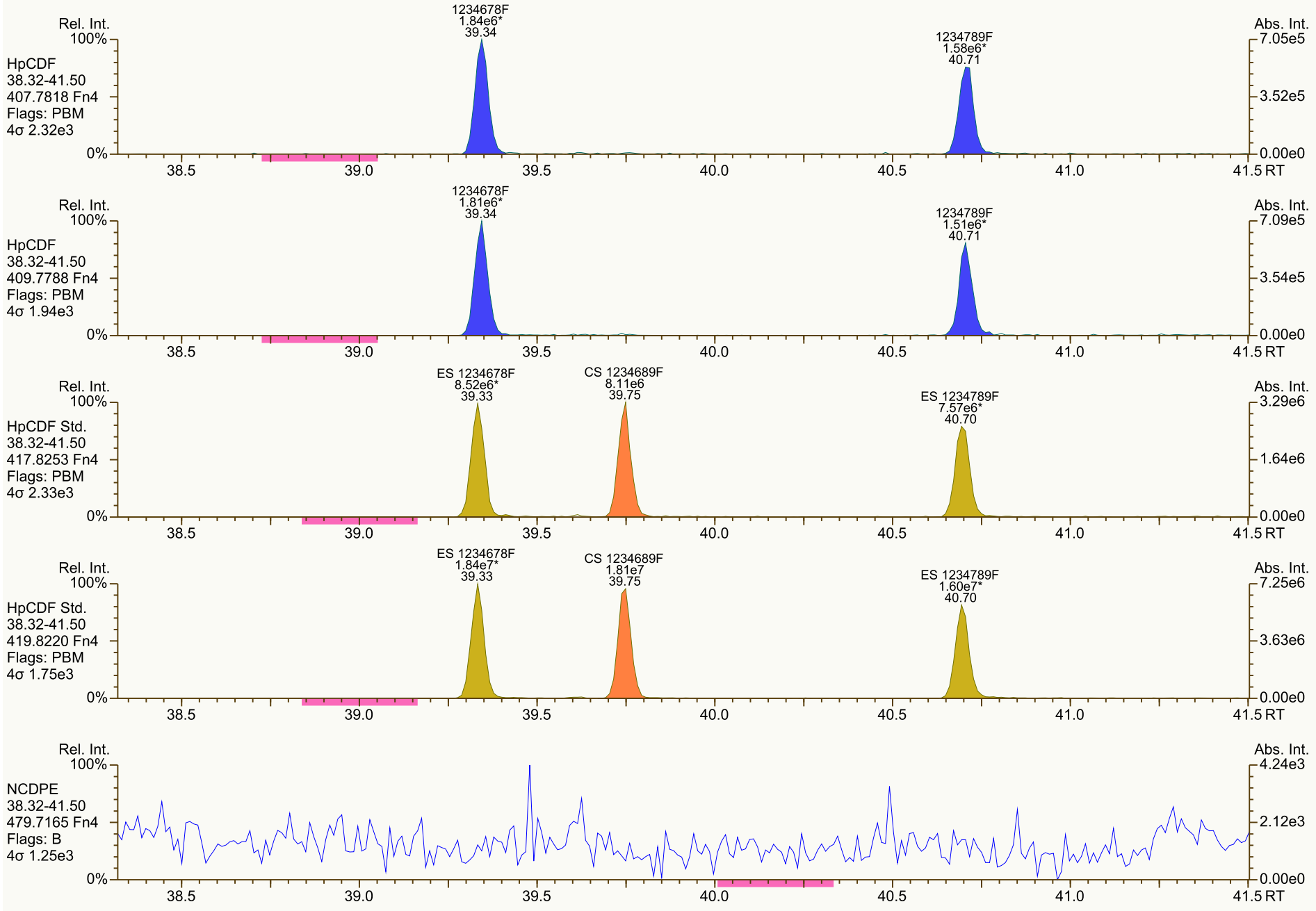

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

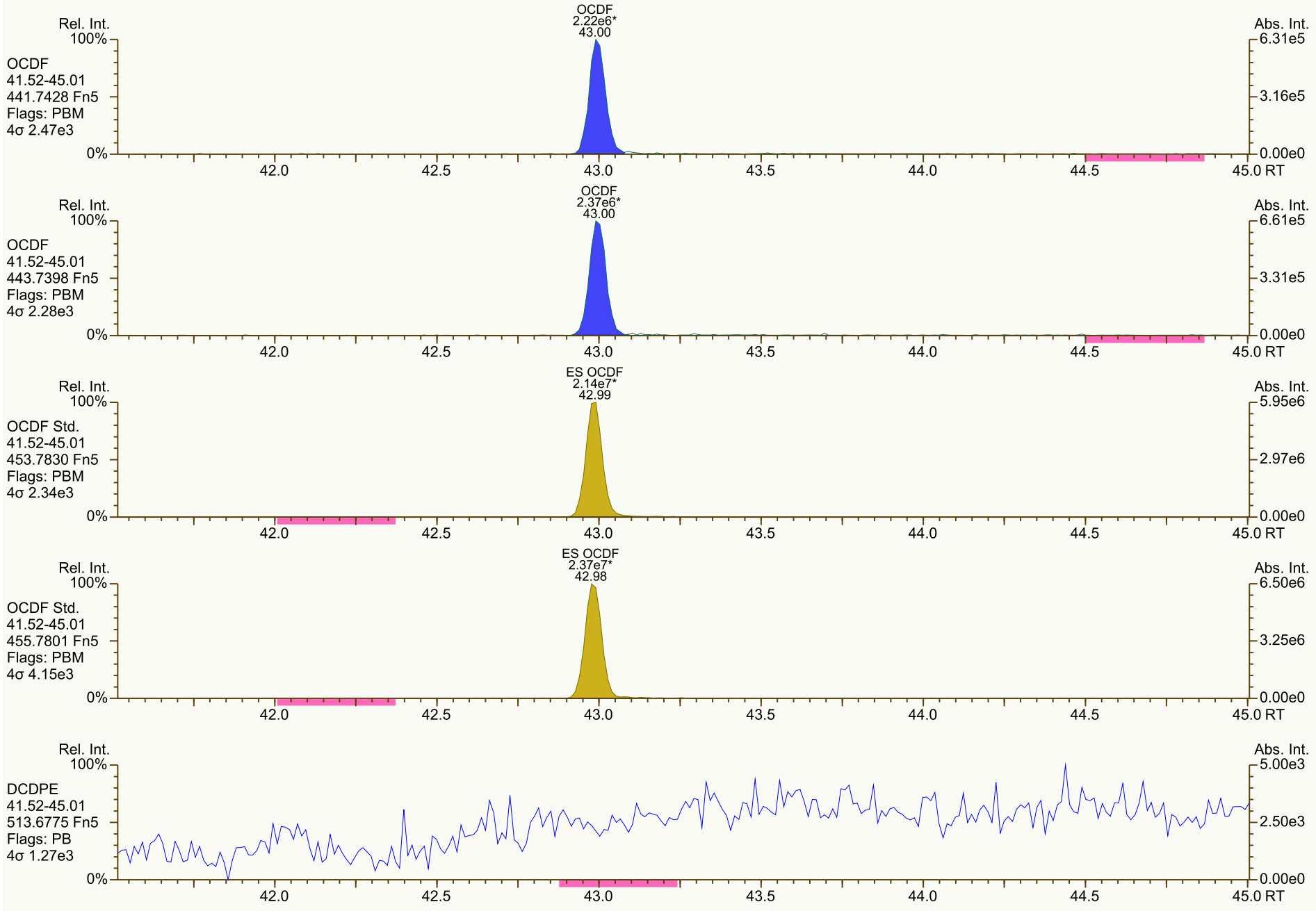

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
0%
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
0%
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
0%
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
0%
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
5.27e5
2.63e5
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
8.01e6
4.01e6
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
5.19e6
2.59e6
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
6.67e3
3.33e3


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
0%
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
Abs. Int.
6.29e5
3.15e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
0%
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
Abs. Int.
4.03e6
2.02e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
0%
ES 123678F
2.42e7
36.18
ES 123478F
2.24e7*
36.04
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
Abs. Int.
7.32e6
3.66e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
0%
Abs. Int.
4.97e3
2.48e3
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0

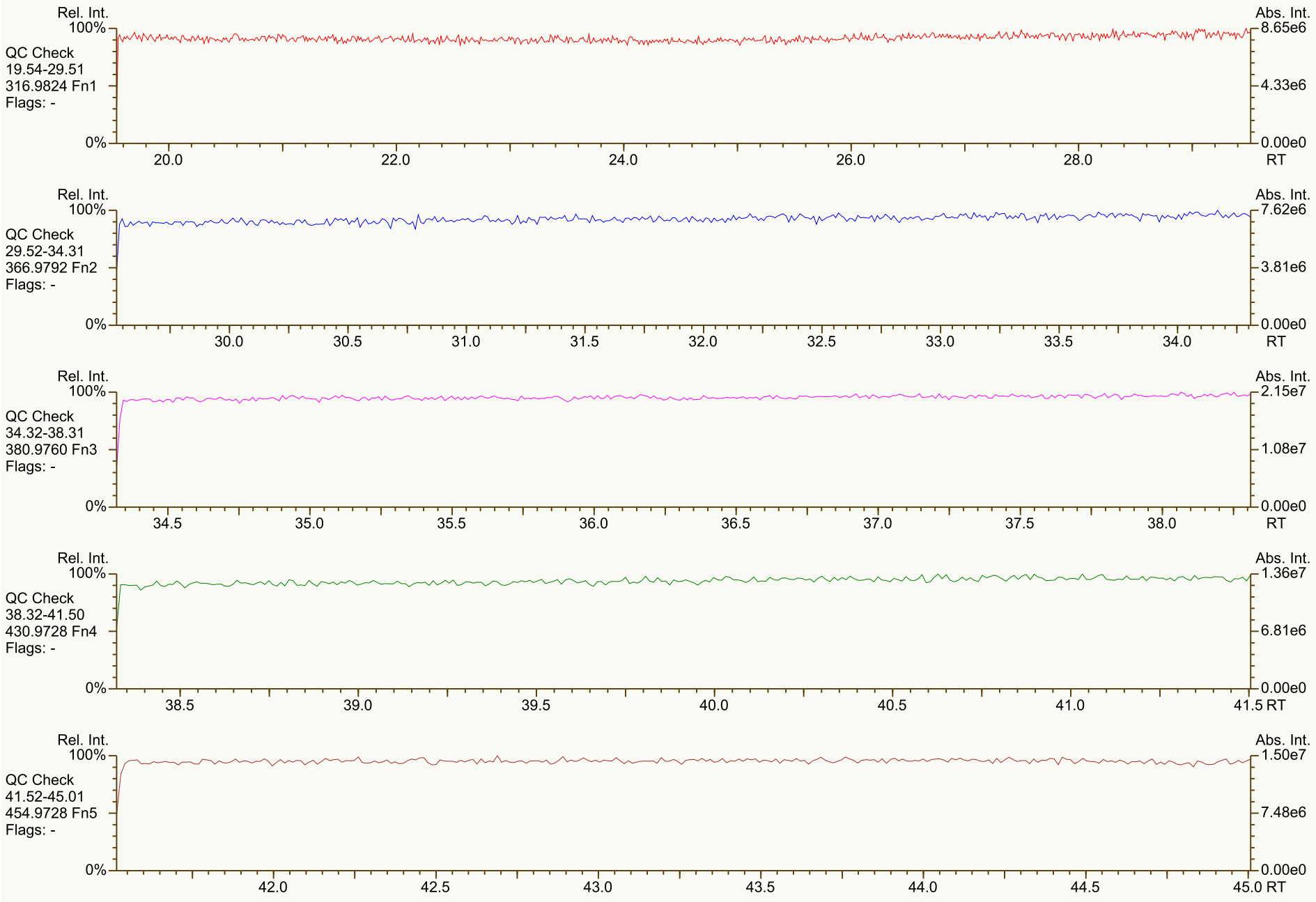

Rel. Int.
100%
0%
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
7.05e5
3.52e5
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
7.09e5
3.54e5
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
3.29e6
1.64e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
7.25e6
3.63e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
4.24e3
2.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
2.22e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
0%
Abs. Int.
6.31e5
3.16e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.37e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
0%
Abs. Int.
6.61e5
3.31e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.14e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
5.95e6
2.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.37e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
0%
Abs. Int.
6.50e6
3.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

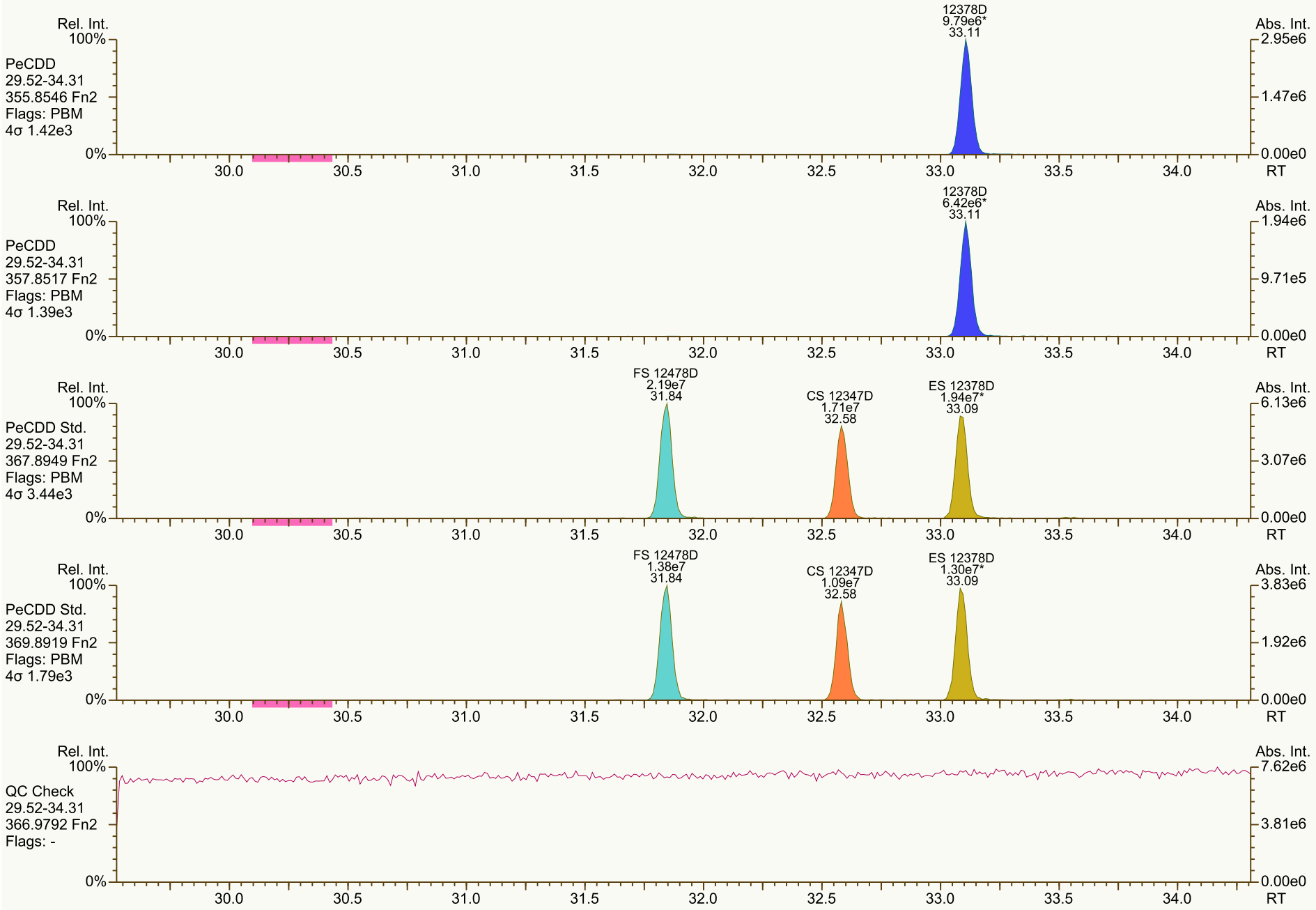
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

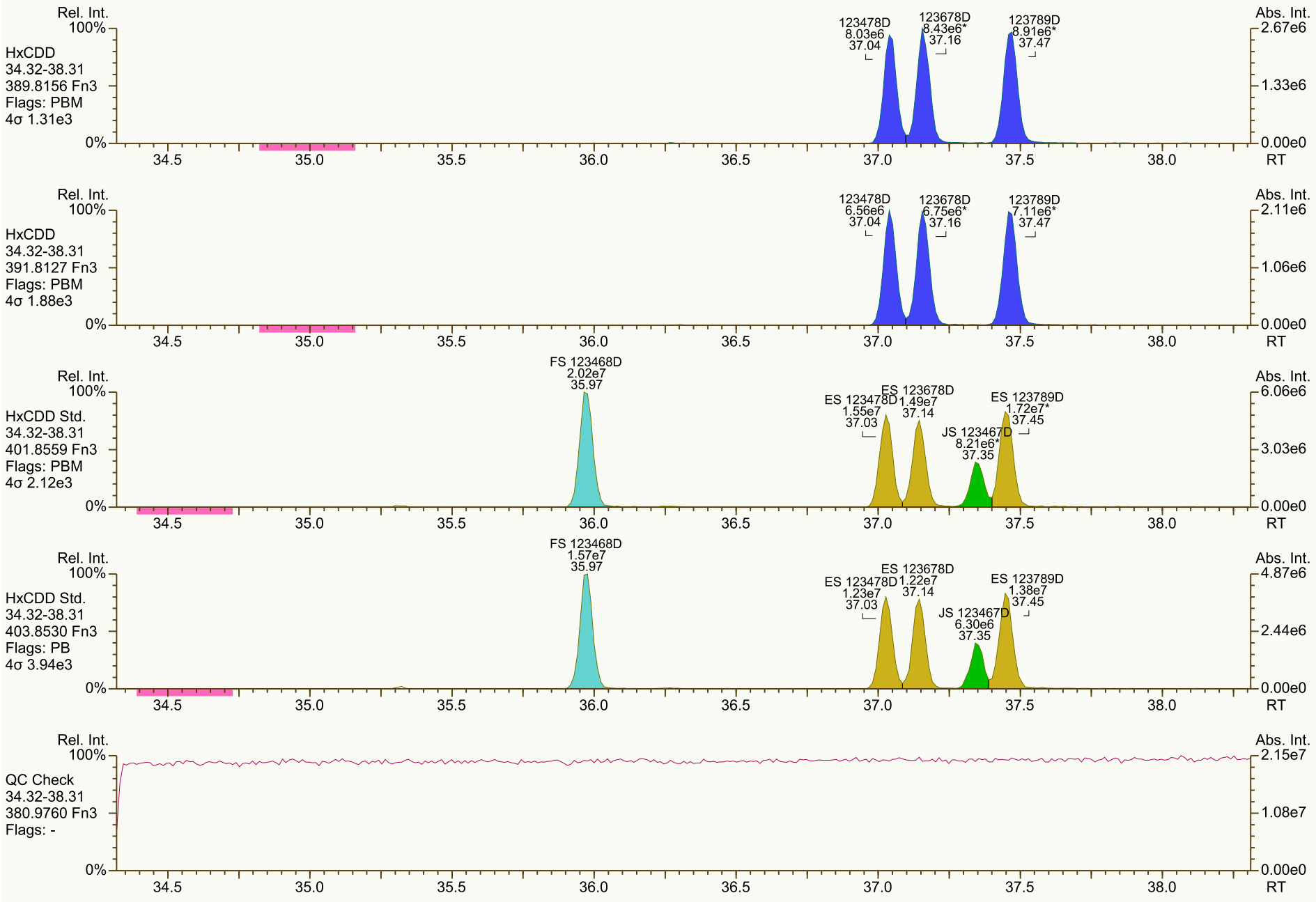
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

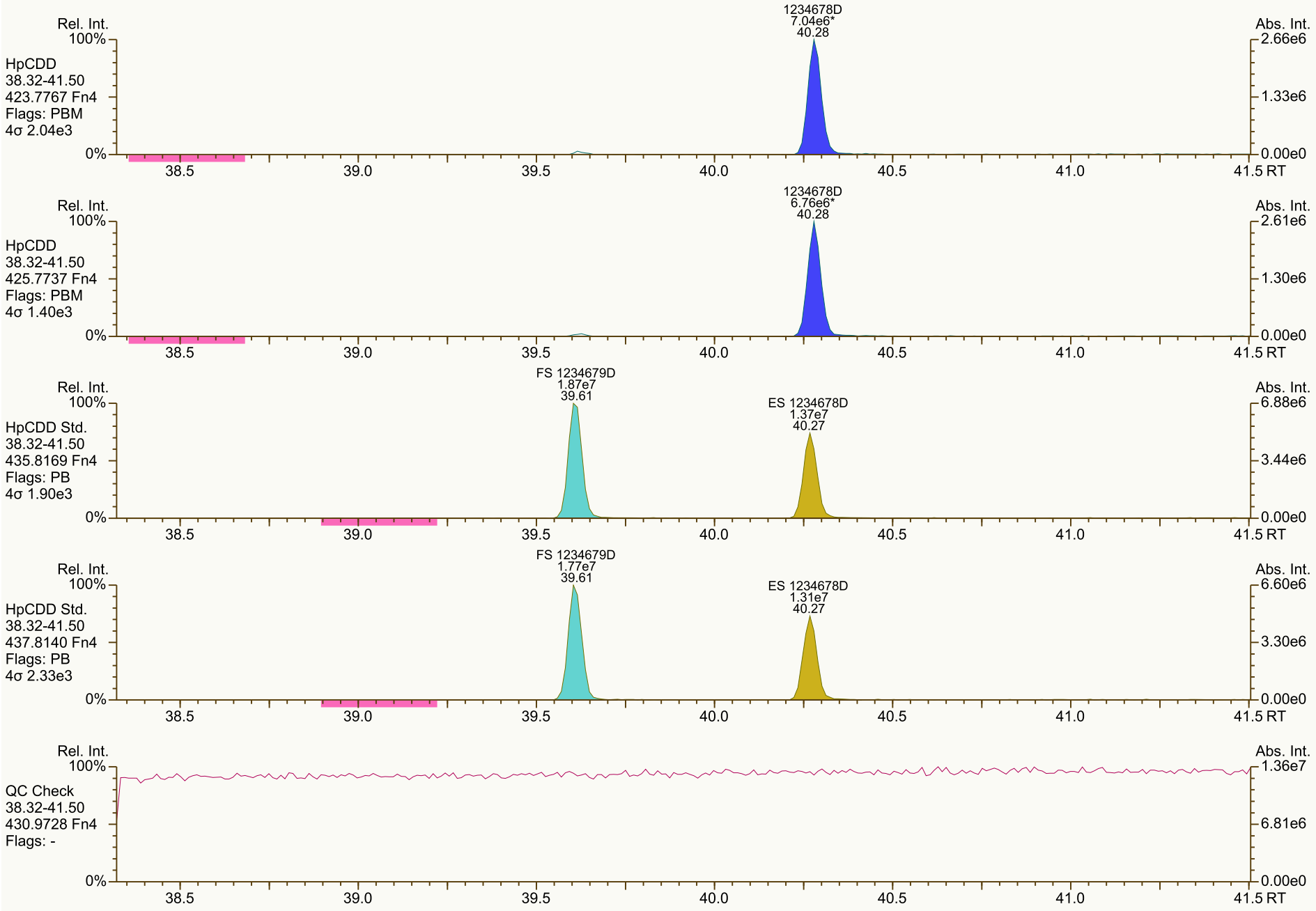
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%


Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.62e6
3.81e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.15e7
1.08e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.36e7
6.81e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
0%
2378D
1.99e6
27.60
Abs. Int.
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
0%
2378D
2.55e6
27.60
Abs. Int.
5.98e5
2.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
Abs. Int.
1.03e6
5.16e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
0%
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
Abs. Int.
4.80e6
2.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
0%
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
0%
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
0%
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
0%
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
0%
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.62e6
3.81e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
9.25e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.02e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.70e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.86e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
0%
2378F
2.58e6
26.68
Abs. Int.
5.81e5
2.91e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
0%
2378F
3.32e6
26.68
Abs. Int.
7.66e5
3.83e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
0%
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
Abs. Int.
5.45e6
2.73e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
0%
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
Abs. Int.
6.76e6
3.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
0%
Abs. Int.
6.84e3
3.42e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

SGS ID: CS3_211110_DF_CB | Sample ID: 23-672-1 | Acq: 10-Nov-2021 13:21:13

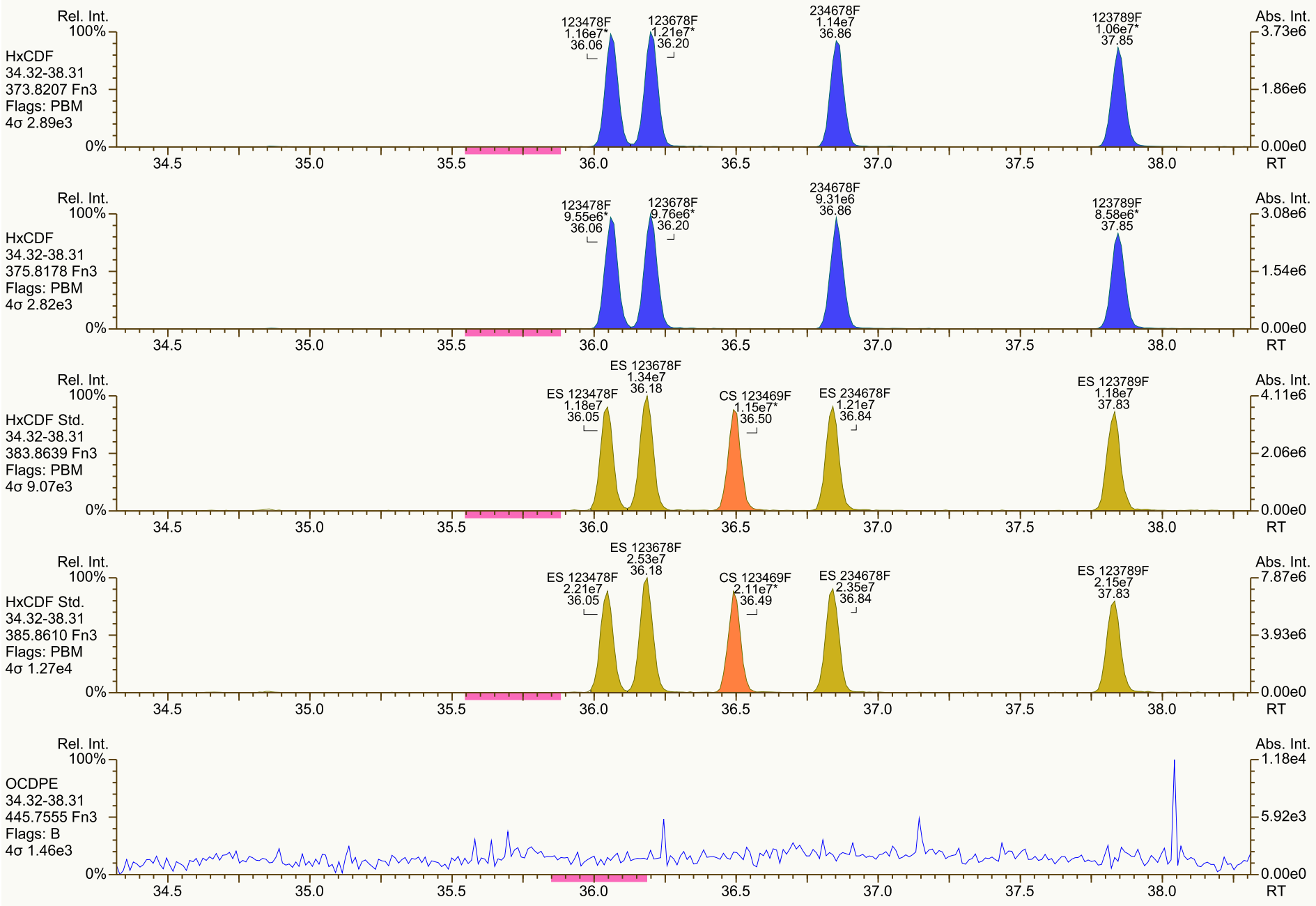
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3 | User: DTF Datafile: 211110C07

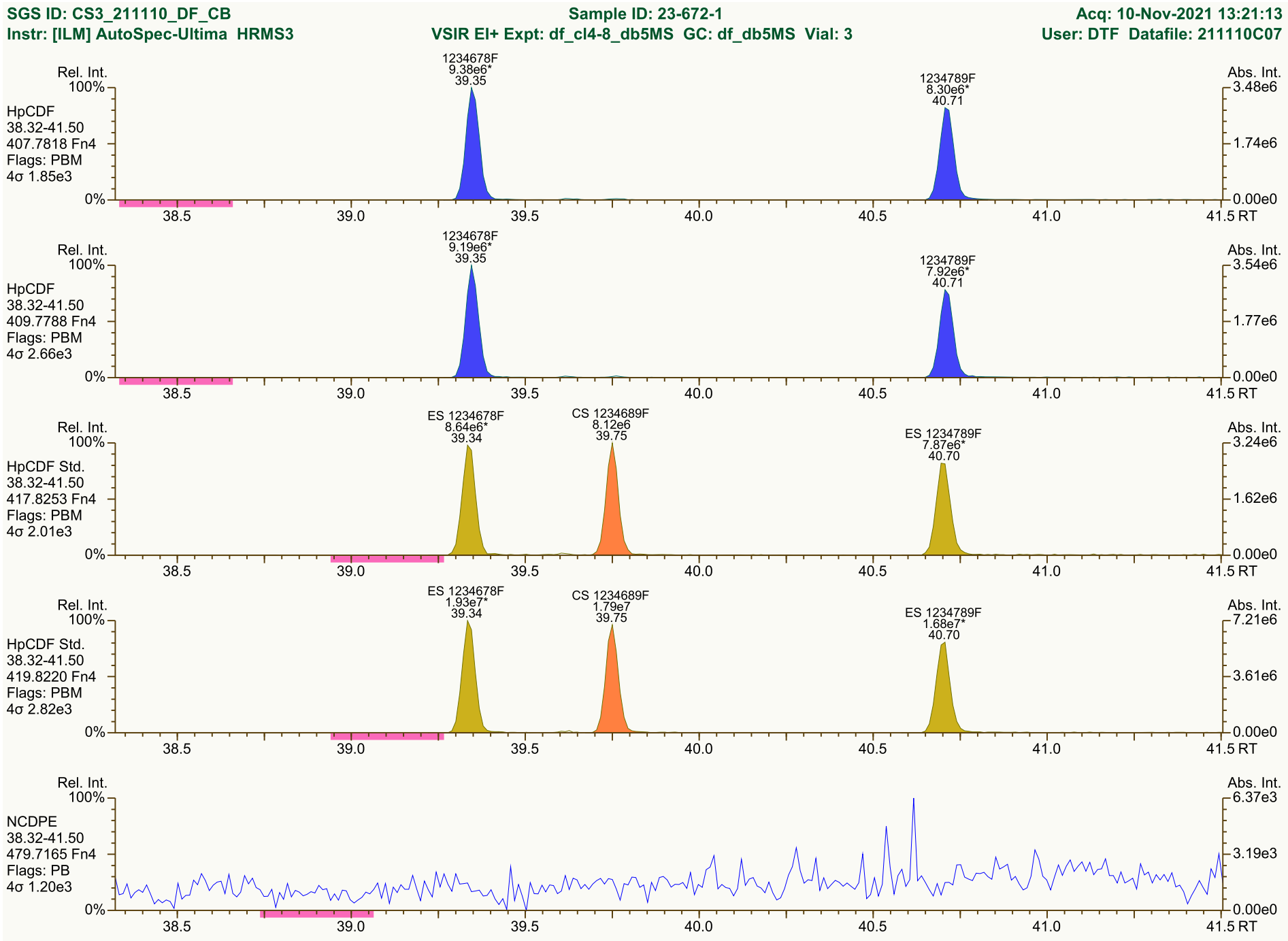


Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 2465 scc: 507-474 *PKD: 10-Nov-2021 14:16 Printed: 11-Nov-2021 10:40 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
Abs. Int.
3.85e6
1.93e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
Abs. Int.
2.59e6
1.29e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
Abs. Int.
7.61e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
Abs. Int.
5.00e6
2.50e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
Abs. Int.
1.17e4
5.86e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
0%
123478F
1.16e7*
36.06
123678F
1.21e7*
36.20
234678F
1.14e7
36.86
123789F
1.06e7*
37.85
Abs. Int.
3.73e6
1.86e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
0%
123478F
9.55e6*
36.06
123678F
9.76e6*
36.20
234678F
9.31e6
36.86
123789F
8.58e6*
37.85
Abs. Int.
3.08e6
1.54e6
0.00e0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
0%
ES 123478F
1.18e7
36.05
ES 123678F
1.34e7
36.18
CS 123469F
1.15e7*
36.50
ES 234678F
1.21e7
36.84
ES 123789F
1.18e7
37.83
Abs. Int.
4.11e6
2.06e6
0.00e0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
0%
ES 123478F
2.21e7
36.05
ES 123678F
2.53e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.35e7
36.84
ES 123789F
2.15e7
37.83
Abs. Int.
7.87e6
3.93e6
0.00e0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
0%
Abs. Int.
1.18e4
5.92e3
0.00e0
RT

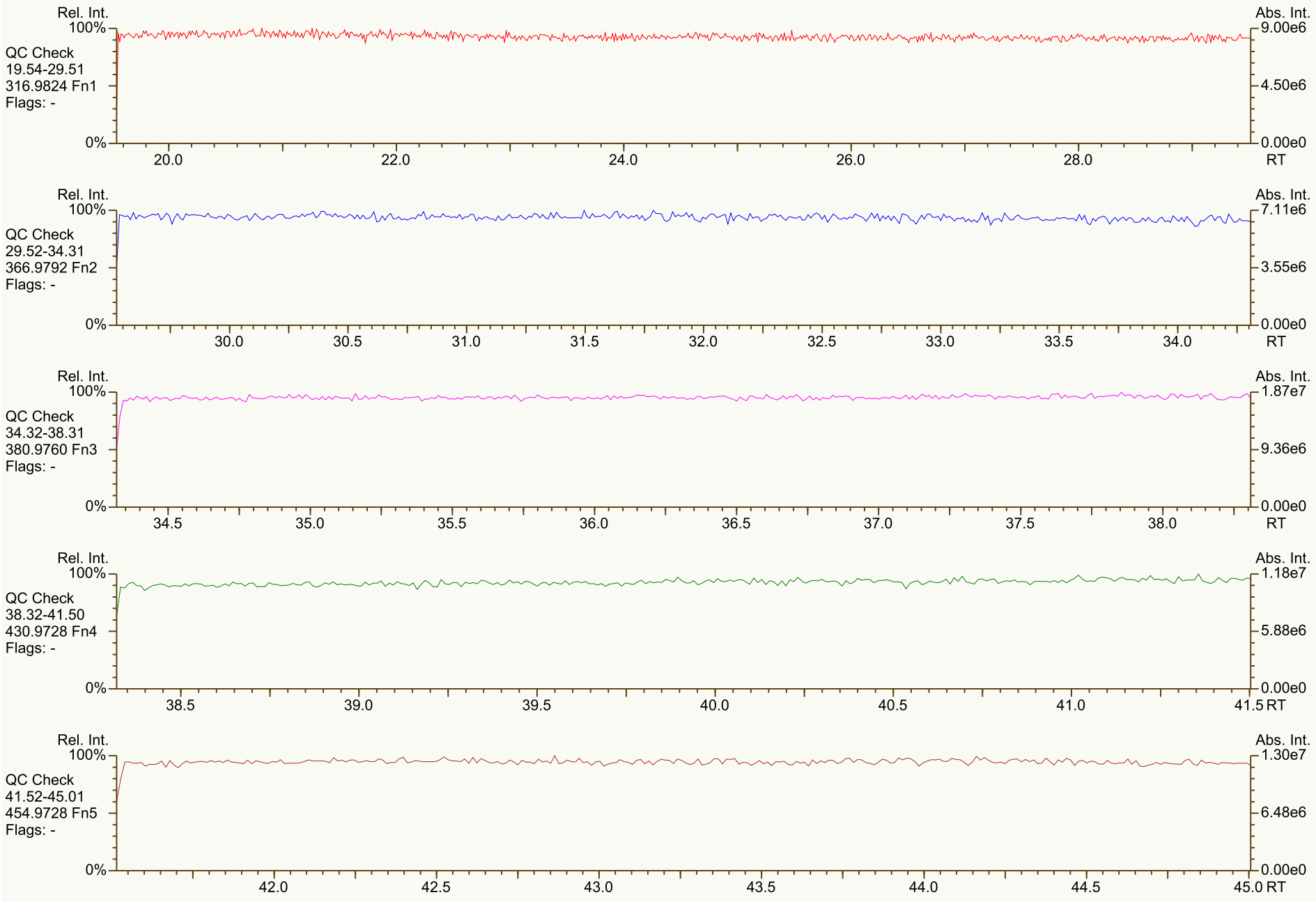

SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
3.48e6
1.74e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
3.54e6
1.77e6
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
3.24e6
1.62e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
7.21e6
3.61e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
6.37e3
3.19e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0218, 5563, 1287 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

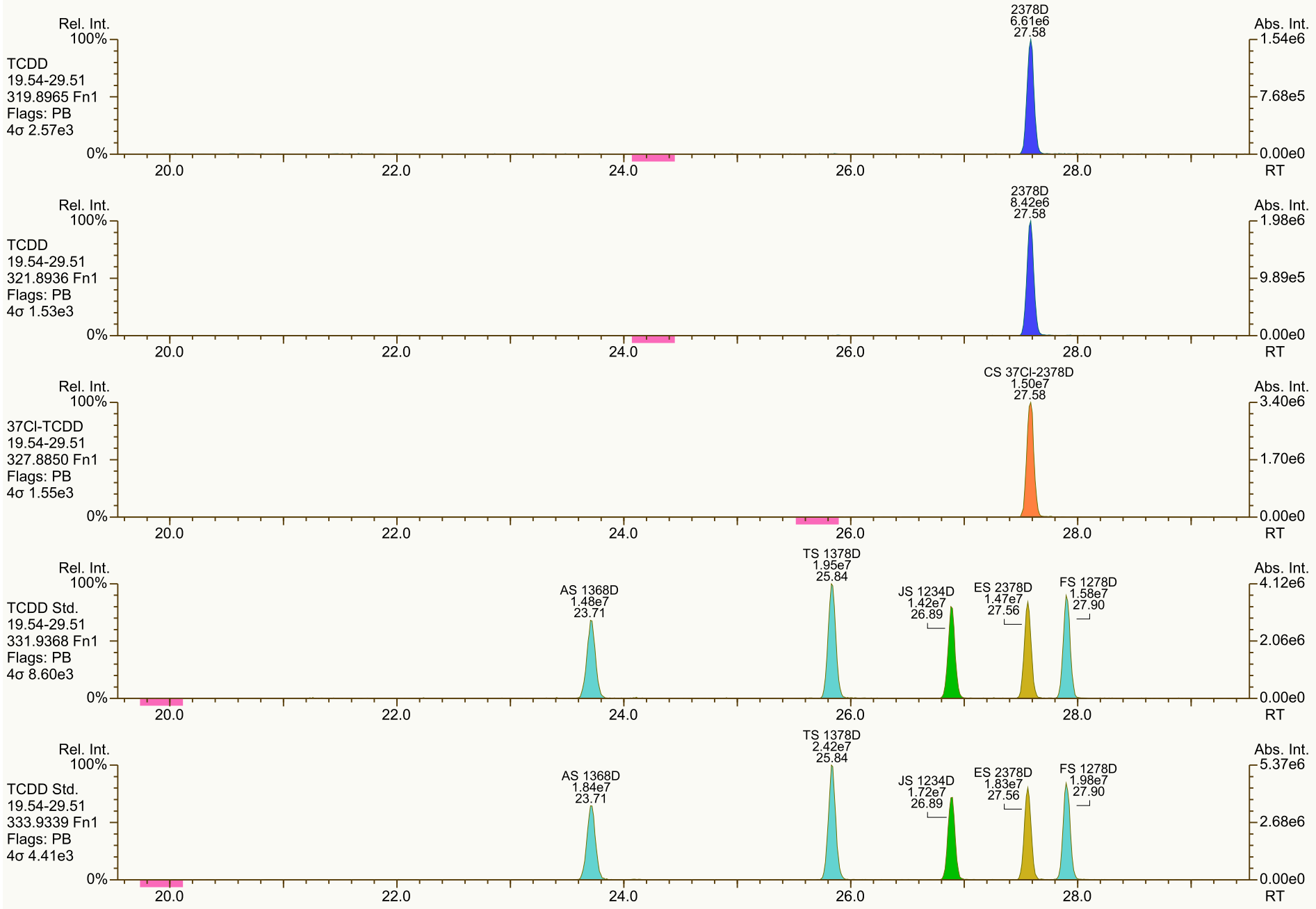

OCDF
1.15e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
3.25e6
1.62e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
0%
Abs. Int.
3.53e6
1.76e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.21e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
0%
Abs. Int.
6.08e6
3.04e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.39e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
0%
Abs. Int.
6.65e6
3.32e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
0%
Abs. Int.
4.82e3
2.41e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

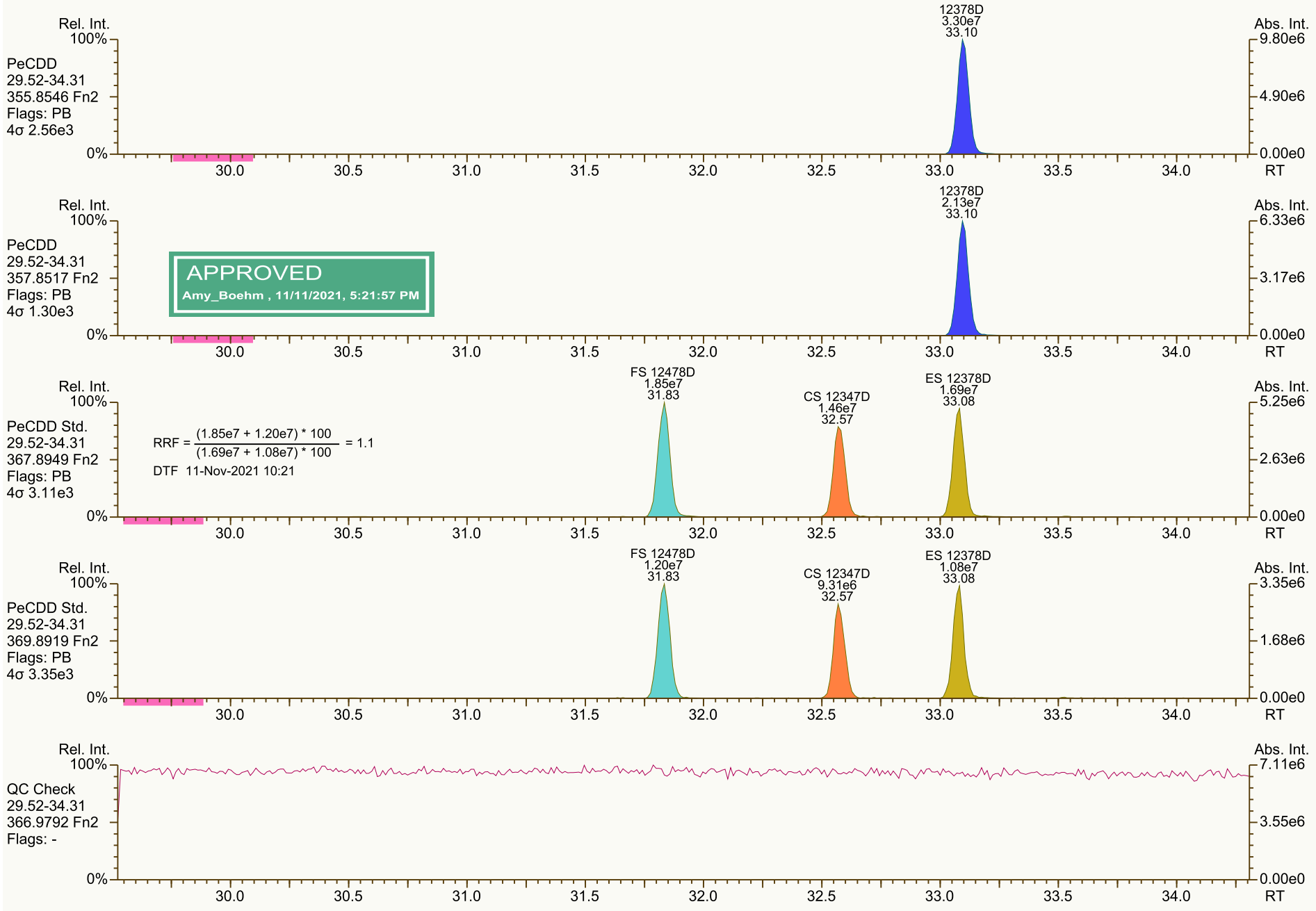
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

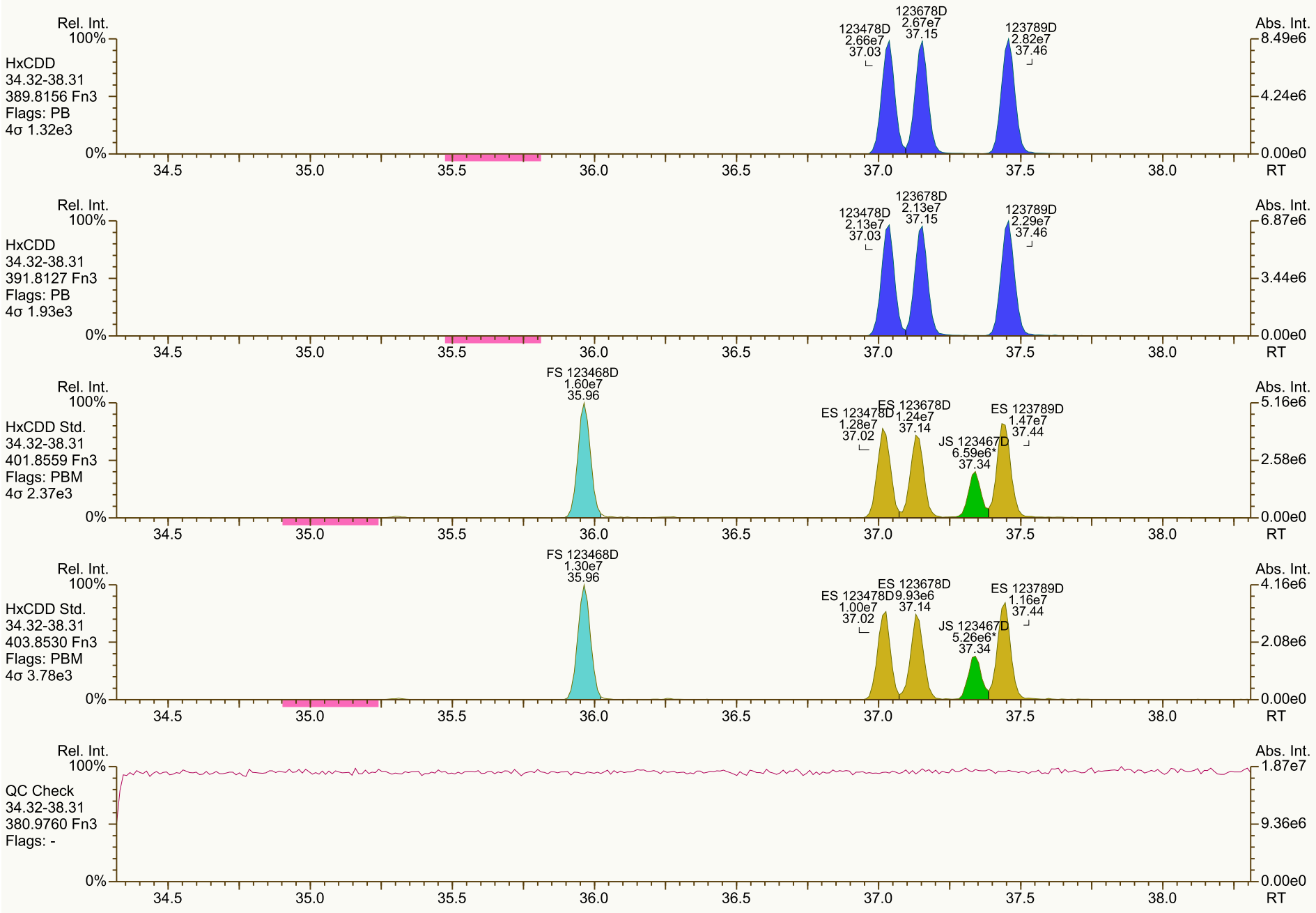
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

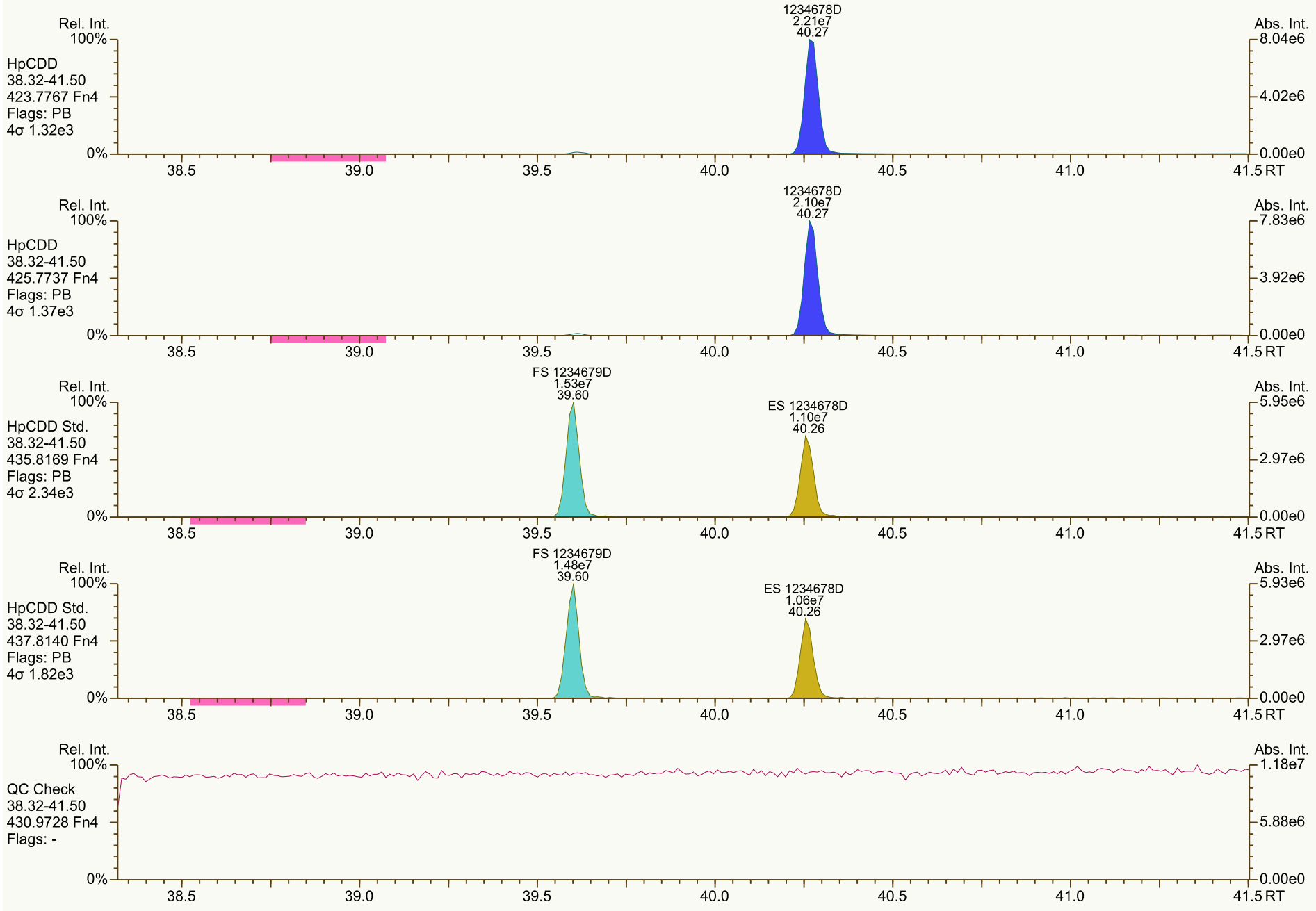
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:07 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS4_211110_DF_CA		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 855-576-PGM	
Sample ID: 25-5-4		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C08	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

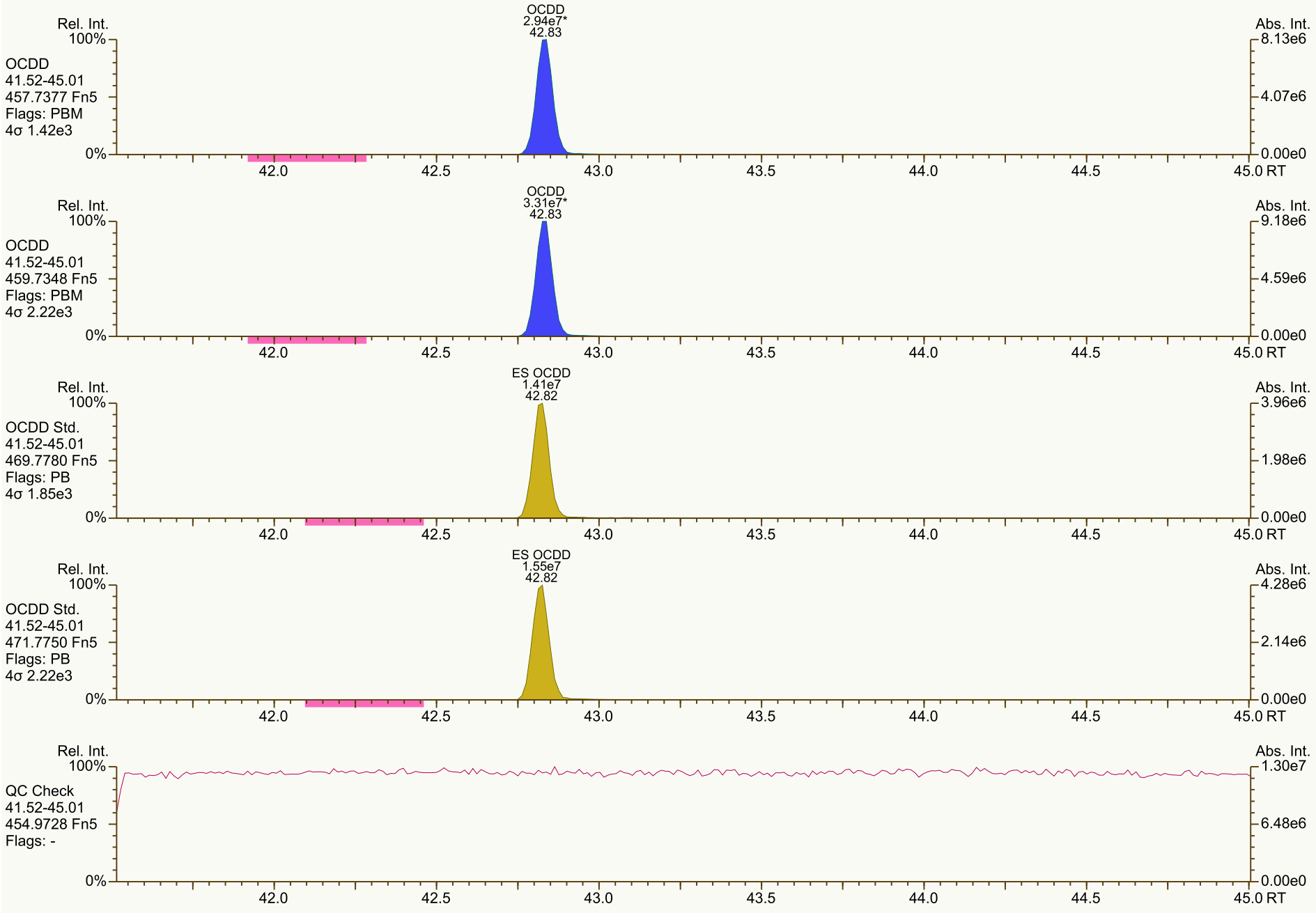

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
Abs. Int.
9.00e6
4.50e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.87e7
9.36e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.18e7
5.88e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
0%
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
0%
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

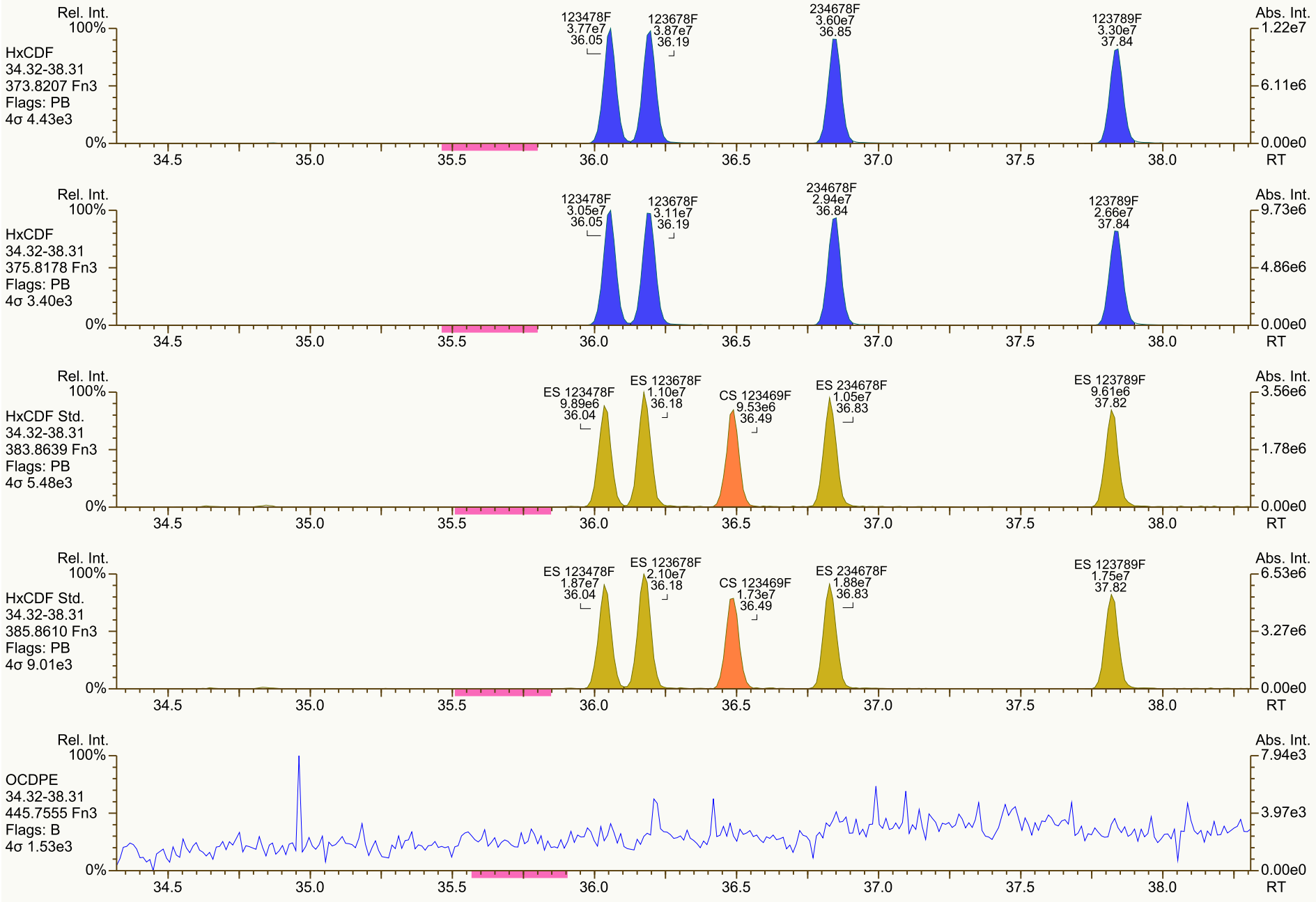

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

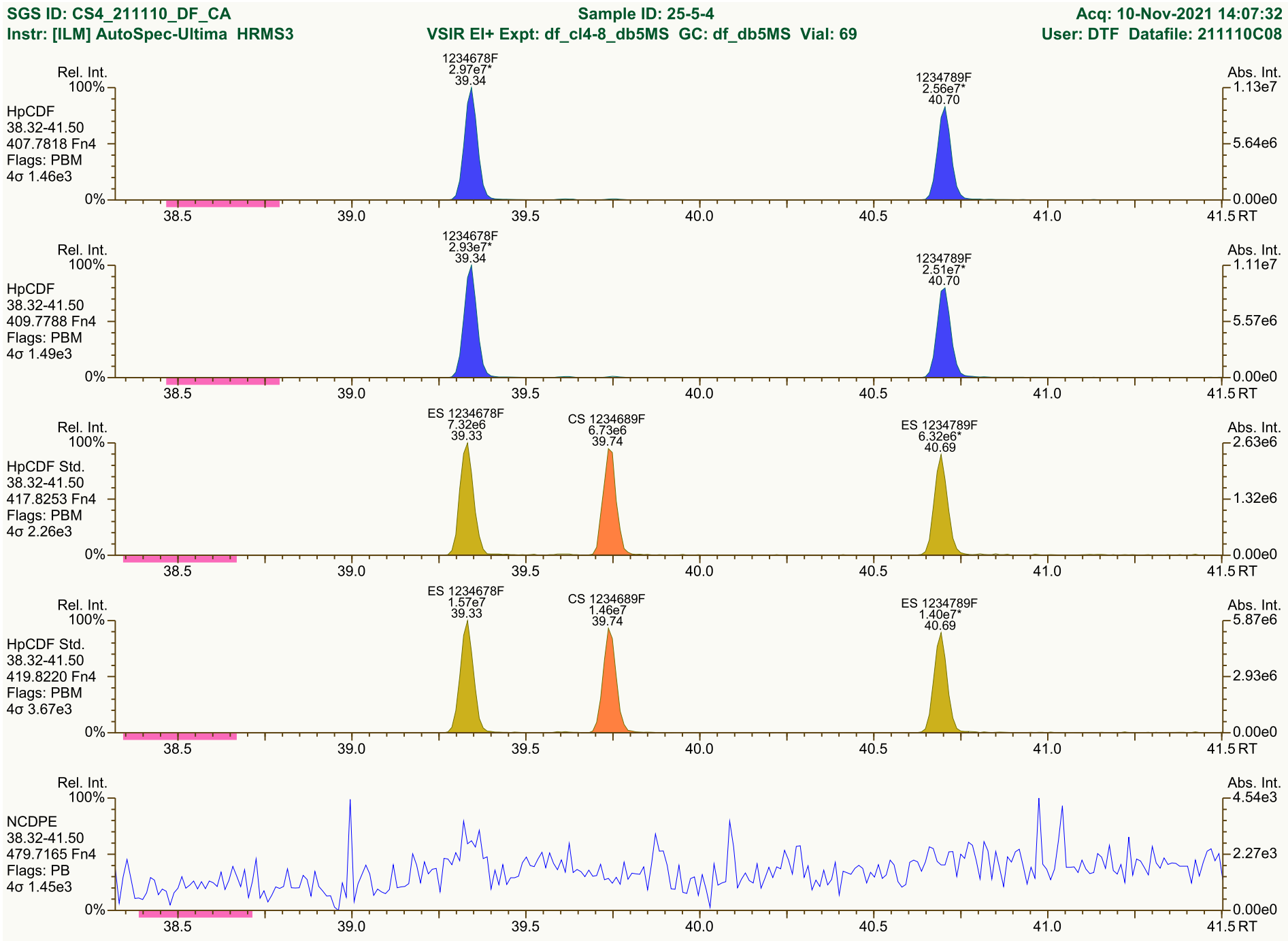

OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

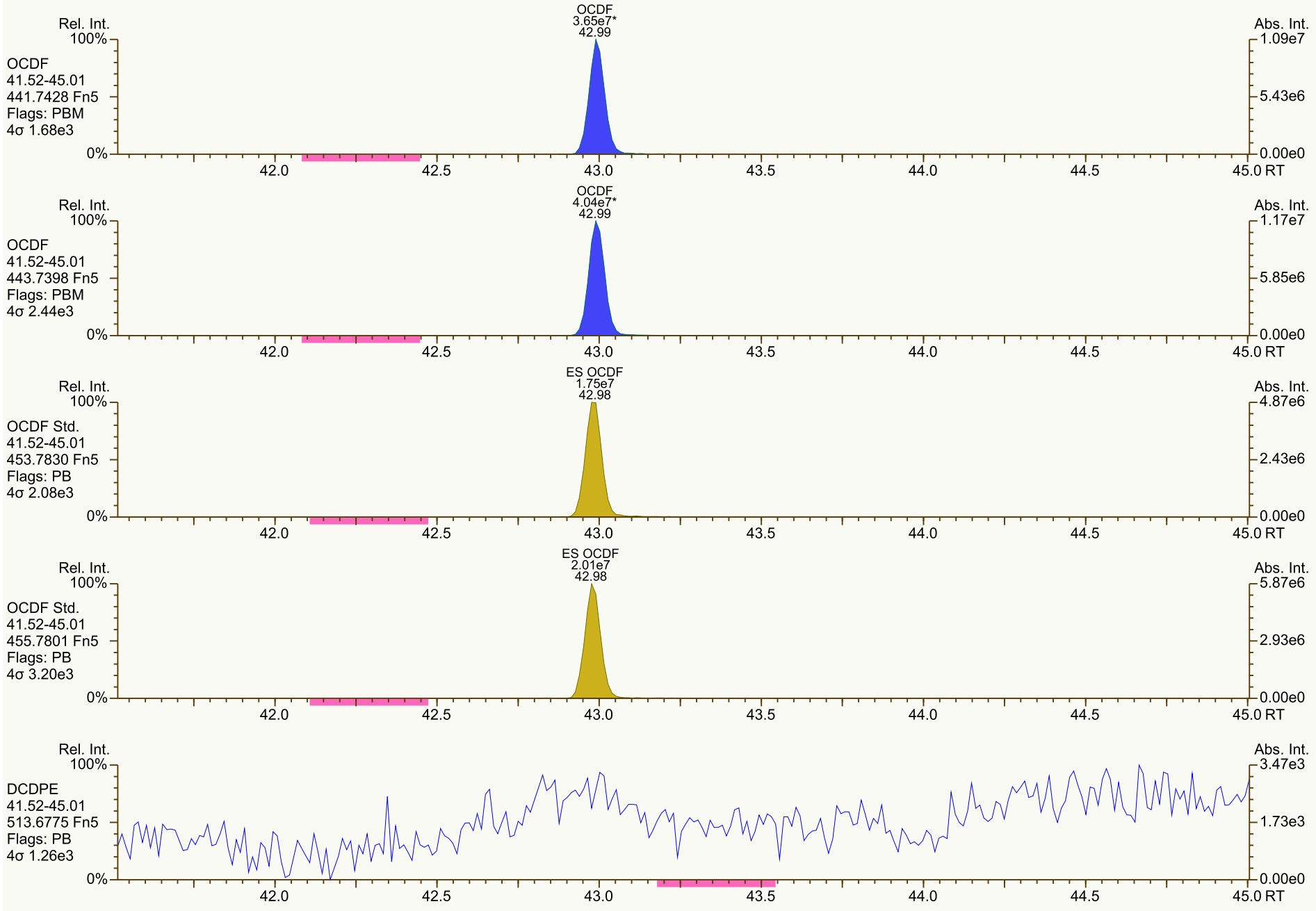

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.94e3
4.47e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.00e6
4.50e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
0%
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
0%
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
0%
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
0%
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
0%
Abs. Int.
7.51e3
3.76e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3

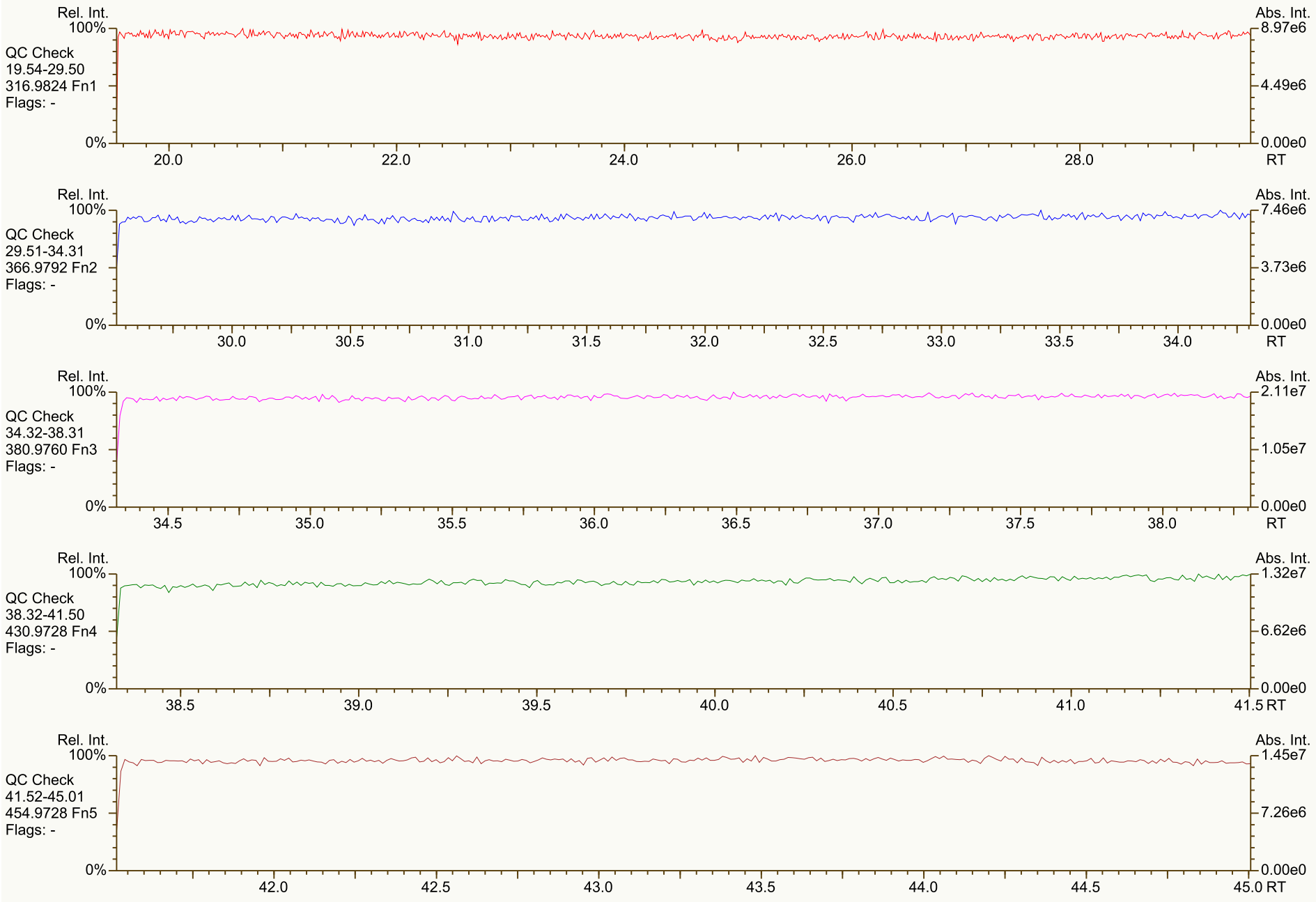

SGS ID: CS4_211110_DF_CA
Sample ID: 25-5-4
Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 211110C08
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
1.13e7
5.64e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
1.11e7
5.57e6
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
2.63e6
1.32e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
5.87e6
2.93e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
4.54e3
2.27e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 2764, 9565, 4492 scc: 855-576
Revised: 10-Nov-2021 15:17 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

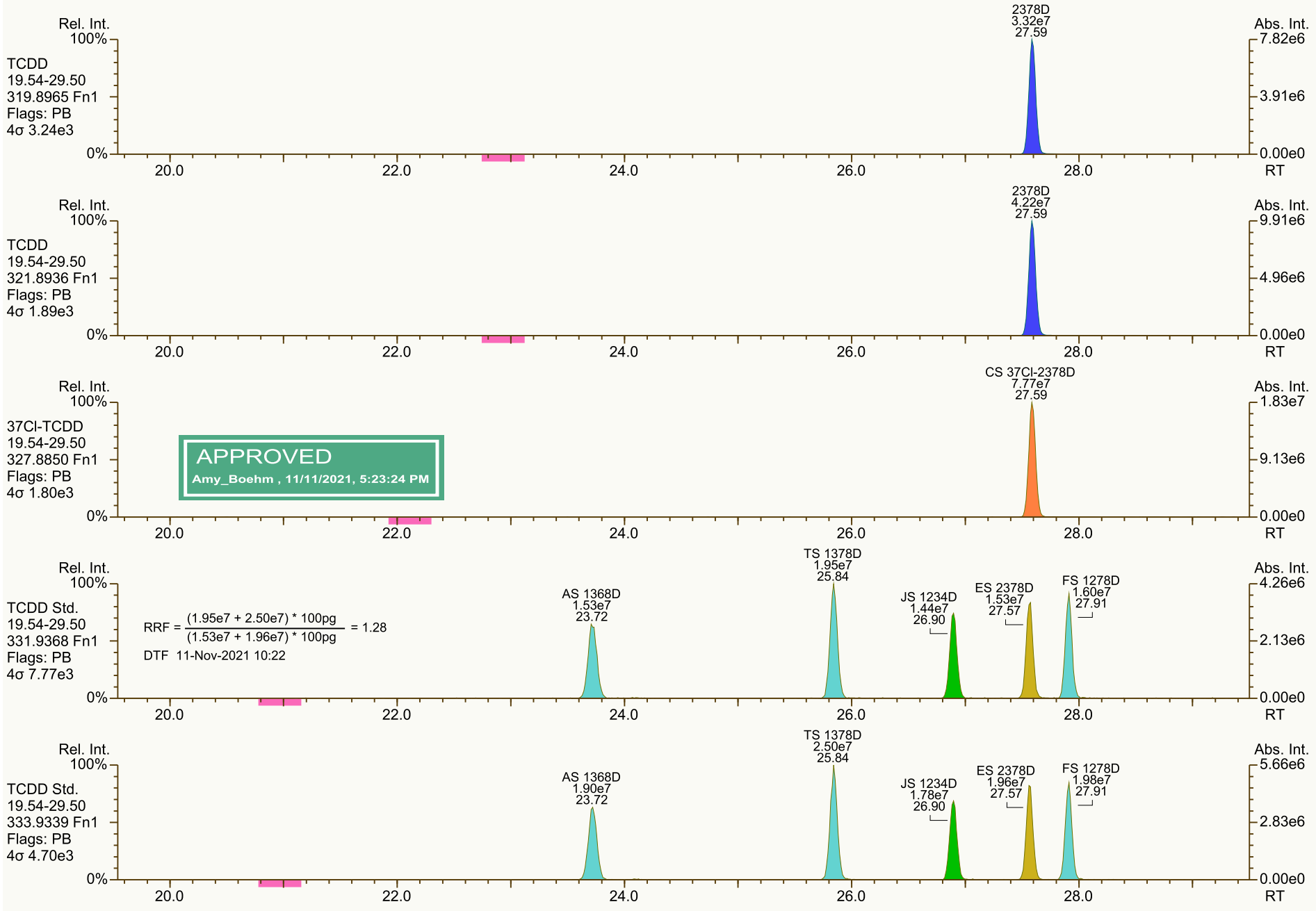

OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

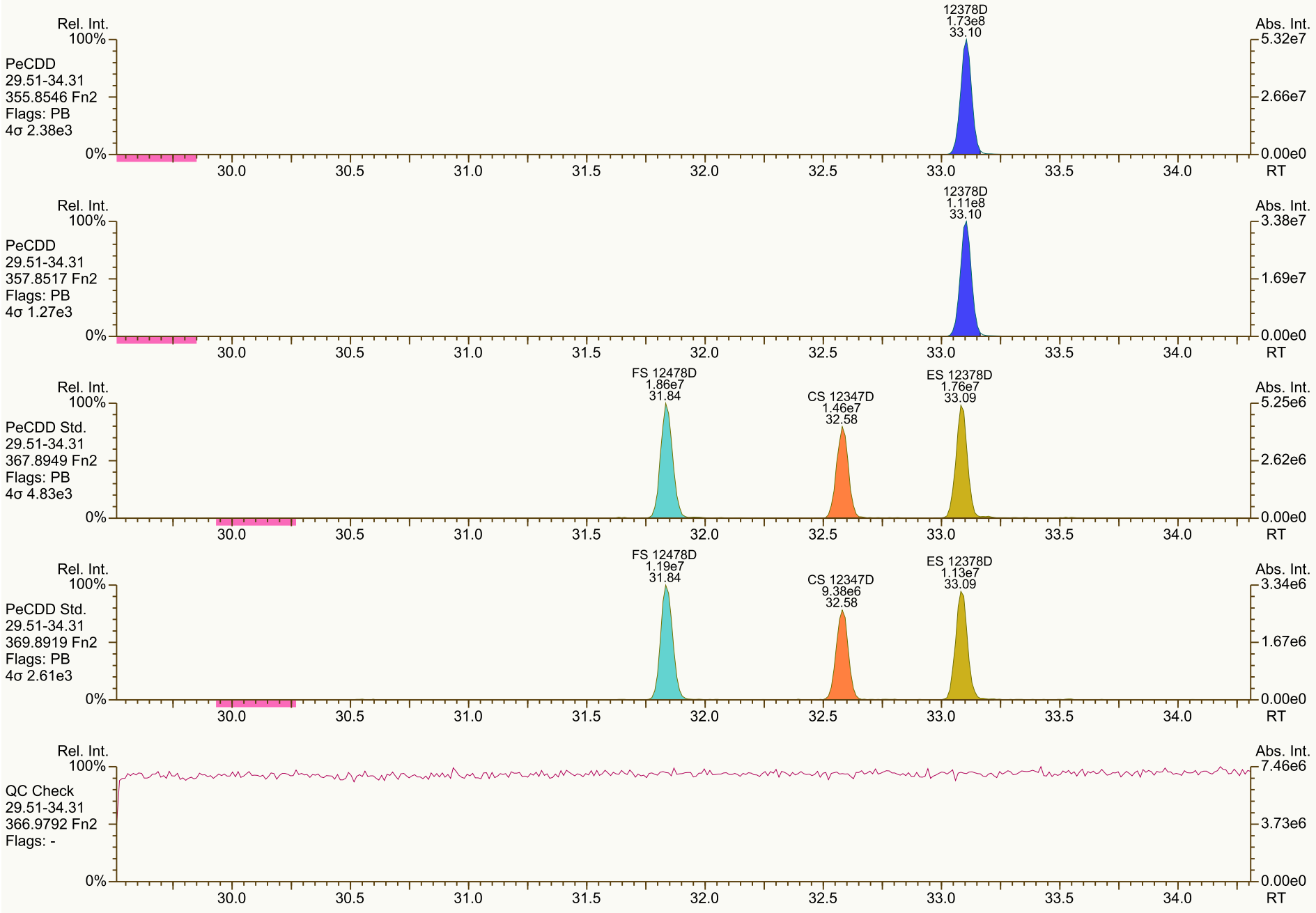
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

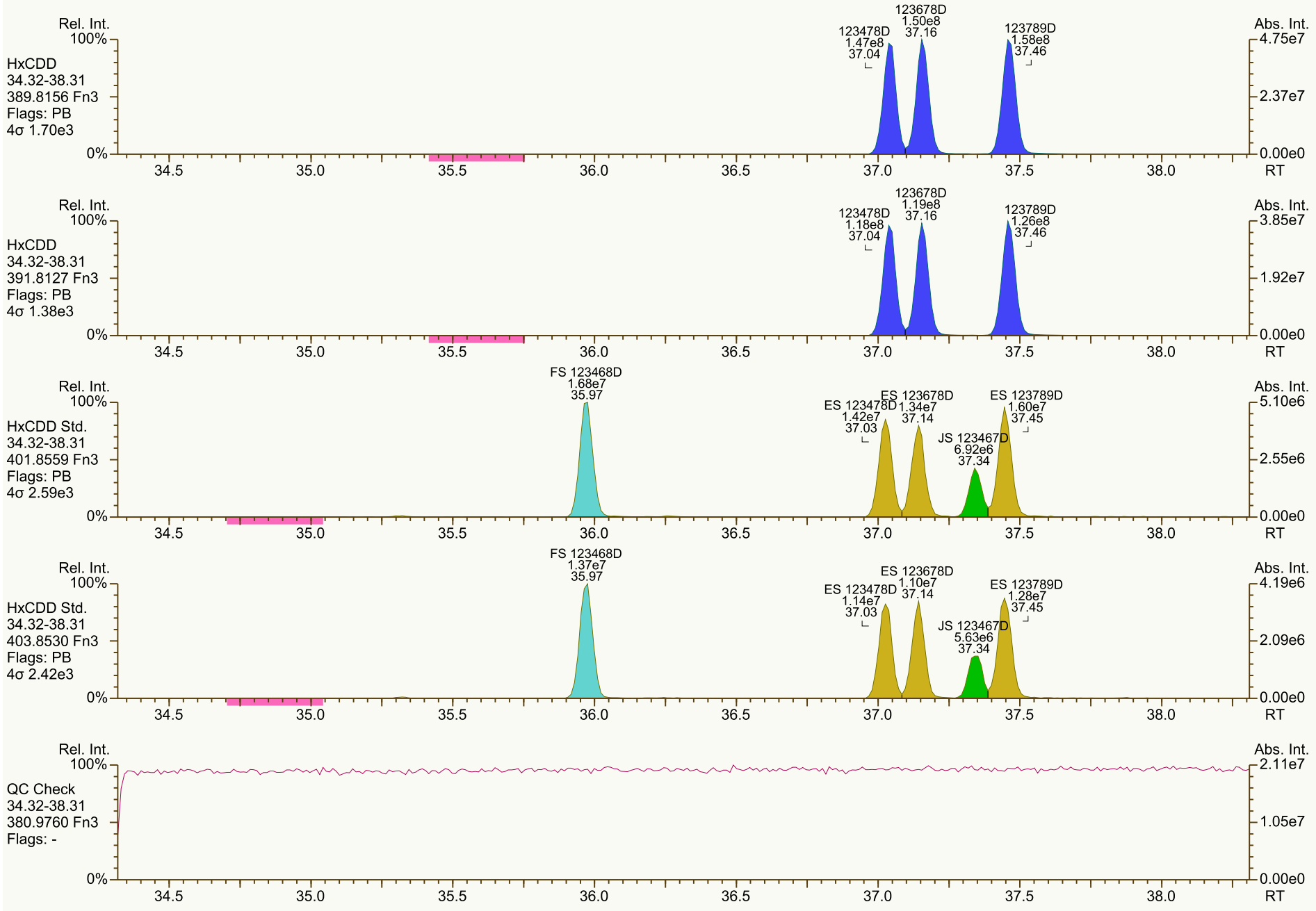
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

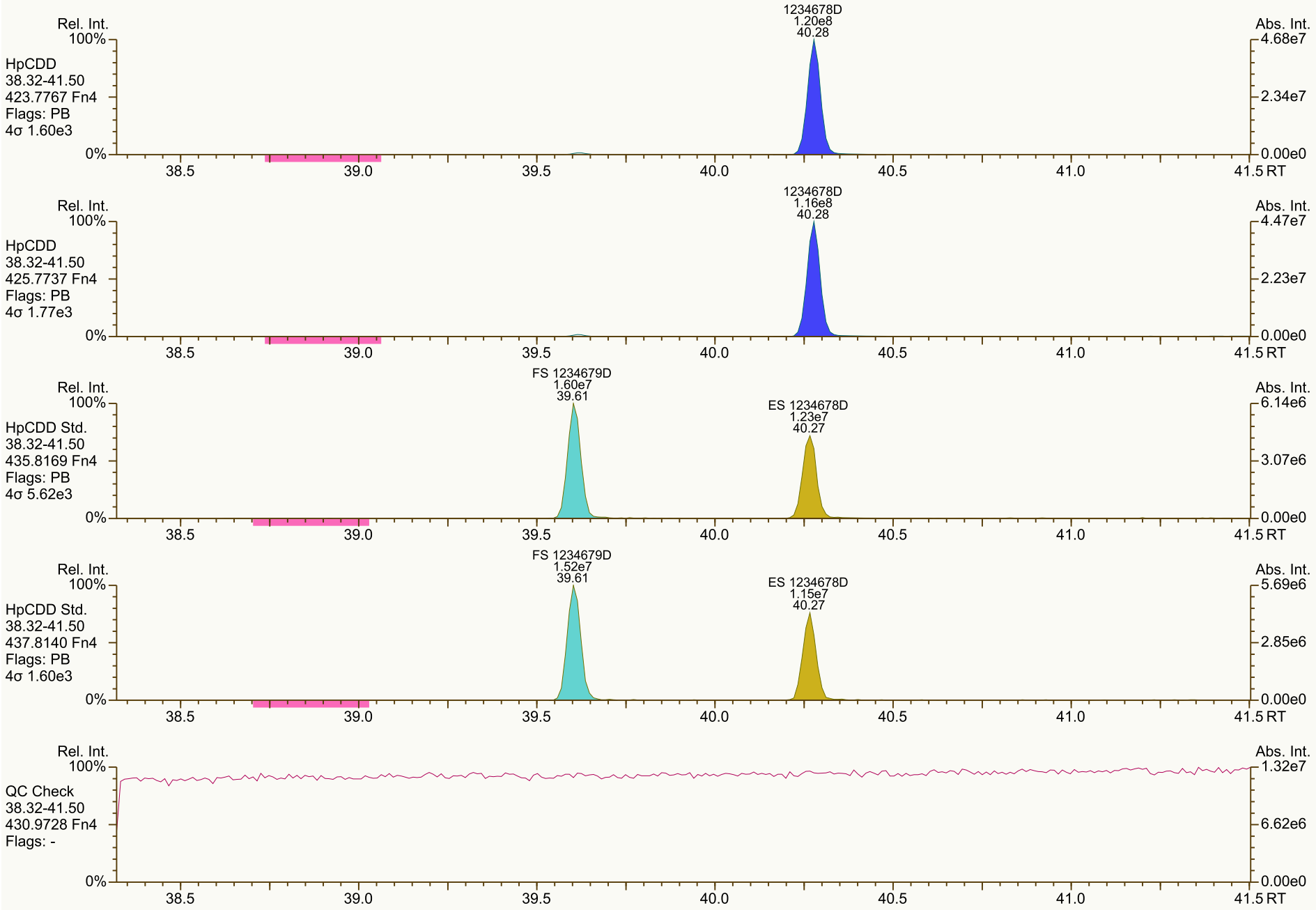
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:53 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS5_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 573-489-BMZ	
Sample ID: 25-5-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C09	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

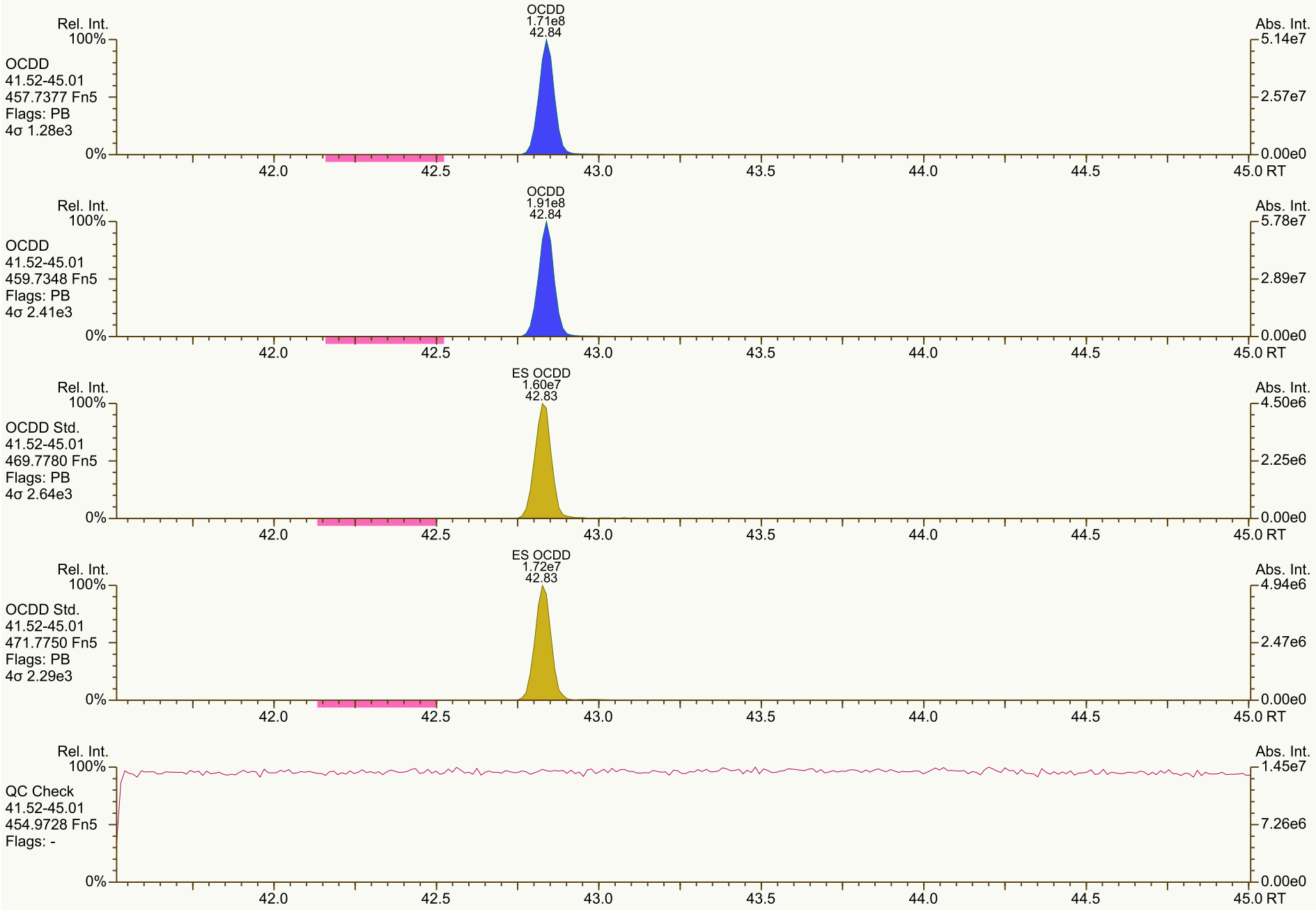

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
8.97e6
4.49e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
7.46e6
3.73e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
2.11e7
1.05e7
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.32e7
6.62e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.45e7
7.26e6
0.00e0
RT


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
2378D
4.22e7
27.59
9.91e6
4.96e6
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
1.83e7
9.13e6
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
4.26e6
2.13e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
5.66e6
2.83e6


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
0%
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
0%
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
0%
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
0%
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

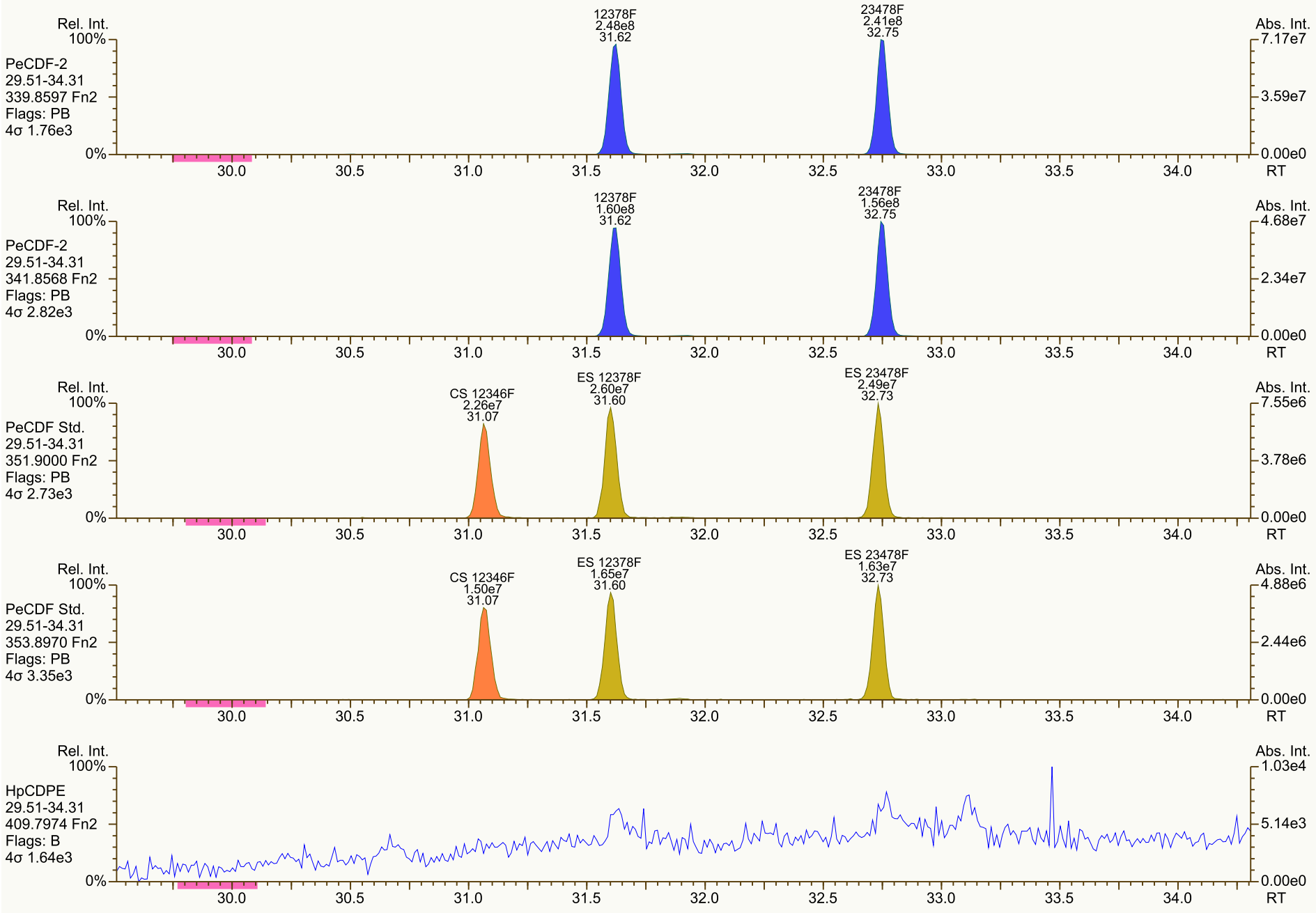

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123678D
1.50e8
37.16
123478D
1.47e8
37.04
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123678D
1.19e8
37.16
123478D
1.18e8
37.04
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123678D
1.34e7
37.14
ES 123478D
1.42e7
37.03
ES 123789D
1.60e7
37.45
JS 123467D
6.92e6
37.34
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123678D
1.10e7
37.14
ES 123478D
1.14e7
37.03
ES 123789D
1.28e7
37.45
JS 123467D
5.63e6
37.34
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

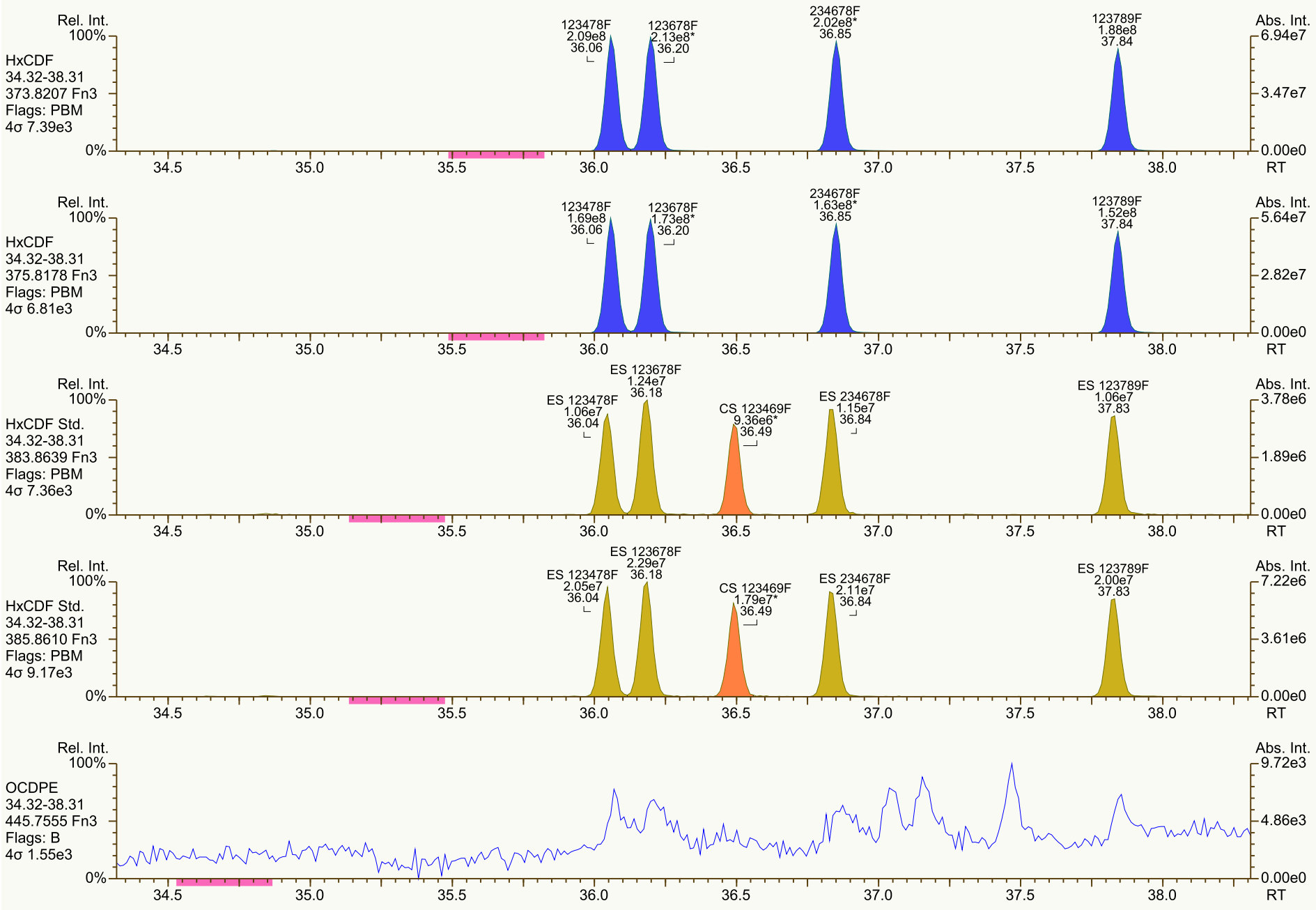

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

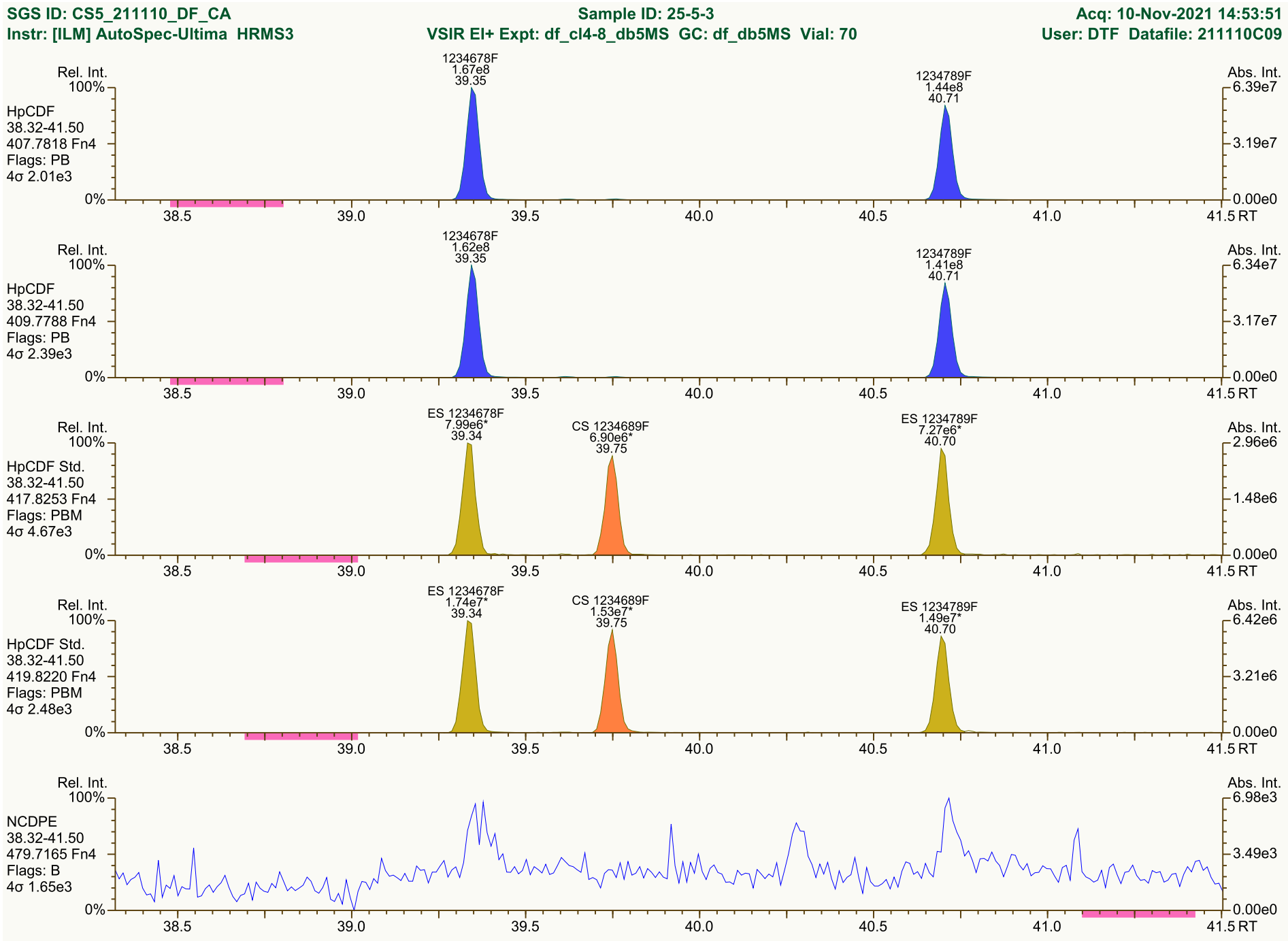

OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6

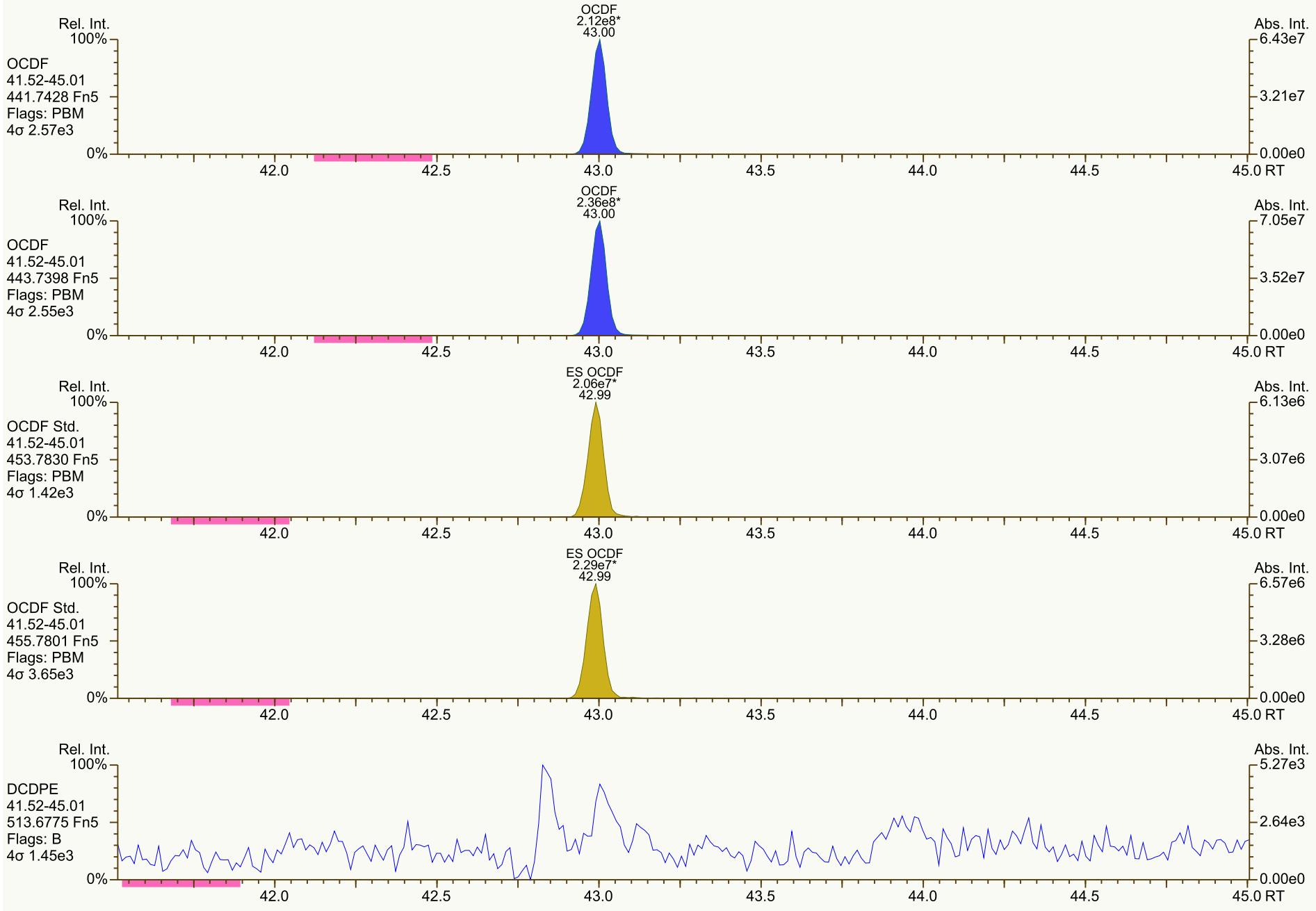

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
Abs. Int.
1.03e4
5.14e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
0%
123478F
2.09e8
36.06
123678F
2.13e8*
36.20
234678F
2.02e8*
36.85
123789F
1.88e8
37.84
Abs. Int.
6.94e7
3.47e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
0%
123478F
1.69e8
36.06
123678F
1.73e8*
36.20
234678F
1.63e8*
36.85
123789F
1.52e8
37.84
Abs. Int.
5.64e7
2.82e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
0%
ES 123478F
1.06e7
36.04
ES 123678F
1.24e7
36.18
CS 123469F
9.36e6*
36.49
ES 234678F
1.15e7
36.84
ES 123789F
1.06e7
37.83
Abs. Int.
3.78e6
1.89e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
0%
ES 123478F
2.05e7
36.04
ES 123678F
2.29e7
36.18
CS 123469F
1.79e7*
36.49
ES 234678F
2.11e7
36.84
ES 123789F
2.00e7
37.83
Abs. Int.
7.22e6
3.61e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
0%
Abs. Int.
9.72e3
4.86e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: CS5_211110_DF_CA
Sample ID: 25-5-3
Acq: 10-Nov-2021 14:53:51
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 211110C09
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9534, 7460, 1538 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 11 of 12

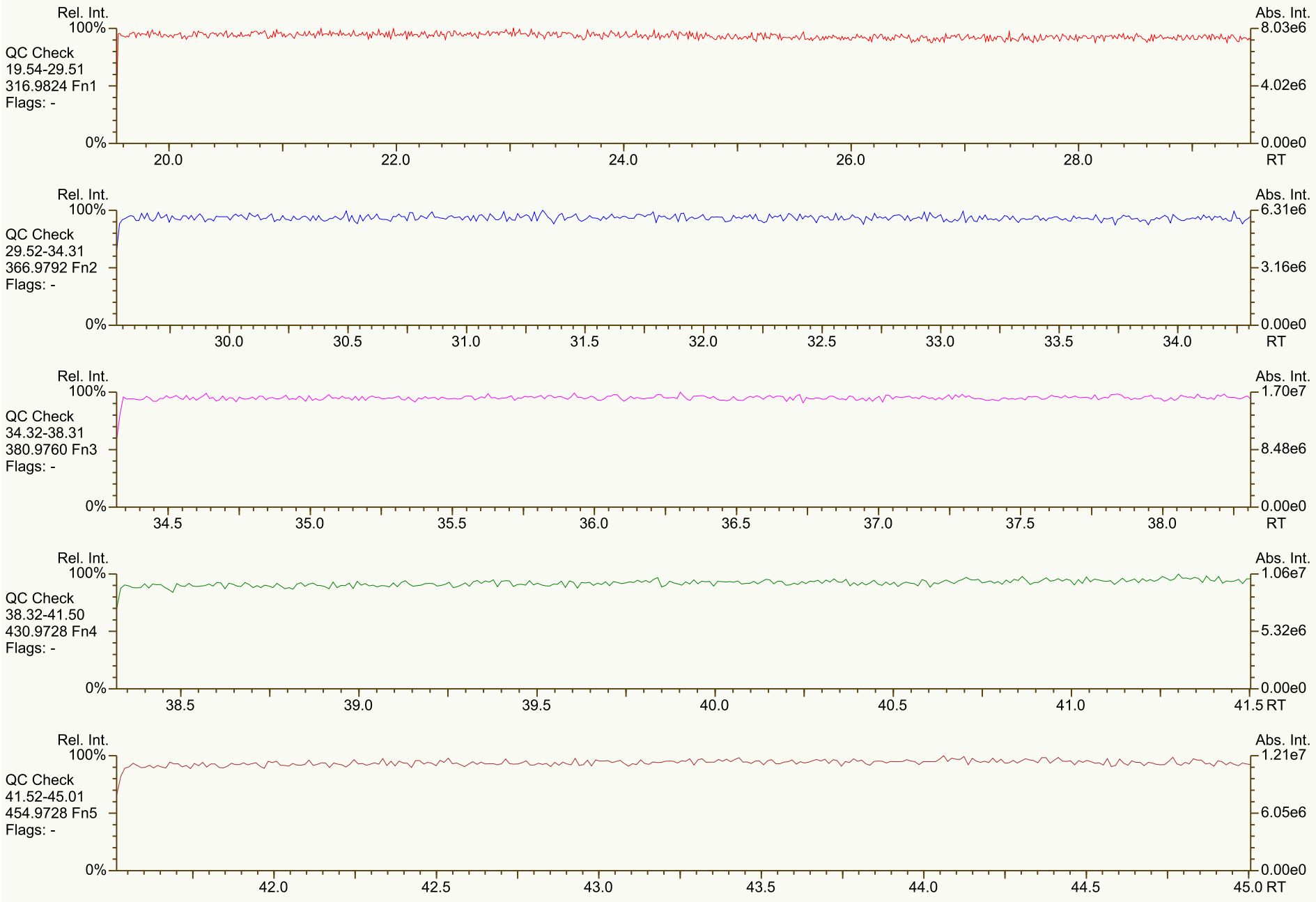

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

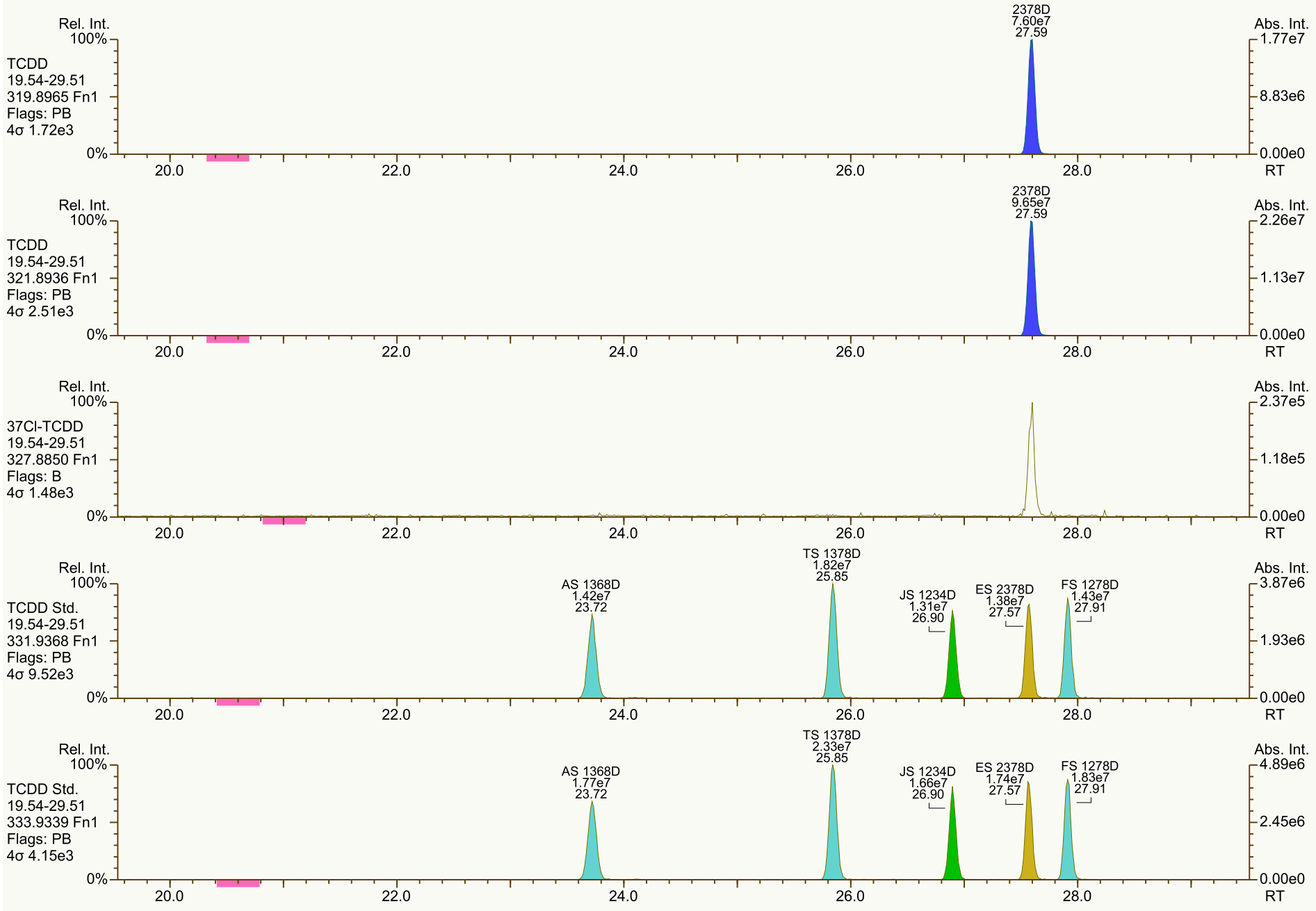
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

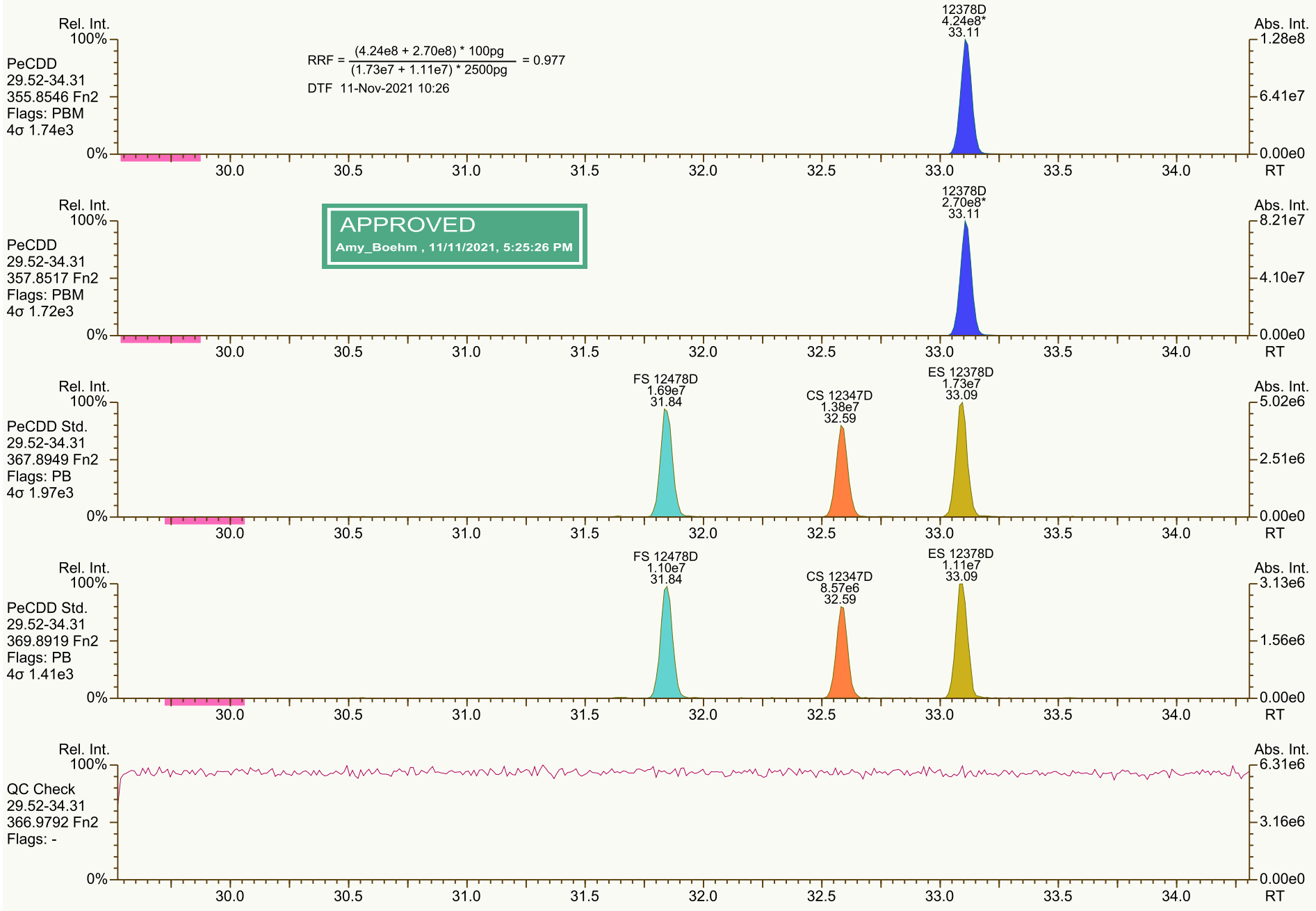
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

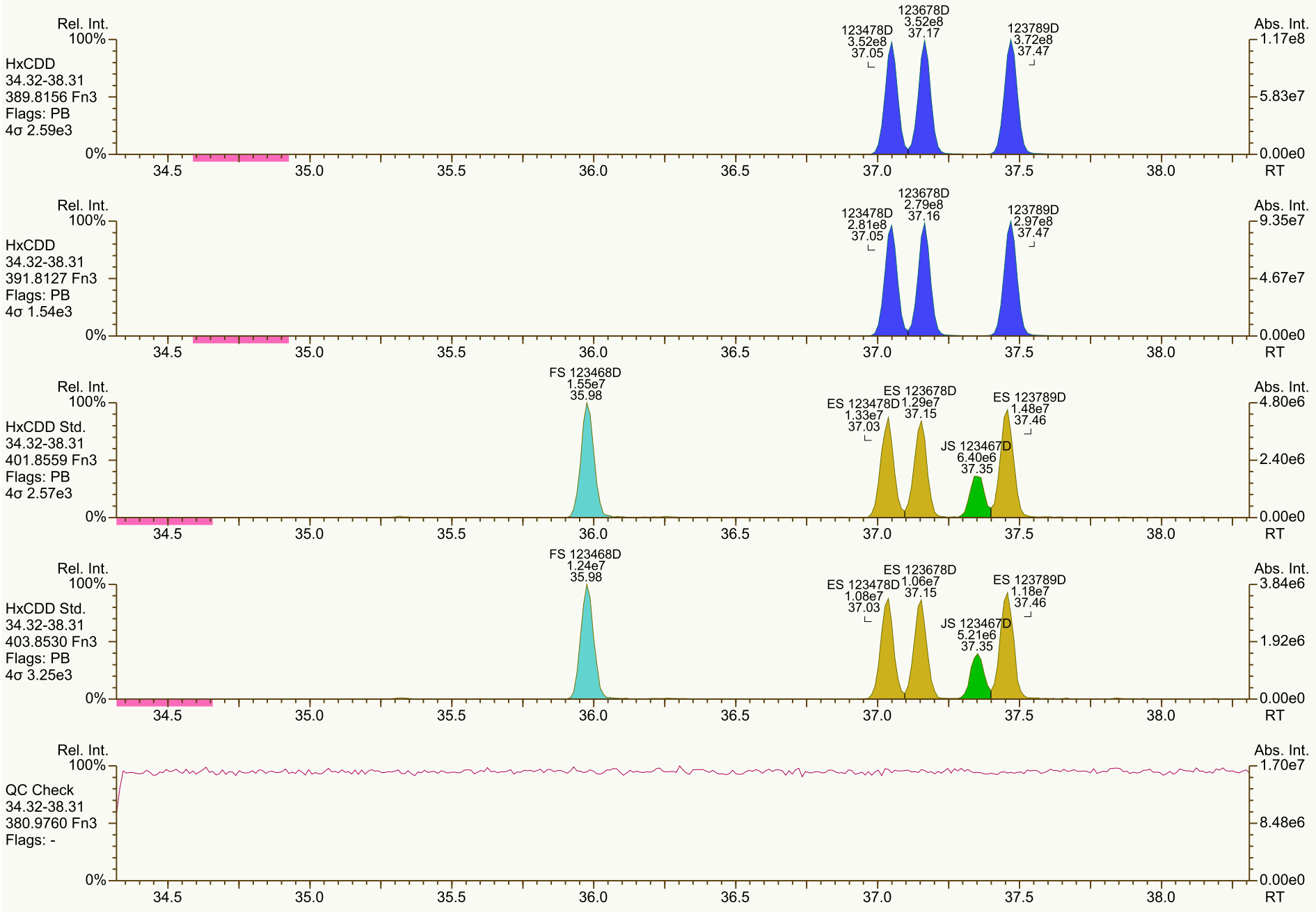
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

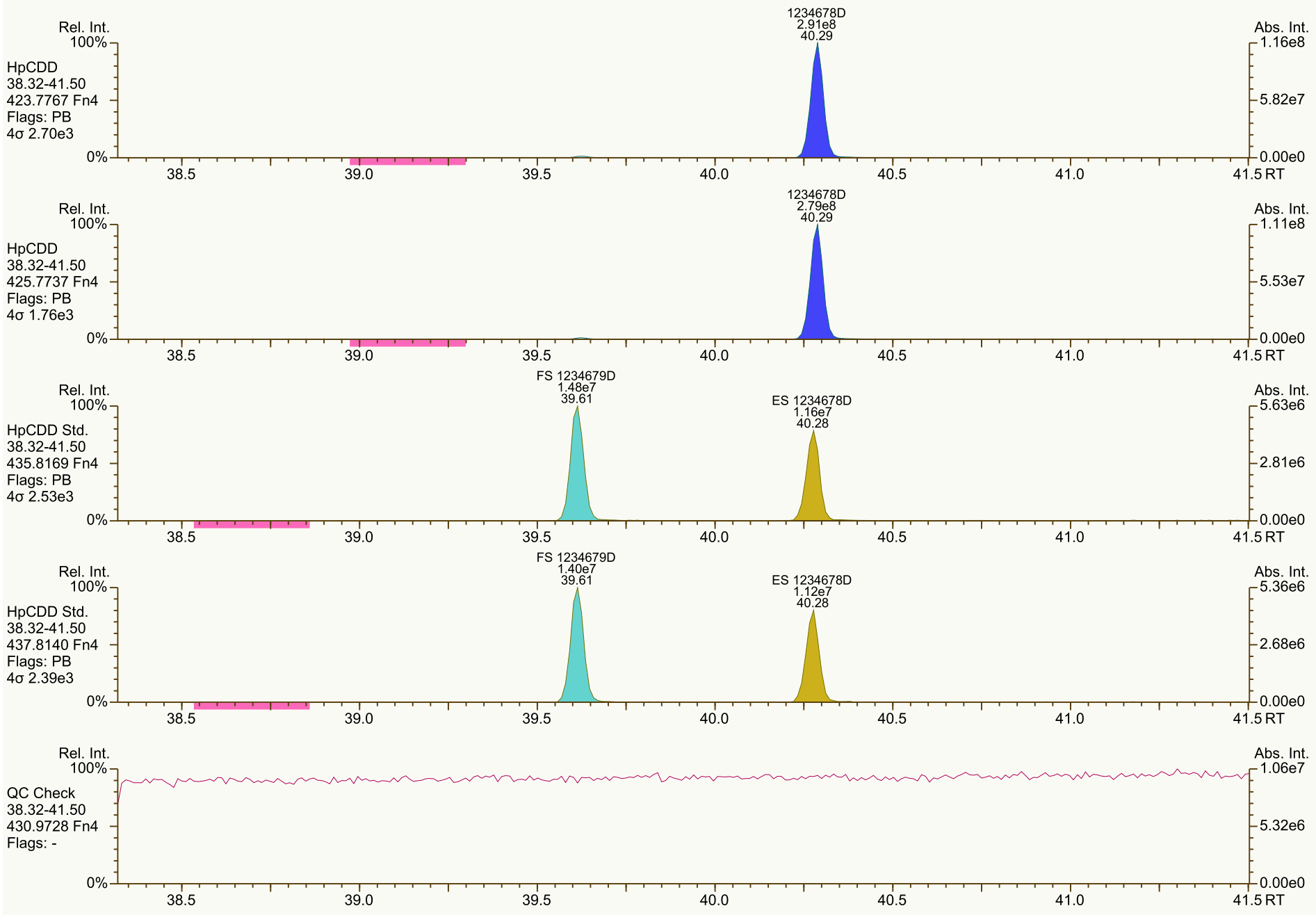
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

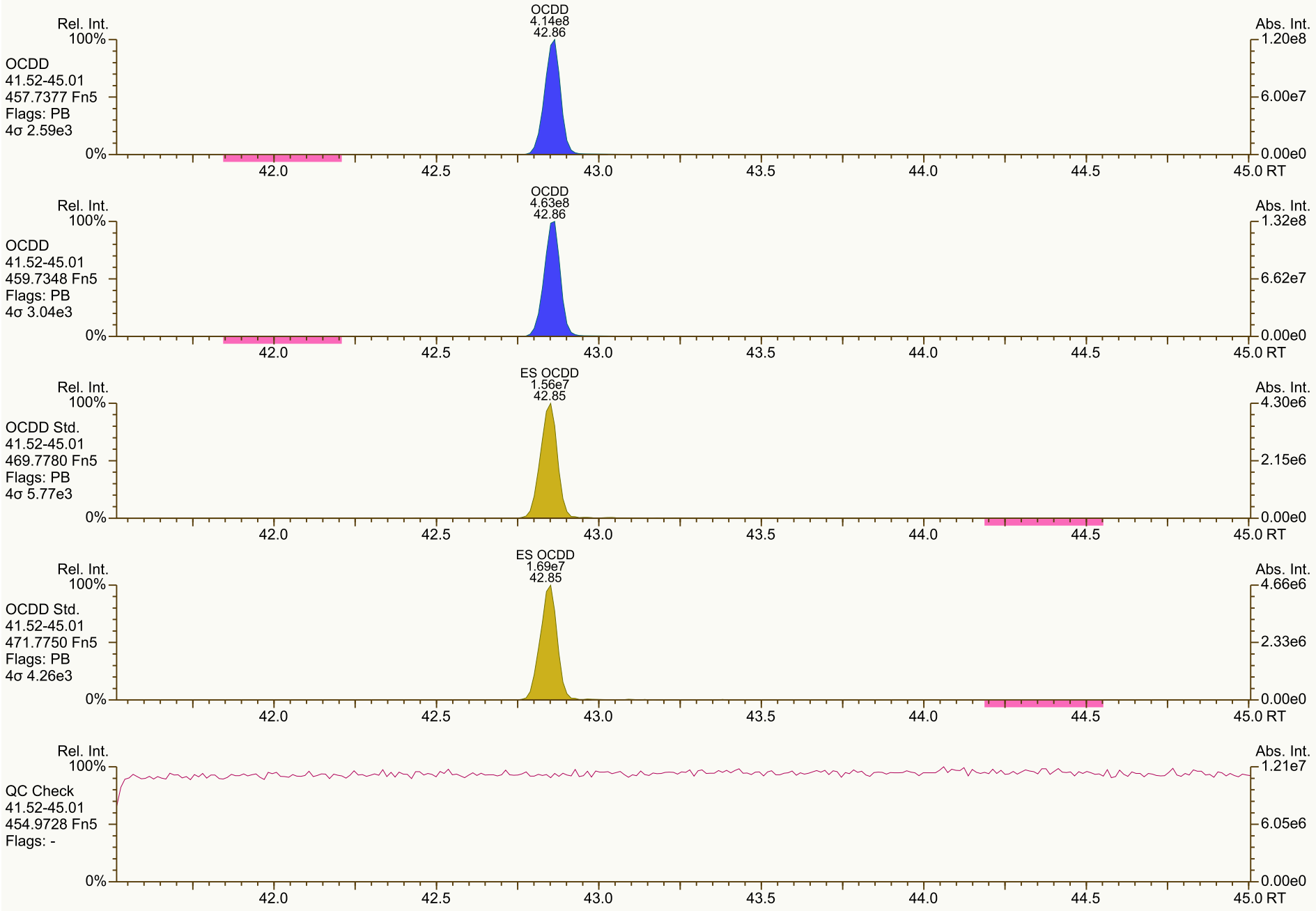

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
0%
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
0%
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.31e6
3.16e6
0.00e0

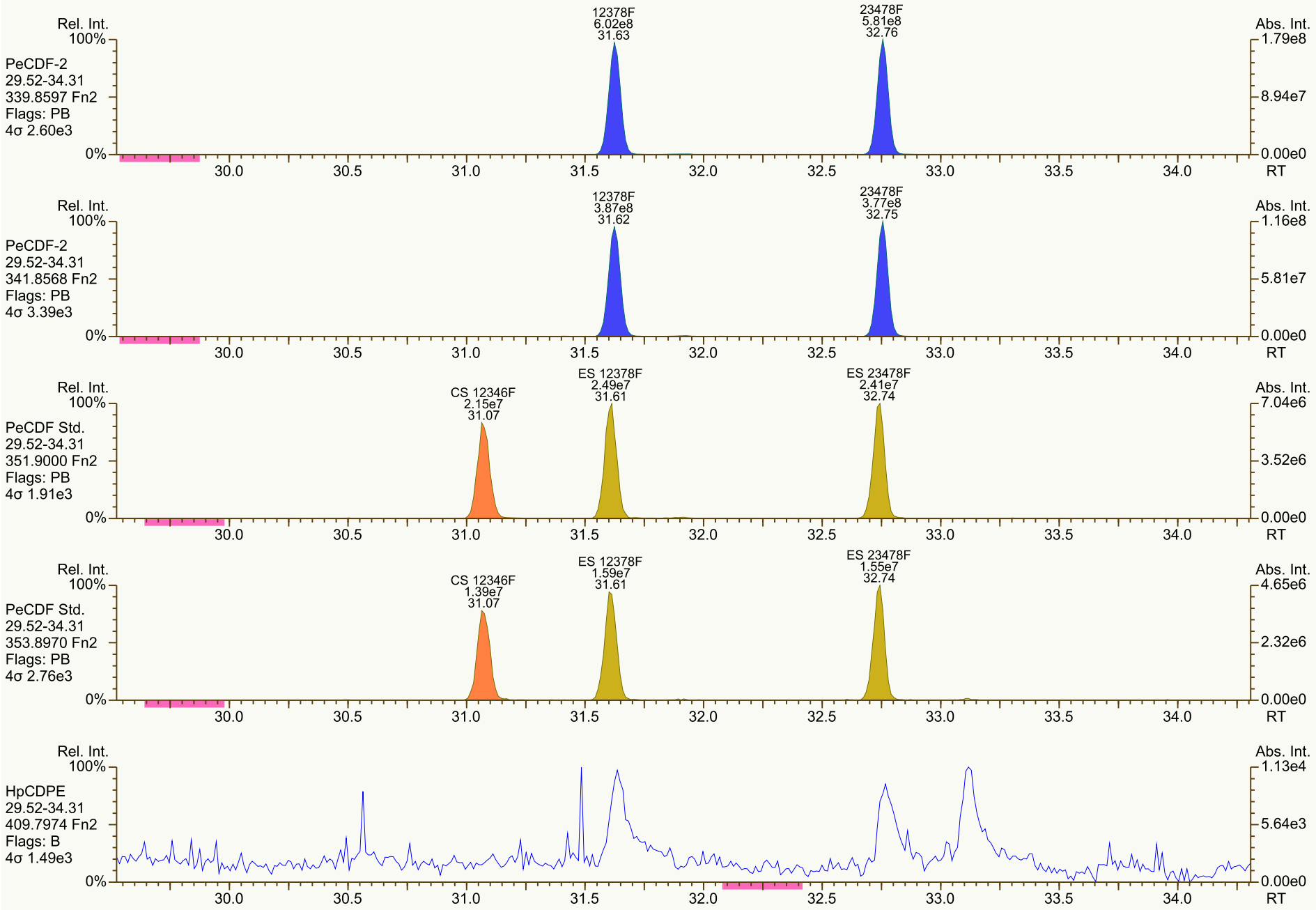

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.70e7
8.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

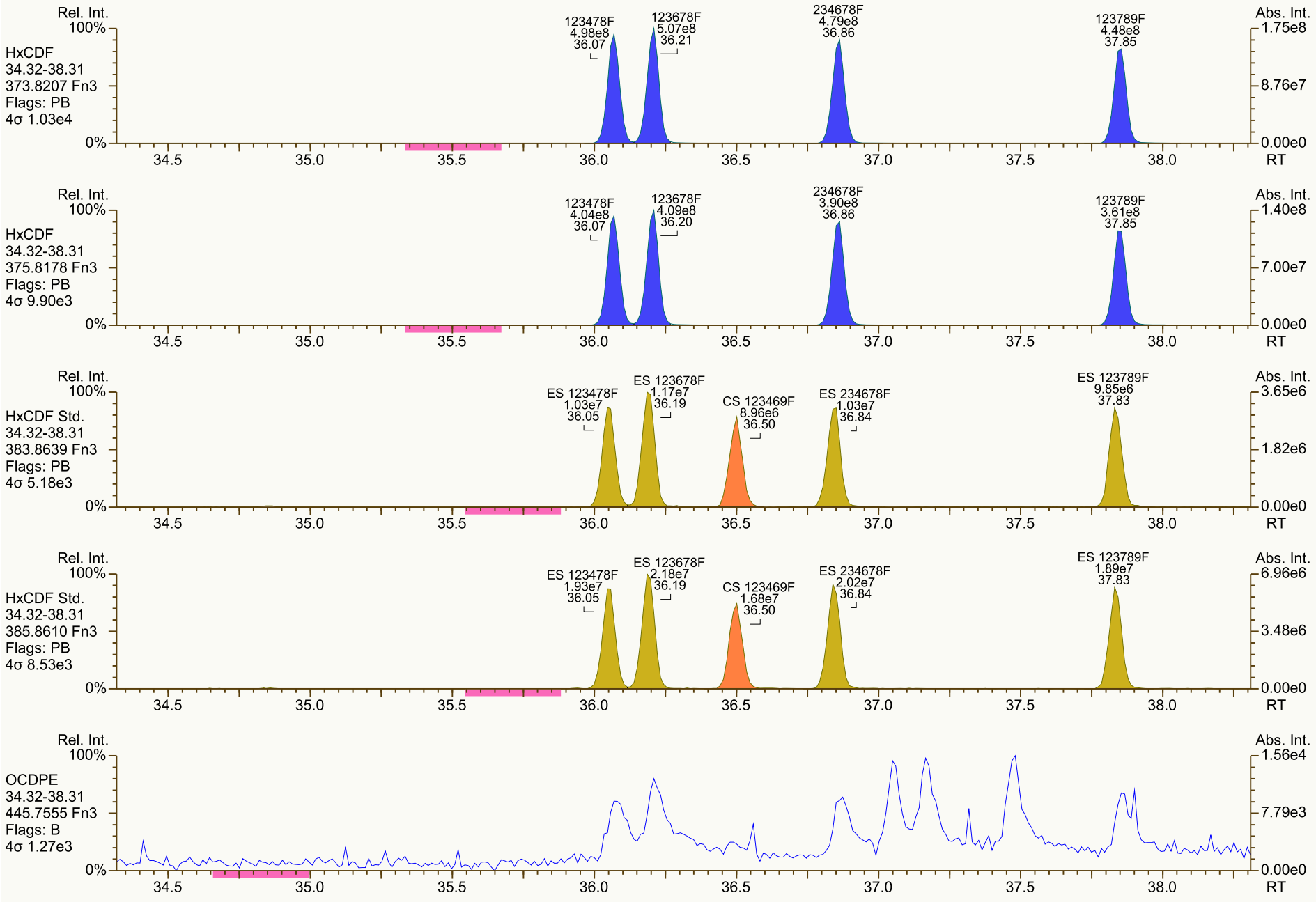

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

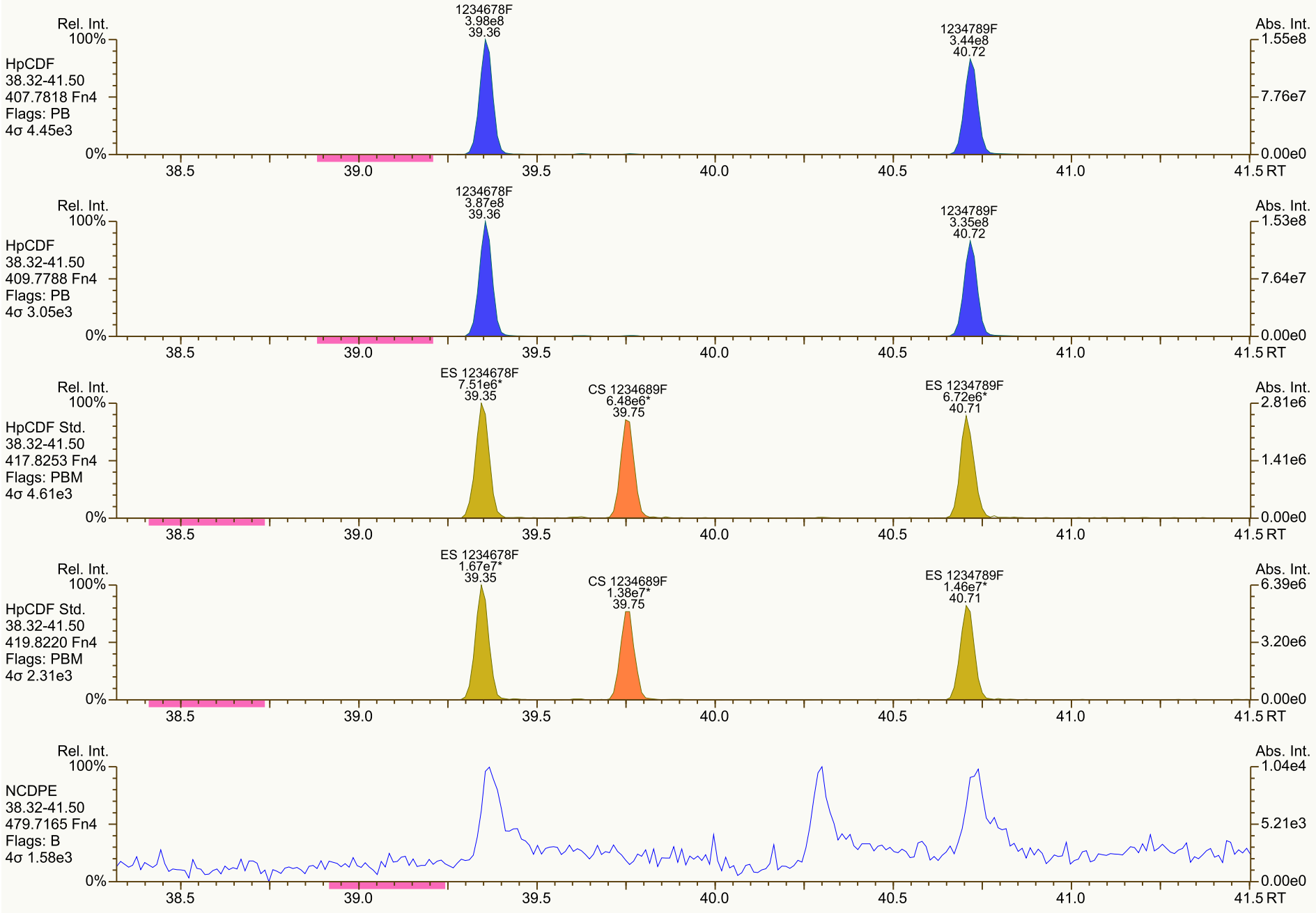

OCDD
4.14e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.63e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.56e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.69e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

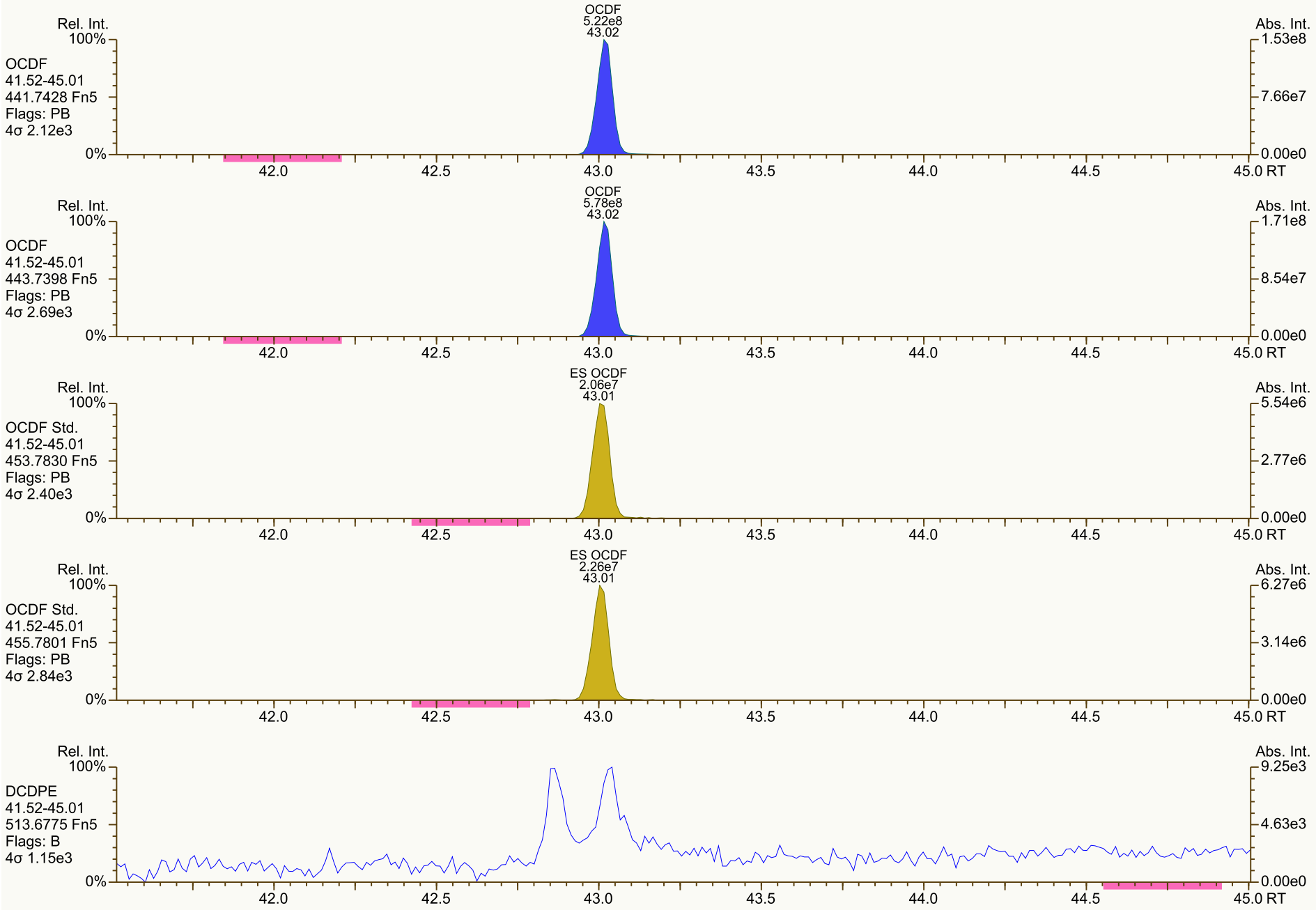

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

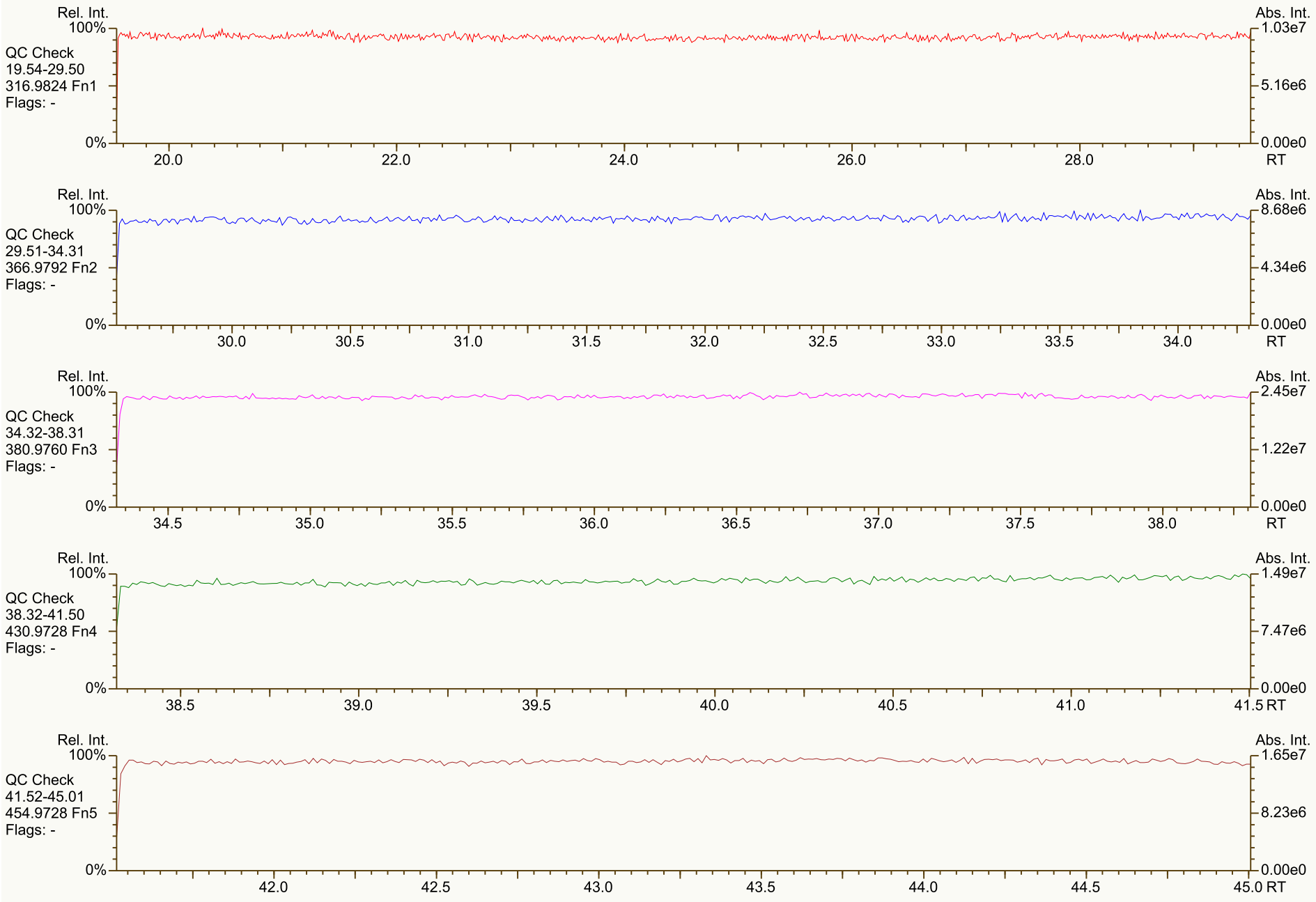

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
0%
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
0%
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
0%
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
0%
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
0%
Abs. Int.
1.13e4
5.64e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.65e7
8.23e6
0.00e0

SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



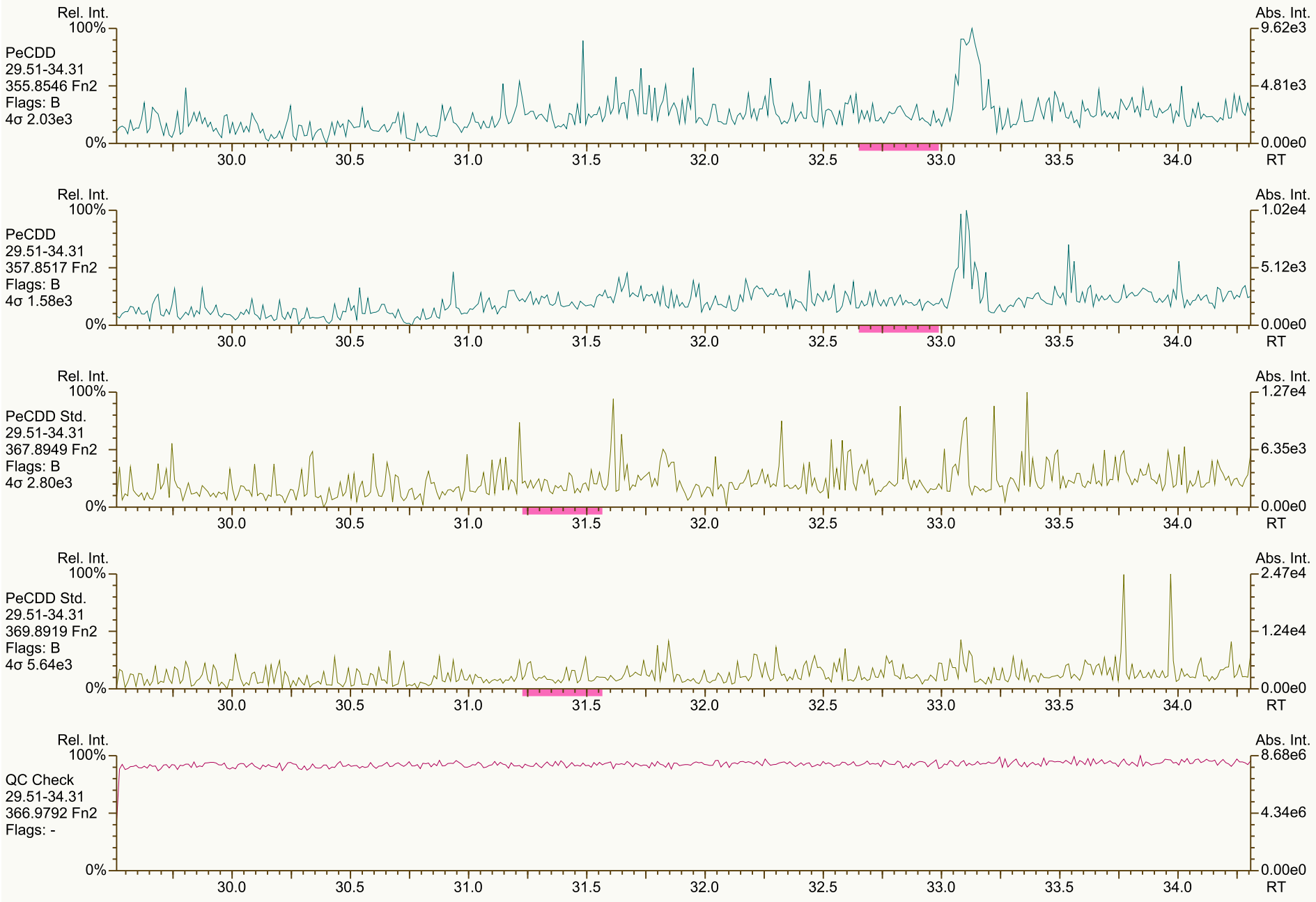
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1*


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03

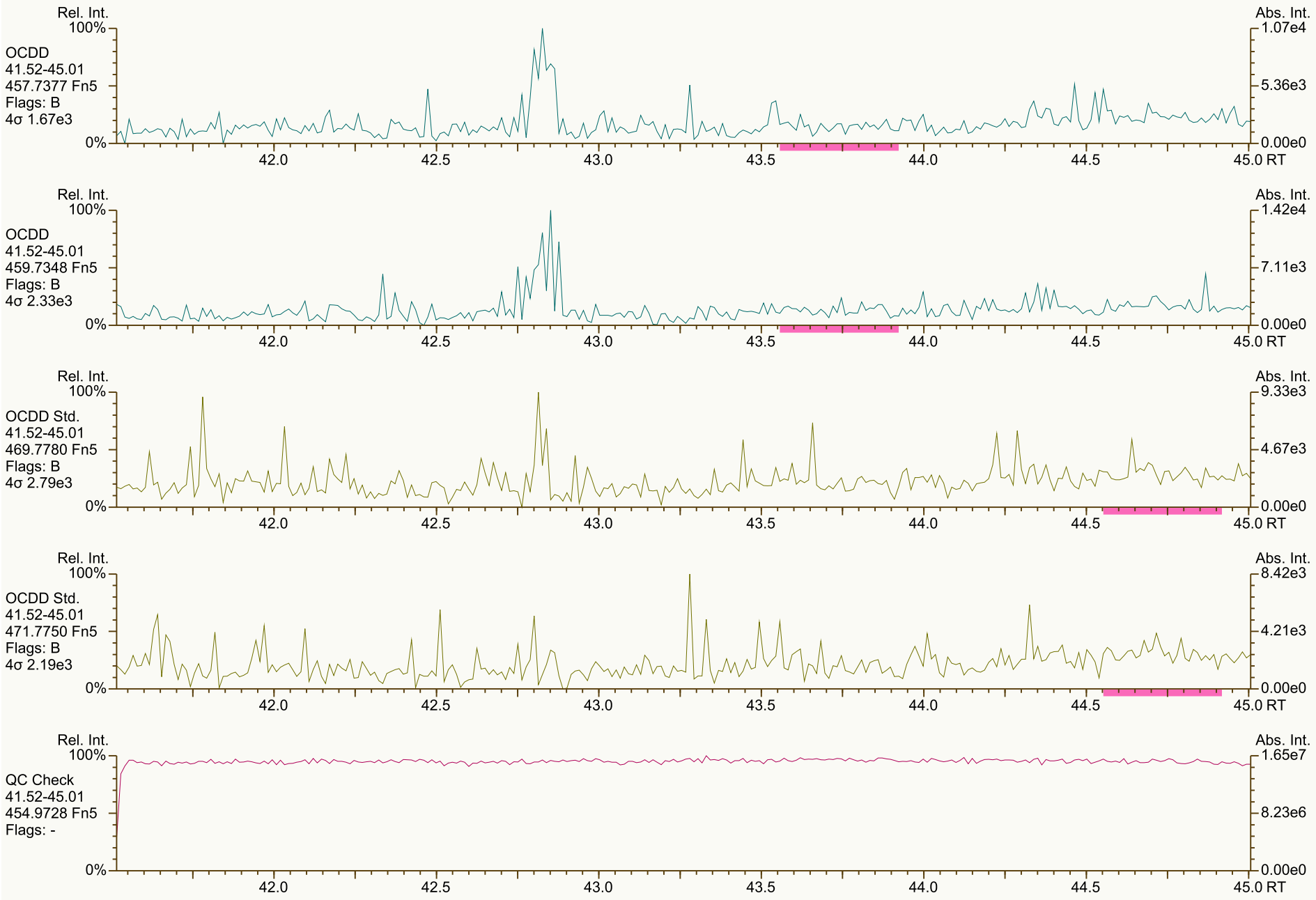


Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*

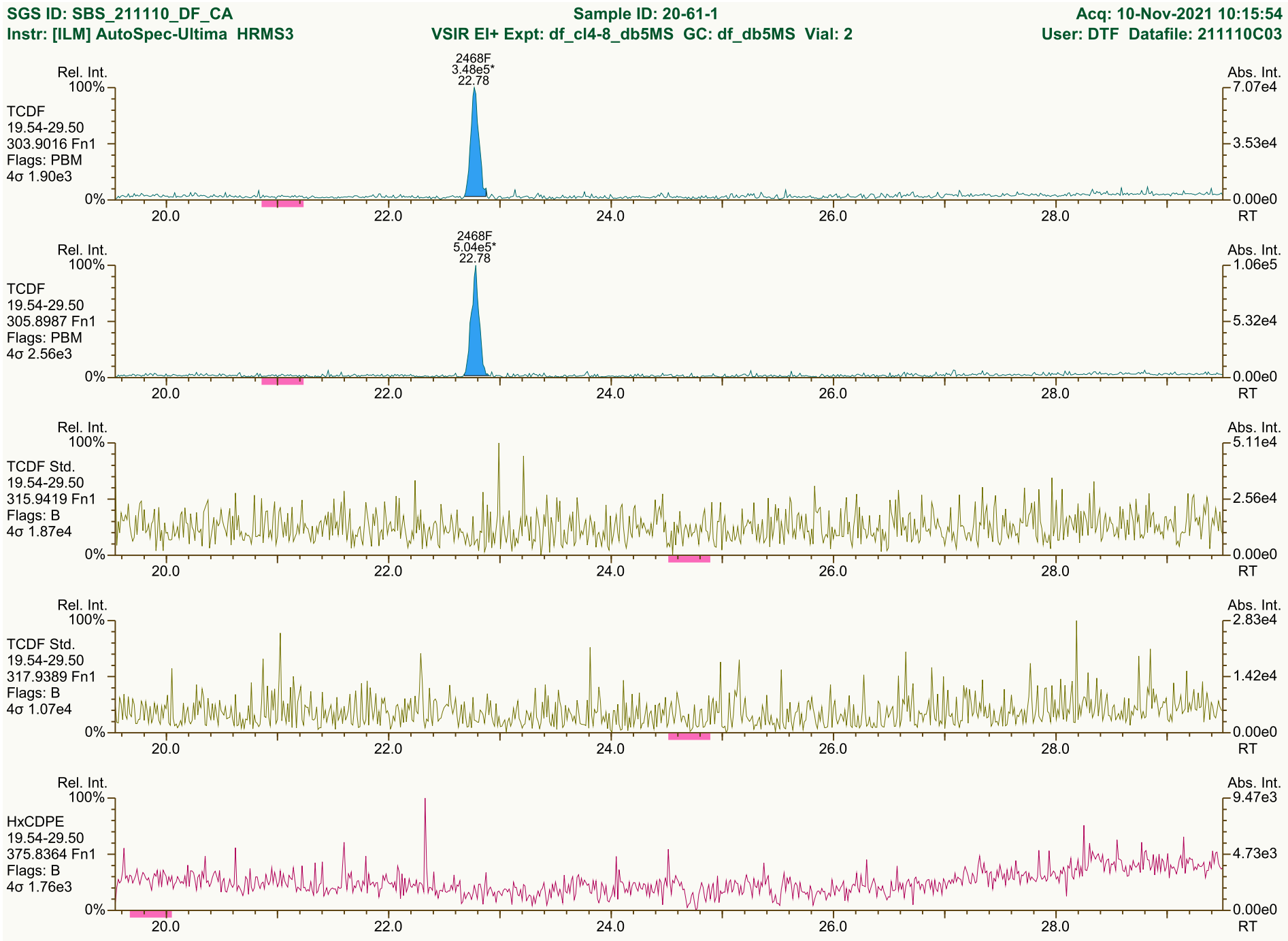
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 8553, 6214 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:39 Page 3 of 12*


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

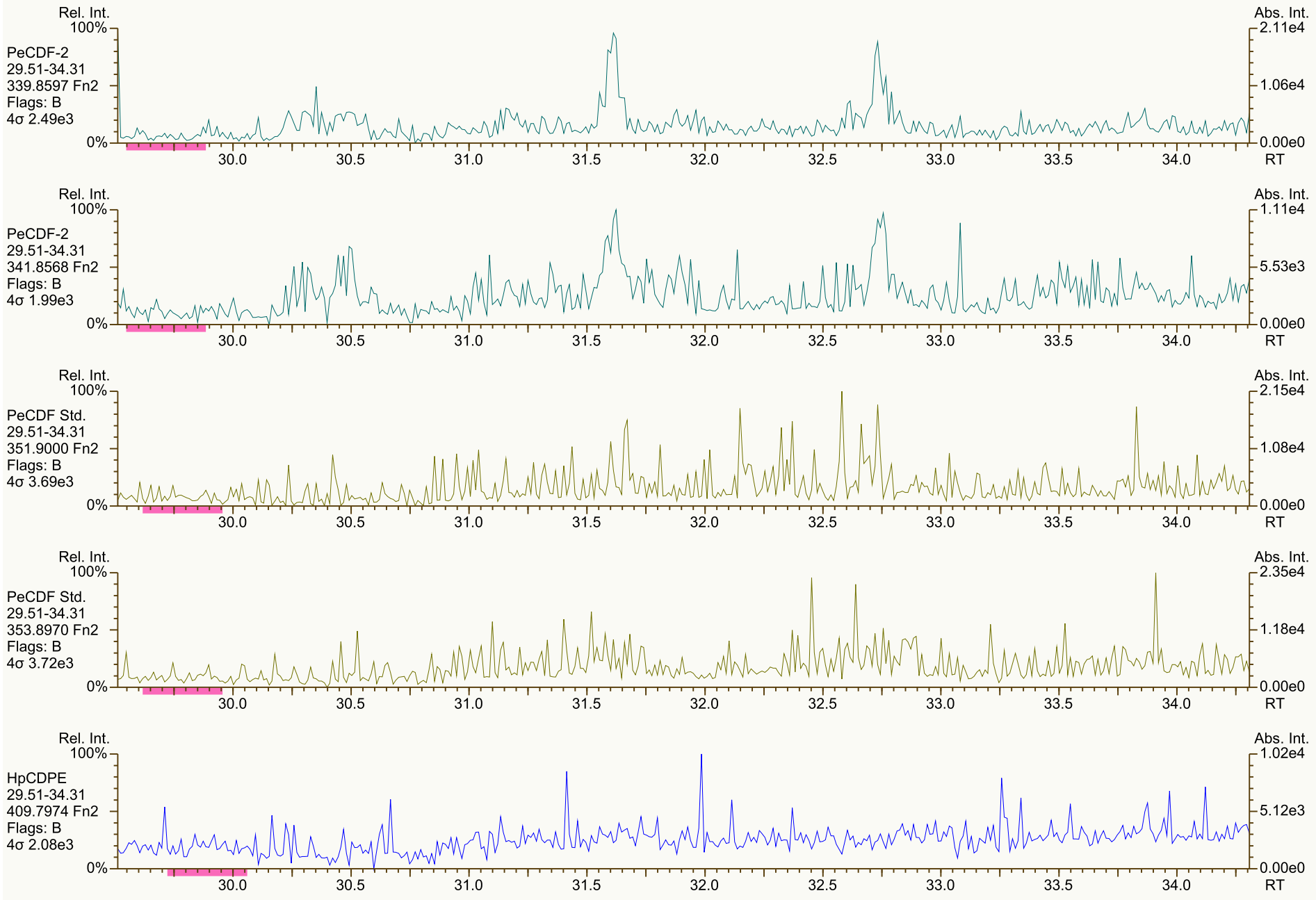

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

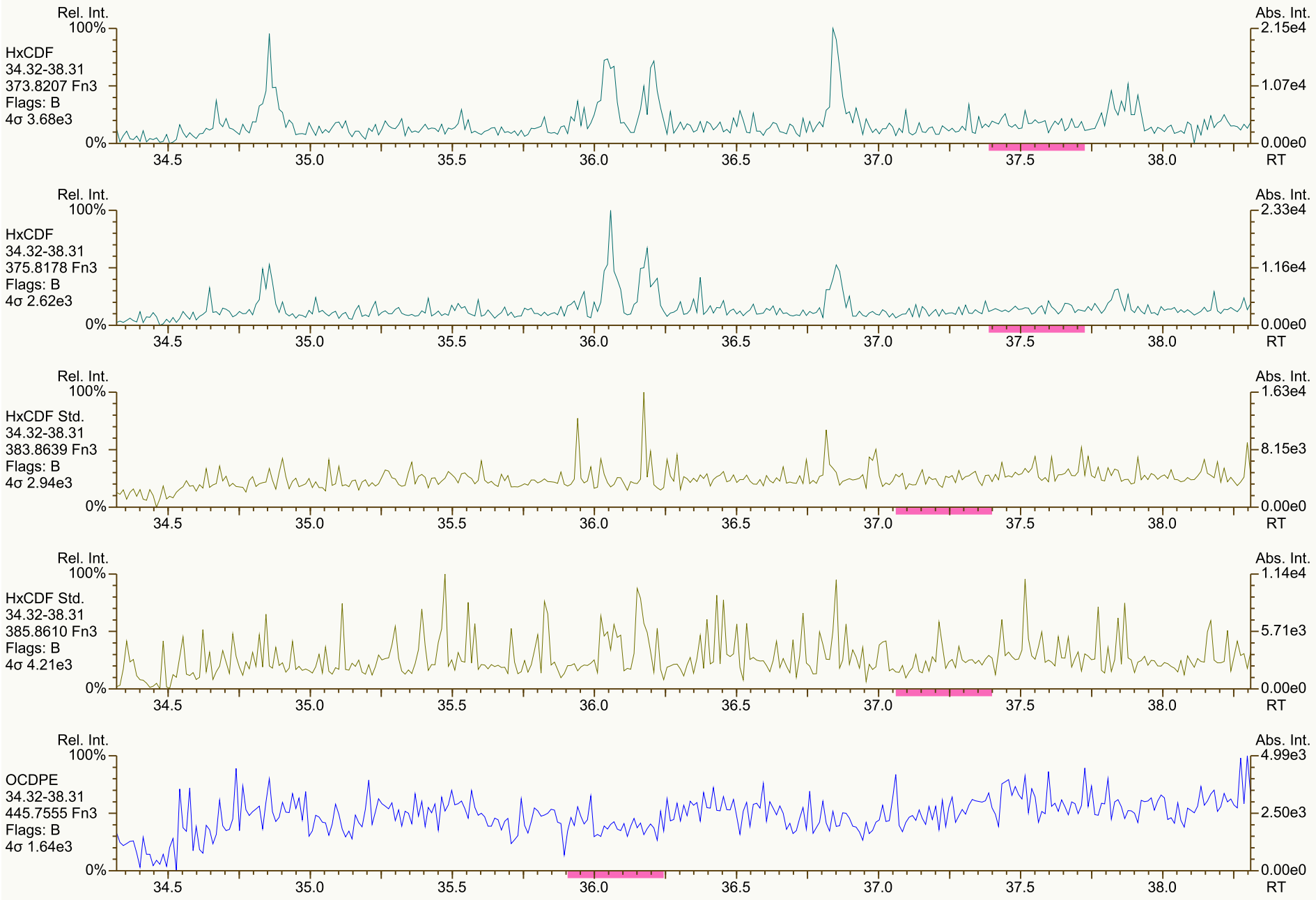

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: SBS_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3
Sample ID: 20-61-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
Acq: 10-Nov-2021 10:15:54
User: DTF Datafile: 211110C03




Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

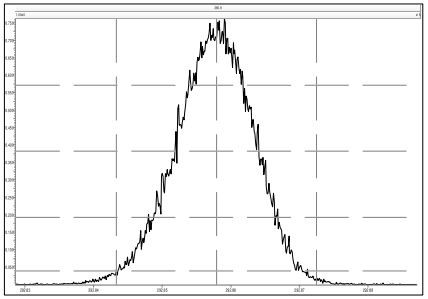

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

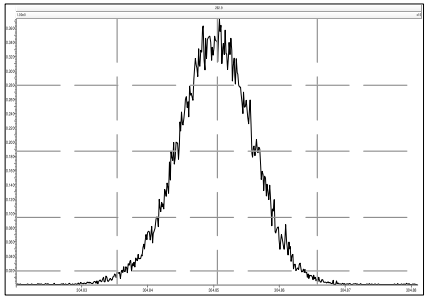
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

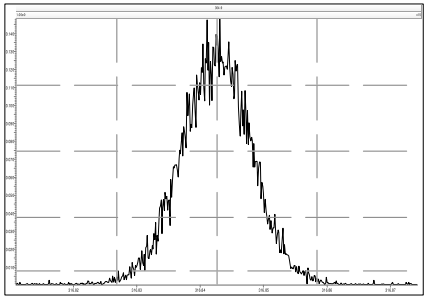
M 292.9824 R 10731



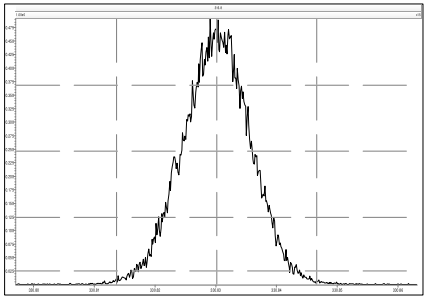
M 304.9824 R 11311



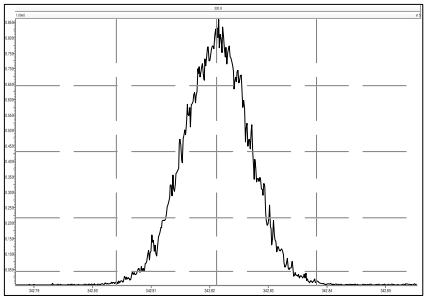
M 316.9824 R 12373



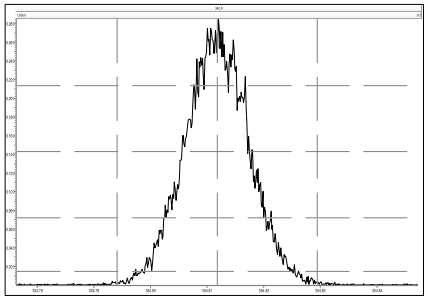
M 330.9792 R 12887



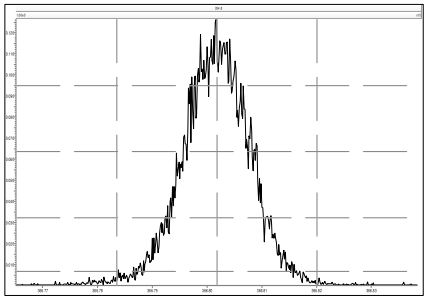
M 342.9792 R 12818



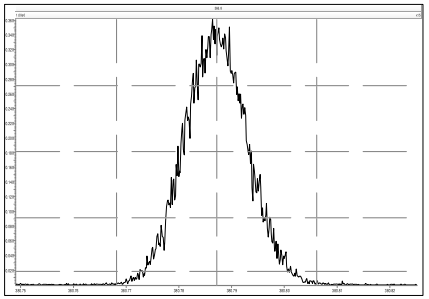
M 354.9792 R 12882



M 366.9792 R 13368



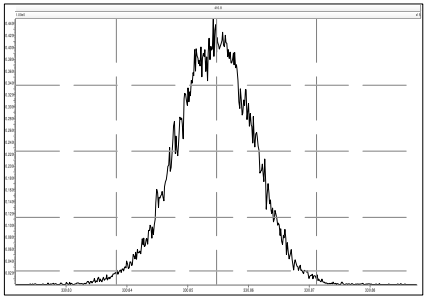
M 380.9760 R 13658



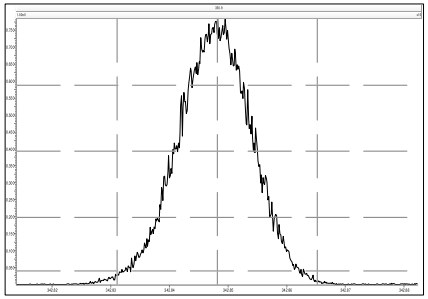
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

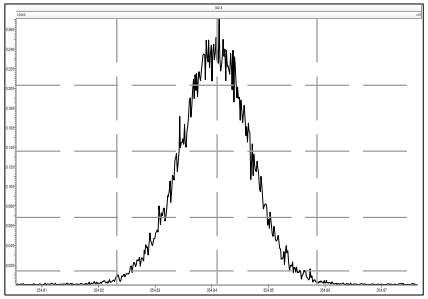
M 330.9792 R 11112



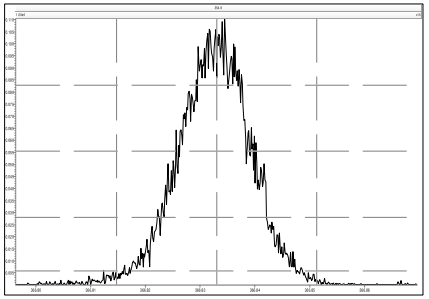
M 342.9792 R 11909



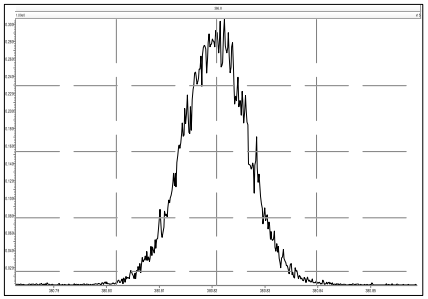
M 354.9792 R 11684



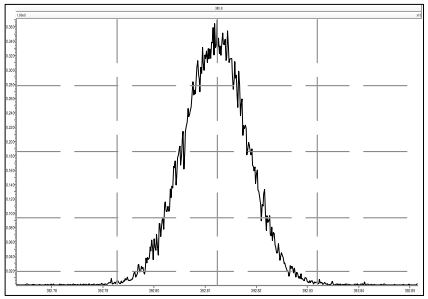
M 366.9792 R 11962



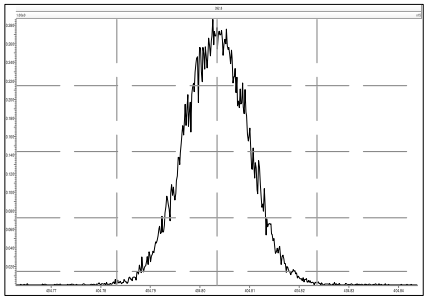
M 380.9760 R 13161



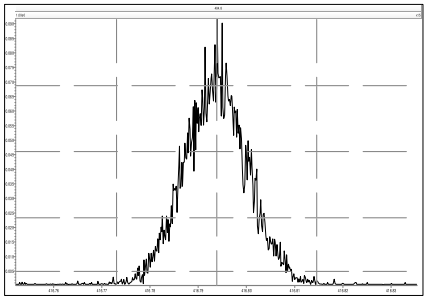
M 392.9760 R 13968



M 404.9760 R 13227



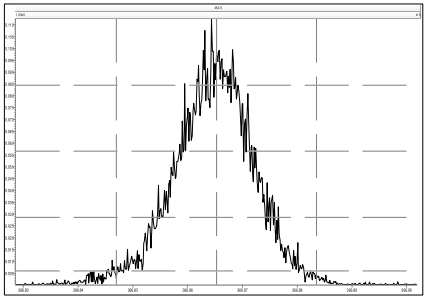
M 416.9760 R 13663



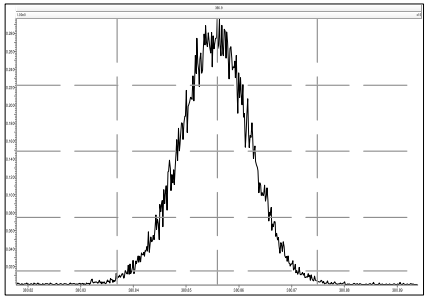
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

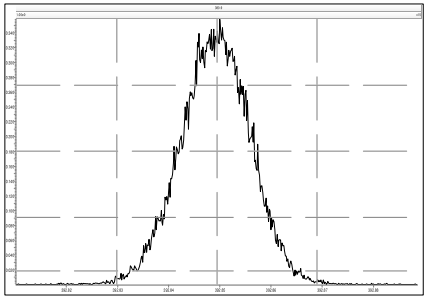
M 366.9792 R 10680



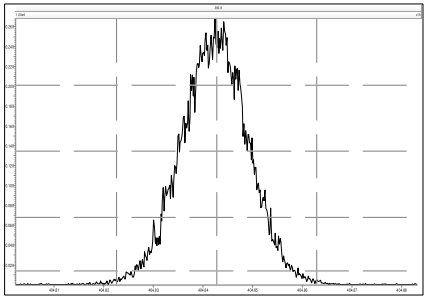
M 380.9760 R 12315



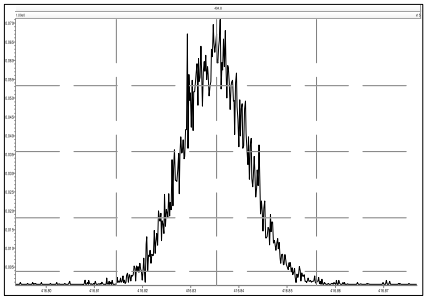
M 392.9760 R 12197



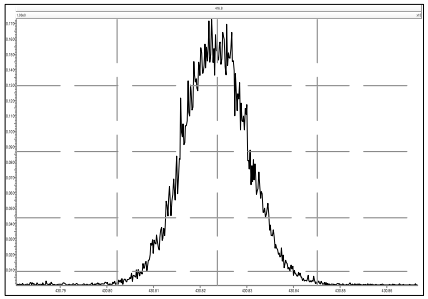
M 404.9760 R 12433



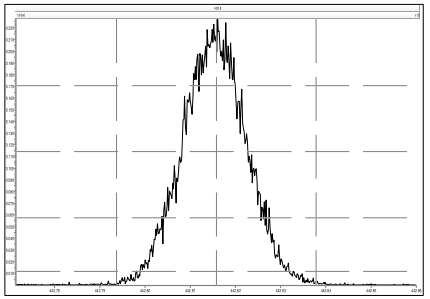
M 416.9760 R 13660



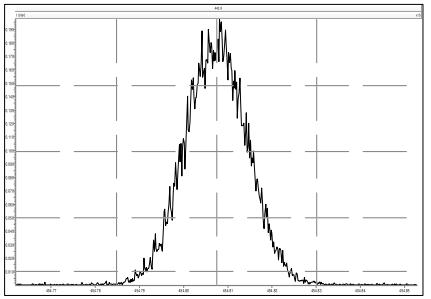
M 430.9728 R 13295



M 442.9728 R 13364



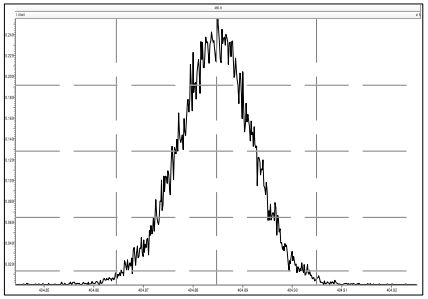
M 454.9728 R 13810



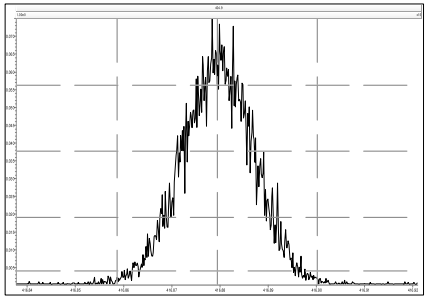
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

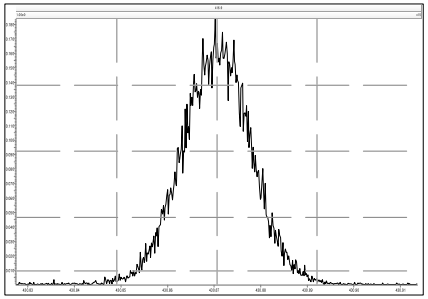
M 404.9760 R 11679



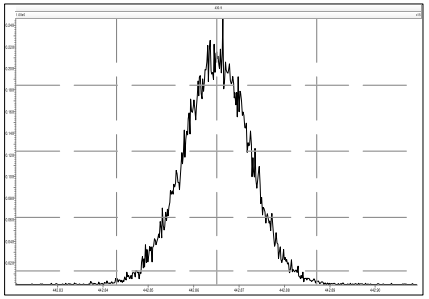
M 416.9760 R 12886



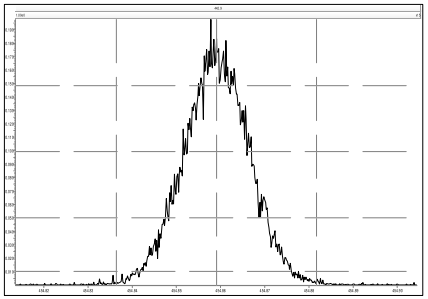
M 430.9728 R 12253



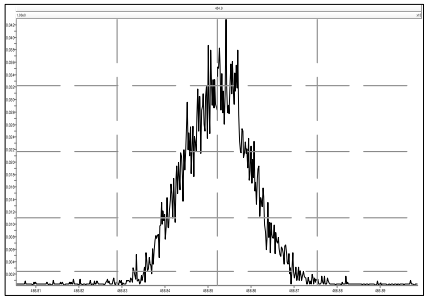
M 442.9728 R 12756



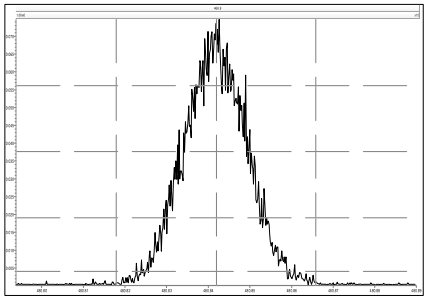
M 454.9728 R 13157



M 466.9728 R 13810



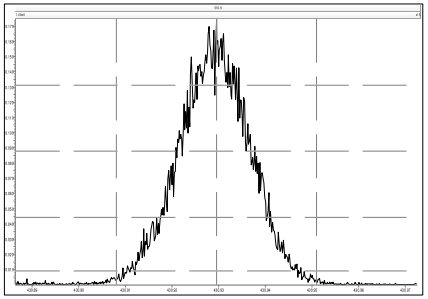
M 480.9696 R 14046



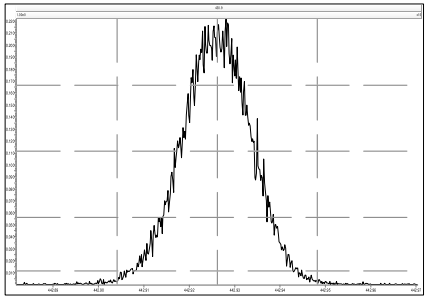
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

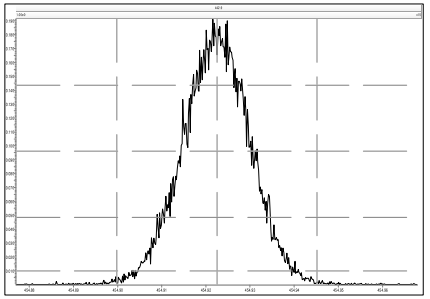
M 430.9728 R 11574



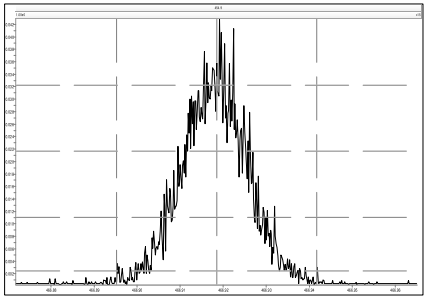
M 442.9728 R 12198



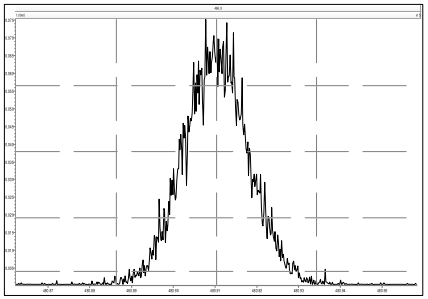
M 454.9728 R 12950



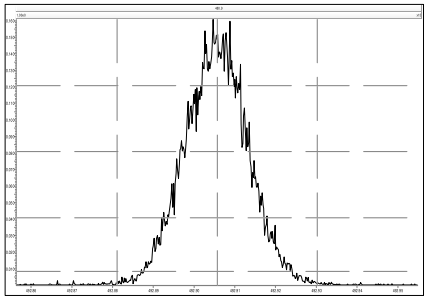
M 466.9728 R 13088



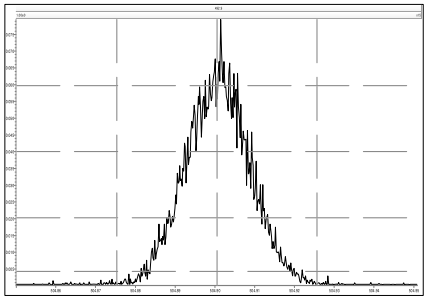
M 480.9696 R 13156



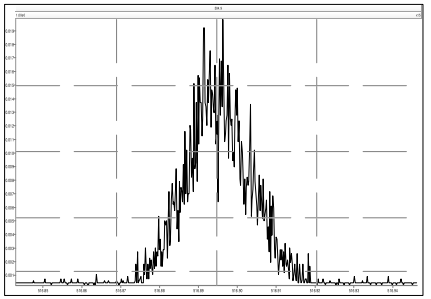
M 492.9696 R 13228



M 504.9696 R 13227



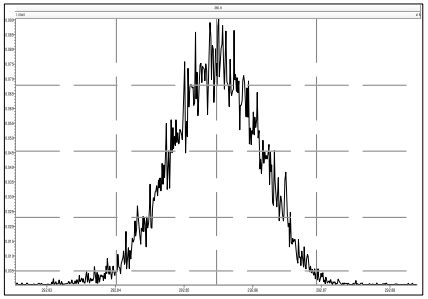
M 516.9697 R 13019



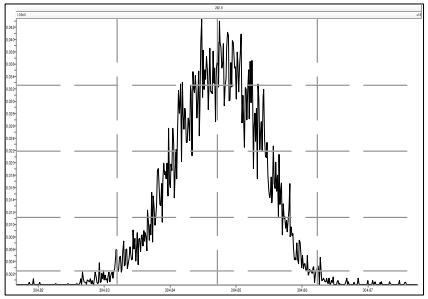
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

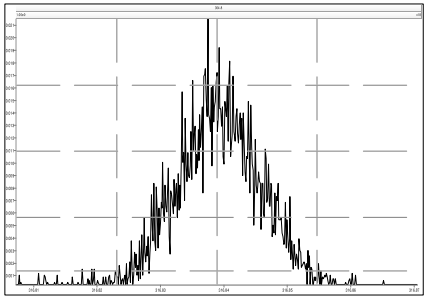
M 292.9824 R 10122



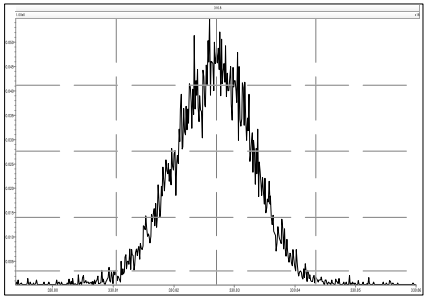
M 304.9824 R 10329



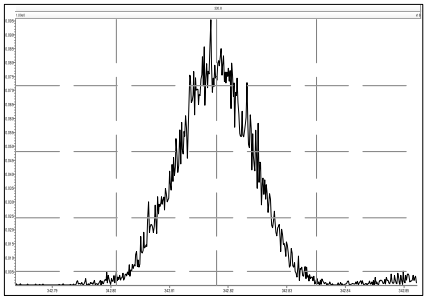
M 316.9824 R 11964



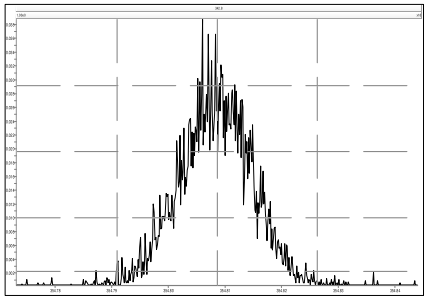
M 330.9792 R 11062



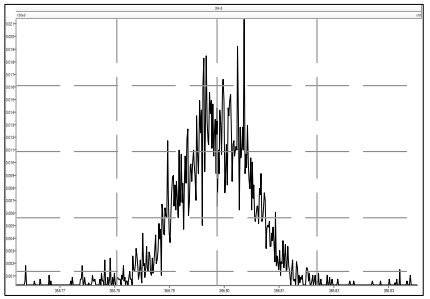
M 342.9792 R 12075



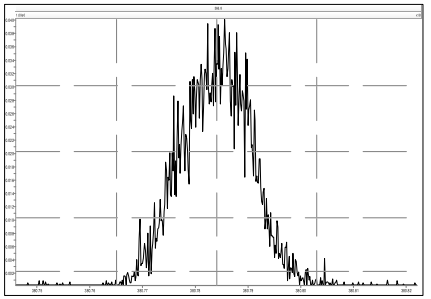
M 354.9792 R 12439



M 366.9792 R 12694



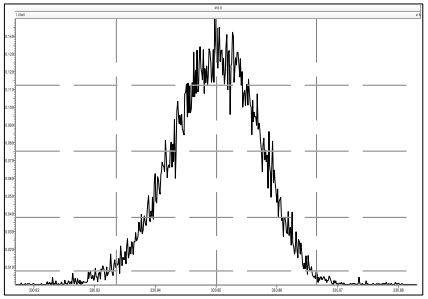
M 380.9760 R 13224



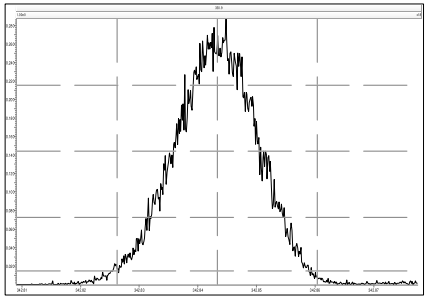
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

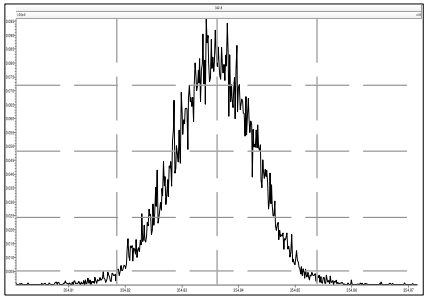
M 330.9792 R 10730



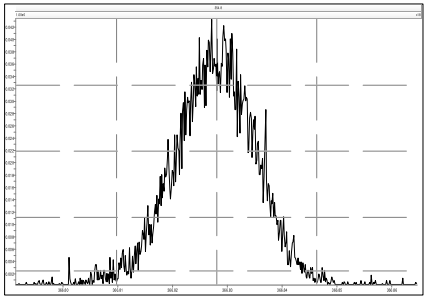
M 342.9792 R 10039



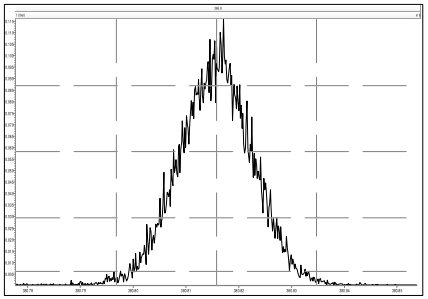
M 354.9792 R 11108



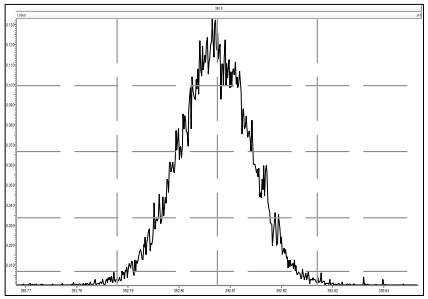
M 366.9792 R 11520



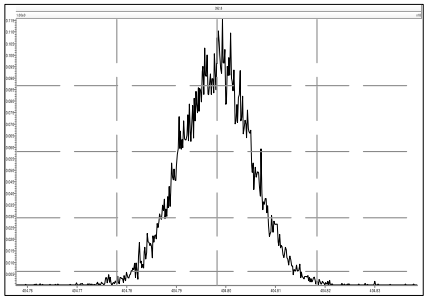
M 380.9760 R 12080



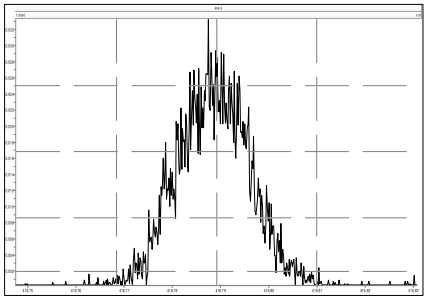
M 392.9760 R 12377



M 404.9760 R 12375



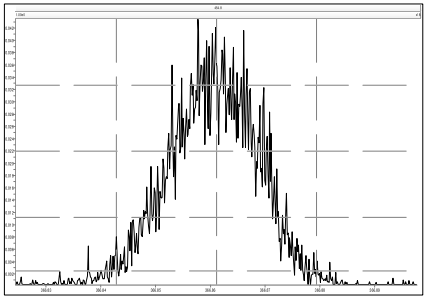
M 416.9760 R 13515



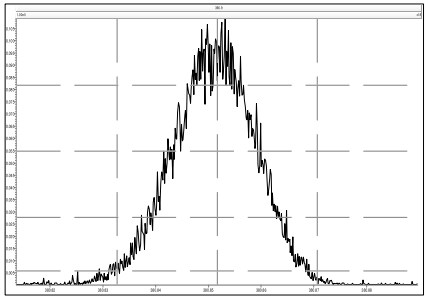
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

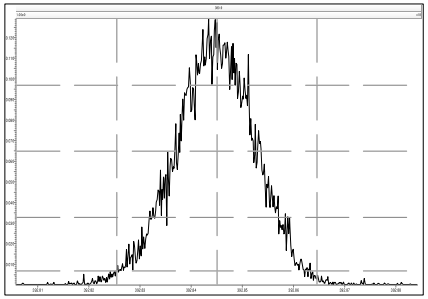
M 366.9792 R 10866



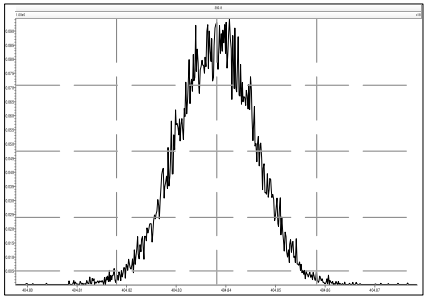
M 380.9760 R 10416



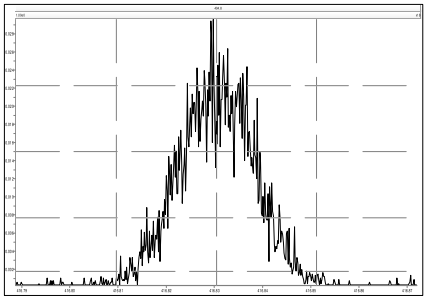
M 392.9760 R 10640



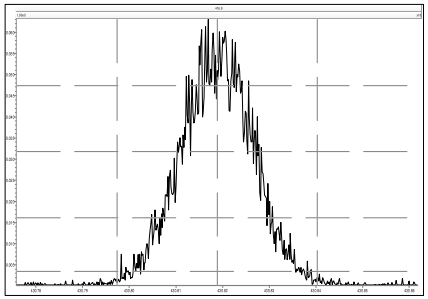
M 404.9760 R 11957



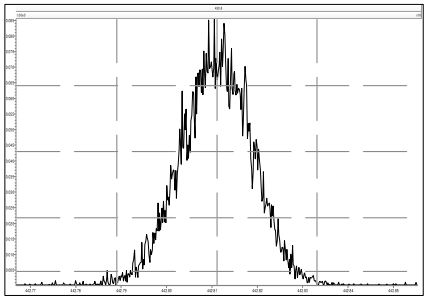
M 416.9760 R 12076



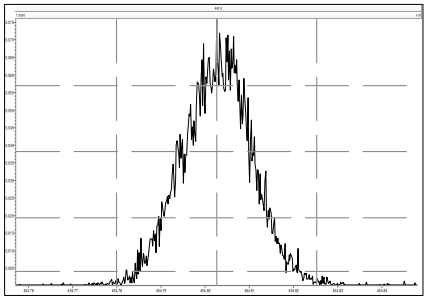
M 430.9728 R 11629



M 442.9728 R 12820



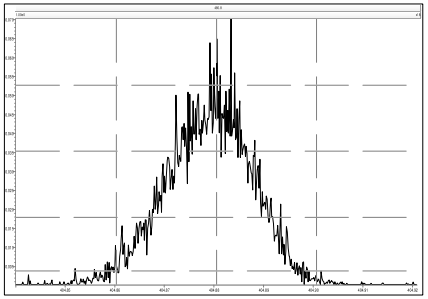
M 454.9728 R 12317



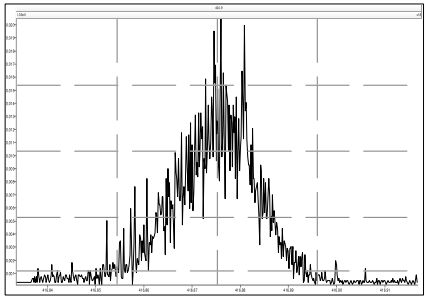
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

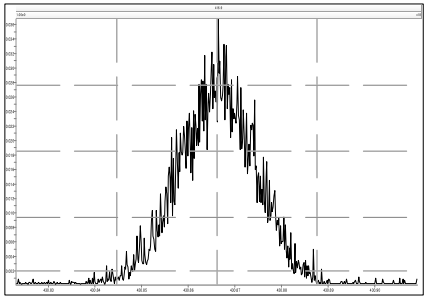
M 404.9760 R 10505



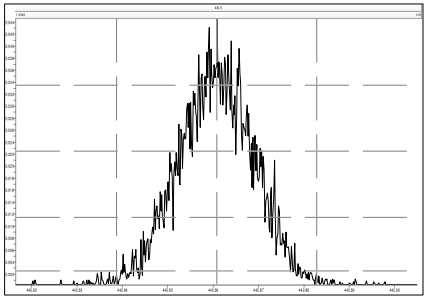
M 416.9760 R 12500



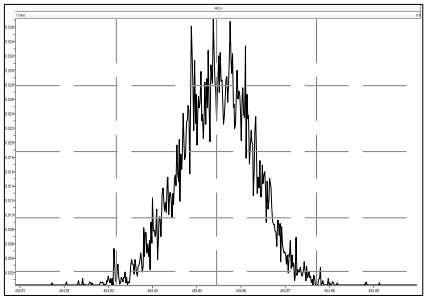
M 430.9728 R 11362



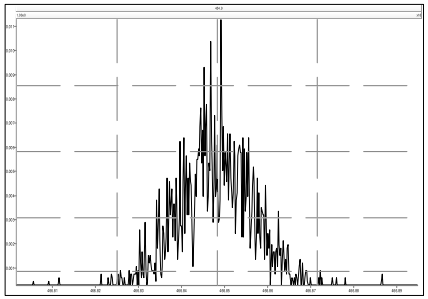
M 442.9728 R 12756



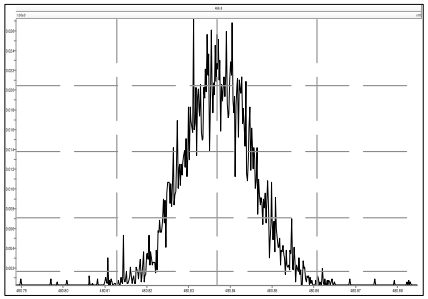
M 454.9728 R 12194



M 466.9728 R 12313



M 480.9696 R 13294



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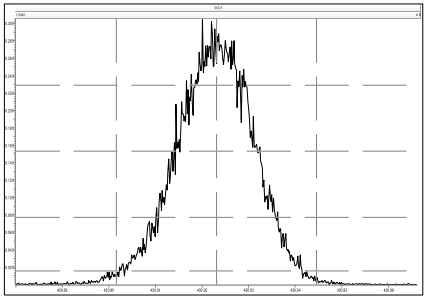
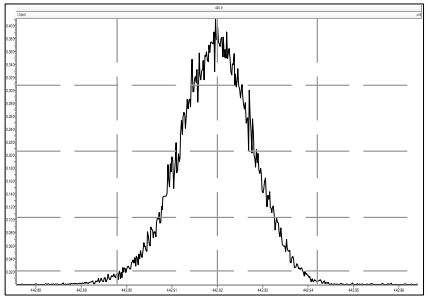
Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

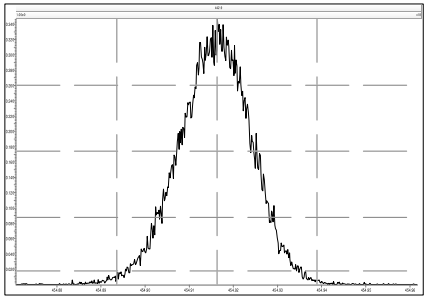
M 430.9728 R 11312



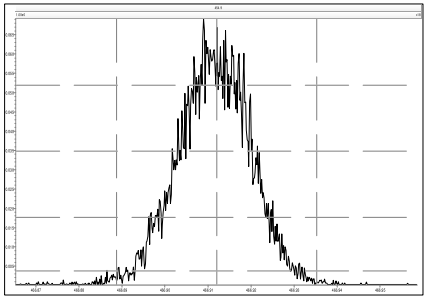
M 442.9728 R 11110



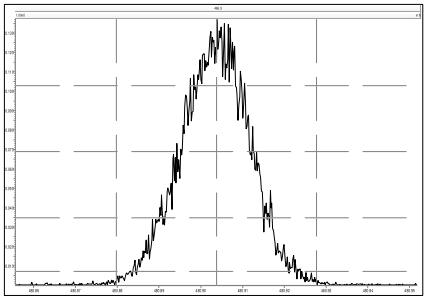
M 454.9728 R 11906



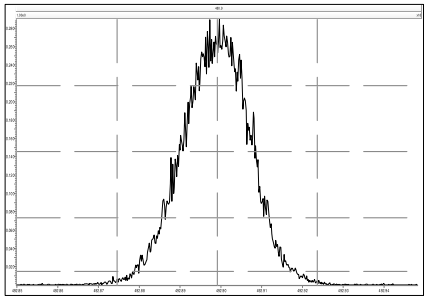
M 466.9728 R 12562



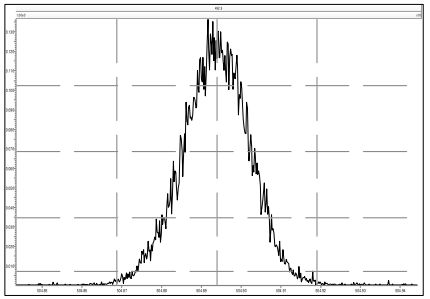
M 480.9696 R 12561



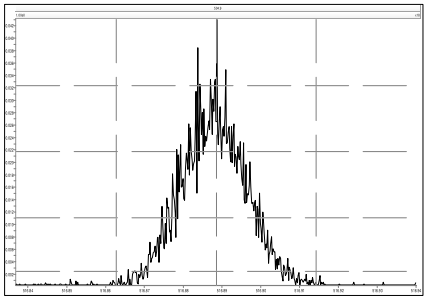
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



Lab ID: OPR1_18917_DF

REVIEWED
Tamara Burkamper , 2/11/2022, 10:20:20 AM

Acq'd: 10 Feb 2022 17:03 DTF

Wt/Vol: 1 uL

ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18917_OPR001

UTP: 11-Feb-2022 09:27:43 DTF

J-level: 0.25 pg/uL Split: 1

Checkcode: 456-279-QDY

Datafile: 220210C10

Report: 11 Feb 2022 09:30 TF

Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.48		1.0008	1.0007	-0.2	4.09E+06	0.82	Y	1.18	11.3	3606.82	0.114
12378-PeCDD	33.83		1.0005	1.0006	+0.2	1.38E+07	1.54	Y	1.04	49.4	3463.439	0.113
123478-HxCDD	37.74		1.0004	1.0004	0	1.32E+07	1.29	Y	1.09	53.4	2703.95	0.0922
123678-HxCDD	37.86		1.0035	1.0035	0	1.47E+07	1.25	Y	1.15	54.4	2703.95	0.0889
123789-HxCDD	38.15		1.0113	1.0113	0	1.41E+07	1.25	Y	1.05	51.1	2703.95	0.0874
1234678-HpCDD	40.82		1.0003	1.0004	+0.2	1.16E+07	1.07	Y	1.06	52.9	2389.0817	0.0888
OCDD	43.51		1.0002	1.0003	+0.3	1.49E+07	0.91	Y	1.13	112	3531.233	0.292
2378-TCDF	27.62		1.0008	1.0009	+0.2	5.41E+06	0.78	Y	1.08	10.8	2268.802	0.0496
12378-PeCDF	32.38		1.0005	1.0005	0	2.23E+07	1.53	Y	1.02	48.9	7686.169	0.168
23478-PeCDF	33.49		1.0005	1.0005	0	2.24E+07	1.56	Y	1.02	52.9	7686.169	0.168
123478-HxCDF	36.73		1.0005	1.0005	0	1.87E+07	1.24	Y	1.27	50.6	6412.311	0.144
123678-HxCDF	36.88		1.0005	1.0005	0	2.13E+07	1.23	Y	1.15	49.2	6412.311	0.13
234678-HxCDF	37.56		1.0005	1.0005	0	1.99E+07	1.25	Y	1.19	48.7	6412.311	0.141
123789-HxCDF	38.51		1.0004	1.0004	0	1.53E+07	1.23	Y	1.16	48.5	6412.311	0.167
1234678-HpCDF	39.89		1.0003	1.0003	0	1.84E+07	1.02	Y	1.37	50.6	2323.548	0.0485
1234789-HpCDF	41.28		1.0003	1.0003	0	1.22E+07	1.07	Y	1.31	49.3	2323.548	0.0739
OCDF	43.68		1.0003	1.0002	-0.3	1.62E+07	0.91	Y	1.07	99.7	2884.027	0.199

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.46	1.0238	1.0238	0	3.07E+07	0.81	Y	1.05	90.9
ES 12378-PeCDD	33.81	1.2160	1.2163	+0.6	2.70E+07	1.61	Y	0.88	95.1
ES 123478-HxCDD	37.73	0.9919	0.9919	0	2.27E+07	1.30	Y	0.97	91.7
ES 123678-HxCDD	37.84	0.9950	0.9950	0	2.36E+07	1.32	Y	0.94	98.3
ES 123789-HxCDD	38.14	1.0027	1.0027	0	2.64E+07	1.32	Y	1.09	95.1
ES 1234678-HpCDD	40.81	1.0730	1.0729	-0.2	2.08E+07	1.04	Y	0.91	89.4
ES OCDD	43.50	1.1437	1.1436	-0.3	2.36E+07	0.89	Y	0.62	74.3
ES 2378-TCDF	27.60	1.0520	1.0520	0	4.64E+07	0.81	Y	1.06	82.7
ES 12378-PeCDF	32.36	1.2330	1.2334	+0.8	4.44E+07	1.59	Y	0.91	92
ES 23478-PeCDF	33.47	1.2754	1.2759	+1.0	4.15E+07	1.55	Y	0.88	88.7
ES 123478-HxCDF	36.72	0.9653	0.9653	0	2.90E+07	0.55	Y	1.20	95.1
ES 123678-HxCDF	36.86	0.9691	0.9691	0	3.75E+07	0.54	Y	1.35	109
ES 234678-HxCDF	37.54	0.9870	0.9870	0	3.43E+07	0.53	Y	1.24	108
ES 123789-HxCDF	38.49	1.0121	1.0121	0	2.71E+07	0.54	Y	1.16	92.3
ES 1234678-HpCDF	39.88	1.0484	1.0485	+0.2	2.65E+07	0.45	Y	0.97	108
ES 1234789-HpCDF	41.27	1.0851	1.0851	0	1.89E+07	0.46	Y	0.85	87.1
ES OCDF	43.67	1.1483	1.1483	0	3.03E+07	0.88	Y	0.81	73.7

Lab ID: OPR1_18917_DF | Acq'd: 10 Feb 2022 17:03 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18917_OPR001 | UTP: 11-Feb-2022 09:27:43 DTF | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 456-279-QDY

Datafile: 220210C10 | Report: 11 Feb 2022 09:30 TF | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.80		-	-	-	3.23E+07	0.83	Y	-	-
JS 1234-TCDF	26.24		-	-	-	5.30E+07	0.81	Y	-	-
JS 123467-HxCDD	38.03		-	-	-	1.27E+07	1.25	Y	-	-
CS 37Cl-2378-TCDD	28.48		1.0245	1.0247	+0.3	1.52E+07	n/a	-	1.20	97.8
CS 12347-PeCDD	33.31		1.1979	1.1983	+0.8	2.55E+07	1.61	Y	0.75	105
CS 12346-PeCDF	31.83		1.2128	1.2132	+0.8	4.65E+07	1.57	Y	0.85	103
CS 123469-HxCDF	37.18		0.9774	0.9774	0	3.26E+07	0.53	Y	1.12	114
CS 1234689-HpCDF	40.28		1.0589	1.0590	+0.2	2.49E+07	0.44	Y	0.89	110
~~SS 37Cl-2378-TCDD~~	~~28.48~~		~~1.0245~~	~~1.0247~~	~~+0.3~~	~~1.52E+07~~	~~n/a~~		~~1.15~~	~~100~~
~~SS 12347-PeCDD~~	~~33.31~~		~~1.1979~~	~~1.1983~~	~~+0.8~~	~~2.55E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~110~~
~~SS 12346-PeCDF~~	~~31.83~~		~~1.2128~~	~~1.2132~~	~~+0.8~~	~~4.65E+07~~	~~1.57~~	~~Y~~	~~0.94~~	~~112~~
~~SS 123469-HxCDF~~	~~37.18~~		~~0.9774~~	~~0.9774~~	~~0~~	~~3.26E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~105~~
~~SS 1234689-HpCDF~~	~~40.28~~		~~1.0589~~	~~1.0590~~	~~+0.2~~	~~2.49E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~102~~

Totals	Conc	EMPC
Total TCDD	53.1	53.1
Total PeCDD	76.3	76.3
Total HxCDD	175	175
Total HpCDD	66.7	66.7
Total Tetra-Octa Dioxins	482	482
Total TCDF	63	63
Total PeCDF	197	197
Total HxCDF	314	314
Total HpCDF	99.9	99.9
Total Tetra-Octa Furans	774	774
Total Tetra-Octa Dioxins & Furans	1260	1260

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.819	0.82
Response	4.10E+06	4.09E+06

Lab ID: OPR1_18917_DF **Acq'd:** 10 Feb 2022 17:03 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18917_OPR001 **UTP:** 11-Feb-2022 09:27:43 DTF **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 456-279-QDY

Datafile: 220210C10 **Report:** 11 Feb 2022 09:30 TF **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.83		0.8737	0.8726	-1.6	5.30E+06	0.79	Y	1.18	14.6	3606.82	0.114
1379-TCDD	NotFnd		0.8860						1.18		3606.82	0.114
1369-TCDD	NotFnd		0.9009						1.18		3606.82	0.114
1469-TCDD	NotFnd		0.9281						1.18		3606.82	0.114
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3606.82	0.114
1378-TCDD	NotFnd		0.9432						1.18		3606.82	0.114
1268-TCDD	NotFnd		0.9500						1.18		3606.82	0.114
1478-TCDD	NotFnd		0.9586						1.18		3606.82	0.114
1279-TCDD	NotFnd		0.9645						1.18		3606.82	0.114
1234/1269-TCDD	NotFnd		0.9770						1.18		3606.82	0.114
1236-TCDD	NotFnd		0.9817						1.18		3606.82	0.114
1237/1238-TCDD	NotFnd		0.9905						1.18		3606.82	0.114
1239-TCDD	28.32		0.9952	0.9952	0	3.99E+06	0.81	Y	1.18	11	3606.82	0.114
2378-TCDD	**28.48**		**1.0008**	1.0007	**-0.2**	4.09E+06	0.82	Y	**1.18**	**11.3**	**3606.82**	**0.114**
1278-TCDD	NotFnd		1.0121						1.18		3606.82	0.114
1267-TCDD	NotFnd		1.0167						1.18		3606.82	0.114
1289-TCDD	29.45		1.0345	1.0348	+0.5	5.92E+06	0.78	Y	1.18	16.3	3606.82	0.114
12479/12468-PeCDD	31.32		0.9267	0.9264	-0.6	3.63E+06	1.51	Y	1.04	13	3463.439	0.113
12469-PeCDD	NotFnd		0.9425						1.04		3463.439	0.113
12368-PeCDD	NotFnd		0.9588						1.04		3463.439	0.113
12478-PeCDD	NotFnd		0.9643						1.04		3463.439	0.113
12379-PeCDD	NotFnd		0.9673						1.04		3463.439	0.113
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		3463.439	0.113
12346/12347-PeCDD	NotFnd		0.9858						1.04		3463.439	0.113
12378-PeCDD	33.83		**1.0005**	**1.0006**	**+0.2**	**1.38E+07**	**1.54**	**Y**	**1.04**	**49.4**	**3463.439**	**0.113**
12367-PeCDD	NotFnd		1.0033						1.04		3463.439	0.113
12389-PeCDD	34.27		1.0134	1.0135	+0.2	3.89E+06	1.69	Y	1.04	13.9	3463.439	0.113
124679/124689-HxCDD	35.99		0.9542	0.9541	-0.2	4.15E+06	1.23	Y	1.10	15.6	2703.95	0.0893
123468-HxCDD	NotFnd		0.9715						1.10		2703.95	0.0893
123679/123689-HxCDD	NotFnd		0.9793						1.10		2703.95	0.0893
123469-HxCDD	NotFnd		0.9828						1.10		2703.95	0.0893
123478-HxCDD	37.74		**1.0004**	**1.0004**	**0**	**1.32E+07**	**1.29**	**Y**	1.09	**53.4**	**2703.95**	**0.0922**
123678-HxCDD	37.86		**1.0035**	**1.0035**	**0**	**1.47E+07**	**1.25**	**Y**	1.15	**54.4**	**2703.95**	**0.0889**
123467-HxCDD	NotFnd		1.0085						1.10		2703.95	0.0893
123789-HxCDD	38.15		**1.0113**	**1.0113**	**0**	**1.41E+07**	**1.25**	**Y**	1.05	**51.1**	**2703.95**	**0.0874**

Lab ID: OPR1_18917_DF | Acq'd: 10 Feb 2022 17:03 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18917_OPR001 | UTP: 11-Feb-2022 09:27:43 DTF | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 456-279-QDY

Datafile: 220210C10 | Report: 11 Feb 2022 09:30 TF | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.14		0.9837	0.9837	0	3.05E+06	1.07	Y	1.06	13.8	2389.0817	0.0888
1234678-HpCDD	**40.82**		**1.0003**	**1.0004**	**+0.2**	**1.16E+07**	**1.07**	**Y**	**1.06**	**52.9**	**2389.0817**	**0.0888**
OCDD	**43.51**		**1.0002**	**1.0003**	**+0.3**	**1.49E+07**	**0.91**	**Y**	**1.13**	**112**	**3531.233**	**0.292**
OCDD-a	43.50		1.0001	1.0002	+0.3	8.45E+05	2.53	Y	0.07	99.4	5664.038	7.32
1368-TCDF	22.73		0.8251	0.8234	-2.3	7.58E+06	0.81	Y	1.08	15.1	2268.802	0.0496
1468-TCDF	NotFnd		0.8458						1.08		2268.802	0.0496
2468-TCDF	23.94		0.8686	0.8675	-1.6	1.87E+06	0.81	Y	1.08	3.73	2268.802	0.0496
1346/1246-TCDF	NotFnd		0.8814						1.08		2268.802	0.0496
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2268.802	0.0496
1348-TCDF	NotFnd		0.8962						1.08		2268.802	0.0496
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2268.802	0.0496
1268-TCDF	NotFnd		0.9145						1.08		2268.802	0.0496
1467-TCDF	NotFnd		0.9193						1.08		2268.802	0.0496
1478-TCDF	NotFnd		0.9254						1.08		2268.802	0.0496
1369/1237-TCDF	NotFnd		0.9387						1.08		2268.802	0.0496
2467-TCDF	NotFnd		0.9433						1.08		2268.802	0.0496
2368-TCDF	NotFnd		0.9489						1.08		2268.802	0.0496
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2268.802	0.0496
1278-TCDF	NotFnd		0.9683						1.08		2268.802	0.0496
1349-TCDF	NotFnd		0.9722						1.08		2268.802	0.0496
1267-TCDF	NotFnd		0.9783						1.08		2268.802	0.0496
2346/1249-TCDF	NotFnd		0.9850						1.08		2268.802	0.0496
2347/1279-TCDF	NotFnd		0.9926						1.08		2268.802	0.0496
2348-TCDF	27.51		0.9967	0.9968	+0.2	7.97E+06	0.81	Y	1.08	15.9	2268.802	0.0496
2378-TCDF	**27.62**		**1.0008**	**1.0009**	**+0.2**	**5.41E+06**	**0.78**	**Y**	**1.08**	**10.8**	**2268.802**	**0.0496**
2367/3467-TCDF	NotFnd		1.0137						1.08		2268.802	0.0496
1269-TCDF	NotFnd		1.0223						1.08		2268.802	0.0496
1239-TCDF	NotFnd		1.0321						1.08		2268.802	0.0496
1289-TCDF	29.62		1.0722	1.0732	+1.8	8.70E+06	0.78	Y	1.08	17.4	2268.802	0.0496
13468/12468-PeCDF	29.54		0.9139	0.9128	-1.9	3.71E+07	1.59	Y	1.02	84.5	2175.536	0.0476
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		7686.169	0.168
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		7686.169	0.168
14678-PeCDF	NotFnd		0.9692						1.02		7686.169	0.168
13479-PeCDF	NotFnd		0.9723						1.02		7686.169	0.168
13469/12479-PeCDF	NotFnd		0.9797						1.02		7686.169	0.168
12346-PeCDF	NotFnd		0.9840						1.02		7686.169	0.168

Lab ID: OPR1_18917_DF | **Acq'd:** 10 Feb 2022 17:03 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18917_OPR001 | **UTP:** 11-Feb-2022 09:27:43 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 456-279-QDY

Datafile: 220210C10 | **Report:** 11 Feb 2022 09:30 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		7686.169	0.168
12347-PeCDF	NotFnd		0.9894						1.02		7686.169	0.168
12348-PeCDF	NotFnd		0.9940						1.02		7686.169	0.168
12378-PeCDF	**32.38**		**1.0005**	**1.0005**	**0**	**2.23E+07**	**1.53**	**Y**	**1.02**	**48.9**	**7686.169**	**0.168**
12678/12367-PeCDF	NotFnd		1.0089						1.02		7686.169	0.168
12379-PeCDF	NotFnd		1.0142						1.02		7686.169	0.168
12679-PeCDF	NotFnd		0.9929						1.02		7686.169	0.168
23467/12369-PeCDF	NotFnd		0.9967						1.02		7686.169	0.168
23478-PeCDF	**33.49**		**1.0005**	**1.0005**	**0**	**2.24E+07**	**1.56**	**Y**	**1.02**	**52.9**	**7686.169**	**0.168**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7686.169	0.168
12349-PeCDF	NotFnd		1.0100						1.02		7686.169	0.168
12389-PeCDF	34.57		1.0324	1.0327	+0.6	4.75E+06	1.54	Y	1.02	10.8	7686.169	0.168
123468-HxCDF	35.35		0.9627	0.9626	-0.2	4.48E+07	1.22	Y	1.19	117	6412.311	0.143
124678/134678-HxCDF	NotFnd		0.9682						1.19		6412.311	0.143
134679-HxCDF	NotFnd		0.9744						1.19		6412.311	0.143
124679-HxCDF	NotFnd		0.9798						1.19		6412.311	0.143
124689-HxCDF	NotFnd		0.9858						1.19		6412.311	0.143
123467-HxCDF	NotFnd		0.9972						1.19		6412.311	0.143
123478-HxCDF	**36.73**		**1.0005**	**1.0005**	**0**	**1.87E+07**	**1.24**	**Y**	**1.27**	**50.6**	**6412.311**	**0.144**
123678-HxCDF	**36.88**		**1.0005**	**1.0005**	**0**	**2.13E+07**	**1.23**	**Y**	**1.15**	**49.2**	**6412.311**	**0.13**
123479-HxCDF	NotFnd		1.0049						1.19		6412.311	0.143
123469-HxCDF	NotFnd		1.0090						1.19		6412.311	0.143
123679-HxCDF	NotFnd		0.9942						1.19		6412.311	0.143
234678-HxCDF	**37.56**		**1.0005**	**1.0005**	**0**	**1.99E+07**	**1.25**	**Y**	**1.19**	**48.7**	**6412.311**	**0.141**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6412.311	0.143
123789-HxCDF	**38.51**		**1.0004**	**1.0004**	**0**	**1.53E+07**	**1.23**	**Y**	**1.16**	**48.5**	**6412.311**	**0.167**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		6412.311	0.143
1234678-HpCDF	**39.89**		**1.0003**	**1.0003**	**0**	**1.84E+07**	**1.02**	**Y**	**1.37**	**50.6**	**2323.548**	**0.0485**
1234679-HpCDF	NotFnd		1.0068						1.34		2323.548	0.059
1234689-HpCDF	NotFnd		1.0103						1.34		2323.548	0.059
1234789-HpCDF	**41.28**		**1.0003**	**1.0003**	**0**	**1.22E+07**	**1.07**	**Y**	**1.31**	**49.3**	**2323.548**	**0.0739**
OCDF	**43.68**		**1.0003**	**1.0002**	**-0.3**	**1.62E+07**	**0.91**	**Y**	**1.07**	**99.7**	**2884.027**	**0.199**
OCDF-a	43.68	**EMPC**	1.0002	1.0002	0	9.61E+05	2.10	N	0.07	95.5	3105.179	3.46

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220210C10	Analysis Date:	10-FEB-2022 17:03:25
Lab ID:	OPR1_18917_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.3	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	49.4	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	53.4	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	54.4	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	51.1	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	52.9	35	-	70	Y
OCDD	100	112	78	-	144	Y
2,3,7,8-TCDF	10	10.8	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	48.9	40	-	67	Y
2,3,4,7,8-PeCDF	50	52.9	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	50.6	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	49.2	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	48.7	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	48.5	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	50.6	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	49.3	39	-	69	Y
OCDF	100	99.7	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 11 Feb 2022 09:30 Analyst: TF

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220210C10 Analysis Date: 10-FEB-2022 17:03:25

Lab ID: OPR1_18917_DF

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	90.9	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	95.1	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	91.7	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	98.3	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	95.1	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	89.4	26	-	166	Y
13C-OCDD	200	149	26	-	397	Y
13C-2,3,7,8-TCDF	100	82.7	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	92	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	88.7	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	95.1	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	109	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	108	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	92.3	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	108	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	87.1	20	-	186	Y
13C-OCDF	200	147	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	39.1	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

Processed: 11 Feb 2022 09:30 Analyst: TF

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220210C10	Analysis Date:	10-FEB-2022 17:03:25
Lab ID:	OPR1_18917_DF		

Window Defining Standards Results

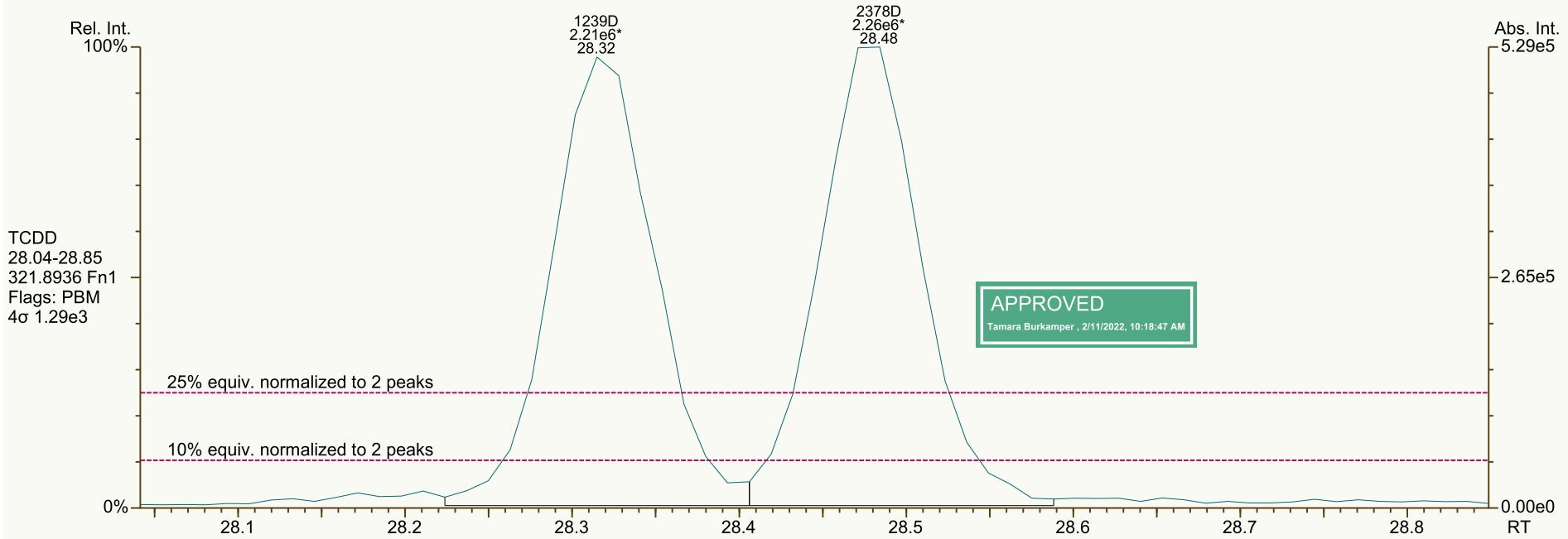
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.83	1289-TCDD	29.45
12479/12468-PeCDD	31.32	12389-PeCDD	34.27
124679/124689-HxCDD	35.99	123789-HxCDD	38.15
1234679-HpCDD	40.14	1234678-HpCDD	40.82
1368-TCDF	22.73	1289-TCDF	29.62
13468/12468-PeCDF	29.54	12389-PeCDF	34.57
123468-HxCDF	35.35	123789-HxCDF	38.51
1234678-HpCDF	39.89	1234789-HpCDF	41.28

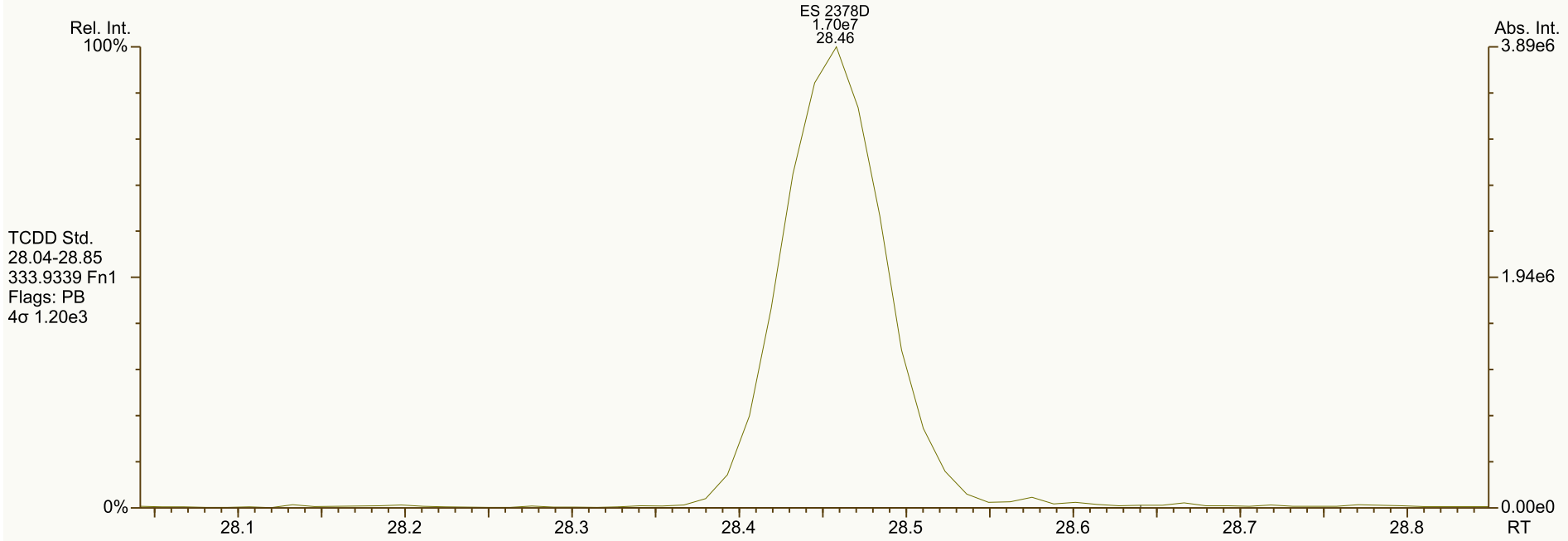
Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.32	2378-TCDD	28.48
2348-TCDF	27.51	2378-TCDF	27.62

Processed: 11 Feb 2022 09:30 Analyst: TF

SGS ID: OPR1_18917_DF
Sample ID: 0_18917_OPR001
Acq: 10-Feb-2022 17:03:25
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37
User: DTF Datafile: 220210C10





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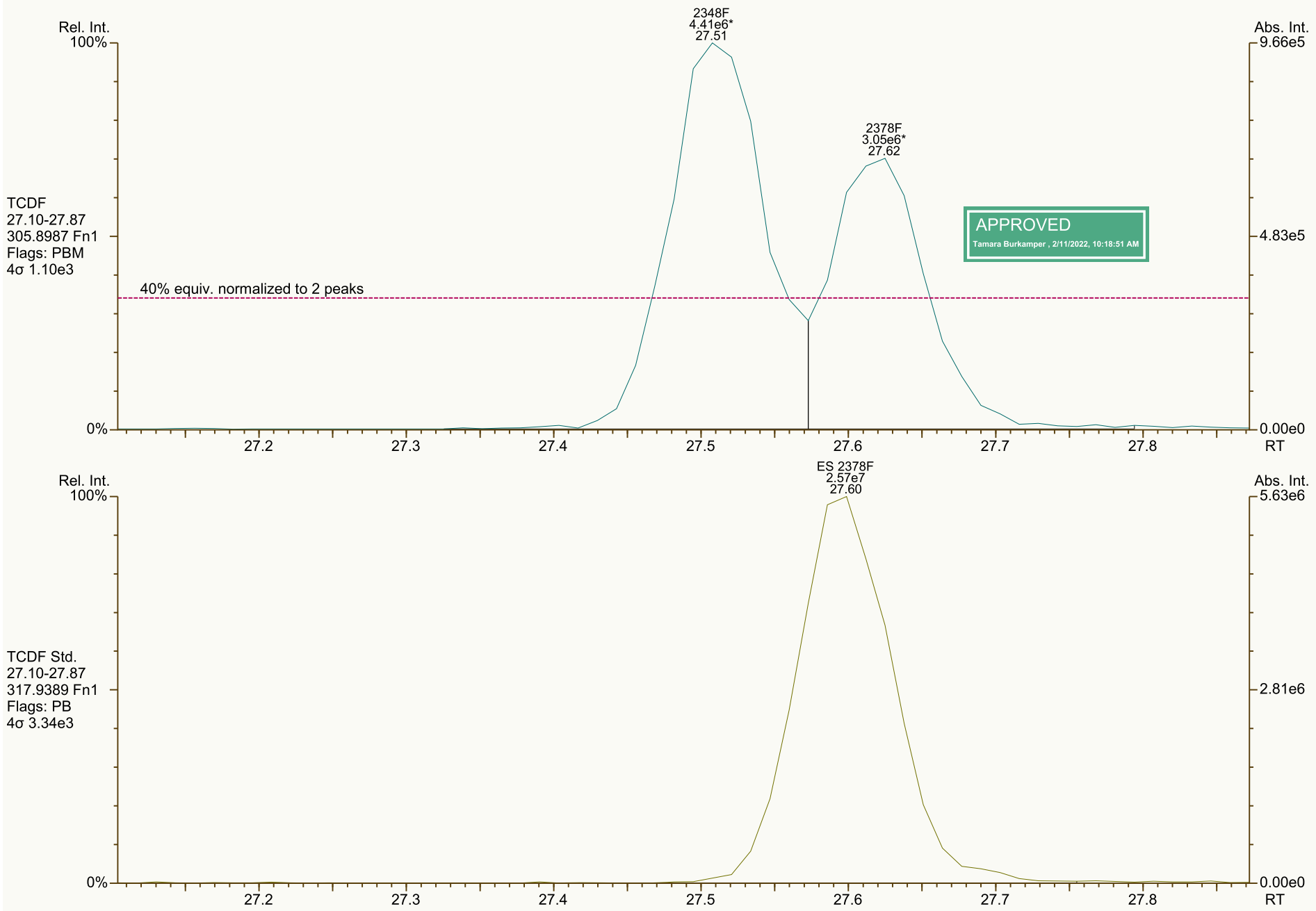
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 11-Feb-2022 08:39 (DTF) Printed: 11-Feb-2022 09:37

SGS ID: OPR1_18917_DF
Sample ID: 0_18917_OPR001
Acq: 10-Feb-2022 17:03:25
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37
User: DTF Datafile: 220210C10



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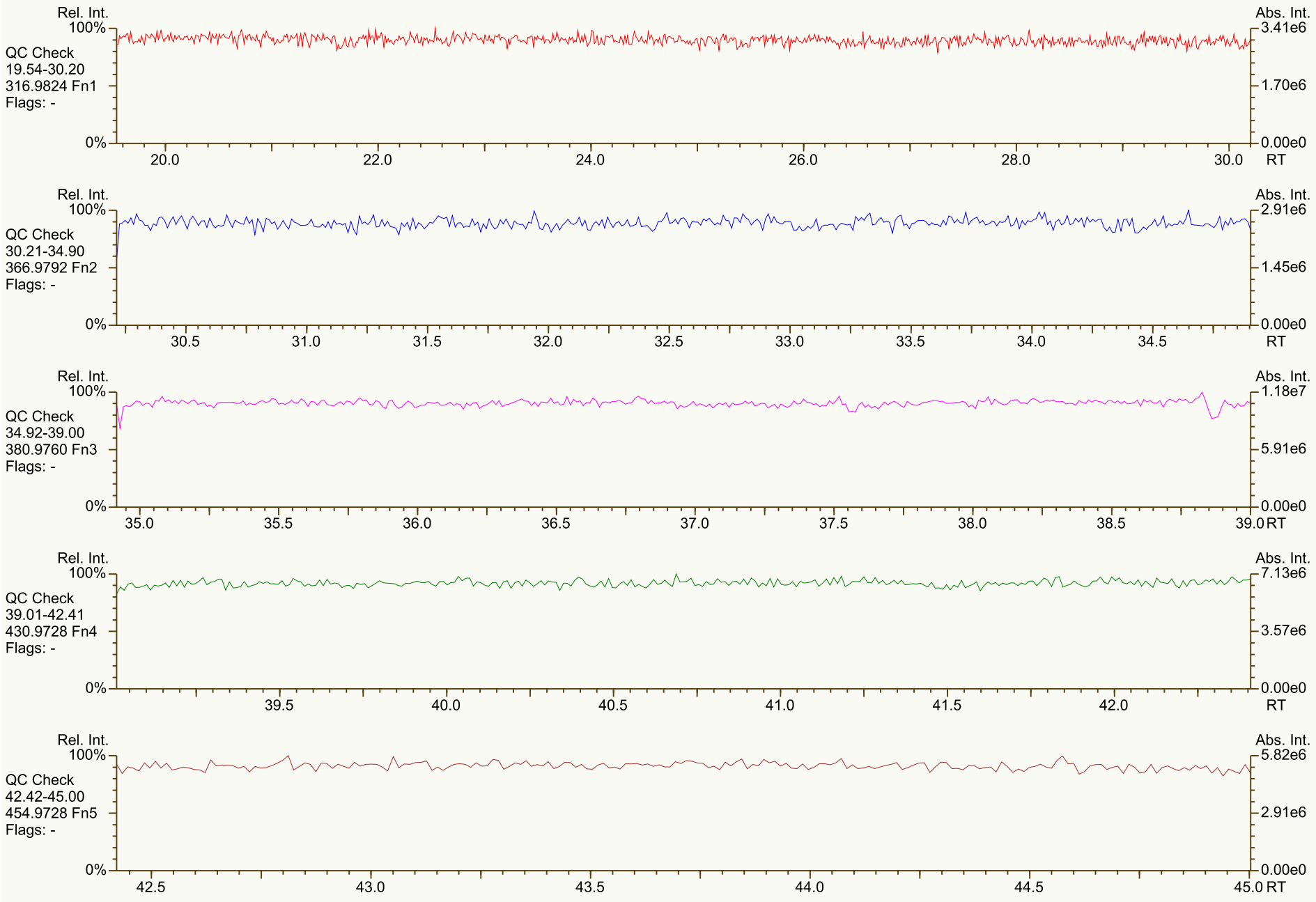
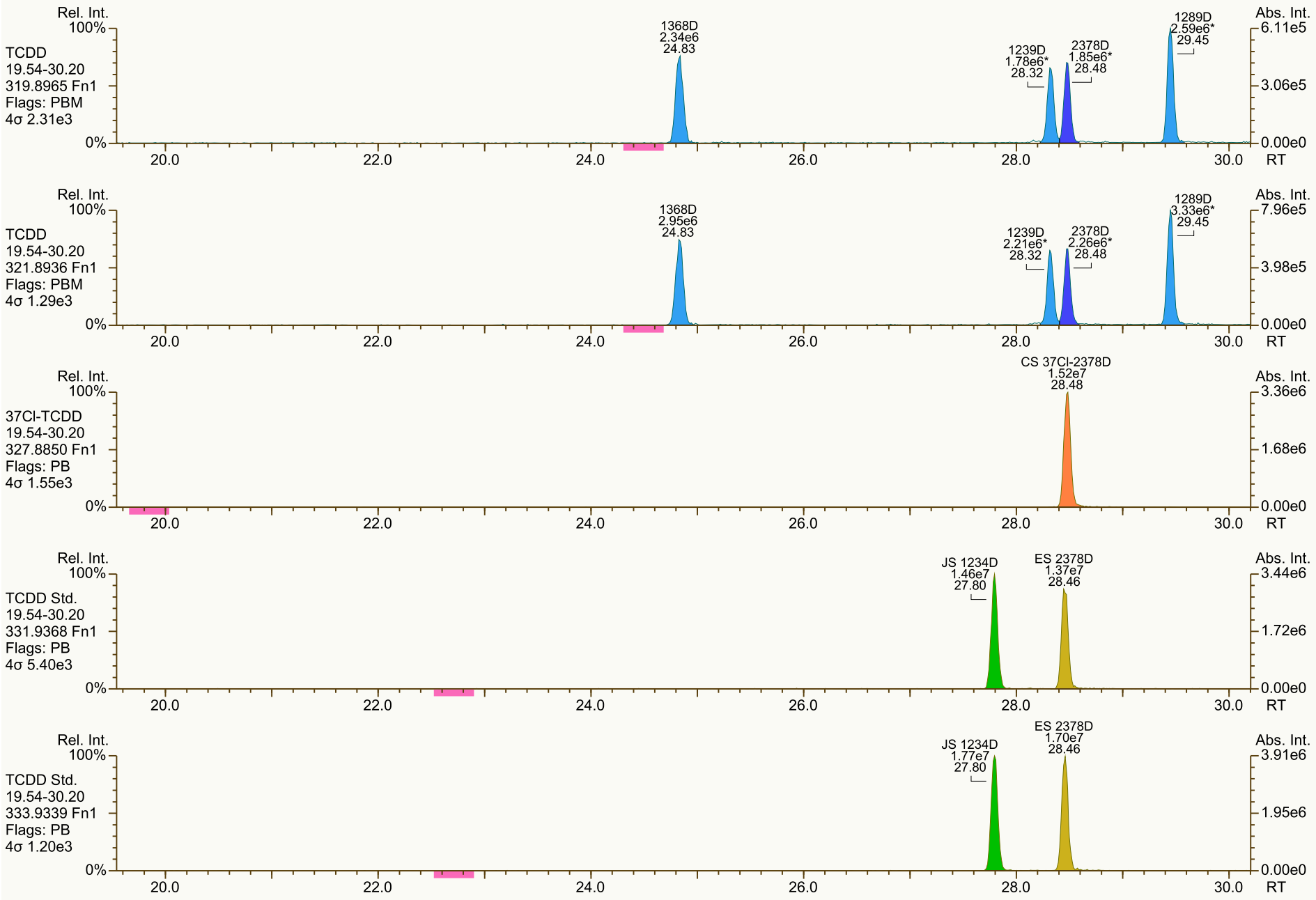
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 11-Feb-2022 08:40 (DTF) Printed: 11-Feb-2022 09:37


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.41e6
1.70e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
2.91e6
1.45e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.18e7
5.91e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
7.13e6
3.57e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.82e6
2.91e6
0.00e0

SGS ID: OPR1_18917_DF | Sample ID: 0_18917_OPR001 | Acq: 10-Feb-2022 17:03:25

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37 | User: DTF Datafile: 220210C10



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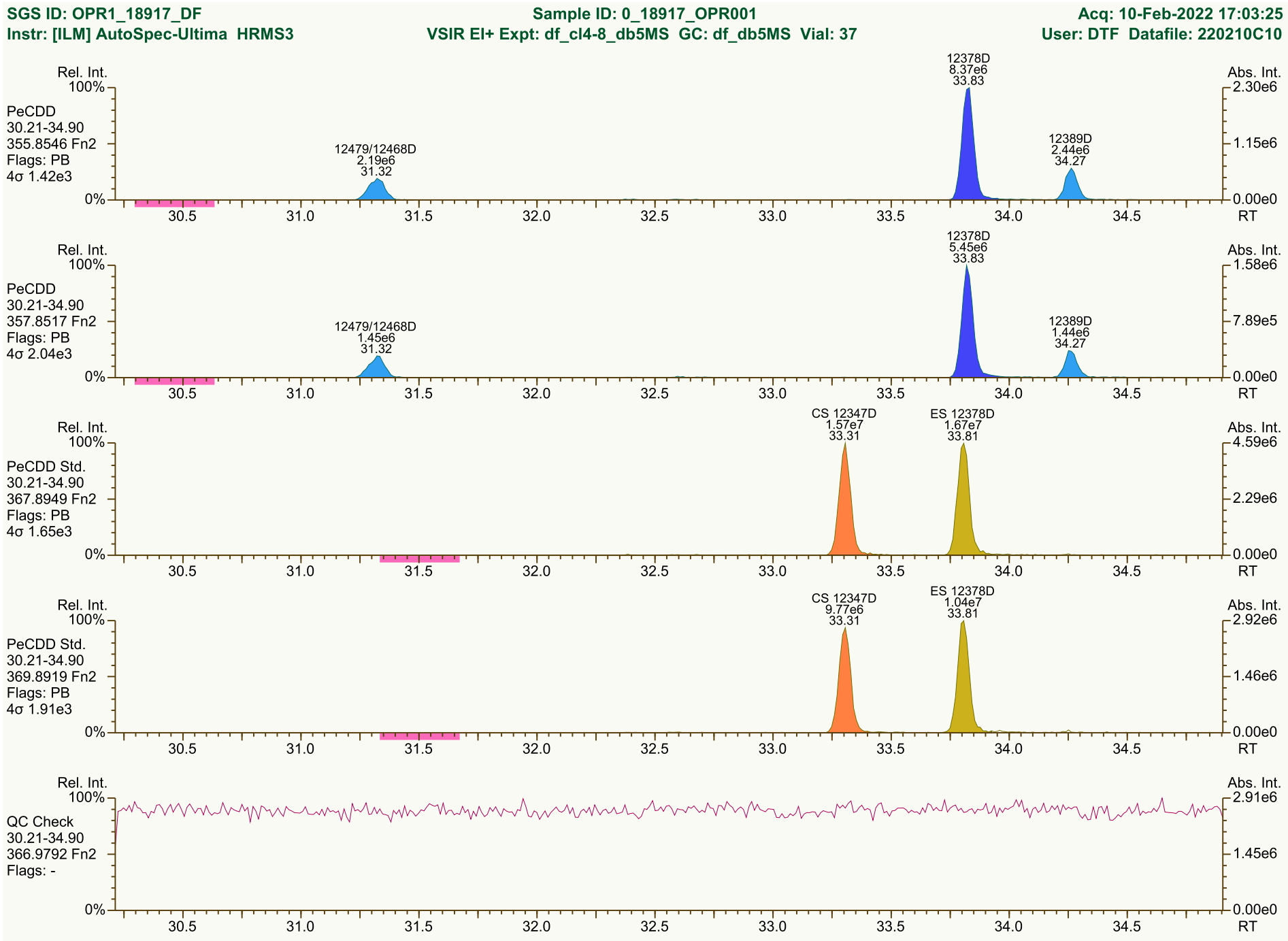
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7661, 3098, 2783 scc: 456-279 | *Revised: 11-Feb-2022 08:39 (DTF) Printed: 11-Feb-2022 09:43 Page 2 of 12*



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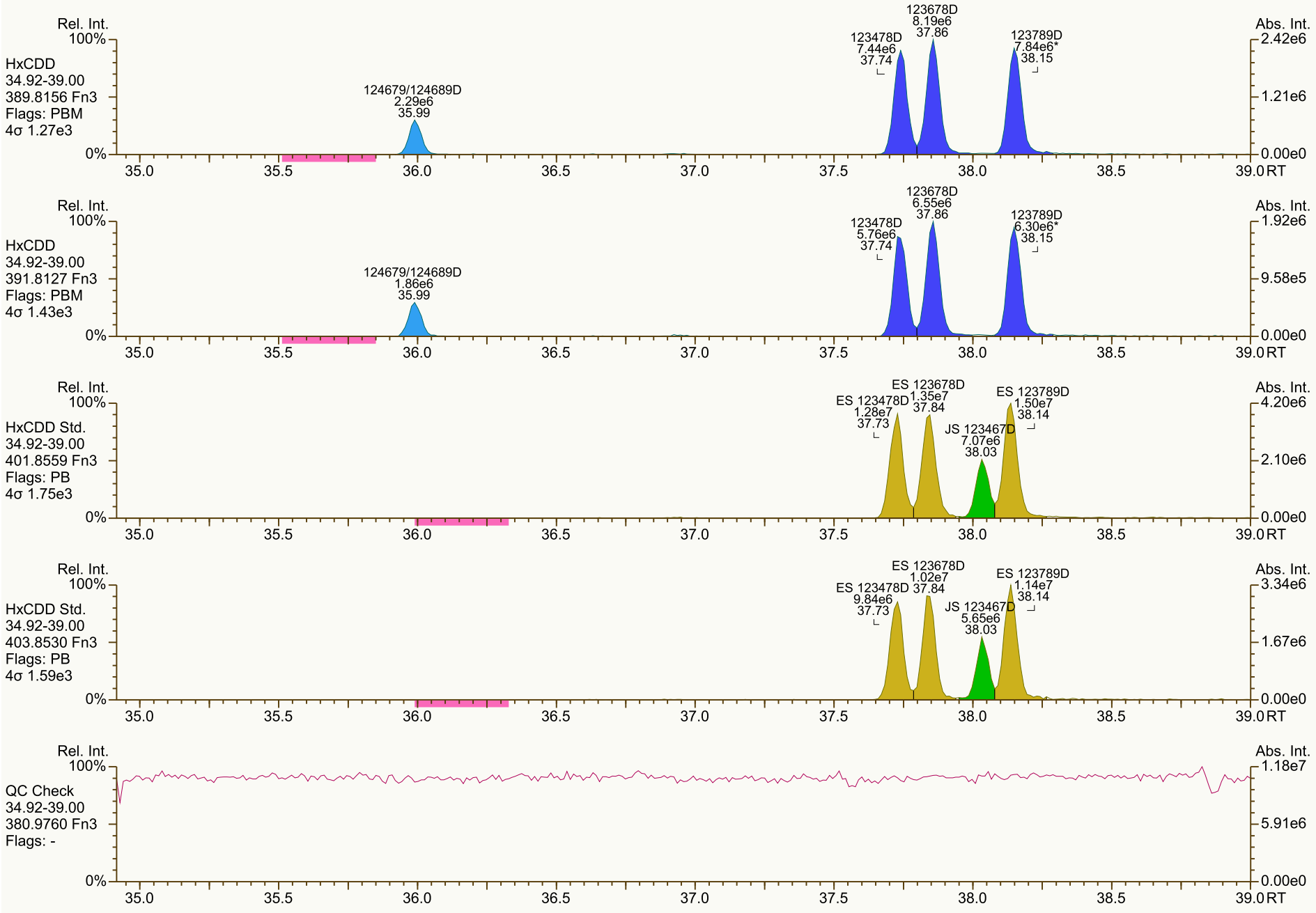
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0474, 4340 scc: 456-279
Revised: 11-Feb-2022 08:39 (DTF) Printed: 11-Feb-2022 09:43 Page 3 of 12


Rel. Int.
100%
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PBM
4σ 1.27e3
0%
124679/124689D
2.29e6
35.99
123478D
7.44e6
37.74
123678D
8.19e6
37.86
123789D
7.84e6*
38.15
Abs. Int.
2.42e6
1.21e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PBM
4σ 1.43e3
0%
124679/124689D
1.86e6
35.99
123478D
5.76e6
37.74
123678D
6.55e6
37.86
123789D
6.30e6*
38.15
Abs. Int.
1.92e6
9.58e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 1.75e3
0%
ES 123478D
1.28e7
37.73
ES 123678D
1.35e7
37.84
JS 123467D
7.07e6
38.03
ES 123789D
1.50e7
38.14
Abs. Int.
4.20e6
2.10e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 1.59e3
0%
ES 123478D
9.84e6
37.73
ES 123678D
1.02e7
37.84
JS 123467D
5.65e6
38.03
ES 123789D
1.14e7
38.14
Abs. Int.
3.34e6
1.67e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0 RT
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.18e7
5.91e6
0.00e0
35.0
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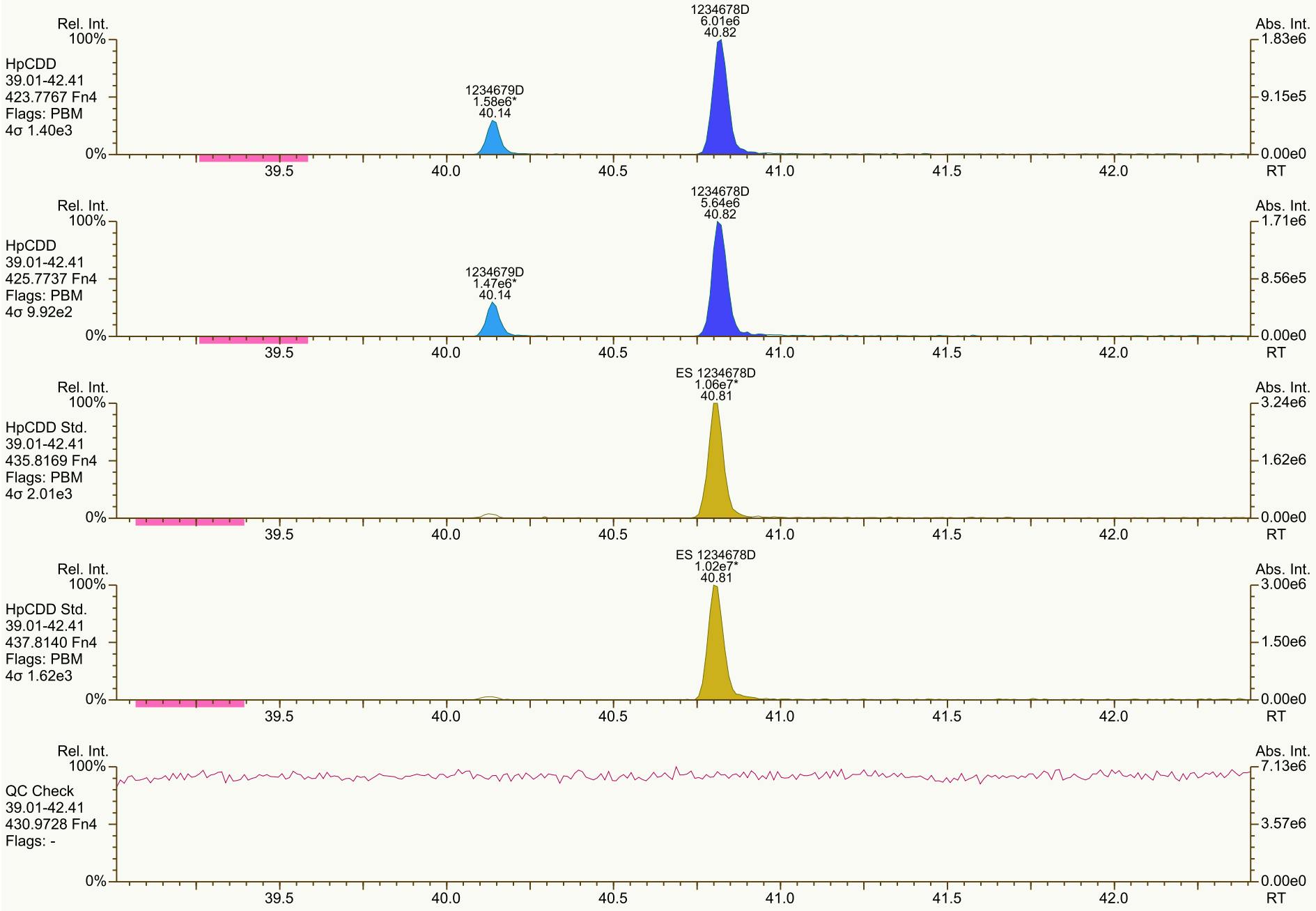
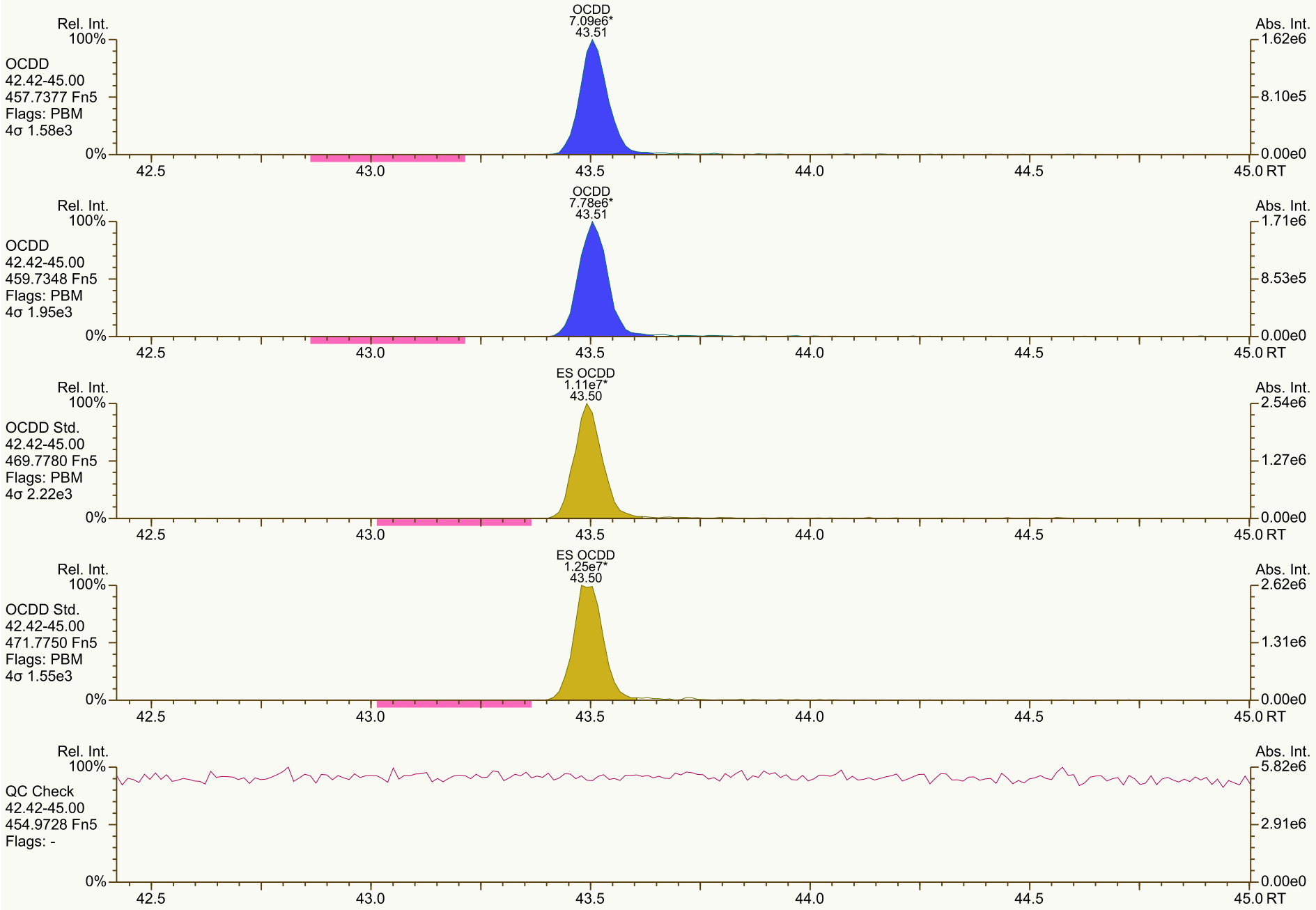
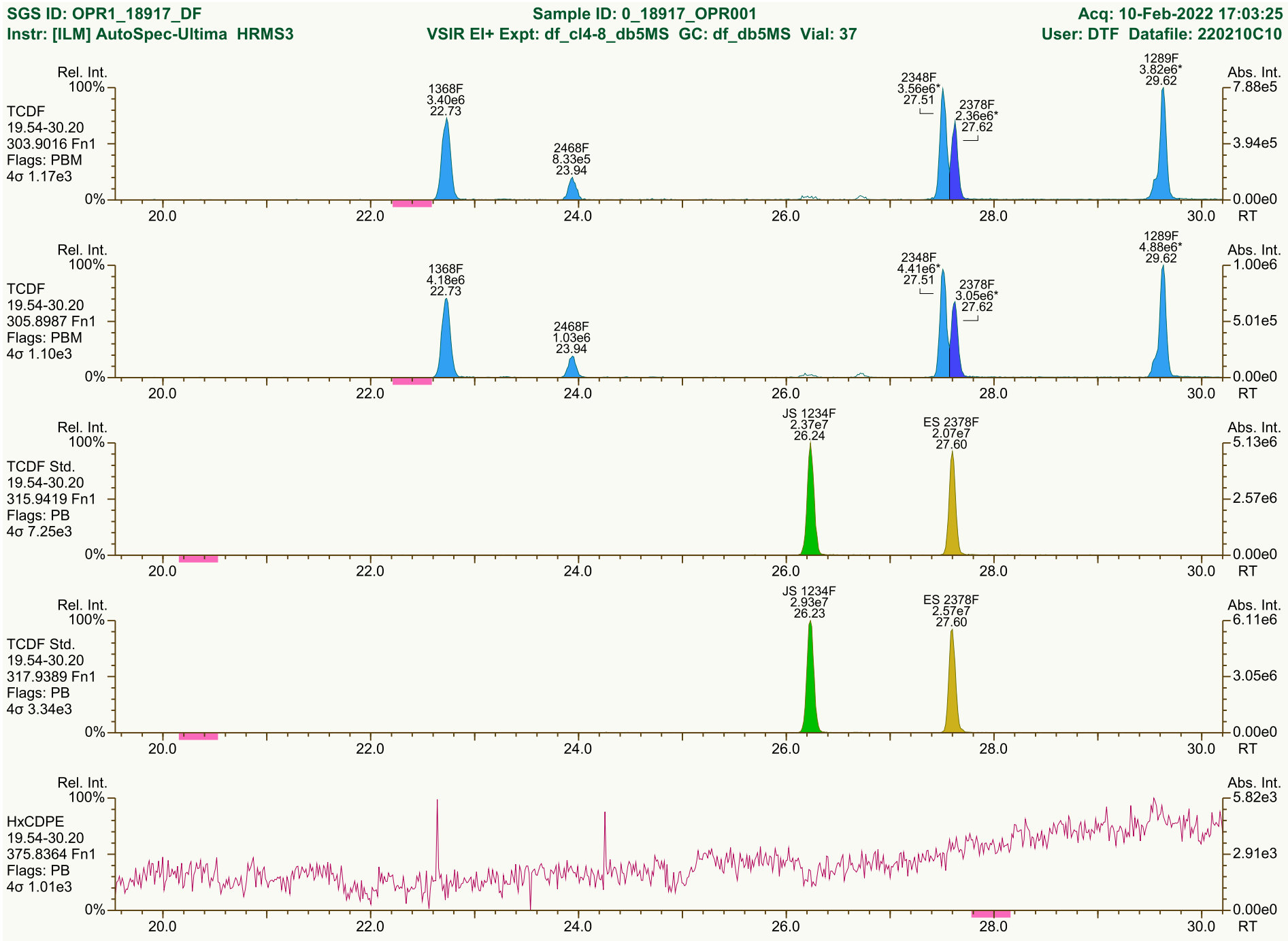
37.5
38.0
38.5
39.0 RT


Rel. Int.
100%
HpCDD
39.01-42.41
423.7767 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.01e6
40.82
1234679D
1.58e6*
40.14
Abs. Int.
1.83e6
9.15e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.01-42.41
425.7737 Fn4
Flags: PBM
4σ 9.92e2
1234678D
5.64e6
40.82
1234679D
1.47e6*
40.14
Abs. Int.
1.71e6
8.56e5
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
435.8169 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678D
1.06e7*
40.81
Abs. Int.
3.24e6
1.62e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.01-42.41
437.8140 Fn4
Flags: PBM
4σ 1.62e3
ES 1234678D
1.02e7*
40.81
Abs. Int.
3.00e6
1.50e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
Abs. Int.
7.13e6
3.57e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
7.09e6*
43.51
Rel. Int.
100%
OCDD
42.42-45.00
457.7377 Fn5
Flags: PBM
4σ 1.58e3
0%
Abs. Int.
1.62e6
8.10e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
7.78e6*
43.51
OCDD
42.42-45.00
459.7348 Fn5
Flags: PBM
4σ 1.95e3
1.71e6
8.53e5
ES OCDD
1.11e7*
43.50
OCDD Std.
42.42-45.00
469.7780 Fn5
Flags: PBM
4σ 2.22e3
2.54e6
1.27e6
ES OCDD
1.25e7*
43.50
OCDD Std.
42.42-45.00
471.7750 Fn5
Flags: PBM
4σ 1.55e3
2.62e6
1.31e6
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
5.82e6
2.91e6

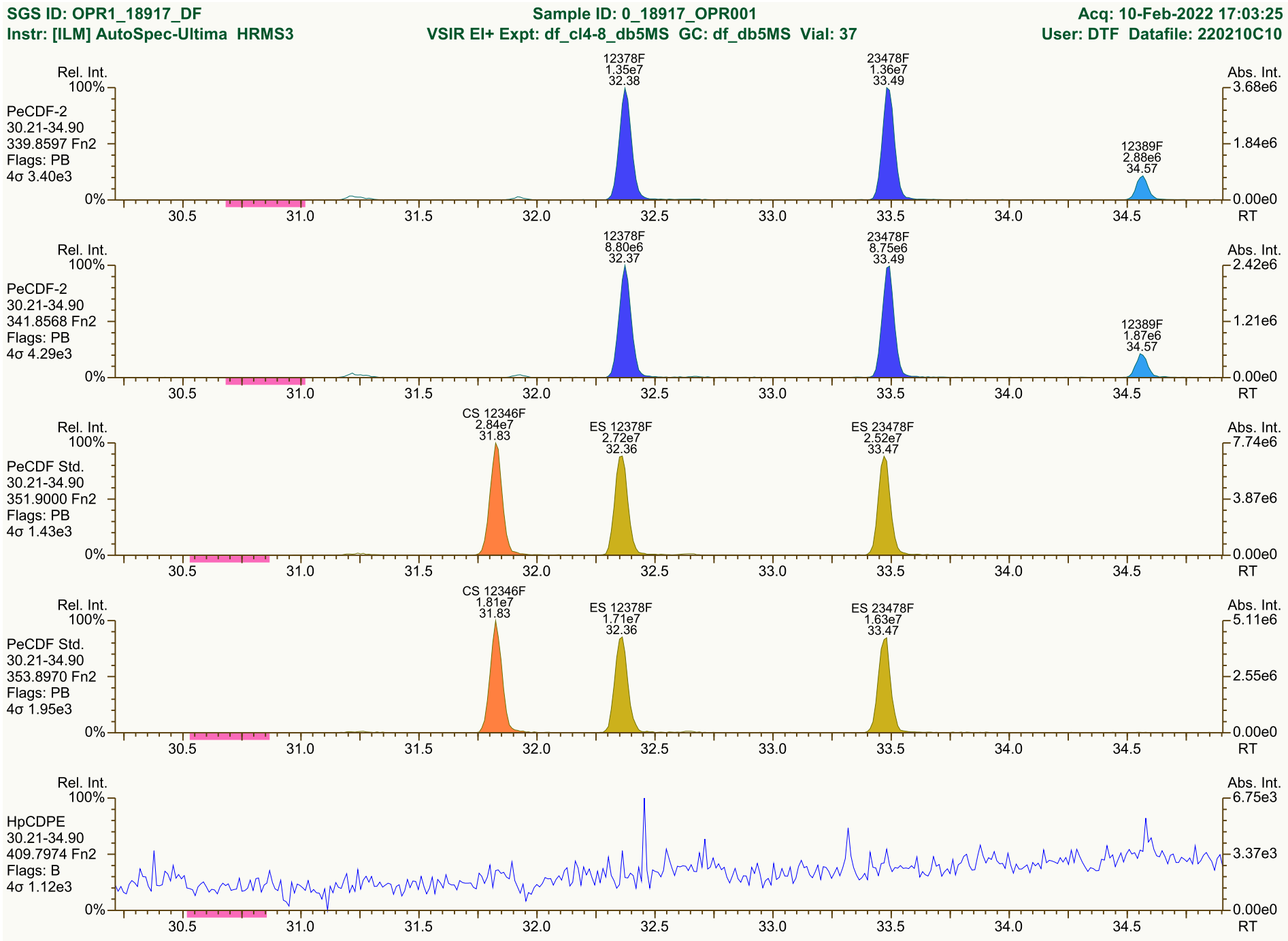

SGS ID: OPR1_18917_DF
Sample ID: 0_18917_OPR001
Acq: 10-Feb-2022 17:03:25
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37
User: DTF Datafile: 220210C10
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.17e3
1368F 3.40e6 22.73
2468F 8.33e5 23.94
2348F 3.56e6* 27.51
2378F 2.36e6* 27.62
1289F 3.82e6* 29.62
7.88e5
3.94e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.10e3
1368F 4.18e6 22.73
2468F 1.03e6 23.94
2348F 4.41e6* 27.51
2378F 3.05e6* 27.62
1289F 4.88e6* 29.62
1.00e6
5.01e5
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 7.25e3
JS 1234F 2.37e7 26.24
ES 2378F 2.07e7 27.60
5.13e6
2.57e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.34e3
JS 1234F 2.93e7 26.23
ES 2378F 2.57e7 27.60
6.11e6
3.05e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.01e3
5.82e3
2.91e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6200_B6299\B6276\B6276_18917 DF\Resources\OPR1_18917_DF.utp_res, saved 11-Feb-2022 09:27 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1449, 1824, 9604 scc: 456-279
Revised: 11-Feb-2022 08:40 (DTF) Printed: 11-Feb-2022 09:43 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.05e3
13468/12468F
2.28e7
29.54
Abs. Int.
5.80e6
2.90e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.13e3
13468/12468F
1.43e7
29.54
Abs. Int.
3.57e6
1.79e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
3.41e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: OPR1_18917_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18917_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37

Acq: 10-Feb-2022 17:03:25
User: DTF Datafile: 220210C10

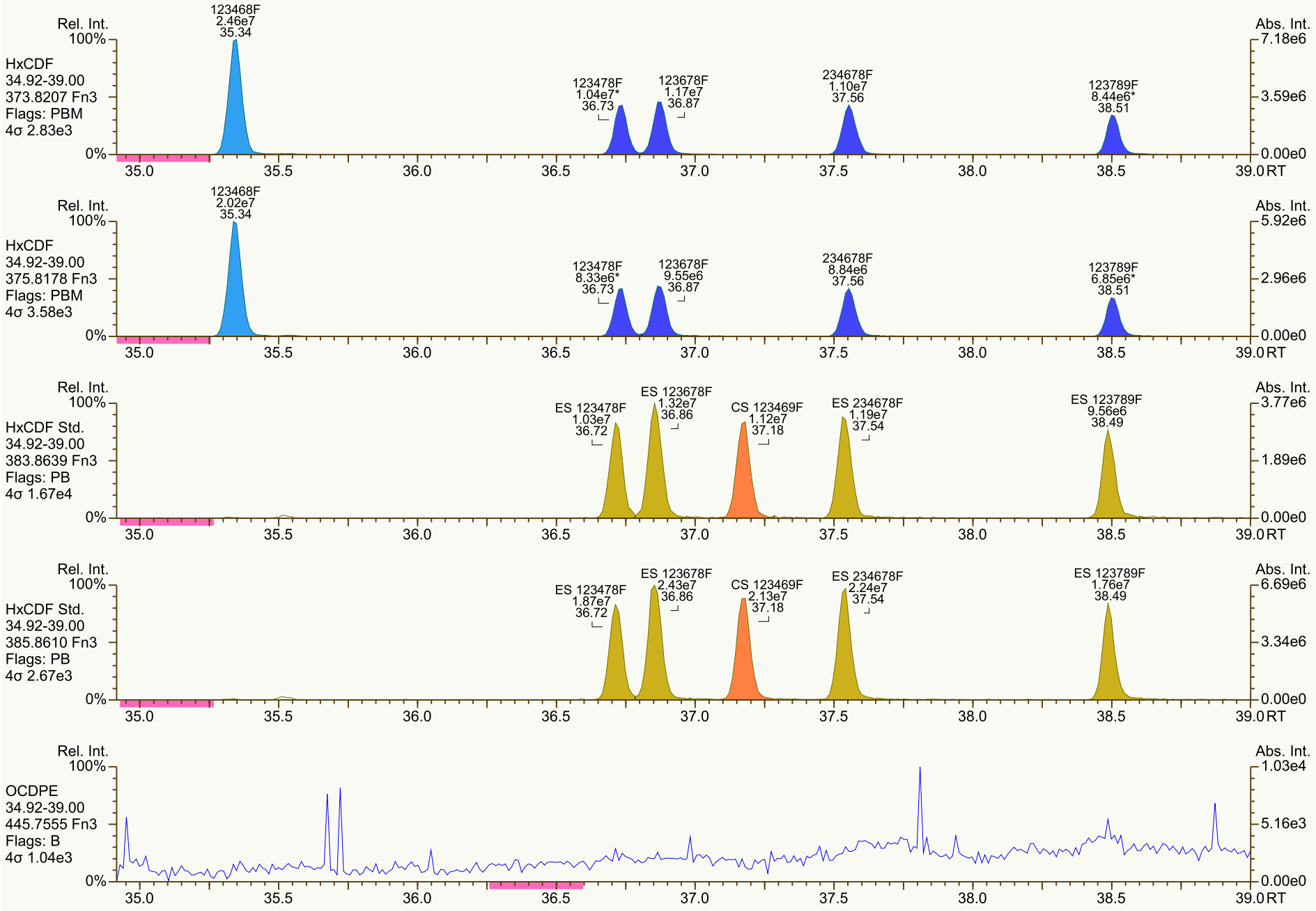


Results: P:\B6200_B6299\B6276\B6276_18917 DF\Resources\OPR1_18917_DF.utp_res, saved 11-Feb-2022 09:27 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3965, 6854, 6014 scc: 456-279

Peak annotation: Areas, Centroids
PKD: 11-Feb-2022 08:40 Printed: 11-Feb-2022 09:43 Page 9 of 12

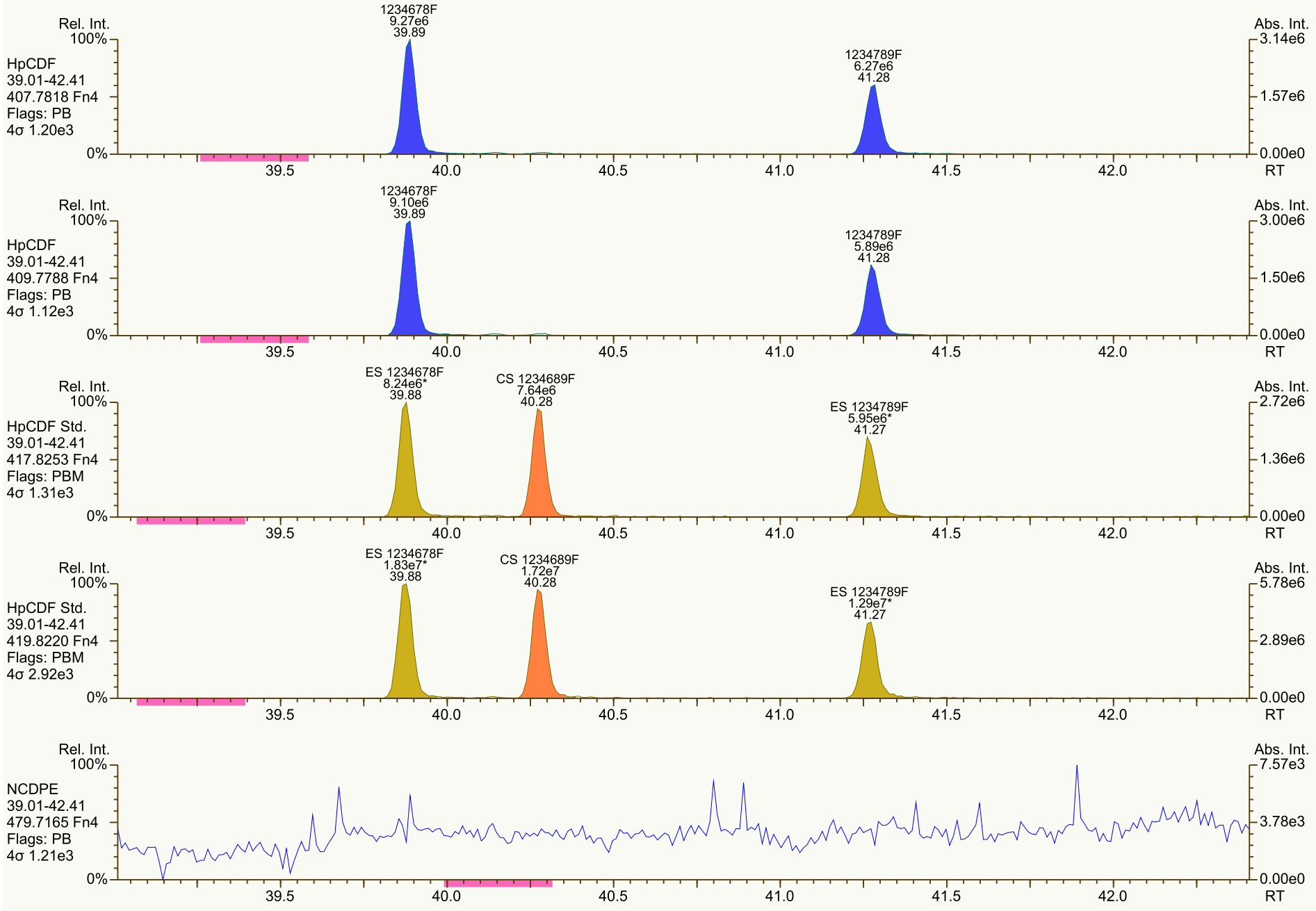
SGS ID: OPR1_18917_DF | Sample ID: 0_18917_OPR001 | Acq: 10-Feb-2022 17:03:25

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37 | User: DTF Datafile: 220210C10



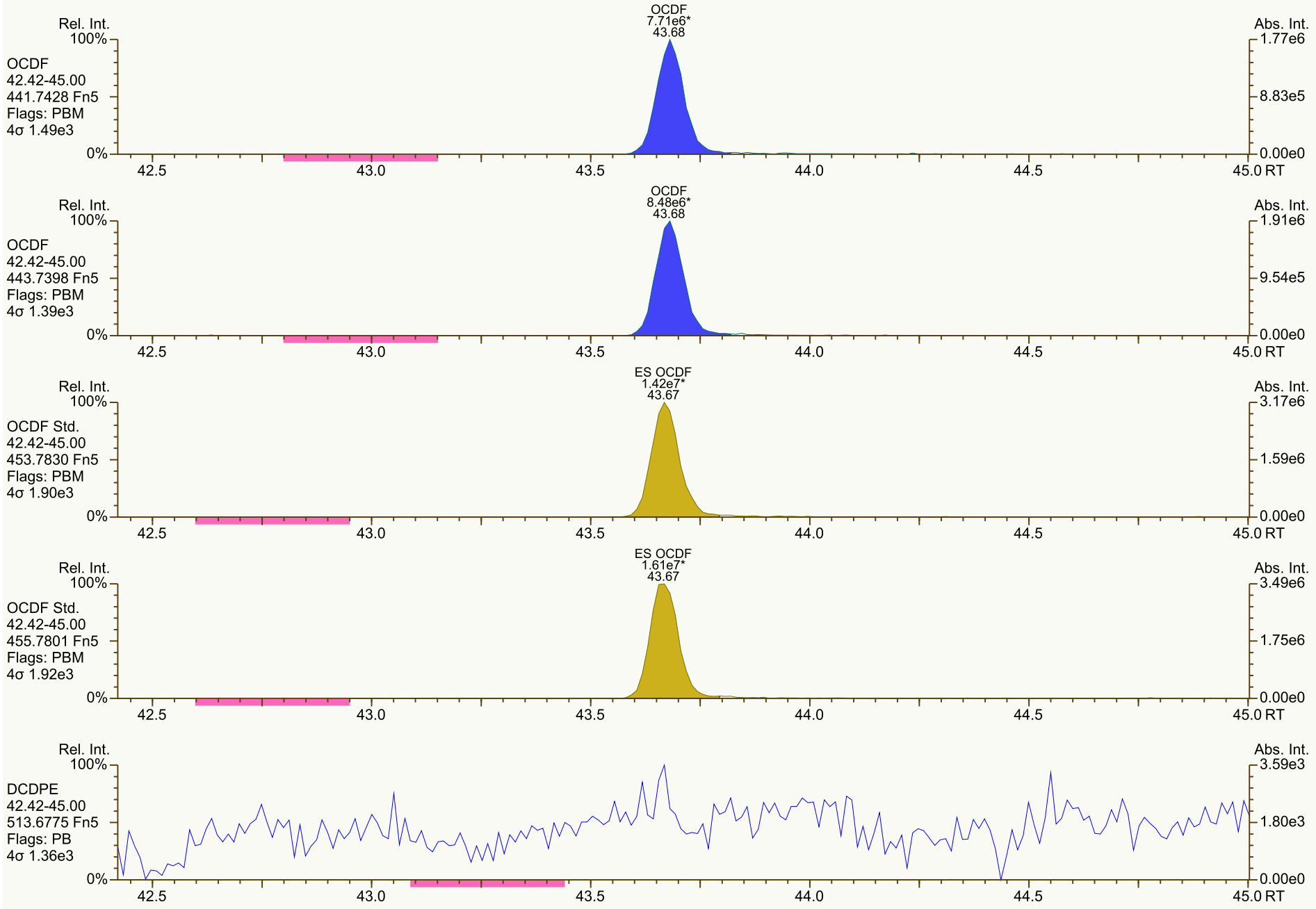
Results: P:\B6200_B6299\B6276\B6276_18917 DF\Resources\OPR1_18917_DF.utp_res, saved 11-Feb-2022 09:27 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6981, 9846, 5077 scc: 456-279 | *PKD: 11-Feb-2022 08:40 Printed: 11-Feb-2022 09:43 Page 10 of 12*


Rel. Int.
100%
HpCDF
39.01-42.41
407.7818 Fn4
Flags: PB
4σ 1.20e3
1234678F
9.27e6
39.89
1234789F
6.27e6
41.28
Abs. Int.
3.14e6
1.57e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.01-42.41
409.7788 Fn4
Flags: PB
4σ 1.12e3
1234678F
9.10e6
39.89
1234789F
5.89e6
41.28
Abs. Int.
3.00e6
1.50e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
417.8253 Fn4
Flags: PBM
4σ 1.31e3
ES 1234678F
8.24e6*
39.88
CS 1234689F
7.64e6
40.28
ES 1234789F
5.95e6*
41.27
Abs. Int.
2.72e6
1.36e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.01-42.41
419.8220 Fn4
Flags: PBM
4σ 2.92e3
ES 1234678F
1.83e7*
39.88
CS 1234689F
1.72e7
40.28
ES 1234789F
1.29e7*
41.27
Abs. Int.
5.78e6
2.89e6
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.01-42.41
479.7165 Fn4
Flags: PB
4σ 1.21e3
Abs. Int.
7.57e3
3.78e3
0.00e0
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT

SGS ID: OPR1_18917_DF | Sample ID: 0_18917_OPR001 | Acq: 10-Feb-2022 17:03:25

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37 | User: DTF Datafile: 220210C10



Results: P:\B6200_B6299\B6276\B6276_18917 DF\Resources\OPR1_18917_DF.utp_res, saved 11-Feb-2022 09:27 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8398, 5533, 9245 scc: 456-279 *Revised: 11-Feb-2022 08:40 (DTF) Printed: 11-Feb-2022 09:43 Page 12 of 12*

Lab ID: OPR2_18917_DF **Acq'd:** 10 Feb 2022 17:49 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18917_OPR002 **UTP:** 11-Feb-2022 09:27:44 DTF **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 395-929-CZL

Datafile: 220210C11 **Report:** 11 Feb 2022 09:35 TF **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.47		1.0008	1.0008	0	2.98E+06	0.81	Y	1.18	11.8	3232.853	0.146
12378-PeCDD	33.82		1.0005	1.0006	+0.2	9.77E+06	1.60	Y	1.04	49.7	3476.629	0.149
123478-HxCDD	37.73		1.0004	1.0004	0	9.91E+06	1.28	Y	1.09	53.8	2958.191	0.137
123678-HxCDD	37.85		1.0035	1.0036	+0.2	1.13E+07	1.27	Y	1.15	55.5	2958.191	0.121
123789-HxCDD	38.14		1.0113	1.0113	0	1.03E+07	1.27	Y	1.05	53.2	2958.191	0.128
1234678-HpCDD	40.81		1.0003	1.0003	0	8.66E+06	1.04	Y	1.06	54	2698.795	0.126
OCDD	43.49		1.0002	1.0003	+0.3	1.11E+07	0.93	Y	1.13	115	2786.178	0.306
2378-TCDF	27.61		1.0008	1.0008	0	3.93E+06	0.76	Y	1.08	11.7	2643.933	0.0965
12378-PeCDF	32.37		1.0005	1.0006	+0.2	1.71E+07	1.55	Y	1.02	50.9	6589.789	0.174
23478-PeCDF	33.48		1.0005	1.0005	0	1.63E+07	1.58	Y	1.02	54.2	6589.789	0.192
123478-HxCDF	36.72		1.0005	1.0005	0	1.38E+07	1.24	Y	1.27	52.9	11320.078	0.369
123678-HxCDF	36.86		1.0005	1.0005	0	1.64E+07	1.24	Y	1.15	51.3	11320.078	0.305
234678-HxCDF	37.54		1.0005	1.0004	-0.2	1.62E+07	1.22	Y	1.19	52.7	11320.078	0.31
123789-HxCDF	38.50		1.0004	1.0004	0	1.12E+07	1.20	Y	1.16	50.2	11320.078	0.415
1234678-HpCDF	39.87		1.0003	1.0003	0	1.42E+07	1.02	Y	1.37	52.9	2942.655	0.0743
1234789-HpCDF	41.27		1.0003	1.0003	0	9.29E+06	1.06	Y	1.31	51.7	2942.655	0.127
OCDF	43.67		1.0003	1.0003	0	1.26E+07	0.92	Y	1.07	104	2905.632	0.264

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.44	1.0238	1.0239	+0.2	2.13E+07	0.81	Y	1.05	88.3
ES 12378-PeCDD	33.80	1.2160	1.2166	+1.2	1.90E+07	1.58	Y	0.88	93.7
ES 123478-HxCDD	37.71	0.9919	0.9919	0	1.69E+07	1.27	Y	0.97	89.8
ES 123678-HxCDD	37.83	0.9950	0.9950	0	1.78E+07	1.27	Y	0.94	97.2
ES 123789-HxCDD	38.12	1.0027	1.0027	0	1.85E+07	1.30	Y	1.09	87.6
ES 1234678-HpCDD	40.80	1.0730	1.0729	-0.2	1.51E+07	1.00	Y	0.91	85.6
ES OCDD	43.48	1.1437	1.1434	-0.8	1.72E+07	0.94	Y	0.62	71.1
ES 2378-TCDF	27.59	1.0520	1.0522	+0.3	3.12E+07	0.85	Y	1.06	76.9
ES 12378-PeCDF	32.35	1.2330	1.2339	+1.7	3.28E+07	1.62	Y	0.91	94
ES 23478-PeCDF	33.46	1.2754	1.2764	+2.0	2.94E+07	1.55	Y	0.88	87
ES 123478-HxCDF	36.71	0.9653	0.9653	0	2.05E+07	0.54	Y	1.20	88.3
ES 123678-HxCDF	36.85	0.9691	0.9691	0	2.77E+07	0.56	Y	1.35	106
ES 234678-HxCDF	37.53	0.9870	0.9870	0	2.58E+07	0.53	Y	1.24	107
ES 123789-HxCDF	38.48	1.0121	1.0121	0	1.92E+07	0.54	Y	1.16	85.8
ES 1234678-HpCDF	39.86	1.0484	1.0483	-0.2	1.95E+07	0.47	Y	0.97	104
ES 1234789-HpCDF	41.26	1.0851	1.0850	-0.2	1.38E+07	0.46	Y	0.85	83.4
ES OCDF	43.66	1.1483	1.1482	-0.3	2.25E+07	0.92	Y	0.81	71.9

Lab ID: OPR2_18917_DF | Acq'd: 10 Feb 2022 17:49 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18917_OPR002 | UTP: 11-Feb-2022 09:27:44 DTF | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 395-929-CZL

Datafile: 220210C11 | Report: 11 Feb 2022 09:35 TF | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.78		-	-	-	2.30E+07	0.79	Y	-	-
JS 1234-TCDF	26.22		-	-	-	3.83E+07	0.79	Y	-	-
JS 123467-HxCDD	38.02		-	-	-	9.69E+06	1.40	Y	-	-
CS 37Cl-2378-TCDD	28.47		1.0245	1.0247	+0.3	1.05E+07	n/a	-	1.20	94.9
CS 12347-PeCDD	33.29		1.1979	1.1985	+1.2	1.88E+07	1.61	Y	0.75	109
CS 12346-PeCDF	31.82		1.2128	1.2138	+1.9	3.49E+07	1.61	Y	0.85	107
CS 123469-HxCDF	37.16		0.9774	0.9774	0	2.41E+07	0.53	Y	1.12	111
CS 1234689-HpCDF	40.26		1.0589	1.0589	0	1.84E+07	0.46	Y	0.89	107
~~SS 37Cl-2378-TCDD~~	~~28.47~~		~~1.0245~~	~~1.0247~~	~~+0.3~~	~~1.05E+07~~	~~n/a~~		~~1.15~~	~~100~~
~~SS 12347-PeCDD~~	~~33.29~~		~~1.1979~~	~~1.1985~~	~~+1.2~~	~~1.88E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~116~~
~~SS 12346-PeCDF~~	~~31.82~~		~~1.2128~~	~~1.2138~~	~~+1.9~~	~~3.49E+07~~	~~1.61~~	~~Y~~	~~0.94~~	~~114~~
~~SS 123469-HxCDF~~	~~37.16~~		~~0.9774~~	~~0.9774~~	~~0~~	~~2.41E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~105~~
~~SS 1234689-HpCDF~~	~~40.26~~		~~1.0589~~	~~1.0589~~	~~0~~	~~1.84E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~102~~

Totals	Conc	EMPC
Total TCDD	54.5	54.5
Total PeCDD	78	78
Total HxCDD	179	179
Total HpCDD	69.2	69.2
Total Tetra-Octa Dioxins	495	495
Total TCDF	66.2	66.2
Total PeCDF	202	202
Total HxCDF	330	330
Total HpCDF	105	105
Total Tetra-Octa Furans	808	808
Total Tetra-Octa Dioxins & Furans	1300	1300

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.807	0.81
Response	2.98E+06	2.98E+06

Lab ID: OPR2_18917_DF | Acq'd: 10 Feb 2022 17:49 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18917_OPR002 | UTP: 11-Feb-2022 09:27:44 DTF | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 395-929-CZL

Datafile: 220210C11 | Report: 11 Feb 2022 09:35 TF | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.81		0.8737	0.8724	-1.9	3.99E+06	0.79	Y	1.18	15.8	3232.853	0.146
1379-TCDD	NotFnd		0.8860						1.18		3232.853	0.146
1369-TCDD	NotFnd		0.9009						1.18		3232.853	0.146
1469-TCDD	NotFnd		0.9281						1.18		3232.853	0.146
1247/1246/1248/1249-TCDD	NotFnd		0.9362						1.18		3232.853	0.146
1378-TCDD	NotFnd		0.9432						1.18		3232.853	0.146
1268-TCDD	NotFnd		0.9500						1.18		3232.853	0.146
1478-TCDD	NotFnd		0.9586						1.18		3232.853	0.146
1279-TCDD	NotFnd		0.9645						1.18		3232.853	0.146
1234/1269-TCDD	NotFnd		0.9770						1.18		3232.853	0.146
1236-TCDD	NotFnd		0.9817						1.18		3232.853	0.146
1237/1238-TCDD	NotFnd		0.9905						1.18		3232.853	0.146
1239-TCDD	28.31		0.9952	0.9951	-0.2	2.80E+06	0.75	Y	1.18	11.1	3232.853	0.146
2378-TCDD	**28.47**		**1.0008**	1.0008	**0**	2.98E+06	0.81	Y	**1.18**	**11.8**	**3232.853**	**0.146**
1278-TCDD	NotFnd		1.0121						1.18		3232.853	0.146
1267-TCDD	NotFnd		1.0167						1.18		3232.853	0.146
1289-TCDD	29.44		1.0345	1.0349	+0.7	3.97E+06	0.77	Y	1.18	15.7	3232.853	0.146
12479/12468-PeCDD	31.31		0.9267	0.9264	-0.6	2.77E+06	1.58	Y	1.04	14.1	3476.629	0.149
12469-PeCDD	NotFnd		0.9425						1.04		3476.629	0.149
12368-PeCDD	NotFnd		0.9588						1.04		3476.629	0.149
12478-PeCDD	NotFnd		0.9643						1.04		3476.629	0.149
12379-PeCDD	NotFnd		0.9673						1.04		3476.629	0.149
12369/12467/12489-PeCDD	NotFnd		0.9750						1.04		3476.629	0.149
12346/12347-PeCDD	NotFnd		0.9858						1.04		3476.629	0.149
12378-PeCDD	33.82		**1.0005**	**1.0006**	**+0.2**	**9.77E+06**	**1.60**	**Y**	**1.04**	**49.7**	**3476.629**	**0.149**
12367-PeCDD	NotFnd		1.0033						1.04		3476.629	0.149
12389-PeCDD	34.26		1.0134	1.0136	+0.4	2.81E+06	1.58	Y	1.04	14.3	3476.629	0.149
124679/124689-HxCDD	35.98		0.9542	0.9541	-0.2	3.24E+06	1.26	Y	1.10	16.7	2958.191	0.128
123468-HxCDD	NotFnd		0.9715						1.10		2958.191	0.128
123679/123689-HxCDD	NotFnd		0.9793						1.10		2958.191	0.128
123469-HxCDD	NotFnd		0.9828						1.10		2958.191	0.128
123478-HxCDD	37.73		**1.0004**	**1.0004**	**0**	**9.91E+06**	**1.28**	**Y**	1.09	**53.8**	**2958.191**	**0.137**
123678-HxCDD	37.85		**1.0035**	**1.0036**	**+0.2**	**1.13E+07**	**1.27**	**Y**	1.15	**55.5**	**2958.191**	**0.121**
123467-HxCDD	NotFnd		1.0085						1.10		2958.191	0.128
123789-HxCDD	38.14		**1.0113**	**1.0113**	**0**	**1.03E+07**	**1.27**	**Y**	1.05	**53.2**	**2958.191**	**0.128**

Lab ID: OPR2_18917_DF | Acq'd: 10 Feb 2022 17:49 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18917_OPR002 | UTP: 11-Feb-2022 09:27:44 DTF | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 395-929-CZL

Datafile: 220210C11 | Report: 11 Feb 2022 09:35 TF | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.13		0.9837	0.9837	0	2.44E+06	1.07	Y	1.06	15.2	2698.795	0.126
1234678-HpCDD	**40.81**		**1.0003**	**1.0003**	**0**	**8.66E+06**	**1.04**	**Y**	**1.06**	**54**	**2698.795**	**0.126**
OCDD	**43.49**		**1.0002**	**1.0003**	**+0.3**	**1.11E+07**	**0.93**	**Y**	**1.13**	**115**	**2786.178**	**0.306**
OCDD-a	43.48		1.0001	1.0001	0	6.87E+05	2.83	Y	0.07	111	3186.173	5.48
1368-TCDF	22.70		0.8251	0.8227	-3.3	5.55E+06	0.77	Y	1.08	16.5	2643.933	0.0965
1468-TCDF	NotFnd		0.8458						1.08		2643.933	0.0965
2468-TCDF	23.92		0.8686	0.8670	-2.3	1.30E+06	0.85	Y	1.08	3.86	2643.933	0.0965
1346/1246-TCDF	NotFnd		0.8814						1.08		2643.933	0.0965
1347/1378/1247-TCDF	NotFnd		0.8867						1.08		2643.933	0.0965
1348-TCDF	NotFnd		0.8962						1.08		2643.933	0.0965
1248/1367/1379-TCDF	NotFnd		0.9009						1.08		2643.933	0.0965
1268-TCDF	NotFnd		0.9145						1.08		2643.933	0.0965
1467-TCDF	NotFnd		0.9193						1.08		2643.933	0.0965
1478-TCDF	NotFnd		0.9254						1.08		2643.933	0.0965
1369/1237-TCDF	NotFnd		0.9387						1.08		2643.933	0.0965
2467-TCDF	NotFnd		0.9433						1.08		2643.933	0.0965
2368-TCDF	NotFnd		0.9489						1.08		2643.933	0.0965
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9523						1.08		2643.933	0.0965
1278-TCDF	NotFnd		0.9683						1.08		2643.933	0.0965
1349-TCDF	NotFnd		0.9722						1.08		2643.933	0.0965
1267-TCDF	NotFnd		0.9783						1.08		2643.933	0.0965
2346/1249-TCDF	NotFnd		0.9850						1.08		2643.933	0.0965
2347/1279-TCDF	NotFnd		0.9926						1.08		2643.933	0.0965
2348-TCDF	27.50		0.9967	0.9969	+0.3	5.44E+06	0.84	Y	1.08	16.2	2643.933	0.0965
2378-TCDF	**27.61**		**1.0008**	**1.0008**	**0**	**3.93E+06**	**0.76**	**Y**	**1.08**	**11.7**	**2643.933**	**0.0965**
2367/3467-TCDF	NotFnd		1.0137						1.08		2643.933	0.0965
1269-TCDF	NotFnd		1.0223						1.08		2643.933	0.0965
1239-TCDF	NotFnd		1.0321						1.08		2643.933	0.0965
1289-TCDF	29.61		1.0722	1.0732	+1.8	6.08E+06	0.79	Y	1.08	18.1	2643.933	0.0965
13468/12468-PeCDF	29.53		0.9139	0.9128	-1.9	2.74E+07	1.56	Y	1.02	86.1	2503.935	0.0693
13678/13467/12467-PeCDF	NotFnd		0.9613						1.02		6589.789	0.182
12368/13478/12478-PeCDF	NotFnd		0.9662						1.02		6589.789	0.182
14678-PeCDF	NotFnd		0.9692						1.02		6589.789	0.182
13479-PeCDF	NotFnd		0.9723						1.02		6589.789	0.182
13469/12479-PeCDF	NotFnd		0.9797						1.02		6589.789	0.182
12346-PeCDF	NotFnd		0.9840						1.02		6589.789	0.182

Lab ID: OPR2_18917_DF | Acq'd: 10 Feb 2022 17:49 DTF | Wt/Vol: 1 uL | ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18917_OPR002 | UTP: 11-Feb-2022 09:27:44 DTF | J-level: 0.25 pg/uL | Split: 1 | Checkcode: 395-929-CZL

Datafile: 220210C11 | Report: 11 Feb 2022 09:35 TF | Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9868						1.02		6589.789	0.182
12347-PeCDF	NotFnd		0.9894						1.02		6589.789	0.182
12348-PeCDF	NotFnd		0.9940						1.02		6589.789	0.182
12378-PeCDF	**32.37**		**1.0005**	**1.0006**	**+0.2**	**1.71E+07**	**1.55**	**Y**	**1.02**	**50.9**	**6589.789**	**0.174**
12678/12367-PeCDF	NotFnd		1.0089						1.02		6589.789	0.182
12379-PeCDF	NotFnd		1.0142						1.02		6589.789	0.182
12679-PeCDF	NotFnd		0.9929						1.02		6589.789	0.182
23467/12369-PeCDF	NotFnd		0.9967						1.02		6589.789	0.182
23478-PeCDF	**33.48**		**1.0005**	**1.0005**	**0**	**1.63E+07**	**1.58**	**Y**	**1.02**	**54.2**	**6589.789**	**0.192**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6589.789	0.182
12349-PeCDF	NotFnd		1.0100						1.02		6589.789	0.182
12389-PeCDF	34.56		1.0324	1.0326	+0.4	3.57E+06	1.59	Y	1.02	11.2	6589.789	0.182
123468-HxCDF	35.33		0.9627	0.9626	-0.2	3.42E+07	1.24	Y	1.19	123	11320.078	0.343
124678/134678-HxCDF	NotFnd		0.9682						1.19		11320.078	0.343
134679-HxCDF	NotFnd		0.9744						1.19		11320.078	0.343
124679-HxCDF	NotFnd		0.9798						1.19		11320.078	0.343
124689-HxCDF	NotFnd		0.9858						1.19		11320.078	0.343
123467-HxCDF	NotFnd		0.9972						1.19		11320.078	0.343
123478-HxCDF	**36.72**		**1.0005**	**1.0005**	**0**	**1.38E+07**	**1.24**	**Y**	**1.27**	**52.9**	**11320.078**	**0.369**
123678-HxCDF	**36.86**		**1.0005**	**1.0005**	**0**	**1.64E+07**	**1.24**	**Y**	**1.15**	**51.3**	**11320.078**	**0.305**
123479-HxCDF	NotFnd		1.0049						1.19		11320.078	0.343
123469-HxCDF	NotFnd		1.0090						1.19		11320.078	0.343
123679-HxCDF	NotFnd		0.9942						1.19		11320.078	0.343
234678-HxCDF	**37.54**		**1.0005**	**1.0004**	**-0.2**	**1.62E+07**	**1.22**	**Y**	**1.19**	**52.7**	**11320.078**	**0.31**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		11320.078	0.343
123789-HxCDF	**38.50**		**1.0004**	**1.0004**	**0**	**1.12E+07**	**1.20**	**Y**	**1.16**	**50.2**	**11320.078**	**0.415**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0009						1.19		11320.078	0.343
1234678-HpCDF	**39.87**		**1.0003**	**1.0003**	**0**	**1.42E+07**	**1.02**	**Y**	**1.37**	**52.9**	**2942.655**	**0.0743**
1234679-HpCDF	NotFnd		1.0068						1.34		2942.655	0.0957
1234689-HpCDF	NotFnd		1.0103						1.34		2942.655	0.0957
1234789-HpCDF	**41.27**		**1.0003**	**1.0003**	**0**	**9.29E+06**	**1.06**	**Y**	**1.31**	**51.7**	**2942.655**	**0.127**
OCDF	**43.67**		**1.0003**	**1.0003**	**0**	**1.26E+07**	**0.92**	**Y**	**1.07**	**104**	**2905.632**	**0.264**
OCDF-a	43.67		1.0002	1.0002	0	6.92E+05	2.80	Y	0.07	92.7	3373.411	4.94

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220210C11	Analysis Date:	10-FEB-2022 17:49:46
Lab ID:	OPR2_18917_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.8	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	49.7	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	53.8	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	55.5	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	53.2	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	54	35	-	70	Y
OCDD	100	115	78	-	144	Y
2,3,7,8-TCDF	10	11.7	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	50.9	40	-	67	Y
2,3,4,7,8-PeCDF	50	54.2	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	52.9	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	51.3	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	52.7	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	50.2	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	52.9	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	51.7	39	-	69	Y
OCDF	100	104	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 11 Feb 2022 09:35 Analyst: TF

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

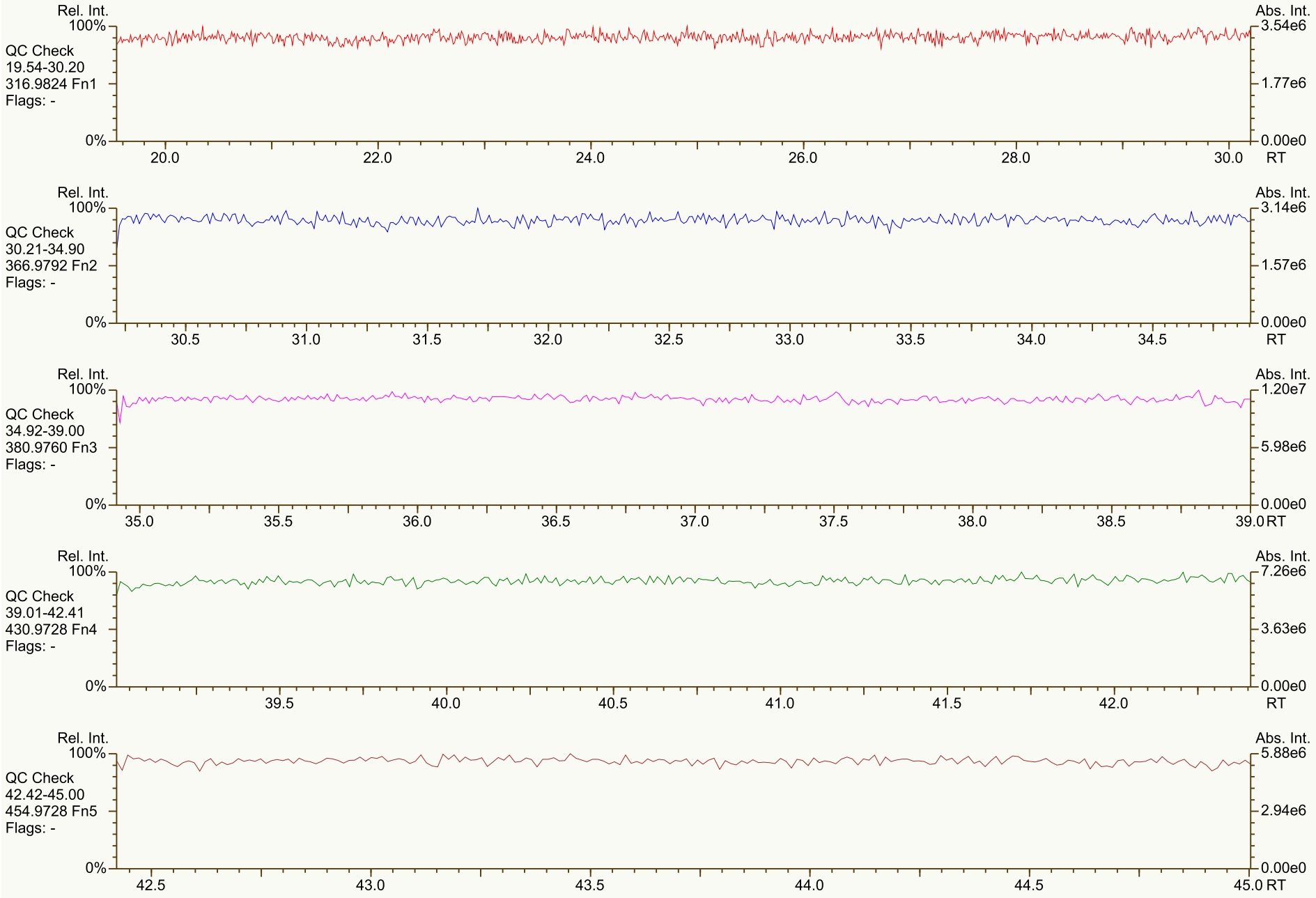
VER Data Filename: 220210C11 Analysis Date: 10-FEB-2022 17:49:46

Lab ID: OPR2_18917_DF

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	88.3	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	93.7	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	89.8	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	97.2	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	87.6	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	85.6	26	-	166	Y
13C-OCDD	200	142	26	-	397	Y
13C-2,3,7,8-TCDF	100	76.9	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	94	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	87	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	88.3	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	106	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	107	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	85.8	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	104	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	83.4	20	-	186	Y
13C-OCDF	200	144	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	37.9	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

Processed: 11 Feb 2022 09:35 Analyst: TF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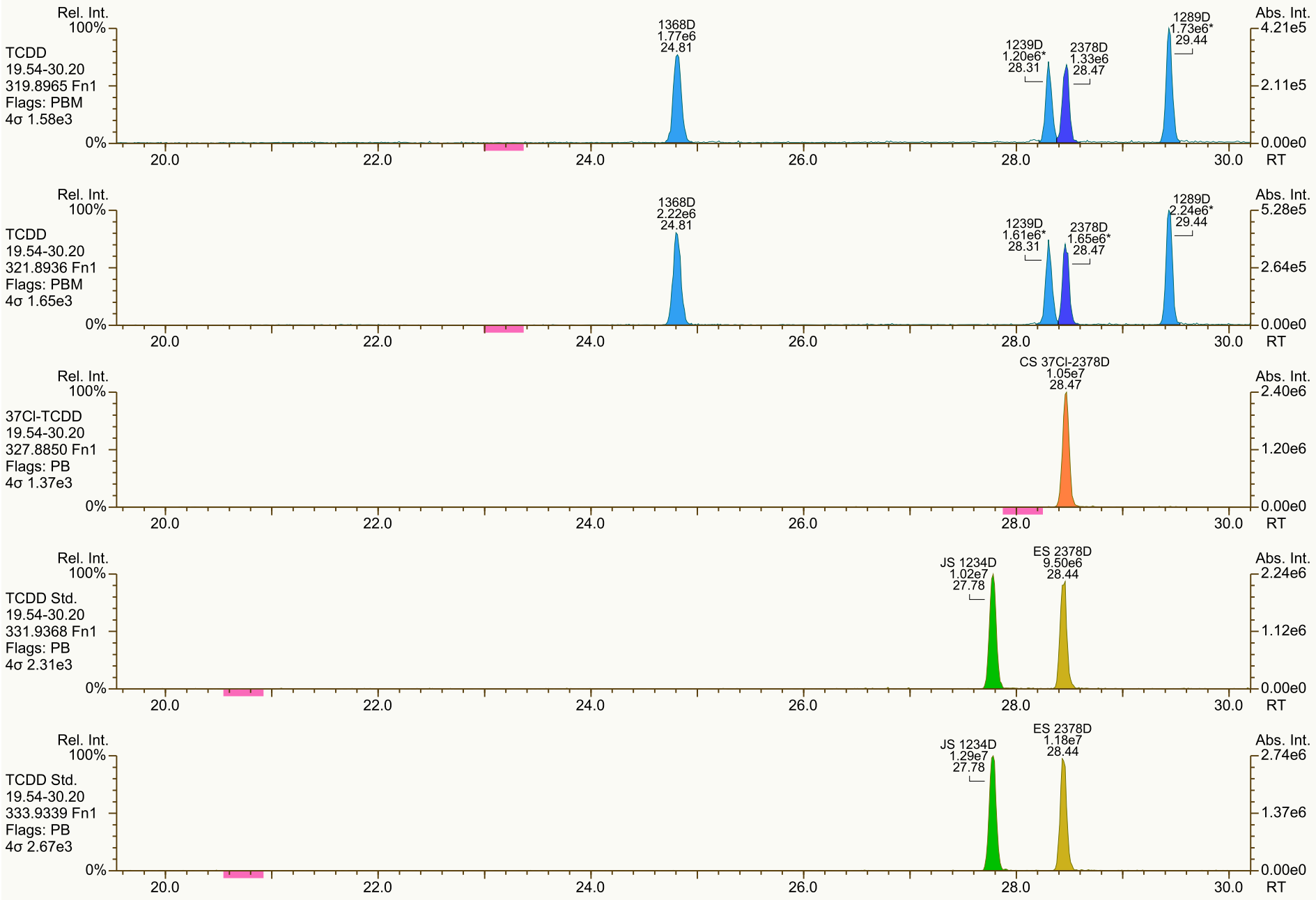
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.54e6
1.77e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.90
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.14e6
1.57e6
0.00e0
Rel. Int.
100%
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
Abs. Int.
1.20e7
5.98e6
0.00e0
Rel. Int.
100%
QC Check
39.01-42.41
430.9728 Fn4
Flags: -
0%
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
7.26e6
3.63e6
0.00e0
Rel. Int.
100%
QC Check
42.42-45.00
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
5.88e6
2.94e6
0.00e0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19.54-30.20
319.8965 Fn1
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4σ 1.58e3
0%
1368D
1.77e6
24.81
1239D
1.20e6*
28.31
2378D
1.33e6
28.47
1289D
1.73e6*
29.44
Abs. Int.
4.21e5
2.11e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.65e3
0%
1368D
2.22e6
24.81
1239D
1.61e6*
28.31
2378D
1.65e6*
28.47
1289D
2.24e6*
29.44
Abs. Int.
5.28e5
2.64e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.37e3
0%
CS 37Cl-2378D
1.05e7
28.47
Abs. Int.
2.40e6
1.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 2.31e3
0%
JS 1234D
1.02e7
27.78
ES 2378D
9.50e6
28.44
Abs. Int.
2.24e6
1.12e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.67e3
0%
JS 1234D
1.29e7
27.78
ES 2378D
1.18e7
28.44
Abs. Int.
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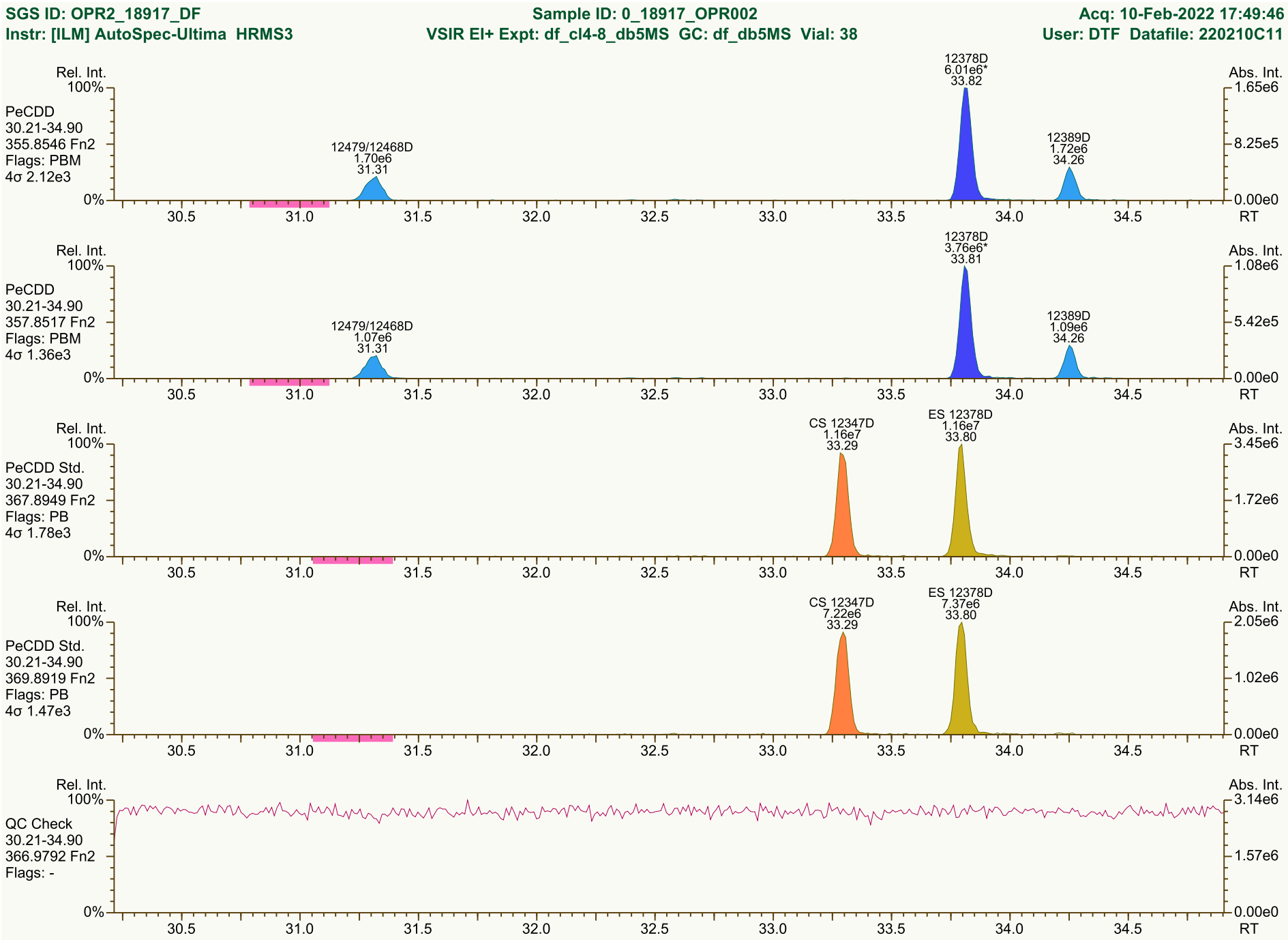
RT



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Peak annotation: Areas, Centroids
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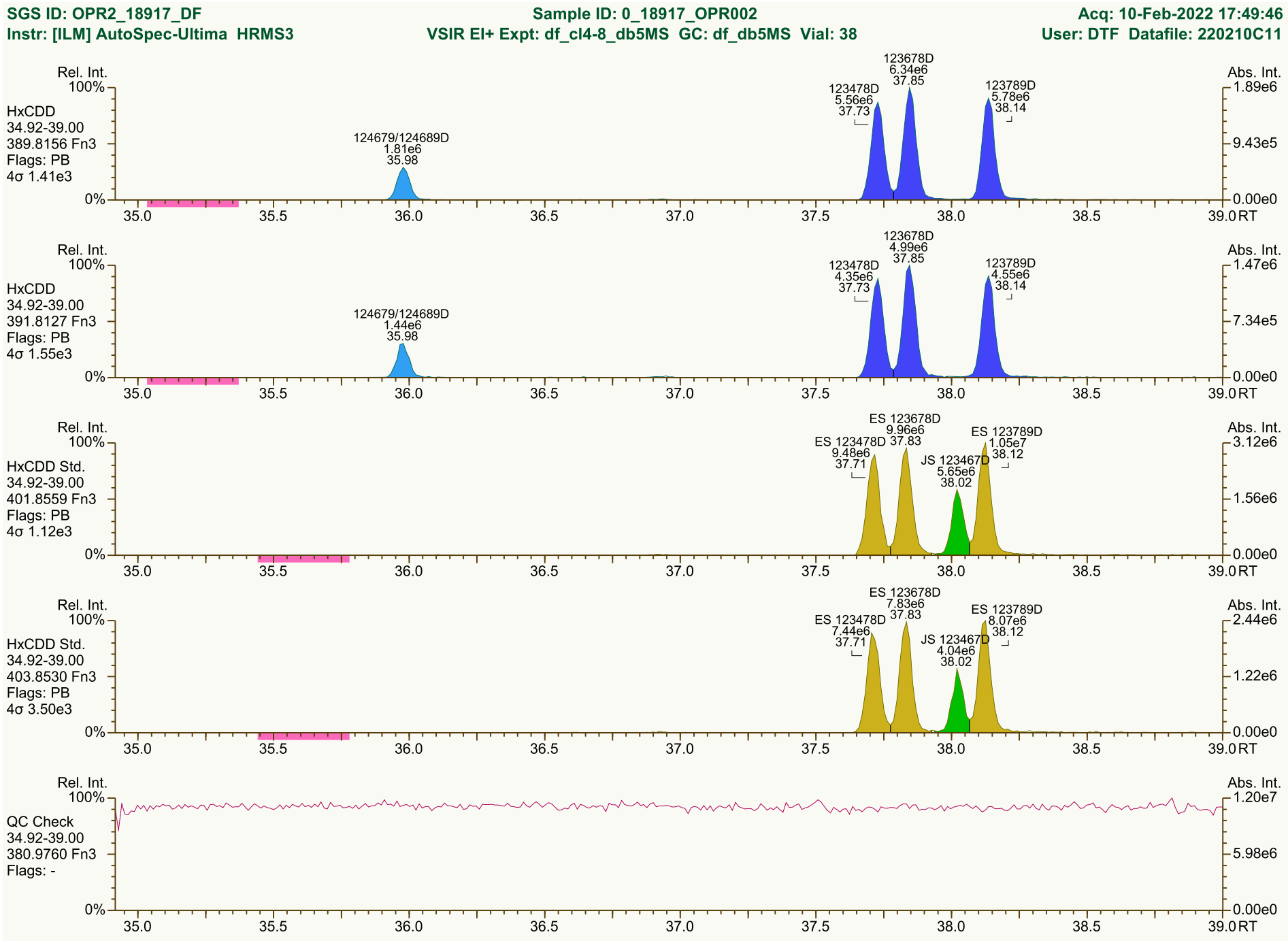
Revised: 11-Feb-2022 08:43 (DTF) Printed: 11-Feb-2022 09:43 Page 3 of 12


SGS ID: OPR2_18917_DF
Sample ID: 0_18917_OPR002
Acq: 10-Feb-2022 17:49:46
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 38
User: DTF Datafile: 220210C11
Rel. Int.
Abs. Int.
HxCDD
34.92-39.00
389.8156 Fn3
Flags: PB
4σ 1.41e3
124679/124689D
1.81e6
35.98
123478D
5.56e6
37.73
123678D
6.34e6
37.85
123789D
5.78e6
38.14
1.89e6
9.43e5
0.00e0
HxCDD
34.92-39.00
391.8127 Fn3
Flags: PB
4σ 1.55e3
124679/124689D
1.44e6
35.98
123478D
4.35e6
37.73
123678D
4.99e6
37.85
123789D
4.55e6
38.14
1.47e6
7.34e5
0.00e0
HxCDD Std.
34.92-39.00
401.8559 Fn3
Flags: PB
4σ 1.12e3
ES 123478D
9.48e6
37.71
ES 123678D
9.96e6
37.83
JS 123467D
5.65e6
38.02
ES 123789D
1.05e7
38.12
3.12e6
1.56e6
0.00e0
HxCDD Std.
34.92-39.00
403.8530 Fn3
Flags: PB
4σ 3.50e3
ES 123478D
7.44e6
37.71
ES 123678D
7.83e6
37.83
JS 123467D
4.04e6
38.02
ES 123789D
8.07e6
38.12
2.44e6
1.22e6
0.00e0
QC Check
34.92-39.00
380.9760 Fn3
Flags: -
1.20e7
5.98e6
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
RT
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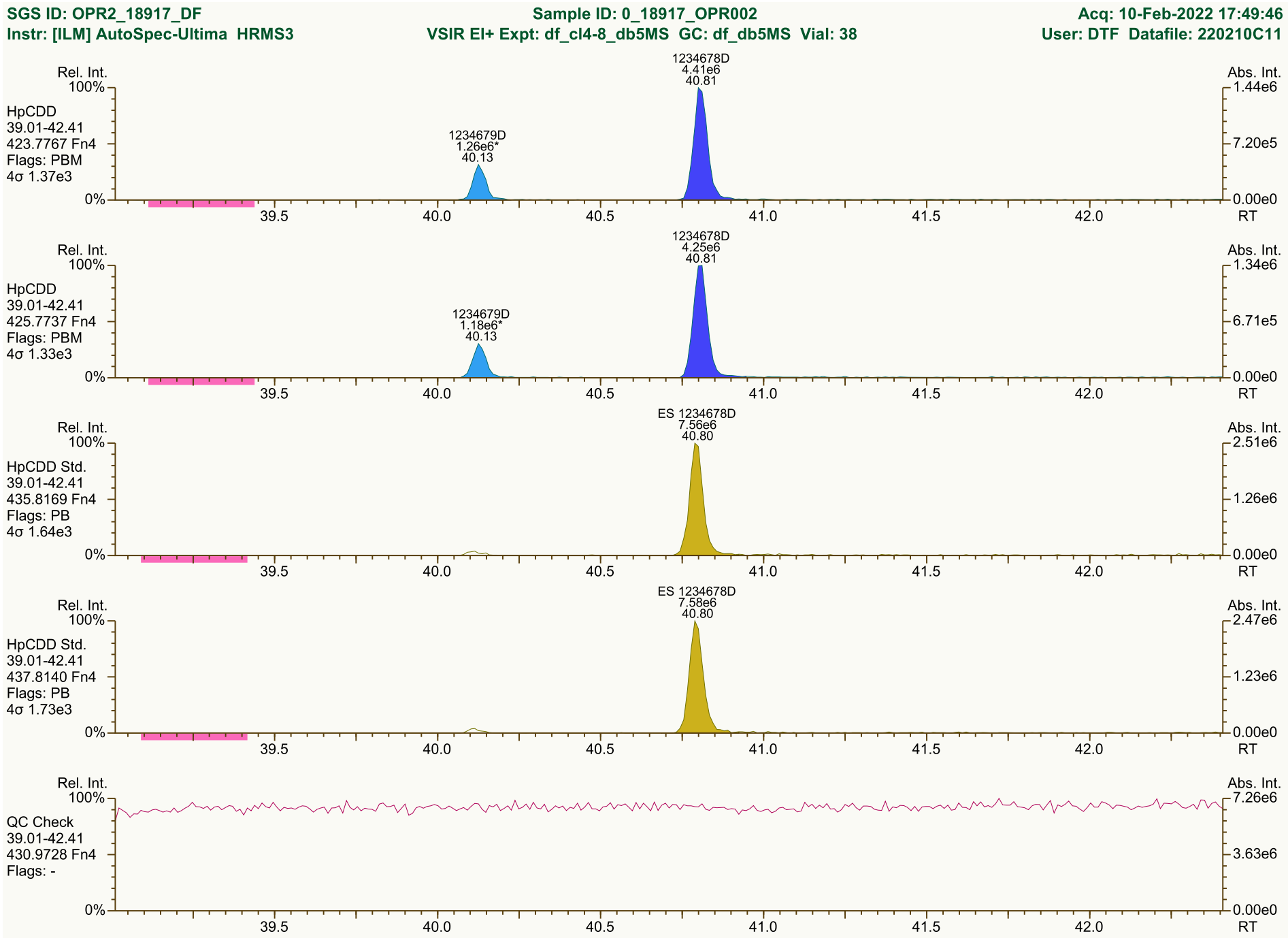
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9572, 9546 scc: 395-929
Revised: 11-Feb-2022 08:43 (DTF) Printed: 11-Feb-2022 09:43 Page 4 of 12

SGS ID: OPR2_18917_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18917_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 38

Acq: 10-Feb-2022 17:49:46
User: DTF Datafile: 220210C11



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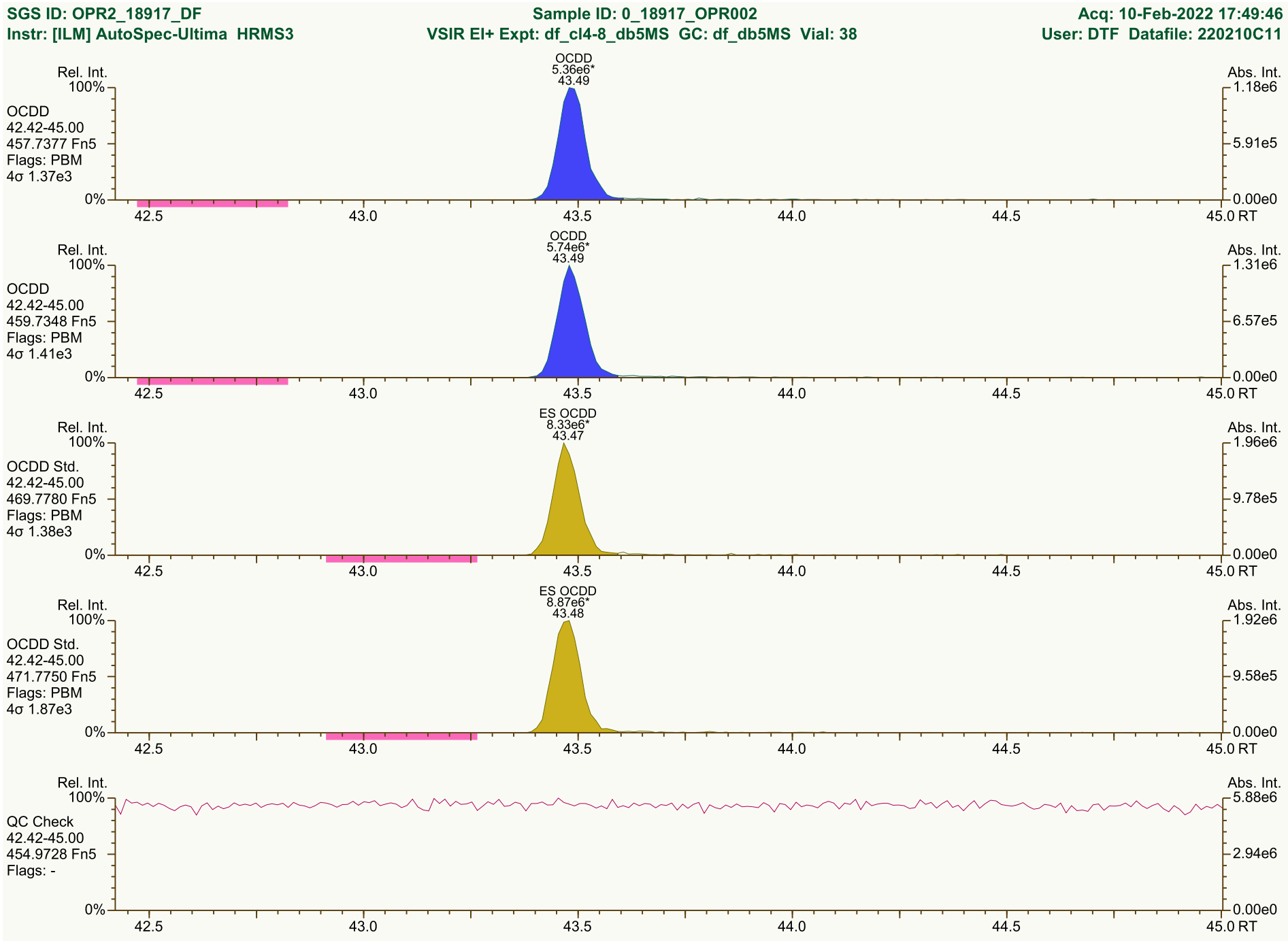
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1674, 4112 scc: 395-929

Peak annotation: Areas, Centroids
Revised: 11-Feb-2022 08:43 (DTF) Printed: 11-Feb-2022 09:43 Page 5 of 12

SGS ID: OPR2_18917_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18917_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 38

Acq: 10-Feb-2022 17:49:46
User: DTF Datafile: 220210C11



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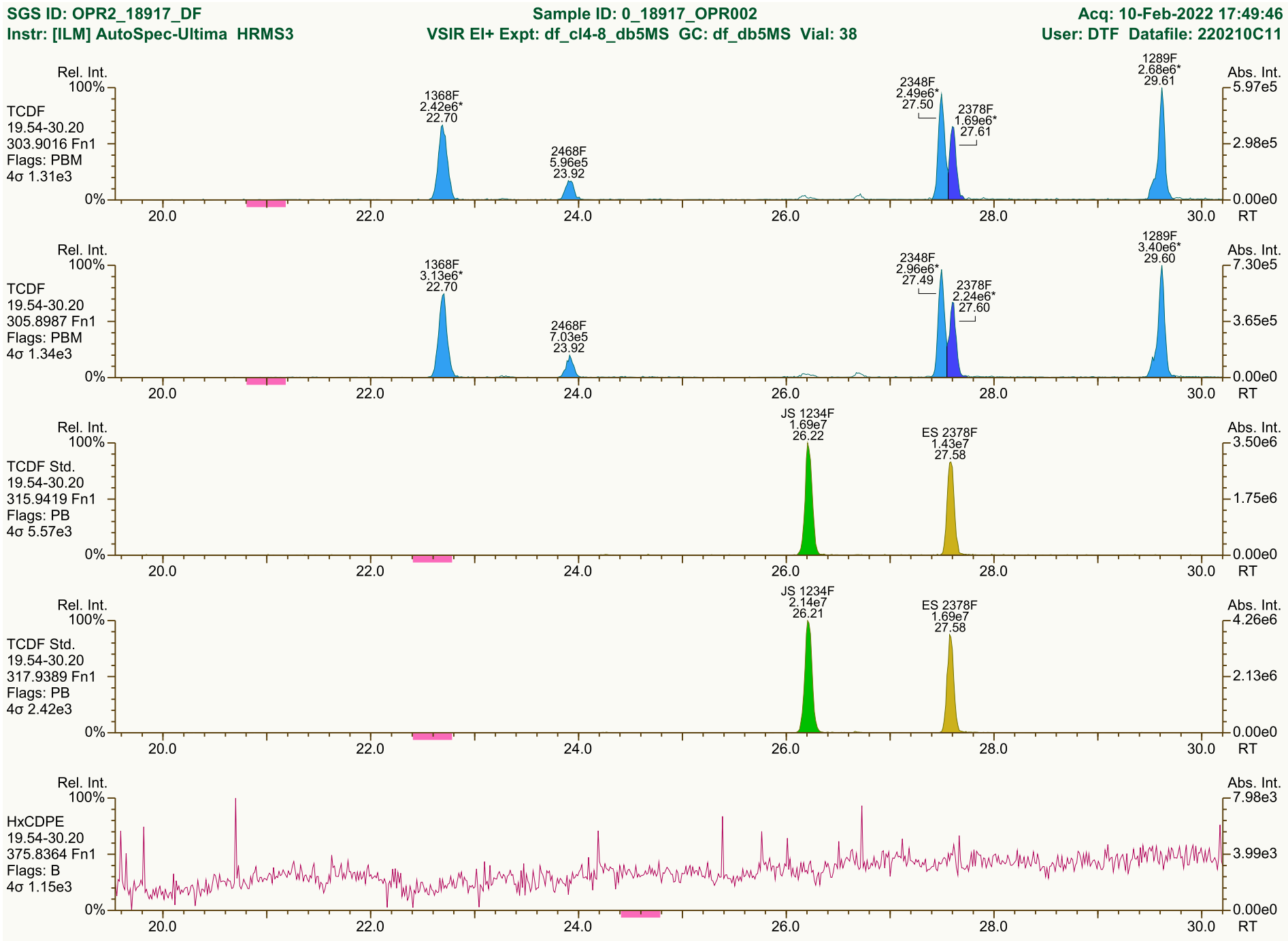
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3444, 2298 scc: 395-929

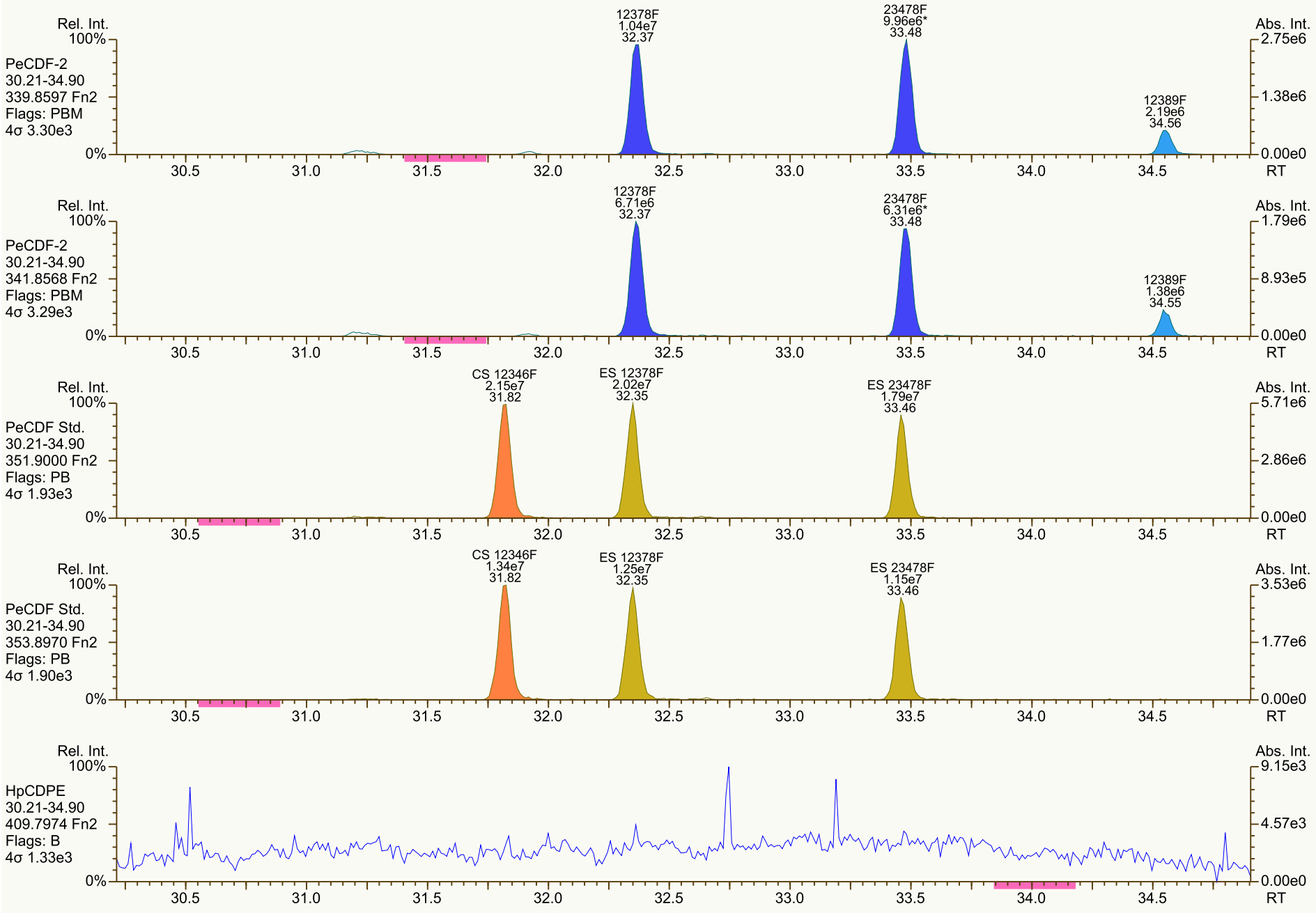
Peak annotation: Areas, Centroids
Revised: 11-Feb-2022 08:43 (DTF) Printed: 11-Feb-2022 09:43 Page 6 of 12


SGS ID: OPR2_18917_DF
Sample ID: 0_18917_OPR002
Acq: 10-Feb-2022 17:49:46
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 38
User: DTF Datafile: 220210C11
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.31e3
1368F 2.42e6* 22.70
2468F 5.96e5 23.92
2348F 2.49e6* 27.50
2378F 1.69e6* 27.61
1289F 2.68e6* 29.61
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.34e3
1368F 3.13e6* 22.70
2468F 7.03e5 23.92
2348F 2.96e6* 27.49
2378F 2.24e6* 27.60
1289F 3.40e6* 29.60
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 5.57e3
JS 1234F 1.69e7 26.22
ES 2378F 1.43e7 27.58
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.42e3
JS 1234F 2.14e7 26.21
ES 2378F 1.69e7 27.58
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.15e3
RT
Results: P:\B6200_B6299\B6276\B6276_18917 DF\Resources\OPR2_18917_DF.utp_res, saved 11-Feb-2022 09:27 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6351, 2750, 8518 scc: 395-929
Revised: 11-Feb-2022 08:44 (DTF) Printed: 11-Feb-2022 09:43 Page 7 of 12

SGS ID: OPR2_18917_DF
Sample ID: 0_18917_OPR002
Acq: 10-Feb-2022 17:49:46
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 38
User: DTF Datafile: 220210C11



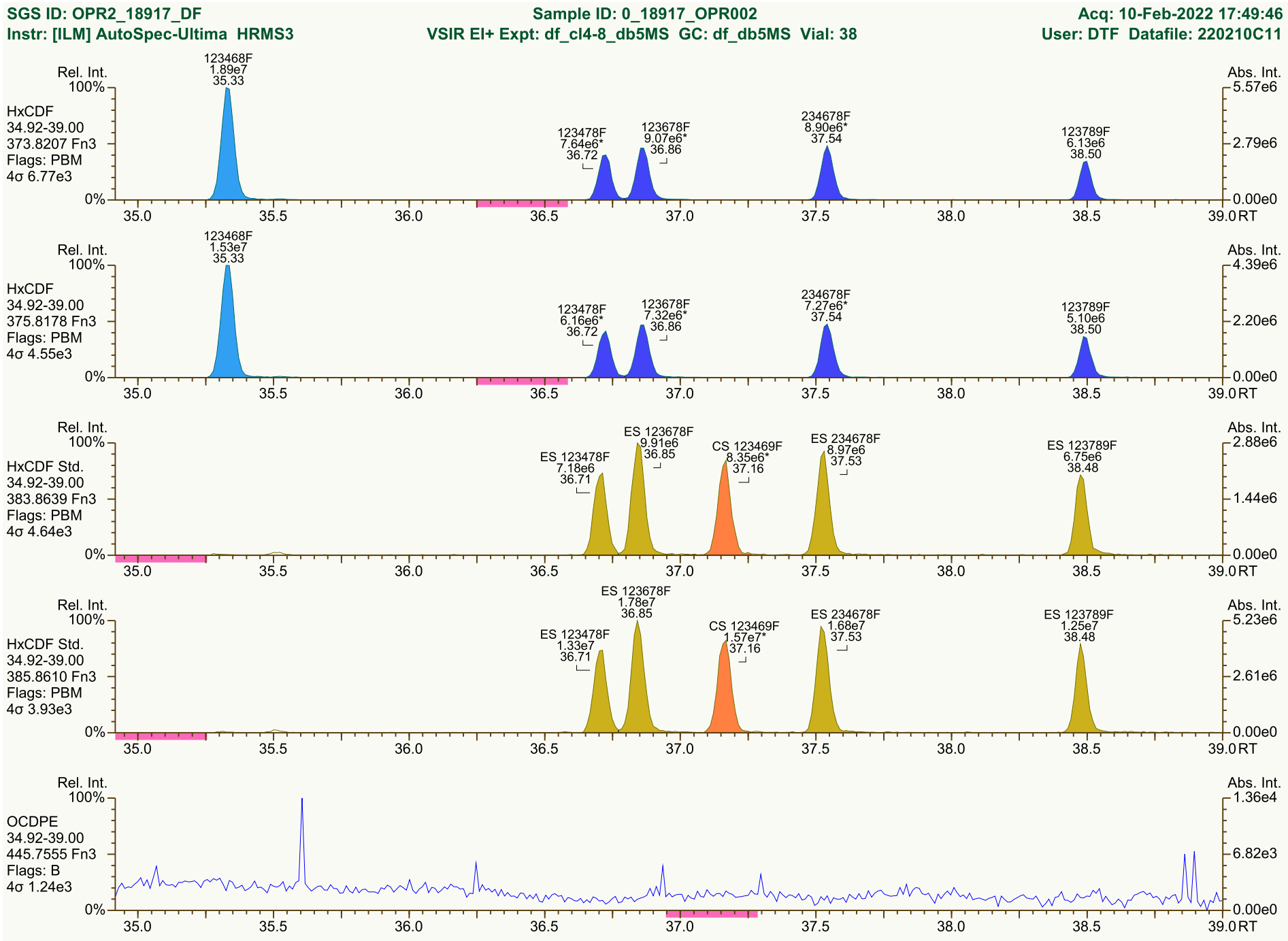
Results: P:\B6200_B6299\B6276\B6276_18917 DF\Resources\OPR2_18917_DF.utp_res, saved 11-Feb-2022 09:27 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3886 scc: 395-929
PKD: 11-Feb-2022 08:42 Printed: 11-Feb-2022 09:43 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.21-34.90
339.8597 Fn2
Flags: PBM
4σ 3.30e3
0%
12378F
1.04e7
32.37
23478F
9.96e6*
33.48
12389F
2.19e6
34.56
Abs. Int.
2.75e6
1.38e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.90
341.8568 Fn2
Flags: PBM
4σ 3.29e3
0%
12378F
6.71e6
32.37
23478F
6.31e6*
33.48
12389F
1.38e6
34.55
Abs. Int.
1.79e6
8.93e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
351.9000 Fn2
Flags: PB
4σ 1.93e3
0%
CS 12346F
2.15e7
31.82
ES 12378F
2.02e7
32.35
ES 23478F
1.79e7
33.46
Abs. Int.
5.71e6
2.86e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.90
353.8970 Fn2
Flags: PB
4σ 1.90e3
0%
CS 12346F
1.34e7
31.82
ES 12378F
1.25e7
32.35
ES 23478F
1.15e7
33.46
Abs. Int.
3.53e6
1.77e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.90
409.7974 Fn2
Flags: B
4σ 1.33e3
0%
Abs. Int.
9.15e3
4.57e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

SGS ID: OPR2_18917_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18917_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 38

Acq: 10-Feb-2022 17:49:46
User: DTF Datafile: 220210C11



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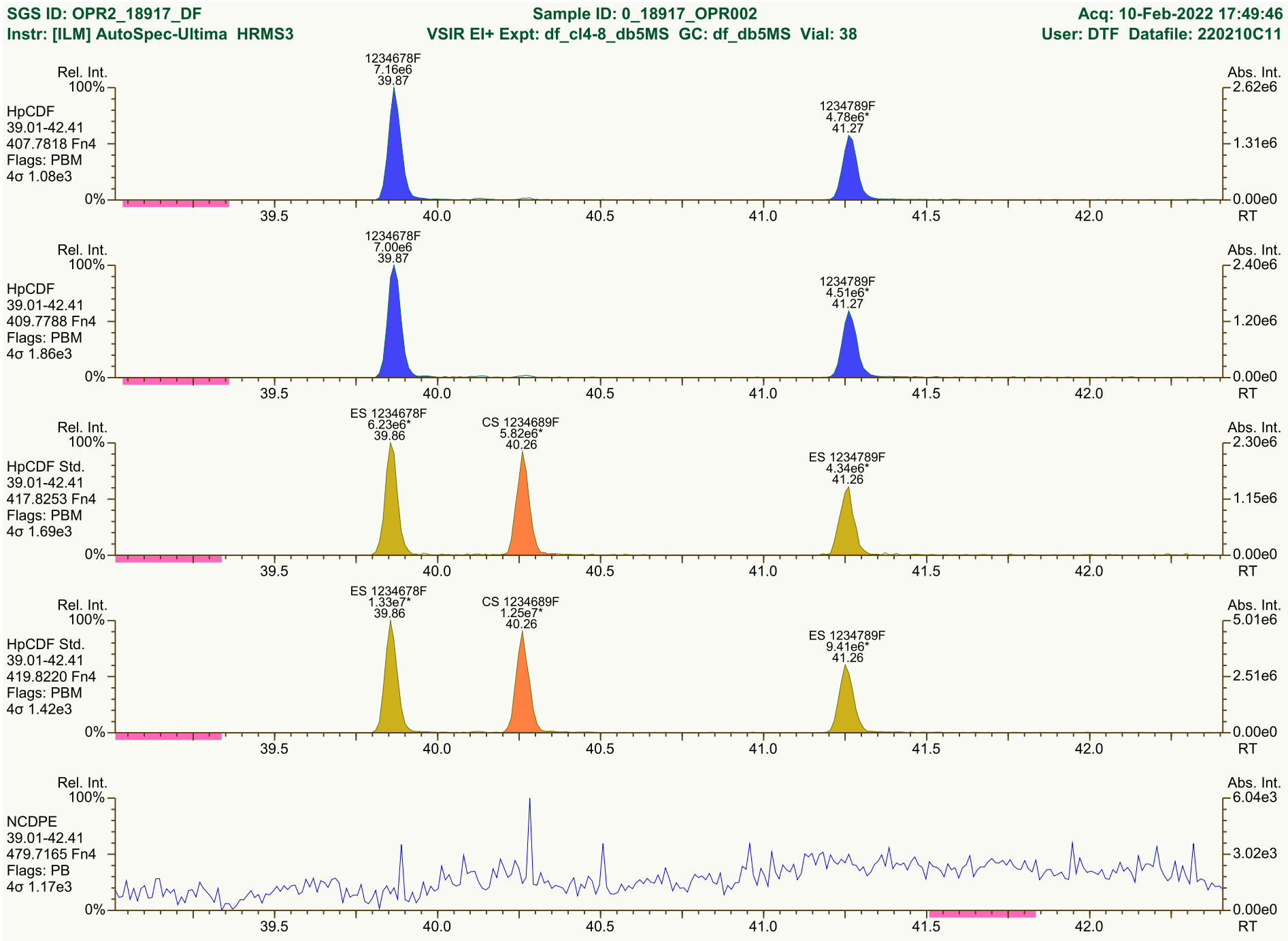
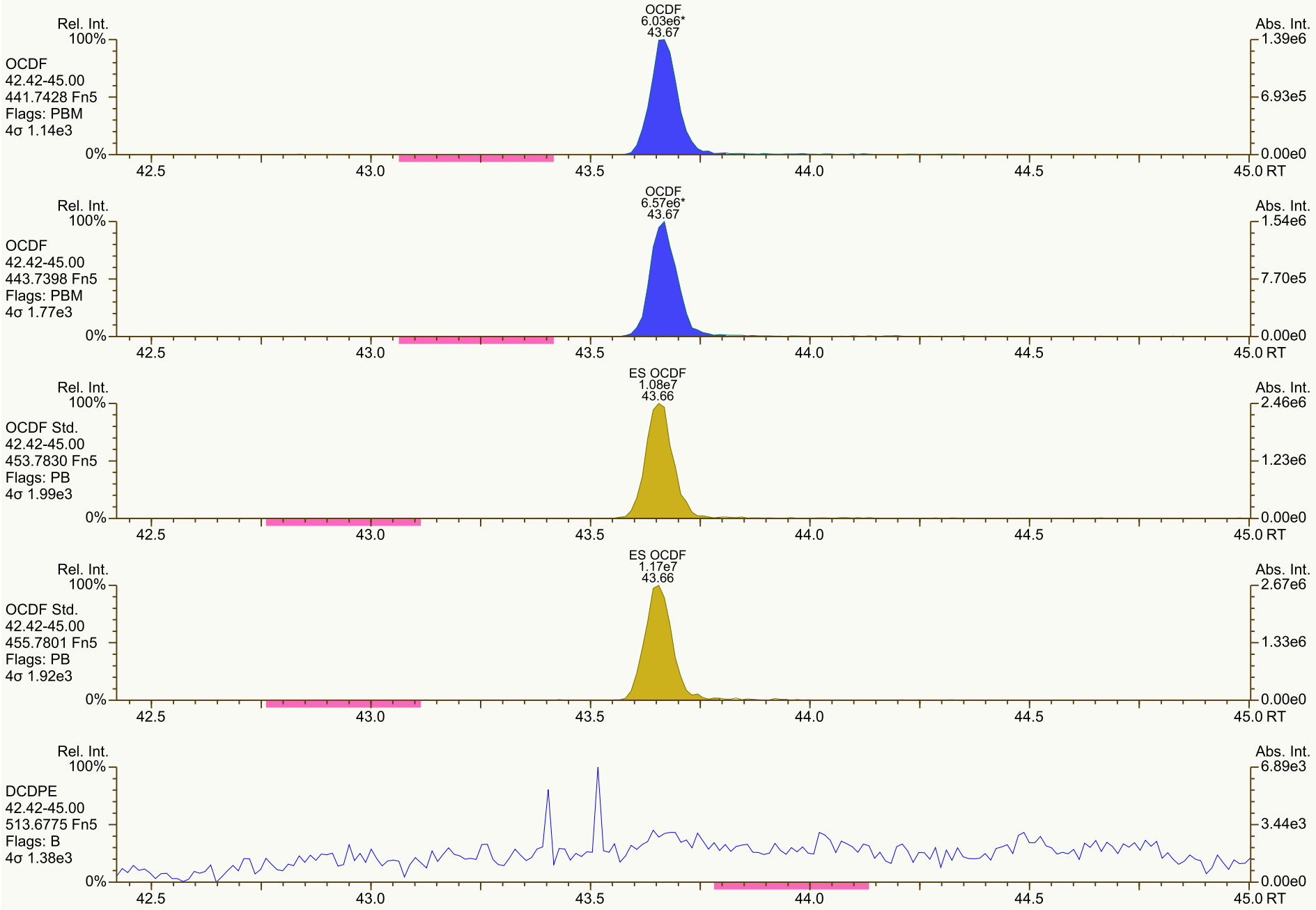
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9526, 4129, 5906 scc: 395-929

Peak annotation: Areas, Centroids
Revised: 11-Feb-2022 08:45 (DTF) Printed: 11-Feb-2022 09:43 Page 10 of 12



Results: P:\B6200_B6299\B6276\B6276_18917 DF\Resources\OPR2_18917_DF.utp_res, saved 11-Feb-2022 09:27 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7790, 2929, 9761 scc: 395-929
Revised: 11-Feb-2022 08:45 (DTF) Printed: 11-Feb-2022 09:43 Page 11 of 12

SGS ID: OPR2_18917_DF
Sample ID: 0_18917_OPR002
Acq: 10-Feb-2022 17:49:46
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 38
User: DTF Datafile: 220210C11



Results: P:\B6200_B6299\B6276\B6276_18917 DF\Resources\OPR2_18917_DF.utp_res, saved 11-Feb-2022 09:27 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3683, 1453, 8004 scc: 395-929
Revised: 11-Feb-2022 08:45 (DTF) Printed: 11-Feb-2022 09:43 Page 12 of 12



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6234

28-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

Meagan Willis

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Phone: 713-907-3710
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This report is approved by

Tamara Burkamper

tamara.burkamper@sgs.com

Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6234
Analytical Protocol(s)	1613B
No. Samples Submitted	9
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	26-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	0.2, 0.0
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.14.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements, except for the following: the reported percent deviation of CS 1,2,3,4,6,8,9-HpCDF is above SOP criteria. There is no method specified criteria for these standards and no adverse impact on results.

No re-extractions or dilutions were required.

B6234_005: the reported ion ratio of labeled standard ES 1,2,3,7,8,9-HxCDD is outside method criteria.

OPR1/OPR2_18872 meet accuracy and precision criteria, except for the following: RPD of 2,3,7,8-TCDF is >20%.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-021822-S-SB-NC-S-48 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6328	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.20 g	Lab Sample ID	B6328_18957_DF_001	Date Extracted:	21-Feb-2022
Date Collected:	18-Feb-2022	% Solid:	80.1 %	QC Batch No:	18957	Date Analyzed:	24-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:02:24

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	1,610			E	ES 2378-TCDD	81.6	
12378-PeCDD	17.8				ES 12378-PeCDD	85.4	
123478-HxCDD	2.13			J	ES 123478-HxCDD	81.1	
123678-HxCDD	9.96				ES 123678-HxCDD	86.8	
123789-HxCDD	EMPC		4.09		ES 123789-HxCDD	81.4	
1234678-HpCDD	259				ES 1234678-HpCDD	90.9	
OCDD	3,410				ES OCDD	93.4	
2378-TCDF	4,440			E	ES 2378-TCDF	80	
12378-PeCDF	153				ES 12378-PeCDF	84.4	
23478-PeCDF	126				ES 23478-PeCDF	86.7	
123478-HxCDF	255				ES 123478-HxCDF	86.5	
123678-HxCDF	66.9				ES 123678-HxCDF	88.5	
234678-HxCDF	15.9				ES 234678-HxCDF	95.3	
123789-HxCDF	ND	0.326			ES 123789-HxCDF	88.6	
1234678-HpCDF	154				ES 1234678-HpCDF	94.7	
1234789-HpCDF	ND	5.68			ES 1234789-HpCDF	91.6	
OCDF	841				ES OCDF	92.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	79.5	
Total TCDD	1,800		1,800		CS 12347-PeCDD	93	
Total PeCDD	23.7		40.8		CS 12346-PeCDF	89.5	
Total HxCDD	101		105		CS 123469-HxCDF	94.9	
Total HpCDD	594		594		CS 1234689-HpCDF	99.4	
Total TCDF	8,310		8,310				
Total PeCDF	460		460				
Total HxCDF	443		444				
Total HpCDF	289		289	PR			
Total PCDD/Fs	**16,300**		**16,300**				
WHO-2005 TEQs							
TEQ: ND=0	2150		2150				
TEQ: ND=DL/2	2150	0.708	2150				
TEQ: ND=DL	2150	1.42	2150				

SGS
5500 Business Drive
Wilmington, NC 28405, USA
www.us.sgs.com
Tel: +1 910 794-1613; Toll-Free 866 846-8290

Sample ID: 11215131-021822-S-SB-NC-S-48 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6328	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.20 g	Lab Sample ID:	B6328_18957_DF_001	Date Extracted:	21-Feb-2022
Date Collected:	18-Feb-2022	% Solid:	80.1 %	QC Batch No.:	18957	Date Analyzed:	24-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:02:24

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	2.73		12479/12468D	[3.19]		124679/124689D	46.2		1234679D	334	
1379D	0.852		12469D	[5.11]		123468D	4.44		1234678D	259	
1369D	(0.338)		12368D	2.66		123679/123689D	32.6				
1469D	4.56		12478D	1.94	J	123469D	3.17				
1247D...[4]	2.34		12379D	1.29	J	123478D	2.13	J			
1378D	4.77		12369D...[3]	[6.05]		123678D	9.96				
1268D	(0.338)		12346/12347D	[0.884]	J	123467D	2.14	J			
1478D	3.49		12378D	17.8		123789D	[4.09]		**Conc.**	594	
1279D	(0.338)		12367D	[1.02]	J				**EMPC**	594	
1234/1269D	0.954		12389D	[0.856]	J						
1236D	(0.338)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	23.8										
1239D	(0.338)								OCDD	3410	
2378D	1610	E									
1278D	146										
1267D	3.5										
1289D	1.98										
Conc.	1,800		**Conc.**	23.7		**Conc.**	101				
EMPC	1,800		**EMPC**	40.8		**EMPC**	105				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	2,150	2,150
TEQ: ND=DL/2	2,150	2,150
TEQ: ND=DL	2,150	2,150

	Conc.	EMPC
Total PCDD/Fs	16,300	16,300

Checkcode: 078-775-KQT

Report Created: 24-Feb-2022 12:20 Analyst: TF

Sample ID: 11215131-021822-S-SB-NC-S-48 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6328	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.20 g	Lab Sample ID:	B6328_18957_DF_001	Date Extracted:	21-Feb-2022
Date Collected:	18-Feb-2022	% Solid:	80.1 %	QC Batch No.:	18957	Date Analyzed:	24-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:02:24

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.26		13468/12468F	13.1		123468F	7.94		1234678F	154	
1468F	6.71		13678F...[3]	4.1		124678/134678F	40.2		1234679F	(4.8)	
2468F	5.86		12368F...[3]	76.3		134679F	(0.286)		1234689F	134	PR
1346/1246F	(0.166)		14678F	(0.289)		124679F	0.873	J	1234789F	(5.68)	
1347F...[3]	43.9		13479F	(0.289)		124689F	36.9				
1348F	(0.166)		13469/12479F	(0.289)		123467F	[1.93]	J			
1248F...[3]	158		12346F	(0.289)		123478F	255				
1268F	59.5		23468/12469F	4.76		123678F	66.9				
1467F	9.99		12347F	3.84		123479F	(0.286)				
1478F	145		12348F	15.9		123469F	(0.286)				
1369/1237F	47		12378F	153		123679F	(0.286)				
2467F	5.36		12678/12367F	50.5		234678F	15.9		**Conc.**	289	
2368F	100		12379F	(0.289)		234678/123689F	0		**EMPC**	289	
1238F...[5]	228		12679F	0.692	J	123689F	(0.286)				
1278F	1860	E	23467/12369F	3.51		123789F	(0.326)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.166)		23478F	126		123789/123489F	0				
1267F	101		23478/12489F	0		123489F	18.9		OCDF	841	
2346/1249F	10.7		12489F	(0.289)							
2347/1279F	55.4		12349F	(0.289)							
2348F	287		12389F	7.25							
2378F	4440	E									
2367/3467F	356										
1269F	53.5										
1239F	5.2										
1289F	324										
Conc.	8,310		**Conc.**	460		**Conc.**	443				
EMPC	8,310		**EMPC**	460		**EMPC**	444				

Checkcode: 078-775-KQT

Report Created: 24-Feb-2022 12:20 Analyst: TF

Sample ID: 11215131-021822-S-SB-NC-S-48 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6328_18957_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.20 g	QC Batch No.:	18957
Date Collected:	18-Feb-2022	Split:	-	Date Extracted:	21-Feb-2022
Date Received:	19-Feb-2022	Dilution:	-	Date Analyzed:	24-Feb-2022 08:02
Lab Project No:	B6328	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	1610	E	0.338	1610	1610	1610
12378-PeCDD	17.8		0.518	8.91	17.8	17.8
123478-HxCDD	2.13	J	0.79	0.213	0.213	0.213
123678-HxCDD	9.96		0.78	0.996	0.996	0.996
123789-HxCDD	[4.09]		0.759	[0.409]	[0.409]	[0.409]
1234678-HpCDD	259		0.519	2.59	2.59	2.59
OCDD	3410		0.608	3.41	0.341	1.02
2378-TCDF	4440	E	0.166	444	444	444
12378-PeCDF	153		0.298	7.67	7.67	4.6
23478-PeCDF	126		0.28	63.1	63.1	37.9
123478-HxCDF	255		0.277	25.5	25.5	25.5
123678-HxCDF	66.9		0.287	6.69	6.69	6.69
234678-HxCDF	15.9		0.262	1.59	1.59	1.59
123789-HxCDF	(0.326)		0.326	(0.0326)	(0.0326)	(0.0326)
1234678-HpCDF	154		4.06	1.54	1.54	1.54
1234789-HpCDF	(5.68)		5.68	(0.0568)	(0.0568)	(0.0568)
OCDF	841		0.838	0.841	0.0841	0.252

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TEQ Summaries			
EMPC = 0, ND = 0	2180	2180	2150
EMPC = 0, ND = DL / 2	2180	2180	2150
EMPC = 0, ND = DL	2180	2180	2150
EMPC = 0, < J-level = 0	2180	2180	2150
EMPC = EMPC, ND = 0	2180	2180	2150
EMPC = EMPC, ND = DL / 2	2180	2180	2150
EMPC = EMPC, ND = DL	2180	2180	2150
EMPC = EMPC, < J-level = 0	2180	2180	2150

Checkcode: 078-775-KQT

Sample ID: 11215131-021722-S-SB-SC-S-33 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6328	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.16 g	Lab Sample ID	B6328_18957_DF_002	Date Extracted:	21-Feb-2022
Date Collected:	17-Feb-2022	% Solid:	75.8 %	QC Batch No:	18957	Date Analyzed:	24-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:48:45

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	16.2				ES 2378-TCDD	75.9	
12378-PeCDD	5.55				ES 12378-PeCDD	80.1	
123478-HxCDD	EMPC		3.45		ES 123478-HxCDD	70.4	
123678-HxCDD	30				ES 123678-HxCDD	73.7	
123789-HxCDD	29				ES 123789-HxCDD	70.7	
1234678-HpCDD	1,050				ES 1234678-HpCDD	78.3	
OCDD	9,260				ES OCDD	79.3	
2378-TCDF	55.7				ES 2378-TCDF	67.6	
12378-PeCDF	4.68				ES 12378-PeCDF	72	
23478-PeCDF	9.51				ES 23478-PeCDF	74.5	
123478-HxCDF	12.3				ES 123478-HxCDF	73.1	
123678-HxCDF	6.25				ES 123678-HxCDF	74.5	
234678-HxCDF	6.36				ES 234678-HxCDF	75.7	
123789-HxCDF	ND	0.311			ES 123789-HxCDF	73.7	
1234678-HpCDF	46.8				ES 1234678-HpCDF	77	
1234789-HpCDF	8.66				ES 1234789-HpCDF	77.9	
OCDF	163				ES OCDF	78.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	69.3	
Total TCDD	28.1		37.3		CS 12347-PeCDD	79.6	
Total PeCDD	32.4		50.2		CS 12346-PeCDF	75.4	
Total HxCDD	570		573		CS 123469-HxCDF	79.7	
Total HpCDD	2,190		2,190		CS 1234689-HpCDF	84.8	
Total TCDF	162		165				
Total PeCDF	61.9		67.3				
Total HxCDF	90		90				
Total HpCDF	153		153				
Total PCDD/Fs	**12,700**		**12,800**				
WHO-2005 TEQs							
TEQ: ND=0	52.6		52.9				
TEQ: ND=DL/2	52.6	0.788	52.9				
TEQ: ND=DL	52.6	1.58	52.9				

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Sample ID: 11215131-021722-S-SB-SC-S-33 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6328	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.16 g	Lab Sample ID:	B6328_18957_DF_002	Date Extracted:	21-Feb-2022
Date Collected:	17-Feb-2022	% Solid:	75.8 %	QC Batch No.:	18957	Date Analyzed:	24-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	8:48:45

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[3.91]		12479/12468D	12.2		124679/124689D	288		1234679D	1140	
1379D	2.16		12469D	[9.51]		123468D	9.75		1234678D	1050	
1369D	[0.682]		12368D	4.59		123679/123689D	203				
1469D	5.55		12478D	[6.66]		123469D	6.36				
1247D...[4]	[1.49]		12379D	4.08		123478D	[3.45]				
1378D	1.56		12369D...[3]	5.95		123678D	30				
1268D	(0.394)		12346/12347D	[1.65]	J	123467D	3.66				
1478D	(0.394)		12378D	5.55		123789D	29		**Conc.**	2,190	
1279D	[0.73]		12367D	(0.75)					**EMPC**	2,190	
1234/1269D	[1.29]		12389D	(0.75)							
1236D	(0.394)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	[1.1]										
1239D	(0.394)								OCDD	9260	
2378D	16.2										
1278D	2.03										
1267D	(0.394)										
1289D	0.597										
Conc.	28.1		**Conc.**	32.4		**Conc.**	570				
EMPC	37.3		**EMPC**	50.2		**EMPC**	573				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	52.6	52.9
TEQ: ND=DL/2	52.6	52.9
TEQ: ND=DL	52.6	52.9

	Conc.	EMPC
Total PCDD/Fs	12,700	12,800

Checkcode: 330-523-YPY

Report Created: 24-Feb-2022 12:20 Analyst: TF

Sample ID: 11215131-021722-S-SB-SC-S-33 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6328	Date Received: 19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.16 g	Lab Sample ID:	B6328_18957_DF_002	Date Extracted: 21-Feb-2022
Date Collected:	17-Feb-2022	% Solid:	75.8 %	QC Batch No.:	18957	Date Analyzed: 24-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed: 8:48:45

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[1.43]		13468/12468F	12.1		123468F	5.08		1234678F	46.8	
1468F	1.51		13678F...[3]	5.61		124678/134678F	25		1234679F	4.24	
2468F	3.56		12368F...[3]	17.7		134679F	(0.281)		1234689F	93.3	
1346/1246F	1.29		14678F	(0.276)		124679F	3.22		1234789F	8.66	
1347F...[3]	7.87		13479F	(0.276)		124689F	26.2				
1348F	(0.267)		13469/12479F	[0.944]	J	123467F	3.21				
1248F...[3]	9.57		12346F	[1.01]	J	123478F	12.3				
1268F	4.52		23468/12469F	[3.39]		123678F	6.25				
1467F	1.74		12347F	1.56	J	123479F	(0.281)				
1478F	5.12		12348F	1.89	J	123469F	(0.281)				
1369/1237F	1.72		12378F	4.68		123679F	(0.281)				
2467F	2.03		12678/12367F	6.08		234678F	6.36		**Conc.**	153	
2368F	(0.267)		12379F	(0.276)		234678/123689F	0		**EMPC**	153	
1238F...[5]	12.4		12679F	(0.276)		123689F	(0.281)				
1278F	24.9		23467/12369F	2.79		123789F	(0.311)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.267)		23478F	9.51		123789/123489F	0				
1267F	3.39		23478/12489F	0		123489F	2.41	J	OCDF	163	
2346/1249F	[1.79]		12489F	(0.276)							
2347/1279F	3.93		12349F	(0.276)							
2348F	5.36		12389F	(0.276)							
2378F	55.7										
2367/3467F	11.7										
1269F	1.34										
1239F	(0.267)										
1289F	4.12										
Conc.	162		**Conc.**	61.9		**Conc.**	90				
EMPC	165		**EMPC**	67.3		**EMPC**	90				

Checkcode: 330-523-YPY

Report Created: 24-Feb-2022 12:20 Analyst: TF

Sample ID: 11215131-021722-S-SB-SC-S-33 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6328_18957_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.16 g	QC Batch No.:	18957
Date Collected:	17-Feb-2022	Split:	-	Date Extracted:	21-Feb-2022
Date Received:	19-Feb-2022	Dilution:	-	Date Analyzed:	24-Feb-2022 08:48
Lab Project No:	B6328	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	16.2		0.394	16.2	16.2	16.2
12378-PeCDD	5.55		0.75	2.77	5.55	5.55
123478-HxCDD	[3.45]		0.671	[0.345]	[0.345]	[0.345]
123678-HxCDD	30		0.629	3	3	3
123789-HxCDD	29		0.569	2.9	2.9	2.9
1234678-HpCDD	1050		0.358	10.5	10.5	10.5
OCDD	9260		1.15	9.26	0.926	2.78
2378-TCDF	55.7		0.267	5.57	5.57	5.57
12378-PeCDF	4.68		0.272	0.234	0.234	0.14
23478-PeCDF	9.51		0.281	4.75	4.75	2.85
123478-HxCDF	12.3		0.272	1.23	1.23	1.23
123678-HxCDF	6.25		0.272	0.625	0.625	0.625
234678-HxCDF	6.36		0.273	0.636	0.636	0.636
123789-HxCDF	(0.311)		0.311	(0.0311)	(0.0311)	(0.0311)
1234678-HpCDF	46.8		0.349	0.468	0.468	0.468
1234789-HpCDF	8.66		0.485	0.0866	0.0866	0.0866
OCDF	163		0.636	0.163	0.0163	0.049

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TEQ Summaries			
EMPC = 0, ND = 0	58.4	52.7	52.6
EMPC = 0, ND = DL / 2	58.4	52.7	52.6
EMPC = 0, ND = DL	58.4	52.7	52.6
EMPC = 0, < J-level = 0	58.4	52.7	52.6
EMPC = EMPC, ND = 0	58.7	53	52.9
EMPC = EMPC, ND = DL / 2	58.8	53	52.9
EMPC = EMPC, ND = DL	58.8	53.1	52.9
EMPC = EMPC, < J-level = 0	58.7	53	52.9

Checkcode: 330-523-YPY

Sample ID: 11215131-021722-S-SB-NC-S-49 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6328	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.02 g	Lab Sample ID	B6328_18957_DF_003	Date Extracted:	21-Feb-2022
Date Collected:	17-Feb-2022	% Solid:	80.8 %	QC Batch No:	18957	Date Analyzed:	24-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	9:35:06

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	16.2				ES 2378-TCDD	86.6	
12378-PeCDD	2.89				ES 12378-PeCDD	98.1	
123478-HxCDD	9.34				ES 123478-HxCDD	88.9	
123678-HxCDD	30.1				ES 123678-HxCDD	93.2	
123789-HxCDD	13.7				ES 123789-HxCDD	90.8	
1234678-HpCDD	2,510				ES 1234678-HpCDD	104	
OCDD	42,100			E	ES OCDD	132	
2378-TCDF	42.3				ES 2378-TCDF	79.9	
12378-PeCDF	2.61				ES 12378-PeCDF	91.4	
23478-PeCDF	2.62				ES 23478-PeCDF	90.8	
123478-HxCDF	8.98				ES 123478-HxCDF	89.8	
123678-HxCDF	2.75				ES 123678-HxCDF	95.2	
234678-HxCDF	3.79				ES 234678-HxCDF	101	
123789-HxCDF	ND	0.194			ES 123789-HxCDF	95.3	
1234678-HpCDF	137				ES 1234678-HpCDF	104	
1234789-HpCDF	15.6				ES 1234789-HpCDF	98.7	
OCDF	989				ES OCDF	112	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	85.7	
Total TCDD	18.9		23.5		CS 12347-PeCDD	104	
Total PeCDD	24.7		26.5		CS 12346-PeCDF	91.2	
Total HxCDD	833		833		CS 123469-HxCDF	99.2	
Total HpCDD	22,600		22,600		CS 1234689-HpCDF	110	
Total TCDF	78		81.8				
Total PeCDF	21.3		22				
Total HxCDF	129		131				
Total HpCDF	697		697				
Total PCDD/Fs	**67,500**		**67,500**				
WHO-2005 TEQs							
TEQ: ND=0	70.7		70.7				
TEQ: ND=DL/2	70.7	0.541	70.7				
TEQ: ND=DL	70.7	1.08	70.7				

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Sample ID: 11215131-021722-S-SB-NC-S-49 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6328	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.02 g	Lab Sample ID:	B6328_18957_DF_003	Date Extracted:	21-Feb-2022
Date Collected:	17-Feb-2022	% Solid:	80.8 %	QC Batch No.:	18957	Date Analyzed:	24-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	9:35:06

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	0.934		12479/12468D	5.65		124679/124689D	413		1234679D	20100	E
1379D	[0.448]	J	12469D	6.94		123468D	39.9		1234678D	2510	
1369D	(0.332)		12368D	1.48	J	123679/123689D	221				
1469D	[4.22]		12478D	3.17		123469D	89.1				
1247D...[4]	(0.332)		12379D	[1.16]	J	123478D	9.34				
1378D	(0.332)		12369D...[3]	3.85		123678D	30.1				
1268D	(0.332)		12346/12347D	[0.555]	J	123467D	16.7				
1478D	(0.332)		12378D	2.89		123789D	13.7		**Conc.**	22,600	
1279D	(0.332)		12367D	0.75	J				**EMPC**	22,600	
1234/1269D	(0.332)		12389D	(0.507)							
1236D	(0.332)								**Octa-Dioxin**	**Conc**	**Qualifiers**
1237/1238D	(0.332)									**(pg/g)**	
1239D	(0.332)								OCDD	42100	E
2378D	16.2										
1278D	1.72										
1267D	(0.332)										
1289D	(0.332)										
Conc.	18.9		**Conc.**	24.7		**Conc.**	833				
EMPC	23.5		**EMPC**	26.5		**EMPC**	833				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	70.7	70.7
TEQ: ND=DL/2	70.7	70.7
TEQ: ND=DL	70.7	70.7

	Conc.	EMPC
Total PCDD/Fs	67,500	67,500

Checkcode: 341-784-CFJ

Report Created: 24-Feb-2022 12:20 Analyst: TF

Sample ID: 11215131-021722-S-SB-NC-S-49 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6328	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.02 g	Lab Sample ID:	B6328_18957_DF_003	Date Extracted:	21-Feb-2022
Date Collected:	17-Feb-2022	% Solid:	80.8 %	QC Batch No.:	18957	Date Analyzed:	24-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	9:35:06

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[0.28]	J	13468/12468F	6.55		123468F	9.34		1234678F	137	
1468F	0.578		13678F...[3]	1.21	J	124678/134678F	29.8		1234679F	15.8	
2468F	[1.16]		12368F...[3]	4.48		134679F	(0.175)		1234689F	528	
1346/1246F	(0.191)		14678F	(0.187)		124679F	[1.21]	J	1234789F	15.6	
1347F...[3]	2.11		13479F	(0.187)		124689F	72.9				
1348F	(0.191)		13469/12479F	(0.187)		123467F	1.13	J			
1248F...[3]	2.24		12346F	0.323	J	123478F	8.98				
1268F	1.16		23468/12469F	1.48	J	123678F	2.75				
1467F	(0.191)		12347F	(0.187)		123479F	(0.175)				
1478F	1.96		12348F	0.681	J	123469F	(0.175)				
1369/1237F	0.925		12378F	2.61		123679F	(0.175)				
2467F	(0.191)		12678/12367F	1.39	J	234678F	3.79		**Conc.**	697	
2368F	2.64		12379F	(0.187)		234678/123689F	0		**EMPC**	697	
1238F...[5]	1.87		12679F	(0.187)		123689F	(0.175)				
1278F	10.7		23467/12369F	[0.608]	J	123789F	(0.194)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.191)		23478F	2.62		123789/123489F	0				
1267F	[1.5]		23478/12489F	0		123489F	[0.949]	J	OCDF	989	
2346/1249F	(0.191)		12489F	(0.187)							
2347/1279F	0.878		12349F	(0.187)							
2348F	1.15		12389F	(0.187)							
2378F	42.3										
2367/3467F	6.82										
1269F	[0.795]										
1239F	(0.191)										
1289F	2.71										
Conc.	78		**Conc.**	21.3		**Conc.**	129				
EMPC	81.8		**EMPC**	22		**EMPC**	131				

Checkcode: 341-784-CFJ

Report Created: 24-Feb-2022 12:20 Analyst: TF

Sample ID: 11215131-021722-S-SB-NC-S-49 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6328_18957_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.02 g	QC Batch No.:	18957
Date Collected:	17-Feb-2022	Split:	-	Date Extracted:	21-Feb-2022
Date Received:	19-Feb-2022	Dilution:	-	Date Analyzed:	24-Feb-2022 09:35
Lab Project No:	B6328	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	16.2		0.332	16.2	16.2	16.2
12378-PeCDD	2.89		0.507	1.45	2.89	2.89
123478-HxCDD	9.34		0.302	0.934	0.934	0.934
123678-HxCDD	30.1		0.28	3.01	3.01	3.01
123789-HxCDD	13.7		0.281	1.37	1.37	1.37
1234678-HpCDD	2510		0.268	25.1	25.1	25.1
OCDD	42100	E	0.985	42.1	4.21	12.6
2378-TCDF	42.3		0.191	4.23	4.23	4.23
12378-PeCDF	2.61		0.191	0.131	0.131	0.0783
23478-PeCDF	2.62		0.183	1.31	1.31	0.786
123478-HxCDF	8.98		0.171	0.898	0.898	0.898
123678-HxCDF	2.75		0.166	0.275	0.275	0.275
234678-HxCDF	3.79		0.171	0.379	0.379	0.379
123789-HxCDF	(0.194)		0.194	(0.0194)	(0.0194)	(0.0194)
1234678-HpCDF	137		0.127	1.37	1.37	1.37
1234789-HpCDF	15.6		0.191	0.156	0.156	0.156
OCDF	989		0.335	0.989	0.0989	0.297

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TEQ Summaries			
EMPC = 0, ND = 0	100	62.6	70.7
EMPC = 0, ND = DL / 2	100	62.6	70.7
EMPC = 0, ND = DL	100	62.6	70.7
EMPC = 0, < J-level = 0	100	62.6	70.7
EMPC = EMPC, ND = 0	100	62.6	70.7
EMPC = EMPC, ND = DL / 2	100	62.6	70.7
EMPC = EMPC, ND = DL	100	62.6	70.7
EMPC = EMPC, < J-level = 0	100	62.6	70.7

Checkcode: 341-784-CFJ

Sample ID: Method Blank B6328_18957 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6328	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18957_DF_SDS	Date Extracted:	21-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18957	Date Analyzed:	24-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	6:29:44

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.285			ES 2378-TCDD	98.2	
12378-PeCDD	ND	0.248			ES 12378-PeCDD	110	
123478-HxCDD	ND	0.226			ES 123478-HxCDD	98.5	
123678-HxCDD	ND	0.208			ES 123678-HxCDD	111	
123789-HxCDD	ND	0.208			ES 123789-HxCDD	99.5	
1234678-HpCDD	ND	0.264			ES 1234678-HpCDD	107	
OCDD	ND	0.534			ES OCDD	101	
2378-TCDF	ND	0.178			ES 2378-TCDF	89	
12378-PeCDF	ND	0.163			ES 12378-PeCDF	108	
23478-PeCDF	ND	0.169			ES 23478-PeCDF	107	
123478-HxCDF	ND	0.113			ES 123478-HxCDF	103	
123678-HxCDF	ND	0.11			ES 123678-HxCDF	117	
234678-HxCDF	ND	0.114			ES 234678-HxCDF	123	
123789-HxCDF	ND	0.152			ES 123789-HxCDF	104	
1234678-HpCDF	ND	0.154			ES 1234678-HpCDF	110	
1234789-HpCDF	ND	0.238			ES 1234789-HpCDF	105	
OCDF	ND	0.46			ES OCDF	98.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	97.2	
Total TCDD	ND	0.285	ND		CS 12347-PeCDD	113	
Total PeCDD	ND	0.248	ND		CS 12346-PeCDF	108	
Total HxCDD	ND	0.213	ND		CS 123469-HxCDF	115	
Total HpCDD	ND	0.264	ND		CS 1234689-HpCDF	110	
Total TCDF	ND	0.178	ND				
Total PeCDF	ND	0.166	ND				
Total HxCDF	ND	0.12	ND				
Total HpCDF	ND	0.192	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	0.363	0.363	0.363				
TEQ: ND=DL	0.727	0.727	0.727				

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Sample ID: Method Blank B6328_18957 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6328	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18957_DF_SDS	Date Extracted:	21-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18957	Date Analyzed:	24-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	6:29:44

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.285)		12479/12468D	(0.248)		124679/124689D	(0.213)		1234679D	(0.264)	
1379D	(0.285)		12469D	(0.248)		123468D	(0.213)		1234678D	(0.264)	
1369D	(0.285)		12368D	(0.248)		123679/123689D	(0.213)				
1469D	(0.285)		12478D	(0.248)		123469D	(0.213)				
1247D...[4]	(0.285)		12379D	(0.248)		123478D	(0.226)				
1378D	(0.285)		12369D...[3]	(0.248)		123678D	(0.208)				
1268D	(0.285)		12346/12347D	(0.248)		123467D	(0.213)				
1478D	(0.285)		12378D	(0.248)		123789D	(0.208)		**Conc.**	0	
1279D	(0.285)		12367D	(0.248)					**EMPC**	0	
1234/1269D	(0.285)		12389D	(0.248)							
1236D	(0.285)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.285)										
1239D	(0.285)								OCDD	(0.534)	
2378D	(0.285)										
1278D	(0.285)										
1267D	(0.285)										
1289D	(0.285)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	0.363	0.363
TEQ: ND=DL	0.727	0.727

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 887-738-GRH

Report Created: 24-Feb-2022 12:20 Analyst: TF

Sample ID: Method Blank B6328_18957 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6328	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18957_DF_SDS	Date Extracted:	21-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18957	Date Analyzed:	24-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	6:29:44

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.178)		13468/12468F	(0.145)		123468F	(0.12)		1234678F	(0.154)	
1468F	(0.178)		13678F...[3]	(0.166)		124678/134678F	(0.12)		1234679F	(0.192)	
2468F	(0.178)		12368F...[3]	(0.166)		134679F	(0.12)		1234689F	(0.192)	
1346/1246F	(0.178)		14678F	(0.166)		124679F	(0.12)		1234789F	(0.238)	
1347F...[3]	(0.178)		13479F	(0.166)		124689F	(0.12)				
1348F	(0.178)		13469/12479F	(0.166)		123467F	(0.12)				
1248F...[3]	(0.178)		12346F	(0.166)		123478F	(0.113)				
1268F	(0.178)		23468/12469F	(0.166)		123678F	(0.11)				
1467F	(0.178)		12347F	(0.166)		123479F	(0.12)				
1478F	(0.178)		12348F	(0.166)		123469F	(0.12)				
1369/1237F	(0.178)		12378F	(0.163)		123679F	(0.12)				
2467F	(0.178)		12678/12367F	(0.166)		234678F	(0.114)		**Conc.**	0	
2368F	(0.178)		12379F	(0.166)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.178)		12679F	(0.166)		123689F	(0.12)				
1278F	(0.178)		23467/12369F	(0.166)		123789F	(0.152)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.178)		23478F	(0.169)		123789/123489F	0			**(pg/g)**	
1267F	(0.178)		23478/12489F	0		123489F	(0.12)		OCDF	(0.46)	
2346/1249F	(0.178)		12489F	(0.166)							
2347/1279F	(0.178)		12349F	(0.166)							
2348F	(0.178)		12389F	(0.166)							
2378F	(0.178)										
2367/3467F	(0.178)										
1269F	(0.178)										
1239F	(0.178)										
1289F	(0.178)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 887-738-GRH

Report Created: 24-Feb-2022 12:20 Analyst: TF

Sample ID: Method Blank B6328_18957 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18957_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18957
Date Collected:	n/a	Split:	-	Date Extracted:	21-Feb-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	24-Feb-2022 06:29
Lab Project No:	B6328	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.285)		0.285	(0.285)	(0.285)	(0.285)
12378-PeCDD	(0.248)		0.248	(0.124)	(0.248)	(0.248)
123478-HxCDD	(0.226)		0.226	(0.0226)	(0.0226)	(0.0226)
123678-HxCDD	(0.208)		0.208	(0.0208)	(0.0208)	(0.0208)
123789-HxCDD	(0.208)		0.208	(0.0208)	(0.0208)	(0.0208)
1234678-HpCDD	(0.264)		0.264	(0.00264)	(0.00264)	(0.00264)
OCDD	(0.534)		0.534	(0.000534)	(0.0000534)	(0.00016)
2378-TCDF	(0.178)		0.178	(0.0178)	(0.0178)	(0.0178)
12378-PeCDF	(0.163)		0.163	(0.00815)	(0.00815)	(0.00489)
23478-PeCDF	(0.169)		0.169	(0.0846)	(0.0846)	(0.0508)
123478-HxCDF	(0.113)		0.113	(0.0113)	(0.0113)	(0.0113)
123678-HxCDF	(0.11)		0.11	(0.011)	(0.011)	(0.011)
234678-HxCDF	(0.114)		0.114	(0.0114)	(0.0114)	(0.0114)
123789-HxCDF	(0.152)		0.152	(0.0152)	(0.0152)	(0.0152)
1234678-HpCDF	(0.154)		0.154	(0.00154)	(0.00154)	(0.00154)
1234789-HpCDF	(0.238)		0.238	(0.00238)	(0.00238)	(0.00238)
OCDF	(0.46)		0.46	(0.00046)	(0.000046)	(0.000138)

TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.32	0.382	0.363
EMPC = 0, ND = DL	0.64	0.763	0.727
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.32	0.382	0.363
EMPC = EMPC, ND = DL	0.64	0.763	0.727
EMPC = EMPC, < J-level = 0	0	0	0

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Checkcode: 887-738-GRH

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Sample ID: 0_18957_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6328	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18957_DF	Date Extracted:	21-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18957	Date Analyzed:	24-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:24:23

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	10.7				ES 2378-TCDD	102	
12378-PeCDD	45.7				ES 12378-PeCDD	105	
123478-HxCDD	50.4				ES 123478-HxCDD	102	
123678-HxCDD	51.6				ES 123678-HxCDD	115	
123789-HxCDD	49.8				ES 123789-HxCDD	98.2	
1234678-HpCDD	48.5				ES 1234678-HpCDD	114	
OCDD	104				ES OCDD	119	
2378-TCDF	10.2				ES 2378-TCDF	90.2	
12378-PeCDF	46				ES 12378-PeCDF	95.5	
23478-PeCDF	48.7				ES 23478-PeCDF	99.1	
123478-HxCDF	48.4				ES 123478-HxCDF	99.6	
123678-HxCDF	47				ES 123678-HxCDF	106	
234678-HxCDF	49.1				ES 234678-HxCDF	128	
123789-HxCDF	45.7				ES 123789-HxCDF	105	
1234678-HpCDF	47.5				ES 1234678-HpCDF	115	
1234789-HpCDF	46.2				ES 1234789-HpCDF	110	
OCDF	95.8				ES OCDF	118	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	97.1	
Total TCDD	48.7		48.7		CS 12347-PeCDD	111	
Total PeCDD	68.7		68.7		CS 12346-PeCDF	98.6	
Total HxCDD	165		165		CS 123469-HxCDF	115	
Total HpCDD	59.1		59.1		CS 1234689-HpCDF	113	
Total TCDF	58		58				
Total PeCDF	194		194				
Total HxCDF	297		297				
Total HpCDF	93.7		93.7				
Total PCDD/Fs	**1,180**		**1,180**				
WHO-2005 TEQs							
TEQ: ND=0	109		109				
TEQ: ND=DL/2	109	0.2	109				
TEQ: ND=DL	109	0.399	109				

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Tel: +1 910 794-1613; Toll-Free 866 846-8290

Sample ID: 0_18957_OPR002 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6328	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18957_DF	Date Extracted:	21-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18957	Date Analyzed:	24-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	4:10:44

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.3				ES 2378-TCDD	96.8	
12378-PeCDD	50.1				ES 12378-PeCDD	94.8	
123478-HxCDD	54.2				ES 123478-HxCDD	88	
123678-HxCDD	53.8				ES 123678-HxCDD	97.5	
123789-HxCDD	51.1				ES 123789-HxCDD	88.8	
1234678-HpCDD	52.8				ES 1234678-HpCDD	96	
OCDD	111				ES OCDD	99.1	
2378-TCDF	10.2				ES 2378-TCDF	84.3	
12378-PeCDF	49.6				ES 12378-PeCDF	94	
23478-PeCDF	51.4				ES 23478-PeCDF	97	
123478-HxCDF	50.9				ES 123478-HxCDF	90.3	
123678-HxCDF	51				ES 123678-HxCDF	99.8	
234678-HxCDF	53.3				ES 234678-HxCDF	108	
123789-HxCDF	48.3				ES 123789-HxCDF	93.4	
1234678-HpCDF	52				ES 1234678-HpCDF	101	
1234789-HpCDF	50.6				ES 1234789-HpCDF	91.9	
OCDF	101				ES OCDF	98	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	99.8	
Total TCDD	52.2		52.2		CS 12347-PeCDD	111	
Total PeCDD	77.1		77.1		CS 12346-PeCDF	103	
Total HxCDD	175		175		CS 123469-HxCDF	112	
Total HpCDD	65.1		65.1		CS 1234689-HpCDF	106	
Total TCDF	62		62				
Total PeCDF	204		204				
Total HxCDF	324		324				
Total HpCDF	103		103				
Total PCDD/Fs	**1,270**		**1,270**				
WHO-2005 TEQs							
TEQ: ND=0	117		117				
TEQ: ND=DL/2	117	0.238	117				
TEQ: ND=DL	117	0.475	117				

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Sample DUP

Method 1613B

Sample ID: 0_18957_OPR001

Analyte	OPR1_18957_DF pg/uL	OPR2_18957_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	10.7	11.3	5.5%
1,2,3,7,8-PeCDD	45.7	50.1	9.1%
1,2,3,4,7,8-HxCDD	50.4	54.2	7.2%
1,2,3,6,7,8-HxCDD	51.6	53.8	4.1%
1,2,3,7,8,9-HxCDD	49.8	51.1	2.6%
1,2,3,4,6,7,8-HpCDD	48.5	52.8	8.3%
OCDD	104	111	7.1%
2,3,7,8-TCDF	10.2	10.2	0.1%
1,2,3,7,8-PeCDF	46	49.6	7.5%
2,3,4,7,8-PeCDF	48.7	51.4	5.3%
1,2,3,4,7,8-HxCDF	48.4	50.9	5.1%
1,2,3,6,7,8-HxCDF	47	51	8.2%
2,3,4,6,7,8-HxCDF	49.1	53.3	8.2%
1,2,3,7,8,9-HxCDF	45.7	48.3	5.6%
1,2,3,4,6,7,8-HpCDF	47.5	52	9.0%
1,2,3,4,7,8,9-HpCDF	46.2	50.6	9.2%
OCDF	95.8	101	4.9%
Totals			
Total TCDD	48.7	52.2	7.0%
Total PeCDD	68.7	77.1	11.6%
Total HxCDD	165	175	6.3%
Total HpCDD	59.1	65.1	9.6%
Total TCDF	58	62	6.7%
Total PeCDF	194	204	4.8%
Total HxCDF	297	324	8.9%
Total HpCDF	93.7	103	9.1%

Sample Receipt Notification

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*19-Feb-22 at 10:41*
AP Project name:	*B6328*
Requested TAT:	*3 business days*
Projected due date:	*24-Feb-22*
Matrix:	*Solid*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-021822-S-SB-NC-S-48	B6328_001	Solid	1	4oz Clear Glass	18-Feb-22	10:50	-0.4	1	4905 2704 5873
11215131-021722-S-SB-SC-S-33	B6328_002	Solid	1	4oz Clear Glass	17-Feb-22	12:30	-0.4	1	4905 2704 5873
11215131-021722-S-SB-NC-S-49	B6328_003	Solid	1	4oz Clear Glass	17-Feb-22	15:00	-0.4	1	4905 2704 5873

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact, not frozen

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Jeannie Milholland *Logged in by: Ashley Owens* *QC'ed by:* AK 21 Feb 22

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

SGS CHAIN OF CUSTODY

BL0328

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

PRESERVATIVE: None

ANALYSIS & METHOD: M1613B; ~~M8260A~~; ~~M1666A~~; M1666B; ~~HRPAH~~; M1609

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	QC MS	QC MSD	QC DUP	QTY	REMARKS
11215131-021722-S-SB-NC-0-52	2/17/22	1530	C	S	40Z					See 550 W
11215131-021722-S-SB-NC-0-55	2/17/22	1545								HOLD
11215131-021822-S-SB-NC-0-49	2/18/22	1010								
11215131-021822-S-SB-NC-0-50		1020								
11215131-021822-S-SB-NC-B-15		1030				X	X			MS/MSD
11215131-021822-S-SB-NC-B-16		1040								
11215131-021822-S-SB-NC-S-48		1050								RUSH *
11215131-021822-S-SB-DUP-17	↓	—	↓	↓	↓			X		Field duplicate

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:
Josiah Belanger	2/18/22	1200	[signature] 2-18-22 1345
RELINQUISHED BY (2):	DATE:	TIME:	RECEIVED BY:
[signature]	2-18-22	1510	[signature] 2/18/22 1510
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:
Fed Ex	2-19-22	10:41	[signature]

RECEIVED BY LABORATORY: [signature] DATE: 2-19-22 TIME: 10:41
COOLER SEAL: ■ INTACT ☐ BROKEN ☐ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT
CARRIER: Fed Ex TEMP: °C -0.4 IR4-A
TRACKING #: 4905 2002 5873

* = Samples in this project.

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Member of the SGS Group (SGS SA)

SGS CHAIN OF CUSTODY

B62 6328

PROJECT INFO

PROJECT: 11215131-SJRWP - PCFSE

P.O. #:

QUOTE #: file

SITE REF: International Paper

TURN AROUND TIME:

REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV

SPECIAL DELIVERABLES:

☐ DoD ■ EDD/Version: GHD EQuIS 4-file

☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

PRESERVATIVE

None

ANALYSIS & METHOD

SEND DOCUMENTATION / RESULTS TO

COMPANY: GHD Services Inc.

CONTACT: Meagan Willis

ADDRESS: 11451 Katy Fwy #400,Houston, -

PHONE: 713-907-3710 EMAIL: Meagan.Willis(

INVOICE TO (■ CHECK IF SAME)

COMPANY:

CONTACT:

ADDRESS:

PHONE: EMAIL:

See SSOW

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B	~~M6290A~~	~~M1668A~~	~~M1668C~~	~~HR-PAH~~	~~M1699~~	QC MS	QC MSD	QC DUP	QTY	REMARKS
11215131-021722-S-SB-SC-O-25	2/17/22	1130	C	S	4oz	X										HOLD
11215131-021722-S-SB-SC-B-18		1140				X										HOLD
11215131-021722-S-SB-SC-B-18H		1150				X										HOLD
11215131-021722-S-SB-SC-S-34		1200				X										HOLD
11215131-021722-S-SB-SC-S-33		1230				X										RUSH *
11215131-021722-S-SB-SC-O-24		1235				X										
11215131-021722-S-SB-SC-B-17		1240				X										
11215131-021722-S-SB-SC-B-17H		1245				X										
11215131-021722-S-SB-NC-S-49		1500				X										RUSH *
11215131-021722-S-SB-NC-S-52		1515				X										HOLD

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:
Sarah Belanger	2/18/22	1200	Eddie Castro 2-18-22 1345
RELINQUISHED BY (2): Eddie Castro	2-18-22	1510	RECEIVED BY: [signature] 2/18/22 1510
RELINQUISHED BY (3): Fedex	2-19-22	10:41	RECEIVED BY: [signature]

RECEIVED BY LABORATORY:	DATE:	TIME:
[signature]	2-19-22	10:41

COOLER SEAL: ☑ INTACT ☐ BROKEN ☐ ABSENT

CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT

CARRIER: Fed Ex | TEMP: °C -0.4

TRACKING #: 4905 2704 5873

* = samples in this project.

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B6328 1/1

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 18FEB22
ACTWGT: 45.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO **SAMPLE RECEIVING**
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

1041 2-19 -0.4°

565C2/027C/0582

FedEx Express

J191219882001ur

TRK# 0201 **4905 2704 5873**

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO ILMA

28405
NC-US **RDU**

Part # 156148-484 MTW EXP 07/22

SGS

Project Initiation Form

Project Number: B6328

Initiation Date: 21-Feb-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Solid

TAT: 3 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR & OPRD

10 g DWE extraction

Read and understood, initial and date: Prep Lab: JRH 2/22/22 2/22/22 HRMS Lab:

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab:

PM Initials: akornegay Date: 21-Feb-2022

SGS

Methods: PCB / PAH | PCDD/F / WHO-2 | QUANTICS / USV | DoD PCDD/F / PEST | Extraction Type: SDS / CLL | TALEX Carbon SPE | Solid | Final Volume: 2 mL

Batch# 18957 | Split: ~~1/2 1/4~~ | Extract Initial/Date: JRH 2/21/22 | Clean-up Initial/Date: ~~JRH~~ 2/22/22 | Transfer Init/Date: ~~JRH~~ 2/23/22

Lab Sample ID	Extraction Position / Solvent: ~~TOL~~	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B6328_18957_001	7	12.74				brown/black/gray, clay-like
B6328_18957_002	8	13.41				black, clay-like
B6328_18957_003	9	12.40				brown/black, clay-like
MB1_18957	4	10.00		TB 2/24/22		Sodium sulfate
OPR1_18957	5	10.00				sodium sulfate
OPR2_18957	6	10.00				Sodium sulfate

~~JRH~~ 2/23/22

Supply IDs

Toluene	STL14-06
MeCHL	STL14.17
Florisil	SPLS-83
Hexane	STL14.29
Silica	SPLS-69
S Nitrate	N/A
Base Silica	SPLS-86
HydroMatrix	N/A
Tetradecane	SPLS-730
H_2SO_4	N/A
A Silica	SPLS-90
Sodium Sulfate	~~SPLS-508~~

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	TB 2/24/22
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start: 1630 / Stop: 0900
HEX	Start: / Stop:
DCM	Start: / Stop:

TB 2/24/22

SGS

Methods: PCB (PCDD/F) QUANTICS DoD PCDD/F
PAH WHO-2 USV PEST

Solid

Batch# 18957

Inter-Department Communication Sheet

Large A/B column used at clean up - BAB 2/22/22

SGS

Wt. Volume Results

Batch #: 18957

Comments:

AK 2/24/22

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6328_001	2.38	4.99	4.47	80.08%	80.08%			12.49	12.74	10.2
B6328_002	2.35	5.65	4.85	75.76%	75.76%			13.2	13.41	10.16
B6328_003	2.36	5.49	4.89	80.83%	80.83%			12.37	12.4	10.02

JB 2/24/22

% Solid Determination WorkSheet

SGS

Batch: 18957

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	10g DWE	Comments
B6328_18957_001	2.38	4.99	4.47 /4.47	12.49	
B6328_18957_002	2.35	5.65	4.85 /4.85	13.20	
B6328_18957_003	2.36	5.49	4.89 /4.89	12.37	

Date/Initials: JRH 2/21/22

SGS

Methods: PCB / PAH | PCDD/F / WHO-2 | QUANTICS / USV | DoD PCDD/F / PEST | [Solid]

Batch # 18957

Lab Sample ID	Spiker Initials/Date: JRH 2/21/22	JRH 2/21/22	JRH 2/21/22	2/22/22	2/22/22		
	DIF Ax-A	DIF Ax-B	DIF ES	DIF CS	DIF JS		
	Amount: 20 µL	Amount: 20 µL	Amount: 20 µL	Amount: 20 µL	Amount: 20 µL	Amount:	Amount:
	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials
B6328_18957_001	–	–	AL	JRH	JRH		
B6328_18957_002	–	–	AL	JRH	JRH		
B6328_18957_003	–	–	AL	JRH	JRH		
MB1_18957	–	–	AL	JRH	JRH		
OPR1_18957	AL	AL	AL	JRH	JRH		
OPR2_18957	AL	AL	AL	JRH	JRH		

2/23/22

2/23/22

Standard Information

Pipette ID							
Spike ID	DIF Ax-A	DIF Ax-B	DIF ES	DIF CS	DIF JS		
STL#	24-J-8	25-1878	24-J-9	25.338.1	25.384.1		
Concentration	10 pg/µL	10 pg/µL	10 pg/µL	100 pg/µL	100 pg/µL		
Expiration Date	7/a/23	6/22/23	8/2023	11/16/22	1/28/23		

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
16	220223C16	3	CS3_220223_DF_CB	1.00	25-347-1	DTF	477-501	24-Feb-2022	02:38:09
17	220223C17	21	OPR1_18957_DF	1.00	0_18957_OPR001	DTF	773-021	24-Feb-2022	03:24:23
18	220223C18	22	OPR2_18957_DF	1.00	0_18957_OPR002	DTF	604-355	24-Feb-2022	04:10:44
20	220223C20	2	SBS_220223_DF_CC	1.00	20-61-1	DTF	554-137	24-Feb-2022	05:43:24
21	220223C21	20	MB1_18957_DF_SDS	10.00	Method Blank	DTF	887-738	24-Feb-2022	06:29:44
22	220223C23	23	B6328_18957_DF_001	10.20	11215131-021822-S-SB-NC-S-48	DTF	078-775	24-Feb-2022	08:02:24
23	220223C24	24	B6328_18957_DF_002	10.16	11215131-021722-S-SB-SC-S-33	DTF	330-523	24-Feb-2022	08:48:45
24	220223C25	25	B6328_18957_DF_003	10.02	11215131-021722-S-SB-NC-S-49	DTF	341-784	24-Feb-2022	09:35:06

REVIEWED
Tyler_Fritz , 2/24/2022, 12:33:49 PM

REVIEWED
Amber_Kornegay , 2/24/2022, 2:29:57 PM

Lab ID: MB1_18957_DF_SDS **Acq'd:** 24 Feb 2022 06:29 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6328_18957 **UTP:** 24-Feb-2022 12:19:33 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 887-738-GRH

Datafile: 220223C21 **Report:** 24 Feb 2022 12:20 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	3763.85	0.285
12378-PeCDD	NotFnd		1.0007	-		-	-	-	1.04	-	3109.899	0.248
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2582.542	0.226
123678-HxCDD	NotFnd		1.0036	-		-	-	-	1.15	-	2582.542	0.208
123789-HxCDD	NotFnd		1.0118	-		-	-	-	1.05	-	2582.542	0.208
1234678-HpCDD	NotFnd		1.0002	-		-	-	-	1.06	-	2955.541	0.264
OCDD	NotFnd		1.0003	-		-	-	-	1.13	-	2808.385	0.534
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	2859.374	0.178
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3096.572	0.163
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3096.572	0.169
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2288.908	0.113
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2288.908	0.11
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2288.908	0.114
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2288.908	0.152
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2874.321	0.154
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2874.321	0.238
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	2819.677	0.46

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.20	1.0243	1.0244	+0.2	2.25E+07	0.79	Y	1.05	98.2
ES 12378-PeCDD	33.61	1.2198	1.2208	+2.0	2.11E+07	1.50	Y	0.88	110
ES 123478-HxCDD	37.55	0.9916	0.9915	-0.2	1.81E+07	1.22	Y	0.97	98.5
ES 123678-HxCDD	37.67	0.9947	0.9947	0	1.98E+07	1.24	Y	0.94	111
ES 123789-HxCDD	37.97	1.0029	1.0028	-0.2	2.05E+07	1.25	Y	1.09	99.5
ES 1234678-HpCDD	40.72	1.0749	1.0752	+0.7	1.85E+07	1.09	Y	0.91	107
ES OCDD	43.42	1.1460	1.1466	+1.6	2.39E+07	0.92	Y	0.62	101
ES 2378-TCDF	27.33	1.0531	1.0535	+0.7	3.32E+07	0.78	Y	1.06	89
ES 12378-PeCDF	32.15	1.2378	1.2391	+2.5	3.45E+07	1.59	Y	0.91	108
ES 23478-PeCDF	33.27	1.2810	1.2824	+2.8	3.31E+07	1.55	Y	0.88	107
ES 123478-HxCDF	36.54	0.9650	0.9649	-0.2	2.33E+07	0.56	Y	1.20	103
ES 123678-HxCDF	36.68	0.9688	0.9687	-0.2	2.98E+07	0.53	Y	1.35	117
ES 234678-HxCDF	37.36	0.9866	0.9866	0	2.90E+07	0.53	Y	1.24	123
ES 123789-HxCDF	38.34	1.0125	1.0124	-0.2	2.27E+07	0.53	Y	1.16	104
ES 1234678-HpCDF	39.77	1.0501	1.0502	+0.2	2.02E+07	0.46	Y	0.97	110
ES 1234789-HpCDF	41.17	1.0870	1.0872	+0.5	1.69E+07	0.47	Y	0.85	105
ES OCDF	43.60	1.1505	1.1513	+2.1	3.00E+07	0.88	Y	0.81	98.2

Lab ID: MB1_18957_DF_SDS | **Acq'd:** 24 Feb 2022 06:29 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6328_18957 | **UTP:** 24-Feb-2022 12:19:33 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 887-738-GRH

Datafile: 220223C21 | **Report:** 24 Feb 2022 12:20 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.53		-	-	-	2.19E+07	0.84	Y	-	-
JS 1234-TCDF	25.94		-	-	-	3.52E+07	0.82	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	9.45E+06	1.27	Y	-	-
CS 37Cl-2378-TCDD	28.22		1.0251	1.0252	+0.2	1.03E+07	n/a	-	1.20	97.2
CS 12347-PeCDD	33.10		1.2016	1.2024	+1.6	1.87E+07	1.65	Y	0.75	113
CS 12346-PeCDF	31.61		1.2172	1.2185	+2.5	3.23E+07	1.61	Y	0.85	108
CS 123469-HxCDF	36.99		0.9771	0.9769	-0.4	2.42E+07	0.56	Y	1.12	115
CS 1234689-HpCDF	40.18		1.0608	1.0610	+0.5	1.84E+07	0.47	Y	0.89	110
~~SS 37Cl-2378-TCDD~~	~~28.22~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.03E+07~~	~~n/a~~		~~1.15~~	~~99.2~~
~~SS 12347-PeCDD~~	~~33.10~~		~~1.2016~~	~~1.2024~~	~~+1.6~~	~~1.87E+07~~	~~1.65~~	~~Y~~	~~0.86~~	~~103~~
~~SS 12346-PeCDF~~	~~31.61~~		~~1.2172~~	~~1.2185~~	~~+2.5~~	~~3.23E+07~~	~~1.61~~	~~Y~~	~~0.94~~	~~100~~
~~SS 123469-HxCDF~~	~~36.99~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~2.42E+07~~	~~0.56~~	~~Y~~	~~0.83~~	~~98.3~~
~~SS 1234689-HpCDF~~	~~40.18~~		~~1.0608~~	~~1.0610~~	~~+0.5~~	~~1.84E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~99.3~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: MB1_18957_DF_SDS **Acq'd: 24 Feb 2022 06:29 DTF** **Wt/Vol: 10.00 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6328_18957 **UTP: 24-Feb-2022 12:19:33 DTF** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 887-738-GRH**

Datafile: 220223C21 **Report: 24 Feb 2022 12:20 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		3763.85	0.285
1379-TCDD	NotFnd		0.8829						1.18		3763.85	0.285
1369-TCDD	NotFnd		0.8982						1.18		3763.85	0.285
1469-TCDD	NotFnd		0.9261						1.18		3763.85	0.285
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		3763.85	0.285
1378-TCDD	NotFnd		0.9417						1.18		3763.85	0.285
1268-TCDD	NotFnd		0.9487						1.18		3763.85	0.285
1478-TCDD	NotFnd		0.9576						1.18		3763.85	0.285
1279-TCDD	NotFnd		0.9636						1.18		3763.85	0.285
1234/1269-TCDD	NotFnd		0.9761						1.18		3763.85	0.285
1236-TCDD	NotFnd		0.9812						1.18		3763.85	0.285
1237/1238-TCDD	NotFnd		0.9905						1.18		3763.85	0.285
1239-TCDD	NotFnd		0.9951						1.18		3763.85	0.285
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**3763.85**	**0.285**
1278-TCDD	NotFnd		1.0124						1.18		3763.85	0.285
1267-TCDD	NotFnd		1.0172						1.18		3763.85	0.285
1289-TCDD	NotFnd		1.0354						1.18		3763.85	0.285
12479/12468-PeCDD	NotFnd		0.9255						1.04		3109.899	0.248
12469-PeCDD	NotFnd		0.9416						1.04		3109.899	0.248
12368-PeCDD	NotFnd		0.9582						1.04		3109.899	0.248
12478-PeCDD	NotFnd		0.9637						1.04		3109.899	0.248
12379-PeCDD	NotFnd		0.9668						1.04		3109.899	0.248
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		3109.899	0.248
12346/12347-PeCDD	NotFnd		0.9858						1.04		3109.899	0.248
12378-PeCDD	NotFnd		**1.0007**						**1.04**		**3109.899**	**0.248**
12367-PeCDD	NotFnd		1.0036						1.04		3109.899	0.248
12389-PeCDD	NotFnd		1.0137						1.04		3109.899	0.248
124679/124689-HxCDD	NotFnd		0.9540						1.10		2582.542	0.213
123468-HxCDD	NotFnd		0.9715						1.10		2582.542	0.213
123679/123689-HxCDD	NotFnd		0.9793						1.10		2582.542	0.213
123469-HxCDD	NotFnd		0.9829						1.10		2582.542	0.213
123478-HxCDD	NotFnd		**1.0004**						1.09		**2582.542**	**0.226**
123678-HxCDD	NotFnd		**1.0036**						1.15		**2582.542**	**0.208**
123467-HxCDD	NotFnd		1.0089						1.10		2582.542	0.213
123789-HxCDD	NotFnd		**1.0118**						1.05		**2582.542**	**0.208**

Lab ID: MB1_18957_DF_SDS **Acq'd:** 24 Feb 2022 06:29 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6328_18957 **UTP:** 24-Feb-2022 12:19:33 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 887-738-GRH

Datafile: 220223C21 **Report:** 24 Feb 2022 12:20 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

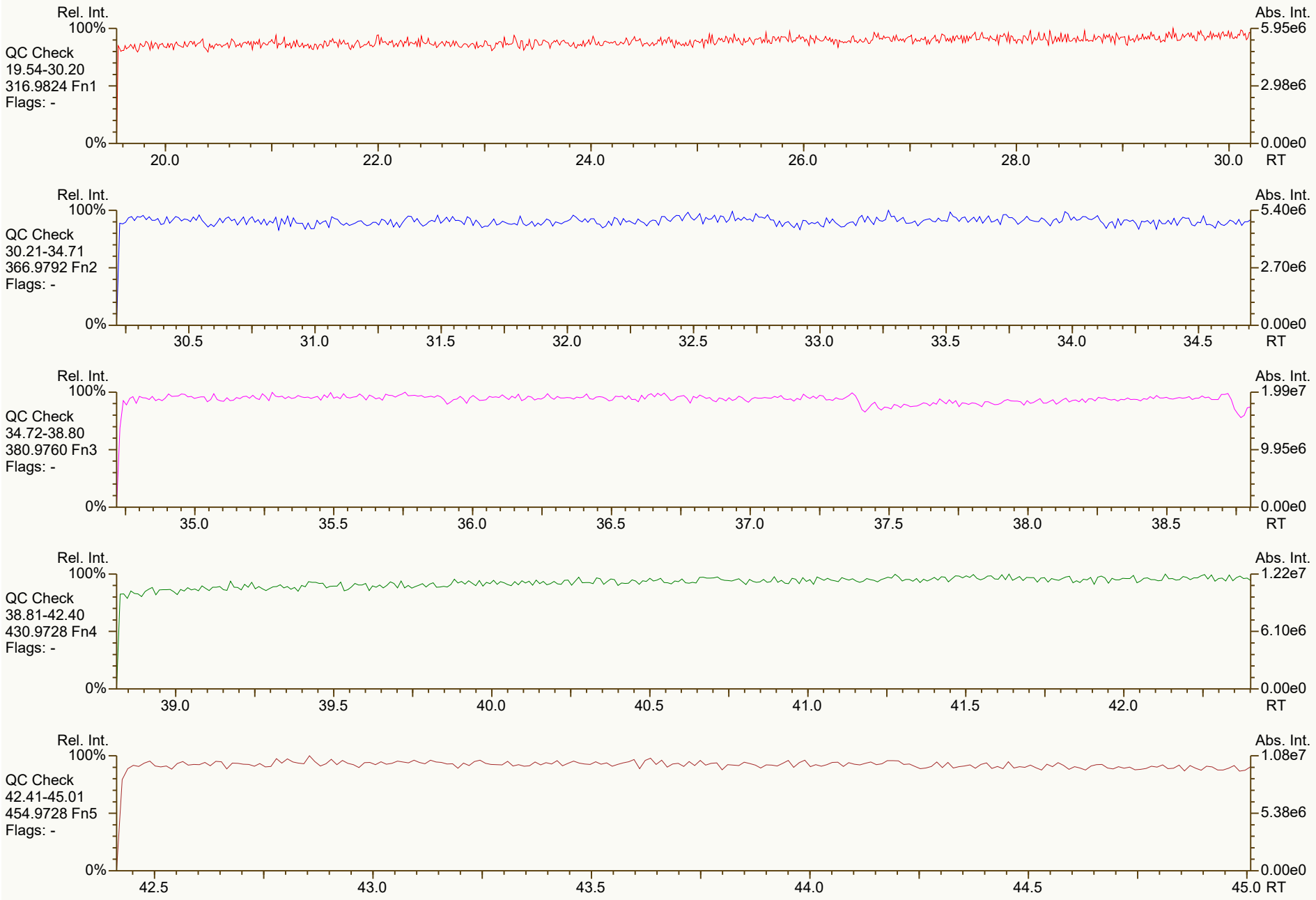
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9836						1.06		2955.541	0.264
1234678-HpCDD	**NotFnd**		**1.0002**						**1.06**		**2955.541**	**0.264**
OCDD	**NotFnd**		**1.0003**						**1.13**		**2808.385**	**0.534**
OCDD-a	NotFnd		1.0002						0.07		2845.768	8.46
1368-TCDF	NotFnd		0.8191						1.08		2859.374	0.178
1468-TCDF	NotFnd		0.8408						1.08		2859.374	0.178
2468-TCDF	NotFnd		0.8645						1.08		2859.374	0.178
1346/1246-TCDF	NotFnd		0.8772						1.08		2859.374	0.178
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		2859.374	0.178
1348-TCDF	NotFnd		0.8932						1.08		2859.374	0.178
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		2859.374	0.178
1268-TCDF	NotFnd		0.9119						1.08		2859.374	0.178
1467-TCDF	NotFnd		0.9170						1.08		2859.374	0.178
1478-TCDF	NotFnd		0.9234						1.08		2859.374	0.178
1369/1237-TCDF	NotFnd		0.9369						1.08		2859.374	0.178
2467-TCDF	NotFnd		0.9415						1.08		2859.374	0.178
2368-TCDF	NotFnd		0.9475						1.08		2859.374	0.178
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		2859.374	0.178
1278-TCDF	NotFnd		0.9676						1.08		2859.374	0.178
1349-TCDF	NotFnd		0.9722						1.08		2859.374	0.178
1267-TCDF	NotFnd		0.9777						1.08		2859.374	0.178
2346/1249-TCDF	NotFnd		0.9843						1.08		2859.374	0.178
2347/1279-TCDF	NotFnd		0.9926						1.08		2859.374	0.178
2348-TCDF	NotFnd		0.9968						1.08		2859.374	0.178
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**2859.374**	**0.178**
2367/3467-TCDF	NotFnd		1.0142						1.08		2859.374	0.178
1269-TCDF	NotFnd		1.0235						1.08		2859.374	0.178
1239-TCDF	NotFnd		1.0329						1.08		2859.374	0.178
1289-TCDF	NotFnd		1.0742						1.08		2859.374	0.178
13468/12468-PeCDF	NotFnd		0.9122						1.02		2701.226	0.145
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		3096.572	0.166
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		3096.572	0.166
14678-PeCDF	NotFnd		0.9685						1.02		3096.572	0.166
13479-PeCDF	NotFnd		0.9716						1.02		3096.572	0.166
13469/12479-PeCDF	NotFnd		0.9794						1.02		3096.572	0.166
12346-PeCDF	NotFnd		0.9836						1.02		3096.572	0.166

Lab ID: MB1_18957_DF_SDS **Acq'd:** 24 Feb 2022 06:29 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6328_18957 **UTP:** 24-Feb-2022 12:19:33 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 887-738-GRH

Datafile: 220223C21 **Report:** 24 Feb 2022 12:20 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

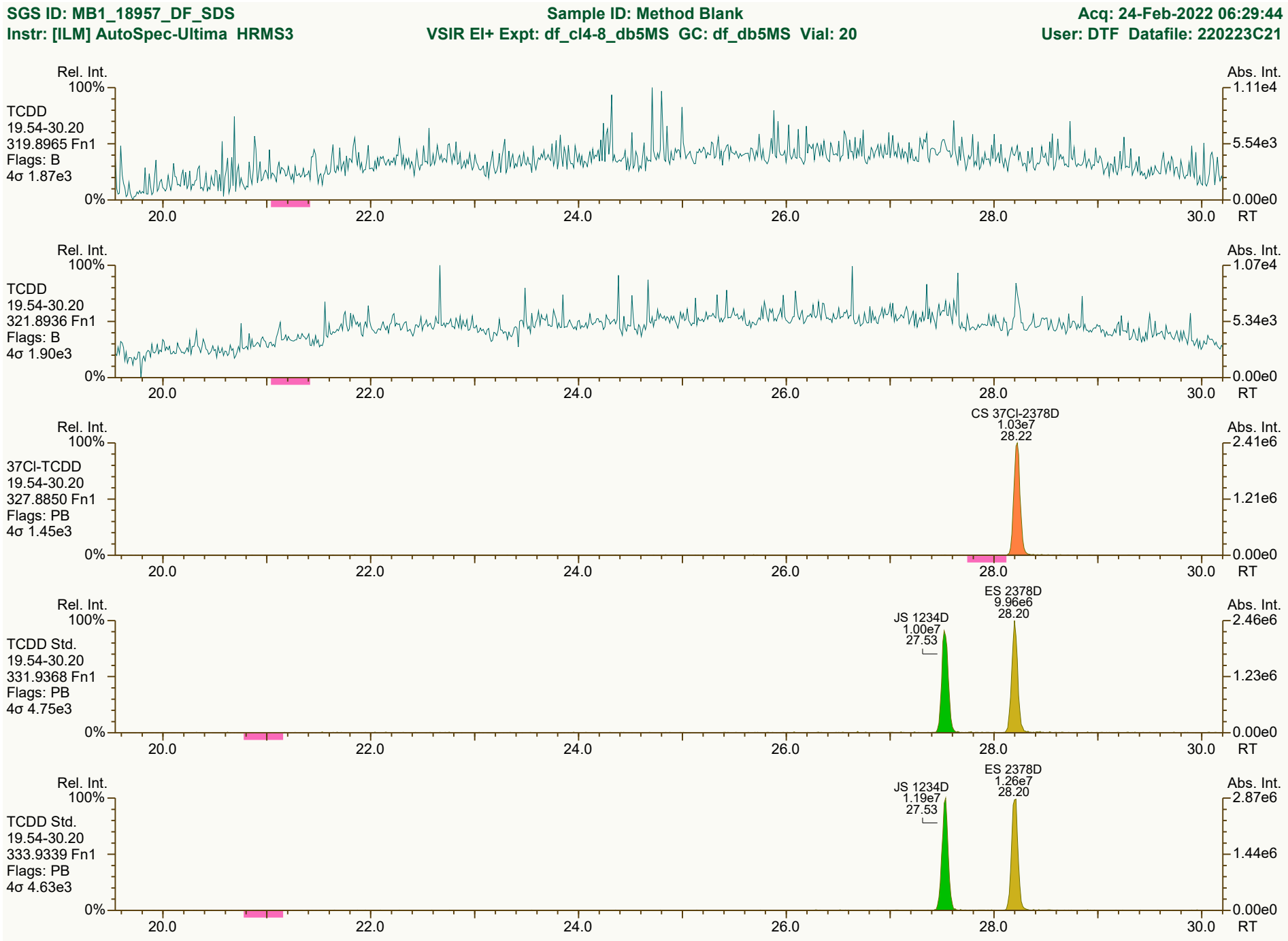
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		3096.572	0.166
12347-PeCDF	NotFnd		0.9891						1.02		3096.572	0.166
12348-PeCDF	NotFnd		0.9938						1.02		3096.572	0.166
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3096.572**	**0.163**
12678/12367-PeCDF	NotFnd		1.0091						1.02		3096.572	0.166
12379-PeCDF	NotFnd		1.0144						1.02		3096.572	0.166
12679-PeCDF	NotFnd		0.9927						1.02		3096.572	0.166
23467/12369-PeCDF	NotFnd		0.9965						1.02		3096.572	0.166
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3096.572**	**0.169**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3096.572	0.166
12349-PeCDF	NotFnd		1.0101						1.02		3096.572	0.166
12389-PeCDF	NotFnd		1.0330						1.02		3096.572	0.166
123468-HxCDF	NotFnd		0.9622						1.19		2288.908	0.12
124678/134678-HxCDF	NotFnd		0.9678						1.19		2288.908	0.12
134679-HxCDF	NotFnd		0.9741						1.19		2288.908	0.12
124679-HxCDF	NotFnd		0.9795						1.19		2288.908	0.12
124689-HxCDF	NotFnd		0.9856						1.19		2288.908	0.12
123467-HxCDF	NotFnd		0.9972						1.19		2288.908	0.12
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2288.908**	**0.113**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2288.908**	**0.11**
123479-HxCDF	NotFnd		1.0048						1.19		2288.908	0.12
123469-HxCDF	NotFnd		1.0089						1.19		2288.908	0.12
123679-HxCDF	NotFnd		0.9942						1.19		2288.908	0.12
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2288.908**	**0.114**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2288.908	0.12
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2288.908**	**0.152**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		2288.908	0.12
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2874.321**	**0.154**
1234679-HpCDF	NotFnd		1.0068						1.34		2874.321	0.192
1234689-HpCDF	NotFnd		1.0104						1.34		2874.321	0.192
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2874.321**	**0.238**
OCDF	**NotFnd**		**1.0002**						**1.07**		**2819.677**	**0.46**
OCDF-a	NotFnd		1.0001						0.07		3363.807	8.86


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
5.95e6
2.98e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
5.40e6
2.70e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.99e7
9.95e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.22e7
6.10e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.08e7
5.38e6
0.00e0

SGS ID: MB1_18957_DF_SDS
Instr: [ILM] AutoSpec-Ultima HRMS3

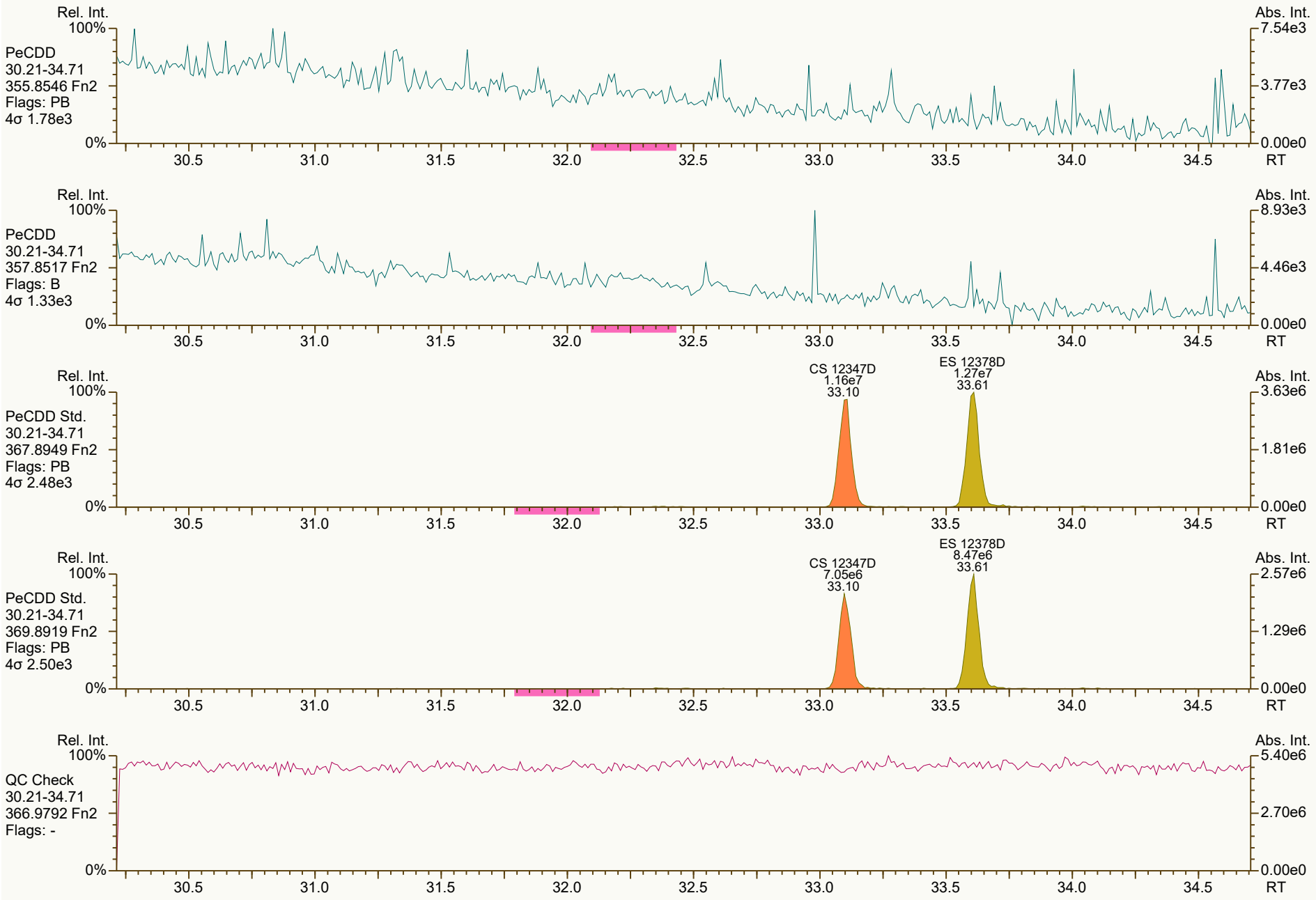
Sample ID: Method Blank
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 20

Acq: 24-Feb-2022 06:29:44
User: DTF Datafile: 220223C21



Results: P:\B6300_B6399\B6328\B6328_18957 DF\Resources\MB1_18957_DF_SDS.utp_res, saved 24-Feb-2022 12:19 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1260, 7766, 6432 scc: 887-738

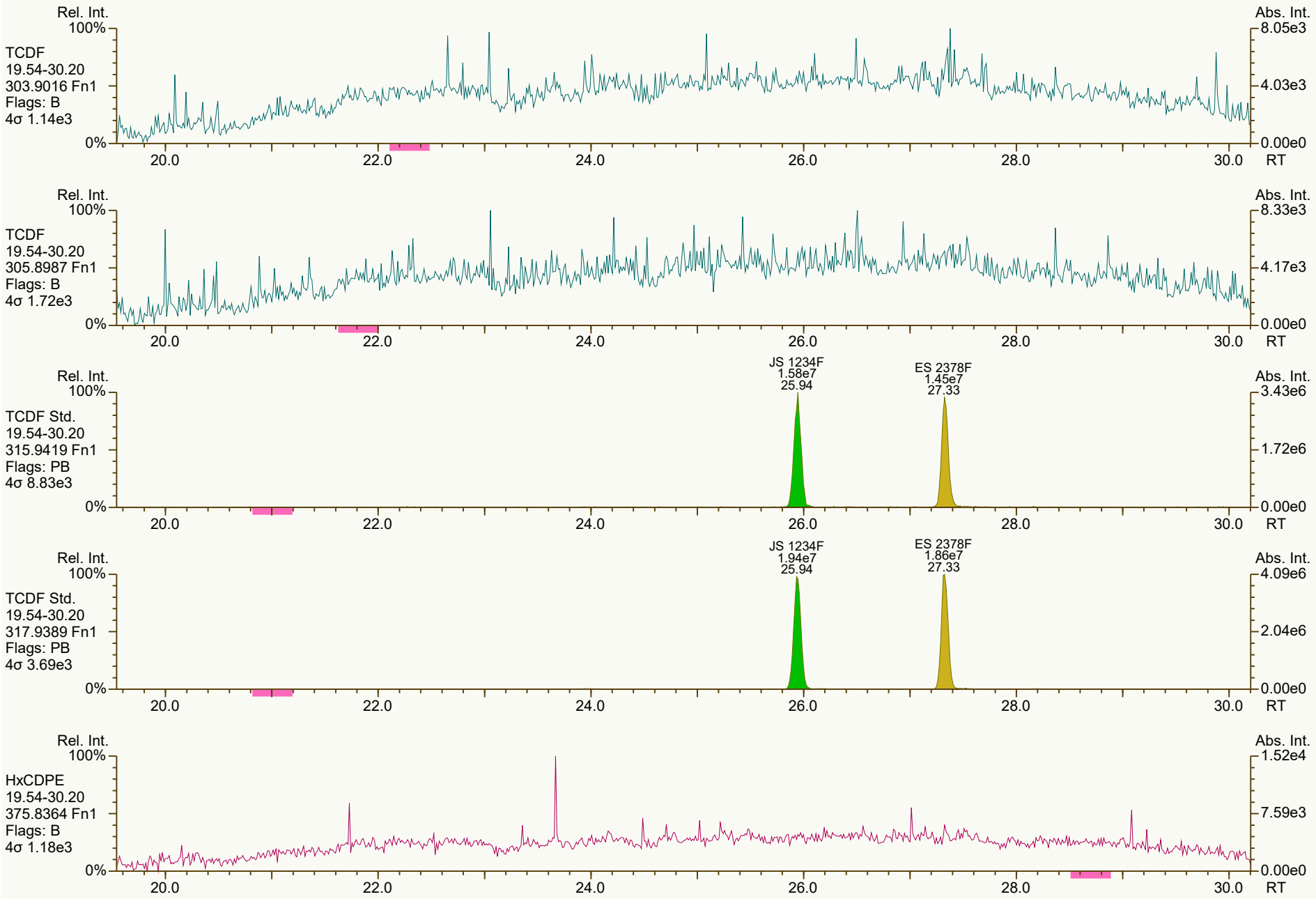
Peak annotation: Areas, Centroids
PKD: 24-Feb-2022 12:03 Printed: 24-Feb-2022 12:28 Page 2 of 12


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.78e3
0%
Abs. Int.
7.54e3
3.77e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: B
4σ 1.33e3
0%
Abs. Int.
8.93e3
4.46e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.48e3
0%
CS 12347D
1.16e7
33.10
ES 12378D
1.27e7
33.61
Abs. Int.
3.63e6
1.81e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.50e3
0%
CS 12347D
7.05e6
33.10
ES 12378D
8.47e6
33.61
Abs. Int.
2.57e6
1.29e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.40e6
2.70e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

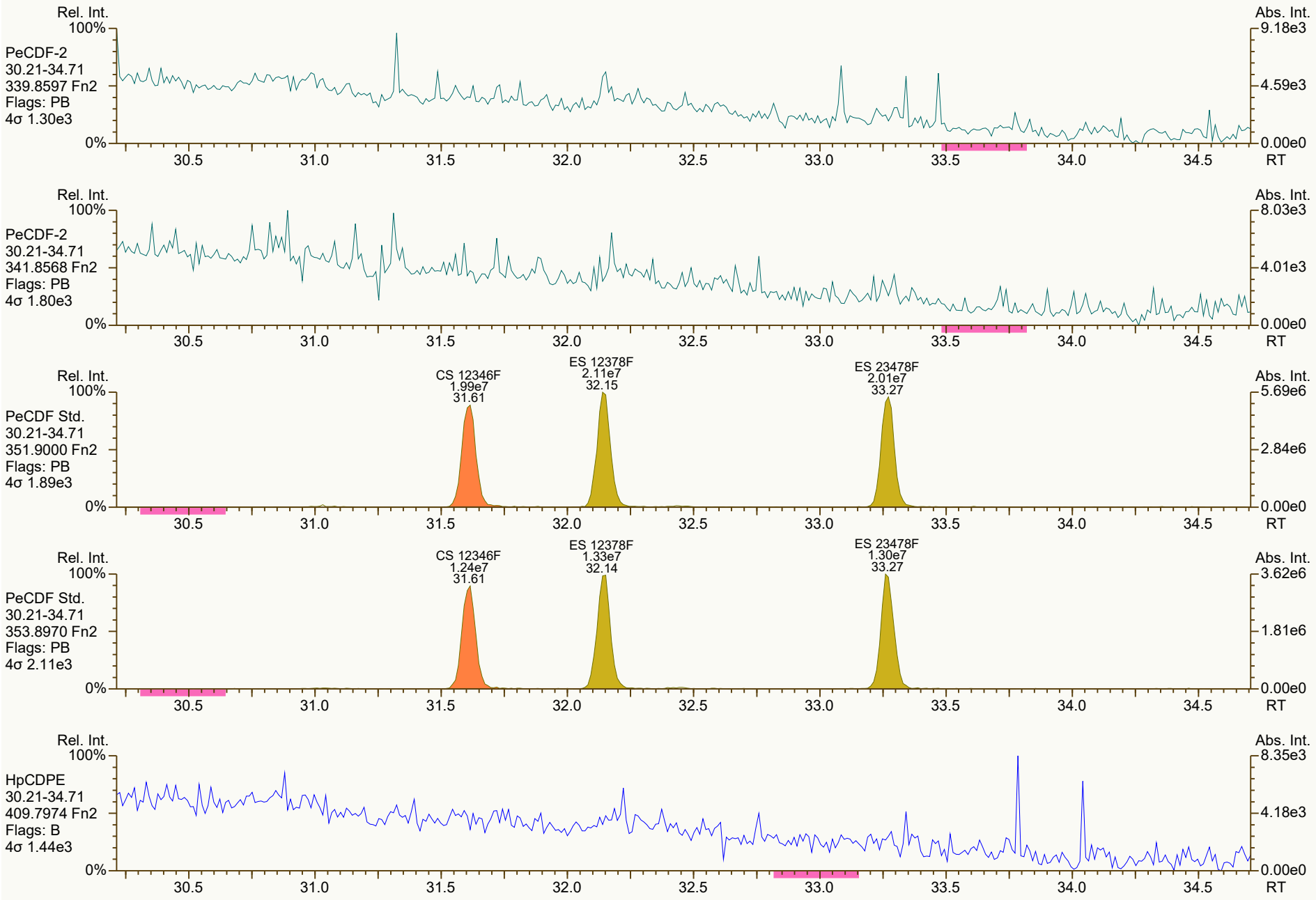

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: B
4σ 1.27e3
0%
Abs. Int.
6.56e3
3.28e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.31e3
0%
Abs. Int.
6.86e3
3.43e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 1.99e3
0%
ES 123678D
1.10e7
37.67
ES 123478D
9.96e6
37.55
ES 123789D
1.14e7
37.97
JS 123467D
5.28e6
37.87
Abs. Int.
3.30e6
1.65e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 1.85e3
0%
ES 123678D
8.87e6
37.67
ES 123478D
8.14e6
37.54
ES 123789D
9.14e6
37.97
JS 123467D
4.17e6
37.87
Abs. Int.
2.52e6
1.26e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.99e7
9.95e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

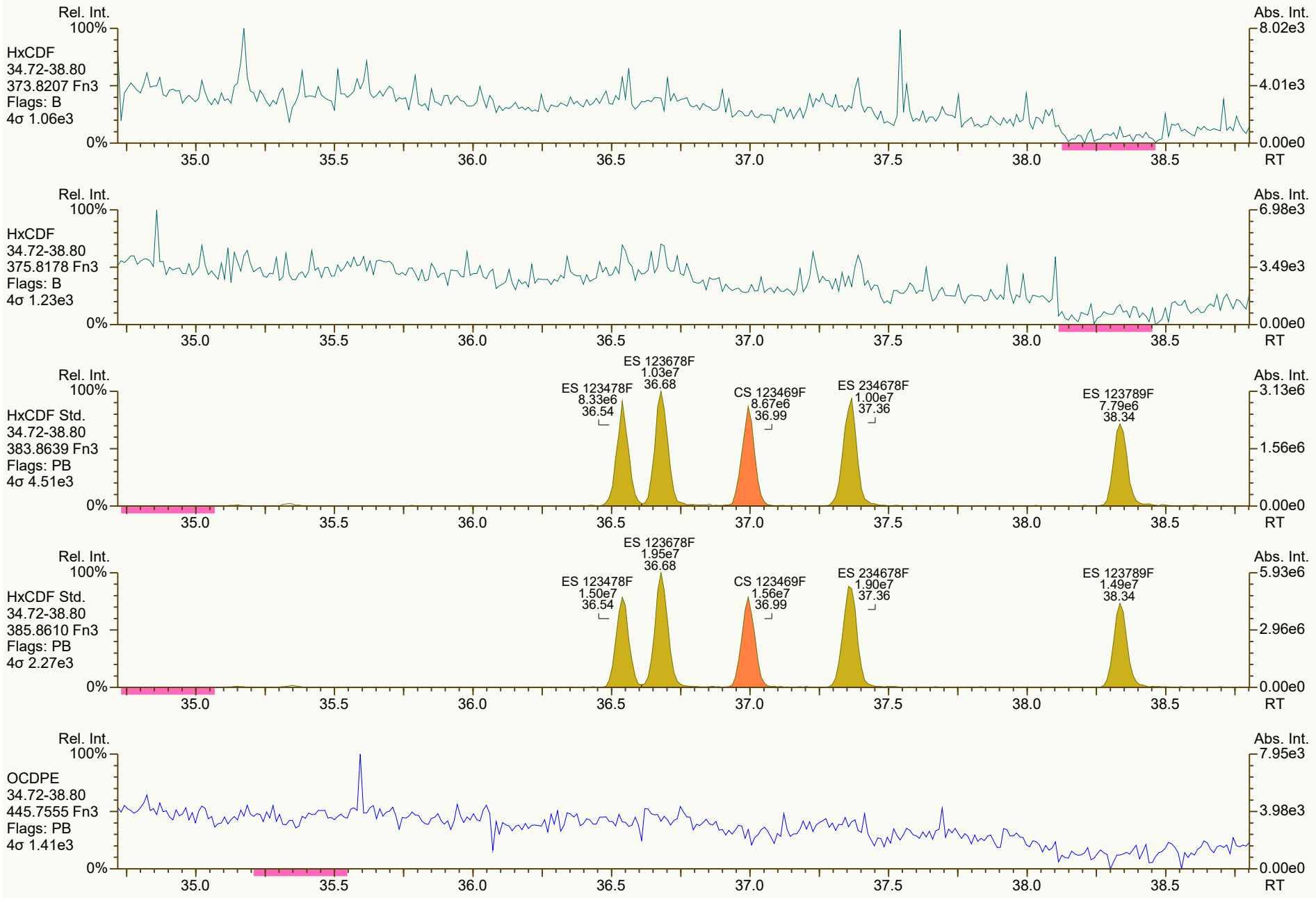

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 1.44e3
0%
Abs. Int.
8.49e3
4.25e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: B
4σ 1.51e3
0%
Abs. Int.
5.59e3
2.79e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
9.68e6
40.72
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 1.54e3
0%
Abs. Int.
2.76e6
1.38e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
8.85e6
40.72
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.11e3
0%
Abs. Int.
2.50e6
1.25e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.22e7
6.10e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

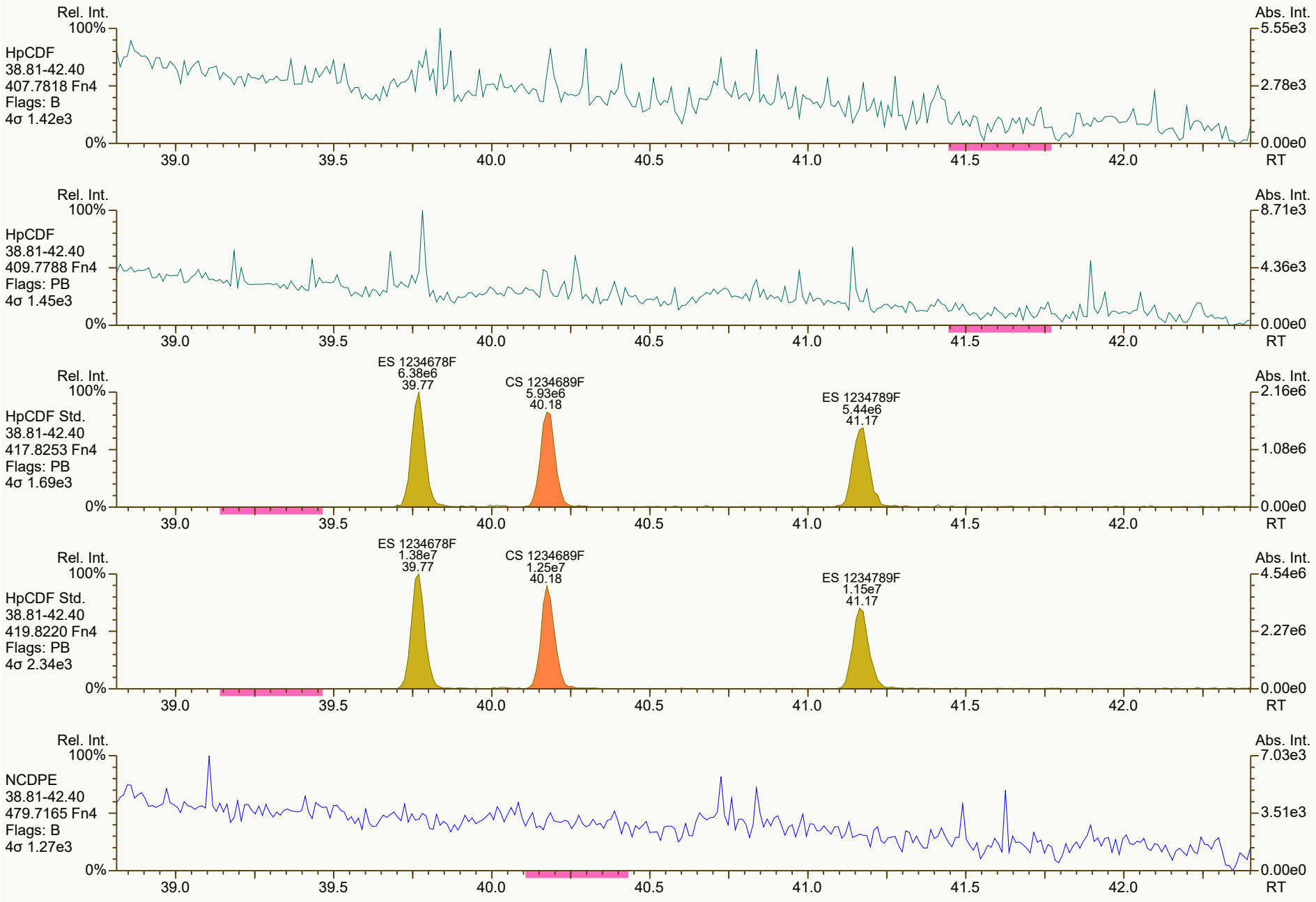

Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 1.51e3
0%
Abs. Int.
6.82e3
3.41e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 1.30e3
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
ES OCDD
1.15e7*
43.42
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.56e3
0%
Abs. Int.
2.24e6
1.12e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
ES OCDD
1.25e7*
43.42
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
2.48e6
1.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.08e7
5.38e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

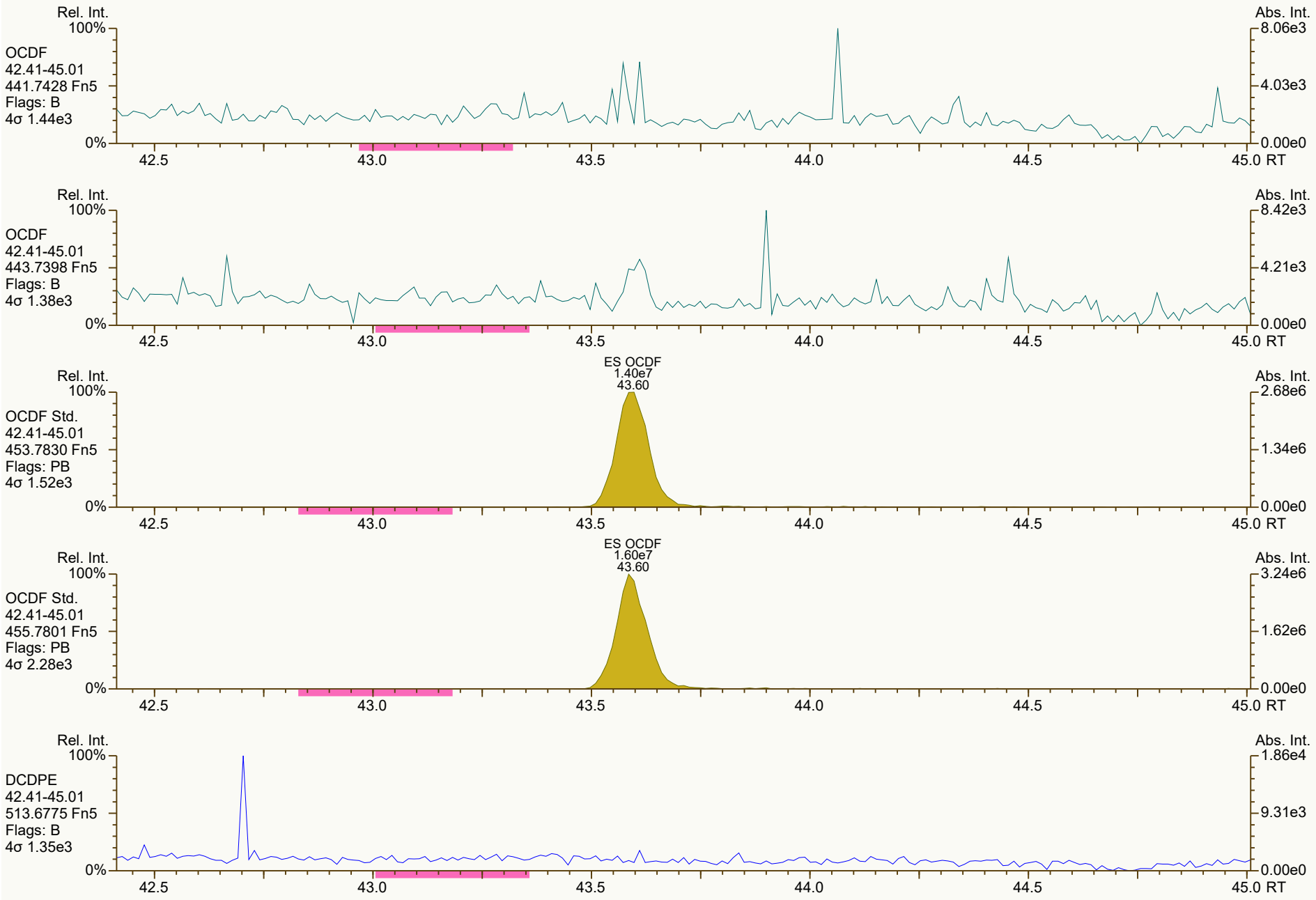

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: B
4σ 1.14e3
0%
Abs. Int.
8.05e3
4.03e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 1.72e3
0%
Abs. Int.
8.33e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 8.83e3
0%
JS 1234F
1.58e7
25.94
ES 2378F
1.45e7
27.33
Abs. Int.
3.43e6
1.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.69e3
0%
JS 1234F
1.94e7
25.94
ES 2378F
1.86e7
27.33
Abs. Int.
4.09e6
2.04e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.18e3
0%
Abs. Int.
1.52e4
7.59e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.00e4
5.01e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.48e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.94e3
4.47e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.22e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
5.95e6
2.98e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.30e3
0%
Abs. Int.
9.18e3
4.59e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 1.80e3
0%
Abs. Int.
8.03e3
4.01e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 1.89e3
0%
CS 12346F
1.99e7
31.61
ES 12378F
2.11e7
32.15
ES 23478F
2.01e7
33.27
Abs. Int.
5.69e6
2.84e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.11e3
0%
CS 12346F
1.24e7
31.61
ES 12378F
1.33e7
32.14
ES 23478F
1.30e7
33.27
Abs. Int.
3.62e6
1.81e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.44e3
0%
Abs. Int.
8.35e3
4.18e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: B
4σ 1.06e3
0%
Abs. Int.
8.02e3
4.01e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: B
4σ 1.23e3
0%
Abs. Int.
6.98e3
3.49e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 4.51e3
0%
ES 123678F
1.03e7
36.68
ES 123478F
8.33e6
36.54
CS 123469F
8.67e6
36.99
ES 234678F
1.00e7
37.36
ES 123789F
7.79e6
38.34
Abs. Int.
3.13e6
1.56e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 2.27e3
0%
ES 123678F
1.95e7
36.68
ES 123478F
1.50e7
36.54
CS 123469F
1.56e7
36.99
ES 234678F
1.90e7
37.36
ES 123789F
1.49e7
38.34
Abs. Int.
5.93e6
2.96e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.41e3
0%
Abs. Int.
7.95e3
3.98e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: B
4σ 1.42e3
0%
Abs. Int.
5.55e3
2.78e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.45e3
0%
Abs. Int.
8.71e3
4.36e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 1.69e3
0%
ES 1234678F
6.38e6
39.77
CS 1234689F
5.93e6
40.18
ES 1234789F
5.44e6
41.17
Abs. Int.
2.16e6
1.08e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 2.34e3
0%
ES 1234678F
1.38e7
39.77
CS 1234689F
1.25e7
40.18
ES 1234789F
1.15e7
41.17
Abs. Int.
4.54e6
2.27e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.27e3
0%
Abs. Int.
7.03e3
3.51e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: B
4σ 1.44e3
0%
Abs. Int.
8.06e3
4.03e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: B
4σ 1.38e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.40e7
43.60
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
2.68e6
1.34e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.60e7
43.60
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 2.28e3
0%
Abs. Int.
3.24e6
1.62e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.35e3
0%
Abs. Int.
1.86e4
9.31e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6328_18957_DF_001 **Acq'd:** 24 Feb 2022 08:02 DTF **Wt/Vol:** 10.20 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-NC-S-48 **UTP:** 24-Feb-2022 12:19:33 DTF **J-level:** 0.49 pg/g **Split:** 1 **Checkcode:** 078-775-KQT

Datafile: 220223C23 **Report:** 24 Feb 2022 12:20 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.23	E	1.0008	1.0008	0	2.40E+08	0.79	Y	1.18	1,610	4918.503	0.338
12378-PeCDD	33.62		1.0007	1.0005	-0.4	2.05E+06	1.56	Y	1.04	17.8	6975.741	0.518
123478-HxCDD	37.56	J	1.0004	1.0004	0	2.25E+05	1.25	Y	1.09	2.13	10083.358	0.79
123678-HxCDD	37.68		1.0036	1.0037	+0.2	1.15E+06	1.31	Y	1.15	9.96	10083.358	0.78
123789-HxCDD	37.99	EMPC	1.0118	1.0118	0	4.69E+05	1.68	N	1.05	4.09	10083.358	0.759
1234678-HpCDD	40.73		1.0002	1.0003	+0.2	2.80E+07	1.05	Y	1.06	259	6174.236	0.519
OCDD	43.43		1.0003	1.0003	0	2.75E+08	0.90	Y	1.13	3,410	3967.235	0.608
2378-TCDF	27.35	E	1.0008	1.0008	0	9.08E+08	0.78	Y	1.08	4,440	2940.19	0.166
12378-PeCDF	32.16		1.0005	1.0006	+0.2	2.70E+07	1.53	Y	1.02	153	5606.042	0.298
23478-PeCDF	33.29		1.0005	1.0007	+0.4	2.21E+07	1.54	Y	1.02	126	5606.042	0.28
123478-HxCDF	36.56		1.0004	1.0005	+0.2	4.13E+07	1.23	Y	1.27	255	5508.466	0.277
123678-HxCDF	36.70		1.0004	1.0004	0	1.13E+07	1.25	Y	1.15	66.9	5508.466	0.287
234678-HxCDF	37.38		1.0005	1.0004	-0.2	2.75E+06	1.29	Y	1.19	15.9	5508.466	0.262
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	5508.466	0.326
1234678-HpCDF	39.78		1.0003	1.0002	-0.2	2.39E+07	1.08	Y	1.37	154	80415.088	4.06
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	80415.088	5.68
OCDF	43.60		1.0002	1.0003	+0.3	8.27E+07	0.88	Y	1.07	841	6163.127	0.838

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.20	1.0243	1.0242	-0.2	2.47E+07	0.81	Y	1.05	81.6
ES 12378-PeCDD	33.61	1.2198	1.2205	+1.4	2.18E+07	1.57	Y	0.88	85.4
ES 123478-HxCDD	37.54	0.9916	0.9914	-0.5	1.90E+07	1.26	Y	0.97	81.1
ES 123678-HxCDD	37.66	0.9947	0.9946	-0.2	1.98E+07	1.27	Y	0.94	86.8
ES 123789-HxCDD	37.97	1.0029	1.0027	-0.5	2.14E+07	1.25	Y	1.09	81.4
ES 1234678-HpCDD	40.71	1.0749	1.0752	+0.7	2.00E+07	1.09	Y	0.91	90.9
ES OCDD	43.42	1.1460	1.1465	+1.3	2.81E+07	0.91	Y	0.62	93.4
ES 2378-TCDF	27.33	1.0531	1.0535	+0.7	3.71E+07	0.81	Y	1.06	80
ES 12378-PeCDF	32.15	1.2378	1.2390	+2.3	3.37E+07	1.56	Y	0.91	84.4
ES 23478-PeCDF	33.27	1.2810	1.2823	+2.6	3.36E+07	1.55	Y	0.88	86.7
ES 123478-HxCDF	36.54	0.9650	0.9649	-0.2	2.50E+07	0.53	Y	1.20	86.5
ES 123678-HxCDF	36.68	0.9688	0.9686	-0.4	2.88E+07	0.52	Y	1.35	88.5
ES 234678-HxCDF	37.36	0.9866	0.9866	0	2.86E+07	0.54	Y	1.24	95.3
ES 123789-HxCDF	38.34	1.0125	1.0124	-0.2	2.47E+07	0.52	Y	1.16	88.6
ES 1234678-HpCDF	39.77	1.0501	1.0501	0	2.21E+07	0.45	Y	0.97	94.7
ES 1234789-HpCDF	41.17	1.0870	1.0872	+0.5	1.88E+07	0.47	Y	0.85	91.6
ES OCDF	43.59	1.1505	1.1511	+1.6	3.60E+07	0.87	Y	0.81	92.4

Lab ID: B6328_18957_DF_001 **Acq'd:** 24 Feb 2022 08:02 DTF **Wt/Vol:** 10.20 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-NC-S-48 **UTP:** 24-Feb-2022 12:19:33 DTF **J-level:** 0.49 pg/g **Split:** 1 **Checkcode:** 078-775-KQT

Datafile: 220223C23 **Report:** 24 Feb 2022 12:20 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.53		-	-	-	2.90E+07	0.84	Y	-	-
JS 1234-TCDF	25.95		-	-	-	4.39E+07	0.79	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	1.20E+07	1.25	Y	-	-
CS 37Cl-2378-TCDD	28.22		1.0251	1.0250	-0.2	1.11E+07	n/a	-	1.20	79.5
CS 12347-PeCDD	33.10		1.2016	1.2022	+1.2	2.03E+07	1.55	Y	0.75	93
CS 12346-PeCDF	31.61		1.2172	1.2185	+2.5	3.34E+07	1.61	Y	0.85	89.5
CS 123469-HxCDF	36.99		0.9771	0.9769	-0.4	2.56E+07	0.56	Y	1.12	94.9
CS 1234689-HpCDF	40.18		1.0608	1.0610	+0.5	2.13E+07	0.48	Y	0.89	99.4
~~SS 37Cl-2378-TCDD~~	~~28.22~~		~~1.0251~~	~~1.0250~~	~~-0.2~~	~~1.11E+07~~	~~n/a~~		~~1.15~~	~~97.7~~
~~SS 12347-PeCDD~~	~~33.10~~		~~1.2016~~	~~1.2022~~	~~+1.2~~	~~2.03E+07~~	~~1.55~~	~~Y~~	~~0.86~~	~~109~~
~~SS 12346-PeCDF~~	~~31.61~~		~~1.2172~~	~~1.2185~~	~~+2.5~~	~~3.34E+07~~	~~1.61~~	~~Y~~	~~0.94~~	~~106~~
~~SS 123469-HxCDF~~	~~36.99~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~2.56E+07~~	~~0.56~~	~~Y~~	~~0.83~~	~~107~~
~~SS 1234689-HpCDF~~	~~40.18~~		~~1.0608~~	~~1.0610~~	~~+0.5~~	~~2.13E+07~~	~~0.48~~	~~Y~~	~~0.92~~	~~105~~

Totals	Conc		EMPC
Total TCDD	1800		1800
Total PeCDD	23.7		40.8
Total HxCDD	101		105
Total HpCDD	594		594
Total Tetra-Octa Dioxins	5930		5950
Total TCDF	8,310		8310
Total PeCDF	460		460
Total HxCDF	443		444
Total HpCDF	289	PR	289
Total Tetra-Octa Furans	10,300		10300
Total Tetra-Octa Dioxins & Furans	16300		16300

Lab ID: B6328_18957_DF_001 **Acq'd: 24 Feb 2022 08:02 DTF** **Wt/Vol: 10.20 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021822-S-SB-NC-S-48 **UTP: 24-Feb-2022 12:19:33 DTF** **J-level: 0.49 pg/g** **Split: 1** **Checkcode: 078-775-KQT**

Datafile: 220223C23 **Report: 24 Feb 2022 12:20 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.51		0.8701	0.8692	-1.3	4.08E+05	0.87	Y	1.18	2.73	4918.503	0.338
1379-TCDD	24.89		0.8829	0.8826	-0.4	1.27E+05	0.80	Y	1.18	0.852	4918.503	0.338
1369-TCDD	NotFnd		0.8982						1.18		4918.503	0.338
1469-TCDD	26.11		0.9261	0.9259	-0.3	6.81E+05	0.79	Y	1.18	4.56	4918.503	0.338
1247/1246/1248/1249-TCDD	26.35		0.9348	0.9344	-0.6	3.50E+05	0.86	Y	1.18	2.34	4918.503	0.338
1378-TCDD	26.55		0.9417	0.9414	-0.5	7.12E+05	0.75	Y	1.18	4.77	4918.503	0.338
1268-TCDD	NotFnd		0.9487						1.18		4918.503	0.338
1478-TCDD	27.01		0.9576	0.9576	0	5.21E+05	0.81	Y	1.18	3.49	4918.503	0.338
1279-TCDD	NotFnd		0.9636						1.18		4918.503	0.338
1234/1269-TCDD	27.53		0.9761	0.9761	0	1.42E+05	0.73	Y	1.18	0.954	4918.503	0.338
1236-TCDD	NotFnd		0.9812						1.18		4918.503	0.338
1237/1238-TCDD	27.93		0.9905	0.9903	-0.3	3.56E+06	0.77	Y	1.18	23.8	4918.503	0.338
1239-TCDD	NotFnd		0.9951						1.18		4918.503	0.338
2378-TCDD	**28.23**	E	**1.0008**	1.0008	**0**	2.40E+08	0.79	Y	**1.18**	**1,610**	**4918.503**	**0.338**
1278-TCDD	28.56		1.0124	1.0126	+0.3	2.18E+07	0.80	Y	1.18	146	4918.503	0.338
1267-TCDD	28.69		1.0172	1.0173	+0.2	5.22E+05	0.86	Y	1.18	3.5	4918.503	0.338
1289-TCDD	29.22		1.0354	1.0360	+1.1	2.96E+05	0.81	Y	1.18	1.98	4918.503	0.338
12479/12468-PeCDD	31.10	EMPC	0.9255	0.9254	-0.2	3.67E+05	1.90	N	1.04	3.19	6975.741	0.518
12469-PeCDD	31.64	EMPC	0.9416	0.9415	-0.2	5.88E+05	1.24	N	1.04	5.11	6975.741	0.518
12368-PeCDD	32.20		0.9582	0.9582	0	3.06E+05	1.54	Y	1.04	2.66	6975.741	0.518
12478-PeCDD	32.39	J	0.9637	0.9638	+0.2	2.23E+05	1.37	Y	1.04	1.94	6975.741	0.518
12379-PeCDD	32.49	J	0.9668	0.9667	-0.2	1.48E+05	1.35	Y	1.04	1.29	6975.741	0.518
12369/12467/12489-PeCDD	32.77	EMPC	0.9746	0.9750	+0.8	6.96E+05	0.68	N	1.04	6.05	6975.741	0.518
12346/12347-PeCDD	33.13	J EMPC	0.9858	0.9857	-0.2	1.02E+05	1.31	N	1.04	0.884	6975.741	0.518
12378-PeCDD	33.62		**1.0007**	**1.0005**	**-0.4**	**2.05E+06**	**1.56**	**Y**	**1.04**	**17.8**	**6975.741**	**0.518**
12367-PeCDD	33.73	J EMPC	1.0036	1.0036	0	1.17E+05	2.01	N	1.04	1.02	6975.741	0.518
12389-PeCDD	34.06	J EMPC	1.0137	1.0135	-0.4	9.84E+04	1.30	N	1.04	0.856	6975.741	0.518
124679/124689-HxCDD	35.81		0.9540	0.9539	-0.2	5.18E+06	1.25	Y	1.10	46.2	10083.358	0.775
123468-HxCDD	36.47		0.9715	0.9714	-0.2	4.98E+05	1.17	Y	1.10	4.44	10083.358	0.775
123679/123689-HxCDD	36.77		0.9793	0.9794	+0.2	3.65E+06	1.26	Y	1.10	32.6	10083.358	0.775
123469-HxCDD	36.90		0.9829	0.9828	-0.2	3.55E+05	1.43	Y	1.10	3.17	10083.358	0.775
123478-HxCDD	37.56	J	**1.0004**	**1.0004**	**0**	**2.25E+05**	**1.25**	**Y**	1.09	**2.13**	**10083.358**	**0.79**
123678-HxCDD	37.68		**1.0036**	**1.0037**	**+0.2**	**1.15E+06**	**1.31**	**Y**	1.15	**9.96**	**10083.358**	**0.78**
123467-HxCDD	37.88	J	1.0089	1.0089	0	2.40E+05	1.31	Y	1.10	2.14	10083.358	0.775
123789-HxCDD	37.99	EMPC	**1.0118**	**1.0118**	**0**	**4.69E+05**	**1.68**	**N**	1.05	**4.09**	**10083.358**	**0.759**

Lab ID: B6328_18957_DF_001 **Acq'd:** 24 Feb 2022 08:02 DTF **Wt/Vol:** 10.20 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-NC-S-48 **UTP:** 24-Feb-2022 12:19:33 DTF **J-level:** 0.49 pg/g **Split:** 1 **Checkcode:** 078-775-KQT

Datafile: 220223C23 **Report:** 24 Feb 2022 12:20 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

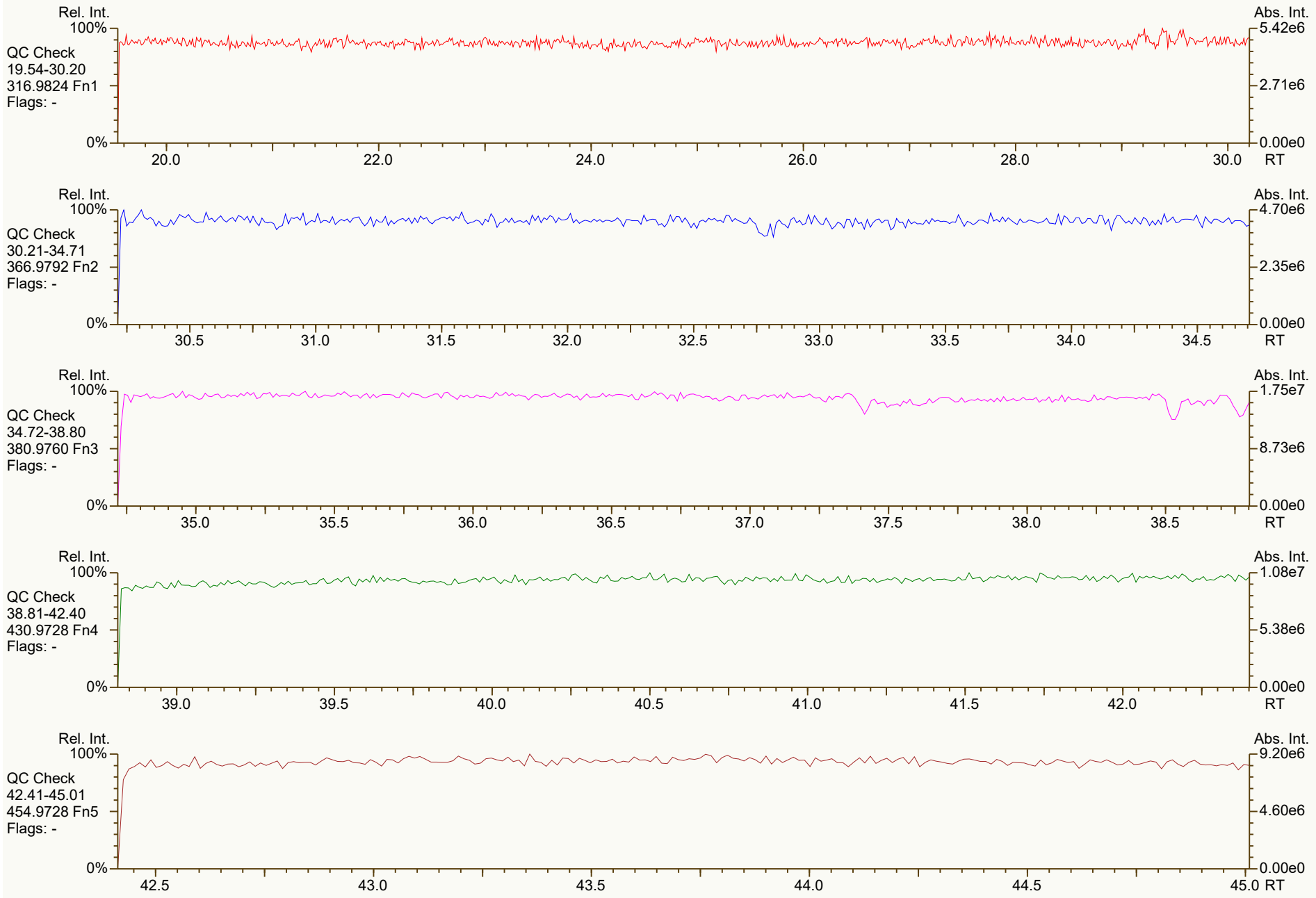
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.04		0.9836	0.9835	-0.2	3.62E+07	1.03	Y	1.06	334	6174.236	0.519
1234678-HpCDD	**40.73**		**1.0002**	**1.0003**	**+0.2**	**2.80E+07**	**1.05**	**Y**	**1.06**	**259**	**6174.236**	**0.519**
OCDD	**43.43**		**1.0003**	**1.0003**	**0**	**2.75E+08**	**0.90**	**Y**	**1.13**	**3,410**	**3967.235**	**0.608**
OCDD-a	43.42		1.0002	1.0002	0	1.75E+07	2.26	Y	0.07	3,390	6991.434	16.8
1368-TCDF	22.35		0.8191	0.8178	-1.7	2.58E+05	0.82	Y	1.08	1.26	2940.19	0.166
1468-TCDF	22.95		0.8408	0.8398	-1.4	1.37E+06	0.71	Y	1.08	6.71	2940.19	0.166
2468-TCDF	23.61		0.8645	0.8637	-1.1	1.20E+06	0.81	Y	1.08	5.86	2940.19	0.166
1346/1246-TCDF	NotFnd		0.8772						1.08		2940.19	0.166
1347/1378/1247-TCDF	24.13		0.8833	0.8830	-0.4	8.97E+06	0.80	Y	1.08	43.9	2940.19	0.166
1348-TCDF	NotFnd		0.8932						1.08		2940.19	0.166
1248/1367/1379-TCDF	24.49		0.8980	0.8959	-3.1	3.22E+07	0.79	Y	1.08	158	2940.19	0.166
1268-TCDF	24.92		0.9119	0.9116	-0.4	1.22E+07	0.77	Y	1.08	59.5	2940.19	0.166
1467-TCDF	25.05		0.9170	0.9165	-0.8	2.04E+06	0.76	Y	1.08	9.99	2940.19	0.166
1478-TCDF	25.22		0.9234	0.9228	-0.9	2.97E+07	0.80	Y	1.08	145	2940.19	0.166
1369/1237-TCDF	25.61		0.9369	0.9369	0	9.61E+06	0.78	Y	1.08	47	2940.19	0.166
2467-TCDF	25.74		0.9415	0.9416	+0.2	1.10E+06	0.71	Y	1.08	5.36	2940.19	0.166
2368-TCDF	25.88		0.9475	0.9469	-0.9	2.05E+07	0.77	Y	1.08	100	2940.19	0.166
1238/1234/1678/1469/1236-TCDF	25.96		0.9507	0.9497	-1.6	4.65E+07	0.78	Y	1.08	228	2940.19	0.166
1278-TCDF	26.44	E	0.9676	0.9673	-0.5	3.81E+08	0.78	Y	1.08	1,860	2940.19	0.166
1349-TCDF	NotFnd		0.9722						1.08		2940.19	0.166
1267-TCDF	26.72		0.9777	0.9775	-0.3	2.07E+07	0.79	Y	1.08	101	2940.19	0.166
2346/1249-TCDF	26.91		0.9843	0.9846	+0.5	2.19E+06	0.82	Y	1.08	10.7	2940.19	0.166
2347/1279-TCDF	27.13		0.9926	0.9924	-0.3	1.13E+07	0.78	Y	1.08	55.4	2940.19	0.166
2348-TCDF	27.24		0.9968	0.9965	-0.5	5.87E+07	0.77	Y	1.08	287	2940.19	0.166
2378-TCDF	**27.35**	E	**1.0008**	**1.0008**	**0**	**9.08E+08**	**0.78**	**Y**	**1.08**	**4,440**	**2940.19**	**0.166**
2367/3467-TCDF	27.71		1.0142	1.0139	-0.5	7.27E+07	0.78	Y	1.08	356	2940.19	0.166
1269-TCDF	27.96		1.0235	1.0231	-0.7	1.09E+07	0.78	Y	1.08	53.5	2940.19	0.166
1239-TCDF	28.22		1.0329	1.0325	-0.7	1.06E+06	0.78	Y	1.08	5.2	2940.19	0.166
1289-TCDF	29.39		1.0742	1.0752	+1.8	6.62E+07	0.81	Y	1.08	324	2940.19	0.166
13468/12468-PeCDF	29.34		0.9122	0.9126	+0.7	2.29E+06	1.73	Y	1.02	13.1	3263.759	0.168
13678/13467/12467-PeCDF	30.89		0.9606	0.9609	+0.6	7.19E+05	1.66	Y	1.02	4.1	5606.042	0.289
12368/13478/12478-PeCDF	31.06		0.9655	0.9663	+1.5	1.34E+07	1.50	Y	1.02	76.3	5606.042	0.289
14678-PeCDF	NotFnd		0.9685						1.02		5606.042	0.289
13479-PeCDF	NotFnd		0.9716						1.02		5606.042	0.289
13469/12479-PeCDF	NotFnd		0.9794						1.02		5606.042	0.289
12346-PeCDF	NotFnd		0.9836						1.02		5606.042	0.289

Lab ID: B6328_18957_DF_001 **Acq'd: 24 Feb 2022 08:02 DTF** **Wt/Vol: 10.20 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021822-S-SB-NC-S-48 **UTP: 24-Feb-2022 12:19:33 DTF** **J-level: 0.49 pg/g** **Split: 1** **Checkcode: 078-775-KQT**

Datafile: 220223C23 **Report: 24 Feb 2022 12:20 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.72		0.9866	0.9866	0	8.34E+05	1.60	Y	1.02	4.76	5606.042	0.289
12347-PeCDF	31.79		0.9891	0.9889	-0.4	6.72E+05	1.77	Y	1.02	3.84	5606.042	0.289
12348-PeCDF	31.95		0.9938	0.9940	+0.4	2.79E+06	1.52	Y	1.02	15.9	5606.042	0.289
12378-PeCDF	**32.16**		**1.0005**	**1.0006**	**+0.2**	**2.70E+07**	**1.53**	**Y**	**1.02**	**153**	**5606.042**	**0.298**
12678/12367-PeCDF	32.46		1.0091	1.0098	+1.4	8.86E+06	1.45	Y	1.02	50.5	5606.042	0.289
12379-PeCDF	NotFnd		1.0144						1.02		5606.042	0.289
12679-PeCDF	33.03	J	0.9927	0.9928	+0.2	1.21E+05	1.38	Y	1.02	0.692	5606.042	0.289
23467/12369-PeCDF	33.15		0.9965	0.9965	0	6.16E+05	1.33	Y	1.02	3.51	5606.042	0.289
23478-PeCDF	**33.29**		**1.0005**	**1.0007**	**+0.4**	**2.21E+07**	**1.54**	**Y**	**1.02**	**126**	**5606.042**	**0.28**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5606.042	0.289
12349-PeCDF	NotFnd		1.0101						1.02		5606.042	0.289
12389-PeCDF	34.37		1.0330	1.0329	-0.2	1.27E+06	1.48	Y	1.02	7.25	5606.042	0.289
123468-HxCDF	35.16		0.9622	0.9623	+0.2	1.29E+06	1.14	Y	1.19	7.94	5508.466	0.286
124678/134678-HxCDF	35.36		0.9678	0.9677	-0.2	6.55E+06	1.22	Y	1.19	40.2	5508.466	0.286
134679-HxCDF	NotFnd		0.9741						1.19		5508.466	0.286
124679-HxCDF	35.79	J	0.9795	0.9796	+0.2	1.42E+05	1.34	Y	1.19	0.873	5508.466	0.286
124689-HxCDF	36.01		0.9856	0.9856	0	6.02E+06	1.27	Y	1.19	36.9	5508.466	0.286
123467-HxCDF	36.43	J EMPC	0.9972	0.9971	-0.2	3.15E+05	1.00	N	1.19	1.93	5508.466	0.286
123478-HxCDF	**36.56**		**1.0004**	**1.0005**	**+0.2**	**4.13E+07**	**1.23**	**Y**	**1.27**	**255**	**5508.466**	**0.277**
123678-HxCDF	**36.70**		**1.0004**	**1.0004**	**0**	**1.13E+07**	**1.25**	**Y**	**1.15**	**66.9**	**5508.466**	**0.287**
123479-HxCDF	NotFnd		1.0048						1.19		5508.466	0.286
123469-HxCDF	NotFnd		1.0089						1.19		5508.466	0.286
123679-HxCDF	NotFnd		0.9942						1.19		5508.466	0.286
234678-HxCDF	**37.38**		**1.0005**	**1.0004**	**-0.2**	**2.75E+06**	**1.29**	**Y**	**1.19**	**15.9**	**5508.466**	**0.262**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		5508.466	0.286
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**5508.466**	**0.326**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.38		1.0006	1.0011	+1.2	3.09E+06	1.26	Y	1.19	18.9	5508.466	0.286
1234678-HpCDF	**39.78**		**1.0003**	**1.0002**	**-0.2**	**2.39E+07**	**1.08**	**Y**	**1.37**	**154**	**80415.088**	**4.06**
1234679-HpCDF	NotFnd		1.0068						1.34		80415.088	4.8
1234689-HpCDF	40.18	PR	1.0104	1.0104	0	1.88E+07	0.91	Y	1.34	134	80415.088	4.8
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**80415.088**	**5.68**
OCDF	**43.60**		**1.0002**	**1.0003**	**+0.3**	**8.27E+07**	**0.88**	**Y**	**1.07**	**841**	**6163.127**	**0.838**
OCDF-a	43.60		1.0001	1.0002	+0.3	5.50E+06	2.52	Y	0.07	903	3128.291	6.86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100%
QC Check
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RT
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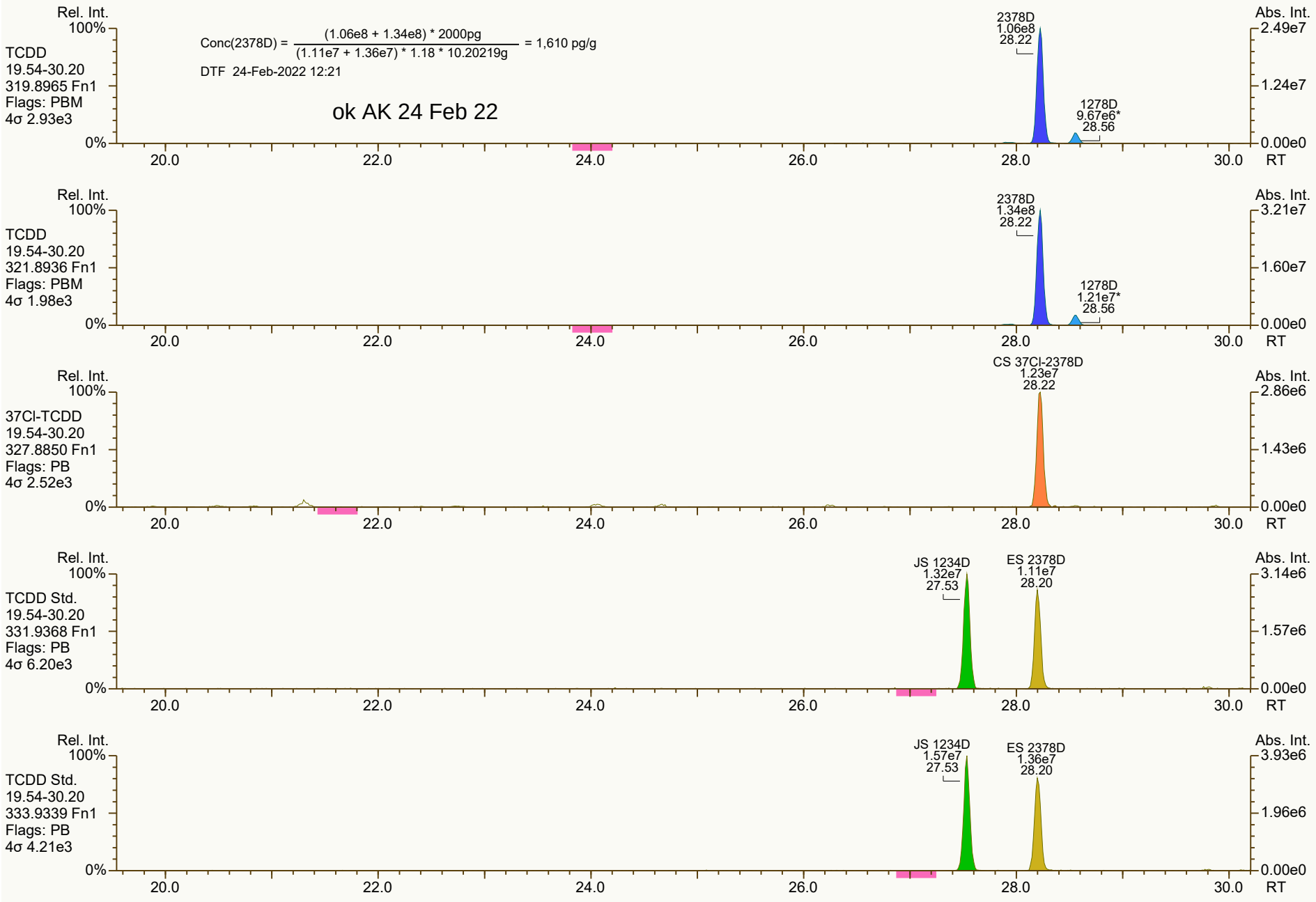
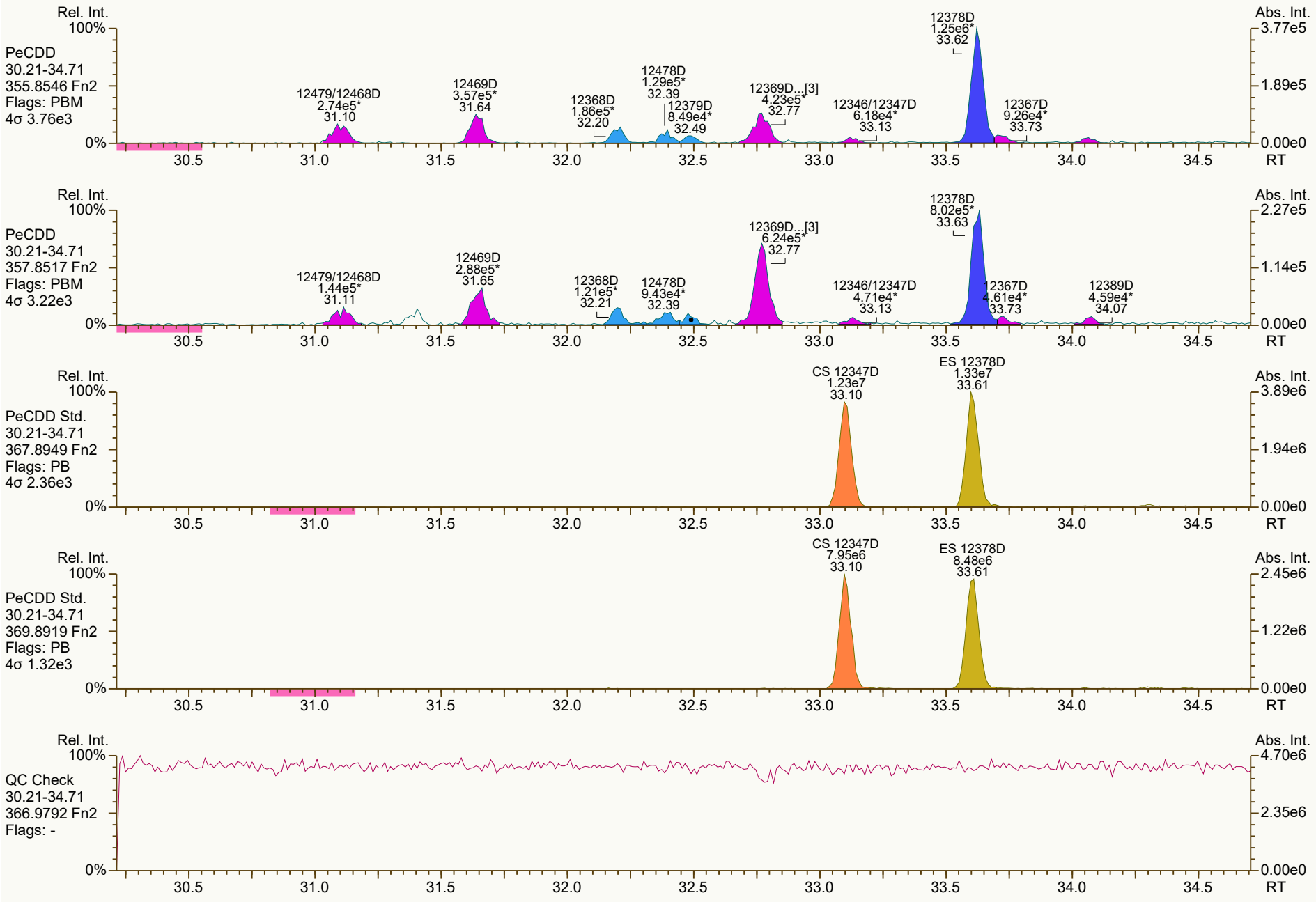
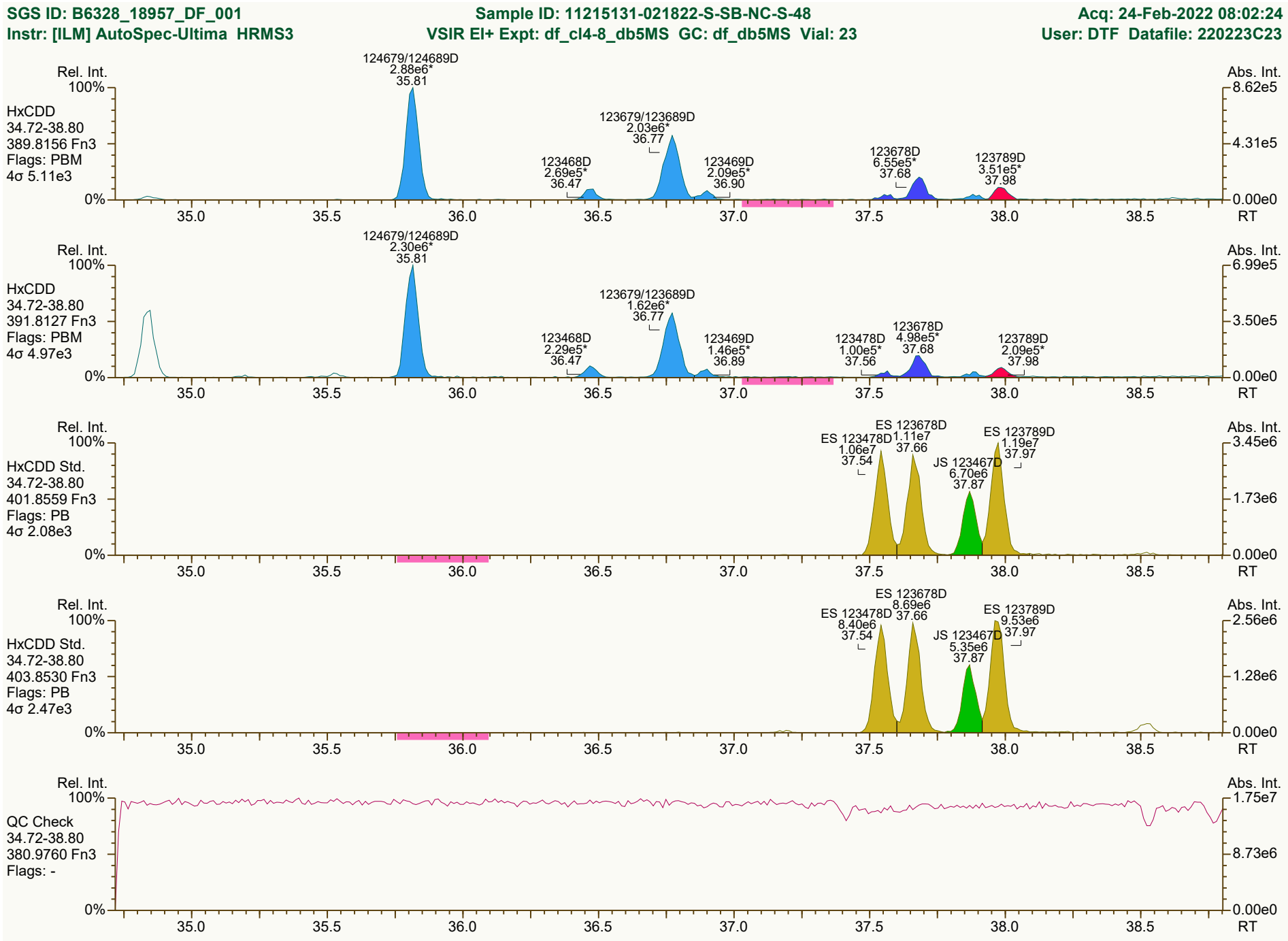
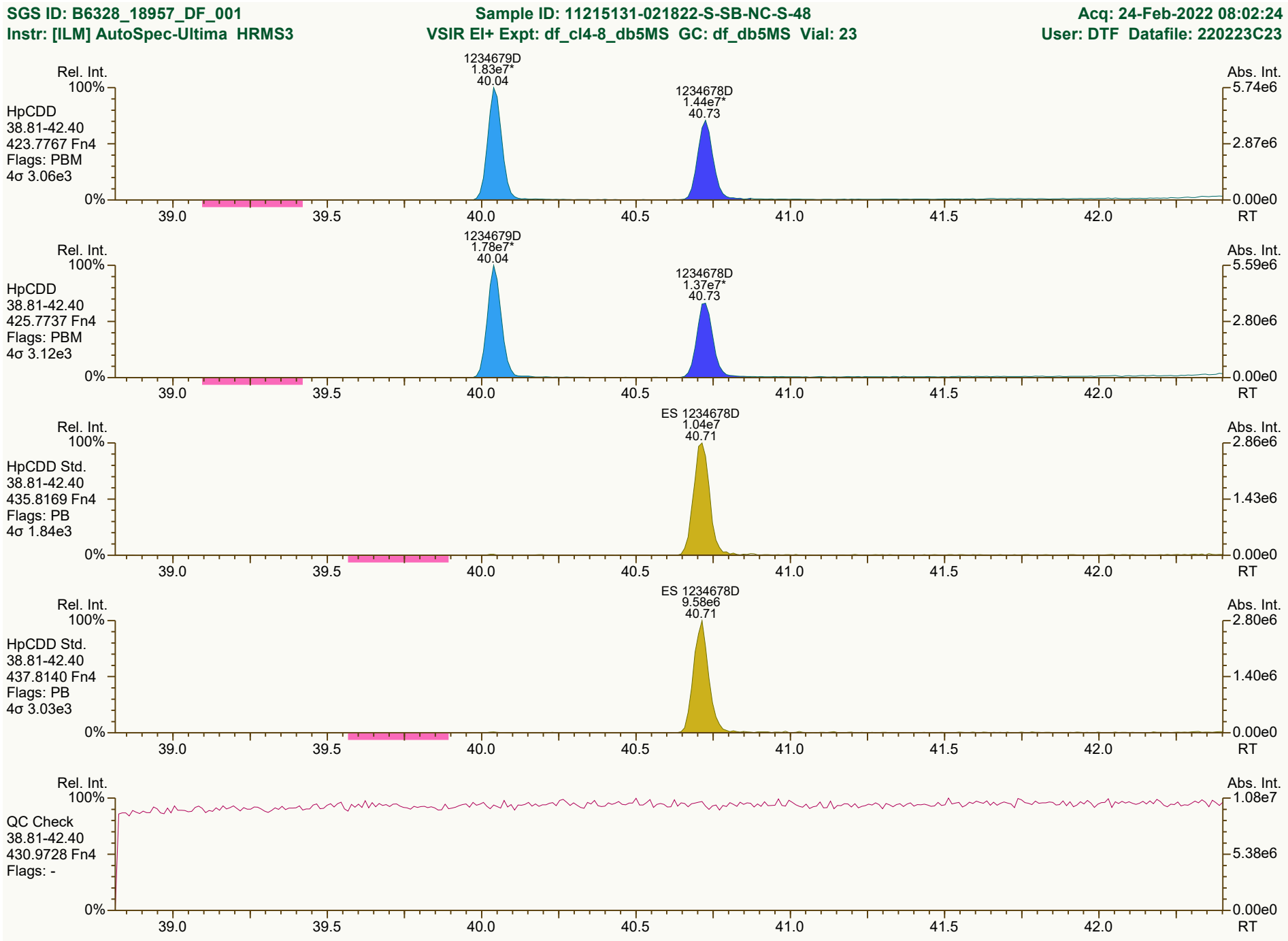
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.75e7
8.73e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.08e7
5.38e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
9.20e6
4.60e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.93e3
0%
Conc(2378D) = (1.06e8 + 1.34e8) * 2000pg / (1.11e7 + 1.36e7) * 1.18 * 10.20219g = 1,610 pg/g
DTF 24-Feb-2022 12:21
ok AK 24 Feb 22
2378D
1.06e8
28.22
1278D
9.67e6*
28.56
Abs. Int.
2.49e7
1.24e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.98e3
0%
2378D
1.34e8
28.22
1278D
1.21e7*
28.56
Abs. Int.
3.21e7
1.60e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.52e3
0%
CS 37Cl-2378D
1.23e7
28.22
Abs. Int.
2.86e6
1.43e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.20e3
0%
JS 1234D
1.32e7
27.53
ES 2378D
1.11e7
28.20
Abs. Int.
3.14e6
1.57e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.21e3
0%
JS 1234D
1.57e7
27.53
ES 2378D
1.36e7
28.20
Abs. Int.
3.93e6
1.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

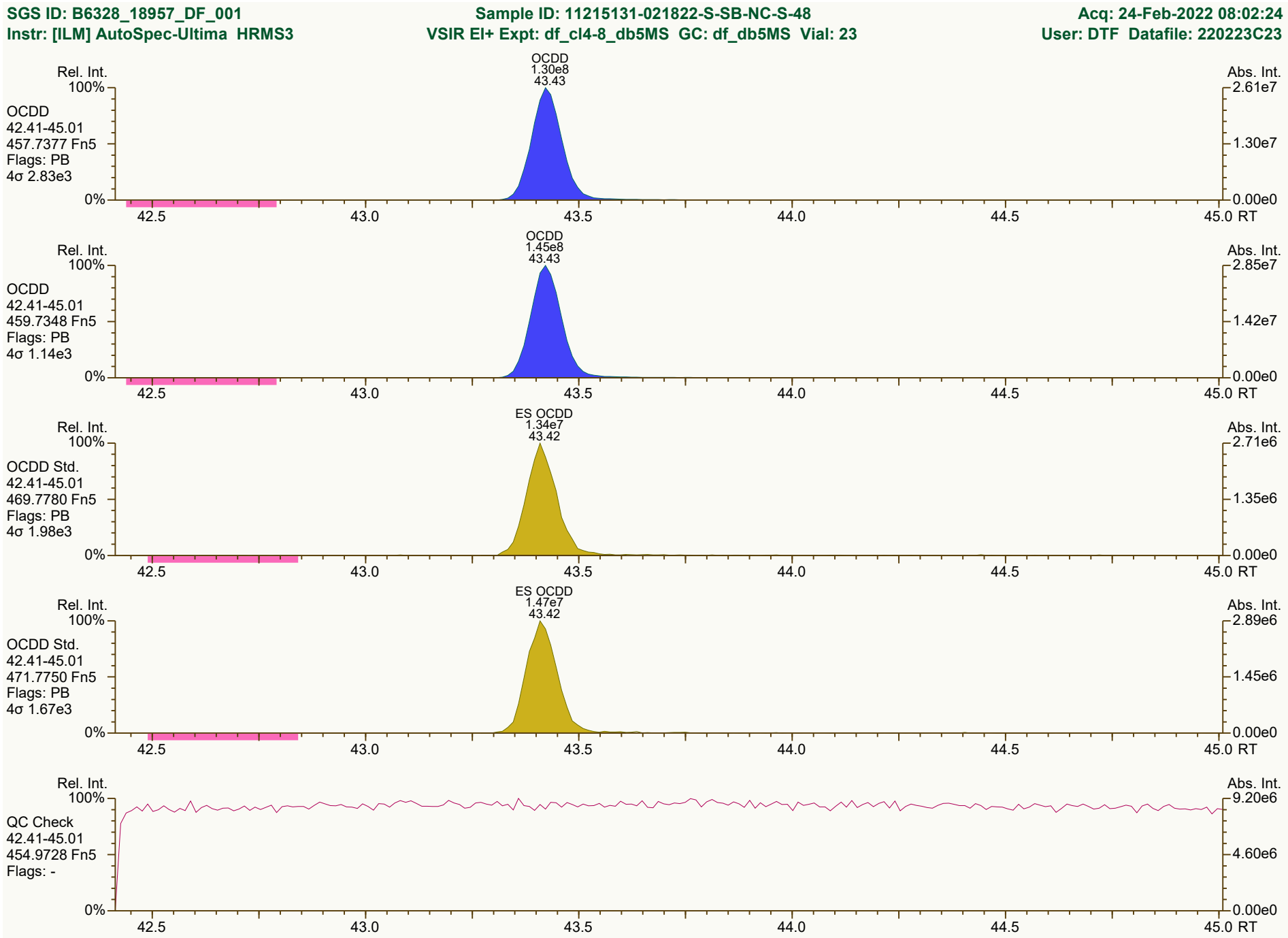

Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 3.76e3
12479/12468D 2.74e5* 31.10
12469D 3.57e5* 31.64
12368D 1.86e5* 32.20
12478D 1.29e5* 32.39
12379D 8.49e4* 32.49
12369D...[3] 4.23e5* 32.77
12346/12347D 6.18e4* 33.13
12378D 1.25e6* 33.62
12367D 9.26e4* 33.73
Abs. Int.
3.77e5
1.89e5
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 3.22e3
12479/12468D 1.44e5* 31.11
12469D 2.88e5* 31.65
12368D 1.21e5* 32.21
12478D 9.43e4* 32.39
12369D...[3] 6.24e5* 32.77
12346/12347D 4.71e4* 33.13
12378D 8.02e5* 33.63
12367D 4.61e4* 33.73
12389D 4.59e4* 34.07
Abs. Int.
2.27e5
1.14e5
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.36e3
CS 12347D 1.23e7 33.10
ES 12378D 1.33e7 33.61
Abs. Int.
3.89e6
1.94e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.32e3
CS 12347D 7.95e6 33.10
ES 12378D 8.48e6 33.61
Abs. Int.
2.45e6
1.22e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Abs. Int.
4.70e6
2.35e6
0.00e0
0%
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 RT


SGS ID: B6328_18957_DF_001
Sample ID: 11215131-021822-S-SB-NC-S-48
Acq: 24-Feb-2022 08:02:24
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 23
User: DTF Datafile: 220223C23
Rel. Int.
Abs. Int.
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 5.11e3
124679/124689D
2.88e6*
35.81
123679/123689D
2.03e6*
36.77
123468D
2.69e5*
36.47
123469D
2.09e5*
36.90
123678D
6.55e5*
37.68
123789D
3.51e5*
37.98
8.62e5
4.31e5
0.00e0
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 4.97e3
124679/124689D
2.30e6*
35.81
123679/123689D
1.62e6*
36.77
123468D
2.29e5*
36.47
123469D
1.46e5*
36.89
123478D
1.00e5*
37.56
123678D
4.98e5*
37.68
123789D
2.09e5*
37.98
6.99e5
3.50e5
0.00e0
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 2.08e3
ES 123678D
1.11e7
37.66
ES 123478D
1.06e7
37.54
ES 123789D
1.19e7
37.97
JS 123467D
6.70e6
37.87
3.45e6
1.73e6
0.00e0
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 2.47e3
ES 123678D
8.69e6
37.66
ES 123478D
8.40e6
37.54
ES 123789D
9.53e6
37.97
JS 123467D
5.35e6
37.87
2.56e6
1.28e6
0.00e0
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
1.75e7
8.73e6
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Results: P:\B6300_B6399\B6328\B6328_18957 DF\Resources\B6328_18957_DF_001.utp_res, saved 24-Feb-2022 12:22 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1665, 0330 scc: 078-775
Revised: 24-Feb-2022 12:05 (DTF) Printed: 24-Feb-2022 12:28 Page 4 of 12



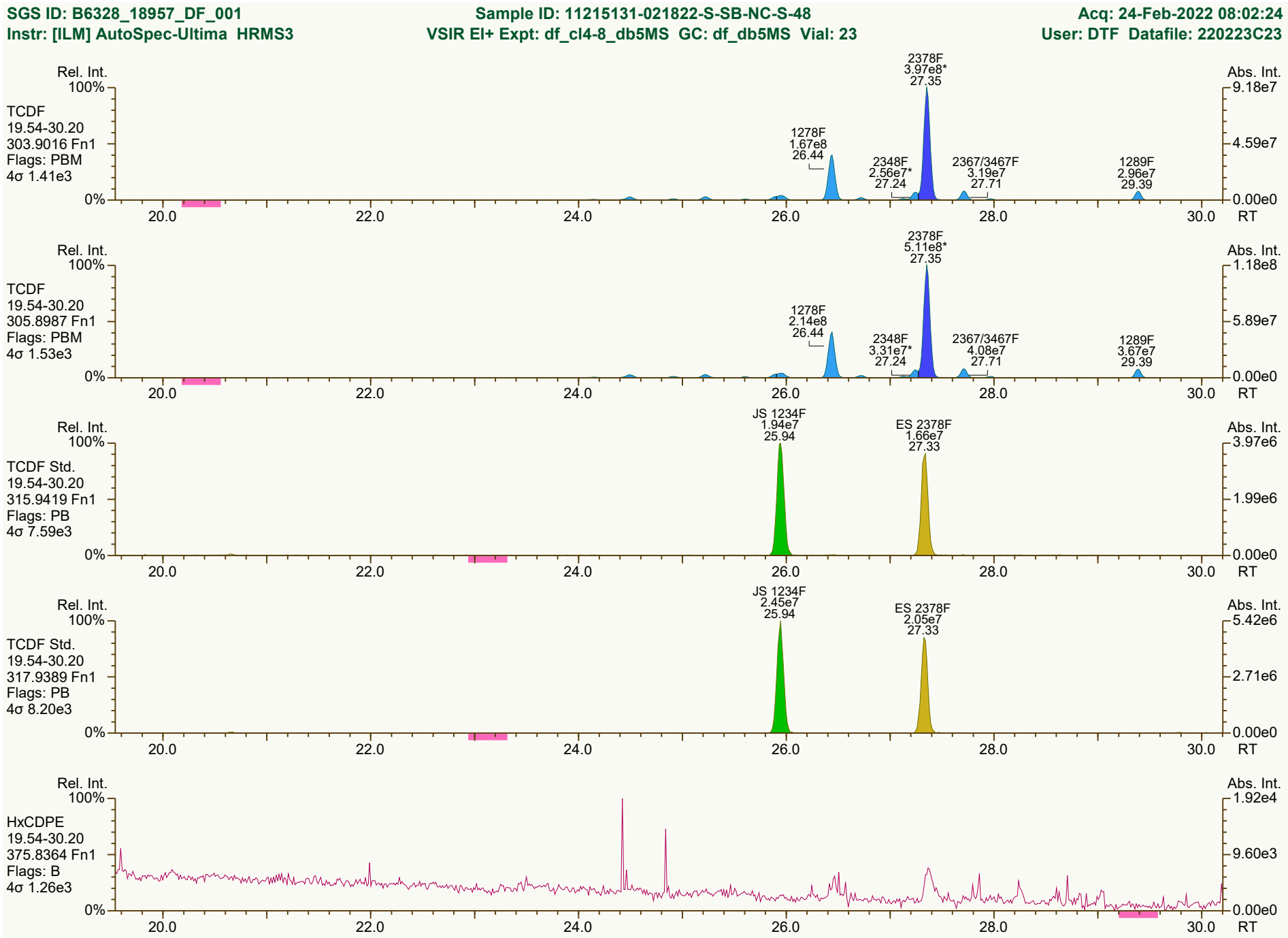
Results: P:\B6300_B6399\B6328\B6328_18957 DF\Resources\B6328_18957_DF_001.utp_res, saved 24-Feb-2022 12:22 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1399, 7271 scc: 078-775
Revised: 24-Feb-2022 12:05 (DTF) Printed: 24-Feb-2022 12:28 Page 5 of 12

SGS ID: B6328_18957_DF_001 | Sample ID: 11215131-021822-S-SB-NC-S-48 | Acq: 24-Feb-2022 08:02:24
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 23 | User: DTF Datafile: 220223C23



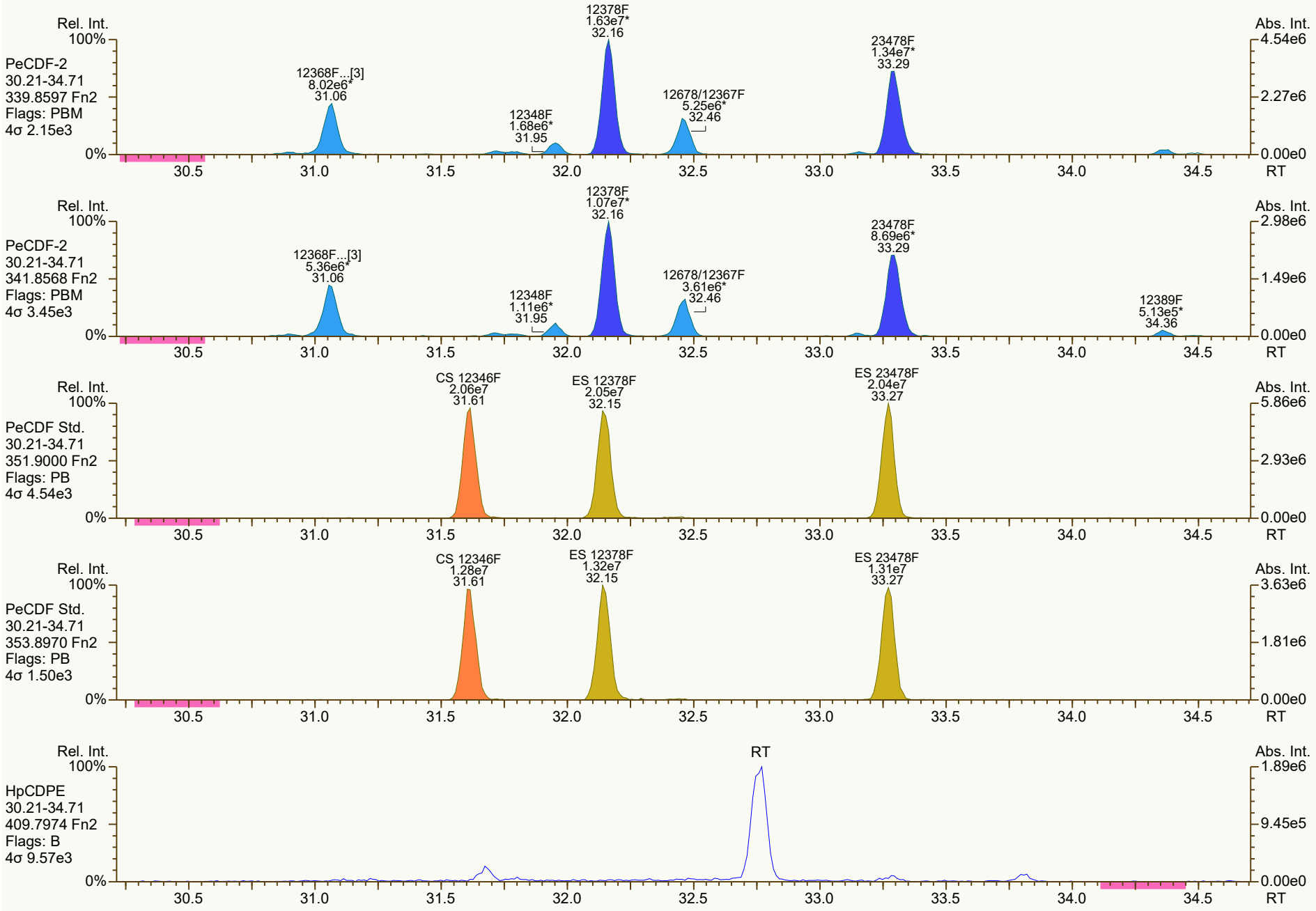
Results: P:\B6300_B6399\B6328\B6328_18957 DF\Resources\B6328_18957_DF_001.utp_res, saved 24-Feb-2022 12:22 (DTF) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4314, 6725 scc: 078-775 | *PKD: 24-Feb-2022 12:03 Printed: 24-Feb-2022 12:28 Page 6 of 12*

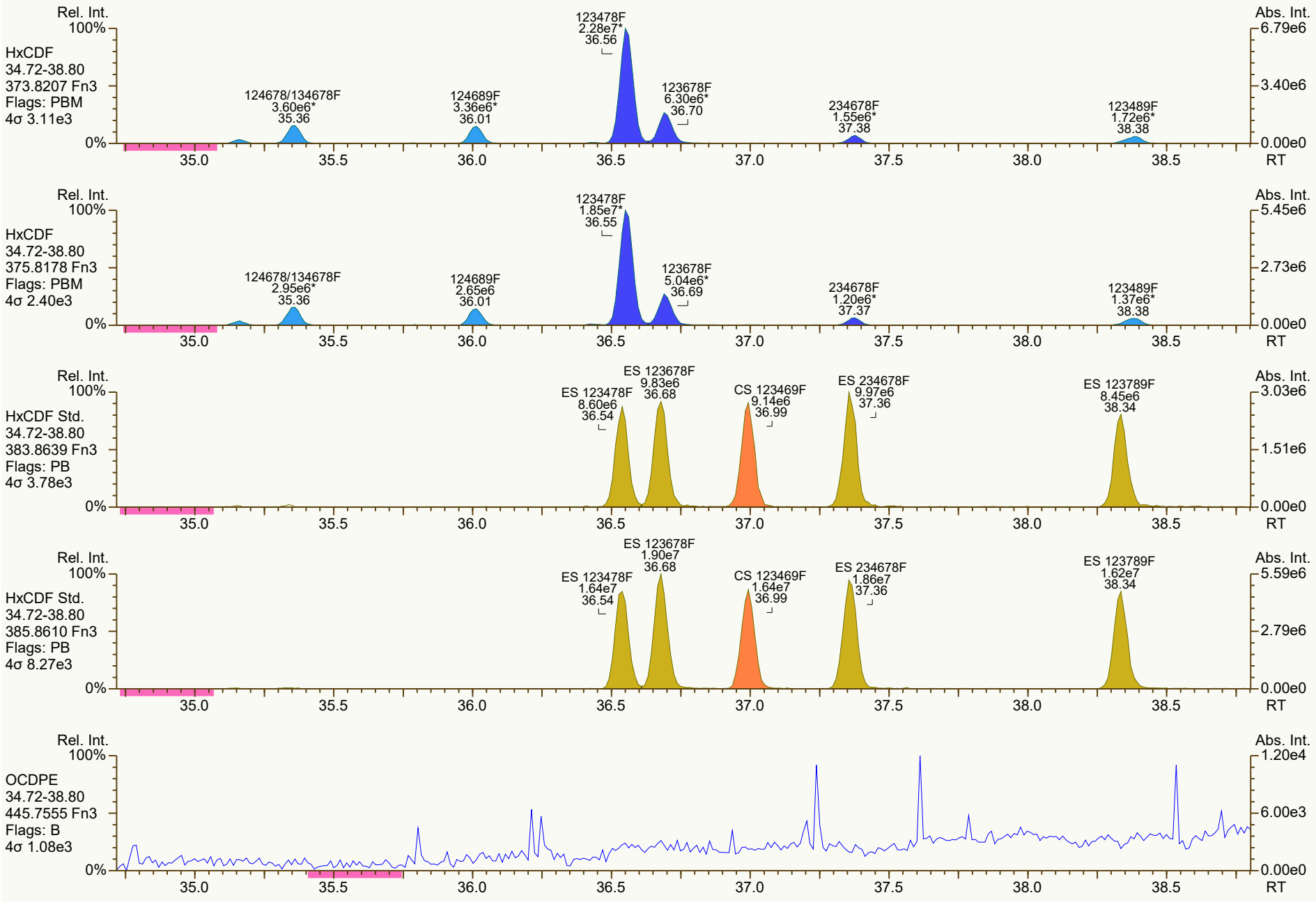
SGS ID: B6328_18957_DF_001 | Sample ID: 11215131-021822-S-SB-NC-S-48 | Acq: 24-Feb-2022 08:02:24
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 23 | User: DTF Datafile: 220223C23

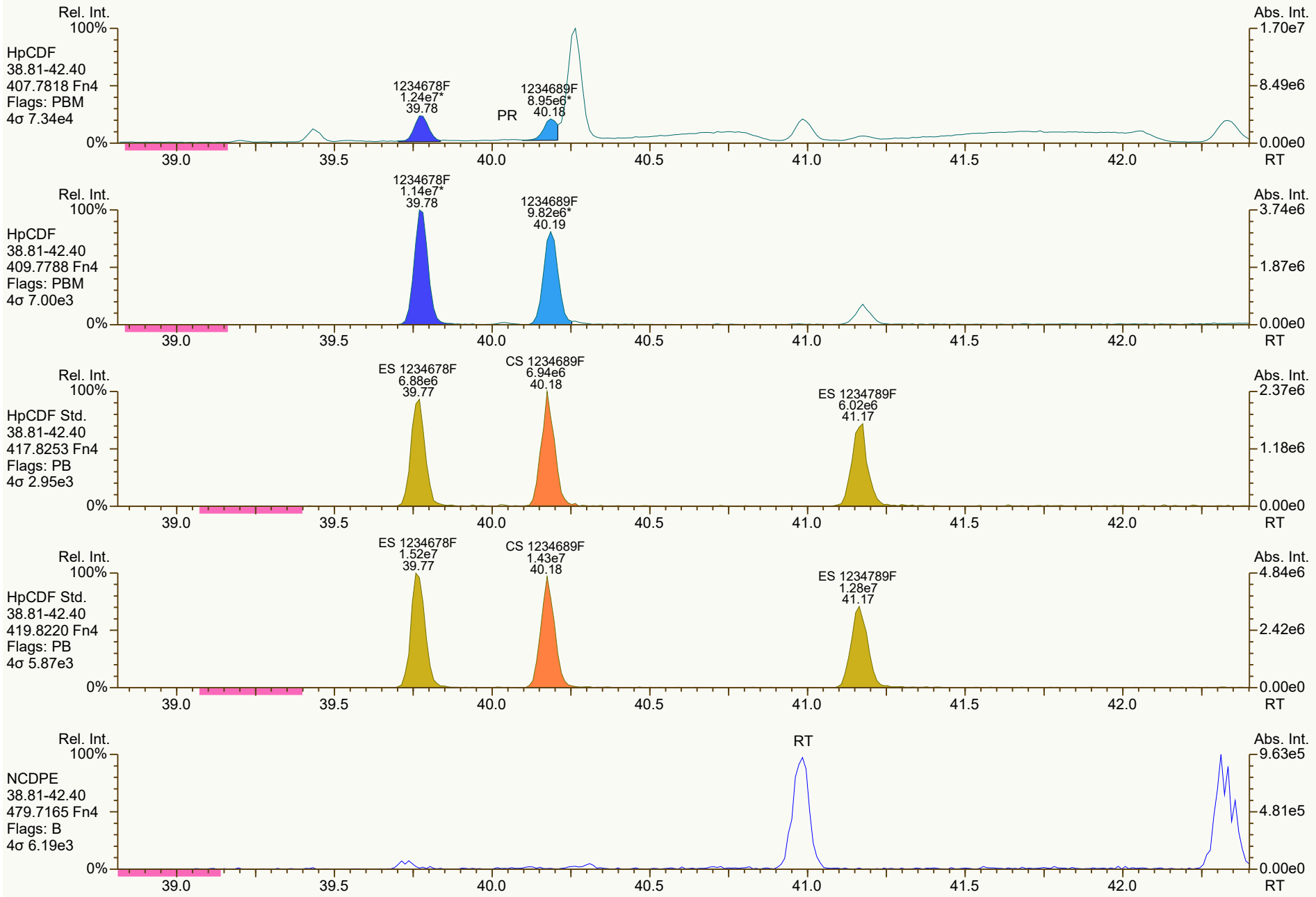


Results: P:\B6300_B6399\B6328\B6328_18957 DF\Resources\B6328_18957_DF_001.utp_res, saved 24-Feb-2022 12:22 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7295, 2907, 9808 scc: 078-775 | Revised: 24-Feb-2022 12:05 (DTF) Printed: 24-Feb-2022 12:28 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
3.62e5
1.81e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.80e3
13468/12468F
1.45e6*
29.34
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.47e3
13468/12468F
8.40e5*
29.33
1.94e5
9.69e4
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
5.42e6
2.71e6


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 2.15e3
12368F...[3]
8.02e6*
31.06
12348F
1.68e6*
31.95
12378F
1.63e7*
32.16
12678/12367F
5.25e6*
32.46
23478F
1.34e7*
33.29
Abs. Int.
4.54e6
2.27e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 3.45e3
12368F...[3]
5.36e6*
31.06
12348F
1.11e6*
31.95
12378F
1.07e7*
32.16
12678/12367F
3.61e6*
32.46
23478F
8.69e6*
33.29
12389F
5.13e5*
34.36
Abs. Int.
2.98e6
1.49e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 4.54e3
CS 12346F
2.06e7
31.61
ES 12378F
2.05e7
32.15
ES 23478F
2.04e7
33.27
Abs. Int.
5.86e6
2.93e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 1.50e3
CS 12346F
1.28e7
31.61
ES 12378F
1.32e7
32.15
ES 23478F
1.31e7
33.27
Abs. Int.
3.63e6
1.81e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 9.57e3
RT
Abs. Int.
1.89e6
9.45e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 3.11e3
0%
123478F
2.28e7*
36.56
124678/134678F
3.60e6*
35.36
124689F
3.36e6*
36.01
123678F
6.30e6*
36.70
234678F
1.55e6*
37.38
123489F
1.72e6*
38.38
Abs. Int.
6.79e6
3.40e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 2.40e3
0%
123478F
1.85e7*
36.55
124678/134678F
2.95e6*
35.36
124689F
2.65e6
36.01
123678F
5.04e6*
36.69
234678F
1.20e6*
37.37
123489F
1.37e6*
38.38
Abs. Int.
5.45e6
2.73e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 3.78e3
0%
ES 123678F
9.83e6
36.68
ES 123478F
8.60e6
36.54
CS 123469F
9.14e6
36.99
ES 234678F
9.97e6
37.36
ES 123789F
8.45e6
38.34
Abs. Int.
3.03e6
1.51e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 8.27e3
0%
ES 123678F
1.90e7
36.68
ES 123478F
1.64e7
36.54
CS 123469F
1.64e7
36.99
ES 234678F
1.86e7
37.36
ES 123789F
1.62e7
38.34
Abs. Int.
5.59e6
2.79e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.08e3
0%
Abs. Int.
1.20e4
6.00e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 7.34e4
1234678F
1.24e7*
39.78
PR
1234689F
8.95e6*
40.18
Abs. Int.
1.70e7
8.49e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 7.00e3
1234678F
1.14e7*
39.78
1234689F
9.82e6*
40.19
Abs. Int.
3.74e6
1.87e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 2.95e3
ES 1234678F
6.88e6
39.77
CS 1234689F
6.94e6
40.18
ES 1234789F
6.02e6
41.17
Abs. Int.
2.37e6
1.18e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 5.87e3
ES 1234678F
1.52e7
39.77
CS 1234689F
1.43e7
40.18
ES 1234789F
1.28e7
41.17
Abs. Int.
4.84e6
2.42e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 6.19e3
RT
Abs. Int.
9.63e5
4.81e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
3.86e7
43.60
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 3.00e3
0%
Abs. Int.
7.33e6
3.67e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.41e7
43.60
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 3.17e3
0%
Abs. Int.
8.30e6
4.15e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.68e7
43.59
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.13e6
1.57e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.92e7
43.59
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 1.68e3
0%
Abs. Int.
3.54e6
1.77e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 2.77e3
0%
Abs. Int.
1.72e4
8.61e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6328_18957_DF_002 **Acq'd:** 24 Feb 2022 08:48 DTF **Wt/Vol:** 10.16 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021722-S-SB-SC-S-33 **UTP:** 24-Feb-2022 12:19:34 DTF **J-level:** 0.492 pg/g **Split:** 1 **Checkcode:** 330-523-YPY

Datafile: 220223C24 **Report:** 24 Feb 2022 12:20 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.23		1.0008	1.0008	0	1.98E+06	0.77	Y	1.18	16.2	4441.644	0.394
12378-PeCDD	33.63		1.0007	1.0005	-0.4	5.25E+05	1.54	Y	1.04	5.55	8046.414	0.75
123478-HxCDD	37.57	EMPC	1.0004	1.0004	0	2.96E+05	1.05	N	1.09	3.45	6469.666	0.671
123678-HxCDD	37.69		1.0036	1.0036	0	2.77E+06	1.28	Y	1.15	30	6469.666	0.629
123789-HxCDD	37.99		1.0118	1.0117	-0.2	2.71E+06	1.27	Y	1.05	29	6469.666	0.569
1234678-HpCDD	40.74		1.0002	1.0003	+0.2	9.17E+07	1.04	Y	1.06	1,050	3682.442	0.358
OCDD	43.45		1.0003	1.0003	0	5.95E+08	0.90	Y	1.13	9,260	5438.763	1.15
2378-TCDF	27.36		1.0008	1.0008	0	8.76E+06	0.78	Y	1.08	55.7	3948.182	0.267
12378-PeCDF	32.17		1.0005	1.0004	-0.2	6.40E+05	1.38	Y	1.02	4.68	4014.403	0.272
23478-PeCDF	33.31		1.0005	1.0007	+0.4	1.30E+06	1.60	Y	1.02	9.51	4014.403	0.281
123478-HxCDF	36.57		1.0004	1.0004	0	1.57E+06	1.28	Y	1.27	12.3	4240.936	0.272
123678-HxCDF	36.71		1.0004	1.0005	+0.2	8.37E+05	1.16	Y	1.15	6.25	4240.936	0.272
234678-HxCDF	37.39		1.0005	1.0004	-0.2	8.20E+05	1.38	Y	1.19	6.36	4240.936	0.273
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4240.936	0.311
1234678-HpCDF	39.79		1.0003	1.0003	0	5.51E+06	1.00	Y	1.37	46.8	5222.885	0.349
1234789-HpCDF	41.19		1.0003	1.0002	-0.2	8.66E+05	1.03	Y	1.31	8.66	5222.885	0.485
OCDF	43.63		1.0002	1.0003	+0.3	1.28E+07	0.85	Y	1.07	163	3866.954	0.636

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.21	1.0243	1.0243	0	2.03E+07	0.78	Y	1.05	75.9
ES 12378-PeCDD	33.62	1.2198	1.2207	+1.8	1.80E+07	1.55	Y	0.88	80.1
ES 123478-HxCDD	37.55	0.9916	0.9915	-0.2	1.55E+07	1.26	Y	0.97	70.4
ES 123678-HxCDD	37.68	0.9947	0.9947	0	1.58E+07	1.29	Y	0.94	73.7
ES 123789-HxCDD	37.98	1.0029	1.0027	-0.5	1.75E+07	1.23	Y	1.09	70.7
ES 1234678-HpCDD	40.73	1.0749	1.0752	+0.7	1.62E+07	1.03	Y	0.91	78.3
ES OCDD	43.44	1.1460	1.1468	+2.1	2.25E+07	0.91	Y	0.62	79.3
ES 2378-TCDF	27.34	1.0531	1.0534	+0.5	2.87E+07	0.79	Y	1.06	67.6
ES 12378-PeCDF	32.16	1.2378	1.2390	+2.3	2.63E+07	1.64	Y	0.91	72
ES 23478-PeCDF	33.28	1.2810	1.2823	+2.6	2.63E+07	1.56	Y	0.88	74.5
ES 123478-HxCDF	36.55	0.9650	0.9649	-0.2	1.99E+07	0.56	Y	1.20	73.1
ES 123678-HxCDF	36.69	0.9688	0.9687	-0.2	2.29E+07	0.53	Y	1.35	74.5
ES 234678-HxCDF	37.37	0.9866	0.9866	0	2.14E+07	0.53	Y	1.24	75.7
ES 123789-HxCDF	38.35	1.0125	1.0124	-0.2	1.93E+07	0.54	Y	1.16	73.7
ES 1234678-HpCDF	39.78	1.0501	1.0501	0	1.69E+07	0.47	Y	0.97	77
ES 1234789-HpCDF	41.18	1.0870	1.0872	+0.5	1.51E+07	0.45	Y	0.85	77.9
ES OCDF	43.61	1.1505	1.1514	+2.4	2.87E+07	0.89	Y	0.81	78.3

Lab ID: B6328_18957_DF_002 **Acq'd:** 24 Feb 2022 08:48 DTF **Wt/Vol:** 10.16 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021722-S-SB-SC-S-33 **UTP:** 24-Feb-2022 12:19:34 DTF **J-level:** 0.492 pg/g **Split:** 1 **Checkcode:** 330-523-YPY

Datafile: 220223C24 **Report:** 24 Feb 2022 12:20 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.54		-	-	-	2.56E+07	0.77	Y	-	-
JS 1234-TCDF	25.95		-	-	-	4.01E+07	0.79	Y	-	-
JS 123467-HxCDD	37.88		-	-	-	1.13E+07	1.23	Y	-	-
CS 37Cl-2378-TCDD	28.23		1.0251	1.0252	+0.2	8.52E+06	n/a	-	1.20	69.3
CS 12347-PeCDD	33.11		1.2016	1.2023	+1.4	1.53E+07	1.66	Y	0.75	79.6
CS 12346-PeCDF	31.62		1.2172	1.2184	+2.3	2.57E+07	1.63	Y	0.85	75.4
CS 123469-HxCDF	37.01		0.9771	0.9770	-0.2	2.02E+07	0.51	Y	1.12	79.7
CS 1234689-HpCDF	40.19		1.0608	1.0610	+0.5	1.71E+07	0.44	Y	0.89	84.8
~~SS 37Cl-2378-TCDD~~	~~28.23~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~8.52E+06~~	~~n/a~~		~~1.15~~	~~91.5~~
~~SS 12347-PeCDD~~	~~33.11~~		~~1.2016~~	~~1.2023~~	~~+1.4~~	~~1.53E+07~~	~~1.66~~	~~Y~~	~~0.86~~	~~99.2~~
~~SS 12346-PeCDF~~	~~31.62~~		~~1.2172~~	~~1.2184~~	~~+2.3~~	~~2.57E+07~~	~~1.63~~	~~Y~~	~~0.94~~	~~105~~
~~SS 123469-HxCDF~~	~~37.01~~		~~0.9771~~	~~0.9770~~	~~-0.2~~	~~2.02E+07~~	~~0.51~~	~~Y~~	~~0.83~~	~~107~~
~~SS 1234689-HpCDF~~	~~40.19~~		~~1.0608~~	~~1.0610~~	~~+0.5~~	~~1.71E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~110~~

Totals	Conc	EMPC
Total TCDD	28.1	37.3
Total PeCDD	32.4	50.2
Total HxCDD	570	573
Total HpCDD	2190	2190
Total Tetra-Octa Dioxins	12100	12100
Total TCDF	162	165
Total PeCDF	61.9	67.3
Total HxCDF	90	90
Total HpCDF	153	153
Total Tetra-Octa Furans	630	639
Total Tetra-Octa Dioxins & Furans	12700	12800

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.768	0.77
Response	1.98E+06	1.98E+06

Lab ID: B6328_18957_DF_002 **Acq'd: 24 Feb 2022 08:48 DTF** **Wt/Vol: 10.16 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021722-S-SB-SC-S-33 **UTP: 24-Feb-2022 12:19:34 DTF** **J-level: 0.492 pg/g** **Split: 1** **Checkcode: 330-523-YPY**

Datafile: 220223C24 **Report: 24 Feb 2022 12:20 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.53	EMPC	0.8701	0.8694	-1.0	4.77E+05	0.93	N	1.18	3.91	4441.644	0.394
1379-TCDD	24.89		0.8829	0.8822	-1.0	2.63E+05	0.87	Y	1.18	2.16	4441.644	0.394
1369-TCDD	25.33	EMPC	0.8982	0.8978	-0.6	8.33E+04	1.05	N	1.18	0.682	4441.644	0.394
1469-TCDD	26.12		0.9261	0.9259	-0.3	6.78E+05	0.86	Y	1.18	5.55	4441.644	0.394
1247/1246/1248/1249-TCDD	26.37	EMPC	0.9348	0.9347	-0.2	1.81E+05	0.98	N	1.18	1.49	4441.644	0.394
1378-TCDD	26.58		0.9417	0.9421	+0.6	1.90E+05	0.79	Y	1.18	1.56	4441.644	0.394
1268-TCDD	NotFnd		0.9487						1.18		4441.644	0.394
1478-TCDD	NotFnd		0.9576						1.18		4441.644	0.394
1279-TCDD	27.18	EMPC	0.9636	0.9635	-0.2	8.91E+04	1.09	N	1.18	0.73	4441.644	0.394
1234/1269-TCDD	27.54	EMPC	0.9761	0.9761	0	1.58E+05	1.04	N	1.18	1.29	4441.644	0.394
1236-TCDD	NotFnd		0.9812						1.18		4441.644	0.394
1237/1238-TCDD	27.93	EMPC	0.9905	0.9900	-0.8	1.34E+05	1.16	N	1.18	1.1	4441.644	0.394
1239-TCDD	NotFnd		0.9951						1.18		4441.644	0.394
2378-TCDD	**28.23**		**1.0008**	1.0008	**0**	1.98E+06	0.77	Y	**1.18**	**16.2**	**4441.644**	**0.394**
1278-TCDD	28.57		1.0124	1.0126	+0.3	2.47E+05	0.88	Y	1.18	2.03	4441.644	0.394
1267-TCDD	NotFnd		1.0172						1.18		4441.644	0.394
1289-TCDD	29.22		1.0354	1.0359	+0.9	7.29E+04	0.85	Y	1.18	0.597	4441.644	0.394
12479/12468-PeCDD	31.11		0.9255	0.9254	-0.2	1.16E+06	1.61	Y	1.04	12.2	8046.414	0.75
12469-PeCDD	31.65	EMPC	0.9416	0.9415	-0.2	9.01E+05	0.95	N	1.04	9.51	8046.414	0.75
12368-PeCDD	32.21		0.9582	0.9582	0	4.35E+05	1.66	Y	1.04	4.59	8046.414	0.75
12478-PeCDD	32.40	EMPC	0.9637	0.9638	+0.2	6.31E+05	1.22	N	1.04	6.66	8046.414	0.75
12379-PeCDD	32.50		0.9668	0.9668	0	3.87E+05	1.34	Y	1.04	4.08	8046.414	0.75
12369/12467/12489-PeCDD	32.76		0.9746	0.9746	0	5.64E+05	1.75	Y	1.04	5.95	8046.414	0.75
12346/12347-PeCDD	33.14	J EMPC	0.9858	0.9858	0	1.56E+05	1.12	N	1.04	1.65	8046.414	0.75
12378-PeCDD	33.63		**1.0007**	**1.0005**	**-0.4**	**5.25E+05**	**1.54**	**Y**	**1.04**	**5.55**	**8046.414**	**0.75**
12367-PeCDD	NotFnd		1.0036						1.04		8046.414	0.75
12389-PeCDD	NotFnd		1.0137						1.04		8046.414	0.75
124679/124689-HxCDD	35.83		0.9540	0.9540	0	2.61E+07	1.28	Y	1.10	288	6469.666	0.621
123468-HxCDD	36.48		0.9715	0.9715	0	8.83E+05	1.16	Y	1.10	9.75	6469.666	0.621
123679/123689-HxCDD	36.78		0.9793	0.9794	+0.2	1.84E+07	1.29	Y	1.10	203	6469.666	0.621
123469-HxCDD	36.91		0.9829	0.9829	0	5.76E+05	1.20	Y	1.10	6.36	6469.666	0.621
123478-HxCDD	37.57	EMPC	**1.0004**	**1.0004**	**0**	**2.96E+05**	**1.05**	**N**	1.09	**3.45**	**6469.666**	**0.671**
123678-HxCDD	37.69		**1.0036**	**1.0036**	**0**	**2.77E+06**	**1.28**	**Y**	1.15	**30**	**6469.666**	**0.629**
123467-HxCDD	37.89		1.0089	1.0089	0	3.32E+05	1.33	Y	1.10	3.66	6469.666	0.621
123789-HxCDD	37.99		**1.0118**	**1.0117**	**-0.2**	**2.71E+06**	**1.27**	**Y**	1.05	**29**	**6469.666**	**0.569**

Lab ID: B6328_18957_DF_002 **Acq'd: 24 Feb 2022 08:48 DTF** **Wt/Vol: 10.16 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021722-S-SB-SC-S-33 **UTP: 24-Feb-2022 12:19:34 DTF** **J-level: 0.492 pg/g** **Split: 1** **Checkcode: 330-523-YPY**

Datafile: 220223C24 **Report: 24 Feb 2022 12:20 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

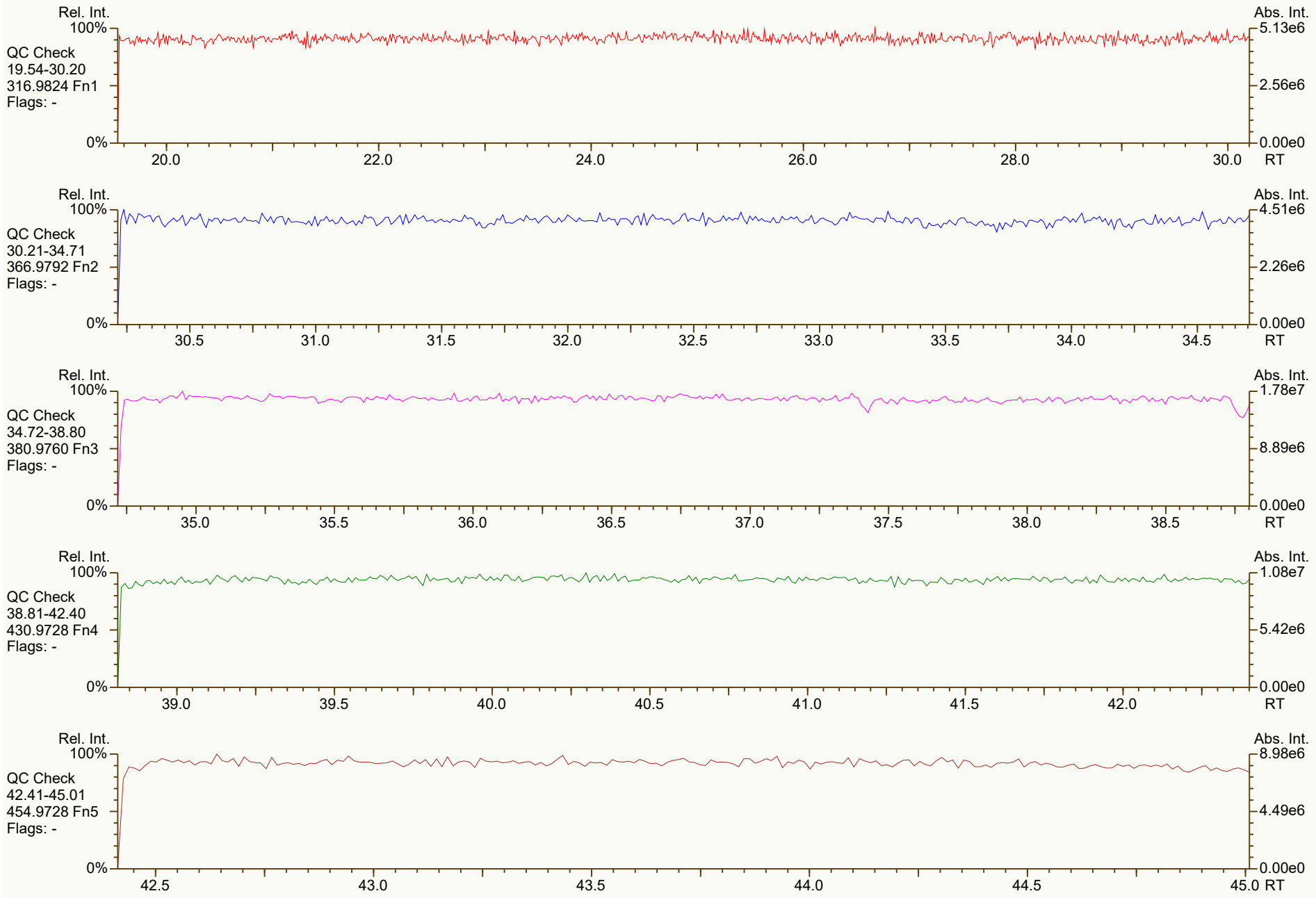
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.06		0.9836	0.9835	-0.2	9.99E+07	1.04	Y	1.06	1,140	3682.442	0.358
1234678-HpCDD	**40.74**		**1.0002**	**1.0003**	**+0.2**	**9.17E+07**	**1.04**	**Y**	**1.06**	**1,050**	**3682.442**	**0.358**
OCDD	**43.45**		**1.0003**	**1.0003**	**0**	**5.95E+08**	**0.90**	**Y**	**1.13**	**9,260**	**5438.763**	**1.15**
OCDD-a	43.45		1.0002	1.0002	0	3.70E+07	2.48	Y	0.07	9,020	3397.384	11.3
1368-TCDF	22.36	EMPC	0.8191	0.8179	-1.6	2.25E+05	0.89	N	1.08	1.43	3948.182	0.267
1468-TCDF	22.95		0.8408	0.8395	-1.8	2.37E+05	0.76	Y	1.08	1.51	3948.182	0.267
2468-TCDF	23.61		0.8645	0.8635	-1.4	5.60E+05	0.79	Y	1.08	3.56	3948.182	0.267
1346/1246-TCDF	24.00		0.8772	0.8777	+0.7	2.03E+05	0.71	Y	1.08	1.29	3948.182	0.267
1347/1378/1247-TCDF	24.13		0.8833	0.8827	-0.9	1.24E+06	0.80	Y	1.08	7.87	3948.182	0.267
1348-TCDF	NotFnd		0.8932						1.08		3948.182	0.267
1248/1367/1379-TCDF	24.49		0.8980	0.8957	-3.4	1.50E+06	0.76	Y	1.08	9.57	3948.182	0.267
1268-TCDF	24.93		0.9119	0.9118	-0.1	7.10E+05	0.80	Y	1.08	4.52	3948.182	0.267
1467-TCDF	25.08		0.9170	0.9172	+0.3	2.73E+05	0.78	Y	1.08	1.74	3948.182	0.267
1478-TCDF	25.23		0.9234	0.9230	-0.6	8.04E+05	0.68	Y	1.08	5.12	3948.182	0.267
1369/1237-TCDF	25.61		0.9369	0.9369	0	2.71E+05	0.76	Y	1.08	1.72	3948.182	0.267
2467-TCDF	25.73		0.9415	0.9412	-0.5	3.19E+05	0.82	Y	1.08	2.03	3948.182	0.267
2368-TCDF	NotFnd		0.9475						1.08		3948.182	0.267
1238/1234/1678/1469/1236-TCDF	25.95		0.9507	0.9493	-2.2	1.95E+06	0.82	Y	1.08	12.4	3948.182	0.267
1278-TCDF	26.45		0.9676	0.9674	-0.3	3.92E+06	0.79	Y	1.08	24.9	3948.182	0.267
1349-TCDF	NotFnd		0.9722						1.08		3948.182	0.267
1267-TCDF	26.73		0.9777	0.9776	-0.2	5.33E+05	0.84	Y	1.08	3.39	3948.182	0.267
2346/1249-TCDF	26.91	EMPC	0.9843	0.9844	+0.2	2.81E+05	0.94	N	1.08	1.79	3948.182	0.267
2347/1279-TCDF	27.13		0.9926	0.9924	-0.3	6.18E+05	0.81	Y	1.08	3.93	3948.182	0.267
2348-TCDF	27.24		0.9968	0.9964	-0.7	8.42E+05	0.80	Y	1.08	5.36	3948.182	0.267
2378-TCDF	**27.36**		**1.0008**	**1.0008**	**0**	**8.76E+06**	**0.78**	**Y**	**1.08**	**55.7**	**3948.182**	**0.267**
2367/3467-TCDF	27.72		1.0142	1.0140	-0.3	1.84E+06	0.86	Y	1.08	11.7	3948.182	0.267
1269-TCDF	27.97		1.0235	1.0232	-0.5	2.11E+05	0.78	Y	1.08	1.34	3948.182	0.267
1239-TCDF	NotFnd		1.0329						1.08		3948.182	0.267
1289-TCDF	29.39		1.0742	1.0750	+1.4	6.48E+05	0.67	Y	1.08	4.12	3948.182	0.267
13468/12468-PeCDF	29.34		0.9122	0.9124	+0.4	1.65E+06	1.53	Y	1.02	12.1	2735.329	0.188
13678/13467/12467-PeCDF	30.90		0.9606	0.9609	+0.6	7.67E+05	1.46	Y	1.02	5.61	4014.403	0.276
12368/13478/12478-PeCDF	31.07		0.9655	0.9661	+1.1	2.42E+06	1.58	Y	1.02	17.7	4014.403	0.276
14678-PeCDF	NotFnd		0.9685						1.02		4014.403	0.276
13479-PeCDF	NotFnd		0.9716						1.02		4014.403	0.276
13469/12479-PeCDF	31.49	J EMPC	0.9794	0.9791	-0.6	1.29E+05	1.89	N	1.02	0.944	4014.403	0.276
12346-PeCDF	31.64	J EMPC	0.9836	0.9839	+0.6	1.38E+05	1.28	N	1.02	1.01	4014.403	0.276

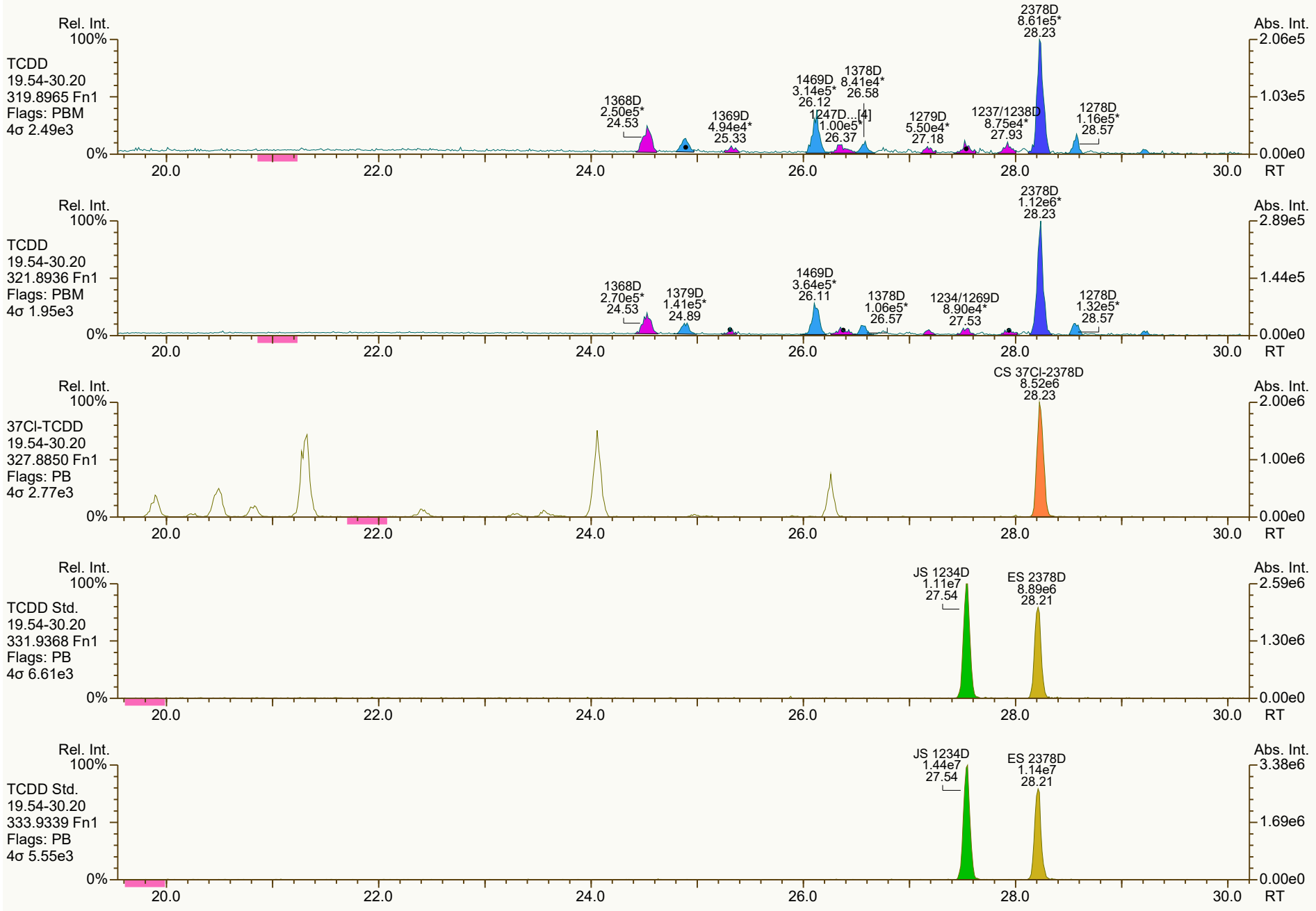
Lab ID: B6328_18957_DF_002 **Acq'd: 24 Feb 2022 08:48 DTF** **Wt/Vol: 10.16 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

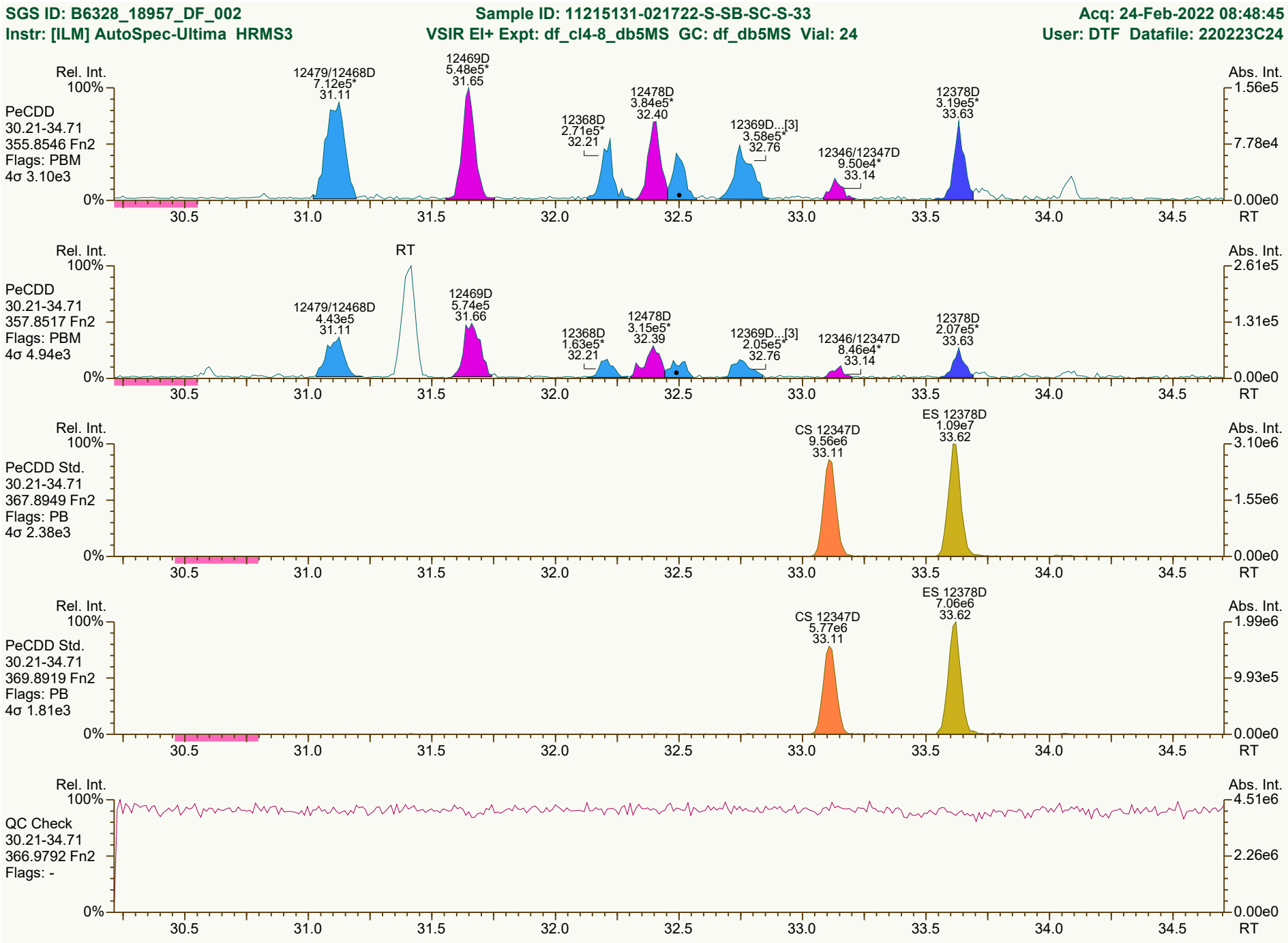
Client ID: 11215131-021722-S-SB-SC-S-33 **UTP: 24-Feb-2022 12:19:34 DTF** **J-level: 0.492 pg/g** **Split: 1** **Checkcode: 330-523-YPY**

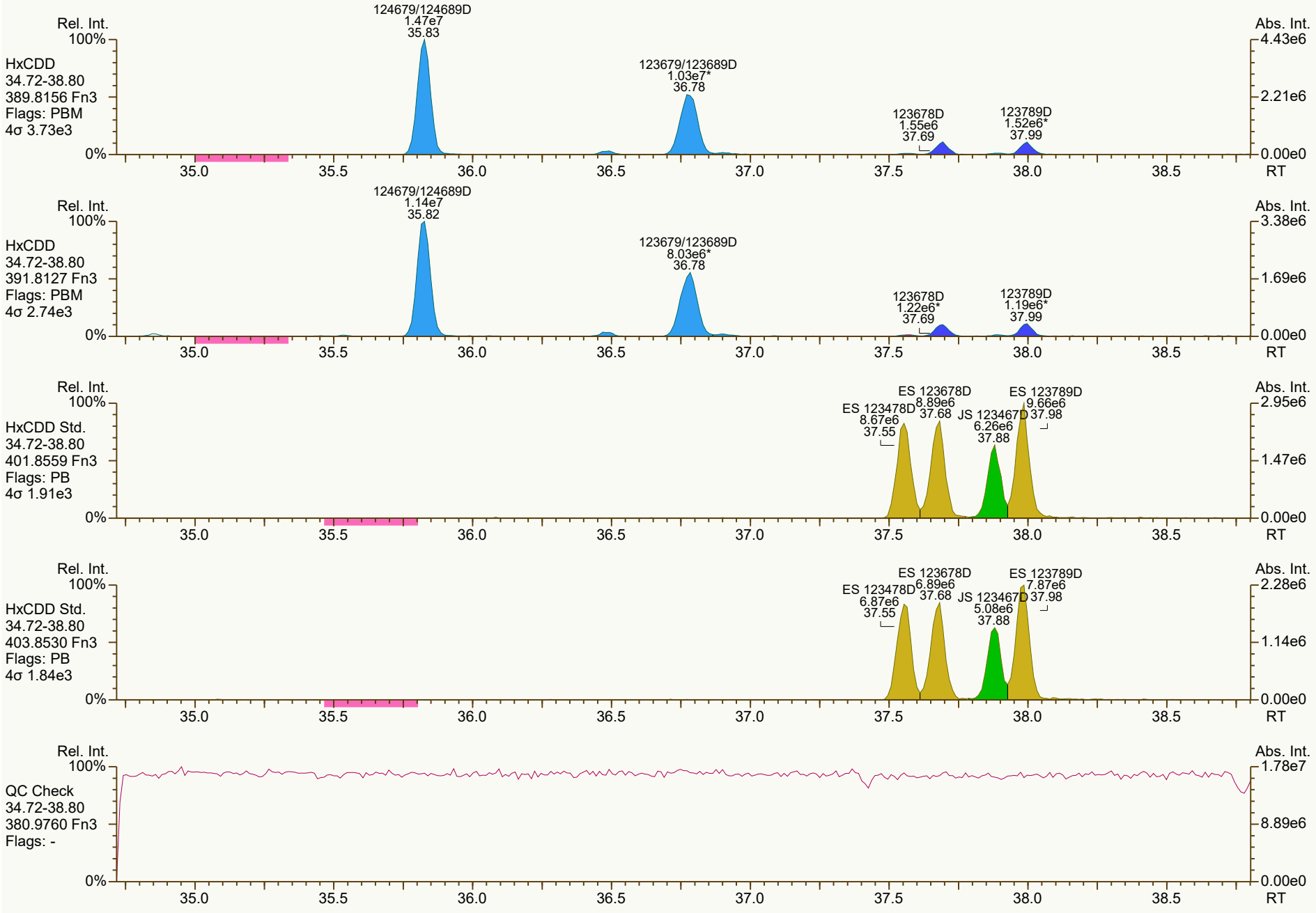
Datafile: 220223C24 **Report: 24 Feb 2022 12:20 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

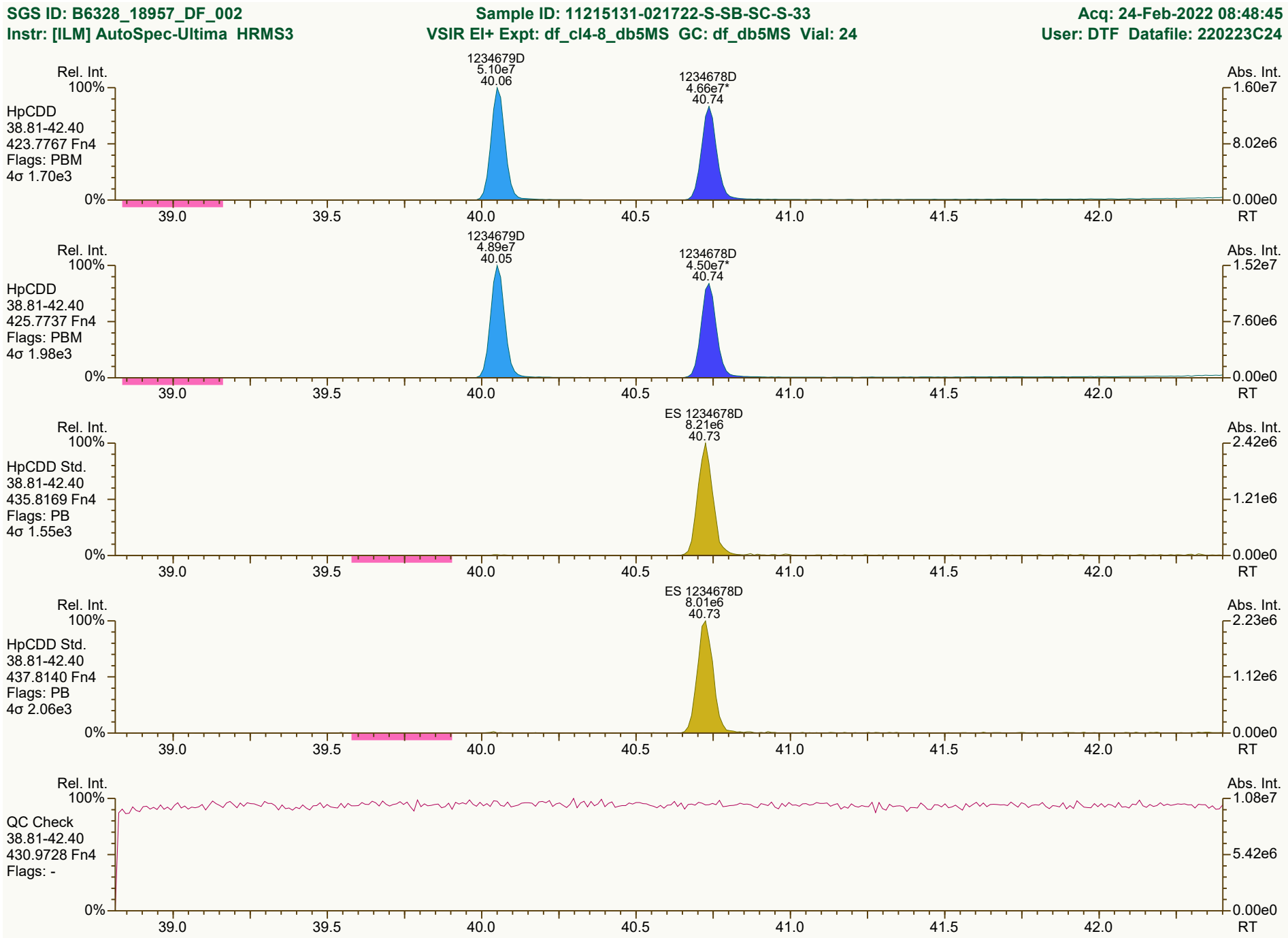
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.73	EMPC	0.9866	0.9866	0	4.64E+05	1.29	N	1.02	3.39	4014.403	0.276
12347-PeCDF	31.80	J	0.9891	0.9888	-0.6	2.14E+05	1.69	Y	1.02	1.56	4014.403	0.276
12348-PeCDF	31.96	J	0.9938	0.9939	+0.2	2.58E+05	1.47	Y	1.02	1.89	4014.403	0.276
12378-PeCDF	**32.17**		**1.0005**	**1.0004**	**-0.2**	**6.40E+05**	**1.38**	**Y**	**1.02**	**4.68**	**4014.403**	**0.272**
12678/12367-PeCDF	32.46		1.0091	1.0095	+0.8	8.31E+05	1.77	Y	1.02	6.08	4014.403	0.276
12379-PeCDF	NotFnd		1.0144						1.02		4014.403	0.276
12679-PeCDF	NotFnd		0.9927						1.02		4014.403	0.276
23467/12369-PeCDF	33.17		0.9965	0.9966	+0.2	3.81E+05	1.69	Y	1.02	2.79	4014.403	0.276
23478-PeCDF	**33.31**		**1.0005**	**1.0007**	**+0.4**	**1.30E+06**	**1.60**	**Y**	**1.02**	**9.51**	**4014.403**	**0.281**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4014.403	0.276
12349-PeCDF	NotFnd		1.0101						1.02		4014.403	0.276
12389-PeCDF	NotFnd		1.0330						1.02		4014.403	0.276
123468-HxCDF	35.17		0.9622	0.9623	+0.2	6.42E+05	1.21	Y	1.19	5.08	4240.936	0.281
124678/134678-HxCDF	35.37		0.9678	0.9677	-0.2	3.17E+06	1.26	Y	1.19	25	4240.936	0.281
134679-HxCDF	NotFnd		0.9741						1.19		4240.936	0.281
124679-HxCDF	35.80		0.9795	0.9795	0	4.07E+05	1.26	Y	1.19	3.22	4240.936	0.281
124689-HxCDF	36.02		0.9856	0.9856	0	3.31E+06	1.23	Y	1.19	26.2	4240.936	0.281
123467-HxCDF	36.45		0.9972	0.9972	0	4.06E+05	1.24	Y	1.19	3.21	4240.936	0.281
123478-HxCDF	**36.57**		**1.0004**	**1.0004**	**0**	**1.57E+06**	**1.28**	**Y**	**1.27**	**12.3**	**4240.936**	**0.272**
123678-HxCDF	**36.71**		**1.0004**	**1.0005**	**+0.2**	**8.37E+05**	**1.16**	**Y**	**1.15**	**6.25**	**4240.936**	**0.272**
123479-HxCDF	NotFnd		1.0048						1.19		4240.936	0.281
123469-HxCDF	NotFnd		1.0089						1.19		4240.936	0.281
123679-HxCDF	NotFnd		0.9942						1.19		4240.936	0.281
234678-HxCDF	**37.39**		**1.0005**	**1.0004**	**-0.2**	**8.20E+05**	**1.38**	**Y**	**1.19**	**6.36**	**4240.936**	**0.273**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4240.936	0.281
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4240.936**	**0.311**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.39	J	1.0006	1.0011	+1.2	3.05E+05	1.13	Y	1.19	2.41	4240.936	0.281
1234678-HpCDF	**39.79**		**1.0003**	**1.0003**	**0**	**5.51E+06**	**1.00**	**Y**	**1.37**	**46.8**	**5222.885**	**0.349**
1234679-HpCDF	40.05		1.0068	1.0070	+0.5	4.62E+05	1.00	Y	1.34	4.24	5222.885	0.412
1234689-HpCDF	40.20		1.0104	1.0106	+0.5	1.01E+07	1.02	Y	1.34	93.3	5222.885	0.412
1234789-HpCDF	**41.19**		**1.0003**	**1.0002**	**-0.2**	**8.66E+05**	**1.03**	**Y**	**1.31**	**8.66**	**5222.885**	**0.485**
OCDF	**43.63**		**1.0002**	**1.0003**	**+0.3**	**1.28E+07**	**0.85**	**Y**	**1.07**	**163**	**3866.954**	**0.636**
OCDF-a	43.62		1.0001	1.0002	+0.3	8.39E+05	2.37	Y	0.07	173	5698.134	15.1

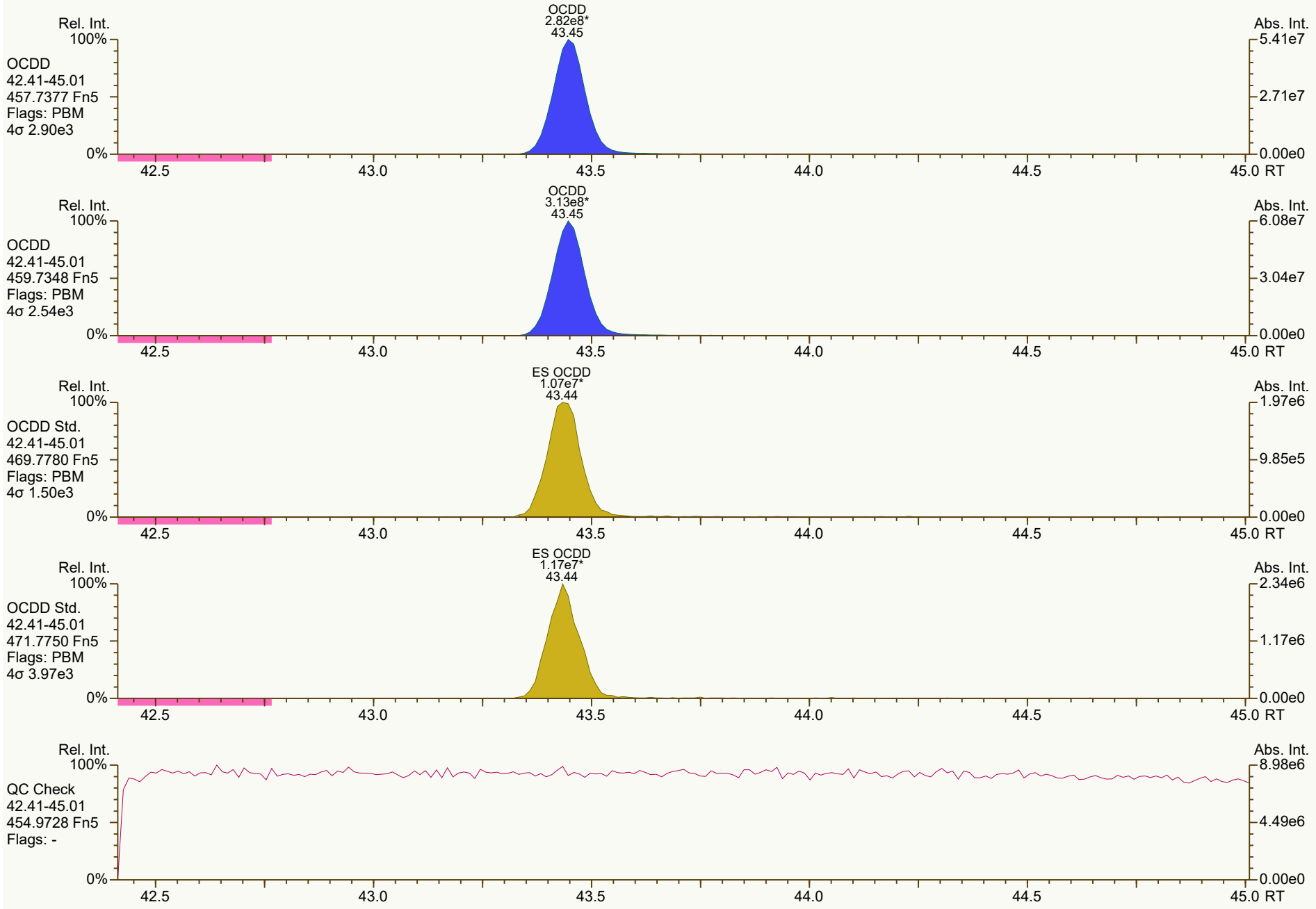

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
5.13e6
2.56e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.51e6
2.26e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.78e7
8.89e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.08e7
5.42e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
8.98e6
4.49e6
0.00e0

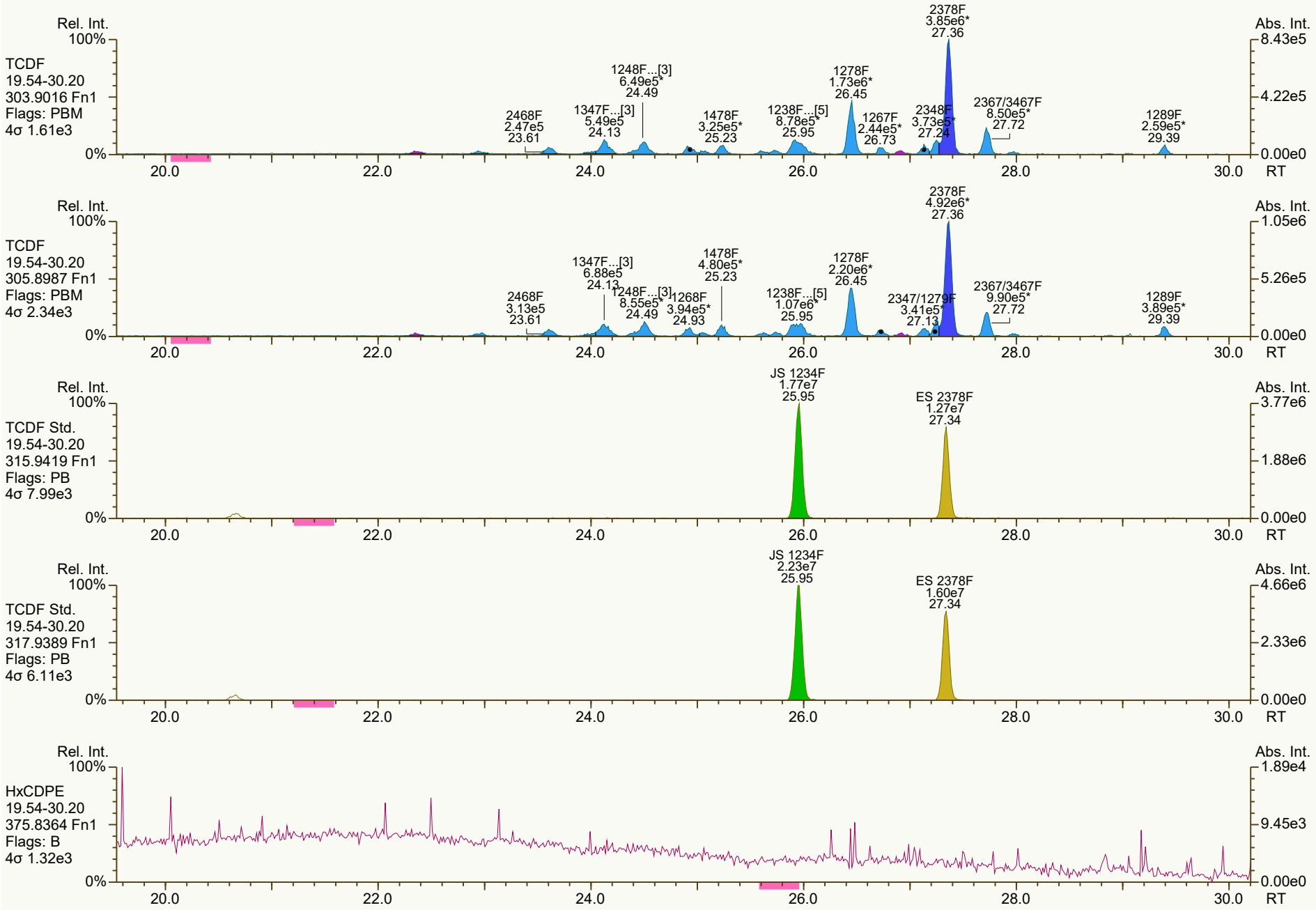

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.49e3
0%
1368D 2.50e5* 24.53
1369D 4.94e4* 25.33
1469D 3.14e5* 26.12
1247D...[4] 1.00e5* 26.37
1378D 8.41e4* 26.58
1279D 5.50e4* 27.18
1237/1238D 8.75e4* 27.93
2378D 8.61e5* 28.23
1278D 1.16e5* 28.57
Abs. Int.
2.06e5
1.03e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.95e3
0%
1368D 2.70e5* 24.53
1379D 1.41e5* 24.89
1469D 3.64e5* 26.11
1378D 1.06e5* 26.57
1234/1269D 8.90e4* 27.53
2378D 1.12e6* 28.23
1278D 1.32e5* 28.57
Abs. Int.
2.89e5
1.44e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.77e3
0%
CS 37Cl-2378D 8.52e6 28.23
Abs. Int.
2.00e6
1.00e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.61e3
0%
JS 1234D 1.11e7 27.54
ES 2378D 8.89e6 28.21
Abs. Int.
2.59e6
1.30e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 5.55e3
0%
JS 1234D 1.44e7 27.54
ES 2378D 1.14e7 28.21
Abs. Int.
3.38e6
1.69e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6328_18957_DF_002
Sample ID: 11215131-021722-S-SB-SC-S-33
Acq: 24-Feb-2022 08:48:45
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 24
User: DTF Datafile: 220223C24
Rel. Int.
Abs. Int.
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 3.10e3
12479/12468D
7.12e5*
31.11
12469D
5.48e5*
31.65
12368D
2.71e5*
32.21
12478D
3.84e5*
32.40
12369D...[3]
3.58e5*
32.76
12346/12347D
9.50e4*
33.14
12378D
3.19e5*
33.63
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 4.94e3
RT
12479/12468D
4.43e5
31.11
12469D
5.74e5
31.66
12368D
1.63e5*
32.21
12478D
3.15e5*
32.39
12369D...[3]
2.05e5*
32.76
12346/12347D
8.46e4*
33.14
12378D
2.07e5*
33.63
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.38e3
CS 12347D
9.56e6
33.11
ES 12378D
1.09e7
33.62
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.81e3
CS 12347D
5.77e6
33.11
ES 12378D
7.06e6
33.62
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
RT
Results: P:\B6300_B6399\B6328\B6328_18957 DF\Resources\B6328_18957_DF_002.utp_res, saved 24-Feb-2022 12:19 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7856, 6625 scc: 330-523
Revised: 24-Feb-2022 12:10 (DTF) Printed: 24-Feb-2022 12:28 Page 3 of 12

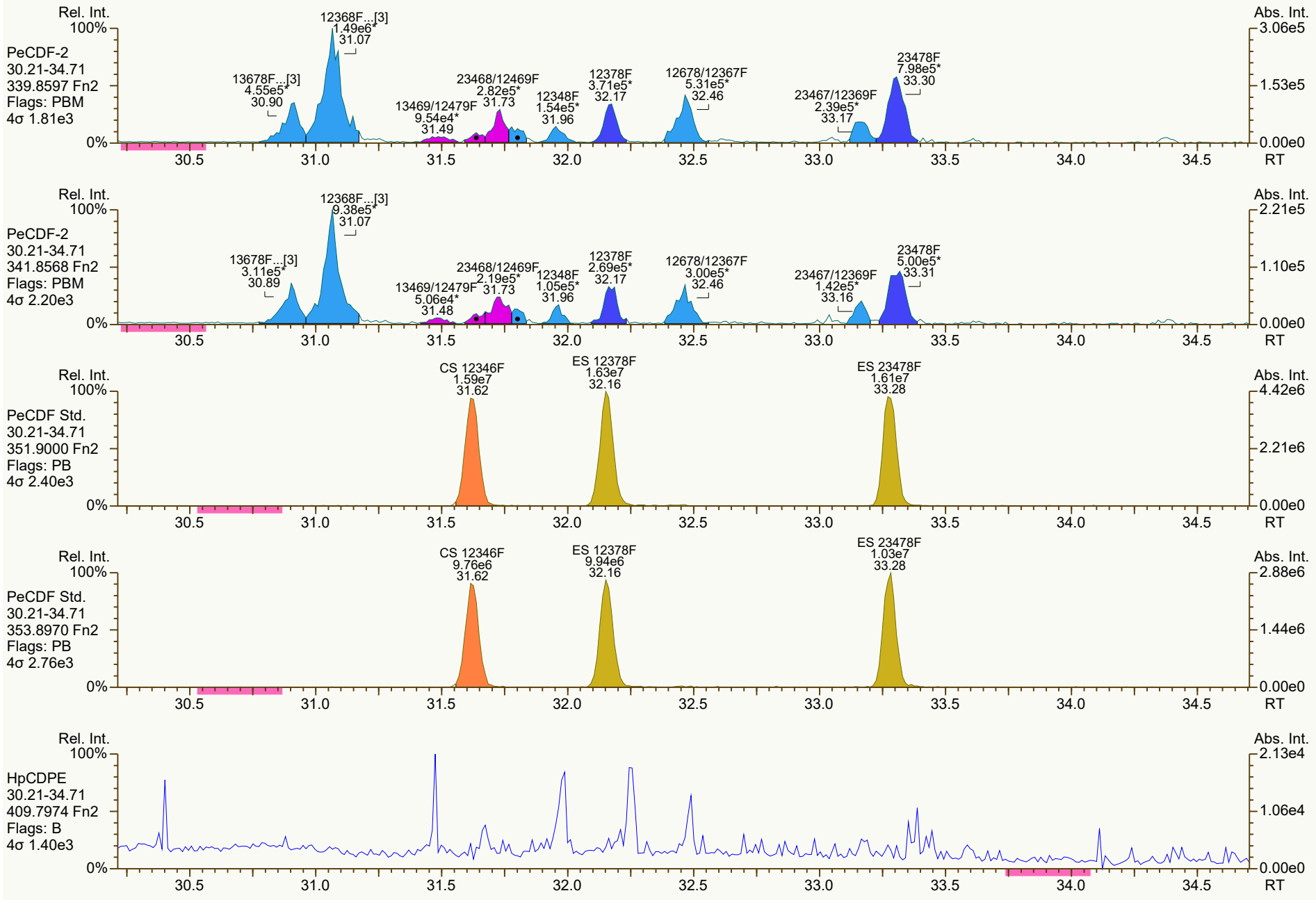

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 3.73e3
124679/124689D
1.47e7
35.83
123679/123689D
1.03e7*
36.78
123678D
1.55e6
37.69
123789D
1.52e6*
37.99
Abs. Int.
4.43e6
2.21e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 2.74e3
124679/124689D
1.14e7
35.82
123679/123689D
8.03e6*
36.78
123678D
1.22e6*
37.69
123789D
1.19e6*
37.99
Abs. Int.
3.38e6
1.69e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 1.91e3
ES 123678D
8.89e6
37.68
ES 123478D
8.67e6
37.55
JS 123467D
6.26e6
37.88
ES 123789D
9.66e6
37.98
Abs. Int.
2.95e6
1.47e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 1.84e3
ES 123678D
6.89e6
37.68
ES 123478D
6.87e6
37.55
JS 123467D
5.08e6
37.88
ES 123789D
7.87e6
37.98
Abs. Int.
2.28e6
1.14e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
1.78e7
8.89e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

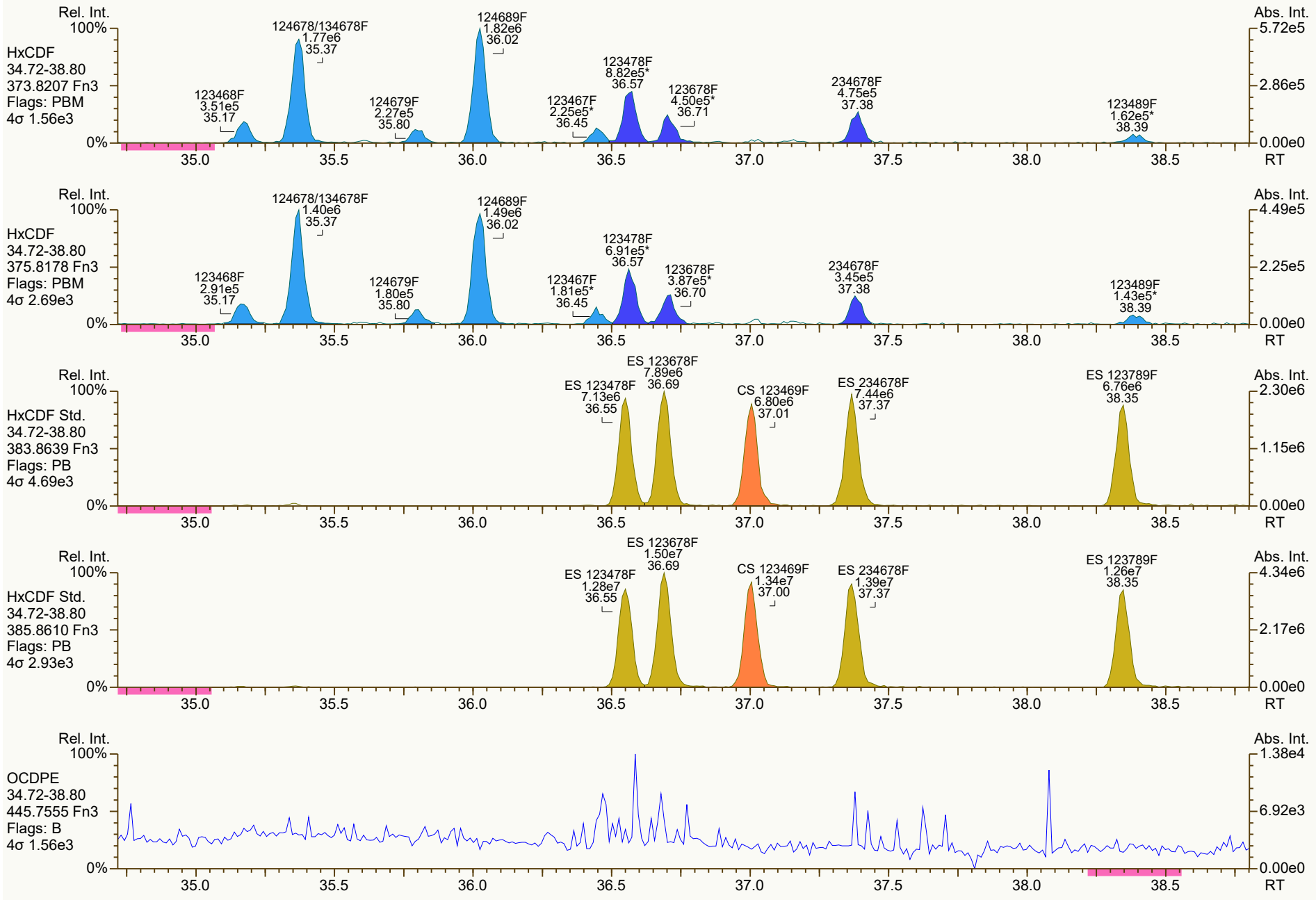

SGS ID: B6328_18957_DF_002
Sample ID: 11215131-021722-S-SB-SC-S-33
Acq: 24-Feb-2022 08:48:45
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 24
User: DTF Datafile: 220223C24
Rel. Int.
Abs. Int.
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 1.70e3
1234679D
5.10e7
40.06
1234678D
4.66e7*
40.74
1.60e7
8.02e6
0.00e0
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 1.98e3
1234679D
4.89e7
40.05
1234678D
4.50e7*
40.74
1.52e7
7.60e6
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 1.55e3
ES 1234678D
8.21e6
40.73
2.42e6
1.21e6
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.06e3
ES 1234678D
8.01e6
40.73
2.23e6
1.12e6
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
1.08e7
5.42e6
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6300_B6399\B6328\B6328_18957 DF\Resources\B6328_18957_DF_002.utp_res, saved 24-Feb-2022 12:19 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3468, 0398 scc: 330-523
Revised: 24-Feb-2022 12:10 (DTF) Printed: 24-Feb-2022 12:28 Page 5 of 12

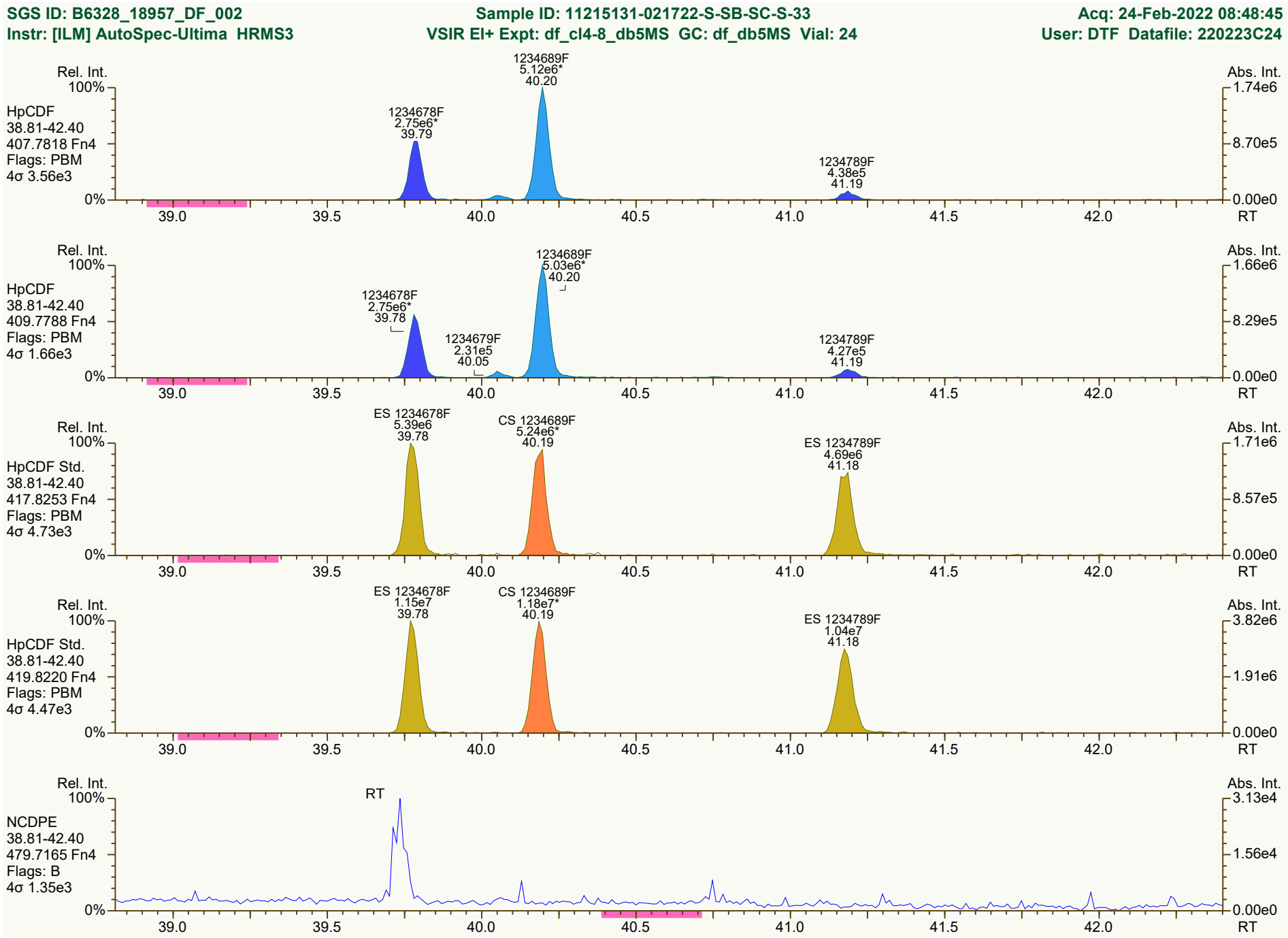

OCDD
2.82e8*
43.45
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 2.90e3
0%
Abs. Int.
5.41e7
2.71e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.13e8*
43.45
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 2.54e3
0%
Abs. Int.
6.08e7
3.04e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.07e7*
43.44
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
1.97e6
9.85e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.17e7*
43.44
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 3.97e3
0%
Abs. Int.
2.34e6
1.17e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
8.98e6
4.49e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

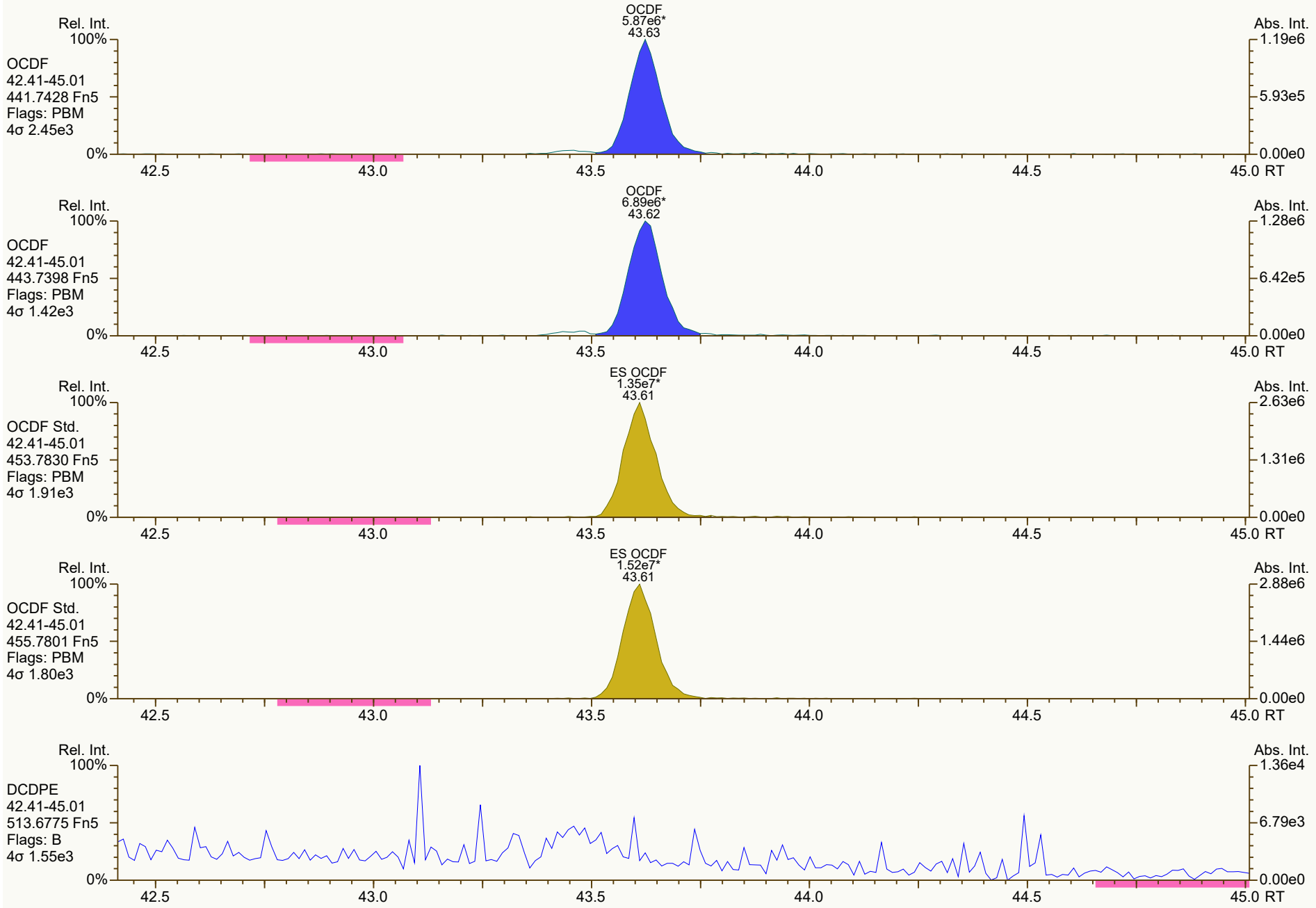

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.61e3
0%
Abs. Int.
8.43e5
4.22e5
0.00e0
2468F 2.47e5 23.61
1347F...[3] 5.49e5 24.13
1248F...[3] 6.49e5* 24.49
1478F 3.25e5* 25.23
1238F...[5] 8.78e5* 25.95
1278F 1.73e6* 26.45
1267F 2.44e5* 26.73
2348F 3.73e5* 27.24
2378F 3.85e6* 27.36
2367/3467F 8.50e5* 27.72
1289F 2.59e5* 29.39
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
1.05e6
5.26e5
0.00e0
2468F 3.13e5 23.61
1347F...[3] 6.88e5 24.13
1248F...[3] 8.55e5* 24.49
1268F 3.94e5* 24.93
1478F 4.80e5* 25.23
1238F...[5] 1.07e6* 25.95
1278F 2.20e6* 26.45
2347/1279F 3.41e5* 27.13
2378F 4.92e6* 27.36
2367/3467F 9.90e5* 27.72
1289F 3.89e5* 29.39
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 7.99e3
0%
Abs. Int.
3.77e6
1.88e6
0.00e0
JS 1234F 1.77e7 25.95
ES 2378F 1.27e7 27.34
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 6.11e3
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
JS 1234F 2.23e7 25.95
ES 2378F 1.60e7 27.34
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.32e3
0%
Abs. Int.
1.89e4
9.45e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.06e3
13468/12468F
9.96e5*
29.34
Abs. Int.
2.44e5
1.22e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.67e3
13468/12468F
6.51e5*
29.34
Abs. Int.
1.57e5
7.87e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
5.13e6
2.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 1.81e3
12368F...[3]
1.49e6*
31.07
13678F...[3]
4.55e5*
30.90
13469/12479F
9.54e4*
31.49
23468/12469F
2.82e5*
31.73
12348F
1.54e5*
31.96
12378F
3.71e5*
32.17
12678/12367F
5.31e5*
32.46
23467/12369F
2.39e5*
33.17
23478F
7.98e5*
33.30
Abs. Int.
3.06e5
1.53e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 2.20e3
12368F...[3]
9.38e5*
31.07
13678F...[3]
3.11e5*
30.89
13469/12479F
5.06e4*
31.48
23468/12469F
2.19e5*
31.73
12348F
1.05e5*
31.96
12378F
2.69e5*
32.17
12678/12367F
3.00e5*
32.46
23467/12369F
1.42e5*
33.16
23478F
5.00e5*
33.31
Abs. Int.
2.21e5
1.10e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 2.40e3
CS 12346F
1.59e7
31.62
ES 12378F
1.63e7
32.16
ES 23478F
1.61e7
33.28
Abs. Int.
4.42e6
2.21e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.76e3
CS 12346F
9.76e6
31.62
ES 12378F
9.94e6
32.16
ES 23478F
1.03e7
33.28
Abs. Int.
2.88e6
1.44e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.40e3
Abs. Int.
2.13e4
1.06e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 1.56e3
123468F 3.51e5 35.17
124678/134678F 1.77e6 35.37
124679F 2.27e5 35.80
124689F 1.82e6 36.02
123467F 2.25e5* 36.45
123478F 8.82e5* 36.57
123678F 4.50e5* 36.71
234678F 4.75e5 37.38
123489F 1.62e5* 38.39
Abs. Int.
5.72e5
2.86e5
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 2.69e3
123468F 2.91e5 35.17
124678/134678F 1.40e6 35.37
124679F 1.80e5 35.80
124689F 1.49e6 36.02
123467F 1.81e5* 36.45
123478F 6.91e5* 36.57
123678F 3.87e5* 36.70
234678F 3.45e5 37.38
123489F 1.43e5* 38.39
4.49e5
2.25e5
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 4.69e3
ES 123478F 7.13e6 36.55
ES 123678F 7.89e6 36.69
CS 123469F 6.80e6 37.01
ES 234678F 7.44e6 37.37
ES 123789F 6.76e6 38.35
2.30e6
1.15e6
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 2.93e3
ES 123478F 1.28e7 36.55
ES 123678F 1.50e7 36.69
CS 123469F 1.34e7 37.00
ES 234678F 1.39e7 37.37
ES 123789F 1.26e7 38.35
4.34e6
2.17e6
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.56e3
1.38e4
6.92e3


SGS ID: B6328_18957_DF_002
Sample ID: 11215131-021722-S-SB-SC-S-33
Acq: 24-Feb-2022 08:48:45
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 24
User: DTF Datafile: 220223C24
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 3.56e3
1234678F
2.75e6*
39.79
1234689F
5.12e6*
40.20
1234789F
4.38e5
41.19
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 1.66e3
1234678F
2.75e6*
39.78
1234679F
2.31e5
40.05
1234689F
5.03e6*
40.20
1234789F
4.27e5
41.19
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 4.73e3
ES 1234678F
5.39e6
39.78
CS 1234689F
5.24e6*
40.19
ES 1234789F
4.69e6
41.18
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 4.47e3
ES 1234678F
1.15e7
39.78
CS 1234689F
1.18e7*
40.19
ES 1234789F
1.04e7
41.18
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.35e3
RT
39.0
39.5
40.0
40.5
41.0
41.5
42.0
Results: P:\B6300_B6399\B6328\B6328_18957 DF\Resources\B6328_18957_DF_002.utp_res, saved 24-Feb-2022 12:19 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9719, 3880, 9709 scc: 330-523
Revised: 24-Feb-2022 12:13 (DTF) Printed: 24-Feb-2022 12:28 Page 11 of 12


OCDF
5.87e6*
43.63
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 2.45e3
0%
Abs. Int.
1.19e6
5.93e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
6.89e6*
43.62
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
1.28e6
6.42e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.35e7*
43.61
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 1.91e3
0%
Abs. Int.
2.63e6
1.31e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.52e7*
43.61
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 1.80e3
0%
Abs. Int.
2.88e6
1.44e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.55e3
0%
Abs. Int.
1.36e4
6.79e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6328_18957_DF_003 **Acq'd:** 24 Feb 2022 09:35 DTF **Wt/Vol:** 10.02 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021722-S-SB-NC-S-49 **UTP:** 24-Feb-2022 12:19:35 DTF **J-level:** 0.499 pg/g **Split:** 1 **Checkcode:** 341-784-CFJ

Datafile: 220223C25 **Report:** 24 Feb 2022 12:20 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.23		1.0008	1.0008	0	2.27E+06	0.80	Y	1.18	16.2	4338.284	0.332
12378-PeCDD	33.63		1.0007	1.0004	-0.6	3.37E+05	1.48	Y	1.04	2.89	6456.15	0.507
123478-HxCDD	37.56		1.0004	1.0004	0	1.07E+06	1.37	Y	1.09	9.34	3986.18	0.302
123678-HxCDD	37.69		1.0036	1.0036	0	3.70E+06	1.31	Y	1.15	30.1	3986.18	0.28
123789-HxCDD	37.99		1.0118	1.0118	0	1.74E+06	1.38	Y	1.05	13.7	3986.18	0.281
1234678-HpCDD	40.73		1.0002	1.0005	+0.7	3.07E+08	1.04	Y	1.06	2,510	3809.235	0.268
OCDD	43.46	E	1.0003	1.0003	0	4.77E+09	0.90	Y	1.13	42,100	7190.094	0.985
2378-TCDF	27.36		1.0008	1.0008	0	7.99E+06	0.79	Y	1.08	42.3	3323.738	0.191
12378-PeCDF	32.17		1.0005	1.0006	+0.2	4.60E+05	1.73	Y	1.02	2.61	3537.357	0.191
23478-PeCDF	33.30		1.0005	1.0008	+0.6	4.43E+05	1.47	Y	1.02	2.62	3537.357	0.183
123478-HxCDF	36.56		1.0004	1.0005	+0.2	1.49E+06	1.24	Y	1.27	8.98	3470.27	0.171
123678-HxCDF	36.70		1.0004	1.0004	0	4.97E+05	1.14	Y	1.15	2.75	3470.27	0.166
234678-HxCDF	37.38		1.0005	1.0004	-0.2	6.88E+05	1.19	Y	1.19	3.79	3470.27	0.171
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3470.27	0.194
1234678-HpCDF	39.78		1.0003	1.0003	0	2.30E+07	1.02	Y	1.37	137	2849.099	0.127
1234789-HpCDF	41.18		1.0003	1.0003	0	2.09E+06	1.10	Y	1.31	15.6	2849.099	0.191
OCDF	43.61		1.0002	1.0002	0	1.17E+08	0.87	Y	1.07	989	3027.874	0.335

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.21	1.0243	1.0243	0	2.35E+07	0.81	Y	1.05	86.6
ES 12378-PeCDD	33.61	1.2198	1.2206	+1.6	2.24E+07	1.58	Y	0.88	98.1
ES 123478-HxCDD	37.55	0.9916	0.9915	-0.2	2.10E+07	1.28	Y	0.97	88.9
ES 123678-HxCDD	37.67	0.9947	0.9947	0	2.14E+07	1.30	Y	0.94	93.2
ES 123789-HxCDD	37.98	1.0029	1.0028	-0.2	2.41E+07	1.19	Y	1.09	90.8
ES 1234678-HpCDD	40.72	1.0749	1.0752	+0.7	2.30E+07	1.07	Y	0.91	104
ES OCDD	43.45	1.1460	1.1473	+3.4	4.01E+07	0.93	Y	0.62	132
ES 2378-TCDF	27.34	1.0531	1.0533	+0.3	3.49E+07	0.84	Y	1.06	79.9
ES 12378-PeCDF	32.15	1.2378	1.2386	+1.5	3.43E+07	1.62	Y	0.91	91.4
ES 23478-PeCDF	33.27	1.2810	1.2819	+1.8	3.31E+07	1.50	Y	0.88	90.8
ES 123478-HxCDF	36.54	0.9650	0.9649	-0.2	2.62E+07	0.53	Y	1.20	89.8
ES 123678-HxCDF	36.68	0.9688	0.9687	-0.2	3.13E+07	0.53	Y	1.35	95.2
ES 234678-HxCDF	37.36	0.9866	0.9866	0	3.05E+07	0.55	Y	1.24	101
ES 123789-HxCDF	38.34	1.0125	1.0124	-0.2	2.67E+07	0.56	Y	1.16	95.3
ES 1234678-HpCDF	39.77	1.0501	1.0502	+0.2	2.44E+07	0.46	Y	0.97	104
ES 1234789-HpCDF	41.17	1.0870	1.0871	+0.2	2.04E+07	0.47	Y	0.85	98.7
ES OCDF	43.60	1.1505	1.1513	+2.1	4.41E+07	0.89	Y	0.81	112

Lab ID: B6328_18957_DF_003 **Acq'd:** 24 Feb 2022 09:35 DTF **Wt/Vol:** 10.02 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021722-S-SB-NC-S-49 **UTP:** 24-Feb-2022 12:19:35 DTF **J-level:** 0.499 pg/g **Split:** 1 **Checkcode:** 341-784-CFJ

Datafile: 220223C25 **Report:** 24 Feb 2022 12:20 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.54		-	-	-	2.60E+07	0.81	Y	-	-
JS 1234-TCDF	25.95		-	-	-	4.13E+07	0.81	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	1.21E+07	1.21	Y	-	-
CS 37Cl-2378-TCDD	28.23		1.0251	1.0251	0	1.07E+07	n/a	-	1.20	85.7
CS 12347-PeCDD	33.11		1.2016	1.2022	+1.2	2.04E+07	1.64	Y	0.75	104
CS 12346-PeCDF	31.61		1.2172	1.2181	+1.7	3.20E+07	1.57	Y	0.85	91.2
CS 123469-HxCDF	37.00		0.9771	0.9769	-0.4	2.69E+07	0.54	Y	1.12	99.2
CS 1234689-HpCDF	40.18		1.0608	1.0611	+0.7	2.36E+07	0.48	Y	0.89	110
~~SS 37Cl-2378-TCDD~~	~~28.23~~		~~1.0251~~	~~1.0251~~	~~0~~	~~1.07E+07~~	~~n/a~~		~~1.15~~	~~99.2~~
~~SS 12347-PeCDD~~	~~33.11~~		~~1.2016~~	~~1.2022~~	~~+1.2~~	~~2.04E+07~~	~~1.64~~	~~Y~~	~~0.86~~	~~106~~
~~SS 12346-PeCDF~~	~~31.61~~		~~1.2172~~	~~1.2181~~	~~+1.7~~	~~3.20E+07~~	~~1.57~~	~~Y~~	~~0.94~~	~~99.6~~
~~SS 123469-HxCDF~~	~~37.00~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~2.69E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~104~~
~~SS 1234689-HpCDF~~	~~40.18~~		~~1.0608~~	~~1.0611~~	~~+0.7~~	~~2.36E+07~~	~~0.48~~	~~Y~~	~~0.92~~	~~105~~

Totals	Conc	EMPC
Total TCDD	18.9	23.5
Total PeCDD	24.7	26.5
Total HxCDD	833	833
Total HpCDD	22600	22600
Total Tetra-Octa Dioxins	65600	65600
Total TCDF	78	81.8
Total PeCDF	21.3	22
Total HxCDF	129	131
Total HpCDF	697	697
Total Tetra-Octa Furans	1,910	1920
Total Tetra-Octa Dioxins & Furans	67500	67500

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.792	0.80
Response	2.27E+06	2.27E+06

Lab ID: B6328_18957_DF_003 **Acq'd: 24 Feb 2022 09:35 DTF** **Wt/Vol: 10.02 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021722-S-SB-NC-S-49 **UTP: 24-Feb-2022 12:19:35 DTF** **J-level: 0.499 pg/g** **Split: 1** **Checkcode: 341-784-CFJ**

Datafile: 220223C25 **Report: 24 Feb 2022 12:20 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.54		0.8701	0.8698	-0.4	1.31E+05	0.84	Y	1.18	0.934	4338.284	0.332
1379-TCDD	24.88	J EMPC	0.8829	0.8821	-1.2	6.26E+04	1.09	N	1.18	0.448	4338.284	0.332
1369-TCDD	NotFnd		0.8982						1.18		4338.284	0.332
1469-TCDD	26.12	EMPC	0.9261	0.9260	-0.2	5.89E+05	0.93	N	1.18	4.22	4338.284	0.332
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4338.284	0.332
1378-TCDD	NotFnd		0.9417						1.18		4338.284	0.332
1268-TCDD	NotFnd		0.9487						1.18		4338.284	0.332
1478-TCDD	NotFnd		0.9576						1.18		4338.284	0.332
1279-TCDD	NotFnd		0.9636						1.18		4338.284	0.332
1234/1269-TCDD	NotFnd		0.9761						1.18		4338.284	0.332
1236-TCDD	NotFnd		0.9812						1.18		4338.284	0.332
1237/1238-TCDD	NotFnd		0.9905						1.18		4338.284	0.332
1239-TCDD	NotFnd		0.9951						1.18		4338.284	0.332
2378-TCDD	**28.23**		**1.0008**	1.0008	**0**	2.27E+06	0.80	Y	**1.18**	**16.2**	**4338.284**	**0.332**
1278-TCDD	28.56		1.0124	1.0126	+0.3	2.40E+05	0.88	Y	1.18	1.72	4338.284	0.332
1267-TCDD	NotFnd		1.0172						1.18		4338.284	0.332
1289-TCDD	NotFnd		1.0354						1.18		4338.284	0.332
12479/12468-PeCDD	31.10		0.9255	0.9252	-0.6	6.58E+05	1.49	Y	1.04	5.65	6456.15	0.507
12469-PeCDD	31.64		0.9416	0.9414	-0.4	8.09E+05	1.44	Y	1.04	6.94	6456.15	0.507
12368-PeCDD	32.19	J	0.9582	0.9578	-0.8	1.73E+05	1.43	Y	1.04	1.48	6456.15	0.507
12478-PeCDD	32.39		0.9637	0.9638	+0.2	3.69E+05	1.35	Y	1.04	3.17	6456.15	0.507
12379-PeCDD	32.50	J EMPC	0.9668	0.9668	0	1.35E+05	1.16	N	1.04	1.16	6456.15	0.507
12369/12467/12489-PeCDD	32.76		0.9746	0.9746	0	4.48E+05	1.44	Y	1.04	3.85	6456.15	0.507
12346/12347-PeCDD	33.14	J EMPC	0.9858	0.9858	0	6.46E+04	1.09	N	1.04	0.555	6456.15	0.507
12378-PeCDD	33.63		**1.0007**	**1.0004**	**-0.6**	**3.37E+05**	**1.48**	**Y**	**1.04**	**2.89**	**6456.15**	**0.507**
12367-PeCDD	33.73	J	1.0036	1.0034	-0.4	8.74E+04	1.49	Y	1.04	0.75	6456.15	0.507
12389-PeCDD	NotFnd		1.0137						1.04		6456.15	0.507
124679/124689-HxCDD	35.82		0.9540	0.9539	-0.2	5.02E+07	1.26	Y	1.10	413	3986.18	0.287
123468-HxCDD	36.48		0.9715	0.9715	0	4.85E+06	1.25	Y	1.10	39.9	3986.18	0.287
123679/123689-HxCDD	36.77		0.9793	0.9792	-0.2	2.69E+07	1.23	Y	1.10	221	3986.18	0.287
123469-HxCDD	36.90		0.9829	0.9827	-0.4	1.08E+07	1.25	Y	1.10	89.1	3986.18	0.287
123478-HxCDD	37.56		**1.0004**	**1.0004**	**0**	**1.07E+06**	**1.37**	**Y**	1.09	**9.34**	**3986.18**	**0.302**
123678-HxCDD	37.69		**1.0036**	**1.0036**	**0**	**3.70E+06**	**1.31**	**Y**	1.15	**30.1**	**3986.18**	**0.28**
123467-HxCDD	37.89		1.0089	1.0090	+0.2	2.03E+06	1.30	Y	1.10	16.7	3986.18	0.287
123789-HxCDD	37.99		**1.0118**	**1.0118**	**0**	**1.74E+06**	**1.38**	**Y**	1.05	**13.7**	**3986.18**	**0.281**

Lab ID: B6328_18957_DF_003 **Acq'd:** 24 Feb 2022 09:35 DTF **Wt/Vol:** 10.02 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021722-S-SB-NC-S-49 **UTP:** 24-Feb-2022 12:19:35 DTF **J-level:** 0.499 pg/g **Split:** 1 **Checkcode:** 341-784-CFJ

Datafile: 220223C25 **Report:** 24 Feb 2022 12:20 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

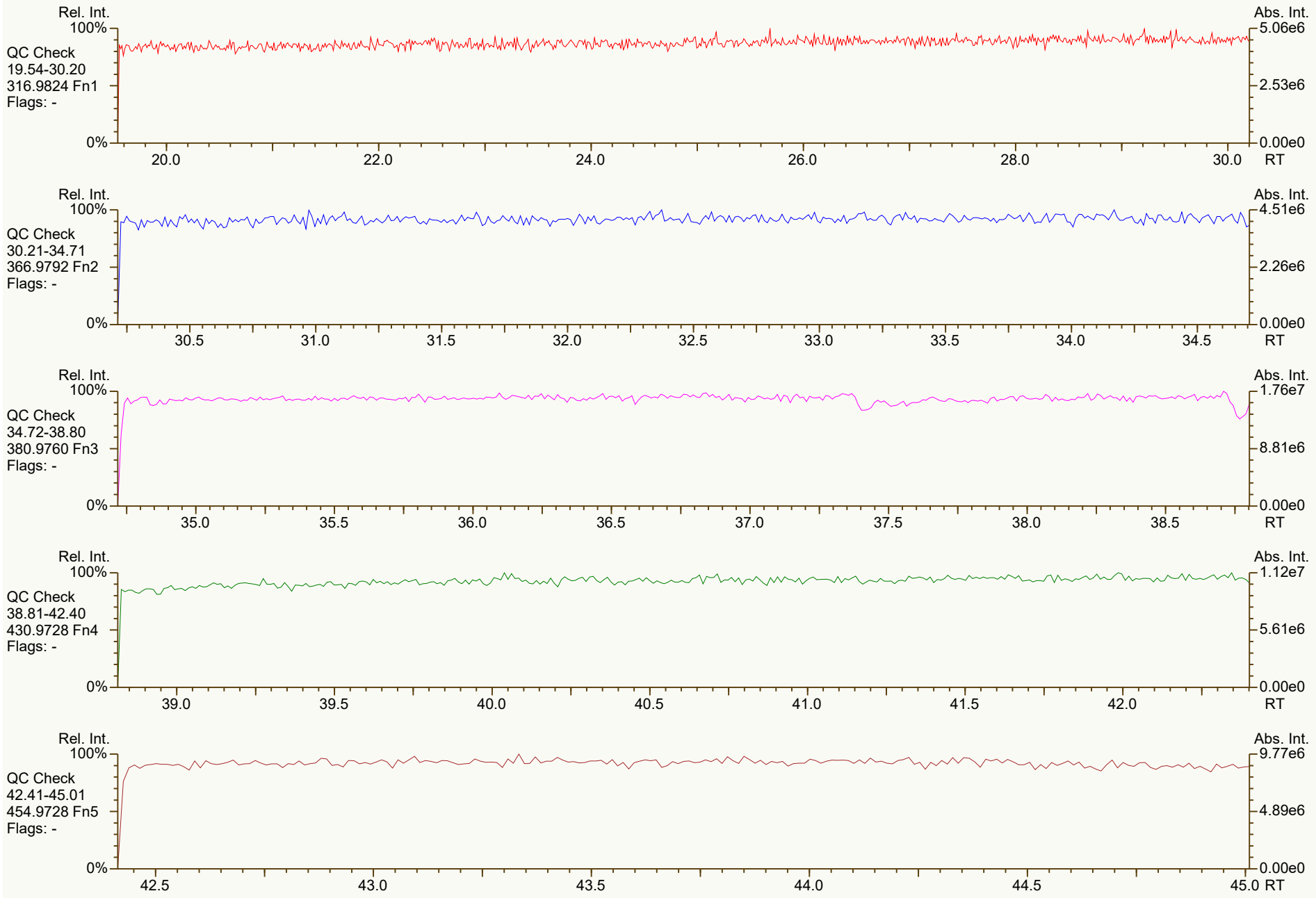
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.06	E	0.9836	0.9838	+0.5	2.46E+09	1.04	Y	1.06	20,100	3809.235	0.268
1234678-HpCDD	**40.73**		**1.0002**	**1.0005**	**+0.7**	**3.07E+08**	**1.04**	**Y**	**1.06**	**2,510**	**3809.235**	**0.268**
OCDD	**43.46**	**E**	**1.0003**	**1.0003**	**0**	**4.77E+09**	**0.90**	**Y**	**1.13**	**42,100**	**7190.094**	**0.985**
OCDD-a	43.46	**E**	1.0002	1.0002	0	2.83E+08	2.50	Y	0.07	39,100	4319.579	9.26
1368-TCDF	22.36	J EMPC	0.8191	0.8181	-1.3	5.28E+04	1.36	N	1.08	0.28	3323.738	0.191
1468-TCDF	22.96		0.8408	0.8397	-1.5	1.09E+05	0.77	Y	1.08	0.578	3323.738	0.191
2468-TCDF	23.63	EMPC	0.8645	0.8642	-0.4	2.18E+05	0.91	N	1.08	1.16	3323.738	0.191
1346/1246-TCDF	NotFnd		0.8772						1.08		3323.738	0.191
1347/1378/1247-TCDF	24.13		0.8833	0.8828	-0.7	3.98E+05	0.78	Y	1.08	2.11	3323.738	0.191
1348-TCDF	NotFnd		0.8932						1.08		3323.738	0.191
1248/1367/1379-TCDF	24.50		0.8980	0.8961	-2.8	4.23E+05	0.82	Y	1.08	2.24	3323.738	0.191
1268-TCDF	24.92		0.9119	0.9115	-0.6	2.19E+05	0.83	Y	1.08	1.16	3323.738	0.191
1467-TCDF	NotFnd		0.9170						1.08		3323.738	0.191
1478-TCDF	25.23		0.9234	0.9231	-0.5	3.69E+05	0.77	Y	1.08	1.96	3323.738	0.191
1369/1237-TCDF	25.61		0.9369	0.9369	0	1.75E+05	0.85	Y	1.08	0.925	3323.738	0.191
2467-TCDF	NotFnd		0.9415						1.08		3323.738	0.191
2368-TCDF	25.90		0.9475	0.9474	-0.2	4.98E+05	0.87	Y	1.08	2.64	3323.738	0.191
1238/1234/1678/1469/1236-TCDF	25.99		0.9507	0.9508	+0.2	3.53E+05	0.68	Y	1.08	1.87	3323.738	0.191
1278-TCDF	26.45		0.9676	0.9674	-0.3	2.02E+06	0.80	Y	1.08	10.7	3323.738	0.191
1349-TCDF	NotFnd		0.9722						1.08		3323.738	0.191
1267-TCDF	26.73	EMPC	0.9777	0.9778	+0.2	2.84E+05	0.95	N	1.08	1.5	3323.738	0.191
2346/1249-TCDF	NotFnd		0.9843						1.08		3323.738	0.191
2347/1279-TCDF	27.13		0.9926	0.9923	-0.5	1.66E+05	0.74	Y	1.08	0.878	3323.738	0.191
2348-TCDF	27.23		0.9968	0.9961	-1.1	2.17E+05	0.88	Y	1.08	1.15	3323.738	0.191
2378-TCDF	**27.36**		**1.0008**	**1.0008**	**0**	**7.99E+06**	**0.79**	**Y**	**1.08**	**42.3**	**3323.738**	**0.191**
2367/3467-TCDF	27.72		1.0142	1.0140	-0.3	1.29E+06	0.82	Y	1.08	6.82	3323.738	0.191
1269-TCDF	27.97	EMPC	1.0235	1.0233	-0.3	1.50E+05	0.96	N	1.08	0.795	3323.738	0.191
1239-TCDF	NotFnd		1.0329						1.08		3323.738	0.191
1289-TCDF	29.39		1.0742	1.0750	+1.4	5.12E+05	0.88	Y	1.08	2.71	3323.738	0.191
13468/12468-PeCDF	29.34		0.9122	0.9126	+0.7	1.13E+06	1.44	Y	1.02	6.55	2803.717	0.148
13678/13467/12467-PeCDF	30.89	J	0.9606	0.9609	+0.6	2.10E+05	1.67	Y	1.02	1.21	3537.357	0.187
12368/13478/12478-PeCDF	31.06		0.9655	0.9661	+1.1	7.75E+05	1.73	Y	1.02	4.48	3537.357	0.187
14678-PeCDF	NotFnd		0.9685						1.02		3537.357	0.187
13479-PeCDF	NotFnd		0.9716						1.02		3537.357	0.187
13469/12479-PeCDF	NotFnd		0.9794						1.02		3537.357	0.187
12346-PeCDF	31.63	J	0.9836	0.9839	+0.6	5.57E+04	1.49	Y	1.02	0.323	3537.357	0.187

Lab ID: B6328_18957_DF_003 | **Acq'd: 24 Feb 2022 09:35 DTF** | **Wt/Vol: 10.02 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021722-S-SB-NC-S-49 | **UTP: 24-Feb-2022 12:19:35 DTF** | **J-level: 0.499 pg/g** | **Split: 1** | **Checkcode: 341-784-CFJ**

Datafile: 220223C25 | **Report: 24 Feb 2022 12:20 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.74	J	0.9866	0.9874	+1.5	2.56E+05	1.57	Y	1.02	1.48	3537.357	0.187
12347-PeCDF	NotFnd		0.9891						1.02		3537.357	0.187
12348-PeCDF	31.95	J	0.9938	0.9938	0	1.18E+05	1.37	Y	1.02	0.681	3537.357	0.187
12378-PeCDF	**32.17**		**1.0005**	**1.0006**	**+0.2**	**4.60E+05**	**1.73**	**Y**	**1.02**	**2.61**	**3537.357**	**0.191**
12678/12367-PeCDF	32.46	J	1.0091	1.0096	+1.0	2.39E+05	1.37	Y	1.02	1.39	3537.357	0.187
12379-PeCDF	NotFnd		1.0144						1.02		3537.357	0.187
12679-PeCDF	NotFnd		0.9927						1.02		3537.357	0.187
23467/12369-PeCDF	33.16	J EMPC	0.9965	0.9965	0	1.05E+05	1.17	N	1.02	0.608	3537.357	0.187
23478-PeCDF	**33.30**		**1.0005**	**1.0008**	**+0.6**	**4.43E+05**	**1.47**	**Y**	**1.02**	**2.62**	**3537.357**	**0.183**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3537.357	0.187
12349-PeCDF	NotFnd		1.0101						1.02		3537.357	0.187
12389-PeCDF	NotFnd		1.0330						1.02		3537.357	0.187
123468-HxCDF	35.16		0.9622	0.9623	+0.2	1.60E+06	1.31	Y	1.19	9.34	3470.27	0.175
124678/134678-HxCDF	35.36		0.9678	0.9677	-0.2	5.11E+06	1.22	Y	1.19	29.8	3470.27	0.175
134679-HxCDF	NotFnd		0.9741						1.19		3470.27	0.175
124679-HxCDF	35.80	J EMPC	0.9795	0.9798	+0.6	2.08E+05	1.45	N	1.19	1.21	3470.27	0.175
124689-HxCDF	36.02		0.9856	0.9856	0	1.25E+07	1.22	Y	1.19	72.9	3470.27	0.175
123467-HxCDF	36.44	J	0.9972	0.9972	0	1.93E+05	1.24	Y	1.19	1.13	3470.27	0.175
123478-HxCDF	**36.56**		**1.0004**	**1.0005**	**+0.2**	**1.49E+06**	**1.24**	**Y**	**1.27**	**8.98**	**3470.27**	**0.171**
123678-HxCDF	**36.70**		**1.0004**	**1.0004**	**0**	**4.97E+05**	**1.14**	**Y**	**1.15**	**2.75**	**3470.27**	**0.166**
123479-HxCDF	NotFnd		1.0048						1.19		3470.27	0.175
123469-HxCDF	NotFnd		1.0089						1.19		3470.27	0.175
123679-HxCDF	NotFnd		0.9942						1.19		3470.27	0.175
234678-HxCDF	**37.38**		**1.0005**	**1.0004**	**-0.2**	**6.88E+05**	**1.19**	**Y**	**1.19**	**3.79**	**3470.27**	**0.171**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3470.27	0.175
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3470.27**	**0.194**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.38	J EMPC	1.0006	1.0011	+1.2	1.63E+05	1.05	N	1.19	0.949	3470.27	0.175
1234678-HpCDF	**39.78**		**1.0003**	**1.0003**	**0**	**2.30E+07**	**1.02**	**Y**	**1.37**	**137**	**2849.099**	**0.127**
1234679-HpCDF	40.06		1.0068	1.0071	+0.7	2.37E+06	1.04	Y	1.34	15.8	2849.099	0.156
1234689-HpCDF	40.20		1.0104	1.0106	+0.5	7.94E+07	1.02	Y	1.34	528	2849.099	0.156
1234789-HpCDF	**41.18**		**1.0003**	**1.0003**	**0**	**2.09E+06**	**1.10**	**Y**	**1.31**	**15.6**	**2849.099**	**0.191**
OCDF	**43.61**		**1.0002**	**1.0002**	**0**	**1.17E+08**	**0.87**	**Y**	**1.07**	**989**	**3027.874**	**0.335**
OCDF-a	43.61		1.0001	1.0003	+0.5	8.12E+06	2.50	Y	0.07	1,110	4996.79	8.94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2.53e6
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316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.51e6
2.26e6
0.00e0
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
0%
Abs. Int.
1.76e7
8.81e6
0.00e0
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
0%
Abs. Int.
1.12e7
5.61e6
0.00e0
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.77e6
4.89e6
0.00e0
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454.9728 Fn5
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43.5
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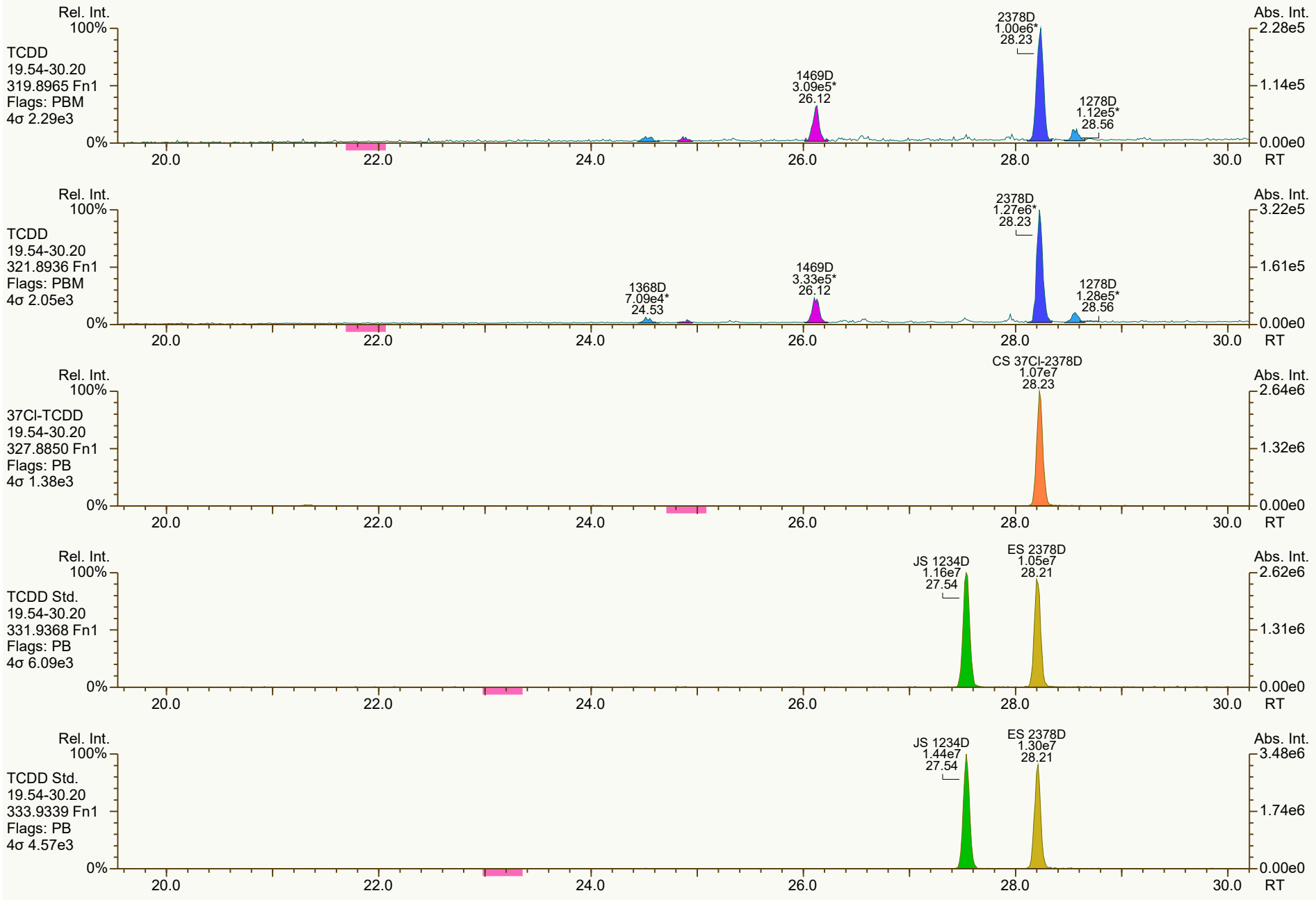
45.0
RT


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.29e3
0%
2378D
1.00e6*
28.23
1469D
3.09e5*
26.12
1278D
1.12e5*
28.56
Abs. Int.
2.28e5
1.14e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.05e3
0%
2378D
1.27e6*
28.23
1368D
7.09e4*
24.53
1469D
3.33e5*
26.12
1278D
1.28e5*
28.56
Abs. Int.
3.22e5
1.61e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.38e3
0%
CS 37Cl-2378D
1.07e7
28.23
Abs. Int.
2.64e6
1.32e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.09e3
0%
JS 1234D
1.16e7
27.54
ES 2378D
1.05e7
28.21
Abs. Int.
2.62e6
1.31e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.57e3
0%
JS 1234D
1.44e7
27.54
ES 2378D
1.30e7
28.21
Abs. Int.
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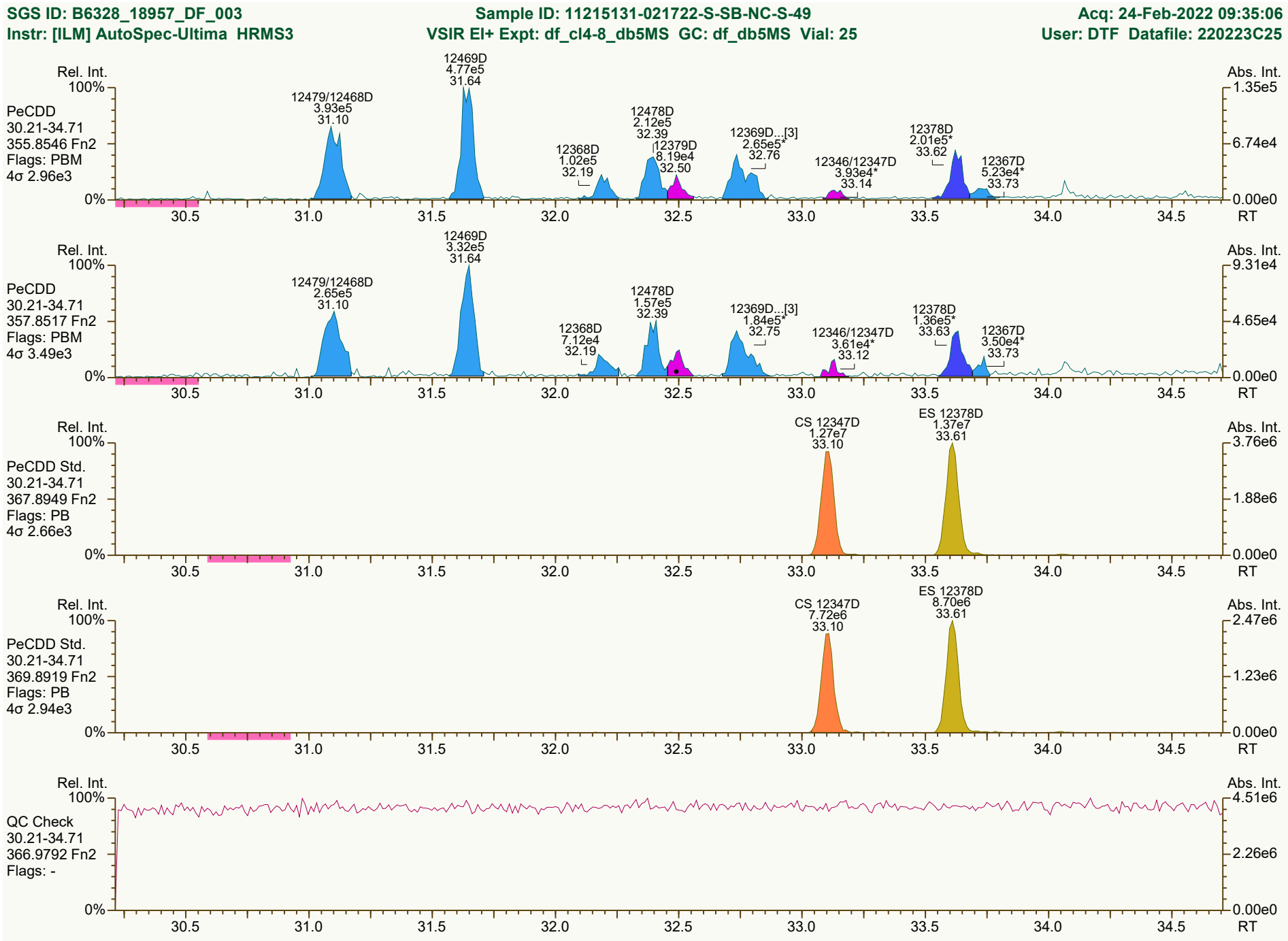
22.0
24.0
26.0
28.0
30.0
RT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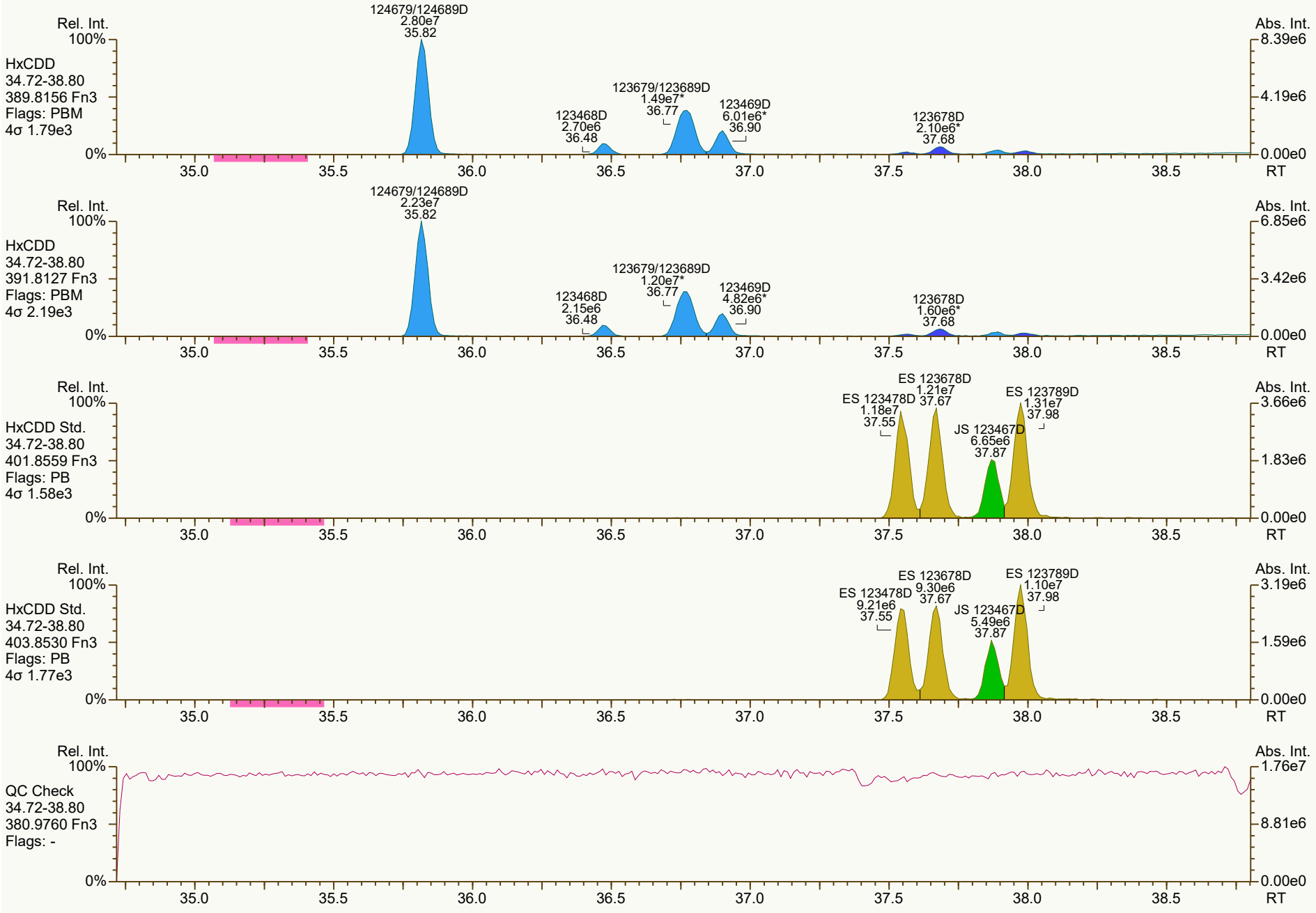
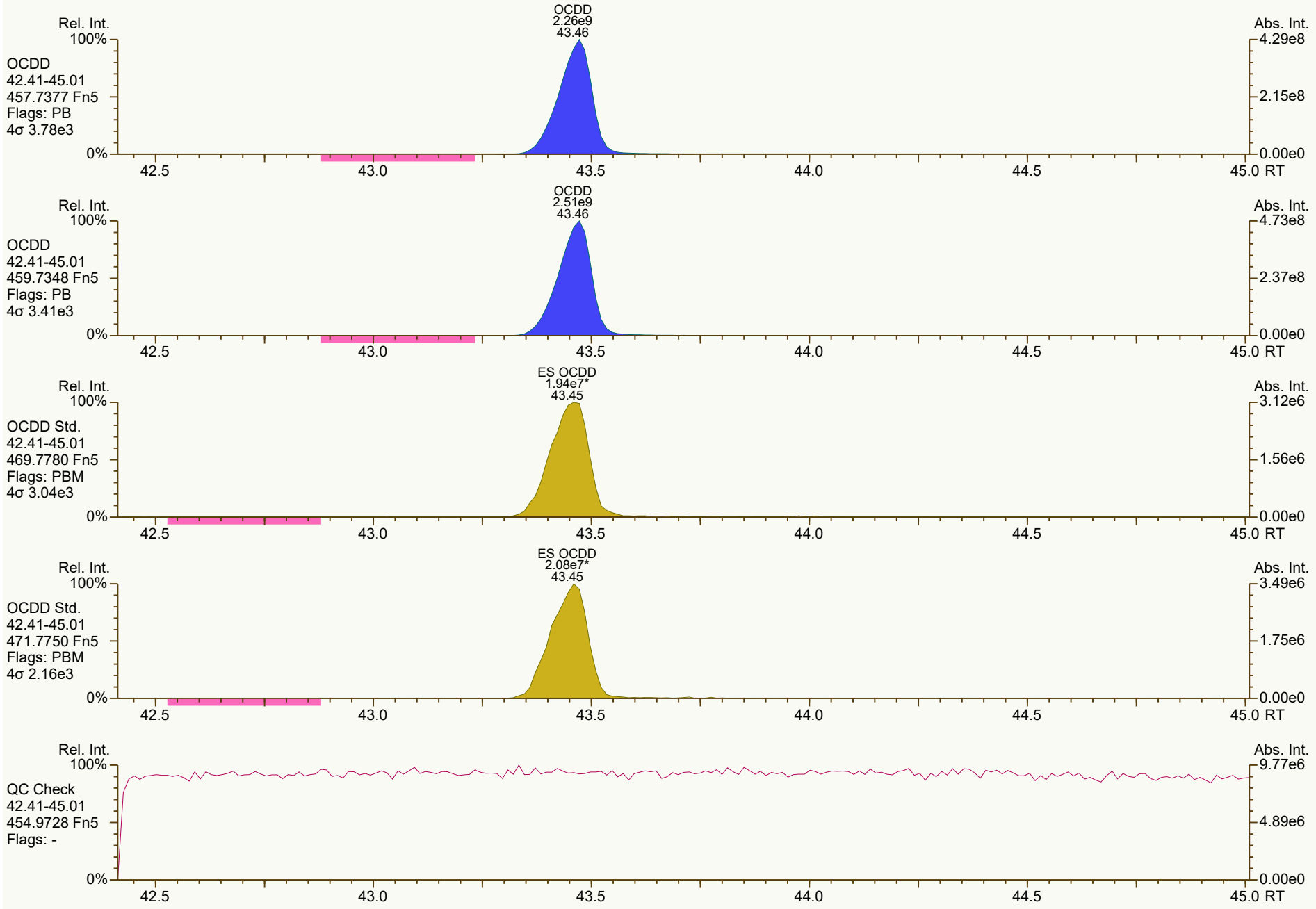
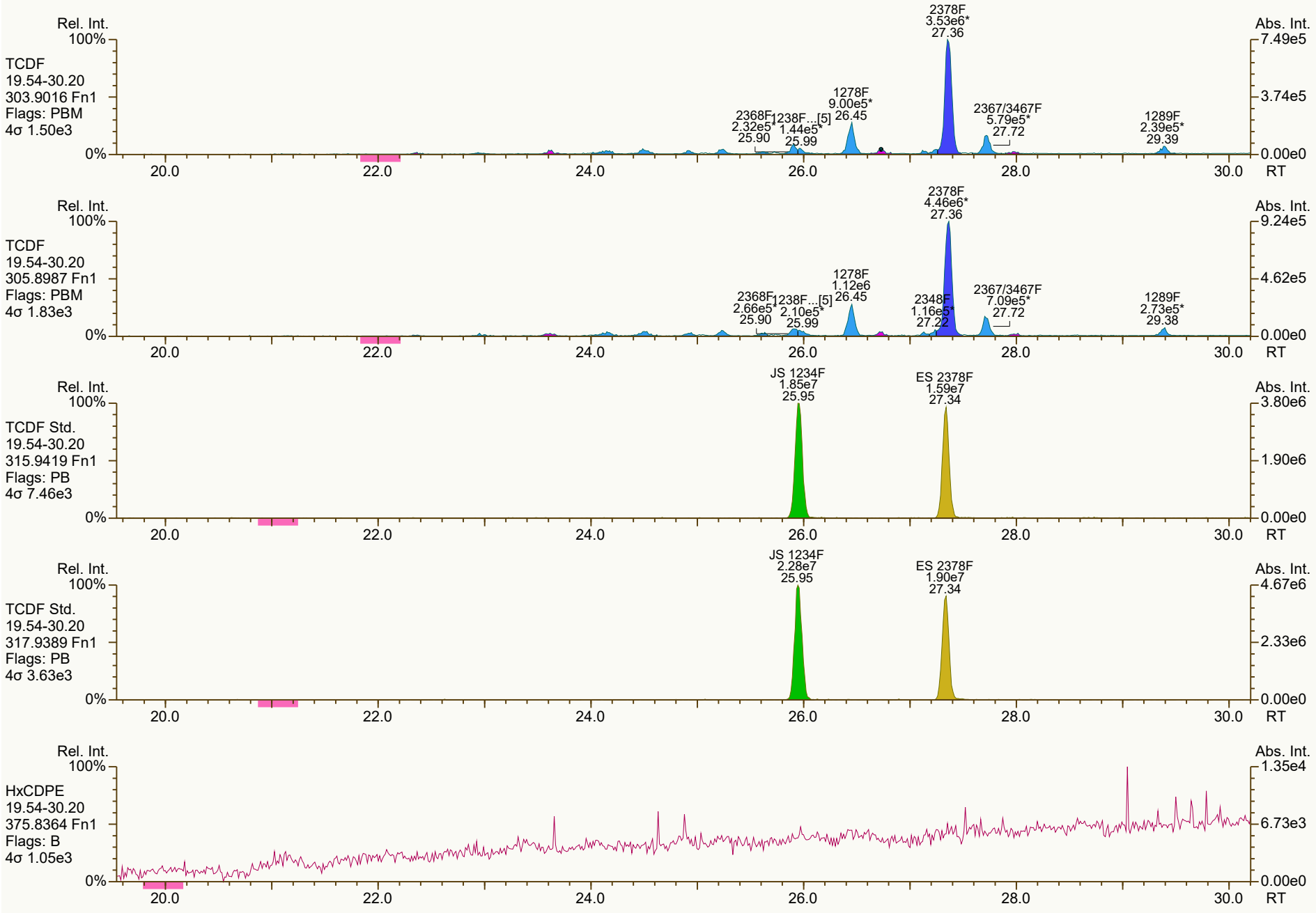
Sample ID: 11215131-021722-S-SB-NC-S-49
Acq: 24-Feb-2022 09:35:06
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 25
User: DTF Datafile: 220223C25
Rel. Int.
Abs. Int.
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 2.96e3
12479/12468D 3.93e5 31.10
12469D 4.77e5 31.64
12368D 1.02e5 32.19
12478D 2.12e5 32.39
12379D 8.19e4 32.50
12369D...[3] 2.65e5* 32.76
12346/12347D 3.93e4* 33.14
12378D 2.01e5* 33.62
12367D 5.23e4* 33.73
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 3.49e3
12479/12468D 2.65e5 31.10
12469D 3.32e5 31.64
12368D 7.12e4 32.19
12478D 1.57e5 32.39
12369D...[3] 1.84e5* 32.75
12346/12347D 3.61e4* 33.12
12378D 1.36e5* 33.63
12367D 3.50e4* 33.73
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.66e3
CS 12347D 1.27e7 33.10
ES 12378D 1.37e7 33.61
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.94e3
CS 12347D 7.72e6 33.10
ES 12378D 8.70e6 33.61
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
RT
Results: P:\B6300_B6399\B6328\B6328_18957 DF\Resources\B6328_18957_DF_003.utp_res, saved 24-Feb-2022 12:19 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4042, 2293 scc: 341-784
Revised: 24-Feb-2022 12:14 (DTF) Printed: 24-Feb-2022 12:28 Page 3 of 12

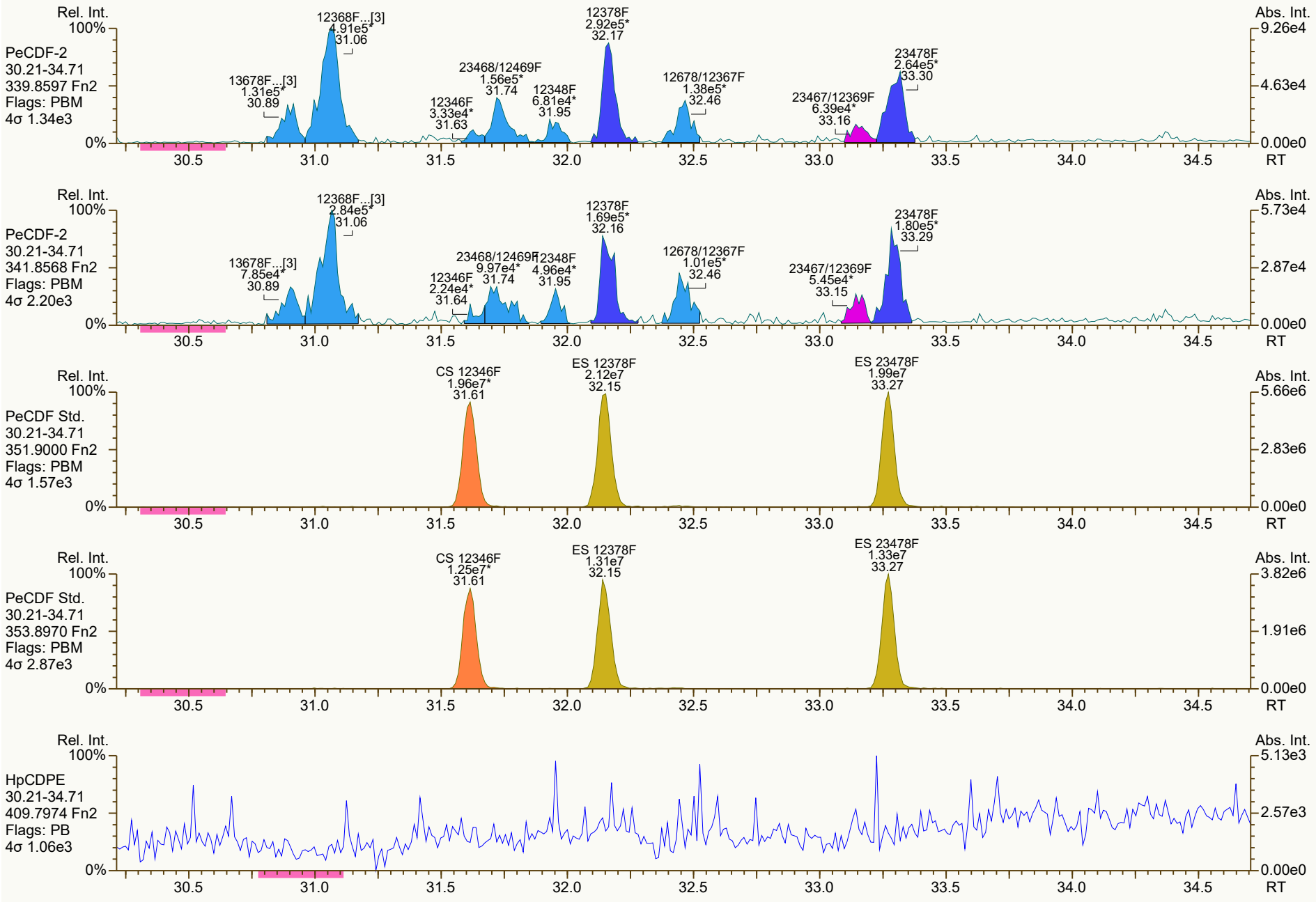

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 1.79e3
124679/124689D
2.80e7
35.82
123468D
2.70e6
36.48
123679/123689D
1.49e7*
36.77
123469D
6.01e6*
36.90
123678D
2.10e6*
37.68
Abs. Int.
8.39e6
4.19e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 2.19e3
124679/124689D
2.23e7
35.82
123468D
2.15e6
36.48
123679/123689D
1.20e7*
36.77
123469D
4.82e6*
36.90
123678D
1.60e6*
37.68
Abs. Int.
6.85e6
3.42e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 1.58e3
ES 123678D
1.21e7
37.67
ES 123478D
1.18e7
37.55
ES 123789D
1.31e7
37.98
JS 123467D
6.65e6
37.87
Abs. Int.
3.66e6
1.83e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 1.77e3
ES 123678D
9.30e6
37.67
ES 123478D
9.21e6
37.55
ES 123789D
1.10e7
37.98
JS 123467D
5.49e6
37.87
Abs. Int.
3.19e6
1.59e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
1.76e7
8.81e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

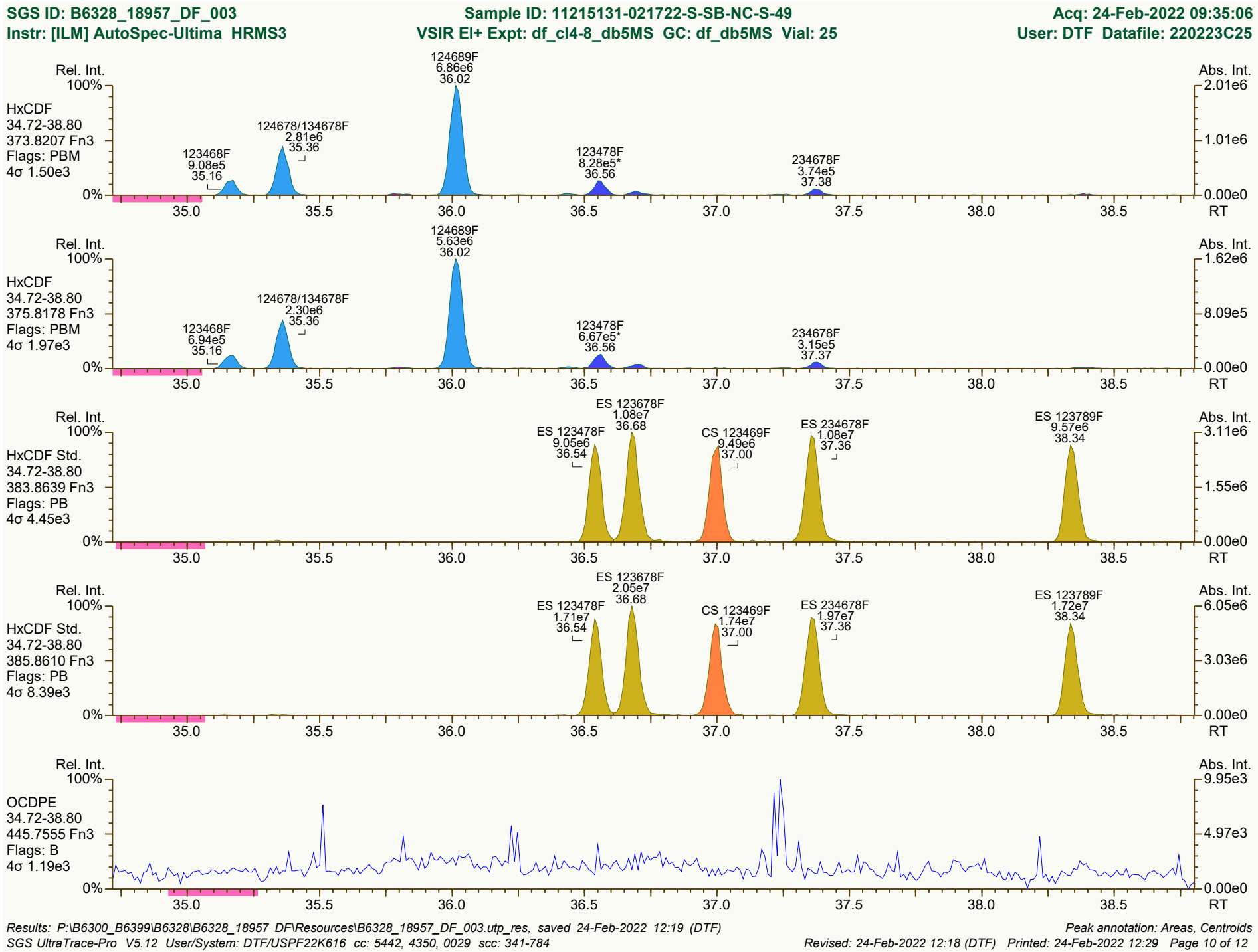

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 1.88e3
1234679D
1.25e9
40.05
1234678D
1.56e8
40.73
0%
Abs. Int.
3.95e8
1.97e8
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.93e3
1234679D
1.20e9
40.05
1234678D
1.51e8
40.73
0%
Abs. Int.
3.86e8
1.93e8
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 2.22e3
ES 1234678D
1.19e7*
40.72
0%
Abs. Int.
3.46e6
1.73e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 1.60e3
ES 1234678D
1.11e7*
40.72
0%
Abs. Int.
3.32e6
1.66e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.12e7
5.61e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

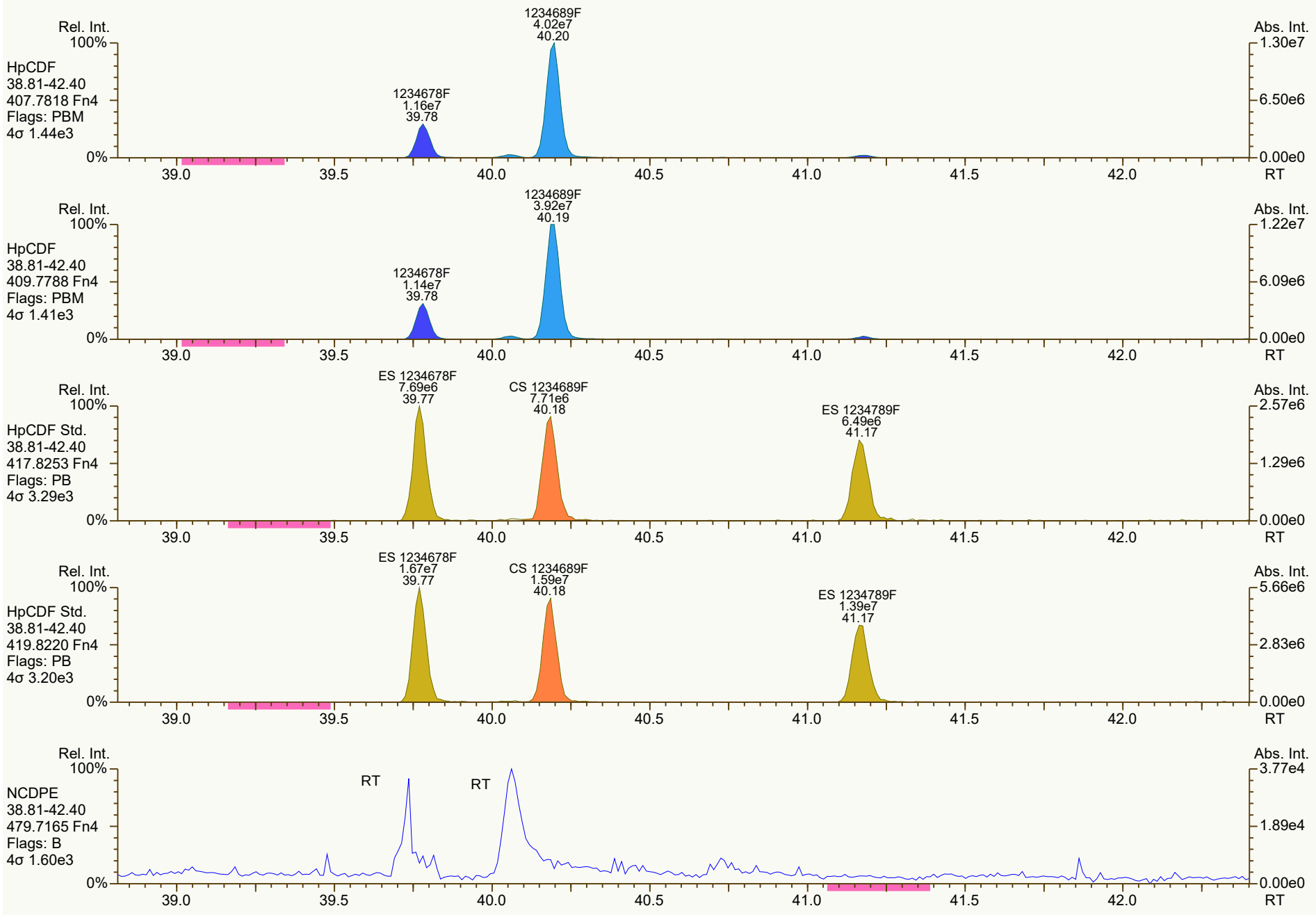

Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 3.78e3
0%
OCDD
2.26e9
43.46
Abs. Int.
4.29e8
2.15e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 3.41e3
0%
OCDD
2.51e9
43.46
Abs. Int.
4.73e8
2.37e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 3.04e3
0%
ES OCDD
1.94e7*
43.45
Abs. Int.
3.12e6
1.56e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 2.16e3
0%
ES OCDD
2.08e7*
43.45
Abs. Int.
3.49e6
1.75e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.77e6
4.89e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

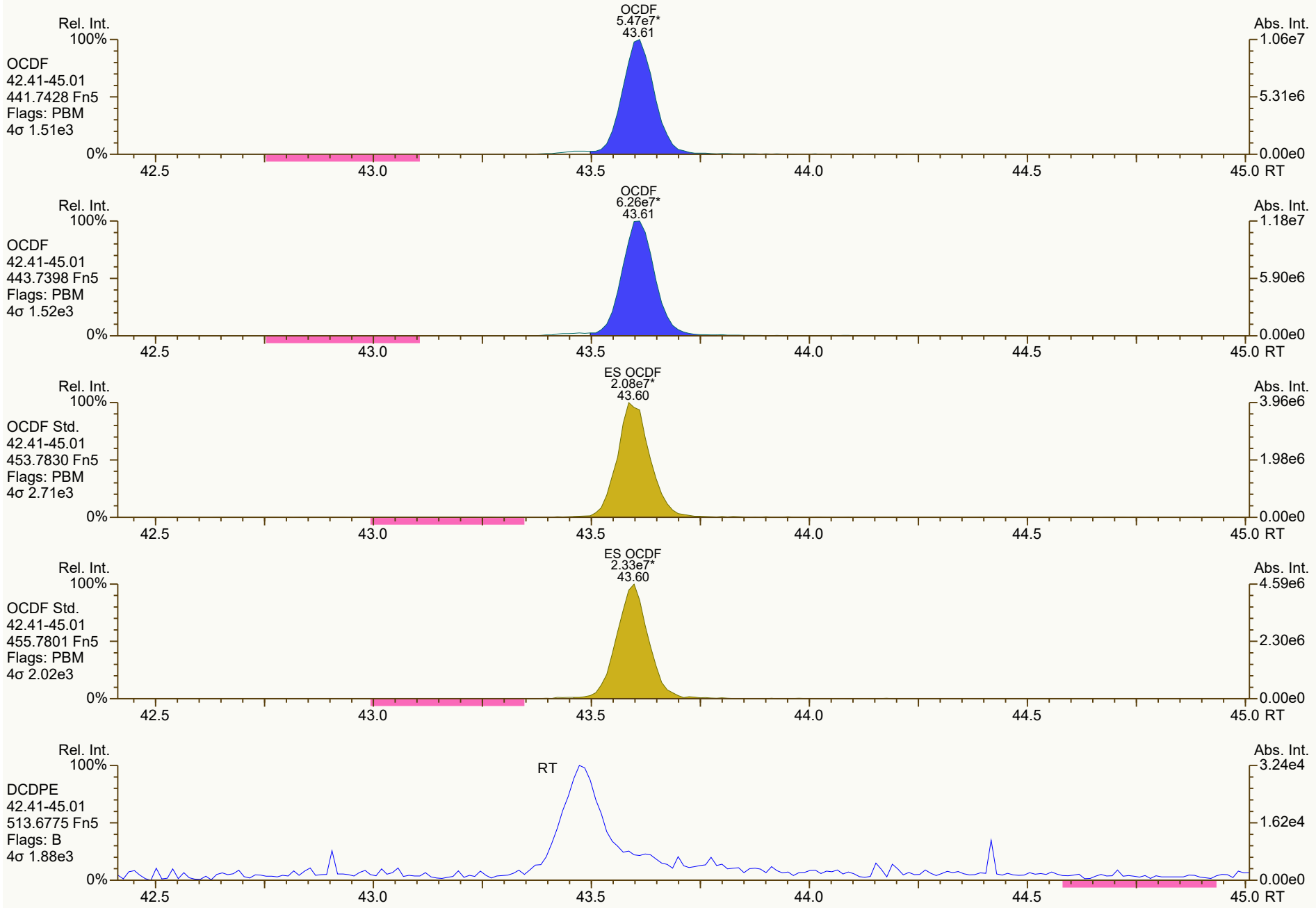

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.50e3
0%
2378F
3.53e6*
27.36
1278F
9.00e5*
26.45
2368F
2.32e5*
25.90
1238F...[5]
1.44e5*
25.99
2367/3467F
5.79e5*
27.72
1289F
2.39e5*
29.39
Abs. Int.
7.49e5
3.74e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.83e3
0%
2378F
4.46e6*
27.36
1278F
1.12e6
26.45
2368F
2.66e5*
25.90
1238F...[5]
2.10e5*
25.99
2348F
1.16e5*
27.22
2367/3467F
7.09e5*
27.72
1289F
2.73e5*
29.38
Abs. Int.
9.24e5
4.62e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 7.46e3
0%
JS 1234F
1.85e7
25.95
ES 2378F
1.59e7
27.34
Abs. Int.
3.80e6
1.90e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.63e3
0%
JS 1234F
2.28e7
25.95
ES 2378F
1.90e7
27.34
Abs. Int.
4.67e6
2.33e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.05e3
0%
Abs. Int.
1.35e4
6.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.58e5
7.91e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
13468/12468F
6.68e5*
29.34
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.35e3
13468/12468F
4.63e5*
29.34
1.40e5
6.99e4
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.45e3
5.06e6
2.53e6
QC Check
19.54-30.20
316.9824 Fn1
Flags: -


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 1.34e3
0%
12368F...[3]
4.91e5*
31.06
13678F...[3]
1.31e5*
30.89
12346F
3.33e4*
31.63
23468/12469F
1.56e5*
31.74
12348F
6.81e4*
31.95
12378F
2.92e5*
32.17
12678/12367F
1.38e5*
32.46
23467/12369F
6.39e4*
33.16
23478F
2.64e5*
33.30
Abs. Int.
9.26e4
4.63e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 2.20e3
0%
12368F...[3]
2.84e5*
31.06
13678F...[3]
7.85e4*
30.89
12346F
2.24e4*
31.64
23468/12469F
9.97e4*
31.74
12348F
4.96e4*
31.95
12378F
1.69e5*
32.16
12678/12367F
1.01e5*
32.46
23467/12369F
5.45e4*
33.15
23478F
1.80e5*
33.29
Abs. Int.
5.73e4
2.87e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PBM
4σ 1.57e3
0%
CS 12346F
1.96e7*
31.61
ES 12378F
2.12e7
32.15
ES 23478F
1.99e7
33.27
Abs. Int.
5.66e6
2.83e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PBM
4σ 2.87e3
0%
CS 12346F
1.25e7*
31.61
ES 12378F
1.31e7
32.15
ES 23478F
1.33e7
33.27
Abs. Int.
3.82e6
1.91e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: PB
4σ 1.06e3
0%
Abs. Int.
5.13e3
2.57e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


SGS ID: B6328_18957_DF_003
Sample ID: 11215131-021722-S-SB-NC-S-49
Acq: 24-Feb-2022 09:35:06
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 25
User: DTF Datafile: 220223C25
Rel. Int.
Abs. Int.
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 1.50e3
123468F 9.08e5 35.16
124678/134678F 2.81e6 35.36
124689F 6.86e6 36.02
123478F 8.28e5* 36.56
234678F 3.74e5 37.38
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 1.97e3
123468F 6.94e5 35.16
124678/134678F 2.30e6 35.36
124689F 5.63e6 36.02
123478F 6.67e5* 36.56
234678F 3.15e5 37.37
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 4.45e3
ES 123478F 9.05e6 36.54
ES 123678F 1.08e7 36.68
CS 123469F 9.49e6 37.00
ES 234678F 1.08e7 37.36
ES 123789F 9.57e6 38.34
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 8.39e3
ES 123478F 1.71e7 36.54
ES 123678F 2.05e7 36.68
CS 123469F 1.74e7 37.00
ES 234678F 1.97e7 37.36
ES 123789F 1.72e7 38.34
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.19e3
RT
Results: P:\B6300_B6399\B6328\B6328_18957 DF\Resources\B6328_18957_DF_003.utp_res, saved 24-Feb-2022 12:19 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5442, 4350, 0029 scc: 341-784
Revised: 24-Feb-2022 12:18 (DTF) Printed: 24-Feb-2022 12:29 Page 10 of 12


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 1.44e3
1234678F
1.16e7
39.78
1234689F
4.02e7
40.20
Abs. Int.
1.30e7
6.50e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 1.41e3
1234678F
1.14e7
39.78
1234689F
3.92e7
40.19
Abs. Int.
1.22e7
6.09e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 3.29e3
ES 1234678F
7.69e6
39.77
CS 1234689F
7.71e6
40.18
ES 1234789F
6.49e6
41.17
Abs. Int.
2.57e6
1.29e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 3.20e3
ES 1234678F
1.67e7
39.77
CS 1234689F
1.59e7
40.18
ES 1234789F
1.39e7
41.17
Abs. Int.
5.66e6
2.83e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.60e3
RT
RT
Abs. Int.
3.77e4
1.89e4
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
5.47e7*
43.61
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 1.51e3
0%
Abs. Int.
1.06e7
5.31e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
6.26e7*
43.61
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 1.52e3
0%
Abs. Int.
1.18e7
5.90e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
43.60
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 2.71e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.33e7*
43.60
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 2.02e3
0%
Abs. Int.
4.59e6
2.30e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.88e3
0%
Abs. Int.
3.24e4
1.62e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
16	220223C16	3	CS3_220223_DF_CB	1.00	25-347-1	DTF	477-501	24-Feb-2022	02:38:09
17	220223C17	21	OPR1_18957_DF	1.00	0_18957_OPR001	DTF	773-021	24-Feb-2022	03:24:23
18	220223C18	22	OPR2_18957_DF	1.00	0_18957_OPR002	DTF	604-355	24-Feb-2022	04:10:44
20	220223C20	2	SBS_220223_DF_CC	1.00	20-61-1	DTF	554-137	24-Feb-2022	05:43:24
21	220223C21	20	MB1_18957_DF_SDS	10.00	Method Blank	DTF	887-738	24-Feb-2022	06:29:44
22	220223C23	23	B6328_18957_DF_001	10.20	11215131-021822-S-SB-NC-S-48	DTF	078-775	24-Feb-2022	08:02:24
23	220223C24	24	B6328_18957_DF_002	10.16	11215131-021722-S-SB-SC-S-33	DTF	330-523	24-Feb-2022	08:48:45
24	220223C25	25	B6328_18957_DF_003	10.02	11215131-021722-S-SB-NC-S-49	DTF	341-784	24-Feb-2022	09:35:06

REVIEWED
Tyler_Fritz , 2/24/2022, 12:33:49 PM

REVIEWED
Amber_Kornegay , 2/24/2022, 2:13:19 PM

Dioxin/Furan QC Summary	Acq'd: 24 Feb 2022 02:38 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220223_DF_CB	UTP: 24-Feb-2022 12:19:31 DTF	Checkcode: 477-501-CMR
Sample ID: 25-347-1	Report: 24 Feb 2022 12:19 TF	Datafile: 220223C16

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.24	3.86E+06	0.80	Y	1.18	1.18	0%
12378-PeCDD	33.63	1.51E+07	1.55	Y	1.04	1.01	-2%
123478-HxCDD	37.57	1.42E+07	1.28	Y	1.09	1.08	-1%
123678-HxCDD	37.69	1.43E+07	1.26	Y	1.15	1.11	-3%
123789-HxCDD	37.99	1.51E+07	1.25	Y	1.05	1.01	-3%
1234678-HpCDD	40.73	1.36E+07	1.06	Y	1.06	1.02	-4%
OCDD	43.45	2.32E+07	0.92	Y	1.13	1.08	-5%
2378-TCDF	27.37	5.26E+06	0.79	Y	1.08	1.05	-2%
12378-PeCDF	32.17	2.21E+07	1.52	Y	1.02	0.97	-5%
23478-PeCDF	33.29	2.18E+07	1.51	Y	1.02	0.97	-5%
123478-HxCDF	36.56	2.04E+07	1.23	Y	1.27	1.21	-5%
123678-HxCDF	36.70	2.11E+07	1.23	Y	1.15	1.10	-5%
234678-HxCDF	37.38	2.01E+07	1.19	Y	1.19	1.13	-5%
123789-HxCDF	38.36	1.83E+07	1.26	Y	1.16	1.08	-7%
1234678-HpCDF	39.79	1.85E+07	1.04	Y	1.37	1.32	-4%
1234789-HpCDF	41.19	1.65E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.62	2.90E+07	0.93	Y	1.07	1.04	-3%
ES 2378-TCDD	28.21	3.26E+07	0.85	Y	1.05	1.02	-3%
ES 12378-PeCDD	33.613	2.98E+07	1.55	Y	0.88	0.93	6%
ES 123478-HxCDD	37.551	2.63E+07	1.23	Y	0.97	1.02	4%
ES 123678-HxCDD	37.672	2.58E+07	1.25	Y	0.94	0.99	5%
ES 123789-HxCDD	37.975	2.97E+07	1.29	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.719	2.67E+07	1.06	Y	0.91	1.03	13%
ES OCDD	43.436	4.31E+07	0.90	Y	0.62	0.83	33% *
ES 2378-TCDF	27.347	5.00E+07	0.80	Y	1.06	0.99	-6%
ES 12378-PeCDF	32.152	4.54E+07	1.60	Y	0.91	0.90	-1%
ES 23478-PeCDF	33.274	4.48E+07	1.57	Y	0.88	0.89	1%
ES 123478-HxCDF	36.545	3.37E+07	0.54	Y	1.20	1.30	8%
ES 123678-HxCDF	36.685	3.85E+07	0.54	Y	1.35	1.48	10%
ES 234678-HxCDF	37.36	3.55E+07	0.55	Y	1.24	1.37	10%
ES 123789-HxCDF	38.343	3.39E+07	0.53	Y	1.16	1.31	13%
ES 1234678-HpCDF	39.773	2.81E+07	0.47	Y	0.97	1.08	12%
ES 1234789-HpCDF	41.18	2.64E+07	0.46	Y	0.85	1.02	19%
ES OCDF	43.609	5.55E+07	0.90	Y	0.81	1.07	33% *

*OK-Meets M1613B criteria.
AK 24 Feb 22

Dioxin/Furan QC Summary	Acq'd: 24 Feb 2022 02:38 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220223_DF_CB	UTP: 24-Feb-2022 12:19:31 DTF	Checkcode: 477-501-CMR
Sample ID: 25-347-1	Report: 24 Feb 2022 12:19 TF	Datafile: 220223C16

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.55	3.21E+07	0.83	Y	-	-	-
JS 1234-TCDF	25.97	5.04E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.87	1.30E+07	1.20	Y	-	-	-
CS 37Cl-2378-TCDD	28.24	4.43E+06	n/a	-	1.20	1.38	15%
CS 12347-PeCDD	33.11	2.70E+07	1.61	Y	0.75	0.84	12%
CS 12346-PeCDF	31.62	4.34E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	37.00	3.38E+07	0.54	Y	1.12	1.31	17%
CS 1234689-HpCDF	40.18	2.89E+07	0.45	Y	0.89	1.11	25%
~~SS 37Cl-2378-TCDD~~	~~28.24~~	~~4.43E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.36~~	~~18%~~
~~SS 12347-PeCDD~~	~~33.11~~	~~2.70E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~0.91~~	~~6%~~
~~SS 12346-PeCDF~~	~~31.62~~	~~4.34E+07~~	~~1.57~~	~~Y~~	~~0.94~~	~~0.96~~	~~2%~~
~~SS 123469-HxCDF~~	~~37.00~~	~~3.30E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~0.88~~	~~6%~~
~~SS 1234689-HpCDF~~	~~40.18~~	~~2.89E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~1.03~~	~~12%~~
~~OCDD-a~~	~~43.44~~	~~1.50E+06~~	~~2.32~~	~~Y~~	~~0.07~~	~~0.07~~	~~-3%~~
~~OCDF-a~~	~~43.62~~	~~1.95E+06~~	~~2.31~~	~~Y~~	~~0.07~~	~~0.07~~	~~6%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220223C16 Analysis Date: 24-FEB-2022 02:38:09

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.80	0.65 - 0.89	Y	10	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32 - 1.78	Y	48.8	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	49.4	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05 - 1.43	Y	48.5	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	48.4	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88 - 1.20	Y	48	43 - 58	Y
OCDD	M+2/M+4	0.92	0.76 - 1.02	Y	95.5	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.79	0.65 - 0.89	Y	9.76	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.52	1.32 - 1.78	Y	47.4	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.51	1.32 - 1.78	Y	47.7	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	47.6	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	47.5	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.19	1.05 - 1.43	Y	47.7	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	46.4	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88 - 1.20	Y	48.1	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.02	0.88 - 1.20	Y	47.8	43 - 58	Y
OCDF	M+2/M+4	0.93	0.76 - 1.02	Y	97.4	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 24 Feb 2022 12:19 Analyst: TF

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

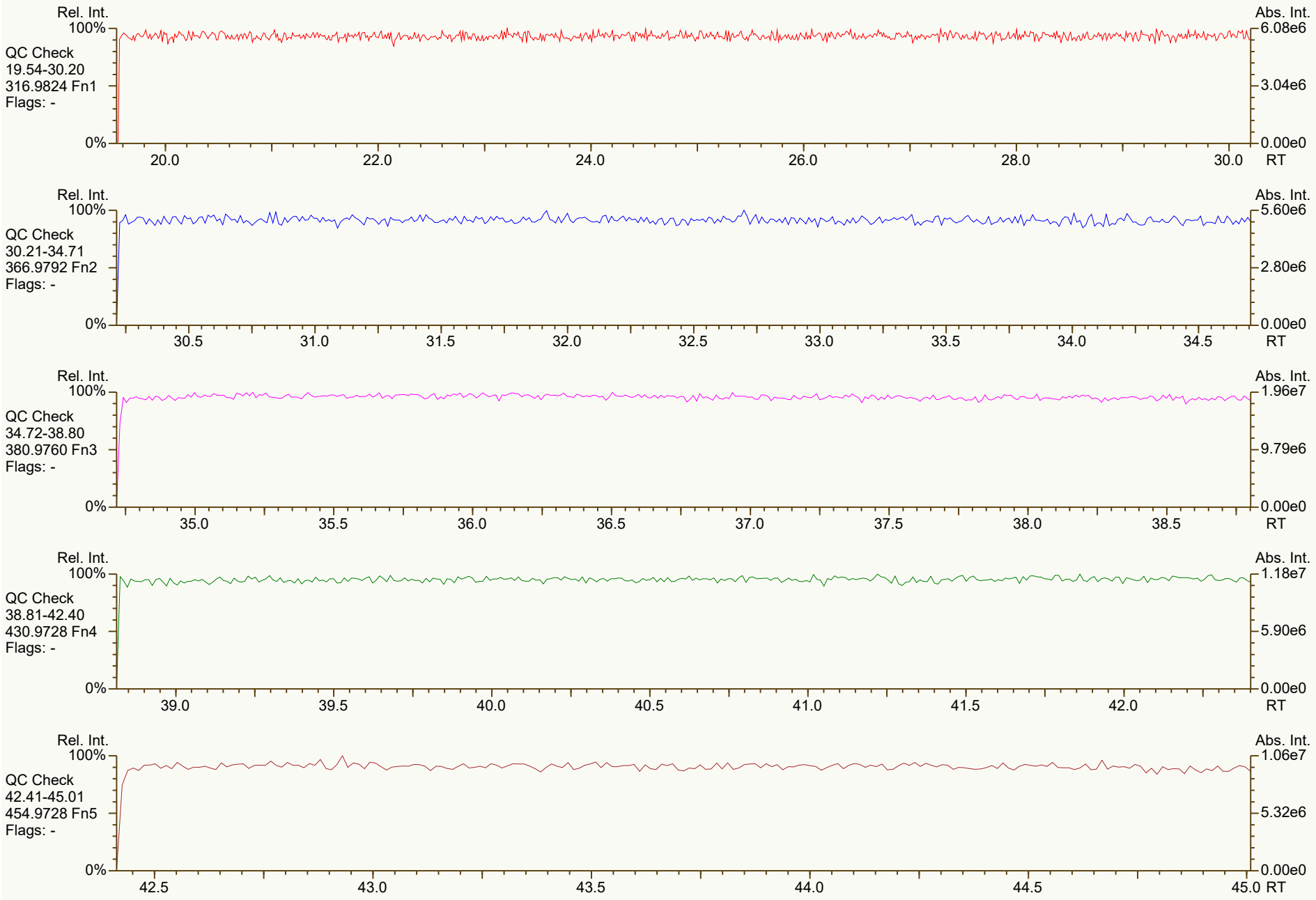
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

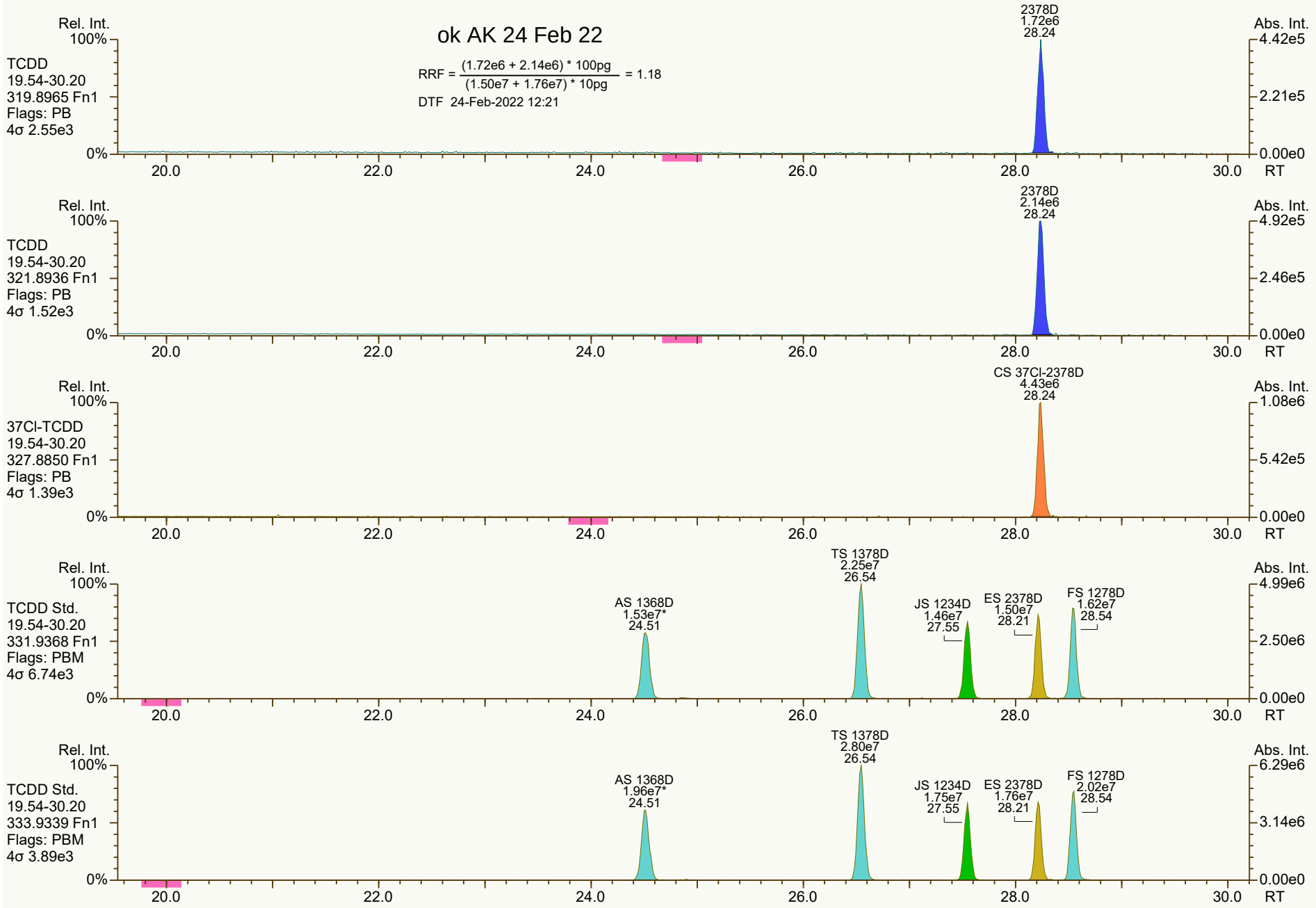
Instrument ID: HRMS3 GC Column ID: ZB-5ms

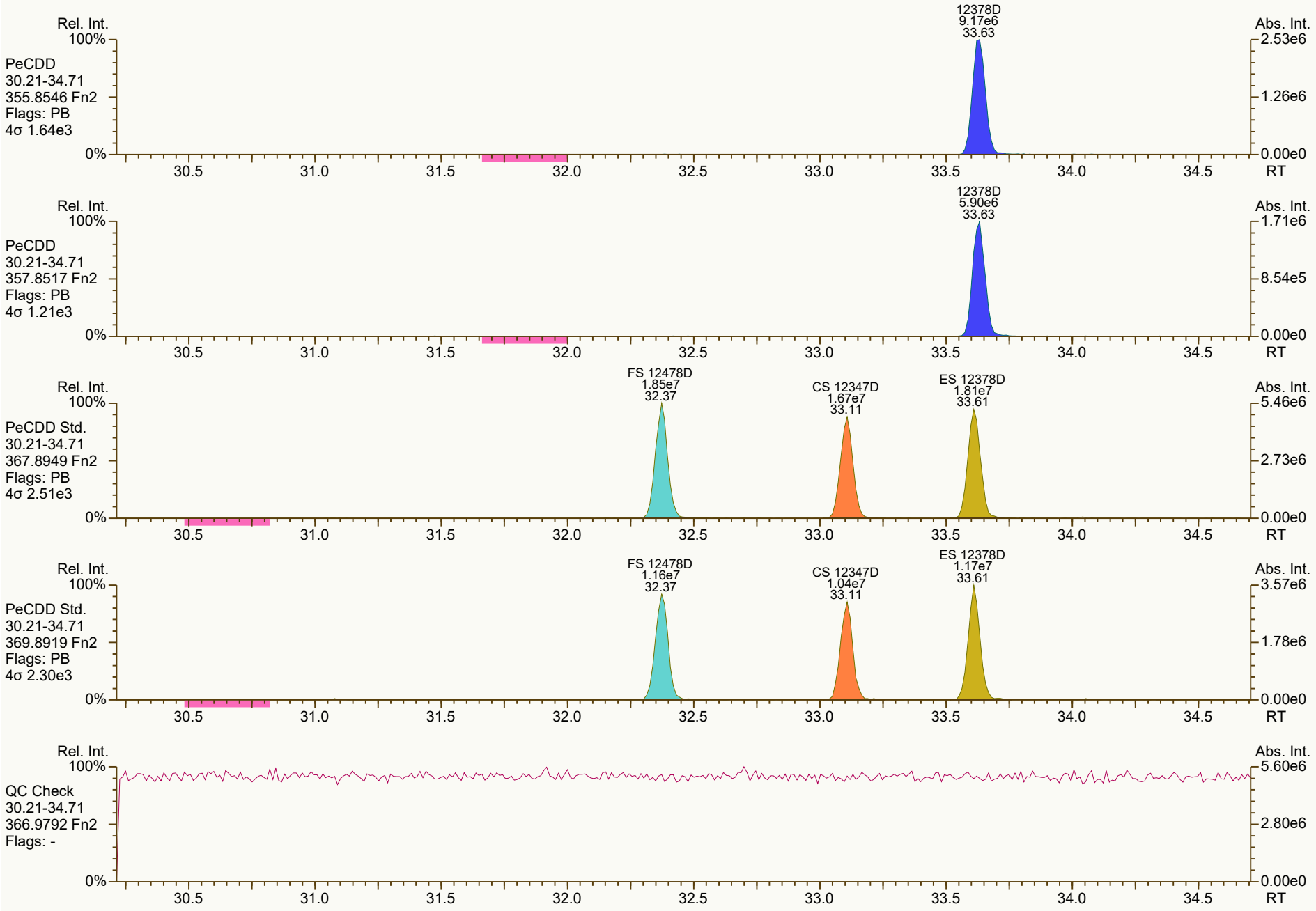
VER Data Filename: 220223C16 Analysis Date: 24-FEB-2022 02:38:09

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
13C-2,3,7,8-TCDD	M/M+2	0.85	0.65 - 0.89	Y	97.2	82 - 121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32 - 1.78	Y	106	62 - 160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.23	1.05 - 1.43	Y	104	85 - 117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	105	85 - 118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.29	1.05 - 1.43	Y	105	85 - 118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88 - 1.20	Y	113	72 - 138	Y
13C-OCDD	M+2/M+4	0.90	0.76 - 1.02	Y	266	96 - 415	Y
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65 - 0.89	Y	93.6	71 - 140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.60	1.32 - 1.78	Y	99	76 - 130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32 - 1.78	Y	101	77 - 130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	108	76 - 131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	110	70 - 143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.55	0.43 - 0.59	Y	110	73 - 137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.53	0.43 - 0.59	Y	113	74 - 135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.47	0.37 - 0.51	Y	112	78 - 129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.46	0.37 - 0.51	Y	119	77 - 129	Y
13C-OCDF	M+2/M+4	0.90	0.76 - 1.02	Y	265	96 - 415	Y
CLEANUP STANDARDS							
37Cl-2,3,7,8-TCDD	n/a				11.5	7.9 - 12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.61	1.32 - 1.78	Y	112	70 - 130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.57	1.32 - 1.78	Y	101	70 - 130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	117	70 - 130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.45	0.37 - 0.51	Y	125	70 - 130	Y

Processed: 24 Feb 2022 12:19 Analyst: TF


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
6.08e6
3.04e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
5.60e6
2.80e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.96e7
9.79e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.18e7
5.90e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.06e7
5.32e6
0.00e0


ok AK 24 Feb 22
RRF = (1.72e6 + 2.14e6) * 100pg / (1.50e7 + 1.76e7) * 10pg = 1.18
DTF 24-Feb-2022 12:21
Rel. Int.
Abs. Int.
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.55e3
2378D
1.72e6
28.24
4.42e5
2.21e5
0.00e0
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.52e3
2378D
2.14e6
28.24
4.92e5
2.46e5
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.39e3
CS 37Cl-2378D
4.43e6
28.24
1.08e6
5.42e5
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PBM
4σ 6.74e3
AS 1368D
1.53e7*
24.51
TS 1378D
2.25e7
26.54
JS 1234D
1.46e7
27.55
ES 2378D
1.50e7
28.21
FS 1278D
1.62e7
28.54
4.99e6
2.50e6
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PBM
4σ 3.89e3
AS 1368D
1.96e7*
24.51
TS 1378D
2.80e7
26.54
JS 1234D
1.75e7
27.55
ES 2378D
1.76e7
28.21
FS 1278D
2.02e7
28.54
6.29e6
3.14e6
0%
100%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.64e3
0%
12378D
9.17e6
33.63
Abs. Int.
2.53e6
1.26e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.21e3
0%
12378D
5.90e6
33.63
Abs. Int.
1.71e6
8.54e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.51e3
0%
FS 12478D
1.85e7
32.37
CS 12347D
1.67e7
33.11
ES 12378D
1.81e7
33.61
Abs. Int.
5.46e6
2.73e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.30e3
0%
FS 12478D
1.16e7
32.37
CS 12347D
1.04e7
33.11
ES 12378D
1.17e7
33.61
Abs. Int.
3.57e6
1.78e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.60e6
2.80e6
0.00e0
30.5
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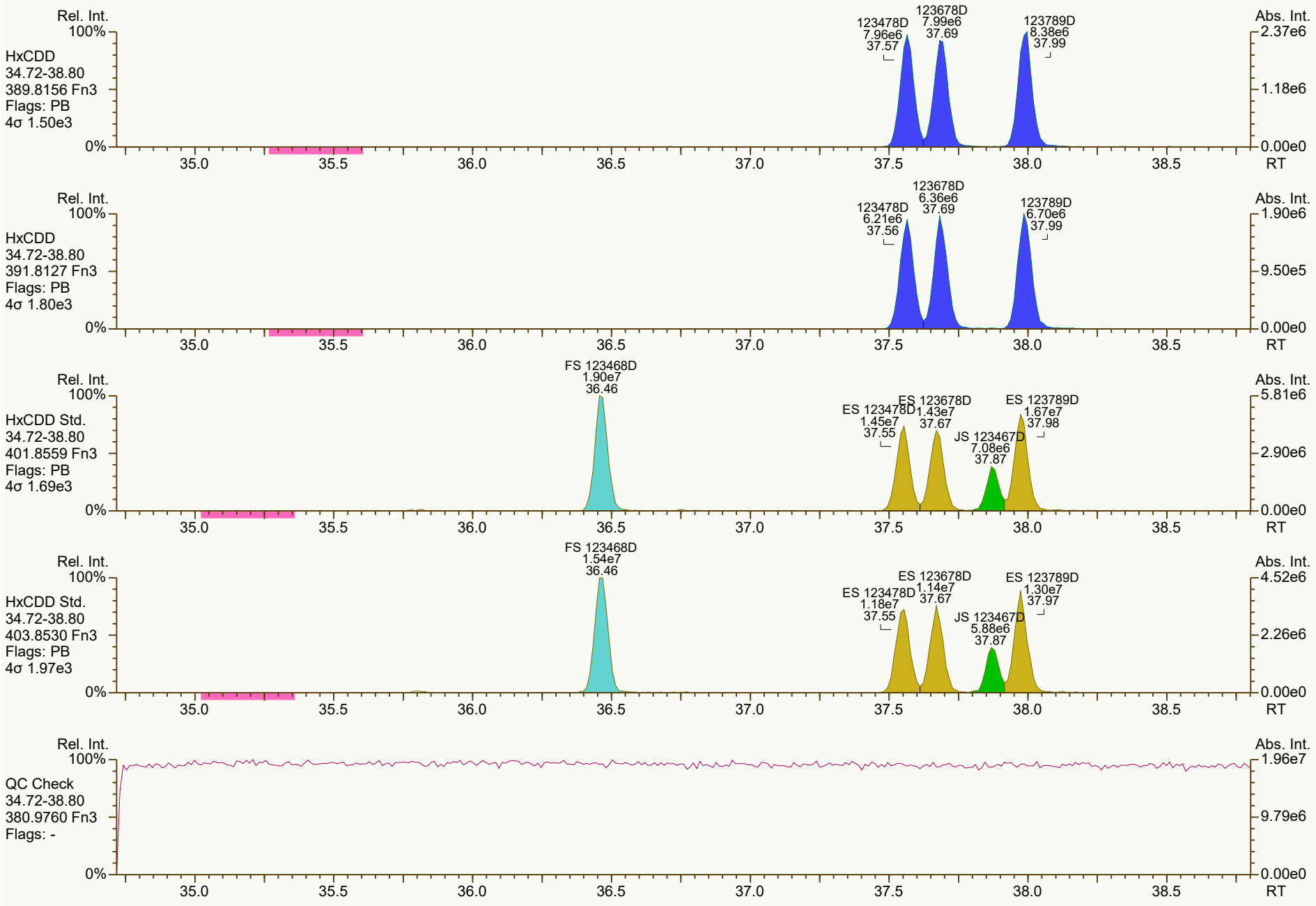
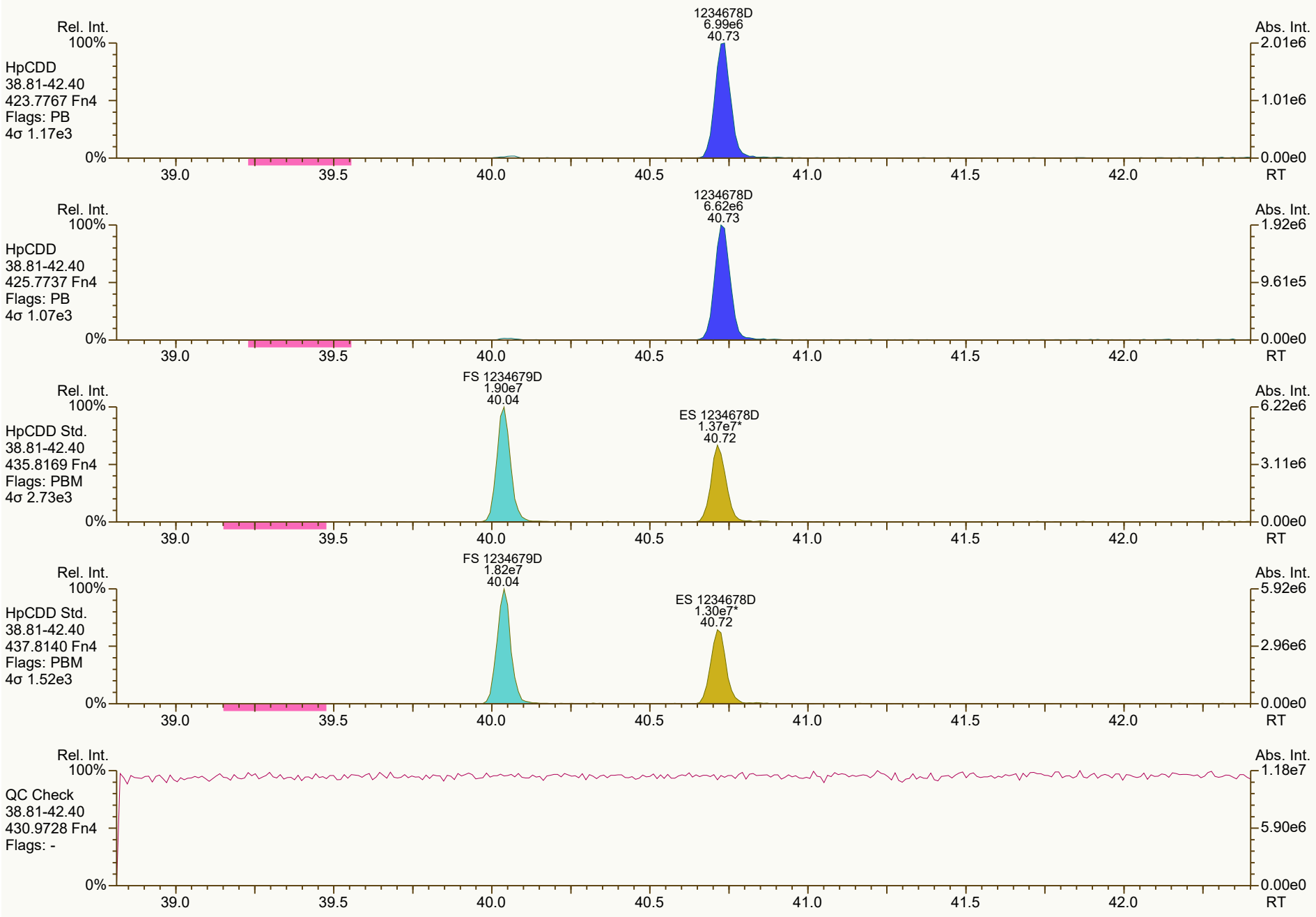
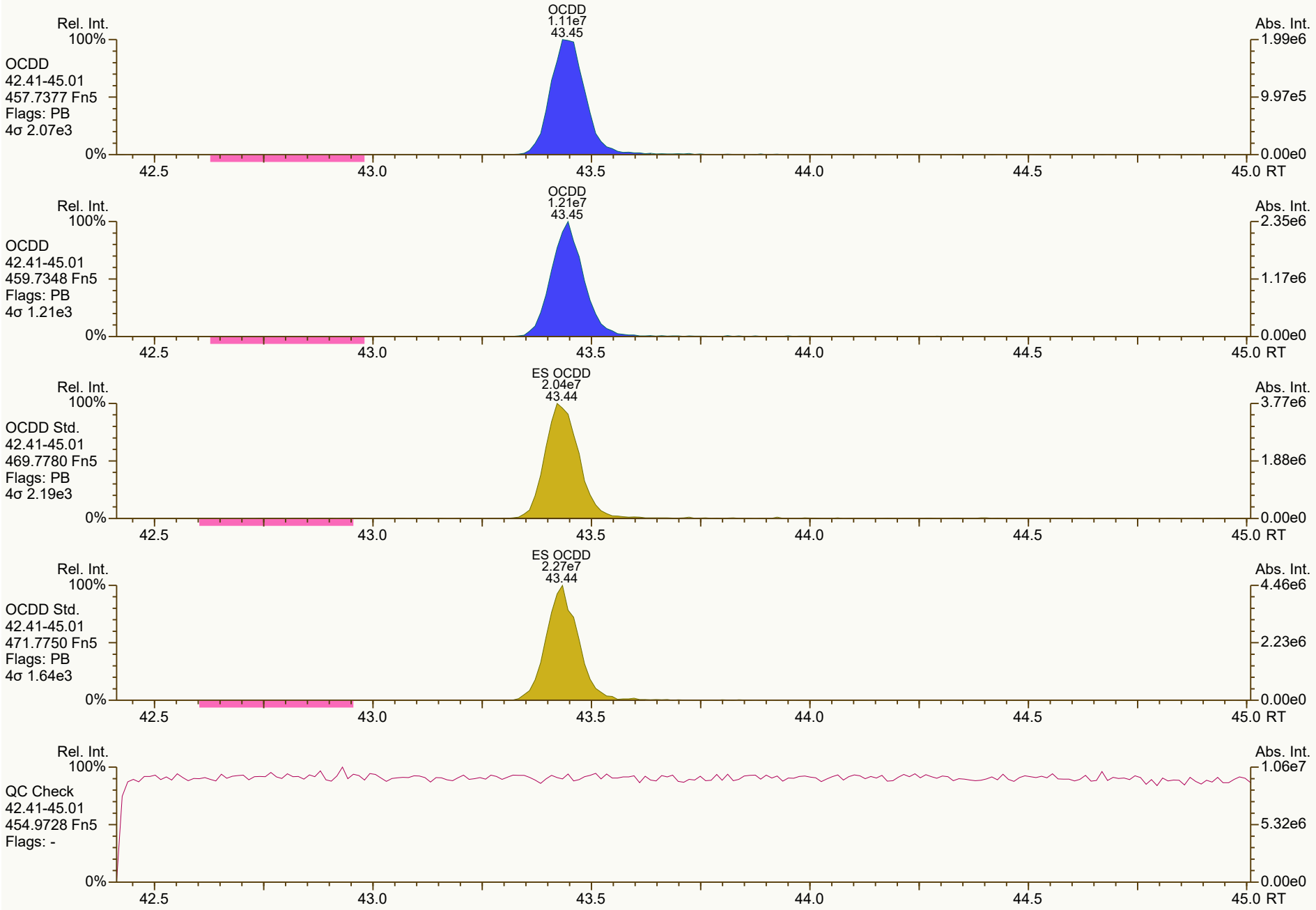
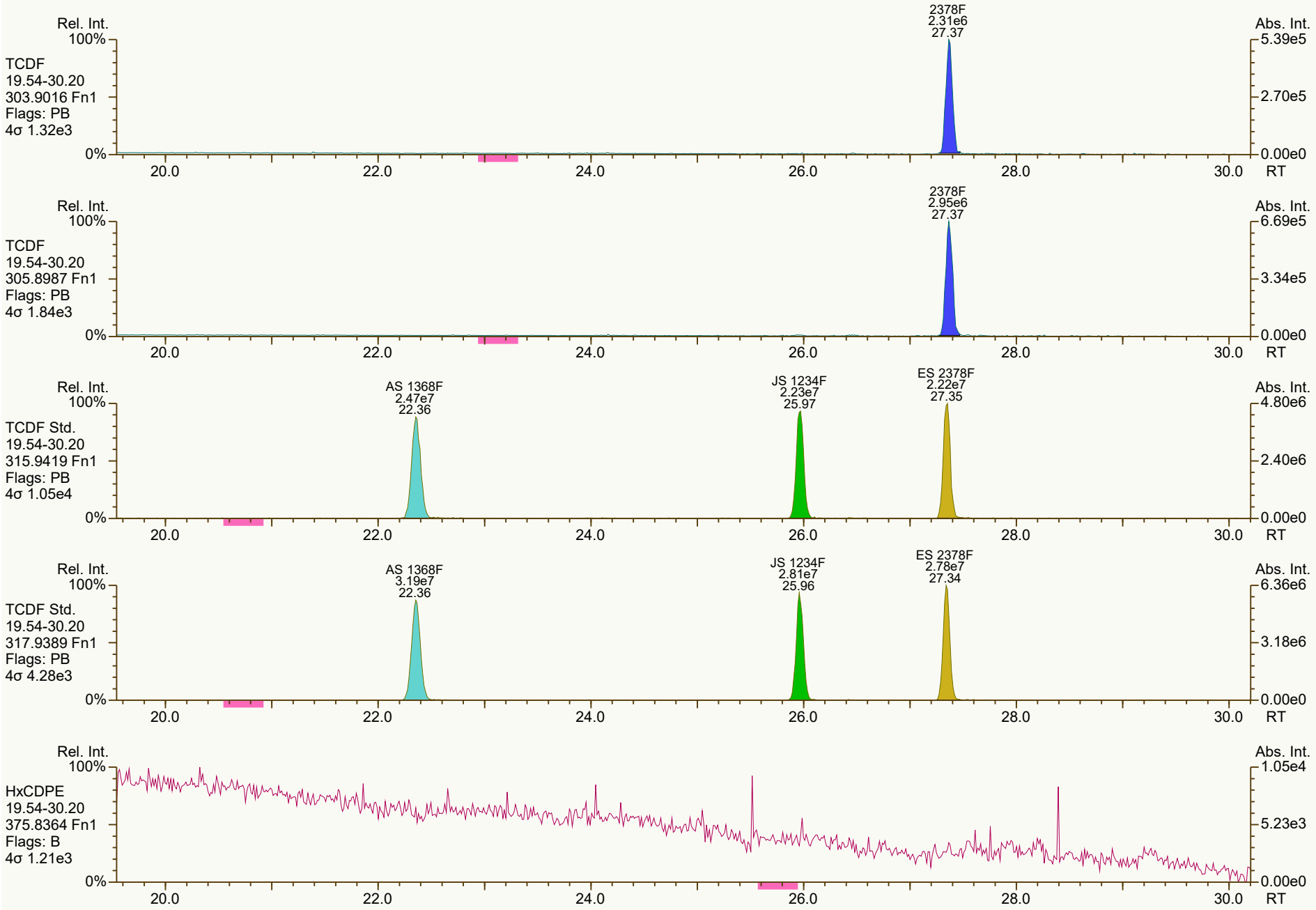
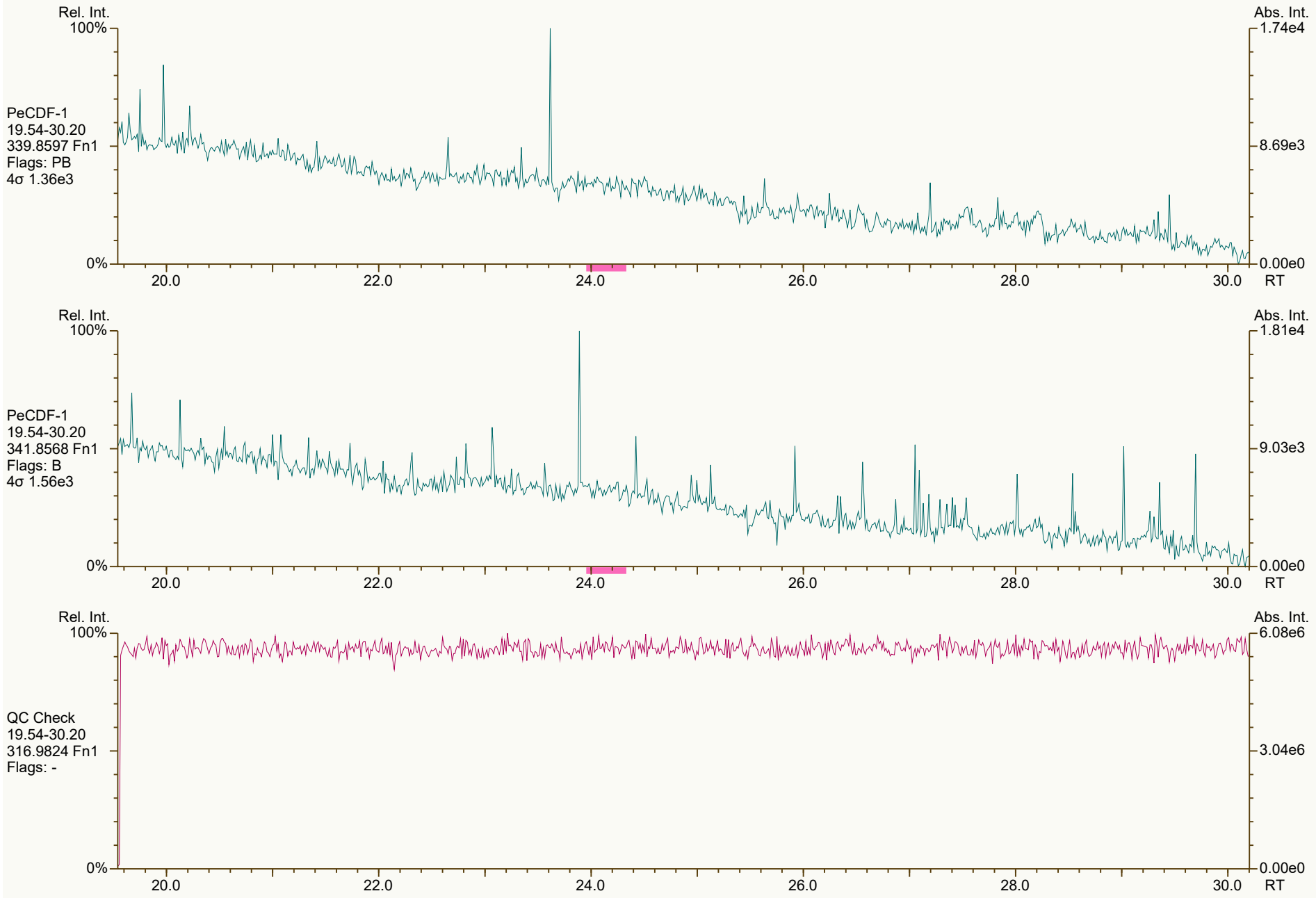
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

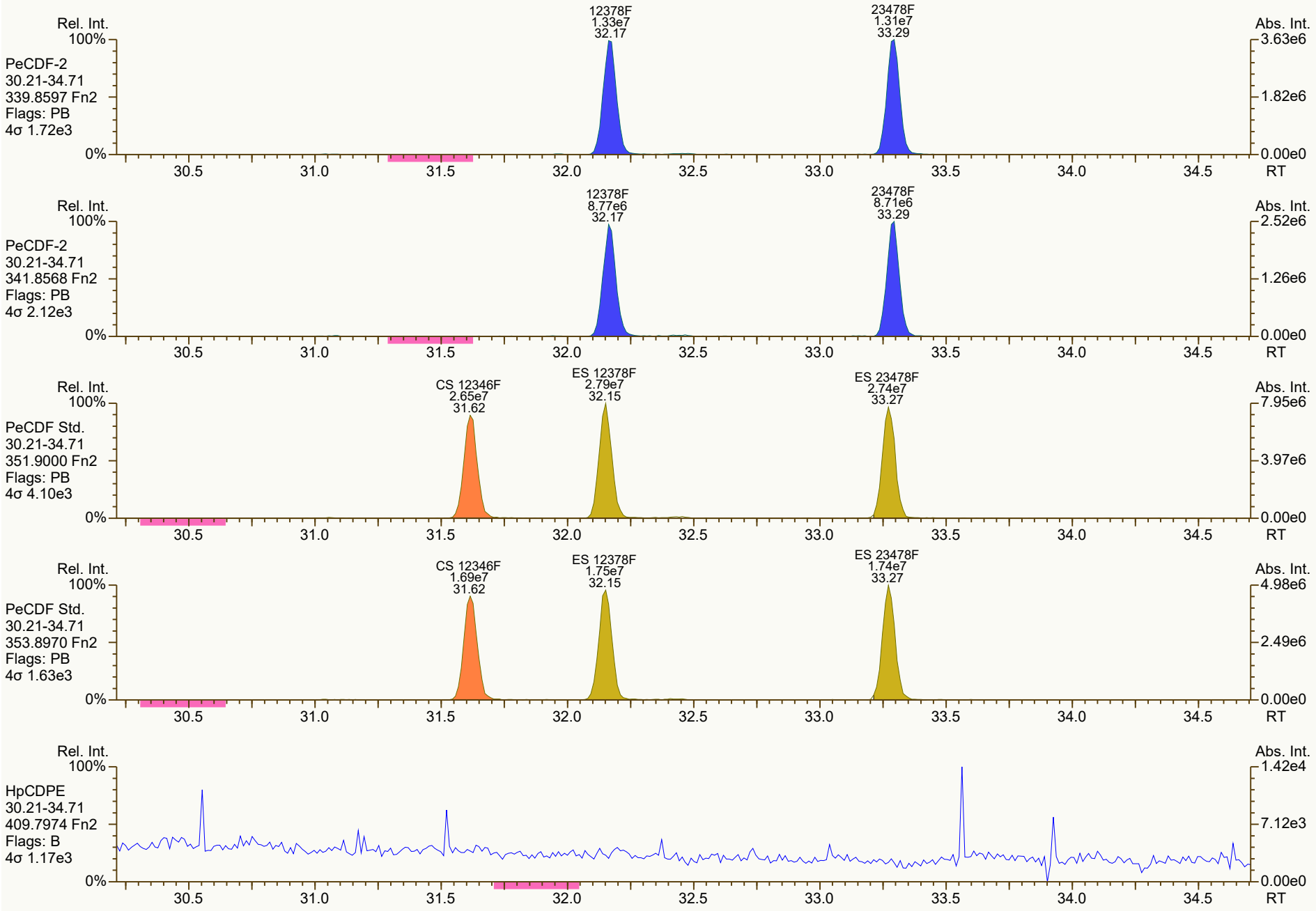

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 1.50e3
123478D
7.96e6
37.57
123678D
7.99e6
37.69
123789D
8.38e6
37.99
Abs. Int.
2.37e6
1.18e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.80e3
123478D
6.21e6
37.56
123678D
6.36e6
37.69
123789D
6.70e6
37.99
Abs. Int.
1.90e6
9.50e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 1.69e3
FS 123468D
1.90e7
36.46
ES 123478D
1.45e7
37.55
ES 123678D
1.43e7
37.67
JS 123467D
7.08e6
37.87
ES 123789D
1.67e7
37.98
Abs. Int.
5.81e6
2.90e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 1.97e3
FS 123468D
1.54e7
36.46
ES 123478D
1.18e7
37.55
ES 123678D
1.14e7
37.67
JS 123467D
5.88e6
37.87
ES 123789D
1.30e7
37.97
Abs. Int.
4.52e6
2.26e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
1.96e7
9.79e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

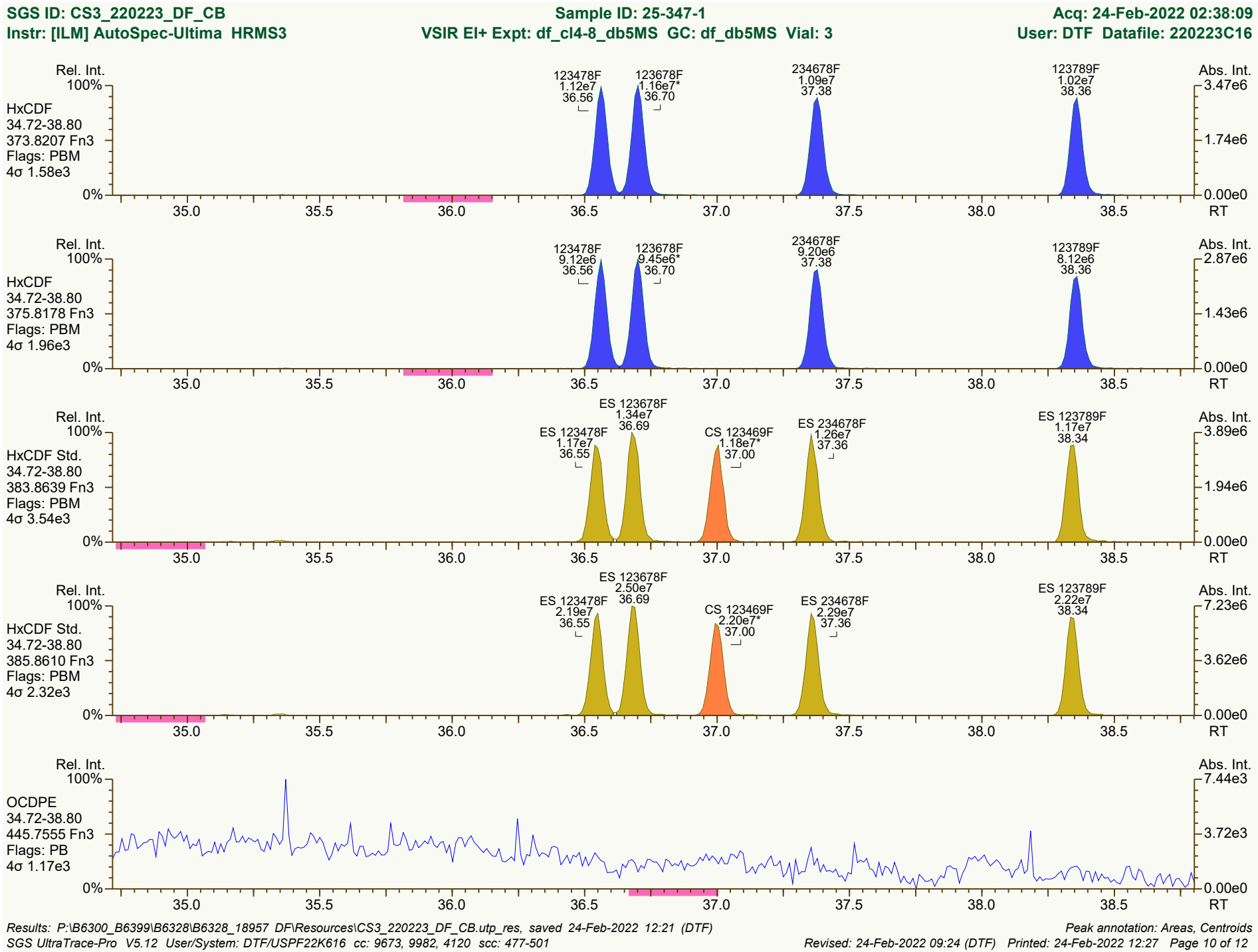

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 1.17e3
1234678D
6.99e6
40.73
Abs. Int.
2.01e6
1.01e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.07e3
1234678D
6.62e6
40.73
Abs. Int.
1.92e6
9.61e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 2.73e3
FS 1234679D
1.90e7
40.04
ES 1234678D
1.37e7*
40.72
Abs. Int.
6.22e6
3.11e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 1.52e3
FS 1234679D
1.82e7
40.04
ES 1234678D
1.30e7*
40.72
Abs. Int.
5.92e6
2.96e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.90e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
1.11e7
43.45
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 2.07e3
0%
Abs. Int.
1.99e6
9.97e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.21e7
43.45
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 1.21e3
2.35e6
1.17e6
ES OCDD
2.04e7
43.44
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 2.19e3
3.77e6
1.88e6
ES OCDD
2.27e7
43.44
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.64e3
4.46e6
2.23e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.06e7
5.32e6


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.32e3
0%
2378F
2.31e6
27.37
Abs. Int.
5.39e5
2.70e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 1.84e3
0%
2378F
2.95e6
27.37
Abs. Int.
6.69e5
3.34e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368F
2.47e7
22.36
JS 1234F
2.23e7
25.97
ES 2378F
2.22e7
27.35
Abs. Int.
4.80e6
2.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.28e3
0%
AS 1368F
3.19e7
22.36
JS 1234F
2.81e7
25.96
ES 2378F
2.78e7
27.34
Abs. Int.
6.36e6
3.18e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.21e3
0%
Abs. Int.
1.05e4
5.23e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.74e4
8.69e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.36e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.81e4
9.03e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.56e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
6.08e6
3.04e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.72e3
0%
12378F
1.33e7
32.17
23478F
1.31e7
33.29
Abs. Int.
3.63e6
1.82e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 2.12e3
0%
12378F
8.77e6
32.17
23478F
8.71e6
33.29
Abs. Int.
2.52e6
1.26e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 4.10e3
0%
CS 12346F
2.65e7
31.62
ES 12378F
2.79e7
32.15
ES 23478F
2.74e7
33.27
Abs. Int.
7.95e6
3.97e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 1.63e3
0%
CS 12346F
1.69e7
31.62
ES 12378F
1.75e7
32.15
ES 23478F
1.74e7
33.27
Abs. Int.
4.98e6
2.49e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.17e3
0%
Abs. Int.
1.42e4
7.12e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

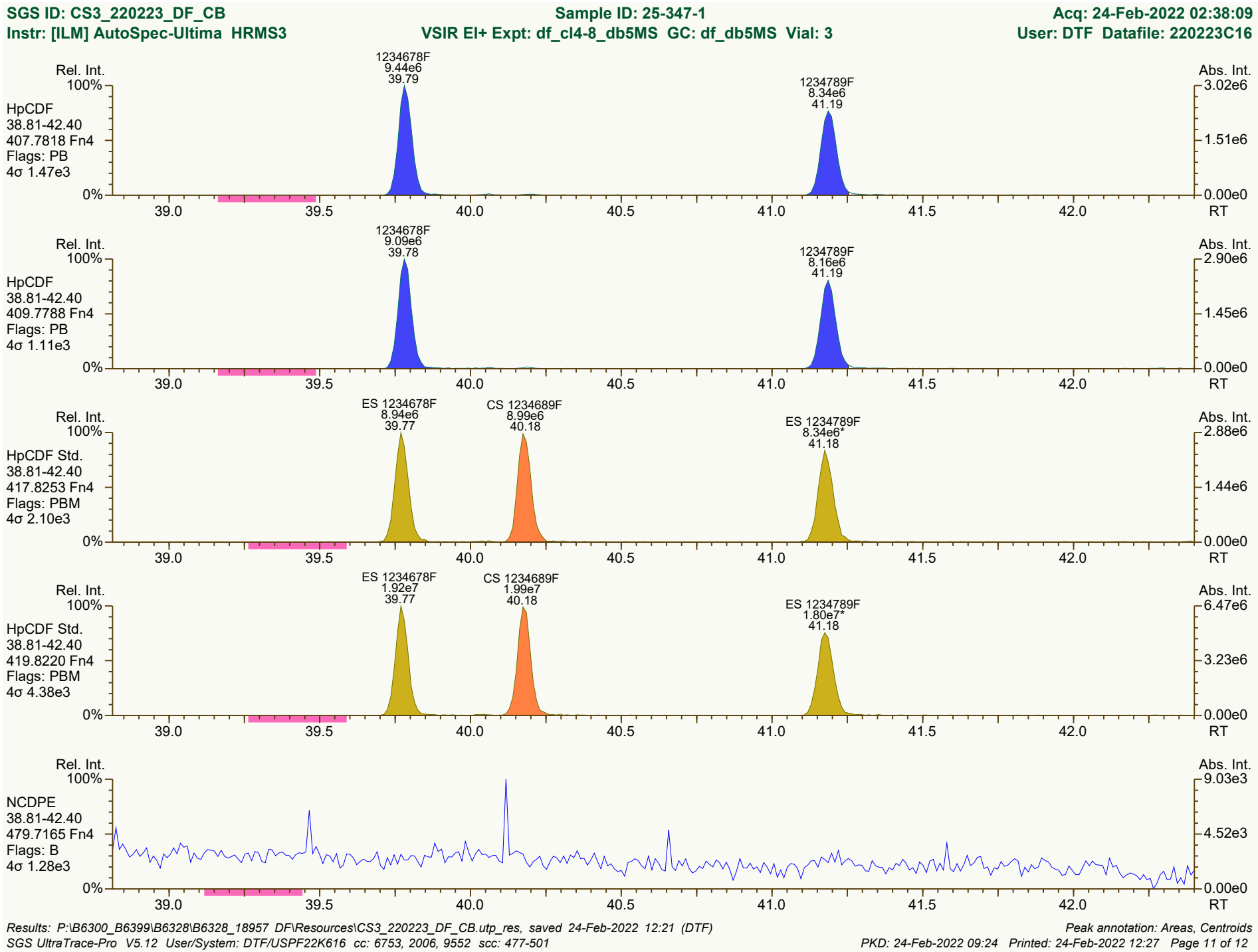


Results: P:\B6300_B6399\B6328\B6328_18957 DF\Resources\CS3_220223_DF_CB.utp_res, saved 24-Feb-2022 12:21 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9673, 9982, 4120 scc: 477-501
Revised: 24-Feb-2022 09:24 (DTF) Printed: 24-Feb-2022 12:27 Page 10 of 12

SGS ID: CS3_220223_DF_CB
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 25-347-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3

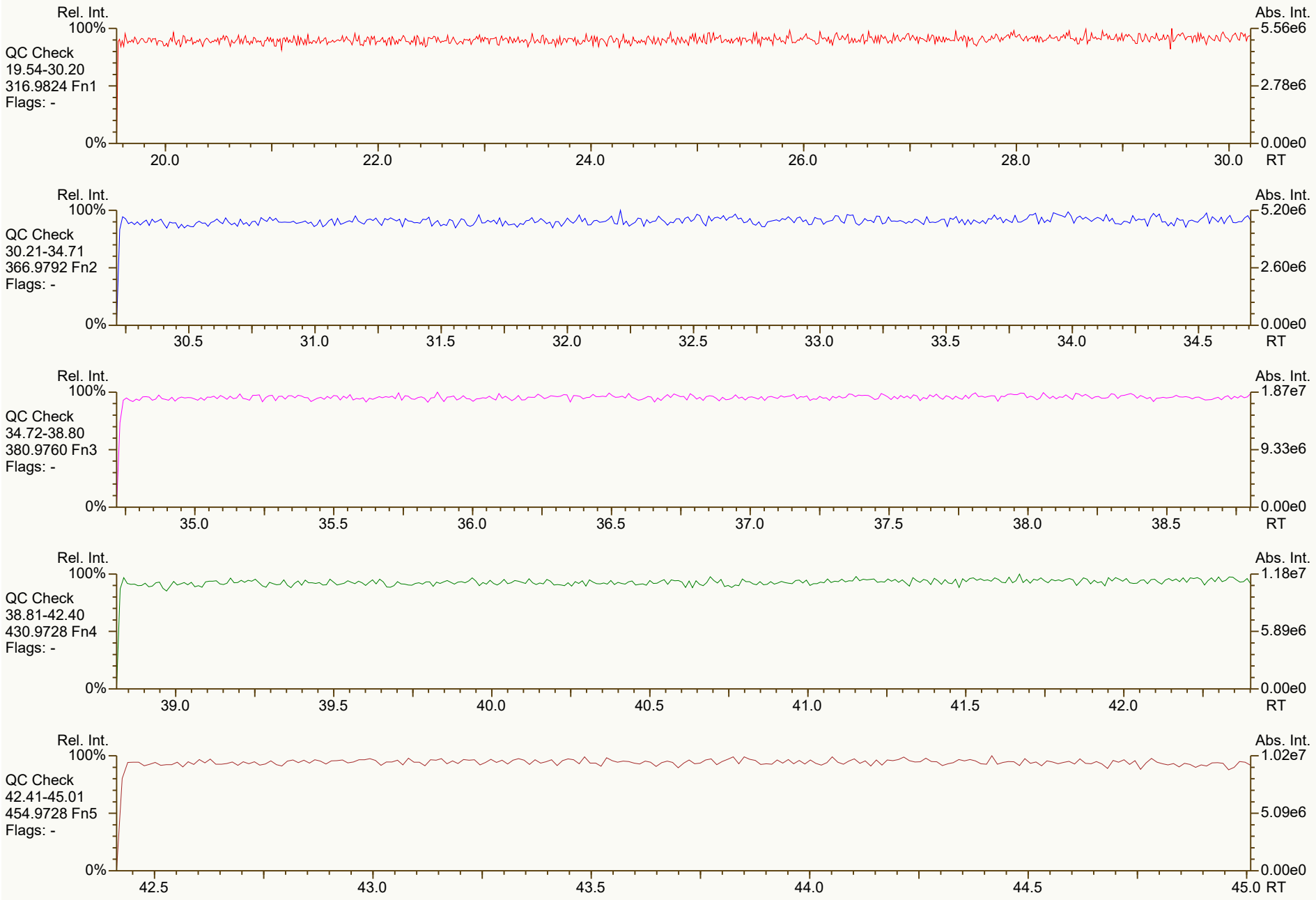
Acq: 24-Feb-2022 02:38:09
User: DTF Datafile: 220223C16

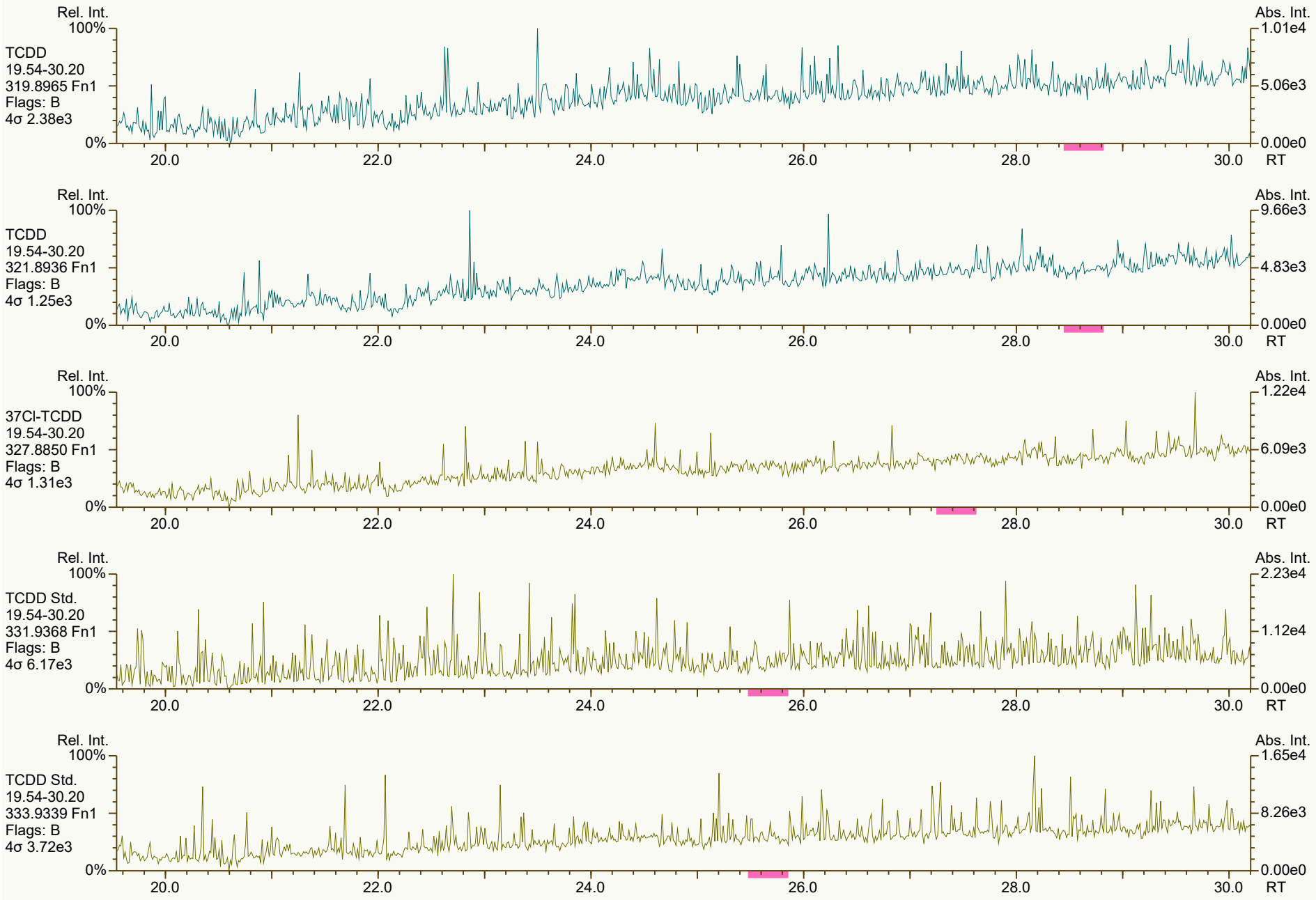


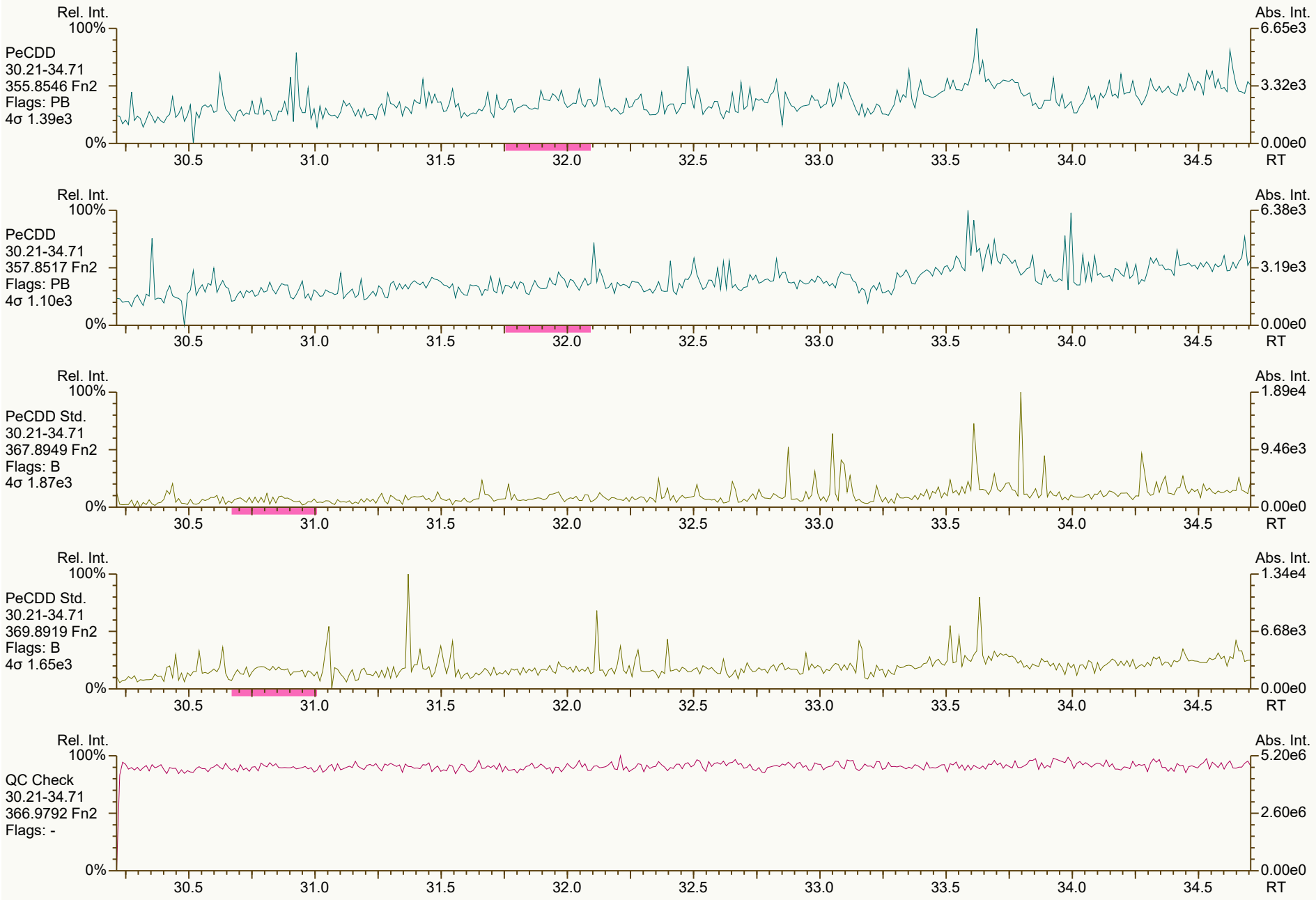
Results: P:\B6300_B6399\B6328\B6328_18957 DF\Resources\CS3_220223_DF_CB.utp_res, saved 24-Feb-2022 12:21 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6753, 2006, 9552 scc: 477-501

Peak annotation: Areas, Centroids
PKD: 24-Feb-2022 09:24 Printed: 24-Feb-2022 12:27 Page 11 of 12

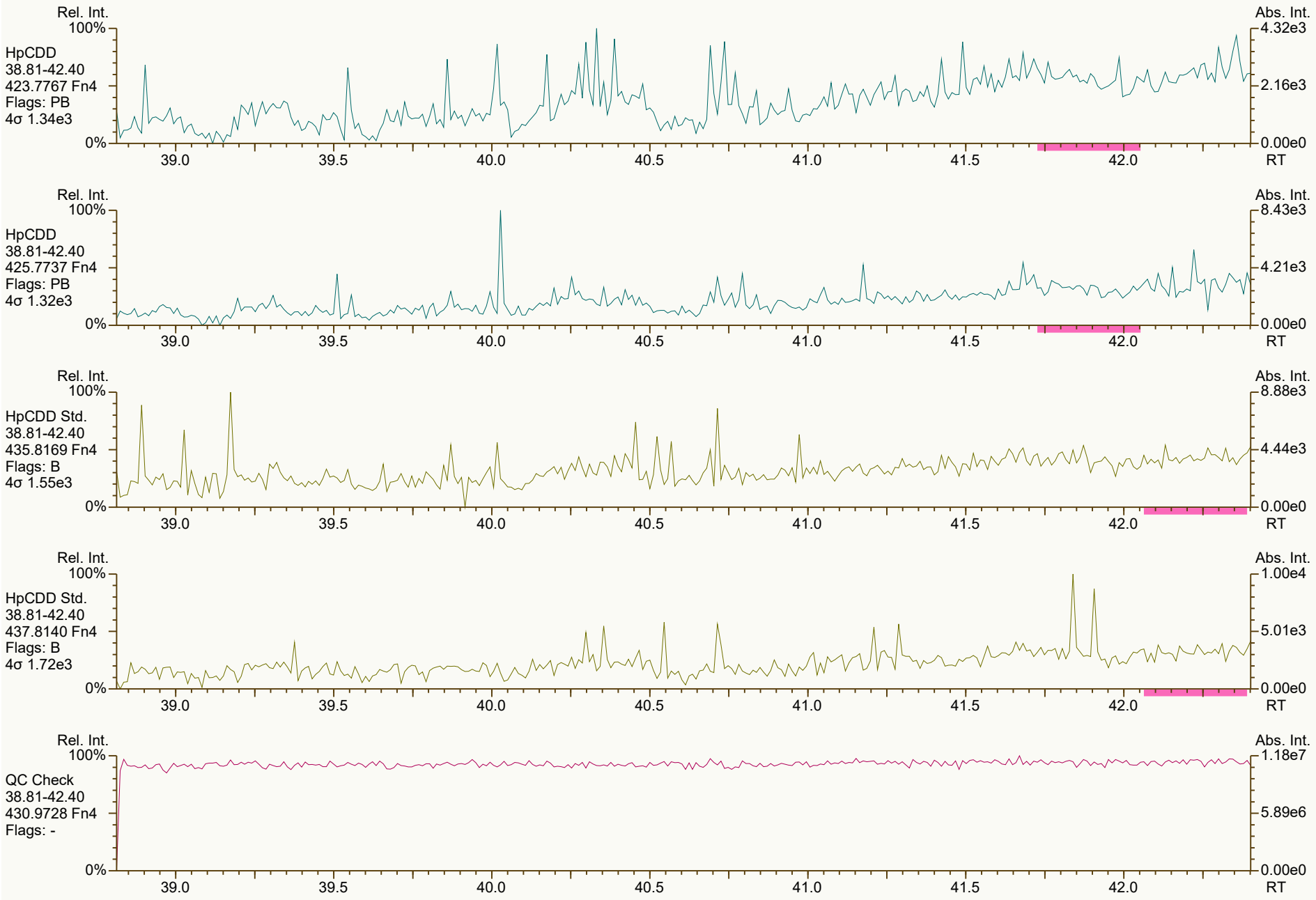

Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.71e3
0%
OCDF
1.40e7
43.62
Abs. Int.
2.66e6
1.33e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 2.78e3
0%
OCDF
1.50e7
43.62
Abs. Int.
2.81e6
1.40e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 1.74e3
0%
ES OCDF
2.62e7
43.61
Abs. Int.
5.03e6
2.52e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 1.95e3
0%
ES OCDF
2.93e7
43.61
Abs. Int.
6.00e6
3.00e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.08e3
0%
Abs. Int.
3.54e3
1.77e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
5.56e6
2.78e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
5.20e6
2.60e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.87e7
9.33e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.18e7
5.89e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.02e7
5.09e6
0.00e0

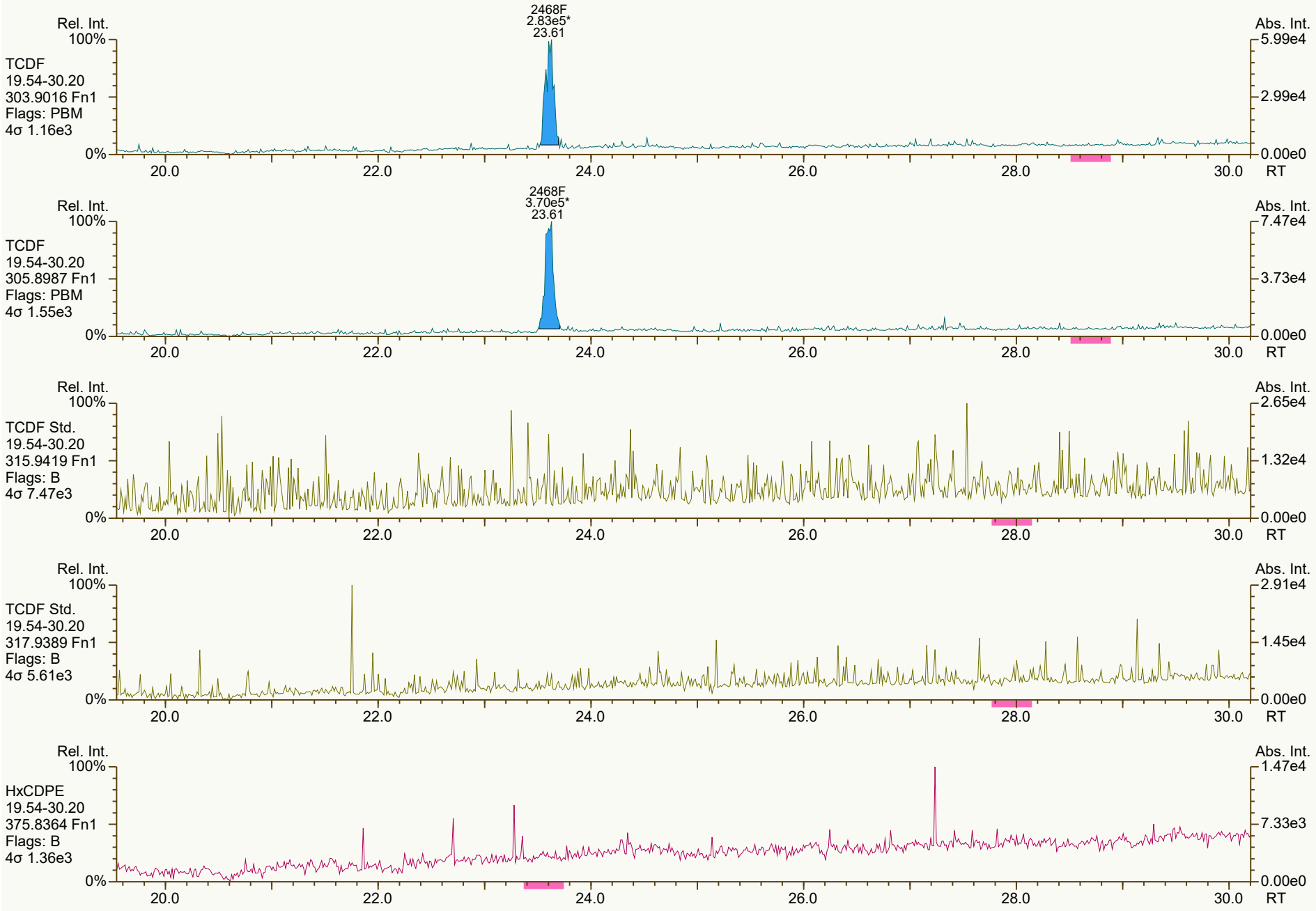

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 2.38e3
0%
Abs. Int.
1.01e4
5.06e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.25e3
0%
Abs. Int.
9.66e3
4.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: B
4σ 1.31e3
0%
Abs. Int.
1.22e4
6.09e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 6.17e3
0%
Abs. Int.
2.23e4
1.12e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 3.72e3
0%
Abs. Int.
1.65e4
8.26e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.39e3
0%
Abs. Int.
6.65e3
3.32e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.10e3
0%
Abs. Int.
6.38e3
3.19e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: B
4σ 1.87e3
0%
Abs. Int.
1.89e4
9.46e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: B
4σ 1.65e3
0%
Abs. Int.
1.34e4
6.68e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.20e6
2.60e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: B
4σ 1.25e3
0%
Abs. Int.
8.51e3
4.25e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.15e3
0%
Abs. Int.
6.42e3
3.21e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.87e4
9.33e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.49e4
7.45e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.87e7
9.33e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

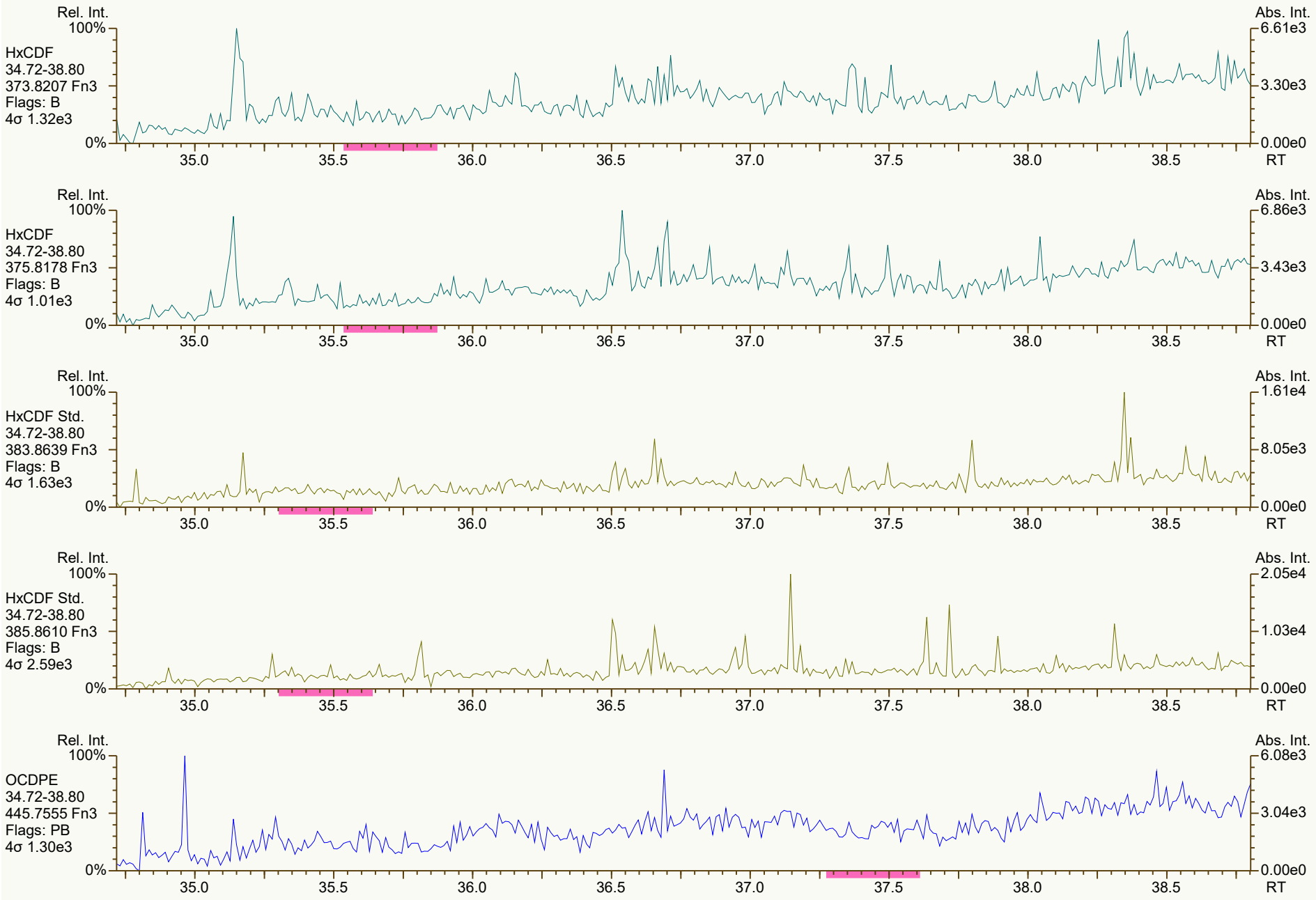

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 1.34e3
0%
Abs. Int.
4.32e3
2.16e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.32e3
0%
Abs. Int.
8.43e3
4.21e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: B
4σ 1.55e3
0%
Abs. Int.
8.88e3
4.44e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: B
4σ 1.72e3
0%
Abs. Int.
1.00e4
5.01e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.18e7
5.89e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 1.18e3
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 1.68e3
0%
Abs. Int.
7.34e3
3.67e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: B
4σ 2.12e3
0%
Abs. Int.
9.86e3
4.93e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: B
4σ 1.80e3
0%
Abs. Int.
8.63e3
4.31e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.02e7
5.09e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.16e3
2468F
2.83e5*
23.61
Abs. Int.
5.99e4
2.99e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.55e3
2468F
3.70e5*
23.61
Abs. Int.
7.47e4
3.73e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 7.47e3
Abs. Int.
2.65e4
1.32e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 5.61e3
Abs. Int.
2.91e4
1.45e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.36e3
Abs. Int.
1.47e4
7.33e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.64e4
8.19e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.59e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.22e4
6.10e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.02e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
5.56e6
2.78e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.47e3
0%
Abs. Int.
4.88e3
2.44e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: B
4σ 1.30e3
0%
Abs. Int.
4.79e3
2.40e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: B
4σ 1.25e3
0%
Abs. Int.
1.50e4
7.50e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: B
4σ 2.20e3
0%
Abs. Int.
1.85e4
9.24e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: PB
4σ 1.39e3
0%
Abs. Int.
6.04e3
3.02e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

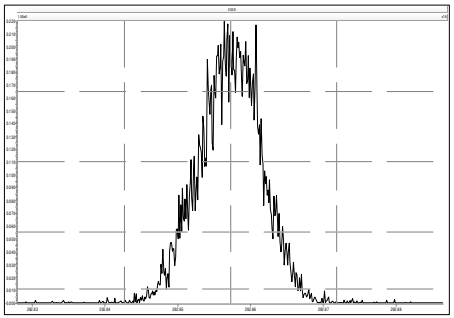

Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: B
4σ 1.32e3
0%
Abs. Int.
6.61e3
3.30e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: B
4σ 1.01e3
0%
Abs. Int.
6.86e3
3.43e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: B
4σ 1.63e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: B
4σ 2.59e3
0%
Abs. Int.
2.05e4
1.03e4
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.30e3
0%
Abs. Int.
6.08e3
3.04e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: B
4σ 1.89e3
0%
Abs. Int.
7.99e3
3.99e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: B
4σ 1.04e3
0%
Abs. Int.
8.81e3
4.40e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: B
4σ 2.24e3
0%
Abs. Int.
1.04e4
5.21e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: B
4σ 2.19e3
0%
Abs. Int.
1.37e4
6.87e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.28e3
0%
Abs. Int.
1.33e4
6.65e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

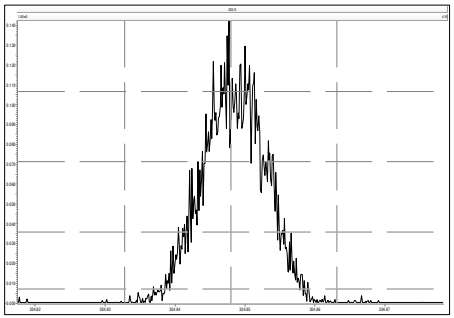

Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.00e3
0%
Abs. Int.
3.69e3
1.84e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: B
4σ 1.92e3
0%
Abs. Int.
6.02e3
3.01e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: B
4σ 1.57e3
0%
Abs. Int.
2.18e4
1.09e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: B
4σ 2.45e3
0%
Abs. Int.
1.27e4
6.37e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.31e3
0%
Abs. Int.
4.15e3
2.07e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Printed: Thursday, February 24, 2022 02:38:04 Eastern Standard Time

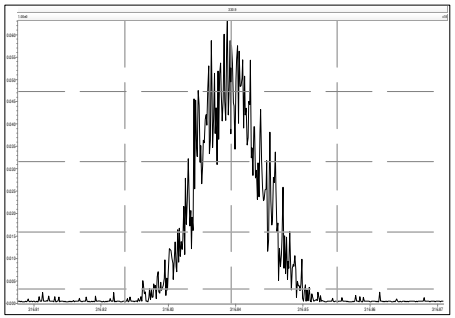
M 292.9824 R 15015



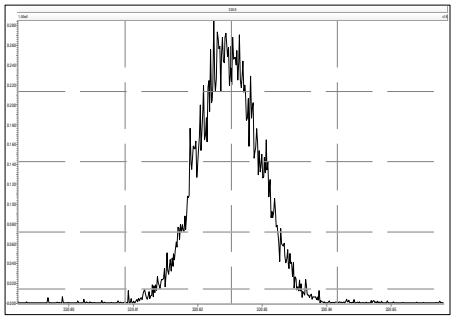
M 304.9824 R 14893



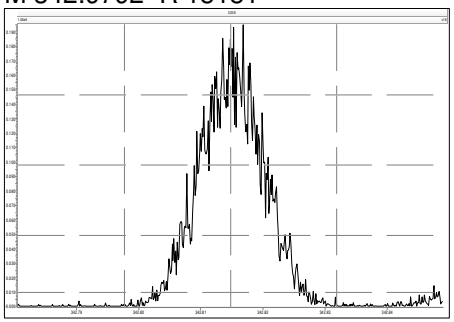
M 316.9824 R 17034



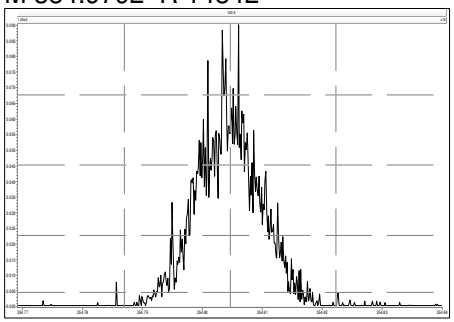
M 330.9792 R 15015



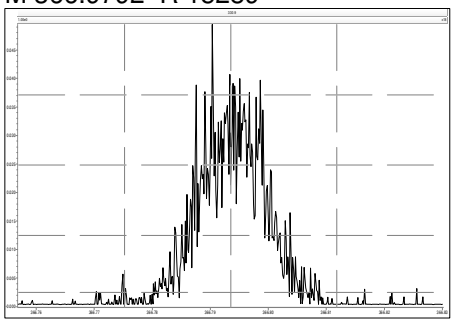
M 342.9792 R 15151



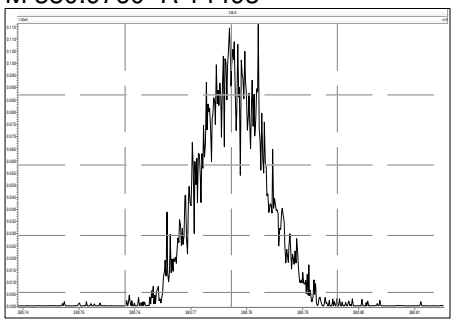
M 354.9792 R 14842



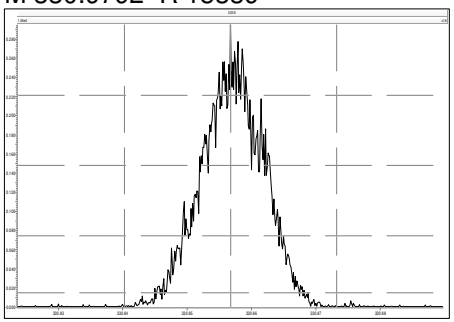
M 366.9792 R 15289



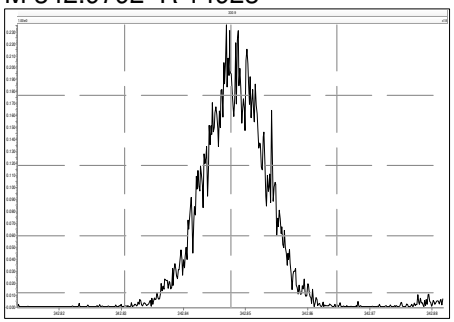
M 380.9760 R 14493



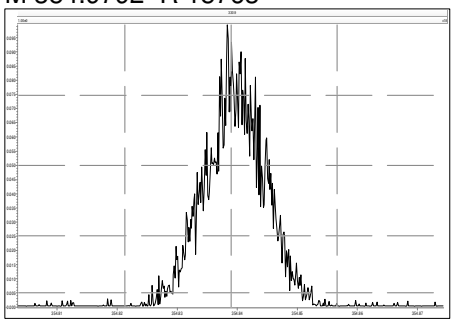
M 330.9792 R 15339



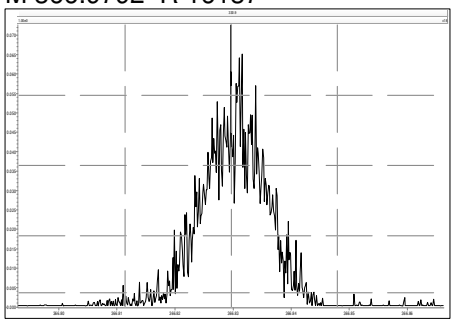
M 342.9792 R 14923



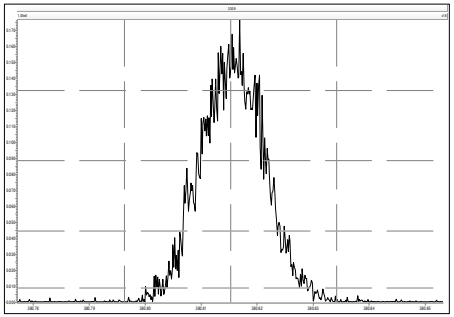
M 354.9792 R 15763



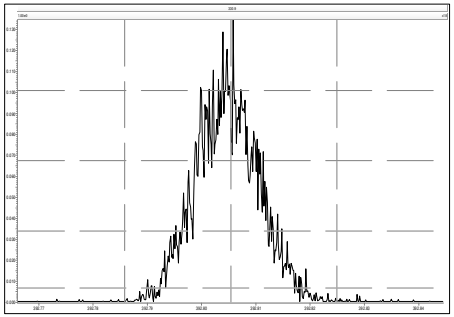
M 366.9792 R 16137



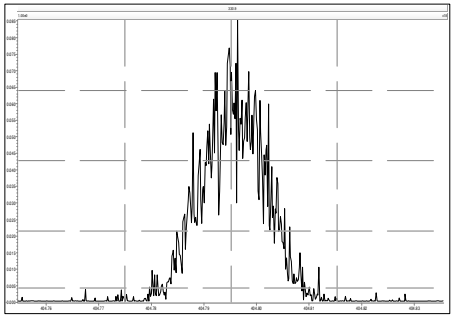
M 380.9760 R 15248



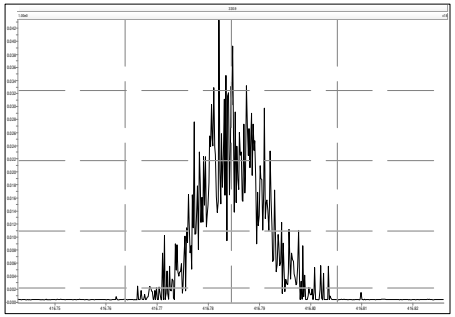
M 392.9760 R 15975



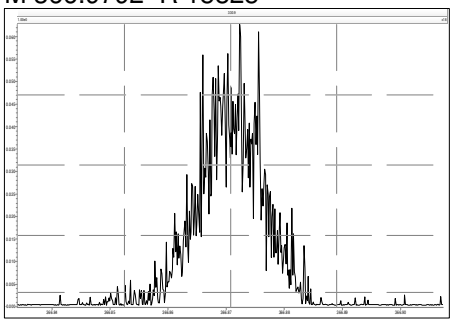
M 404.9760 R 15432



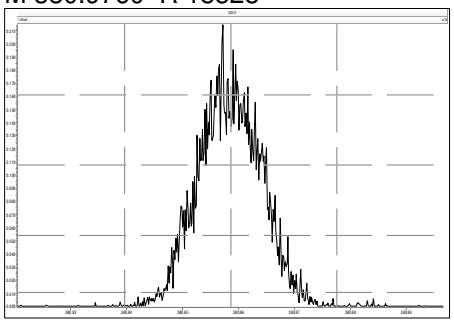
M 416.9760 R 19186



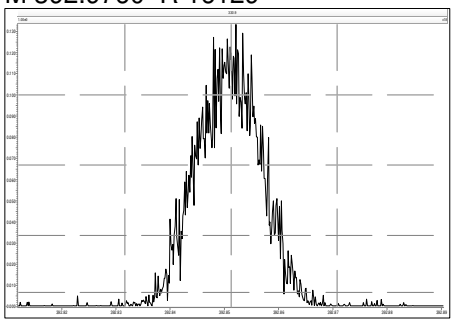
M 366.9792 R 15825



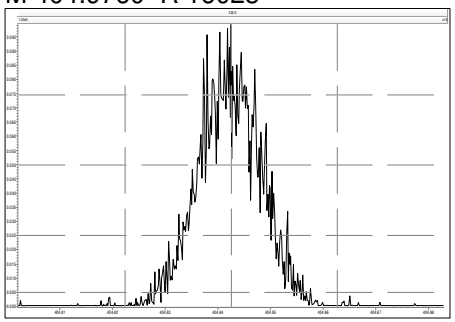
M 380.9760 R 15528



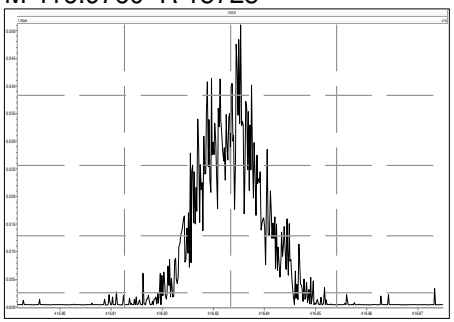
M 392.9760 R 16129



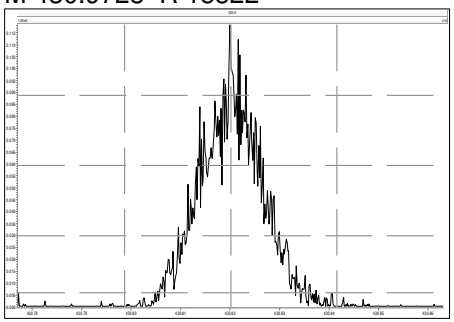
M 404.9760 R 16025



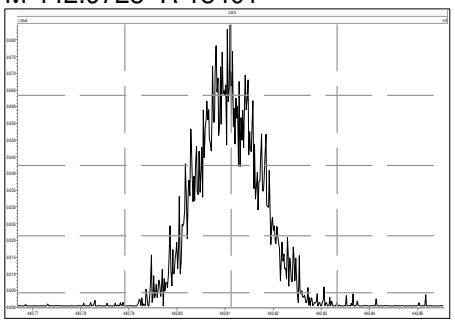
M 416.9760 R 15725



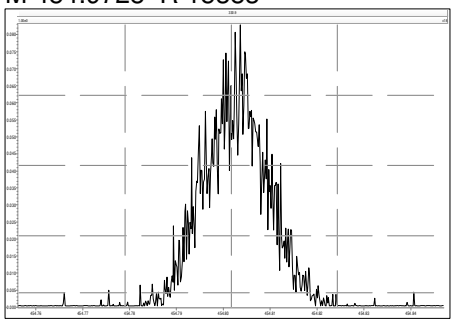
M 430.9728 R 15522



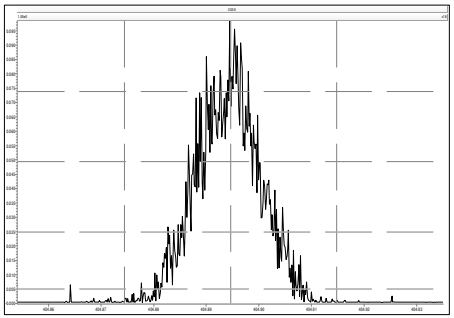
M 442.9728 R 15401



M 454.9728 R 15383



M 404.9760 R 16397



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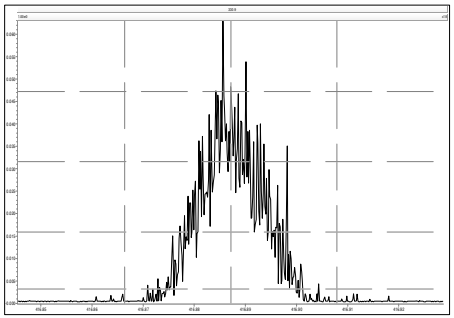

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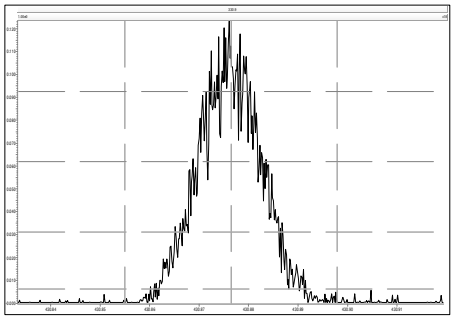

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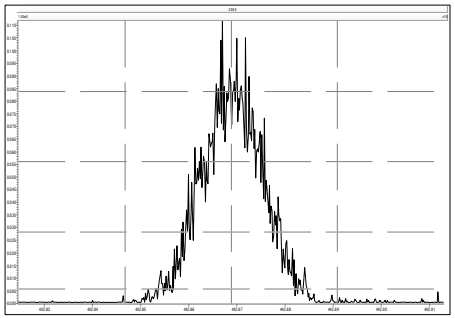

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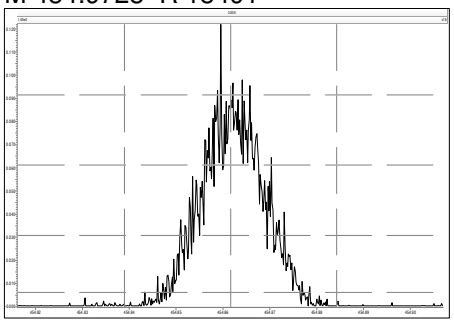

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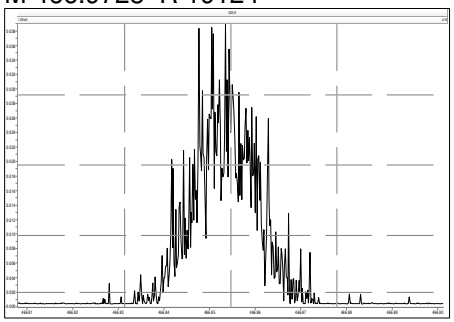

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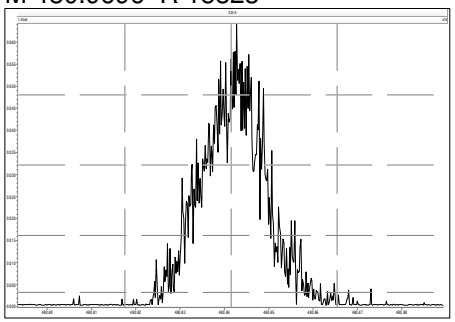

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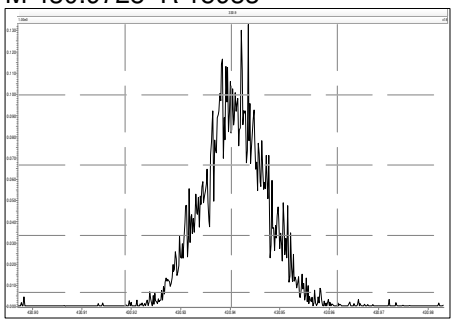

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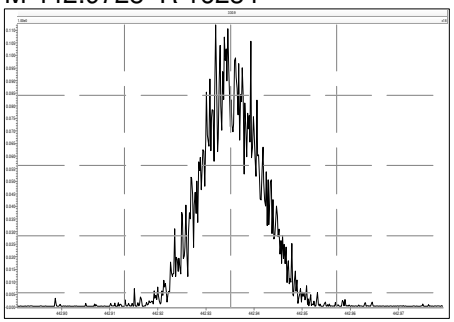

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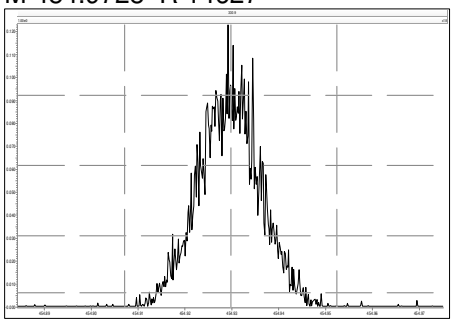

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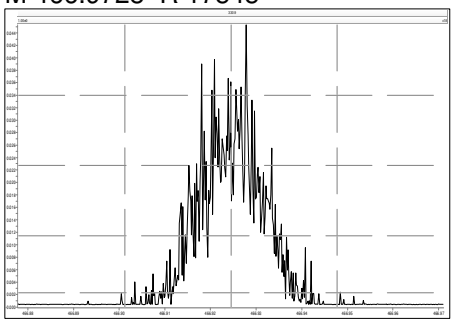

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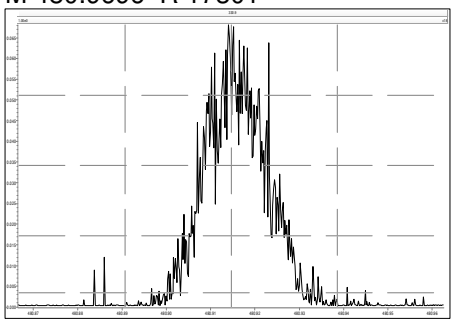

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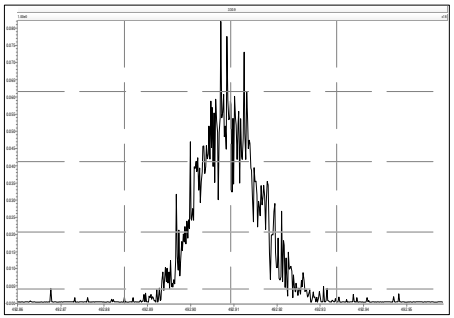

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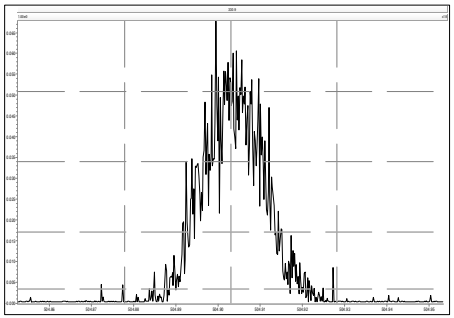

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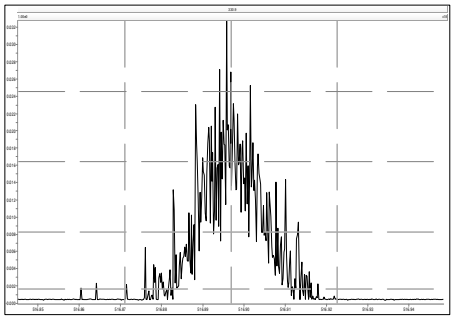

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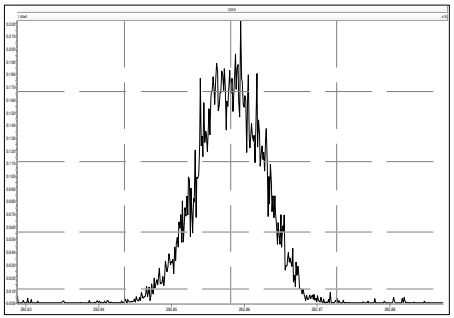

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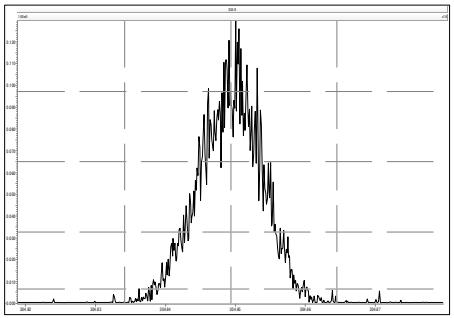

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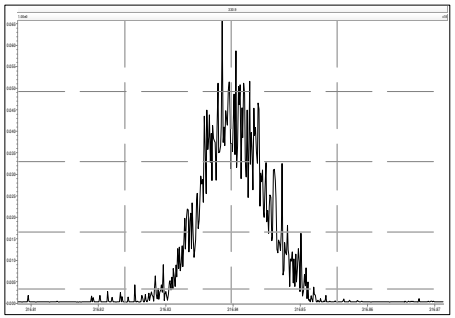

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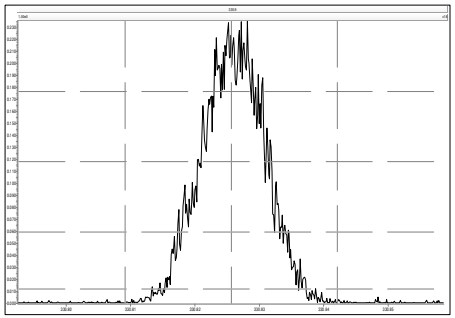

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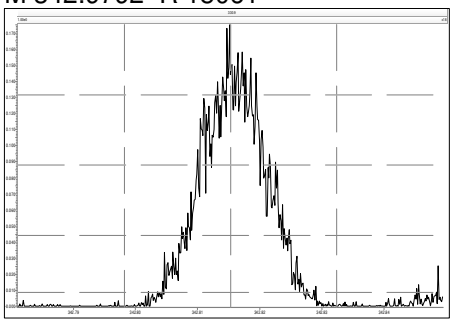

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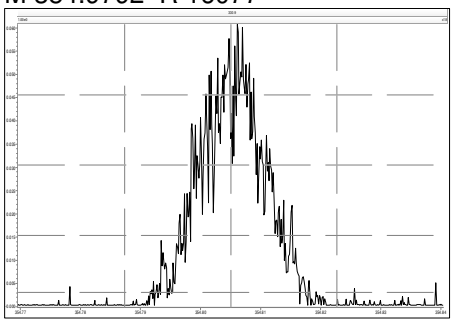

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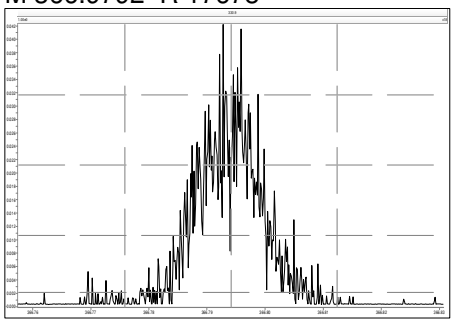

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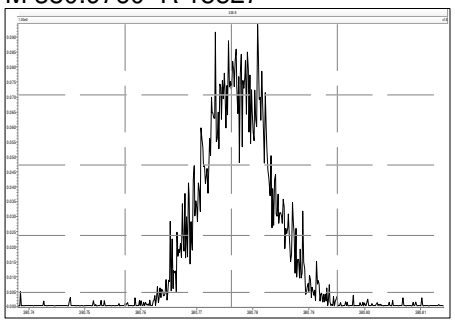

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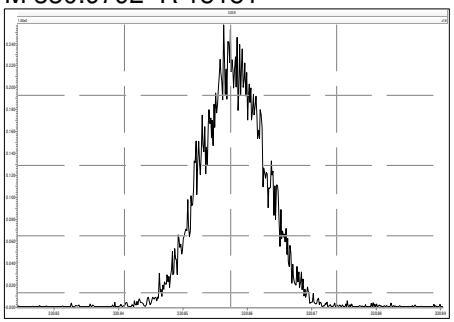

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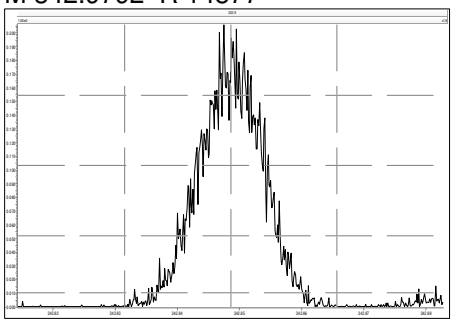

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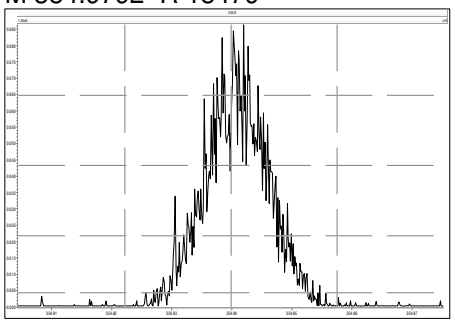

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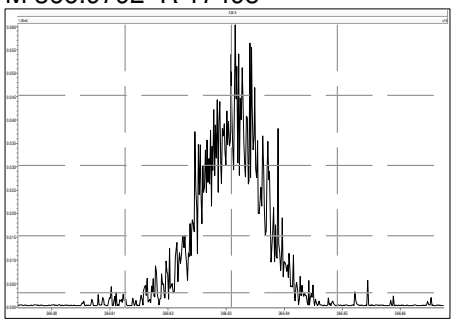

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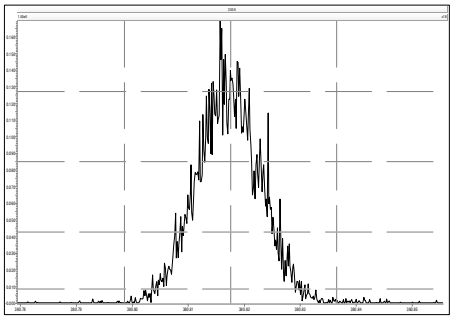

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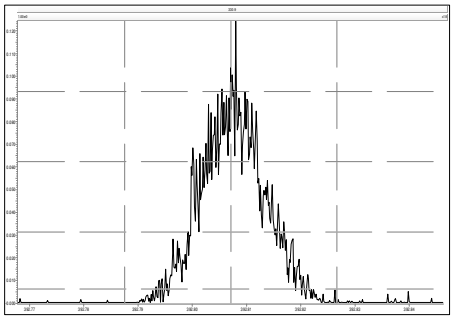

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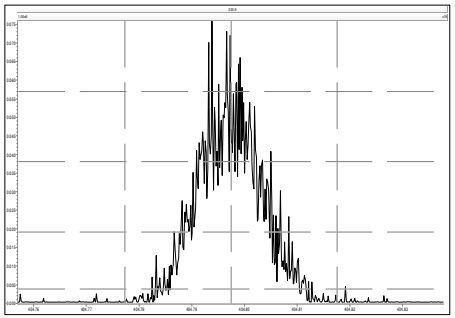

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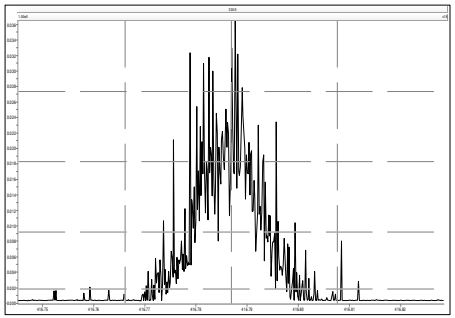

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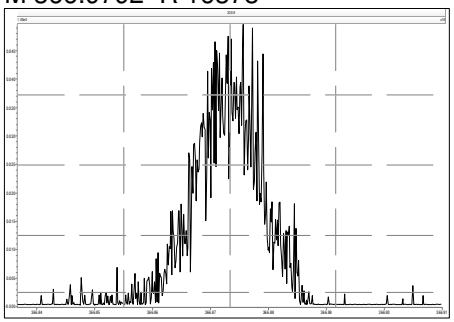

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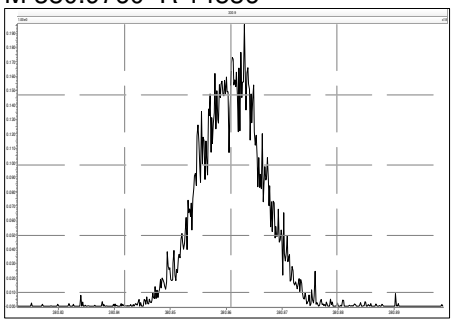

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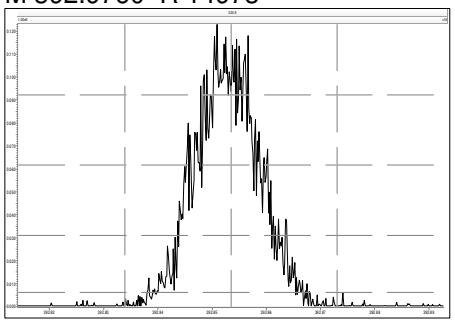

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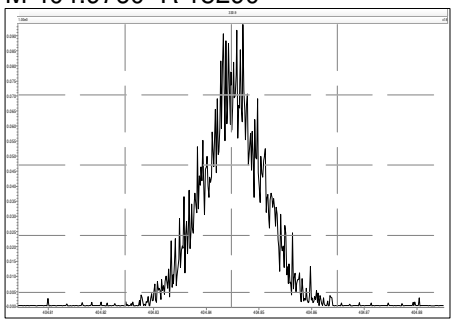

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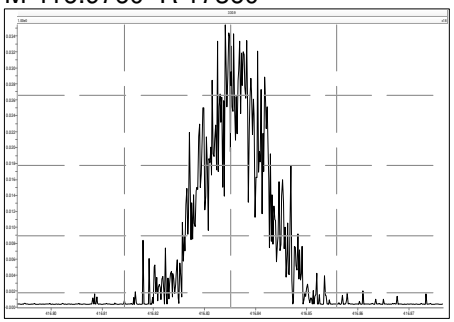

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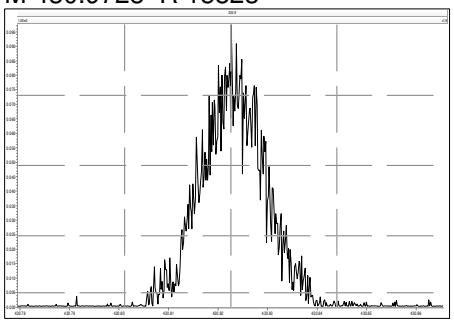

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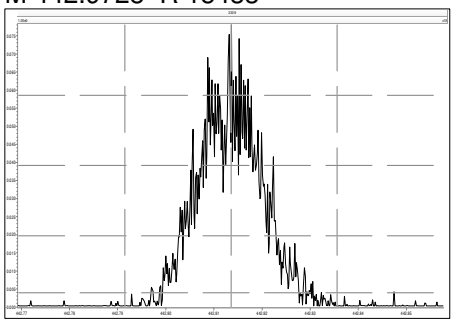

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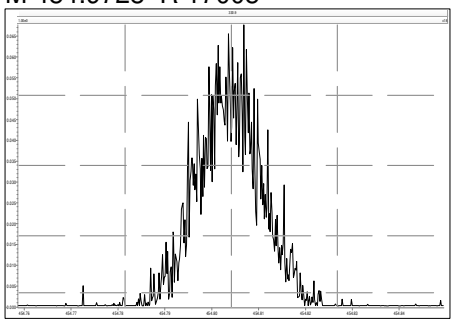

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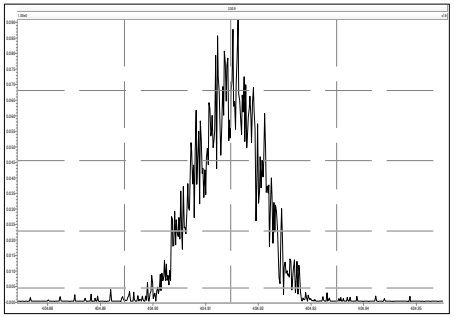

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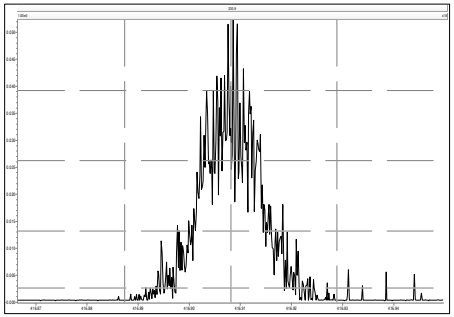

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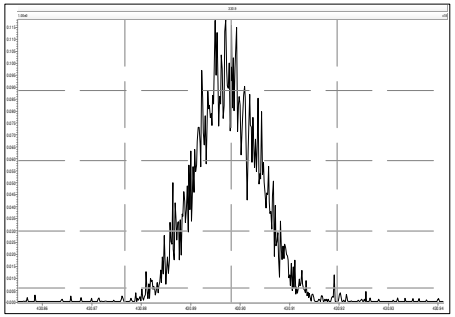

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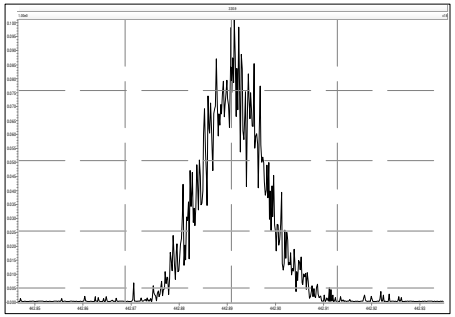

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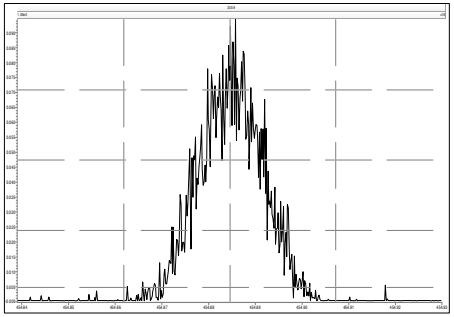

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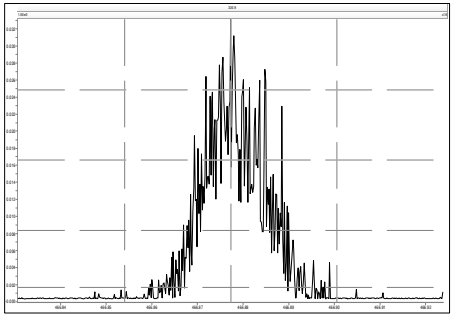

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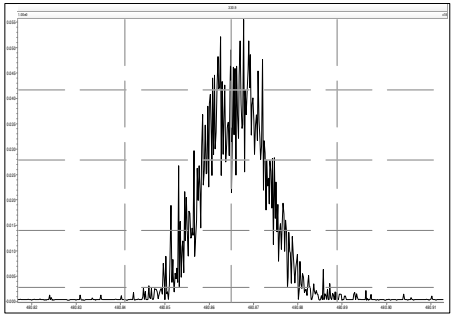

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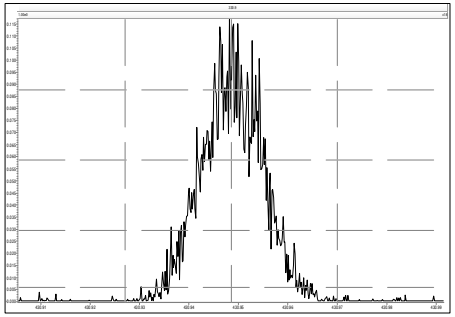

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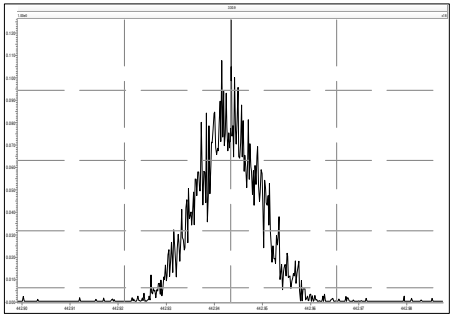

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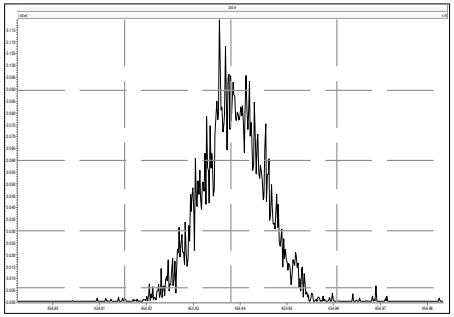

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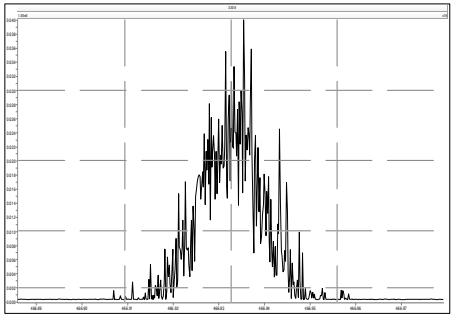

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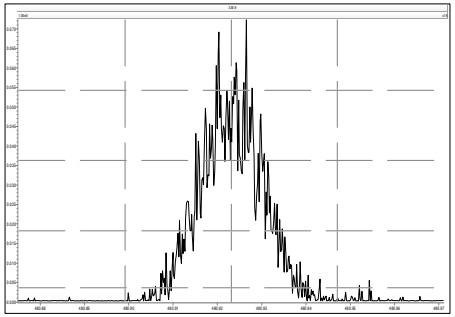

Printed: Thursday, February 24, 2022 10:29:27 Eastern Standard Time

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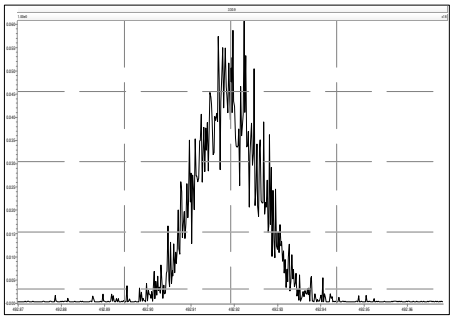

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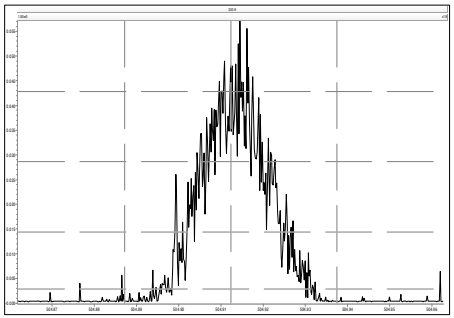

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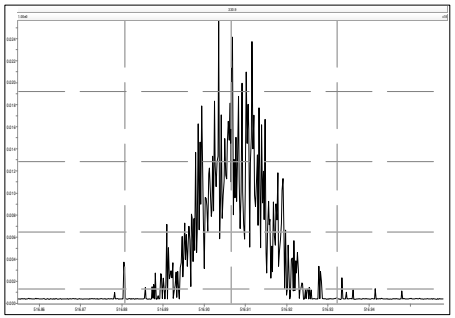

Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

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2378-TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86 ✓	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07 ✓	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10 ✓	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28 ✓	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
Tyler_Fritz , 11/11/2021, 4:44:03 PM

APPROVED
Amy_Boehm , 11/11/2021, 5:28:50 PM

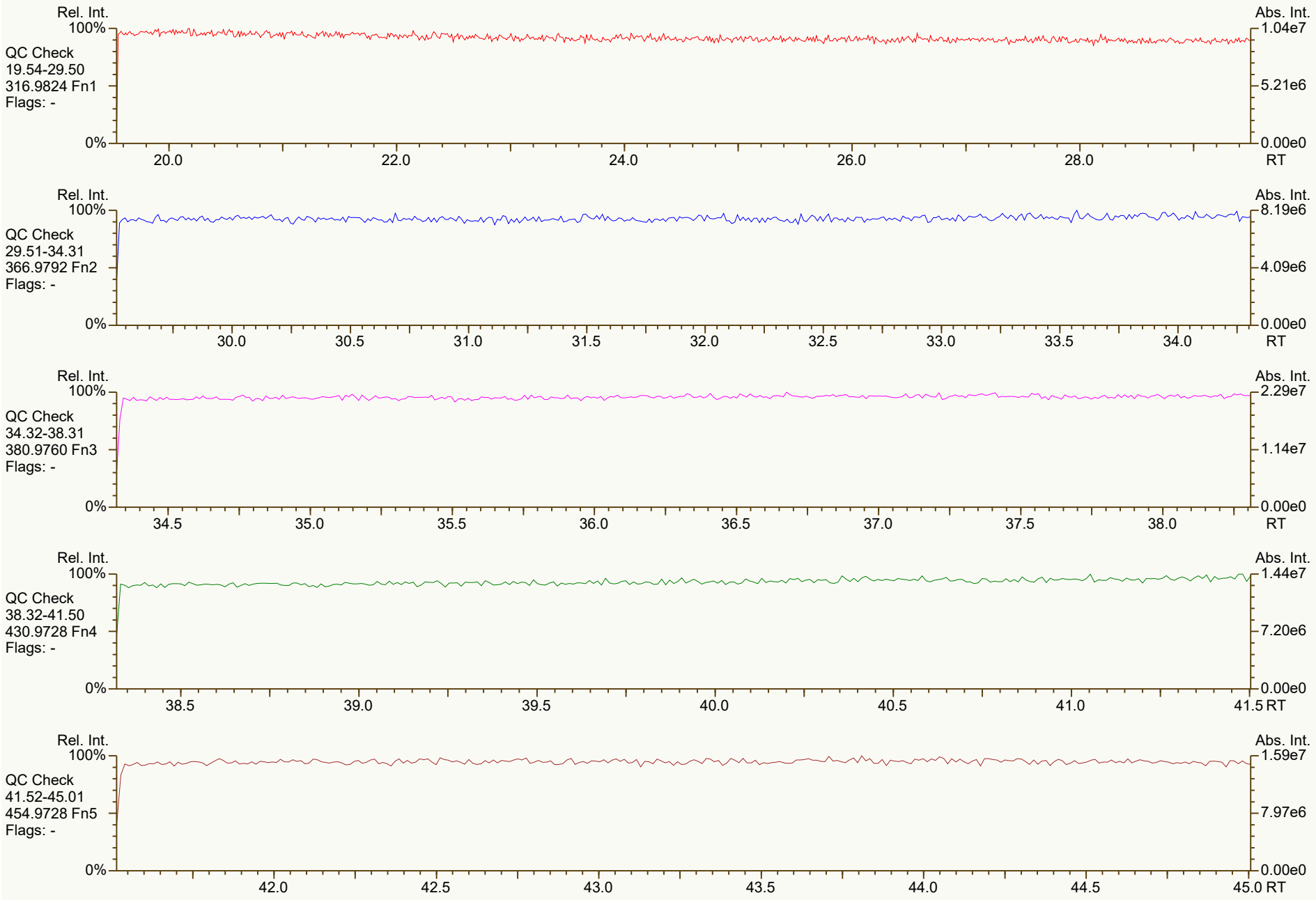
Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%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Flags: -
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24.0
26.0
28.0
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
8.19e6
4.09e6
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
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1.14e7
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
1.44e7
7.20e6
38.5
39.0
39.5
40.0
40.5
41.0
41.5
QC Check
41.52-45.01
454.9728 Fn5
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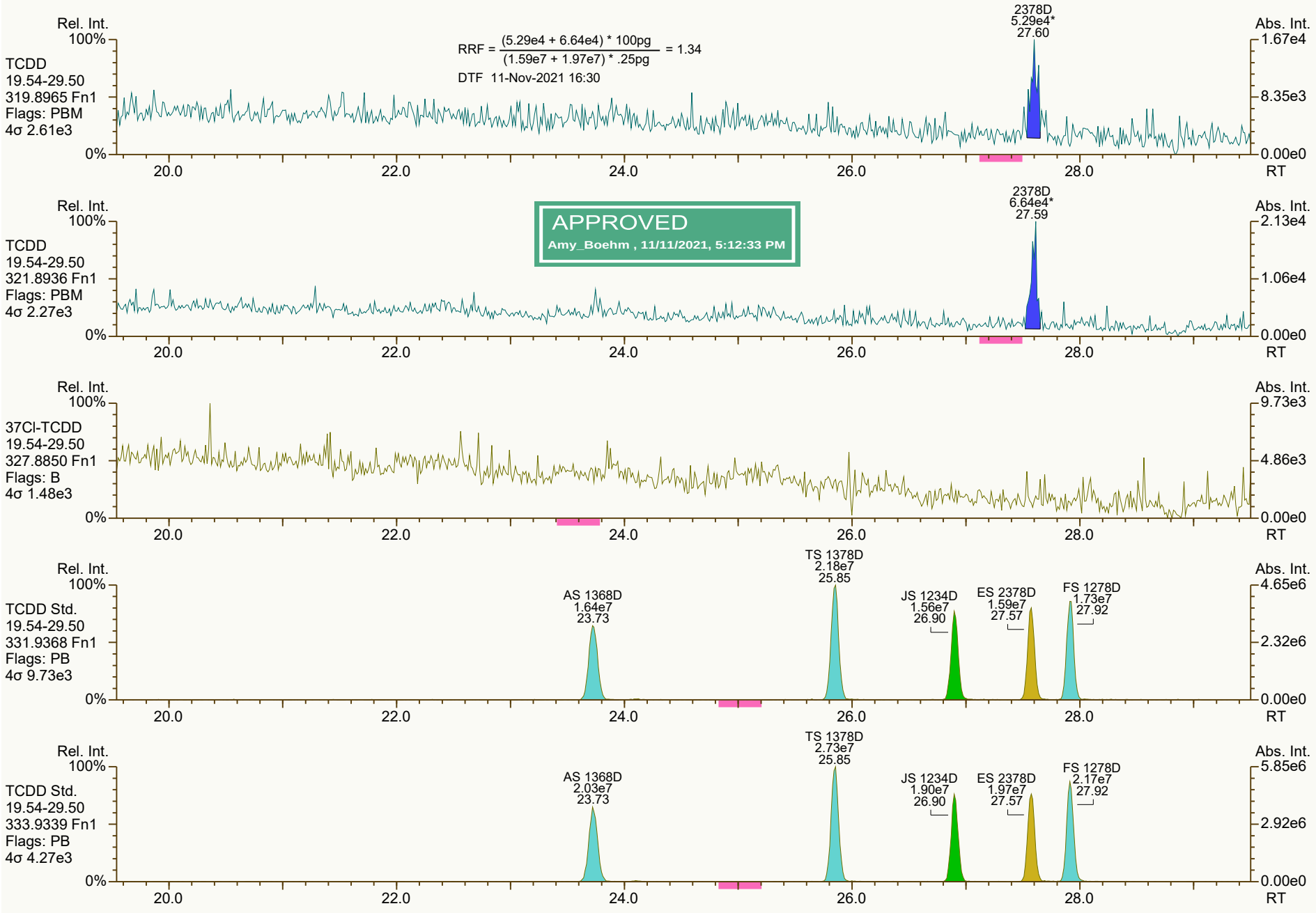
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TCDD
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319.8965 Fn1
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0%
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DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
Abs. Int.
1.67e4
8.35e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
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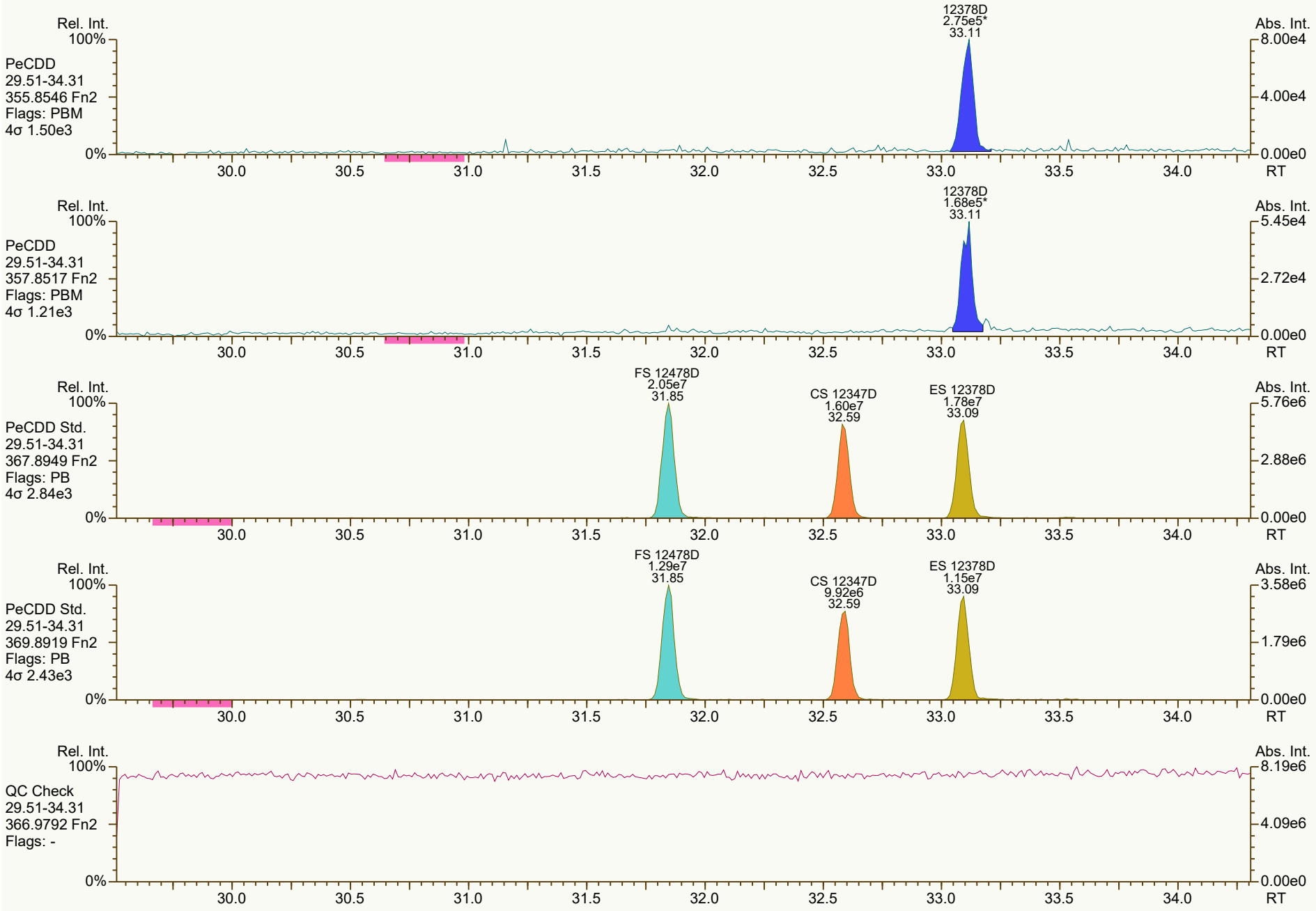
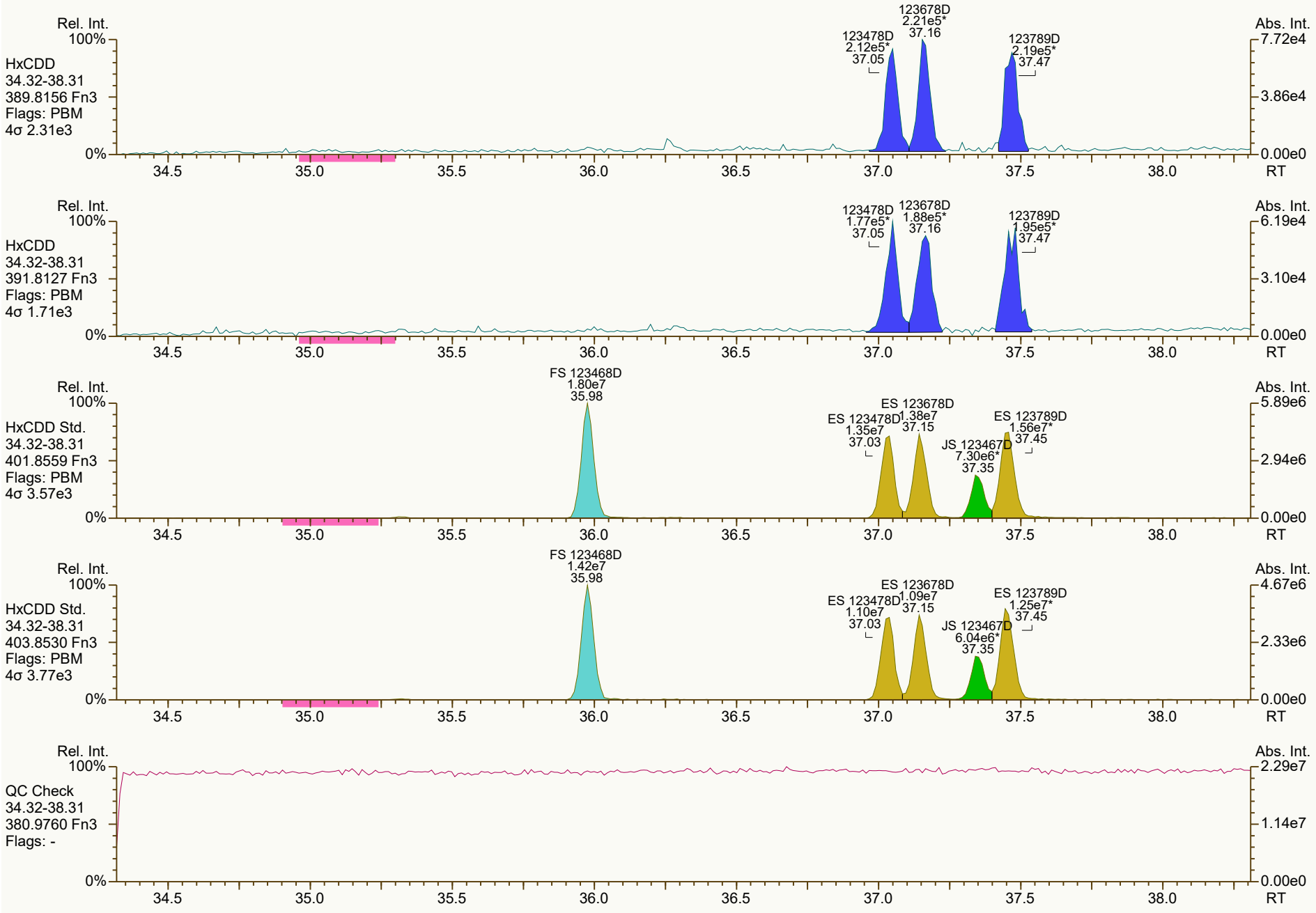
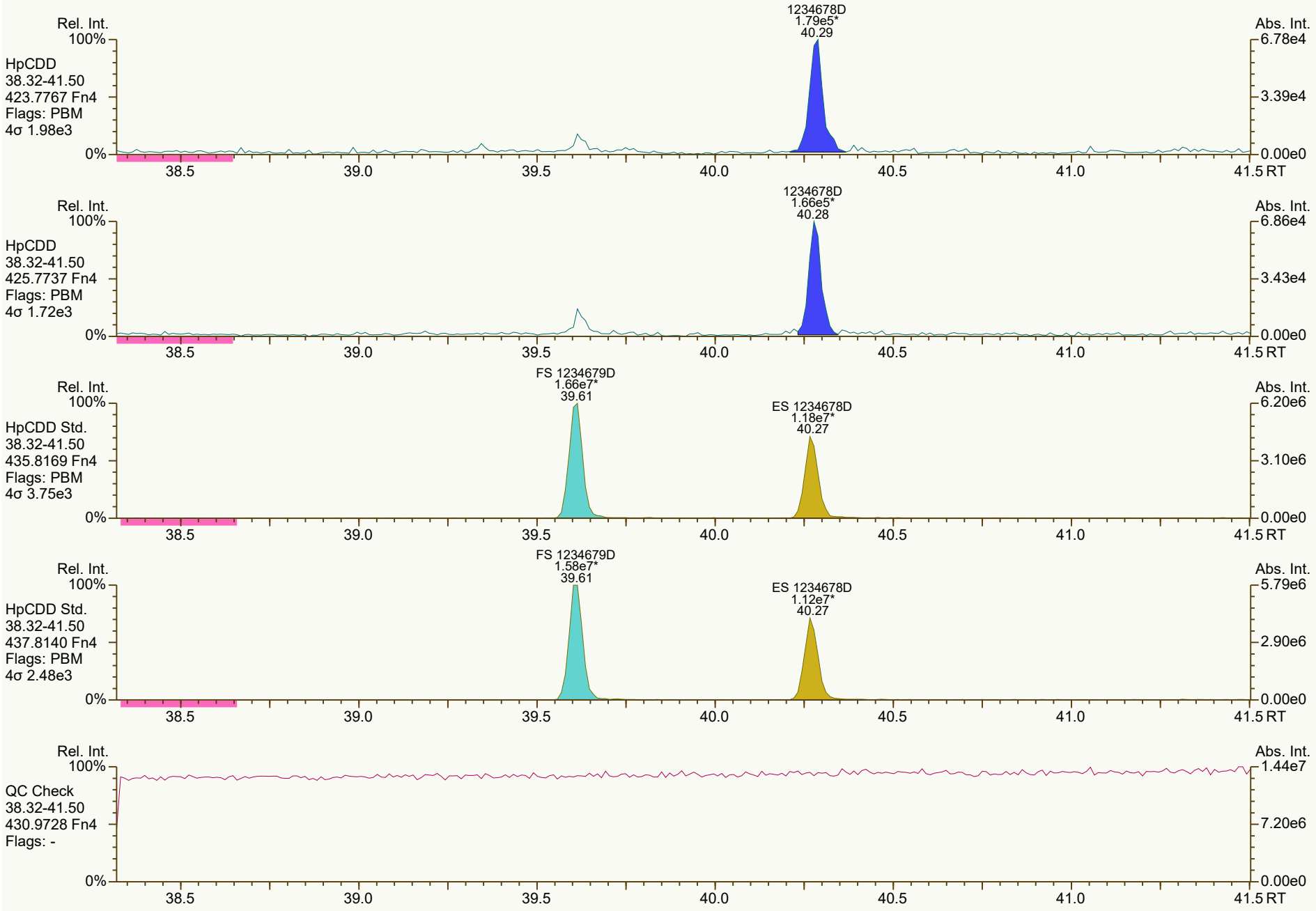
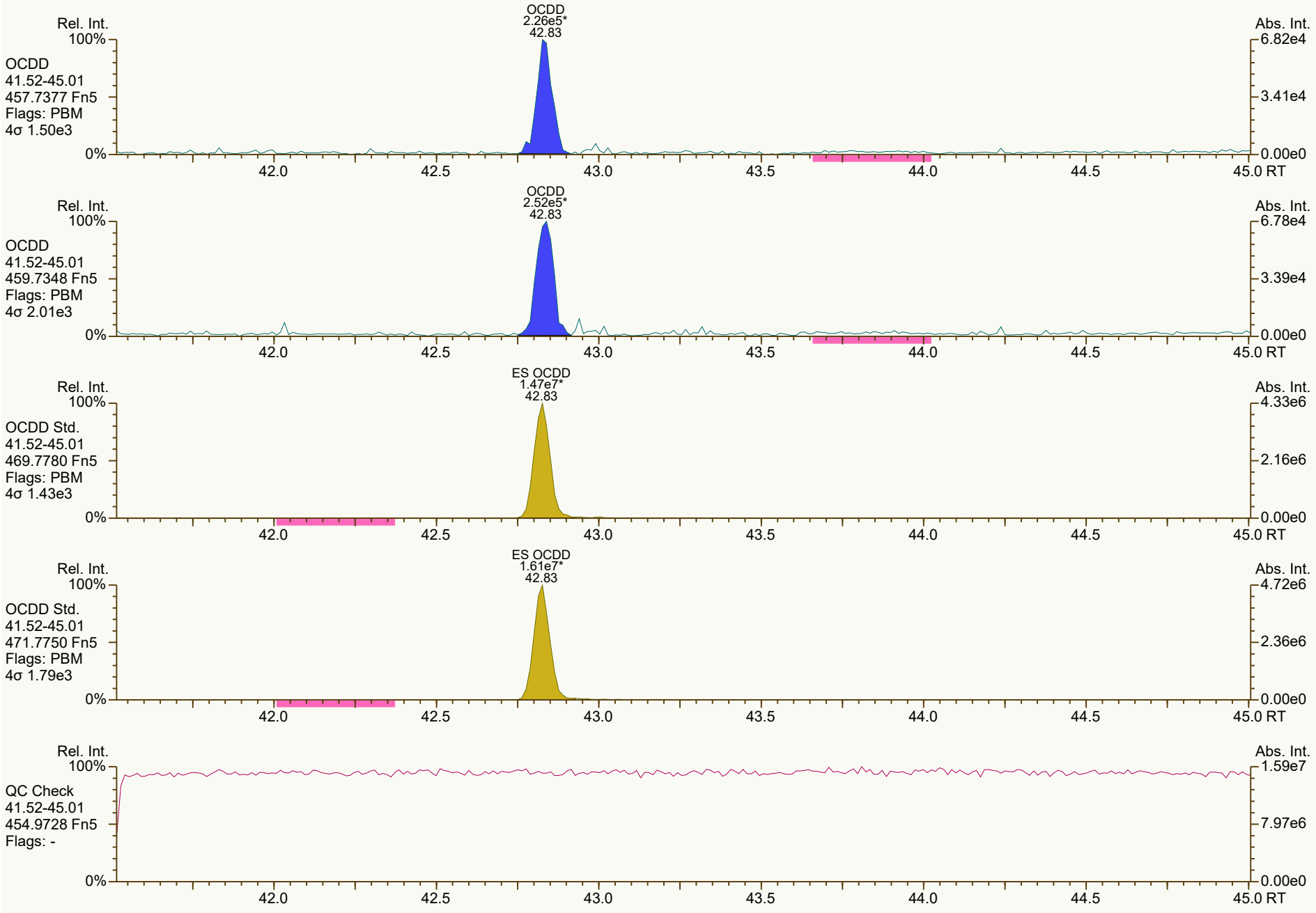
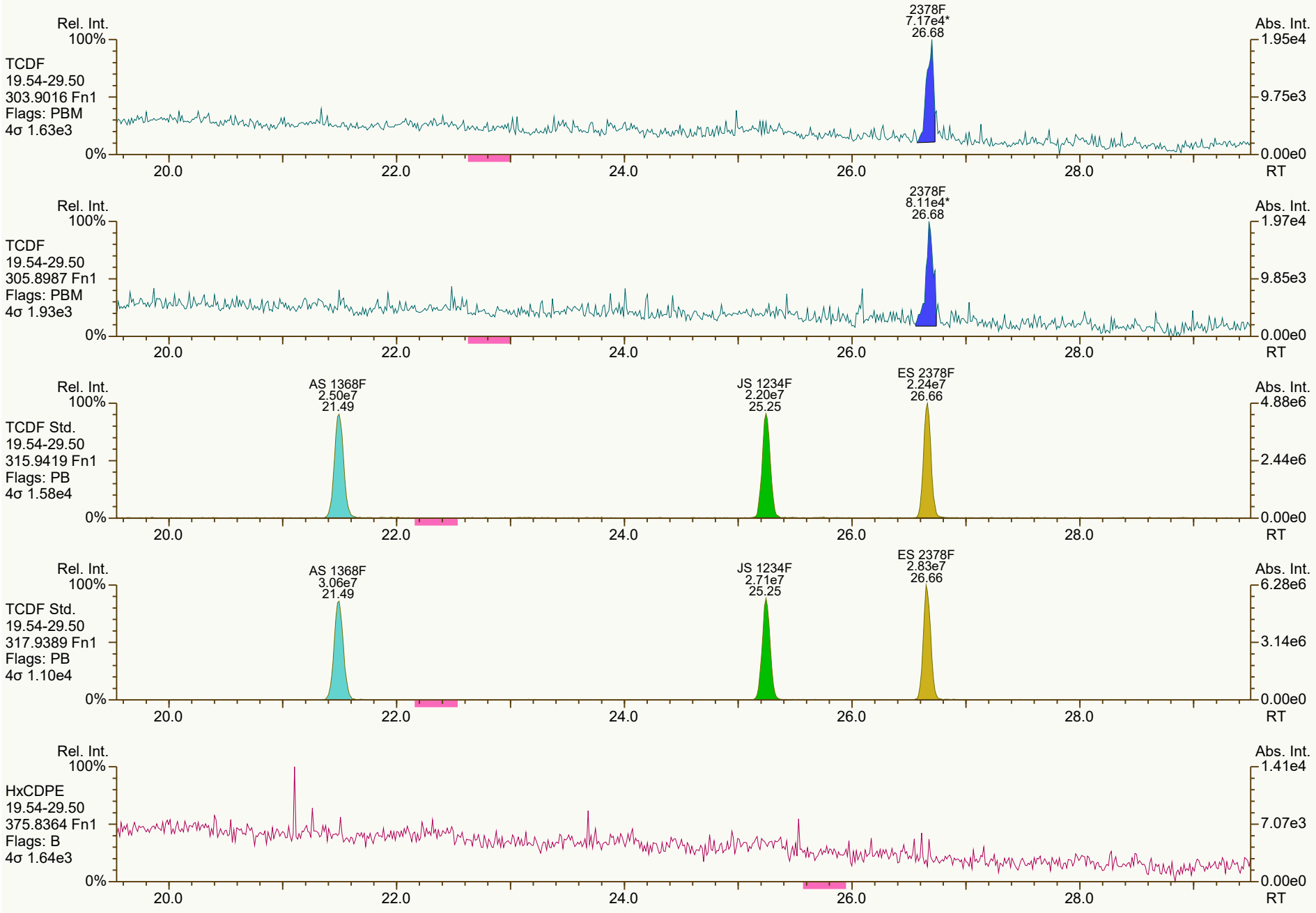
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
123478D
2.12e5*
37.05
123678D
2.21e5*
37.16
123789D
2.19e5*
37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
123478D
1.77e5*
37.05
123678D
1.88e5*
37.16
123789D
1.95e5*
37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
FS 123468D
1.80e7
35.98
ES 123678D
1.38e7
37.15
ES 123478D
1.35e7
37.03
ES 123789D
1.56e7*
37.45
JS 123467D
7.30e6*
37.35
Abs. Int.
5.89e6
2.94e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
FS 123468D
1.42e7
35.98
ES 123678D
1.09e7
37.15
ES 123478D
1.10e7
37.03
ES 123789D
1.25e7*
37.45
JS 123467D
6.04e6*
37.35
Abs. Int.
4.67e6
2.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.29e7
1.14e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

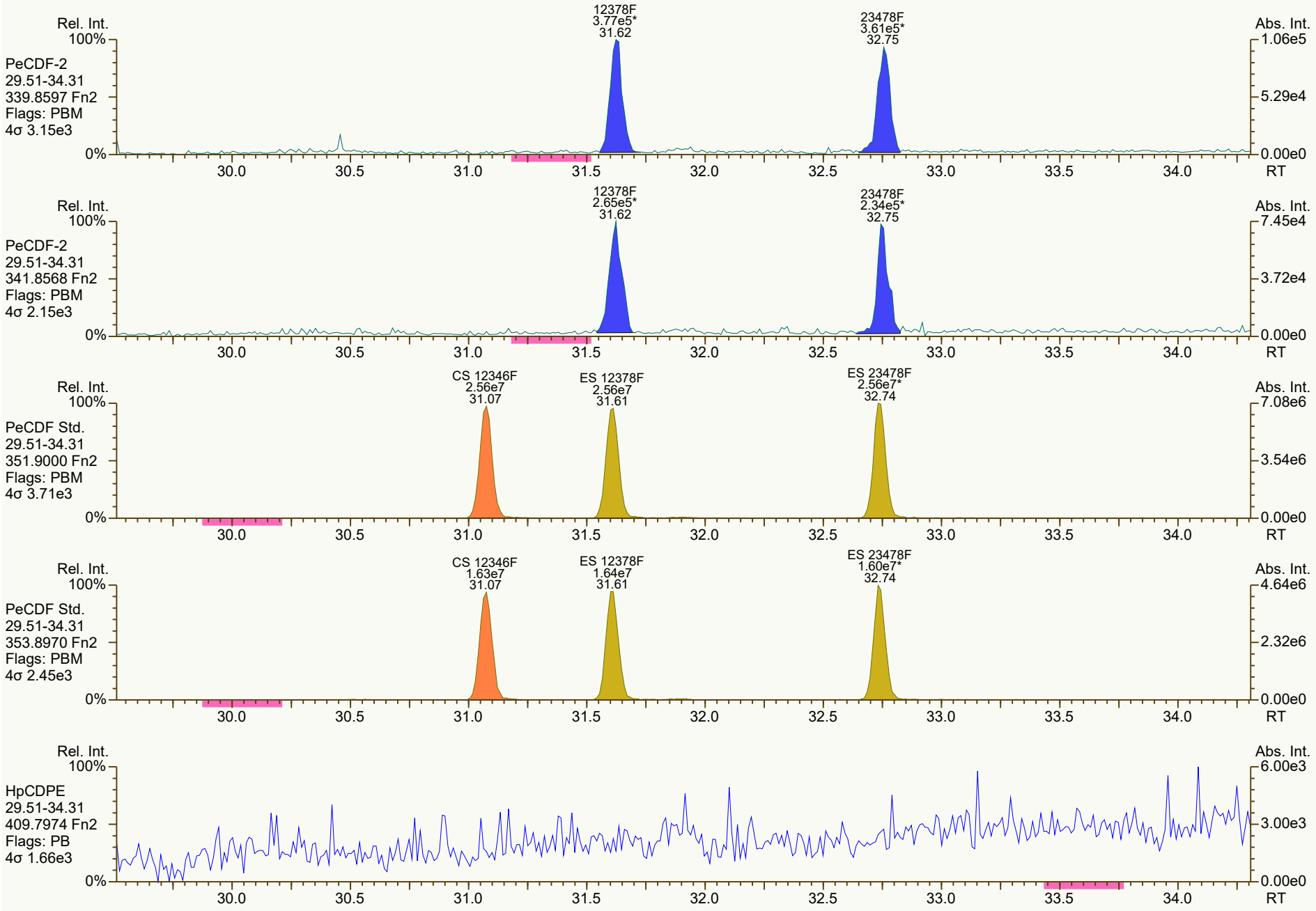

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

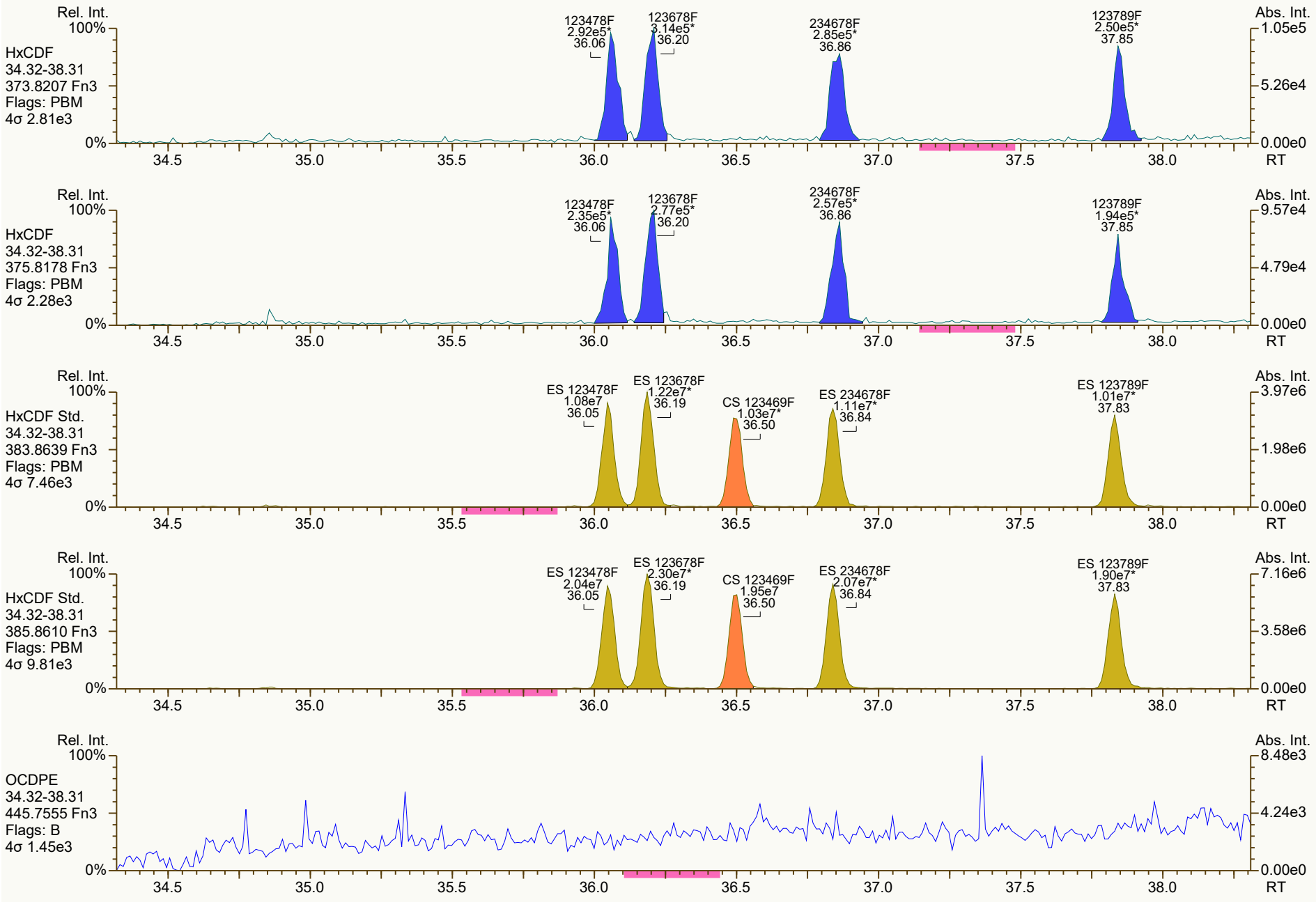

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
0%
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
0%
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
0%
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.41e4
7.07e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

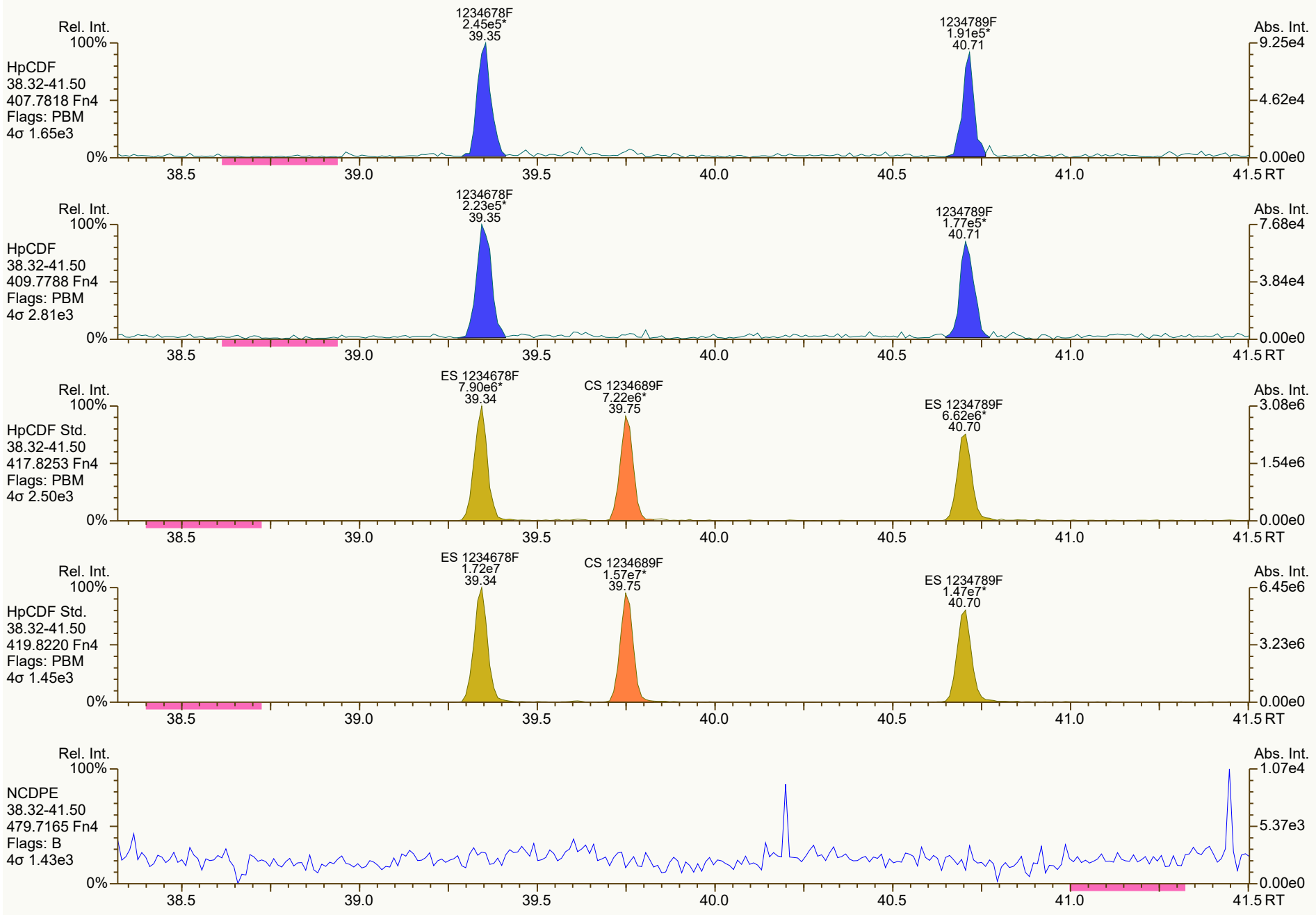
SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6412 scc: 245-007
PKD: 10-Nov-2021 13:30 Printed: 11-Nov-2021 16:32 Page 8 of 12


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
Abs. Int.
8.48e3
4.24e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

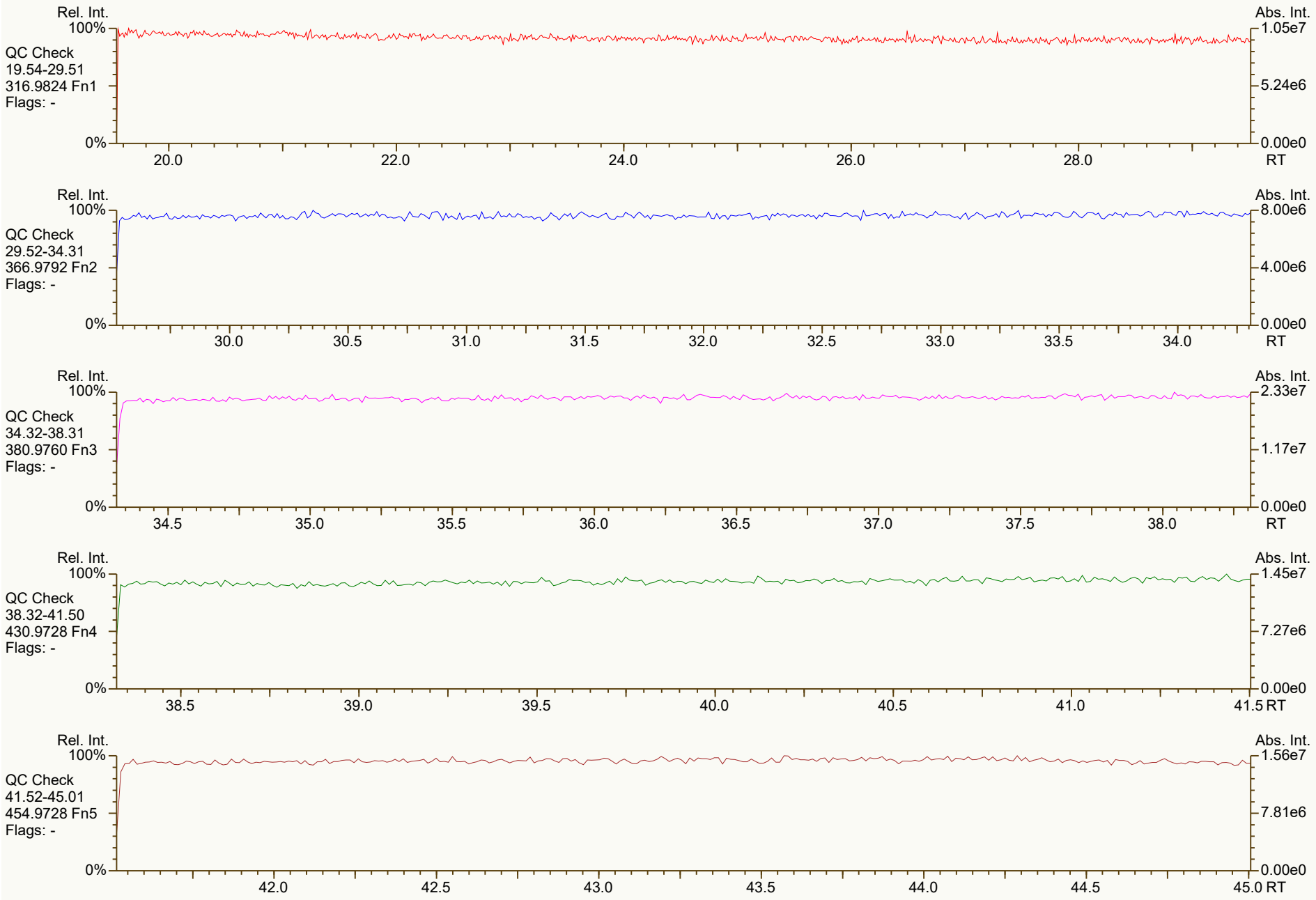

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

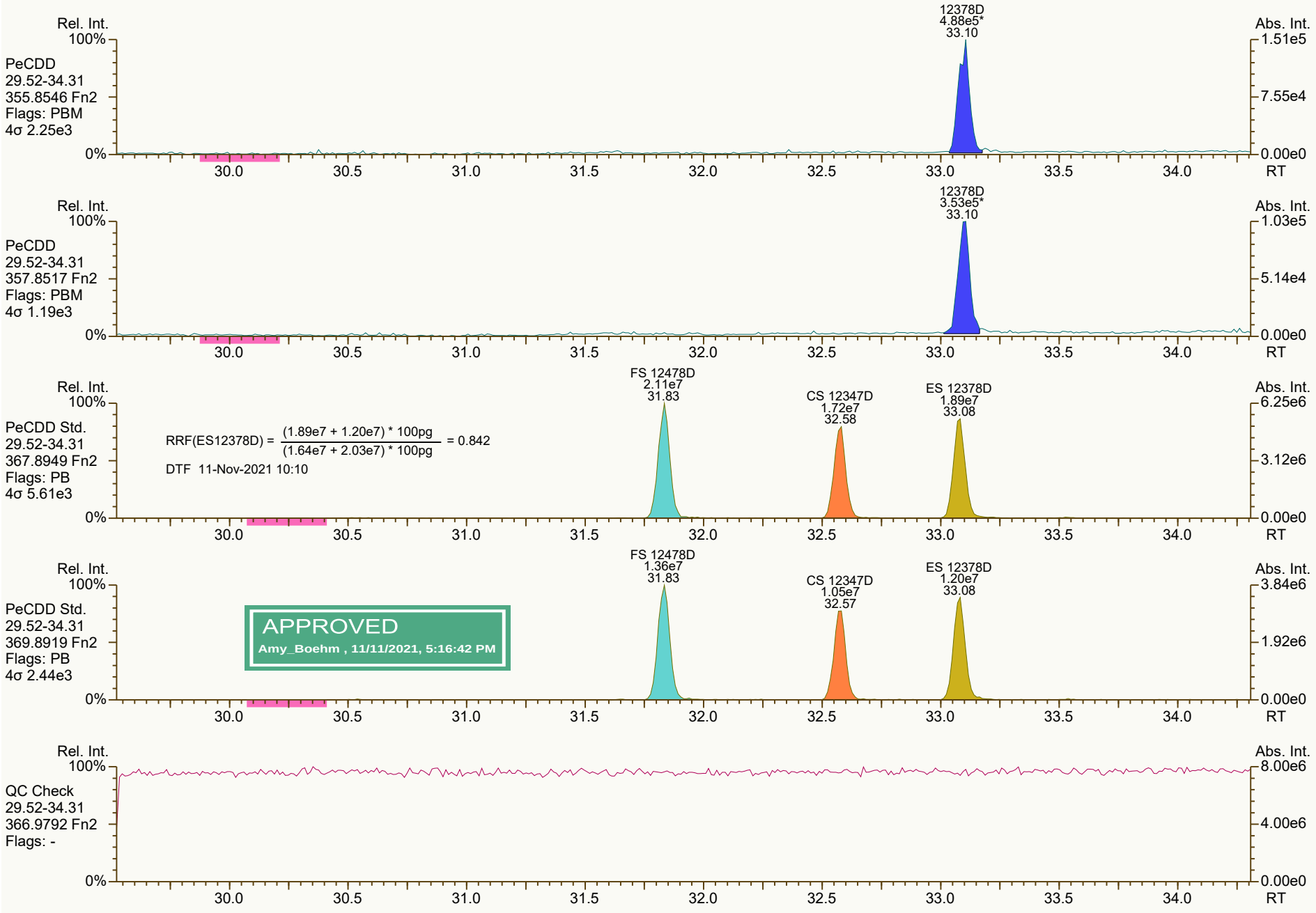
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF					Checkcode: 419-111-CRN
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C05
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

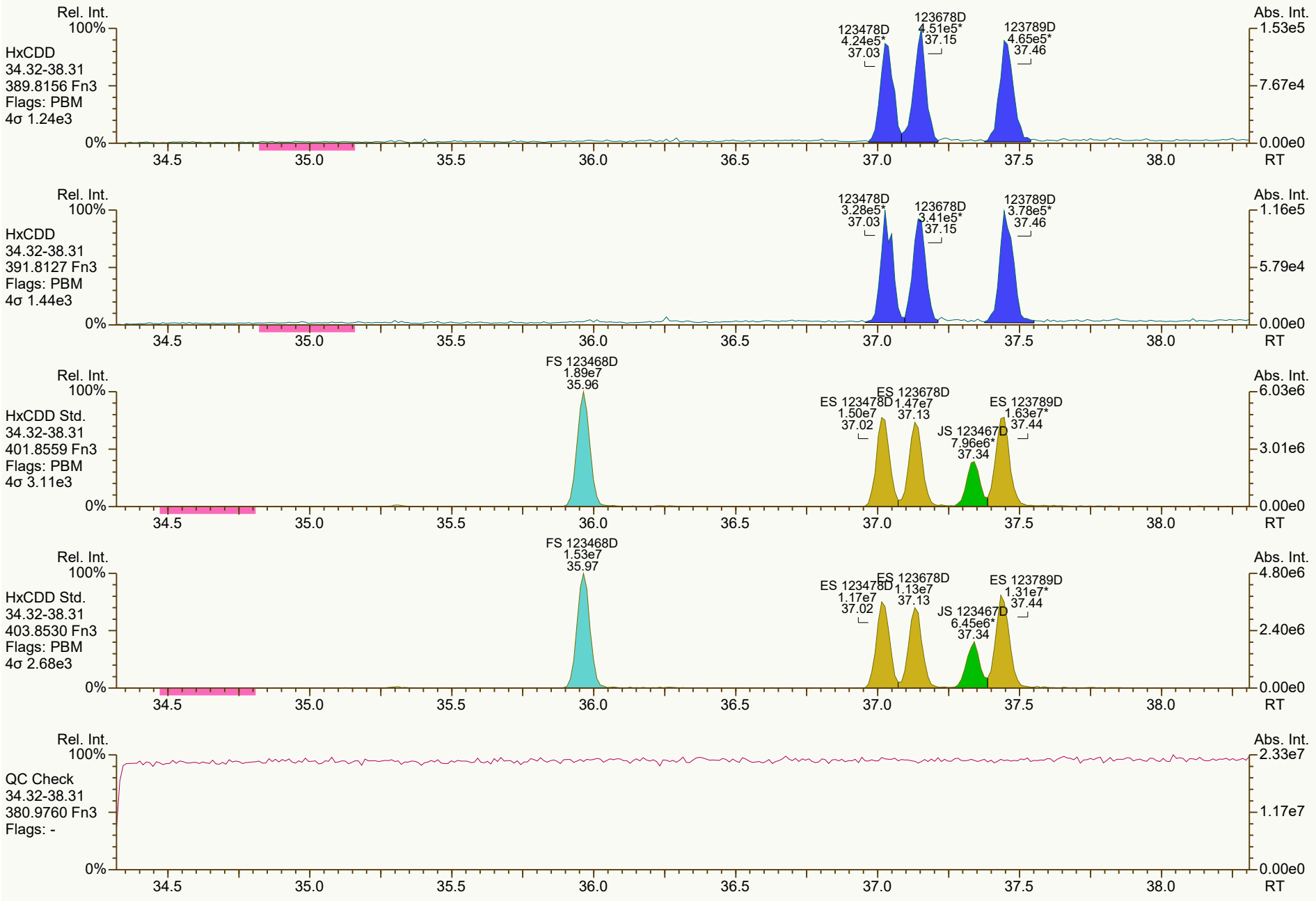
SGS ID: CS1_211110_DF_CA **Sample ID: 25-6-2** **Acq: 10-Nov-2021 11:48:34**
Instr: [ILM] AutoSpec-Ultima HRMS3 **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66** **User: DTF Datafile: 211110C05**

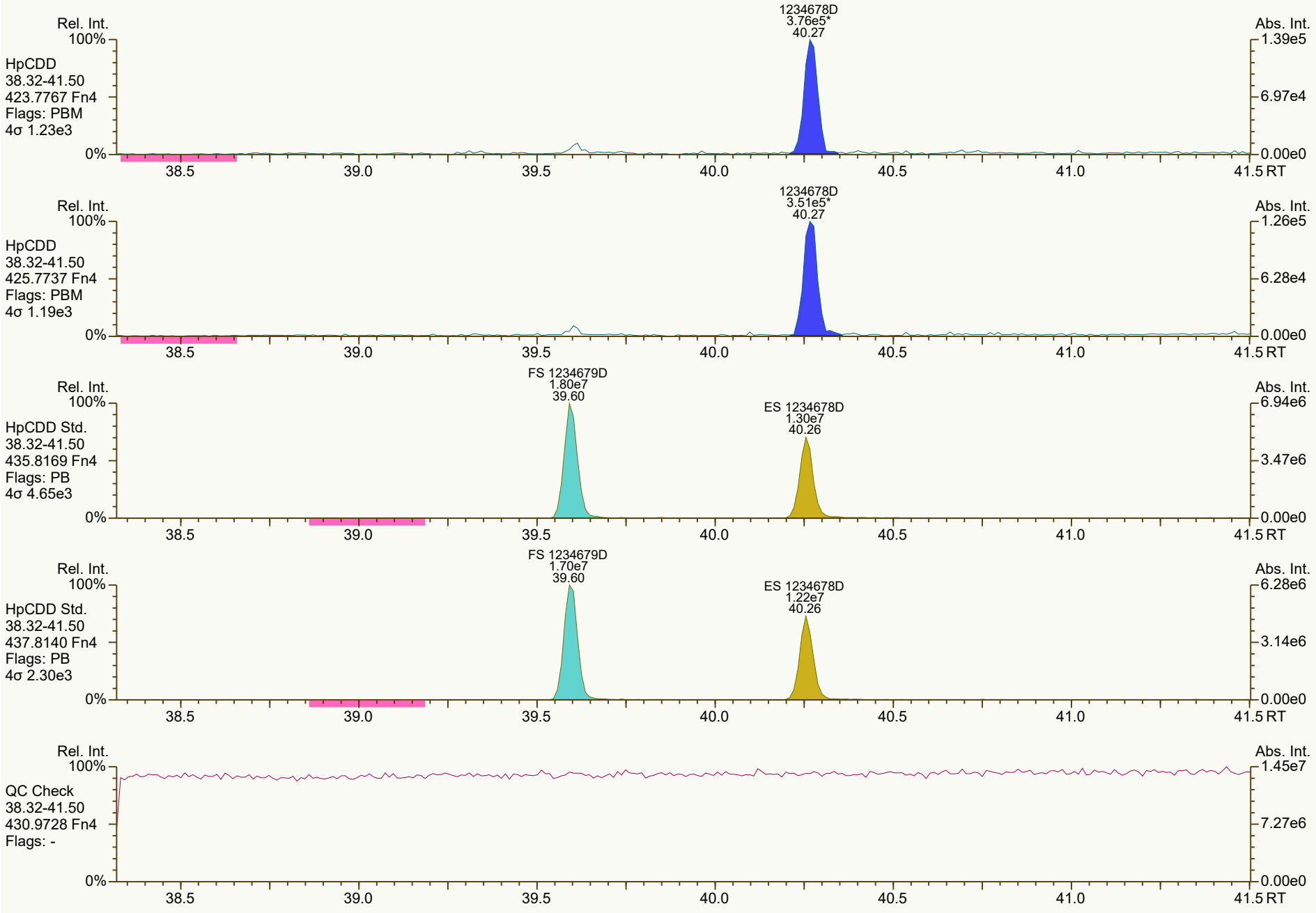


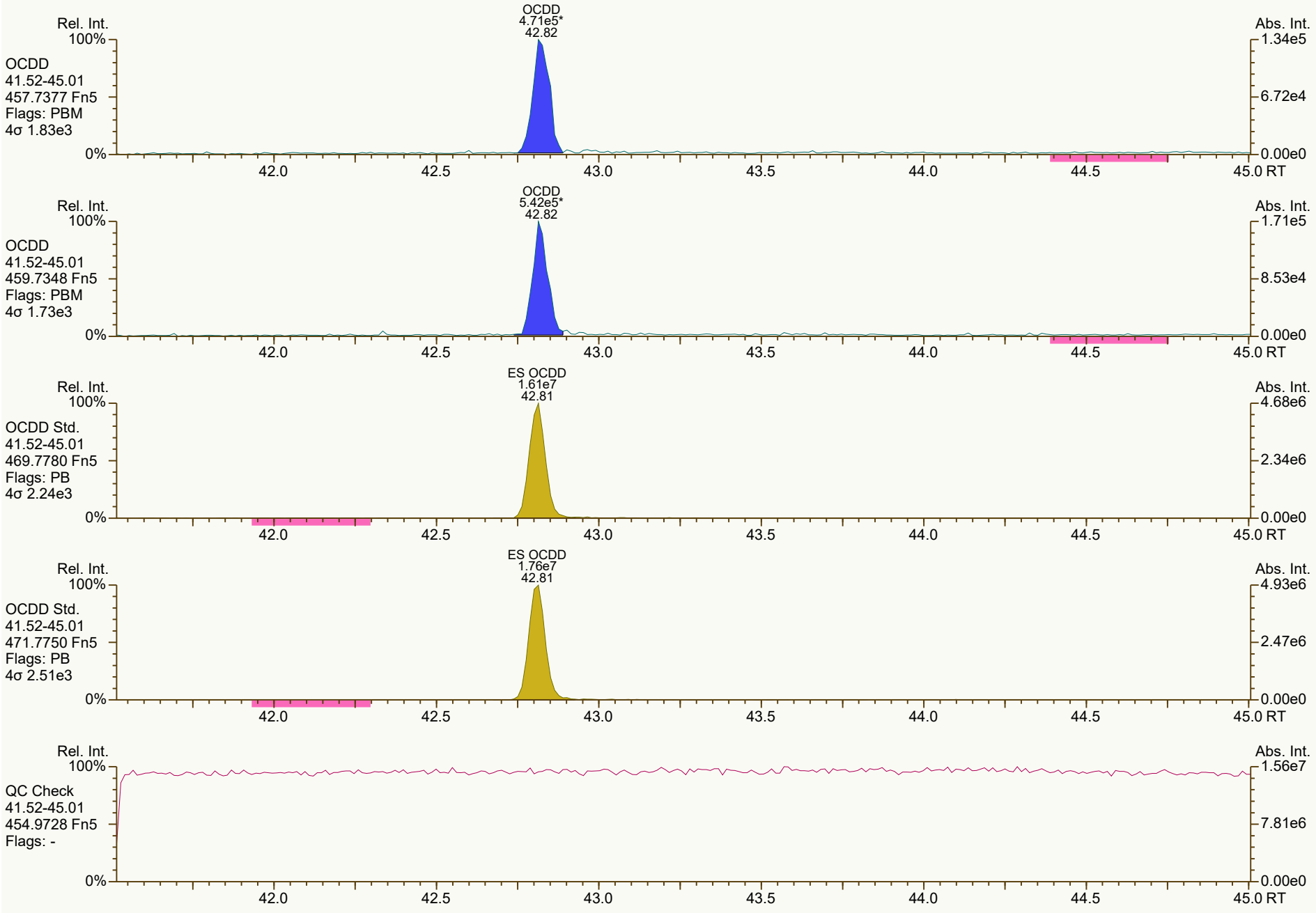
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 scc: 419-111 *PKD: n/a Printed: 11-Nov-2021 10:40 Page 1 of 12*

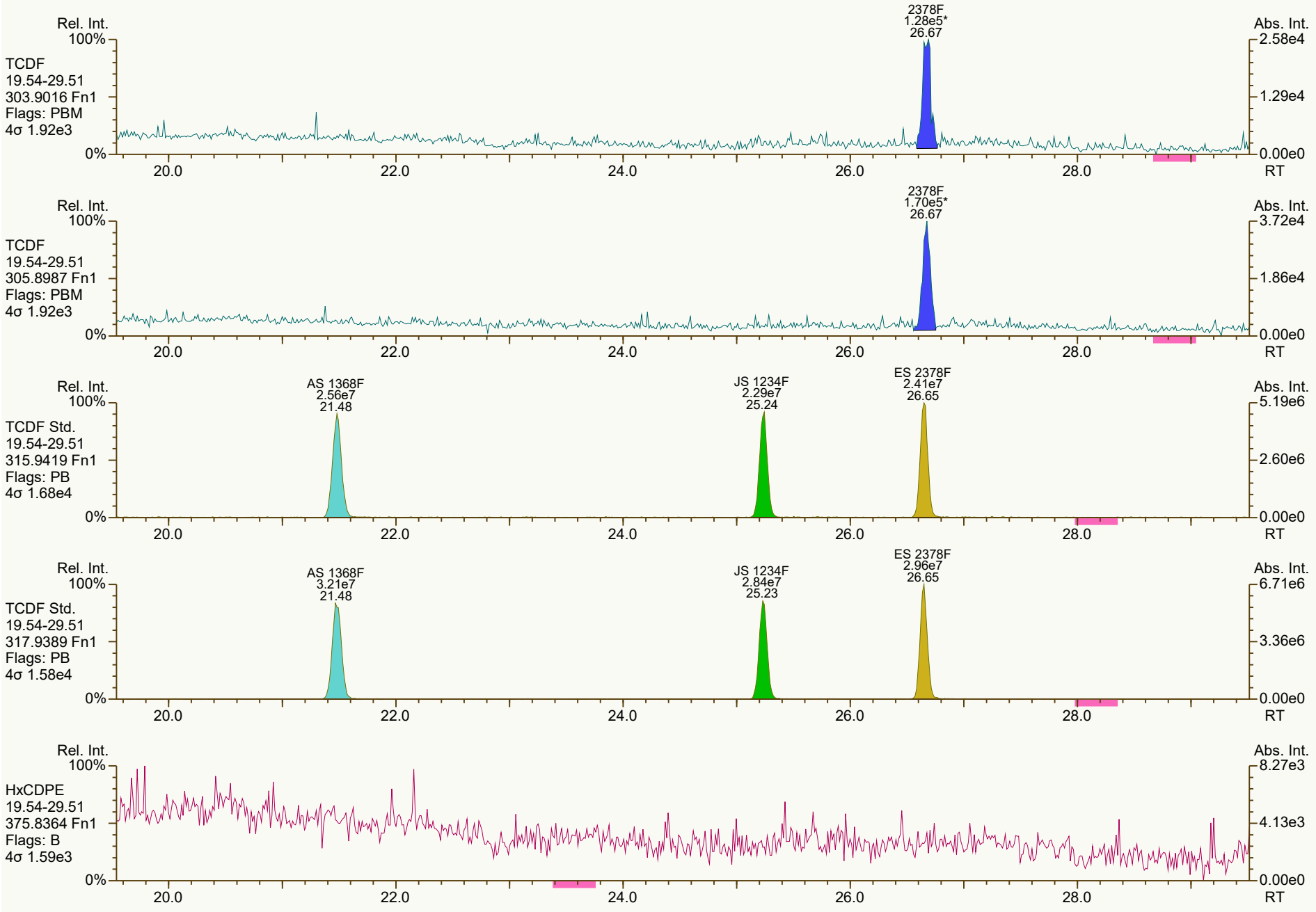

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT

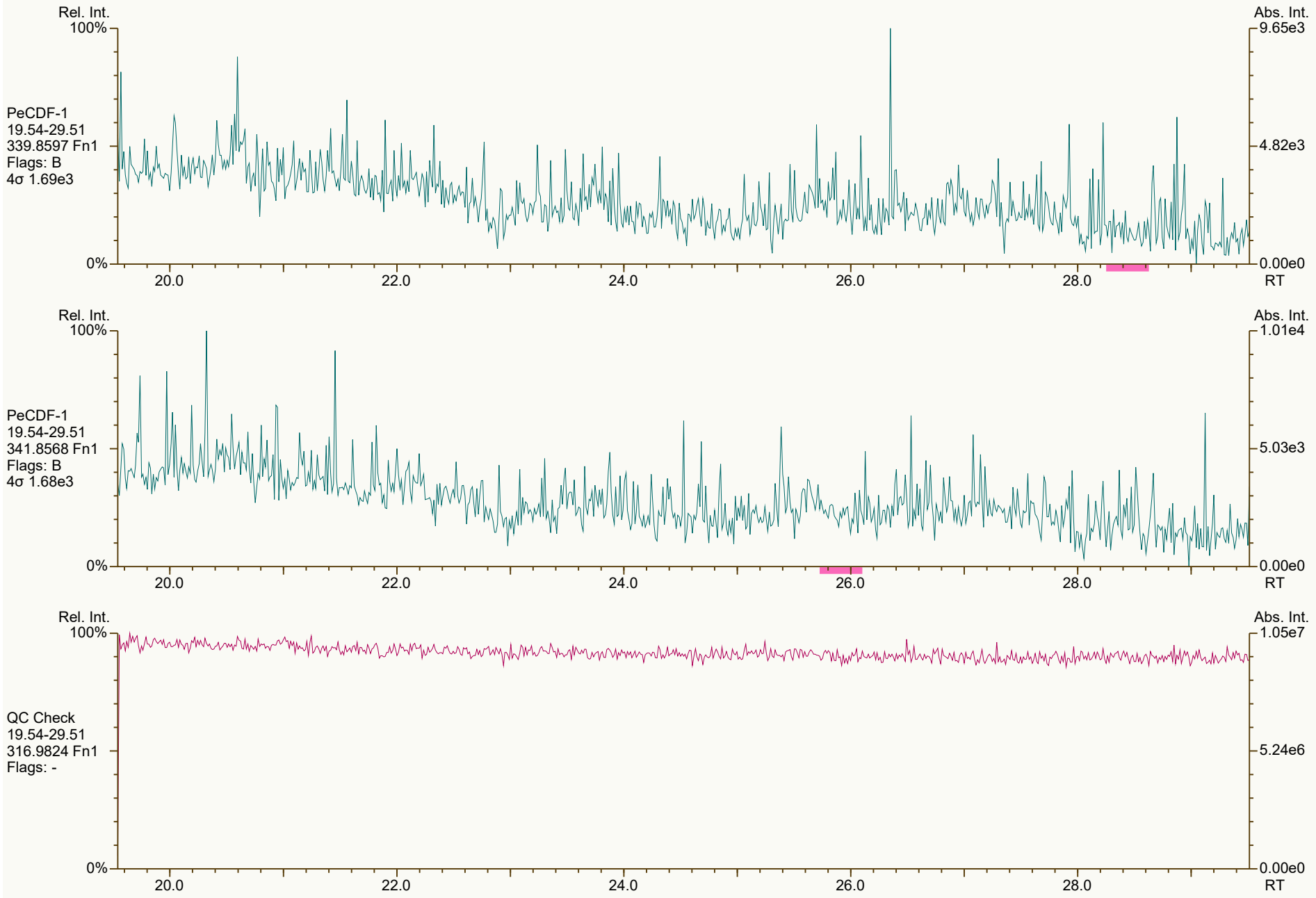

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6

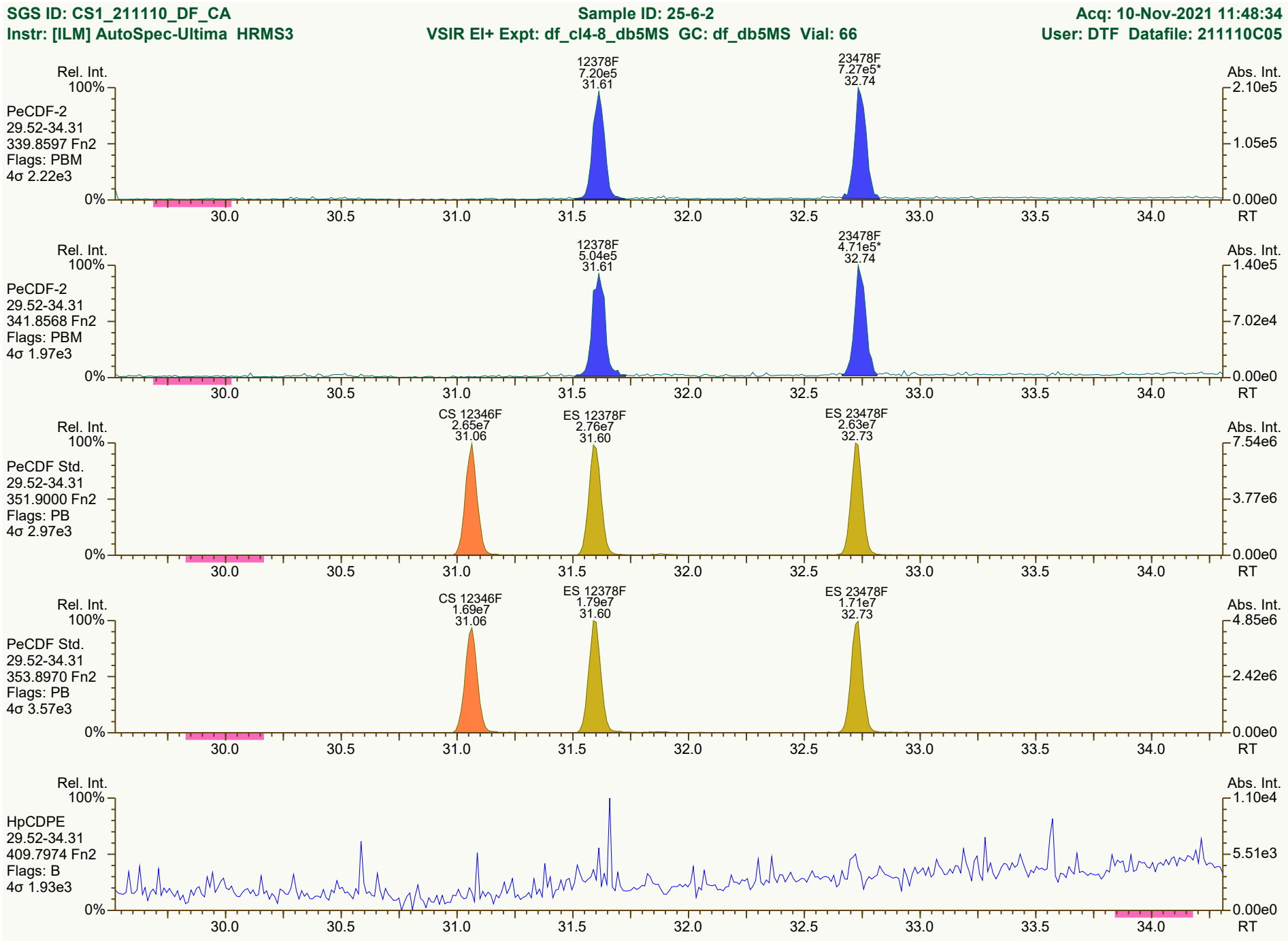

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123678D
1.47e7
37.13
ES 123478D
1.50e7
37.02
ES 123789D
1.63e7*
37.44
JS 123467D
7.96e6*
37.34
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123678D
1.13e7
37.13
ES 123478D
1.17e7
37.02
ES 123789D
1.31e7*
37.44
JS 123467D
6.45e6*
37.34
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

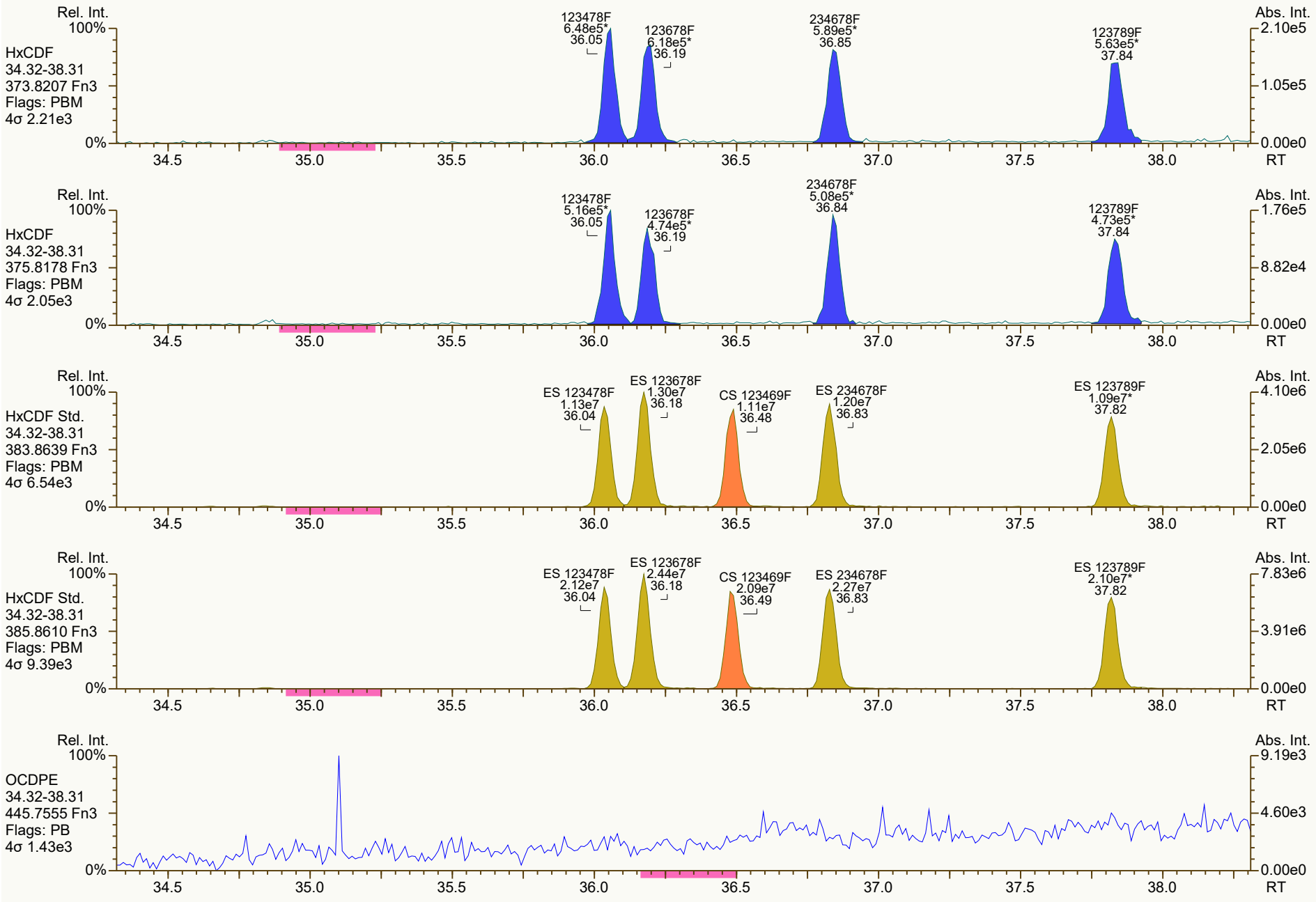

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

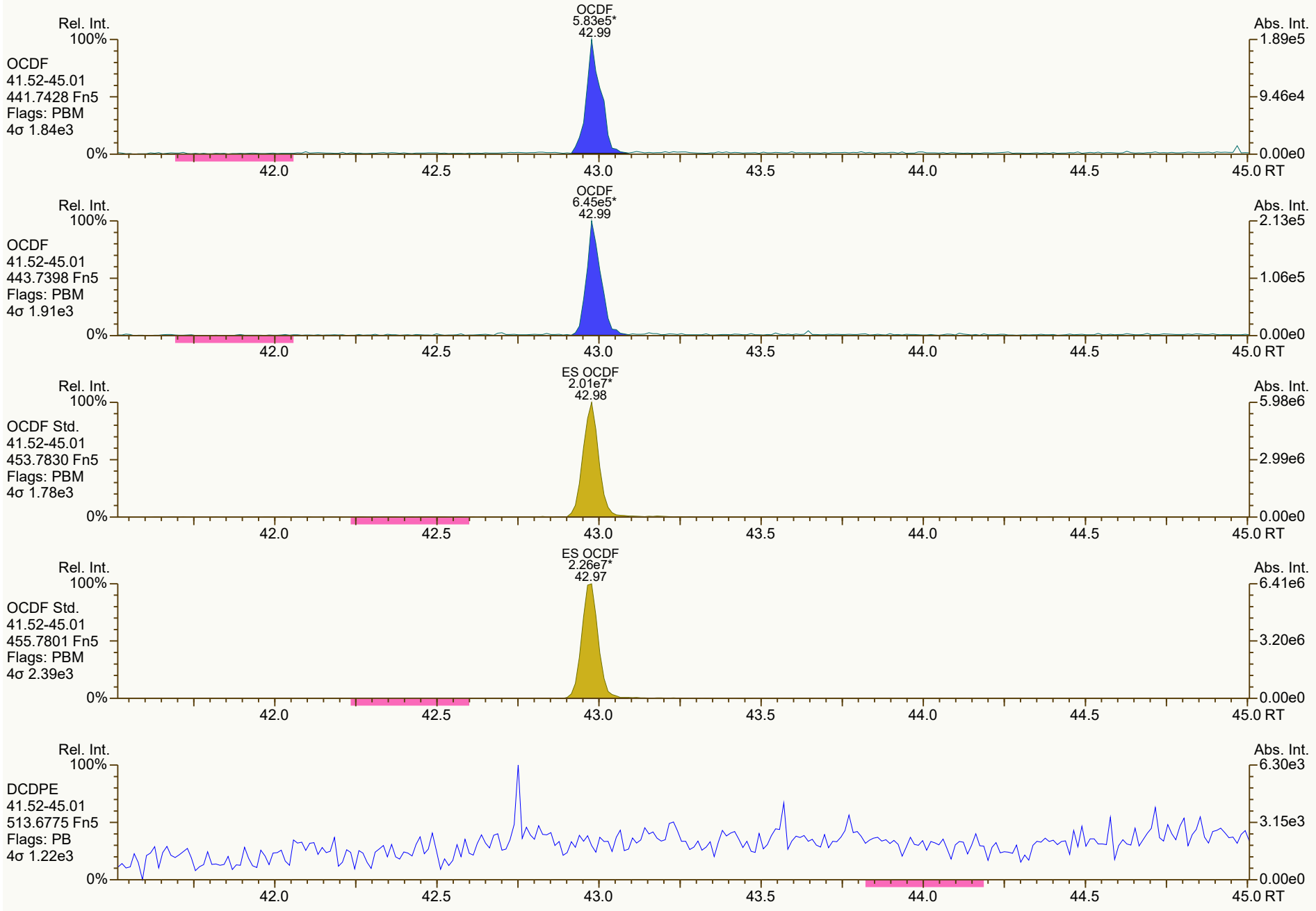

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
2.10e5
1.05e5
0.00e0
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
1.40e5
7.02e4
0.00e0
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
7.54e6
3.77e6
0.00e0
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
4.85e6
2.42e6
0.00e0
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
1.10e4
5.51e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9368, 4994, 0902 scc: 419-111
Revised: 10-Nov-2021 13:38 (DTF) Printed: 11-Nov-2021 10:40 Page 9 of 12


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
0%
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
1.76e5
8.82e4
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
4.10e6
2.05e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
7.83e6
3.91e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
9.19e3
4.60e3


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
0%
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
Abs. Int.
2.00e5
9.99e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
0%
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
Abs. Int.
1.67e5
8.36e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
0%
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
Abs. Int.
3.13e6
1.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
0%
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
Abs. Int.
6.42e6
3.21e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
0%
Abs. Int.
3.72e3
1.86e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

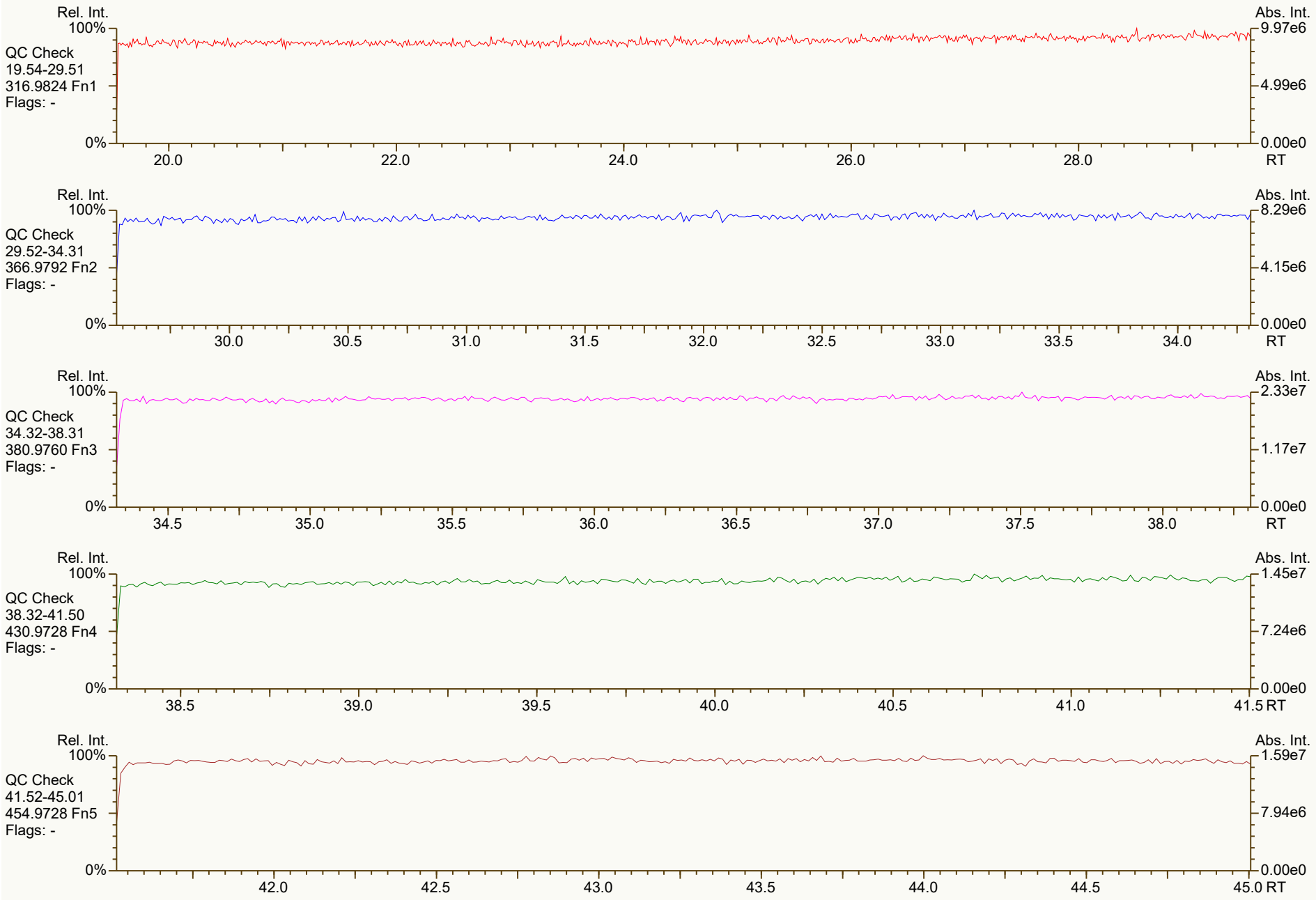

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
OCDF
5.83e5*
42.99
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
OCDF
6.45e5*
42.99
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
ES OCDF
2.01e7*
42.98
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
ES OCDF
2.26e7*
42.97
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

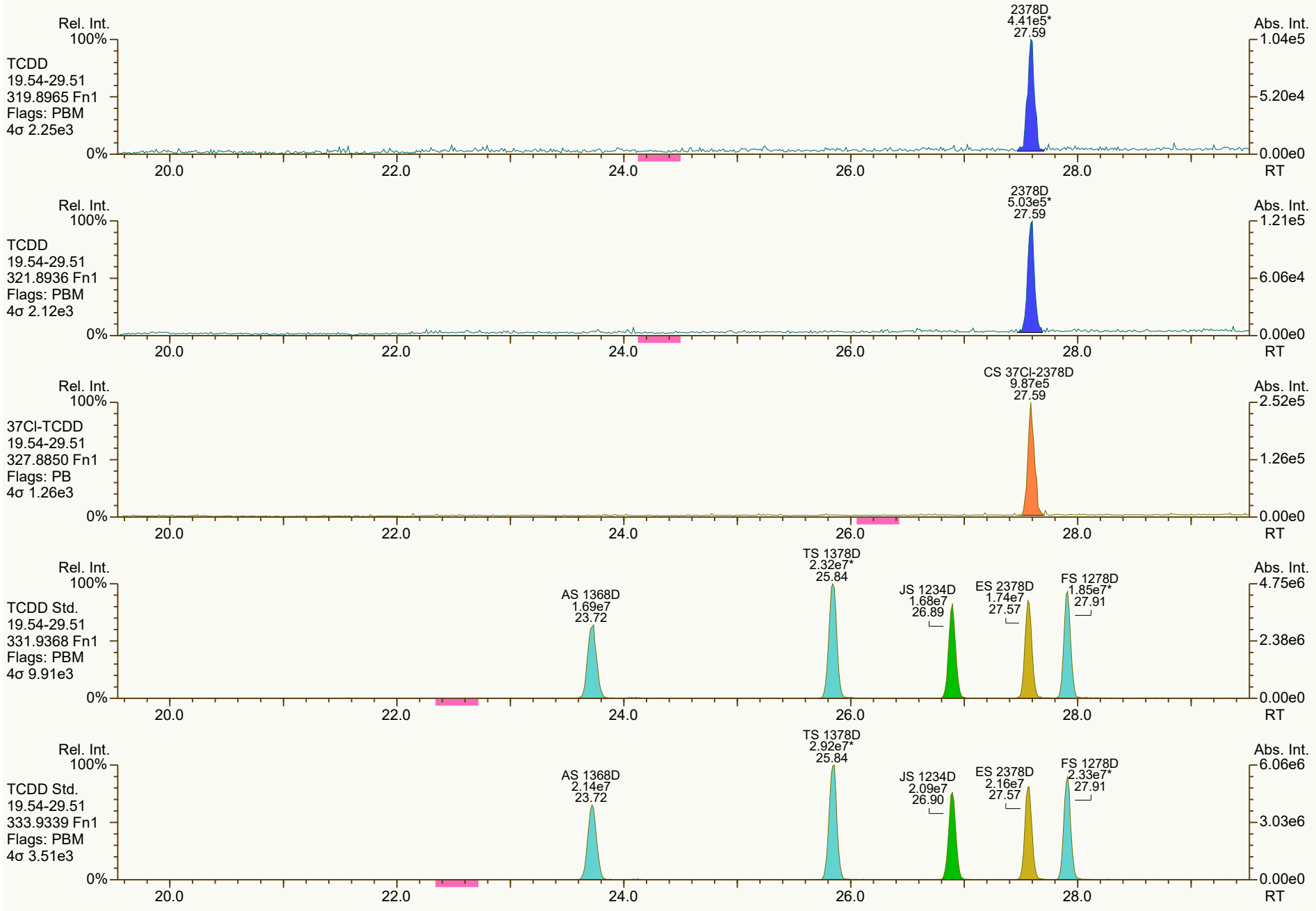
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

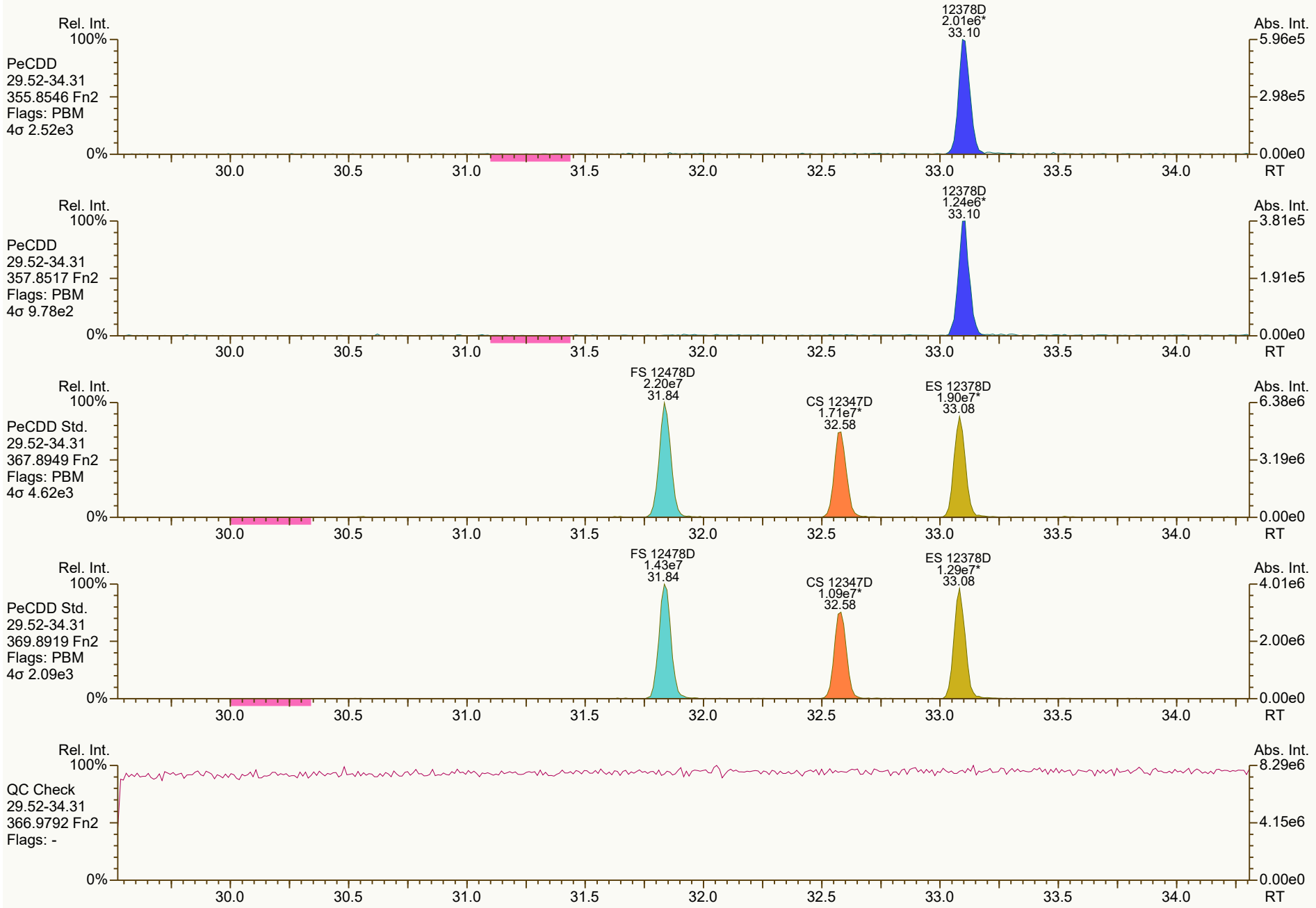
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

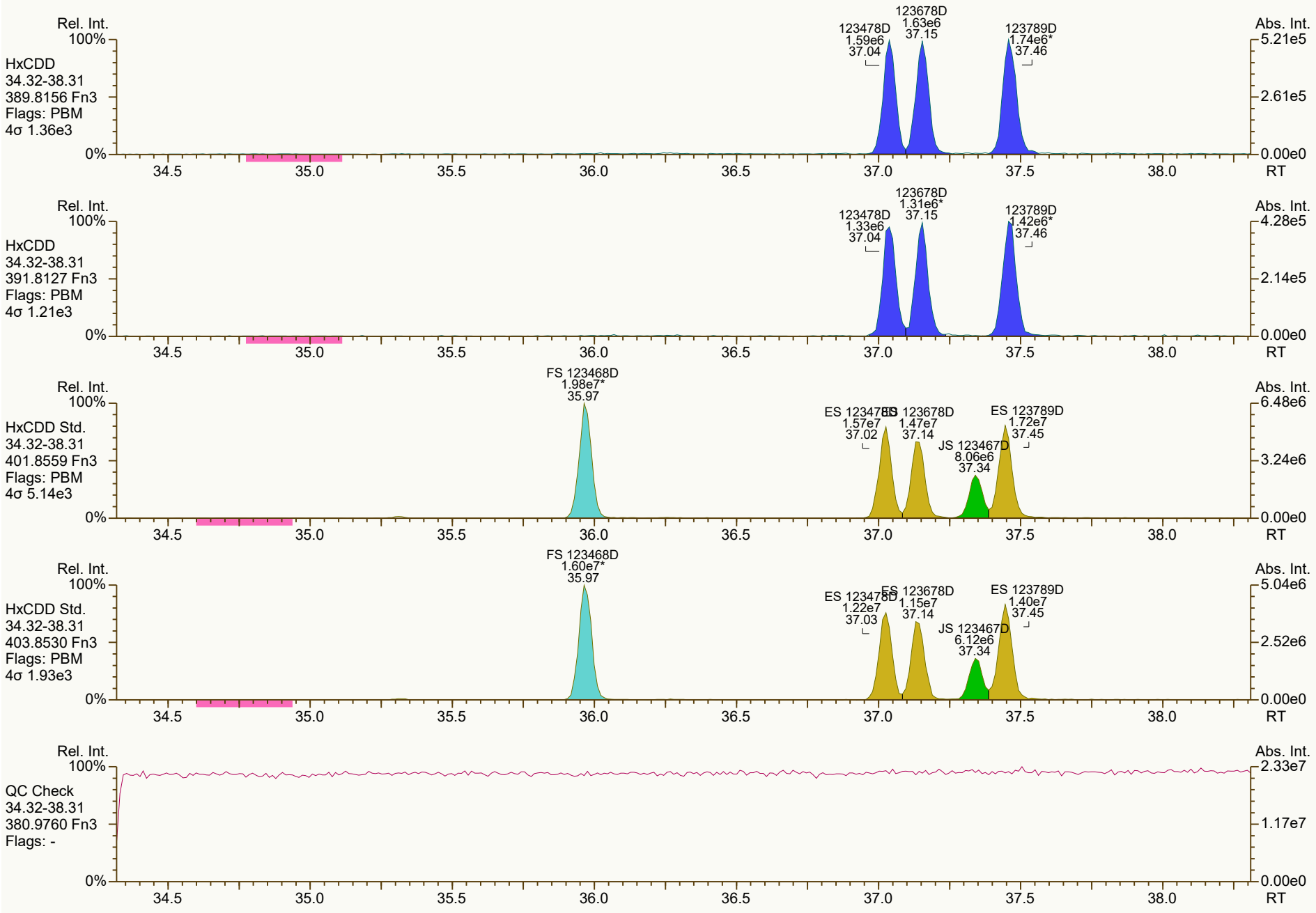
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

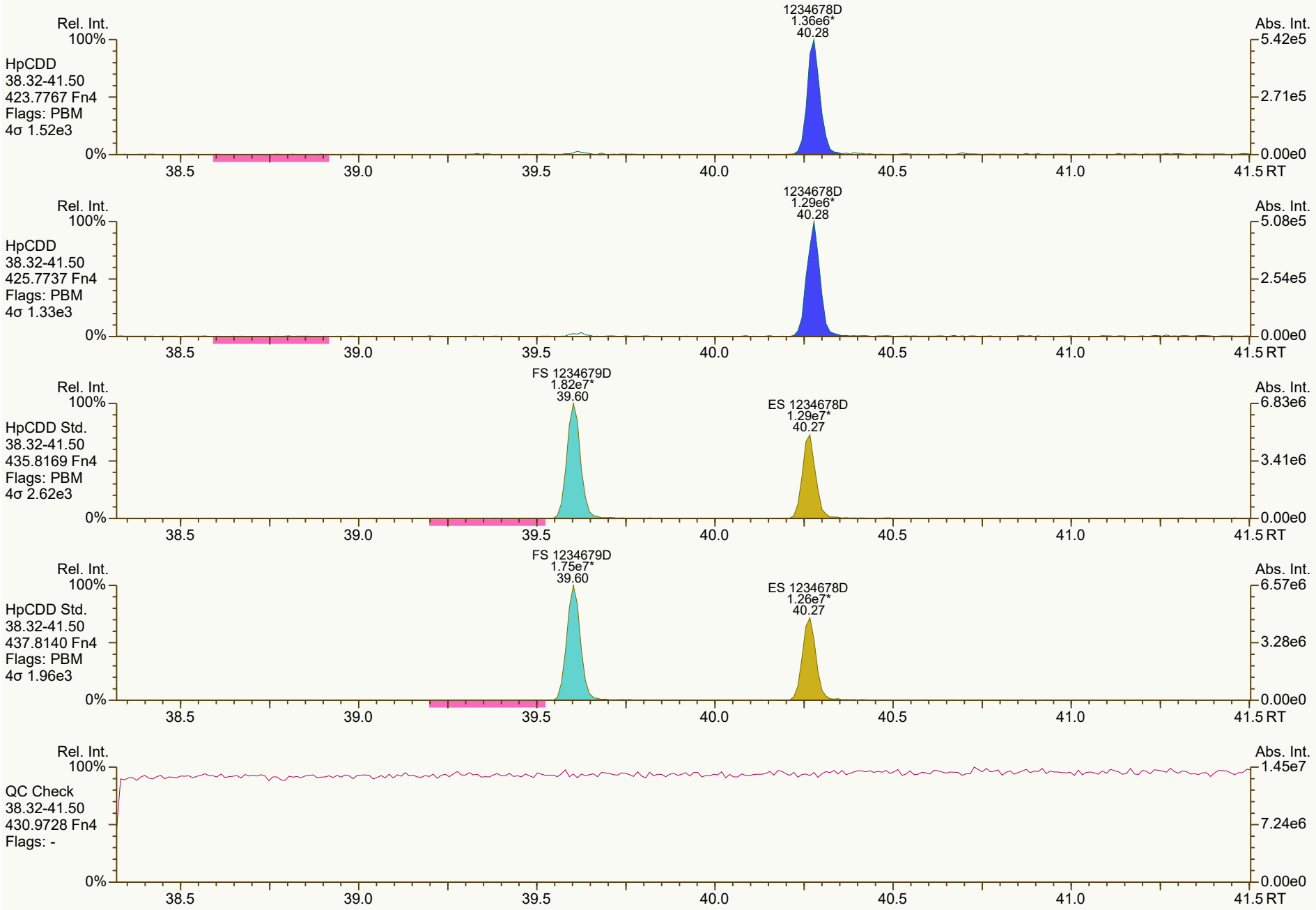
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

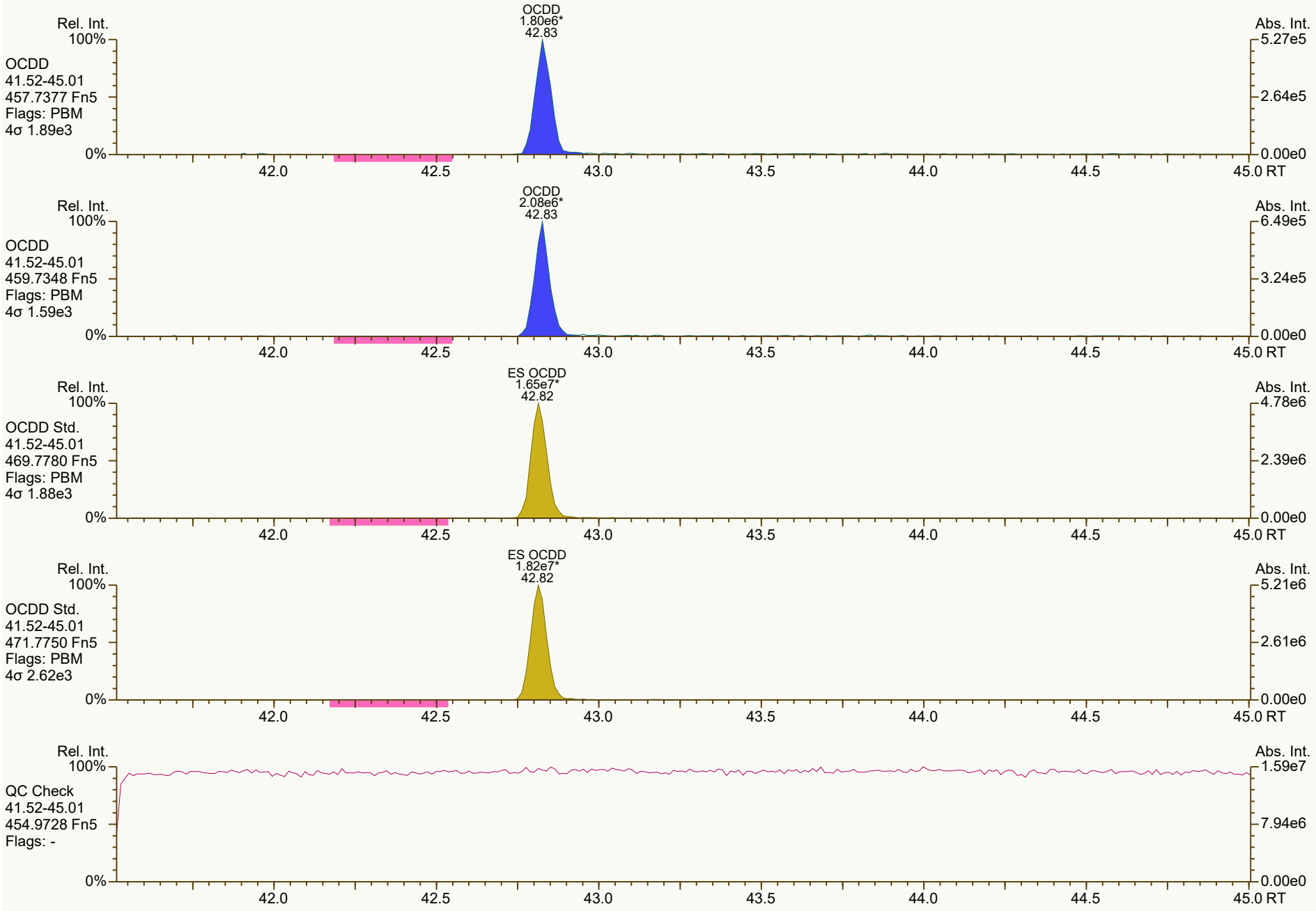

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
4.28e5
2.14e5
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
6.48e6
3.24e6
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
5.04e6
2.52e6
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.33e7
1.17e7

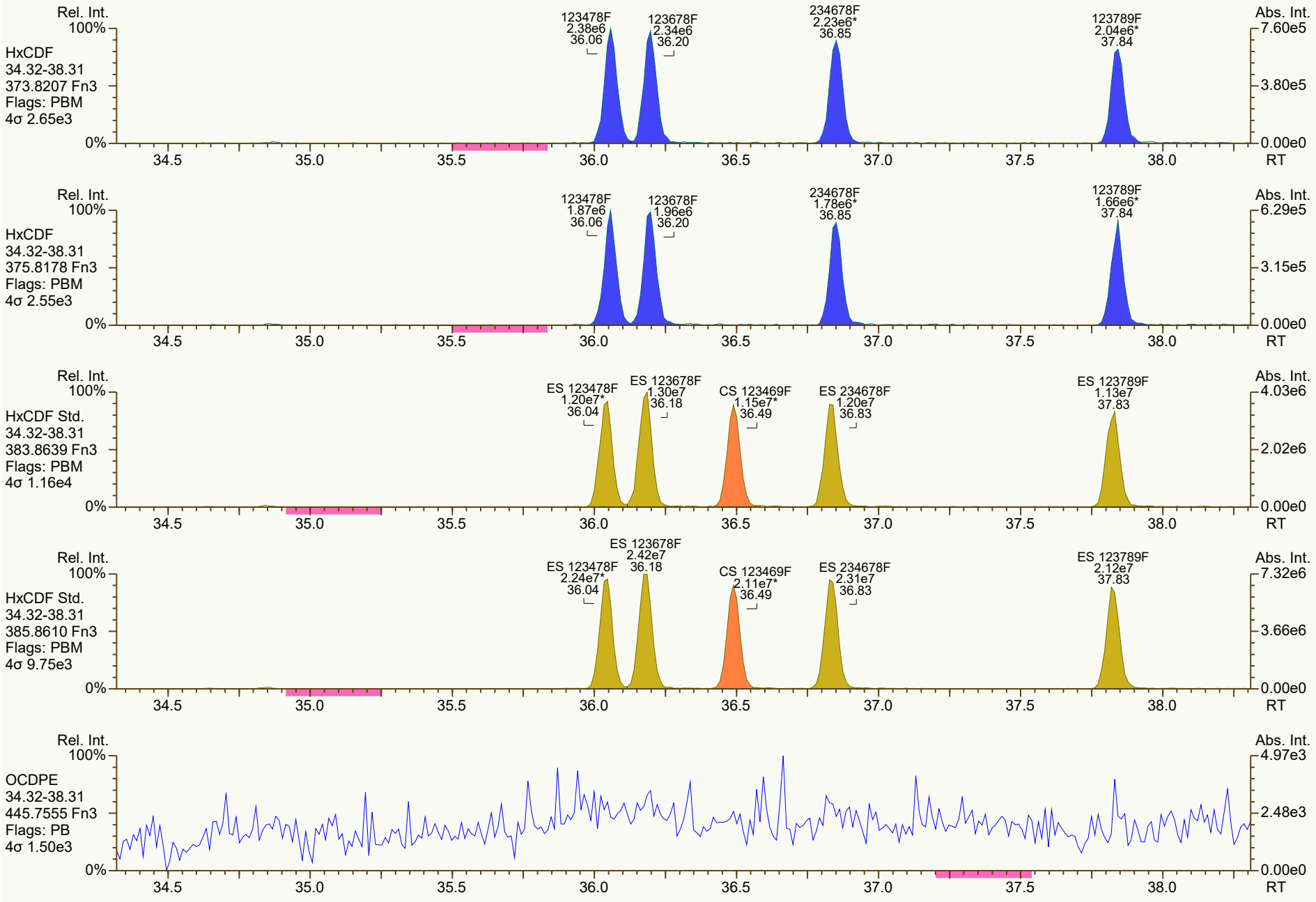

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

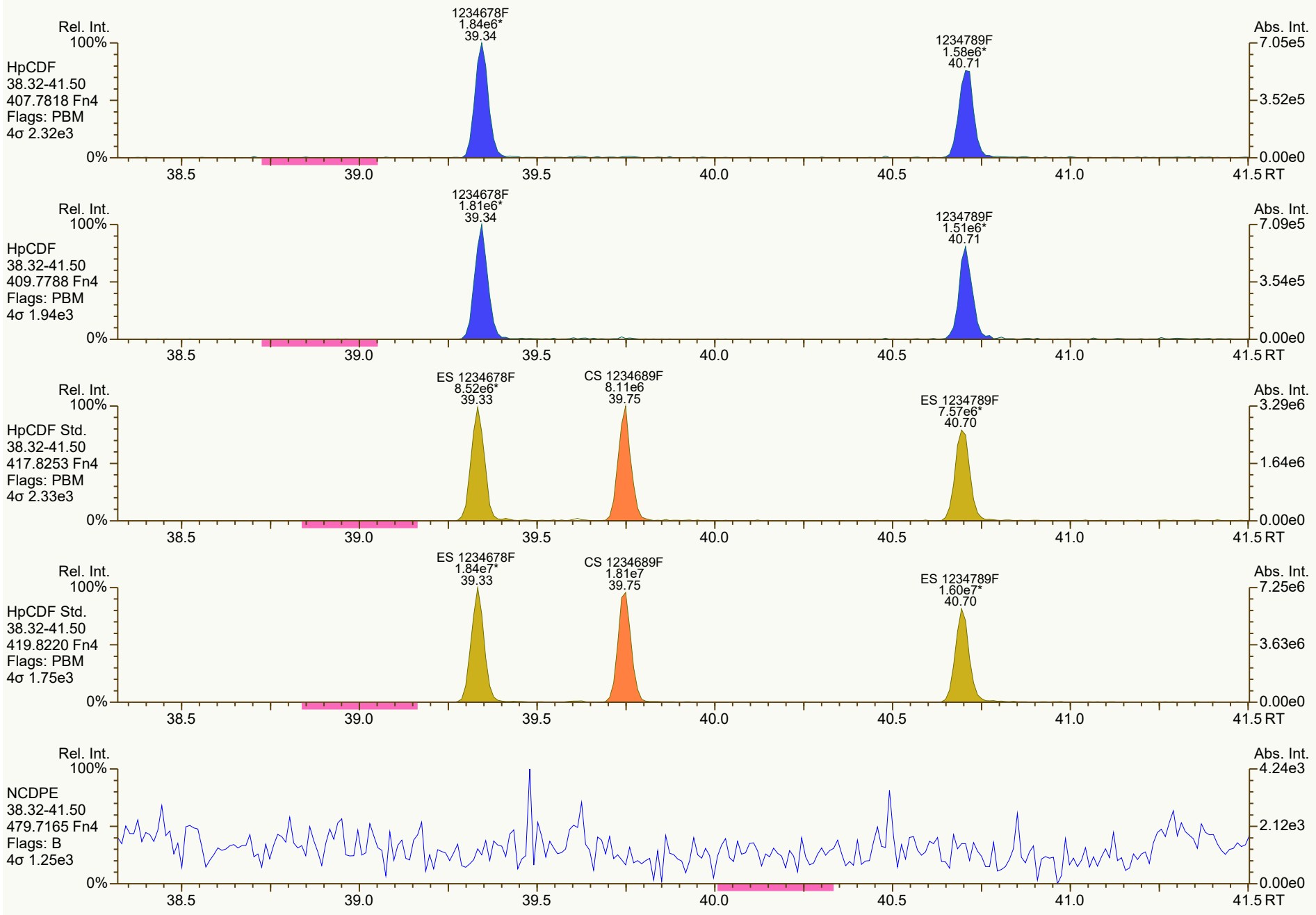

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
6.49e5
3.24e5
ES OCDD
1.65e7*
42.82
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
4.78e6
2.39e6
ES OCDD
1.82e7*
42.82
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
5.21e6
2.61e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.59e7
7.94e6

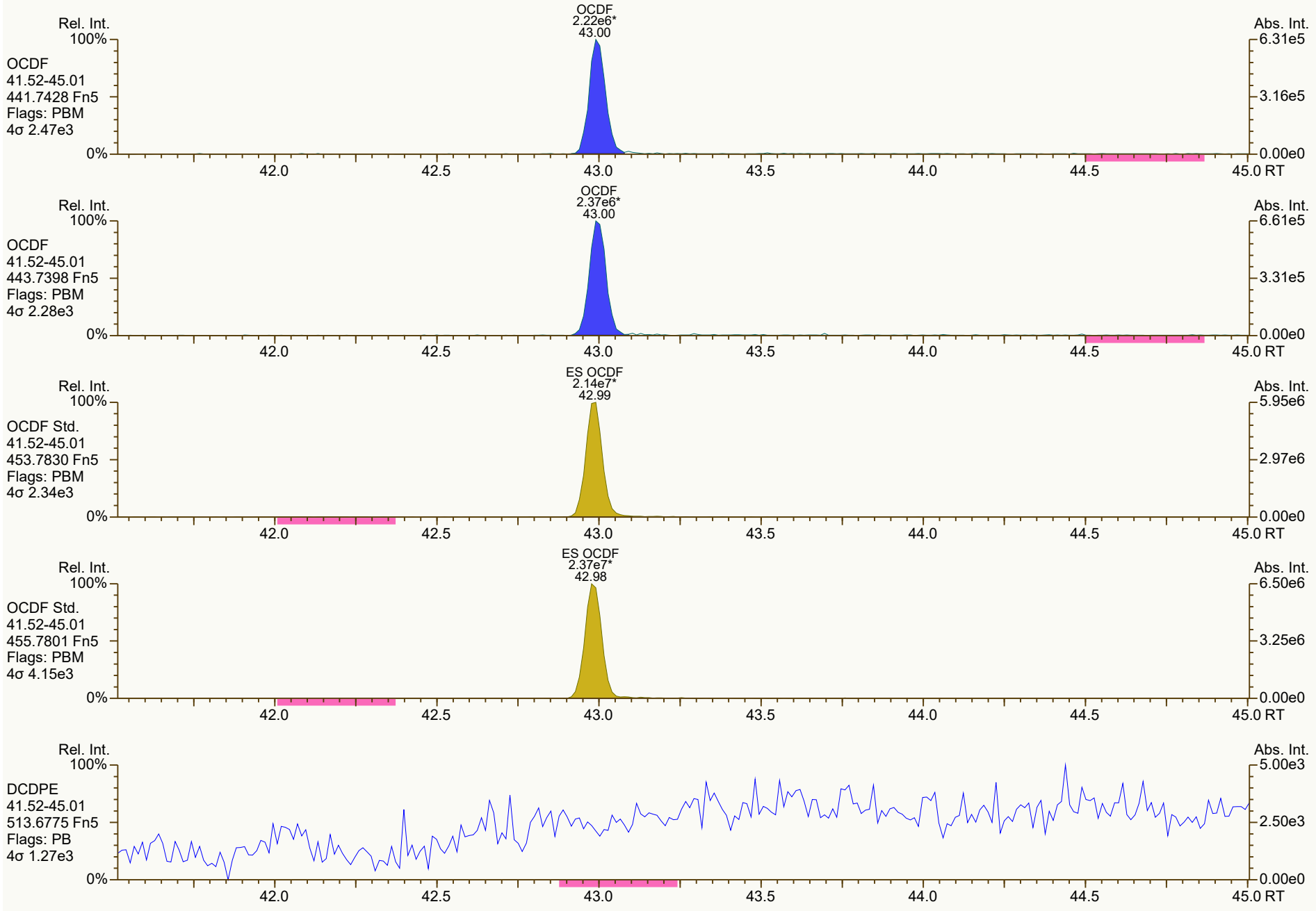

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
0%
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
0%
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
0%
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
0%
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
5.27e5
2.63e5
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
8.01e6
4.01e6
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
5.19e6
2.59e6
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
6.67e3
3.33e3


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
6.29e5
3.15e5
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
4.03e6
2.02e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
ES 123478F
2.24e7*
36.04
ES 123678F
2.42e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
7.32e6
3.66e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
4.97e3
2.48e3

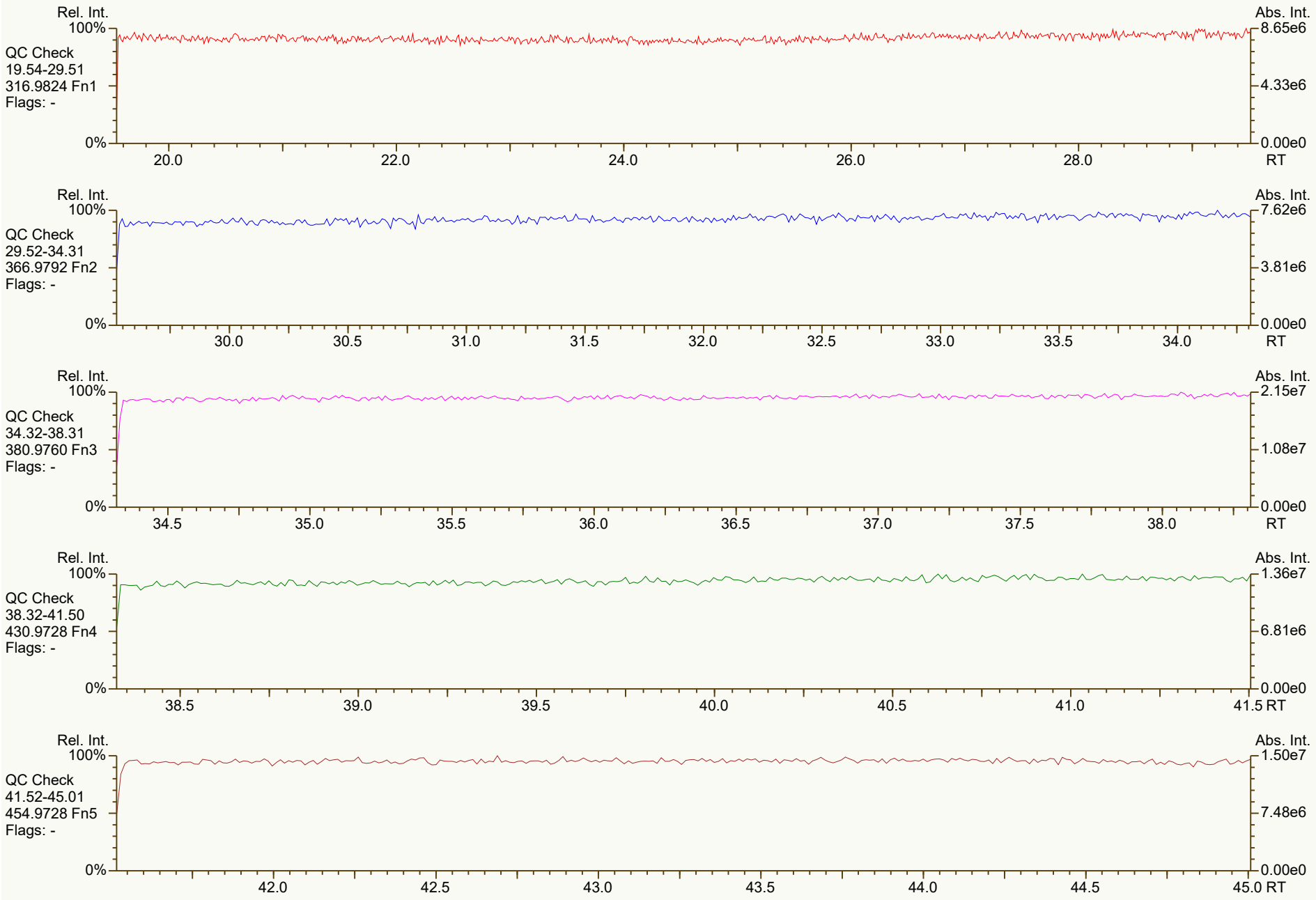

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
Abs. Int.
4.24e3
2.12e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
2.22e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
0%
Abs. Int.
6.31e5
3.16e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.37e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
0%
Abs. Int.
6.61e5
3.31e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.14e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
5.95e6
2.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.37e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
0%
Abs. Int.
6.50e6
3.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

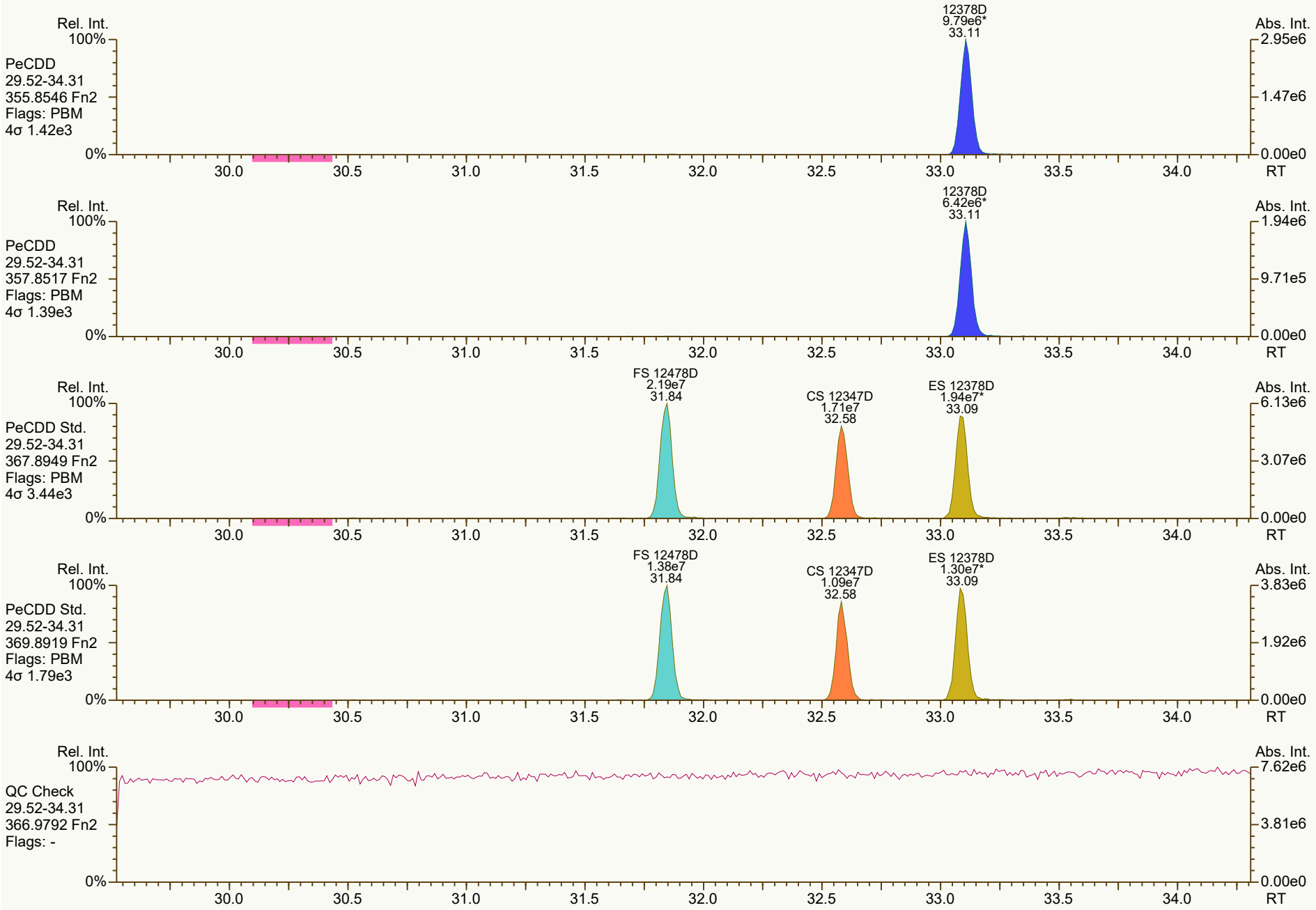
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

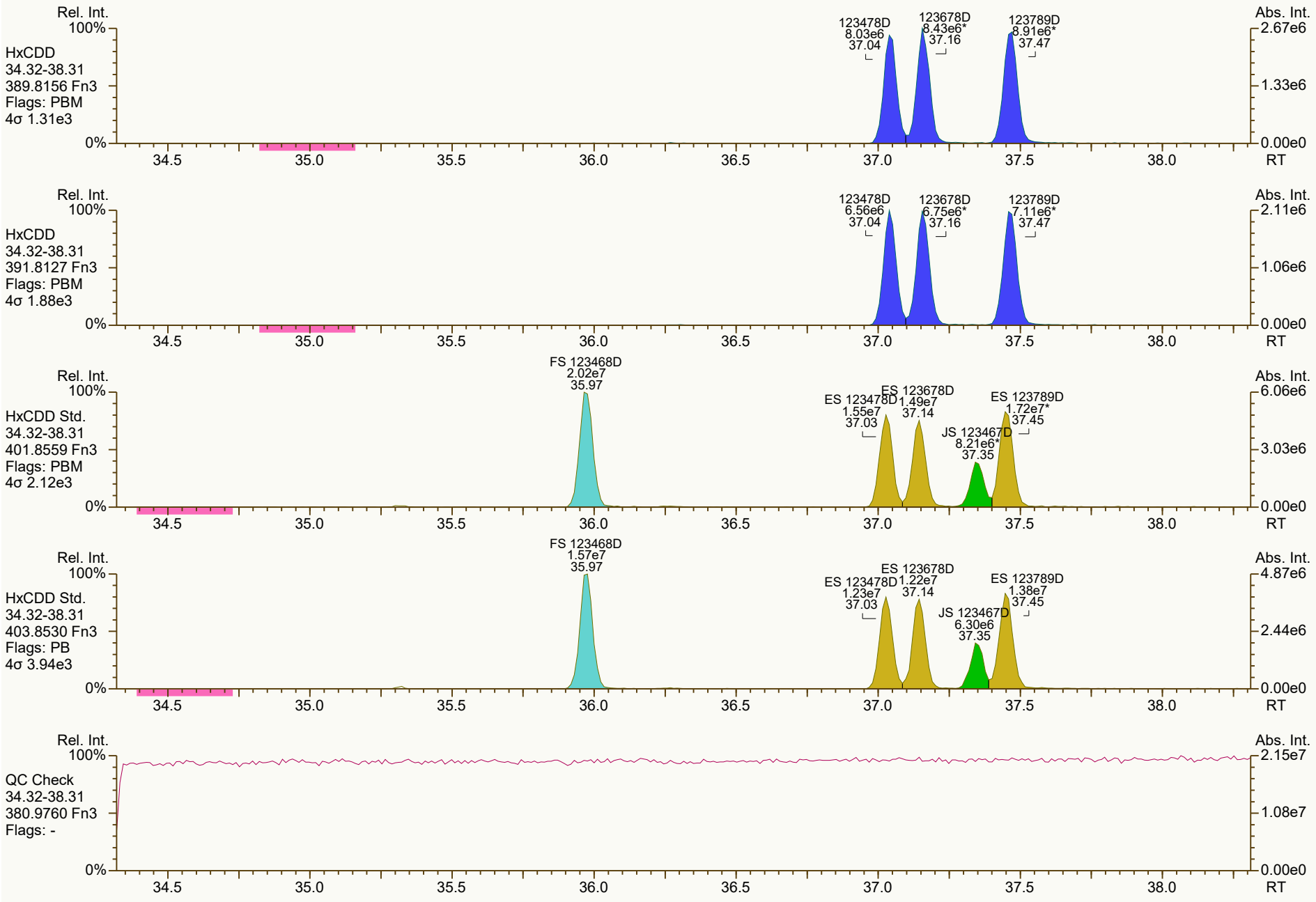
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

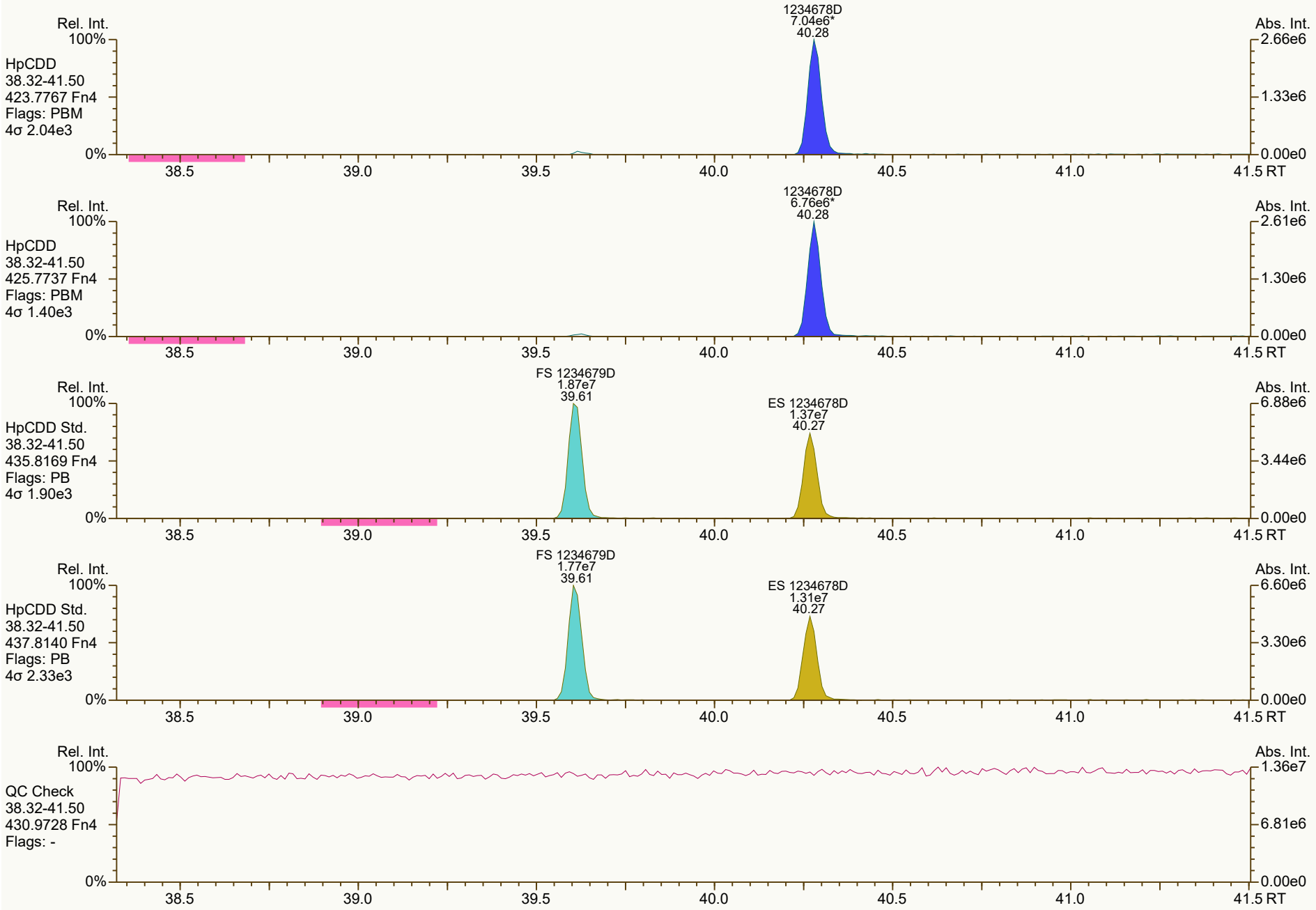
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%


Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
0%
Abs. Int.
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
2378D
1.99e6
27.60
4.35e5
2.17e5
0.00e0
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
2378D
2.55e6
27.60
5.98e5
2.99e5
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
1.03e6
5.16e5
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
4.80e6
2.40e6
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
6.06e6
3.03e6
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
0%
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
0%
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
0%
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
0%
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.62e6
3.81e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
9.25e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.02e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.70e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.86e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

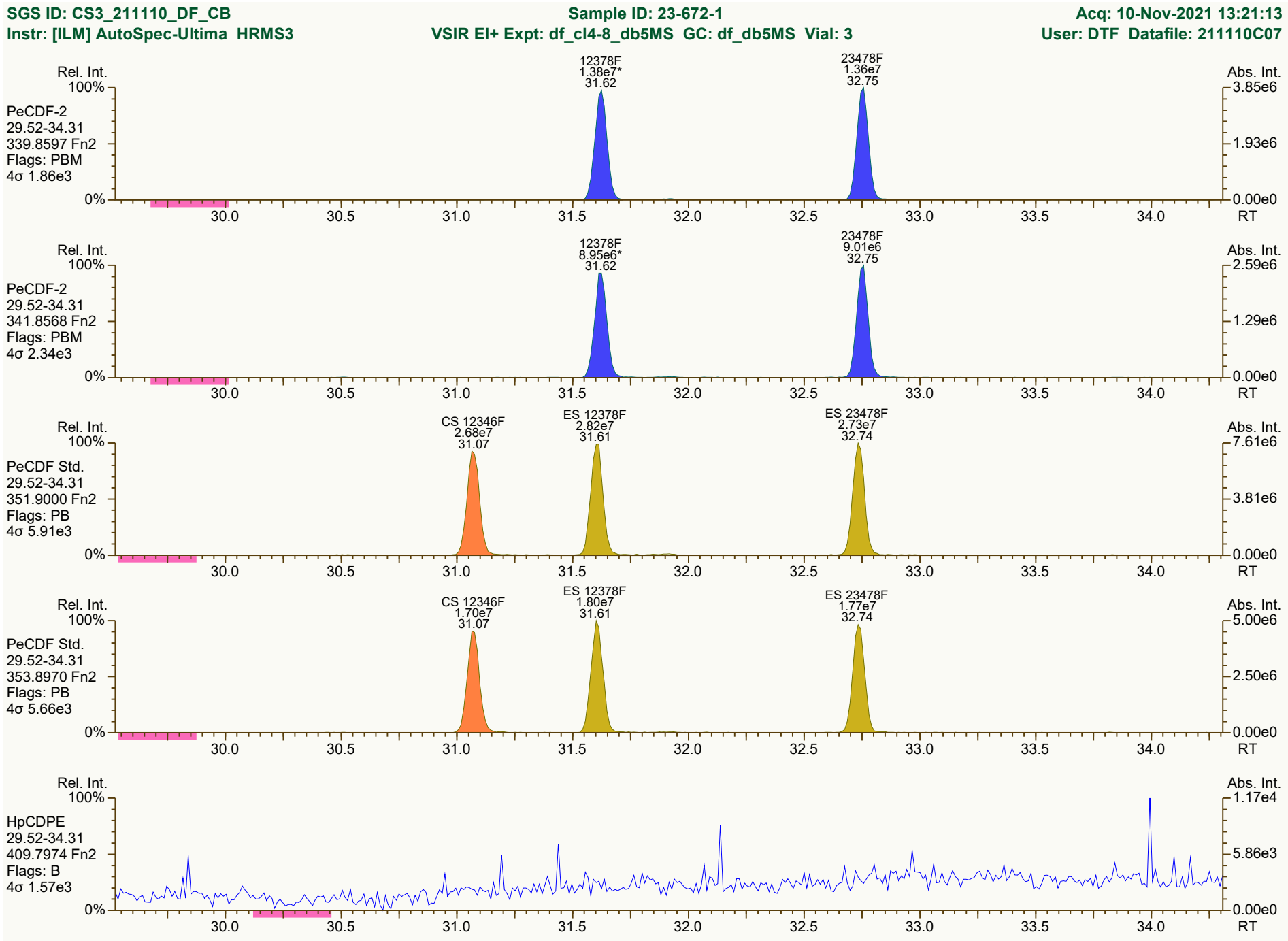

Rel. Int.
100%
0%
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
2378F
2.58e6
26.68
5.81e5
2.91e5
0.00e0
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
2378F
3.32e6
26.68
7.66e5
3.83e5
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
5.45e6
2.73e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
6.76e6
3.38e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
6.84e3
3.42e3
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT

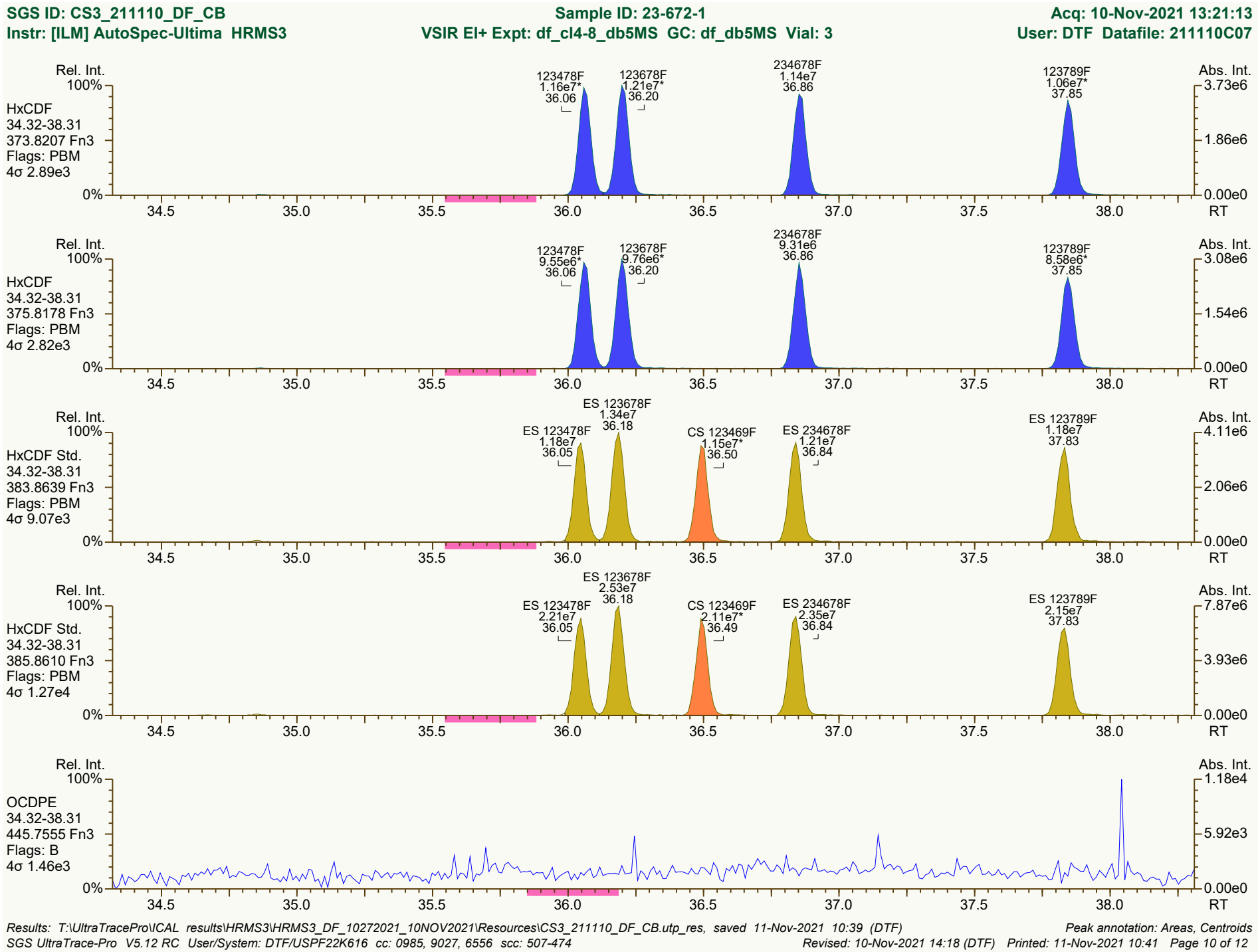
SGS ID: CS3_211110_DF_CB
Instr: [ILM] AutoSpec-Ultima HRMS3

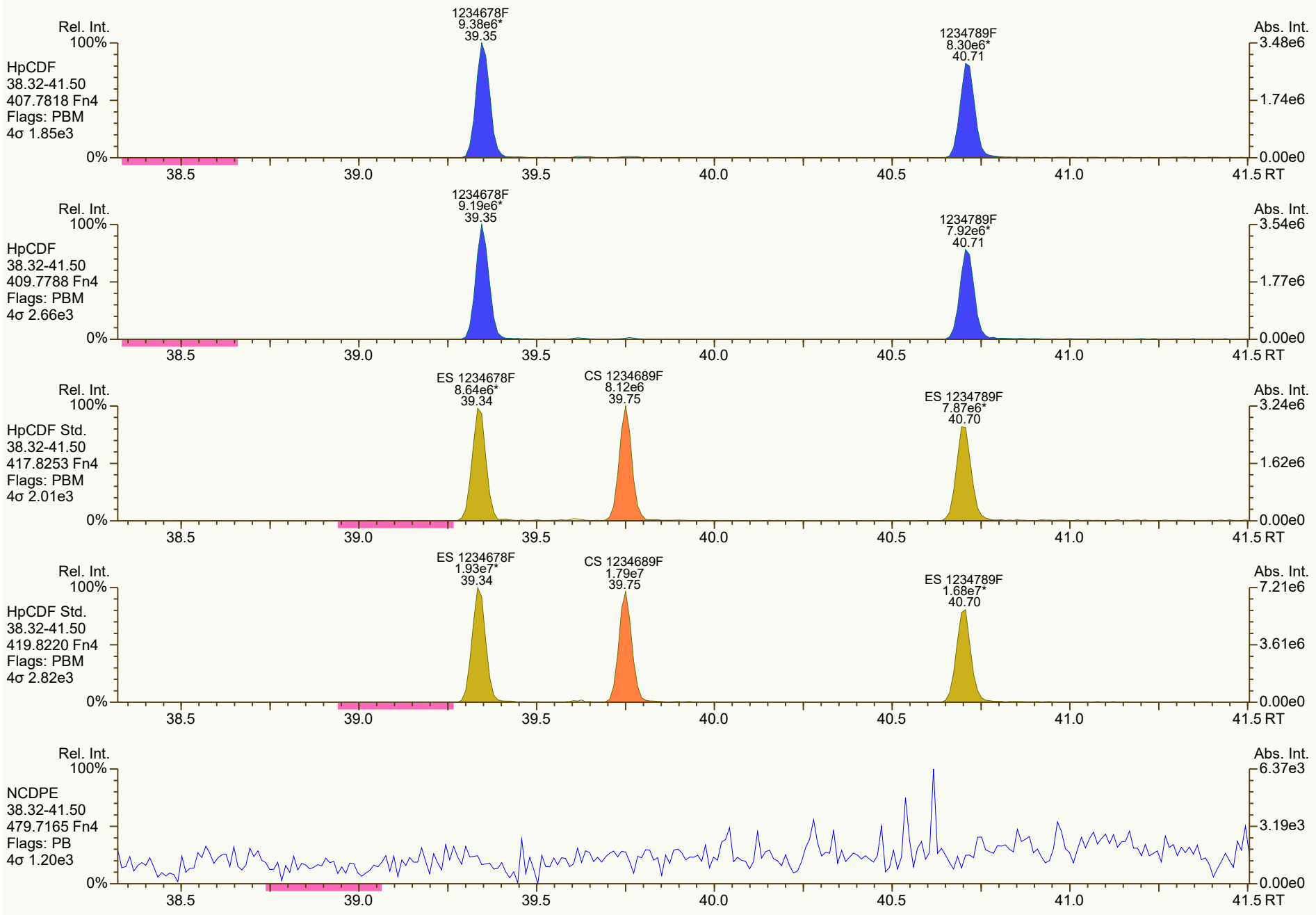
Sample ID: 23-672-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3

Acq: 10-Nov-2021 13:21:13
User: DTF Datafile: 211110C07



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0728, 8378, 8418 scc: 507-474
Revised: 10-Nov-2021 14:17 (DTF) Printed: 11-Nov-2021 10:41 Page 9 of 12


SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
123478F 1.16e7* 36.06
123678F 1.21e7* 36.20
234678F 1.14e7 36.86
123789F 1.06e7* 37.85
3.73e6
1.86e6
0.00e0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
123478F 9.55e6* 36.06
123678F 9.76e6* 36.20
234678F 9.31e6 36.86
123789F 8.58e6* 37.85
3.08e6
1.54e6
0.00e0
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
ES 123478F 1.18e7 36.05
ES 123678F 1.34e7 36.18
CS 123469F 1.15e7* 36.50
ES 234678F 1.21e7 36.84
ES 123789F 1.18e7 37.83
4.11e6
2.06e6
0.00e0
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
ES 123478F 2.21e7 36.05
ES 123678F 2.53e7 36.18
CS 123469F 2.11e7* 36.49
ES 234678F 2.35e7 36.84
ES 123789F 2.15e7 37.83
7.87e6
3.93e6
0.00e0
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
1.18e4
5.92e3
0.00e0
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0985, 9027, 6556 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 10 of 12

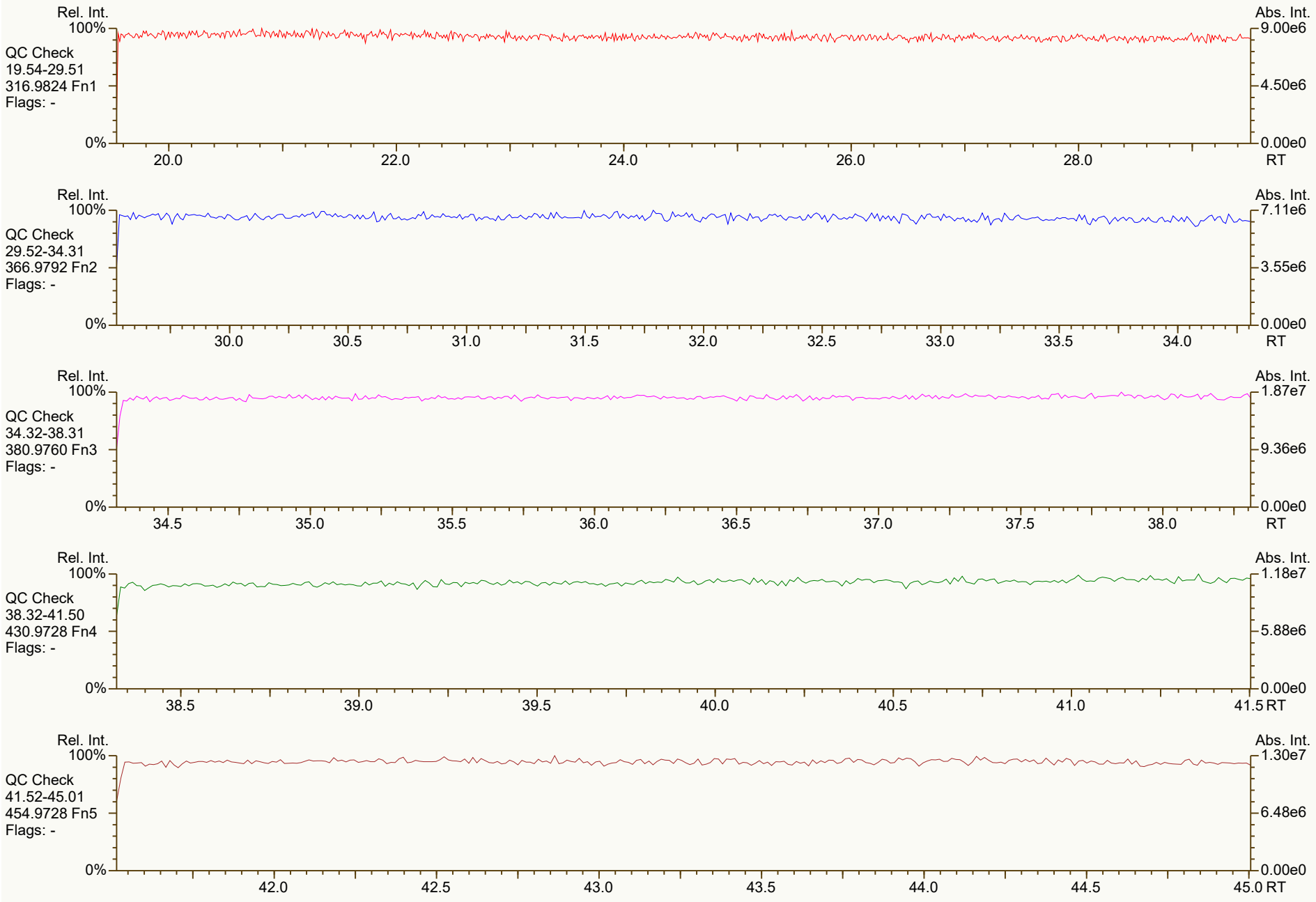

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
0%
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
Abs. Int.
3.48e6
1.74e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
0%
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
Abs. Int.
3.54e6
1.77e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
0%
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
Abs. Int.
3.24e6
1.62e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
0%
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
Abs. Int.
7.21e6
3.61e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
0%
Abs. Int.
6.37e3
3.19e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

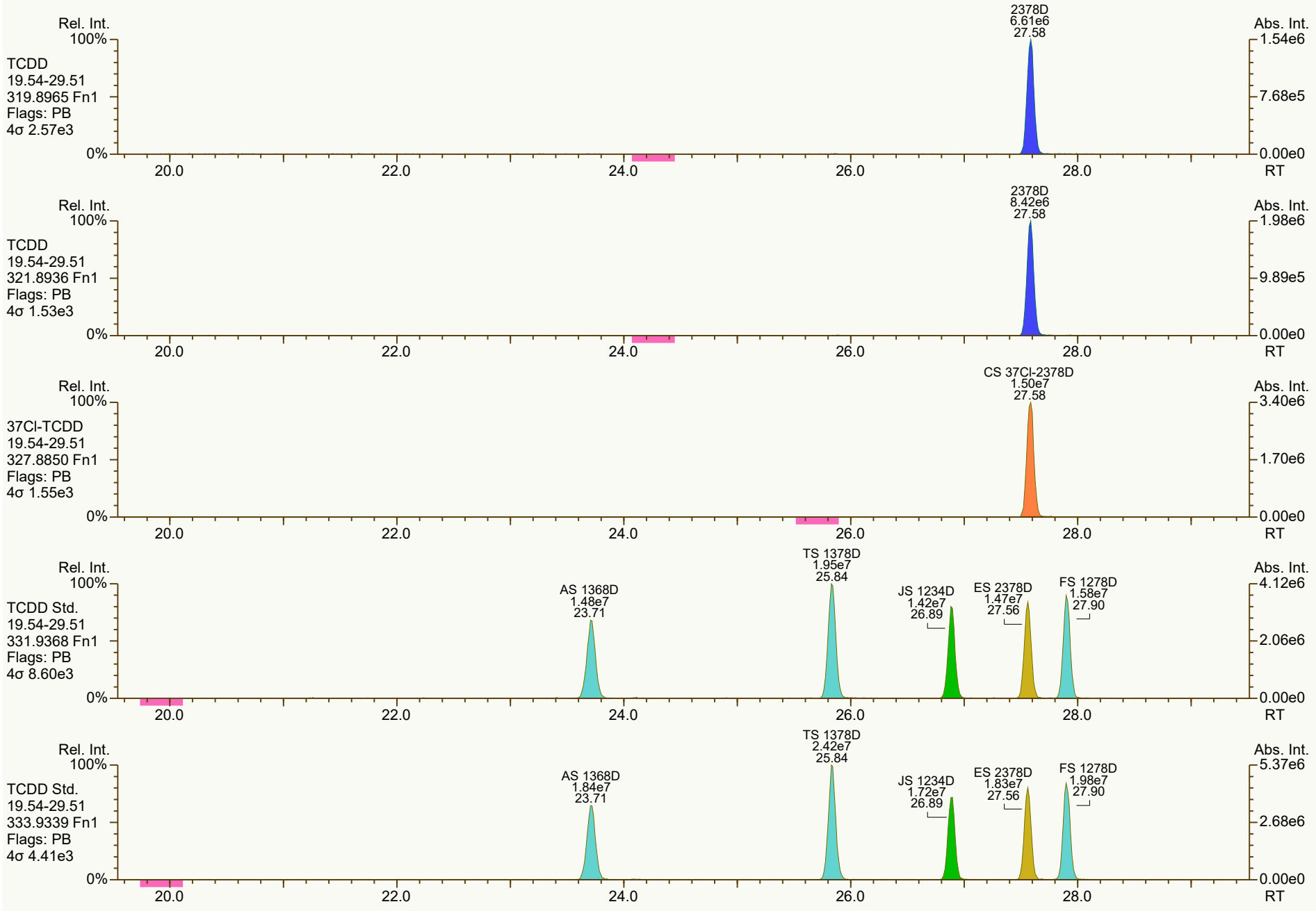

OCDF
1.15e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
3.25e6
1.62e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
0%
Abs. Int.
3.53e6
1.76e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.21e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
0%
Abs. Int.
6.08e6
3.04e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.39e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
0%
Abs. Int.
6.65e6
3.32e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
0%
Abs. Int.
4.82e3
2.41e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

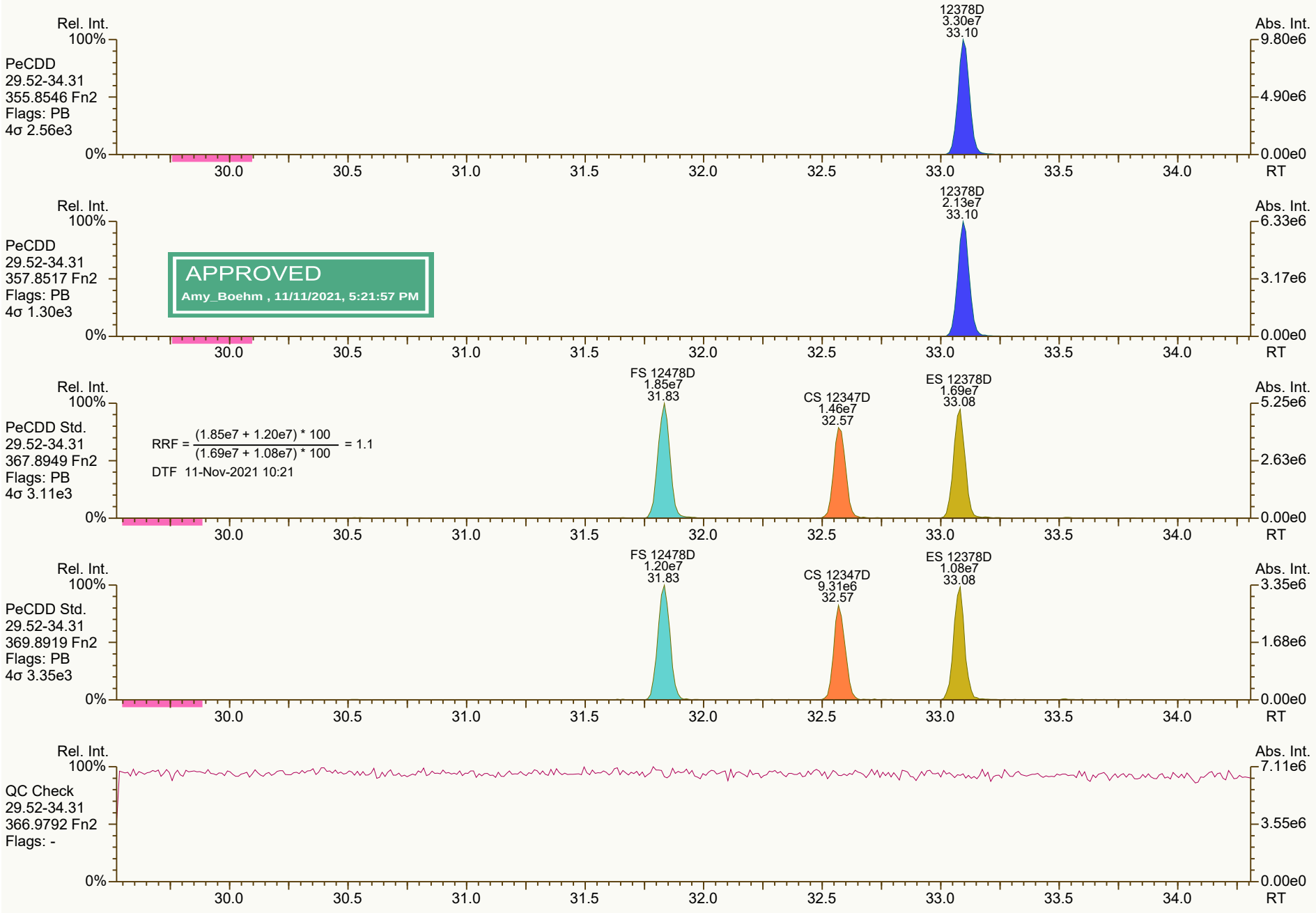
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

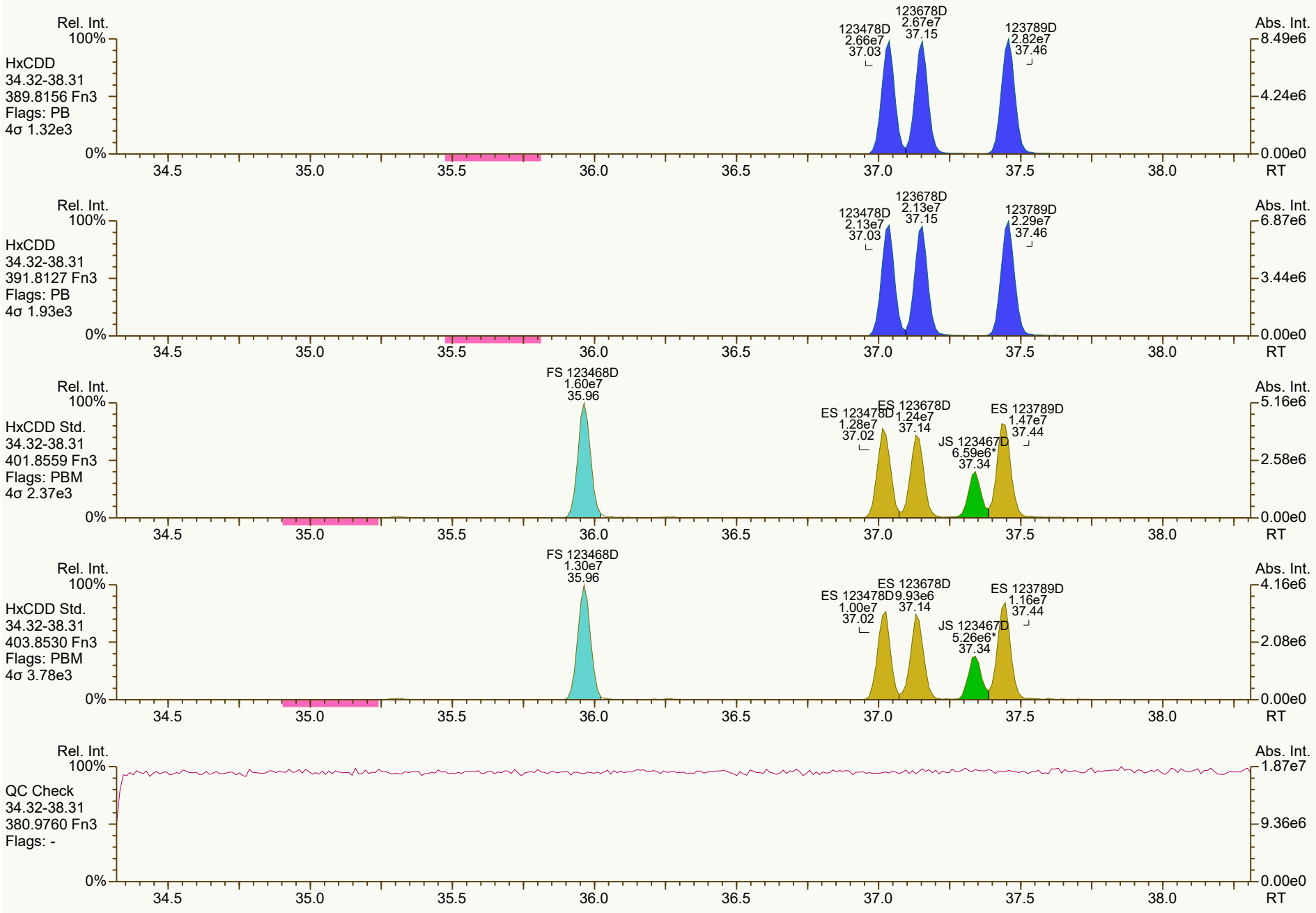
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

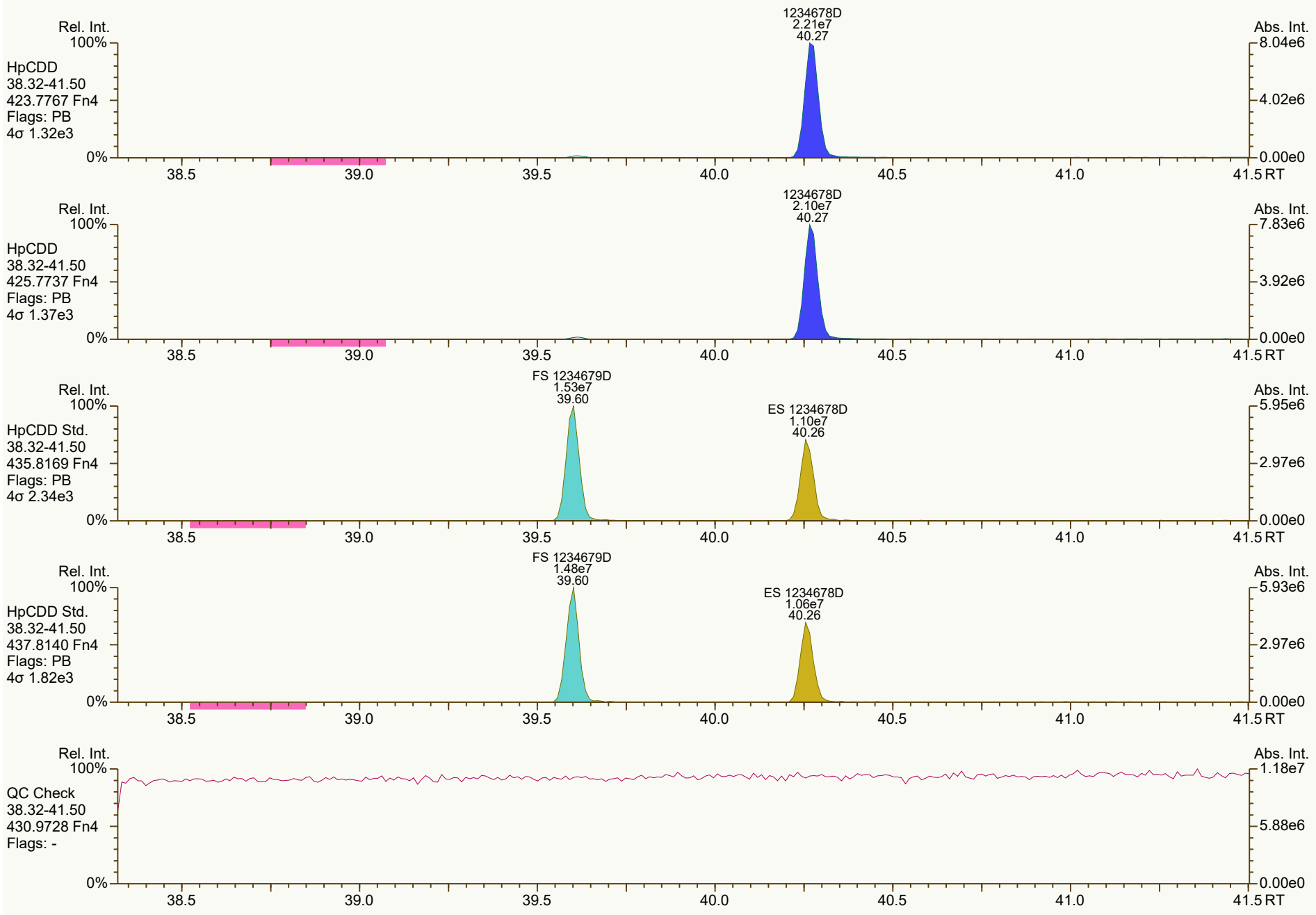
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:07 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS4_211110_DF_CA		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 855-576-PGM	
Sample ID: 25-5-4		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C08	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

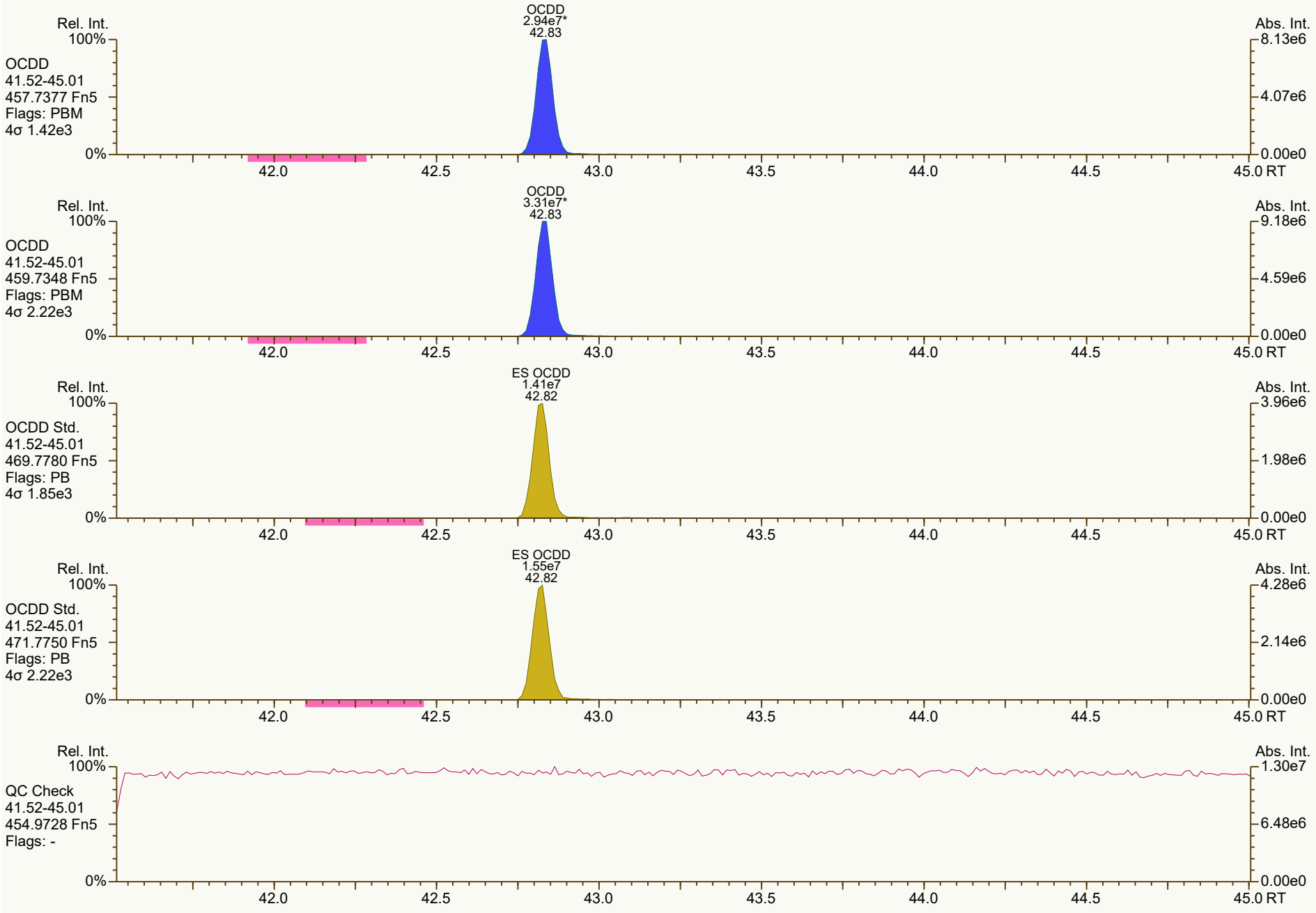

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.00e6
4.50e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.11e6
3.55e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.87e7
9.36e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.18e7
5.88e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.30e7
6.48e6
0.00e0


Rel. Int.
100%
0%
Abs. Int.
RT
20.0
22.0
24.0
26.0
28.0
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
2378D
6.61e6
27.58
1.54e6
7.68e5
0.00e0
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
2378D
8.42e6
27.58
1.98e6
9.89e5
0.00e0
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
CS 37Cl-2378D
1.50e7
27.58
3.40e6
1.70e6
0.00e0
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
4.12e6
2.06e6
0.00e0
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
5.37e6
2.68e6
0.00e0


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
0%
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
0%
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

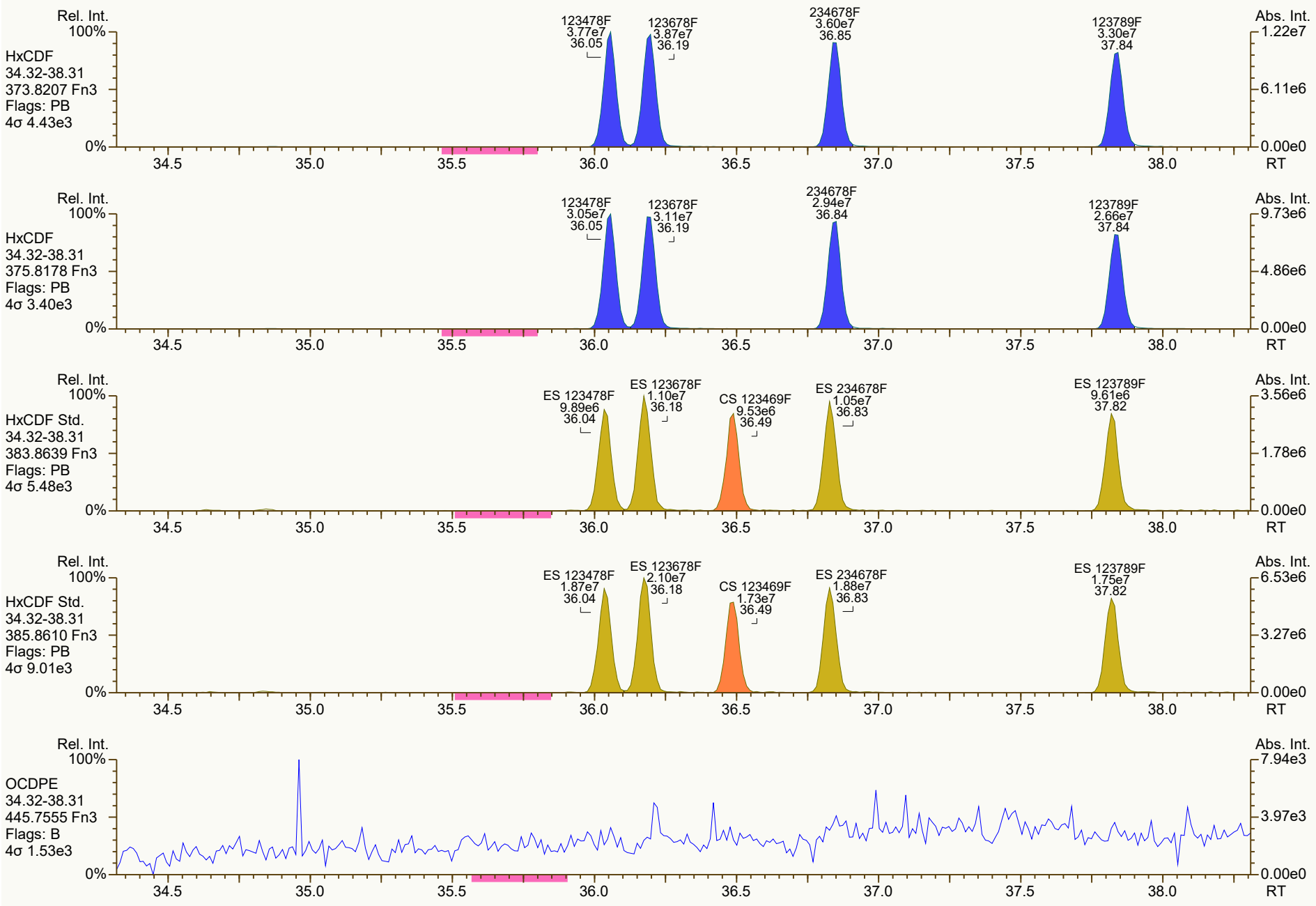

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
0%
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
0%
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
0%
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
0%
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.18e7
5.88e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

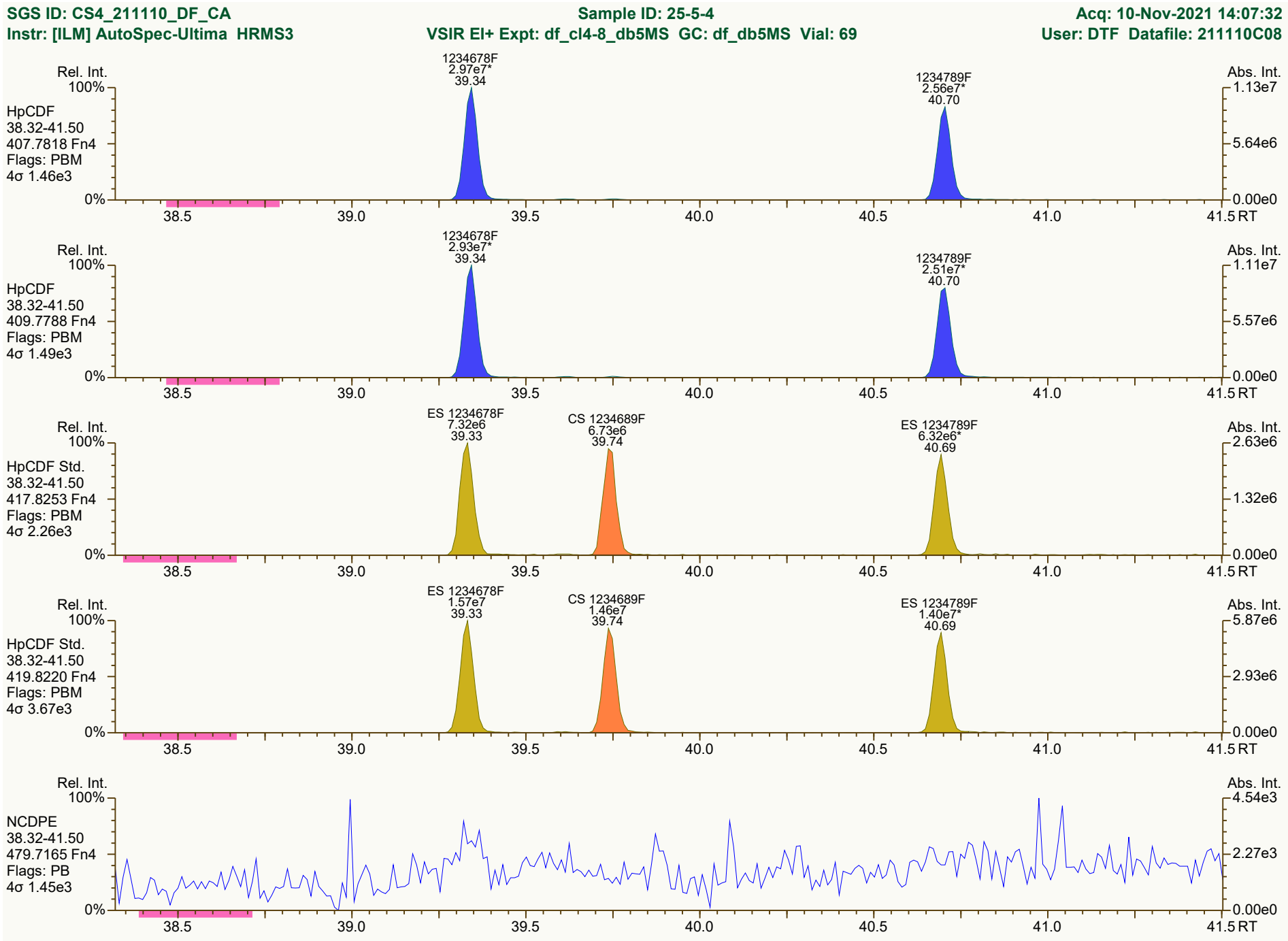

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

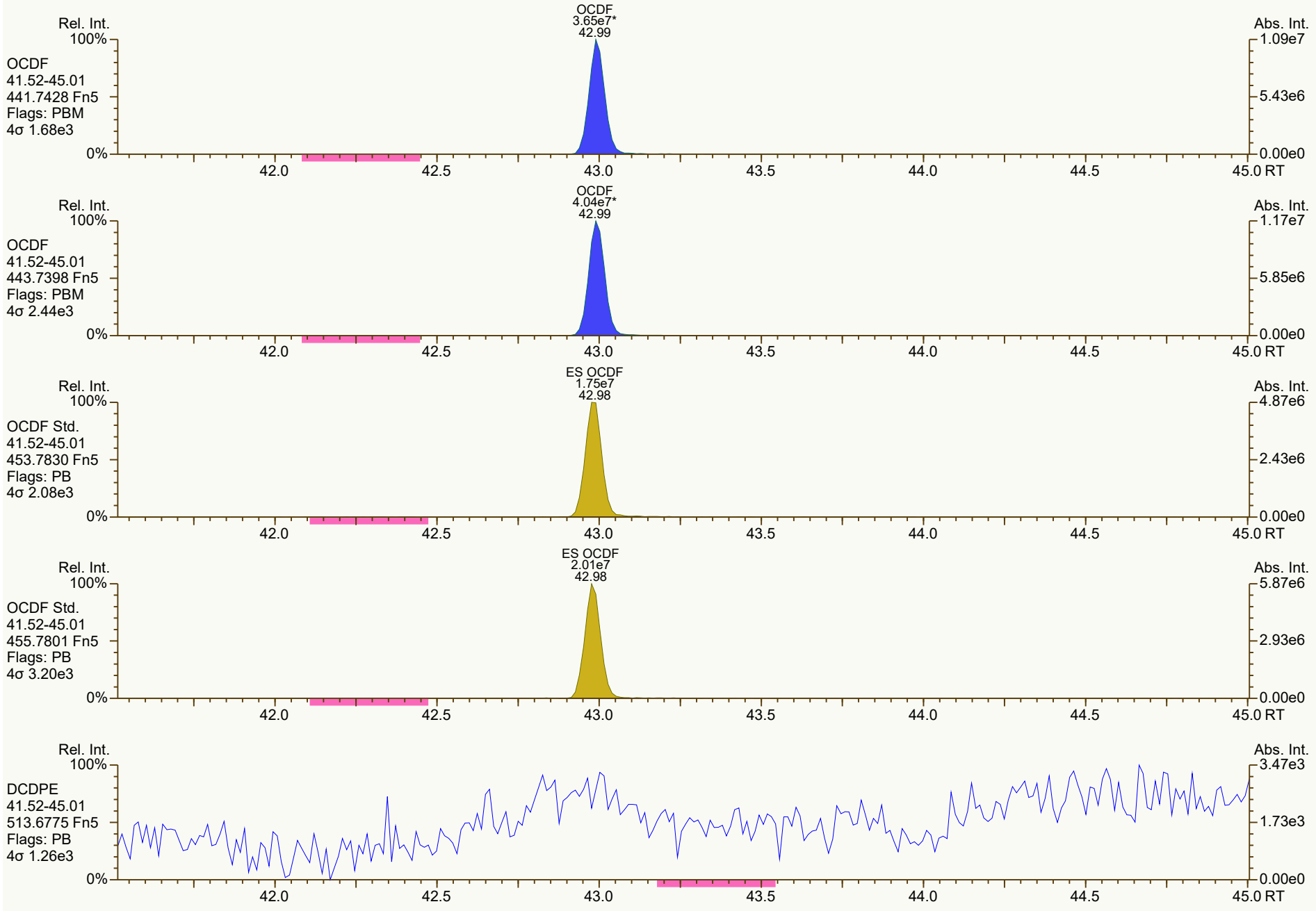

Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
8.94e3
4.47e3
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
9.00e6
4.50e6


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
Abs. Int.
7.51e3
3.76e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3

SGS ID: CS4_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3
Sample ID: 25-5-4
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
Acq: 10-Nov-2021 14:07:32
User: DTF Datafile: 211110C08

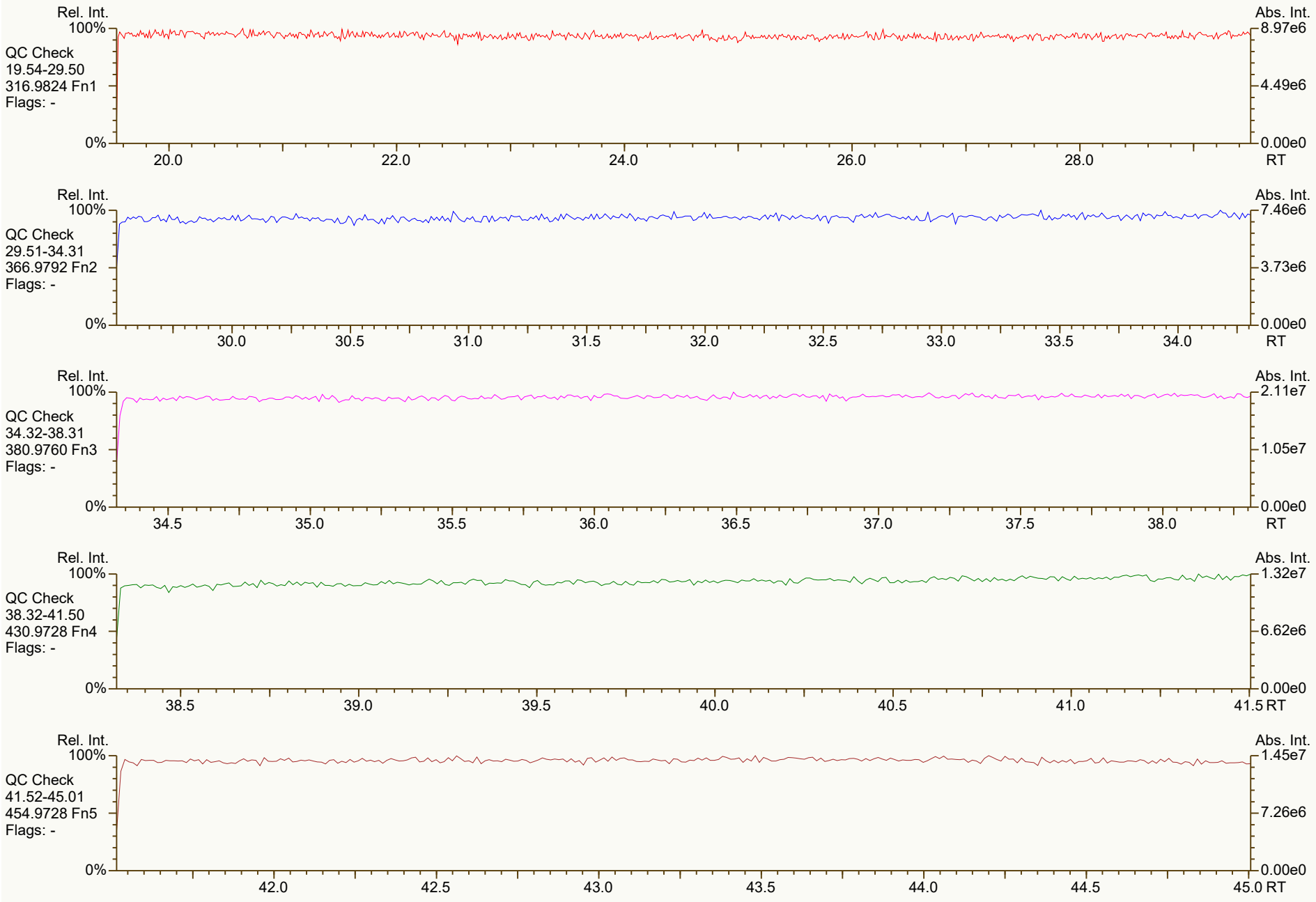


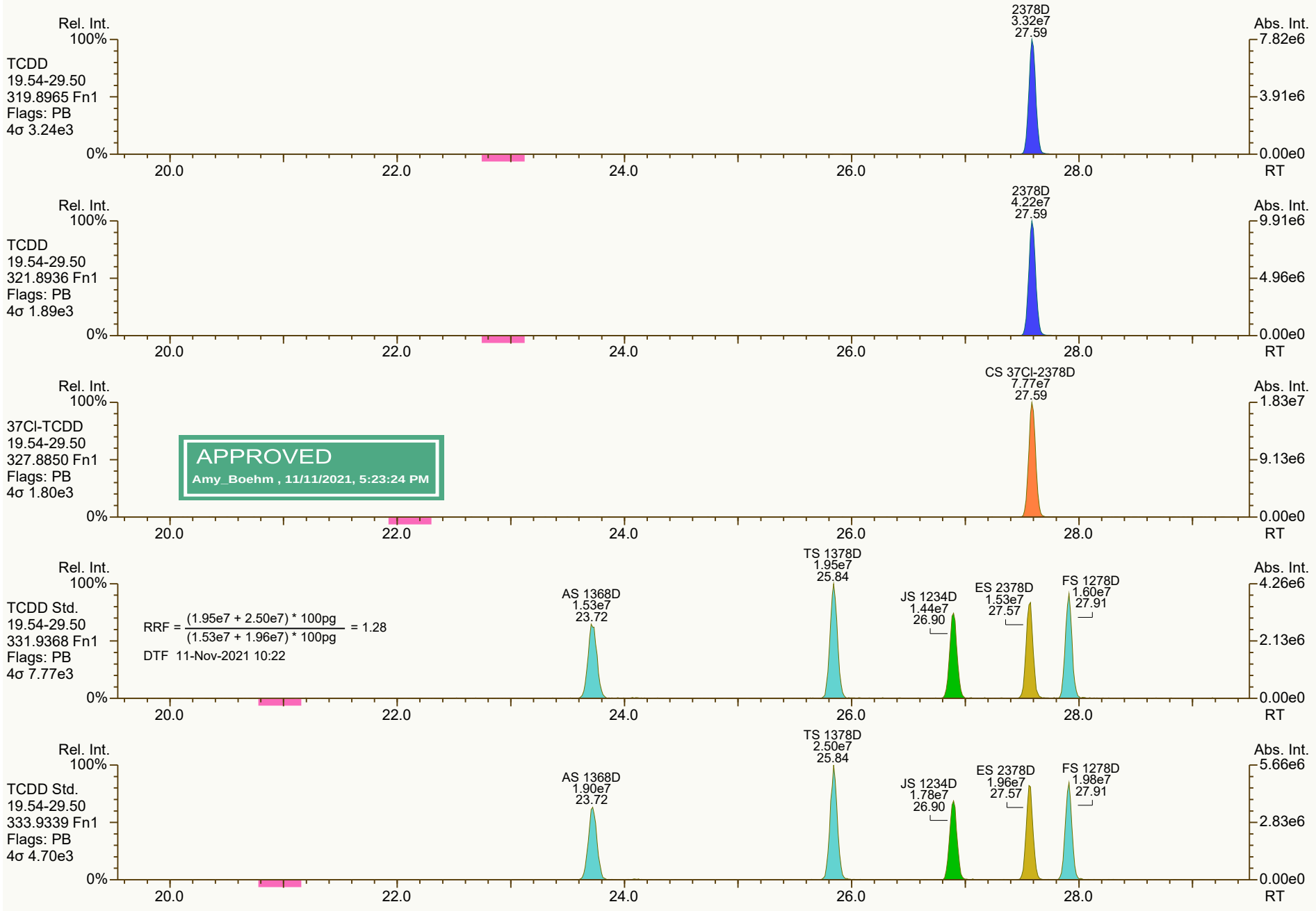

OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

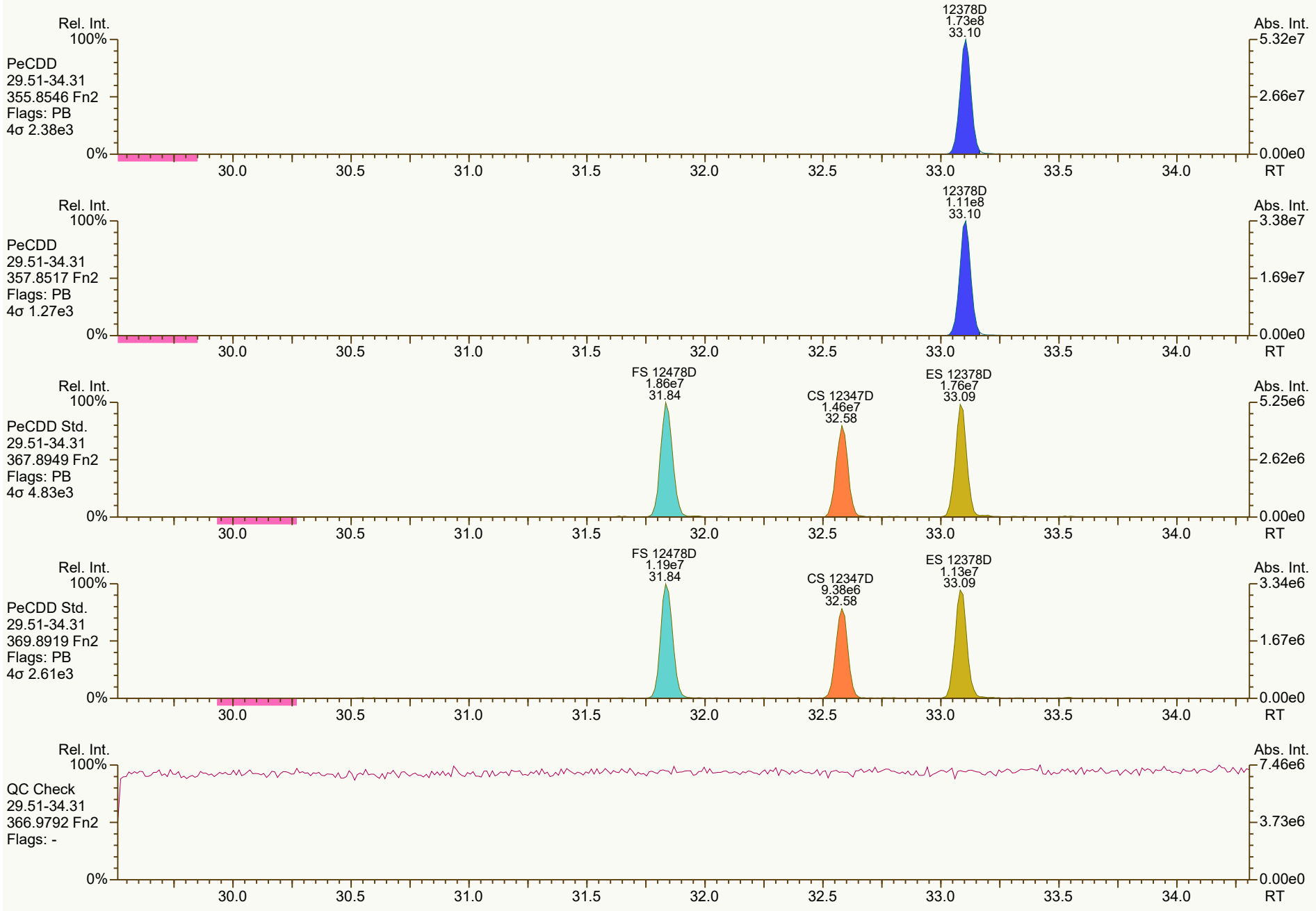
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:53 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS5_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 573-489-BMZ	
Sample ID: 25-5-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C09	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

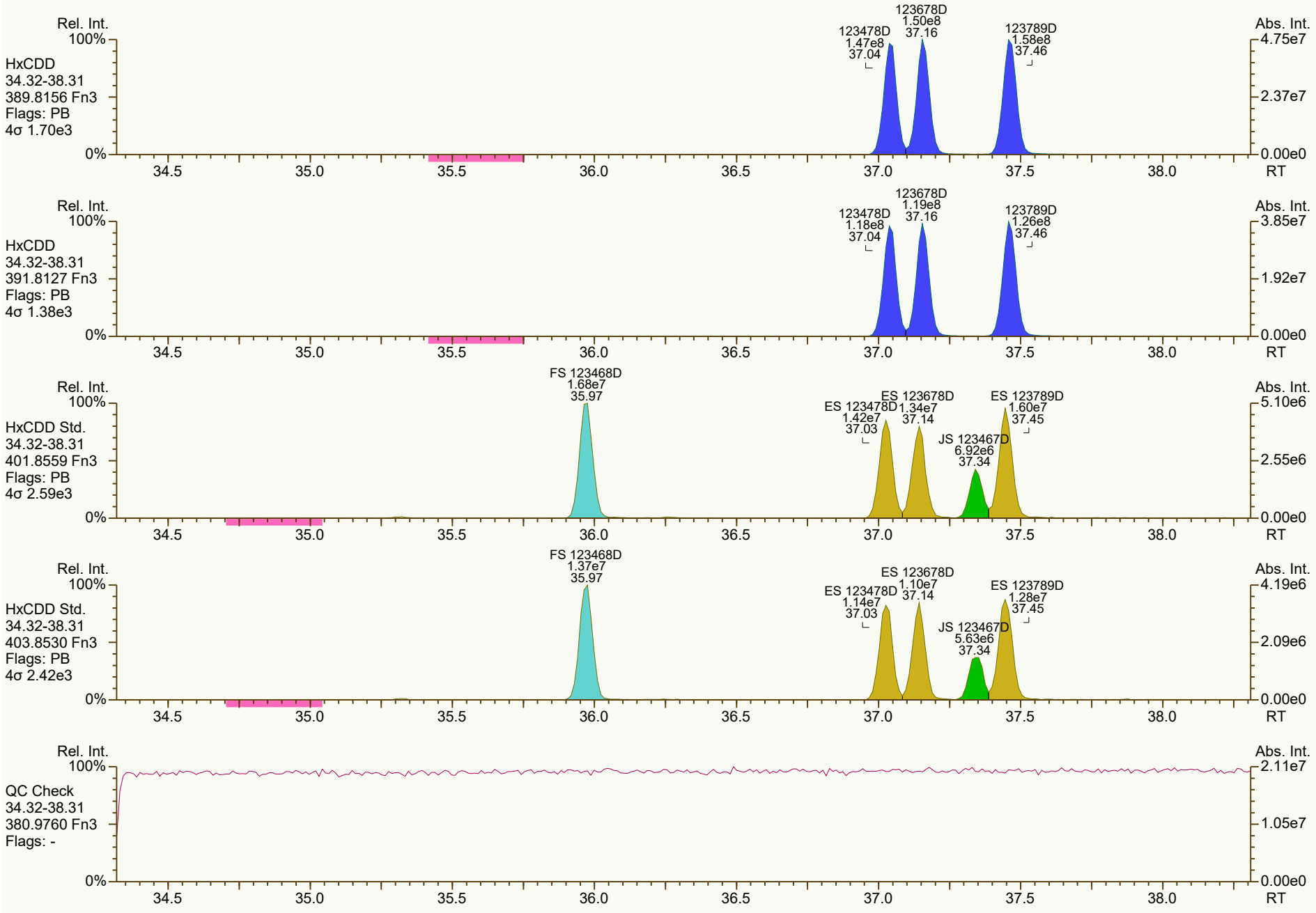
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

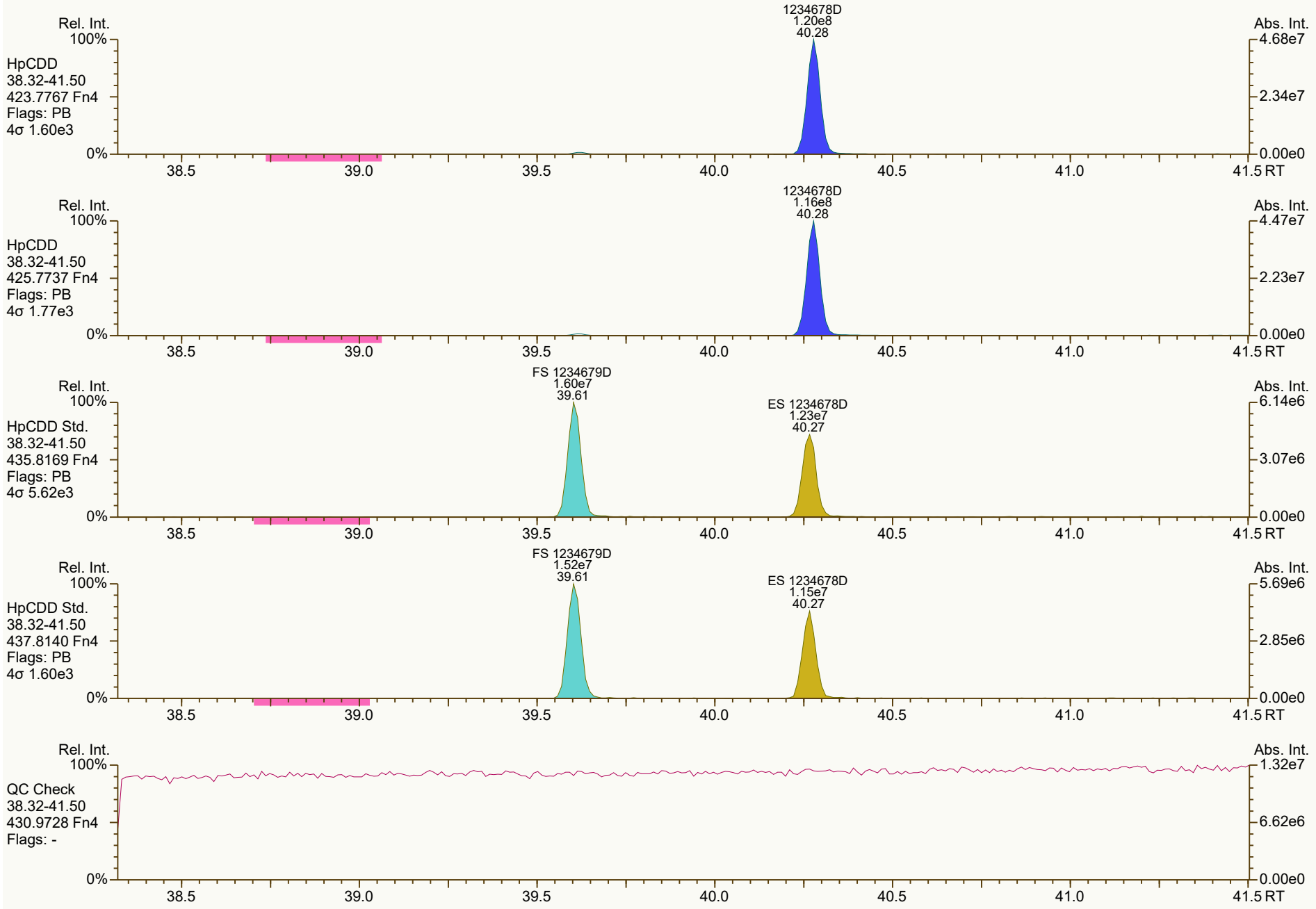
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

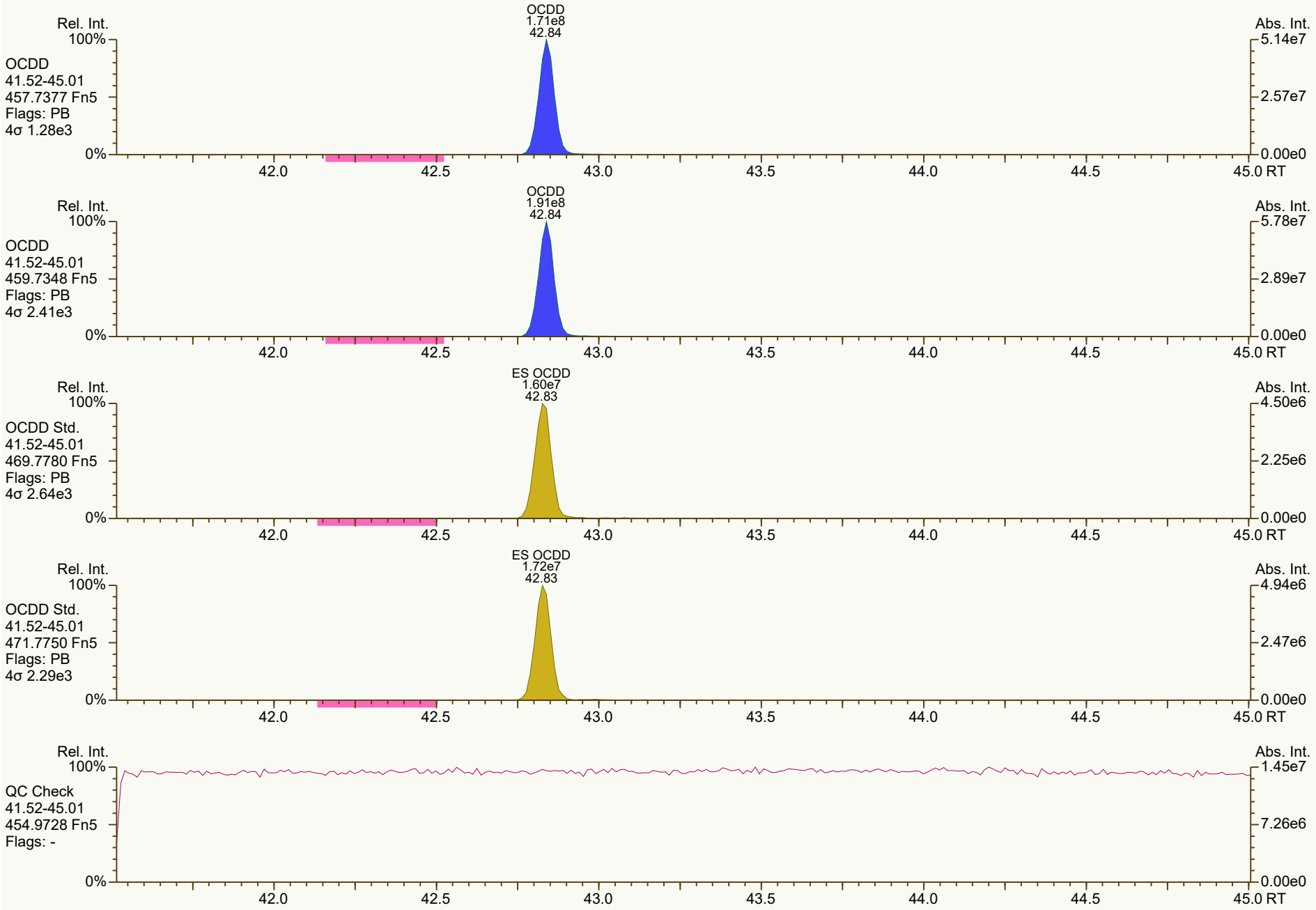

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.11e7
1.05e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.32e7
6.62e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.45e7
7.26e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
2378D
4.22e7
27.59
9.91e6
4.96e6
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
1.83e7
9.13e6
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
4.26e6
2.13e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
5.66e6
2.83e6


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
0%
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
0%
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
0%
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
0%
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

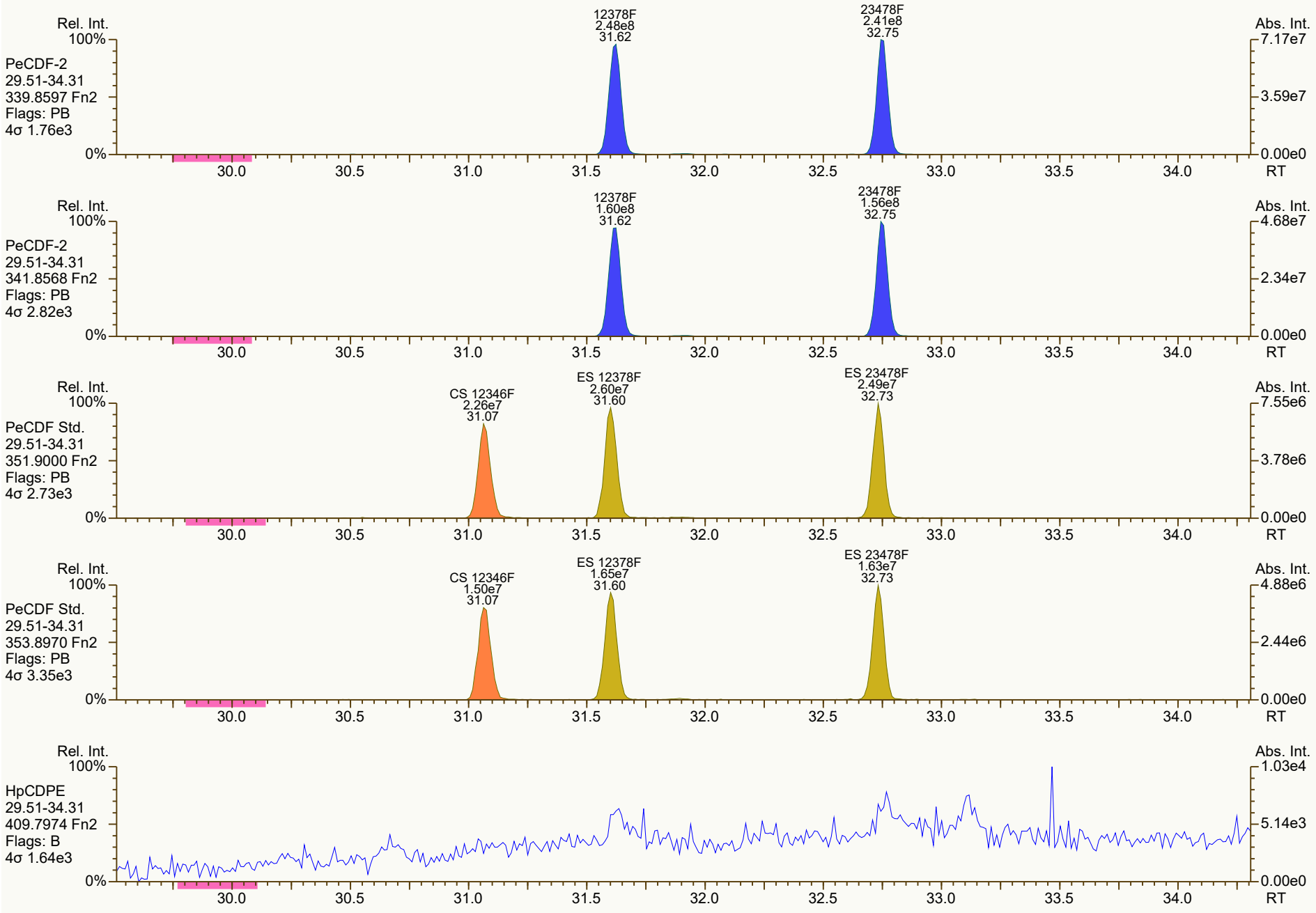

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

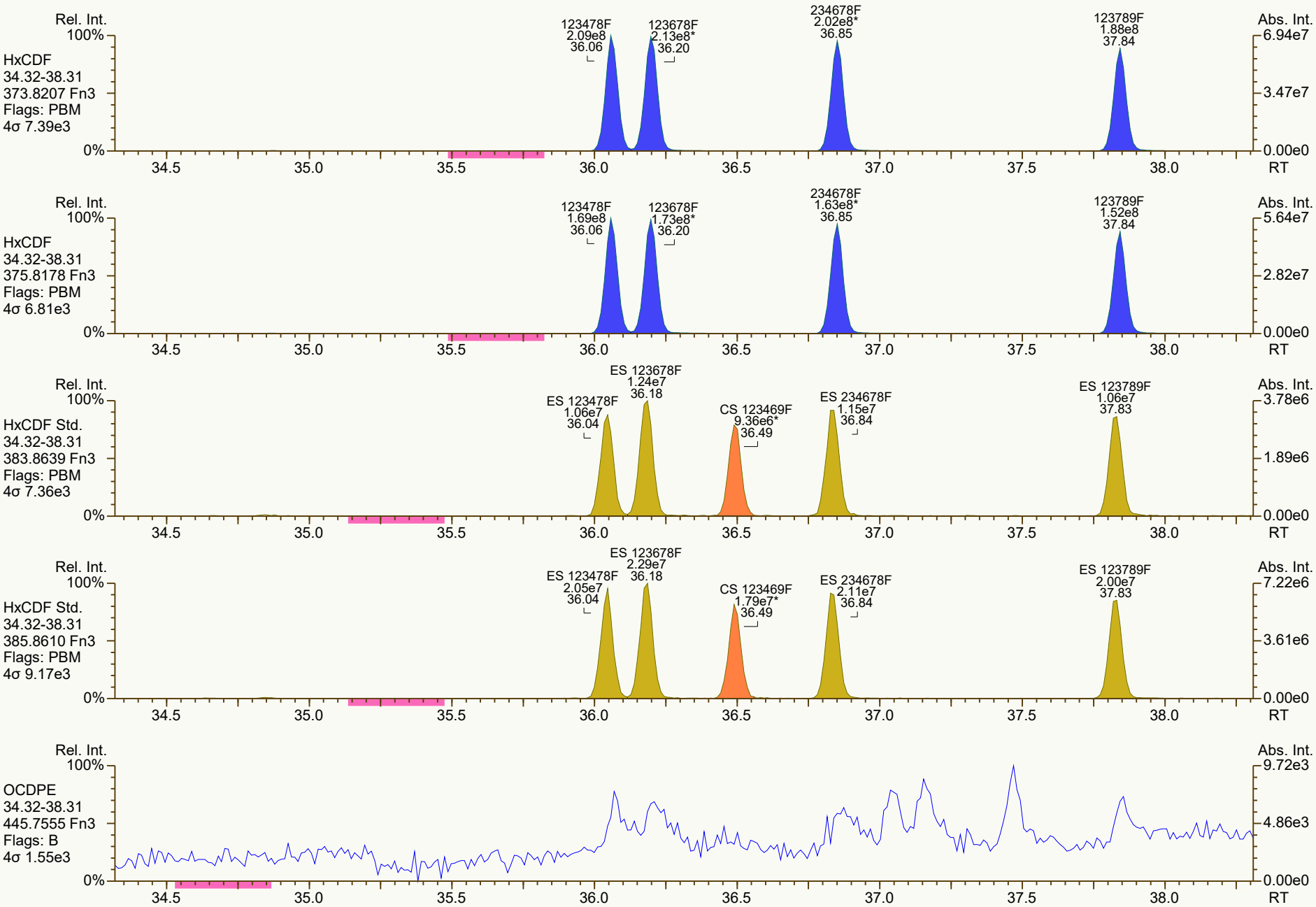

Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
0%
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
0%
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
0%
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
0%
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.03e4
5.14e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

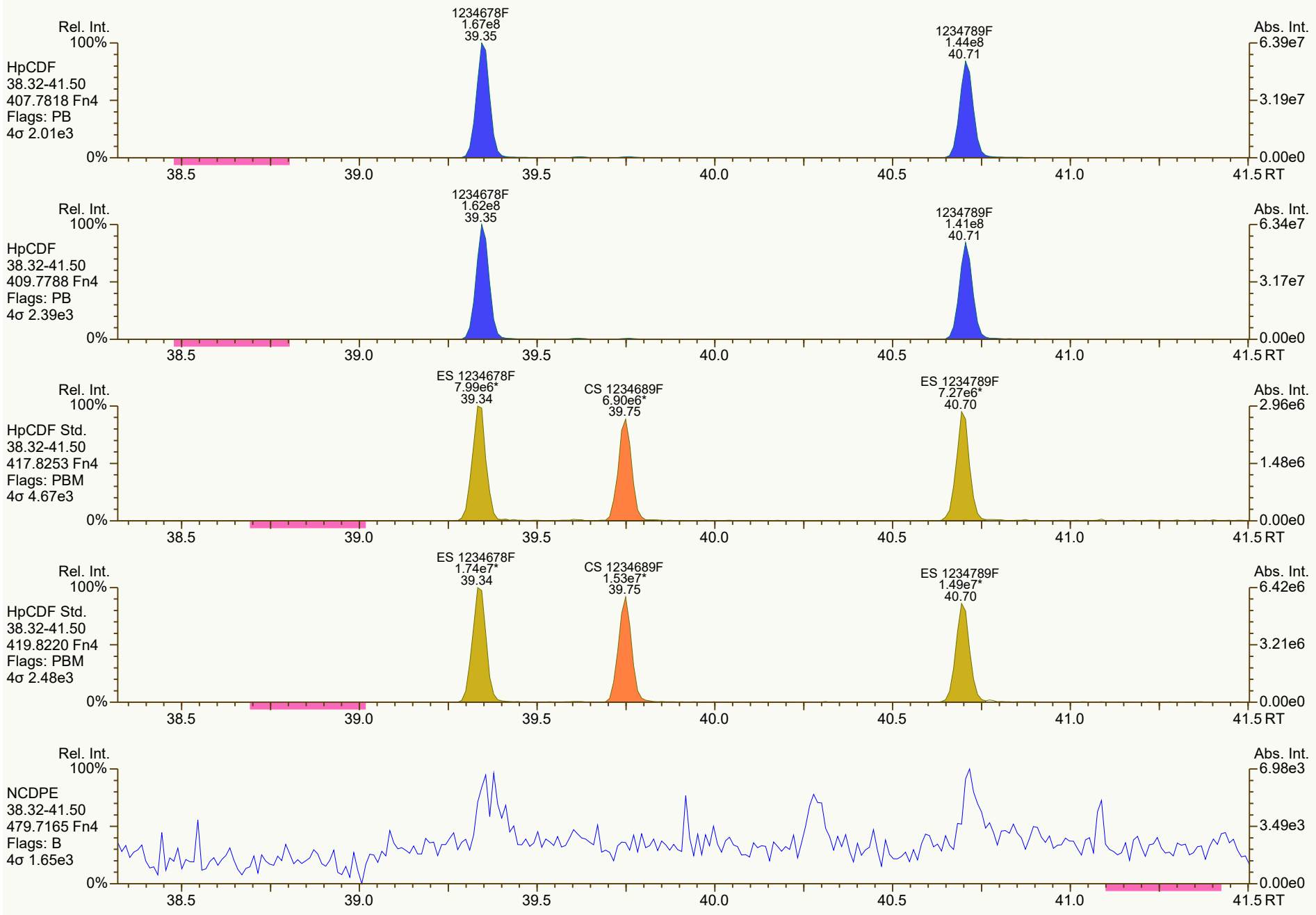
SGS ID: CS5_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

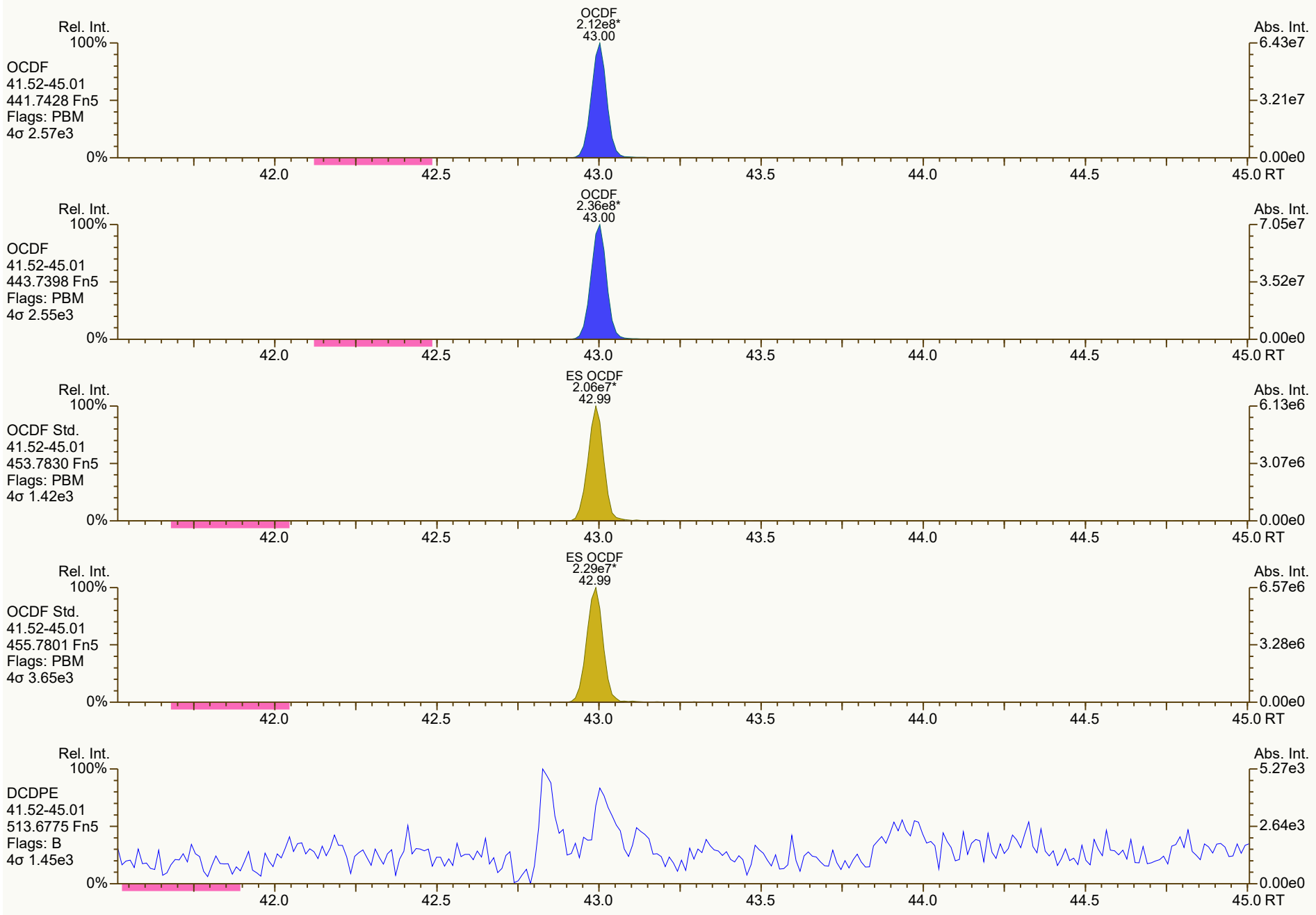
Sample ID: 25-5-3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70

Acq: 10-Nov-2021 14:53:51
User: DTF Datafile: 211110C09



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 7902, 6877, 1014 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 10 of 12

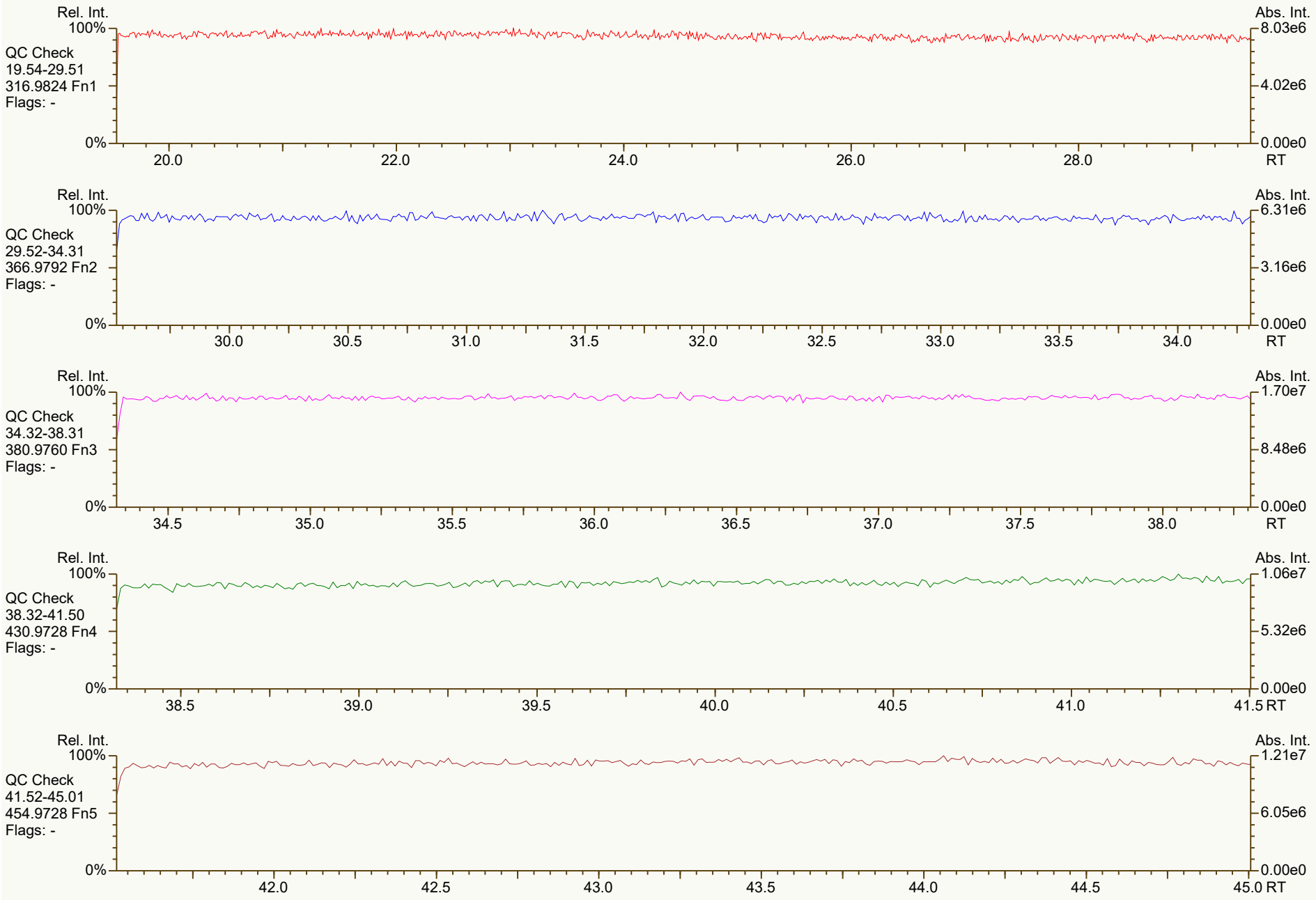

Rel. Int.
100%
0%
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

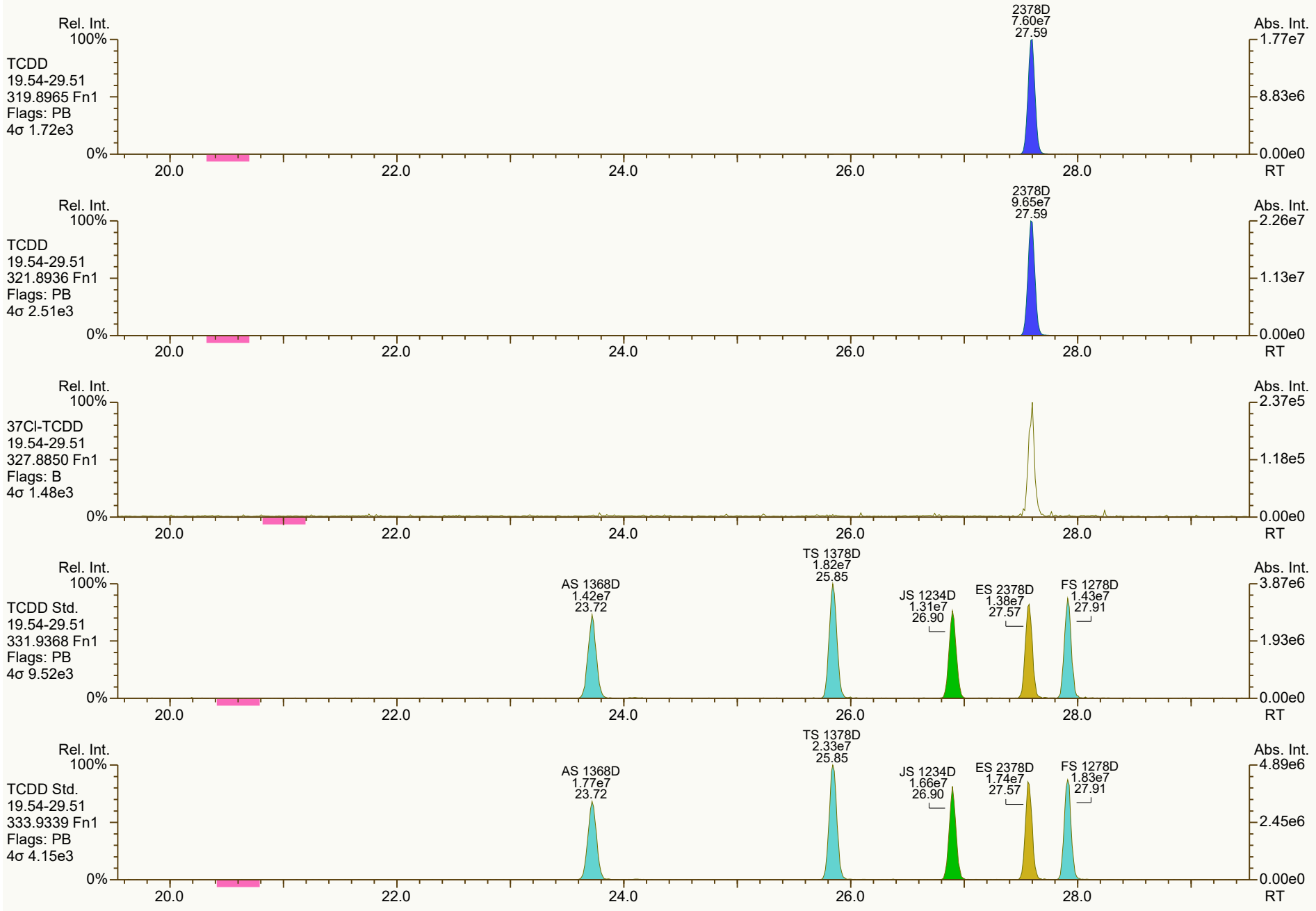

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

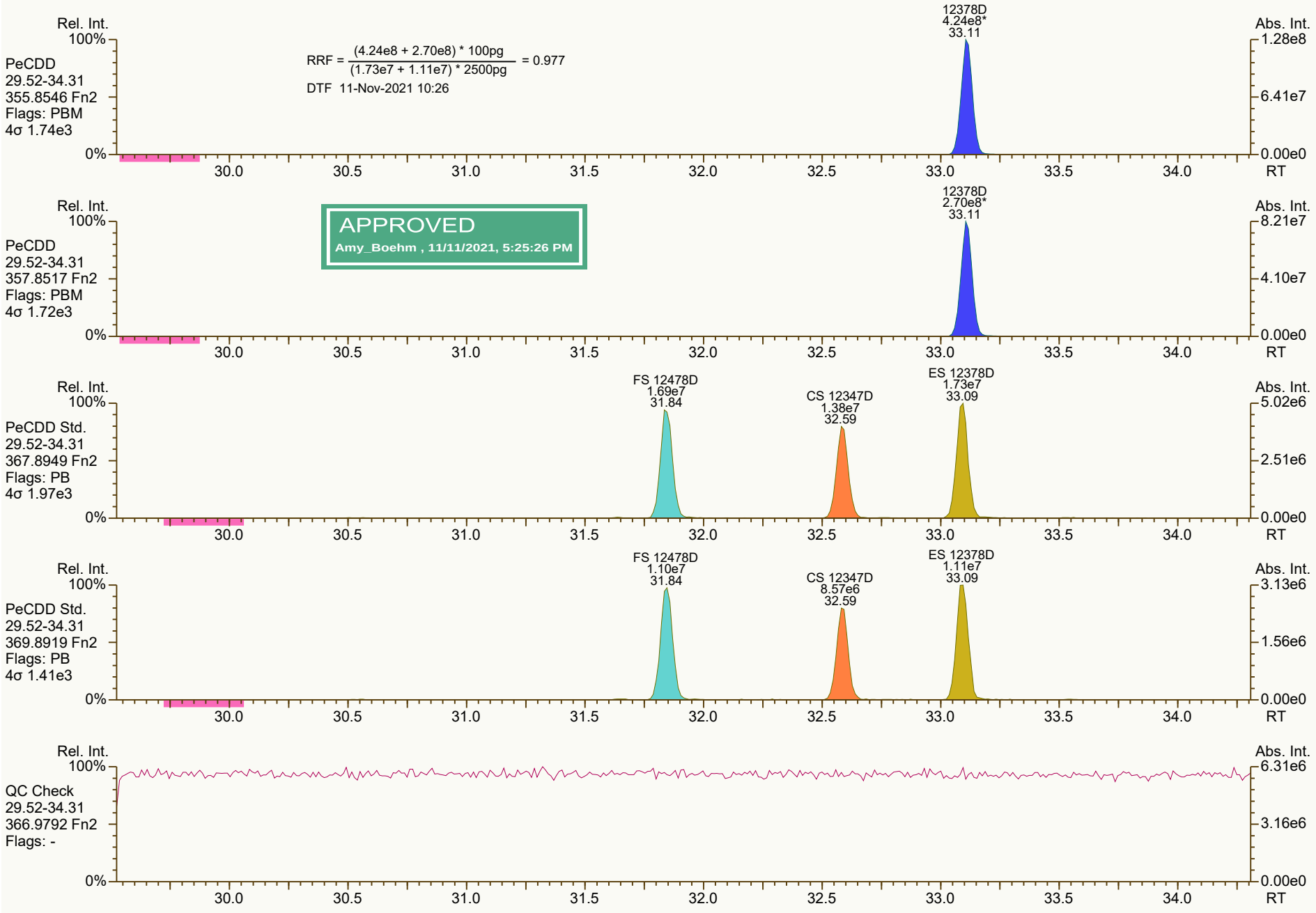
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

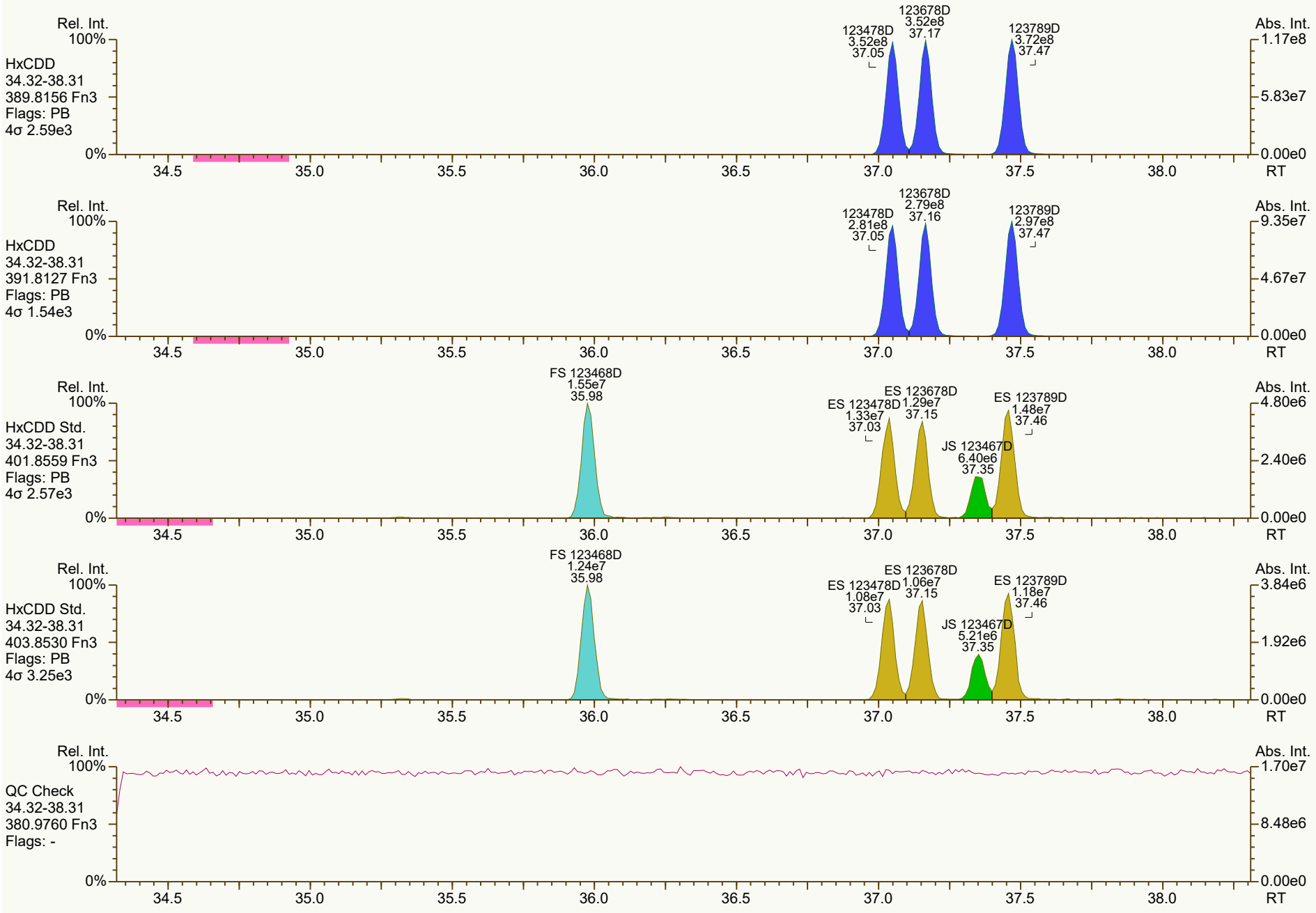
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

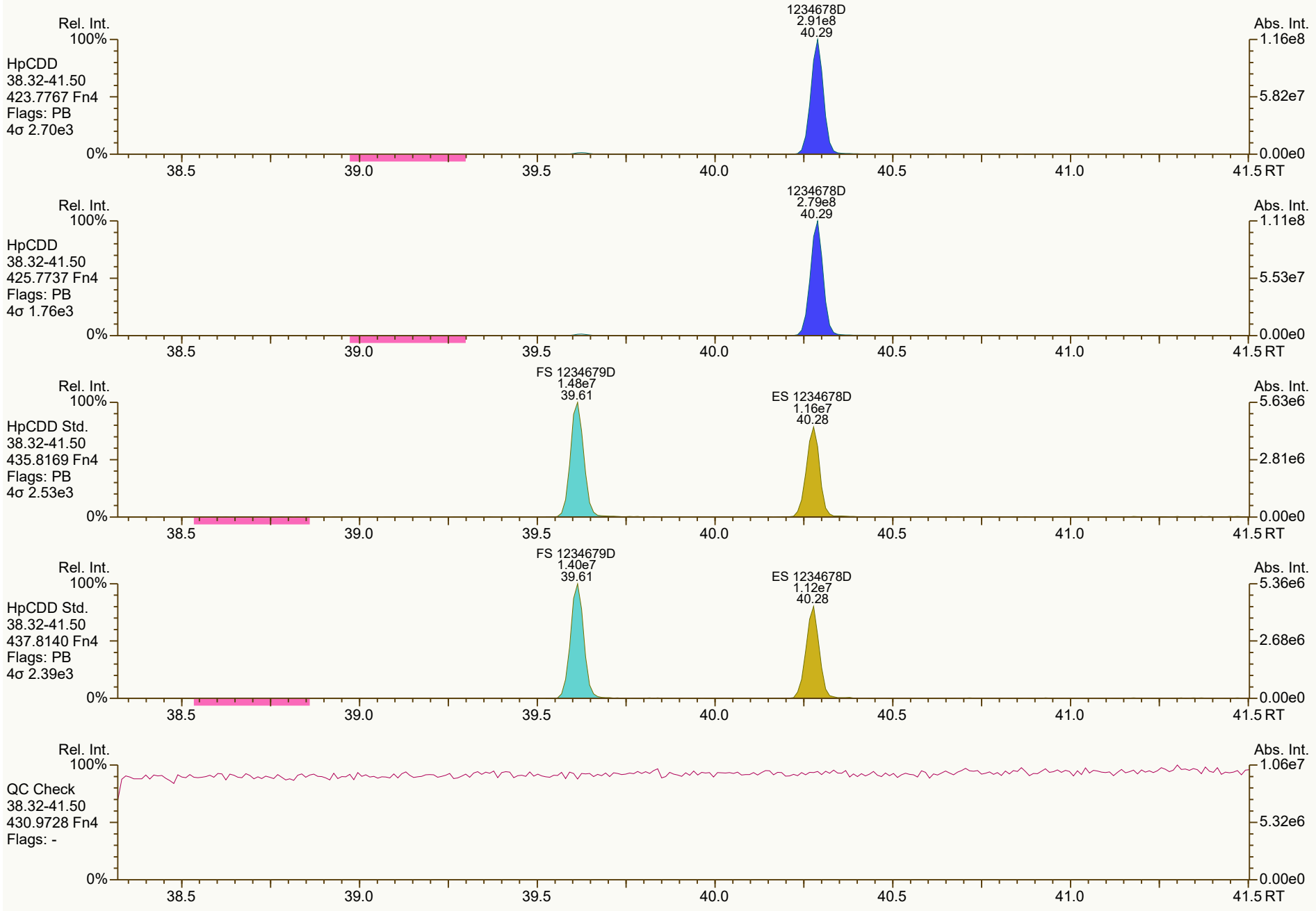
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 15:40 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS6_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 172-736-WQL	
Sample ID: 25-5-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C10	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

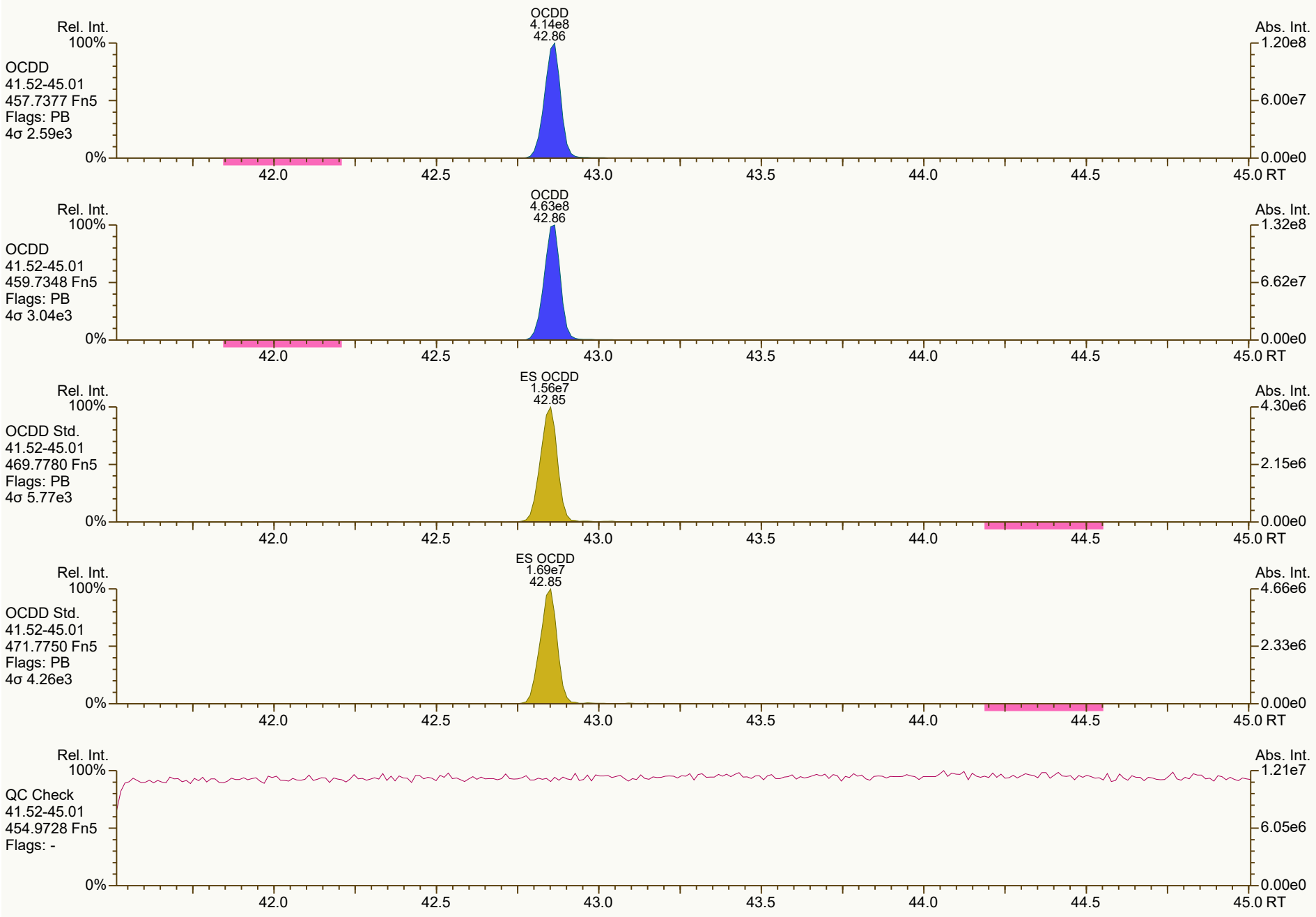

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
0%
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
0%
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.31e6
3.16e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

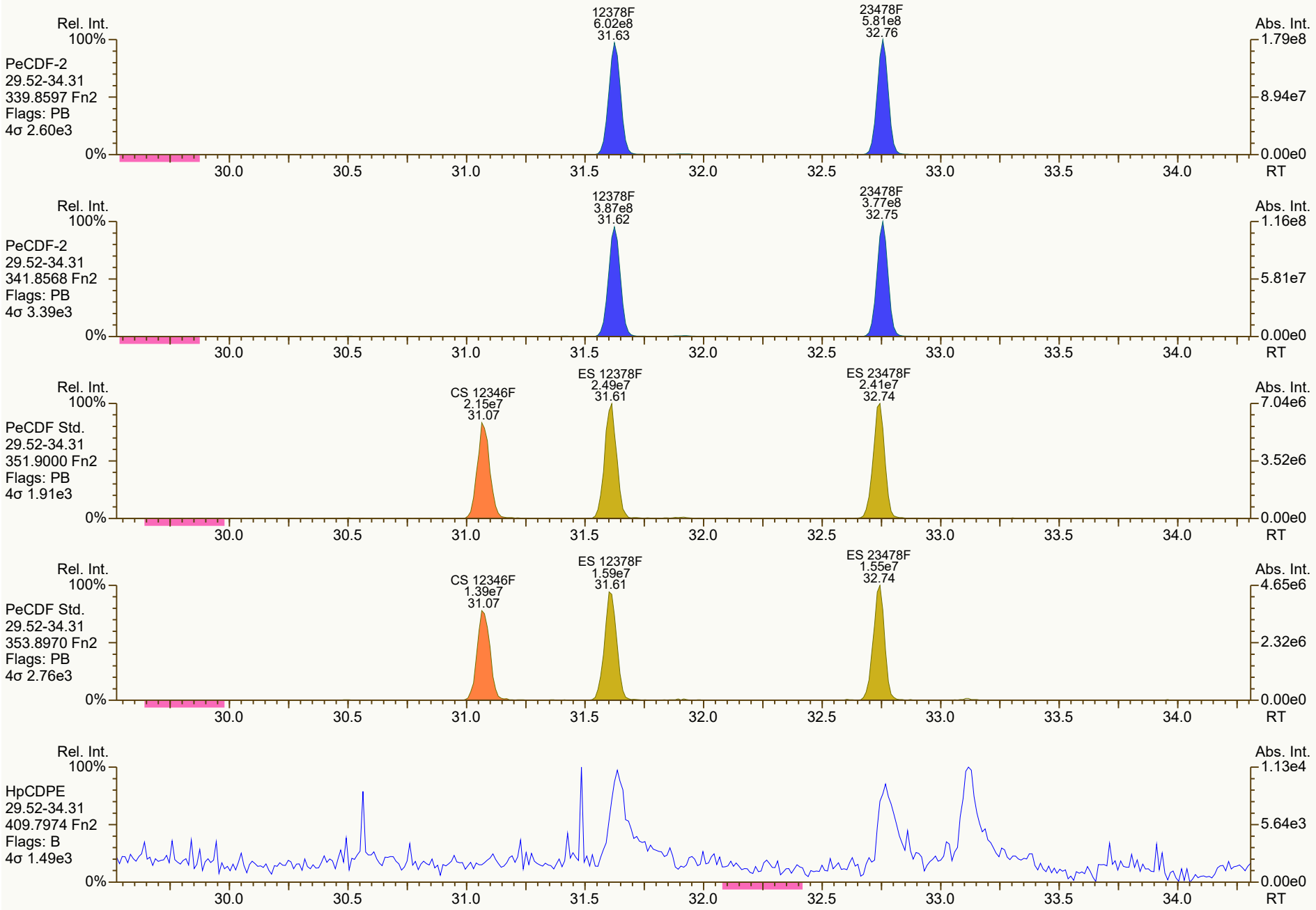

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
0%
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
0%
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
0%
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
0%
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.70e7
8.48e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

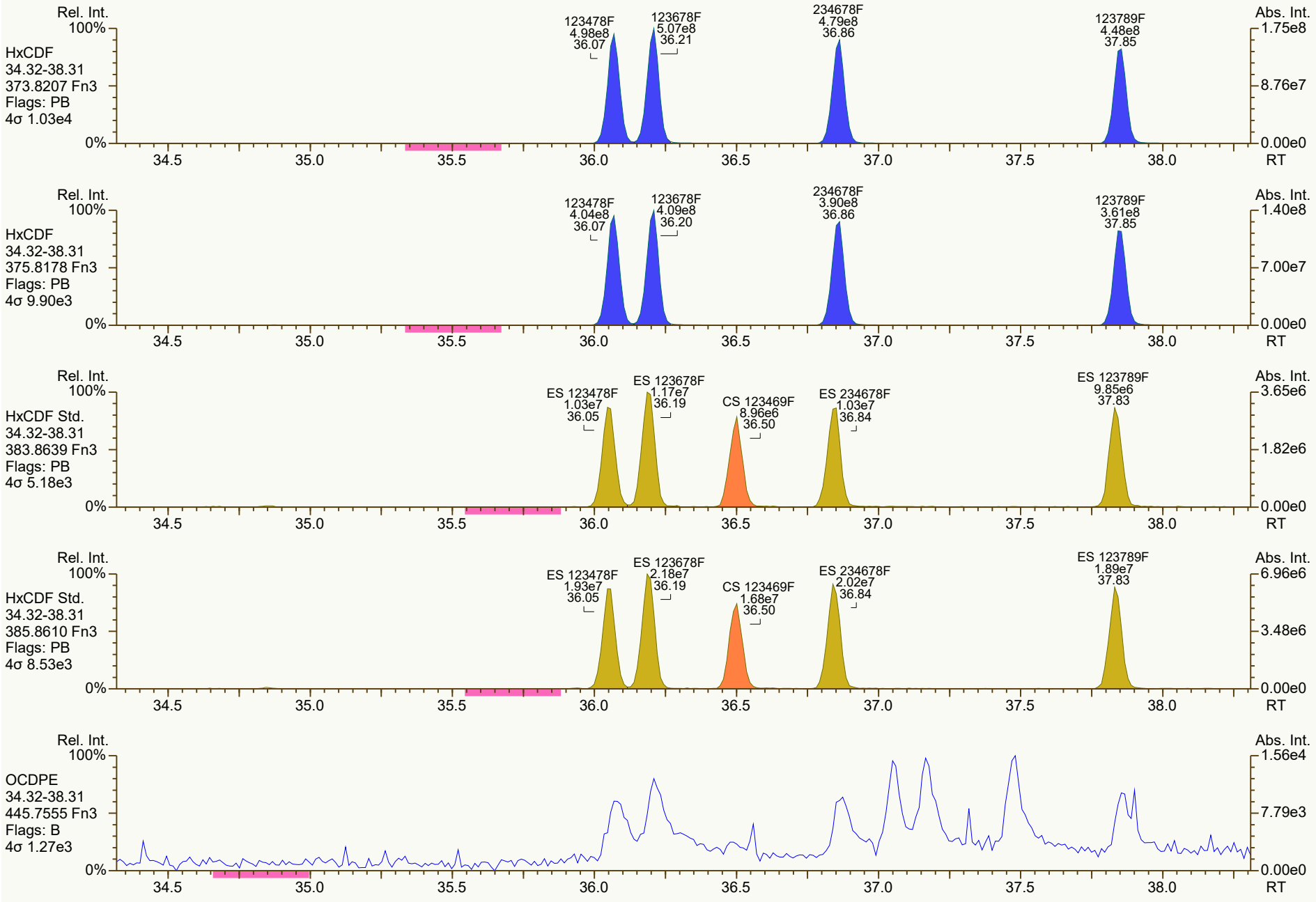

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

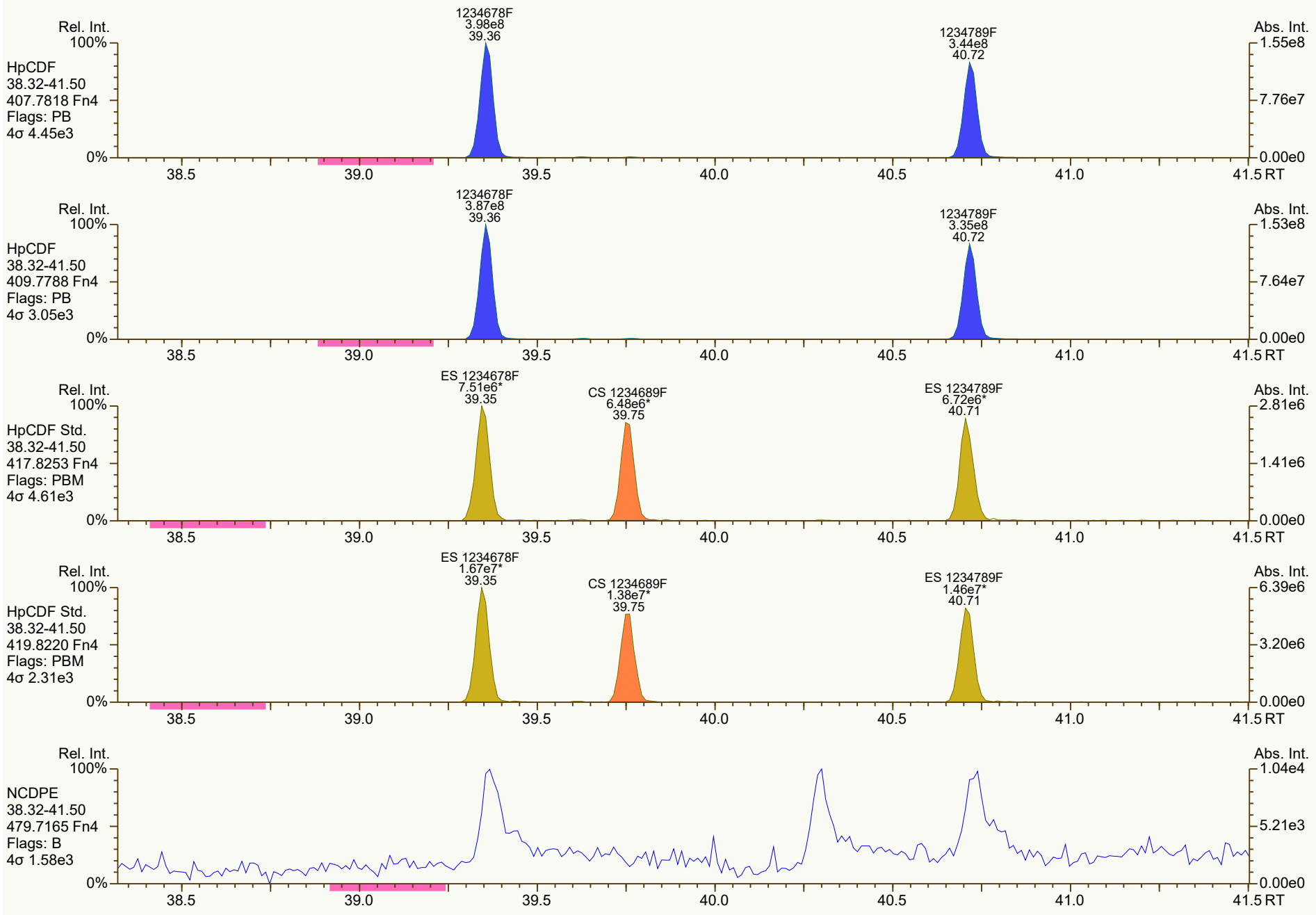

OCDD
4.14e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.63e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.56e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.69e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

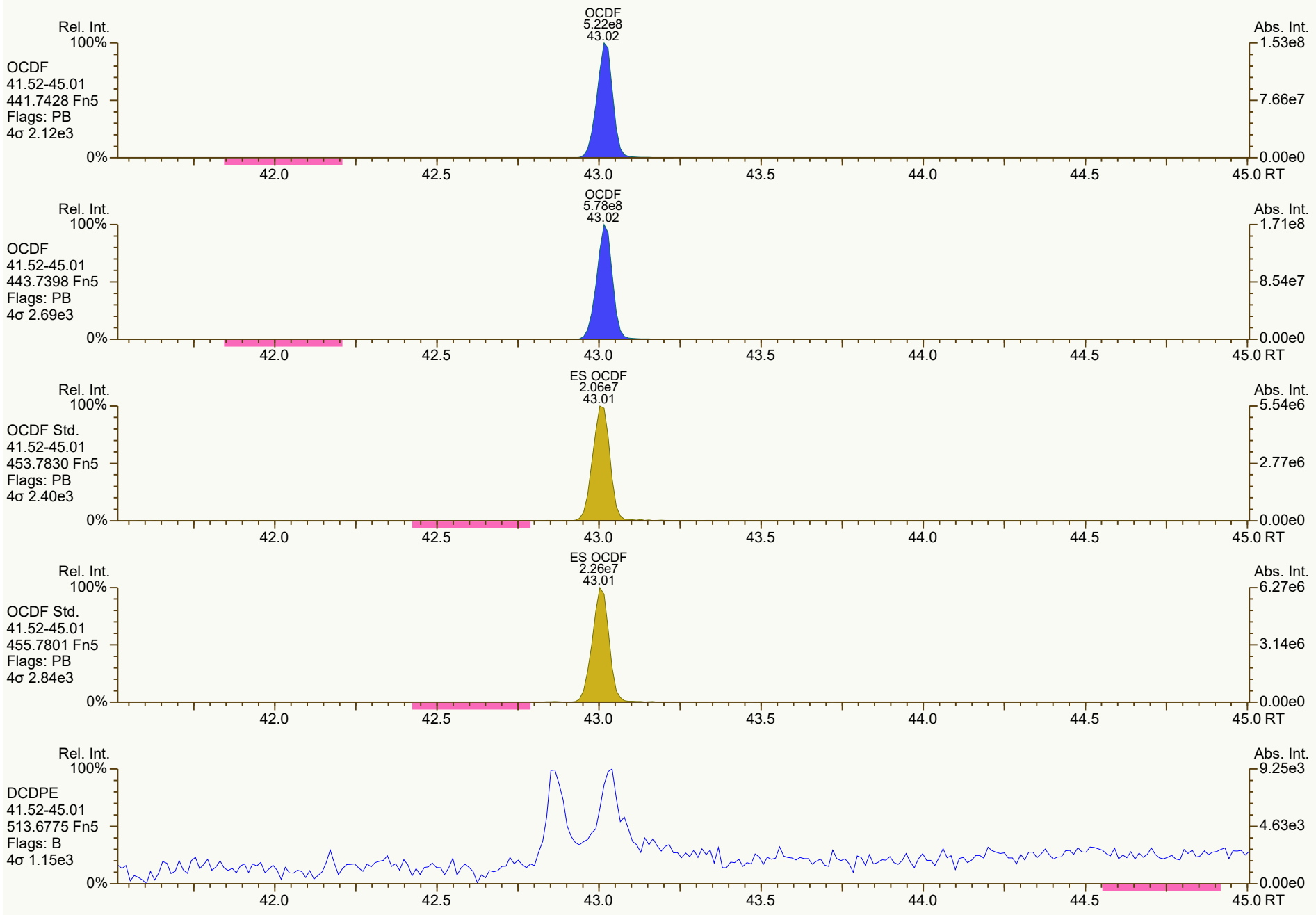

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

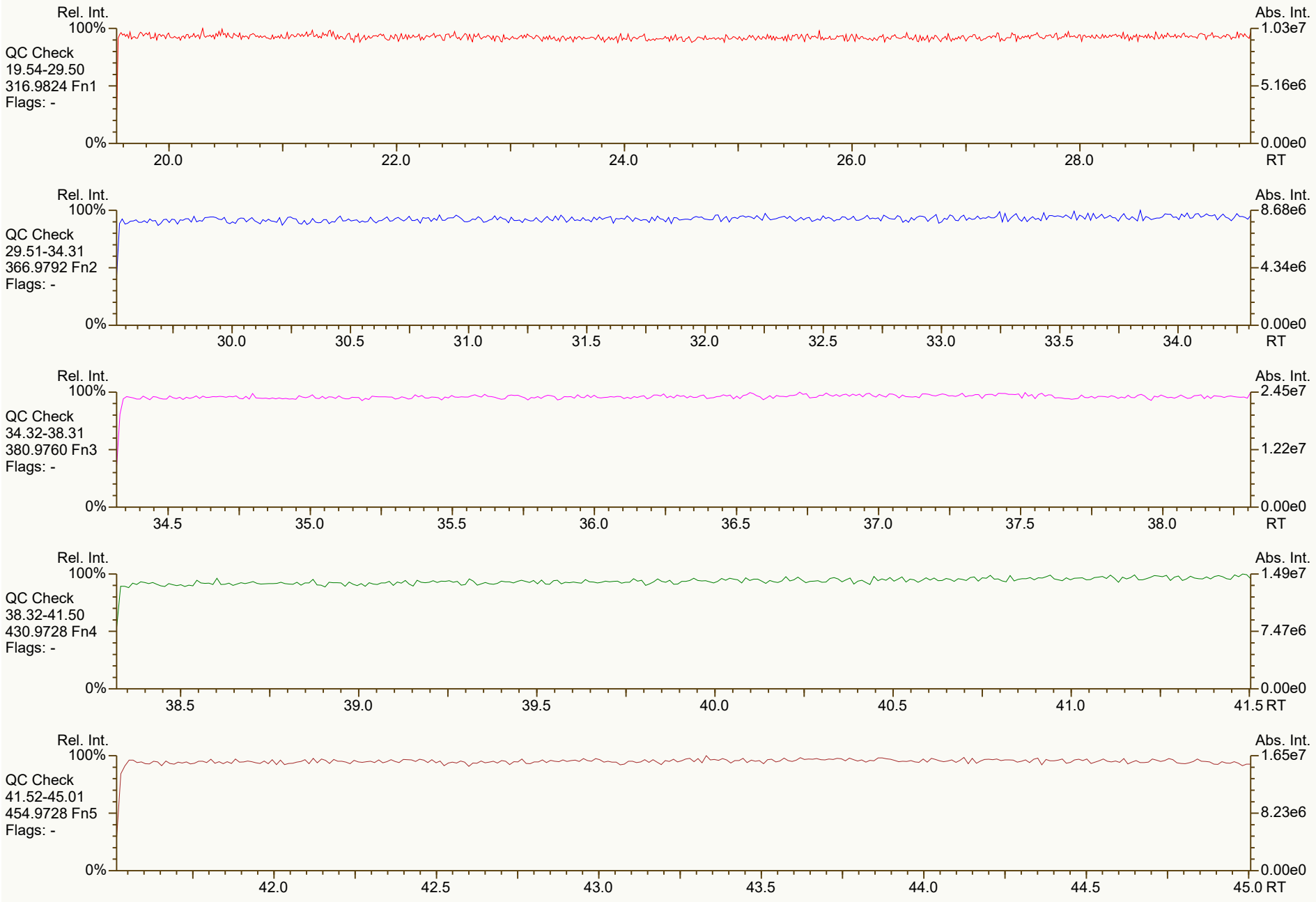

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
Abs. Int.
1.13e4
5.64e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.65e7
8.23e6
0.00e0

SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

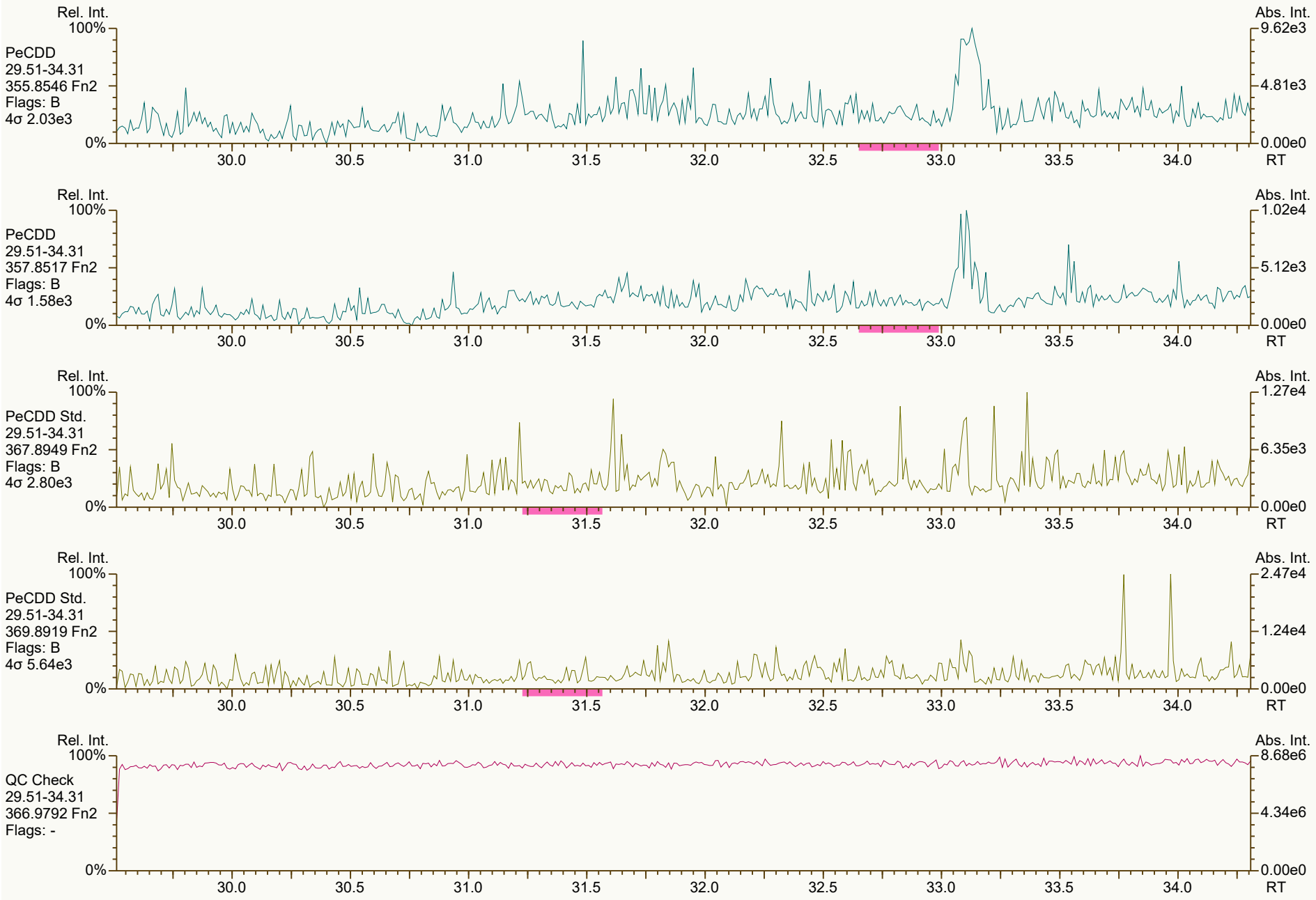
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF) *Peak annotation: Areas, Centroids*

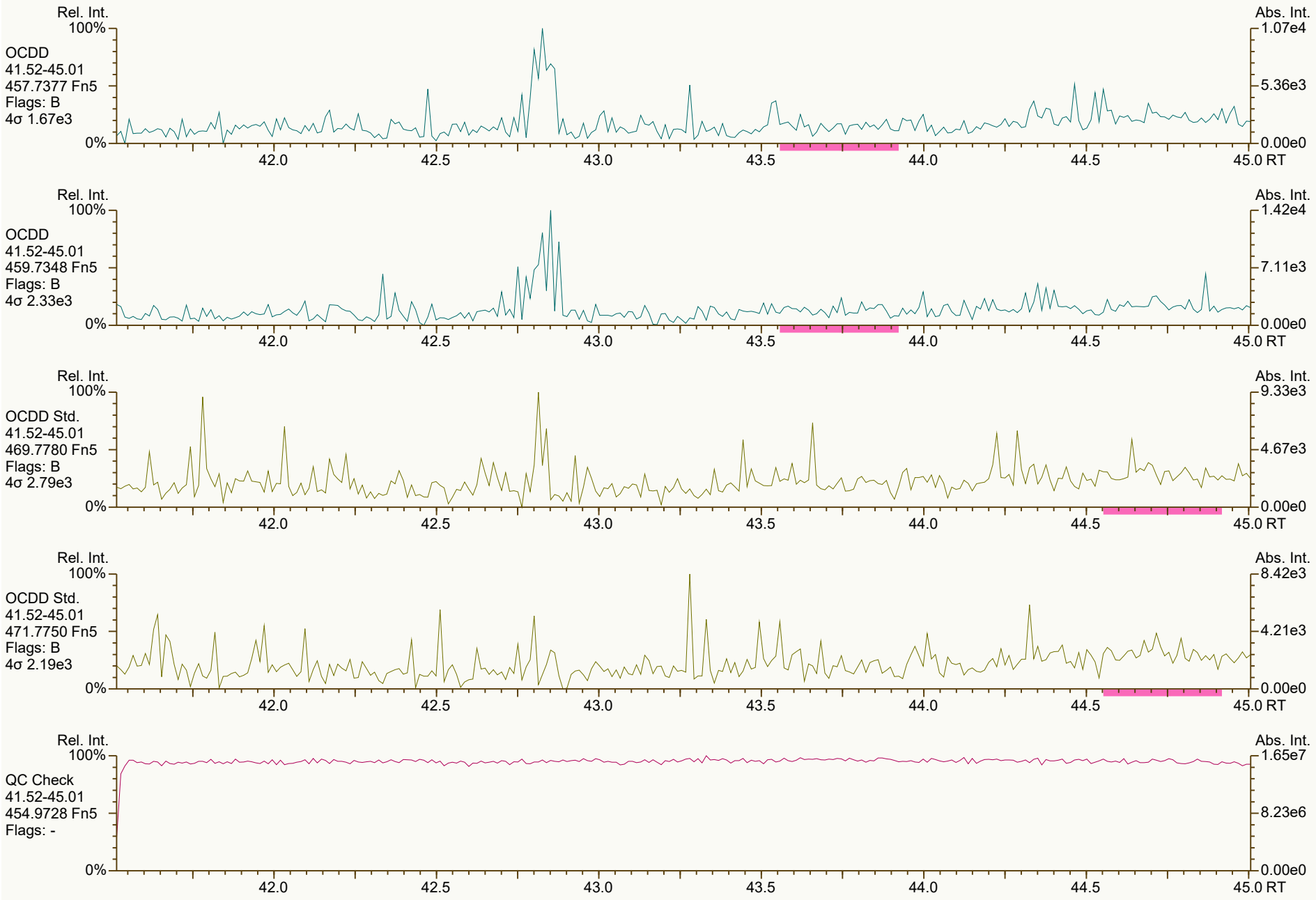
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1*


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

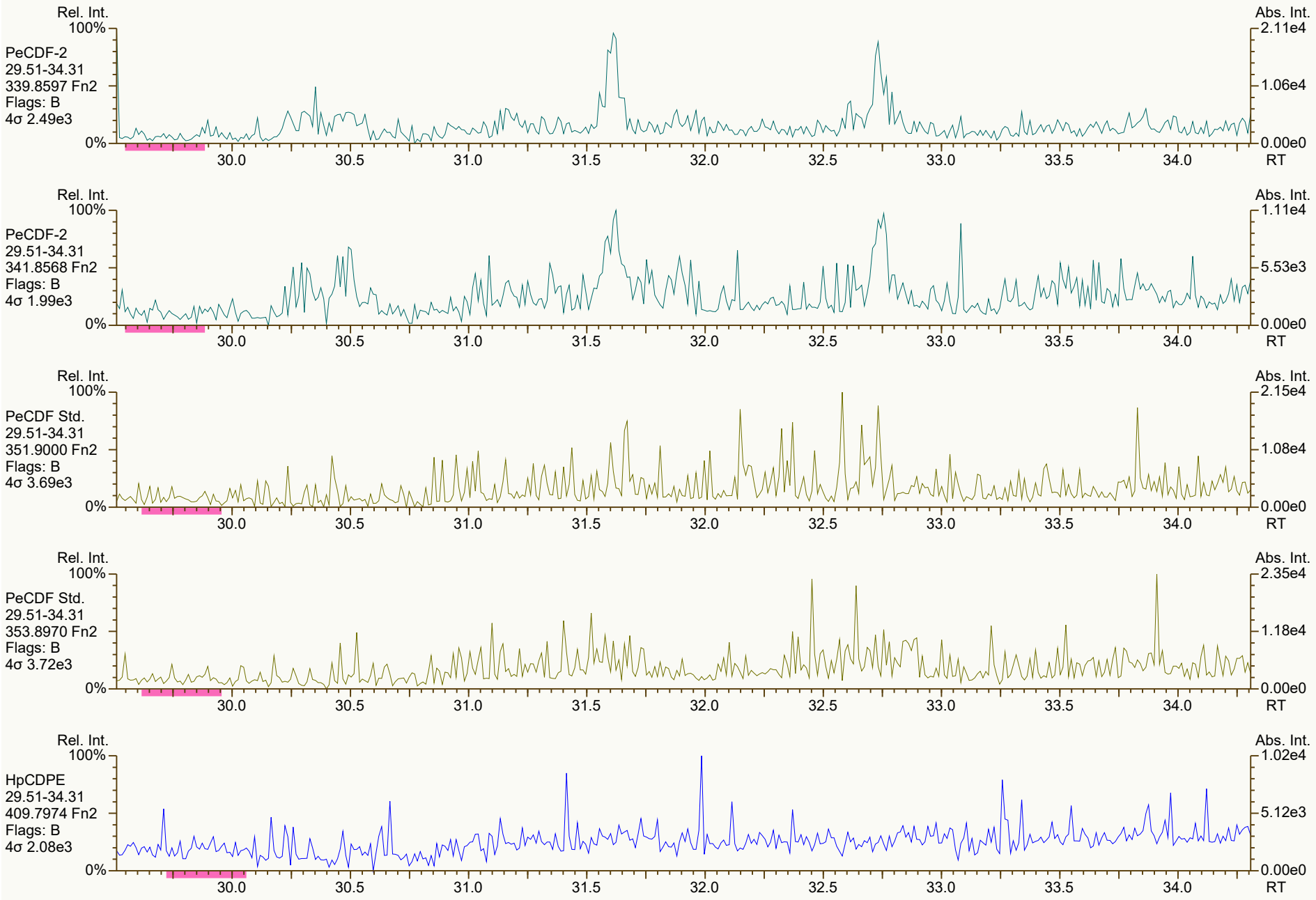

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
RT

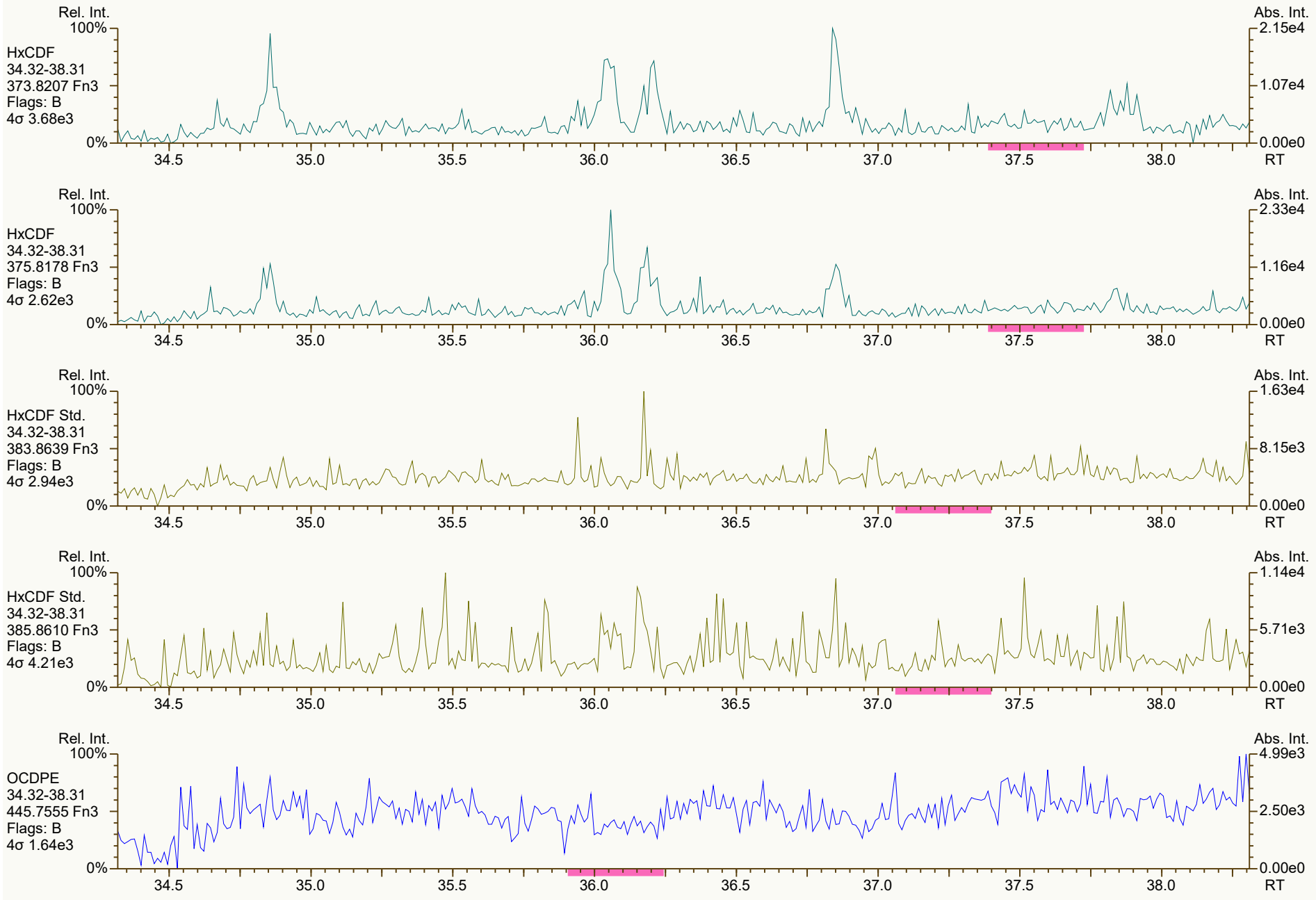

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


2468F
3.48e5*
22.78
Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
7.07e4
3.53e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
2468F
5.04e5*
22.78
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
1.06e5
5.32e4
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
5.11e4
2.56e4
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
2.83e4
1.42e4
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
9.47e3
4.73e3


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

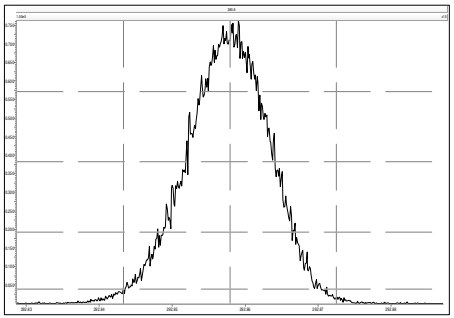

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

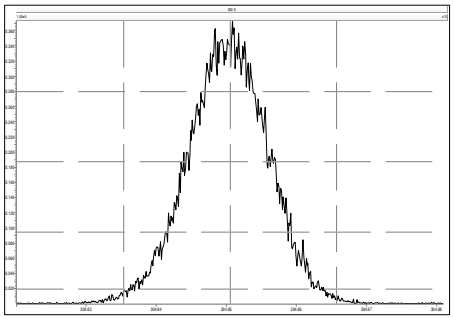
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

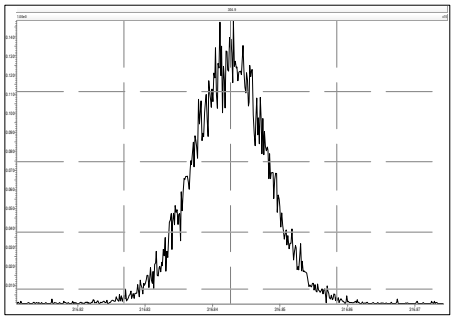
M 292.9824 R 10731



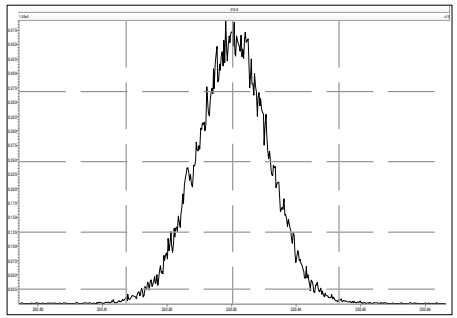
M 304.9824 R 11311



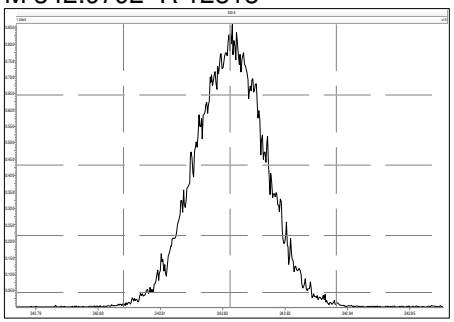
M 316.9824 R 12373



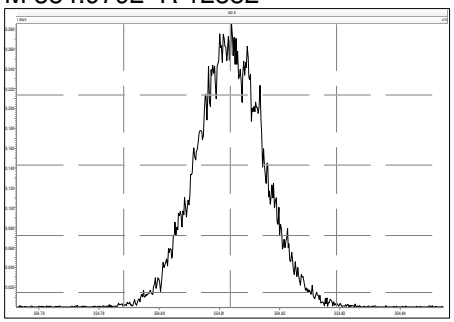
M 330.9792 R 12887



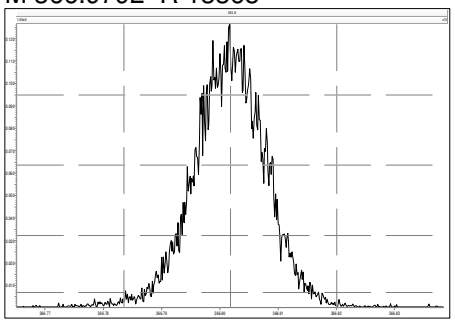
M 342.9792 R 12818



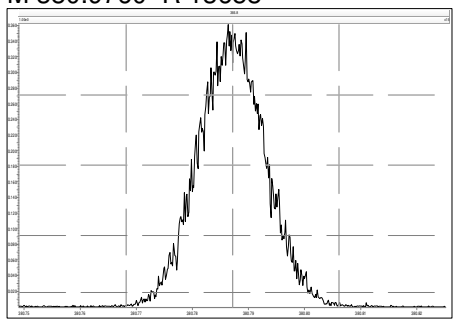
M 354.9792 R 12882



M 366.9792 R 13368



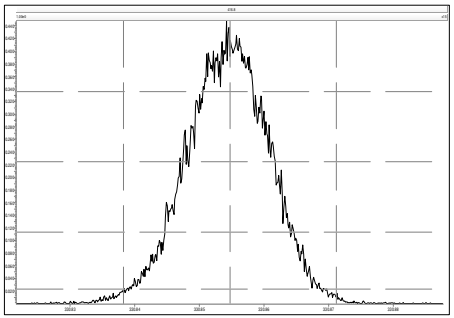
M 380.9760 R 13658



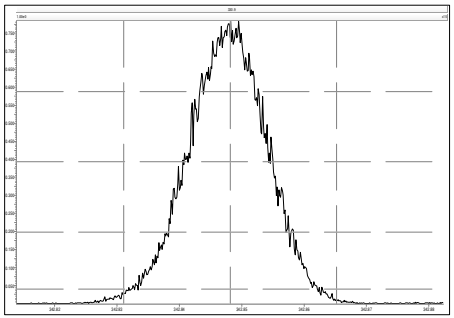
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

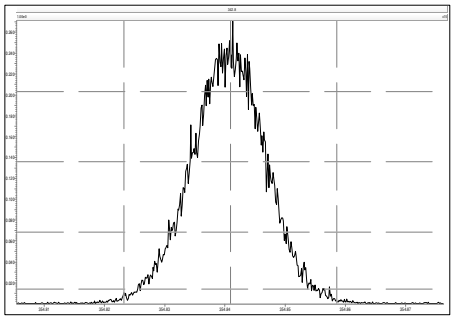
M 330.9792 R 11112



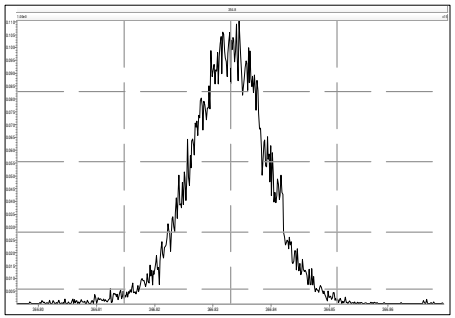
M 342.9792 R 11909



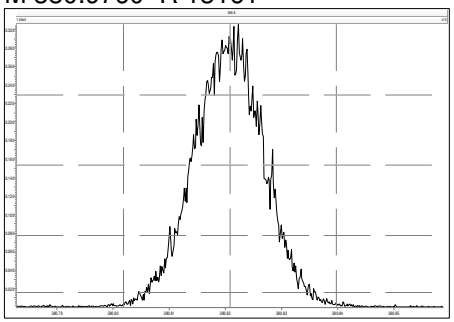
M 354.9792 R 11684



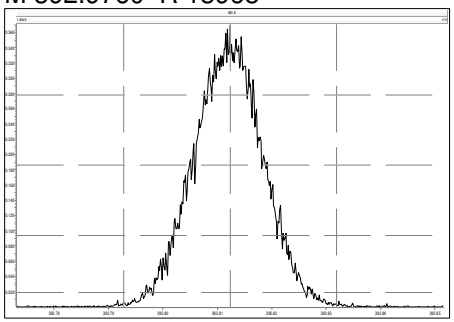
M 366.9792 R 11962



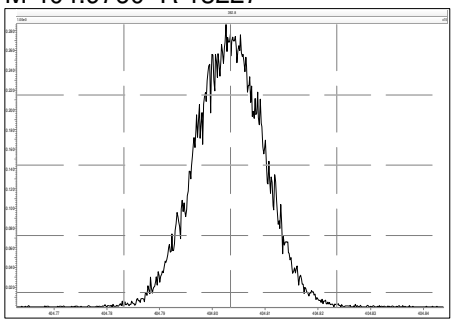
M 380.9760 R 13161



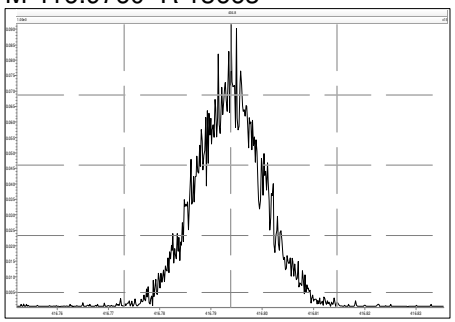
M 392.9760 R 13968



M 404.9760 R 13227



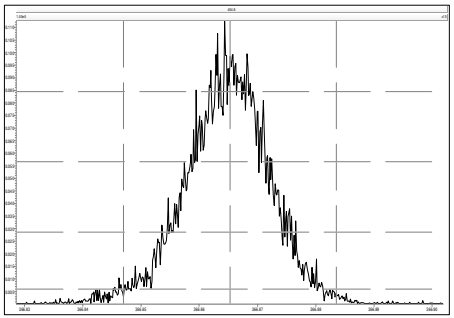
M 416.9760 R 13663



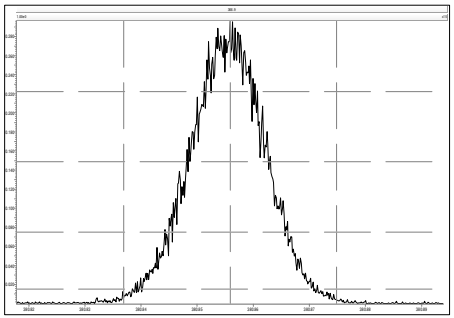
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

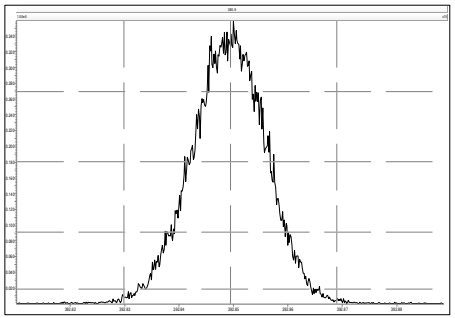
M 366.9792 R 10680



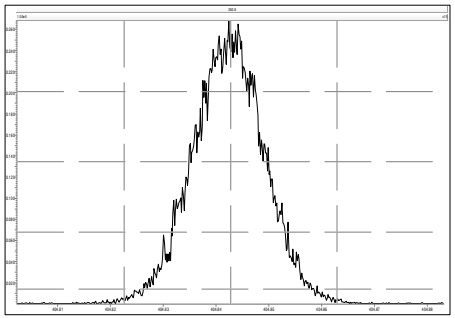
M 380.9760 R 12315



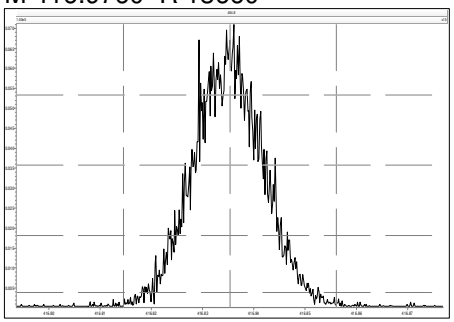
M 392.9760 R 12197



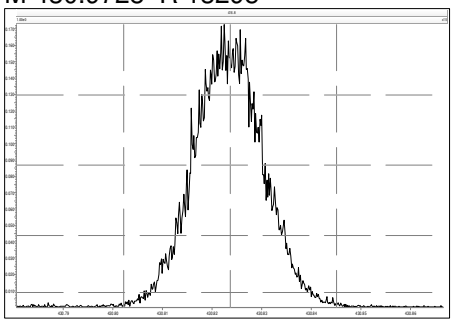
M 404.9760 R 12433



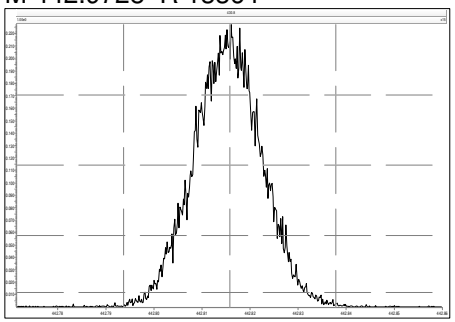
M 416.9760 R 13660



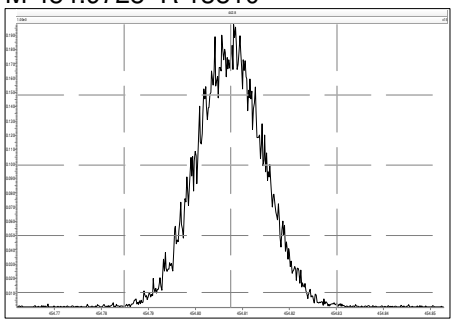
M 430.9728 R 13295



M 442.9728 R 13364



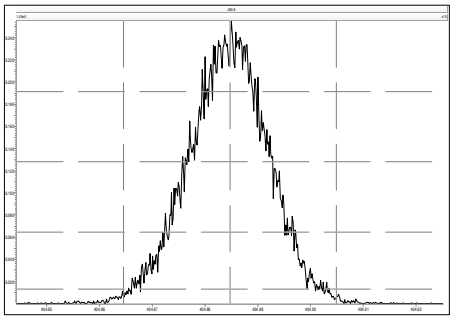
M 454.9728 R 13810



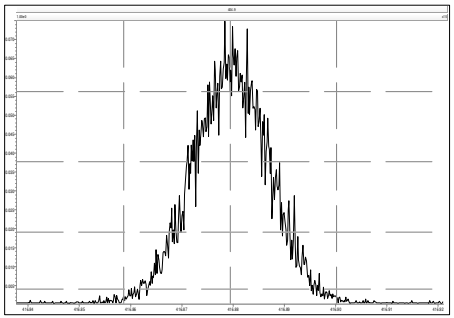
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

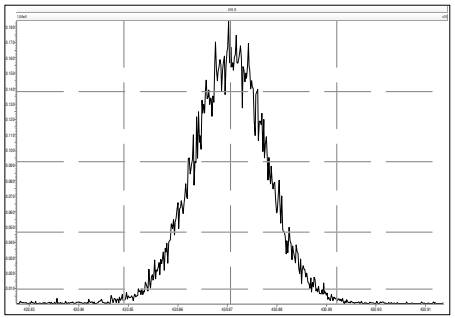
M 404.9760 R 11679



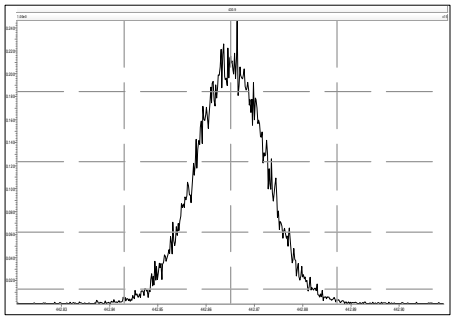
M 416.9760 R 12886



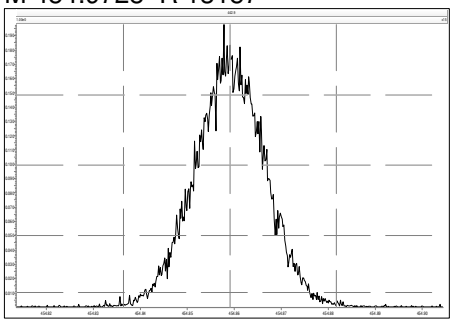
M 430.9728 R 12253



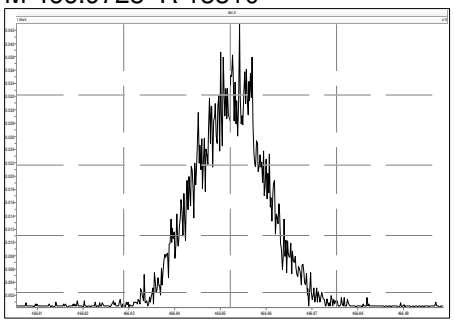
M 442.9728 R 12756



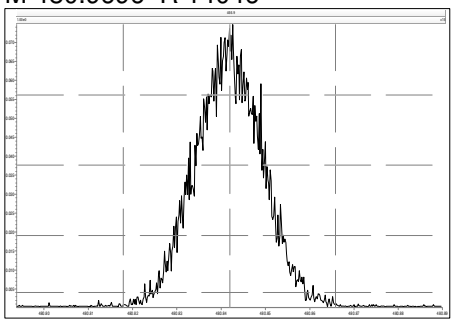
M 454.9728 R 13157



M 466.9728 R 13810



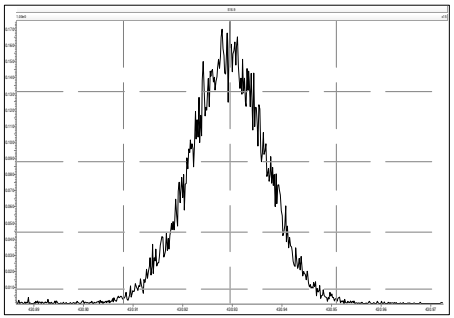
M 480.9696 R 14046



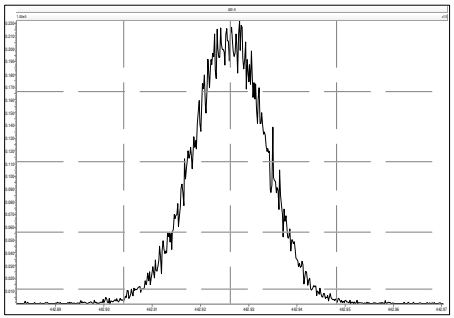
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

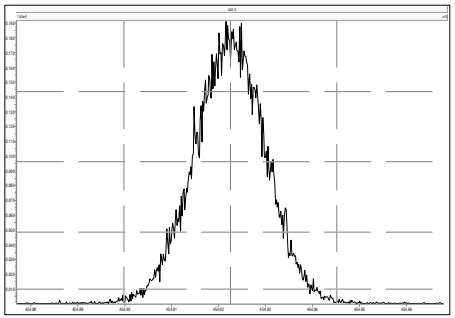
M 430.9728 R 11574



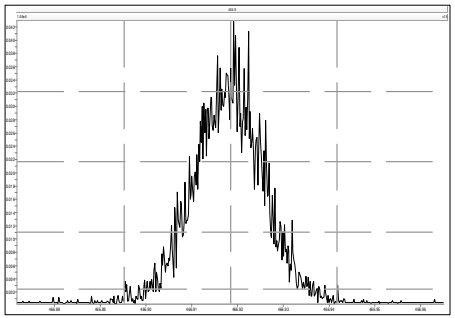
M 442.9728 R 12198



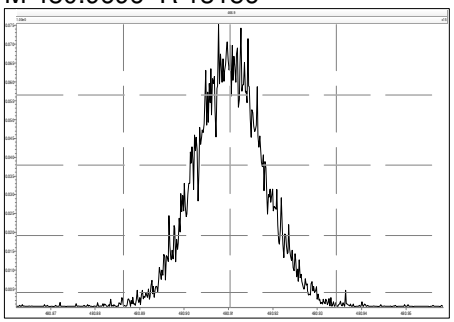
M 454.9728 R 12950



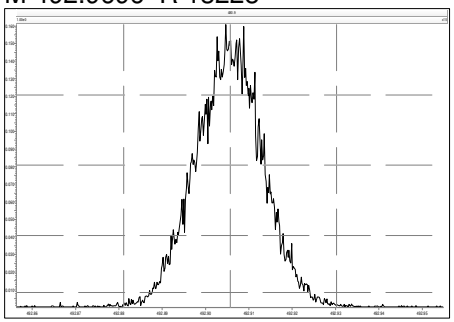
M 466.9728 R 13088



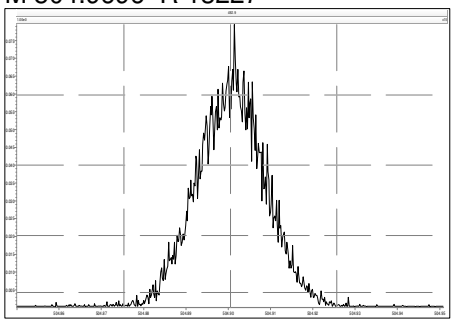
M 480.9696 R 13156



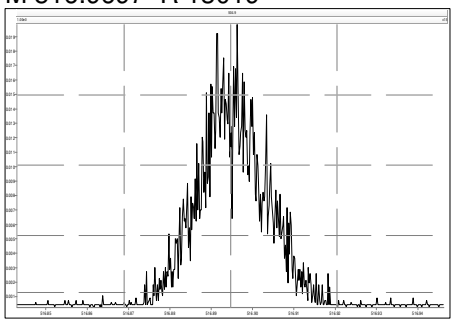
M 492.9696 R 13228



M 504.9696 R 13227



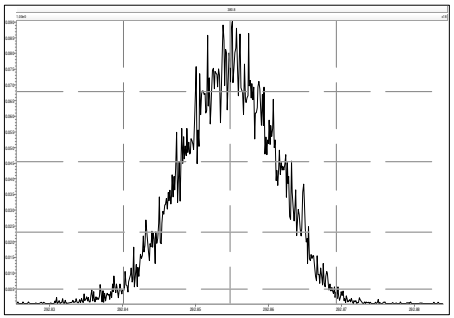
M 516.9697 R 13019



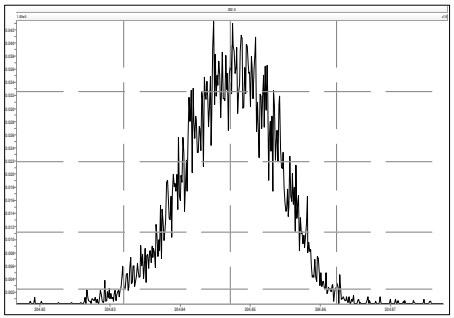
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

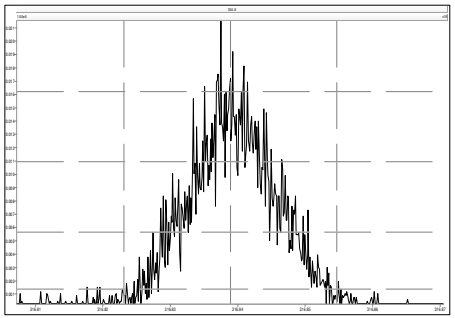
M 292.9824 R 10122



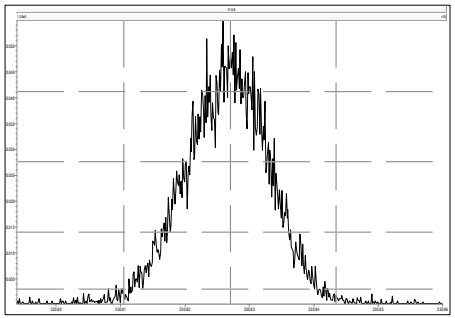
M 304.9824 R 10329



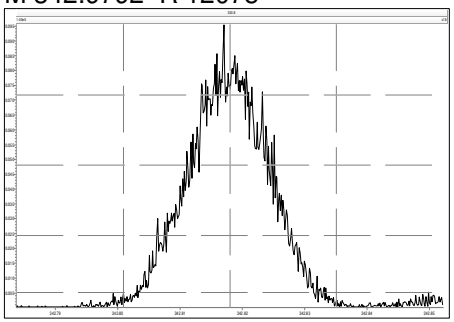
M 316.9824 R 11964



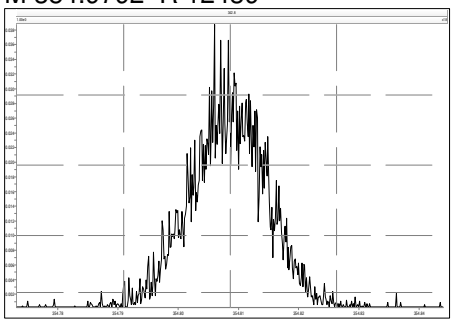
M 330.9792 R 11062



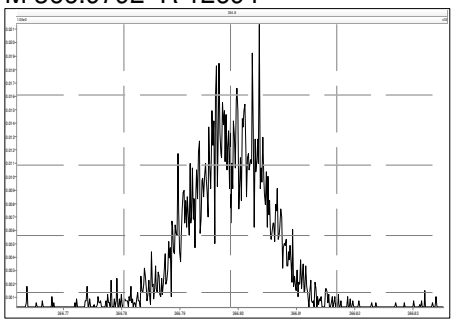
M 342.9792 R 12075



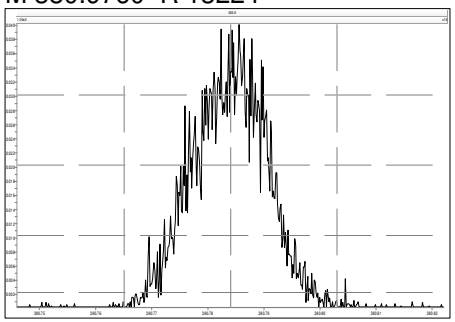
M 354.9792 R 12439



M 366.9792 R 12694



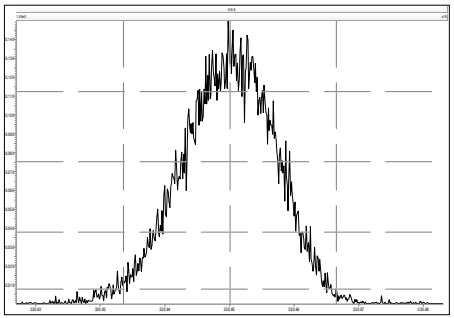
M 380.9760 R 13224



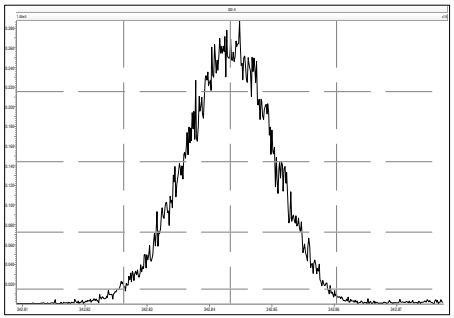
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

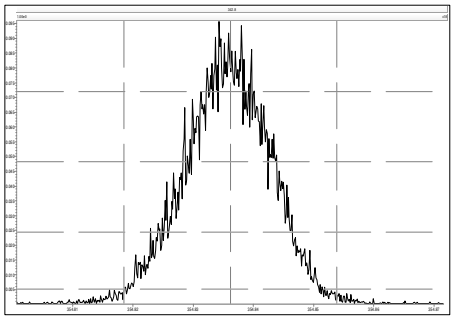
M 330.9792 R 10730



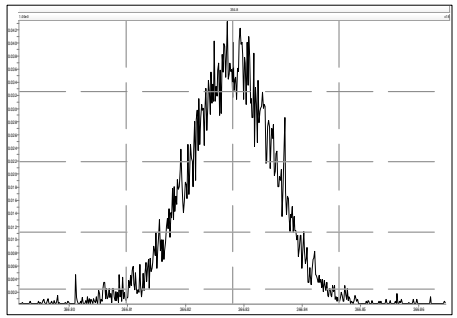
M 342.9792 R 10039



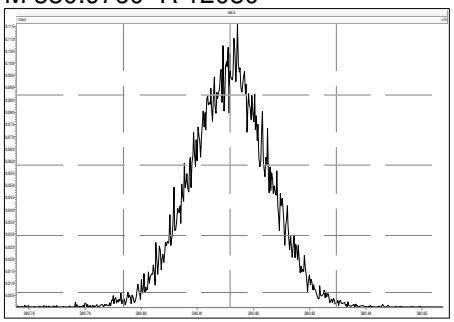
M 354.9792 R 11108



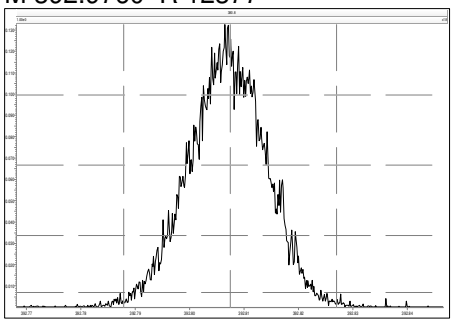
M 366.9792 R 11520



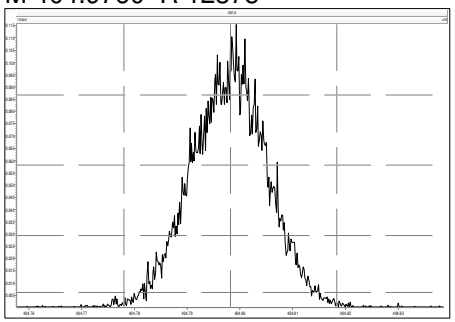
M 380.9760 R 12080



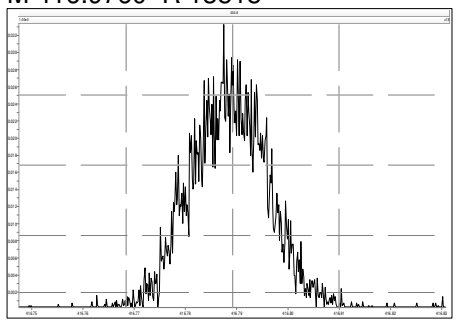
M 392.9760 R 12377



M 404.9760 R 12375



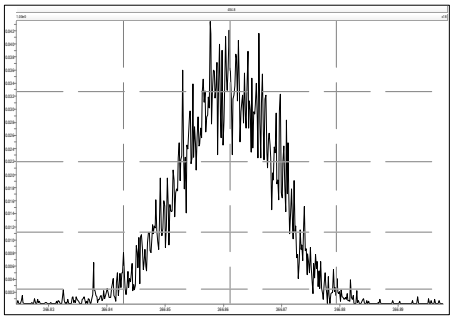
M 416.9760 R 13515



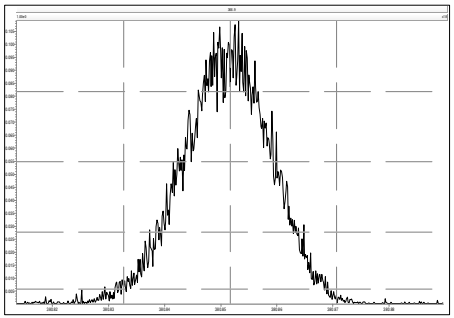
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

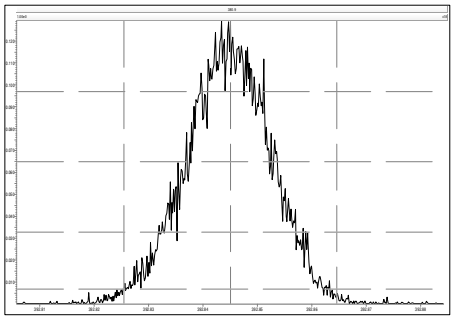
M 366.9792 R 10866



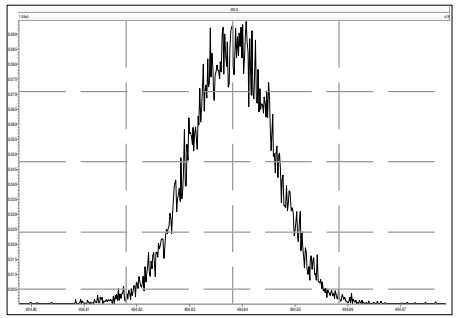
M 380.9760 R 10416



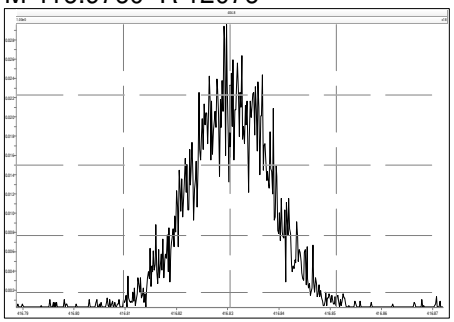
M 392.9760 R 10640



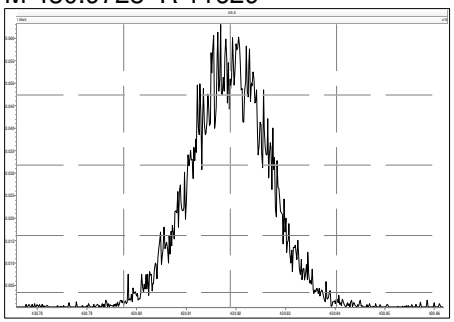
M 404.9760 R 11957



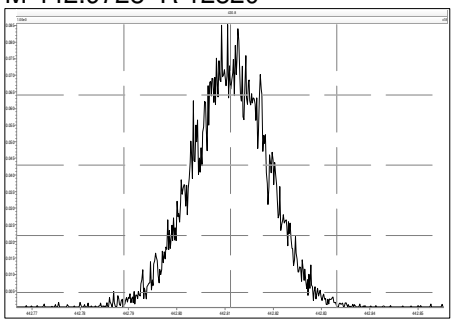
M 416.9760 R 12076



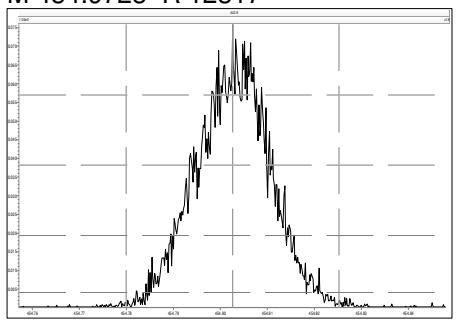
M 430.9728 R 11629



M 442.9728 R 12820



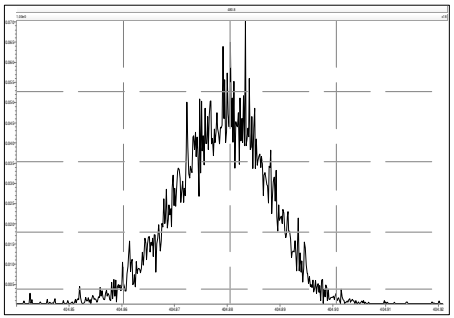
M 454.9728 R 12317



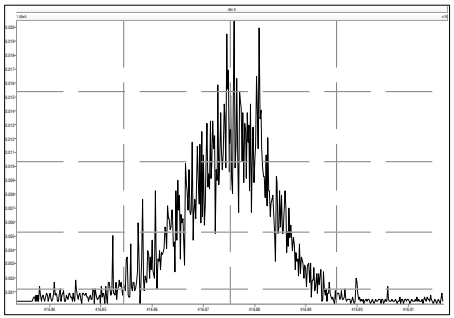
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

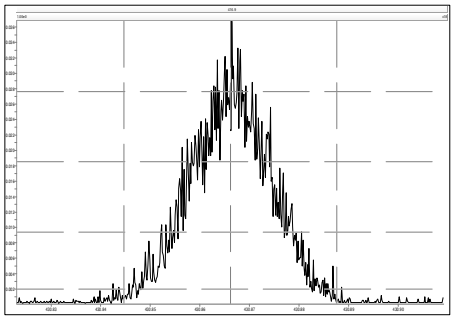
M 404.9760 R 10505



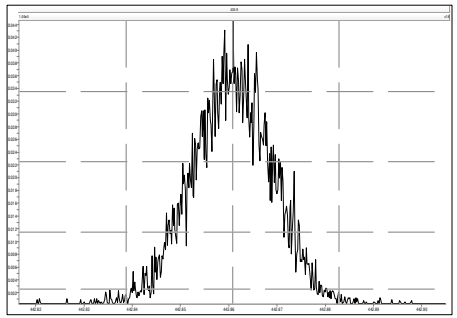
M 416.9760 R 12500



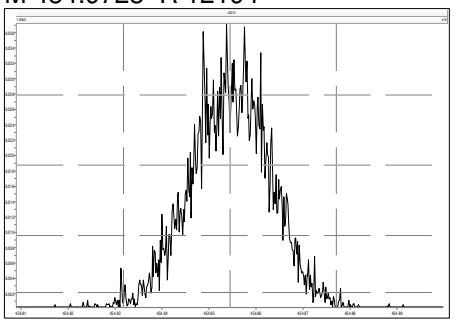
M 430.9728 R 11362



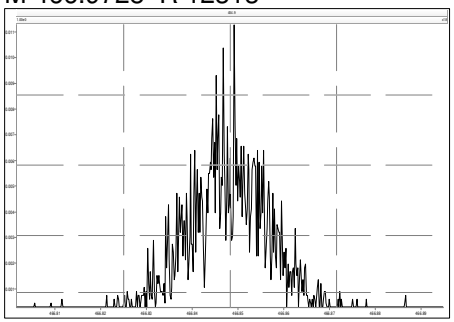
M 442.9728 R 12756



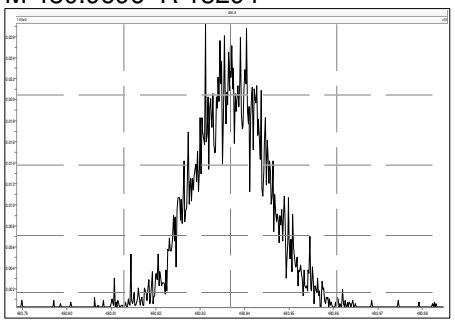
M 454.9728 R 12194



M 466.9728 R 12313



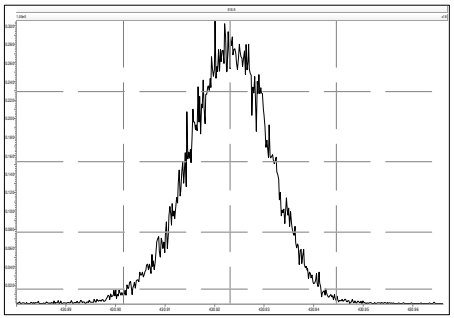
M 480.9696 R 13294



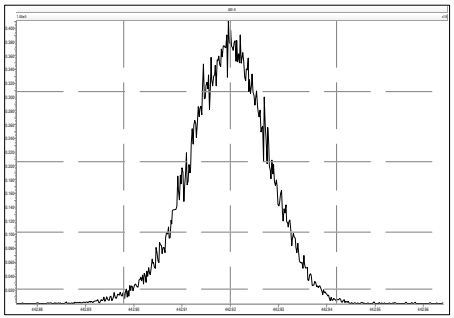
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

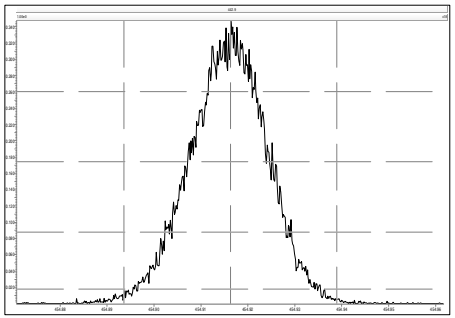
M 430.9728 R 11312



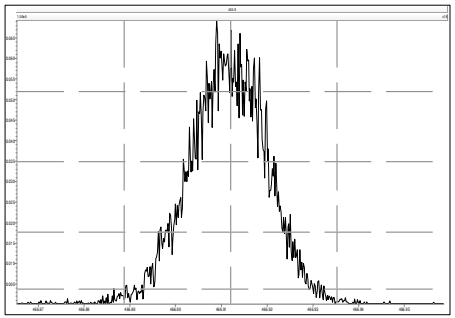
M 442.9728 R 11110



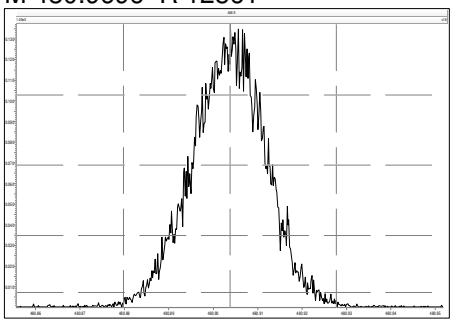
M 454.9728 R 11906



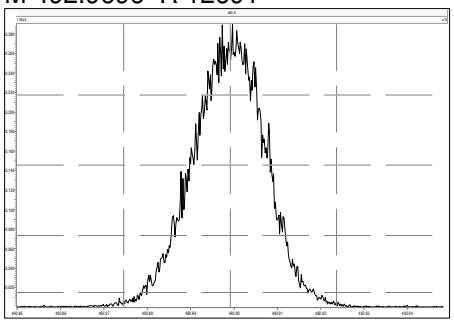
M 466.9728 R 12562



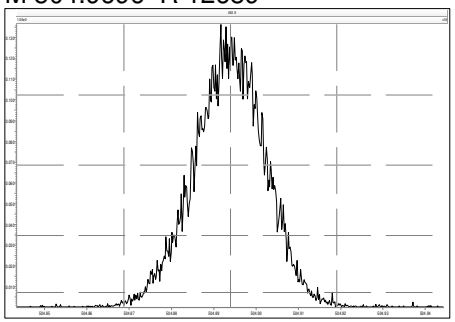
M 480.9696 R 12561



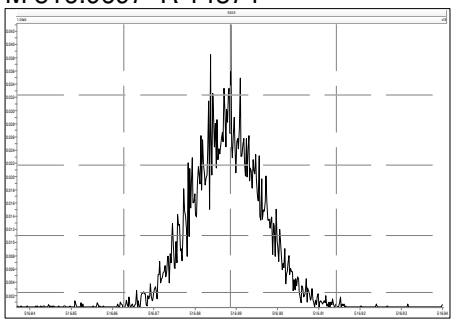
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



REVIEWED
Amber_Kornegay , 2/24/2022, 2:17:40 PM

Lab ID: OPR1_18957_DF **Acq'd:** 24 Feb 2022 03:24 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18957_OPR001 **UTP:** 24-Feb-2022 12:19:31 DTF **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 773-021-SVP

Datafile: 220223C17 **Report:** 24 Feb 2022 12:20 TF **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.22		1.0008	1.0008	0	3.52E+06	0.79	Y	1.18	10.7	3790.596	0.126
12378-PeCDD	33.62		1.0007	1.0006	-0.2	1.15E+07	1.57	Y	1.04	45.7	3533.446	0.117
123478-HxCDD	37.55		1.0004	1.0004	0	1.22E+07	1.23	Y	1.09	50.4	2993.735	0.109
123678-HxCDD	37.67		1.0036	1.0037	+0.2	1.44E+07	1.28	Y	1.15	51.6	2993.735	0.1
123789-HxCDD	37.98		1.0118	1.0118	0	1.25E+07	1.26	Y	1.05	49.8	2993.735	0.101
1234678-HpCDD	40.72		1.0002	1.0003	+0.2	1.20E+07	1.03	Y	1.06	48.5	2677.495	0.0919
OCDD	43.41		1.0003	1.0003	0	1.95E+07	0.92	Y	1.13	104	3817.754	0.248
2378-TCDF	27.35		1.0008	1.0008	0	4.37E+06	0.80	Y	1.08	10.2	3370.126	0.0929
12378-PeCDF	32.16		1.0005	1.0005	0	1.71E+07	1.52	Y	1.02	46	5774.943	0.146
23478-PeCDF	33.28		1.0005	1.0005	0	1.81E+07	1.53	Y	1.02	48.7	5774.943	0.137
123478-HxCDF	36.55		1.0004	1.0005	+0.2	1.65E+07	1.22	Y	1.27	48.4	6986.248	0.182
123678-HxCDF	36.69		1.0004	1.0005	+0.2	1.74E+07	1.23	Y	1.15	47	6986.248	0.163
234678-HxCDF	37.37		1.0005	1.0005	0	2.08E+07	1.21	Y	1.19	49.1	6986.248	0.139
123789-HxCDF	38.34		1.0004	1.0004	0	1.44E+07	1.25	Y	1.16	45.7	6986.248	0.189
1234678-HpCDF	39.77		1.0003	1.0003	0	1.63E+07	1.03	Y	1.37	47.5	2857.179	0.0637
1234789-HpCDF	41.17		1.0003	1.0003	0	1.27E+07	1.03	Y	1.31	46.2	2857.179	0.0931
OCDF	43.59		1.0002	1.0003	+0.3	2.19E+07	0.90	Y	1.07	95.8	5345.877	0.304

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.20	1.0243	1.0244	+0.2	2.79E+07	0.81	Y	1.05	102
ES 12378-PeCDD	33.60	1.2198	1.2205	+1.4	2.42E+07	1.57	Y	0.88	105
ES 123478-HxCDD	37.53	0.9916	0.9914	-0.5	2.23E+07	1.25	Y	0.97	102
ES 123678-HxCDD	37.66	0.9947	0.9947	0	2.42E+07	1.25	Y	0.94	115
ES 123789-HxCDD	37.96	1.0029	1.0027	-0.5	2.40E+07	1.25	Y	1.09	98.2
ES 1234678-HpCDD	40.71	1.0749	1.0752	+0.7	2.33E+07	1.10	Y	0.91	114
ES OCDD	43.40	1.1460	1.1463	+0.8	3.34E+07	0.88	Y	0.62	119
ES 2378-TCDF	27.33	1.0531	1.0534	+0.5	3.98E+07	0.82	Y	1.06	90.2
ES 12378-PeCDF	32.14	1.2378	1.2387	+1.7	3.62E+07	1.58	Y	0.91	95.5
ES 23478-PeCDF	33.26	1.2810	1.2820	+2.0	3.64E+07	1.63	Y	0.88	99.1
ES 123478-HxCDF	36.53	0.9650	0.9649	-0.2	2.68E+07	0.53	Y	1.20	99.6
ES 123678-HxCDF	36.67	0.9688	0.9686	-0.4	3.21E+07	0.54	Y	1.35	106
ES 234678-HxCDF	37.35	0.9866	0.9866	0	3.56E+07	0.53	Y	1.24	128
ES 123789-HxCDF	38.33	1.0125	1.0124	-0.2	2.71E+07	0.53	Y	1.16	105
ES 1234678-HpCDF	39.76	1.0501	1.0502	+0.2	2.50E+07	0.45	Y	0.97	115
ES 1234789-HpCDF	41.16	1.0870	1.0871	+0.2	2.10E+07	0.46	Y	0.85	110
ES OCDF	43.58	1.1505	1.1510	+1.3	4.27E+07	0.91	Y	0.81	118

Lab ID: OPR1_18957_DF **Acq'd:** 24 Feb 2022 03:24 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18957_OPR001 **UTP:** 24-Feb-2022 12:19:31 DTF **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 773-021-SVP

Datafile: 220223C17 **Report:** 24 Feb 2022 12:20 TF **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.53		-	-	-	2.61E+07	0.76	Y	-	-
JS 1234-TCDF	25.94		-	-	-	4.16E+07	0.79	Y	-	-
JS 123467-HxCDD	37.86		-	-	-	1.12E+07	1.34	Y	-	-
CS 37Cl-2378-TCDD	28.22		1.0251	1.0251	0	1.22E+07	n/a	-	1.20	97.1
CS 12347-PeCDD	33.09		1.2016	1.2021	+1.0	2.19E+07	1.61	Y	0.75	111
CS 12346-PeCDF	31.60		1.2172	1.2182	+1.9	3.49E+07	1.58	Y	0.85	98.6
CS 123469-HxCDF	36.98		0.9771	0.9769	-0.4	2.87E+07	0.53	Y	1.12	115
CS 1234689-HpCDF	40.17		1.0608	1.0610	+0.5	2.26E+07	0.46	Y	0.89	113
~~SS 37Cl-2378-TCDD~~	~~28.22~~		~~1.0251~~	~~1.0251~~	~~0~~	~~1.22E+07~~	~~n/a~~		~~1.15~~	~~95.6~~
~~SS 12347-PeCDD~~	~~33.09~~		~~1.2016~~	~~1.2021~~	~~+1.0~~	~~2.19E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~106~~
~~SS 12346-PeCDF~~	~~31.60~~		~~1.2172~~	~~1.2182~~	~~+1.9~~	~~3.49E+07~~	~~1.58~~	~~Y~~	~~0.94~~	~~103~~
~~SS 123469-HxCDF~~	~~36.98~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~2.87E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~100~~
~~SS 1234689-HpCDF~~	~~40.17~~		~~1.0608~~	~~1.0610~~	~~+0.5~~	~~2.26E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~98.3~~

Totals	Conc	EMPC
Total TCDD	48.7	48.7
Total PeCDD	68.7	68.7
Total HxCDD	165	165
Total HpCDD	59.1	59.1
Total Tetra-Octa Dioxins	445	445
Total TCDF	58	58
Total PeCDF	194	194
Total HxCDF	297	297
Total HpCDF	93.7	93.7
Total Tetra-Octa Furans	738	738
Total Tetra-Octa Dioxins & Furans	1180	1180

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.789	0.79
Response	3.52E+06	3.52E+06

Lab ID: OPR1_18957_DF | **Acq'd: 24 Feb 2022 03:24 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18957_OPR001 | **UTP: 24-Feb-2022 12:19:31 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 773-021-SVP**

Datafile: 220223C17 | **Report: 24 Feb 2022 12:20 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.52		0.8701	0.8696	-0.7	4.55E+06	0.78	Y	1.18	13.8	3790.596	0.126
1379-TCDD	NotFnd		0.8829						1.18		3790.596	0.126
1369-TCDD	NotFnd		0.8982						1.18		3790.596	0.126
1469-TCDD	NotFnd		0.9261						1.18		3790.596	0.126
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		3790.596	0.126
1378-TCDD	NotFnd		0.9417						1.18		3790.596	0.126
1268-TCDD	NotFnd		0.9487						1.18		3790.596	0.126
1478-TCDD	NotFnd		0.9576						1.18		3790.596	0.126
1279-TCDD	NotFnd		0.9636						1.18		3790.596	0.126
1234/1269-TCDD	NotFnd		0.9761						1.18		3790.596	0.126
1236-TCDD	NotFnd		0.9812						1.18		3790.596	0.126
1237/1238-TCDD	NotFnd		0.9905						1.18		3790.596	0.126
1239-TCDD	28.06		0.9951	0.9951	0	3.34E+06	0.77	Y	1.18	10.1	3790.596	0.126
2378-TCDD	**28.22**		**1.0008**	1.0008	**0**	3.52E+06	0.79	Y	**1.18**	**10.7**	**3790.596**	**0.126**
1278-TCDD	NotFnd		1.0124						1.18		3790.596	0.126
1267-TCDD	NotFnd		1.0172						1.18		3790.596	0.126
1289-TCDD	29.20		1.0354	1.0356	+0.4	4.67E+06	0.78	Y	1.18	14.2	3790.596	0.126
12479/12468-PeCDD	31.10		0.9255	0.9255	0	2.69E+06	1.63	Y	1.04	10.8	3533.446	0.117
12469-PeCDD	NotFnd		0.9416						1.04		3533.446	0.117
12368-PeCDD	NotFnd		0.9582						1.04		3533.446	0.117
12478-PeCDD	NotFnd		0.9637						1.04		3533.446	0.117
12379-PeCDD	NotFnd		0.9668						1.04		3533.446	0.117
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		3533.446	0.117
12346/12347-PeCDD	NotFnd		0.9858						1.04		3533.446	0.117
12378-PeCDD	33.62		**1.0007**	**1.0006**	**-0.2**	**1.15E+07**	**1.57**	**Y**	**1.04**	**45.7**	**3533.446**	**0.117**
12367-PeCDD	NotFnd		1.0036						1.04		3533.446	0.117
12389-PeCDD	34.06		1.0137	1.0137	0	3.05E+06	1.39	Y	1.04	12.2	3533.446	0.117
124679/124689-HxCDD	35.81		0.9540	0.9540	0	3.28E+06	1.21	Y	1.10	12.7	2993.735	0.103
123468-HxCDD	NotFnd		0.9715						1.10		2993.735	0.103
123679/123689-HxCDD	NotFnd		0.9793						1.10		2993.735	0.103
123469-HxCDD	NotFnd		0.9829						1.10		2993.735	0.103
123478-HxCDD	37.55		**1.0004**	**1.0004**	**0**	**1.22E+07**	**1.23**	**Y**	1.09	**50.4**	**2993.735**	**0.109**
123678-HxCDD	37.67		**1.0036**	**1.0037**	**+0.2**	**1.44E+07**	**1.28**	**Y**	1.15	**51.6**	**2993.735**	**0.1**
123467-HxCDD	NotFnd		1.0089						1.10		2993.735	0.103
123789-HxCDD	37.98		**1.0118**	**1.0118**	**0**	**1.25E+07**	**1.26**	**Y**	1.05	**49.8**	**2993.735**	**0.101**

Lab ID: OPR1_18957_DF **Acq'd: 24 Feb 2022 03:24 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18957_OPR001 **UTP: 24-Feb-2022 12:19:31 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 773-021-SVP**

Datafile: 220223C17 **Report: 24 Feb 2022 12:20 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.04		0.9836	0.9835	-0.2	2.62E+06	1.04	Y	1.06	10.6	2677.495	0.0919
1234678-HpCDD	**40.72**		**1.0002**	**1.0003**	**+0.2**	**1.20E+07**	**1.03**	**Y**	**1.06**	**48.5**	**2677.495**	**0.0919**
OCDD	**43.41**		**1.0003**	**1.0003**	**0**	**1.95E+07**	**0.92**	**Y**	**1.13**	**104**	**3817.754**	**0.248**
OCDD-a	43.41	**EMPC**	1.0002	1.0002	0	1.06E+06	3.00	N	0.07	88.2	3642.595	3.7
1368-TCDF	22.36		0.8191	0.8183	-1.1	6.06E+06	0.79	Y	1.08	14.1	3370.126	0.0929
1468-TCDF	NotFnd		0.8408						1.08		3370.126	0.0929
2468-TCDF	23.61		0.8645	0.8640	-0.7	1.52E+06	0.76	Y	1.08	3.55	3370.126	0.0929
1346/1246-TCDF	NotFnd		0.8772						1.08		3370.126	0.0929
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		3370.126	0.0929
1348-TCDF	NotFnd		0.8932						1.08		3370.126	0.0929
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		3370.126	0.0929
1268-TCDF	NotFnd		0.9119						1.08		3370.126	0.0929
1467-TCDF	NotFnd		0.9170						1.08		3370.126	0.0929
1478-TCDF	NotFnd		0.9234						1.08		3370.126	0.0929
1369/1237-TCDF	NotFnd		0.9369						1.08		3370.126	0.0929
2467-TCDF	NotFnd		0.9415						1.08		3370.126	0.0929
2368-TCDF	NotFnd		0.9475						1.08		3370.126	0.0929
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		3370.126	0.0929
1278-TCDF	NotFnd		0.9676						1.08		3370.126	0.0929
1349-TCDF	NotFnd		0.9722						1.08		3370.126	0.0929
1267-TCDF	NotFnd		0.9777						1.08		3370.126	0.0929
2346/1249-TCDF	NotFnd		0.9843						1.08		3370.126	0.0929
2347/1279-TCDF	NotFnd		0.9926						1.08		3370.126	0.0929
2348-TCDF	27.24		0.9968	0.9968	0	6.15E+06	0.80	Y	1.08	14.3	3370.126	0.0929
2378-TCDF	**27.35**		**1.0008**	**1.0008**	**0**	**4.37E+06**	**0.80**	**Y**	**1.08**	**10.2**	**3370.126**	**0.0929**
2367/3467-TCDF	NotFnd		1.0142						1.08		3370.126	0.0929
1269-TCDF	NotFnd		1.0235						1.08		3370.126	0.0929
1239-TCDF	NotFnd		1.0329						1.08		3370.126	0.0929
1289-TCDF	29.38		1.0742	1.0749	+1.2	6.78E+06	0.81	Y	1.08	15.8	3370.126	0.0929
13468/12468-PeCDF	29.30		0.9122	0.9116	-1.1	3.31E+07	1.58	Y	1.02	89.1	2422.9015	0.0594
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		5774.943	0.141
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		5774.943	0.141
14678-PeCDF	NotFnd		0.9685						1.02		5774.943	0.141
13479-PeCDF	NotFnd		0.9716						1.02		5774.943	0.141
13469/12479-PeCDF	NotFnd		0.9794						1.02		5774.943	0.141
12346-PeCDF	NotFnd		0.9836						1.02		5774.943	0.141

Lab ID: OPR1_18957_DF | **Acq'd: 24 Feb 2022 03:24 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18957_OPR001 | **UTP: 24-Feb-2022 12:19:31 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 773-021-SVP**

Datafile: 220223C17 | **Report: 24 Feb 2022 12:20 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		5774.943	0.141
12347-PeCDF	NotFnd		0.9891						1.02		5774.943	0.141
12348-PeCDF	NotFnd		0.9938						1.02		5774.943	0.141
12378-PeCDF	**32.16**		**1.0005**	**1.0005**	**0**	**1.71E+07**	**1.52**	**Y**	**1.02**	**46**	**5774.943**	**0.146**
12678/12367-PeCDF	NotFnd		1.0091						1.02		5774.943	0.141
12379-PeCDF	NotFnd		1.0144						1.02		5774.943	0.141
12679-PeCDF	NotFnd		0.9927						1.02		5774.943	0.141
23467/12369-PeCDF	NotFnd		0.9965						1.02		5774.943	0.141
23478-PeCDF	**33.28**		**1.0005**	**1.0005**	**0**	**1.81E+07**	**1.53**	**Y**	**1.02**	**48.7**	**5774.943**	**0.137**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5774.943	0.141
12349-PeCDF	NotFnd		1.0101						1.02		5774.943	0.141
12389-PeCDF	34.36		1.0330	1.0331	+0.2	3.88E+06	1.48	Y	1.02	10.5	5774.943	0.141
123468-HxCDF	35.15		0.9622	0.9623	+0.2	3.87E+07	1.24	Y	1.19	107	6986.248	0.166
124678/134678-HxCDF	NotFnd		0.9678						1.19		6986.248	0.166
134679-HxCDF	NotFnd		0.9741						1.19		6986.248	0.166
124679-HxCDF	NotFnd		0.9795						1.19		6986.248	0.166
124689-HxCDF	NotFnd		0.9856						1.19		6986.248	0.166
123467-HxCDF	NotFnd		0.9972						1.19		6986.248	0.166
123478-HxCDF	**36.55**		**1.0004**	**1.0005**	**+0.2**	**1.65E+07**	**1.22**	**Y**	**1.27**	**48.4**	**6986.248**	**0.182**
123678-HxCDF	**36.69**		**1.0004**	**1.0005**	**+0.2**	**1.74E+07**	**1.23**	**Y**	**1.15**	**47**	**6986.248**	**0.163**
123479-HxCDF	NotFnd		1.0048						1.19		6986.248	0.166
123469-HxCDF	NotFnd		1.0089						1.19		6986.248	0.166
123679-HxCDF	NotFnd		0.9942						1.19		6986.248	0.166
234678-HxCDF	**37.37**		**1.0005**	**1.0005**	**0**	**2.08E+07**	**1.21**	**Y**	**1.19**	**49.1**	**6986.248**	**0.139**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6986.248	0.166
123789-HxCDF	**38.34**		**1.0004**	**1.0004**	**0**	**1.44E+07**	**1.25**	**Y**	**1.16**	**45.7**	**6986.248**	**0.189**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		6986.248	0.166
1234678-HpCDF	**39.77**		**1.0003**	**1.0003**	**0**	**1.63E+07**	**1.03**	**Y**	**1.37**	**47.5**	**2857.179**	**0.0637**
1234679-HpCDF	NotFnd		1.0068						1.34		2857.179	0.0769
1234689-HpCDF	NotFnd		1.0104						1.34		2857.179	0.0769
1234789-HpCDF	**41.17**		**1.0003**	**1.0003**	**0**	**1.27E+07**	**1.03**	**Y**	**1.31**	**46.2**	**2857.179**	**0.0931**
OCDF	**43.59**		**1.0002**	**1.0003**	**+0.3**	**2.19E+07**	**0.90**	**Y**	**1.07**	**95.8**	**5345.877**	**0.304**
OCDF-a	NotFnd		1.0001						0.07		3409.618	3.13

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220223C17	Analysis Date:	24-FEB-2022 03:24:23
Lab ID:	OPR1_18957_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	10.7	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	45.7	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	50.4	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	51.6	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	49.8	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	48.5	35	-	70	Y
OCDD	100	104	78	-	144	Y
2,3,7,8-TCDF	10	10.2	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	46	40	-	67	Y
2,3,4,7,8-PeCDF	50	48.7	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	48.4	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	47	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	49.1	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	45.7	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	47.5	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	46.2	39	-	69	Y
OCDF	100	95.8	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 24 Feb 2022 12:20 Analyst: TF

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220223C17	Analysis Date:	24-FEB-2022 03:24:23
Lab ID:	OPR1_18957_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	102	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	105	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	102	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	115	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	98.2	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	114	26	-	166	Y
13C-OCDD	200	239	26	-	397	Y
13C-2,3,7,8-TCDF	100	90.2	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	95.5	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	99.1	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	99.6	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	106	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	128	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	105	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	115	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	110	20	-	186	Y
13C-OCDF	200	236	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	38.9	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 24 Feb 2022 12:20 Analyst: TF

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220223C17	Analysis Date:	24-FEB-2022 03:24:23
Lab ID:	OPR1_18957_DF		

Window Defining Standards Results

First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.52	1289-TCDD	29.20
12479/12468-PeCDD	31.10	12389-PeCDD	34.06
124679/124689-HxCDD	35.81	123789-HxCDD	37.98
1234679-HpCDD	40.04	1234678-HpCDD	40.72
1368-TCDF	22.36	1289-TCDF	29.38
13468/12468-PeCDF	29.30	12389-PeCDF	34.36
123468-HxCDF	35.15	123789-HxCDF	38.34
1234678-HpCDF	39.77	1234789-HpCDF	41.17

Isomer Specificity Test Standard Results

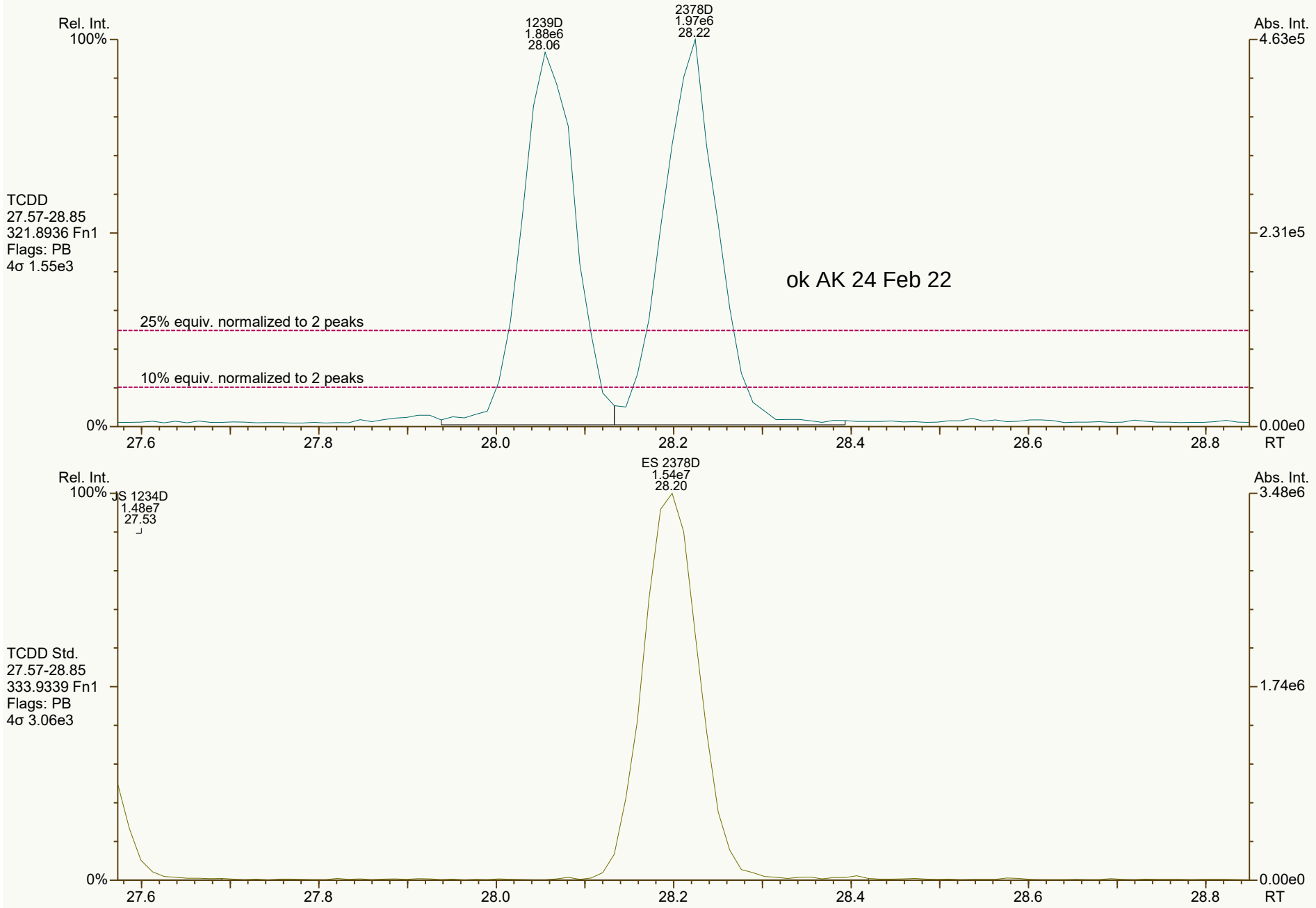
Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.06	2378-TCDD	28.22
2348-TCDF	27.24	2378-TCDF	27.35

Processed: 24 Feb 2022 12:20 Analyst: TF

SGS ID: OPR1_18957_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18957_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 21

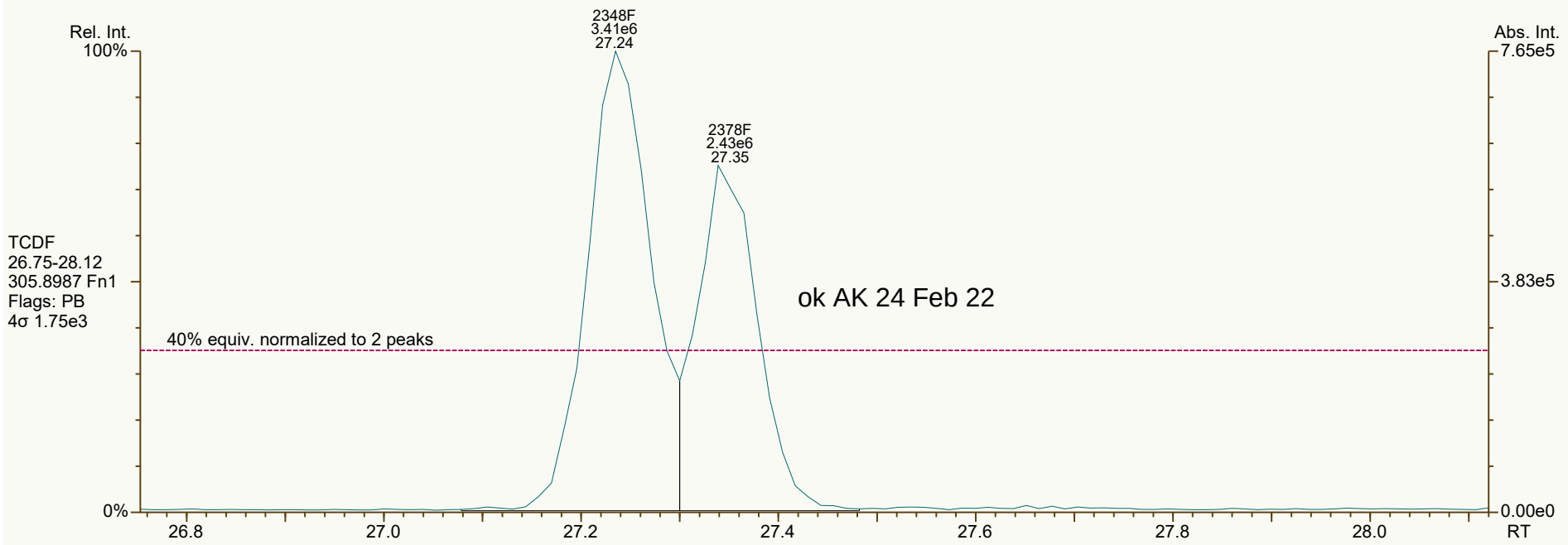
Acq: 24-Feb-2022 03:24:23
User: DTF Datafile: 220223C17

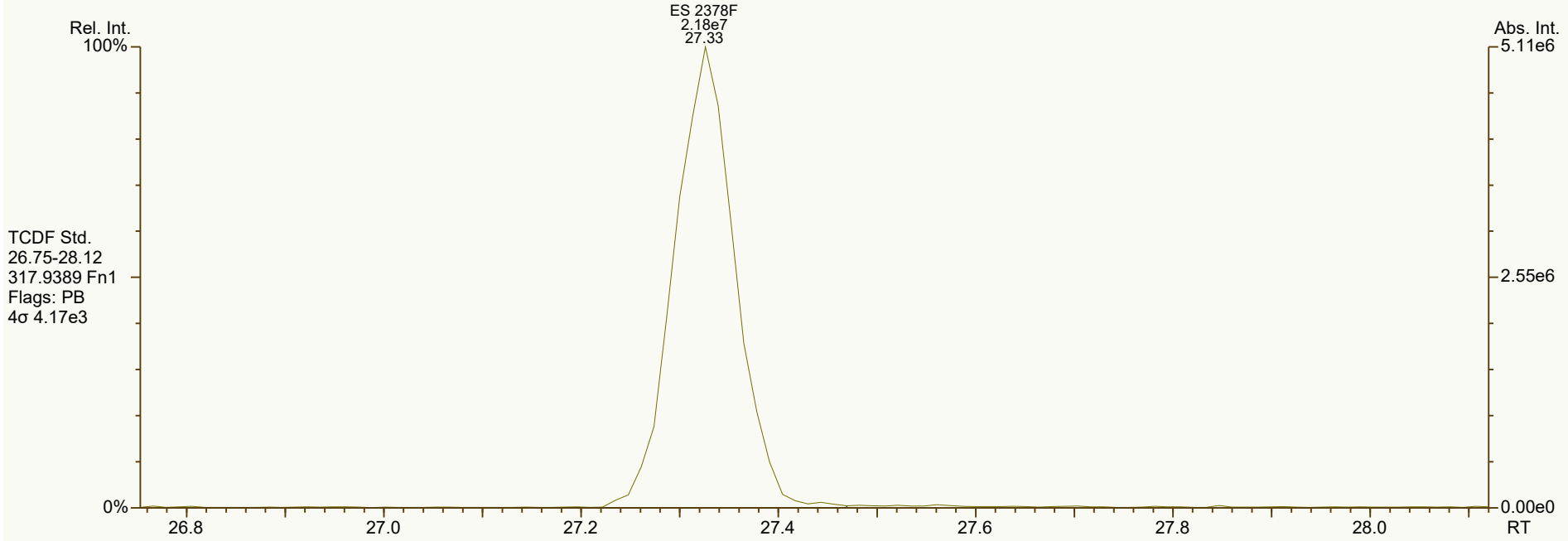


Results: P:\B6300_B6399\B6328\B6328_18957 DF\Resources\OPR1_18957_DF.utp_res, saved 24-Feb-2022 12:19 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616

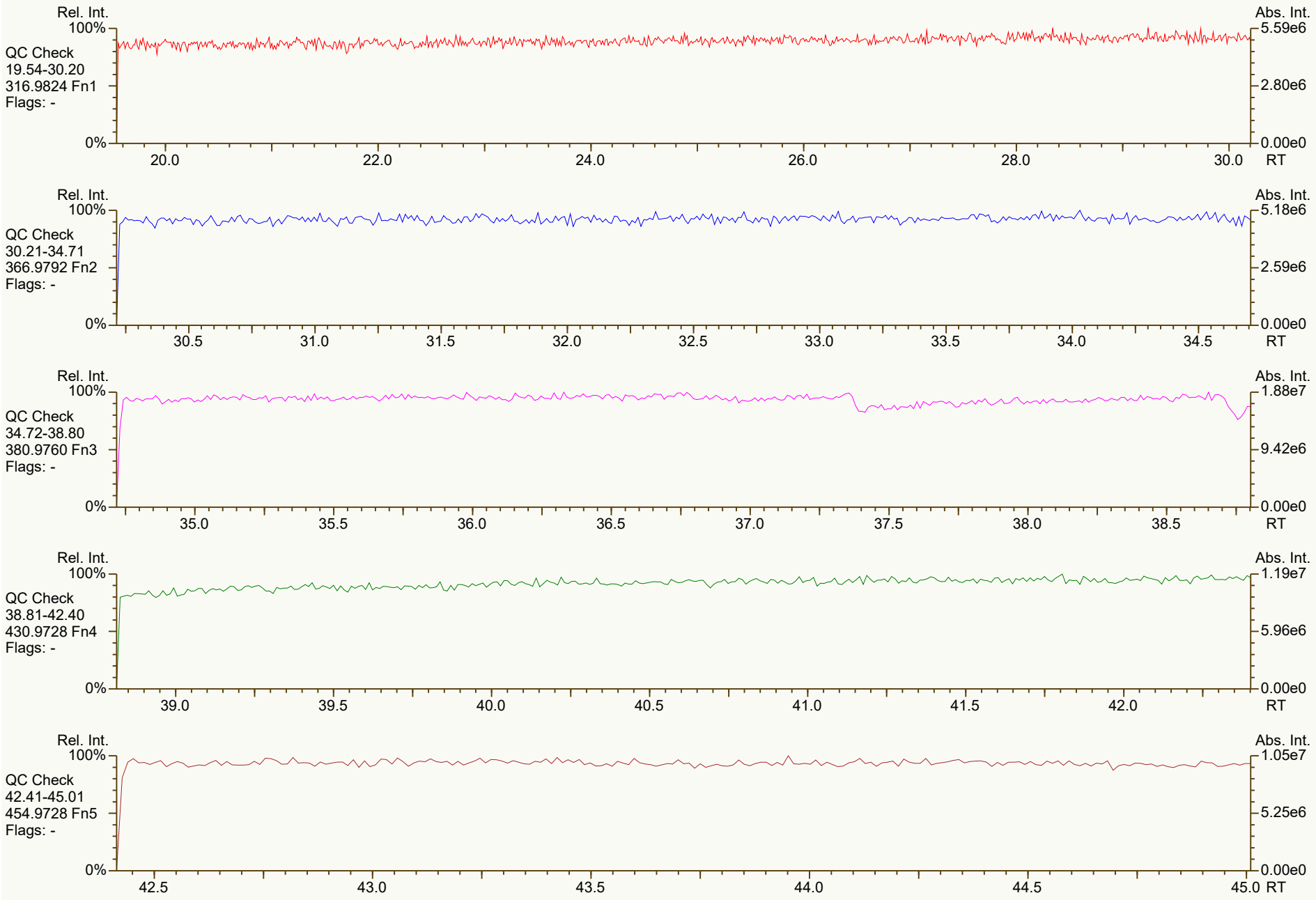
Peak annotation: Areas, Centroids
Revised: 24-Feb-2022 12:01 (DTF) Printed: 24-Feb-2022 12:22

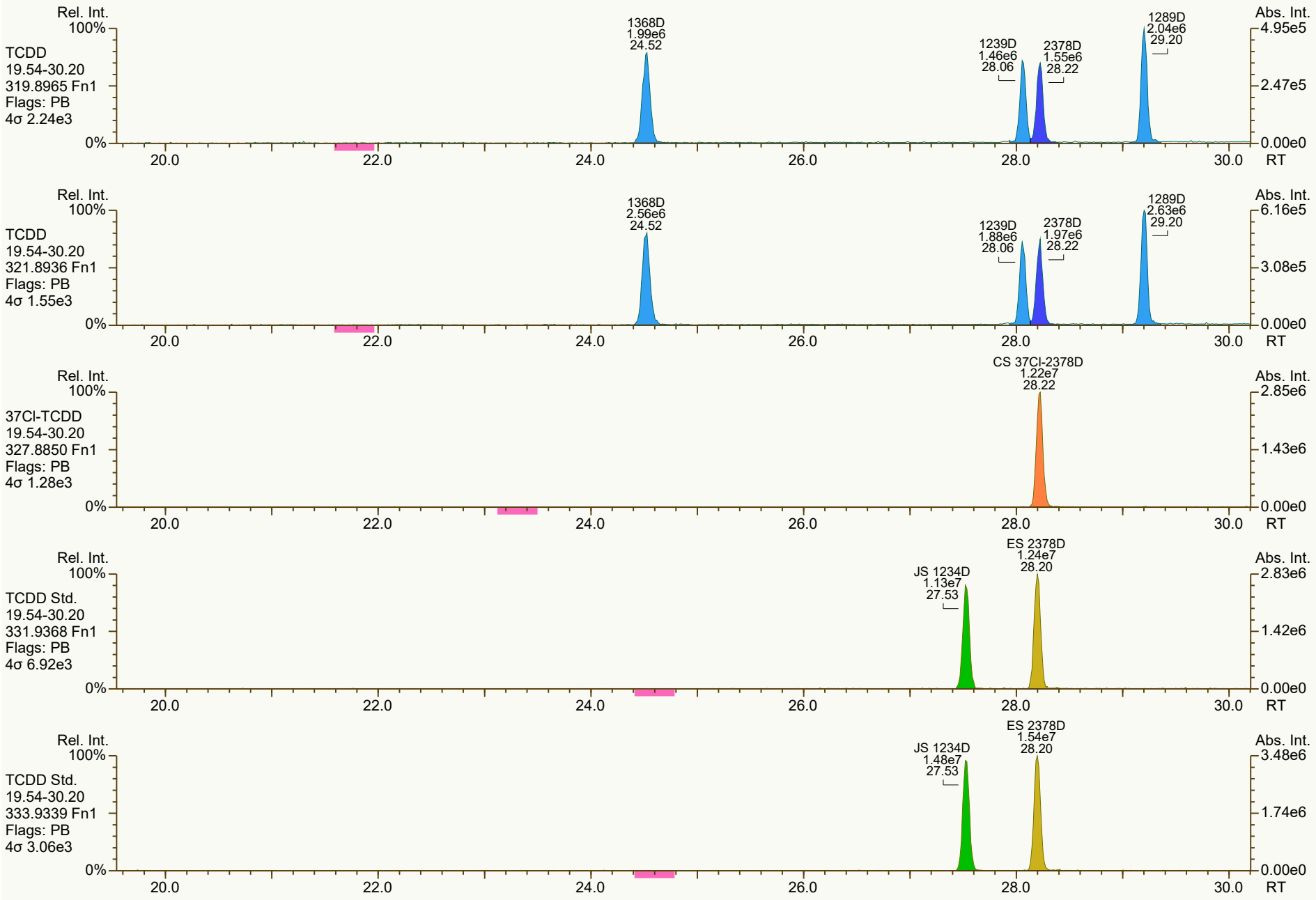
SGS ID: OPR1_18957_DF
Sample ID: 0_18957_OPR001
Acq: 24-Feb-2022 03:24:23
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 21
User: DTF Datafile: 220223C17

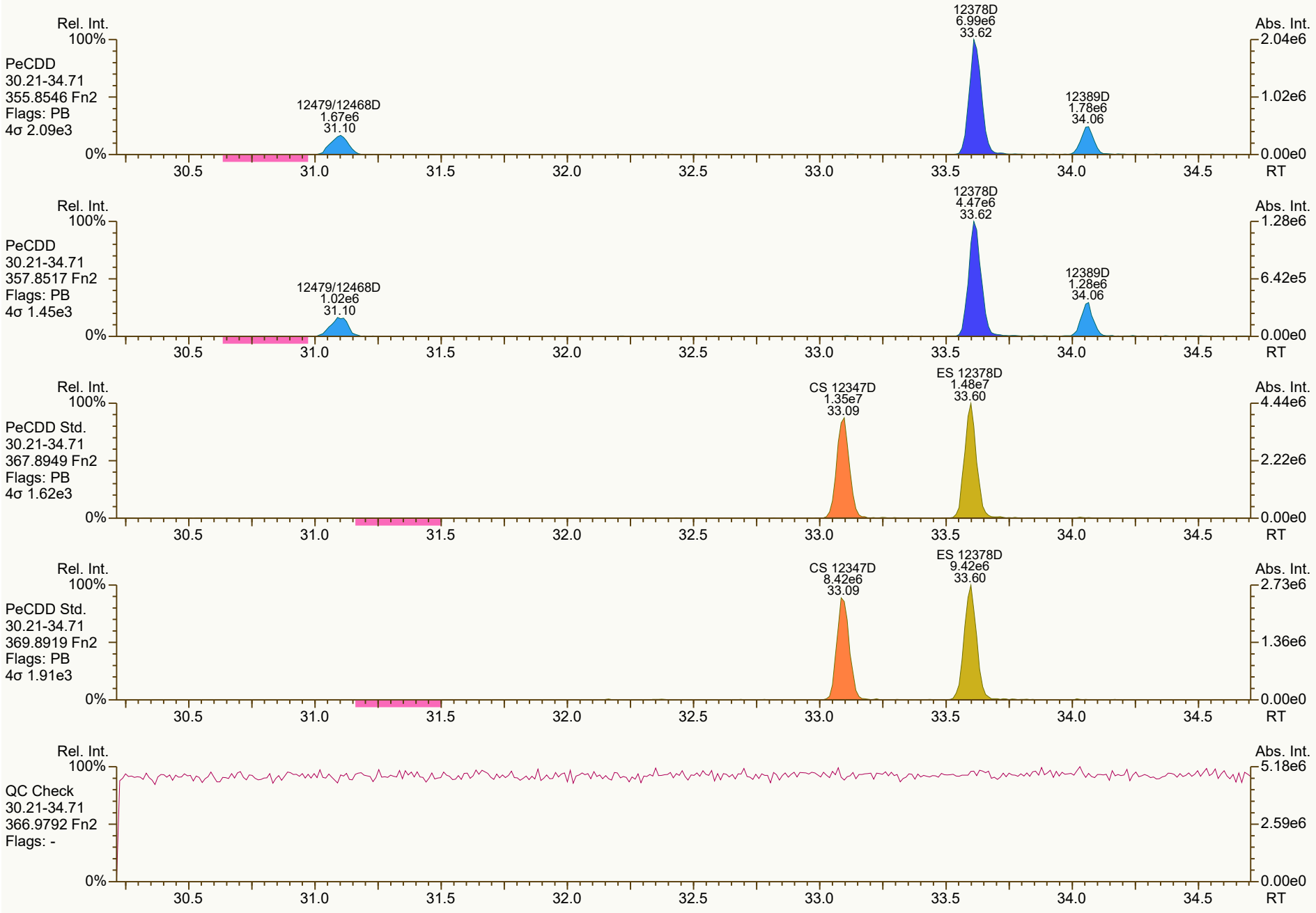


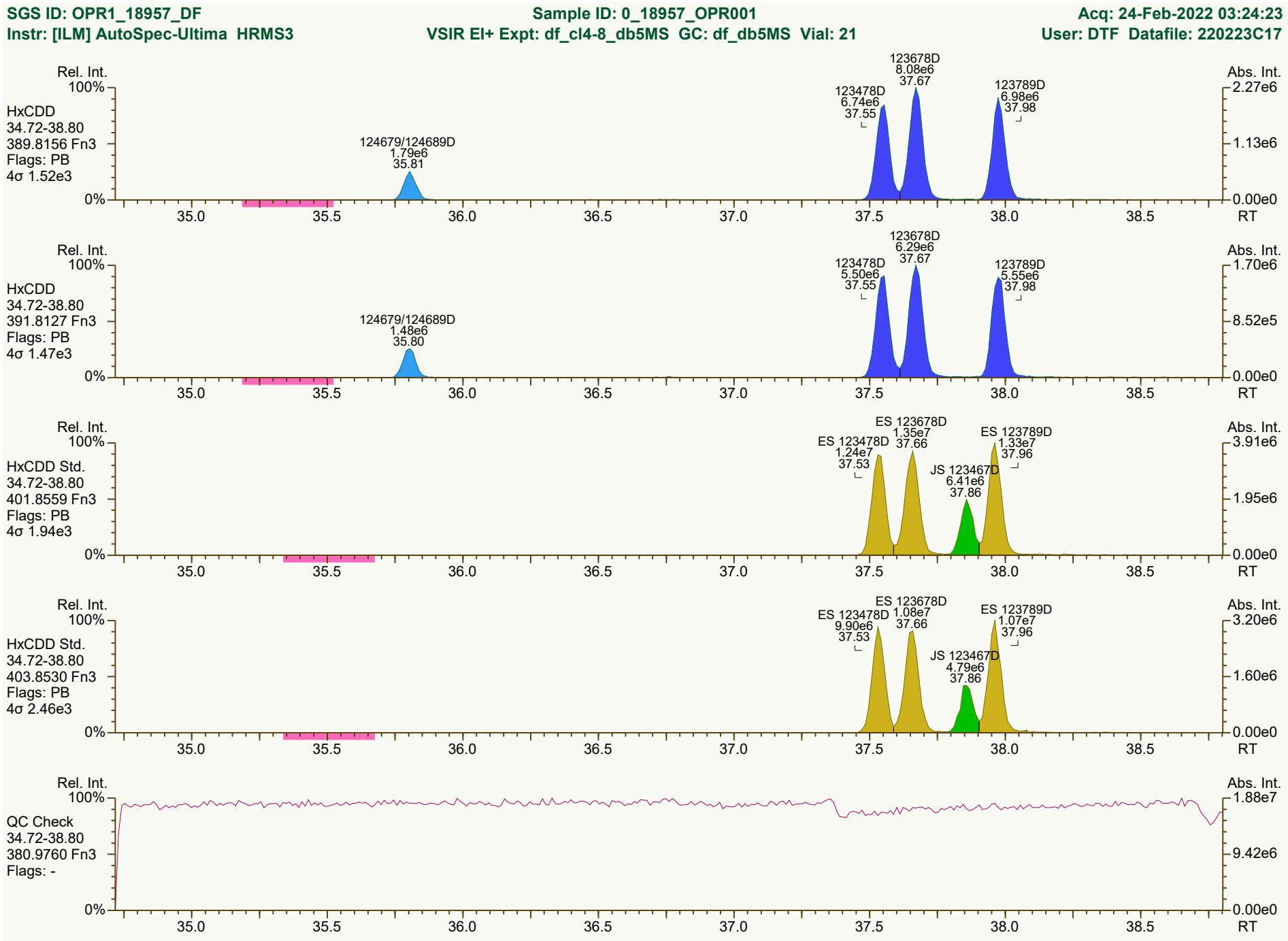


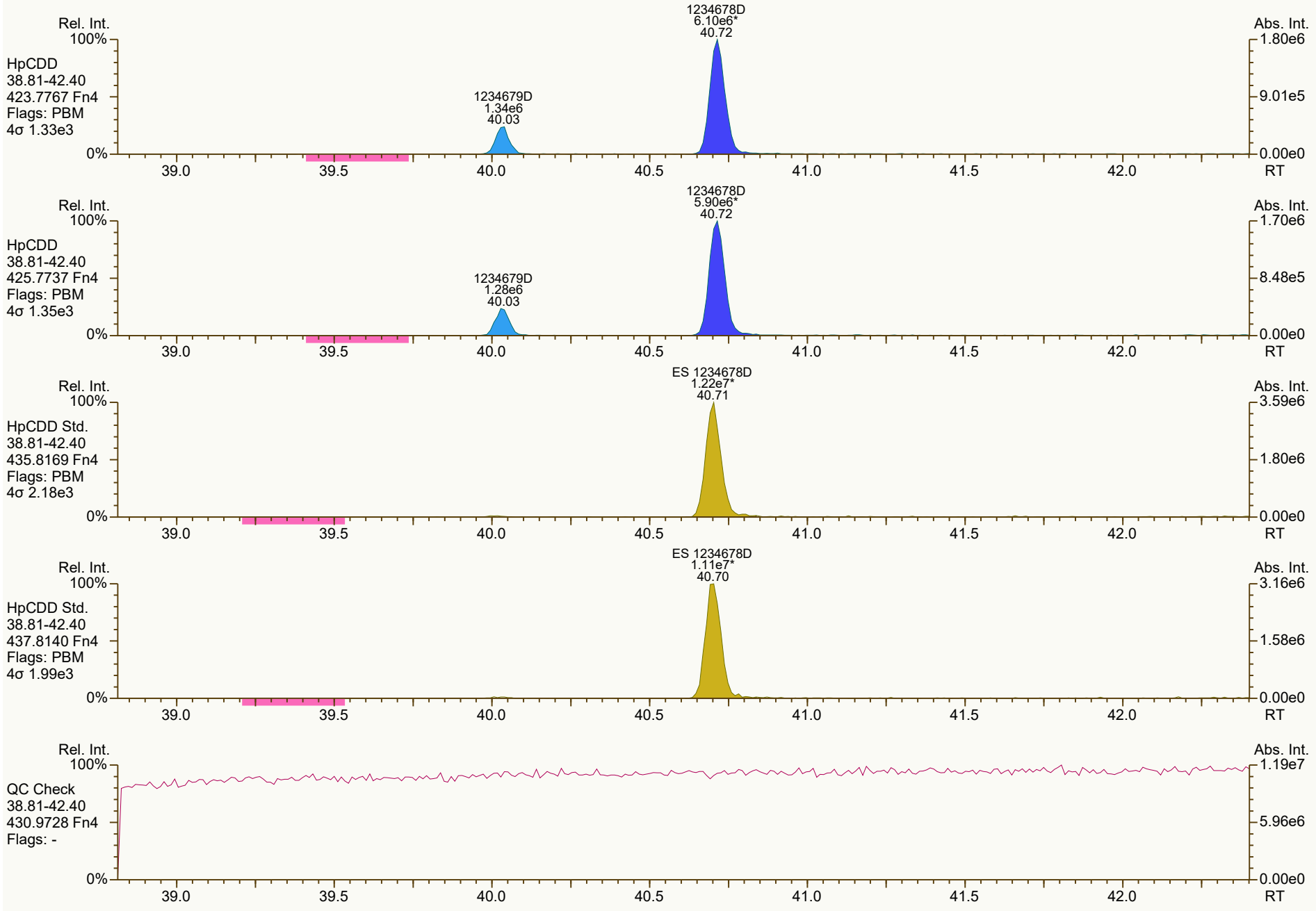
Results: P:\B6300_B6399\B6328\B6328_18957 DF\Resources\OPR1_18957_DF.utp_res, saved 24-Feb-2022 12:19 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
PKD: 24-Feb-2022 12:02 Printed: 24-Feb-2022 12:22

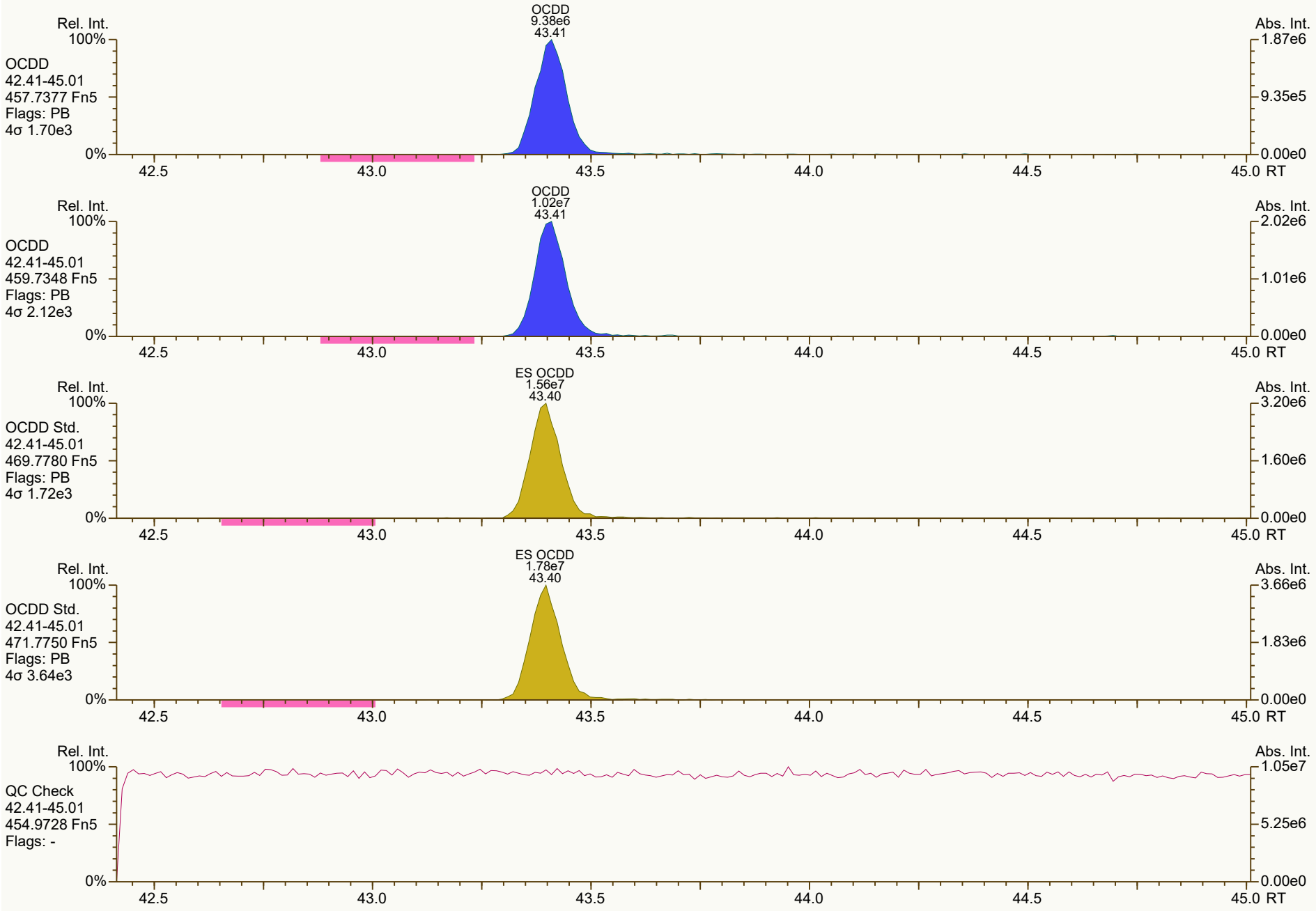

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
5.59e6
2.80e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
5.18e6
2.59e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.88e7
9.42e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.19e7
5.96e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.05e7
5.25e6
0.00e0

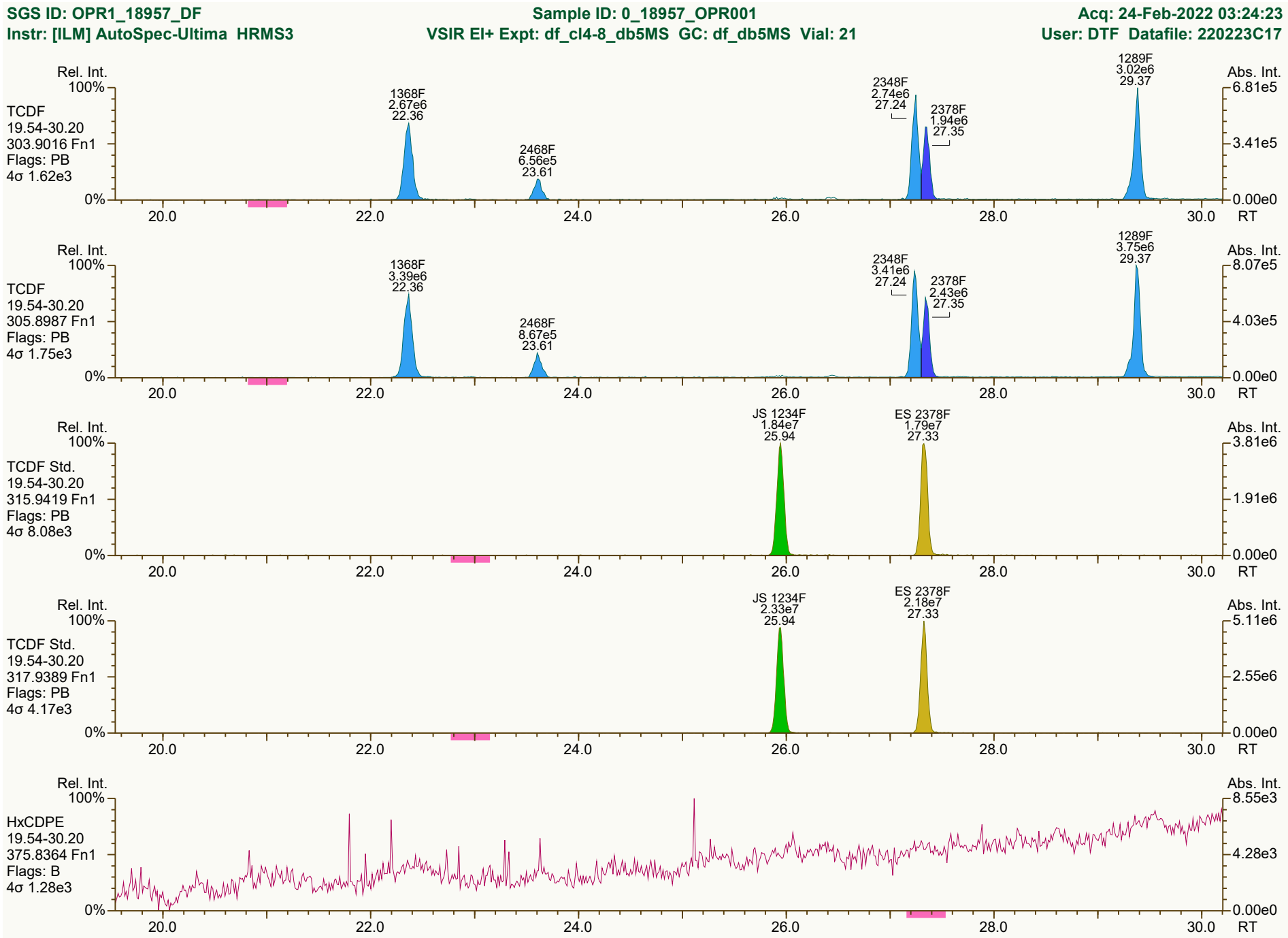

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.24e3
0%
1368D
1.99e6
24.52
1239D
1.46e6
28.06
2378D
1.55e6
28.22
1289D
2.04e6
29.20
Abs. Int.
4.95e5
2.47e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.55e3
0%
1368D
2.56e6
24.52
1239D
1.88e6
28.06
2378D
1.97e6
28.22
1289D
2.63e6
29.20
Abs. Int.
6.16e5
3.08e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.28e3
0%
CS 37Cl-2378D
1.22e7
28.22
Abs. Int.
2.85e6
1.43e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.92e3
0%
JS 1234D
1.13e7
27.53
ES 2378D
1.24e7
28.20
Abs. Int.
2.83e6
1.42e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.06e3
0%
JS 1234D
1.48e7
27.53
ES 2378D
1.54e7
28.20
Abs. Int.
3.48e6
1.74e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 2.09e3
12479/12468D
1.67e6
31.10
12378D
6.99e6
33.62
12389D
1.78e6
34.06
Abs. Int.
2.04e6
1.02e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.45e3
12479/12468D
1.02e6
31.10
12378D
4.47e6
33.62
12389D
1.28e6
34.06
Abs. Int.
1.28e6
6.42e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 1.62e3
CS 12347D
1.35e7
33.09
ES 12378D
1.48e7
33.60
Abs. Int.
4.44e6
2.22e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.91e3
CS 12347D
8.42e6
33.09
ES 12378D
9.42e6
33.60
Abs. Int.
2.73e6
1.36e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Abs. Int.
5.18e6
2.59e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

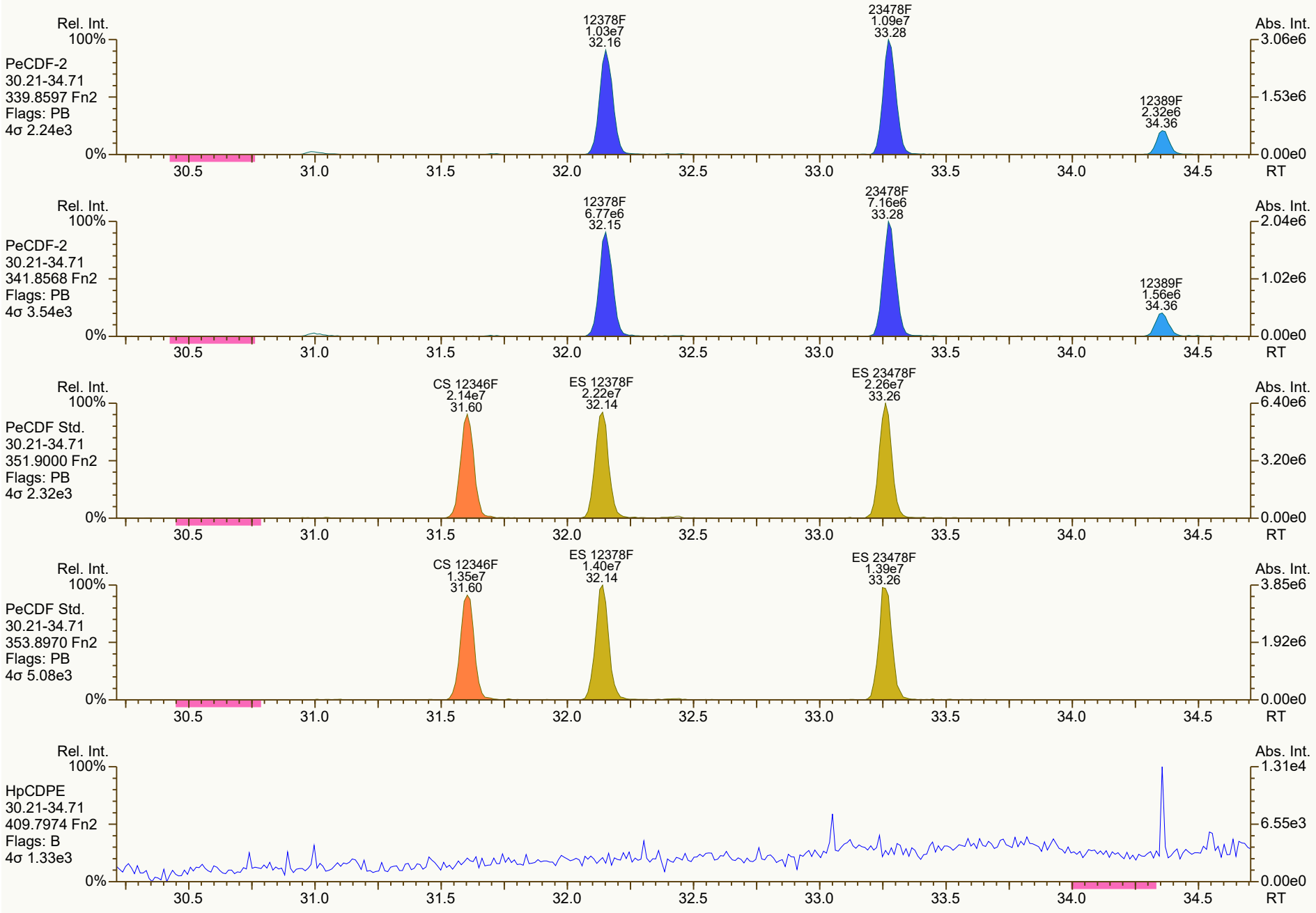

SGS ID: OPR1_18957_DF
Sample ID: 0_18957_OPR001
Acq: 24-Feb-2022 03:24:23
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 21
User: DTF Datafile: 220223C17
Rel. Int.
Abs. Int.
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 1.52e3
124679/124689D
1.79e6
35.81
123478D
6.74e6
37.55
123678D
8.08e6
37.67
123789D
6.98e6
37.98
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.47e3
124679/124689D
1.48e6
35.80
123478D
5.50e6
37.55
123678D
6.29e6
37.67
123789D
5.55e6
37.98
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 1.94e3
ES 123478D
1.24e7
37.53
ES 123678D
1.35e7
37.66
JS 123467D
6.41e6
37.86
ES 123789D
1.33e7
37.96
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 2.46e3
ES 123478D
9.90e6
37.53
ES 123678D
1.08e7
37.66
JS 123467D
4.79e6
37.86
ES 123789D
1.07e7
37.96
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
RT
Results: P:\B6300_B6399\B6328\B6328_18957 DF\Resources\OPR1_18957_DF.utp_res, saved 24-Feb-2022 12:19 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7865, 6059 scc: 773-021
PKD: 24-Feb-2022 12:02 Printed: 24-Feb-2022 12:27 Page 4 of 12


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 1.33e3
1234678D
6.10e6*
40.72
1234679D
1.34e6
40.03
Abs. Int.
1.80e6
9.01e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 1.35e3
1234678D
5.90e6*
40.72
1234679D
1.28e6
40.03
Abs. Int.
1.70e6
8.48e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 2.18e3
ES 1234678D
1.22e7*
40.71
Abs. Int.
3.59e6
1.80e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 1.99e3
ES 1234678D
1.11e7*
40.70
Abs. Int.
3.16e6
1.58e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.19e7
5.96e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
9.38e6
43.41
Rel. Int.
Abs. Int.
100%
0%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 1.70e3
1.87e6
9.35e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.02e7
43.41
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 2.12e3
2.02e6
1.01e6
ES OCDD
1.56e7
43.40
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 1.72e3
3.20e6
1.60e6
ES OCDD
1.78e7
43.40
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 3.64e3
3.66e6
1.83e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.05e7
5.25e6

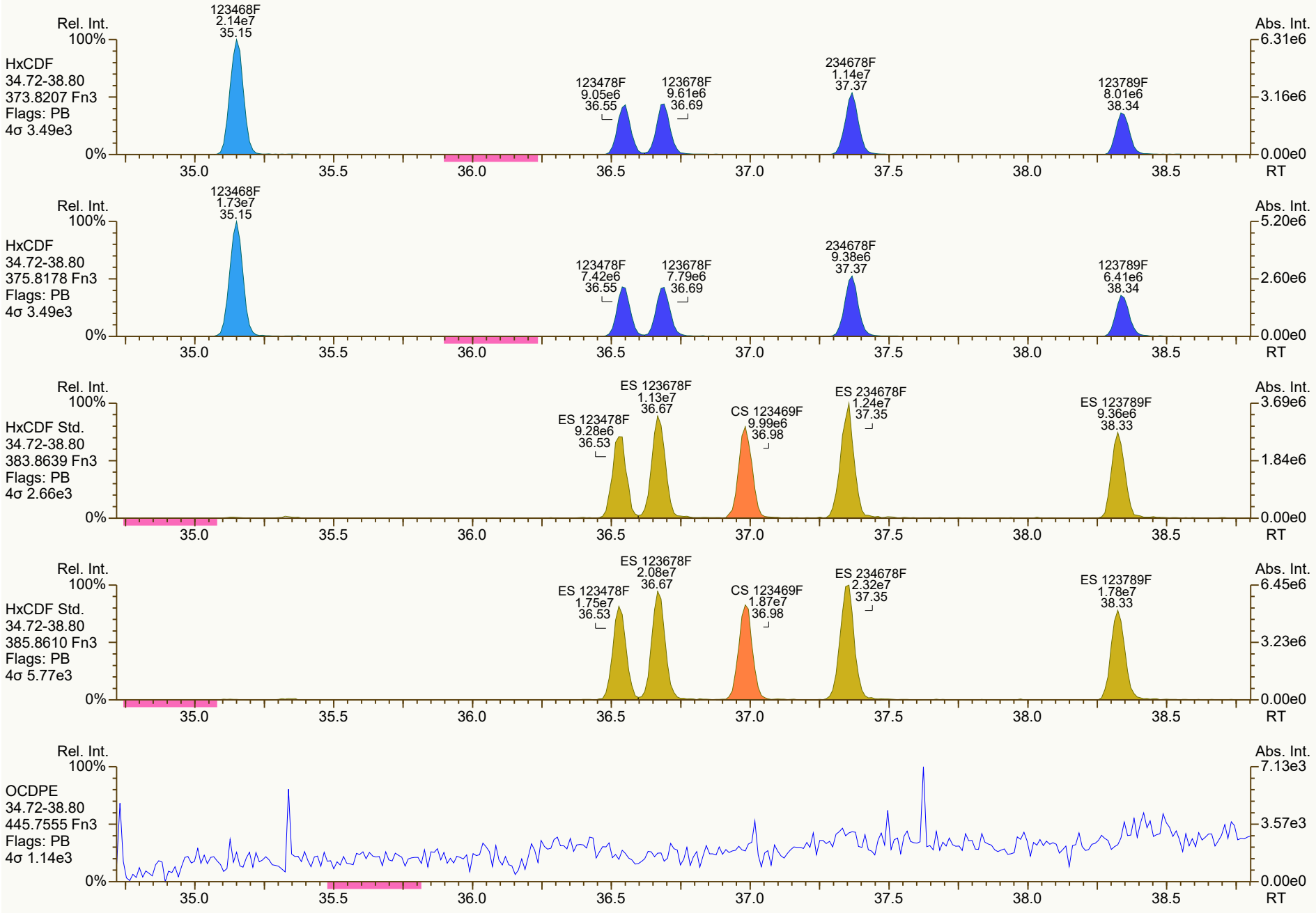

SGS ID: OPR1_18957_DF
Sample ID: 0_18957_OPR001
Acq: 24-Feb-2022 03:24:23
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 21
User: DTF Datafile: 220223C17
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.62e3
1368F 2.67e6 22.36
2468F 6.56e5 23.61
2348F 2.74e6 27.24
2378F 1.94e6 27.35
1289F 3.02e6 29.37
6.81e5
3.41e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 1.75e3
1368F 3.39e6 22.36
2468F 8.67e5 23.61
2348F 3.41e6 27.24
2378F 2.43e6 27.35
1289F 3.75e6 29.37
8.07e5
4.03e5
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 8.08e3
JS 1234F 1.84e7 25.94
ES 2378F 1.79e7 27.33
3.81e6
1.91e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.17e3
JS 1234F 2.33e7 25.94
ES 2378F 2.18e7 27.33
5.11e6
2.55e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.28e3
8.55e3
4.28e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6300_B6399\B6328\B6328_18957 DF\Resources\OPR1_18957_DF.utp_res, saved 24-Feb-2022 12:19 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6540, 1059, 2130 scc: 773-021
PKD: 24-Feb-2022 12:02 Printed: 24-Feb-2022 12:27 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 9.97e2
13468/12468F
2.03e7
29.30
Abs. Int.
5.00e6
2.50e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.43e3
13468/12468F
1.28e7
29.30
Abs. Int.
3.19e6
1.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
5.59e6
2.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 2.24e3
0%
12378F
1.03e7
32.16
23478F
1.09e7
33.28
12389F
2.32e6
34.36
Abs. Int.
3.06e6
1.53e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 3.54e3
0%
12378F
6.77e6
32.15
23478F
7.16e6
33.28
12389F
1.56e6
34.36
Abs. Int.
2.04e6
1.02e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 2.32e3
0%
CS 12346F
2.14e7
31.60
ES 12378F
2.22e7
32.14
ES 23478F
2.26e7
33.26
Abs. Int.
6.40e6
3.20e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 5.08e3
0%
CS 12346F
1.35e7
31.60
ES 12378F
1.40e7
32.14
ES 23478F
1.39e7
33.26
Abs. Int.
3.85e6
1.92e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.33e3
0%
Abs. Int.
1.31e4
6.55e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

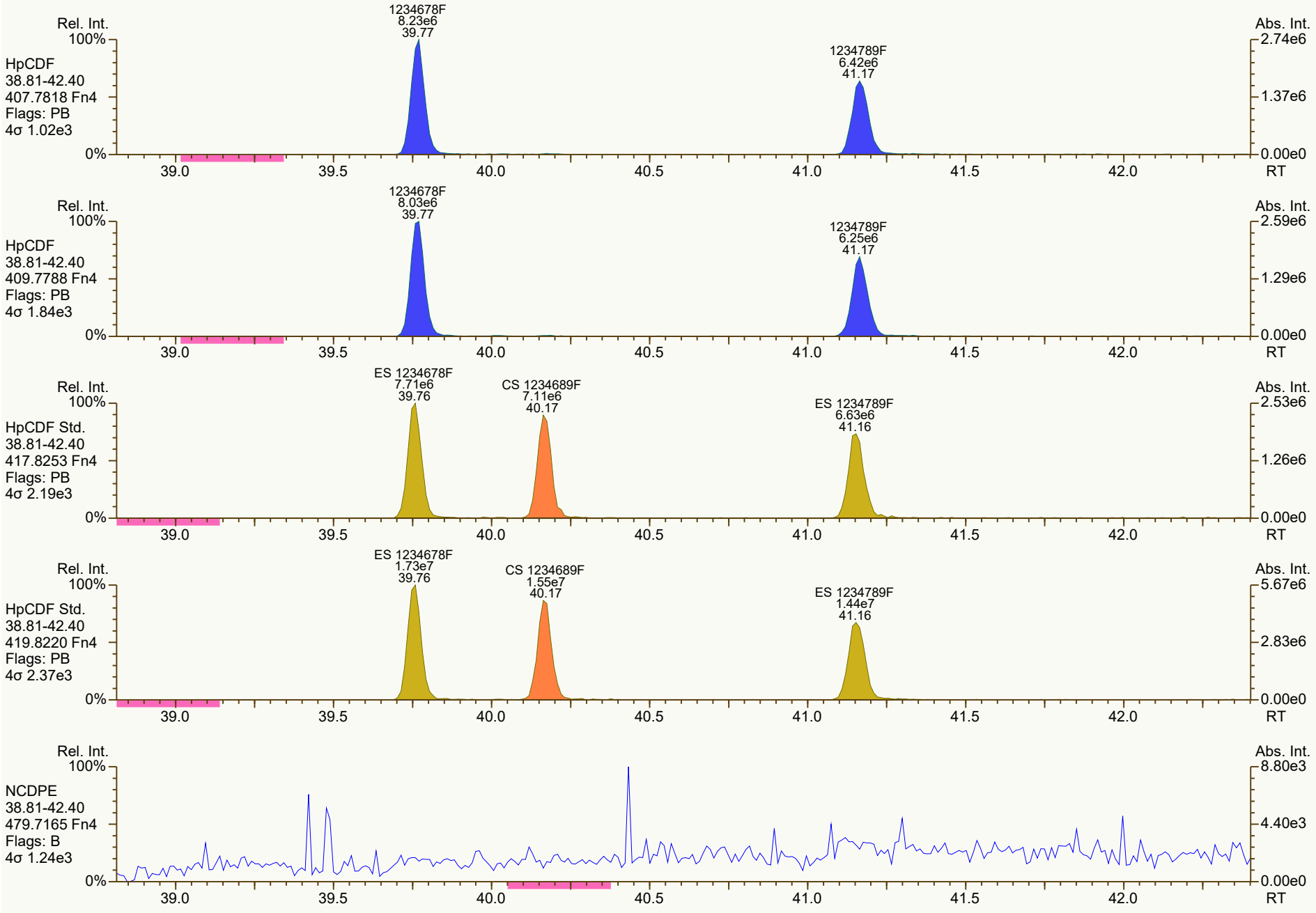
SGS ID: OPR1_18957_DF | Sample ID: 0_18957_OPR001 | Acq: 24-Feb-2022 03:24:23

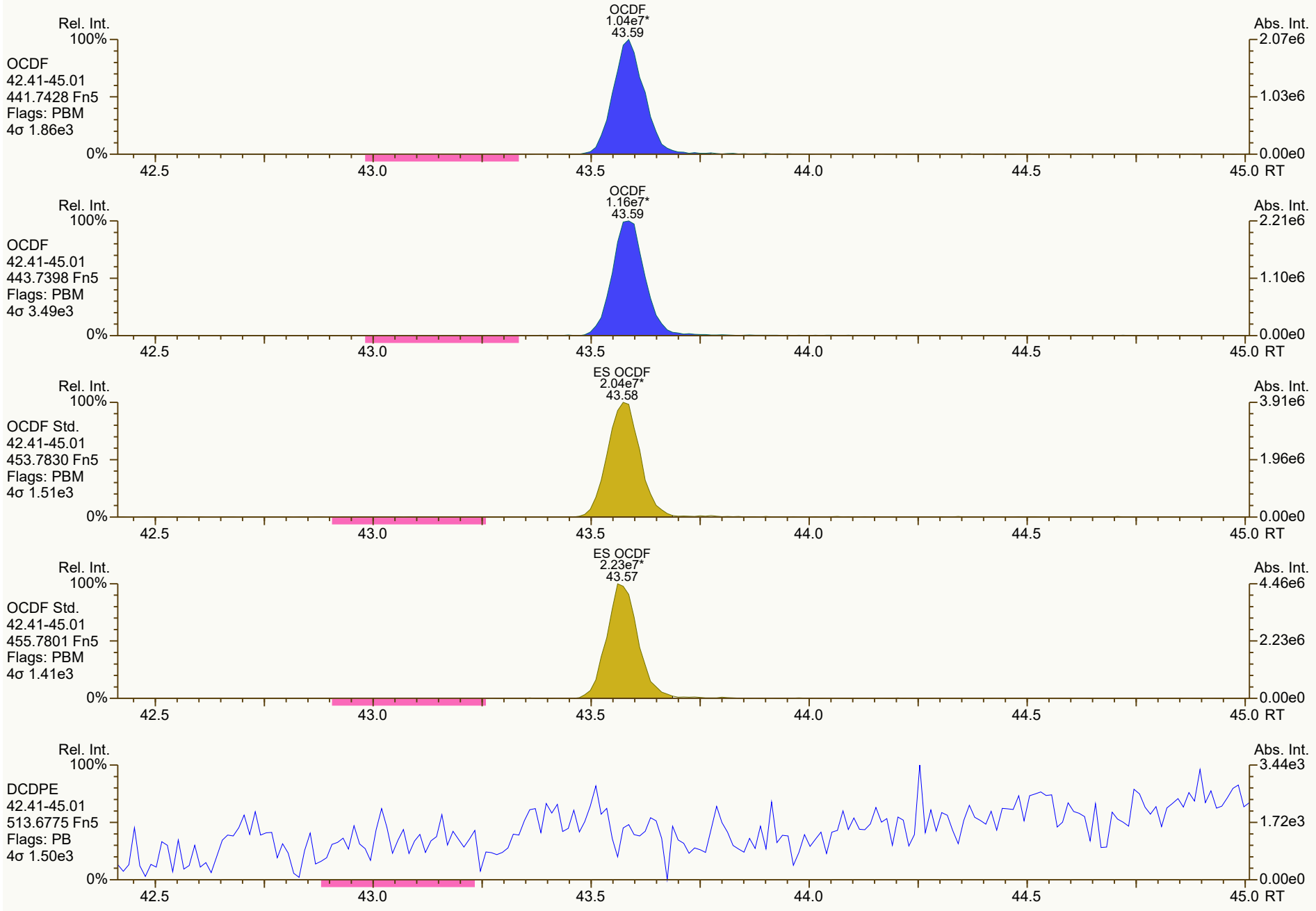
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 21 | User: DTF Datafile: 220223C17



Results: P:\B6300_B6399\B6328\B6328_18957 DF\Resources\OPR1_18957_DF.utp_res, saved 24-Feb-2022 12:19 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8410, 3093, 8014 scc: 773-021 *PKD: 24-Feb-2022 12:02 Printed: 24-Feb-2022 12:27 Page 10 of 12*


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.02e3
0%
1234678F
8.23e6
39.77
1234789F
6.42e6
41.17
Abs. Int.
2.74e6
1.37e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.84e3
0%
1234678F
8.03e6
39.77
1234789F
6.25e6
41.17
Abs. Int.
2.59e6
1.29e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 2.19e3
0%
ES 1234678F
7.71e6
39.76
CS 1234689F
7.11e6
40.17
ES 1234789F
6.63e6
41.16
Abs. Int.
2.53e6
1.26e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 2.37e3
0%
ES 1234678F
1.73e7
39.76
CS 1234689F
1.55e7
40.17
ES 1234789F
1.44e7
41.16
Abs. Int.
5.67e6
2.83e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.24e3
0%
Abs. Int.
8.80e3
4.40e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
1.04e7*
43.59
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 1.86e3
0%
Abs. Int.
2.07e6
1.03e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.16e7*
43.59
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 3.49e3
2.21e6
1.10e6
ES OCDF
2.04e7*
43.58
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 1.51e3
3.91e6
1.96e6
ES OCDF
2.23e7*
43.57
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 1.41e3
4.46e6
2.23e6
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.50e3
3.44e3
1.72e3

Lab ID: OPR2_18957_DF **Acq'd: 24 Feb 2022 04:10 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18957_OPR002 **UTP: 24-Feb-2022 12:19:32 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 604-355-QDY**

Datafile: 220223C18 **Report: 24 Feb 2022 12:20 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.23		1.0008	1.0008	0	3.39E+06	0.82	Y	1.18	11.3	4388.103	0.155
12378-PeCDD	33.63		1.0007	1.0006	-0.2	1.09E+07	1.56	Y	1.04	50.1	3227.055	0.128
123478-HxCDD	37.56		1.0004	1.0004	0	1.09E+07	1.27	Y	1.09	54.2	3509.232	0.157
123678-HxCDD	37.68		1.0036	1.0037	+0.2	1.23E+07	1.31	Y	1.15	53.8	3509.232	0.14
123789-HxCDD	37.99		1.0118	1.0118	0	1.12E+07	1.29	Y	1.05	51.1	3509.232	0.143
1234678-HpCDD	40.74		1.0002	1.0003	+0.2	1.06E+07	1.05	Y	1.06	52.8	2244.1333	0.0999
OCDD	43.45		1.0003	1.0003	0	1.67E+07	0.89	Y	1.13	111	2724.846	0.254
2378-TCDF	27.36		1.0008	1.0008	0	3.89E+06	0.80	Y	1.08	10.2	3201.153	0.0883
12378-PeCDF	32.16		1.0005	1.0005	0	1.72E+07	1.56	Y	1.02	49.6	6969.203	0.184
23478-PeCDF	33.29		1.0005	1.0005	0	1.78E+07	1.52	Y	1.02	51.4	6969.203	0.178
123478-HxCDF	36.56		1.0004	1.0005	+0.2	1.51E+07	1.23	Y	1.27	50.9	6820.472	0.193
123678-HxCDF	36.70		1.0004	1.0004	0	1.71E+07	1.26	Y	1.15	51	6820.472	0.179
234678-HxCDF	37.38		1.0005	1.0005	0	1.83E+07	1.24	Y	1.19	53.3	6820.472	0.173
123789-HxCDF	38.36		1.0004	1.0004	0	1.31E+07	1.25	Y	1.16	48.3	6820.472	0.222
1234678-HpCDF	39.78		1.0003	1.0003	0	1.50E+07	1.03	Y	1.37	52	3283.253	0.0821
1234789-HpCDF	41.19		1.0003	1.0003	0	1.12E+07	1.03	Y	1.31	50.6	3283.253	0.127
OCDF	43.62		1.0002	1.0002	0	1.84E+07	0.91	Y	1.07	101	3158.712	0.227

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.21	1.0243	1.0243	0	2.54E+07	0.84	Y	1.05	96.8
ES 12378-PeCDD	33.61	1.2198	1.2204	+1.2	2.09E+07	1.61	Y	0.88	94.8
ES 123478-HxCDD	37.55	0.9916	0.9914	-0.5	1.85E+07	1.30	Y	0.97	88
ES 123678-HxCDD	37.67	0.9947	0.9947	0	1.98E+07	1.27	Y	0.94	97.5
ES 123789-HxCDD	37.97	1.0029	1.0027	-0.5	2.09E+07	1.27	Y	1.09	88.8
ES 1234678-HpCDD	40.72	1.0749	1.0753	+1.0	1.89E+07	1.08	Y	0.91	96
ES OCDD	43.43	1.1460	1.1469	+2.3	2.67E+07	0.90	Y	0.62	99.1
ES 2378-TCDF	27.34	1.0531	1.0533	+0.3	3.54E+07	0.79	Y	1.06	84.3
ES 12378-PeCDF	32.15	1.2378	1.2386	+1.5	3.40E+07	1.55	Y	0.91	94
ES 23478-PeCDF	33.27	1.2810	1.2818	+1.6	3.40E+07	1.58	Y	0.88	97
ES 123478-HxCDF	36.54	0.9650	0.9649	-0.2	2.33E+07	0.52	Y	1.20	90.3
ES 123678-HxCDF	36.68	0.9688	0.9687	-0.2	2.91E+07	0.54	Y	1.35	99.8
ES 234678-HxCDF	37.36	0.9866	0.9866	0	2.88E+07	0.54	Y	1.24	108
ES 123789-HxCDF	38.34	1.0125	1.0125	0	2.33E+07	0.54	Y	1.16	93.4
ES 1234678-HpCDF	39.77	1.0501	1.0502	+0.2	2.10E+07	0.44	Y	0.97	101
ES 1234789-HpCDF	41.18	1.0870	1.0874	+1.0	1.69E+07	0.46	Y	0.85	91.9
ES OCDF	43.61	1.1505	1.1516	+2.9	3.41E+07	0.89	Y	0.81	98

Lab ID: OPR2_18957_DF | **Acq'd:** 24 Feb 2022 04:10 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18957_OPR002 | **UTP:** 24-Feb-2022 12:19:32 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 604-355-QDY

Datafile: 220223C18 | **Report:** 24 Feb 2022 12:20 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.54		-	-	-	2.51E+07	0.80	Y	-	-
JS 1234-TCDF	25.96		-	-	-	3.97E+07	0.78	Y	-	-
JS 123467-HxCDD	37.87		-	-	-	1.08E+07	1.26	Y	-	-
CS 37Cl-2378-TCDD	28.23		1.0251	1.0251	0	1.20E+07	n/a	-	1.20	99.8
CS 12347-PeCDD	33.10		1.2016	1.2021	+1.0	2.10E+07	1.67	Y	0.75	111
CS 12346-PeCDF	31.61		1.2172	1.2180	+1.5	3.46E+07	1.59	Y	0.85	103
CS 123469-HxCDF	36.99		0.9771	0.9769	-0.4	2.69E+07	0.54	Y	1.12	112
CS 1234689-HpCDF	40.18		1.0608	1.0611	+0.7	2.04E+07	0.46	Y	0.89	106
~~SS 37Cl-2378-TCDD~~	~~28.23~~		~~1.0251~~	~~1.0251~~	~~0~~	~~1.20E+07~~	~~n/a~~		~~1.15~~	~~103~~
~~SS 12347-PeCDD~~	~~33.10~~		~~1.2016~~	~~1.2021~~	~~+1.0~~	~~2.10E+07~~	~~1.67~~	~~Y~~	~~0.86~~	~~117~~
~~SS 12346-PeCDF~~	~~31.61~~		~~1.2172~~	~~1.2180~~	~~+1.5~~	~~3.46E+07~~	~~1.59~~	~~Y~~	~~0.94~~	~~109~~
~~SS 123469-HxCDF~~	~~36.99~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~2.69E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~112~~
~~SS 1234689-HpCDF~~	~~40.18~~		~~1.0608~~	~~1.0611~~	~~+0.7~~	~~2.04E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~105~~

Totals	Conc	EMPC
Total TCDD	52.2	52.2
Total PeCDD	77.1	77.1
Total HxCDD	175	175
Total HpCDD	65.1	65.1
Total Tetra-Octa Dioxins	481	481
Total TCDF	62	62
Total PeCDF	204	204
Total HxCDF	324	324
Total HpCDF	103	103
Total Tetra-Octa Furans	793	793
Total Tetra-Octa Dioxins & Furans	1270	1270

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.816	0.82
Response	3.39E+06	3.39E+06

Lab ID: OPR2_18957_DF **Acq'd: 24 Feb 2022 04:10 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18957_OPR002 **UTP: 24-Feb-2022 12:19:32 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 604-355-QDY**

Datafile: 220223C18 **Report: 24 Feb 2022 12:20 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.53		0.8701	0.8698	-0.4	4.48E+06	0.77	Y	1.18	14.9	4388.103	0.155
1379-TCDD	NotFnd		0.8829						1.18		4388.103	0.155
1369-TCDD	NotFnd		0.8982						1.18		4388.103	0.155
1469-TCDD	NotFnd		0.9261						1.18		4388.103	0.155
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4388.103	0.155
1378-TCDD	NotFnd		0.9417						1.18		4388.103	0.155
1268-TCDD	NotFnd		0.9487						1.18		4388.103	0.155
1478-TCDD	NotFnd		0.9576						1.18		4388.103	0.155
1279-TCDD	NotFnd		0.9636						1.18		4388.103	0.155
1234/1269-TCDD	NotFnd		0.9761						1.18		4388.103	0.155
1236-TCDD	NotFnd		0.9812						1.18		4388.103	0.155
1237/1238-TCDD	NotFnd		0.9905						1.18		4388.103	0.155
1239-TCDD	28.07		0.9951	0.9951	0	3.37E+06	0.77	Y	1.18	11.2	4388.103	0.155
2378-TCDD	**28.23**		**1.0008**	1.0008	**0**	3.39E+06	0.82	Y	**1.18**	**11.3**	**4388.103**	**0.155**
1278-TCDD	NotFnd		1.0124						1.18		4388.103	0.155
1267-TCDD	NotFnd		1.0172						1.18		4388.103	0.155
1289-TCDD	29.21		1.0354	1.0356	+0.4	4.47E+06	0.79	Y	1.18	14.9	4388.103	0.155
12479/12468-PeCDD	31.11		0.9255	0.9256	+0.2	2.89E+06	1.61	Y	1.04	13.3	3227.055	0.128
12469-PeCDD	NotFnd		0.9416						1.04		3227.055	0.128
12368-PeCDD	NotFnd		0.9582						1.04		3227.055	0.128
12478-PeCDD	NotFnd		0.9637						1.04		3227.055	0.128
12379-PeCDD	NotFnd		0.9668						1.04		3227.055	0.128
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		3227.055	0.128
12346/12347-PeCDD	NotFnd		0.9858						1.04		3227.055	0.128
12378-PeCDD	33.63		**1.0007**	**1.0006**	**-0.2**	**1.09E+07**	**1.56**	**Y**	**1.04**	**50.1**	**3227.055**	**0.128**
12367-PeCDD	NotFnd		1.0036						1.04		3227.055	0.128
12389-PeCDD	34.07		1.0137	1.0137	0	2.96E+06	1.59	Y	1.04	13.7	3227.055	0.128
124679/124689-HxCDD	35.81		0.9540	0.9539	-0.2	3.50E+06	1.29	Y	1.10	16.2	3509.232	0.146
123468-HxCDD	NotFnd		0.9715						1.10		3509.232	0.146
123679/123689-HxCDD	NotFnd		0.9793						1.10		3509.232	0.146
123469-HxCDD	NotFnd		0.9829						1.10		3509.232	0.146
123478-HxCDD	37.56		**1.0004**	**1.0004**	**0**	**1.09E+07**	**1.27**	**Y**	1.09	**54.2**	**3509.232**	**0.157**
123678-HxCDD	37.68		**1.0036**	**1.0037**	**+0.2**	**1.23E+07**	**1.31**	**Y**	1.15	**53.8**	**3509.232**	**0.14**
123467-HxCDD	NotFnd		1.0089						1.10		3509.232	0.146
123789-HxCDD	37.99		**1.0118**	**1.0118**	**0**	**1.12E+07**	**1.29**	**Y**	1.05	**51.1**	**3509.232**	**0.143**

Lab ID: OPR2_18957_DF **Acq'd: 24 Feb 2022 04:10 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18957_OPR002 **UTP: 24-Feb-2022 12:19:32 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 604-355-QDY**

Datafile: 220223C18 **Report: 24 Feb 2022 12:20 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.05		0.9836	0.9836	0	2.47E+06	0.98	Y	1.06	12.3	2244.1333	0.0999
1234678-HpCDD	**40.74**		**1.0002**	**1.0003**	**+0.2**	**1.06E+06**	**1.05**	**Y**	**1.06**	**52.8**	**2244.1333**	**0.0999**
OCDD	**43.45**		**1.0003**	**1.0003**	**0**	**1.67E+07**	**0.89**	**Y**	**1.13**	**111**	**2724.846**	**0.254**
OCDD-a	43.44		1.0002	1.0002	0	8.86E+05	2.41	Y	0.07	92.2	3325.331	4.86
1368-TCDF	22.38		0.8191	0.8185	-0.8	5.96E+06	0.79	Y	1.08	15.6	3201.153	0.0883
1468-TCDF	NotFnd		0.8408						1.08		3201.153	0.0883
2468-TCDF	23.62		0.8645	0.8642	-0.4	1.41E+06	0.74	Y	1.08	3.68	3201.153	0.0883
1346/1246-TCDF	NotFnd		0.8772						1.08		3201.153	0.0883
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		3201.153	0.0883
1348-TCDF	NotFnd		0.8932						1.08		3201.153	0.0883
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		3201.153	0.0883
1268-TCDF	NotFnd		0.9119						1.08		3201.153	0.0883
1467-TCDF	NotFnd		0.9170						1.08		3201.153	0.0883
1478-TCDF	NotFnd		0.9234						1.08		3201.153	0.0883
1369/1237-TCDF	NotFnd		0.9369						1.08		3201.153	0.0883
2467-TCDF	NotFnd		0.9415						1.08		3201.153	0.0883
2368-TCDF	NotFnd		0.9475						1.08		3201.153	0.0883
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		3201.153	0.0883
1278-TCDF	NotFnd		0.9676						1.08		3201.153	0.0883
1349-TCDF	NotFnd		0.9722						1.08		3201.153	0.0883
1267-TCDF	NotFnd		0.9777						1.08		3201.153	0.0883
2346/1249-TCDF	NotFnd		0.9843						1.08		3201.153	0.0883
2347/1279-TCDF	NotFnd		0.9926						1.08		3201.153	0.0883
2348-TCDF	27.25		0.9968	0.9968	0	5.91E+06	0.80	Y	1.08	15.4	3201.153	0.0883
2378-TCDF	**27.36**		**1.0008**	**1.0008**	**0**	**3.89E+06**	**0.80**	**Y**	**1.08**	**10.2**	**3201.153**	**0.0883**
2367/3467-TCDF	NotFnd		1.0142						1.08		3201.153	0.0883
1269-TCDF	NotFnd		1.0235						1.08		3201.153	0.0883
1239-TCDF	NotFnd		1.0329						1.08		3201.153	0.0883
1289-TCDF	29.38		1.0742	1.0748	+1.1	6.55E+06	0.80	Y	1.08	17.1	3201.153	0.0883
13468/12468-PeCDF	29.31		0.9122	0.9116	-1.1	3.18E+07	1.56	Y	1.02	91.5	2685.635	0.0696
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		6969.203	0.181
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		6969.203	0.181
14678-PeCDF	NotFnd		0.9685						1.02		6969.203	0.181
13479-PeCDF	NotFnd		0.9716						1.02		6969.203	0.181
13469/12479-PeCDF	NotFnd		0.9794						1.02		6969.203	0.181
12346-PeCDF	NotFnd		0.9836						1.02		6969.203	0.181

Lab ID: OPR2_18957_DF | **Acq'd: 24 Feb 2022 04:10 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18957_OPR002 | **UTP: 24-Feb-2022 12:19:32 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 604-355-QDY**

Datafile: 220223C18 | **Report: 24 Feb 2022 12:20 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		6969.203	0.181
12347-PeCDF	NotFnd		0.9891						1.02		6969.203	0.181
12348-PeCDF	NotFnd		0.9938						1.02		6969.203	0.181
12378-PeCDF	**32.16**		**1.0005**	**1.0005**	**0**	**1.72E+07**	**1.56**	**Y**	**1.02**	**49.6**	**6969.203**	**0.184**
12678/12367-PeCDF	NotFnd		1.0091						1.02		6969.203	0.181
12379-PeCDF	NotFnd		1.0144						1.02		6969.203	0.181
12679-PeCDF	NotFnd		0.9927						1.02		6969.203	0.181
23467/12369-PeCDF	NotFnd		0.9965						1.02		6969.203	0.181
23478-PeCDF	**33.29**		**1.0005**	**1.0005**	**0**	**1.78E+07**	**1.52**	**Y**	**1.02**	**51.4**	**6969.203**	**0.178**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6969.203	0.181
12349-PeCDF	NotFnd		1.0101						1.02		6969.203	0.181
12389-PeCDF	34.37		1.0330	1.0330	0	3.90E+06	1.52	Y	1.02	11.2	6969.203	0.181
123468-HxCDF	35.16		0.9622	0.9622	0	3.77E+07	1.22	Y	1.19	121	6820.472	0.19
124678/134678-HxCDF	NotFnd		0.9678						1.19		6820.472	0.19
134679-HxCDF	NotFnd		0.9741						1.19		6820.472	0.19
124679-HxCDF	NotFnd		0.9795						1.19		6820.472	0.19
124689-HxCDF	NotFnd		0.9856						1.19		6820.472	0.19
123467-HxCDF	NotFnd		0.9972						1.19		6820.472	0.19
123478-HxCDF	**36.56**		**1.0004**	**1.0005**	**+0.2**	**1.51E+07**	**1.23**	**Y**	**1.27**	**50.9**	**6820.472**	**0.193**
123678-HxCDF	**36.70**		**1.0004**	**1.0004**	**0**	**1.71E+07**	**1.26**	**Y**	**1.15**	**51**	**6820.472**	**0.179**
123479-HxCDF	NotFnd		1.0048						1.19		6820.472	0.19
123469-HxCDF	NotFnd		1.0089						1.19		6820.472	0.19
123679-HxCDF	NotFnd		0.9942						1.19		6820.472	0.19
234678-HxCDF	**37.38**		**1.0005**	**1.0005**	**0**	**1.83E+07**	**1.24**	**Y**	**1.19**	**53.3**	**6820.472**	**0.173**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6820.472	0.19
123789-HxCDF	**38.36**		**1.0004**	**1.0004**	**0**	**1.31E+07**	**1.25**	**Y**	**1.16**	**48.3**	**6820.472**	**0.222**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		6820.472	0.19
1234678-HpCDF	**39.78**		**1.0003**	**1.0003**	**0**	**1.50E+07**	**1.03**	**Y**	**1.37**	**52**	**3283.253**	**0.0821**
1234679-HpCDF	NotFnd		1.0068						1.34		3283.253	0.102
1234689-HpCDF	NotFnd		1.0104						1.34		3283.253	0.102
1234789-HpCDF	**41.19**		**1.0003**	**1.0003**	**0**	**1.12E+07**	**1.03**	**Y**	**1.31**	**50.6**	**3283.253**	**0.127**
OCDF	**43.62**		**1.0002**	**1.0002**	**0**	**1.84E+07**	**0.91**	**Y**	**1.07**	**101**	**3158.712**	**0.227**
OCDF-a	43.62	**EMPC**	1.0001	1.0001	0	1.04E+06	2.08	N	0.07	91.8	2695.207	3.12

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220223C18	Analysis Date:	24-FEB-2022 04:10:44
Lab ID:	OPR2_18957_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.3	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	50.1	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	54.2	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	53.8	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	51.1	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	52.8	35	-	70	Y
OCDD	100	111	78	-	144	Y
2,3,7,8-TCDF	10	10.2	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	49.6	40	-	67	Y
2,3,4,7,8-PeCDF	50	51.4	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	50.9	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	51	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	53.3	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	48.3	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	52	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	50.6	39	-	69	Y
OCDF	100	101	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 24 Feb 2022 12:20 Analyst: TF

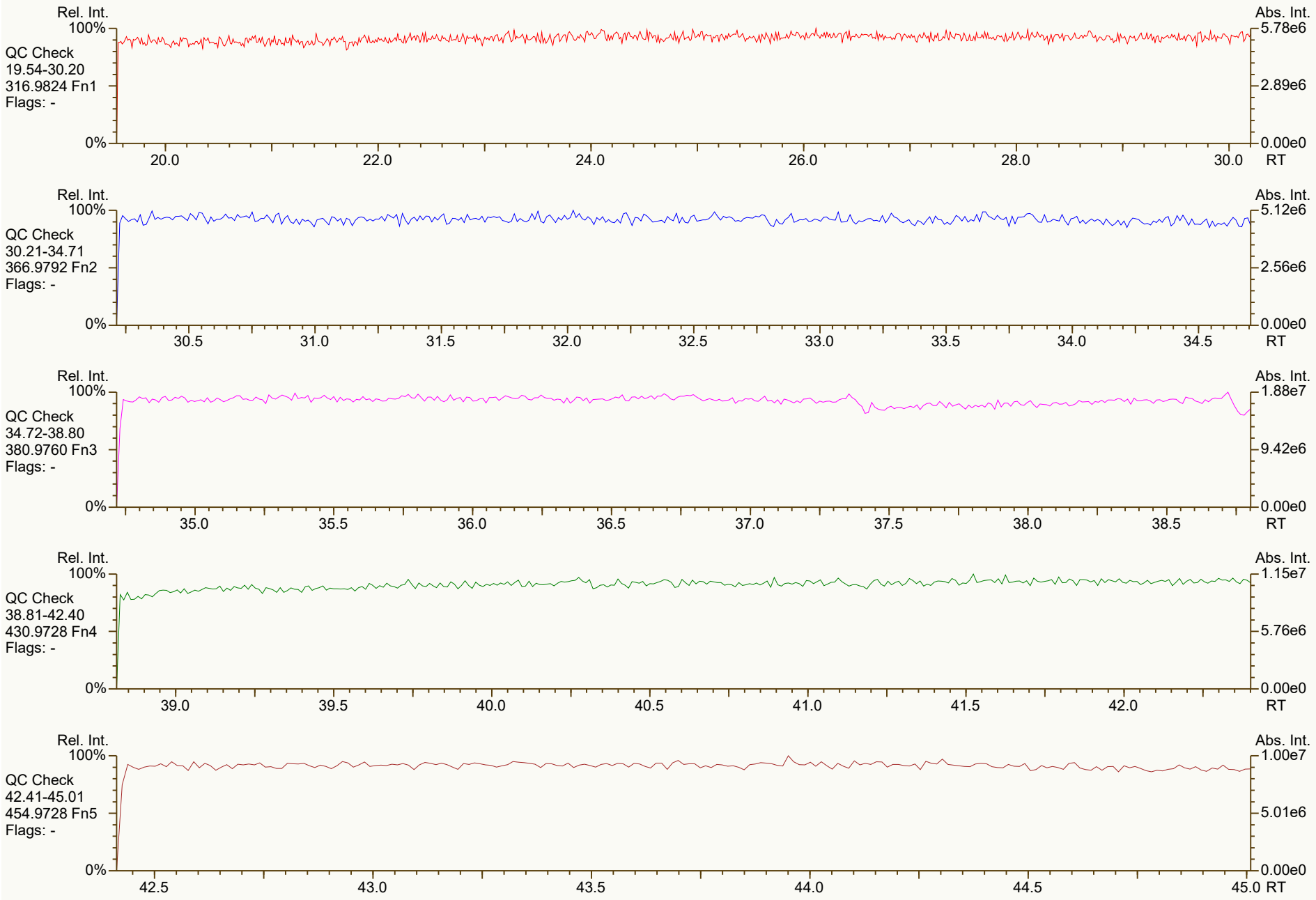
METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

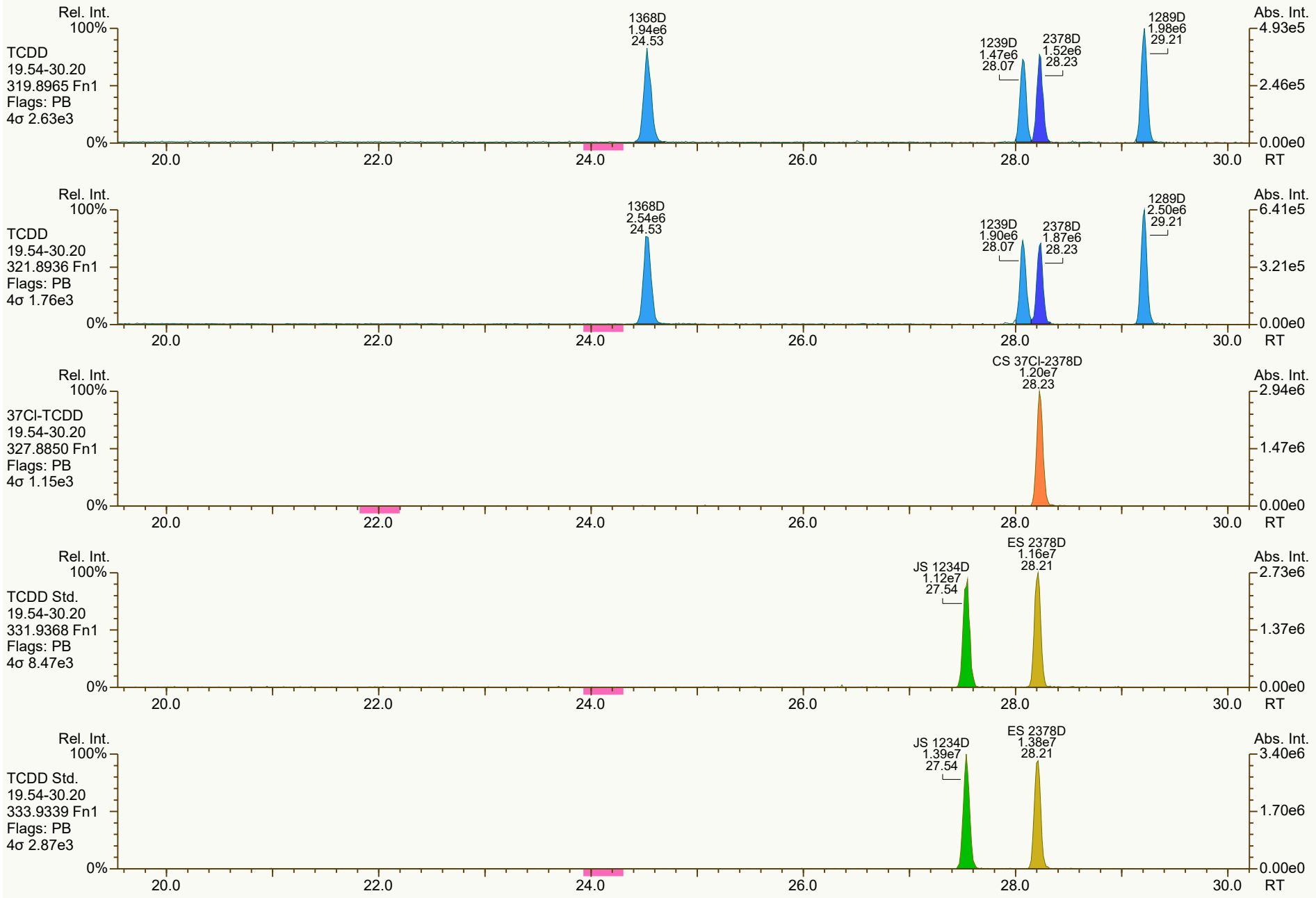
Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220223C18	Analysis Date:	24-FEB-2022 04:10:44
Lab ID:	OPR2_18957_DF		

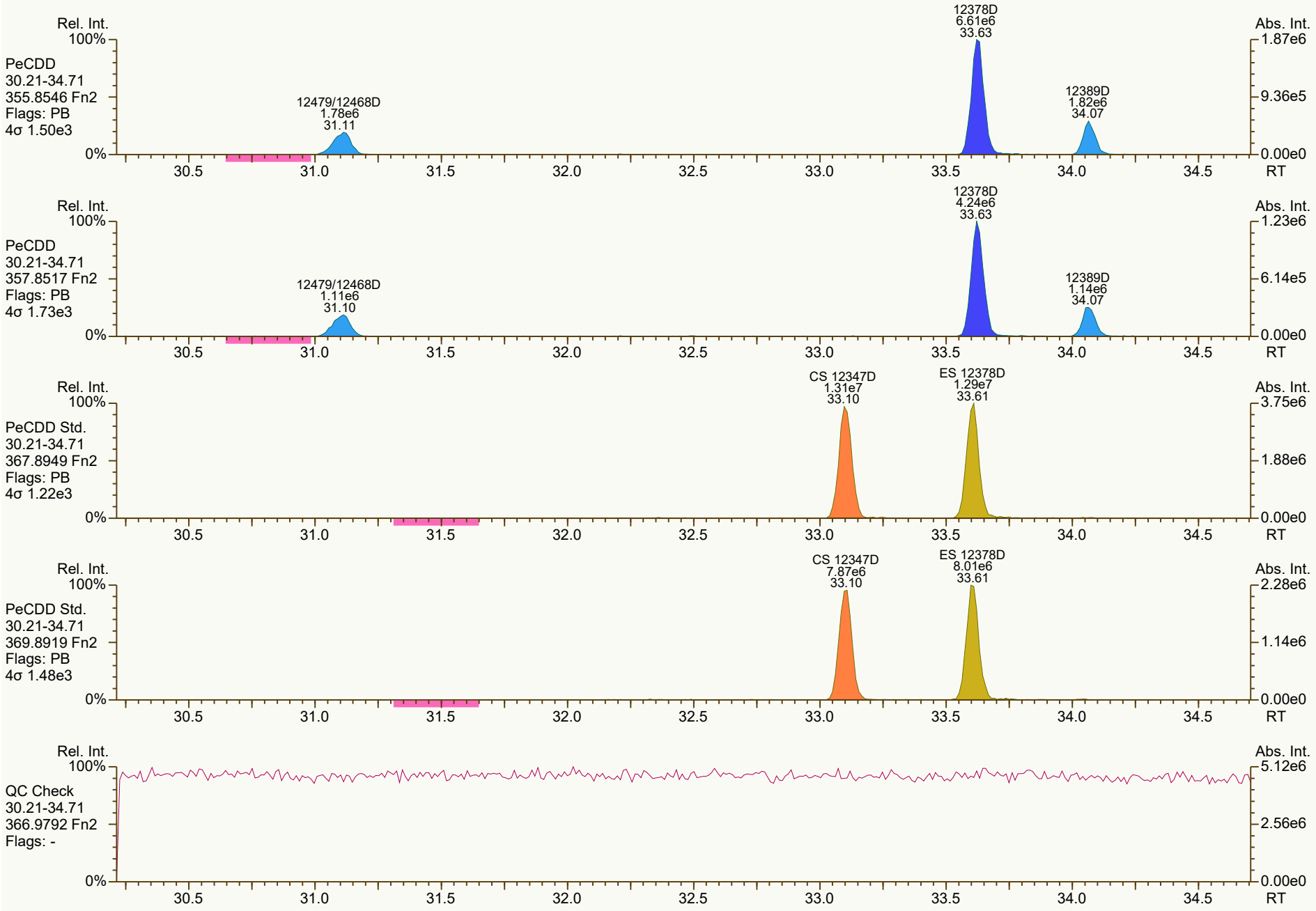
LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	96.8	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	94.8	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	88	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	97.5	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	88.8	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	96	26	-	166	Y
13C-OCDD	200	198	26	-	397	Y
13C-2,3,7,8-TCDF	100	84.3	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	94	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	97	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	90.3	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	99.8	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	108	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	93.4	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	101	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	91.9	20	-	186	Y
13C-OCDF	200	196	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	39.9	12.4	-	76.4	Y

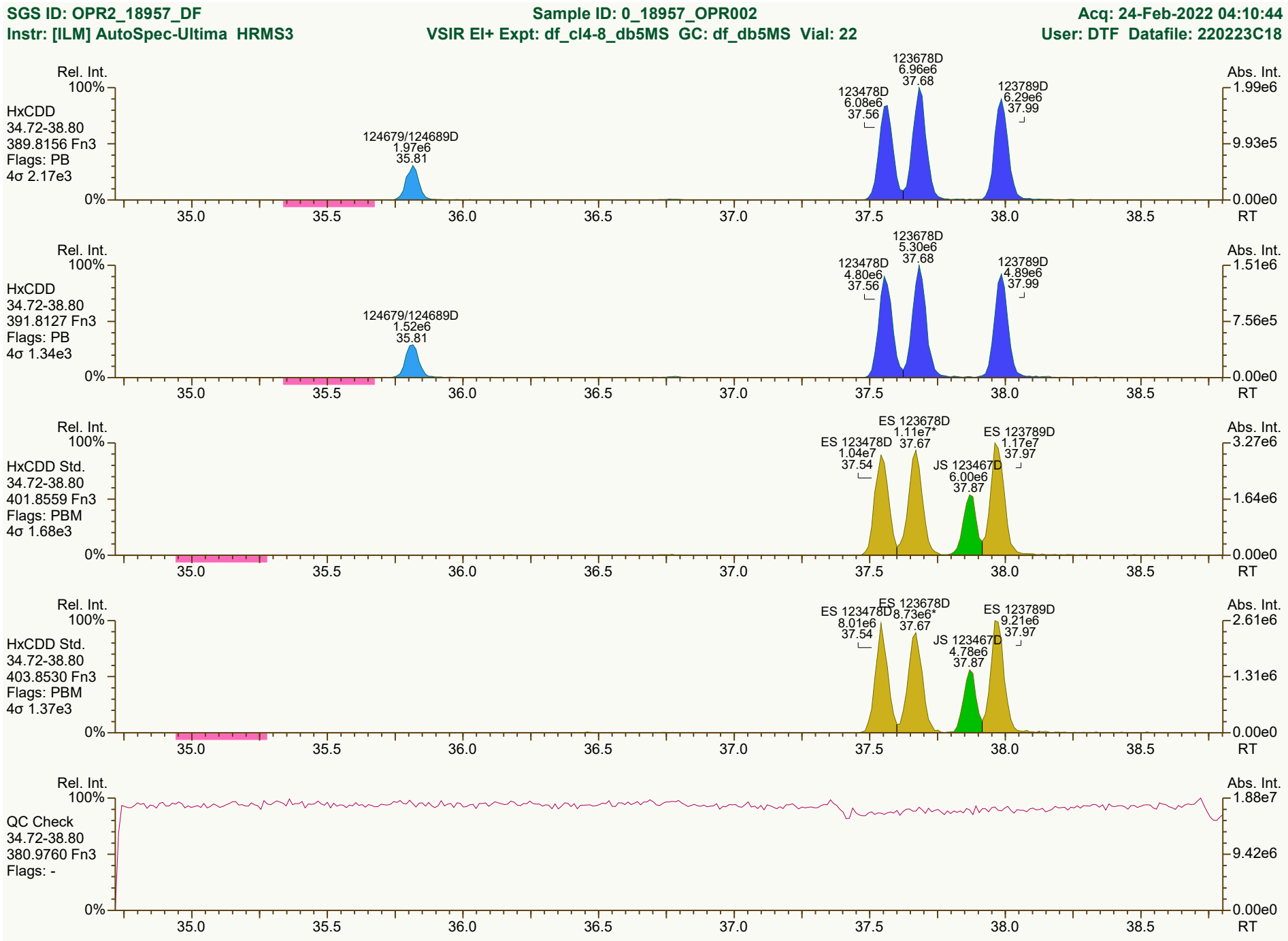
Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

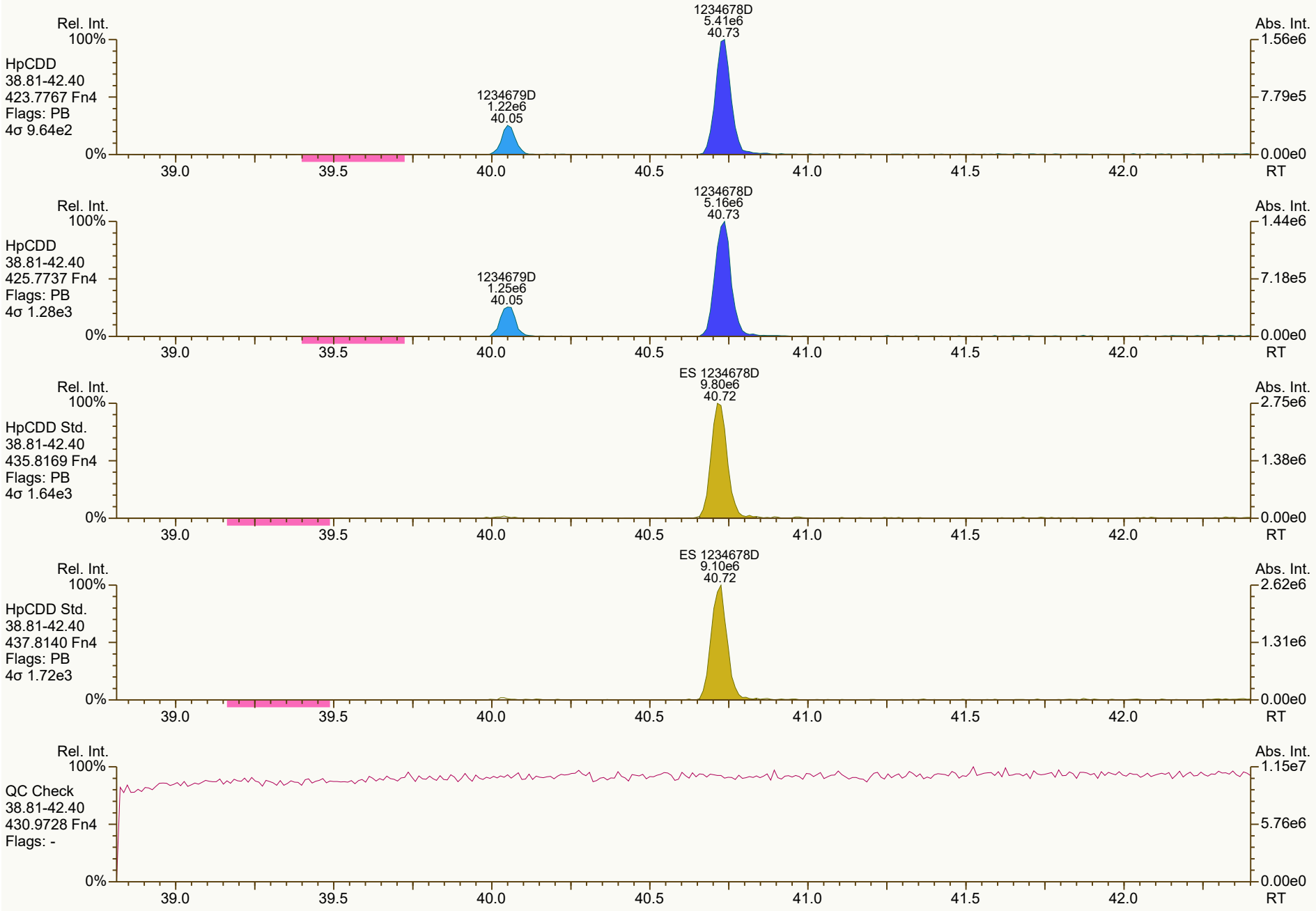
Processed: 24 Feb 2022 12:20 Analyst: TF

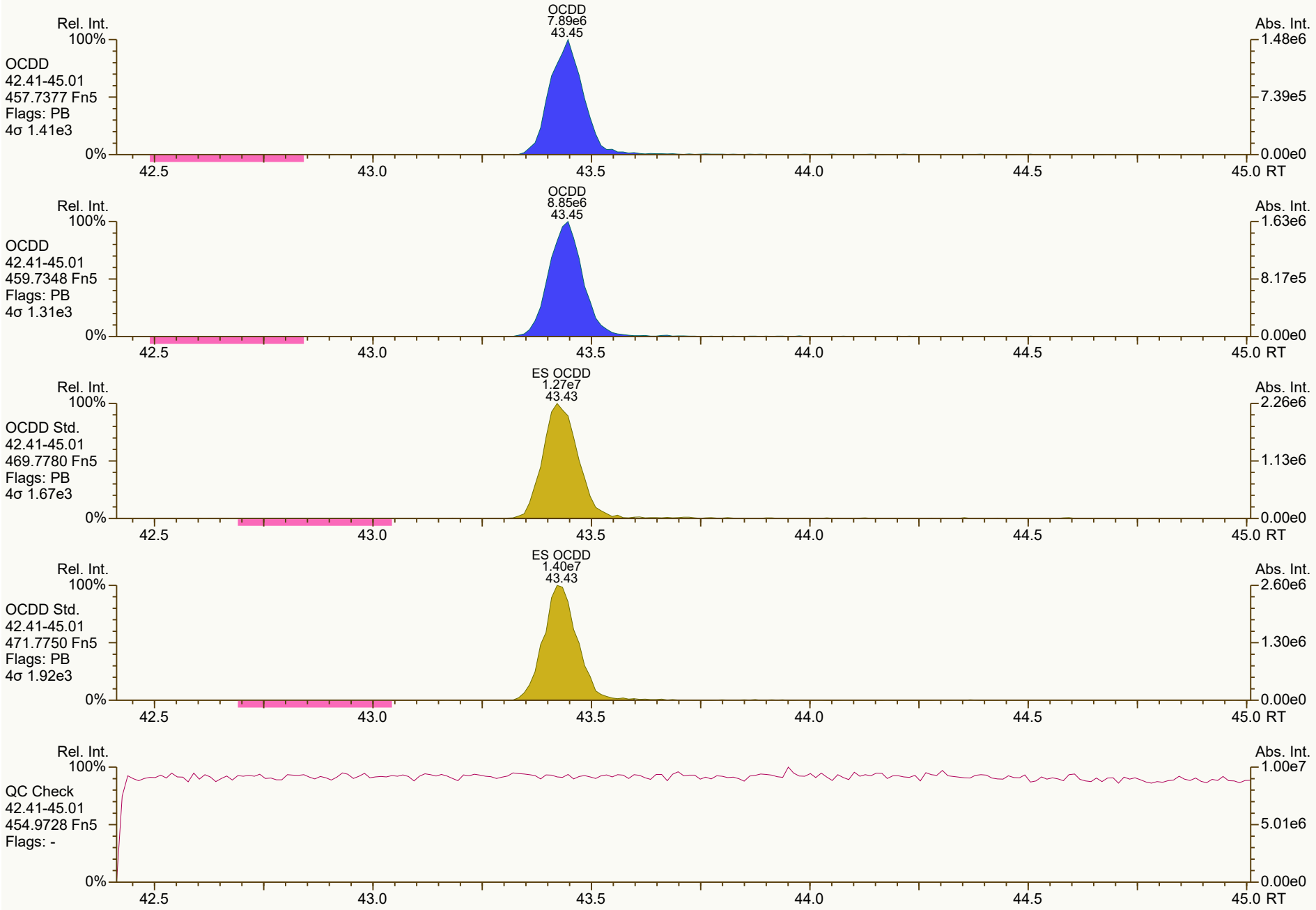

Rel. Int.
100%
0%
Abs. Int.
5.78e6
2.89e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
5.12e6
2.56e6
0.00e0
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
0%
Abs. Int.
1.88e7
9.42e6
0.00e0
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
0%
Abs. Int.
1.15e7
5.76e6
0.00e0
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.00e7
5.01e6
0.00e0
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0
RT

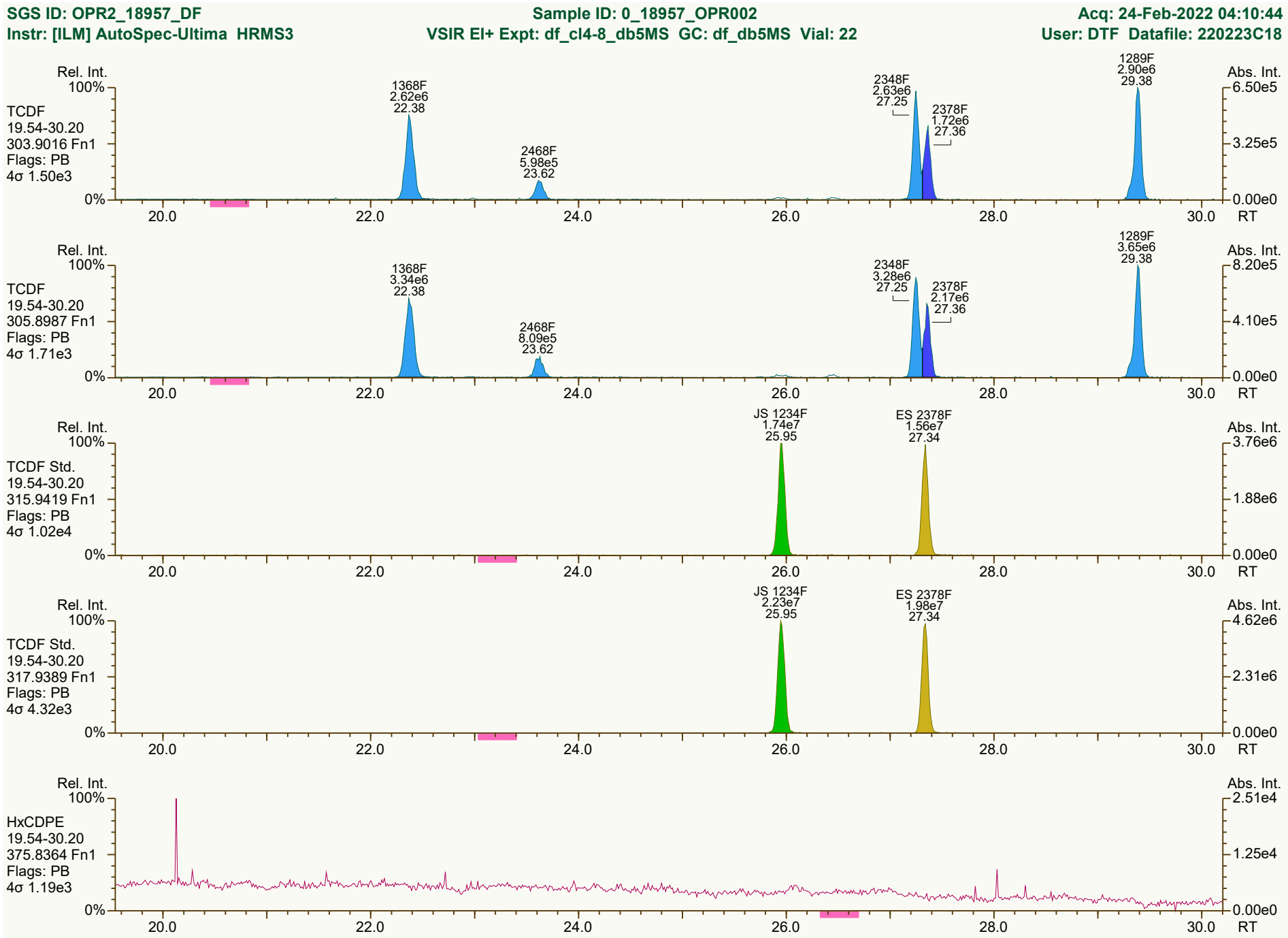

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.63e3
0%
1368D
1.94e6
24.53
1239D
1.47e6
28.07
2378D
1.52e6
28.23
1289D
1.98e6
29.21
Abs. Int.
4.93e5
2.46e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.76e3
0%
1368D
2.54e6
24.53
1239D
1.90e6
28.07
2378D
1.87e6
28.23
1289D
2.50e6
29.21
Abs. Int.
6.41e5
3.21e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.15e3
0%
CS 37Cl-2378D
1.20e7
28.23
Abs. Int.
2.94e6
1.47e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 8.47e3
0%
JS 1234D
1.12e7
27.54
ES 2378D
1.16e7
28.21
Abs. Int.
2.73e6
1.37e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.87e3
0%
JS 1234D
1.39e7
27.54
ES 2378D
1.38e7
28.21
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.50e3
12479/12468D
1.78e6
31.11
12378D
6.61e6
33.63
12389D
1.82e6
34.07
Abs. Int.
1.87e6
9.36e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.73e3
12479/12468D
1.11e6
31.10
12378D
4.24e6
33.63
12389D
1.14e6
34.07
Abs. Int.
1.23e6
6.14e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 1.22e3
CS 12347D
1.31e7
33.10
ES 12378D
1.29e7
33.61
Abs. Int.
3.75e6
1.88e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.48e3
CS 12347D
7.87e6
33.10
ES 12378D
8.01e6
33.61
Abs. Int.
2.28e6
1.14e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Abs. Int.
5.12e6
2.56e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


SGS ID: OPR2_18957_DF
Sample ID: 0_18957_OPR002
Acq: 24-Feb-2022 04:10:44
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 22
User: DTF Datafile: 220223C18
Rel. Int.
Abs. Int.
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 2.17e3
124679/124689D
1.97e6
35.81
123478D
6.08e6
37.56
123678D
6.96e6
37.68
123789D
6.29e6
37.99
1.99e6
9.93e5
0.00e0
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.34e3
124679/124689D
1.52e6
35.81
123478D
4.80e6
37.56
123678D
5.30e6
37.68
123789D
4.89e6
37.99
1.51e6
7.56e5
0.00e0
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 1.68e3
ES 123478D
1.04e7
37.54
ES 123678D
1.11e7*
37.67
JS 123467D
6.00e6
37.87
ES 123789D
1.17e7
37.97
3.27e6
1.64e6
0.00e0
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 1.37e3
ES 123478D
8.01e6
37.54
ES 123678D
8.73e6*
37.67
JS 123467D
4.78e6
37.87
ES 123789D
9.21e6
37.97
2.61e6
1.31e6
0.00e0
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
1.88e7
9.42e6
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Results: P:\B6300_B6399\B6328\B6328_18957 DF\Resources\OPR2_18957_DF.utp_res, saved 24-Feb-2022 12:19 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6843, 2305 scc: 604-355
Revised: 24-Feb-2022 12:02 (DTF) Printed: 24-Feb-2022 12:27 Page 4 of 12

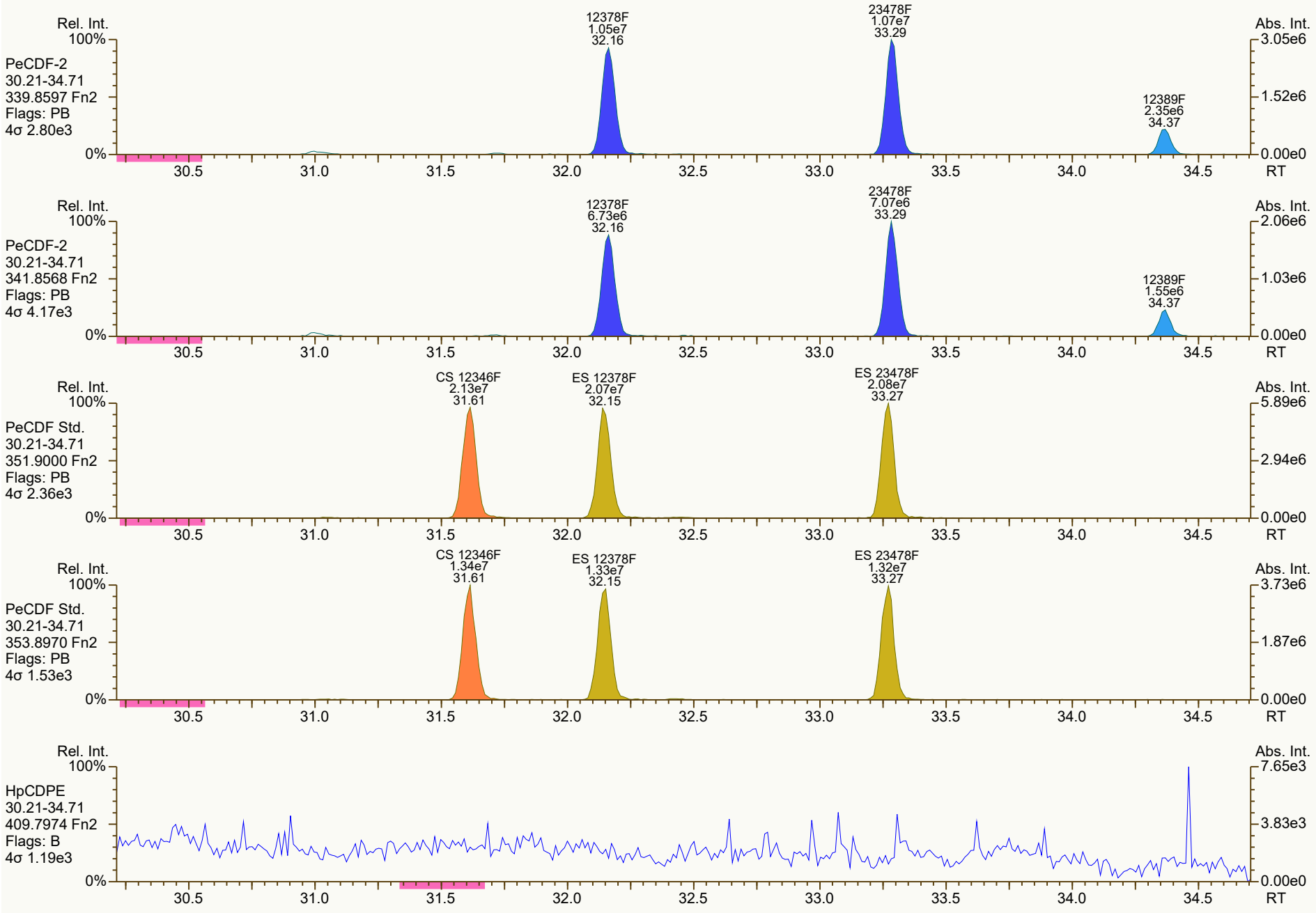

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 9.64e2
1234678D
5.41e6
40.73
1234679D
1.22e6
40.05
Abs. Int.
1.56e6
7.79e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.28e3
1234678D
5.16e6
40.73
1234679D
1.25e6
40.05
Abs. Int.
1.44e6
7.18e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 1.64e3
ES 1234678D
9.80e6
40.72
Abs. Int.
2.75e6
1.38e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.72e3
ES 1234678D
9.10e6
40.72
Abs. Int.
2.62e6
1.31e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.15e7
5.76e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
7.89e6
43.45
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 1.41e3
0%
Abs. Int.
1.48e6
7.39e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
8.85e6
43.45
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 1.31e3
1.63e6
8.17e5
ES OCDD
1.27e7
43.43
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 1.67e3
2.26e6
1.13e6
ES OCDD
1.40e7
43.43
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.92e3
2.60e6
1.30e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.00e7
5.01e6



Results: P:\B6300_B6399\B6328\B6328_18957 DF\Resources\OPR2_18957_DF.utp_res, saved 24-Feb-2022 12:19 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5135, 3045, 4296 scc: 604-355
PKD: 24-Feb-2022 12:03 Printed: 24-Feb-2022 12:27 Page 7 of 12

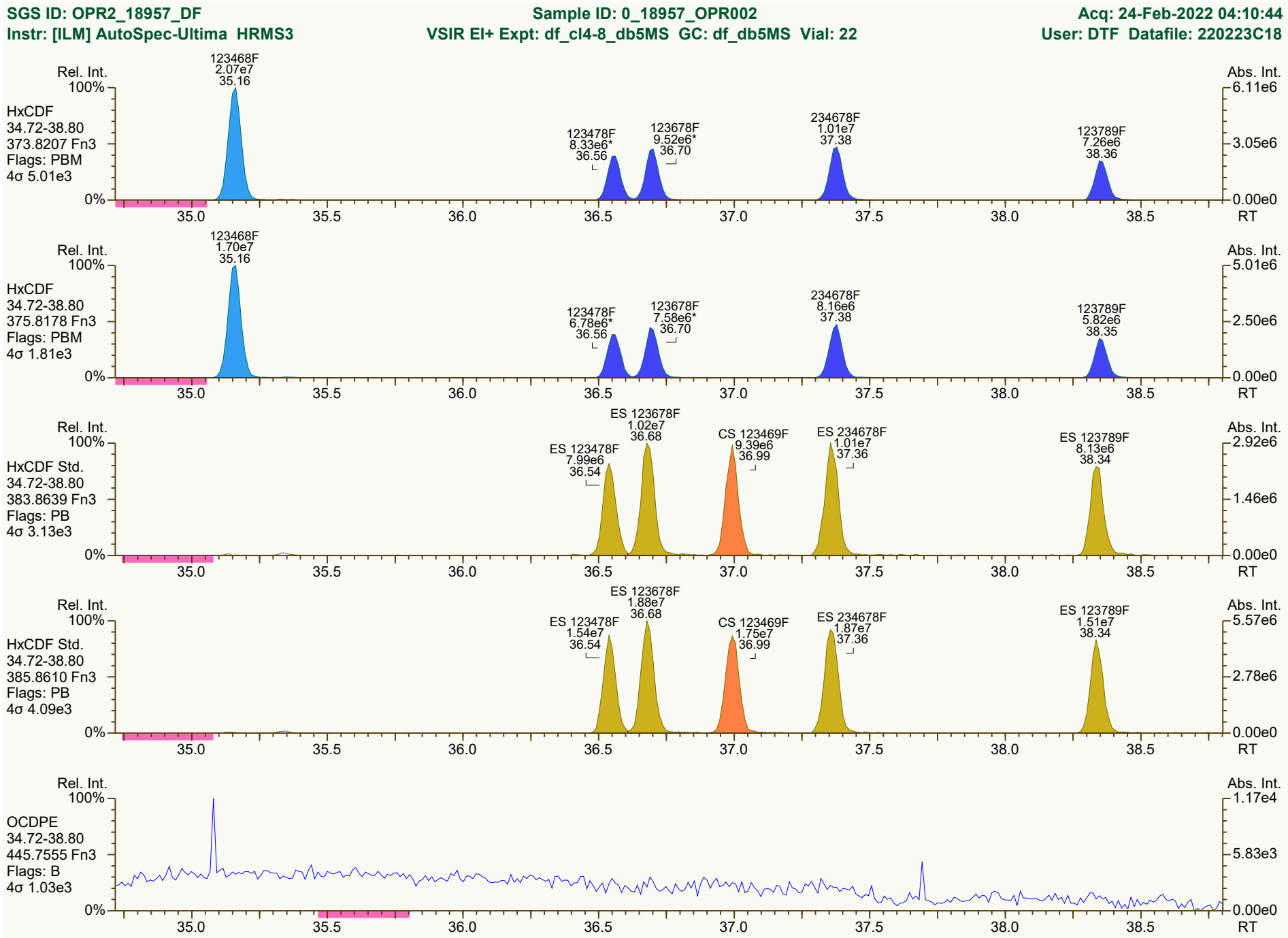

Rel. Int.
100%
0%
Abs. Int.
4.69e6
2.35e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
13468/12468F
1.94e7
29.31
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.59e3
13468/12468F
1.24e7
29.31
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.10e3
Abs. Int.
3.00e6
1.50e6
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
5.78e6
2.89e6


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 2.80e3
0%
12378F
1.05e7
32.16
23478F
1.07e7
33.29
12389F
2.35e6
34.37
Abs. Int.
3.05e6
1.52e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 4.17e3
0%
12378F
6.73e6
32.16
23478F
7.07e6
33.29
12389F
1.55e6
34.37
Abs. Int.
2.06e6
1.03e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 2.36e3
0%
CS 12346F
2.13e7
31.61
ES 12378F
2.07e7
32.15
ES 23478F
2.08e7
33.27
Abs. Int.
5.89e6
2.94e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 1.53e3
0%
CS 12346F
1.34e7
31.61
ES 12378F
1.33e7
32.15
ES 23478F
1.32e7
33.27
Abs. Int.
3.73e6
1.87e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.19e3
0%
Abs. Int.
7.65e3
3.83e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

SGS ID: OPR2_18957_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

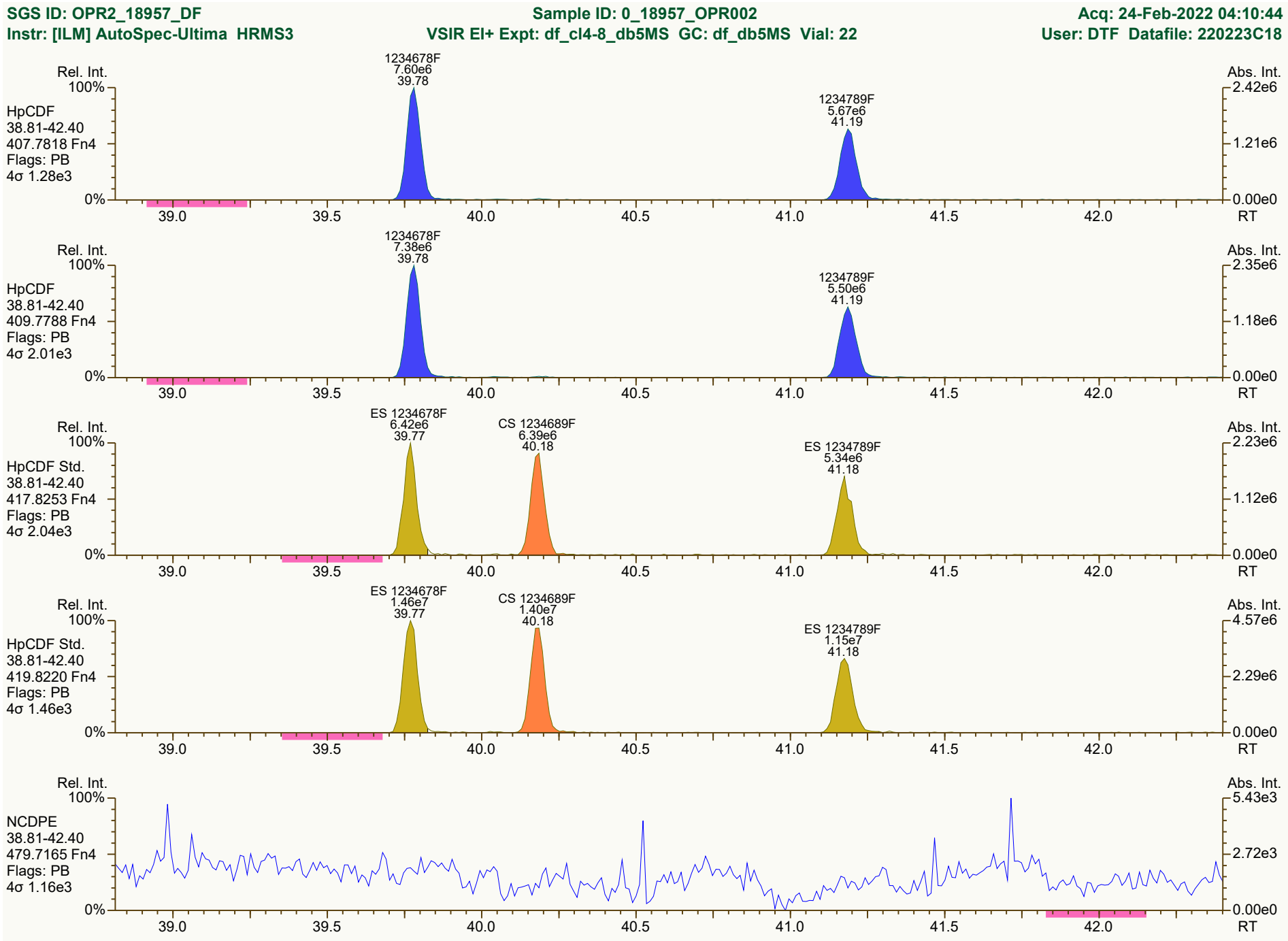
Sample ID: 0_18957_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 22

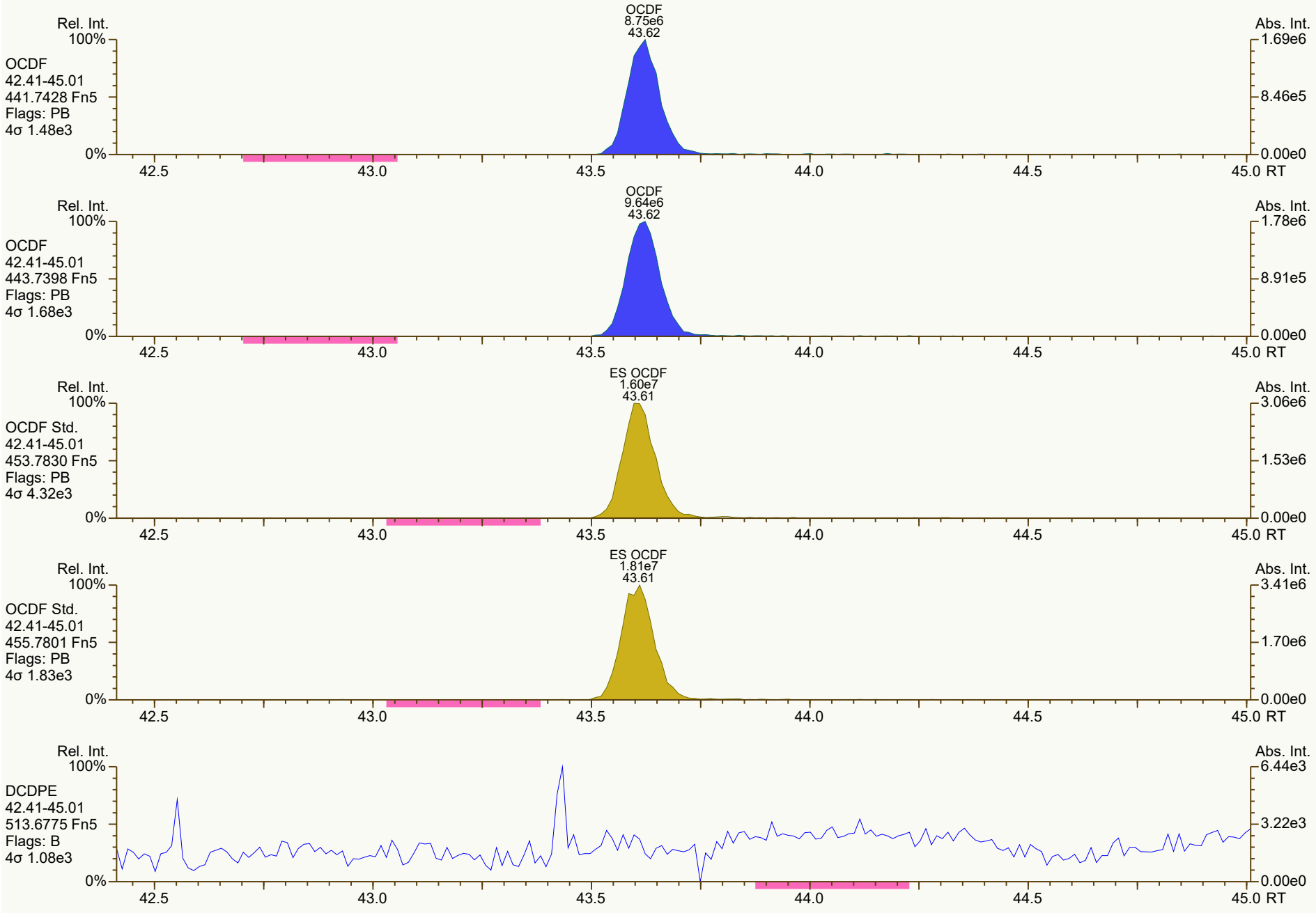
Acq: 24-Feb-2022 04:10:44
User: DTF Datafile: 220223C18



Results: P:\B6300_B6399\B6328\B6328_18957 DF\Resources\OPR2_18957_DF.utp_res, saved 24-Feb-2022 12:19 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2337, 4364, 0513 scc: 604-355

Peak annotation: Areas, Centroids
Revised: 24-Feb-2022 12:02 (DTF) Printed: 24-Feb-2022 12:27 Page 10 of 12


SGS ID: OPR2_18957_DF
Sample ID: 0_18957_OPR002
Acq: 24-Feb-2022 04:10:44
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 22
User: DTF Datafile: 220223C18
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.28e3
1234678F
7.60e6
39.78
1234789F
5.67e6
41.19
2.42e6
1.21e6
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 2.01e3
1234678F
7.38e6
39.78
1234789F
5.50e6
41.19
2.35e6
1.18e6
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 2.04e3
ES 1234678F
6.42e6
39.77
CS 1234689F
6.39e6
40.18
ES 1234789F
5.34e6
41.18
2.23e6
1.12e6
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 1.46e3
ES 1234678F
1.46e7
39.77
CS 1234689F
1.40e7
40.18
ES 1234789F
1.15e7
41.18
4.57e6
2.29e6
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.16e3
5.43e3
2.72e3
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6300_B6399\B6328\B6328_18957 DF\Resources\OPR2_18957_DF.utp_res, saved 24-Feb-2022 12:19 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6284, 3090, 8111 scc: 604-355
PKD: 24-Feb-2022 12:02 Printed: 24-Feb-2022 12:27 Page 11 of 12


OCDF
8.75e6
43.62
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.48e3
0%
Abs. Int.
1.69e6
8.46e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
9.64e6
43.62
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.68e3
0%
Abs. Int.
1.78e6
8.91e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.60e7
43.61
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 4.32e3
0%
Abs. Int.
3.06e6
1.53e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.81e7
43.61
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 1.83e3
0%
Abs. Int.
3.41e6
1.70e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.08e3
0%
Abs. Int.
6.44e3
3.22e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6234

28-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

Meagan Willis

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Houston, TX 77079
Phone: 713-907-3710
Email: Meagan.Willis@ghd.com

This report is approved by

Tamara Burkamper

tamara.burkamper@sgs.com

Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6234
Analytical Protocol(s)	1613B
No. Samples Submitted	9
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	26-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	0.2, 0.0
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.14.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements, except for the following: the reported percent deviation of CS 1,2,3,4,6,8,9-HpCDF is above SOP criteria. There is no method specified criteria for these standards and no adverse impact on results.

No re-extractions or dilutions were required.

B6234_005: the reported ion ratio of labeled standard ES 1,2,3,7,8,9-HxCDD is outside method criteria.

OPR1/OPR2_18872 meet accuracy and precision criteria, except for the following: RPD of 2,3,7,8-TCDF is >20%.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-021722-S-SB-SC-O-24 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID	B6329_18965_DF_001	Date Extracted:	28-Feb-2022
Date Collected:	17-Feb-2022	% Solid:	68.4 %	QC Batch No:	18965	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:44:48

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	6.73				ES 2378-TCDD	75.3	
12378-PeCDD	19.7				ES 12378-PeCDD	77.6	
123478-HxCDD	16				ES 123478-HxCDD	77.3	
123678-HxCDD	143				ES 123678-HxCDD	81.9	
123789-HxCDD	109				ES 123789-HxCDD	75.5	
1234678-HpCDD	5,520			E	ES 1234678-HpCDD	76	
OCDD	43,000			E	ES OCDD	76.5	
2378-TCDF	82.6				ES 2378-TCDF	78.3	
12378-PeCDF	17.3				ES 12378-PeCDF	74.1	
23478-PeCDF	41.7			PR	ES 23478-PeCDF	75.3	
123478-HxCDF	48.3				ES 123478-HxCDF	87.1	
123678-HxCDF	25.6				ES 123678-HxCDF	85.3	
234678-HxCDF	29.8				ES 234678-HxCDF	81.5	
123789-HxCDF	ND	1.19			ES 123789-HxCDF	81.7	
1234678-HpCDF	217				ES 1234678-HpCDF	75.2	
1234789-HpCDF	33.5				ES 1234789-HpCDF	75.4	
OCDF	578				ES OCDF	76.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	75.4	
Total TCDD	76.7		79.6		CS 12347-PeCDD	74.5	
Total PeCDD	156		202		CS 12346-PeCDF	74.9	
Total HxCDD	2,130		2,130		CS 123469-HxCDF	88.6	
Total HpCDD	10,800		10,800	E	CS 1234689-HpCDF	84.1	
Total TCDF	453		454				
Total PeCDF	323		324				
Total HxCDF	413		418				
Total HpCDF	698		698				
Total PCDD/Fs	**58,700**		**58,700**	E			
WHO-2005 TEQs							
TEQ: ND=0	156		156				
TEQ: ND=DL/2	156	1.29	156				
TEQ: ND=DL	156	2.58	156				

SGS
5500 Business Drive
Wilmington, NC 28405, USA
www.us.sgs.com
Tel: +1 910 794-1613; Toll-Free 866 846-8290

Sample ID: 11215131-021722-S-SB-SC-O-24 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID:	B6329_18965_DF_001	Date Extracted:	28-Feb-2022
Date Collected:	17-Feb-2022	% Solid:	68.4 %	QC Batch No.:	18965	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:44:48

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	19.5		12479/12468D	58.6		124679/124689D	909		1234679D	5320	E
1379D	10.5		12469D	[18.6]		123468D	56.5		1234678D	5520	E
1369D	3.39		12368D	23.7		123679/123689D	853				
1469D	[1.57]		12478D	[23.7]		123469D	27.3				
1247D...[4]	7.21		12379D	16.8		123478D	16				
1378D	6.86		12369D...[3]	20.1		123678D	143				
1268D	2.09		12346/12347D	8.8		123467D	17.4				
1478D	[1.29]		12378D	19.7		123789D	109		**Conc.**	10,800	
1279D	2.78		12367D	[3.52]					**EMPC**	10,800	
1234/1269D	3.89		12389D	8.32							
1236D	2.09								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	3.79										
1239D	2.35								OCDD	43000	E
2378D	6.73										
1278D	2.75										
1267D	0.997										
1289D	1.86										
Conc.	76.7		**Conc.**	156		**Conc.**	2,130				
EMPC	79.6		**EMPC**	202		**EMPC**	2,130				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	156	156
TEQ: ND=DL/2	156	156
TEQ: ND=DL	156	156

	Conc.	EMPC
Total PCDD/Fs	58,700	58,700

Checkcode: 133-139-QMZ

Report Created: 04-Mar-2022 10:47 Analyst: TF

Sample ID: 11215131-021722-S-SB-SC-O-24 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	Lab Sample ID:	B6329_18965_DF_001	Date Extracted:	28-Feb-2022
Date Collected:	17-Feb-2022	% Solid:	68.4 %	QC Batch No.:	18965	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:44:48

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	6.75		13468/12468F	53.7		123468F	24.5		1234678F	217	
1468F	8.04		13678F...[3]	26.8		124678/134678F	116		1234679F	19.6	
2468F	15.7		12368F...[3]	92.1		134679F	[2.29]	J	1234689F	427	
1346/1246F	9.46		14678F	(0.519)		124679F	11.1		1234789F	33.5	
1347F...[3]	36.3		13479F	1.77	J	124689F	126				
1348F	9.2		13469/12479F	4.15		123467F	16.4				
1248F...[3]	31.9		12346F	4.82		123478F	48.3				
1268F	16.1		23468/12469F	17.2		123678F	25.6				
1467F	8.75		12347F	7.6		123479F	2.26	J			
1478F	22.2		12348F	9.13		123469F	3.19				
1369/1237F	7.76		12378F	17.3		123679F	[2.9]				
2467F	8.91		12678/12367F	28.2		234678F	29.8		**Conc.**	698	
2368F	22.5		12379F	(0.519)		234678/123689F	0		**EMPC**	698	
1238F...[5]	21.4		12679F	1.56	J	123689F	(1.06)				
1278F	27.9		23467/12369F	14.2		123789F	(1.19)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.216)		23478F	41.7	PR	123789/123489F	0				
1267F	13.4		23478/12489F	0		123489F	9.97		OCDF	578	
2346/1249F	8.12		12489F	(0.519)							
2347/1279F	15.8		12349F	[1.33]	J						
2348F	16.4		12389F	2.34	J						
2378F	82.6										
2367/3467F	56.5										
1269F	3.38										
1239F	[1]										
1289F	3.56										
Conc.	453		**Conc.**	323		**Conc.**	413				
EMPC	454		**EMPC**	324		**EMPC**	418				

Checkcode: 133-139-QMZ

Report Created: 04-Mar-2022 10:47 Analyst: TF

Sample ID: 11215131-021722-S-SB-SC-O-24 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6329_18965_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.19 g	QC Batch No.:	18965
Date Collected:	17-Feb-2022	Split:	-	Date Extracted:	28-Feb-2022
Date Received:	19-Feb-2022	Dilution:	-	Date Analyzed:	03-Mar-2022 18:44
Lab Project No:	B6329	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	6.73		0.382	6.73	6.73	6.73
12378-PeCDD	19.7		1.23	9.83	19.7	19.7
123478-HxCDD	16		1.08	1.6	1.6	1.6
123678-HxCDD	143		1.13	14.3	14.3	14.3
123789-HxCDD	109		0.982	10.9	10.9	10.9
1234678-HpCDD	5520	E	0.803	55.2	55.2	55.2
OCDD	43000	E	2.59	43	4.3	12.9
2378-TCDF	82.6		0.216	8.26	8.26	8.26
12378-PeCDF	17.3		0.51	0.866	0.866	0.52
23478-PeCDF	41.7	PR	0.528	20.9	20.9	12.5
123478-HxCDF	48.3		0.969	4.83	4.83	4.83
123678-HxCDF	25.6		0.984	2.56	2.56	2.56
234678-HxCDF	29.8		1.14	2.98	2.98	2.98
123789-HxCDF	(1.19)		1.19	(0.119)	(0.119)	(0.119)
1234678-HpCDF	217		0.616	2.17	2.17	2.17
1234789-HpCDF	33.5		0.959	0.335	0.335	0.335
OCDF	578		1.94	0.578	0.0578	0.173

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TEQ Summaries			
EMPC = 0, ND = 0	185	156	156
EMPC = 0, ND = DL / 2	185	156	156
EMPC = 0, ND = DL	185	156	156
EMPC = 0, < J-level = 0	185	156	156
EMPC = EMPC, ND = 0	185	156	156
EMPC = EMPC, ND = DL / 2	185	156	156
EMPC = EMPC, ND = DL	185	156	156
EMPC = EMPC, < J-level = 0	185	156	156

Sample ID: 11215131-021722-S-SB-SC-B-17 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.02 g	Lab Sample ID	B6329_18965_DF_002	Date Extracted:	28-Feb-2022
Date Collected:	17-Feb-2022	% Solid:	78.2 %	QC Batch No:	18965	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:31:07

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	20.8				ES 2378-TCDD	98.2	
12378-PeCDD	EMPC		0.635	J	ES 12378-PeCDD	116	
123478-HxCDD	ND	0.595			ES 123478-HxCDD	94.2	
123678-HxCDD	1.4			J	ES 123678-HxCDD	97.3	
123789-HxCDD	EMPC		2.23	J	ES 123789-HxCDD	94.9	
1234678-HpCDD	48				ES 1234678-HpCDD	99.5	
OCDD	732				ES OCDD	88	
2378-TCDF	58				ES 2378-TCDF	93.1	
12378-PeCDF	1.9			J	ES 12378-PeCDF	108	
23478-PeCDF	1.51			J	ES 23478-PeCDF	102	
123478-HxCDF	EMPC		2.34	J	ES 123478-HxCDF	100	
123678-HxCDF	0.8			J	ES 123678-HxCDF	110	
234678-HxCDF	ND	0.239			ES 234678-HxCDF	106	
123789-HxCDF	ND	0.265			ES 123789-HxCDF	99.8	
1234678-HpCDF	1.52			J	ES 1234678-HpCDF	126	
1234789-HpCDF	EMPC		0.381	J	ES 1234789-HpCDF	99.3	
OCDF	2.31			J	ES OCDF	80.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	90	
Total TCDD	36.9		36.9		CS 12347-PeCDD	100	
Total PeCDD	3.8		9.12		CS 12346-PeCDF	104	
Total HxCDD	58.2		61.3		CS 123469-HxCDF	105	
Total HpCDD	152		152		CS 1234689-HpCDF	112	
Total TCDF	110		117				
Total PeCDF	4.58		5.24				
Total HxCDF	0.8		4.08				
Total HpCDF	1.52		2.9				
Total PCDD/Fs	**1,100**		**1,120**				
WHO-2005 TEQs							
TEQ: ND=0	28.1		29.2				
TEQ: ND=DL/2	28.1	0.519	29.2				
TEQ: ND=DL	28.2	1.04	29.3				

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Sample ID: 11215131-021722-S-SB-SC-B-17 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.02 g	Lab Sample ID:	B6329_18965_DF_002	Date Extracted:	28-Feb-2022
Date Collected:	17-Feb-2022	% Solid:	78.2 %	QC Batch No.:	18965	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:31:07

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.344)		12479/12468D	1.35	J	124679/124689D	44.5		1234679D	104	
1379D	(0.344)		12469D	[4.69]		123468D	0.954	J	1234678D	48	
1369D	(0.344)		12368D	(0.325)		123679/123689D	10.2				
1469D	11.7		12478D	(0.325)		123469D	1.14	J			
1247D...[4]	(0.344)		12379D	(0.325)		123478D	(0.595)				
1378D	(0.344)		12369D...[3]	2	J	123678D	1.4	J			
1268D	(0.344)		12346/12347D	(0.325)		123467D	[0.783]	J			
1478D	(0.344)		12378D	[0.635]	J	123789D	[2.23]	J	**Conc.**	152	
1279D	(0.344)		12367D	(0.325)					**EMPC**	152	
1234/1269D	1.11		12389D	0.453	J						
1236D	(0.344)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	1.32										
1239D	(0.344)								OCDD	732	
2378D	20.8										
1278D	1.9										
1267D	(0.344)										
1289D	(0.344)										
Conc.	36.9		**Conc.**	3.8		**Conc.**	58.2				
EMPC	36.9		**EMPC**	9.12		**EMPC**	61.3				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	28.1	29.2
TEQ: ND=DL/2	28.1	29.2
TEQ: ND=DL	28.2	29.3

	Conc.	EMPC
Total PCDD/Fs	1,100	1,120

Checkcode: 523-891-HGN

Report Created: 04-Mar-2022 10:47 Analyst: TF

Sample ID: 11215131-021722-S-SB-SC-B-17 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.02 g	Lab Sample ID:	B6329_18965_DF_002	Date Extracted:	28-Feb-2022
Date Collected:	17-Feb-2022	% Solid:	78.2 %	QC Batch No.:	18965	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:31:07

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.178)		13468/12468F	(0.189)		123468F	(0.23)		1234678F	1.52	J
1468F	(0.178)		13678F...[3]	(0.223)		124678/134678F	[0.545]	J	1234679F	(0.191)	
2468F	[0.997]		12368F...[3]	1.17	J	134679F	(0.23)		1234689F	[0.996]	J
1346/1246F	(0.178)		14678F	(0.223)		124679F	(0.23)		1234789F	[0.381]	J
1347F...[3]	[0.992]		13479F	(0.223)		124689F	[0.396]	J			
1348F	(0.178)		13469/12479F	(0.223)		123467F	(0.23)				
1248F...[3]	3.3		12346F	(0.223)		123478F	[2.34]	J			
1268F	[1.14]		23468/12469F	(0.223)		123678F	0.8	J			
1467F	(0.178)		12347F	(0.223)		123479F	(0.23)				
1478F	[2.48]		12348F	(0.223)		123469F	(0.23)				
1369/1237F	0.948		12378F	1.9	J	123679F	(0.23)				
2467F	(0.178)		12678/12367F	[0.656]	J	234678F	(0.239)		**Conc.**	1.52	
2368F	4.84		12379F	(0.223)		234678/123689F	0		**EMPC**	2.9	
1238F...[5]	(0.178)		12679F	(0.223)		123689F	(0.23)				
1278F	27.2		23467/12369F	(0.223)		123789F	(0.265)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.178)		23478F	1.51	J	123789/123489F	0				
1267F	1.94		23478/12489F	0		123489F	(0.23)		OCDF	2.31	J
2346/1249F	(0.178)		12489F	(0.223)							
2347/1279F	[0.899]		12349F	(0.223)							
2348F	3.39		12389F	(0.223)							
2378F	58										
2367/3467F	5.49										
1269F	[0.842]										
1239F	(0.178)										
1289F	4.58										
Conc.	110		**Conc.**	4.58		**Conc.**	0.8				
EMPC	117		**EMPC**	5.24		**EMPC**	4.08				

Checkcode: 523-891-HGN

Report Created: 04-Mar-2022 10:47 Analyst: TF

Sample ID: 11215131-021722-S-SB-SC-B-17 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6329_18965_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.02 g	QC Batch No.:	18965
Date Collected:	17-Feb-2022	Split:	-	Date Extracted:	28-Feb-2022
Date Received:	19-Feb-2022	Dilution:	-	Date Analyzed:	03-Mar-2022 19:31
Lab Project No:	B6329	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	20.8		0.344	20.8	20.8	20.8
12378-PeCDD	[0.635]	J	0.325	[0.318]	[0.635]	[0.635]
123478-HxCDD	(0.595)		0.595	(0.0595)	(0.0595)	(0.0595)
123678-HxCDD	1.4	J	0.55	0.14	0.14	0.14
123789-HxCDD	[2.23]	J	0.54	[0.223]	[0.223]	[0.223]
1234678-HpCDD	48		0.661	0.48	0.48	0.48
OCDD	732		3.59	0.732	0.0732	0.22
2378-TCDF	58		0.178	5.8	5.8	5.8
12378-PeCDF	1.9	J	0.212	0.0949	0.0949	0.057
23478-PeCDF	1.51	J	0.235	0.755	0.755	0.453
123478-HxCDF	[2.34]	J	0.239	[0.234]	[0.234]	[0.234]
123678-HxCDF	0.8	J	0.188	0.08	0.08	0.08
234678-HxCDF	(0.239)		0.239	(0.0239)	(0.0239)	(0.0239)
123789-HxCDF	(0.265)		0.265	(0.0265)	(0.0265)	(0.0265)
1234678-HpCDF	1.52	J	0.149	0.0152	0.0152	0.0152
1234789-HpCDF	[0.381]	J	0.254	[0.00381]	[0.00381]	[0.00381]
OCDF	2.31	J	1	0.00231	0.000231	0.000693

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TEQ Summaries			
EMPC = 0, ND = 0	28.9	28.3	28.1
EMPC = 0, ND = DL / 2	29	28.3	28.1
EMPC = 0, ND = DL	29	28.4	28.2
EMPC = 0, < J-level = 0	27.8	27.2	27.3
EMPC = EMPC, ND = 0	29.7	29.4	29.2
EMPC = EMPC, ND = DL / 2	29.8	29.4	29.2
EMPC = EMPC, ND = DL	29.8	29.5	29.3
EMPC = EMPC, < J-level = 0	27.8	27.2	27.3

Sample ID: 11215131-021722-S-SB-SC-B-17H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.16 g	Lab Sample ID	B6329_18965_DF_003	Date Extracted:	28-Feb-2022
Date Collected:	17-Feb-2022	% Solid:	78.3 %	QC Batch No:	18965	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:17:19

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	6.42				ES 2378-TCDD	82.6	
12378-PeCDD	ND	0.315			ES 12378-PeCDD	93.2	
123478-HxCDD	EMPC		0.521	J	ES 123478-HxCDD	83.7	
123678-HxCDD	1.02			J	ES 123678-HxCDD	84.1	
123789-HxCDD	EMPC		1.45	J	ES 123789-HxCDD	82.9	
1234678-HpCDD	26.4				ES 1234678-HpCDD	89.2	
OCDD	508				ES OCDD	83.9	
2378-TCDF	17.7				ES 2378-TCDF	74.3	
12378-PeCDF	0.56			J	ES 12378-PeCDF	87.2	
23478-PeCDF	0.629			J	ES 23478-PeCDF	83.4	
123478-HxCDF	EMPC		0.967	J	ES 123478-HxCDF	89.3	
123678-HxCDF	ND	0.152			ES 123678-HxCDF	92.1	
234678-HxCDF	ND	0.158			ES 234678-HxCDF	97.5	
123789-HxCDF	ND	0.184			ES 123789-HxCDF	88	
1234678-HpCDF	EMPC		0.362	J	ES 1234678-HpCDF	106	
1234789-HpCDF	ND	0.216			ES 1234789-HpCDF	90.7	
OCDF	ND	0.478			ES OCDF	86.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	84.2	
Total TCDD	15.2		16.7		CS 12347-PeCDD	96.7	
Total PeCDD	5.64		7		CS 12346-PeCDF	89.3	
Total HxCDD	38.2		40.6		CS 123469-HxCDF	96.6	
Total HpCDD	95.9		95.9		CS 1234689-HpCDF	104	
Total TCDF	31		35.9				
Total PeCDF	1.19		1.19				
Total HxCDF	ND		0.967				
Total HpCDF	ND		0.362				
Total PCDD/Fs	**695**		**706**				
WHO-2005 TEQs							
TEQ: ND=0	8.91		9.21				
TEQ: ND=DL/2	9.1	0.446	9.39				
TEQ: ND=DL	9.28	0.892	9.58				

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Sample ID: 11215131-021722-S-SB-SC-B-17H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.16 g	Lab Sample ID:	B6329_18965_DF_003	Date Extracted:	28-Feb-2022
Date Collected:	17-Feb-2022	% Solid:	78.3 %	QC Batch No.:	18965	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:17:19

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.326)		12479/12468D	1.21	J	124679/124689D	30.6		1234679D	69.5	
1379D	(0.326)		12469D	4.43		123468D	0.523	J	1234678D	26.4	
1369D	(0.326)		12368D	(0.315)		123679/123689D	5.35				
1469D	7.8		12478D	(0.315)		123469D	0.737	J			
1247D...[4]	(0.326)		12379D	(0.315)		123478D	[0.521]	J			
1378D	(0.326)		12369D...[3]	[1.36]	J	123678D	1.02	J			
1268D	(0.326)		12346/12347D	(0.315)		123467D	[0.429]	J			
1478D	(0.326)		12378D	(0.315)		123789D	[1.45]	J	**Conc.**	95.9	
1279D	(0.326)		12367D	(0.315)					**EMPC**	95.9	
1234/1269D	[1.48]		12389D	(0.315)							
1236D	(0.326)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.326)										
1239D	(0.326)								OCDD	508	
2378D	6.42										
1278D	1.01										
1267D	(0.326)										
1289D	(0.326)										
Conc.	15.2		**Conc.**	5.64		**Conc.**	38.2				
EMPC	16.7		**EMPC**	7		**EMPC**	40.6				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	8.91	9.21
TEQ: ND=DL/2	9.1	9.39
TEQ: ND=DL	9.28	9.58

	Conc.	EMPC
Total PCDD/Fs	695	706

Checkcode: 082-368-VDY

Report Created: 04-Mar-2022 10:47 Analyst: TF

Sample ID: 11215131-021722-S-SB-SC-B-17H — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.16 g	Lab Sample ID:	B6329_18965_DF_003	Date Extracted:	28-Feb-2022
Date Collected:	17-Feb-2022	% Solid:	78.3 %	QC Batch No.:	18965	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	20:17:19

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.172)		13468/12468F	(0.145)		123468F	(0.161)		1234678F	[0.362]	J
1468F	(0.172)		13678F...[3]	(0.217)		124678/134678F	(0.161)		1234679F	(0.17)	
2468F	[0.843]		12368F...[3]	(0.217)		134679F	(0.161)		1234689F	(0.17)	
1346/1246F	(0.172)		14678F	(0.217)		124679F	(0.161)		1234789F	(0.216)	
1347F...[3]	[0.527]		13479F	(0.217)		124689F	(0.161)				
1348F	(0.172)		13469/12479F	(0.217)		123467F	(0.161)				
1248F...[3]	1.18		12346F	(0.217)		123478F	[0.967]	J			
1268F	(0.172)		23468/12469F	(0.217)		123678F	(0.152)				
1467F	(0.172)		12347F	(0.217)		123479F	(0.161)				
1478F	0.884		12348F	(0.217)		123469F	(0.161)				
1369/1237F	[0.354]	J	12378F	0.56	J	123679F	(0.161)				
2467F	(0.172)		12678/12367F	(0.217)		234678F	(0.158)		**Conc.**	0	
2368F	[1.71]		12379F	(0.217)		234678/123689F	0		**EMPC**	0.362	
1238F...[5]	(0.172)		12679F	(0.217)		123689F	(0.161)				
1278F	8.49		23467/12369F	(0.217)		123789F	(0.184)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.172)		23478F	0.629	J	123789/123489F	0				
1267F	(0.172)		23478/12489F	0		123489F	(0.161)		OCDF	(0.478)	
2346/1249F	(0.172)		12489F	(0.217)							
2347/1279F	(0.172)		12349F	(0.217)							
2348F	1.14		12389F	(0.217)							
2378F	17.7										
2367/3467F	1.61										
1269F	(0.172)										
1239F	(0.172)										
1289F	[1.44]										
Conc.	31		**Conc.**	1.19		**Conc.**	0				
EMPC	35.9		**EMPC**	1.19		**EMPC**	0.967				

Checkcode: 082-368-VDY

Report Created: 04-Mar-2022 10:47 Analyst: TF

Sample ID: 11215131-021722-S-SB-SC-B-17H TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6329_18965_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.16 g	QC Batch No.:	18965
Date Collected:	17-Feb-2022	Split:	-	Date Extracted:	28-Feb-2022
Date Received:	19-Feb-2022	Dilution:	-	Date Analyzed:	03-Mar-2022 20:17
Lab Project No:	B6329	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	6.42		0.326	6.42	6.42	6.42
12378-PeCDD	(0.315)		0.315	(0.157)	(0.315)	(0.315)
123478-HxCDD	[0.521]	J	0.302	[0.0521]	[0.0521]	[0.0521]
123678-HxCDD	1.02	J	0.317	0.102	0.102	0.102
123789-HxCDD	[1.45]	J	0.285	[0.145]	[0.145]	[0.145]
1234678-HpCDD	26.4		0.376	0.264	0.264	0.264
OCDD	508		1.65	0.508	0.0508	0.152
2378-TCDF	17.7		0.172	1.77	1.77	1.77
12378-PeCDF	0.56	J	0.219	0.028	0.028	0.0168
23478-PeCDF	0.629	J	0.214	0.315	0.315	0.189
123478-HxCDF	[0.967]	J	0.153	[0.0967]	[0.0967]	[0.0967]
123678-HxCDF	(0.152)		0.152	(0.0152)	(0.0152)	(0.0152)
234678-HxCDF	(0.158)		0.158	(0.0158)	(0.0158)	(0.0158)
123789-HxCDF	(0.184)		0.184	(0.0184)	(0.0184)	(0.0184)
1234678-HpCDF	[0.362]	J	0.136	[0.00362]	[0.00362]	[0.00362]
1234789-HpCDF	(0.216)		0.216	(0.00216)	(0.00216)	(0.00216)
OCDF	(0.478)		0.478	(0.000478)	(0.0000478)	(0.000143)

TEQ Summaries			
EMPC = 0, ND = 0	9.41	8.95	8.91
EMPC = 0, ND = DL / 2	9.51	9.13	9.1
EMPC = 0, ND = DL	9.62	9.32	9.28
EMPC = 0, < J-level = 0	8.96	8.5	8.61
EMPC = EMPC, ND = 0	9.7	9.25	9.21
EMPC = EMPC, ND = DL / 2	9.81	9.43	9.39
EMPC = EMPC, ND = DL	9.91	9.61	9.58
EMPC = EMPC, < J-level = 0	8.96	8.5	8.61

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Checkcode: 082-368-VDY

Sample ID: 11215131-021722-S-SB-NC-O-52 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID	B6329_18965_DF_004	Date Extracted:	28-Feb-2022
Date Collected:	17-Feb-2022	% Solid:	81.9 %	QC Batch No:	18965	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:03:37

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	219				ES 2378-TCDD	85	
12378-PeCDD	3.44				ES 12378-PeCDD	96.1	
123478-HxCDD	EMPC		2.22	J	ES 123478-HxCDD	86.7	
123678-HxCDD	6.61				ES 123678-HxCDD	86.8	
123789-HxCDD	3.98				ES 123789-HxCDD	88.9	
1234678-HpCDD	336				ES 1234678-HpCDD	93.3	
OCDD	5,040				ES OCDD	89.8	
2378-TCDF	563				ES 2378-TCDF	81.1	
12378-PeCDF	22.1				ES 12378-PeCDF	89.7	
23478-PeCDF	18.5				ES 23478-PeCDF	89.1	
123478-HxCDF	34.6				ES 123478-HxCDF	90.7	
123678-HxCDF	9.09				ES 123678-HxCDF	96.9	
234678-HxCDF	3.46				ES 234678-HxCDF	99.2	
123789-HxCDF	ND	0.307			ES 123789-HxCDF	90.6	
1234678-HpCDF	39.1				ES 1234678-HpCDF	104	
1234789-HpCDF	7.03				ES 1234789-HpCDF	89.4	
OCDF	159				ES OCDF	87.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	81.8	
Total TCDD	245		250		CS 12347-PeCDD	91.5	
Total PeCDD	9.28		16		CS 12346-PeCDF	87.8	
Total HxCDD	133		135		CS 123469-HxCDF	101	
Total HpCDD	2,120		2,120		CS 1234689-HpCDF	108	
Total TCDF	1,130		1,140				
Total PeCDF	73.3		74.9				
Total HxCDF	84.6		88.1				
Total HpCDF	131		134				
Total PCDD/Fs	**9,130**		**9,150**				
WHO-2005 TEQs							
TEQ: ND=0	296		296				
TEQ: ND=DL/2	296	0.442	296				
TEQ: ND=DL	296	0.883	296				

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Sample ID: 11215131-021722-S-SB-NC-O-52 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID:	B6329_18965_DF_004	Date Extracted:	28-Feb-2022
Date Collected:	17-Feb-2022	% Solid:	81.9 %	QC Batch No.:	18965	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:03:37

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	1.45		12479/12468D	3.25		124679/124689D	72.4		1234679D	1780	
1379D	0.77		12469D	[3.59]		123468D	6.03		1234678D	336	
1369D	(0.264)		12368D	1.23	J	123679/123689D	33				
1469D	4.34		12478D	1.36	J	123469D	8.75				
1247D...[4]	(0.264)		12379D	[0.756]	J	123478D	[2.22]	J			
1378D	[0.996]		12369D...[3]	[1.55]	J	123678D	6.61				
1268D	(0.264)		12346/12347D	[0.391]	J	123467D	2.14	J			
1478D	0.655		12378D	3.44		123789D	3.98		**Conc.**	2,120	
1279D	(0.264)		12367D	[0.383]	J				**EMPC**	2,120	
1234/1269D	[0.636]		12389D	(0.328)							
1236D	(0.264)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	[3.57]										
1239D	(0.264)								OCDD	5040	
2378D	219										
1278D	19.1										
1267D	(0.264)										
1289D	(0.264)										
Conc.	245		**Conc.**	9.28		**Conc.**	133				
EMPC	250		**EMPC**	16		**EMPC**	135				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	296	296
TEQ: ND=DL/2	296	296
TEQ: ND=DL	296	296

	Conc.	EMPC
Total PCDD/Fs	9,130	9,150

Checkcode: 158-253-WCF

Report Created: 04-Mar-2022 10:47 Analyst: TF

Sample ID: 11215131-021722-S-SB-NC-O-52 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID:	B6329_18965_DF_004	Date Extracted:	28-Feb-2022
Date Collected:	17-Feb-2022	% Solid:	81.9 %	QC Batch No.:	18965	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:03:37

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[0.563]		13468/12468F	5.01		123468F	4.25		1234678F	39.1	
1468F	[1.64]		13678F...[3]	[1.61]	J	124678/134678F	14.5		1234679F	[2.63]	
2468F	[1.59]		12368F...[3]	13.4		134679F	(0.275)		1234689F	84.9	
1346/1246F	(0.147)		14678F	(0.193)		124679F	[0.663]	J	1234789F	7.03	
1347F...[3]	8.7		13479F	(0.193)		124689F	17.7				
1348F	(0.147)		13469/12479F	(0.193)		123467F	1.04	J			
1248F...[3]	30.9		12346F	(0.193)		123478F	34.6				
1268F	10.5		23468/12469F	2.68		123678F	9.09				
1467F	[1.53]		12347F	(0.193)		123479F	(0.275)				
1478F	25.1		12348F	2.45	J	123469F	(0.275)				
1369/1237F	6.54		12378F	22.1		123679F	(0.275)				
2467F	1.12		12678/12367F	7.18		234678F	3.46		**Conc.**	131	
2368F	21.4		12379F	(0.193)		234678/123689F	0		**EMPC**	134	
1238F...[5]	29.6		12679F	(0.193)		123689F	(0.275)				
1278F	262		23467/12369F	0.971	J	123789F	(0.307)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.147)		23478F	18.5		123789/123489F	0				
1267F	15.4		23478/12489F	0		123489F	[2.82]		OCDF	159	
2346/1249F	2.2		12489F	(0.193)							
2347/1279F	6.62		12349F	(0.193)							
2348F	48.5		12389F	1.04	J						
2378F	563										
2367/3467F	49.1										
1269F	8.94										
1239F	(0.147)										
1289F	43.7										
Conc.	1,130		**Conc.**	73.3		**Conc.**	84.6				
EMPC	1,140		**EMPC**	74.9		**EMPC**	88.1				

Checkcode: 158-253-WCF

Report Created: 04-Mar-2022 10:47 Analyst: TF

Sample ID: 11215131-021722-S-SB-NC-O-52 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6329_18965_DF_004
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	QC Batch No.:	18965
Date Collected:	17-Feb-2022	Split:	-	Date Extracted:	28-Feb-2022
Date Received:	19-Feb-2022	Dilution:	-	Date Analyzed:	03-Mar-2022 21:03
Lab Project No:	B6329	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	219		0.264	219	219	219
12378-PeCDD	3.44		0.328	1.72	3.44	3.44
123478-HxCDD	[2.22]	J	0.316	[0.222]	[0.222]	[0.222]
123678-HxCDD	6.61		0.323	0.661	0.661	0.661
123789-HxCDD	3.98		0.314	0.398	0.398	0.398
1234678-HpCDD	336		0.364	3.36	3.36	3.36
OCDD	5040		0.927	5.04	0.504	1.51
2378-TCDF	563		0.147	56.3	56.3	56.3
12378-PeCDF	22.1		0.196	1.1	1.1	0.663
23478-PeCDF	18.5		0.188	9.24	9.24	5.54
123478-HxCDF	34.6		0.281	3.46	3.46	3.46
123678-HxCDF	9.09		0.243	0.909	0.909	0.909
234678-HxCDF	3.46		0.276	0.346	0.346	0.346
123789-HxCDF	(0.307)		0.307	(0.0307)	(0.0307)	(0.0307)
1234678-HpCDF	39.1		0.157	0.391	0.391	0.391
1234789-HpCDF	7.03		0.23	0.0703	0.0703	0.0703
OCDF	159		0.584	0.159	0.0159	0.0476

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TEQ Summaries			
EMPC = 0, ND = 0	302	299	296
EMPC = 0, ND = DL / 2	302	299	296
EMPC = 0, ND = DL	302	299	296
EMPC = 0, < J-level = 0	302	299	296
EMPC = EMPC, ND = 0	302	299	296
EMPC = EMPC, ND = DL / 2	302	299	296
EMPC = EMPC, ND = DL	302	299	296
EMPC = EMPC, < J-level = 0	302	299	296

Sample ID: 11215131-021822-S-SB-NC-O-49 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID	B6329_18965_DF_005	Date Extracted:	28-Feb-2022
Date Collected:	18-Feb-2022	% Solid:	71.0 %	QC Batch No:	18965	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:49:56

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	9,490			E	ES 2378-TCDD	82.6	
12378-PeCDD	94				ES 12378-PeCDD	90	
123478-HxCDD	5.05				ES 123478-HxCDD	83.6	
123678-HxCDD	22.8				ES 123678-HxCDD	85.4	
123789-HxCDD	10.7				ES 123789-HxCDD	88.9	
1234678-HpCDD	743				ES 1234678-HpCDD	88.8	
OCDD	12,000			E	ES OCDD	86.4	
2378-TCDF	24,900			E	ES 2378-TCDF	85.6	
12378-PeCDF	914				ES 12378-PeCDF	87.7	
23478-PeCDF	704				ES 23478-PeCDF	91.5	
123478-HxCDF	1,450				ES 123478-HxCDF	93.8	
123678-HxCDF	366				ES 123678-HxCDF	91.6	
234678-HxCDF	83				ES 234678-HxCDF	94.9	
123789-HxCDF	ND	0.58			ES 123789-HxCDF	89.8	
1234678-HpCDF	541				ES 1234678-HpCDF	97.7	
1234789-HpCDF	173				ES 1234789-HpCDF	94.2	
OCDF	2,520				ES OCDF	88.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	75.7	
Total TCDD	10,400		10,400	E	CS 12347-PeCDD	90.4	
Total PeCDD	143		147		CS 12346-PeCDF	90.4	
Total HxCDD	228		228		CS 123469-HxCDF	96.3	
Total HpCDD	1,570		1,570		CS 1234689-HpCDF	100	
Total TCDF	46,700		46,700	E			
Total PeCDF	2,540		2,540				
Total HxCDF	2,290		2,290				
Total HpCDF	1,010		1,010				
Total PCDD/Fs	**79,400**		**79,400**	E			
WHO-2005 TEQs							
TEQ: ND=0	12500		12500				
TEQ: ND=DL/2	12500	0.831	12500				
TEQ: ND=DL	12500	1.66	12500				

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Sample ID: 11215131-021822-S-SB-NC-O-49 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6329_18965_DF_005	Date Extracted:	28-Feb-2022
Date Collected:	18-Feb-2022	% Solid:	71.0 %	QC Batch No.:	18965	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:49:56

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	10.6		12479/12468D	12		124679/124689D	100		1234679D	828	
1379D	4.78		12469D	[4.31]		123468D	10.4		1234678D	743	
1369D	(0.367)		12368D	12		123679/123689D	72.2				
1469D	3.13		12478D	7.46		123469D	3.72				
1247D...[4]	14.4		12379D	4.07		123478D	5.05				
1378D	27.9		12369D...[3]	3.57		123678D	22.8				
1268D	(0.367)		12346/12347D	2.74		123467D	2.78				
1478D	21.2		12378D	94		123789D	10.7		**Conc.**	1,570	
1279D	(0.367)		12367D	4.98					**EMPC**	1,570	
1234/1269D	3.01		12389D	2.32	J						
1236D	[1.18]								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	144										
1239D	(0.367)								OCDD	12000	E
2378D	9490	E									
1278D	657										
1267D	[19.2]										
1289D	13.2										
Conc.	10,400		**Conc.**	143		**Conc.**	228				
EMPC	10,400		**EMPC**	147		**EMPC**	228				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	12,500	12,500
TEQ: ND=DL/2	12,500	12,500
TEQ: ND=DL	12,500	12,500

	Conc.	EMPC
Total PCDD/Fs	79,400	79,400

Checkcode: 922-005-MDC

Report Created: 04-Mar-2022 10:47 Analyst: TF

Sample ID: 11215131-021822-S-SB-NC-O-49 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6329_18965_DF_005	Date Extracted:	28-Feb-2022
Date Collected:	18-Feb-2022	% Solid:	71.0 %	QC Batch No.:	18965	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:49:56

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	4.46		13468/12468F	34.4		123468F	23.6		1234678F	541	
1468F	34		13678F...[3]	13.5		124678/134678F	145		1234679F	10.8	
2468F	27.5		12368F...[3]	415		134679F	(0.51)		1234689F	286	
1346/1246F	(0.216)		14678F	(0.813)		124679F	2.49		1234789F	173	
1347F...[3]	192		13479F	(0.813)		124689F	89				
1348F	(0.216)		13469/12479F	3.29		123467F	9.54				
1248F...[3]	673		12346F	2.04	J	123478F	1450				
1268F	270		23468/12469F	21.2		123678F	366				
1467F	54.4		12347F	19.5		123479F	(0.51)				
1478F	678		12348F	87.7		123469F	(0.51)				
1369/1237F	224		12378F	914		123679F	(0.51)				
2467F	28.4		12678/12367F	275		234678F	83		**Conc.**	1,010	
2368F	717		12379F	(0.813)		234678/123689F	0		**EMPC**	1,010	
1238F...[5]	1030	E	12679F	2.31	J	123689F	(0.51)				
1278F	11400	E	23467/12369F	13.3		123789F	(0.58)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.216)		23478F	704		123789/123489F	0				
1267F	486		23478/12489F	0		123489F	118		OCDF	2520	
2346/1249F	57.5		12489F	(0.813)							
2347/1279F	298		12349F	(0.813)							
2348F	1580	E	12389F	39.8							
2378F	24900	E									
2367/3467F	1940	E									
1269F	282										
1239F	26.7										
1289F	1860	E									
Conc.	46,700		**Conc.**	2,540		**Conc.**	2,290				
EMPC	46,700		**EMPC**	2,540		**EMPC**	2,290				

Checkcode: 922-005-MDC

Report Created: 04-Mar-2022 10:47 Analyst: TF

Sample ID: 11215131-021822-S-SB-NC-O-49 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6329_18965_DF_005
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	QC Batch No.:	18965
Date Collected:	18-Feb-2022	Split:	-	Date Extracted:	28-Feb-2022
Date Received:	19-Feb-2022	Dilution:	-	Date Analyzed:	03-Mar-2022 21:49
Lab Project No:	B6329	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	9490	E	0.367	9490	9490	9490
12378-PeCDD	94		0.467	47	94	94
123478-HxCDD	5.05		1.11	0.505	0.505	0.505
123678-HxCDD	22.8		1.05	2.28	2.28	2.28
123789-HxCDD	10.7		0.859	1.07	1.07	1.07
1234678-HpCDD	743		1.1	7.43	7.43	7.43
OCDD	12000	E	1.13	12	1.2	3.59
2378-TCDF	24900	E	0.216	2490	2490	2490
12378-PeCDF	914		0.763	45.7	45.7	27.4
23478-PeCDF	704		0.863	352	352	211
123478-HxCDF	1450		0.488	145	145	145
123678-HxCDF	366		0.483	36.6	36.6	36.6
234678-HxCDF	83		0.499	8.3	8.3	8.3
123789-HxCDF	(0.58)		0.58	(0.058)	(0.058)	(0.058)
1234678-HpCDF	541		0.222	5.41	5.41	5.41
1234789-HpCDF	173		0.344	1.73	1.73	1.73
OCDF	2520		0.502	2.52	0.252	0.756

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TEQ Summaries			
EMPC = 0, ND = 0	12600	12700	12500
EMPC = 0, ND = DL / 2	12600	12700	12500
EMPC = 0, ND = DL	12600	12700	12500
EMPC = 0, < J-level = 0	12600	12700	12500
EMPC = EMPC, ND = 0	12600	12700	12500
EMPC = EMPC, ND = DL / 2	12600	12700	12500
EMPC = EMPC, ND = DL	12600	12700	12500
EMPC = EMPC, < J-level = 0	12600	12700	12500

Sample ID: 11215131-021822-S-SB-NC-O-50 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	B6329_18965_DF_006	Date Extracted:	28-Feb-2022
Date Collected:	18-Feb-2022	% Solid:	81.5 %	QC Batch No:	18965	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:36:09

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	114				ES 2378-TCDD	81.9	
12378-PeCDD	1.55			J	ES 12378-PeCDD	92.3	
123478-HxCDD	0.885			J	ES 123478-HxCDD	85.9	
123678-HxCDD	EMPC		2.03	J	ES 123678-HxCDD	82.4	
123789-HxCDD	1.79			J	ES 123789-HxCDD	83.6	
1234678-HpCDD	53.6				ES 1234678-HpCDD	85.5	
OCDD	751				ES OCDD	81.9	
2378-TCDF	317				ES 2378-TCDF	78.2	
12378-PeCDF	10.9				ES 12378-PeCDF	91.6	
23478-PeCDF	9.8				ES 23478-PeCDF	85.2	
123478-HxCDF	15.7				ES 123478-HxCDF	87.8	
123678-HxCDF	4.05				ES 123678-HxCDF	98.9	
234678-HxCDF	1.29			J	ES 234678-HxCDF	97.1	
123789-HxCDF	ND	0.331			ES 123789-HxCDF	85.8	
1234678-HpCDF	14.2				ES 1234678-HpCDF	108	
1234789-HpCDF	EMPC		1.68	J	ES 1234789-HpCDF	86.6	
OCDF	36.1				ES OCDF	76.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	86.7	
Total TCDD	131		131		CS 12347-PeCDD	97.7	
Total PeCDD	9.24		9.92		CS 12346-PeCDF	93.9	
Total HxCDD	44		46		CS 123469-HxCDF	102	
Total HpCDD	157		157		CS 1234689-HpCDF	104	
Total TCDF	578		608				
Total PeCDF	33.4		35.5				
Total HxCDF	34.8		34.8				
Total HpCDF	27.9		29.6				
Total PCDD/Fs	**1,800**		**1,840**				
WHO-2005 TEQs							
TEQ: ND=0	153		154				
TEQ: ND=DL/2	153	0.557	154				
TEQ: ND=DL	153	1.11	154				

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Sample ID: 11215131-021822-S-SB-NC-O-50 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	B6329_18965_DF_006	Date Extracted:	28-Feb-2022
Date Collected:	18-Feb-2022	% Solid:	81.5 %	QC Batch No.:	18965	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:36:09

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.358)		12479/12468D	1.51	J	124679/124689D	28.2		1234679D	104	
1379D	(0.358)		12469D	4.72		123468D	1.27	J	1234678D	53.6	
1369D	(0.358)		12368D	(0.336)		123679/123689D	9.63				
1469D	5.2		12478D	[0.677]	J	123469D	1.33	J			
1247D...[4]	(0.358)		12379D	(0.336)		123478D	0.885	J			
1378D	(0.358)		12369D...[3]	1.46	J	123678D	[2.03]	J			
1268D	(0.358)		12346/12347D	(0.336)		123467D	0.887	J			
1478D	(0.358)		12378D	1.55	J	123789D	1.79	J	**Conc.**	157	
1279D	(0.358)		12367D	(0.336)					**EMPC**	157	
1234/1269D	(0.358)		12389D	(0.336)							
1236D	(0.358)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	1.96										
1239D	(0.358)								OCDD	751	
2378D	114										
1278D	10.5										
1267D	(0.358)										
1289D	(0.358)										
Conc.	131		**Conc.**	9.24		**Conc.**	44				
EMPC	131		**EMPC**	9.92		**EMPC**	46				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	153	154
TEQ: ND=DL/2	153	154
TEQ: ND=DL	153	154

	Conc.	EMPC
Total PCDD/Fs	1,800	1,840

Checkcode: 807-126-JYB

Report Created: 04-Mar-2022 10:47 Analyst: TF

Sample ID: 11215131-021822-S-SB-NC-O-50 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	B6329_18965_DF_006	Date Extracted:	28-Feb-2022
Date Collected:	18-Feb-2022	% Solid:	81.5 %	QC Batch No.:	18965	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:36:09

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.439)		13468/12468F	[1.6]	J	123468F	1.6	J	1234678F	14.2	
1468F	(0.439)		13678F...[3]	0.712	J	124678/134678F	6.02		1234679F	(0.252)	
2468F	0.919		12368F...[3]	6.22		134679F	(0.296)		1234689F	13.7	
1346/1246F	(0.439)		14678F	(0.286)		124679F	(0.296)		1234789F	[1.68]	J
1347F...[3]	4.76		13479F	(0.286)		124689F	4.21				
1348F	(0.439)		13469/12479F	(0.286)		123467F	0.615	J			
1248F...[3]	15.5		12346F	(0.286)		123478F	15.7				
1268F	[4.94]		23468/12469F	0.812	J	123678F	4.05				
1467F	(0.439)		12347F	(0.286)		123479F	(0.296)				
1478F	12.7		12348F	1.51	J	123469F	(0.296)				
1369/1237F	[3.59]		12378F	10.9		123679F	(0.296)				
2467F	(0.439)		12678/12367F	3.45		234678F	1.29	J	**Conc.**	27.9	
2368F	9.68		12379F	(0.286)		234678/123689F	0		**EMPC**	29.6	
1238F...[5]	16.5		12679F	(0.286)		123689F	(0.296)				
1278F	136		23467/12369F	(0.286)		123789F	(0.331)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.439)		23478F	9.8		123789/123489F	0				
1267F	7.96		23478/12489F	0		123489F	1.37	J	OCDF	36.1	
2346/1249F	(0.439)		12489F	(0.286)							
2347/1279F	[3.49]		12349F	(0.286)							
2348F	[18]		12389F	[0.469]	J						
2378F	317										
2367/3467F	28.1										
1269F	4.44										
1239F	(0.439)										
1289F	23.8										
Conc.	578		**Conc.**	33.4		**Conc.**	34.8				
EMPC	608		**EMPC**	35.5		**EMPC**	34.8				

Checkcode: 807-126-JYB

Report Created: 04-Mar-2022 10:47 Analyst: TF

Sample ID: 11215131-021822-S-SB-NC-O-50 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6329_18965_DF_006
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18965
Date Collected:	18-Feb-2022	Split:	-	Date Extracted:	28-Feb-2022
Date Received:	19-Feb-2022	Dilution:	-	Date Analyzed:	03-Mar-2022 22:36
Lab Project No:	B6329	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	114		0.358	114	114	114
12378-PeCDD	1.55	J	0.336	0.777	1.55	1.55
123478-HxCDD	0.885	J	0.547	0.0885	0.0885	0.0885
123678-HxCDD	[2.03]	J	0.509	[0.203]	[0.203]	[0.203]
123789-HxCDD	1.79	J	0.461	0.179	0.179	0.179
1234678-HpCDD	53.6		0.361	0.536	0.536	0.536
OCDD	751		1.44	0.751	0.0751	0.225
2378-TCDF	317		0.439	31.7	31.7	31.7
12378-PeCDF	10.9		0.284	0.546	0.546	0.327
23478-PeCDF	9.8		0.287	4.9	4.9	2.94
123478-HxCDF	15.7		0.291	1.57	1.57	1.57
123678-HxCDF	4.05		0.274	0.405	0.405	0.405
234678-HxCDF	1.29	J	0.299	0.129	0.129	0.129
123789-HxCDF	(0.331)		0.331	(0.0331)	(0.0331)	(0.0331)
1234678-HpCDF	14.2		0.189	0.142	0.142	0.142
1234789-HpCDF	[1.68]	J	0.343	[0.0168]	[0.0168]	[0.0168]
OCDF	36.1		0.698	0.0361	0.00361	0.0108

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TEQ Summaries			
EMPC = 0, ND = 0	155	155	153
EMPC = 0, ND = DL / 2	155	155	153
EMPC = 0, ND = DL	155	155	153
EMPC = 0, < J-level = 0	154	153	151
EMPC = EMPC, ND = 0	156	156	154
EMPC = EMPC, ND = DL / 2	156	156	154
EMPC = EMPC, ND = DL	156	156	154
EMPC = EMPC, < J-level = 0	154	153	151

Checkcode: 807-126-JYB

Sample ID: 11215131-021822-S-SB-NC-B-15 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.06 g	Lab Sample ID	B6329_18965_DF_007	Date Extracted:	28-Feb-2022
Date Collected:	18-Feb-2022	% Solid:	67.6 %	QC Batch No:	18965	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:22:22

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	265				ES 2378-TCDD	77.9	
12378-PeCDD	5.5				ES 12378-PeCDD	85	
123478-HxCDD	4.01				ES 123478-HxCDD	76.9	
123678-HxCDD	14.4				ES 123678-HxCDD	79.5	
123789-HxCDD	7.62				ES 123789-HxCDD	77.9	
1234678-HpCDD	282				ES 1234678-HpCDD	82.1	
OCDD	4,380				ES OCDD	78.5	
2378-TCDF	820				ES 2378-TCDF	76	
12378-PeCDF	18.8				ES 12378-PeCDF	80	
23478-PeCDF	23.2			PR	ES 23478-PeCDF	82.3	
123478-HxCDF	29				ES 123478-HxCDF	83.2	
123678-HxCDF	9.24				ES 123678-HxCDF	82.8	
234678-HxCDF	7.17				ES 234678-HxCDF	84	
123789-HxCDF	ND	0.696			ES 123789-HxCDF	80.8	
1234678-HpCDF	186				ES 1234678-HpCDF	89.2	
1234789-HpCDF	18.9				ES 1234789-HpCDF	88.9	
OCDF	7,160				ES OCDF	87	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	79.9	
Total TCDD	300		313		CS 12347-PeCDD	84	
Total PeCDD	32.1		39		CS 12346-PeCDF	79.9	
Total HxCDD	155		155		CS 123469-HxCDF	86.7	
Total HpCDD	668		668		CS 1234689-HpCDF	91.4	
Total TCDF	1,660		1,660				
Total PeCDF	140		143				
Total HxCDF	155		155				
Total HpCDF	361		361				
Total PCDD/Fs	**15,000**		**15,000**				
WHO-2005 TEQs							
TEQ: ND=0	375		375				
TEQ: ND=DL/2	375	0.826	375				
TEQ: ND=DL	375	1.65	375				

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Sample ID: 11215131-021822-S-SB-NC-B-15 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.06 g	Lab Sample ID:	B6329_18965_DF_007	Date Extracted:	28-Feb-2022
Date Collected:	18-Feb-2022	% Solid:	67.6 %	QC Batch No.:	18965	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:22:22

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	6.81		12479/12468D	9.9		124679/124689D	64.5		1234679D	387	
1379D	[1.5]		12469D	[5.37]		123468D	10.1		1234678D	282	
1369D	[0.834]		12368D	5.07		123679/123689D	47.3				
1469D	4.98		12478D	3.3		123469D	3.76				
1247D...[4]	[1.76]		12379D	2.13	J	123478D	4.01				
1378D	[1.78]		12369D...[3]	5.34		123678D	14.4				
1268D	(0.25)		12346/12347D	0.869	J	123467D	2.88				
1478D	[0.985]		12378D	5.5		123789D	7.62		**Conc.**	668	
1279D	[0.712]		12367D	[0.611]	J				**EMPC**	668	
1234/1269D	[1.71]		12389D	[0.892]	J						
1236D	(0.25)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	[3.49]										
1239D	(0.25)								OCDD	4380	
2378D	265										
1278D	23.3										
1267D	(0.25)										
1289D	(0.25)										
Conc.	300		**Conc.**	32.1		**Conc.**	155				
EMPC	313		**EMPC**	39		**EMPC**	155				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	375	375
TEQ: ND=DL/2	375	375
TEQ: ND=DL	375	375

	Conc.	EMPC
Total PCDD/Fs	15,000	15,000

Checkcode: 615-582-BWD

Report Created: 04-Mar-2022 10:47 Analyst: TF

Sample ID: 11215131-021822-S-SB-NC-B-15 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.06 g	Lab Sample ID:	B6329_18965_DF_007	Date Extracted:	28-Feb-2022
Date Collected:	18-Feb-2022	% Solid:	67.6 %	QC Batch No.:	18965	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:22:22

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.81		13468/12468F	32.6		123468F	13.6		1234678F	186	
1468F	5.82		13678F...[3]	4.99		124678/134678F	40.3		1234679F	13.1	
2468F	12.9		12368F...[3]	31.5		134679F	(0.635)		1234689F	143	
1346/1246F	3.13		14678F	(0.459)		124679F	2.76		1234789F	18.9	
1347F...[3]	14		13479F	(0.459)		124689F	41.4				
1348F	7.58		13469/12479F	[1.69]	J	123467F	3.86				
1248F...[3]	44.9		12346F	1.17	J	123478F	29				
1268F	21.1		23468/12469F	9.91		123678F	9.24				
1467F	3.85		12347F	(0.459)		123479F	(0.635)				
1478F	40		12348F	4.85		123469F	3.01				
1369/1237F	9.04		12378F	18.8		123679F	(0.635)				
2467F	2.55		12678/12367F	11		234678F	7.17		**Conc.**	361	
2368F	32.6		12379F	(0.459)		234678/123689F	0		**EMPC**	361	
1238F...[5]	35.3		12679F	(0.459)		123689F	(0.635)				
1278F	382		23467/12369F	1.66	J	123789F	(0.696)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.266)		23478F	23.2	PR	123789/123489F	0				
1267F	22.1		23478/12489F	0		123489F	4.52		OCDF	7160	
2346/1249F	3.32		12489F	(0.459)							
2347/1279F	9.96		12349F	(0.459)							
2348F	42.5		12389F	[1.34]	J						
2378F	820										
2367/3467F	69.1										
1269F	12.8										
1239F	(0.266)										
1289F	58.8										
Conc.	1,660		**Conc.**	140		**Conc.**	155				
EMPC	1,660		**EMPC**	143		**EMPC**	155				

Checkcode: 615-582-BWD

Report Created: 04-Mar-2022 10:47 Analyst: TF

Sample ID: 11215131-021822-S-SB-NC-B-15 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6329_18965_DF_007
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.06 g	QC Batch No.:	18965
Date Collected:	18-Feb-2022	Split:	-	Date Extracted:	28-Feb-2022
Date Received:	19-Feb-2022	Dilution:	-	Date Analyzed:	03-Mar-2022 23:22
Lab Project No:	B6329	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	265		0.25	265	265	265
12378-PeCDD	5.5		0.577	2.75	5.5	5.5
123478-HxCDD	4.01		1.24	0.401	0.401	0.401
123678-HxCDD	14.4		1.33	1.44	1.44	1.44
123789-HxCDD	7.62		1.21	0.762	0.762	0.762
1234678-HpCDD	282		1.21	2.82	2.82	2.82
OCDD	4380		0.78	4.38	0.438	1.32
2378-TCDF	820		0.266	82	82	82
12378-PeCDF	18.8		0.478	0.942	0.942	0.565
23478-PeCDF	23.2	PR	0.44	11.6	11.6	6.96
123478-HxCDF	29		0.575	2.9	2.9	2.9
123678-HxCDF	9.24		0.618	0.924	0.924	0.924
234678-HxCDF	7.17		0.66	0.717	0.717	0.717
123789-HxCDF	(0.696)		0.696	(0.0696)	(0.0696)	(0.0696)
1234678-HpCDF	186		0.264	1.86	1.86	1.86
1234789-HpCDF	18.9		0.383	0.189	0.189	0.189
OCDF	7160		0.894	7.16	0.716	2.15

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TEQ Summaries			
EMPC = 0, ND = 0	385	378	375
EMPC = 0, ND = DL / 2	385	378	375
EMPC = 0, ND = DL	386	378	375
EMPC = 0, < J-level = 0	385	378	375
EMPC = EMPC, ND = 0	385	378	375
EMPC = EMPC, ND = DL / 2	385	378	375
EMPC = EMPC, ND = DL	386	378	375
EMPC = EMPC, < J-level = 0	385	378	375

Checkcode: 615-582-BWD

Sample ID: 11215131-021822-S-SB-NC-B-15-MS

Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID	B6329_18965_DF_007MS	Date Extracted:	28-Feb-2022
Date Collected:	18-Feb-2022	% Solid:	67.6 %	QC Batch No:	18965	Date Analyzed:	04-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:08:40

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	249				ES 2378-TCDD	81.9	
12378-PeCDD	102				ES 12378-PeCDD	88.4	
123478-HxCDD	107				ES 123478-HxCDD	77.5	
123678-HxCDD	118				ES 123678-HxCDD	77.6	
123789-HxCDD	106				ES 123789-HxCDD	77.9	
1234678-HpCDD	345				ES 1234678-HpCDD	84.5	
OCDD	4,050				ES OCDD	83	
2378-TCDF	735				ES 2378-TCDF	80	
12378-PeCDF	112				ES 12378-PeCDF	85.7	
23478-PeCDF	124				ES 23478-PeCDF	86.8	
123478-HxCDF	122				ES 123478-HxCDF	83.5	
123678-HxCDF	103				ES 123678-HxCDF	85.4	
234678-HxCDF	105				ES 234678-HxCDF	85.5	
123789-HxCDF	100				ES 123789-HxCDF	82.5	
1234678-HpCDF	259				ES 1234678-HpCDF	90.3	
1234789-HpCDF	111				ES 1234789-HpCDF	88.7	
OCDF	6,440				ES OCDF	90.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	80.5	
Total TCDD	365		374		CS 12347-PeCDD	89.6	
Total PeCDD	180		184		CS 12346-PeCDF	83.6	
Total HxCDD	472		475		CS 123469-HxCDF	85.6	
Total HpCDD	712		712		CS 1234689-HpCDF	91.2	
Total TCDF	1,580		1,590				
Total PeCDF	499		501				
Total HxCDF	766		770				
Total HpCDF	509		509				
Total PCDD/Fs	**15,600**		**15,600**				
WHO-2005 TEQs							
TEQ: ND=0	552		552				
TEQ: ND=DL/2	552	0.866	552				
TEQ: ND=DL	552	1.73	552				

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Sample ID: 11215131-021822-S-SB-NC-B-15-MSD — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.05 g	Lab Sample ID	B6329_18965_DF_007MSD	Date Extracted:	28-Feb-2022
Date Collected:	18-Feb-2022	% Solid:	67.6 %	QC Batch No:	18965	Date Analyzed:	04-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:54:52

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	255				ES 2378-TCDD	83.7	
12378-PeCDD	95.9				ES 12378-PeCDD	94	
123478-HxCDD	102				ES 123478-HxCDD	78.6	
123678-HxCDD	114				ES 123678-HxCDD	78.8	
123789-HxCDD	100				ES 123789-HxCDD	79.6	
1234678-HpCDD	354				ES 1234678-HpCDD	85.5	
OCDD	4,470				ES OCDD	78.7	
2378-TCDF	750				ES 2378-TCDF	80.5	
12378-PeCDF	108				ES 12378-PeCDF	84.6	
23478-PeCDF	117				ES 23478-PeCDF	86.8	
123478-HxCDF	116				ES 123478-HxCDF	86.7	
123678-HxCDF	99.6				ES 123678-HxCDF	84.9	
234678-HxCDF	104				ES 234678-HxCDF	85.7	
123789-HxCDF	93.5				ES 123789-HxCDF	85.1	
1234678-HpCDF	252				ES 1234678-HpCDF	92.1	
1234789-HpCDF	105				ES 1234789-HpCDF	93.5	
OCDF	6,680				ES OCDF	91.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	78.9	
Total TCDD	372		378		CS 12347-PeCDD	84.8	
Total PeCDD	170		170		CS 12346-PeCDF	79.5	
Total HxCDD	457		459		CS 123469-HxCDF	83	
Total HpCDD	721		721		CS 1234689-HpCDF	87.9	
Total TCDF	1,570		1,570				
Total PeCDF	482		484				
Total HxCDF	736		736				
Total HpCDF	498		498				
Total PCDD/Fs	**16,200**		**16,200**				
WHO-2005 TEQs							
TEQ: ND=0	547		547				
TEQ: ND=DL/2	547	1.01	547				
TEQ: ND=DL	547	2.03	547				

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MS/MSD Comparison

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Method 1613B

Sample ID: 11215131-021822-S-SB-NC-B-15

Analyte	Native Conc.	MS Spike	MS Conc.	MS Rec.	MSD Spike	MSD Conc.	MSD Rec.	RPD
	(pg/g)	(pg/g)	(pg/g)	%	(pg/g)	(pg/g)	%	
2,3,7,8-TCDD	265	19.8	249	-78.9	19.9	255	-49.1	*
1,2,3,7,8-PeCDD	5.5	98.8	102	98.1	99.5	95.9	90.9	8%
1,2,3,4,7,8-HxCDD	4.01	98.8	107	105	99.5	102	98.3	7%
1,2,3,6,7,8-HxCDD	14.4	98.8	118	105	99.5	114	99.7	5%
1,2,3,7,8,9-HxCDD	7.62	98.8	106	99.9	99.5	100	93.4	7%
1,2,3,4,6,7,8-HpCDD	282	98.8	345	64.2	99.5	354	72.8	13%
OCDD	4380	198	4050	-169	199	4470	45.4	*
2,3,7,8-TCDF	820	19.8	735	-432	19.9	750	-351	*
1,2,3,7,8-PeCDF	18.8	98.8	112	94.6	99.5	108	89.7	5%
2,3,4,7,8-PeCDF	23.2	98.8	124	102	99.5	117	94.4	8%
1,2,3,4,7,8-HxCDF	29	98.8	122	94.5	99.5	116	87.3	8%
1,2,3,6,7,8-HxCDF	9.24	98.8	103	94.8	99.5	99.6	90.9	4%
2,3,4,6,7,8-HxCDF	7.17	98.8	105	98.9	99.5	104	97.1	2%
1,2,3,7,8,9-HxCDF	ND	98.8	100	101	99.5	93.5	94	7%
1,2,3,4,6,7,8-HpCDF	186	98.8	259	73.3	99.5	252	66.7	9%
1,2,3,4,7,8,9-HpCDF	18.9	98.8	111	93.1	99.5	105	86.5	7%
OCDF	7160	198	6440	-366	199	6680	-242	*

* % Recovery limits for MS and MSD: 70-130% of expected value, if native < RL
* RPD limit for MS vs. MSD recoveries: +/- 20%, if native < RL

Sample ID: 11215131-021822-S-SB-NC-B-16 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.18 g	Lab Sample ID	B6329_18965_DF_008	Date Extracted:	28-Feb-2022
Date Collected:	18-Feb-2022	% Solid:	75.4 %	QC Batch No:	18965	Date Analyzed:	04-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:41:06

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	841				ES 2378-TCDD	82.5	
12378-PeCDD	8.85				ES 12378-PeCDD	93.9	
123478-HxCDD	EMPC		0.645	J	ES 123478-HxCDD	87	
123678-HxCDD	2.76				ES 123678-HxCDD	88.4	
123789-HxCDD	2.05			J	ES 123789-HxCDD	87.3	
1234678-HpCDD	89.5				ES 1234678-HpCDD	91.5	
OCDD	1,420				ES OCDD	85.9	
2378-TCDF	2,300			E	ES 2378-TCDF	80.7	
12378-PeCDF	78.6				ES 12378-PeCDF	87.9	
23478-PeCDF	64.1				ES 23478-PeCDF	89.8	
123478-HxCDF	142				ES 123478-HxCDF	95	
123678-HxCDF	35.1				ES 123678-HxCDF	96	
234678-HxCDF	6.78				ES 234678-HxCDF	103	
123789-HxCDF	ND	0.611			ES 123789-HxCDF	94.9	
1234678-HpCDF	58.6				ES 1234678-HpCDF	105	
1234789-HpCDF	17.4				ES 1234789-HpCDF	95.3	
OCDF	240				ES OCDF	90.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	84.1	
Total TCDD	949		950		CS 12347-PeCDD	95.1	
Total PeCDD	17.8		21.8		CS 12346-PeCDF	91.4	
Total HxCDD	55.1		55.7		CS 123469-HxCDF	105	
Total HpCDD	214		214		CS 1234689-HpCDF	111	
Total TCDF	4,520		4,530	E			
Total PeCDF	220		226				
Total HxCDF	218		219				
Total HpCDF	105		105				
Total PCDD/Fs	**7,950**		**7,970**	E			
WHO-2005 TEQs							
TEQ: ND=0	1120		1120				
TEQ: ND=DL/2	1120	0.662	1120				
TEQ: ND=DL	1120	1.32	1120				

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Sample ID: 11215131-021822-S-SB-NC-B-16 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.18 g	Lab Sample ID:	B6329_18965_DF_008	Date Extracted:	28-Feb-2022
Date Collected:	18-Feb-2022	% Solid:	75.4 %	QC Batch No.:	18965	Date Analyzed:	04-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:41:06

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	1.83		12479/12468D	[2.1]	J	124679/124689D	36.1		1234679D	125	
1379D	0.813		12469D	5.11		123468D	1.31	J	1234678D	89.5	
1369D	(0.331)		12368D	[1.26]	J	123679/123689D	10.6				
1469D	6.67		12478D	1.12	J	123469D	1.15	J			
1247D...[4]	1.77		12379D	[0.565]	J	123478D	[0.645]	J			
1378D	2.84		12369D...[3]	2.32	J	123678D	2.76				
1268D	(0.331)		12346/12347D	(0.458)		123467D	1.06	J			
1478D	2.32		12378D	8.85		123789D	2.05	J	**Conc.**	214	
1279D	(0.331)		12367D	0.417	J				**EMPC**	214	
1234/1269D	[0.865]		12389D	(0.458)							
1236D	(0.331)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	13.3										
1239D	(0.331)								OCDD	1420	
2378D	841										
1278D	78.9										
1267D	(0.331)										
1289D	(0.331)										
Conc.	949		**Conc.**	17.8		**Conc.**	55.1				
EMPC	950		**EMPC**	21.8		**EMPC**	55.7				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	1,120	1,120
TEQ: ND=DL/2	1,120	1,120
TEQ: ND=DL	1,120	1,120

	Conc.	EMPC
Total PCDD/Fs	7,950	7,970

Checkcode: 366-326-JGX

Report Created: 04-Mar-2022 10:48 Analyst: TF

Sample ID: 11215131-021822-S-SB-NC-B-16 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.18 g	Lab Sample ID:	B6329_18965_DF_008	Date Extracted:	28-Feb-2022
Date Collected:	18-Feb-2022	% Solid:	75.4 %	QC Batch No.:	18965	Date Analyzed:	04-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:41:06

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.255)		13468/12468F	[3.03]		123468F	2.68		1234678F	58.6	
1468F	3.53		13678F...[3]	1.15	J	124678/134678F	14.1		1234679F	1.11	J
2468F	2.95		12368F...[3]	37.6		134679F	(0.558)		1234689F	27.7	
1346/1246F	(0.255)		14678F	(0.436)		124679F	(0.558)		1234789F	17.4	
1347F...[3]	27		13479F	(0.436)		124689F	7.9				
1348F	(0.255)		13469/12479F	(0.436)		123467F	[0.648]	J			
1248F...[3]	118		12346F	(0.436)		123478F	142				
1268F	38		23468/12469F	[1.92]	J	123678F	35.1				
1467F	5.54		12347F	1.9	J	123479F	(0.558)				
1478F	101		12348F	8.12		123469F	(0.558)				
1369/1237F	26		12378F	78.6		123679F	(0.558)				
2467F	[2.57]		12678/12367F	25.3		234678F	6.78		**Conc.**	105	
2368F	76.9		12379F	(0.436)		234678/123689F	0		**EMPC**	105	
1238F...[5]	111		12679F	(0.436)		123689F	(0.558)				
1278F	1030	E	23467/12369F	[1.06]	J	123789F	(0.611)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.255)		23478F	64.1		123789/123489F	0				
1267F	60.5		23478/12489F	0		123489F	9.68		OCDF	240	
2346/1249F	[7.19]		12489F	(0.436)							
2347/1279F	24.9		12349F	(0.436)							
2348F	184		12389F	3.23							
2378F	2300	E									
2367/3467F	190										
1269F	35.3										
1239F	2.74										
1289F	182										
Conc.	4,520		**Conc.**	220		**Conc.**	218				
EMPC	4,530		**EMPC**	226		**EMPC**	219				

Checkcode: 366-326-JGX

Report Created: 04-Mar-2022 10:48 Analyst: TF

Sample ID: 11215131-021822-S-SB-NC-B-16 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6329_18965_DF_008
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.18 g	QC Batch No.:	18965
Date Collected:	18-Feb-2022	Split:	-	Date Extracted:	28-Feb-2022
Date Received:	19-Feb-2022	Dilution:	-	Date Analyzed:	04-Mar-2022 01:41
Lab Project No:	B6329	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	841		0.331	841	841	841
12378-PeCDD	8.85		0.458	4.43	8.85	8.85
123478-HxCDD	[0.645]	J	0.434	[0.0645]	[0.0645]	[0.0645]
123678-HxCDD	2.76		0.429	0.276	0.276	0.276
123789-HxCDD	2.05	J	0.402	0.205	0.205	0.205
1234678-HpCDD	89.5		0.778	0.895	0.895	0.895
OCDD	1420		1.92	1.42	0.142	0.425
2378-TCDF	2300	E	0.255	230	230	230
12378-PeCDF	78.6		0.443	3.93	3.93	2.36
23478-PeCDF	64.1		0.429	32	32	19.2
123478-HxCDF	142		0.531	14.2	14.2	14.2
123678-HxCDF	35.1		0.55	3.51	3.51	3.51
234678-HxCDF	6.78		0.548	0.678	0.678	0.678
123789-HxCDF	(0.611)		0.611	(0.0611)	(0.0611)	(0.0611)
1234678-HpCDF	58.6		0.351	0.586	0.586	0.586
1234789-HpCDF	17.4		0.543	0.174	0.174	0.174
OCDF	240		0.95	0.24	0.024	0.072

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TEQ Summaries			
EMPC = 0, ND = 0	1130	1140	1120
EMPC = 0, ND = DL / 2	1130	1140	1120
EMPC = 0, ND = DL	1130	1140	1120
EMPC = 0, < J-level = 0	1130	1140	1120
EMPC = EMPC, ND = 0	1130	1140	1120
EMPC = EMPC, ND = DL / 2	1130	1140	1120
EMPC = EMPC, ND = DL	1130	1140	1120
EMPC = EMPC, < J-level = 0	1130	1140	1120

Checkcode: 366-326-JGX

Sample ID: 11215131-021822-S-SB-DUP-17 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID	B6329_18965_DF_009	Date Extracted:	28-Feb-2022
Date Collected:	18-Feb-2022	% Solid:	78.3 %	QC Batch No:	18965	Date Analyzed:	04-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:27:25

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	818				ES 2378-TCDD	81.1	
12378-PeCDD	8.69				ES 12378-PeCDD	93.4	
123478-HxCDD	EMPC		1.25	J	ES 123478-HxCDD	87.8	
123678-HxCDD	3.93				ES 123678-HxCDD	85	
123789-HxCDD	EMPC		2.55		ES 123789-HxCDD	83.5	
1234678-HpCDD	107				ES 1234678-HpCDD	91.2	
OCDD	1,760				ES OCDD	81.6	
2378-TCDF	2,210			E	ES 2378-TCDF	79.6	
12378-PeCDF	83.7				ES 12378-PeCDF	86.2	
23478-PeCDF	64.2				ES 23478-PeCDF	90	
123478-HxCDF	164				ES 123478-HxCDF	92.5	
123678-HxCDF	41.2				ES 123678-HxCDF	95.4	
234678-HxCDF	9.09				ES 234678-HxCDF	94.8	
123789-HxCDF	ND	0.358			ES 123789-HxCDF	90.8	
1234678-HpCDF	71.5				ES 1234678-HpCDF	93.4	EMPC
1234789-HpCDF	21.5				ES 1234789-HpCDF	93.8	
OCDF	443				ES OCDF	86.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	82.9	
Total TCDD	924		924		CS 12347-PeCDD	91.5	
Total PeCDD	14.3		21.2		CS 12346-PeCDF	91.3	
Total HxCDD	57.9		64		CS 123469-HxCDF	101	
Total HpCDD	260		260		CS 1234689-HpCDF	105	
Total TCDF	4,290		4,290	E			
Total PeCDF	232		236				
Total HxCDF	257		262				
Total HpCDF	133		135				
Total PCDD/Fs	**8,370**		**8,400**	E			
WHO-2005 TEQs							
TEQ: ND=0	1090		1090				
TEQ: ND=DL/2	1090	0.554	1090				
TEQ: ND=DL	1090	1.11	1090				

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Sample ID: 11215131-021822-S-SB-DUP-17 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID:	B6329_18965_DF_009	Date Extracted:	28-Feb-2022
Date Collected:	18-Feb-2022	% Solid:	78.3 %	QC Batch No.:	18965	Date Analyzed:	04-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:27:25

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	1.58		12479/12468D	2.56		124679/124689D	37.9		1234679D	153	
1379D	(0.352)		12469D	[4.57]		123468D	1.67	J	1234678D	107	
1369D	(0.352)		12368D	1.09	J	123679/123689D	14.4				
1469D	7.33		12478D	[0.966]	J	123469D	[1.33]	J			
1247D...[4]	1.77		12379D	[0.734]	J	123478D	[1.25]	J			
1378D	2.87		12369D...[3]	1.97	J	123678D	3.93				
1268D	(0.352)		12346/12347D	(0.362)		123467D	[0.978]	J			
1478D	2.28		12378D	8.69		123789D	[2.55]		**Conc.**	260	
1279D	(0.352)		12367D	(0.362)					**EMPC**	260	
1234/1269D	1.31		12389D	[0.577]	J						
1236D	(0.352)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	12.6										
1239D	(0.352)								OCDD	1760	
2378D	818										
1278D	75.2										
1267D	(0.352)										
1289D	1.37										
Conc.	924		**Conc.**	14.3		**Conc.**	57.9				
EMPC	924		**EMPC**	21.2		**EMPC**	64				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	1,090	1,090
TEQ: ND=DL/2	1,090	1,090
TEQ: ND=DL	1,090	1,090

	Conc.	EMPC
Total PCDD/Fs	8,370	8,400

Checkcode: 596-427-DFP

Report Created: 04-Mar-2022 10:48 Analyst: TF

Sample ID: 11215131-021822-S-SB-DUP-17 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	19-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	Lab Sample ID:	B6329_18965_DF_009	Date Extracted:	28-Feb-2022
Date Collected:	18-Feb-2022	% Solid:	78.3 %	QC Batch No.:	18965	Date Analyzed:	04-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:27:25

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[0.903]		13468/12468F	6.21		123468F	[3.18]		1234678F	71.5	
1468F	3.97		13678F...[3]	1.58	J	124678/134678F	18.3		1234679F	[2.06]	J
2468F	3.62		12368F...[3]	40.1		134679F	(0.32)		1234689F	40.4	
1346/1246F	(0.244)		14678F	(0.345)		124679F	0.458	J	1234789F	21.5	
1347F...[3]	27.4		13479F	(0.345)		124689F	12.2				
1348F	(0.244)		13469/12479F	(0.345)		123467F	[0.947]	J			
1248F...[3]	112		12346F	(0.345)		123478F	164				
1268F	38.3		23468/12469F	[2.19]	J	123678F	41.2				
1467F	5.13		12347F	[1.53]	J	123479F	(0.32)				
1478F	96.8		12348F	7.72		123469F	(0.32)				
1369/1237F	25.3		12378F	83.7		123679F	(0.32)				
2467F	2.55		12678/12367F	24.2		234678F	9.09		**Conc.**	133	
2368F	179		12379F	(0.345)		234678/123689F	0		**EMPC**	135	
1238F...[5]	(0.244)		12679F	(0.345)		123689F	(0.32)				
1278F	946		23467/12369F	1.29	J	123789F	(0.358)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.244)		23478F	64.2		123789/123489F	0				
1267F	57.8		23478/12489F	0		123489F	12.3		OCDF	443	
2346/1249F	6.67		12489F	(0.345)							
2347/1279F	29.4		12349F	(0.345)							
2348F	157		12389F	3.25							
2378F	2210	E									
2367/3467F	182										
1269F	35.7										
1239F	2.53										
1289F	171										
Conc.	4,290		**Conc.**	232		**Conc.**	257				
EMPC	4,290		**EMPC**	236		**EMPC**	262				

Checkcode: 596-427-DFP

Report Created: 04-Mar-2022 10:48 Analyst: TF

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Sample ID: 11215131-021822-S-SB-DUP-17 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6329_18965_DF_009
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.11 g	QC Batch No.:	18965
Date Collected:	18-Feb-2022	Split:	-	Date Extracted:	28-Feb-2022
Date Received:	19-Feb-2022	Dilution:	-	Date Analyzed:	04-Mar-2022 02:27
Lab Project No:	B6329	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	818		0.352	818	818	818
12378-PeCDD	8.69		0.362	4.35	8.69	8.69
123478-HxCDD	[1.25]	J	0.388	[0.125]	[0.125]	[0.125]
123678-HxCDD	3.93		0.427	0.393	0.393	0.393
123789-HxCDD	[2.55]		0.379	[0.255]	[0.255]	[0.255]
1234678-HpCDD	107		0.375	1.07	1.07	1.07
OCDD	1760		1.02	1.76	0.176	0.528
2378-TCDF	2210	E	0.244	221	221	221
12378-PeCDF	83.7		0.354	4.18	4.18	2.51
23478-PeCDF	64.2		0.336	32.1	32.1	19.3
123478-HxCDF	164		0.301	16.4	16.4	16.4
123678-HxCDF	41.2		0.302	4.12	4.12	4.12
234678-HxCDF	9.09		0.325	0.909	0.909	0.909
123789-HxCDF	(0.358)		0.358	(0.0358)	(0.0358)	(0.0358)
1234678-HpCDF	71.5		0.201	0.715	0.715	0.715
1234789-HpCDF	21.5		0.311	0.215	0.215	0.215
OCDF	443		0.578	0.443	0.0443	0.133

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TEQ Summaries			
EMPC = 0, ND = 0	1110	1110	1090
EMPC = 0, ND = DL / 2	1110	1110	1090
EMPC = 0, ND = DL	1110	1110	1090
EMPC = 0, < J-level = 0	1110	1110	1090
EMPC = EMPC, ND = 0	1110	1110	1090
EMPC = EMPC, ND = DL / 2	1110	1110	1090
EMPC = EMPC, ND = DL	1110	1110	1090
EMPC = EMPC, < J-level = 0	1110	1110	1090

Checkcode: 596-427-DFP

Sample ID: Method Blank B6329_18965 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18965_DF_SDS	Date Extracted:	28-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18965	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:58:30

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.234			ES 2378-TCDD	89.9	
12378-PeCDD	ND	0.258			ES 12378-PeCDD	95.6	
123478-HxCDD	ND	0.188			ES 123478-HxCDD	94.4	
123678-HxCDD	ND	0.19			ES 123678-HxCDD	96.1	
123789-HxCDD	ND	0.177			ES 123789-HxCDD	93.4	
1234678-HpCDD	ND	0.236			ES 1234678-HpCDD	96.4	
OCDD	ND	0.62			ES OCDD	85.9	
2378-TCDF	ND	0.167			ES 2378-TCDF	81	
12378-PeCDF	ND	0.14			ES 12378-PeCDF	95	
23478-PeCDF	ND	0.156			ES 23478-PeCDF	88.8	
123478-HxCDF	ND	0.126			ES 123478-HxCDF	92.1	
123678-HxCDF	ND	0.111			ES 123678-HxCDF	110	
234678-HxCDF	ND	0.132			ES 234678-HxCDF	107	
123789-HxCDF	ND	0.15			ES 123789-HxCDF	90.4	
1234678-HpCDF	ND	0.129			ES 1234678-HpCDF	117	
1234789-HpCDF	ND	0.236			ES 1234789-HpCDF	87.7	
OCDF	ND	0.477			ES OCDF	77.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	91.8	
Total TCDD	ND	0.234	ND		CS 12347-PeCDD	104	
Total PeCDD	ND	0.258	ND		CS 12346-PeCDF	97.7	
Total HxCDD	ND	0.185	ND		CS 123469-HxCDF	109	
Total HpCDD	ND	0.236	ND		CS 1234689-HpCDF	107	
Total TCDF	ND	0.167	ND				
Total PeCDF	ND	0.148	ND				
Total HxCDF	ND	0.128	ND				
Total HpCDF	ND	0.171	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	0.337	0.337	0.337				
TEQ: ND=DL	0.674	0.674	0.674				

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Sample ID: Method Blank B6329_18965 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18965_DF_SDS	Date Extracted:	28-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18965	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:58:30

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.234)		12479/12468D	(0.258)		124679/124689D	(0.185)		1234679D	(0.236)	
1379D	(0.234)		12469D	(0.258)		123468D	(0.185)		1234678D	(0.236)	
1369D	(0.234)		12368D	(0.258)		123679/123689D	(0.185)				
1469D	(0.234)		12478D	(0.258)		123469D	(0.185)				
1247D...[4]	(0.234)		12379D	(0.258)		123478D	(0.188)				
1378D	(0.234)		12369D...[3]	(0.258)		123678D	(0.19)				
1268D	(0.234)		12346/12347D	(0.258)		123467D	(0.185)				
1478D	(0.234)		12378D	(0.258)		123789D	(0.177)		**Conc.**	0	
1279D	(0.234)		12367D	(0.258)					**EMPC**	0	
1234/1269D	(0.234)		12389D	(0.258)							
1236D	(0.234)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.234)										
1239D	(0.234)								OCDD	(0.62)	
2378D	(0.234)										
1278D	(0.234)										
1267D	(0.234)										
1289D	(0.234)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	0.337	0.337
TEQ: ND=DL	0.674	0.674

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 811-964-MVQ

Report Created: 04-Mar-2022 10:47 Analyst: TF

Sample ID: Method Blank B6329_18965 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18965_DF_SDS	Date Extracted:	28-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18965	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:58:30

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.167)		13468/12468F	(0.136)		123468F	(0.128)		1234678F	(0.129)	
1468F	(0.167)		13678F...[3]	(0.148)		124678/134678F	(0.128)		1234679F	(0.171)	
2468F	(0.167)		12368F...[3]	(0.148)		134679F	(0.128)		1234689F	(0.171)	
1346/1246F	(0.167)		14678F	(0.148)		124679F	(0.128)		1234789F	(0.236)	
1347F...[3]	(0.167)		13479F	(0.148)		124689F	(0.128)				
1348F	(0.167)		13469/12479F	(0.148)		123467F	(0.128)				
1248F...[3]	(0.167)		12346F	(0.148)		123478F	(0.126)				
1268F	(0.167)		23468/12469F	(0.148)		123678F	(0.111)				
1467F	(0.167)		12347F	(0.148)		123479F	(0.128)				
1478F	(0.167)		12348F	(0.148)		123469F	(0.128)				
1369/1237F	(0.167)		12378F	(0.14)		123679F	(0.128)				
2467F	(0.167)		12678/12367F	(0.148)		234678F	(0.132)		**Conc.**	0	
2368F	(0.167)		12379F	(0.148)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.167)		12679F	(0.148)		123689F	(0.128)				
1278F	(0.167)		23467/12369F	(0.148)		123789F	(0.15)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.167)		23478F	(0.156)		123789/123489F	0				
1267F	(0.167)		23478/12489F	0		123489F	(0.128)		OCDF	(0.477)	
2346/1249F	(0.167)		12489F	(0.148)							
2347/1279F	(0.167)		12349F	(0.148)							
2348F	(0.167)		12389F	(0.148)							
2378F	(0.167)										
2367/3467F	(0.167)										
1269F	(0.167)										
1239F	(0.167)										
1289F	(0.167)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 811-964-MVQ

Report Created: 04-Mar-2022 10:47 Analyst: TF

Sample ID: Method Blank B6329_18965 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18965_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18965
Date Collected:	n/a	Split:	-	Date Extracted:	28-Feb-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	03-Mar-2022 17:58
Lab Project No:	B6329	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.234)		0.234	(0.234)	(0.234)	(0.234)
12378-PeCDD	(0.258)		0.258	(0.129)	(0.258)	(0.258)
123478-HxCDD	(0.188)		0.188	(0.0188)	(0.0188)	(0.0188)
123678-HxCDD	(0.19)		0.19	(0.019)	(0.019)	(0.019)
123789-HxCDD	(0.177)		0.177	(0.0177)	(0.0177)	(0.0177)
1234678-HpCDD	(0.236)		0.236	(0.00236)	(0.00236)	(0.00236)
OCDD	(0.62)		0.62	(0.00062)	(0.000062)	(0.000186)
2378-TCDF	(0.167)		0.167	(0.0167)	(0.0167)	(0.0167)
12378-PeCDF	(0.14)		0.14	(0.007)	(0.007)	(0.0042)
23478-PeCDF	(0.156)		0.156	(0.078)	(0.078)	(0.0468)
123478-HxCDF	(0.126)		0.126	(0.0126)	(0.0126)	(0.0126)
123678-HxCDF	(0.111)		0.111	(0.0111)	(0.0111)	(0.0111)
234678-HxCDF	(0.132)		0.132	(0.0132)	(0.0132)	(0.0132)
123789-HxCDF	(0.15)		0.15	(0.015)	(0.015)	(0.015)
1234678-HpCDF	(0.129)		0.129	(0.00129)	(0.00129)	(0.00129)
1234789-HpCDF	(0.236)		0.236	(0.00236)	(0.00236)	(0.00236)
OCDF	(0.477)		0.477	(0.000477)	(0.0000477)	(0.000143)

5500 Business Drive
Wilmington, NC 28405, USA
Tel: +1 910 794-1613; Toll-Free 866 846-8290
www.us.sgs.com

TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.29	0.354	0.337
EMPC = 0, ND = DL	0.58	0.708	0.674
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.29	0.354	0.337
EMPC = EMPC, ND = DL	0.58	0.708	0.674
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 811-964-MVQ

SGS North America - DF v0.99

Sample ID: 0_18965_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6329	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18965_DF	Date Extracted:	28-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18965	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:25:52

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.3				ES 2378-TCDD	85.6	
12378-PeCDD	48.6				ES 12378-PeCDD	90.5	
123478-HxCDD	53.3				ES 123478-HxCDD	89.3	
123678-HxCDD	54.4				ES 123678-HxCDD	91.3	
123789-HxCDD	50.9				ES 123789-HxCDD	88.7	
1234678-HpCDD	52.5				ES 1234678-HpCDD	85.9	
OCDD	106				ES OCDD	75.5	
2378-TCDF	11				ES 2378-TCDF	77.8	
12378-PeCDF	48.9				ES 12378-PeCDF	94.5	
23478-PeCDF	54.7				ES 23478-PeCDF	87.4	
123478-HxCDF	50.5				ES 123478-HxCDF	87.1	
123678-HxCDF	52.6				ES 123678-HxCDF	101	
234678-HxCDF	52.2				ES 234678-HxCDF	104	
123789-HxCDF	48.1				ES 123789-HxCDF	84.8	
1234678-HpCDF	50.2				ES 1234678-HpCDF	112	
1234789-HpCDF	52.5				ES 1234789-HpCDF	77.7	
OCDF	105				ES OCDF	66.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	87.9	
Total TCDD	53.5		53.5		CS 12347-PeCDD	99.8	
Total PeCDD	75.6		75.6		CS 12346-PeCDF	98.4	
Total HxCDD	175		175		CS 123469-HxCDF	103	
Total HpCDD	65.9		65.9		CS 1234689-HpCDF	99.6	
Total TCDF	63.1		63.1				
Total PeCDF	202		202				
Total HxCDF	328		328				
Total HpCDF	103		103				
Total PCDD/Fs	**1,280**		**1,280**				
WHO-2005 TEQs							
TEQ: ND=0	117		117				
TEQ: ND=DL/2	117	0.415	117				
TEQ: ND=DL	117	0.83	117				

SGS
5500 Business Drive
Wilmington, NC 28405, USA
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Tel: +1 910 794-1613; Toll-Free 866 846-8290

Sample Receipt Notification

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*19-Feb-22 at 10:41*
AP Project name:	*B6329*
Requested TAT:	*10 business days*
Projected due date:	*7-Mar-22*
Matrix:	*Solid*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-021722-S-SB-SC-O-24	B6329_001	solid	1	4oz clear	17-Feb-22	12:35	-0.4	1	490527045873
11215131-021722-S-SB-SC-B-17	B6329_002	solid	1	4oz clear	17-Feb-22	12:40	-0.4	1	490527045873
11215131-021722-S-SB-SC-B-17H	B6329_003	solid	1	4oz clear	17-Feb-22	12:45	-0.4	1	490527045873
11215131-021722-S-SB-NC-O-52	B6329_004	solid	1	4oz clear	17-Feb-22	15:30	-0.4	1	490527045873
11215131-021822-S-SB-NC-O-49	B6329_005	solid	1	4oz clear	18-Feb-22	10:10	-0.4	1	490527045873
11215131-021822-S-SB-NC-O-50	B6329_006	solid	1	4oz clear	18-Feb-22	10:20	-0.4	1	490527045873
11215131-021822-S-SB-NC-B-15	B6329_007	solid - MS/MSD	1	4oz clear	18-Feb-22	10:30	-0.4	1	490527045873
11215131-021822-S-SB-NC-B-16	B6329_008	solid	1	4oz clear	18-Feb-22	10:40	-0.4	1	490527045873
11215131-021822-S-SB-DUP-17	B6329_009	solid - DUP	1	4oz clear	18-Feb-22	n/a	-0.4	1	490527045873
11215131-021722-S-SB-SC-O-25	B6329_010	solid - HOLD	1	4oz clear	17-Feb-22	11:30	-0.4	1	490527045873
11215131-021722-S-SB-SC-B-18	B6329_011	solid - HOLD	1	4oz clear	17-Feb-22	11:40	-0.4	1	490527045873
11215131-021722-S-SB-SC-B-18H	B6329_012	solid - HOLD	1	4oz clear	17-Feb-22	11:50	-0.4	1	490527045873
11215131-021722-S-SB-SC-S-34	B6329_013	solid - HOLD	1	4oz clear	17-Feb-22	12:00	-0.4	1	490527045873
11215131-021722-S-SB-NC-S-52	B6329_014	solid - HOLD	1	4oz clear	17-Feb-22	15:15	-0.4	1	490527045873
11215131-021722-S-SB-NC-O-55	B6329_015	solid - HOLD	1	4oz clear	17-Feb-22	15:45	-0.4	1	490527045873

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact, not frozen

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Jeannie Milholland *Logged in by: Taylor McKnight* *QC'ed by:* AK 21 Feb 22

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

B6329

SGS CHAIN OF CUSTODY

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ☒ Level II ☒ Level IV
SPECIAL DELIVERABLES:
☐ DoD ☒ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

PRESERVATIVE
None

ANALYSIS & METHOD

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis(

INVOICE TO (☒ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

See SSOW

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B	~~M8290A~~	~~M1668A~~	~~M1668C~~	~~HR-PAH~~	~~M1699~~	MS	MSD	DUP	QTY	REMARKS
15131-021722-S-SB-SC-O-25	2/17/22	1130	C	S	402	X										HOLD * 10
215131-021722-S-SB-SC-B-18	1	1140				X										HOLD * 11
215131-021722-S-SB-SC-B-18H	1	1150				X										HOLD * 12
215131-021722-S-SB-SC-S-34	1	1200				X										HOLD * 13
215131-021722-S-SB-SC-S-33	1	1230				X										RUSH
215131-021722-S-SB-SC-O-24	1	1235				X										* 1
15131-021722-S-SB-SC-B-17	1	1240				X										* 2
15131-021722-S-SB-SC-B-17H	1	1245				X										* 3
15131-021722-S-SB-NC-S-49	1	1500				X										RUSH
15131-021722-S-SB-NC-S-52	↓	1515	↓	↓	↓	X										HOLD * 14

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:	RECEIVED BY LABORATORY: DATE: TIME:
Sarah Belanger	2/18/22	1200	Eddie Castro 2-18-22 1345	Jeanne McClellan 2-19-22 10:41
RELINQUISHED BY (2): Eddie Castro	2-18-22	1510	RECEIVED BY: [signature] 2/18/22 1510	COOLER SEAL: ☑ INTACT ☐ BROKEN ☐ ABSENT
				CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT
RELINQUISHED BY (3): Fedex	2-19-22	10:41	RECEIVED BY: Jeanne McClellan	CARRIER: Fed Ex TEMP: °C -0.4
				TRACKING #: 4905 2704 5873

* = Samples in this project

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52 of 476
Member of the SGS Group (SGS SA)

B16329

SGS CHAIN OF CUSTODY

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	PRESERVATIVE: None	ANALYSIS & METHOD: M1613B	M8290A	M1668A	M1668B	HRPATH	M1699	QC: MS	MSD	DUP	QTY	REMARKS: see 550w
5131-02	1822-S-SB-NC-0-52	2/17/22	1530	C	S	40Z	X										4
5131-02	1822-S-SB-NC-0-55	2/17/22	1545				X										HOLD 15
5131-02	1822-S-SB-NC-0-49	2/18/22	1010				X										5
5131-02	1822-S-SB-NC-0-50		1020				X										6
5131-02	1822-S-SB-NC-B-15		1030				X						X	X			MS/MSD 7
5131-02	1822-S-SB-NC-B-16		1040				X										8
5131-02	1822-S-SB-NC-S-48		1050				X										RUSH
5131-02	1822-S-SB-DUP-17	↓	—	↓	↓	↓	X								X		Field duplicate 9

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:	RECEIVED BY LABORATORY:	DATE:	TIME:
Aaron Belanger	2/18/22	12.00	2-18-22 1345	Jeannie McDaniel	2-19-22	10.41
RELINQUISHED BY (2): Eddie Cash	DATE: 2-18-22	TIME: 1510	RECEIVED BY: 2/18/22 1510	COOLER SEAL: ☑ INTACT ☐ BROKEN ☐ ABSENT		
RELINQUISHED BY (3): Fed Ex	DATE: 2-19-22	TIME: 10:41	RECEIVED BY: Jeannie McDaniel	CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT		
				CARRIER: Fed Ex	TEMP: °C -0.4 IR#1	
				TRACKING #: 4905 2704 5873		

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Member of the SGS Group (SGS SA)

B6329 1/1

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10155 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 18FEB22
ACTWGT: 45.00 LB MAN
CAD: 0317565/CAFE3313

BILL THIRD PARTY

TO **SAMPLE RECEIVING**
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

1041 4-2 -0.4°

FedEx Express

E

TRK# 0201 4905 2704 5873

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO ILMA

28405
NC-US **RDU**

Part # 155148-434 MTW EXP 07/22

Project Initiation Form

Project Number: B6329

Initiation Date: 21-Feb-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Solid

TAT: 10 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR

10 g DWE extraction

Sample 007 is MS/MSD

Samples 010-015 on HOLD

Read and understood, initial and date: Prep Lab: KE 2/28/22 JRH 2/28/22 RPB 3/1/22

HRMS Lab:

Reporting Instructions

M1613B
Full Report

Sample 007 MS/MSD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab:

PM Initials: akornegay Date: 21-Feb-2022

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Methods: PCB / PAH | (PCDD/F) WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Extraction Type: (SDS) CLL | TALEX Carbon SPE | Solid | Final Volume: 20µL

Batch# 18965 | Split: ~~1/2~~ ~~1/4~~ | Extract Initial/Date: KE 2/28/22 | Clean-up Initial/Date: [illegible] 3/2/22 | Transfer Init/Date: [illegible] 3/3/22

Lab Sample ID	Extraction Position / Solvent: ~~TOL~~	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations	Supply IDs
B6329_18965_001	11	14.89				brown/white, sandy	Toluene STL 14.26
B6329_18965_002	12	12.81				gray, clay-like	MeCHL STL14.27
B6329_18965_003	13	12.99				gray, clay-like	Florisil SPLS.91
B6329_18965_004	14	KE 2/28/22 ~~12.50~~ 12.38				gray/orange, clay-like	Hexane STL14.29
B6329_18965_005	15	14.26				gray, clay-like	Silica SPLS-69
B6329_18965_006	16	12.27				brown/orange, clay-like	S Nitrate NA
B6329_18965_007	17	14.88				dark gray, clay-like, strong oil sheen	Base Silica SPLS.92
B6329_18965_007MS	18	14.97		Ce 07 Mar 22		See 007	HydroMatrix NA
B6329_18965_007MSD	JT24 2/28/22 19	14.87				see 007	Tetradecane SPLS-73D
B6329_18965_008	20	13.49				gray, clay-like/sandy	H_2SO_4 NA
B6329_18965_009	21	12.91				gray, clay-like/sandy	A Silica SPLS.90
MB1_18965	9	10.00				sodium sulfate	Sodium Sulfate SPLS-80B
OPR1_18965	10	10.00				sodium sulfate	

3/2/22

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	Ce 07 Mar 22
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

JT24 2/28/22 TOL	Start: ~~1315~~ 1515
	Stop: 0915
HEX	Start:
	Stop: Ce 07 Mar 22
DCM	Start:
	Stop:

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Methods: PCB PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST

Solid

Batch# 18965

Inter-Department Communication Sheet

07 Mar 22

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Wt. Volume Results

Batch #: 18965

Comments:

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6329_001	2.29	5.3	4.35	68.44%	68.44%			14.61	14.89	10.19
B6329_002	2.39	5.37	4.72	78.19%	78.19%			12.79	12.81	10.02
B6329_003	2.33	5.87	5.1	78.25%	78.25%			12.78	12.99	10.16
B6329_004	2.33	5.04	4.55	81.92%	81.92%			12.21	12.38	10.14
B6329_005	2.31	5.31	4.44	71.00%	71.00%			14.08	14.26	10.12
B6329_006	2.34	4.61	4.19	81.50%	81.50%			12.27	12.27	10
B6329_007	2.33	4.8	4	67.61%	67.61%	CP		14.79	14.88	10.06
B6329_007MS	2.33	4.8	4	67.61%	67.61%		07 Mar 22	14.79	14.97	10.12
B6329_007MSD	2.33	4.8	4	67.61%	67.61%			14.79	14.87	10.05
B6329_008	2.25	5.14	4.43	75.43%	75.43%			13.26	13.49	10.18
B6329_009	2.36	5.63	4.92	78.29%	78.29%			12.77	12.91	10.11

07 Mar 22

CP

% Solid Determination WorkSheet

SGS

Batch: 18965

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	10g DLE	Comments
B6329_18965_001	2.29	5.30	4.35	14.61	
B6329_18965_002	2.39	5.37	4.72	12.79	
B6329_18965_003	2.33	5.87	5.10	12.78	
B6329_18965_004	2.33	5.04	4.55	12.21	
B6329_18965_005	2.31	5.31	4.44	14.08	
B6329_18965_006	2.34	4.61	4.19	12.27	
B6329_18965_007	2.33	4.80	4.00	14.79	
B6329_18965_007MS	2.33	4.80	4.00	14.79	
B6329_18965_007MSD	2.33	4.80	4.00	14.79	
B6329_18965_008	2.25	5.14	4.43	13.26	
B6329_18965_009	2.36	5.65	4.92	12.77	

3/3/22

Date/Initials: 2/28/22 KE

SGS

Methods: PCB / PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Solid

Batch # 18965

Spiker Initials/Date:	JRH 2/28/22	JRH 2/28/22	JRH 2/28/22	3/2/22	3/2/22		
Lab Sample ID	D/F Ax-A Amount: 20µL Observer Initials	D/F Ax-B Amount: 20µL Observer Initials	D/F ES Amount: 20µL Observer Initials	D/F CS Amount: 20µL Observer Initials	D/F JS Amount: 20µL Observer Initials	Amount: Observer Initials	Amount: Observer Initials
B6329_18965_001	—	—	KE	JRH	JRH		
B6329_18965_002	—	—	KE	JRH	JRH		
B6329_18965_003	—	—	KE	JRH	JRH		
B6329_18965_004	—	—	KE	JRH	JRH		
B6329_18965_005	—	—	KE	JRH	JRH		
B6329_18965_006	—	—	KE	JRH	JRH		
B6329_18965_007	—	—	KE	JRH	JRH		
B6329_18965_007MS	KE	KE	KE	JRH	JRH		
B6329_18965_007MSD	KE	KE	KE	JRH	JRH		
B6329_18965_008	—	—	KE	JRH	JRH		
B6329_18965_009	—	—	KE	JRH	JRH		
MB1_18965	—	—	KE	JRH	JRH		
OPR1_18965	KE	KE	KE	JRH	JRH		

RDS 3/2/22

Standard Information

Pipette ID					
Spike ID	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS
SIL #	26-2-8	25-187-2	26-2-9	25-403-1	25-384-1
Concentration	100 pg/µL JJT	10 pg/µL JJT	100 pg/µL JJT	100 pg/µL	100 pg/µL
Expiration Date	~~2/28/22~~ 7/1/22 KE 2/28/22	6/22/22	8/2028	2/15/23	1/28/23

JRH 3/2/22

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	220303C01	3	CS3_220303_DF_CA	1.00	25-347-1	DTF	405-637	03-Mar-2022	15:07:17
2	220303C02	66	OPR1_18965_DF	1.00	0_18965_OPR001	DTF	159-265	03-Mar-2022	16:25:52
3	220303C03	2	SBS_220303_DF_CA	1.00	20-61-1	DTF	153-740	03-Mar-2022	17:12:13
4	220303C04	65	MB1_18965_DF_SDS	10.00	Method Blank	DTF	811-964	03-Mar-2022	17:58:30
5	220303C05	67	B6329_18965_DF_001	10.19	11215131-021722-S-SB-SC-O-24	DTF	133-139	03-Mar-2022	18:44:48
6	220303C06	68	B6329_18965_DF_002	10.02	11215131-021722-S-SB-SC-B-17	DTF	523-891	03-Mar-2022	19:31:07
7	220303C07	69	B6329_18965_DF_003	10.16	11215131-021722-S-SB-SC-B-17H	DTF	082-368	03-Mar-2022	20:17:19
8	220303C08	70	B6329_18965_DF_004	10.14	11215131-021722-S-SB-NC-O-52	DTF	158-253	03-Mar-2022	21:03:37
9	220303C09	71	B6329_18965_DF_005	10.12	11215131-021822-S-SB-NC-O-49	DTF	922-005	03-Mar-2022	21:49:56
10	220303C10	72	B6329_18965_DF_006	10.00	11215131-021822-S-SB-NC-O-50	DTF	807-126	03-Mar-2022	22:36:09
11	220303C11	73	B6329_18965_DF_007	10.06	11215131-021822-S-SB-NC-B-15	DTF	615-582	03-Mar-2022	23:22:22
12	220303C12	74	B6329_18965_DF_007MS	10.12	11215131-021822-S-SB-NC-B-15-MS	DTF	971-252	04-Mar-2022	00:08:40
13	220303C13	75	B6329_18965_DF_007MSD	10.05	11215131-021822-S-SB-NC-B-15-MSD	DTF	547-269	04-Mar-2022	00:54:52
14	220303C14	76	B6329_18965_DF_008	10.18	11215131-021822-S-SB-NC-B-16	DTF	366-326	04-Mar-2022	01:41:06
15	220303C15	77	B6329_18965_DF_009	10.11	11215131-021822-S-SB-DUP-17	DTF	596-427	04-Mar-2022	02:27:25

REVIEWED
Tyler_Fritz , 3/4/2022, 11:01:12 AM

APPROVED
Carla_Lyon , 3/7/2022, 10:52:40 AM

Lab ID: MB1_18965_DF_SDS | **Acq'd:** 03 Mar 2022 17:58 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6329_18965 | **UTP:** 04-Mar-2022 10:45:38 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 811-964-MVQ

Datafile: 220303C04 | **Report:** 04 Mar 2022 10:47 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	3194.603	0.234
12378-PeCDD	NotFnd		1.0007	-		-	-	-	1.04	-	3224.01	0.258
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2181.8247	0.188
123678-HxCDD	NotFnd		1.0036	-		-	-	-	1.15	-	2181.8247	0.19
123789-HxCDD	NotFnd		1.0118	-		-	-	-	1.05	-	2181.8247	0.177
1234678-HpCDD	NotFnd		1.0002	-		-	-	-	1.06	-	2571.81	0.236
OCDD	NotFnd		1.0003	-		-	-	-	1.13	-	3027.762	0.62
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	2840.993	0.167
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2724.134	0.14
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2724.134	0.156
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2297.918	0.126
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2297.918	0.111
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2297.918	0.132
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2297.918	0.15
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2729.1286	0.129
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2729.1286	0.236
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	2458.445	0.477

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.16	1.0243	1.0244	+0.2	2.34E+07	0.80	Y	1.05	89.9
ES 12378-PeCDD	33.57	1.2198	1.2212	+2.8	2.09E+07	1.56	Y	0.88	95.6
ES 123478-HxCDD	37.50	0.9916	0.9915	-0.2	1.89E+07	1.27	Y	0.97	94.4
ES 123678-HxCDD	37.62	0.9947	0.9947	0	1.87E+07	1.26	Y	0.94	96.1
ES 123789-HxCDD	37.93	1.0029	1.0028	-0.2	2.10E+07	1.21	Y	1.09	93.4
ES 1234678-HpCDD	40.68	1.0749	1.0755	+1.5	1.82E+07	1.08	Y	0.91	96.4
ES OCDD	43.37	1.1460	1.1467	+1.8	2.21E+07	0.91	Y	0.62	85.9
ES 2378-TCDF	27.29	1.0531	1.0536	+0.8	3.55E+07	0.82	Y	1.06	81
ES 12378-PeCDF	32.10	1.2378	1.2394	+3.1	3.57E+07	1.61	Y	0.91	95
ES 23478-PeCDF	33.23	1.2810	1.2828	+3.6	3.24E+07	1.59	Y	0.88	88.8
ES 123478-HxCDF	36.50	0.9650	0.9650	0	2.28E+07	0.54	Y	1.20	92.1
ES 123678-HxCDF	36.64	0.9688	0.9687	-0.2	3.07E+07	0.55	Y	1.35	110
ES 234678-HxCDF	37.32	0.9866	0.9866	0	2.75E+07	0.53	Y	1.24	107
ES 123789-HxCDF	38.30	1.0125	1.0126	+0.2	2.15E+07	0.52	Y	1.16	90.4
ES 1234678-HpCDF	39.73	1.0501	1.0504	+0.7	2.34E+07	0.45	Y	0.97	117
ES 1234789-HpCDF	41.13	1.0870	1.0875	+1.2	1.54E+07	0.47	Y	0.85	87.7
ES OCDF	43.55	1.1505	1.1515	+2.6	2.58E+07	0.90	Y	0.81	77.4

Lab ID: MB1_18965_DF_SDS | **Acq'd:** 03 Mar 2022 17:58 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6329_18965 | **UTP:** 04-Mar-2022 10:45:38 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 811-964-MVQ

Datafile: 220303C04 | **Report:** 04 Mar 2022 10:47 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.49		-	-	-	2.49E+07	0.81	Y	-	-	
JS 1234-TCDF	25.90		-	-	-	4.13E+07	0.81	Y	-	-	
JS 123467-HxCDD	37.82		-	-	-	1.03E+07	1.26	Y	-	-	
CS 37Cl-2378-TCDD	28.18		1.0251	1.0252	+0.2	1.10E+07	n/a	-	1.20	91.8	
CS 12347-PeCDD	33.06		1.2016	1.2027	+2.2	1.94E+07	1.67	Y	0.75	104	
CS 12346-PeCDF	31.57		1.2172	1.2189	+3.2	3.43E+07	1.63	Y	0.85	97.7	
CS 123469-HxCDF	36.95		0.9771	0.9769	-0.4	2.51E+07	0.52	Y	1.12	109	
CS 1234689-HpCDF	40.14		1.0608	1.0612	+1.0	1.95E+07	0.46	Y	0.89	107	
~~SS 37Cl-2378-TCDD~~	~~28.18~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.10E+07~~	~~n/a~~		~~1.15~~	~~102~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.06~~		~~1.2016~~	~~1.2027~~	~~+2.2~~	~~1.94E+07~~	~~1.67~~	~~Y~~	~~0.86~~	~~100~~	CL 07Mar22
~~SS 12346-PeCDF~~	~~31.57~~		~~1.2172~~	~~1.2189~~	~~+3.2~~	~~3.43E+07~~	~~1.63~~	~~Y~~	~~0.94~~	~~103~~	
~~SS 123469-HxCDF~~	~~36.95~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~2.51E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~98.8~~	
~~SS 1234689-HpCDF~~	~~40.14~~		~~1.0608~~	~~1.0612~~	~~+1.0~~	~~1.95E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~90.7~~	

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: MB1_18965_DF_SDS **Acq'd: 03 Mar 2022 17:58 DTF** **Wt/Vol: 10.00 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6329_18965 **UTP: 04-Mar-2022 10:45:38 DTF** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 811-964-MVQ**

Datafile: 220303C04 **Report: 04 Mar 2022 10:47 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		3194.603	0.234
1379-TCDD	NotFnd		0.8829						1.18		3194.603	0.234
1369-TCDD	NotFnd		0.8982						1.18		3194.603	0.234
1469-TCDD	NotFnd		0.9261						1.18		3194.603	0.234
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		3194.603	0.234
1378-TCDD	NotFnd		0.9417						1.18		3194.603	0.234
1268-TCDD	NotFnd		0.9487						1.18		3194.603	0.234
1478-TCDD	NotFnd		0.9576						1.18		3194.603	0.234
1279-TCDD	NotFnd		0.9636						1.18		3194.603	0.234
1234/1269-TCDD	NotFnd		0.9761						1.18		3194.603	0.234
1236-TCDD	NotFnd		0.9812						1.18		3194.603	0.234
1237/1238-TCDD	NotFnd		0.9905						1.18		3194.603	0.234
1239-TCDD	NotFnd		0.9951						1.18		3194.603	0.234
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**3194.603**	**0.234**
1278-TCDD	NotFnd		1.0124						1.18		3194.603	0.234
1267-TCDD	NotFnd		1.0172						1.18		3194.603	0.234
1289-TCDD	NotFnd		1.0354						1.18		3194.603	0.234
12479/12468-PeCDD	NotFnd		0.9255						1.04		3224.01	0.258
12469-PeCDD	NotFnd		0.9416						1.04		3224.01	0.258
12368-PeCDD	NotFnd		0.9582						1.04		3224.01	0.258
12478-PeCDD	NotFnd		0.9637						1.04		3224.01	0.258
12379-PeCDD	NotFnd		0.9668						1.04		3224.01	0.258
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		3224.01	0.258
12346/12347-PeCDD	NotFnd		0.9858						1.04		3224.01	0.258
12378-PeCDD	NotFnd		**1.0007**						**1.04**		**3224.01**	**0.258**
12367-PeCDD	NotFnd		1.0036						1.04		3224.01	0.258
12389-PeCDD	NotFnd		1.0137						1.04		3224.01	0.258
124679/124689-HxCDD	NotFnd		0.9540						1.10		2181.8247	0.185
123468-HxCDD	NotFnd		0.9715						1.10		2181.8247	0.185
123679/123689-HxCDD	NotFnd		0.9793						1.10		2181.8247	0.185
123469-HxCDD	NotFnd		0.9829						1.10		2181.8247	0.185
123478-HxCDD	NotFnd		**1.0004**						1.09		**2181.8247**	**0.188**
123678-HxCDD	NotFnd		**1.0036**						1.15		**2181.8247**	**0.19**
123467-HxCDD	NotFnd		1.0089						1.10		2181.8247	0.185
123789-HxCDD	NotFnd		**1.0118**						1.05		**2181.8247**	**0.177**

Lab ID: MB1_18965_DF_SDS | **Acq'd:** 03 Mar 2022 17:58 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6329_18965 | **UTP:** 04-Mar-2022 10:45:38 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 811-964-MVQ

Datafile: 220303C04 | **Report:** 04 Mar 2022 10:47 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9836						1.06		2571.81	0.236
1234678-HpCDD	**NotFnd**		**1.0002**						**1.06**		**2571.81**	**0.236**
OCDD	**NotFnd**		**1.0003**						**1.13**		**3027.762**	**0.62**
OCDD-a	NotFnd		1.0002						0.07		3870.16	12.4
1368-TCDF	NotFnd		0.8191						1.08		2840.993	0.167
1468-TCDF	NotFnd		0.8408						1.08		2840.993	0.167
2468-TCDF	NotFnd		0.8645						1.08		2840.993	0.167
1346/1246-TCDF	NotFnd		0.8772						1.08		2840.993	0.167
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		2840.993	0.167
1348-TCDF	NotFnd		0.8932						1.08		2840.993	0.167
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		2840.993	0.167
1268-TCDF	NotFnd		0.9119						1.08		2840.993	0.167
1467-TCDF	NotFnd		0.9170						1.08		2840.993	0.167
1478-TCDF	NotFnd		0.9234						1.08		2840.993	0.167
1369/1237-TCDF	NotFnd		0.9369						1.08		2840.993	0.167
2467-TCDF	NotFnd		0.9415						1.08		2840.993	0.167
2368-TCDF	NotFnd		0.9475						1.08		2840.993	0.167
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		2840.993	0.167
1278-TCDF	NotFnd		0.9676						1.08		2840.993	0.167
1349-TCDF	NotFnd		0.9722						1.08		2840.993	0.167
1267-TCDF	NotFnd		0.9777						1.08		2840.993	0.167
2346/1249-TCDF	NotFnd		0.9843						1.08		2840.993	0.167
2347/1279-TCDF	NotFnd		0.9926						1.08		2840.993	0.167
2348-TCDF	NotFnd		0.9968						1.08		2840.993	0.167
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**2840.993**	**0.167**
2367/3467-TCDF	NotFnd		1.0142						1.08		2840.993	0.167
1269-TCDF	NotFnd		1.0235						1.08		2840.993	0.167
1239-TCDF	NotFnd		1.0329						1.08		2840.993	0.167
1289-TCDF	NotFnd		1.0742						1.08		2840.993	0.167
13468/12468-PeCDF	NotFnd		0.9122						1.02		2513.515	0.136
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		2724.134	0.148
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		2724.134	0.148
14678-PeCDF	NotFnd		0.9685						1.02		2724.134	0.148
13479-PeCDF	NotFnd		0.9716						1.02		2724.134	0.148
13469/12479-PeCDF	NotFnd		0.9794						1.02		2724.134	0.148
12346-PeCDF	NotFnd		0.9836						1.02		2724.134	0.148

Lab ID: MB1_18965_DF_SDS | **Acq'd:** 03 Mar 2022 17:58 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

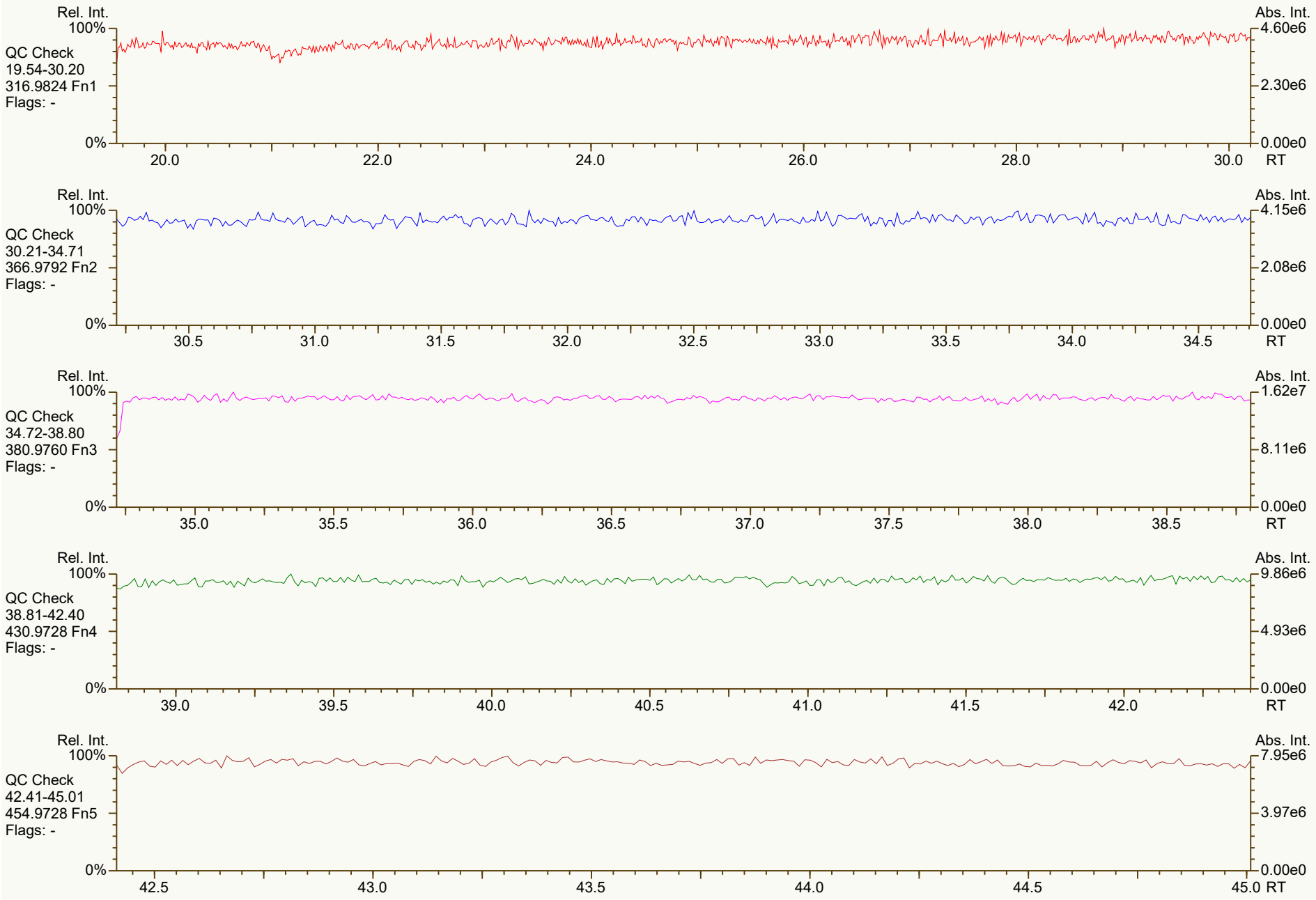
Client ID: Method Blank B6329_18965 | **UTP:** 04-Mar-2022 10:45:38 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 811-964-MVQ

Datafile: 220303C04 | **Report:** 04 Mar 2022 10:47 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		2724.134	0.148
12347-PeCDF	NotFnd		0.9891						1.02		2724.134	0.148
12348-PeCDF	NotFnd		0.9938						1.02		2724.134	0.148
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2724.134**	**0.14**
12678/12367-PeCDF	NotFnd		1.0091						1.02		2724.134	0.148
12379-PeCDF	NotFnd		1.0144						1.02		2724.134	0.148
12679-PeCDF	NotFnd		0.9927						1.02		2724.134	0.148
23467/12369-PeCDF	NotFnd		0.9965						1.02		2724.134	0.148
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2724.134**	**0.156**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2724.134	0.148
12349-PeCDF	NotFnd		1.0101						1.02		2724.134	0.148
12389-PeCDF	NotFnd		1.0330						1.02		2724.134	0.148
123468-HxCDF	NotFnd		0.9622						1.19		2297.918	0.128
124678/134678-HxCDF	NotFnd		0.9678						1.19		2297.918	0.128
134679-HxCDF	NotFnd		0.9741						1.19		2297.918	0.128
124679-HxCDF	NotFnd		0.9795						1.19		2297.918	0.128
124689-HxCDF	NotFnd		0.9856						1.19		2297.918	0.128
123467-HxCDF	NotFnd		0.9972						1.19		2297.918	0.128
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2297.918**	**0.126**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2297.918**	**0.111**
123479-HxCDF	NotFnd		1.0048						1.19		2297.918	0.128
123469-HxCDF	NotFnd		1.0089						1.19		2297.918	0.128
123679-HxCDF	NotFnd		0.9942						1.19		2297.918	0.128
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2297.918**	**0.132**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2297.918	0.128
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2297.918**	**0.15**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		2297.918	0.128
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2729.1286**	**0.129**
1234679-HpCDF	NotFnd		1.0068						1.34		2729.1286	0.171
1234689-HpCDF	NotFnd		1.0104						1.34		2729.1286	0.171
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2729.1286**	**0.236**
OCDF	**NotFnd**		**1.0002**						**1.07**		**2458.445**	**0.477**
OCDF-a	NotFnd		1.0001						0.07		3103.772	9.72

SGS ID: MB1_18965_DF_SDS | **Sample ID: Method Blank** | **Acq: 03-Mar-2022 17:58:30**

Instr: [ILM] AutoSpec-Ultima HRMS3 | **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65** | **User: DTF Datafile: 220303C04**

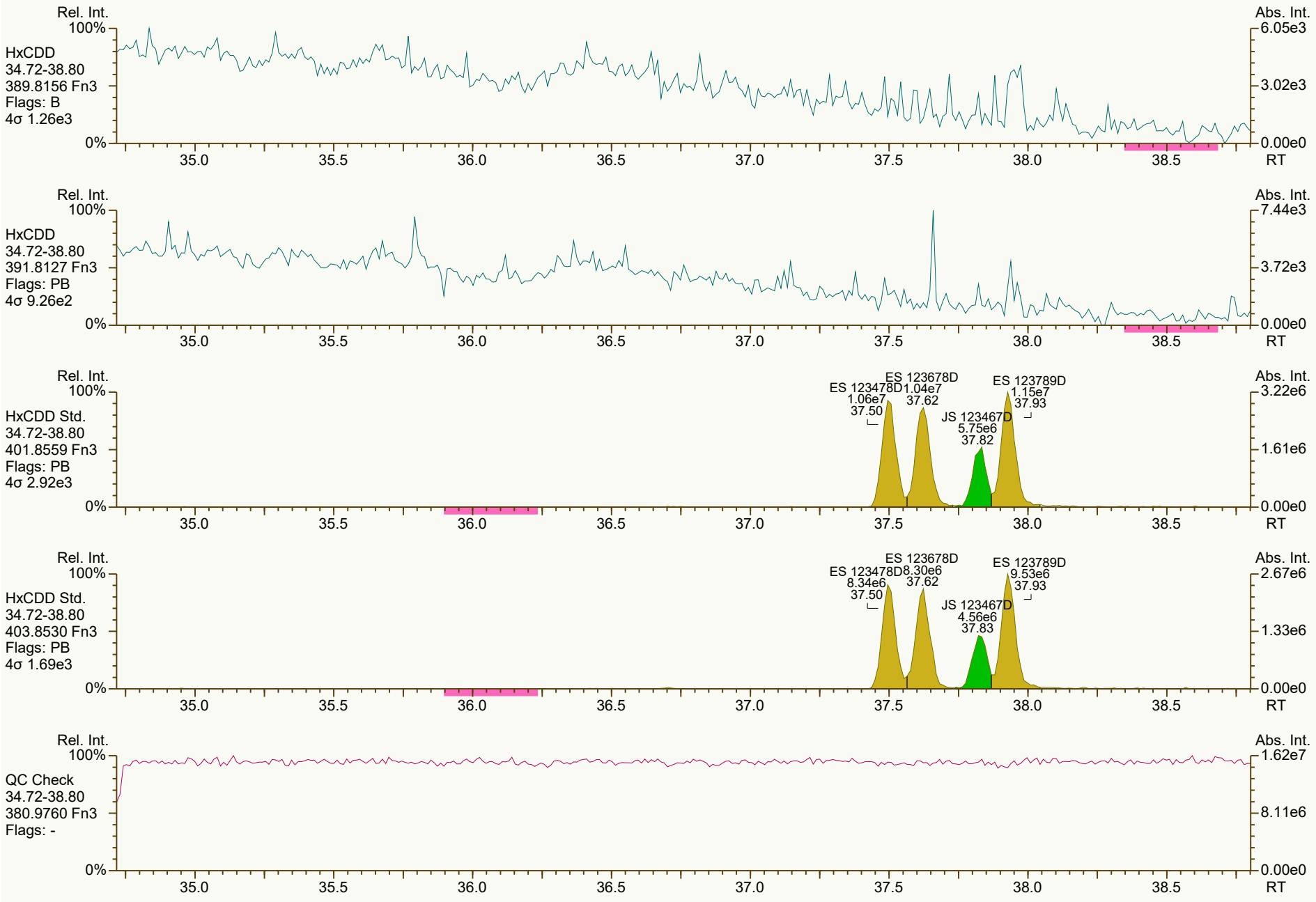


Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\MB1_18965_DF_SDS.utp_res, saved 04-Mar-2022 10:45 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 scc: 811-964 *PKD: n/a Printed: 04-Mar-2022 10:53 Page 1 of 12*

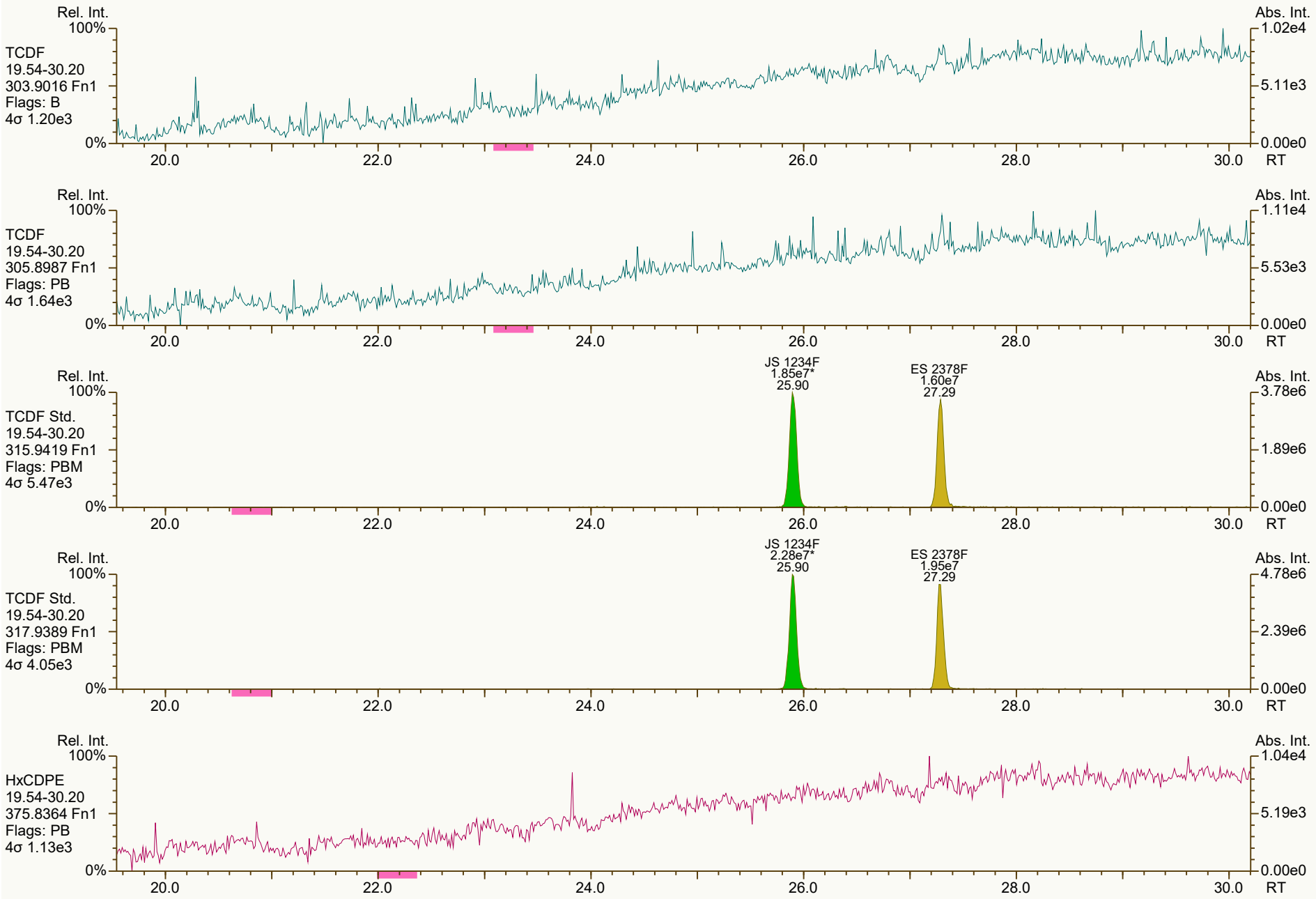

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 1.85e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.34e3
0%
Abs. Int.
1.19e4
5.93e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.29e3
0%
CS 37Cl-2378D
1.10e7
28.18
Abs. Int.
2.58e6
1.29e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.36e3
0%
JS 1234D
1.11e7
27.49
ES 2378D
1.04e7
28.16
Abs. Int.
2.55e6
1.28e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 1.79e3
0%
JS 1234D
1.38e7
27.49
ES 2378D
1.30e7
28.16
Abs. Int.
3.24e6
1.62e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.65e3
0%
Abs. Int.
7.64e3
3.82e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
5.92e3
2.96e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PBM
4σ 2.69e3
0%
CS 12347D
1.21e7
33.06
ES 12378D
1.27e7*
33.57
Abs. Int.
3.67e6
1.83e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PBM
4σ 2.70e3
0%
CS 12347D
7.26e6
33.06
ES 12378D
8.17e6*
33.57
Abs. Int.
2.43e6
1.22e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.15e6
2.08e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: B
4σ 1.26e3
0%
Abs. Int.
6.05e3
3.02e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 9.26e2
0%
Abs. Int.
7.44e3
3.72e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 2.92e3
0%
ES 123678D
1.04e7
37.62
ES 123478D
1.06e7
37.50
JS 123467D
5.75e6
37.82
ES 123789D
1.15e7
37.93
Abs. Int.
3.22e6
1.61e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 1.69e3
0%
ES 123678D
8.30e6
37.62
ES 123478D
8.34e6
37.50
JS 123467D
4.56e6
37.83
ES 123789D
9.53e6
37.93
Abs. Int.
2.67e6
1.33e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.62e7
8.11e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

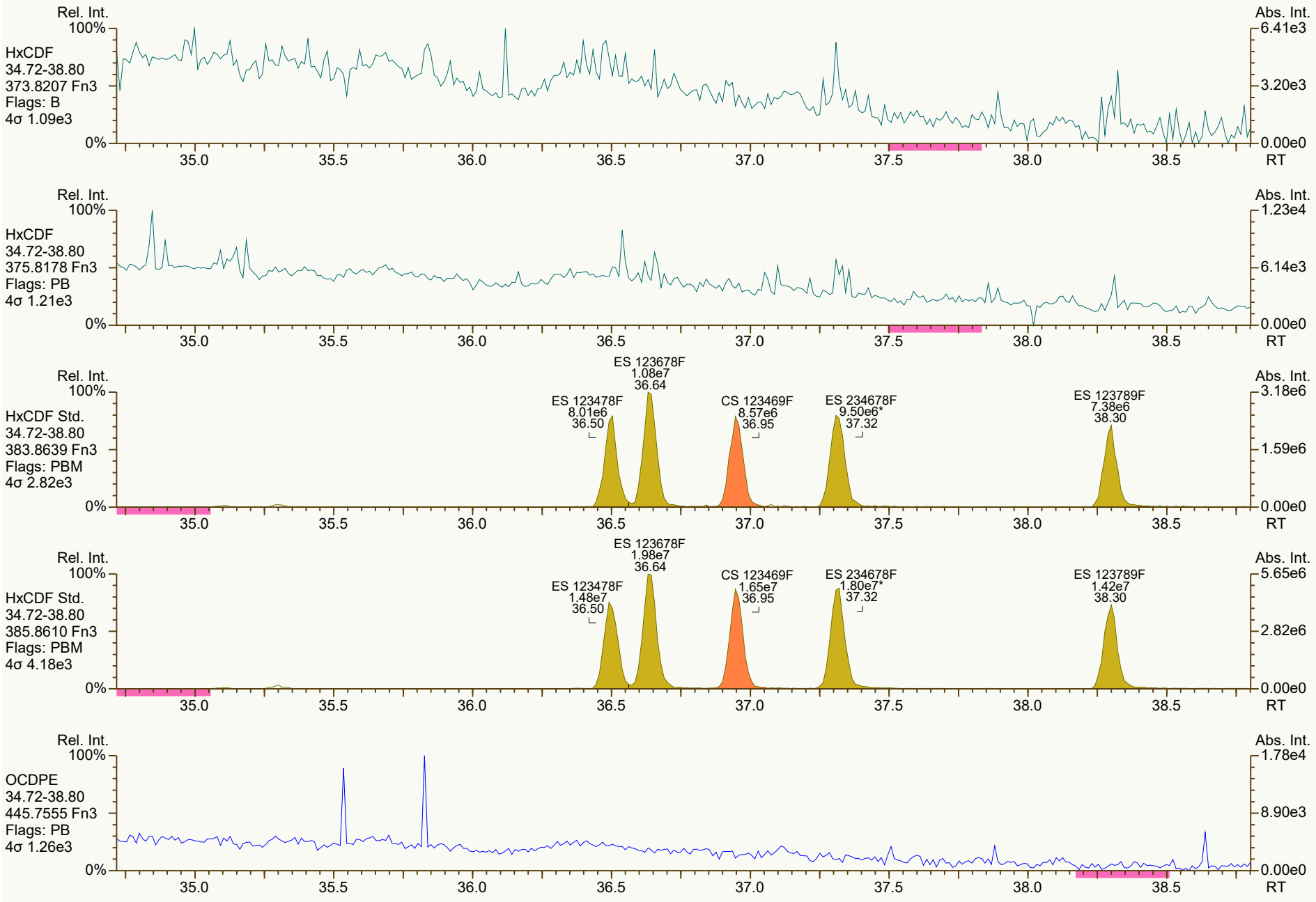

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: B
4σ 1.30e3
0%
Abs. Int.
1.18e4
5.91e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.27e3
0%
Abs. Int.
6.84e3
3.42e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
9.40e6
40.68
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 2.09e3
0%
Abs. Int.
2.67e6
1.33e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
8.75e6
40.68
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.78e3
0%
Abs. Int.
2.49e6
1.25e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
9.86e6
4.93e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

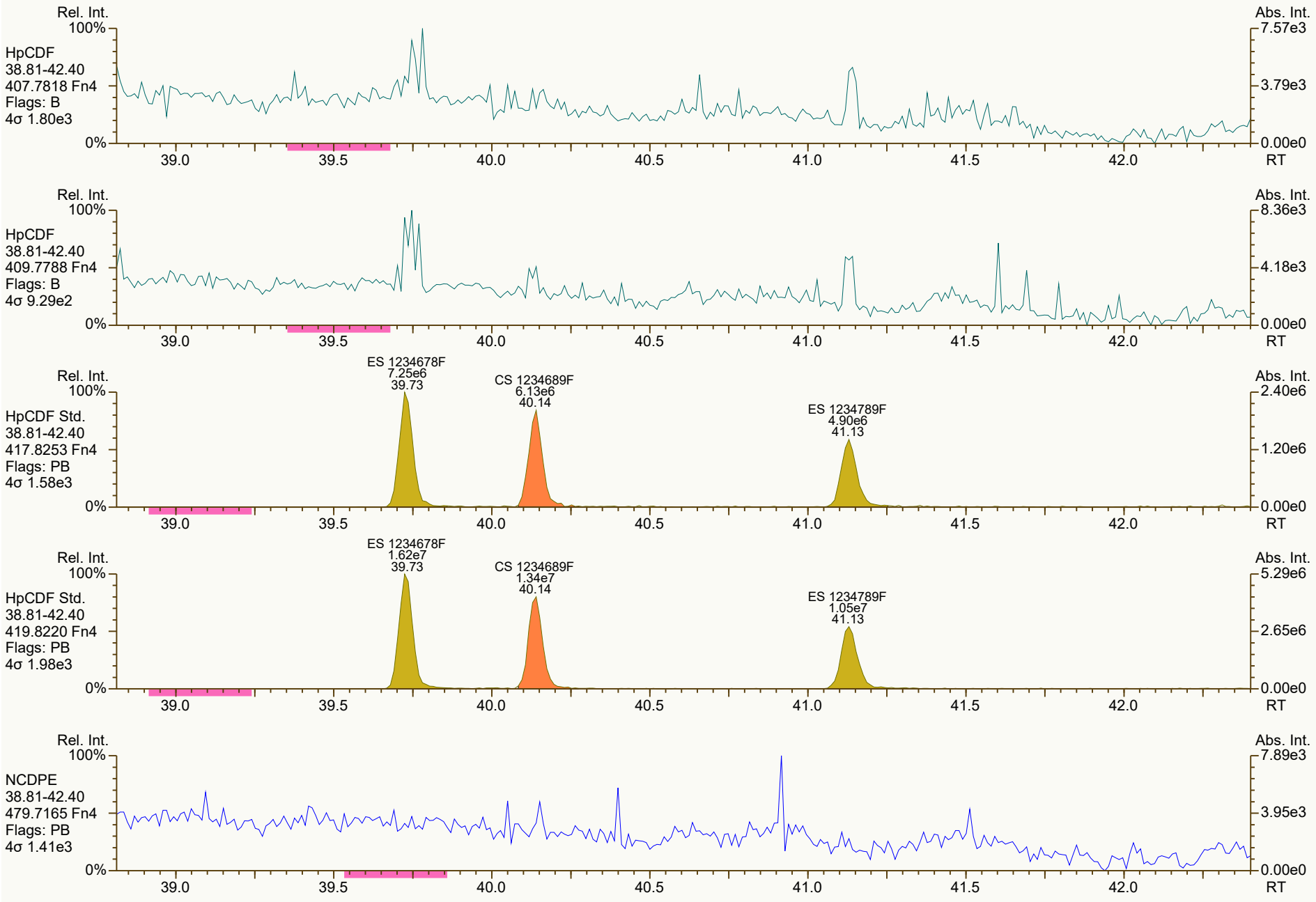

Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 1.21e3
0%
Abs. Int.
1.20e4
6.02e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 1.82e3
0%
Abs. Int.
7.24e3
3.62e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 2.09e3
0%
ES OCDD
1.06e7*
43.37
Abs. Int.
2.07e6
1.04e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.88e3
0%
ES OCDD
1.16e7*
43.37
Abs. Int.
2.31e6
1.15e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.95e6
3.97e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

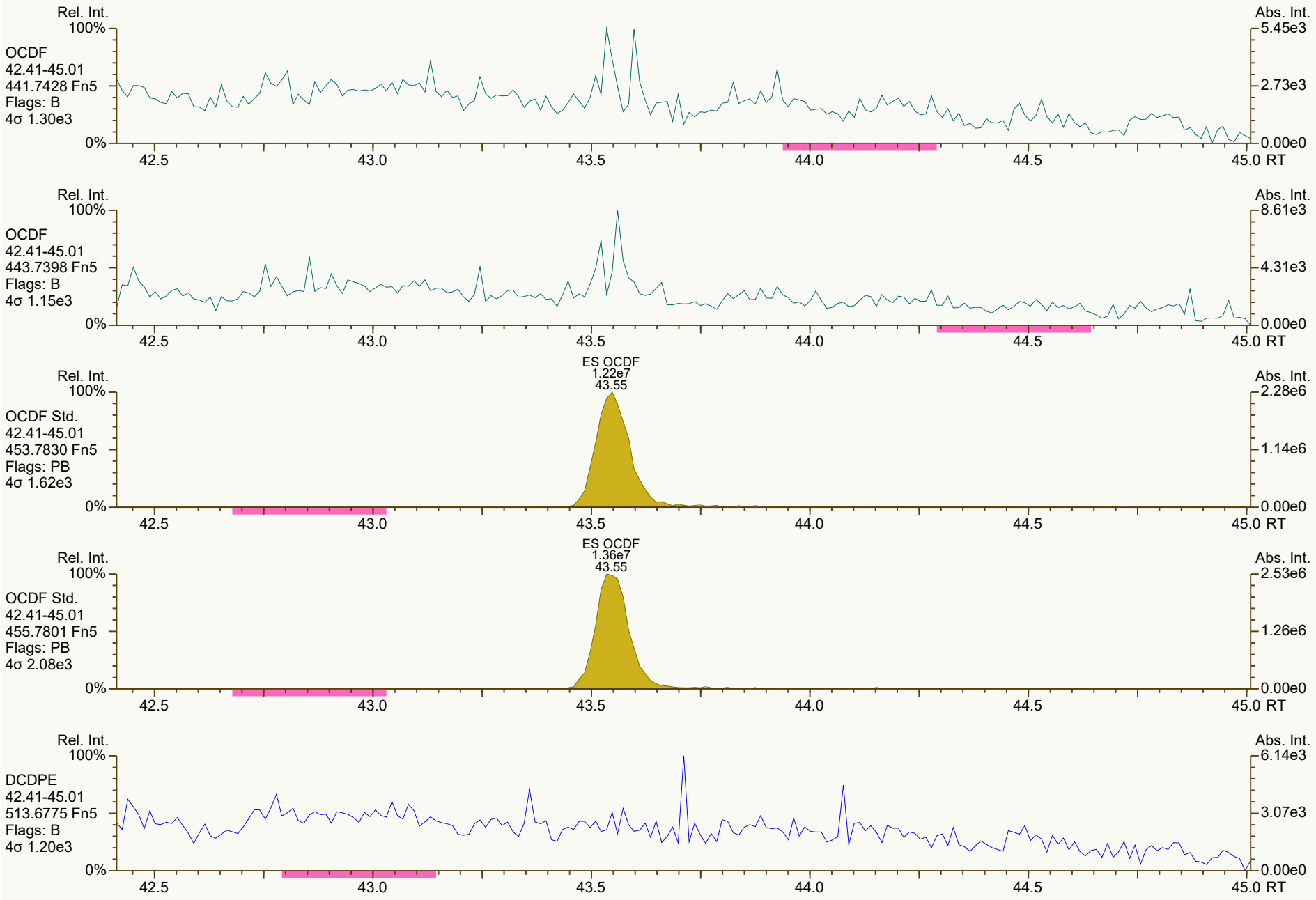

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: B
4σ 1.20e3
0%
Abs. Int.
1.02e4
5.11e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 1.64e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PBM
4σ 5.47e3
0%
JS 1234F
1.85e7*
25.90
ES 2378F
1.60e7
27.29
Abs. Int.
3.78e6
1.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PBM
4σ 4.05e3
0%
JS 1234F
2.28e7*
25.90
ES 2378F
1.95e7
27.29
Abs. Int.
4.78e6
2.39e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.13e3
0%
Abs. Int.
1.04e4
5.19e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.13e4
5.67e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.22e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.11e4
5.55e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.29e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.60e6
2.30e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.24e3
0%
Abs. Int.
9.16e3
4.58e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 1.48e3
0%
Abs. Int.
7.80e3
3.90e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 3.40e3
0%
CS 12346F
2.13e7
31.57
ES 12378F
2.21e7
32.10
ES 23478F
1.99e7
33.23
Abs. Int.
5.87e6
2.93e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.01e3
0%
CS 12346F
1.30e7
31.57
ES 12378F
1.37e7
32.10
ES 23478F
1.25e7
33.23
Abs. Int.
3.45e6
1.73e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.08e3
0%
Abs. Int.
9.51e3
4.75e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: B
4σ 1.09e3
0%
Abs. Int.
6.41e3
3.20e3
0.00e0
RT
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PB
4σ 1.21e3
1.23e4
6.14e3
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 2.82e3
ES 123678F
1.08e7
36.64
ES 123478F
8.01e6
36.50
CS 123469F
8.57e6
36.95
ES 234678F
9.50e6*
37.32
ES 123789F
7.38e6
38.30
3.18e6
1.59e6
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 4.18e3
ES 123678F
1.98e7
36.64
ES 123478F
1.48e7
36.50
CS 123469F
1.65e7
36.95
ES 234678F
1.80e7*
37.32
ES 123789F
1.42e7
38.30
5.65e6
2.82e6
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.26e3
1.78e4
8.90e3


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: B
4σ 1.80e3
0%
Abs. Int.
7.57e3
3.79e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: B
4σ 9.29e2
0%
Abs. Int.
8.36e3
4.18e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 1.58e3
0%
ES 1234678F
7.25e6
39.73
CS 1234689F
6.13e6
40.14
ES 1234789F
4.90e6
41.13
Abs. Int.
2.40e6
1.20e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 1.98e3
0%
ES 1234678F
1.62e7
39.73
CS 1234689F
1.34e7
40.14
ES 1234789F
1.05e7
41.13
Abs. Int.
5.29e6
2.65e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.41e3
0%
Abs. Int.
7.89e3
3.95e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: B
4σ 1.30e3
0%
Abs. Int.
5.45e3
2.73e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
8.61e3
4.31e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.22e7
43.55
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 1.62e3
0%
Abs. Int.
2.28e6
1.14e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.36e7
43.55
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
2.53e6
1.26e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.20e3
0%
Abs. Int.
6.14e3
3.07e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6329_18965_DF_001 **Acq'd:** 03 Mar 2022 18:44 DTF **Wt/Vol:** 10.19 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021722-S-SB-SC-O-24 **UTP:** 04-Mar-2022 10:45:39 DTF **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 133-139-QMZ

Datafile: 220303C05 **Report:** 04 Mar 2022 10:47 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.24		1.0008	1.0008	0	7.84E+05	0.78	Y	1.18	6.73	4038.381	0.382
12378-PeCDD	33.65		1.0007	1.0006	-0.2	1.74E+06	1.46	Y	1.04	19.7	11742.903	1.23
123478-HxCDD	37.59		1.0004	1.0004	0	1.15E+06	1.32	Y	1.09	16	8819.632	1.08
123678-HxCDD	37.71		1.0036	1.0037	+0.2	1.11E+07	1.27	Y	1.15	143	8819.632	1.13
123789-HxCDD	38.01		1.0118	1.0117	-0.2	8.28E+06	1.25	Y	1.05	109	8819.632	0.982
1234678-HpCDD	40.76	E	1.0002	1.0004	+0.5	3.56E+08	1.04	Y	1.06	5,520	5696.05	0.803
OCDD	43.49	E	1.0003	1.0003	0	2.03E+09	0.91	Y	1.13	43,000	8468.478	2.59
2378-TCDF	27.36		1.0008	1.0008	0	1.44E+07	0.79	Y	1.08	82.6	3292.966	0.216
12378-PeCDF	32.18		1.0005	1.0005	0	2.33E+06	1.53	Y	1.02	17.3	7557.512	0.51
23478-PeCDF	33.32	PR	1.0005	1.0008	+0.6	5.50E+06	1.48	Y	1.02	41.7	7557.512	0.528
123478-HxCDF	36.58		1.0004	1.0005	+0.2	5.62E+06	1.20	Y	1.27	48.3	12832.367	0.969
123678-HxCDF	36.72		1.0004	1.0004	0	2.98E+06	1.28	Y	1.15	25.6	12832.367	0.984
234678-HxCDF	37.40		1.0005	1.0005	0	3.14E+06	1.19	Y	1.19	29.8	12832.367	1.14
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	12832.367	1.19
1234678-HpCDF	39.81		1.0003	1.0003	0	1.90E+07	1.02	Y	1.37	217	7408.464	0.616
1234789-HpCDF	41.21		1.0003	1.0003	0	2.47E+06	1.01	Y	1.31	33.5	7408.464	0.959
OCDF	43.66		1.0002	1.0003	+0.3	3.35E+07	0.89	Y	1.07	578	8040.113	1.94

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.22	1.0243	1.0244	+0.2	1.93E+07	0.80	Y	1.05	75.3
ES 12378-PeCDD	33.63	1.2198	1.2209	+2.2	1.67E+07	1.63	Y	0.88	77.6
ES 123478-HxCDD	37.57	0.9916	0.9916	0	1.29E+07	1.29	Y	0.97	77.3
ES 123678-HxCDD	37.69	0.9947	0.9948	+0.2	1.33E+07	1.28	Y	0.94	81.9
ES 123789-HxCDD	38.00	1.0029	1.0028	-0.2	1.42E+07	1.33	Y	1.09	75.5
ES 1234678-HpCDD	40.75	1.0749	1.0753	+1.0	1.19E+07	1.09	Y	0.91	76
ES OCDD	43.47	1.1460	1.1473	+3.4	1.64E+07	0.88	Y	0.62	76.5
ES 2378-TCDF	27.34	1.0531	1.0534	+0.5	3.17E+07	0.81	Y	1.06	78.3
ES 12378-PeCDF	32.17	1.2378	1.2393	+2.9	2.57E+07	1.62	Y	0.91	74.1
ES 23478-PeCDF	33.29	1.2810	1.2825	+3.0	2.54E+07	1.63	Y	0.88	75.3
ES 123478-HxCDF	36.57	0.9650	0.9650	0	1.80E+07	0.53	Y	1.20	87.1
ES 123678-HxCDF	36.71	0.9688	0.9687	-0.2	1.98E+07	0.55	Y	1.35	85.3
ES 234678-HxCDF	37.38	0.9866	0.9866	0	1.74E+07	0.53	Y	1.24	81.5
ES 123789-HxCDF	38.37	1.0125	1.0125	0	1.62E+07	0.54	Y	1.16	81.7
ES 1234678-HpCDF	39.79	1.0501	1.0502	+0.2	1.25E+07	0.45	Y	0.97	75.2
ES 1234789-HpCDF	41.20	1.0870	1.0873	+0.7	1.10E+07	0.45	Y	0.85	75.4
ES OCDF	43.64	1.1505	1.1518	+3.4	2.12E+07	0.90	Y	0.81	76.4

Lab ID: B6329_18965_DF_001 **Acq'd:** 03 Mar 2022 18:44 DTF **Wt/Vol:** 10.19 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021722-S-SB-SC-O-24 **UTP:** 04-Mar-2022 10:45:39 DTF **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 133-139-QMZ

Datafile: 220303C05 **Report:** 04 Mar 2022 10:47 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.54		-	-	-	2.45E+07	0.83	Y	-	-	
JS 1234-TCDF	25.96		-	-	-	3.82E+07	0.80	Y	-	-	
JS 123467-HxCDD	37.89		-	-	-	8.60E+06	1.25	Y	-	-	
CS 37Cl-2378-TCDD	28.24		1.0251	1.0252	+0.2	8.90E+06	n/a	-	1.20	75.4	
CS 12347-PeCDD	33.12		1.2016	1.2025	+1.8	1.38E+07	1.60	Y	0.75	74.5	
CS 12346-PeCDF	31.63		1.2172	1.2187	+2.8	2.43E+07	1.57	Y	0.85	74.9	
CS 123469-HxCDF	37.02		0.9771	0.9770	-0.2	1.70E+07	0.52	Y	1.12	88.6	
CS 1234689-HpCDF	40.21		1.0608	1.0611	+0.7	1.28E+07	0.45	Y	0.89	84.1	
~~SS 37Cl-2378-TCDD~~	~~28.24~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~8.90E+06~~	~~n/a~~		~~1.15~~	~~100~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.12~~		~~1.2016~~	~~1.2025~~	~~+1.8~~	~~1.38E+07~~	~~1.60~~	~~Y~~	~~0.86~~	~~95.8~~	CL 07Mar22
~~SS 12346-PeCDF~~	~~31.63~~		~~1.2172~~	~~1.2187~~	~~+2.8~~	~~2.43E+07~~	~~1.57~~	~~Y~~	~~0.94~~	~~101~~	
~~SS 123469-HxCDF~~	~~37.02~~		~~0.9771~~	~~0.9770~~	~~-0.2~~	~~1.70E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~104~~	
~~SS 1234689-HpCDF~~	~~40.21~~		~~1.0608~~	~~1.0611~~	~~+0.7~~	~~1.28E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~112~~	

Totals	Conc	EMPC
Total TCDD	76.7	79.6
Total PeCDD	156	202
Total HxCDD	2130	2130
Total HpCDD	10800	10800
Total Tetra-Octa Dioxins	56200	56200
Total TCDF	453	454
Total PeCDF	323	324
Total HxCDF	413	418
Total HpCDF	698	698
Total Tetra-Octa Furans	2,460	2470
Total Tetra-Octa Dioxins & Furans	58700	58700

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.767	0.78
Response	7.90E+05	7.84E+05

Lab ID: B6329_18965_DF_001 **Acq'd: 03 Mar 2022 18:44 DTF** **Wt/Vol: 10.19 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021722-S-SB-SC-O-24 **UTP: 04-Mar-2022 10:45:39 DTF** **J-level: 0.491 pg/g** **Split: 1** **Checkcode: 133-139-QMZ**

Datafile: 220303C05 **Report: 04 Mar 2022 10:47 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.53		0.8701	0.8694	-1.0	2.27E+06	0.80	Y	1.18	19.5	4038.381	0.382
1379-TCDD	24.90		0.8829	0.8822	-1.0	1.22E+06	0.82	Y	1.18	10.5	4038.381	0.382
1369-TCDD	25.33		0.8982	0.8978	-0.6	3.95E+05	0.70	Y	1.18	3.39	4038.381	0.382
1469-TCDD	26.12	EMPC	0.9261	0.9257	-0.6	1.83E+05	0.96	N	1.18	1.57	4038.381	0.382
1247/1246/1248/1249-TCDD	26.37		0.9348	0.9346	-0.3	8.41E+05	0.79	Y	1.18	7.21	4038.381	0.382
1378-TCDD	26.57		0.9417	0.9416	-0.2	8.00E+05	0.78	Y	1.18	6.86	4038.381	0.382
1268-TCDD	26.76		0.9487	0.9483	-0.6	2.44E+05	0.72	Y	1.18	2.09	4038.381	0.382
1478-TCDD	27.02	EMPC	0.9576	0.9576	0	1.51E+05	0.99	N	1.18	1.29	4038.381	0.382
1279-TCDD	27.18		0.9636	0.9633	-0.5	3.25E+05	0.86	Y	1.18	2.78	4038.381	0.382
1234/1269-TCDD	27.55		0.9761	0.9763	+0.3	4.54E+05	0.79	Y	1.18	3.89	4038.381	0.382
1236-TCDD	27.68		0.9812	0.9810	-0.3	2.44E+05	0.69	Y	1.18	2.09	4038.381	0.382
1237/1238-TCDD	27.94		0.9905	0.9900	-0.8	4.42E+05	0.86	Y	1.18	3.79	4038.381	0.382
1239-TCDD	28.08		0.9951	0.9950	-0.2	2.74E+05	0.74	Y	1.18	2.35	4038.381	0.382
2378-TCDD	**28.24**		**1.0008**	1.0008	**0**	7.84E+05	0.78	Y	**1.18**	**6.73**	**4038.381**	**0.382**
1278-TCDD	28.57		1.0124	1.0125	+0.2	3.20E+05	0.72	Y	1.18	2.75	4038.381	0.382
1267-TCDD	28.70		1.0172	1.0172	0	1.16E+05	0.74	Y	1.18	0.997	4038.381	0.382
1289-TCDD	29.22		1.0354	1.0355	+0.2	2.17E+05	0.79	Y	1.18	1.86	4038.381	0.382
12479/12468-PeCDD	31.12		0.9255	0.9254	-0.2	5.18E+06	1.49	Y	1.04	58.6	11742.903	1.23
12469-PeCDD	31.66	EMPC	0.9416	0.9415	-0.2	1.64E+06	0.53	N	1.04	18.6	11742.903	1.23
12368-PeCDD	32.22		0.9582	0.9581	-0.2	2.09E+06	1.46	Y	1.04	23.7	11742.903	1.23
12478-PeCDD	32.41	EMPC	0.9637	0.9638	+0.2	2.10E+06	0.77	N	1.04	23.7	11742.903	1.23
12379-PeCDD	32.51		0.9668	0.9668	0	1.48E+06	1.49	Y	1.04	16.8	11742.903	1.23
12369/12467/12489-PeCDD	32.77		0.9746	0.9745	-0.2	1.78E+06	1.55	Y	1.04	20.1	11742.903	1.23
12346/12347-PeCDD	33.15		0.9858	0.9857	-0.2	7.78E+05	1.61	Y	1.04	8.8	11742.903	1.23
12378-PeCDD	33.65		**1.0007**	**1.0006**	**-0.2**	**1.74E+06**	**1.46**	**Y**	**1.04**	**19.7**	**11742.903**	**1.23**
12367-PeCDD	33.74	EMPC	1.0036	1.0034	-0.4	3.11E+05	1.27	N	1.04	3.52	11742.903	1.23
12389-PeCDD	34.09		1.0137	1.0136	-0.2	7.35E+05	1.57	Y	1.04	8.32	11742.903	1.23
124679/124689-HxCDD	35.84		0.9540	0.9539	-0.2	6.84E+07	1.25	Y	1.10	909	8819.632	1.06
123468-HxCDD	36.50		0.9715	0.9715	0	4.25E+06	1.24	Y	1.10	56.5	8819.632	1.06
123679/123689-HxCDD	36.80		0.9793	0.9793	0	6.42E+07	1.25	Y	1.10	853	8819.632	1.06
123469-HxCDD	36.93		0.9829	0.9829	0	2.05E+06	1.29	Y	1.10	27.3	8819.632	1.06
123478-HxCDD	37.59		**1.0004**	**1.0004**	**0**	**1.15E+06**	**1.32**	**Y**	1.09	**16**	**8819.632**	**1.08**
123678-HxCDD	37.71		**1.0036**	**1.0037**	**+0.2**	**1.11E+07**	**1.27**	**Y**	1.15	**143**	**8819.632**	**1.13**
123467-HxCDD	37.91		1.0089	1.0089	0	1.31E+06	1.26	Y	1.10	17.4	8819.632	1.06
123789-HxCDD	38.01		**1.0118**	**1.0117**	**-0.2**	**8.28E+06**	**1.25**	**Y**	1.05	**109**	**8819.632**	**0.982**

Lab ID: B6329_18965_DF_001 **Acq'd:** 03 Mar 2022 18:44 DTF **Wt/Vol:** 10.19 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021722-S-SB-SC-O-24 **UTP:** 04-Mar-2022 10:45:39 DTF **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 133-139-QMZ

Datafile: 220303C05 **Report:** 04 Mar 2022 10:47 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

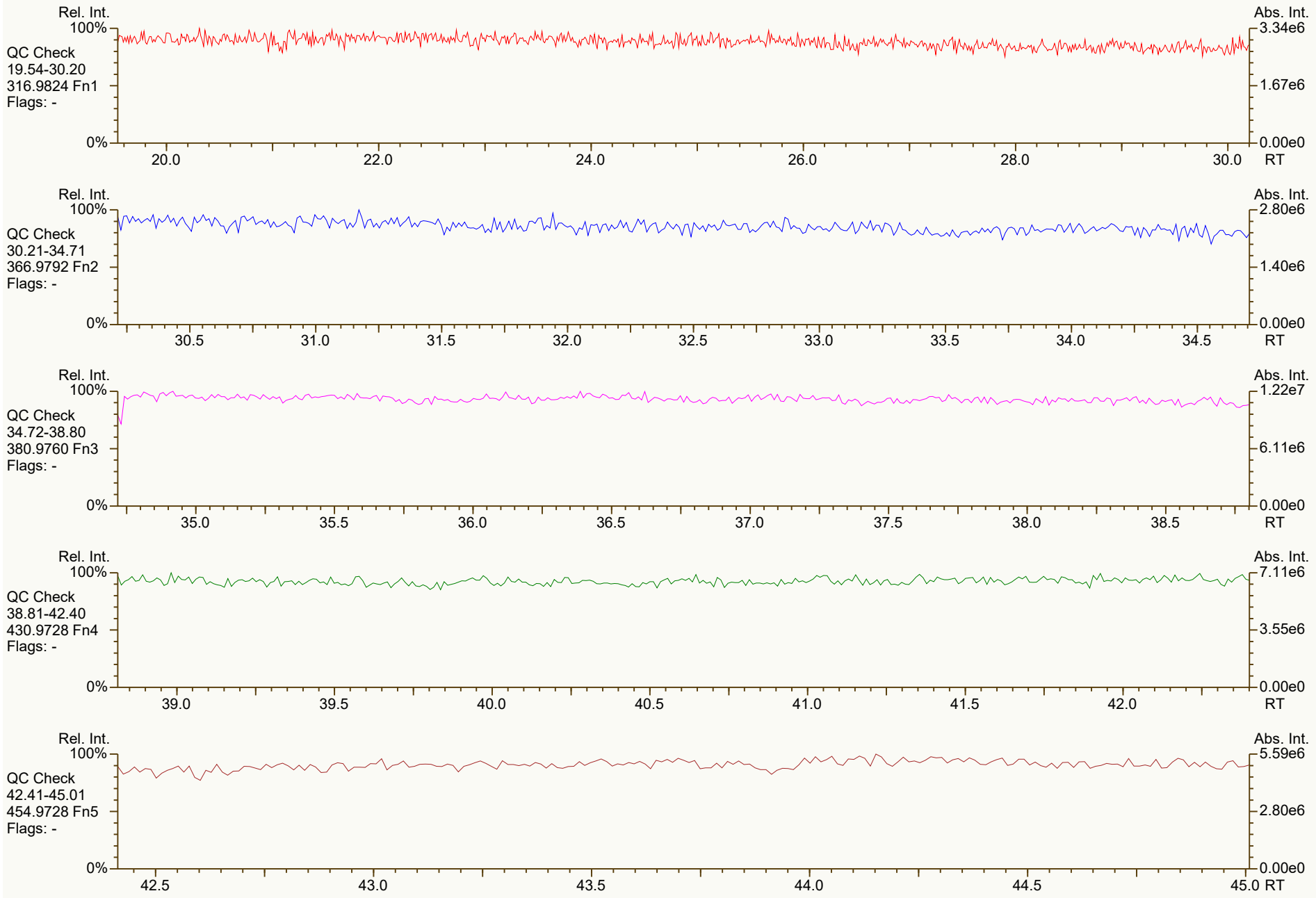
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.08	E	0.9836	0.9836	0	3.43E+08	1.04	Y	1.06	5,320	5696.05	0.803
1234678-HpCDD	**40.76**	E	**1.0002**	**1.0004**	**+0.5**	**3.56E+08**	**1.04**	**Y**	**1.06**	**5,520**	**5696.05**	**0.803**
OCDD	**43.49**	**E**	**1.0003**	**1.0003**	**0**	**2.03E+09**	**0.91**	**Y**	**1.13**	**43,000**	**8468.478**	**2.59**
OCDD-a	43.48	**E**	1.0002	1.0002	0	1.25E+08	2.48	Y	0.07	41,300	5493.054	26.3
1368-TCDF	22.36		0.8191	0.8177	-1.9	1.18E+06	0.75	Y	1.08	6.75	3292.966	0.216
1468-TCDF	22.96		0.8408	0.8397	-1.5	1.40E+06	0.81	Y	1.08	8.04	3292.966	0.216
2468-TCDF	23.61		0.8645	0.8635	-1.4	2.73E+06	0.81	Y	1.08	15.7	3292.966	0.216
1346/1246-TCDF	24.00		0.8772	0.8778	+0.9	1.65E+06	0.83	Y	1.08	9.46	3292.966	0.216
1347/1378/1247-TCDF	24.14		0.8833	0.8829	-0.6	6.31E+06	0.78	Y	1.08	36.3	3292.966	0.216
1348-TCDF	24.40		0.8932	0.8923	-1.3	1.60E+06	0.82	Y	1.08	9.2	3292.966	0.216
1248/1367/1379-TCDF	24.51		0.8980	0.8964	-2.4	5.54E+06	0.78	Y	1.08	31.9	3292.966	0.216
1268-TCDF	24.92		0.9119	0.9115	-0.6	2.79E+06	0.73	Y	1.08	16.1	3292.966	0.216
1467-TCDF	25.05		0.9170	0.9164	-0.9	1.52E+06	0.79	Y	1.08	8.75	3292.966	0.216
1478-TCDF	25.23		0.9234	0.9227	-1.1	3.87E+06	0.73	Y	1.08	22.2	3292.966	0.216
1369/1237-TCDF	25.61		0.9369	0.9368	-0.2	1.35E+06	0.78	Y	1.08	7.76	3292.966	0.216
2467-TCDF	25.74		0.9415	0.9413	-0.3	1.55E+06	0.73	Y	1.08	8.91	3292.966	0.216
2368-TCDF	25.90		0.9475	0.9474	-0.2	3.92E+06	0.76	Y	1.08	22.5	3292.966	0.216
1238/1234/1678/1469/1236-TCDF	26.00		0.9507	0.9508	+0.2	3.72E+06	0.81	Y	1.08	21.4	3292.966	0.216
1278-TCDF	26.46		0.9676	0.9677	+0.2	4.85E+06	0.78	Y	1.08	27.9	3292.966	0.216
1349-TCDF	NotFnd		0.9722						1.08		3292.966	0.216
1267-TCDF	26.73		0.9777	0.9777	0	2.33E+06	0.78	Y	1.08	13.4	3292.966	0.216
2346/1249-TCDF	26.92		0.9843	0.9847	+0.6	1.41E+06	0.83	Y	1.08	8.12	3292.966	0.216
2347/1279-TCDF	27.14		0.9926	0.9925	-0.2	2.75E+06	0.72	Y	1.08	15.8	3292.966	0.216
2348-TCDF	27.25		0.9968	0.9966	-0.3	2.86E+06	0.72	Y	1.08	16.4	3292.966	0.216
2378-TCDF	**27.36**		**1.0008**	**1.0008**	**0**	**1.44E+07**	**0.79**	**Y**	**1.08**	**82.6**	**3292.966**	**0.216**
2367/3467-TCDF	27.72		1.0142	1.0140	-0.3	9.84E+06	0.77	Y	1.08	56.5	3292.966	0.216
1269-TCDF	27.97		1.0235	1.0231	-0.7	5.88E+05	0.80	Y	1.08	3.38	3292.966	0.216
1239-TCDF	28.27	EMPC	1.0329	1.0339	+1.7	1.74E+05	0.96	N	1.08	1	3292.966	0.216
1289-TCDF	29.39		1.0742	1.0749	+1.2	6.20E+05	0.84	Y	1.08	3.56	3292.966	0.216
13468/12468-PeCDF	29.36		0.9122	0.9125	+0.5	7.16E+06	1.64	Y	1.02	53.7	2694.939	0.185
13678/13467/12467-PeCDF	30.91		0.9606	0.9609	+0.6	3.57E+06	1.48	Y	1.02	26.8	7557.512	0.519
12368/13478/12478-PeCDF	31.08		0.9655	0.9662	+1.3	1.23E+07	1.48	Y	1.02	92.1	7557.512	0.519
14678-PeCDF	NotFnd		0.9685						1.02		7557.512	0.519
13479-PeCDF	31.26	J	0.9716	0.9719	+0.6	2.35E+05	1.55	Y	1.02	1.77	7557.512	0.519
13469/12479-PeCDF	31.49		0.9794	0.9790	-0.8	5.52E+05	1.54	Y	1.02	4.15	7557.512	0.519
12346-PeCDF	31.65		0.9836	0.9839	+0.6	6.42E+05	1.45	Y	1.02	4.82	7557.512	0.519

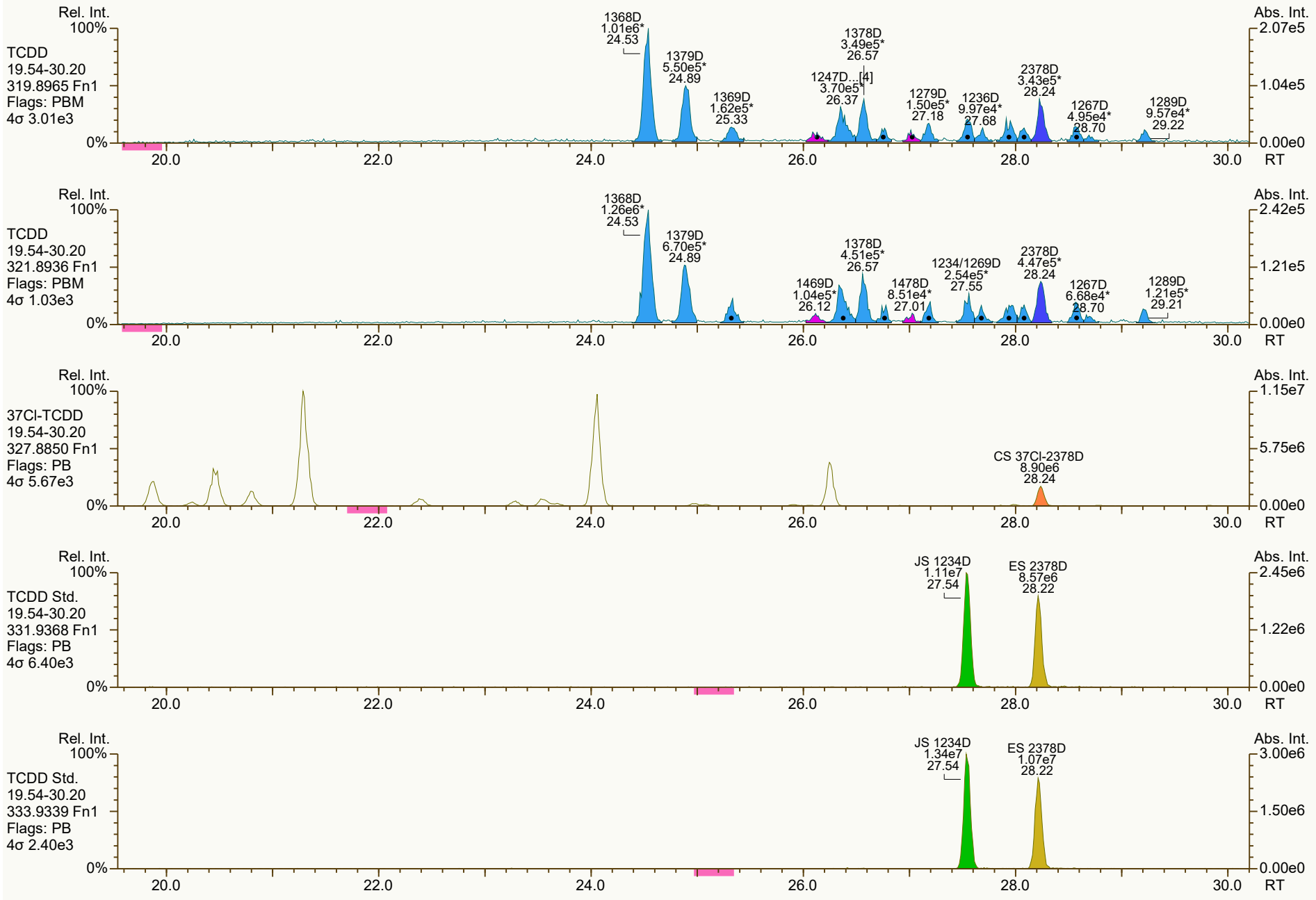
Lab ID: B6329_18965_DF_001 **Acq'd: 03 Mar 2022 18:44 DTF** **Wt/Vol: 10.19 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

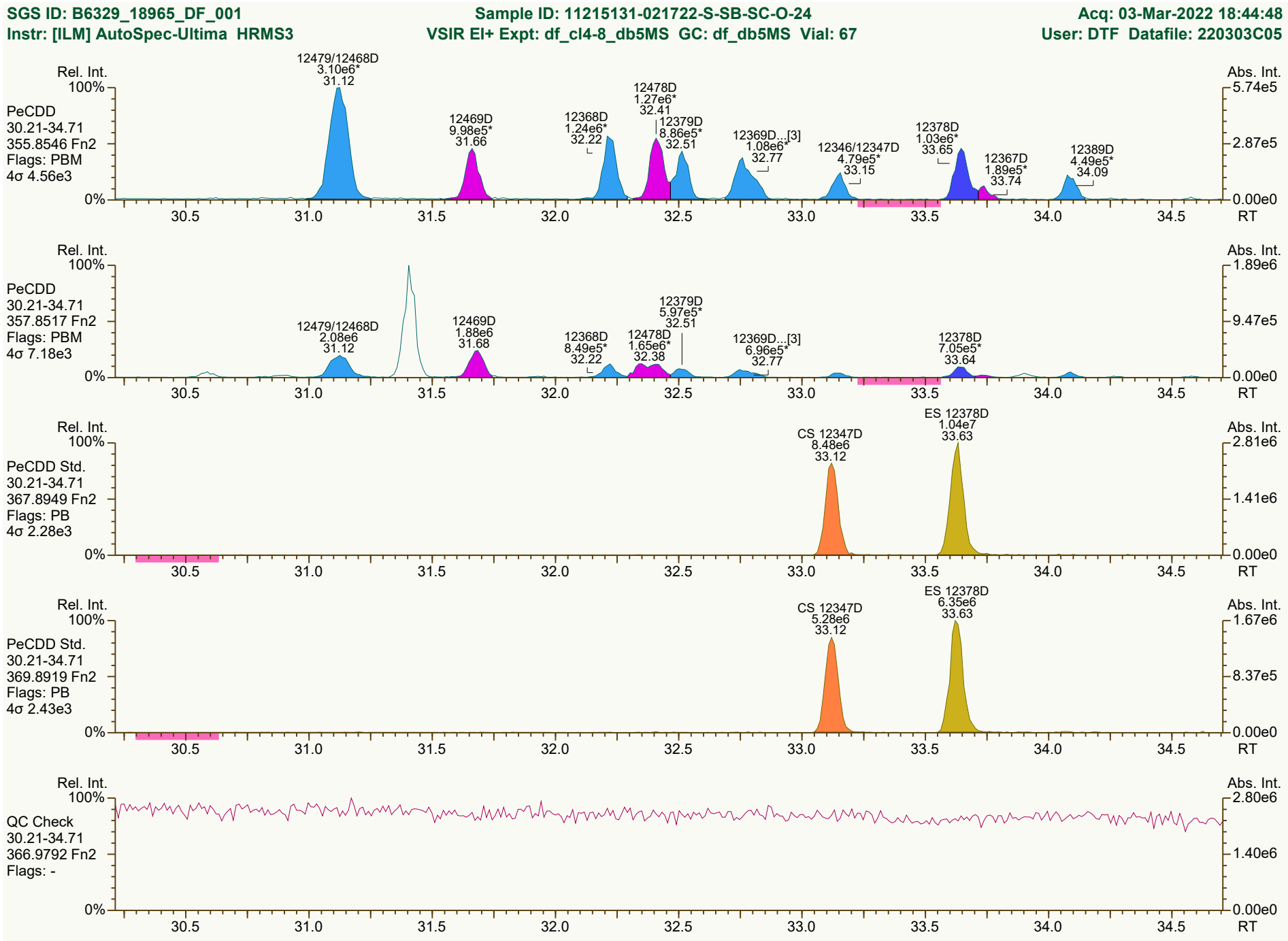
Client ID: 11215131-021722-S-SB-SC-O-24 **UTP: 04-Mar-2022 10:45:39 DTF** **J-level: 0.491 pg/g** **Split: 1** **Checkcode: 133-139-QMZ**

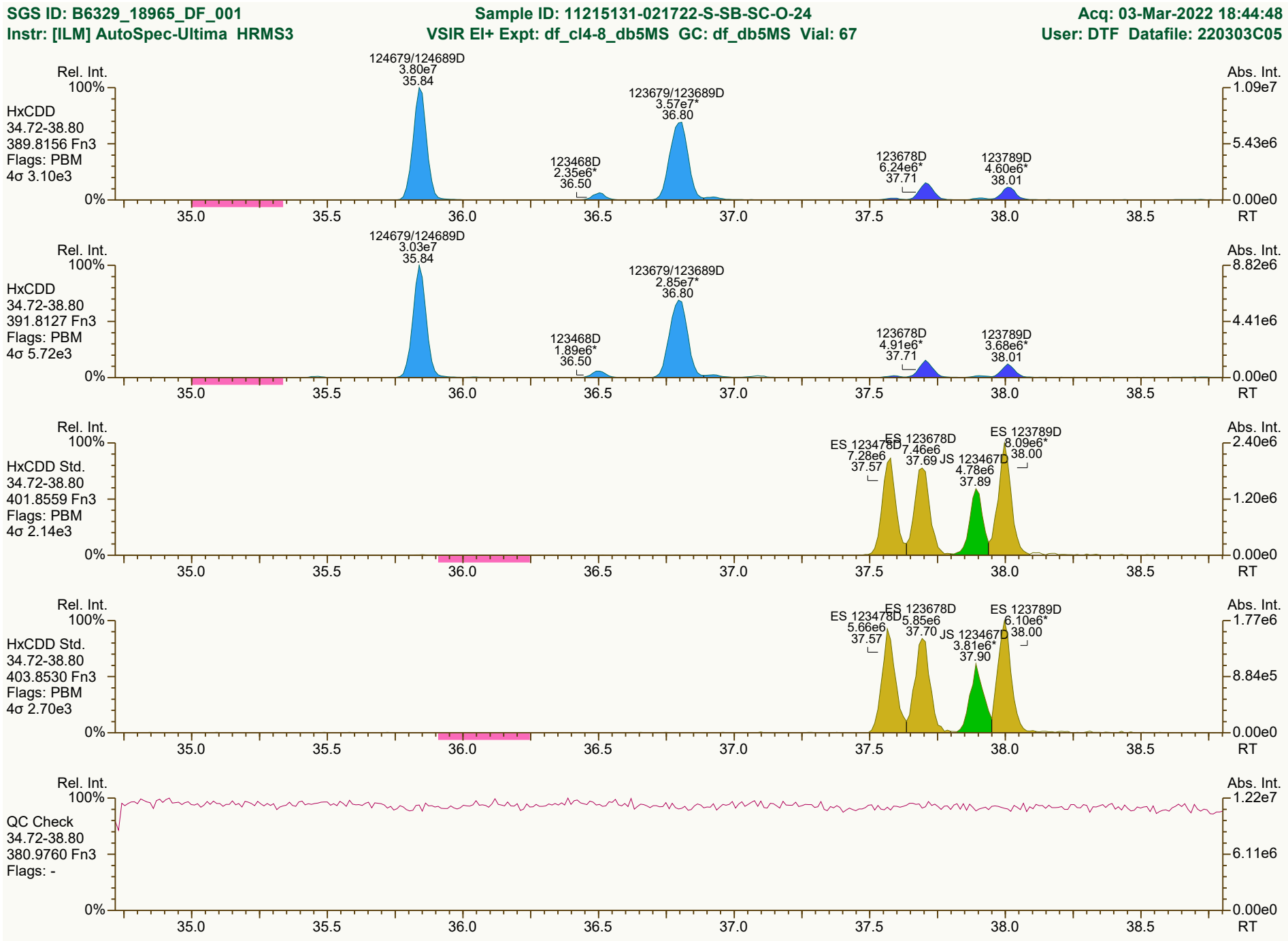
Datafile: 220303C05 **Report: 04 Mar 2022 10:47 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.74		0.9866	0.9867	+0.2	2.29E+06	1.51	Y	1.02	17.2	7557.512	0.519
12347-PeCDF	31.82		0.9891	0.9892	+0.2	1.01E+06	1.75	Y	1.02	7.6	7557.512	0.519
12348-PeCDF	31.97		0.9938	0.9939	+0.2	1.22E+06	1.41	Y	1.02	9.13	7557.512	0.519
12378-PeCDF	**32.18**		**1.0005**	**1.0005**	**0**	**2.33E+06**	**1.53**	**Y**	**1.02**	**17.3**	**7557.512**	**0.51**
12678/12367-PeCDF	32.47		1.0091	1.0094	+0.6	3.75E+06	1.56	Y	1.02	28.2	7557.512	0.519
12379-PeCDF	NotFnd		1.0144						1.02		7557.512	0.519
12679-PeCDF	33.04	J	0.9927	0.9926	-0.2	2.08E+05	1.52	Y	1.02	1.56	7557.512	0.519
23467/12369-PeCDF	33.17		0.9965	0.9965	0	1.90E+06	1.58	Y	1.02	14.2	7557.512	0.519
23478-PeCDF	**33.32**	PR	**1.0005**	**1.0008**	**+0.6**	**5.50E+06**	**1.48**	**Y**	**1.02**	**41.7**	**7557.512**	**0.528**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		7557.512	0.519
12349-PeCDF	33.63	J EMPC	1.0101	1.0102	+0.2	1.77E+05	1.29	N	1.02	1.33	7557.512	0.519
12389-PeCDF	34.39	J	1.0330	1.0331	+0.2	3.11E+05	1.51	Y	1.02	2.34	7557.512	0.519
123468-HxCDF	35.19		0.9622	0.9622	0	2.66E+06	1.19	Y	1.19	24.5	12832.367	1.06
124678/134678-HxCDF	35.39		0.9678	0.9677	-0.2	1.26E+07	1.23	Y	1.19	116	12832.367	1.06
134679-HxCDF	35.63	J EMPC	0.9741	0.9743	+0.4	2.49E+05	1.56	N	1.19	2.29	12832.367	1.06
124679-HxCDF	35.82		0.9795	0.9795	0	1.21E+06	1.27	Y	1.19	11.1	12832.367	1.06
124689-HxCDF	36.04		0.9856	0.9857	+0.2	1.37E+07	1.24	Y	1.19	126	12832.367	1.06
123467-HxCDF	36.46		0.9972	0.9971	-0.2	1.78E+06	1.22	Y	1.19	16.4	12832.367	1.06
123478-HxCDF	**36.58**		**1.0004**	**1.0005**	**+0.2**	**5.62E+06**	**1.20**	**Y**	**1.27**	**48.3**	**12832.367**	**0.969**
123678-HxCDF	**36.72**		**1.0004**	**1.0004**	**0**	**2.98E+06**	**1.28**	**Y**	**1.15**	**25.6**	**12832.367**	**0.984**
123479-HxCDF	36.89	J	1.0048	1.0051	+0.7	2.45E+05	1.21	Y	1.19	2.26	12832.367	1.06
123469-HxCDF	37.04		1.0089	1.0089	0	3.46E+05	1.33	Y	1.19	3.19	12832.367	1.06
123679-HxCDF	37.17	EMPC	0.9942	0.9944	+0.4	3.15E+05	1.66	N	1.19	2.9	12832.367	1.06
234678-HxCDF	**37.40**		**1.0005**	**1.0005**	**0**	**3.14E+06**	**1.19**	**Y**	**1.19**	**29.8**	**12832.367**	**1.14**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		12832.367	1.06
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**12832.367**	**1.19**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.41		1.0006	1.0010	+0.9	1.08E+06	1.33	Y	1.19	9.97	12832.367	1.06
1234678-HpCDF	**39.81**		**1.0003**	**1.0003**	**0**	**1.90E+07**	**1.02**	**Y**	**1.37**	**217**	**7408.464**	**0.616**
1234679-HpCDF	40.07		1.0068	1.0071	+0.7	1.57E+06	0.98	Y	1.34	19.6	7408.464	0.774
1234689-HpCDF	40.22		1.0104	1.0107	+0.7	3.43E+07	1.04	Y	1.34	427	7408.464	0.774
1234789-HpCDF	**41.21**		**1.0003**	**1.0003**	**0**	**2.47E+06**	**1.01**	**Y**	**1.31**	**33.5**	**7408.464**	**0.959**
OCDF	**43.66**		**1.0002**	**1.0003**	**+0.3**	**3.35E+07**	**0.89**	**Y**	**1.07**	**578**	**8040.113**	**1.94**
OCDF-a	NotFnd		1.0001						0.07		7405.997	28.9


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.34e6
1.67e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.80e6
1.40e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.22e7
6.11e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.59e6
2.80e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT

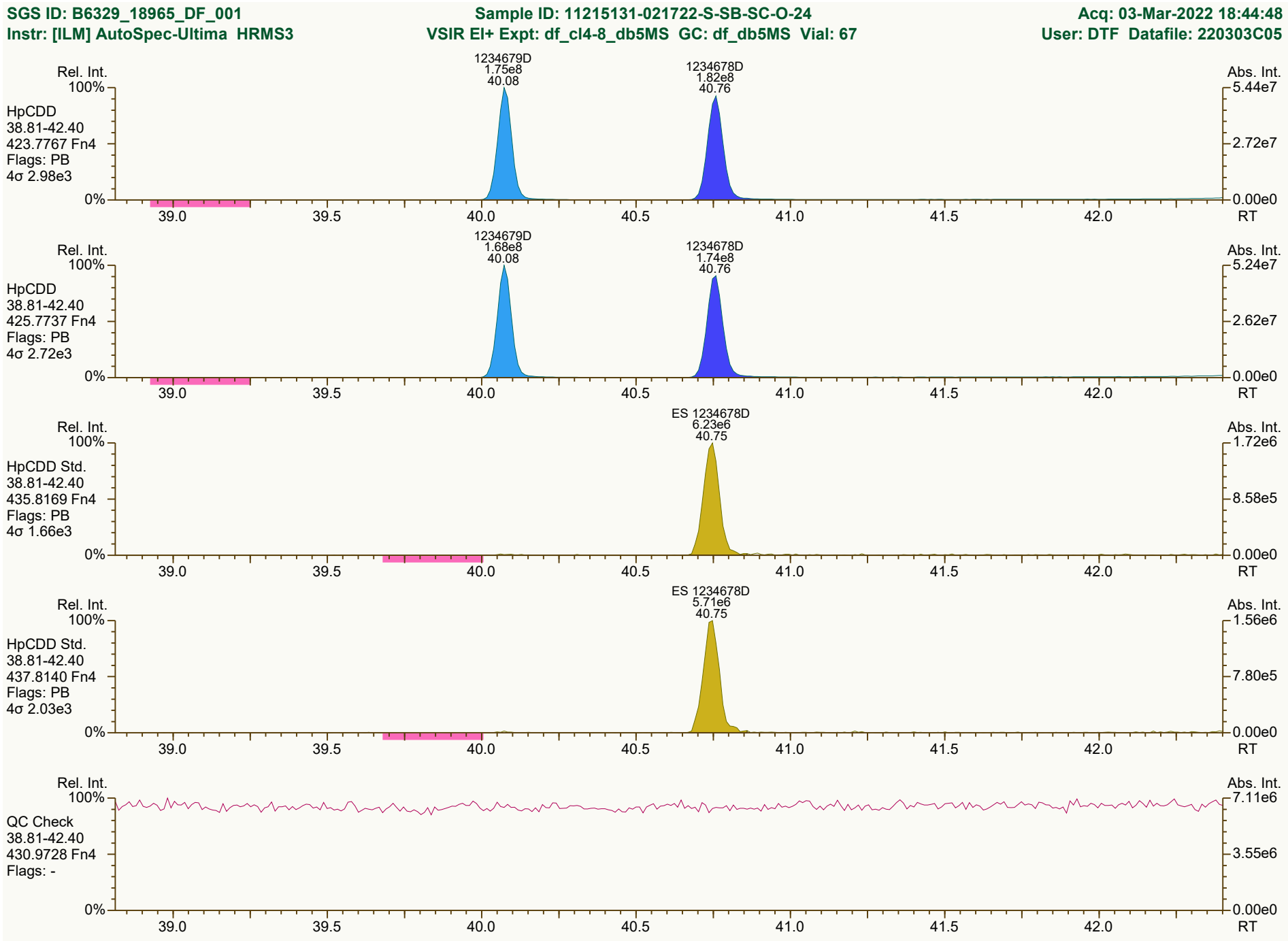

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 3.01e3
0%
1368D 1.01e6* 24.53
1379D 5.50e5* 24.89
1369D 1.62e5* 25.33
1247D...[4] 3.70e5* 26.37
1378D 3.49e5* 26.57
1279D 1.50e5* 27.18
1236D 9.97e4* 27.68
2378D 3.43e5* 28.24
1267D 4.95e4* 28.70
1289D 9.57e4* 29.22
Abs. Int.
2.07e5
1.04e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.03e3
0%
1368D 1.26e6* 24.53
1379D 6.70e5* 24.89
1469D 1.04e5* 26.12
1378D 4.51e5* 26.57
1478D 8.51e4* 27.01
1234/1269D 2.54e5* 27.55
2378D 4.47e5* 28.24
1267D 6.68e4* 28.70
1289D 1.21e5* 29.21
Abs. Int.
2.42e5
1.21e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 5.67e3
0%
CS 37Cl-2378D 8.90e6 28.24
Abs. Int.
1.15e7
5.75e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.40e3
0%
JS 1234D 1.11e7 27.54
ES 2378D 8.57e6 28.22
Abs. Int.
2.45e6
1.22e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.40e3
0%
JS 1234D 1.34e7 27.54
ES 2378D 1.07e7 28.22
Abs. Int.
3.00e6
1.50e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6329_18965_DF_001
Sample ID: 11215131-021722-S-SB-SC-O-24
Acq: 03-Mar-2022 18:44:48
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 220303C05
Rel. Int.
Abs. Int.
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 4.56e3
12479/12468D
3.10e6*
31.12
12469D
9.98e5*
31.66
12368D
1.24e6*
32.22
12478D
1.27e6*
32.41
12379D
8.86e5*
32.51
12369D...[3]
1.08e6*
32.77
12346/12347D
4.79e5*
33.15
12378D
1.03e6*
33.65
12367D
1.89e5*
33.74
12389D
4.49e5*
34.09
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 7.18e3
12479/12468D
2.08e6
31.12
12469D
1.88e6
31.68
12368D
8.49e5*
32.22
12478D
1.65e6*
32.38
12379D
5.97e5*
32.51
12369D...[3]
6.96e5*
32.77
12378D
7.05e5*
33.64
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.28e3
CS 12347D
8.48e6
33.12
ES 12378D
1.04e7
33.63
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.43e3
CS 12347D
5.28e6
33.12
ES 12378D
6.35e6
33.63
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
5.74e5
2.87e5
0.00e0
1.89e6
9.47e5
2.81e6
1.41e6
1.67e6
8.37e5
2.80e6
1.40e6
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_001.utp_res, saved 04-Mar-2022 10:49 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1787, 0758 scc: 133-139
Revised: 04-Mar-2022 08:25 (DTF) Printed: 04-Mar-2022 10:53 Page 3 of 12

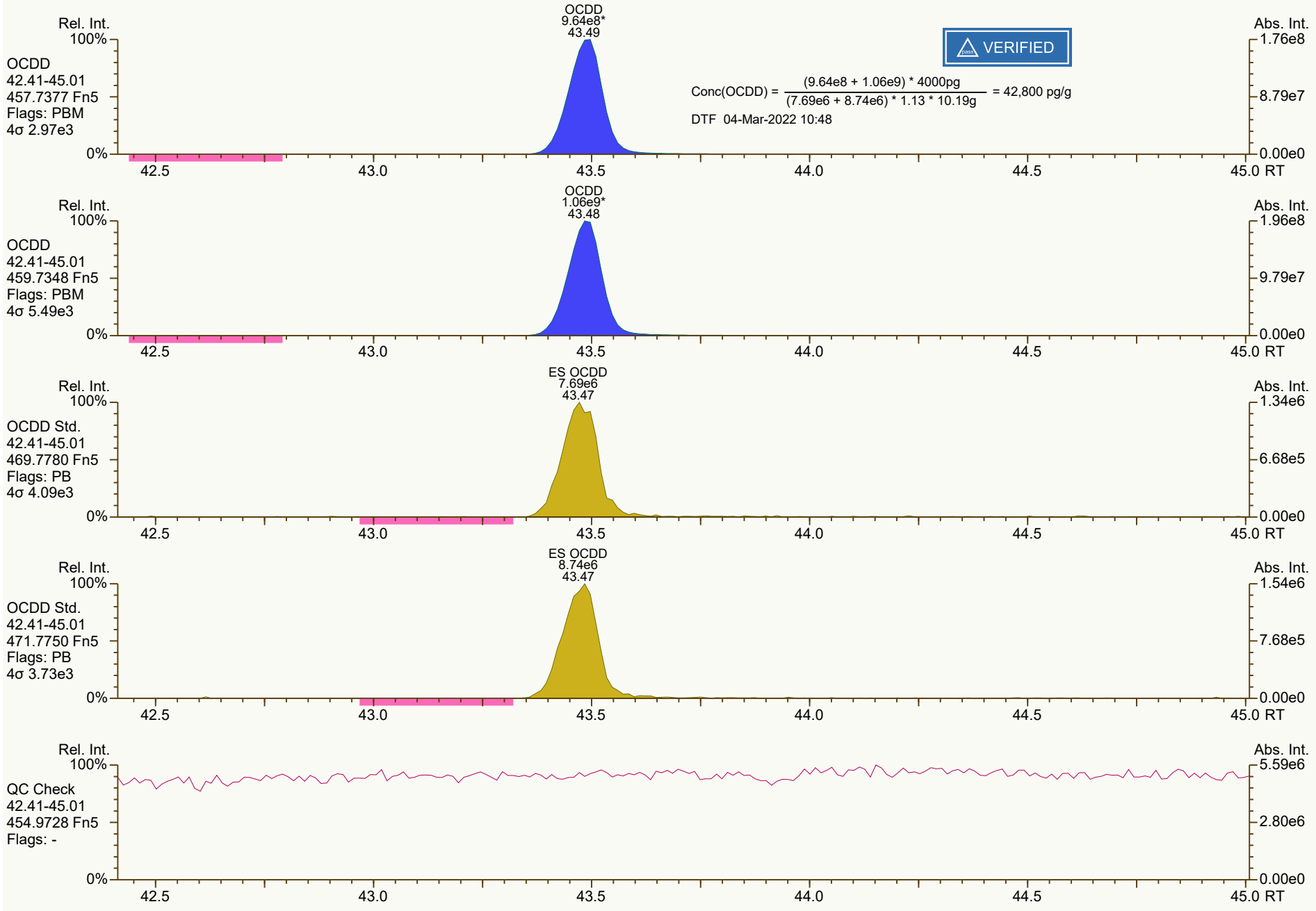


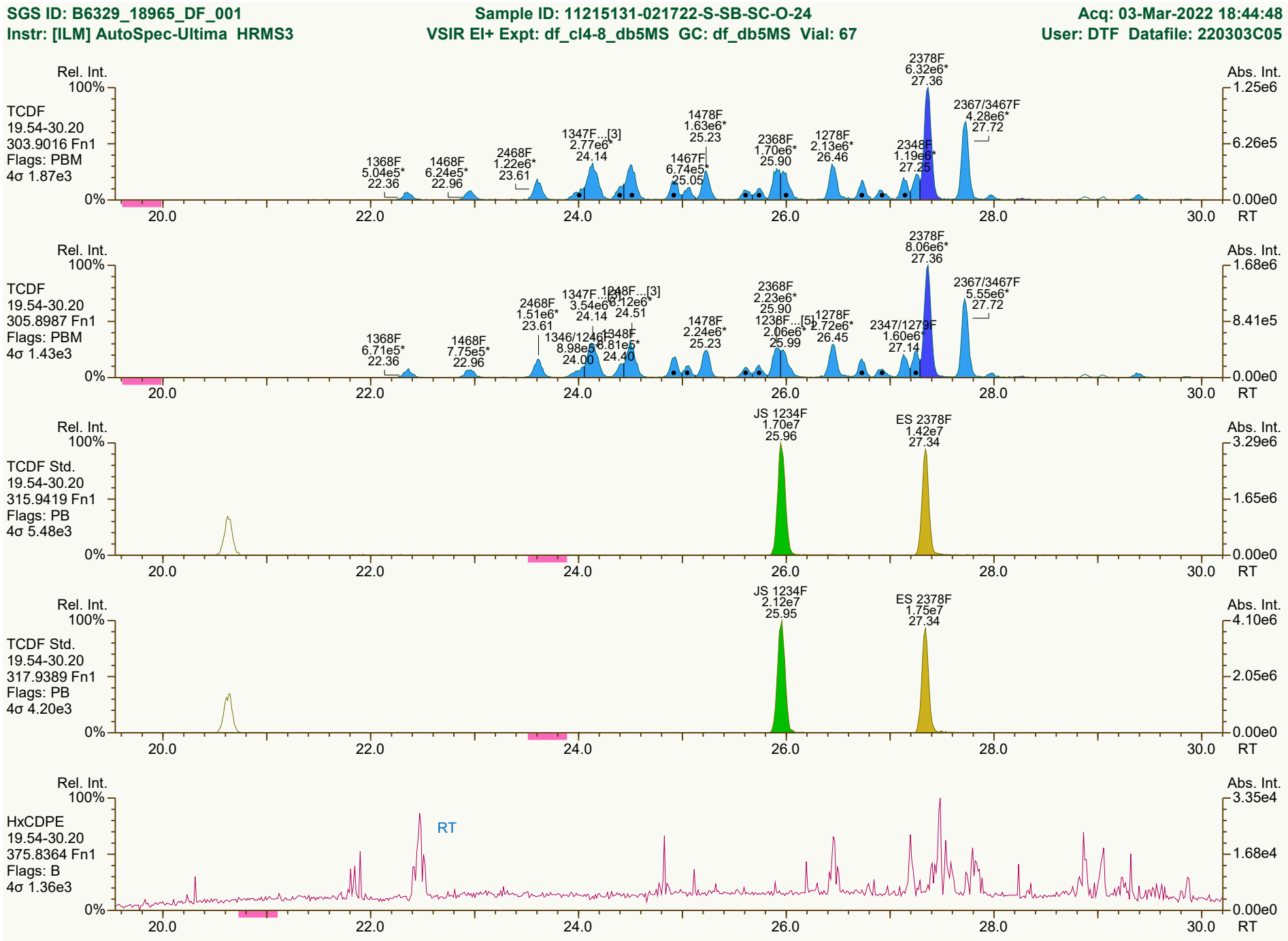
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_001.utp_res, saved 04-Mar-2022 10:49 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5965, 1891 scc: 133-139
Revised: 04-Mar-2022 08:26 (DTF) Printed: 04-Mar-2022 10:53 Page 4 of 12

SGS ID: B6329_18965_DF_001 | Sample ID: 11215131-021722-S-SB-SC-O-24 | Acq: 03-Mar-2022 18:44:48
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67 | User: DTF Datafile: 220303C05

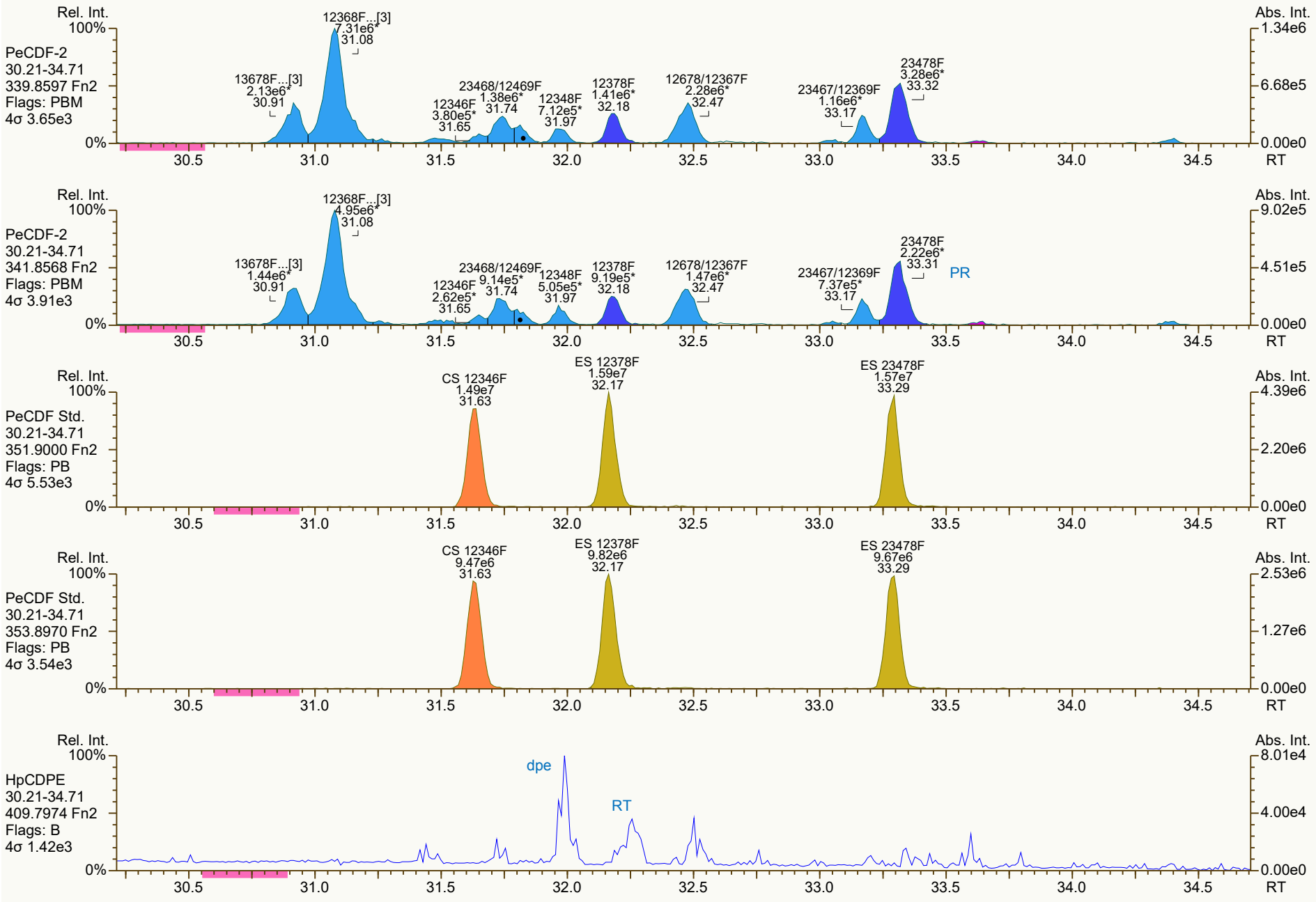


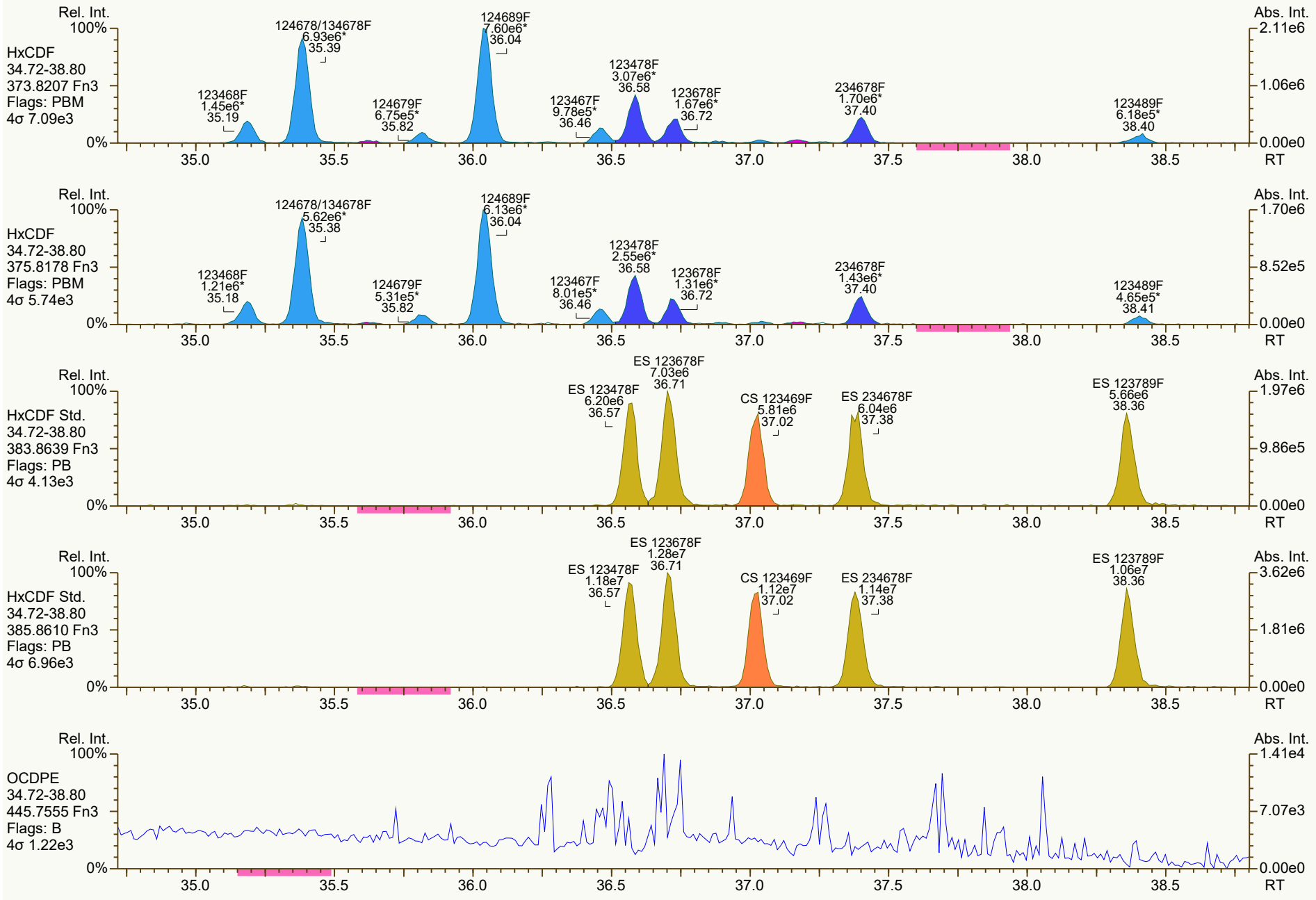
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_001.utp_res, saved 04-Mar-2022 10:49 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9297, 4170 scc: 133-139 | Revised: 04-Mar-2022 08:23 (DTF) Printed: 04-Mar-2022 10:53 Page 5 of 12

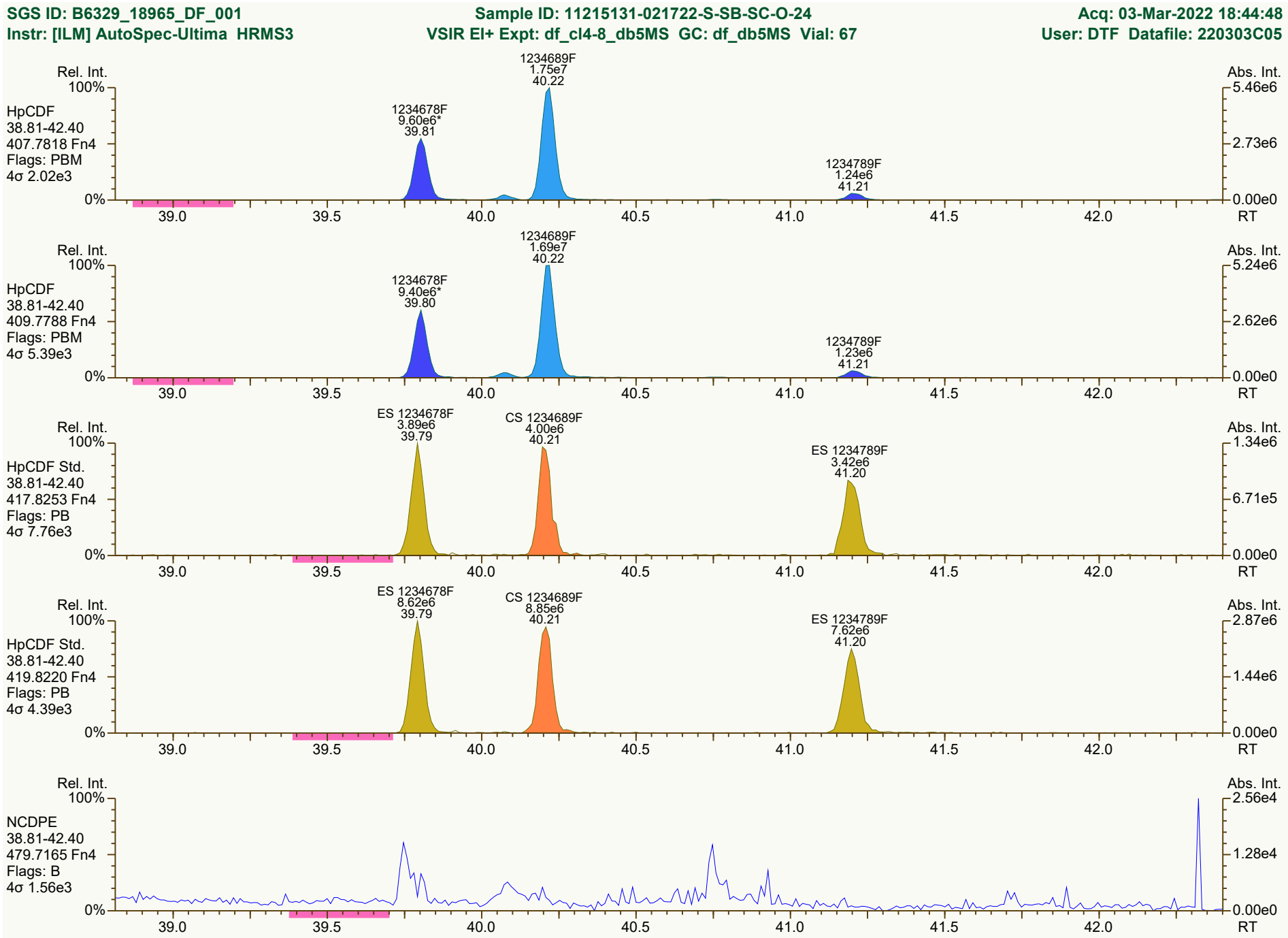

OCDD
9.64e8*
43.49
VERIFIED
Conc(OCDD) = (9.64e8 + 1.06e9) * 4000pg / (7.69e6 + 8.74e6) * 1.13 * 10.19g = 42,800 pg/g
DTF 04-Mar-2022 10:48
Rel. Int.
Abs. Int.
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 2.97e3
OCDD
1.06e9*
43.48
459.7348 Fn5
4σ 5.49e3
ES OCDD
7.69e6
43.47
OCDD Std.
469.7780 Fn5
Flags: PB
4σ 4.09e3
ES OCDD
8.74e6
43.47
471.7750 Fn5
4σ 3.73e3
QC Check
454.9728 Fn5
Flags: -
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
1.76e8
8.79e7
0.00e0
1.96e8
9.79e7
1.34e6
6.68e5
1.54e6
7.68e5
5.59e6
2.80e6

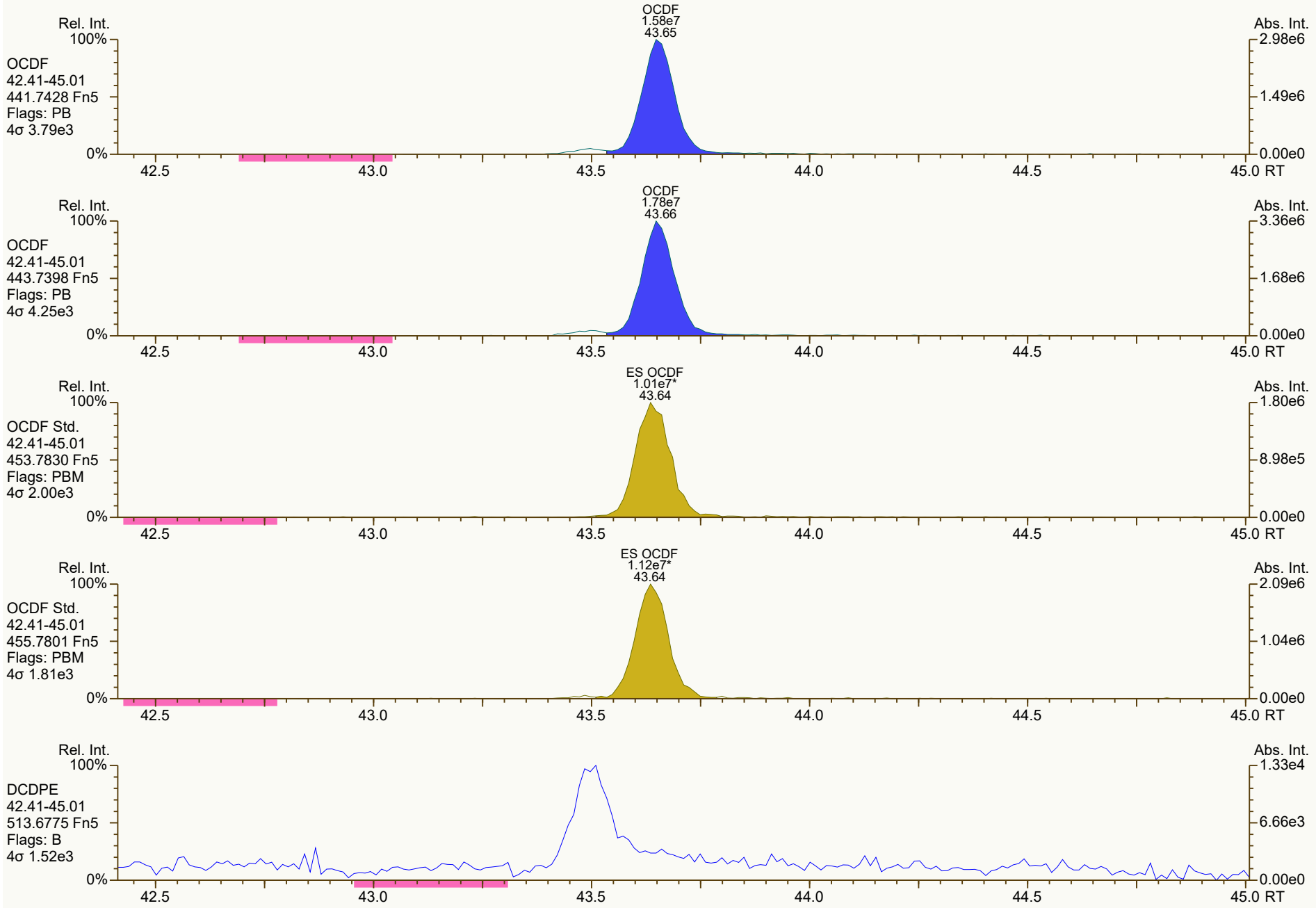

SGS ID: B6329_18965_DF_001
Sample ID: 11215131-021722-S-SB-SC-O-24
Acq: 03-Mar-2022 18:44:48
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 220303C05
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.87e3
1368F 5.04e5* 22.36
1468F 6.24e5* 22.96
2468F 1.22e6* 23.61
1347F...[3] 2.77e6* 24.14
1478F 1.63e6* 25.23
1467F 6.74e5* 25.05
2368F 1.70e6* 25.90
1278F 2.13e6* 26.46
2348F 1.19e6* 27.25
2378F 6.32e6* 27.36
2367/3467F 4.28e6* 27.72
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.43e3
1368F 6.71e5* 22.36
1468F 7.75e5* 22.96
2468F 1.51e6* 23.61
1347F...[3] 3.54e6* 24.14
1478F 2.24e6* 25.23
2368F 2.23e6* 25.90
1278F 2.72e6* 26.45
2347/1279F 1.60e6* 27.14
2378F 8.06e6* 27.36
2367/3467F 5.55e6* 27.72
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 5.48e3
JS 1234F 1.70e7 25.96
ES 2378F 1.42e7 27.34
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.20e3
JS 1234F 2.12e7 25.95
ES 2378F 1.75e7 27.34
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.36e3
RT
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_001.utp_res, saved 04-Mar-2022 10:49 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8518, 1218, 5944 scc: 133-139
Revised: 04-Mar-2022 08:27 (DTF) Printed: 04-Mar-2022 10:53 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.42e3
13468/12468F
4.44e6
29.35
Abs. Int.
9.94e5
4.97e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.28e3
13468/12468F
2.71e6
29.35
Abs. Int.
6.02e5
3.01e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
3.34e6
1.67e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 3.65e3
0%
12368F...[3]
7.31e6*
31.08
13678F...[3]
2.13e6*
30.91
12346F
3.80e5*
31.65
23468/12469F
1.38e6*
31.74
12348F
7.12e5*
31.97
12378F
1.41e6*
32.18
12678/12367F
2.28e6*
32.47
23467/12369F
1.16e6*
33.17
23478F
3.28e6*
33.32
Abs. Int.
1.34e6
6.68e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 3.91e3
0%
12368F...[3]
4.95e6*
31.08
13678F...[3]
1.44e6*
30.91
12346F
2.62e5*
31.65
23468/12469F
9.14e5*
31.74
12348F
5.05e5*
31.97
12378F
9.19e5*
32.18
12678/12367F
1.47e6*
32.47
23467/12369F
7.37e5*
33.17
23478F
2.22e6*
33.31
PR
Abs. Int.
9.02e5
4.51e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 5.53e3
0%
CS 12346F
1.49e7
31.63
ES 12378F
1.59e7
32.17
ES 23478F
1.57e7
33.29
Abs. Int.
4.39e6
2.20e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 3.54e3
0%
CS 12346F
9.47e6
31.63
ES 12378F
9.82e6
32.17
ES 23478F
9.67e6
33.29
Abs. Int.
2.53e6
1.27e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.42e3
0%
dpe
RT
Abs. Int.
8.01e4
4.00e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 7.09e3
123468F 1.45e6* 35.19
124678/134678F 6.93e6* 35.39
124679F 6.75e5* 35.82
124689F 7.60e6* 36.04
123467F 9.78e5* 36.46
123478F 3.07e6* 36.58
123678F 1.67e6* 36.72
234678F 1.70e6* 37.40
123489F 6.18e5* 38.40
0%
Abs. Int.
2.11e6
1.06e6
0.00e0
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 5.74e3
123468F 1.21e6* 35.18
124678/134678F 5.62e6* 35.38
124679F 5.31e5* 35.82
124689F 6.13e6* 36.04
123467F 8.01e5* 36.46
123478F 2.55e6* 36.58
123678F 1.31e6* 36.72
234678F 1.43e6* 37.40
123489F 4.65e5* 38.41
0%
Abs. Int.
1.70e6
8.52e5
0.00e0
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 4.13e3
ES 123478F 6.20e6 36.57
ES 123678F 7.03e6 36.71
CS 123469F 5.81e6 37.02
ES 234678F 6.04e6 37.38
ES 123789F 5.66e6 38.36
0%
Abs. Int.
1.97e6
9.86e5
0.00e0
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 6.96e3
ES 123478F 1.18e7 36.57
ES 123678F 1.28e7 36.71
CS 123469F 1.12e7 37.02
ES 234678F 1.14e7 37.38
ES 123789F 1.06e7 38.36
0%
Abs. Int.
3.62e6
1.81e6
0.00e0
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.22e3
0%
Abs. Int.
1.41e4
7.07e3
0.00e0
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT


SGS ID: B6329_18965_DF_001
Sample ID: 11215131-021722-S-SB-SC-O-24
Acq: 03-Mar-2022 18:44:48
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 220303C05
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 2.02e3
1234689F
1.75e7
40.22
1234678F
9.60e6*
39.81
1234789F
1.24e6
41.21
5.46e6
2.73e6
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 5.39e3
1234689F
1.69e7
40.22
1234678F
9.40e6*
39.80
1234789F
1.23e6
41.21
5.24e6
2.62e6
0.00e0
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 7.76e3
ES 1234678F
3.89e6
39.79
CS 1234689F
4.00e6
40.21
ES 1234789F
3.42e6
41.20
1.34e6
6.71e5
0.00e0
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 4.39e3
ES 1234678F
8.62e6
39.79
CS 1234689F
8.85e6
40.21
ES 1234789F
7.62e6
41.20
2.87e6
1.44e6
0.00e0
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.56e3
2.56e4
1.28e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_001.utp_res, saved 04-Mar-2022 10:49 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8398, 0816, 2218 scc: 133-139
Revised: 04-Mar-2022 08:29 (DTF) Printed: 04-Mar-2022 10:53 Page 11 of 12


OCDF
1.58e7
43.65
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 3.79e3
0%
Abs. Int.
2.98e6
1.49e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.78e7
43.66
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 4.25e3
0%
Abs. Int.
3.36e6
1.68e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.01e7*
43.64
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 2.00e3
0%
Abs. Int.
1.80e6
8.98e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.12e7*
43.64
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 1.81e3
0%
Abs. Int.
2.09e6
1.04e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.52e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6329_18965_DF_002 **Acq'd:** 03 Mar 2022 19:31 DTF **Wt/Vol:** 10.02 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021722-S-SB-SC-B-17 **UTP:** 04-Mar-2022 10:45:39 DTF **J-level:** 0.499 pg/g **Split:** 1 **Checkcode:** 523-891-HGN

Datafile: 220303C06 **Report:** 04 Mar 2022 10:47 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.21		1.0008	1.0009	+0.2	2.65E+06	0.79	Y	1.18	20.8	4049.131	0.344
12378-PeCDD	33.61	J EMPC	1.0007	1.0006	-0.2	7.03E+04	1.27	N	1.04	0.635	4093.771	0.325
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	6347.166	0.595
123678-HxCDD	37.66	J	1.0036	1.0035	-0.2	1.41E+05	1.24	Y	1.15	1.4	6347.166	0.55
123789-HxCDD	37.97	J EMPC	1.0118	1.0118	0	2.31E+05	1.51	N	1.05	2.23	6347.166	0.54
1234678-HpCDD	40.72		1.0002	1.0003	+0.2	4.41E+06	1.08	Y	1.06	48	6673.457	0.661
OCDD	43.44		1.0003	1.0003	0	4.32E+07	0.90	Y	1.13	732	14927.954	3.59
2378-TCDF	27.33		1.0008	1.0008	0	1.02E+07	0.77	Y	1.08	58	2868.468	0.178
12378-PeCDF	32.15	J	1.0005	1.0005	0	3.15E+05	1.64	Y	1.02	1.9	3887.887	0.212
23478-PeCDF	33.28	J	1.0005	1.0007	+0.4	2.29E+05	1.71	Y	1.02	1.51	3887.887	0.235
123478-HxCDF	36.54	J EMPC	1.0004	1.0004	0	3.41E+05	1.03	N	1.27	2.34	3911.352	0.239
123678-HxCDF	36.68	J	1.0004	1.0004	0	1.30E+05	1.37	Y	1.15	0.8	3911.352	0.188
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	3911.352	0.239
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	3911.352	0.265
1234678-HpCDF	39.77	J	1.0003	1.0002	-0.2	2.43E+05	1.04	Y	1.37	1.52	3088.234	0.149
1234789-HpCDF	41.18	J EMPC	1.0003	1.0005	+0.5	4.02E+04	1.50	N	1.31	0.381	3088.234	0.254
OCDF	43.60	J	1.0002	1.0001	-0.3	1.53E+05	0.96	Y	1.07	2.31	5177.609	1

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.18		1.0243	1.0244	+0.2	2.14E+07	0.84	Y	1.05	98.2
ES 12378-PeCDD	33.59		1.2198	1.2211	+2.6	2.13E+07	1.64	Y	0.88	116
ES 123478-HxCDD	37.53		0.9916	0.9915	-0.2	1.74E+07	1.27	Y	0.97	94.2
ES 123678-HxCDD	37.65		0.9947	0.9947	0	1.75E+07	1.25	Y	0.94	97.3
ES 123789-HxCDD	37.96		1.0029	1.0028	-0.2	1.97E+07	1.18	Y	1.09	94.9
ES 1234678-HpCDD	40.70		1.0749	1.0753	+1.0	1.73E+07	1.07	Y	0.91	99.5
ES OCDD	43.43		1.1460	1.1473	+3.4	2.09E+07	0.91	Y	0.62	88
ES 2378-TCDF	27.31		1.0531	1.0535	+0.7	3.24E+07	0.83	Y	1.06	93.1
ES 12378-PeCDF	32.13		1.2378	1.2395	+3.3	3.23E+07	1.62	Y	0.91	108
ES 23478-PeCDF	33.25		1.2810	1.2829	+3.8	2.97E+07	1.61	Y	0.88	102
ES 123478-HxCDF	36.53		0.9650	0.9650	0	2.28E+07	0.54	Y	1.20	100
ES 123678-HxCDF	36.67		0.9688	0.9687	-0.2	2.82E+07	0.53	Y	1.35	110
ES 234678-HxCDF	37.34		0.9866	0.9865	-0.2	2.51E+07	0.56	Y	1.24	106
ES 123789-HxCDF	38.32		1.0125	1.0125	0	2.19E+07	0.56	Y	1.16	99.8
ES 1234678-HpCDF	39.76		1.0501	1.0503	+0.5	2.33E+07	0.47	Y	0.97	126
ES 1234789-HpCDF	41.16		1.0870	1.0874	+1.0	1.61E+07	0.47	Y	0.85	99.3
ES OCDF	43.59		1.1505	1.1517	+3.1	2.47E+07	0.88	Y	0.81	80.2

Lab ID: B6329_18965_DF_002 **Acq'd:** 03 Mar 2022 19:31 DTF **Wt/Vol:** 10.02 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021722-S-SB-SC-B-17 **UTP:** 04-Mar-2022 10:45:39 DTF **J-level:** 0.499 pg/g **Split:** 1 **Checkcode:** 523-891-HGN

Datafile: 220303C06 **Report:** 04 Mar 2022 10:47 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.51		-	-	-	2.09E+07	0.87	Y	-	-	
JS 1234-TCDF	25.92		-	-	-	3.29E+07	0.80	Y	-	-	
JS 123467-HxCDD	37.85		-	-	-	9.51E+06	1.35	Y	-	-	
CS 37Cl-2378-TCDD	28.20		1.0251	1.0252	+0.2	9.04E+06	n/a	-	1.20	90	
CS 12347-PeCDD	33.09		1.2016	1.2027	+2.2	1.57E+07	1.60	Y	0.75	100	
CS 12346-PeCDF	31.60		1.2172	1.2189	+3.2	2.92E+07	1.58	Y	0.85	104	
CS 123469-HxCDF	36.98		0.9771	0.9770	-0.2	2.23E+07	0.53	Y	1.12	105	
CS 1234689-HpCDF	40.16		1.0608	1.0611	+0.7	1.88E+07	0.46	Y	0.89	112	
~~SS 37Cl-2378-TCDD~~	~~28.20~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~9.04E+06~~	~~n/a~~		~~1.15~~	~~91.9~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.09~~		~~1.2016~~	~~1.2027~~	~~+2.2~~	~~1.57E+07~~	~~1.60~~	~~Y~~	~~0.86~~	~~86.1~~	CL 07Mar22
~~SS 12346-PeCDF~~	~~31.60~~		~~1.2172~~	~~1.2189~~	~~+3.2~~	~~2.92E+07~~	~~1.58~~	~~Y~~	~~0.94~~	~~96.4~~	
~~SS 123469-HxCDF~~	~~36.98~~		~~0.9771~~	~~0.9770~~	~~-0.2~~	~~2.23E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~95.6~~	
~~SS 1234689-HpCDF~~	~~40.16~~		~~1.0608~~	~~1.0611~~	~~+0.7~~	~~1.88E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~88.2~~	

Totals	Conc	EMPC
Total TCDD	36.9	36.9
Total PeCDD	3.8	9.12
Total HxCDD	58.2	61.3
Total HpCDD	152	152
Total Tetra-Octa Dioxins	983	991
Total TCDF	110	117
Total PeCDF	4.58	5.24
Total HxCDF	0.8	4.08
Total HpCDF	1.52	2.9
Total Tetra-Octa Furans	119	132
Total Tetra-Octa Dioxins & Furans	1100	1120

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.788	0.79
Response	2.66E+06	2.65E+06

Lab ID: B6329_18965_DF_002 **Acq'd: 03 Mar 2022 19:31 DTF** **Wt/Vol: 10.02 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021722-S-SB-SC-B-17 **UTP: 04-Mar-2022 10:45:39 DTF** **J-level: 0.499 pg/g** **Split: 1** **Checkcode: 523-891-HGN**

Datafile: 220303C06 **Report: 04 Mar 2022 10:47 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		4049.131	0.344
1379-TCDD	NotFnd		0.8829						1.18		4049.131	0.344
1369-TCDD	NotFnd		0.8982						1.18		4049.131	0.344
1469-TCDD	26.09		0.9261	0.9257	-0.6	1.49E+06	0.86	Y	1.18	11.7	4049.131	0.344
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4049.131	0.344
1378-TCDD	NotFnd		0.9417						1.18		4049.131	0.344
1268-TCDD	NotFnd		0.9487						1.18		4049.131	0.344
1478-TCDD	NotFnd		0.9576						1.18		4049.131	0.344
1279-TCDD	NotFnd		0.9636						1.18		4049.131	0.344
1234/1269-TCDD	27.51		0.9761	0.9761	0	1.41E+05	0.85	Y	1.18	1.11	4049.131	0.344
1236-TCDD	NotFnd		0.9812						1.18		4049.131	0.344
1237/1238-TCDD	27.89		0.9905	0.9898	-1.2	1.68E+05	0.69	Y	1.18	1.32	4049.131	0.344
1239-TCDD	NotFnd		0.9951						1.18		4049.131	0.344
2378-TCDD	**28.21**		**1.0008**	1.0009	**+0.2**	2.65E+06	0.79	Y	**1.18**	**20.8**	**4049.131**	**0.344**
1278-TCDD	28.53		1.0124	1.0125	+0.2	2.42E+05	0.69	Y	1.18	1.9	4049.131	0.344
1267-TCDD	NotFnd		1.0172						1.18		4049.131	0.344
1289-TCDD	NotFnd		1.0354						1.18		4049.131	0.344
12479/12468-PeCDD	31.09	J	0.9255	0.9253	-0.4	1.49E+05	1.67	Y	1.04	1.35	4093.771	0.325
12469-PeCDD	31.62	EMPC	0.9416	0.9413	-0.6	5.19E+05	1.28	N	1.04	4.69	4093.771	0.325
12368-PeCDD	NotFnd		0.9582						1.04		4093.771	0.325
12478-PeCDD	NotFnd		0.9637						1.04		4093.771	0.325
12379-PeCDD	NotFnd		0.9668						1.04		4093.771	0.325
12369/12467/12489-PeCDD	32.74	J	0.9746	0.9744	-0.4	2.21E+05	1.47	Y	1.04	2	4093.771	0.325
12346/12347-PeCDD	NotFnd		0.9858						1.04		4093.771	0.325
12378-PeCDD	33.61	J EMPC	**1.0007**	**1.0006**	**-0.2**	**7.03E+04**	**1.27**	**N**	**1.04**	**0.635**	**4093.771**	**0.325**
12367-PeCDD	NotFnd		1.0036						1.04		4093.771	0.325
12389-PeCDD	34.06	J	1.0137	1.0138	+0.2	5.02E+04	1.61	Y	1.04	0.453	4093.771	0.325
124679/124689-HxCDD	35.80		0.9540	0.9540	0	4.45E+06	1.26	Y	1.10	44.5	6347.166	0.56
123468-HxCDD	36.46	J	0.9715	0.9716	+0.2	9.54E+04	1.13	Y	1.10	0.954	6347.166	0.56
123679/123689-HxCDD	36.75		0.9793	0.9793	0	1.02E+06	1.27	Y	1.10	10.2	6347.166	0.56
123469-HxCDD	36.88	J	0.9829	0.9828	-0.2	1.14E+05	1.20	Y	1.10	1.14	6347.166	0.56
123478-HxCDD	NotFnd		**1.0004**						1.09		**6347.166**	**0.595**
123678-HxCDD	37.66	J	**1.0036**	**1.0035**	**-0.2**	**1.41E+05**	**1.24**	**Y**	1.15	**1.4**	**6347.166**	**0.55**
123467-HxCDD	37.87	J EMPC	1.0089	1.0090	+0.2	7.83E+04	1.45	N	1.10	0.783	6347.166	0.56
123789-HxCDD	37.97	J EMPC	**1.0118**	**1.0118**	**0**	**2.31E+05**	**1.51**	**N**	1.05	**2.23**	**6347.166**	**0.54**

Lab ID: B6329_18965_DF_002 | **Acq'd: 03 Mar 2022 19:31 DTF** | **Wt/Vol: 10.02 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021722-S-SB-SC-B-17 | **UTP: 04-Mar-2022 10:45:39 DTF** | **J-level: 0.499 pg/g** | **Split: 1** | **Checkcode: 523-891-HGN**

Datafile: 220303C06 | **Report: 04 Mar 2022 10:47 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

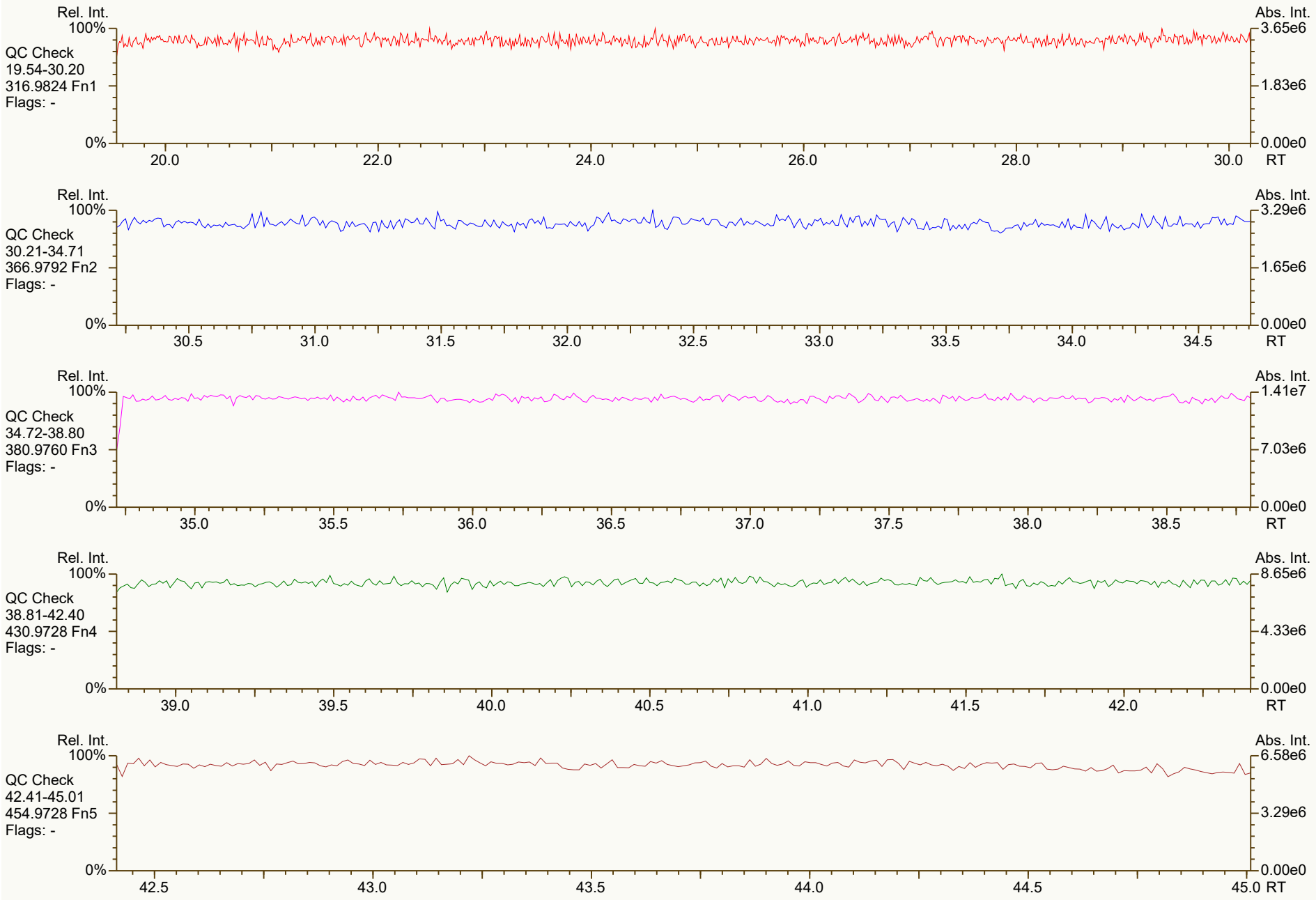
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.03		0.9836	0.9836	0	9.53E+06	1.03	Y	1.06	104	6673.457	0.661
1234678-HpCDD	**40.72**		**1.0002**	**1.0003**	**+0.2**	**4.41E+06**	**1.08**	**Y**	**1.06**	**48**	**6673.457**	**0.661**
OCDD	**43.44**		**1.0003**	**1.0003**	**0**	**4.32E+07**	**0.90**	**Y**	**1.13**	**732**	**14927.954**	**3.59**
OCDD-a	43.43		1.0002	1.0002	0	2.83E+06	2.41	Y	0.07	751	5238.73	19.7
1368-TCDF	NotFnd		0.8191						1.08		2868.468	0.178
1468-TCDF	NotFnd		0.8408						1.08		2868.468	0.178
2468-TCDF	23.58	EMPC	0.8645	0.8634	-1.6	1.75E+05	1.05	N	1.08	0.997	2868.468	0.178
1346/1246-TCDF	NotFnd		0.8772						1.08		2868.468	0.178
1347/1378/1247-TCDF	24.11	EMPC	0.8833	0.8828	-0.7	1.74E+05	0.93	N	1.08	0.992	2868.468	0.178
1348-TCDF	NotFnd		0.8932						1.08		2868.468	0.178
1248/1367/1379-TCDF	24.47		0.8980	0.8959	-3.1	5.79E+05	0.80	Y	1.08	3.3	2868.468	0.178
1268-TCDF	24.88	EMPC	0.9119	0.9110	-1.3	2.01E+05	0.97	N	1.08	1.14	2868.468	0.178
1467-TCDF	NotFnd		0.9170						1.08		2868.468	0.178
1478-TCDF	25.20	EMPC	0.9234	0.9226	-1.2	4.35E+05	0.91	N	1.08	2.48	2868.468	0.178
1369/1237-TCDF	25.58		0.9369	0.9367	-0.3	1.66E+05	0.81	Y	1.08	0.948	2868.468	0.178
2467-TCDF	NotFnd		0.9415						1.08		2868.468	0.178
2368-TCDF	25.91		0.9475	0.9489	+2.2	8.49E+05	0.72	Y	1.08	4.84	2868.468	0.178
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		2868.468	0.178
1278-TCDF	26.42		0.9676	0.9674	-0.3	4.78E+06	0.79	Y	1.08	27.2	2868.468	0.178
1349-TCDF	NotFnd		0.9722						1.08		2868.468	0.178
1267-TCDF	26.69		0.9777	0.9774	-0.5	3.40E+05	0.83	Y	1.08	1.94	2868.468	0.178
2346/1249-TCDF	NotFnd		0.9843						1.08		2868.468	0.178
2347/1279-TCDF	27.11	EMPC	0.9926	0.9928	+0.3	1.58E+05	0.93	N	1.08	0.899	2868.468	0.178
2348-TCDF	27.21		0.9968	0.9962	-1.0	5.95E+05	0.72	Y	1.08	3.39	2868.468	0.178
2378-TCDF	**27.33**		**1.0008**	**1.0008**	**0**	**1.02E+07**	**0.77**	**Y**	**1.08**	**58**	**2868.468**	**0.178**
2367/3467-TCDF	27.68		1.0142	1.0136	-1.0	9.63E+05	0.76	Y	1.08	5.49	2868.468	0.178
1269-TCDF	27.94	EMPC	1.0235	1.0231	-0.7	1.48E+05	0.64	N	1.08	0.842	2868.468	0.178
1239-TCDF	NotFnd		1.0329						1.08		2868.468	0.178
1289-TCDF	29.37		1.0742	1.0754	+2.1	8.03E+05	0.76	Y	1.08	4.58	2868.468	0.178
13468/12468-PeCDF	NotFnd		0.9122						1.02		3299.158	0.189
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		3887.887	0.223
12368/13478/12478-PeCDF	31.04	J	0.9655	0.9659	+0.7	1.86E+05	1.51	Y	1.02	1.17	3887.887	0.223
14678-PeCDF	NotFnd		0.9685						1.02		3887.887	0.223
13479-PeCDF	NotFnd		0.9716						1.02		3887.887	0.223
13469/12479-PeCDF	NotFnd		0.9794						1.02		3887.887	0.223
12346-PeCDF	NotFnd		0.9836						1.02		3887.887	0.223

Lab ID: B6329_18965_DF_002 | **Acq'd: 03 Mar 2022 19:31 DTF** | **Wt/Vol: 10.02 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021722-S-SB-SC-B-17 | **UTP: 04-Mar-2022 10:45:39 DTF** | **J-level: 0.499 pg/g** | **Split: 1** | **Checkcode: 523-891-HGN**

Datafile: 220303C06 | **Report: 04 Mar 2022 10:47 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		3887.887	0.223
12347-PeCDF	NotFnd		0.9891						1.02		3887.887	0.223
12348-PeCDF	NotFnd		0.9938						1.02		3887.887	0.223
12378-PeCDF	**32.15**	J	**1.0005**	**1.0005**	**0**	**3.15E+05**	**1.64**	**Y**	**1.02**	**1.9**	**3887.887**	**0.212**
12678/12367-PeCDF	32.44	J EMPC	1.0091	1.0097	+1.2	1.04E+05	1.22	N	1.02	0.656	3887.887	0.223
12379-PeCDF	NotFnd		1.0144						1.02		3887.887	0.223
12679-PeCDF	NotFnd		0.9927						1.02		3887.887	0.223
23467/12369-PeCDF	NotFnd		0.9965						1.02		3887.887	0.223
23478-PeCDF	**33.28**	J	**1.0005**	**1.0007**	**+0.4**	**2.29E+05**	**1.71**	**Y**	**1.02**	**1.51**	**3887.887**	**0.235**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3887.887	0.223
12349-PeCDF	NotFnd		1.0101						1.02		3887.887	0.223
12389-PeCDF	NotFnd		1.0330						1.02		3887.887	0.223
123468-HxCDF	NotFnd		0.9622						1.19		3911.352	0.23
124678/134678-HxCDF	35.35	J EMPC	0.9678	0.9677	-0.2	8.00E+04	0.96	N	1.19	0.545	3911.352	0.23
134679-HxCDF	NotFnd		0.9741						1.19		3911.352	0.23
124679-HxCDF	NotFnd		0.9795						1.19		3911.352	0.23
124689-HxCDF	36.00	J EMPC	0.9856	0.9857	+0.2	5.80E+04	0.87	N	1.19	0.396	3911.352	0.23
123467-HxCDF	NotFnd		0.9972						1.19		3911.352	0.23
123478-HxCDF	**36.54**	J EMPC	**1.0004**	**1.0004**	**0**	**3.41E+05**	**1.03**	**N**	**1.27**	**2.34**	**3911.352**	**0.239**
123678-HxCDF	**36.68**	J	**1.0004**	**1.0004**	**0**	**1.30E+05**	**1.37**	**Y**	**1.15**	**0.8**	**3911.352**	**0.188**
123479-HxCDF	NotFnd		1.0048						1.19		3911.352	0.23
123469-HxCDF	NotFnd		1.0089						1.19		3911.352	0.23
123679-HxCDF	NotFnd		0.9942						1.19		3911.352	0.23
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**3911.352**	**0.239**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		3911.352	0.23
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**3911.352**	**0.265**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		3911.352	0.23
1234678-HpCDF	**39.77**	**J**	**1.0003**	**1.0002**	**-0.2**	**2.43E+05**	**1.04**	**Y**	**1.37**	**1.52**	**3088.234**	**0.149**
1234679-HpCDF	NotFnd		1.0068						1.34		3088.234	0.191
1234689-HpCDF	40.18	**J EMPC**	1.0104	1.0105	+0.2	1.31E+05	0.79	N	1.34	0.996	3088.234	0.191
1234789-HpCDF	**41.18**	**J EMPC**	**1.0003**	**1.0005**	**+0.5**	**4.02E+04**	**1.50**	**N**	**1.31**	**0.381**	**3088.234**	**0.254**
OCDF	**43.60**	**J**	**1.0002**	**1.0001**	**-0.3**	**1.53E+05**	**0.96**	**Y**	**1.07**	**2.31**	**5177.609**	**1**
OCDF-a	NotFnd		1.0001						0.07		3507.433	11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28.0
30.0
RT
Abs. Int.
3.65e6
1.83e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.29e6
1.65e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.41e7
7.03e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
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44.0
44.5
45.0
RT
Abs. Int.
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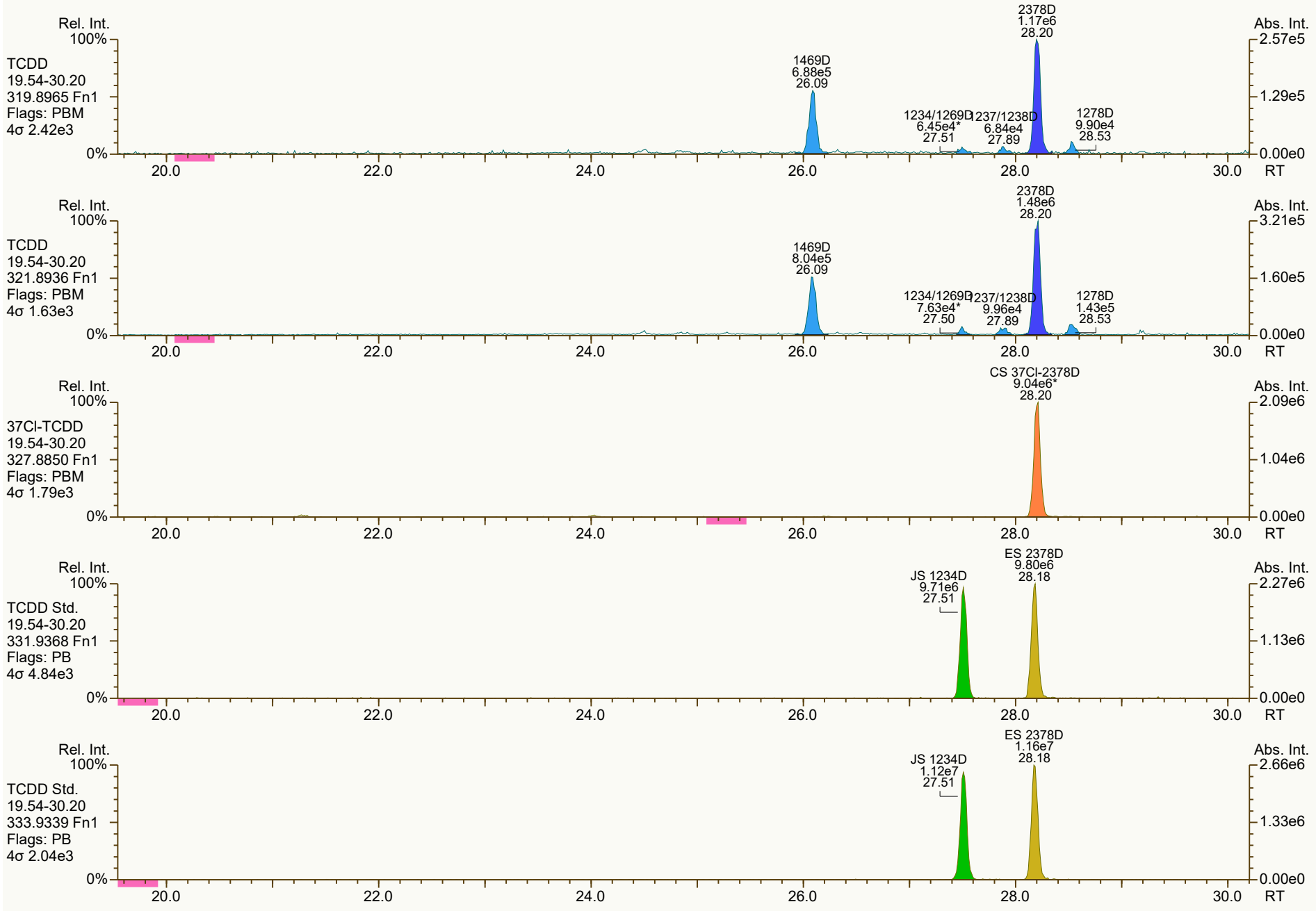
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19.54-30.20
319.8965 Fn1
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0%
1469D
6.88e5
26.09
1234/1269D
6.45e4*
27.51
1237/1238D
6.84e4
27.89
2378D
1.17e6
28.20
1278D
9.90e4
28.53
Abs. Int.
2.57e5
1.29e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.63e3
0%
1469D
8.04e5
26.09
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7.63e4*
27.50
1237/1238D
9.96e4
27.89
2378D
1.48e6
28.20
1278D
1.43e5
28.53
Abs. Int.
3.21e5
1.60e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PBM
4σ 1.79e3
0%
CS 37Cl-2378D
9.04e6*
28.20
Abs. Int.
2.09e6
1.04e6
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20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.84e3
0%
JS 1234D
9.71e6
27.51
ES 2378D
9.80e6
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Abs. Int.
2.27e6
1.13e6
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20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.04e3
0%
JS 1234D
1.12e7
27.51
ES 2378D
1.16e7
28.18
Abs. Int.
2.66e6
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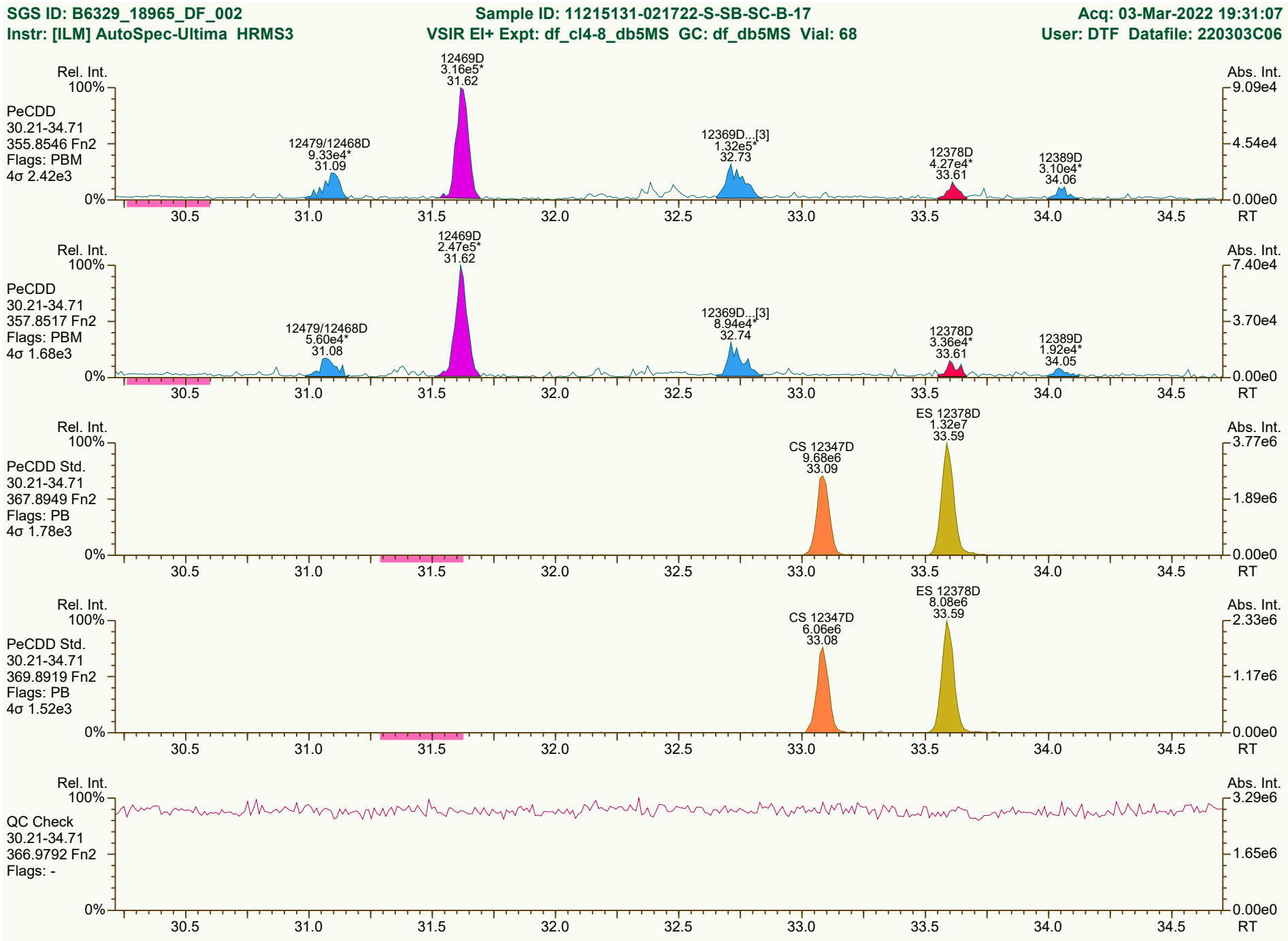
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: B6329_18965_DF_002 | Sample ID: 11215131-021722-S-SB-SC-B-17 | Acq: 03-Mar-2022 19:31:07
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 68 | User: DTF Datafile: 220303C06



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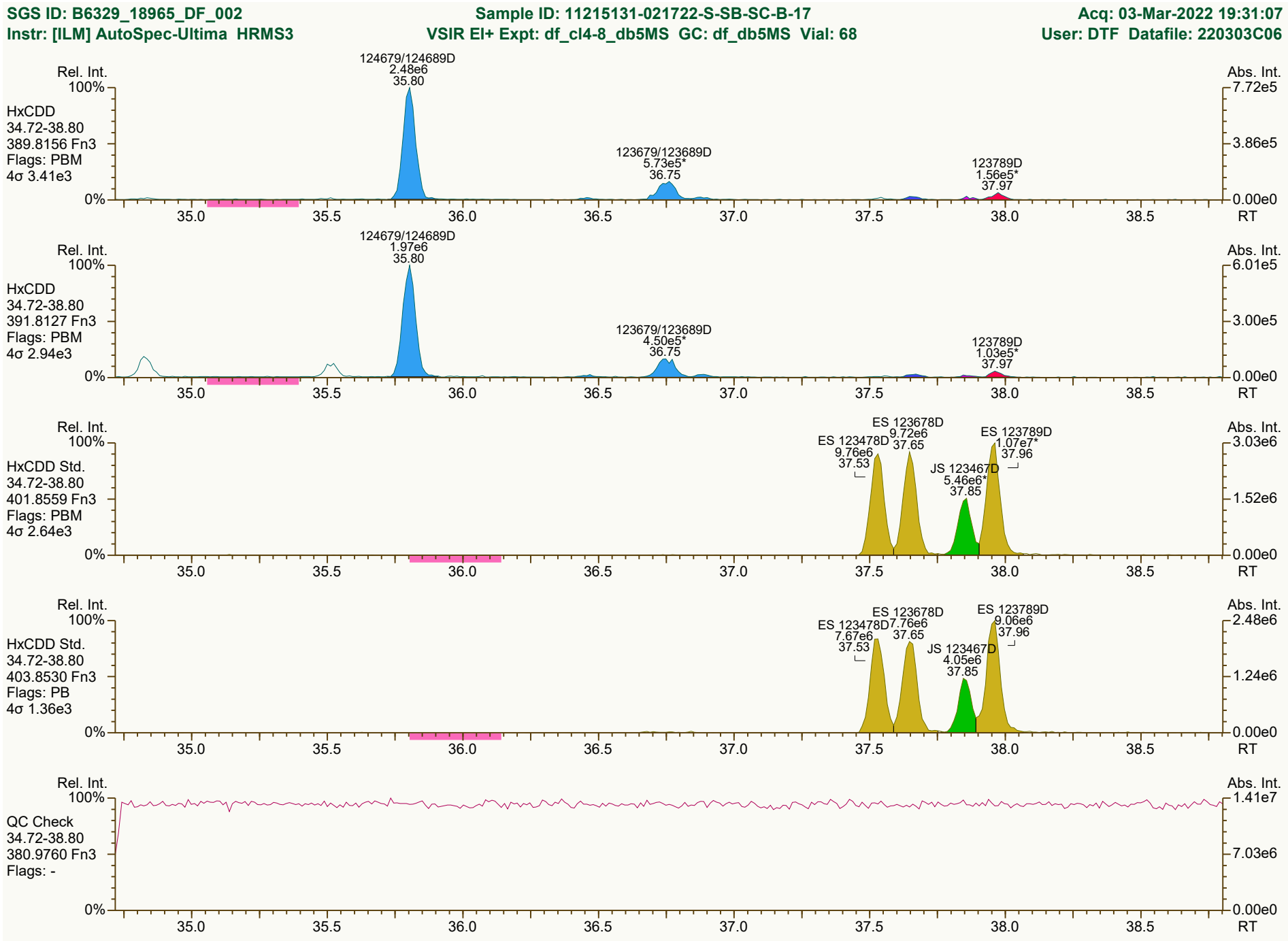
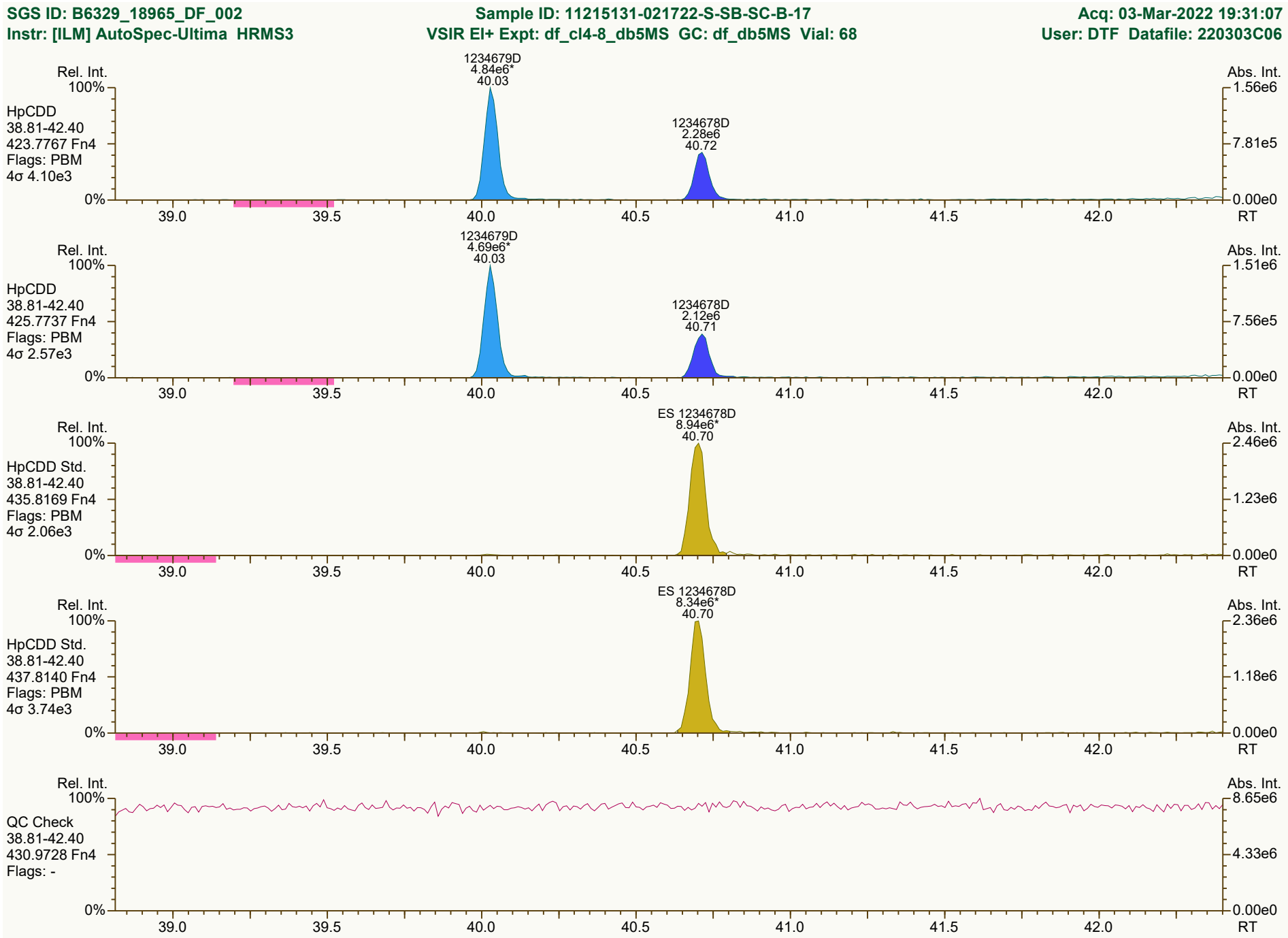
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0924, 4289 scc: 523-891 | Revised: 04-Mar-2022 08:32 (DTF) Printed: 04-Mar-2022 10:53 Page 3 of 12

SGS ID: B6329_18965_DF_002 | Sample ID: 11215131-021722-S-SB-SC-B-17 | Acq: 03-Mar-2022 19:31:07
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 68 | User: DTF Datafile: 220303C06



Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_002.utp_res, saved 04-Mar-2022 10:45 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2623, 8291 scc: 523-891 | Revised: 04-Mar-2022 08:33 (DTF) Printed: 04-Mar-2022 10:53 Page 4 of 12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Sample ID: 11215131-021722-S-SB-SC-B-17
Acq: 03-Mar-2022 19:31:07
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 68
User: DTF Datafile: 220303C06
Rel. Int.
Abs. Int.
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
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1234679D
4.84e6*
40.03
1234678D
2.28e6
40.72
1.56e6
7.81e5
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HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 2.57e3
1234679D
4.69e6*
40.03
1234678D
2.12e6
40.71
1.51e6
7.56e5
0.00e0
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 2.06e3
ES 1234678D
8.94e6*
40.70
2.46e6
1.23e6
0.00e0
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 3.74e3
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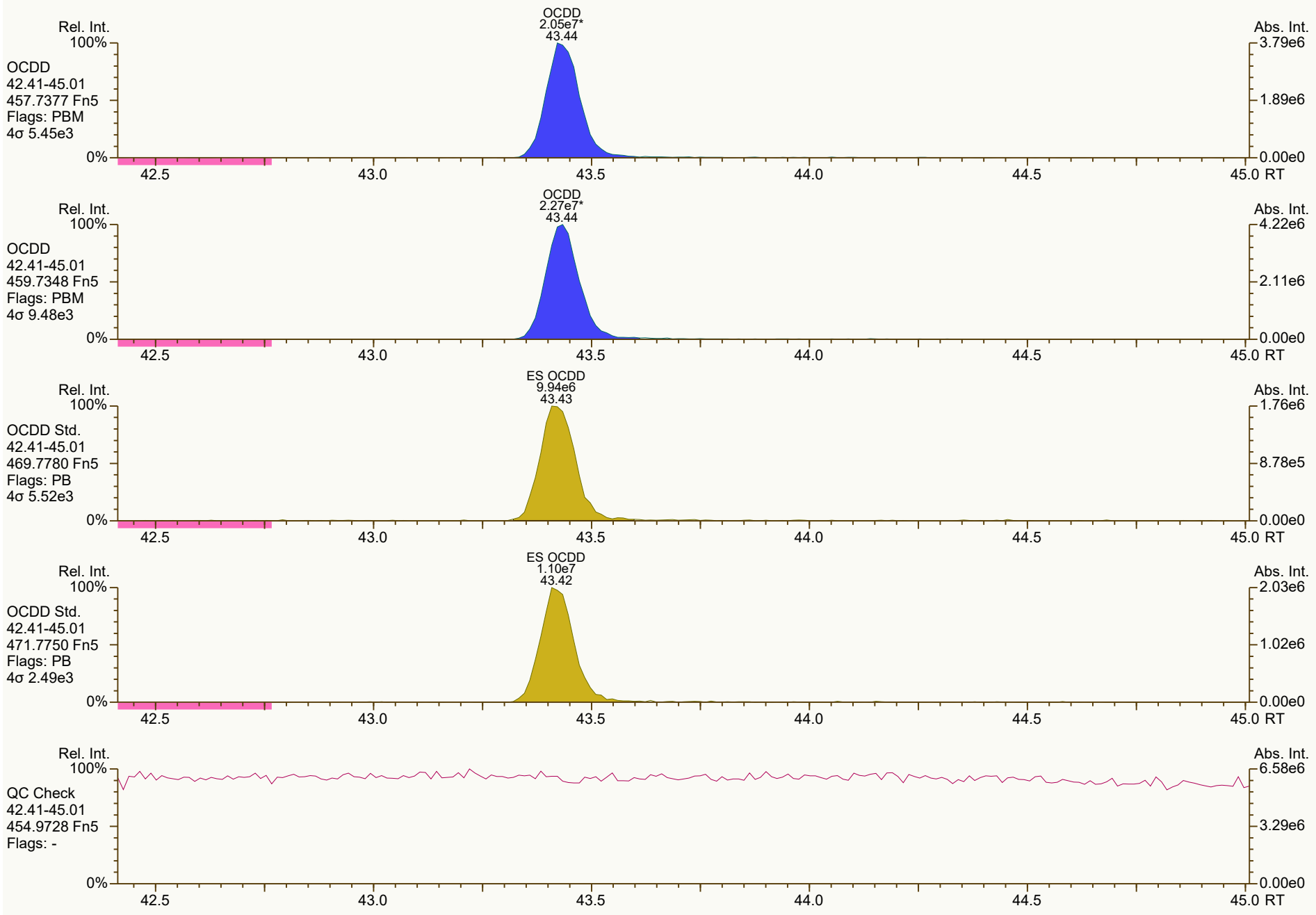
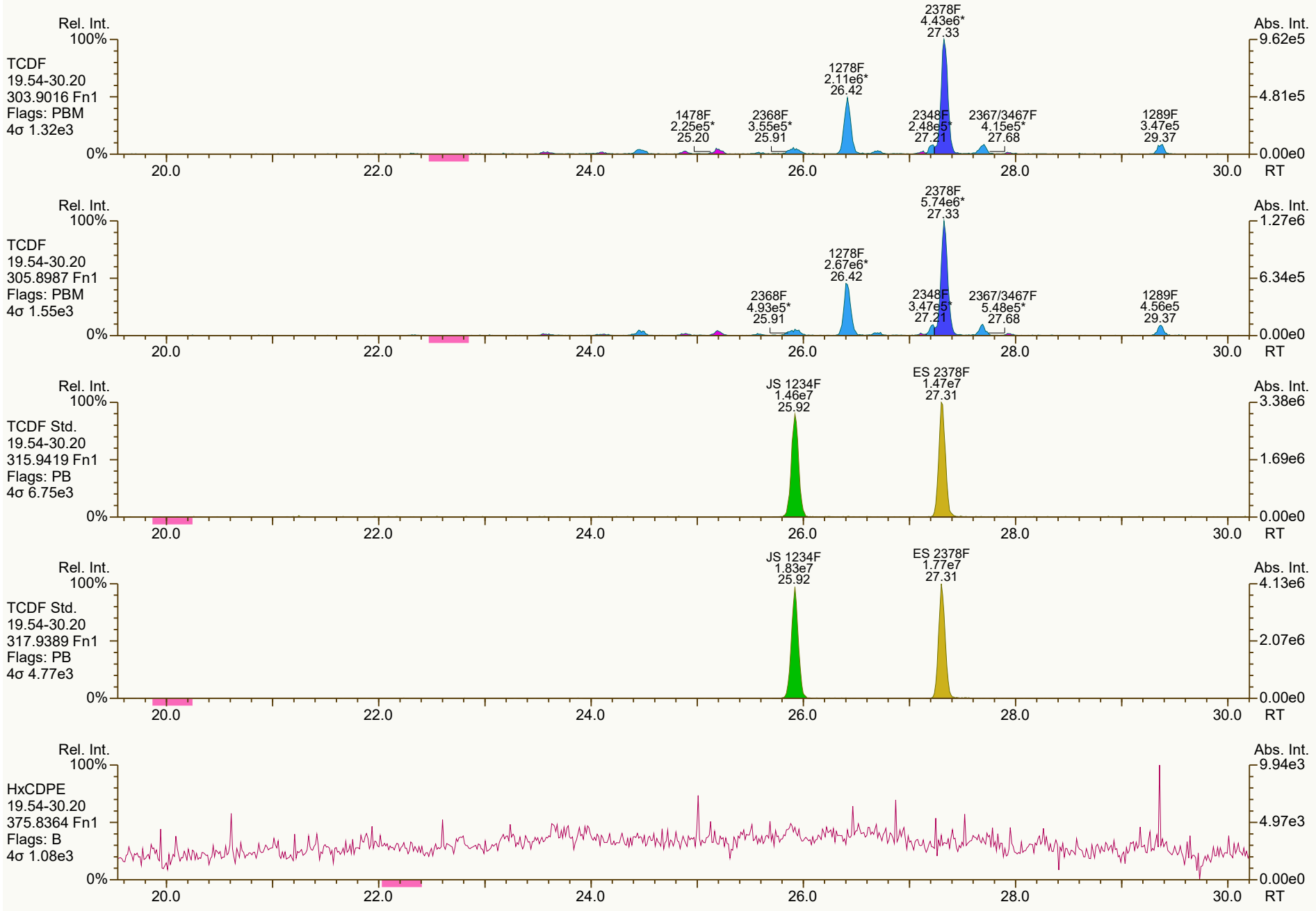
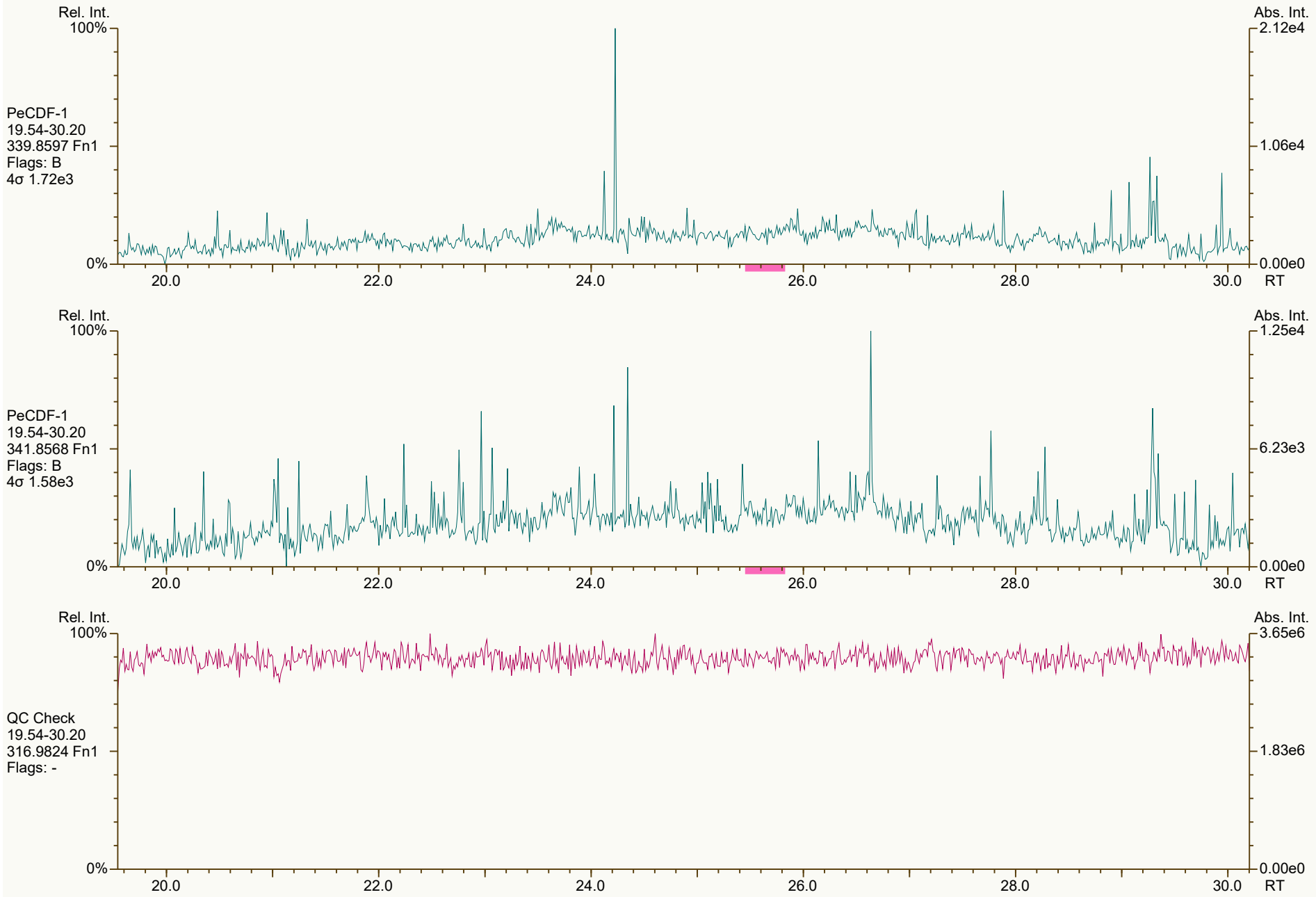
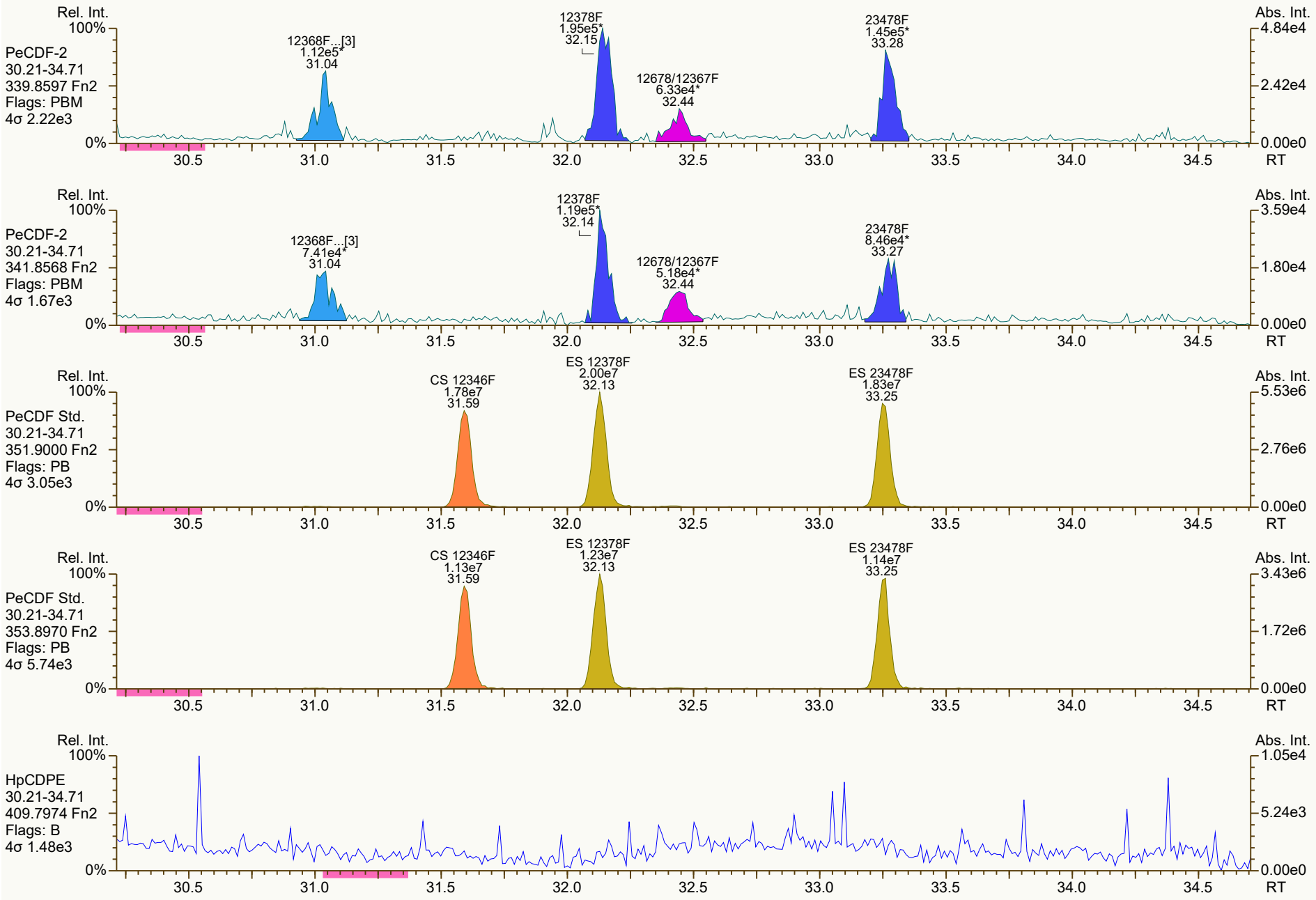
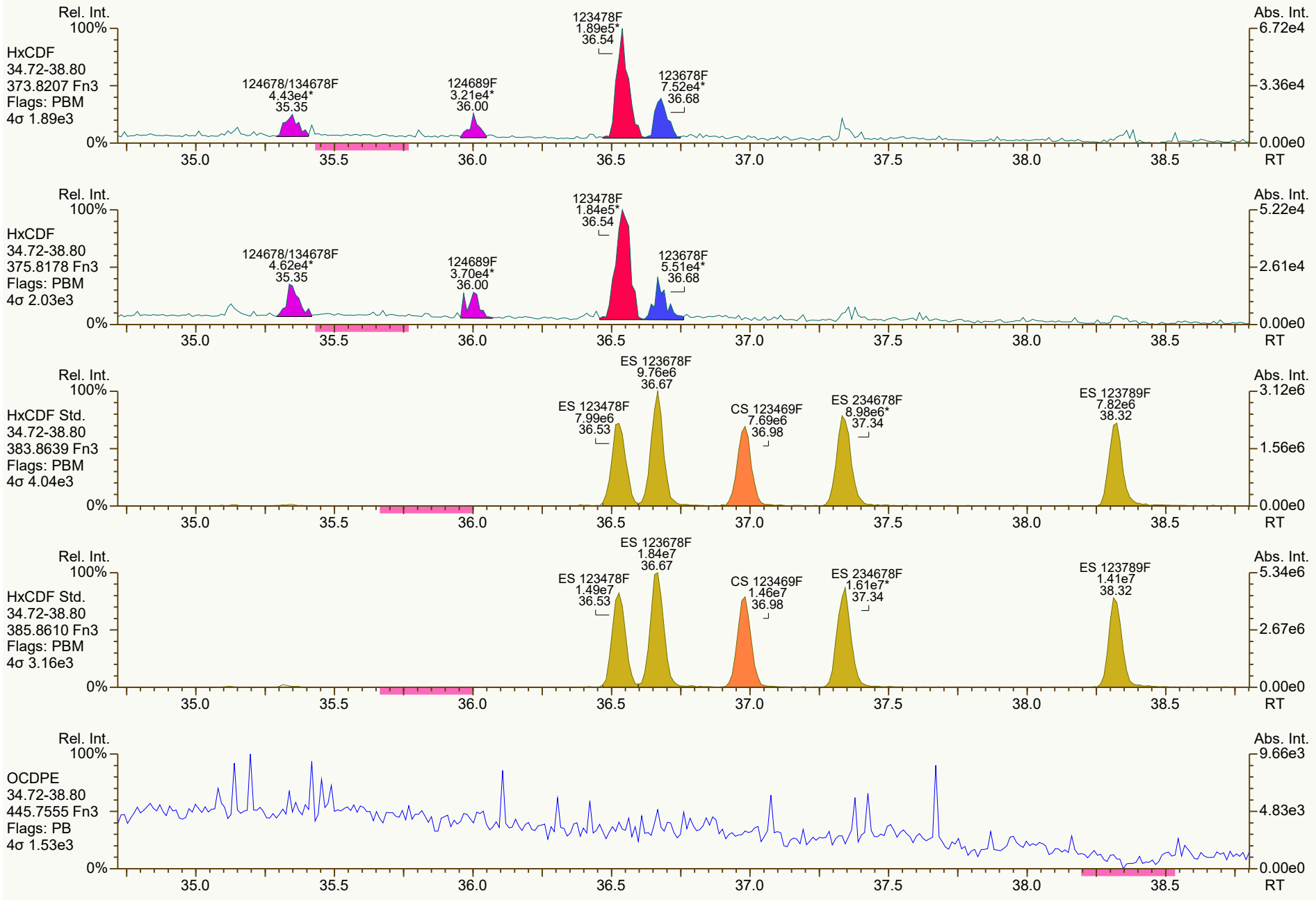
8.34e6*
40.70
2.36e6
1.18e6
0.00e0
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
8.65e6
4.33e6
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_002.utp_res, saved 04-Mar-2022 10:45 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6900, 3861 scc: 523-891
PKD: 04-Mar-2022 08:36 Printed: 04-Mar-2022 10:53 Page 5 of 12


OCDD
2.05e7*
43.44
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 5.45e3
0%
Abs. Int.
3.79e6
1.89e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.27e7*
43.44
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 9.48e3
0%
Abs. Int.
4.22e6
2.11e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
9.94e6
43.43
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 5.52e3
0%
Abs. Int.
1.76e6
8.78e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.10e7
43.42
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 2.49e3
0%
Abs. Int.
2.03e6
1.02e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.58e6
3.29e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

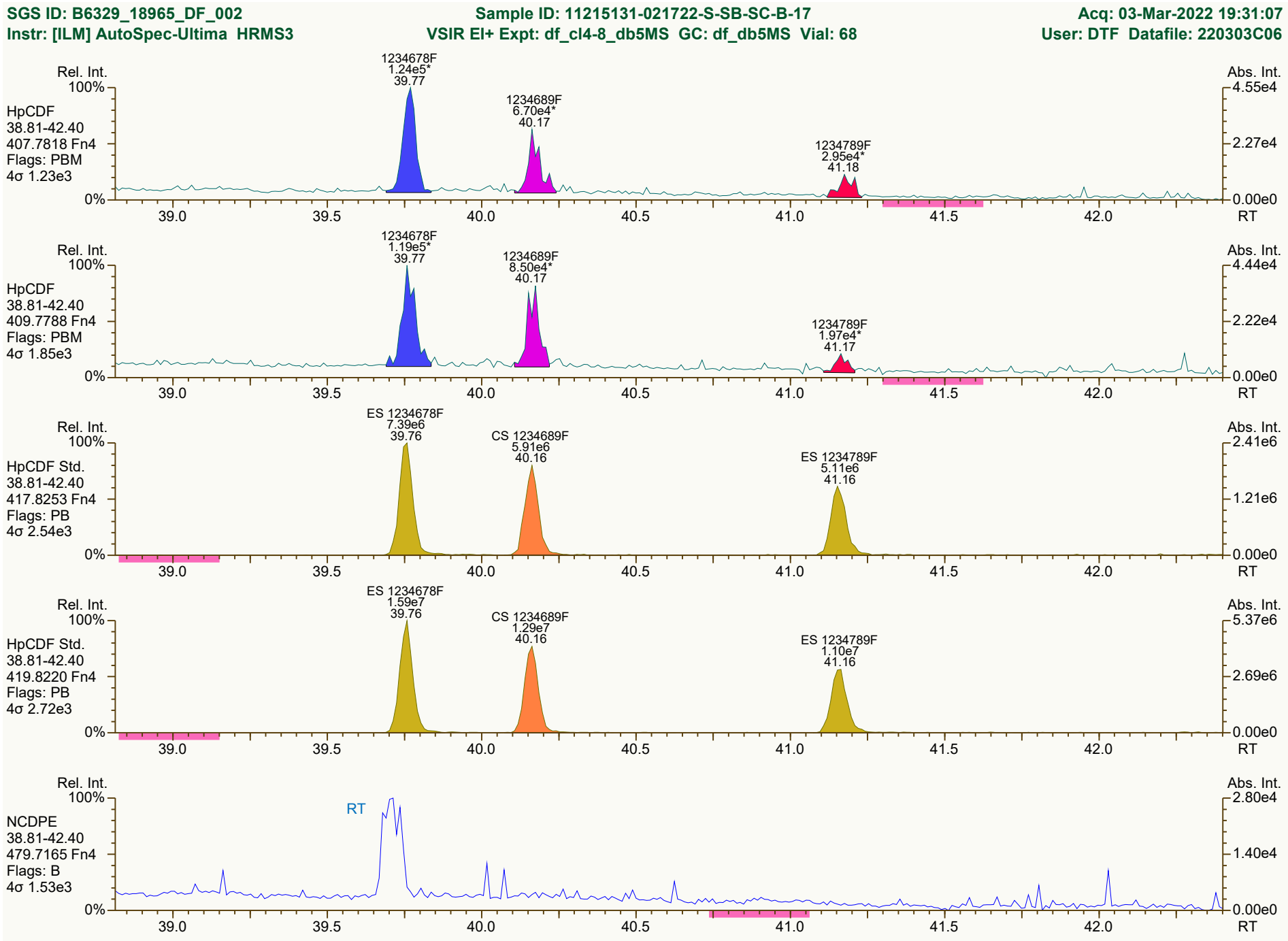

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.32e3
0%
1478F 2.25e5* 25.20
2368F 3.55e5* 25.91
1278F 2.11e6* 26.42
2378F 4.43e6* 27.33
2348F 2.48e5* 27.21
2367/3467F 4.15e5* 27.68
1289F 3.47e5 29.37
Abs. Int.
9.62e5
4.81e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.55e3
0%
2368F 4.93e5* 25.91
1278F 2.67e6* 26.42
2378F 5.74e6* 27.33
2348F 3.47e5* 27.21
2367/3467F 5.48e5* 27.68
1289F 4.56e5 29.37
Abs. Int.
1.27e6
6.34e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 6.75e3
0%
JS 1234F 1.46e7 25.92
ES 2378F 1.47e7 27.31
Abs. Int.
3.38e6
1.69e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.77e3
0%
JS 1234F 1.83e7 25.92
ES 2378F 1.77e7 27.31
Abs. Int.
4.13e6
2.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.08e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
2.12e4
1.06e4
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.72e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.25e4
6.23e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.58e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.65e6
1.83e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12368F...[3]
1.12e5*
31.04
12378F
1.95e5*
32.15
12678/12367F
6.33e4*
32.44
23478F
1.45e5*
33.28
Abs. Int.
4.84e4
2.42e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 1.67e3
12368F...[3]
7.41e4*
31.04
12378F
1.19e5*
32.14
12678/12367F
5.18e4*
32.44
23478F
8.46e4*
33.27
Abs. Int.
3.59e4
1.80e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 3.05e3
CS 12346F
1.78e7
31.59
ES 12378F
2.00e7
32.13
ES 23478F
1.83e7
33.25
Abs. Int.
5.53e6
2.76e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 5.74e3
CS 12346F
1.13e7
31.59
ES 12378F
1.23e7
32.13
ES 23478F
1.14e7
33.25
Abs. Int.
3.43e6
1.72e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.48e3
Abs. Int.
1.05e4
5.24e3
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 1.89e3
124678/134678F
4.43e4*
35.35
124689F
3.21e4*
36.00
123478F
1.89e5*
36.54
123678F
7.52e4*
36.68
0%
Abs. Int.
6.72e4
3.36e4
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 2.03e3
124678/134678F
4.62e4*
35.35
124689F
3.70e4*
36.00
123478F
1.84e5*
36.54
123678F
5.51e4*
36.68
0%
Abs. Int.
5.22e4
2.61e4
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 4.04e3
ES 123678F
9.76e6
36.67
ES 123478F
7.99e6
36.53
CS 123469F
7.69e6
36.98
ES 234678F
8.98e6*
37.34
ES 123789F
7.82e6
38.32
0%
Abs. Int.
3.12e6
1.56e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 3.16e3
ES 123678F
1.84e7
36.67
ES 123478F
1.49e7
36.53
CS 123469F
1.46e7
36.98
ES 234678F
1.61e7*
37.34
ES 123789F
1.41e7
38.32
0%
Abs. Int.
5.34e6
2.67e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.53e3
0%
Abs. Int.
9.66e3
4.83e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

SGS ID: B6329_18965_DF_002 Sample ID: 11215131-021722-S-SB-SC-B-17 Acq: 03-Mar-2022 19:31:07
Instr: [ILM] AutoSpec-Ultima HRMS3 VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 68 User: DTF Datafile: 220303C06



Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_002.utp_res, saved 04-Mar-2022 10:45 (DTF) Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9028, 8471, 4299 scc: 523-891 Revised: 04-Mar-2022 08:35 (DTF) Printed: 04-Mar-2022 10:54 Page 11 of 12

SGS ID: B6329_18965_DF_002 | Sample ID: 11215131-021722-S-SB-SC-B-17 | Acq: 03-Mar-2022 19:31:07
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 68 | User: DTF Datafile: 220303C06



Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_002.utp_res, saved 04-Mar-2022 10:45 (DTF) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1324, 8221, 4208 scc: 523-891 | *Revised: 04-Mar-2022 08:36 (DTF) Printed: 04-Mar-2022 10:54 Page 12 of 12*

Lab ID: B6329_18965_DF_003 **Acq'd:** 03 Mar 2022 20:17 DTF **Wt/Vol:** 10.16 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021722-S-SB-SC-B-17H **UTP:** 04-Mar-2022 10:45:40 DTF **J-level:** 0.492 pg/g **Split:** 1 **Checkcode:** 082-368-VDY

Datafile: 220303C07 **Report:** 04 Mar 2022 10:47 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.18		1.0008	1.0009	+0.2	7.15E+05	0.80	Y	1.18	6.42	3391.313	0.326
12378-PeCDD	NotFnd		1.0007	-		-	-	-	1.04	-	3428.776	0.315
123478-HxCDD	37.52	J EMPC	1.0004	1.0004	0	4.78E+04	1.56	N	1.09	0.521	3092.212	0.302
123678-HxCDD	37.63	J	1.0036	1.0034	-0.5	9.61E+04	1.21	Y	1.15	1.02	3092.212	0.317
123789-HxCDD	37.95	J EMPC	1.0118	1.0118	0	1.42E+05	1.02	N	1.05	1.45	3092.212	0.285
1234678-HpCDD	40.70		1.0002	1.0003	+0.2	2.36E+06	1.03	Y	1.06	26.4	3902.978	0.376
OCDD	43.39		1.0003	1.0003	0	3.10E+07	0.90	Y	1.13	508	7879.186	1.65
2378-TCDF	27.31		1.0008	1.0007	-0.2	2.81E+06	0.80	Y	1.08	17.7	2409.981	0.172
12378-PeCDF	32.12	J	1.0005	1.0005	0	8.52E+04	1.34	Y	1.02	0.56	3337.084	0.219
23478-PeCDF	33.26	J	1.0005	1.0008	+0.6	8.84E+04	1.58	Y	1.02	0.629	3337.084	0.214
123478-HxCDF	36.52	J EMPC	1.0004	1.0003	-0.2	1.36E+05	1.57	N	1.27	0.967	2640.487	0.153
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2640.487	0.152
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2640.487	0.158
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2640.487	0.184
1234678-HpCDF	39.75	J EMPC	1.0003	1.0004	+0.2	5.25E+04	1.59	N	1.37	0.362	2613.789	0.136
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2613.789	0.216
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	2835.523	0.478

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.16	1.0243	1.0244	+0.2	1.85E+07	0.84	Y	1.05	82.6
ES 12378-PeCDD	33.57	1.2198	1.2214	+3.2	1.76E+07	1.51	Y	0.88	93.2
ES 123478-HxCDD	37.51	0.9916	0.9914	-0.5	1.66E+07	1.29	Y	0.97	83.7
ES 123678-HxCDD	37.63	0.9947	0.9946	-0.2	1.62E+07	1.27	Y	0.94	84.1
ES 123789-HxCDD	37.94	1.0029	1.0028	-0.2	1.84E+07	1.28	Y	1.09	82.9
ES 1234678-HpCDD	40.69	1.0749	1.0754	+1.2	1.66E+07	1.02	Y	0.91	89.2
ES OCDD	43.38	1.1460	1.1465	+1.3	2.13E+07	0.92	Y	0.62	83.9
ES 2378-TCDF	27.29	1.0531	1.0536	+0.8	2.90E+07	0.83	Y	1.06	74.3
ES 12378-PeCDF	32.11	1.2378	1.2398	+3.9	2.92E+07	1.55	Y	0.91	87.2
ES 23478-PeCDF	33.23	1.2810	1.2832	+4.4	2.71E+07	1.59	Y	0.88	83.4
ES 123478-HxCDF	36.51	0.9650	0.9649	-0.2	2.18E+07	0.53	Y	1.20	89.3
ES 123678-HxCDF	36.65	0.9688	0.9686	-0.4	2.54E+07	0.53	Y	1.35	92.1
ES 234678-HxCDF	37.32	0.9866	0.9865	-0.2	2.47E+07	0.54	Y	1.24	97.5
ES 123789-HxCDF	38.31	1.0125	1.0125	0	2.07E+07	0.53	Y	1.16	88
ES 1234678-HpCDF	39.74	1.0501	1.0503	+0.5	2.08E+07	0.47	Y	0.97	106
ES 1234789-HpCDF	41.14	1.0870	1.0873	+0.7	1.57E+07	0.44	Y	0.85	90.7
ES OCDF	43.56	1.1505	1.1513	+2.1	2.86E+07	0.88	Y	0.81	86.9

Lab ID: B6329_18965_DF_003 **Acq'd:** 03 Mar 2022 20:17 DTF **Wt/Vol:** 10.16 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021722-S-SB-SC-B-17H **UTP:** 04-Mar-2022 10:45:40 DTF **J-level:** 0.492 pg/g **Split:** 1 **Checkcode:** 082-368-VDY

Datafile: 220303C07 **Report:** 04 Mar 2022 10:47 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.49		-	-	-	2.14E+07	0.80	Y	-	-	
JS 1234-TCDF	25.90		-	-	-	3.68E+07	0.82	Y	-	-	
JS 123467-HxCDD	37.83		-	-	-	1.02E+07	1.32	Y	-	-	
CS 37Cl-2378-TCDD	28.18		1.0251	1.0252	+0.2	8.68E+06	n/a	-	1.20	84.2	
CS 12347-PeCDD	33.06		1.2016	1.2029	+2.6	1.56E+07	1.62	Y	0.75	96.7	
CS 12346-PeCDF	31.57		1.2172	1.2192	+3.8	2.80E+07	1.56	Y	0.85	89.3	
CS 123469-HxCDF	36.96		0.9771	0.9769	-0.4	2.20E+07	0.52	Y	1.12	96.6	
CS 1234689-HpCDF	40.15		1.0608	1.0612	+1.0	1.88E+07	0.45	Y	0.89	104	
~~SS 37Cl-2378-TCDD~~	~~28.18~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~8.68E+06~~	~~n/a~~		~~1.15~~	~~102~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.06~~		~~1.2016~~	~~1.2029~~	~~+2.6~~	~~1.56E+07~~	~~1.62~~	~~Y~~	~~0.86~~	~~104~~	CL 07Mar22
~~SS 12346-PeCDF~~	~~31.57~~		~~1.2172~~	~~1.2192~~	~~+3.8~~	~~2.80E+07~~	~~1.56~~	~~Y~~	~~0.94~~	~~102~~	
~~SS 123469-HxCDF~~	~~36.96~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~2.20E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~105~~	
~~SS 1234689-HpCDF~~	~~40.15~~		~~1.0608~~	~~1.0612~~	~~+1.0~~	~~1.88E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~98~~	

Totals	Conc	EMPC
Total TCDD	15.2	16.7
Total PeCDD	5.64	7
Total HxCDD	38.2	40.6
Total HpCDD	95.9	95.9
Total Tetra-Octa Dioxins	663	668
Total TCDF	31	35.9
Total PeCDF	1.19	1.19
Total HxCDF	0	0.967
Total HpCDF	0	0.362
Total Tetra-Octa Furans	32.2	38.4
Total Tetra-Octa Dioxins & Furans	695	706

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.794	0.80
Response	7.20E+05	7.15E+05

Lab ID: B6329_18965_DF_003 **Acq'd: 03 Mar 2022 20:17 DTF** **Wt/Vol: 10.16 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021722-S-SB-SC-B-17H **UTP: 04-Mar-2022 10:45:40 DTF** **J-level: 0.492 pg/g** **Split: 1** **Checkcode: 082-368-VDY**

Datafile: 220303C07 **Report: 04 Mar 2022 10:47 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		3391.313	0.326
1379-TCDD	NotFnd		0.8829						1.18		3391.313	0.326
1369-TCDD	NotFnd		0.8982						1.18		3391.313	0.326
1469-TCDD	26.06		0.9261	0.9256	-0.8	8.69E+05	0.85	Y	1.18	7.8	3391.313	0.326
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		3391.313	0.326
1378-TCDD	NotFnd		0.9417						1.18		3391.313	0.326
1268-TCDD	NotFnd		0.9487						1.18		3391.313	0.326
1478-TCDD	NotFnd		0.9576						1.18		3391.313	0.326
1279-TCDD	NotFnd		0.9636						1.18		3391.313	0.326
1234/1269-TCDD	27.48	EMPC	0.9761	0.9758	-0.5	1.65E+05	0.93	N	1.18	1.48	3391.313	0.326
1236-TCDD	NotFnd		0.9812						1.18		3391.313	0.326
1237/1238-TCDD	NotFnd		0.9905						1.18		3391.313	0.326
1239-TCDD	NotFnd		0.9951						1.18		3391.313	0.326
2378-TCDD	**28.18**		**1.0008**	1.0009	**+0.2**	7.15E+05	0.80	Y	**1.18**	**6.42**	**3391.313**	**0.326**
1278-TCDD	28.51		1.0124	1.0126	+0.3	1.12E+05	0.74	Y	1.18	1.01	3391.313	0.326
1267-TCDD	NotFnd		1.0172						1.18		3391.313	0.326
1289-TCDD	NotFnd		1.0354						1.18		3391.313	0.326
12479/12468-PeCDD	31.06	J	0.9255	0.9252	-0.6	1.12E+05	1.59	Y	1.04	1.21	3428.776	0.315
12469-PeCDD	31.60		0.9416	0.9413	-0.6	4.10E+05	1.40	Y	1.04	4.43	3428.776	0.315
12368-PeCDD	NotFnd		0.9582						1.04		3428.776	0.315
12478-PeCDD	NotFnd		0.9637						1.04		3428.776	0.315
12379-PeCDD	NotFnd		0.9668						1.04		3428.776	0.315
12369/12467/12489-PeCDD	32.73	J EMPC	0.9746	0.9749	+0.6	1.26E+05	1.82	N	1.04	1.36	3428.776	0.315
12346/12347-PeCDD	NotFnd		0.9858						1.04		3428.776	0.315
12378-PeCDD	NotFnd		**1.0007**						**1.04**		**3428.776**	**0.315**
12367-PeCDD	NotFnd		1.0036						1.04		3428.776	0.315
12389-PeCDD	NotFnd		1.0137						1.04		3428.776	0.315
124679/124689-HxCDD	35.78		0.9540	0.9540	0	2.90E+06	1.25	Y	1.10	30.6	3092.212	0.3
123468-HxCDD	36.44	J	0.9715	0.9715	0	4.96E+04	1.35	Y	1.10	0.523	3092.212	0.3
123679/123689-HxCDD	36.73		0.9793	0.9793	0	5.08E+05	1.14	Y	1.10	5.35	3092.212	0.3
123469-HxCDD	36.86	J	0.9829	0.9828	-0.2	6.99E+04	1.14	Y	1.10	0.737	3092.212	0.3
123478-HxCDD	37.52	J EMPC	**1.0004**	**1.0004**	**0**	**4.78E+04**	**1.56**	**N**	1.09	**0.521**	**3092.212**	**0.302**
123678-HxCDD	37.63	J	**1.0036**	**1.0034**	**-0.5**	**9.61E+04**	**1.21**	**Y**	1.15	**1.02**	**3092.212**	**0.317**
123467-HxCDD	37.84	J EMPC	1.0089	1.0090	+0.2	4.07E+04	1.63	N	1.10	0.429	3092.212	0.3
123789-HxCDD	37.95	J EMPC	**1.0118**	**1.0118**	**0**	**1.42E+05**	**1.02**	**N**	1.05	**1.45**	**3092.212**	**0.285**

Lab ID: B6329_18965_DF_003 **Acq'd: 03 Mar 2022 20:17 DTF** **Wt/Vol: 10.16 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021722-S-SB-SC-B-17H **UTP: 04-Mar-2022 10:45:40 DTF** **J-level: 0.492 pg/g** **Split: 1** **Checkcode: 082-368-VDY**

Datafile: 220303C07 **Report: 04 Mar 2022 10:47 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

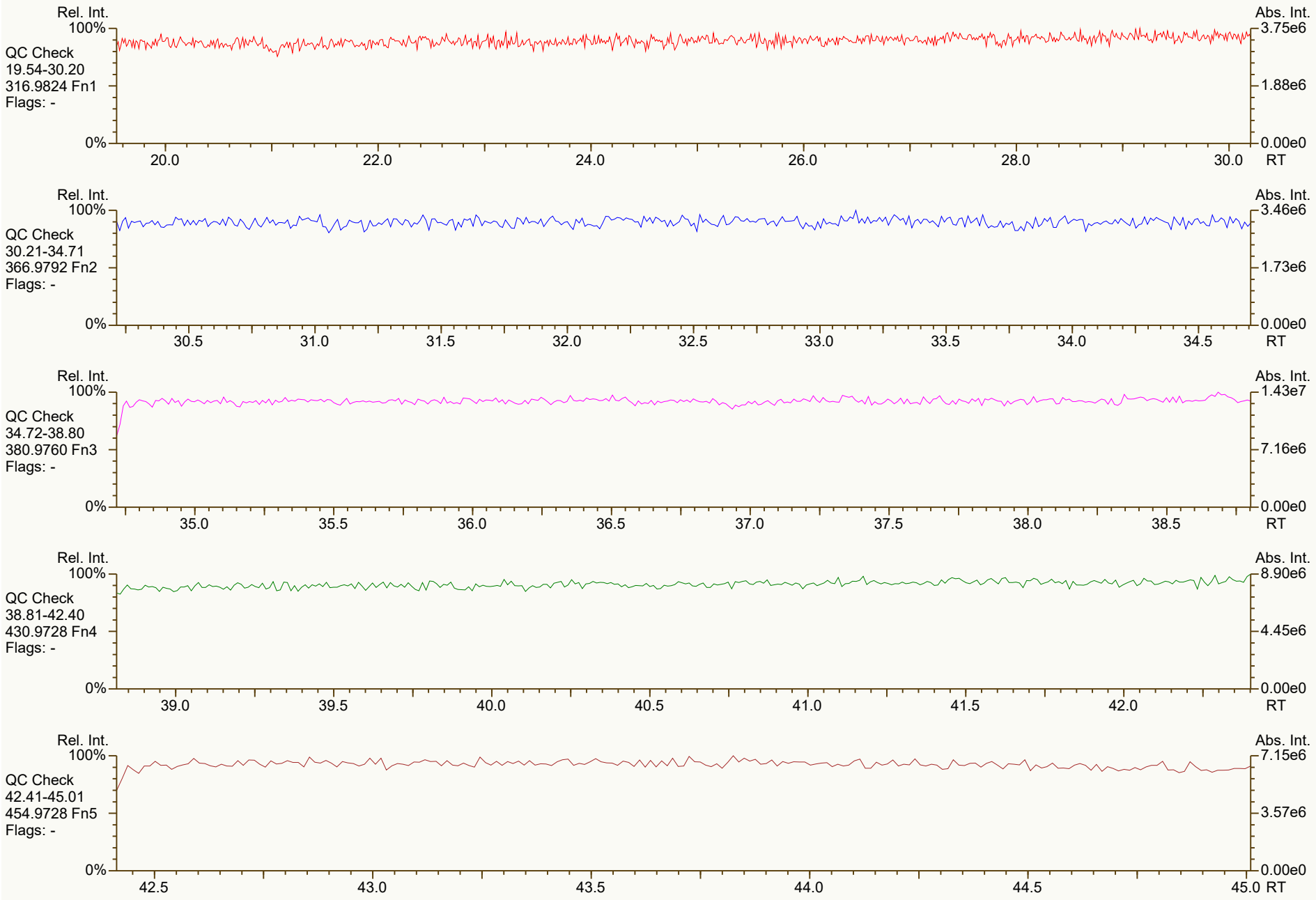
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.02		0.9836	0.9836	0	6.20E+06	1.03	Y	1.06	69.5	3902.978	0.376
1234678-HpCDD	**40.70**		**1.0002**	**1.0003**	**+0.2**	**2.36E+06**	**1.03**	**Y**	**1.06**	**26.4**	**3902.978**	**0.376**
OCDD	**43.39**		**1.0003**	**1.0003**	**0**	**3.10E+07**	**0.90**	**Y**	**1.13**	**508**	**7879.186**	**1.65**
OCDD-a	43.39		1.0002	1.0002	0	1.90E+06	2.63	Y	0.07	487	4738.694	15.5
1368-TCDF	NotFnd		0.8191						1.08		2409.981	0.172
1468-TCDF	NotFnd		0.8408						1.08		2409.981	0.172
2468-TCDF	23.55	EMPC	0.8645	0.8630	-2.1	1.34E+05	0.99	N	1.08	0.843	2409.981	0.172
1346/1246-TCDF	NotFnd		0.8772						1.08		2409.981	0.172
1347/1378/1247-TCDF	24.08	EMPC	0.8833	0.8826	-1.0	8.37E+04	1.09	N	1.08	0.527	2409.981	0.172
1348-TCDF	NotFnd		0.8932						1.08		2409.981	0.172
1248/1367/1379-TCDF	24.43		0.8980	0.8955	-3.7	1.87E+05	0.85	Y	1.08	1.18	2409.981	0.172
1268-TCDF	NotFnd		0.9119						1.08		2409.981	0.172
1467-TCDF	NotFnd		0.9170						1.08		2409.981	0.172
1478-TCDF	25.16		0.9234	0.9223	-1.7	1.40E+05	0.86	Y	1.08	0.884	2409.981	0.172
1369/1237-TCDF	25.56	J EMPC	0.9369	0.9369	0	5.63E+04	0.96	N	1.08	0.354	2409.981	0.172
2467-TCDF	NotFnd		0.9415						1.08		2409.981	0.172
2368-TCDF	25.90	EMPC	0.9475	0.9493	+2.8	2.72E+05	0.61	N	1.08	1.71	2409.981	0.172
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		2409.981	0.172
1278-TCDF	26.39		0.9676	0.9673	-0.5	1.35E+06	0.86	Y	1.08	8.49	2409.981	0.172
1349-TCDF	NotFnd		0.9722						1.08		2409.981	0.172
1267-TCDF	NotFnd		0.9777						1.08		2409.981	0.172
2346/1249-TCDF	NotFnd		0.9843						1.08		2409.981	0.172
2347/1279-TCDF	NotFnd		0.9926						1.08		2409.981	0.172
2348-TCDF	27.18		0.9968	0.9962	-1.0	1.81E+05	0.67	Y	1.08	1.14	2409.981	0.172
2378-TCDF	**27.31**		**1.0008**	**1.0007**	**-0.2**	**2.81E+06**	**0.80**	**Y**	**1.08**	**17.7**	**2409.981**	**0.172**
2367/3467-TCDF	27.66		1.0142	1.0138	-0.7	2.56E+05	0.67	Y	1.08	1.61	2409.981	0.172
1269-TCDF	NotFnd		1.0235						1.08		2409.981	0.172
1239-TCDF	NotFnd		1.0329						1.08		2409.981	0.172
1289-TCDF	29.34	EMPC	1.0742	1.0754	+2.1	2.29E+05	0.92	N	1.08	1.44	2409.981	0.172
13468/12468-PeCDF	NotFnd		0.9122						1.02		2225.795	0.145
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		3337.084	0.217
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		3337.084	0.217
14678-PeCDF	NotFnd		0.9685						1.02		3337.084	0.217
13479-PeCDF	NotFnd		0.9716						1.02		3337.084	0.217
13469/12479-PeCDF	NotFnd		0.9794						1.02		3337.084	0.217
12346-PeCDF	NotFnd		0.9836						1.02		3337.084	0.217

Lab ID: B6329_18965_DF_003 **Acq'd: 03 Mar 2022 20:17 DTF** **Wt/Vol: 10.16 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021722-S-SB-SC-B-17H **UTP: 04-Mar-2022 10:45:40 DTF** **J-level: 0.492 pg/g** **Split: 1** **Checkcode: 082-368-VDY**

Datafile: 220303C07 **Report: 04 Mar 2022 10:47 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		3337.084	0.217
12347-PeCDF	NotFnd		0.9891						1.02		3337.084	0.217
12348-PeCDF	NotFnd		0.9938						1.02		3337.084	0.217
12378-PeCDF	**32.12**	J	**1.0005**	**1.0005**	**0**	**8.52E+04**	**1.34**	**Y**	**1.02**	**0.56**	**3337.084**	**0.219**
12678/12367-PeCDF	NotFnd		1.0091						1.02		3337.084	0.217
12379-PeCDF	NotFnd		1.0144						1.02		3337.084	0.217
12679-PeCDF	NotFnd		0.9927						1.02		3337.084	0.217
23467/12369-PeCDF	NotFnd		0.9965						1.02		3337.084	0.217
23478-PeCDF	**33.26**	J	**1.0005**	**1.0008**	**+0.6**	**8.84E+04**	**1.58**	**Y**	**1.02**	**0.629**	**3337.084**	**0.214**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3337.084	0.217
12349-PeCDF	NotFnd		1.0101						1.02		3337.084	0.217
12389-PeCDF	NotFnd		1.0330						1.02		3337.084	0.217
123468-HxCDF	NotFnd		0.9622						1.19		2640.487	0.161
124678/134678-HxCDF	NotFnd		0.9678						1.19		2640.487	0.161
134679-HxCDF	NotFnd		0.9741						1.19		2640.487	0.161
124679-HxCDF	NotFnd		0.9795						1.19		2640.487	0.161
124689-HxCDF	NotFnd		0.9856						1.19		2640.487	0.161
123467-HxCDF	NotFnd		0.9972						1.19		2640.487	0.161
123478-HxCDF	**36.52**	J EMPC	**1.0004**	**1.0003**	**-0.2**	**1.36E+05**	**1.57**	**N**	**1.27**	**0.967**	**2640.487**	**0.153**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2640.487**	**0.152**
123479-HxCDF	NotFnd		1.0048						1.19		2640.487	0.161
123469-HxCDF	NotFnd		1.0089						1.19		2640.487	0.161
123679-HxCDF	NotFnd		0.9942						1.19		2640.487	0.161
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2640.487**	**0.158**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2640.487	0.161
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2640.487**	**0.184**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		2640.487	0.161
1234678-HpCDF	**39.75**	**J EMPC**	**1.0003**	**1.0004**	**+0.2**	**5.25E+04**	**1.59**	**N**	**1.37**	**0.362**	**2613.789**	**0.136**
1234679-HpCDF	NotFnd		1.0068						1.34		2613.789	0.17
1234689-HpCDF	NotFnd		1.0104						1.34		2613.789	0.17
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2613.789**	**0.216**
OCDF	**NotFnd**		**1.0002**						**1.07**		**2835.523**	**0.478**
OCDF-a	NotFnd		1.0001						0.07		3497.523	9.51


Rel. Int.
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QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
3.75e6
1.88e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.46e6
1.73e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.43e7
7.16e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
8.90e6
4.45e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
7.15e6
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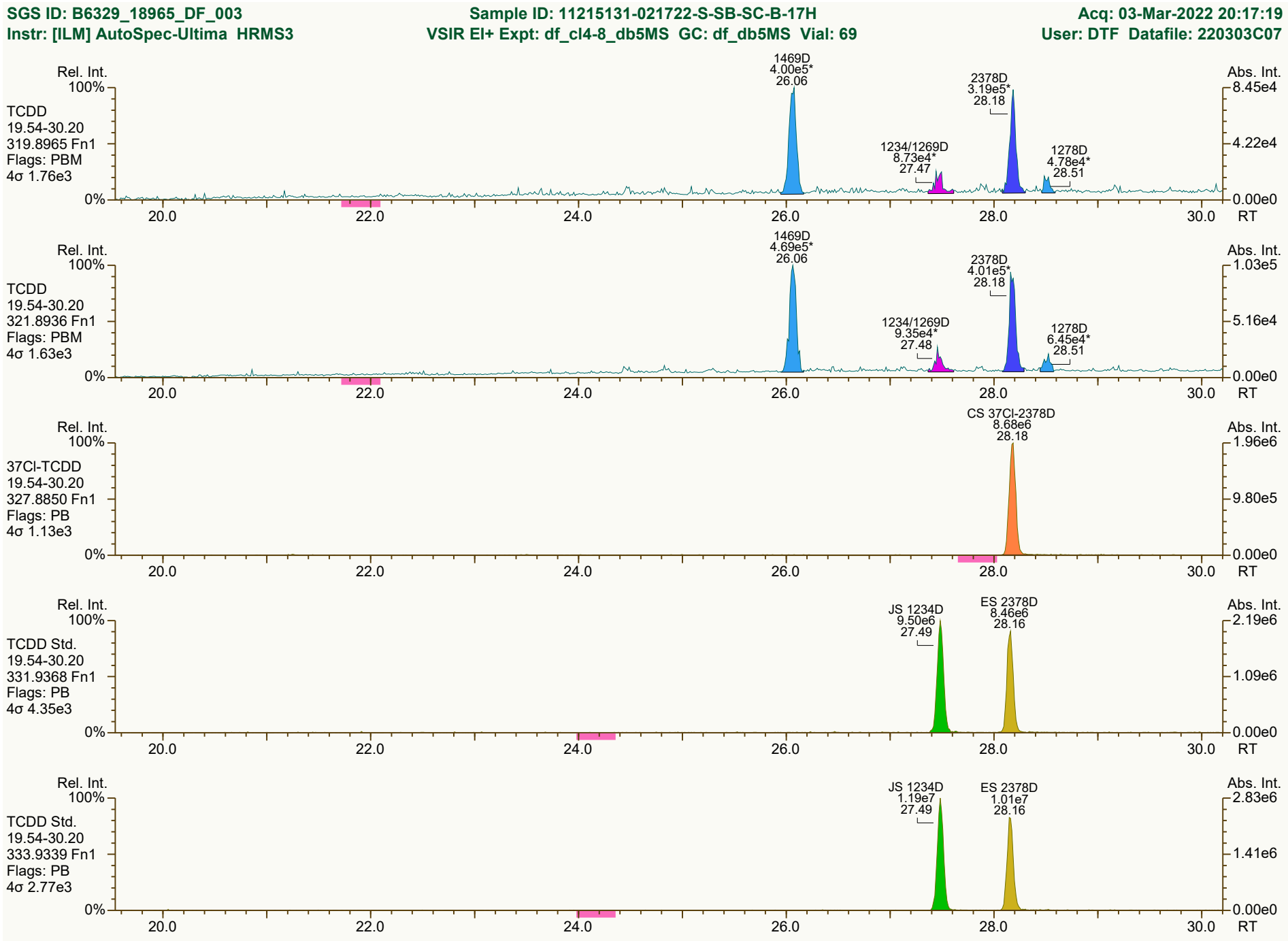
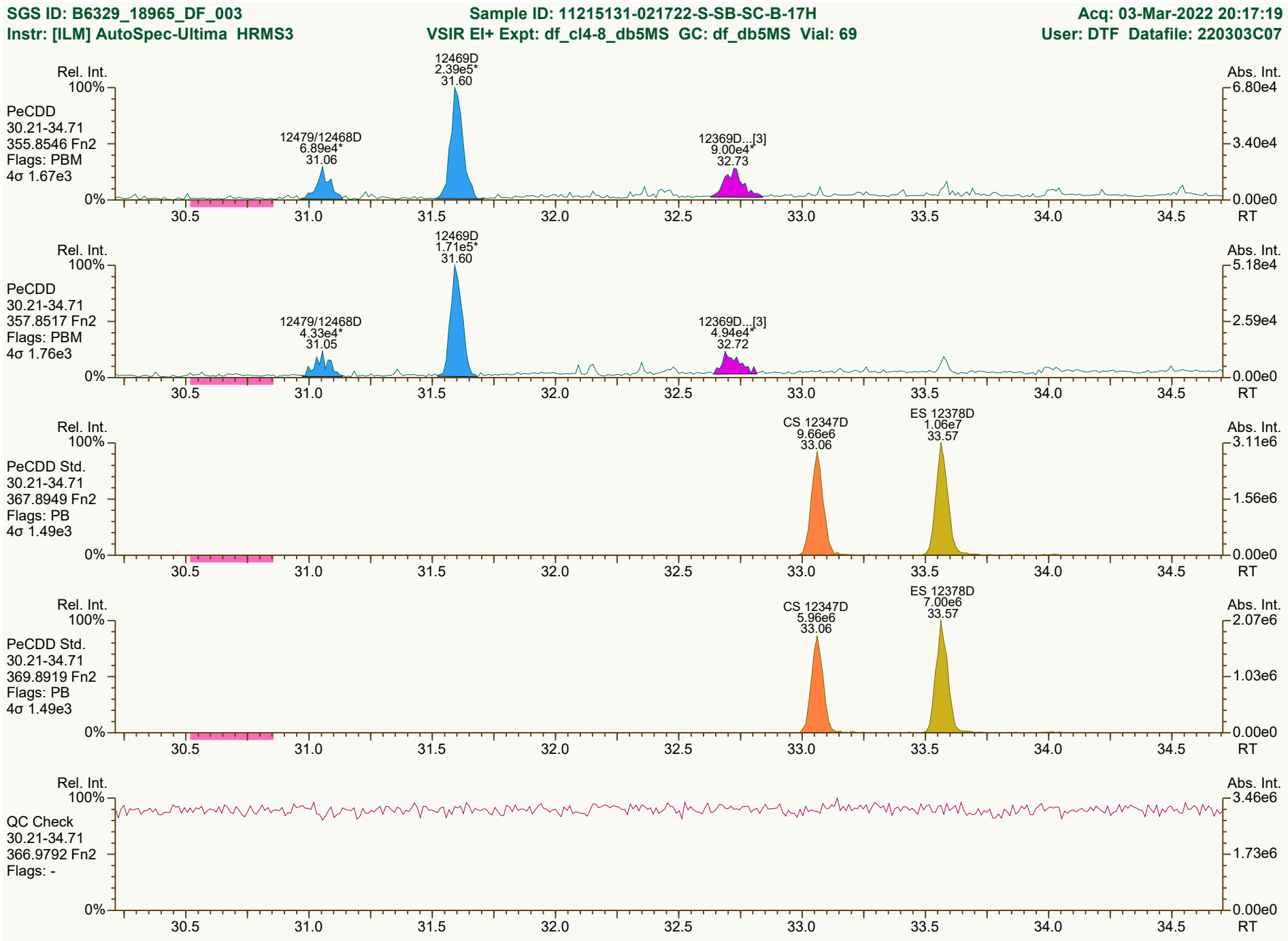
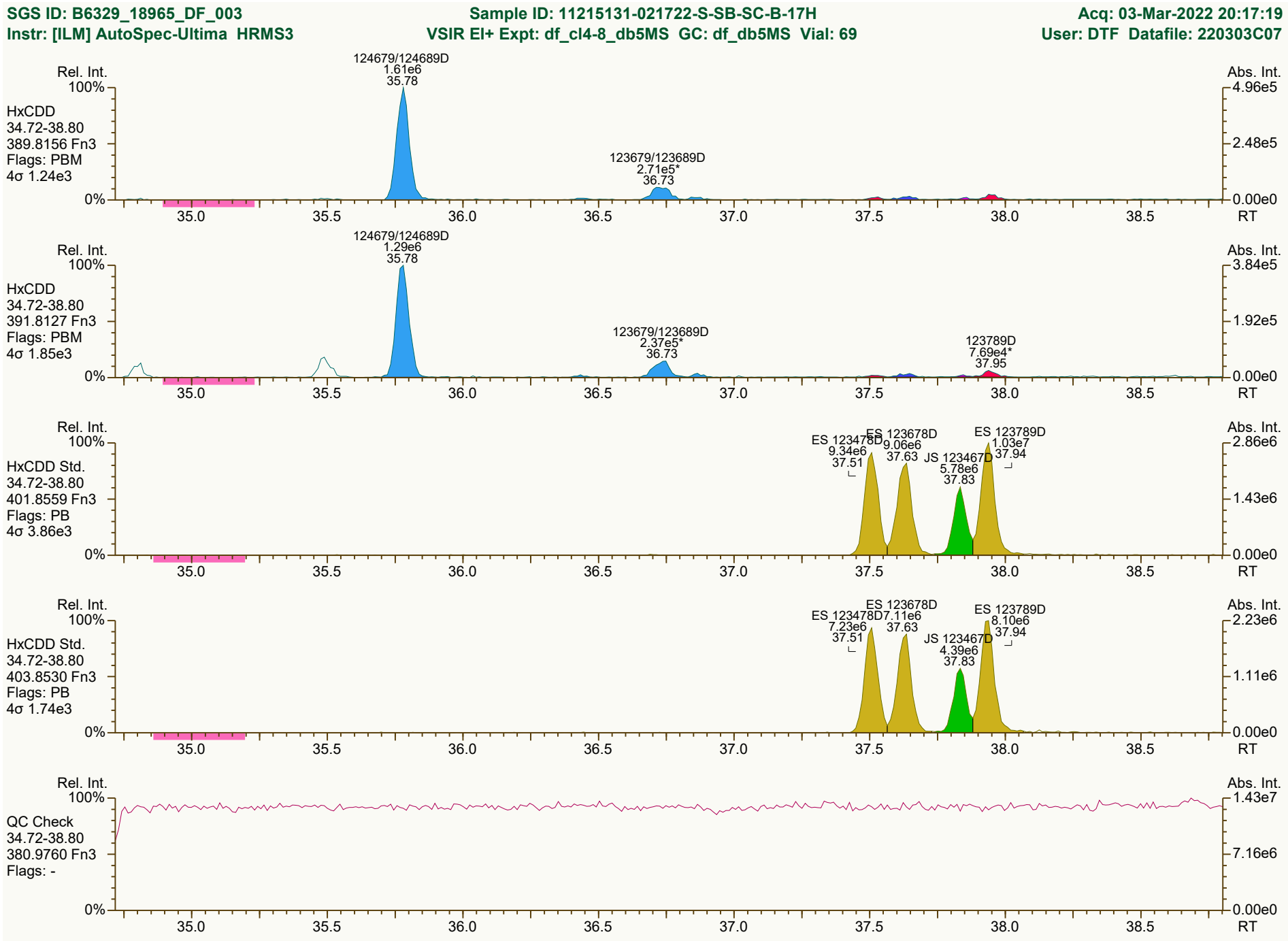
0.00e0


SGS ID: B6329_18965_DF_003
Sample ID: 11215131-021722-S-SB-SC-B-17H
Acq: 03-Mar-2022 20:17:19
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 220303C07
Rel. Int.
Abs. Int.
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.76e3
1469D
4.00e5*
26.06
2378D
3.19e5*
28.18
1234/1269D
8.73e4*
27.47
1278D
4.78e4*
28.51
8.45e4
4.22e4
0.00e0
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.63e3
1469D
4.69e5*
26.06
2378D
4.01e5*
28.18
1234/1269D
9.35e4*
27.48
1278D
6.45e4*
28.51
1.03e5
5.16e4
0.00e0
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.13e3
CS 37Cl-2378D
8.68e6
28.18
1.96e6
9.80e5
0.00e0
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.35e3
JS 1234D
9.50e6
27.49
ES 2378D
8.46e6
28.16
2.19e6
1.09e6
0.00e0
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.77e3
JS 1234D
1.19e7
27.49
ES 2378D
1.01e7
28.16
2.83e6
1.41e6
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_003.utp_res, saved 04-Mar-2022 10:45 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9718, 3767, 0653 scc: 082-368
Revised: 04-Mar-2022 08:37 (DTF) Printed: 04-Mar-2022 10:54 Page 2 of 12

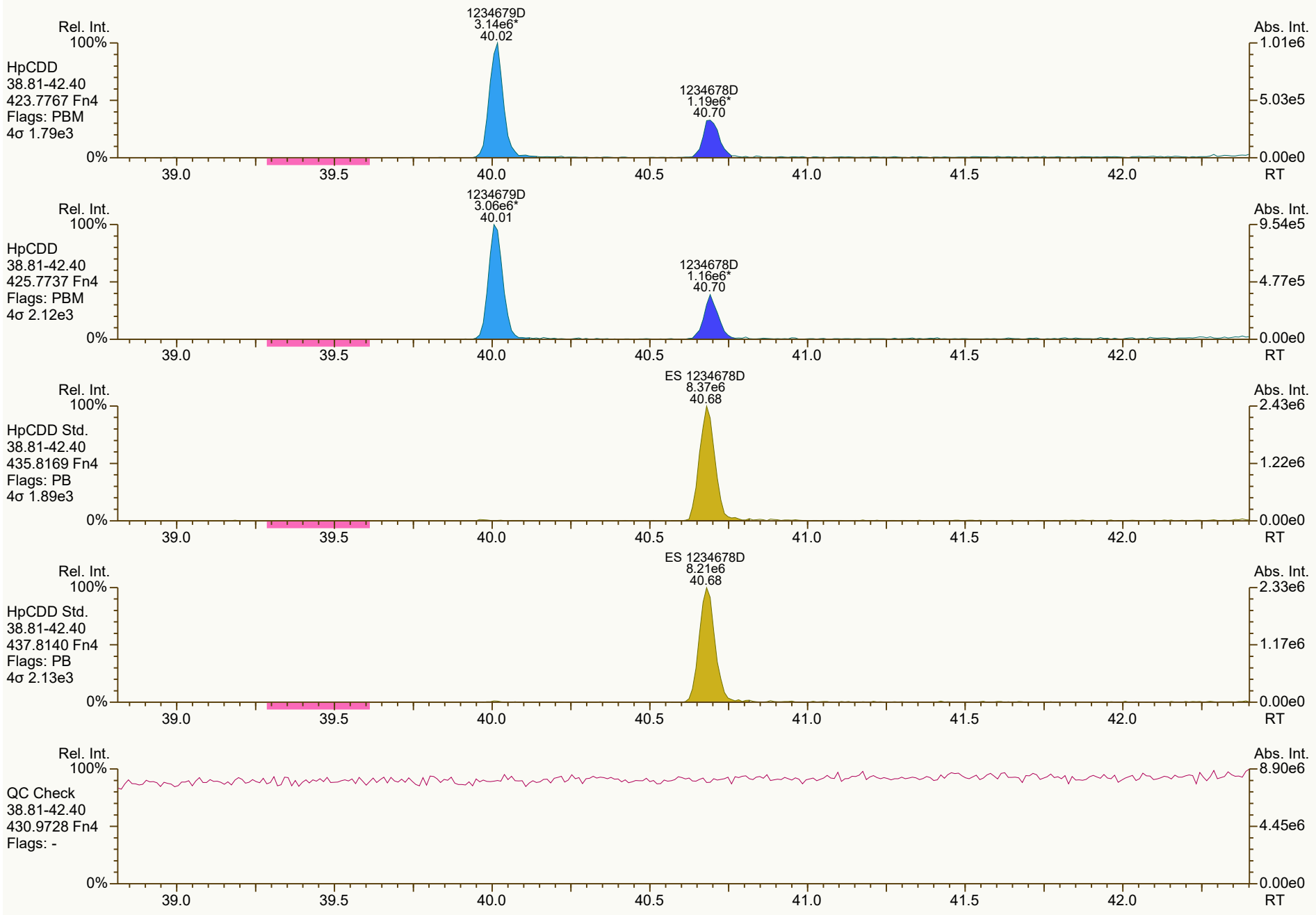


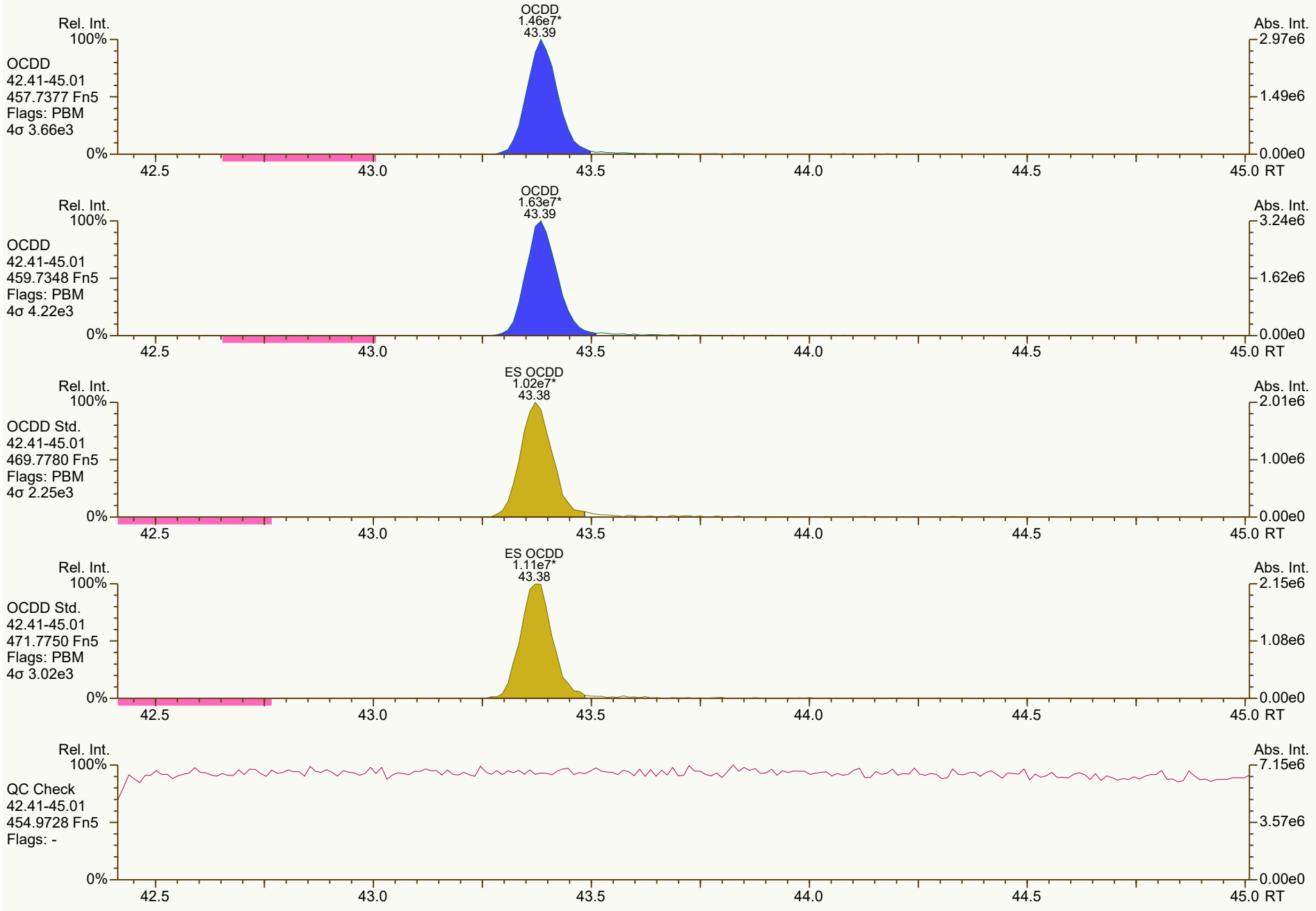
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_003.utp_res, saved 04-Mar-2022 10:45 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5867, 4438 scc: 082-368
Revised: 04-Mar-2022 08:37 (DTF) Printed: 04-Mar-2022 10:54 Page 3 of 12

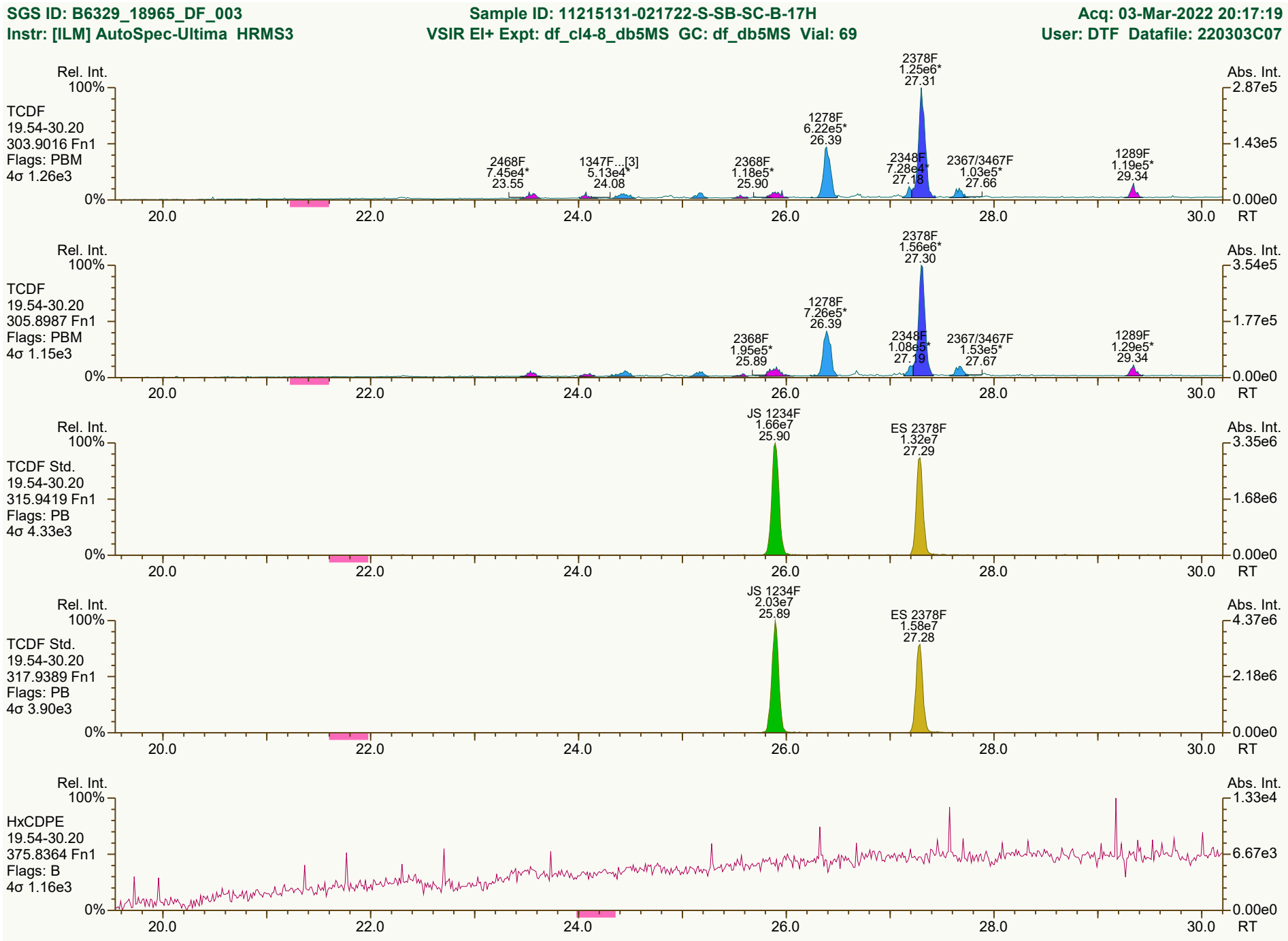
SGS ID: B6329_18965_DF_003 | Sample ID: 11215131-021722-S-SB-SC-B-17H | Acq: 03-Mar-2022 20:17:19
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69 | User: DTF Datafile: 220303C07



Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_003.utp_res, saved 04-Mar-2022 10:45 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0823, 7854 scc: 082-368 | Revised: 04-Mar-2022 08:37 (DTF) Printed: 04-Mar-2022 10:54 Page 4 of 12


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 1.79e3
1234679D
3.14e6*
40.02
1234678D
1.19e6*
40.70
Abs. Int.
1.01e6
5.03e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 2.12e3
1234679D
3.06e6*
40.01
1234678D
1.16e6*
40.70
Abs. Int.
9.54e5
4.77e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 1.89e3
ES 1234678D
8.37e6
40.68
Abs. Int.
2.43e6
1.22e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.13e3
ES 1234678D
8.21e6
40.68
Abs. Int.
2.33e6
1.17e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
8.90e6
4.45e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
1.46e7*
43.39
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 3.66e3
0%
Abs. Int.
2.97e6
1.49e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.63e7*
43.39
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 4.22e3
3.24e6
1.62e6
ES OCDD
1.02e7*
43.38
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 2.25e3
2.01e6
1.00e6
ES OCDD
1.11e7*
43.38
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 3.02e3
2.15e6
1.08e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
7.15e6
3.57e6



Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_003.utp_res, saved 04-Mar-2022 10:45 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3033, 1194, 1543 scc: 082-368
Revised: 04-Mar-2022 08:39 (DTF) Printed: 04-Mar-2022 10:54 Page 7 of 12

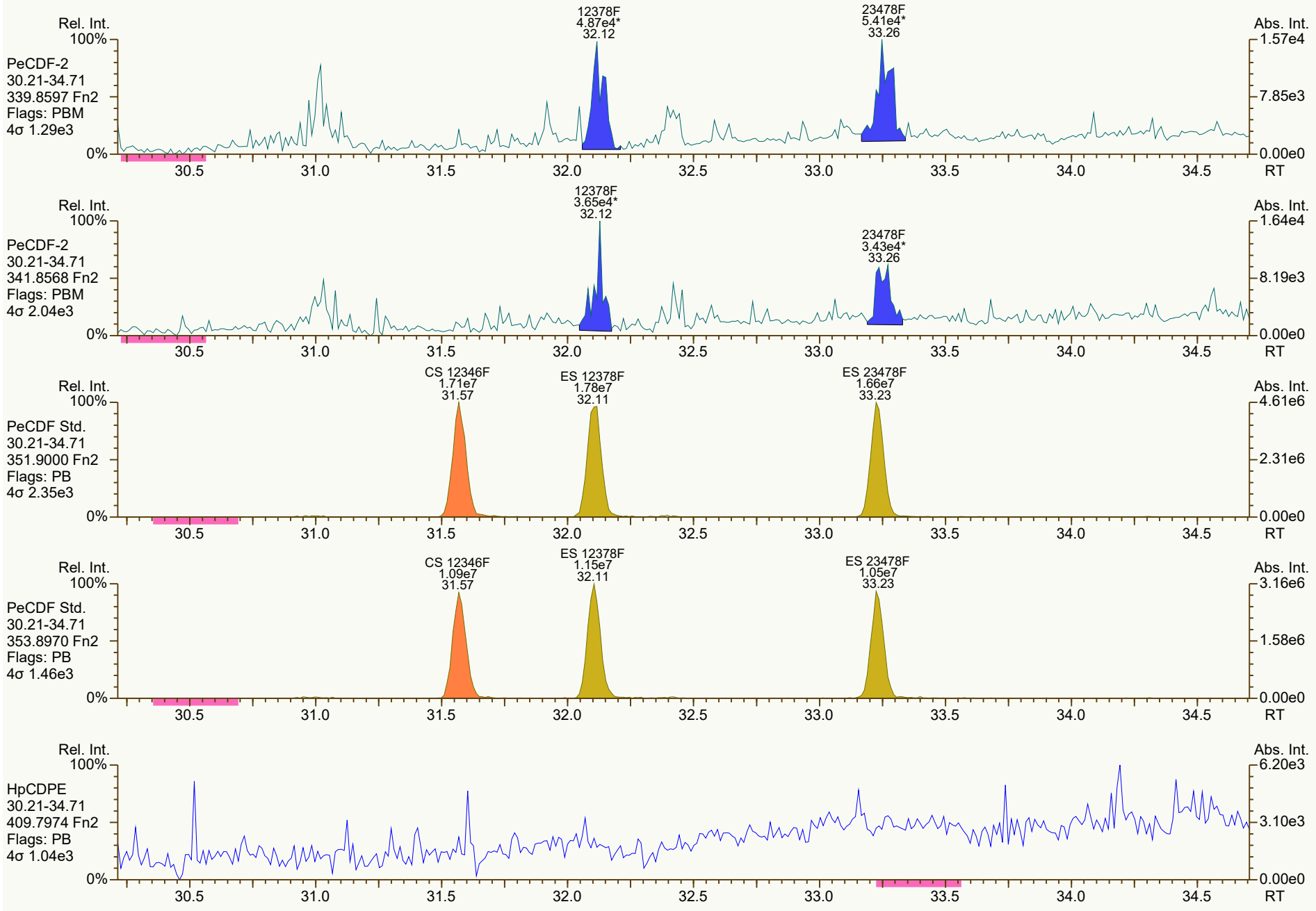
SGS ID: B6329_18965_DF_003 | Sample ID: 11215131-021722-S-SB-SC-B-17H | Acq: 03-Mar-2022 20:17:19

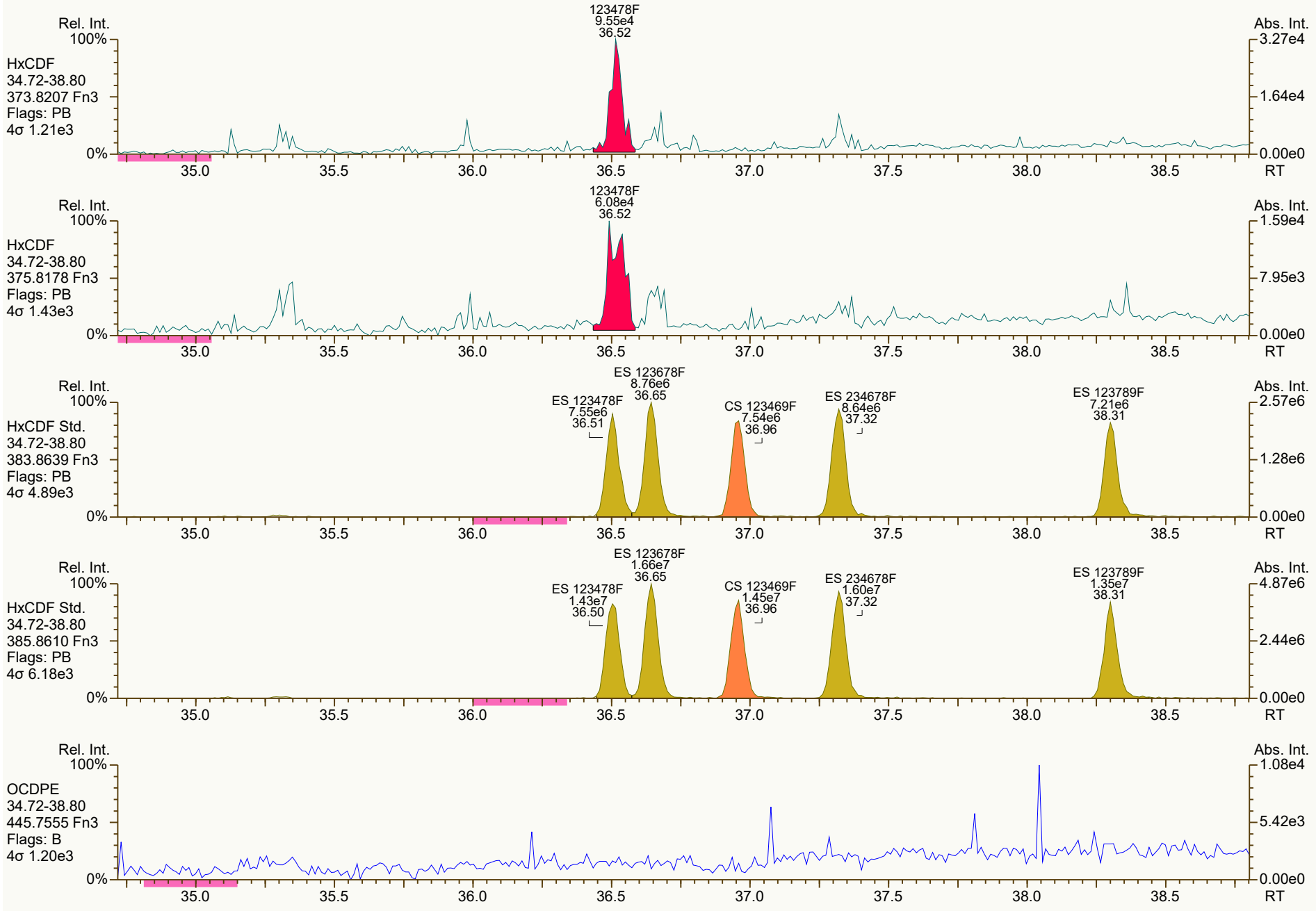
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69 | User: DTF Datafile: 220303C07



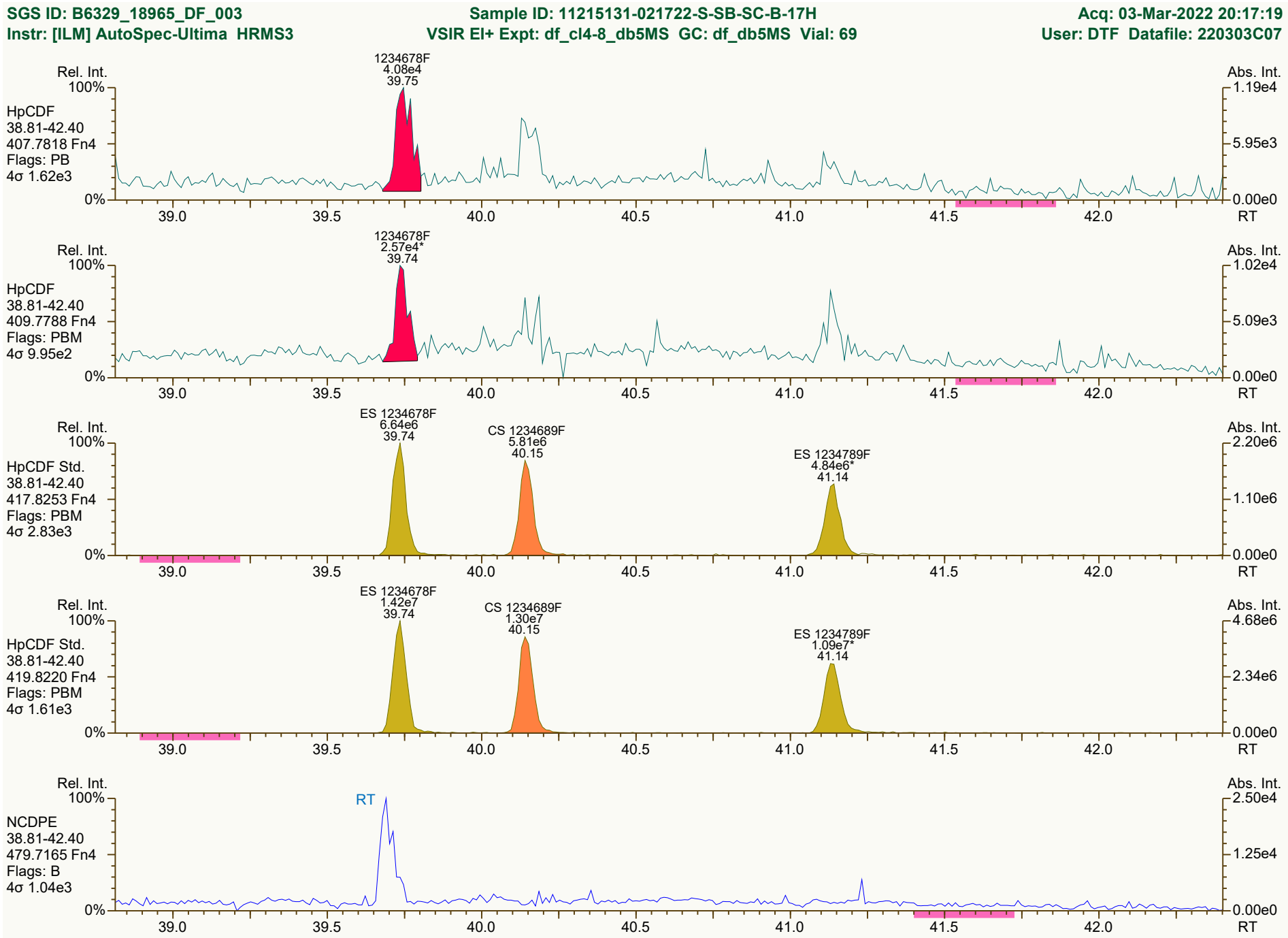
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_003.utp_res, saved 04-Mar-2022 10:45 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9167 scc: 082-368 | *PKD: 04-Mar-2022 08:36 Printed: 04-Mar-2022 10:54 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 1.29e3
0%
12378F
4.87e4*
32.12
23478F
5.41e4*
33.26
Abs. Int.
1.57e4
7.85e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 2.04e3
0%
12378F
3.65e4*
32.12
23478F
3.43e4*
33.26
Abs. Int.
1.64e4
8.19e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 2.35e3
0%
CS 12346F
1.71e7
31.57
ES 12378F
1.78e7
32.11
ES 23478F
1.66e7
33.23
Abs. Int.
4.61e6
2.31e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 1.46e3
0%
CS 12346F
1.09e7
31.57
ES 12378F
1.15e7
32.11
ES 23478F
1.05e7
33.23
Abs. Int.
3.16e6
1.58e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: PB
4σ 1.04e3
0%
Abs. Int.
6.20e3
3.10e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PB
4σ 1.21e3
123478F
9.55e4
36.52
Abs. Int.
3.27e4
1.64e4
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PB
4σ 1.43e3
123478F
6.08e4
36.52
Abs. Int.
1.59e4
7.95e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 4.89e3
ES 123678F
8.76e6
36.65
ES 123478F
7.55e6
36.51
CS 123469F
7.54e6
36.96
ES 234678F
8.64e6
37.32
ES 123789F
7.21e6
38.31
Abs. Int.
2.57e6
1.28e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 6.18e3
ES 123678F
1.66e7
36.65
ES 123478F
1.43e7
36.50
CS 123469F
1.45e7
36.96
ES 234678F
1.60e7
37.32
ES 123789F
1.35e7
38.31
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.20e3
Abs. Int.
1.08e4
5.42e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

SGS ID: B6329_18965_DF_003 | Sample ID: 11215131-021722-S-SB-SC-B-17H | Acq: 03-Mar-2022 20:17:19
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69 | User: DTF Datafile: 220303C07



Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_003.utp_res, saved 04-Mar-2022 10:45 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8354, 6515, 7912 scc: 082-368 | Revised: 04-Mar-2022 08:39 (DTF) Printed: 04-Mar-2022 10:54 Page 11 of 12


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: B
4σ 1.20e3
0%
Abs. Int.
1.48e4
7.38e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.61e4
8.04e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.34e7
43.56
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 2.03e3
0%
Abs. Int.
2.56e6
1.28e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.52e7
43.56
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 1.89e3
0%
Abs. Int.
3.00e6
1.50e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.43e3
0%
Abs. Int.
5.08e3
2.54e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6329_18965_DF_004 **Acq'd:** 03 Mar 2022 21:03 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021722-S-SB-NC-O-52 **UTP:** 04-Mar-2022 10:45:41 DTF **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 158-253-WCF

Datafile: 220303C08 **Report:** 04 Mar 2022 10:47 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.19		1.0008	1.0008	0	2.91E+07	0.80	Y	1.18	219	3357.241	0.264
12378-PeCDD	33.59		1.0007	1.0005	-0.4	3.80E+05	1.54	Y	1.04	3.44	4210.449	0.328
123478-HxCDD	37.52	J EMPC	1.0004	1.0001	-0.7	2.17E+05	0.97	N	1.09	2.22	3665.944	0.316
123678-HxCDD	37.65		1.0036	1.0037	+0.2	6.63E+05	1.29	Y	1.15	6.61	3665.944	0.323
123789-HxCDD	37.96		1.0118	1.0117	-0.2	4.31E+05	1.16	Y	1.05	3.98	3665.944	0.314
1234678-HpCDD	40.70		1.0002	1.0003	+0.2	3.23E+07	1.03	Y	1.06	336	4242.643	0.364
OCDD	43.41		1.0003	1.0003	0	3.39E+08	0.90	Y	1.13	5,040	4835.558	0.927
2378-TCDF	27.32		1.0008	1.0008	0	1.08E+08	0.79	Y	1.08	563	2654.596	0.147
12378-PeCDF	32.13		1.0005	1.0006	+0.2	3.82E+06	1.57	Y	1.02	22.1	3607.128	0.196
23478-PeCDF	33.26		1.0005	1.0007	+0.4	3.06E+06	1.60	Y	1.02	18.5	3607.128	0.188
123478-HxCDF	36.53		1.0004	1.0004	0	5.09E+06	1.17	Y	1.27	34.6	4775.793	0.281
123678-HxCDF	36.67		1.0004	1.0004	0	1.46E+06	1.32	Y	1.15	9.09	4775.793	0.243
234678-HxCDF	37.34		1.0005	1.0003	-0.4	5.39E+05	1.12	Y	1.19	3.46	4775.793	0.276
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4775.793	0.307
1234678-HpCDF	39.76		1.0003	1.0003	0	5.77E+06	1.04	Y	1.37	39.1	2929.632	0.157
1234789-HpCDF	41.15		1.0003	1.0003	0	7.45E+05	0.97	Y	1.31	7.03	2929.632	0.23
OCDF	43.57		1.0002	1.0002	0	1.28E+07	0.88	Y	1.07	159	3783.155	0.584

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.17	1.0243	1.0243	0	2.21E+07	0.82	Y	1.05	85
ES 12378-PeCDD	33.58	1.2198	1.2210	+2.4	2.10E+07	1.53	Y	0.88	96.1
ES 123478-HxCDD	37.52	0.9916	0.9915	-0.2	1.77E+07	1.30	Y	0.97	86.7
ES 123678-HxCDD	37.64	0.9947	0.9947	0	1.72E+07	1.25	Y	0.94	86.8
ES 123789-HxCDD	37.94	1.0029	1.0028	-0.2	2.04E+07	1.28	Y	1.09	88.9
ES 1234678-HpCDD	40.69	1.0749	1.0753	+1.0	1.79E+07	1.11	Y	0.91	93.3
ES OCDD	43.39	1.1460	1.1468	+2.1	2.36E+07	0.93	Y	0.62	89.8
ES 2378-TCDF	27.30	1.0531	1.0534	+0.5	3.50E+07	0.84	Y	1.06	81.1
ES 12378-PeCDF	32.11	1.2378	1.2392	+2.7	3.33E+07	1.57	Y	0.91	89.7
ES 23478-PeCDF	33.24	1.2810	1.2826	+3.2	3.21E+07	1.60	Y	0.88	89.1
ES 123478-HxCDF	36.51	0.9650	0.9650	0	2.29E+07	0.52	Y	1.20	90.7
ES 123678-HxCDF	36.65	0.9688	0.9687	-0.2	2.75E+07	0.51	Y	1.35	96.9
ES 234678-HxCDF	37.33	0.9866	0.9865	-0.2	2.59E+07	0.54	Y	1.24	99.2
ES 123789-HxCDF	38.31	1.0125	1.0125	0	2.20E+07	0.53	Y	1.16	90.6
ES 1234678-HpCDF	39.74	1.0501	1.0504	+0.7	2.12E+07	0.47	Y	0.97	104
ES 1234789-HpCDF	41.14	1.0870	1.0874	+1.0	1.60E+07	0.46	Y	0.85	89.4
ES OCDF	43.56	1.1505	1.1512	+1.8	2.97E+07	0.90	Y	0.81	87.6

Lab ID: B6329_18965_DF_004 **Acq'd:** 03 Mar 2022 21:03 DTF **Wt/Vol:** 10.14 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021722-S-SB-NC-O-52 **UTP:** 04-Mar-2022 10:45:41 DTF **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 158-253-WCF

Datafile: 220303C08 **Report:** 04 Mar 2022 10:47 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.50		-	-	-	2.49E+07	0.81	Y	-	-	
JS 1234-TCDF	25.91		-	-	-	4.08E+07	0.83	Y	-	-	
JS 123467-HxCDD	37.84		-	-	-	1.05E+07	1.20	Y	-	-	
CS 37Cl-2378-TCDD	28.19		1.0251	1.0251	0	9.78E+06	n/a	-	1.20	81.8	
CS 12347-PeCDD	33.07		1.2016	1.2026	+2.0	1.71E+07	1.64	Y	0.75	91.5	
CS 12346-PeCDF	31.58		1.2172	1.2186	+2.7	3.04E+07	1.53	Y	0.85	87.8	
CS 123469-HxCDF	36.97		0.9771	0.9771	0	2.36E+07	0.53	Y	1.12	101	
CS 1234689-HpCDF	40.15		1.0608	1.0611	+0.7	2.01E+07	0.46	Y	0.89	108	
~~SS 37Cl-2378-TCDD~~	~~28.19~~		~~1.0251~~	~~1.0251~~	~~0~~	~~9.78E+06~~	~~n/a~~		~~1.15~~	~~96.4~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.07~~		~~1.2016~~	~~1.2026~~	~~+2.0~~	~~1.71E+07~~	~~1.64~~	~~Y~~	~~0.86~~	~~95.1~~	CL 07Mar22
~~SS 12346-PeCDF~~	~~31.58~~		~~1.2172~~	~~1.2186~~	~~+2.7~~	~~3.04E+07~~	~~1.53~~	~~Y~~	~~0.94~~	~~97.6~~	
~~SS 123469-HxCDF~~	~~36.97~~		~~0.9771~~	~~0.9771~~	~~0~~	~~2.36E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~104~~	
~~SS 1234689-HpCDF~~	~~40.15~~		~~1.0608~~	~~1.0611~~	~~+0.7~~	~~2.01E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~103~~	

Totals	Conc	EMPC
Total TCDD	245	250
Total PeCDD	9.28	16
Total HxCDD	133	135
Total HpCDD	2120	2120
Total Tetra-Octa Dioxins	7550	7560
Total TCDF	1,130	1140
Total PeCDF	73.3	74.9
Total HxCDF	84.6	88.1
Total HpCDF	131	134
Total Tetra-Octa Furans	1,580	1590
Total Tetra-Octa Dioxins & Furans	9130	9150

Lab ID: B6329_18965_DF_004 **Acq'd: 03 Mar 2022 21:03 DTF** **Wt/Vol: 10.14 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021722-S-SB-NC-O-52 **UTP: 04-Mar-2022 10:45:41 DTF** **J-level: 0.493 pg/g** **Split: 1** **Checkcode: 158-253-WCF**

Datafile: 220303C08 **Report: 04 Mar 2022 10:47 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.49		0.8701	0.8693	-1.2	1.93E+05	0.81	Y	1.18	1.45	3357.241	0.264
1379-TCDD	24.85		0.8829	0.8823	-0.9	1.02E+05	0.87	Y	1.18	0.77	3357.241	0.264
1369-TCDD	NotFnd		0.8982						1.18		3357.241	0.264
1469-TCDD	26.08		0.9261	0.9257	-0.6	5.76E+05	0.84	Y	1.18	4.34	3357.241	0.264
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		3357.241	0.264
1378-TCDD	26.53	EMPC	0.9417	0.9417	0	1.32E+05	0.94	N	1.18	0.996	3357.241	0.264
1268-TCDD	NotFnd		0.9487						1.18		3357.241	0.264
1478-TCDD	26.98		0.9576	0.9577	+0.2	8.70E+04	0.82	Y	1.18	0.655	3357.241	0.264
1279-TCDD	NotFnd		0.9636						1.18		3357.241	0.264
1234/1269-TCDD	27.49	EMPC	0.9761	0.9758	-0.5	8.44E+04	1.27	N	1.18	0.636	3357.241	0.264
1236-TCDD	NotFnd		0.9812						1.18		3357.241	0.264
1237/1238-TCDD	27.90	EMPC	0.9905	0.9905	0	4.74E+05	0.95	N	1.18	3.57	3357.241	0.264
1239-TCDD	NotFnd		0.9951						1.18		3357.241	0.264
2378-TCDD	**28.19**		**1.0008**	1.0008	**0**	2.91E+07	0.80	Y	**1.18**	**219**	**3357.241**	**0.264**
1278-TCDD	28.52		1.0124	1.0126	+0.3	2.53E+06	0.80	Y	1.18	19.1	3357.241	0.264
1267-TCDD	NotFnd		1.0172						1.18		3357.241	0.264
1289-TCDD	NotFnd		1.0354						1.18		3357.241	0.264
12479/12468-PeCDD	31.07		0.9255	0.9252	-0.6	3.59E+05	1.41	Y	1.04	3.25	4210.449	0.328
12469-PeCDD	31.60	EMPC	0.9416	0.9412	-0.8	3.97E+05	0.93	N	1.04	3.59	4210.449	0.328
12368-PeCDD	32.17	J	0.9582	0.9580	-0.4	1.35E+05	1.61	Y	1.04	1.23	4210.449	0.328
12478-PeCDD	32.35	J	0.9637	0.9636	-0.2	1.50E+05	1.32	Y	1.04	1.36	4210.449	0.328
12379-PeCDD	32.46	J EMPC	0.9668	0.9666	-0.4	8.35E+04	1.24	N	1.04	0.756	4210.449	0.328
12369/12467/12489-PeCDD	32.73	J EMPC	0.9746	0.9749	+0.6	1.71E+05	1.29	N	1.04	1.55	4210.449	0.328
12346/12347-PeCDD	33.09	J EMPC	0.9858	0.9855	-0.6	4.31E+04	0.85	N	1.04	0.391	4210.449	0.328
12378-PeCDD	33.59		**1.0007**	**1.0005**	**-0.4**	**3.80E+05**	**1.54**	**Y**	**1.04**	**3.44**	**4210.449**	**0.328**
12367-PeCDD	33.69	J EMPC	1.0036	1.0035	-0.2	4.23E+04	0.87	N	1.04	0.383	4210.449	0.328
12389-PeCDD	NotFnd		1.0137						1.04		4210.449	0.328
124679/124689-HxCDD	35.79		0.9540	0.9539	-0.2	7.42E+06	1.27	Y	1.10	72.4	3665.944	0.317
123468-HxCDD	36.45		0.9715	0.9715	0	6.17E+05	1.27	Y	1.10	6.03	3665.944	0.317
123679/123689-HxCDD	36.74		0.9793	0.9792	-0.2	3.38E+06	1.26	Y	1.10	33	3665.944	0.317
123469-HxCDD	36.87		0.9829	0.9829	0	8.96E+05	1.33	Y	1.10	8.75	3665.944	0.317
123478-HxCDD	37.52	J EMPC	**1.0004**	**1.0001**	**-0.7**	**2.17E+05**	**0.97**	**N**	1.09	**2.22**	**3665.944**	**0.316**
123678-HxCDD	37.65		**1.0036**	**1.0037**	**+0.2**	**6.63E+05**	**1.29**	**Y**	1.15	**6.61**	**3665.944**	**0.323**
123467-HxCDD	37.85	J	1.0089	1.0089	0	2.19E+05	1.08	Y	1.10	2.14	3665.944	0.317
123789-HxCDD	37.96		**1.0118**	**1.0117**	**-0.2**	**4.31E+05**	**1.16**	**Y**	1.05	**3.98**	**3665.944**	**0.314**

Lab ID: B6329_18965_DF_004 **Acq'd: 03 Mar 2022 21:03 DTF** **Wt/Vol: 10.14 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021722-S-SB-NC-O-52 **UTP: 04-Mar-2022 10:45:41 DTF** **J-level: 0.493 pg/g** **Split: 1** **Checkcode: 158-253-WCF**

Datafile: 220303C08 **Report: 04 Mar 2022 10:47 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

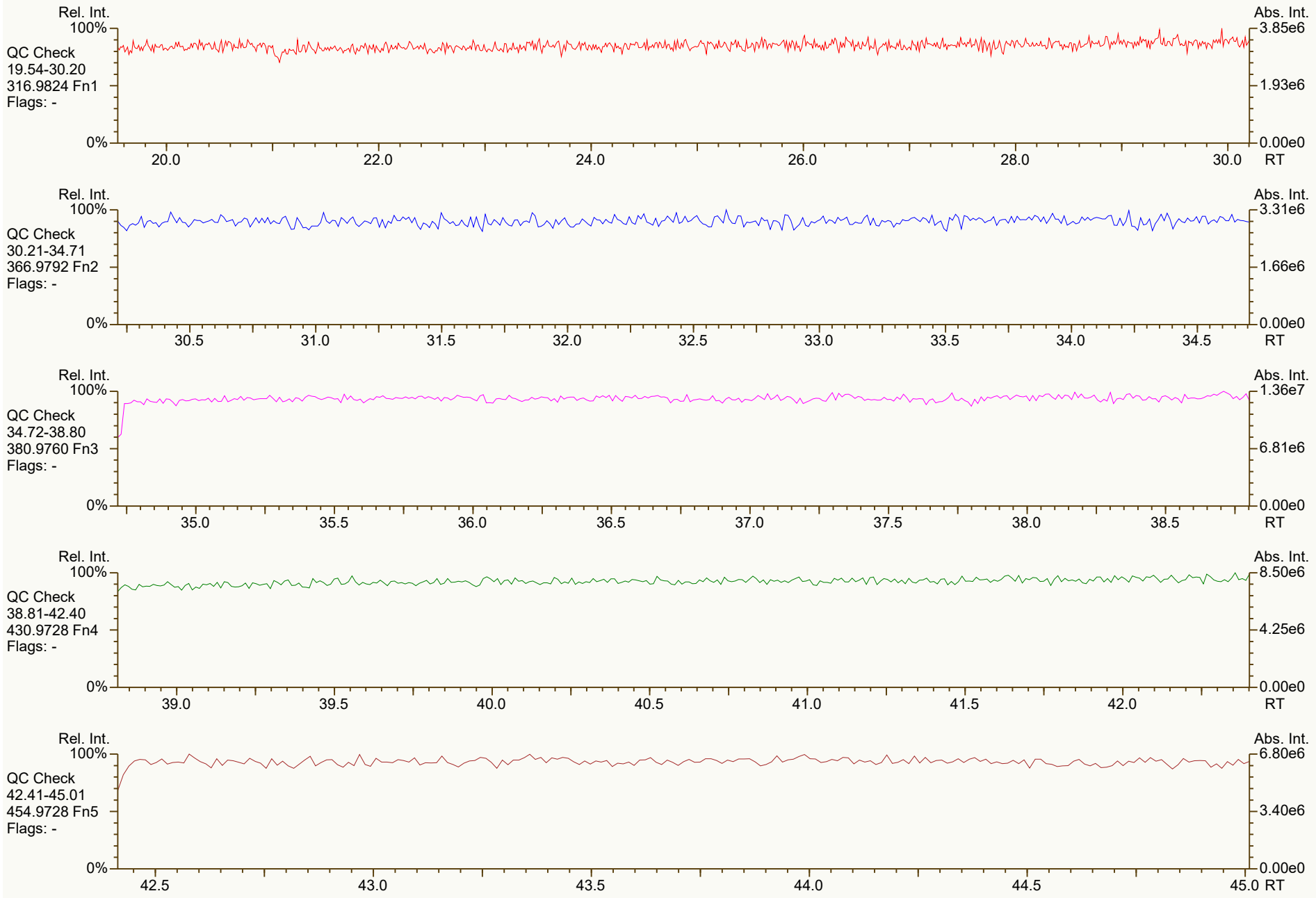
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.02		0.9836	0.9836	0	1.72E+08	1.04	Y	1.06	1,780	4242.643	0.364
1234678-HpCDD	**40.70**		**1.0002**	**1.0003**	**+0.2**	**3.23E+07**	**1.03**	**Y**	**1.06**	**336**	**4242.643**	**0.364**
OCDD	**43.41**		**1.0003**	**1.0003**	**0**	**3.39E+08**	**0.90**	**Y**	**1.13**	**5,040**	**4835.558**	**0.927**
OCDD-a	43.40		1.0002	1.0002	0	2.11E+07	2.51	Y	0.07	4,920	4871.084	14.6
1368-TCDF	22.32	EMPC	0.8191	0.8175	-2.1	1.08E+05	0.61	N	1.08	0.563	2654.596	0.147
1468-TCDF	22.92	EMPC	0.8408	0.8396	-1.7	3.15E+05	0.90	N	1.08	1.64	2654.596	0.147
2468-TCDF	23.57	EMPC	0.8645	0.8633	-1.7	3.05E+05	0.65	N	1.08	1.59	2654.596	0.147
1346/1246-TCDF	NotFnd		0.8772						1.08		2654.596	0.147
1347/1378/1247-TCDF	24.09		0.8833	0.8826	-1.0	1.67E+06	0.83	Y	1.08	8.7	2654.596	0.147
1348-TCDF	NotFnd		0.8932						1.08		2654.596	0.147
1248/1367/1379-TCDF	24.45		0.8980	0.8957	-3.4	5.91E+06	0.79	Y	1.08	30.9	2654.596	0.147
1268-TCDF	24.88		0.9119	0.9115	-0.6	2.01E+06	0.78	Y	1.08	10.5	2654.596	0.147
1467-TCDF	25.02	EMPC	0.9170	0.9165	-0.8	2.94E+05	0.91	N	1.08	1.53	2654.596	0.147
1478-TCDF	25.19		0.9234	0.9228	-0.9	4.81E+06	0.76	Y	1.08	25.1	2654.596	0.147
1369/1237-TCDF	25.57		0.9369	0.9369	0	1.25E+06	0.80	Y	1.08	6.54	2654.596	0.147
2467-TCDF	25.70		0.9415	0.9415	0	2.15E+05	0.86	Y	1.08	1.12	2654.596	0.147
2368-TCDF	25.86		0.9475	0.9473	-0.3	4.09E+06	0.80	Y	1.08	21.4	2654.596	0.147
1238/1234/1678/1469/1236-TCDF	25.94		0.9507	0.9501	-0.9	5.68E+06	0.79	Y	1.08	29.6	2654.596	0.147
1278-TCDF	26.41		0.9676	0.9674	-0.3	5.02E+07	0.79	Y	1.08	262	2654.596	0.147
1349-TCDF	NotFnd		0.9722						1.08		2654.596	0.147
1267-TCDF	26.69		0.9777	0.9776	-0.2	2.95E+06	0.76	Y	1.08	15.4	2654.596	0.147
2346/1249-TCDF	26.89		0.9843	0.9850	+1.1	4.22E+05	0.83	Y	1.08	2.2	2654.596	0.147
2347/1279-TCDF	27.09		0.9926	0.9922	-0.7	1.27E+06	0.76	Y	1.08	6.62	2654.596	0.147
2348-TCDF	27.21		0.9968	0.9966	-0.3	9.29E+06	0.78	Y	1.08	48.5	2654.596	0.147
2378-TCDF	**27.32**		**1.0008**	**1.0008**	**0**	**1.08E+08**	**0.79**	**Y**	**1.08**	**563**	**2654.596**	**0.147**
2367/3467-TCDF	27.68		1.0142	1.0139	-0.5	9.42E+06	0.79	Y	1.08	49.1	2654.596	0.147
1269-TCDF	27.93		1.0235	1.0232	-0.5	1.71E+06	0.78	Y	1.08	8.94	2654.596	0.147
1239-TCDF	NotFnd		1.0329						1.08		2654.596	0.147
1289-TCDF	29.35		1.0742	1.0753	+1.9	8.37E+06	0.80	Y	1.08	43.7	2654.596	0.147
13468/12468-PeCDF	29.30		0.9122	0.9124	+0.4	8.49E+05	1.78	Y	1.02	5.01	2772.083	0.148
13678/13467/12467-PeCDF	30.86	J EMPC	0.9606	0.9611	+0.9	2.73E+05	1.88	N	1.02	1.61	3607.128	0.193
12368/13478/12478-PeCDF	31.03		0.9655	0.9662	+1.3	2.27E+06	1.51	Y	1.02	13.4	3607.128	0.193
14678-PeCDF	NotFnd		0.9685						1.02		3607.128	0.193
13479-PeCDF	NotFnd		0.9716						1.02		3607.128	0.193
13469/12479-PeCDF	NotFnd		0.9794						1.02		3607.128	0.193
12346-PeCDF	NotFnd		0.9836						1.02		3607.128	0.193

Lab ID: B6329_18965_DF_004 **Acq'd: 03 Mar 2022 21:03 DTF** **Wt/Vol: 10.14 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021722-S-SB-NC-O-52 **UTP: 04-Mar-2022 10:45:41 DTF** **J-level: 0.493 pg/g** **Split: 1** **Checkcode: 158-253-WCF**

Datafile: 220303C08 **Report: 04 Mar 2022 10:47 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.70		0.9866	0.9872	+1.1	4.55E+05	1.59	Y	1.02	2.68	3607.128	0.193
12347-PeCDF	NotFnd		0.9891						1.02		3607.128	0.193
12348-PeCDF	31.92	J	0.9938	0.9941	+0.6	4.16E+05	1.40	Y	1.02	2.45	3607.128	0.193
12378-PeCDF	**32.13**		**1.0005**	**1.0006**	**+0.2**	**3.82E+06**	**1.57**	**Y**	**1.02**	**22.1**	**3607.128**	**0.196**
12678/12367-PeCDF	32.43		1.0091	1.0098	+1.4	1.22E+06	1.53	Y	1.02	7.18	3607.128	0.193
12379-PeCDF	NotFnd		1.0144						1.02		3607.128	0.193
12679-PeCDF	NotFnd		0.9927						1.02		3607.128	0.193
23467/12369-PeCDF	33.13	J	0.9965	0.9966	+0.2	1.64E+05	1.68	Y	1.02	0.971	3607.128	0.193
23478-PeCDF	**33.26**		**1.0005**	**1.0007**	**+0.4**	**3.06E+06**	**1.60**	**Y**	**1.02**	**18.5**	**3607.128**	**0.188**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3607.128	0.193
12349-PeCDF	NotFnd		1.0101						1.02		3607.128	0.193
12389-PeCDF	34.33	J	1.0330	1.0330	0	1.77E+05	1.53	Y	1.02	1.04	3607.128	0.193
123468-HxCDF	35.13		0.9622	0.9621	-0.2	6.31E+05	1.27	Y	1.19	4.25	4775.793	0.275
124678/134678-HxCDF	35.33		0.9678	0.9676	-0.4	2.16E+06	1.20	Y	1.19	14.5	4775.793	0.275
134679-HxCDF	NotFnd		0.9741						1.19		4775.793	0.275
124679-HxCDF	35.76	J EMPC	0.9795	0.9795	0	9.86E+04	0.90	N	1.19	0.663	4775.793	0.275
124689-HxCDF	35.99		0.9856	0.9856	0	2.63E+06	1.15	Y	1.19	17.7	4775.793	0.275
123467-HxCDF	36.41	J	0.9972	0.9971	-0.2	1.55E+05	1.22	Y	1.19	1.04	4775.793	0.275
123478-HxCDF	**36.53**		**1.0004**	**1.0004**	**0**	**5.09E+06**	**1.17**	**Y**	**1.27**	**34.6**	**4775.793**	**0.281**
123678-HxCDF	**36.67**		**1.0004**	**1.0004**	**0**	**1.46E+06**	**1.32**	**Y**	**1.15**	**9.09**	**4775.793**	**0.243**
123479-HxCDF	NotFnd		1.0048						1.19		4775.793	0.275
123469-HxCDF	NotFnd		1.0089						1.19		4775.793	0.275
123679-HxCDF	NotFnd		0.9942						1.19		4775.793	0.275
234678-HxCDF	**37.34**		**1.0005**	**1.0003**	**-0.4**	**5.39E+05**	**1.12**	**Y**	**1.19**	**3.46**	**4775.793**	**0.276**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4775.793	0.275
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4775.793**	**0.307**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.35	EMPC	1.0006	1.0011	+1.2	4.20E+05	1.43	N	1.19	2.82	4775.793	0.275
1234678-HpCDF	**39.76**		**1.0003**	**1.0003**	**0**	**5.77E+06**	**1.04**	**Y**	**1.37**	**39.1**	**2929.632**	**0.157**
1234679-HpCDF	40.03	**EMPC**	1.0068	1.0071	+0.7	3.32E+05	1.25	N	1.34	2.63	2929.632	0.188
1234689-HpCDF	40.16		1.0104	1.0105	+0.2	1.07E+07	1.07	Y	1.34	84.9	2929.632	0.188
1234789-HpCDF	**41.15**		**1.0003**	**1.0003**	**0**	**7.45E+05**	**0.97**	**Y**	**1.31**	**7.03**	**2929.632**	**0.23**
OCDF	**43.57**		**1.0002**	**1.0002**	**0**	**1.28E+07**	**0.88**	**Y**	**1.07**	**159**	**3783.155**	**0.584**
OCDF-a	43.57		1.0001	1.0002	+0.3	8.98E+05	2.14	Y	0.07	179	3738.193	9.31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20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.31e6
1.66e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
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0%
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1.36e7
6.81e6
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35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
8.50e6
4.25e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
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0%
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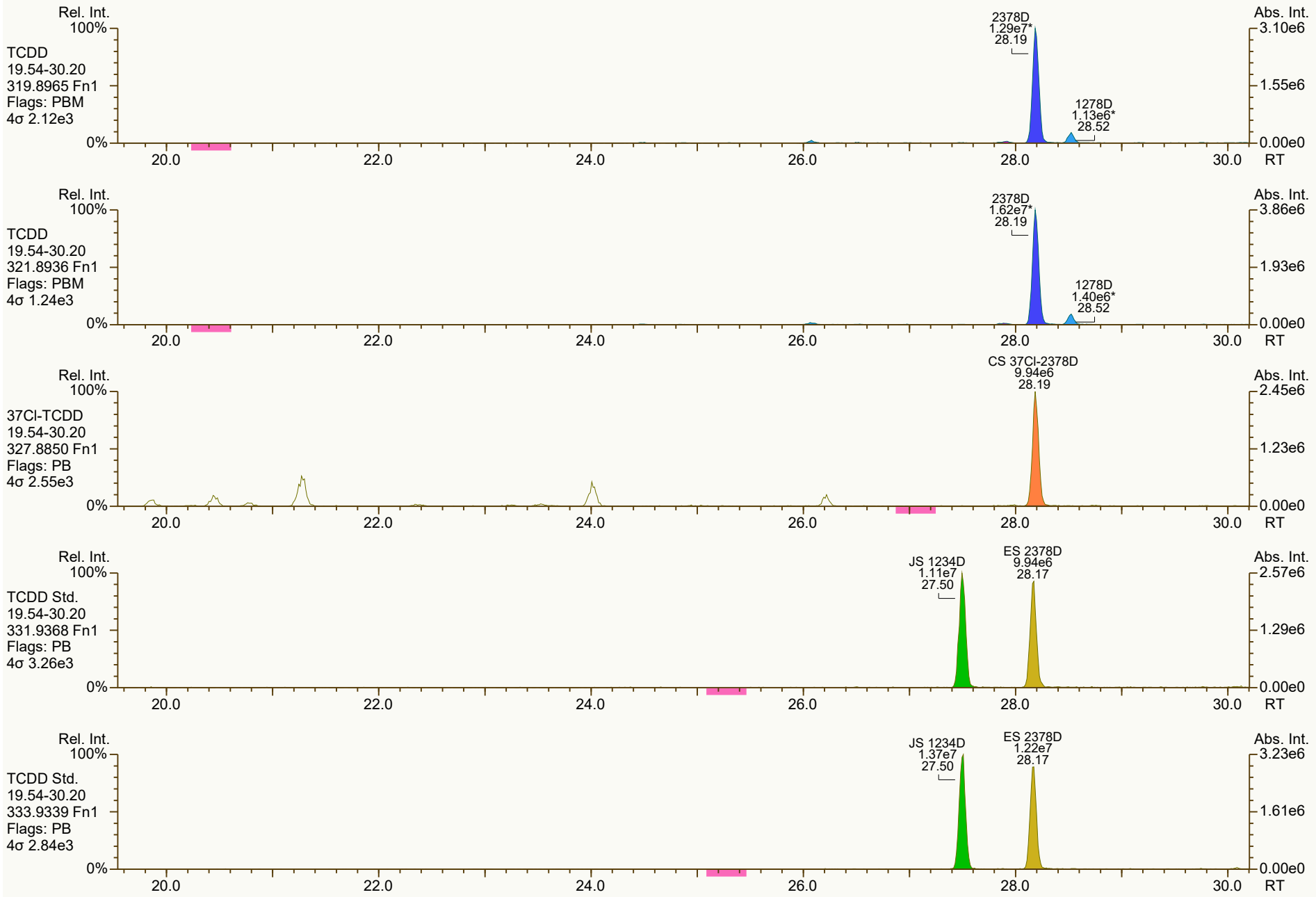
RT


Rel. Int.
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TCDD
19.54-30.20
319.8965 Fn1
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0%
2378D
1.29e7*
28.19
1278D
1.13e6*
28.52
Abs. Int.
3.10e6
1.55e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.24e3
0%
2378D
1.62e7*
28.19
1278D
1.40e6*
28.52
Abs. Int.
3.86e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.55e3
0%
CS 37Cl-2378D
9.94e6
28.19
Abs. Int.
2.45e6
1.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 3.26e3
0%
JS 1234D
1.11e7
27.50
ES 2378D
9.94e6
28.17
Abs. Int.
2.57e6
1.29e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.84e3
0%
JS 1234D
1.37e7
27.50
ES 2378D
1.22e7
28.17
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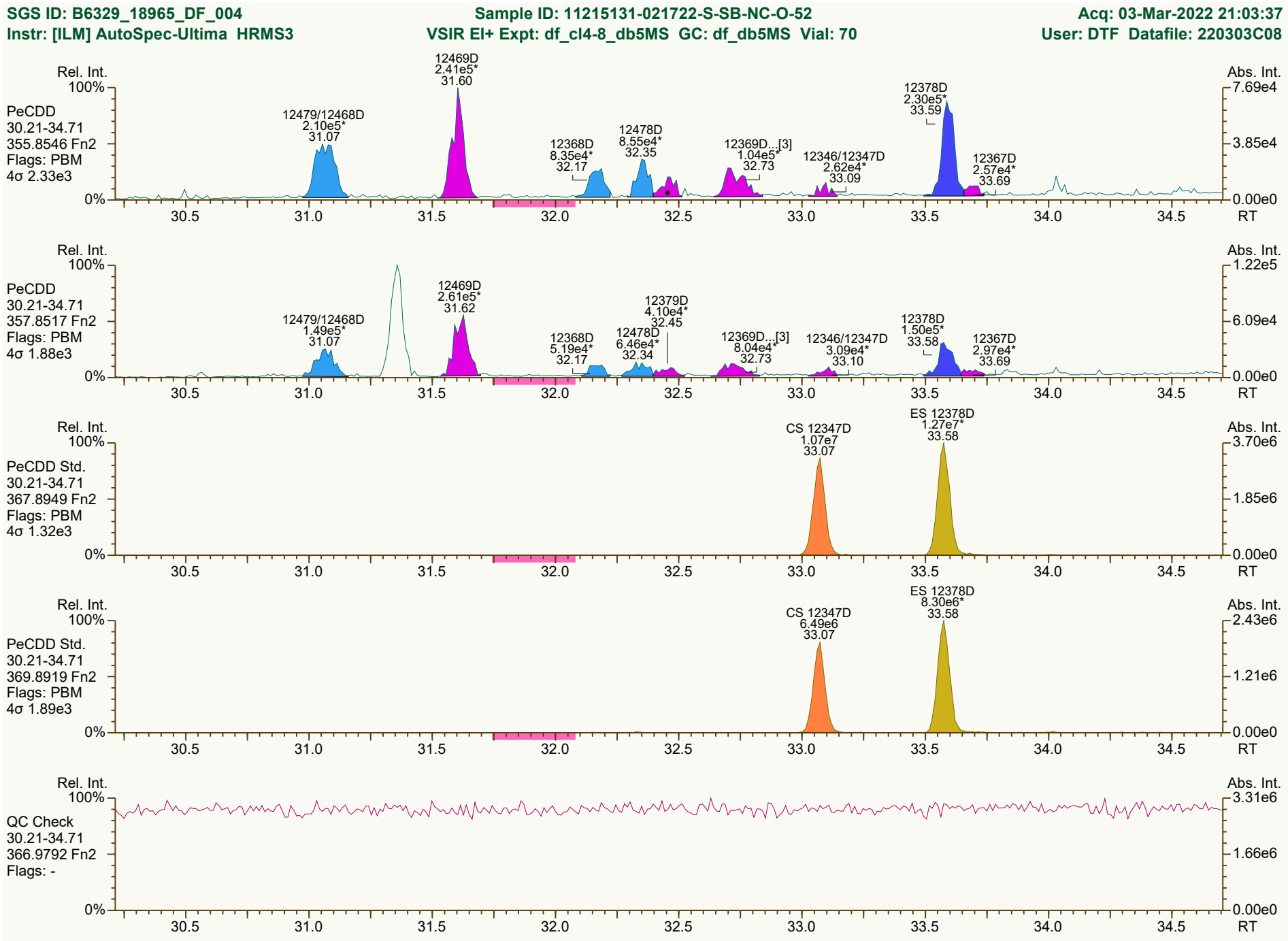
RT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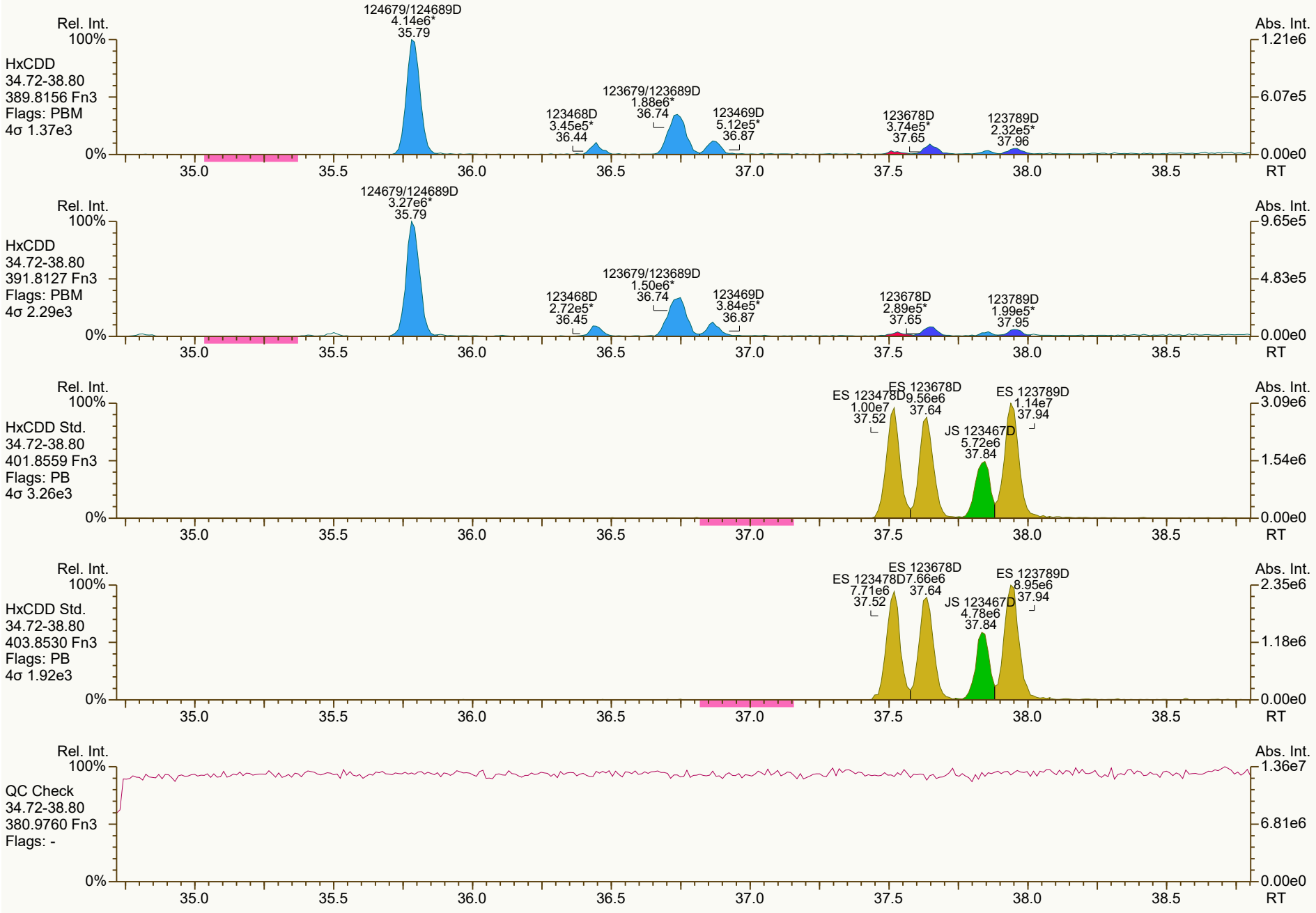
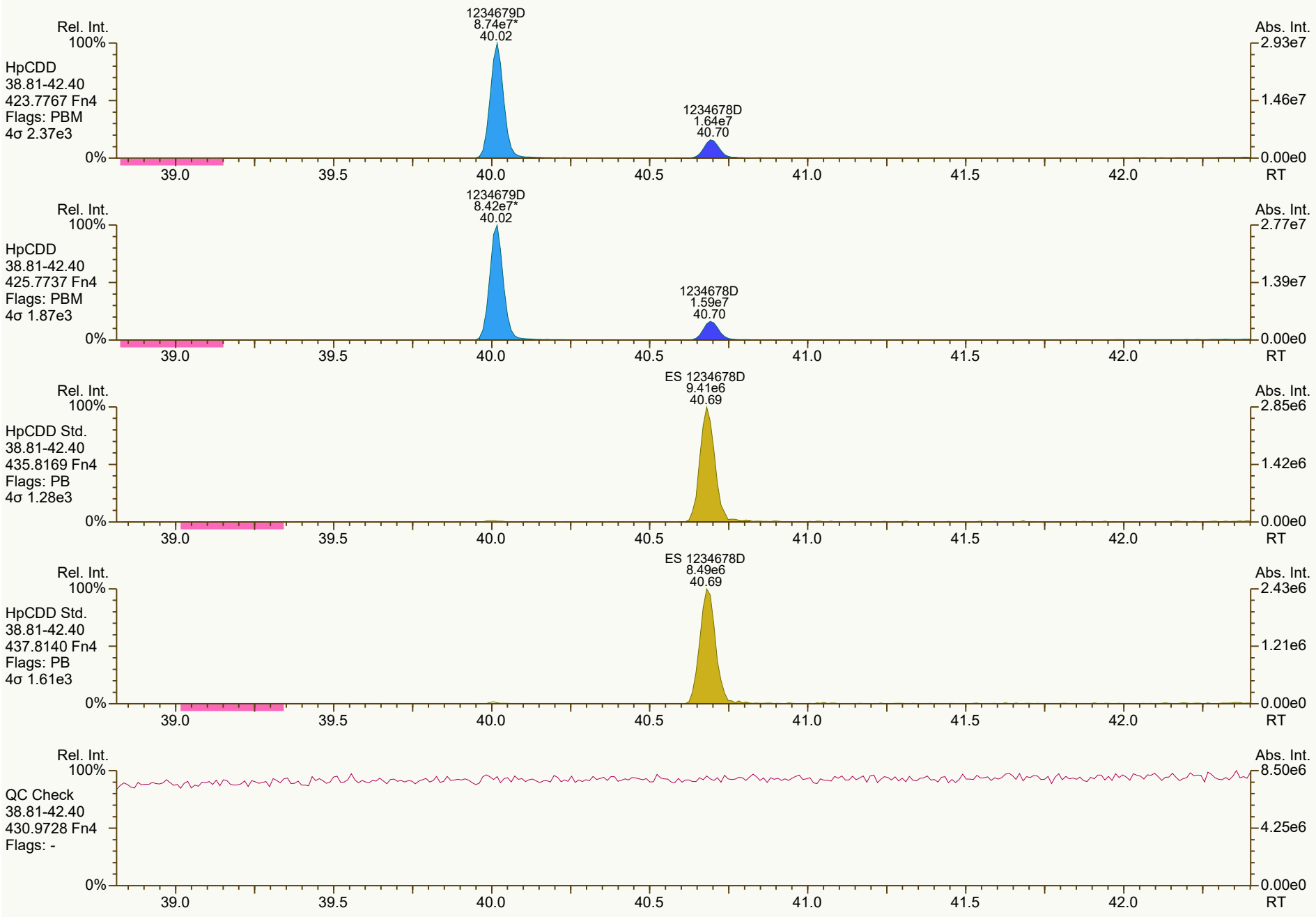
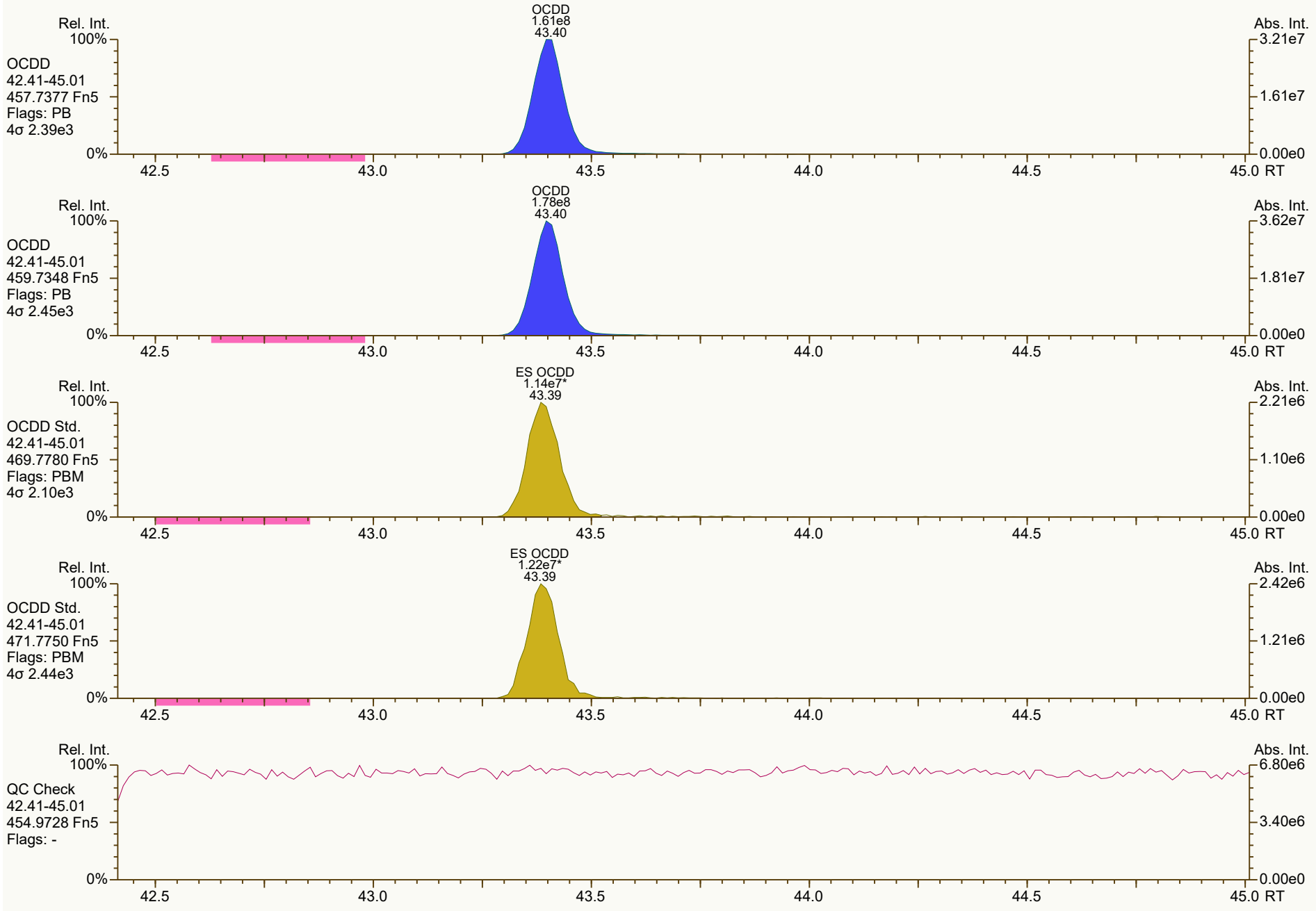
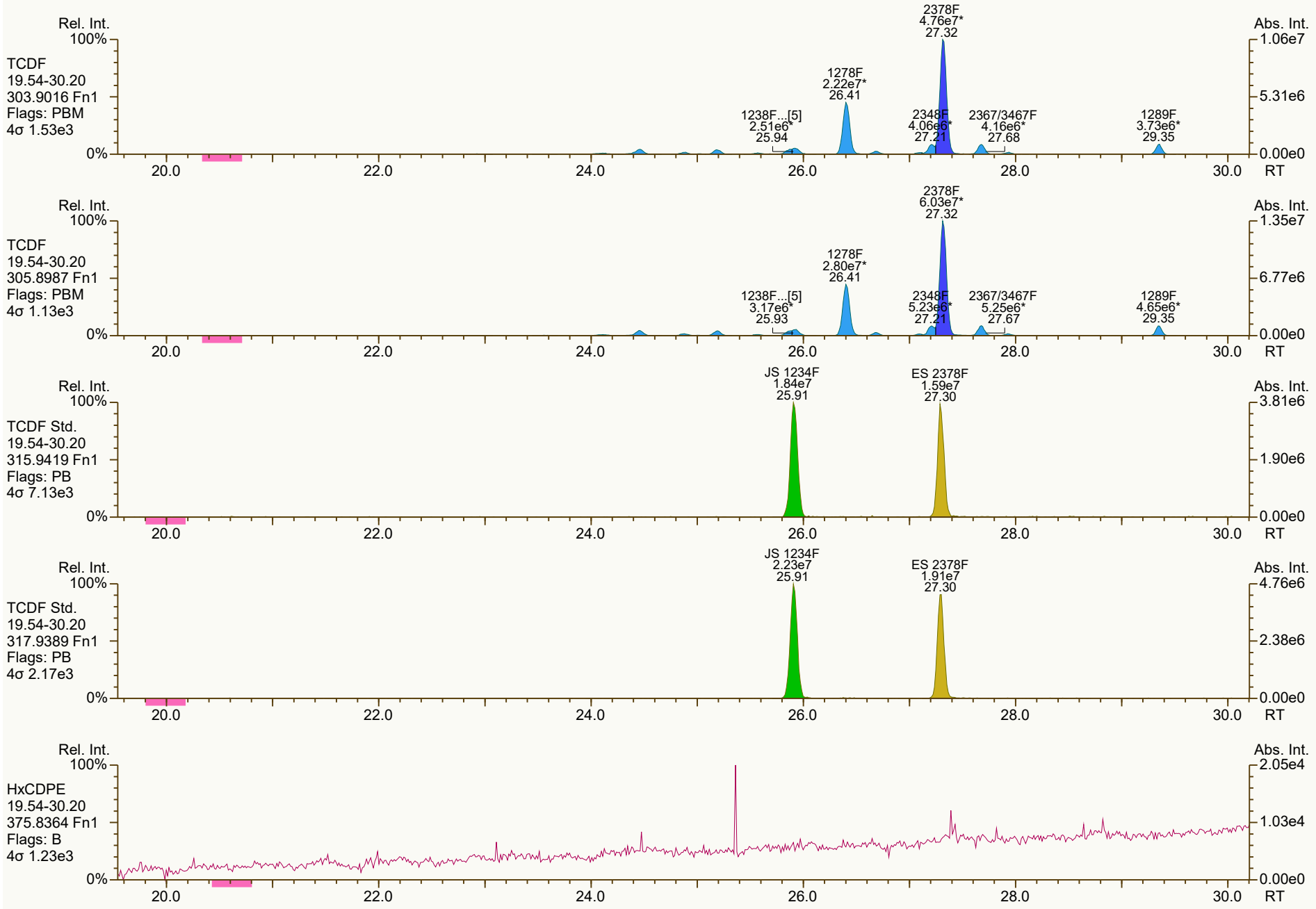
Sample ID: 11215131-021722-S-SB-NC-O-52
Acq: 03-Mar-2022 21:03:37
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 220303C08
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 2.33e3
12479/12468D 2.10e5* 31.07
12469D 2.41e5* 31.60
12368D 8.35e4* 32.17
12478D 8.55e4* 32.35
12369D...[3] 1.04e5* 32.73
12346/12347D 2.62e4* 33.09
12378D 2.30e5* 33.59
12367D 2.57e4* 33.69
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 1.88e3
12479/12468D 1.49e5* 31.07
12469D 2.61e5* 31.62
12368D 5.19e4* 32.17
12379D 4.10e4* 32.45
12478D 6.46e4* 32.34
12369D...[3] 8.04e4* 32.73
12346/12347D 3.09e4* 33.10
12378D 1.50e5* 33.58
12367D 2.97e4* 33.69
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PBM
4σ 1.32e3
CS 12347D 1.07e7 33.07
ES 12378D 1.27e7* 33.58
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PBM
4σ 1.89e3
CS 12347D 6.49e6 33.07
ES 12378D 8.30e6* 33.58
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Rel. Int.
Abs. Int.
RT
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_004.utp_res, saved 04-Mar-2022 10:45 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8067, 4769 scc: 158-253
Revised: 04-Mar-2022 08:58 (DTF) Printed: 04-Mar-2022 10:54 Page 3 of 12


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 1.37e3
124679/124689D
4.14e6*
35.79
123468D
3.45e5*
36.44
123679/123689D
1.88e6*
36.74
123469D
5.12e5*
36.87
123678D
3.74e5*
37.65
123789D
2.32e5*
37.96
Abs. Int.
1.21e6
6.07e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 2.29e3
124679/124689D
3.27e6*
35.79
123468D
2.72e5*
36.45
123679/123689D
1.50e6*
36.74
123469D
3.84e5*
36.87
123678D
2.89e5*
37.65
123789D
1.99e5*
37.95
Abs. Int.
9.65e5
4.83e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 3.26e3
ES 123478D
1.00e7
37.52
ES 123678D
9.56e6
37.64
JS 123467D
5.72e6
37.84
ES 123789D
1.14e7
37.94
Abs. Int.
3.09e6
1.54e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 1.92e3
ES 123478D
7.71e6
37.52
ES 123678D
7.66e6
37.64
JS 123467D
4.78e6
37.84
ES 123789D
8.95e6
37.94
Abs. Int.
2.35e6
1.18e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 2.37e3
1234679D
8.74e7*
40.02
1234678D
1.64e7
40.70
Abs. Int.
2.93e7
1.46e7
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 1.87e3
1234679D
8.42e7*
40.02
1234678D
1.59e7
40.70
Abs. Int.
2.77e7
1.39e7
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 1.28e3
ES 1234678D
9.41e6
40.69
Abs. Int.
2.85e6
1.42e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.61e3
ES 1234678D
8.49e6
40.69
Abs. Int.
2.43e6
1.21e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
8.50e6
4.25e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

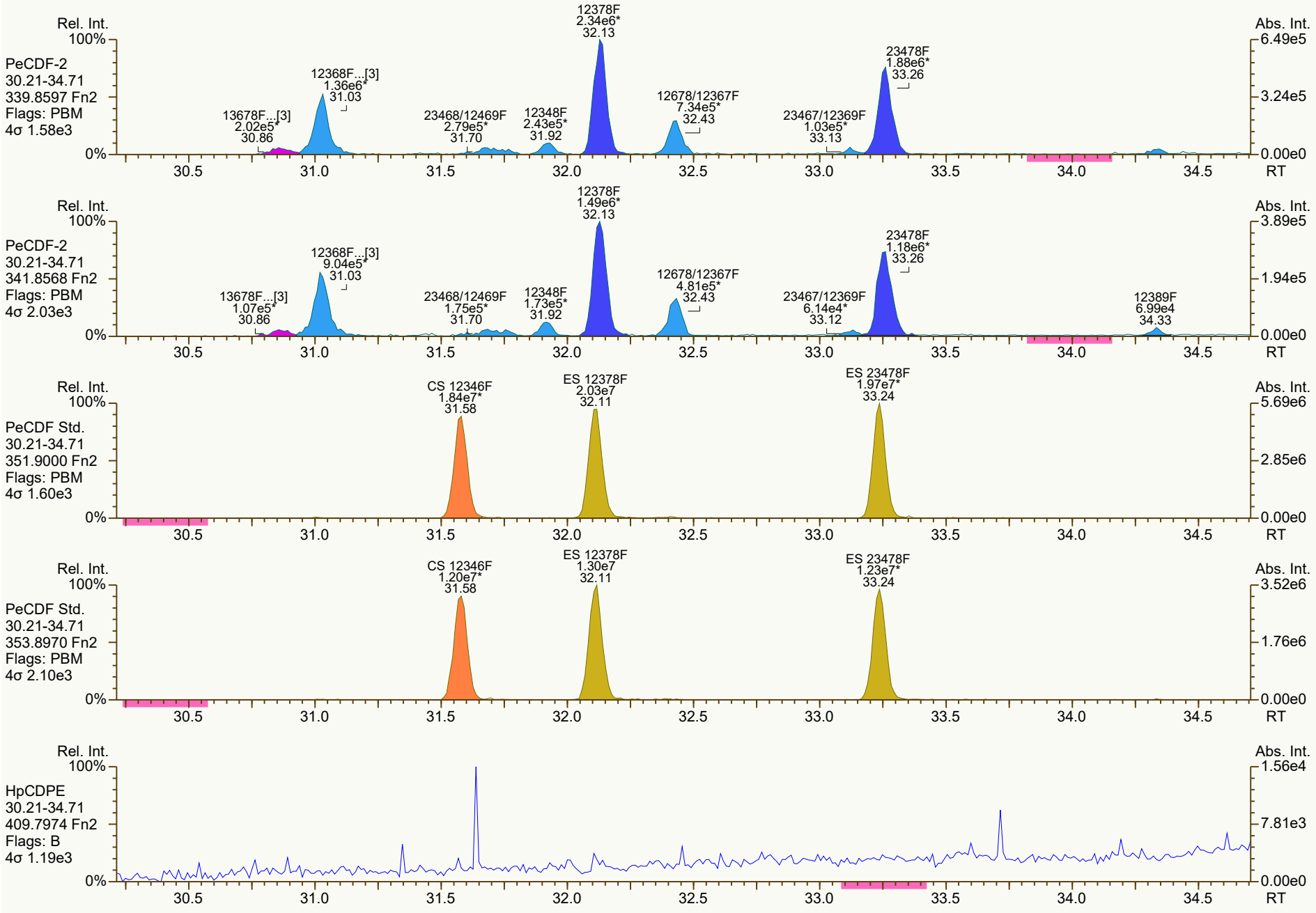

OCDD
1.61e8
43.40
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 2.39e3
0%
Abs. Int.
3.21e7
1.61e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.78e8
43.40
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 2.45e3
3.62e7
1.81e7
ES OCDD
1.14e7*
43.39
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 2.10e3
2.21e6
1.10e6
ES OCDD
1.22e7*
43.39
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 2.44e3
2.42e6
1.21e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
6.80e6
3.40e6

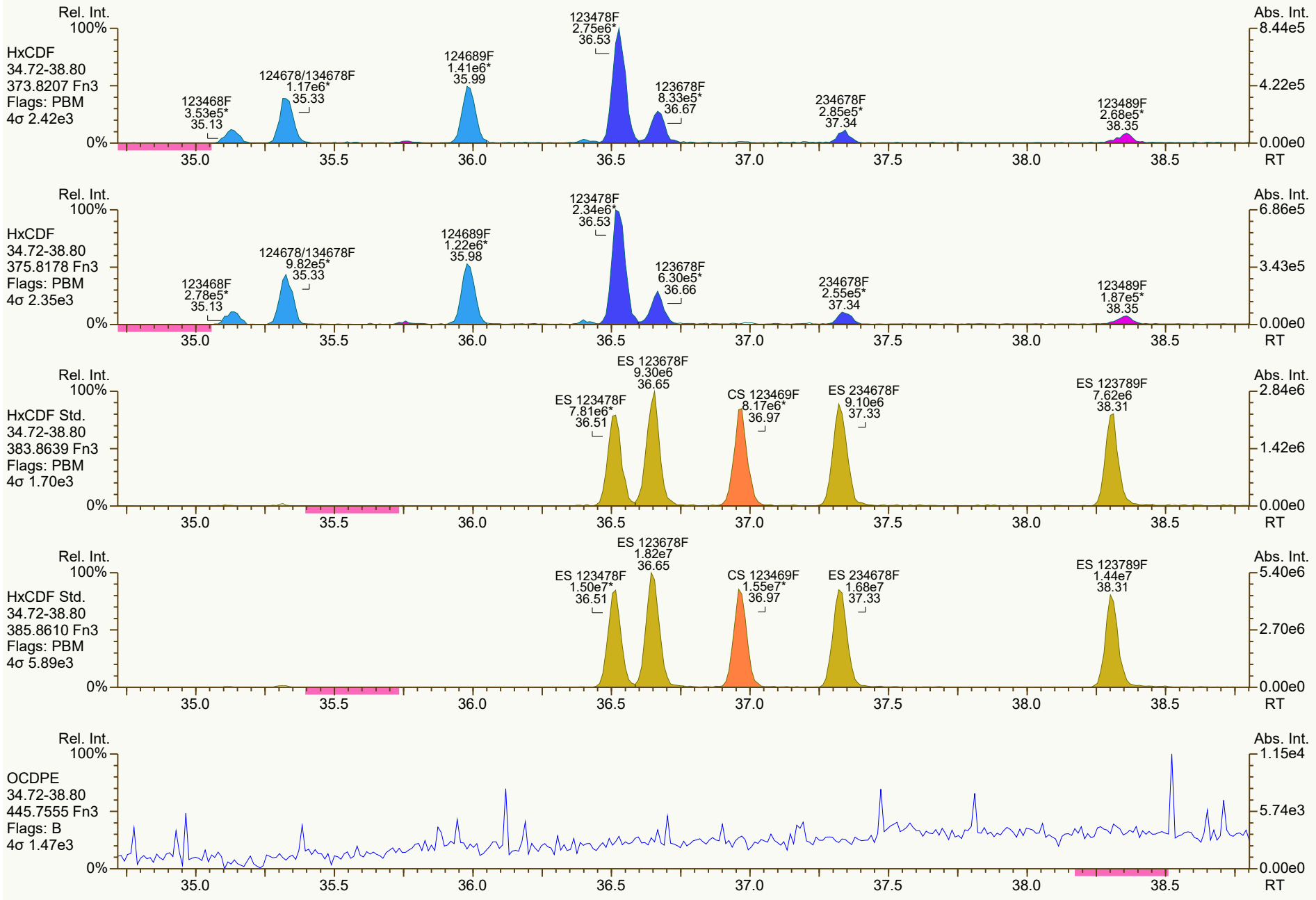

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.53e3
0%
2378F
4.76e7*
27.32
1278F
2.22e7*
26.41
1238F...[5]
2.51e6*
25.94
2348F
4.06e6*
27.21
2367/3467F
4.16e6*
27.68
1289F
3.73e6*
29.35
Abs. Int.
1.06e7
5.31e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.13e3
0%
2378F
6.03e7*
27.32
1278F
2.80e7*
26.41
1238F...[5]
3.17e6*
25.93
2348F
5.23e6*
27.21
2367/3467F
5.25e6*
27.67
1289F
4.65e6*
29.35
Abs. Int.
1.35e7
6.77e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 7.13e3
0%
JS 1234F
1.84e7
25.91
ES 2378F
1.59e7
27.30
Abs. Int.
3.81e6
1.90e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.17e3
0%
JS 1234F
2.23e7
25.91
ES 2378F
1.91e7
27.30
Abs. Int.
4.76e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.23e3
0%
Abs. Int.
2.05e4
1.03e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

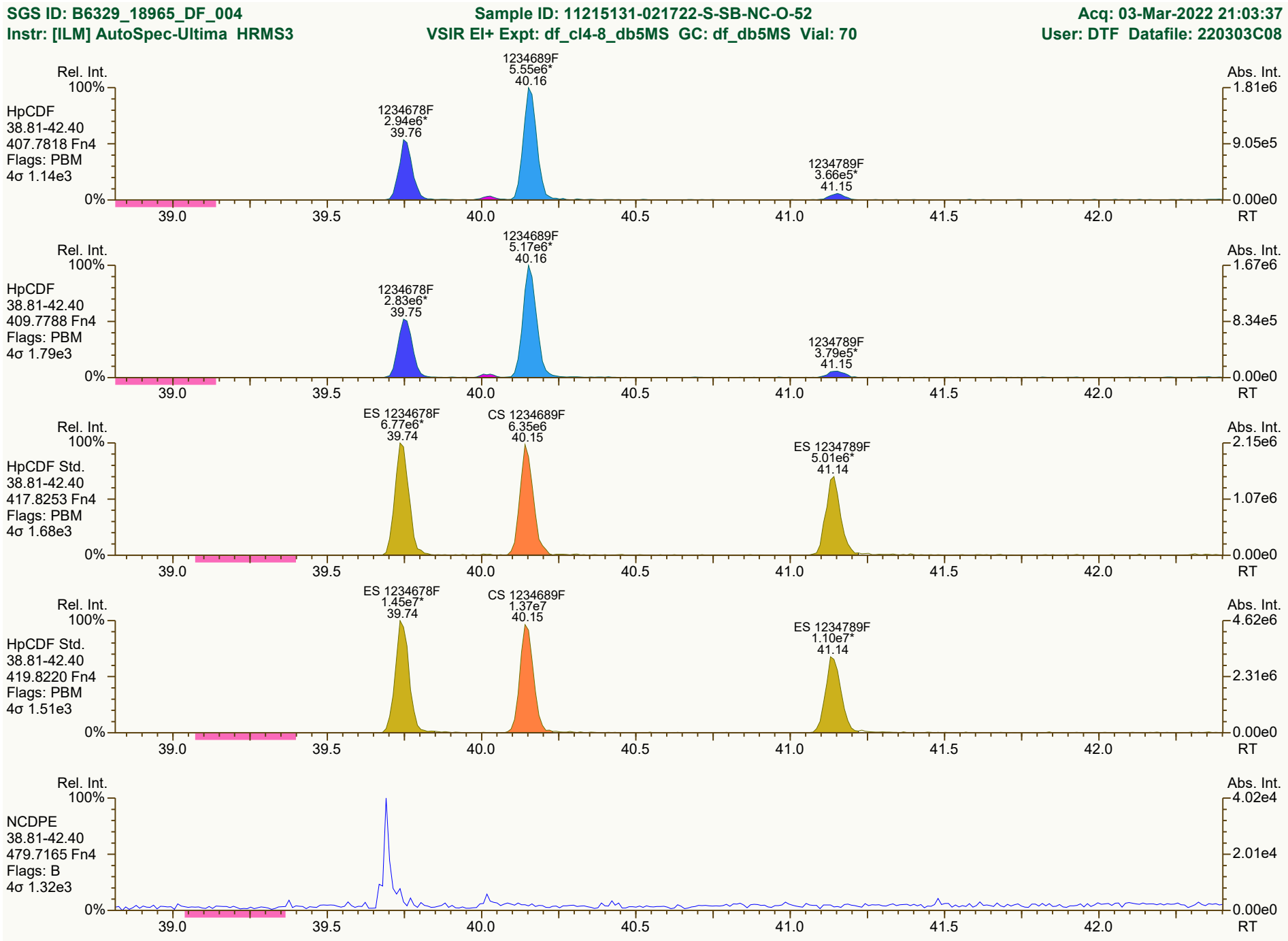
SGS ID: B6329_18965_DF_004 | Sample ID: 11215131-021722-S-SB-NC-O-52 | Acq: 03-Mar-2022 21:03:37
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70 | User: DTF Datafile: 220303C08

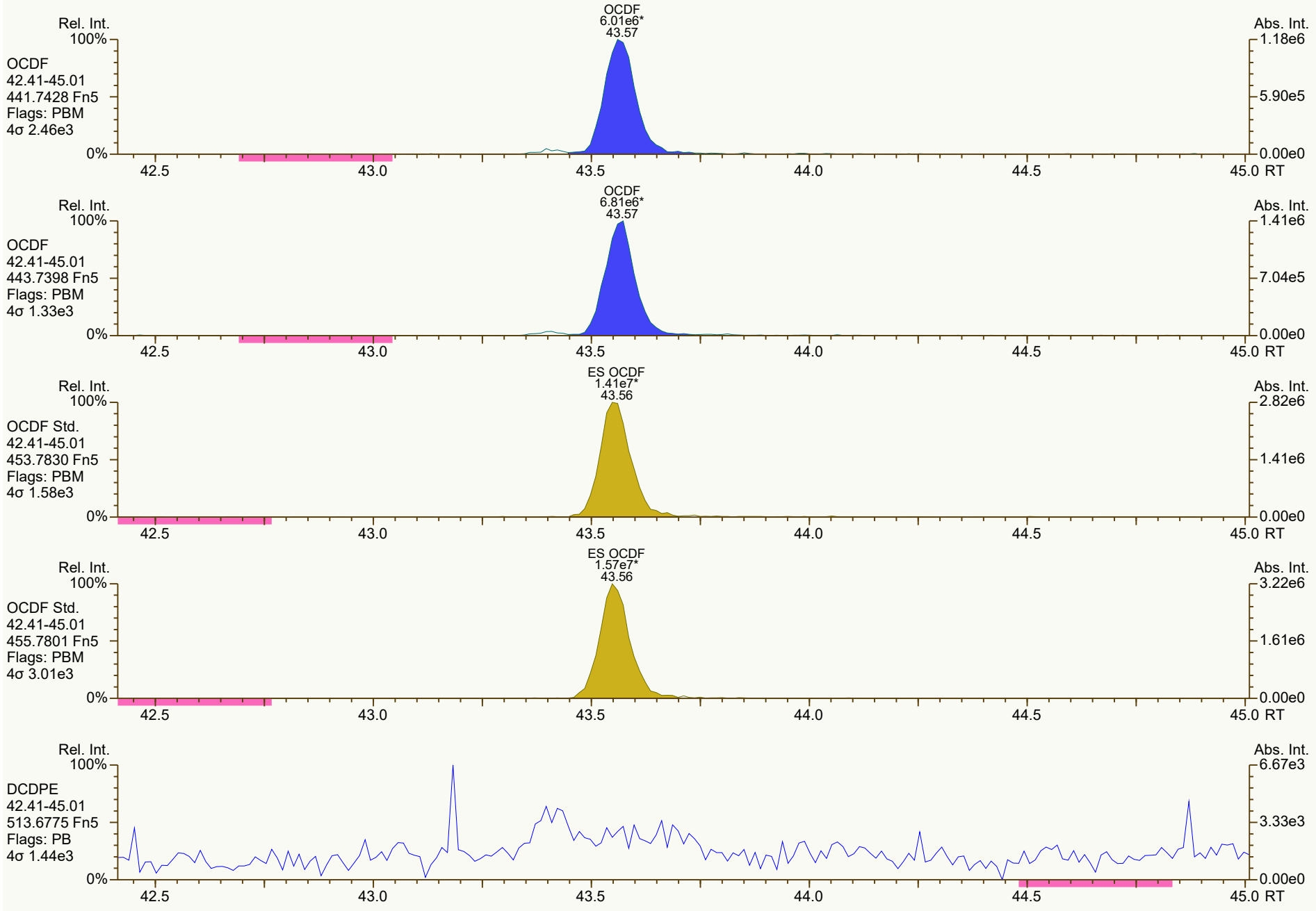


Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_004.utp_res, saved 04-Mar-2022 10:45 (DTF) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7722 scc: 158-253 | *Revised: 04-Mar-2022 09:06 (DTF) Printed: 04-Mar-2022 10:54 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 1.58e3
0%
13678F...[3] 2.02e5* 30.86
12368F...[3] 1.36e6* 31.03
23468/12469F 2.79e5* 31.70
12348F 2.43e5* 31.92
12378F 2.34e6* 32.13
12678/12367F 7.34e5* 32.43
23467/12369F 1.03e5* 33.13
23478F 1.88e6* 33.26
Abs. Int.
6.49e5
3.24e5
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 2.03e3
0%
13678F...[3] 1.07e5* 30.86
12368F...[3] 9.04e5* 31.03
23468/12469F 1.75e5* 31.70
12348F 1.73e5* 31.92
12378F 1.49e6* 32.13
12678/12367F 4.81e5* 32.43
23467/12369F 6.14e4* 33.12
23478F 1.18e6* 33.26
12389F 6.99e4 34.33
Abs. Int.
3.89e5
1.94e5
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PBM
4σ 1.60e3
0%
CS 12346F 1.84e7* 31.58
ES 12378F 2.03e7 32.11
ES 23478F 1.97e7* 33.24
Abs. Int.
5.69e6
2.85e6
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PBM
4σ 2.10e3
0%
CS 12346F 1.20e7* 31.58
ES 12378F 1.30e7 32.11
ES 23478F 1.23e7* 33.24
Abs. Int.
3.52e6
1.76e6
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.19e3
0%
Abs. Int.
1.56e4
7.81e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 2.42e3
123468F 3.53e5* 35.13
124678/134678F 1.17e6* 35.33
124689F 1.41e6* 35.99
123478F 2.75e6* 36.53
123678F 8.33e5* 36.67
234678F 2.85e5* 37.34
123489F 2.68e5* 38.35
Abs. Int.
8.44e5
4.22e5
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 2.35e3
123468F 2.78e5* 35.13
124678/134678F 9.82e5* 35.33
124689F 1.22e6* 35.98
123478F 2.34e6* 36.53
123678F 6.30e5* 36.66
234678F 2.55e5* 37.34
123489F 1.87e5* 38.35
Abs. Int.
6.86e5
3.43e5
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 1.70e3
ES 123478F 7.81e6* 36.51
ES 123678F 9.30e6 36.65
CS 123469F 8.17e6* 36.97
ES 234678F 9.10e6 37.33
ES 123789F 7.62e6 38.31
Abs. Int.
2.84e6
1.42e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 5.89e3
ES 123478F 1.50e7* 36.51
ES 123678F 1.82e7 36.65
CS 123469F 1.55e7* 36.97
ES 234678F 1.68e7 37.33
ES 123789F 1.44e7 38.31
Abs. Int.
5.40e6
2.70e6
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.47e3
Abs. Int.
1.15e4
5.74e3
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT


SGS ID: B6329_18965_DF_004
Sample ID: 11215131-021722-S-SB-NC-O-52
Acq: 03-Mar-2022 21:03:37
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 220303C08
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 1.14e3
1234689F
5.55e6*
40.16
1234678F
2.94e6*
39.76
1234789F
3.66e5*
41.15
1.81e6
9.05e5
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 1.79e3
1234689F
5.17e6*
40.16
1234678F
2.83e6*
39.75
1234789F
3.79e5*
41.15
1.67e6
8.34e5
0.00e0
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 1.68e3
ES 1234678F
6.77e6*
39.74
CS 1234689F
6.35e6
40.15
ES 1234789F
5.01e6*
41.14
2.15e6
1.07e6
0.00e0
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 1.51e3
ES 1234678F
1.45e7*
39.74
CS 1234689F
1.37e7
40.15
ES 1234789F
1.10e7*
41.14
4.62e6
2.31e6
0.00e0
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.32e3
4.02e4
2.01e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_004.utp_res, saved 04-Mar-2022 10:45 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9368, 8060, 6260 scc: 158-253
Revised: 04-Mar-2022 09:09 (DTF) Printed: 04-Mar-2022 10:54 Page 11 of 12


OCDF
6.01e6*
43.57
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 2.46e3
0%
Abs. Int.
1.18e6
5.90e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
6.81e6*
43.57
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 1.33e3
1.41e6
7.04e5
ES OCDF
1.41e7*
43.56
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 1.58e3
2.82e6
1.41e6
ES OCDF
1.57e7*
43.56
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 3.01e3
3.22e6
1.61e6
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.44e3
6.67e3
3.33e3

Lab ID: B6329_18965_DF_005 **Acq'd:** 03 Mar 2022 21:49 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-NC-O-49 **UTP:** 04-Mar-2022 10:45:41 DTF **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 922-005-MDC

Datafile: 220303C09 **Report:** 04 Mar 2022 10:47 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.22	E	1.0008	1.0008	0	1.33E+09	0.80	Y	1.18	9,490	4637.334	0.367
12378-PeCDD	33.63		1.0007	1.0005	-0.4	1.06E+07	1.54	Y	1.04	94	6044.533	0.467
123478-HxCDD	37.55		1.0004	1.0004	0	5.23E+05	1.32	Y	1.09	5.05	12541.336	1.11
123678-HxCDD	37.67		1.0036	1.0036	0	2.47E+06	1.25	Y	1.15	22.8	12541.336	1.05
123789-HxCDD	37.98		1.0118	1.0118	0	1.27E+06	1.27	Y	1.05	10.7	12541.336	0.859
1234678-HpCDD	40.72		1.0002	1.0003	+0.2	7.47E+07	1.03	Y	1.06	743	13571.736	1.1
OCDD	43.42	E	1.0003	1.0003	0	8.50E+08	0.90	Y	1.13	12,000	5952.71	1.13
2378-TCDF	27.36	E	1.0008	1.0008	0	5.16E+09	0.78	Y	1.08	24,900	3924.883	0.216
12378-PeCDF	32.17		1.0005	1.0006	+0.2	1.59E+08	1.54	Y	1.02	914	14318.334	0.763
23478-PeCDF	33.31		1.0005	1.0008	+0.6	1.23E+08	1.55	Y	1.02	704	14318.334	0.863
123478-HxCDF	36.55		1.0004	1.0005	+0.2	2.42E+08	1.23	Y	1.27	1,450	9448.531	0.488
123678-HxCDF	36.69		1.0004	1.0005	+0.2	6.12E+07	1.21	Y	1.15	366	9448.531	0.483
234678-HxCDF	37.37		1.0005	1.0004	-0.2	1.36E+07	1.22	Y	1.19	83	9448.531	0.499
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	9448.531	0.58
1234678-HpCDF	39.77		1.0003	1.0003	0	8.19E+07	1.04	Y	1.37	541	4398.929	0.222
1234789-HpCDF	41.17		1.0003	1.0003	0	2.12E+07	1.04	Y	1.31	173	4398.929	0.344
OCDF	43.59		1.0002	1.0003	+0.3	2.26E+08	0.90	Y	1.07	2,520	3749.97	0.502

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.20	1.0243	1.0240	-0.5	2.34E+07	0.86	Y	1.05	82.6
ES 12378-PeCDD	33.61	1.2198	1.2203	+1.0	2.15E+07	1.65	Y	0.88	90
ES 123478-HxCDD	37.54	0.9916	0.9914	-0.5	1.88E+07	1.33	Y	0.97	83.6
ES 123678-HxCDD	37.66	0.9947	0.9947	0	1.87E+07	1.25	Y	0.94	85.4
ES 123789-HxCDD	37.97	1.0029	1.0028	-0.2	2.24E+07	1.25	Y	1.09	88.9
ES 1234678-HpCDD	40.71	1.0749	1.0752	+0.7	1.88E+07	1.08	Y	0.91	88.8
ES OCDD	43.41	1.1460	1.1465	+1.3	2.49E+07	0.87	Y	0.62	86.4
ES 2378-TCDF	27.33	1.0531	1.0537	+1.0	3.80E+07	0.80	Y	1.06	85.6
ES 12378-PeCDF	32.15	1.2378	1.2394	+3.1	3.35E+07	1.55	Y	0.91	87.7
ES 23478-PeCDF	33.28	1.2810	1.2829	+3.8	3.39E+07	1.55	Y	0.88	91.5
ES 123478-HxCDF	36.54	0.9650	0.9651	+0.2	2.60E+07	0.54	Y	1.20	93.8
ES 123678-HxCDF	36.68	0.9688	0.9688	0	2.87E+07	0.56	Y	1.35	91.6
ES 234678-HxCDF	37.35	0.9866	0.9866	0	2.73E+07	0.55	Y	1.24	94.9
ES 123789-HxCDF	38.33	1.0125	1.0124	-0.2	2.40E+07	0.52	Y	1.16	89.8
ES 1234678-HpCDF	39.76	1.0501	1.0501	0	2.19E+07	0.45	Y	0.97	97.7
ES 1234789-HpCDF	41.16	1.0870	1.0871	+0.2	1.86E+07	0.46	Y	0.85	94.2
ES OCDF	43.58	1.1505	1.1511	+1.6	3.30E+07	0.90	Y	0.81	88.3

Lab ID: B6329_18965_DF_005 **Acq'd:** 03 Mar 2022 21:49 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-NC-O-49 **UTP:** 04-Mar-2022 10:45:41 DTF **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 922-005-MDC

Datafile: 220303C09 **Report:** 04 Mar 2022 10:47 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.54		-	-	-	2.71E+07	0.82	Y	-	-	
JS 1234-TCDF	25.94		-	-	-	4.19E+07	0.79	Y	-	-	
JS 123467-HxCDD	37.86		-	-	-	1.16E+07	1.25	Y	-	-	
CS 37Cl-2378-TCDD	28.22		1.0251	1.0247	-0.7	9.86E+06	n/a	-	1.20	75.7	
CS 12347-PeCDD	33.11		1.2016	1.2021	+1.0	1.85E+07	1.66	Y	0.75	90.4	
CS 12346-PeCDF	31.63		1.2172	1.2191	+3.6	3.23E+07	1.58	Y	0.85	90.4	
CS 123469-HxCDF	36.99		0.9771	0.9770	-0.2	2.49E+07	0.54	Y	1.12	96.3	
CS 1234689-HpCDF	40.17		1.0608	1.0610	+0.5	2.05E+07	0.45	Y	0.89	100	
~~SS 37Cl-2378-TCDD~~	~~28.22~~		~~1.0251~~	~~1.0247~~	~~-0.7~~	~~9.86E+06~~	~~n/a~~		~~1.15~~	~~91.8~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.11~~		~~1.2016~~	~~1.2021~~	~~+1.0~~	~~1.85E+07~~	~~1.66~~	~~Y~~	~~0.86~~	~~100~~	CL 07Mar22
~~SS 12346-PeCDF~~	~~31.63~~		~~1.2172~~	~~1.2191~~	~~+3.6~~	~~3.23E+07~~	~~1.58~~	~~Y~~	~~0.94~~	~~103~~	
~~SS 123469-HxCDF~~	~~36.99~~		~~0.9771~~	~~0.9770~~	~~-0.2~~	~~2.49E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~105~~	
~~SS 1234689-HpCDF~~	~~40.17~~		~~1.0608~~	~~1.0610~~	~~+0.5~~	~~2.05E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~102~~	

Totals	Conc	EMPC
Total TCDD	10400	10400
Total PeCDD	143	147
Total HxCDD	228	228
Total HpCDD	1570	1570
Total Tetra-Octa Dioxins	24300	24300
Total TCDF	46,700	46700
Total PeCDF	2,540	2540
Total HxCDF	2,290	2290
Total HpCDF	1,010	1010
Total Tetra-Octa Furans	55,100	55100
Total Tetra-Octa Dioxins & Furans	79400	79400

Lab ID: B6329_18965_DF_005 **Acq'd: 03 Mar 2022 21:49 DTF** **Wt/Vol: 10.12 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021822-S-SB-NC-O-49 **UTP: 04-Mar-2022 10:45:41 DTF** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 922-005-MDC**

Datafile: 220303C09 **Report: 04 Mar 2022 10:47 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.53		0.8701	0.8698	-0.4	1.49E+06	0.72	Y	1.18	10.6	4637.334	0.367
1379-TCDD	24.89		0.8829	0.8824	-0.7	6.71E+05	0.85	Y	1.18	4.78	4637.334	0.367
1369-TCDD	NotFnd		0.8982						1.18		4637.334	0.367
1469-TCDD	26.11		0.9261	0.9258	-0.5	4.39E+05	0.86	Y	1.18	3.13	4637.334	0.367
1247/1246/1248/1249-TCDD	26.35		0.9348	0.9342	-0.9	2.02E+06	0.84	Y	1.18	14.4	4637.334	0.367
1378-TCDD	26.54		0.9417	0.9411	-1.0	3.92E+06	0.84	Y	1.18	27.9	4637.334	0.367
1268-TCDD	NotFnd		0.9487						1.18		4637.334	0.367
1478-TCDD	27.01		0.9576	0.9576	0	2.97E+06	0.84	Y	1.18	21.2	4637.334	0.367
1279-TCDD	NotFnd		0.9636						1.18		4637.334	0.367
1234/1269-TCDD	27.54		0.9761	0.9764	+0.5	4.23E+05	0.79	Y	1.18	3.01	4637.334	0.367
1236-TCDD	27.70	EMPC	0.9812	0.9822	+1.7	1.66E+05	0.90	N	1.18	1.18	4637.334	0.367
1237/1238-TCDD	27.93		0.9905	0.9903	-0.3	2.03E+07	0.80	Y	1.18	144	4637.334	0.367
1239-TCDD	NotFnd		0.9951						1.18		4637.334	0.367
2378-TCDD	**28.22**	E	**1.0008**	1.0008	**0**	1.33E+09	0.80	Y	**1.18**	**9,490**	**4637.334**	**0.367**
1278-TCDD	28.56		1.0124	1.0126	+0.3	9.22E+07	0.79	Y	1.18	657	4637.334	0.367
1267-TCDD	28.71	EMPC	1.0172	1.0181	+1.6	2.69E+06	0.97	N	1.18	19.2	4637.334	0.367
1289-TCDD	29.22		1.0354	1.0360	+1.1	1.85E+06	0.87	Y	1.18	13.2	4637.334	0.367
12479/12468-PeCDD	31.11		0.9255	0.9258	+0.6	1.35E+06	1.47	Y	1.04	12	6044.533	0.467
12469-PeCDD	31.65	EMPC	0.9416	0.9418	+0.4	4.85E+05	1.01	N	1.04	4.31	6044.533	0.467
12368-PeCDD	32.20		0.9582	0.9582	0	1.35E+06	1.54	Y	1.04	12	6044.533	0.467
12478-PeCDD	32.40		0.9637	0.9639	+0.4	8.39E+05	1.69	Y	1.04	7.46	6044.533	0.467
12379-PeCDD	32.50		0.9668	0.9670	+0.4	4.58E+05	1.69	Y	1.04	4.07	6044.533	0.467
12369/12467/12489-PeCDD	32.75		0.9746	0.9745	-0.2	4.02E+05	1.69	Y	1.04	3.57	6044.533	0.467
12346/12347-PeCDD	33.13		0.9858	0.9858	0	3.08E+05	1.65	Y	1.04	2.74	6044.533	0.467
12378-PeCDD	33.63		**1.0007**	**1.0005**	**-0.4**	**1.06E+07**	**1.54**	**Y**	**1.04**	**94**	**6044.533**	**0.467**
12367-PeCDD	33.73		1.0036	1.0035	-0.2	5.60E+05	1.58	Y	1.04	4.98	6044.533	0.467
12389-PeCDD	34.07	J	1.0137	1.0138	+0.2	2.61E+05	1.43	Y	1.04	2.32	6044.533	0.467
124679/124689-HxCDD	35.82		0.9540	0.9542	+0.4	1.11E+07	1.24	Y	1.10	100	12541.336	0.997
123468-HxCDD	36.47		0.9715	0.9716	+0.2	1.15E+06	1.18	Y	1.10	10.4	12541.336	0.997
123679/123689-HxCDD	36.76		0.9793	0.9794	+0.2	7.99E+06	1.28	Y	1.10	72.2	12541.336	0.997
123469-HxCDD	36.89		0.9829	0.9829	0	4.12E+05	1.32	Y	1.10	3.72	12541.336	0.997
123478-HxCDD	37.55		**1.0004**	**1.0004**	**0**	**5.23E+05**	**1.32**	**Y**	1.09	**5.05**	**12541.336**	**1.11**
123678-HxCDD	37.67		**1.0036**	**1.0036**	**0**	**2.47E+06**	**1.25**	**Y**	1.15	**22.8**	**12541.336**	**1.05**
123467-HxCDD	37.87		1.0089	1.0090	+0.2	3.07E+05	1.33	Y	1.10	2.78	12541.336	0.997
123789-HxCDD	37.98		**1.0118**	**1.0118**	**0**	**1.27E+06**	**1.27**	**Y**	1.05	**10.7**	**12541.336**	**0.859**

Lab ID: B6329_18965_DF_005 **Acq'd:** 03 Mar 2022 21:49 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-NC-O-49 **UTP:** 04-Mar-2022 10:45:41 DTF **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 922-005-MDC

Datafile: 220303C09 **Report:** 04 Mar 2022 10:47 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

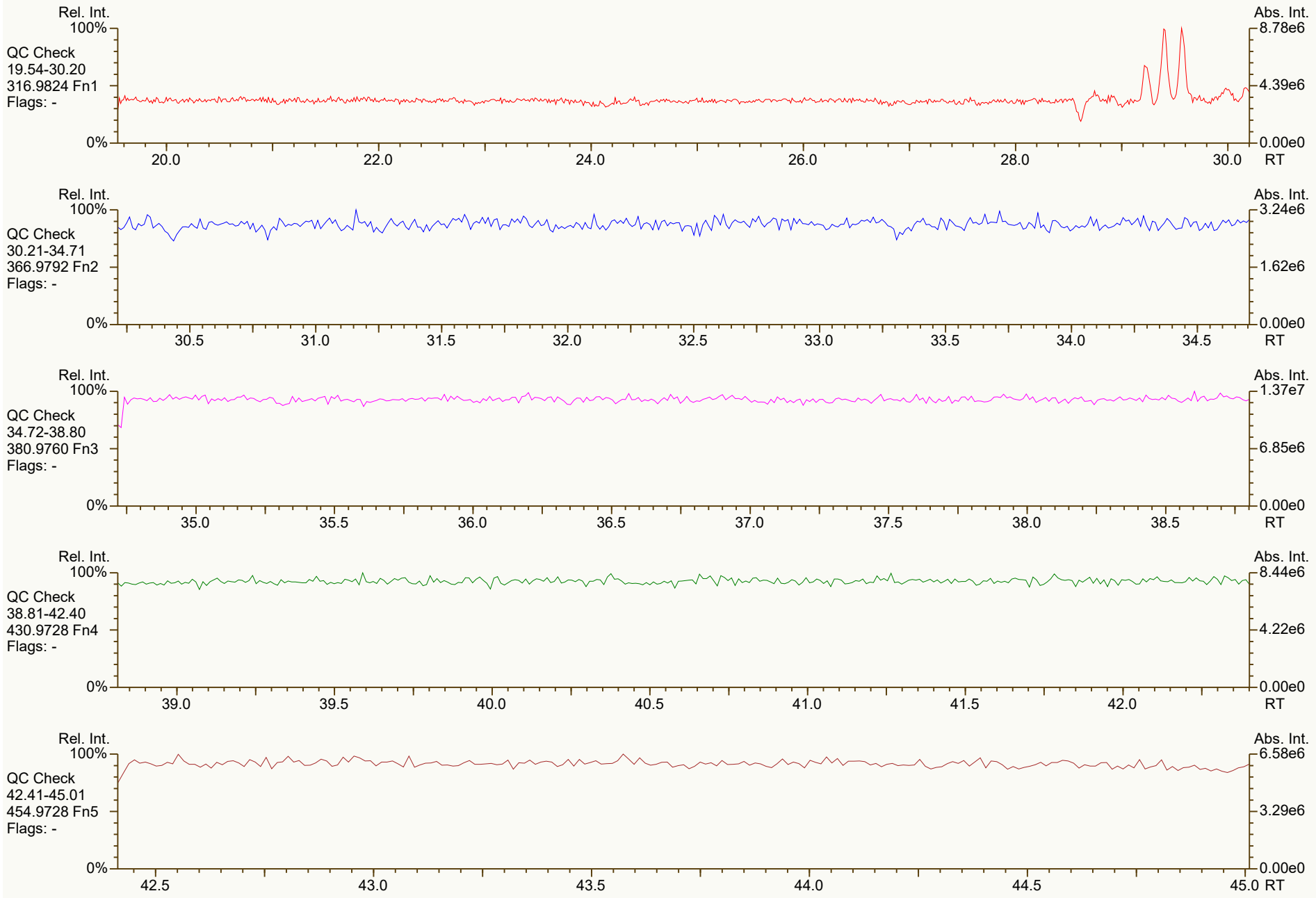
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.04		0.9836	0.9835	-0.2	8.33E+07	1.04	Y	1.06	828	13571.736	1.1
1234678-HpCDD	**40.72**		**1.0002**	**1.0003**	**+0.2**	**7.47E+07**	**1.03**	**Y**	**1.06**	**743**	**13571.736**	**1.1**
OCDD	**43.42**	**E**	**1.0003**	**1.0003**	**0**	**8.50E+08**	**0.90**	**Y**	**1.13**	**12,000**	**5952.71**	**1.13**
OCDD-a	43.42	E	1.0002	1.0002	0	5.18E+07	2.50	Y	0.07	11,400	8745.093	26
1368-TCDF	22.35		0.8191	0.8176	-2.0	9.25E+05	0.81	Y	1.08	4.46	3924.883	0.216
1468-TCDF	22.96		0.8408	0.8399	-1.2	7.04E+06	0.77	Y	1.08	34	3924.883	0.216
2468-TCDF	23.61		0.8645	0.8639	-0.9	5.71E+06	0.77	Y	1.08	27.5	3924.883	0.216
1346/1246-TCDF	NotFnd		0.8772						1.08		3924.883	0.216
1347/1378/1247-TCDF	24.16		0.8833	0.8837	+0.6	3.98E+07	0.78	Y	1.08	192	3924.883	0.216
1348-TCDF	NotFnd		0.8932						1.08		3924.883	0.216
1248/1367/1379-TCDF	24.50		0.8980	0.8964	-2.4	1.40E+08	0.78	Y	1.08	673	3924.883	0.216
1268-TCDF	24.92		0.9119	0.9116	-0.4	5.61E+07	0.79	Y	1.08	270	3924.883	0.216
1467-TCDF	25.05		0.9170	0.9165	-0.8	1.13E+07	0.80	Y	1.08	54.4	3924.883	0.216
1478-TCDF	25.22		0.9234	0.9228	-0.9	1.41E+08	0.78	Y	1.08	678	3924.883	0.216
1369/1237-TCDF	25.61		0.9369	0.9368	-0.2	4.65E+07	0.80	Y	1.08	224	3924.883	0.216
2467-TCDF	25.72		0.9415	0.9411	-0.6	5.89E+06	0.80	Y	1.08	28.4	3924.883	0.216
2368-TCDF	25.89		0.9475	0.9470	-0.8	1.49E+08	0.77	Y	1.08	717	3924.883	0.216
1238/1234/1678/1469/1236-TCDF	25.96	E	0.9507	0.9497	-1.6	2.14E+08	0.79	Y	1.08	1,030	3924.883	0.216
1278-TCDF	26.43	E	0.9676	0.9670	-1.0	2.36E+09	0.79	Y	1.08	11,400	3924.883	0.216
1349-TCDF	NotFnd		0.9722						1.08		3924.883	0.216
1267-TCDF	26.71		0.9777	0.9772	-0.8	1.01E+08	0.79	Y	1.08	486	3924.883	0.216
2346/1249-TCDF	26.91		0.9843	0.9846	+0.5	1.19E+07	0.80	Y	1.08	57.5	3924.883	0.216
2347/1279-TCDF	27.13		0.9926	0.9924	-0.3	6.19E+07	0.78	Y	1.08	298	3924.883	0.216
2348-TCDF	27.24	E	0.9968	0.9964	-0.7	3.29E+08	0.77	Y	1.08	1,580	3924.883	0.216
2378-TCDF	**27.36**	E	**1.0008**	**1.0008**	**0**	**5.16E+09**	**0.78**	**Y**	**1.08**	**24,900**	**3924.883**	**0.216**
2367/3467-TCDF	27.72	E	1.0142	1.0140	-0.3	4.03E+08	0.78	Y	1.08	1,940	3924.883	0.216
1269-TCDF	27.97		1.0235	1.0231	-0.7	5.84E+07	0.79	Y	1.08	282	3924.883	0.216
1239-TCDF	28.23		1.0329	1.0327	-0.3	5.53E+06	0.83	Y	1.08	26.7	3924.883	0.216
1289-TCDF	29.40	E	1.0742	1.0757	+2.6	3.86E+08	0.79	Y	1.08	1,860	3924.883	0.216
13468/12468-PeCDF	29.36		0.9122	0.9130	+1.4	5.99E+06	1.77	Y	1.02	34.4	3030.023	0.172
13678/13467/12467-PeCDF	30.91		0.9606	0.9615	+1.7	2.35E+06	1.54	Y	1.02	13.5	14318.334	0.813
12368/13478/12478-PeCDF	31.08		0.9655	0.9665	+1.9	7.22E+07	1.53	Y	1.02	415	14318.334	0.813
14678-PeCDF	NotFnd		0.9685						1.02		14318.334	0.813
13479-PeCDF	NotFnd		0.9716						1.02		14318.334	0.813
13469/12479-PeCDF	31.45		0.9794	0.9780	-2.6	5.73E+05	1.55	Y	1.02	3.29	14318.334	0.813
12346-PeCDF	31.63	J	0.9836	0.9838	+0.4	3.55E+05	1.72	Y	1.02	2.04	14318.334	0.813

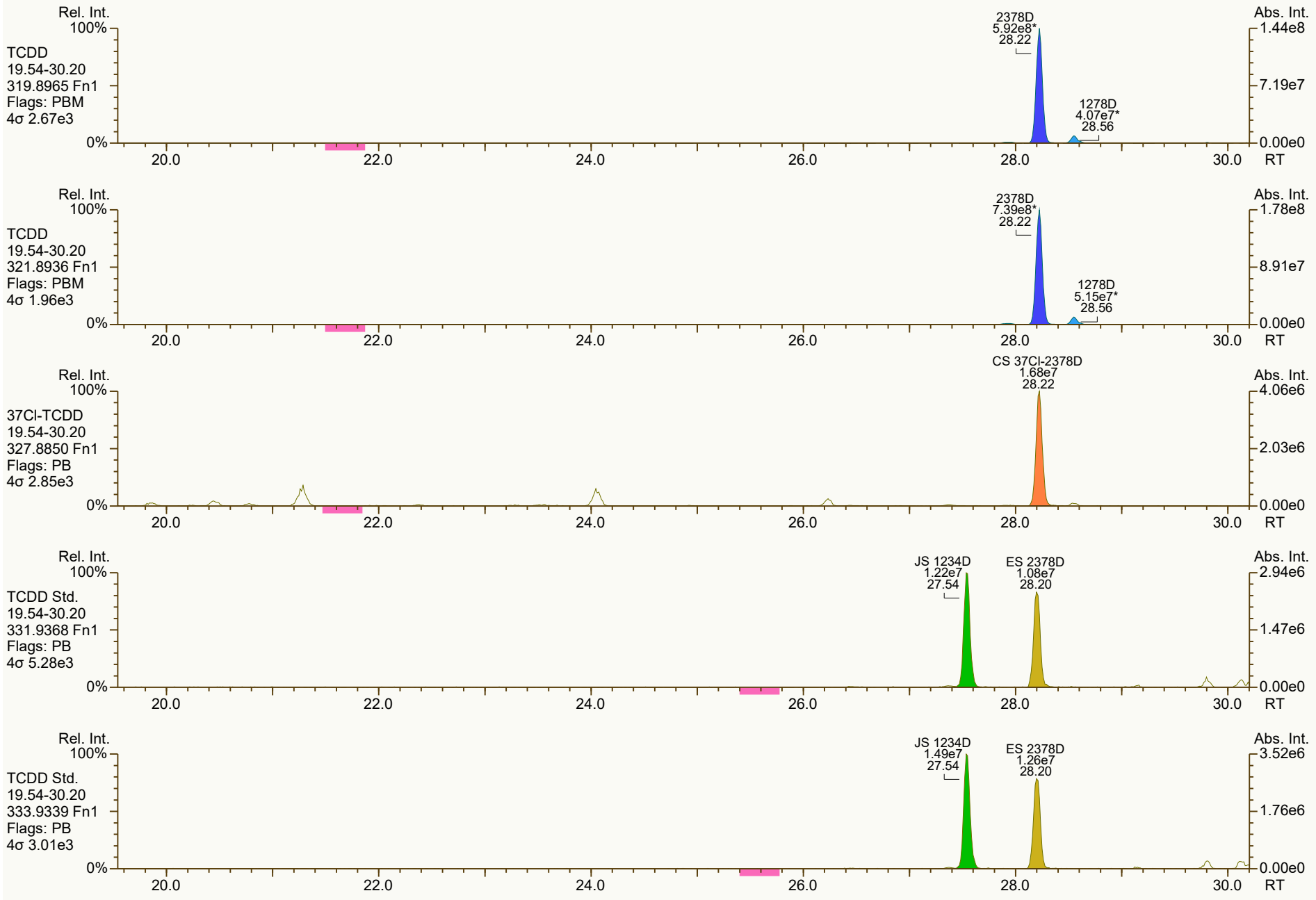
Lab ID: B6329_18965_DF_005 **Acq'd: 03 Mar 2022 21:49 DTF** **Wt/Vol: 10.12 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

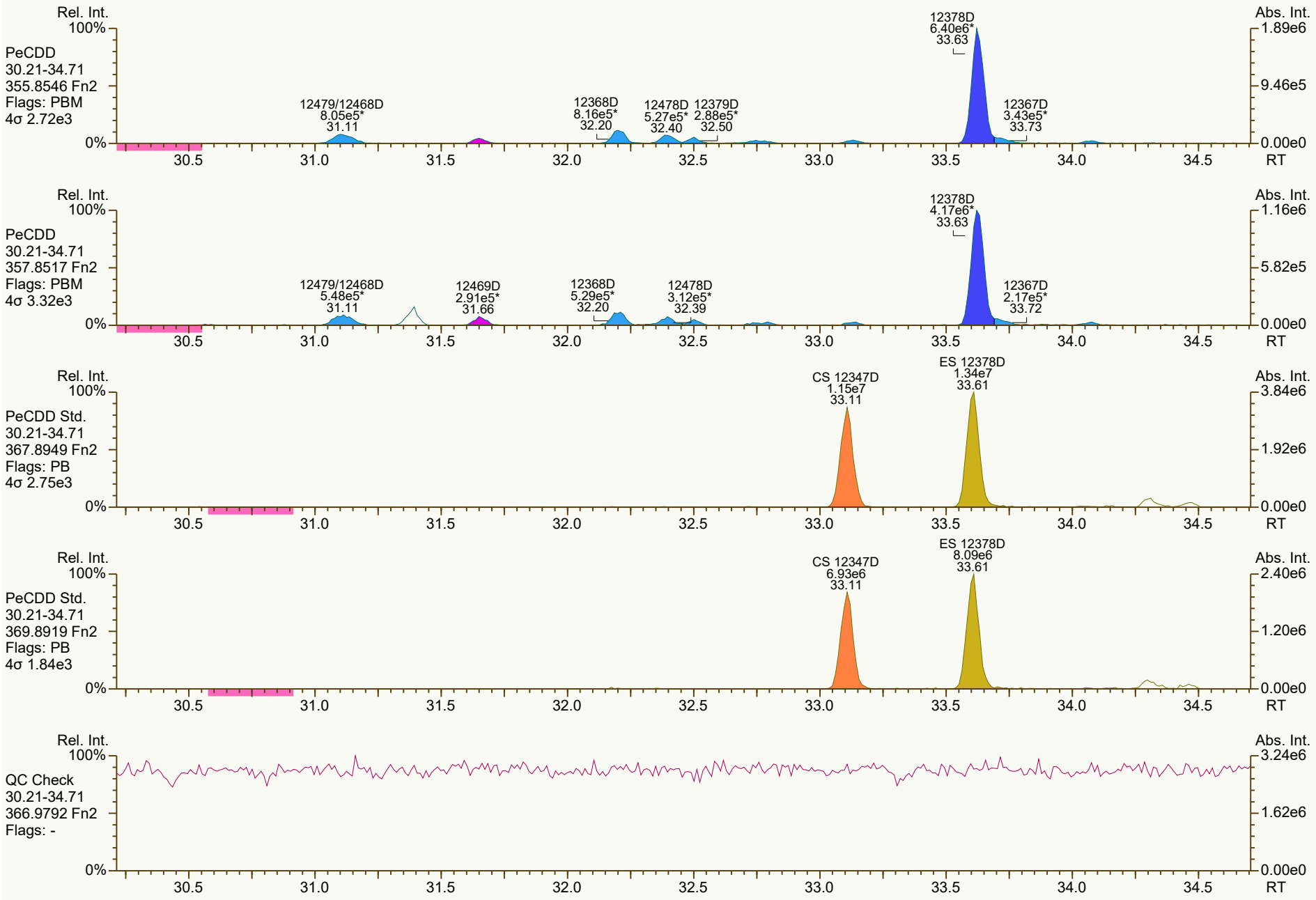
Client ID: 11215131-021822-S-SB-NC-O-49 **UTP: 04-Mar-2022 10:45:41 DTF** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 922-005-MDC**

Datafile: 220303C09 **Report: 04 Mar 2022 10:47 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

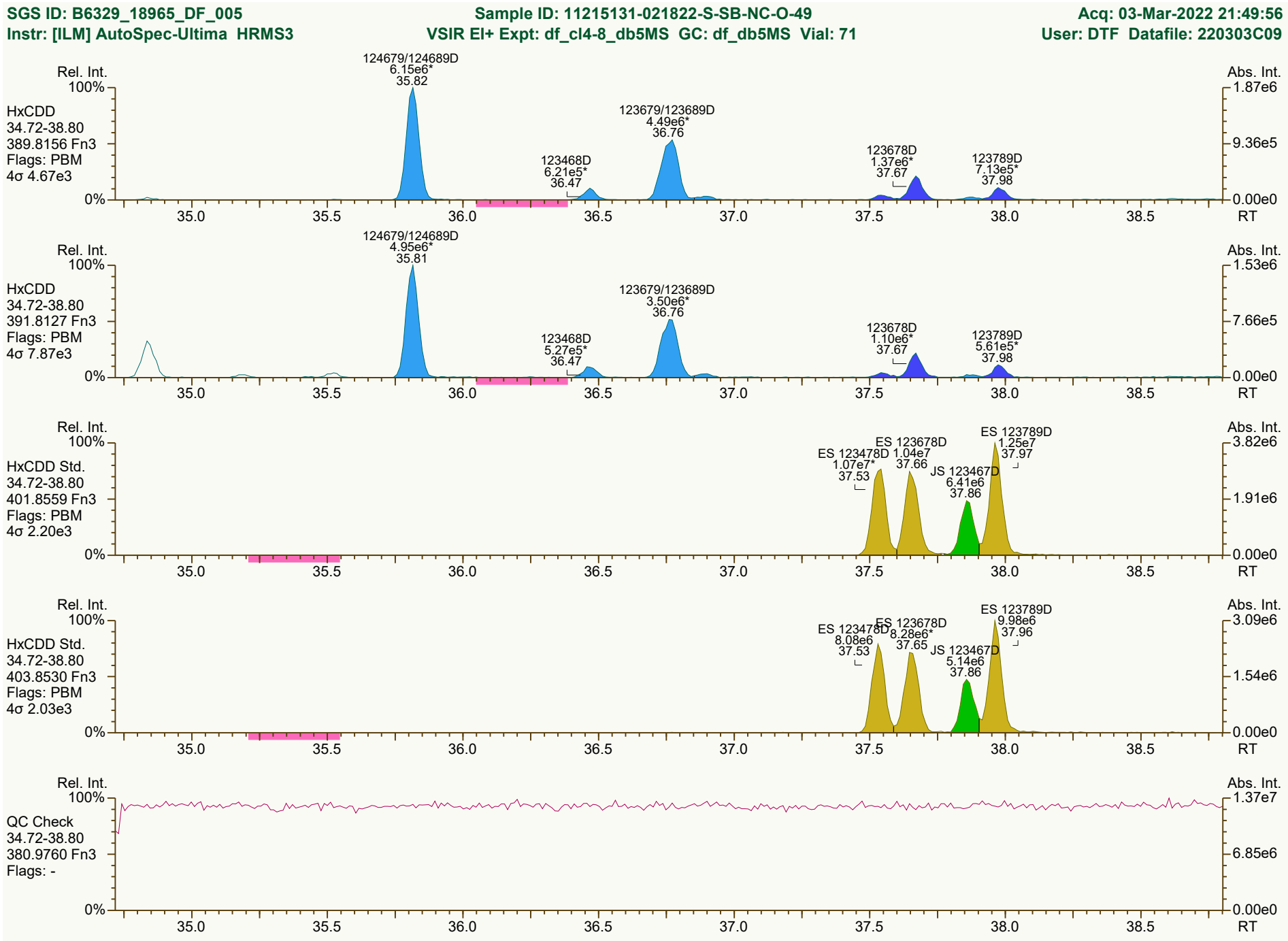
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.73		0.9866	0.9867	+0.2	3.69E+06	1.52	Y	1.02	21.2	14318.334	0.813
12347-PeCDF	31.80		0.9891	0.9891	0	3.40E+06	1.51	Y	1.02	19.5	14318.334	0.813
12348-PeCDF	31.96		0.9938	0.9940	+0.4	1.53E+07	1.56	Y	1.02	87.7	14318.334	0.813
12378-PeCDF	**32.17**		**1.0005**	**1.0006**	**+0.2**	**1.59E+08**	**1.54**	**Y**	**1.02**	**914**	**14318.334**	**0.763**
12678/12367-PeCDF	32.47		1.0091	1.0097	+1.2	4.79E+07	1.53	Y	1.02	275	14318.334	0.813
12379-PeCDF	NotFnd		1.0144						1.02		14318.334	0.813
12679-PeCDF	33.03	J	0.9927	0.9925	-0.4	4.02E+05	1.60	Y	1.02	2.31	14318.334	0.813
23467/12369-PeCDF	33.16		0.9965	0.9963	-0.4	2.32E+06	1.56	Y	1.02	13.3	14318.334	0.813
23478-PeCDF	**33.31**		**1.0005**	**1.0008**	**+0.6**	**1.23E+08**	**1.55**	**Y**	**1.02**	**704**	**14318.334**	**0.863**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		14318.334	0.813
12349-PeCDF	NotFnd		1.0101						1.02		14318.334	0.813
12389-PeCDF	34.37		1.0330	1.0326	-0.8	6.94E+06	1.49	Y	1.02	39.8	14318.334	0.813
123468-HxCDF	35.17		0.9622	0.9625	+0.6	3.78E+06	1.23	Y	1.19	23.6	9448.531	0.51
124678/134678-HxCDF	35.36		0.9678	0.9679	+0.2	2.32E+07	1.22	Y	1.19	145	9448.531	0.51
134679-HxCDF	NotFnd		0.9741						1.19		9448.531	0.51
124679-HxCDF	35.79		0.9795	0.9796	+0.2	3.98E+05	1.28	Y	1.19	2.49	9448.531	0.51
124689-HxCDF	36.02		0.9856	0.9857	+0.2	1.42E+07	1.23	Y	1.19	89	9448.531	0.51
123467-HxCDF	36.43		0.9972	0.9971	-0.2	1.53E+06	1.17	Y	1.19	9.54	9448.531	0.51
123478-HxCDF	**36.55**		**1.0004**	**1.0005**	**+0.2**	**2.42E+08**	**1.23**	**Y**	**1.27**	**1,450**	**9448.531**	**0.488**
123678-HxCDF	**36.69**		**1.0004**	**1.0005**	**+0.2**	**6.12E+07**	**1.21**	**Y**	**1.15**	**366**	**9448.531**	**0.483**
123479-HxCDF	NotFnd		1.0048						1.19		9448.531	0.51
123469-HxCDF	NotFnd		1.0089						1.19		9448.531	0.51
123679-HxCDF	NotFnd		0.9942						1.19		9448.531	0.51
234678-HxCDF	**37.37**		**1.0005**	**1.0004**	**-0.2**	**1.36E+07**	**1.22**	**Y**	**1.19**	**83**	**9448.531**	**0.499**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		9448.531	0.51
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**9448.531**	**0.58**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.37		1.0006	1.0012	+1.4	1.89E+07	1.24	Y	1.19	118	9448.531	0.51
1234678-HpCDF	**39.77**		**1.0003**	**1.0003**	**0**	**8.19E+07**	**1.04**	**Y**	**1.37**	**541**	**4398.929**	**0.222**
1234679-HpCDF	40.03		1.0068	1.0069	+0.2	1.48E+06	1.07	Y	1.34	10.8	4398.929	0.277
1234689-HpCDF	40.18		1.0104	1.0106	+0.5	3.92E+07	1.04	Y	1.34	286	4398.929	0.277
1234789-HpCDF	**41.17**		**1.0003**	**1.0003**	**0**	**2.12E+07**	**1.04**	**Y**	**1.31**	**173**	**4398.929**	**0.344**
OCDF	**43.59**		**1.0002**	**1.0003**	**+0.3**	**2.26E+08**	**0.90**	**Y**	**1.07**	**2,520**	**3749.97**	**0.502**
OCDF-a	43.59		1.0001	1.0002	+0.3	1.44E+07	2.43	Y	0.07	2,610	4307.587	9.3


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
8.78e6
4.39e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.24e6
1.62e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.37e7
6.85e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
8.44e6
4.22e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.58e6
3.29e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT

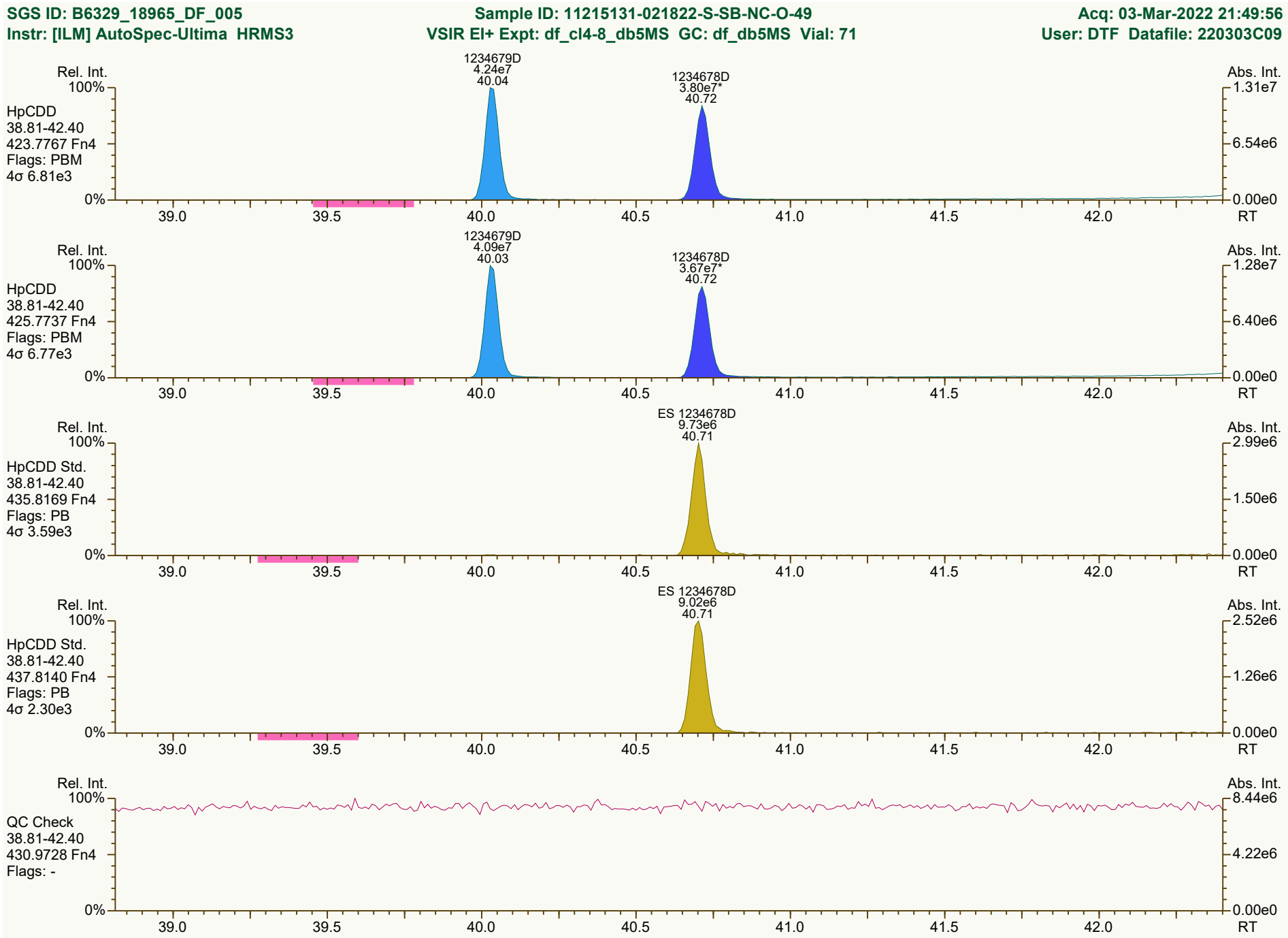

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.67e3
0%
2378D
5.92e8*
28.22
1278D
4.07e7*
28.56
Abs. Int.
1.44e8
7.19e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.96e3
0%
2378D
7.39e8*
28.22
1278D
5.15e7*
28.56
Abs. Int.
1.78e8
8.91e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.85e3
0%
CS 37Cl-2378D
1.68e7
28.22
Abs. Int.
4.06e6
2.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.28e3
0%
JS 1234D
1.22e7
27.54
ES 2378D
1.08e7
28.20
Abs. Int.
2.94e6
1.47e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.01e3
0%
JS 1234D
1.49e7
27.54
ES 2378D
1.26e7
28.20
Abs. Int.
3.52e6
1.76e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

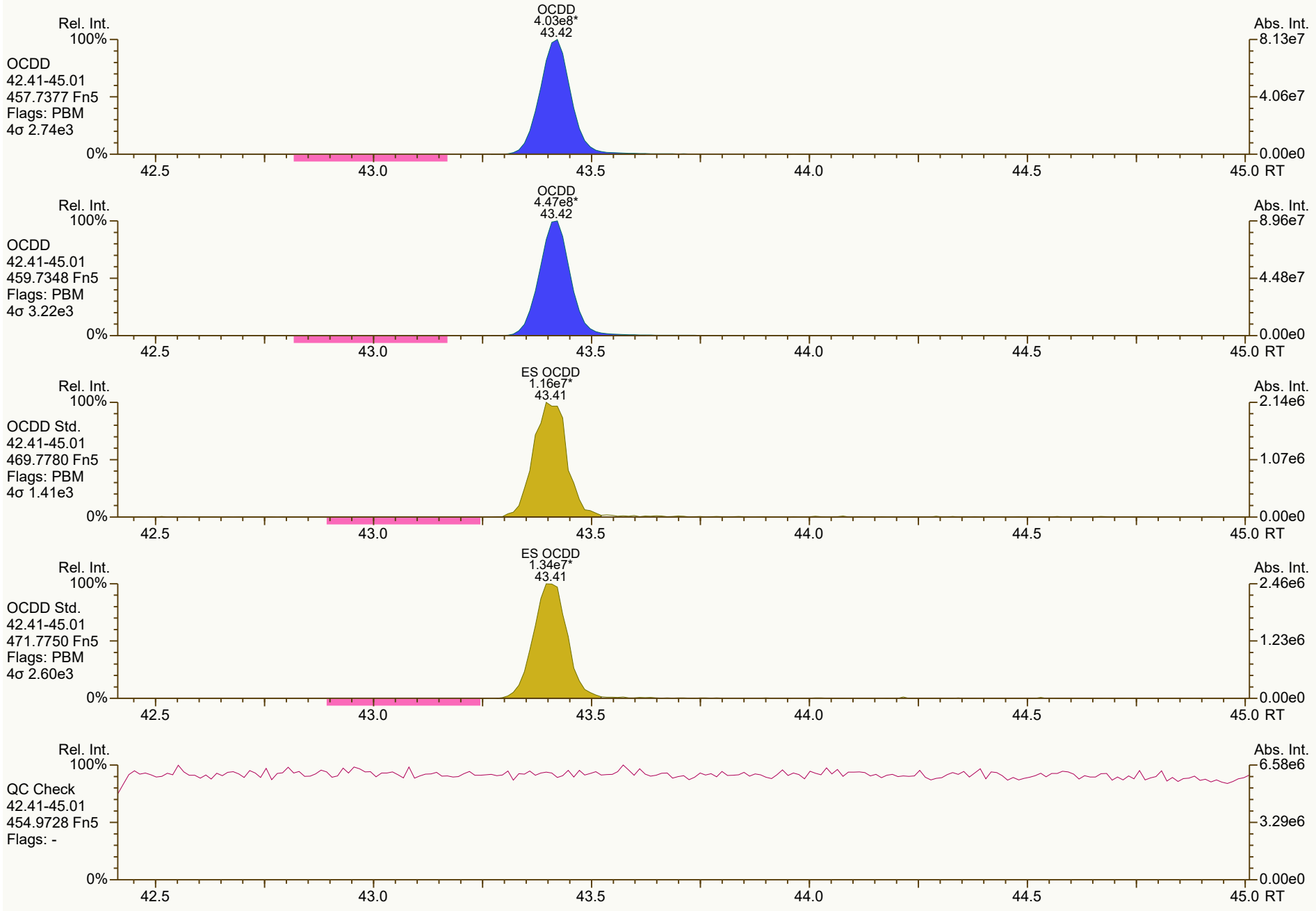

Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 2.72e3
0%
12479/12468D
8.05e5*
31.11
12368D
8.16e5*
32.20
12478D
5.27e5*
32.40
12379D
2.88e5*
32.50
12378D
6.40e6*
33.63
12367D
3.43e5*
33.73
Abs. Int.
1.89e6
9.46e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 3.32e3
0%
12479/12468D
5.48e5*
31.11
12469D
2.91e5*
31.66
12368D
5.29e5*
32.20
12478D
3.12e5*
32.39
12378D
4.17e6*
33.63
12367D
2.17e5*
33.72
Abs. Int.
1.16e6
5.82e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.75e3
0%
CS 12347D
1.15e7
33.11
ES 12378D
1.34e7
33.61
Abs. Int.
3.84e6
1.92e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.84e3
0%
CS 12347D
6.93e6
33.11
ES 12378D
8.09e6
33.61
Abs. Int.
2.40e6
1.20e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.24e6
1.62e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

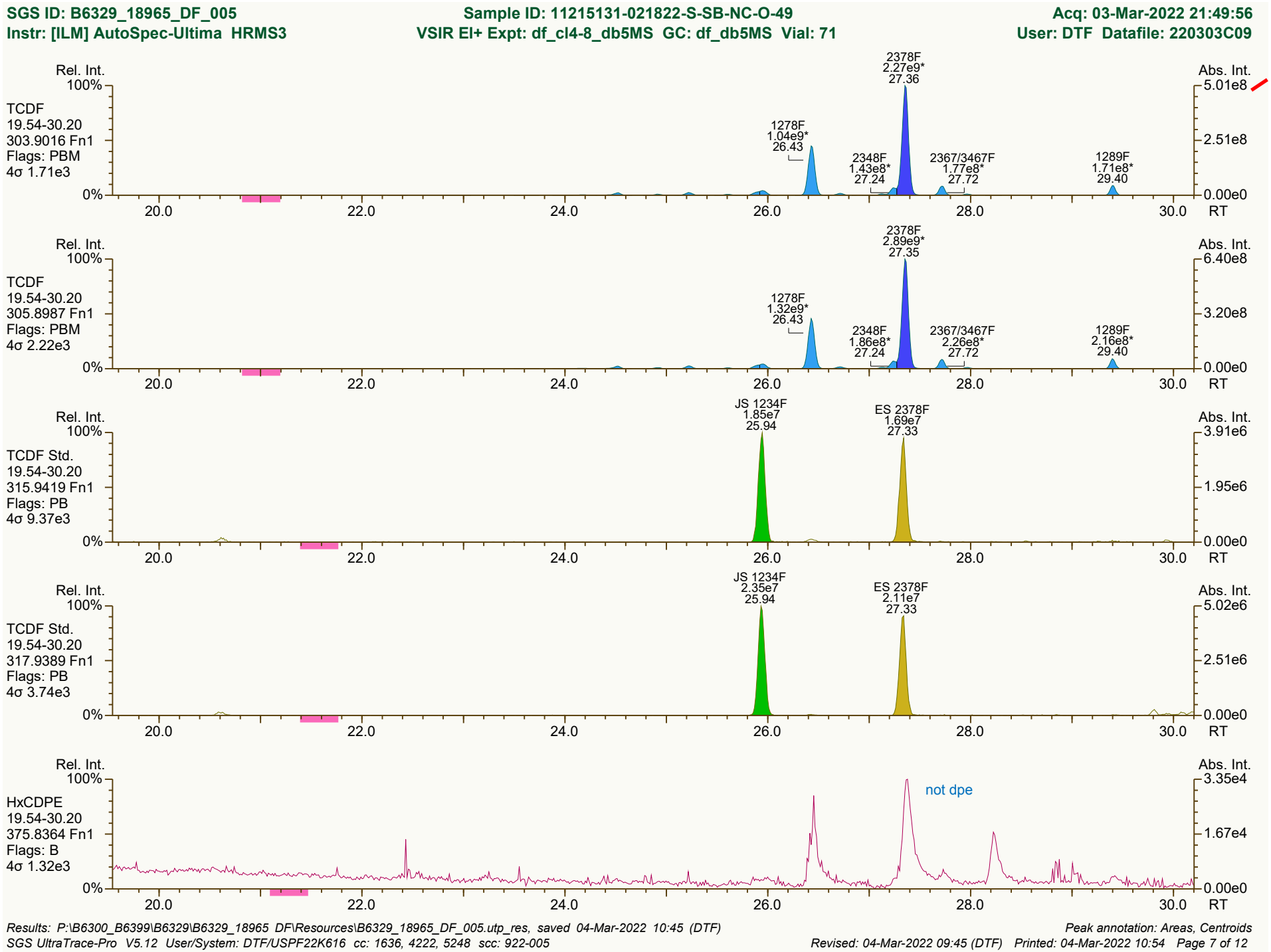
SGS ID: B6329_18965_DF_005 | Sample ID: 11215131-021822-S-SB-NC-O-49 | Acq: 03-Mar-2022 21:49:56
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71 | User: DTF Datafile: 220303C09



Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_005.utp_res, saved 04-Mar-2022 10:45 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7632, 8779 scc: 922-005 | Revised: 04-Mar-2022 09:17 (DTF) Printed: 04-Mar-2022 10:54 Page 4 of 12


SGS ID: B6329_18965_DF_005
Sample ID: 11215131-021822-S-SB-NC-O-49
Acq: 03-Mar-2022 21:49:56
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 220303C09
Rel. Int.
Abs. Int.
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 6.81e3
1234679D
4.24e7
40.04
1234678D
3.80e7*
40.72
1.31e7
6.54e6
0.00e0
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 6.77e3
1234679D
4.09e7
40.03
1234678D
3.67e7*
40.72
1.28e7
6.40e6
0.00e0
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 3.59e3
ES 1234678D
9.73e6
40.71
2.99e6
1.50e6
0.00e0
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.30e3
ES 1234678D
9.02e6
40.71
2.52e6
1.26e6
0.00e0
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
8.44e6
4.22e6
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_005.utp_res, saved 04-Mar-2022 10:45 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0544, 5781 scc: 922-005
Revised: 04-Mar-2022 09:18 (DTF) Printed: 04-Mar-2022 10:54 Page 5 of 12

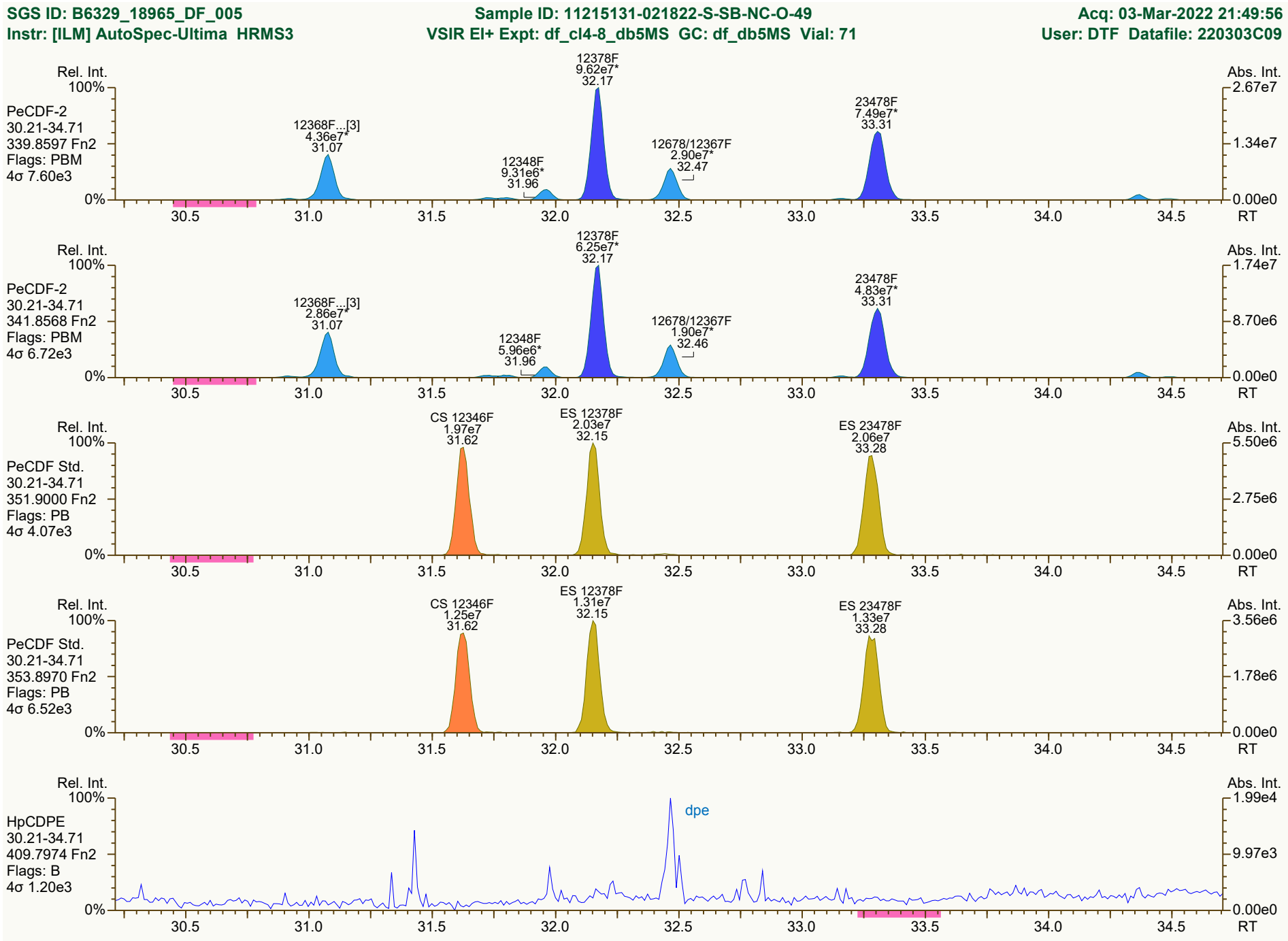

OCDD
4.03e8*
43.42
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 2.74e3
0%
Abs. Int.
8.13e7
4.06e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.47e8*
43.42
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 3.22e3
0%
Abs. Int.
8.96e7
4.48e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.16e7*
43.41
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.41e3
0%
Abs. Int.
2.14e6
1.07e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.34e7*
43.41
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 2.60e3
0%
Abs. Int.
2.46e6
1.23e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.58e6
3.29e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT



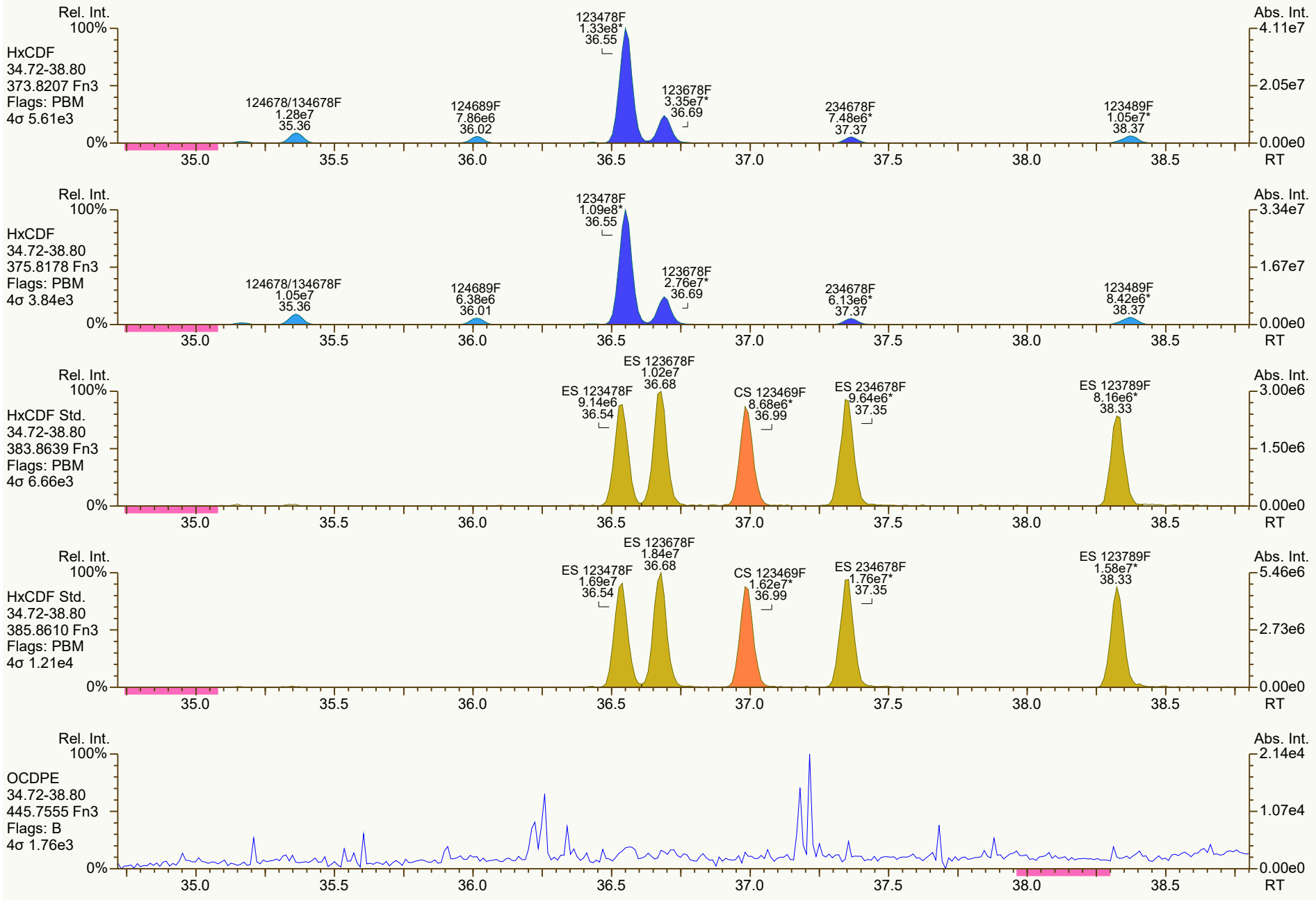
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_005.utp_res, saved 04-Mar-2022 10:45 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1636, 4222, 5248 scc: 922-005
Revised: 04-Mar-2022 09:45 (DTF) Printed: 04-Mar-2022 10:54 Page 7 of 12

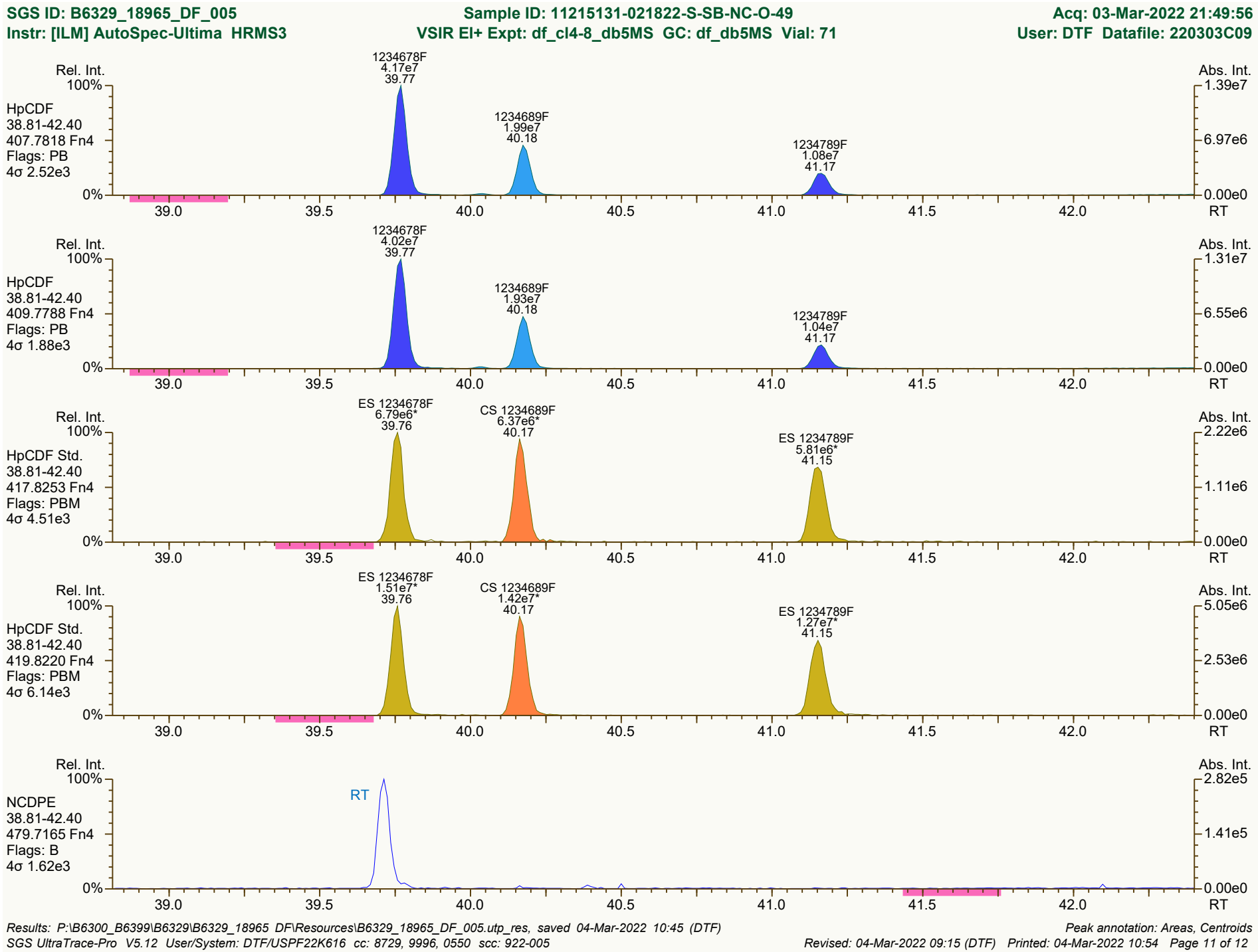

Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.39e3
13468/12468F
3.83e6*
29.36
Abs. Int.
1.07e6
5.36e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.64e3
13468/12468F
2.16e6*
29.36
Abs. Int.
5.28e5
2.64e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
8.78e6
4.39e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: B6329_18965_DF_005 | Sample ID: 11215131-021822-S-SB-NC-O-49 | Acq: 03-Mar-2022 21:49:56
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71 | User: DTF Datafile: 220303C09

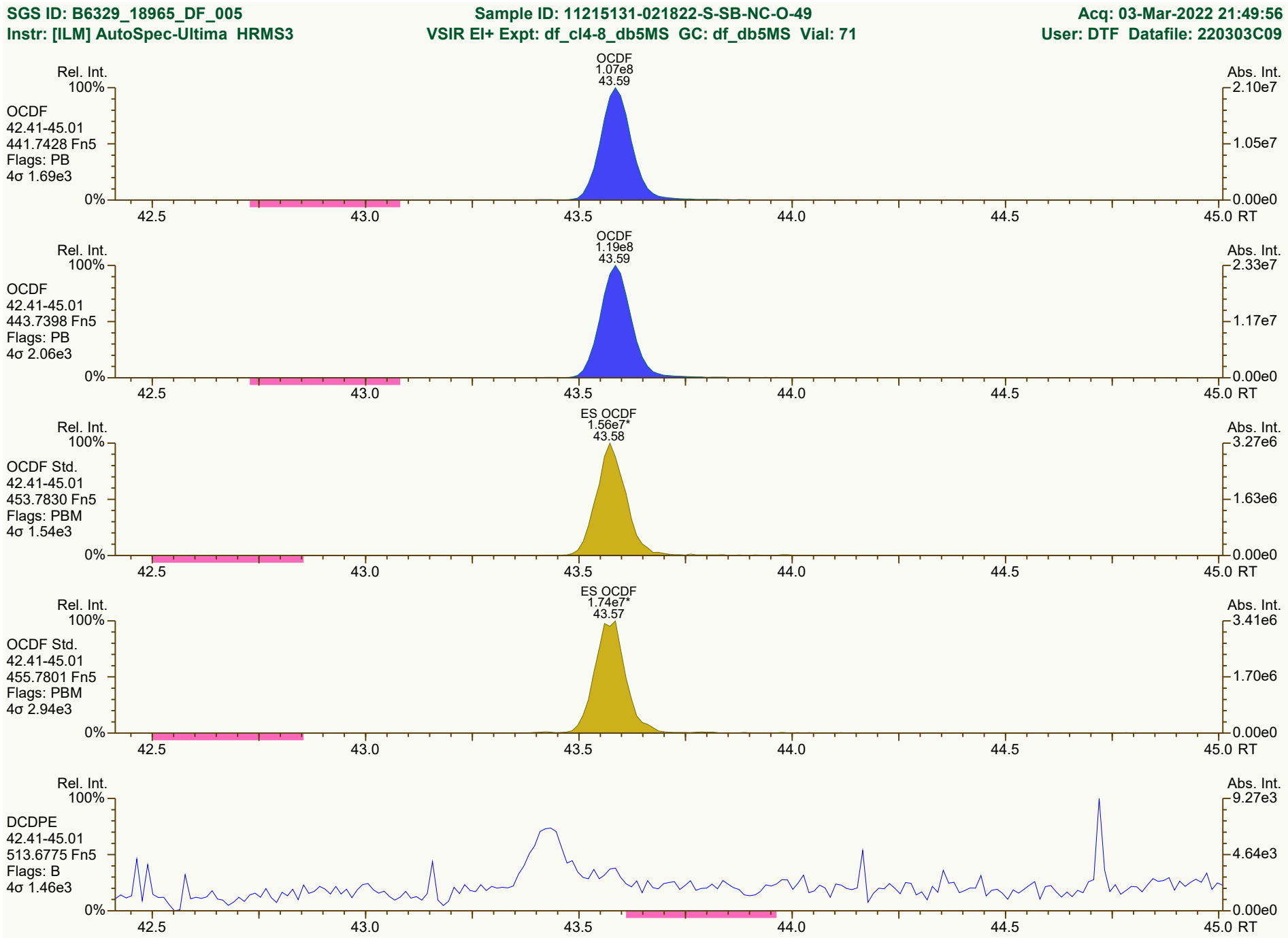


Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_005.utp_res, saved 04-Mar-2022 10:45 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0853, 0245, 2363 scc: 922-005 | Revised: 04-Mar-2022 09:46 (DTF) Printed: 04-Mar-2022 10:54 Page 9 of 12


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 5.61e3
0%
123478F
1.33e8*
36.55
124678/134678F
1.28e7
35.36
124689F
7.86e6
36.02
123678F
3.35e7*
36.69
234678F
7.48e6*
37.37
123489F
1.05e7*
38.37
Abs. Int.
4.11e7
2.05e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 3.84e3
0%
123478F
1.09e8*
36.55
124678/134678F
1.05e7
35.36
124689F
6.38e6
36.01
123678F
2.76e7*
36.69
234678F
6.13e6*
37.37
123489F
8.42e6*
38.37
Abs. Int.
3.34e7
1.67e7
0.00e0
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 6.66e3
0%
ES 123678F
1.02e7
36.68
ES 123478F
9.14e6
36.54
CS 123469F
8.68e6*
36.99
ES 234678F
9.64e6*
37.35
ES 123789F
8.16e6*
38.33
Abs. Int.
3.00e6
1.50e6
0.00e0
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 1.21e4
0%
ES 123678F
1.84e7
36.68
ES 123478F
1.69e7
36.54
CS 123469F
1.62e7*
36.99
ES 234678F
1.76e7*
37.35
ES 123789F
1.58e7*
38.33
Abs. Int.
5.46e6
2.73e6
0.00e0
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.76e3
0%
Abs. Int.
2.14e4
1.07e4
0.00e0
RT


SGS ID: B6329_18965_DF_005
Sample ID: 11215131-021822-S-SB-NC-O-49
Acq: 03-Mar-2022 21:49:56
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 220303C09
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 2.52e3
1234678F
4.17e7
39.77
1234689F
1.99e7
40.18
1234789F
1.08e7
41.17
1.39e7
6.97e6
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.88e3
1234678F
4.02e7
39.77
1234689F
1.93e7
40.18
1234789F
1.04e7
41.17
1.31e7
6.55e6
0.00e0
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 4.51e3
ES 1234678F
6.79e6*
39.76
CS 1234689F
6.37e6*
40.17
ES 1234789F
5.81e6*
41.15
2.22e6
1.11e6
0.00e0
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 6.14e3
ES 1234678F
1.51e7*
39.76
CS 1234689F
1.42e7*
40.17
ES 1234789F
1.27e7*
41.15
5.05e6
2.53e6
0.00e0
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.62e3
RT
2.82e5
1.41e5
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_005.utp_res, saved 04-Mar-2022 10:45 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8729, 9996, 0550 scc: 922-005
Revised: 04-Mar-2022 09:15 (DTF) Printed: 04-Mar-2022 10:54 Page 11 of 12

SGS ID: B6329_18965_DF_005 | Sample ID: 11215131-021822-S-SB-NC-O-49 | Acq: 03-Mar-2022 21:49:56
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71 | User: DTF Datafile: 220303C09



Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_005.utp_res, saved 04-Mar-2022 10:45 (DTF) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0721, 9524, 8303 scc: 922-005 | *Revised: 04-Mar-2022 09:15 (DTF) Printed: 04-Mar-2022 10:54 Page 12 of 12*

Lab ID: B6329_18965_DF_006 **Acq'd:** 03 Mar 2022 22:36 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-NC-O-50 **UTP:** 04-Mar-2022 10:45:42 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 807-126-JYB

Datafile: 220303C10 **Report:** 04 Mar 2022 10:47 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.18		1.0008	1.0008	0	1.36E+07	0.80	Y	1.18	114	4193.614	0.358
12378-PeCDD	33.59	J	1.0007	1.0005	-0.4	1.55E+05	1.40	Y	1.04	1.55	3747.493	0.336
123478-HxCDD	37.52	J	1.0004	1.0003	-0.2	8.72E+04	1.11	Y	1.09	0.885	5586.844	0.547
123678-HxCDD	37.64	J EMPC	1.0036	1.0035	-0.2	1.96E+05	1.50	N	1.15	2.03	5586.844	0.509
123789-HxCDD	37.95	J	1.0118	1.0116	-0.5	1.85E+05	1.13	Y	1.05	1.79	5586.844	0.461
1234678-HpCDD	40.71		1.0002	1.0003	+0.2	4.80E+06	1.03	Y	1.06	53.6	3953.987	0.361
OCDD	43.41		1.0003	1.0003	0	4.68E+07	0.92	Y	1.13	751	6746.519	1.44
2378-TCDF	27.31		1.0008	1.0008	0	5.48E+07	0.78	Y	1.08	317	6878.223	0.439
12378-PeCDF	32.12		1.0005	1.0005	0	1.80E+06	1.50	Y	1.02	10.9	4934.508	0.284
23478-PeCDF	33.25		1.0005	1.0007	+0.4	1.45E+06	1.49	Y	1.02	9.8	4934.508	0.287
123478-HxCDF	36.53		1.0004	1.0005	+0.2	2.27E+06	1.21	Y	1.27	15.7	5101.433	0.291
123678-HxCDF	36.66		1.0004	1.0004	0	6.75E+05	1.23	Y	1.15	4.05	5101.433	0.274
234678-HxCDF	37.34	J	1.0005	1.0004	-0.2	2.00E+05	1.27	Y	1.19	1.29	5101.433	0.299
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	5101.433	0.331
1234678-HpCDF	39.75		1.0003	1.0003	0	2.20E+06	1.07	Y	1.37	14.2	3843.673	0.189
1234789-HpCDF	41.16	J EMPC	1.0003	1.0002	-0.2	1.75E+05	0.78	N	1.31	1.68	3843.673	0.343
OCDF	43.59		1.0002	1.0002	0	2.59E+06	0.89	Y	1.07	36.1	3845.222	0.698

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.16		1.0243	1.0244	+0.2	2.03E+07	0.83	Y	1.05	81.9
ES 12378-PeCDD	33.57		1.2198	1.2214	+3.2	1.92E+07	1.52	Y	0.88	92.3
ES 123478-HxCDD	37.51		0.9916	0.9914	-0.5	1.81E+07	1.21	Y	0.97	85.9
ES 123678-HxCDD	37.63		0.9947	0.9947	0	1.68E+07	1.34	Y	0.94	82.4
ES 123789-HxCDD	37.94		1.0029	1.0028	-0.2	1.98E+07	1.31	Y	1.09	83.6
ES 1234678-HpCDD	40.69		1.0749	1.0755	+1.5	1.69E+07	1.02	Y	0.91	85.5
ES OCDD	43.40		1.1460	1.1470	+2.6	2.21E+07	0.93	Y	0.62	81.9
ES 2378-TCDF	27.29		1.0531	1.0536	+0.8	3.20E+07	0.79	Y	1.06	78.2
ES 12378-PeCDF	32.11		1.2378	1.2397	+3.7	3.23E+07	1.56	Y	0.91	91.6
ES 23478-PeCDF	33.23		1.2810	1.2832	+4.4	2.91E+07	1.55	Y	0.88	85.2
ES 123478-HxCDF	36.51		0.9650	0.9649	-0.2	2.28E+07	0.55	Y	1.20	87.8
ES 123678-HxCDF	36.65		0.9688	0.9686	-0.4	2.90E+07	0.53	Y	1.35	98.9
ES 234678-HxCDF	37.32		0.9866	0.9865	-0.2	2.61E+07	0.55	Y	1.24	97.1
ES 123789-HxCDF	38.31		1.0125	1.0125	0	2.15E+07	0.53	Y	1.16	85.8
ES 1234678-HpCDF	39.74		1.0501	1.0504	+0.7	2.26E+07	0.49	Y	0.97	108
ES 1234789-HpCDF	41.15		1.0870	1.0876	+1.5	1.60E+07	0.45	Y	0.85	86.6
ES OCDF	43.58		1.1505	1.1518	+3.4	2.68E+07	0.91	Y	0.81	76.7

Lab ID: B6329_18965_DF_006 **Acq'd:** 03 Mar 2022 22:36 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-NC-O-50 **UTP:** 04-Mar-2022 10:45:42 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 807-126-JYB

Datafile: 220303C10 **Report:** 04 Mar 2022 10:47 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.49		-	-	-	2.37E+07	0.83	Y	-	-	
JS 1234-TCDF	25.90		-	-	-	3.87E+07	0.82	Y	-	-	
JS 123467-HxCDD	37.84		-	-	-	1.08E+07	1.29	Y	-	-	
CS 37Cl-2378-TCDD	28.18		1.0251	1.0253	+0.3	9.88E+06	n/a	-	1.20	86.7	
CS 12347-PeCDD	33.07		1.2016	1.2030	+2.8	1.74E+07	1.64	Y	0.75	97.7	
CS 12346-PeCDF	31.57		1.2172	1.2191	+3.6	3.09E+07	1.62	Y	0.85	93.9	
CS 123469-HxCDF	36.96		0.9771	0.9769	-0.4	2.46E+07	0.55	Y	1.12	102	
CS 1234689-HpCDF	40.15		1.0608	1.0612	+1.0	1.99E+07	0.47	Y	0.89	104	
~~SS 37Cl-2378-TCDD~~	~~28.18~~		~~1.0251~~	~~1.0253~~	~~+0.3~~	~~9.88E+06~~	~~n/a~~		~~1.15~~	~~106~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.07~~		~~1.2016~~	~~1.2030~~	~~+2.8~~	~~1.74E+07~~	~~1.64~~	~~Y~~	~~0.86~~	~~106~~	CL 07Mar22
~~SS 12346-PeCDF~~	~~31.57~~		~~1.2172~~	~~1.2191~~	~~+3.6~~	~~3.09E+07~~	~~1.62~~	~~Y~~	~~0.94~~	~~102~~	
~~SS 123469-HxCDF~~	~~36.96~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~2.46E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~103~~	
~~SS 1234689-HpCDF~~	~~40.15~~		~~1.0608~~	~~1.0612~~	~~+1.0~~	~~1.99E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~95.~~8	

Totals	Conc	EMPC
Total TCDD	131	131
Total PeCDD	9.24	9.92
Total HxCDD	44	46
Total HpCDD	157	157
Total Tetra-Octa Dioxins	1090	1100
Total TCDF	578	608
Total PeCDF	33.4	35.5
Total HxCDF	34.8	34.8
Total HpCDF	27.9	29.6
Total Tetra-Octa Furans	710	744
Total Tetra-Octa Dioxins & Furans	1800	1840

Lab ID: B6329_18965_DF_006 | **Acq'd: 03 Mar 2022 22:36 DTF** | **Wt/Vol: 10.00 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021822-S-SB-NC-O-50 | **UTP: 04-Mar-2022 10:45:42 DTF** | **J-level: 0.5 pg/g** | **Split: 1** | **Checkcode: 807-126-JYB**

Datafile: 220303C10 | **Report: 04 Mar 2022 10:47 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		4193.614	0.358
1379-TCDD	NotFnd		0.8829						1.18		4193.614	0.358
1369-TCDD	NotFnd		0.8982						1.18		4193.614	0.358
1469-TCDD	26.06		0.9261	0.9255	-0.9	6.24E+05	0.78	Y	1.18	5.2	4193.614	0.358
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4193.614	0.358
1378-TCDD	NotFnd		0.9417						1.18		4193.614	0.358
1268-TCDD	NotFnd		0.9487						1.18		4193.614	0.358
1478-TCDD	NotFnd		0.9576						1.18		4193.614	0.358
1279-TCDD	NotFnd		0.9636						1.18		4193.614	0.358
1234/1269-TCDD	NotFnd		0.9761						1.18		4193.614	0.358
1236-TCDD	NotFnd		0.9812						1.18		4193.614	0.358
1237/1238-TCDD	27.88		0.9905	0.9902	-0.5	2.35E+05	0.73	Y	1.18	1.96	4193.614	0.358
1239-TCDD	NotFnd		0.9951						1.18		4193.614	0.358
2378-TCDD	**28.18**		**1.0008**	1.0008	**0**	1.36E+07	0.80	Y	**1.18**	**114**	**4193.614**	**0.358**
1278-TCDD	28.51		1.0124	1.0124	0	1.26E+06	0.76	Y	1.18	10.5	4193.614	0.358
1267-TCDD	NotFnd		1.0172						1.18		4193.614	0.358
1289-TCDD	NotFnd		1.0354						1.18		4193.614	0.358
12479/12468-PeCDD	31.06	J	0.9255	0.9252	-0.6	1.50E+05	1.57	Y	1.04	1.51	3747.493	0.336
12469-PeCDD	31.60		0.9416	0.9413	-0.6	4.70E+05	1.62	Y	1.04	4.72	3747.493	0.336
12368-PeCDD	NotFnd		0.9582						1.04		3747.493	0.336
12478-PeCDD	32.34	J EMPC	0.9637	0.9634	-0.6	6.75E+04	1.16	N	1.04	0.677	3747.493	0.336
12379-PeCDD	NotFnd		0.9668						1.04		3747.493	0.336
12369/12467/12489-PeCDD	32.71	J	0.9746	0.9744	-0.4	1.46E+05	1.65	Y	1.04	1.46	3747.493	0.336
12346/12347-PeCDD	NotFnd		0.9858						1.04		3747.493	0.336
12378-PeCDD	33.59	J	**1.0007**	**1.0005**	**-0.4**	**1.55E+05**	**1.40**	**Y**	**1.04**	**1.55**	**3747.493**	**0.336**
12367-PeCDD	NotFnd		1.0036						1.04		3747.493	0.336
12389-PeCDD	NotFnd		1.0137						1.04		3747.493	0.336
124679/124689-HxCDD	35.78		0.9540	0.9539	-0.2	2.81E+06	1.26	Y	1.10	28.2	5586.844	0.504
123468-HxCDD	36.45	J	0.9715	0.9716	+0.2	1.26E+05	1.08	Y	1.10	1.27	5586.844	0.504
123679/123689-HxCDD	36.74		0.9793	0.9794	+0.2	9.61E+05	1.33	Y	1.10	9.63	5586.844	0.504
123469-HxCDD	36.87	J	0.9829	0.9828	-0.2	1.33E+05	1.20	Y	1.10	1.33	5586.844	0.504
123478-HxCDD	37.52	J	**1.0004**	**1.0003**	**-0.2**	**8.72E+04**	**1.11**	**Y**	1.09	**0.885**	**5586.844**	**0.547**
123678-HxCDD	37.64	J EMPC	**1.0036**	**1.0035**	**-0.2**	**1.96E+05**	**1.50**	**N**	1.15	**2.03**	**5586.844**	**0.509**
123467-HxCDD	37.84	J	1.0089	1.0088	-0.2	8.85E+04	1.10	Y	1.10	0.887	5586.844	0.504
123789-HxCDD	37.95	J	**1.0118**	**1.0116**	**-0.5**	**1.85E+05**	**1.13**	**Y**	1.05	**1.79**	**5586.844**	**0.461**

Lab ID: B6329_18965_DF_006 | **Acq'd: 03 Mar 2022 22:36 DTF** | **Wt/Vol: 10.00 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021822-S-SB-NC-O-50 | **UTP: 04-Mar-2022 10:45:42 DTF** | **J-level: 0.5 pg/g** | **Split: 1** | **Checkcode: 807-126-JYB**

Datafile: 220303C10 | **Report: 04 Mar 2022 10:47 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

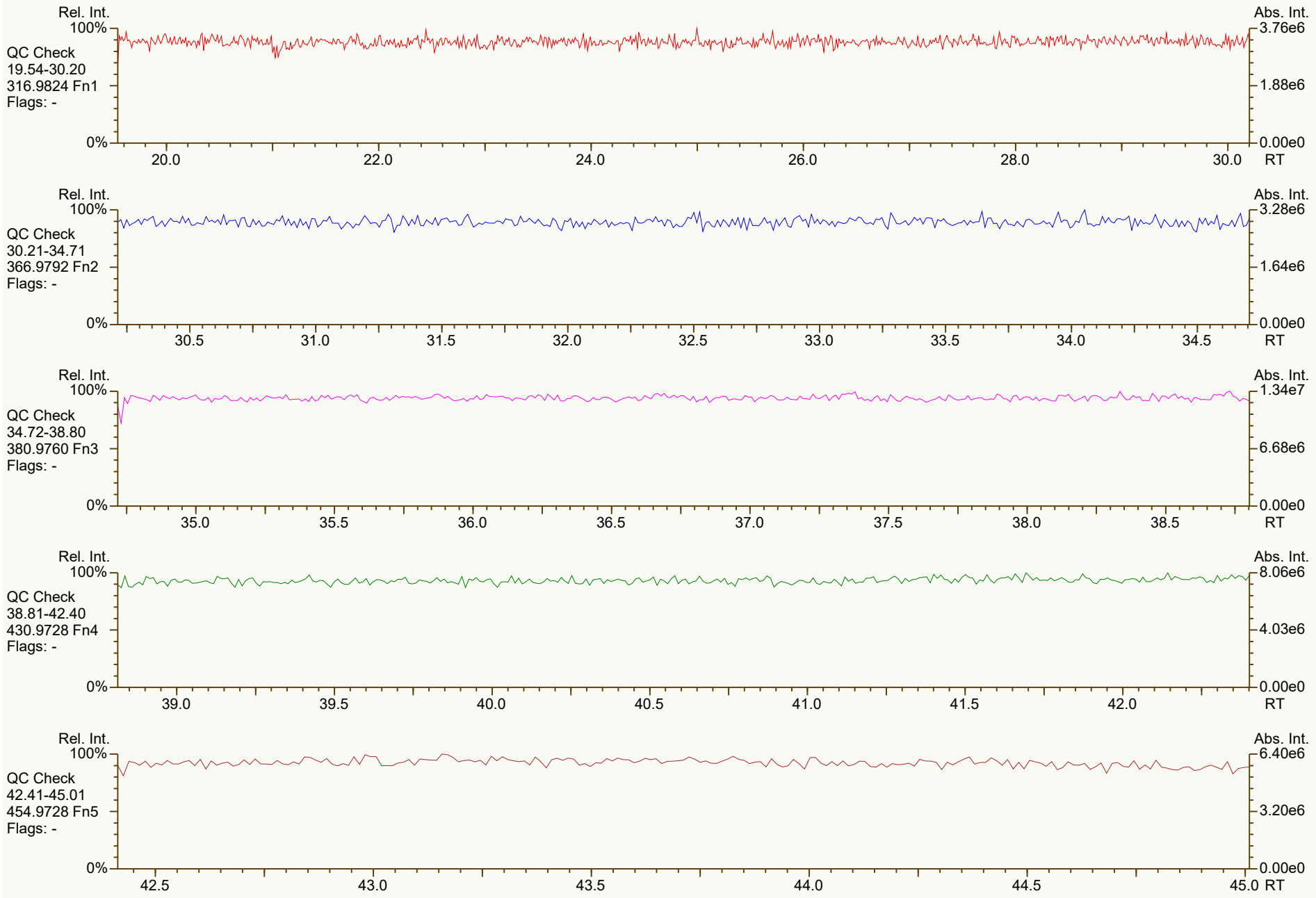
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.02		0.9836	0.9835	-0.2	9.30E+06	1.05	Y	1.06	104	3953.987	0.361
1234678-HpCDD	**40.71**		**1.0002**	**1.0003**	**+0.2**	**4.80E+06**	**1.03**	**Y**	**1.06**	**53.6**	**3953.987**	**0.361**
OCDD	**43.41**		**1.0003**	**1.0003**	**0**	**4.68E+07**	**0.92**	**Y**	**1.13**	**751**	**6746.519**	**1.44**
OCDD-a	43.41		1.0002	1.0002	0	2.95E+06	2.29	Y	0.07	739	5209.625	17.4
1368-TCDF	NotFnd		0.8191						1.08		6878.223	0.439
1468-TCDF	NotFnd		0.8408						1.08		6878.223	0.439
2468-TCDF	23.55		0.8645	0.8632	-1.8	1.59E+05	0.77	Y	1.08	0.919	6878.223	0.439
1346/1246-TCDF	NotFnd		0.8772						1.08		6878.223	0.439
1347/1378/1247-TCDF	24.08		0.8833	0.8824	-1.3	8.23E+05	0.80	Y	1.08	4.76	6878.223	0.439
1348-TCDF	NotFnd		0.8932						1.08		6878.223	0.439
1248/1367/1379-TCDF	24.43		0.8980	0.8954	-3.8	2.68E+06	0.82	Y	1.08	15.5	6878.223	0.439
1268-TCDF	24.87	EMPC	0.9119	0.9114	-0.7	8.53E+05	0.90	N	1.08	4.94	6878.223	0.439
1467-TCDF	NotFnd		0.9170						1.08		6878.223	0.439
1478-TCDF	25.17		0.9234	0.9225	-1.4	2.20E+06	0.88	Y	1.08	12.7	6878.223	0.439
1369/1237-TCDF	25.56	EMPC	0.9369	0.9367	-0.3	6.20E+05	0.92	N	1.08	3.59	6878.223	0.439
2467-TCDF	NotFnd		0.9415						1.08		6878.223	0.439
2368-TCDF	25.84		0.9475	0.9469	-0.9	1.67E+06	0.86	Y	1.08	9.68	6878.223	0.439
1238/1234/1678/1469/1236-TCDF	25.91		0.9507	0.9497	-1.6	2.85E+06	0.81	Y	1.08	16.5	6878.223	0.439
1278-TCDF	26.39		0.9676	0.9673	-0.5	2.36E+07	0.80	Y	1.08	136	6878.223	0.439
1349-TCDF	NotFnd		0.9722						1.08		6878.223	0.439
1267-TCDF	26.67		0.9777	0.9775	-0.3	1.38E+06	0.87	Y	1.08	7.96	6878.223	0.439
2346/1249-TCDF	NotFnd		0.9843						1.08		6878.223	0.439
2347/1279-TCDF	27.08	EMPC	0.9926	0.9924	-0.3	6.03E+05	0.90	N	1.08	3.49	6878.223	0.439
2348-TCDF	27.19	EMPC	0.9968	0.9964	-0.7	3.10E+06	0.95	N	1.08	18	6878.223	0.439
2378-TCDF	**27.31**		**1.0008**	**1.0008**	**0**	**5.48E+07**	**0.78**	**Y**	**1.08**	**317**	**6878.223**	**0.439**
2367/3467-TCDF	27.67		1.0142	1.0139	-0.5	4.85E+06	0.78	Y	1.08	28.1	6878.223	0.439
1269-TCDF	27.92		1.0235	1.0232	-0.5	7.68E+05	0.78	Y	1.08	4.44	6878.223	0.439
1239-TCDF	NotFnd		1.0329						1.08		6878.223	0.439
1289-TCDF	29.34		1.0742	1.0754	+2.1	4.10E+06	0.77	Y	1.08	23.8	6878.223	0.439
13468/12468-PeCDF	29.29	J EMPC	0.9122	0.9123	+0.2	2.51E+05	1.80	N	1.02	1.6	3205.881	0.185
13678/13467/12467-PeCDF	30.86	J	0.9606	0.9610	+0.7	1.12E+05	1.43	Y	1.02	0.712	4934.508	0.286
12368/13478/12478-PeCDF	31.02		0.9655	0.9661	+1.1	9.76E+05	1.55	Y	1.02	6.22	4934.508	0.286
14678-PeCDF	NotFnd		0.9685						1.02		4934.508	0.286
13479-PeCDF	NotFnd		0.9716						1.02		4934.508	0.286
13469/12479-PeCDF	NotFnd		0.9794						1.02		4934.508	0.286
12346-PeCDF	NotFnd		0.9836						1.02		4934.508	0.286

Lab ID: B6329_18965_DF_006 | **Acq'd: 03 Mar 2022 22:36 DTF** | **Wt/Vol: 10.00 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021822-S-SB-NC-O-50 | **UTP: 04-Mar-2022 10:45:42 DTF** | **J-level: 0.5 pg/g** | **Split: 1** | **Checkcode: 807-126-JYB**

Datafile: 220303C10 | **Report: 04 Mar 2022 10:47 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.68	J	0.9866	0.9868	+0.4	1.27E+05	1.60	Y	1.02	0.812	4934.508	0.286
12347-PeCDF	NotFnd		0.9891						1.02		4934.508	0.286
12348-PeCDF	31.91	J	0.9938	0.9939	+0.2	2.37E+05	1.52	Y	1.02	1.51	4934.508	0.286
12378-PeCDF	**32.12**		**1.0005**	**1.0005**	**0**	**1.80E+06**	**1.50**	**Y**	**1.02**	**10.9**	**4934.508**	**0.284**
12678/12367-PeCDF	32.42		1.0091	1.0097	+1.2	5.41E+05	1.39	Y	1.02	3.45	4934.508	0.286
12379-PeCDF	NotFnd		1.0144						1.02		4934.508	0.286
12679-PeCDF	NotFnd		0.9927						1.02		4934.508	0.286
23467/12369-PeCDF	NotFnd		0.9965						1.02		4934.508	0.286
23478-PeCDF	**33.25**		**1.0005**	**1.0007**	**+0.4**	**1.45E+06**	**1.49**	**Y**	**1.02**	**9.8**	**4934.508**	**0.287**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4934.508	0.286
12349-PeCDF	NotFnd		1.0101						1.02		4934.508	0.286
12389-PeCDF	34.33	J EMPC	1.0330	1.0329	-0.2	7.35E+04	1.02	N	1.02	0.469	4934.508	0.286
123468-HxCDF	35.12	J	0.9622	0.9620	-0.4	2.36E+05	1.20	Y	1.19	1.6	5101.433	0.296
124678/134678-HxCDF	35.33		0.9678	0.9676	-0.4	8.93E+05	1.38	Y	1.19	6.02	5101.433	0.296
134679-HxCDF	NotFnd		0.9741						1.19		5101.433	0.296
124679-HxCDF	NotFnd		0.9795						1.19		5101.433	0.296
124689-HxCDF	35.98		0.9856	0.9855	-0.2	6.24E+05	1.13	Y	1.19	4.21	5101.433	0.296
123467-HxCDF	36.40	J	0.9972	0.9970	-0.4	9.11E+04	1.35	Y	1.19	0.615	5101.433	0.296
123478-HxCDF	**36.53**		**1.0004**	**1.0005**	**+0.2**	**2.27E+06**	**1.21**	**Y**	**1.27**	**15.7**	**5101.433**	**0.291**
123678-HxCDF	**36.66**		**1.0004**	**1.0004**	**0**	**6.75E+05**	**1.23**	**Y**	**1.15**	**4.05**	**5101.433**	**0.274**
123479-HxCDF	NotFnd		1.0048						1.19		5101.433	0.296
123469-HxCDF	NotFnd		1.0089						1.19		5101.433	0.296
123679-HxCDF	NotFnd		0.9942						1.19		5101.433	0.296
234678-HxCDF	**37.34**	J	**1.0005**	**1.0004**	**-0.2**	**2.00E+05**	**1.27**	**Y**	**1.19**	**1.29**	**5101.433**	**0.299**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		5101.433	0.296
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**5101.433**	**0.331**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.35	J	1.0006	1.0011	+1.2	2.03E+05	1.10	Y	1.19	1.37	5101.433	0.296
1234678-HpCDF	**39.75**		**1.0003**	**1.0003**	**0**	**2.20E+06**	**1.07**	**Y**	**1.37**	**14.2**	**3843.673**	**0.189**
1234679-HpCDF	NotFnd		1.0068						1.34		3843.673	0.252
1234689-HpCDF	40.16		1.0104	1.0106	+0.5	1.77E+06	1.05	Y	1.34	13.7	3843.673	0.252
1234789-HpCDF	**41.16**	**J EMPC**	**1.0003**	**1.0002**	**-0.2**	**1.75E+05**	**0.78**	**N**	**1.31**	**1.68**	**3843.673**	**0.343**
OCDF	**43.59**		**1.0002**	**1.0002**	**0**	**2.59E+06**	**0.89**	**Y**	**1.07**	**36.1**	**3845.222**	**0.698**
OCDF-a	43.56	**J EMPC**	1.0001	0.9996	-1.3	5.49E+03	0.65	N	0.07	1.23	2934.289	8.6


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.76e6
1.88e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.28e6
1.64e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.34e7
6.68e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
8.06e6
4.03e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
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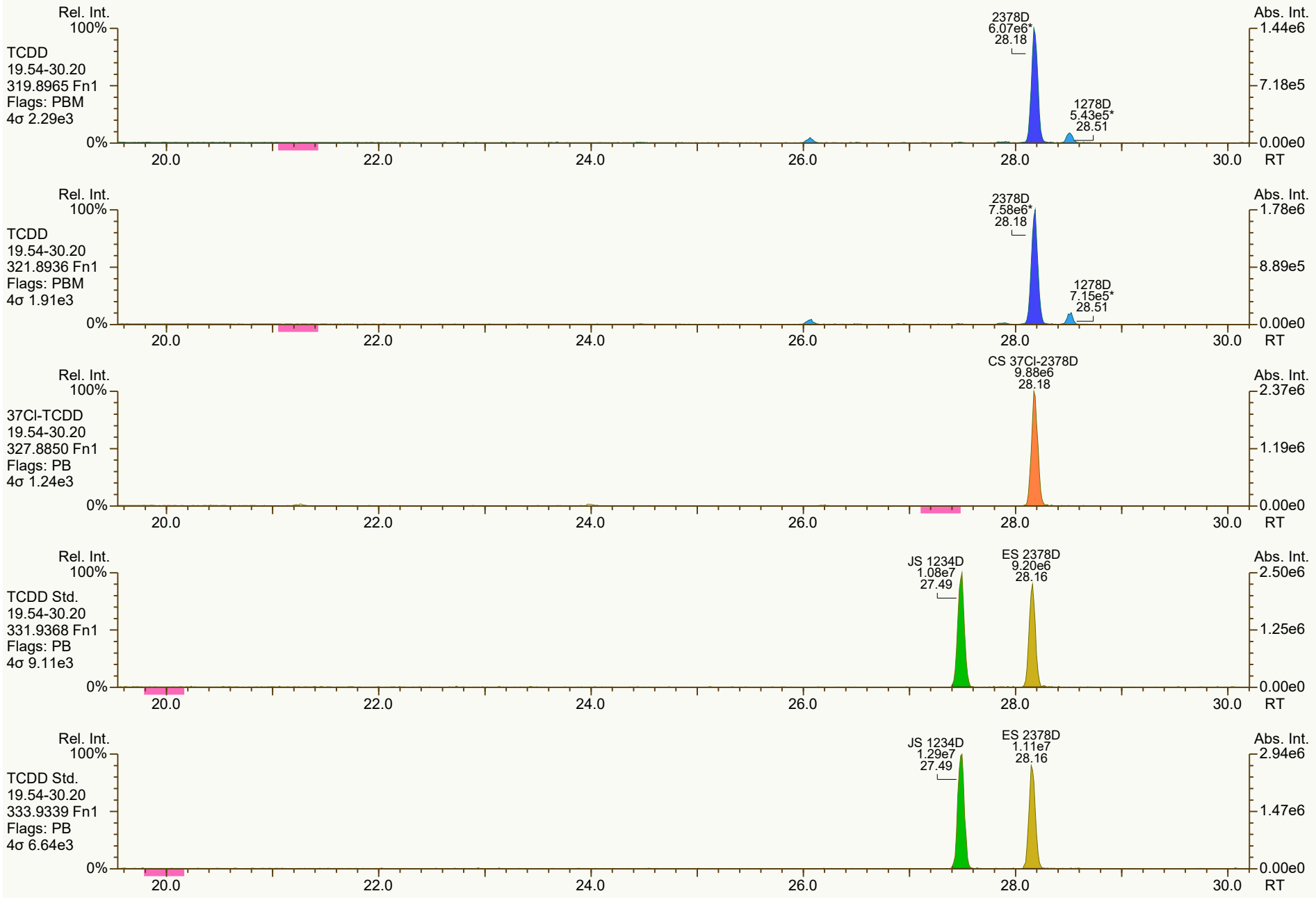
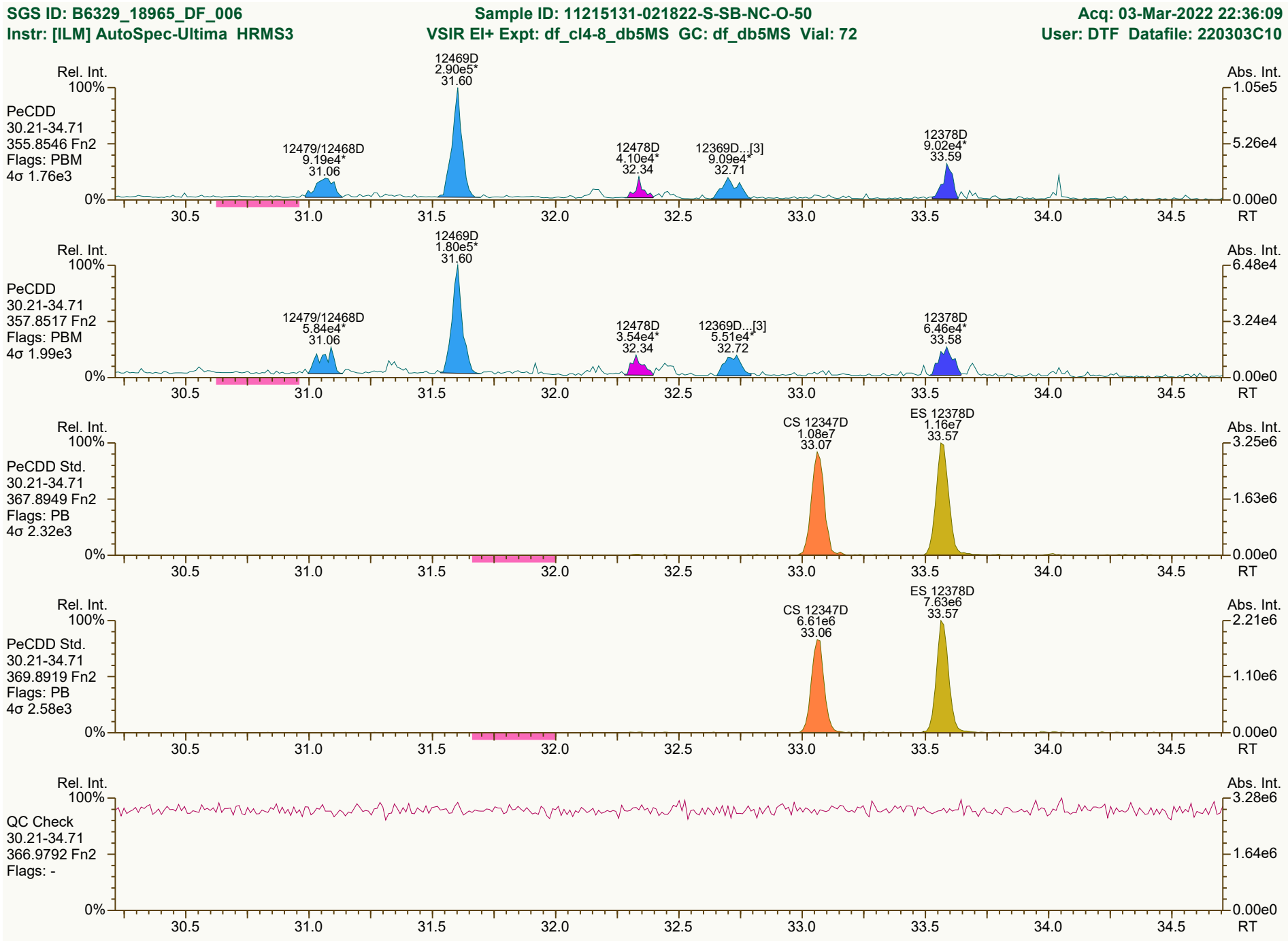
3.20e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.29e3
2378D
6.07e6*
28.18
1278D
5.43e5*
28.51
Abs. Int.
1.44e6
7.18e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.91e3
2378D
7.58e6*
28.18
1278D
7.15e5*
28.51
Abs. Int.
1.78e6
8.89e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.24e3
CS 37Cl-2378D
9.88e6
28.18
Abs. Int.
2.37e6
1.19e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 9.11e3
JS 1234D
1.08e7
27.49
ES 2378D
9.20e6
28.16
Abs. Int.
2.50e6
1.25e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 6.64e3
JS 1234D
1.29e7
27.49
ES 2378D
1.11e7
28.16
Abs. Int.
2.94e6
1.47e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT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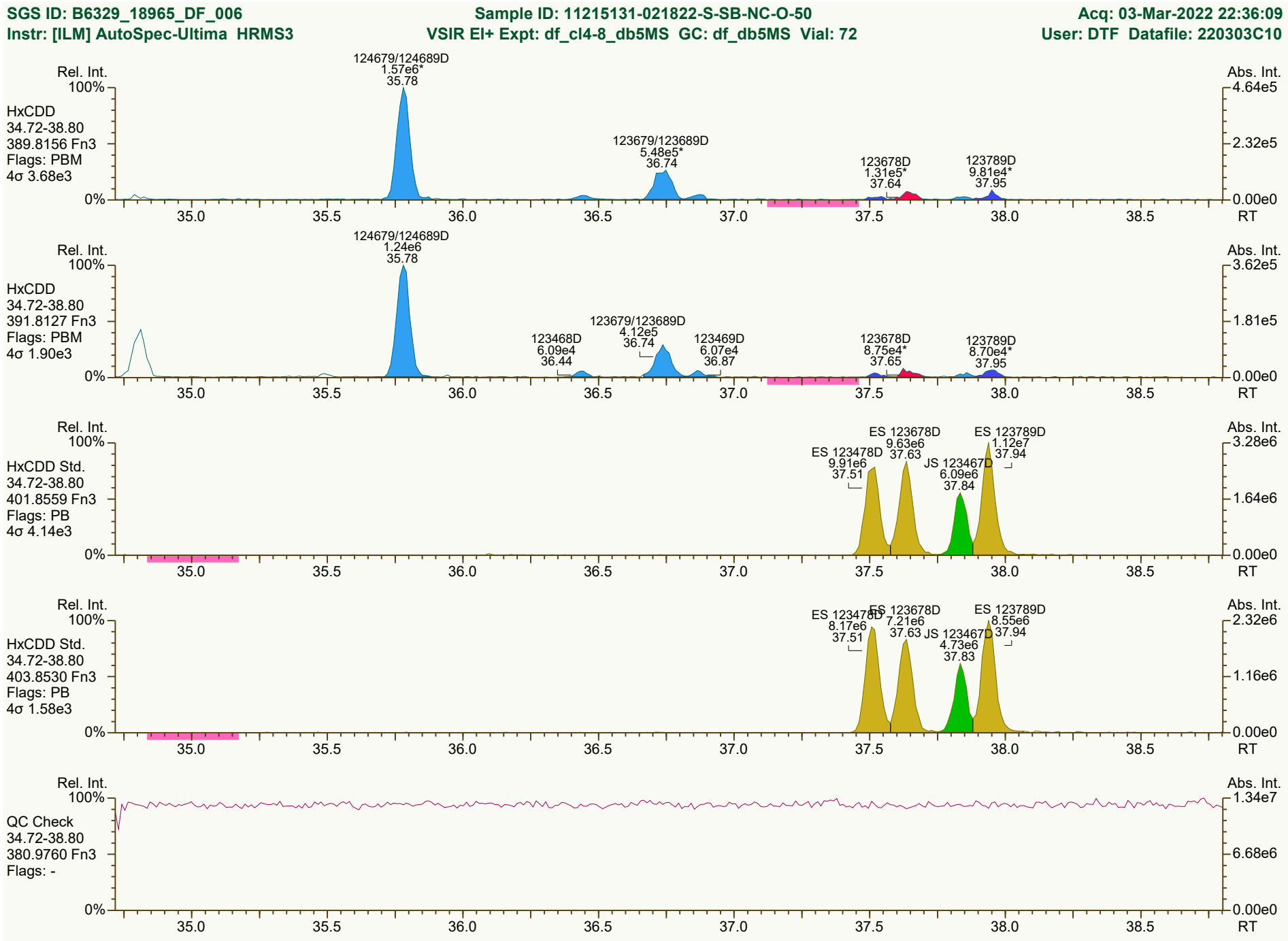
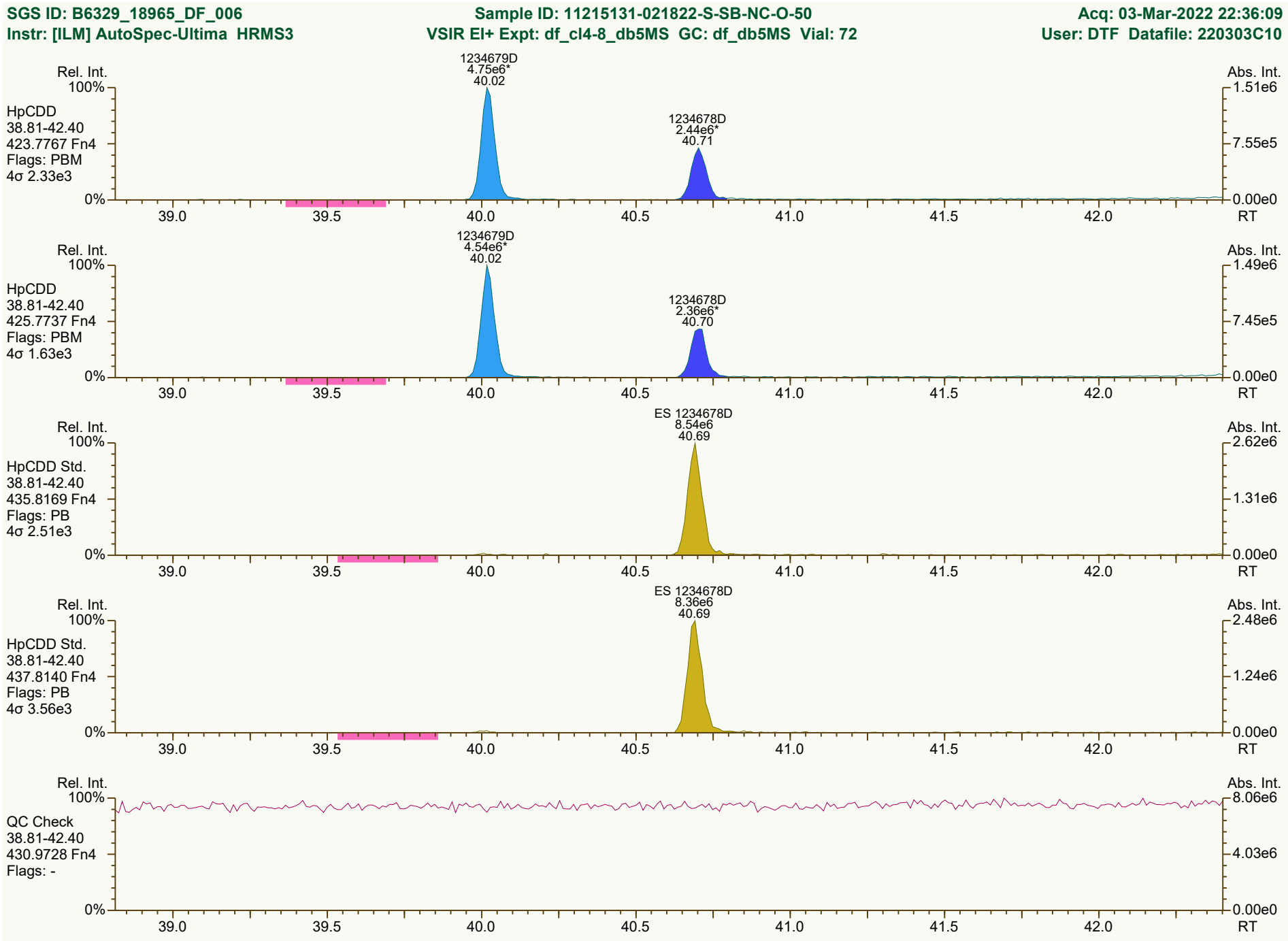
Sample ID: 11215131-021822-S-SB-NC-O-50
Acq: 03-Mar-2022 22:36:09
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72
User: DTF Datafile: 220303C10
Rel. Int.
Abs. Int.
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 1.76e3
12469D
2.90e5*
31.60
12479/12468D
9.19e4*
31.06
12478D
4.10e4*
32.34
12369D...[3]
9.09e4*
32.71
12378D
9.02e4*
33.59
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 1.99e3
12469D
1.80e5*
31.60
12479/12468D
5.84e4*
31.06
12478D
3.54e4*
32.34
12369D...[3]
5.51e4*
32.72
12378D
6.46e4*
33.58
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.32e3
CS 12347D
1.08e7
33.07
ES 12378D
1.16e7
33.57
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.58e3
CS 12347D
6.61e6
33.06
ES 12378D
7.63e6
33.57
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
RT
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_006.utp_res, saved 04-Mar-2022 10:45 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0523, 0468 scc: 807-126
Revised: 04-Mar-2022 09:50 (DTF) Printed: 04-Mar-2022 10:54 Page 3 of 12

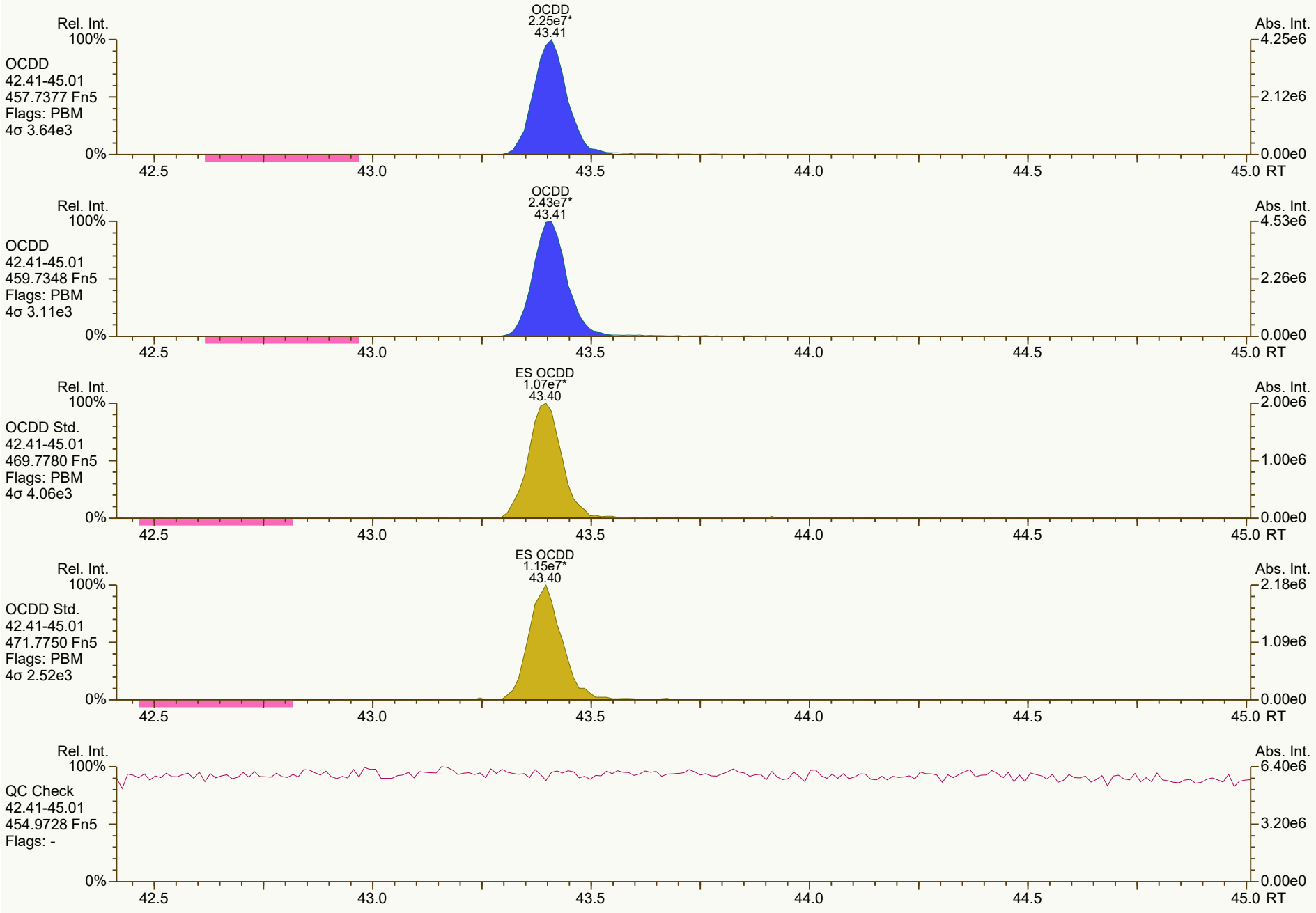


Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_006.utp_res, saved 04-Mar-2022 10:45 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3639, 9018 scc: 807-126
Revised: 04-Mar-2022 09:51 (DTF) Printed: 04-Mar-2022 10:54 Page 4 of 12

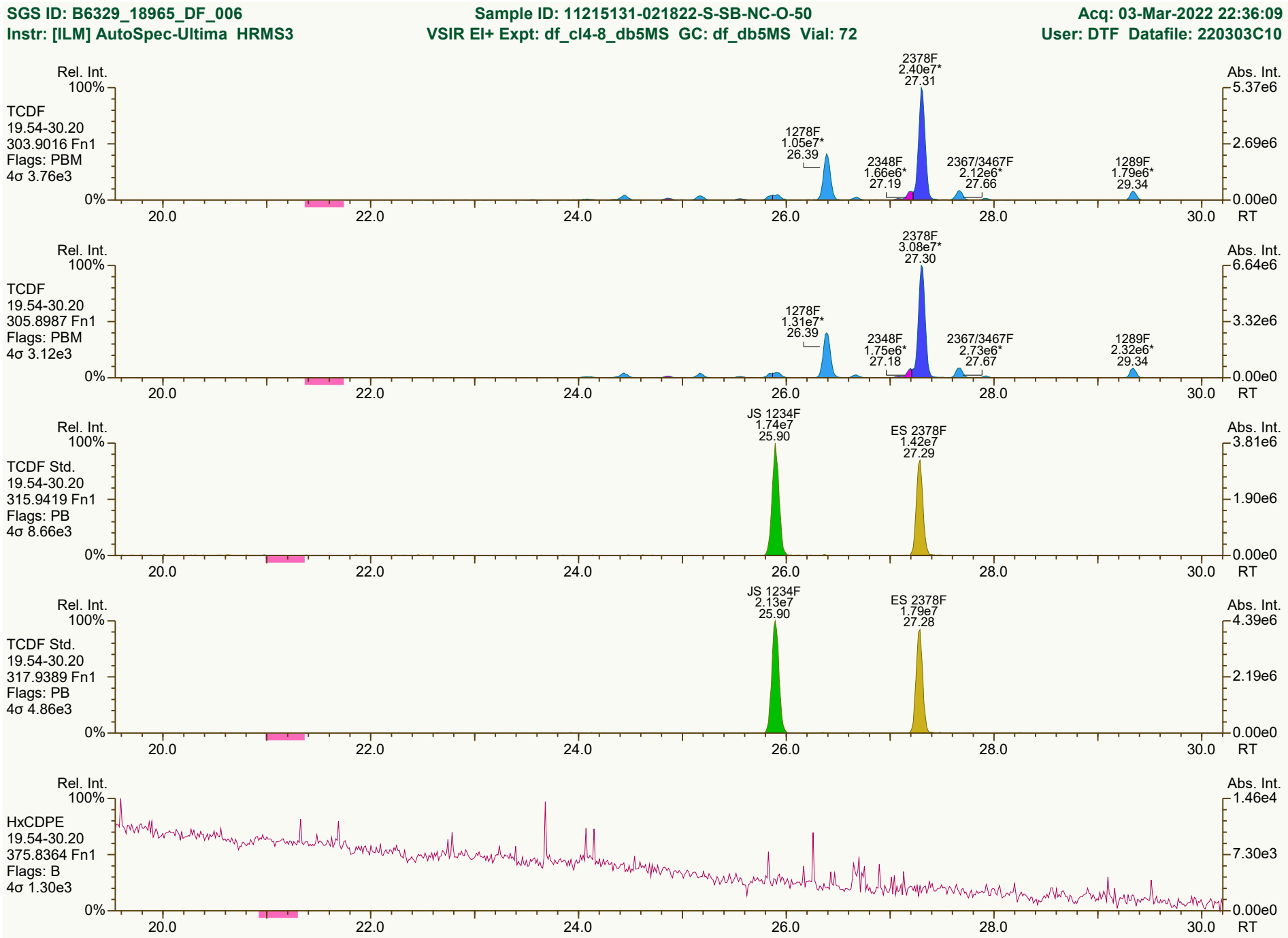
SGS ID: B6329_18965_DF_006 | Sample ID: 11215131-021822-S-SB-NC-O-50 | Acq: 03-Mar-2022 22:36:09
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72 | User: DTF Datafile: 220303C10



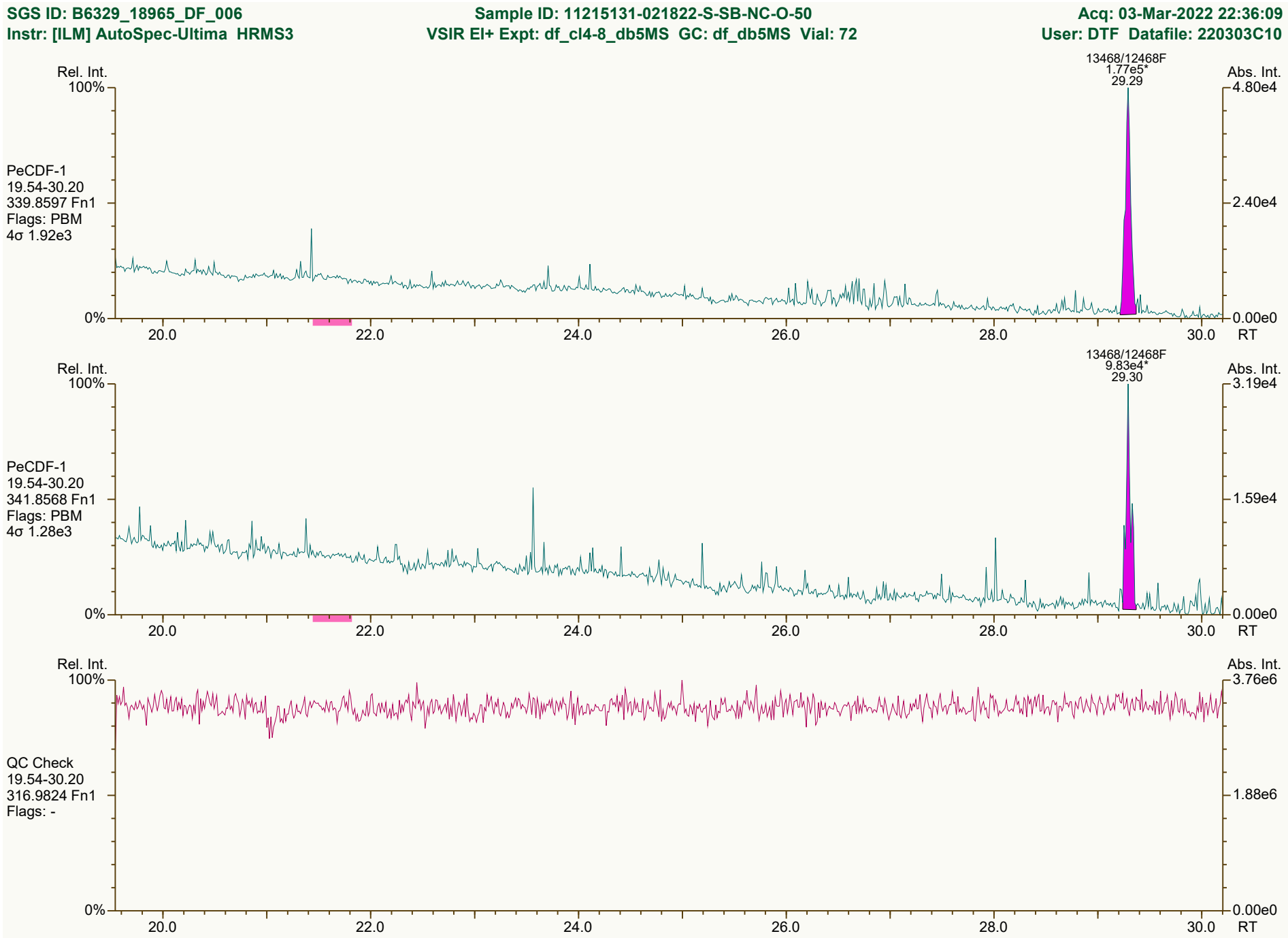
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_006.utp_res, saved 04-Mar-2022 10:45 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7065, 3052 scc: 807-126 | Revised: 04-Mar-2022 09:51 (DTF) Printed: 04-Mar-2022 10:55 Page 5 of 12

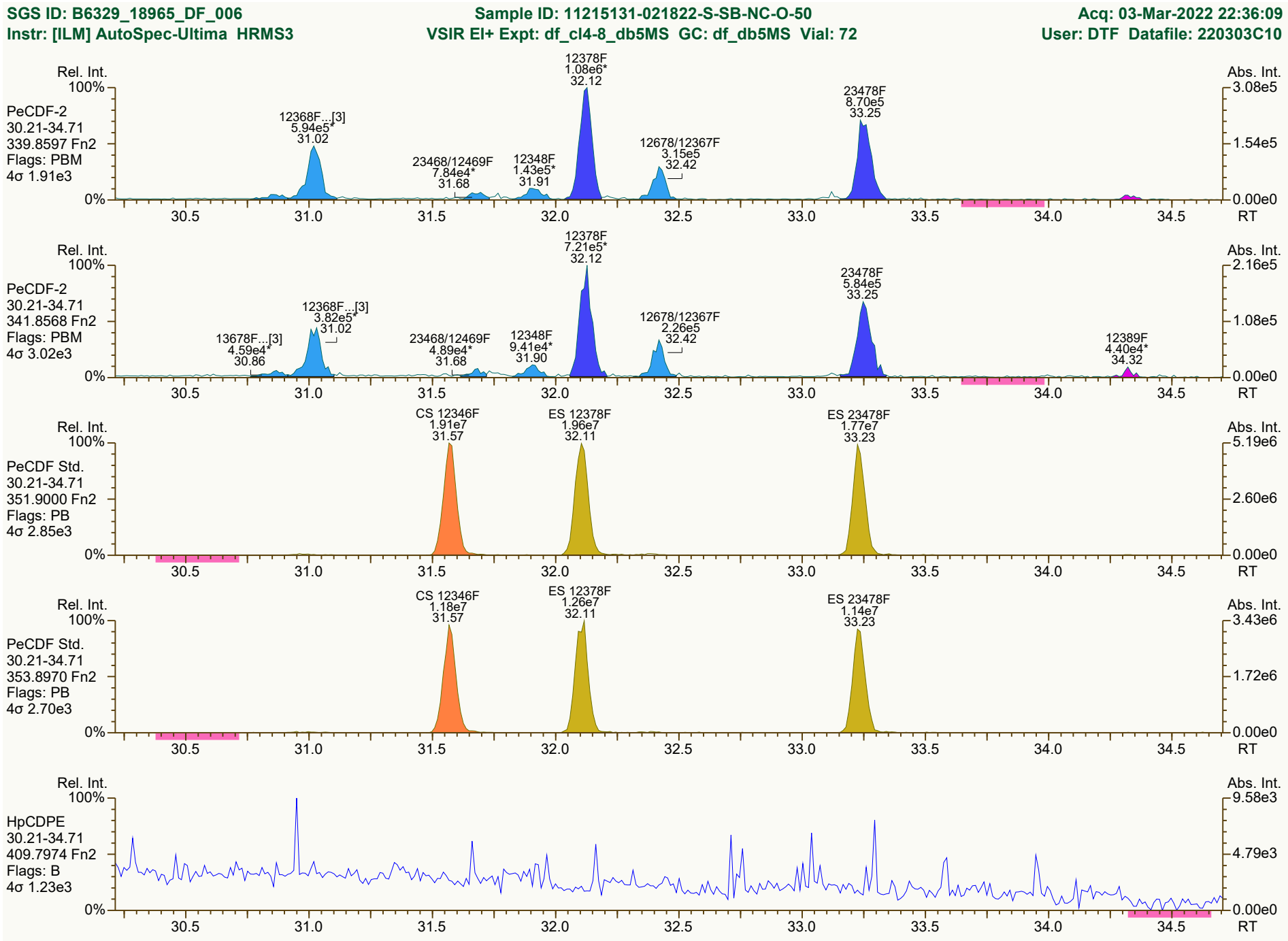

OCDD
2.25e7*
43.41
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 3.64e3
0%
Abs. Int.
4.25e6
2.12e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.43e7*
43.41
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 3.11e3
4.53e6
2.26e6
ES OCDD
1.07e7*
43.40
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 4.06e3
2.00e6
1.00e6
ES OCDD
1.15e7*
43.40
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 2.52e3
2.18e6
1.09e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
6.40e6
3.20e6

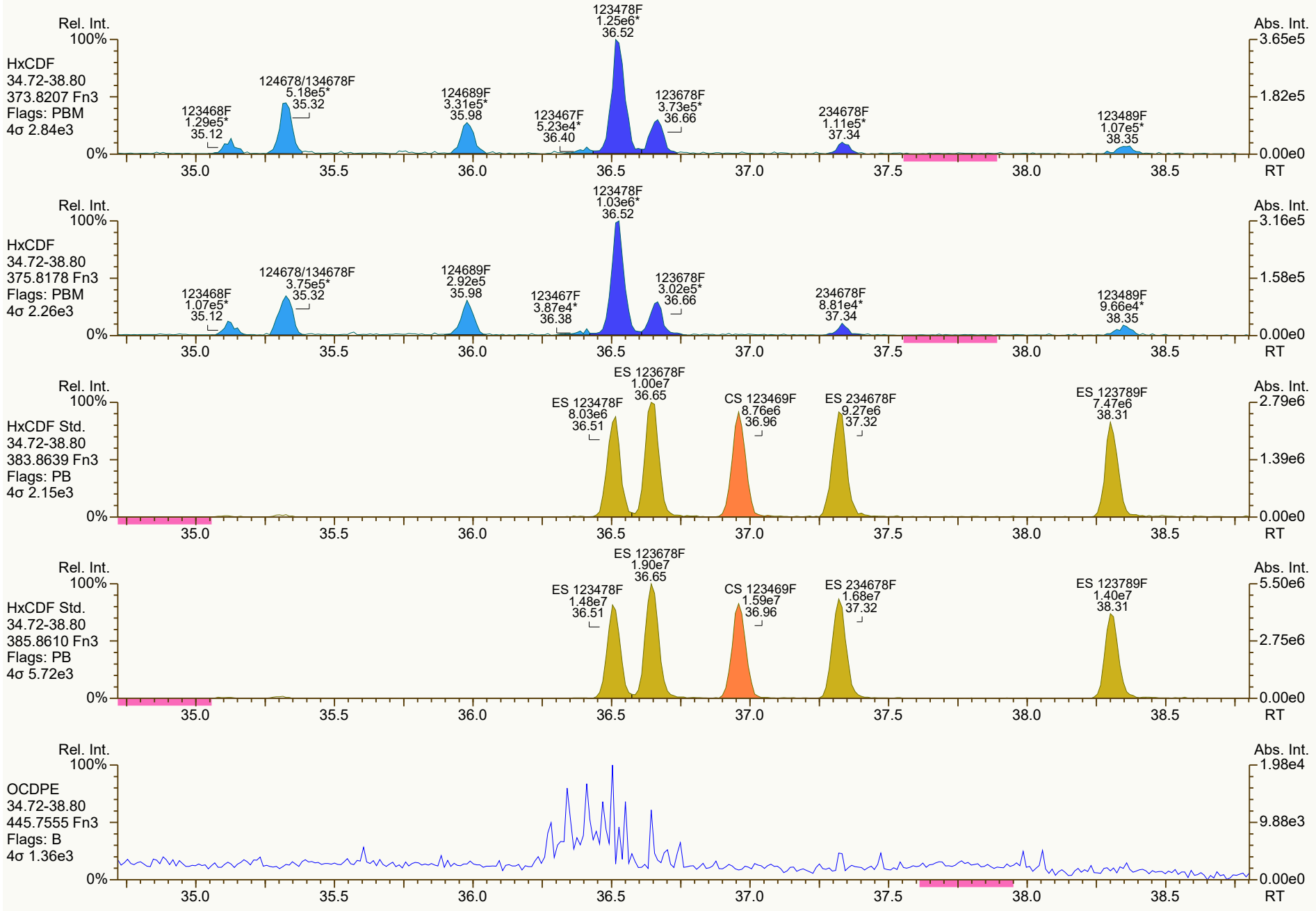
SGS ID: B6329_18965_DF_006 | Sample ID: 11215131-021822-S-SB-NC-O-50 | Acq: 03-Mar-2022 22:36:09
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72 | User: DTF Datafile: 220303C10

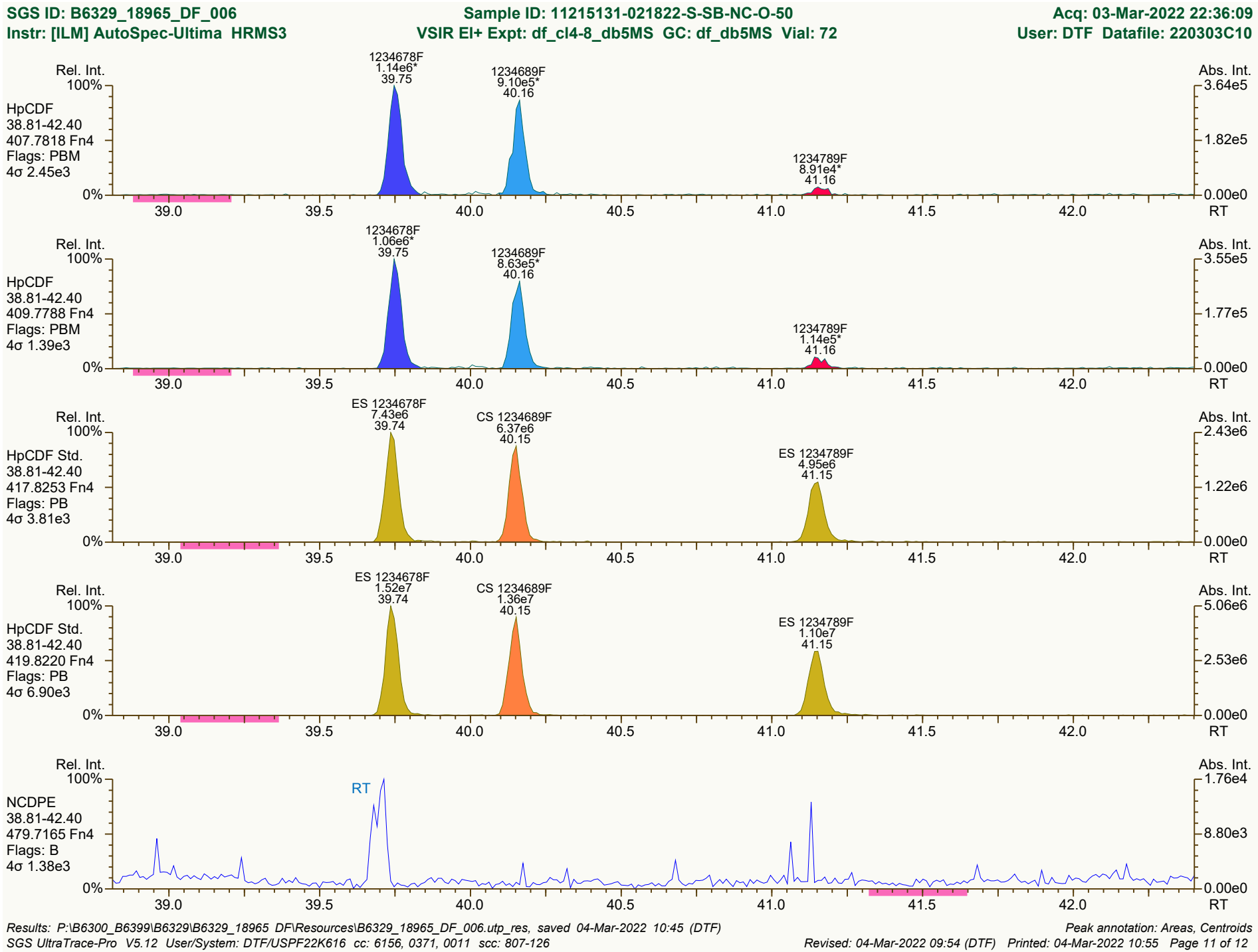


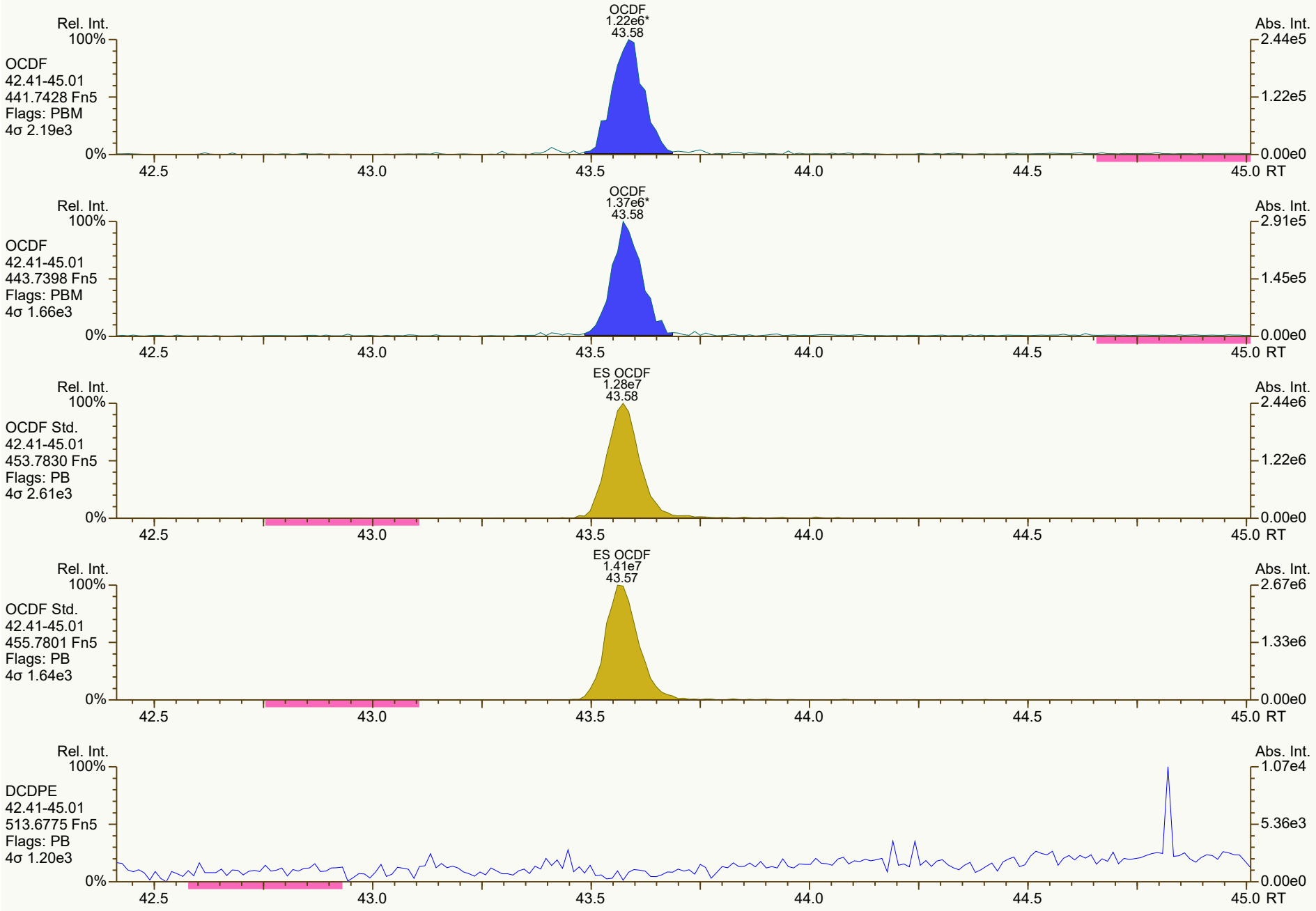
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_006.utp_res, saved 04-Mar-2022 10:45 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6615, 4300, 3744 scc: 807-126 | Revised: 04-Mar-2022 09:52 (DTF) Printed: 04-Mar-2022 10:55 Page 7 of 12


SGS ID: B6329_18965_DF_006
Sample ID: 11215131-021822-S-SB-NC-O-50
Acq: 03-Mar-2022 22:36:09
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72
User: DTF Datafile: 220303C10
Rel. Int.
100%
0%
Abs. Int.
4.80e4
2.40e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
13468/12468F
1.77e5*
29.29
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.92e3
13468/12468F
9.83e4*
29.30
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.28e3
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
3.76e6
1.88e6
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_006.utp_res, saved 04-Mar-2022 10:45 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1014 scc: 807-126
Revised: 04-Mar-2022 09:52 (DTF) Printed: 04-Mar-2022 10:55 Page 8 of 12


SGS ID: B6329_18965_DF_006
Sample ID: 11215131-021822-S-SB-NC-O-50
Acq: 03-Mar-2022 22:36:09
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72
User: DTF Datafile: 220303C10
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 1.91e3
12368F...[3] 5.94e5* 31.02
23468/12469F 7.84e4* 31.68
12348F 1.43e5* 31.91
12378F 1.08e6* 32.12
12678/12367F 3.15e5 32.42
23478F 8.70e5 33.25
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 3.02e3
13678F...[3] 4.59e4* 30.86
12368F...[3] 3.82e5* 31.02
23468/12469F 4.89e4* 31.68
12348F 9.41e4* 31.90
12378F 7.21e5* 32.12
12678/12367F 2.26e5 32.42
23478F 5.84e5 33.25
12389F 4.40e4* 34.32
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 2.85e3
CS 12346F 1.91e7 31.57
ES 12378F 1.96e7 32.11
ES 23478F 1.77e7 33.23
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.70e3
CS 12346F 1.18e7 31.57
ES 12378F 1.26e7 32.11
ES 23478F 1.14e7 33.23
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.23e3
Rel. Int.
Abs. Int.
RT
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_006.utp_res, saved 04-Mar-2022 10:45 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7686, 6024, 9780 scc: 807-126
Revised: 04-Mar-2022 09:53 (DTF) Printed: 04-Mar-2022 10:55 Page 9 of 12


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 2.84e3
123468F 1.29e5* 35.12
124678/134678F 5.18e5* 35.32
124689F 3.31e5* 35.98
123467F 5.23e4* 36.40
123478F 1.25e6* 36.52
123678F 3.73e5* 36.66
234678F 1.11e5* 37.34
123489F 1.07e5* 38.35
Abs. Int.
3.65e5
1.82e5
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 2.26e3
123468F 1.07e5* 35.12
124678/134678F 3.75e5* 35.32
124689F 2.92e5 35.98
123467F 3.87e4* 36.38
123478F 1.03e6* 36.52
123678F 3.02e5* 36.66
234678F 8.81e4* 37.34
123489F 9.66e4* 38.35
3.16e5
1.58e5
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 2.15e3
ES 123478F 8.03e6 36.51
ES 123678F 1.00e7 36.65
CS 123469F 8.76e6 36.96
ES 234678F 9.27e6 37.32
ES 123789F 7.47e6 38.31
2.79e6
1.39e6
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 5.72e3
ES 123478F 1.48e7 36.51
ES 123678F 1.90e7 36.65
CS 123469F 1.59e7 36.96
ES 234678F 1.68e7 37.32
ES 123789F 1.40e7 38.31
5.50e6
2.75e6
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.36e3
1.98e4
9.88e3


SGS ID: B6329_18965_DF_006
Sample ID: 11215131-021822-S-SB-NC-O-50
Acq: 03-Mar-2022 22:36:09
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72
User: DTF Datafile: 220303C10
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 2.45e3
1234678F
1.14e6*
39.75
1234689F
9.10e5*
40.16
1234789F
8.91e4*
41.16
3.64e5
1.82e5
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 1.39e3
1234678F
1.06e6*
39.75
1234689F
8.63e5*
40.16
1234789F
1.14e5*
41.16
3.55e5
1.77e5
0.00e0
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 3.81e3
ES 1234678F
7.43e6
39.74
CS 1234689F
6.37e6
40.15
ES 1234789F
4.95e6
41.15
2.43e6
1.22e6
0.00e0
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 6.90e3
ES 1234678F
1.52e7
39.74
CS 1234689F
1.36e7
40.15
ES 1234789F
1.10e7
41.15
5.06e6
2.53e6
0.00e0
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.38e3
RT
1.76e4
8.80e3
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_006.utp_res, saved 04-Mar-2022 10:45 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6156, 0371, 0011 scc: 807-126
Revised: 04-Mar-2022 09:54 (DTF) Printed: 04-Mar-2022 10:55 Page 11 of 12


OCDF
1.22e6*
43.58
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 2.19e3
0%
Abs. Int.
2.44e5
1.22e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.37e6*
43.58
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 1.66e3
0%
Abs. Int.
2.91e5
1.45e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.28e7
43.58
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 2.61e3
0%
Abs. Int.
2.44e6
1.22e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.41e7
43.57
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 1.64e3
0%
Abs. Int.
2.67e6
1.33e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.20e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6329_18965_DF_007 **Acq'd:** 03 Mar 2022 23:22 DTF **Wt/Vol:** 10.06 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-NC-B-15 **UTP:** 04-Mar-2022 10:45:43 DTF **J-level:** 0.497 pg/g **Split:** 1 **Checkcode:** 615-582-BWD

Datafile: 220303C11 **Report:** 04 Mar 2022 10:47 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.21		1.0008	1.0008	0	3.80E+07	0.80	Y	1.18	265	3565.613	0.25
12378-PeCDD	33.60		1.0007	1.0005	-0.4	6.34E+05	1.66	Y	1.04	5.5	7289.84	0.577
123478-HxCDD	37.54		1.0004	1.0004	0	4.35E+05	1.22	Y	1.09	4.01	16283.002	1.24
123678-HxCDD	37.66		1.0036	1.0036	0	1.66E+06	1.21	Y	1.15	14.4	16283.002	1.33
123789-HxCDD	37.96		1.0118	1.0118	0	9.06E+05	1.32	Y	1.05	7.62	16283.002	1.21
1234678-HpCDD	40.71		1.0002	1.0003	+0.2	2.98E+07	1.03	Y	1.06	282	15309.848	1.21
OCDD	43.41		1.0003	1.0003	0	3.23E+08	0.90	Y	1.13	4,380	4609.353	0.78
2378-TCDF	27.33		1.0008	1.0008	0	1.67E+08	0.79	Y	1.08	820	4831.977	0.266
12378-PeCDF	32.14		1.0005	1.0005	0	3.30E+06	1.49	Y	1.02	18.8	8930.536	0.478
23478-PeCDF	33.28	PR	1.0005	1.0009	+0.8	4.04E+06	1.61	Y	1.02	23.2	8930.536	0.44
123478-HxCDF	36.54		1.0004	1.0005	+0.2	4.90E+06	1.26	Y	1.27	29	12198.266	0.575
123678-HxCDF	36.68		1.0004	1.0005	+0.2	1.59E+06	1.19	Y	1.15	9.24	12198.266	0.618
234678-HxCDF	37.35		1.0005	1.0004	-0.2	1.19E+06	1.18	Y	1.19	7.17	12198.266	0.66
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	12198.266	0.696
1234678-HpCDF	39.76		1.0003	1.0002	-0.2	2.94E+07	1.03	Y	1.37	186	5651.112	0.264
1234789-HpCDF	41.16		1.0003	1.0003	0	2.49E+06	1.07	Y	1.31	18.9	5651.112	0.383
OCDF	43.59		1.0002	1.0003	+0.3	7.19E+08	0.89	Y	1.07	7,160	6783.968	0.894

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.18	1.0243	1.0243	0	2.41E+07	0.81	Y	1.05	77.9
ES 12378-PeCDD	33.59	1.2198	1.2206	+1.6	2.21E+07	1.57	Y	0.88	85
ES 123478-HxCDD	37.52	0.9916	0.9914	-0.5	1.98E+07	1.21	Y	0.97	76.9
ES 123678-HxCDD	37.64	0.9947	0.9946	-0.2	1.99E+07	1.25	Y	0.94	79.5
ES 123789-HxCDD	37.95	1.0029	1.0028	-0.2	2.26E+07	1.21	Y	1.09	77.9
ES 1234678-HpCDD	40.70	1.0749	1.0753	+1.0	1.99E+07	1.02	Y	0.91	82.1
ES OCDD	43.40	1.1460	1.1467	+1.8	2.60E+07	0.93	Y	0.62	78.5
ES 2378-TCDF	27.31	1.0531	1.0533	+0.3	3.76E+07	0.78	Y	1.06	76
ES 12378-PeCDF	32.13	1.2378	1.2390	+2.3	3.40E+07	1.54	Y	0.91	80
ES 23478-PeCDF	33.25	1.2810	1.2823	+2.6	3.40E+07	1.57	Y	0.88	82.3
ES 123478-HxCDF	36.52	0.9650	0.9649	-0.2	2.65E+07	0.53	Y	1.20	83.2
ES 123678-HxCDF	36.66	0.9688	0.9686	-0.4	2.97E+07	0.52	Y	1.35	82.8
ES 234678-HxCDF	37.33	0.9866	0.9865	-0.2	2.77E+07	0.54	Y	1.24	84
ES 123789-HxCDF	38.31	1.0125	1.0124	-0.2	2.48E+07	0.55	Y	1.16	80.8
ES 1234678-HpCDF	39.75	1.0501	1.0502	+0.2	2.29E+07	0.47	Y	0.97	89.2
ES 1234789-HpCDF	41.15	1.0870	1.0872	+0.5	2.01E+07	0.45	Y	0.85	88.9
ES OCDF	43.58	1.1505	1.1515	+2.6	3.73E+07	0.89	Y	0.81	87

Lab ID: B6329_18965_DF_007 **Acq'd:** 03 Mar 2022 23:22 DTF **Wt/Vol:** 10.06 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-NC-B-15 **UTP:** 04-Mar-2022 10:45:43 DTF **J-level:** 0.497 pg/g **Split:** 1 **Checkcode:** 615-582-BWD

Datafile: 220303C11 **Report:** 04 Mar 2022 10:47 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.52		-	-	-	2.96E+07	0.81	Y	-	-	
JS 1234-TCDF	25.93		-	-	-	4.67E+07	0.78	Y	-	-	
JS 123467-HxCDD	37.85		-	-	-	1.33E+07	1.24	Y	-	-	
CS 37Cl-2378-TCDD	28.21		1.0251	1.0251	0	1.13E+07	n/a	-	1.20	79.9	
CS 12347-PeCDD	33.08		1.2016	1.2022	+1.2	1.87E+07	1.58	Y	0.75	84	
CS 12346-PeCDF	31.59		1.2172	1.2184	+2.3	3.18E+07	1.57	Y	0.85	79.9	
CS 123469-HxCDF	36.97		0.9771	0.9769	-0.4	2.57E+07	0.54	Y	1.12	86.7	
CS 1234689-HpCDF	40.16		1.0608	1.0611	+0.7	2.15E+07	0.46	Y	0.89	91.4	
~~SS 37Cl-2378-TCDD~~	~~28.21~~		~~1.0251~~	~~1.0251~~	~~0~~	~~1.13E+07~~	~~n/a~~		~~1.15~~	~~103~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.08~~		~~1.2016~~	~~1.2022~~	~~+1.2~~	~~1.87E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~98.7~~	CL 07Mar22
~~SS 12346-PeCDF~~	~~31.59~~		~~1.2172~~	~~1.2184~~	~~+2.3~~	~~3.18E+07~~	~~1.57~~	~~Y~~	~~0.94~~	~~99.7~~	
~~SS 123469-HxCDF~~	~~36.97~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~2.57E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~105~~	
~~SS 1234689-HpCDF~~	~~40.16~~		~~1.0608~~	~~1.0611~~	~~+0.7~~	~~2.15E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~102~~	

Totals	Conc	EMPC
Total TCDD	300	313
Total PeCDD	32.1	39
Total HxCDD	155	155
Total HpCDD	668	668
Total Tetra-Octa Dioxins	5540	5560
Total TCDF	1,660	1660
Total PeCDF	140	143
Total HxCDF	155	155
Total HpCDF	361	361
Total Tetra-Octa Furans	9,470	9470
Total Tetra-Octa Dioxins & Furans	15000	15000

Lab ID: B6329_18965_DF_007 | **Acq'd: 03 Mar 2022 23:22 DTF** | **Wt/Vol: 10.06 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021822-S-SB-NC-B-15 | **UTP: 04-Mar-2022 10:45:43 DTF** | **J-level: 0.497 pg/g** | **Split: 1** | **Checkcode: 615-582-BWD**

Datafile: 220303C11 | **Report: 04 Mar 2022 10:47 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.50		0.8701	0.8693	-1.2	9.77E+05	0.83	Y	1.18	6.81	3565.613	0.25
1379-TCDD	24.87	EMPC	0.8829	0.8824	-0.7	2.15E+05	0.99	N	1.18	1.5	3565.613	0.25
1369-TCDD	25.30	EMPC	0.8982	0.8978	-0.6	1.20E+05	0.90	N	1.18	0.834	3565.613	0.25
1469-TCDD	26.09		0.9261	0.9259	-0.3	7.14E+05	0.83	Y	1.18	4.98	3565.613	0.25
1247/1246/1248/1249-TCDD	26.33	EMPC	0.9348	0.9342	-0.9	2.52E+05	0.91	N	1.18	1.76	3565.613	0.25
1378-TCDD	26.53	EMPC	0.9417	0.9414	-0.5	2.55E+05	1.00	N	1.18	1.78	3565.613	0.25
1268-TCDD	NotFnd		0.9487						1.18		3565.613	0.25
1478-TCDD	26.99	EMPC	0.9576	0.9575	-0.2	1.41E+05	0.96	N	1.18	0.985	3565.613	0.25
1279-TCDD	27.15	EMPC	0.9636	0.9634	-0.3	1.02E+05	1.26	N	1.18	0.712	3565.613	0.25
1234/1269-TCDD	27.50	EMPC	0.9761	0.9759	-0.3	2.45E+05	0.96	N	1.18	1.71	3565.613	0.25
1236-TCDD	NotFnd		0.9812						1.18		3565.613	0.25
1237/1238-TCDD	27.92	EMPC	0.9905	0.9906	+0.2	5.01E+05	0.91	N	1.18	3.49	3565.613	0.25
1239-TCDD	NotFnd		0.9951						1.18		3565.613	0.25
2378-TCDD	**28.21**		**1.0008**	1.0008	**0**	3.80E+07	0.80	Y	**1.18**	**265**	**3565.613**	**0.25**
1278-TCDD	28.53		1.0124	1.0124	0	3.35E+06	0.81	Y	1.18	23.3	3565.613	0.25
1267-TCDD	NotFnd		1.0172						1.18		3565.613	0.25
1289-TCDD	NotFnd		1.0354						1.18		3565.613	0.25
12479/12468-PeCDD	31.08		0.9255	0.9255	0	1.14E+06	1.50	Y	1.04	9.9	7289.84	0.577
12469-PeCDD	31.62	EMPC	0.9416	0.9416	0	6.18E+05	1.30	N	1.04	5.37	7289.84	0.577
12368-PeCDD	32.18		0.9582	0.9582	0	5.84E+05	1.42	Y	1.04	5.07	7289.84	0.577
12478-PeCDD	32.37		0.9637	0.9638	+0.2	3.79E+05	1.34	Y	1.04	3.3	7289.84	0.577
12379-PeCDD	32.47	J	0.9668	0.9667	-0.2	2.45E+05	1.52	Y	1.04	2.13	7289.84	0.577
12369/12467/12489-PeCDD	32.73		0.9746	0.9746	0	6.15E+05	1.47	Y	1.04	5.34	7289.84	0.577
12346/12347-PeCDD	33.11	J	0.9858	0.9858	0	1.00E+05	1.76	Y	1.04	0.869	7289.84	0.577
12378-PeCDD	33.60		**1.0007**	**1.0005**	**-0.4**	**6.34E+05**	**1.66**	**Y**	**1.04**	**5.5**	**7289.84**	**0.577**
12367-PeCDD	33.70	J EMPC	1.0036	1.0034	-0.4	7.03E+04	1.08	N	1.04	0.611	7289.84	0.577
12389-PeCDD	34.05	J EMPC	1.0137	1.0139	+0.4	1.03E+05	2.10	N	1.04	0.892	7289.84	0.577
124679/124689-HxCDD	35.80		0.9540	0.9540	0	7.38E+06	1.26	Y	1.10	64.5	16283.002	1.26
123468-HxCDD	36.45		0.9715	0.9715	0	1.15E+06	1.38	Y	1.10	10.1	16283.002	1.26
123679/123689-HxCDD	36.75		0.9793	0.9794	+0.2	5.41E+06	1.28	Y	1.10	47.3	16283.002	1.26
123469-HxCDD	36.87		0.9829	0.9827	-0.4	4.30E+05	1.26	Y	1.10	3.76	16283.002	1.26
123478-HxCDD	37.54		**1.0004**	**1.0004**	**0**	**4.35E+05**	**1.22**	**Y**	1.09	**4.01**	**16283.002**	**1.24**
123678-HxCDD	37.66		**1.0036**	**1.0036**	**0**	**1.66E+06**	**1.21**	**Y**	1.15	**14.4**	**16283.002**	**1.33**
123467-HxCDD	37.86		1.0089	1.0091	+0.5	3.30E+05	1.28	Y	1.10	2.88	16283.002	1.26
123789-HxCDD	37.96		**1.0118**	**1.0118**	**0**	**9.06E+05**	**1.32**	**Y**	1.05	**7.62**	**16283.002**	**1.21**

Lab ID: B6329_18965_DF_007 **Acq'd: 03 Mar 2022 23:22 DTF** **Wt/Vol: 10.06 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021822-S-SB-NC-B-15 **UTP: 04-Mar-2022 10:45:43 DTF** **J-level: 0.497 pg/g** **Split: 1** **Checkcode: 615-582-BWD**

Datafile: 220303C11 **Report: 04 Mar 2022 10:47 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

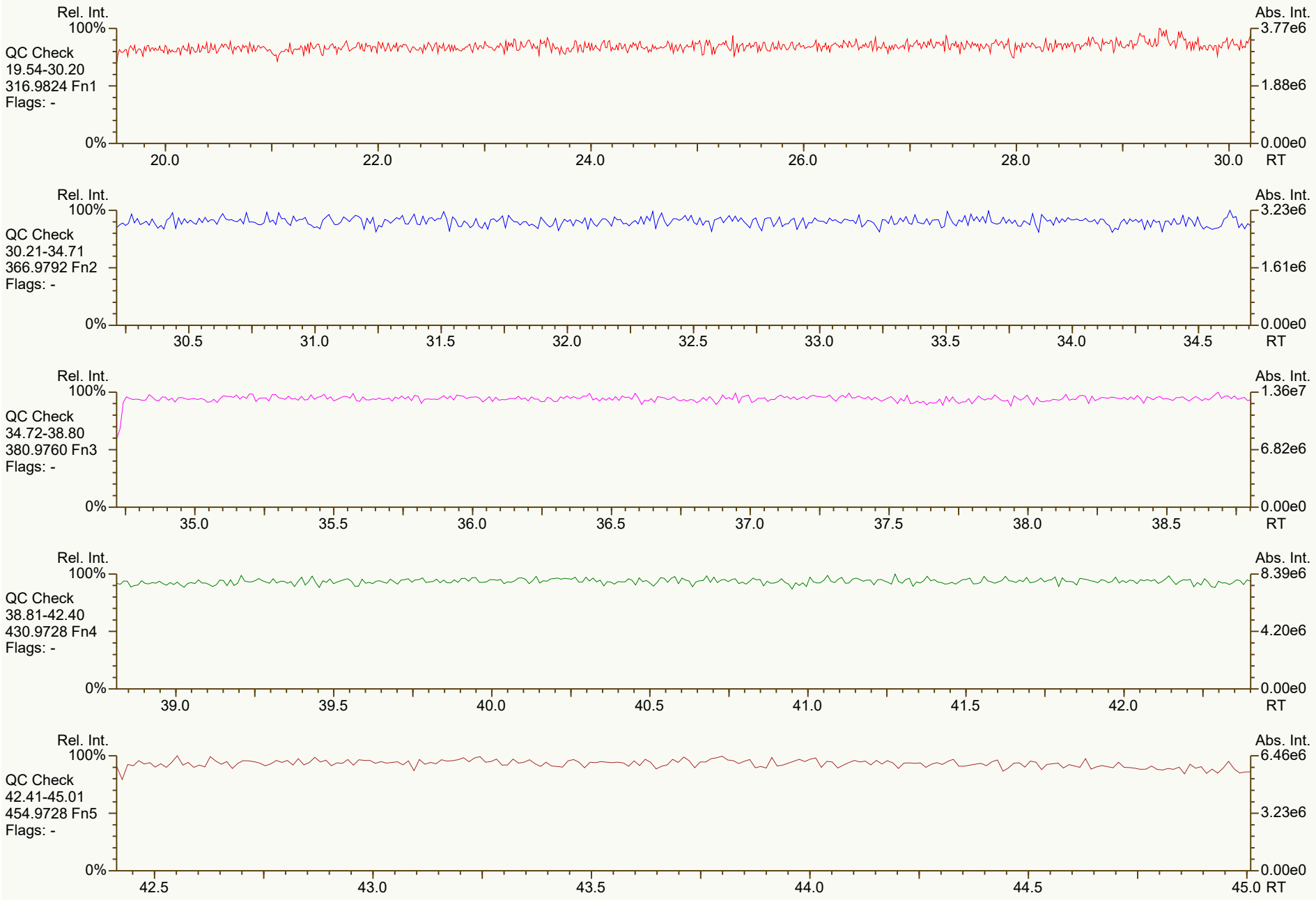
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.03		0.9836	0.9835	-0.2	4.10E+07	1.04	Y	1.06	387	15309.848	1.21
1234678-HpCDD	**40.71**		**1.0002**	**1.0003**	**+0.2**	**2.98E+07**	**1.03**	**Y**	**1.06**	**282**	**15309.848**	**1.21**
OCDD	**43.41**		**1.0003**	**1.0003**	**0**	**3.23E+08**	**0.90**	**Y**	**1.13**	**4,380**	**4609.353**	**0.78**
OCDD-a	43.41		1.0002	1.0002	0	1.97E+07	2.45	Y	0.07	4,180	9065.894	24
1368-TCDF	22.35		0.8191	0.8182	-1.2	3.70E+05	0.82	Y	1.08	1.81	4831.977	0.266
1468-TCDF	22.94		0.8408	0.8401	-1.0	1.19E+06	0.77	Y	1.08	5.82	4831.977	0.266
2468-TCDF	23.59		0.8645	0.8637	-1.1	2.63E+06	0.80	Y	1.08	12.9	4831.977	0.266
1346/1246-TCDF	23.98		0.8772	0.8779	+1.0	6.39E+05	0.76	Y	1.08	3.13	4831.977	0.266
1347/1378/1247-TCDF	24.13		0.8833	0.8835	+0.3	2.86E+06	0.80	Y	1.08	14	4831.977	0.266
1348-TCDF	24.39		0.8932	0.8931	-0.1	1.55E+06	0.80	Y	1.08	7.58	4831.977	0.266
1248/1367/1379-TCDF	24.48		0.8980	0.8964	-2.4	9.16E+06	0.79	Y	1.08	44.9	4831.977	0.266
1268-TCDF	24.89		0.9119	0.9115	-0.6	4.31E+06	0.82	Y	1.08	21.1	4831.977	0.266
1467-TCDF	25.03		0.9170	0.9165	-0.8	7.86E+05	0.76	Y	1.08	3.85	4831.977	0.266
1478-TCDF	25.20		0.9234	0.9228	-0.9	8.17E+06	0.77	Y	1.08	40	4831.977	0.266
1369/1237-TCDF	25.59		0.9369	0.9370	+0.2	1.84E+06	0.80	Y	1.08	9.04	4831.977	0.266
2467-TCDF	25.71		0.9415	0.9415	0	5.20E+05	0.83	Y	1.08	2.55	4831.977	0.266
2368-TCDF	25.87		0.9475	0.9472	-0.5	6.66E+06	0.78	Y	1.08	32.6	4831.977	0.266
1238/1234/1678/1469/1236-TCDF	25.95		0.9507	0.9501	-0.9	7.20E+06	0.78	Y	1.08	35.3	4831.977	0.266
1278-TCDF	26.42		0.9676	0.9674	-0.3	7.80E+07	0.79	Y	1.08	382	4831.977	0.266
1349-TCDF	NotFnd		0.9722						1.08		4831.977	0.266
1267-TCDF	26.70		0.9777	0.9776	-0.2	4.50E+06	0.79	Y	1.08	22.1	4831.977	0.266
2346/1249-TCDF	26.90		0.9843	0.9849	+1.0	6.77E+05	0.83	Y	1.08	3.32	4831.977	0.266
2347/1279-TCDF	27.11		0.9926	0.9925	-0.2	2.03E+06	0.75	Y	1.08	9.96	4831.977	0.266
2348-TCDF	27.22		0.9968	0.9965	-0.5	8.67E+06	0.76	Y	1.08	42.5	4831.977	0.266
2378-TCDF	**27.33**		**1.0008**	**1.0008**	**0**	**1.67E+08**	**0.79**	**Y**	**1.08**	**820**	**4831.977**	**0.266**
2367/3467-TCDF	27.69		1.0142	1.0139	-0.5	1.41E+07	0.78	Y	1.08	69.1	4831.977	0.266
1269-TCDF	27.95		1.0235	1.0235	0	2.61E+06	0.78	Y	1.08	12.8	4831.977	0.266
1239-TCDF	NotFnd		1.0329						1.08		4831.977	0.266
1289-TCDF	29.36		1.0742	1.0752	+1.8	1.20E+07	0.81	Y	1.08	58.8	4831.977	0.266
13468/12468-PeCDF	29.32		0.9122	0.9126	+0.7	5.69E+06	1.44	Y	1.02	32.6	2826.66	0.145
13678/13467/12467-PeCDF	30.87		0.9606	0.9610	+0.7	8.73E+05	1.39	Y	1.02	4.99	8930.536	0.459
12368/13478/12478-PeCDF	31.04		0.9655	0.9662	+1.3	5.50E+06	1.49	Y	1.02	31.5	8930.536	0.459
14678-PeCDF	NotFnd		0.9685						1.02		8930.536	0.459
13479-PeCDF	NotFnd		0.9716						1.02		8930.536	0.459
13469/12479-PeCDF	31.43	J EMPC	0.9794	0.9782	-2.3	2.95E+05	1.16	N	1.02	1.69	8930.536	0.459
12346-PeCDF	31.60	J	0.9836	0.9837	+0.2	2.04E+05	1.34	Y	1.02	1.17	8930.536	0.459

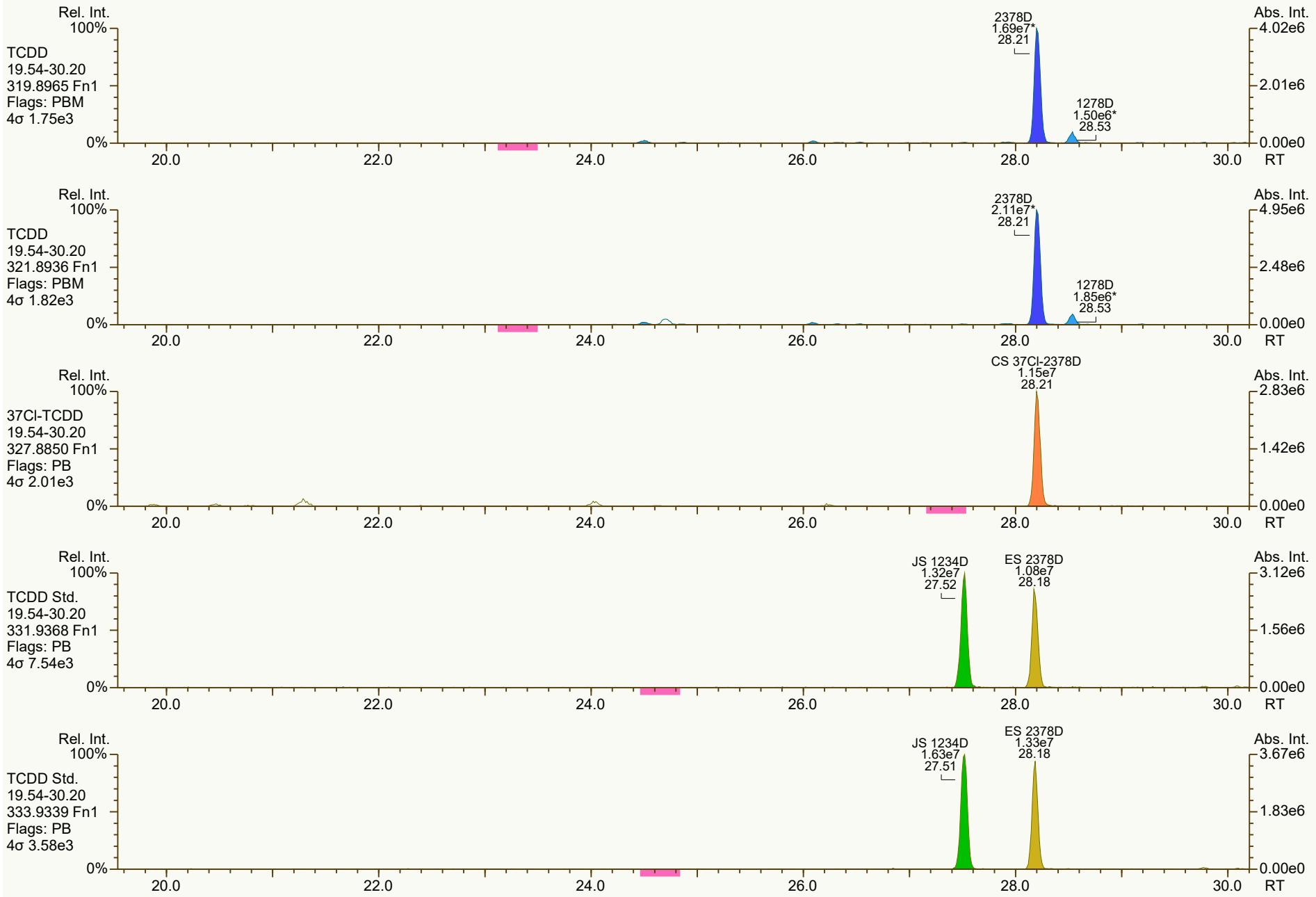
Lab ID: B6329_18965_DF_007 **Acq'd: 03 Mar 2022 23:22 DTF** **Wt/Vol: 10.06 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

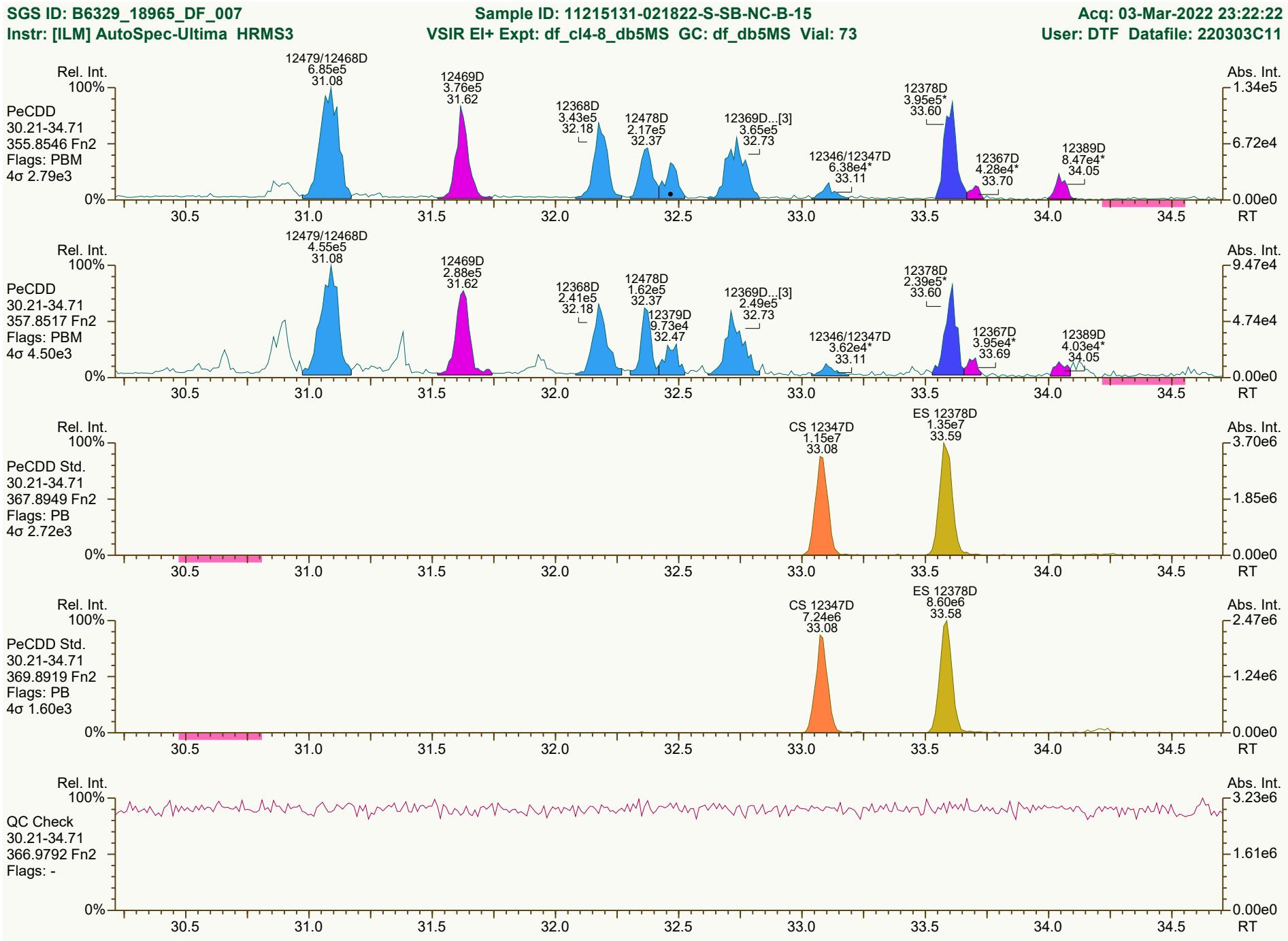
Client ID: 11215131-021822-S-SB-NC-B-15 **UTP: 04-Mar-2022 10:45:43 DTF** **J-level: 0.497 pg/g** **Split: 1** **Checkcode: 615-582-BWD**

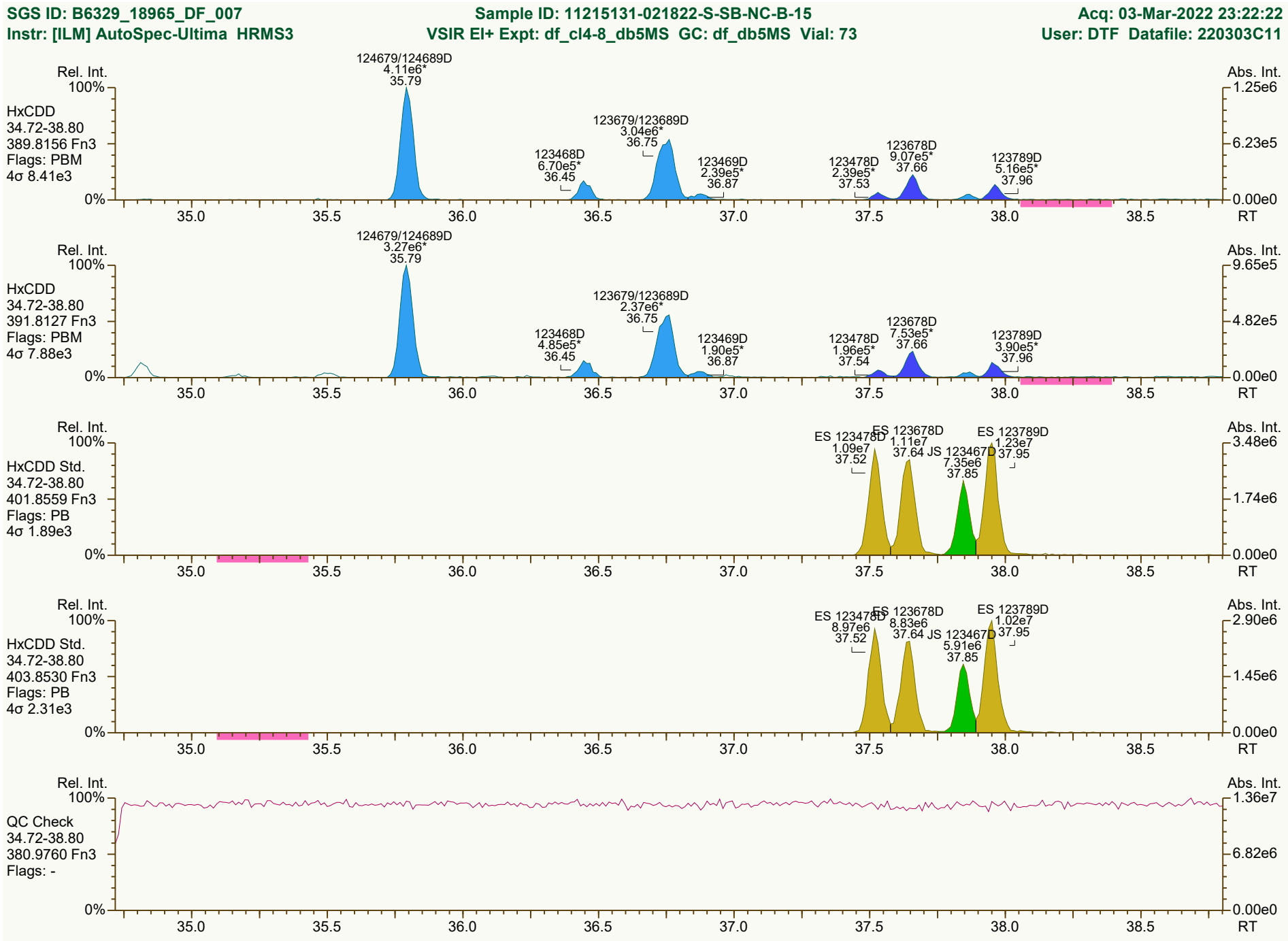
Datafile: 220303C11 **Report: 04 Mar 2022 10:47 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.71		0.9866	0.9872	+1.1	1.73E+06	1.51	Y	1.02	9.91	8930.536	0.459
12347-PeCDF	NotFnd		0.9891						1.02		8930.536	0.459
12348-PeCDF	31.93		0.9938	0.9940	+0.4	8.47E+05	1.48	Y	1.02	4.85	8930.536	0.459
12378-PeCDF	**32.14**		**1.0005**	**1.0005**	**0**	**3.30E+06**	**1.49**	**Y**	**1.02**	**18.8**	**8930.536**	**0.478**
12678/12367-PeCDF	32.45		1.0091	1.0099	+1.6	1.92E+06	1.54	Y	1.02	11	8930.536	0.459
12379-PeCDF	NotFnd		1.0144						1.02		8930.536	0.459
12679-PeCDF	NotFnd		0.9927						1.02		8930.536	0.459
23467/12369-PeCDF	33.13	J	0.9965	0.9964	-0.2	2.89E+05	1.58	Y	1.02	1.66	8930.536	0.459
23478-PeCDF	**33.28**	PR	**1.0005**	**1.0009**	**+0.8**	**4.04E+06**	**1.61**	**Y**	**1.02**	**23.2**	**8930.536**	**0.44**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		8930.536	0.459
12349-PeCDF	NotFnd		1.0101						1.02		8930.536	0.459
12389-PeCDF	34.35	J EMPC	1.0330	1.0331	+0.2	2.33E+05	1.22	N	1.02	1.34	8930.536	0.459
123468-HxCDF	35.14		0.9622	0.9623	+0.2	2.22E+06	1.24	Y	1.19	13.6	12198.266	0.635
124678/134678-HxCDF	35.34		0.9678	0.9677	-0.2	6.57E+06	1.25	Y	1.19	40.3	12198.266	0.635
134679-HxCDF	NotFnd		0.9741						1.19		12198.266	0.635
124679-HxCDF	35.77		0.9795	0.9795	0	4.49E+05	1.14	Y	1.19	2.76	12198.266	0.635
124689-HxCDF	35.99		0.9856	0.9856	0	6.75E+06	1.19	Y	1.19	41.4	12198.266	0.635
123467-HxCDF	36.42		0.9972	0.9972	0	6.30E+05	1.25	Y	1.19	3.86	12198.266	0.635
123478-HxCDF	**36.54**		**1.0004**	**1.0005**	**+0.2**	**4.90E+06**	**1.26**	**Y**	**1.27**	**29**	**12198.266**	**0.575**
123678-HxCDF	**36.68**		**1.0004**	**1.0005**	**+0.2**	**1.59E+06**	**1.19**	**Y**	**1.15**	**9.24**	**12198.266**	**0.618**
123479-HxCDF	NotFnd		1.0048						1.19		12198.266	0.635
123469-HxCDF	36.99		1.0089	1.0089	0	4.91E+05	1.22	Y	1.19	3.01	12198.266	0.635
123679-HxCDF	NotFnd		0.9942						1.19		12198.266	0.635
234678-HxCDF	**37.35**		**1.0005**	**1.0004**	**-0.2**	**1.19E+06**	**1.18**	**Y**	**1.19**	**7.17**	**12198.266**	**0.66**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		12198.266	0.635
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**12198.266**	**0.696**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.36		1.0006	1.0012	+1.4	7.37E+05	1.31	Y	1.19	4.52	12198.266	0.635
1234678-HpCDF	**39.76**		**1.0003**	**1.0002**	**-0.2**	**2.94E+07**	**1.03**	**Y**	**1.37**	**186**	**5651.112**	**0.264**
1234679-HpCDF	40.02		1.0068	1.0070	+0.5	1.90E+06	0.95	Y	1.34	13.1	5651.112	0.318
1234689-HpCDF	40.17		1.0104	1.0106	+0.5	2.06E+07	1.04	Y	1.34	143	5651.112	0.318
1234789-HpCDF	**41.16**		**1.0003**	**1.0003**	**0**	**2.49E+06**	**1.07**	**Y**	**1.31**	**18.9**	**5651.112**	**0.383**
OCDF	**43.59**		**1.0002**	**1.0003**	**+0.3**	**7.19E+08**	**0.89**	**Y**	**1.07**	**7,160**	**6783.968**	**0.894**
OCDF-a	43.59		1.0001	1.0003	+0.5	4.52E+07	2.44	Y	0.07	7,270	4478.685	9.52

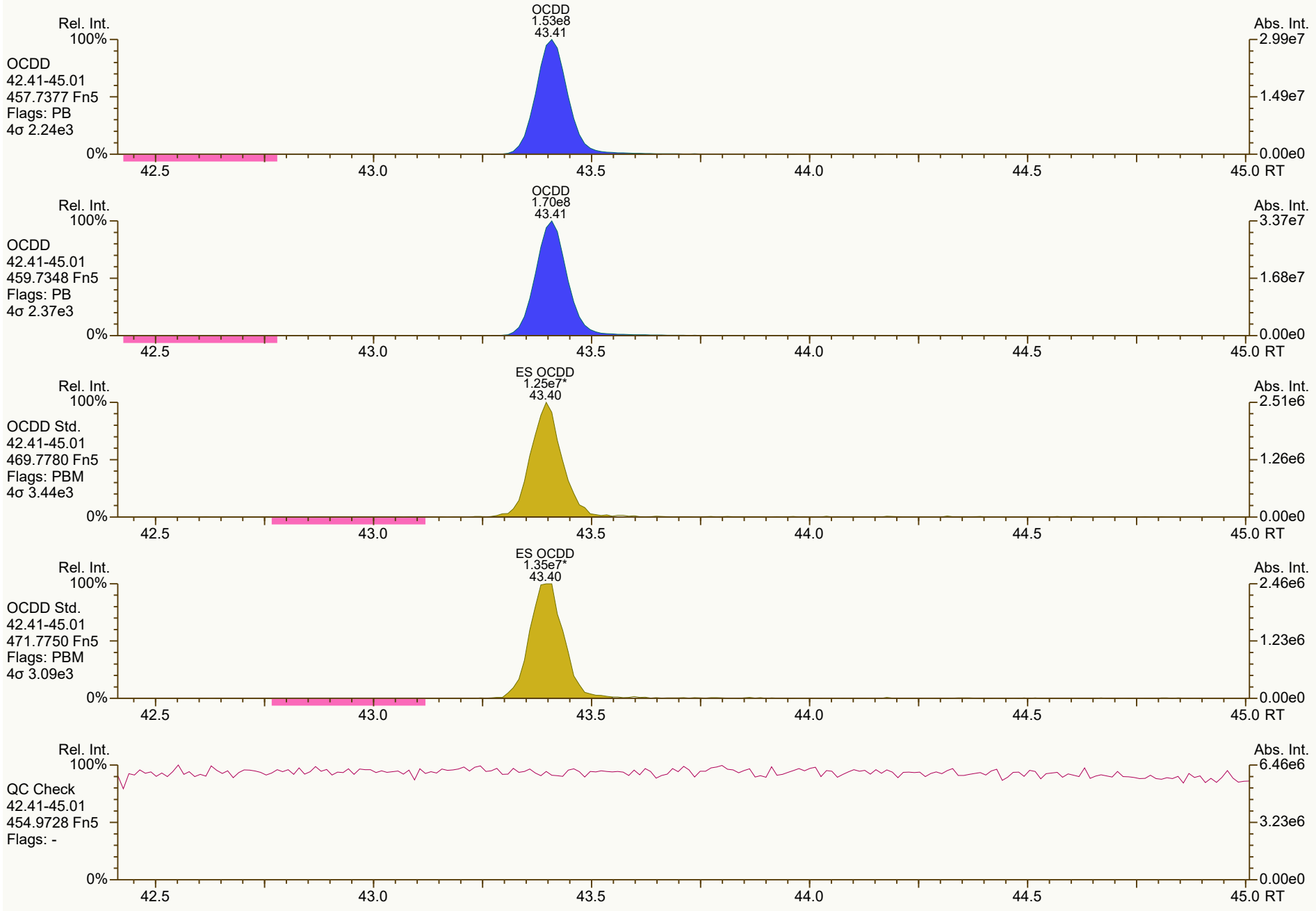

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.77e6
1.88e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.23e6
1.61e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.36e7
6.82e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
8.39e6
4.20e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.46e6
3.23e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT

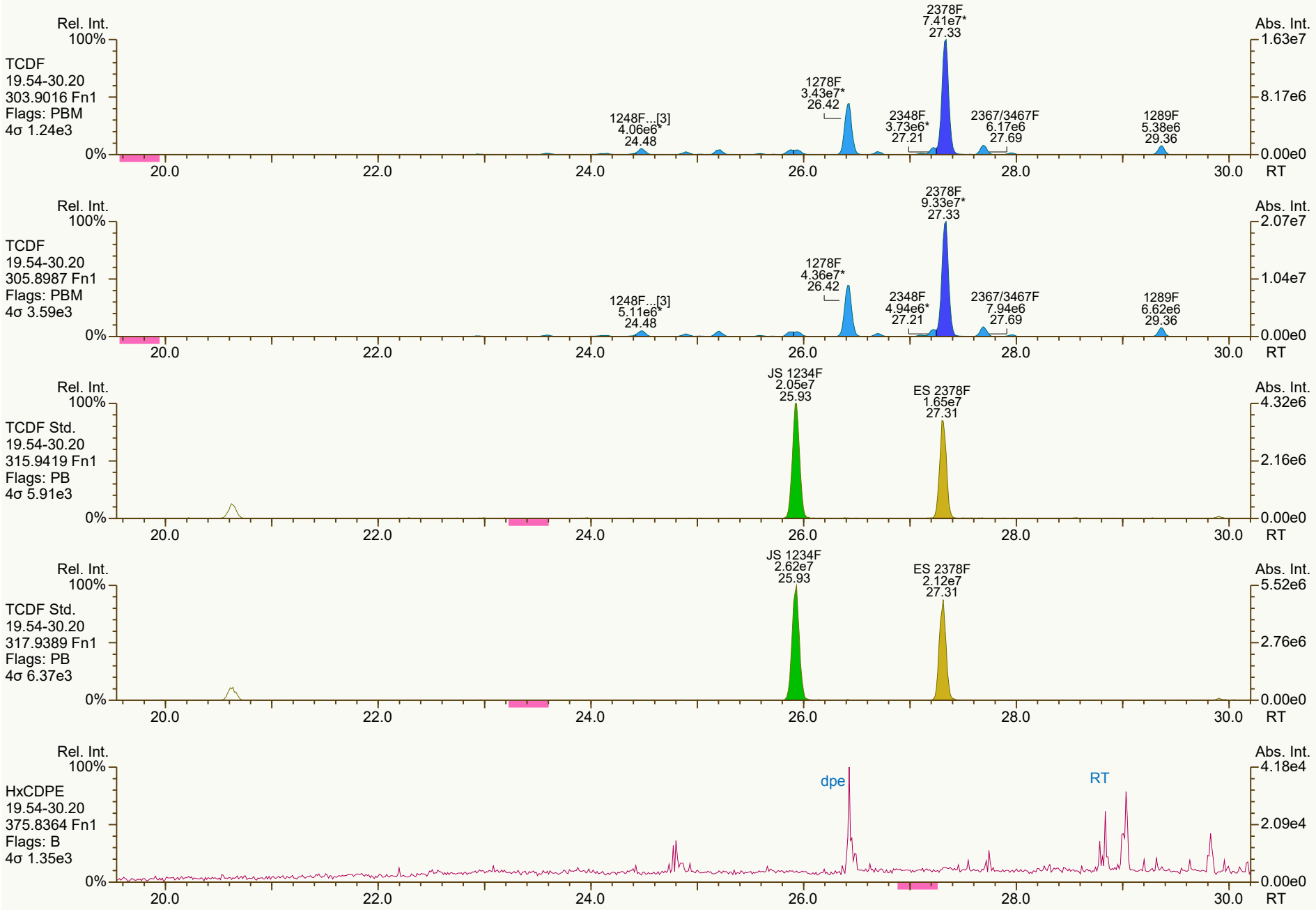

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.75e3
0%
2378D
1.69e7*
28.21
1278D
1.50e6*
28.53
Abs. Int.
4.02e6
2.01e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.82e3
0%
2378D
2.11e7*
28.21
1278D
1.85e6*
28.53
Abs. Int.
4.95e6
2.48e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.01e3
0%
CS 37Cl-2378D
1.15e7
28.21
Abs. Int.
2.83e6
1.42e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 7.54e3
0%
JS 1234D
1.32e7
27.52
ES 2378D
1.08e7
28.18
Abs. Int.
3.12e6
1.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.58e3
0%
JS 1234D
1.63e7
27.51
ES 2378D
1.33e7
28.18
Abs. Int.
3.67e6
1.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6329_18965_DF_007
Sample ID: 11215131-021822-S-SB-NC-B-15
Acq: 03-Mar-2022 23:22:22
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 73
User: DTF Datafile: 220303C11
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 2.79e3
12479/12468D 6.85e5 31.08
12469D 3.76e5 31.62
12368D 3.43e5 32.18
12478D 2.17e5 32.37
12369D...[3] 3.65e5 32.73
12346/12347D 6.38e4* 33.11
12378D 3.95e5* 33.60
12367D 4.28e4* 33.70
12389D 8.47e4* 34.05
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 4.50e3
12479/12468D 4.55e5 31.08
12469D 2.88e5 31.62
12368D 2.41e5 32.18
12478D 1.62e5 32.37
12379D 9.73e4 32.47
12369D...[3] 2.49e5 32.73
12346/12347D 3.62e4* 33.11
12378D 2.39e5* 33.60
12367D 3.95e4* 33.69
12389D 4.03e4* 34.05
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.72e3
CS 12347D 1.15e7 33.08
ES 12378D 1.35e7 33.59
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.60e3
CS 12347D 7.24e6 33.08
ES 12378D 8.60e6 33.58
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Rel. Int.
Abs. Int.
RT
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_007.utp_res, saved 04-Mar-2022 10:45 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1082, 6330 scc: 615-582
Revised: 04-Mar-2022 10:01 (DTF) Printed: 04-Mar-2022 10:55 Page 3 of 12


SGS ID: B6329_18965_DF_007
Sample ID: 11215131-021822-S-SB-NC-B-15
Acq: 03-Mar-2022 23:22:22
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 73
User: DTF Datafile: 220303C11
Rel. Int.
Abs. Int.
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 8.41e3
124679/124689D
4.11e6*
35.79
123679/123689D
3.04e6*
36.75
123468D
6.70e5*
36.45
123469D
2.39e5*
36.87
123478D
2.39e5*
37.53
123678D
9.07e5*
37.66
123789D
5.16e5*
37.96
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 7.88e3
124679/124689D
3.27e6*
35.79
123679/123689D
2.37e6*
36.75
123468D
4.85e5*
36.45
123469D
1.90e5*
36.87
123478D
1.96e5*
37.54
123678D
7.53e5*
37.66
123789D
3.90e5*
37.96
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 1.89e3
ES 123478D
1.09e7
37.52
ES 123678D
1.11e7
37.64 JS 123467D
7.35e6
37.85
ES 123789D
1.23e7
37.95
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 2.31e3
ES 123478D
8.97e6
37.52
ES 123678D
8.83e6
37.64 JS 123467D
5.91e6
37.85
ES 123789D
1.02e7
37.95
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
RT
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_007.utp_res, saved 04-Mar-2022 10:45 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5414, 0213 scc: 615-582
Revised: 04-Mar-2022 10:01 (DTF) Printed: 04-Mar-2022 10:55 Page 4 of 12


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 4.83e3
1234679D
2.09e7
40.03
1234678D
1.51e7*
40.71
Abs. Int.
6.49e6
3.25e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 1.05e4
1234679D
2.01e7
40.02
1234678D
1.47e7*
40.71
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 2.89e3
ES 1234678D
1.01e7
40.70
Abs. Int.
3.01e6
1.50e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 3.35e3
ES 1234678D
9.82e6
40.69
Abs. Int.
2.77e6
1.39e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
8.39e6
4.20e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 2.24e3
0%
OCDD
1.53e8
43.41
Abs. Int.
2.99e7
1.49e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 2.37e3
0%
OCDD
1.70e8
43.41
Abs. Int.
3.37e7
1.68e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 3.44e3
0%
ES OCDD
1.25e7*
43.40
Abs. Int.
2.51e6
1.26e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 3.09e3
0%
ES OCDD
1.35e7*
43.40
Abs. Int.
2.46e6
1.23e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.46e6
3.23e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.24e3
0%
2378F
7.41e7*
27.33
1278F
3.43e7*
26.42
1248F...[3]
4.06e6*
24.48
2348F
3.73e6*
27.21
2367/3467F
6.17e6
27.69
1289F
5.38e6
29.36
Abs. Int.
1.63e7
8.17e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 3.59e3
0%
2378F
9.33e7*
27.33
1278F
4.36e7*
26.42
1248F...[3]
5.11e6*
24.48
2348F
4.94e6*
27.21
2367/3467F
7.94e6
27.69
1289F
6.62e6
29.36
Abs. Int.
2.07e7
1.04e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 5.91e3
0%
JS 1234F
2.05e7
25.93
ES 2378F
1.65e7
27.31
Abs. Int.
4.32e6
2.16e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 6.37e3
0%
JS 1234F
2.62e7
25.93
ES 2378F
2.12e7
27.31
Abs. Int.
5.52e6
2.76e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.35e3
0%
dpe
RT
Abs. Int.
4.18e4
2.09e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: B6329_18965_DF_007 | Sample ID: 11215131-021822-S-SB-NC-B-15 | Acq: 03-Mar-2022 23:22:22

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 73 | User: DTF Datafile: 220303C11

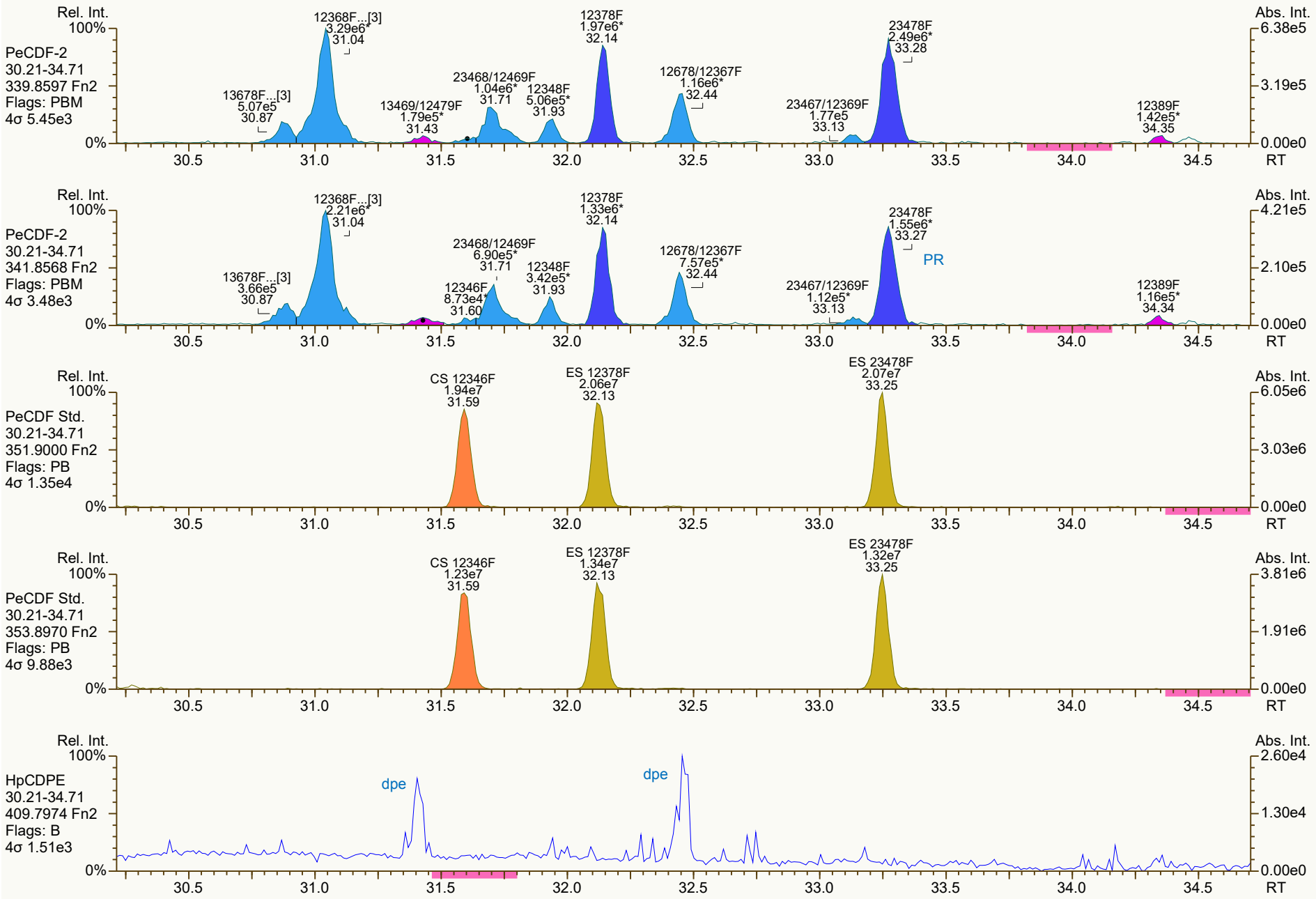


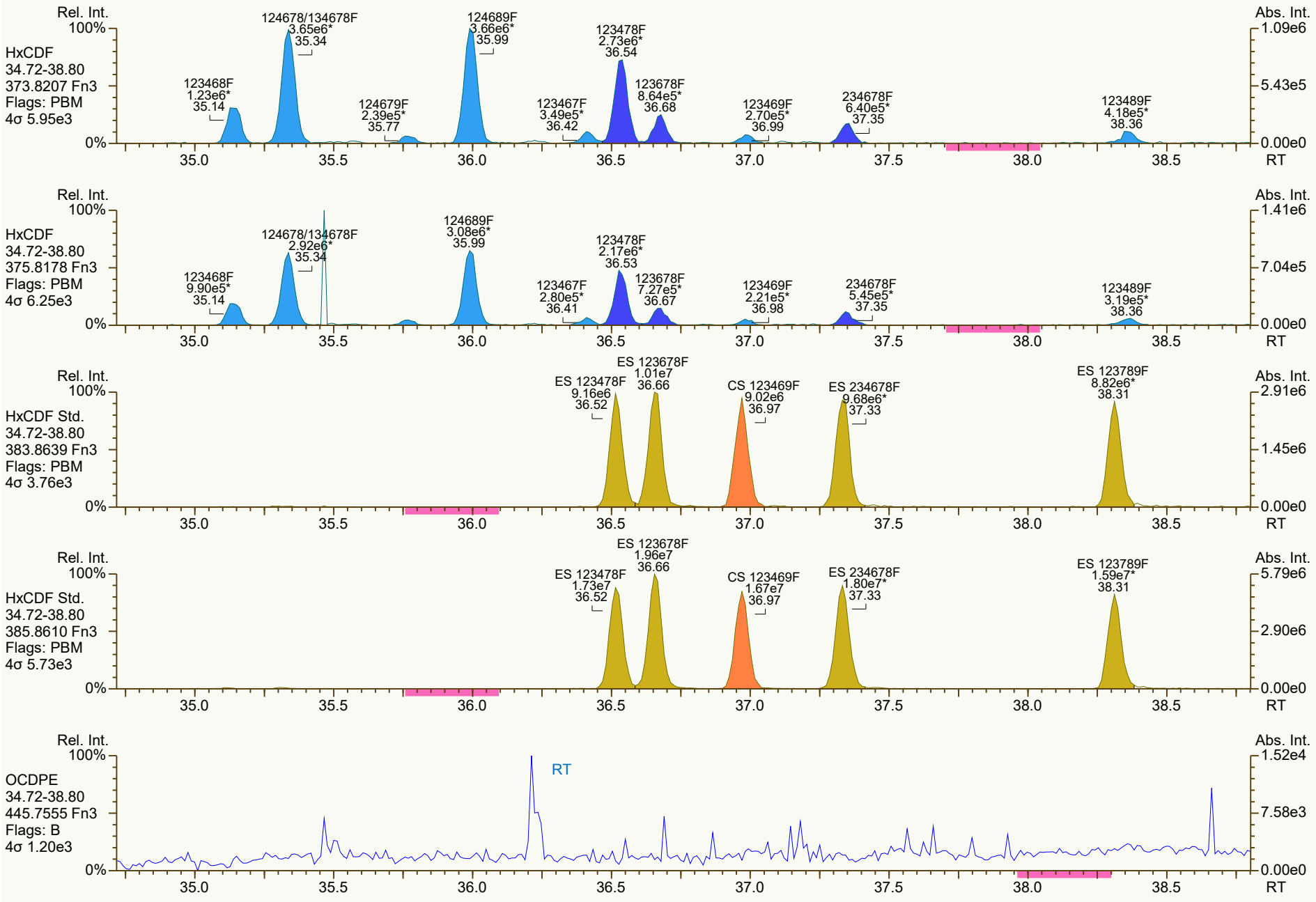
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_007.utp_res, saved 04-Mar-2022 10:45 (DTF)

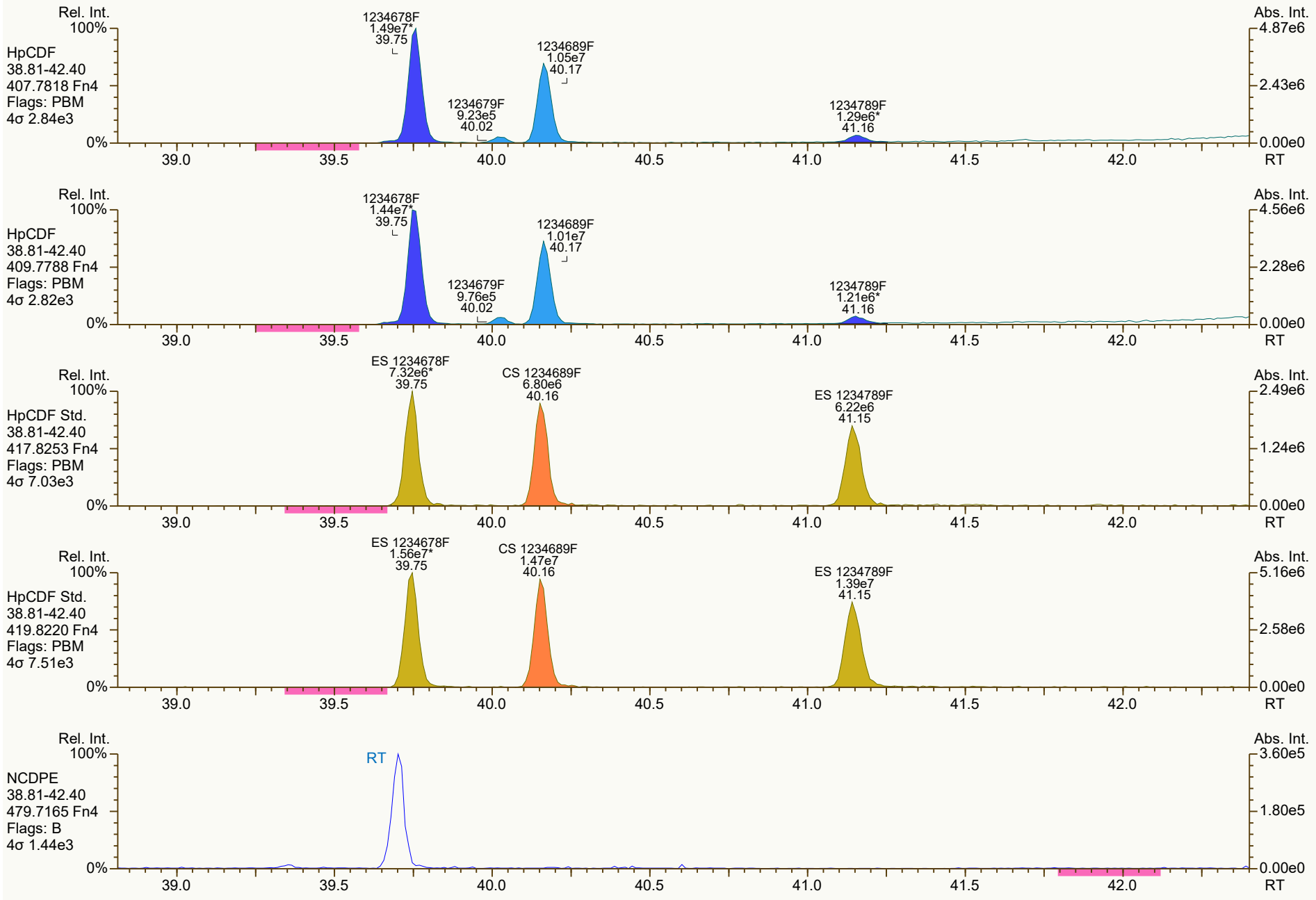
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9596 scc: 615-582

Revised: 04-Mar-2022 10:02 (DTF) Printed: 04-Mar-2022 10:55 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 5.45e3
12368F...[3]
3.29e6*
31.04
13678F...[3]
5.07e5
30.87
13469/12479F
1.79e5*
31.43
23468/12469F
1.04e6*
31.71
12348F
5.06e5*
31.93
12378F
1.97e6*
32.14
12678/12367F
1.16e6*
32.44
23467/12369F
1.77e5
33.13
23478F
2.49e6*
33.28
12389F
1.42e5*
34.35
0%
Abs. Int.
6.38e5
3.19e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 3.48e3
12368F...[3]
2.21e6*
31.04
13678F...[3]
3.66e5
30.87
12346F
8.73e4*
31.60
23468/12469F
6.90e5*
31.71
12348F
3.42e5*
31.93
12378F
1.33e6*
32.14
12678/12367F
7.57e5*
32.44
23467/12369F
1.12e5*
33.13
23478F
1.55e6*
33.27
PR
12389F
1.16e5*
34.34
0%
Abs. Int.
4.21e5
2.10e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 1.35e4
CS 12346F
1.94e7
31.59
ES 12378F
2.06e7
32.13
ES 23478F
2.07e7
33.25
0%
Abs. Int.
6.05e6
3.03e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 9.88e3
CS 12346F
1.23e7
31.59
ES 12378F
1.34e7
32.13
ES 23478F
1.32e7
33.25
0%
Abs. Int.
3.81e6
1.91e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.51e3
dpe
dpe
0%
Abs. Int.
2.60e4
1.30e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 5.95e3
123468F 1.23e6* 35.14
124678/134678F 3.65e6* 35.34
124679F 2.39e5* 35.77
124689F 3.66e6* 35.99
123467F 3.49e5* 36.42
123478F 2.73e6* 36.54
123678F 8.64e5* 36.68
123469F 2.70e5* 36.99
234678F 6.40e5* 37.35
123489F 4.18e5* 38.36
Abs. Int.
1.09e6
5.43e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 6.25e3
123468F 9.90e5* 35.14
124678/134678F 2.92e6* 35.34
124689F 3.08e6* 35.99
123467F 2.80e5* 36.41
123478F 2.17e6* 36.53
123678F 7.27e5* 36.67
123469F 2.21e5* 36.98
234678F 5.45e5* 37.35
123489F 3.19e5* 38.36
Abs. Int.
1.41e6
7.04e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 3.76e3
ES 123478F 9.16e6 36.52
ES 123678F 1.01e7 36.66
CS 123469F 9.02e6 36.97
ES 234678F 9.68e6* 37.33
ES 123789F 8.82e6* 38.31
Abs. Int.
2.91e6
1.45e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 5.73e3
ES 123478F 1.73e7 36.52
ES 123678F 1.96e7 36.66
CS 123469F 1.67e7 36.97
ES 234678F 1.80e7* 37.33
ES 123789F 1.59e7* 38.31
Abs. Int.
5.79e6
2.90e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.20e3
RT
Abs. Int.
1.52e4
7.58e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT



Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_007.utp_res, saved 04-Mar-2022 10:45 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0911, 9068, 0100 scc: 615-582 *Revised: 04-Mar-2022 10:04 (DTF) Printed: 04-Mar-2022 10:55 Page 11 of 12*


OCDF
3.38e8*
43.59
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 4.78e3
0%
Abs. Int.
6.52e7
3.26e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.81e8*
43.59
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
7.44e7
3.72e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.76e7
43.58
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 3.51e3
0%
Abs. Int.
3.32e6
1.66e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.97e7
43.58
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 5.45e3
0%
Abs. Int.
3.95e6
1.98e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 9.85e2
0%
Abs. Int.
1.69e4
8.43e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6329_18965_DF_007MS **Acq'd:** 04 Mar 2022 00:08 DTF **Wt/Vol:** 10.12 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-NC-B-15-MS **UTP:** 04-Mar-2022 10:45:44 DTF **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 971-252-KQP

Datafile: 220303C12 **Report:** 04 Mar 2022 10:47 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.21		1.0008	1.0008	0	3.47E+07	0.80	Y	1.18	249	3956.751	0.265
12378-PeCDD	33.61		1.0007	1.0006	-0.2	1.13E+07	1.56	Y	1.04	102	8586.687	0.701
123478-HxCDD	37.55		1.0004	1.0005	+0.2	1.16E+07	1.25	Y	1.09	107	11639.343	0.968
123678-HxCDD	37.67		1.0036	1.0036	0	1.31E+07	1.24	Y	1.15	118	11639.343	0.923
123789-HxCDD	37.98		1.0118	1.0118	0	1.25E+07	1.24	Y	1.05	106	11639.343	0.876
1234678-HpCDD	40.72		1.0002	1.0003	+0.2	3.72E+07	1.03	Y	1.06	345	9922.612	0.781
OCDD	43.44		1.0003	1.0003	0	3.12E+08	0.91	Y	1.13	4,050	5700.112	0.933
2378-TCDF	27.34		1.0008	1.0008	0	1.47E+08	0.80	Y	1.08	735	4815.465	0.262
12378-PeCDF	32.15		1.0005	1.0005	0	1.96E+07	1.56	Y	1.02	112	11249.224	0.606
23478-PeCDF	33.27		1.0005	1.0006	+0.2	2.11E+07	1.51	Y	1.02	124	11249.224	0.57
123478-HxCDF	36.55		1.0004	1.0005	+0.2	2.05E+07	1.24	Y	1.27	122	12485.138	0.625
123678-HxCDF	36.68		1.0004	1.0004	0	1.81E+07	1.27	Y	1.15	103	12485.138	0.621
234678-HxCDF	37.36		1.0005	1.0005	0	1.75E+07	1.20	Y	1.19	105	12485.138	0.678
123789-HxCDF	38.34		1.0004	1.0004	0	1.47E+07	1.26	Y	1.16	100	12485.138	0.676
1234678-HpCDF	39.77		1.0003	1.0003	0	4.09E+07	1.04	Y	1.37	259	4571.934	0.228
1234789-HpCDF	41.17		1.0003	1.0003	0	1.45E+07	1.02	Y	1.31	111	4571.934	0.31
OCDF	43.61		1.0002	1.0003	+0.3	6.65E+08	0.89	Y	1.07	6,440	6228.359	0.832

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.19	1.0243	1.0243	0	2.33E+07	0.83	Y	1.05	81.9
ES 12378-PeCDD	33.59	1.2198	1.2206	+1.6	2.11E+07	1.58	Y	0.88	88.4
ES 123478-HxCDD	37.53	0.9916	0.9915	-0.2	1.97E+07	1.30	Y	0.97	77.5
ES 123678-HxCDD	37.65	0.9947	0.9946	-0.2	1.91E+07	1.27	Y	0.94	77.6
ES 123789-HxCDD	37.96	1.0029	1.0028	-0.2	2.22E+07	1.28	Y	1.09	77.9
ES 1234678-HpCDD	40.71	1.0749	1.0753	+1.0	2.01E+07	1.05	Y	0.91	84.5
ES OCDD	43.43	1.1460	1.1471	+2.9	2.70E+07	0.93	Y	0.62	83
ES 2378-TCDF	27.32	1.0531	1.0533	+0.3	3.65E+07	0.80	Y	1.06	80
ES 12378-PeCDF	32.13	1.2378	1.2390	+2.3	3.36E+07	1.54	Y	0.91	85.7
ES 23478-PeCDF	33.26	1.2810	1.2823	+2.6	3.31E+07	1.58	Y	0.88	86.8
ES 123478-HxCDF	36.53	0.9650	0.9649	-0.2	2.61E+07	0.53	Y	1.20	83.5
ES 123678-HxCDF	36.67	0.9688	0.9686	-0.4	3.01E+07	0.55	Y	1.35	85.4
ES 234678-HxCDF	37.34	0.9866	0.9865	-0.2	2.77E+07	0.56	Y	1.24	85.5
ES 123789-HxCDF	38.33	1.0125	1.0124	-0.2	2.49E+07	0.55	Y	1.16	82.5
ES 1234678-HpCDF	39.76	1.0501	1.0504	+0.7	2.28E+07	0.44	Y	0.97	90.3
ES 1234789-HpCDF	41.16	1.0870	1.0873	+0.7	1.97E+07	0.46	Y	0.85	88.7
ES OCDF	43.59	1.1505	1.1516	+2.9	3.81E+07	0.92	Y	0.81	90.4

Lab ID: B6329_18965_DF_007MS | **Acq'd:** 04 Mar 2022 00:08 DTF | **Wt/Vol:** 10.12 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-NC-B-15-MS | **UTP:** 04-Mar-2022 10:45:44 DTF | **J-level:** 0.494 pg/g | **Split:** 1 | **Checkcode:** 971-252-KQP

Datafile: 220303C12 | **Report:** 04 Mar 2022 10:47 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.52		-	-	-	2.72E+07	0.81	Y	-	-	
JS 1234-TCDF	25.93		-	-	-	4.32E+07	0.81	Y	-	-	
JS 123467-HxCDD	37.86		-	-	-	1.30E+07	1.25	Y	-	-	
CS 37Cl-2378-TCDD	28.21		1.0251	1.0251	0	1.05E+07	n/a	-	1.20	80.5	
CS 12347-PeCDD	33.09		1.2016	1.2023	+1.4	1.83E+07	1.57	Y	0.75	89.6	
CS 12346-PeCDF	31.60		1.2172	1.2184	+2.3	3.07E+07	1.59	Y	0.85	83.6	
CS 123469-HxCDF	36.98		0.9771	0.9770	-0.2	2.50E+07	0.54	Y	1.12	85.6	
CS 1234689-HpCDF	40.17		1.0608	1.0610	+0.5	2.11E+07	0.43	Y	0.89	91.2	
~~SS 37Cl-2378-TCDD~~	~~28.21~~		~~1.0251~~	~~1.0251~~	~~0~~	~~1.05E+07~~	~~n/a~~		~~1.15~~	~~98.5~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.09~~		~~1.2016~~	~~1.2023~~	~~+1.4~~	~~1.83E+07~~	~~1.57~~	~~Y~~	~~0.86~~	~~101~~	CL 07Mar22
~~SS 12346-PeCDF~~	~~31.60~~		~~1.2172~~	~~1.2184~~	~~+2.3~~	~~3.07E+07~~	~~1.59~~	~~Y~~	~~0.94~~	~~97.4~~	
~~SS 123469-HxCDF~~	~~36.98~~		~~0.9771~~	~~0.9770~~	~~-0.2~~	~~2.50E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~100~~	
~~SS 1234689-HpCDF~~	~~40.17~~		~~1.0608~~	~~1.0610~~	~~+0.5~~	~~2.11E+07~~	~~0.43~~	~~Y~~	~~0.92~~	~~101~~	

Totals	Conc	EMPC
Total TCDD	365	374
Total PeCDD	180	184
Total HxCDD	472	475
Total HpCDD	712	712
Total Tetra-Octa Dioxins	5780	5800
Total TCDF	1,580	1590
Total PeCDF	499	501
Total HxCDF	766	770
Total HpCDF	509	509
Total Tetra-Octa Furans	9,790	9800
Total Tetra-Octa Dioxins & Furans	15600	15600

Lab ID: B6329_18965_DF_007MS | **Acq'd: 04 Mar 2022 00:08 DTF** | **Wt/Vol: 10.12 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021822-S-SB-NC-B-15-MS | **UTP: 04-Mar-2022 10:45:44 DTF** | **J-level: 0.494 pg/g** | **Split: 1** | **Checkcode: 971-252-KQP**

Datafile: 220303C12 | **Report: 04 Mar 2022 10:47 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.51		0.8701	0.8694	-1.0	5.04E+06	0.85	Y	1.18	36.1	3956.751	0.265
1379-TCDD	24.88		0.8829	0.8826	-0.4	2.36E+05	0.87	Y	1.18	1.69	3956.751	0.265
1369-TCDD	25.31	EMPC	0.8982	0.8980	-0.3	1.40E+05	0.95	N	1.18	1.01	3956.751	0.265
1469-TCDD	26.10		0.9261	0.9259	-0.3	6.46E+05	0.81	Y	1.18	4.63	3956.751	0.265
1247/1246/1248/1249-TCDD	26.35	EMPC	0.9348	0.9346	-0.3	2.59E+05	0.96	N	1.18	1.85	3956.751	0.265
1378-TCDD	26.54	EMPC	0.9417	0.9415	-0.3	2.45E+05	1.02	N	1.18	1.75	3956.751	0.265
1268-TCDD	26.75		0.9487	0.9489	+0.3	1.02E+05	0.79	Y	1.18	0.731	3956.751	0.265
1478-TCDD	26.99	EMPC	0.9576	0.9575	-0.2	1.20E+05	1.12	N	1.18	0.859	3956.751	0.265
1279-TCDD	27.16		0.9636	0.9635	-0.2	1.17E+05	0.85	Y	1.18	0.841	3956.751	0.265
1234/1269-TCDD	27.51	EMPC	0.9761	0.9759	-0.3	2.10E+05	0.94	N	1.18	1.51	3956.751	0.265
1236-TCDD	NotFnd		0.9812						1.18		3956.751	0.265
1237/1238-TCDD	27.92	EMPC	0.9905	0.9903	-0.3	3.51E+05	1.06	N	1.18	2.51	3956.751	0.265
1239-TCDD	28.05		0.9951	0.9951	0	2.99E+06	0.78	Y	1.18	21.5	3956.751	0.265
2378-TCDD	**28.21**		**1.0008**	1.0008	**0**	3.47E+07	0.80	Y	**1.18**	**249**	**3956.751**	**0.265**
1278-TCDD	28.54		1.0124	1.0125	+0.2	2.80E+06	0.76	Y	1.18	20.1	3956.751	0.265
1267-TCDD	NotFnd		1.0172						1.18		3956.751	0.265
1289-TCDD	29.19		1.0354	1.0356	+0.4	4.24E+06	0.83	Y	1.18	30.4	3956.751	0.265
12479/12468-PeCDD	31.09		0.9255	0.9255	0	3.55E+06	1.54	Y	1.04	32.1	8586.687	0.701
12469-PeCDD	31.63		0.9416	0.9416	0	5.39E+05	1.57	Y	1.04	4.87	8586.687	0.701
12368-PeCDD	32.19		0.9582	0.9581	-0.2	4.77E+05	1.46	Y	1.04	4.3	8586.687	0.701
12478-PeCDD	32.38	EMPC	0.9637	0.9638	+0.2	3.14E+05	1.31	N	1.04	2.83	8586.687	0.701
12379-PeCDD	32.48	J	0.9668	0.9668	0	2.00E+05	1.54	Y	1.04	1.81	8586.687	0.701
12369/12467/12489-PeCDD	32.74		0.9746	0.9747	+0.2	5.85E+05	1.53	Y	1.04	5.28	8586.687	0.701
12346/12347-PeCDD	33.11	J EMPC	0.9858	0.9856	-0.4	9.89E+04	1.82	N	1.04	0.893	8586.687	0.701
12378-PeCDD	33.61		**1.0007**	**1.0006**	**-0.2**	**1.13E+07**	**1.56**	**Y**	**1.04**	**102**	**8586.687**	**0.701**
12367-PeCDD	33.70	J	1.0036	1.0033	-0.6	2.21E+05	1.76	Y	1.04	2	8586.687	0.701
12389-PeCDD	34.06		1.0137	1.0138	+0.2	3.03E+06	1.60	Y	1.04	27.4	8586.687	0.701
124679/124689-HxCDD	35.81		0.9540	0.9540	0	9.58E+06	1.24	Y	1.10	85	11639.343	0.919
123468-HxCDD	36.46		0.9715	0.9715	0	1.01E+06	1.19	Y	1.10	8.99	11639.343	0.919
123679/123689-HxCDD	36.76		0.9793	0.9794	+0.2	4.89E+06	1.24	Y	1.10	43.4	11639.343	0.919
123469-HxCDD	36.89	EMPC	0.9829	0.9827	-0.4	3.14E+05	1.02	N	1.10	2.78	11639.343	0.919
123478-HxCDD	37.55		**1.0004**	**1.0005**	**+0.2**	**1.16E+07**	**1.25**	**Y**	1.09	**107**	**11639.343**	**0.968**
123678-HxCDD	37.67		**1.0036**	**1.0036**	**0**	**1.31E+07**	**1.24**	**Y**	1.15	**118**	**11639.343**	**0.923**
123467-HxCDD	37.87		1.0089	1.0088	-0.2	3.47E+05	1.18	Y	1.10	3.08	11639.343	0.919
123789-HxCDD	37.98		**1.0118**	**1.0118**	**0**	**1.25E+07**	**1.24**	**Y**	1.05	**106**	**11639.343**	**0.876**

Lab ID: B6329_18965_DF_007MS | **Acq'd:** 04 Mar 2022 00:08 DTF | **Wt/Vol:** 10.12 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-NC-B-15-MS | **UTP:** 04-Mar-2022 10:45:44 DTF | **J-level:** 0.494 pg/g | **Split:** 1 | **Checkcode:** 971-252-KQP

Datafile: 220303C12 | **Report:** 04 Mar 2022 10:47 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

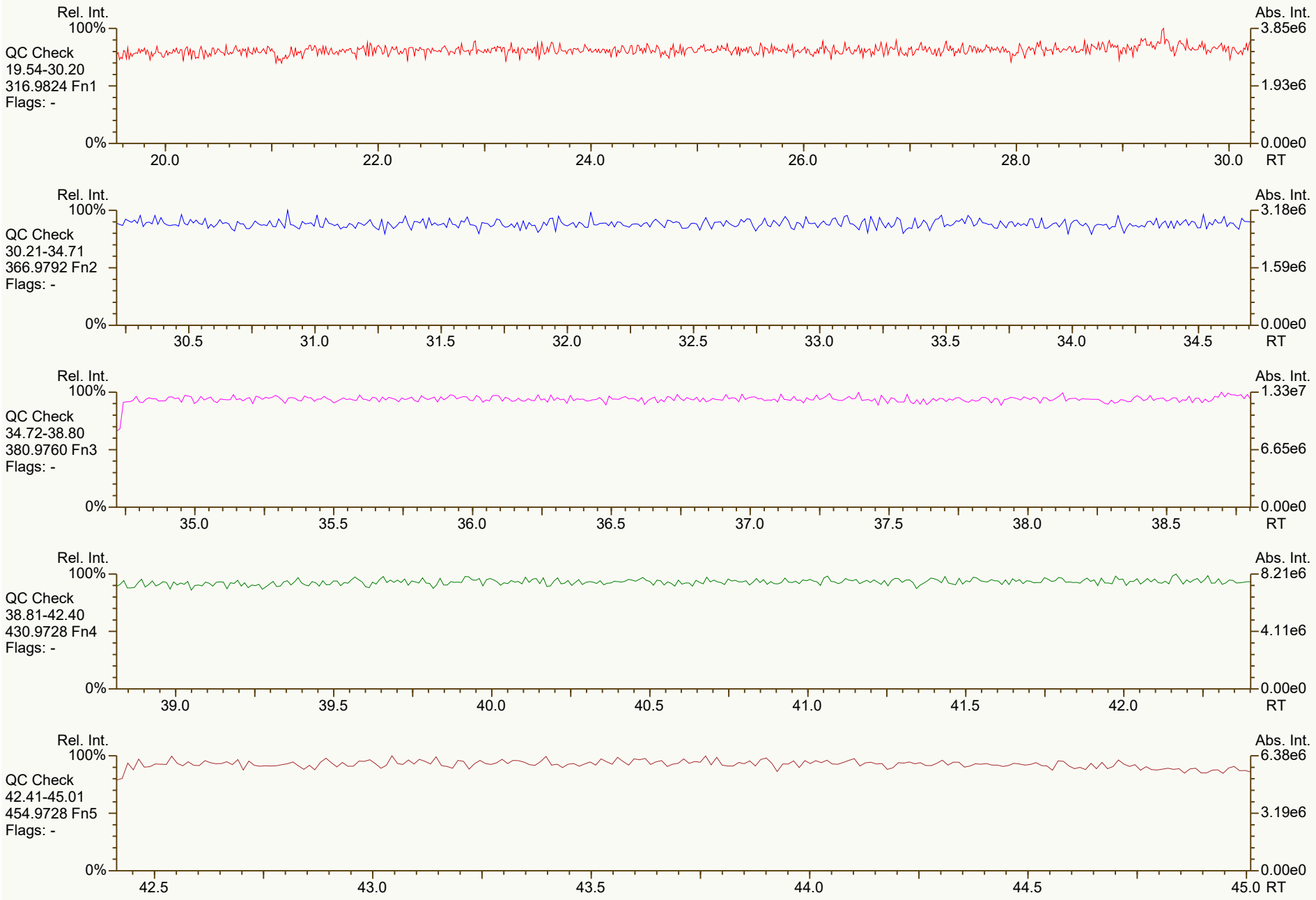
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.04		0.9836	0.9836	0	3.96E+07	1.04	Y	1.06	367	9922.612	0.781
1234678-HpCDD	**40.72**		**1.0002**	**1.0003**	**+0.2**	**3.72E+07**	**1.03**	**Y**	**1.06**	**345**	**9922.612**	**0.781**
OCDD	**43.44**		**1.0003**	**1.0003**	**0**	**3.12E+08**	**0.91**	**Y**	**1.13**	**4,050**	**5700.112**	**0.933**
OCDD-a	43.43		1.0002	1.0002	0	1.98E+07	2.54	Y	0.07	4,020	6896.055	17.7
1368-TCDF	22.35		0.8191	0.8182	-1.2	6.27E+06	0.80	Y	1.08	31.4	4815.465	0.262
1468-TCDF	22.95		0.8408	0.8401	-1.0	1.03E+06	0.79	Y	1.08	5.16	4815.465	0.262
2468-TCDF	23.60		0.8645	0.8638	-1.0	3.77E+06	0.78	Y	1.08	18.9	4815.465	0.262
1346/1246-TCDF	NotFnd		0.8772						1.08		4815.465	0.262
1347/1378/1247-TCDF	24.11		0.8833	0.8825	-1.2	2.87E+06	0.79	Y	1.08	14.4	4815.465	0.262
1348-TCDF	NotFnd		0.8932						1.08		4815.465	0.262
1248/1367/1379-TCDF	24.47		0.8980	0.8959	-3.1	9.47E+06	0.78	Y	1.08	47.5	4815.465	0.262
1268-TCDF	24.90		0.9119	0.9116	-0.4	3.86E+06	0.78	Y	1.08	19.3	4815.465	0.262
1467-TCDF	25.04		0.9170	0.9167	-0.5	6.09E+05	0.83	Y	1.08	3.05	4815.465	0.262
1478-TCDF	25.21		0.9234	0.9229	-0.8	7.16E+06	0.78	Y	1.08	35.9	4815.465	0.262
1369/1237-TCDF	25.60		0.9369	0.9371	+0.3	1.58E+06	0.76	Y	1.08	7.92	4815.465	0.262
2467-TCDF	25.72		0.9415	0.9415	0	4.12E+05	0.81	Y	1.08	2.07	4815.465	0.262
2368-TCDF	25.88		0.9475	0.9474	-0.2	6.35E+06	0.78	Y	1.08	31.8	4815.465	0.262
1238/1234/1678/1469/1236-TCDF	25.96		0.9507	0.9503	-0.6	5.88E+06	0.80	Y	1.08	29.5	4815.465	0.262
1278-TCDF	26.43		0.9676	0.9674	-0.3	6.76E+07	0.79	Y	1.08	339	4815.465	0.262
1349-TCDF	NotFnd		0.9722						1.08		4815.465	0.262
1267-TCDF	26.70		0.9777	0.9775	-0.3	4.18E+06	0.79	Y	1.08	20.9	4815.465	0.262
2346/1249-TCDF	26.91	EMPC	0.9843	0.9849	+1.0	5.09E+05	1.31	N	1.08	2.55	4815.465	0.262
2347/1279-TCDF	27.11		0.9926	0.9925	-0.2	1.73E+06	0.75	Y	1.08	8.68	4815.465	0.262
2348-TCDF	27.23		0.9968	0.9969	+0.2	1.54E+07	0.76	Y	1.08	77.3	4815.465	0.262
2378-TCDF	**27.34**		**1.0008**	**1.0008**	**0**	**1.47E+08**	**0.80**	**Y**	**1.08**	**735**	**4815.465**	**0.262**
2367/3467-TCDF	27.70		1.0142	1.0139	-0.5	1.24E+07	0.77	Y	1.08	62.2	4815.465	0.262
1269-TCDF	27.96		1.0235	1.0235	0	2.28E+06	0.81	Y	1.08	11.4	4815.465	0.262
1239-TCDF	NotFnd		1.0329						1.08		4815.465	0.262
1289-TCDF	29.37		1.0742	1.0751	+1.6	1.65E+07	0.79	Y	1.08	82.9	4815.465	0.262
13468/12468-PeCDF	29.30		0.9122	0.9118	-0.7	3.09E+07	1.58	Y	1.02	179	3498.679	0.183
13678/13467/12467-PeCDF	30.88		0.9606	0.9610	+0.7	7.03E+05	1.52	Y	1.02	4.07	11249.224	0.588
12368/13478/12478-PeCDF	31.04		0.9655	0.9660	+0.9	5.37E+06	1.58	Y	1.02	31.1	11249.224	0.588
14678-PeCDF	NotFnd		0.9685						1.02		11249.224	0.588
13479-PeCDF	NotFnd		0.9716						1.02		11249.224	0.588
13469/12479-PeCDF	31.44	J EMPC	0.9794	0.9783	-2.1	2.39E+05	1.23	N	1.02	1.39	11249.224	0.588
12346-PeCDF	31.61	J EMPC	0.9836	0.9837	+0.2	1.12E+05	2.05	N	1.02	0.65	11249.224	0.588

Lab ID: B6329_18965_DF_007MS | **Acq'd: 04 Mar 2022 00:08 DTF** | **Wt/Vol: 10.12 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021822-S-SB-NC-B-15-MS | **UTP: 04-Mar-2022 10:45:44 DTF** | **J-level: 0.494 pg/g** | **Split: 1** | **Checkcode: 971-252-KQP**

Datafile: 220303C12 | **Report: 04 Mar 2022 10:47 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.72		0.9866	0.9871	+1.0	1.49E+06	1.46	Y	1.02	8.61	11249.224	0.588
12347-PeCDF	NotFnd		0.9891						1.02		11249.224	0.588
12348-PeCDF	31.94		0.9938	0.9940	+0.4	7.42E+05	1.62	Y	1.02	4.3	11249.224	0.588
12378-PeCDF	**32.15**		**1.0005**	**1.0005**	**0**	**1.96E+07**	**1.56**	**Y**	**1.02**	**112**	**11249.224**	**0.606**
12678/12367-PeCDF	32.45		1.0091	1.0098	+1.4	1.67E+06	1.56	Y	1.02	9.69	11249.224	0.588
12379-PeCDF	NotFnd		1.0144						1.02		11249.224	0.588
12679-PeCDF	NotFnd		0.9927						1.02		11249.224	0.588
23467/12369-PeCDF	33.14	J	0.9965	0.9965	0	2.62E+05	1.57	Y	1.02	1.52	11249.224	0.588
23478-PeCDF	**33.27**		**1.0005**	**1.0006**	**+0.2**	**2.11E+07**	**1.51**	**Y**	**1.02**	**124**	**11249.224**	**0.57**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		11249.224	0.588
12349-PeCDF	NotFnd		1.0101						1.02		11249.224	0.588
12389-PeCDF	34.35		1.0330	1.0329	-0.2	4.14E+06	1.55	Y	1.02	24	11249.224	0.588
123468-HxCDF	35.15		0.9622	0.9623	+0.2	4.19E+07	1.24	Y	1.19	255	12485.138	0.648
124678/134678-HxCDF	35.35		0.9678	0.9676	-0.4	6.11E+06	1.21	Y	1.19	37.2	12485.138	0.648
134679-HxCDF	NotFnd		0.9741						1.19		12485.138	0.648
124679-HxCDF	35.78		0.9795	0.9794	-0.2	5.10E+05	1.29	Y	1.19	3.1	12485.138	0.648
124689-HxCDF	36.00		0.9856	0.9856	0	6.19E+06	1.26	Y	1.19	37.7	12485.138	0.648
123467-HxCDF	36.42	EMPC	0.9972	0.9971	-0.2	5.58E+05	1.50	N	1.19	3.39	12485.138	0.648
123478-HxCDF	**36.55**		**1.0004**	**1.0005**	**+0.2**	**2.05E+07**	**1.24**	**Y**	**1.27**	**122**	**12485.138**	**0.625**
123678-HxCDF	**36.68**		**1.0004**	**1.0004**	**0**	**1.81E+07**	**1.27**	**Y**	**1.15**	**103**	**12485.138**	**0.621**
123479-HxCDF	NotFnd		1.0048						1.19		12485.138	0.648
123469-HxCDF	37.00		1.0089	1.0089	0	5.32E+05	1.27	Y	1.19	3.24	12485.138	0.648
123679-HxCDF	NotFnd		0.9942						1.19		12485.138	0.648
234678-HxCDF	**37.36**		**1.0005**	**1.0005**	**0**	**1.75E+07**	**1.20**	**Y**	**1.19**	**105**	**12485.138**	**0.678**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		12485.138	0.648
123789-HxCDF	**38.34**		**1.0004**	**1.0004**	**0**	**1.47E+07**	**1.26**	**Y**	**1.16**	**100**	**12485.138**	**0.676**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		12485.138	0.648
1234678-HpCDF	**39.77**		**1.0003**	**1.0003**	**0**	**4.09E+07**	**1.04**	**Y**	**1.37**	**259**	**4571.934**	**0.228**
1234679-HpCDF	40.03		1.0068	1.0067	-0.2	1.73E+06	0.95	Y	1.34	12	4571.934	0.266
1234689-HpCDF	40.18		1.0104	1.0105	+0.2	1.84E+07	1.04	Y	1.34	128	4571.934	0.266
1234789-HpCDF	**41.17**		**1.0003**	**1.0003**	**0**	**1.45E+07**	**1.02**	**Y**	**1.31**	**111**	**4571.934**	**0.31**
OCDF	**43.61**		**1.0002**	**1.0003**	**+0.3**	**6.65E+08**	**0.89**	**Y**	**1.07**	**6,440**	**6228.359**	**0.832**
OCDF-a	43.61		1.0001	1.0002	+0.3	4.21E+07	2.43	Y	0.07	6,580	3940.576	8.5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QC Check
19.54-30.20
316.9824 Fn1
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0%
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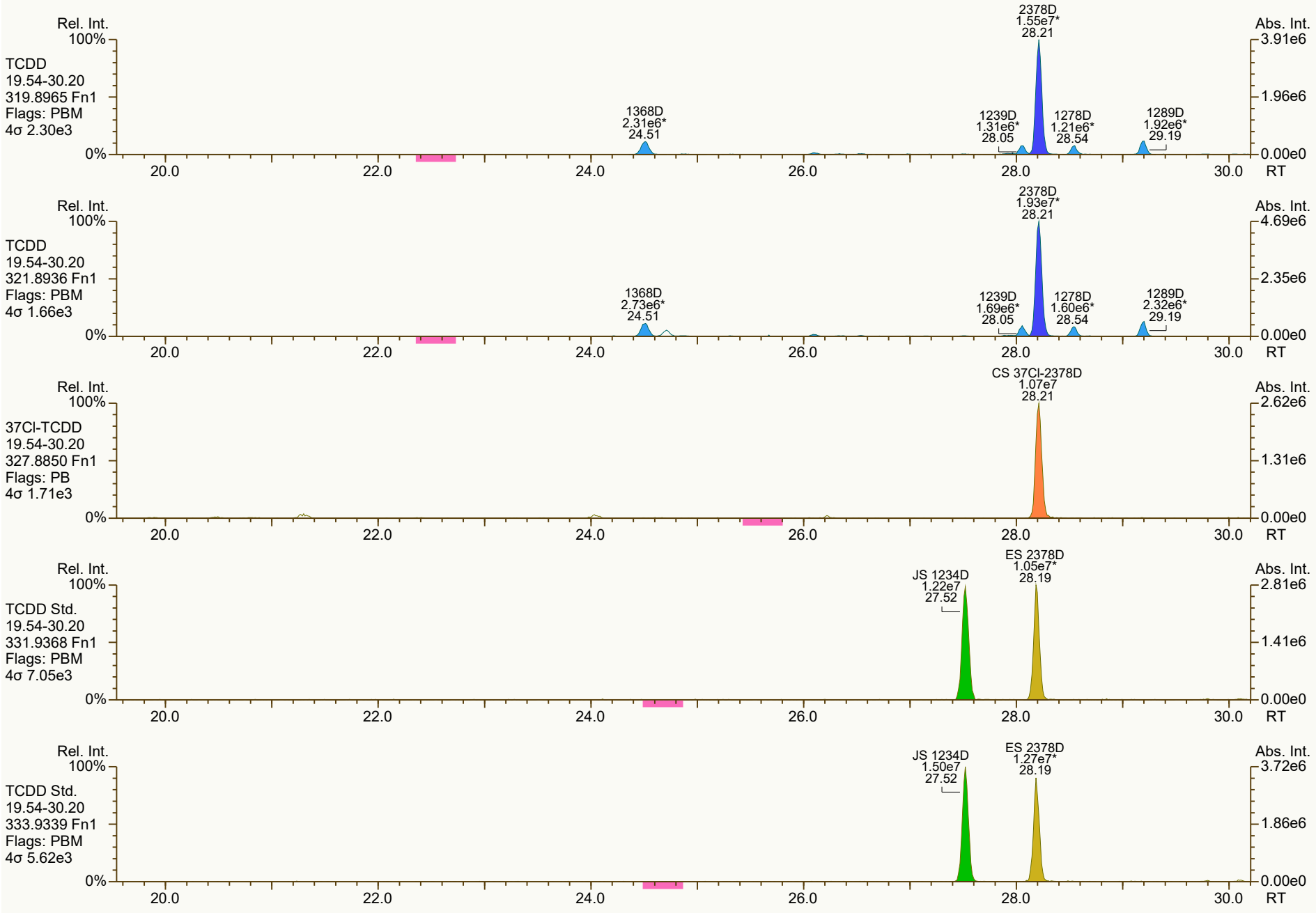
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.18e6
1.59e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.33e7
6.65e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
8.21e6
4.11e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.38e6
3.19e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.30e3
0%
2378D
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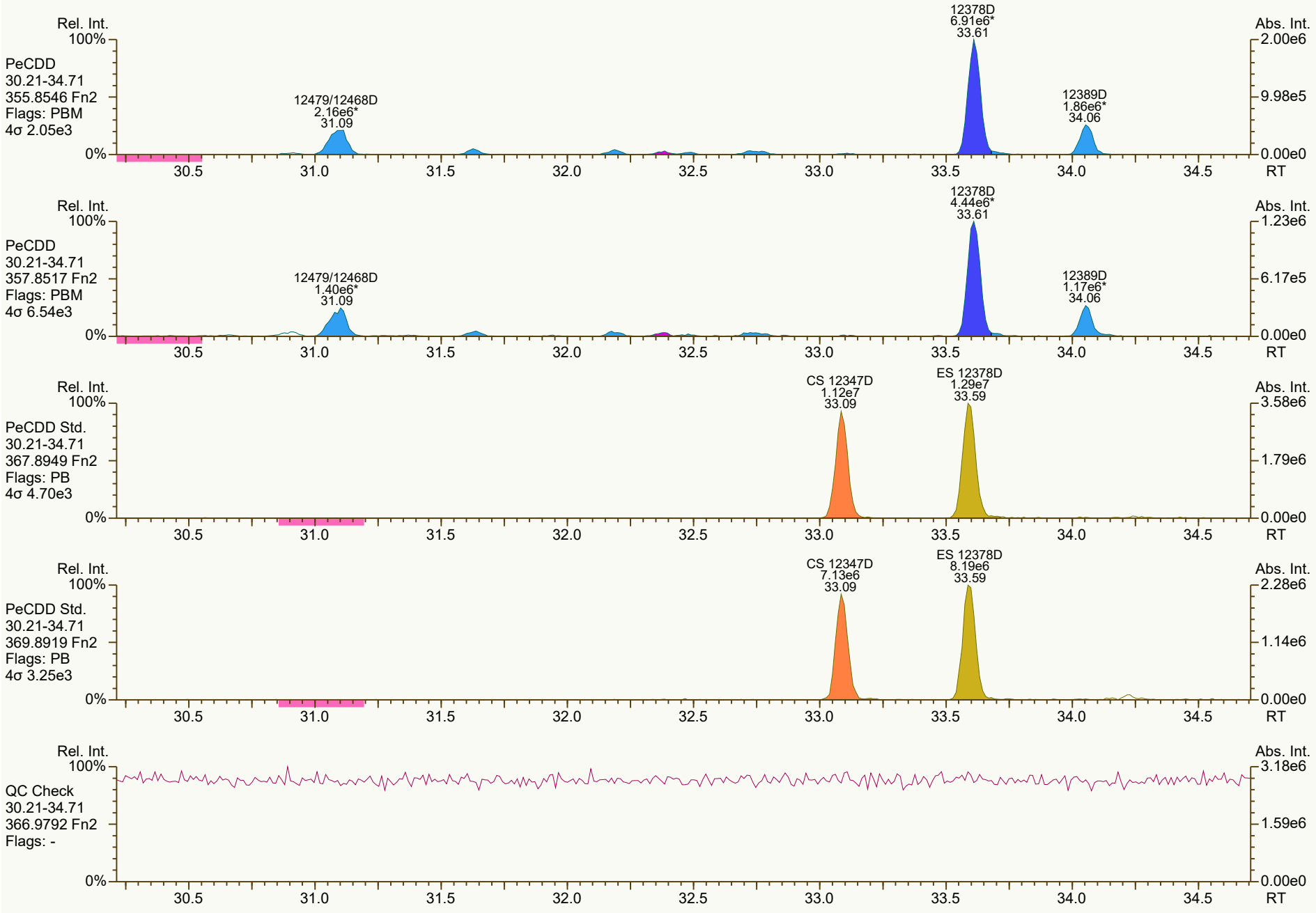
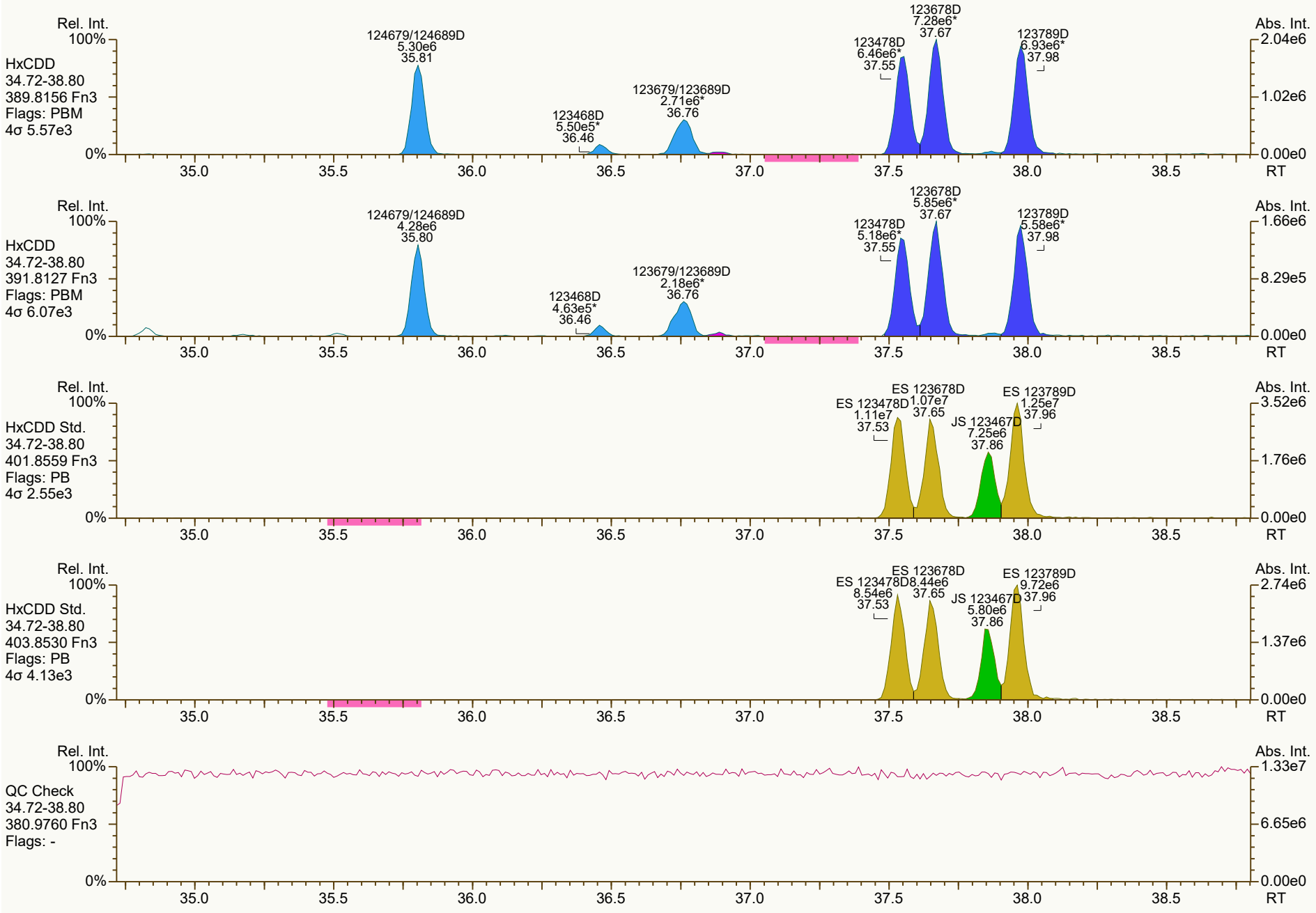
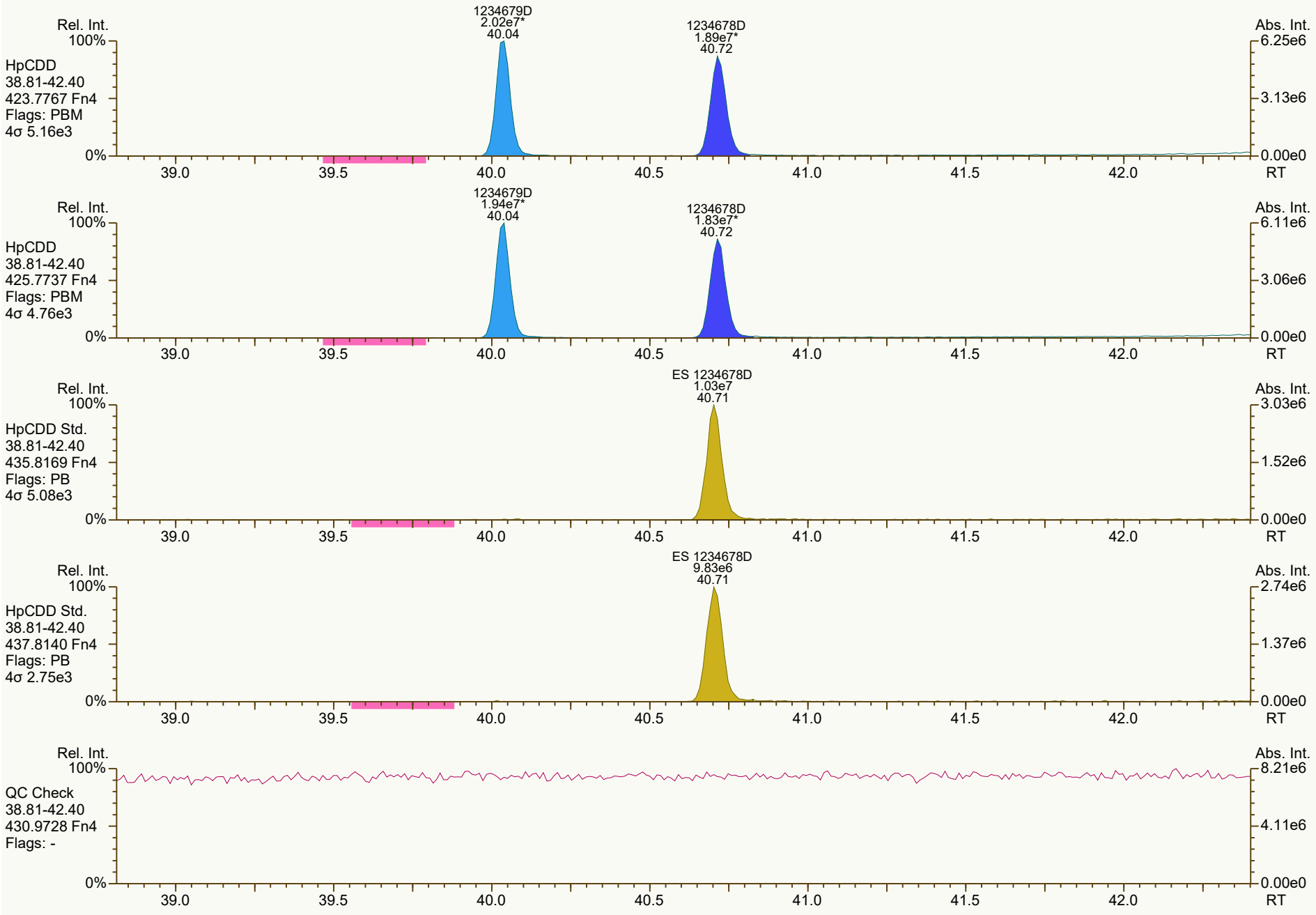
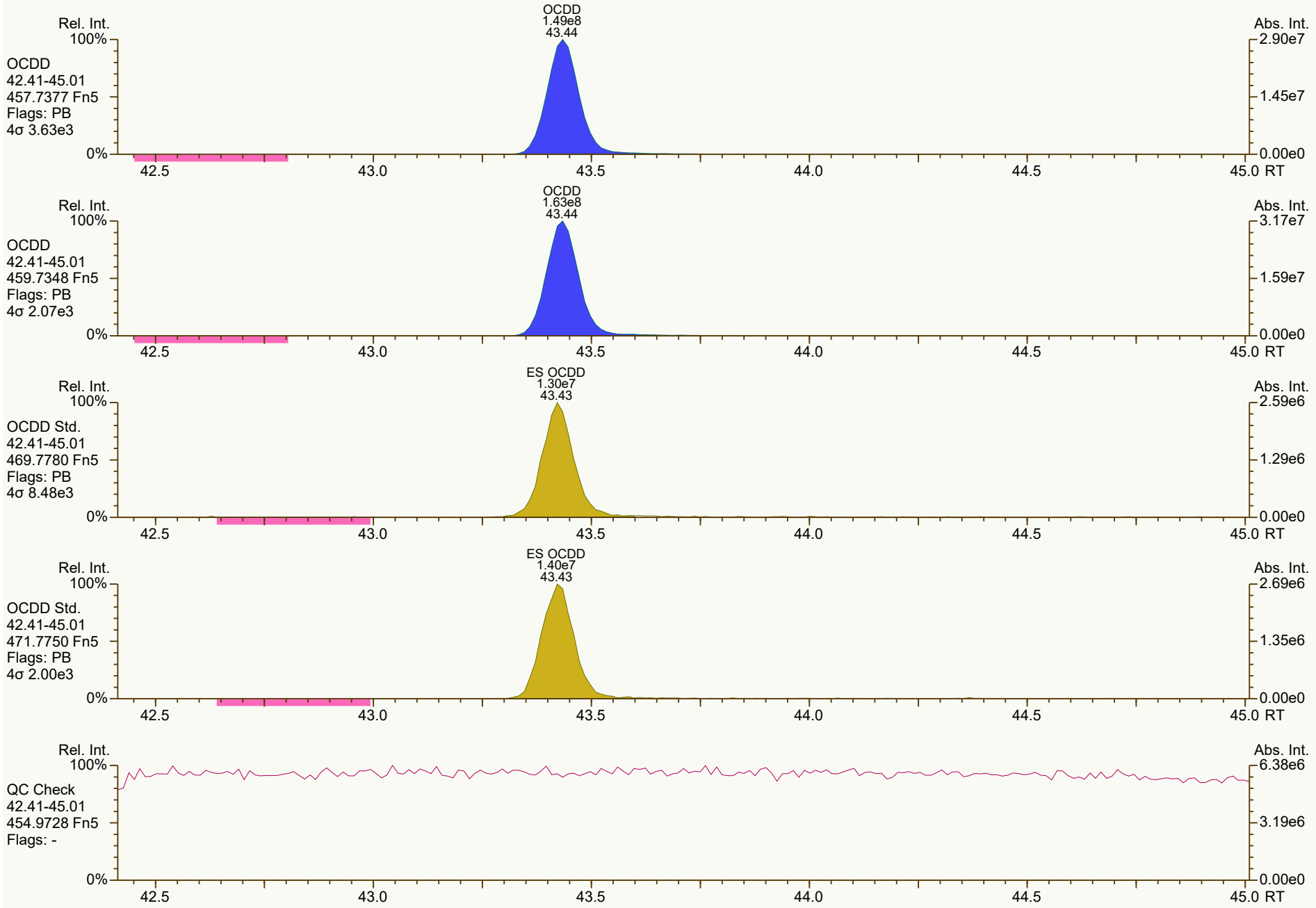
28.21
1368D
2.31e6*
24.51
1239D
1.31e6*
28.05
1278D
1.21e6*
28.54
1289D
1.92e6*
29.19
Abs. Int.
3.91e6
1.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.66e3
0%
2378D
1.93e7*
28.21
1368D
2.73e6*
24.51
1239D
1.69e6*
28.05
1278D
1.60e6*
28.54
1289D
2.32e6*
29.19
Abs. Int.
4.69e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.71e3
0%
CS 37Cl-2378D
1.07e7
28.21
Abs. Int.
2.62e6
1.31e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PBM
4σ 7.05e3
0%
JS 1234D
1.22e7
27.52
ES 2378D
1.05e7*
28.19
Abs. Int.
2.81e6
1.41e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PBM
4σ 5.62e3
0%
JS 1234D
1.50e7
27.52
ES 2378D
1.27e7*
28.19
Abs. Int.
3.72e6
1.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 2.05e3
12479/12468D
2.16e6*
31.09
12378D
6.91e6*
33.61
12389D
1.86e6*
34.06
Abs. Int.
2.00e6
9.98e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 6.54e3
12479/12468D
1.40e6*
31.09
12378D
4.44e6*
33.61
12389D
1.17e6*
34.06
Abs. Int.
1.23e6
6.17e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 4.70e3
CS 12347D
1.12e7
33.09
ES 12378D
1.29e7
33.59
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 3.25e3
CS 12347D
7.13e6
33.09
ES 12378D
8.19e6
33.59
Abs. Int.
2.28e6
1.14e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Abs. Int.
3.18e6
1.59e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 5.57e3
124679/124689D
5.30e6
35.81
123468D
5.50e5*
36.46
123679/123689D
2.71e6*
36.76
123478D
6.46e6*
37.55
123678D
7.28e6*
37.67
123789D
6.93e6*
37.98
Abs. Int.
2.04e6
1.02e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 6.07e3
124679/124689D
4.28e6
35.80
123468D
4.63e5*
36.46
123679/123689D
2.18e6*
36.76
123478D
5.18e6*
37.55
123678D
5.85e6*
37.67
123789D
5.58e6*
37.98
Abs. Int.
1.66e6
8.29e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 2.55e3
ES 123478D
1.11e7
37.53
ES 123678D
1.07e7
37.65
JS 123467D
7.25e6
37.86
ES 123789D
1.25e7
37.96
Abs. Int.
3.52e6
1.76e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 4.13e3
ES 123478D
8.54e6
37.53
ES 123678D
8.44e6
37.65
JS 123467D
5.80e6
37.86
ES 123789D
9.72e6
37.96
Abs. Int.
2.74e6
1.37e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
1.33e7
6.65e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

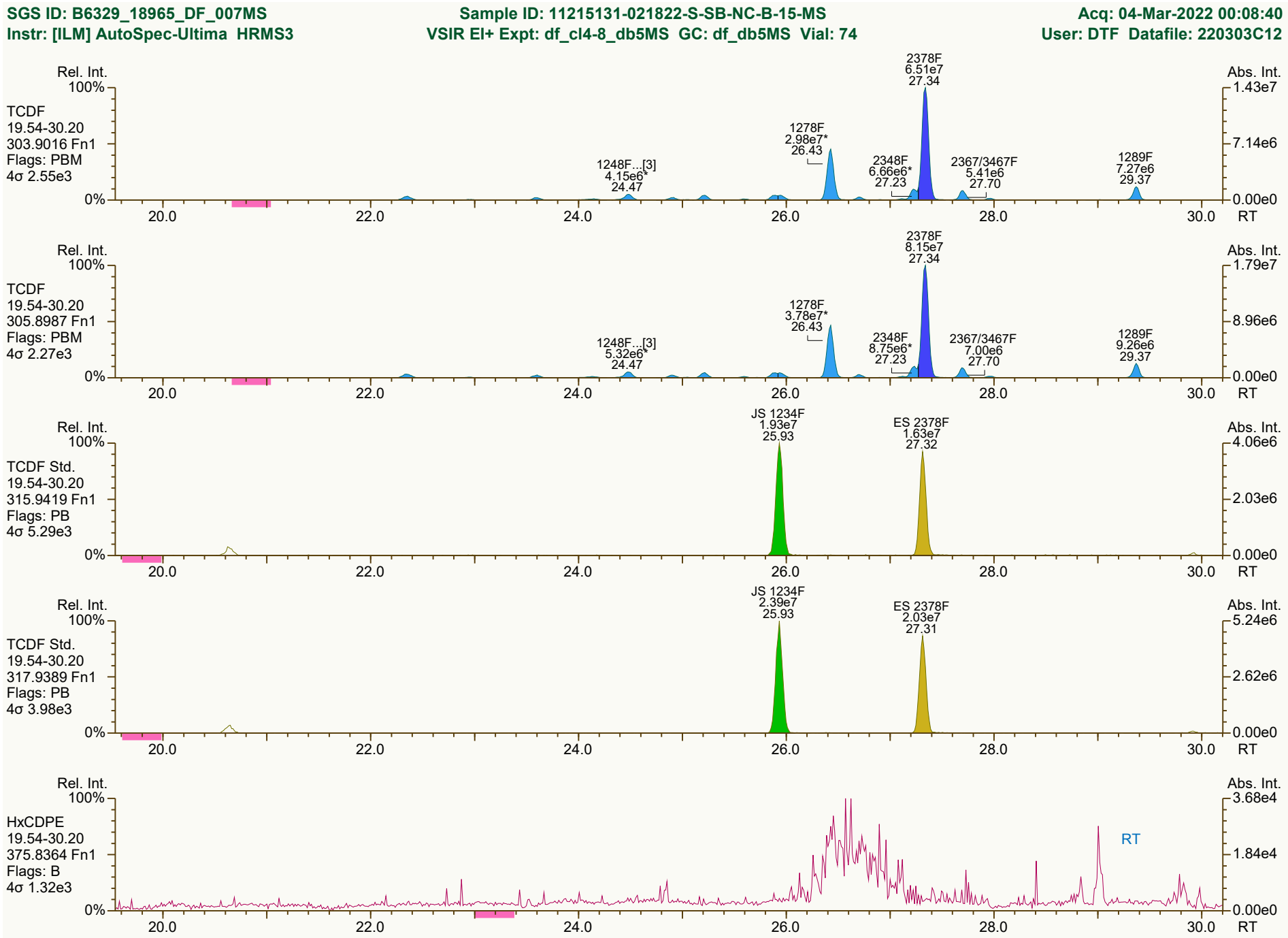

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 5.16e3
1234679D
2.02e7*
40.04
1234678D
1.89e7*
40.72
Abs. Int.
6.25e6
3.13e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 4.76e3
1234679D
1.94e7*
40.04
1234678D
1.83e7*
40.72
Abs. Int.
6.11e6
3.06e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 5.08e3
ES 1234678D
1.03e7
40.71
Abs. Int.
3.03e6
1.52e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.75e3
ES 1234678D
9.83e6
40.71
Abs. Int.
2.74e6
1.37e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
8.21e6
4.11e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
1.49e8
43.44
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 3.63e3
0%
Abs. Int.
2.90e7
1.45e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.63e8
43.44
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 2.07e3
3.17e7
1.59e7
ES OCDD
1.30e7
43.43
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 8.48e3
2.59e6
1.29e6
ES OCDD
1.40e7
43.43
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 2.00e3
2.69e6
1.35e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
6.38e6
3.19e6

SGS ID: B6329_18965_DF_007MS
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 11215131-021822-S-SB-NC-B-15-MS
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 74

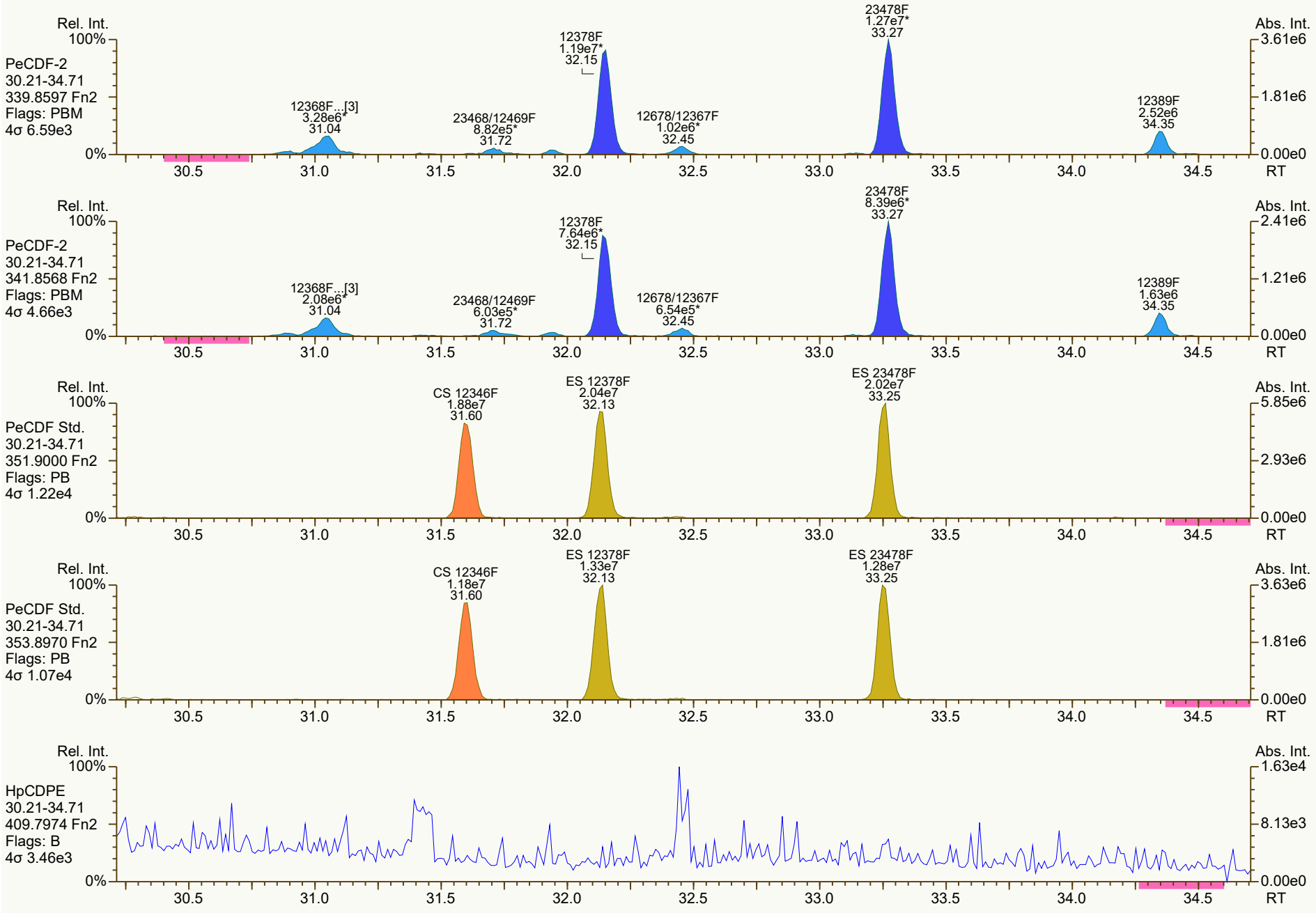
Acq: 04-Mar-2022 00:08:40
User: DTF Datafile: 220303C12

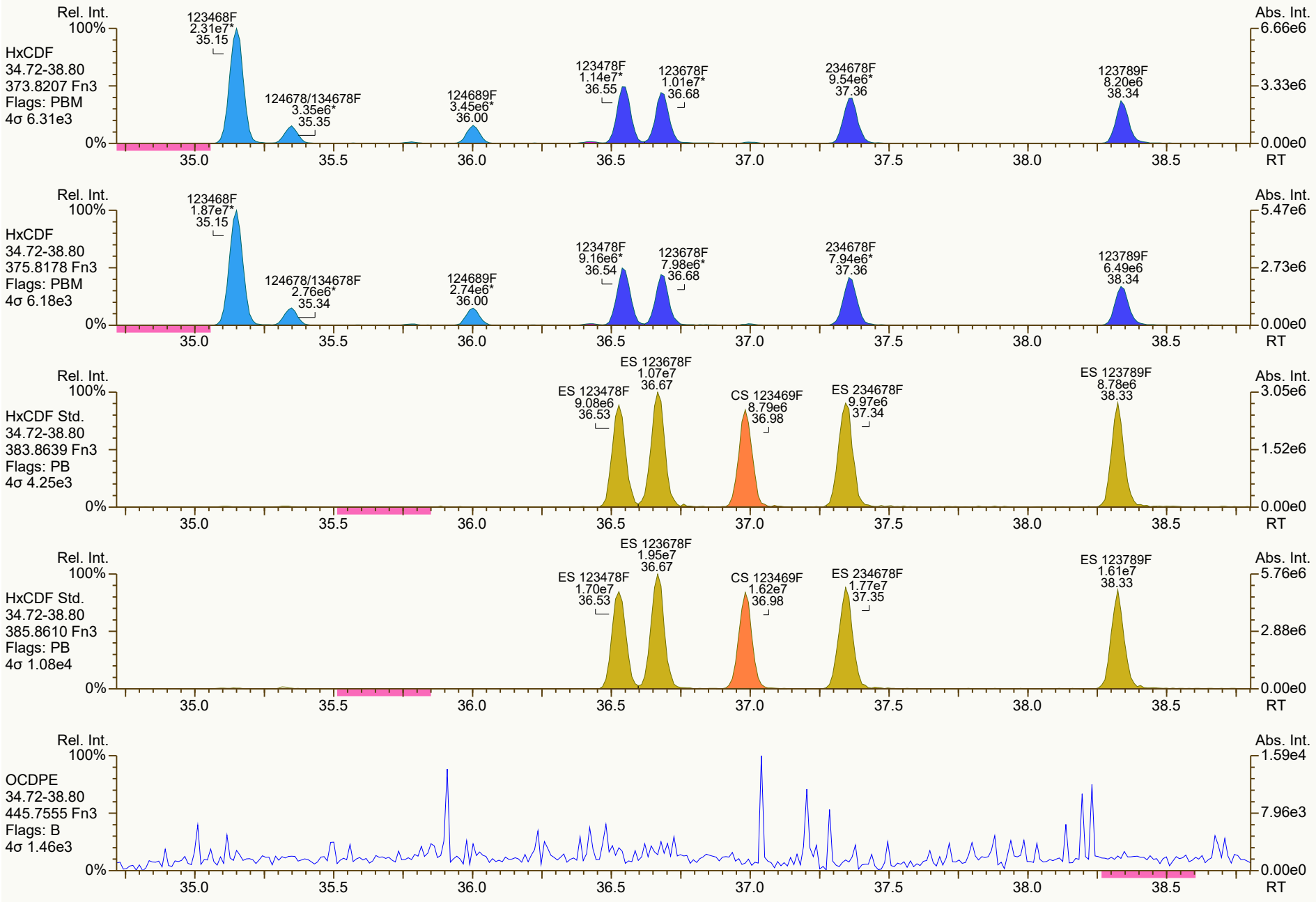


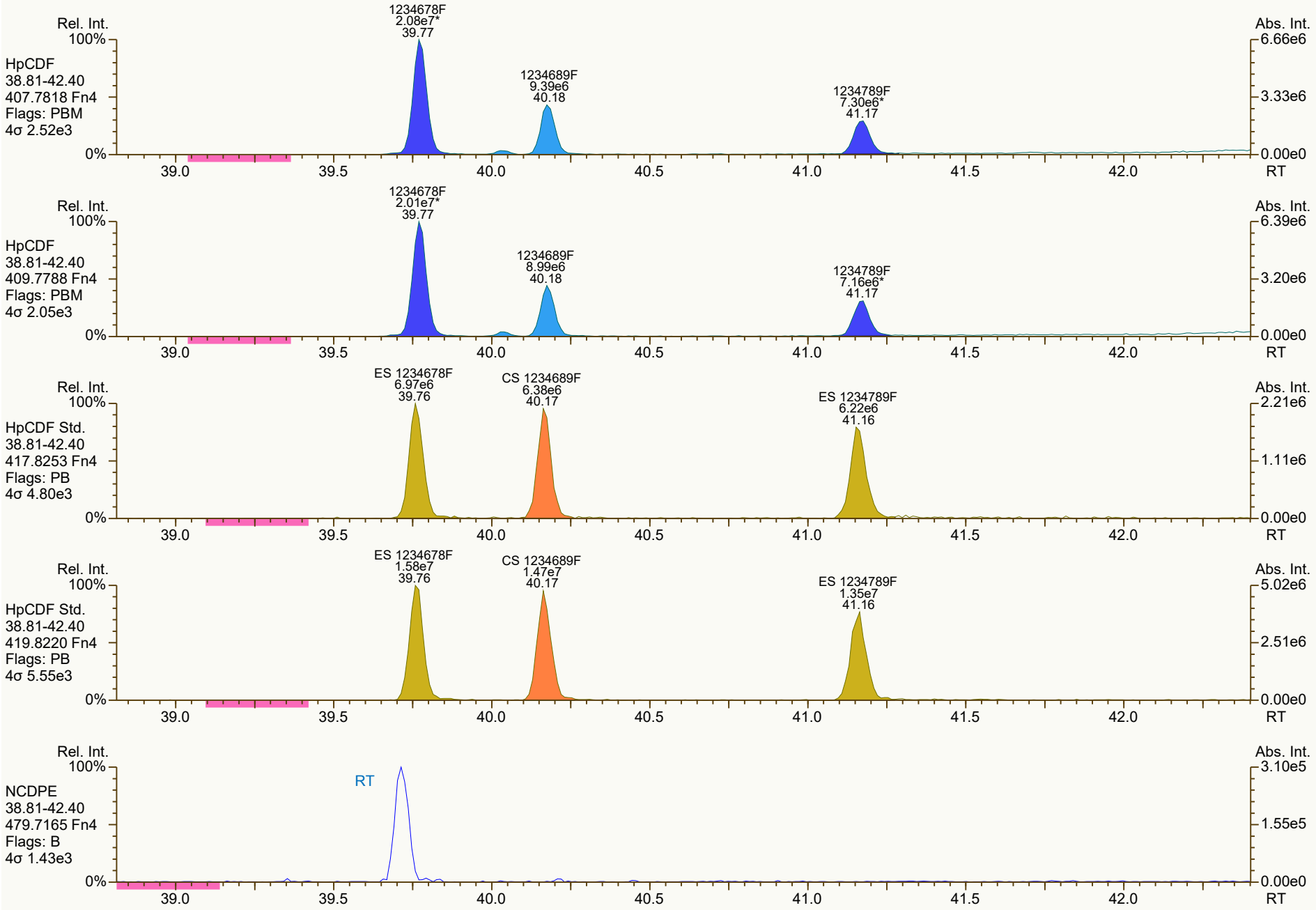
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_007MS.utp_res, saved 04-Mar-2022 10:45 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1160, 4438, 8555 scc: 971-252

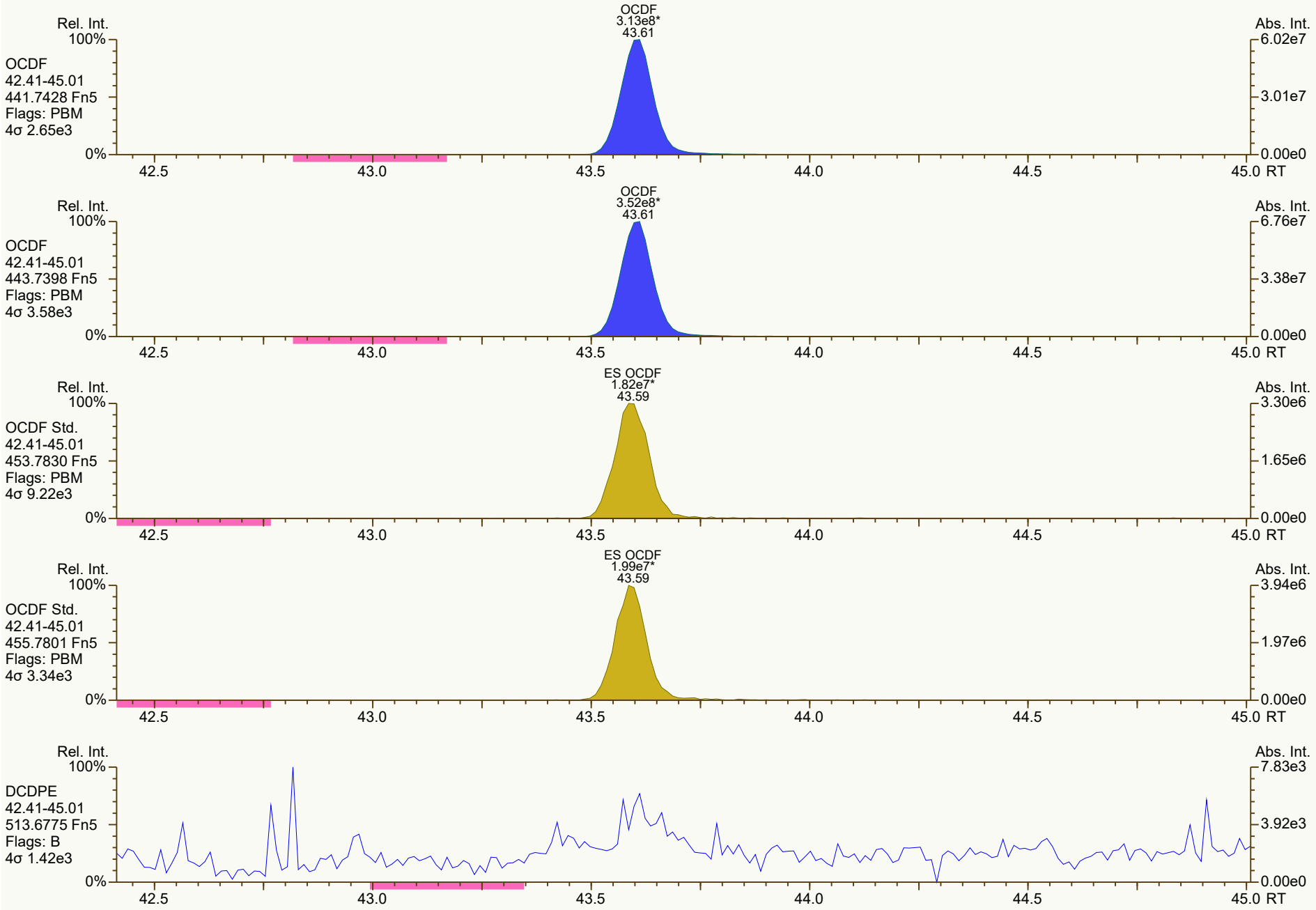
Peak annotation: Areas, Centroids
Revised: 04-Mar-2022 10:08 (DTF) Printed: 04-Mar-2022 10:55 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 2.06e3
13468/12468F
1.90e7
29.30
Abs. Int.
4.54e6
2.27e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.44e3
13468/12468F
1.20e7
29.30
Abs. Int.
2.77e6
1.39e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
3.85e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 6.59e3
12368F...[3]
3.28e6*
31.04
23468/12469F
8.82e5*
31.72
12378F
1.19e7*
32.15
12678/12367F
1.02e6*
32.45
23478F
1.27e7*
33.27
12389F
2.52e6
34.35
Abs. Int.
3.61e6
1.81e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 4.66e3
12368F...[3]
2.08e6*
31.04
23468/12469F
6.03e5*
31.72
12378F
7.64e6*
32.15
12678/12367F
6.54e5*
32.45
23478F
8.39e6*
33.27
12389F
1.63e6
34.35
Abs. Int.
2.41e6
1.21e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 1.22e4
CS 12346F
1.88e7
31.60
ES 12378F
2.04e7
32.13
ES 23478F
2.02e7
33.25
Abs. Int.
5.85e6
2.93e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 1.07e4
CS 12346F
1.18e7
31.60
ES 12378F
1.33e7
32.13
ES 23478F
1.28e7
33.25
Abs. Int.
3.63e6
1.81e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 3.46e3
Abs. Int.
1.63e4
8.13e3
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 6.31e3
123468F
2.31e7*
35.15
124678/134678F
3.35e6*
35.35
124689F
3.45e6*
36.00
123478F
1.14e7*
36.55
123678F
1.01e7*
36.68
234678F
9.54e6*
37.36
123789F
8.20e6
38.34
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 6.18e3
123468F
1.87e7*
35.15
124678/134678F
2.76e6*
35.34
124689F
2.74e6*
36.00
123478F
9.16e6*
36.54
123678F
7.98e6*
36.68
234678F
7.94e6*
37.36
123789F
6.49e6
38.34
Abs. Int.
5.47e6
2.73e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 4.25e3
ES 123678F
1.07e7
36.67
ES 123478F
9.08e6
36.53
CS 123469F
8.79e6
36.98
ES 234678F
9.97e6
37.34
ES 123789F
8.78e6
38.33
Abs. Int.
3.05e6
1.52e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 1.08e4
ES 123678F
1.95e7
36.67
ES 123478F
1.70e7
36.53
CS 123469F
1.62e7
36.98
ES 234678F
1.77e7
37.35
ES 123789F
1.61e7
38.33
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.46e3
Abs. Int.
1.59e4
7.96e3
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 2.52e3
1234678F
2.08e7*
39.77
1234689F
9.39e6
40.18
1234789F
7.30e6*
41.17
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 2.05e3
1234678F
2.01e7*
39.77
1234689F
8.99e6
40.18
1234789F
7.16e6*
41.17
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 4.80e3
ES 1234678F
6.97e6
39.76
CS 1234689F
6.38e6
40.17
ES 1234789F
6.22e6
41.16
Abs. Int.
2.21e6
1.11e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 5.55e3
ES 1234678F
1.58e7
39.76
CS 1234689F
1.47e7
40.17
ES 1234789F
1.35e7
41.16
Abs. Int.
5.02e6
2.51e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.43e3
RT
Abs. Int.
3.10e5
1.55e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
3.13e8*
43.61
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 2.65e3
0%
Abs. Int.
6.02e7
3.01e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.52e8*
43.61
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 3.58e3
0%
Abs. Int.
6.76e7
3.38e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.82e7*
43.59
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 9.22e3
0%
Abs. Int.
3.30e6
1.65e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.99e7*
43.59
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 3.34e3
0%
Abs. Int.
3.94e6
1.97e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.42e3
0%
Abs. Int.
7.83e3
3.92e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6329_18965_DF_007MSD | **Acq'd:** 04 Mar 2022 00:54 DTF | **Wt/Vol:** 10.05 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-NC-B-15-MSD | **UTP:** 04-Mar-2022 10:45:45 DTF | **J-level:** 0.497 pg/g | **Split:** 1 | **Checkcode:** 547-269-NXW

Datafile: 220303C13 | **Report:** 04 Mar 2022 10:47 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.21		1.0008	1.0008	0	3.52E+07	0.81	Y	1.18	255	4727.457	0.363
12378-PeCDD	33.61		1.0007	1.0006	-0.2	1.09E+07	1.61	Y	1.04	95.9	10553.146	0.835
123478-HxCDD	37.54		1.0004	1.0004	0	1.09E+07	1.29	Y	1.09	102	11664.506	0.991
123678-HxCDD	37.66		1.0036	1.0037	+0.2	1.25E+07	1.26	Y	1.15	114	11664.506	0.925
123789-HxCDD	37.96		1.0118	1.0118	0	1.18E+07	1.27	Y	1.05	100	11664.506	0.905
1234678-HpCDD	40.71		1.0002	1.0003	+0.2	3.78E+07	1.05	Y	1.06	354	8509.618	0.663
OCDD	43.42		1.0003	1.0003	0	3.19E+08	0.90	Y	1.13	4,470	8062.964	1.53
2378-TCDF	27.33		1.0008	1.0008	0	1.50E+08	0.78	Y	1.08	750	5480.314	0.295
12378-PeCDF	32.15		1.0005	1.0006	+0.2	1.86E+07	1.54	Y	1.02	108	12341.964	0.702
23478-PeCDF	33.27		1.0005	1.0006	+0.2	1.99E+07	1.58	Y	1.02	117	12341.964	0.648
123478-HxCDF	36.54		1.0004	1.0004	0	1.97E+07	1.22	Y	1.27	116	13927.334	0.71
123678-HxCDF	36.68		1.0004	1.0004	0	1.70E+07	1.21	Y	1.15	99.6	13927.334	0.685
234678-HxCDF	37.35		1.0005	1.0005	0	1.69E+07	1.27	Y	1.19	104	13927.334	0.74
123789-HxCDF	38.33		1.0004	1.0005	+0.2	1.38E+07	1.24	Y	1.16	93.5	13927.334	0.769
1234678-HpCDF	39.76		1.0003	1.0002	-0.2	3.98E+07	1.04	Y	1.37	252	5243.321	0.261
1234789-HpCDF	41.17		1.0003	1.0003	0	1.41E+07	1.06	Y	1.31	105	5243.321	0.353
OCDF	43.60		1.0002	1.0003	+0.3	6.85E+08	0.89	Y	1.07	6,680	8940.363	1.15

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.19	1.0243	1.0244	+0.2	2.32E+07	0.84	Y	1.05	83.7
ES 12378-PeCDD	33.59	1.2198	1.2206	+1.6	2.19E+07	1.57	Y	0.88	94
ES 123478-HxCDD	37.52	0.9916	0.9915	-0.2	1.96E+07	1.26	Y	0.97	78.6
ES 123678-HxCDD	37.65	0.9947	0.9947	0	1.91E+07	1.27	Y	0.94	78.8
ES 123789-HxCDD	37.95	1.0029	1.0027	-0.5	2.23E+07	1.29	Y	1.09	79.6
ES 1234678-HpCDD	40.70	1.0749	1.0753	+1.0	2.00E+07	1.09	Y	0.91	85.5
ES OCDD	43.40	1.1460	1.1468	+2.1	2.52E+07	0.93	Y	0.62	78.7
ES 2378-TCDF	27.31	1.0531	1.0533	+0.3	3.69E+07	0.81	Y	1.06	80.5
ES 12378-PeCDF	32.13	1.2378	1.2391	+2.5	3.34E+07	1.58	Y	0.91	84.6
ES 23478-PeCDF	33.25	1.2810	1.2823	+2.6	3.32E+07	1.59	Y	0.88	86.8
ES 123478-HxCDF	36.52	0.9650	0.9650	0	2.67E+07	0.54	Y	1.20	86.7
ES 123678-HxCDF	36.66	0.9688	0.9687	-0.2	2.95E+07	0.54	Y	1.35	84.9
ES 234678-HxCDF	37.34	0.9866	0.9865	-0.2	2.73E+07	0.53	Y	1.24	85.7
ES 123789-HxCDF	38.32	1.0125	1.0124	-0.2	2.52E+07	0.53	Y	1.16	85.1
ES 1234678-HpCDF	39.75	1.0501	1.0503	+0.5	2.29E+07	0.45	Y	0.97	92.1
ES 1234789-HpCDF	41.15	1.0870	1.0874	+1.0	2.04E+07	0.48	Y	0.85	93.5
ES OCDF	43.58	1.1505	1.1516	+2.9	3.81E+07	0.92	Y	0.81	91.9

Lab ID: B6329_18965_DF_007MSD | **Acq'd:** 04 Mar 2022 00:54 DTF | **Wt/Vol:** 10.05 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-NC-B-15-MSD | **UTP:** 04-Mar-2022 10:45:45 DTF | **J-level:** 0.497 pg/g | **Split:** 1 | **Checkcode:** 547-269-NXW

Datafile: 220303C13 | **Report:** 04 Mar 2022 10:47 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.52		-	-	-	2.65E+07	0.84	Y	-	-	
JS 1234-TCDF	25.93		-	-	-	4.33E+07	0.79	Y	-	-	
JS 123467-HxCDD	37.85		-	-	-	1.28E+07	1.32	Y	-	-	
CS 37Cl-2378-TCDD	28.21		1.0251	1.0252	+0.2	1.01E+07	n/a	-	1.20	78.9	
CS 12347-PeCDD	33.08		1.2016	1.2023	+1.4	1.69E+07	1.58	Y	0.75	84.8	
CS 12346-PeCDF	31.59		1.2172	1.2185	+2.5	2.93E+07	1.61	Y	0.85	79.5	
CS 123469-HxCDF	36.97		0.9771	0.9769	-0.4	2.38E+07	0.55	Y	1.12	83	
CS 1234689-HpCDF	40.16		1.0608	1.0610	+0.5	2.00E+07	0.46	Y	0.89	87.9	
~~SS 37Cl-2378-TCDD~~	~~28.21~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.01E+07~~	~~n/a~~		~~1.15~~	~~94.4~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.08~~		~~1.2016~~	~~1.2023~~	~~+1.4~~	~~1.69E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~90.1~~	CL 07Mar22
~~SS 12346-PeCDF~~	~~31.59~~		~~1.2172~~	~~1.2185~~	~~+2.5~~	~~2.93E+07~~	~~1.61~~	~~Y~~	~~0.94~~	~~93.8~~	
~~SS 123469-HxCDF~~	~~36.97~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~2.38E+07~~	~~0.55~~	~~Y~~	~~0.83~~	~~97.5~~	
~~SS 1234689-HpCDF~~	~~40.16~~		~~1.0608~~	~~1.0610~~	~~+0.5~~	~~2.00E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~95.2~~	

Totals	Conc	EMPC
Total TCDD	372	378
Total PeCDD	170	170
Total HxCDD	457	459
Total HpCDD	721	721
Total Tetra-Octa Dioxins	6200	6200
Total TCDF	1,570	1570
Total PeCDF	482	484
Total HxCDF	736	736
Total HpCDF	498	498
Total Tetra-Octa Furans	9,970	9970
Total Tetra-Octa Dioxins & Furans	16200	16200

Lab ID: B6329_18965_DF_007MSD | **Acq'd: 04 Mar 2022 00:54 DTF** | **Wt/Vol: 10.05 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021822-S-SB-NC-B-15-MSD | **UTP: 04-Mar-2022 10:45:45 DTF** | **J-level: 0.497 pg/g** | **Split: 1** | **Checkcode: 547-269-NXW**

Datafile: 220303C13 | **Report: 04 Mar 2022 10:47 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.50		0.8701	0.8693	-1.2	4.82E+06	0.80	Y	1.18	34.9	4727.457	0.363
1379-TCDD	24.87		0.8829	0.8822	-1.0	2.53E+05	0.79	Y	1.18	1.83	4727.457	0.363
1369-TCDD	25.30		0.8982	0.8975	-1.1	1.23E+05	0.73	Y	1.18	0.892	4727.457	0.363
1469-TCDD	26.10		0.9261	0.9258	-0.5	6.35E+05	0.81	Y	1.18	4.6	4727.457	0.363
1247/1246/1248/1249-TCDD	26.33	EMPC	0.9348	0.9340	-1.3	2.58E+05	0.92	N	1.18	1.87	4727.457	0.363
1378-TCDD	26.53	EMPC	0.9417	0.9413	-0.6	2.46E+05	0.93	N	1.18	1.78	4727.457	0.363
1268-TCDD	26.72	EMPC	0.9487	0.9481	-1.0	8.18E+04	1.04	N	1.18	0.592	4727.457	0.363
1478-TCDD	26.98	EMPC	0.9576	0.9570	-1.0	1.18E+05	1.08	N	1.18	0.854	4727.457	0.363
1279-TCDD	27.15	EMPC	0.9636	0.9632	-0.7	1.08E+05	0.95	N	1.18	0.782	4727.457	0.363
1234/1269-TCDD	27.51		0.9761	0.9758	-0.5	2.25E+05	0.69	Y	1.18	1.63	4727.457	0.363
1236-TCDD	NotFnd		0.9812						1.18		4727.457	0.363
1237/1238-TCDD	27.91		0.9905	0.9902	-0.5	5.28E+05	0.76	Y	1.18	3.82	4727.457	0.363
1239-TCDD	28.05		0.9951	0.9951	0	2.72E+06	0.79	Y	1.18	19.7	4727.457	0.363
2378-TCDD	**28.21**		**1.0008**	1.0008	**0**	3.52E+07	0.81	Y	**1.18**	**255**	**4727.457**	**0.363**
1278-TCDD	28.54		1.0124	1.0124	0	2.91E+06	0.86	Y	1.18	21.1	4727.457	0.363
1267-TCDD	NotFnd		1.0172						1.18		4727.457	0.363
1289-TCDD	29.19		1.0354	1.0356	+0.4	4.02E+06	0.78	Y	1.18	29.1	4727.457	0.363
12479/12468-PeCDD	31.09		0.9255	0.9256	+0.2	3.47E+06	1.61	Y	1.04	30.4	10553.146	0.835
12469-PeCDD	31.63		0.9416	0.9416	0	5.03E+05	1.53	Y	1.04	4.41	10553.146	0.835
12368-PeCDD	32.19		0.9582	0.9583	+0.2	5.32E+05	1.39	Y	1.04	4.66	10553.146	0.835
12478-PeCDD	32.37		0.9637	0.9638	+0.2	3.39E+05	1.43	Y	1.04	2.97	10553.146	0.835
12379-PeCDD	32.47	J	0.9668	0.9667	-0.2	2.65E+05	1.66	Y	1.04	2.33	10553.146	0.835
12369/12467/12489-PeCDD	32.73		0.9746	0.9746	0	5.69E+05	1.57	Y	1.04	4.99	10553.146	0.835
12346/12347-PeCDD	NotFnd		0.9858						1.04		10553.146	0.835
12378-PeCDD	33.61		**1.0007**	**1.0006**	**-0.2**	**1.09E+07**	**1.61**	**Y**	**1.04**	**95.9**	**10553.146**	**0.835**
12367-PeCDD	NotFnd		1.0036						1.04		10553.146	0.835
12389-PeCDD	34.05		1.0137	1.0138	+0.2	2.83E+06	1.53	Y	1.04	24.8	10553.146	0.835
124679/124689-HxCDD	35.80		0.9540	0.9540	0	9.54E+06	1.24	Y	1.10	85.3	11664.506	0.937
123468-HxCDD	36.46		0.9715	0.9715	0	1.09E+06	1.38	Y	1.10	9.72	11664.506	0.937
123679/123689-HxCDD	36.75		0.9793	0.9794	+0.2	4.89E+06	1.20	Y	1.10	43.7	11664.506	0.937
123469-HxCDD	36.88		0.9829	0.9828	-0.2	2.80E+05	1.28	Y	1.10	2.5	11664.506	0.937
123478-HxCDD	37.54		**1.0004**	**1.0004**	**0**	**1.09E+07**	**1.29**	**Y**	1.09	**102**	**11664.506**	**0.991**
123678-HxCDD	37.66		**1.0036**	**1.0037**	**+0.2**	**1.25E+07**	**1.26**	**Y**	1.15	**114**	**11664.506**	**0.925**
123467-HxCDD	37.86	J EMPC	1.0089	1.0090	+0.2	2.41E+05	1.90	N	1.10	2.16	11664.506	0.937
123789-HxCDD	37.96		**1.0118**	**1.0118**	**0**	**1.18E+07**	**1.27**	**Y**	1.05	**100**	**11664.506**	**0.905**

Lab ID: B6329_18965_DF_007MSD | **Acq'd: 04 Mar 2022 00:54 DTF** | **Wt/Vol: 10.05 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021822-S-SB-NC-B-15-MSD | **UTP: 04-Mar-2022 10:45:45 DTF** | **J-level: 0.497 pg/g** | **Split: 1** | **Checkcode: 547-269-NXW**

Datafile: 220303C13 | **Report: 04 Mar 2022 10:47 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

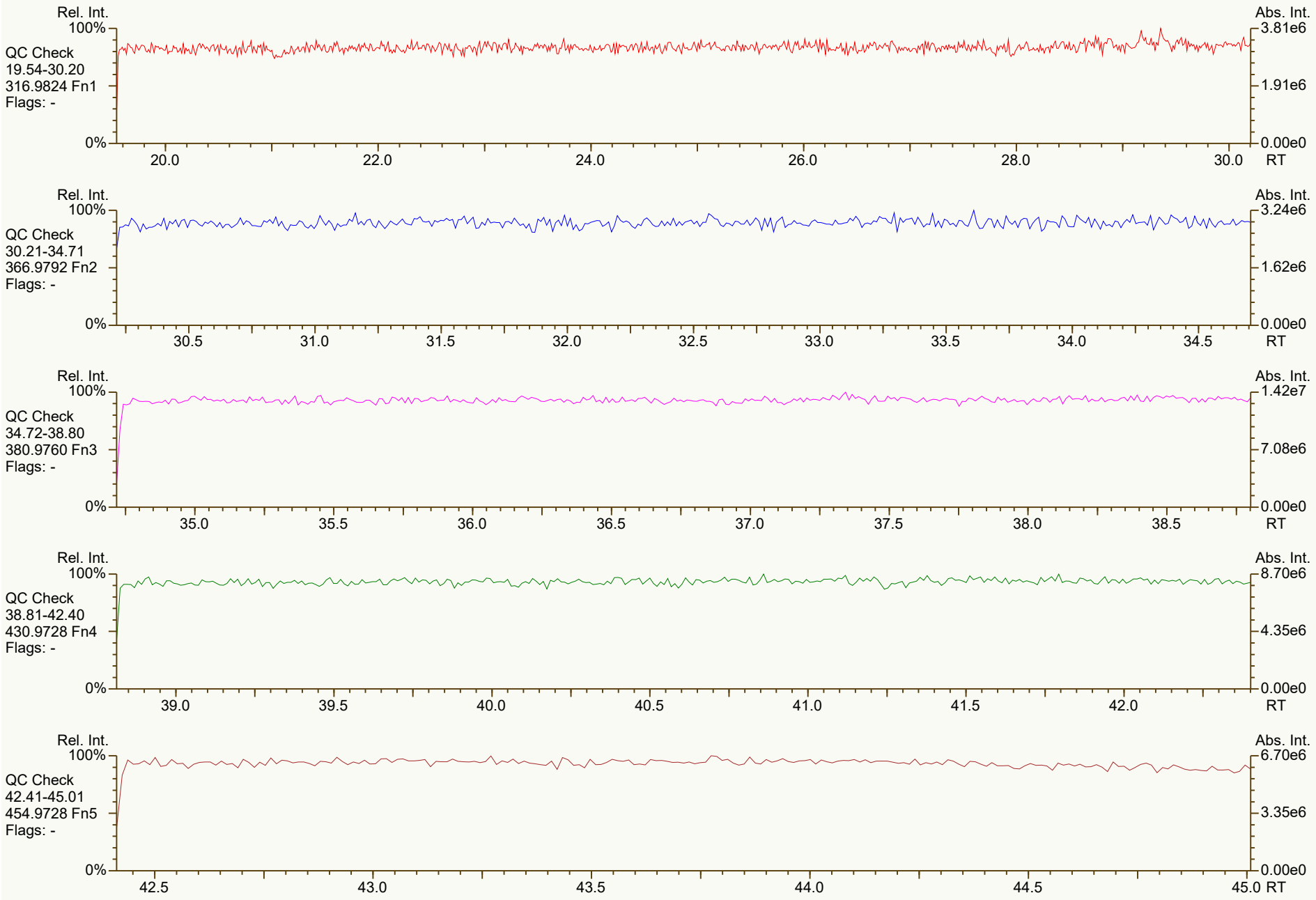
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.03		0.9836	0.9836	0	3.92E+07	1.04	Y	1.06	367	8509.618	0.663
1234678-HpCDD	**40.71**		**1.0002**	**1.0003**	**+0.2**	**3.78E+07**	**1.05**	**Y**	**1.06**	**354**	**8509.618**	**0.663**
OCDD	**43.42**		**1.0003**	**1.0003**	**0**	**3.19E+08**	**0.90**	**Y**	**1.13**	**4,470**	**8062.964**	**1.53**
OCDD-a	43.41		1.0002	1.0002	0	1.98E+07	2.36	Y	0.07	4,330	10444.468	31
1368-TCDF	22.34		0.8191	0.8180	-1.5	5.59E+06	0.78	Y	1.08	27.9	5480.314	0.295
1468-TCDF	22.94		0.8408	0.8400	-1.1	9.90E+05	0.77	Y	1.08	4.94	5480.314	0.295
2468-TCDF	23.59		0.8645	0.8637	-1.1	3.49E+06	0.77	Y	1.08	17.4	5480.314	0.295
1346/1246-TCDF	NotFnd		0.8772						1.08		5480.314	0.295
1347/1378/1247-TCDF	24.10		0.8833	0.8825	-1.2	2.96E+06	0.77	Y	1.08	14.8	5480.314	0.295
1348-TCDF	NotFnd		0.8932						1.08		5480.314	0.295
1248/1367/1379-TCDF	24.47		0.8980	0.8960	-2.9	9.45E+06	0.78	Y	1.08	47.2	5480.314	0.295
1268-TCDF	24.90		0.9119	0.9115	-0.6	3.77E+06	0.79	Y	1.08	18.8	5480.314	0.295
1467-TCDF	25.03		0.9170	0.9166	-0.6	7.04E+05	0.80	Y	1.08	3.51	5480.314	0.295
1478-TCDF	25.20		0.9234	0.9228	-0.9	7.14E+06	0.80	Y	1.08	35.6	5480.314	0.295
1369/1237-TCDF	25.59		0.9369	0.9370	+0.2	1.58E+06	0.83	Y	1.08	7.87	5480.314	0.295
2467-TCDF	25.71		0.9415	0.9415	0	4.81E+05	0.80	Y	1.08	2.4	5480.314	0.295
2368-TCDF	25.87		0.9475	0.9473	-0.3	5.76E+06	0.79	Y	1.08	28.8	5480.314	0.295
1238/1234/1678/1469/1236-TCDF	25.95		0.9507	0.9501	-0.9	6.66E+06	0.78	Y	1.08	33.2	5480.314	0.295
1278-TCDF	26.42		0.9676	0.9674	-0.3	6.90E+07	0.79	Y	1.08	344	5480.314	0.295
1349-TCDF	NotFnd		0.9722						1.08		5480.314	0.295
1267-TCDF	26.70		0.9777	0.9775	-0.3	4.06E+06	0.83	Y	1.08	20.3	5480.314	0.295
2346/1249-TCDF	NotFnd		0.9843						1.08		5480.314	0.295
2347/1279-TCDF	27.10		0.9926	0.9923	-0.5	1.54E+06	0.74	Y	1.08	7.67	5480.314	0.295
2348-TCDF	27.21		0.9968	0.9964	-0.7	1.13E+07	0.75	Y	1.08	56.3	5480.314	0.295
2378-TCDF	**27.33**		**1.0008**	**1.0008**	**0**	**1.50E+08**	**0.78**	**Y**	**1.08**	**750**	**5480.314**	**0.295**
2367/3467-TCDF	27.69		1.0142	1.0139	-0.5	1.22E+07	0.78	Y	1.08	60.9	5480.314	0.295
1269-TCDF	27.96		1.0235	1.0236	+0.2	2.21E+06	0.80	Y	1.08	11	5480.314	0.295
1239-TCDF	NotFnd		1.0329						1.08		5480.314	0.295
1289-TCDF	29.36		1.0742	1.0752	+1.8	1.61E+07	0.80	Y	1.08	80.1	5480.314	0.295
13468/12468-PeCDF	29.30		0.9122	0.9118	-0.7	3.00E+07	1.61	Y	1.02	175	4133.866	0.226
13678/13467/12467-PeCDF	30.88		0.9606	0.9610	+0.7	5.79E+05	1.62	Y	1.02	3.39	12341.964	0.675
12368/13478/12478-PeCDF	31.04		0.9655	0.9660	+0.9	5.09E+06	1.60	Y	1.02	29.8	12341.964	0.675
14678-PeCDF	NotFnd		0.9685						1.02		12341.964	0.675
13479-PeCDF	NotFnd		0.9716						1.02		12341.964	0.675
13469/12479-PeCDF	31.43	J	0.9794	0.9784	-1.9	2.79E+05	1.58	Y	1.02	1.63	12341.964	0.675
12346-PeCDF	NotFnd		0.9836						1.02		12341.964	0.675

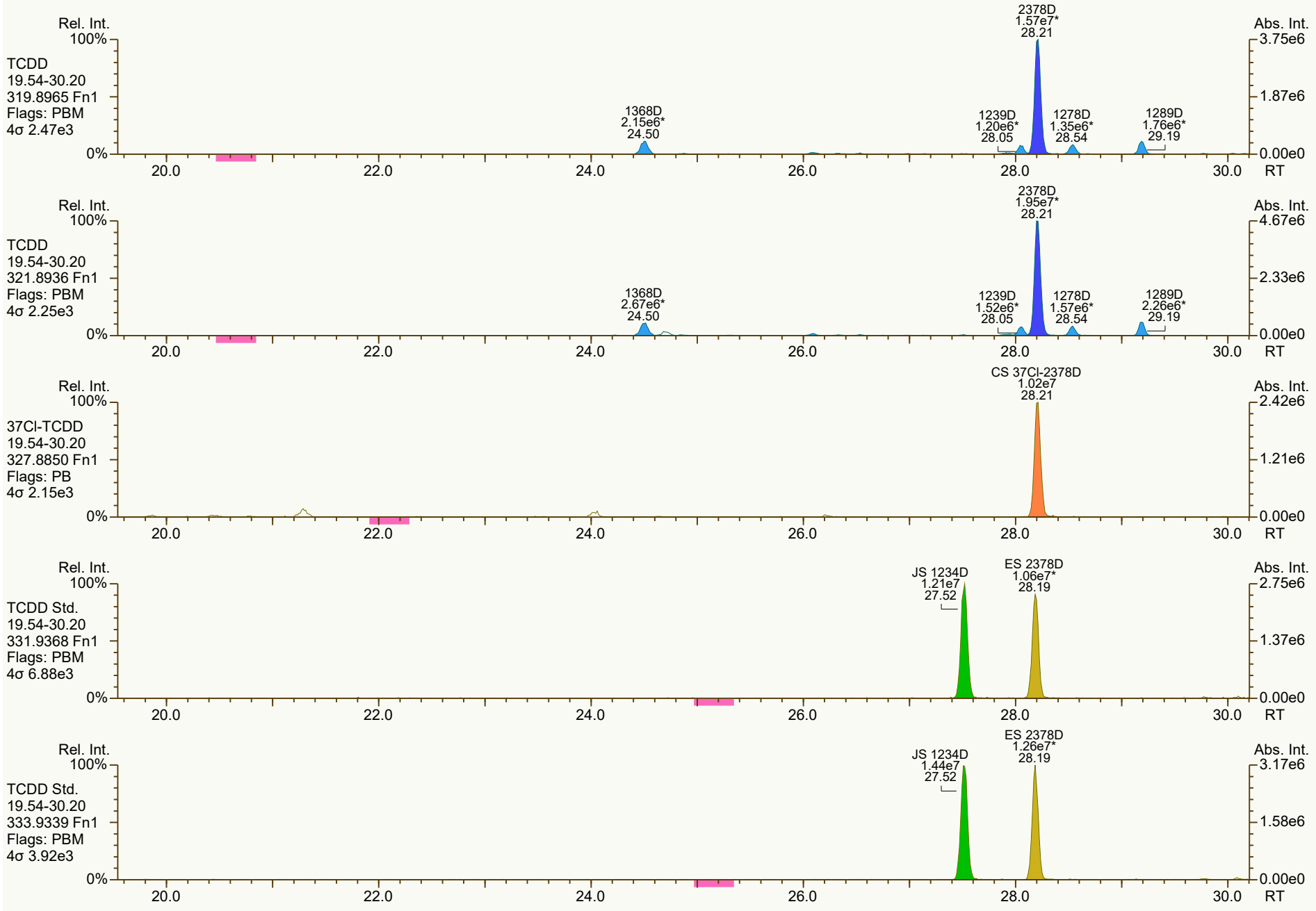
Lab ID: B6329_18965_DF_007MSD | **Acq'd: 04 Mar 2022 00:54 DTF** | **Wt/Vol: 10.05 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

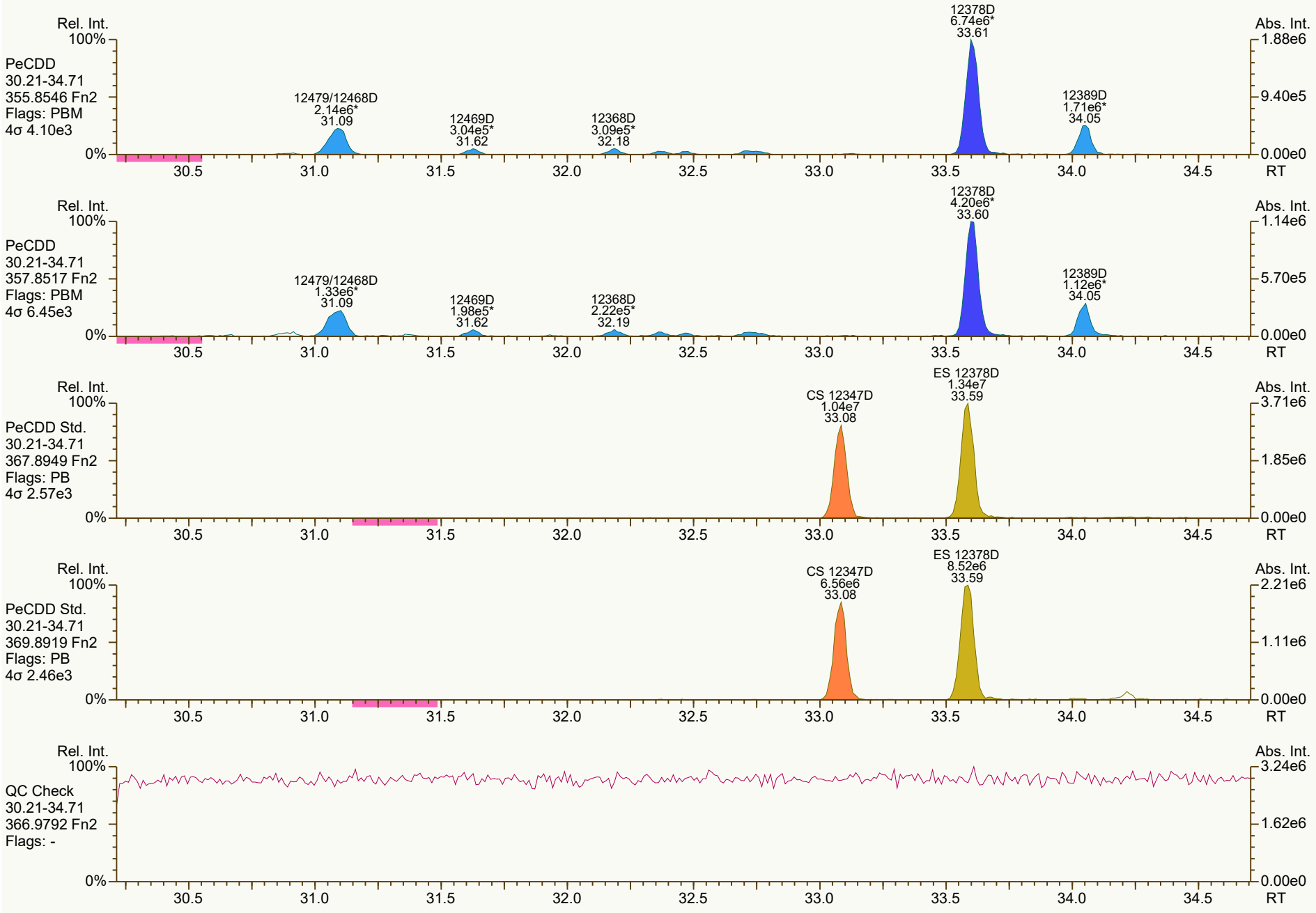
Client ID: 11215131-021822-S-SB-NC-B-15-MSD | **UTP: 04-Mar-2022 10:45:45 DTF** | **J-level: 0.497 pg/g** | **Split: 1** | **Checkcode: 547-269-NXW**

Datafile: 220303C13 | **Report: 04 Mar 2022 10:47 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.71		0.9866	0.9869	+0.6	1.64E+06	1.55	Y	1.02	9.6	12341.964	0.675
12347-PeCDF	NotFnd		0.9891						1.02		12341.964	0.675
12348-PeCDF	31.93		0.9938	0.9939	+0.2	7.05E+05	1.48	Y	1.02	4.12	12341.964	0.675
12378-PeCDF	**32.15**		**1.0005**	**1.0006**	**+0.2**	**1.86E+07**	**1.54**	**Y**	**1.02**	**108**	**12341.964**	**0.702**
12678/12367-PeCDF	32.44		1.0091	1.0098	+1.4	1.84E+06	1.68	Y	1.02	10.7	12341.964	0.675
12379-PeCDF	NotFnd		1.0144						1.02		12341.964	0.675
12679-PeCDF	NotFnd		0.9927						1.02		12341.964	0.675
23467/12369-PeCDF	33.13	J EMPC	0.9965	0.9964	-0.2	2.04E+05	1.25	N	1.02	1.19	12341.964	0.675
23478-PeCDF	**33.27**		**1.0005**	**1.0006**	**+0.2**	**1.99E+07**	**1.58**	**Y**	**1.02**	**117**	**12341.964**	**0.648**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		12341.964	0.675
12349-PeCDF	NotFnd		1.0101						1.02		12341.964	0.675
12389-PeCDF	34.35		1.0330	1.0330	0	3.89E+06	1.55	Y	1.02	22.7	12341.964	0.675
123468-HxCDF	35.14		0.9622	0.9622	0	3.85E+07	1.25	Y	1.19	236	13927.334	0.724
124678/134678-HxCDF	35.34		0.9678	0.9676	-0.4	6.19E+06	1.24	Y	1.19	38	13927.334	0.724
134679-HxCDF	NotFnd		0.9741						1.19		13927.334	0.724
124679-HxCDF	35.77		0.9795	0.9793	-0.4	4.56E+05	1.25	Y	1.19	2.8	13927.334	0.724
124689-HxCDF	36.00		0.9856	0.9856	0	6.46E+06	1.25	Y	1.19	39.6	13927.334	0.724
123467-HxCDF	36.41		0.9972	0.9970	-0.4	6.19E+05	1.18	Y	1.19	3.79	13927.334	0.724
123478-HxCDF	**36.54**		**1.0004**	**1.0004**	**0**	**1.97E+07**	**1.22**	**Y**	**1.27**	**116**	**13927.334**	**0.71**
123678-HxCDF	**36.68**		**1.0004**	**1.0004**	**0**	**1.70E+07**	**1.21**	**Y**	**1.15**	**99.6**	**13927.334**	**0.685**
123479-HxCDF	NotFnd		1.0048						1.19		13927.334	0.724
123469-HxCDF	36.99		1.0089	1.0089	0	5.54E+05	1.22	Y	1.19	3.4	13927.334	0.724
123679-HxCDF	NotFnd		0.9942						1.19		13927.334	0.724
234678-HxCDF	**37.35**		**1.0005**	**1.0005**	**0**	**1.69E+07**	**1.27**	**Y**	**1.19**	**104**	**13927.334**	**0.74**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		13927.334	0.724
123789-HxCDF	**38.33**		**1.0004**	**1.0005**	**+0.2**	**1.38E+07**	**1.24**	**Y**	**1.16**	**93.5**	**13927.334**	**0.769**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		13927.334	0.724
1234678-HpCDF	**39.76**		**1.0003**	**1.0002**	**-0.2**	**3.98E+07**	**1.04**	**Y**	**1.37**	**252**	**5243.321**	**0.261**
1234679-HpCDF	40.03		1.0068	1.0070	+0.5	1.82E+06	1.11	Y	1.34	12.5	5243.321	0.303
1234689-HpCDF	40.17		1.0104	1.0105	+0.2	1.87E+07	1.03	Y	1.34	129	5243.321	0.303
1234789-HpCDF	**41.17**		**1.0003**	**1.0003**	**0**	**1.41E+07**	**1.06**	**Y**	**1.31**	**105**	**5243.321**	**0.353**
OCDF	**43.60**		**1.0002**	**1.0003**	**+0.3**	**6.85E+08**	**0.89**	**Y**	**1.07**	**6,680**	**8940.363**	**1.15**
OCDF-a	43.60		1.0001	1.0002	+0.3	4.40E+07	2.46	Y	0.07	6,920	4364.278	9.08


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.81e6
1.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.24e6
1.62e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.42e7
7.08e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
8.70e6
4.35e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.70e6
3.35e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT

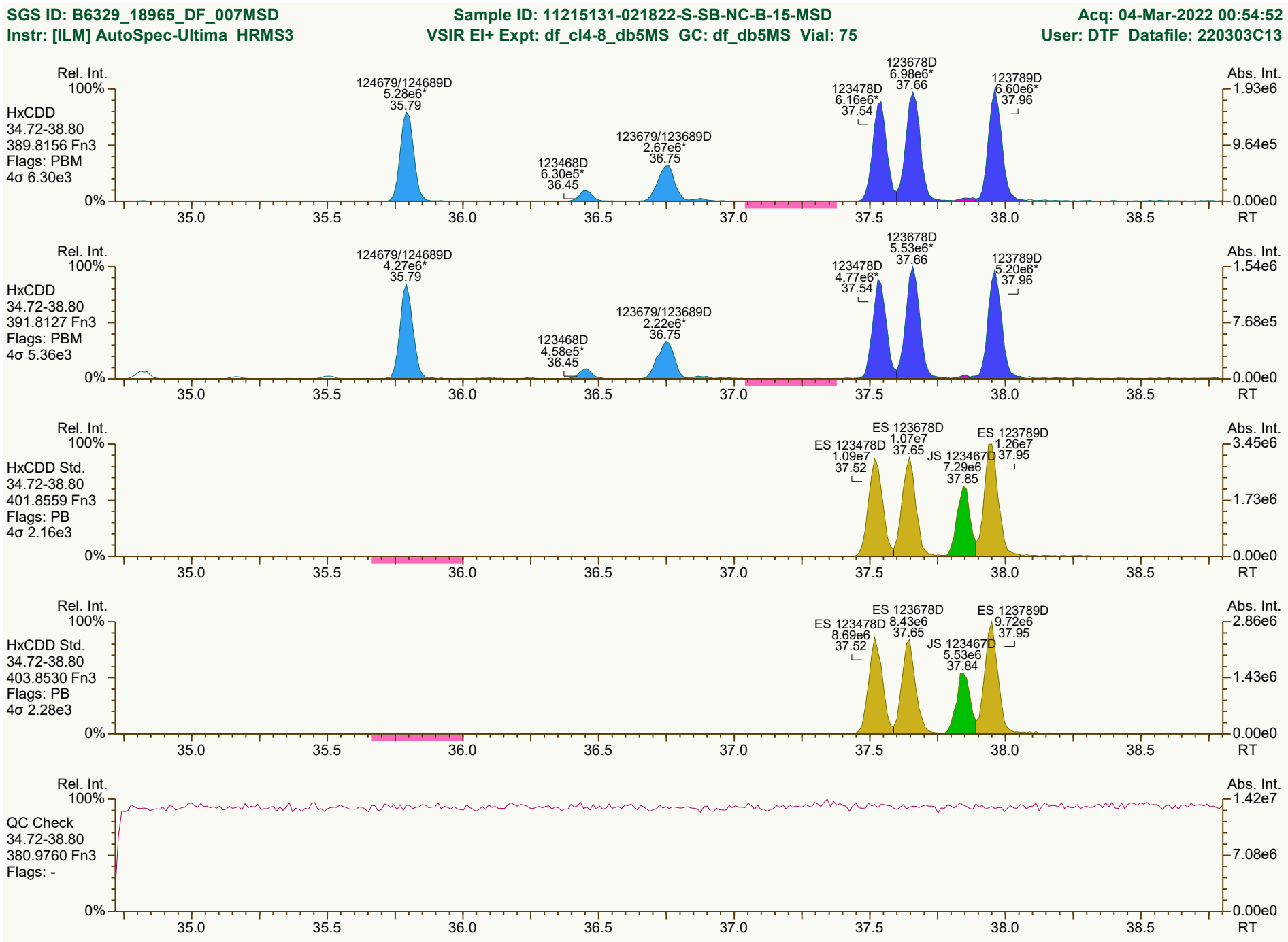

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.47e3
0%
2378D
1.57e7*
28.21
1368D
2.15e6*
24.50
1239D
1.20e6*
28.05
1278D
1.35e6*
28.54
1289D
1.76e6*
29.19
Abs. Int.
3.75e6
1.87e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
1.95e7*
28.21
1368D
2.67e6*
24.50
1239D
1.52e6*
28.05
1278D
1.57e6*
28.54
1289D
2.26e6*
29.19
Abs. Int.
4.67e6
2.33e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 2.15e3
0%
CS 37Cl-2378D
1.02e7
28.21
Abs. Int.
2.42e6
1.21e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PBM
4σ 6.88e3
0%
JS 1234D
1.21e7
27.52
ES 2378D
1.06e7*
28.19
Abs. Int.
2.75e6
1.37e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PBM
4σ 3.92e3
0%
JS 1234D
1.44e7
27.52
ES 2378D
1.26e7*
28.19
Abs. Int.
3.17e6
1.58e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 4.10e3
0%
12479/12468D
2.14e6*
31.09
12469D
3.04e5*
31.62
12368D
3.09e5*
32.18
12378D
6.74e6*
33.61
12389D
1.71e6*
34.05
Abs. Int.
1.88e6
9.40e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 6.45e3
0%
12479/12468D
1.33e6*
31.09
12469D
1.98e5*
31.62
12368D
2.22e5*
32.19
12378D
4.20e6*
33.60
12389D
1.12e6*
34.05
Abs. Int.
1.14e6
5.70e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.57e3
0%
CS 12347D
1.04e7
33.08
ES 12378D
1.34e7
33.59
Abs. Int.
3.71e6
1.85e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.46e3
0%
CS 12347D
6.56e6
33.08
ES 12378D
8.52e6
33.59
Abs. Int.
2.21e6
1.11e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.24e6
1.62e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

SGS ID: B6329_18965_DF_007MSD
Instr: [ILM] AutoSpec-Ultima HRMS3

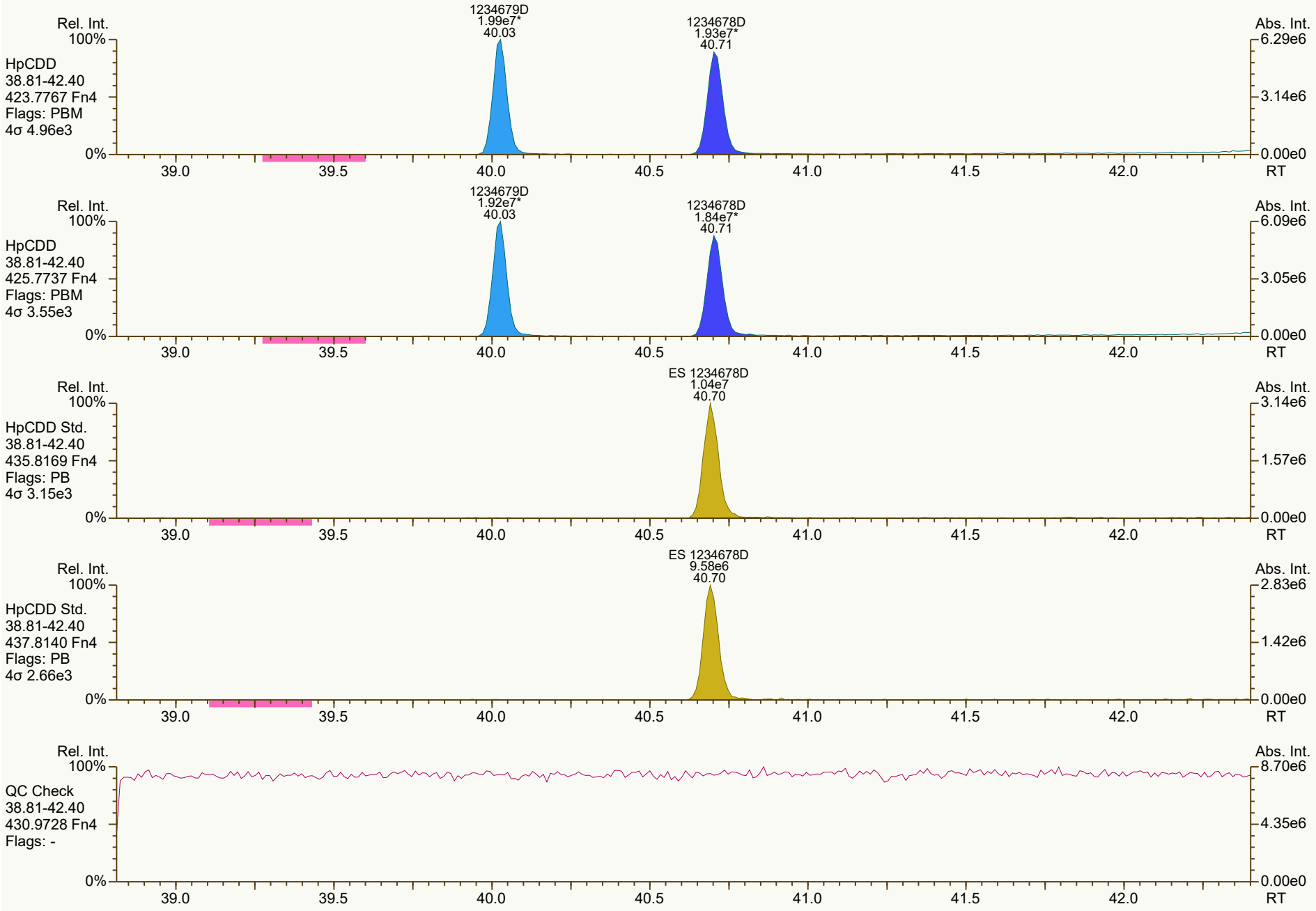
Sample ID: 11215131-021822-S-SB-NC-B-15-MSD
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 75

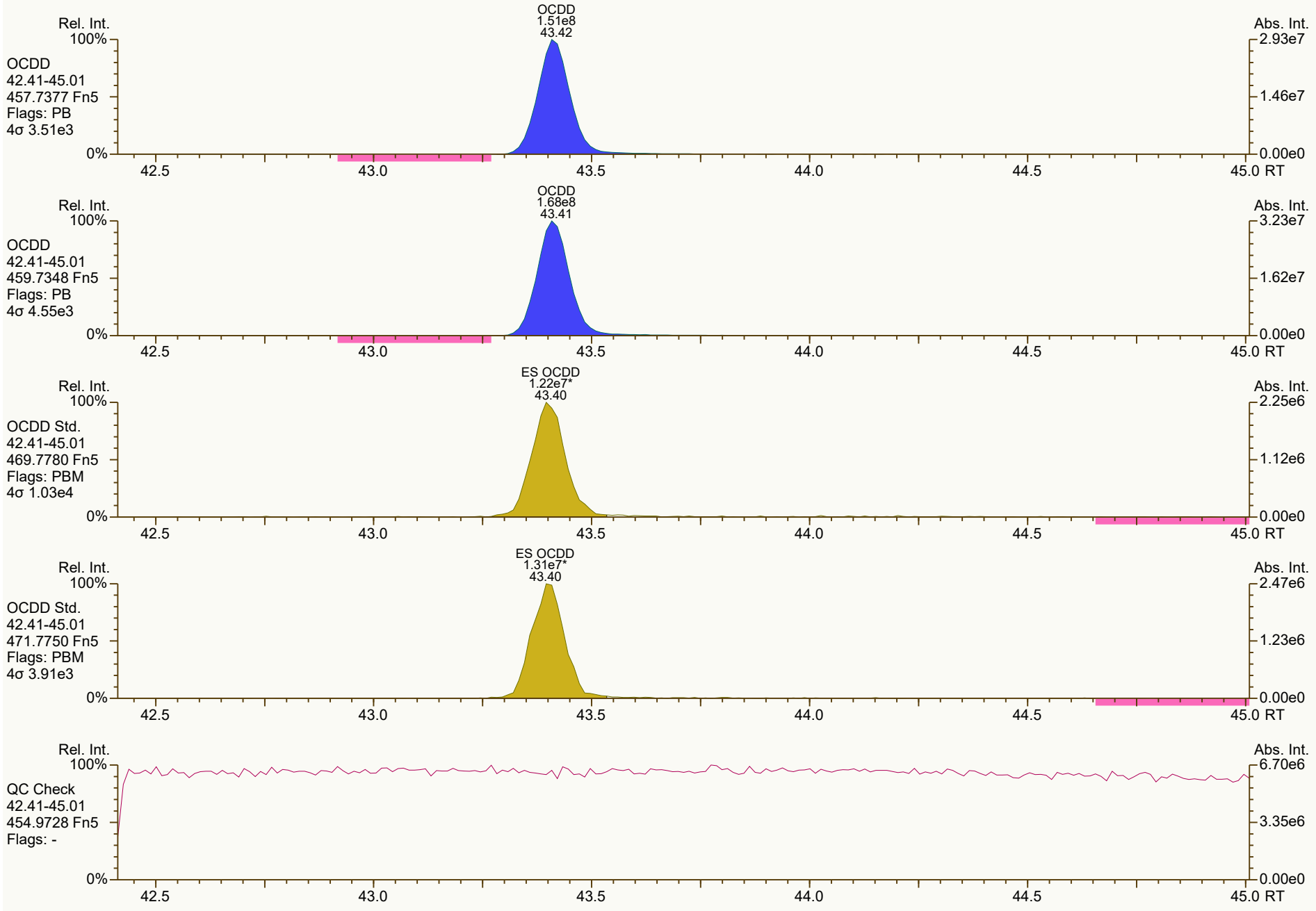
Acq: 04-Mar-2022 00:54:52
User: DTF Datafile: 220303C13

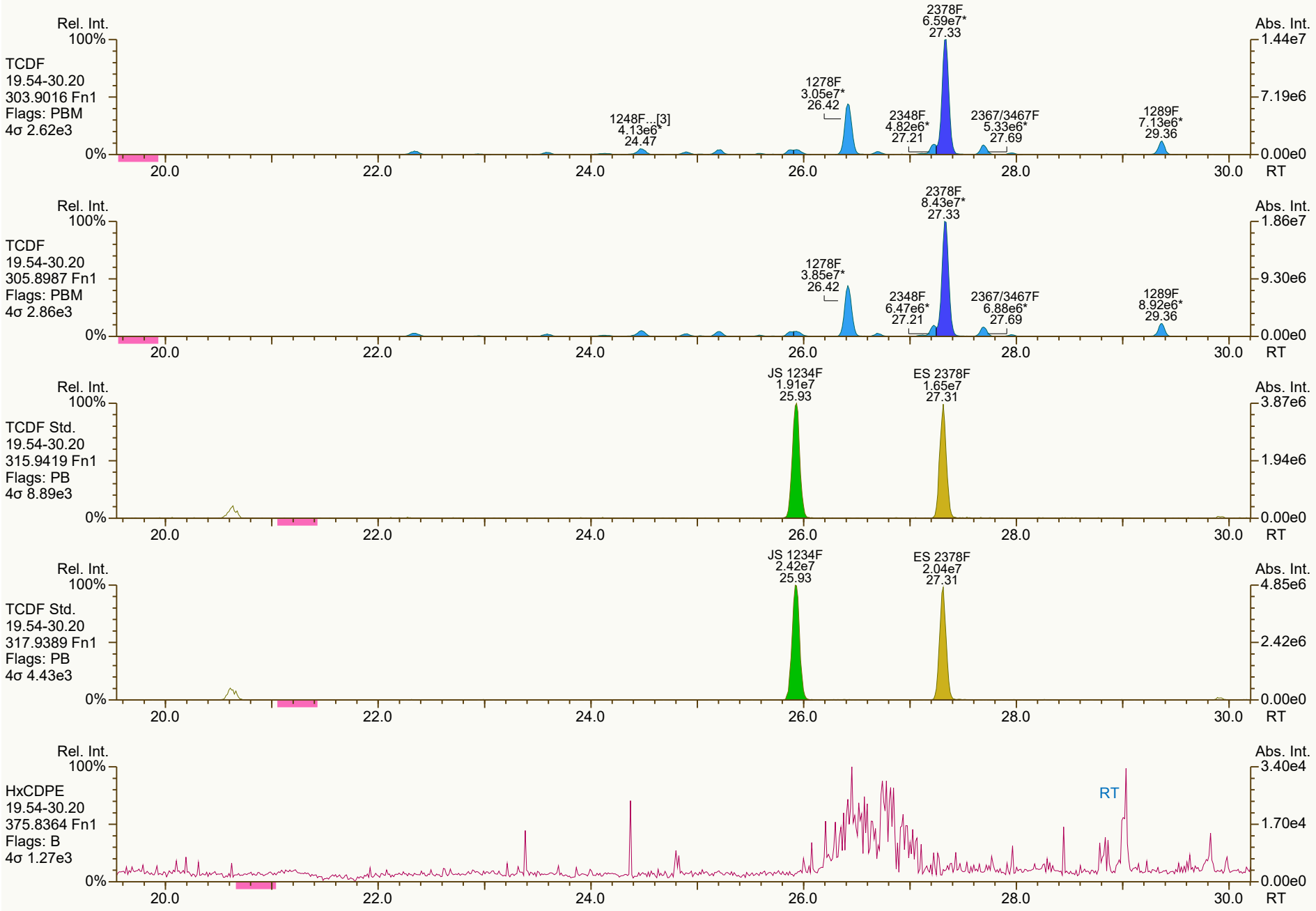


Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_007MSD.utp_res, saved 04-Mar-2022 10:45 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7159, 1750 scc: 547-269

Peak annotation: Areas, Centroids
Revised: 04-Mar-2022 10:16 (DTF) Printed: 04-Mar-2022 10:55 Page 4 of 12


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 4.96e3
1234679D
1.99e7*
40.03
1234678D
1.93e7*
40.71
Abs. Int.
6.29e6
3.14e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 3.55e3
1234679D
1.92e7*
40.03
1234678D
1.84e7*
40.71
Abs. Int.
6.09e6
3.05e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 3.15e3
ES 1234678D
1.04e7
40.70
Abs. Int.
3.14e6
1.57e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.66e3
ES 1234678D
9.58e6
40.70
Abs. Int.
2.83e6
1.42e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
8.70e6
4.35e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
1.51e8
43.42
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 3.51e3
0%
Abs. Int.
2.93e7
1.46e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.68e8
43.41
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 4.55e3
0%
Abs. Int.
3.23e7
1.62e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.22e7*
43.40
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.03e4
0%
Abs. Int.
2.25e6
1.12e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.31e7*
43.40
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 3.91e3
0%
Abs. Int.
2.47e6
1.23e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.70e6
3.35e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

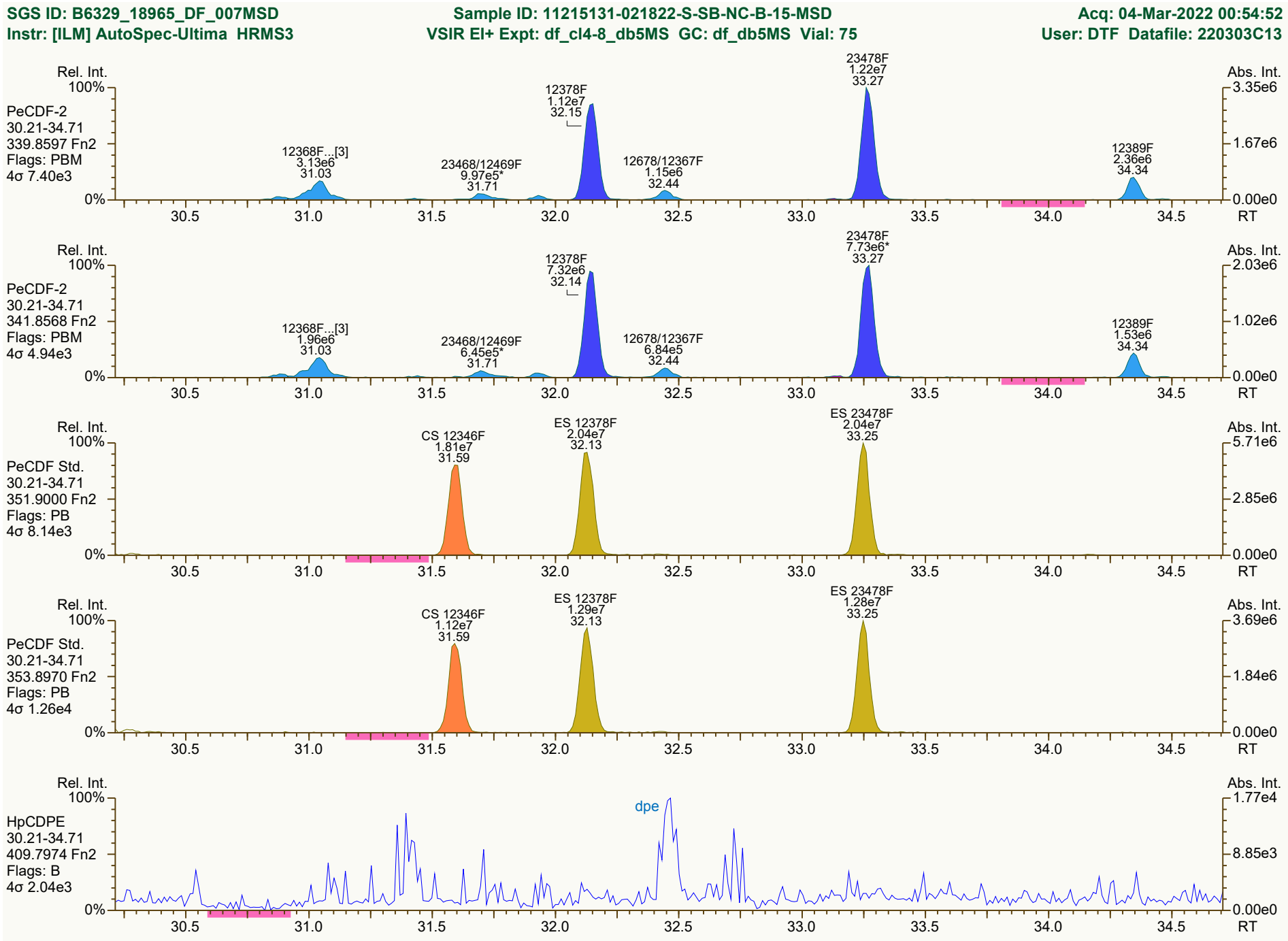

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 2.62e3
0%
1248F...[3]
4.13e6*
24.47
1278F
3.05e7*
26.42
2348F
4.82e6*
27.21
2378F
6.59e7*
27.33
2367/3467F
5.33e6*
27.69
1289F
7.13e6*
29.36
Abs. Int.
1.44e7
7.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.86e3
0%
1278F
3.85e7*
26.42
2348F
6.47e6*
27.21
2378F
8.43e7*
27.33
2367/3467F
6.88e6*
27.69
1289F
8.92e6*
29.36
Abs. Int.
1.86e7
9.30e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 8.89e3
0%
JS 1234F
1.91e7
25.93
ES 2378F
1.65e7
27.31
Abs. Int.
3.87e6
1.94e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.43e3
0%
JS 1234F
2.42e7
25.93
ES 2378F
2.04e7
27.31
Abs. Int.
4.85e6
2.42e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.27e3
0%
RT
Abs. Int.
3.40e4
1.70e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.86e3
13468/12468F
1.85e7
29.30
Abs. Int.
4.46e6
2.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 2.27e3
13468/12468F
1.15e7
29.29
Abs. Int.
2.67e6
1.33e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
3.81e6
1.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: B6329_18965_DF_007MSD
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 11215131-021822-S-SB-NC-B-15-MSD
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 75

Acq: 04-Mar-2022 00:54:52
User: DTF Datafile: 220303C13



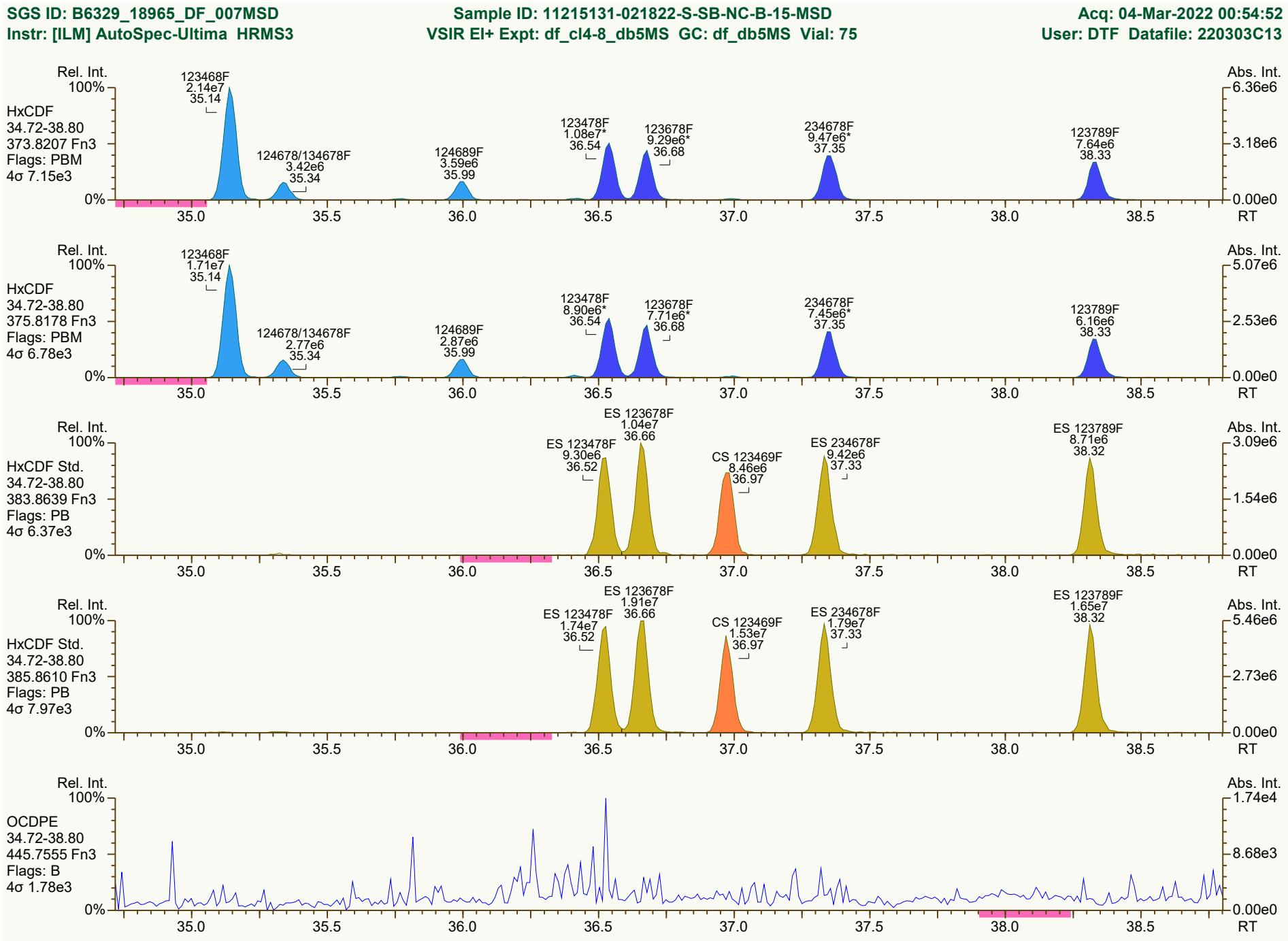
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_007MSD.utp_res, saved 04-Mar-2022 10:45 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6757, 7341, 4580 scc: 547-269

Peak annotation: Areas, Centroids
Revised: 04-Mar-2022 10:18 (DTF) Printed: 04-Mar-2022 10:55 Page 9 of 12

SGS ID: B6329_18965_DF_007MSD
Instr: [ILM] AutoSpec-Ultima HRMS3

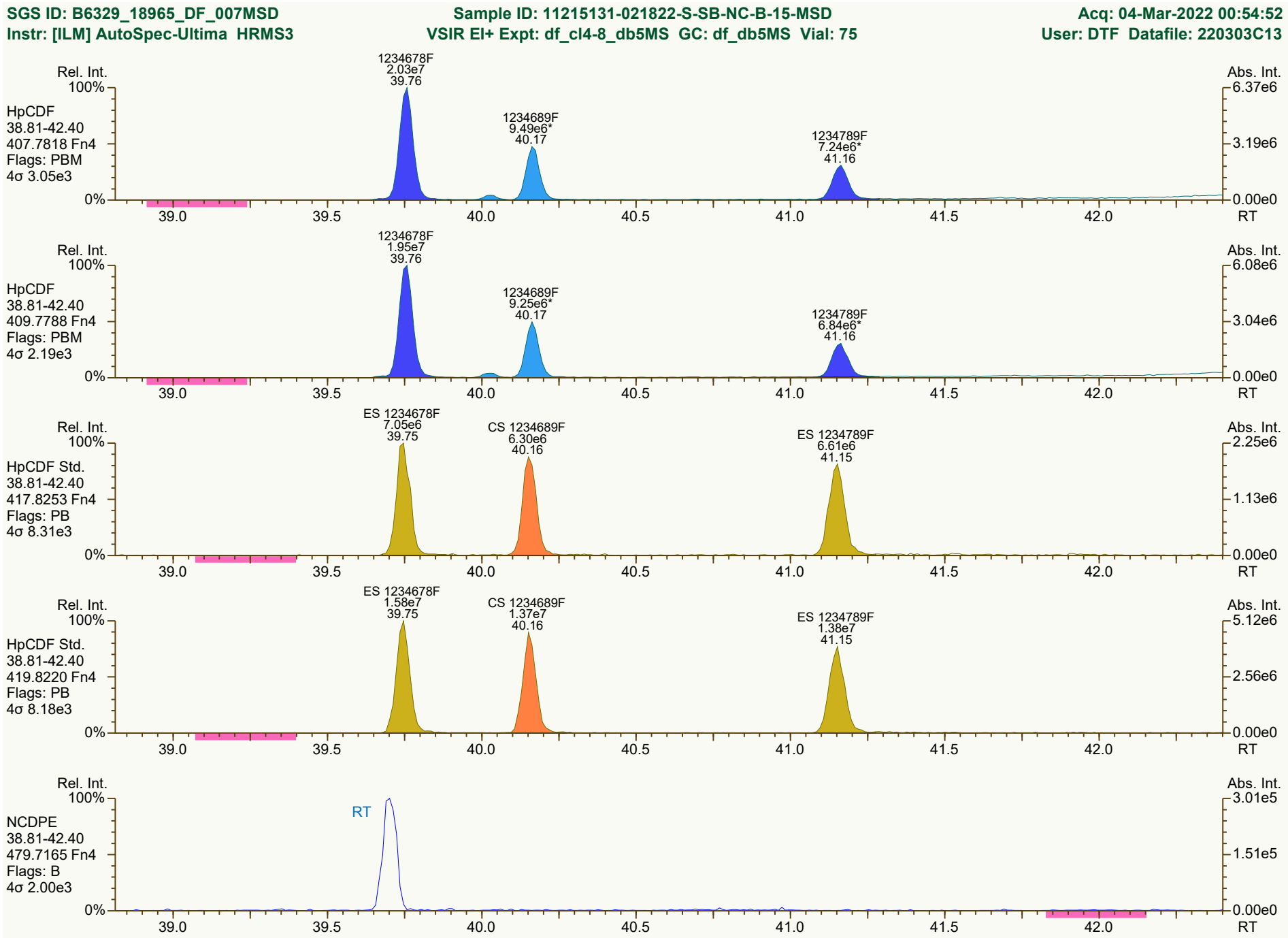
Sample ID: 11215131-021822-S-SB-NC-B-15-MSD
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 75

Acq: 04-Mar-2022 00:54:52
User: DTF Datafile: 220303C13

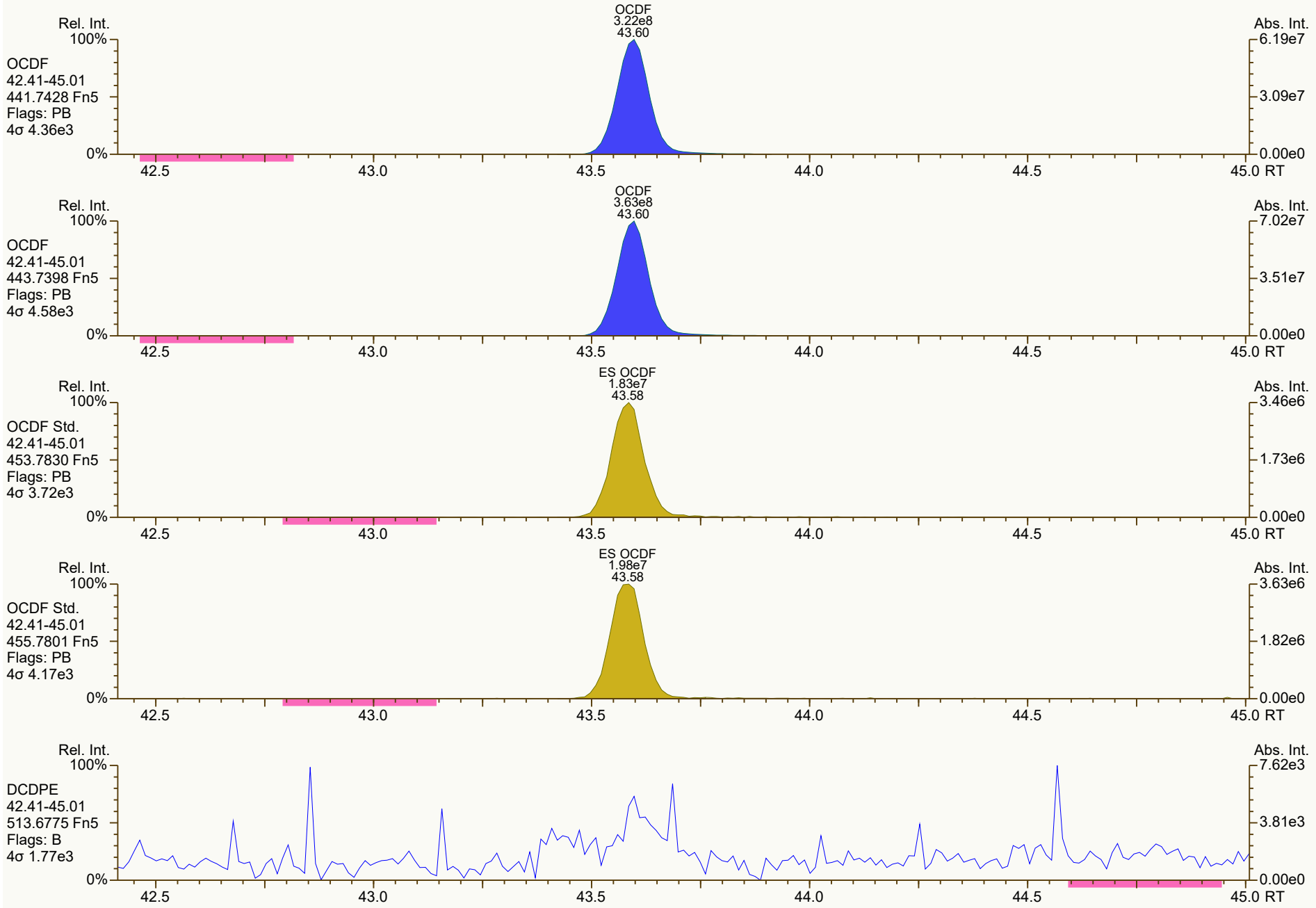


Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_007MSD.utp_res, saved 04-Mar-2022 10:45 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5284, 9971, 5042 scc: 547-269

Peak annotation: Areas, Centroids
Revised: 04-Mar-2022 10:19 (DTF) Printed: 04-Mar-2022 10:55 Page 10 of 12



Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_007MSD.utp_res, saved 04-Mar-2022 10:45 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5993, 8957, 3368 scc: 547-269
Revised: 04-Mar-2022 10:19 (DTF) Printed: 04-Mar-2022 10:55 Page 11 of 12


OCDF
3.22e8
43.60
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 4.36e3
0%
Abs. Int.
6.19e7
3.09e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.63e8
43.60
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 4.58e3
0%
Abs. Int.
7.02e7
3.51e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.83e7
43.58
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 3.72e3
0%
Abs. Int.
3.46e6
1.73e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.98e7
43.58
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 4.17e3
0%
Abs. Int.
3.63e6
1.82e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.77e3
0%
Abs. Int.
7.62e3
3.81e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6329_18965_DF_008 **Acq'd:** 04 Mar 2022 01:41 DTF **Wt/Vol:** 10.18 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-NC-B-16 **UTP:** 04-Mar-2022 10:45:46 DTF **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 366-326-JGX

Datafile: 220303C14 **Report:** 04 Mar 2022 10:48 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.20		1.0008	1.0008	0	9.27E+07	0.81	Y	1.18	841	3377.931	0.331
12378-PeCDD	33.60		1.0007	1.0006	-0.2	8.17E+05	1.68	Y	1.04	8.85	4725.886	0.458
123478-HxCDD	37.53	J EMPC	1.0004	1.0003	-0.2	5.61E+04	1.92	N	1.09	0.645	4358.94	0.434
123678-HxCDD	37.66		1.0036	1.0036	0	2.50E+05	1.11	Y	1.15	2.76	4358.94	0.429
123789-HxCDD	37.97	J	1.0118	1.0120	+0.5	1.93E+05	1.22	Y	1.05	2.05	4358.94	0.402
1234678-HpCDD	40.72		1.0002	1.0004	+0.5	7.48E+06	1.05	Y	1.06	89.5	7215.215	0.778
OCDD	43.42		1.0003	1.0003	0	8.08E+07	0.92	Y	1.13	1,420	8098.624	1.92
2378-TCDF	27.32	E	1.0008	1.0008	0	3.71E+08	0.79	Y	1.08	2,300	3907.257	0.255
12378-PeCDF	32.14		1.0005	1.0006	+0.2	1.13E+07	1.52	Y	1.02	78.6	6796.261	0.443
23478-PeCDF	33.27		1.0005	1.0007	+0.4	9.07E+06	1.53	Y	1.02	64.1	6796.261	0.429
123478-HxCDF	36.54		1.0004	1.0005	+0.2	1.94E+07	1.21	Y	1.27	142	8492.027	0.531
123678-HxCDF	36.68		1.0004	1.0004	0	4.95E+06	1.21	Y	1.15	35.1	8492.027	0.55
234678-HxCDF	37.35		1.0005	1.0004	-0.2	9.72E+05	1.13	Y	1.19	6.78	8492.027	0.548
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	8492.027	0.611
1234678-HpCDF	39.76		1.0003	1.0003	0	7.68E+06	1.04	Y	1.37	58.6	5814.265	0.351
1234789-HpCDF	41.17		1.0003	1.0002	-0.2	1.74E+06	1.05	Y	1.31	17.4	5814.265	0.543
OCDF	43.60		1.0002	1.0003	+0.3	1.78E+07	0.89	Y	1.07	240	5434.455	0.95

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.17	1.0243	1.0243	0	1.83E+07	0.83	Y	1.05	82.5
ES 12378-PeCDD	33.59	1.2198	1.2210	+2.4	1.75E+07	1.58	Y	0.88	93.9
ES 123478-HxCDD	37.52	0.9916	0.9914	-0.5	1.57E+07	1.29	Y	0.97	87
ES 123678-HxCDD	37.64	0.9947	0.9946	-0.2	1.55E+07	1.24	Y	0.94	88.4
ES 123789-HxCDD	37.95	1.0029	1.0028	-0.2	1.77E+07	1.28	Y	1.09	87.3
ES 1234678-HpCDD	40.70	1.0749	1.0755	+1.5	1.55E+07	1.06	Y	0.91	91.5
ES OCDD	43.41	1.1460	1.1469	+2.3	1.99E+07	0.89	Y	0.62	85.9
ES 2378-TCDF	27.30	1.0531	1.0535	+0.7	2.94E+07	0.78	Y	1.06	80.7
ES 12378-PeCDF	32.12	1.2378	1.2395	+3.3	2.75E+07	1.52	Y	0.91	87.9
ES 23478-PeCDF	33.25	1.2810	1.2830	+4.0	2.73E+07	1.55	Y	0.88	89.8
ES 123478-HxCDF	36.52	0.9650	0.9650	0	2.11E+07	0.53	Y	1.20	95
ES 123678-HxCDF	36.66	0.9688	0.9687	-0.2	2.41E+07	0.53	Y	1.35	96
ES 234678-HxCDF	37.34	0.9866	0.9865	-0.2	2.37E+07	0.54	Y	1.24	103
ES 123789-HxCDF	38.32	1.0125	1.0125	0	2.04E+07	0.54	Y	1.16	94.9
ES 1234678-HpCDF	39.75	1.0501	1.0503	+0.5	1.88E+07	0.46	Y	0.97	105
ES 1234789-HpCDF	41.16	1.0870	1.0875	+1.2	1.51E+07	0.44	Y	0.85	95.3
ES OCDF	43.59	1.1505	1.1516	+2.9	2.72E+07	0.93	Y	0.81	90.7

Lab ID: B6329_18965_DF_008 **Acq'd:** 04 Mar 2022 01:41 DTF **Wt/Vol:** 10.18 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-NC-B-16 **UTP:** 04-Mar-2022 10:45:46 DTF **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 366-326-JGX

Datafile: 220303C14 **Report:** 04 Mar 2022 10:48 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.51		-	-	-	2.12E+07	0.81	Y	-	-	
JS 1234-TCDF	25.92		-	-	-	3.44E+07	0.83	Y	-	-	
JS 123467-HxCDD	37.85		-	-	-	9.28E+06	1.23	Y	-	-	
CS 37Cl-2378-TCDD	28.20		1.0251	1.0251	0	8.57E+06	n/a	-	1.20	84.1	
CS 12347-PeCDD	33.08		1.2016	1.2026	+2.0	1.52E+07	1.57	Y	0.75	95.1	
CS 12346-PeCDF	31.59		1.2172	1.2189	+3.2	2.67E+07	1.52	Y	0.85	91.4	
CS 123469-HxCDF	36.97		0.9771	0.9769	-0.4	2.18E+07	0.54	Y	1.12	105	
CS 1234689-HpCDF	40.16		1.0608	1.0612	+1.0	1.82E+07	0.46	Y	0.89	111	
~~SS 37Cl-2378-TCDD~~	~~28.20~~		~~1.0251~~	~~1.0251~~	~~0~~	~~8.57E+06~~	~~n/a~~		~~1.15~~	~~102~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.08~~		~~1.2016~~	~~1.2026~~	~~+2.0~~	~~1.52E+07~~	~~1.57~~	~~Y~~	~~0.86~~	~~101~~	CL 07Mar22
~~SS 12346-PeCDF~~	~~31.59~~		~~1.2172~~	~~1.2189~~	~~+3.2~~	~~2.67E+07~~	~~1.52~~	~~Y~~	~~0.94~~	~~104~~	
~~SS 123469-HxCDF~~	~~36.97~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~2.18E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~109~~	
~~SS 1234689-HpCDF~~	~~40.16~~		~~1.0608~~	~~1.0612~~	~~+1.0~~	~~1.82E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~105~~	

Totals	Conc	EMPC
Total TCDD	949	950
Total PeCDD	17.8	21.8
Total HxCDD	55.1	55.7
Total HpCDD	214	214
Total Tetra-Octa Dioxins	2650	2660
Total TCDF	4,520	4530
Total PeCDF	220	226
Total HxCDF	218	219
Total HpCDF	105	105
Total Tetra-Octa Furans	5,300	5320
Total Tetra-Octa Dioxins & Furans	7950	7970

Lab ID: B6329_18965_DF_008 **Acq'd:** 04 Mar 2022 01:41 DTF **Wt/Vol:** 10.18 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-NC-B-16 **UTP:** 04-Mar-2022 10:45:46 DTF **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 366-326-JGX

Datafile: 220303C14 **Report:** 04 Mar 2022 10:48 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.49		0.8701	0.8691	-1.5	2.01E+05	0.77	Y	1.18	1.83	3377.931	0.331
1379-TCDD	24.84		0.8829	0.8816	-1.9	8.95E+04	0.87	Y	1.18	0.813	3377.931	0.331
1369-TCDD	NotFnd		0.8982						1.18		3377.931	0.331
1469-TCDD	26.08		0.9261	0.9257	-0.6	7.34E+05	0.84	Y	1.18	6.67	3377.931	0.331
1247/1246/1248/1249-TCDD	26.32		0.9348	0.9341	-1.1	1.95E+05	0.71	Y	1.18	1.77	3377.931	0.331
1378-TCDD	26.52		0.9417	0.9413	-0.6	3.13E+05	0.82	Y	1.18	2.84	3377.931	0.331
1268-TCDD	NotFnd		0.9487						1.18		3377.931	0.331
1478-TCDD	26.97		0.9576	0.9574	-0.3	2.56E+05	0.88	Y	1.18	2.32	3377.931	0.331
1279-TCDD	NotFnd		0.9636						1.18		3377.931	0.331
1234/1269-TCDD	27.49	EMPC	0.9761	0.9757	-0.7	9.53E+04	1.15	N	1.18	0.865	3377.931	0.331
1236-TCDD	NotFnd		0.9812						1.18		3377.931	0.331
1237/1238-TCDD	27.90		0.9905	0.9903	-0.3	1.46E+06	0.76	Y	1.18	13.3	3377.931	0.331
1239-TCDD	NotFnd		0.9951						1.18		3377.931	0.331
2378-TCDD	**28.20**		**1.0008**	1.0008	**0**	9.27E+07	0.81	Y	**1.18**	**841**	**3377.931**	**0.331**
1278-TCDD	28.53		1.0124	1.0126	+0.3	8.69E+06	0.82	Y	1.18	78.9	3377.931	0.331
1267-TCDD	NotFnd		1.0172						1.18		3377.931	0.331
1289-TCDD	NotFnd		1.0354						1.18		3377.931	0.331
12479/12468-PeCDD	31.07	J EMPC	0.9255	0.9251	-0.7	1.94E+05	1.24	N	1.04	2.1	4725.886	0.458
12469-PeCDD	31.62		0.9416	0.9414	-0.4	4.72E+05	1.52	Y	1.04	5.11	4725.886	0.458
12368-PeCDD	32.18	J EMPC	0.9582	0.9580	-0.4	1.17E+05	1.09	N	1.04	1.26	4725.886	0.458
12478-PeCDD	32.36	J	0.9637	0.9635	-0.4	1.03E+05	1.43	Y	1.04	1.12	4725.886	0.458
12379-PeCDD	32.47	J EMPC	0.9668	0.9668	0	5.21E+04	2.22	N	1.04	0.565	4725.886	0.458
12369/12467/12489-PeCDD	32.73	J	0.9746	0.9745	-0.2	2.14E+05	1.42	Y	1.04	2.32	4725.886	0.458
12346/12347-PeCDD	NotFnd		0.9858						1.04		4725.886	0.458
12378-PeCDD	33.60		**1.0007**	**1.0006**	**-0.2**	**8.17E+05**	**1.68**	**Y**	**1.04**	**8.85**	**4725.886**	**0.458**
12367-PeCDD	33.70	J	1.0036	1.0033	-0.6	3.85E+04	1.37	Y	1.04	0.417	4725.886	0.458
12389-PeCDD	NotFnd		1.0137						1.04		4725.886	0.458
124679/124689-HxCDD	35.80		0.9540	0.9540	0	3.28E+06	1.23	Y	1.10	36.1	4358.94	0.421
123468-HxCDD	36.46	J	0.9715	0.9716	+0.2	1.18E+05	1.23	Y	1.10	1.31	4358.94	0.421
123679/123689-HxCDD	36.75		0.9793	0.9794	+0.2	9.63E+05	1.17	Y	1.10	10.6	4358.94	0.421
123469-HxCDD	36.88	J	0.9829	0.9829	0	1.04E+05	1.35	Y	1.10	1.15	4358.94	0.421
123478-HxCDD	37.53	J EMPC	**1.0004**	**1.0003**	**-0.2**	**5.61E+04**	**1.92**	**N**	1.09	**0.645**	**4358.94**	**0.434**
123678-HxCDD	37.66		**1.0036**	**1.0036**	**0**	**2.50E+05**	**1.11**	**Y**	1.15	**2.76**	**4358.94**	**0.429**
123467-HxCDD	37.86	J	1.0089	1.0091	+0.5	9.58E+04	1.17	Y	1.10	1.06	4358.94	0.421
123789-HxCDD	37.97	J	**1.0118**	**1.0120**	**+0.5**	**1.93E+05**	**1.22**	**Y**	1.05	**2.05**	**4358.94**	**0.402**

Lab ID: B6329_18965_DF_008 | **Acq'd: 04 Mar 2022 01:41 DTF** | **Wt/Vol: 10.18 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021822-S-SB-NC-B-16 | **UTP: 04-Mar-2022 10:45:46 DTF** | **J-level: 0.491 pg/g** | **Split: 1** | **Checkcode: 366-326-JGX**

Datafile: 220303C14 | **Report: 04 Mar 2022 10:48 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

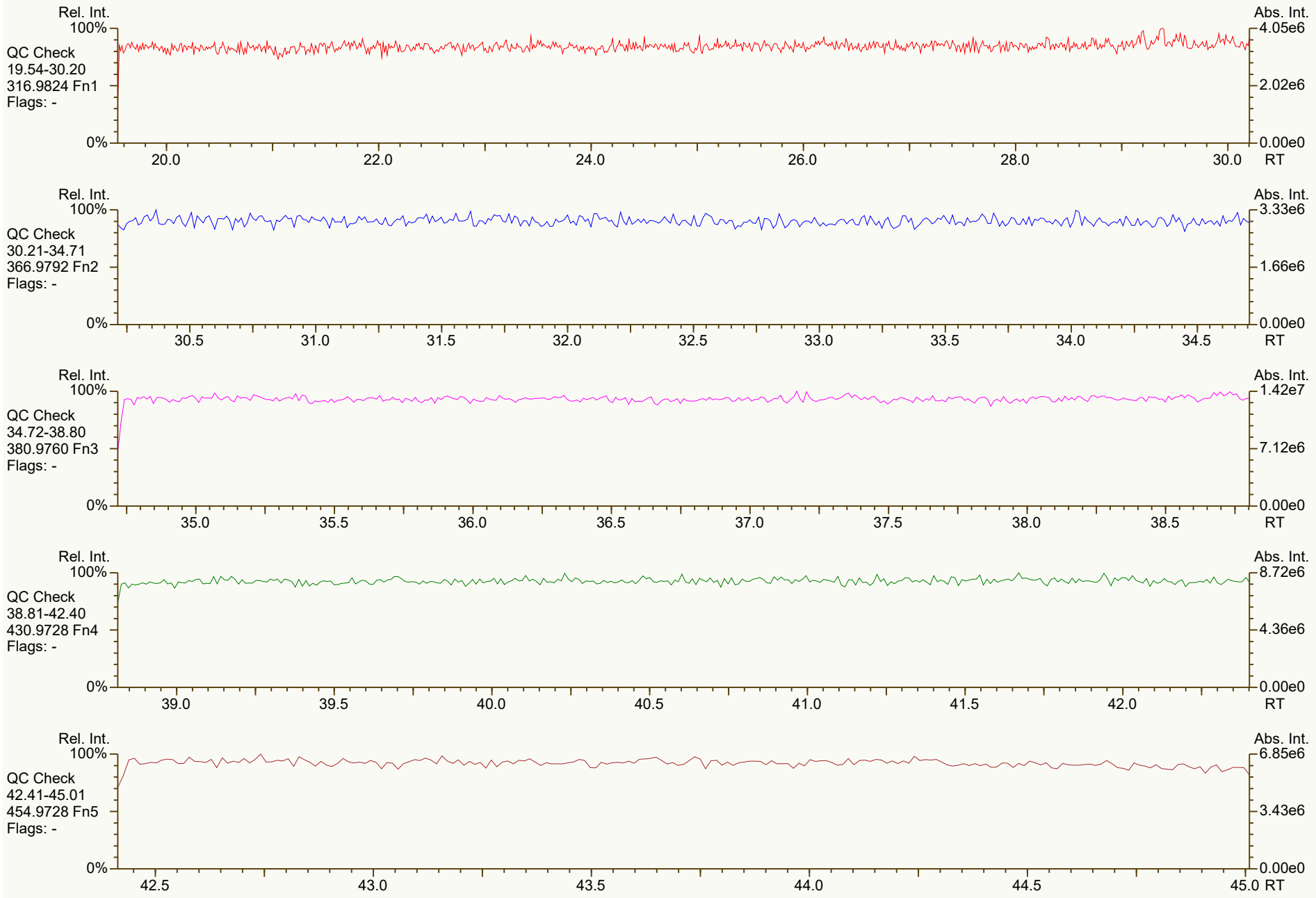
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.03		0.9836	0.9835	-0.2	1.04E+07	1.01	Y	1.06	125	7215.215	0.778
1234678-HpCDD	**40.72**		**1.0002**	**1.0004**	**+0.5**	**7.48E+06**	**1.05**	**Y**	**1.06**	**89.5**	**7215.215**	**0.778**
OCDD	**43.42**		**1.0003**	**1.0003**	**0**	**8.08E+07**	**0.92**	**Y**	**1.13**	**1,420**	**8098.624**	**1.92**
OCDD-a	43.42		1.0002	1.0002	0	4.87E+06	2.49	Y	0.07	1,340	3866.245	14.3
1368-TCDF	NotFnd		0.8191						1.08		3907.257	0.255
1468-TCDF	22.92		0.8408	0.8395	-1.8	5.70E+05	0.81	Y	1.08	3.53	3907.257	0.255
2468-TCDF	23.57		0.8645	0.8634	-1.6	4.76E+05	0.81	Y	1.08	2.95	3907.257	0.255
1346/1246-TCDF	NotFnd		0.8772						1.08		3907.257	0.255
1347/1378/1247-TCDF	24.10		0.8833	0.8828	-0.7	4.36E+06	0.80	Y	1.08	27	3907.257	0.255
1348-TCDF	NotFnd		0.8932						1.08		3907.257	0.255
1248/1367/1379-TCDF	24.45		0.8980	0.8957	-3.4	1.90E+07	0.78	Y	1.08	118	3907.257	0.255
1268-TCDF	24.88		0.9119	0.9113	-0.9	6.13E+06	0.79	Y	1.08	38	3907.257	0.255
1467-TCDF	25.02		0.9170	0.9163	-1.1	8.93E+05	0.66	Y	1.08	5.54	3907.257	0.255
1478-TCDF	25.19		0.9234	0.9226	-1.2	1.63E+07	0.80	Y	1.08	101	3907.257	0.255
1369/1237-TCDF	25.58		0.9369	0.9367	-0.3	4.19E+06	0.79	Y	1.08	26	3907.257	0.255
2467-TCDF	25.70	EMPC	0.9415	0.9413	-0.3	4.14E+05	0.65	N	1.08	2.57	3907.257	0.255
2368-TCDF	25.86		0.9475	0.9472	-0.5	1.24E+07	0.78	Y	1.08	76.9	3907.257	0.255
1238/1234/1678/1469/1236-TCDF	25.94		0.9507	0.9499	-1.2	1.79E+07	0.80	Y	1.08	111	3907.257	0.255
1278-TCDF	26.41	E	0.9676	0.9672	-0.6	1.65E+08	0.79	Y	1.08	1,030	3907.257	0.255
1349-TCDF	NotFnd		0.9722						1.08		3907.257	0.255
1267-TCDF	26.69		0.9777	0.9775	-0.3	9.76E+06	0.83	Y	1.08	60.5	3907.257	0.255
2346/1249-TCDF	26.89	EMPC	0.9843	0.9849	+1.0	1.16E+06	0.91	N	1.08	7.19	3907.257	0.255
2347/1279-TCDF	27.09		0.9926	0.9921	-0.8	4.01E+06	0.80	Y	1.08	24.9	3907.257	0.255
2348-TCDF	27.21		0.9968	0.9965	-0.5	2.97E+07	0.78	Y	1.08	184	3907.257	0.255
2378-TCDF	**27.32**	E	**1.0008**	**1.0008**	**0**	**3.71E+08**	**0.79**	**Y**	**1.08**	**2,300**	**3907.257**	**0.255**
2367/3467-TCDF	27.68		1.0142	1.0139	-0.5	3.07E+07	0.81	Y	1.08	190	3907.257	0.255
1269-TCDF	27.94		1.0235	1.0233	-0.3	5.70E+06	0.78	Y	1.08	35.3	3907.257	0.255
1239-TCDF	28.20		1.0329	1.0329	0	4.42E+05	0.75	Y	1.08	2.74	3907.257	0.255
1289-TCDF	29.36		1.0742	1.0754	+2.1	2.94E+07	0.77	Y	1.08	182	3907.257	0.255
13468/12468-PeCDF	29.31	EMPC	0.9122	0.9125	+0.5	4.32E+05	1.97	N	1.02	3.03	3097.094	0.199
13678/13467/12467-PeCDF	30.88	J	0.9606	0.9612	+1.1	1.64E+05	1.49	Y	1.02	1.15	6796.261	0.436
12368/13478/12478-PeCDF	31.04		0.9655	0.9662	+1.3	5.36E+06	1.45	Y	1.02	37.6	6796.261	0.436
14678-PeCDF	NotFnd		0.9685						1.02		6796.261	0.436
13479-PeCDF	NotFnd		0.9716						1.02		6796.261	0.436
13469/12479-PeCDF	NotFnd		0.9794						1.02		6796.261	0.436
12346-PeCDF	NotFnd		0.9836						1.02		6796.261	0.436

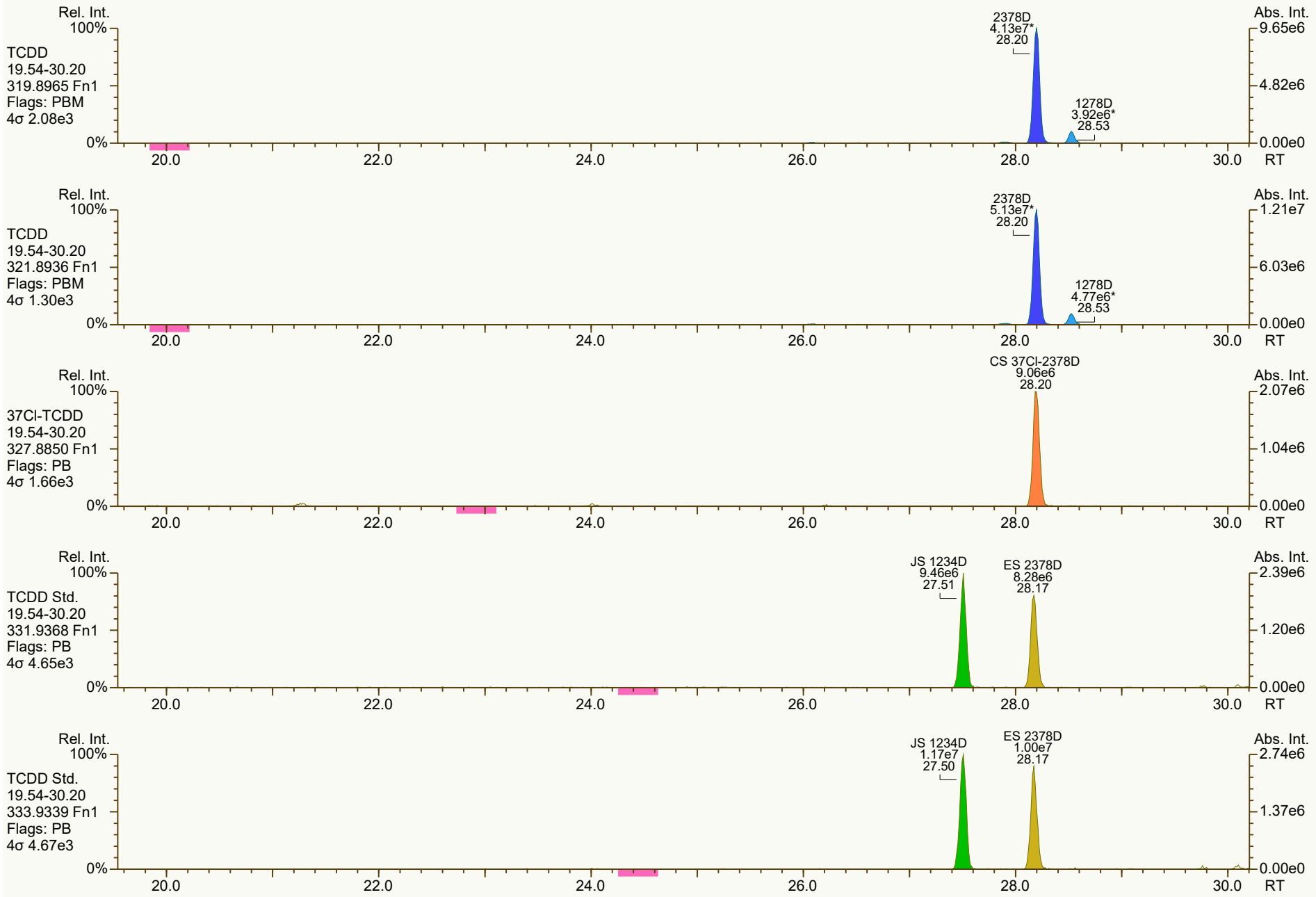
Lab ID: B6329_18965_DF_008 **Acq'd: 04 Mar 2022 01:41 DTF** **Wt/Vol: 10.18 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

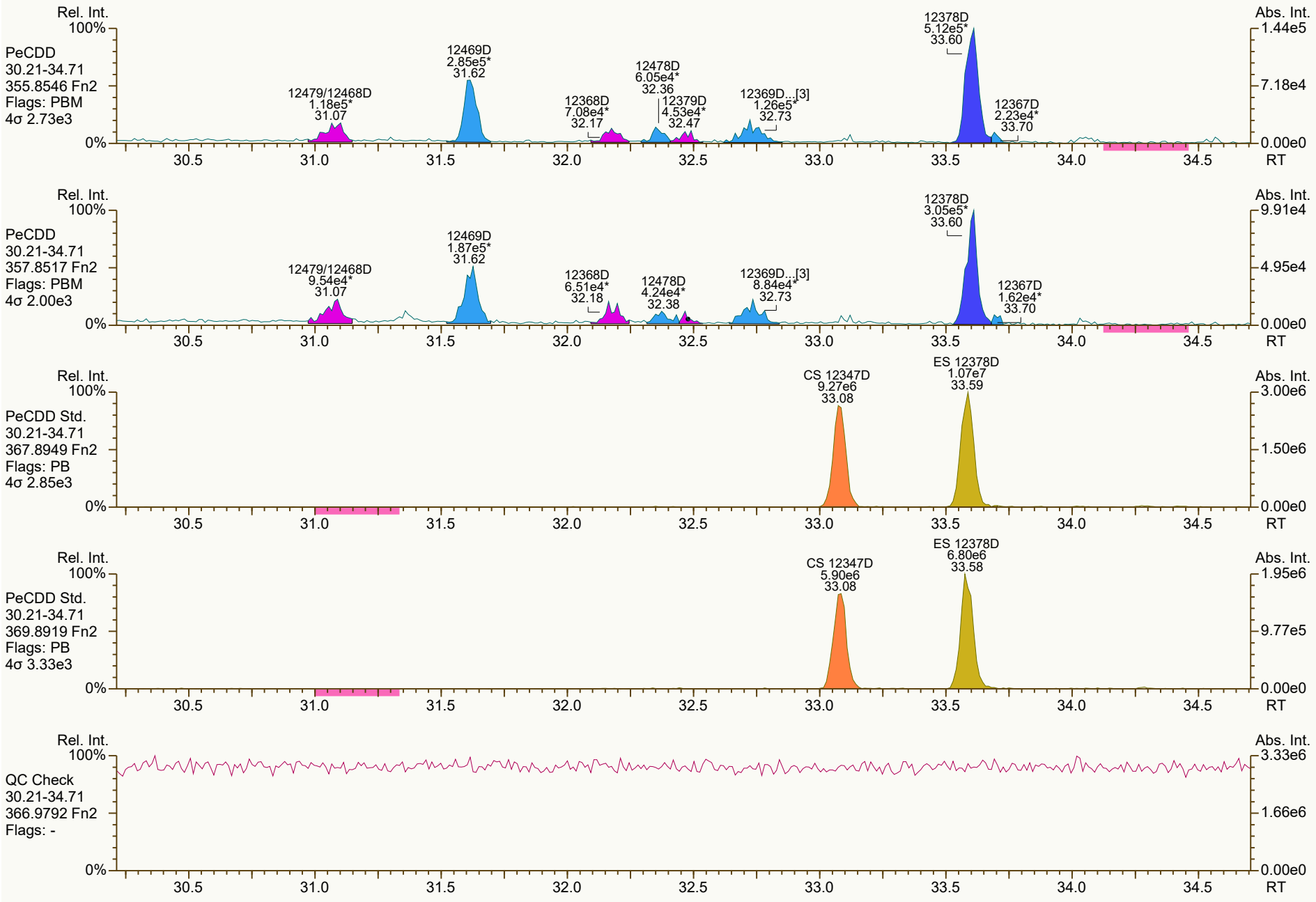
Client ID: 11215131-021822-S-SB-NC-B-16 **UTP: 04-Mar-2022 10:45:46 DTF** **J-level: 0.491 pg/g** **Split: 1** **Checkcode: 366-326-JGX**

Datafile: 220303C14 **Report: 04 Mar 2022 10:48 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

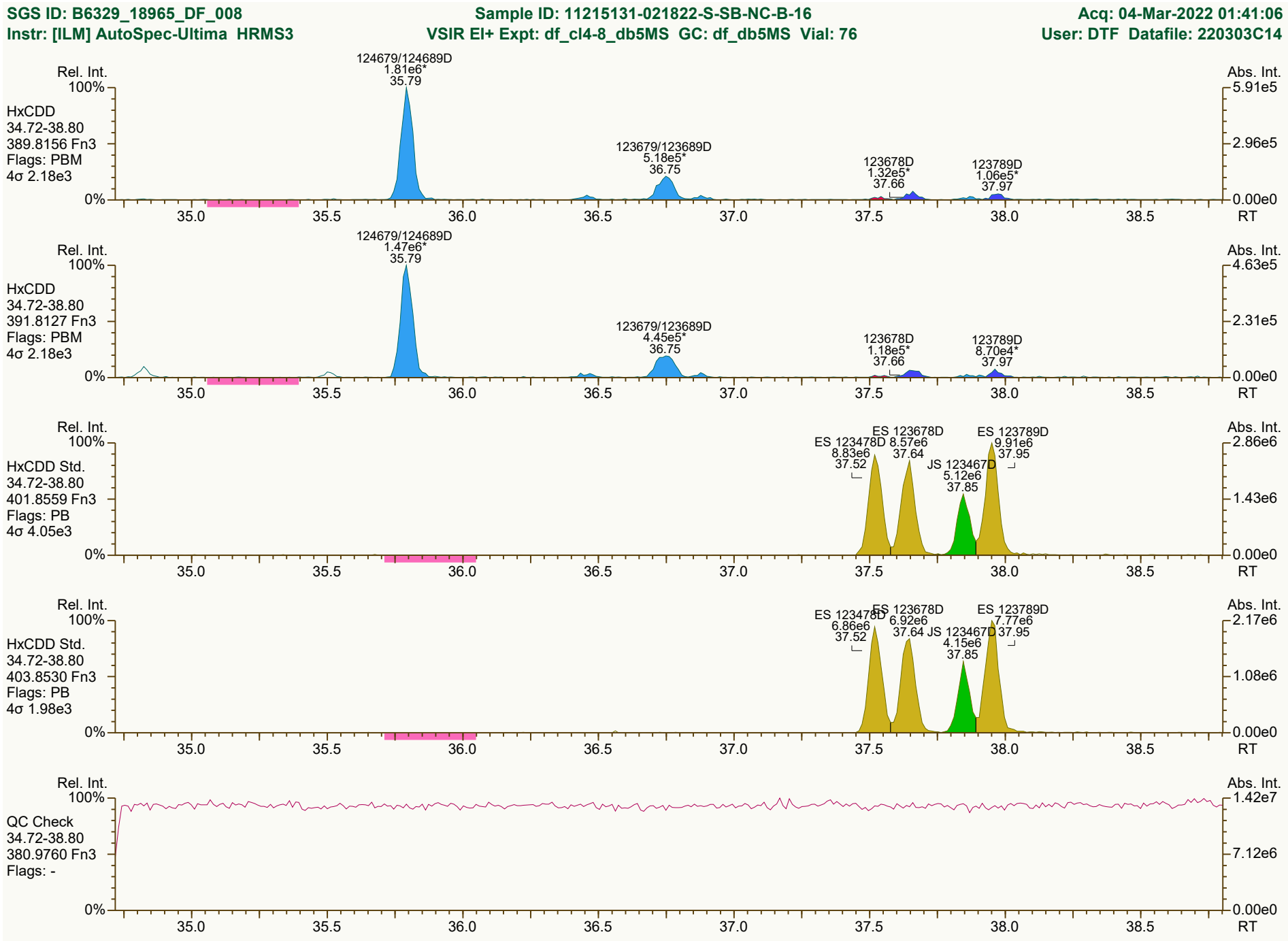
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.69	J EMPC	0.9866	0.9866	0	2.74E+05	1.83	N	1.02	1.92	6796.261	0.436
12347-PeCDF	31.77	J	0.9891	0.9889	-0.4	2.70E+05	1.36	Y	1.02	1.9	6796.261	0.436
12348-PeCDF	31.93		0.9938	0.9940	+0.4	1.16E+06	1.60	Y	1.02	8.12	6796.261	0.436
12378-PeCDF	**32.14**		**1.0005**	**1.0006**	**+0.2**	**1.13E+07**	**1.52**	**Y**	**1.02**	**78.6**	**6796.261**	**0.443**
12678/12367-PeCDF	32.44		1.0091	1.0097	+1.2	3.61E+06	1.51	Y	1.02	25.3	6796.261	0.436
12379-PeCDF	NotFnd		1.0144						1.02		6796.261	0.436
12679-PeCDF	NotFnd		0.9927						1.02		6796.261	0.436
23467/12369-PeCDF	33.13	J EMPC	0.9965	0.9965	0	1.51E+05	2.08	N	1.02	1.06	6796.261	0.436
23478-PeCDF	**33.27**		**1.0005**	**1.0007**	**+0.4**	**9.07E+06**	**1.53**	**Y**	**1.02**	**64.1**	**6796.261**	**0.429**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6796.261	0.436
12349-PeCDF	NotFnd		1.0101						1.02		6796.261	0.436
12389-PeCDF	34.34		1.0330	1.0330	0	4.60E+05	1.43	Y	1.02	3.23	6796.261	0.436
123468-HxCDF	35.14		0.9622	0.9622	0	3.63E+05	1.09	Y	1.19	2.68	8492.027	0.558
124678/134678-HxCDF	35.34		0.9678	0.9676	-0.4	1.91E+06	1.25	Y	1.19	14.1	8492.027	0.558
134679-HxCDF	NotFnd		0.9741						1.19		8492.027	0.558
124679-HxCDF	NotFnd		0.9795						1.19		8492.027	0.558
124689-HxCDF	35.99		0.9856	0.9856	0	1.07E+06	1.16	Y	1.19	7.9	8492.027	0.558
123467-HxCDF	36.42	J EMPC	0.9972	0.9972	0	8.78E+04	0.83	N	1.19	0.648	8492.027	0.558
123478-HxCDF	**36.54**		**1.0004**	**1.0005**	**+0.2**	**1.94E+07**	**1.21**	**Y**	**1.27**	**142**	**8492.027**	**0.531**
123678-HxCDF	**36.68**		**1.0004**	**1.0004**	**0**	**4.95E+06**	**1.21**	**Y**	**1.15**	**35.1**	**8492.027**	**0.55**
123479-HxCDF	NotFnd		1.0048						1.19		8492.027	0.558
123469-HxCDF	NotFnd		1.0089						1.19		8492.027	0.558
123679-HxCDF	NotFnd		0.9942						1.19		8492.027	0.558
234678-HxCDF	**37.35**		**1.0005**	**1.0004**	**-0.2**	**9.72E+05**	**1.13**	**Y**	**1.19**	**6.78**	**8492.027**	**0.548**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		8492.027	0.558
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**8492.027**	**0.611**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.36		1.0006	1.0011	+1.2	1.31E+06	1.24	Y	1.19	9.68	8492.027	0.558
1234678-HpCDF	**39.76**		**1.0003**	**1.0003**	**0**	**7.68E+06**	**1.04**	**Y**	**1.37**	**58.6**	**5814.265**	**0.351**
1234679-HpCDF	40.03	**J**	1.0068	1.0071	+0.7	1.27E+05	0.98	Y	1.34	1.11	5814.265	0.435
1234689-HpCDF	40.17		1.0104	1.0106	+0.5	3.19E+06	0.99	Y	1.34	27.7	5814.265	0.435
1234789-HpCDF	**41.17**		**1.0003**	**1.0002**	**-0.2**	**1.74E+06**	**1.05**	**Y**	**1.31**	**17.4**	**5814.265**	**0.543**
OCDF	**43.60**		**1.0002**	**1.0003**	**+0.3**	**1.78E+07**	**0.89**	**Y**	**1.07**	**240**	**5434.455**	**0.95**
OCDF-a	43.60		1.0001	1.0003	+0.5	1.04E+06	2.39	Y	0.07	227	3938.269	11.1


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.05e6
2.02e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.33e6
1.66e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.42e7
7.12e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
8.72e6
4.36e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
6.85e6
3.43e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.08e3
0%
2378D
4.13e7*
28.20
1278D
3.92e6*
28.53
Abs. Int.
9.65e6
4.82e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.30e3
0%
2378D
5.13e7*
28.20
1278D
4.77e6*
28.53
Abs. Int.
1.21e7
6.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.66e3
0%
CS 37Cl-2378D
9.06e6
28.20
Abs. Int.
2.07e6
1.04e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.65e3
0%
JS 1234D
9.46e6
27.51
ES 2378D
8.28e6
28.17
Abs. Int.
2.39e6
1.20e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.67e3
0%
JS 1234D
1.17e7
27.50
ES 2378D
1.00e7
28.17
Abs. Int.
2.74e6
1.37e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

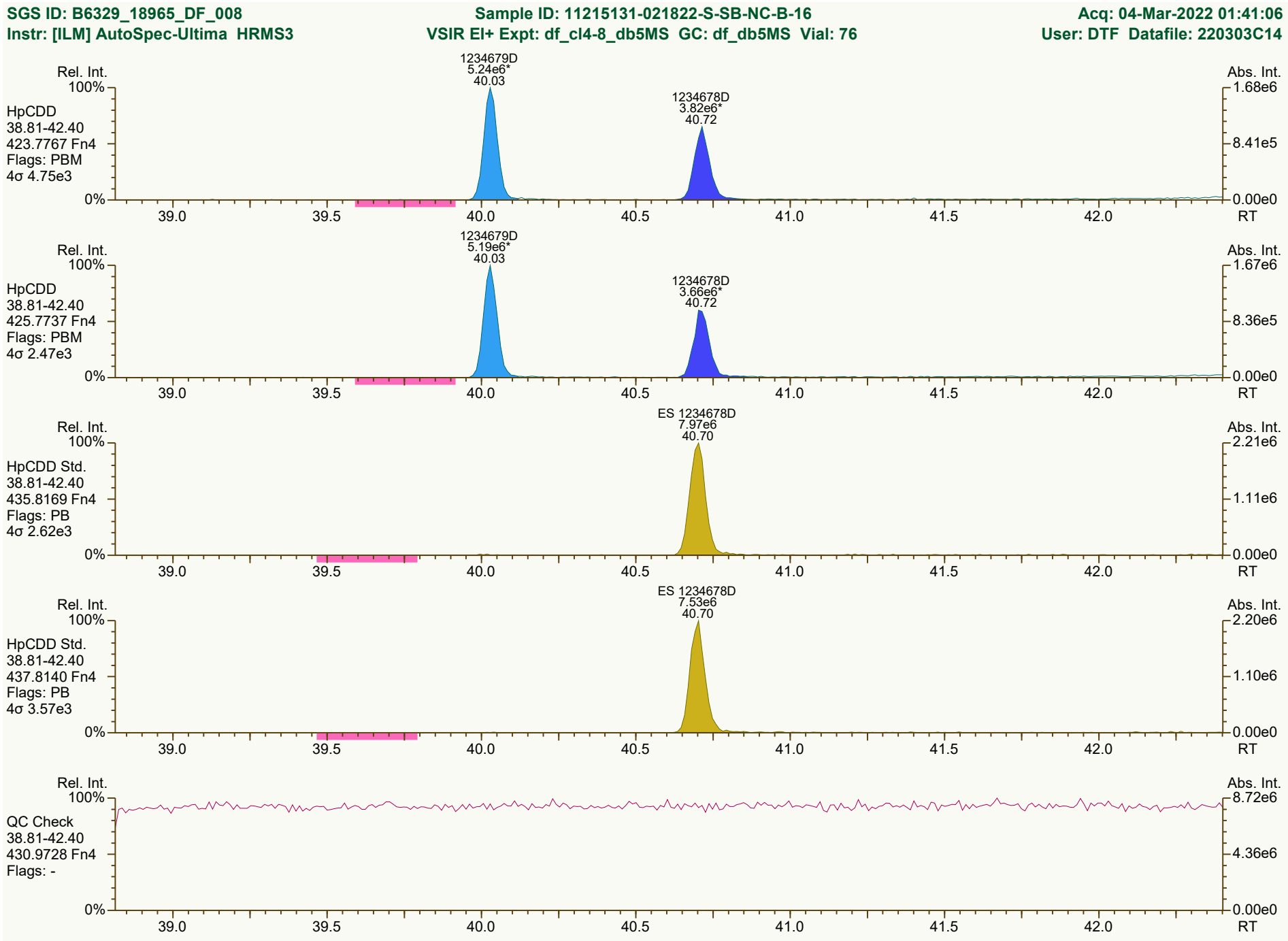

Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 2.73e3
12479/12468D
1.18e5*
31.07
12469D
2.85e5*
31.62
12368D
7.08e4*
32.17
12478D
6.05e4*
32.36
12379D
4.53e4*
32.47
12369D...[3]
1.26e5*
32.73
12378D
5.12e5*
33.60
12367D
2.23e4*
33.70
Abs. Int.
1.44e5
7.18e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 2.00e3
12479/12468D
9.54e4*
31.07
12469D
1.87e5*
31.62
12368D
6.51e4*
32.18
12478D
4.24e4*
32.38
12369D...[3]
8.84e4*
32.73
12378D
3.05e5*
33.60
12367D
1.62e4*
33.70
Abs. Int.
9.91e4
4.95e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.85e3
CS 12347D
9.27e6
33.08
ES 12378D
1.07e7
33.59
Abs. Int.
3.00e6
1.50e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 3.33e3
CS 12347D
5.90e6
33.08
ES 12378D
6.80e6
33.58
Abs. Int.
1.95e6
9.77e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Abs. Int.
3.33e6
1.66e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

SGS ID: B6329_18965_DF_008 | Sample ID: 11215131-021822-S-SB-NC-B-16 | Acq: 04-Mar-2022 01:41:06
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 76 | User: DTF Datafile: 220303C14

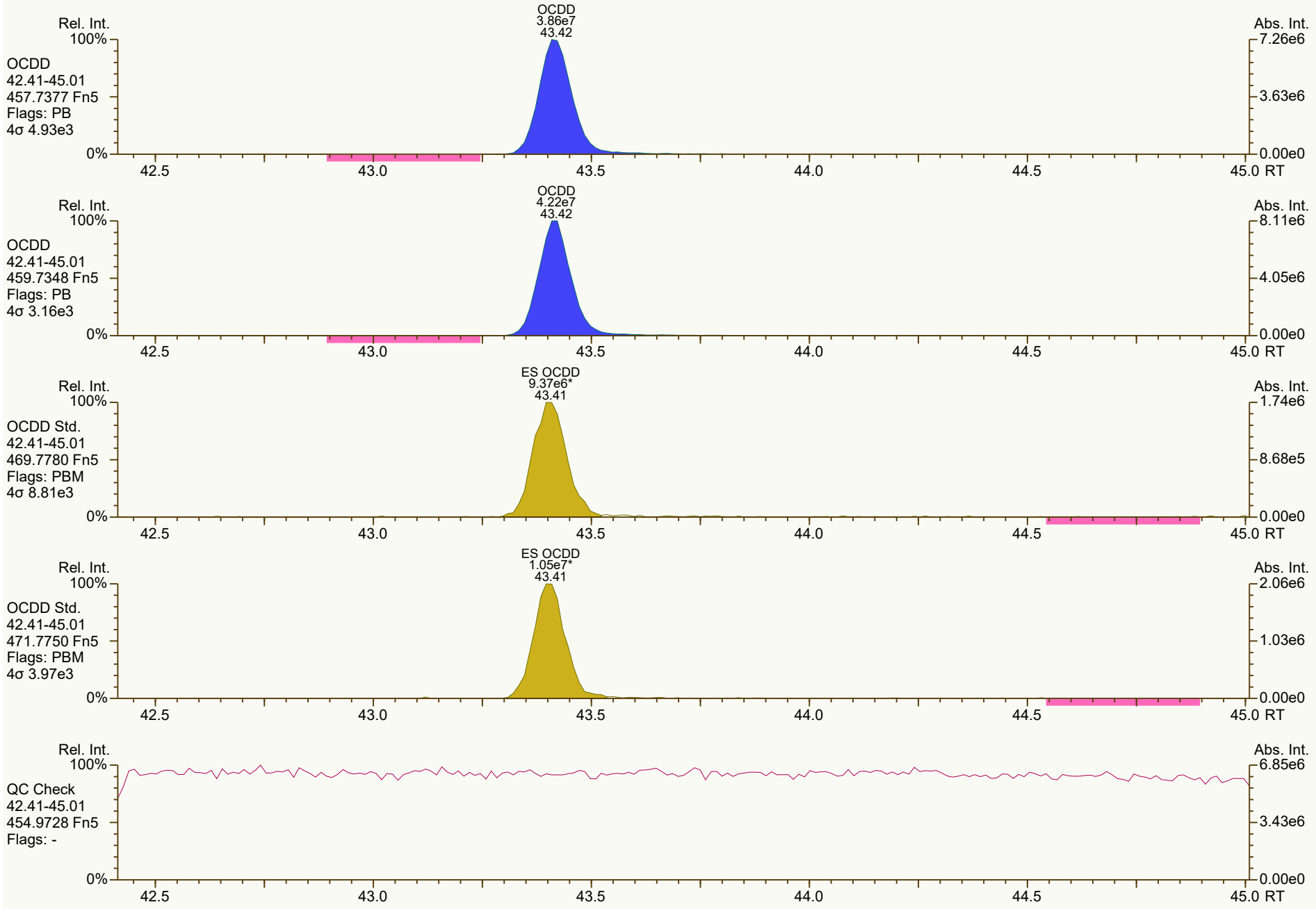


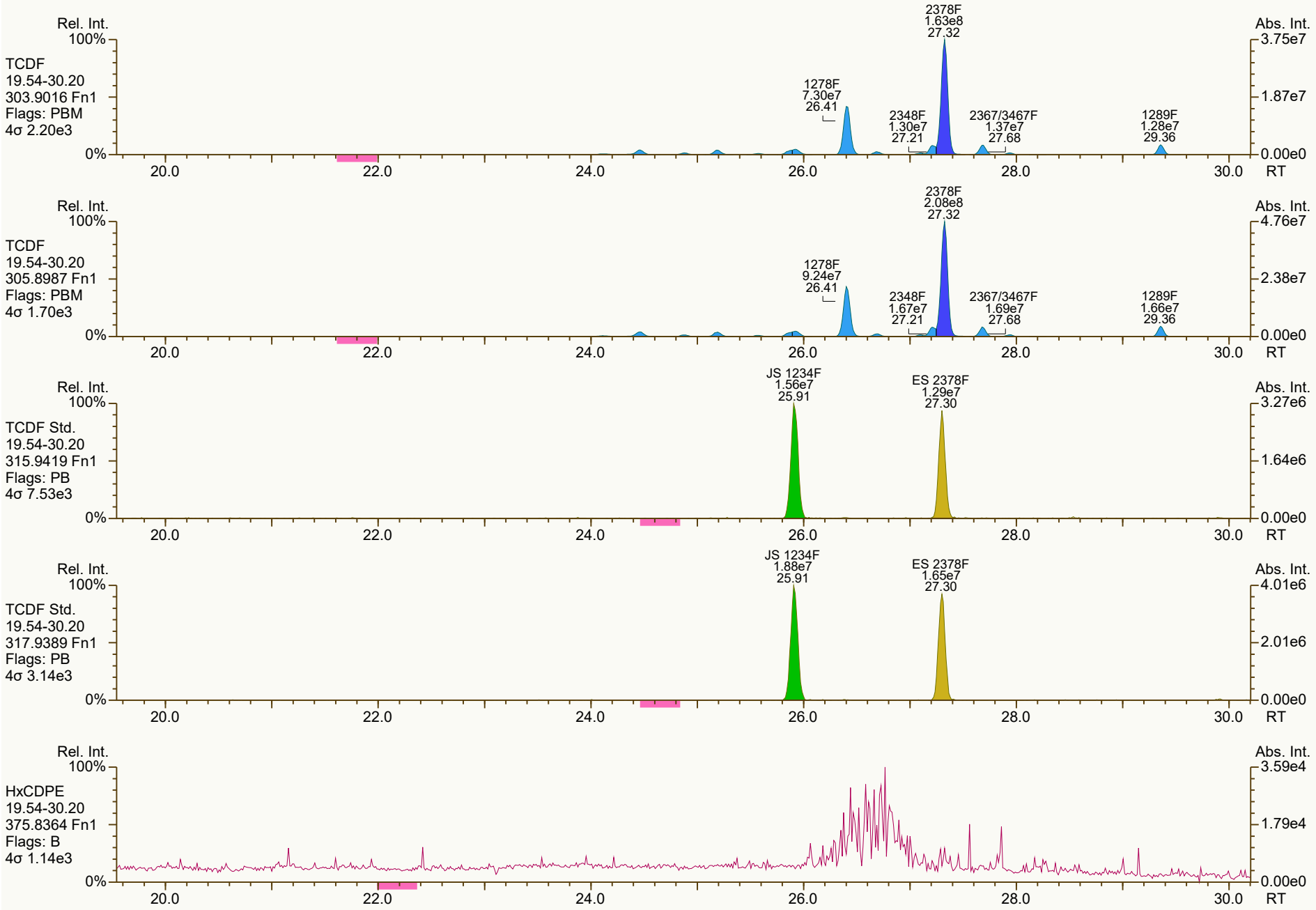
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_008.utp_res, saved 04-Mar-2022 10:45 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9168, 6348 scc: 366-326 | Revised: 04-Mar-2022 10:21 (DTF) Printed: 04-Mar-2022 10:56 Page 4 of 12

SGS ID: B6329_18965_DF_008 | Sample ID: 11215131-021822-S-SB-NC-B-16 | Acq: 04-Mar-2022 01:41:06
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 76 | User: DTF Datafile: 220303C14



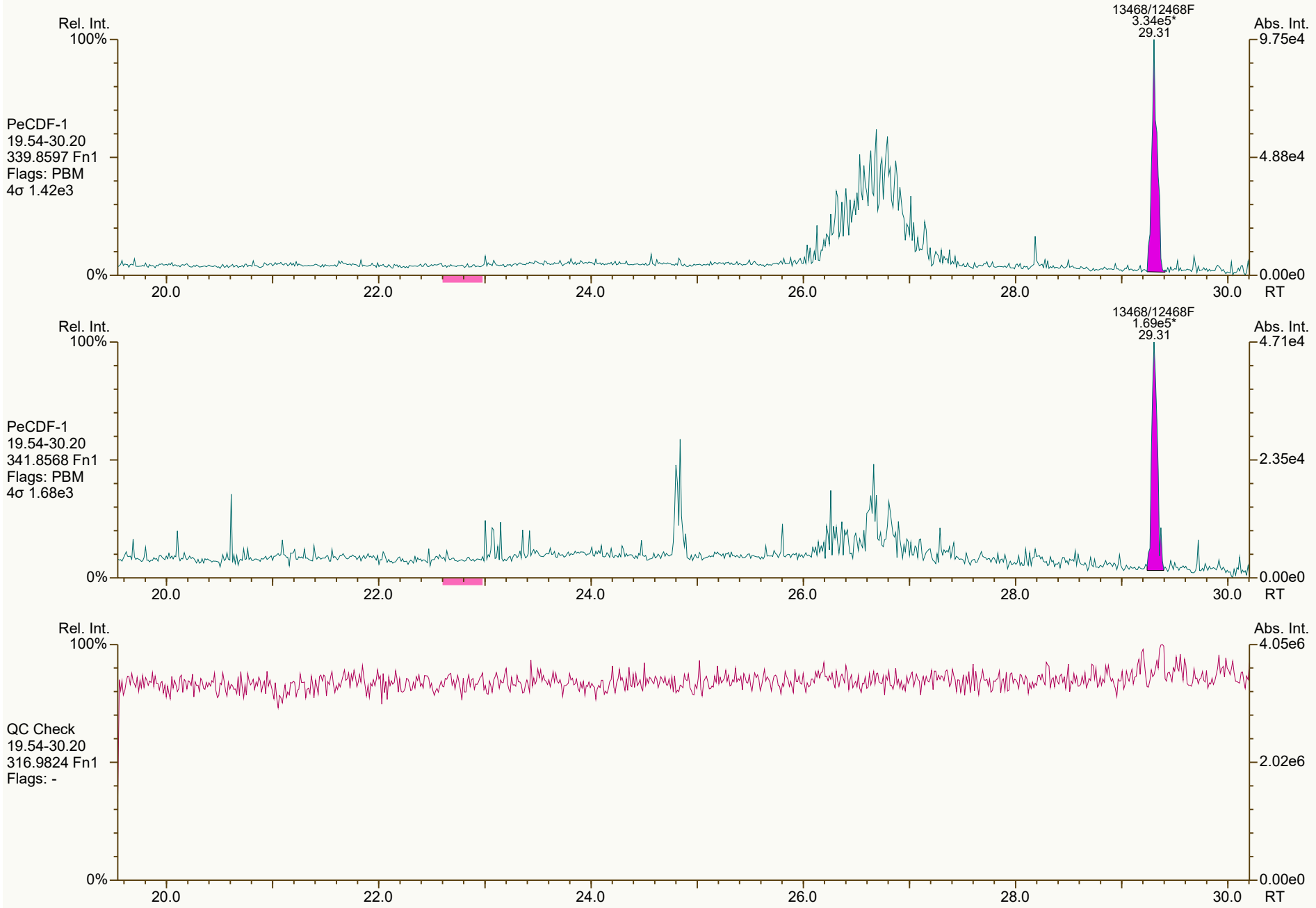
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_008.utp_res, saved 04-Mar-2022 10:45 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7379, 7246 scc: 366-326 | Revised: 04-Mar-2022 10:21 (DTF) Printed: 04-Mar-2022 10:56 Page 5 of 12


OCDD
3.86e7
43.42
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 4.93e3
0%
Abs. Int.
7.26e6
3.63e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.22e7
43.42
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 3.16e3
8.11e6
4.05e6
ES OCDD
9.37e6*
43.41
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 8.81e3
1.74e6
8.68e5
ES OCDD
1.05e7*
43.41
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 3.97e3
2.06e6
1.03e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
6.85e6
3.43e6


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 2.20e3
0%
2378F
1.63e8
27.32
1278F
7.30e7
26.41
2348F
1.30e7
27.21
2367/3467F
1.37e7
27.68
1289F
1.28e7
29.36
Abs. Int.
3.75e7
1.87e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.70e3
0%
2378F
2.08e8
27.32
1278F
9.24e7
26.41
2348F
1.67e7
27.21
2367/3467F
1.69e7
27.68
1289F
1.66e7
29.36
Abs. Int.
4.76e7
2.38e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 7.53e3
0%
JS 1234F
1.56e7
25.91
ES 2378F
1.29e7
27.30
Abs. Int.
3.27e6
1.64e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.14e3
0%
JS 1234F
1.88e7
25.91
ES 2378F
1.65e7
27.30
Abs. Int.
4.01e6
2.01e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.14e3
0%
Abs. Int.
3.59e4
1.79e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: B6329_18965_DF_008 | Sample ID: 11215131-021822-S-SB-NC-B-16 | Acq: 04-Mar-2022 01:41:06

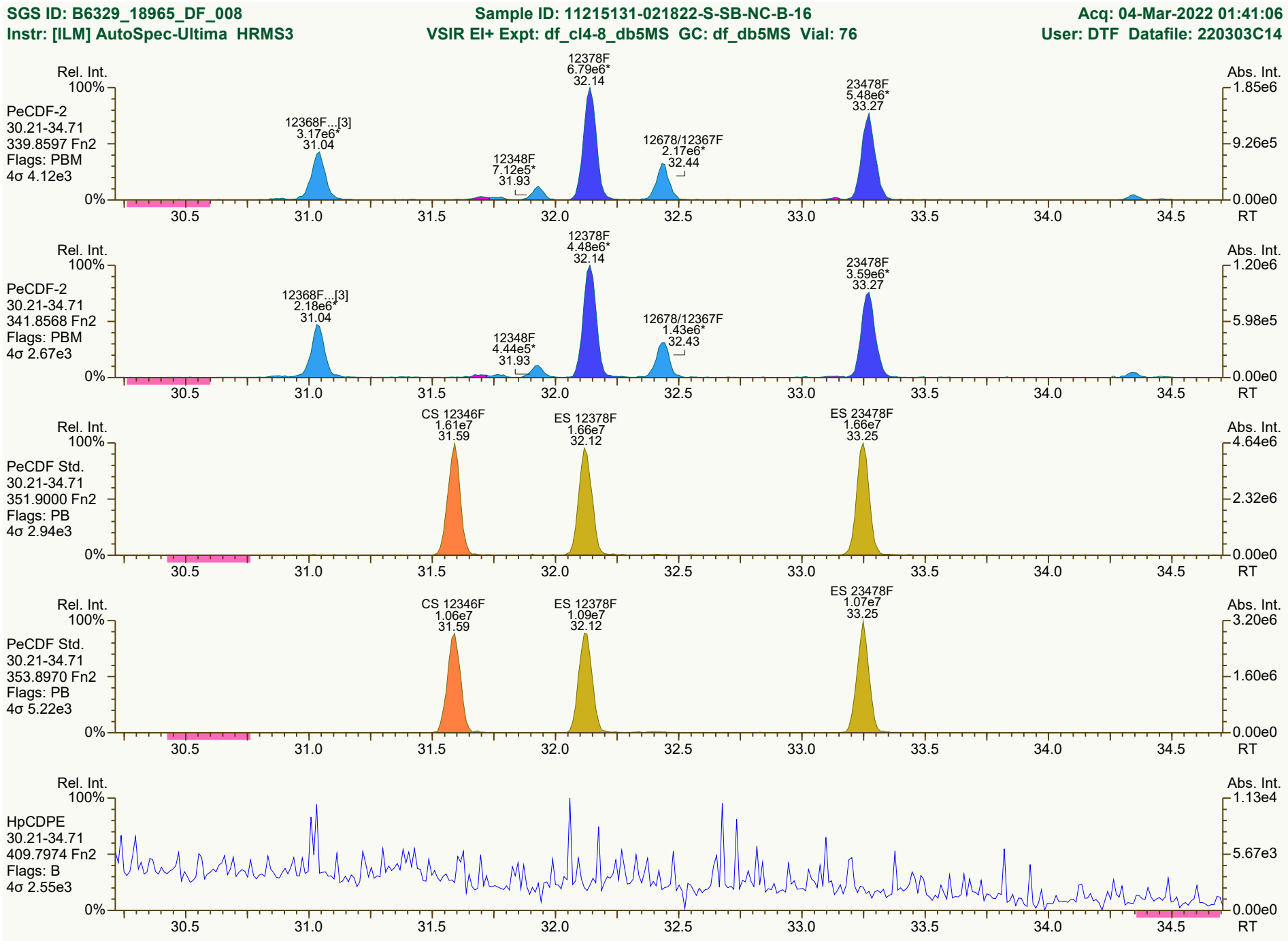
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 76 | User: DTF Datafile: 220303C14

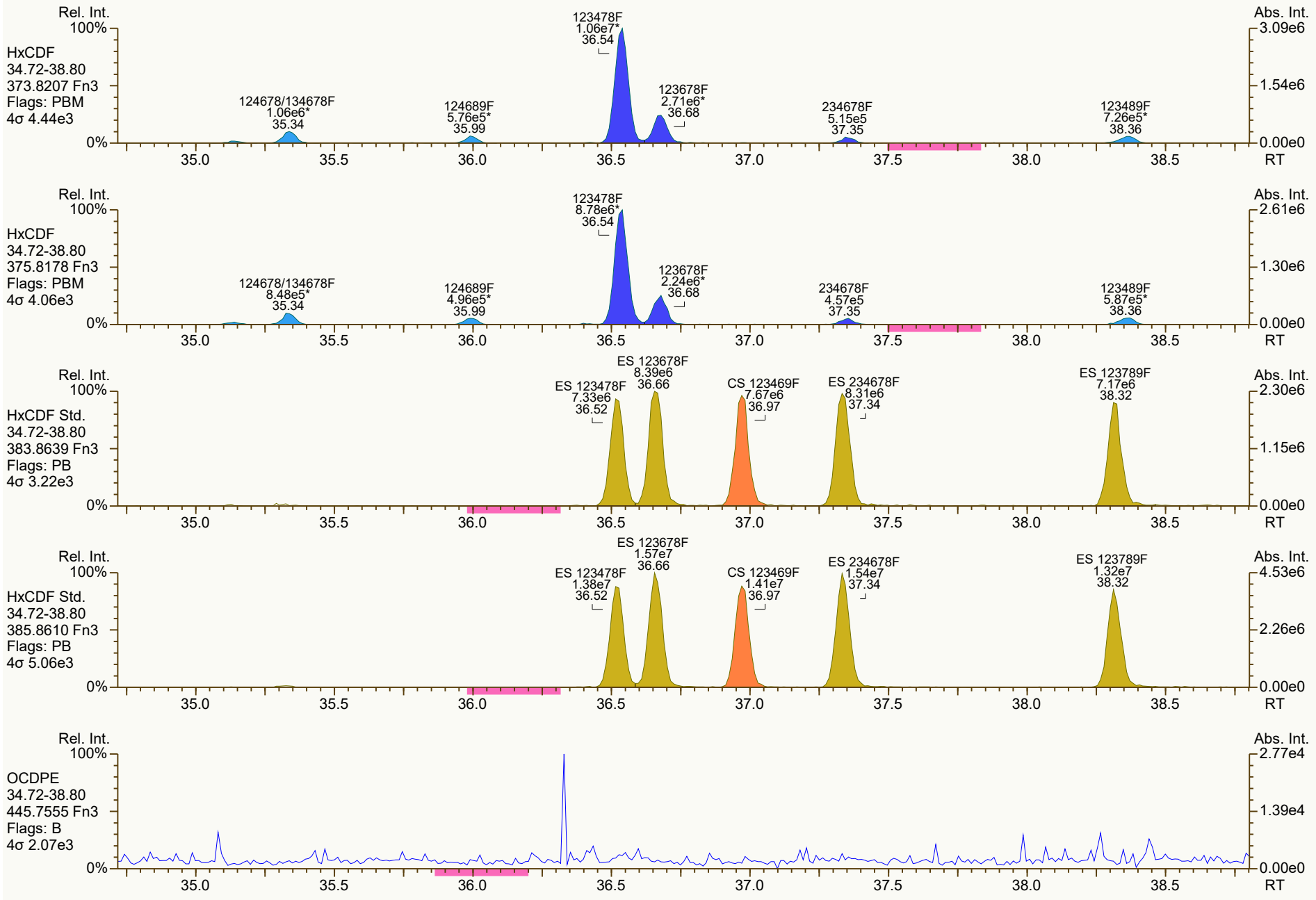


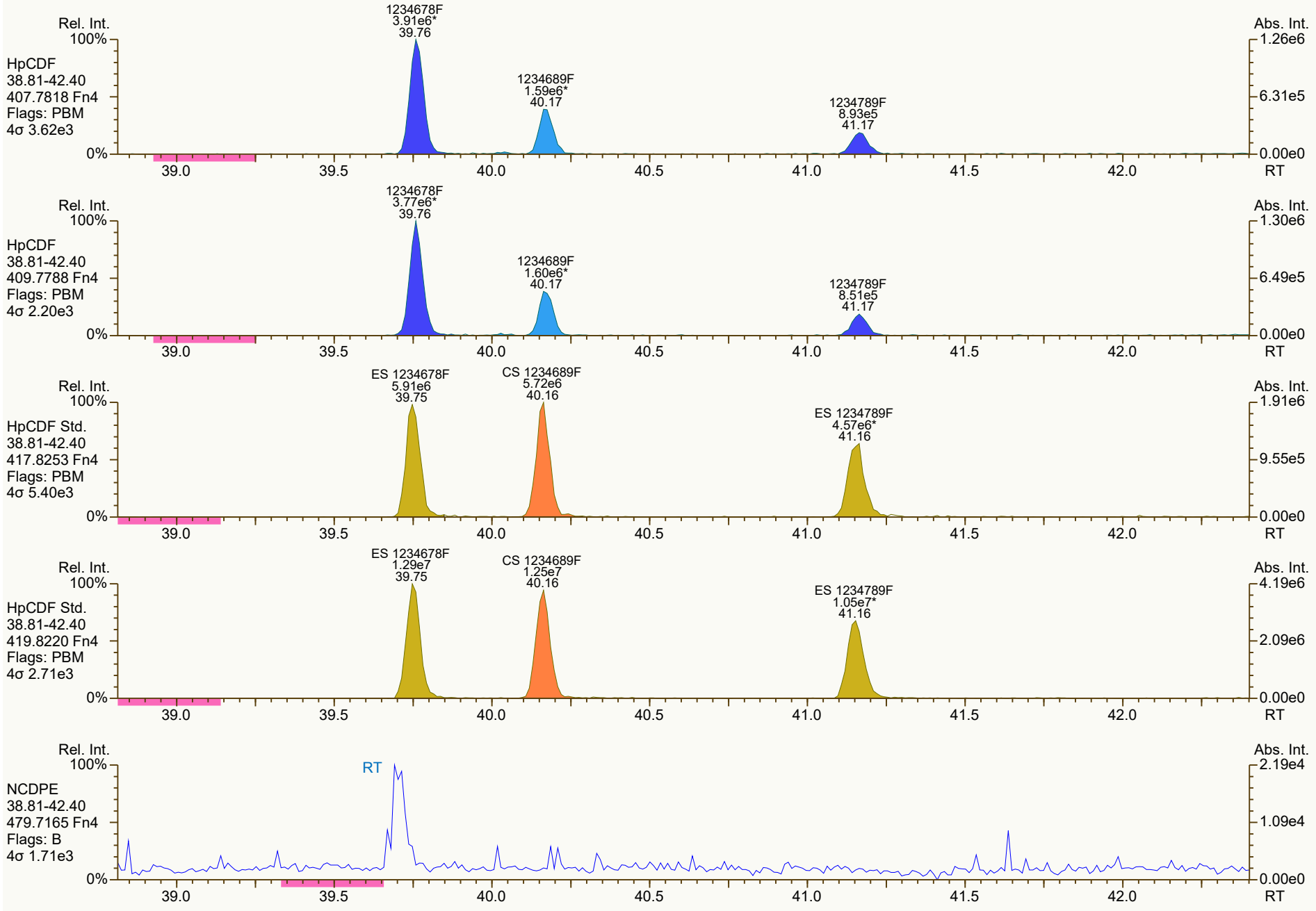
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_008.utp_res, saved 04-Mar-2022 10:45 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8724 scc: 366-326 *Revised: 04-Mar-2022 10:22 (DTF) Printed: 04-Mar-2022 10:56 Page 8 of 12*

SGS ID: B6329_18965_DF_008 Sample ID: 11215131-021822-S-SB-NC-B-16 Acq: 04-Mar-2022 01:41:06
Instr: [ILM] AutoSpec-Ultima HRMS3 VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 76 User: DTF Datafile: 220303C14




Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 4.44e3
123478F
1.06e7*
36.54
123678F
2.71e6*
36.68
124678/134678F
1.06e6*
35.34
124689F
5.76e5*
35.99
234678F
5.15e5
37.35
123489F
7.26e5*
38.36
Abs. Int.
3.09e6
1.54e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 4.06e3
123478F
8.78e6*
36.54
123678F
2.24e6*
36.68
124678/134678F
8.48e5*
35.34
124689F
4.96e5*
35.99
234678F
4.57e5
37.35
123489F
5.87e5*
38.36
2.61e6
1.30e6
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 3.22e3
ES 123678F
8.39e6
36.66
ES 123478F
7.33e6
36.52
CS 123469F
7.67e6
36.97
ES 234678F
8.31e6
37.34
ES 123789F
7.17e6
38.32
2.30e6
1.15e6
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 5.06e3
ES 123678F
1.57e7
36.66
ES 123478F
1.38e7
36.52
CS 123469F
1.41e7
36.97
ES 234678F
1.54e7
37.34
ES 123789F
1.32e7
38.32
4.53e6
2.26e6
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 2.07e3
2.77e4
1.39e4



Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_008.utp_res, saved 04-Mar-2022 10:45 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7353, 6239, 6413 scc: 366-326 *Revised: 04-Mar-2022 10:24 (DTF) Printed: 04-Mar-2022 10:56 Page 11 of 12*


OCDF
8.37e6
43.60
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 3.49e3
0%
Abs. Int.
1.63e6
8.14e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
9.41e6
43.60
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.94e3
0%
Abs. Int.
1.77e6
8.83e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.31e7*
43.59
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 4.78e3
0%
Abs. Int.
2.52e6
1.26e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.41e7*
43.58
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 3.48e3
0%
Abs. Int.
2.67e6
1.34e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.43e3
0%
Abs. Int.
5.41e3
2.70e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6329_18965_DF_009 **Acq'd:** 04 Mar 2022 02:27 DTF **Wt/Vol:** 10.11 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-DUP-17 **UTP:** 04-Mar-2022 10:45:47 DTF **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 596-427-DFP

Datafile: 220303C15 **Report:** 04 Mar 2022 10:48 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.20		1.0008	1.0008	0	9.38E+07	0.81	Y	1.18	818	3902.767	0.352
12378-PeCDD	33.61		1.0007	1.0005	-0.4	8.45E+05	1.65	Y	1.04	8.69	4093.083	0.362
123478-HxCDD	37.54	J EMPC	1.0004	1.0003	-0.2	1.17E+05	1.44	N	1.09	1.25	4177.185	0.388
123678-HxCDD	37.67		1.0036	1.0038	+0.5	3.64E+05	1.10	Y	1.15	3.93	4177.185	0.427
123789-HxCDD	37.97	EMPC	1.0118	1.0117	-0.2	2.44E+05	1.00	N	1.05	2.55	4177.185	0.379
1234678-HpCDD	40.72		1.0002	1.0003	+0.2	9.49E+06	1.03	Y	1.06	107	3972.263	0.375
OCDD	43.42		1.0003	1.0003	0	1.01E+08	0.91	Y	1.13	1,760	4501.948	1.02
2378-TCDF	27.33	E	1.0008	1.0008	0	3.73E+08	0.79	Y	1.08	2,210	3694.34	0.244
12378-PeCDF	32.15		1.0005	1.0006	+0.2	1.25E+07	1.55	Y	1.02	83.7	5703.343	0.354
23478-PeCDF	33.28		1.0005	1.0007	+0.4	9.67E+06	1.56	Y	1.02	64.2	5703.343	0.336
123478-HxCDF	36.54		1.0004	1.0005	+0.2	2.32E+07	1.24	Y	1.27	164	5332.739	0.301
123678-HxCDF	36.68		1.0004	1.0005	+0.2	6.15E+06	1.22	Y	1.15	41.2	5332.739	0.302
234678-HxCDF	37.35		1.0005	1.0004	-0.2	1.28E+06	1.22	Y	1.19	9.09	5332.739	0.325
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	5332.739	0.358
1234678-HpCDF	39.76		1.0003	1.0003	0	8.89E+06	1.02	Y	1.37	71.5	3594.515	0.201
1234789-HpCDF	41.17		1.0003	1.0003	0	2.25E+06	1.07	Y	1.31	21.5	3594.515	0.311
OCDF	43.60		1.0002	1.0002	0	3.33E+07	0.91	Y	1.07	443	3382.148	0.578

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.18		1.0243	1.0243	0	1.92E+07	0.78	Y	1.05	81.1
ES 12378-PeCDD	33.59		1.2198	1.2210	+2.4	1.86E+07	1.65	Y	0.88	93.4
ES 123478-HxCDD	37.53		0.9916	0.9914	-0.5	1.70E+07	1.27	Y	0.97	87.8
ES 123678-HxCDD	37.65		0.9947	0.9946	-0.2	1.59E+07	1.20	Y	0.94	85
ES 123789-HxCDD	37.96		1.0029	1.0027	-0.5	1.81E+07	1.24	Y	1.09	83.5
ES 1234678-HpCDD	40.70		1.0749	1.0753	+1.0	1.65E+07	1.08	Y	0.91	91.2
ES OCDD	43.41		1.1460	1.1467	+1.8	2.02E+07	0.93	Y	0.62	81.6
ES 2378-TCDF	27.31		1.0531	1.0535	+0.7	3.10E+07	0.82	Y	1.06	79.6
ES 12378-PeCDF	32.13		1.2378	1.2396	+3.5	2.89E+07	1.58	Y	0.91	86.2
ES 23478-PeCDF	33.25		1.2810	1.2830	+4.0	2.92E+07	1.58	Y	0.88	90
ES 123478-HxCDF	36.53		0.9650	0.9649	-0.2	2.20E+07	0.51	Y	1.20	92.5
ES 123678-HxCDF	36.67		0.9688	0.9686	-0.4	2.56E+07	0.56	Y	1.35	95.4
ES 234678-HxCDF	37.34		0.9866	0.9864	-0.4	2.34E+07	0.50	Y	1.24	94.8
ES 123789-HxCDF	38.32		1.0125	1.0124	-0.2	2.08E+07	0.55	Y	1.16	90.8
ES 1234678-HpCDF	39.75	EMPC	1.0501	1.0502	+0.2	1.80E+07	0.51	N	0.97	93.4
ES 1234789-HpCDF	41.16		1.0870	1.0874	+1.0	1.59E+07	0.45	Y	0.85	93.8
ES OCDF	43.59		1.1505	1.1515	+2.6	2.77E+07	0.93	Y	0.81	86.4

Lab ID: B6329_18965_DF_009 **Acq'd:** 04 Mar 2022 02:27 DTF **Wt/Vol:** 10.11 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-DUP-17 **UTP:** 04-Mar-2022 10:45:47 DTF **J-level:** 0.495 pg/g **Split:** 1 **Checkcode:** 596-427-DFP

Datafile: 220303C15 **Report:** 04 Mar 2022 10:48 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.51		-	-	-	2.26E+07	0.81	Y	-	-	
JS 1234-TCDF	25.92		-	-	-	3.68E+07	0.79	Y	-	-	
JS 123467-HxCDD	37.85		-	-	-	9.93E+06	1.27	Y	-	-	
CS 37Cl-2378-TCDD	28.20		1.0251	1.0251	0	9.01E+06	n/a	-	1.20	82.9	
CS 12347-PeCDD	33.08		1.2016	1.2026	+2.0	1.56E+07	1.59	Y	0.75	91.5	
CS 12346-PeCDF	31.59		1.2172	1.2190	+3.4	2.86E+07	1.54	Y	0.85	91.3	
CS 123469-HxCDF	36.98		0.9771	0.9769	-0.4	2.23E+07	0.54	Y	1.12	101	
CS 1234689-HpCDF	40.16		1.0608	1.0611	+0.7	1.85E+07	0.44	Y	0.89	105	
~~SS 37Cl-2378-TCDD~~	~~28.20~~		~~1.0251~~	~~1.0251~~	~~0~~	~~9.01E+06~~	~~n/a~~		~~1.15~~	~~103~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.08~~		~~1.2016~~	~~1.2026~~	~~+2.0~~	~~1.56E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~97.9~~	CL 07Mar22
~~SS 12346-PeCDF~~	~~31.59~~		~~1.2172~~	~~1.2190~~	~~+3.4~~	~~2.86E+07~~	~~1.54~~	~~Y~~	~~0.94~~	~~106~~	
~~SS 123469-HxCDF~~	~~36.98~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~2.23E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~105~~	
~~SS 1234689-HpCDF~~	~~40.16~~		~~1.0608~~	~~1.0611~~	~~+0.7~~	~~1.85E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~112~~	

Totals	Conc	EMPC
Total TCDD	924	924
Total PeCDD	14.3	21.2
Total HxCDD	57.9	64
Total HpCDD	260	260
Total Tetra-Octa Dioxins	3010	3030
Total TCDF	4,290	4290
Total PeCDF	232	236
Total HxCDF	257	262
Total HpCDF	133	135
Total Tetra-Octa Furans	5,360	5370
Total Tetra-Octa Dioxins & Furans	8370	8400

Lab ID: B6329_18965_DF_009 | **Acq'd: 04 Mar 2022 02:27 DTF** | **Wt/Vol: 10.11 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021822-S-SB-DUP-17 | **UTP: 04-Mar-2022 10:45:47 DTF** | **J-level: 0.495 pg/g** | **Split: 1** | **Checkcode: 596-427-DFP**

Datafile: 220303C15 | **Report: 04 Mar 2022 10:48 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.49		0.8701	0.8690	-1.6	1.82E+05	0.82	Y	1.18	1.58	3902.767	0.352
1379-TCDD	NotFnd		0.8829						1.18		3902.767	0.352
1369-TCDD	NotFnd		0.8982						1.18		3902.767	0.352
1469-TCDD	26.08		0.9261	0.9257	-0.6	8.42E+05	0.78	Y	1.18	7.33	3902.767	0.352
1247/1246/1248/1249-TCDD	26.33		0.9348	0.9344	-0.6	2.03E+05	0.73	Y	1.18	1.77	3902.767	0.352
1378-TCDD	26.53		0.9417	0.9414	-0.5	3.30E+05	0.77	Y	1.18	2.87	3902.767	0.352
1268-TCDD	NotFnd		0.9487						1.18		3902.767	0.352
1478-TCDD	26.98		0.9576	0.9576	0	2.62E+05	0.80	Y	1.18	2.28	3902.767	0.352
1279-TCDD	NotFnd		0.9636						1.18		3902.767	0.352
1234/1269-TCDD	27.49		0.9761	0.9758	-0.5	1.50E+05	0.71	Y	1.18	1.31	3902.767	0.352
1236-TCDD	NotFnd		0.9812						1.18		3902.767	0.352
1237/1238-TCDD	27.91		0.9905	0.9903	-0.3	1.45E+06	0.78	Y	1.18	12.6	3902.767	0.352
1239-TCDD	NotFnd		0.9951						1.18		3902.767	0.352
2378-TCDD	**28.20**		**1.0008**	1.0008	**0**	9.38E+07	0.81	Y	**1.18**	**818**	**3902.767**	**0.352**
1278-TCDD	28.53		1.0124	1.0126	+0.3	8.63E+06	0.80	Y	1.18	75.2	3902.767	0.352
1267-TCDD	NotFnd		1.0172						1.18		3902.767	0.352
1289-TCDD	29.18		1.0354	1.0355	+0.2	1.57E+05	0.72	Y	1.18	1.37	3902.767	0.352
12479/12468-PeCDD	31.08		0.9255	0.9254	-0.2	2.49E+05	1.51	Y	1.04	2.56	4093.083	0.362
12469-PeCDD	31.63	EMPC	0.9416	0.9415	-0.2	4.44E+05	1.91	N	1.04	4.57	4093.083	0.362
12368-PeCDD	32.17	J	0.9582	0.9579	-0.6	1.06E+05	1.50	Y	1.04	1.09	4093.083	0.362
12478-PeCDD	32.37	J EMPC	0.9637	0.9638	+0.2	9.38E+04	1.23	N	1.04	0.966	4093.083	0.362
12379-PeCDD	32.47	J EMPC	0.9668	0.9668	0	7.13E+04	1.78	N	1.04	0.734	4093.083	0.362
12369/12467/12489-PeCDD	32.73	J	0.9746	0.9746	0	1.92E+05	1.53	Y	1.04	1.97	4093.083	0.362
12346/12347-PeCDD	NotFnd		0.9858						1.04		4093.083	0.362
12378-PeCDD	33.61		**1.0007**	**1.0005**	**-0.4**	**8.45E+05**	**1.65**	**Y**	**1.04**	**8.69**	**4093.083**	**0.362**
12367-PeCDD	NotFnd		1.0036						1.04		4093.083	0.362
12389-PeCDD	34.06	J EMPC	1.0137	1.0139	+0.4	5.61E+04	1.27	N	1.04	0.577	4093.083	0.362
124679/124689-HxCDD	35.80		0.9540	0.9540	0	3.56E+06	1.21	Y	1.10	37.9	4177.185	0.397
123468-HxCDD	36.46	J	0.9715	0.9715	0	1.57E+05	1.18	Y	1.10	1.67	4177.185	0.397
123679/123689-HxCDD	36.75		0.9793	0.9794	+0.2	1.35E+06	1.22	Y	1.10	14.4	4177.185	0.397
123469-HxCDD	36.89	J EMPC	0.9829	0.9830	+0.2	1.25E+05	1.46	N	1.10	1.33	4177.185	0.397
123478-HxCDD	37.54	J EMPC	**1.0004**	**1.0003**	**-0.2**	**1.17E+05**	**1.44**	**N**	1.09	**1.25**	**4177.185**	**0.388**
123678-HxCDD	37.67		**1.0036**	**1.0038**	**+0.5**	**3.64E+05**	**1.10**	**Y**	1.15	**3.93**	**4177.185**	**0.427**
123467-HxCDD	37.87	J EMPC	1.0089	1.0091	+0.5	9.20E+04	1.05	N	1.10	0.978	4177.185	0.397
123789-HxCDD	37.97	EMPC	**1.0118**	**1.0117**	**-0.2**	**2.44E+05**	**1.00**	**N**	1.05	**2.55**	**4177.185**	**0.379**

Lab ID: B6329_18965_DF_009 **Acq'd: 04 Mar 2022 02:27 DTF** **Wt/Vol: 10.11 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021822-S-SB-DUP-17 **UTP: 04-Mar-2022 10:45:47 DTF** **J-level: 0.495 pg/g** **Split: 1** **Checkcode: 596-427-DFP**

Datafile: 220303C15 **Report: 04 Mar 2022 10:48 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

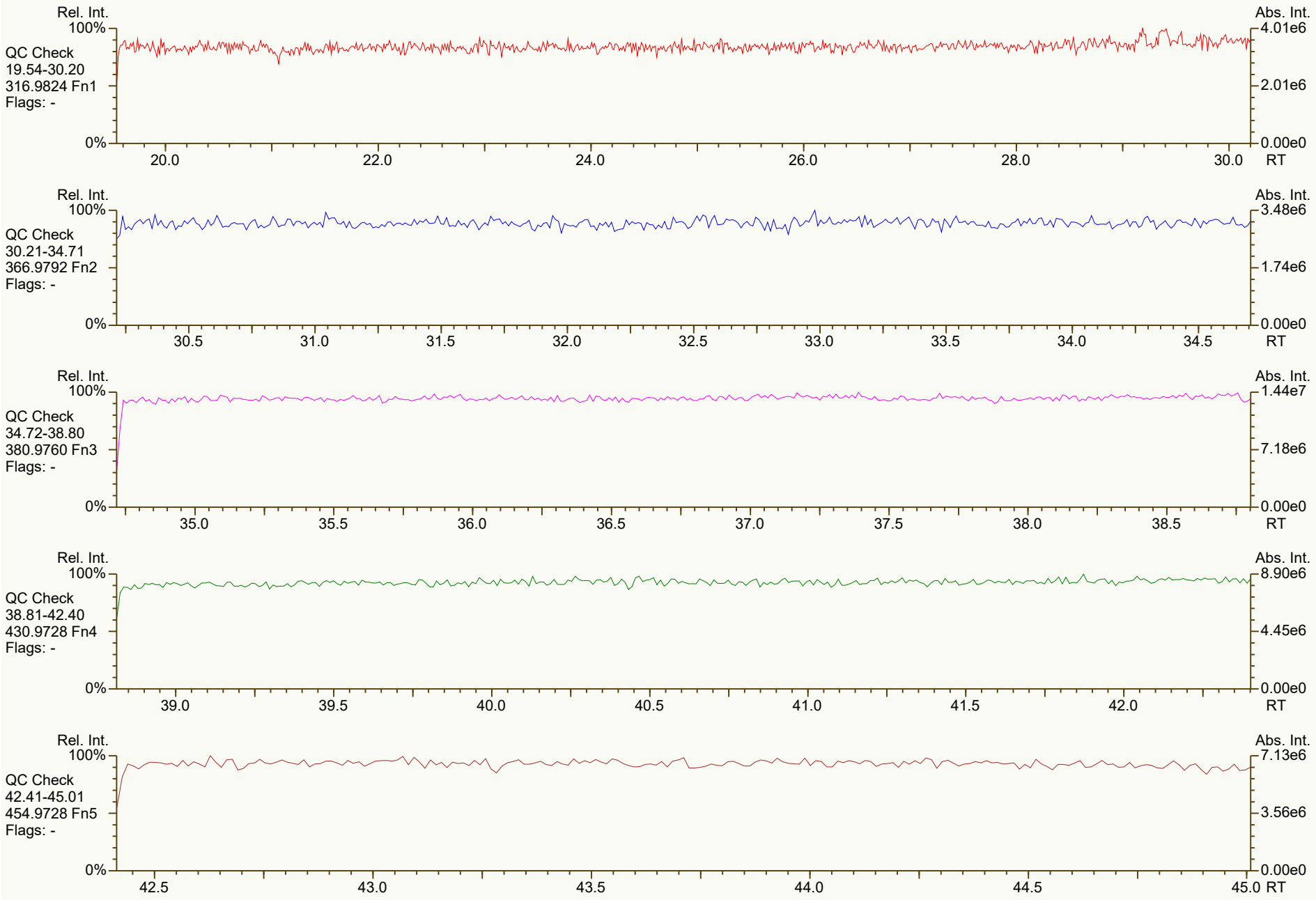
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.04		0.9836	0.9836	0	1.35E+07	1.03	Y	1.06	153	3972.263	0.375
1234678-HpCDD	**40.72**		**1.0002**	**1.0003**	**+0.2**	**9.49E+06**	**1.03**	**Y**	**1.06**	**107**	**3972.263**	**0.375**
OCDD	**43.42**		**1.0003**	**1.0003**	**0**	**1.01E+08**	**0.91**	**Y**	**1.13**	**1,760**	**4501.948**	**1.02**
OCDD-a	43.42		1.0002	1.0002	0	6.19E+06	2.65	Y	0.07	1,680	3652.862	12.9
1368-TCDF	22.32	EMPC	0.8191	0.8176	-2.0	1.53E+05	0.96	N	1.08	0.903	3694.34	0.244
1468-TCDF	22.92		0.8408	0.8393	-2.1	6.72E+05	0.88	Y	1.08	3.97	3694.34	0.244
2468-TCDF	23.58		0.8645	0.8634	-1.6	6.13E+05	0.84	Y	1.08	3.62	3694.34	0.244
1346/1246-TCDF	NotFnd		0.8772						1.08		3694.34	0.244
1347/1378/1247-TCDF	24.10		0.8833	0.8828	-0.7	4.62E+06	0.81	Y	1.08	27.4	3694.34	0.244
1348-TCDF	NotFnd		0.8932						1.08		3694.34	0.244
1248/1367/1379-TCDF	24.46		0.8980	0.8956	-3.5	1.89E+07	0.79	Y	1.08	112	3694.34	0.244
1268-TCDF	24.88		0.9119	0.9113	-0.9	6.48E+06	0.80	Y	1.08	38.3	3694.34	0.244
1467-TCDF	25.02		0.9170	0.9165	-0.8	8.68E+05	0.80	Y	1.08	5.13	3694.34	0.244
1478-TCDF	25.19		0.9234	0.9226	-1.2	1.64E+07	0.81	Y	1.08	96.8	3694.34	0.244
1369/1237-TCDF	25.58		0.9369	0.9368	-0.2	4.28E+06	0.78	Y	1.08	25.3	3694.34	0.244
2467-TCDF	25.71		0.9415	0.9415	0	4.31E+05	0.81	Y	1.08	2.55	3694.34	0.244
2368-TCDF	25.91		0.9475	0.9488	+2.0	3.03E+07	0.80	Y	1.08	179	3694.34	0.244
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		3694.34	0.244
1278-TCDF	26.41		0.9676	0.9672	-0.6	1.60E+08	0.79	Y	1.08	946	3694.34	0.244
1349-TCDF	NotFnd		0.9722						1.08		3694.34	0.244
1267-TCDF	26.69		0.9777	0.9775	-0.3	9.76E+06	0.78	Y	1.08	57.8	3694.34	0.244
2346/1249-TCDF	26.89		0.9843	0.9849	+1.0	1.13E+06	0.77	Y	1.08	6.67	3694.34	0.244
2347/1279-TCDF	27.10		0.9926	0.9925	-0.2	4.97E+06	0.81	Y	1.08	29.4	3694.34	0.244
2348-TCDF	27.21		0.9968	0.9966	-0.3	2.65E+07	0.78	Y	1.08	157	3694.34	0.244
2378-TCDF	**27.33**	E	**1.0008**	**1.0008**	**0**	**3.73E+08**	**0.79**	**Y**	**1.08**	**2,210**	**3694.34**	**0.244**
2367/3467-TCDF	27.69		1.0142	1.0140	-0.3	3.08E+07	0.77	Y	1.08	182	3694.34	0.244
1269-TCDF	27.94		1.0235	1.0233	-0.3	6.04E+06	0.76	Y	1.08	35.7	3694.34	0.244
1239-TCDF	28.21		1.0329	1.0331	+0.3	4.27E+05	0.72	Y	1.08	2.53	3694.34	0.244
1289-TCDF	29.36		1.0742	1.0754	+2.1	2.90E+07	0.78	Y	1.08	171	3694.34	0.244
13468/12468-PeCDF	29.31		0.9122	0.9124	+0.4	9.32E+05	1.67	Y	1.02	6.21	2952.084	0.179
13678/13467/12467-PeCDF	30.88	J	0.9606	0.9611	+0.9	2.37E+05	1.48	Y	1.02	1.58	5703.343	0.345
12368/13478/12478-PeCDF	31.04		0.9655	0.9662	+1.3	6.01E+06	1.56	Y	1.02	40.1	5703.343	0.345
14678-PeCDF	NotFnd		0.9685						1.02		5703.343	0.345
13479-PeCDF	NotFnd		0.9716						1.02		5703.343	0.345
13469/12479-PeCDF	NotFnd		0.9794						1.02		5703.343	0.345
12346-PeCDF	NotFnd		0.9836						1.02		5703.343	0.345

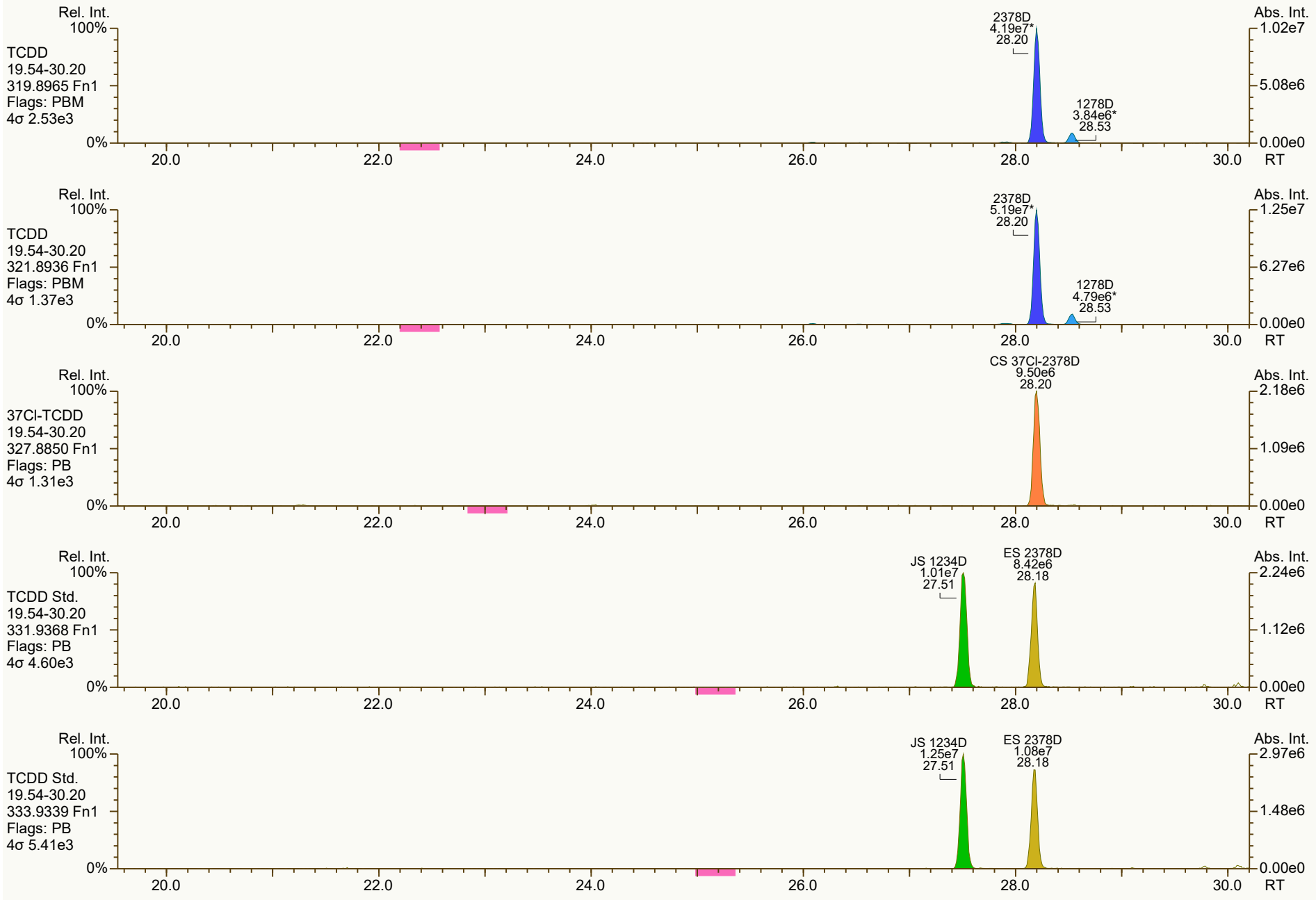
Lab ID: B6329_18965_DF_009 | **Acq'd: 04 Mar 2022 02:27 DTF** | **Wt/Vol: 10.11 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021822-S-SB-DUP-17 | **UTP: 04-Mar-2022 10:45:47 DTF** | **J-level: 0.495 pg/g** | **Split: 1** | **Checkcode: 596-427-DFP**

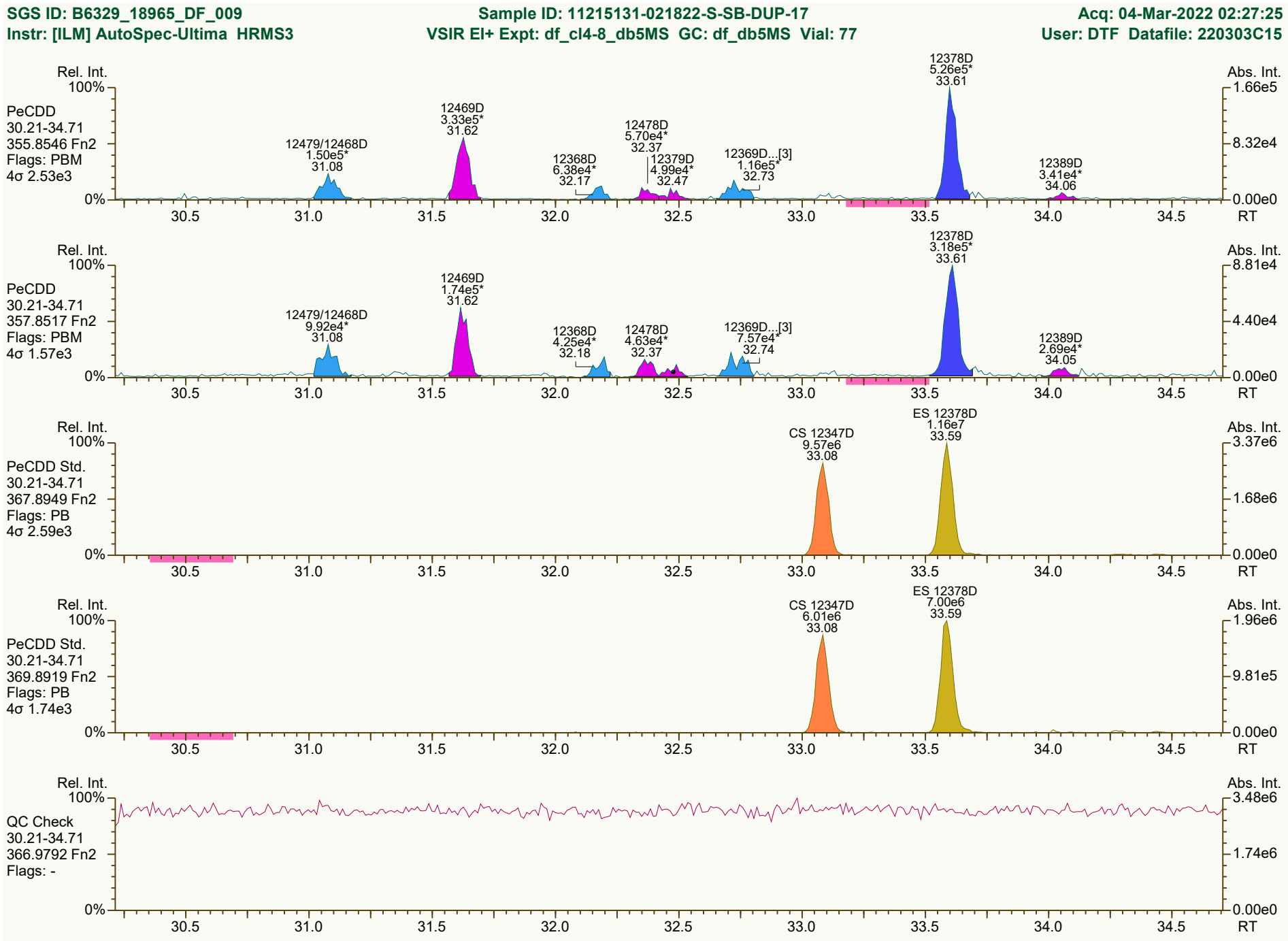
Datafile: 220303C15 | **Report: 04 Mar 2022 10:48 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.70	J EMPC	0.9866	0.9865	-0.2	3.29E+05	1.97	N	1.02	2.19	5703.343	0.345
12347-PeCDF	31.78	J EMPC	0.9891	0.9891	0	2.30E+05	1.12	N	1.02	1.53	5703.343	0.345
12348-PeCDF	31.93		0.9938	0.9939	+0.2	1.16E+06	1.46	Y	1.02	7.72	5703.343	0.345
12378-PeCDF	**32.15**		**1.0005**	**1.0006**	**+0.2**	**1.25E+07**	**1.55**	**Y**	**1.02**	**83.7**	**5703.343**	**0.354**
12678/12367-PeCDF	32.44		1.0091	1.0097	+1.2	3.63E+06	1.42	Y	1.02	24.2	5703.343	0.345
12379-PeCDF	NotFnd		1.0144						1.02		5703.343	0.345
12679-PeCDF	NotFnd		0.9927						1.02		5703.343	0.345
23467/12369-PeCDF	33.13	J	0.9965	0.9964	-0.2	1.93E+05	1.75	Y	1.02	1.29	5703.343	0.345
23478-PeCDF	**33.28**		**1.0005**	**1.0007**	**+0.4**	**9.67E+06**	**1.56**	**Y**	**1.02**	**64.2**	**5703.343**	**0.336**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5703.343	0.345
12349-PeCDF	NotFnd		1.0101						1.02		5703.343	0.345
12389-PeCDF	34.35		1.0330	1.0330	0	4.87E+05	1.78	Y	1.02	3.25	5703.343	0.345
123468-HxCDF	35.14	EMPC	0.9622	0.9621	-0.2	4.41E+05	0.99	N	1.19	3.18	5332.739	0.32
124678/134678-HxCDF	35.34		0.9678	0.9676	-0.4	2.53E+06	1.20	Y	1.19	18.3	5332.739	0.32
134679-HxCDF	NotFnd		0.9741						1.19		5332.739	0.32
124679-HxCDF	35.78	J	0.9795	0.9795	0	6.34E+04	1.38	Y	1.19	0.458	5332.739	0.32
124689-HxCDF	36.00		0.9856	0.9856	0	1.69E+06	1.33	Y	1.19	12.2	5332.739	0.32
123467-HxCDF	36.42	J EMPC	0.9972	0.9971	-0.2	1.31E+05	1.43	N	1.19	0.947	5332.739	0.32
123478-HxCDF	**36.54**		**1.0004**	**1.0005**	**+0.2**	**2.32E+07**	**1.24**	**Y**	**1.27**	**164**	**5332.739**	**0.301**
123678-HxCDF	**36.68**		**1.0004**	**1.0005**	**+0.2**	**6.15E+06**	**1.22**	**Y**	**1.15**	**41.2**	**5332.739**	**0.302**
123479-HxCDF	NotFnd		1.0048						1.19		5332.739	0.32
123469-HxCDF	NotFnd		1.0089						1.19		5332.739	0.32
123679-HxCDF	NotFnd		0.9942						1.19		5332.739	0.32
234678-HxCDF	**37.35**		**1.0005**	**1.0004**	**-0.2**	**1.28E+06**	**1.22**	**Y**	**1.19**	**9.09**	**5332.739**	**0.325**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		5332.739	0.32
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**5332.739**	**0.358**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.37		1.0006	1.0012	+1.4	1.70E+06	1.28	Y	1.19	12.3	5332.739	0.32
1234678-HpCDF	**39.76**		**1.0003**	**1.0003**	**0**	**8.89E+06**	**1.02**	**Y**	**1.37**	**71.5**	**3594.515**	**0.201**
1234679-HpCDF	40.03	**J EMPC**	1.0068	1.0070	+0.5	2.35E+05	1.21	N	1.34	2.06	3594.515	0.251
1234689-HpCDF	40.17		1.0104	1.0106	+0.5	4.63E+06	1.04	Y	1.34	40.4	3594.515	0.251
1234789-HpCDF	**41.17**		**1.0003**	**1.0003**	**0**	**2.25E+06**	**1.07**	**Y**	**1.31**	**21.5**	**3594.515**	**0.311**
OCDF	**43.60**		**1.0002**	**1.0002**	**0**	**3.33E+07**	**0.91**	**Y**	**1.07**	**443**	**3382.148**	**0.578**
OCDF-a	43.60		1.0001	1.0002	+0.3	2.11E+06	2.30	Y	0.07	454	3588.602	9.89


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.01e6
2.01e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.48e6
1.74e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.44e7
7.18e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
8.90e6
4.45e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
7.13e6
3.56e6
0.00e0

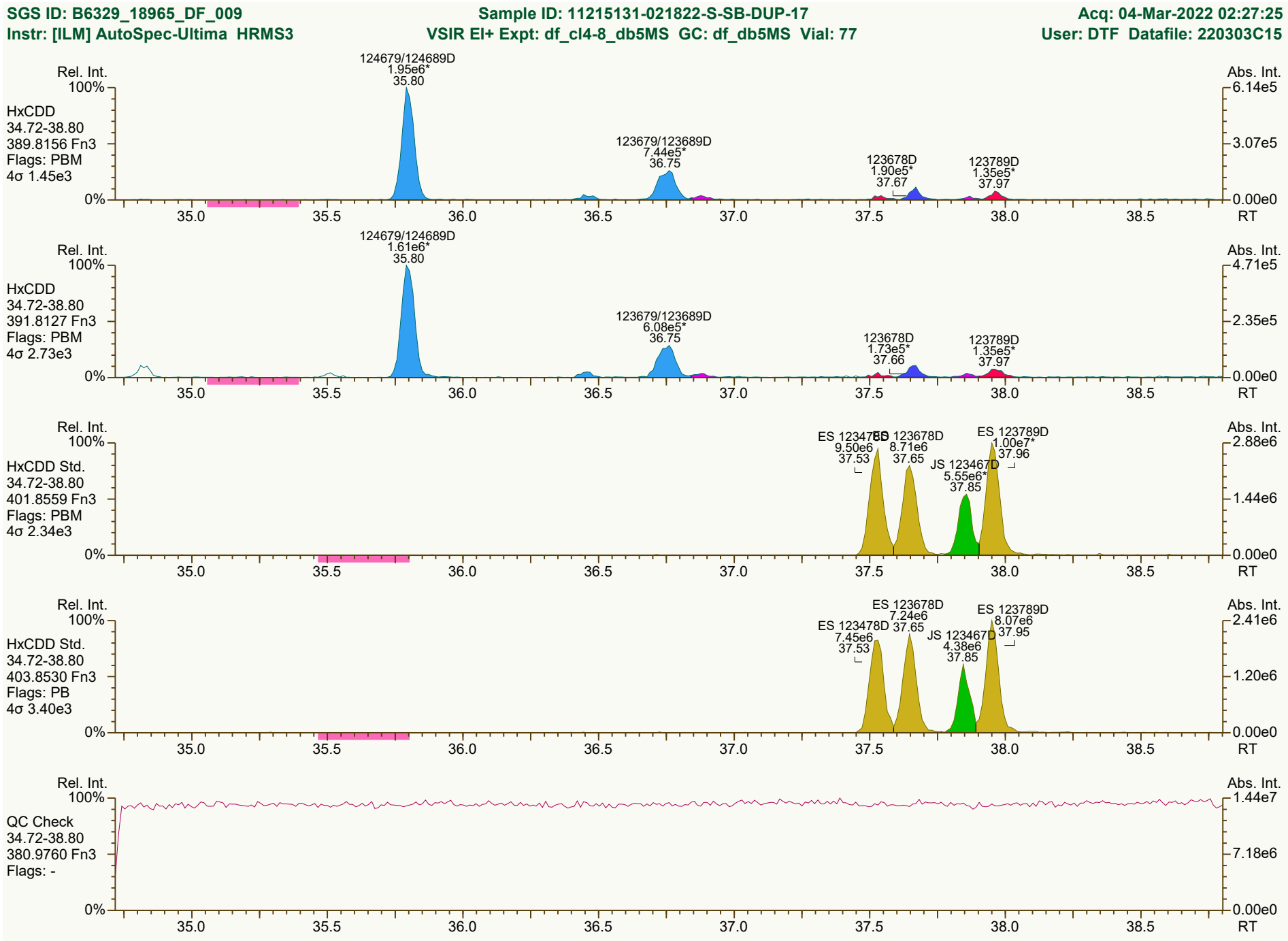

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.53e3
0%
2378D
4.19e7*
28.20
1278D
3.84e6*
28.53
Abs. Int.
1.02e7
5.08e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.37e3
0%
2378D
5.19e7*
28.20
1278D
4.79e6*
28.53
Abs. Int.
1.25e7
6.27e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.31e3
0%
CS 37Cl-2378D
9.50e6
28.20
Abs. Int.
2.18e6
1.09e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.60e3
0%
JS 1234D
1.01e7
27.51
ES 2378D
8.42e6
28.18
Abs. Int.
2.24e6
1.12e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 5.41e3
0%
JS 1234D
1.25e7
27.51
ES 2378D
1.08e7
28.18
Abs. Int.
2.97e6
1.48e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: B6329_18965_DF_009 | Sample ID: 11215131-021822-S-SB-DUP-17 | Acq: 04-Mar-2022 02:27:25
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 77 | User: DTF Datafile: 220303C15



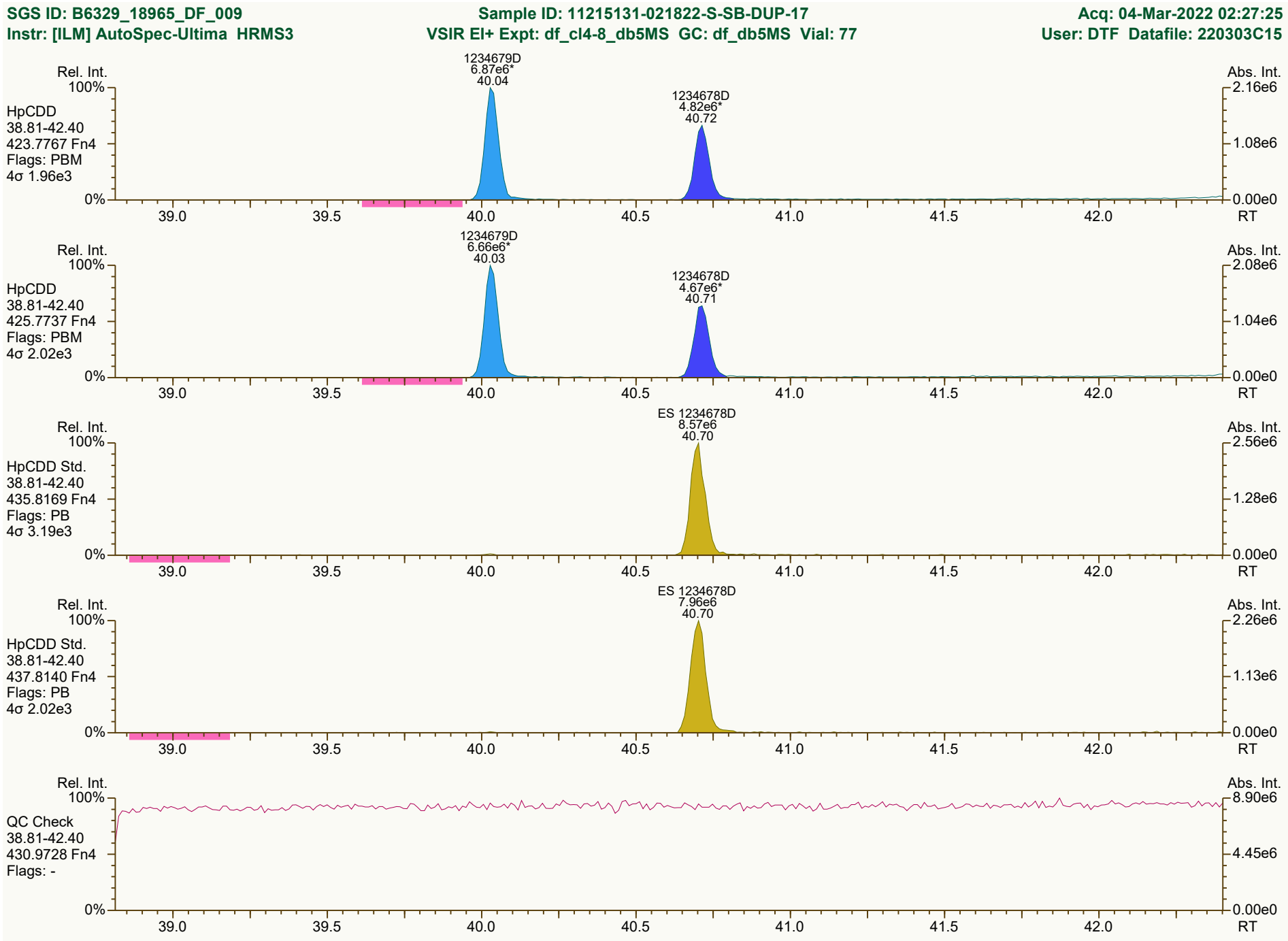
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_009.utp_res, saved 04-Mar-2022 10:45 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6794, 8659 scc: 596-427 | Revised: 04-Mar-2022 10:41 (DTF) Printed: 04-Mar-2022 10:56 Page 3 of 12

SGS ID: B6329_18965_DF_009 | Sample ID: 11215131-021822-S-SB-DUP-17 | Acq: 04-Mar-2022 02:27:25
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 77 | User: DTF Datafile: 220303C15

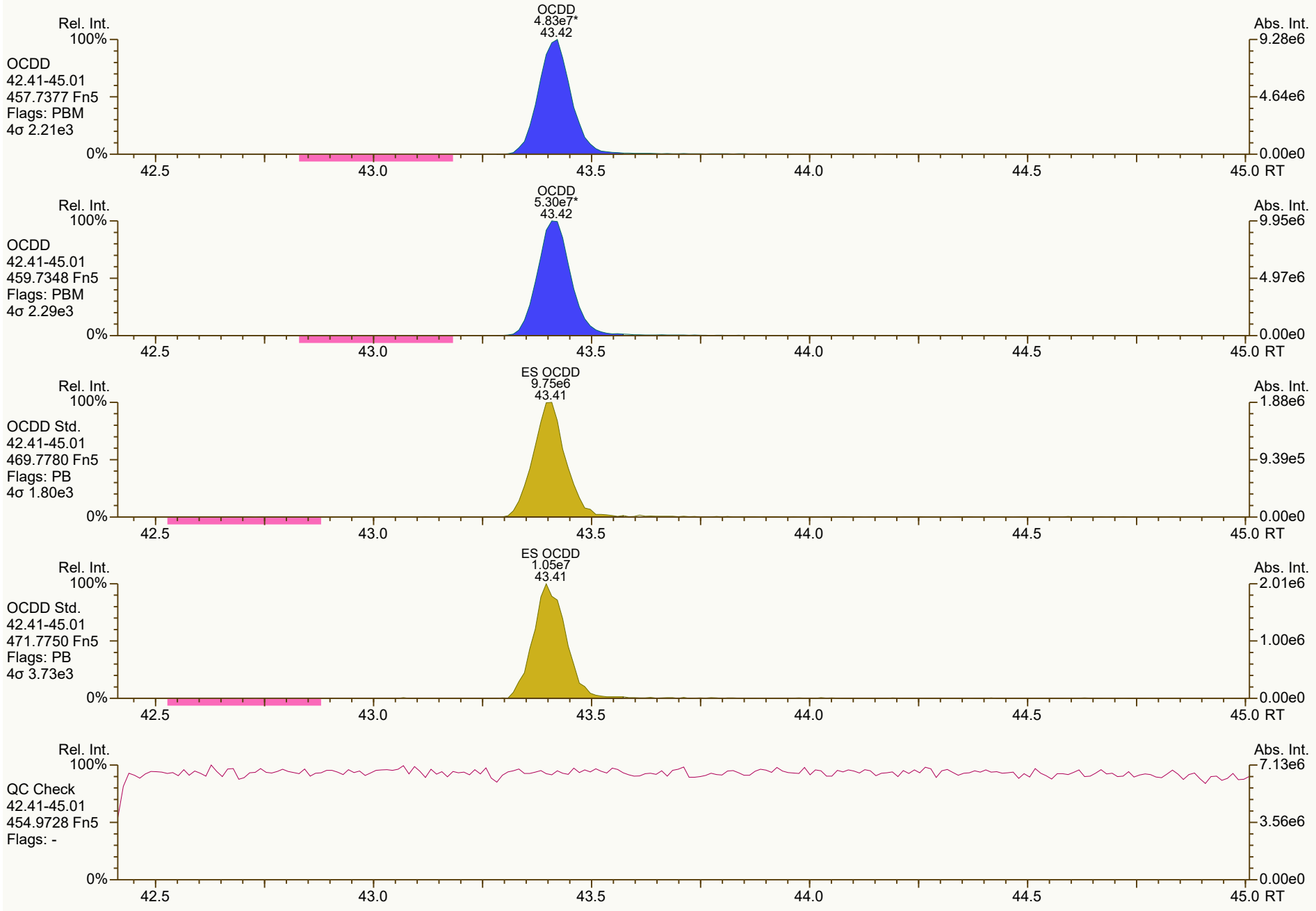


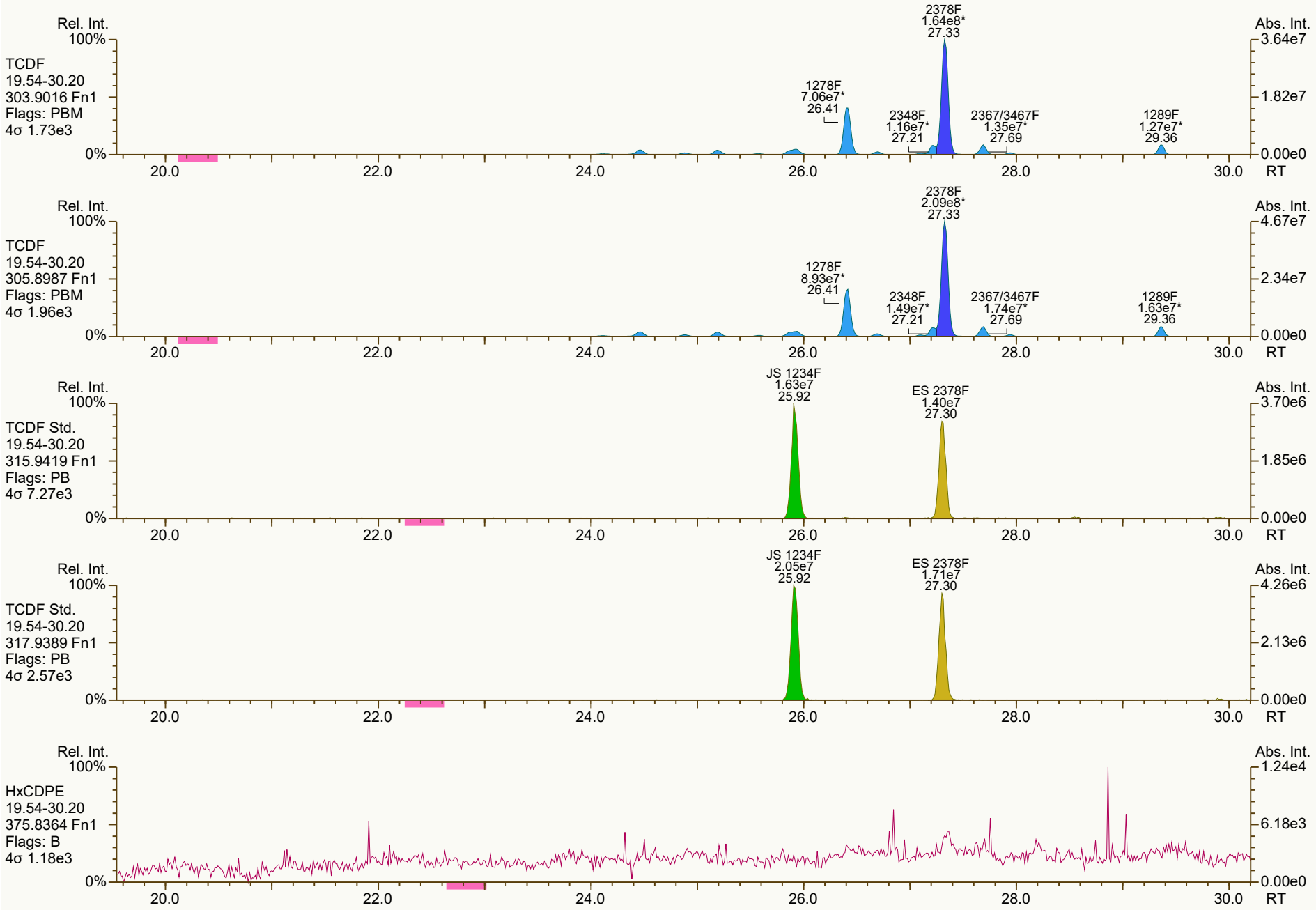
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_009.utp_res, saved 04-Mar-2022 10:45 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7573, 5199 scc: 596-427 | Revised: 04-Mar-2022 10:42 (DTF) Printed: 04-Mar-2022 10:56 Page 4 of 12

SGS ID: B6329_18965_DF_009 | Sample ID: 11215131-021822-S-SB-DUP-17 | Acq: 04-Mar-2022 02:27:25
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 77 | User: DTF Datafile: 220303C15

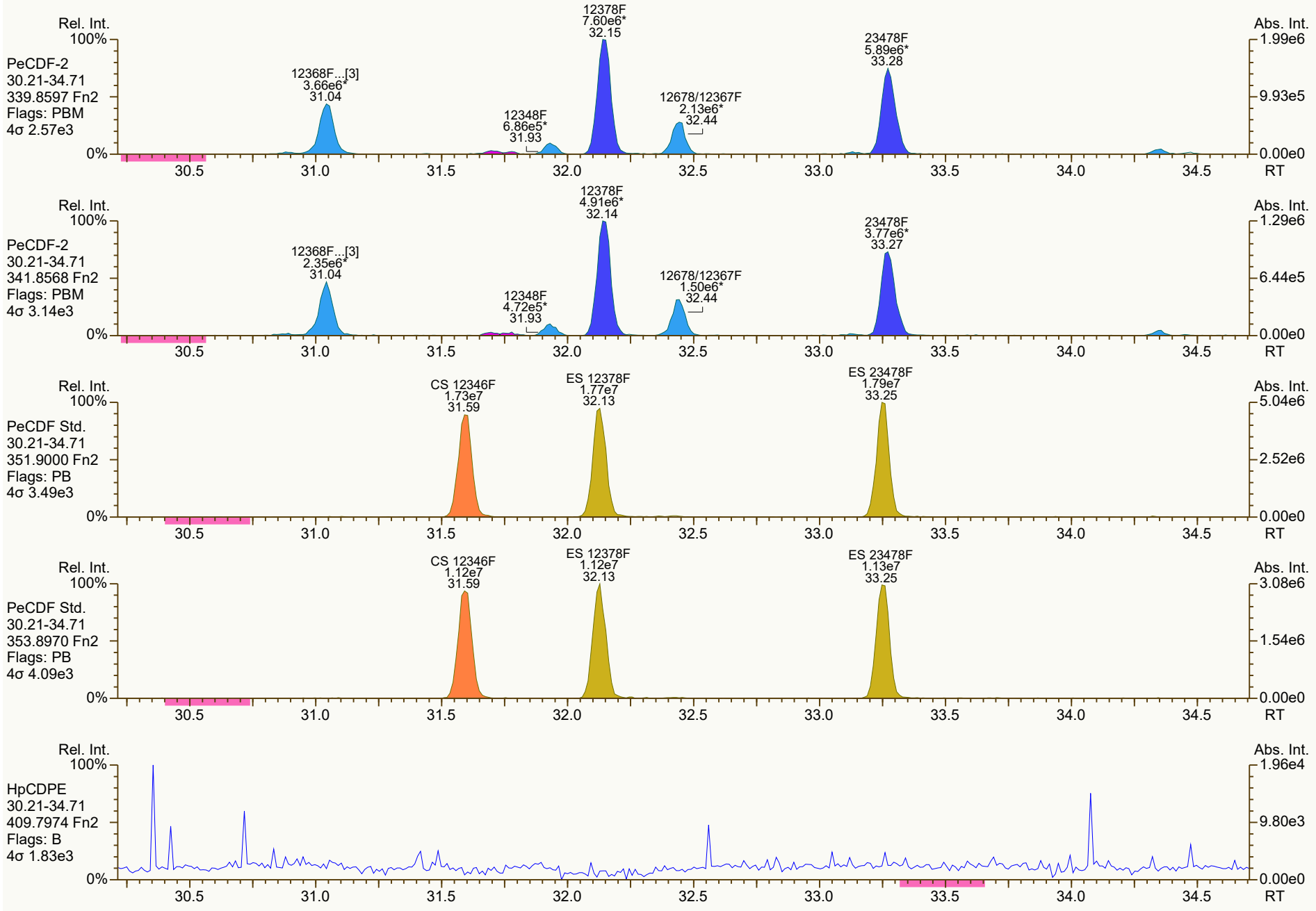


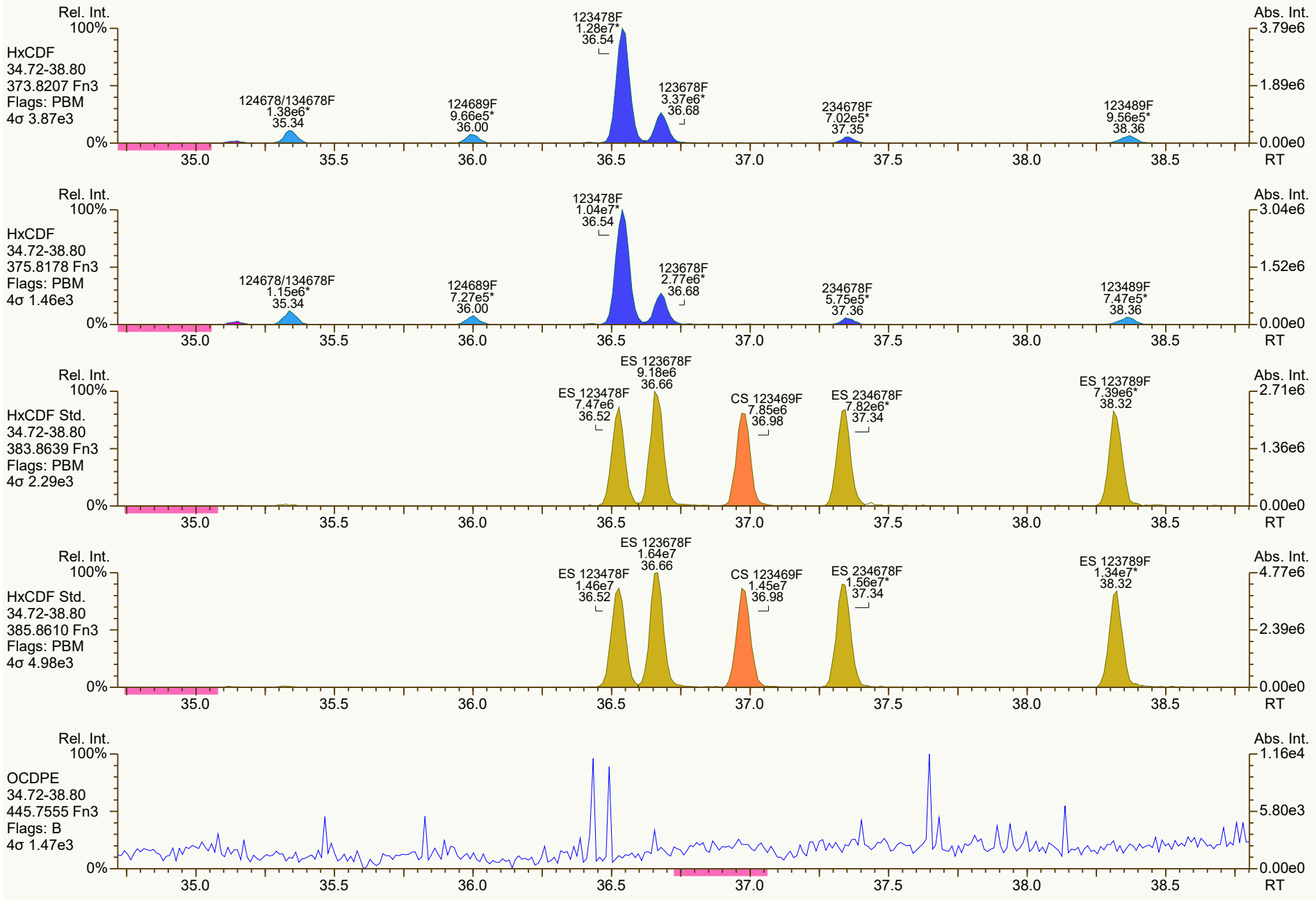
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_009.utp_res, saved 04-Mar-2022 10:45 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2351, 4718 scc: 596-427 | Revised: 04-Mar-2022 10:42 (DTF) Printed: 04-Mar-2022 10:56 Page 5 of 12

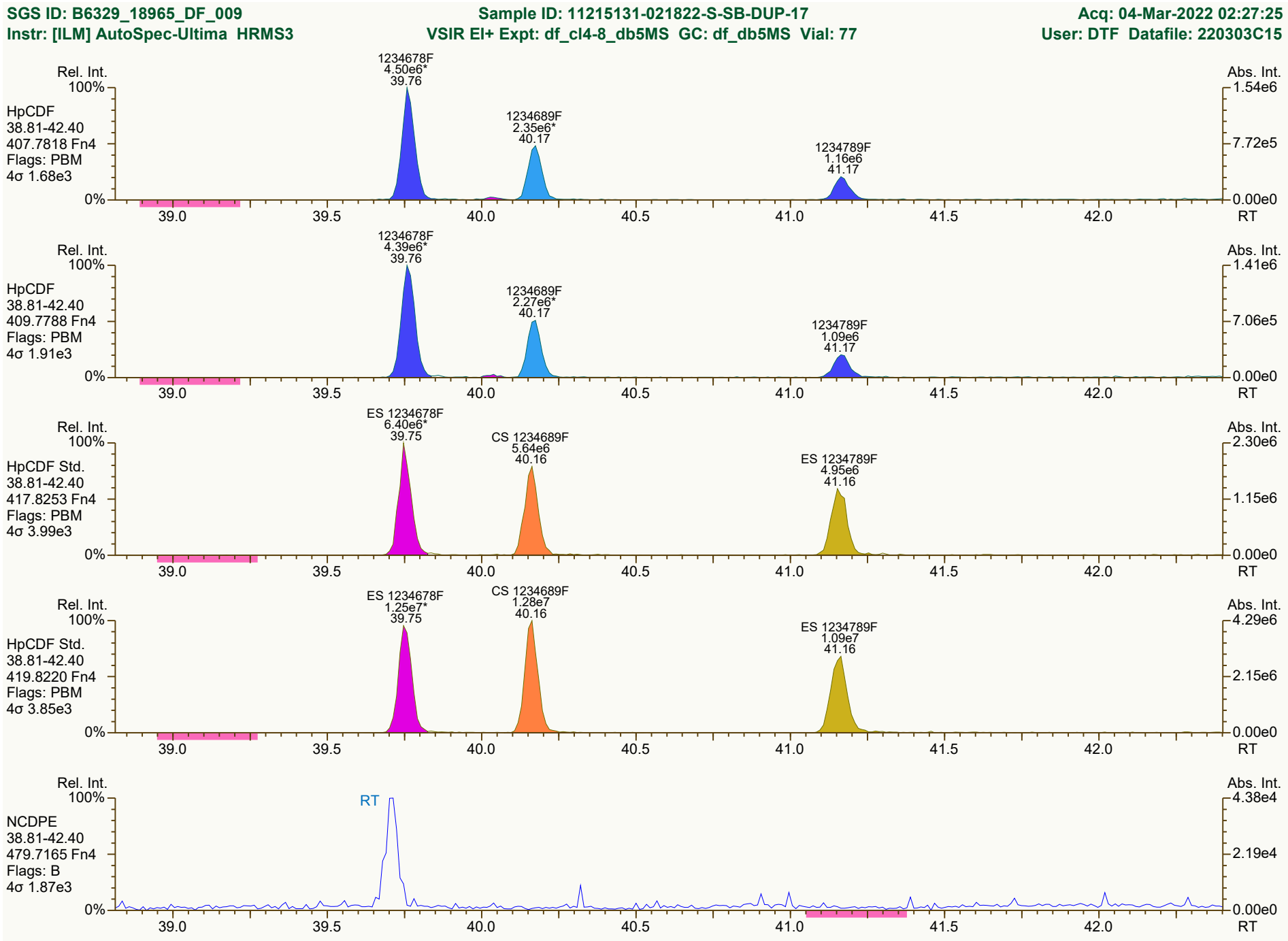

OCDD
4.83e7*
43.42
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 2.21e3
0%
Abs. Int.
9.28e6
4.64e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.30e7*
43.42
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 2.29e3
9.95e6
4.97e6
ES OCDD
9.75e6
43.41
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 1.80e3
1.88e6
9.39e5
ES OCDD
1.05e7
43.41
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 3.73e3
2.01e6
1.00e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
7.13e6
3.56e6


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.73e3
0%
2378F
1.64e8*
27.33
1278F
7.06e7*
26.41
2348F
1.16e7*
27.21
2367/3467F
1.35e7*
27.69
1289F
1.27e7*
29.36
Abs. Int.
3.64e7
1.82e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.96e3
0%
2378F
2.09e8*
27.33
1278F
8.93e7*
26.41
2348F
1.49e7*
27.21
2367/3467F
1.74e7*
27.69
1289F
1.63e7*
29.36
Abs. Int.
4.67e7
2.34e7
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 7.27e3
0%
JS 1234F
1.63e7
25.92
ES 2378F
1.40e7
27.30
Abs. Int.
3.70e6
1.85e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.57e3
0%
JS 1234F
2.05e7
25.92
ES 2378F
1.71e7
27.30
Abs. Int.
4.26e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.18e3
0%
Abs. Int.
1.24e4
6.18e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

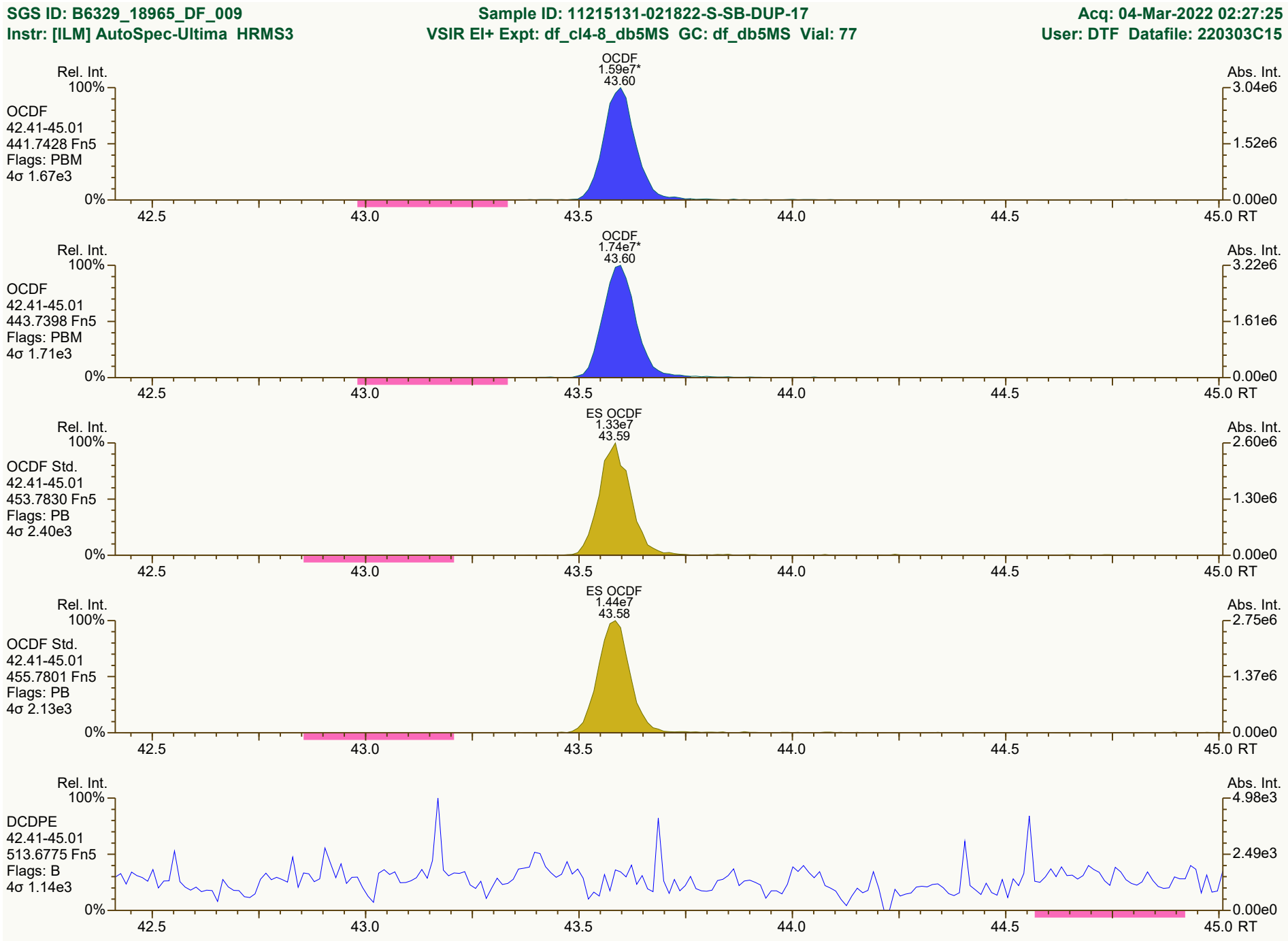

Rel. Int.
100%
0%
Abs. Int.
1.68e5
8.40e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
13468/12468F
5.83e5*
29.31
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.47e3
13468/12468F
3.49e5*
29.32
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.48e3
4.60e4
9.19e4
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
4.01e6
2.01e6


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 2.57e3
12368F...[3]
3.66e6*
31.04
12348F
6.86e5*
31.93
12378F
7.60e6*
32.15
12678/12367F
2.13e6*
32.44
23478F
5.89e6*
33.28
Abs. Int.
1.99e6
9.93e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 3.14e3
12368F...[3]
2.35e6*
31.04
12348F
4.72e5*
31.93
12378F
4.91e6*
32.14
12678/12367F
1.50e6*
32.44
23478F
3.77e6*
33.27
Abs. Int.
1.29e6
6.44e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 3.49e3
CS 12346F
1.73e7
31.59
ES 12378F
1.77e7
32.13
ES 23478F
1.79e7
33.25
Abs. Int.
5.04e6
2.52e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 4.09e3
CS 12346F
1.12e7
31.59
ES 12378F
1.12e7
32.13
ES 23478F
1.13e7
33.25
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.83e3
Abs. Int.
1.96e4
9.80e3
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 3.87e3
123478F
1.28e7*
36.54
124678/134678F
1.38e6*
35.34
124689F
9.66e5*
36.00
123678F
3.37e6*
36.68
234678F
7.02e5*
37.35
123489F
9.56e5*
38.36
Abs. Int.
3.79e6
1.89e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 1.46e3
123478F
1.04e7*
36.54
124678/134678F
1.15e6*
35.34
124689F
7.27e5*
36.00
123678F
2.77e6*
36.68
234678F
5.75e5*
37.36
123489F
7.47e5*
38.36
Abs. Int.
3.04e6
1.52e6
0.00e0
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 2.29e3
ES 123678F
9.18e6
36.66
ES 123478F
7.47e6
36.52
CS 123469F
7.85e6
36.98
ES 234678F
7.82e6*
37.34
ES 123789F
7.39e6*
38.32
Abs. Int.
2.71e6
1.36e6
0.00e0
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 4.98e3
ES 123678F
1.64e7
36.66
ES 123478F
1.46e7
36.52
CS 123469F
1.45e7
36.98
ES 234678F
1.56e7*
37.34
ES 123789F
1.34e7*
38.32
Abs. Int.
4.77e6
2.39e6
0.00e0
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.47e3
Abs. Int.
1.16e4
5.80e3
0.00e0


SGS ID: B6329_18965_DF_009
Sample ID: 11215131-021822-S-SB-DUP-17
Acq: 04-Mar-2022 02:27:25
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 77
User: DTF Datafile: 220303C15
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 1.68e3
1234678F
4.50e6*
39.76
1234689F
2.35e6*
40.17
1234789F
1.16e6
41.17
1.54e6
7.72e5
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 1.91e3
1234678F
4.39e6*
39.76
1234689F
2.27e6*
40.17
1234789F
1.09e6
41.17
1.41e6
7.06e5
0.00e0
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 3.99e3
ES 1234678F
6.40e6*
39.75
CS 1234689F
5.64e6
40.16
ES 1234789F
4.95e6
41.16
2.30e6
1.15e6
0.00e0
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 3.85e3
ES 1234678F
1.25e7*
39.75
CS 1234689F
1.28e7
40.16
ES 1234789F
1.09e7
41.16
4.29e6
2.15e6
0.00e0
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.87e3
RT
4.38e4
2.19e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_009.utp_res, saved 04-Mar-2022 10:45 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3573, 7796, 0222 scc: 596-427
Revised: 04-Mar-2022 10:45 (DTF) Printed: 04-Mar-2022 10:56 Page 11 of 12

SGS ID: B6329_18965_DF_009 | Sample ID: 11215131-021822-S-SB-DUP-17 | Acq: 04-Mar-2022 02:27:25
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 77 | User: DTF Datafile: 220303C15



Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\B6329_18965_DF_009.utp_res, saved 04-Mar-2022 10:45 (DTF) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4402, 1772, 0048 scc: 596-427 | *Revised: 04-Mar-2022 10:45 (DTF) Printed: 04-Mar-2022 10:56 Page 12 of 12*

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	220303C01	3	CS3_220303_DF_CA	1.00	25-347-1	DTF	405-637	03-Mar-2022	15:07:17
2	220303C02	66	OPR1_18965_DF	1.00	0_18965_OPR001	DTF	159-265	03-Mar-2022	16:25:52
3	220303C03	2	SBS_220303_DF_CA	1.00	20-61-1	DTF	153-740	03-Mar-2022	17:12:13
4	220303C04	65	MB1_18965_DF_SDS	10.00	Method Blank	DTF	811-964	03-Mar-2022	17:58:30
5	220303C05	67	B6329_18965_DF_001	10.19	11215131-021722-S-SB-SC-O-24	DTF	133-139	03-Mar-2022	18:44:48
6	220303C06	68	B6329_18965_DF_002	10.02	11215131-021722-S-SB-SC-B-17	DTF	523-891	03-Mar-2022	19:31:07
7	220303C07	69	B6329_18965_DF_003	10.16	11215131-021722-S-SB-SC-B-17H	DTF	082-368	03-Mar-2022	20:17:19
8	220303C08	70	B6329_18965_DF_004	10.14	11215131-021722-S-SB-NC-O-52	DTF	158-253	03-Mar-2022	21:03:37
9	220303C09	71	B6329_18965_DF_005	10.12	11215131-021822-S-SB-NC-O-49	DTF	922-005	03-Mar-2022	21:49:56
10	220303C10	72	B6329_18965_DF_006	10.00	11215131-021822-S-SB-NC-O-50	DTF	807-126	03-Mar-2022	22:36:09
11	220303C11	73	B6329_18965_DF_007	10.06	11215131-021822-S-SB-NC-B-15	DTF	615-582	03-Mar-2022	23:22:22
12	220303C12	74	B6329_18965_DF_007MS	10.12	11215131-021822-S-SB-NC-B-15-MS	DTF	971-252	04-Mar-2022	00:08:40
13	220303C13	75	B6329_18965_DF_007MSD	10.05	11215131-021822-S-SB-NC-B-15-MSD	DTF	547-269	04-Mar-2022	00:54:52
14	220303C14	76	B6329_18965_DF_008	10.18	11215131-021822-S-SB-NC-B-16	DTF	366-326	04-Mar-2022	01:41:06
15	220303C15	77	B6329_18965_DF_009	10.11	11215131-021822-S-SB-DUP-17	DTF	596-427	04-Mar-2022	02:27:25

REVIEWED
Tyler_Fritz , 3/4/2022, 11:01:12 AM

APPROVED
Carla_Lyon , 3/7/2022, 9:45:18 AM

Dioxin/Furan QC Summary	Acq'd: 03 Mar 2022 15:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220303_DF_CA	UTP: 04-Mar-2022 10:45:37 DTF	Checkcode: 405-637-CWX
Sample ID: 25-347-1	Report: 04 Mar 2022 10:46 TF	Datafile: 220303C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.19	3.73E+06	0.77	Y	1.18	1.17	-2%
12378-PeCDD	33.60	1.49E+07	1.51	Y	1.04	1.05	1%
123478-HxCDD	37.53	1.40E+07	1.24	Y	1.09	1.10	1%
123678-HxCDD	37.65	1.44E+07	1.24	Y	1.15	1.14	-1%
123789-HxCDD	37.96	1.53E+07	1.25	Y	1.05	1.02	-2%
1234678-HpCDD	40.70	1.34E+07	1.06	Y	1.06	1.02	-3%
OCDD	43.39	2.12E+07	0.89	Y	1.13	1.09	-3%
2378-TCDF	27.32	5.54E+06	0.75	Y	1.08	1.07	-1%
12378-PeCDF	32.13	2.28E+07	1.55	Y	1.02	0.99	-3%
23478-PeCDF	33.25	2.28E+07	1.56	Y	1.02	0.99	-3%
123478-HxCDF	36.53	2.12E+07	1.24	Y	1.27	1.24	-2%
123678-HxCDF	36.67	2.23E+07	1.23	Y	1.15	1.14	-1%
234678-HxCDF	37.35	2.10E+07	1.21	Y	1.19	1.15	-3%
123789-HxCDF	38.33	1.91E+07	1.22	Y	1.16	1.15	-1%
1234678-HpCDF	39.76	1.95E+07	1.03	Y	1.37	1.31	-4%
1234789-HpCDF	41.15	1.68E+07	1.01	Y	1.31	1.28	-2%
OCDF	43.56	2.76E+07	0.92	Y	1.07	1.06	-1%
ES 2378-TCDD	28.17	3.20E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.577	2.84E+07	1.58	Y	0.88	0.93	6%
ES 123478-HxCDD	37.514	2.55E+07	1.31	Y	0.97	1.02	5%
ES 123678-HxCDD	37.636	2.52E+07	1.26	Y	0.94	1.01	7%
ES 123789-HxCDD	37.945	2.99E+07	1.29	Y	1.09	1.19	9%
ES 1234678-HpCDD	40.687	2.62E+07	1.05	Y	0.91	1.04	14%
ES OCDD	43.38	3.89E+07	0.92	Y	0.62	0.78	24%
ES 2378-TCDF	27.298	5.18E+07	0.80	Y	1.06	1.02	-4%
ES 12378-PeCDF	32.113	4.59E+07	1.64	Y	0.91	0.90	-1%
ES 23478-PeCDF	33.238	4.59E+07	1.63	Y	0.88	0.90	2%
ES 123478-HxCDF	36.512	3.40E+07	0.52	Y	1.20	1.36	13%
ES 123678-HxCDF	36.653	3.92E+07	0.52	Y	1.35	1.56	16%
ES 234678-HxCDF	37.329	3.65E+07	0.53	Y	1.24	1.45	17%
ES 123789-HxCDF	38.31	3.32E+07	0.54	Y	1.16	1.33	15%
ES 1234678-HpCDF	39.747	2.97E+07	0.45	Y	0.97	1.18	22%
ES 1234789-HpCDF	41.142	2.63E+07	0.45	Y	0.85	1.05	23%
ES OCDF	43.549	5.21E+07	0.89	Y	0.81	1.04	29%

Dioxin/Furan QC Summary	Acq'd: 03 Mar 2022 15:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220303_DF_CA	UTP: 04-Mar-2022 10:45:37 DTF	Checkcode: 405-637-CWX
Sample ID: 25-347-1	Report: 04 Mar 2022 10:46 TF	Datafile: 220303C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.50	3.06E+07	0.83	Y	-	-	-
JS 1234-TCDF	25.92	5.09E+07	0.83	Y	-	-	-
JS 123467-HxCDD	37.84	1.25E+07	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	28.19	4.12E+06	n/a	-	1.20	1.35	12%
CS 12347-PeCDD	33.07	2.65E+07	1.60	Y	0.75	0.86	15%
CS 12346-PeCDF	31.58	4.41E+07	1.57	Y	0.85	0.87	2%
CS 123469-HxCDF	36.97	3.49E+07	0.54	Y	1.12	1.39	24%
CS 1234689-HpCDF	40.15	2.95E+07	0.46	Y	0.89	1.18	33% *
~~SS 37Cl-2378-TCDD~~	~~28.19~~	~~4.12E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.29~~	~~12%~~
~~SS 12347-PeCDD~~	~~33.07~~	~~2.65E+07~~	~~1.60~~	~~Y~~	~~0.86~~	~~0.93~~	~~9%~~
~~SS 12346-PeCDF~~	~~31.58~~	~~4.41E+07~~	~~1.57~~	~~Y~~	~~0.94~~	~~0.96~~	~~3%~~
~~SS 123469-HxCDF~~	~~36.97~~	~~3.49E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~0.89~~	~~7%~~
~~SS 1234689-HpCDF~~	~~40.15~~	~~2.95E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~1.00~~	~~8%~~
Not used in this project.						* No criteria specified in M1613B	
CL 07Mar22						CL 07Mar22	
~~OCDD-a~~	~~43.39~~	~~1.26E+06~~	~~2.38~~	~~Y~~	~~0.07~~	~~0.06~~	~~-10%~~
~~OCDF-a~~	~~43.56~~	~~1.67E+06~~	~~2.27~~	~~Y~~	~~0.07~~	~~0.06~~	~~-4%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220303C01 Analysis Date: 03-MAR-2022 15:07:17

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.77	0.65 - 0.89	Y	9.84	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.51	1.32 - 1.78	Y	50.7	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	50.4	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	49.6	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	48.8	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88 - 1.20	Y	48.3	43 - 58	Y
OCDD	M+2/M+4	0.89	0.76 - 1.02	Y	96.9	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.75	0.65 - 0.89	Y	9.92	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32 - 1.78	Y	48.5	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32 - 1.78	Y	48.6	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	48.9	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	49.4	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.21	1.05 - 1.43	Y	48.4	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.22	1.05 - 1.43	Y	49.3	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	47.9	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.01	0.88 - 1.20	Y	48.9	43 - 58	Y
OCDF	M+2/M+4	0.92	0.76 - 1.02	Y	98.9	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 04 Mar 2022 10:46 Analyst: TF

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

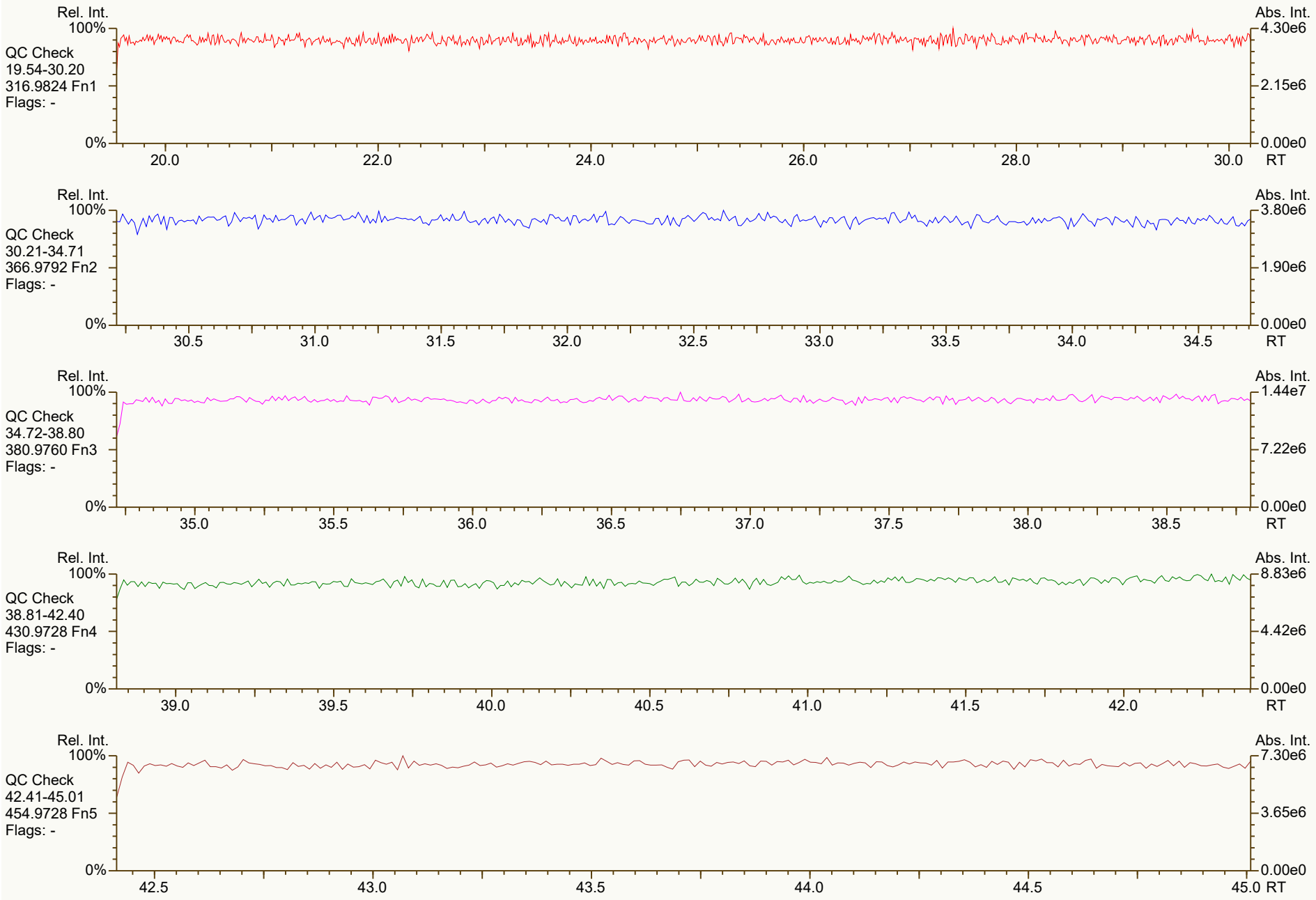
Instrument ID: HRMS3 GC Column ID: ZB-5ms

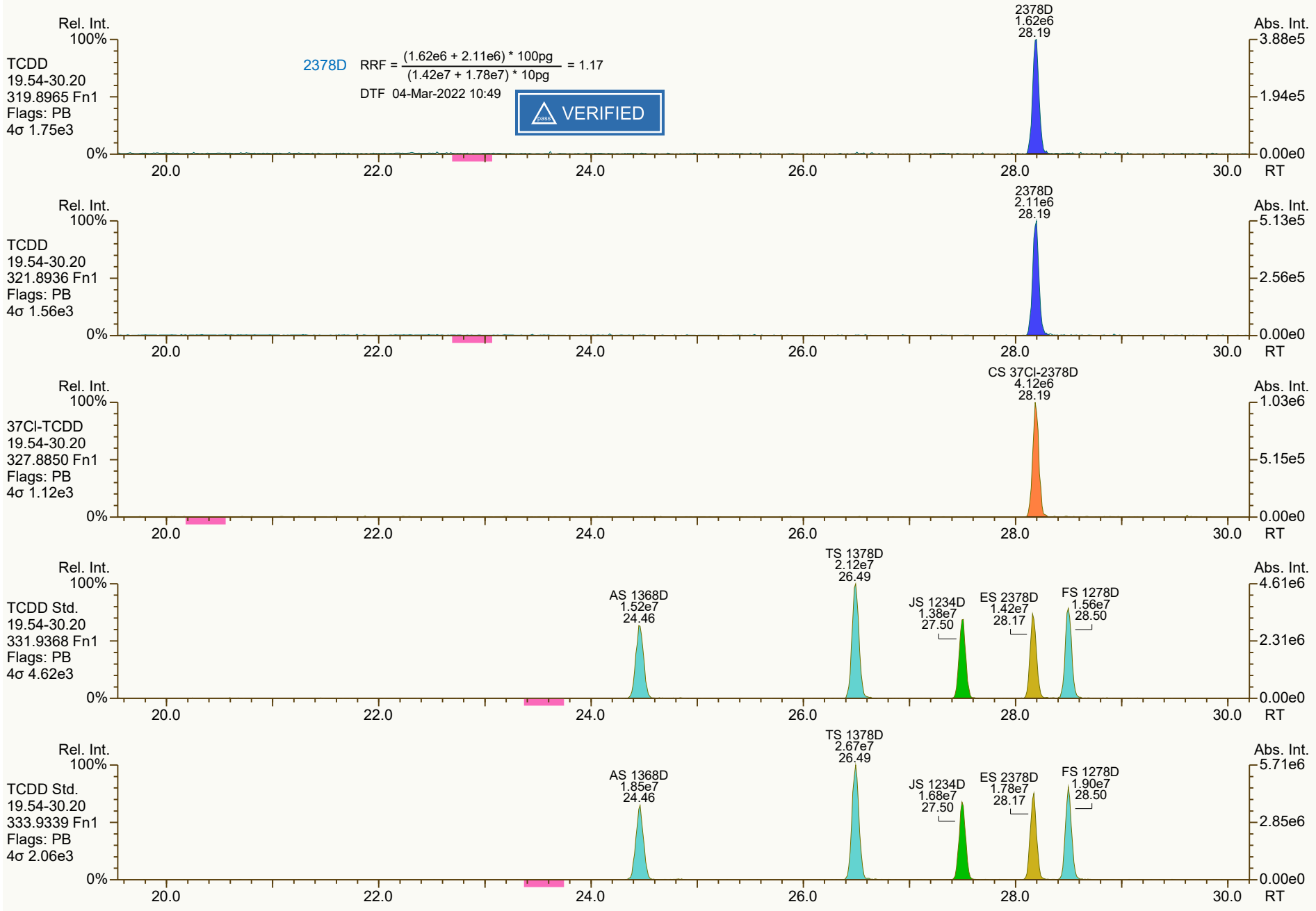
VER Data Filename: 220303C01 Analysis Date: 03-MAR-2022 15:07:17

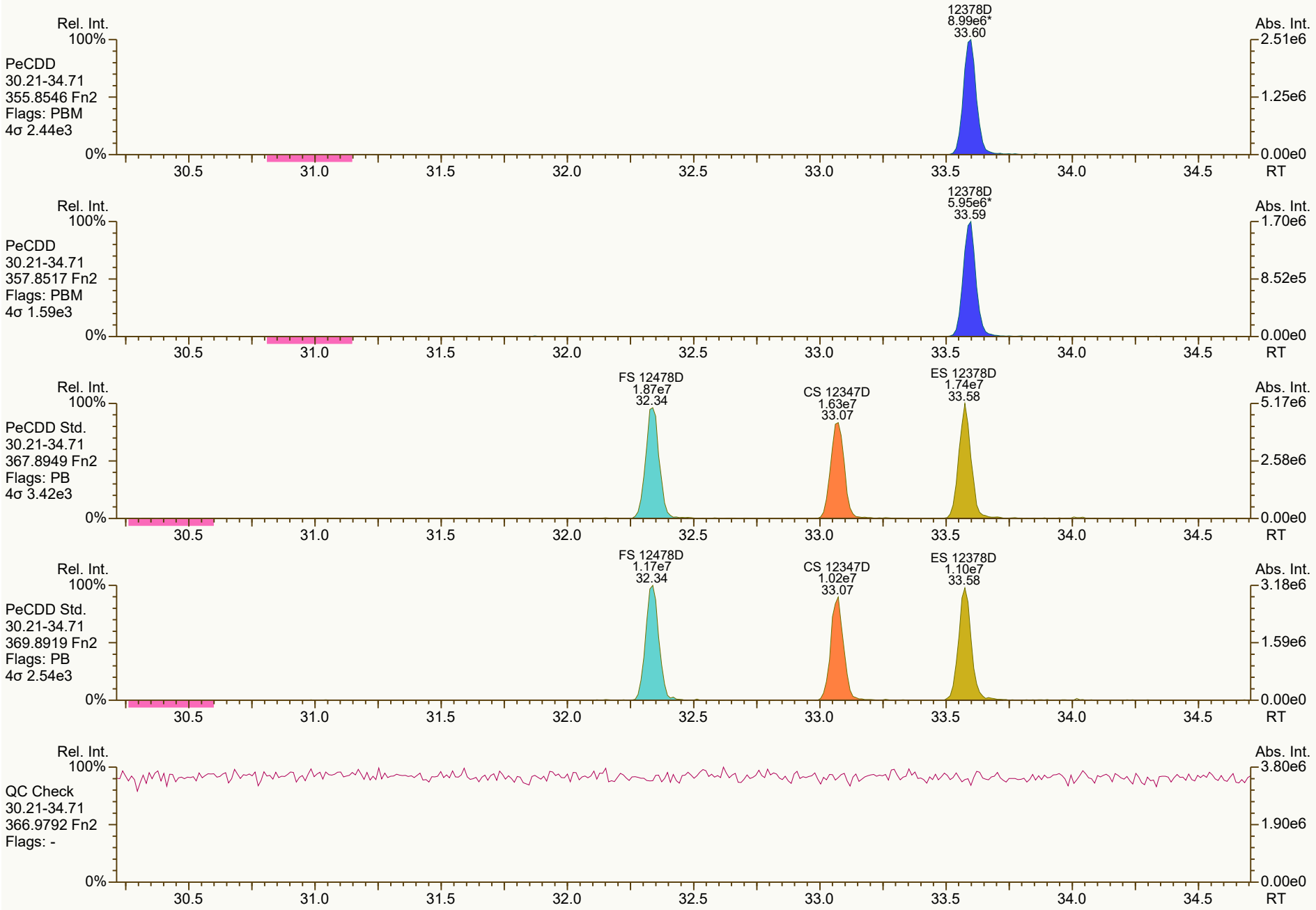
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65	-	0.89	Y	100	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32	-	1.78	Y	106	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.31	1.05	-	1.43	Y	105	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05	-	1.43	Y	107	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.29	1.05	-	1.43	Y	109	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88	-	1.20	Y	114	72	-	138	Y
13C-OCDD	M+2/M+4	0.92	0.76	-	1.02	Y	249	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65	-	0.89	Y	96	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.64	1.32	-	1.78	Y	99.1	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.63	1.32	-	1.78	Y	102	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	113	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	116	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	117	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	115	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	122	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	123	77	-	129	Y
13C-OCDF	M+2/M+4	0.89	0.76	-	1.02	Y	257	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						11.2	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.60	1.32	-	1.78	Y	115	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.57	1.32	-	1.78	Y	102	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	124	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.46	0.37	-	0.51	Y	133 *	70	-	130	N

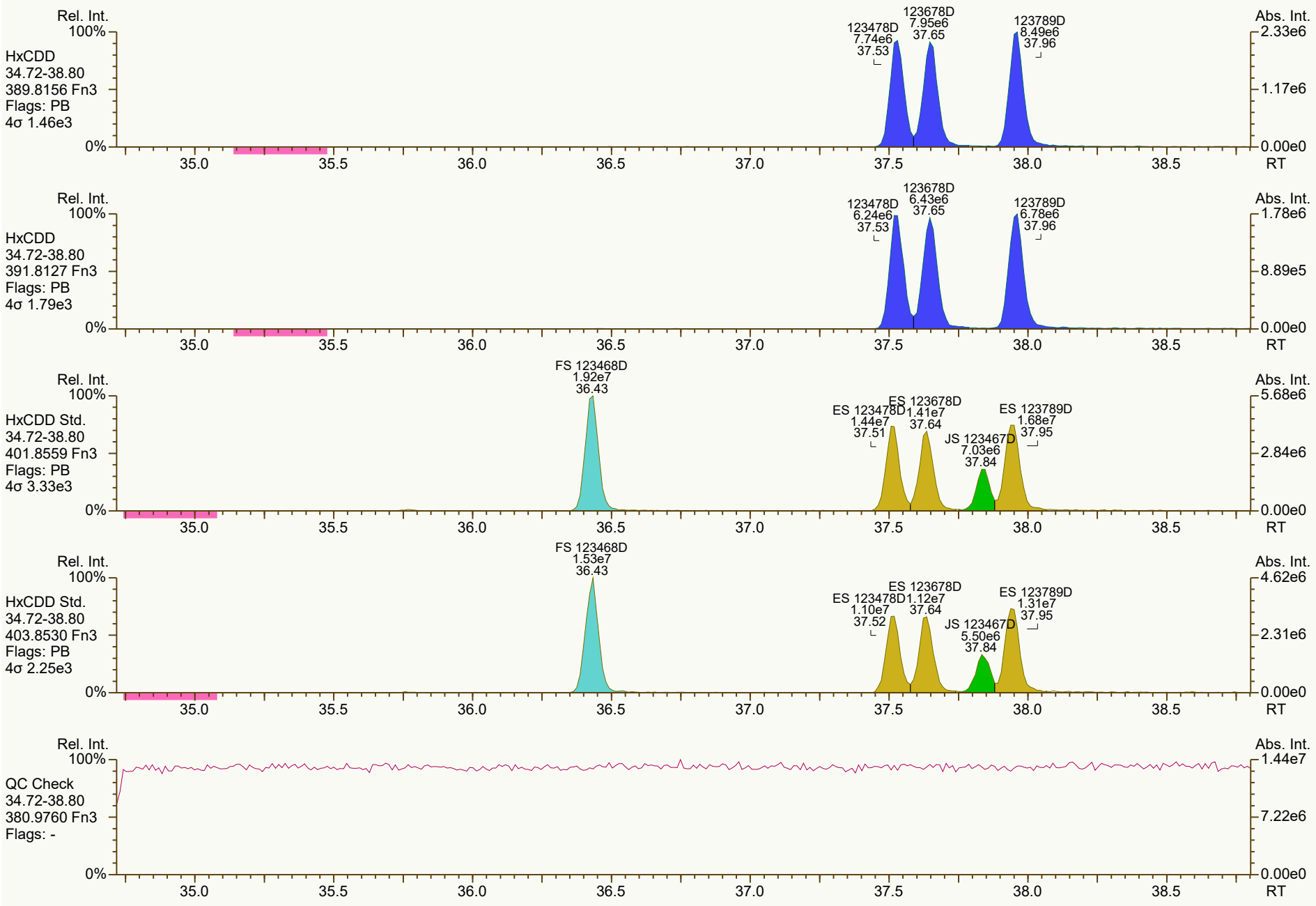
* No criteria specified in M1613B
CL 07Mar22

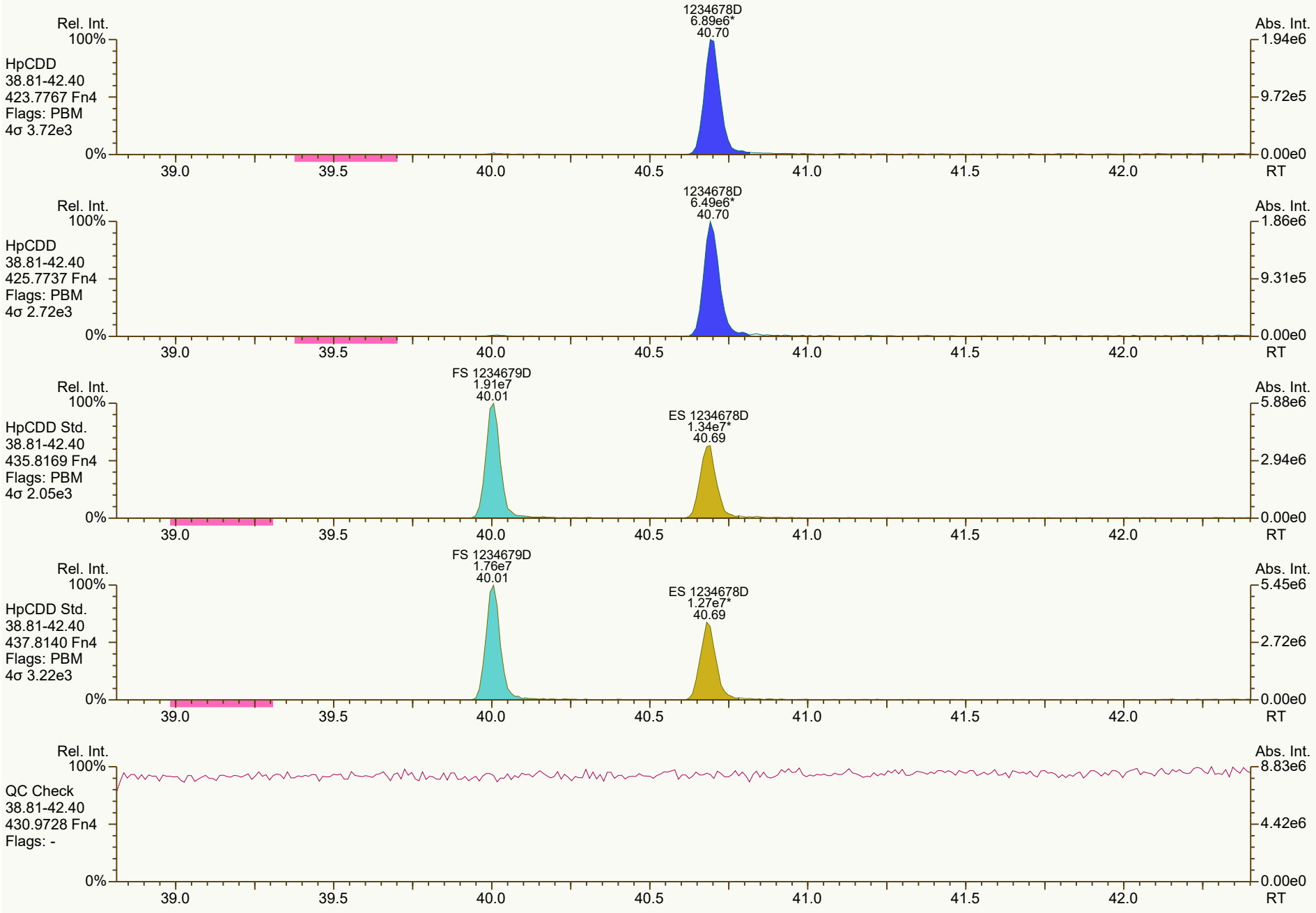
Processed: 04 Mar 2022 10:46 Analyst: TF

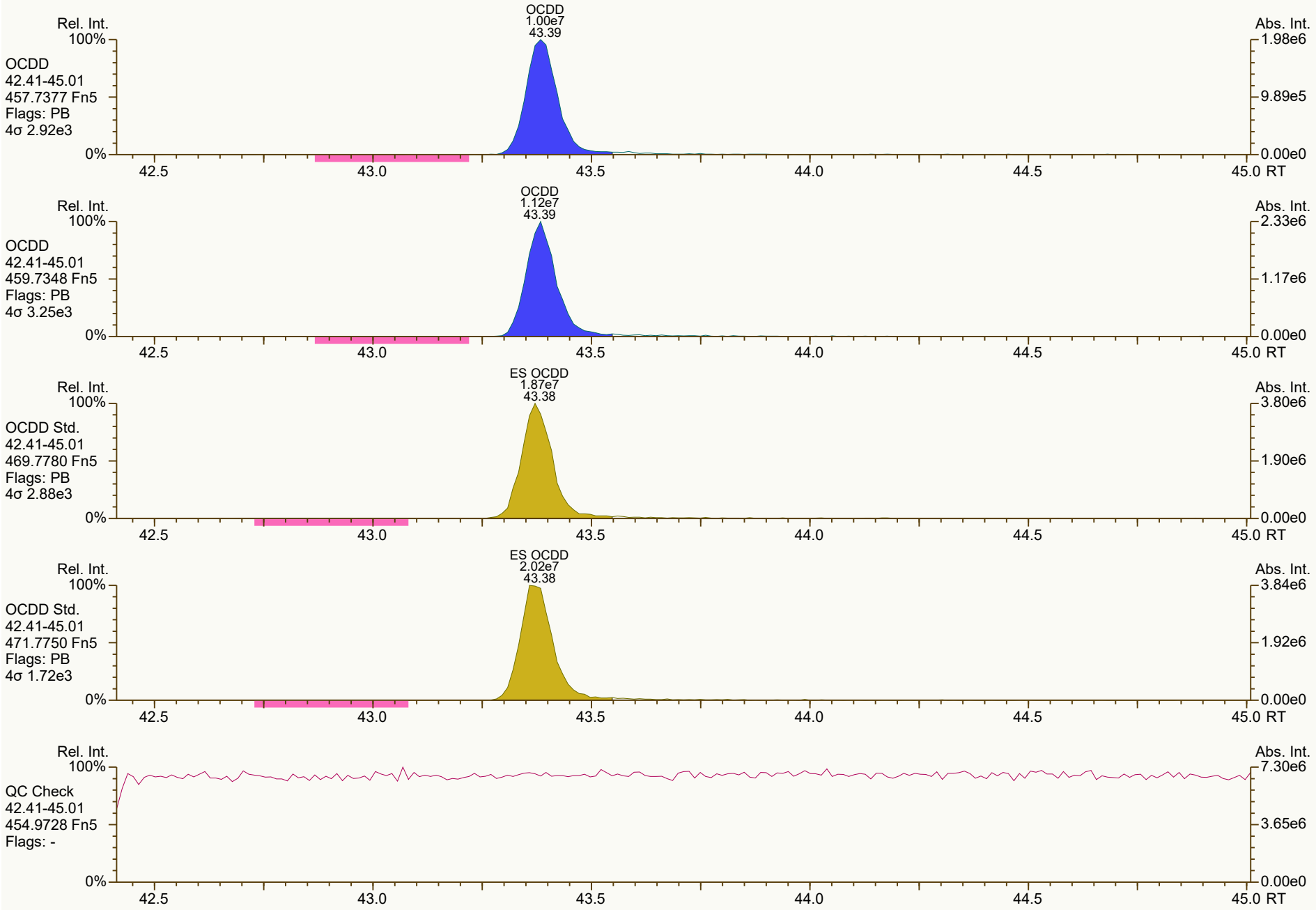

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.30e6
2.15e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.80e6
1.90e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.44e7
7.22e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
8.83e6
4.42e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
7.30e6
3.65e6
0.00e0

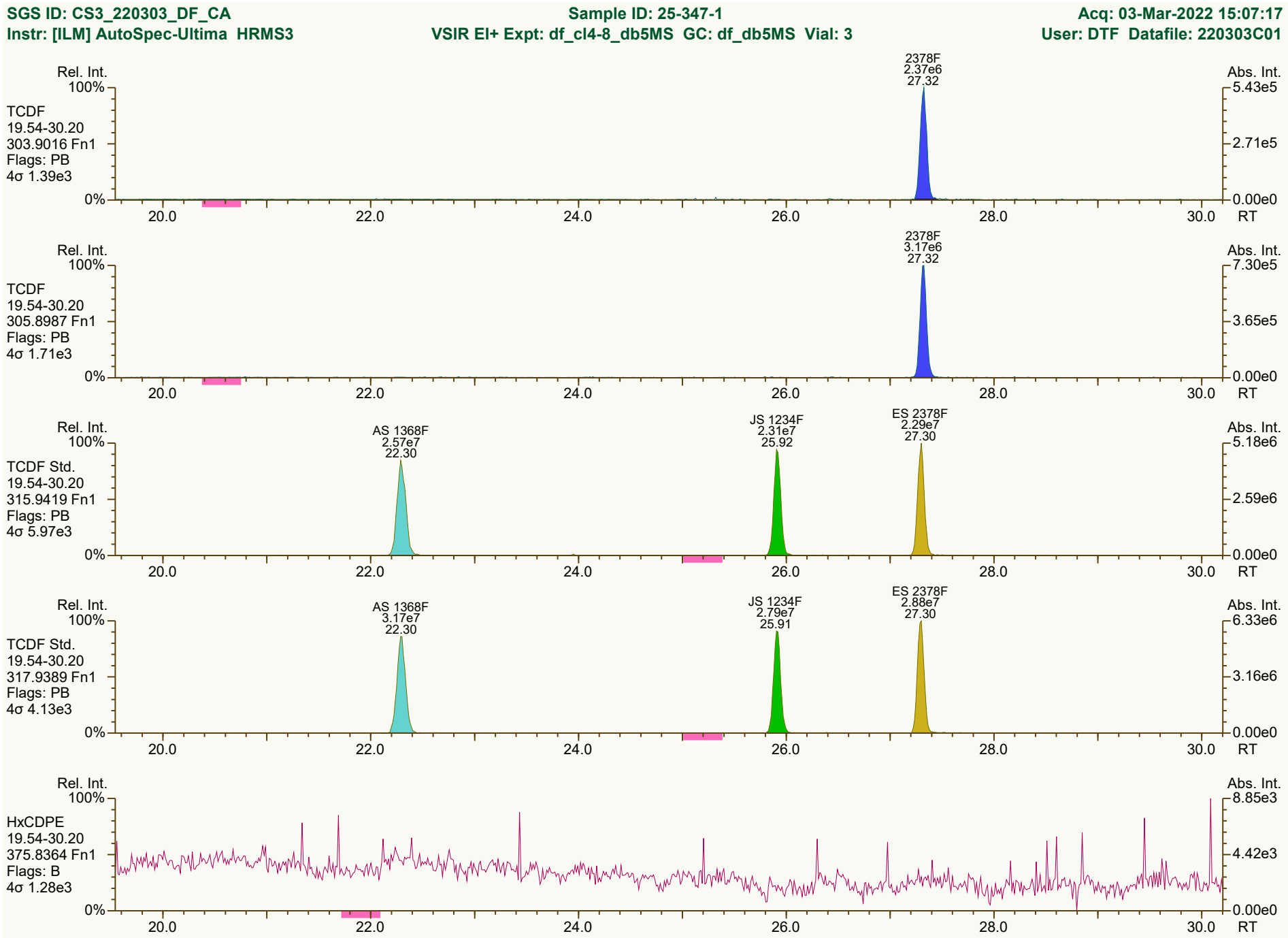

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 1.75e3
0%
2378D RRF = (1.62e6 + 2.11e6) * 100pg / (1.42e7 + 1.78e7) * 10pg = 1.17
DTF 04-Mar-2022 10:49
VERIFIED
2378D
1.62e6
28.19
Abs. Int.
3.88e5
1.94e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.56e3
0%
2378D
2.11e6
28.19
Abs. Int.
5.13e5
2.56e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.12e3
0%
CS 37Cl-2378D
4.12e6
28.19
Abs. Int.
1.03e6
5.15e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.62e3
0%
AS 1368D
1.52e7
24.46
TS 1378D
2.12e7
26.49
JS 1234D
1.38e7
27.50
ES 2378D
1.42e7
28.17
FS 1278D
1.56e7
28.50
Abs. Int.
4.61e6
2.31e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.06e3
0%
AS 1368D
1.85e7
24.46
TS 1378D
2.67e7
26.49
JS 1234D
1.68e7
27.50
ES 2378D
1.78e7
28.17
FS 1278D
1.90e7
28.50
Abs. Int.
5.71e6
2.85e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

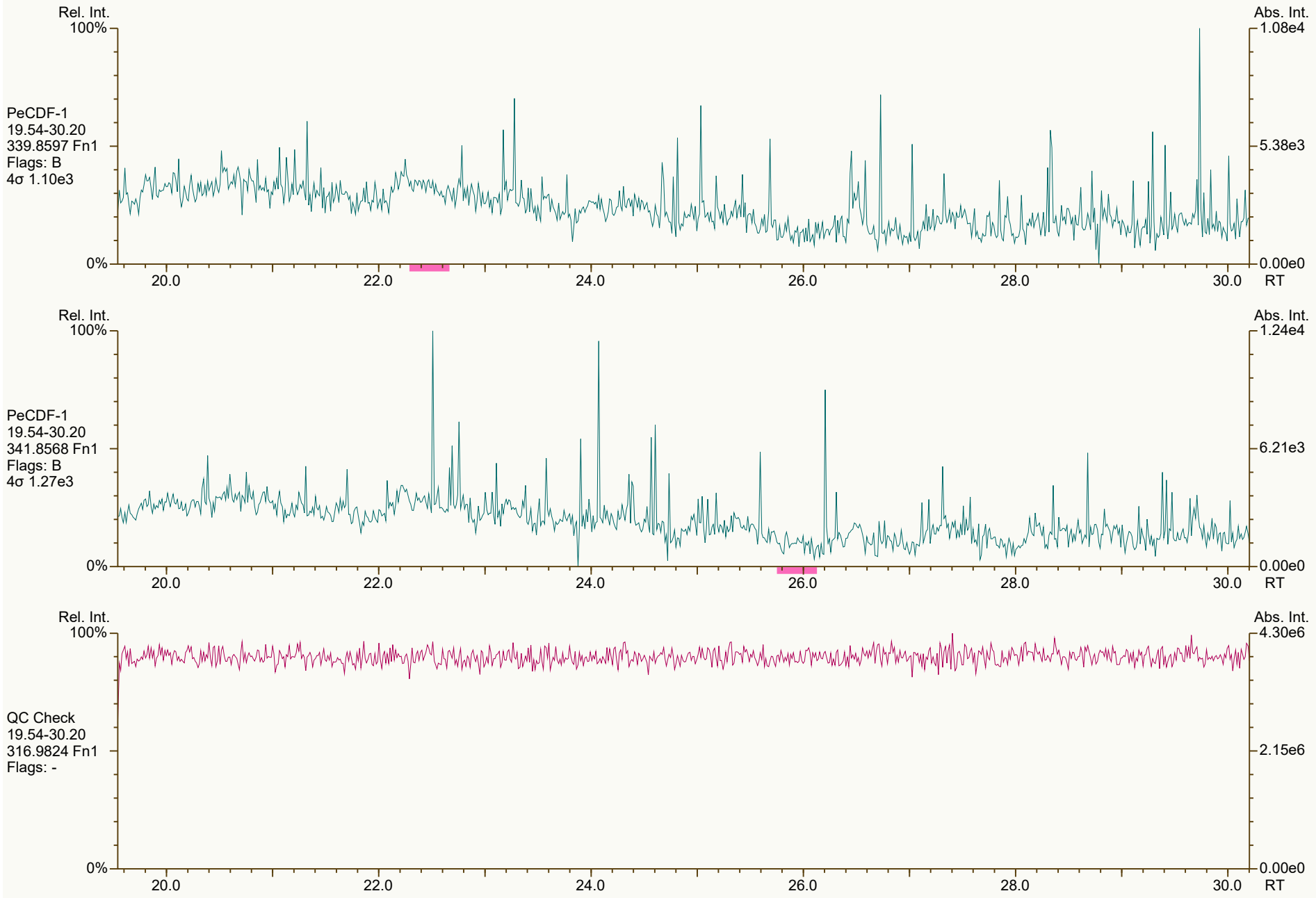

Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 2.44e3
0%
12378D
8.99e6*
33.60
Abs. Int.
2.51e6
1.25e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 1.59e3
0%
12378D
5.95e6*
33.59
Abs. Int.
1.70e6
8.52e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 3.42e3
0%
FS 12478D
1.87e7
32.34
CS 12347D
1.63e7
33.07
ES 12378D
1.74e7
33.58
Abs. Int.
5.17e6
2.58e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.54e3
0%
FS 12478D
1.17e7
32.34
CS 12347D
1.02e7
33.07
ES 12378D
1.10e7
33.58
Abs. Int.
3.18e6
1.59e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.80e6
1.90e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 1.46e3
0%
123478D
7.74e6
37.53
123678D
7.95e6
37.65
123789D
8.49e6
37.96
Abs. Int.
2.33e6
1.17e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.79e3
0%
123478D
6.24e6
37.53
123678D
6.43e6
37.65
123789D
6.78e6
37.96
Abs. Int.
1.78e6
8.89e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 3.33e3
0%
FS 123468D
1.92e7
36.43
ES 123478D
1.44e7
37.51
ES 123678D
1.41e7
37.64
JS 123467D
7.03e6
37.84
ES 123789D
1.68e7
37.95
Abs. Int.
5.68e6
2.84e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 2.25e3
0%
FS 123468D
1.53e7
36.43
ES 123478D
1.10e7
37.52
ES 123678D
1.12e7
37.64
JS 123467D
5.50e6
37.84
ES 123789D
1.31e7
37.95
Abs. Int.
4.62e6
2.31e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.44e7
7.22e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

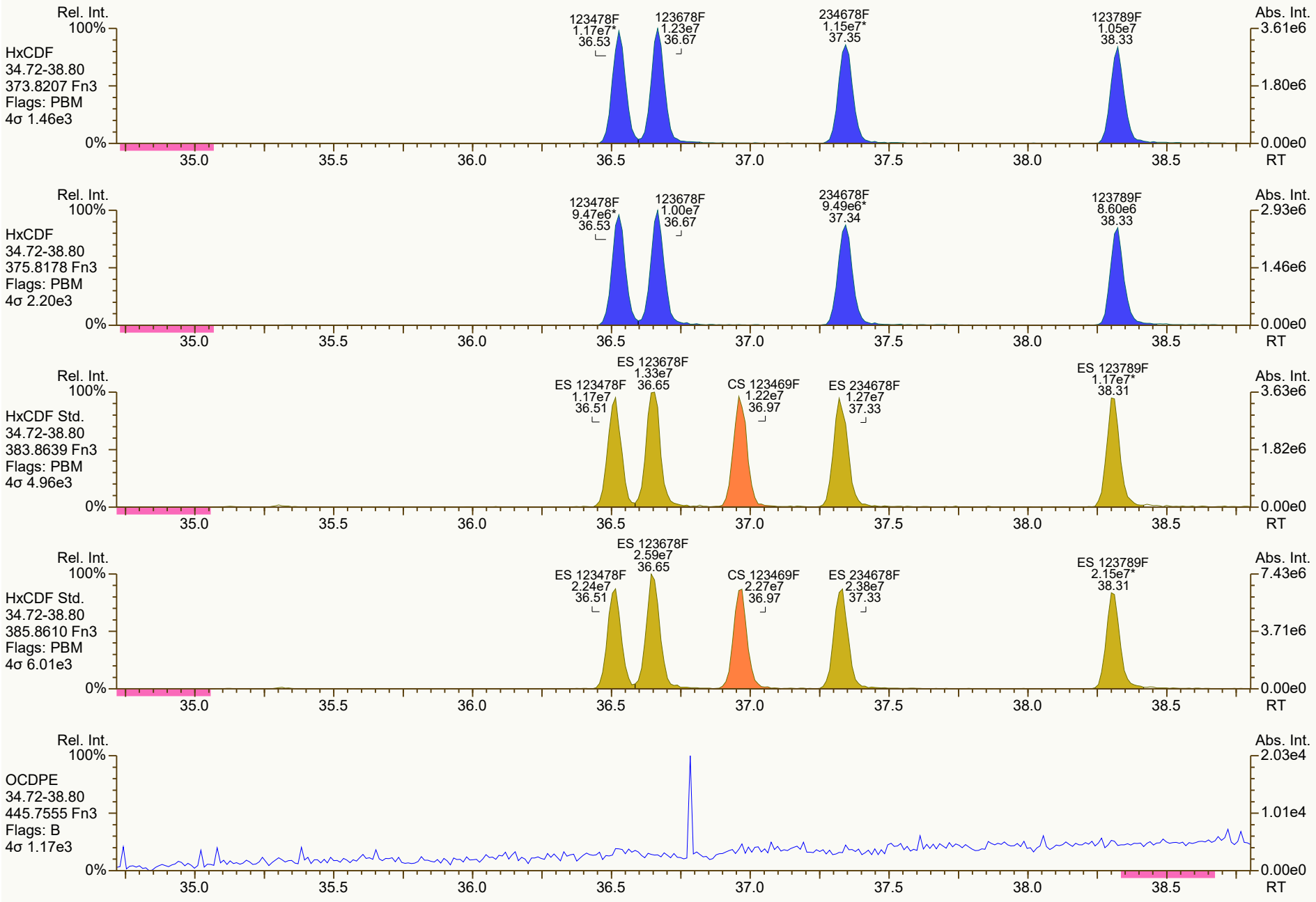

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 3.72e3
1234678D
6.89e6*
40.70
Abs. Int.
1.94e6
9.72e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 2.72e3
1234678D
6.49e6*
40.70
Abs. Int.
1.86e6
9.31e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 2.05e3
FS 1234679D
1.91e7
40.01
ES 1234678D
1.34e7*
40.69
Abs. Int.
5.88e6
2.94e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 3.22e3
FS 1234679D
1.76e7
40.01
ES 1234678D
1.27e7*
40.69
Abs. Int.
5.45e6
2.72e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
8.83e6
4.42e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

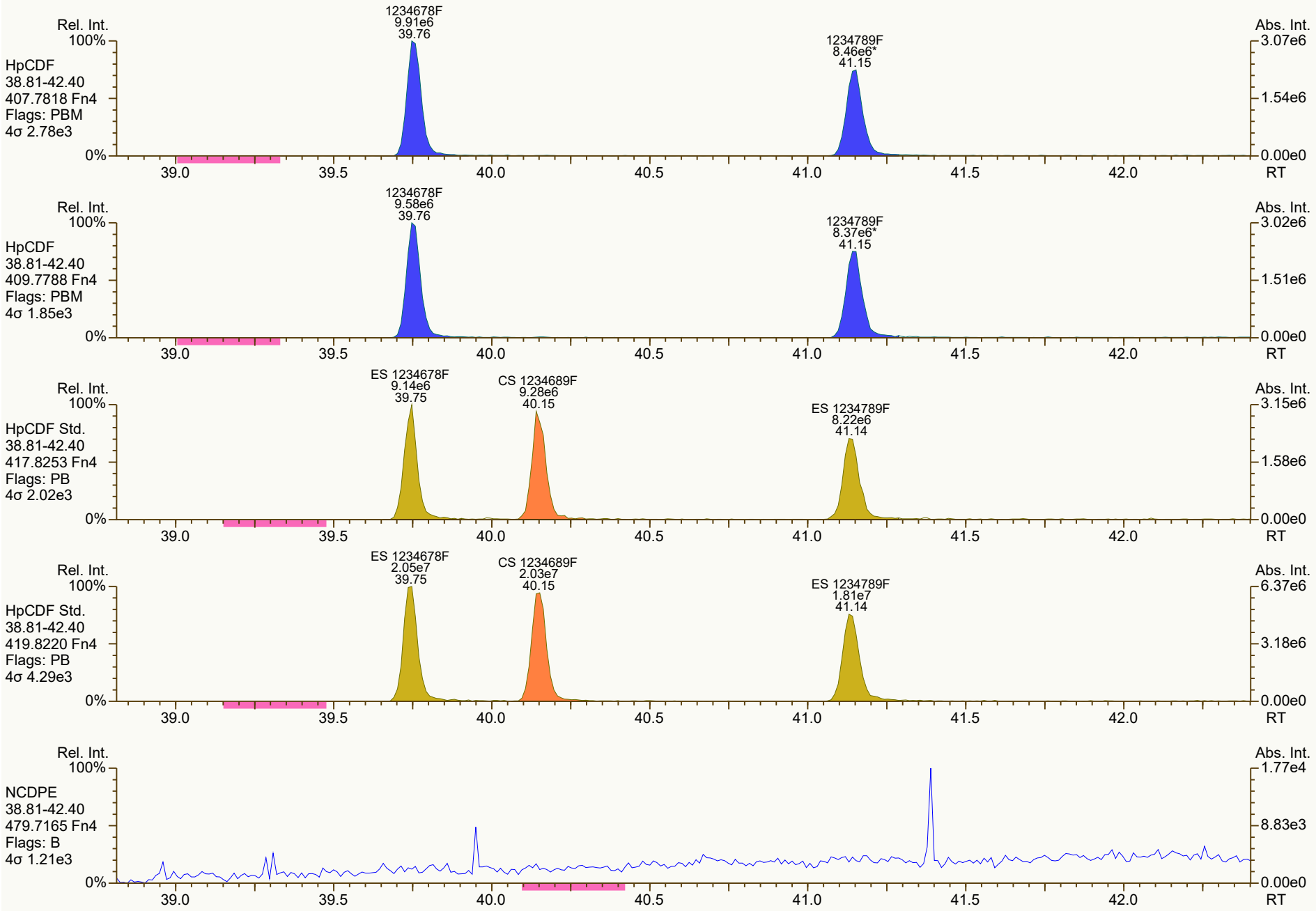

Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 2.92e3
0%
OCDD
1.00e7
43.39
Abs. Int.
1.98e6
9.89e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 3.25e3
0%
OCDD
1.12e7
43.39
Abs. Int.
2.33e6
1.17e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 2.88e3
0%
ES OCDD
1.87e7
43.38
Abs. Int.
3.80e6
1.90e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.72e3
0%
ES OCDD
2.02e7
43.38
Abs. Int.
3.84e6
1.92e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.30e6
3.65e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

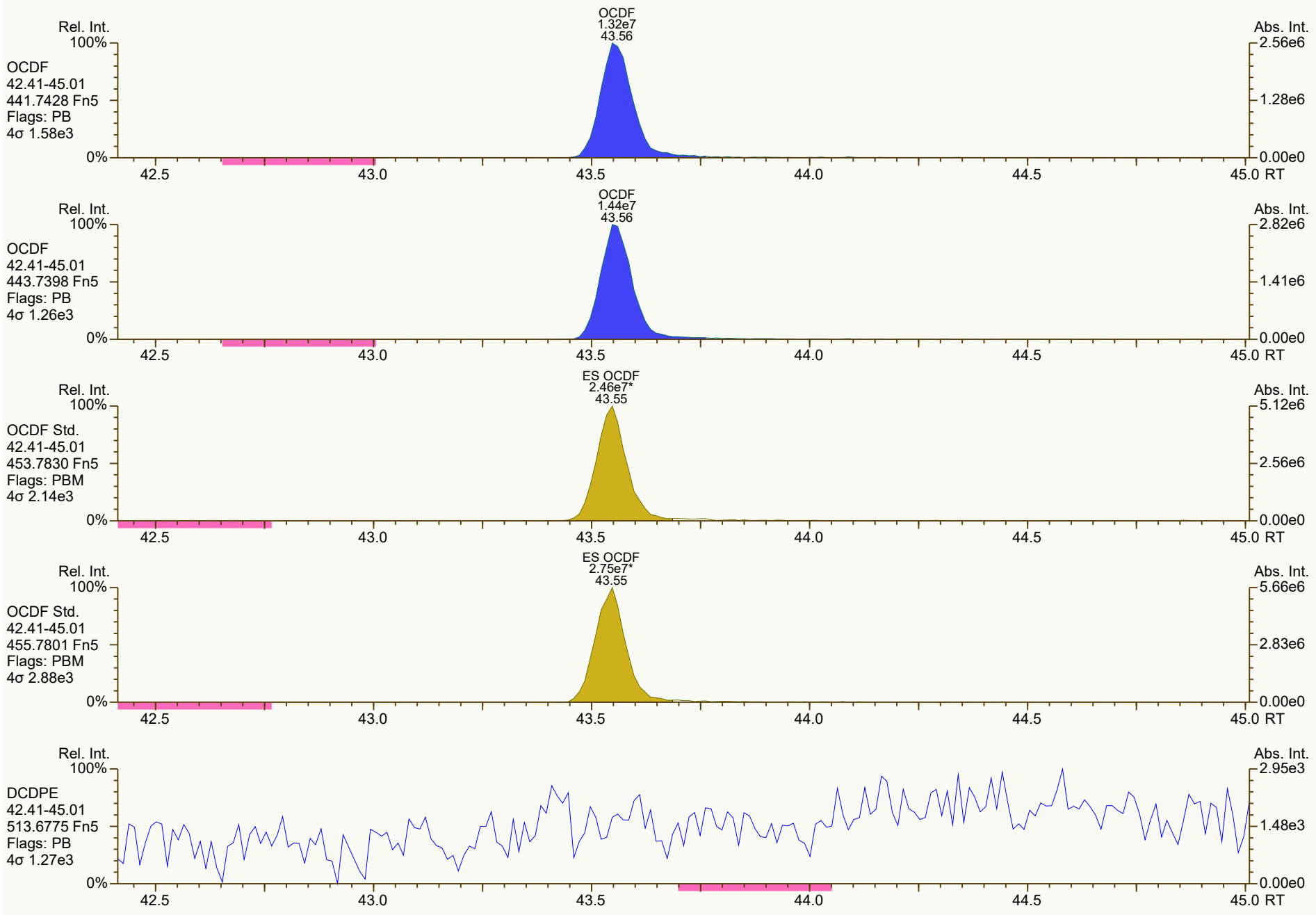

SGS ID: CS3_220303_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3
Sample ID: 25-347-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
Acq: 03-Mar-2022 15:07:17
User: DTF Datafile: 220303C01
Rel. Int.
100%
0%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.39e3
2378F
2.37e6
27.32
Abs. Int.
5.43e5
2.71e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 1.71e3
2378F
3.17e6
27.32
7.30e5
3.65e5
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 5.97e3
AS 1368F
2.57e7
22.30
JS 1234F
2.31e7
25.92
ES 2378F
2.29e7
27.30
5.18e6
2.59e6
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.13e3
AS 1368F
3.17e7
22.30
JS 1234F
2.79e7
25.91
ES 2378F
2.88e7
27.30
6.33e6
3.16e6
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.28e3
8.85e3
4.42e3
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\CS3_220303_DF_CA.utp_res, saved 04-Mar-2022 10:50 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3115, 0501, 5638 scc: 405-637
Peak annotation: Areas, Centroids
PKD: 03-Mar-2022 16:15 Printed: 04-Mar-2022 10:52 Page 7 of 12

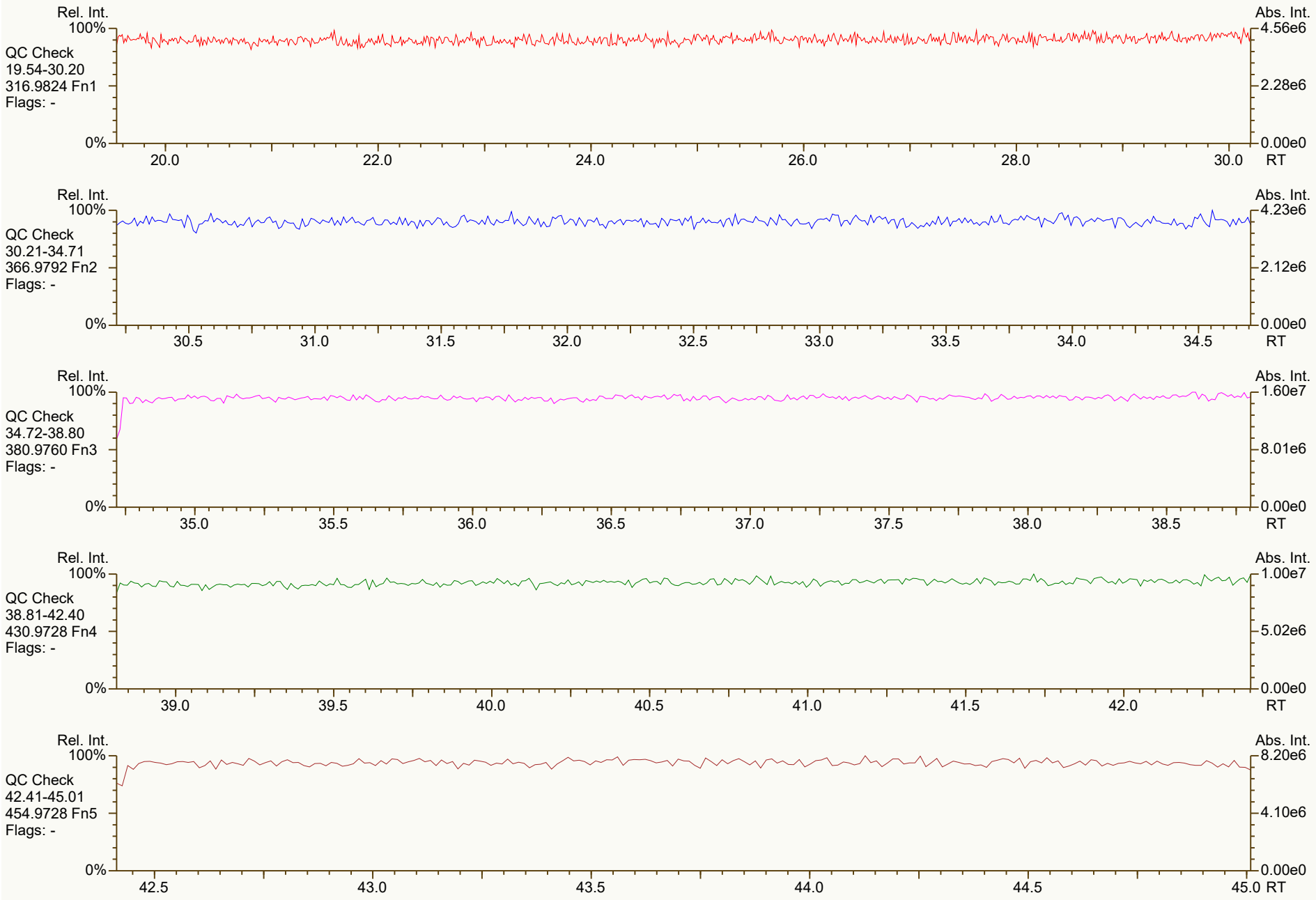

Rel. Int.
100%
0%
Abs. Int.
1.08e4
5.38e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.10e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.24e4
6.21e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.27e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.30e6
2.15e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT

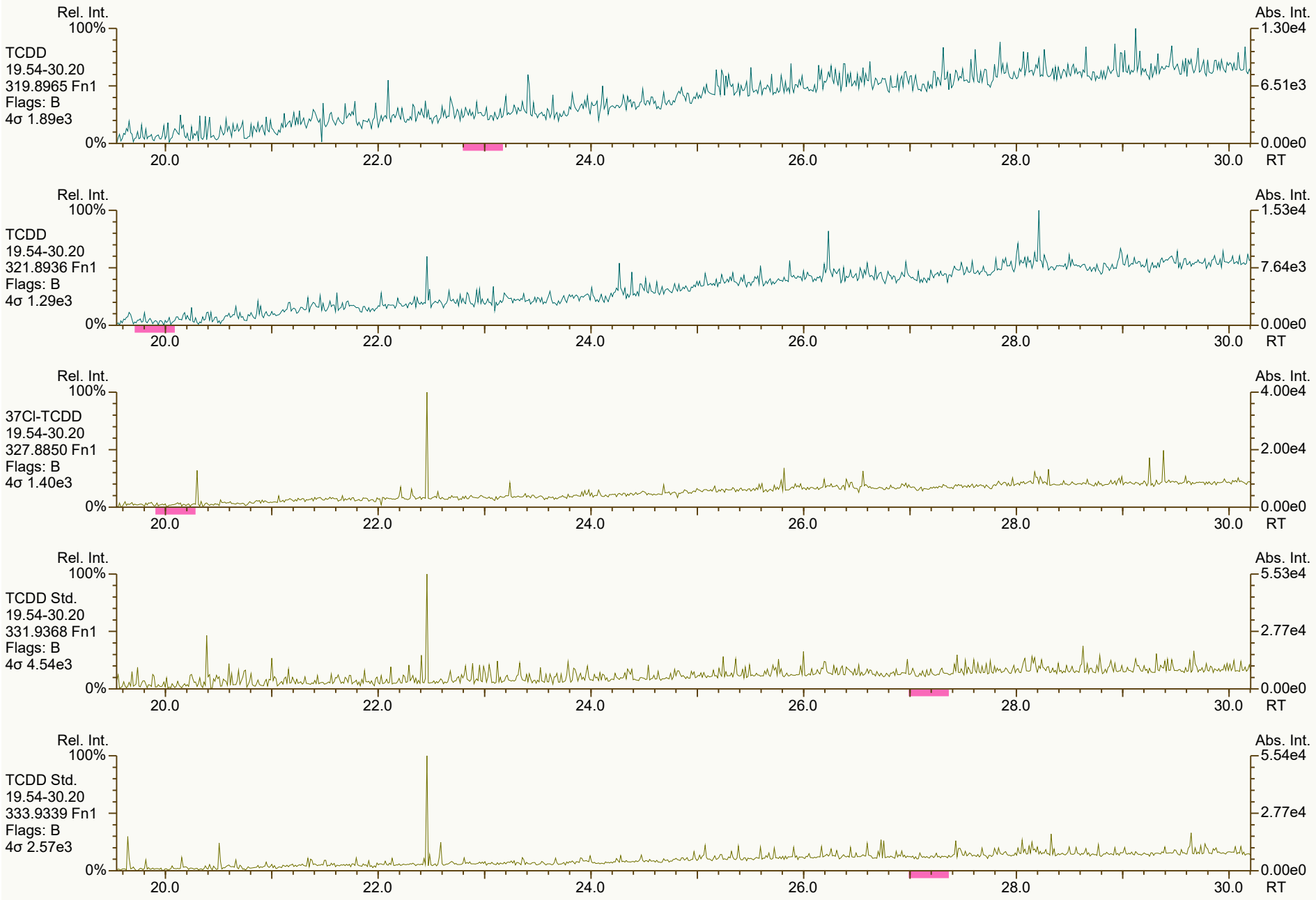

Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 2.40e3
0%
12378F
1.39e7
32.13
23478F
1.39e7*
33.25
Abs. Int.
3.82e6
1.91e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 2.23e3
0%
12378F
8.94e6
32.13
23478F
8.88e6*
33.25
Abs. Int.
2.51e6
1.25e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 1.49e3
0%
CS 12346F
2.69e7
31.58
ES 12378F
2.85e7
32.11
ES 23478F
2.85e7
33.24
Abs. Int.
8.26e6
4.13e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 3.03e3
0%
CS 12346F
1.72e7
31.58
ES 12378F
1.74e7
32.11
ES 23478F
1.74e7
33.24
Abs. Int.
5.13e6
2.57e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.36e3
0%
Abs. Int.
6.01e3
3.01e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 1.46e3
0%
123478F
1.17e7*
36.53
123678F
1.23e7
36.67
234678F
1.15e7*
37.35
123789F
1.05e7
38.33
Abs. Int.
3.61e6
1.80e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 2.20e3
0%
123478F
9.47e6*
36.53
123678F
1.00e7
36.67
234678F
9.49e6*
37.34
123789F
8.60e6
38.33
Abs. Int.
2.93e6
1.46e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 4.96e3
0%
ES 123678F
1.33e7
36.65
ES 123478F
1.17e7
36.51
CS 123469F
1.22e7
36.97
ES 234678F
1.27e7
37.33
ES 123789F
1.17e7*
38.31
Abs. Int.
3.63e6
1.82e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 6.01e3
0%
ES 123678F
2.59e7
36.65
ES 123478F
2.24e7
36.51
CS 123469F
2.27e7
36.97
ES 234678F
2.38e7
37.33
ES 123789F
2.15e7*
38.31
Abs. Int.
7.43e6
3.71e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.17e3
0%
Abs. Int.
2.03e4
1.01e4
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 2.78e3
1234678F
9.91e6
39.76
1234789F
8.46e6*
41.15
Abs. Int.
3.07e6
1.54e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 1.85e3
1234678F
9.58e6
39.76
1234789F
8.37e6*
41.15
Abs. Int.
3.02e6
1.51e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 2.02e3
ES 1234678F
9.14e6
39.75
CS 1234689F
9.28e6
40.15
ES 1234789F
8.22e6
41.14
Abs. Int.
3.15e6
1.58e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 4.29e3
ES 1234678F
2.05e7
39.75
CS 1234689F
2.03e7
40.15
ES 1234789F
1.81e7
41.14
Abs. Int.
6.37e6
3.18e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.21e3
Abs. Int.
1.77e4
8.83e3
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.58e3
0%
OCDF
1.32e7
43.56
Abs. Int.
2.56e6
1.28e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.26e3
0%
OCDF
1.44e7
43.56
Abs. Int.
2.82e6
1.41e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 2.14e3
0%
ES OCDF
2.46e7*
43.55
Abs. Int.
5.12e6
2.56e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 2.88e3
0%
ES OCDF
2.75e7*
43.55
Abs. Int.
5.66e6
2.83e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
2.95e3
1.48e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

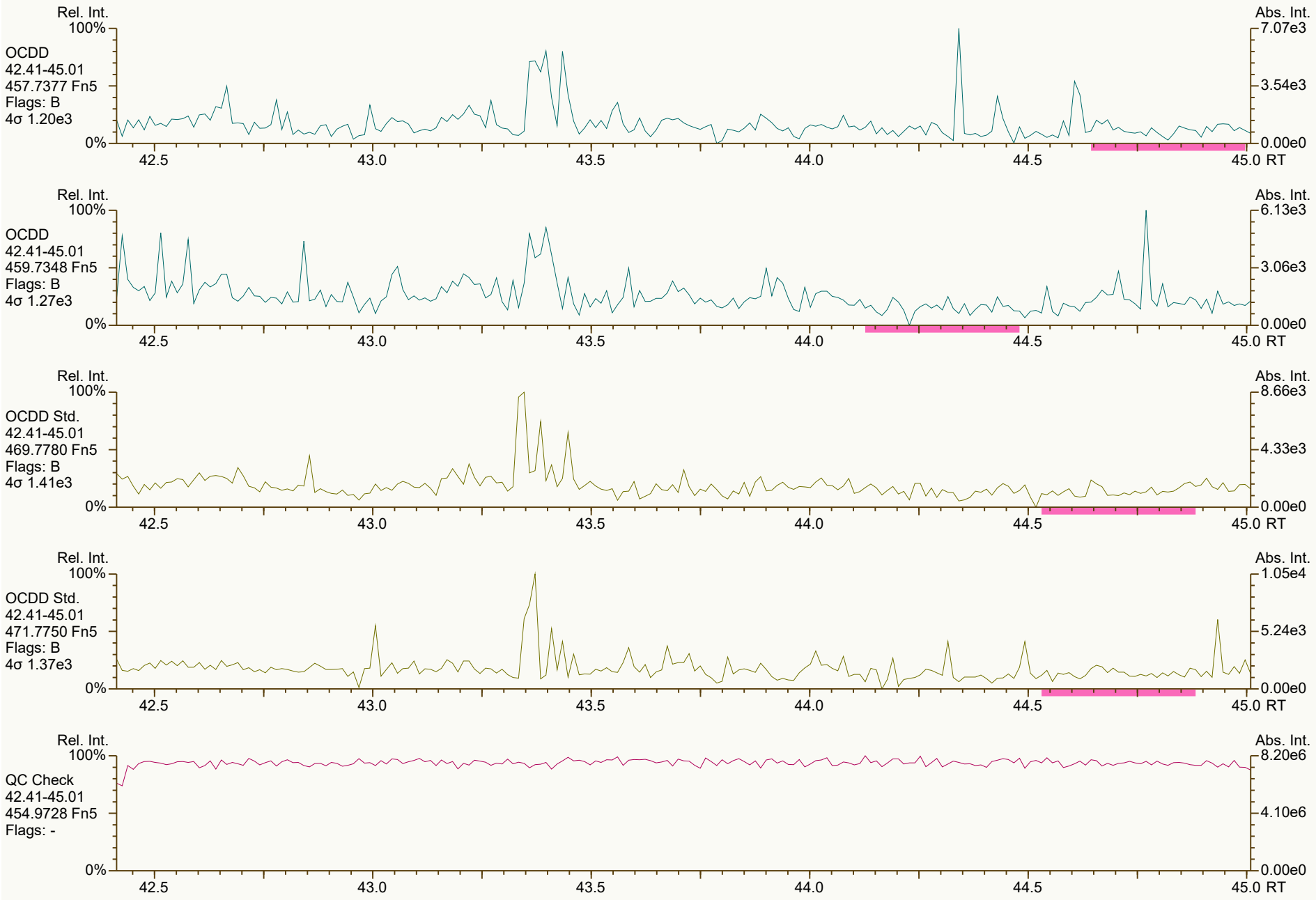

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.56e6
2.28e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.23e6
2.12e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.60e7
8.01e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.00e7
5.02e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
8.20e6
4.10e6
0.00e0

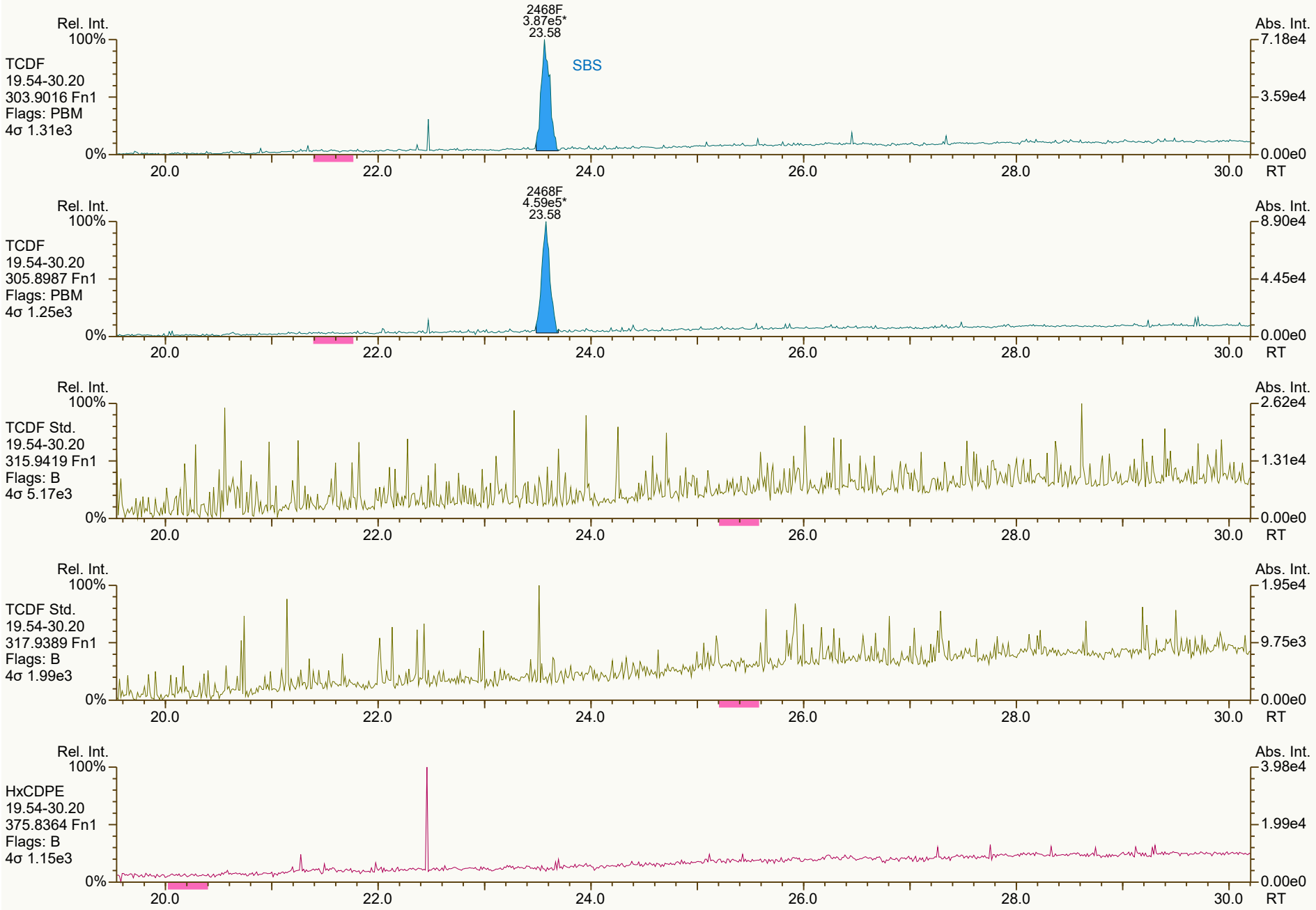

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 1.89e3
0%
Abs. Int.
1.30e4
6.51e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.29e3
0%
Abs. Int.
1.53e4
7.64e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.00e4
2.00e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 4.54e3
0%
Abs. Int.
5.53e4
2.77e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 2.57e3
0%
Abs. Int.
5.54e4
2.77e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

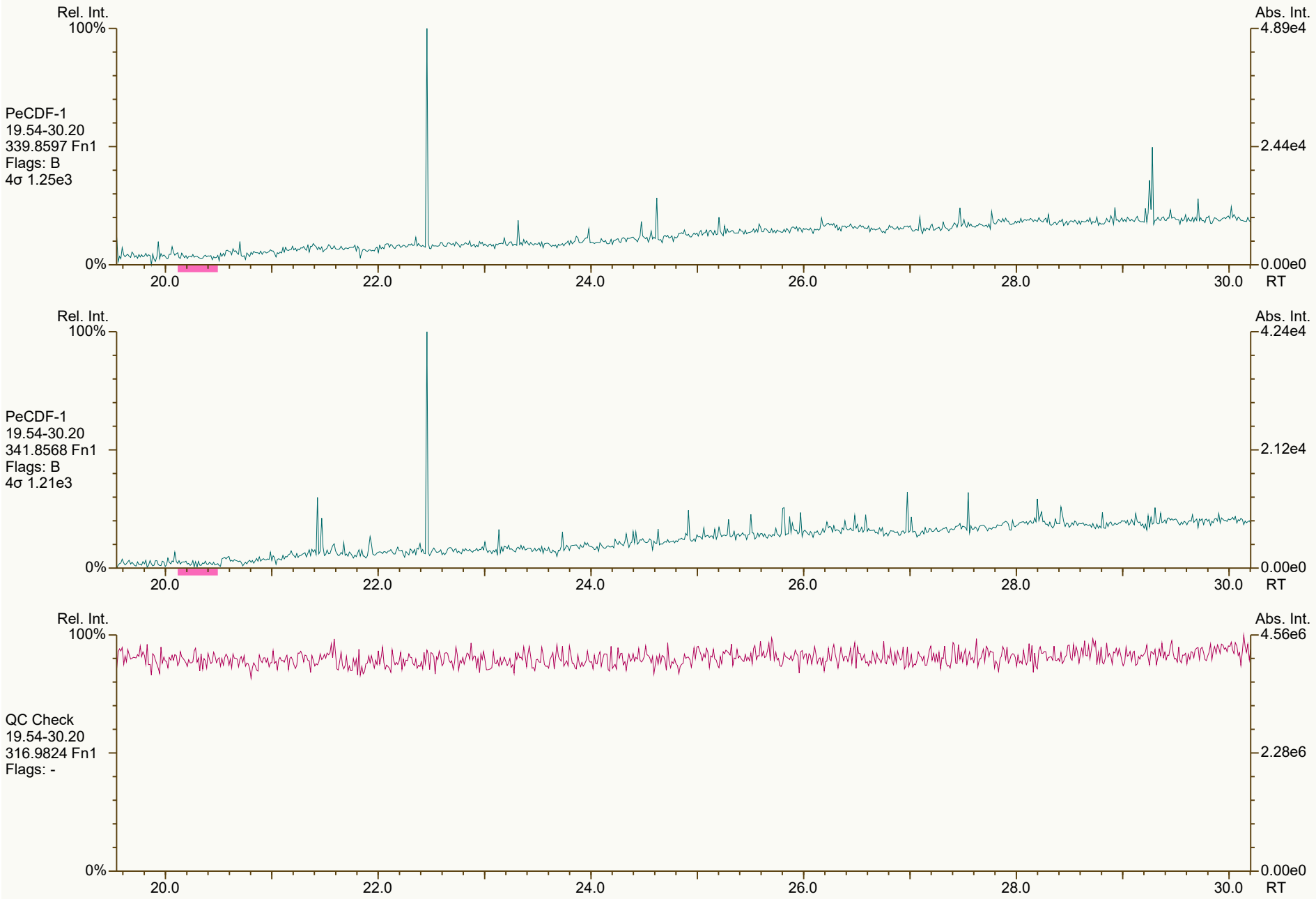

Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.47e3
0%
Abs. Int.
5.59e3
2.79e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.24e3
0%
Abs. Int.
7.33e3
3.66e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: B
4σ 1.85e3
0%
Abs. Int.
9.36e3
4.68e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: B
4σ 1.72e3
0%
Abs. Int.
3.15e4
1.58e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.23e6
2.12e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: B
4σ 1.12e3
0%
Abs. Int.
7.71e3
3.86e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.16e3
0%
Abs. Int.
5.48e3
2.74e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: B
4σ 3.50e3
0%
Abs. Int.
1.67e4
8.33e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: B
4σ 1.41e3
0%
Abs. Int.
1.66e4
8.29e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.60e7
8.01e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: B
4σ 9.58e2
0%
Abs. Int.
5.44e3
2.72e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 9.93e2
0%
Abs. Int.
4.12e3
2.06e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: B
4σ 1.59e3
0%
Abs. Int.
1.64e4
8.21e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: B
4σ 2.00e3
0%
Abs. Int.
1.89e4
9.46e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.00e7
5.02e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

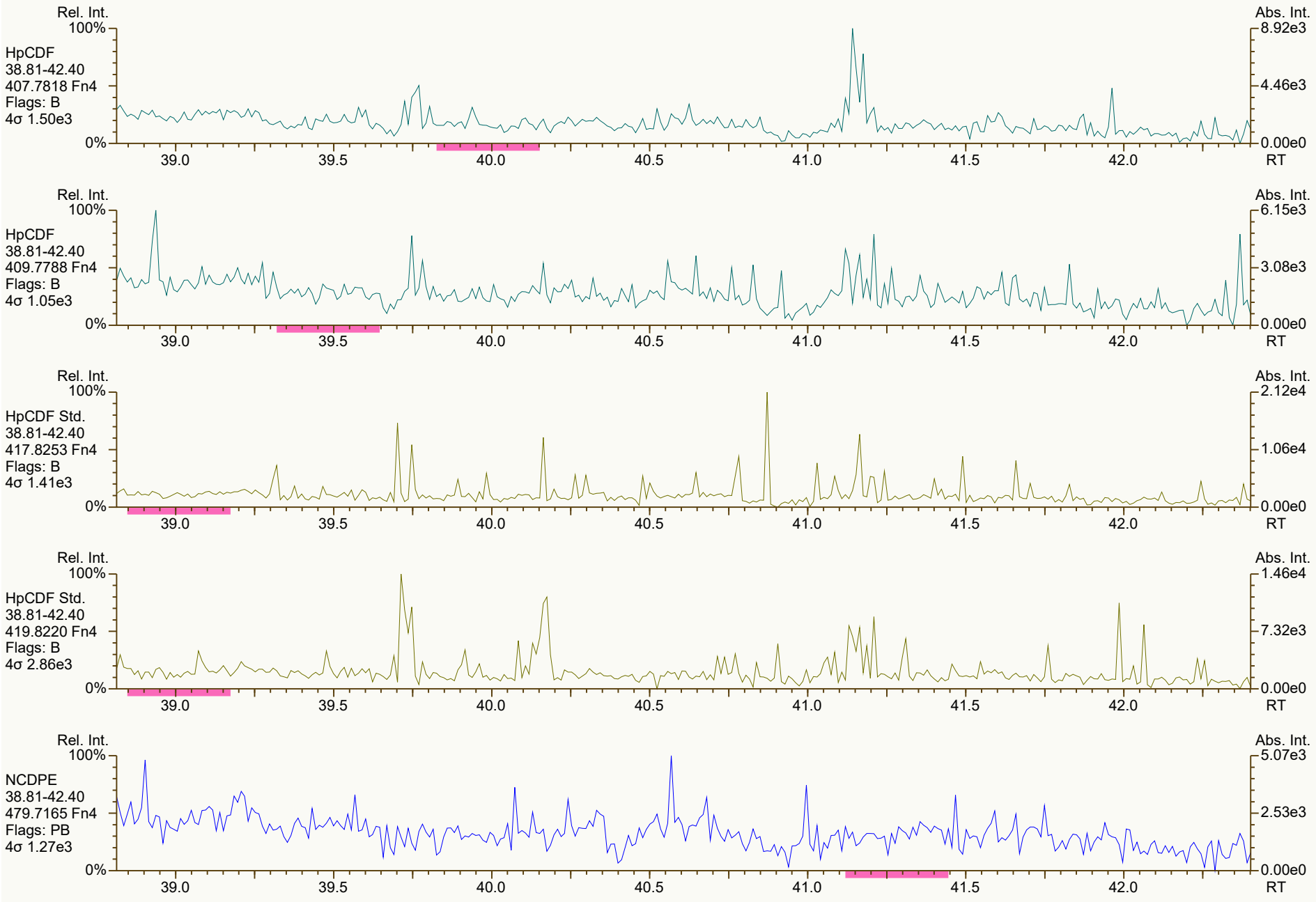

Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 1.20e3
0%
Abs. Int.
7.07e3
3.54e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 1.27e3
0%
Abs. Int.
6.13e3
3.06e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: B
4σ 1.41e3
0%
Abs. Int.
8.66e3
4.33e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: B
4σ 1.37e3
0%
Abs. Int.
1.05e4
5.24e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
8.20e6
4.10e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

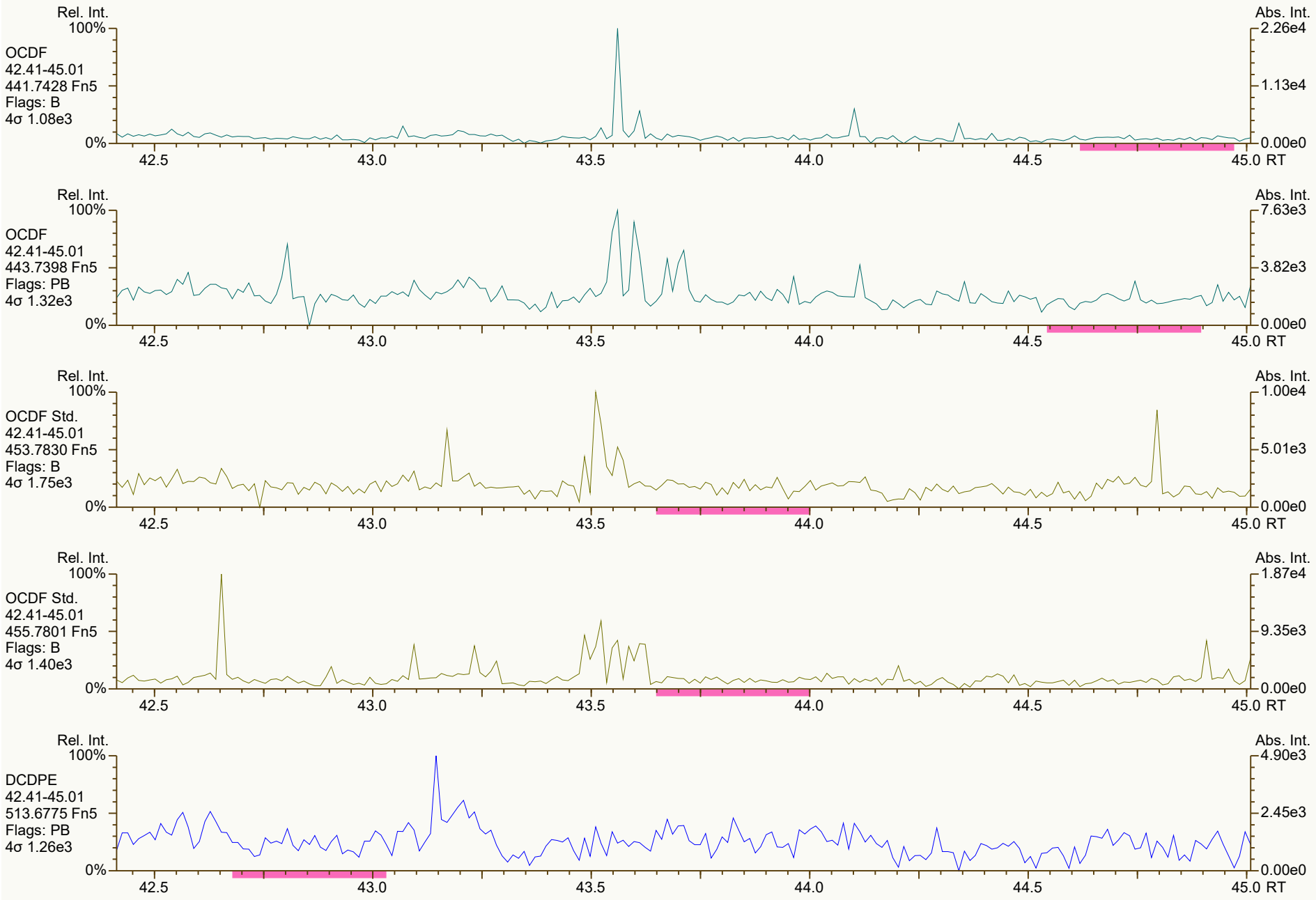

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.31e3
2468F
3.87e5*
23.58
SBS
Abs. Int.
7.18e4
3.59e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.25e3
2468F
4.59e5*
23.58
Abs. Int.
8.90e4
4.45e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 5.17e3
Abs. Int.
2.62e4
1.31e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 1.99e3
Abs. Int.
1.95e4
9.75e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.15e3
Abs. Int.
3.98e4
1.99e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
4.89e4
2.44e4
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.25e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.24e4
2.12e4
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.21e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.56e6
2.28e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.04e3
0%
Abs. Int.
5.13e3
2.57e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 1.67e3
0%
Abs. Int.
5.40e3
2.70e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: B
4σ 2.02e3
0%
Abs. Int.
1.98e4
9.89e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: B
4σ 3.01e3
0%
Abs. Int.
2.12e4
1.06e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.40e3
0%
Abs. Int.
8.24e3
4.12e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: B
4σ 1.12e3
0%
Abs. Int.
1.02e4
5.09e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: B
4σ 8.51e2
0%
Abs. Int.
8.02e3
4.01e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.64e4
8.19e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: B
4σ 1.94e3
0%
Abs. Int.
1.56e4
7.78e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.15e3
0%
Abs. Int.
1.31e4
6.56e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

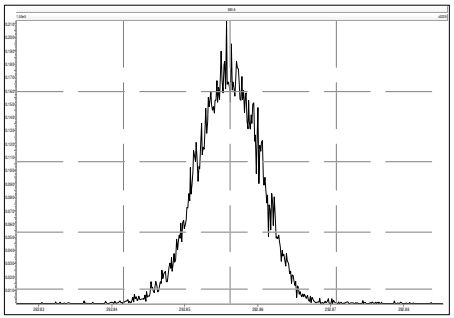

Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: B
4σ 1.50e3
0%
Abs. Int.
8.92e3
4.46e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: B
4σ 1.05e3
0%
Abs. Int.
6.15e3
3.08e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: B
4σ 1.41e3
0%
Abs. Int.
2.12e4
1.06e4
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: B
4σ 2.86e3
0%
Abs. Int.
1.46e4
7.32e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.07e3
2.53e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: B
4σ 1.08e3
0%
Abs. Int.
2.26e4
1.13e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.32e3
0%
Abs. Int.
7.63e3
3.82e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
1.00e4
5.01e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
1.87e4
9.35e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
4.90e3
2.45e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

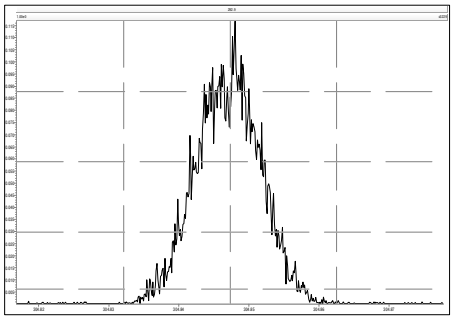
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Thursday, March 03, 2022 15:05:26 Eastern Standard Time

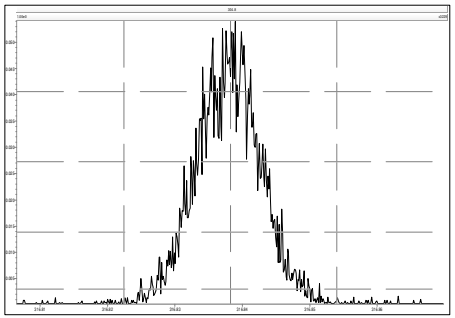
M 292.9824 R 14529



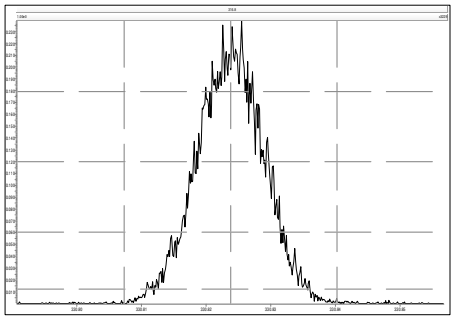
M 304.9824 R 14704



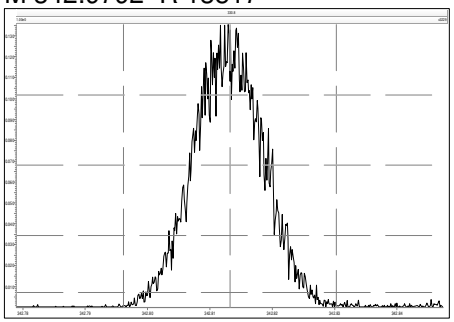
M 316.9824 R 14876



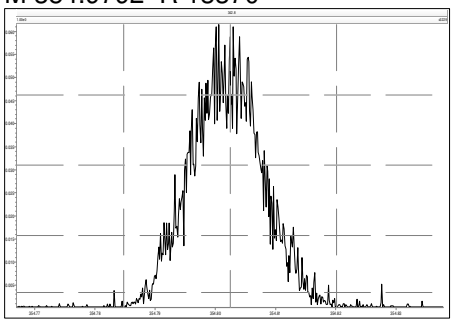
M 330.9792 R 13661



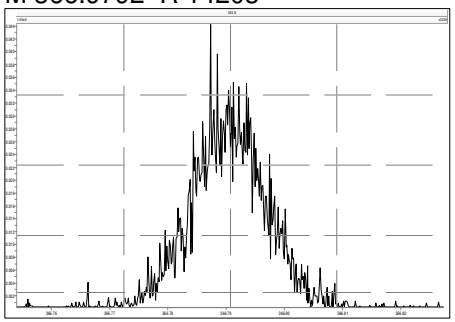
M 342.9792 R 13517



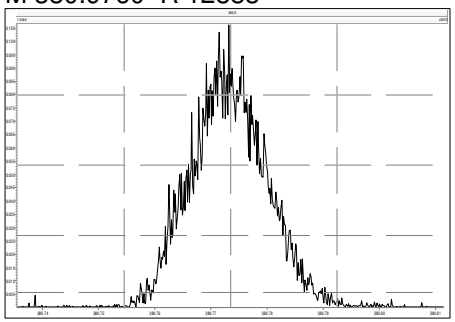
M 354.9792 R 13370



M 366.9792 R 14203



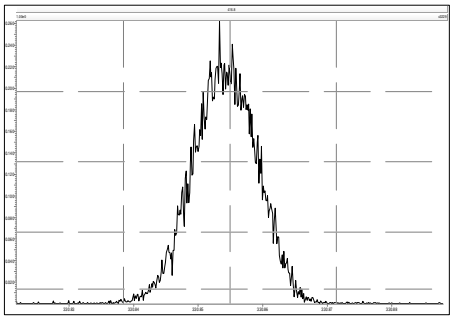
M 380.9760 R 12888



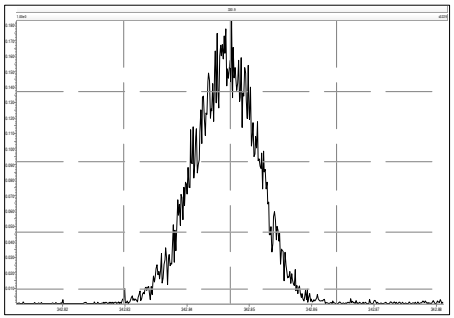
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Thursday, March 03, 2022 15:05:42 Eastern Standard Time

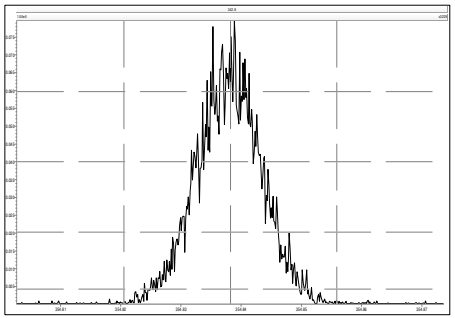
M 330.9792 R 14615



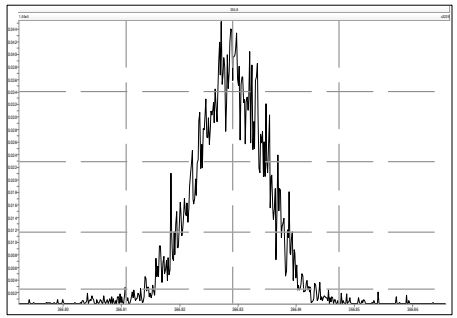
M 342.9792 R 14880



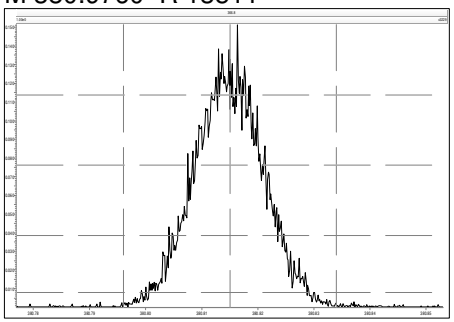
M 354.9792 R 13963



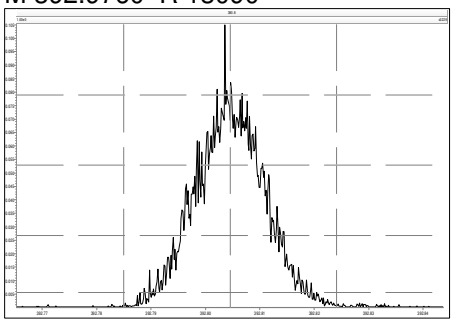
M 366.9792 R 13655



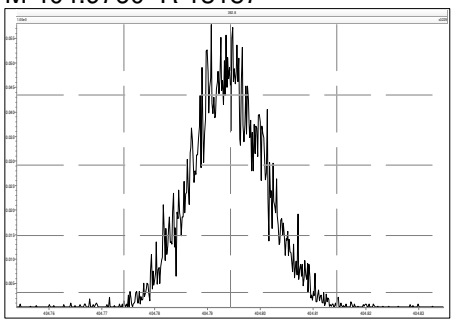
M 380.9760 R 13511



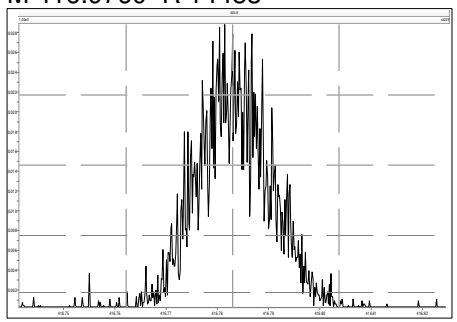
M 392.9760 R 13090



M 404.9760 R 13157



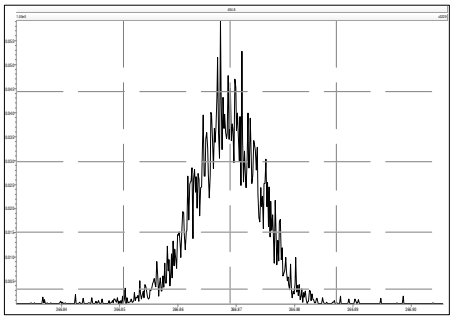
M 416.9760 R 14453



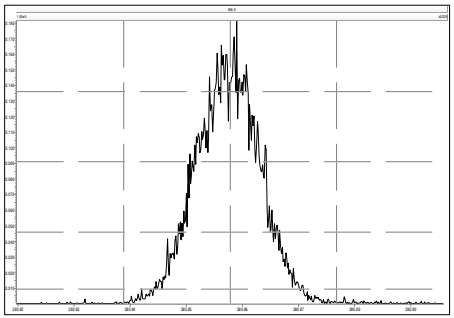
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Thursday, March 03, 2022 15:05:59 Eastern Standard Time

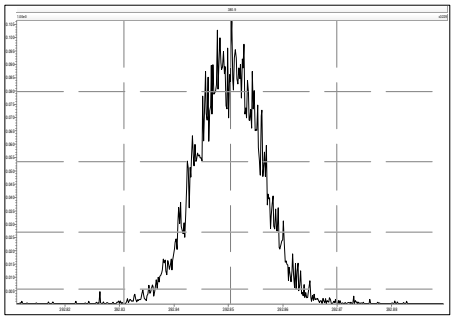
M 366.9792 R 16027



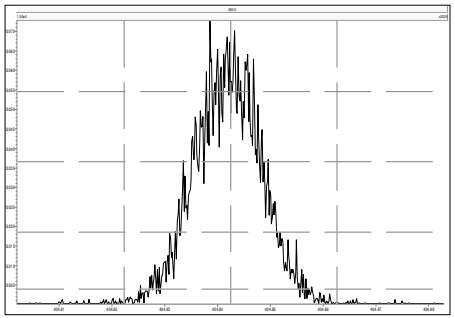
M 380.9760 R 14204



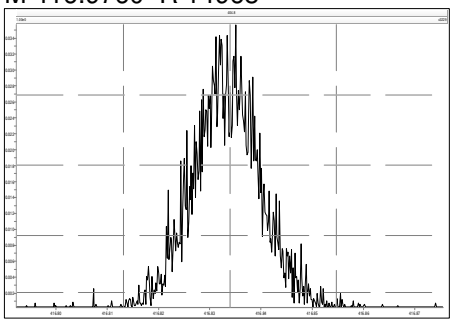
M 392.9760 R 14371



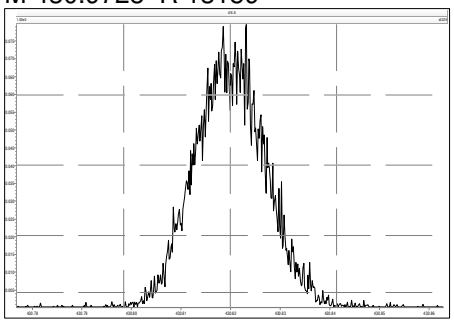
M 404.9760 R 15338



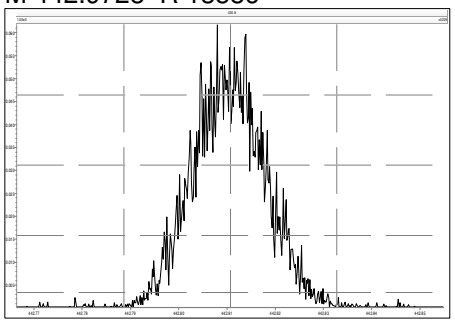
M 416.9760 R 14968



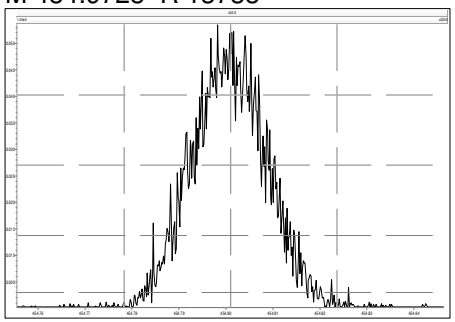
M 430.9728 R 13159



M 442.9728 R 13586



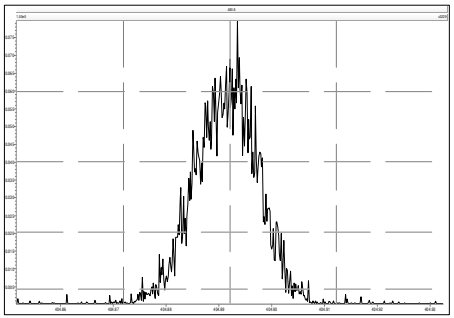
M 454.9728 R 13738



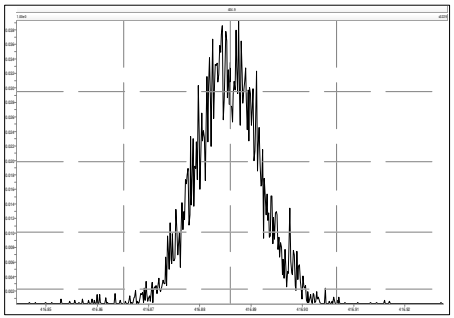
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Thursday, March 03, 2022 15:06:14 Eastern Standard Time

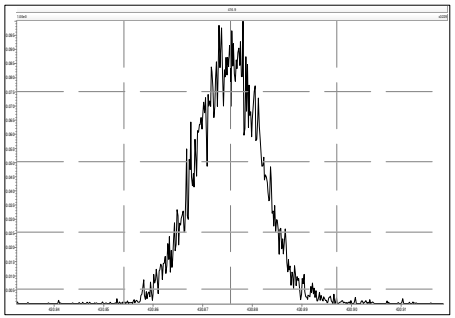
M 404.9760 R 16450



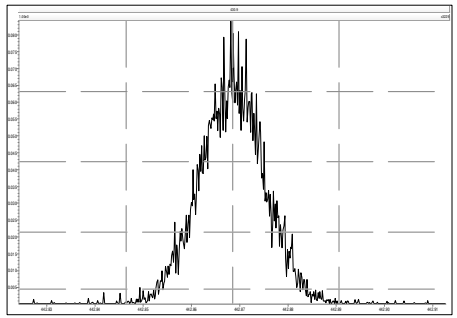
M 416.9760 R 14368



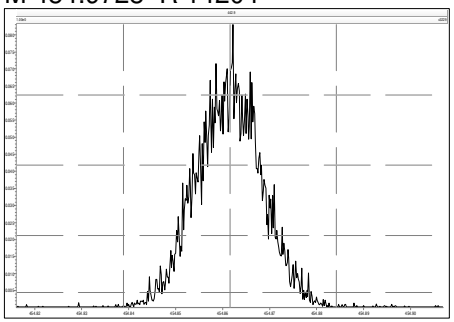
M 430.9728 R 15064



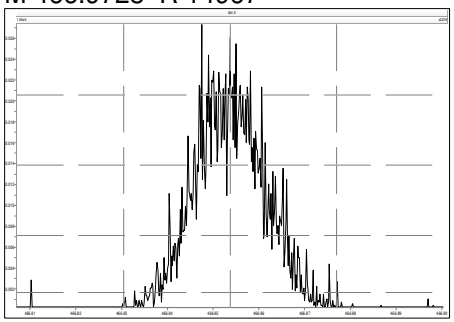
M 442.9728 R 14201



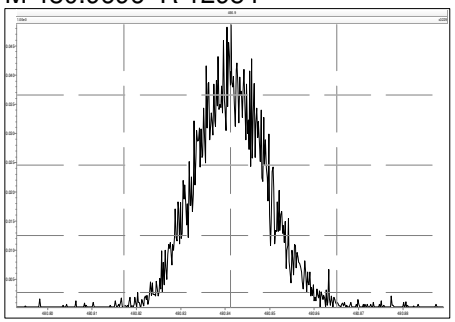
M 454.9728 R 14204



M 466.9728 R 14967



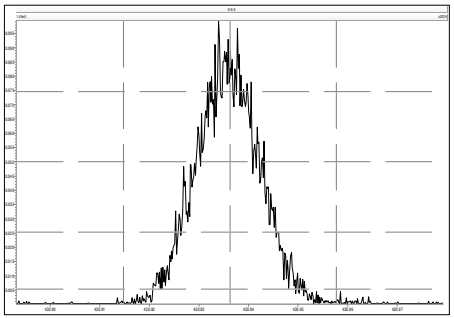
M 480.9696 R 12954



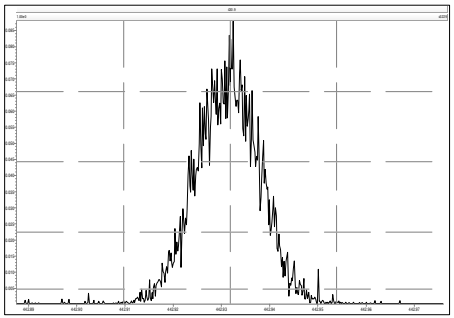
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Thursday, March 03, 2022 15:06:34 Eastern Standard Time

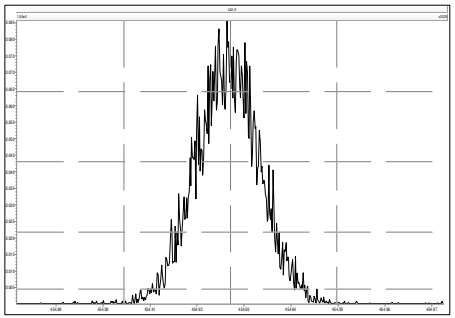
M 430.9728 R 14881



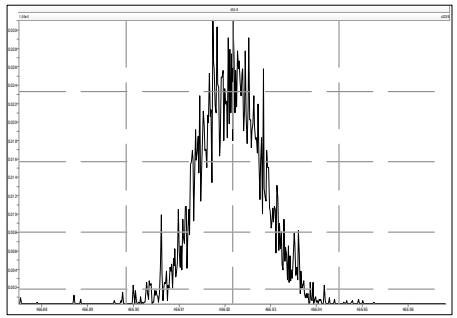
M 442.9728 R 16024



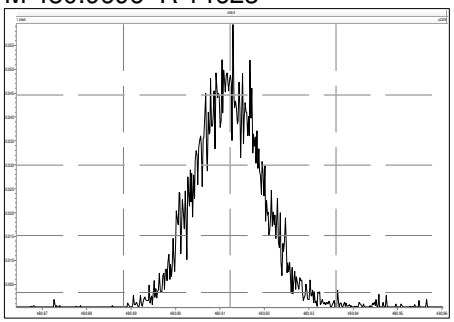
M 454.9728 R 14621



M 466.9728 R 15528



M 480.9696 R 14623



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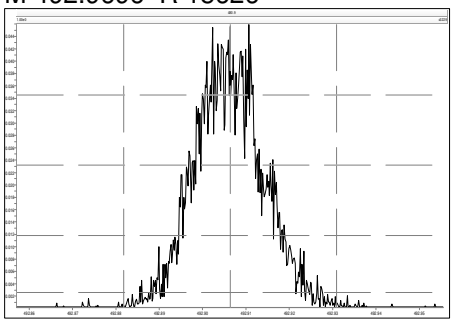

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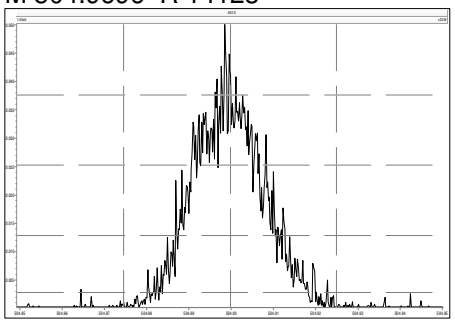

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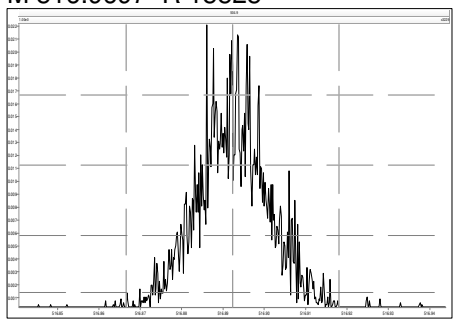

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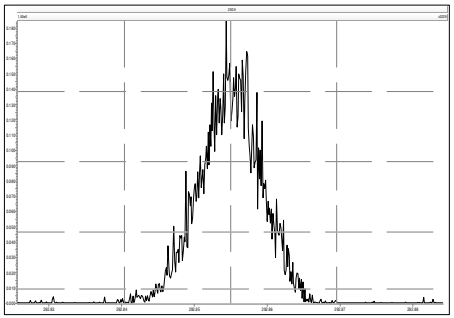

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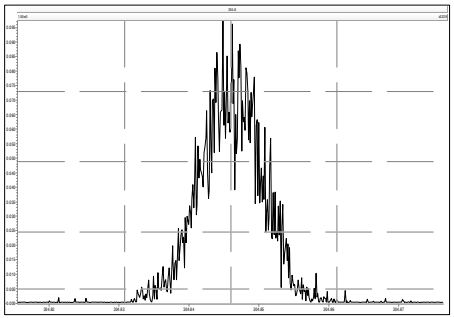

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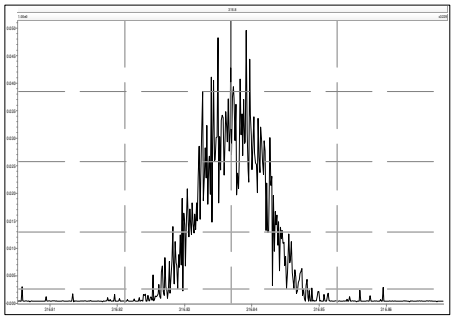

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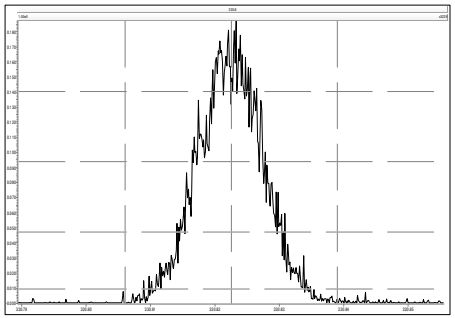

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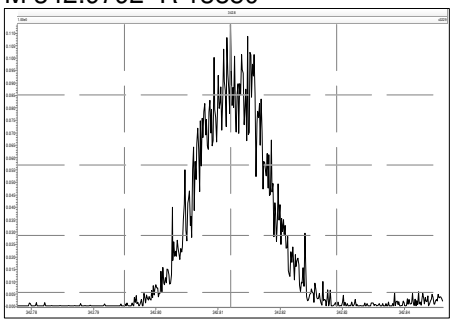

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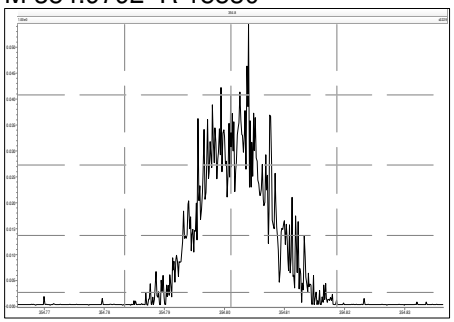

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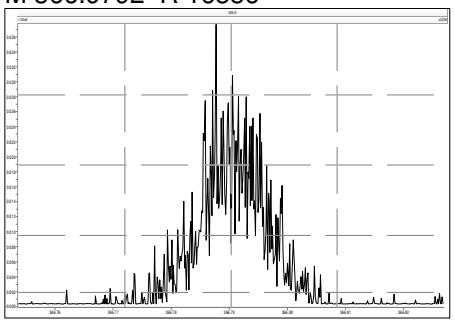

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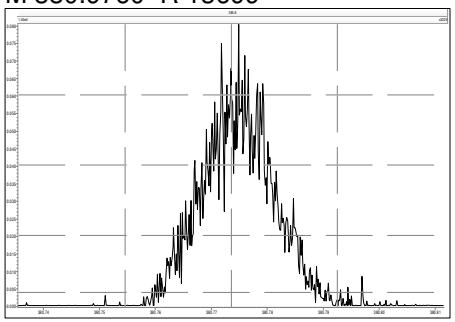

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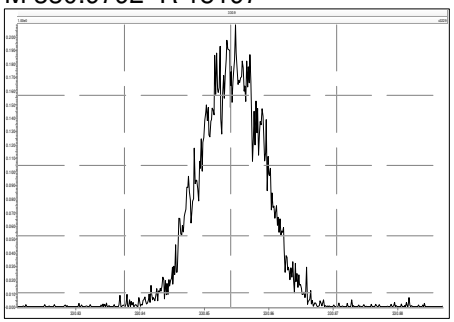

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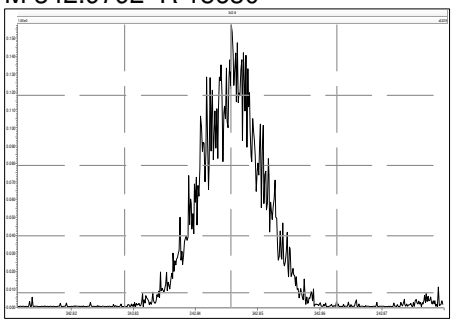

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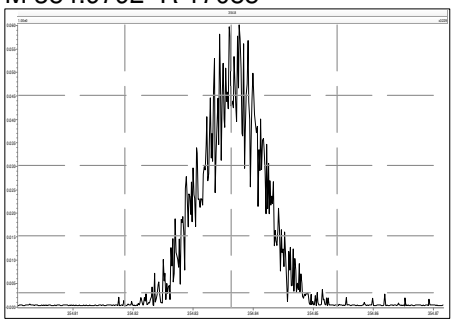

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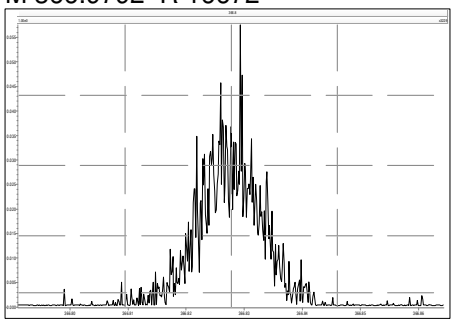

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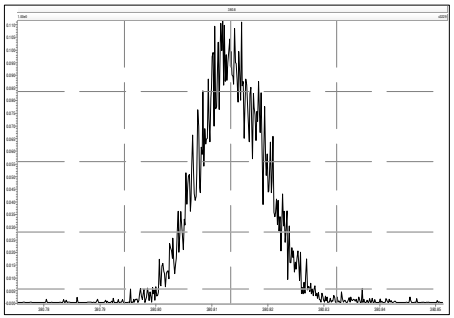

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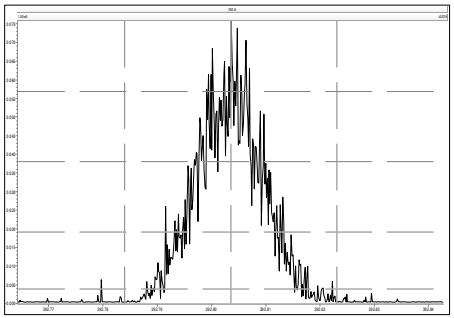

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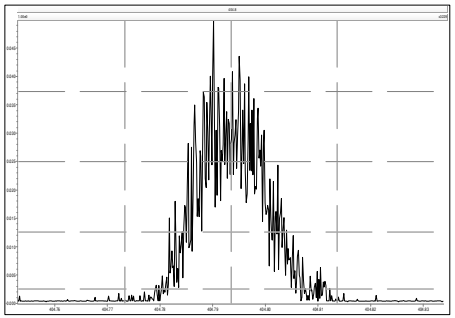

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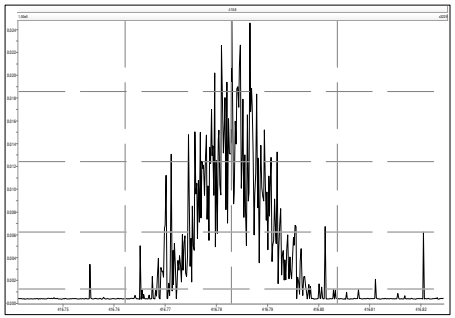

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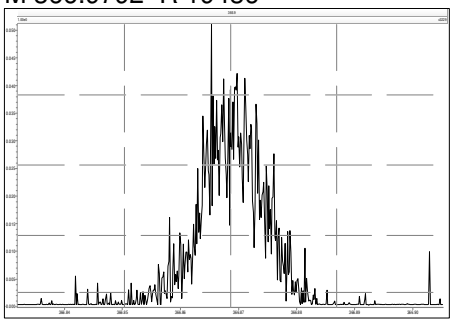

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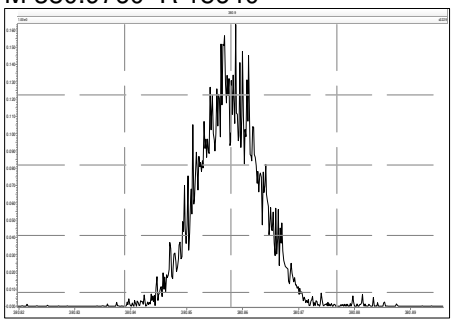

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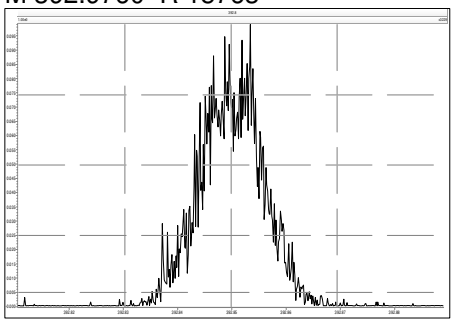

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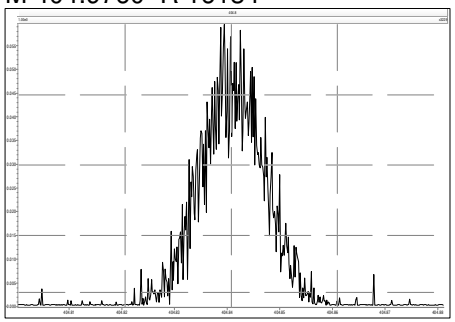

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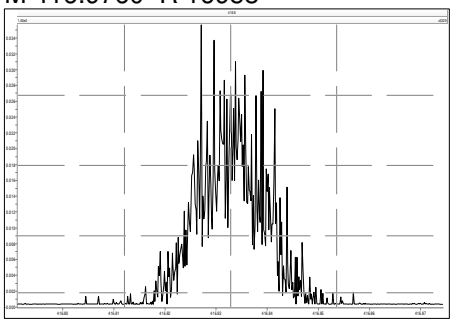

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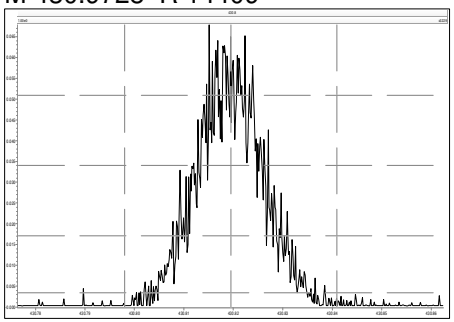

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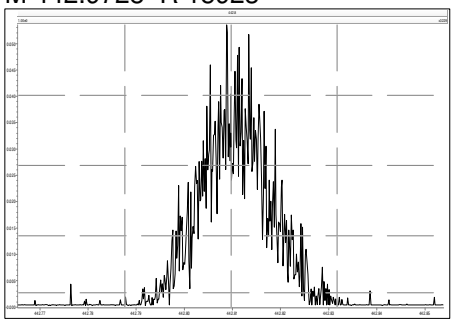

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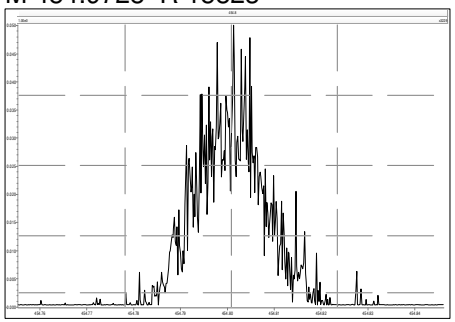

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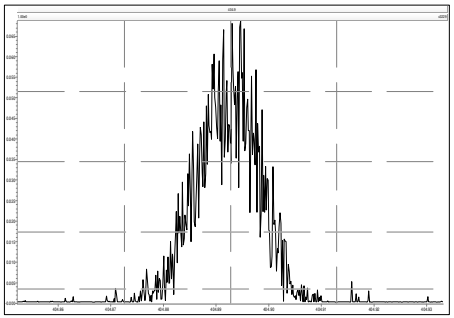

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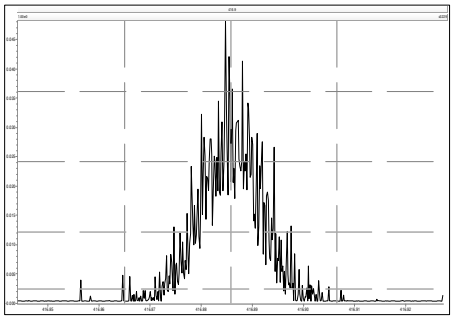

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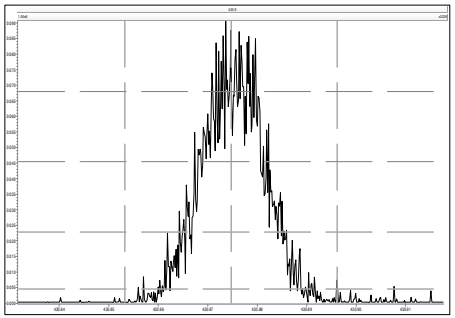

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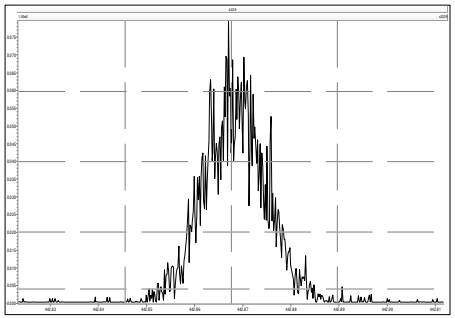

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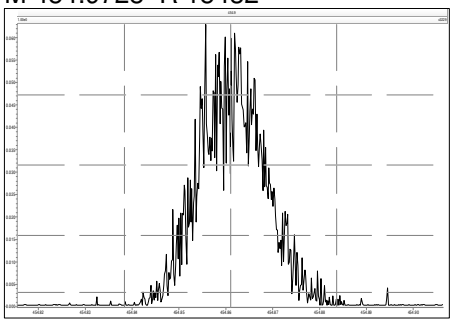

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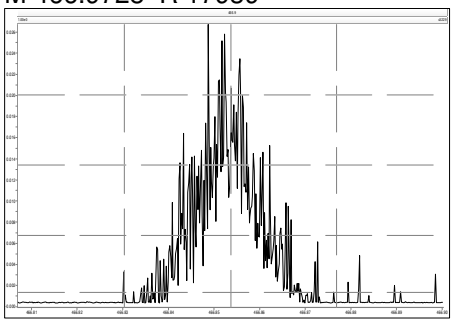

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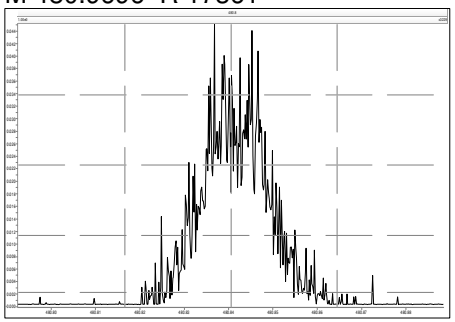

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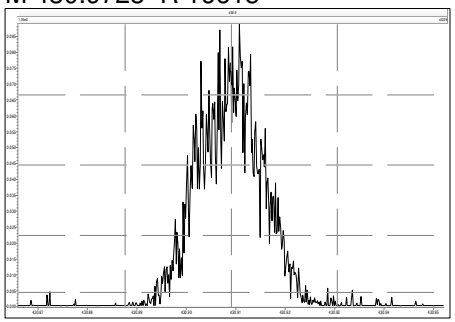

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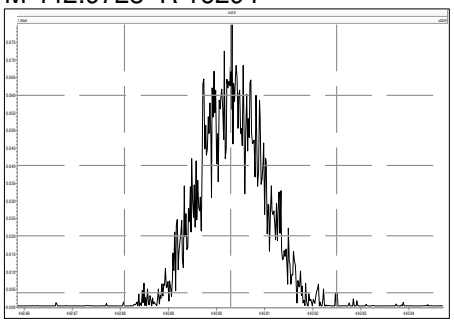

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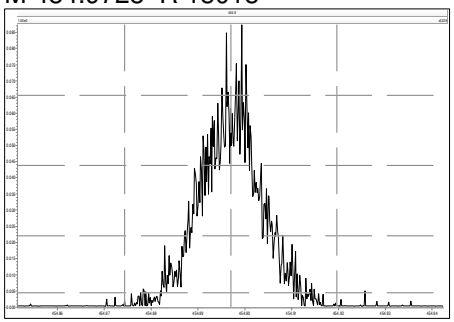

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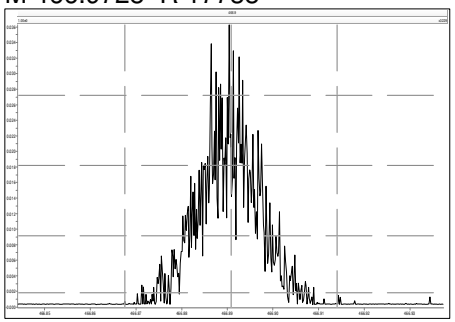

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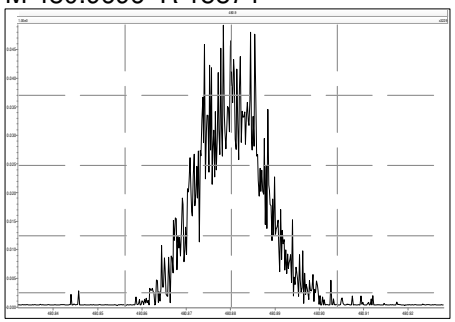

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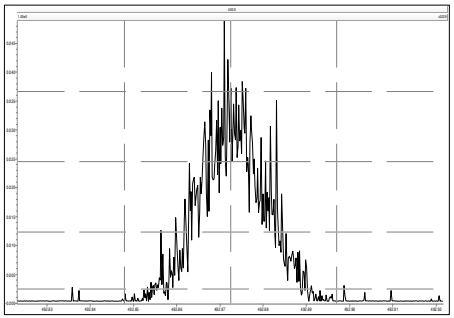
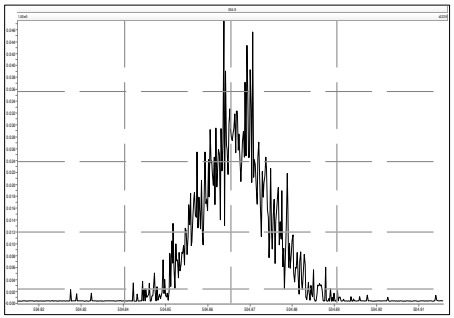


M 504.9696 R 15527



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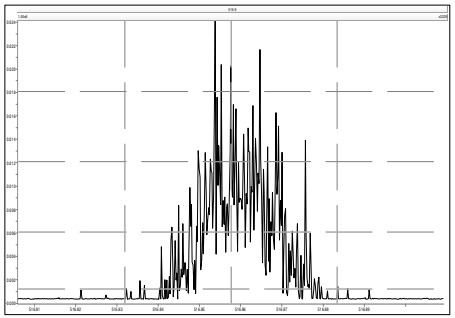


Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86 ✓	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07 ✓	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10 ✓	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28 ✓	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
Tyler_Fritz , 11/11/2021, 4:44:03 PM

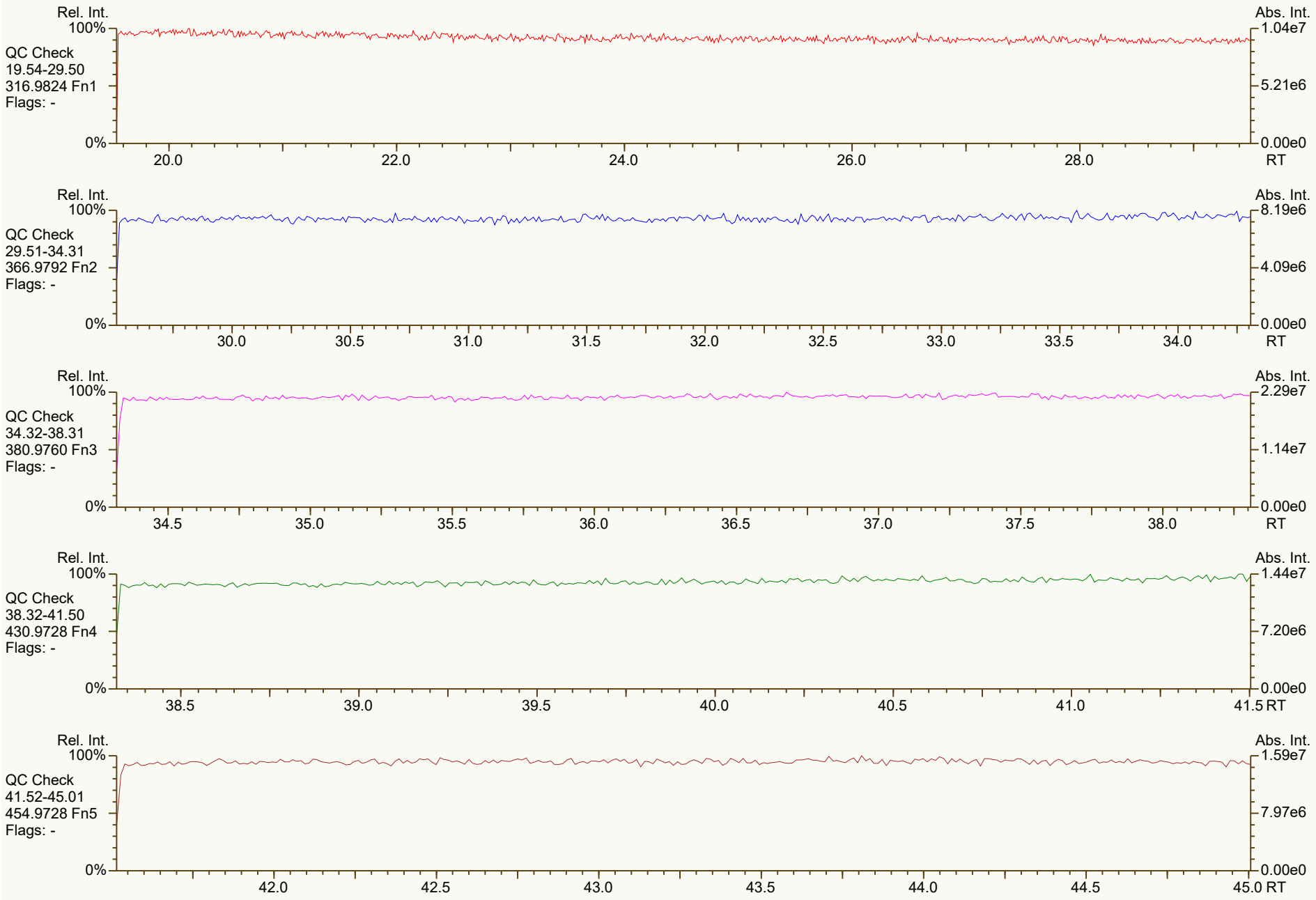
APPROVED
Amy_Boehm , 11/11/2021, 5:28:50 PM

Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF					Checkcode: 245-007-QLD
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C04
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%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0%
Abs. Int.
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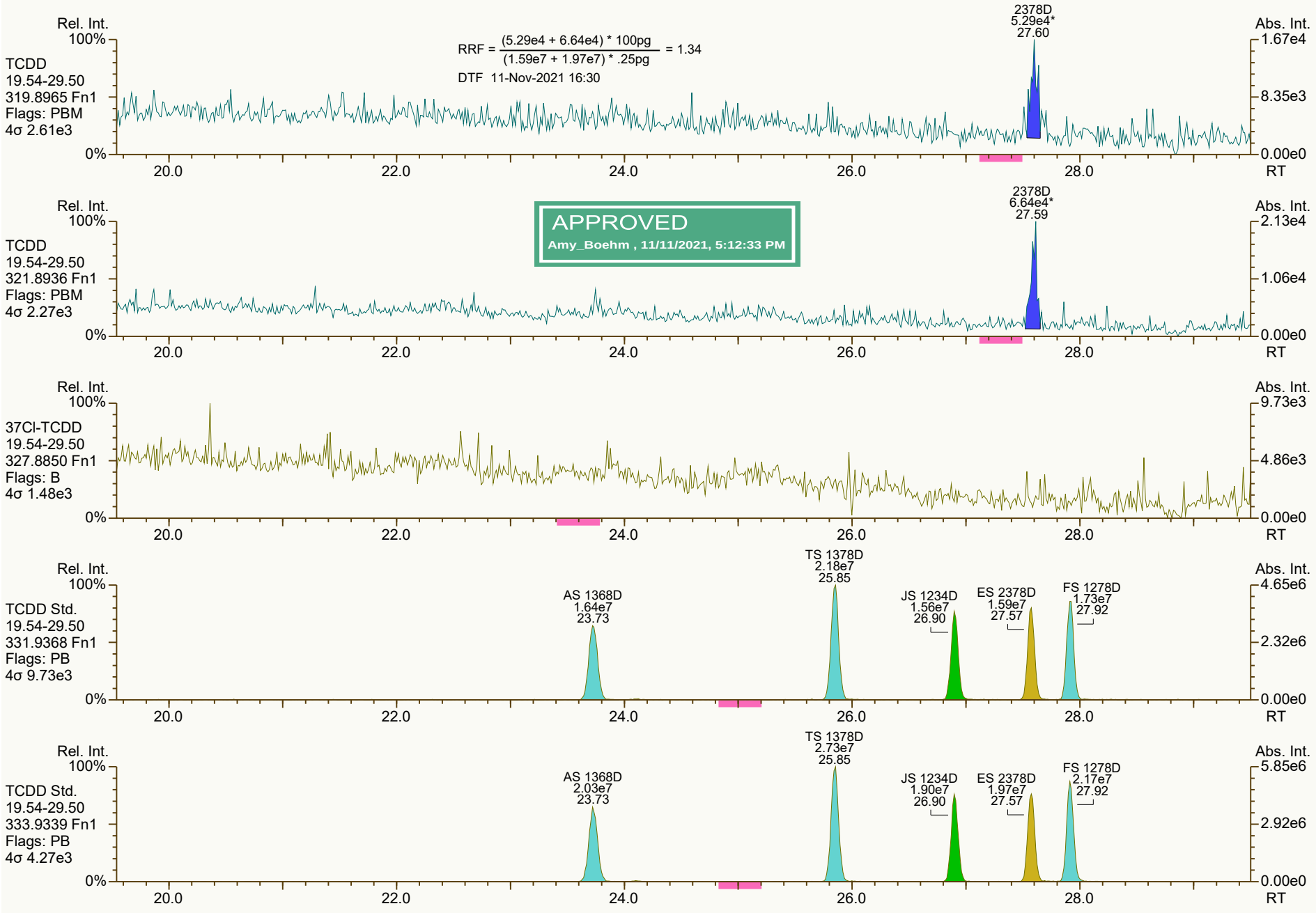
5.21e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.19e6
4.09e6
0.00e0
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.29e7
1.14e7
0.00e0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
0%
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
Abs. Int.
1.67e4
8.35e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
2.13e4
1.06e4
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
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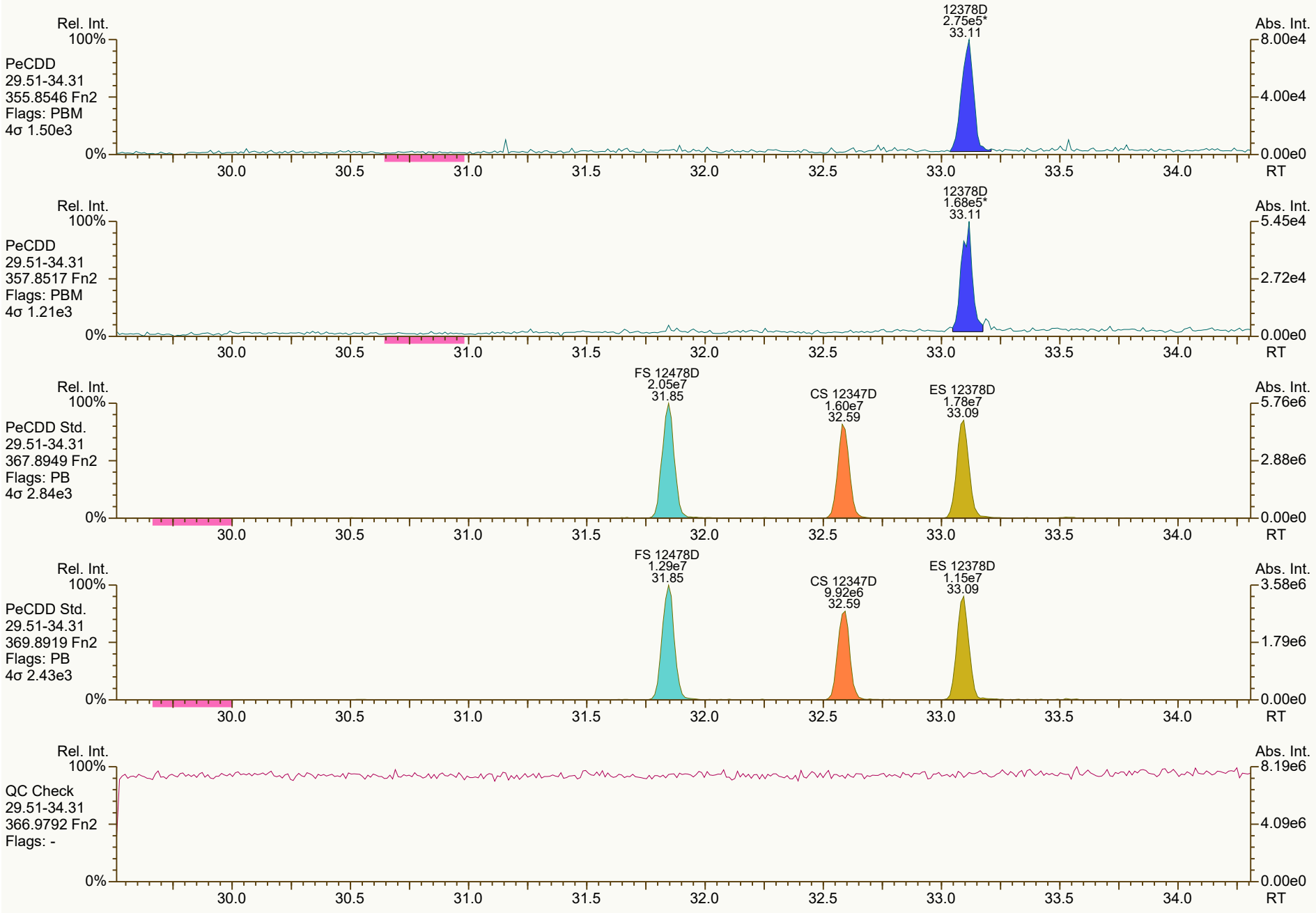
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6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100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
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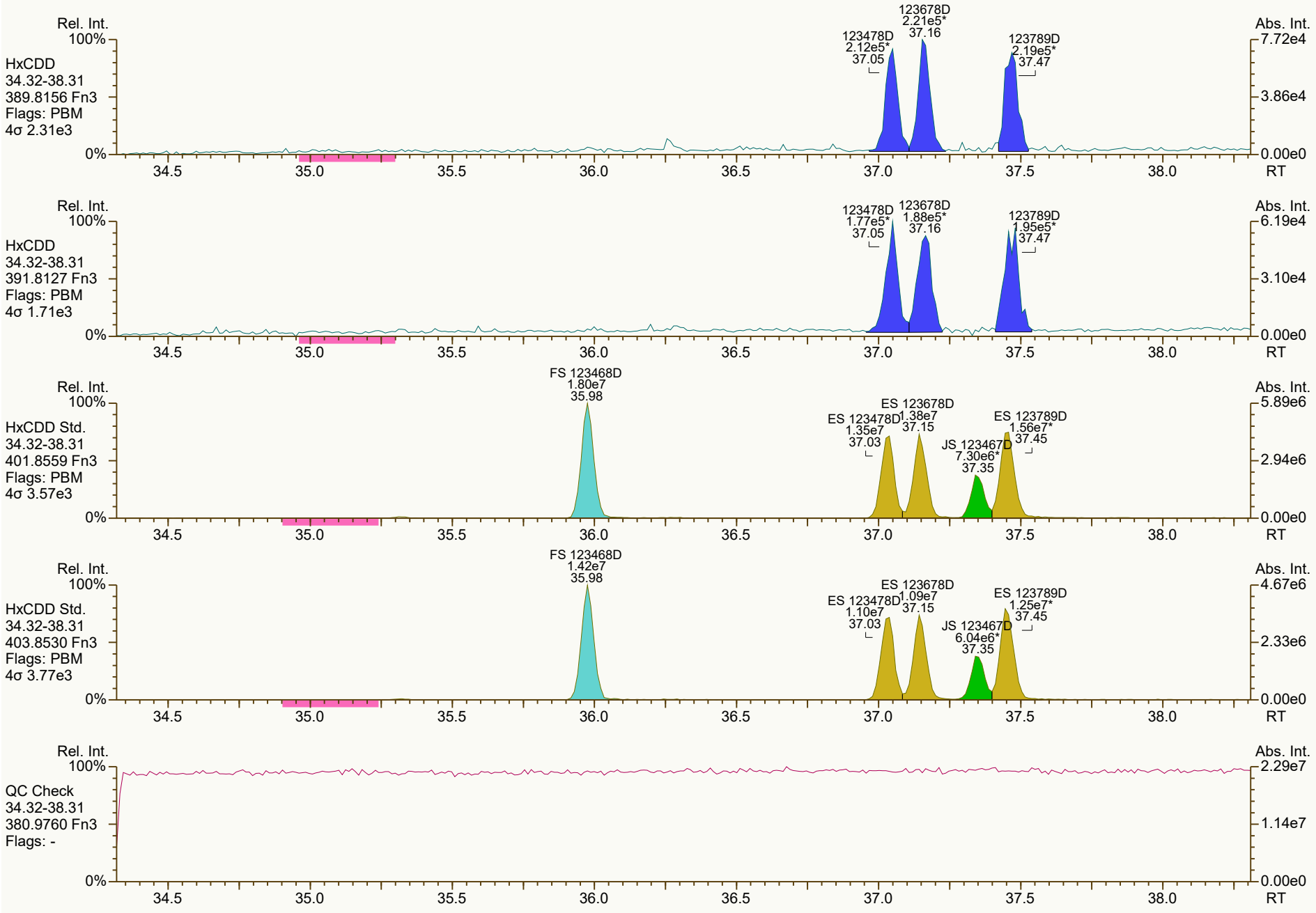
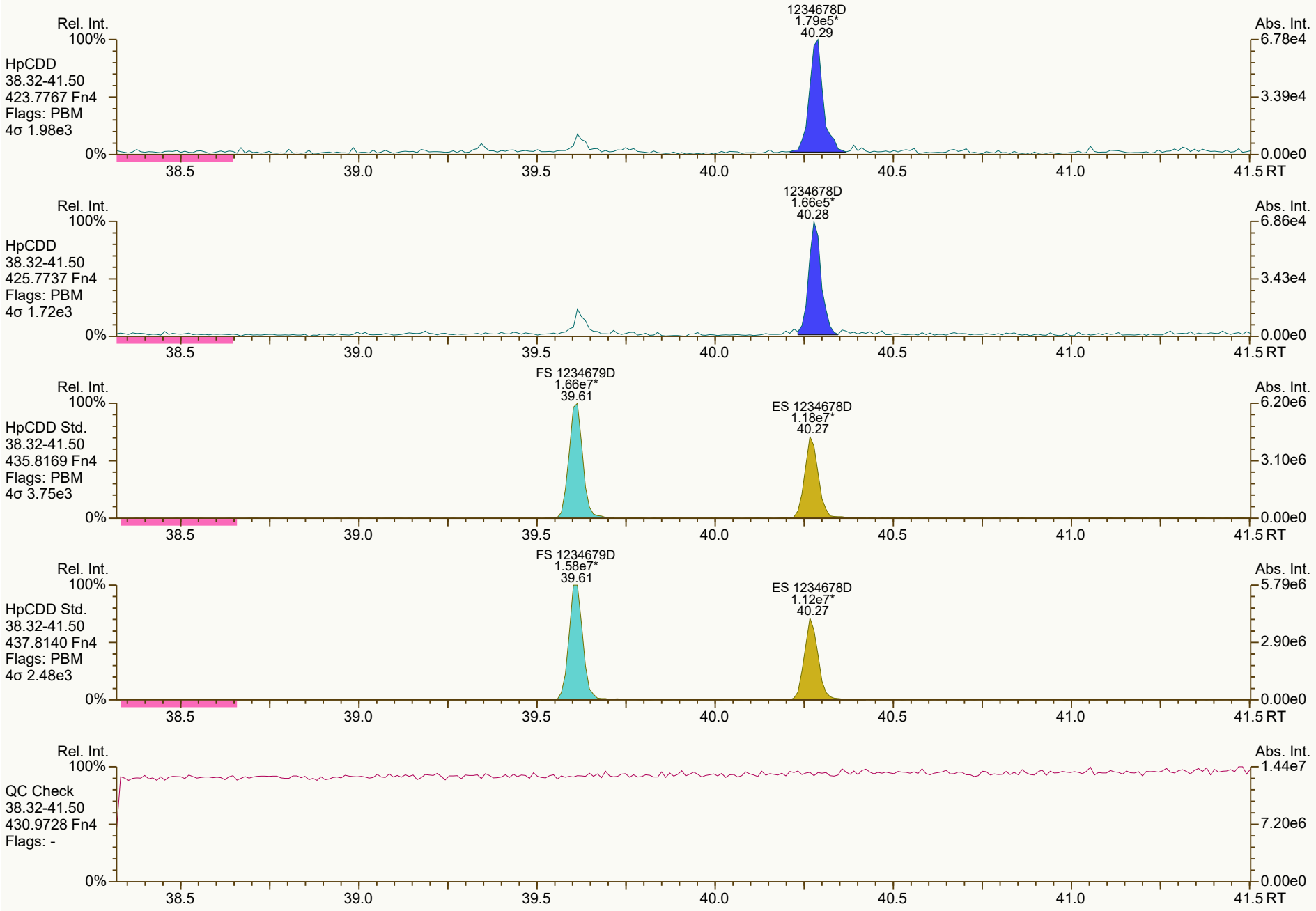
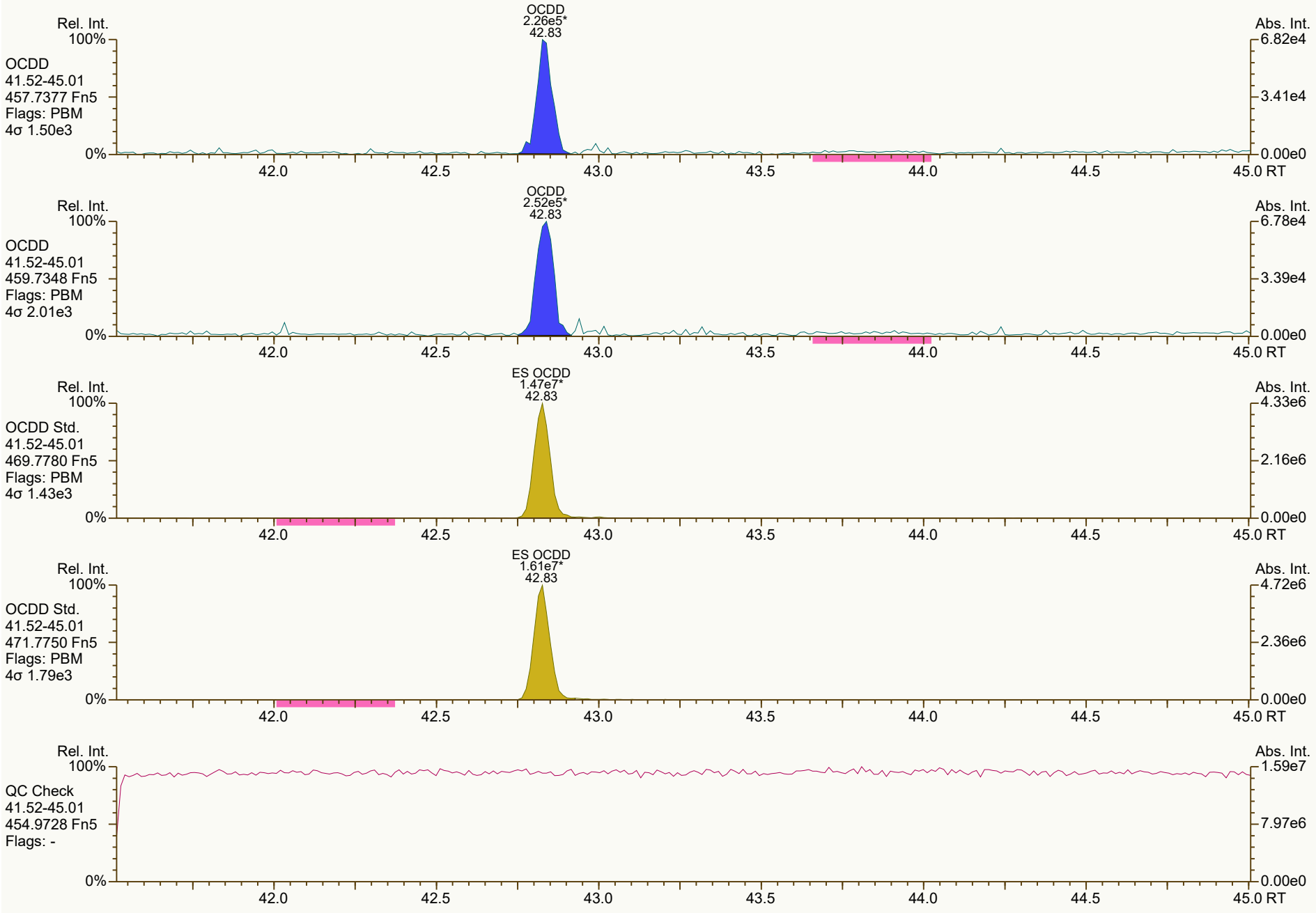
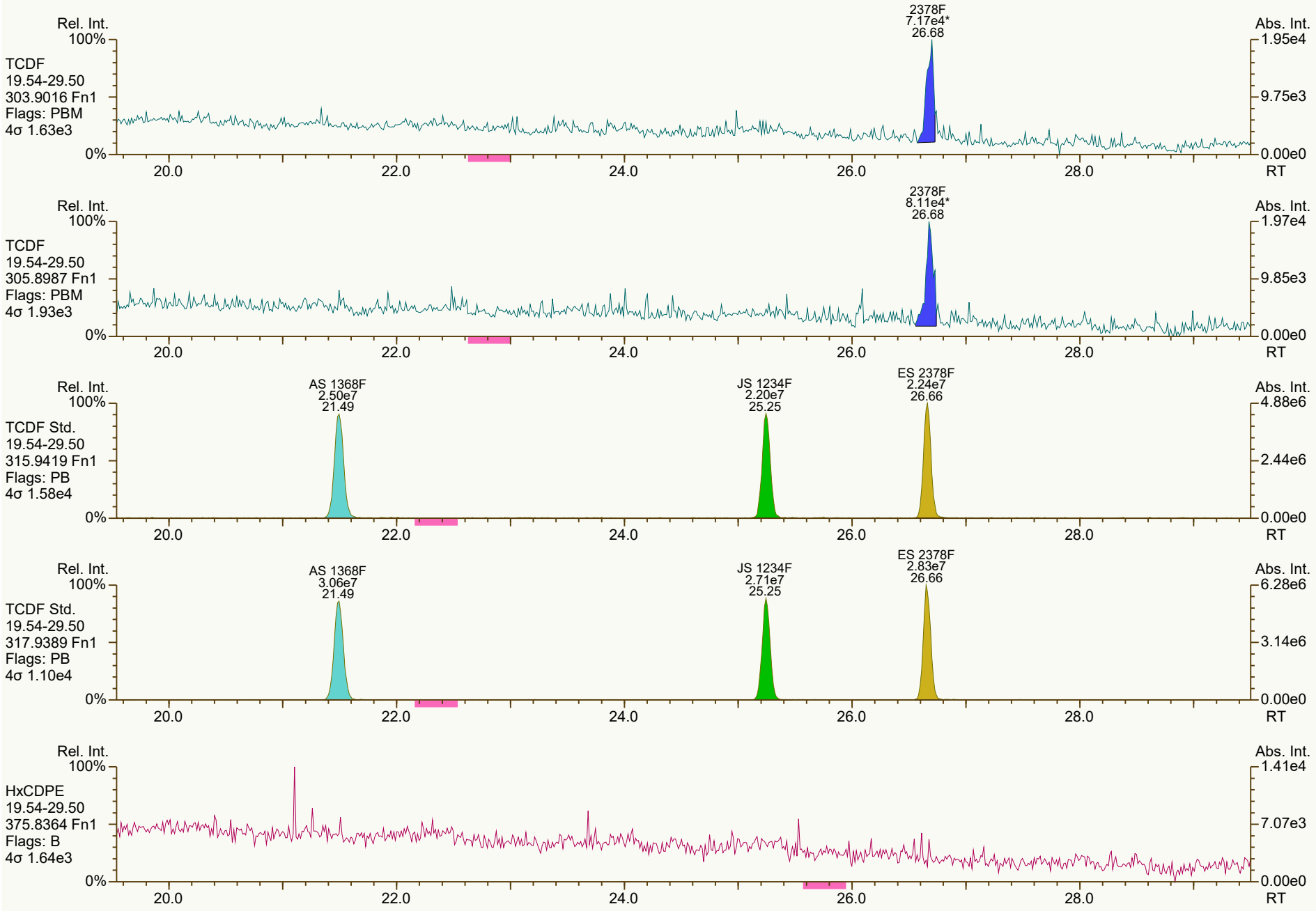
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
123478D
2.12e5*
37.05
123678D
2.21e5*
37.16
123789D
2.19e5*
37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
123478D
1.77e5*
37.05
123678D
1.88e5*
37.16
123789D
1.95e5*
37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
FS 123468D
1.80e7
35.98
ES 123678D
1.38e7
37.15
ES 123478D
1.35e7
37.03
ES 123789D
1.56e7*
37.45
JS 123467D
7.30e6*
37.35
Abs. Int.
5.89e6
2.94e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
FS 123468D
1.42e7
35.98
ES 123678D
1.09e7
37.15
ES 123478D
1.10e7
37.03
ES 123789D
1.25e7*
37.45
JS 123467D
6.04e6*
37.35
Abs. Int.
4.67e6
2.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.29e7
1.14e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

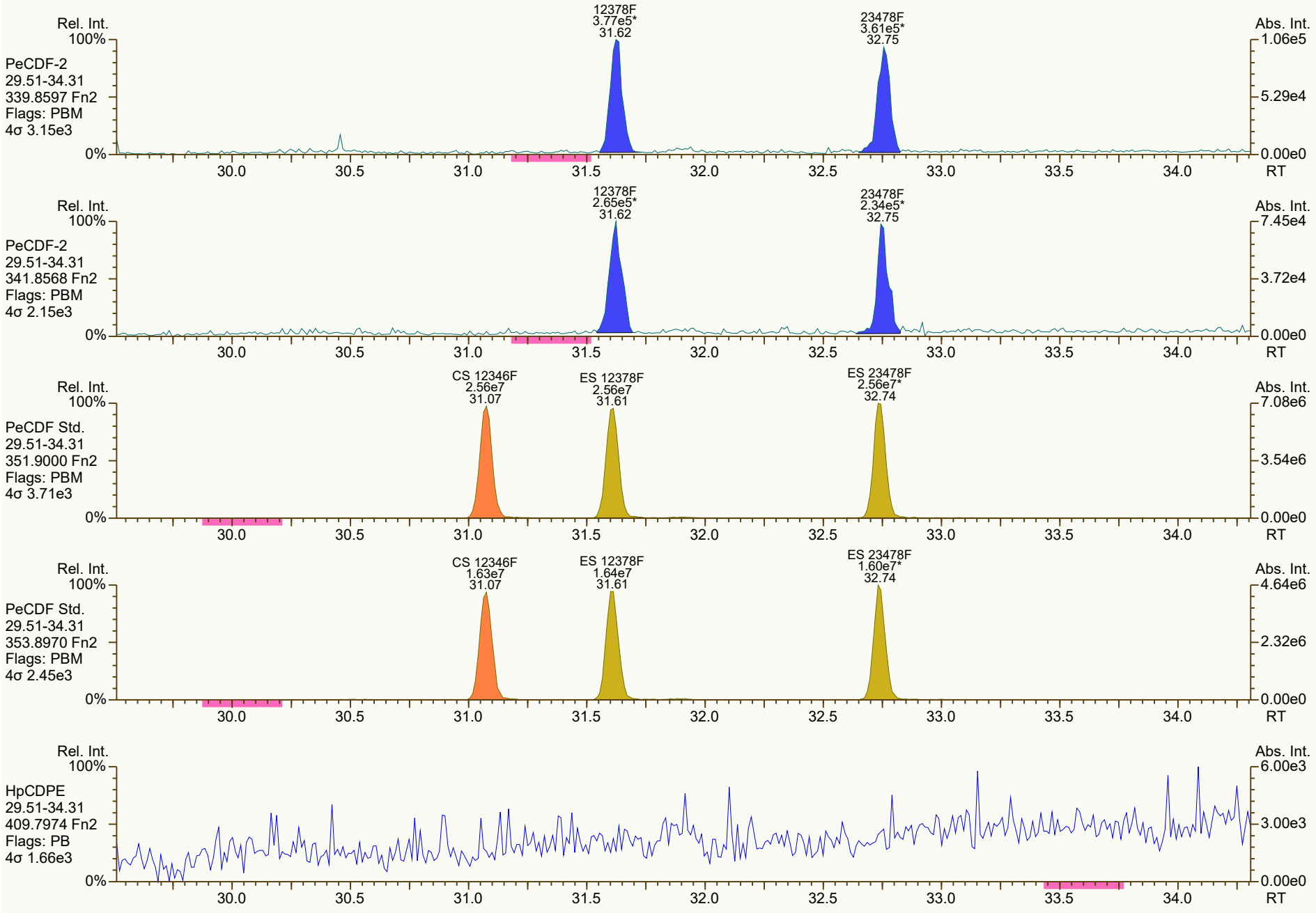

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

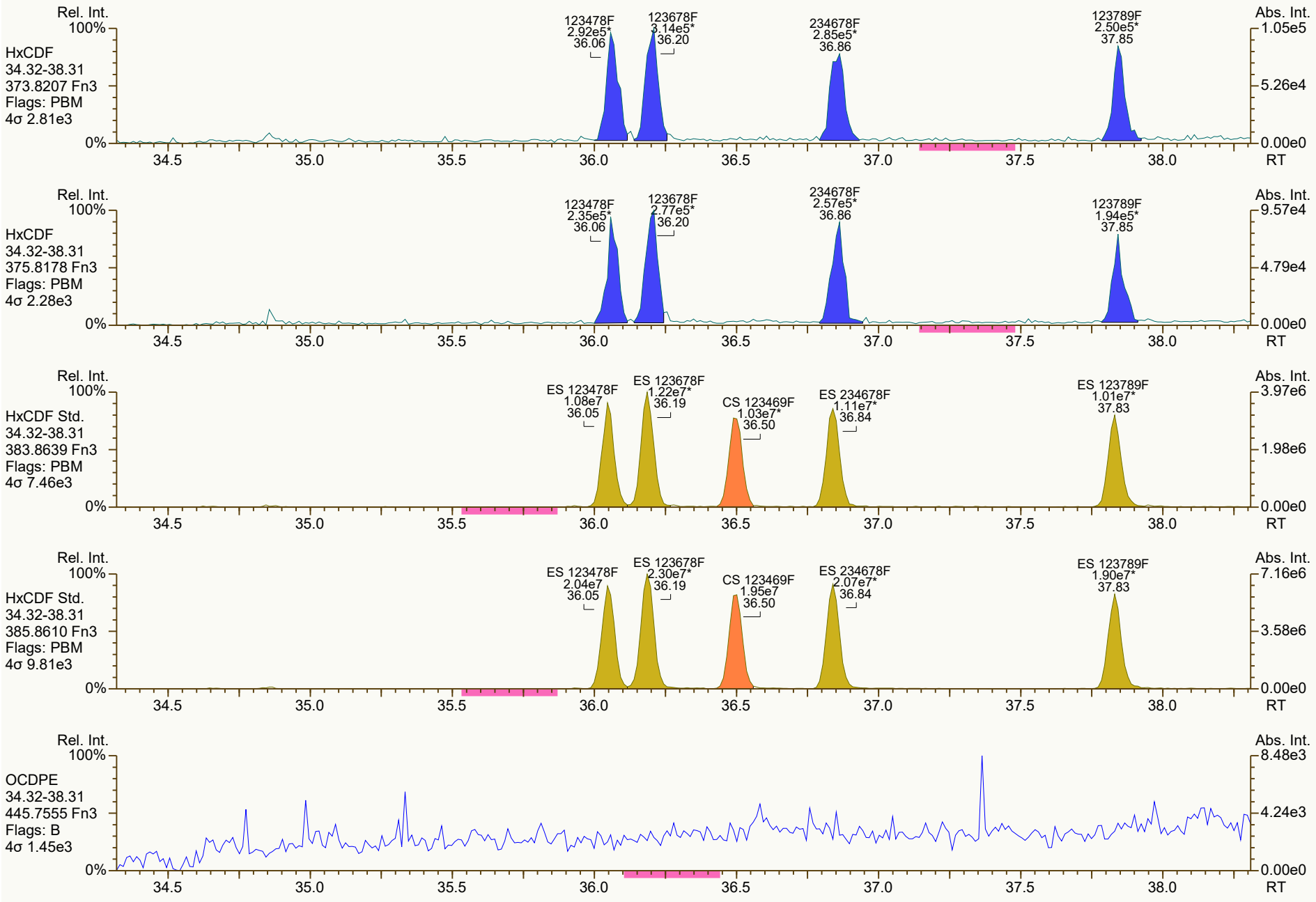

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
Abs. Int.
1.41e4
7.07e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT

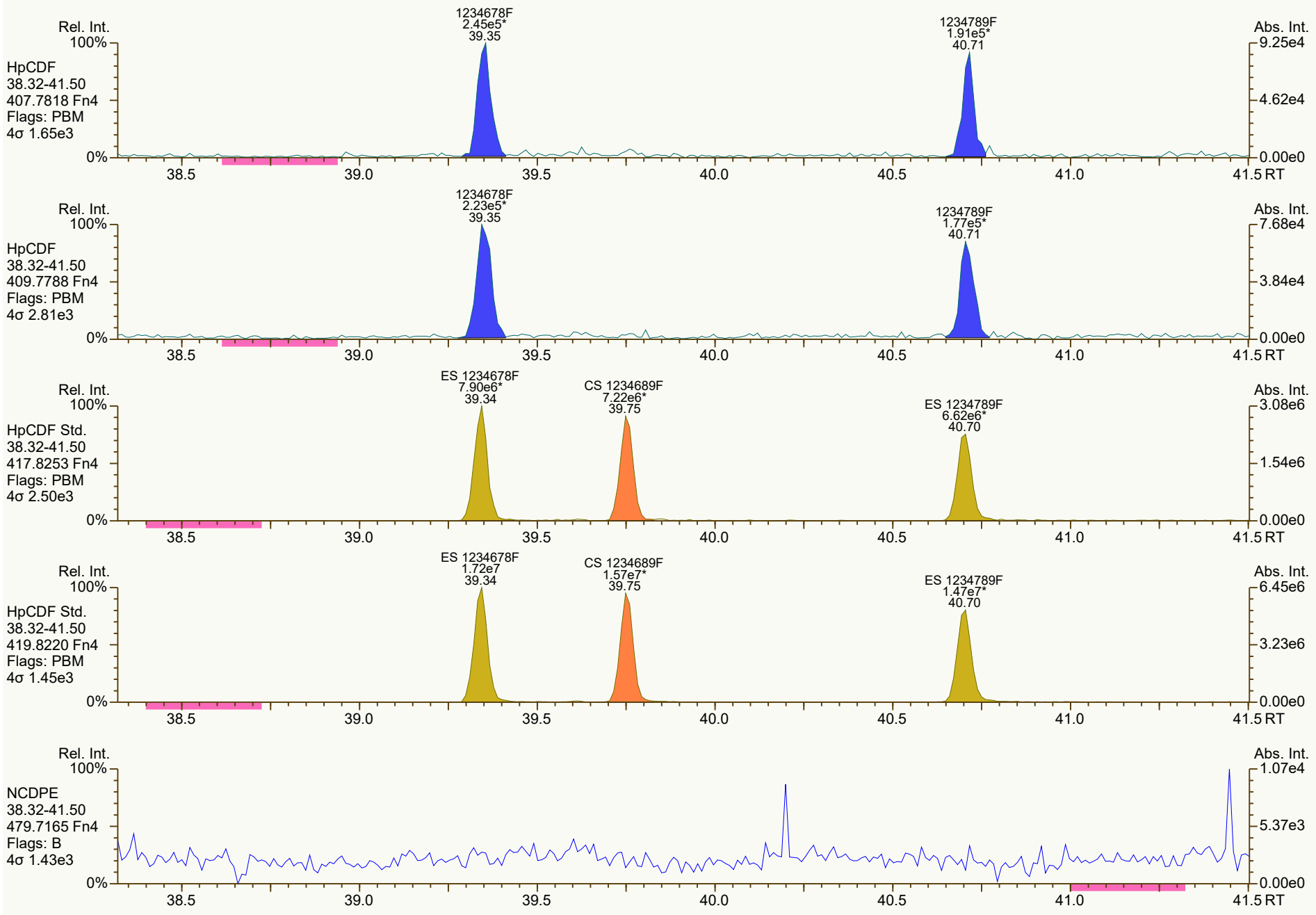
SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6412 scc: 245-007
PKD: 10-Nov-2021 13:30 Printed: 11-Nov-2021 16:32 Page 8 of 12


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
0%
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
0%
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
0%
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
0%
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

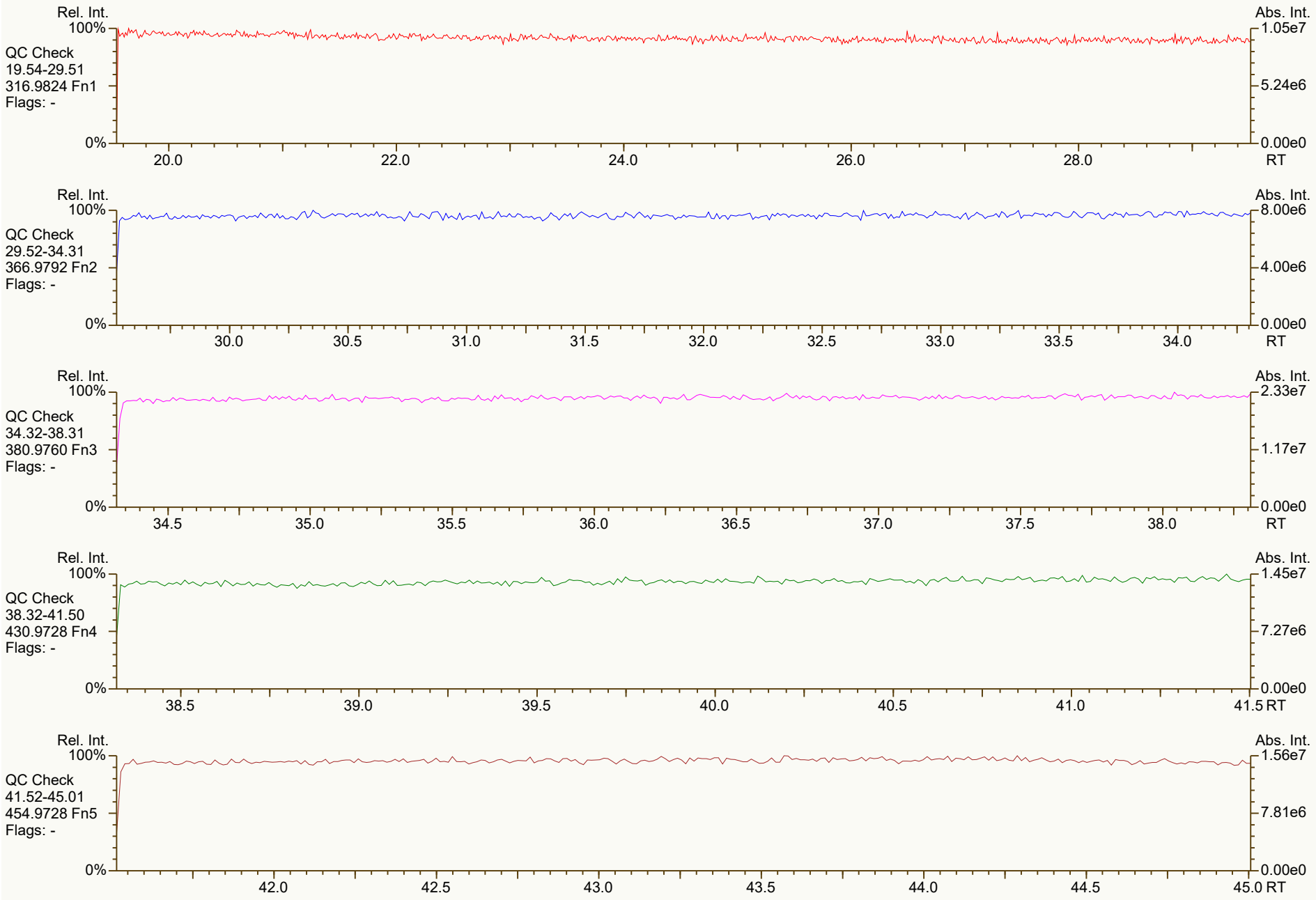

OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:48 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS1_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 419-111-CRN
Sample ID: 25-6-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C05

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

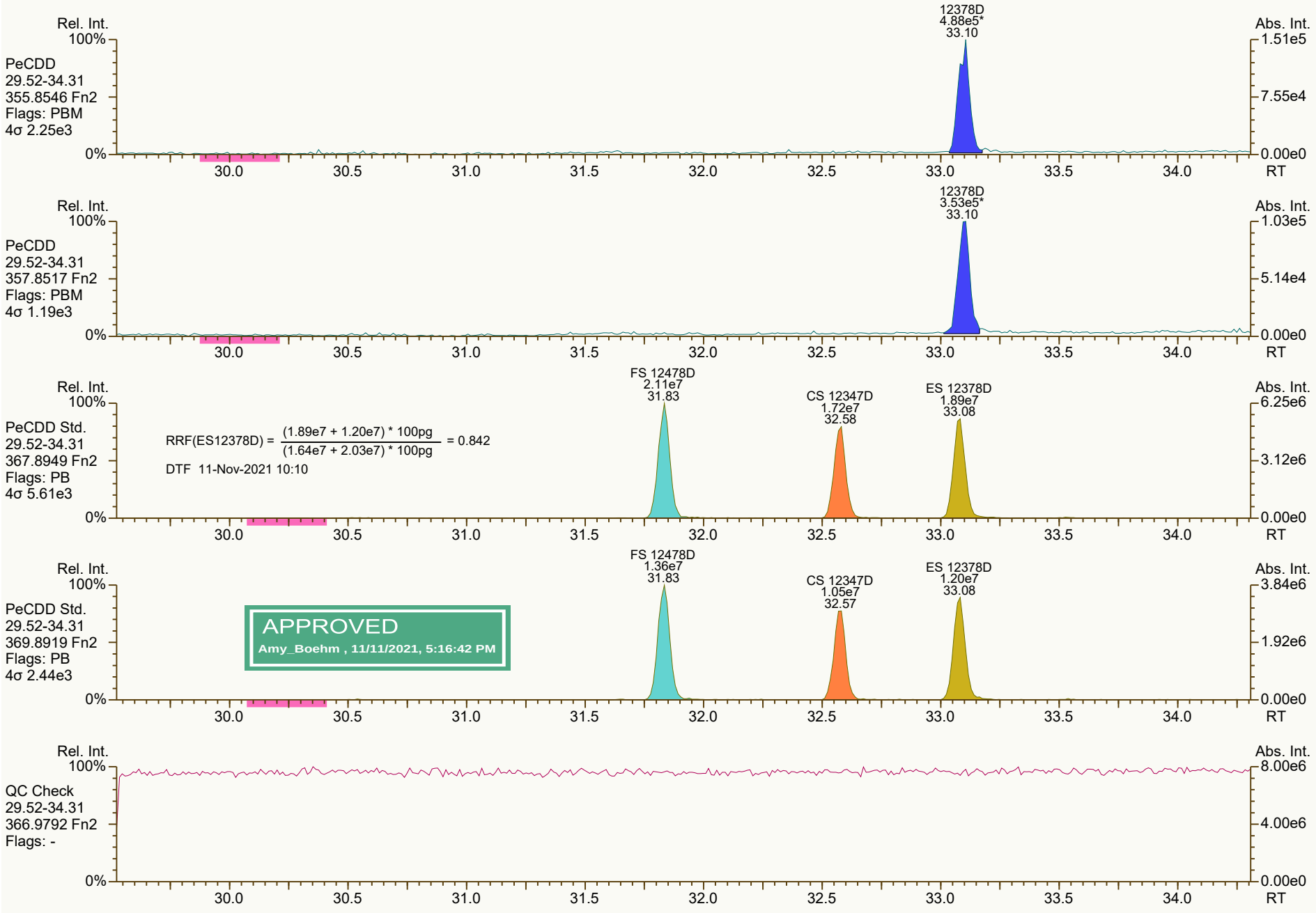
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

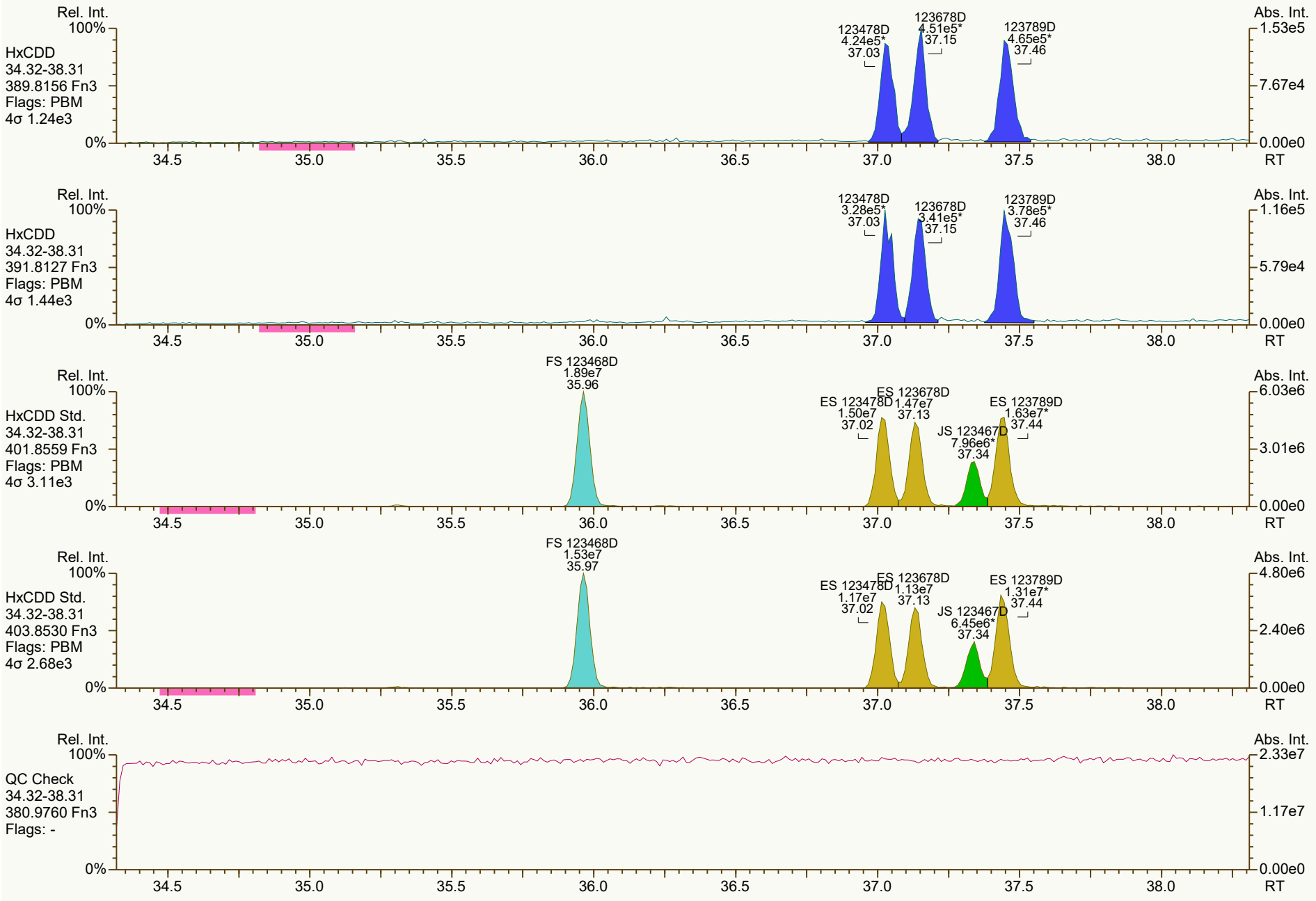
SGS ID: CS1_211110_DF_CA **Sample ID: 25-6-2** **Acq: 10-Nov-2021 11:48:34**
Instr: [ILM] AutoSpec-Ultima HRMS3 **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66** **User: DTF Datafile: 211110C05**

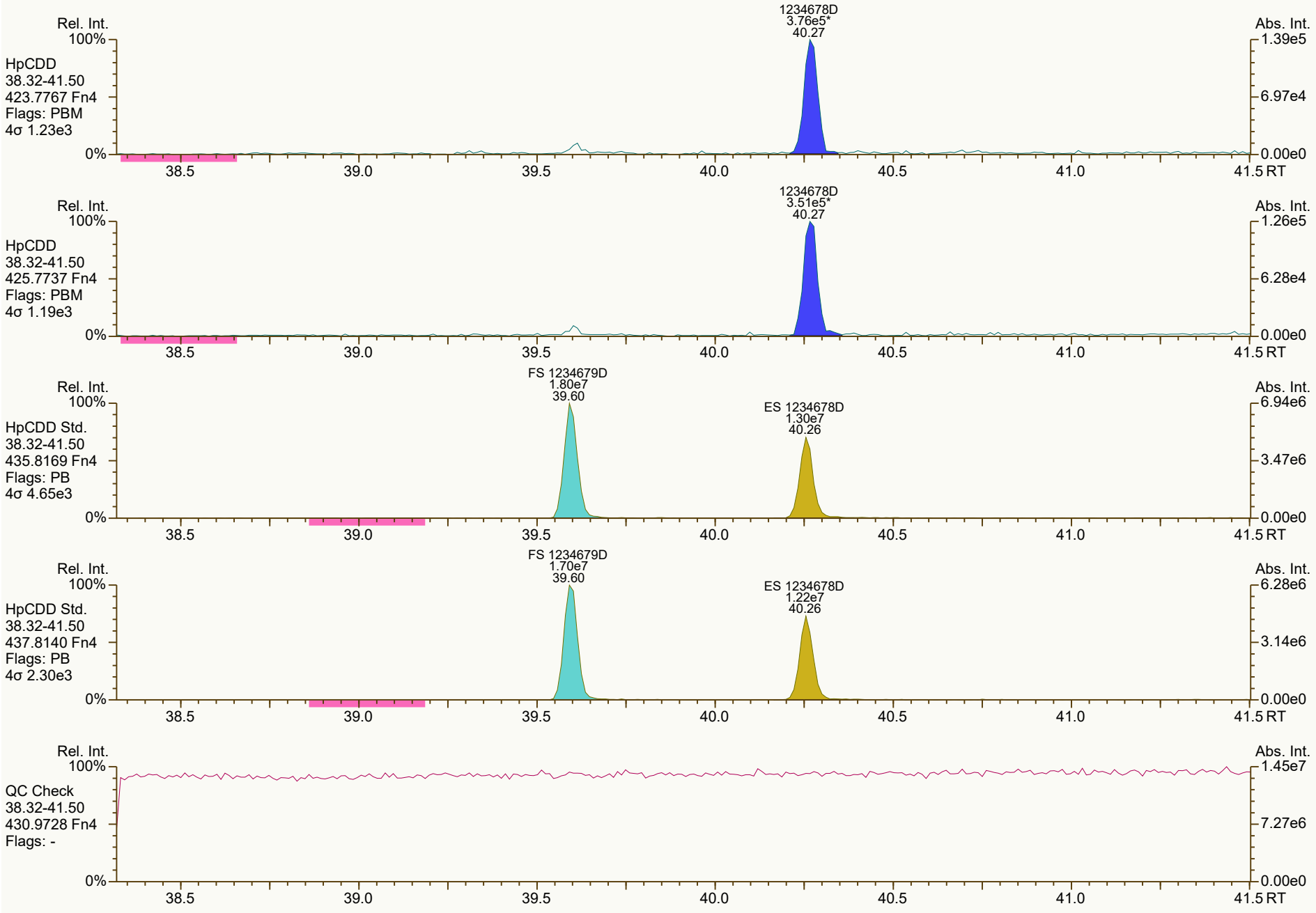


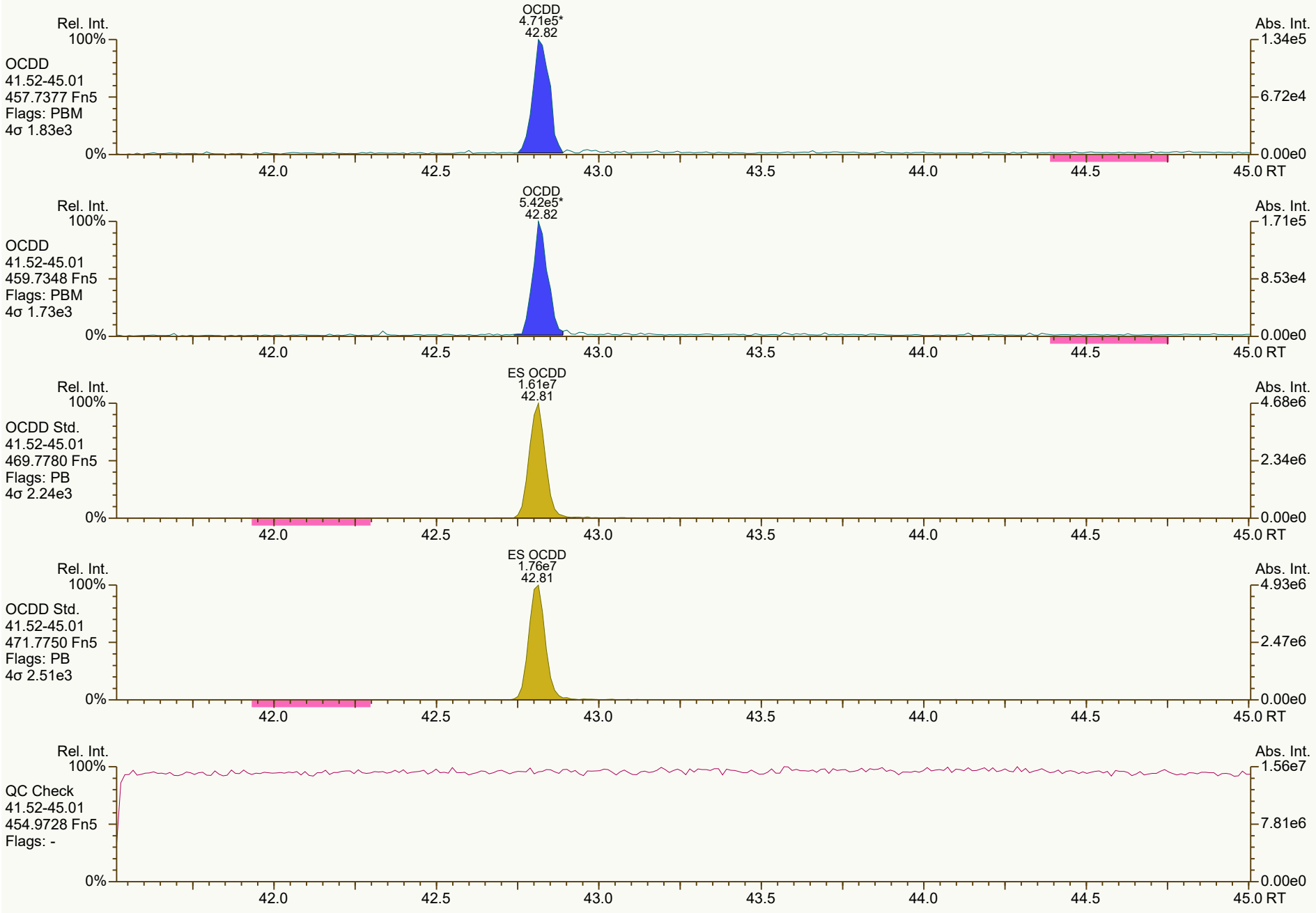
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 scc: 419-111 *PKD: n/a Printed: 11-Nov-2021 10:40 Page 1 of 12*

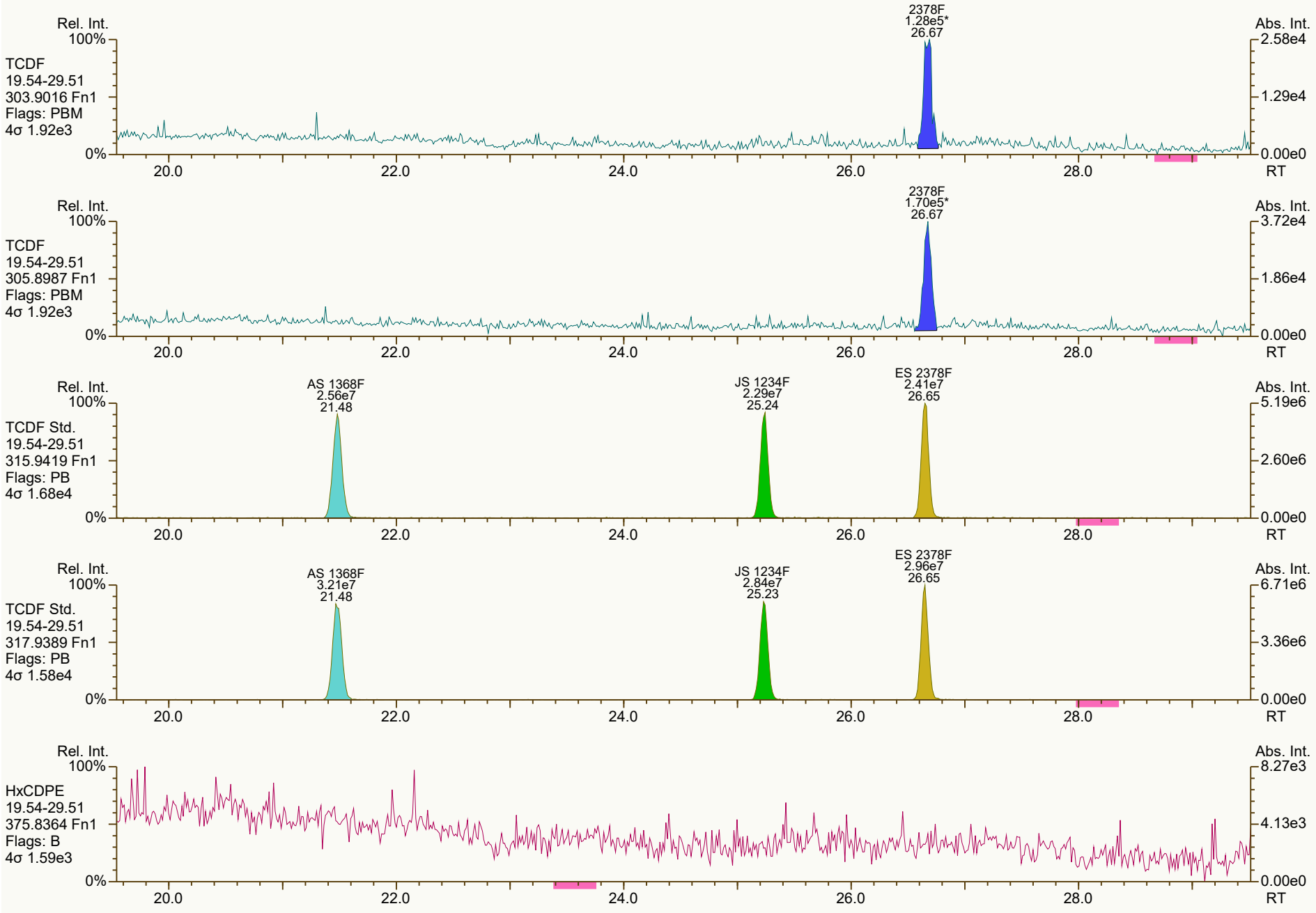

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

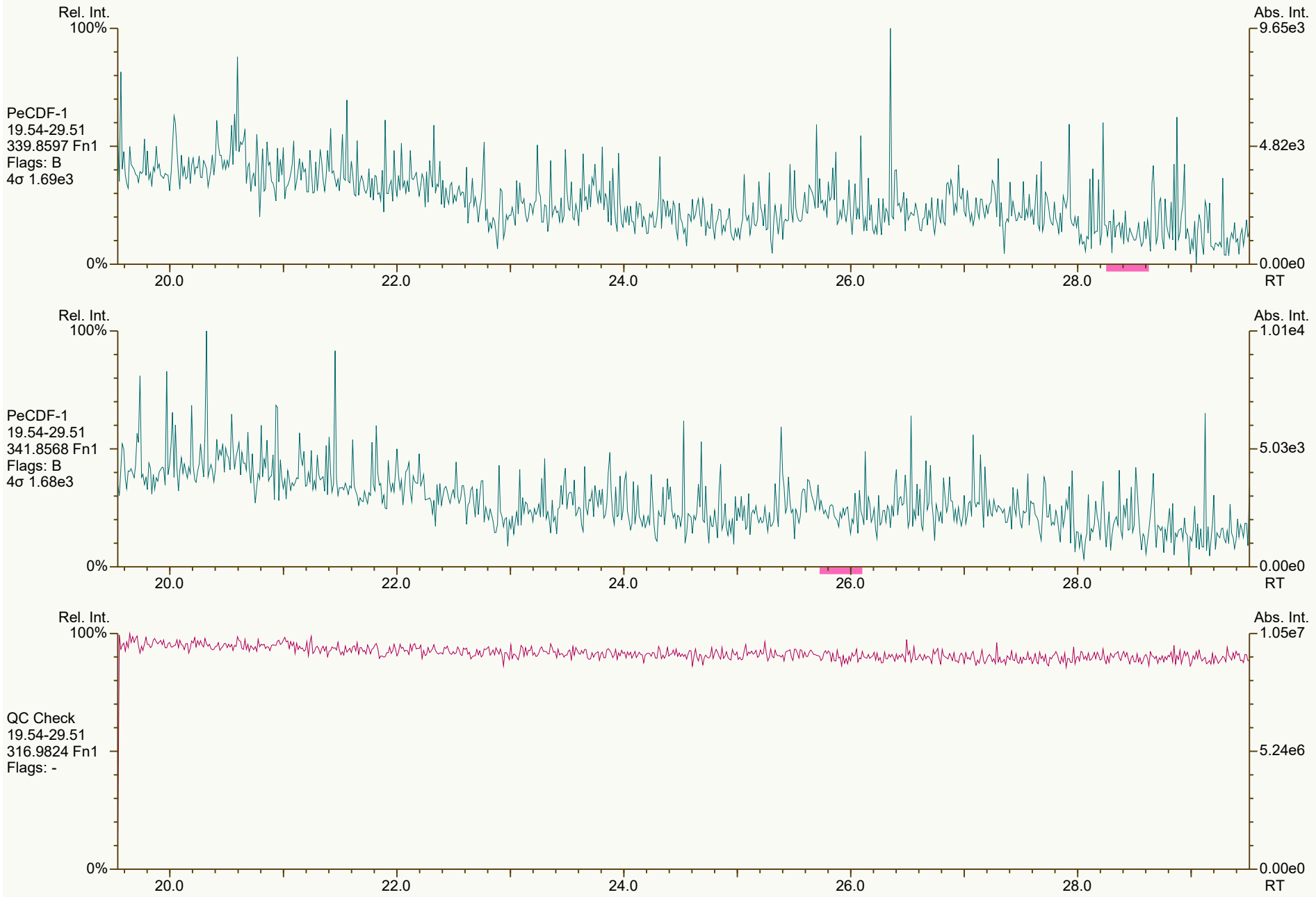

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123478D
1.50e7
37.02
ES 123678D
1.47e7
37.13
JS 123467D
7.96e6*
37.34
ES 123789D
1.63e7*
37.44
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123478D
1.17e7
37.02
ES 123678D
1.13e7
37.13
JS 123467D
6.45e6*
37.34
ES 123789D
1.31e7*
37.44
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

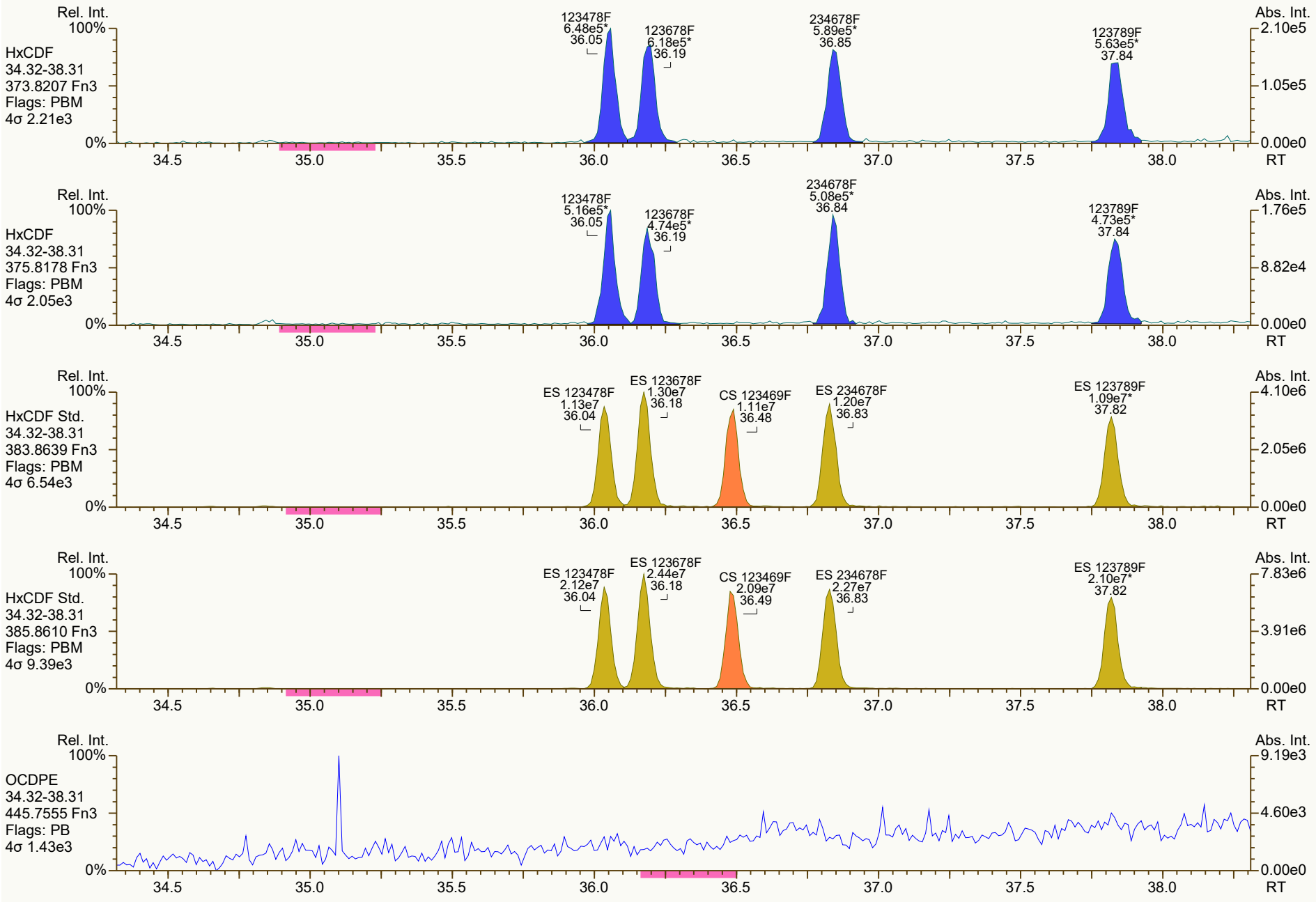

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

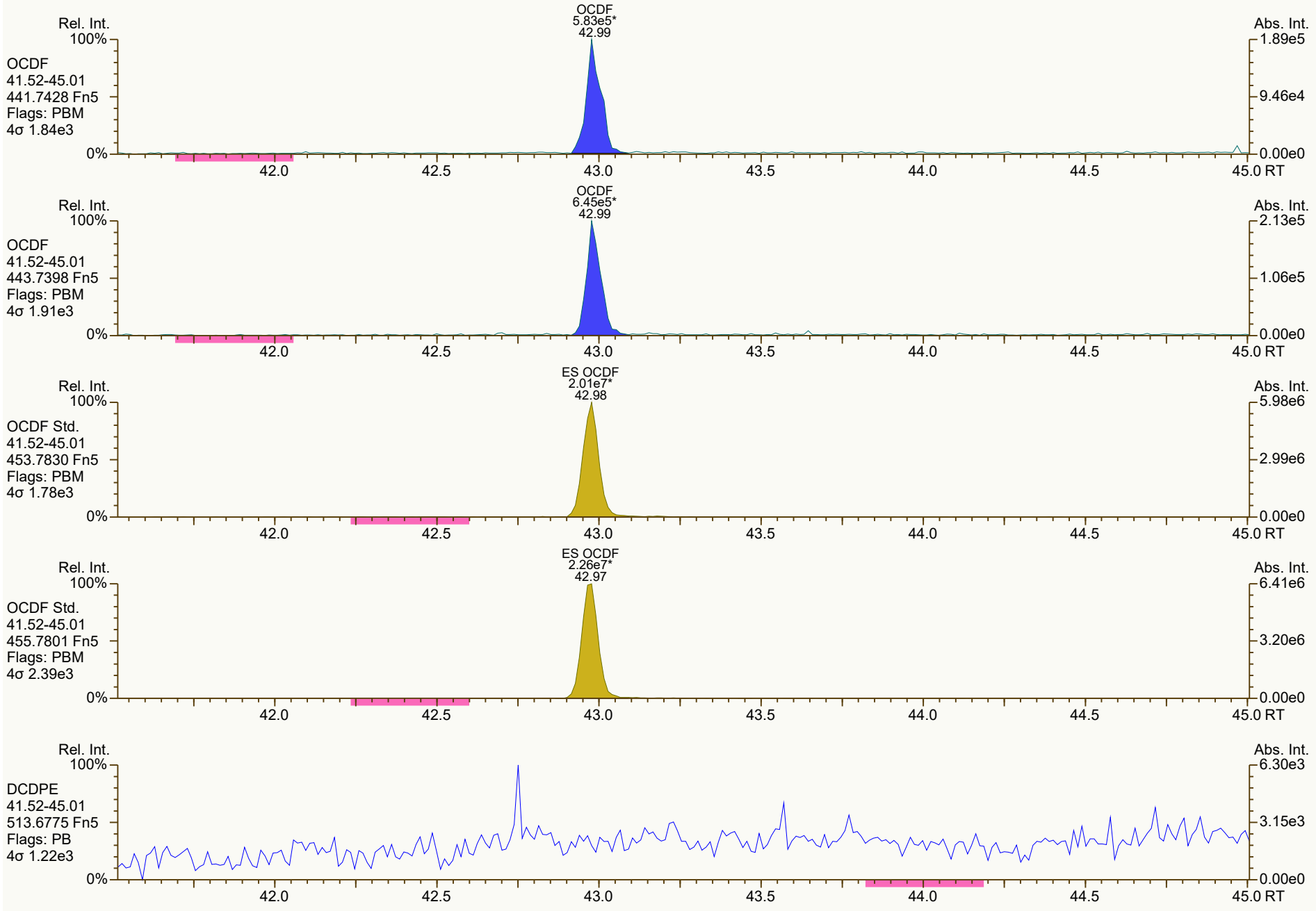

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
Abs. Int.
1.40e5
7.02e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
Abs. Int.
7.54e6
3.77e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
Abs. Int.
4.85e6
2.42e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
Abs. Int.
1.10e4
5.51e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
0%
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
0%
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
Abs. Int.
1.76e5
8.82e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
0%
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
Abs. Int.
4.10e6
2.05e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
0%
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
Abs. Int.
7.83e6
3.91e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
0%
Abs. Int.
9.19e3
4.60e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
0%
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
Abs. Int.
2.00e5
9.99e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
0%
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
Abs. Int.
1.67e5
8.36e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
0%
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
Abs. Int.
3.13e6
1.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
0%
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
Abs. Int.
6.42e6
3.21e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
0%
Abs. Int.
3.72e3
1.86e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

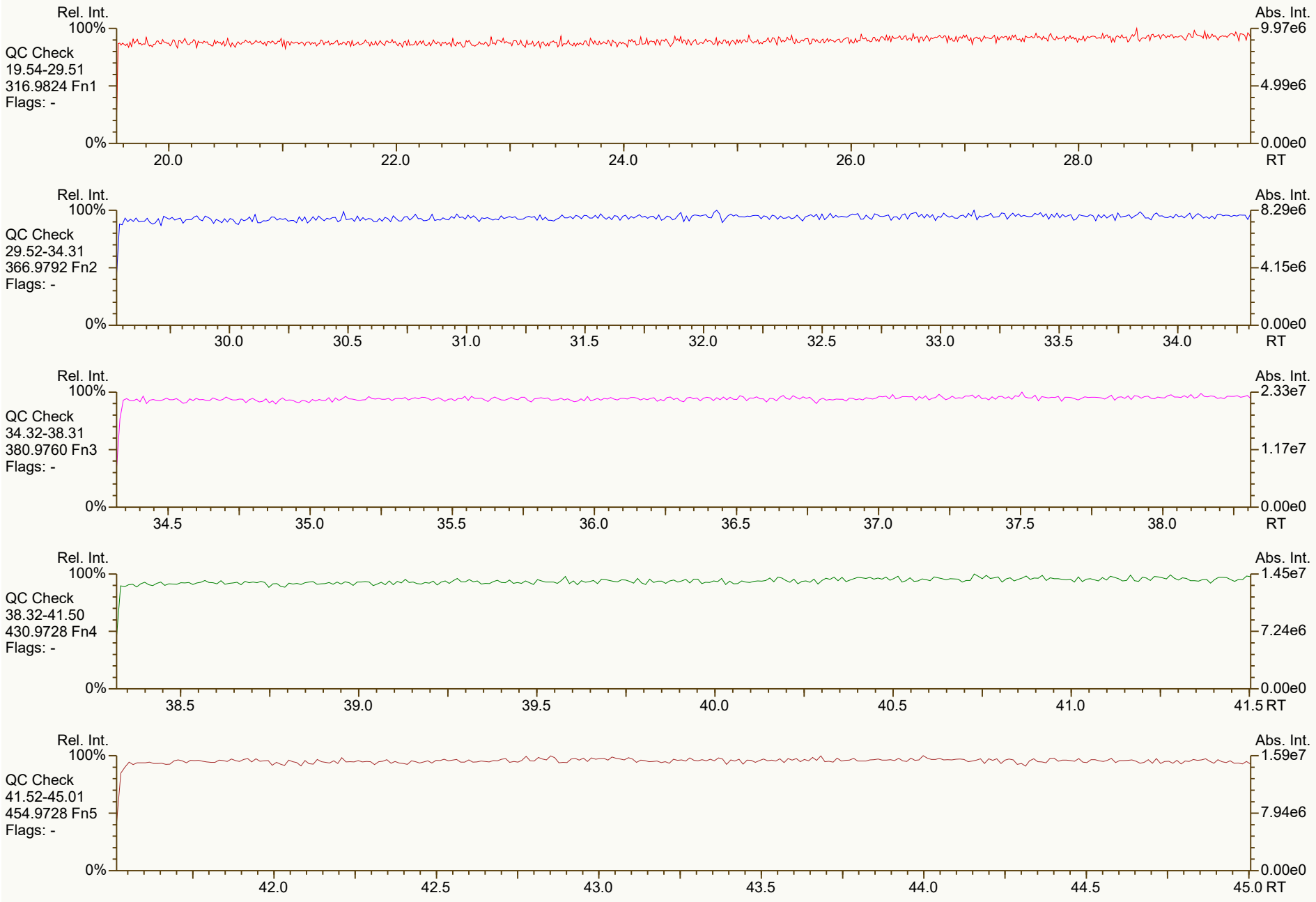

OCDF
5.83e5*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
6.45e5*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.26e7*
42.97
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

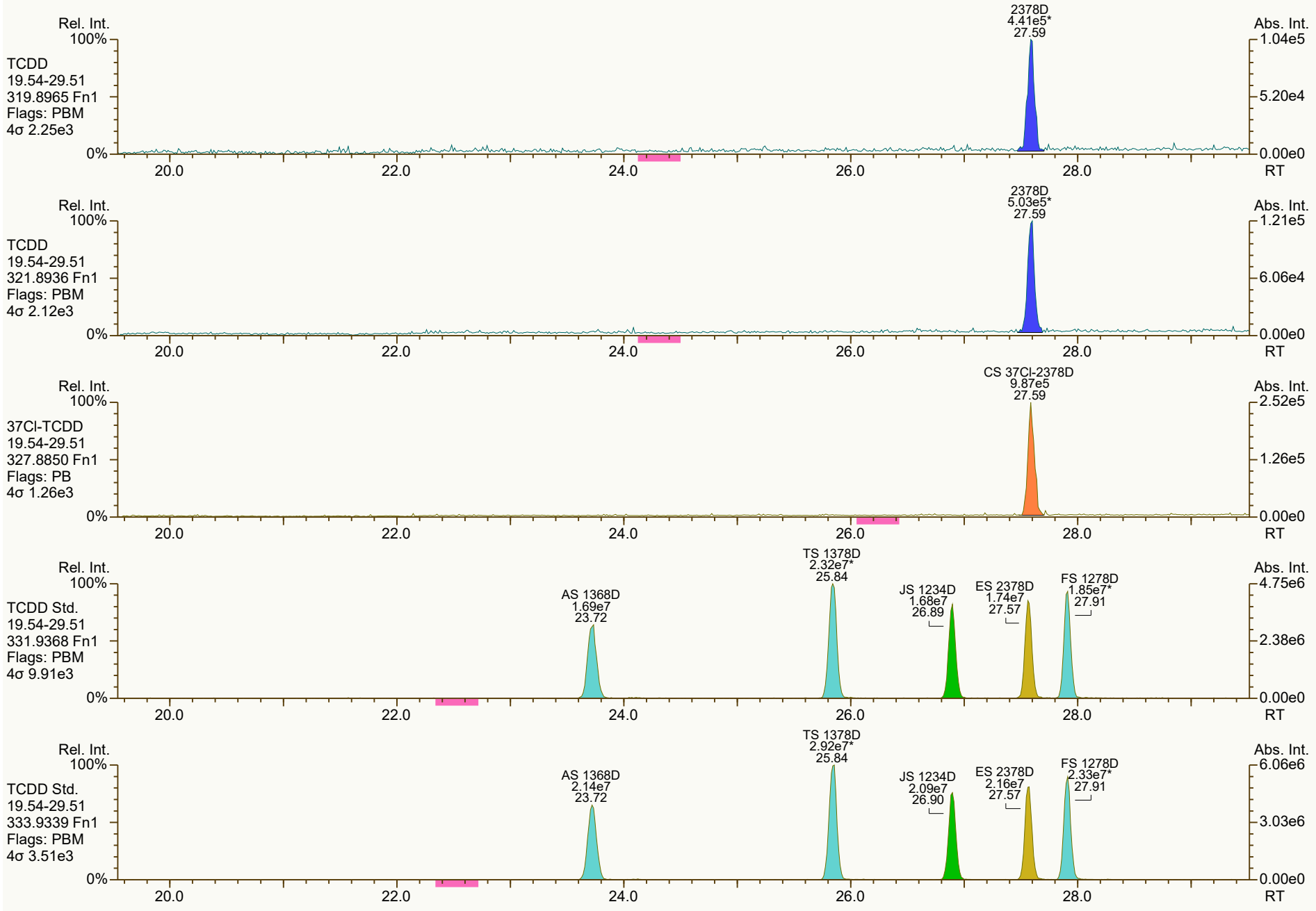
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

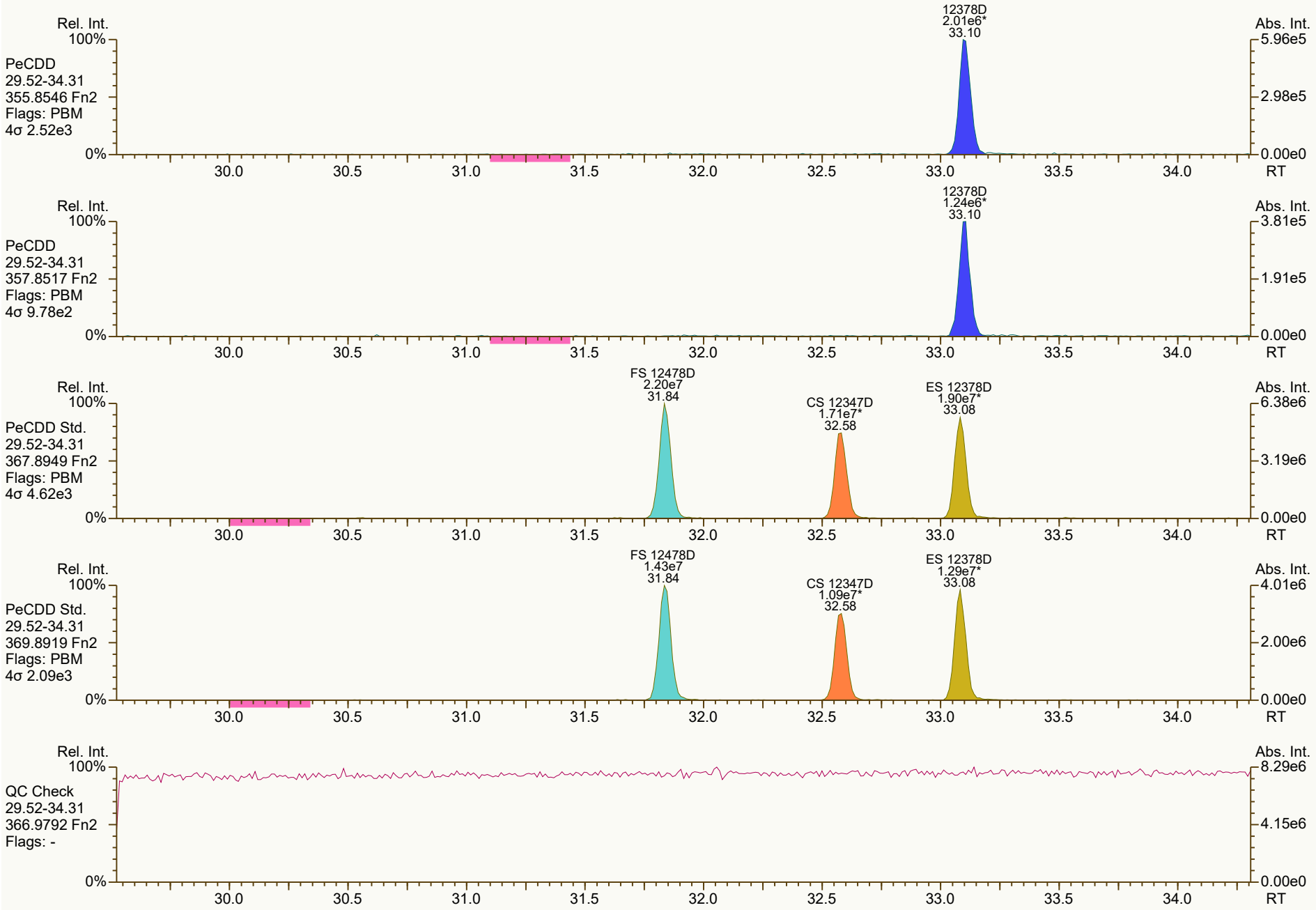
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

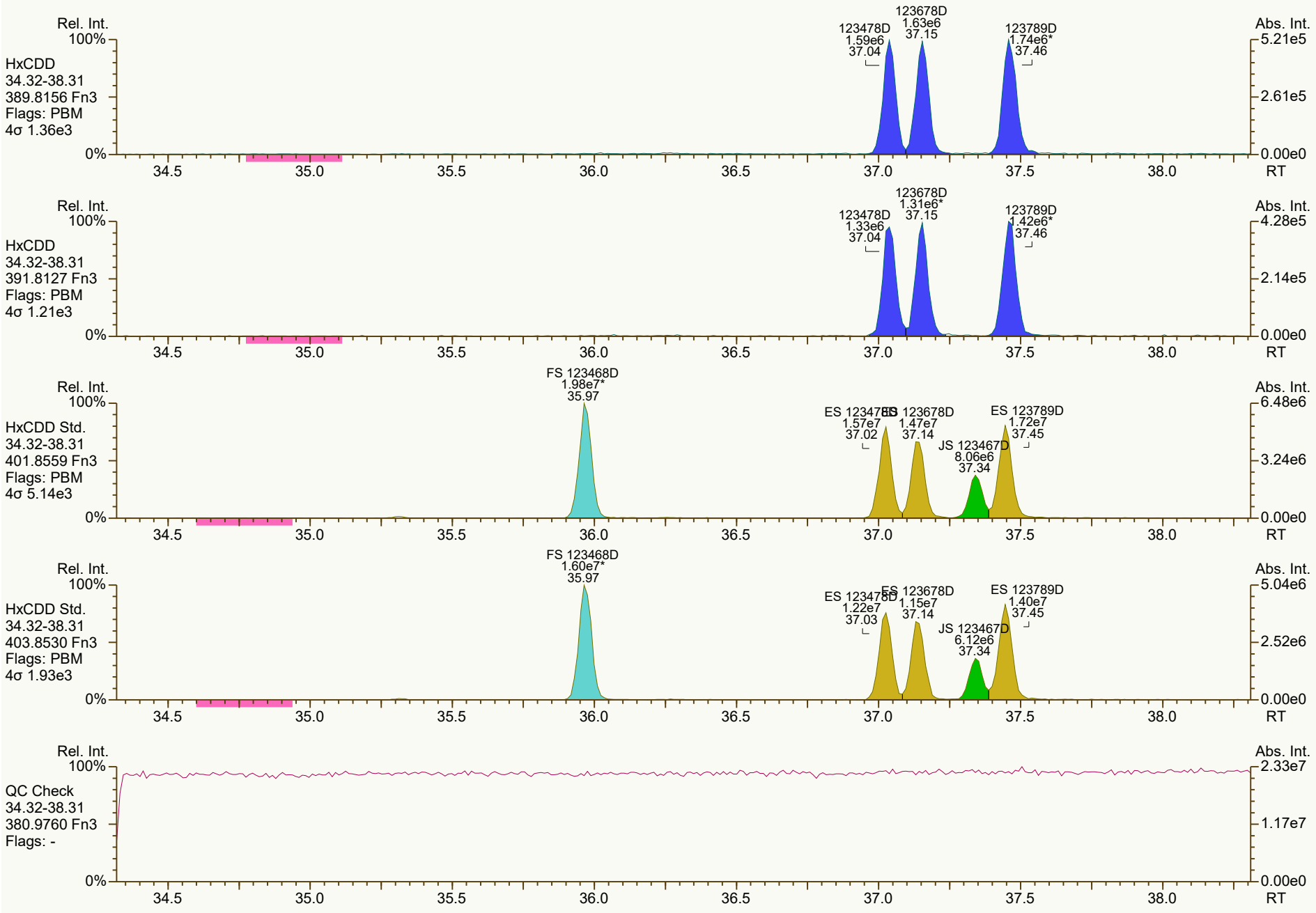
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

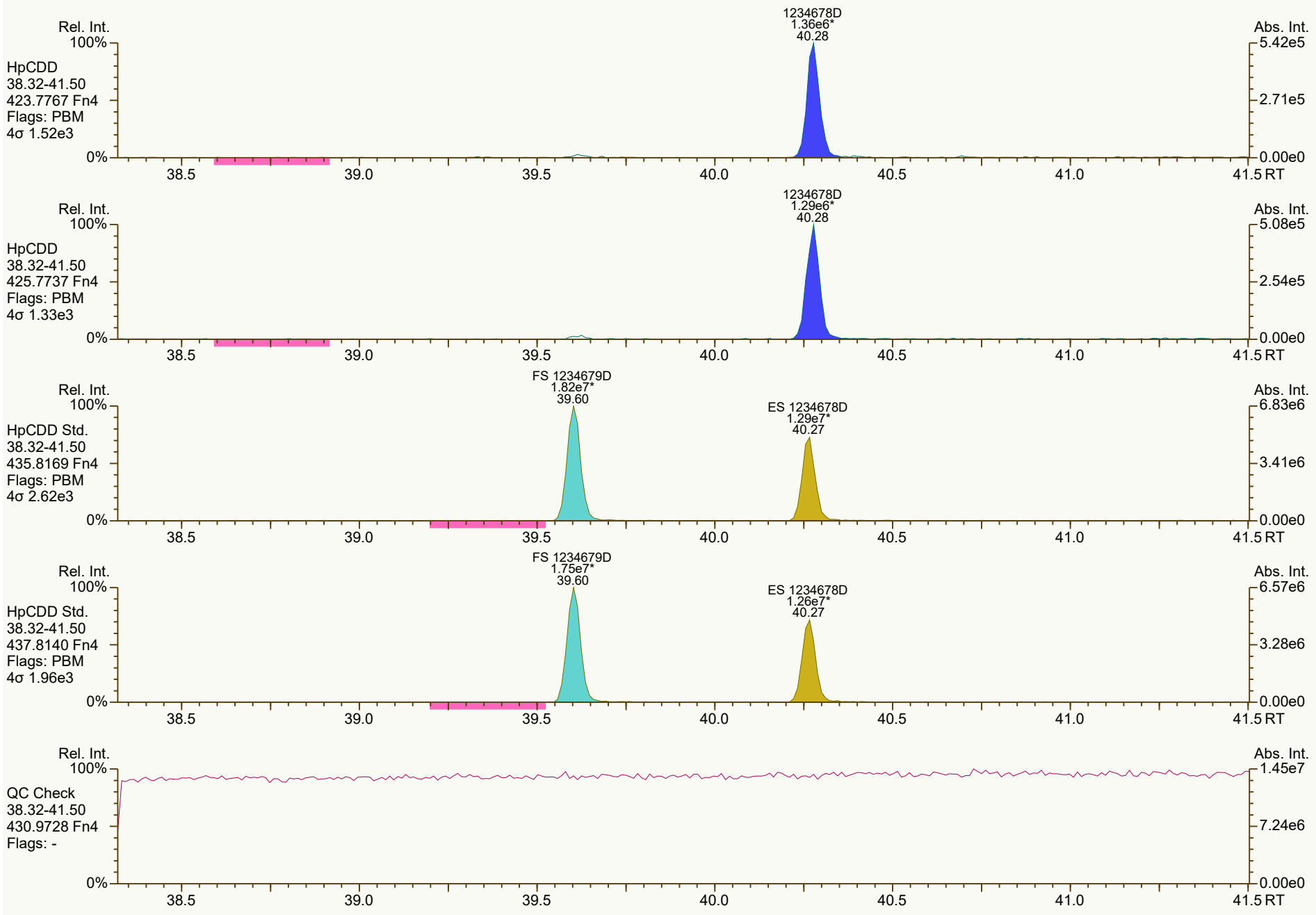
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

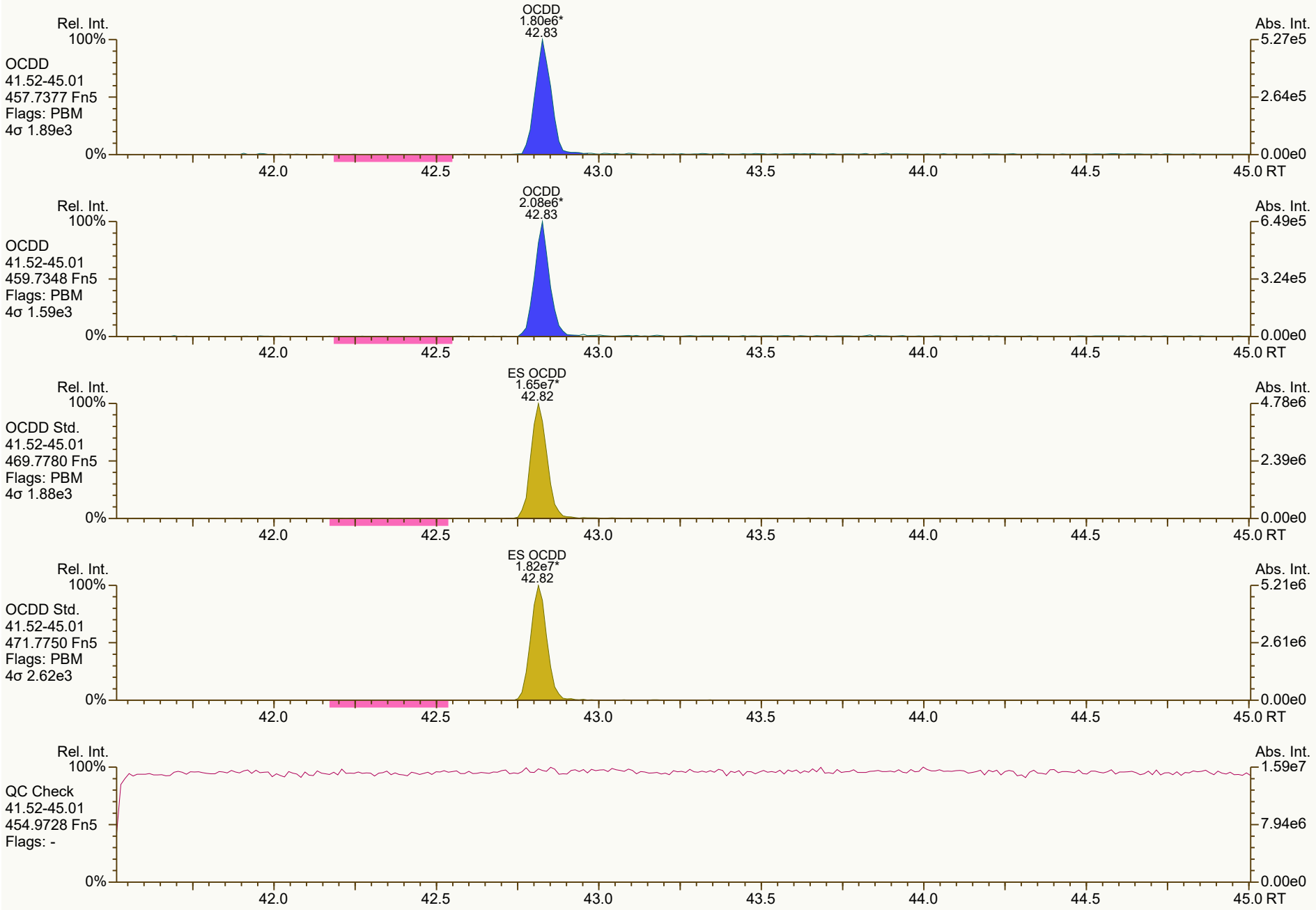

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
Abs. Int.
4.28e5
2.14e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
Abs. Int.
6.48e6
3.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
Abs. Int.
5.04e6
2.52e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
Abs. Int.
8.34e3
4.17e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT

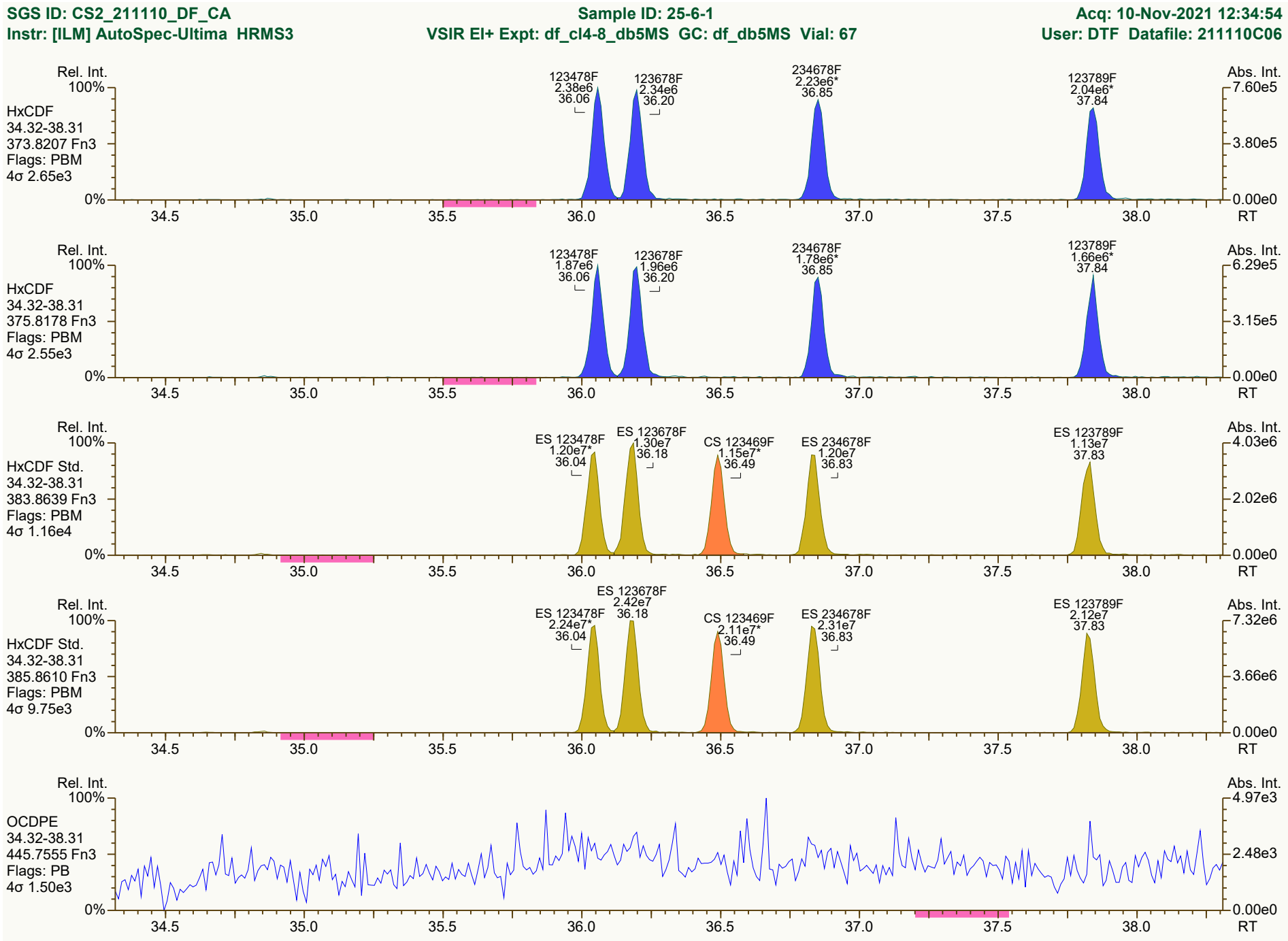

Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
5.27e5
2.63e5
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
8.01e6
4.01e6
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
5.19e6
2.59e6
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
6.67e3
3.33e3

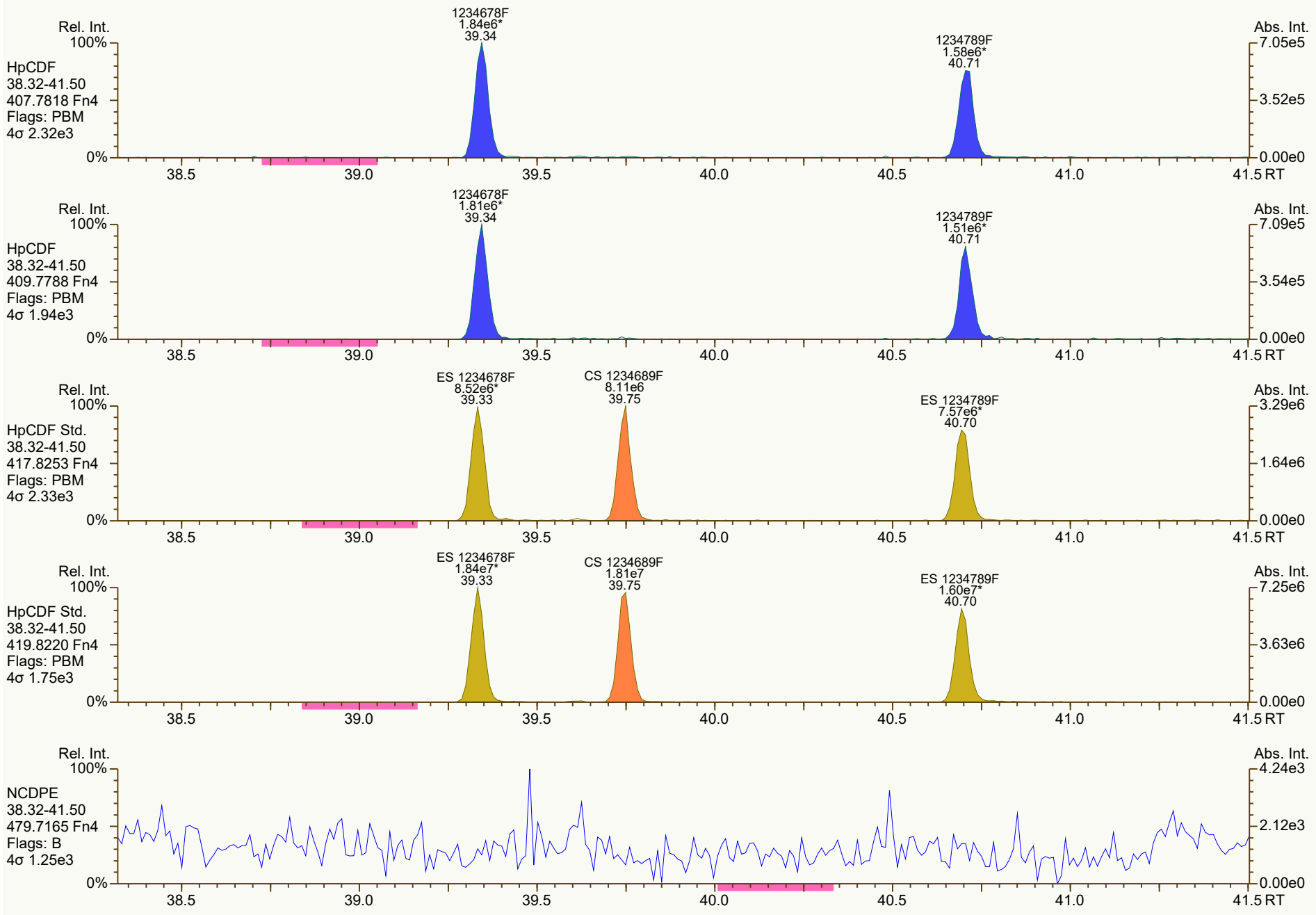
SGS ID: CS2_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

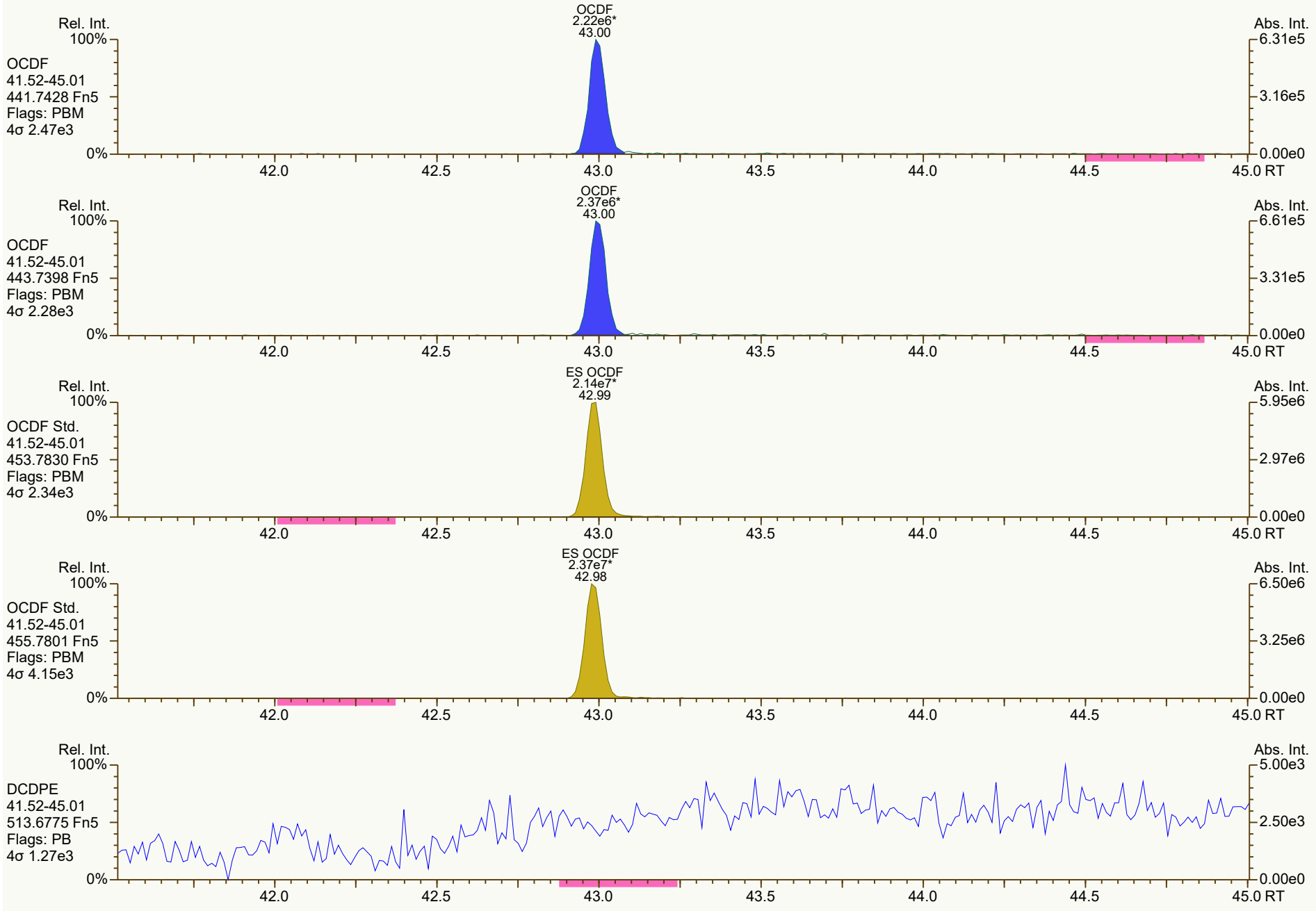
Sample ID: 25-6-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67

Acq: 10-Nov-2021 12:34:54
User: DTF Datafile: 211110C06



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 7496, 9123, 5141 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 10 of 12


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
Abs. Int.
4.24e3
2.12e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

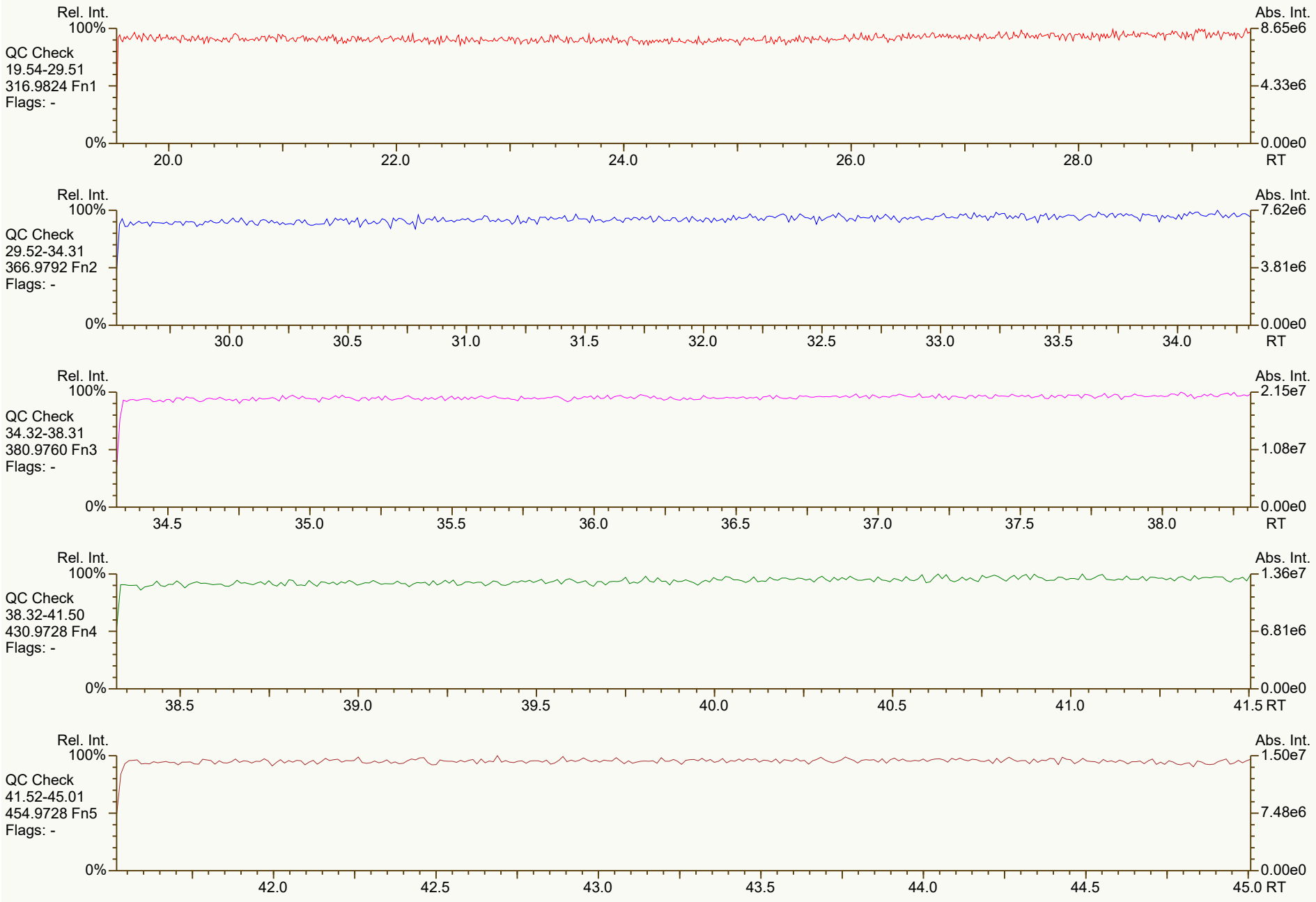

OCDF
2.22e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
0%
Abs. Int.
6.31e5
3.16e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.37e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
0%
Abs. Int.
6.61e5
3.31e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.14e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
5.95e6
2.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.37e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
0%
Abs. Int.
6.50e6
3.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

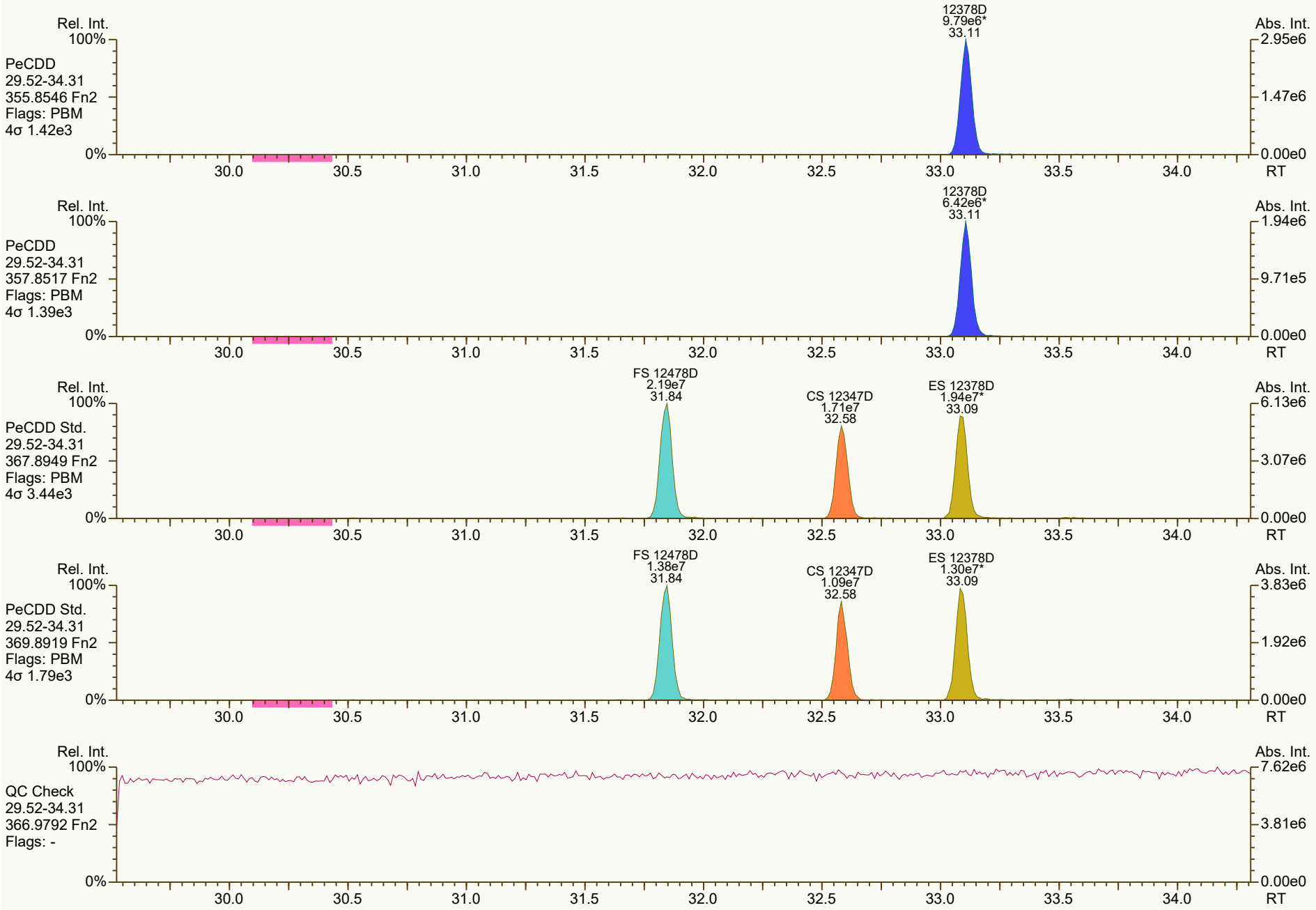
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

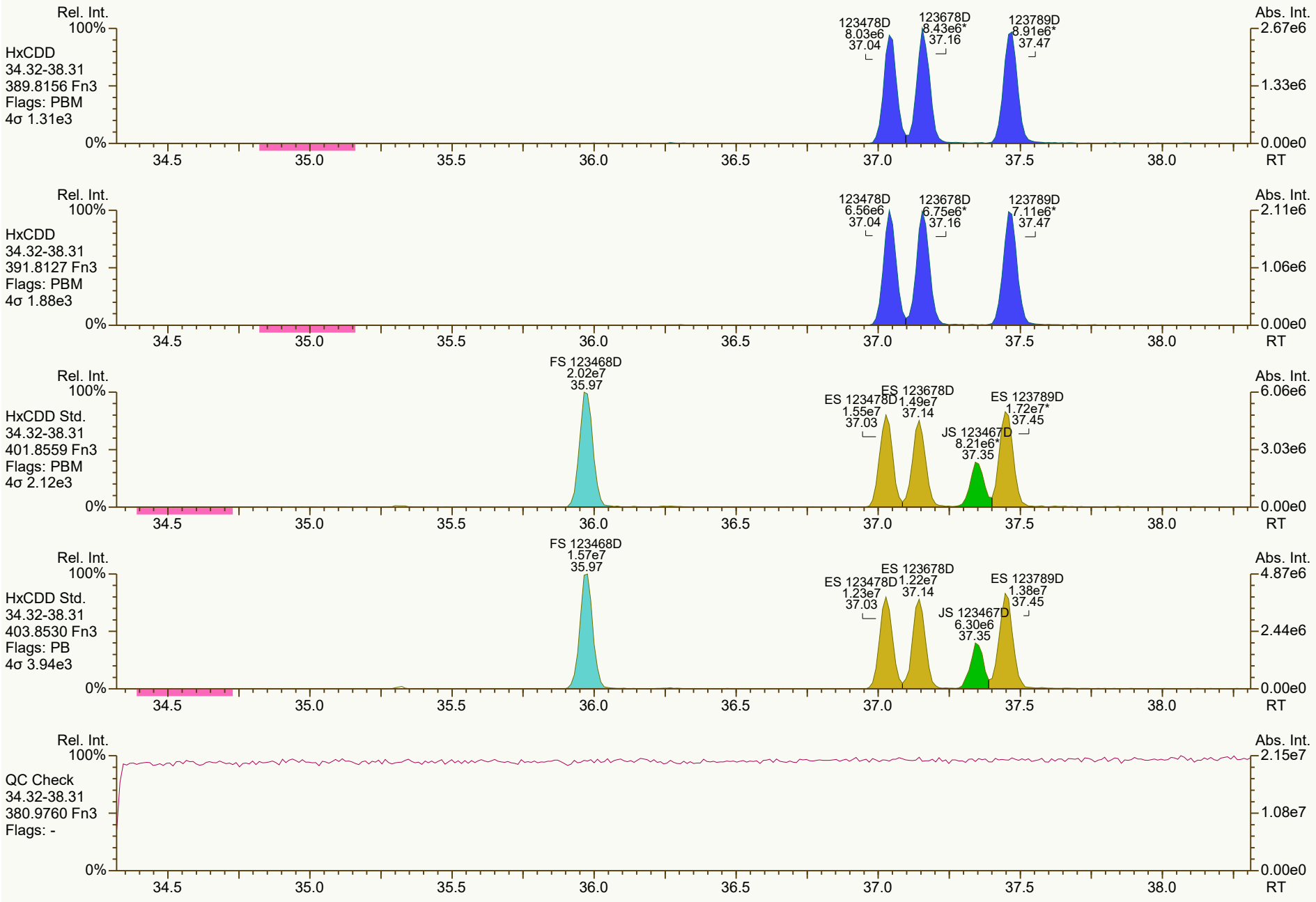
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

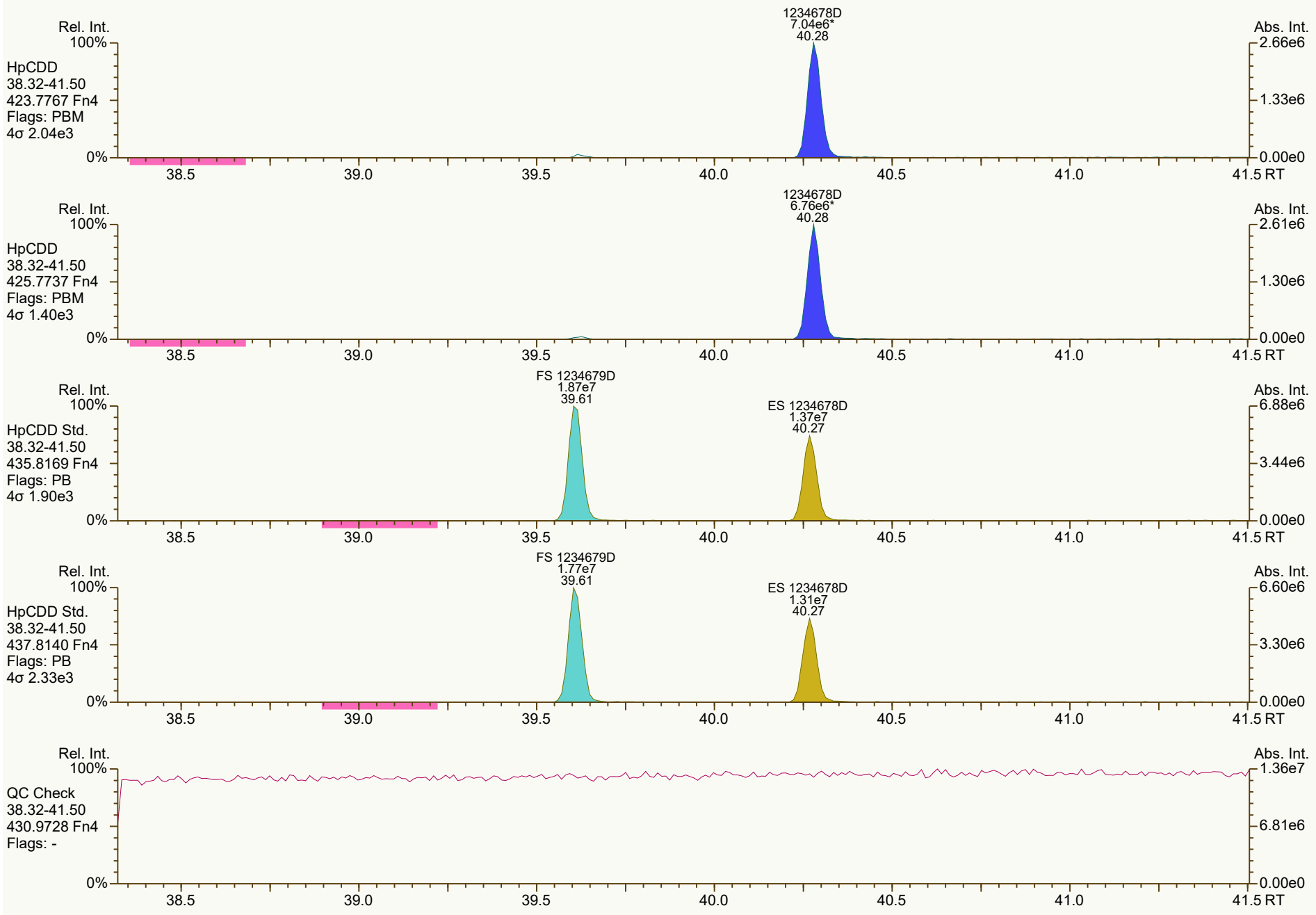
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%


Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
0%
Abs. Int.
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
2378D
1.99e6
27.60
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
2378D
2.55e6
27.60
5.98e5
2.99e5
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
1.03e6
5.16e5
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
4.80e6
2.40e6
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
6.06e6
3.03e6


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
0%
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
0%
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
0%
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
0%
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.62e6
3.81e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
0%
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
0%
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
0%
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
0%
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.15e7
1.08e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

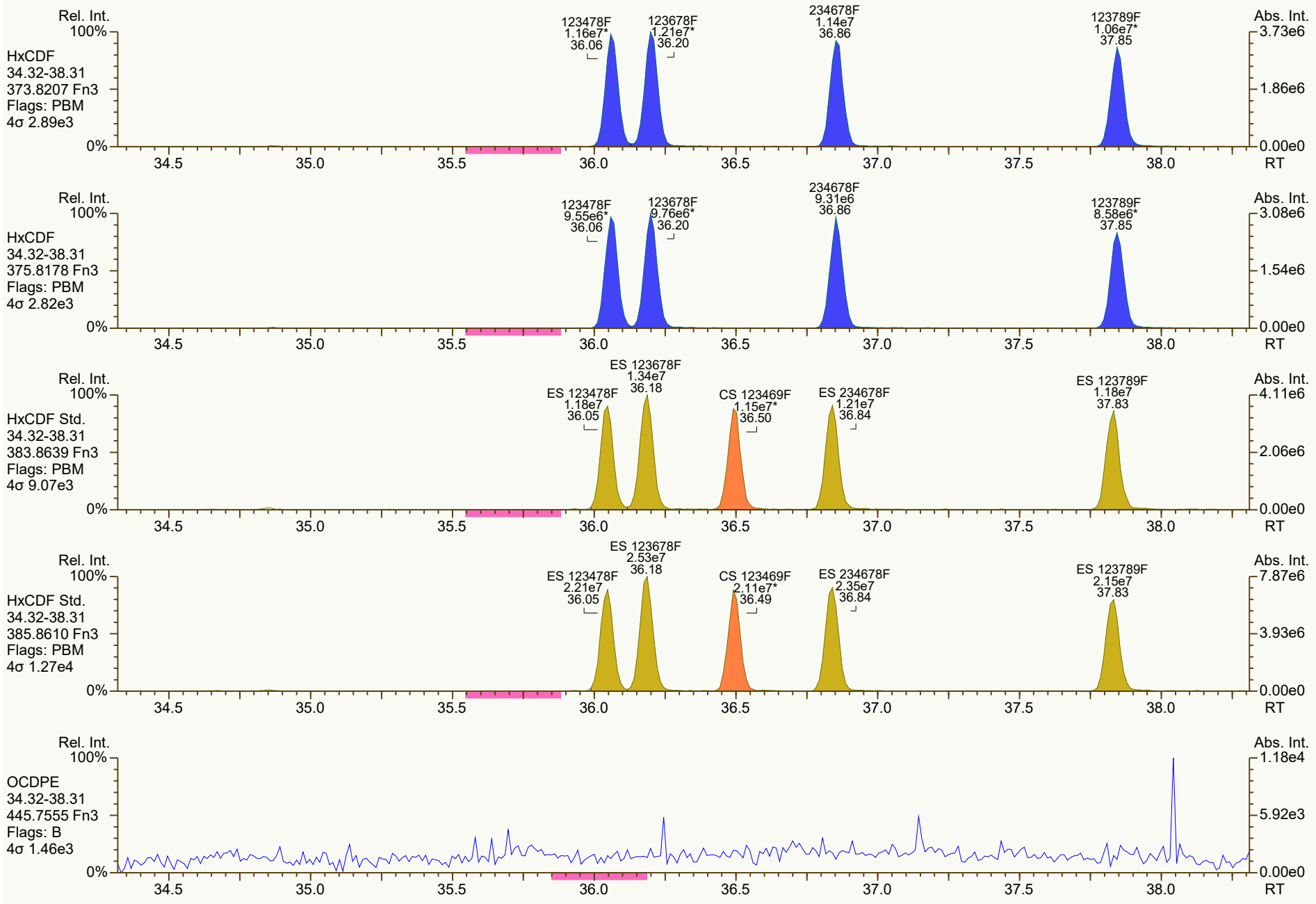

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

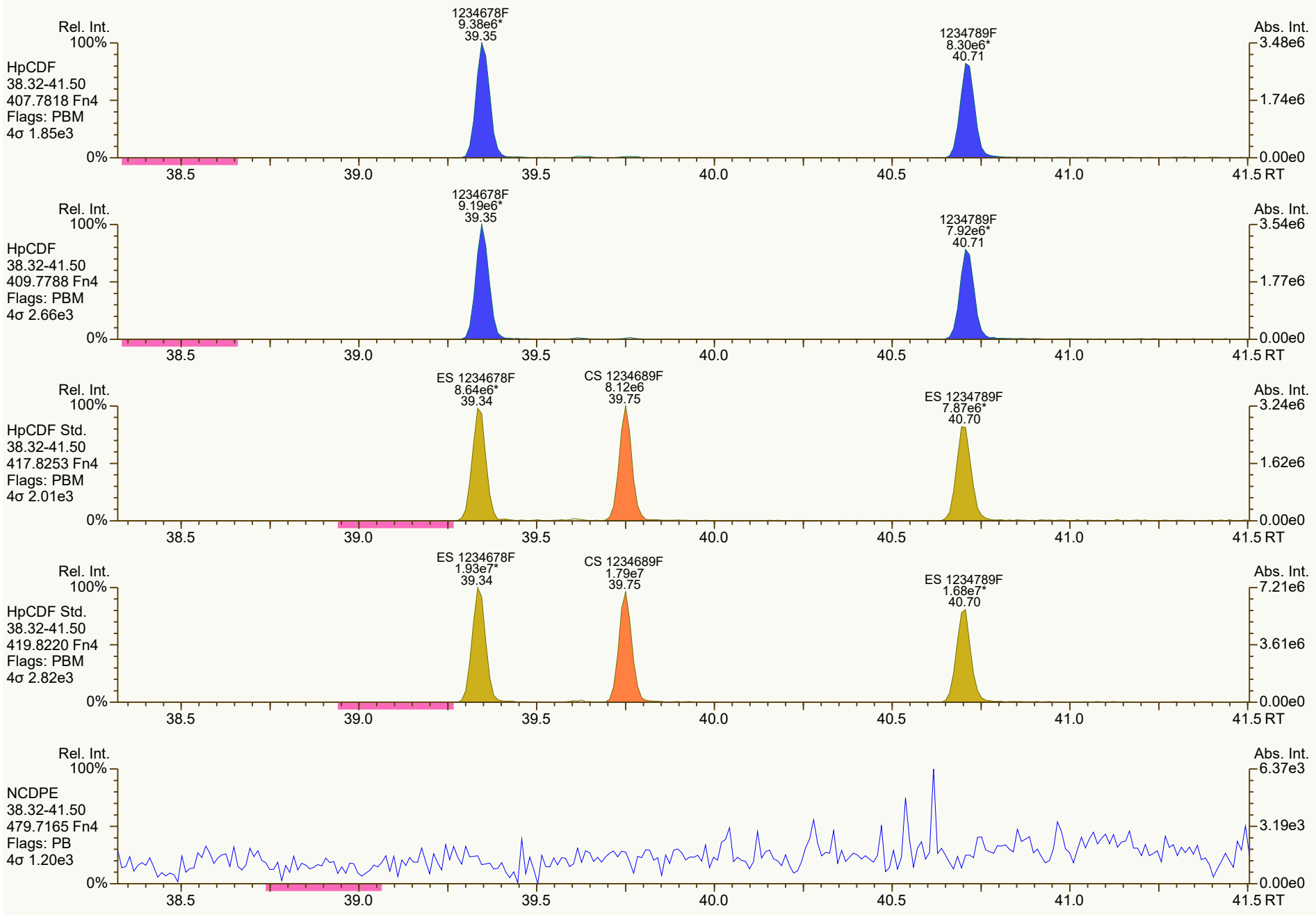

OCDD
9.25e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.02e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.70e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.86e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
0%
2378F
2.58e6
26.68
Abs. Int.
5.81e5
2.91e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
0%
2378F
3.32e6
26.68
Abs. Int.
7.66e5
3.83e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
0%
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
Abs. Int.
5.45e6
2.73e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
0%
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
Abs. Int.
6.76e6
3.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
0%
Abs. Int.
6.84e3
3.42e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
Abs. Int.
3.85e6
1.93e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
Abs. Int.
2.59e6
1.29e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
Abs. Int.
7.61e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
Abs. Int.
5.00e6
2.50e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
Abs. Int.
1.17e4
5.86e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
0%
123478F
1.16e7*
36.06
123678F
1.21e7*
36.20
234678F
1.14e7
36.86
123789F
1.06e7*
37.85
Abs. Int.
3.73e6
1.86e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
0%
123478F
9.55e6*
36.06
123678F
9.76e6*
36.20
234678F
9.31e6
36.86
123789F
8.58e6*
37.85
Abs. Int.
3.08e6
1.54e6
0.00e0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
0%
ES 123478F
1.18e7
36.05
ES 123678F
1.34e7
36.18
CS 123469F
1.15e7*
36.50
ES 234678F
1.21e7
36.84
ES 123789F
1.18e7
37.83
Abs. Int.
4.11e6
2.06e6
0.00e0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
0%
ES 123478F
2.21e7
36.05
ES 123678F
2.53e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.35e7
36.84
ES 123789F
2.15e7
37.83
Abs. Int.
7.87e6
3.93e6
0.00e0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
0%
Abs. Int.
1.18e4
5.92e3
0.00e0
RT

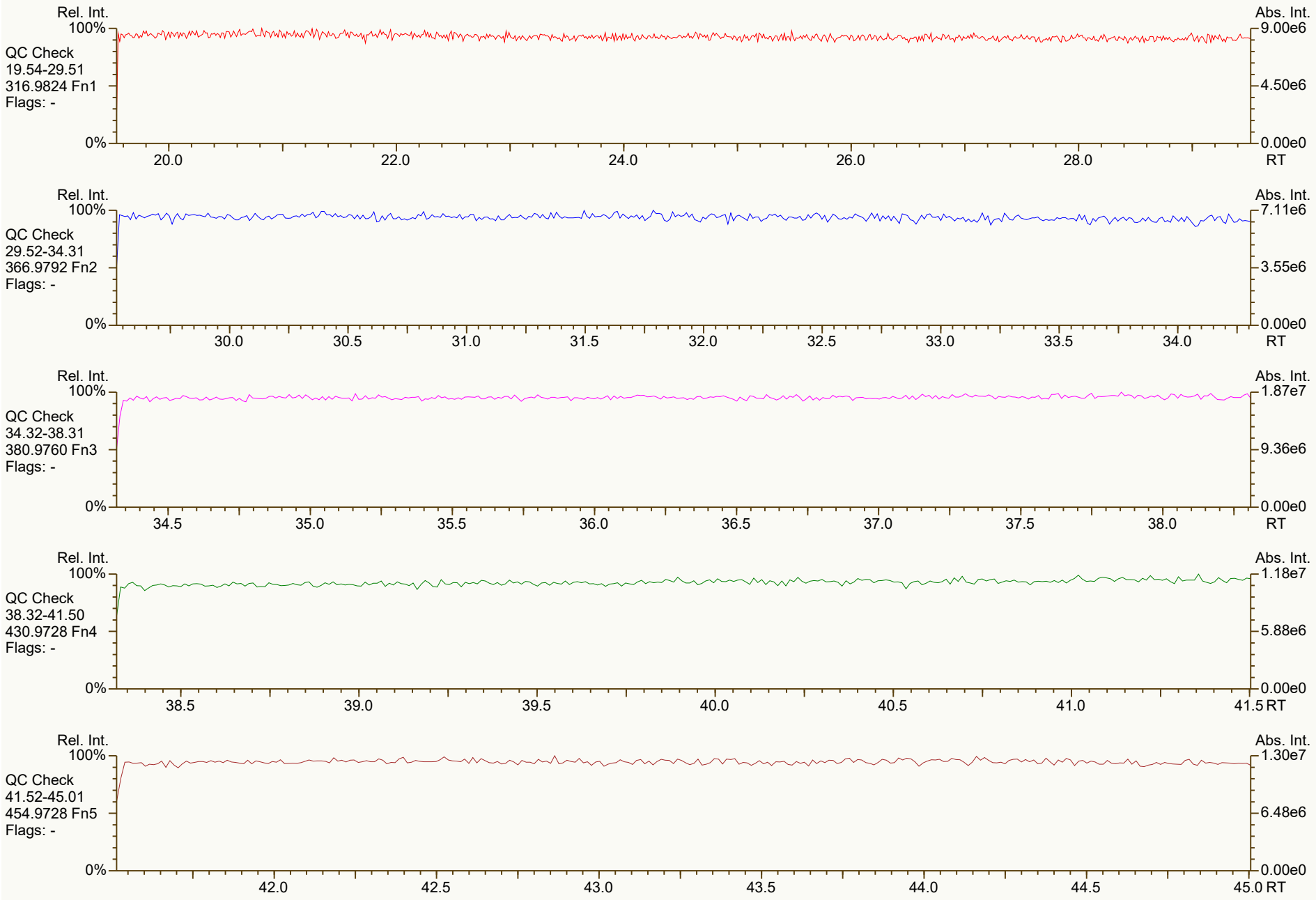

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
0%
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
Abs. Int.
3.48e6
1.74e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
0%
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
Abs. Int.
3.54e6
1.77e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
0%
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
Abs. Int.
3.24e6
1.62e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
0%
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
Abs. Int.
7.21e6
3.61e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
0%
Abs. Int.
6.37e3
3.19e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

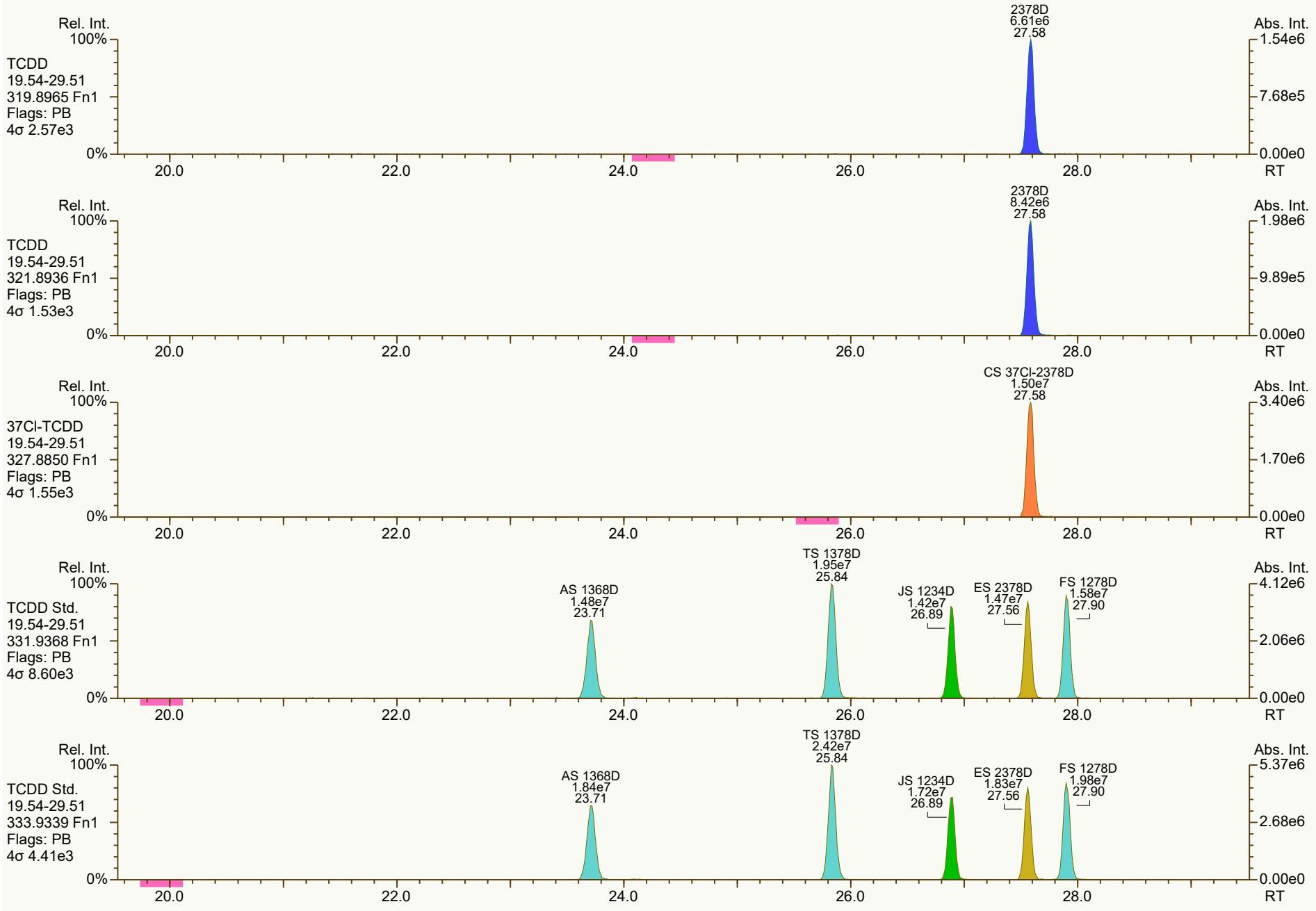

OCDF
1.15e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
3.25e6
1.62e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
0%
Abs. Int.
3.53e6
1.76e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.21e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
0%
Abs. Int.
6.08e6
3.04e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.39e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
0%
Abs. Int.
6.65e6
3.32e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
0%
Abs. Int.
4.82e3
2.41e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

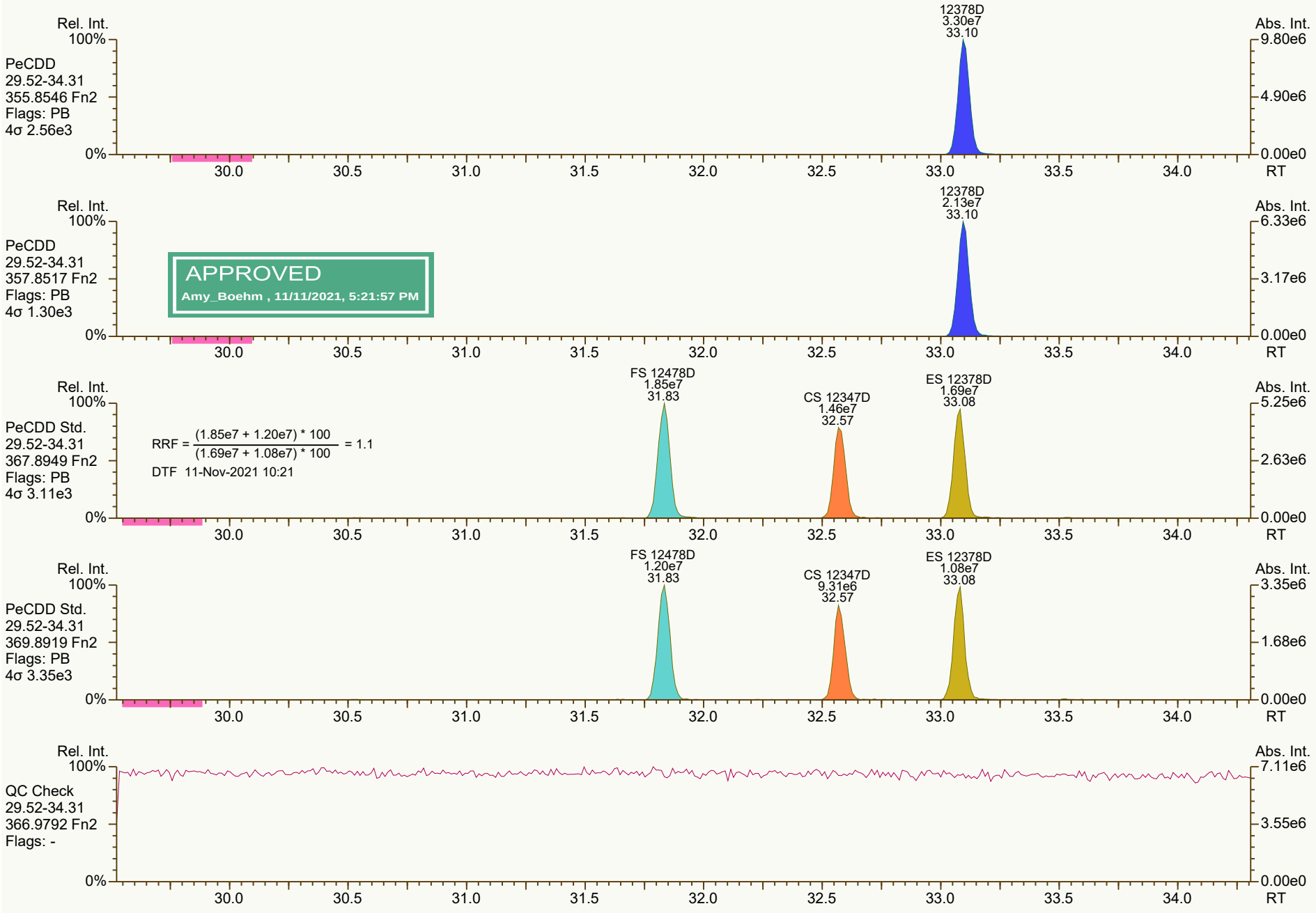
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

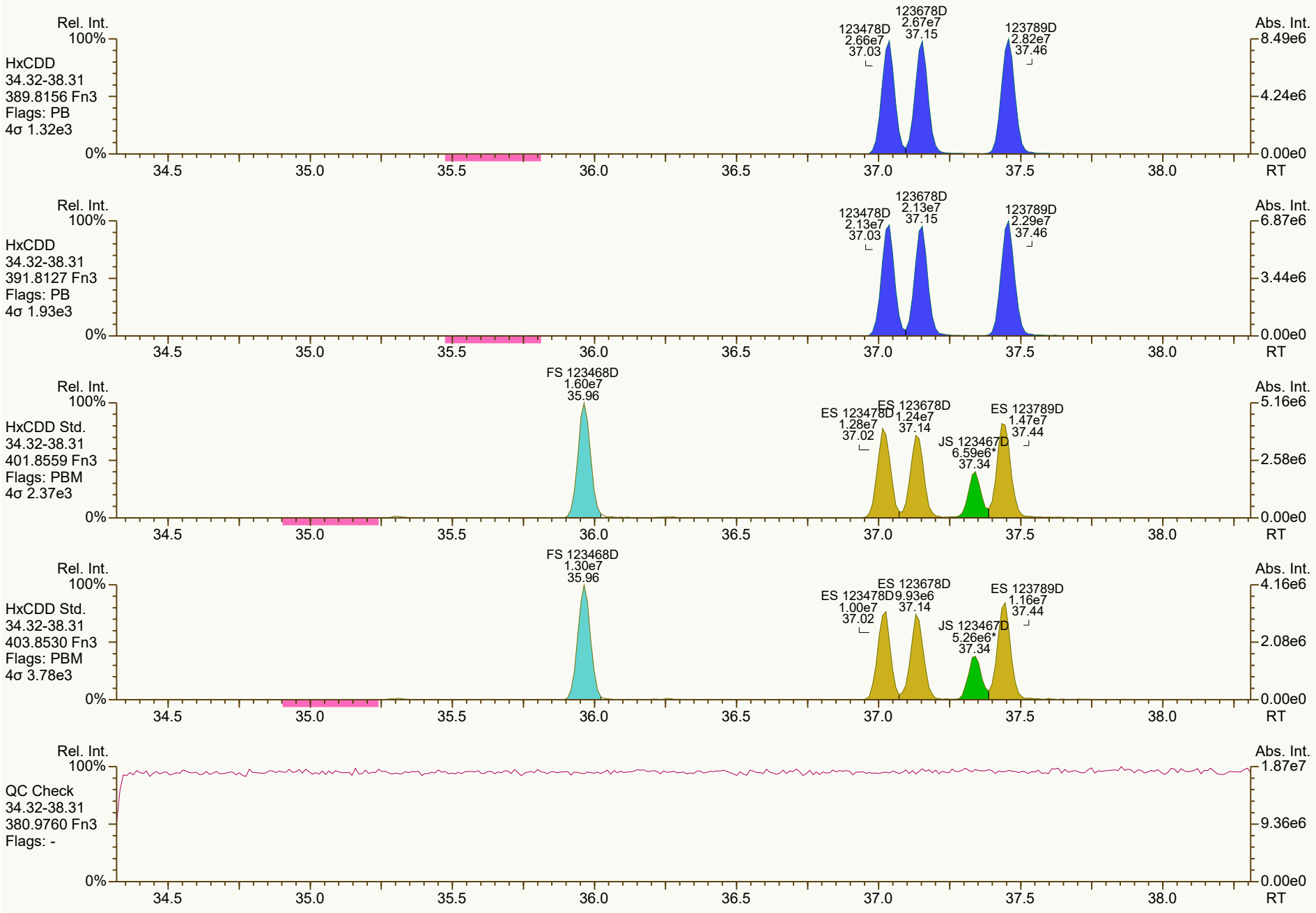
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

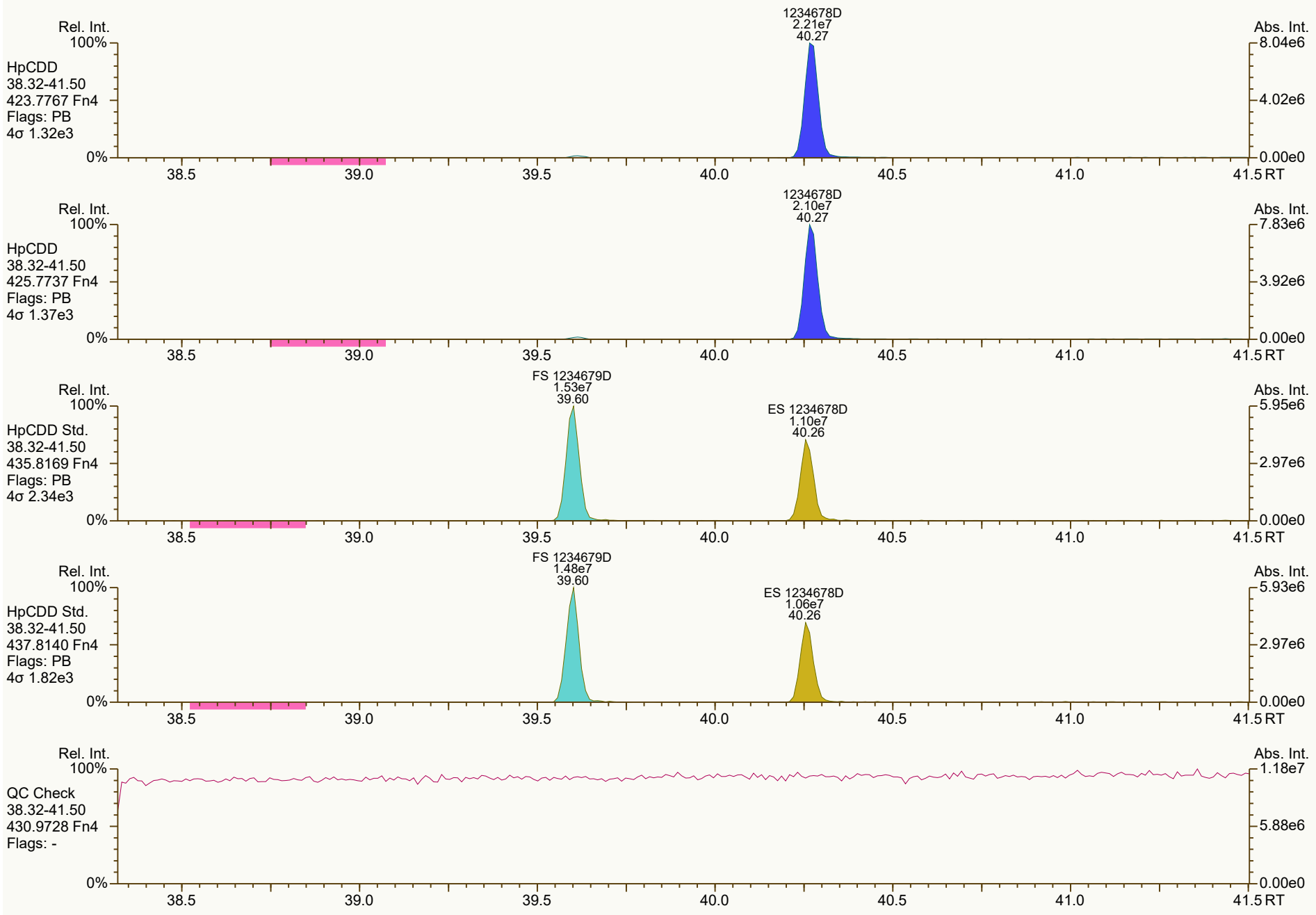
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:07 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS4_211110_DF_CA		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 855-576-PGM	
Sample ID: 25-5-4		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C08	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

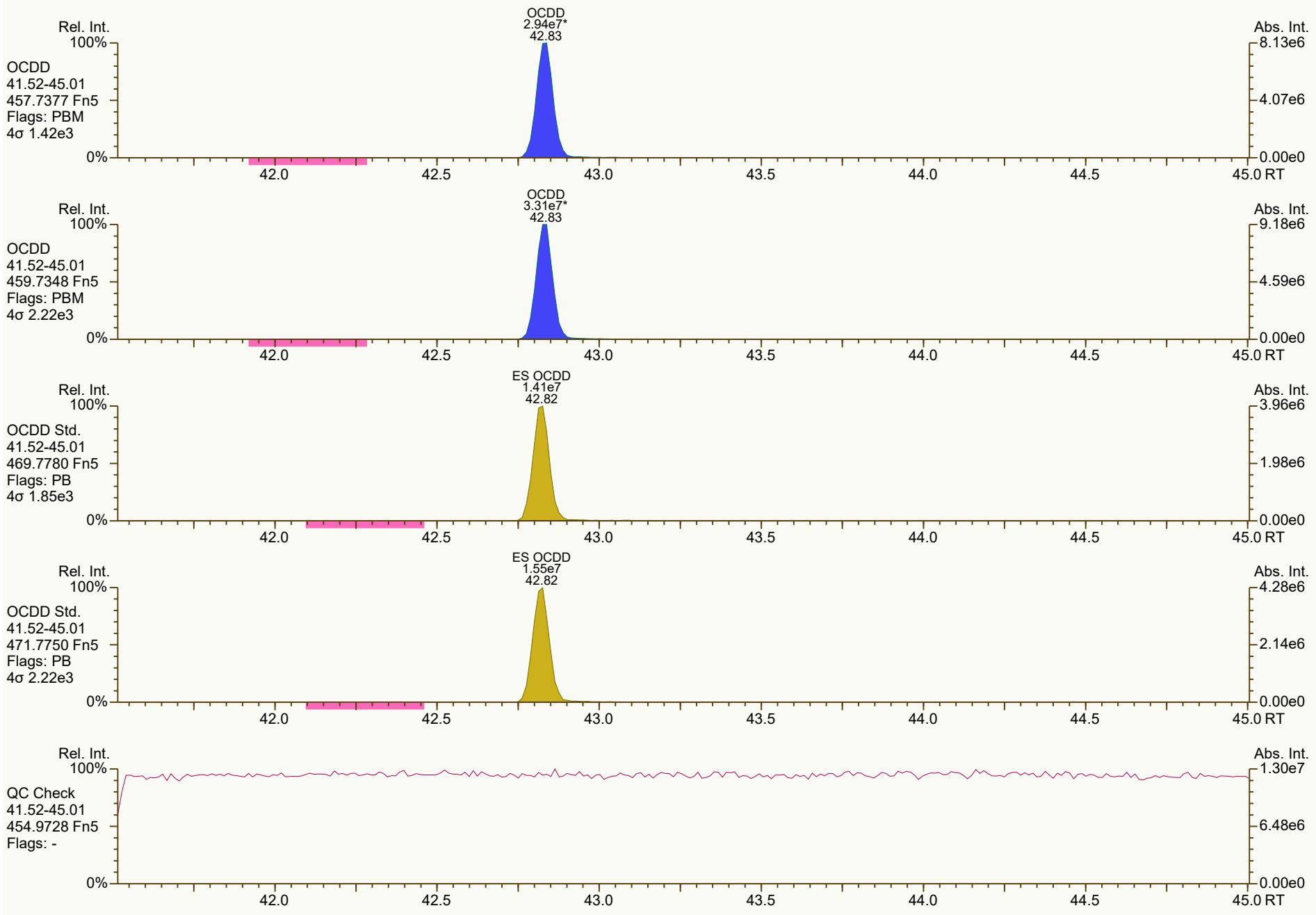

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
9.00e6
4.50e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
7.11e6
3.55e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
1.87e7
9.36e6
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
1.18e7
5.88e6
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
1.30e7
6.48e6
0.00e0
RT


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
0%
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
0%
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

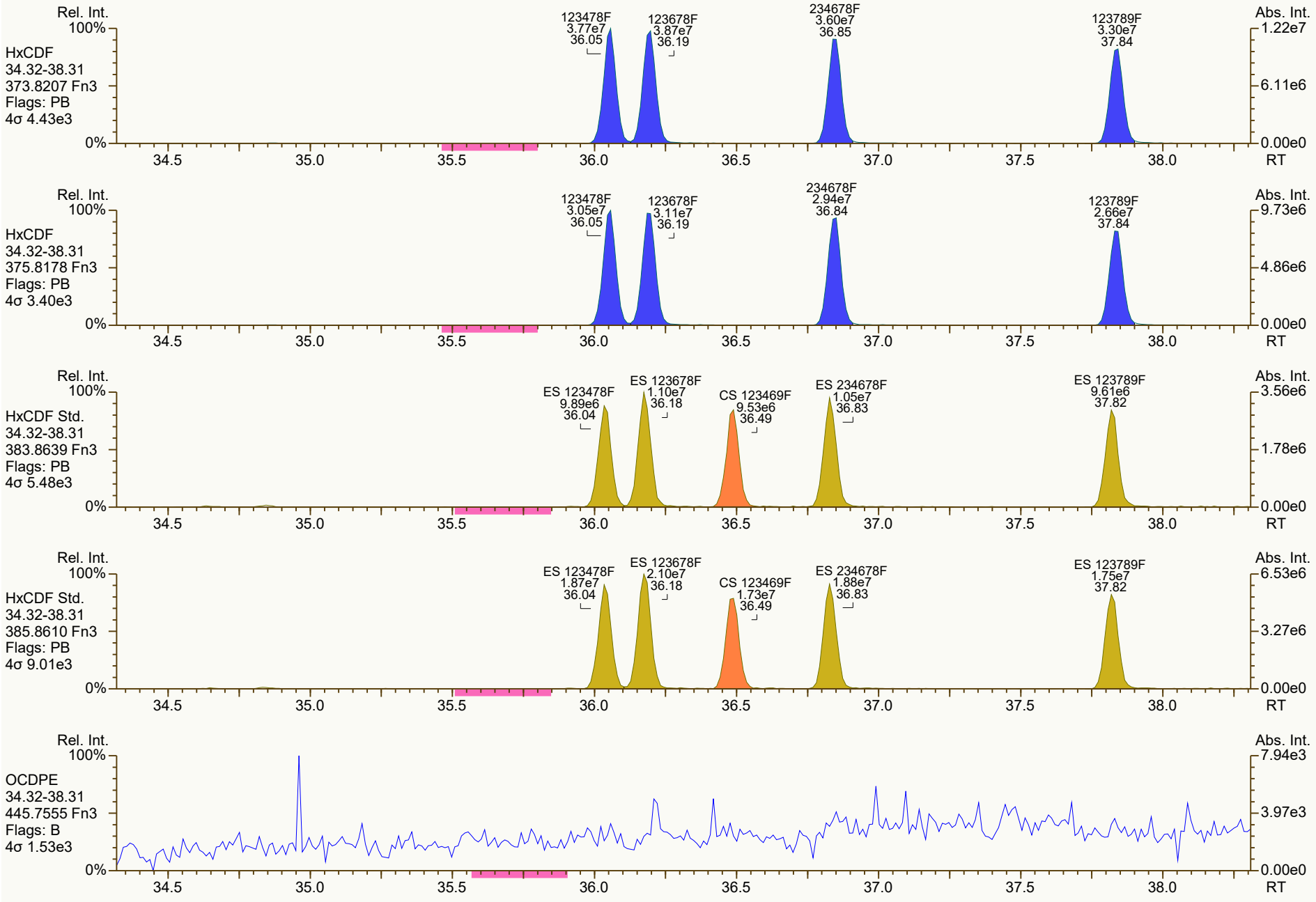

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.18e7
5.88e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

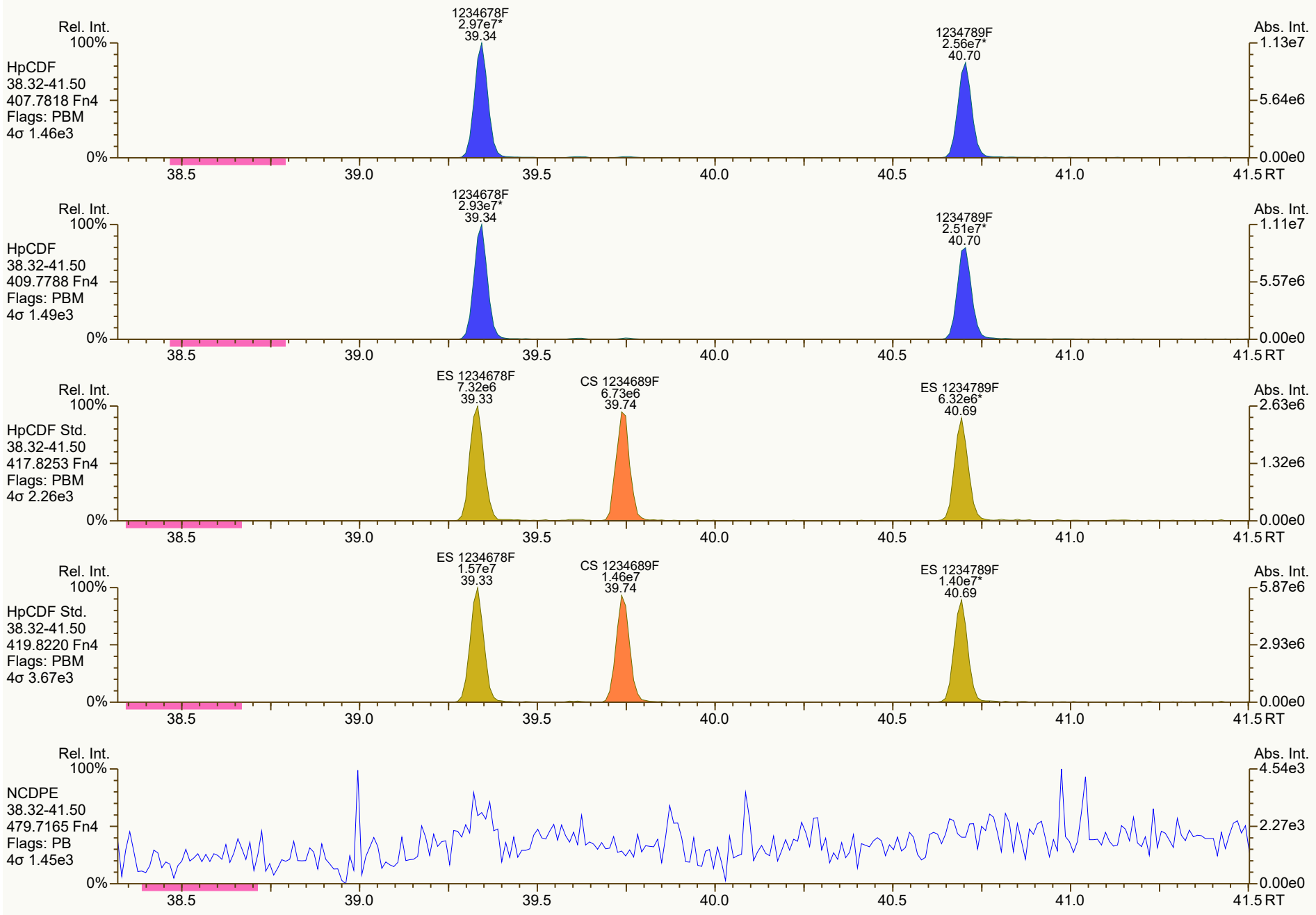

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
OCDD
2.94e7*
42.83
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
OCDD
3.31e7*
42.83
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
ES OCDD
1.41e7
42.82
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
ES OCDD
1.55e7
42.82
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

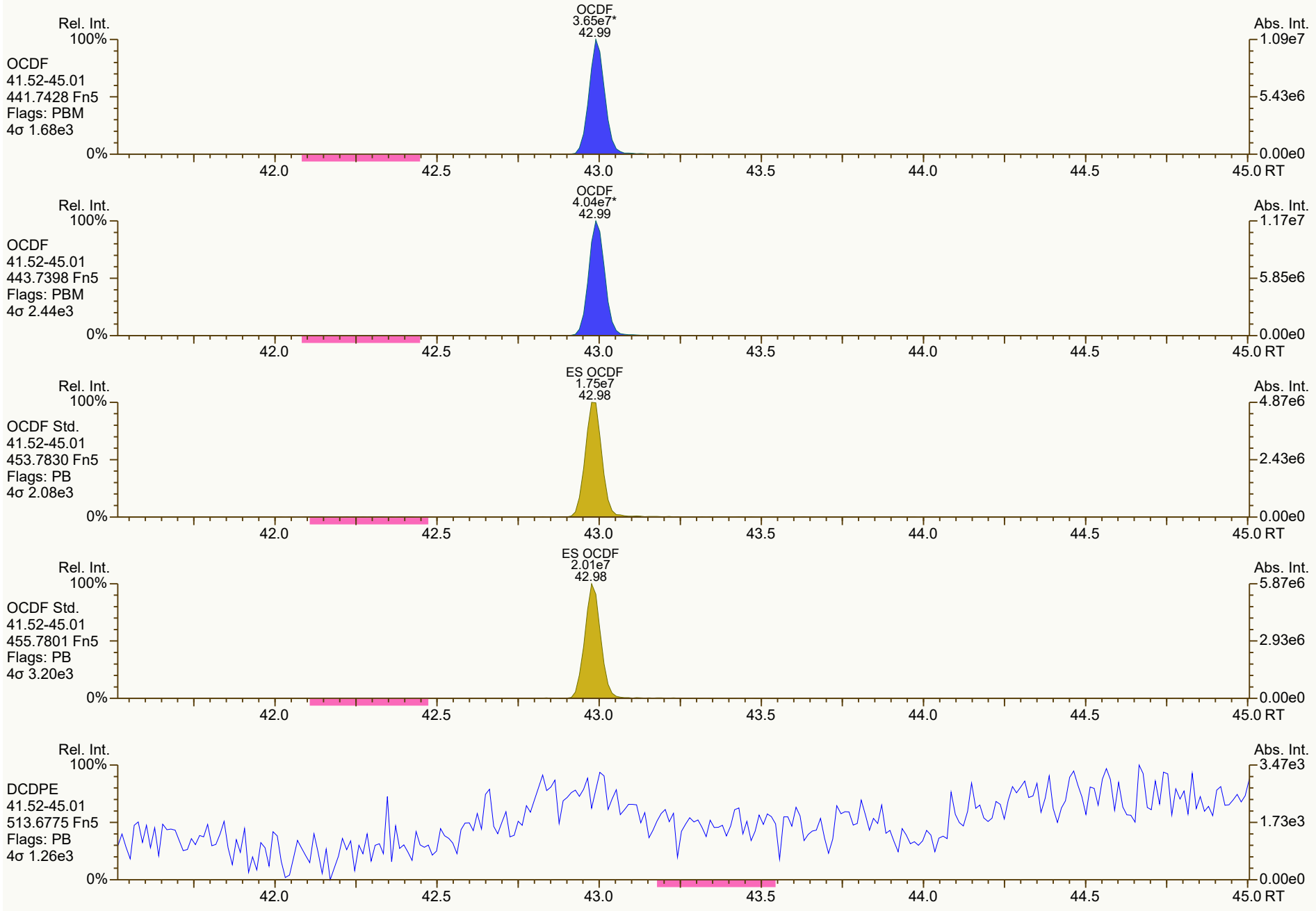

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.94e3
4.47e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.00e6
4.50e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
Abs. Int.
7.51e3
3.76e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
0%
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
Abs. Int.
1.13e7
5.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
0%
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
Abs. Int.
1.11e7
5.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
0%
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
Abs. Int.
2.63e6
1.32e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
0%
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
Abs. Int.
5.87e6
2.93e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
0%
Abs. Int.
4.54e3
2.27e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

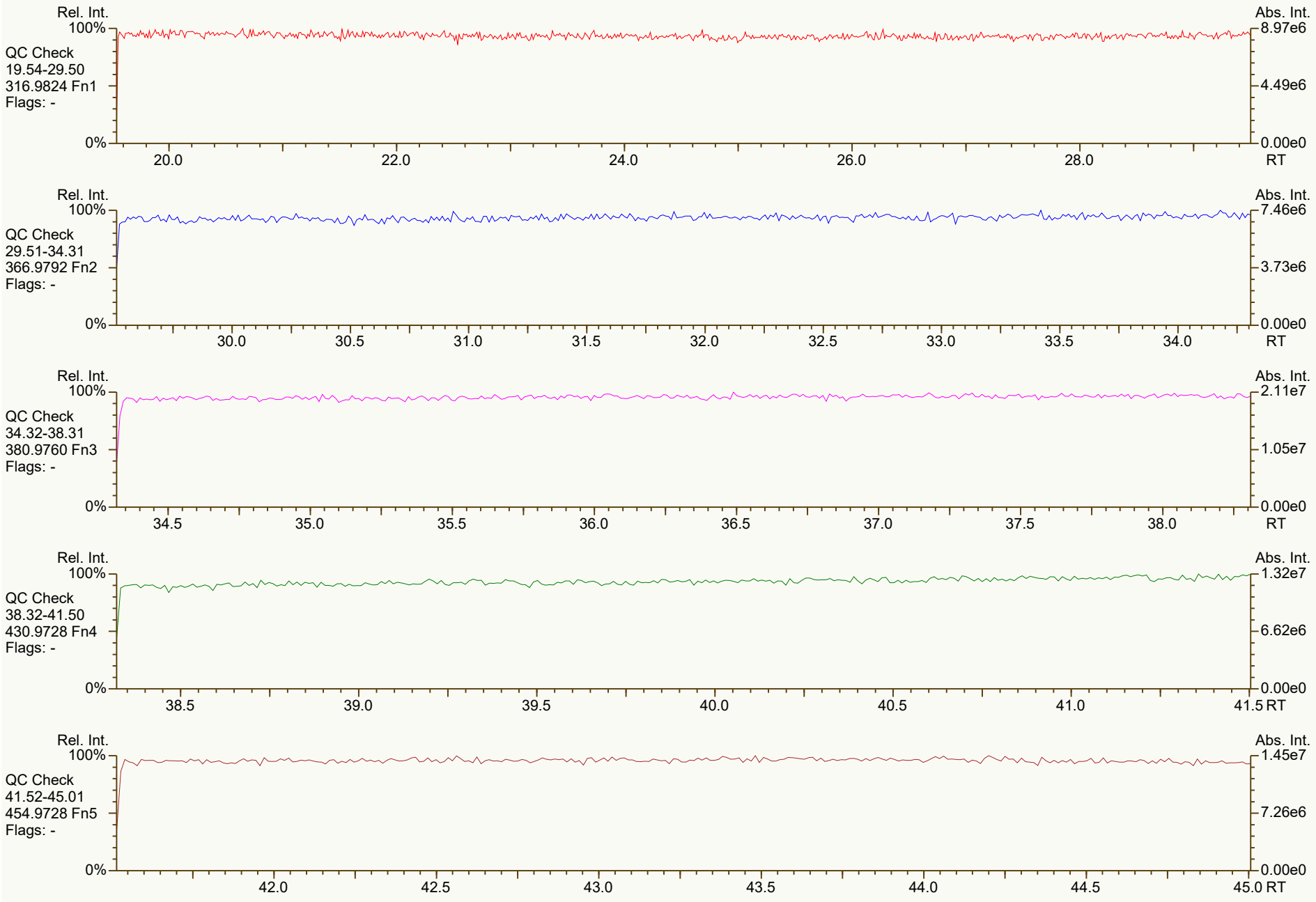

OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

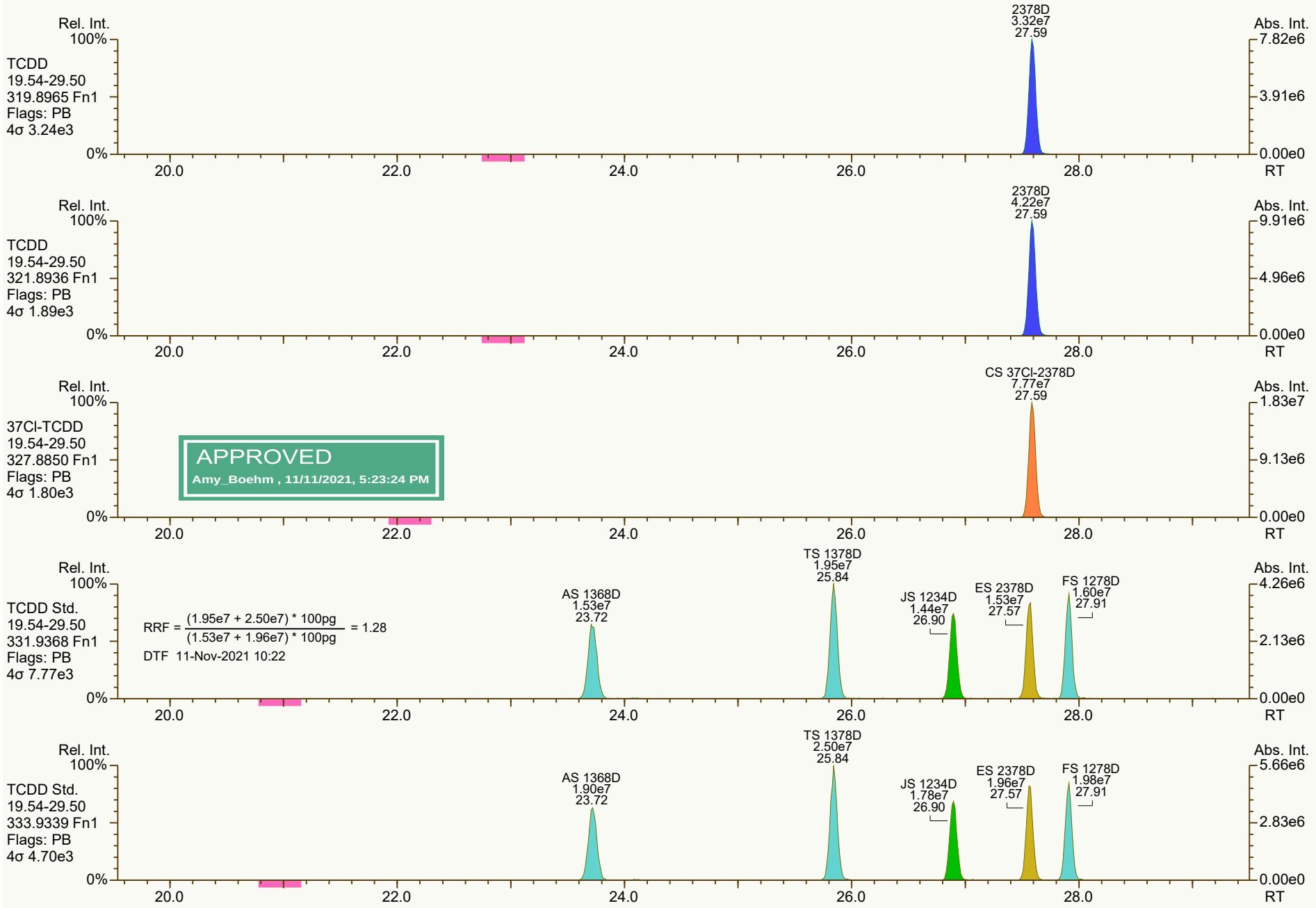
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

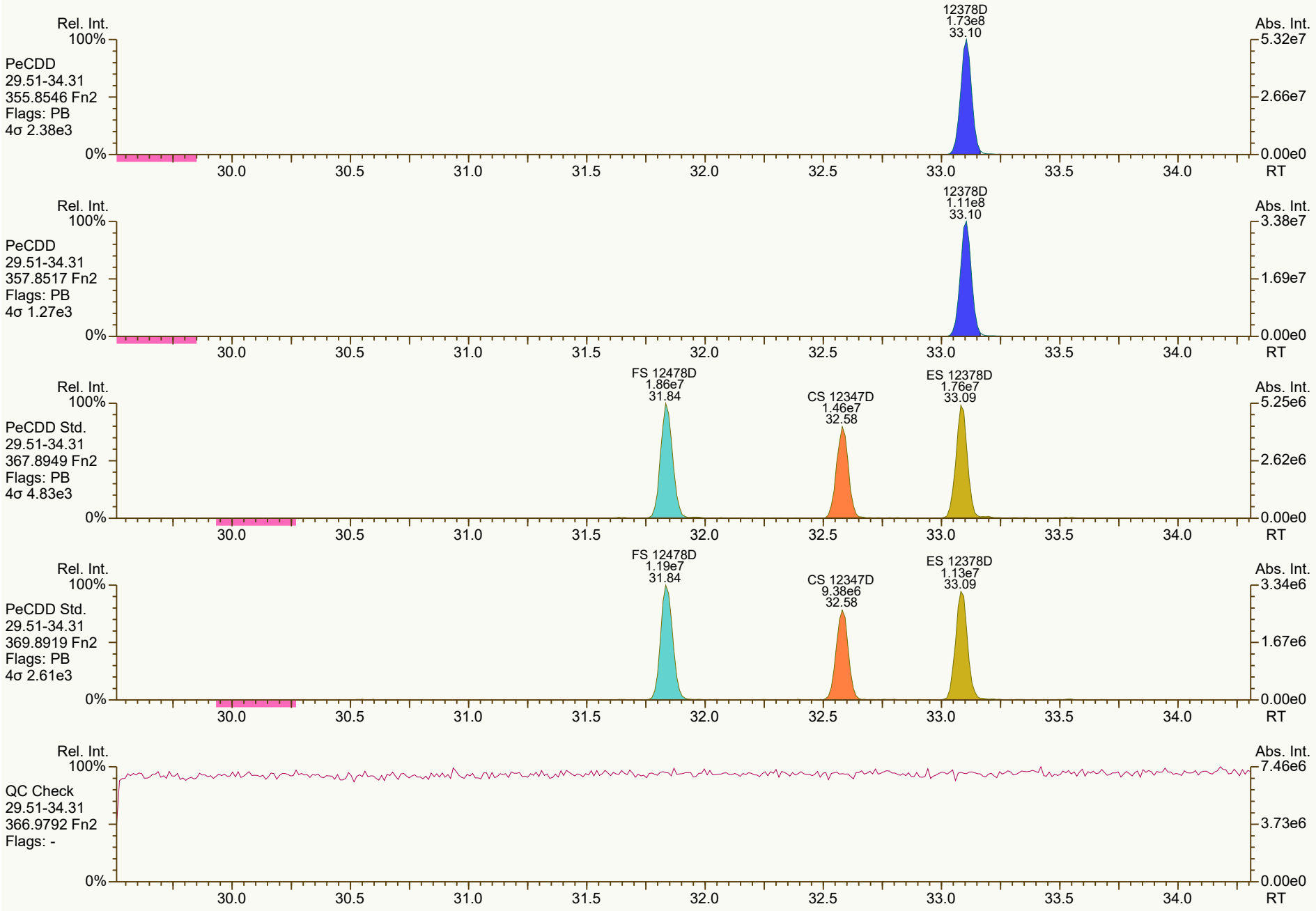
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

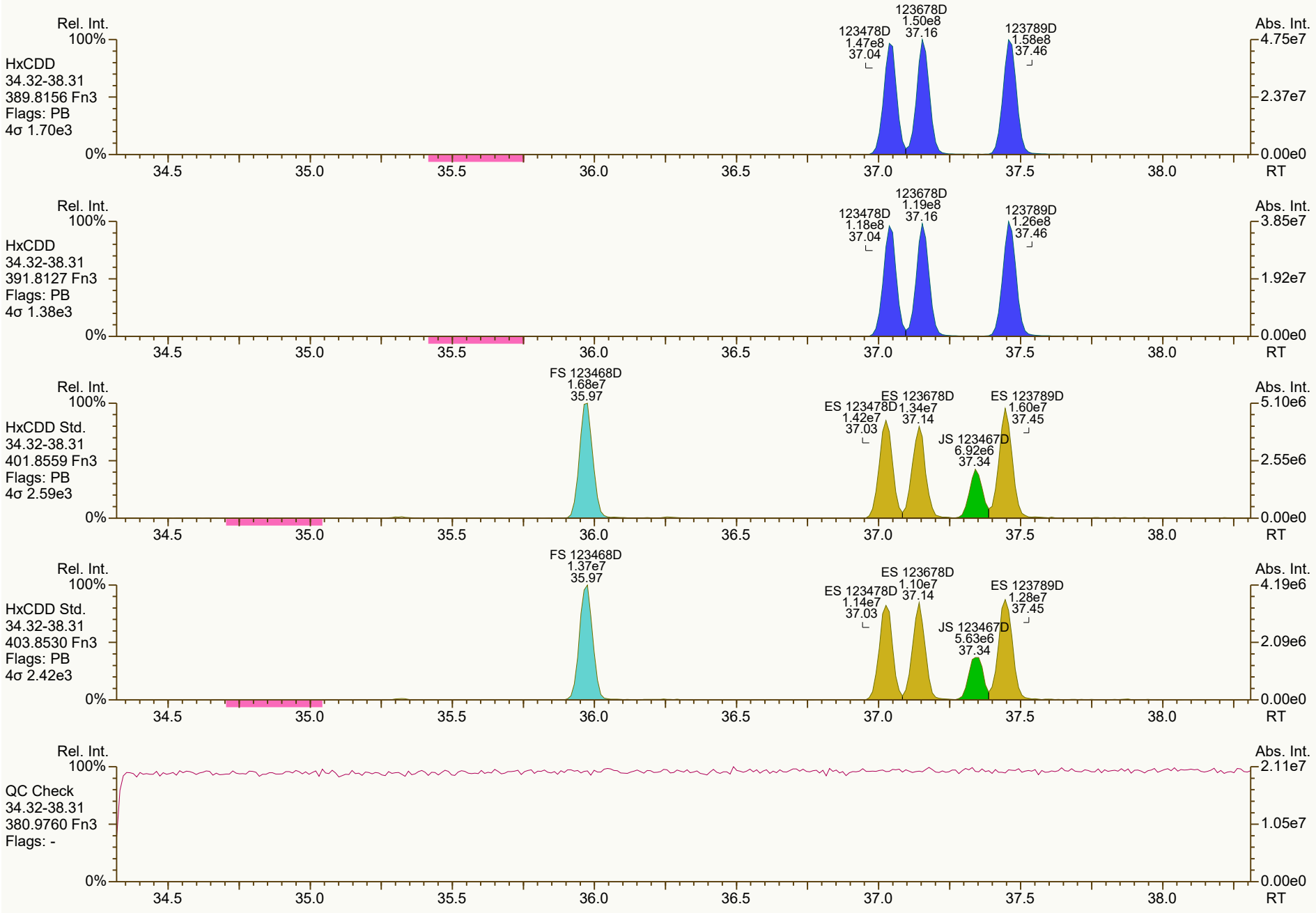
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

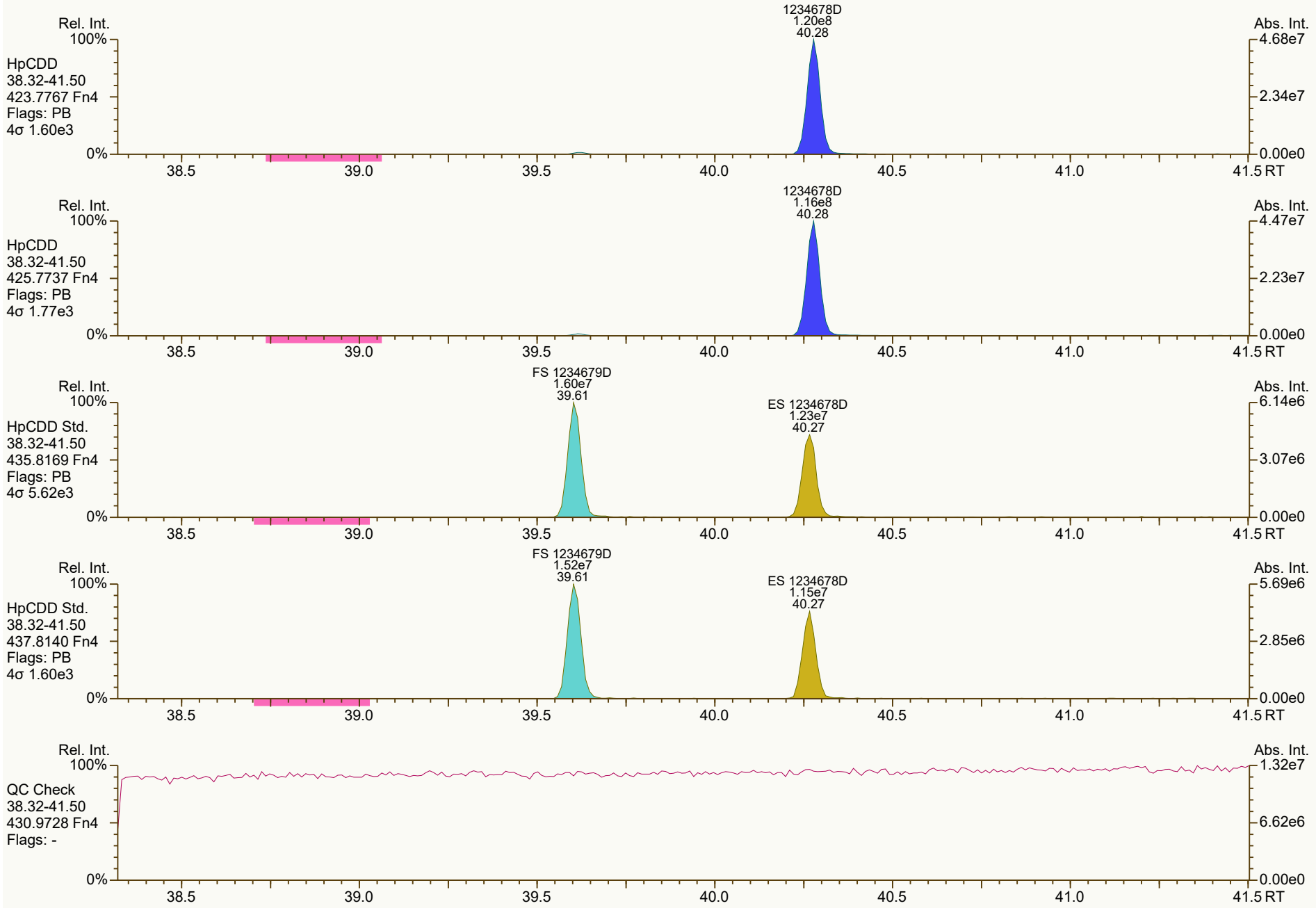
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

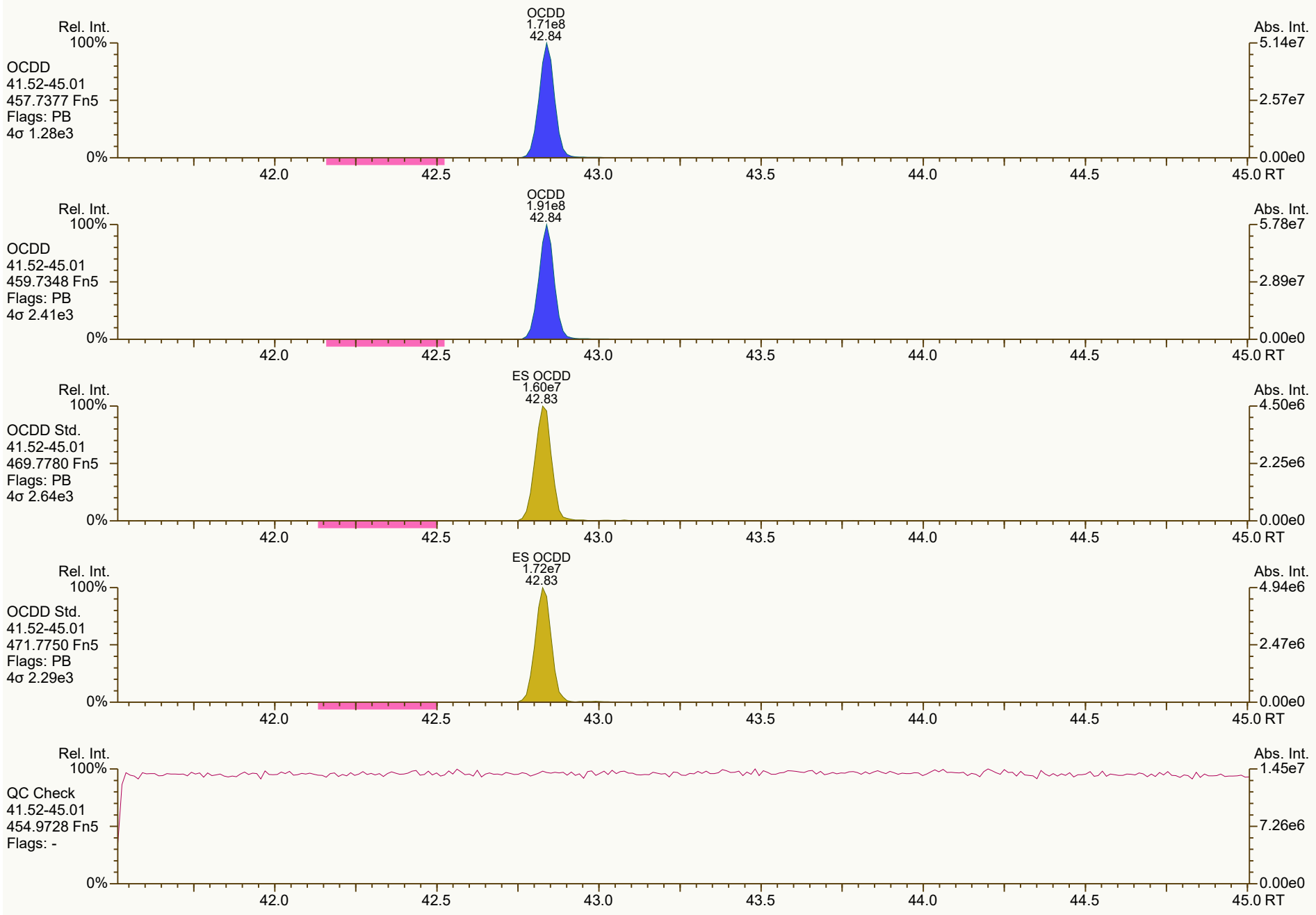

Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.11e7
1.05e7
0.00e0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.32e7
6.62e6
0.00e0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Rel. Int.
100%
0%
Abs. Int.
1.45e7
7.26e6
0.00e0
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
2378D
4.22e7
27.59
9.91e6
4.96e6
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
1.83e7
9.13e6
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
4.26e6
2.13e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
5.66e6
2.83e6


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.46e6
3.73e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

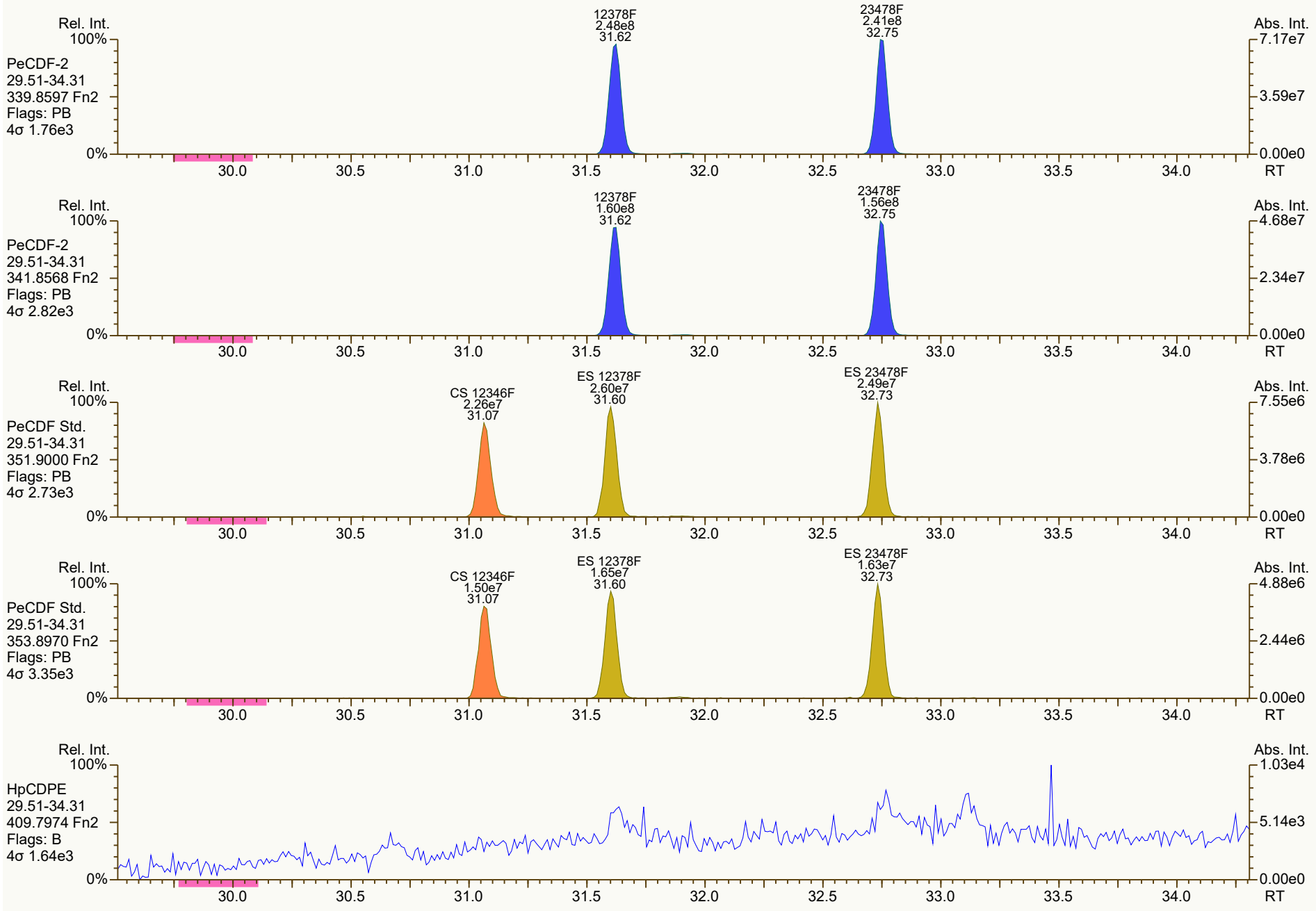

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

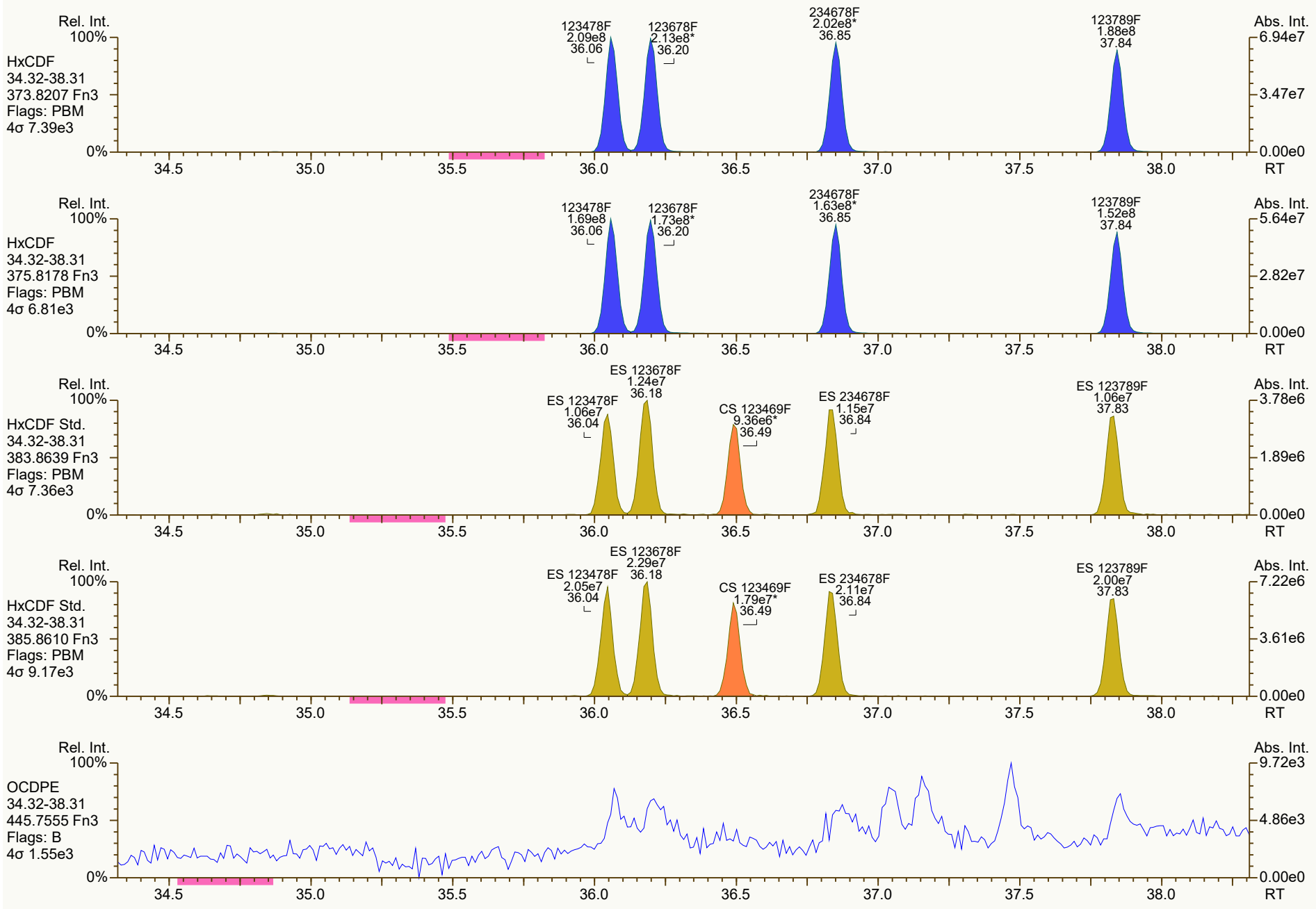

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT

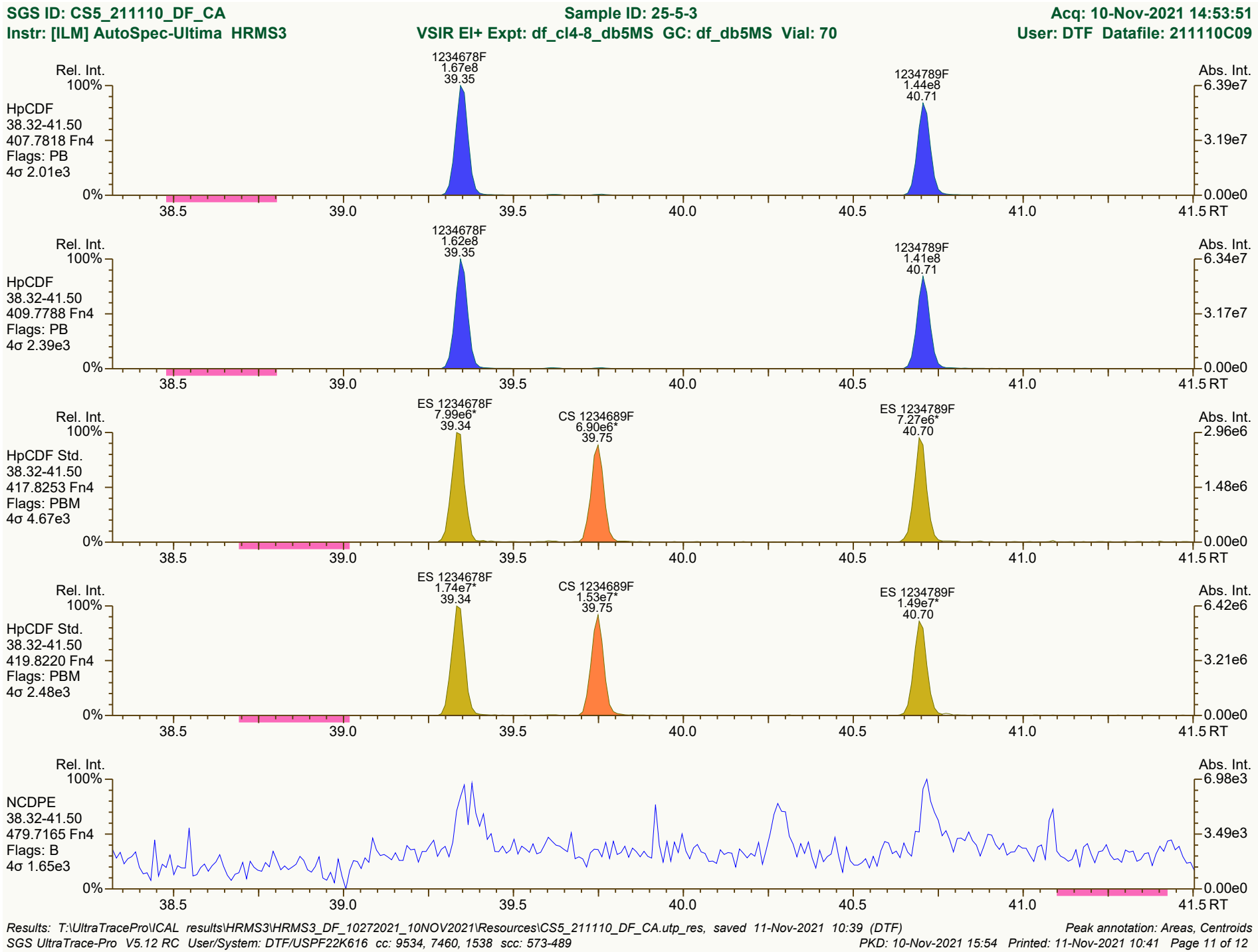

Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
Abs. Int.
1.03e4
5.14e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
123478F
2.09e8
36.06
123678F
2.13e8*
36.20
234678F
2.02e8*
36.85
123789F
1.88e8
37.84
Abs. Int.
6.94e7
3.47e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
123478F
1.69e8
36.06
123678F
1.73e8*
36.20
234678F
1.63e8*
36.85
123789F
1.52e8
37.84
Abs. Int.
5.64e7
2.82e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
ES 123678F
1.24e7
36.18
ES 123478F
1.06e7
36.04
CS 123469F
9.36e6*
36.49
ES 234678F
1.15e7
36.84
ES 123789F
1.06e7
37.83
Abs. Int.
3.78e6
1.89e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
ES 123678F
2.29e7
36.18
ES 123478F
2.05e7
36.04
CS 123469F
1.79e7*
36.49
ES 234678F
2.11e7
36.84
ES 123789F
2.00e7
37.83
Abs. Int.
7.22e6
3.61e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
Abs. Int.
9.72e3
4.86e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

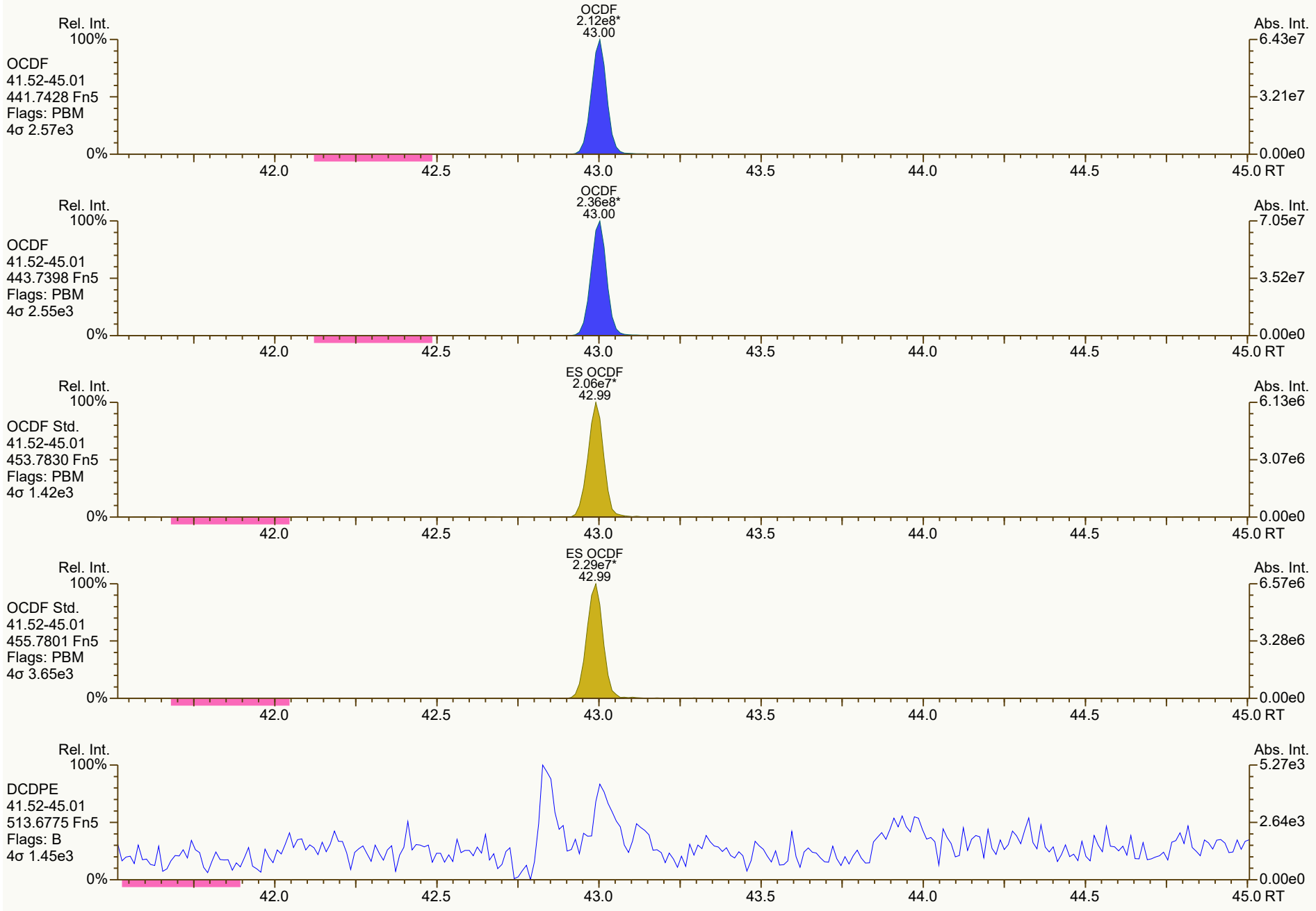
SGS ID: CS5_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 25-5-3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70

Acq: 10-Nov-2021 14:53:51
User: DTF Datafile: 211110C09

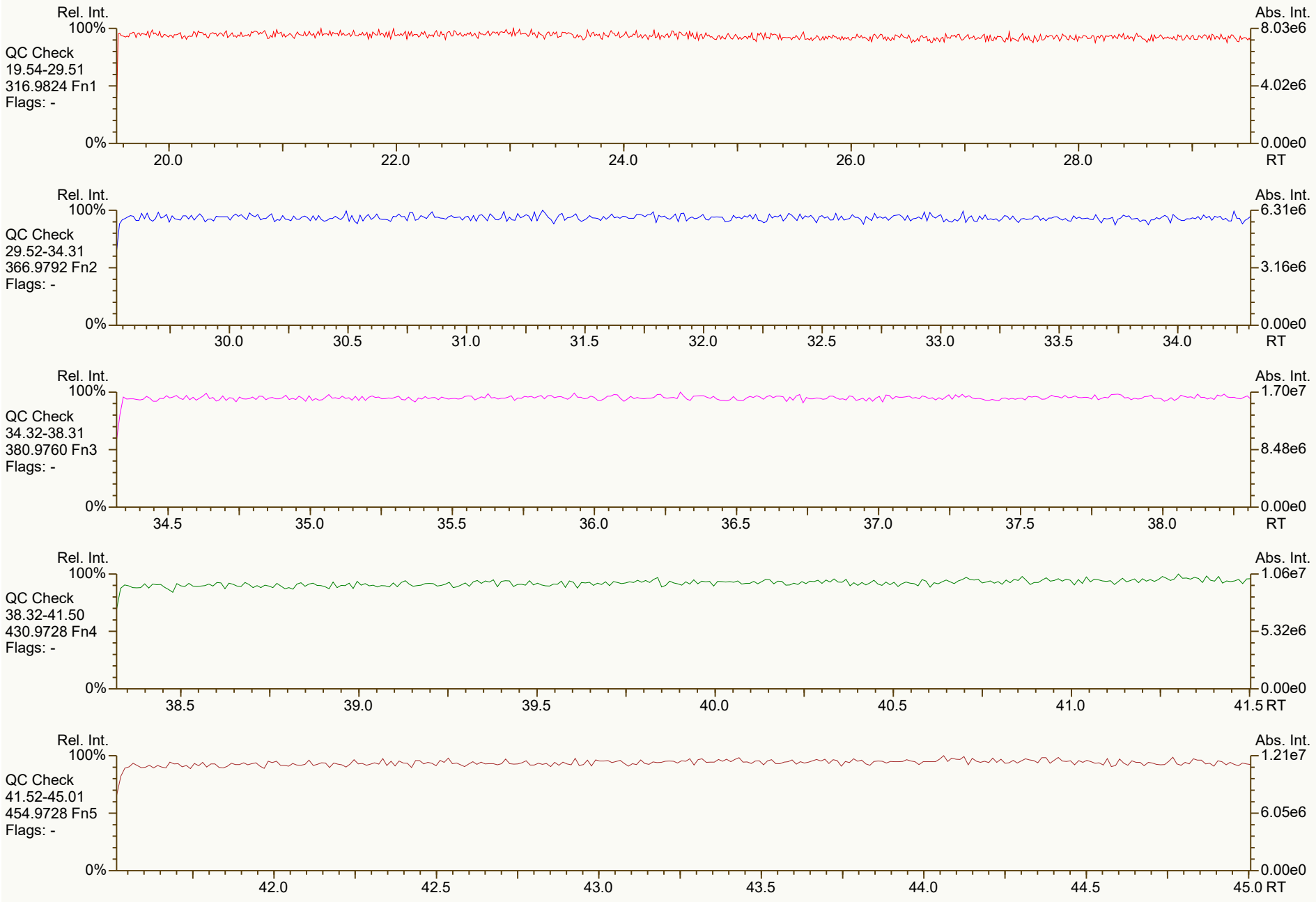


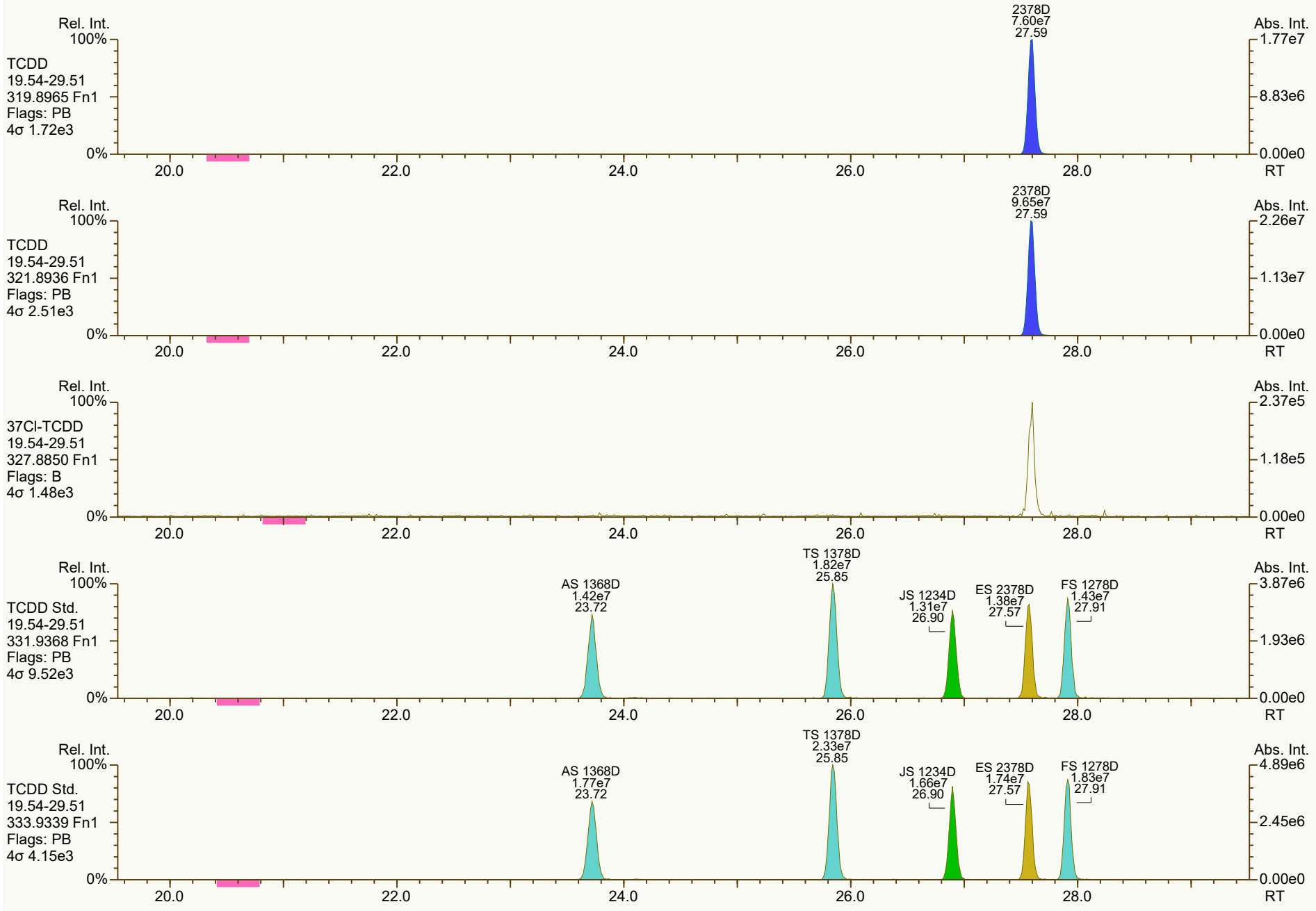
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9534, 7460, 1538 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 11 of 12

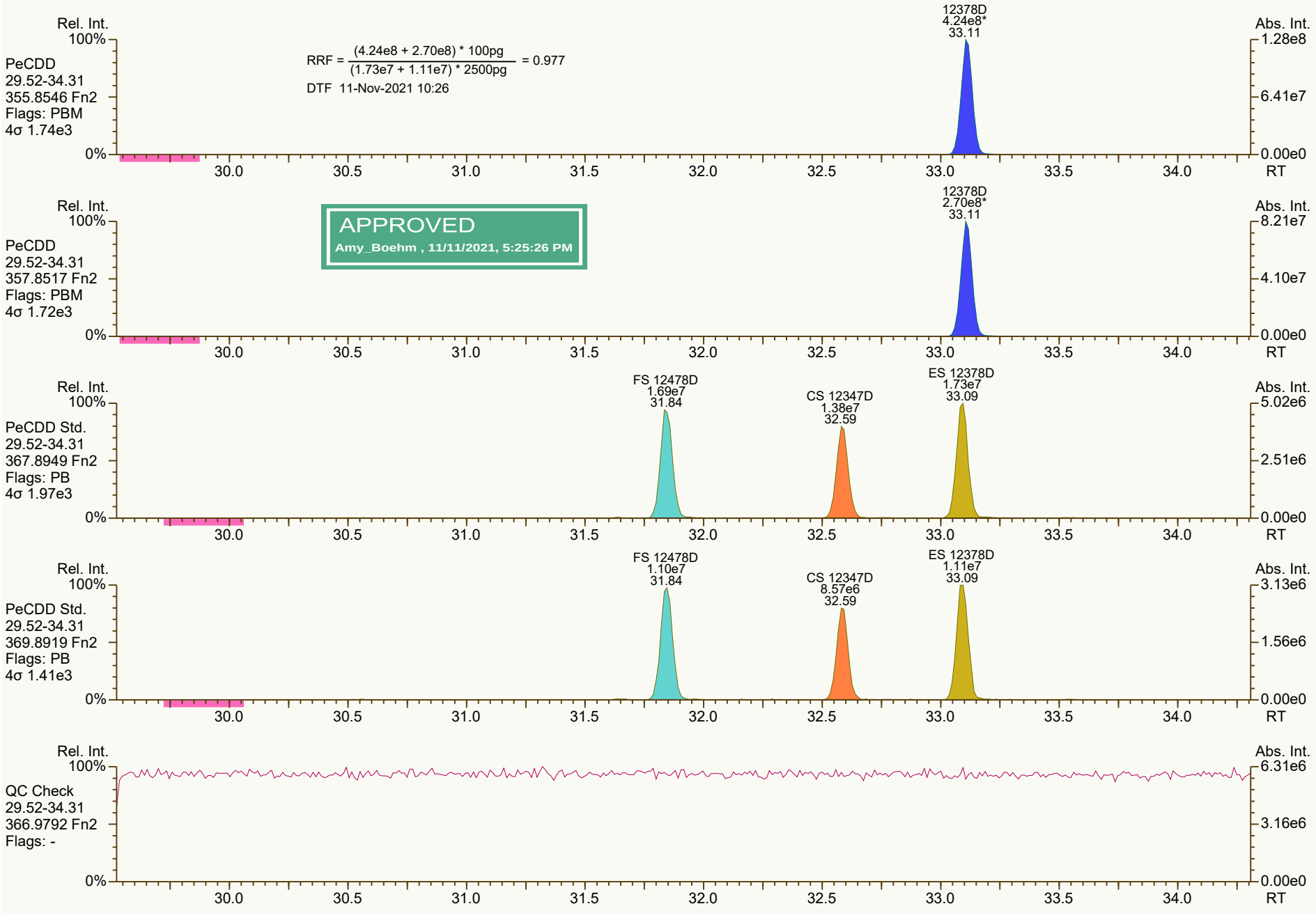

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

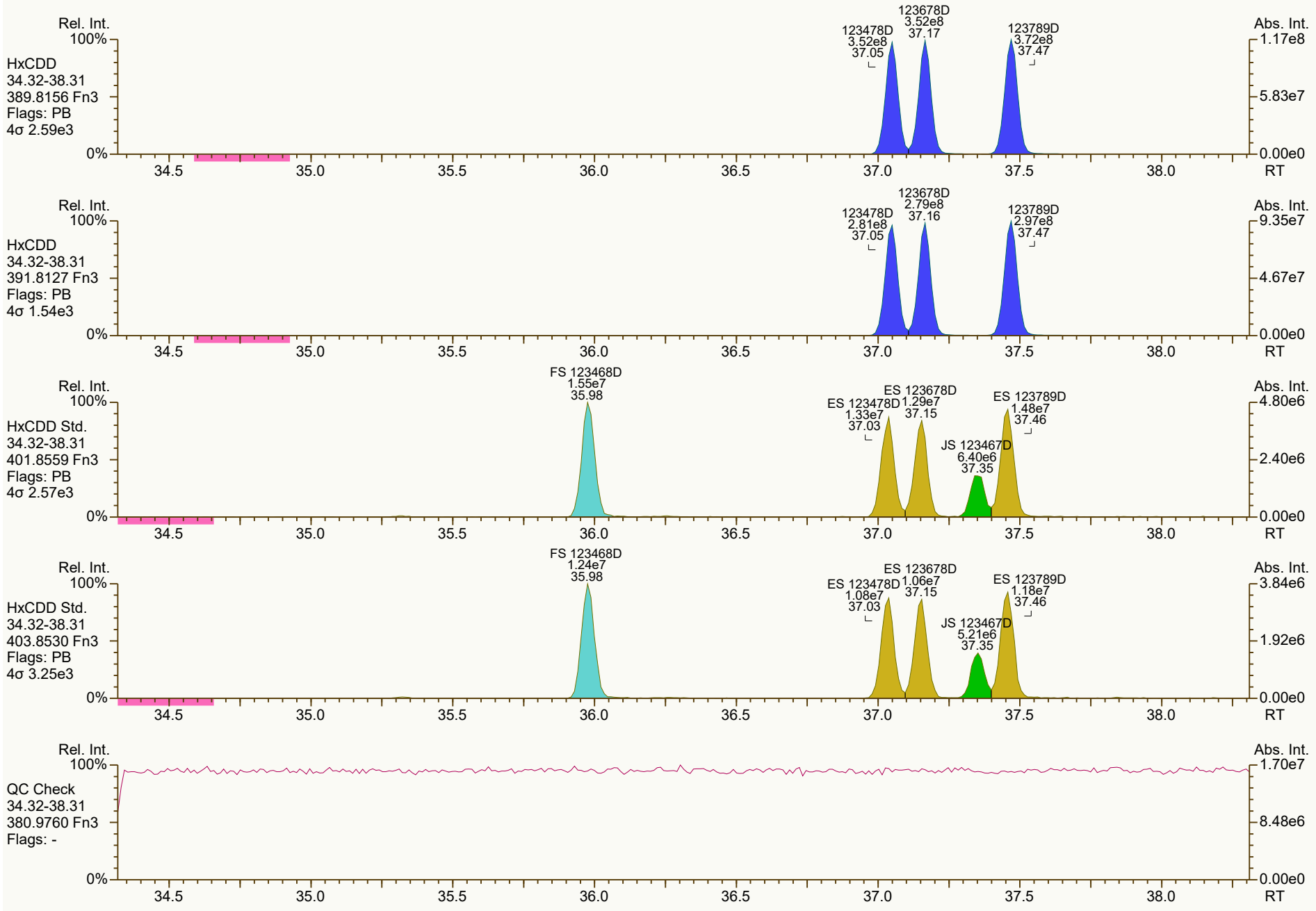
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 15:40 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS6_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 172-736-WQL	
Sample ID: 25-5-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C10	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

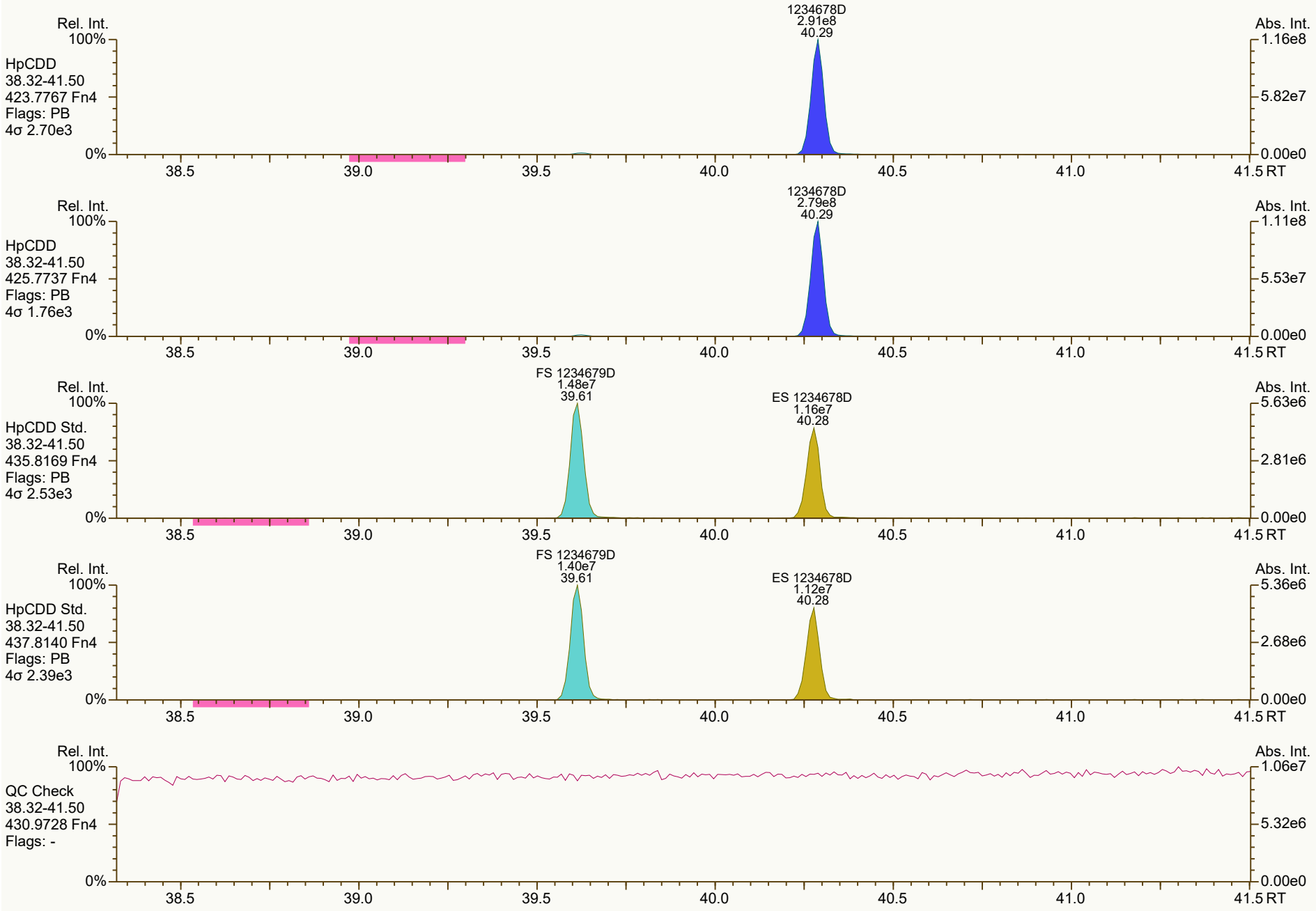
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 15:40 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS6_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 172-736-WQL	
Sample ID: 25-5-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C10	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

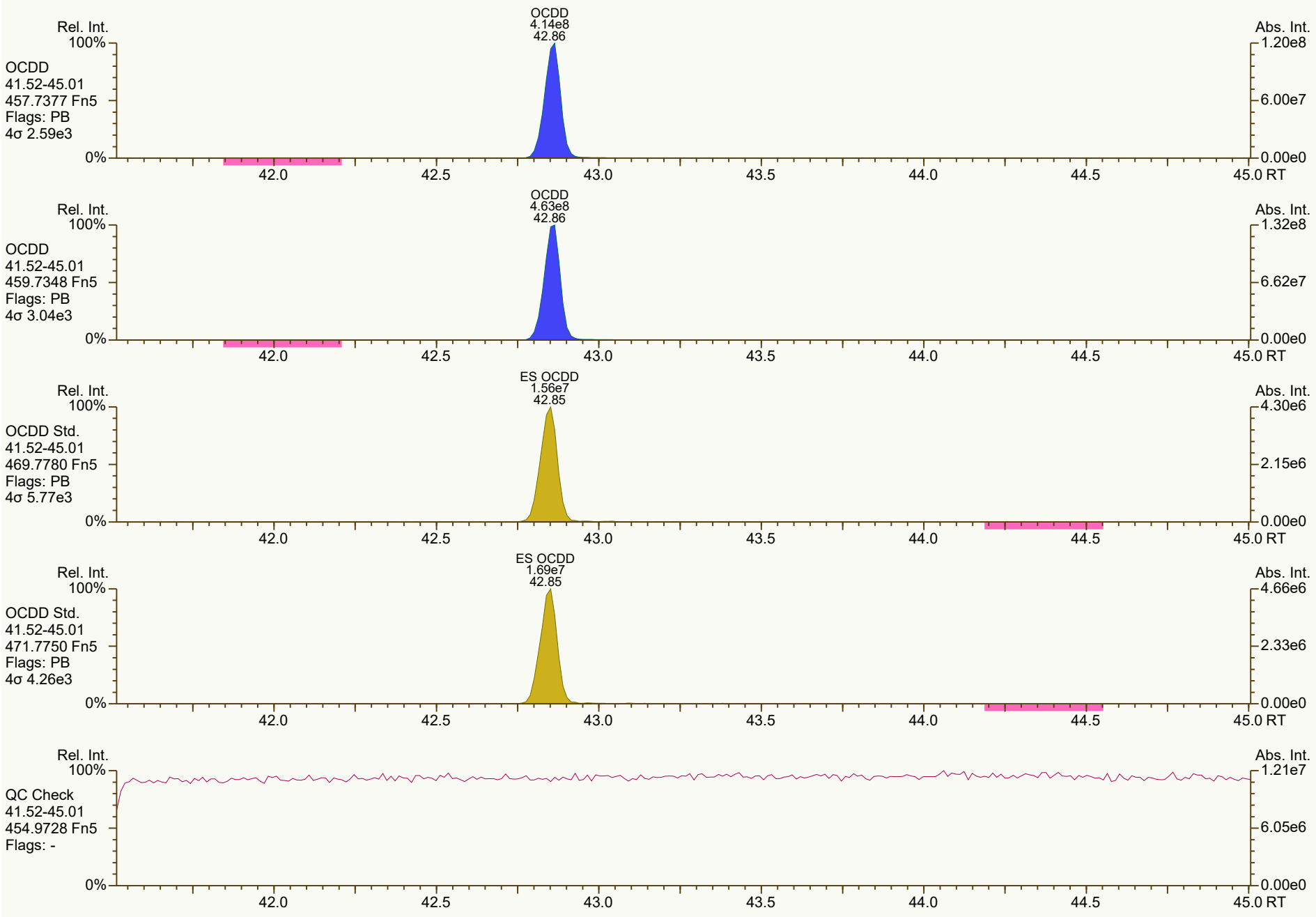

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
0%
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
0%
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.31e6
3.16e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

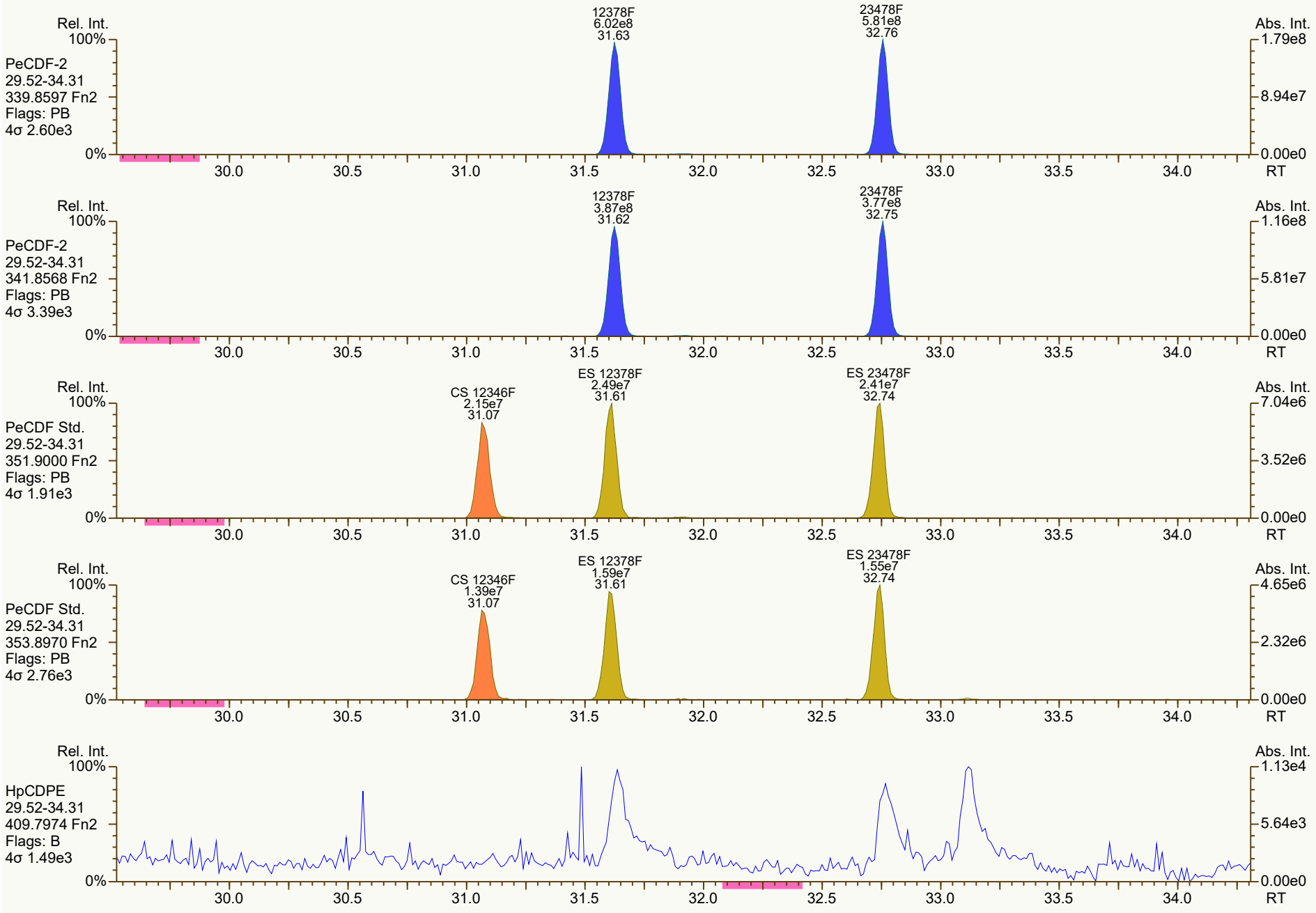

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.70e7
8.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

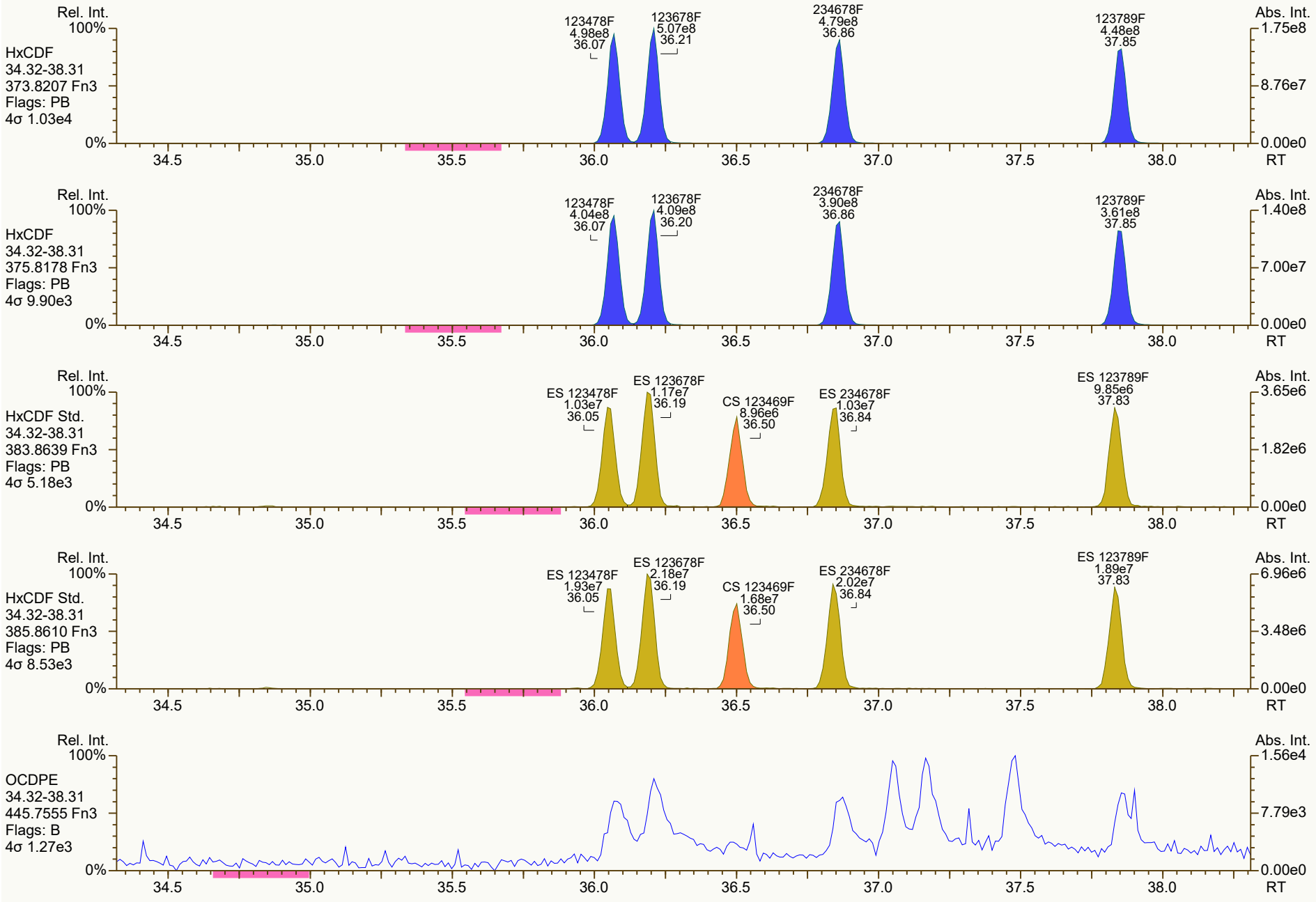

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

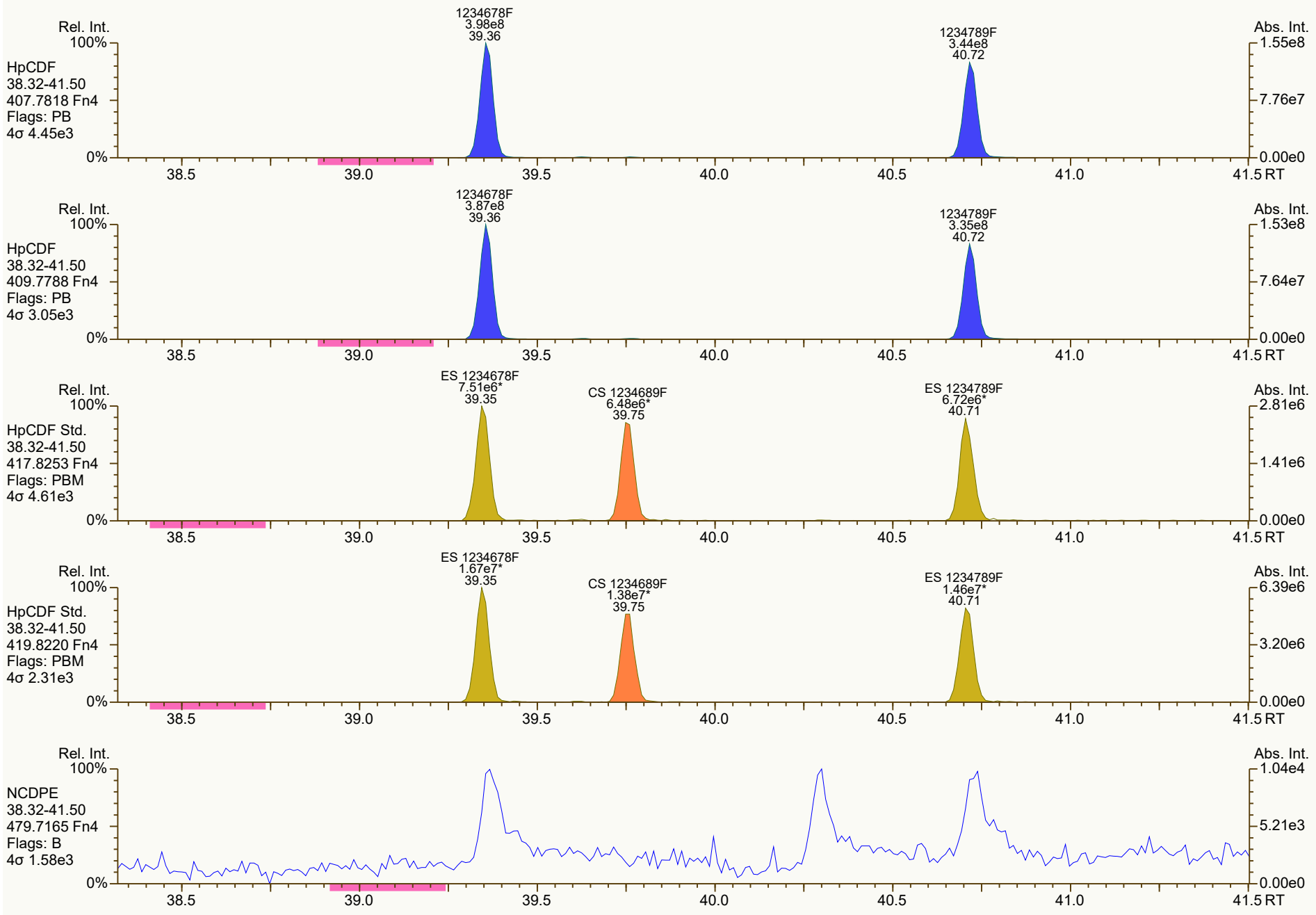

OCDD
4.14e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.63e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.56e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.69e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

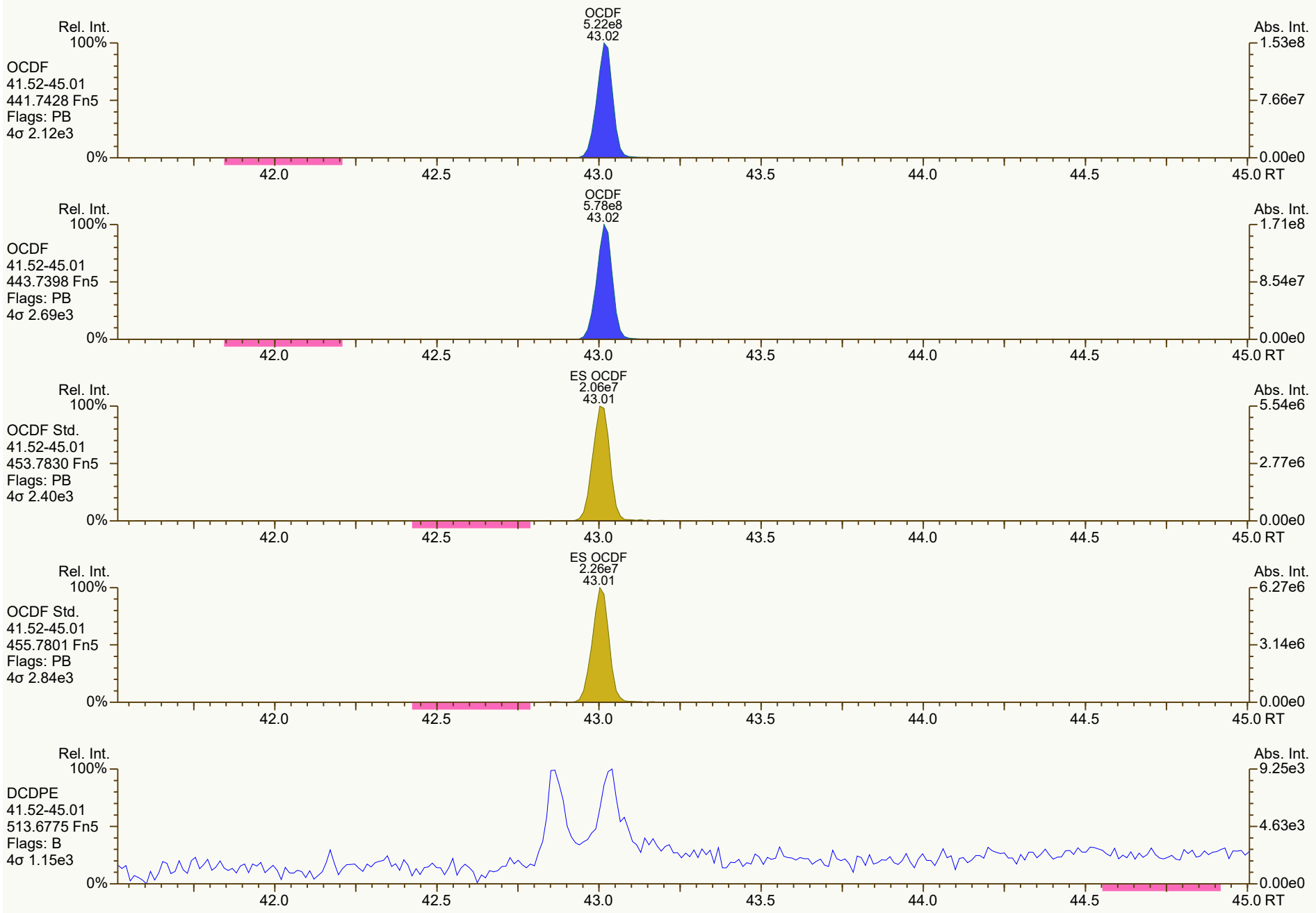

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

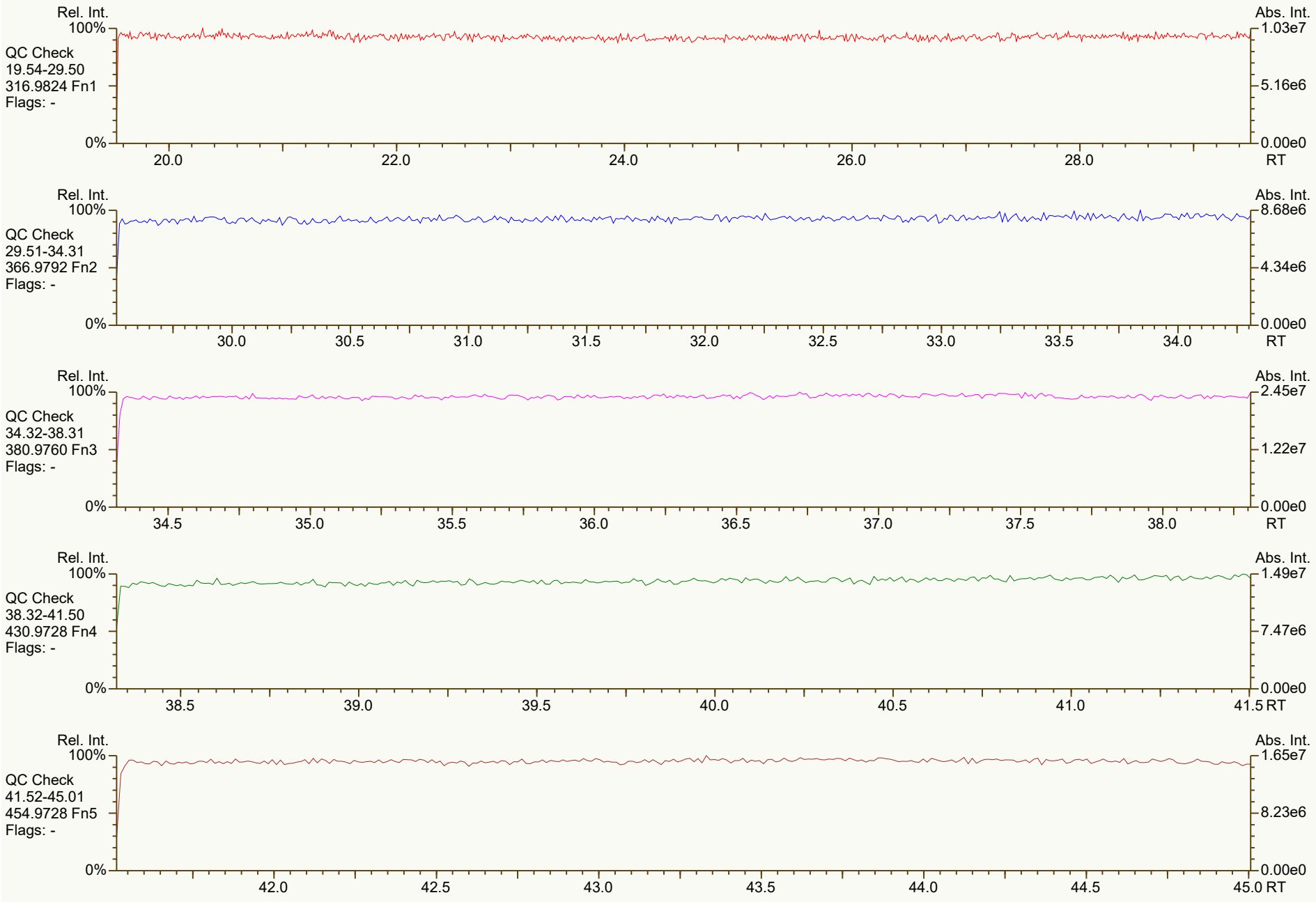

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
Abs. Int.
1.13e4
5.64e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.65e7
8.23e6
0.00e0

SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

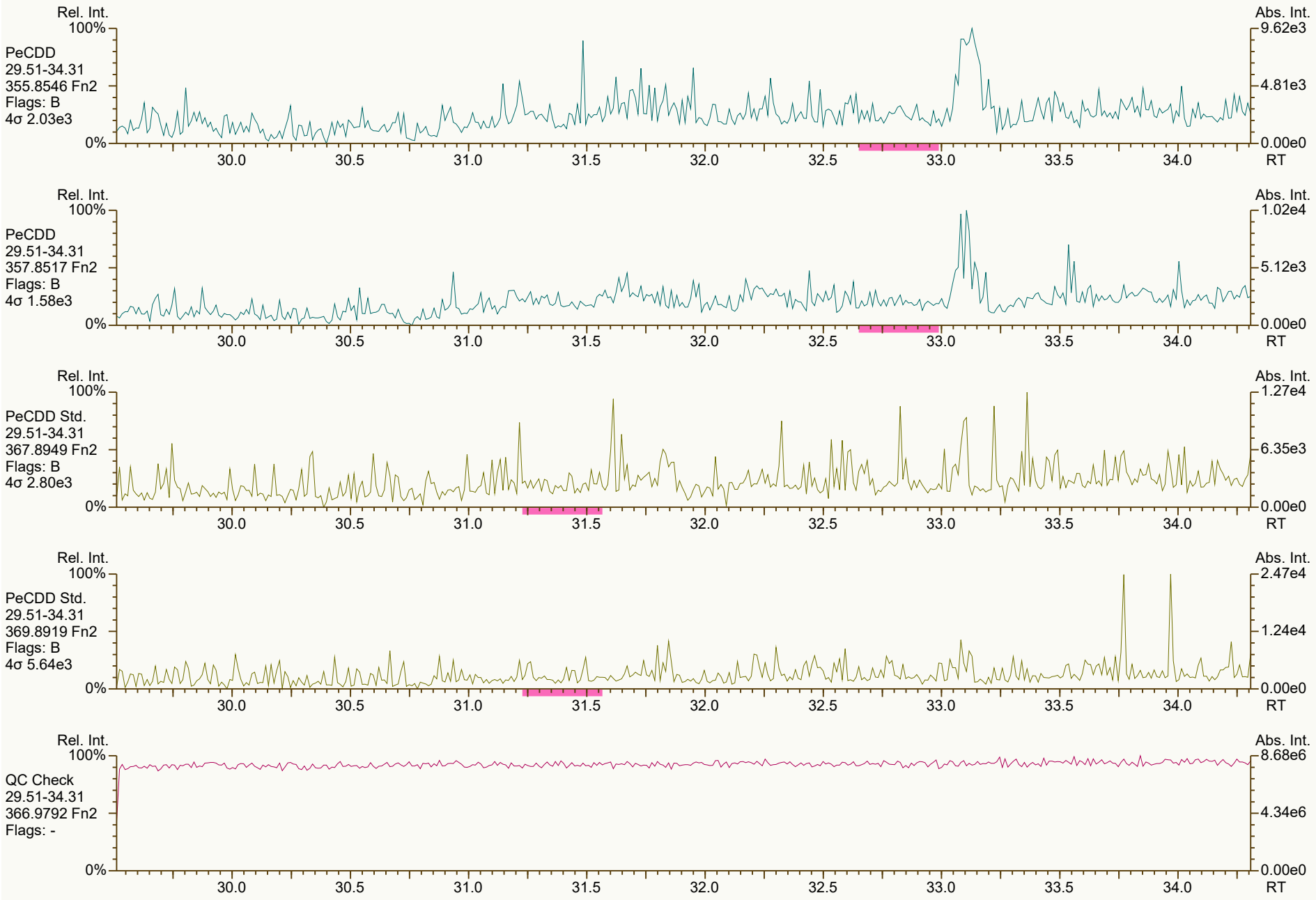
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF) *Peak annotation: Areas, Centroids*

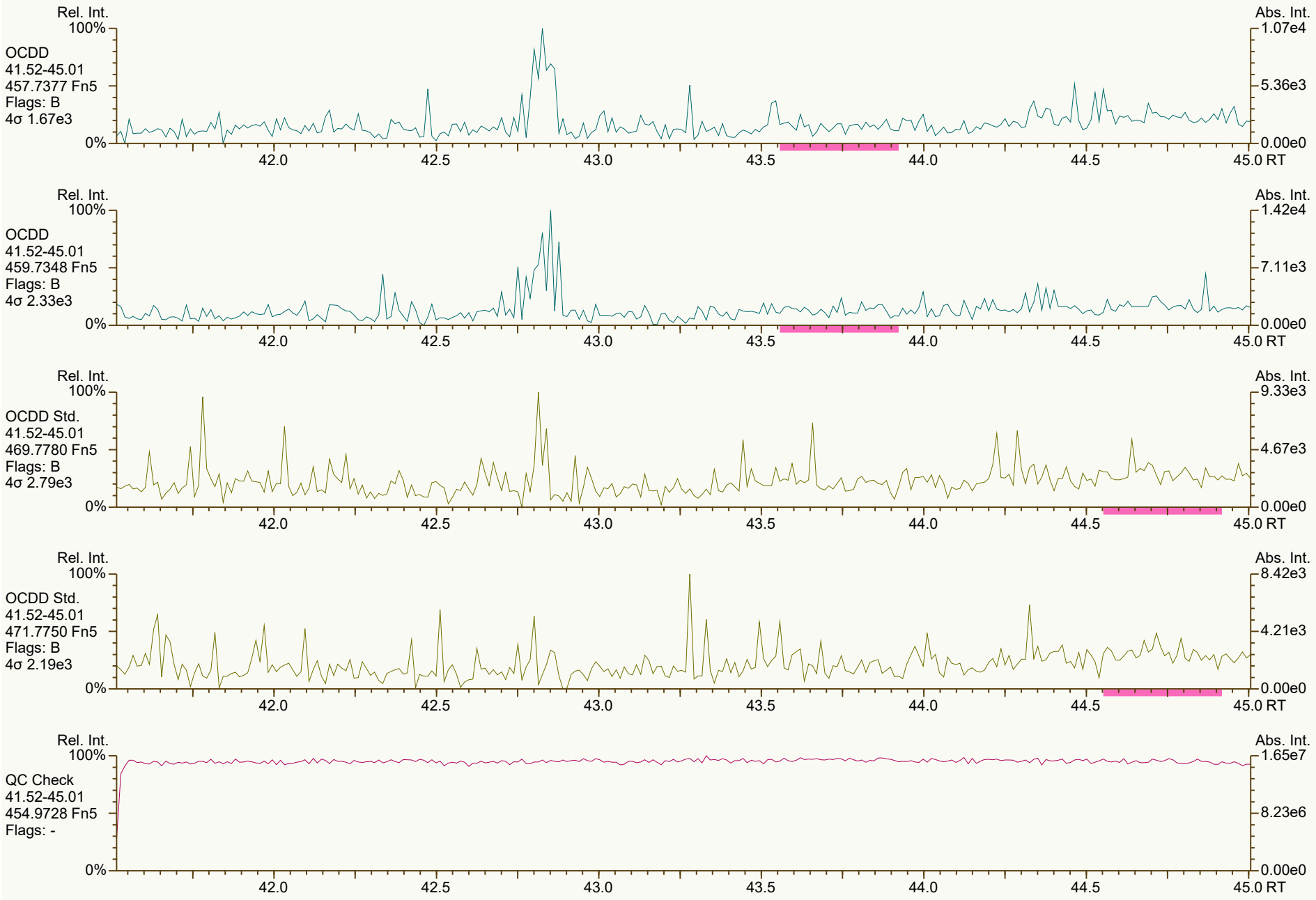
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1*


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

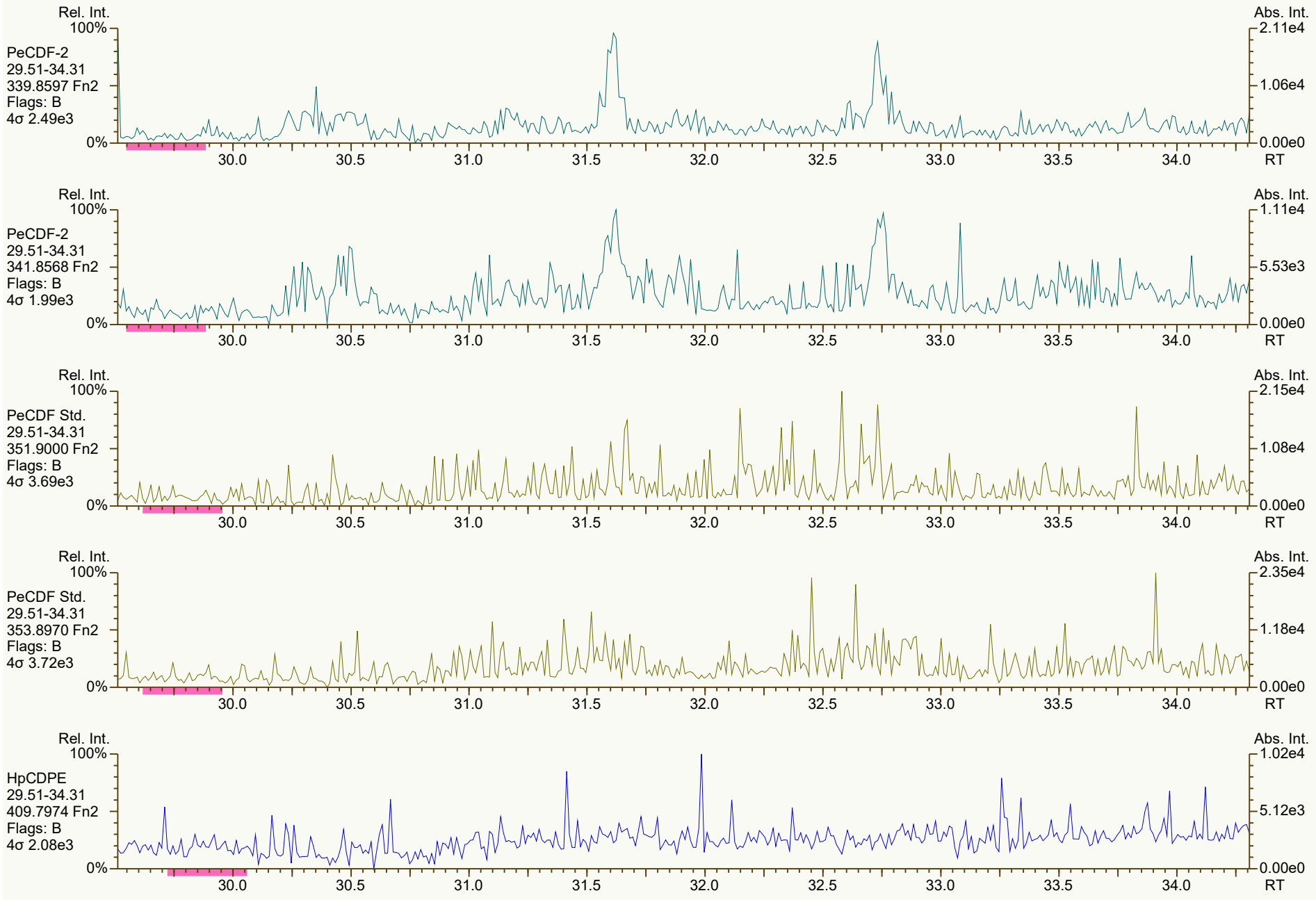

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

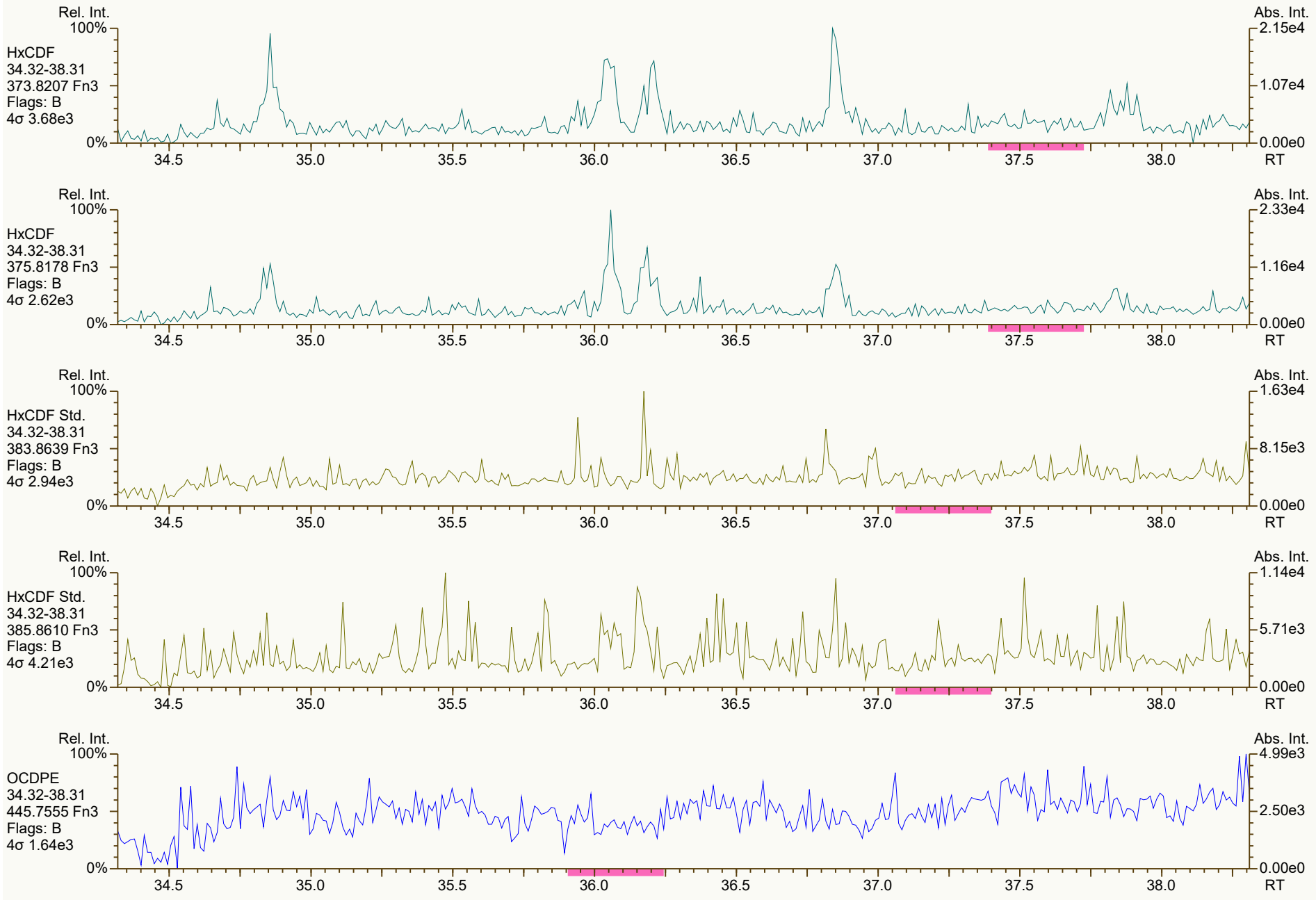

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
Abs. Int.
7.07e4
3.53e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
Abs. Int.
1.06e5
5.32e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
Abs. Int.
5.11e4
2.56e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
Abs. Int.
2.83e4
1.42e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
Abs. Int.
9.47e3
4.73e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

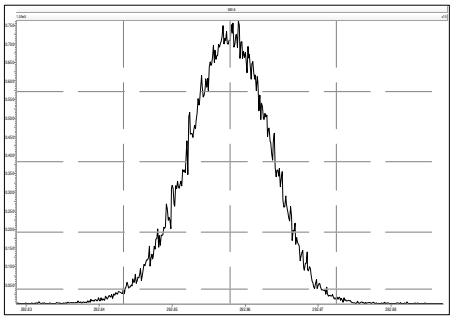

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

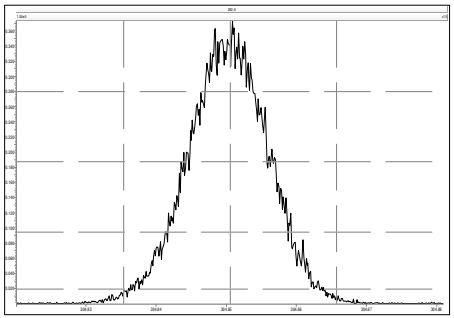
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

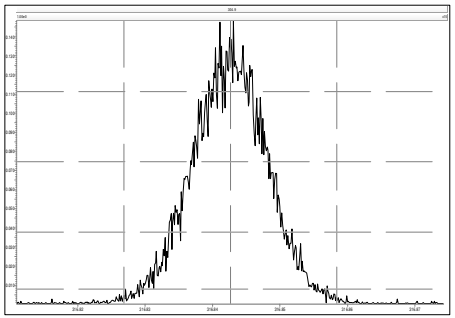
M 292.9824 R 10731



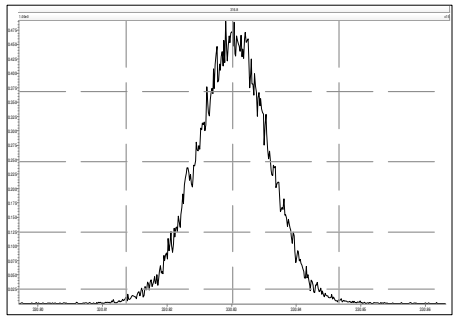
M 304.9824 R 11311



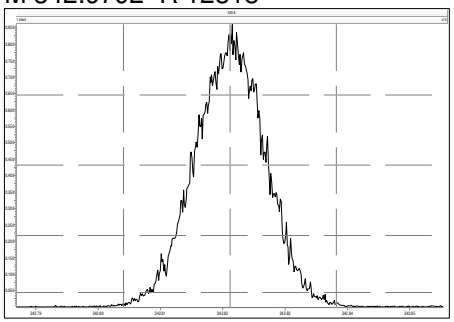
M 316.9824 R 12373



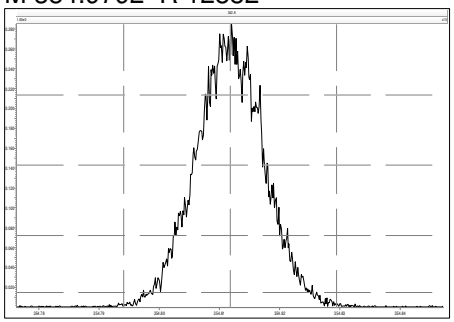
M 330.9792 R 12887



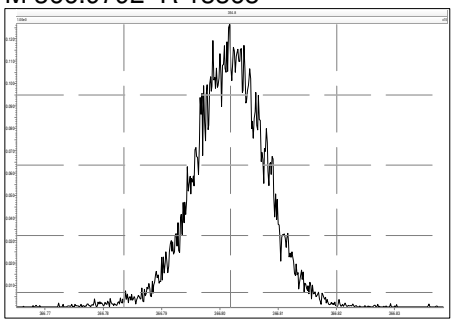
M 342.9792 R 12818



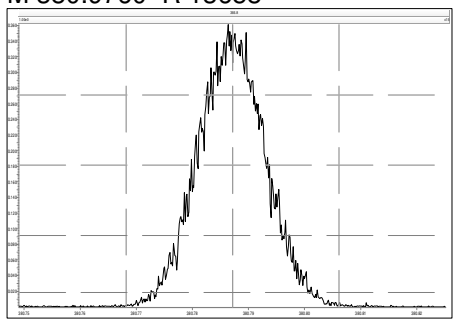
M 354.9792 R 12882



M 366.9792 R 13368



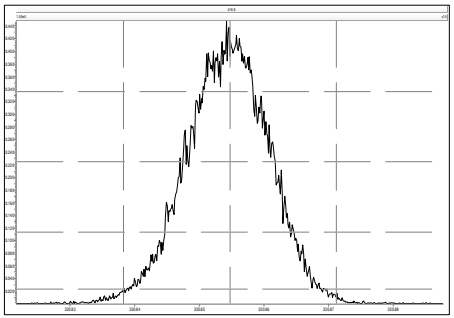
M 380.9760 R 13658



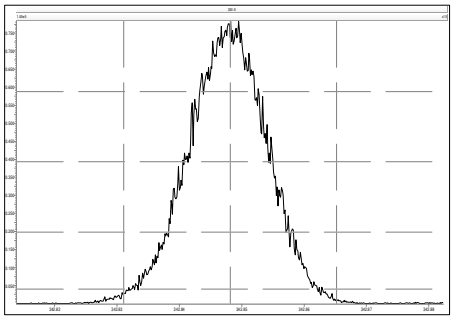
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

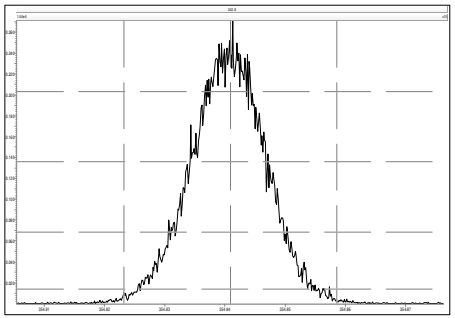
M 330.9792 R 11112



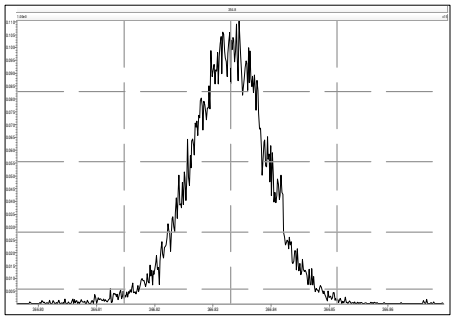
M 342.9792 R 11909



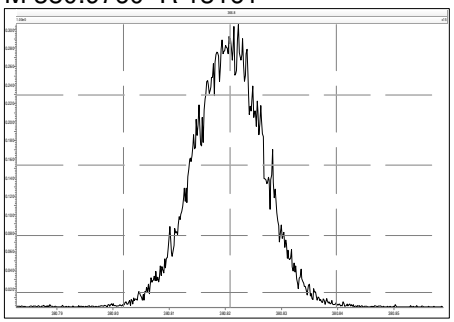
M 354.9792 R 11684



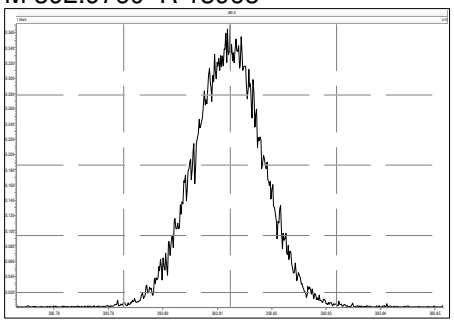
M 366.9792 R 11962



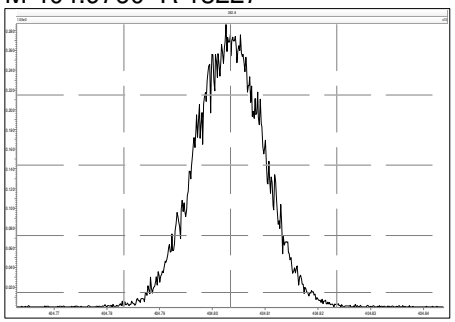
M 380.9760 R 13161



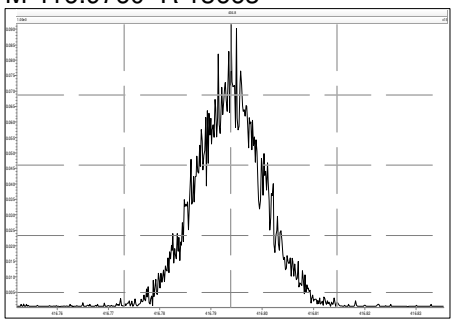
M 392.9760 R 13968



M 404.9760 R 13227



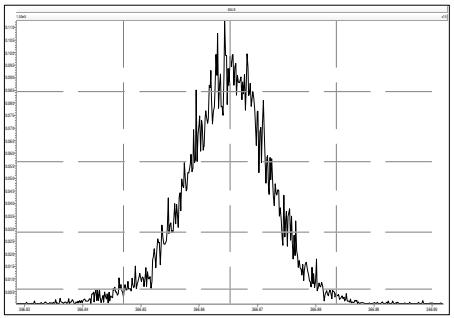
M 416.9760 R 13663



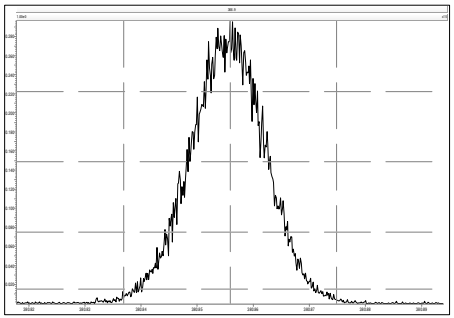
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

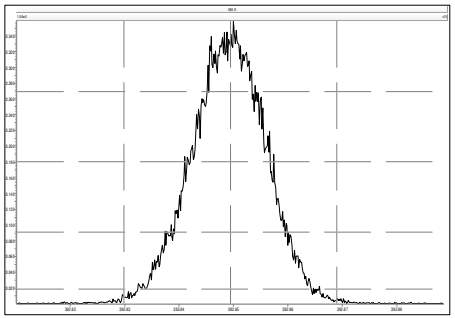
M 366.9792 R 10680



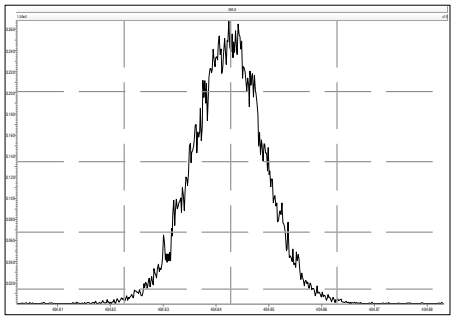
M 380.9760 R 12315



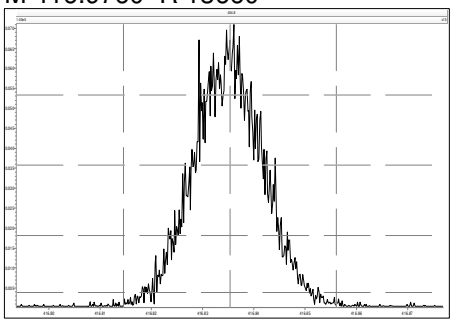
M 392.9760 R 12197



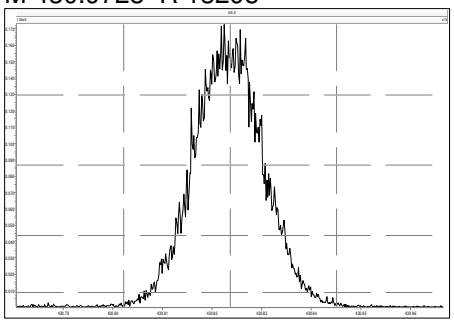
M 404.9760 R 12433



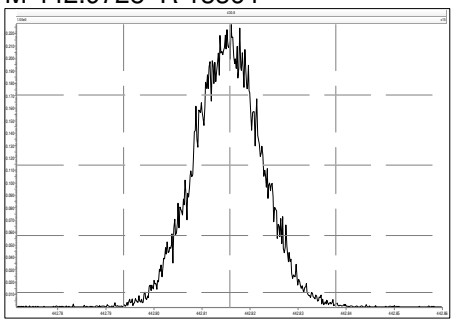
M 416.9760 R 13660



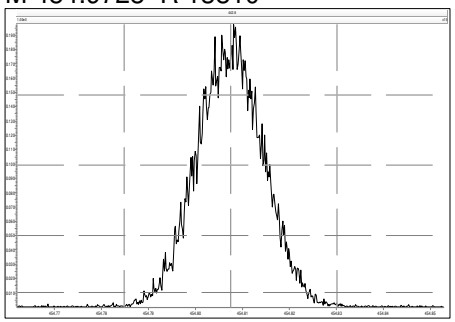
M 430.9728 R 13295



M 442.9728 R 13364



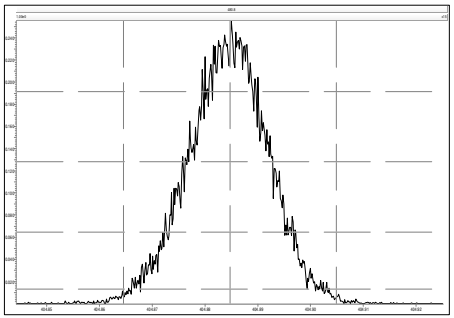
M 454.9728 R 13810



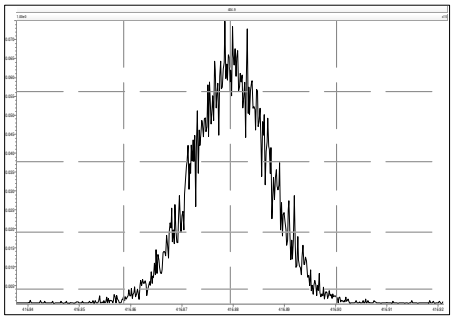
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

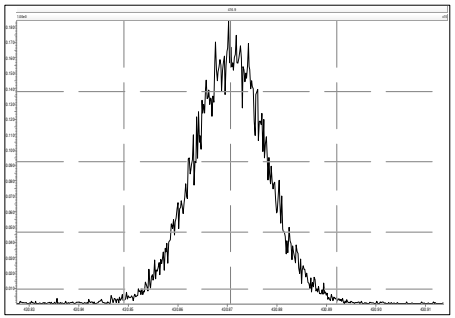
M 404.9760 R 11679



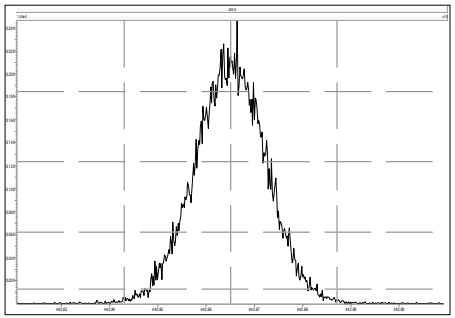
M 416.9760 R 12886



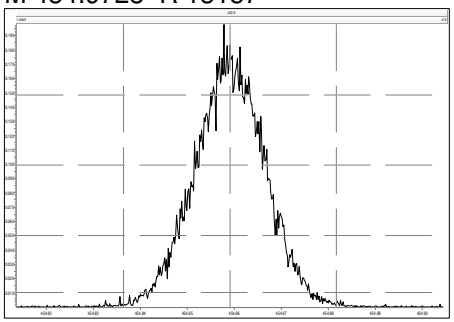
M 430.9728 R 12253



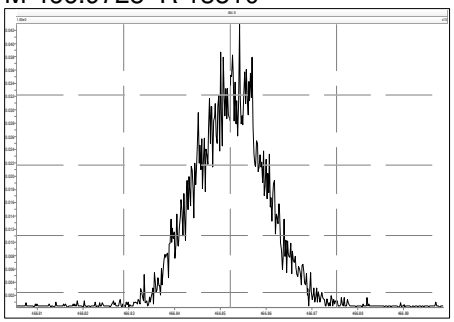
M 442.9728 R 12756



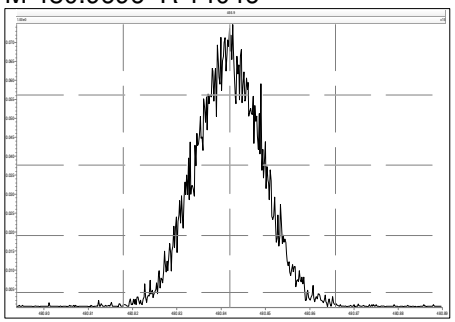
M 454.9728 R 13157



M 466.9728 R 13810



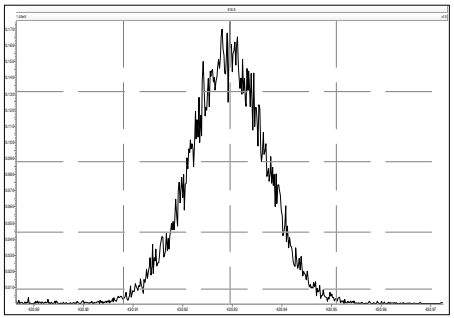
M 480.9696 R 14046



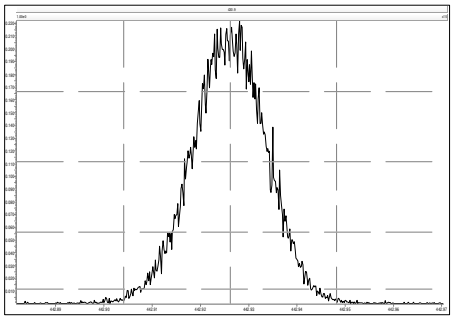
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

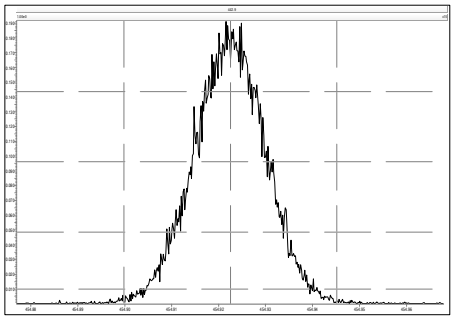
M 430.9728 R 11574



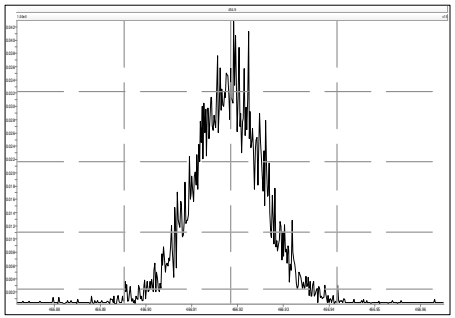
M 442.9728 R 12198



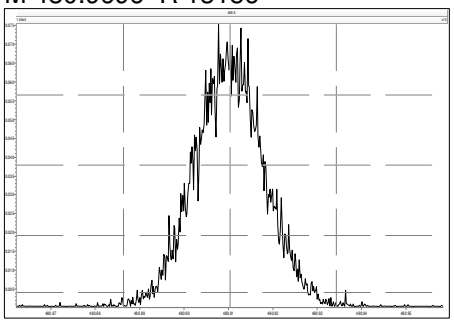
M 454.9728 R 12950



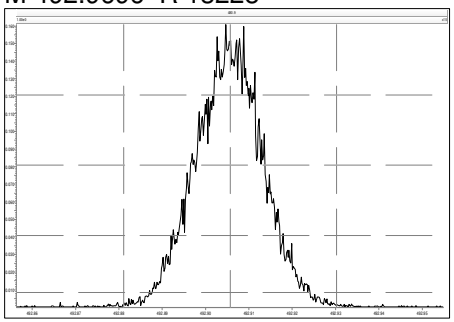
M 466.9728 R 13088



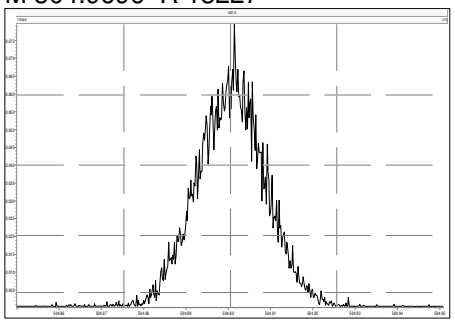
M 480.9696 R 13156



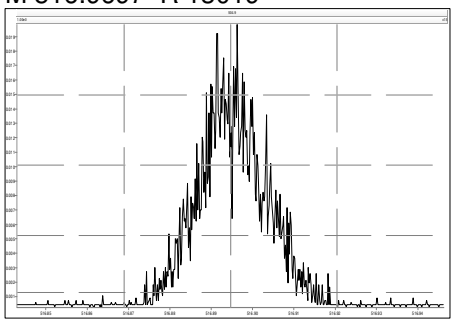
M 492.9696 R 13228



M 504.9696 R 13227



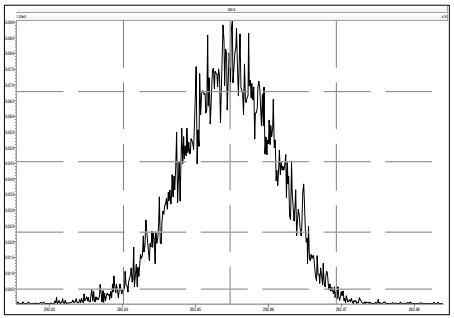
M 516.9697 R 13019



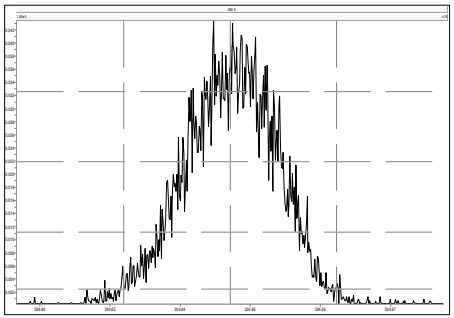
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

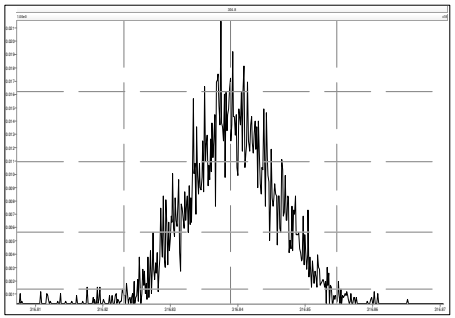
M 292.9824 R 10122



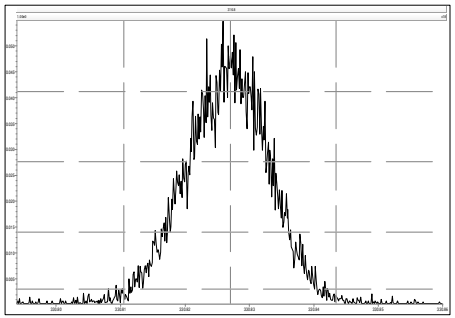
M 304.9824 R 10329



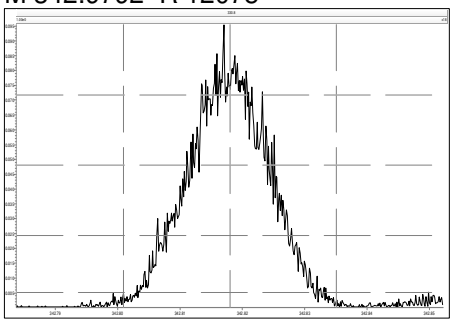
M 316.9824 R 11964



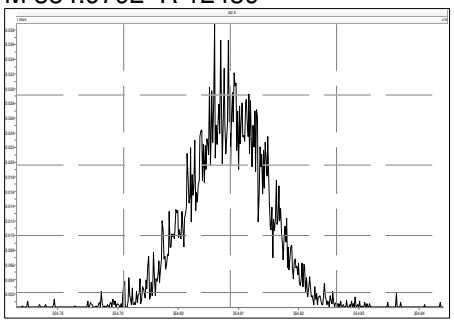
M 330.9792 R 11062



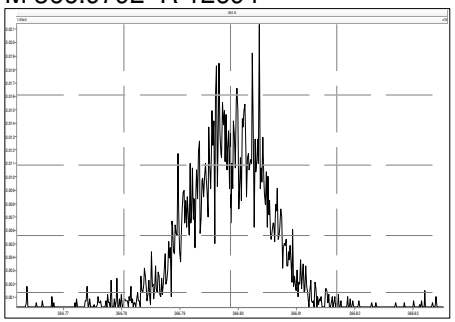
M 342.9792 R 12075



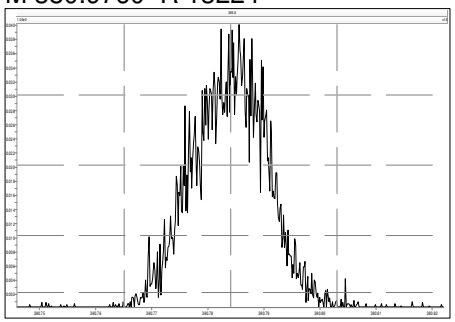
M 354.9792 R 12439



M 366.9792 R 12694



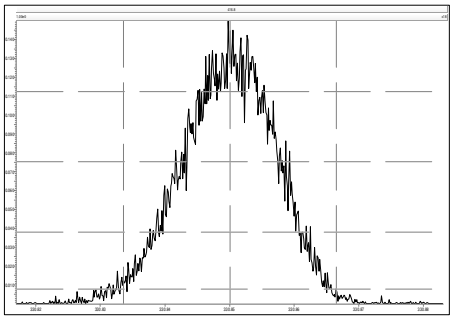
M 380.9760 R 13224



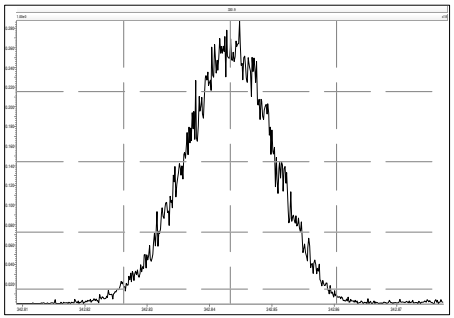
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

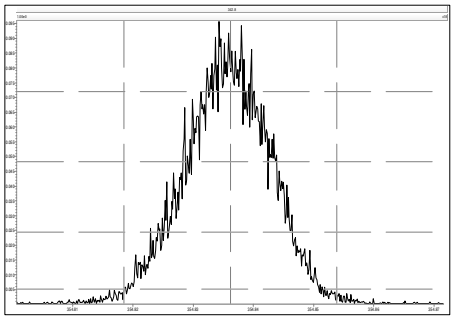
M 330.9792 R 10730



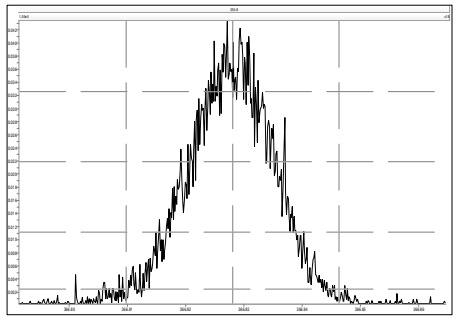
M 342.9792 R 10039



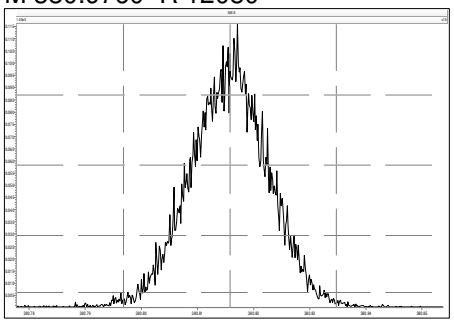
M 354.9792 R 11108



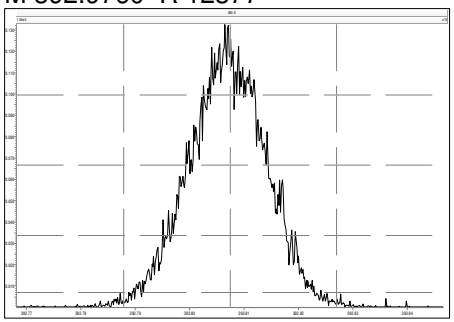
M 366.9792 R 11520



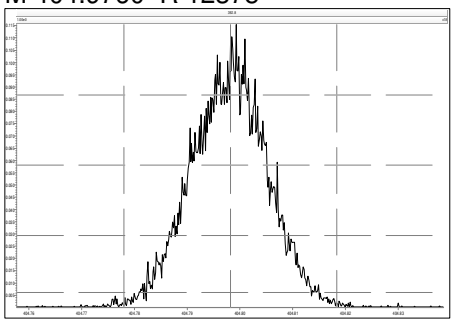
M 380.9760 R 12080



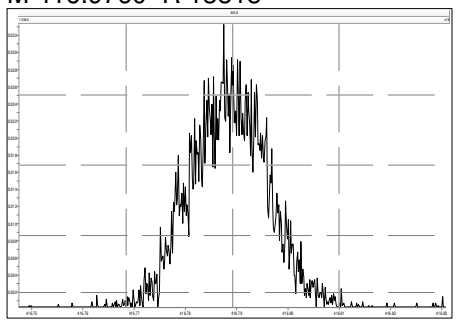
M 392.9760 R 12377



M 404.9760 R 12375



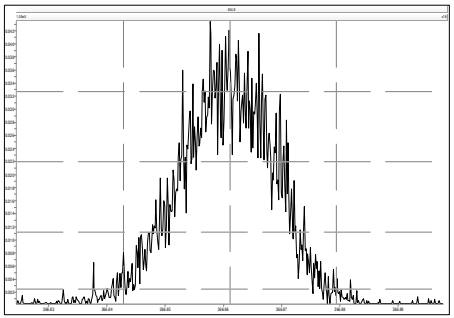
M 416.9760 R 13515



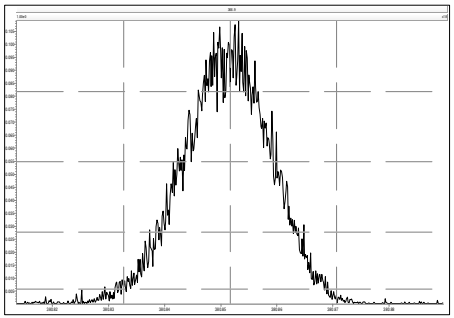
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

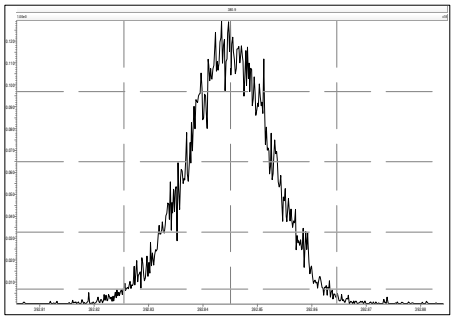
M 366.9792 R 10866



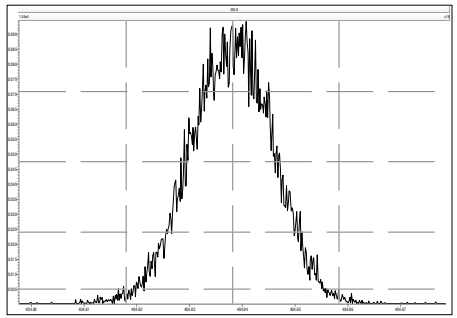
M 380.9760 R 10416



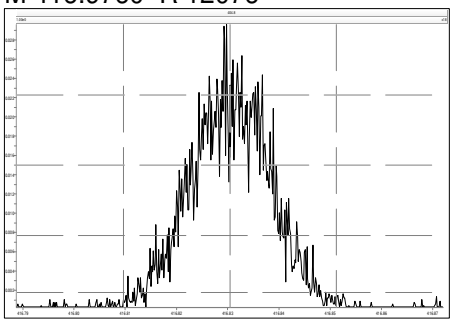
M 392.9760 R 10640



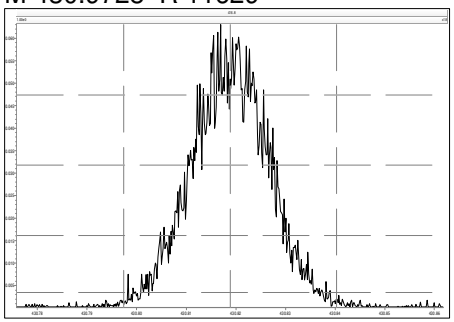
M 404.9760 R 11957



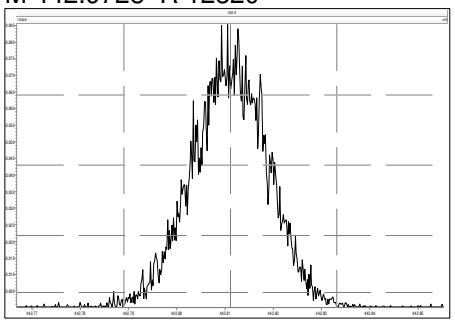
M 416.9760 R 12076



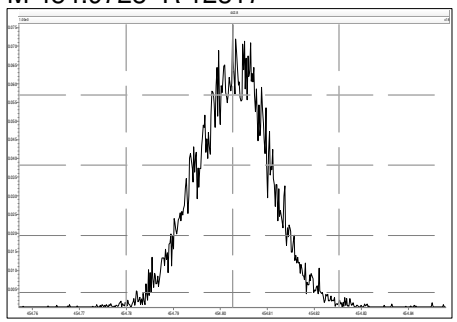
M 430.9728 R 11629



M 442.9728 R 12820



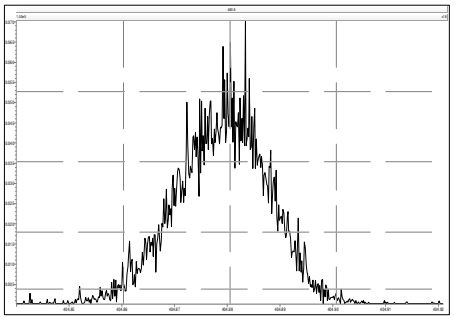
M 454.9728 R 12317



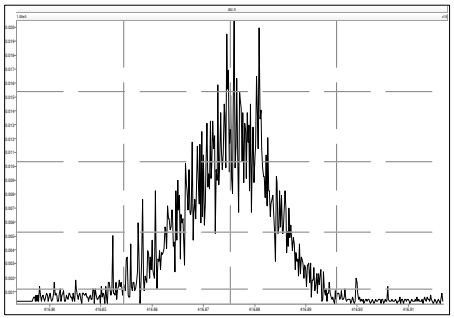
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

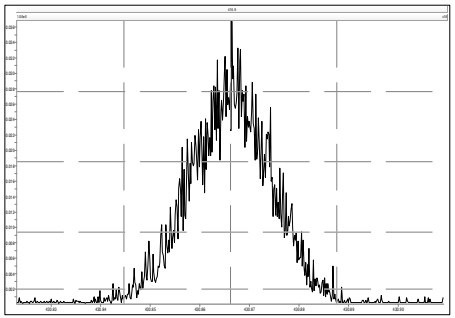
M 404.9760 R 10505



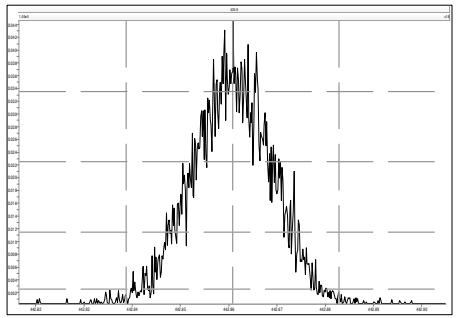
M 416.9760 R 12500



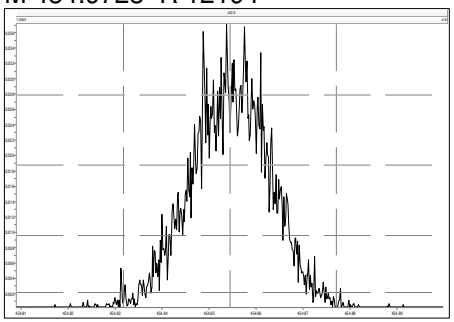
M 430.9728 R 11362



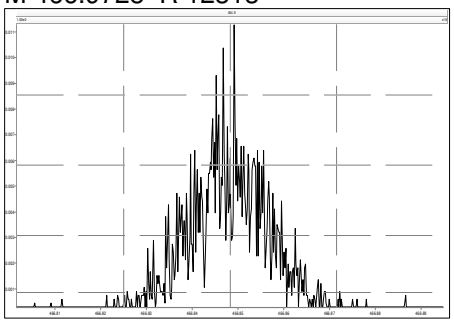
M 442.9728 R 12756



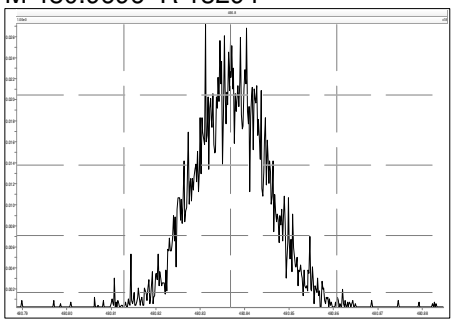
M 454.9728 R 12194



M 466.9728 R 12313



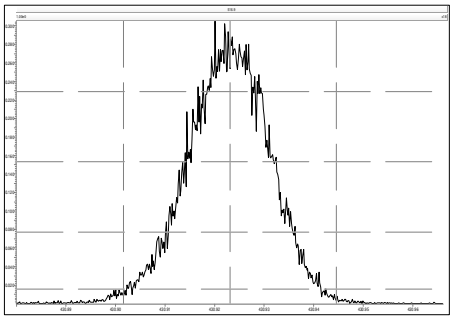
M 480.9696 R 13294



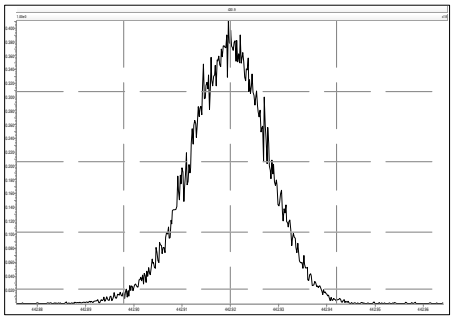
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

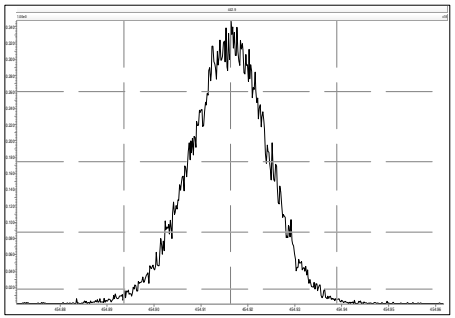
M 430.9728 R 11312



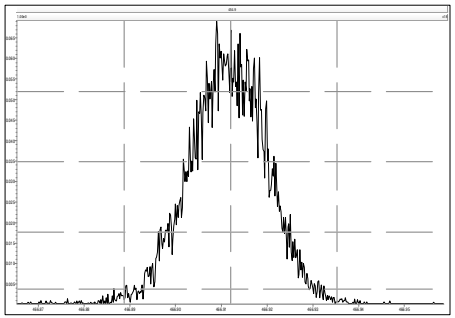
M 442.9728 R 11110



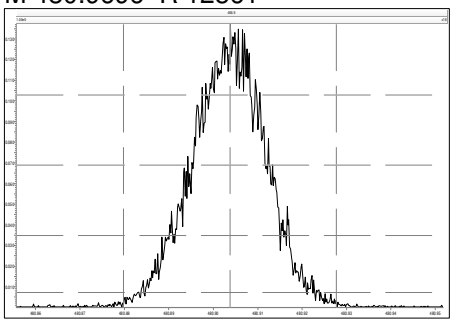
M 454.9728 R 11906



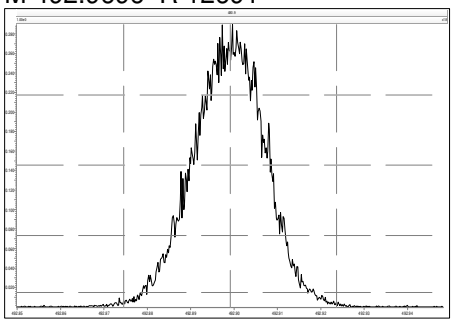
M 466.9728 R 12562



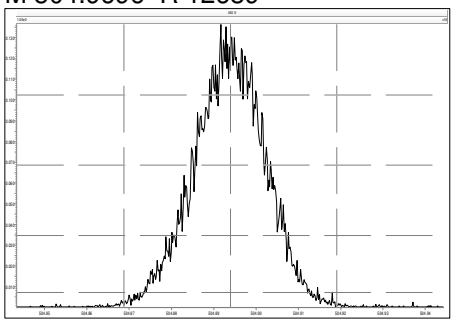
M 480.9696 R 12561



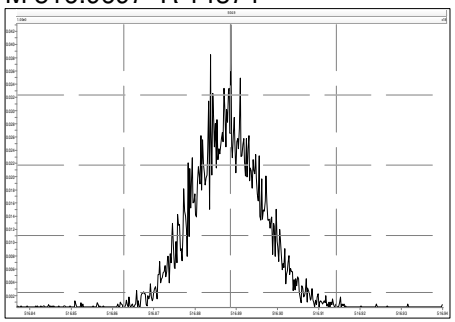
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



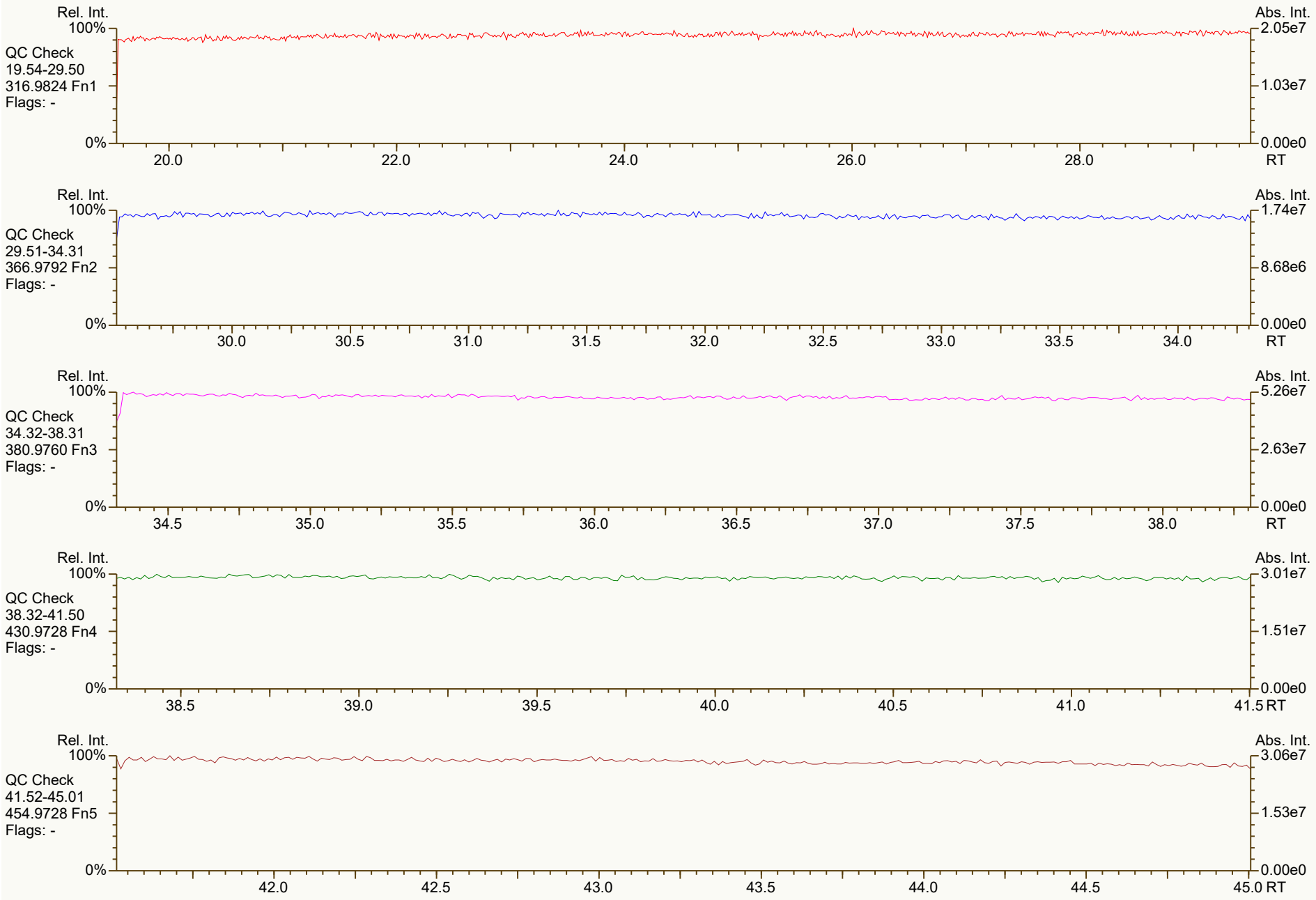
ICV

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 17:37 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CC	UTP: 10-Nov-2021 18:48:15 DTF	Checkcode: 374-213-QVL
Sample ID: ICV 24-15-4	Report: 11 Nov 2021 16:42 TF	Datafile: 211110C12

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	4.13E+06	0.78	Y	1.18	1.33	12%
12378-PeCDD	33.10	1.35E+07	1.55	Y	1.04	1.05	1%
123478-HxCDD	37.04	1.36E+07	1.26	Y	1.09	1.18	8%
123678-HxCDD	37.16	1.42E+07	1.24	Y	1.15	1.26	10%
123789-HxCDD	37.46	1.41E+07	1.23	Y	1.05	1.04	0%
1234678-HpCDD	40.28	1.20E+07	1.04	Y	1.06	1.13	6%
OCDD	42.84	1.80E+07	0.90	Y	1.13	1.20	7%
2378-TCDF	26.67	5.08E+06	0.80	Y	1.08	1.14	6%
12378-PeCDF	31.62	1.94E+07	1.53	Y	1.02	1.05	3%
23478-PeCDF	32.75	2.02E+07	1.52	Y	1.02	1.10	8%
123478-HxCDF	36.06	1.89E+07	1.25	Y	1.27	1.38	8%
123678-HxCDF	36.20	1.96E+07	1.24	Y	1.15	1.22	6%
234678-HxCDF	36.85	1.91E+07	1.24	Y	1.19	1.30	10%
123789-HxCDF	37.84	1.62E+07	1.21	Y	1.16	1.18	1%
1234678-HpCDF	39.35	1.68E+07	1.02	Y	1.37	1.45	6%
1234789-HpCDF	40.71	1.42E+07	1.01	Y	1.31	1.42	9%
OCDF	43.01	2.16E+07	0.90	Y	1.07	1.14	6%
ES 2378-TCDD	27.57	3.10E+07	0.78	Y	1.05	0.97	-7%
ES 12378-PeCDD	33.085	2.58E+07	1.50	Y	0.88	0.81	-8%
ES 123478-HxCDD	37.023	2.31E+07	1.24	Y	0.97	0.96	-2%
ES 123678-HxCDD	37.14	2.25E+07	1.21	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.447	2.69E+07	1.21	Y	1.09	1.12	2%
ES 1234678-HpCDD	40.268	2.12E+07	1.07	Y	0.91	0.88	-4%
ES OCDD	42.827	2.99E+07	0.92	Y	0.62	0.62	-1%
ES 2378-TCDF	26.652	4.46E+07	0.81	Y	1.06	0.97	-8%
ES 12378-PeCDF	31.599	3.69E+07	1.57	Y	0.91	0.80	-12%
ES 23478-PeCDF	32.731	3.67E+07	1.58	Y	0.88	0.80	-10%
ES 123478-HxCDF	36.041	2.74E+07	0.54	Y	1.20	1.14	-5%
ES 123678-HxCDF	36.182	3.20E+07	0.55	Y	1.35	1.33	-2%
ES 234678-HxCDF	36.836	2.93E+07	0.52	Y	1.24	1.21	-2%
ES 123789-HxCDF	37.827	2.76E+07	0.54	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.337	2.32E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.704	1.99E+07	0.46	Y	0.85	0.83	-3%
ES OCDF	42.996	3.78E+07	0.90	Y	0.81	0.78	-3%

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 17:37 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CC	UTP: 10-Nov-2021 18:48:15 DTF	Checkcode: 374-213-QVL
Sample ID: ICV 24-15-4	Report: 11 Nov 2021 16:42 TF	Datafile: 211110C12

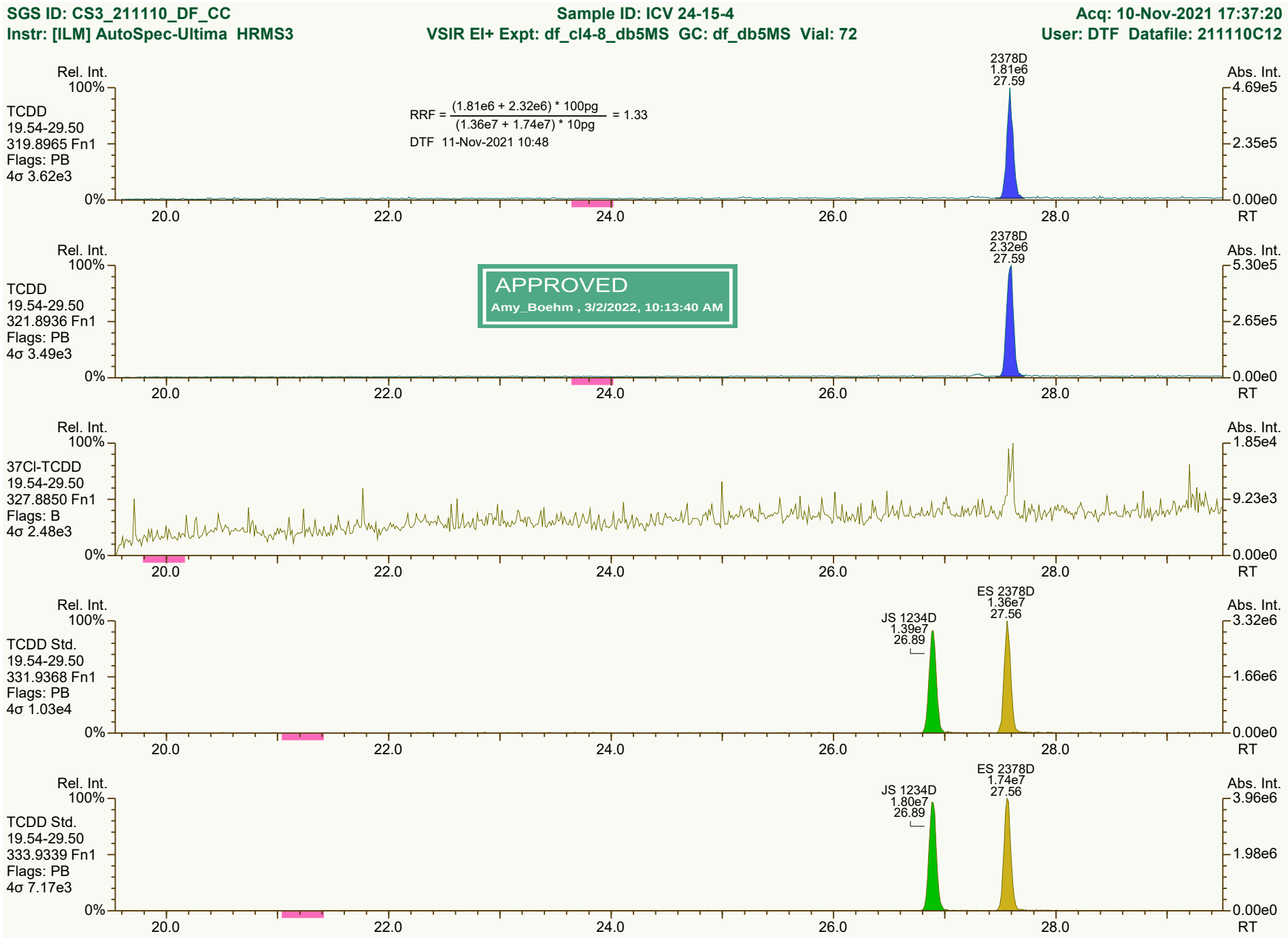
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.19E+07	0.77	Y	-	-	-
JS 1234-TCDF	25.24	4.59E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.21E+07	1.23	Y	-	-	-
CS 37Cl 2378 TCDD	0.00	0.00E+00	n/a	-	1.20	0.00	-100%
CS 12347 PeCDD	0.00	0.00E+00	0.00	0	0.75	0.00	-100%
CS 12346 PeCDF	0.00	0.00E+00	0.00	0	0.85	0.00	-100%
CS 123469 HxCDF	0.00	0.00E+00	0.00	0	1.12	0.00	-100%
CS 1234689 HpCDF	0.00	0.00E+00	0.00	0	0.89	0.00	-100%
SS 37Cl 2378 TCDD	0.00	0.00E+00	n/a	-	1.15	0.00	-100%
SS 12347 PeCDD	0.00	0.00E+00	0.00	0	0.86	0.00	-100%
SS 12346 PeCDF	0.00	0.00E+00	0.00	0	0.94	0.00	-100%
SS 123469 HxCDF	0.00	0.00E+00	0.00	0	0.83	0.00	-100%
SS 1234689 HpCDF	0.00	0.00E+00	0.00	0	0.92	0.00	-100%
OCDD a	42.83	8.82E+05	3.54	N	0.07	0.06	-10%
OCDF a	43.01	1.42E+06	2.57	Y	0.07	0.07	13%


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
2.05e7
1.03e7
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
1.74e7
8.68e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
5.26e7
2.63e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
3.01e7
1.51e7
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
3.06e7
1.53e7
0.00e0

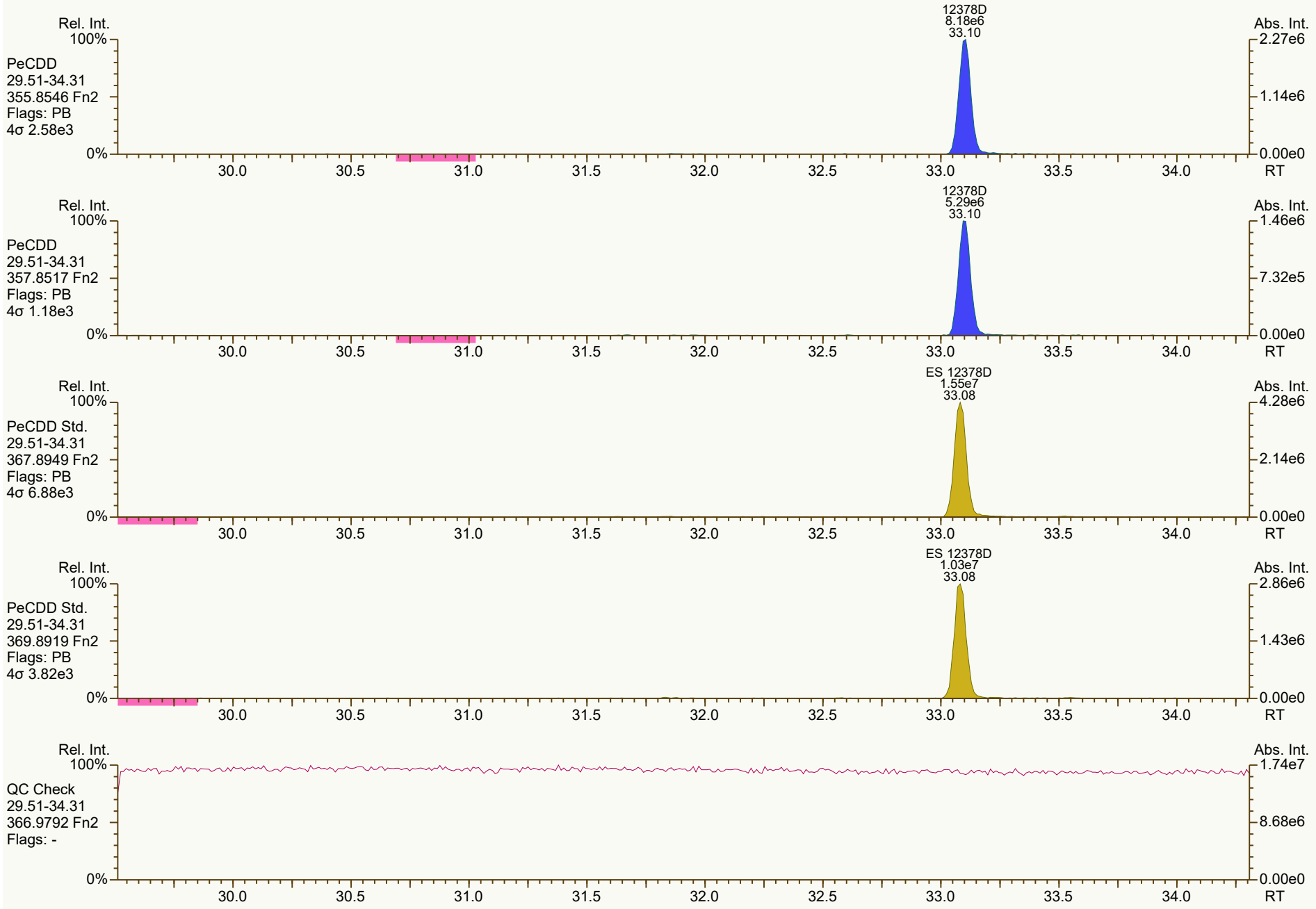
SGS ID: CS3_211110_DF_CC
Instr: [ILM] AutoSpec-Ultima HRMS3

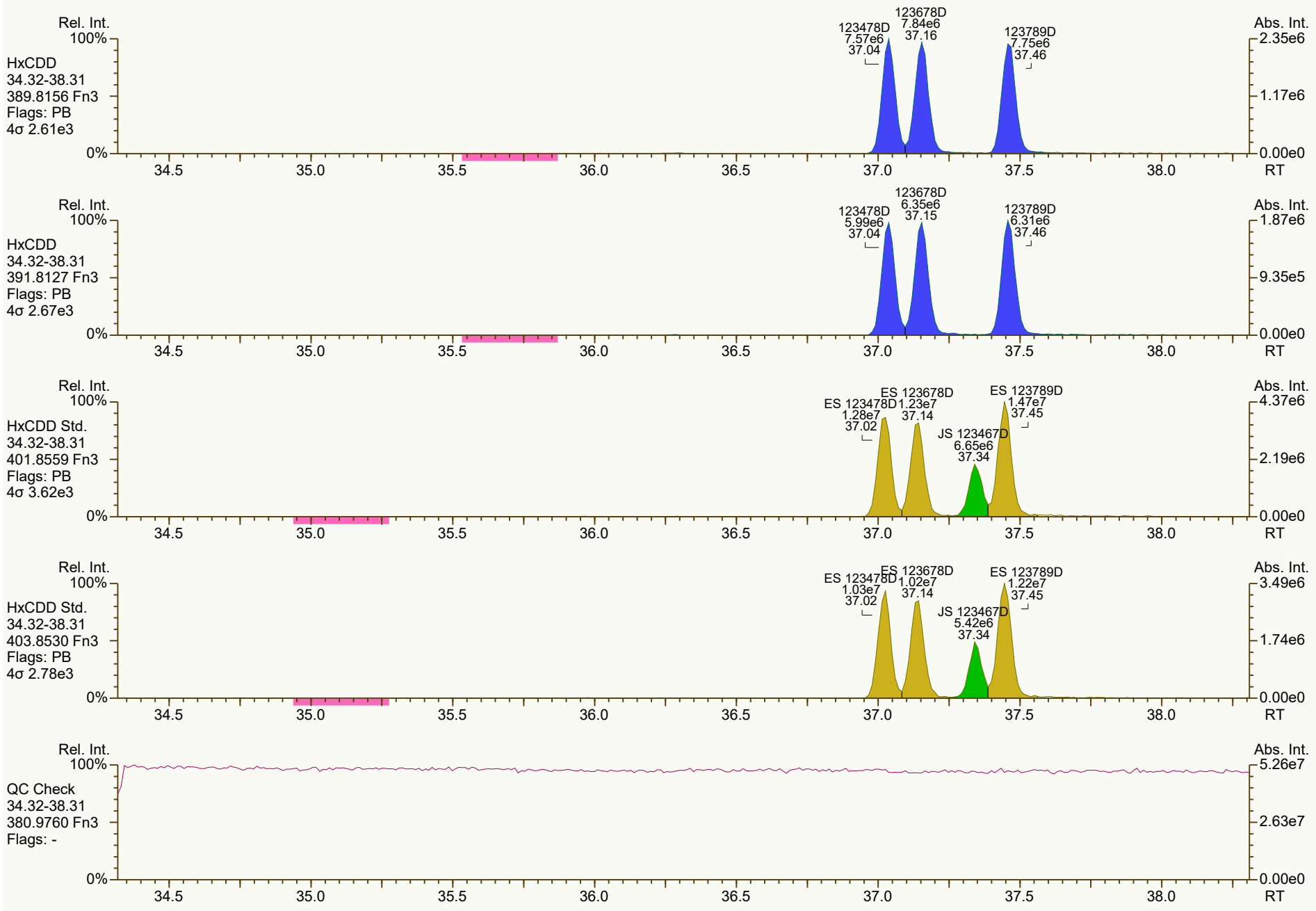
Sample ID: ICV 24-15-4
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72

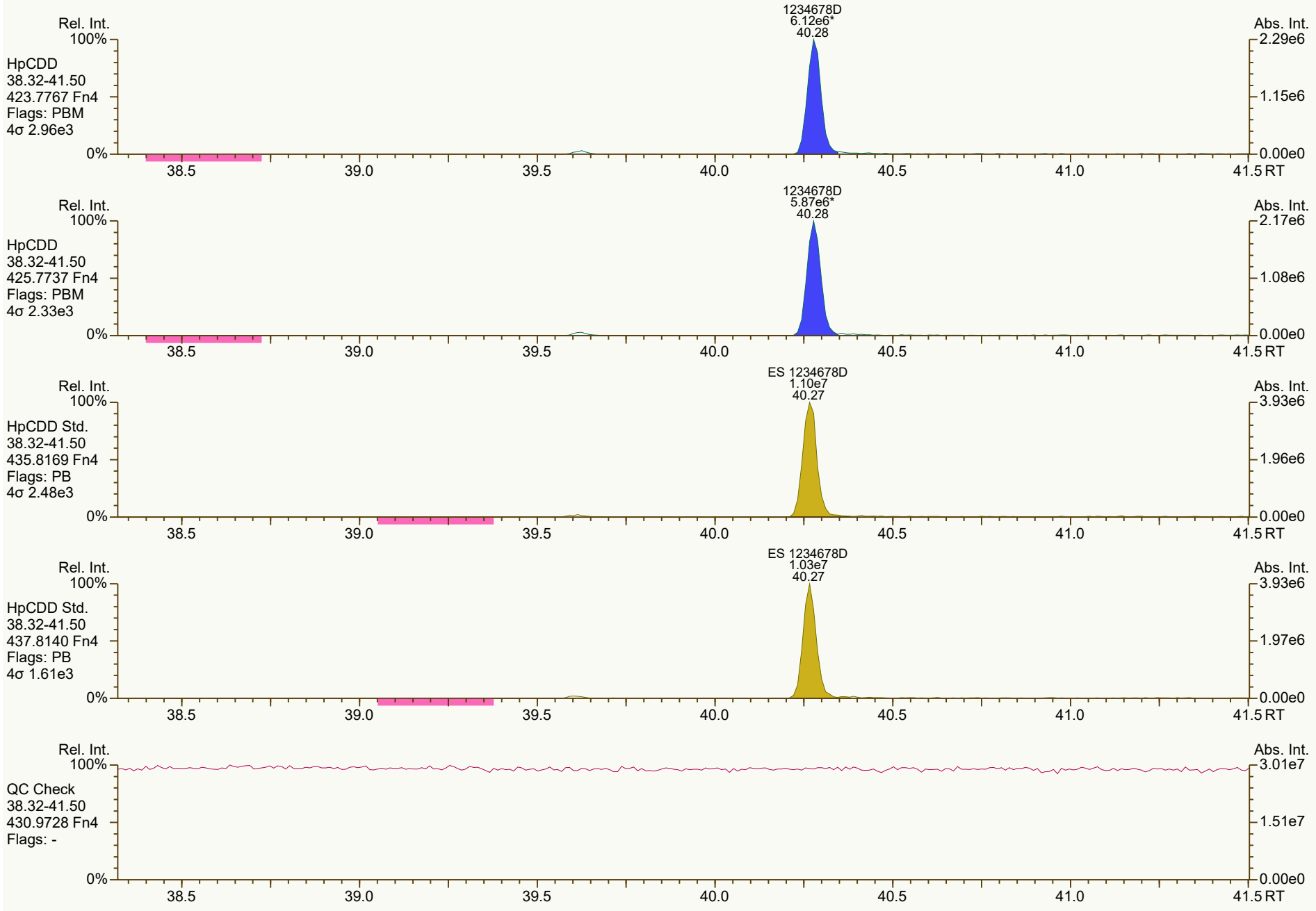
Acq: 10-Nov-2021 17:37:20
User: DTF Datafile: 211110C12

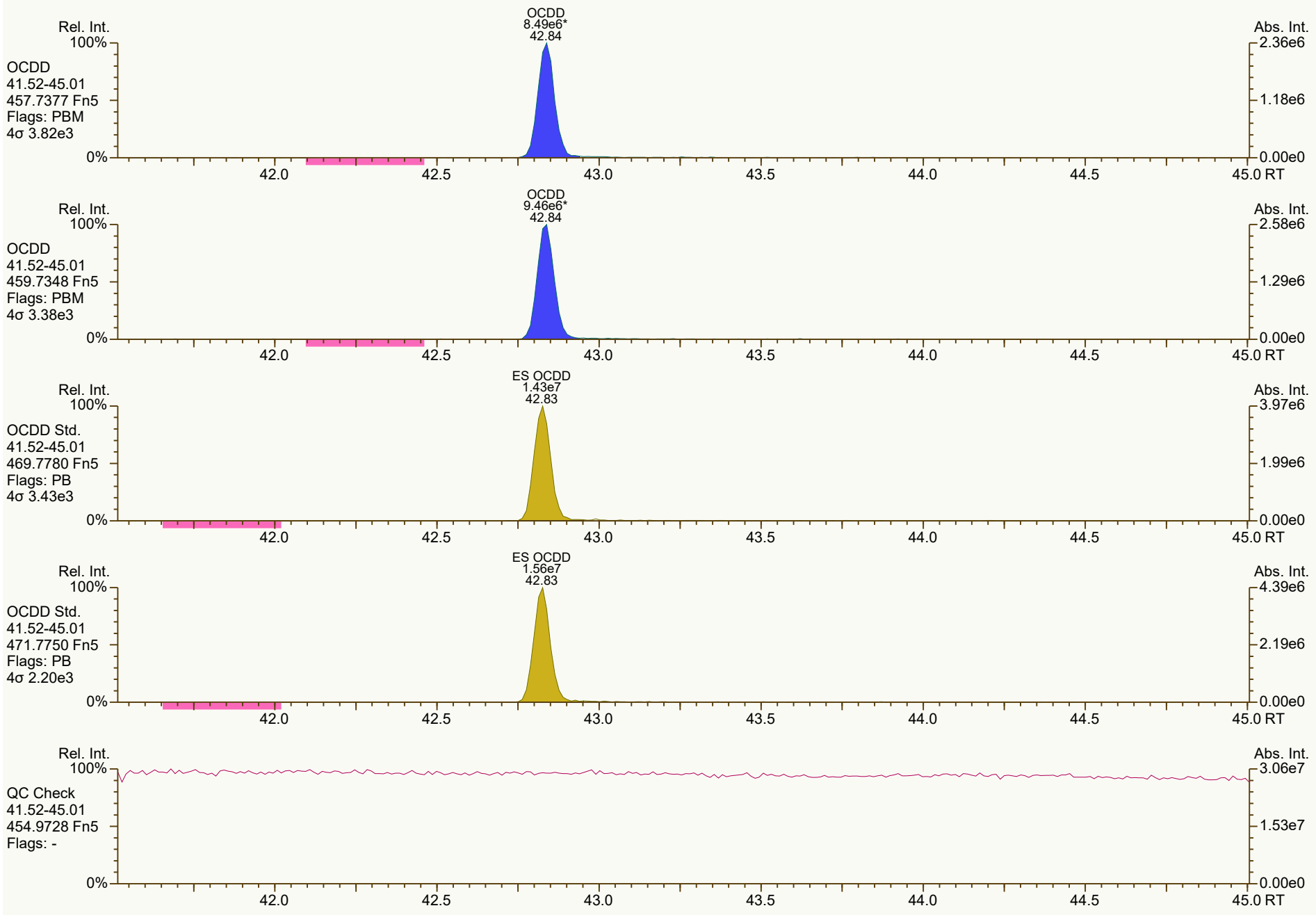


Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\ICV\CS3_211110_DF_CC.utp_res, saved 11-Nov-2021 10:52 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 7747, 3539, 9200 scc: 374-213
PKD: 10-Nov-2021 18:48 Printed: 11-Nov-2021 10:54 Page 2 of 12


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.58e3
0%
12378D
8.18e6
33.10
Abs. Int.
2.27e6
1.14e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.18e3
0%
12378D
5.29e6
33.10
Abs. Int.
1.46e6
7.32e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 6.88e3
0%
ES 12378D
1.55e7
33.08
Abs. Int.
4.28e6
2.14e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 3.82e3
0%
ES 12378D
1.03e7
33.08
Abs. Int.
2.86e6
1.43e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.74e7
8.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.61e3
123478D
7.57e6
37.04
123678D
7.84e6
37.16
123789D
7.75e6
37.46
Abs. Int.
2.35e6
1.17e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 2.67e3
123478D
5.99e6
37.04
123678D
6.35e6
37.15
123789D
6.31e6
37.46
Abs. Int.
1.87e6
9.35e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 3.62e3
ES 123478D
1.28e7
37.02
ES 123678D
1.23e7
37.14
JS 123467D
6.65e6
37.34
ES 123789D
1.47e7
37.45
Abs. Int.
4.37e6
2.19e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.78e3
ES 123478D
1.03e7
37.02
ES 123678D
1.02e7
37.14
JS 123467D
5.42e6
37.34
ES 123789D
1.22e7
37.45
Abs. Int.
3.49e6
1.74e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
5.26e7
2.63e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.96e3
0%
1234678D
6.12e6*
40.28
Abs. Int.
2.29e6
1.15e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 2.33e3
0%
1234678D
5.87e6*
40.28
Abs. Int.
2.17e6
1.08e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.48e3
0%
ES 1234678D
1.10e7
40.27
Abs. Int.
3.93e6
1.96e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.61e3
0%
ES 1234678D
1.03e7
40.27
Abs. Int.
3.93e6
1.97e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
3.01e7
1.51e7
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
8.49e6*
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 3.82e3
0%
Abs. Int.
2.36e6
1.18e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
9.46e6*
42.84
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 3.38e3
0%
Abs. Int.
2.58e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.43e7
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 3.43e3
0%
Abs. Int.
3.97e6
1.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.56e7
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.20e3
0%
Abs. Int.
4.39e6
2.19e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
3.06e7
1.53e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.43e3
0%
2378F
2.25e6
26.67
Abs. Int.
4.78e5
2.39e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 3.58e3
0%
2378F
2.83e6
26.67
Abs. Int.
6.36e5
3.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PBM
4σ 2.16e4
0%
JS 1234F
2.07e7*
25.24
ES 2378F
2.00e7
26.65
Abs. Int.
4.63e6
2.31e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PBM
4σ 1.38e4
0%
JS 1234F
2.52e7*
25.24
ES 2378F
2.46e7
26.65
Abs. Int.
5.61e6
2.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.88e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.52e4
7.58e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.63e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.18e4
1.09e4
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.96e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.05e7
1.03e7
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT

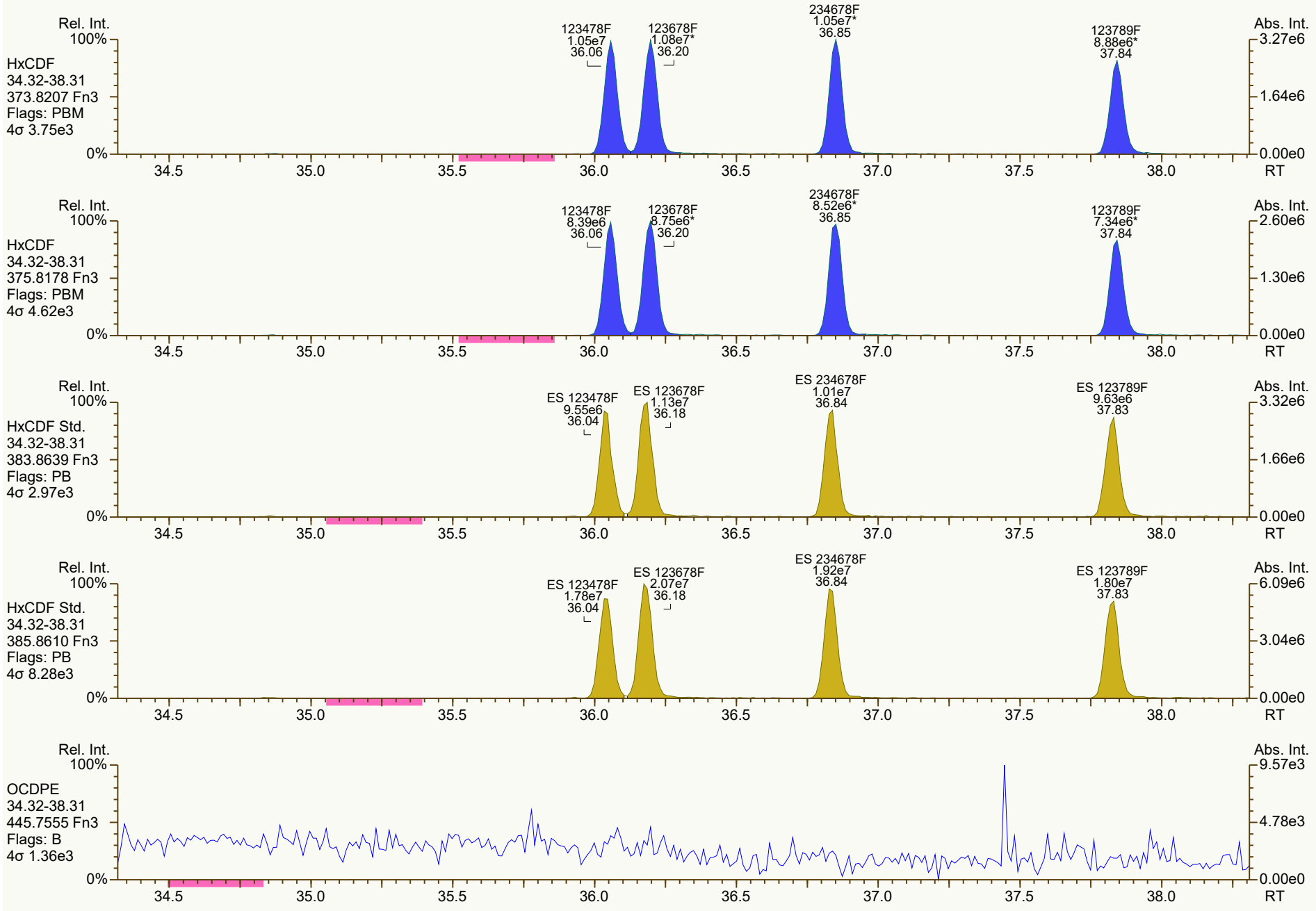
SGS ID: CS3_211110_DF_CC
Instr: [ILM] AutoSpec-Ultima HRMS3

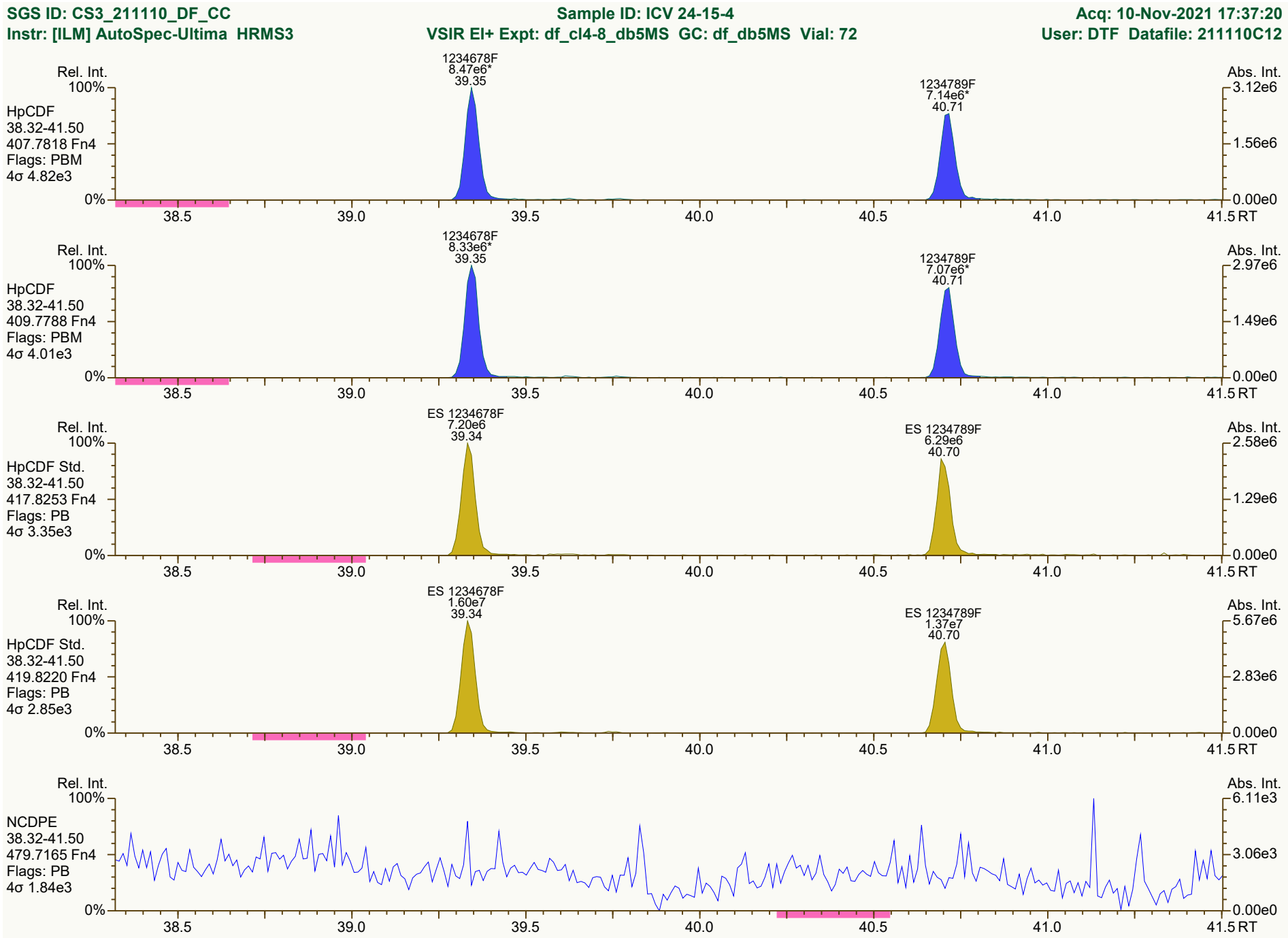
Sample ID: ICV 24-15-4
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72

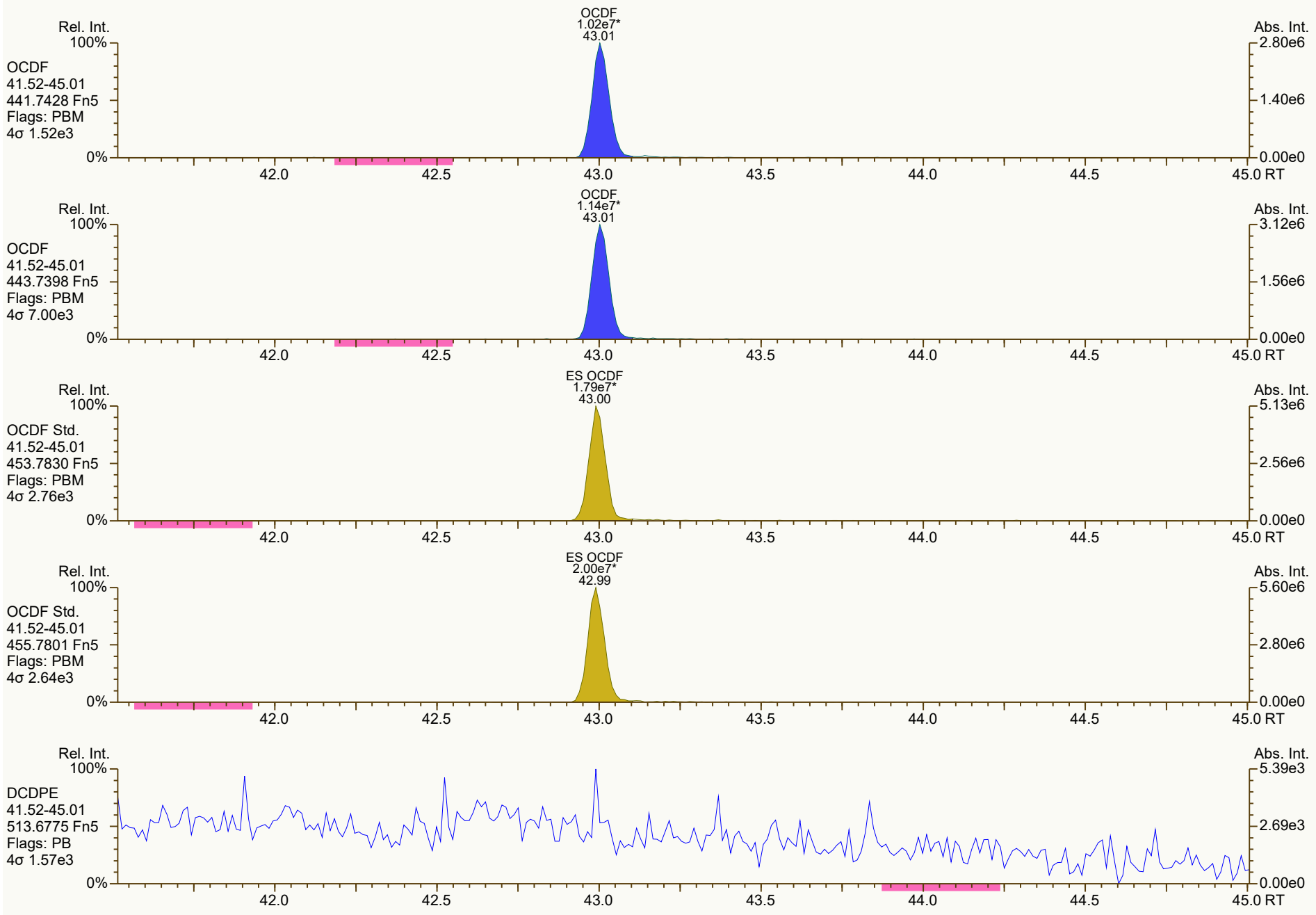
Acq: 10-Nov-2021 17:37:20
User: DTF Datafile: 211110C12

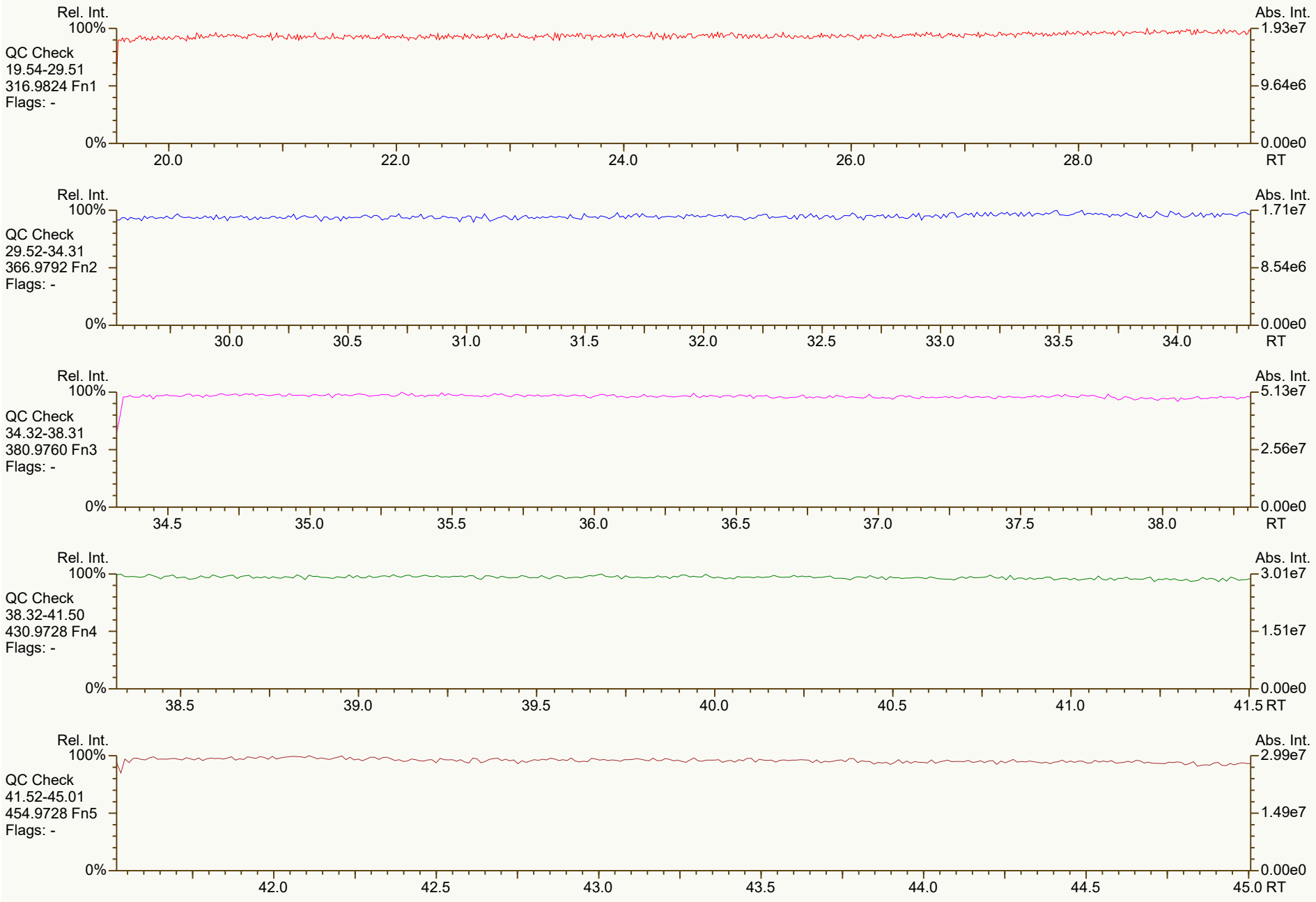


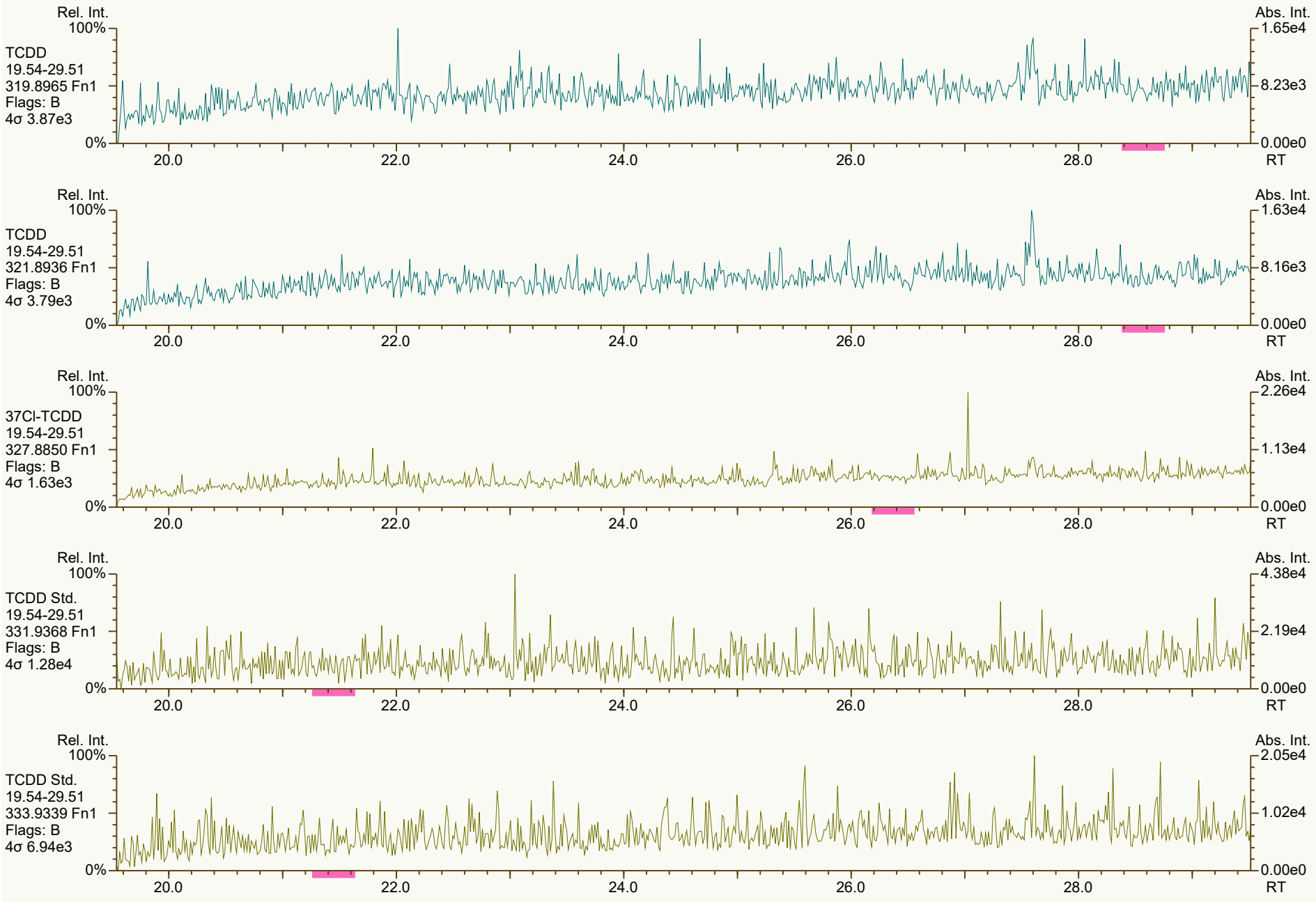
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\ICV\CS3_211110_DF_CC.utp_res, saved 11-Nov-2021 10:52 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 5743, 0930, 6634 scc: 374-213
PKD: 10-Nov-2021 18:48 Printed: 11-Nov-2021 10:55 Page 9 of 12


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 3.75e3
123478F
1.05e7
36.06
123678F
1.08e7*
36.20
234678F
1.05e7*
36.85
123789F
8.88e6*
37.84
Abs. Int.
3.27e6
1.64e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 4.62e3
123478F
8.39e6
36.06
123678F
8.75e6*
36.20
234678F
8.52e6*
36.85
123789F
7.34e6*
37.84
Abs. Int.
2.60e6
1.30e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 2.97e3
ES 123478F
9.55e6
36.04
ES 123678F
1.13e7
36.18
ES 234678F
1.01e7
36.84
ES 123789F
9.63e6
37.83
Abs. Int.
3.32e6
1.66e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.28e3
ES 123478F
1.78e7
36.04
ES 123678F
2.07e7
36.18
ES 234678F
1.92e7
36.84
ES 123789F
1.80e7
37.83
Abs. Int.
6.09e6
3.04e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.36e3
Abs. Int.
9.57e3
4.78e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

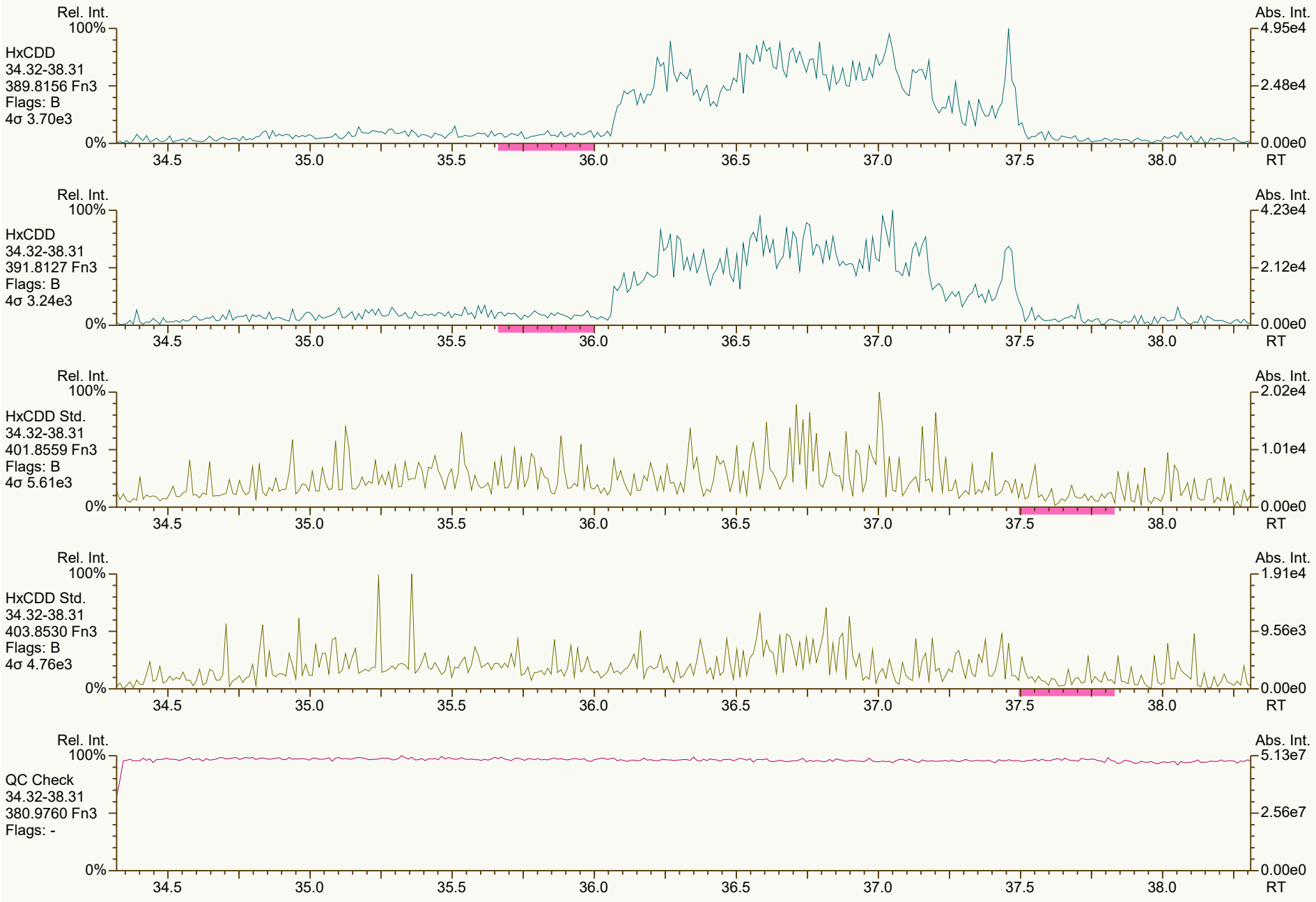

SGS ID: CS3_211110_DF_CC
Sample ID: ICV 24-15-4
Acq: 10-Nov-2021 17:37:20
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72
User: DTF Datafile: 211110C12
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 4.82e3
1234678F
8.47e6*
39.35
1234789F
7.14e6*
40.71
3.12e6
1.56e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 4.01e3
1234678F
8.33e6*
39.35
1234789F
7.07e6*
40.71
2.97e6
1.49e6
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PB
4σ 3.35e3
ES 1234678F
7.20e6
39.34
ES 1234789F
6.29e6
40.70
2.58e6
1.29e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PB
4σ 2.85e3
ES 1234678F
1.60e7
39.34
ES 1234789F
1.37e7
40.70
5.67e6
2.83e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.84e3
6.11e3
3.06e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\ICV\CS3_211110_DF_CC.utp_res, saved 11-Nov-2021 10:52 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4498, 1784, 9227 scc: 374-213
PKD: 10-Nov-2021 18:48 Printed: 11-Nov-2021 10:55 Page 11 of 12


OCDF
1.02e7*
43.01
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.52e3
0%
Abs. Int.
2.80e6
1.40e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.14e7*
43.01
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 7.00e3
0%
Abs. Int.
3.12e6
1.56e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.79e7*
43.00
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.76e3
0%
Abs. Int.
5.13e6
2.56e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.00e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.64e3
0%
Abs. Int.
5.60e6
2.80e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.57e3
0%
Abs. Int.
5.39e3
2.69e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

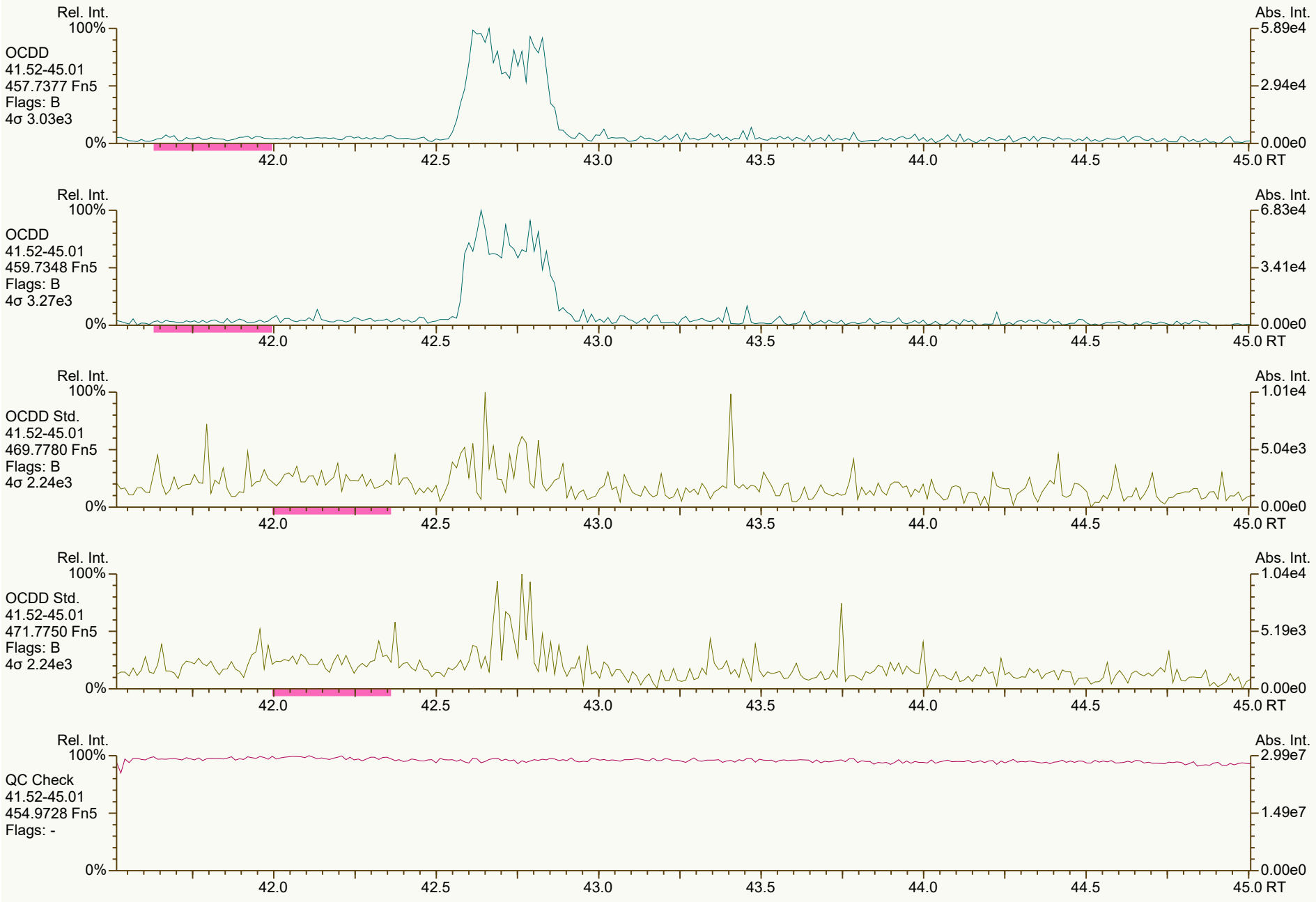

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
1.93e7
9.64e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
1.71e7
8.54e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
5.13e7
2.56e7
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
3.01e7
1.51e7
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
2.99e7
1.49e7
0.00e0

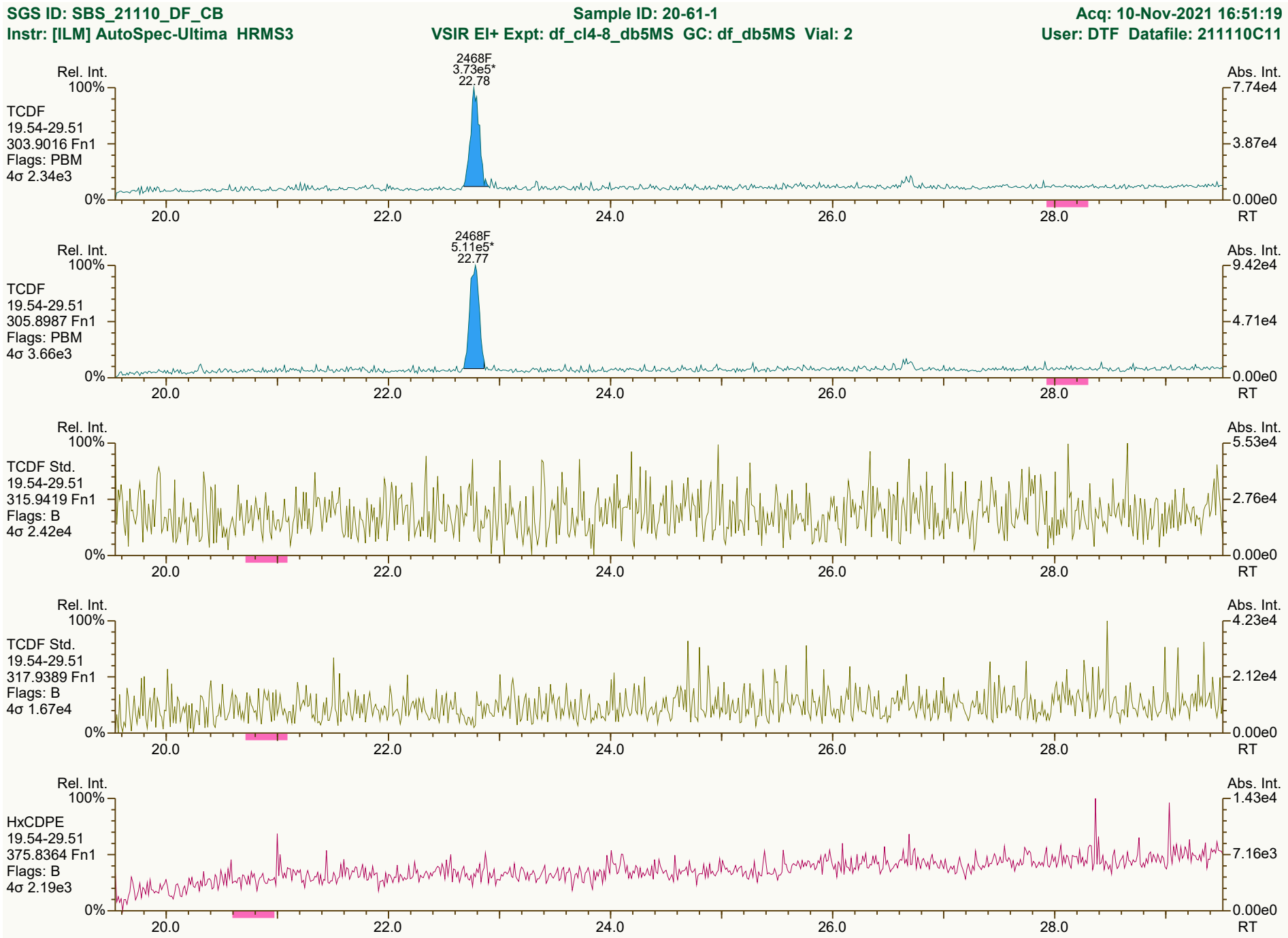

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: B
4σ 3.87e3
0%
Abs. Int.
1.65e4
8.23e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: B
4σ 3.79e3
0%
Abs. Int.
1.63e4
8.16e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.63e3
0%
Abs. Int.
2.26e4
1.13e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: B
4σ 1.28e4
0%
Abs. Int.
4.38e4
2.19e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: B
4σ 6.94e3
0%
Abs. Int.
2.05e4
1.02e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: B
4σ 3.73e3
0%
Abs. Int.
4.22e4
2.11e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: B
4σ 1.53e3
0%
Abs. Int.
2.36e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: B
4σ 7.30e3
0%
Abs. Int.
1.51e4
7.54e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: B
4σ 3.64e3
0%
Abs. Int.
1.21e4
6.04e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.71e7
8.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 3.70e3
0%
Abs. Int.
4.95e4
2.48e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 3.24e3
0%
Abs. Int.
4.23e4
2.12e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.61e3
0%
Abs. Int.
2.02e4
1.01e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 4.76e3
0%
Abs. Int.
1.91e4
9.56e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
5.13e7
2.56e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 3.29e3
0%
Abs. Int.
4.84e4
2.42e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 2.66e3
0%
Abs. Int.
4.09e4
2.04e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 3.81e3
0%
Abs. Int.
1.46e4
7.29e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.31e3
0%
Abs. Int.
1.40e4
7.00e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
3.01e7
1.51e7
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 3.03e3
0%
Abs. Int.
5.89e4
2.94e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 3.27e3
0%
Abs. Int.
6.83e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.24e3
0%
Abs. Int.
1.01e4
5.04e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.24e3
0%
Abs. Int.
1.04e4
5.19e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.99e7
1.49e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

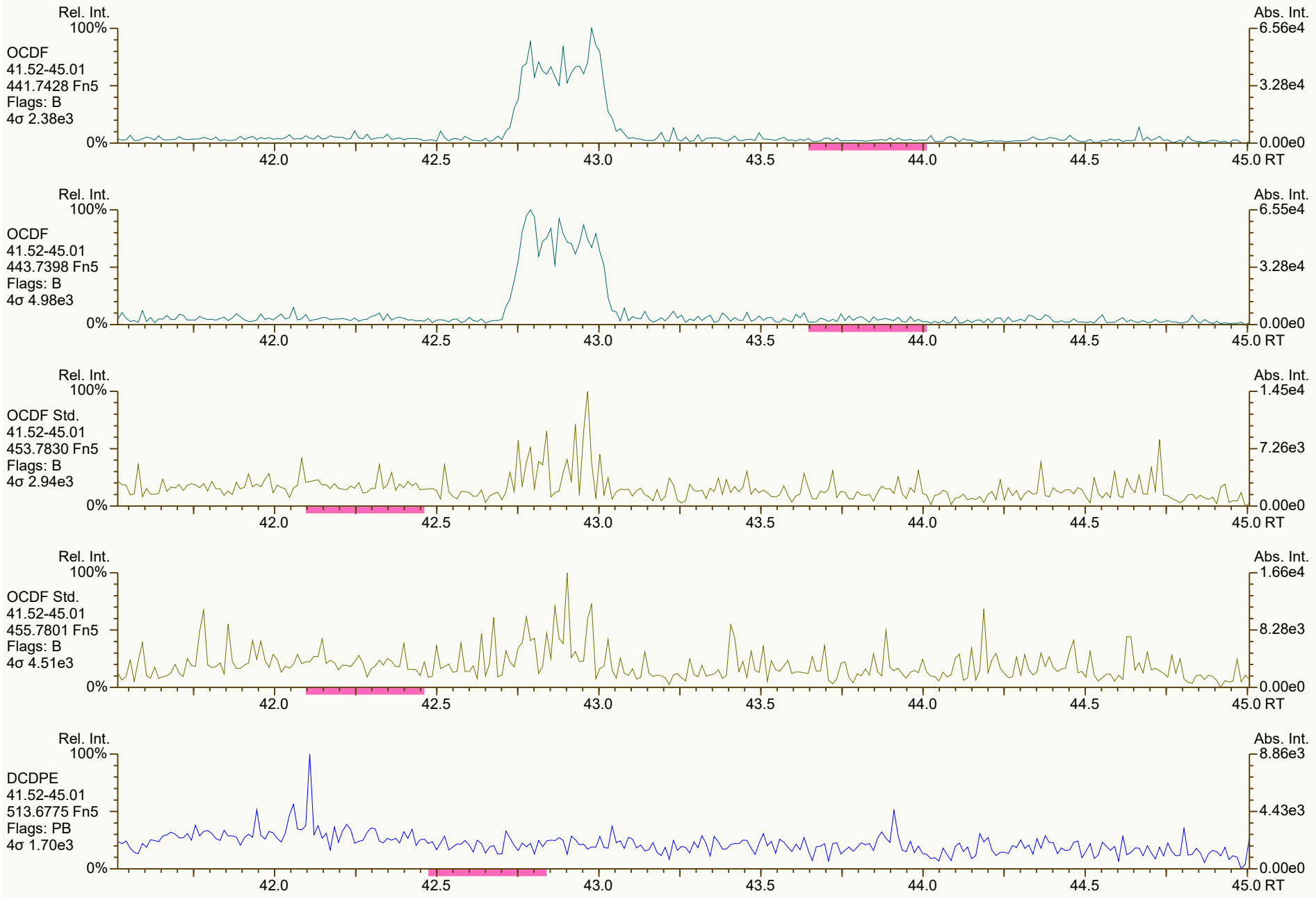

SGS ID: SBS_21110_DF_CB
Sample ID: 20-61-1
Acq: 10-Nov-2021 16:51:19
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: DTF Datafile: 211110C11
Rel. Int.
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 2.34e3
2468F
3.73e5*
22.78
7.74e4
3.87e4
0.00e0
RT
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 3.66e3
2468F
5.11e5*
22.77
9.42e4
4.71e4
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: B
4σ 2.42e4
5.53e4
2.76e4
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: B
4σ 1.67e4
4.23e4
2.12e4
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 2.19e3
1.43e4
7.16e3
100%
0%
20.0
22.0
24.0
26.0
28.0
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\ICV\SBS_21110_DF_CB.utp_res, saved 11-Nov-2021 10:52 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4049, 6762, 0399 scc: 509-084
Revised: 10-Nov-2021 18:46 (DTF) Printed: 11-Nov-2021 10:54 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 3.55e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 3.39e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.93e7
9.64e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: B
4σ 3.79e3
0%
Abs. Int.
5.15e4
2.57e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: B
4σ 3.49e3
0%
Abs. Int.
3.88e4
1.94e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: B
4σ 6.36e3
0%
Abs. Int.
2.12e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: B
4σ 3.59e3
0%
Abs. Int.
2.19e4
1.09e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 2.24e3
0%
Abs. Int.
1.09e4
5.47e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 6.67e3
0%
Abs. Int.
7.20e4
3.60e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 4.09e3
0%
Abs. Int.
5.30e4
2.65e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 3.53e3
0%
Abs. Int.
2.56e4
1.28e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 7.45e3
0%
Abs. Int.
4.02e4
2.01e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.52e3
0%
Abs. Int.
6.43e3
3.21e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 6.33e3
0%
Abs. Int.
5.63e4
2.82e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 4.99e3
0%
Abs. Int.
5.26e4
2.63e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 7.32e3
0%
Abs. Int.
2.31e4
1.15e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 2.68e3
0%
Abs. Int.
1.94e4
9.71e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.91e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 2.38e3
0%
Abs. Int.
6.56e4
3.28e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 4.98e3
0%
Abs. Int.
6.55e4
3.28e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.45e4
7.26e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.51e3
0%
Abs. Int.
1.66e4
8.28e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.70e3
0%
Abs. Int.
8.86e3
4.43e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

APPROVED
Carla_Lyon , 3/7/2022, 9:54:52 AM

Lab ID: OPR1_18965_DF **Acq'd:** 03 Mar 2022 16:25 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18965_OPR001 **UTP:** 04-Mar-2022 10:45:37 DTF **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 159-265-NXF

Datafile: 220303C02 **Report:** 04 Mar 2022 10:47 TF **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.19		1.0008	1.0008	0	2.31E+06	0.88	Y	1.18	11.3	4386.246	0.234
12378-PeCDD	33.60		1.0007	1.0006	-0.2	7.72E+06	1.57	Y	1.04	48.6	4569.314	0.26
123478-HxCDD	37.53		1.0004	1.0004	0	7.72E+06	1.22	Y	1.09	53.3	2710.579	0.162
123678-HxCDD	37.65		1.0036	1.0037	+0.2	8.26E+06	1.21	Y	1.15	54.4	2710.579	0.164
123789-HxCDD	37.96		1.0118	1.0118	0	7.92E+06	1.29	Y	1.05	50.9	2710.579	0.154
1234678-HpCDD	40.70		1.0002	1.0004	+0.5	6.69E+06	1.06	Y	1.06	52.5	2227.535	0.145
OCDD	43.38		1.0003	1.0003	0	8.60E+06	0.86	Y	1.13	106	3019.052	0.453
2378-TCDF	27.31		1.0008	1.0008	0	2.99E+06	0.74	Y	1.08	11	3428.723	0.149
12378-PeCDF	32.14		1.0005	1.0006	+0.2	1.32E+07	1.55	Y	1.02	48.9	8415.007	0.294
23478-PeCDF	33.26		1.0005	1.0005	0	1.32E+07	1.54	Y	1.02	54.7	8415.007	0.32
123478-HxCDF	36.53		1.0004	1.0005	+0.2	1.03E+07	1.25	Y	1.27	50.5	10009.193	0.395
123678-HxCDF	36.67		1.0004	1.0005	+0.2	1.26E+07	1.26	Y	1.15	52.6	10009.193	0.354
234678-HxCDF	37.35		1.0005	1.0004	-0.2	1.23E+07	1.24	Y	1.19	52.2	10009.193	0.368
123789-HxCDF	38.33		1.0004	1.0004	0	8.41E+06	1.25	Y	1.16	48.1	10009.193	0.52
1234678-HpCDF	39.75		1.0003	1.0003	0	1.14E+07	1.07	Y	1.37	50.2	3061.167	0.0992
1234789-HpCDF	41.15		1.0003	1.0003	0	6.96E+06	1.05	Y	1.31	52.5	3061.167	0.196
OCDF	43.56		1.0002	1.0003	+0.3	9.27E+06	0.92	Y	1.07	105	3335.3623	0.451

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.17	1.0243	1.0244	+0.2	1.72E+07	0.74	Y	1.05	85.6
ES 12378-PeCDD	33.58	1.2198	1.2214	+3.2	1.53E+07	1.50	Y	0.88	90.5
ES 123478-HxCDD	37.52	0.9916	0.9916	0	1.33E+07	1.25	Y	0.97	89.3
ES 123678-HxCDD	37.64	0.9947	0.9948	+0.2	1.32E+07	1.35	Y	0.94	91.3
ES 123789-HxCDD	37.94	1.0029	1.0028	-0.2	1.49E+07	1.27	Y	1.09	88.7
ES 1234678-HpCDD	40.68	1.0749	1.0752	+0.7	1.20E+07	1.06	Y	0.91	85.9
ES OCDD	43.37	1.1460	1.1463	+0.8	1.44E+07	0.93	Y	0.62	75.5
ES 2378-TCDF	27.29	1.0531	1.0537	+1.0	2.53E+07	0.85	Y	1.06	77.8
ES 12378-PeCDF	32.12	1.2378	1.2401	+4.4	2.64E+07	1.56	Y	0.91	94.5
ES 23478-PeCDF	33.24	1.2810	1.2834	+4.8	2.37E+07	1.62	Y	0.88	87.4
ES 123478-HxCDF	36.51	0.9650	0.9650	0	1.60E+07	0.55	Y	1.20	87.1
ES 123678-HxCDF	36.65	0.9688	0.9687	-0.2	2.09E+07	0.55	Y	1.35	101
ES 234678-HxCDF	37.33	0.9866	0.9866	0	1.99E+07	0.55	Y	1.24	104
ES 123789-HxCDF	38.31	1.0125	1.0126	+0.2	1.50E+07	0.54	Y	1.16	84.8
ES 1234678-HpCDF	39.74	1.0501	1.0503	+0.5	1.66E+07	0.49	Y	0.97	112
ES 1234789-HpCDF	41.14	1.0870	1.0873	+0.7	1.01E+07	0.50	Y	0.85	77.7
ES OCDF	43.54	1.1505	1.1509	+1.0	1.64E+07	0.90	Y	0.81	66.3

Lab ID: OPR1_18965_DF | **Acq'd:** 03 Mar 2022 16:25 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18965_OPR001 | **UTP:** 04-Mar-2022 10:45:37 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 159-265-NXF

Datafile: 220303C02 | **Report:** 04 Mar 2022 10:47 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.49		-	-	-	1.93E+07	0.82	Y	-	-	
JS 1234-TCDF	25.90		-	-	-	3.07E+07	0.79	Y	-	-	
JS 123467-HxCDD	37.83		-	-	-	7.66E+06	1.26	Y	-	-	
CS 37Cl-2378-TCDD	28.19		1.0251	1.0252	+0.2	8.14E+06	n/a	-	1.20	87.9	
CS 12347-PeCDD	33.08		1.2016	1.2030	+2.8	1.45E+07	1.61	Y	0.75	99.8	
CS 12346-PeCDF	31.58		1.2172	1.2194	+4.2	2.57E+07	1.67	Y	0.85	98.4	
CS 123469-HxCDF	36.97		0.9771	0.9771	0	1.77E+07	0.52	Y	1.12	103	
CS 1234689-HpCDF	40.14		1.0608	1.0610	+0.5	1.36E+07	0.46	Y	0.89	99.6	
~~SS 37Cl-2378-TCDD~~	~~28.19~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~8.14E+06~~	~~n/a~~		~~1.15~~	~~103~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.08~~		~~1.2016~~	~~1.2030~~	~~+2.8~~	~~1.45E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~110~~	CL 07Mar22
~~SS 12346-PeCDF~~	~~31.58~~		~~1.2172~~	~~1.2194~~	~~+4.2~~	~~2.57E+07~~	~~1.67~~	~~Y~~	~~0.94~~	~~104~~	
~~SS 123469-HxCDF~~	~~36.97~~		~~0.9771~~	~~0.9771~~	~~0~~	~~1.77E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~102~~	
~~SS 1234689-HpCDF~~	~~40.14~~		~~1.0608~~	~~1.0610~~	~~+0.5~~	~~1.36E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~88.6~~	

Totals	Conc	EMPC
Total TCDD	53.5	53.5
Total PeCDD	75.6	75.6
Total HxCDD	175	175
Total HpCDD	65.9	65.9
Total Tetra-Octa Dioxins	476	476
Total TCDF	63.1	63.1
Total PeCDF	202	202
Total HxCDF	328	328
Total HpCDF	103	103
Total Tetra-Octa Furans	801	801
Total Tetra-Octa Dioxins & Furans	1280	1280

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.878	0.88
Response	2.32E+06	2.31E+06

Lab ID: OPR1_18965_DF | **Acq'd: 03 Mar 2022 16:25 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18965_OPR001 | **UTP: 04-Mar-2022 10:45:37 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 159-265-NXF**

Datafile: 220303C02 | **Report: 04 Mar 2022 10:47 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.47		0.8701	0.8688	-1.9	3.18E+06	0.80	Y	1.18	15.5	4386.246	0.234
1379-TCDD	NotFnd		0.8829						1.18		4386.246	0.234
1369-TCDD	NotFnd		0.8982						1.18		4386.246	0.234
1469-TCDD	NotFnd		0.9261						1.18		4386.246	0.234
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4386.246	0.234
1378-TCDD	NotFnd		0.9417						1.18		4386.246	0.234
1268-TCDD	NotFnd		0.9487						1.18		4386.246	0.234
1478-TCDD	NotFnd		0.9576						1.18		4386.246	0.234
1279-TCDD	NotFnd		0.9636						1.18		4386.246	0.234
1234/1269-TCDD	NotFnd		0.9761						1.18		4386.246	0.234
1236-TCDD	NotFnd		0.9812						1.18		4386.246	0.234
1237/1238-TCDD	NotFnd		0.9905						1.18		4386.246	0.234
1239-TCDD	28.03		0.9951	0.9951	0	2.30E+06	0.81	Y	1.18	11.3	4386.246	0.234
2378-TCDD	**28.19**		**1.0008**	1.0008	**0**	2.31E+06	0.88	Y	**1.18**	**11.3**	**4386.246**	**0.234**
1278-TCDD	NotFnd		1.0124						1.18		4386.246	0.234
1267-TCDD	NotFnd		1.0172						1.18		4386.246	0.234
1289-TCDD	29.18		1.0354	1.0358	+0.7	3.14E+06	0.78	Y	1.18	15.4	4386.246	0.234
12479/12468-PeCDD	31.07		0.9255	0.9254	-0.2	2.14E+06	1.63	Y	1.04	13.5	4569.314	0.26
12469-PeCDD	NotFnd		0.9416						1.04		4569.314	0.26
12368-PeCDD	NotFnd		0.9582						1.04		4569.314	0.26
12478-PeCDD	NotFnd		0.9637						1.04		4569.314	0.26
12379-PeCDD	NotFnd		0.9668						1.04		4569.314	0.26
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		4569.314	0.26
12346/12347-PeCDD	NotFnd		0.9858						1.04		4569.314	0.26
12378-PeCDD	33.60		**1.0007**	**1.0006**	**-0.2**	**7.72E+06**	**1.57**	**Y**	**1.04**	**48.6**	**4569.314**	**0.26**
12367-PeCDD	NotFnd		1.0036						1.04		4569.314	0.26
12389-PeCDD	34.04		1.0137	1.0138	+0.2	2.16E+06	1.54	Y	1.04	13.6	4569.314	0.26
124679/124689-HxCDD	35.79		0.9540	0.9540	0	2.49E+06	1.29	Y	1.10	16.5	2710.579	0.16
123468-HxCDD	NotFnd		0.9715						1.10		2710.579	0.16
123679/123689-HxCDD	NotFnd		0.9793						1.10		2710.579	0.16
123469-HxCDD	NotFnd		0.9829						1.10		2710.579	0.16
123478-HxCDD	37.53		**1.0004**	**1.0004**	**0**	**7.72E+06**	**1.22**	**Y**	1.09	**53.3**	**2710.579**	**0.162**
123678-HxCDD	37.65		**1.0036**	**1.0037**	**+0.2**	**8.26E+06**	**1.21**	**Y**	1.15	**54.4**	**2710.579**	**0.164**
123467-HxCDD	NotFnd		1.0089						1.10		2710.579	0.16
123789-HxCDD	37.96		**1.0118**	**1.0118**	**0**	**7.92E+06**	**1.29**	**Y**	1.05	**50.9**	**2710.579**	**0.154**

Lab ID: OPR1_18965_DF | **Acq'd: 03 Mar 2022 16:25 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18965_OPR001 | **UTP: 04-Mar-2022 10:45:37 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 159-265-NXF**

Datafile: 220303C02 | **Report: 04 Mar 2022 10:47 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.02		0.9836	0.9837	+0.2	1.71E+06	1.00	Y	1.06	13.4	2227.535	0.145
1234678-HpCDD	**40.70**		**1.0002**	**1.0004**	**+0.5**	**6.69E+06**	**1.06**	**Y**	**1.06**	**52.5**	**2227.535**	**0.145**
OCDD	**43.38**		**1.0003**	**1.0003**	**0**	**8.60E+06**	**0.86**	**Y**	**1.13**	**106**	**3019.052**	**0.453**
OCDD-a	43.37	**EMPC**	1.0002	1.0000	-0.5	4.72E+05	3.37	N	0.07	90.7	3343.121	7.84
1368-TCDF	22.30		0.8191	0.8170	-2.8	4.48E+06	0.79	Y	1.08	16.4	3428.723	0.149
1468-TCDF	NotFnd		0.8408						1.08		3428.723	0.149
2468-TCDF	23.56		0.8645	0.8631	-2.0	9.83E+05	0.76	Y	1.08	3.6	3428.723	0.149
1346/1246-TCDF	NotFnd		0.8772						1.08		3428.723	0.149
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		3428.723	0.149
1348-TCDF	NotFnd		0.8932						1.08		3428.723	0.149
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		3428.723	0.149
1268-TCDF	NotFnd		0.9119						1.08		3428.723	0.149
1467-TCDF	NotFnd		0.9170						1.08		3428.723	0.149
1478-TCDF	NotFnd		0.9234						1.08		3428.723	0.149
1369/1237-TCDF	NotFnd		0.9369						1.08		3428.723	0.149
2467-TCDF	NotFnd		0.9415						1.08		3428.723	0.149
2368-TCDF	NotFnd		0.9475						1.08		3428.723	0.149
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		3428.723	0.149
1278-TCDF	NotFnd		0.9676						1.08		3428.723	0.149
1349-TCDF	NotFnd		0.9722						1.08		3428.723	0.149
1267-TCDF	NotFnd		0.9777						1.08		3428.723	0.149
2346/1249-TCDF	NotFnd		0.9843						1.08		3428.723	0.149
2347/1279-TCDF	NotFnd		0.9926						1.08		3428.723	0.149
2348-TCDF	27.20		0.9968	0.9967	-0.2	4.25E+06	0.78	Y	1.08	15.6	3428.723	0.149
2378-TCDF	**27.31**		**1.0008**	**1.0008**	**0**	**2.99E+06**	**0.74**	**Y**	**1.08**	**11**	**3428.723**	**0.149**
2367/3467-TCDF	NotFnd		1.0142						1.08		3428.723	0.149
1269-TCDF	NotFnd		1.0235						1.08		3428.723	0.149
1239-TCDF	NotFnd		1.0329						1.08		3428.723	0.149
1289-TCDF	29.35		1.0742	1.0752	+1.8	4.52E+06	0.82	Y	1.08	16.6	3428.723	0.149
13468/12468-PeCDF	29.27		0.9122	0.9113	-1.6	2.20E+07	1.56	Y	1.02	86	2665.912	0.0972
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		8415.007	0.307
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		8415.007	0.307
14678-PeCDF	NotFnd		0.9685						1.02		8415.007	0.307
13479-PeCDF	NotFnd		0.9716						1.02		8415.007	0.307
13469/12479-PeCDF	NotFnd		0.9794						1.02		8415.007	0.307
12346-PeCDF	NotFnd		0.9836						1.02		8415.007	0.307

Lab ID: OPR1_18965_DF | **Acq'd: 03 Mar 2022 16:25 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18965_OPR001 | **UTP: 04-Mar-2022 10:45:37 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 159-265-NXF**

Datafile: 220303C02 | **Report: 04 Mar 2022 10:47 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		8415.007	0.307
12347-PeCDF	NotFnd		0.9891						1.02		8415.007	0.307
12348-PeCDF	NotFnd		0.9938						1.02		8415.007	0.307
12378-PeCDF	**32.14**		**1.0005**	**1.0006**	**+0.2**	**1.32E+07**	**1.55**	**Y**	**1.02**	**48.9**	**8415.007**	**0.294**
12678/12367-PeCDF	NotFnd		1.0091						1.02		8415.007	0.307
12379-PeCDF	NotFnd		1.0144						1.02		8415.007	0.307
12679-PeCDF	NotFnd		0.9927						1.02		8415.007	0.307
23467/12369-PeCDF	NotFnd		0.9965						1.02		8415.007	0.307
23478-PeCDF	**33.26**		**1.0005**	**1.0005**	**0**	**1.32E+07**	**1.54**	**Y**	**1.02**	**54.7**	**8415.007**	**0.32**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		8415.007	0.307
12349-PeCDF	NotFnd		1.0101						1.02		8415.007	0.307
12389-PeCDF	34.34		1.0330	1.0330	0	3.05E+06	1.60	Y	1.02	11.9	8415.007	0.307
123468-HxCDF	35.13		0.9622	0.9622	0	2.67E+07	1.23	Y	1.19	125	10009.193	0.401
124678/134678-HxCDF	NotFnd		0.9678						1.19		10009.193	0.401
134679-HxCDF	NotFnd		0.9741						1.19		10009.193	0.401
124679-HxCDF	NotFnd		0.9795						1.19		10009.193	0.401
124689-HxCDF	NotFnd		0.9856						1.19		10009.193	0.401
123467-HxCDF	NotFnd		0.9972						1.19		10009.193	0.401
123478-HxCDF	**36.53**		**1.0004**	**1.0005**	**+0.2**	**1.03E+07**	**1.25**	**Y**	**1.27**	**50.5**	**10009.193**	**0.395**
123678-HxCDF	**36.67**		**1.0004**	**1.0005**	**+0.2**	**1.26E+07**	**1.26**	**Y**	**1.15**	**52.6**	**10009.193**	**0.354**
123479-HxCDF	NotFnd		1.0048						1.19		10009.193	0.401
123469-HxCDF	NotFnd		1.0089						1.19		10009.193	0.401
123679-HxCDF	NotFnd		0.9942						1.19		10009.193	0.401
234678-HxCDF	**37.35**		**1.0005**	**1.0004**	**-0.2**	**1.23E+07**	**1.24**	**Y**	**1.19**	**52.2**	**10009.193**	**0.368**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		10009.193	0.401
123789-HxCDF	**38.33**		**1.0004**	**1.0004**	**0**	**8.41E+06**	**1.25**	**Y**	**1.16**	**48.1**	**10009.193**	**0.52**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		10009.193	0.401
1234678-HpCDF	**39.75**		**1.0003**	**1.0003**	**0**	**1.14E+07**	**1.07**	**Y**	**1.37**	**50.2**	**3061.167**	**0.0992**
1234679-HpCDF	NotFnd		1.0068						1.34		3061.167	0.136
1234689-HpCDF	NotFnd		1.0104						1.34		3061.167	0.136
1234789-HpCDF	**41.15**		**1.0003**	**1.0003**	**0**	**6.96E+06**	**1.05**	**Y**	**1.31**	**52.5**	**3061.167**	**0.196**
OCDF	**43.56**		**1.0002**	**1.0003**	**+0.3**	**9.27E+06**	**0.92**	**Y**	**1.07**	**105**	**3335.3623**	**0.451**
OCDF-a	NotFnd		1.0001						0.07		3583.278	7.83

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220303C02	Analysis Date:	03-MAR-2022 16:25:52
Lab ID:	OPR1_18965_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.3	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	48.6	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	53.3	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	54.4	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	50.9	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	52.5	35	-	70	Y
OCDD	100	106	78	-	144	Y
2,3,7,8-TCDF	10	11	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	48.9	40	-	67	Y
2,3,4,7,8-PeCDF	50	54.7	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	50.5	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	52.6	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	52.2	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	48.1	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	50.2	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	52.5	39	-	69	Y
OCDF	100	105	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 04 Mar 2022 10:47 Analyst: TF

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220303C02	Analysis Date:	03-MAR-2022 16:25:52
Lab ID:	OPR1_18965_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	85.6	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	90.5	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	89.3	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	91.3	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	88.7	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	85.9	26	-	166	Y
13C-OCDD	200	151	26	-	397	Y
13C-2,3,7,8-TCDF	100	77.8	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	94.5	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	87.4	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	87.1	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	101	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	104	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	84.8	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	112	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	77.7	20	-	186	Y
13C-OCDF	200	133	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	35.2	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

Processed: 04 Mar 2022 10:47 Analyst: TF

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220303C02	Analysis Date:	03-MAR-2022 16:25:52
Lab ID:	OPR1_18965_DF		

Window Defining Standards Results

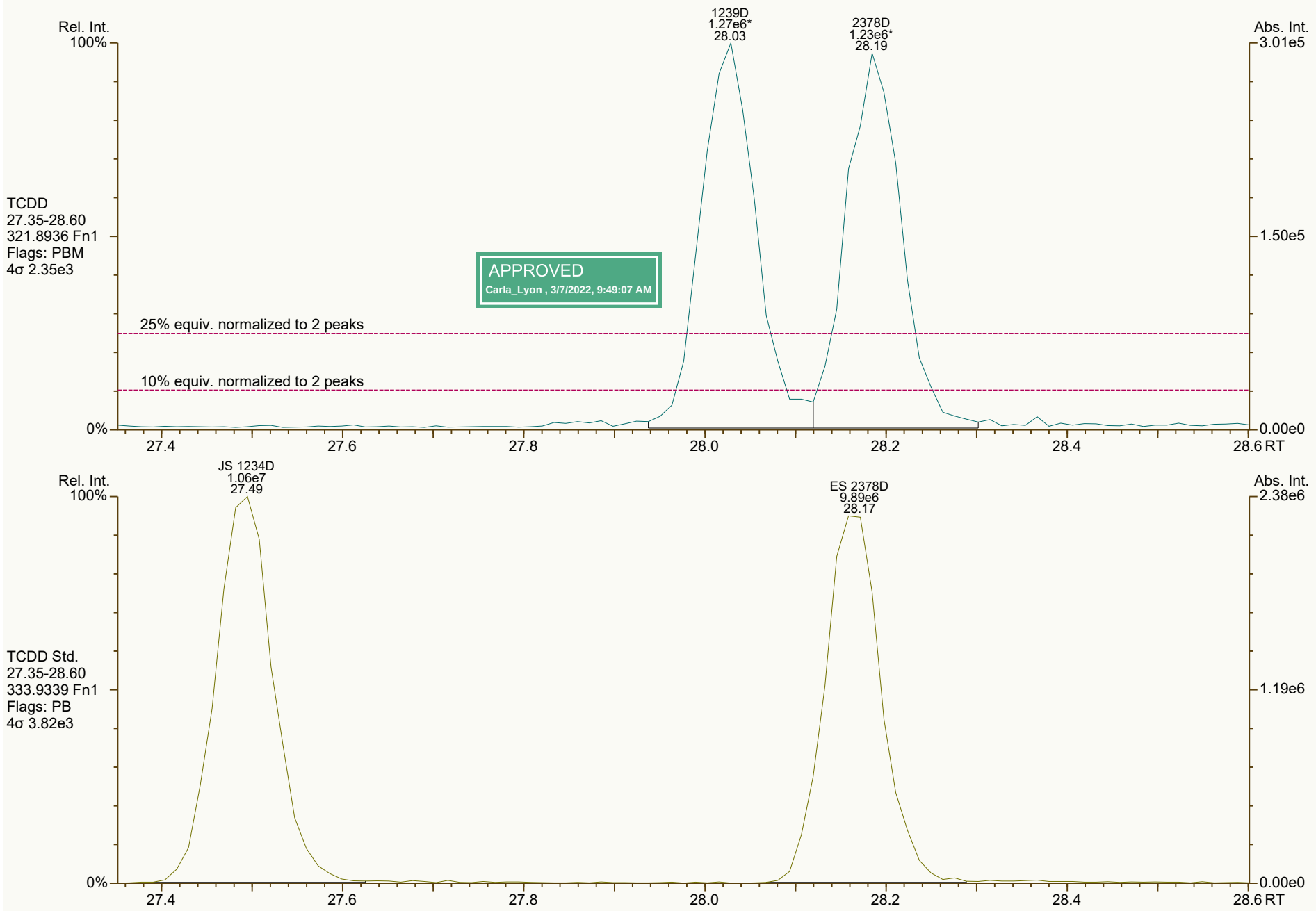
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.47	1289-TCDD	29.18
12479/12468-PeCDD	31.07	12389-PeCDD	34.04
124679/124689-HxCDD	35.79	123789-HxCDD	37.96
1234679-HpCDD	40.02	1234678-HpCDD	40.70
1368-TCDF	22.30	1289-TCDF	29.35
13468/12468-PeCDF	29.27	12389-PeCDF	34.34
123468-HxCDF	35.13	123789-HxCDF	38.33
1234678-HpCDF	39.75	1234789-HpCDF	41.15

Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.03	2378-TCDD	28.19
2348-TCDF	27.20	2378-TCDF	27.31

Processed: 04 Mar 2022 10:47 Analyst: TF

SGS ID: OPR1_18965_DF
Sample ID: 0_18965_OPR001
Acq: 03-Mar-2022 16:25:52
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 220303C02



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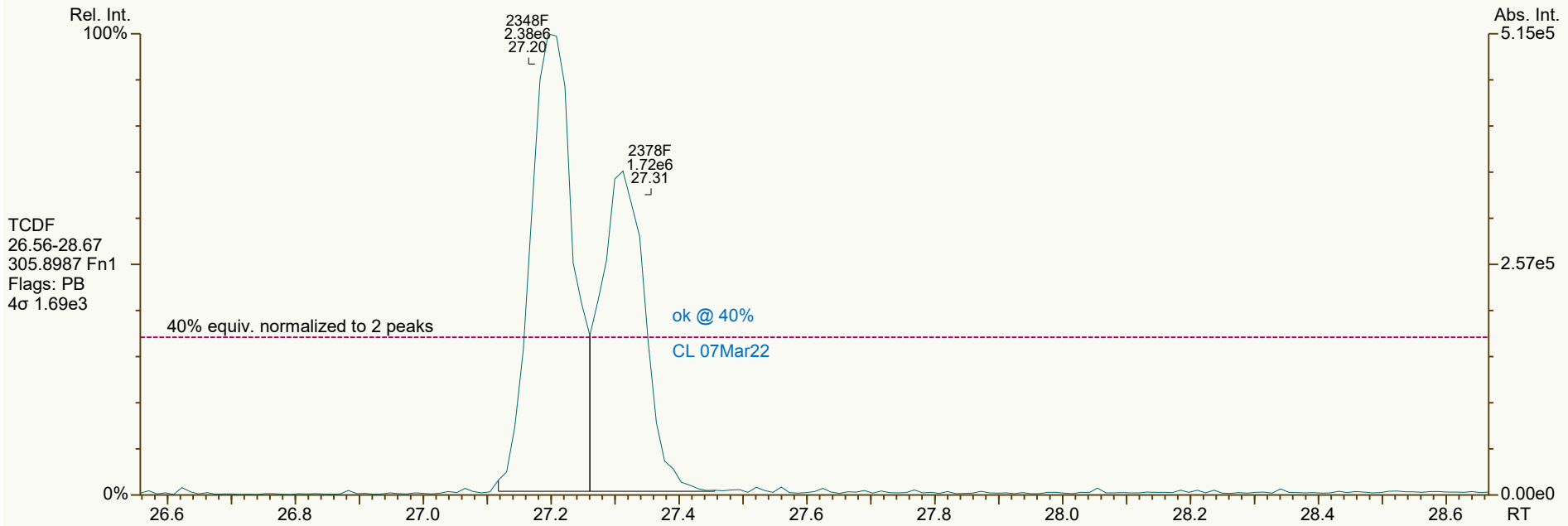
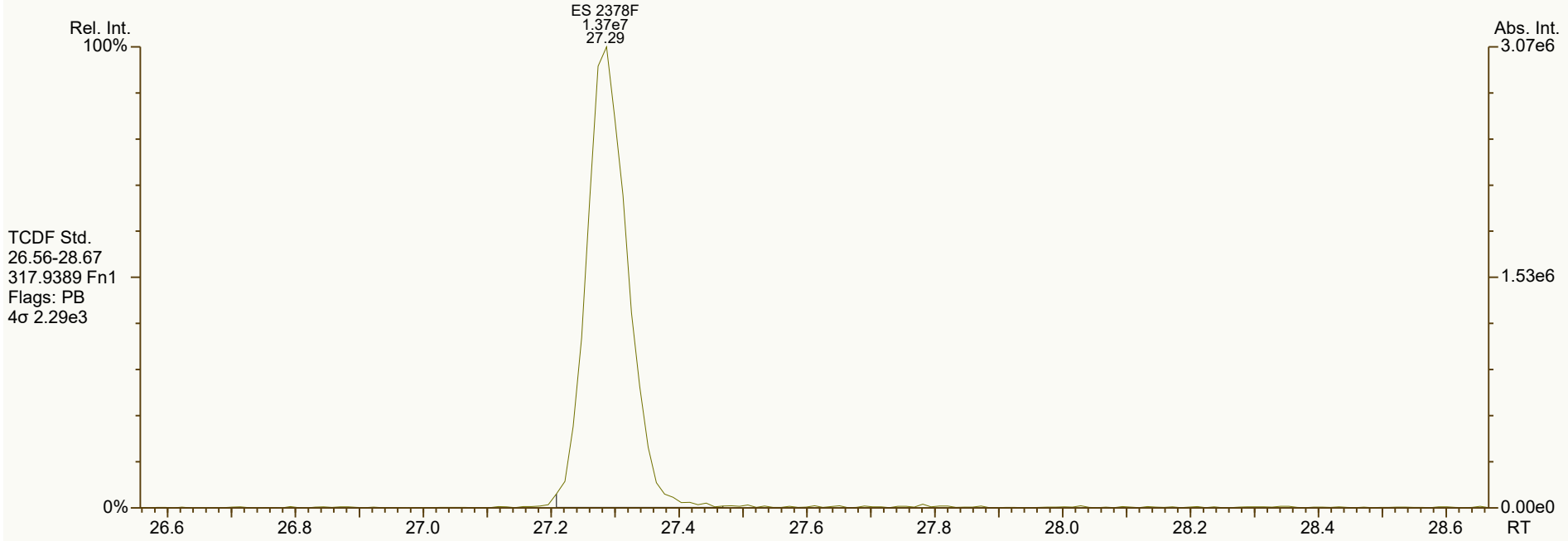
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 04-Mar-2022 08:19 (DTF) Printed: 04-Mar-2022 10:50

SGS ID: OPR1_18965_DF | Sample ID: 0_18965_OPR001 | Acq: 03-Mar-2022 16:25:52
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66 | User: DTF Datafile: 220303C02





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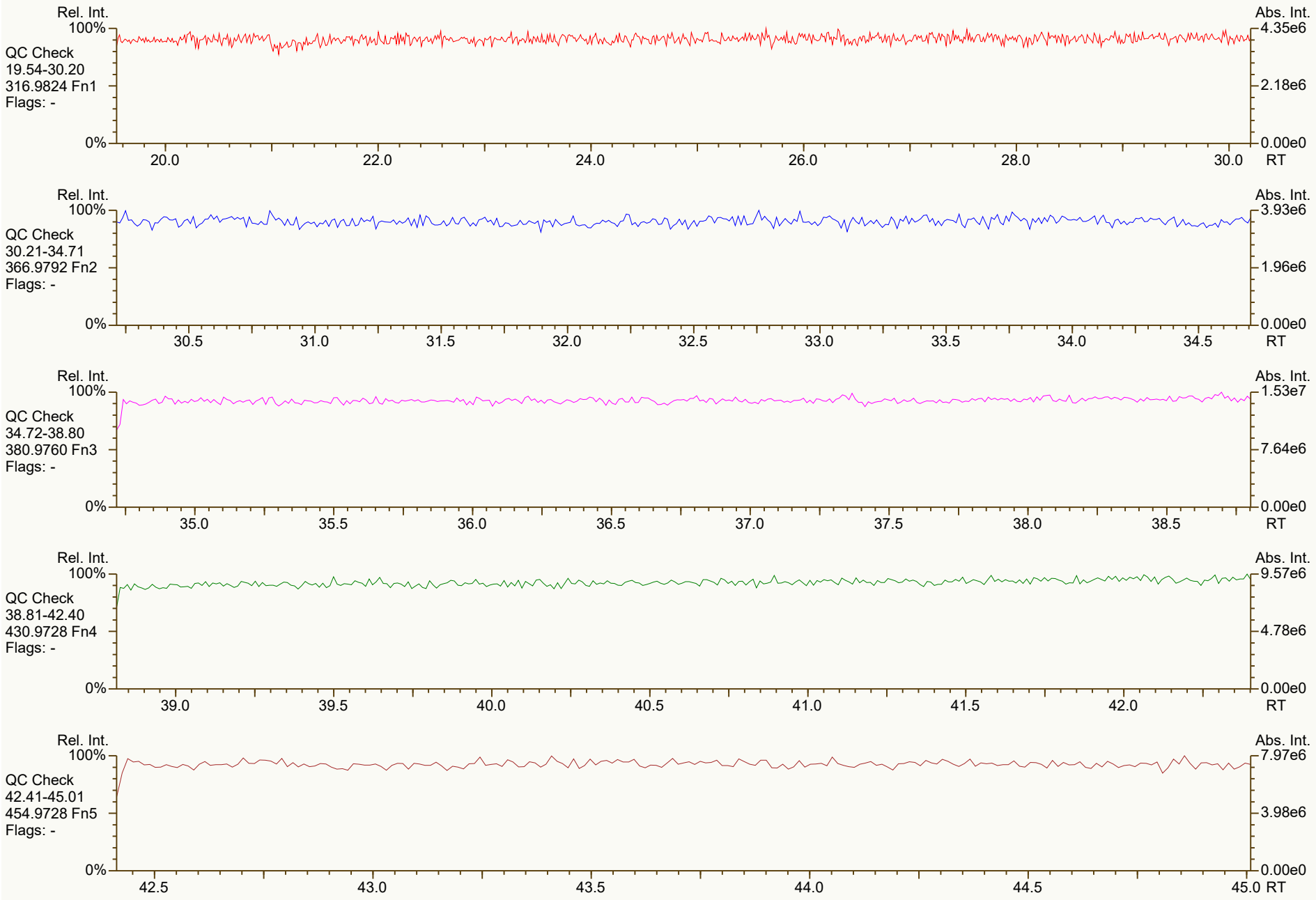
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 04-Mar-2022 08:19 (DTF) Printed: 04-Mar-2022 10:50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316.9824 Fn1
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0%
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22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.35e6
2.18e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
3.93e6
1.96e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.53e7
7.64e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
9.57e6
4.78e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
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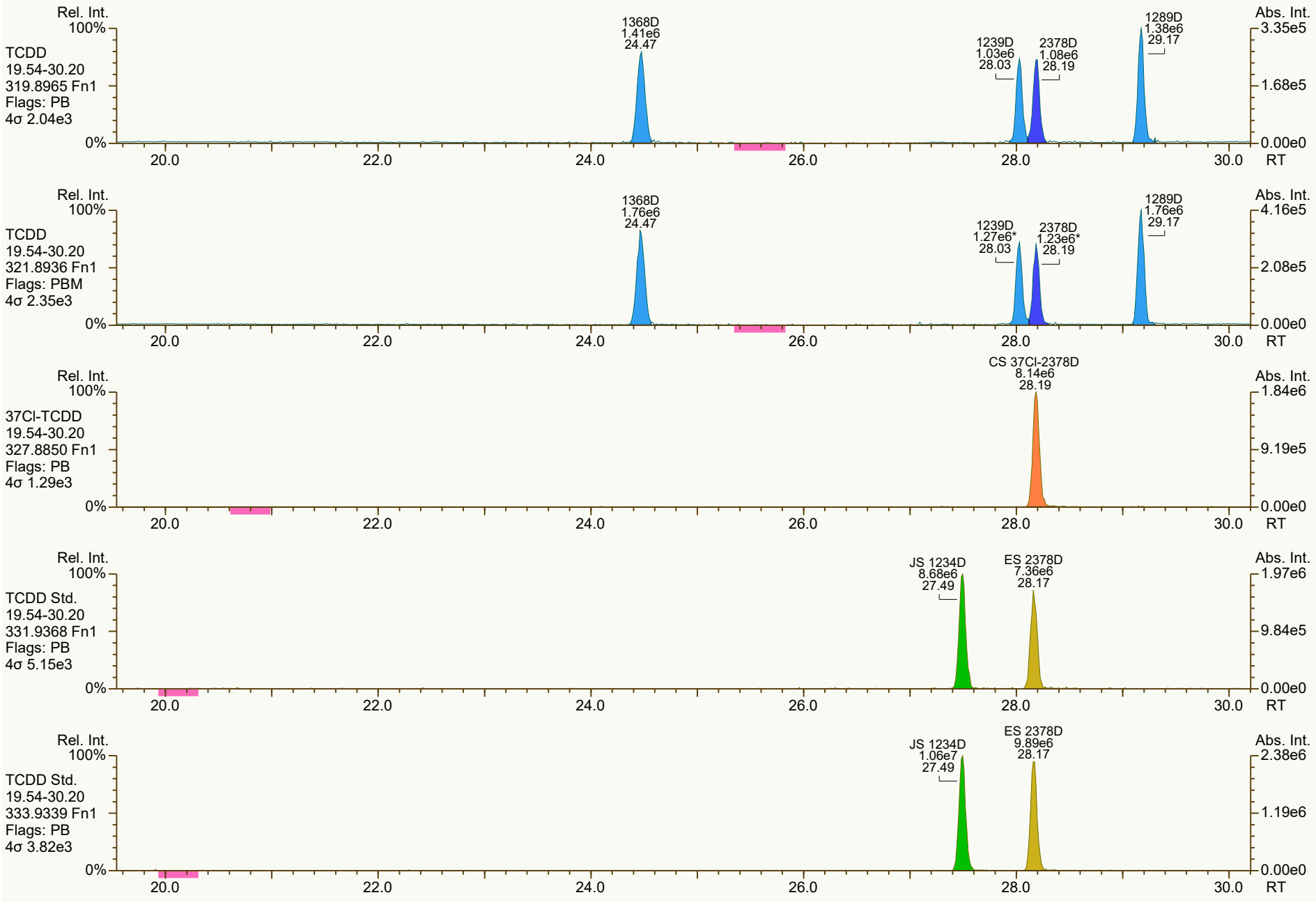
3.98e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
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4σ 2.04e3
0%
1368D
1.41e6
24.47
1239D
1.03e6
28.03
2378D
1.08e6
28.19
1289D
1.38e6
29.17
Abs. Int.
3.35e5
1.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.35e3
0%
1368D
1.76e6
24.47
1239D
1.27e6*
28.03
2378D
1.23e6*
28.19
1289D
1.76e6
29.17
Abs. Int.
4.16e5
2.08e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.29e3
0%
CS 37Cl-2378D
8.14e6
28.19
Abs. Int.
1.84e6
9.19e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.15e3
0%
JS 1234D
8.68e6
27.49
ES 2378D
7.36e6
28.17
Abs. Int.
1.97e6
9.84e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.82e3
0%
JS 1234D
1.06e7
27.49
ES 2378D
9.89e6
28.17
Abs. Int.
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1.19e6
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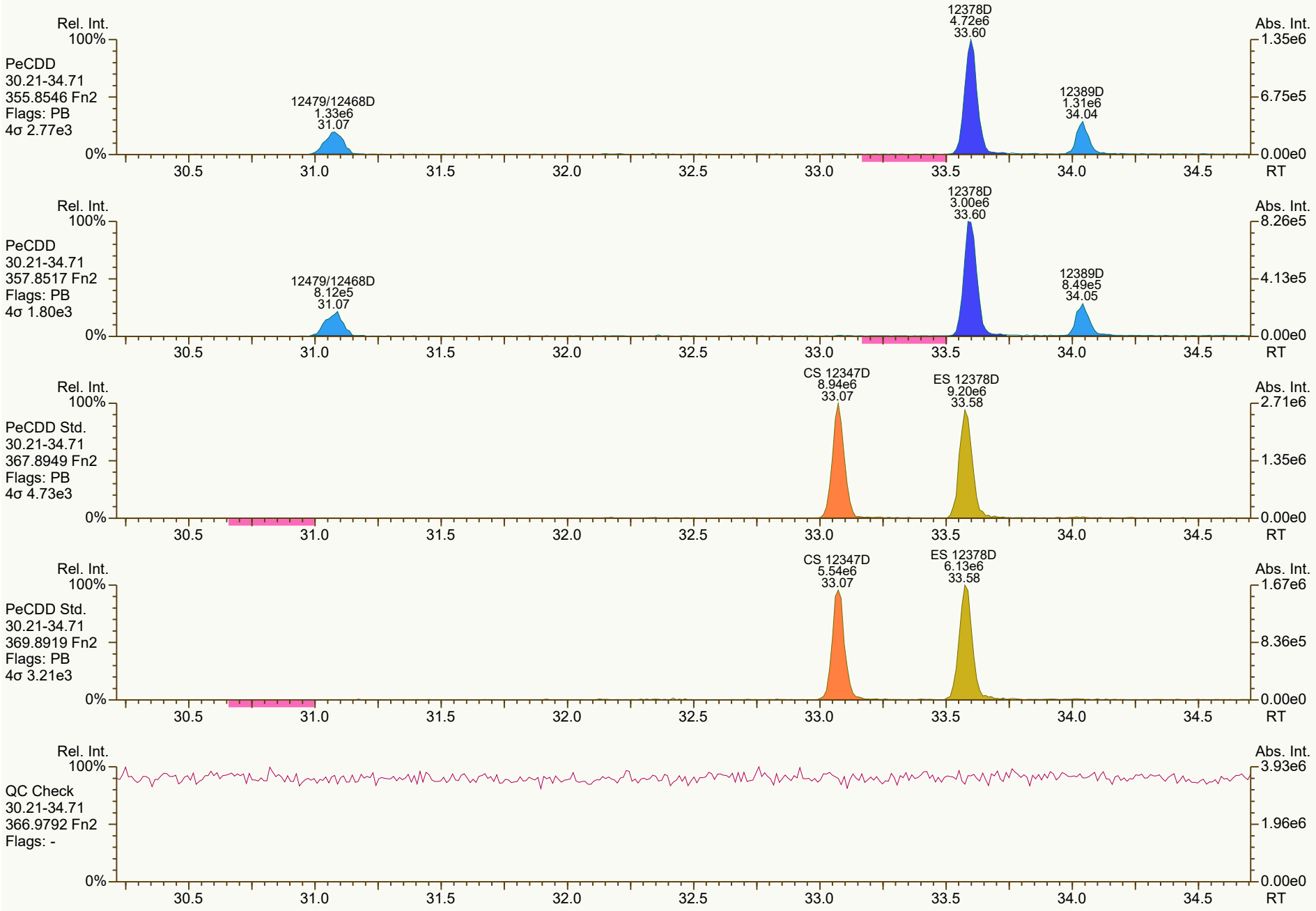
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 2.77e3
12479/12468D
1.33e6
31.07
12378D
4.72e6
33.60
12389D
1.31e6
34.04
0%
Abs. Int.
1.35e6
6.75e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.80e3
12479/12468D
8.12e5
31.07
12378D
3.00e6
33.60
12389D
8.49e5
34.05
0%
Abs. Int.
8.26e5
4.13e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 4.73e3
CS 12347D
8.94e6
33.07
ES 12378D
9.20e6
33.58
0%
Abs. Int.
2.71e6
1.35e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 3.21e3
CS 12347D
5.54e6
33.07
ES 12378D
6.13e6
33.58
0%
Abs. Int.
1.67e6
8.36e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.93e6
1.96e6
0.00e0
30.5
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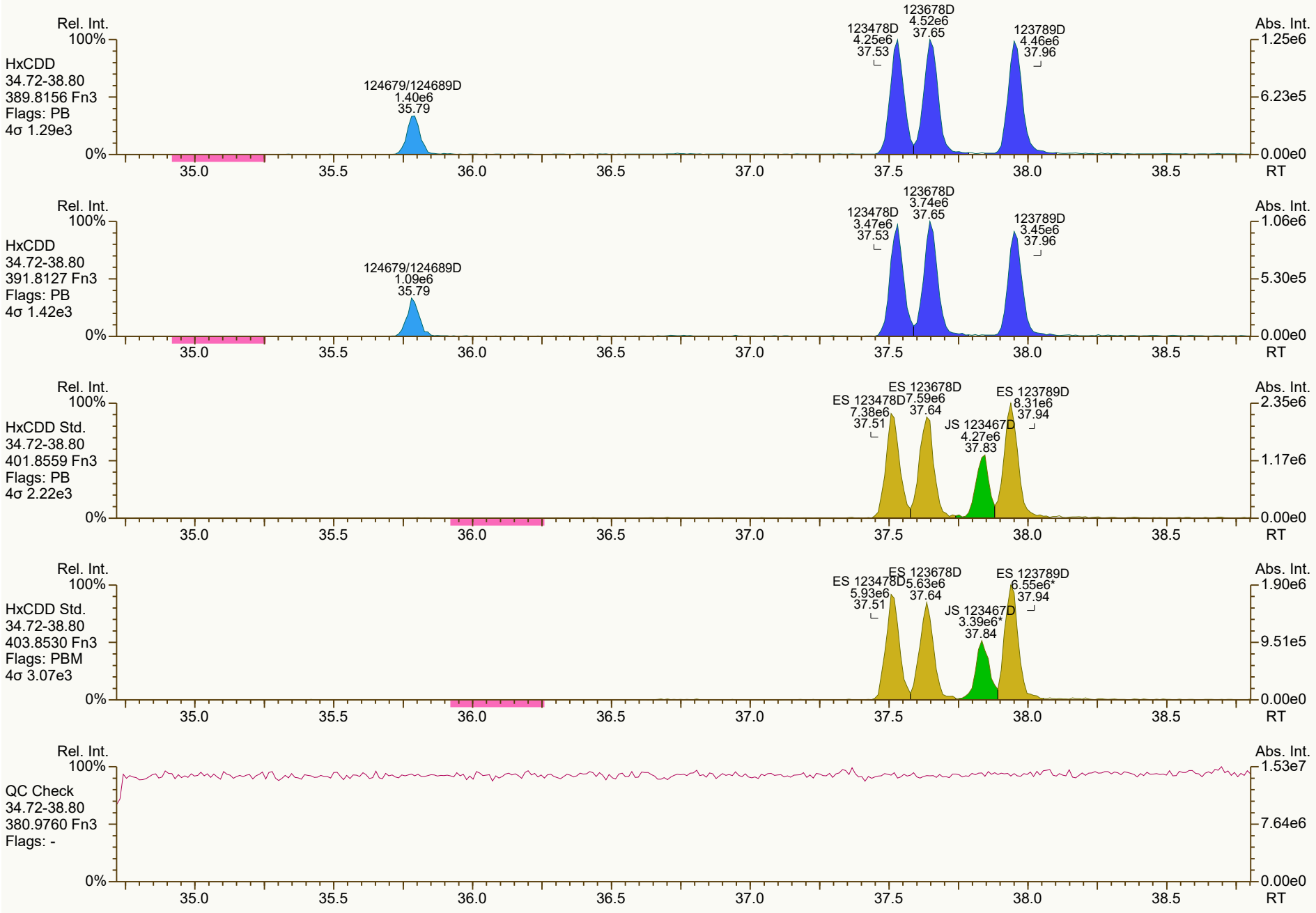
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 1.29e3
124679/124689D
1.40e6
35.79
123478D
4.25e6
37.53
123678D
4.52e6
37.65
123789D
4.46e6
37.96
Abs. Int.
1.25e6
6.23e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.42e3
124679/124689D
1.09e6
35.79
123478D
3.47e6
37.53
123678D
3.74e6
37.65
123789D
3.45e6
37.96
Abs. Int.
1.06e6
5.30e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 2.22e3
ES 123478D
7.38e6
37.51
ES 123678D
7.59e6
37.64
JS 123467D
4.27e6
37.83
ES 123789D
8.31e6
37.94
Abs. Int.
2.35e6
1.17e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 3.07e3
ES 123478D
5.93e6
37.51
ES 123678D
5.63e6
37.64
JS 123467D
3.39e6*
37.84
ES 123789D
6.55e6*
37.94
Abs. Int.
1.90e6
9.51e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
1.53e7
7.64e6
0.00e0
0%
35.0
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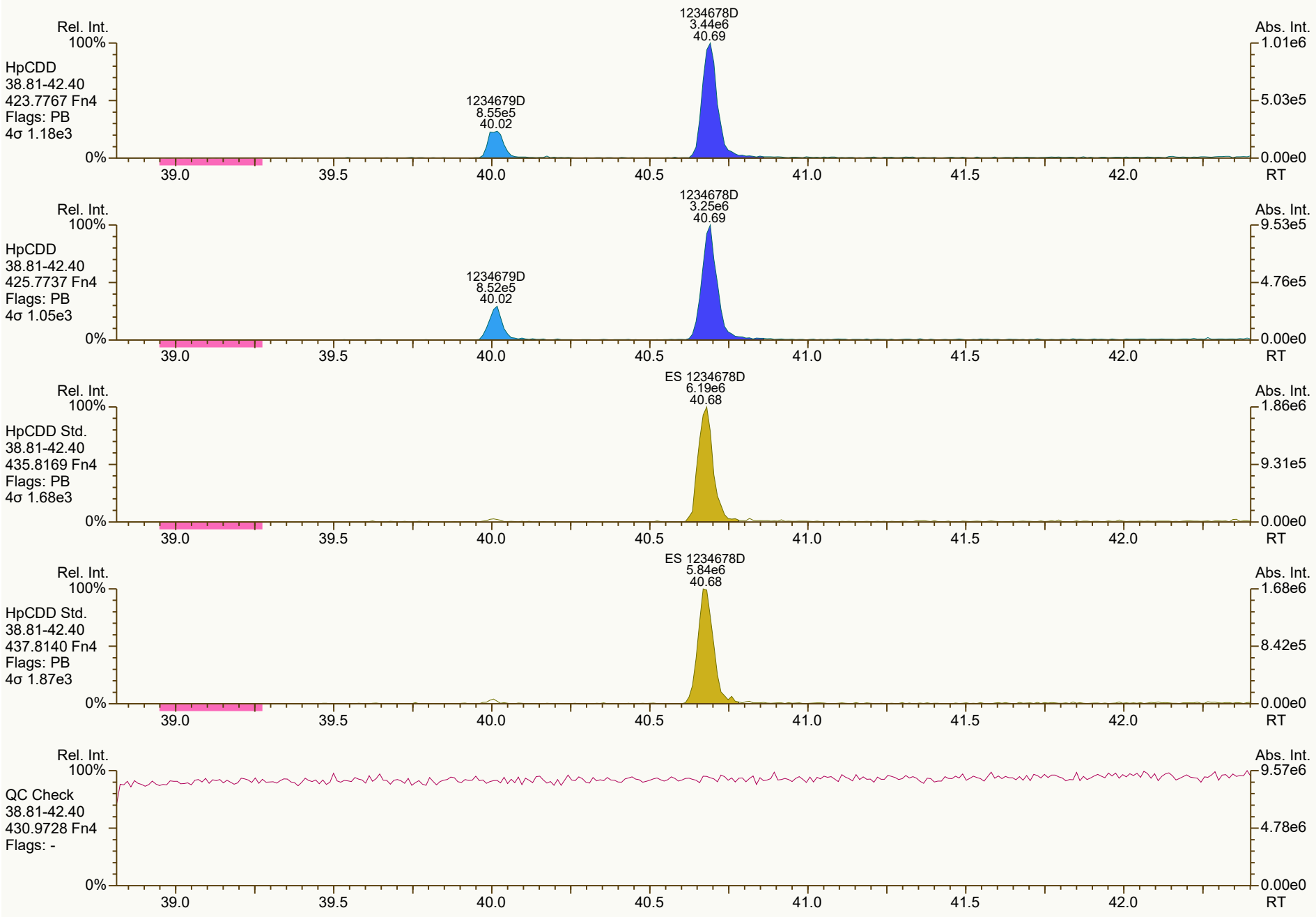
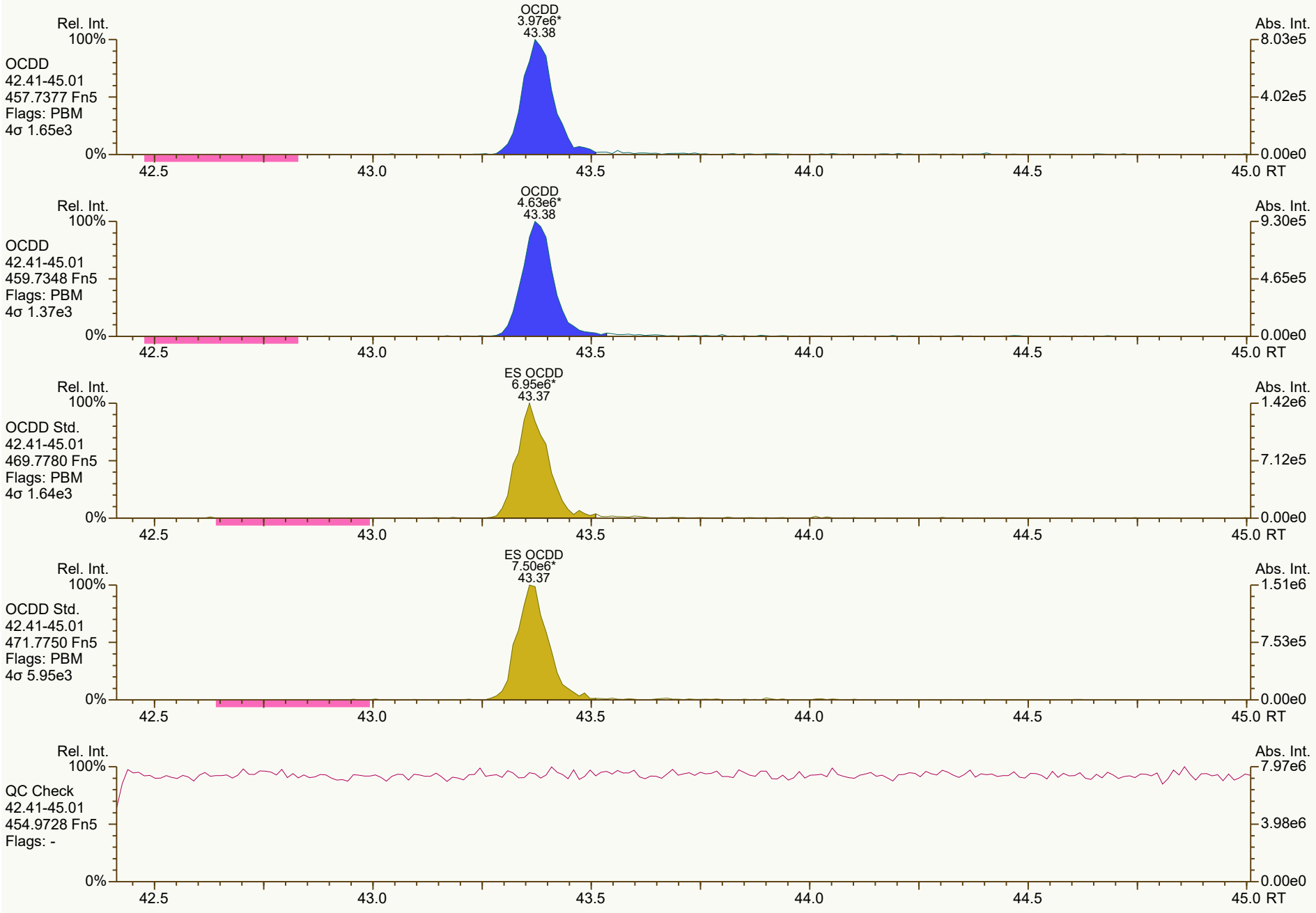
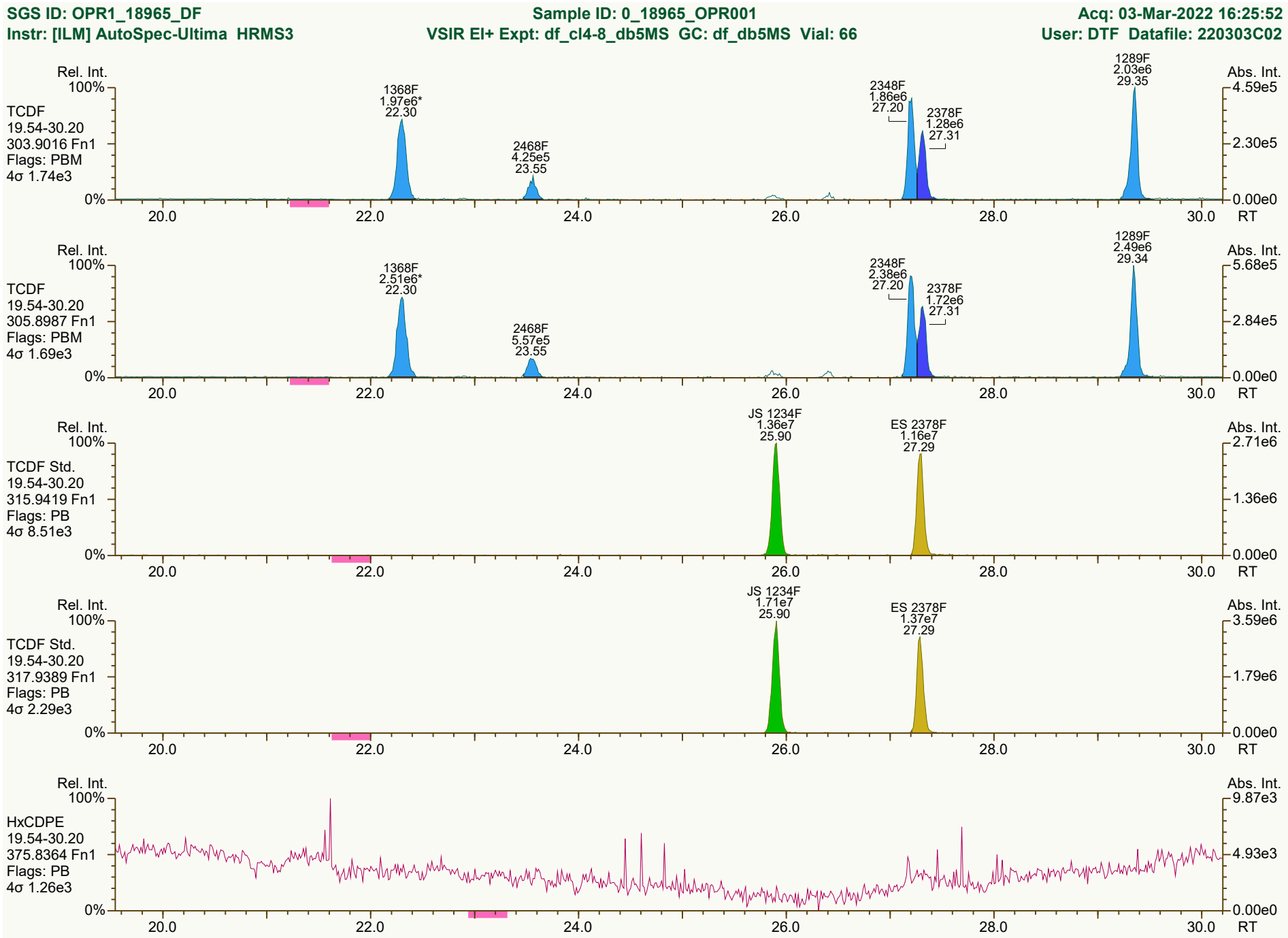
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 1.18e3
1234678D
3.44e6
40.69
1234679D
8.55e5
40.02
Abs. Int.
1.01e6
5.03e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.05e3
1234678D
3.25e6
40.69
1234679D
8.52e5
40.02
Abs. Int.
9.53e5
4.76e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 1.68e3
ES 1234678D
6.19e6
40.68
Abs. Int.
1.86e6
9.31e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.87e3
ES 1234678D
5.84e6
40.68
Abs. Int.
1.68e6
8.42e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
9.57e6
4.78e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
3.97e6*
43.38
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 1.65e3
0%
Abs. Int.
8.03e5
4.02e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.63e6*
43.38
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 1.37e3
0%
Abs. Int.
9.30e5
4.65e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
6.95e6*
43.37
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.64e3
0%
Abs. Int.
1.42e6
7.12e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
7.50e6*
43.37
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 5.95e3
0%
Abs. Int.
1.51e6
7.53e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.97e6
3.98e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT



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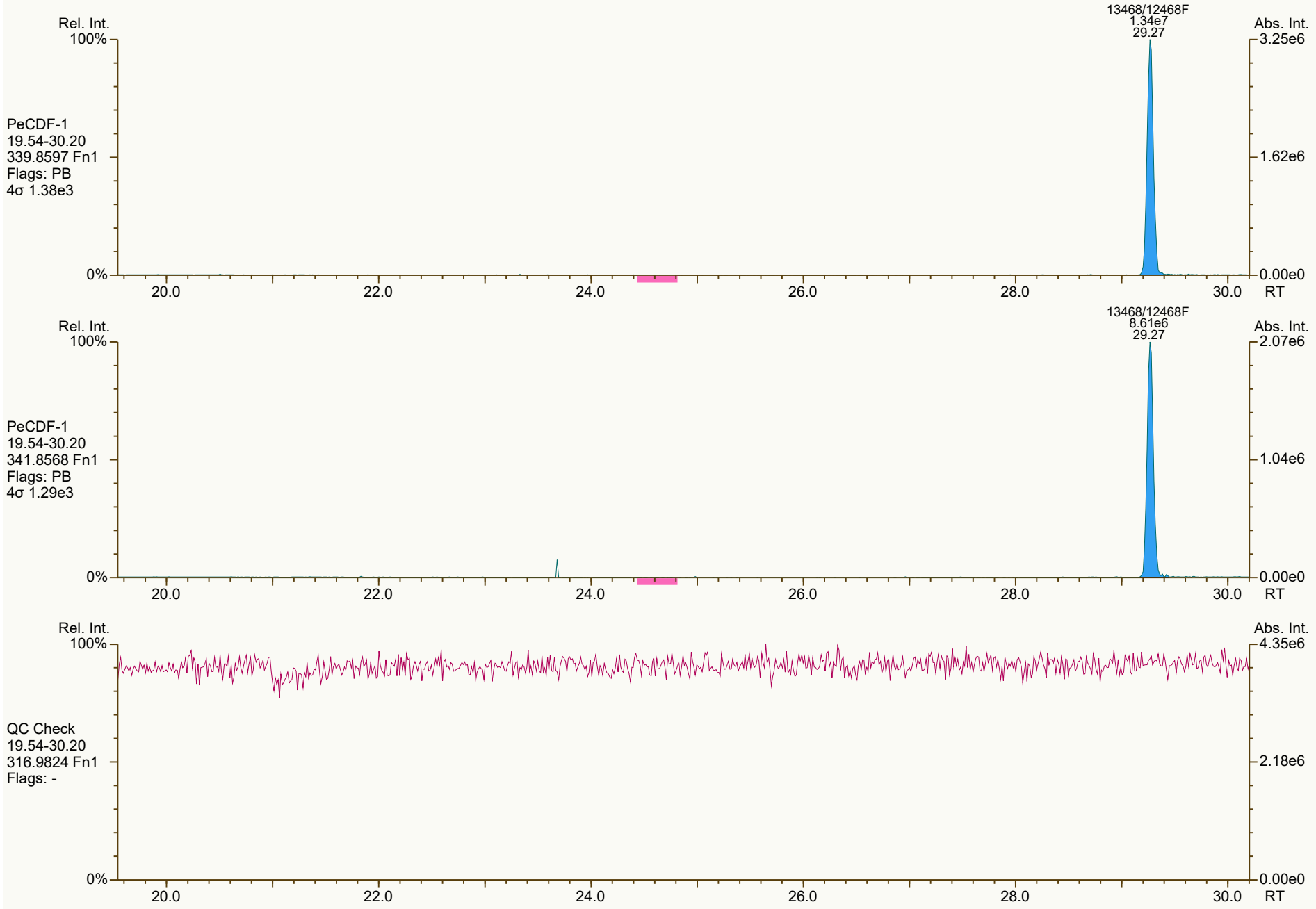
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8243, 7180, 9281 scc: 159-265
Revised: 04-Mar-2022 08:19 (DTF) Printed: 04-Mar-2022 10:52 Page 7 of 12

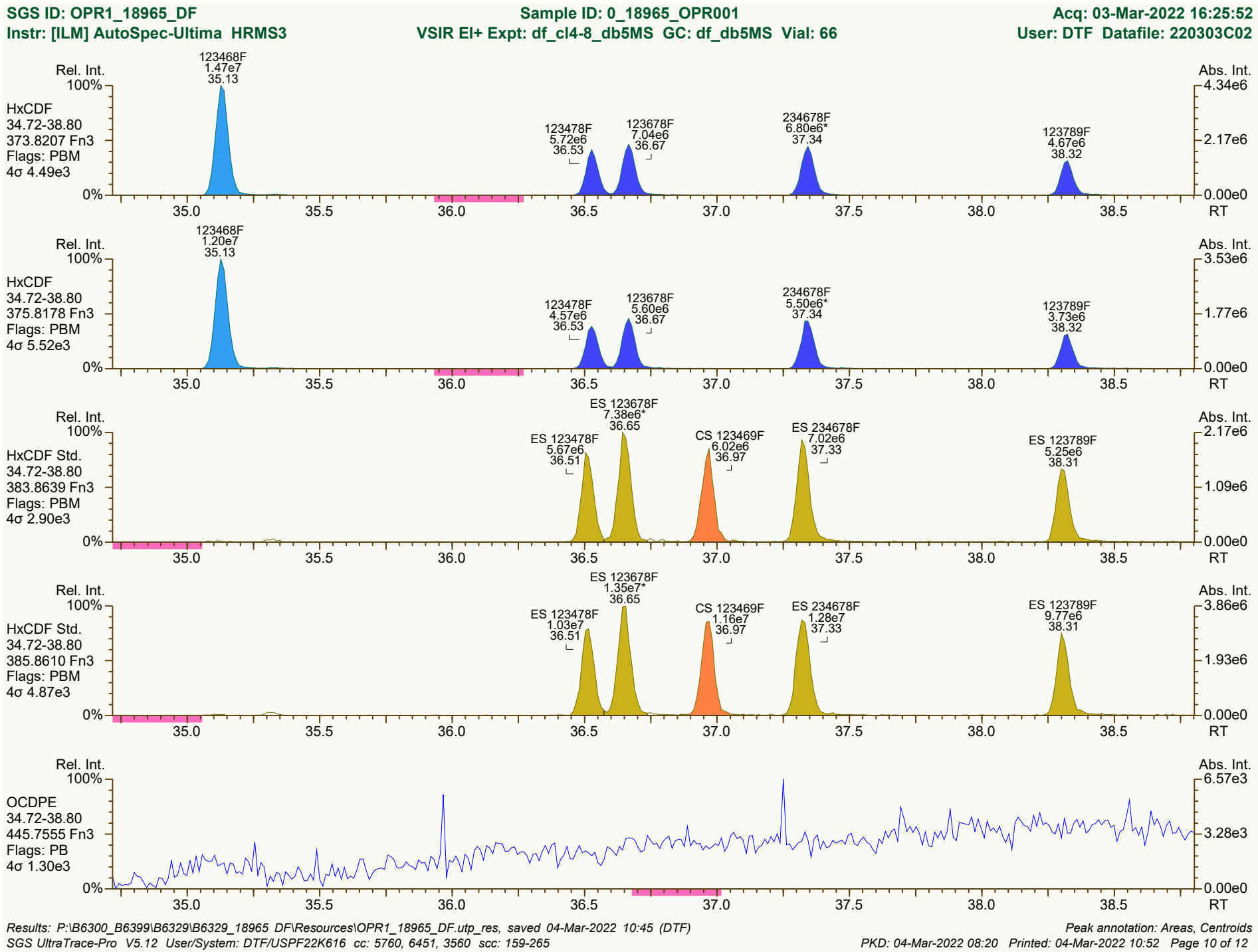

Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.38e3
13468/12468F
1.34e7
29.27
Abs. Int.
3.25e6
1.62e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.29e3
13468/12468F
8.61e6
29.27
Abs. Int.
2.07e6
1.04e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
4.35e6
2.18e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 4.28e3
0%
12378F
8.05e6
32.14
23478F
8.01e6
33.26
12389F
1.88e6
34.34
Abs. Int.
2.14e6
1.07e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 4.13e3
0%
12378F
5.20e6
32.14
23478F
5.22e6
33.26
12389F
1.17e6
34.34
Abs. Int.
1.46e6
7.31e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 2.81e3
0%
CS 12346F
1.61e7
31.58
ES 12378F
1.61e7
32.12
ES 23478F
1.47e7
33.24
Abs. Int.
4.25e6
2.12e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 5.81e3
0%
CS 12346F
9.64e6
31.58
ES 12378F
1.03e7
32.12
ES 23478F
9.03e6
33.24
Abs. Int.
2.67e6
1.34e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: PB
4σ 1.16e3
0%
Abs. Int.
8.57e3
4.29e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

SGS ID: OPR1_18965_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18965_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66

Acq: 03-Mar-2022 16:25:52
User: DTF Datafile: 220303C02



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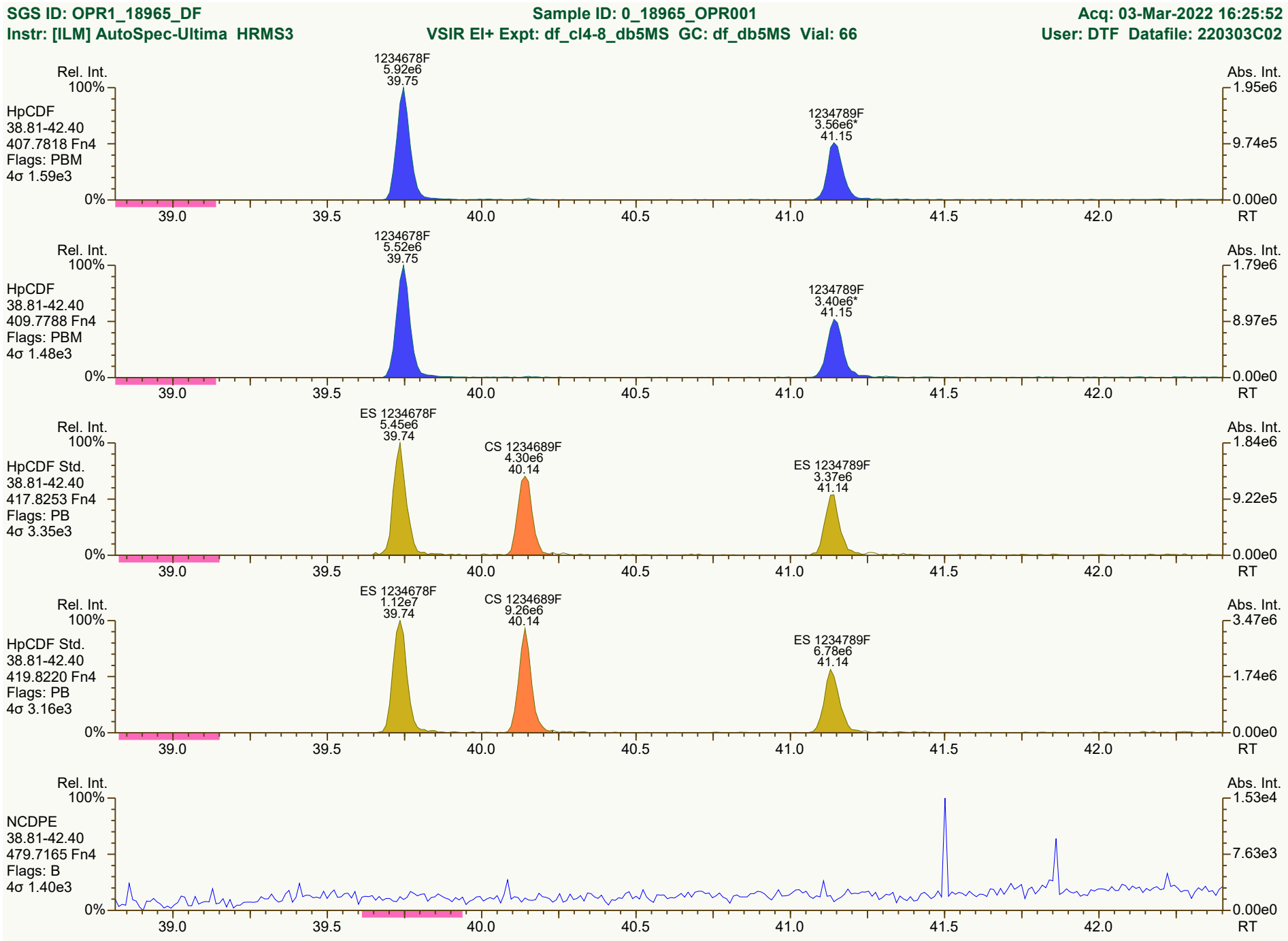
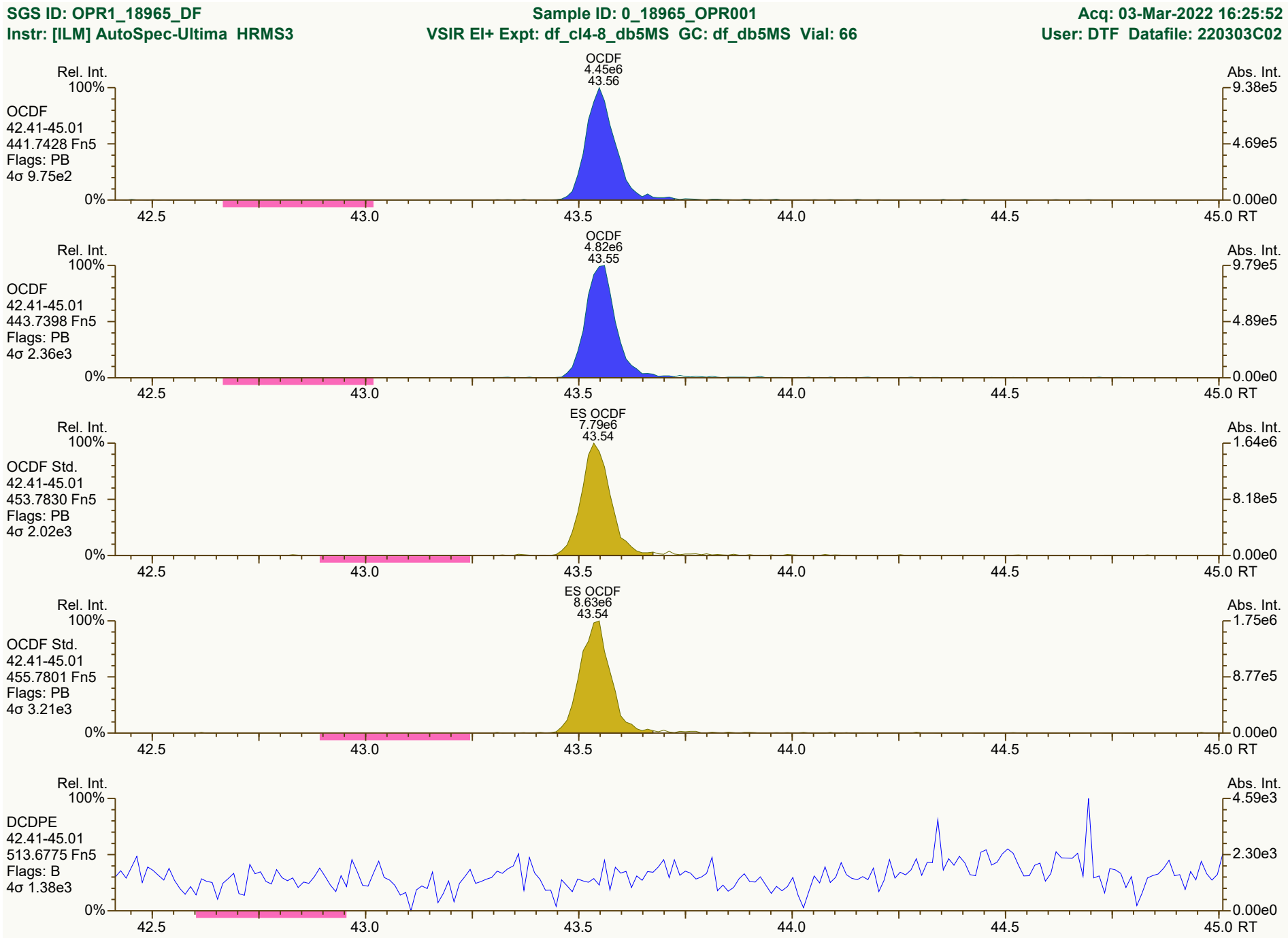
Peak annotation: Areas, Centroids
PKD: 04-Mar-2022 08:20 Printed: 04-Mar-2022 10:52 Page 10 of 12


SGS ID: OPR1_18965_DF
Sample ID: 0_18965_OPR001
Acq: 03-Mar-2022 16:25:52
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 220303C02
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 1.59e3
1234678F
5.92e6
39.75
1234789F
3.56e6*
41.15
1.95e6
9.74e5
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 1.48e3
1234678F
5.52e6
39.75
1234789F
3.40e6*
41.15
1.79e6
8.97e5
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 3.35e3
ES 1234678F
5.45e6
39.74
CS 1234689F
4.30e6
40.14
ES 1234789F
3.37e6
41.14
1.84e6
9.22e5
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 3.16e3
ES 1234678F
1.12e7
39.74
CS 1234689F
9.26e6
40.14
ES 1234789F
6.78e6
41.14
3.47e6
1.74e6
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.40e3
1.53e4
7.63e3
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6300_B6399\B6329\B6329_18965 DF\Resources\OPR1_18965_DF.utp_res, saved 04-Mar-2022 10:45 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8168, 4319, 8356 scc: 159-265
PKD: 04-Mar-2022 08:20 Printed: 04-Mar-2022 10:53 Page 11 of 12

SGS ID: OPR1_18965_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18965_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66

Acq: 03-Mar-2022 16:25:52
User: DTF Datafile: 220303C02



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SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6189, 5122, 6446 scc: 159-265

Peak annotation: Areas, Centroids
PKD: 04-Mar-2022 08:18 Printed: 04-Mar-2022 10:53 Page 12 of 12



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6234

28-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

Meagan Willis

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Houston, TX 77079
Phone: 713-907-3710
Email: Meagan.Willis@ghd.com

This report is approved by

Tamara Burkamper

tamara.burkamper@sgs.com

Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6234
Analytical Protocol(s)	1613B
No. Samples Submitted	9
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	26-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	0.2, 0.0
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.14.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements, except for the following: the reported percent deviation of CS 1,2,3,4,6,8,9-HpCDF is above SOP criteria. There is no method specified criteria for these standards and no adverse impact on results.

No re-extractions or dilutions were required.

B6234_005: the reported ion ratio of labeled standard ES 1,2,3,7,8,9-HxCDD is outside method criteria.

OPR1/OPR2_18872 meet accuracy and precision criteria, except for the following: RPD of 2,3,7,8-TCDF is >20%.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-021922-S-SB-NC-S-50 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6335	Date Received:	22-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	11.58 g	Lab Sample ID	B6335_18959_DF_001	Date Extracted:	22-Feb-2022
Date Collected:	19-Feb-2022	% Solid:	64.9 %	QC Batch No:	18959	Date Analyzed:	24-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:22:25

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	33.7				ES 2378-TCDD	89.6	
12378-PeCDD	EMPC		0.551	J	ES 12378-PeCDD	98.7	
123478-HxCDD	0.359			J	ES 123478-HxCDD	91.8	
123678-HxCDD	EMPC		0.75	J	ES 123678-HxCDD	102	
123789-HxCDD	1.91			J	ES 123789-HxCDD	92.3	
1234678-HpCDD	28.3				ES 1234678-HpCDD	103	
OCDD	592				ES OCDD	105	
2378-TCDF	88.4				ES 2378-TCDF	87.5	
12378-PeCDF	EMPC		2.93		ES 12378-PeCDF	93.1	
23478-PeCDF	2.76			PR	ES 23478-PeCDF	93.8	
123478-HxCDF	4.7				ES 123478-HxCDF	93.1	
123678-HxCDF	1.33			J	ES 123678-HxCDF	96.5	
234678-HxCDF	0.518			J	ES 234678-HxCDF	116	
123789-HxCDF	ND	0.173			ES 123789-HxCDF	91.2	
1234678-HpCDF	2.8				ES 1234678-HpCDF	108	
1234789-HpCDF	0.627			J	ES 1234789-HpCDF	94.6	
OCDF	5.71				ES OCDF	99.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	99.3	
Total TCDD	44.1		44.7		CS 12347-PeCDD	112	
Total PeCDD	9.17		10.2		CS 12346-PeCDF	102	
Total HxCDD	56.6		57.7		CS 123469-HxCDF	117	
Total HpCDD	84.7		84.7		CS 1234689-HpCDF	114	
Total TCDF	171		177				
Total PeCDF	5.85		9.8				
Total HxCDF	9.27		9.51				
Total HpCDF	3.42		5.67				
Total PCDD/Fs	**983**		**997**				
WHO-2005 TEQs							
TEQ: ND=0	44.7		45.4				
TEQ: ND=DL/2	44.7	0.458	45.5				
TEQ: ND=DL	44.7	0.916	45.5				

SGS
5500 Business Drive
Wilmington, NC 28405, USA
www.us.sgs.com
Tel: +1 910 794-1613; Toll-Free 866 846-8290

Sample ID: 11215131-021922-S-SB-NC-S-50 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6335	Date Received:	22-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	11.58 g	Lab Sample ID:	B6335_18959_DF_001	Date Extracted:	22-Feb-2022
Date Collected:	19-Feb-2022	% Solid:	64.9 %	QC Batch No.:	18959	Date Analyzed:	24-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:22:25

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	0.647		12479/12468D	1.81	J	124679/124689D	44.8		1234679D	56.4	
1379D	0.846		12469D	5.33		123468D	0.725	J	1234678D	28.3	
1369D	(0.358)		12368D	(0.334)		123679/123689D	8.13				
1469D	4.51		12478D	(0.334)		123469D	0.649	J			
1247D...[4]	(0.358)		12379D	[0.492]	J	123478D	0.359	J			
1378D	(0.358)		12369D...[3]	2.04	J	123678D	[0.75]	J			
1268D	(0.358)		12346/12347D	(0.334)		123467D	[0.324]	J			
1478D	(0.358)		12378D	[0.551]	J	123789D	1.91	J	**Conc.**	84.7	
1279D	(0.358)		12367D	(0.334)					**EMPC**	84.7	
1234/1269D	0.973		12389D	(0.334)							
1236D	(0.358)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	[0.567]										
1239D	(0.358)								OCDD	592	
2378D	33.7										
1278D	3.1										
1267D	0.348	J									
1289D	(0.358)										
Conc.	44.1		**Conc.**	9.17		**Conc.**	56.6				
EMPC	44.7		**EMPC**	10.2		**EMPC**	57.7				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	44.7	45.4
TEQ: ND=DL/2	44.7	45.5
TEQ: ND=DL	44.7	45.5

	Conc.	EMPC
Total PCDD/Fs	983	997

Checkcode: 193-673-NSP

Report Created: 25-Feb-2022 09:05 Analyst: pw

Sample ID: 11215131-021922-S-SB-NC-S-50 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6335	Date Received:	22-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	11.58 g	Lab Sample ID:	B6335_18959_DF_001	Date Extracted:	22-Feb-2022
Date Collected:	19-Feb-2022	% Solid:	64.9 %	QC Batch No.:	18959	Date Analyzed:	24-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:22:25

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.149)		13468/12468F	[0.745]	J	123468F	0.497	J	1234678F	2.8	
1468F	(0.149)		13678F...[3]	(0.172)		124678/134678F	1.52	J	1234679F	(0.177)	
2468F	(0.149)		12368F...[3]	1.93	J	134679F	(0.146)		1234689F	[2.25]	
1346/1246F	(0.149)		14678F	(0.172)		124679F	(0.146)		1234789F	0.627	J
1347F...[3]	1.11		13479F	(0.172)		124689F	0.71	J			
1348F	[0.367]	J	13469/12479F	(0.172)		123467F	(0.146)				
1248F...[3]	4.35		12346F	(0.172)		123478F	4.7				
1268F	1.72		23468/12469F	(0.172)		123678F	1.33	J			
1467F	(0.149)		12347F	(0.172)		123479F	(0.146)				
1478F	3.91		12348F	[0.282]	J	123469F	(0.146)				
1369/1237F	[1.17]		12378F	[2.93]		123679F	(0.146)				
2467F	(0.149)		12678/12367F	1.15	J	234678F	0.518	J	**Conc.**	3.42	
2368F	[2.34]		12379F	(0.172)		234678/123689F	0		**EMPC**	5.67	
1238F...[5]	4.97		12679F	(0.172)		123689F	(0.146)				
1278F	41		23467/12369F	(0.172)		123789F	(0.173)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.149)		23478F	2.76	PR	123789/123489F	0				
1267F	2.34		23478/12489F	0		123489F	[0.242]	J	OCDF	5.71	
2346/1249F	(0.149)		12489F	(0.172)							
2347/1279F	[1.19]		12349F	(0.172)							
2348F	6.49		12389F	(0.172)							
2378F	88.4										
2367/3467F	8.03										
1269F	1.46										
1239F	(0.149)										
1289F	7.66										
Conc.	171		**Conc.**	5.85		**Conc.**	9.27				
EMPC	177		**EMPC**	9.8		**EMPC**	9.51				

Checkcode: 193-673-NSP

Report Created: 25-Feb-2022 09:05 Analyst: pw

Sample ID: 11215131-021922-S-SB-NC-S-50 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6335_18959_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	11.58 g	QC Batch No.:	18959
Date Collected:	19-Feb-2022	Split:	-	Date Extracted:	22-Feb-2022
Date Received:	22-Feb-2022	Dilution:	-	Date Analyzed:	24-Feb-2022 21:22
Lab Project No:	B6335	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	33.7		0.358	33.7	33.7	33.7
12378-PeCDD	[0.551]	J	0.334	[0.276]	[0.551]	[0.551]
123478-HxCDD	0.359	J	0.306	0.0359	0.0359	0.0359
123678-HxCDD	[0.75]	J	0.281	[0.075]	[0.075]	[0.075]
123789-HxCDD	1.91	J	0.279	0.191	0.191	0.191
1234678-HpCDD	28.3		0.239	0.283	0.283	0.283
OCDD	592		0.664	0.592	0.0592	0.178
2378-TCDF	88.4		0.149	8.84	8.84	8.84
12378-PeCDF	[2.93]		0.174	[0.146]	[0.146]	[0.0878]
23478-PeCDF	2.76	PR	0.17	1.38	1.38	0.829
123478-HxCDF	4.7		0.151	0.47	0.47	0.47
123678-HxCDF	1.33	J	0.142	0.133	0.133	0.133
234678-HxCDF	0.518	J	0.127	0.0518	0.0518	0.0518
123789-HxCDF	(0.173)		0.173	(0.0173)	(0.0173)	(0.0173)
1234678-HpCDF	2.8		0.152	0.028	0.028	0.028
1234789-HpCDF	0.627	J	0.209	0.00627	0.00627	0.00627
OCDF	5.71		0.538	0.00571	0.000571	0.00171

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TEQ Summaries			
EMPC = 0, ND = 0	45.7	45.2	44.7
EMPC = 0, ND = DL / 2	45.7	45.2	44.7
EMPC = 0, ND = DL	45.7	45.2	44.7
EMPC = 0, < J-level = 0	45.3	44.7	44.3
EMPC = EMPC, ND = 0	46.2	45.9	45.4
EMPC = EMPC, ND = DL / 2	46.2	45.9	45.5
EMPC = EMPC, ND = DL	46.2	46	45.5
EMPC = EMPC, < J-level = 0	45.4	44.9	44.4

Checkcode: 193-673-NSP

Sample ID: Method Blank B6335_18959 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6335	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18959_DF_SDS	Date Extracted:	22-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18959	Date Analyzed:	24-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:49:44

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.241			ES 2378-TCDD	94.4	
12378-PeCDD	ND	0.231			ES 12378-PeCDD	103	
123478-HxCDD	ND	0.168			ES 123478-HxCDD	98.6	
123678-HxCDD	ND	0.148			ES 123678-HxCDD	106	
123789-HxCDD	ND	0.158			ES 123789-HxCDD	95.4	
1234678-HpCDD	ND	0.195			ES 1234678-HpCDD	108	
OCDD	ND	0.481			ES OCDD	107	
2378-TCDF	ND	0.122			ES 2378-TCDF	87.3	
12378-PeCDF	ND	0.146			ES 12378-PeCDF	93.2	
23478-PeCDF	ND	0.154			ES 23478-PeCDF	90.5	
123478-HxCDF	ND	0.117			ES 123478-HxCDF	92.7	
123678-HxCDF	ND	0.117			ES 123678-HxCDF	99.6	
234678-HxCDF	ND	0.101			ES 234678-HxCDF	116	
123789-HxCDF	ND	0.141			ES 123789-HxCDF	96.5	
1234678-HpCDF	ND	0.0919			ES 1234678-HpCDF	110	
1234789-HpCDF	ND	0.145			ES 1234789-HpCDF	103	
OCDF	ND	0.324			ES OCDF	103	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	96.2	
Total TCDD	ND	0.241	ND		CS 12347-PeCDD	108	
Total PeCDD	ND	0.231	ND		CS 12346-PeCDF	96.7	
Total HxCDD	ND	0.158	ND		CS 123469-HxCDF	111	
Total HpCDD	ND	0.195	ND		CS 1234689-HpCDF	108	
Total TCDF	ND	0.122	ND				
Total PeCDF	ND	0.15	ND				
Total HxCDF	ND	0.117	ND				
Total HpCDF	ND	0.115	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	0.317	0.317	0.317				
TEQ: ND=DL	0.634	0.634	0.634				

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Sample ID: Method Blank B6335_18959 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6335	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18959_DF_SDS	Date Extracted:	22-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18959	Date Analyzed:	24-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:49:44

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.241)		12479/12468D	(0.231)		124679/124689D	(0.158)		1234679D	(0.195)	
1379D	(0.241)		12469D	(0.231)		123468D	(0.158)		1234678D	(0.195)	
1369D	(0.241)		12368D	(0.231)		123679/123689D	(0.158)				
1469D	(0.241)		12478D	(0.231)		123469D	(0.158)				
1247D...[4]	(0.241)		12379D	(0.231)		123478D	(0.168)				
1378D	(0.241)		12369D...[3]	(0.231)		123678D	(0.148)				
1268D	(0.241)		12346/12347D	(0.231)		123467D	(0.158)				
1478D	(0.241)		12378D	(0.231)		123789D	(0.158)		**Conc.**	0	
1279D	(0.241)		12367D	(0.231)					**EMPC**	0	
1234/1269D	(0.241)		12389D	(0.231)							
1236D	(0.241)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.241)										
1239D	(0.241)								OCDD	(0.481)	
2378D	(0.241)										
1278D	(0.241)										
1267D	(0.241)										
1289D	(0.241)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	0.317	0.317
TEQ: ND=DL	0.634	0.634

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 056-128-LVY

Report Created: 25-Feb-2022 09:05 Analyst: pw

Sample ID: Method Blank B6335_18959 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6335	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18959_DF_SDS	Date Extracted:	22-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18959	Date Analyzed:	24-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:49:44

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.122)		13468/12468F	(0.148)		123468F	(0.117)		1234678F	(0.0919)	
1468F	(0.122)		13678F...[3]	(0.15)		124678/134678F	(0.117)		1234679F	(0.115)	
2468F	(0.122)		12368F...[3]	(0.15)		134679F	(0.117)		1234689F	(0.115)	
1346/1246F	(0.122)		14678F	(0.15)		124679F	(0.117)		1234789F	(0.145)	
1347F...[3]	(0.122)		13479F	(0.15)		124689F	(0.117)				
1348F	(0.122)		13469/12479F	(0.15)		123467F	(0.117)				
1248F...[3]	(0.122)		12346F	(0.15)		123478F	(0.117)				
1268F	(0.122)		23468/12469F	(0.15)		123678F	(0.117)				
1467F	(0.122)		12347F	(0.15)		123479F	(0.117)				
1478F	(0.122)		12348F	(0.15)		123469F	(0.117)				
1369/1237F	(0.122)		12378F	(0.146)		123679F	(0.117)				
2467F	(0.122)		12678/12367F	(0.15)		234678F	(0.101)		**Conc.**	0	
2368F	(0.122)		12379F	(0.15)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.122)		12679F	(0.15)		123689F	(0.117)				
1278F	(0.122)		23467/12369F	(0.15)		123789F	(0.141)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.122)		23478F	(0.154)		123789/123489F	0				
1267F	(0.122)		23478/12489F	0		123489F	(0.117)		OCDF	(0.324)	
2346/1249F	(0.122)		12489F	(0.15)							
2347/1279F	(0.122)		12349F	(0.15)							
2348F	(0.122)		12389F	(0.15)							
2378F	(0.122)										
2367/3467F	(0.122)										
1269F	(0.122)										
1239F	(0.122)										
1289F	(0.122)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 056-128-LVY

Report Created: 25-Feb-2022 09:05 Analyst: pw

Sample ID: Method Blank B6335_18959 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18959_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18959
Date Collected:	n/a	Split:	-	Date Extracted:	22-Feb-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	24-Feb-2022 19:49
Lab Project No:	B6335	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.241)		0.241	(0.241)	(0.241)	(0.241)
12378-PeCDD	(0.231)		0.231	(0.116)	(0.231)	(0.231)
123478-HxCDD	(0.168)		0.168	(0.0168)	(0.0168)	(0.0168)
123678-HxCDD	(0.148)		0.148	(0.0148)	(0.0148)	(0.0148)
123789-HxCDD	(0.158)		0.158	(0.0158)	(0.0158)	(0.0158)
1234678-HpCDD	(0.195)		0.195	(0.00195)	(0.00195)	(0.00195)
OCDD	(0.481)		0.481	(0.000481)	(0.0000481)	(0.000144)
2378-TCDF	(0.122)		0.122	(0.0122)	(0.0122)	(0.0122)
12378-PeCDF	(0.146)		0.146	(0.00731)	(0.00731)	(0.00439)
23478-PeCDF	(0.154)		0.154	(0.0771)	(0.0771)	(0.0462)
123478-HxCDF	(0.117)		0.117	(0.0117)	(0.0117)	(0.0117)
123678-HxCDF	(0.117)		0.117	(0.0117)	(0.0117)	(0.0117)
234678-HxCDF	(0.101)		0.101	(0.0101)	(0.0101)	(0.0101)
123789-HxCDF	(0.141)		0.141	(0.0141)	(0.0141)	(0.0141)
1234678-HpCDF	(0.0919)		0.0919	(0.000919)	(0.000919)	(0.000919)
1234789-HpCDF	(0.145)		0.145	(0.00145)	(0.00145)	(0.00145)
OCDF	(0.324)		0.324	(0.000324)	(0.0000324)	(0.0000972)

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TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.277	0.334	0.317
EMPC = 0, ND = DL	0.553	0.668	0.634
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.277	0.334	0.317
EMPC = EMPC, ND = DL	0.553	0.668	0.634
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 056-128-LVY

SGS North America - DF v0.99

Sample ID: 0_18959_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6335	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18959_DF	Date Extracted:	22-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18959	Date Analyzed:	24-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:44:22

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.8				ES 2378-TCDD	89.5	
12378-PeCDD	50.5				ES 12378-PeCDD	90.7	
123478-HxCDD	52.3				ES 123478-HxCDD	98	
123678-HxCDD	56.5				ES 123678-HxCDD	103	
123789-HxCDD	52				ES 123789-HxCDD	90.8	
1234678-HpCDD	52.9				ES 1234678-HpCDD	97.8	
OCDD	106				ES OCDD	96.4	
2378-TCDF	11.3				ES 2378-TCDF	83.7	
12378-PeCDF	48.8				ES 12378-PeCDF	86.9	
23478-PeCDF	52.2				ES 23478-PeCDF	88.4	
123478-HxCDF	51.2				ES 123478-HxCDF	88.7	
123678-HxCDF	49.7				ES 123678-HxCDF	95.6	
234678-HxCDF	54.6				ES 234678-HxCDF	112	
123789-HxCDF	49.3				ES 123789-HxCDF	88.7	
1234678-HpCDF	49.8				ES 1234678-HpCDF	106	
1234789-HpCDF	52				ES 1234789-HpCDF	89.1	
OCDF	103				ES OCDF	93.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	90.2	
Total TCDD	48.8		48.8		CS 12347-PeCDD	102	
Total PeCDD	72.5		72.5		CS 12346-PeCDF	93.6	
Total HxCDD	173		173		CS 123469-HxCDF	109	
Total HpCDD	63.8		63.8		CS 1234689-HpCDF	103	
Total TCDF	56.4		56.4				
Total PeCDF	201		201				
Total HxCDF	307		307				
Total HpCDF	102		102				
Total PCDD/Fs	**1,230**		**1,230**				
WHO-2005 TEQs							
TEQ: ND=0	119		119				
TEQ: ND=DL/2	119	0.302	119				
TEQ: ND=DL	119	0.605	119				

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Tel: +1 910 794-1613; Toll-Free 866 846-8290

Sample ID: 0_18959_OPR002 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6335	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18959_DF	Date Extracted:	22-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18959	Date Analyzed:	24-Feb-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:30:43

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	10.3				ES 2378-TCDD	85.7	
12378-PeCDD	46.7				ES 12378-PeCDD	90.7	
123478-HxCDD	51.5				ES 123478-HxCDD	96.9	
123678-HxCDD	52.1				ES 123678-HxCDD	107	
123789-HxCDD	48.2				ES 123789-HxCDD	94.6	
1234678-HpCDD	50.2				ES 1234678-HpCDD	101	
OCDD	102				ES OCDD	100	
2378-TCDF	10				ES 2378-TCDF	82.8	
12378-PeCDF	48.4				ES 12378-PeCDF	83.8	
23478-PeCDF	51.4				ES 23478-PeCDF	84.9	
123478-HxCDF	47.3				ES 123478-HxCDF	94	
123678-HxCDF	49.2				ES 123678-HxCDF	96.5	
234678-HxCDF	51.4				ES 234678-HxCDF	118	
123789-HxCDF	48.4				ES 123789-HxCDF	87.9	
1234678-HpCDF	48.1				ES 1234678-HpCDF	108	
1234789-HpCDF	48.7				ES 1234789-HpCDF	90.1	
OCDF	96.1				ES OCDF	96.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	85.3	
Total TCDD	50.1		50.1		CS 12347-PeCDD	97.5	
Total PeCDD	70.7		70.7		CS 12346-PeCDF	89.5	
Total HxCDD	165		165		CS 123469-HxCDF	112	
Total HpCDD	61.8		61.8		CS 1234689-HpCDF	101	
Total TCDF	57.9		57.9				
Total PeCDF	209		209				
Total HxCDF	310		310				
Total HpCDF	96.8		96.8				
Total PCDD/Fs	**1,220**		**1,220**				
WHO-2005 TEQs							
TEQ: ND=0	111		111				
TEQ: ND=DL/2	111	0.247	111				
TEQ: ND=DL	111	0.495	111				

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Sample DUP

Method 1613B

Sample ID: 0_18959_OPR001

Analyte	OPR1_18959_DF pg/uL	OPR2_18959_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	11.8	10.3	13.6%
1,2,3,7,8-PeCDD	50.5	46.7	7.9%
1,2,3,4,7,8-HxCDD	52.3	51.5	1.6%
1,2,3,6,7,8-HxCDD	56.5	52.1	8.2%
1,2,3,7,8,9-HxCDD	52	48.2	7.6%
1,2,3,4,6,7,8-HpCDD	52.9	50.2	5.2%
OCDD	106	102	3.8%
2,3,7,8-TCDF	11.3	10	11.9%
1,2,3,7,8-PeCDF	48.8	48.4	1.0%
2,3,4,7,8-PeCDF	52.2	51.4	1.6%
1,2,3,4,7,8-HxCDF	51.2	47.3	7.9%
1,2,3,6,7,8-HxCDF	49.7	49.2	1.1%
2,3,4,6,7,8-HxCDF	54.6	51.4	5.9%
1,2,3,7,8,9-HxCDF	49.3	48.4	2.0%
1,2,3,4,6,7,8-HpCDF	49.8	48.1	3.5%
1,2,3,4,7,8,9-HpCDF	52	48.7	6.6%
OCDF	103	96.1	6.9%
Totals			
Total TCDD	48.8	50.1	2.5%
Total PeCDD	72.5	70.7	2.5%
Total HxCDD	173	165	4.6%
Total HpCDD	63.8	61.8	3.1%
Total TCDF	56.4	57.9	2.7%
Total PeCDF	201	209	3.9%
Total HxCDF	307	310	1.0%
Total HpCDF	102	96.8	5.1%

Sample Receipt Notification

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*22-Feb-22 at 10:22*
AP Project name:	*B6335*
Requested TAT:	*3 business days*
Projected due date:	*25-Feb-22*
Matrix:	*Solid*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-021922-S-SB-NC-S-50	B6335_001	Solid	1	4oz clear	19-Feb-22	08:00	3.1	1	490527045884

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Taylor McKnight *Logged in by: Taylor McKnight* *QC'ed by:* AK 22 Feb 22

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

SGS CHAIN OF CUSTODY

B6335

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

PRESERVATIVE
None

ANALYSIS & METHOD
M1613B | ~~M8290A~~ | ~~M1668A~~ | ~~M1668C~~ | M8 PAH | ~~M4600~~

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston, T
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B	QC MS	QC MSD	QC DUP	QTY	REMARKS
1215131-021822-S-SB-NC-0-54	2/18/22	1410	C	S	4oz	X				1	HOLD
1215131-021822-S-SB-NC-B-17	1	1420	C	S	4oz	X				1	HOLD
1215131-021822-S-SB-NC-S-51	↓	1430	C	S	4oz	X				1	HOLD
1215131-021922-S-SB-NC-S-50	2/19/22	0800	C	S	4oz	X				1	RUSH *
1215131-021922-S-SB-NC-0-53	1	0815	C	S	4oz	X				1	
1215131-021922-S-SB-NC-0-51	↓	0910	C	S	4oz	X				1	

see SSOW

COLLECTED/RELINQUISHED BY (1): Sarah Belanger

DATE:	TIME:	RECEIVED BY:
2/19/22	1145	Meagan Willis

RELINQUISHED BY (2): Meagan Willis

DATE:	TIME:	RECEIVED BY:
2/21/22	0815	2/21/22 0815

RELINQUISHED BY (3):

DATE:	TIME:	RECEIVED BY:
		2/22/22 10:22

RECEIVED BY LABORATORY: DATE: 2/22/22 TIME: 10:22

COOLER SEAL: ☐ INTACT ☐ BROKEN ☑ ABSENT

CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT

CARRIER: TEMP: °C 3.1 IR4

TRACKING #:

* = samples in this project

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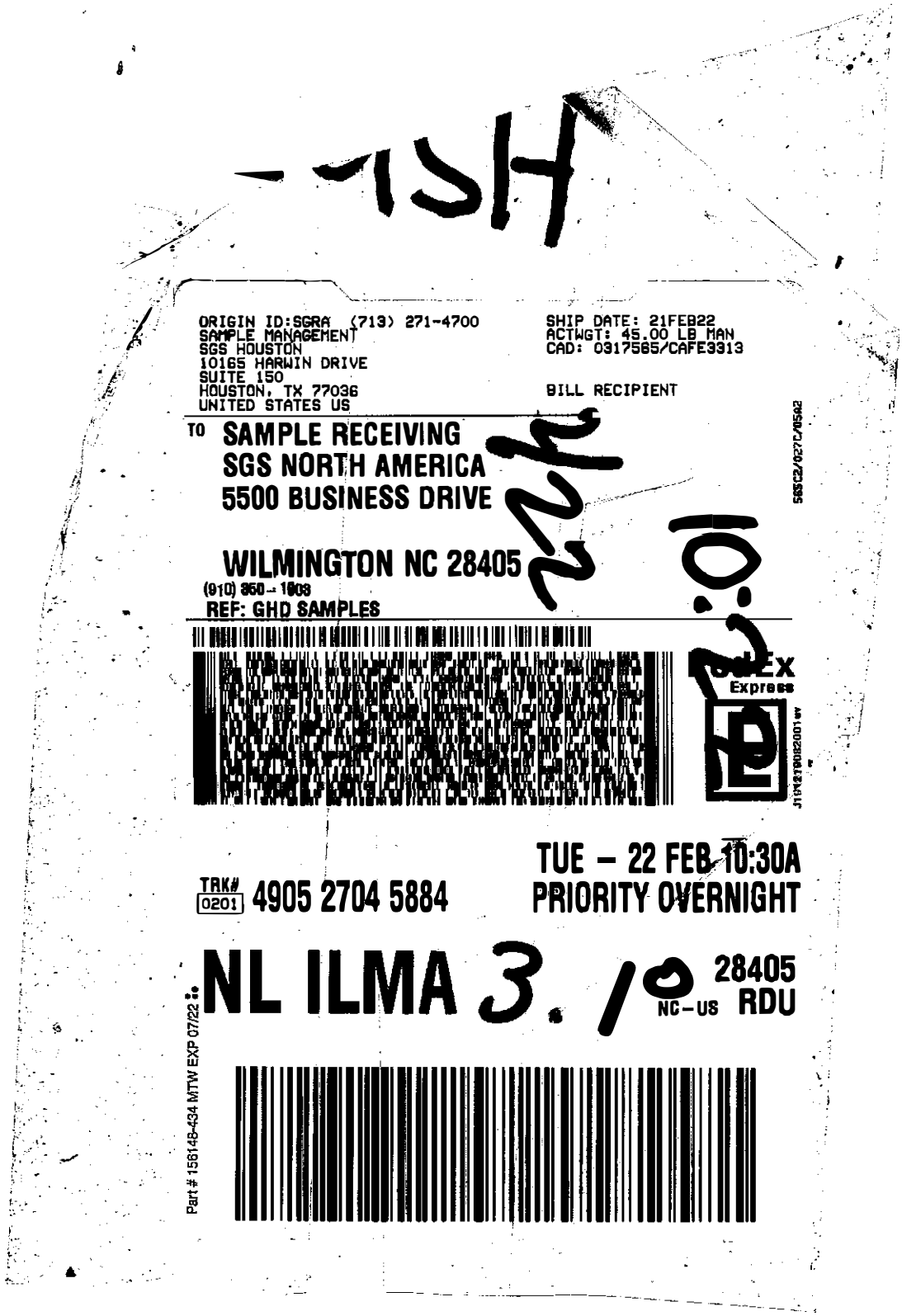
Member of the SGS Group (SGS SA)



ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 21FEB22
ACTWGT: 45.00 LB MAN
CAD: 0317565/CAFE3313

BILL RECIPIENT

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

FedEx Express

TRK# 0201 4905 2704 5884

TUE - 22 FEB 10:30A
PRIORITY OVERNIGHT

NL ILMA 28405
NC-US RDU

Part # 156148-434 MTW EXP 07/22

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Project Initiation Form

Project Number: B6335

Initiation Date: 22-Feb-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Solid

TAT: 3 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR & OPRD

10 g DWE extraction

Read and understood, initial and date: Prep Lab: 2/22/22

HRMS Lab:

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab:

PM Initials: akornegay Date: 22-Feb-2022

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Methods: PCB PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Extraction Type: SDS CLL | TALEX Carbon SPE

Solid

Final Volume: 20 µl

Batch# 18959 | Split: ~~1/2~~ ~~1/4~~ | Extract Initial/Date: TRH 2/22/22 | Clean-up Initial/Date: RAB 2/24/22 2/23/22 | Transfer Init/Date: SDB 2/24/22

Lab Sample ID	Extraction Position Solvent: TOL	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B6335_18959_001	45	17.86				gray/tan, clay-like
MB1_18959	42	10.00				sodium sulfate
OPR1_18959	43	10.00				sodium sulfate
OPR2_18959	44	10.00				sodium sulfate

TB 2/25/22

RAB 2/24/22

Supply IDs

Toluene	STL 1426
MeCHL	STL4.17
Florisil	SPL5.91
Hexane	STL4.29
Silica	SPL5.69
S Nitrate	N/A
Base Silica	SPL5.92
HydroMatrix	N/A
Tetradecane	SPL5-730
H_2SO_4	N/A
A Silica	SPL5.90
Sodium Sulfate	SPL5-806

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	TB 2/25/22
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start: 1730 Stop: 0930
HEX	Start: Stop:
DCM	Start: Stop:

TB 2/25/22

SGS

Methods: PCB PCDD/F QUANTICS DoD PCDD/F
PAH WHO-2 USV PEST

Solid

Batch# 18959

Inter-Department Communication Sheet

TB 2/25/23

SGS

Wt. Volume Results

Batch #: 18959 Comments:

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6335_001	2.32	5.25	4.22	64.85%	64.85%			15.42	17.86	11.58

2/24/2025

% Solid Determination WorkSheet

SGS

Batch: 18959

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	10g DWE	Comments
B6335_18959_001	2.32	5.25	4.22	15.42	

Rush
2/24/22

Date/Initials:

SGS

Methods: PCB / PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Solid

Batch # 18959

Spiker Initials/Date:	JRH 2/22/22	JRH 2/22/22	JRH 2/22/22	2/23/22	2/23/22		
	D/F A1-A	D/F A1-B	D/F ES	D/F CS	D/F JS		
Lab Sample ID	Amount: 20uL	Amount: 20uL	Amount: 20uL	Amount: 20uL	Amount: 20uL	Amount:	Amount:
	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials
B6335_18959_001	—	—	RAB	JRH	JRH		
MB1_18959	—	—	RAB	JRH	JRH		
OPR1_18959	RAB	RAB	RAB	JRH	JRH		
OPR2_18959	RAB	RAB	RAB	JRH	JRH		

RAB 2/24/22

Standard Information							
Pipette ID							
Spike ID	D/F A1-A	D/F A1-B	D/F ES	D/F CS	D/F JS		
SIL #	26-28	25-187-2	26-29	25-338-1	25-384-1		
Concentration	10 pg/uL	10 pg/uL	100 pg/uL	100 pg/mL	100 pg/mL		
Expiration Date	7/9/28	1/22/23	8/2028	11/16/22	1/28/23		

RAB 2/24/22

REVIEWED
Tamara Burkamper , 2/25/2022, 10:55:08 AM

SGS Environmental Services — Run Log

Project: B6335_18959_DF

Instrument: HRMS3 (AutoSpec-Ultima)

MS Experiment: df_cl4-8_db5MS

GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	220224C01	3	CS3_220224_DF_CA ✓	1.00	25-347-1	DTF, PSW	126-530	24-Feb-2022	15:19:31
2	220224C02	34	OPR1_18959_DF	1.00	0_18959_OPR001	DTF, PSW	662-354	24-Feb-2022	16:44:22
3	220224C03	35	OPR2_18959_DF	1.00	0_18959_OPR002	DTF, PSW	120-753	24-Feb-2022	17:30:43
5	220224C05	2	SBS_220224_DF_CA	1.00	SIL 20-61-1	DTF, PSW	831-324	24-Feb-2022	19:03:25
6	220224C06	33	MB1_18959_DF_SDS	10.00	Method Blank	DTF, PSW	056-128	24-Feb-2022	19:49:44
8	220224C08	36	B6335_18959_DF_001 ✓	11.58	11215131-021922-S-SB-NC-S-50	DTF, PSW	193-673	24-Feb-2022	21:22:25

REVIEWED
paul_walton , 2/25/2022, 9:20:41 AM

Lab ID: MB1_18959_DF_SDS **Acq'd:** 24 Feb 2022 19:49 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6335_18959 **UTP:** 25-Feb-2022 09:03:34 PSW **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 056-128-LVY

Datafile: 220224C06 **Report:** 25 Feb 2022 09:05 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	3720.718	0.241
12378-PeCDD	NotFnd		1.0007	-		-	-	-	1.04	-	3238.646	0.231
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2296.5121	0.168
123678-HxCDD	NotFnd		1.0036	-		-	-	-	1.15	-	2296.5121	0.148
123789-HxCDD	NotFnd		1.0118	-		-	-	-	1.05	-	2296.5121	0.158
1234678-HpCDD	NotFnd		1.0002	-		-	-	-	1.06	-	2660.399	0.195
OCDD	NotFnd		1.0003	-		-	-	-	1.13	-	3277.871	0.481
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	2324.889	0.122
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2980.26	0.146
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2980.26	0.154
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2367.629	0.117
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2367.629	0.117
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2367.629	0.101
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2367.629	0.141
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2063.1138	0.0919
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2063.1138	0.145
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	2564.085	0.324

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.20	1.0243	1.0243	0	2.65E+07	0.80	Y	1.05	94.4
ES 12378-PeCDD	33.60	1.2198	1.2205	+1.4	2.42E+07	1.61	Y	0.88	103
ES 123478-HxCDD	37.54	0.9916	0.9915	-0.2	2.23E+07	1.24	Y	0.97	98.6
ES 123678-HxCDD	37.66	0.9947	0.9947	0	2.32E+07	1.29	Y	0.94	106
ES 123789-HxCDD	37.96	1.0029	1.0027	-0.5	2.42E+07	1.31	Y	1.09	95.4
ES 1234678-HpCDD	40.71	1.0749	1.0752	+0.7	2.28E+07	1.06	Y	0.91	108
ES OCDD	43.40	1.1460	1.1465	+1.3	3.11E+07	0.92	Y	0.62	107
ES 2378-TCDF	27.33	1.0531	1.0534	+0.5	3.97E+07	0.81	Y	1.06	87.3
ES 12378-PeCDF	32.14	1.2378	1.2387	+1.7	3.65E+07	1.57	Y	0.91	93.2
ES 23478-PeCDF	33.26	1.2810	1.2819	+1.8	3.44E+07	1.59	Y	0.88	90.5
ES 123478-HxCDF	36.53	0.9650	0.9649	-0.2	2.59E+07	0.53	Y	1.20	92.7
ES 123678-HxCDF	36.67	0.9688	0.9686	-0.4	3.13E+07	0.53	Y	1.35	99.6
ES 234678-HxCDF	37.35	0.9866	0.9866	0	3.36E+07	0.53	Y	1.24	116
ES 123789-HxCDF	38.33	1.0125	1.0124	-0.2	2.59E+07	0.53	Y	1.16	96.5
ES 1234678-HpCDF	39.76	1.0501	1.0502	+0.2	2.47E+07	0.46	Y	0.97	110
ES 1234789-HpCDF	41.16	1.0870	1.0872	+0.5	2.03E+07	0.47	Y	0.85	103
ES OCDF	43.58	1.1505	1.1511	+1.6	3.88E+07	0.89	Y	0.81	103

Lab ID: MB1_18959_DF_SDS **Acq'd:** 24 Feb 2022 19:49 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6335_18959 **UTP:** 25-Feb-2022 09:03:34 PSW **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 056-128-LVY

Datafile: 220224C06 **Report:** 25 Feb 2022 09:05 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.53		-	-	-	2.69E+07	0.82	Y	-	-
JS 1234-TCDF	25.95		-	-	-	4.30E+07	0.80	Y	-	-
JS 123467-HxCDD	37.86		-	-	-	1.16E+07	1.31	Y	-	-
CS 37Cl-2378-TCDD	28.22		1.0251	1.0252	+0.2	1.24E+07	n/a	-	1.20	96.2
CS 12347-PeCDD	33.09		1.2016	1.2021	+1.0	2.19E+07	1.64	Y	0.75	108
CS 12346-PeCDF	31.60		1.2172	1.2181	+1.7	3.54E+07	1.56	Y	0.85	96.7
CS 123469-HxCDF	36.98		0.9771	0.9769	-0.4	2.88E+07	0.53	Y	1.12	111
CS 1234689-HpCDF	40.17		1.0608	1.0611	+0.7	2.24E+07	0.44	Y	0.89	108
~~SS 37Cl-2378-TCDD~~	~~28.22~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.24E+07~~	~~n/a~~		~~1.15~~	~~102~~
~~SS 12347-PeCDD~~	~~33.09~~		~~1.2016~~	~~1.2021~~	~~+1.0~~	~~2.19E+07~~	~~1.64~~	~~Y~~	~~0.86~~	~~106~~
~~SS 12346-PeCDF~~	~~31.60~~		~~1.2172~~	~~1.2181~~	~~+1.7~~	~~3.54E+07~~	~~1.56~~	~~Y~~	~~0.94~~	~~104~~
~~SS 123469-HxCDF~~	~~36.98~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~2.88E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~111~~
~~SS 1234689-HpCDF~~	~~40.17~~		~~1.0608~~	~~1.0611~~	~~+0.7~~	~~2.24E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~98.8~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: MB1_18959_DF_SDS **Acq'd: 24 Feb 2022 19:49 DTF** **Wt/Vol: 10.00 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6335_18959 **UTP: 25-Feb-2022 09:03:34 PSW** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 056-128-LVY**

Datafile: 220224C06 **Report: 25 Feb 2022 09:05 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		3720.718	0.241
1379-TCDD	NotFnd		0.8829						1.18		3720.718	0.241
1369-TCDD	NotFnd		0.8982						1.18		3720.718	0.241
1469-TCDD	NotFnd		0.9261						1.18		3720.718	0.241
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		3720.718	0.241
1378-TCDD	NotFnd		0.9417						1.18		3720.718	0.241
1268-TCDD	NotFnd		0.9487						1.18		3720.718	0.241
1478-TCDD	NotFnd		0.9576						1.18		3720.718	0.241
1279-TCDD	NotFnd		0.9636						1.18		3720.718	0.241
1234/1269-TCDD	NotFnd		0.9761						1.18		3720.718	0.241
1236-TCDD	NotFnd		0.9812						1.18		3720.718	0.241
1237/1238-TCDD	NotFnd		0.9905						1.18		3720.718	0.241
1239-TCDD	NotFnd		0.9951						1.18		3720.718	0.241
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**3720.718**	**0.241**
1278-TCDD	NotFnd		1.0124						1.18		3720.718	0.241
1267-TCDD	NotFnd		1.0172						1.18		3720.718	0.241
1289-TCDD	NotFnd		1.0354						1.18		3720.718	0.241
12479/12468-PeCDD	NotFnd		0.9255						1.04		3238.646	0.231
12469-PeCDD	NotFnd		0.9416						1.04		3238.646	0.231
12368-PeCDD	NotFnd		0.9582						1.04		3238.646	0.231
12478-PeCDD	NotFnd		0.9637						1.04		3238.646	0.231
12379-PeCDD	NotFnd		0.9668						1.04		3238.646	0.231
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		3238.646	0.231
12346/12347-PeCDD	NotFnd		0.9858						1.04		3238.646	0.231
12378-PeCDD	NotFnd		**1.0007**						**1.04**		**3238.646**	**0.231**
12367-PeCDD	NotFnd		1.0036						1.04		3238.646	0.231
12389-PeCDD	NotFnd		1.0137						1.04		3238.646	0.231
124679/124689-HxCDD	NotFnd		0.9540						1.10		2296.5121	0.158
123468-HxCDD	NotFnd		0.9715						1.10		2296.5121	0.158
123679/123689-HxCDD	NotFnd		0.9793						1.10		2296.5121	0.158
123469-HxCDD	NotFnd		0.9829						1.10		2296.5121	0.158
123478-HxCDD	NotFnd		**1.0004**						1.09		**2296.5121**	**0.168**
123678-HxCDD	NotFnd		**1.0036**						1.15		**2296.5121**	**0.148**
123467-HxCDD	NotFnd		1.0089						1.10		2296.5121	0.158
123789-HxCDD	NotFnd		**1.0118**						1.05		**2296.5121**	**0.158**

Lab ID: MB1_18959_DF_SDS | **Acq'd: 24 Feb 2022 19:49 DTF** | **Wt/Vol: 10.00 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6335_18959 | **UTP: 25-Feb-2022 09:03:34 PSW** | **J-level: 0.5 pg/g** | **Split: 1** | **Checkcode: 056-128-LVY**

Datafile: 220224C06 | **Report: 25 Feb 2022 09:05 pw** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

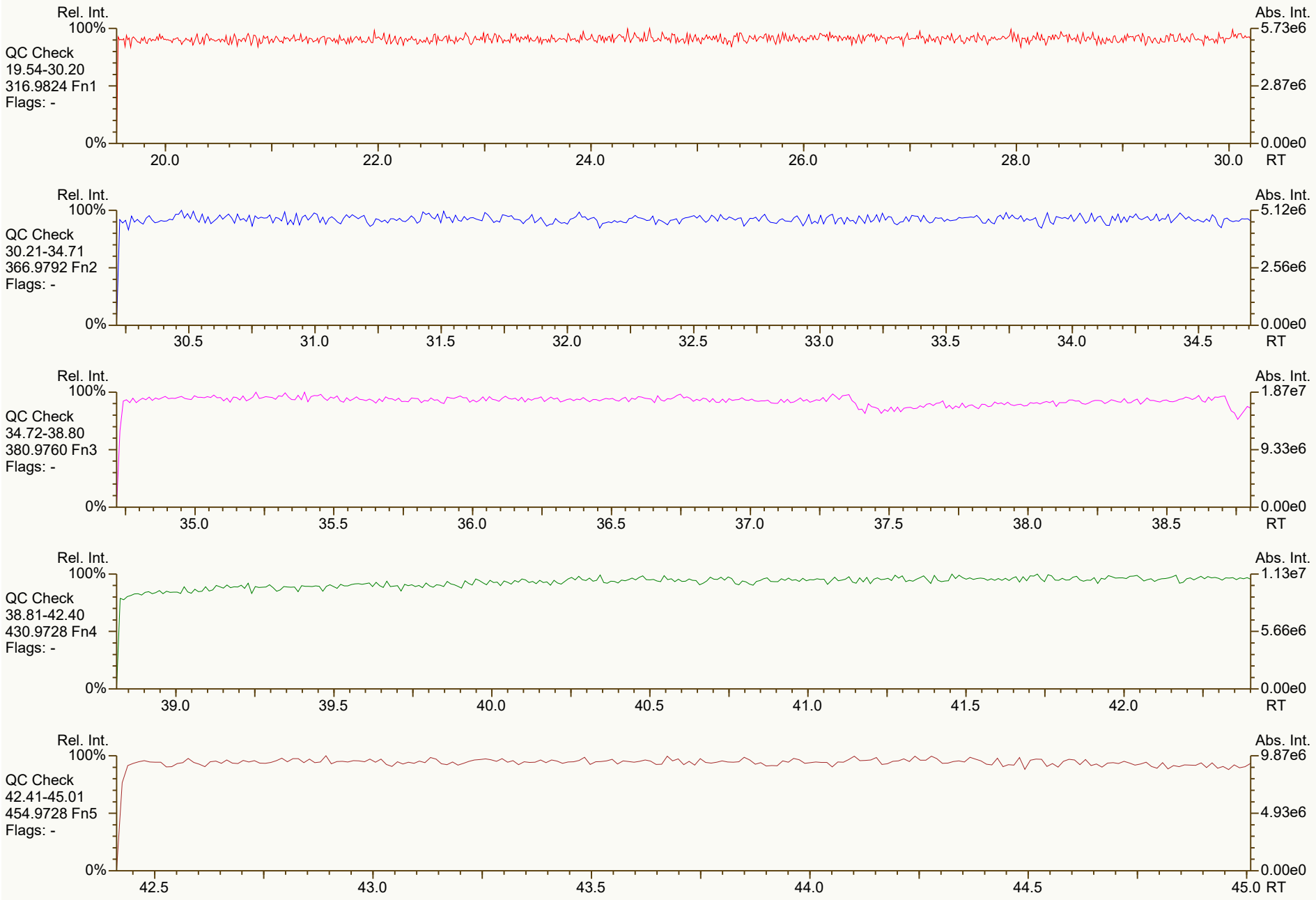
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9836						1.06		2660.399	0.195
1234678-HpCDD	**NotFnd**		**1.0002**						**1.06**		**2660.399**	**0.195**
OCDD	**NotFnd**		**1.0003**						**1.13**		**3277.871**	**0.481**
OCDD-a	NotFnd		1.0002						0.07		3171.927	7.28
1368-TCDF	NotFnd		0.8191						1.08		2324.889	0.122
1468-TCDF	NotFnd		0.8408						1.08		2324.889	0.122
2468-TCDF	NotFnd		0.8645						1.08		2324.889	0.122
1346/1246-TCDF	NotFnd		0.8772						1.08		2324.889	0.122
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		2324.889	0.122
1348-TCDF	NotFnd		0.8932						1.08		2324.889	0.122
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		2324.889	0.122
1268-TCDF	NotFnd		0.9119						1.08		2324.889	0.122
1467-TCDF	NotFnd		0.9170						1.08		2324.889	0.122
1478-TCDF	NotFnd		0.9234						1.08		2324.889	0.122
1369/1237-TCDF	NotFnd		0.9369						1.08		2324.889	0.122
2467-TCDF	NotFnd		0.9415						1.08		2324.889	0.122
2368-TCDF	NotFnd		0.9475						1.08		2324.889	0.122
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		2324.889	0.122
1278-TCDF	NotFnd		0.9676						1.08		2324.889	0.122
1349-TCDF	NotFnd		0.9722						1.08		2324.889	0.122
1267-TCDF	NotFnd		0.9777						1.08		2324.889	0.122
2346/1249-TCDF	NotFnd		0.9843						1.08		2324.889	0.122
2347/1279-TCDF	NotFnd		0.9926						1.08		2324.889	0.122
2348-TCDF	NotFnd		0.9968						1.08		2324.889	0.122
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**2324.889**	**0.122**
2367/3467-TCDF	NotFnd		1.0142						1.08		2324.889	0.122
1269-TCDF	NotFnd		1.0235						1.08		2324.889	0.122
1239-TCDF	NotFnd		1.0329						1.08		2324.889	0.122
1289-TCDF	NotFnd		1.0742						1.08		2324.889	0.122
13468/12468-PeCDF	NotFnd		0.9122						1.02		2941.511	0.148
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		2980.26	0.15
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		2980.26	0.15
14678-PeCDF	NotFnd		0.9685						1.02		2980.26	0.15
13479-PeCDF	NotFnd		0.9716						1.02		2980.26	0.15
13469/12479-PeCDF	NotFnd		0.9794						1.02		2980.26	0.15
12346-PeCDF	NotFnd		0.9836						1.02		2980.26	0.15

Lab ID: MB1_18959_DF_SDS | **Acq'd: 24 Feb 2022 19:49 DTF** | **Wt/Vol: 10.00 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6335_18959 | **UTP: 25-Feb-2022 09:03:34 PSW** | **J-level: 0.5 pg/g** | **Split: 1** | **Checkcode: 056-128-LVY**

Datafile: 220224C06 | **Report: 25 Feb 2022 09:05 pw** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		2980.26	0.15
12347-PeCDF	NotFnd		0.9891						1.02		2980.26	0.15
12348-PeCDF	NotFnd		0.9938						1.02		2980.26	0.15
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2980.26**	**0.146**
12678/12367-PeCDF	NotFnd		1.0091						1.02		2980.26	0.15
12379-PeCDF	NotFnd		1.0144						1.02		2980.26	0.15
12679-PeCDF	NotFnd		0.9927						1.02		2980.26	0.15
23467/12369-PeCDF	NotFnd		0.9965						1.02		2980.26	0.15
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2980.26**	**0.154**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2980.26	0.15
12349-PeCDF	NotFnd		1.0101						1.02		2980.26	0.15
12389-PeCDF	NotFnd		1.0330						1.02		2980.26	0.15
123468-HxCDF	NotFnd		0.9622						1.19		2367.629	0.117
124678/134678-HxCDF	NotFnd		0.9678						1.19		2367.629	0.117
134679-HxCDF	NotFnd		0.9741						1.19		2367.629	0.117
124679-HxCDF	NotFnd		0.9795						1.19		2367.629	0.117
124689-HxCDF	NotFnd		0.9856						1.19		2367.629	0.117
123467-HxCDF	NotFnd		0.9972						1.19		2367.629	0.117
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2367.629**	**0.117**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2367.629**	**0.117**
123479-HxCDF	NotFnd		1.0048						1.19		2367.629	0.117
123469-HxCDF	NotFnd		1.0089						1.19		2367.629	0.117
123679-HxCDF	NotFnd		0.9942						1.19		2367.629	0.117
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2367.629**	**0.101**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2367.629	0.117
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2367.629**	**0.141**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		2367.629	0.117
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2063.1138**	**0.0919**
1234679-HpCDF	NotFnd		1.0068						1.34		2063.1138	0.115
1234689-HpCDF	NotFnd		1.0104						1.34		2063.1138	0.115
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2063.1138**	**0.145**
OCDF	**NotFnd**		**1.0002**						**1.07**		**2564.085**	**0.324**
OCDF-a	NotFnd		1.0001						0.07		3163.034	6.45


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
5.73e6
2.87e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
5.12e6
2.56e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.87e7
9.33e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.13e7
5.66e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
9.87e6
4.93e6
0.00e0

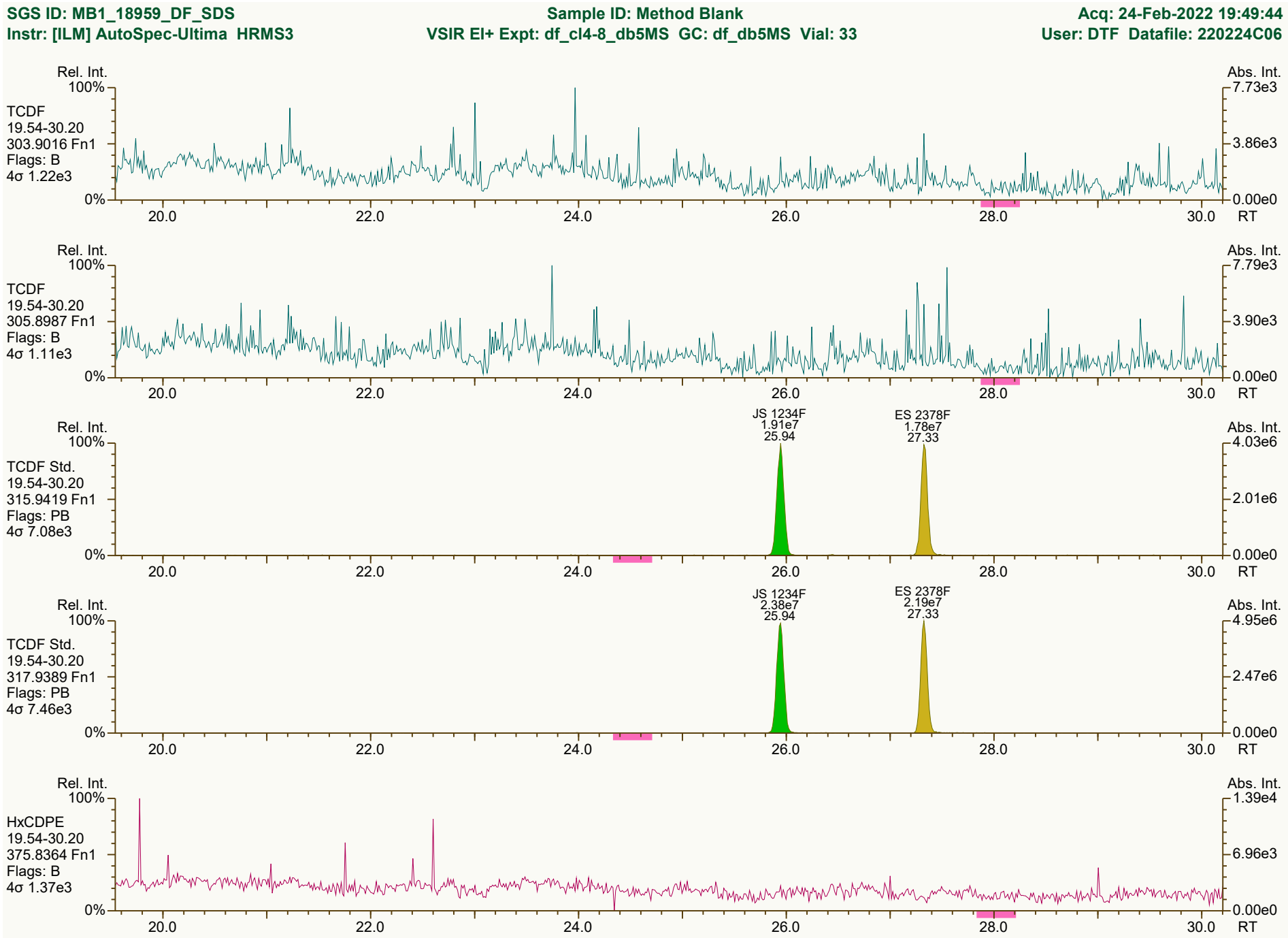

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 2.22e3
0%
Abs. Int.
1.20e4
6.01e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.50e3
0%
Abs. Int.
6.29e3
3.14e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.29e3
0%
CS 37Cl-2378D
1.24e7
28.22
Abs. Int.
2.89e6
1.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PBM
4σ 8.00e3
0%
JS 1234D
1.21e7
27.53
ES 2378D
1.17e7*
28.20
Abs. Int.
2.89e6
1.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PBM
4σ 4.17e3
0%
JS 1234D
1.48e7
27.53
ES 2378D
1.48e7*
28.20
Abs. Int.
3.65e6
1.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: B
4σ 1.68e3
0%
Abs. Int.
7.07e3
3.53e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.56e3
0%
Abs. Int.
7.49e3
3.75e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 1.99e3
0%
CS 12347D
1.36e7
33.09
ES 12378D
1.49e7
33.60
Abs. Int.
4.18e6
2.09e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.60e3
0%
CS 12347D
8.31e6
33.09
ES 12378D
9.26e6
33.60
Abs. Int.
2.52e6
1.26e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.12e6
2.56e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

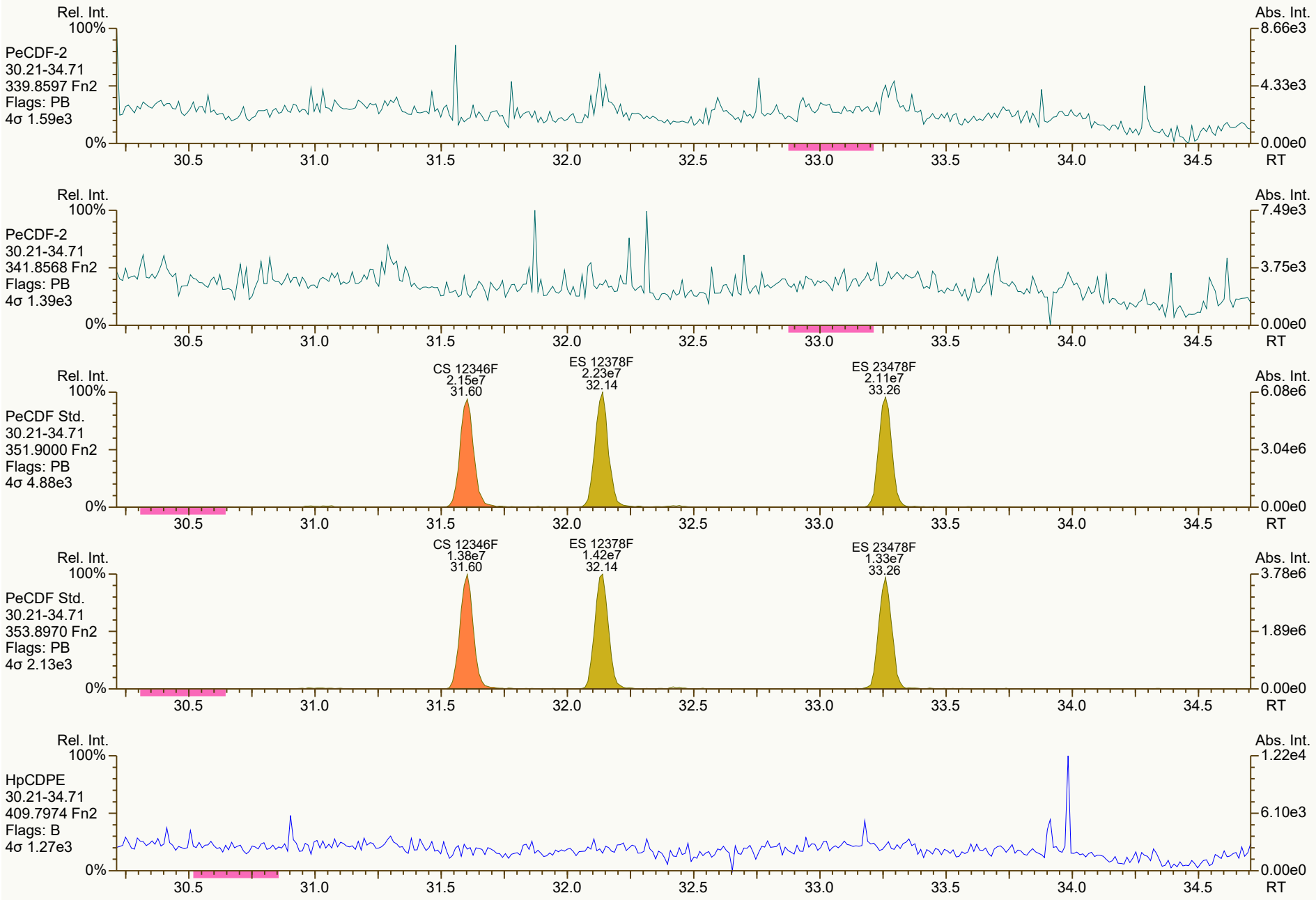

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: B
4σ 8.24e2
0%
Abs. Int.
7.50e3
3.75e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: B
4σ 1.47e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 2.15e3
0%
ES 123678D
1.31e7
37.66
ES 123478D
1.24e7*
37.53
ES 123789D
1.37e7
37.96
JS 123467D
6.60e6
37.86
Abs. Int.
3.92e6
1.96e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 1.93e3
0%
ES 123678D
1.01e7
37.66
ES 123478D
9.94e6*
37.53
ES 123789D
1.05e7
37.96
JS 123467D
5.02e6
37.86
Abs. Int.
3.00e6
1.50e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.87e7
9.33e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

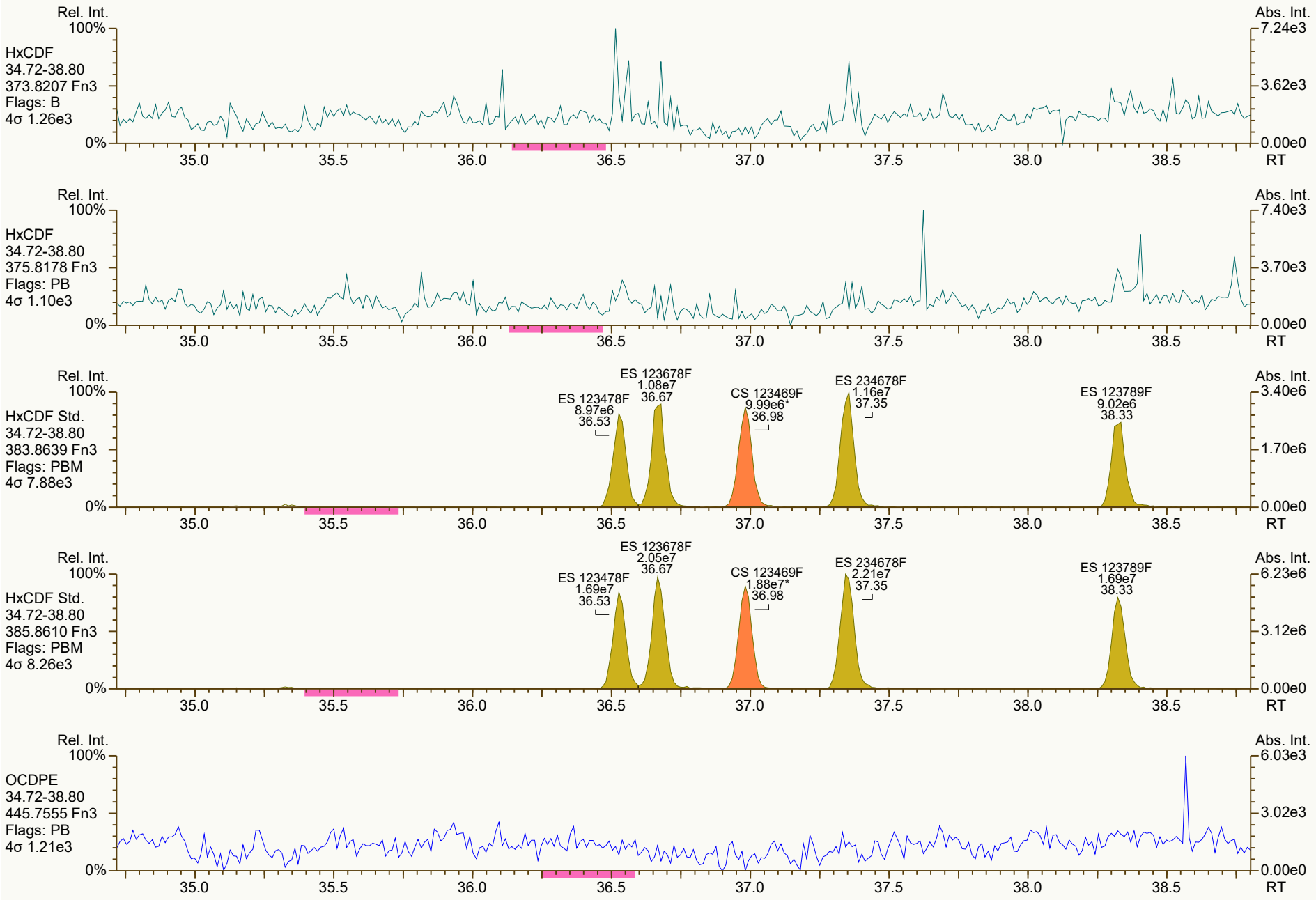

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: B
4σ 1.59e3
0%
Abs. Int.
1.41e4
7.05e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.07e3
0%
Abs. Int.
5.69e3
2.85e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
1.18e7
40.71
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 1.64e3
0%
Abs. Int.
3.31e6
1.65e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
1.11e7
40.71
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.44e3
0%
Abs. Int.
3.20e6
1.60e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.13e7
5.66e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

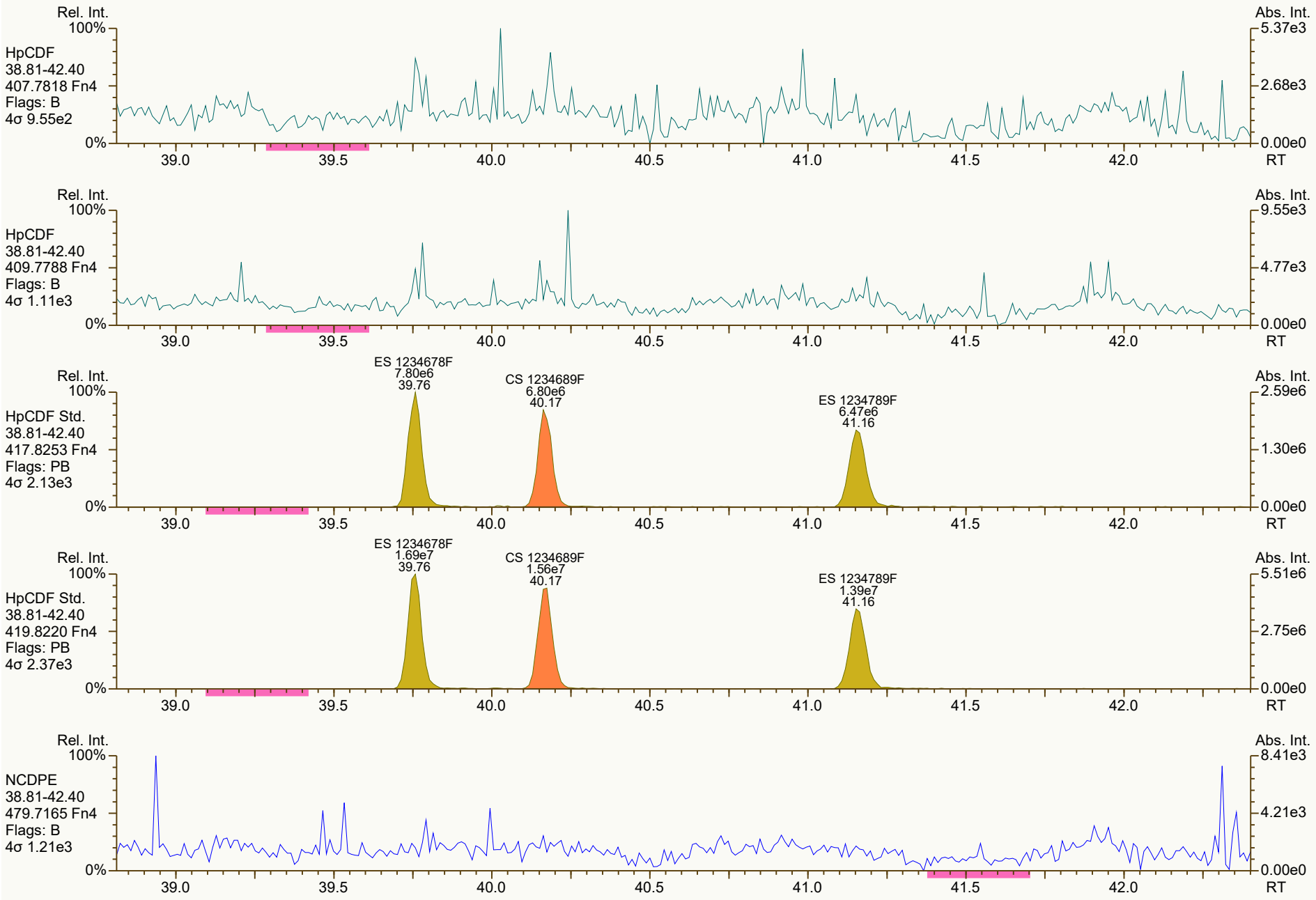

Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 1.27e3
0%
Abs. Int.
7.35e3
3.68e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 2.01e3
0%
Abs. Int.
8.85e3
4.43e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.49e7
43.40
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 1.92e3
0%
Abs. Int.
2.90e6
1.45e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.62e7
43.40
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.74e3
0%
Abs. Int.
3.27e6
1.64e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
9.87e6
4.93e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: MB1_18959_DF_SDS
Sample ID: Method Blank
Acq: 24-Feb-2022 19:49:44
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 33
User: DTF Datafile: 220224C06
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: B
4σ 1.22e3
7.73e3
3.86e3
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 1.11e3
7.79e3
3.90e3
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 7.08e3
JS 1234F
1.91e7
25.94
ES 2378F
1.78e7
27.33
4.03e6
2.01e6
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 7.46e3
JS 1234F
2.38e7
25.94
ES 2378F
2.19e7
27.33
4.95e6
2.47e6
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.37e3
1.39e4
6.96e3
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6300_B6399\B6335\B6335_18959 DF\Resources\MB1_18959_DF_SDS.utp_res, saved 25-Feb-2022 09:03 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0114, 9093, 9286 scc: 056-128
PKD: 25-Feb-2022 08:43 Printed: 25-Feb-2022 09:12 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
8.24e3
4.12e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.64e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.72e4
8.61e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.31e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
5.73e6
2.87e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.59e3
0%
Abs. Int.
8.66e3
4.33e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 1.39e3
7.49e3
3.75e3
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 4.88e3
CS 12346F
2.15e7
31.60
ES 12378F
2.23e7
32.14
ES 23478F
2.11e7
33.26
6.08e6
3.04e6
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.13e3
CS 12346F
1.38e7
31.60
ES 12378F
1.42e7
32.14
ES 23478F
1.33e7
33.26
3.78e6
1.89e6
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.27e3
1.22e4
6.10e3


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: B
4σ 1.26e3
0%
Abs. Int.
7.24e3
3.62e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PB
4σ 1.10e3
0%
Abs. Int.
7.40e3
3.70e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 7.88e3
0%
ES 123478F
8.97e6
36.53
ES 123678F
1.08e7
36.67
CS 123469F
9.99e6*
36.98
ES 234678F
1.16e7
37.35
ES 123789F
9.02e6
38.33
Abs. Int.
3.40e6
1.70e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 8.26e3
0%
ES 123478F
1.69e7
36.53
ES 123678F
2.05e7
36.67
CS 123469F
1.88e7*
36.98
ES 234678F
2.21e7
37.35
ES 123789F
1.69e7
38.33
Abs. Int.
6.23e6
3.12e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.21e3
0%
Abs. Int.
6.03e3
3.02e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: B
4σ 9.55e2
0%
Abs. Int.
5.37e3
2.68e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: B
4σ 1.11e3
0%
Abs. Int.
9.55e3
4.77e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 2.13e3
0%
ES 1234678F
7.80e6
39.76
CS 1234689F
6.80e6
40.17
ES 1234789F
6.47e6
41.16
Abs. Int.
2.59e6
1.30e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 2.37e3
0%
ES 1234678F
1.69e7
39.76
CS 1234689F
1.56e7
40.17
ES 1234789F
1.39e7
41.16
Abs. Int.
5.51e6
2.75e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.21e3
0%
Abs. Int.
8.41e3
4.21e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.24e3
0%
Abs. Int.
4.34e3
2.17e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.33e3
0%
Abs. Int.
6.06e3
3.03e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.83e7*
43.58
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 2.02e3
0%
Abs. Int.
3.48e6
1.74e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.05e7*
43.58
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 2.69e3
0%
Abs. Int.
4.04e6
2.02e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.16e3
0%
Abs. Int.
4.89e3
2.45e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6335_18959_DF_001 **Acq'd:** 24 Feb 2022 21:22 DTF **Wt/Vol:** 11.58 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021922-S-SB-NC-S-50 **UTP:** 25-Feb-2022 09:03:34 PSW **J-level:** 0.432 pg/g **Split:** 1 **Checkcode:** 193-673-NSP

Datafile: 220224C08 **Report:** 25 Feb 2022 09:05 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.21		1.0008	1.0008	0	4.95E+06	0.77	Y	1.18	33.7	4731.545	0.358
12378-PeCDD	33.61	J EMPC	1.0007	1.0006	-0.2	6.56E+04	1.82	N	1.04	0.551	4527.751	0.334
123478-HxCDD	37.55	J	1.0004	1.0006	+0.5	3.92E+04	1.42	Y	1.09	0.359	3868.813	0.306
123678-HxCDD	37.67	J EMPC	1.0036	1.0037	+0.2	9.34E+04	1.53	N	1.15	0.75	3868.813	0.281
123789-HxCDD	37.97	J	1.0118	1.0117	-0.2	2.26E+05	1.19	Y	1.05	1.91	3868.813	0.279
1234678-HpCDD	40.71		1.0002	1.0003	+0.2	3.17E+06	0.99	Y	1.06	28.3	3279.139	0.239
OCDD	43.41		1.0003	1.0003	0	4.92E+07	0.92	Y	1.13	592	4495.637	0.664
2378-TCDF	27.34		1.0008	1.0008	0	1.79E+07	0.78	Y	1.08	88.4	2705.462	0.149
12378-PeCDF	32.15	EMPC	1.0005	1.0005	0	5.14E+05	1.87	N	1.02	2.93	3342.733	0.174
23478-PeCDF	33.27	PR	1.0005	1.0006	+0.2	4.72E+05	1.67	Y	1.02	2.76	3342.733	0.17
123478-HxCDF	36.54		1.0004	1.0004	0	7.48E+05	1.22	Y	1.27	4.7	2801.729	0.151
123678-HxCDF	36.68	J	1.0004	1.0005	+0.2	2.25E+05	1.09	Y	1.15	1.33	2801.729	0.142
234678-HxCDF	37.35	J	1.0005	1.0002	-0.7	9.93E+04	1.31	Y	1.19	0.518	2801.729	0.127
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2801.729	0.173
1234678-HpCDF	39.76		1.0003	1.0002	-0.2	4.47E+05	1.02	Y	1.37	2.8	2935.255	0.152
1234789-HpCDF	41.17	J	1.0003	1.0005	+0.5	7.40E+04	0.99	Y	1.31	0.627	2935.255	0.209
OCDF	43.58		1.0002	1.0002	0	5.54E+05	0.95	Y	1.07	5.71	4347.843	0.538

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.19		1.0243	1.0244	+0.2	2.14E+07	0.82	Y	1.05	89.6
ES 12378-PeCDD	33.59		1.2198	1.2209	+2.2	1.98E+07	1.62	Y	0.88	98.7
ES 123478-HxCDD	37.53		0.9916	0.9915	-0.2	1.73E+07	1.25	Y	0.97	91.8
ES 123678-HxCDD	37.65		0.9947	0.9947	0	1.87E+07	1.29	Y	0.94	102
ES 123789-HxCDD	37.96		1.0029	1.0027	-0.5	1.95E+07	1.23	Y	1.09	92.3
ES 1234678-HpCDD	40.70		1.0749	1.0752	+0.7	1.83E+07	1.10	Y	0.91	103
ES OCDD	43.40		1.1460	1.1466	+1.6	2.55E+07	0.91	Y	0.62	105
ES 2378-TCDF	27.31		1.0531	1.0536	+0.8	3.24E+07	0.80	Y	1.06	87.5
ES 12378-PeCDF	32.13		1.2378	1.2393	+2.9	2.96E+07	1.53	Y	0.91	93.1
ES 23478-PeCDF	33.25		1.2810	1.2826	+3.2	2.89E+07	1.58	Y	0.88	93.8
ES 123478-HxCDF	36.53		0.9650	0.9650	0	2.16E+07	0.55	Y	1.20	93.1
ES 123678-HxCDF	36.67		0.9688	0.9686	-0.4	2.53E+07	0.55	Y	1.35	96.5
ES 234678-HxCDF	37.34		0.9866	0.9865	-0.2	2.79E+07	0.56	Y	1.24	116
ES 123789-HxCDF	38.32		1.0125	1.0124	-0.2	2.04E+07	0.55	Y	1.16	91.2
ES 1234678-HpCDF	39.75		1.0501	1.0502	+0.2	2.02E+07	0.46	Y	0.97	108
ES 1234789-HpCDF	41.15		1.0870	1.0872	+0.5	1.56E+07	0.45	Y	0.85	94.6
ES OCDF	43.57		1.1505	1.1511	+1.6	3.13E+07	0.94	Y	0.81	99.8

Lab ID: B6335_18959_DF_001 **Acq'd:** 24 Feb 2022 21:22 DTF **Wt/Vol:** 11.58 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021922-S-SB-NC-S-50 **UTP:** 25-Feb-2022 09:03:34 PSW **J-level:** 0.432 pg/g **Split:** 1 **Checkcode:** 193-673-NSP

Datafile: 220224C08 **Report:** 25 Feb 2022 09:05 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.51		-	-	-	2.29E+07	0.82	Y	-	-
JS 1234-TCDF	25.93		-	-	-	3.49E+07	0.81	Y	-	-
JS 123467-HxCDD	37.85		-	-	-	9.69E+06	1.41	Y	-	-
CS 37Cl-2378-TCDD	28.21		1.0251	1.0252	+0.2	1.09E+07	n/a	-	1.20	99.3
CS 12347-PeCDD	33.09		1.2016	1.2025	+1.8	1.93E+07	1.59	Y	0.75	112
CS 12346-PeCDF	31.59		1.2172	1.2186	+2.7	3.02E+07	1.56	Y	0.85	102
CS 123469-HxCDF	36.98		0.9771	0.9769	-0.4	2.53E+07	0.52	Y	1.12	117
CS 1234689-HpCDF	40.16		1.0608	1.0610	+0.5	1.96E+07	0.45	Y	0.89	114
~~SS 37Cl-2378-TCDD~~	~~28.21~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.09E+07~~	~~n/a~~		~~1.15~~	~~111~~
~~SS 12347-PeCDD~~	~~33.09~~		~~1.2016~~	~~1.2025~~	~~+1.8~~	~~1.93E+07~~	~~1.59~~	~~Y~~	~~0.86~~	~~113~~
~~SS 12346-PeCDF~~	~~31.59~~		~~1.2172~~	~~1.2186~~	~~+2.7~~	~~3.02E+07~~	~~1.56~~	~~Y~~	~~0.94~~	~~109~~
~~SS 123469-HxCDF~~	~~36.98~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~2.53E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~121~~
~~SS 1234689-HpCDF~~	~~40.16~~		~~1.0608~~	~~1.0610~~	~~+0.5~~	~~1.96E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~106~~

Totals	Conc	EMPC
Total TCDD	44.1	44.7
Total PeCDD	9.17	10.2
Total HxCDD	56.6	57.7
Total HpCDD	84.7	84.7
Total Tetra-Octa Dioxins	787	790
Total TCDF	171	177
Total PeCDF	5.85	9.8
Total HxCDF	9.27	9.51
Total HpCDF	3.42	5.67
Total Tetra-Octa Furans	196	207
Total Tetra-Octa Dioxins & Furans	983	997

Lab ID: B6335_18959_DF_001 **Acq'd: 24 Feb 2022 21:22 DTF** **Wt/Vol: 11.58 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021922-S-SB-NC-S-50 **UTP: 25-Feb-2022 09:03:34 PSW** **J-level: 0.432 pg/g** **Split: 1** **Checkcode: 193-673-NSP**

Datafile: 220224C08 **Report: 25 Feb 2022 09:05 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.50		0.8701	0.8693	-1.2	9.50E+04	0.67	Y	1.18	0.647	4731.545	0.358
1379-TCDD	24.85		0.8829	0.8817	-1.8	1.24E+05	0.87	Y	1.18	0.846	4731.545	0.358
1369-TCDD	NotFnd		0.8982						1.18		4731.545	0.358
1469-TCDD	26.10		0.9261	0.9260	-0.2	6.62E+05	0.71	Y	1.18	4.51	4731.545	0.358
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4731.545	0.358
1378-TCDD	NotFnd		0.9417						1.18		4731.545	0.358
1268-TCDD	NotFnd		0.9487						1.18		4731.545	0.358
1478-TCDD	NotFnd		0.9576						1.18		4731.545	0.358
1279-TCDD	NotFnd		0.9636						1.18		4731.545	0.358
1234/1269-TCDD	27.51		0.9761	0.9759	-0.3	1.43E+05	0.71	Y	1.18	0.973	4731.545	0.358
1236-TCDD	NotFnd		0.9812						1.18		4731.545	0.358
1237/1238-TCDD	27.91	EMPC	0.9905	0.9902	-0.5	8.33E+04	0.98	N	1.18	0.567	4731.545	0.358
1239-TCDD	NotFnd		0.9951						1.18		4731.545	0.358
2378-TCDD	**28.21**		**1.0008**	1.0008	**0**	4.95E+06	0.77	Y	**1.18**	**33.7**	**4731.545**	**0.358**
1278-TCDD	28.54		1.0124	1.0125	+0.2	4.56E+05	0.74	Y	1.18	3.1	4731.545	0.358
1267-TCDD	28.68	J	1.0172	1.0174	+0.3	5.10E+04	0.84	Y	1.18	0.348	4731.545	0.358
1289-TCDD	NotFnd		1.0354						1.18		4731.545	0.358
12479/12468-PeCDD	31.08	J	0.9255	0.9252	-0.6	2.15E+05	1.57	Y	1.04	1.81	4527.751	0.334
12469-PeCDD	31.62		0.9416	0.9414	-0.4	6.34E+05	1.36	Y	1.04	5.33	4527.751	0.334
12368-PeCDD	NotFnd		0.9582						1.04		4527.751	0.334
12478-PeCDD	NotFnd		0.9637						1.04		4527.751	0.334
12379-PeCDD	32.47	J EMPC	0.9668	0.9665	-0.6	5.85E+04	1.98	N	1.04	0.492	4527.751	0.334
12369/12467/12489-PeCDD	32.74	J	0.9746	0.9746	0	2.42E+05	1.40	Y	1.04	2.04	4527.751	0.334
12346/12347-PeCDD	NotFnd		0.9858						1.04		4527.751	0.334
12378-PeCDD	33.61	J EMPC	**1.0007**	**1.0006**	**-0.2**	**6.56E+04**	**1.82**	**N**	**1.04**	**0.551**	**4527.751**	**0.334**
12367-PeCDD	NotFnd		1.0036						1.04		4527.751	0.334
12389-PeCDD	NotFnd		1.0137						1.04		4527.751	0.334
124679/124689-HxCDD	35.80		0.9540	0.9539	-0.2	5.26E+06	1.24	Y	1.10	44.8	3868.813	0.288
123468-HxCDD	36.46	J	0.9715	0.9716	+0.2	8.51E+04	1.42	Y	1.10	0.725	3868.813	0.288
123679/123689-HxCDD	36.75		0.9793	0.9792	-0.2	9.54E+05	1.37	Y	1.10	8.13	3868.813	0.288
123469-HxCDD	36.88	J	0.9829	0.9827	-0.4	7.62E+04	1.18	Y	1.10	0.649	3868.813	0.288
123478-HxCDD	37.55	J	**1.0004**	**1.0006**	**+0.5**	**3.92E+04**	**1.42**	**Y**	1.09	**0.359**	**3868.813**	**0.306**
123678-HxCDD	37.67	J EMPC	**1.0036**	**1.0037**	**+0.2**	**9.34E+04**	**1.53**	**N**	1.15	**0.75**	**3868.813**	**0.281**
123467-HxCDD	37.86	J EMPC	1.0089	1.0088	-0.2	3.81E+04	2.17	N	1.10	0.324	3868.813	0.288
123789-HxCDD	37.97	J	**1.0118**	**1.0117**	**-0.2**	**2.26E+05**	**1.19**	**Y**	1.05	**1.91**	**3868.813**	**0.279**

Lab ID: B6335_18959_DF_001 **Acq'd: 24 Feb 2022 21:22 DTF** **Wt/Vol: 11.58 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021922-S-SB-NC-S-50 **UTP: 25-Feb-2022 09:03:34 PSW** **J-level: 0.432 pg/g** **Split: 1** **Checkcode: 193-673-NSP**

Datafile: 220224C08 **Report: 25 Feb 2022 09:05 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

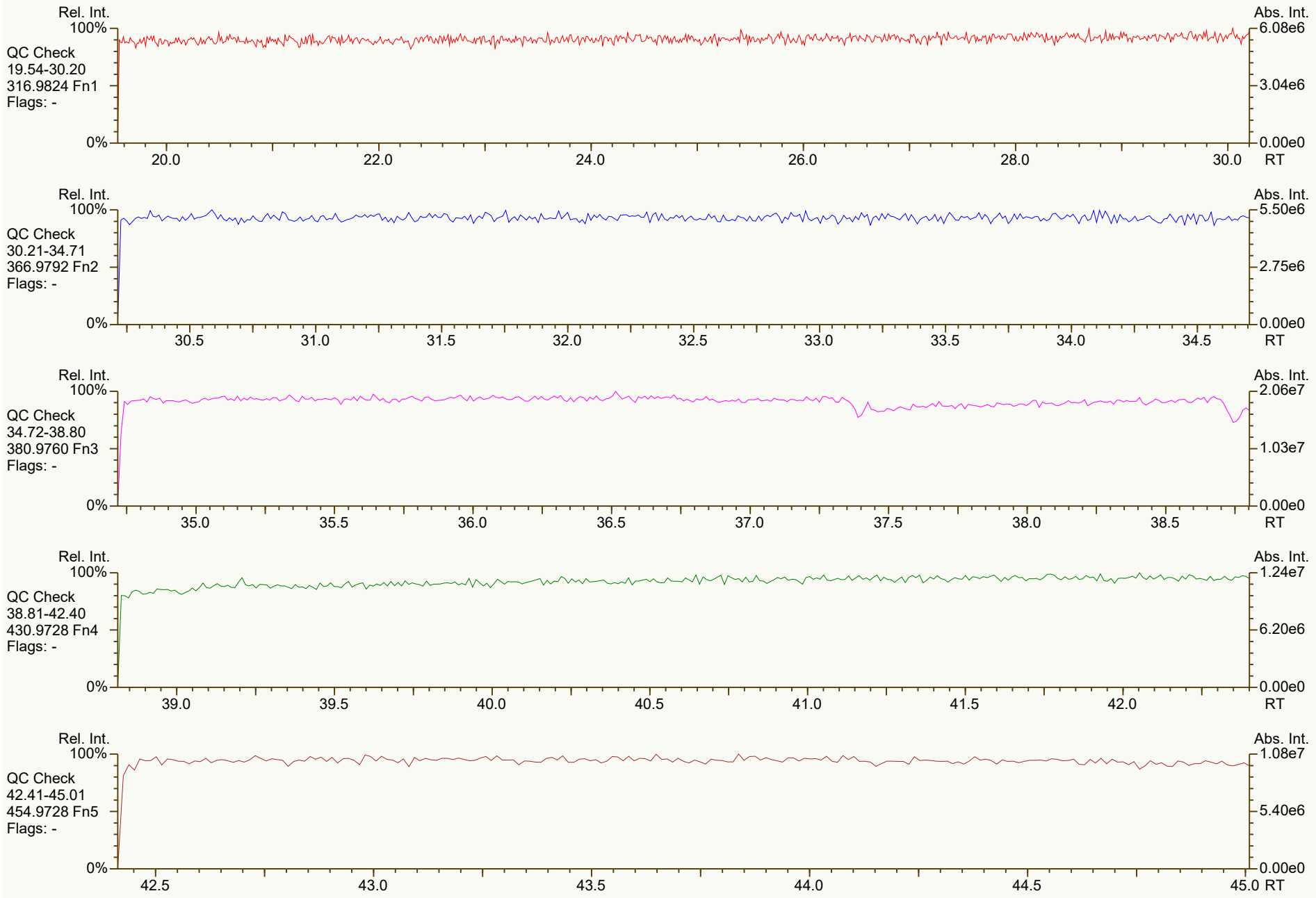
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.03		0.9836	0.9836	0	6.33E+06	1.08	Y	1.06	56.4	3279.139	0.239
1234678-HpCDD	**40.71**		**1.0002**	**1.0003**	**+0.2**	**3.17E+06**	**0.99**	**Y**	**1.06**	**28.3**	**3279.139**	**0.239**
OCDD	**43.41**		**1.0003**	**1.0003**	**0**	**4.92E+07**	**0.92**	**Y**	**1.13**	**592**	**4495.637**	**0.664**
OCDD-a	43.41		1.0002	1.0002	0	3.18E+06	2.62	Y	0.07	599	3947.847	9.12
1368-TCDF	NotFnd		0.8191						1.08		2705.462	0.149
1468-TCDF	NotFnd		0.8408						1.08		2705.462	0.149
2468-TCDF	NotFnd		0.8645						1.08		2705.462	0.149
1346/1246-TCDF	NotFnd		0.8772						1.08		2705.462	0.149
1347/1378/1247-TCDF	24.12		0.8833	0.8829	-0.6	2.24E+05	0.82	Y	1.08	1.11	2705.462	0.149
1348-TCDF	24.37	J EMPC	0.8932	0.8920	-1.8	7.42E+04	0.91	N	1.08	0.367	2705.462	0.149
1248/1367/1379-TCDF	24.47		0.8980	0.8960	-2.9	8.78E+05	0.86	Y	1.08	4.35	2705.462	0.149
1268-TCDF	24.89		0.9119	0.9113	-0.9	3.48E+05	0.70	Y	1.08	1.72	2705.462	0.149
1467-TCDF	NotFnd		0.9170						1.08		2705.462	0.149
1478-TCDF	25.20		0.9234	0.9226	-1.2	7.91E+05	0.77	Y	1.08	3.91	2705.462	0.149
1369/1237-TCDF	25.58	EMPC	0.9369	0.9364	-0.8	2.37E+05	0.97	N	1.08	1.17	2705.462	0.149
2467-TCDF	NotFnd		0.9415						1.08		2705.462	0.149
2368-TCDF	25.86	EMPC	0.9475	0.9468	-1.1	4.73E+05	0.92	N	1.08	2.34	2705.462	0.149
1238/1234/1678/1469/1236-TCDF	25.94		0.9507	0.9497	-1.6	1.00E+06	0.76	Y	1.08	4.97	2705.462	0.149
1278-TCDF	26.42		0.9676	0.9673	-0.5	8.30E+06	0.80	Y	1.08	41	2705.462	0.149
1349-TCDF	NotFnd		0.9722						1.08		2705.462	0.149
1267-TCDF	26.70		0.9777	0.9774	-0.5	4.74E+05	0.83	Y	1.08	2.34	2705.462	0.149
2346/1249-TCDF	NotFnd		0.9843						1.08		2705.462	0.149
2347/1279-TCDF	27.10	EMPC	0.9926	0.9922	-0.7	2.40E+05	0.64	N	1.08	1.19	2705.462	0.149
2348-TCDF	27.22		0.9968	0.9966	-0.3	1.31E+06	0.86	Y	1.08	6.49	2705.462	0.149
2378-TCDF	**27.34**		**1.0008**	**1.0008**	**0**	**1.79E+07**	**0.78**	**Y**	**1.08**	**88.4**	**2705.462**	**0.149**
2367/3467-TCDF	27.69		1.0142	1.0137	-0.8	1.62E+06	0.80	Y	1.08	8.03	2705.462	0.149
1269-TCDF	27.94		1.0235	1.0229	-1.0	2.95E+05	0.74	Y	1.08	1.46	2705.462	0.149
1239-TCDF	NotFnd		1.0329						1.08		2705.462	0.149
1289-TCDF	29.37		1.0742	1.0752	+1.8	1.55E+06	0.88	Y	1.08	7.66	2705.462	0.149
13468/12468-PeCDF	29.32	J EMPC	0.9122	0.9127	+0.9	1.29E+05	1.21	N	1.02	0.745	2817.536	0.145
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		3342.733	0.172
12368/13478/12478-PeCDF	31.04	J	0.9655	0.9661	+1.1	3.35E+05	1.52	Y	1.02	1.93	3342.733	0.172
14678-PeCDF	NotFnd		0.9685						1.02		3342.733	0.172
13479-PeCDF	NotFnd		0.9716						1.02		3342.733	0.172
13469/12479-PeCDF	NotFnd		0.9794						1.02		3342.733	0.172
12346-PeCDF	NotFnd		0.9836						1.02		3342.733	0.172

Lab ID: B6335_18959_DF_001 **Acq'd: 24 Feb 2022 21:22 DTF** **Wt/Vol: 11.58 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021922-S-SB-NC-S-50 **UTP: 25-Feb-2022 09:03:34 PSW** **J-level: 0.432 pg/g** **Split: 1** **Checkcode: 193-673-NSP**

Datafile: 220224C08 **Report: 25 Feb 2022 09:05 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		3342.733	0.172
12347-PeCDF	NotFnd		0.9891						1.02		3342.733	0.172
12348-PeCDF	31.94	J EMPC	0.9938	0.9941	+0.6	4.89E+04	1.20	N	1.02	0.282	3342.733	0.172
12378-PeCDF	**32.15**	EMPC	**1.0005**	**1.0005**	**0**	**5.14E+05**	**1.87**	**N**	**1.02**	**2.93**	**3342.733**	**0.174**
12678/12367-PeCDF	32.44	J	1.0091	1.0098	+1.4	1.99E+05	1.77	Y	1.02	1.15	3342.733	0.172
12379-PeCDF	NotFnd		1.0144						1.02		3342.733	0.172
12679-PeCDF	NotFnd		0.9927						1.02		3342.733	0.172
23467/12369-PeCDF	NotFnd		0.9965						1.02		3342.733	0.172
23478-PeCDF	**33.27**	PR	**1.0005**	**1.0006**	**+0.2**	**4.72E+05**	**1.67**	**Y**	**1.02**	**2.76**	**3342.733**	**0.17**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3342.733	0.172
12349-PeCDF	NotFnd		1.0101						1.02		3342.733	0.172
12389-PeCDF	NotFnd		1.0330						1.02		3342.733	0.172
123468-HxCDF	35.14	J	0.9622	0.9621	-0.2	8.18E+04	1.14	Y	1.19	0.497	2801.729	0.146
124678/134678-HxCDF	35.34	J	0.9678	0.9675	-0.6	2.49E+05	1.41	Y	1.19	1.52	2801.729	0.146
134679-HxCDF	NotFnd		0.9741						1.19		2801.729	0.146
124679-HxCDF	NotFnd		0.9795						1.19		2801.729	0.146
124689-HxCDF	36.00	J	0.9856	0.9856	0	1.17E+05	1.16	Y	1.19	0.71	2801.729	0.146
123467-HxCDF	NotFnd		0.9972						1.19		2801.729	0.146
123478-HxCDF	**36.54**		**1.0004**	**1.0004**	**0**	**7.48E+05**	**1.22**	**Y**	**1.27**	**4.7**	**2801.729**	**0.151**
123678-HxCDF	**36.68**	J	**1.0004**	**1.0005**	**+0.2**	**2.25E+05**	**1.09**	**Y**	**1.15**	**1.33**	**2801.729**	**0.142**
123479-HxCDF	NotFnd		1.0048						1.19		2801.729	0.146
123469-HxCDF	NotFnd		1.0089						1.19		2801.729	0.146
123679-HxCDF	NotFnd		0.9942						1.19		2801.729	0.146
234678-HxCDF	**37.35**	J	**1.0005**	**1.0002**	**-0.7**	**9.93E+04**	**1.31**	**Y**	**1.19**	**0.518**	**2801.729**	**0.127**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2801.729	0.146
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2801.729**	**0.173**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.36	J EMPC	1.0006	1.0010	+0.9	3.99E+04	1.59	N	1.19	0.242	2801.729	0.146
1234678-HpCDF	**39.76**		**1.0003**	**1.0002**	**-0.2**	**4.47E+05**	**1.02**	**Y**	**1.37**	**2.8**	**2935.255**	**0.152**
1234679-HpCDF	NotFnd		1.0068						1.34		2935.255	0.177
1234689-HpCDF	40.17	**EMPC**	1.0104	1.0105	+0.2	3.11E+05	1.20	N	1.34	2.25	2935.255	0.177
1234789-HpCDF	**41.17**	**J**	**1.0003**	**1.0005**	**+0.5**	**7.40E+04**	**0.99**	**Y**	**1.31**	**0.627**	**2935.255**	**0.209**
OCDF	**43.58**		**1.0002**	**1.0002**	**0**	**5.54E+05**	**0.95**	**Y**	**1.07**	**5.71**	**4347.843**	**0.538**
OCDF-a	NotFnd		1.0001						0.07		3034.12	6.06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19.54-30.20
316.9824 Fn1
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3.04e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.50e6
2.75e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.06e7
1.03e7
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.24e7
6.20e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
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5.40e6
0.00e0
42.5
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43.5
44.0
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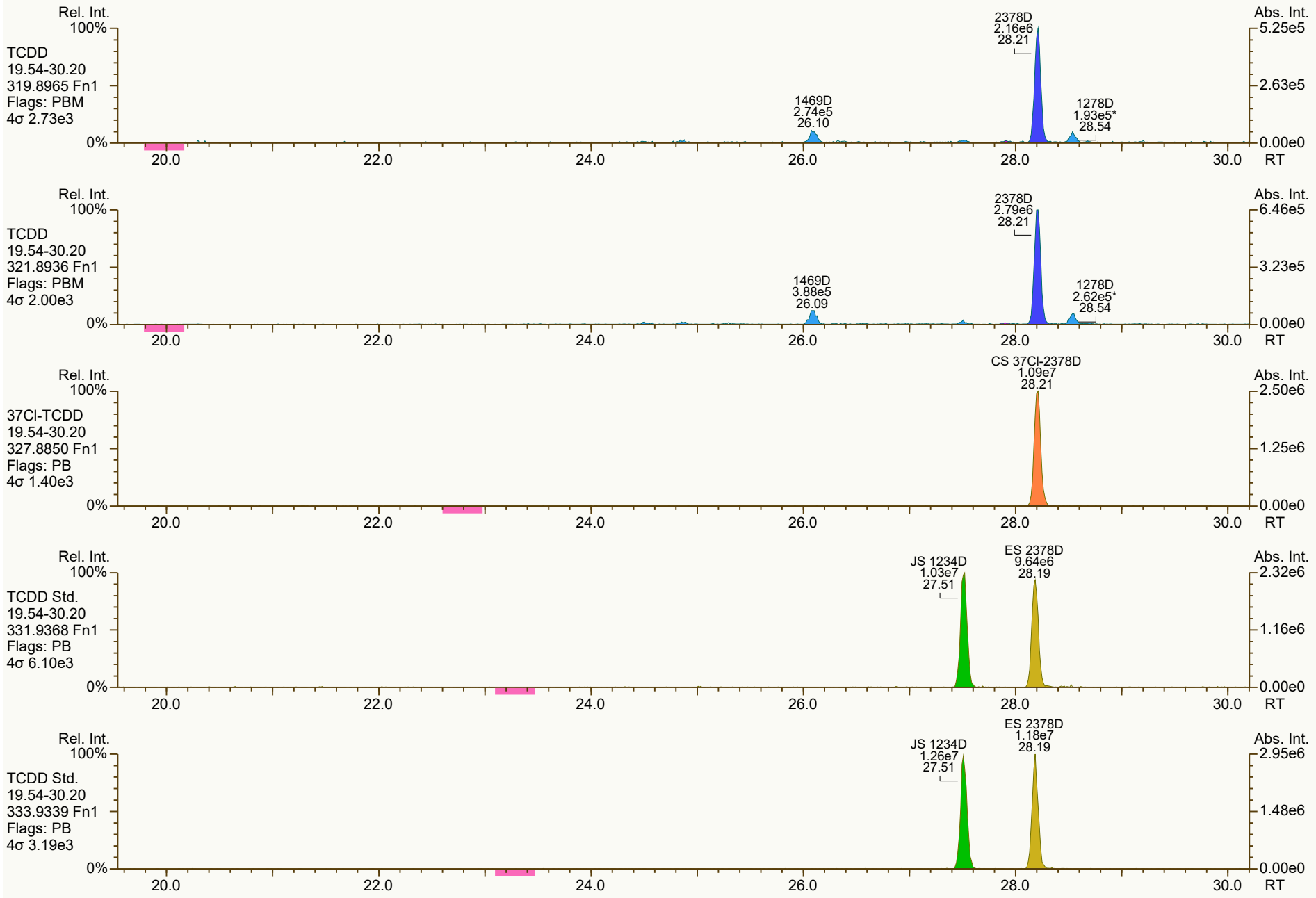
45.0
RT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100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.73e3
0%
2378D
2.16e6
28.21
1469D
2.74e5
26.10
1278D
1.93e5*
28.54
Abs. Int.
5.25e5
2.63e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 2.00e3
0%
2378D
2.79e6
28.21
1469D
3.88e5
26.09
1278D
2.62e5*
28.54
Abs. Int.
6.46e5
3.23e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.40e3
0%
CS 37Cl-2378D
1.09e7
28.21
Abs. Int.
2.50e6
1.25e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.10e3
0%
JS 1234D
1.03e7
27.51
ES 2378D
9.64e6
28.19
Abs. Int.
2.32e6
1.16e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.19e3
0%
JS 1234D
1.26e7
27.51
ES 2378D
1.18e7
28.19
Abs. Int.
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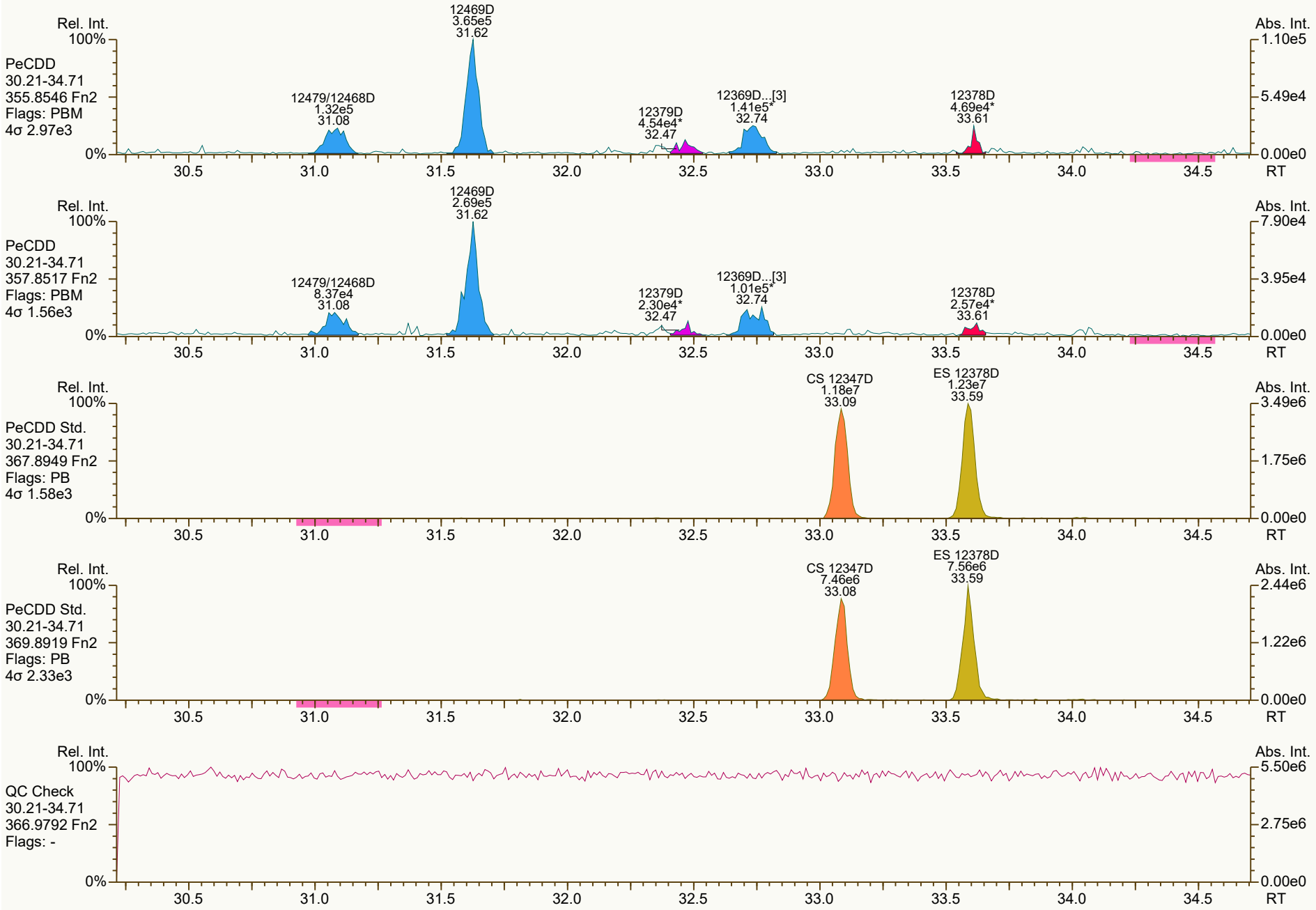
1.48e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT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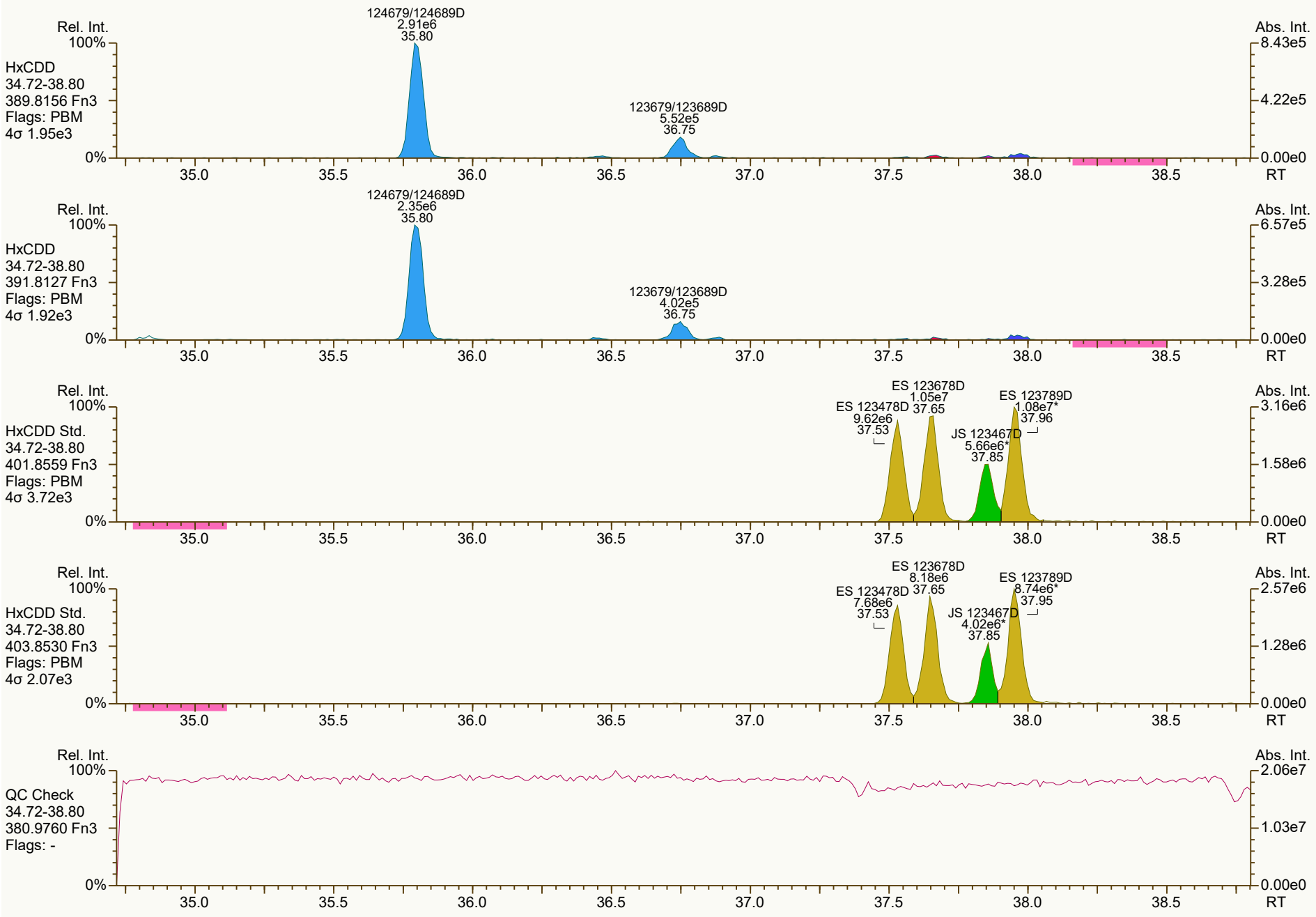
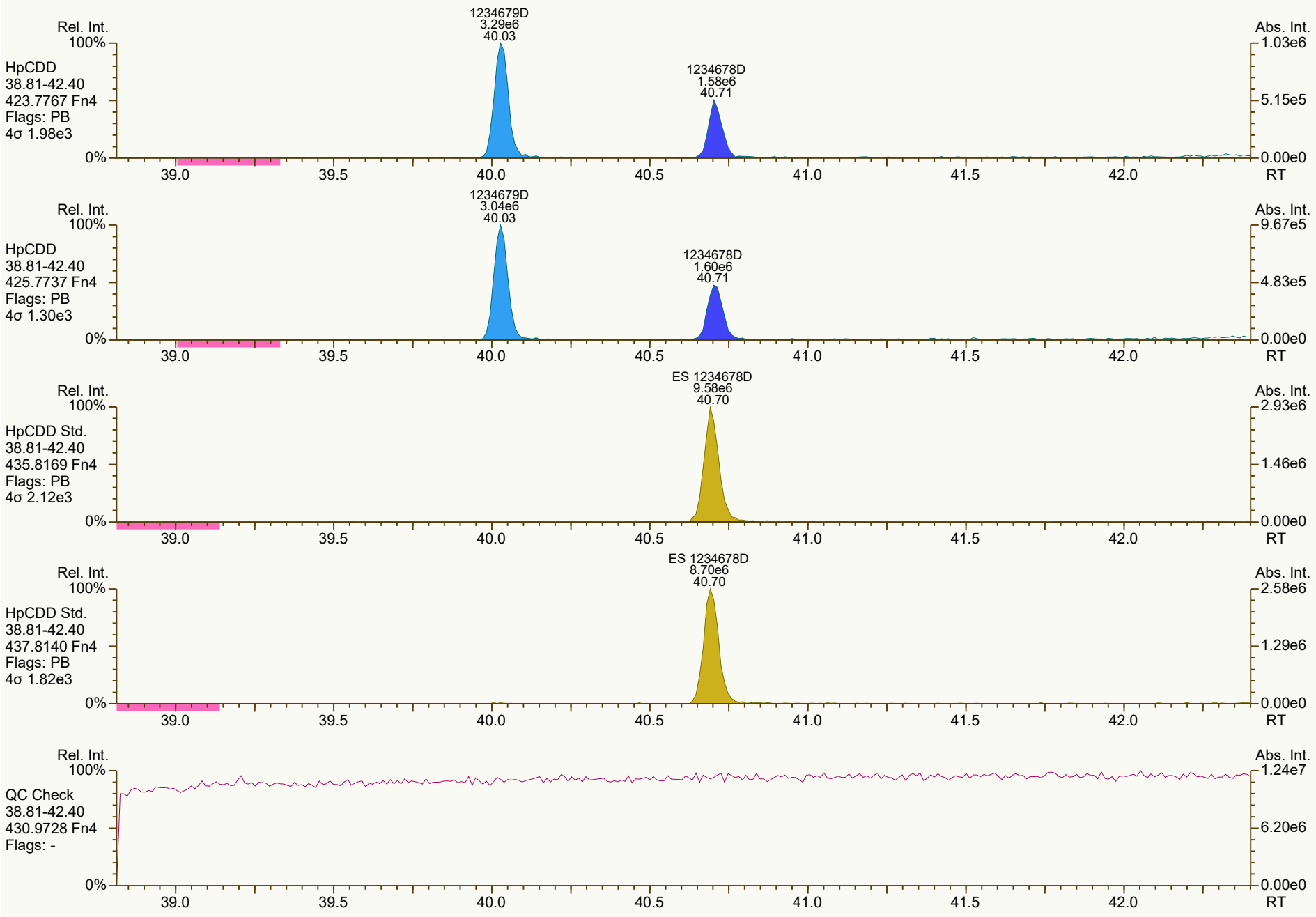
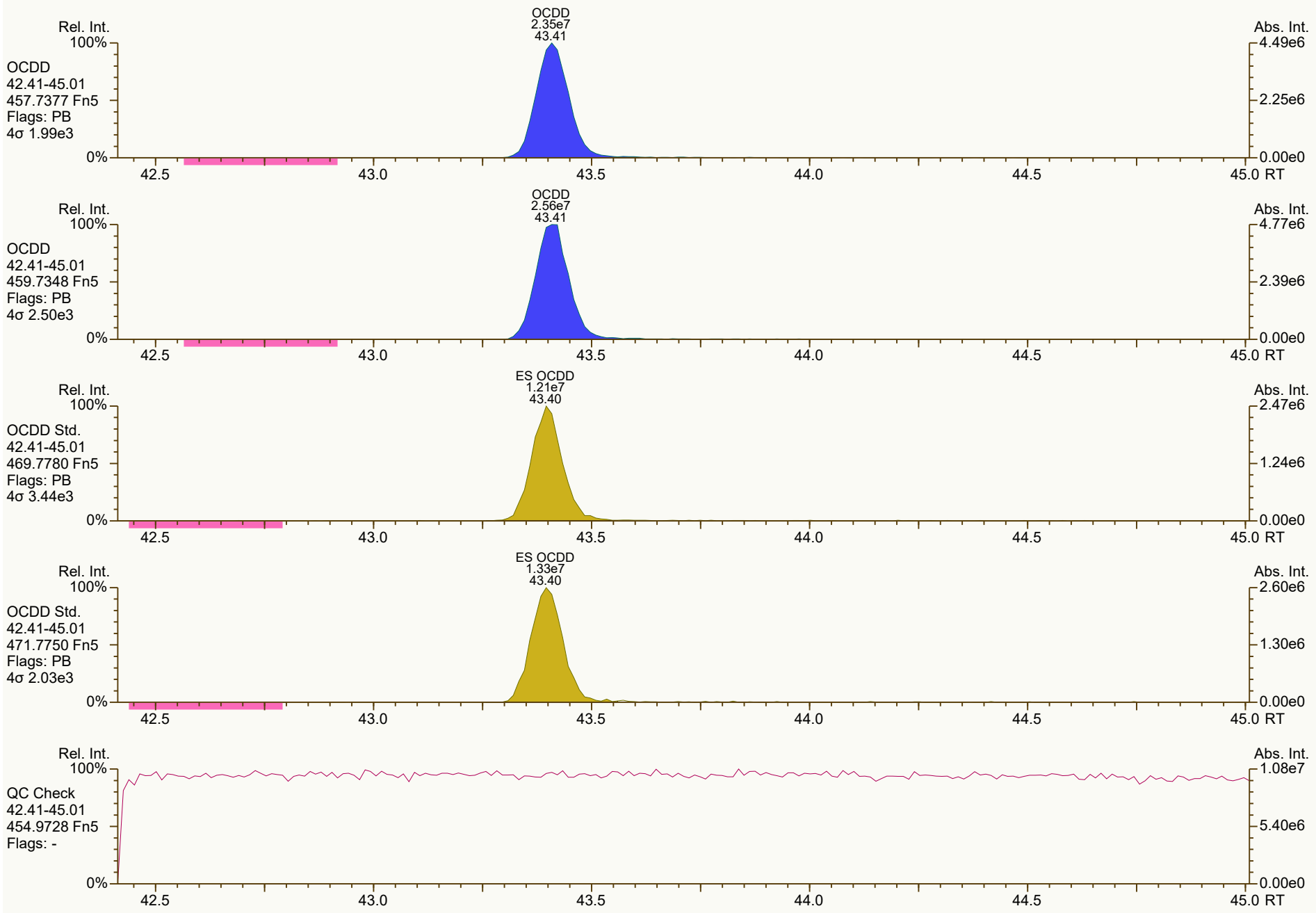
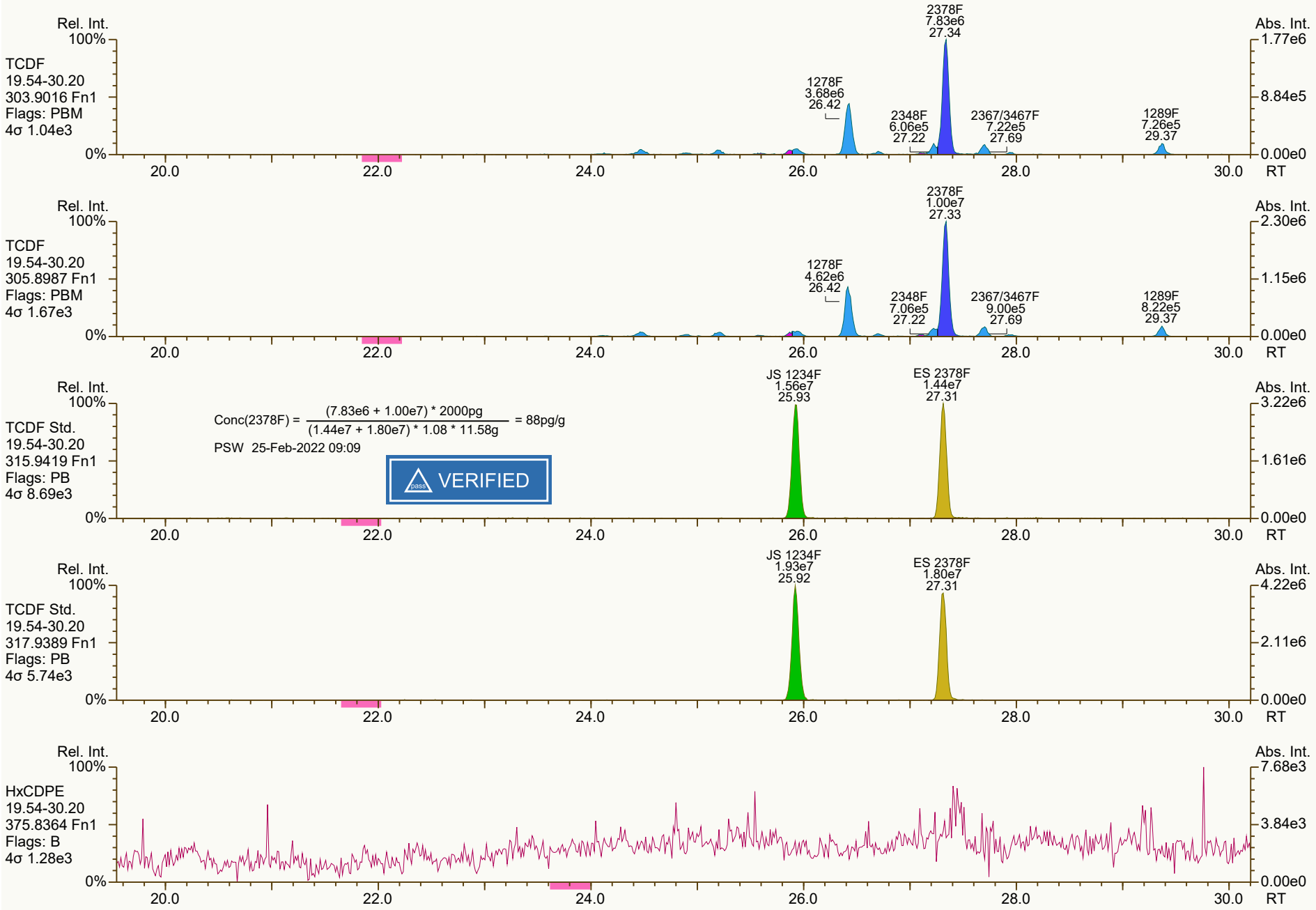
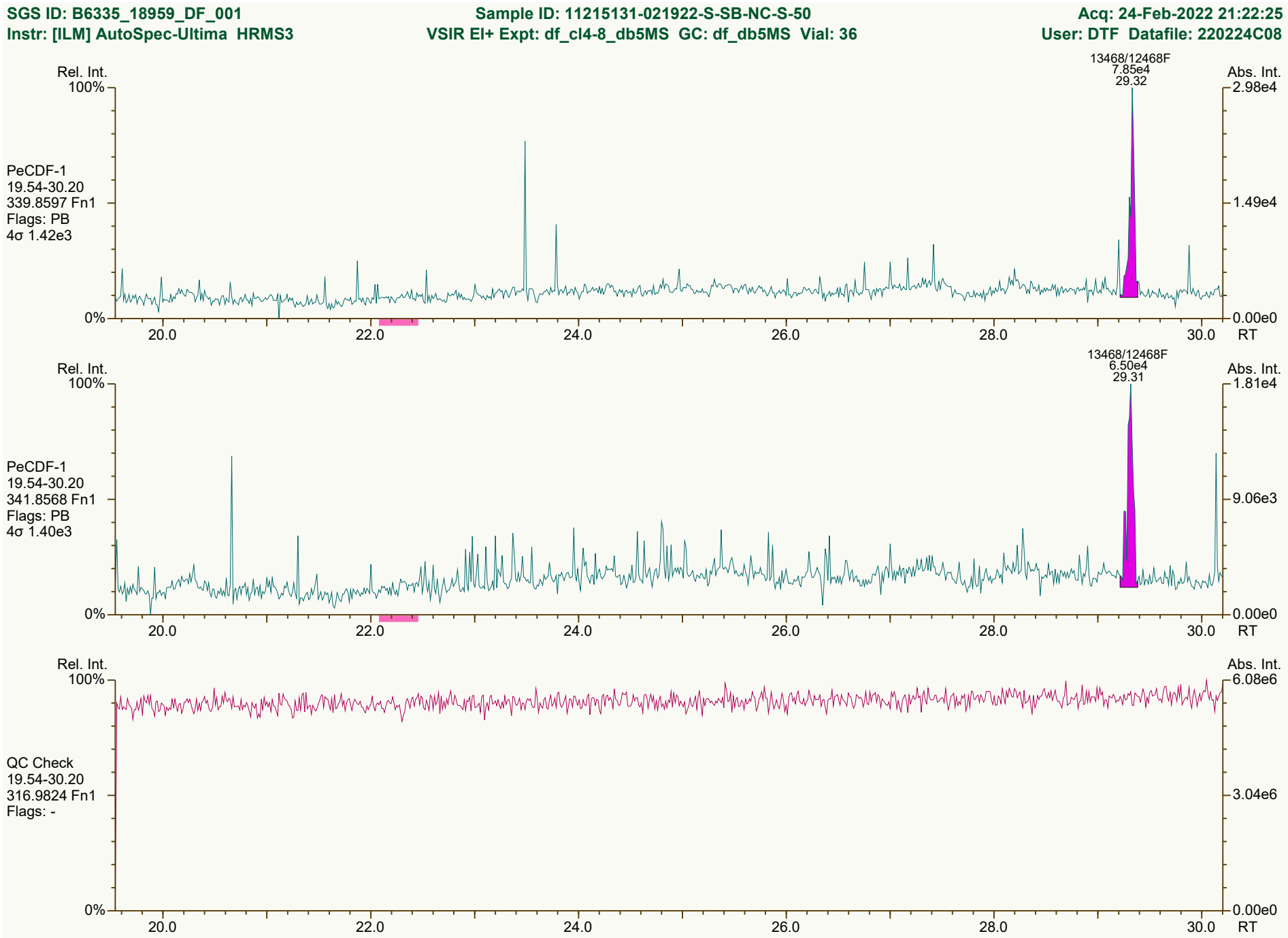
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 2.97e3
12469D
3.65e5
31.62
12479/12468D
1.32e5
31.08
12379D
4.54e4*
32.47
12369D...[3]
1.41e5*
32.74
12378D
4.69e4*
33.61
Abs. Int.
1.10e5
5.49e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 1.56e3
12469D
2.69e5
31.62
12479/12468D
8.37e4
31.08
12379D
2.30e4*
32.47
12369D...[3]
1.01e5*
32.74
12378D
2.57e4*
33.61
Abs. Int.
7.90e4
3.95e4
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 1.58e3
CS 12347D
1.18e7
33.09
ES 12378D
1.23e7
33.59
Abs. Int.
3.49e6
1.75e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.33e3
CS 12347D
7.46e6
33.08
ES 12378D
7.56e6
33.59
Abs. Int.
2.44e6
1.22e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Abs. Int.
5.50e6
2.75e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

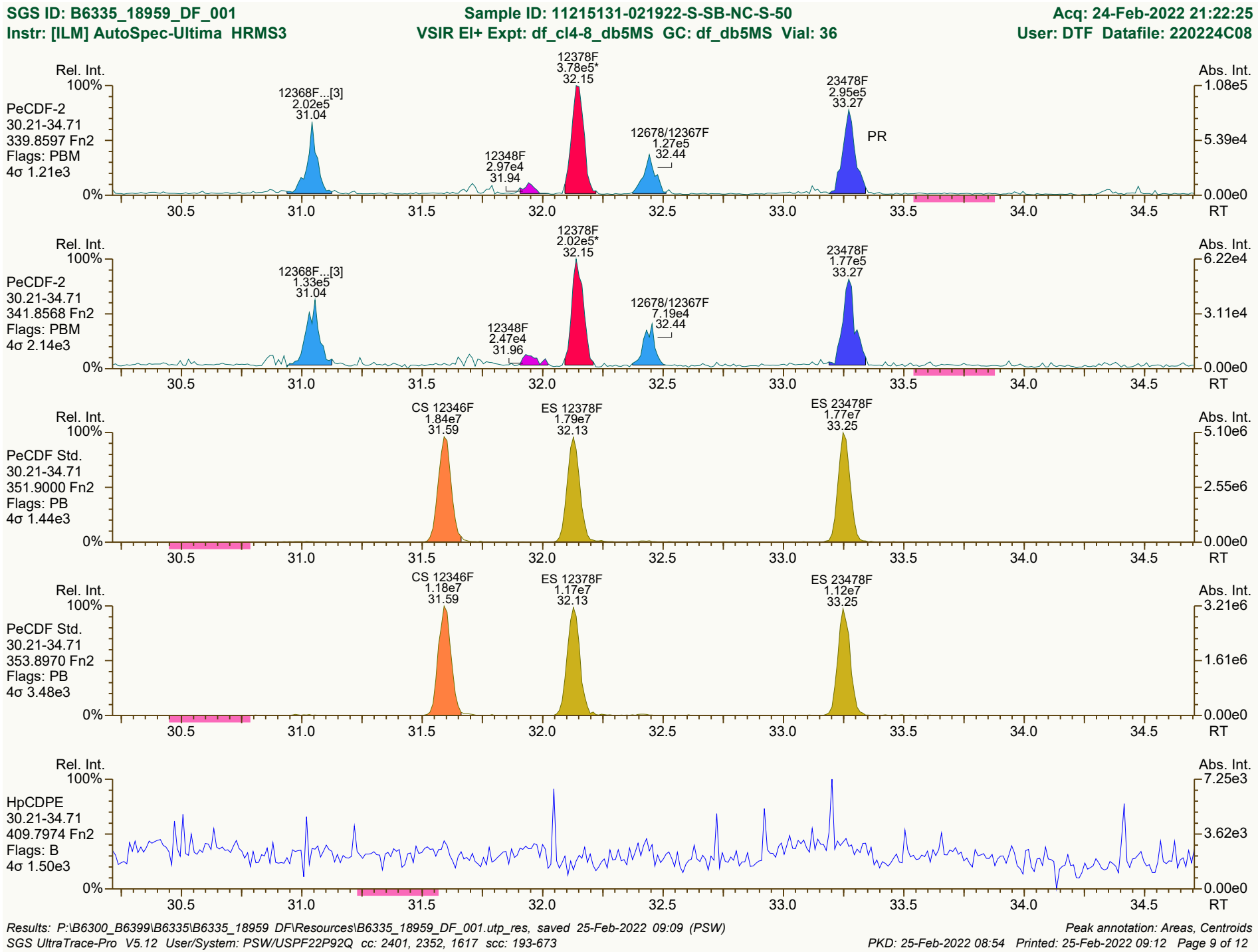

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 1.95e3
124679/124689D
2.91e6
35.80
123679/123689D
5.52e5
36.75
Abs. Int.
8.43e5
4.22e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 1.92e3
124679/124689D
2.35e6
35.80
123679/123689D
4.02e5
36.75
Abs. Int.
6.57e5
3.28e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 3.72e3
ES 123678D
1.05e7
37.65
ES 123478D
9.62e6
37.53
ES 123789D
1.08e7*
37.96
JS 123467D
5.66e6*
37.85
Abs. Int.
3.16e6
1.58e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 2.07e3
ES 123678D
8.18e6
37.65
ES 123478D
7.68e6
37.53
ES 123789D
8.74e6*
37.95
JS 123467D
4.02e6*
37.85
Abs. Int.
2.57e6
1.28e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
2.06e7
1.03e7
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

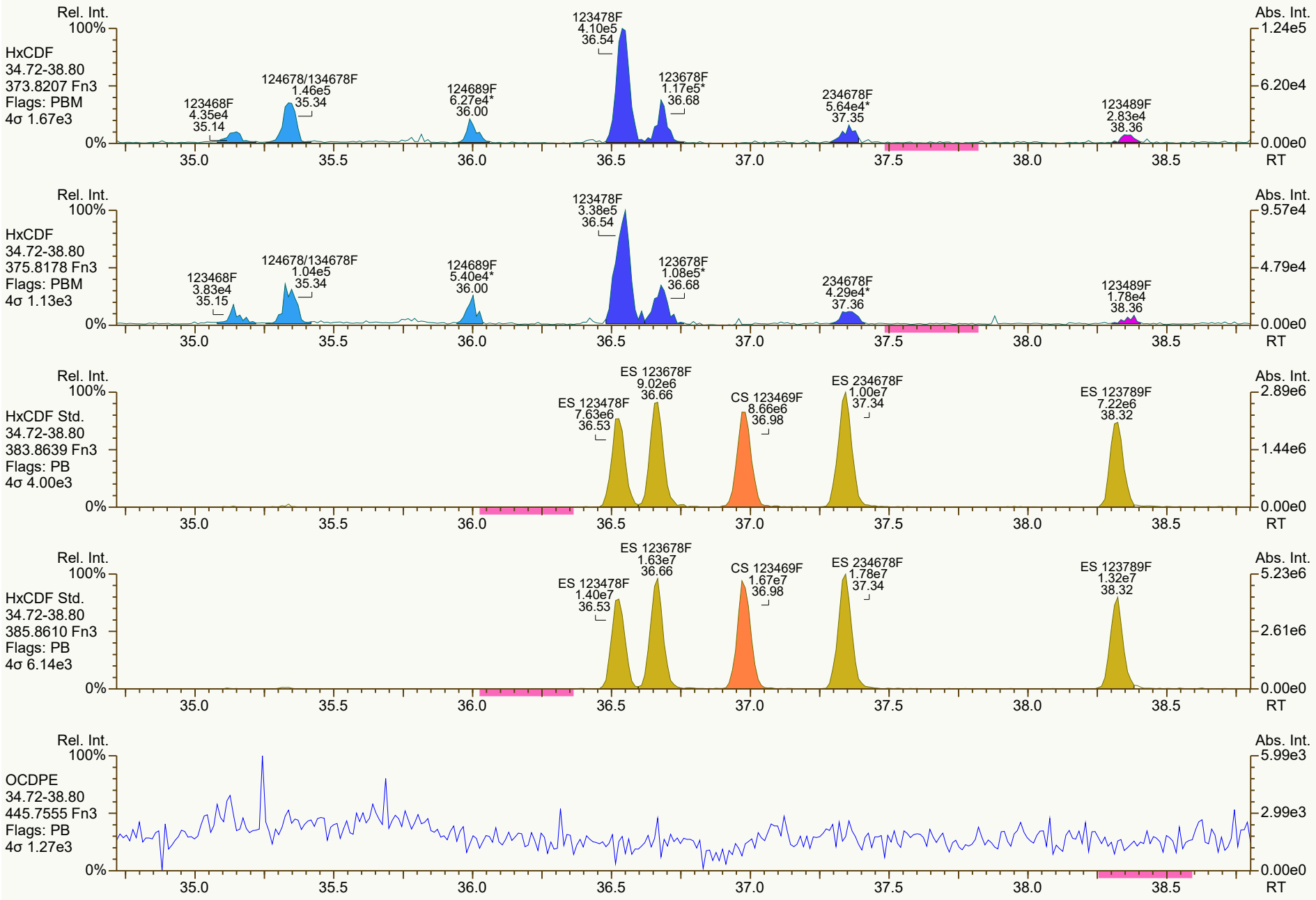

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 1.98e3
1234679D
3.29e6
40.03
1234678D
1.58e6
40.71
Abs. Int.
1.03e6
5.15e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.30e3
1234679D
3.04e6
40.03
1234678D
1.60e6
40.71
Abs. Int.
9.67e5
4.83e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 2.12e3
ES 1234678D
9.58e6
40.70
Abs. Int.
2.93e6
1.46e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.82e3
ES 1234678D
8.70e6
40.70
Abs. Int.
2.58e6
1.29e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.24e7
6.20e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

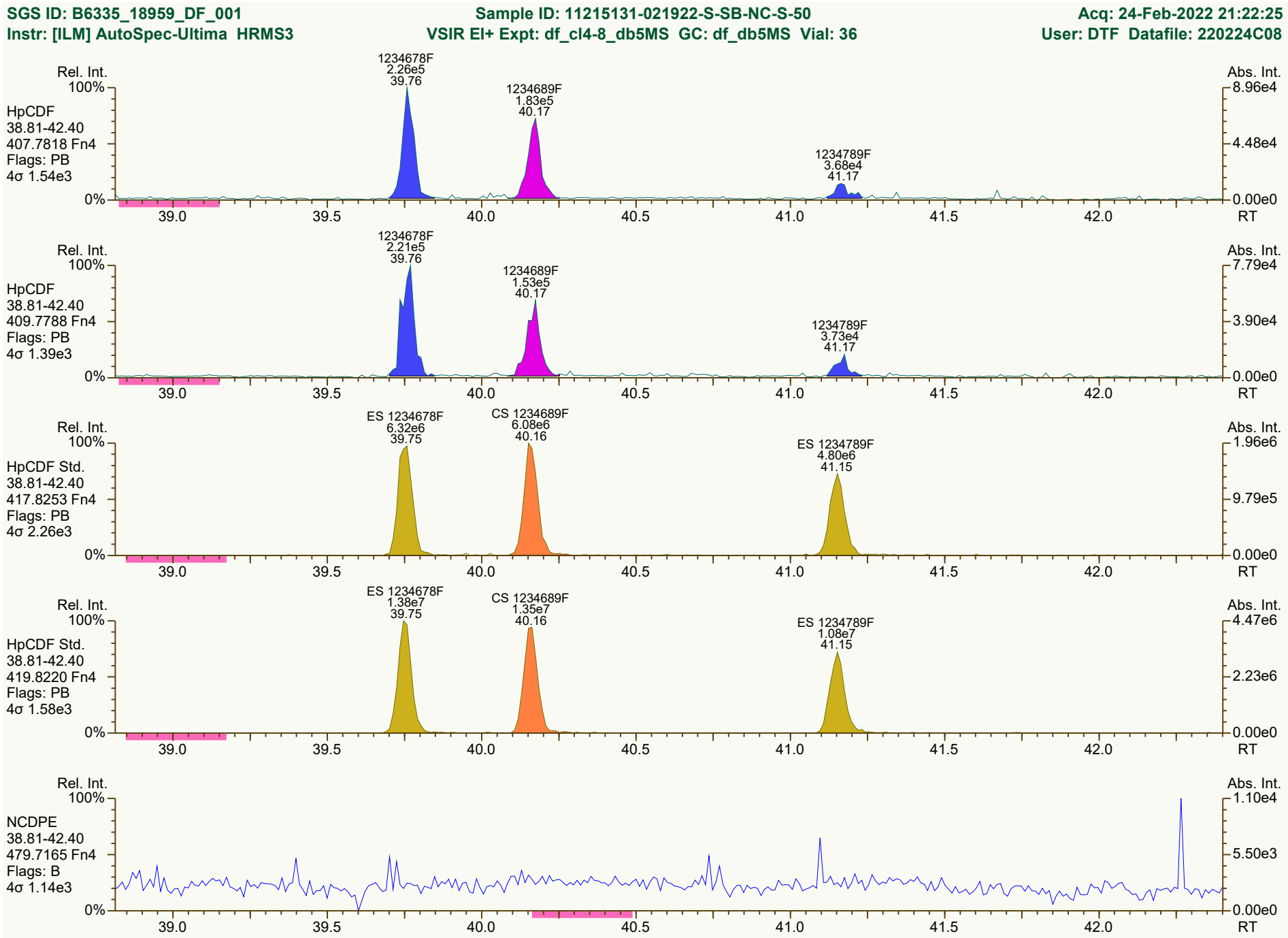

Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 1.99e3
0%
OCDD
2.35e7
43.41
Abs. Int.
4.49e6
2.25e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 2.50e3
0%
OCDD
2.56e7
43.41
Abs. Int.
4.77e6
2.39e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 3.44e3
0%
ES OCDD
1.21e7
43.40
Abs. Int.
2.47e6
1.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 2.03e3
0%
ES OCDD
1.33e7
43.40
Abs. Int.
2.60e6
1.30e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.08e7
5.40e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.04e3
0%
2378F
7.83e6
27.34
1278F
3.68e6
26.42
2348F
6.06e5
27.22
2367/3467F
7.22e5
27.69
1289F
7.26e5
29.37
Abs. Int.
1.77e6
8.84e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.67e3
0%
2378F
1.00e7
27.33
1278F
4.62e6
26.42
2348F
7.06e5
27.22
2367/3467F
9.00e5
27.69
1289F
8.22e5
29.37
Abs. Int.
2.30e6
1.15e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 8.69e3
0%
Conc(2378F) = (7.83e6 + 1.00e7) * 2000pg / (1.44e7 + 1.80e7) * 1.08 * 11.58g = 88pg/g
PSW 25-Feb-2022 09:09
VERIFIED
JS 1234F
1.56e7
25.93
ES 2378F
1.44e7
27.31
Abs. Int.
3.22e6
1.61e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 5.74e3
0%
JS 1234F
1.93e7
25.92
ES 2378F
1.80e7
27.31
Abs. Int.
4.22e6
2.11e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.28e3
0%
Abs. Int.
7.68e3
3.84e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6335_18959_DF_001
Sample ID: 11215131-021922-S-SB-NC-S-50
Acq: 24-Feb-2022 21:22:25
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 36
User: DTF Datafile: 220224C08
Rel. Int.
100%
0%
Abs. Int.
2.98e4
1.49e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.42e3
13468/12468F
7.85e4
29.32
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.40e3
13468/12468F
6.50e4
29.31
1.81e4
9.06e3
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
6.08e6
3.04e6
Results: P:\B6300_B6399\B6335\B6335_18959 DF\Resources\B6335_18959_DF_001.utp_res, saved 25-Feb-2022 09:09 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4365 scc: 193-673
PKD: 25-Feb-2022 08:54 Printed: 25-Feb-2022 09:12 Page 8 of 12


SGS ID: B6335_18959_DF_001
Sample ID: 11215131-021922-S-SB-NC-S-50
Acq: 24-Feb-2022 21:22:25
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 36
User: DTF Datafile: 220224C08
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 1.21e3
12368F...[3] 2.02e5 31.04
12348F 2.97e4 31.94
12378F 3.78e5* 32.15
12678/12367F 1.27e5 32.44
23478F 2.95e5 33.27
PR
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 2.14e3
12368F...[3] 1.33e5 31.04
12348F 2.47e4 31.96
12378F 2.02e5* 32.15
12678/12367F 7.19e4 32.44
23478F 1.77e5 33.27
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 1.44e3
CS 12346F 1.84e7 31.59
ES 12378F 1.79e7 32.13
ES 23478F 1.77e7 33.25
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 3.48e3
CS 12346F 1.18e7 31.59
ES 12378F 1.17e7 32.13
ES 23478F 1.12e7 33.25
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.50e3
Rel. Int.
Abs. Int.
RT
Results: P:\B6300_B6399\B6335\B6335_18959 DF\Resources\B6335_18959_DF_001.utp_res, saved 25-Feb-2022 09:09 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2401, 2352, 1617 scc: 193-673
PKD: 25-Feb-2022 08:54 Printed: 25-Feb-2022 09:12 Page 9 of 12


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 1.67e3
123468F 4.35e4 35.14
124678/134678F 1.46e5 35.34
124689F 6.27e4* 36.00
123478F 4.10e5 36.54
123678F 1.17e5* 36.68
234678F 5.64e4* 37.35
123489F 2.83e4 38.36
Abs. Int.
1.24e5
6.20e4
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 1.13e3
123468F 3.83e4 35.15
124678/134678F 1.04e5 35.34
124689F 5.40e4* 36.00
123478F 3.38e5 36.54
123678F 1.08e5* 36.68
234678F 4.29e4* 37.36
123489F 1.78e4 38.36
9.57e4
4.79e4
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 4.00e3
ES 123478F 7.63e6 36.53
ES 123678F 9.02e6 36.66
CS 123469F 8.66e6 36.98
ES 234678F 1.00e7 37.34
ES 123789F 7.22e6 38.32
2.89e6
1.44e6
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 6.14e3
ES 123478F 1.40e7 36.53
ES 123678F 1.63e7 36.66
CS 123469F 1.67e7 36.98
ES 234678F 1.78e7 37.34
ES 123789F 1.32e7 38.32
5.23e6
2.61e6
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.27e3
5.99e3
2.99e3



Results: P:\B6300_B6399\B6335\B6335_18959 DF\Resources\B6335_18959_DF_001.utp_res, saved 25-Feb-2022 09:09 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1103, 7820, 2777 scc: 193-673
PKD: 25-Feb-2022 08:54 Printed: 25-Feb-2022 09:12 Page 11 of 12


SGS ID: B6335_18959_DF_001
Sample ID: 11215131-021922-S-SB-NC-S-50
Acq: 24-Feb-2022 21:22:25
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 36
User: DTF Datafile: 220224C08
OCDF
2.70e5*
43.58
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 1.82e3
0%
Abs. Int.
6.48e4
3.24e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.84e5*
43.57
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 2.53e3
0%
Abs. Int.
6.11e4
3.06e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.51e7
43.57
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 2.23e3
0%
Abs. Int.
3.16e6
1.58e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.61e7
43.57
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 1.97e3
0%
Abs. Int.
3.20e6
1.60e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.32e3
0%
Abs. Int.
2.74e3
1.37e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6300_B6399\B6335\B6335_18959 DF\Resources\B6335_18959_DF_001.utp_res, saved 25-Feb-2022 09:09 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7908, 3094, 3616 scc: 193-673
PKD: 25-Feb-2022 08:54 Printed: 25-Feb-2022 09:12 Page 12 of 12

REVIEWED
Tamara Burkamper , 2/25/2022, 10:49:00 AM

SGS Environmental Services — Run Log

Project: B6335_18959_DF

Instrument: HRMS3 (AutoSpec-Ultima)

MS Experiment: df_cl4-8_db5MS

GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	220224C01	3	CS3_220224_DF_CA ✓	1.00	25-347-1	DTF, PSW	126-530	24-Feb-2022	15:19:31
2	220224C02	34	OPR1_18959_DF	1.00	0_18959_OPR001	DTF, PSW	662-354	24-Feb-2022	16:44:22
3	220224C03	35	OPR2_18959_DF	1.00	0_18959_OPR002	DTF, PSW	120-753	24-Feb-2022	17:30:43
5	220224C05	2	SBS_220224_DF_CA	1.00	SIL 20-61-1	DTF, PSW	831-324	24-Feb-2022	19:03:25
6	220224C06	33	MB1_18959_DF_SDS	10.00	Method Blank	DTF, PSW	056-128	24-Feb-2022	19:49:44
8	220224C08	36	B6335_18959_DF_001 ✓	11.58	11215131-021922-S-SB-NC-S-50	DTF, PSW	193-673	24-Feb-2022	21:22:25

REVIEWED
paul_walton , 2/25/2022, 9:20:41 AM

Dioxin/Furan QC Summary	Acq'd: 24 Feb 2022 15:19 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220224_DF_CA	UTP: 25-Feb-2022 09:03:32 PSW	Checkcode: 126-530-YNP
Sample ID: 25-347-1	Report: 25 Feb 2022 09:10 pw	Datafile: 220224C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.22	3.48E+06	0.78	Y	1.18	1.15	-3%
12378-PeCDD	33.62	1.32E+07	1.52	Y	1.04	1.01	-3%
123478-HxCDD	37.55	1.26E+07	1.24	Y	1.09	1.09	0%
123678-HxCDD	37.68	1.28E+07	1.27	Y	1.15	1.11	-4%
123789-HxCDD	37.98	1.36E+07	1.26	Y	1.05	1.03	-2%
1234678-HpCDD	40.72	1.23E+07	1.04	Y	1.06	1.02	-3%
OCDD	43.44	2.09E+07	0.91	Y	1.13	1.09	-3%
2378-TCDF	27.35	4.85E+06	0.81	Y	1.08	1.06	-2%
12378-PeCDF	32.15	2.00E+07	1.54	Y	1.02	0.97	-6%
23478-PeCDF	33.28	1.95E+07	1.52	Y	1.02	1.09	7%
123478-HxCDF	36.55	1.83E+07	1.21	Y	1.27	1.20	-5%
123678-HxCDF	36.69	1.90E+07	1.21	Y	1.15	1.11	-4%
234678-HxCDF	37.37	1.80E+07	1.24	Y	1.19	1.13	-5%
123789-HxCDF	38.35	1.67E+07	1.23	Y	1.16	1.12	-4%
1234678-HpCDF	39.77	1.69E+07	1.02	Y	1.37	1.31	-4%
1234789-HpCDF	41.18	1.49E+07	1.04	Y	1.31	1.24	-5%
OCDF	43.61	2.64E+07	0.90	Y	1.07	1.04	-3%
ES 2378-TCDD	28.20	3.02E+07	0.77	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.598	2.61E+07	1.62	Y	0.88	0.89	1%
ES 123478-HxCDD	37.537	2.30E+07	1.30	Y	0.97	0.98	1%
ES 123678-HxCDD	37.659	2.32E+07	1.20	Y	0.94	0.99	5%
ES 123789-HxCDD	37.965	2.64E+07	1.24	Y	1.09	1.13	3%
ES 1234678-HpCDD	40.709	2.40E+07	1.08	Y	0.91	1.02	12%
ES OCDD	43.425	3.83E+07	0.90	Y	0.62	0.82	31% *
ES 2378-TCDF	27.326	4.58E+07	0.80	Y	1.06	1.01	-5%
ES 12378-PeCDF	32.136	4.14E+07	1.64	Y	0.91	0.91	0%
ES 23478-PeCDF	33.259	3.57E+07	1.32	Y	0.88	0.79	-11%
ES 123478-HxCDF	36.532	3.04E+07	0.56	Y	1.20	1.30	8%
ES 123678-HxCDF	36.671	3.42E+07	0.55	Y	1.35	1.46	8%
ES 234678-HxCDF	37.348	3.19E+07	0.54	Y	1.24	1.36	9%
ES 123789-HxCDF	38.33	2.99E+07	0.54	Y	1.16	1.27	10%
ES 1234678-HpCDF	39.762	2.58E+07	0.43	Y	0.97	1.10	14%
ES 1234789-HpCDF	41.169	2.39E+07	0.47	Y	0.85	1.02	20%
ES OCDF	43.599	5.09E+07	0.91	Y	0.81	1.09	34% *

*meets M1613B criteria
TB 2/25/2022

Dioxin/Furan QC Summary	Acq'd: 24 Feb 2022 15:19 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220224_DF_CA	UTP: 25-Feb-2022 09:03:32 PSW	Checkcode: 126-530-YNP
Sample ID: 25-347-1	Report: 25 Feb 2022 09:10 pw	Datafile: 220224C01

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.53	2.94E+07	0.80	Y	-	-	-
JS 1234-TCDF	25.94	4.54E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.86	1.17E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	28.22	3.95E+06	n/a	-	1.20	1.35	12%
CS 12347-PeCDD	33.09	2.35E+07	1.57	Y	0.75	0.80	6%
CS 12346-PeCDF	31.60	3.93E+07	1.54	Y	0.85	0.87	2%
CS 123469-HxCDF	36.99	3.13E+07	0.54	Y	1.12	1.34	20%
CS 1234689-HpCDF	40.17	2.59E+07	0.48	Y	0.89	1.11	25%
~~SS 37Cl-2378-TCDD~~	~~28.22~~	~~3.95E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.31~~	~~14%~~
~~SS 12347-PeCDD~~	~~33.09~~	~~2.35E+07~~	~~1.57~~	~~Y~~	~~0.86~~	~~0.90~~	~~5%~~
~~SS 12346-PeCDF~~	~~31.60~~	~~3.93E+07~~	~~1.54~~	~~Y~~	~~0.94~~	~~0.95~~	~~1%~~
~~SS 123469-HxCDF~~	~~36.99~~	~~3.13E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~0.92~~	~~11%~~
~~SS 1234689-HpCDF~~	~~40.17~~	~~2.59E+07~~	~~0.48~~	~~Y~~	~~0.92~~	~~1.00~~	~~9%~~
~~OCDD-a~~	~~43.43~~	~~1.31E+06~~	~~2.82~~	~~Y~~	~~0.07~~	~~0.07~~	~~-5%~~
~~OCDF-a~~	~~43.60~~	~~1.52E+06~~	~~2.57~~	~~Y~~	~~0.07~~	~~0.06~~	~~-10%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220224C01 Analysis Date: 24-FEB-2022 15:19:31

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.78	0.65 - 0.89	Y	9.72	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.52	1.32 - 1.78	Y	48.7	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	50.2	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	48.2	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05 - 1.43	Y	49.1	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88 - 1.20	Y	48.3	43 - 58	Y
OCDD	M+2/M+4	0.91	0.76 - 1.02	Y	97.1	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.81	0.65 - 0.89	Y	9.82	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.54	1.32 - 1.78	Y	47.1	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.52	1.32 - 1.78	Y	53.6	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.21	1.05 - 1.43	Y	47.3	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.21	1.05 - 1.43	Y	48.2	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	47.5	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	48.1	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.02	0.88 - 1.20	Y	47.8	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	0.88 - 1.20	Y	47.6	43 - 58	Y
OCDF	M+2/M+4	0.90	0.76 - 1.02	Y	97	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 25 Feb 2022 09:04 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

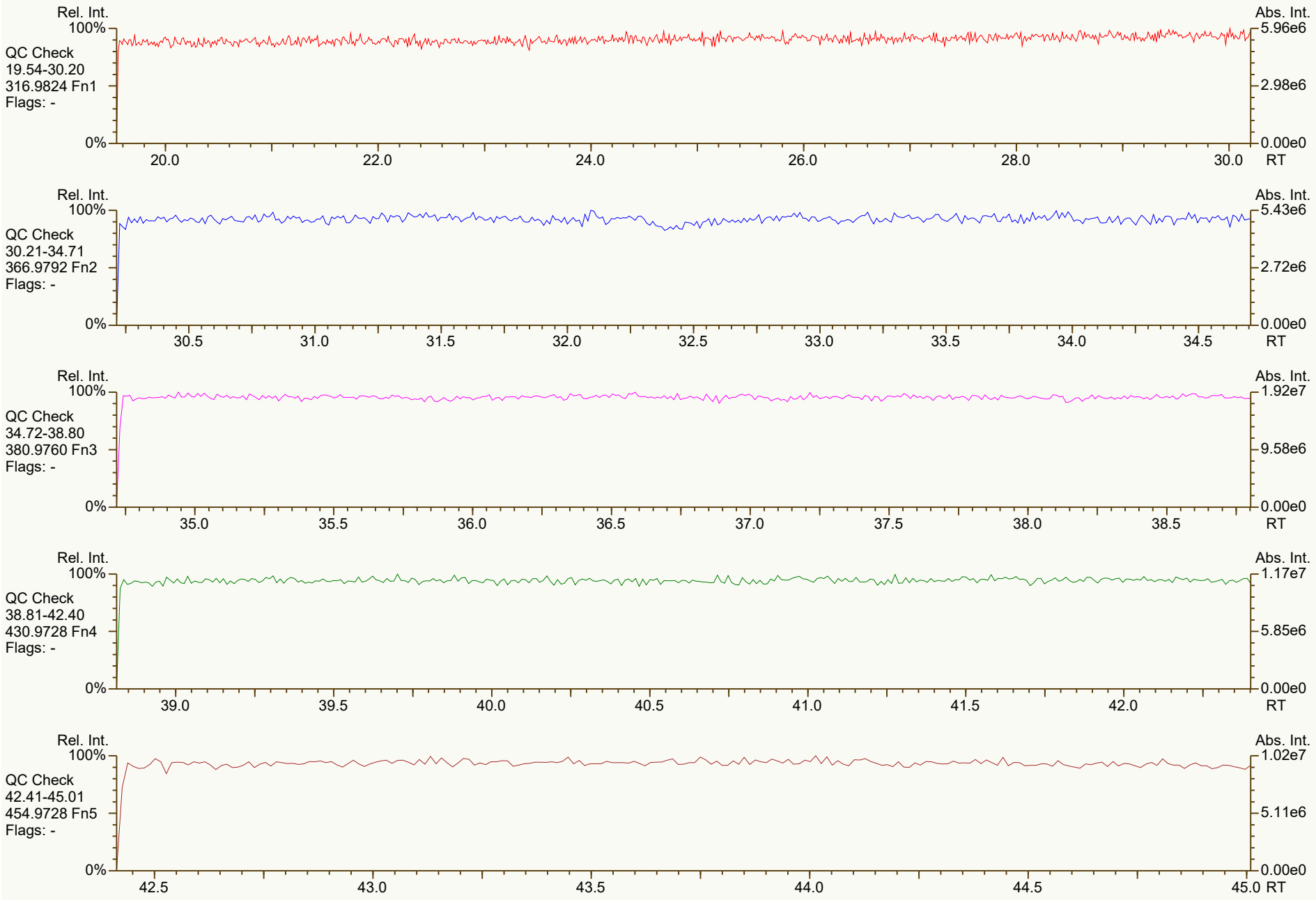
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220224C01 Analysis Date: 24-FEB-2022 15:19:31

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.77	0.65	-	0.89	Y	98.4	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.62	1.32	-	1.78	Y	101	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.30	1.05	-	1.43	Y	101	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.20	1.05	-	1.43	Y	105	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05	-	1.43	Y	103	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.08	0.88	-	1.20	Y	112	72	-	138	Y
13C-OCDD	M+2/M+4	0.90	0.76	-	1.02	Y	262	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65	-	0.89	Y	95.2	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.64	1.32	-	1.78	Y	100	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.32	1.32	-	1.78	Y	89	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.56	0.43	-	0.59	Y	108	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.55	0.43	-	0.59	Y	108	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	109	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	110	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.43	0.37	-	0.51	Y	114	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.47	0.37	-	0.51	Y	120	77	-	129	Y
13C-OCDF	M+2/M+4	0.91	0.76	-	1.02	Y	269	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						11.2	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.57	1.32	-	1.78	Y	106	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.54	1.32	-	1.78	Y	102	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	120	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.48	0.37	-	0.51	Y	125	70	-	130	Y

Processed: 25 Feb 2022 09:04 Analyst: pw


Rel. Int.
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QC Check
19.54-30.20
316.9824 Fn1
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0%
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22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
5.96e6
2.98e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
5.43e6
2.72e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.92e7
9.58e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.17e7
5.85e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
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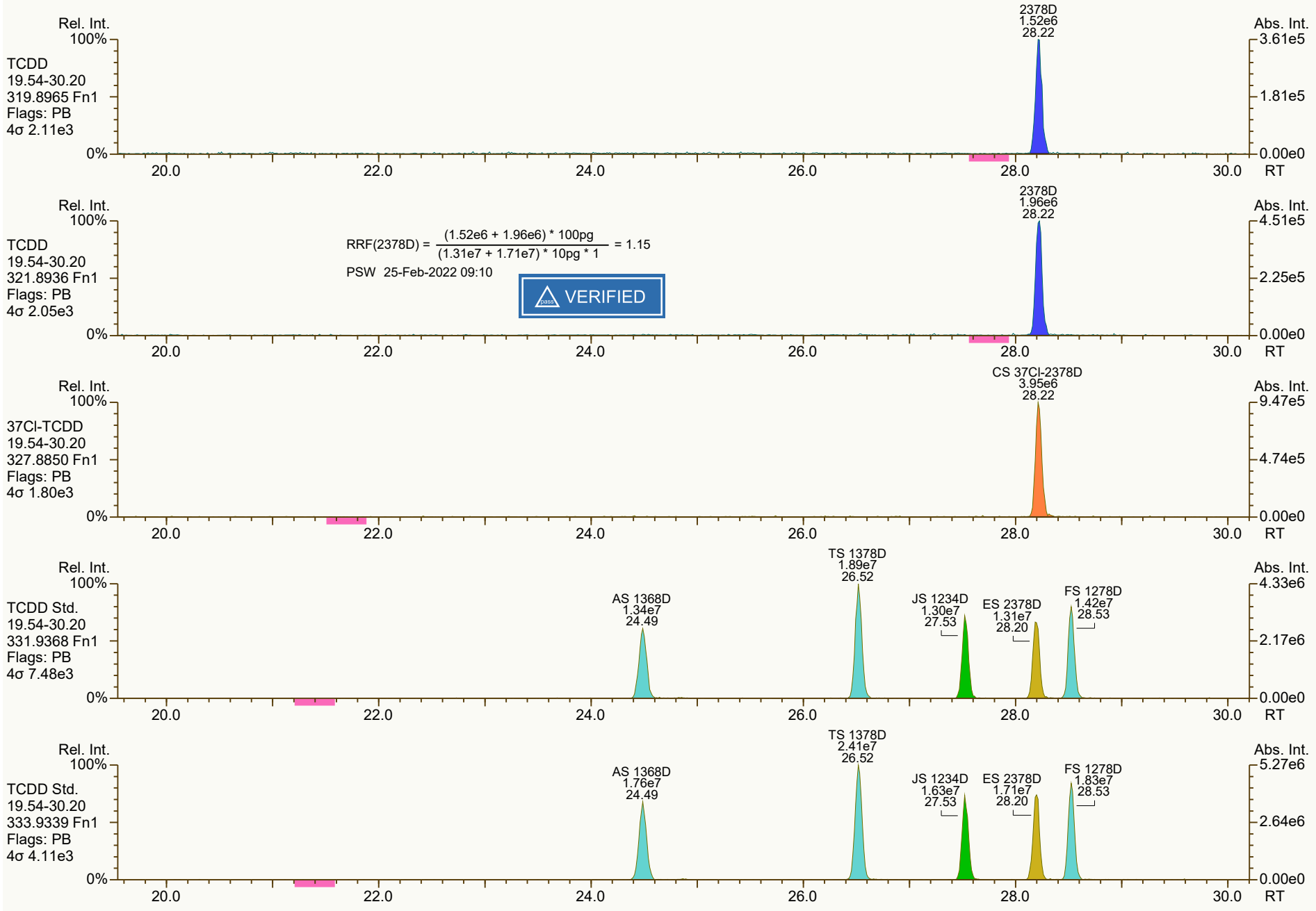
5.11e6
0.00e0


Rel. Int.
100%
0%
Abs. Int.
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.11e3
2378D
1.52e6
28.22
3.61e5
1.81e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 2.05e3
RRF(2378D) = (1.52e6 + 1.96e6) * 100pg / (1.31e7 + 1.71e7) * 10pg * 1 = 1.15
PSW 25-Feb-2022 09:10
VERIFIED
2378D
1.96e6
28.22
4.51e5
2.25e5
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.80e3
CS 37Cl-2378D
3.95e6
28.22
9.47e5
4.74e5
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 7.48e3
AS 1368D
1.34e7
24.49
TS 1378D
1.89e7
26.52
JS 1234D
1.30e7
27.53
ES 2378D
1.31e7
28.20
FS 1278D
1.42e7
28.53
4.33e6
2.17e6
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.11e3
AS 1368D
1.76e7
24.49
TS 1378D
2.41e7
26.52
JS 1234D
1.63e7
27.53
ES 2378D
1.71e7
28.20
FS 1278D
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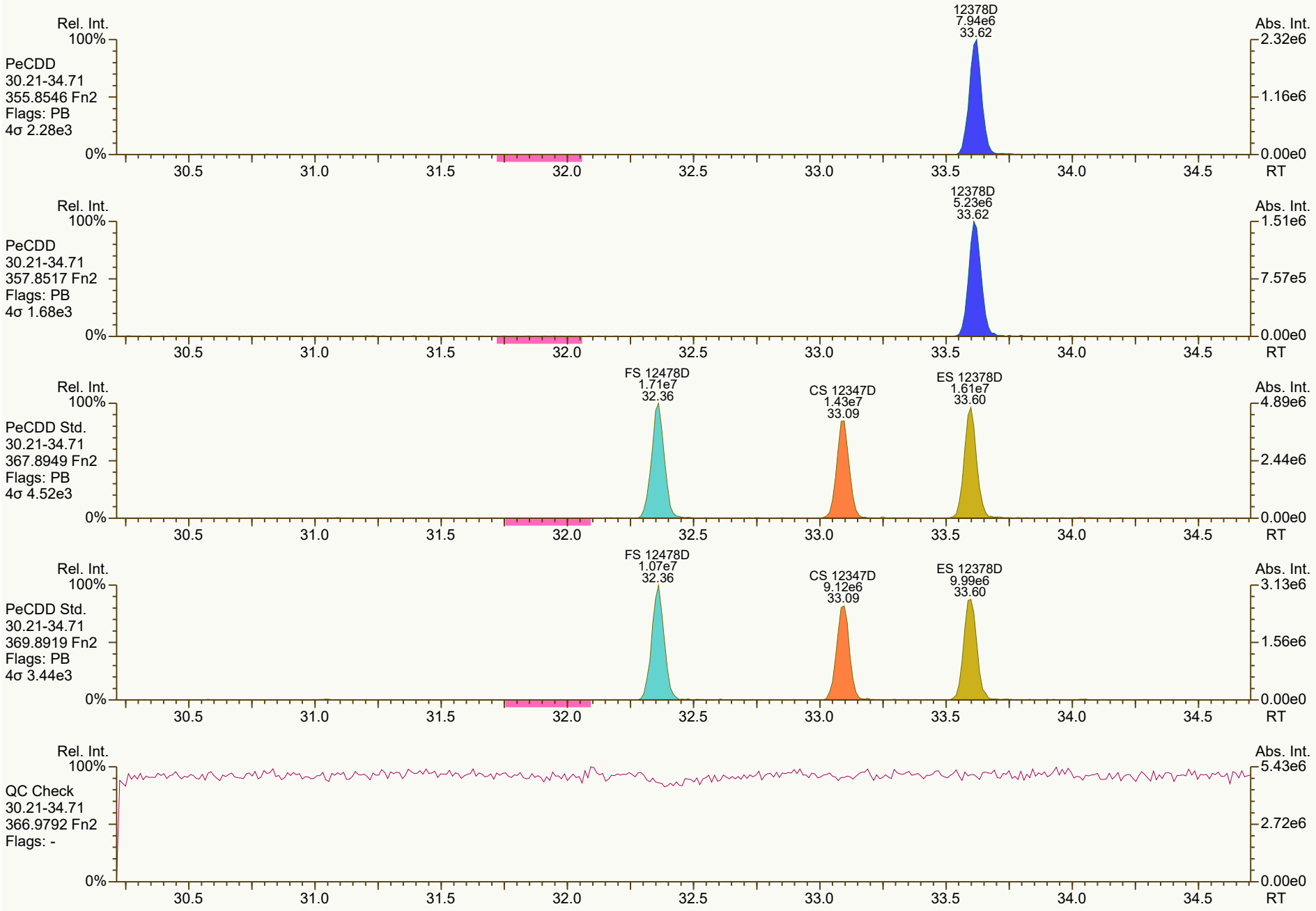
28.53
5.27e6
2.64e6


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
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0%
12378D
7.94e6
33.62
Abs. Int.
2.32e6
1.16e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.68e3
0%
12378D
5.23e6
33.62
Abs. Int.
1.51e6
7.57e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 4.52e3
0%
FS 12478D
1.71e7
32.36
CS 12347D
1.43e7
33.09
ES 12378D
1.61e7
33.60
Abs. Int.
4.89e6
2.44e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 3.44e3
0%
FS 12478D
1.07e7
32.36
CS 12347D
9.12e6
33.09
ES 12378D
9.99e6
33.60
Abs. Int.
3.13e6
1.56e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.43e6
2.72e6
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30.5
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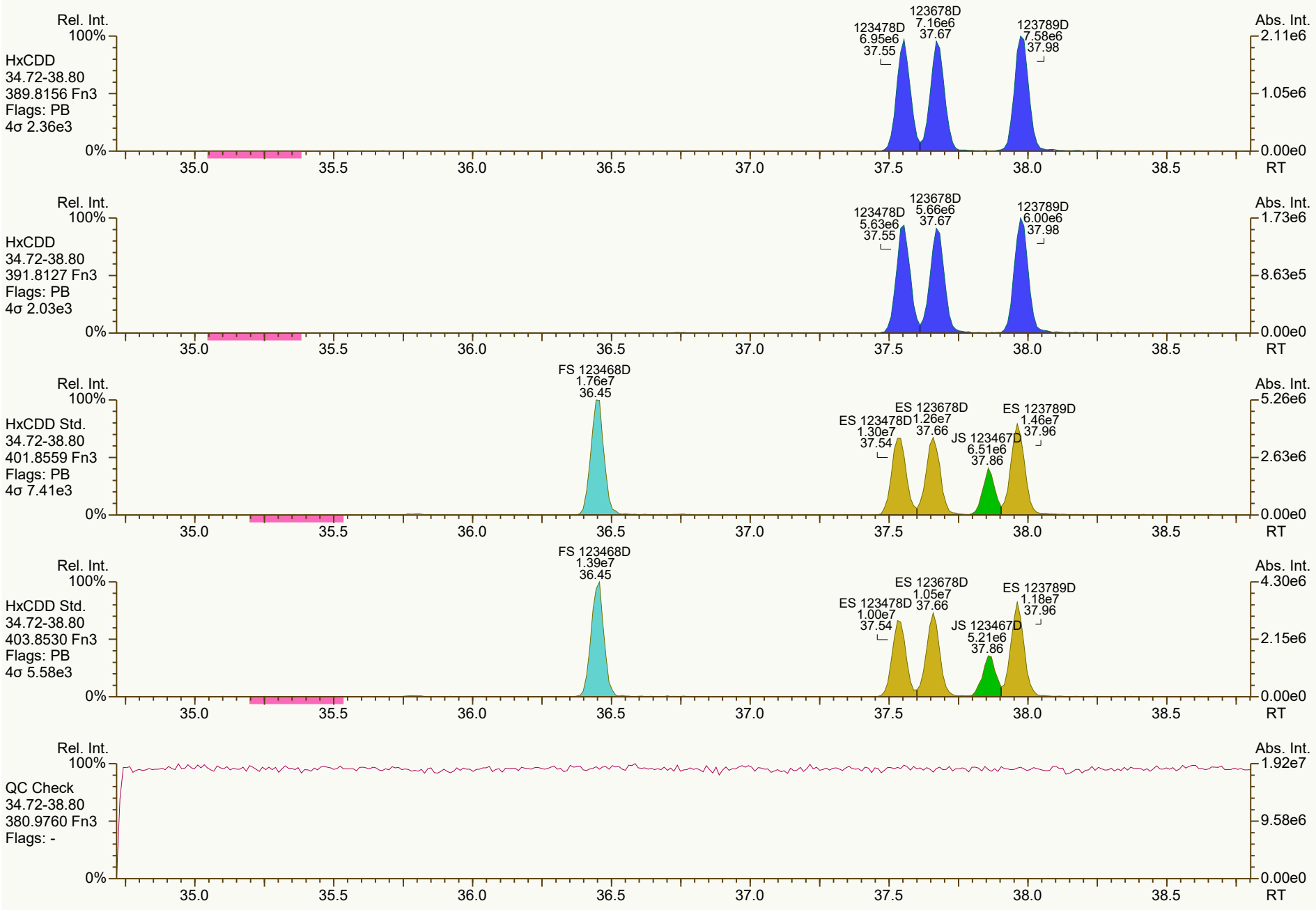
33.5
34.0
34.5
RT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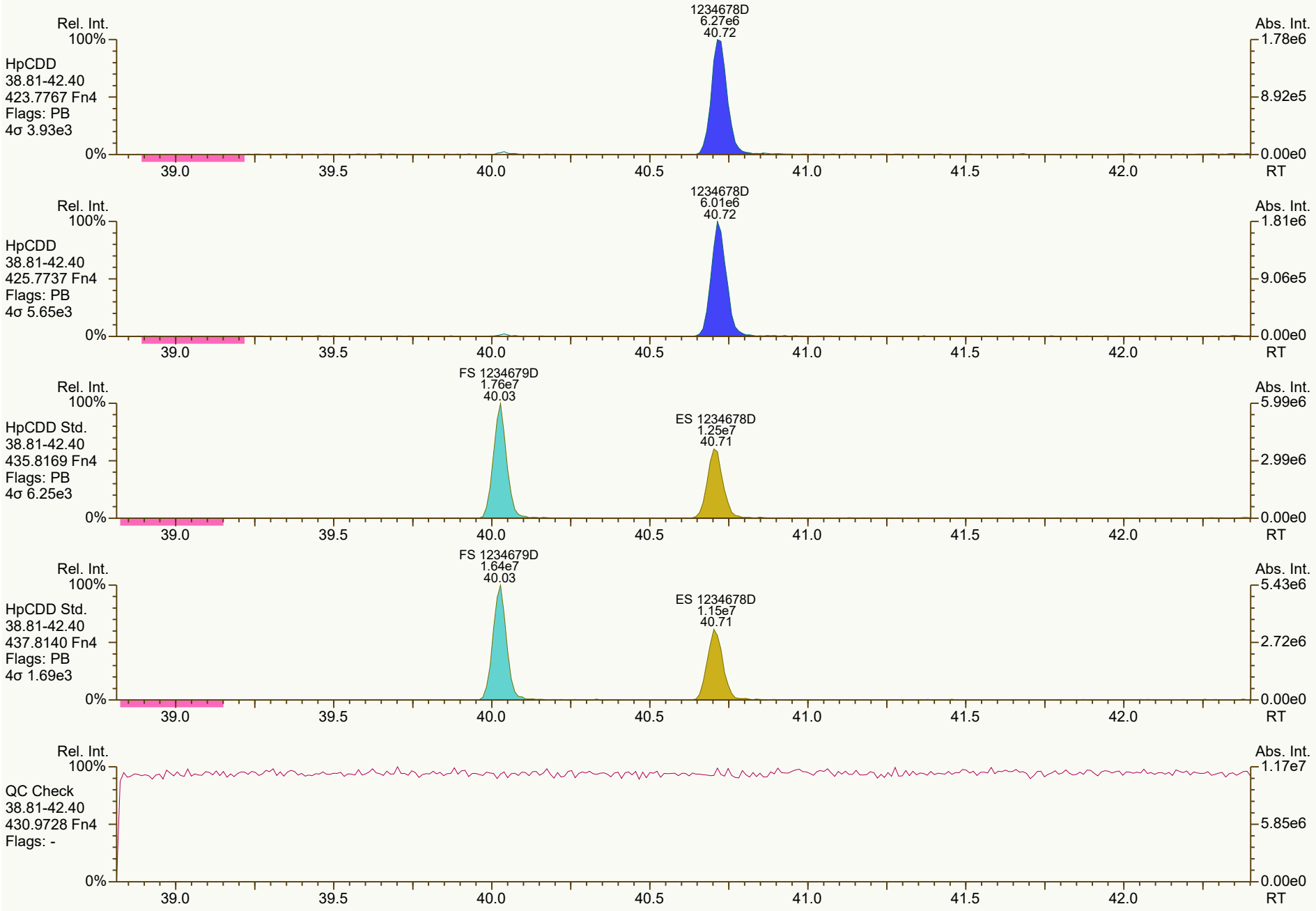
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 2.36e3
123478D
6.95e6
37.55
123678D
7.16e6
37.67
123789D
7.58e6
37.98
Abs. Int.
2.11e6
1.05e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 2.03e3
123478D
5.63e6
37.55
123678D
5.66e6
37.67
123789D
6.00e6
37.98
Abs. Int.
1.73e6
8.63e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 7.41e3
FS 123468D
1.76e7
36.45
ES 123478D
1.30e7
37.54
ES 123678D
1.26e7
37.66
JS 123467D
6.51e6
37.86
ES 123789D
1.46e7
37.96
Abs. Int.
5.26e6
2.63e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 5.58e3
FS 123468D
1.39e7
36.45
ES 123478D
1.00e7
37.54
ES 123678D
1.05e7
37.66
JS 123467D
5.21e6
37.86
ES 123789D
1.18e7
37.96
Abs. Int.
4.30e6
2.15e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
1.92e7
9.58e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 3.93e3
0%
1234678D
6.27e6
40.72
Abs. Int.
1.78e6
8.92e5
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 5.65e3
0%
1234678D
6.01e6
40.72
Abs. Int.
1.81e6
9.06e5
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 6.25e3
0%
FS 1234679D
1.76e7
40.03
ES 1234678D
1.25e7
40.71
Abs. Int.
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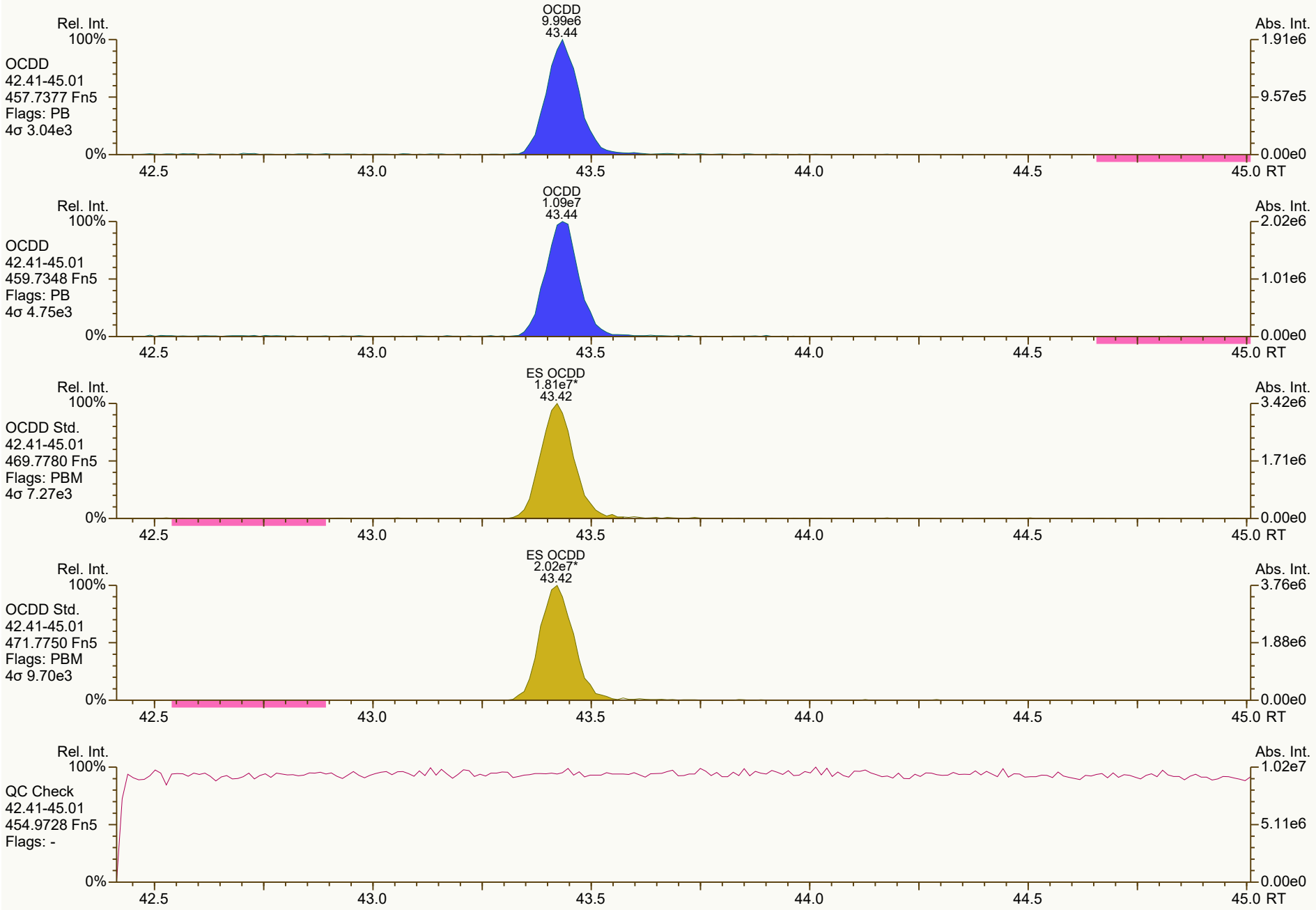
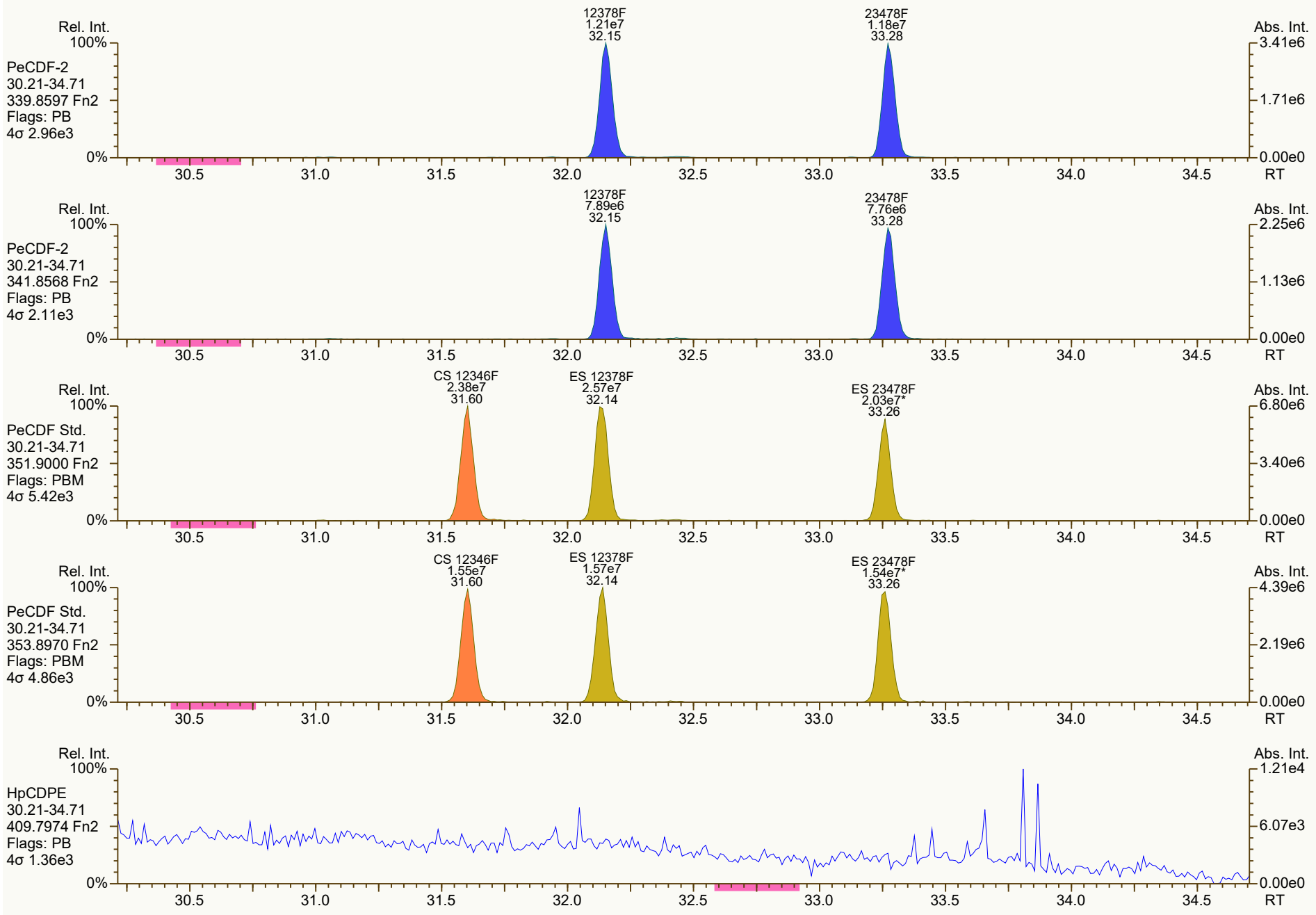
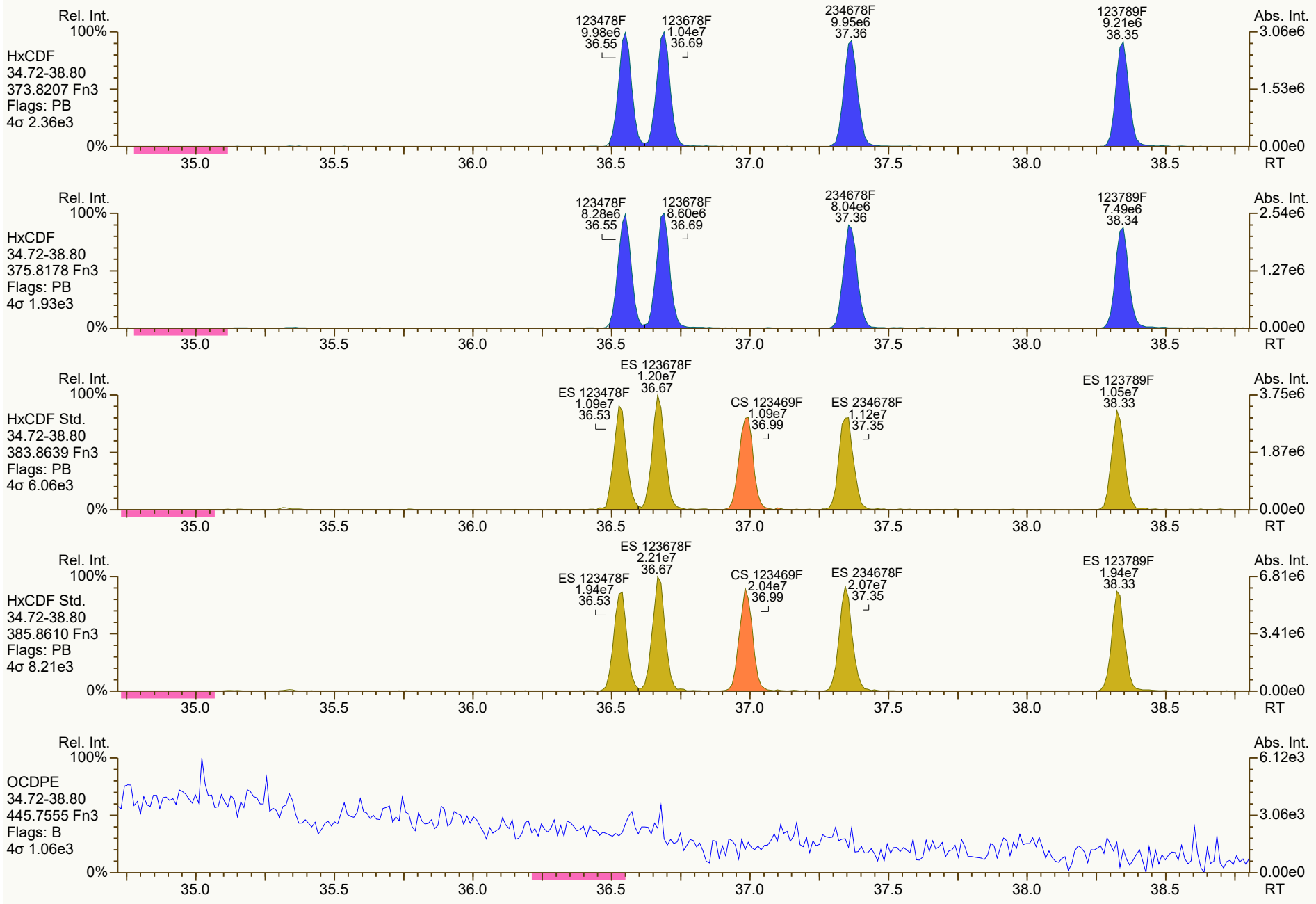
2.99e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.69e3
0%
FS 1234679D
1.64e7
40.03
ES 1234678D
1.15e7
40.71
Abs. Int.
5.43e6
2.72e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

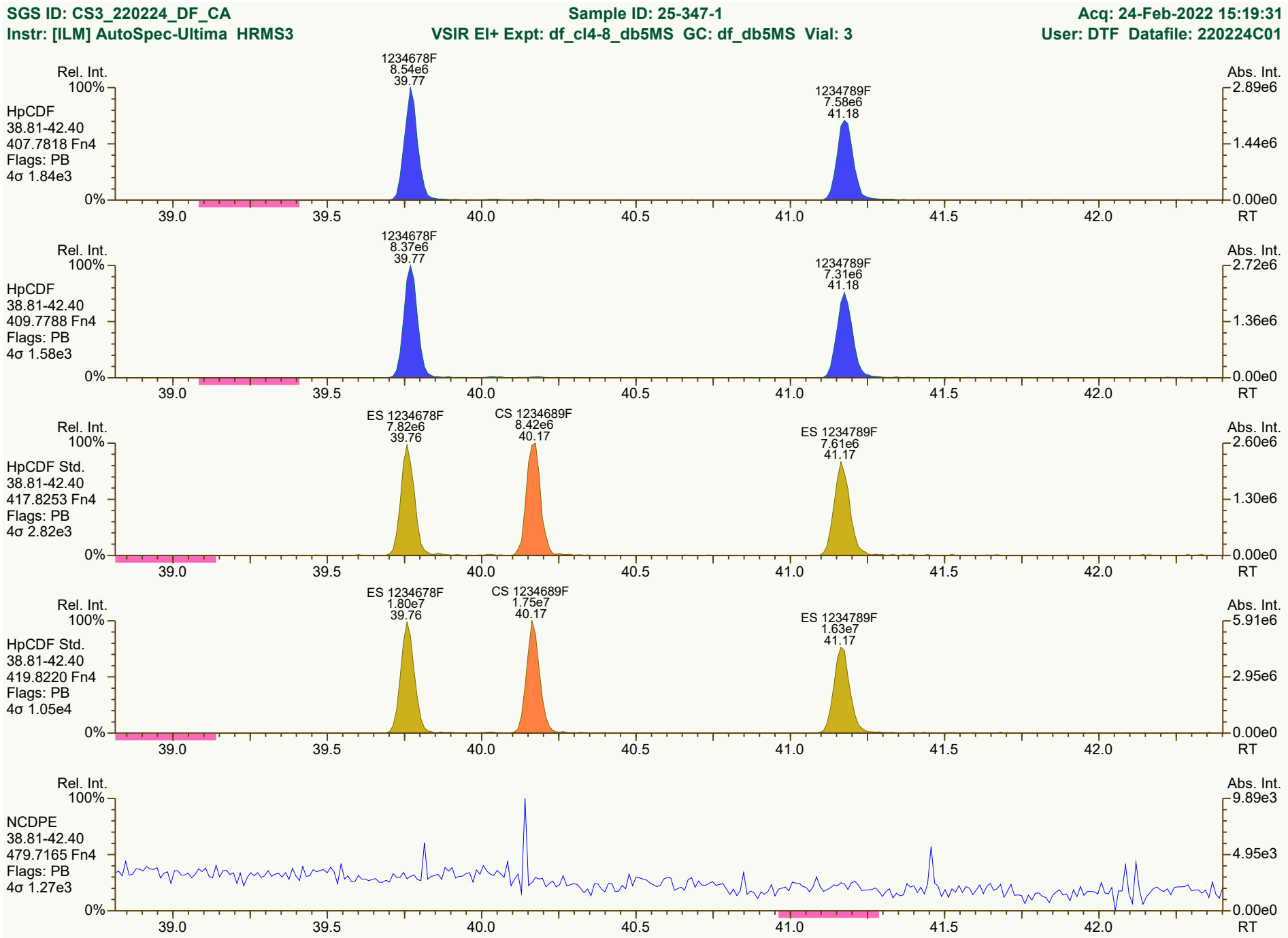

OCDD
9.99e6
43.44
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 3.04e3
0%
Abs. Int.
1.91e6
9.57e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.09e7
43.44
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 4.75e3
0%
Abs. Int.
2.02e6
1.01e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.81e7*
43.42
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 7.27e3
0%
Abs. Int.
3.42e6
1.71e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
2.02e7*
43.42
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 9.70e3
0%
Abs. Int.
3.76e6
1.88e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.02e7
5.11e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

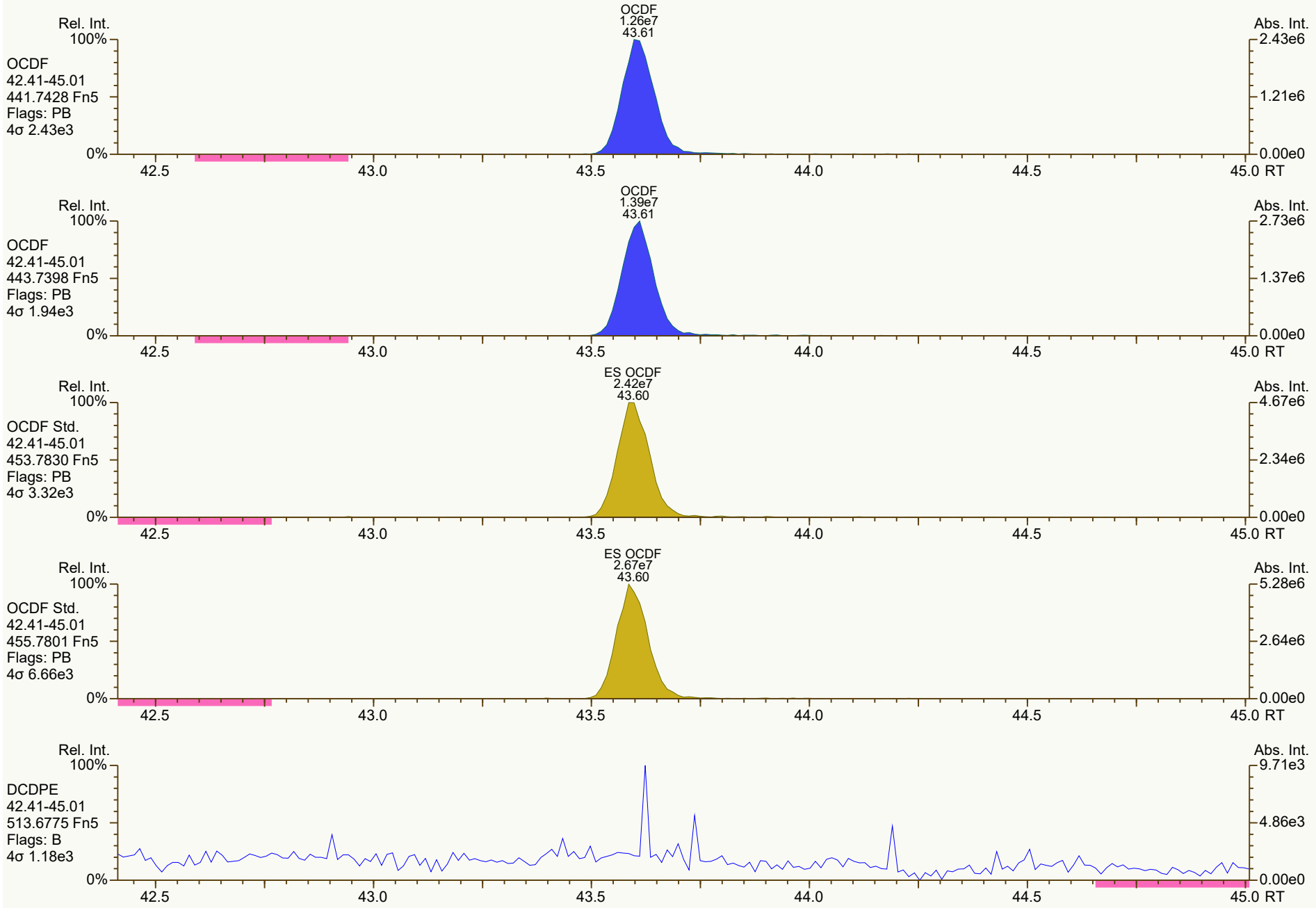

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.57e3
0%
2378F
2.17e6
27.35
Abs. Int.
5.25e5
2.63e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 1.86e3
0%
2378F
2.67e6
27.35
Abs. Int.
6.03e5
3.02e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368F
2.34e7
22.33
JS 1234F
2.05e7
25.94
ES 2378F
2.04e7
27.33
Abs. Int.
4.63e6
2.32e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 5.09e3
0%
AS 1368F
2.92e7
22.32
JS 1234F
2.49e7
25.94
ES 2378F
2.54e7
27.32
Abs. Int.
5.91e6
2.95e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.22e3
0%
Abs. Int.
1.31e4
6.57e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

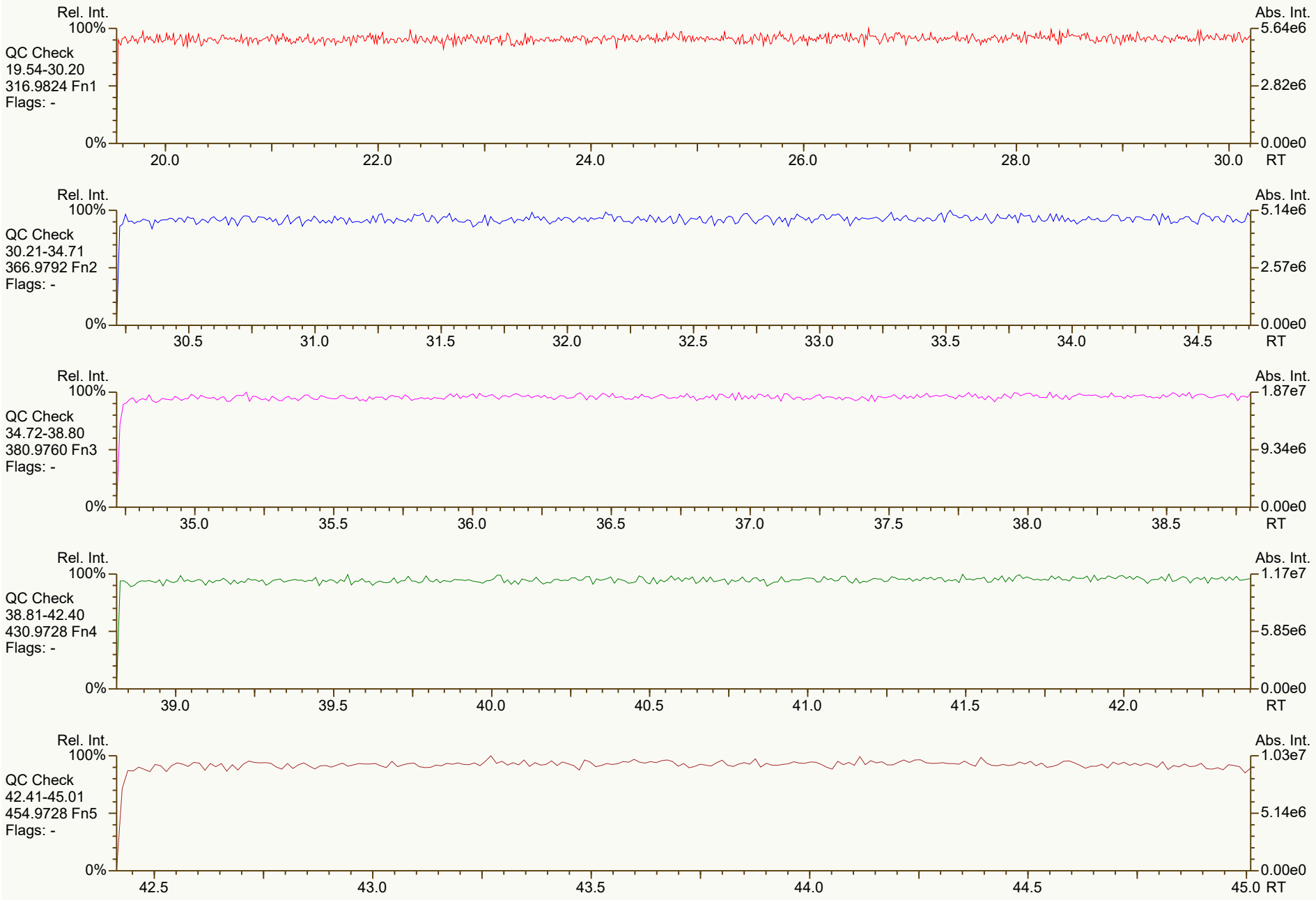

Rel. Int.
100%
0%
Abs. Int.
1.20e4
6.02e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.50e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.48e3
4.74e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.30e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
5.96e6
2.98e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 2.96e3
0%
12378F
1.21e7
32.15
23478F
1.18e7
33.28
Abs. Int.
3.41e6
1.71e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 2.11e3
0%
12378F
7.89e6
32.15
23478F
7.76e6
33.28
Abs. Int.
2.25e6
1.13e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PBM
4σ 5.42e3
0%
CS 12346F
2.38e7
31.60
ES 12378F
2.57e7
32.14
ES 23478F
2.03e7*
33.26
Abs. Int.
6.80e6
3.40e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PBM
4σ 4.86e3
0%
CS 12346F
1.55e7
31.60
ES 12378F
1.57e7
32.14
ES 23478F
1.54e7*
33.26
Abs. Int.
4.39e6
2.19e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: PB
4σ 1.36e3
0%
Abs. Int.
1.21e4
6.07e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PB
4σ 2.36e3
0%
123478F
9.98e6
36.55
123678F
1.04e7
36.69
234678F
9.95e6
37.36
123789F
9.21e6
38.35
Abs. Int.
3.06e6
1.53e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PB
4σ 1.93e3
0%
123478F
8.28e6
36.55
123678F
8.60e6
36.69
234678F
8.04e6
37.36
123789F
7.49e6
38.34
Abs. Int.
2.54e6
1.27e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 6.06e3
0%
ES 123678F
1.20e7
36.67
ES 123478F
1.09e7
36.53
CS 123469F
1.09e7
36.99
ES 234678F
1.12e7
37.35
ES 123789F
1.05e7
38.33
Abs. Int.
3.75e6
1.87e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 8.21e3
0%
ES 123678F
2.21e7
36.67
ES 123478F
1.94e7
36.53
CS 123469F
2.04e7
36.99
ES 234678F
2.07e7
37.35
ES 123789F
1.94e7
38.33
Abs. Int.
6.81e6
3.41e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.06e3
0%
Abs. Int.
6.12e3
3.06e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

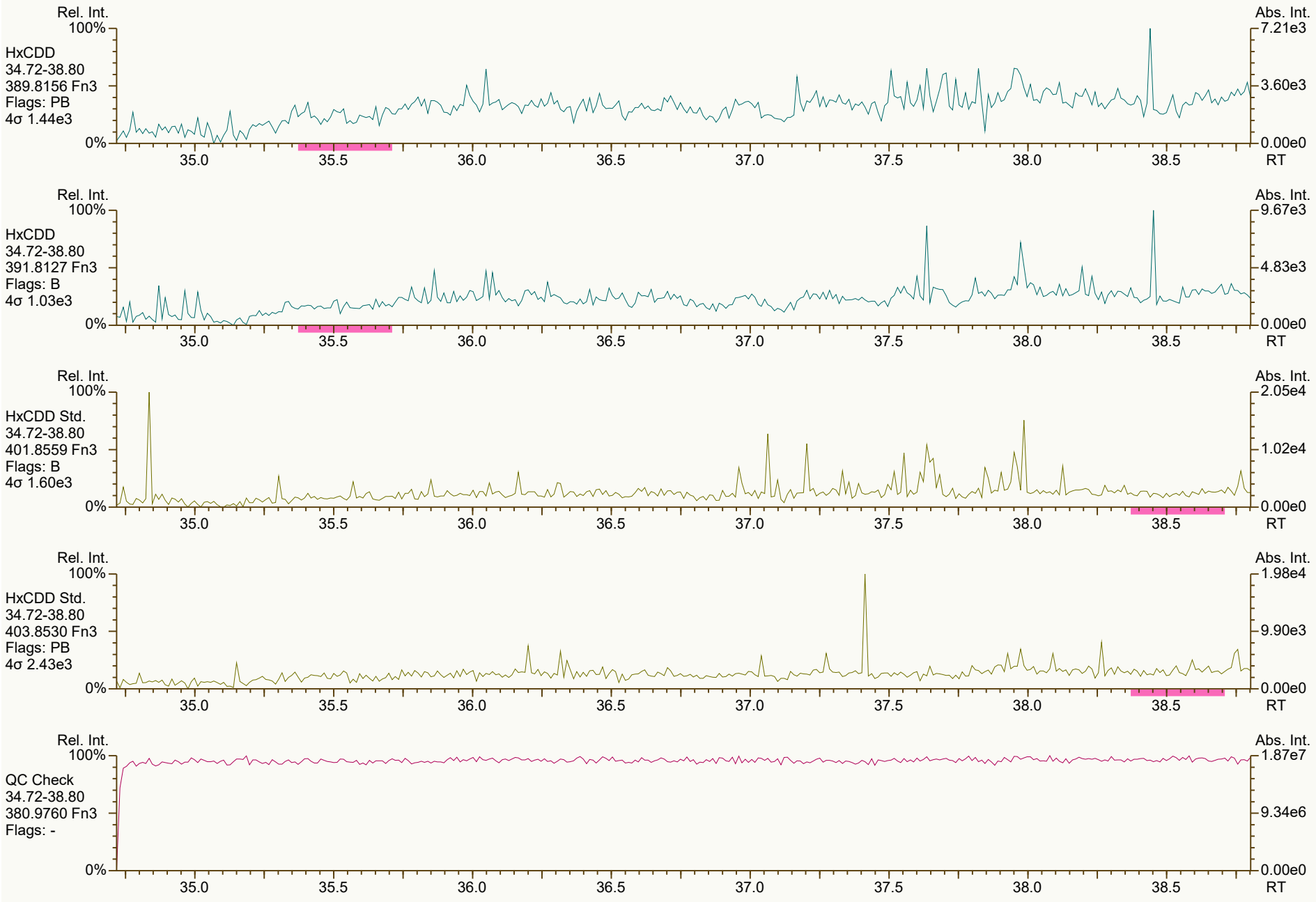

SGS ID: CS3_220224_DF_CA
Sample ID: 25-347-1
Acq: 24-Feb-2022 15:19:31
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220224C01
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.84e3
1234678F
8.54e6
39.77
1234789F
7.58e6
41.18
2.89e6
1.44e6
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.58e3
1234678F
8.37e6
39.77
1234789F
7.31e6
41.18
2.72e6
1.36e6
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 2.82e3
ES 1234678F
7.82e6
39.76
CS 1234689F
8.42e6
40.17
ES 1234789F
7.61e6
41.17
2.60e6
1.30e6
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 1.05e4
ES 1234678F
1.80e7
39.76
CS 1234689F
1.75e7
40.17
ES 1234789F
1.63e7
41.17
5.91e6
2.95e6
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.27e3
9.89e3
4.95e3
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6300_B6399\B6335\B6335_18959 DF\Resources\CS3_220224_DF_CA.utp_res, saved 25-Feb-2022 09:11 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7785, 5058, 3004 scc: 126-530
PKD: 24-Feb-2022 16:31 Printed: 25-Feb-2022 09:11 Page 11 of 12


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 2.43e3
0%
OCDF
1.26e7
43.61
Abs. Int.
2.43e6
1.21e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.94e3
0%
OCDF
1.39e7
43.61
Abs. Int.
2.73e6
1.37e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 3.32e3
0%
ES OCDF
2.42e7
43.60
Abs. Int.
4.67e6
2.34e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 6.66e3
0%
ES OCDF
2.67e7
43.60
Abs. Int.
5.28e6
2.64e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.18e3
0%
Abs. Int.
9.71e3
4.86e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

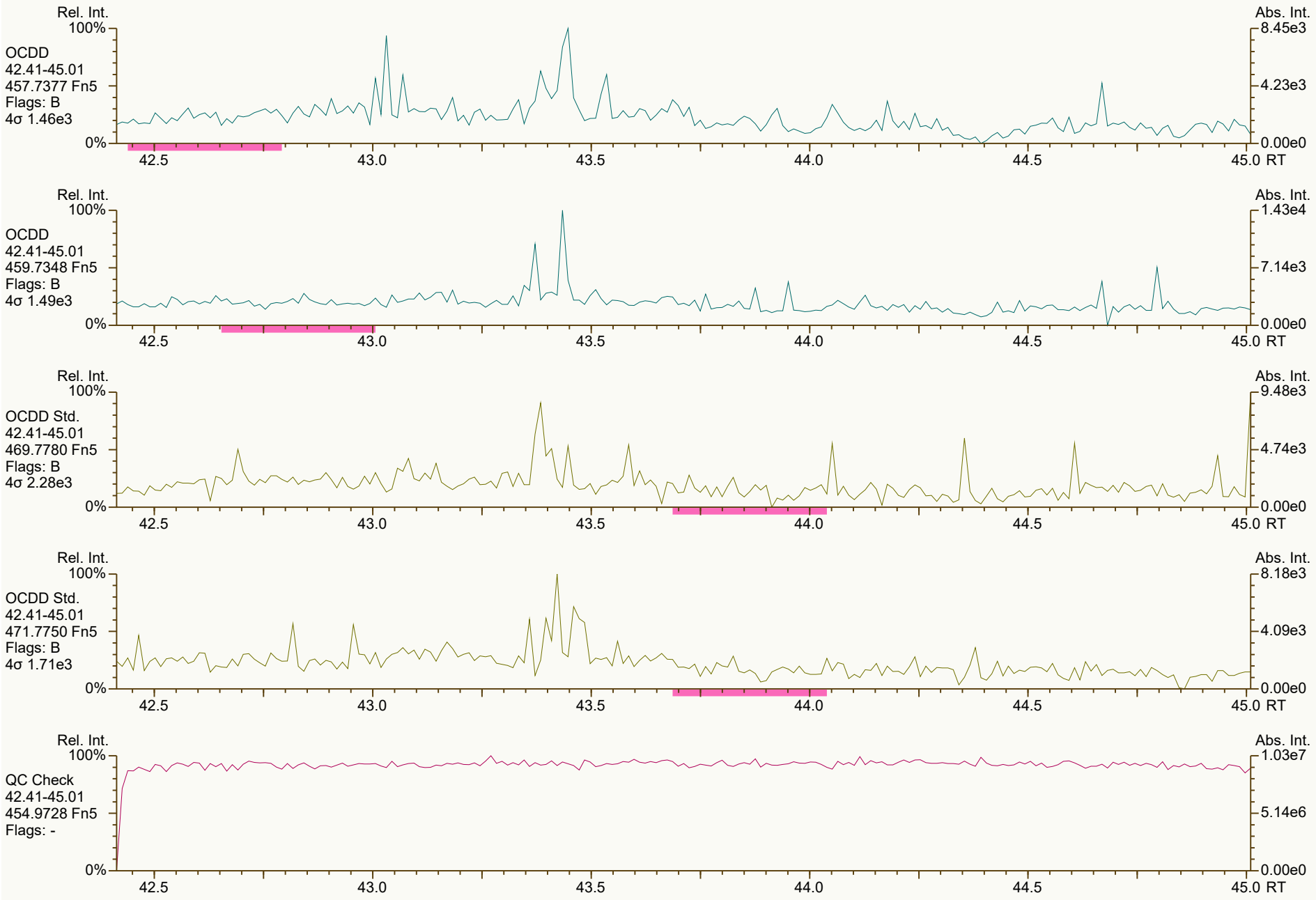

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
5.64e6
2.82e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
5.14e6
2.57e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.87e7
9.34e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.17e7
5.85e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.03e7
5.14e6
0.00e0

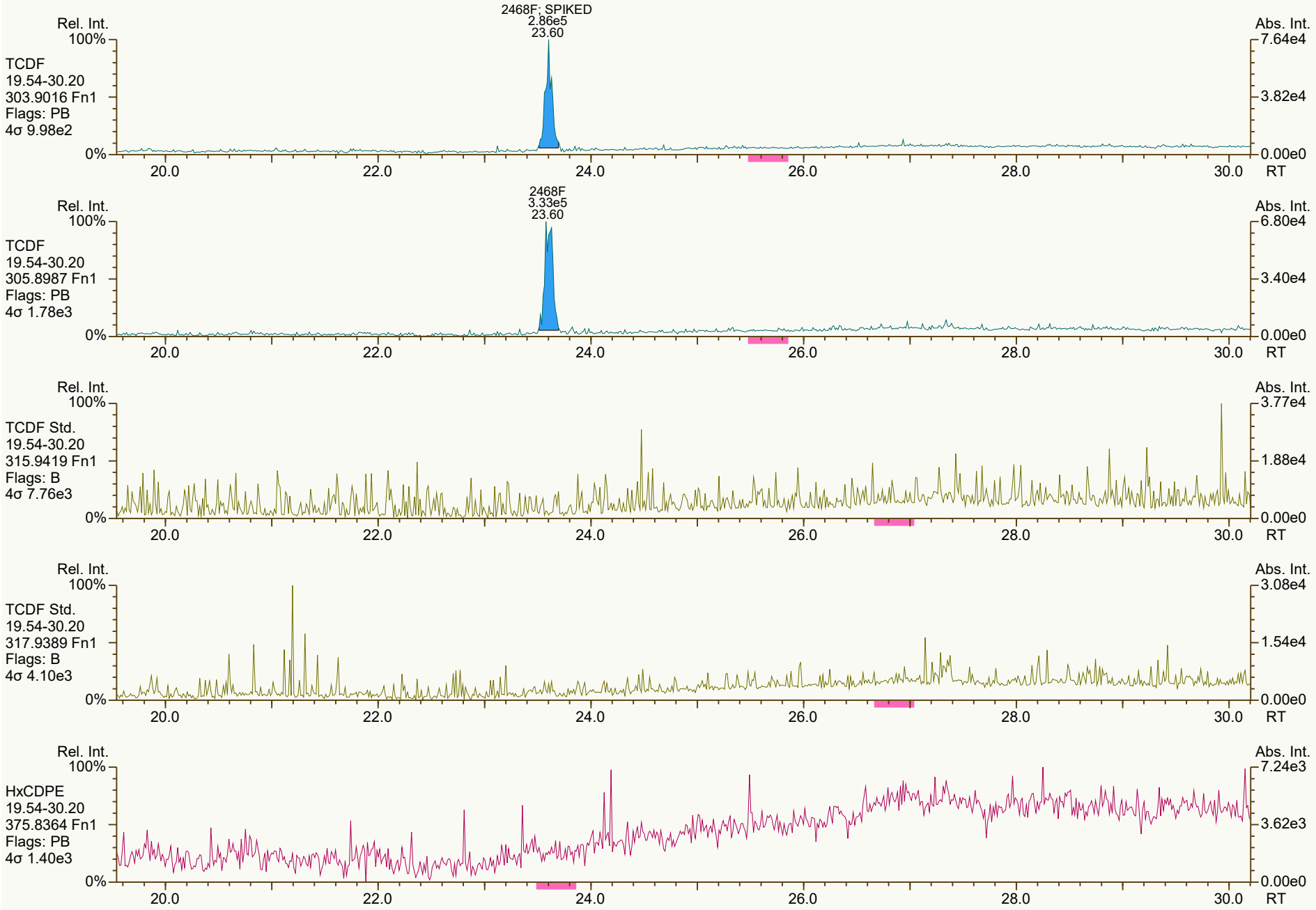

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.55e3
0%
Abs. Int.
1.00e4
5.01e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.08e3
0%
Abs. Int.
8.47e3
4.23e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.36e3
0%
Abs. Int.
1.10e4
5.50e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 5.05e3
0%
Abs. Int.
2.66e4
1.33e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 4.03e3
0%
Abs. Int.
2.35e4
1.17e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: B
4σ 1.77e3
0%
Abs. Int.
6.01e3
3.01e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.44e3
0%
Abs. Int.
4.98e3
2.49e3
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: B
4σ 1.77e3
0%
Abs. Int.
1.21e4
6.06e3
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.59e3
0%
Abs. Int.
7.18e3
3.59e3
0.00e0
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
5.14e6
2.57e6
0.00e0
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 1.44e3
0%
Abs. Int.
7.21e3
3.60e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: B
4σ 1.03e3
0%
Abs. Int.
9.67e3
4.83e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: B
4σ 1.60e3
0%
Abs. Int.
2.05e4
1.02e4
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 2.43e3
0%
Abs. Int.
1.98e4
9.90e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.87e7
9.34e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

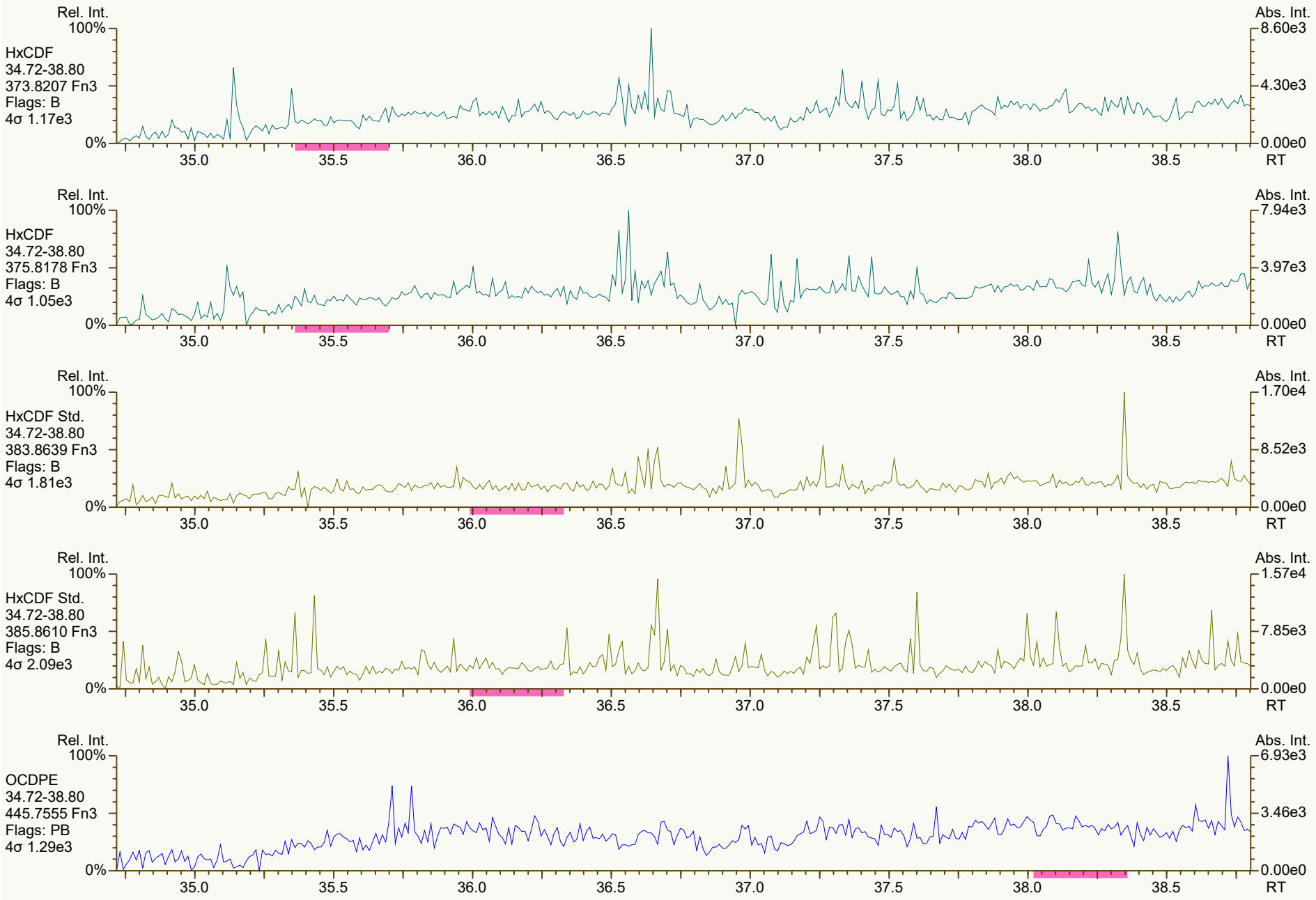

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: B
4σ 1.72e3
0%
Abs. Int.
7.58e3
3.79e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: B
4σ 1.38e3
0%
Abs. Int.
5.06e3
2.53e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: B
4σ 2.10e3
0%
Abs. Int.
3.96e4
1.98e4
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: B
4σ 1.58e3
0%
Abs. Int.
8.67e3
4.34e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 1.46e3
0%
Abs. Int.
8.45e3
4.23e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 1.49e3
0%
Abs. Int.
1.43e4
7.14e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: B
4σ 2.28e3
0%
Abs. Int.
9.48e3
4.74e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: B
4σ 1.71e3
0%
Abs. Int.
8.18e3
4.09e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.03e7
5.14e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


2468F: SPIKED
2.86e5
23.60
Rel. Int.
100%
0%
Abs. Int.
7.64e4
3.82e4
0.00e0
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 9.98e2
20.0
22.0
24.0
26.0
28.0
30.0
RT
2468F
3.33e5
23.60
6.80e4
3.40e4
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 1.78e3
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 7.76e3
3.77e4
1.88e4
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 4.10e3
3.08e4
1.54e4
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.40e3
7.24e3
3.62e3


Rel. Int.
100%
0%
Abs. Int.
1.20e4
5.98e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.28e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e4
5.15e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.28e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
5.64e6
2.82e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.16e3
0%
Abs. Int.
4.42e3
2.21e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 2.00e3
0%
Abs. Int.
5.79e3
2.89e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: B
4σ 1.68e3
0%
Abs. Int.
1.64e4
8.20e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.41e4
7.03e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.41e3
0%
Abs. Int.
7.38e3
3.69e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: B
4σ 1.17e3
0%
Abs. Int.
8.60e3
4.30e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: B
4σ 1.05e3
0%
Abs. Int.
7.94e3
3.97e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: B
4σ 1.81e3
0%
Abs. Int.
1.70e4
8.52e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: B
4σ 2.09e3
0%
Abs. Int.
1.57e4
7.85e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.29e3
0%
Abs. Int.
6.93e3
3.46e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.74e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: B
4σ 1.45e3
0%
Abs. Int.
9.26e3
4.63e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: B
4σ 1.80e3
0%
Abs. Int.
1.42e4
7.10e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: B
4σ 3.95e3
0%
Abs. Int.
1.62e4
8.09e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.11e3
0%
Abs. Int.
8.58e3
4.29e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.69e3
0%
Abs. Int.
5.08e3
2.54e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.53e3
0%
Abs. Int.
6.40e3
3.20e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
8.53e3
4.27e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: B
4σ 1.65e3
0%
Abs. Int.
3.06e4
1.53e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.19e3
0%
Abs. Int.
6.91e3
3.45e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

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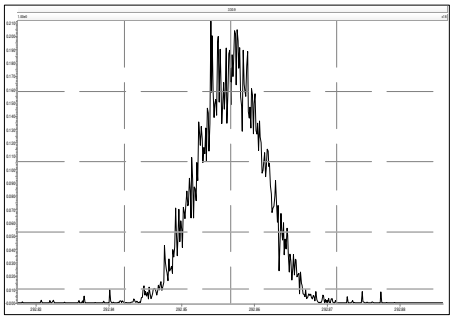
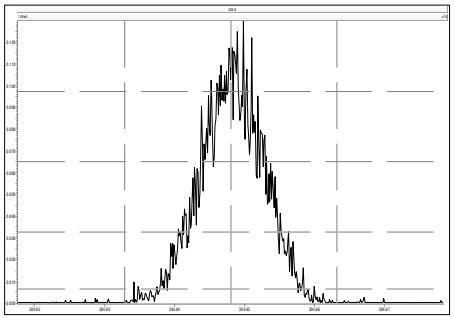
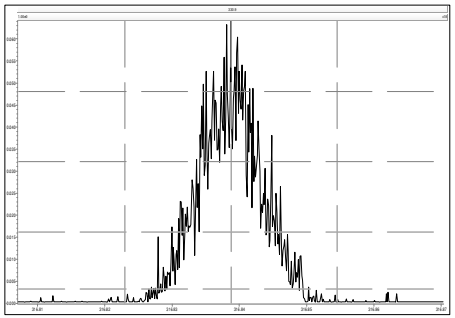
M 292.9824 R 14837



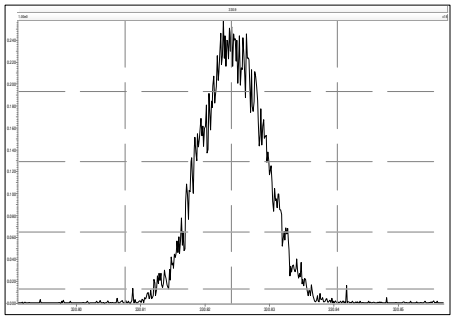
M 304.9824 R 15677



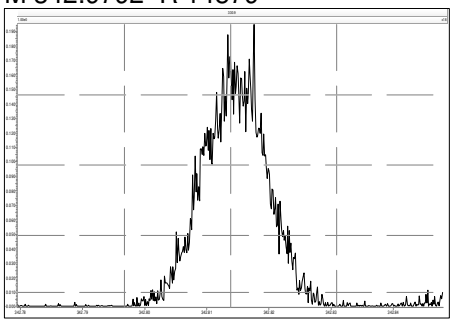
M 316.9824 R 15122



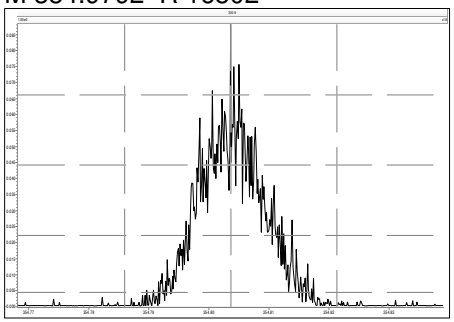
M 330.9792 R 14542



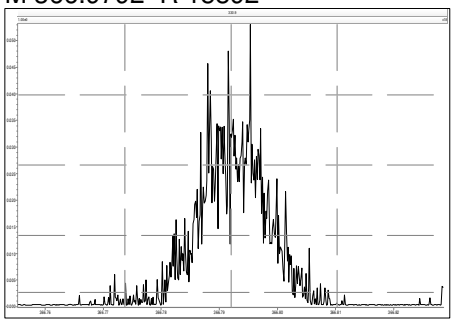
M 342.9792 R 14579



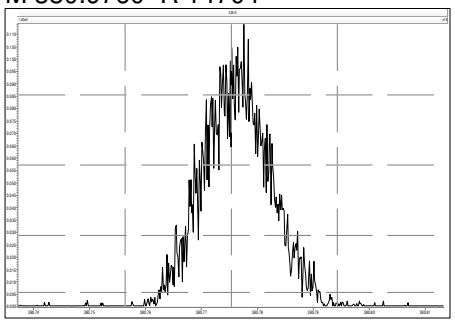
M 354.9792 R 16502



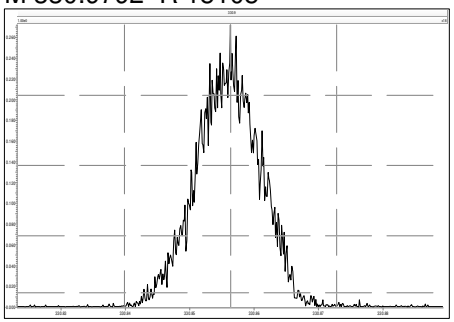
M 366.9792 R 15892



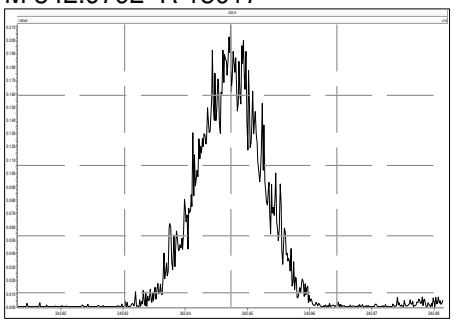
M 380.9760 R 14704



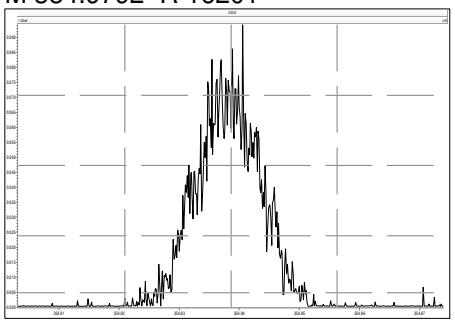
M 330.9792 R 15105



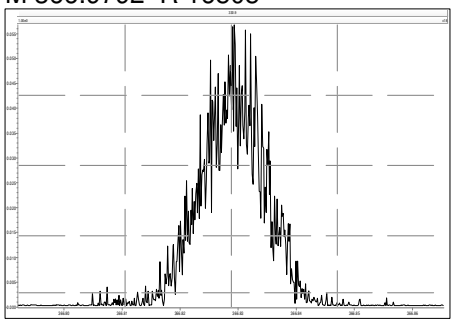
M 342.9792 R 15017



M 354.9792 R 16201



M 366.9792 R 16505



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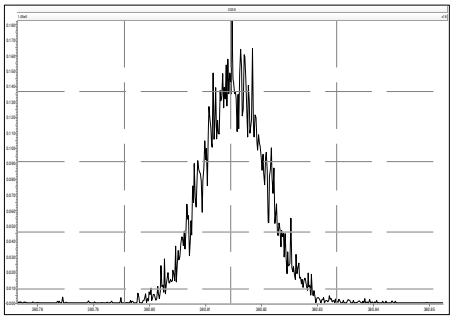
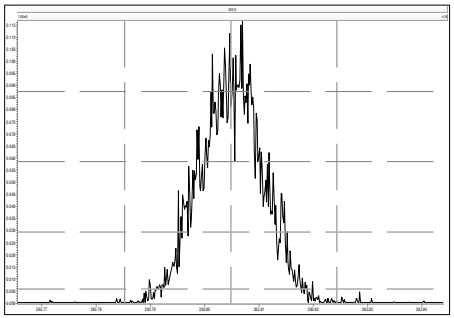
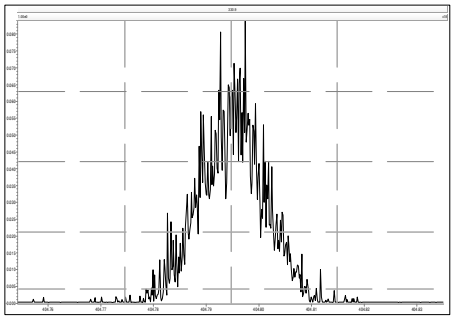
M 380.9760 R 14619



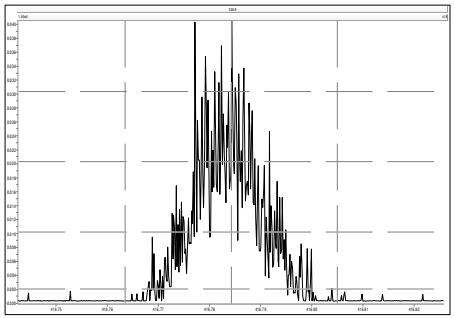
M 392.9760 R 15446



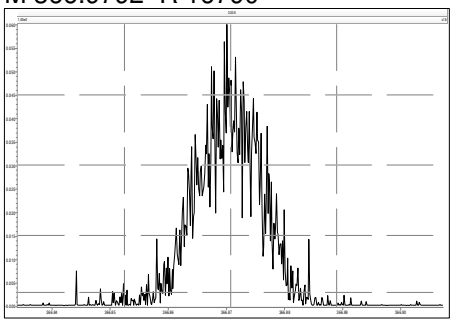
M 404.9760 R 15723



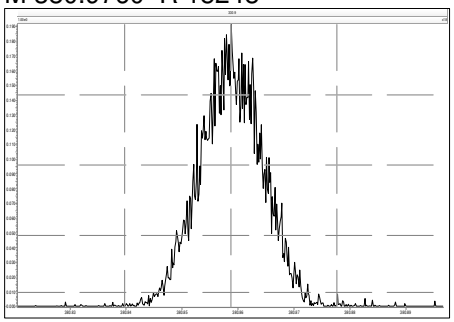
M 416.9760 R 16257



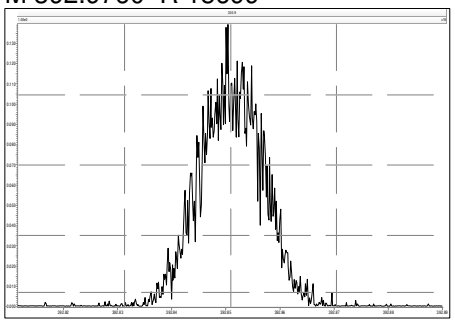
M 366.9792 R 16790



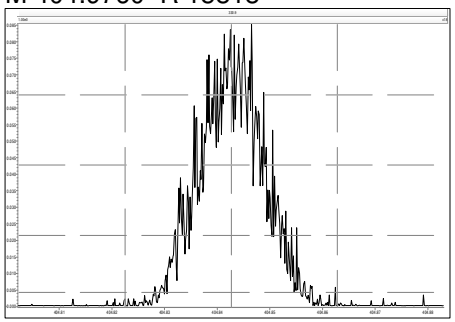
M 380.9760 R 15248



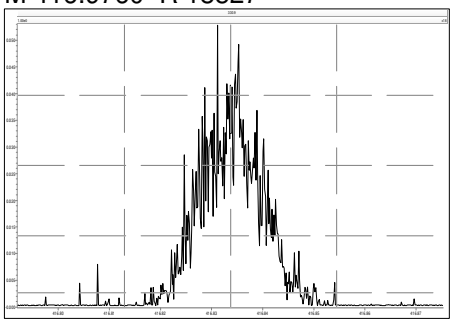
M 392.9760 R 15699



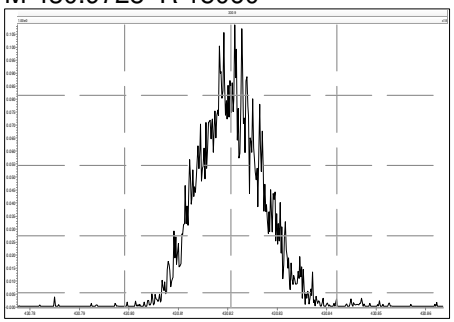
M 404.9760 R 15818



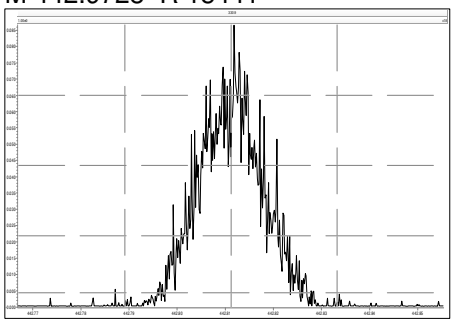
M 416.9760 R 18527



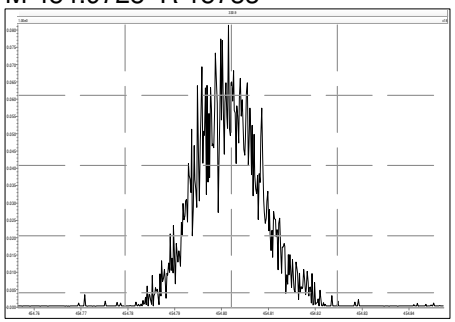
M 430.9728 R 15060



M 442.9728 R 15441



M 454.9728 R 15733



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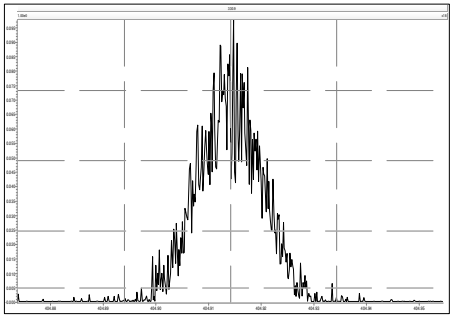
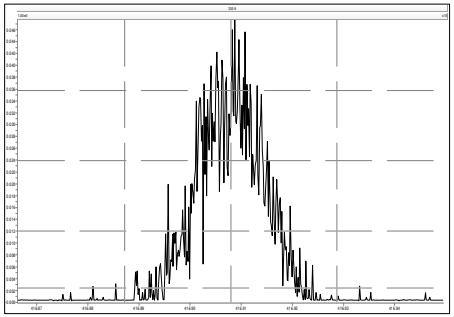
M 404.9760 R 16666



M 416.9760 R 16077



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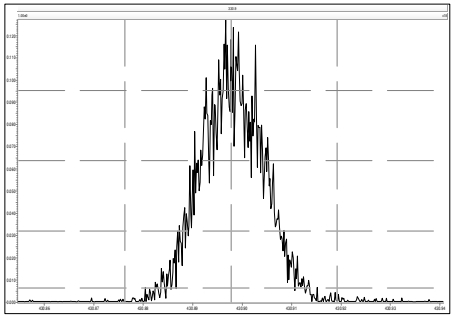

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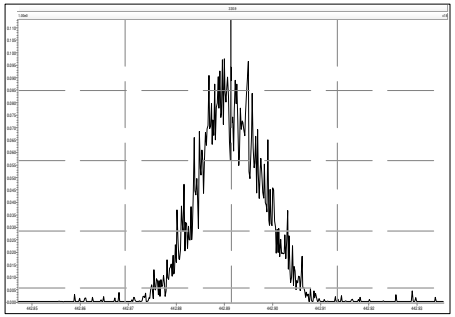

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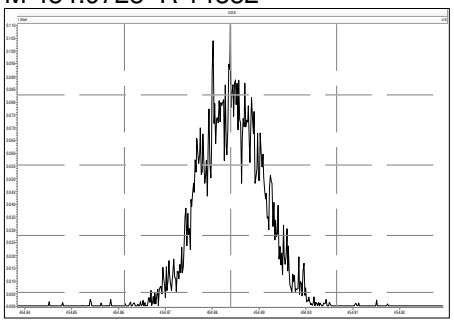

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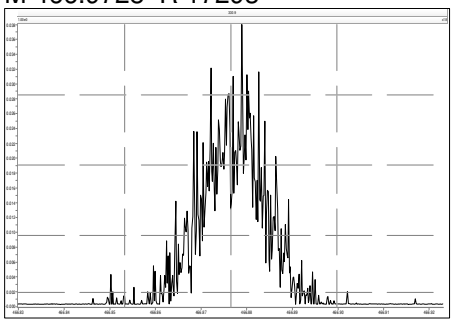

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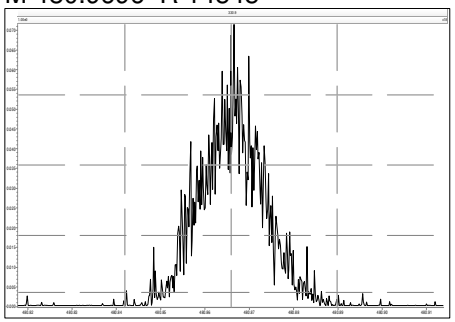

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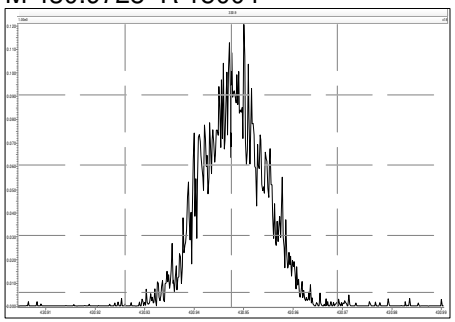

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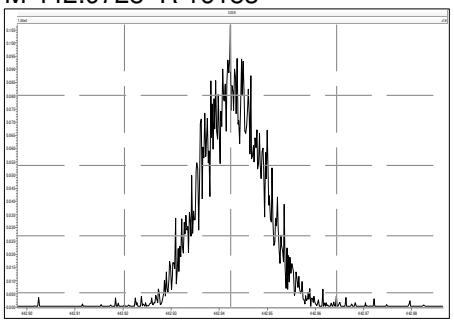

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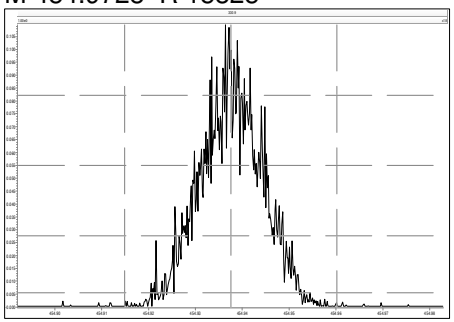

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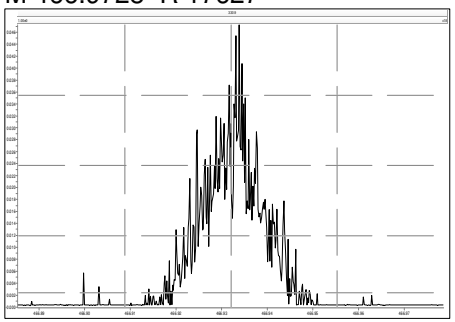

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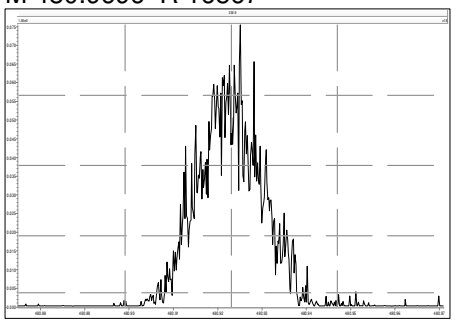

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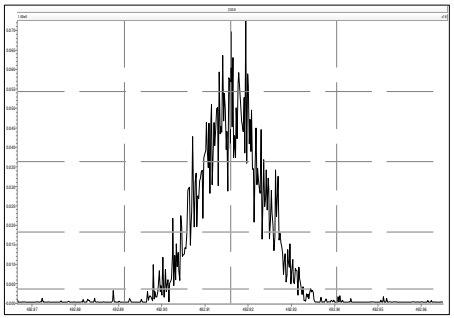

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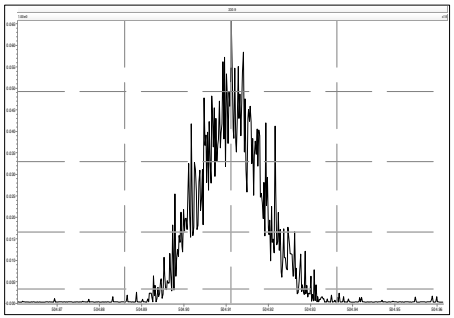

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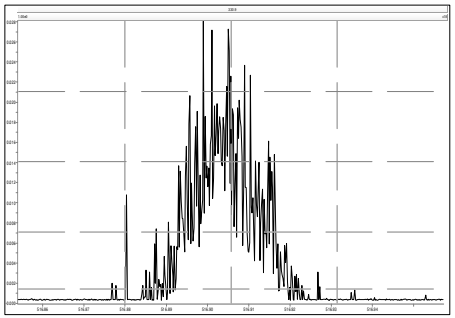

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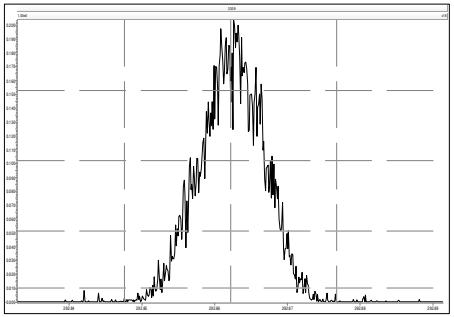

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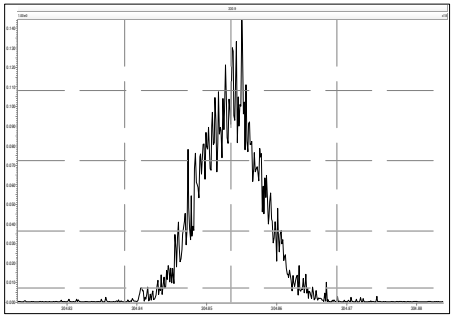

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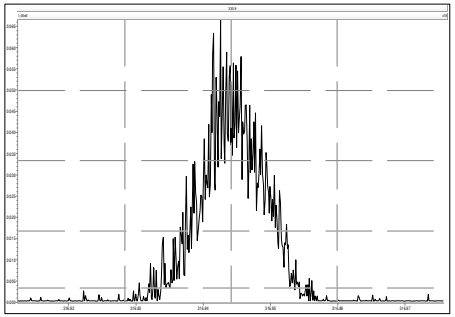

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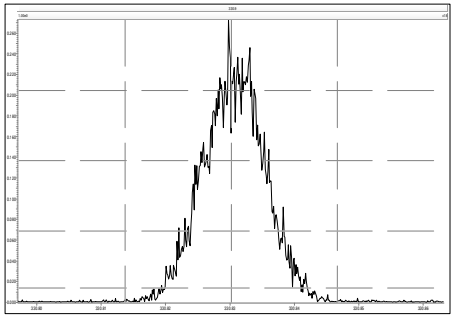

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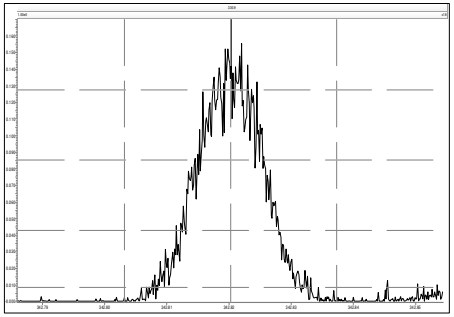

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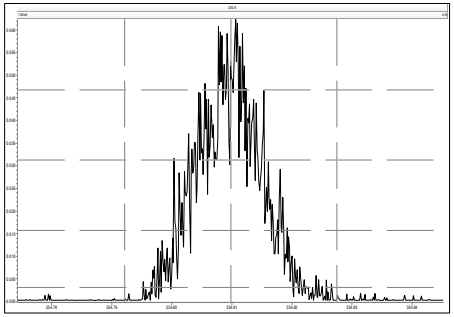

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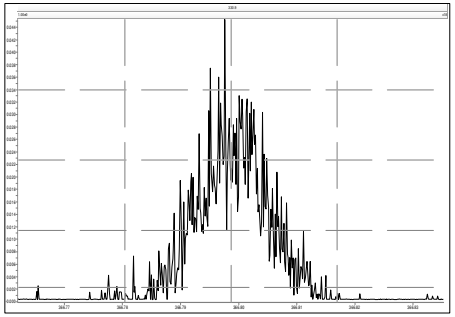

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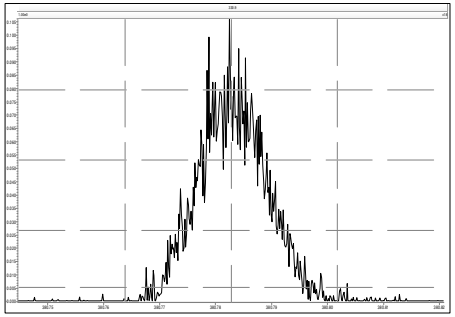

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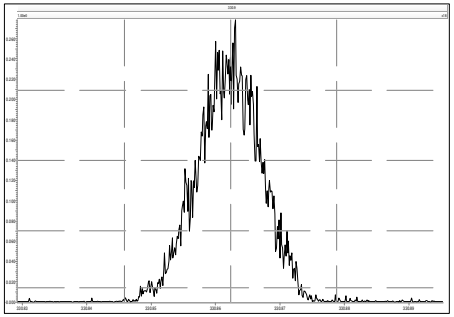

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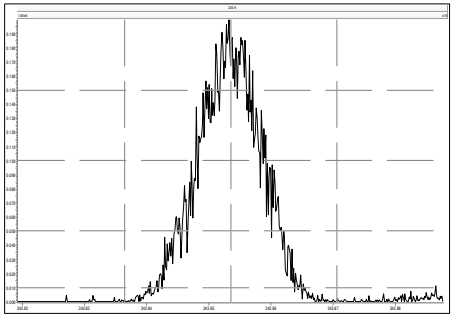

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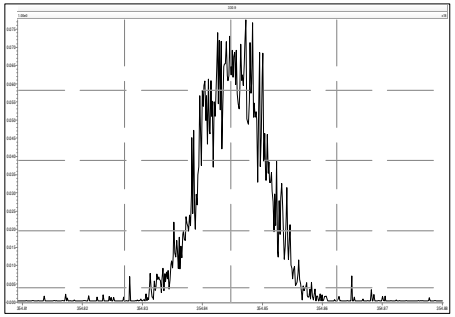

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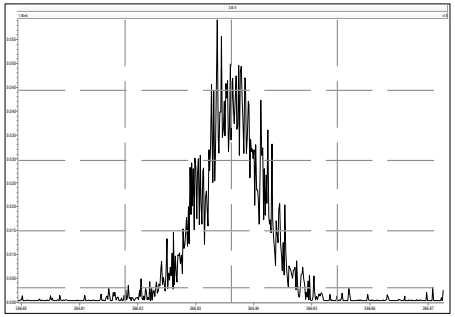

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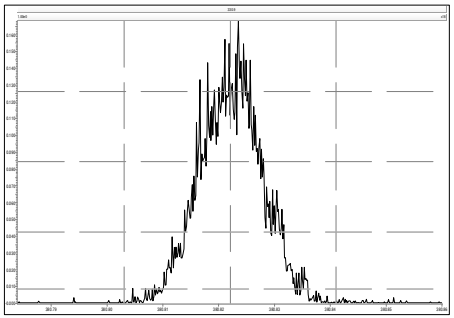

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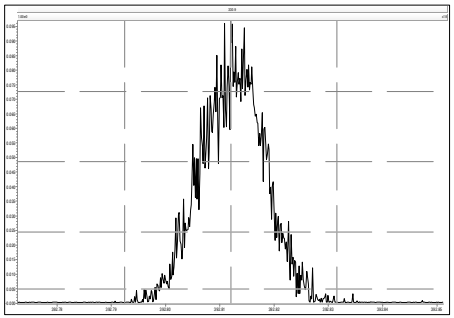

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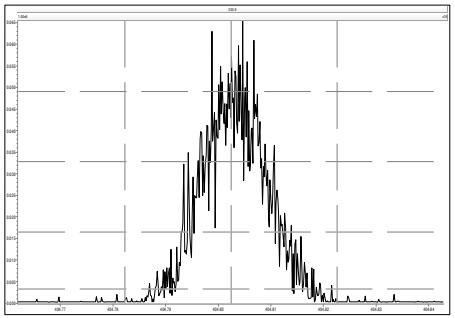

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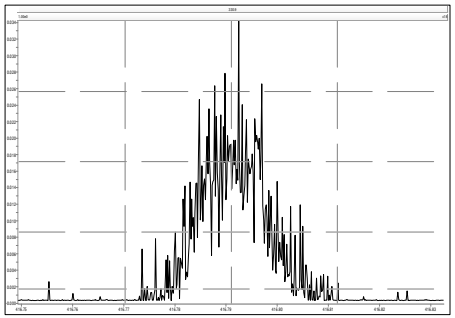

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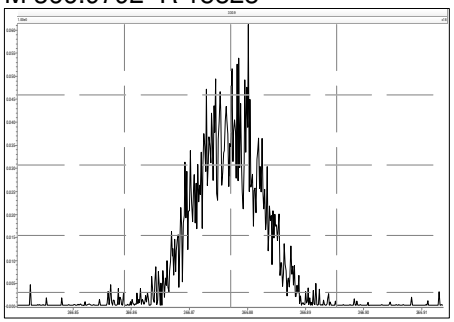

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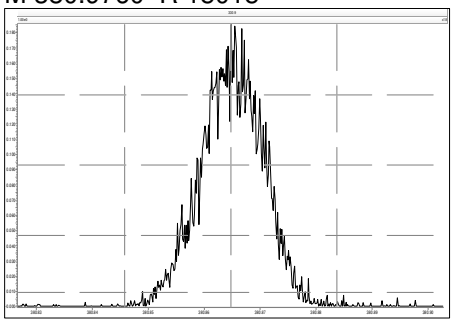

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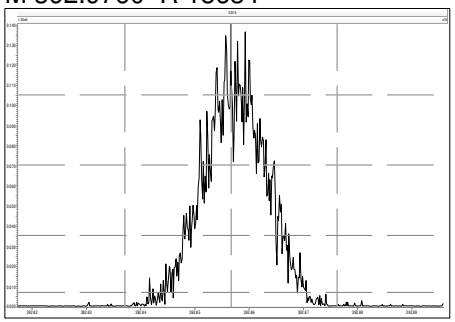

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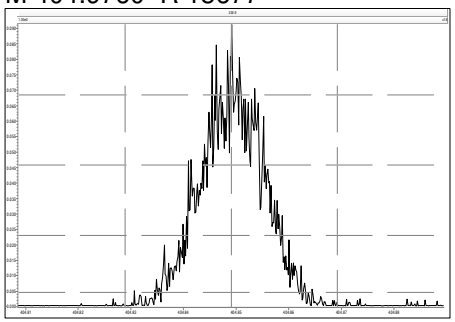

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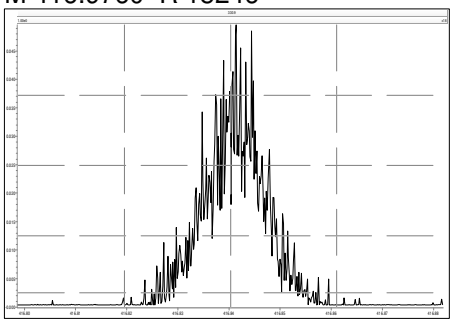

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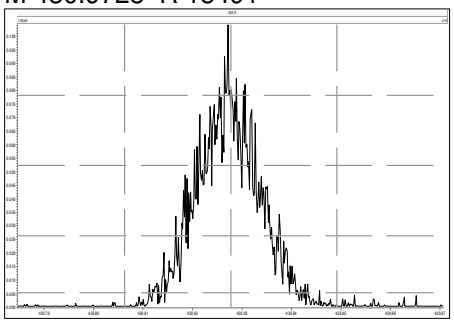

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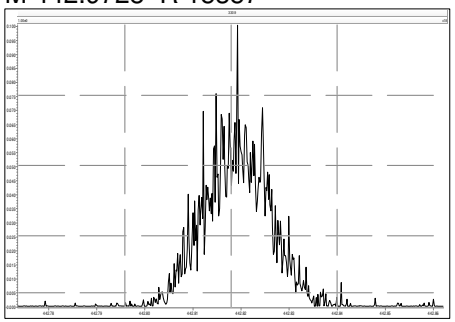

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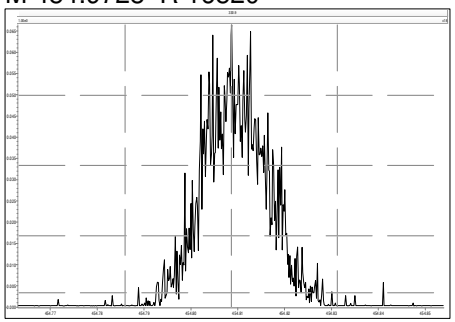

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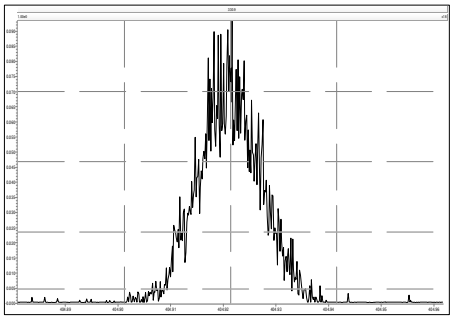

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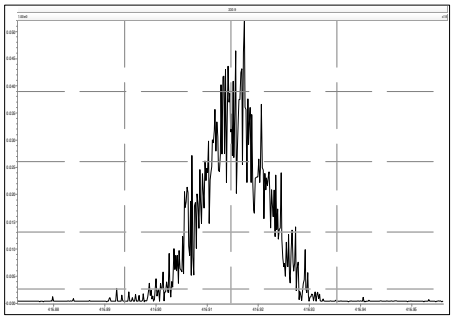

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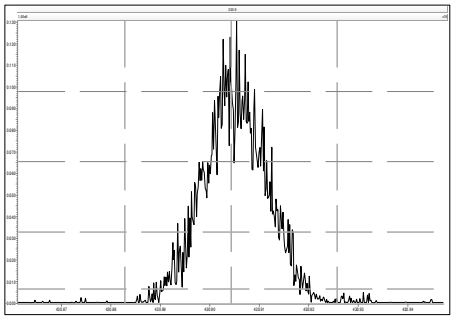

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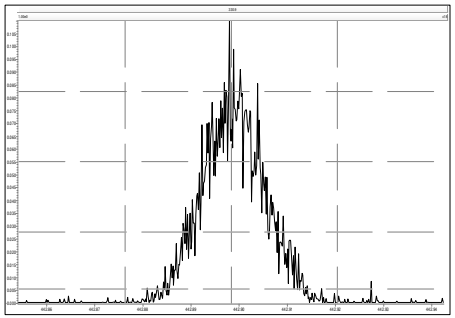

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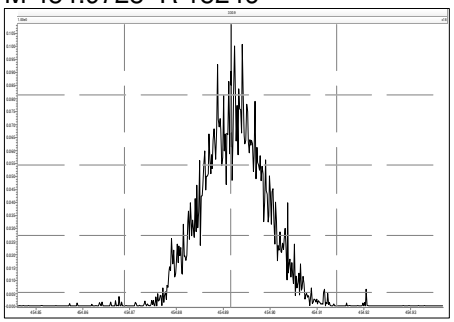

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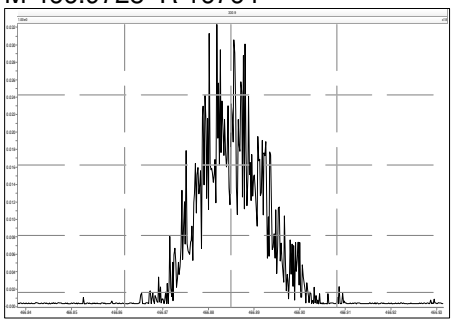

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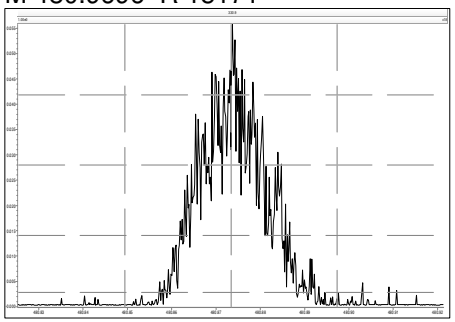

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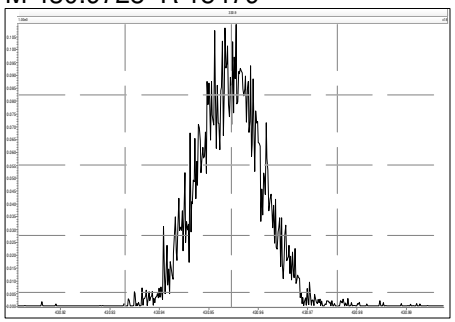

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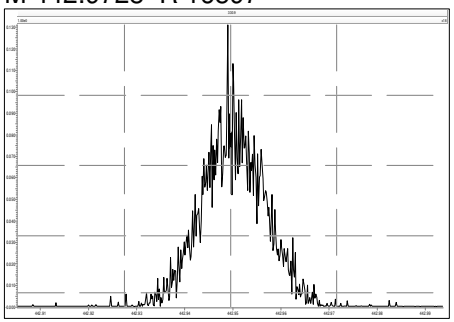

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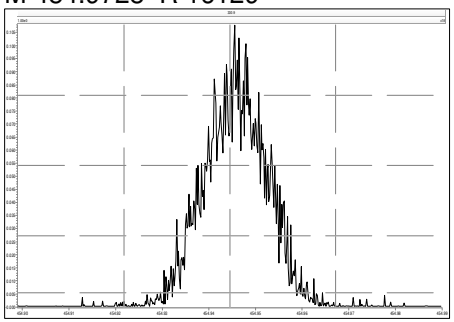

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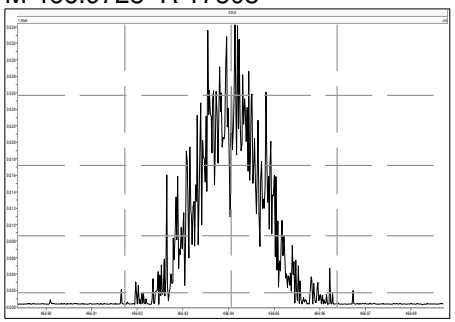

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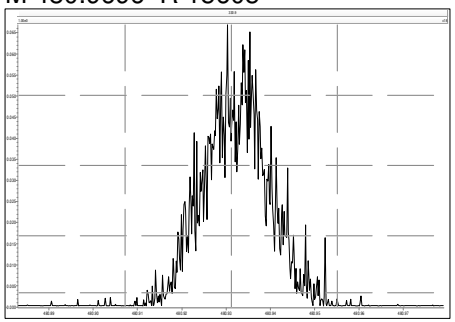
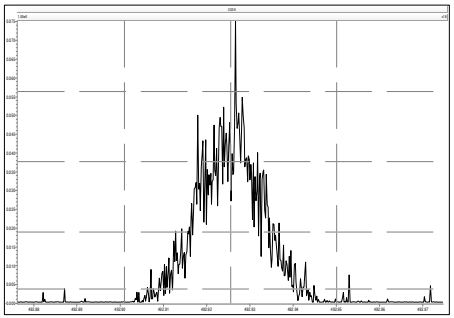


M 492.9696 R 15923



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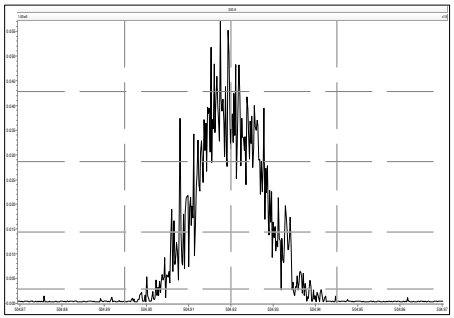

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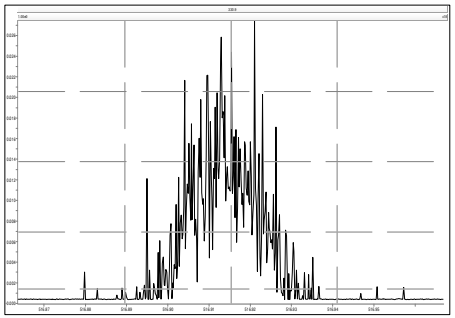


Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34 ✓	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98 ✓
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84 ✓	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
Tyler_Fritz , 11/11/2021, 4:44:03 PM

APPROVED
Amy_Boehm , 11/11/2021, 5:28:50 PM

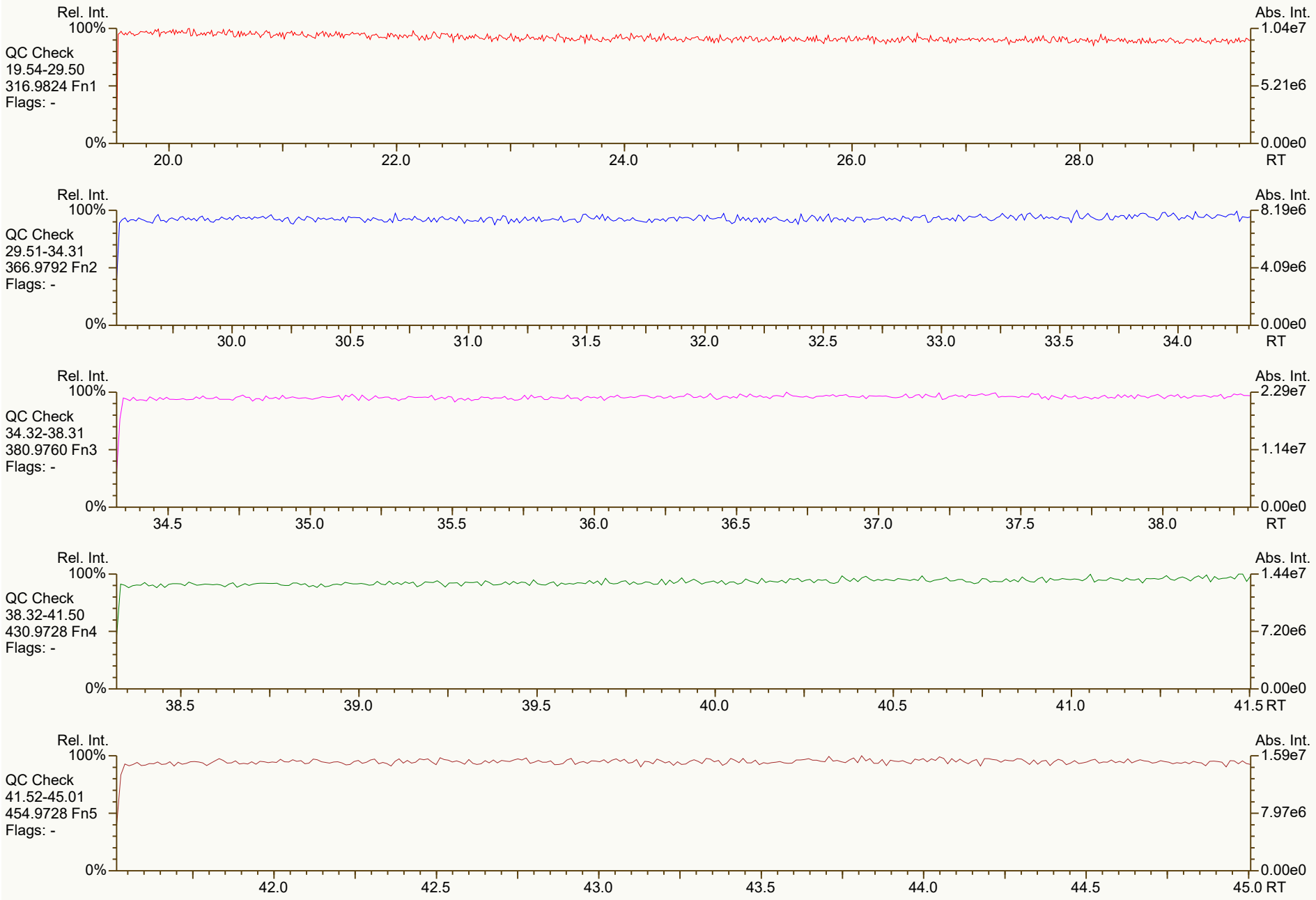
Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

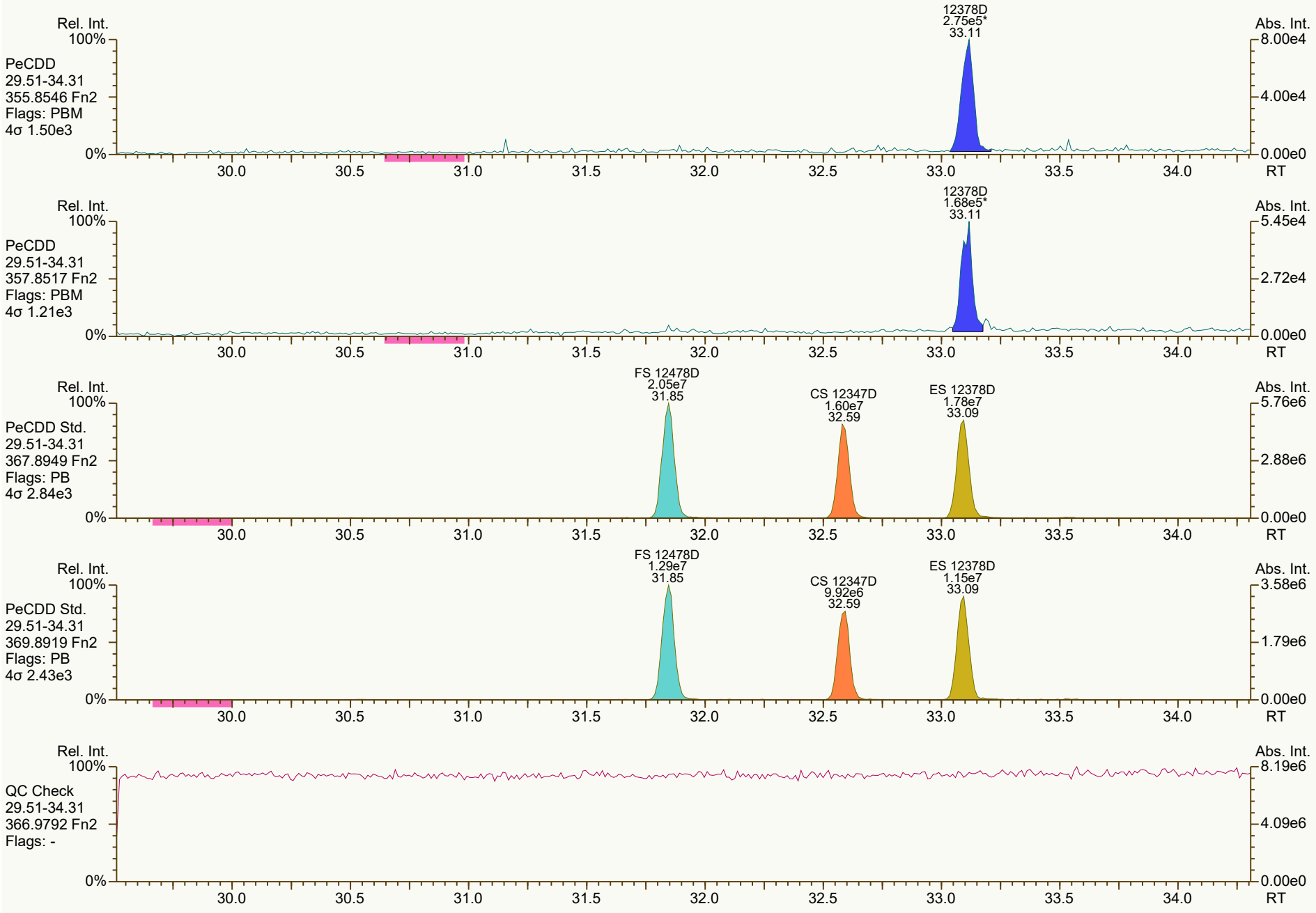
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

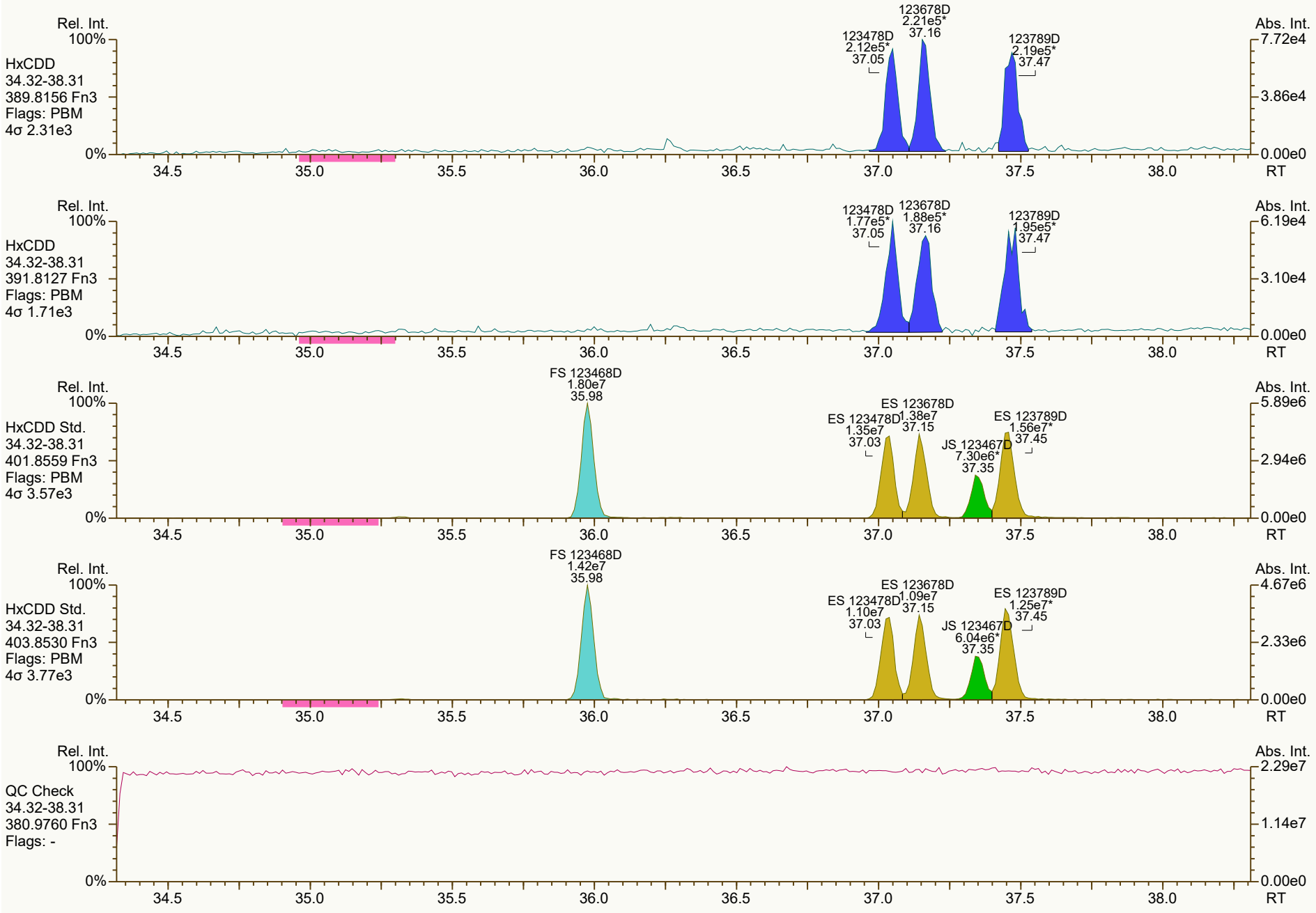
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

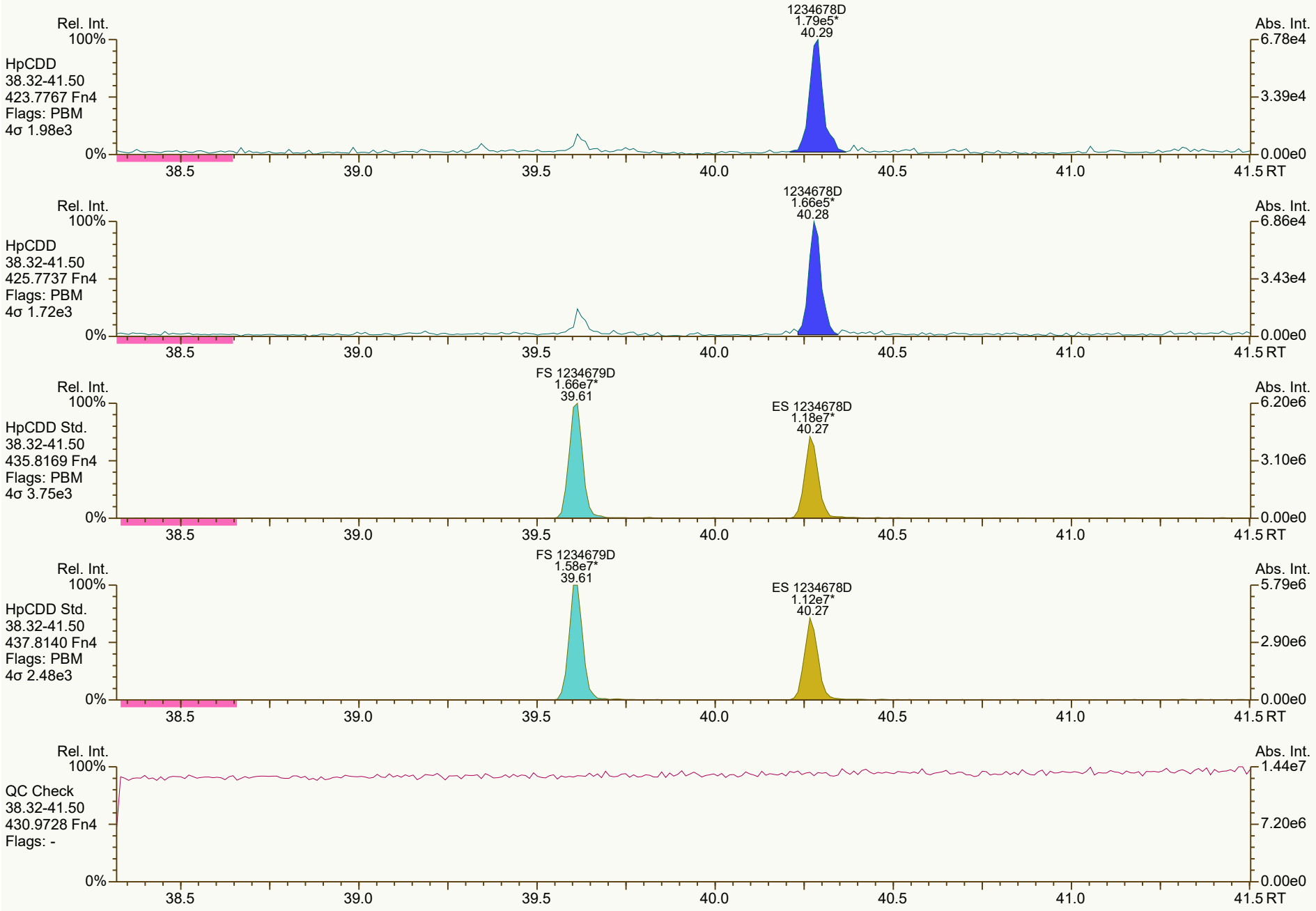
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.04e7
5.21e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.19e6
4.09e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.29e7
1.14e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.44e7
7.20e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.97e6
0.00e0

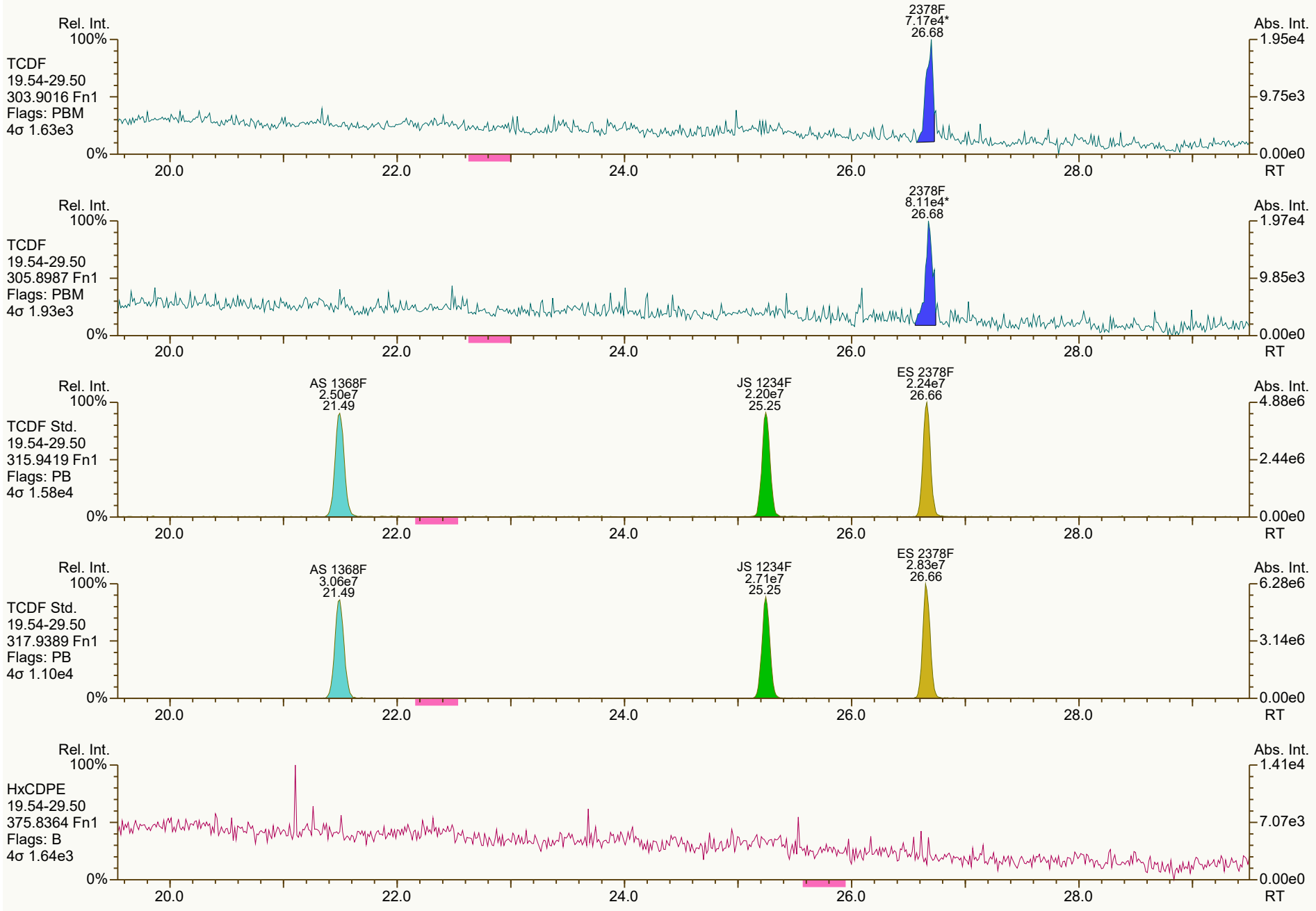

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
2378D
5.29e4*
27.60
1.67e4
8.35e3
0.00e0
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
2.13e4
1.06e4
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6
0%
100%
20.0
22.0
24.0
26.0
28.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3504, 1483, 2998 scc: 245-007
Revised: 11-Nov-2021 16:18 (DTF) Printed: 11-Nov-2021 16:32 Page 2 of 12


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
123478D
2.12e5*
37.05
123678D
2.21e5*
37.16
123789D
2.19e5*
37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
123478D
1.77e5*
37.05
123678D
1.88e5*
37.16
123789D
1.95e5*
37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
FS 123468D
1.80e7
35.98
ES 123478D
1.35e7
37.03
ES 123678D
1.38e7
37.15
JS 123467D
7.30e6*
37.35
ES 123789D
1.56e7*
37.45
Abs. Int.
5.89e6
2.94e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
FS 123468D
1.42e7
35.98
ES 123478D
1.10e7
37.03
ES 123678D
1.09e7
37.15
JS 123467D
6.04e6*
37.35
ES 123789D
1.25e7*
37.45
Abs. Int.
4.67e6
2.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.29e7
1.14e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
0%
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
0%
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
0%
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.41e4
7.07e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6412 scc: 245-007
PKD: 10-Nov-2021 13:30 Printed: 11-Nov-2021 16:32 Page 8 of 12

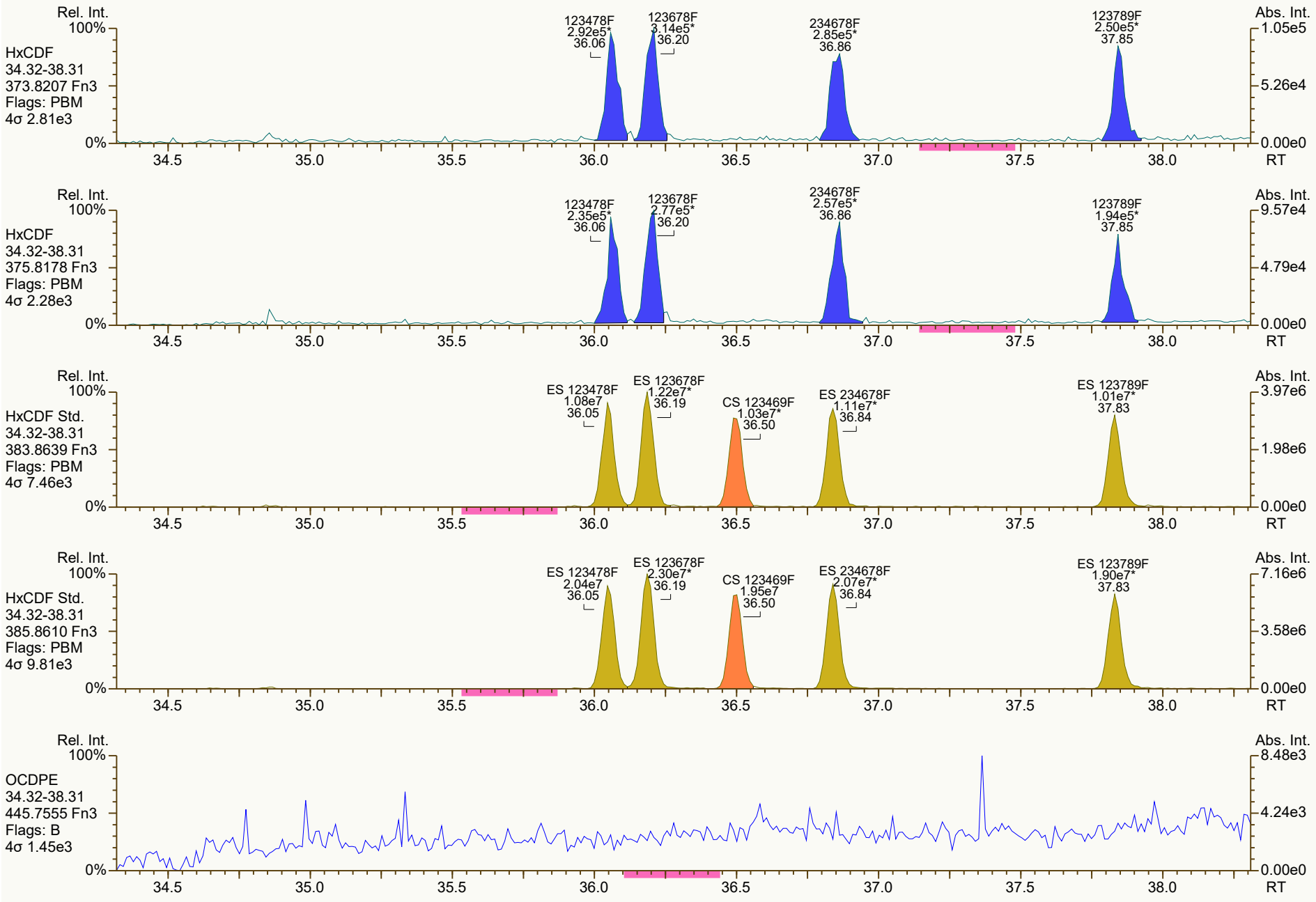
SGS ID: CS0_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

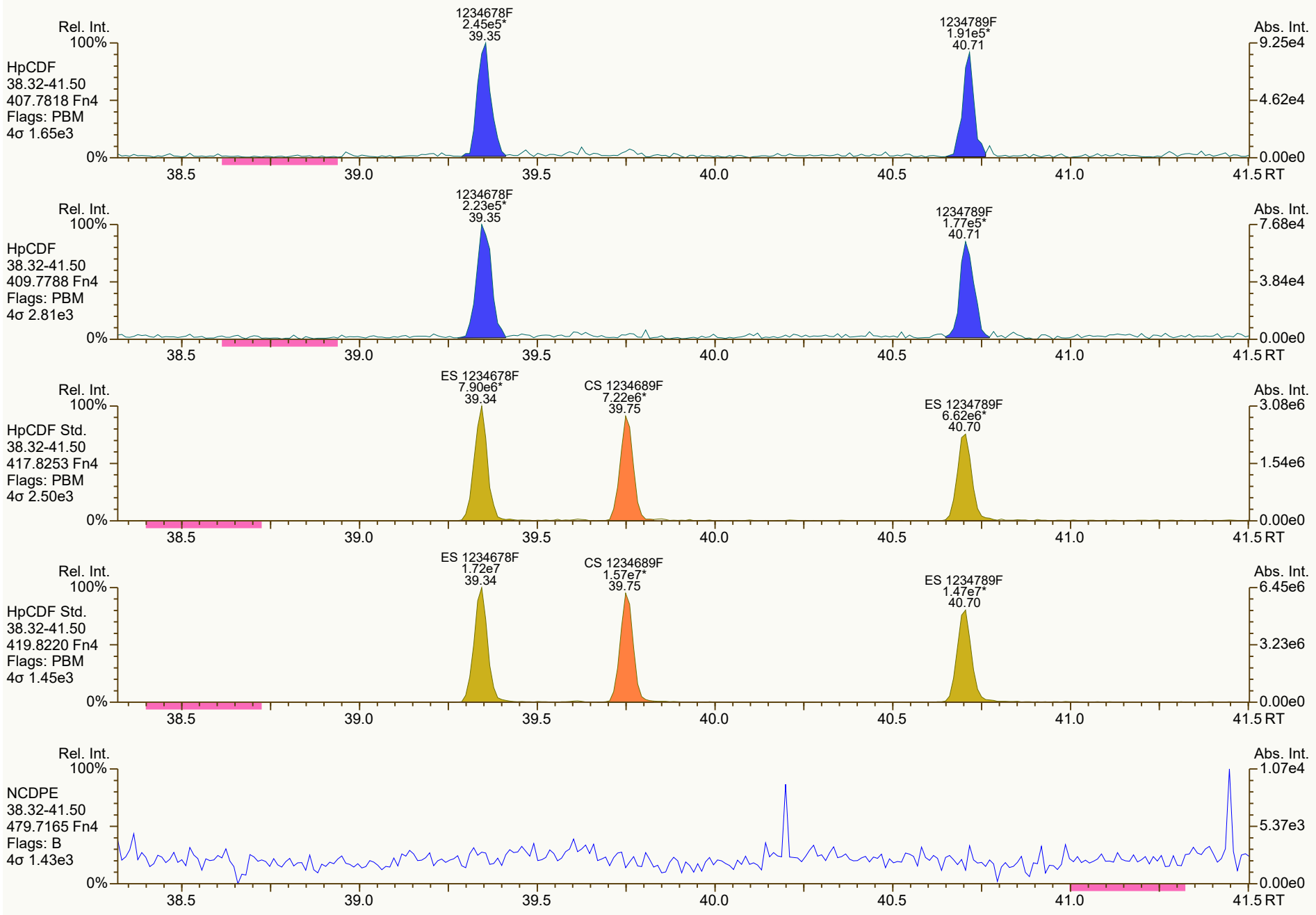
Sample ID: 25-6-3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65

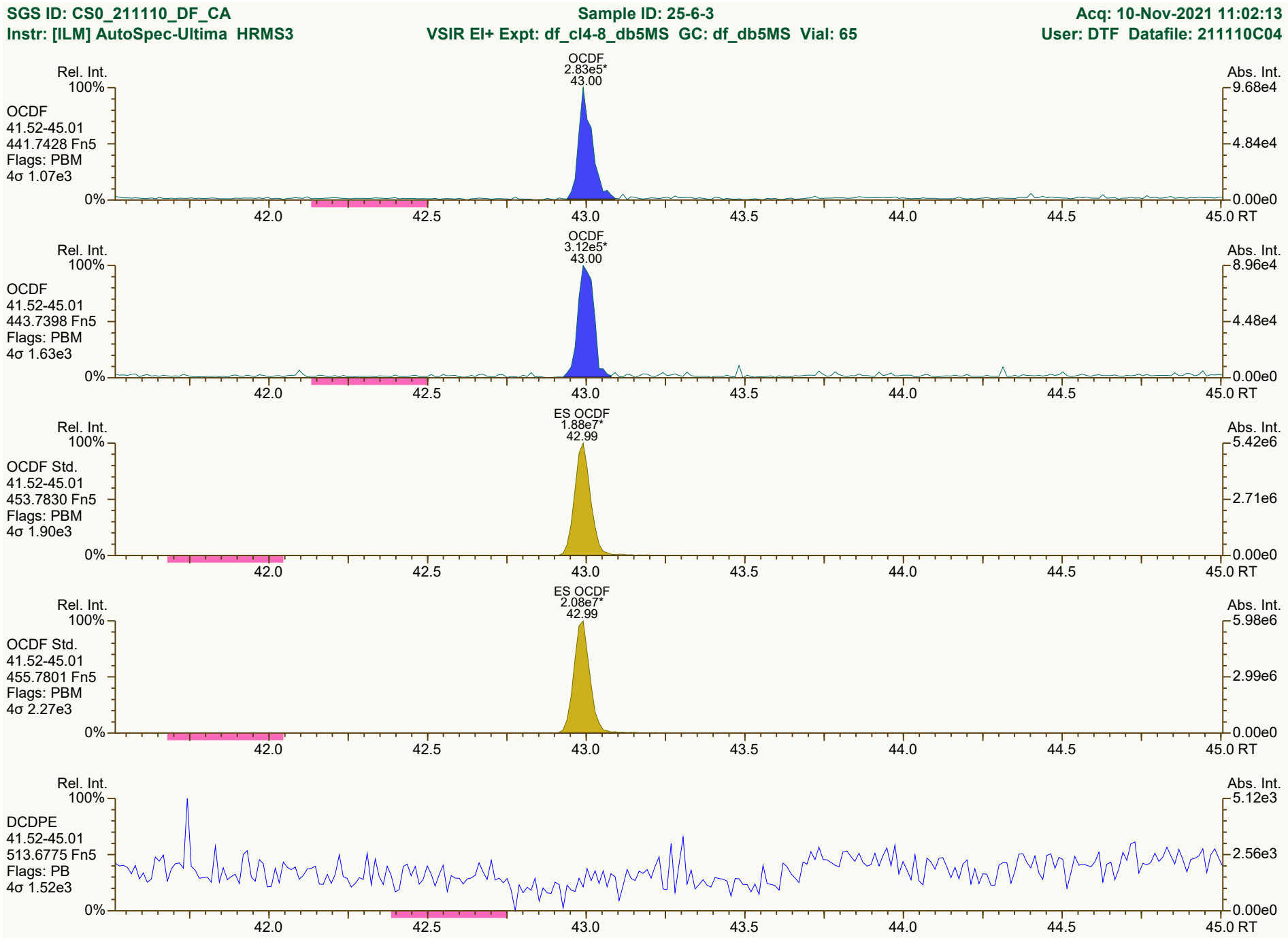
Acq: 10-Nov-2021 11:02:13
User: DTF Datafile: 211110C04



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9286, 1873, 4001 scc: 245-007
Revised: 11-Nov-2021 16:18 (DTF) Printed: 11-Nov-2021 16:32 Page 9 of 12


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
0%
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
0%
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
0%
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
0%
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

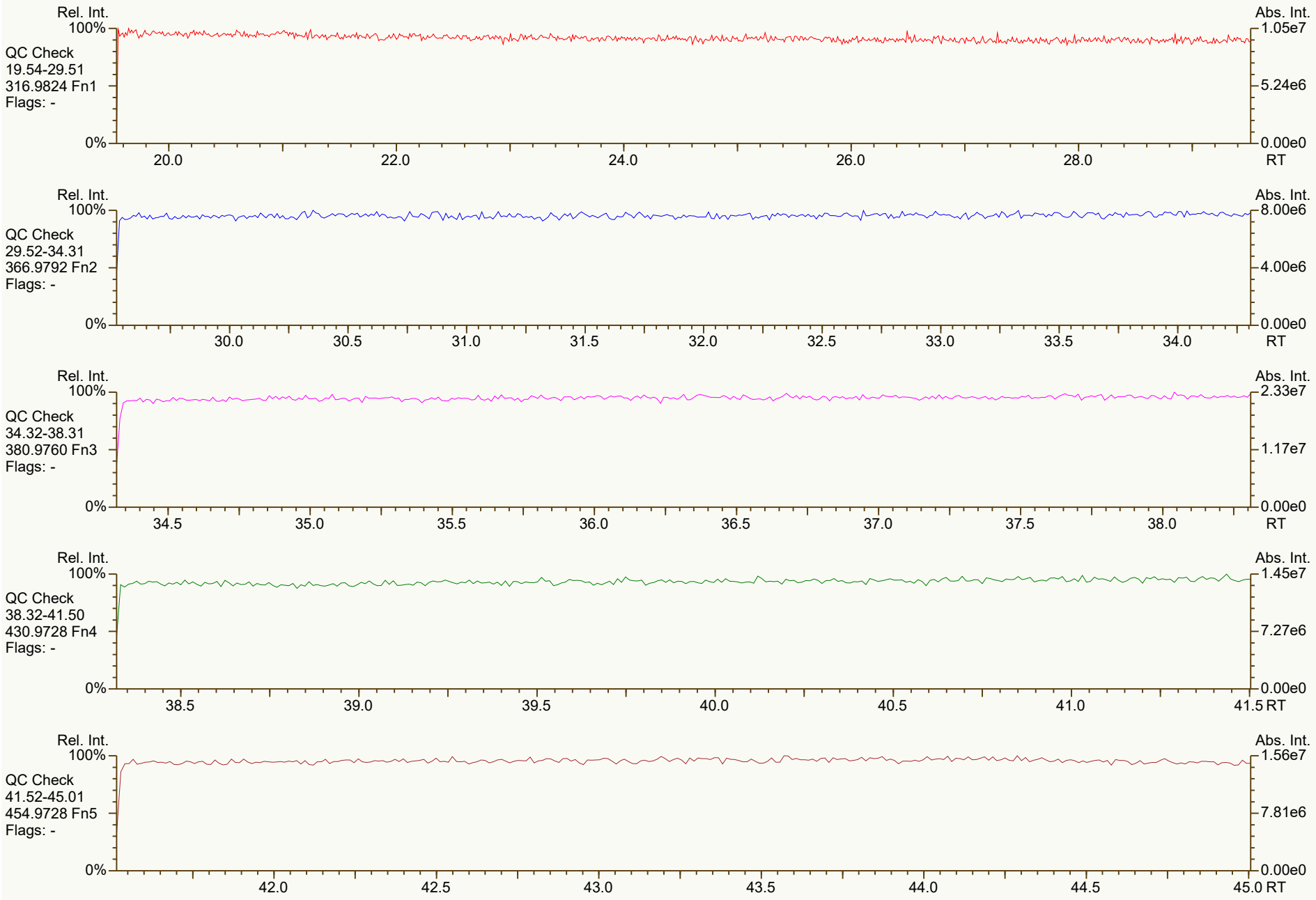

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
OCDF
2.83e5*
43.00
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
9.68e4
4.84e4
0.00e0
OCDF
3.12e5*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
8.96e4
4.48e4
0.00e0
ES OCDF
1.88e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
5.42e6
2.71e6
0.00e0
ES OCDF
2.08e7*
42.99
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
5.98e6
2.99e6
0.00e0
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
5.12e3
2.56e3
0.00e0
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 5689, 8554, 0504 scc: 245-007
Revised: 10-Nov-2021 13:36 (DTF) Printed: 11-Nov-2021 16:32 Page 12 of 12

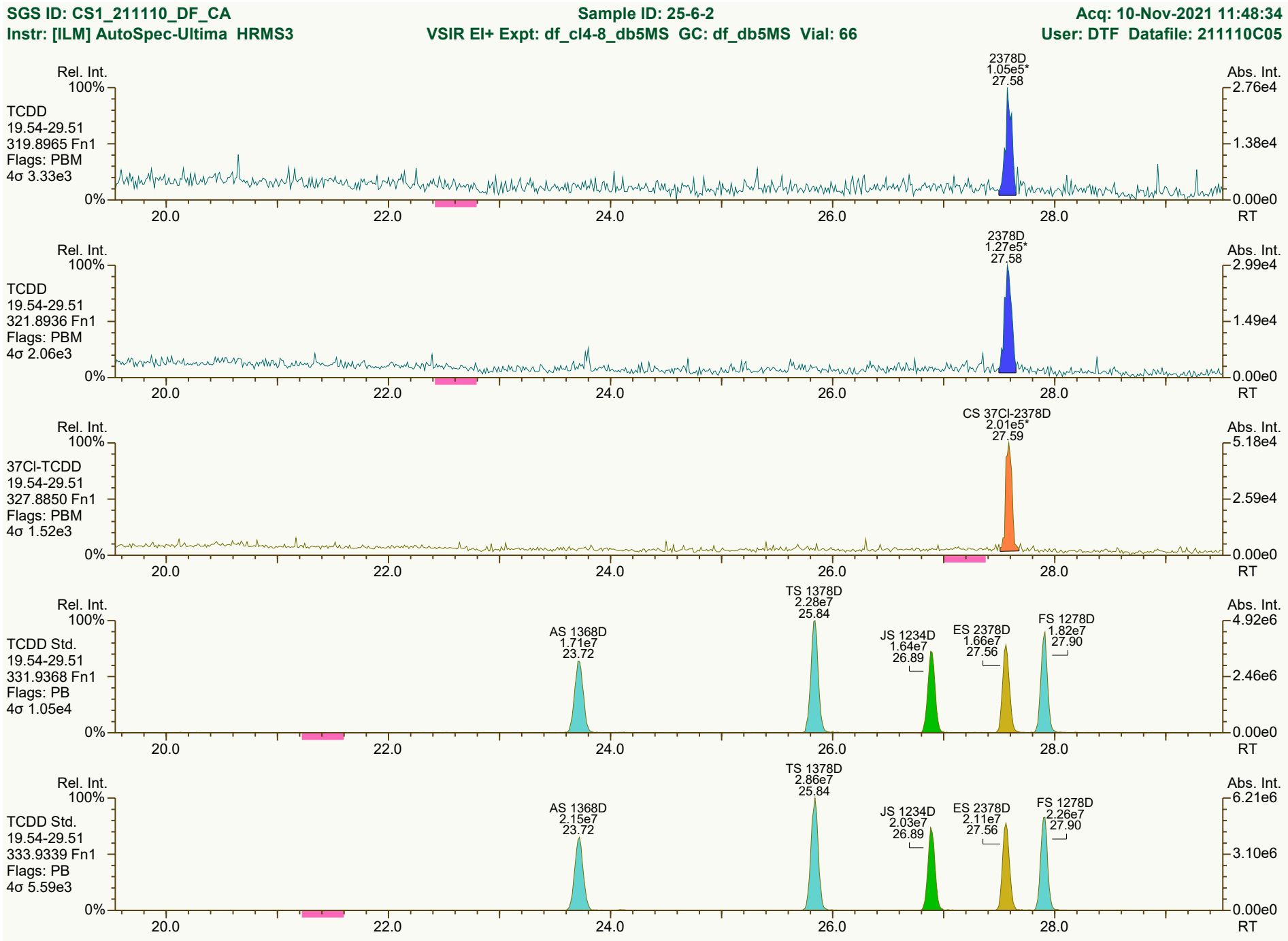
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

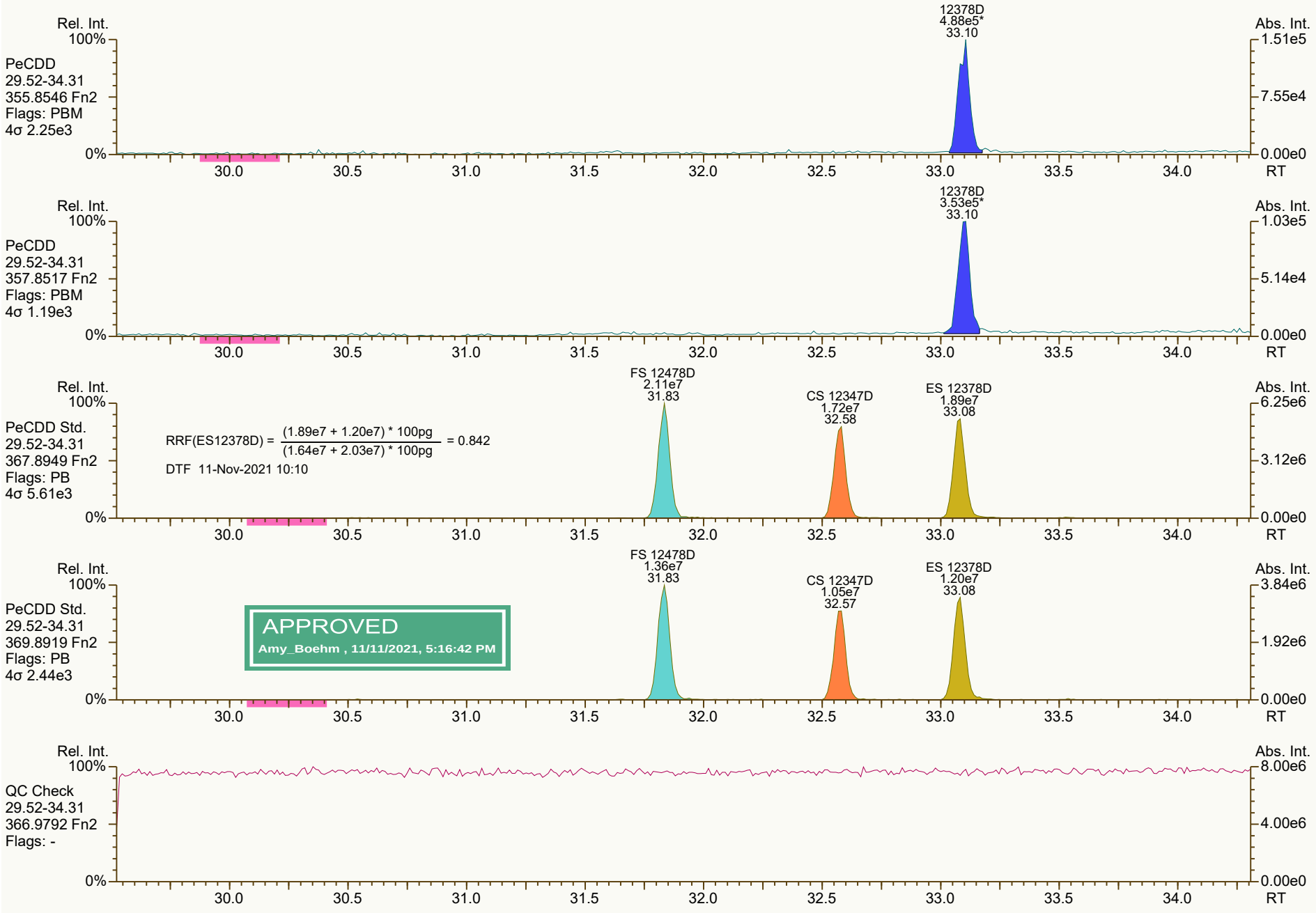
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

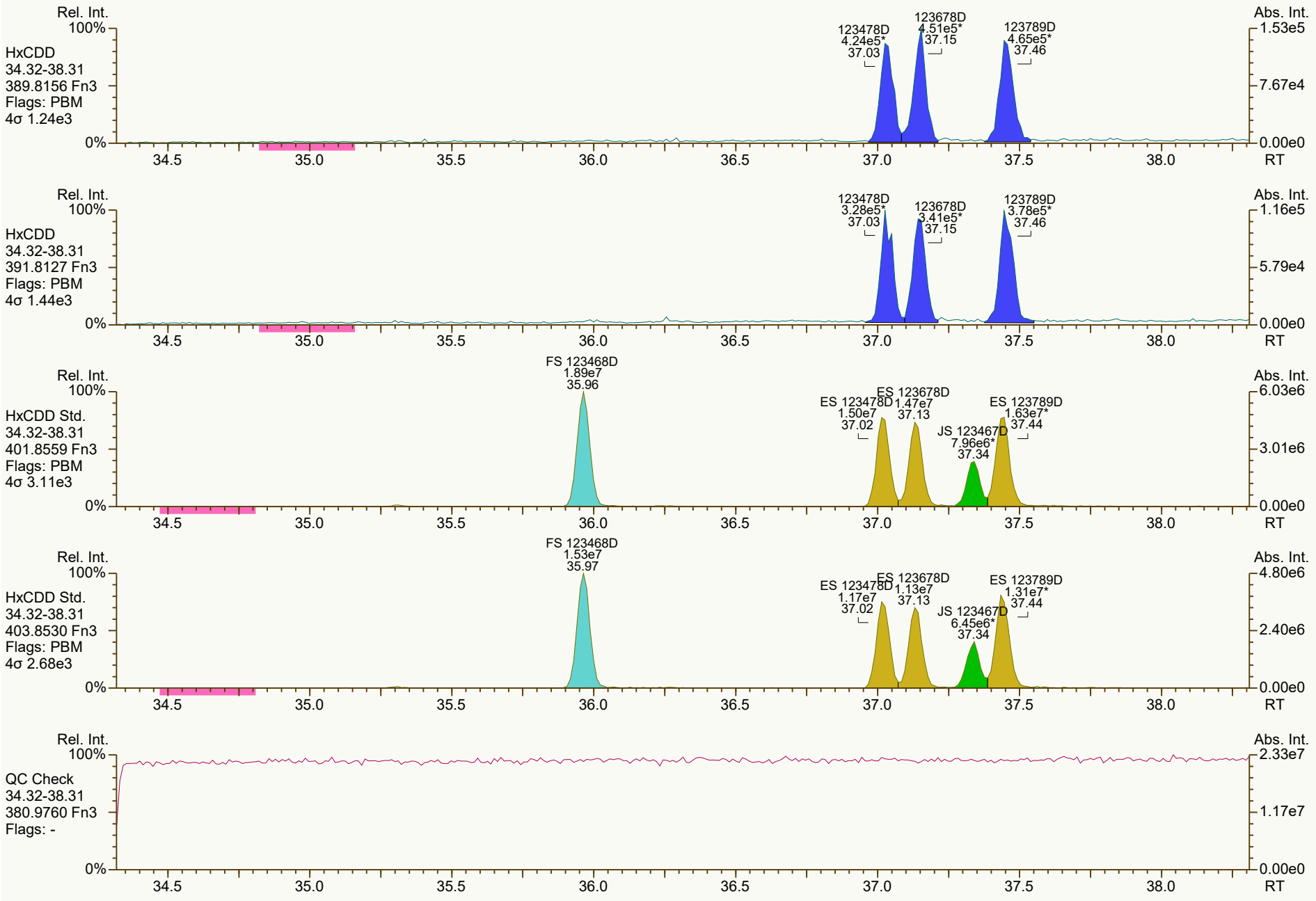
SGS ID: CS1_211110_DF_CA | **Sample ID: 25-6-2** | **Acq: 10-Nov-2021 11:48:34**
Instr: [ILM] AutoSpec-Ultima HRMS3 | **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66** | **User: DTF Datafile: 211110C05**

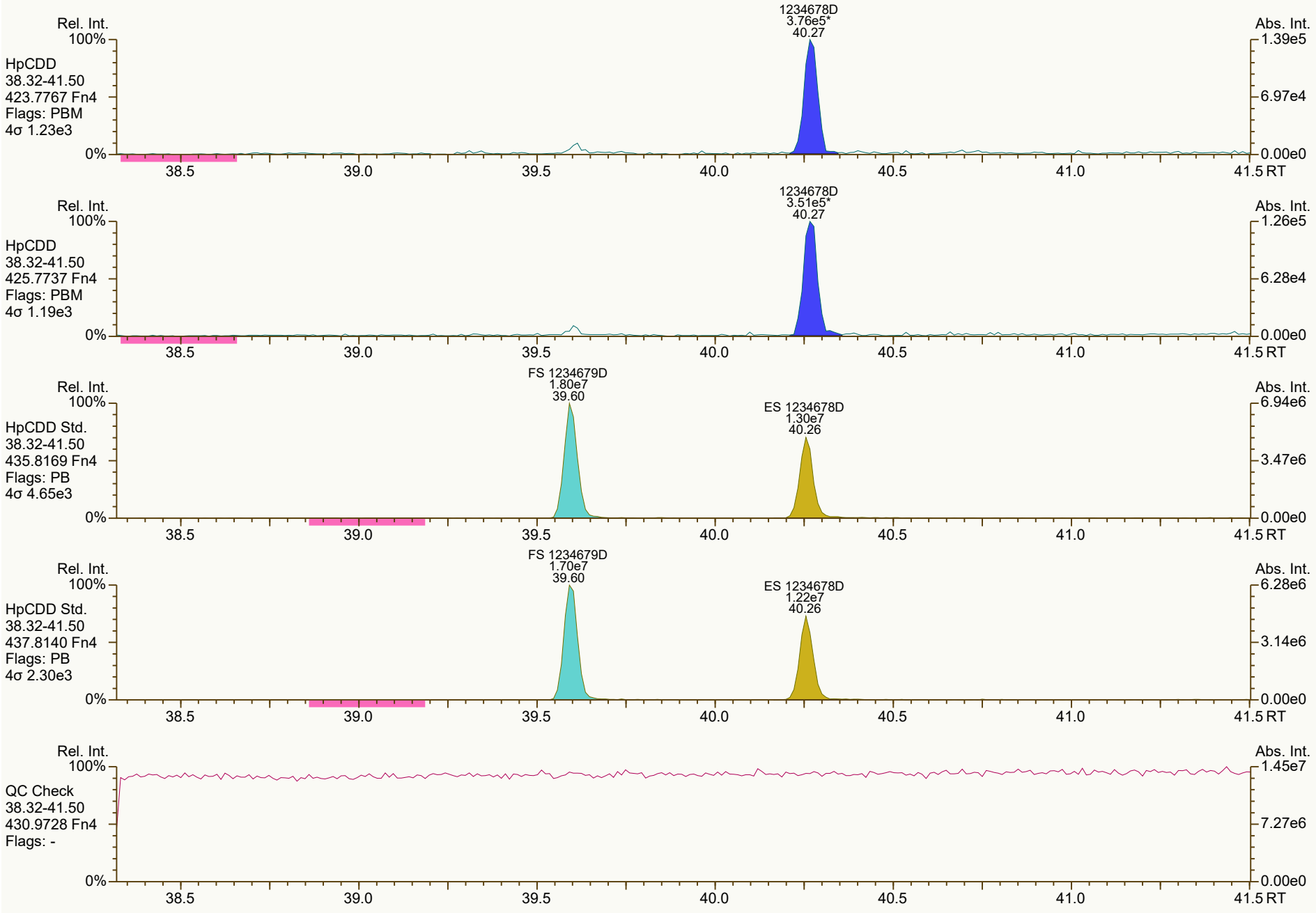


Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 scc: 419-111 *PKD: n/a Printed: 11-Nov-2021 10:40 Page 1 of 12*

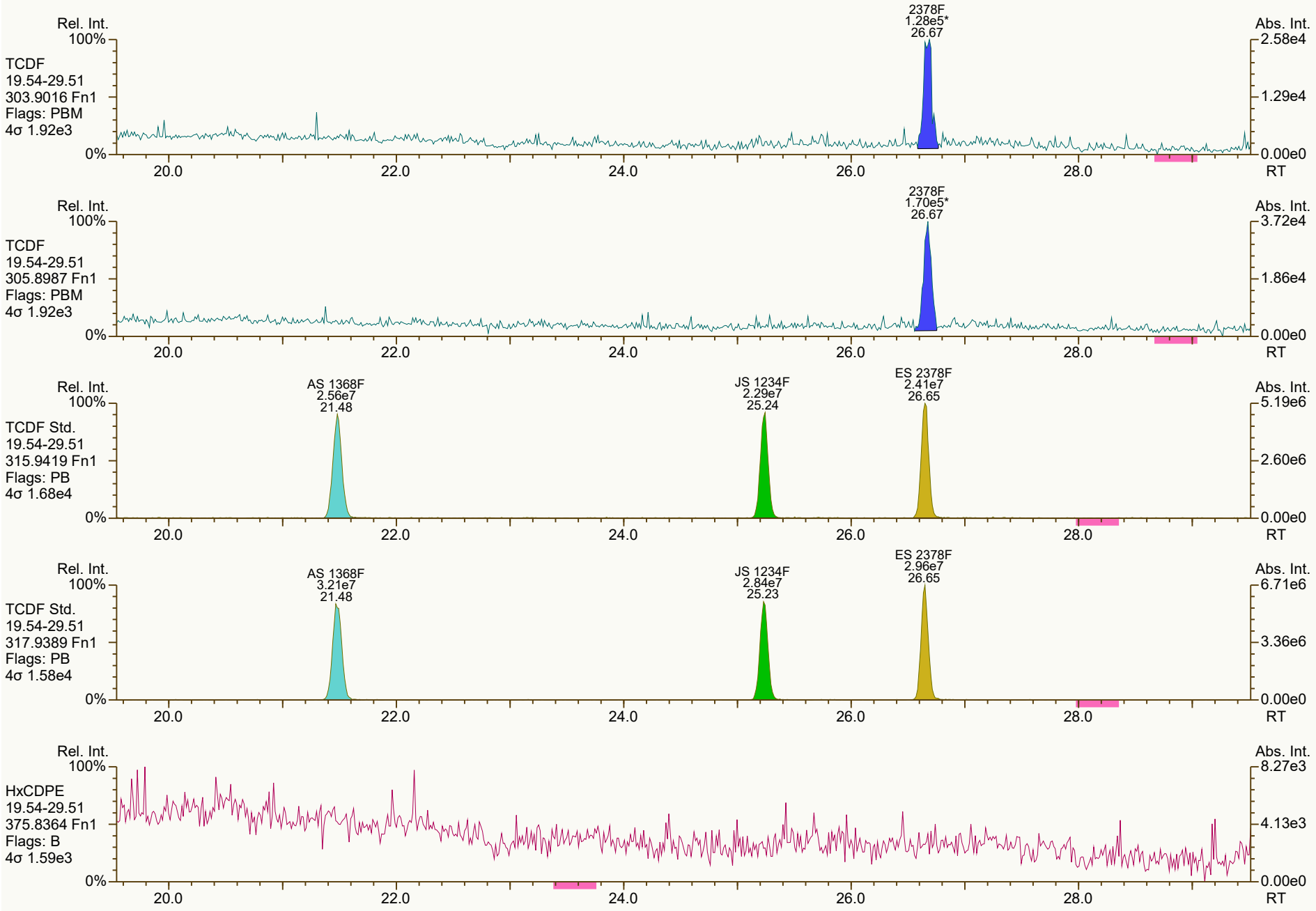

SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
2378D
1.05e5*
27.58
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
2378D
1.27e5*
27.58
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
CS 37Cl-2378D
2.01e5*
27.59
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3152, 8182, 8895 scc: 419-111
Revised: 10-Nov-2021 13:37 (DTF) Printed: 11-Nov-2021 10:40 Page 2 of 12

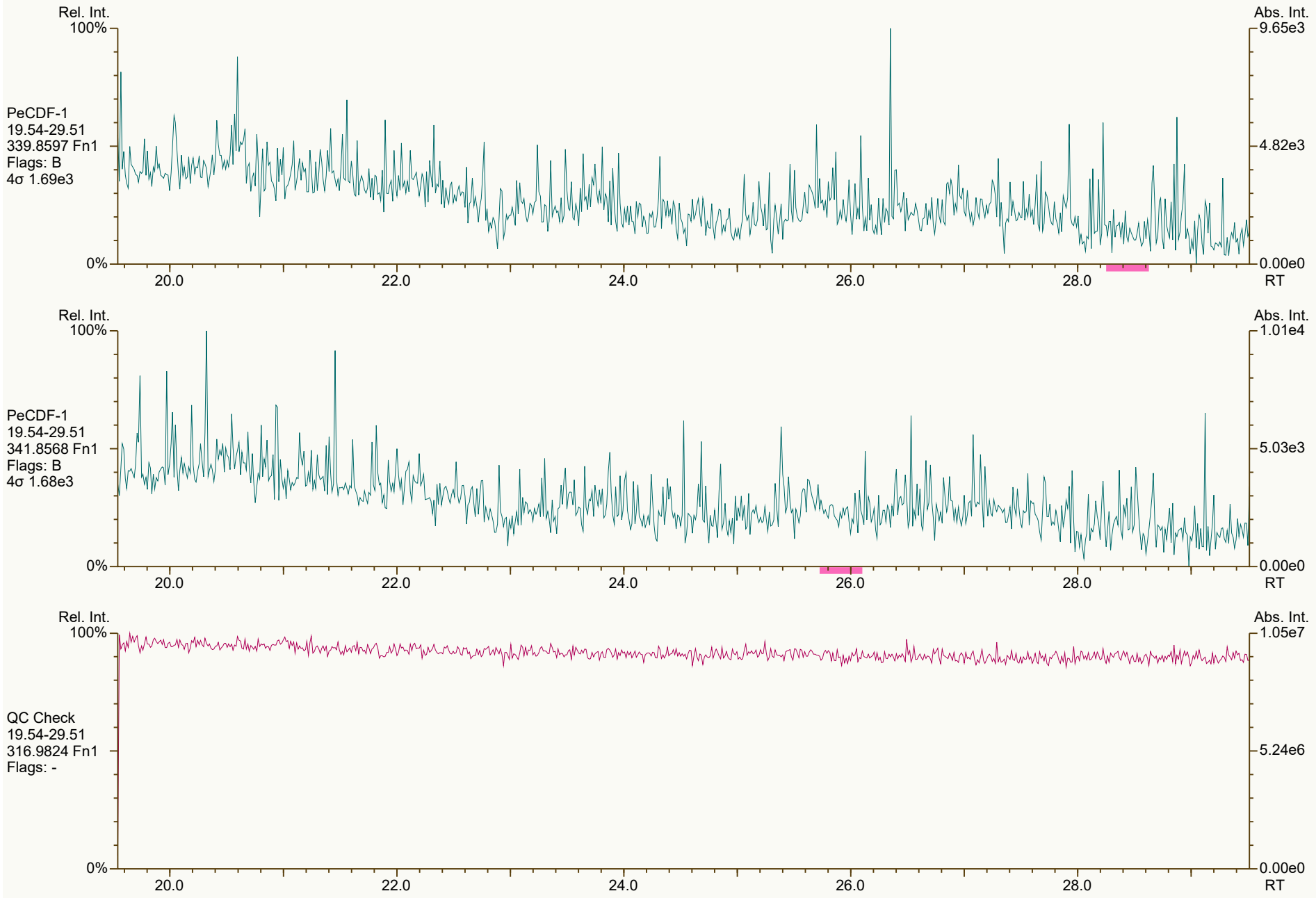

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
Abs. Int.
1.03e5
5.14e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
Abs. Int.
6.25e6
3.12e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.00e6
4.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

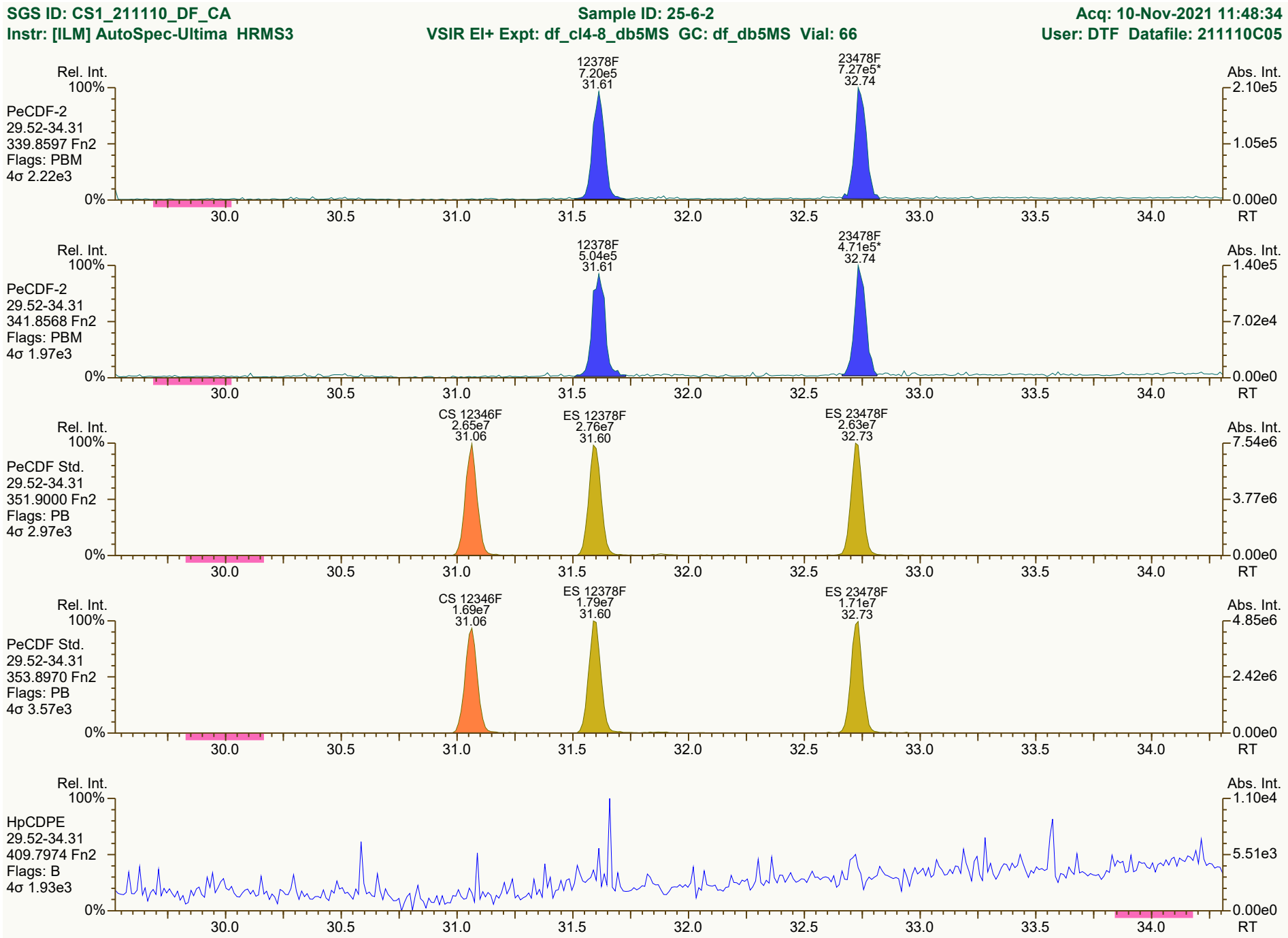

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123678D
1.47e7
37.13
ES 123478D
1.50e7
37.02
ES 123789D
1.63e7*
37.44
JS 123467D
7.96e6*
37.34
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123678D
1.13e7
37.13
ES 123478D
1.17e7
37.02
ES 123789D
1.31e7*
37.44
JS 123467D
6.45e6*
37.34
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

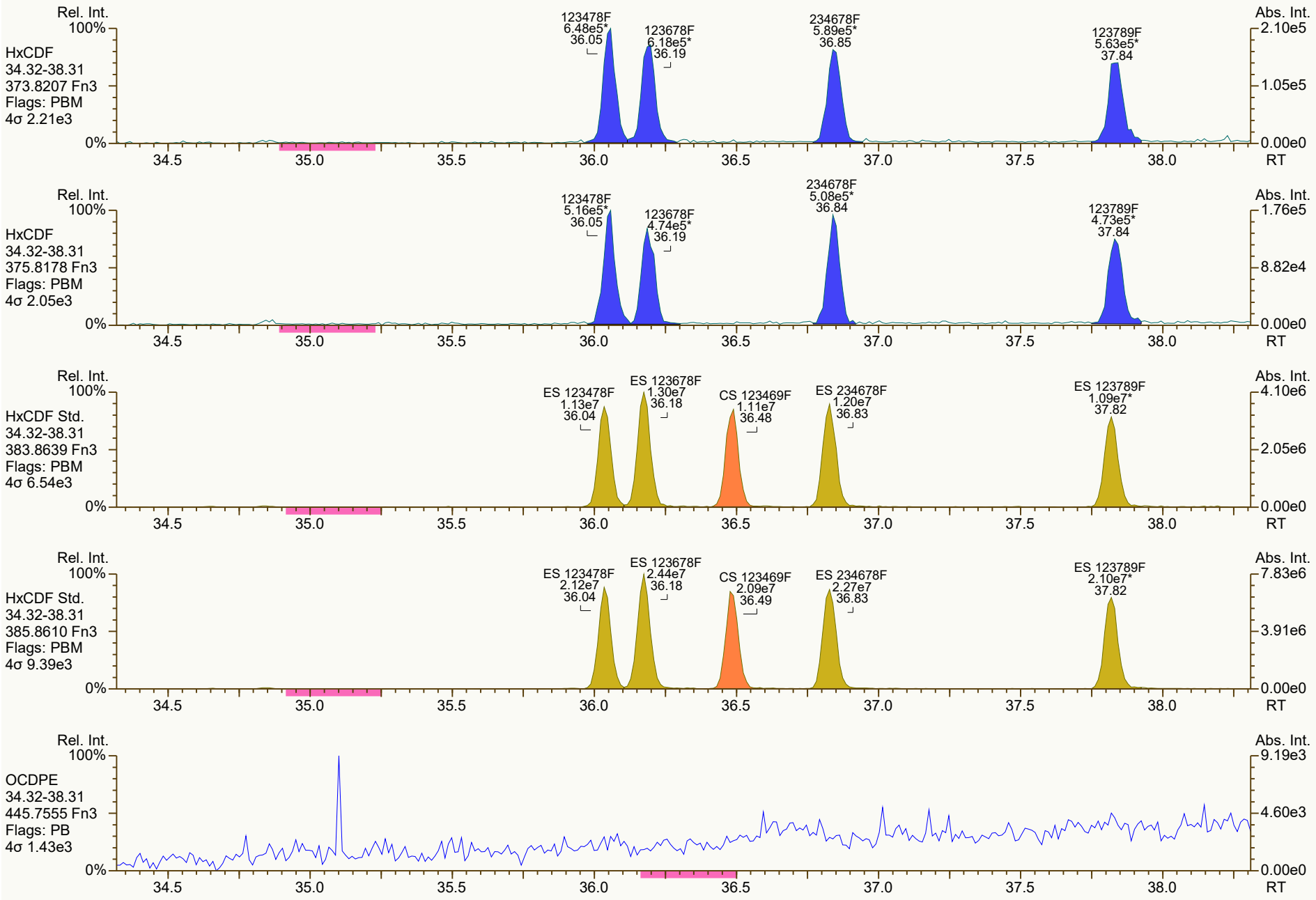

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

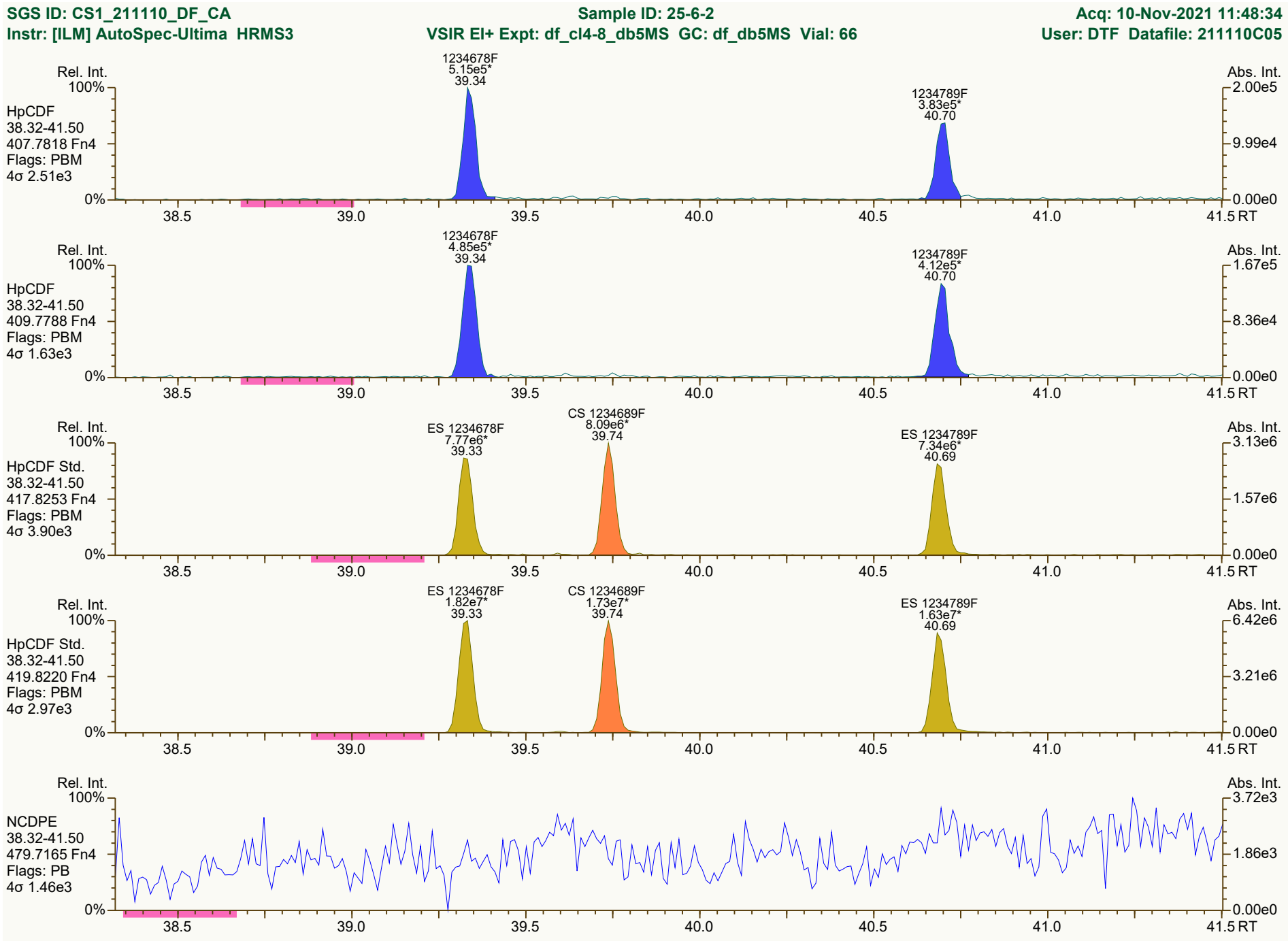

OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

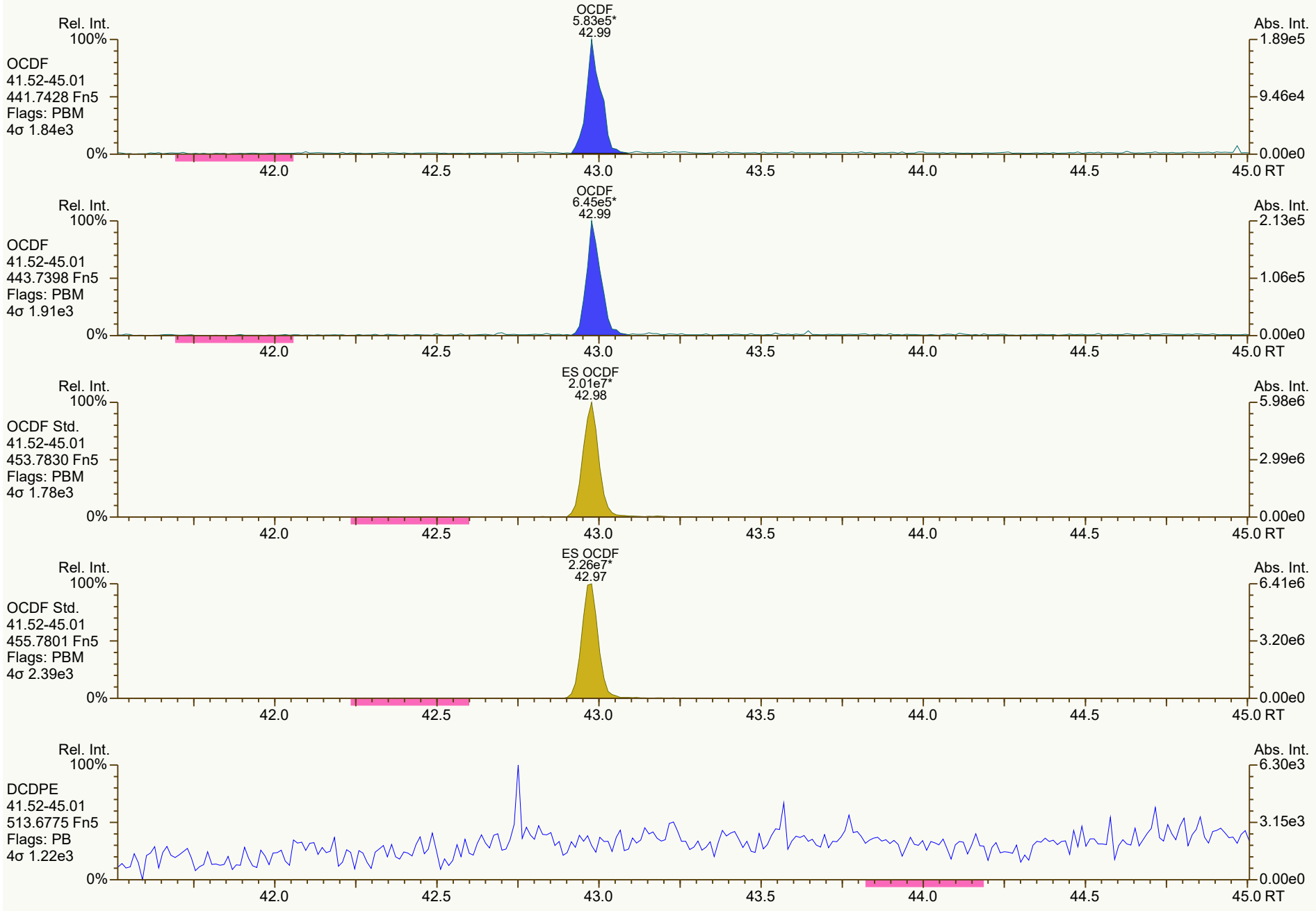

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
2.10e5
1.05e5
0.00e0
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
1.40e5
7.02e4
0.00e0
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
7.54e6
3.77e6
0.00e0
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
4.85e6
2.42e6
0.00e0
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
1.10e4
5.51e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
Abs. Int.
1.76e5
8.82e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
Abs. Int.
4.10e6
2.05e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
Abs. Int.
7.83e6
3.91e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
Abs. Int.
9.19e3
4.60e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
2.00e5
9.99e4
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
1.67e5
8.36e4
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
3.13e6
1.57e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
3.72e3
1.86e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3913, 8502, 2889 scc: 419-111
Revised: 10-Nov-2021 13:39 (DTF) Printed: 11-Nov-2021 10:40 Page 11 of 12

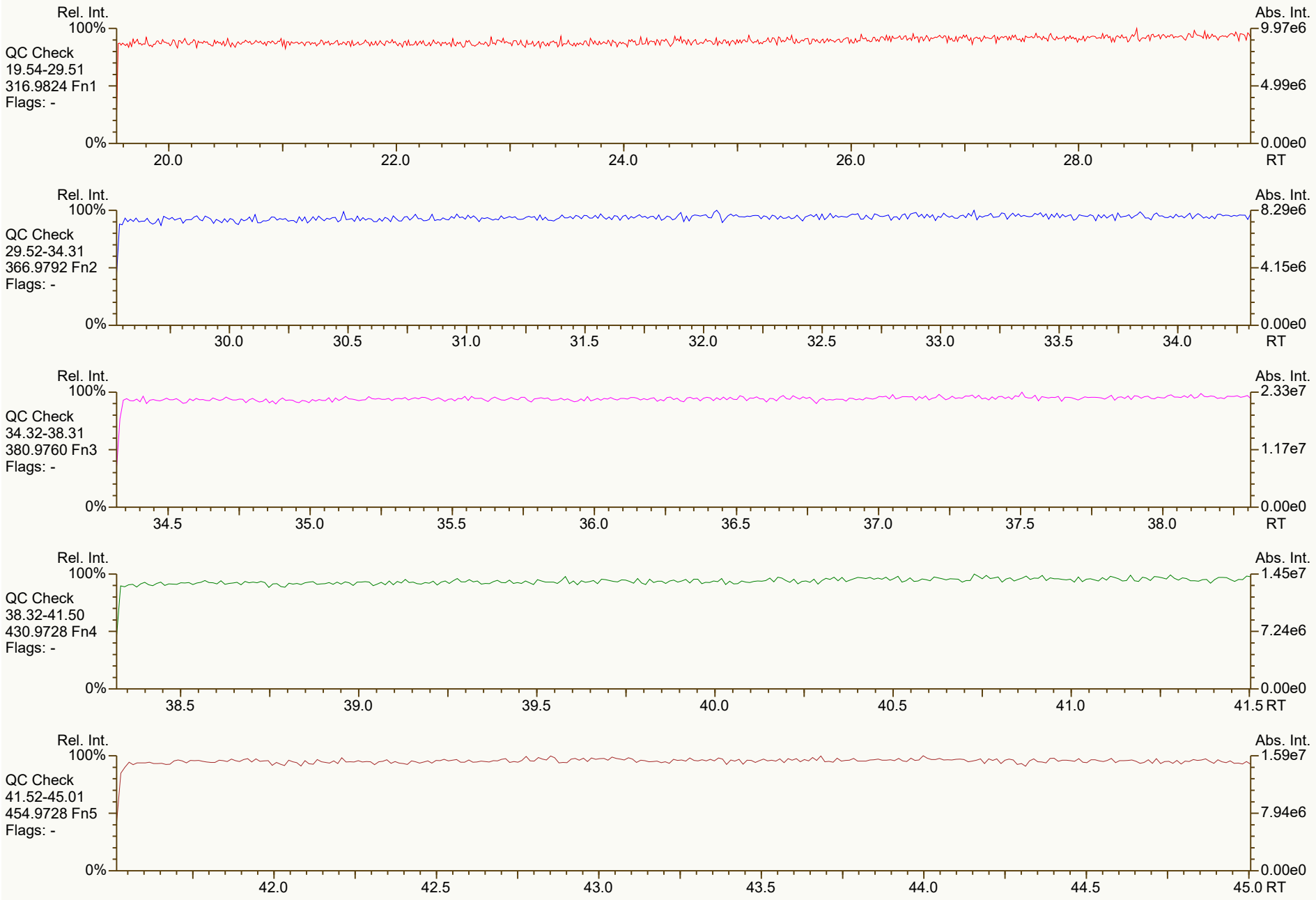

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
OCDF
5.83e5*
42.99
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
OCDF
6.45e5*
42.99
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
ES OCDF
2.01e7*
42.98
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
ES OCDF
2.26e7*
42.97
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

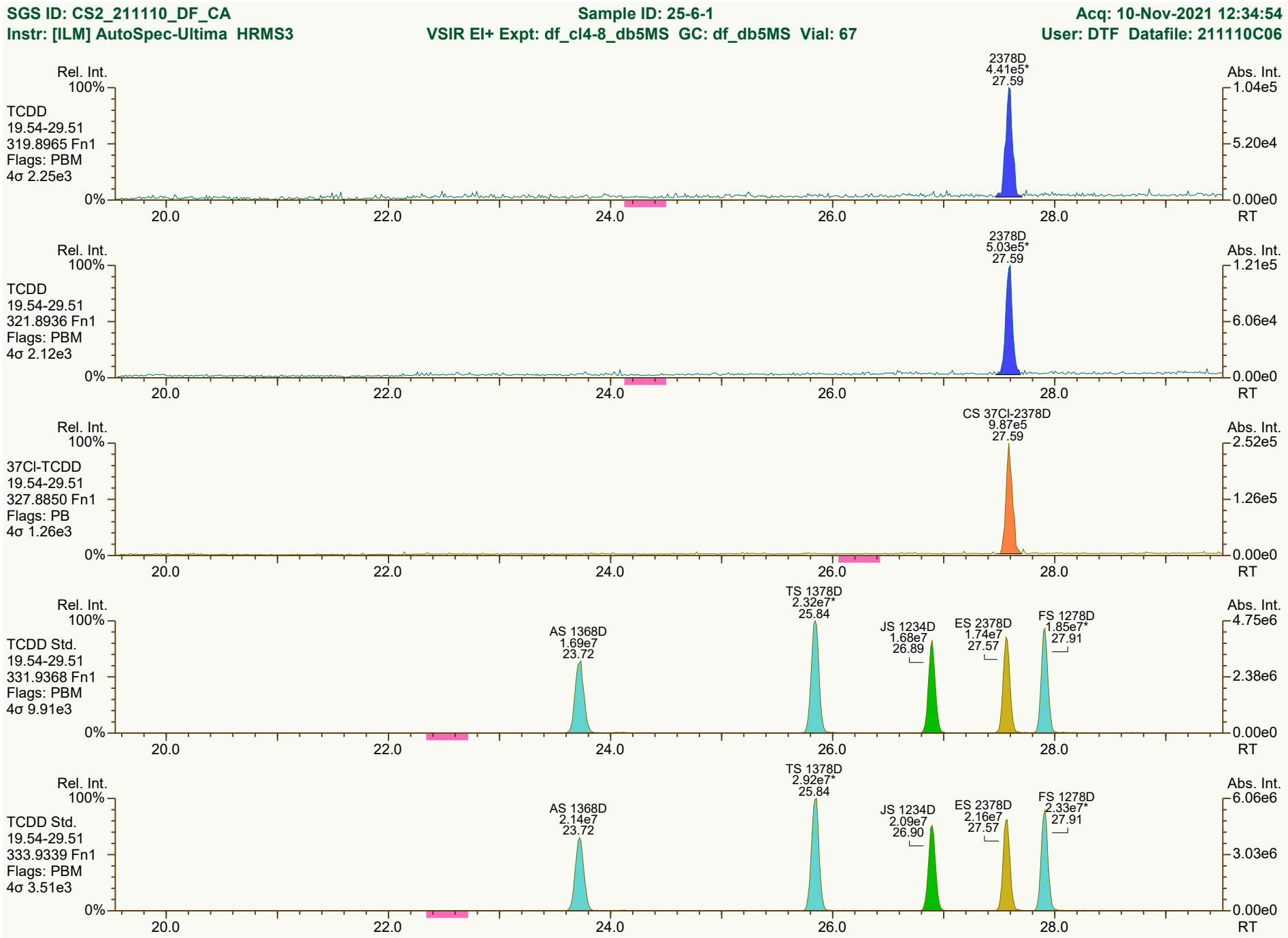
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

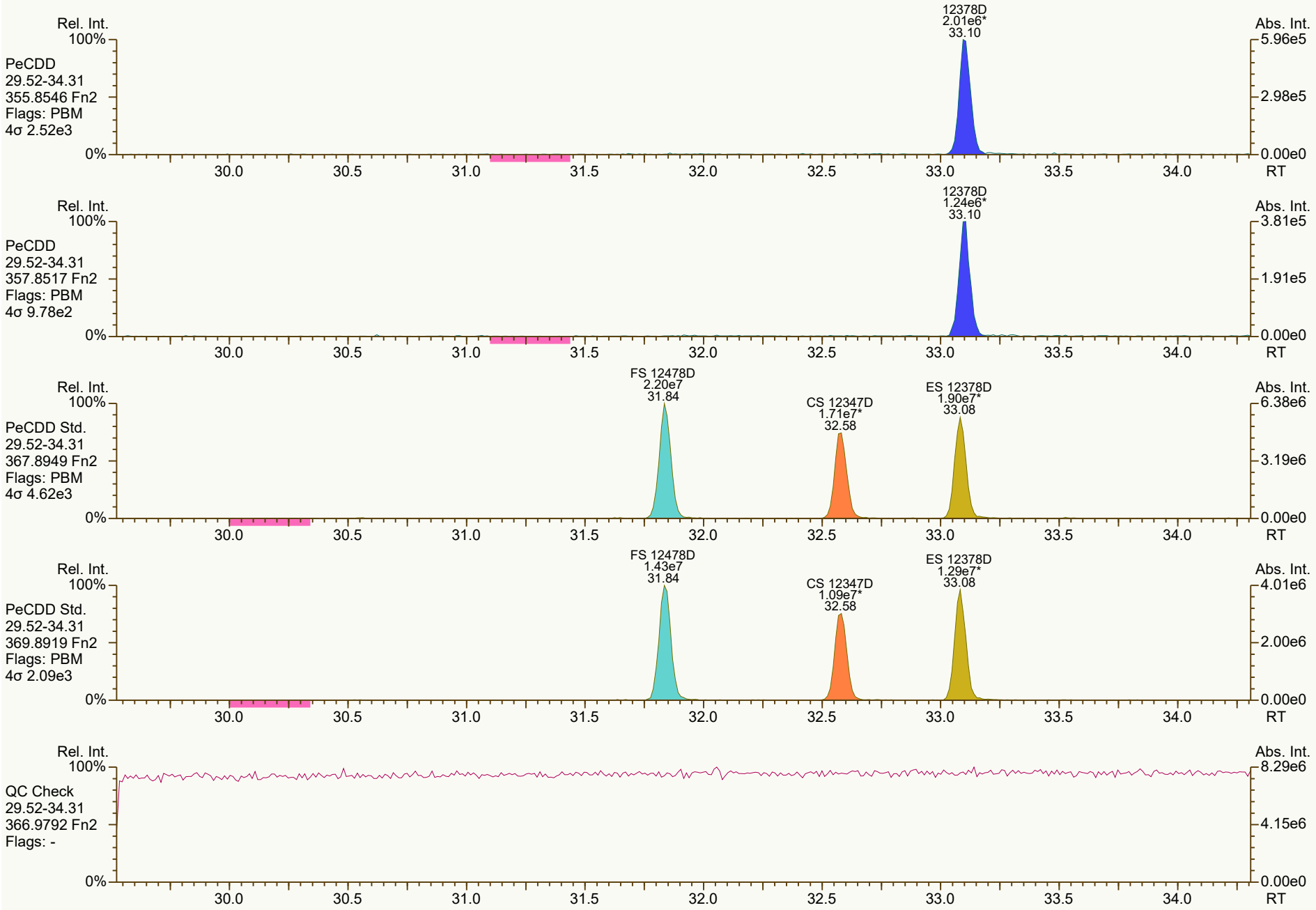
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

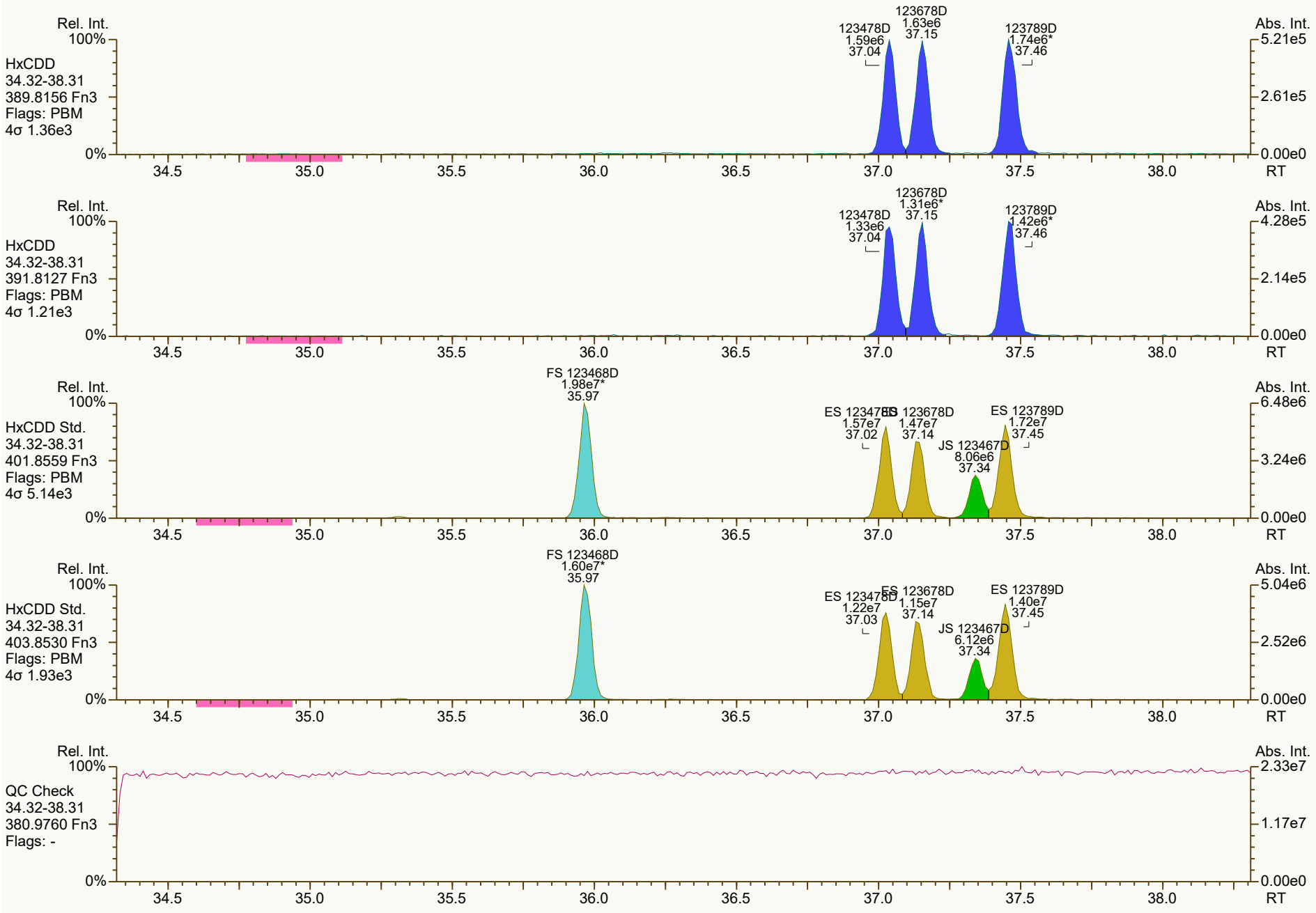
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

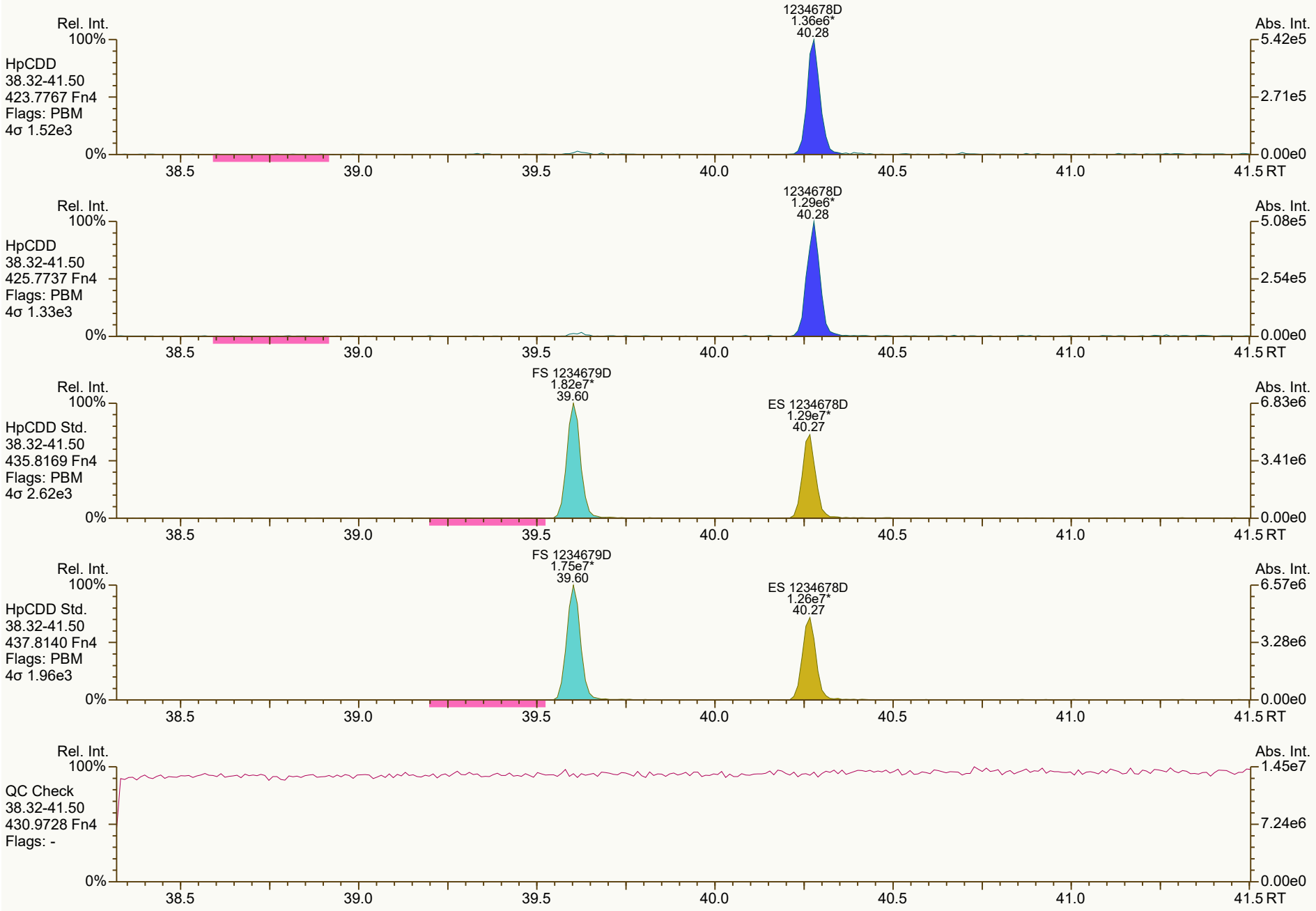
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

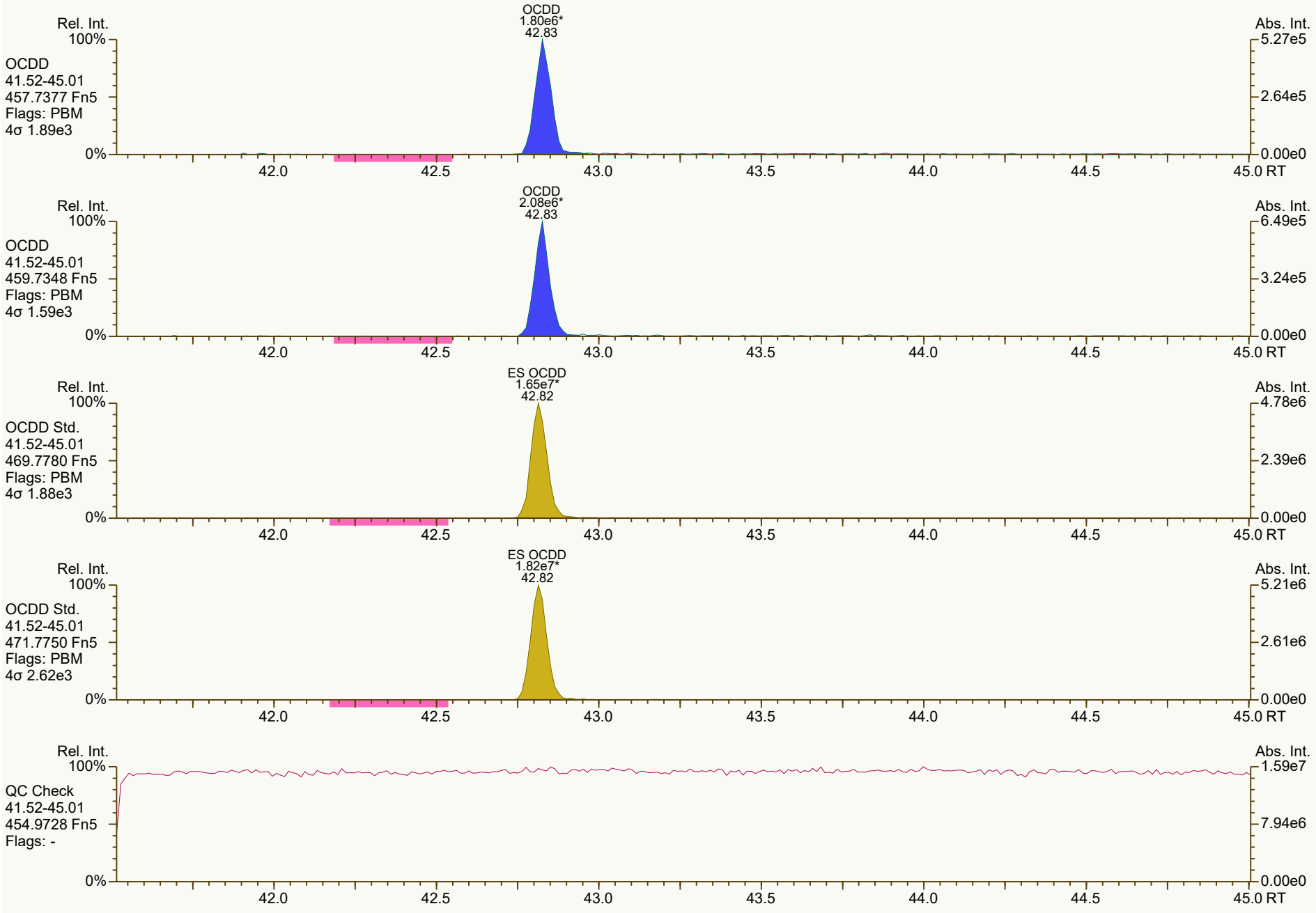

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0


SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
2378D
4.41e5*
27.59
1.04e5
5.20e4
0.00e0
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
2378D
5.03e5*
27.59
1.21e5
6.06e4
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
CS 37Cl-2378D
9.87e5
27.59
2.52e5
1.26e5
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
4.75e6
2.38e6
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
6.06e6
3.03e6
0%
100%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
4.28e5
2.14e5
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
6.48e6
3.24e6
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
5.04e6
2.52e6
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.33e7
1.17e7

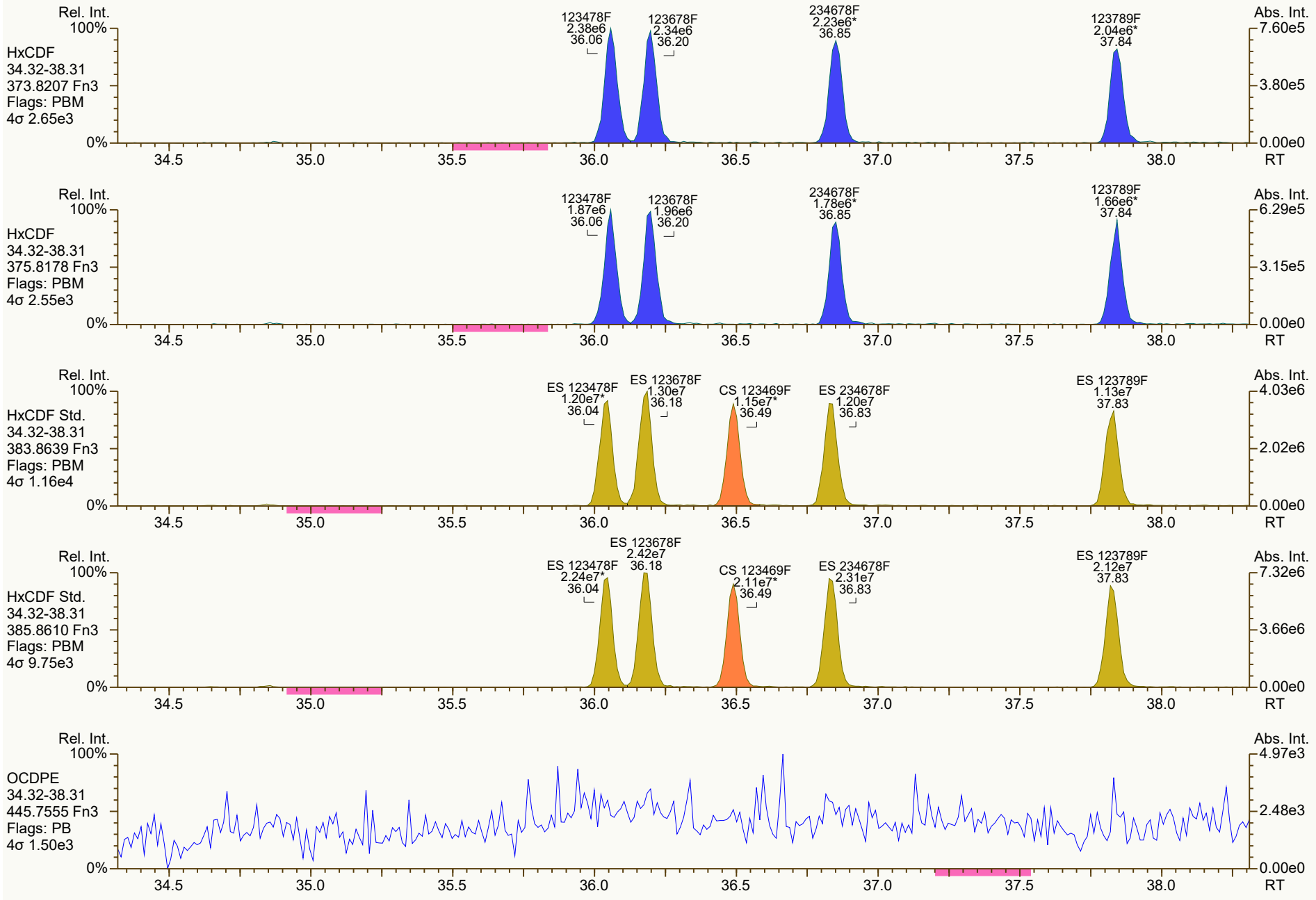

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

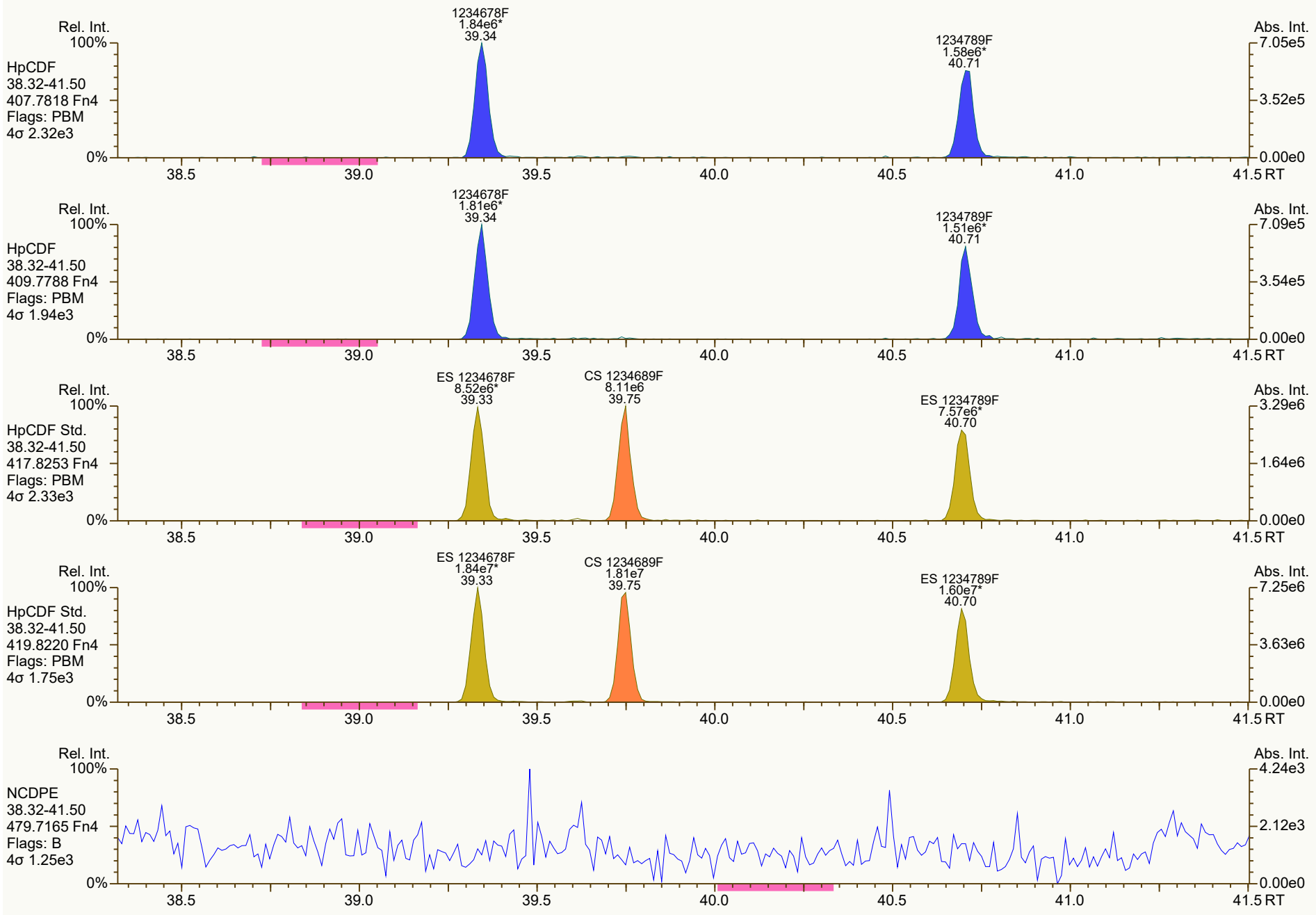

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

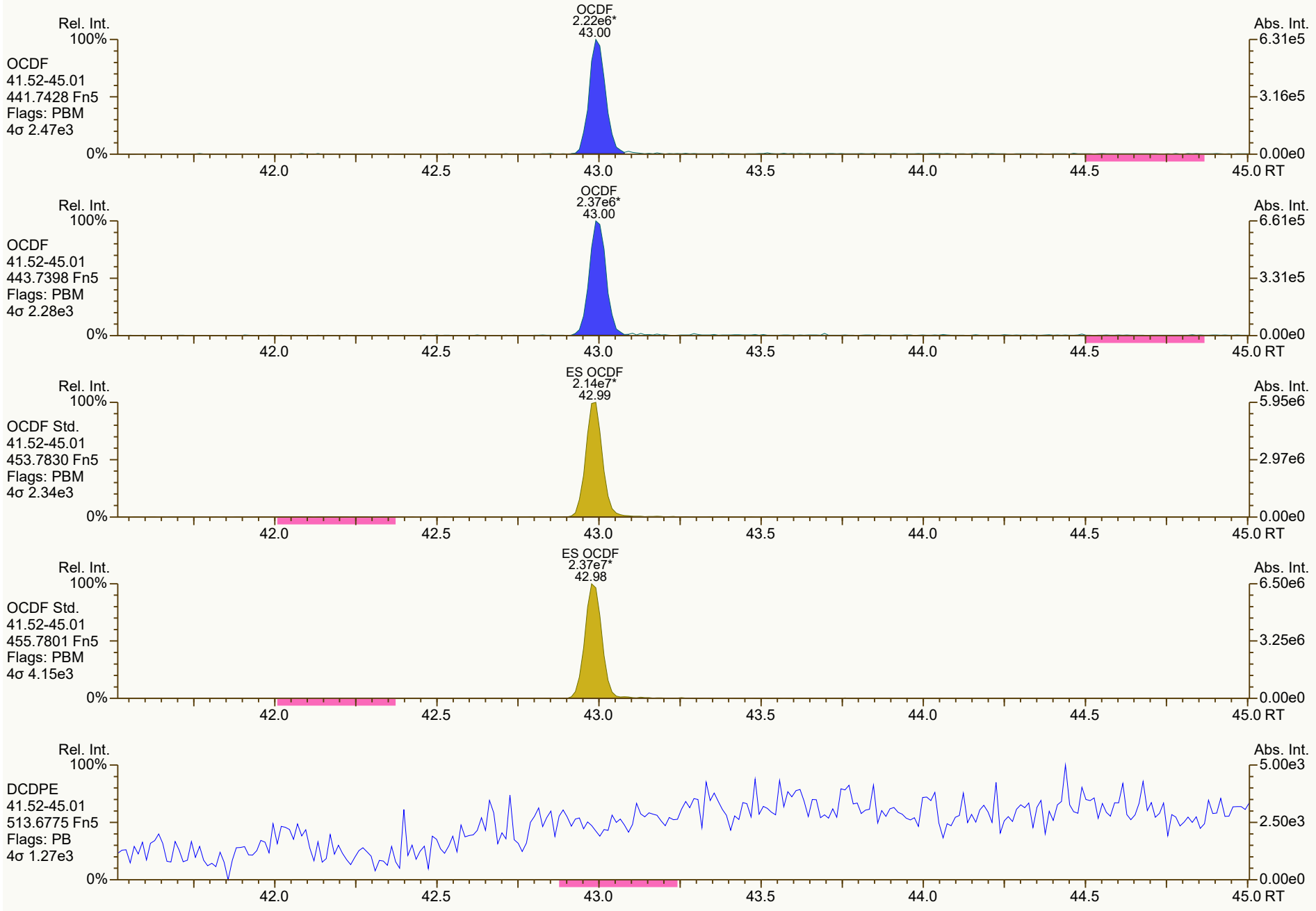

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
0%
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
0%
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
0%
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
0%
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
5.27e5
2.63e5
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
8.01e6
4.01e6
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
5.19e6
2.59e6
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
6.67e3
3.33e3


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
6.29e5
3.15e5
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
4.03e6
2.02e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
ES 123478F
2.24e7*
36.04
ES 123678F
2.42e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
7.32e6
3.66e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
4.97e3
2.48e3

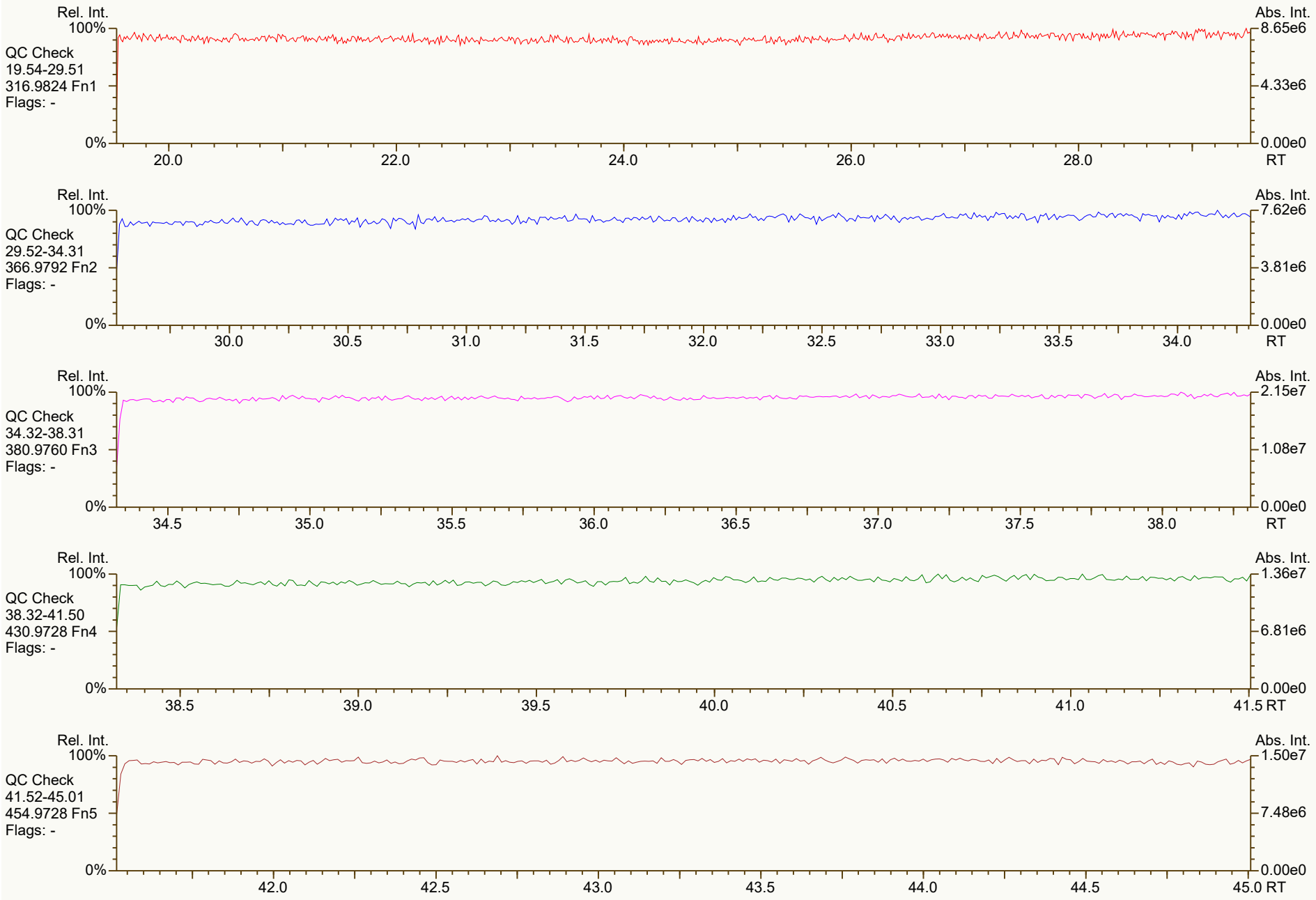

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
0%
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
0%
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
0%
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
0%
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
0%
Abs. Int.
4.24e3
2.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

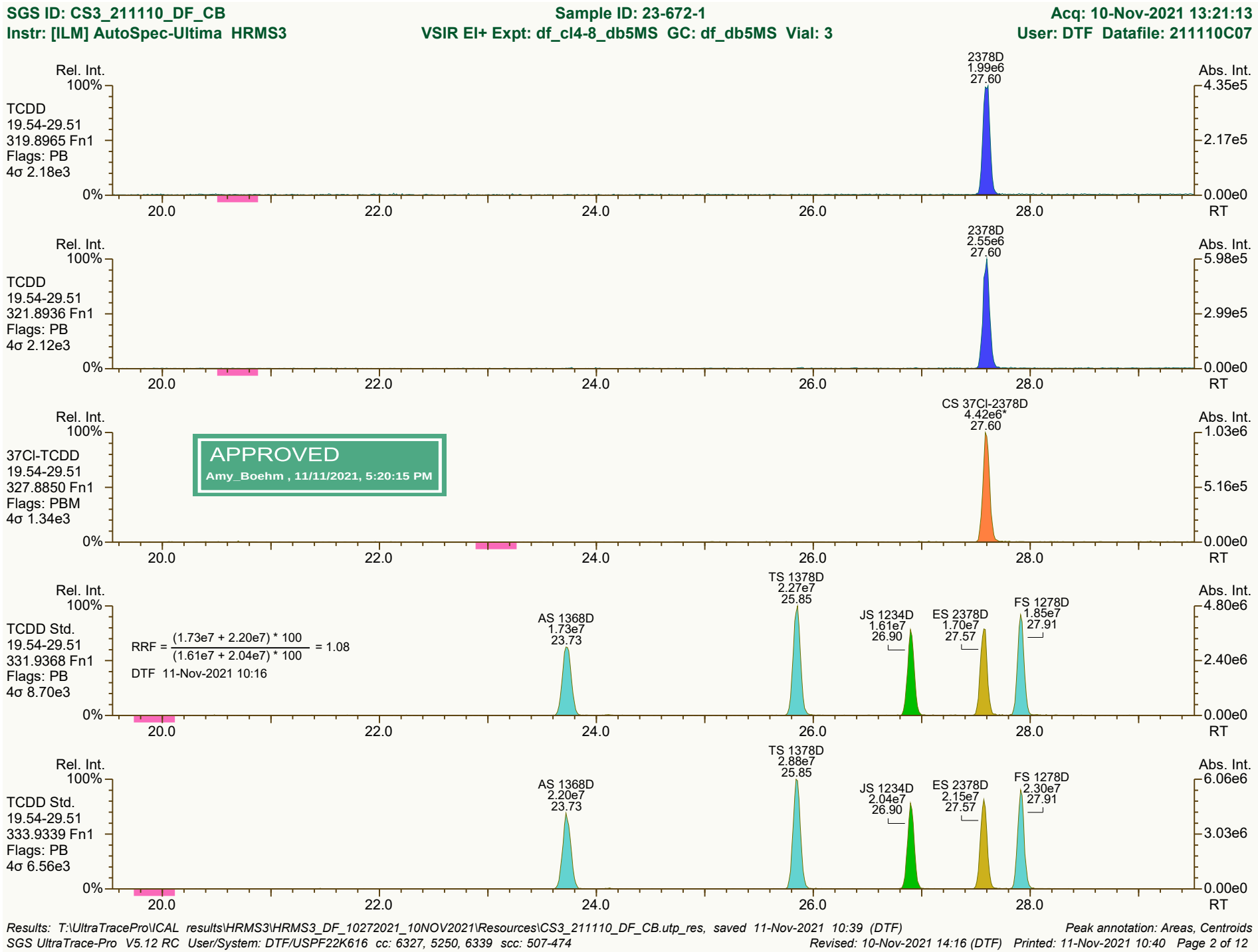

OCDF
2.22e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
0%
Abs. Int.
6.31e5
3.16e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.37e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
0%
Abs. Int.
6.61e5
3.31e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.14e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
5.95e6
2.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.37e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
0%
Abs. Int.
6.50e6
3.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

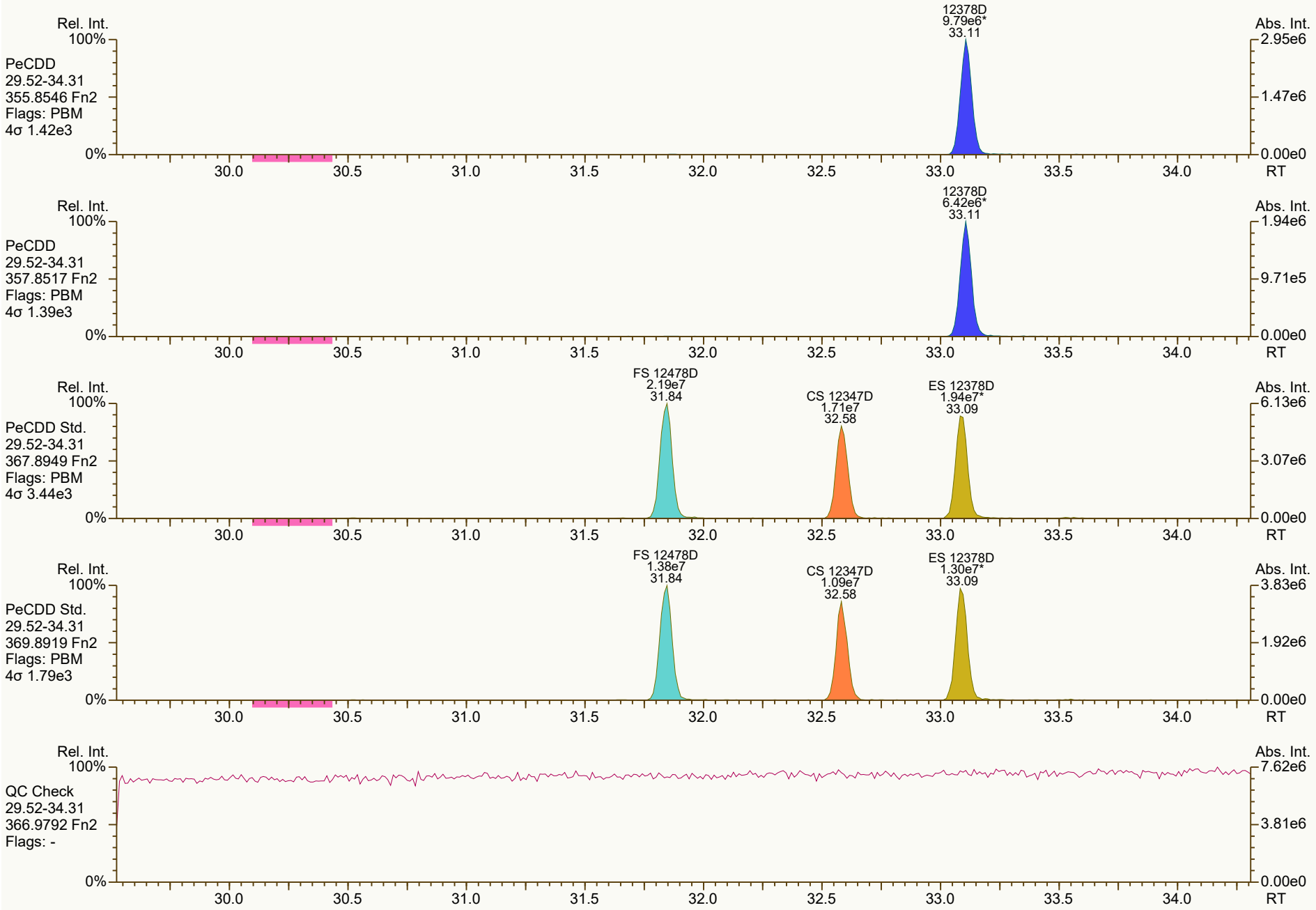
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

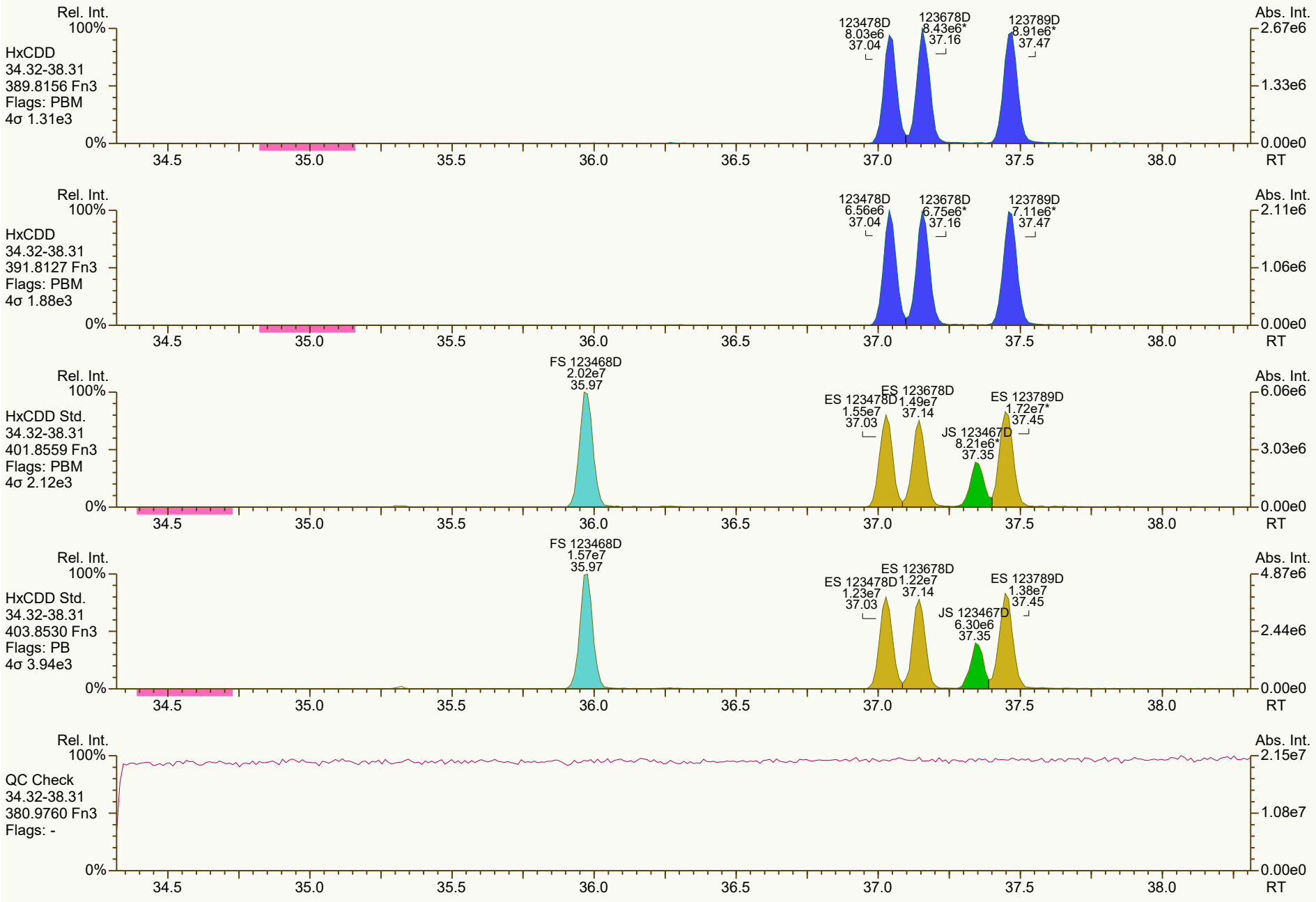
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

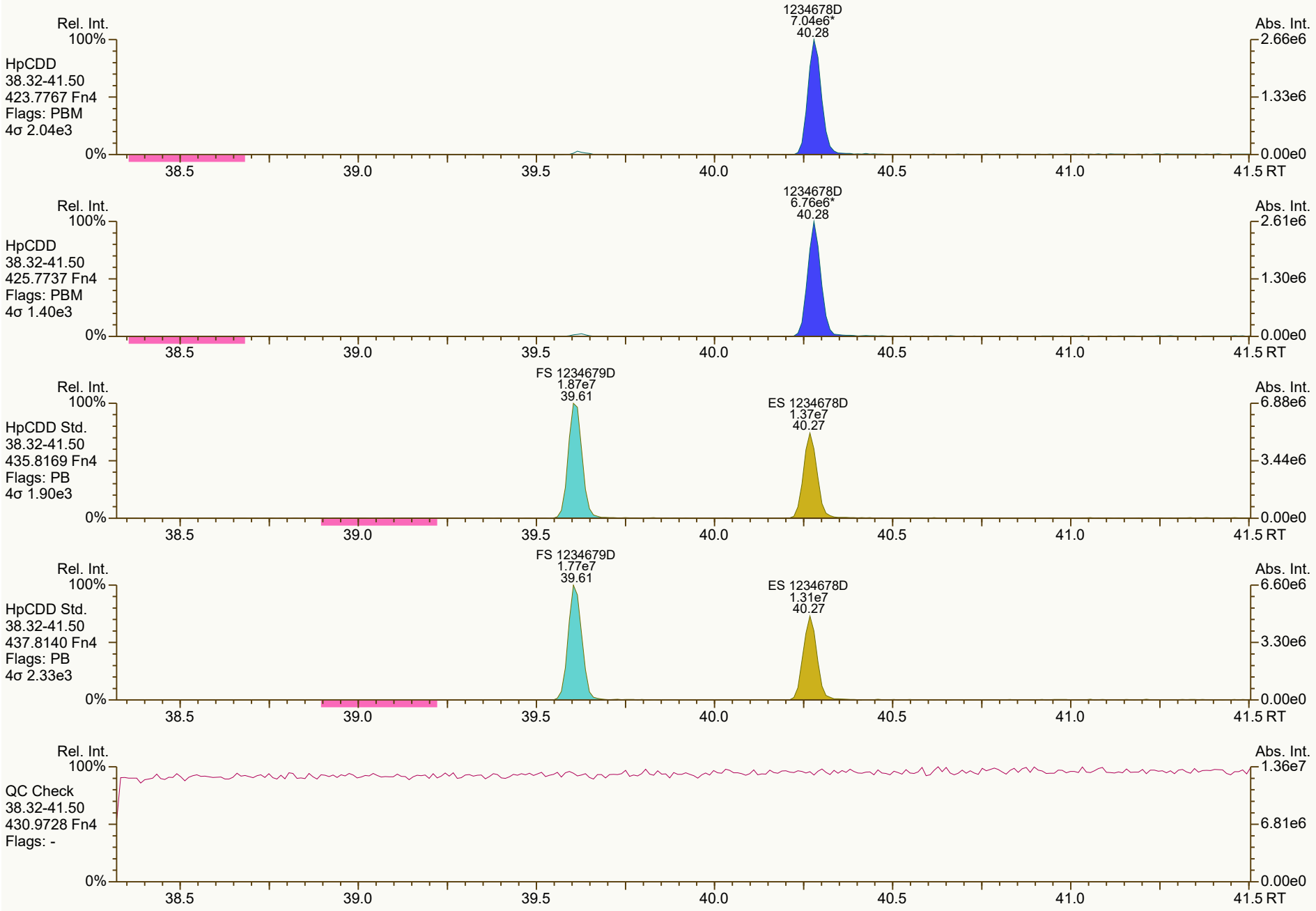
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%


Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
2378D
1.99e6
27.60
4.35e5
2.17e5
0.00e0
RT
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
2378D
2.55e6
27.60
5.98e5
2.99e5
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
1.03e6
5.16e5
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
4.80e6
2.40e6
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
6.06e6
3.03e6
0%
100%
20.0
22.0
24.0
26.0
28.0
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6327, 5250, 6339 scc: 507-474
Revised: 10-Nov-2021 14:16 (DTF)
Printed: 11-Nov-2021 10:40 Page 2 of 12


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
0%
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
0%
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
0%
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
0%
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.62e6
3.81e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

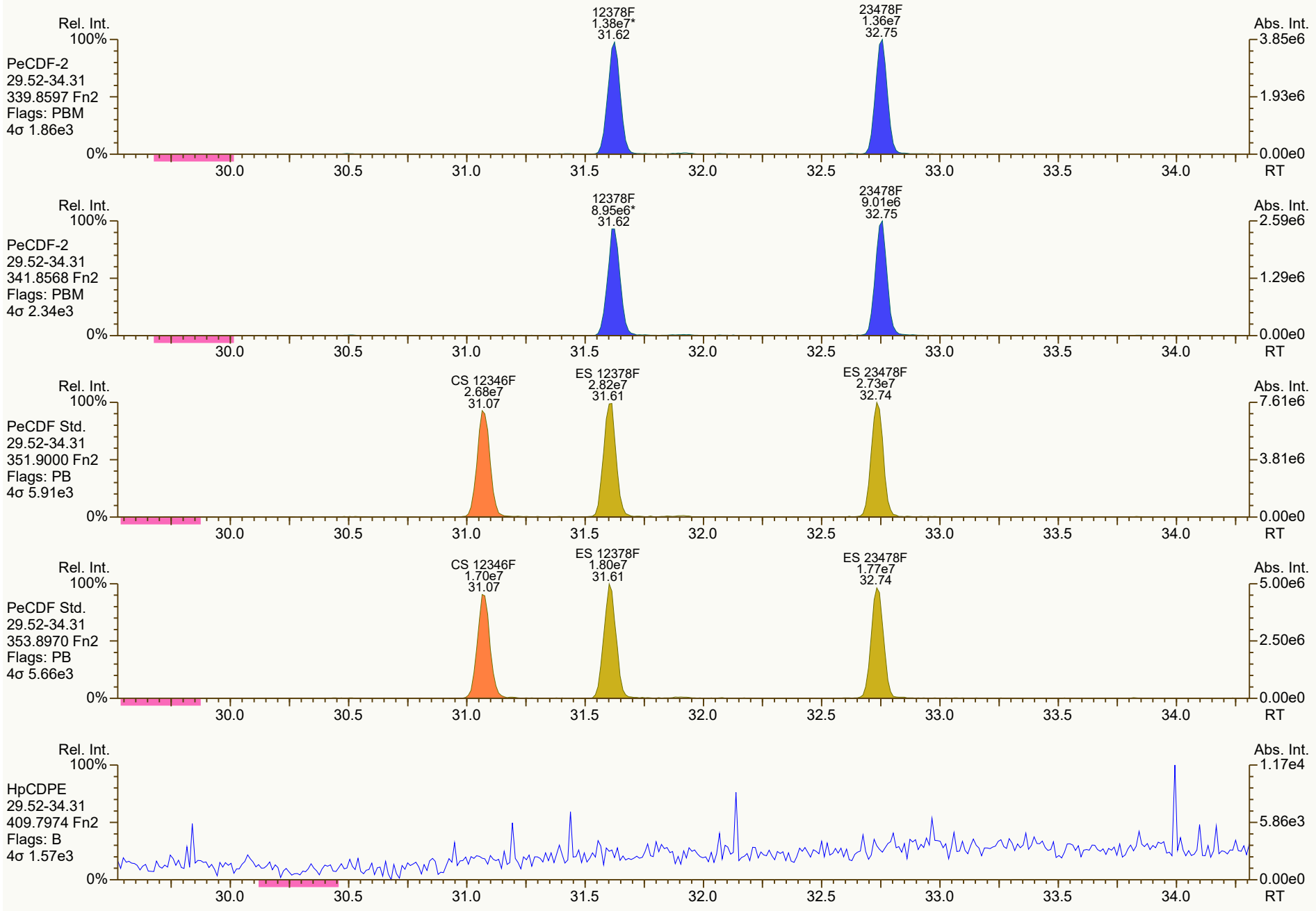

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
0%
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
0%
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
0%
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
0%
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.36e7
6.81e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
9.25e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.02e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.70e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.86e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

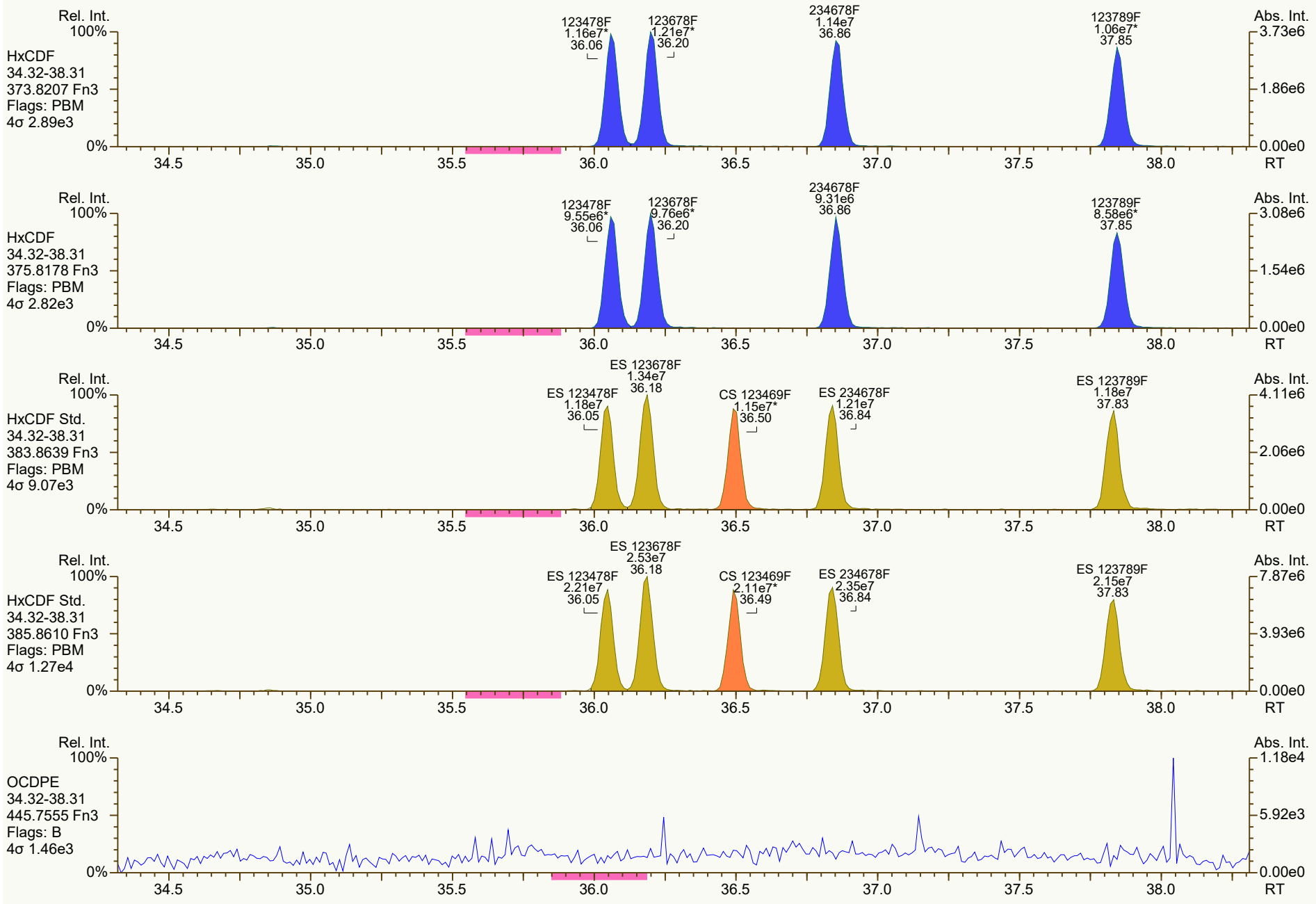

Rel. Int.
100%
0%
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
2378F
2.58e6
26.68
5.81e5
2.91e5
0.00e0
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
2378F
3.32e6
26.68
7.66e5
3.83e5
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
5.45e6
2.73e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
6.76e6
3.38e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
6.84e3
3.42e3
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
3.85e6
1.93e6
0.00e0
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
2.59e6
1.29e6
0.00e0
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
7.61e6
3.81e6
0.00e0
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
5.00e6
2.50e6
0.00e0
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
1.17e4
5.86e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

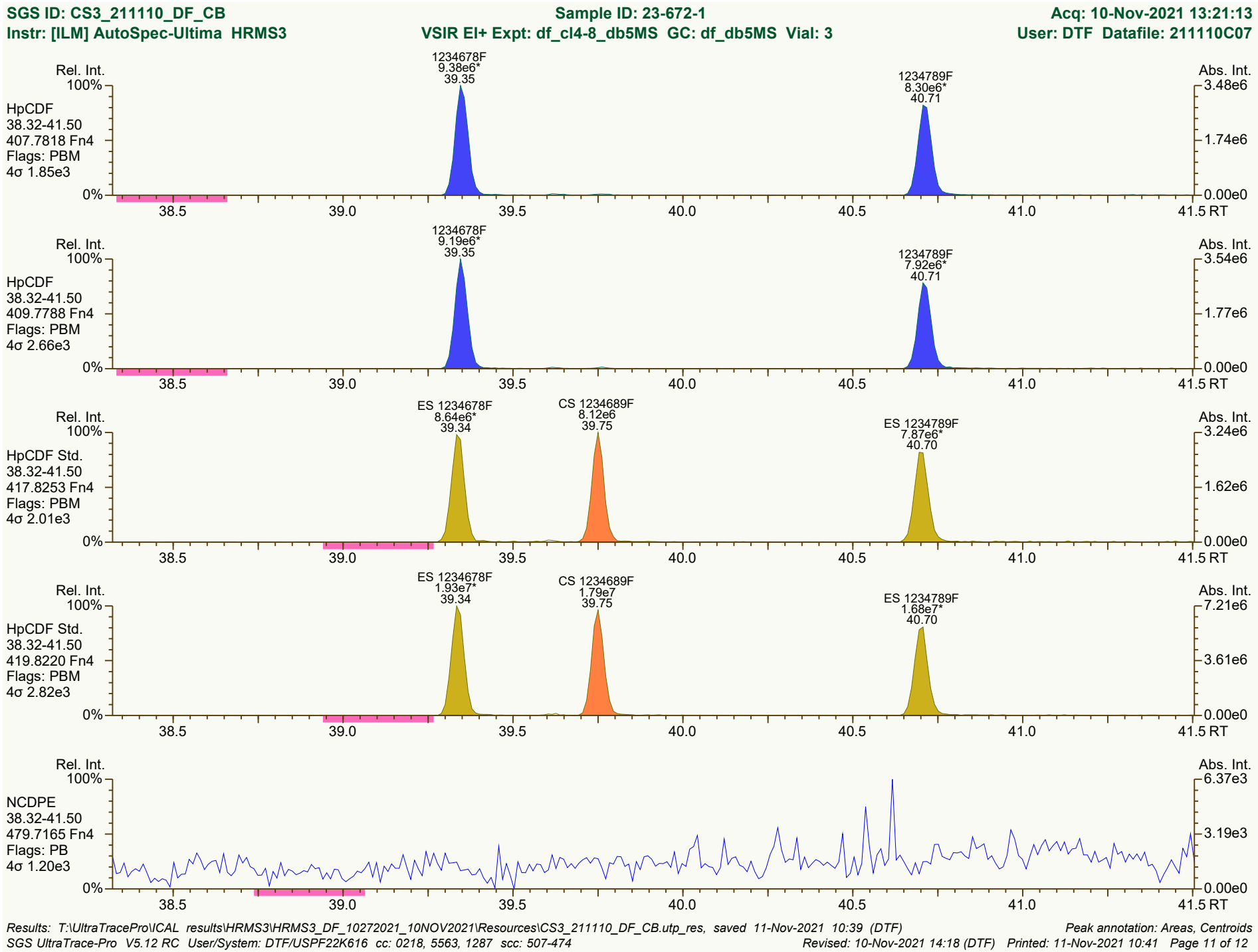
SGS ID: CS3_211110_DF_CB | Sample ID: 23-672-1 | Acq: 10-Nov-2021 13:21:13

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3 | User: DTF Datafile: 211110C07



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0985, 9027, 6556 scc: 507-474 | *Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 10 of 12*


SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
3.48e6
1.74e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
3.54e6
1.77e6
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
3.24e6
1.62e6
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
7.21e6
3.61e6
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
6.37e3
3.19e3
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

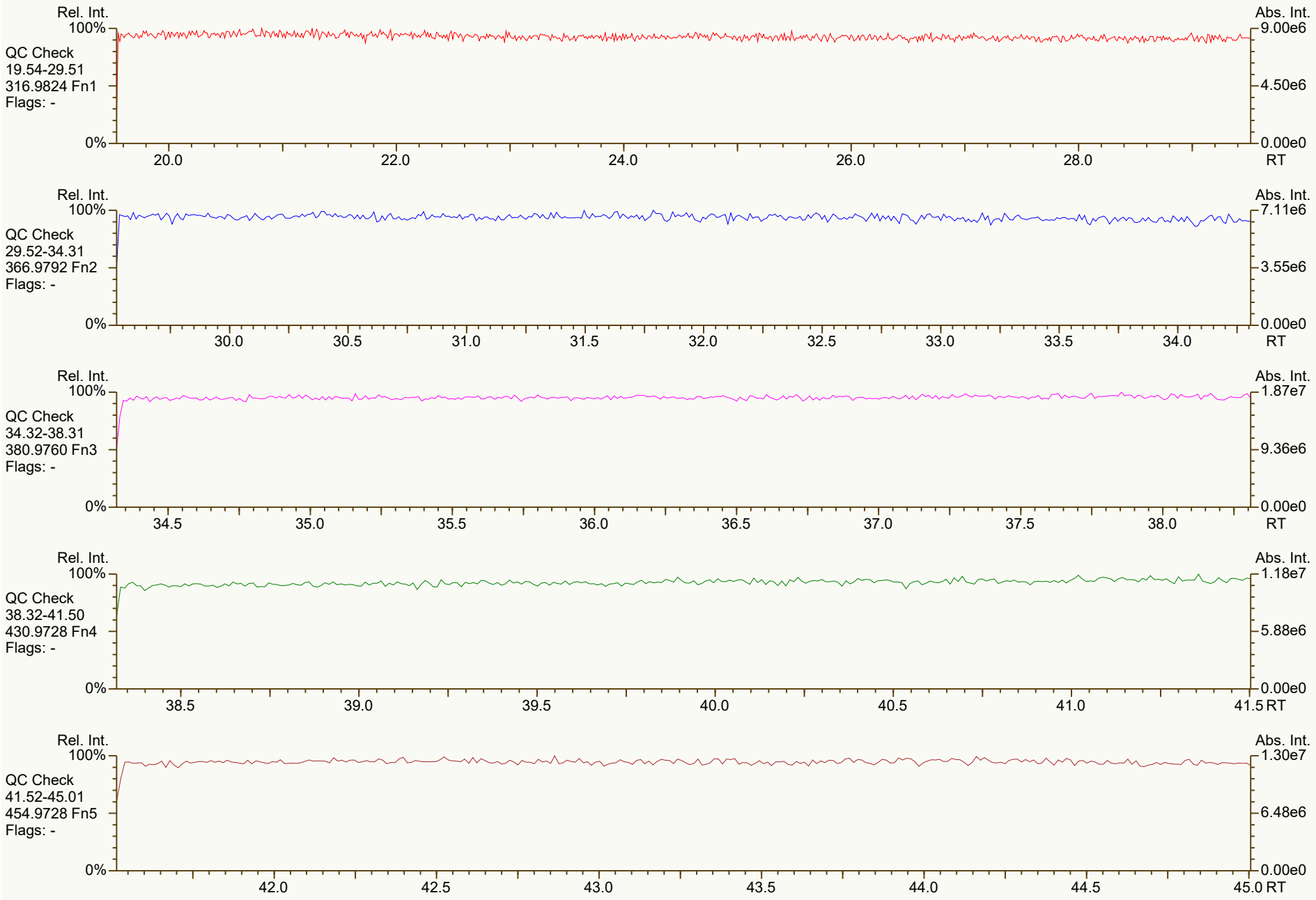

OCDF
1.15e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
3.25e6
1.62e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
0%
Abs. Int.
3.53e6
1.76e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.21e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
0%
Abs. Int.
6.08e6
3.04e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.39e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
0%
Abs. Int.
6.65e6
3.32e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
0%
Abs. Int.
4.82e3
2.41e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

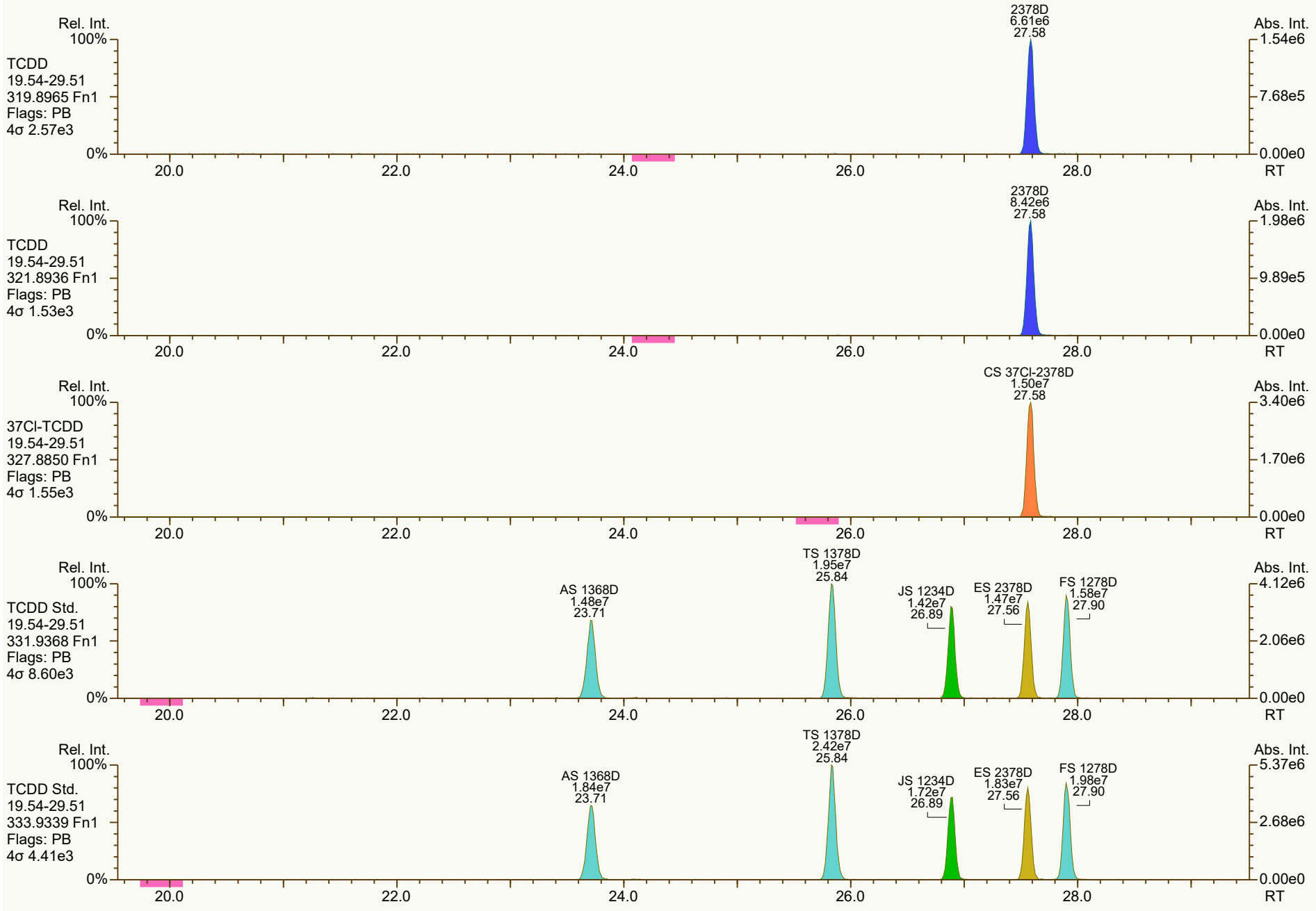
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

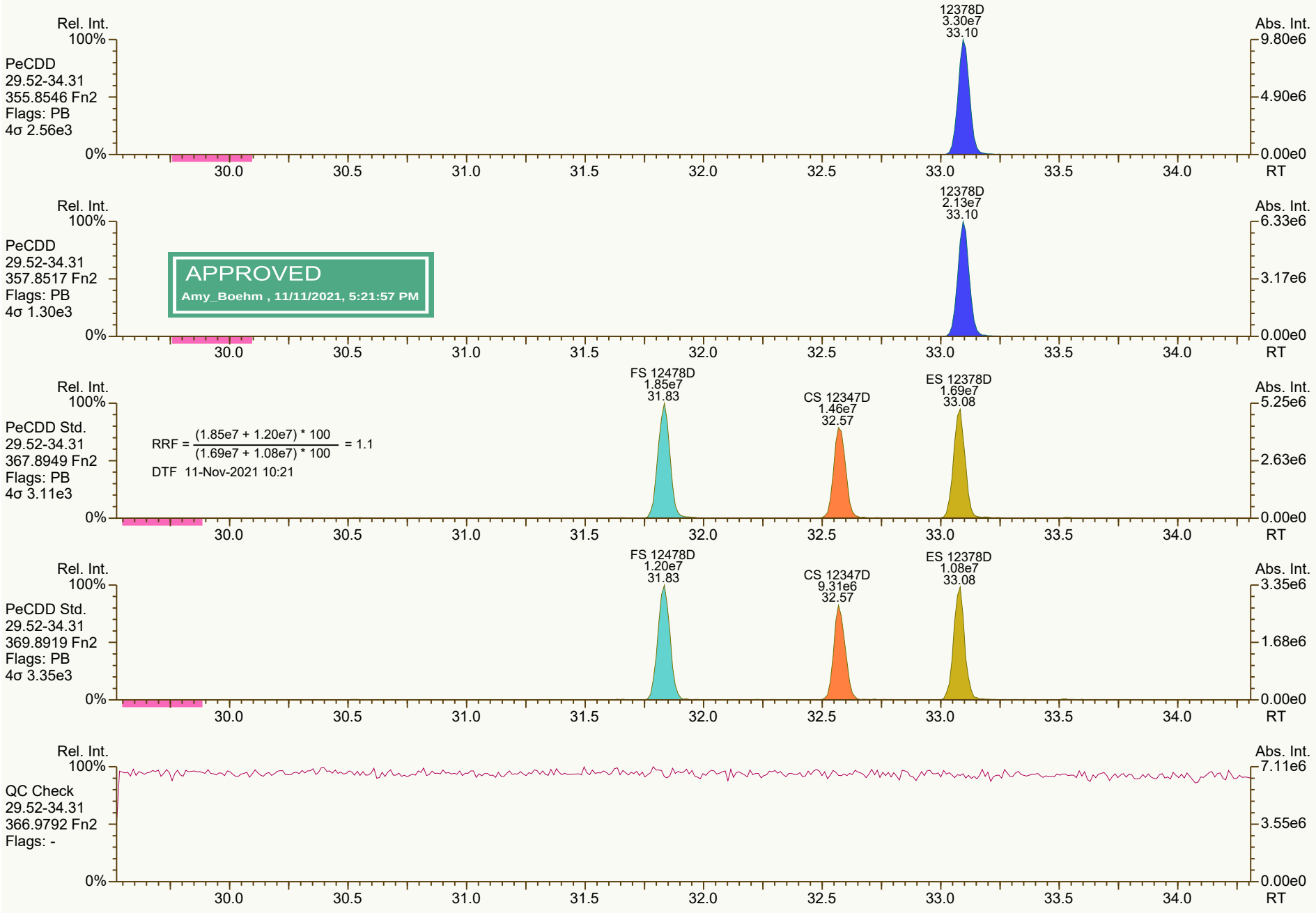
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

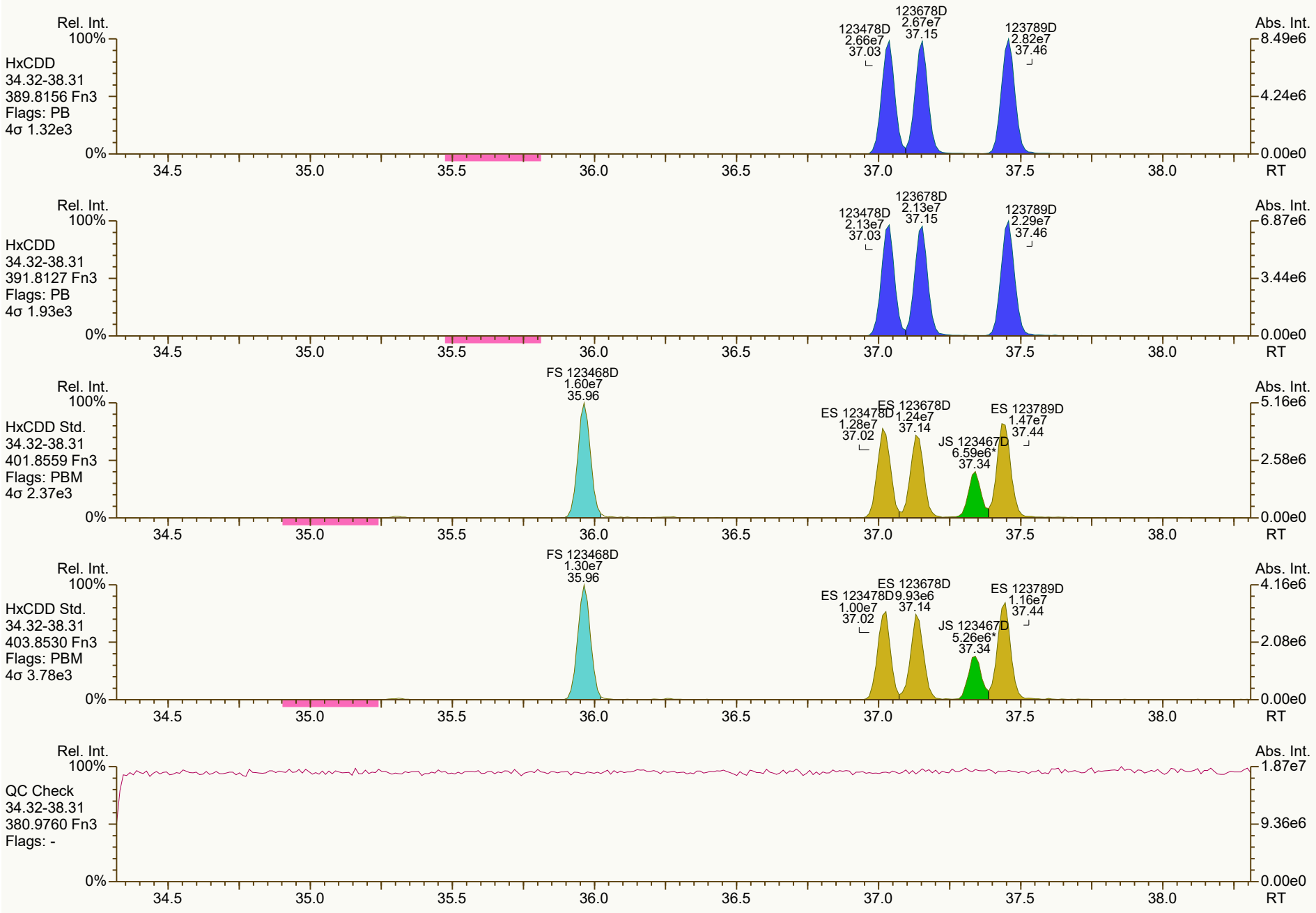
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

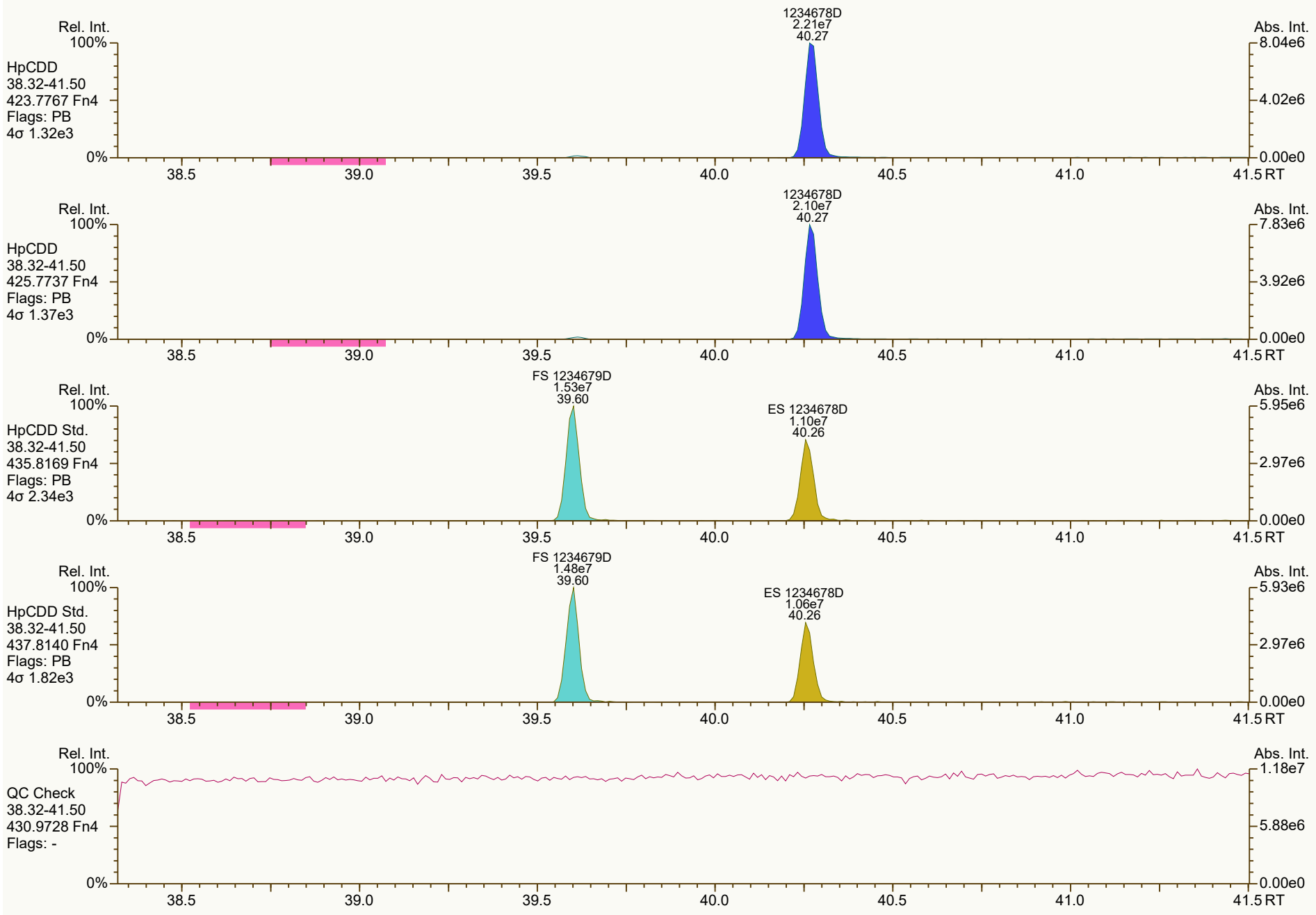
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

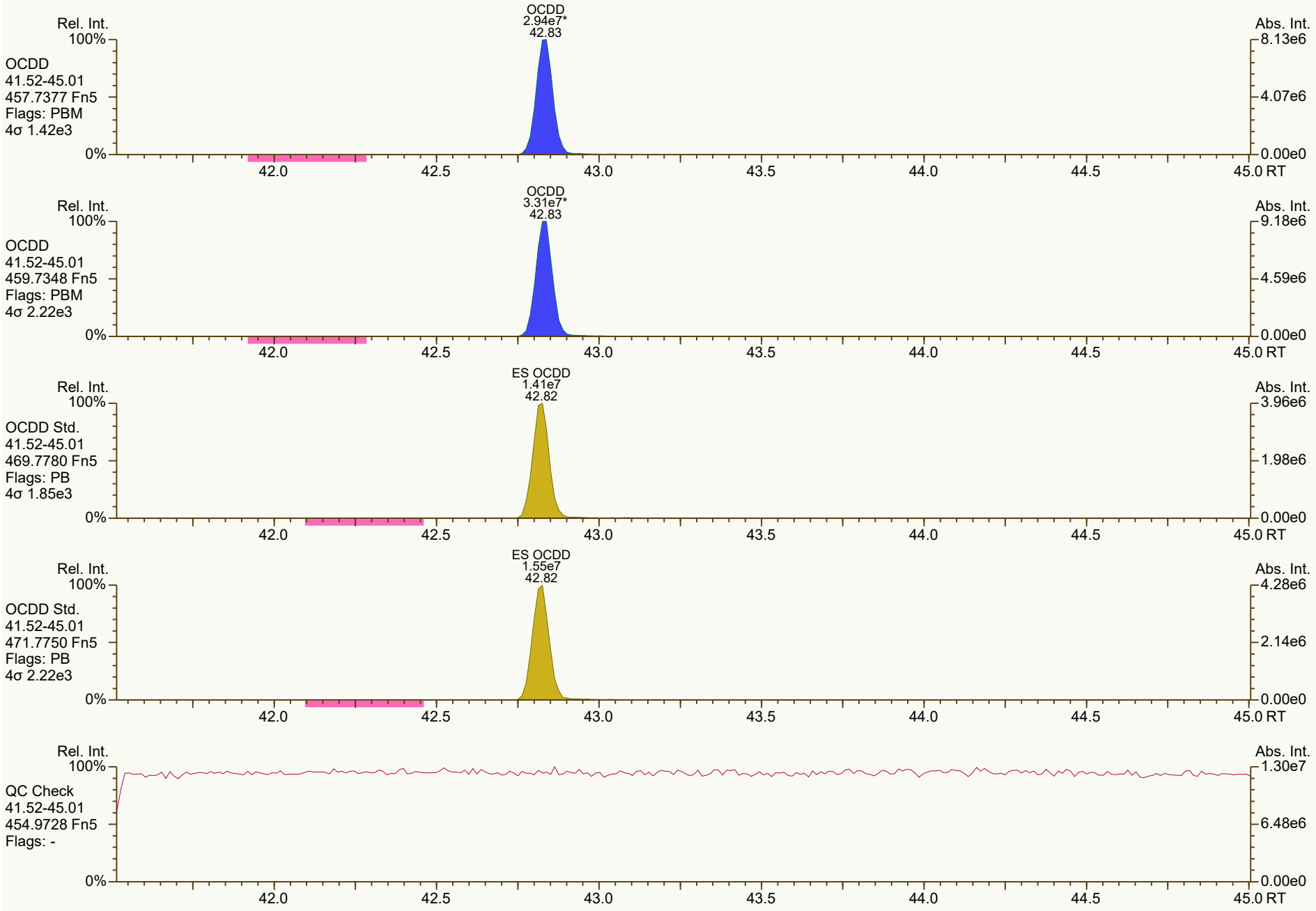

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.00e6
4.50e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.11e6
3.55e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.87e7
9.36e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.18e7
5.88e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.30e7
6.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
12378D
2.13e7
33.10
6.33e6
3.17e6
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
5.25e6
2.63e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
3.35e6
1.68e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
7.11e6
3.55e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
0%
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
0%
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
0%
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
0%
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.18e7
5.88e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
OCDD
2.94e7*
42.83
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
OCDD
3.31e7*
42.83
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
ES OCDD
1.41e7
42.82
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
ES OCDD
1.55e7
42.82
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
2378F
1.07e7
26.67
2.41e6
1.20e6
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
4.47e6
2.23e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
5.68e6
2.84e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
9.44e3
4.72e3

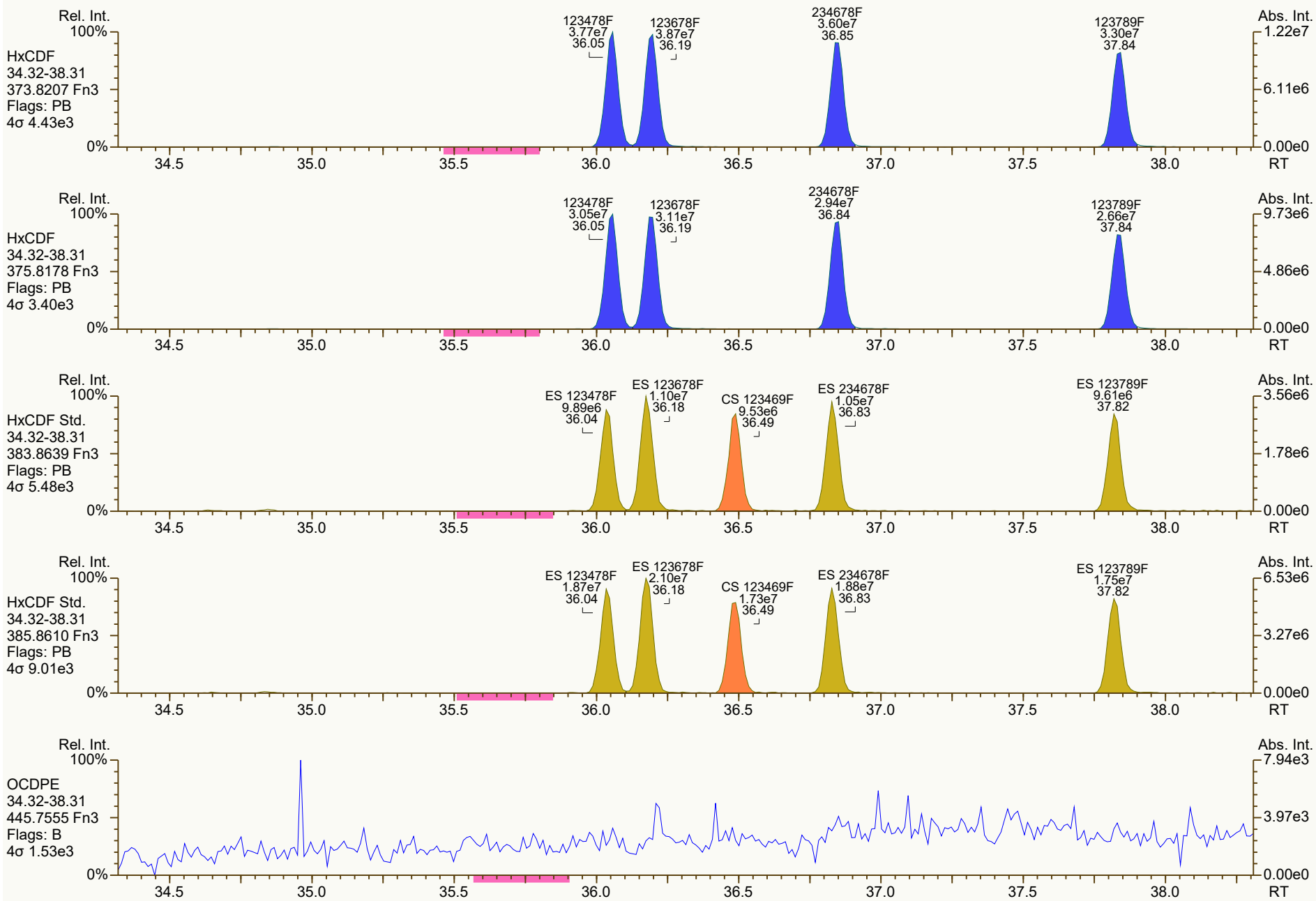

Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.94e3
4.47e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.00e6
4.50e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
Abs. Int.
7.51e3
3.76e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

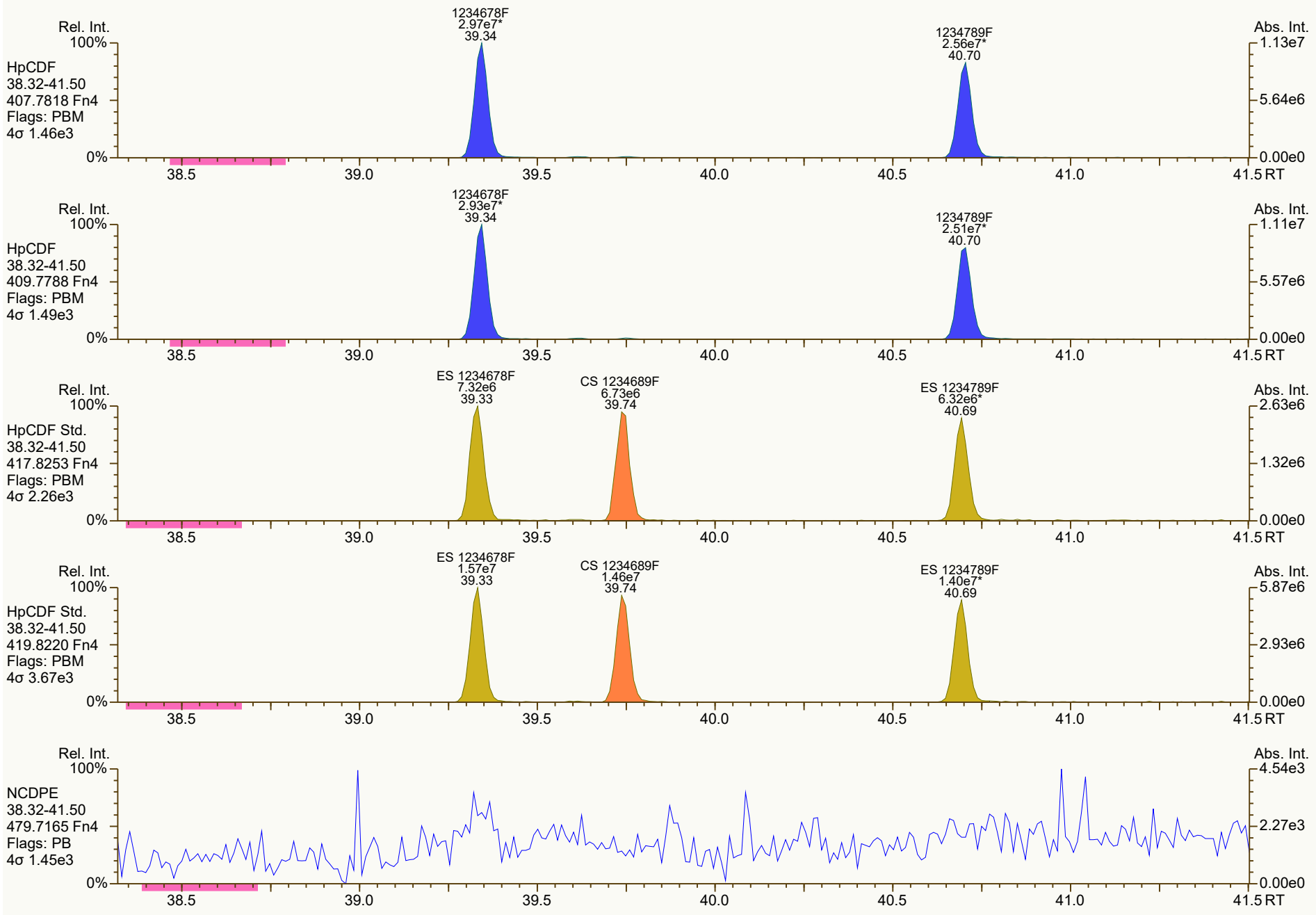
SGS ID: CS4_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

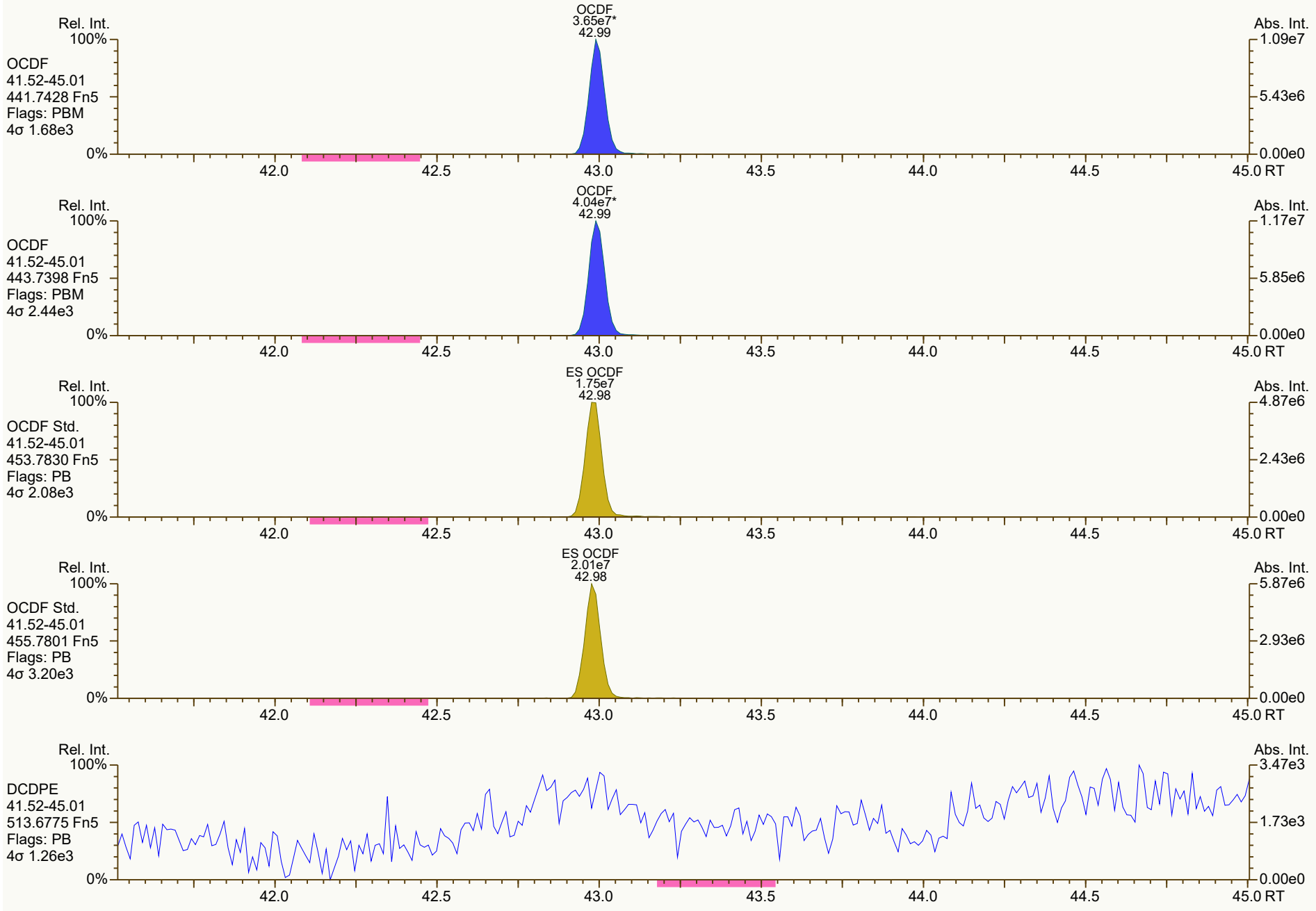
Sample ID: 25-5-4
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69

Acq: 10-Nov-2021 14:07:32
User: DTF Datafile: 211110C08



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0495, 2507, 5312 scc: 855-576
PKD: 10-Nov-2021 15:17 Printed: 11-Nov-2021 10:41 Page 10 of 12

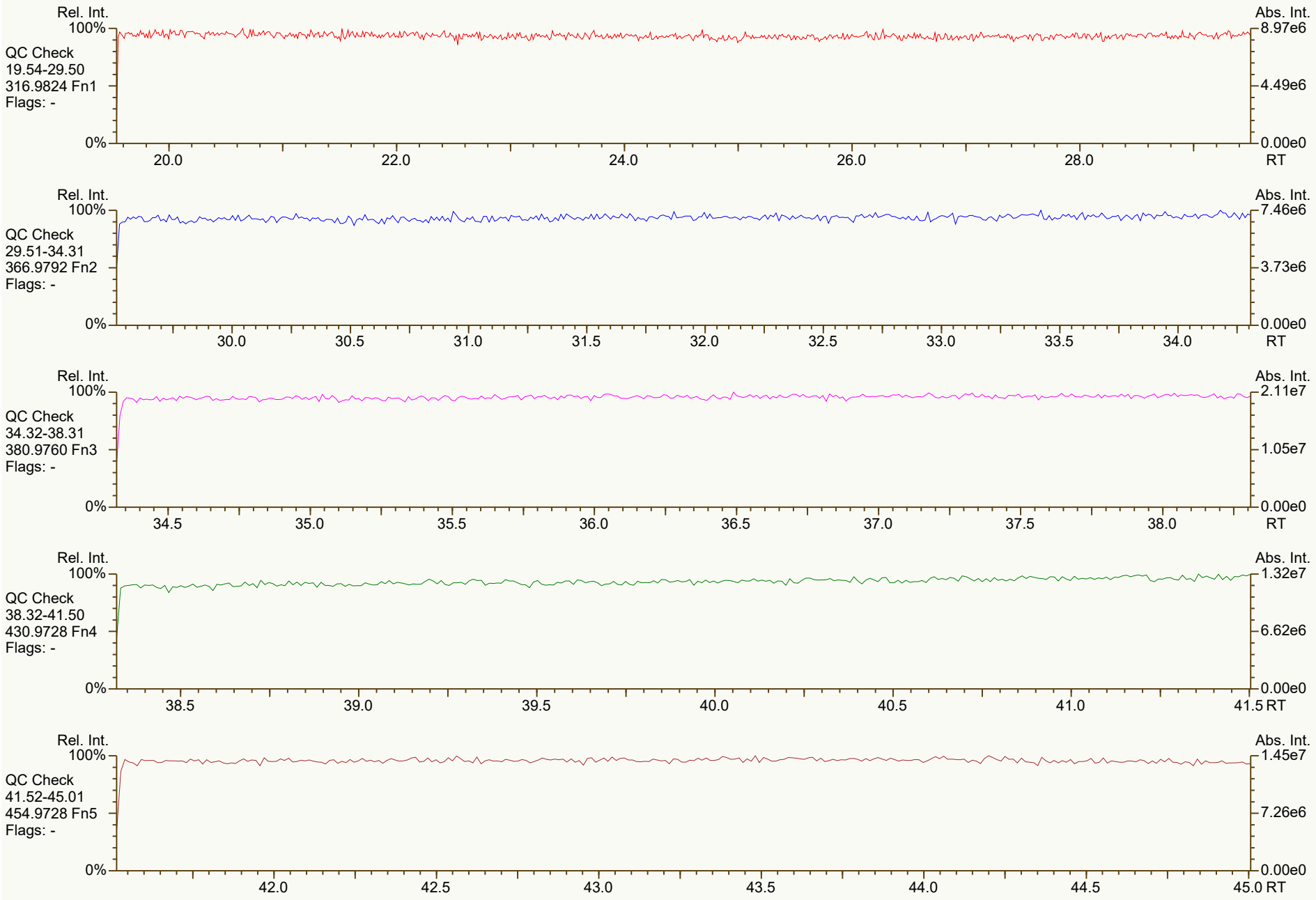

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
0%
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
Abs. Int.
1.13e7
5.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
0%
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
Abs. Int.
1.11e7
5.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
0%
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
Abs. Int.
2.63e6
1.32e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
0%
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
Abs. Int.
5.87e6
2.93e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
0%
Abs. Int.
4.54e3
2.27e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

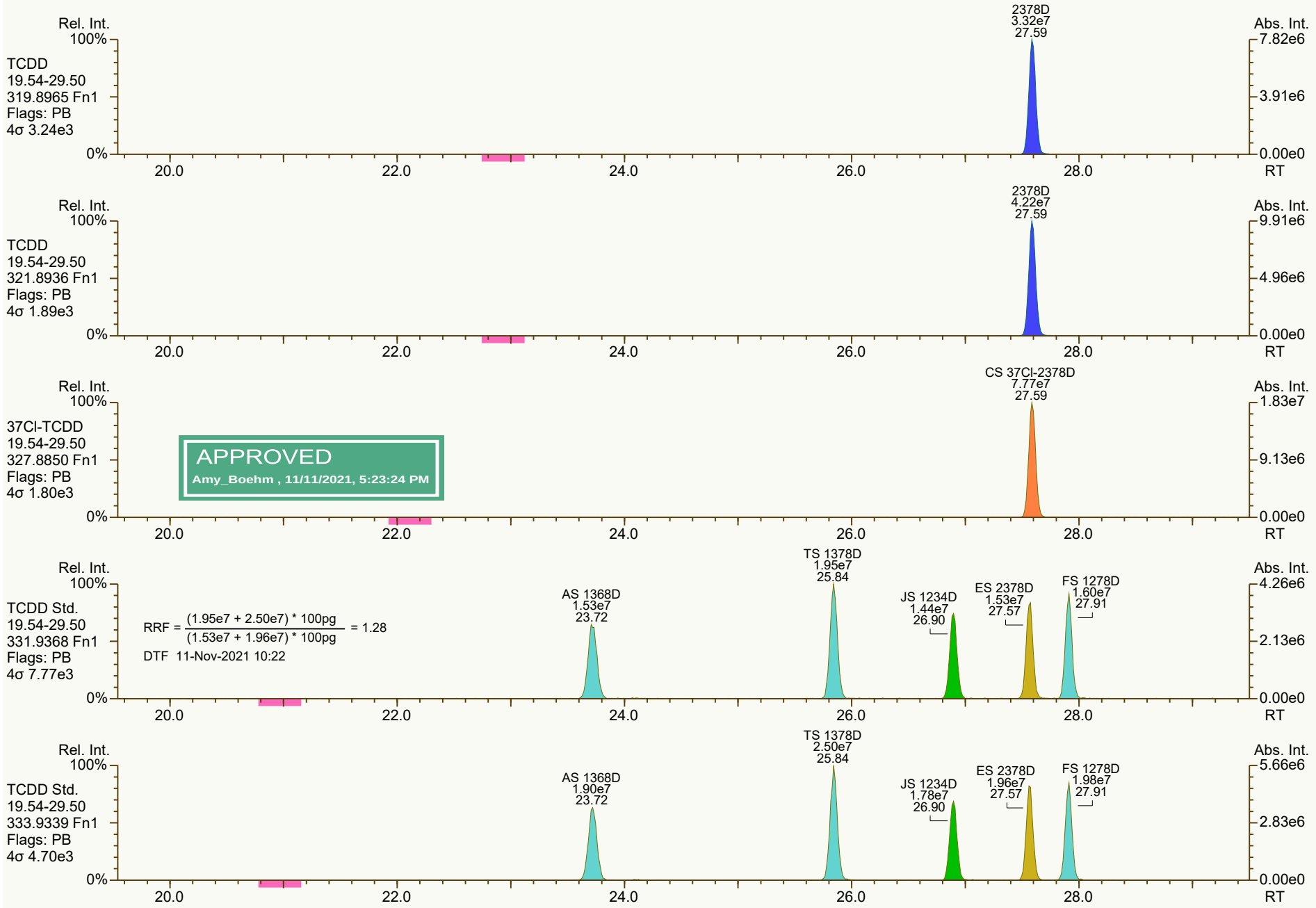
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:53 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS5_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 573-489-BMZ	
Sample ID: 25-5-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C09	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

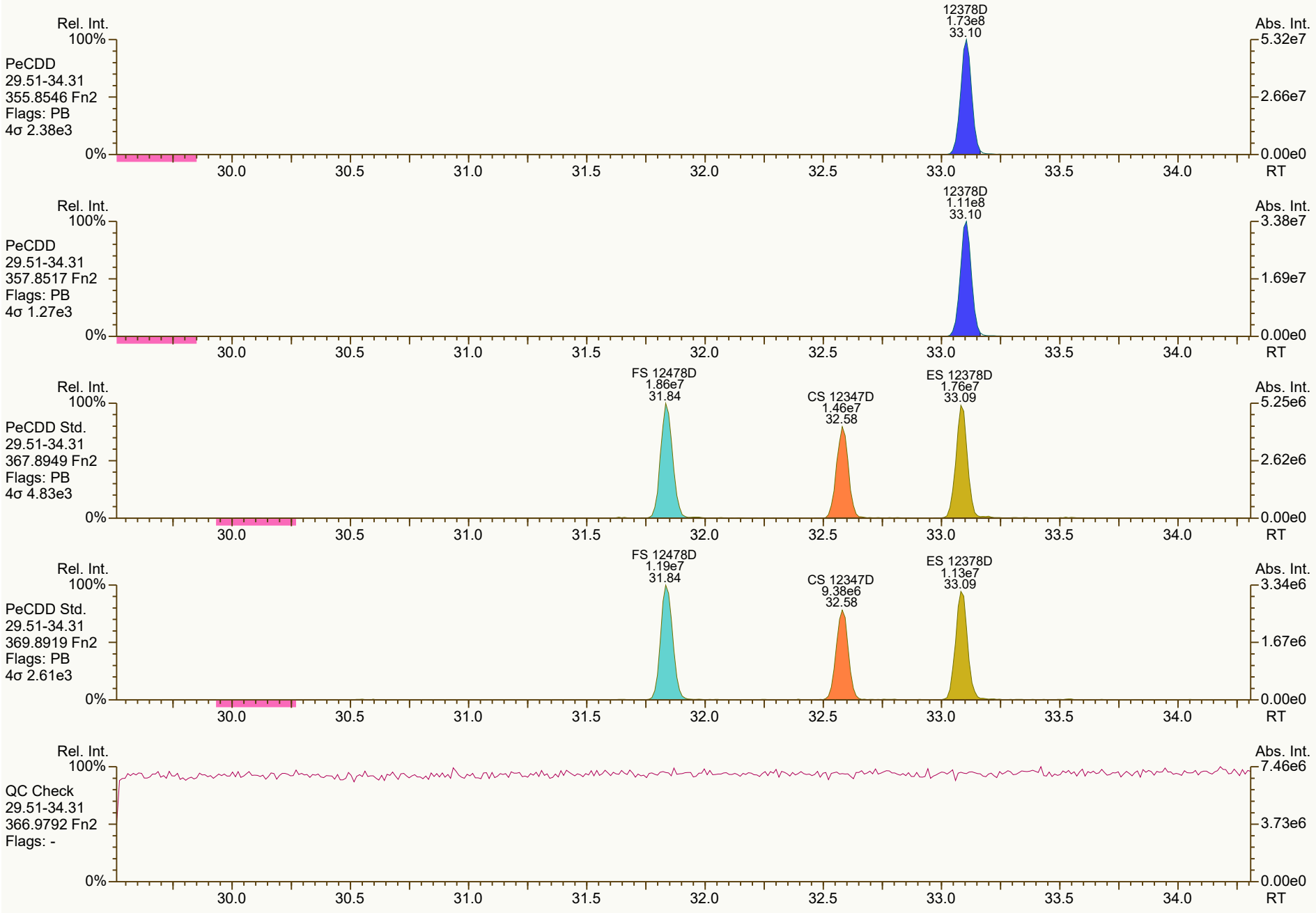
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

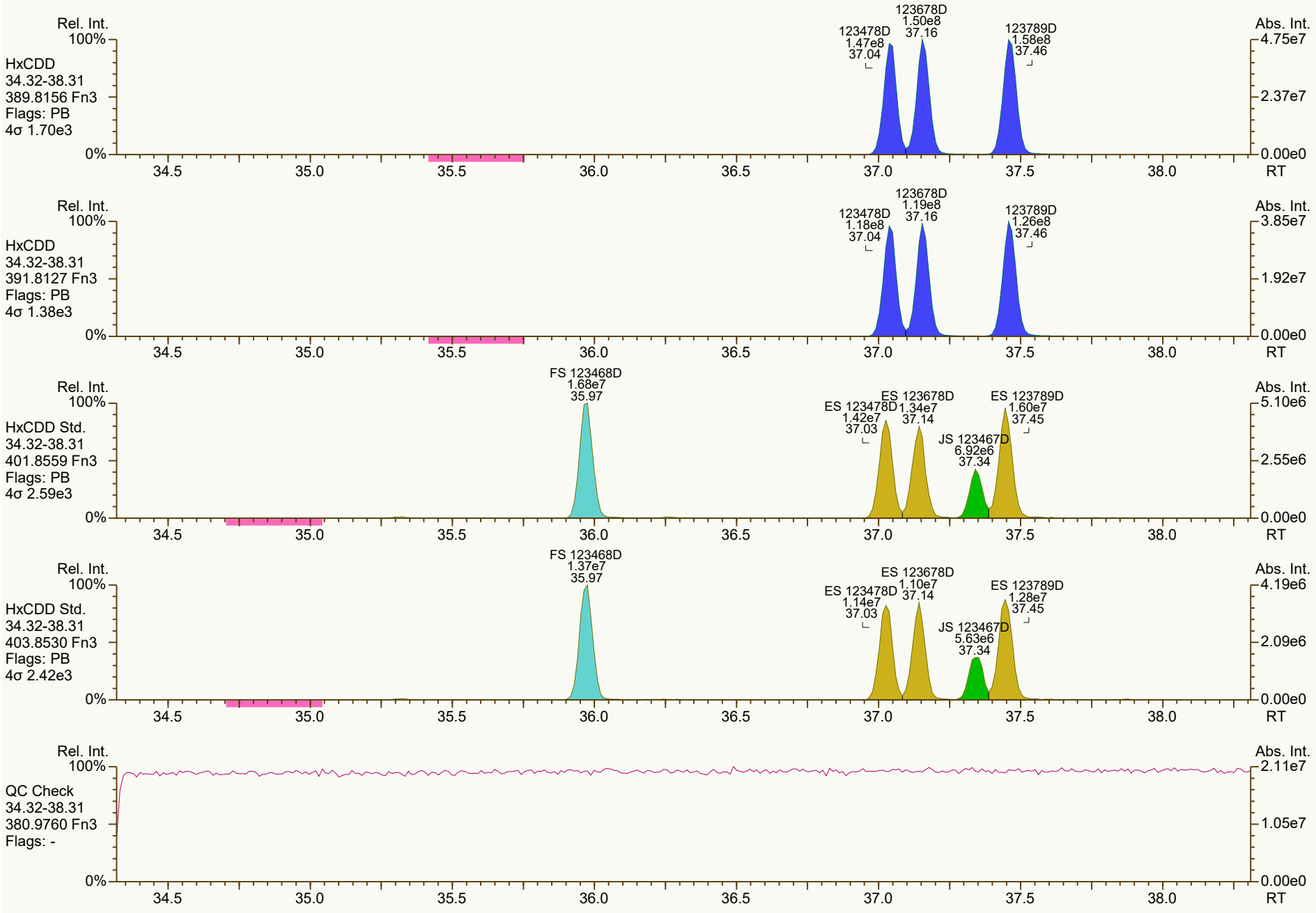
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

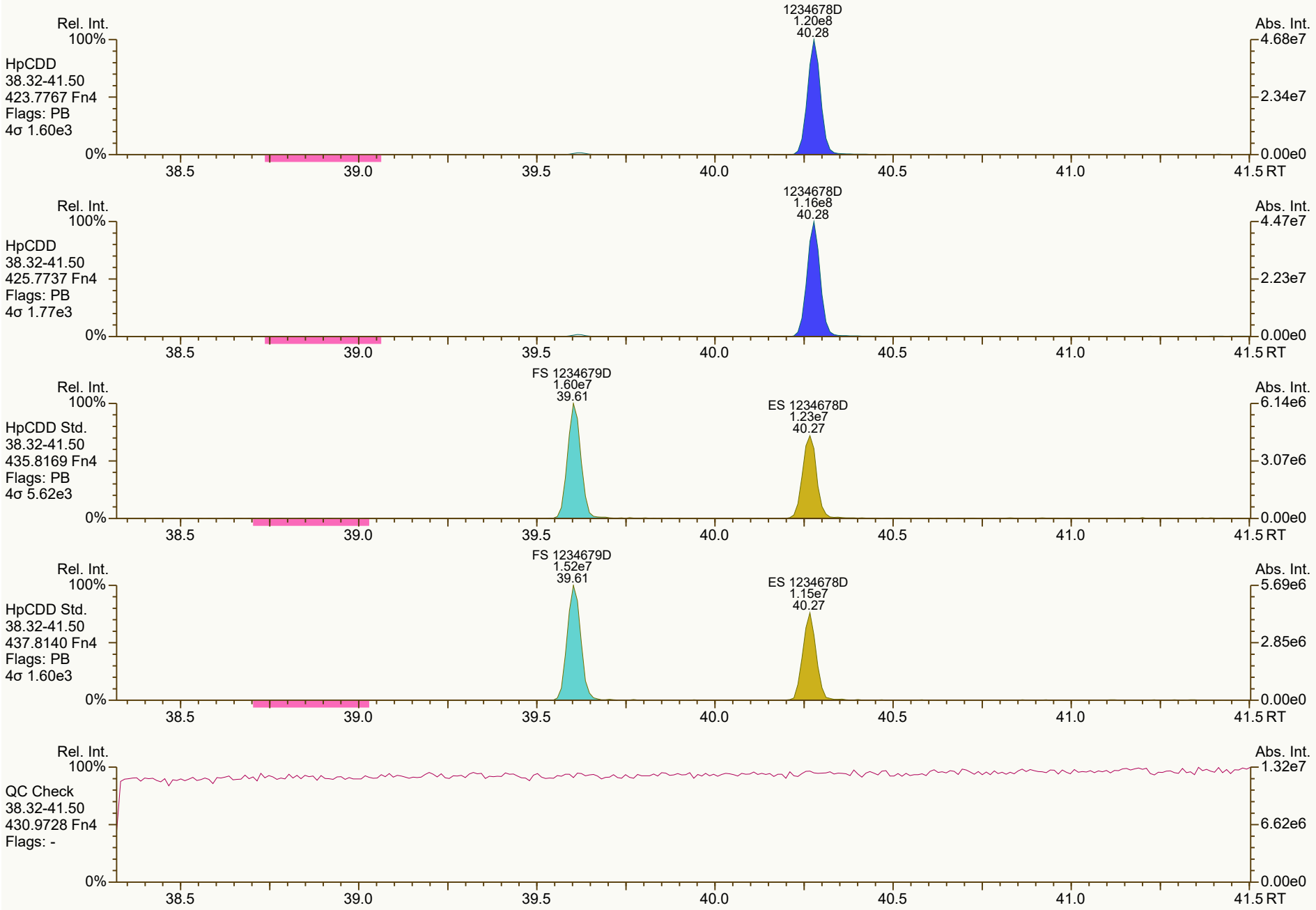


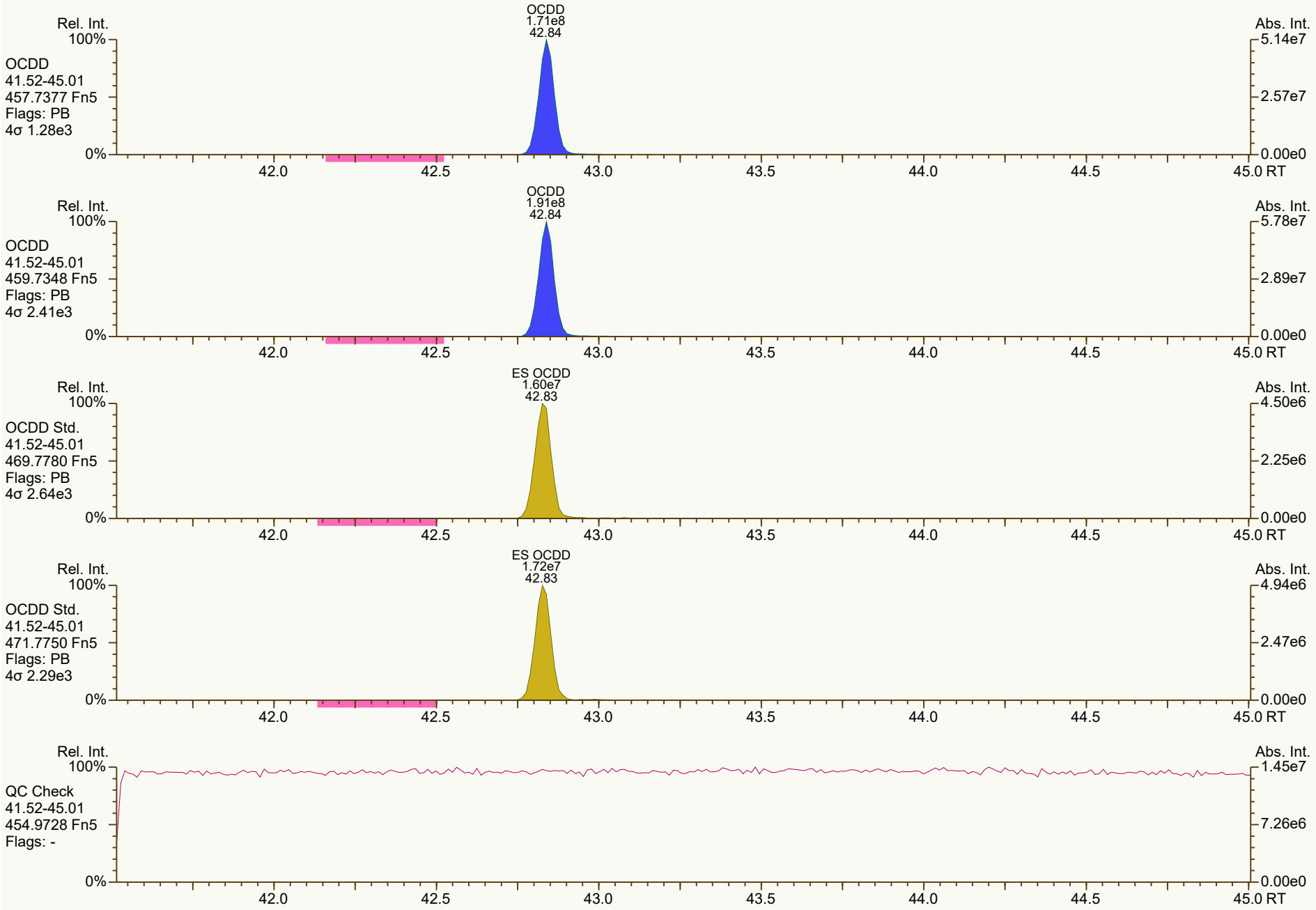
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 scc: 573-489 *PKD: n/a Printed: 11-Nov-2021 10:41 Page 1 of 12*


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
0%
2378D
4.22e7
27.59
Abs. Int.
9.91e6
4.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
Abs. Int.
1.83e7
9.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
0%
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
Abs. Int.
4.26e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
0%
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
Abs. Int.
5.66e6
2.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
0%
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
0%
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
0%
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
0%
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

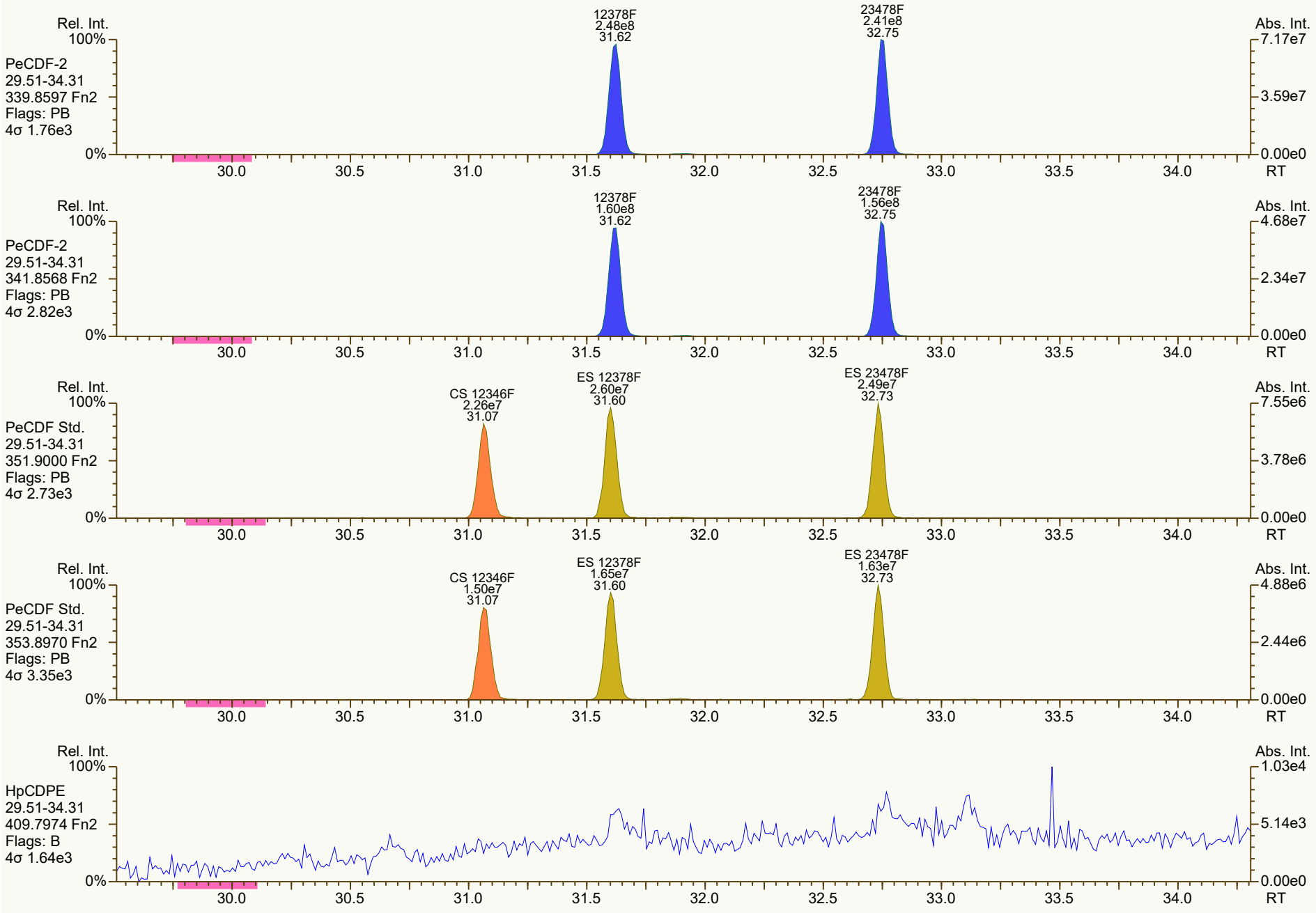

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
0%
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
0%
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
0%
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
0%
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.11e7
1.05e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

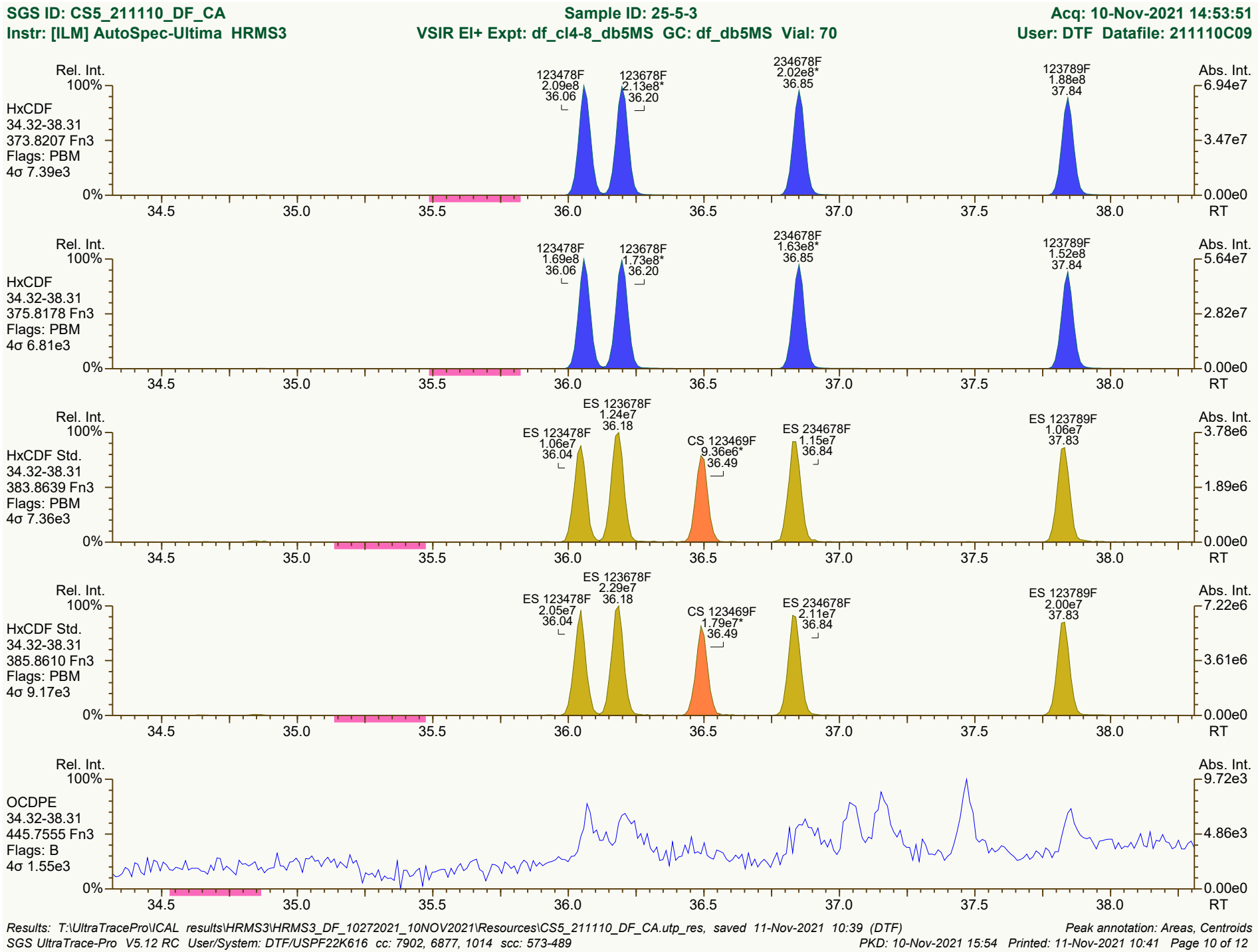

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
0%
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
0%
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
0%
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
0%
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.32e7
6.62e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

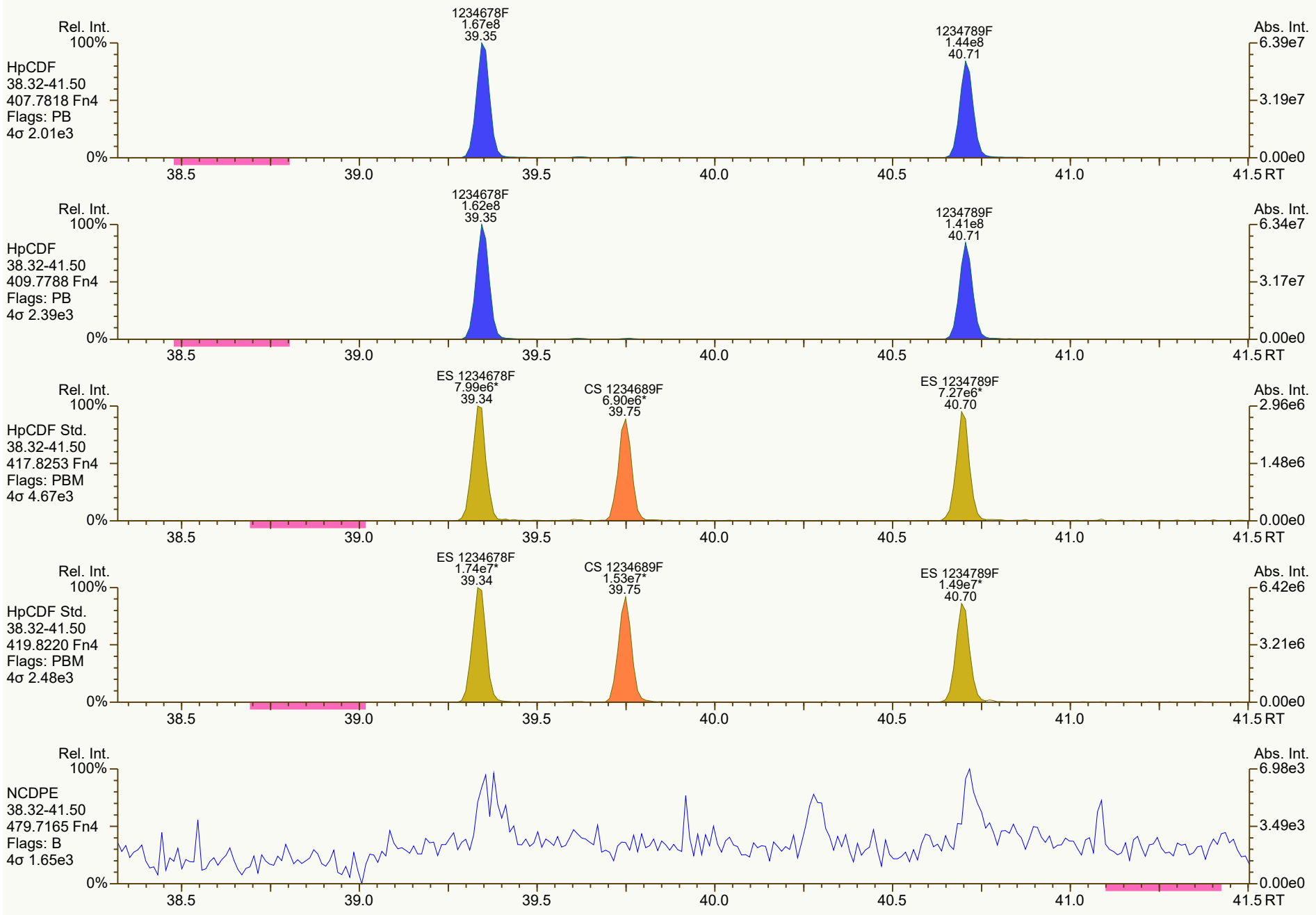

OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6

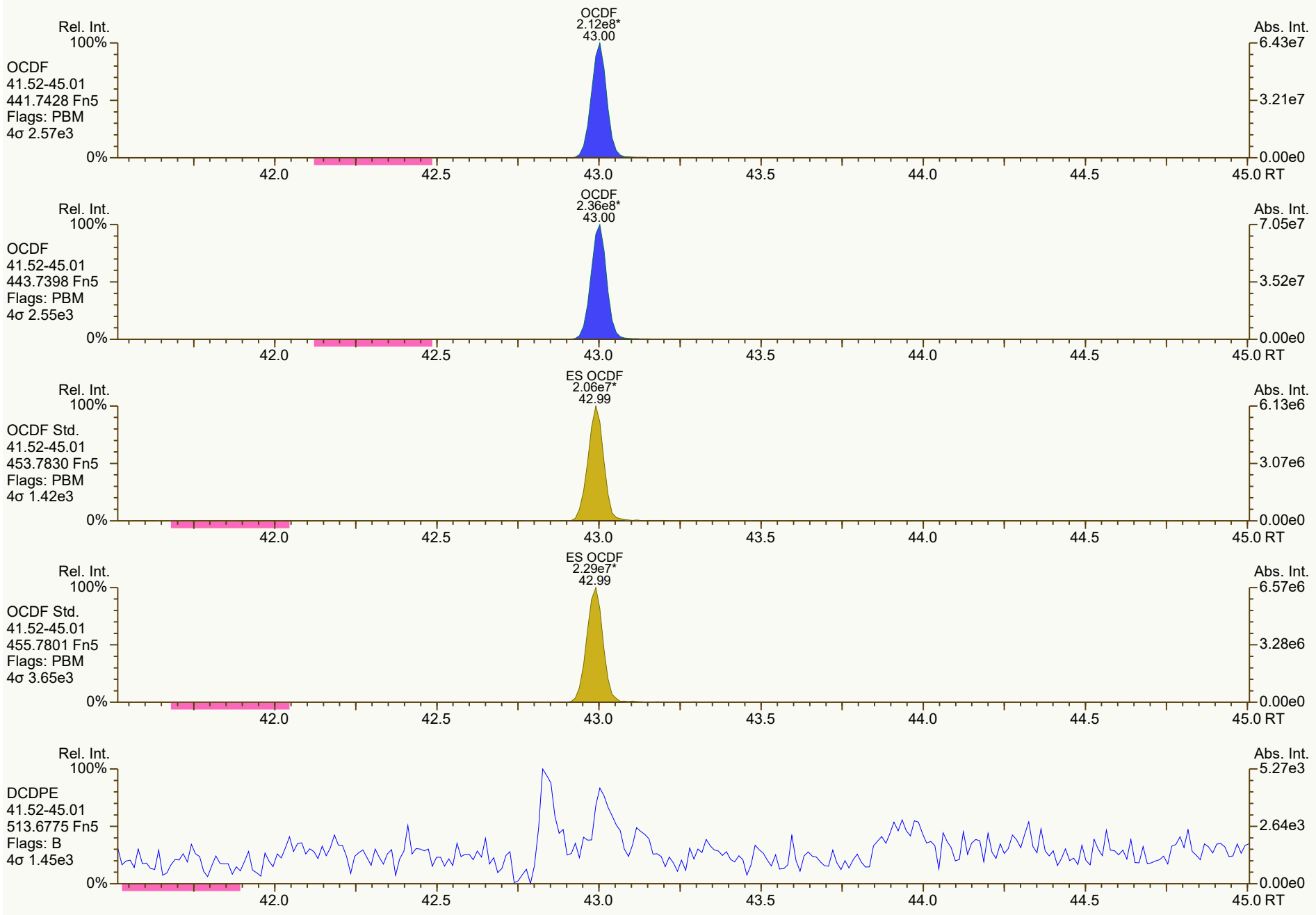

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
0%
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
0%
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
0%
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
0%
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.03e4
5.14e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


SGS ID: CS5_211110_DF_CA
Sample ID: 25-5-3
Acq: 10-Nov-2021 14:53:51
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 211110C09
Rel. Int.
Abs. Int.
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
123478F 2.09e8 36.06
123678F 2.13e8* 36.20
234678F 2.02e8* 36.85
123789F 1.88e8 37.84
6.94e7
3.47e7
0.00e0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
123478F 1.69e8 36.06
123678F 1.73e8* 36.20
234678F 1.63e8* 36.85
123789F 1.52e8 37.84
5.64e7
2.82e7
0.00e0
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
ES 123478F 1.06e7 36.04
ES 123678F 1.24e7 36.18
CS 123469F 9.36e6* 36.49
ES 234678F 1.15e7 36.84
ES 123789F 1.06e7 37.83
3.78e6
1.89e6
0.00e0
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
ES 123478F 2.05e7 36.04
ES 123678F 2.29e7 36.18
CS 123469F 1.79e7* 36.49
ES 234678F 2.11e7 36.84
ES 123789F 2.00e7 37.83
7.22e6
3.61e6
0.00e0
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
9.72e3
4.86e3
0.00e0
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 7902, 6877, 1014 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 10 of 12


Rel. Int.
100%
0%
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

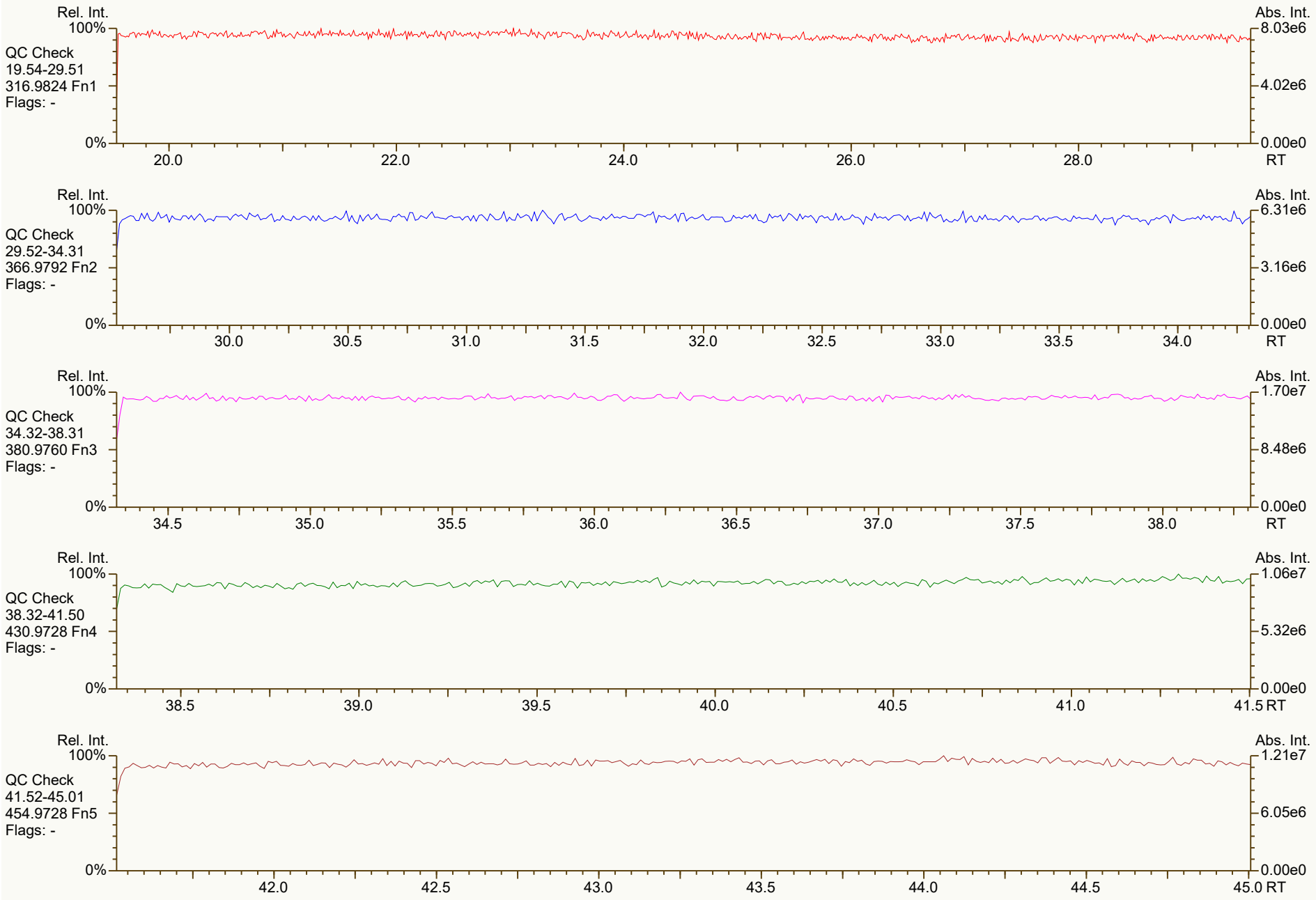

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

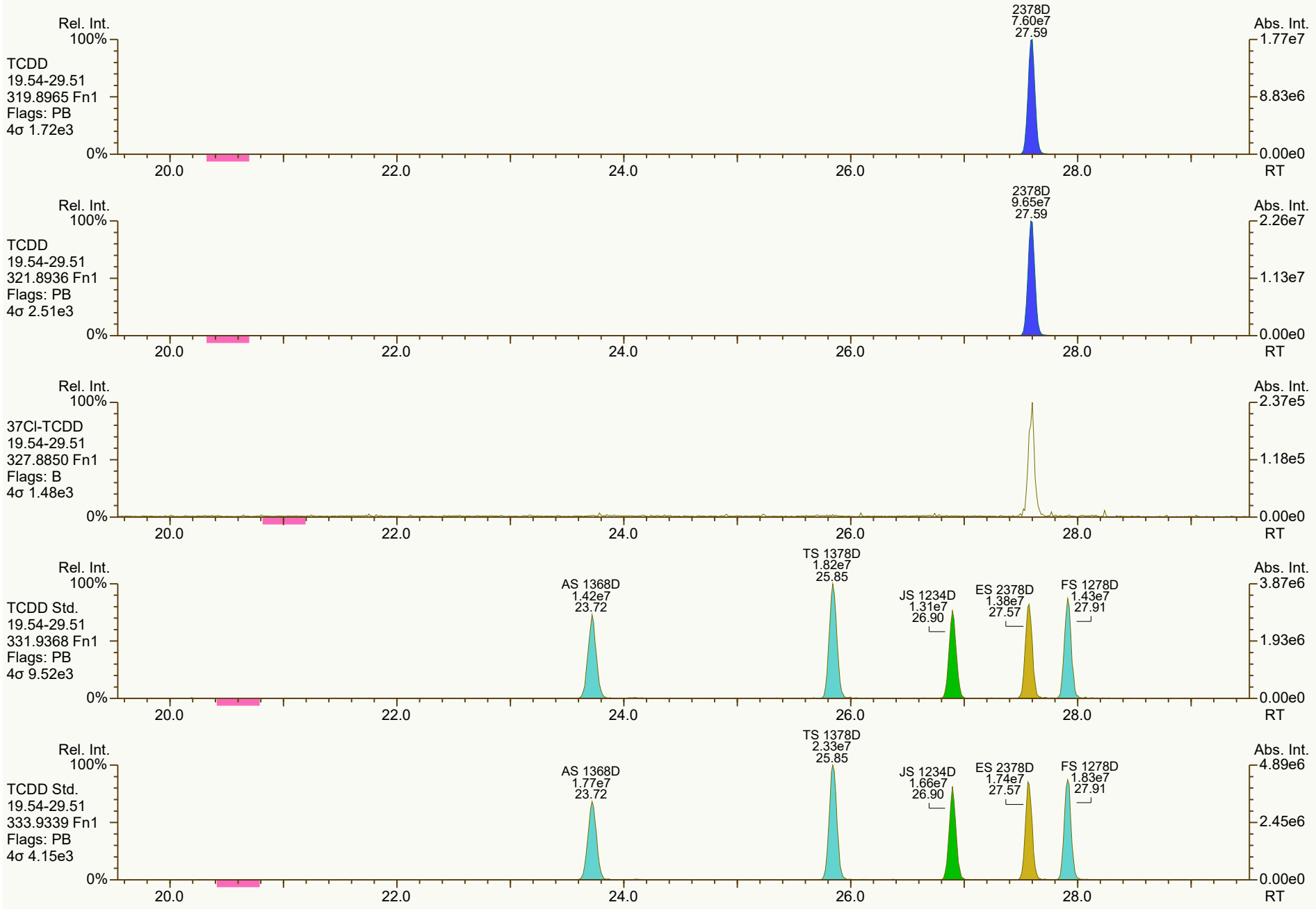
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

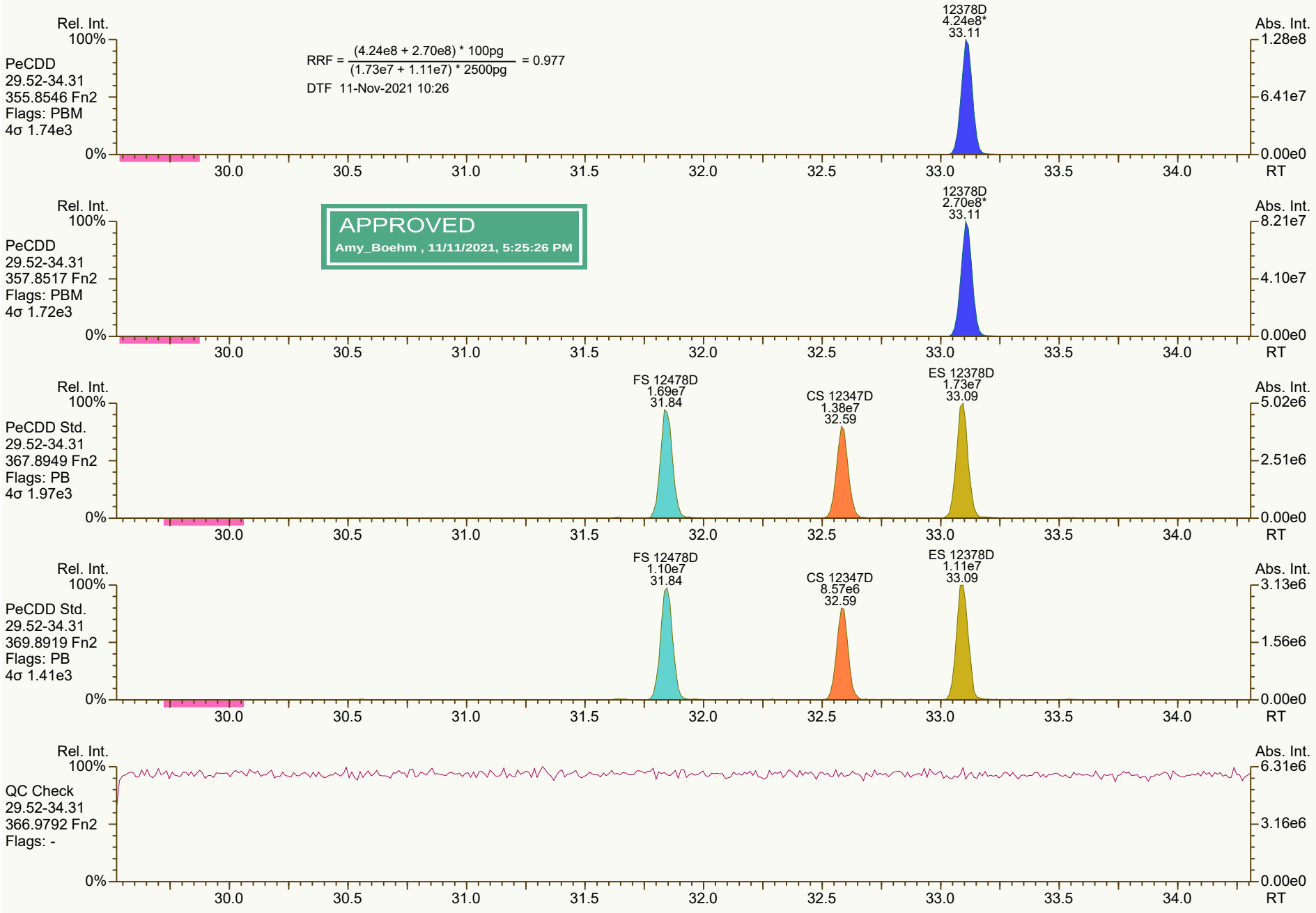
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

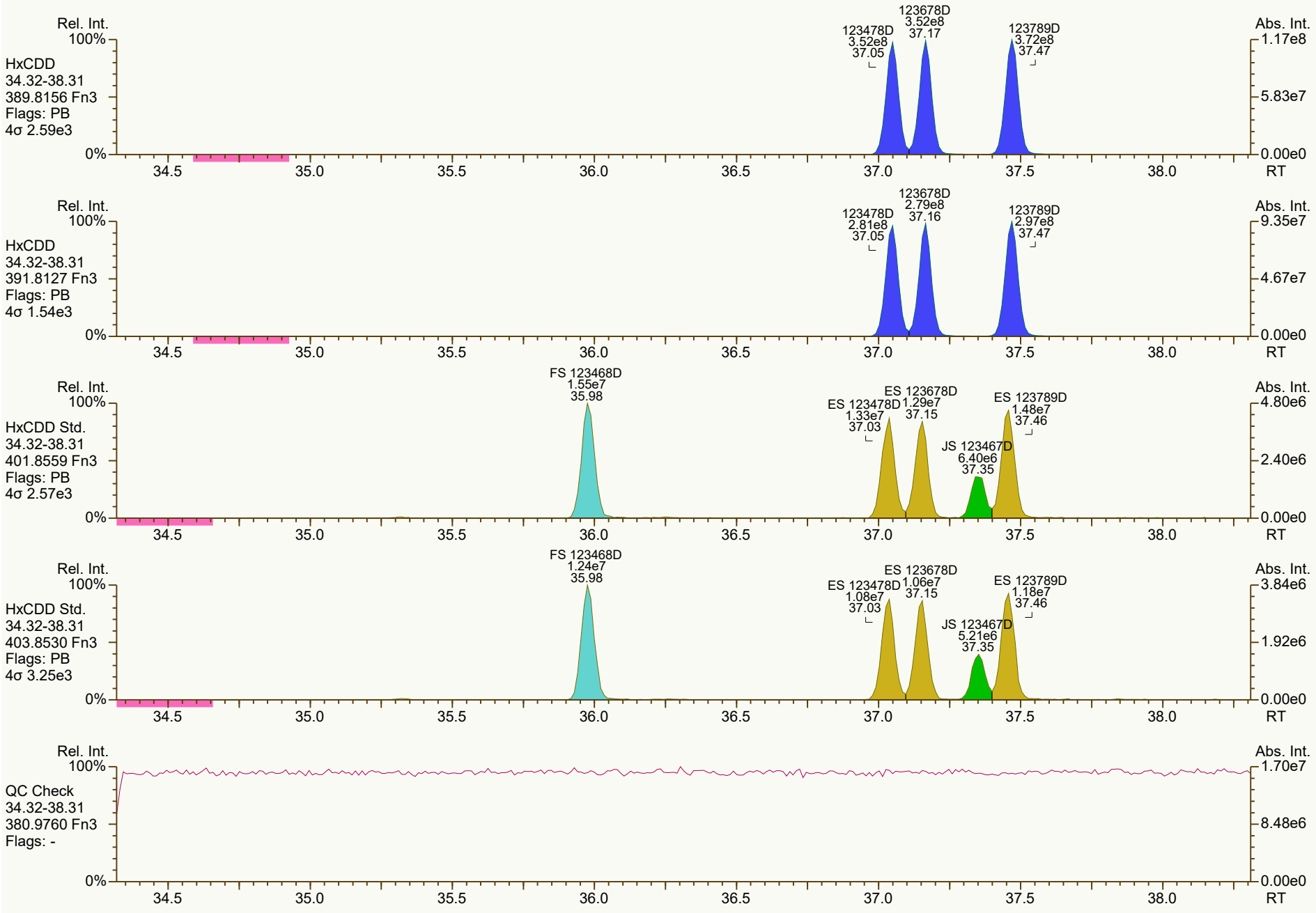
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

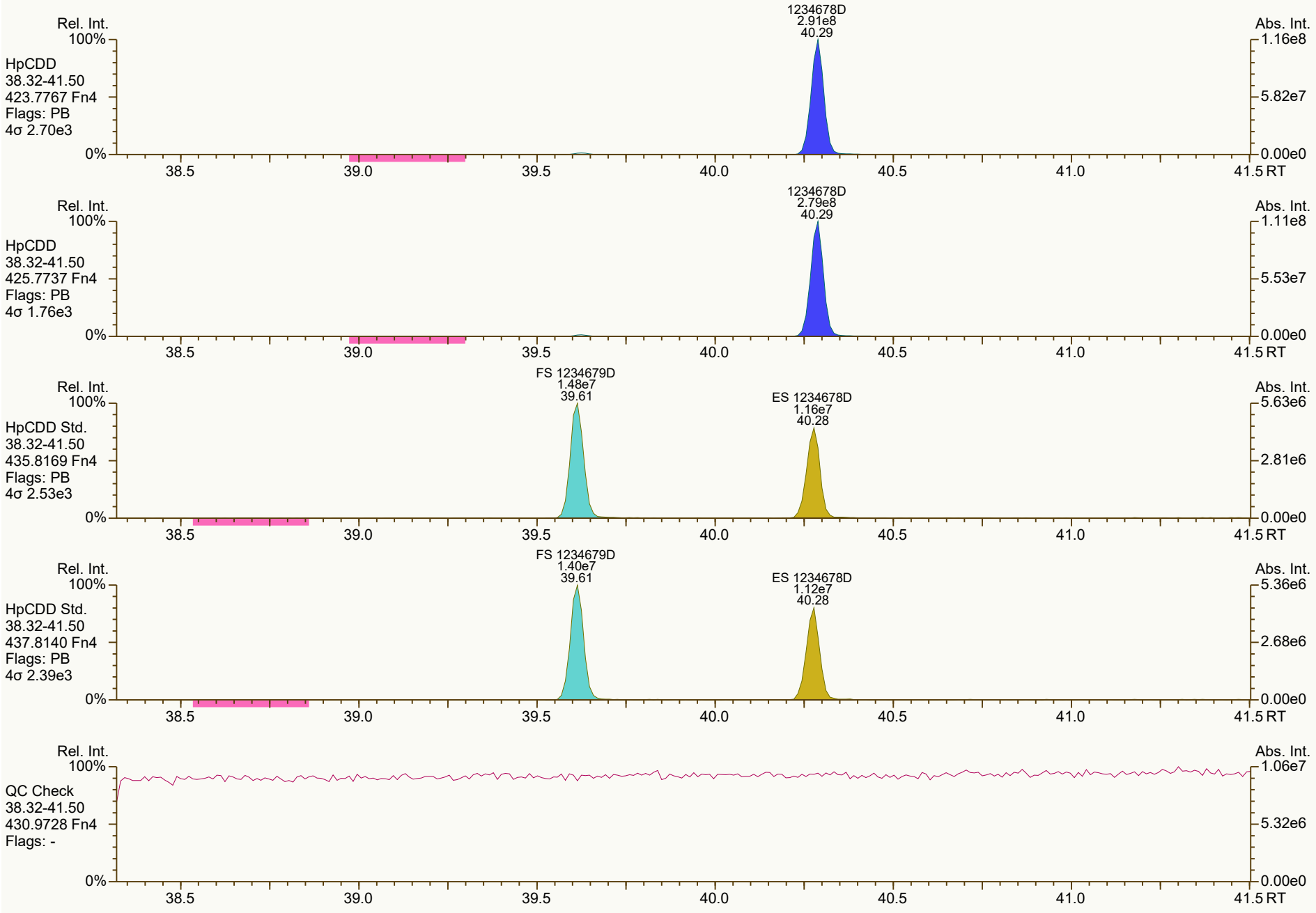
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

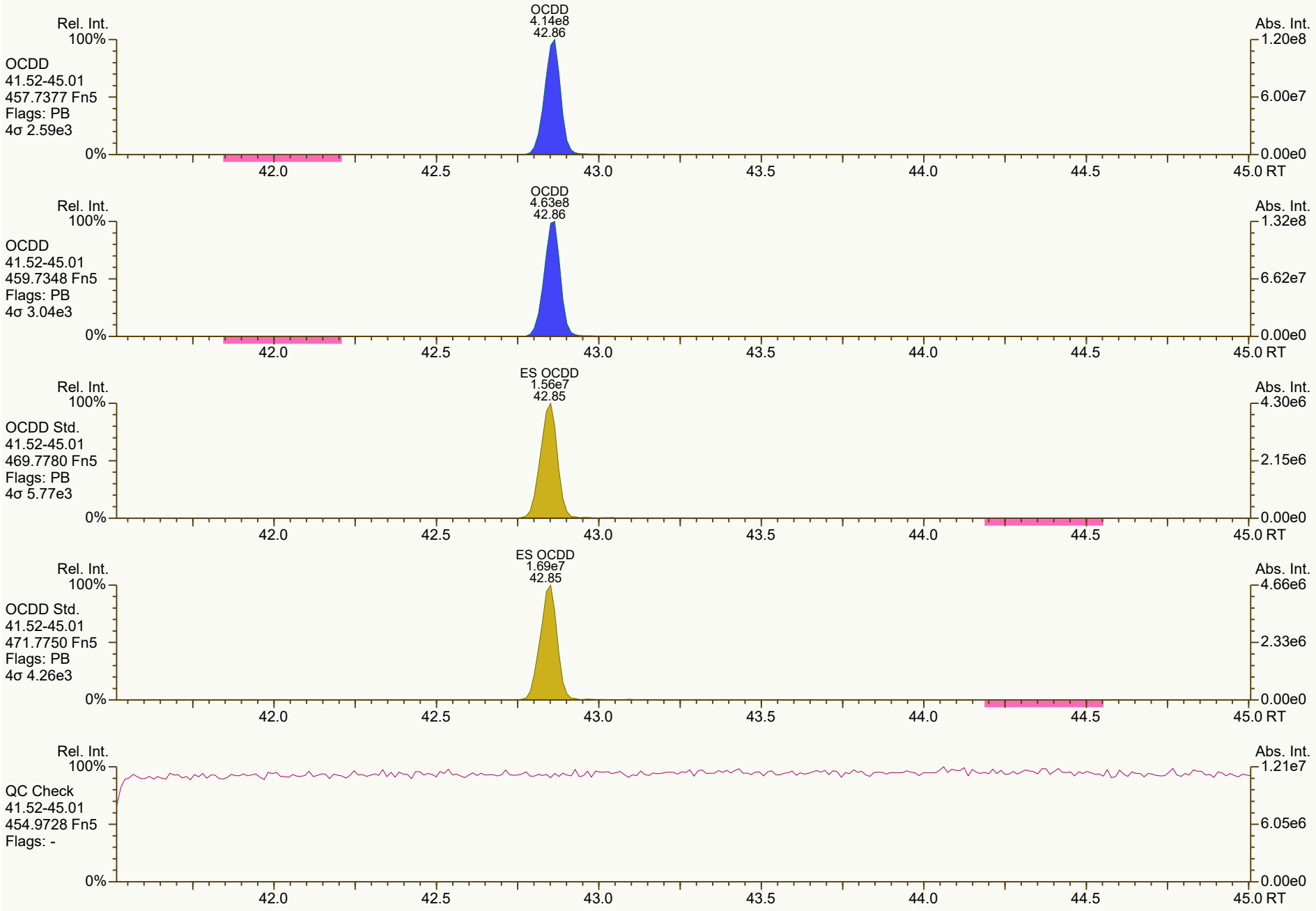

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
12378D
2.70e8*
33.11
8.21e7
4.10e7
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
5.02e6
2.51e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
3.13e6
1.56e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
6.31e6
3.16e6

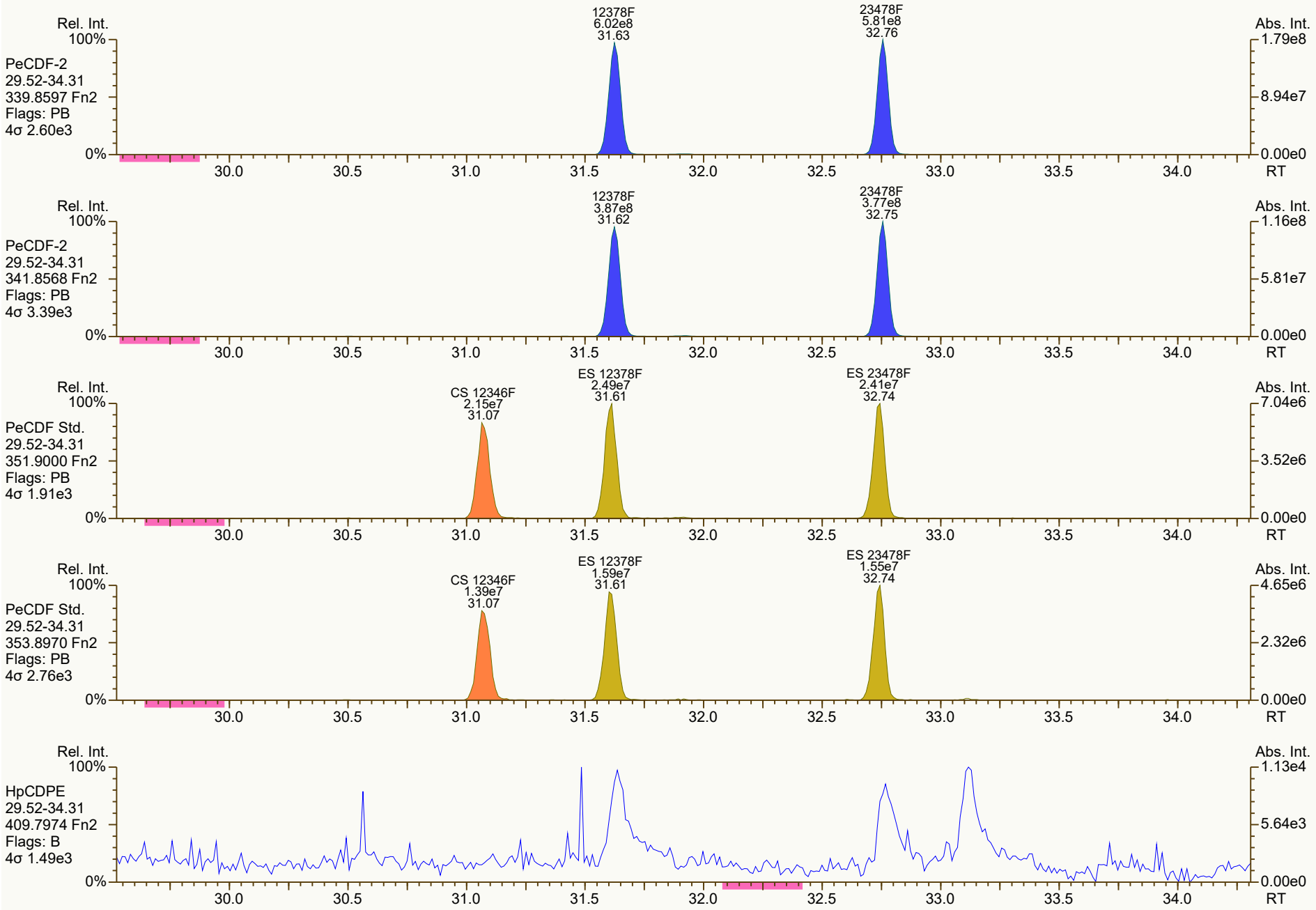

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
0%
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
0%
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
0%
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
0%
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.70e7
8.48e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

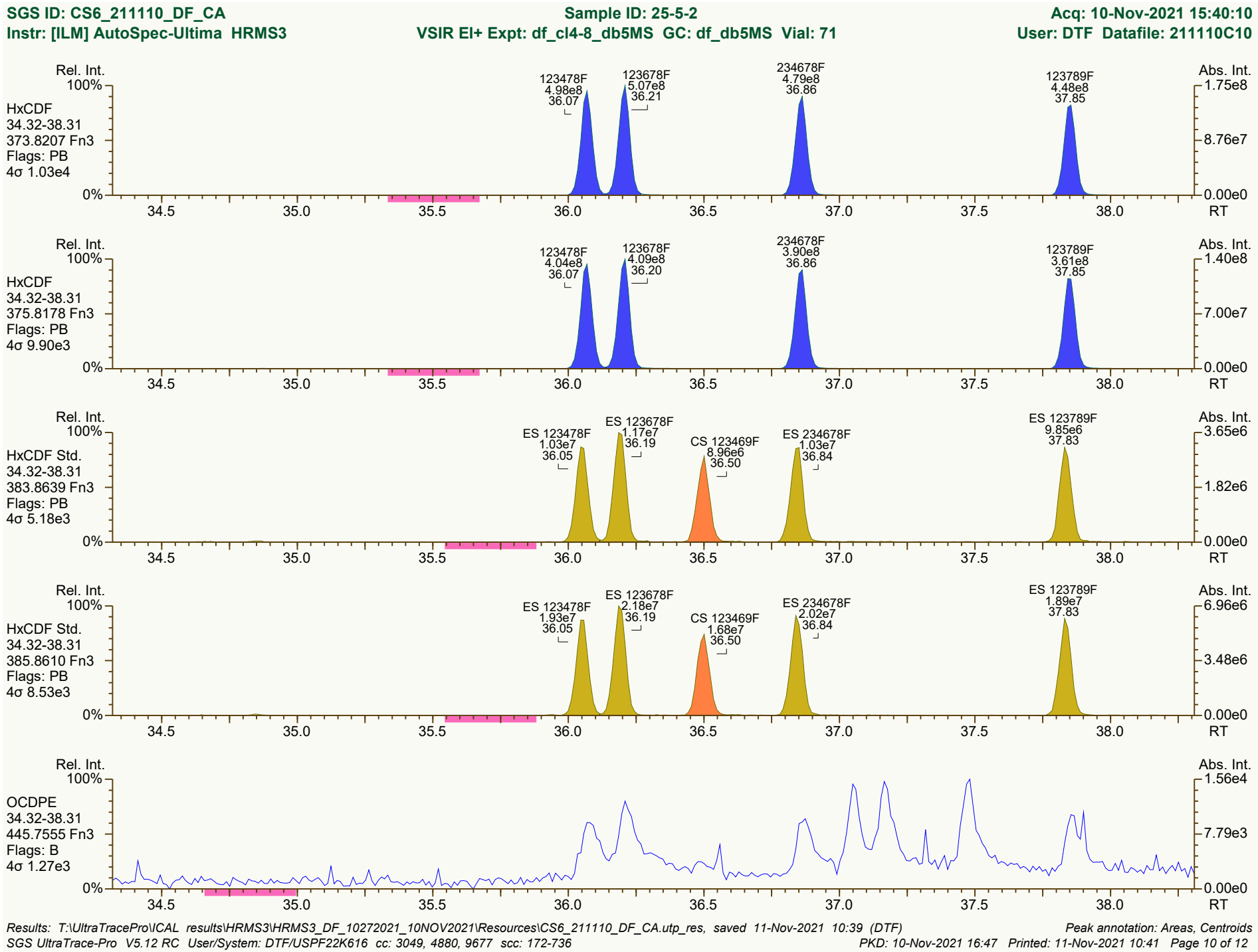

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

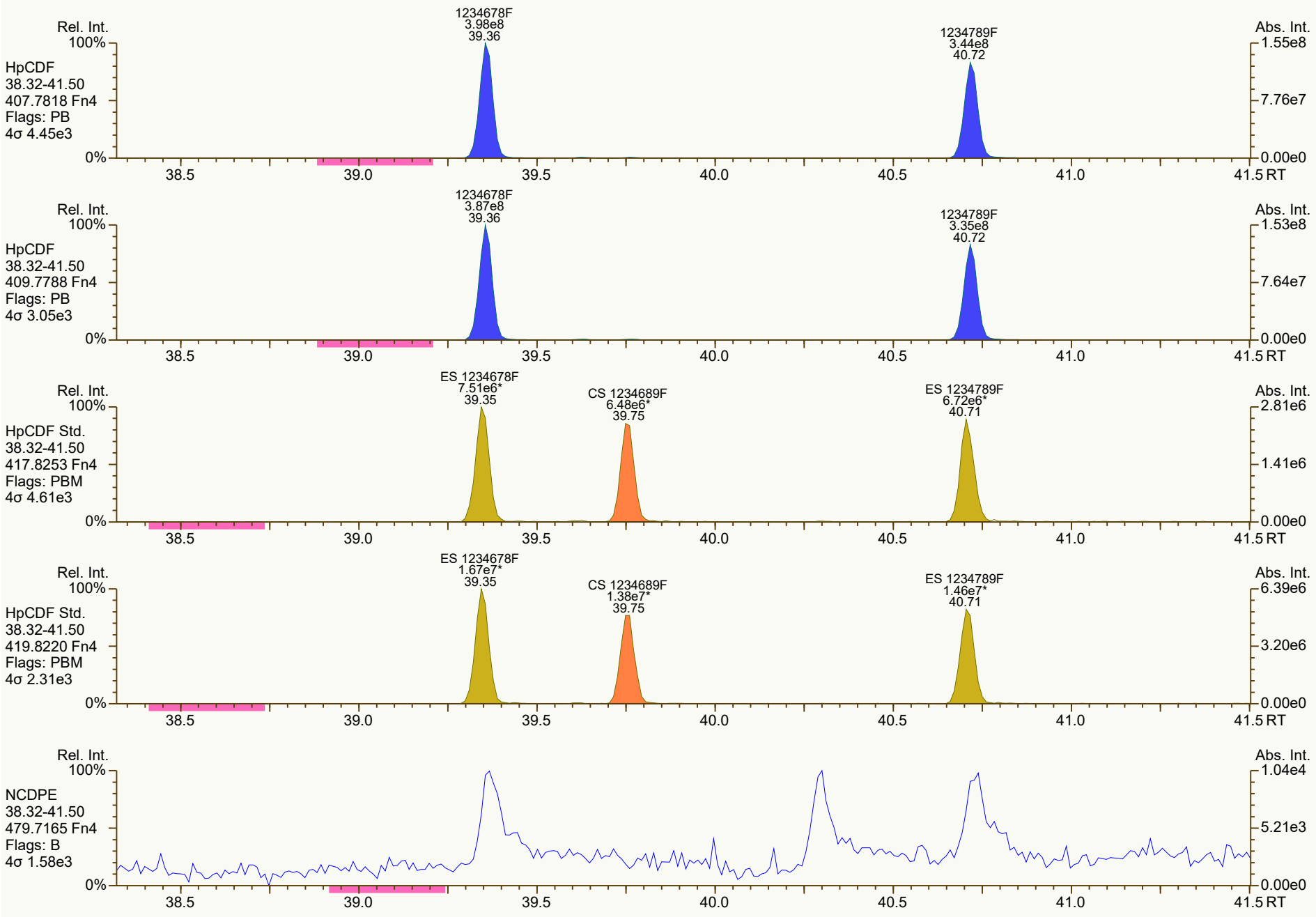

OCDD
4.14e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.63e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.56e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.69e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

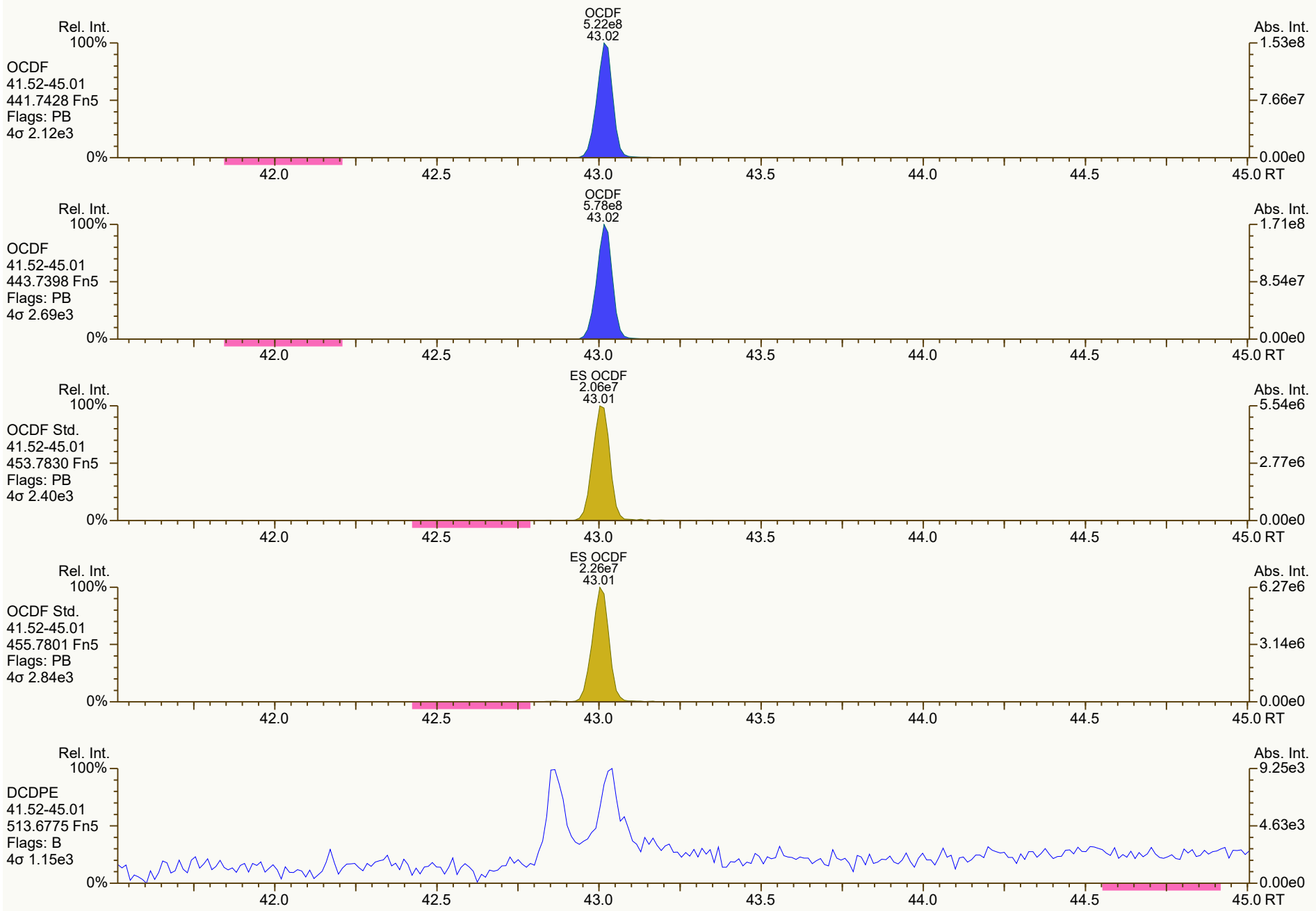

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

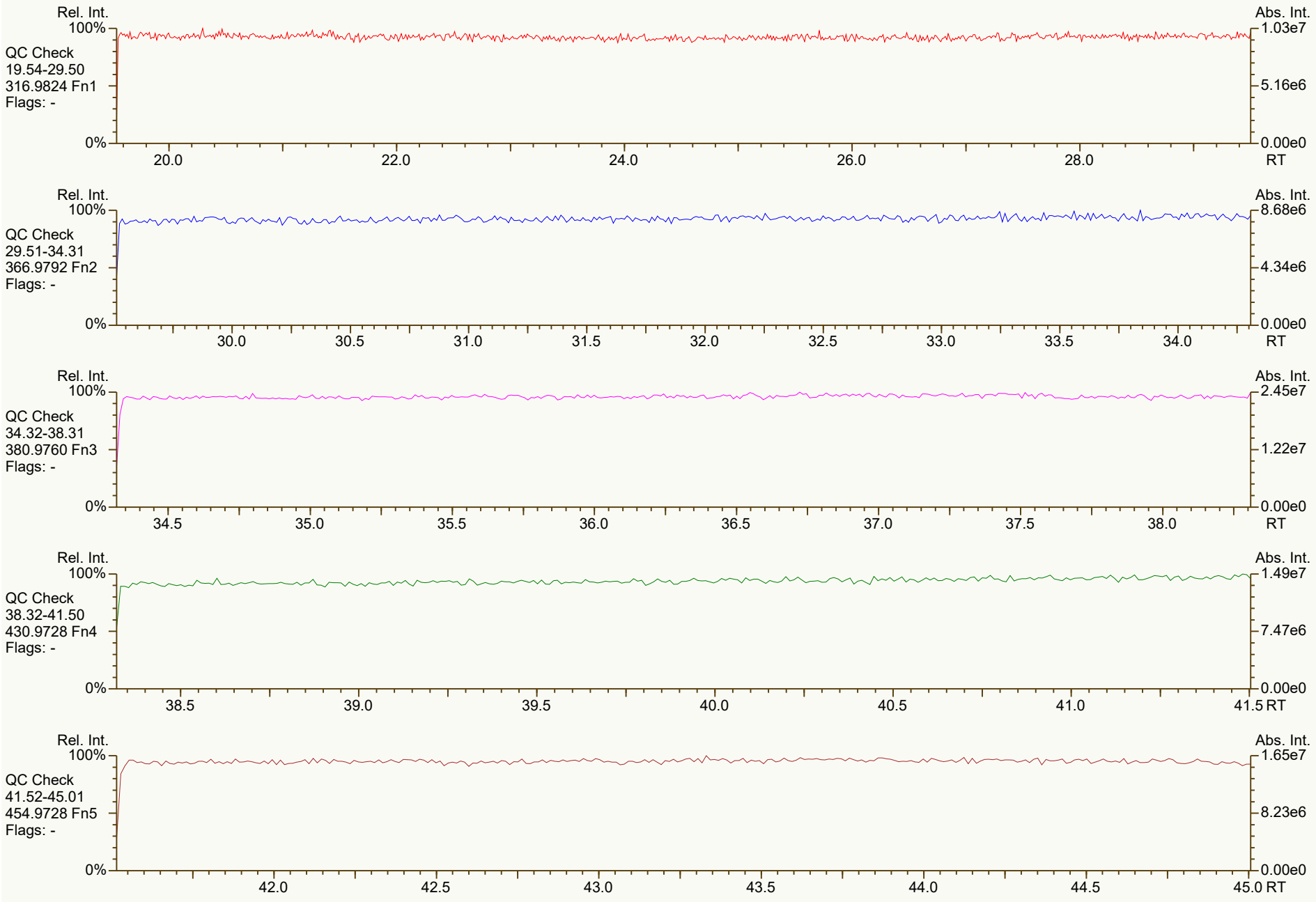

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT

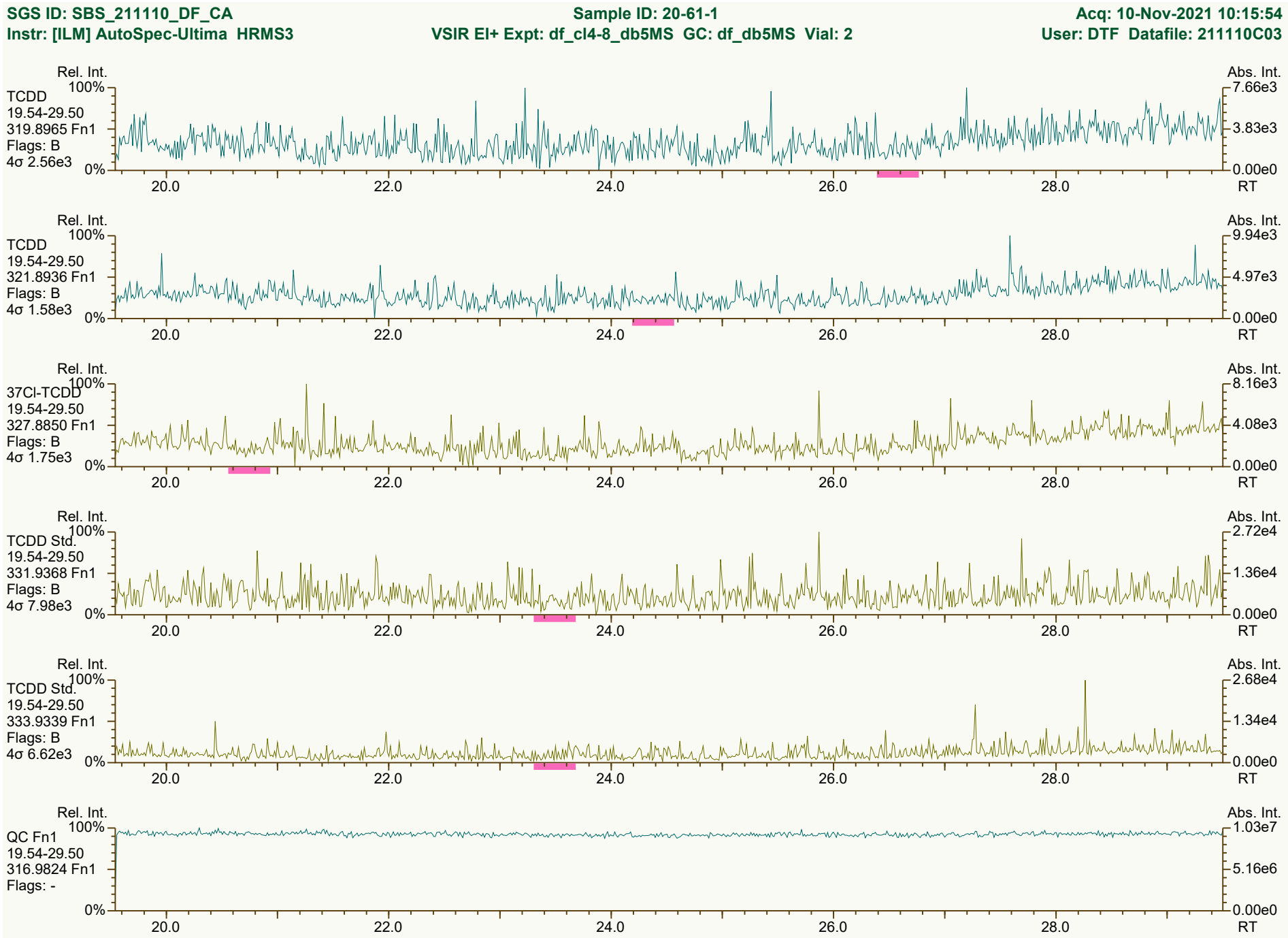

Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
0%
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
0%
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
0%
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
0%
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
0%
Abs. Int.
1.13e4
5.64e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


SGS ID: CS6_211110_DF_CA
Sample ID: 25-5-2
Acq: 10-Nov-2021 15:40:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 211110C10
Rel. Int.
Abs. Int.
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F 4.98e8 36.07
123678F 5.07e8 36.21
234678F 4.79e8 36.86
123789F 4.48e8 37.85
1.75e8
8.76e7
0.00e0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F 4.04e8 36.07
123678F 4.09e8 36.20
234678F 3.90e8 36.86
123789F 3.61e8 37.85
1.40e8
7.00e7
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F 1.03e7 36.05
ES 123678F 1.17e7 36.19
CS 123469F 8.96e6 36.50
ES 234678F 1.03e7 36.84
ES 123789F 9.85e6 37.83
3.65e6
1.82e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F 1.93e7 36.05
ES 123678F 2.18e7 36.19
CS 123469F 1.68e7 36.50
ES 234678F 2.02e7 36.84
ES 123789F 1.89e7 37.83
6.96e6
3.48e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
1.56e4
7.79e3
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS6_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3049, 4880, 9677 scc: 172-736
PKD: 10-Nov-2021 16:47 Printed: 11-Nov-2021 10:41 Page 10 of 12

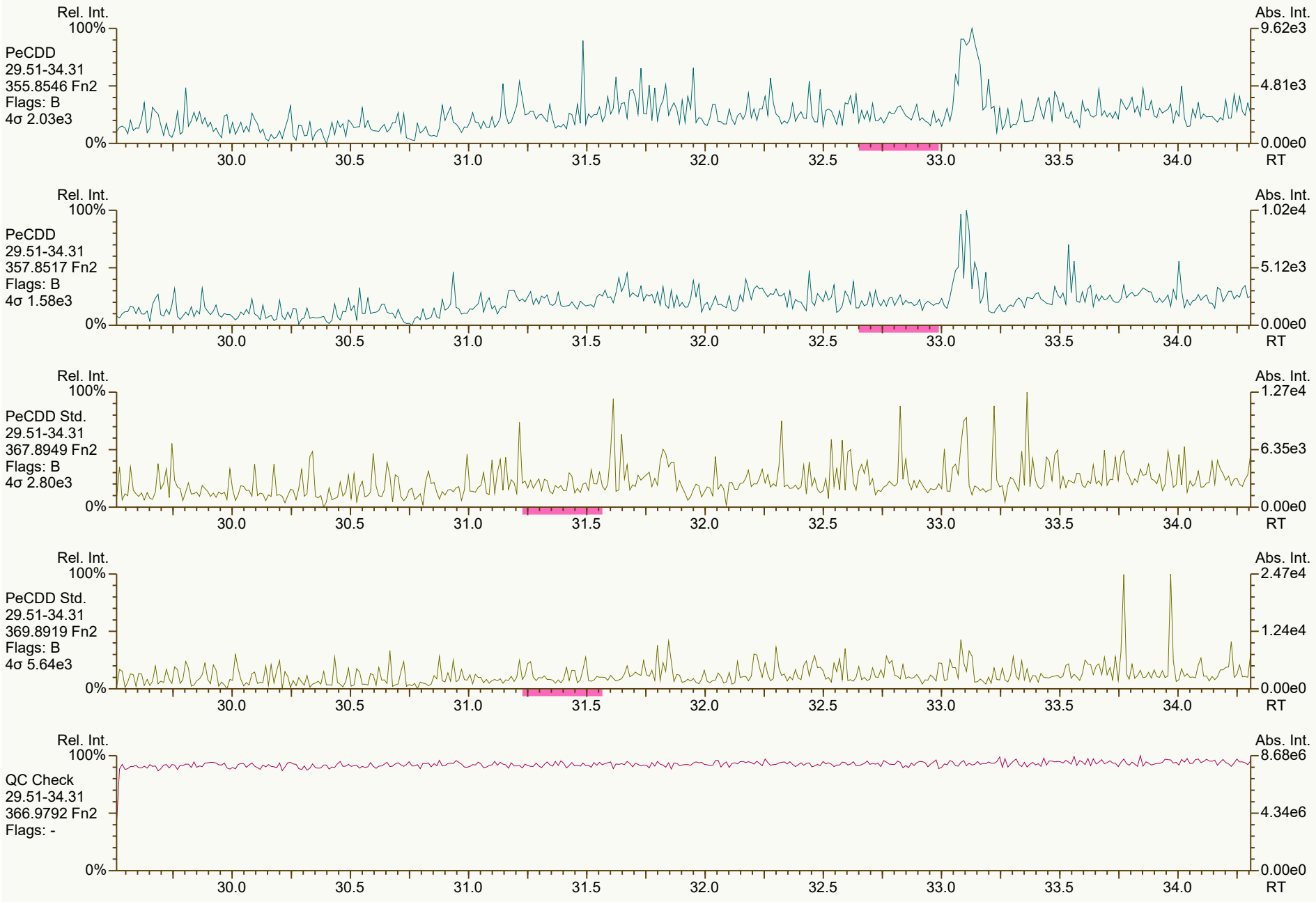

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.65e7
8.23e6
0.00e0


SGS ID: SBS_211110_DF_CA
Sample ID: 20-61-1
Acq: 10-Nov-2021 10:15:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: DTF Datafile: 211110C03
Rel. Int.
Abs. Int.
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
7.66e3
3.83e3
0.00e0
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
9.94e3
4.97e3
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
8.16e3
4.08e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
2.72e4
1.36e4
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
2.68e4
1.34e4
QC Fn1
19.54-29.50
316.9824 Fn1
Flags: -
1.03e7
5.16e6
100%
0%
20.0
22.0
24.0
26.0
28.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647
PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1

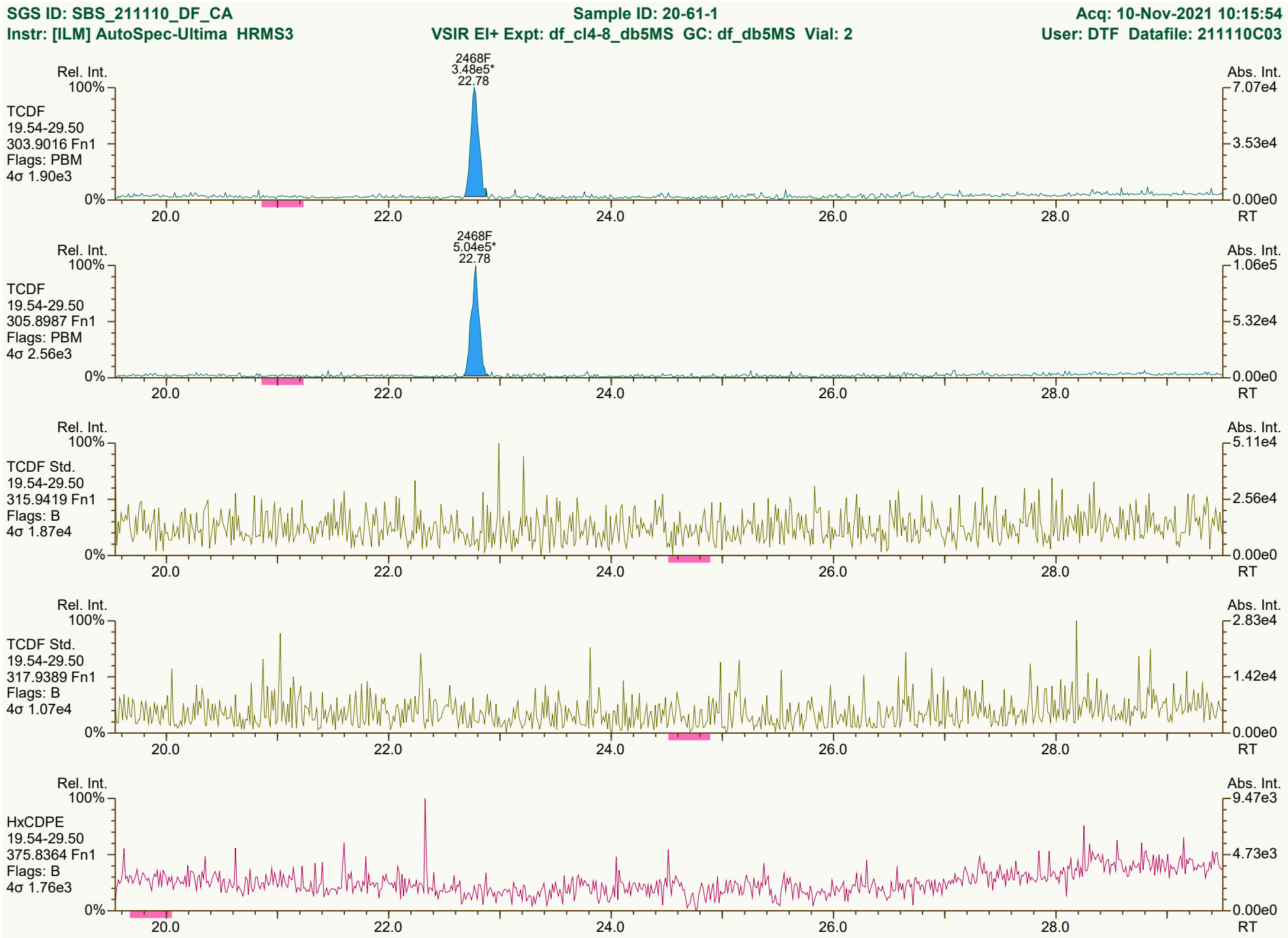

Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

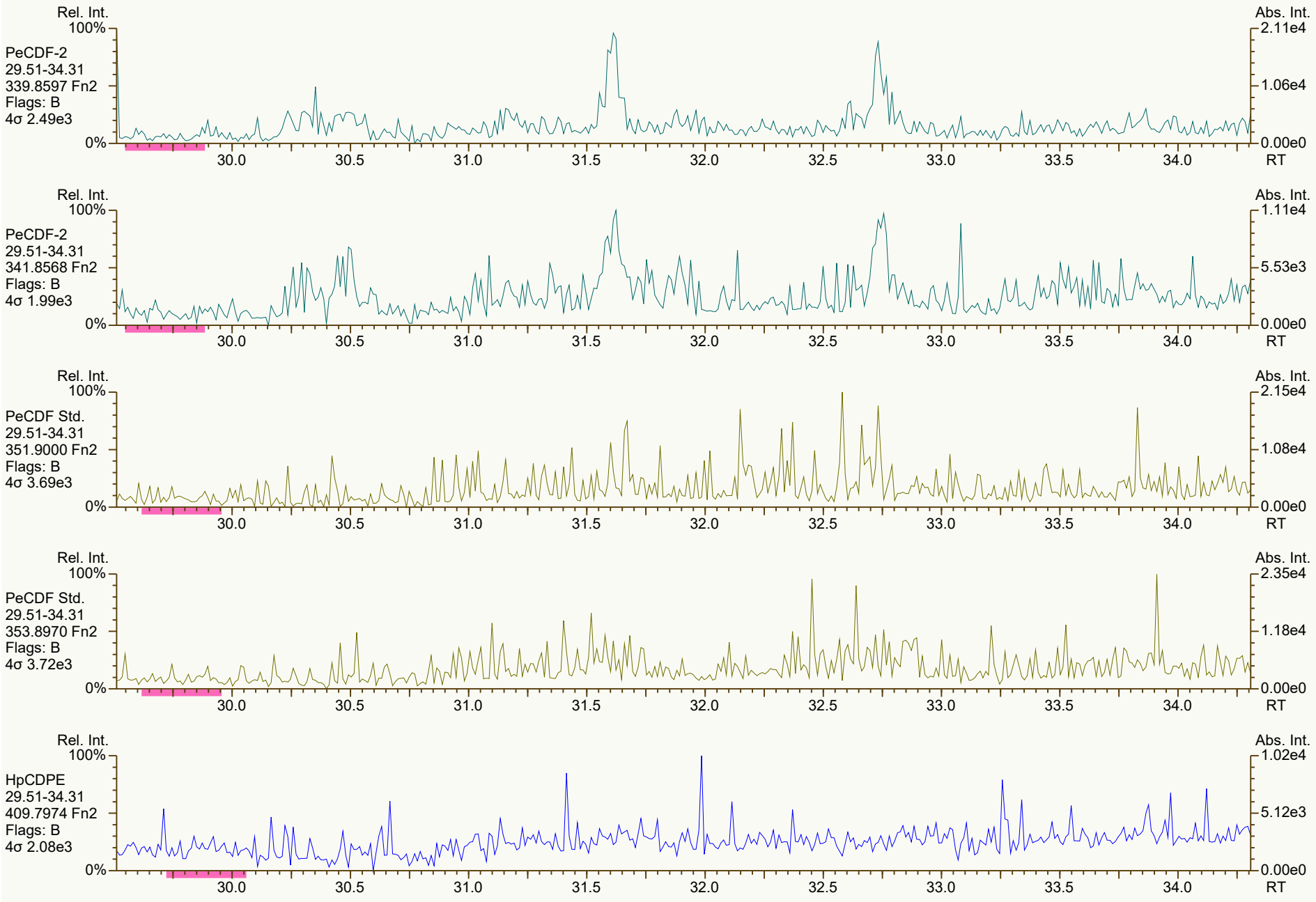

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

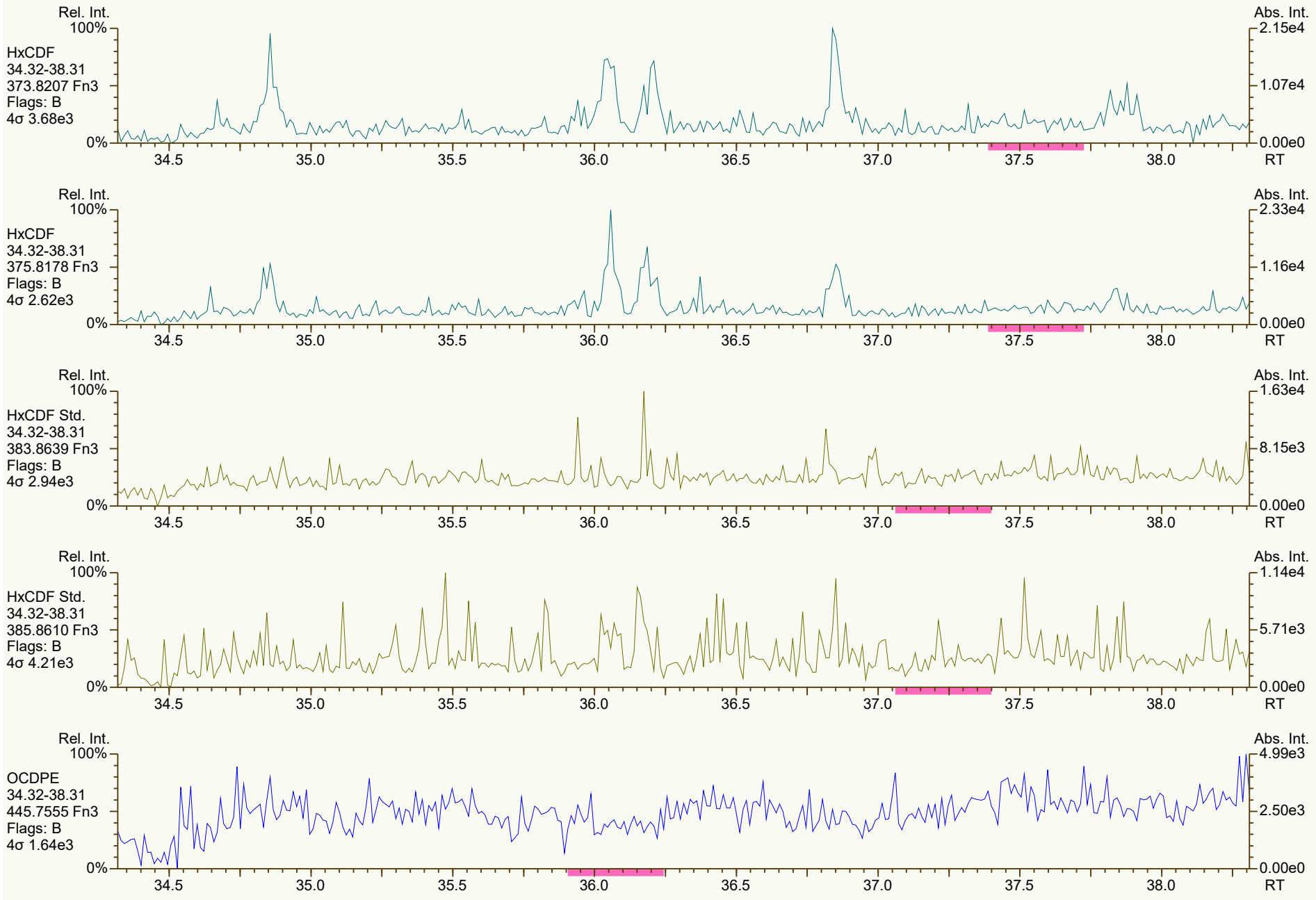

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: SBS_211110_DF_CA
Sample ID: 20-61-1
Acq: 10-Nov-2021 10:15:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: DTF Datafile: 211110C03
2468F
3.48e5*
22.78
Rel. Int.
Abs. Int.
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
5.04e5*
22.78
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 1025, 5319, 6711 scc: 876-647
Revised: 10-Nov-2021 11:40 (DTF) Printed: 11-Nov-2021 10:39 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

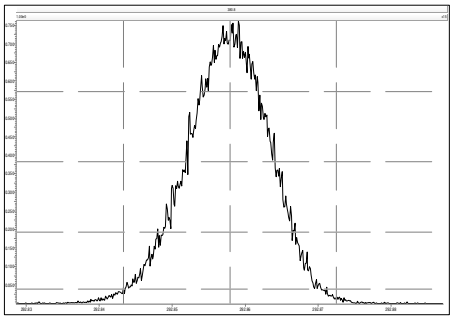

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

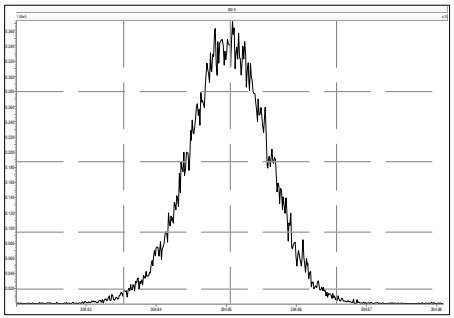
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

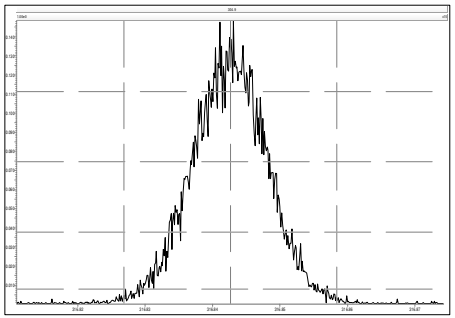
M 292.9824 R 10731



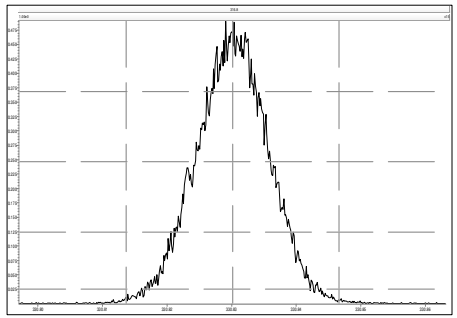
M 304.9824 R 11311



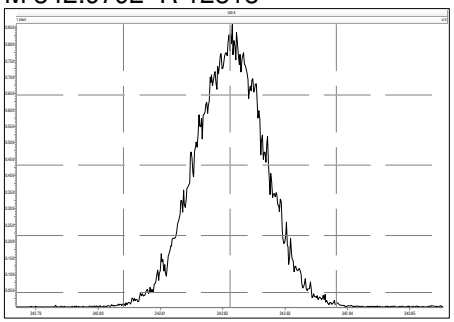
M 316.9824 R 12373



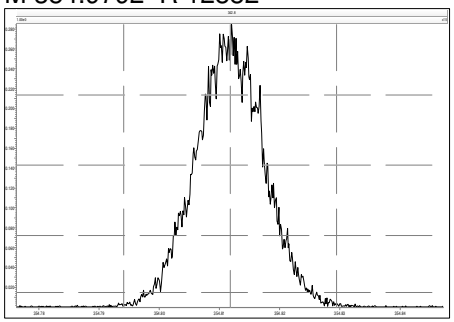
M 330.9792 R 12887



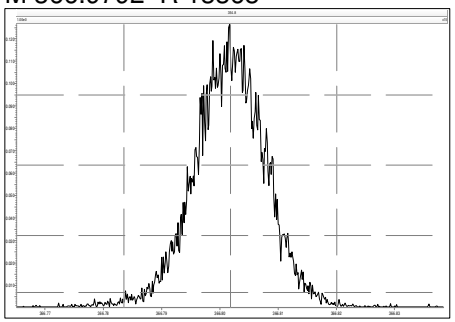
M 342.9792 R 12818



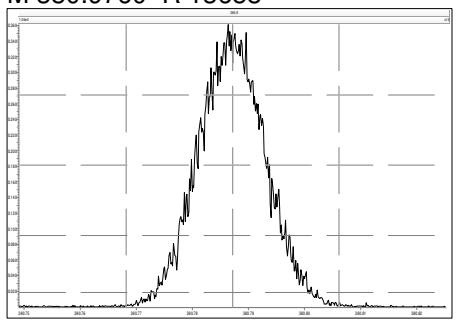
M 354.9792 R 12882



M 366.9792 R 13368



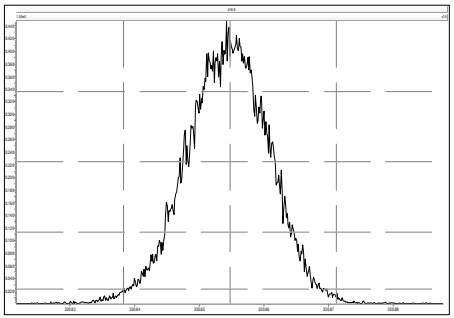
M 380.9760 R 13658



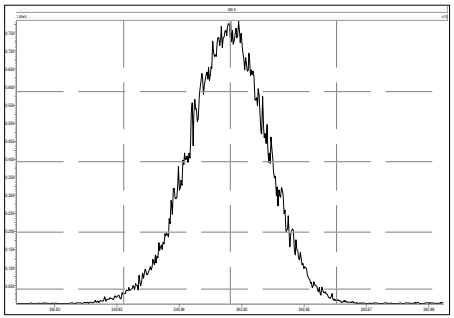
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

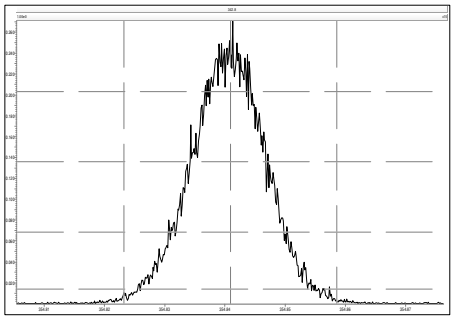
M 330.9792 R 11112



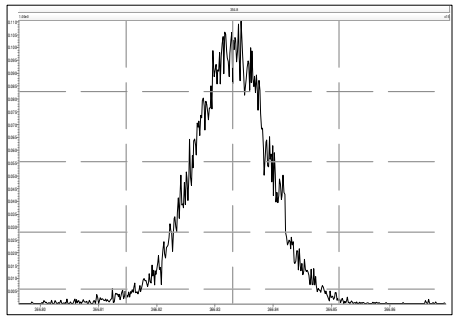
M 342.9792 R 11909



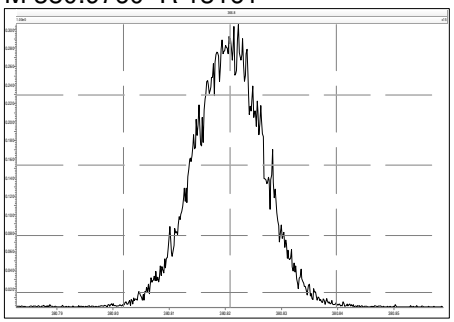
M 354.9792 R 11684



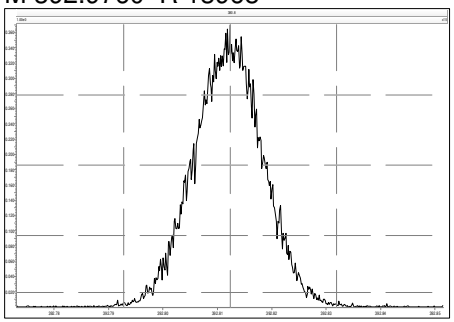
M 366.9792 R 11962



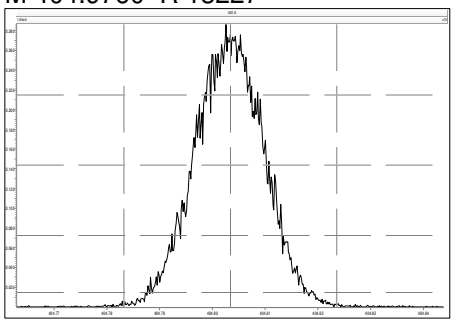
M 380.9760 R 13161



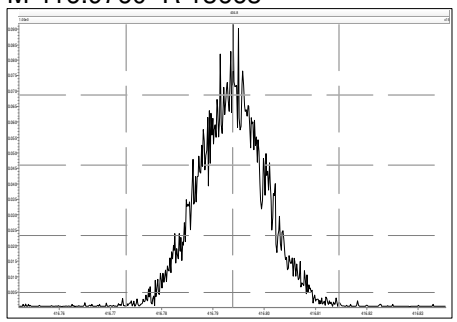
M 392.9760 R 13968



M 404.9760 R 13227



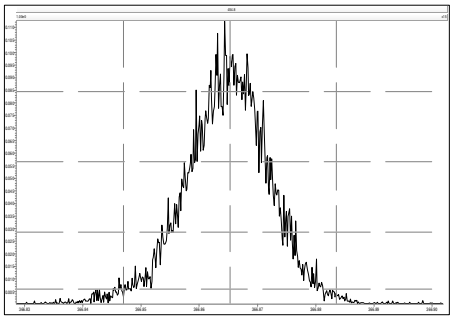
M 416.9760 R 13663



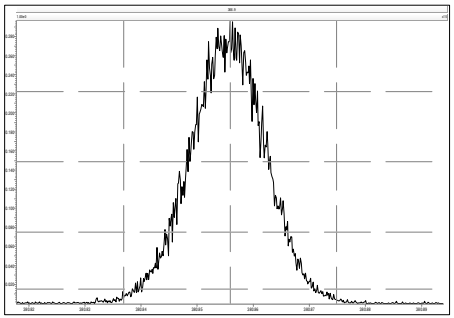
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

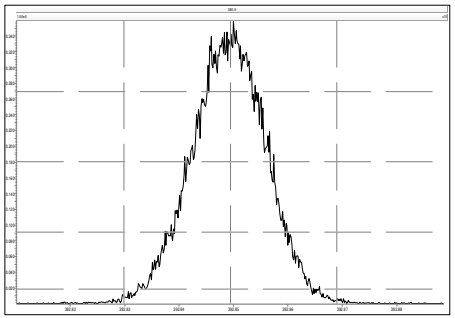
M 366.9792 R 10680



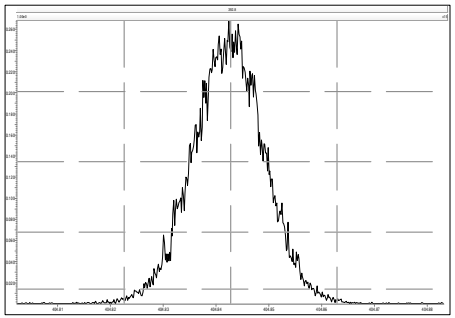
M 380.9760 R 12315



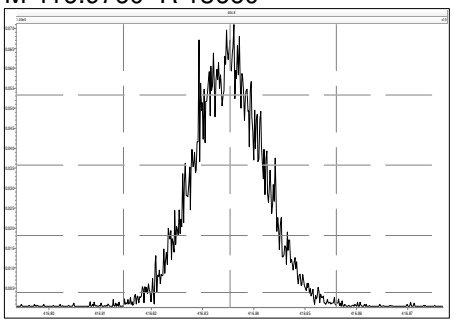
M 392.9760 R 12197



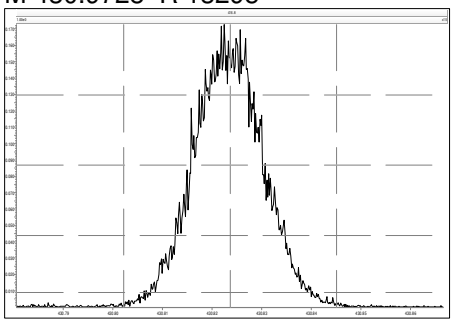
M 404.9760 R 12433



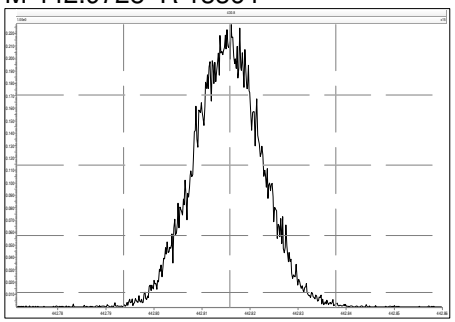
M 416.9760 R 13660



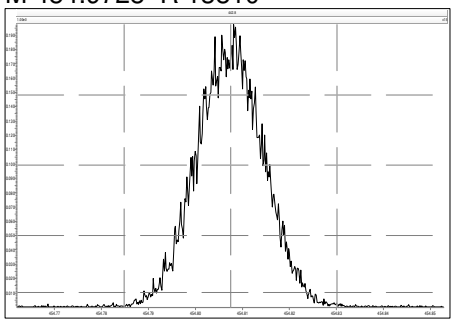
M 430.9728 R 13295



M 442.9728 R 13364



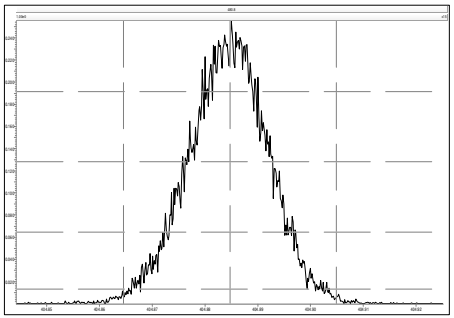
M 454.9728 R 13810



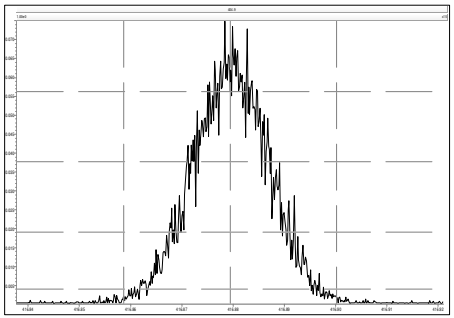
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

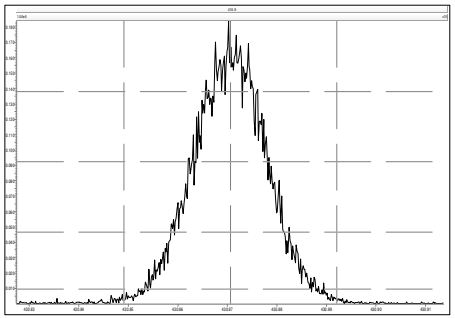
M 404.9760 R 11679



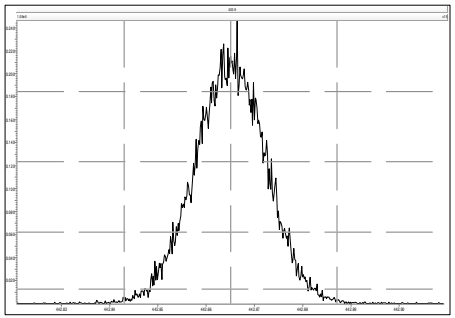
M 416.9760 R 12886



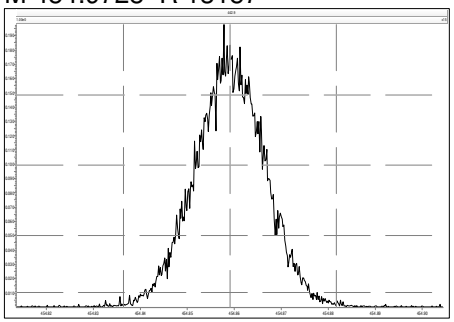
M 430.9728 R 12253



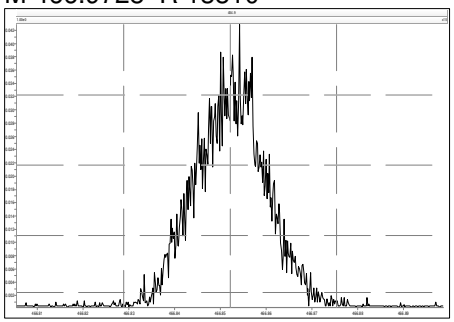
M 442.9728 R 12756



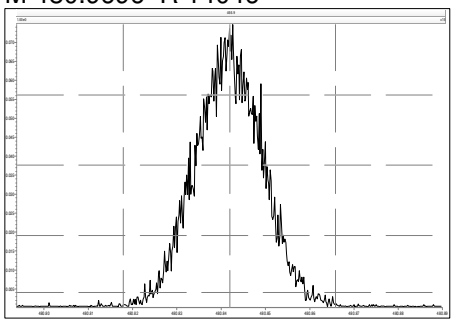
M 454.9728 R 13157



M 466.9728 R 13810



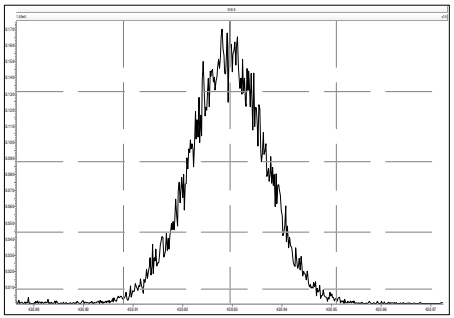
M 480.9696 R 14046



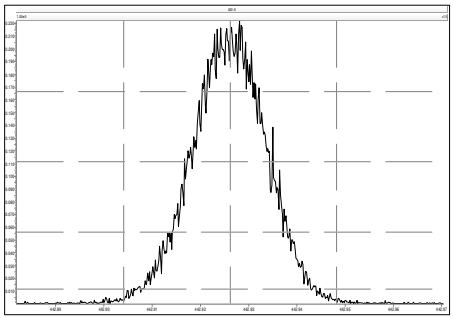
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

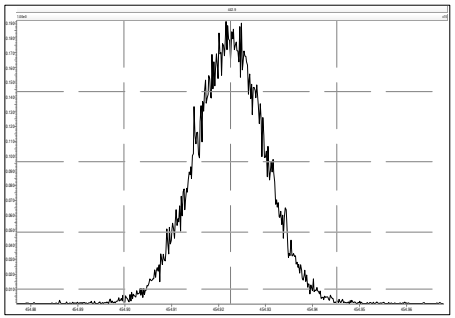
M 430.9728 R 11574



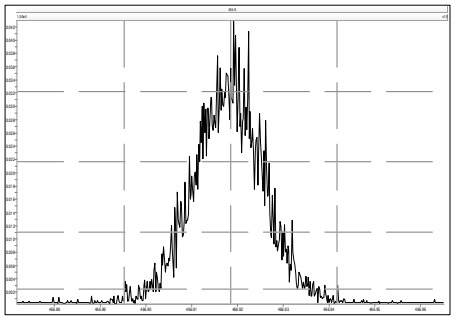
M 442.9728 R 12198



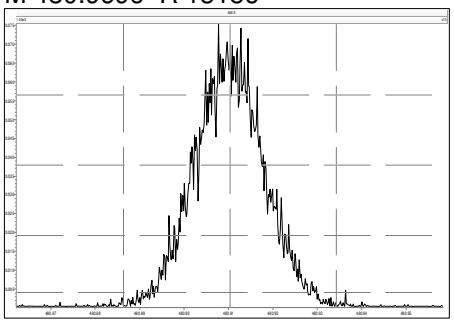
M 454.9728 R 12950



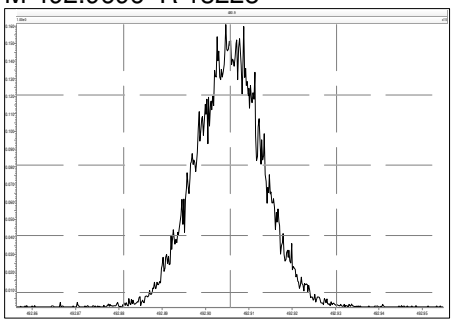
M 466.9728 R 13088



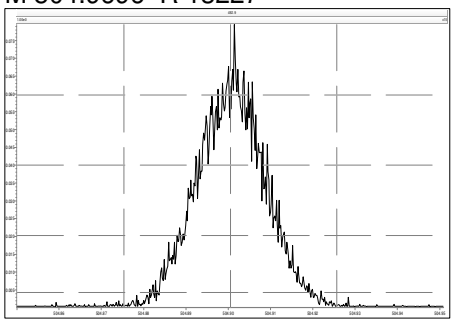
M 480.9696 R 13156



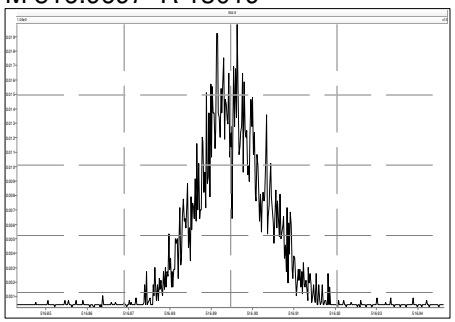
M 492.9696 R 13228



M 504.9696 R 13227



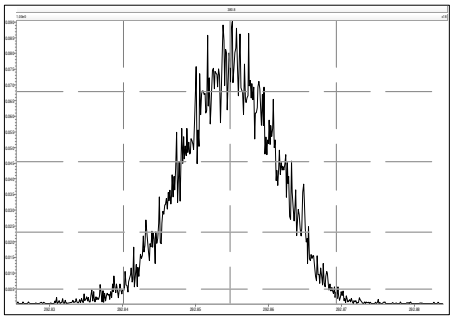
M 516.9697 R 13019



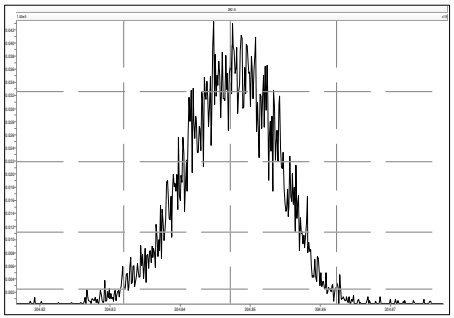
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

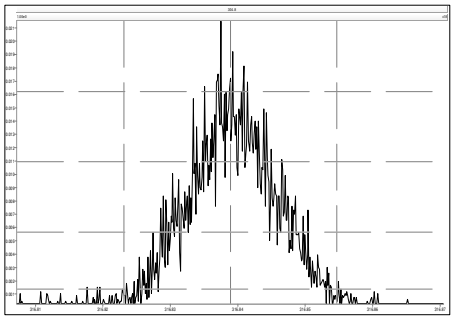
M 292.9824 R 10122



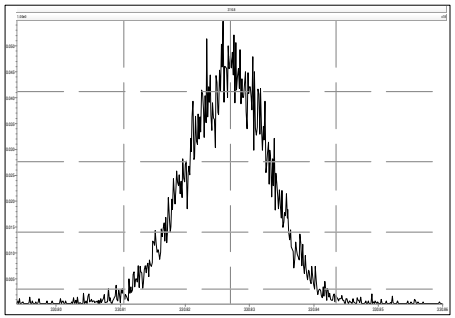
M 304.9824 R 10329



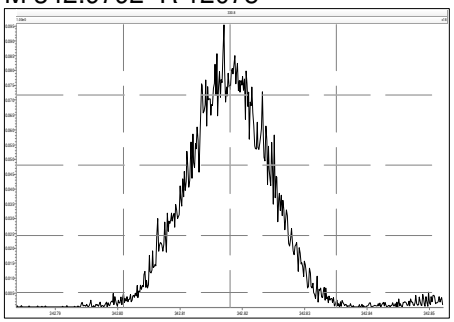
M 316.9824 R 11964



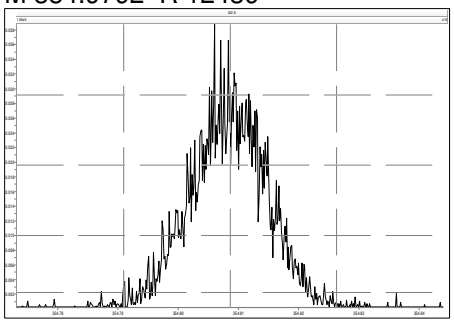
M 330.9792 R 11062



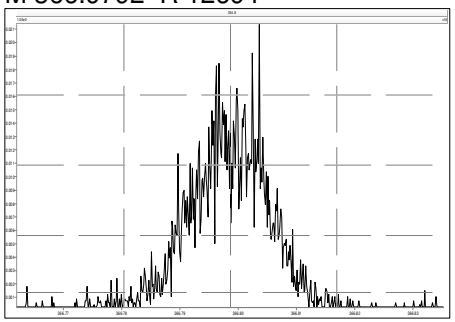
M 342.9792 R 12075



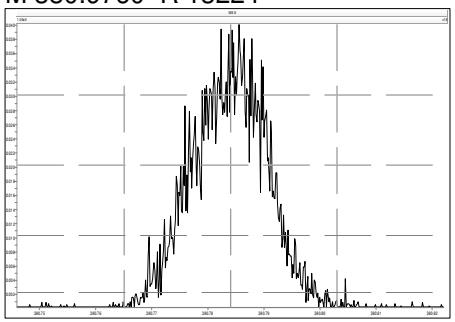
M 354.9792 R 12439



M 366.9792 R 12694



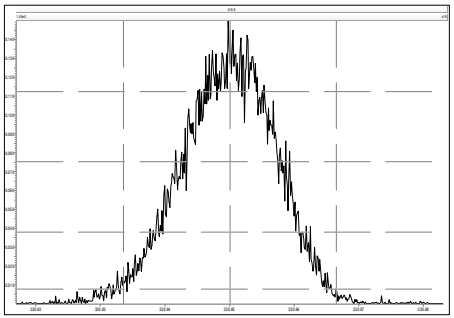
M 380.9760 R 13224



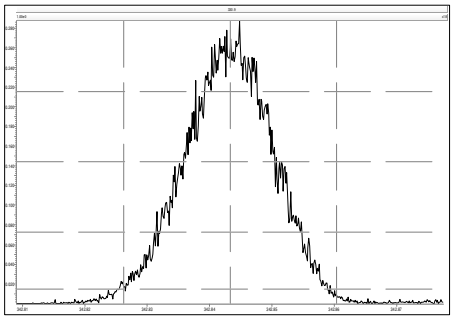
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

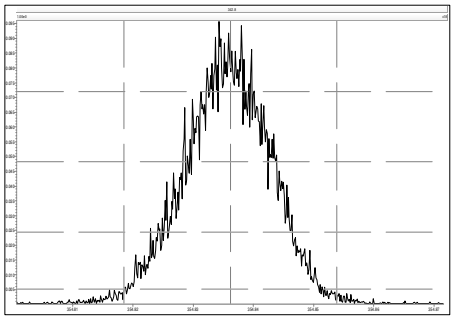
M 330.9792 R 10730



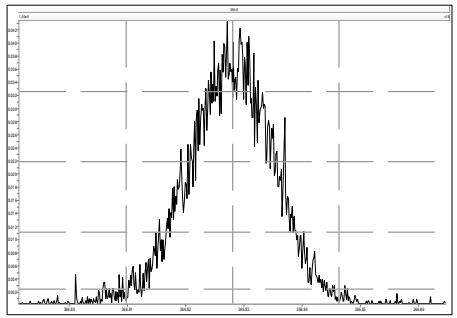
M 342.9792 R 10039



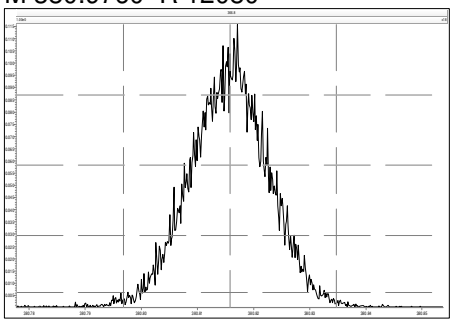
M 354.9792 R 11108



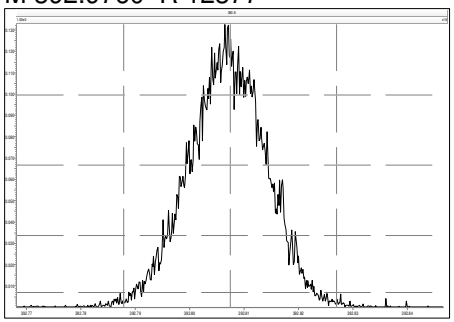
M 366.9792 R 11520



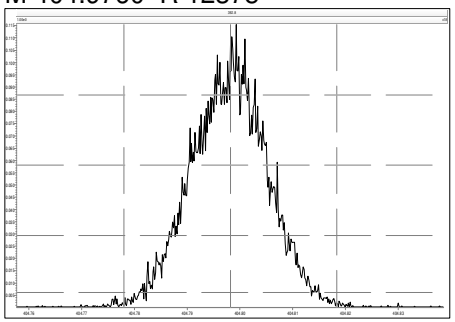
M 380.9760 R 12080



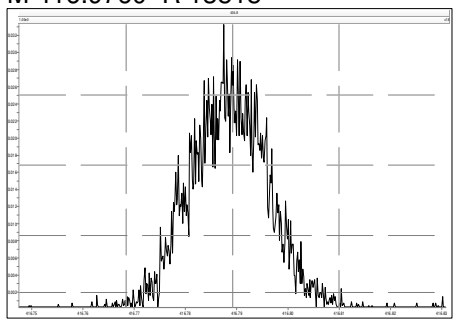
M 392.9760 R 12377



M 404.9760 R 12375



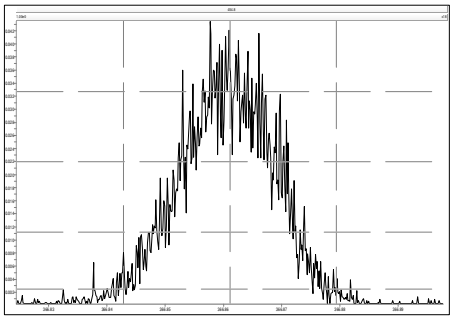
M 416.9760 R 13515



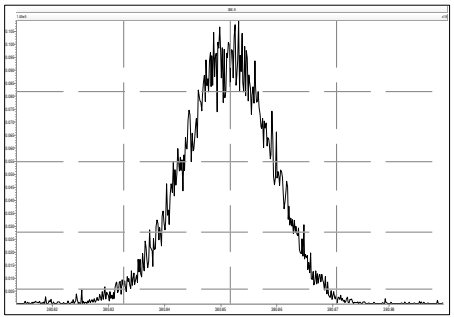
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

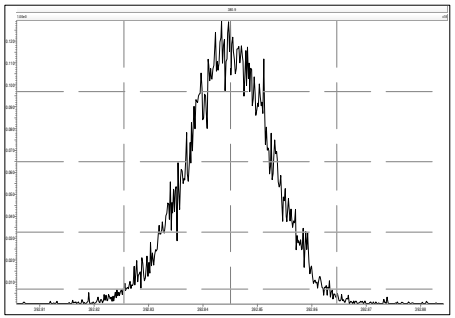
M 366.9792 R 10866



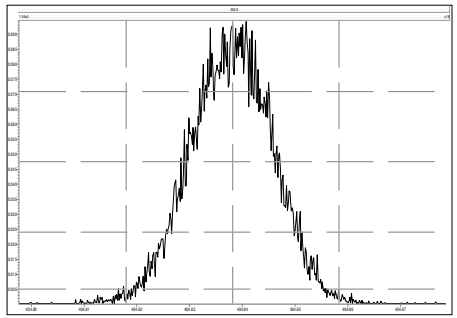
M 380.9760 R 10416



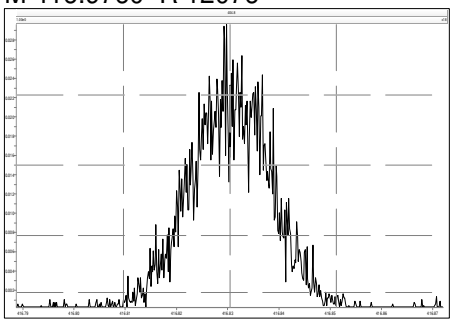
M 392.9760 R 10640



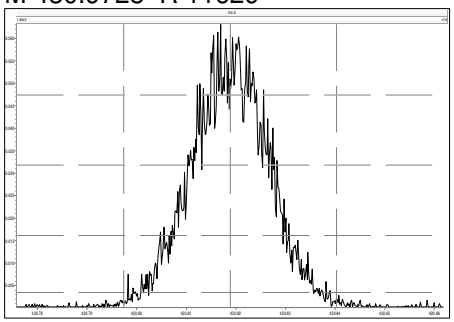
M 404.9760 R 11957



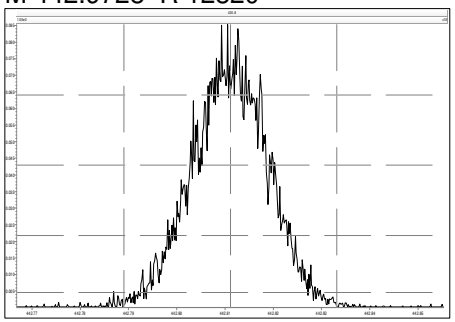
M 416.9760 R 12076



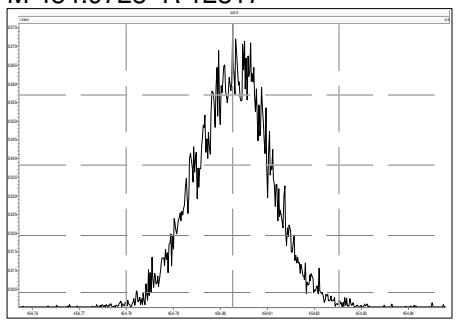
M 430.9728 R 11629



M 442.9728 R 12820



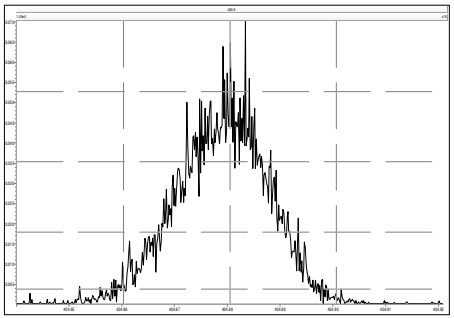
M 454.9728 R 12317



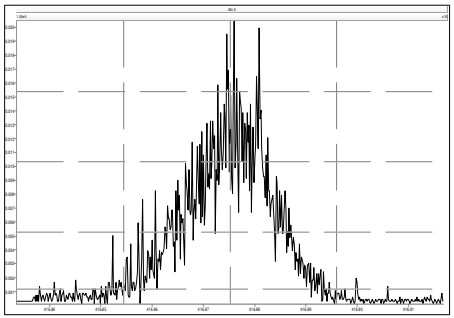
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

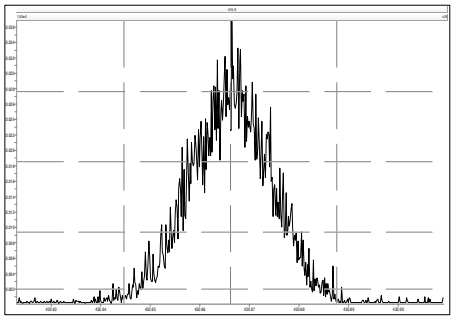
M 404.9760 R 10505



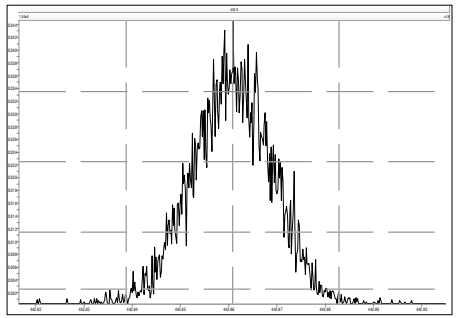
M 416.9760 R 12500



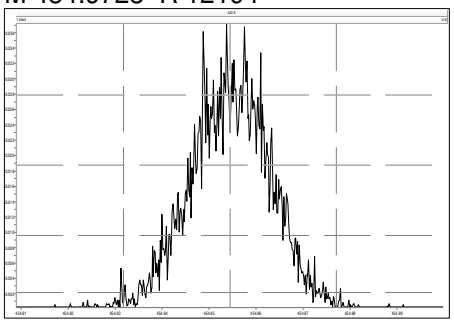
M 430.9728 R 11362



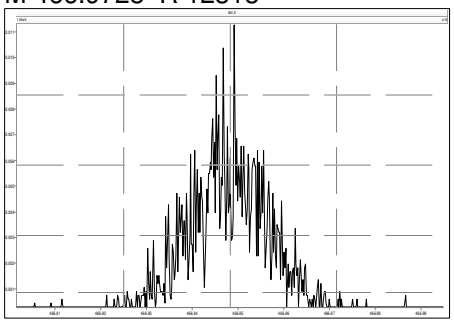
M 442.9728 R 12756



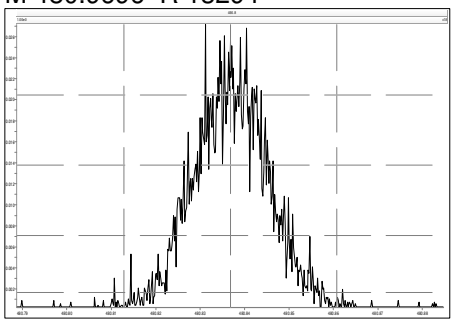
M 454.9728 R 12194



M 466.9728 R 12313



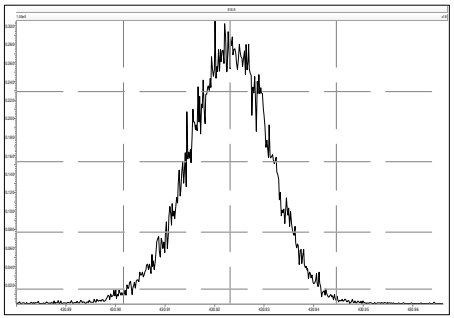
M 480.9696 R 13294



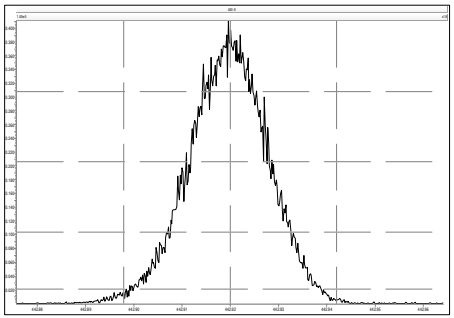
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

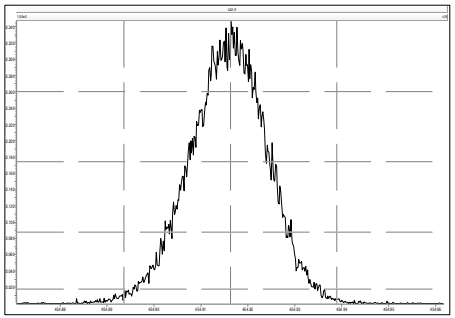
M 430.9728 R 11312



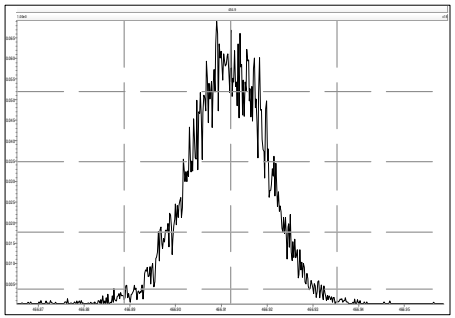
M 442.9728 R 11110



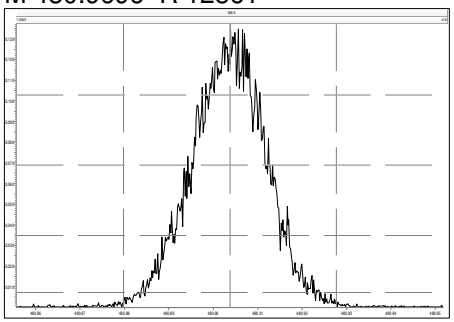
M 454.9728 R 11906



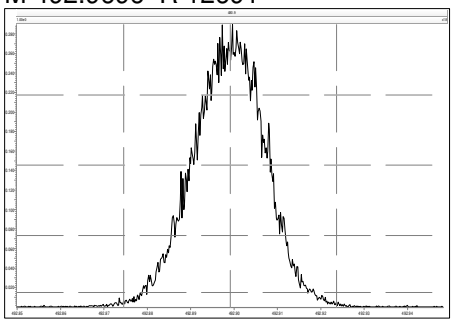
M 466.9728 R 12562



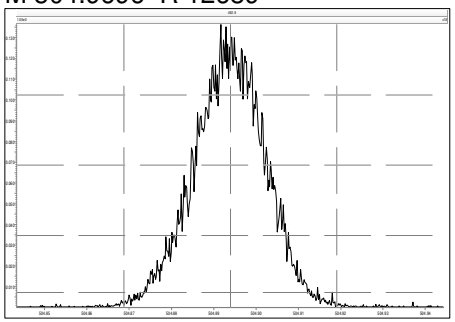
M 480.9696 R 12561



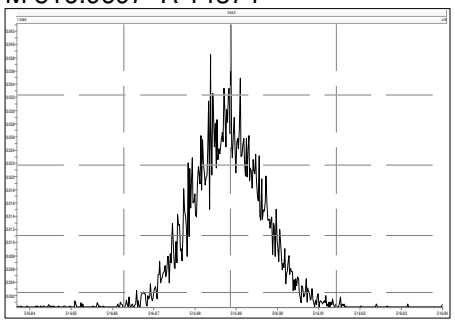
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



Lab ID: OPR1_18959_DF

REVIEWED
Tamara Burkamper , 2/25/2022, 10:51:47 AM

Acq'd: 24 Feb 2022 16:44 DTF

Wt/Vol: 1 uL

ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18959_OPR001

UTP: 25-Feb-2022 09:03:33 PSW

J-level: 0.25 pg/uL **Split:** 1

Checkcode: 662-354-XDJ

Datafile: 220224C02

Report: 25 Feb 2022 09:05 pw

Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.21		1.0008	1.0008	0	3.05E+06	0.82	Y	1.18	11.8	3364.701	0.144
12378-PeCDD	33.62		1.0007	1.0006	-0.2	9.72E+06	1.56	Y	1.04	50.5	4693.998	0.211
123478-HxCDD	37.55		1.0004	1.0004	0	1.07E+07	1.24	Y	1.09	52.3	4319.102	0.188
123678-HxCDD	37.67		1.0036	1.0037	+0.2	1.24E+07	1.27	Y	1.15	56.5	4319.102	0.181
123789-HxCDD	37.98		1.0118	1.0118	0	1.06E+07	1.23	Y	1.05	52	4319.102	0.193
1234678-HpCDD	40.72		1.0002	1.0003	+0.2	9.83E+06	1.04	Y	1.06	52.9	4247.943	0.2
OCDD	43.42		1.0003	1.0002	-0.3	1.41E+07	0.89	Y	1.13	106	3233.249	0.3
2378-TCDF	27.34		1.0008	1.0009	+0.2	3.95E+06	0.73	Y	1.08	11.3	4077.491	0.129
12378-PeCDF	32.15		1.0005	1.0005	0	1.45E+07	1.52	Y	1.02	48.8	6459.607	0.204
23478-PeCDF	33.27		1.0005	1.0005	0	1.52E+07	1.55	Y	1.02	52.2	6459.607	0.198
123478-HxCDF	36.55		1.0004	1.0004	0	1.36E+07	1.21	Y	1.27	51.2	8824.948	0.26
123678-HxCDF	36.69		1.0004	1.0005	+0.2	1.45E+07	1.24	Y	1.15	49.7	8824.948	0.258
234678-HxCDF	37.37		1.0005	1.0005	0	1.78E+07	1.19	Y	1.19	54.6	8824.948	0.251
123789-HxCDF	38.34		1.0004	1.0004	0	1.15E+07	1.20	Y	1.16	49.3	8824.948	0.319
1234678-HpCDF	39.78		1.0003	1.0003	0	1.38E+07	1.06	Y	1.37	49.8	6412.51	0.164
1234789-HpCDF	41.17		1.0003	1.0003	0	1.01E+07	1.04	Y	1.31	52	6412.51	0.276
OCDF	43.59		1.0002	1.0003	+0.3	1.63E+07	0.91	Y	1.07	103	4093.802	0.337

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.19	1.0243	1.0243	0	2.18E+07	0.84	Y	1.05	89.5
ES 12378-PeCDD	33.60	1.2198	1.2209	+2.2	1.86E+07	1.61	Y	0.88	90.7
ES 123478-HxCDD	37.54	0.9916	0.9916	0	1.87E+07	1.26	Y	0.97	98
ES 123678-HxCDD	37.66	0.9947	0.9948	+0.2	1.91E+07	1.21	Y	0.94	103
ES 123789-HxCDD	37.96	1.0029	1.0028	-0.2	1.95E+07	1.30	Y	1.09	90.8
ES 1234678-HpCDD	40.71	1.0749	1.0753	+1.0	1.75E+07	1.07	Y	0.91	97.8
ES OCDD	43.41	1.1460	1.1467	+1.8	2.36E+07	0.90	Y	0.62	96.4
ES 2378-TCDF	27.32	1.0531	1.0535	+0.7	3.24E+07	0.77	Y	1.06	83.7
ES 12378-PeCDF	32.13	1.2378	1.2391	+2.5	2.89E+07	1.54	Y	0.91	86.9
ES 23478-PeCDF	33.26	1.2810	1.2825	+3.0	2.85E+07	1.57	Y	0.88	88.4
ES 123478-HxCDF	36.53	0.9650	0.9650	0	2.09E+07	0.55	Y	1.20	88.7
ES 123678-HxCDF	36.67	0.9688	0.9687	-0.2	2.54E+07	0.55	Y	1.35	95.6
ES 234678-HxCDF	37.35	0.9866	0.9867	+0.2	2.74E+07	0.55	Y	1.24	112
ES 123789-HxCDF	38.33	1.0125	1.0124	-0.2	2.01E+07	0.55	Y	1.16	88.7
ES 1234678-HpCDF	39.76	1.0501	1.0504	+0.7	2.02E+07	0.47	Y	0.97	106
ES 1234789-HpCDF	41.16	1.0870	1.0873	+0.7	1.49E+07	0.47	Y	0.85	89.1
ES OCDF	43.58	1.1505	1.1512	+1.8	2.96E+07	0.89	Y	0.81	93.4

Lab ID: OPR1_18959_DF **Acq'd:** 24 Feb 2022 16:44 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18959_OPR001 **UTP:** 25-Feb-2022 09:03:33 PSW **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 662-354-XDJ

Datafile: 220224C02 **Report:** 25 Feb 2022 09:05 pw **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.52		-	-	-	2.33E+07	0.82	Y	-	-
JS 1234-TCDF	25.93		-	-	-	3.65E+07	0.80	Y	-	-
JS 123467-HxCDD	37.86		-	-	-	9.81E+06	1.25	Y	-	-
CS 37Cl-2378-TCDD	28.21		1.0251	1.0252	+0.2	1.01E+07	n/a	-	1.20	90.2
CS 12347-PeCDD	33.09		1.2016	1.2025	+1.8	1.79E+07	1.63	Y	0.75	102
CS 12346-PeCDF	31.60		1.2172	1.2185	+2.5	2.91E+07	1.61	Y	0.85	93.6
CS 123469-HxCDF	36.98		0.9771	0.9769	-0.4	2.39E+07	0.53	Y	1.12	109
CS 1234689-HpCDF	40.17		1.0608	1.0611	+0.7	1.79E+07	0.45	Y	0.89	103
~~SS 37Cl-2378-TCDD~~	~~28.21~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.01E+07~~	~~n/a~~		~~1.15~~	~~101~~
~~SS 12347-PeCDD~~	~~33.09~~		~~1.2016~~	~~1.2025~~	~~+1.8~~	~~1.79E+07~~	~~1.63~~	~~Y~~	~~0.86~~	~~112~~
~~SS 12346-PeCDF~~	~~31.60~~		~~1.2172~~	~~1.2185~~	~~+2.5~~	~~2.91E+07~~	~~1.61~~	~~Y~~	~~0.94~~	~~100~~
~~SS 123469-HxCDF~~	~~36.98~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~2.39E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~114~~
~~SS 1234689-HpCDF~~	~~40.17~~		~~1.0608~~	~~1.0611~~	~~+0.7~~	~~1.79E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~96.7~~

Totals	Conc	EMPC
Total TCDD	48.8	48.8
Total PeCDD	72.5	72.5
Total HxCDD	173	173
Total HpCDD	63.8	63.8
Total Tetra-Octa Dioxins	464	464
Total TCDF	56.4	56.4
Total PeCDF	201	201
Total HxCDF	307	307
Total HpCDF	102	102
Total Tetra-Octa Furans	769	769
Total Tetra-Octa Dioxins & Furans	1230	1230

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.813	0.82
Response	3.06E+06	3.05E+06

Lab ID: OPR1_18959_DF **Acq'd: 24 Feb 2022 16:44 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18959_OPR001 **UTP: 25-Feb-2022 09:03:33 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 662-354-XDJ**

Datafile: 220224C02 **Report: 25 Feb 2022 09:05 pw** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.50		0.8701	0.8693	-1.2	3.44E+06	0.81	Y	1.18	13.3	3364.701	0.144
1379-TCDD	NotFnd		0.8829						1.18		3364.701	0.144
1369-TCDD	NotFnd		0.8982						1.18		3364.701	0.144
1469-TCDD	NotFnd		0.9261						1.18		3364.701	0.144
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		3364.701	0.144
1378-TCDD	NotFnd		0.9417						1.18		3364.701	0.144
1268-TCDD	NotFnd		0.9487						1.18		3364.701	0.144
1478-TCDD	NotFnd		0.9576						1.18		3364.701	0.144
1279-TCDD	NotFnd		0.9636						1.18		3364.701	0.144
1234/1269-TCDD	NotFnd		0.9761						1.18		3364.701	0.144
1236-TCDD	NotFnd		0.9812						1.18		3364.701	0.144
1237/1238-TCDD	NotFnd		0.9905						1.18		3364.701	0.144
1239-TCDD	28.05		0.9951	0.9951	0	2.51E+06	0.85	Y	1.18	9.71	3364.701	0.144
2378-TCDD	**28.21**		**1.0008**	1.0008	**0**	3.05E+06	0.82	Y	**1.18**	**11.8**	**3364.701**	**0.144**
1278-TCDD	NotFnd		1.0124						1.18		3364.701	0.144
1267-TCDD	NotFnd		1.0172						1.18		3364.701	0.144
1289-TCDD	29.20		1.0354	1.0358	+0.7	3.61E+06	0.81	Y	1.18	14	3364.701	0.144
12479/12468-PeCDD	31.09		0.9255	0.9253	-0.4	1.99E+06	1.58	Y	1.04	10.3	4693.998	0.211
12469-PeCDD	NotFnd		0.9416						1.04		4693.998	0.211
12368-PeCDD	NotFnd		0.9582						1.04		4693.998	0.211
12478-PeCDD	NotFnd		0.9637						1.04		4693.998	0.211
12379-PeCDD	NotFnd		0.9668						1.04		4693.998	0.211
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		4693.998	0.211
12346/12347-PeCDD	NotFnd		0.9858						1.04		4693.998	0.211
12378-PeCDD	33.62		**1.0007**	**1.0006**	**-0.2**	**9.72E+06**	**1.56**	**Y**	**1.04**	**50.5**	**4693.998**	**0.211**
12367-PeCDD	NotFnd		1.0036						1.04		4693.998	0.211
12389-PeCDD	34.06		1.0137	1.0137	0	2.24E+06	1.60	Y	1.04	11.6	4693.998	0.211
124679/124689-HxCDD	35.81		0.9540	0.9539	-0.2	2.47E+06	1.26	Y	1.10	11.8	4319.102	0.187
123468-HxCDD	NotFnd		0.9715						1.10		4319.102	0.187
123679/123689-HxCDD	NotFnd		0.9793						1.10		4319.102	0.187
123469-HxCDD	NotFnd		0.9829						1.10		4319.102	0.187
123478-HxCDD	37.55		**1.0004**	**1.0004**	**0**	**1.07E+07**	**1.24**	**Y**	1.09	**52.3**	**4319.102**	**0.188**
123678-HxCDD	37.67		**1.0036**	**1.0037**	**+0.2**	**1.24E+07**	**1.27**	**Y**	1.15	**56.5**	**4319.102**	**0.181**
123467-HxCDD	NotFnd		1.0089						1.10		4319.102	0.187
123789-HxCDD	37.98		**1.0118**	**1.0118**	**0**	**1.06E+07**	**1.23**	**Y**	1.05	**52**	**4319.102**	**0.193**

Lab ID: OPR1_18959_DF **Acq'd: 24 Feb 2022 16:44 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18959_OPR001 **UTP: 25-Feb-2022 09:03:33 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 662-354-XDJ**

Datafile: 220224C02 **Report: 25 Feb 2022 09:05 pw** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.04		0.9836	0.9836	0	2.01E+06	1.05	Y	1.06	10.8	4247.943	0.2
1234678-HpCDD	**40.72**		**1.0002**	**1.0003**	**+0.2**	**9.83E+06**	**1.04**	**Y**	**1.06**	**52.9**	**4247.943**	**0.2**
OCDD	**43.42**		**1.0003**	**1.0002**	**-0.3**	**1.41E+07**	**0.89**	**Y**	**1.13**	**106**	**3233.249**	**0.3**
OCDD-a	43.42		1.0002	1.0003	+0.3	9.88E+05	2.38	Y	0.07	116	4679.409	6.79
1368-TCDF	22.34		0.8191	0.8177	-1.9	4.74E+06	0.78	Y	1.08	13.6	4077.491	0.129
1468-TCDF	NotFnd		0.8408						1.08		4077.491	0.129
2468-TCDF	23.59		0.8645	0.8636	-1.3	1.24E+06	0.79	Y	1.08	3.56	4077.491	0.129
1346/1246-TCDF	NotFnd		0.8772						1.08		4077.491	0.129
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		4077.491	0.129
1348-TCDF	NotFnd		0.8932						1.08		4077.491	0.129
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		4077.491	0.129
1268-TCDF	NotFnd		0.9119						1.08		4077.491	0.129
1467-TCDF	NotFnd		0.9170						1.08		4077.491	0.129
1478-TCDF	NotFnd		0.9234						1.08		4077.491	0.129
1369/1237-TCDF	NotFnd		0.9369						1.08		4077.491	0.129
2467-TCDF	NotFnd		0.9415						1.08		4077.491	0.129
2368-TCDF	NotFnd		0.9475						1.08		4077.491	0.129
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		4077.491	0.129
1278-TCDF	NotFnd		0.9676						1.08		4077.491	0.129
1349-TCDF	NotFnd		0.9722						1.08		4077.491	0.129
1267-TCDF	NotFnd		0.9777						1.08		4077.491	0.129
2346/1249-TCDF	NotFnd		0.9843						1.08		4077.491	0.129
2347/1279-TCDF	NotFnd		0.9926						1.08		4077.491	0.129
2348-TCDF	27.23		0.9968	0.9968	0	4.57E+06	0.83	Y	1.08	13.1	4077.491	0.129
2378-TCDF	**27.34**		**1.0008**	**1.0009**	**+0.2**	**3.95E+06**	**0.73**	**Y**	**1.08**	**11.3**	**4077.491**	**0.129**
2367/3467-TCDF	NotFnd		1.0142						1.08		4077.491	0.129
1269-TCDF	NotFnd		1.0235						1.08		4077.491	0.129
1239-TCDF	NotFnd		1.0329						1.08		4077.491	0.129
1289-TCDF	29.37		1.0742	1.0750	+1.4	5.19E+06	0.78	Y	1.08	14.9	4077.491	0.129
13468/12468-PeCDF	29.29		0.9122	0.9115	-1.2	2.64E+07	1.52	Y	1.02	90	2272.82	0.0708
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		6459.607	0.201
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		6459.607	0.201
14678-PeCDF	NotFnd		0.9685						1.02		6459.607	0.201
13479-PeCDF	NotFnd		0.9716						1.02		6459.607	0.201
13469/12479-PeCDF	NotFnd		0.9794						1.02		6459.607	0.201
12346-PeCDF	NotFnd		0.9836						1.02		6459.607	0.201

Lab ID: OPR1_18959_DF **Acq'd: 24 Feb 2022 16:44 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18959_OPR001 **UTP: 25-Feb-2022 09:03:33 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 662-354-XDJ**

Datafile: 220224C02 **Report: 25 Feb 2022 09:05 pw** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		6459.607	0.201
12347-PeCDF	NotFnd		0.9891						1.02		6459.607	0.201
12348-PeCDF	NotFnd		0.9938						1.02		6459.607	0.201
12378-PeCDF	**32.15**		**1.0005**	**1.0005**	**0**	**1.45E+07**	**1.52**	**Y**	**1.02**	**48.8**	**6459.607**	**0.204**
12678/12367-PeCDF	NotFnd		1.0091						1.02		6459.607	0.201
12379-PeCDF	NotFnd		1.0144						1.02		6459.607	0.201
12679-PeCDF	NotFnd		0.9927						1.02		6459.607	0.201
23467/12369-PeCDF	NotFnd		0.9965						1.02		6459.607	0.201
23478-PeCDF	**33.27**		**1.0005**	**1.0005**	**0**	**1.52E+07**	**1.55**	**Y**	**1.02**	**52.2**	**6459.607**	**0.198**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6459.607	0.201
12349-PeCDF	NotFnd		1.0101						1.02		6459.607	0.201
12389-PeCDF	34.36		1.0330	1.0331	+0.2	2.90E+06	1.62	Y	1.02	9.88	6459.607	0.201
123468-HxCDF	35.15		0.9622	0.9622	0	2.87E+07	1.21	Y	1.19	103	8824.948	0.269
124678/134678-HxCDF	NotFnd		0.9678						1.19		8824.948	0.269
134679-HxCDF	NotFnd		0.9741						1.19		8824.948	0.269
124679-HxCDF	NotFnd		0.9795						1.19		8824.948	0.269
124689-HxCDF	NotFnd		0.9856						1.19		8824.948	0.269
123467-HxCDF	NotFnd		0.9972						1.19		8824.948	0.269
123478-HxCDF	**36.55**		**1.0004**	**1.0004**	**0**	**1.36E+07**	**1.21**	**Y**	**1.27**	**51.2**	**8824.948**	**0.26**
123678-HxCDF	**36.69**		**1.0004**	**1.0005**	**+0.2**	**1.45E+07**	**1.24**	**Y**	**1.15**	**49.7**	**8824.948**	**0.258**
123479-HxCDF	NotFnd		1.0048						1.19		8824.948	0.269
123469-HxCDF	NotFnd		1.0089						1.19		8824.948	0.269
123679-HxCDF	NotFnd		0.9942						1.19		8824.948	0.269
234678-HxCDF	**37.37**		**1.0005**	**1.0005**	**0**	**1.78E+07**	**1.19**	**Y**	**1.19**	**54.6**	**8824.948**	**0.251**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		8824.948	0.269
123789-HxCDF	**38.34**		**1.0004**	**1.0004**	**0**	**1.15E+07**	**1.20**	**Y**	**1.16**	**49.3**	**8824.948**	**0.319**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		8824.948	0.269
1234678-HpCDF	**39.78**		**1.0003**	**1.0003**	**0**	**1.38E+07**	**1.06**	**Y**	**1.37**	**49.8**	**6412.51**	**0.164**
1234679-HpCDF	NotFnd		1.0068						1.34		6412.51	0.211
1234689-HpCDF	NotFnd		1.0104						1.34		6412.51	0.211
1234789-HpCDF	**41.17**		**1.0003**	**1.0003**	**0**	**1.01E+07**	**1.04**	**Y**	**1.31**	**52**	**6412.51**	**0.276**
OCDF	**43.59**		**1.0002**	**1.0003**	**+0.3**	**1.63E+07**	**0.91**	**Y**	**1.07**	**103**	**4093.802**	**0.337**
OCDF-a	43.59	**EMPC**	1.0001	1.0002	+0.3	9.90E+05	2.11	N	0.07	101	3868.615	5.15

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220224C02	Analysis Date:	24-FEB-2022 16:44:22
Lab ID:	OPR1_18959_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.8	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	50.5	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	52.3	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	56.5	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	52	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	52.9	35	-	70	Y
OCDD	100	106	78	-	144	Y
2,3,7,8-TCDF	10	11.3	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	48.8	40	-	67	Y
2,3,4,7,8-PeCDF	50	52.2	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	51.2	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	49.7	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	54.6	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	49.3	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	49.8	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	52	39	-	69	Y
OCDF	100	103	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 25 Feb 2022 09:05 Analyst: pw

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220224C02	Analysis Date:	24-FEB-2022 16:44:22
Lab ID:	OPR1_18959_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	89.5	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	90.7	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	98	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	103	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	90.8	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	97.8	26	-	166	Y
13C-OCDD	200	193	26	-	397	Y
13C-2,3,7,8-TCDF	100	83.7	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	86.9	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	88.4	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	88.7	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	95.6	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	112	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	88.7	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	106	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	89.1	20	-	186	Y
13C-OCDF	200	187	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	36.1	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 25 Feb 2022 09:05 Analyst: pw

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220224C02	Analysis Date:	24-FEB-2022 16:44:22
Lab ID:	OPR1_18959_DF		

Window Defining Standards Results

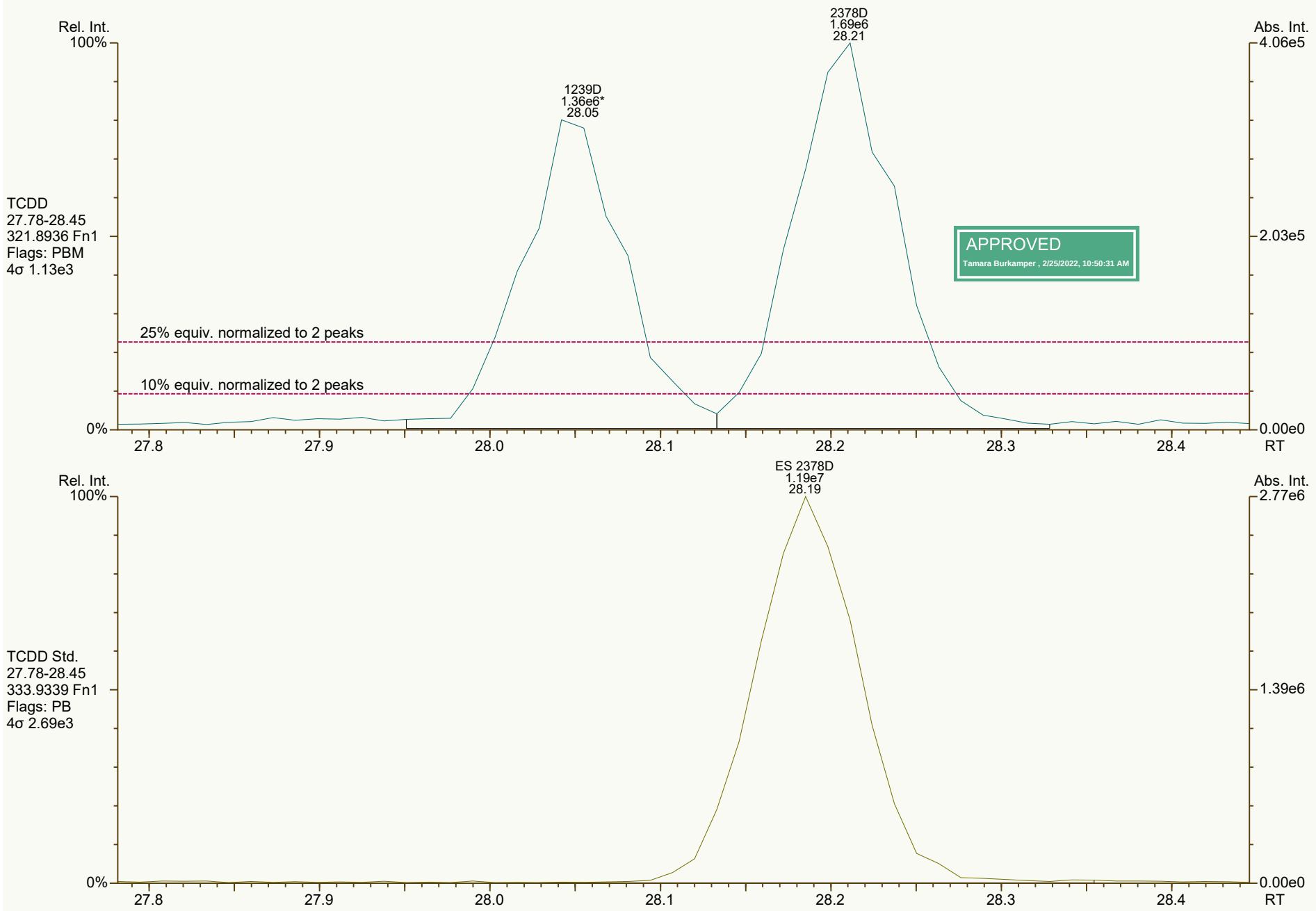
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.50	1289-TCDD	29.20
12479/12468-PeCDD	31.09	12389-PeCDD	34.06
124679/124689-HxCDD	35.81	123789-HxCDD	37.98
1234679-HpCDD	40.04	1234678-HpCDD	40.72
1368-TCDF	22.34	1289-TCDF	29.37
13468/12468-PeCDF	29.29	12389-PeCDF	34.36
123468-HxCDF	35.15	123789-HxCDF	38.34
1234678-HpCDF	39.78	1234789-HpCDF	41.17

Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.05	2378-TCDD	28.21
2348-TCDF	27.23	2378-TCDF	27.34

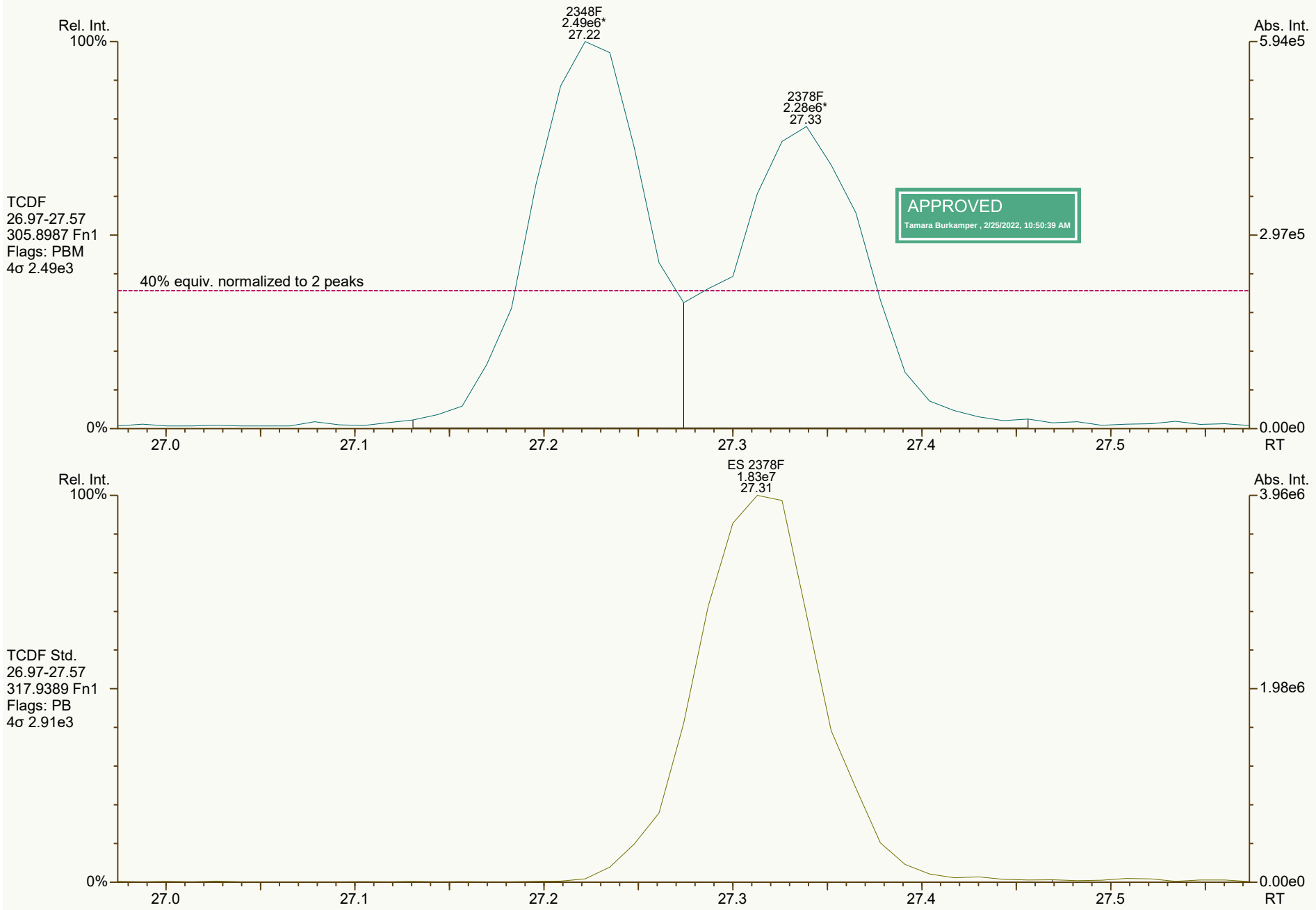
Processed: 25 Feb 2022 09:05 Analyst: pw

SGS ID: OPR1_18959_DF
Sample ID: 0_18959_OPR001
Acq: 24-Feb-2022 16:44:22
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 34
User: DTF Datafile: 220224C02



Results: P:\B6300_B6399\B6335\B6335_18959 DF\Resources\OPR1_18959_DF.utp_res, saved 25-Feb-2022 09:03 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
PKD: 25-Feb-2022 08:39 Printed: 25-Feb-2022 09:10

SGS ID: OPR1_18959_DF
Sample ID: 0_18959_OPR001
Acq: 24-Feb-2022 16:44:22
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 34
User: DTF Datafile: 220224C02



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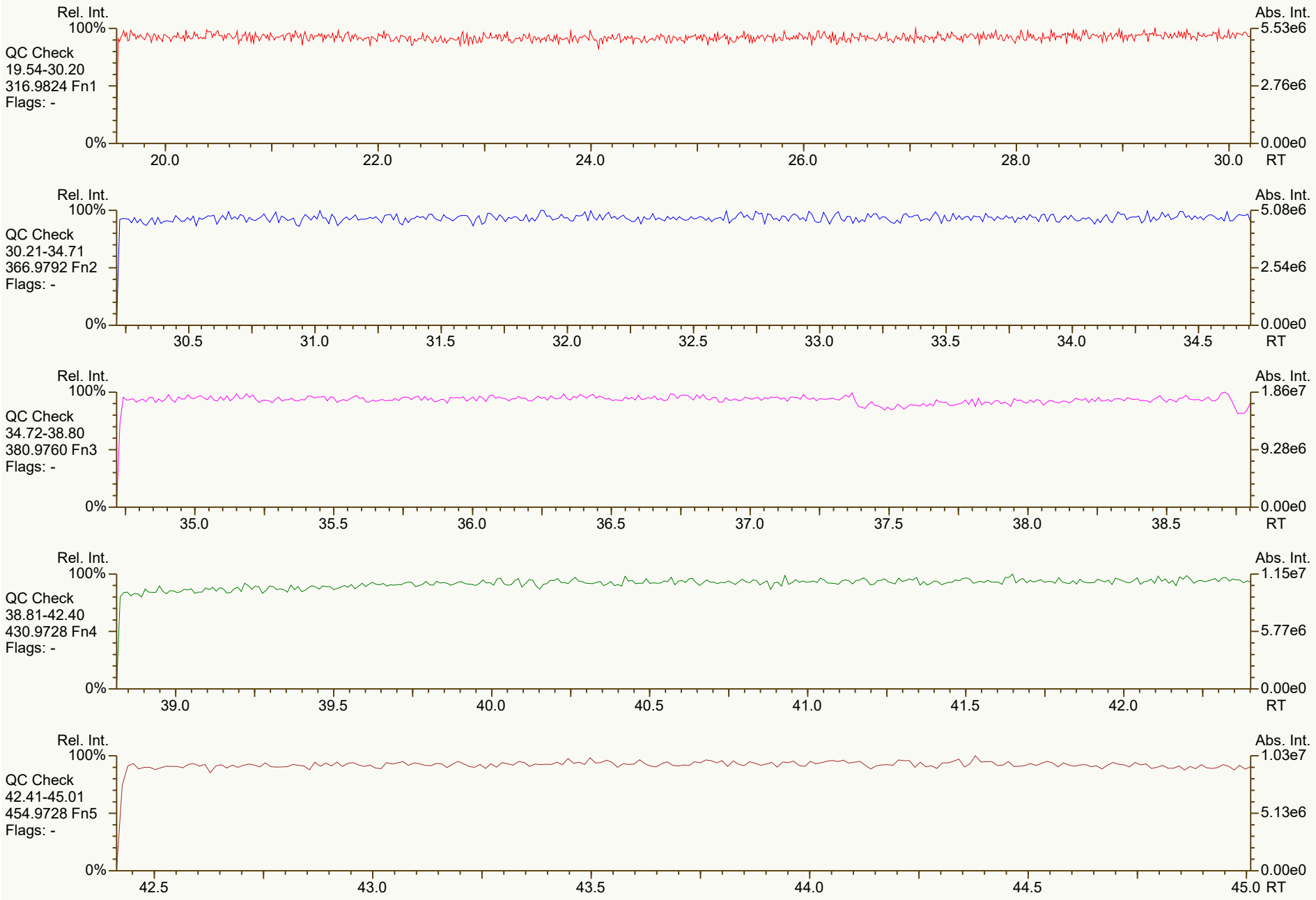
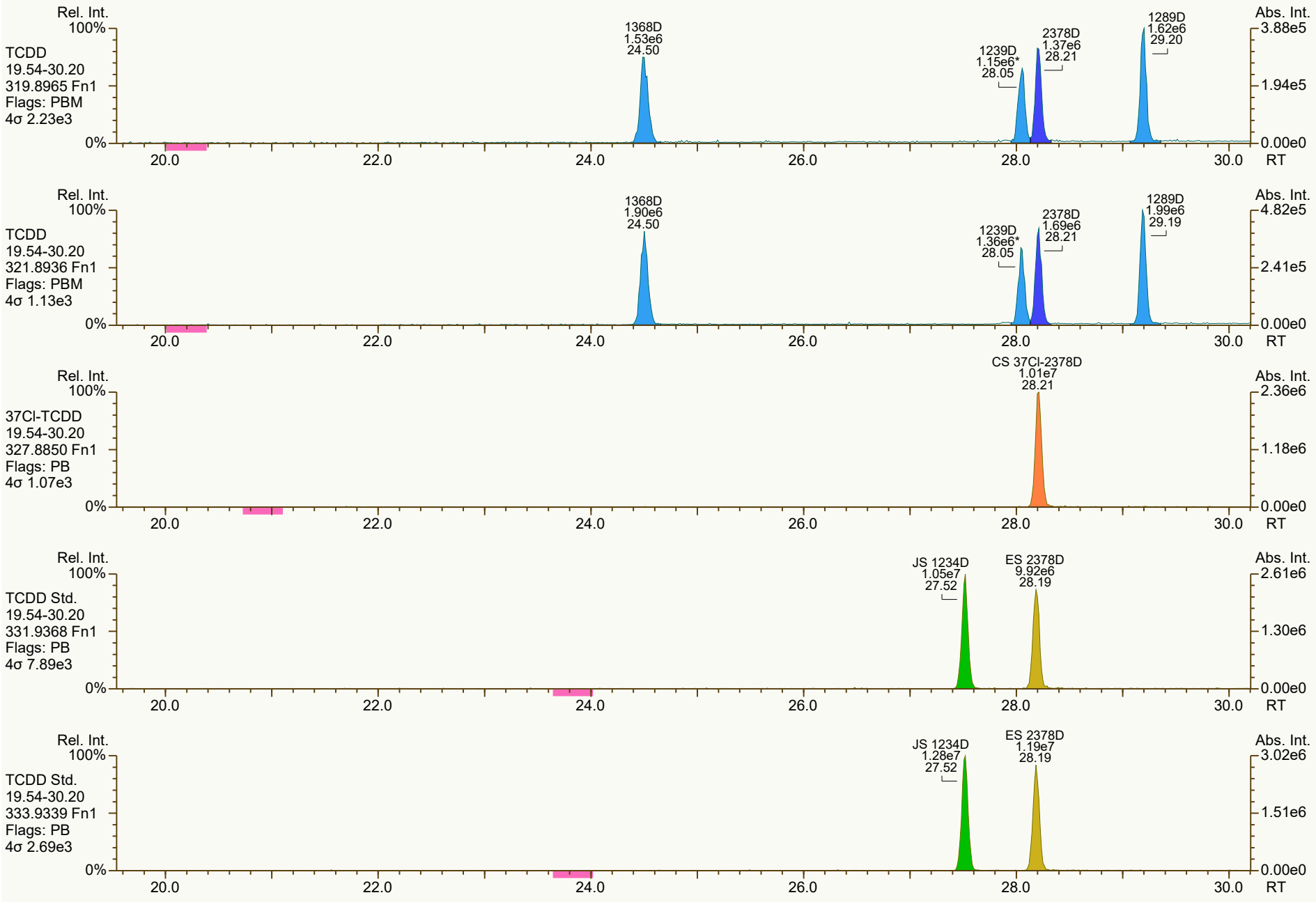
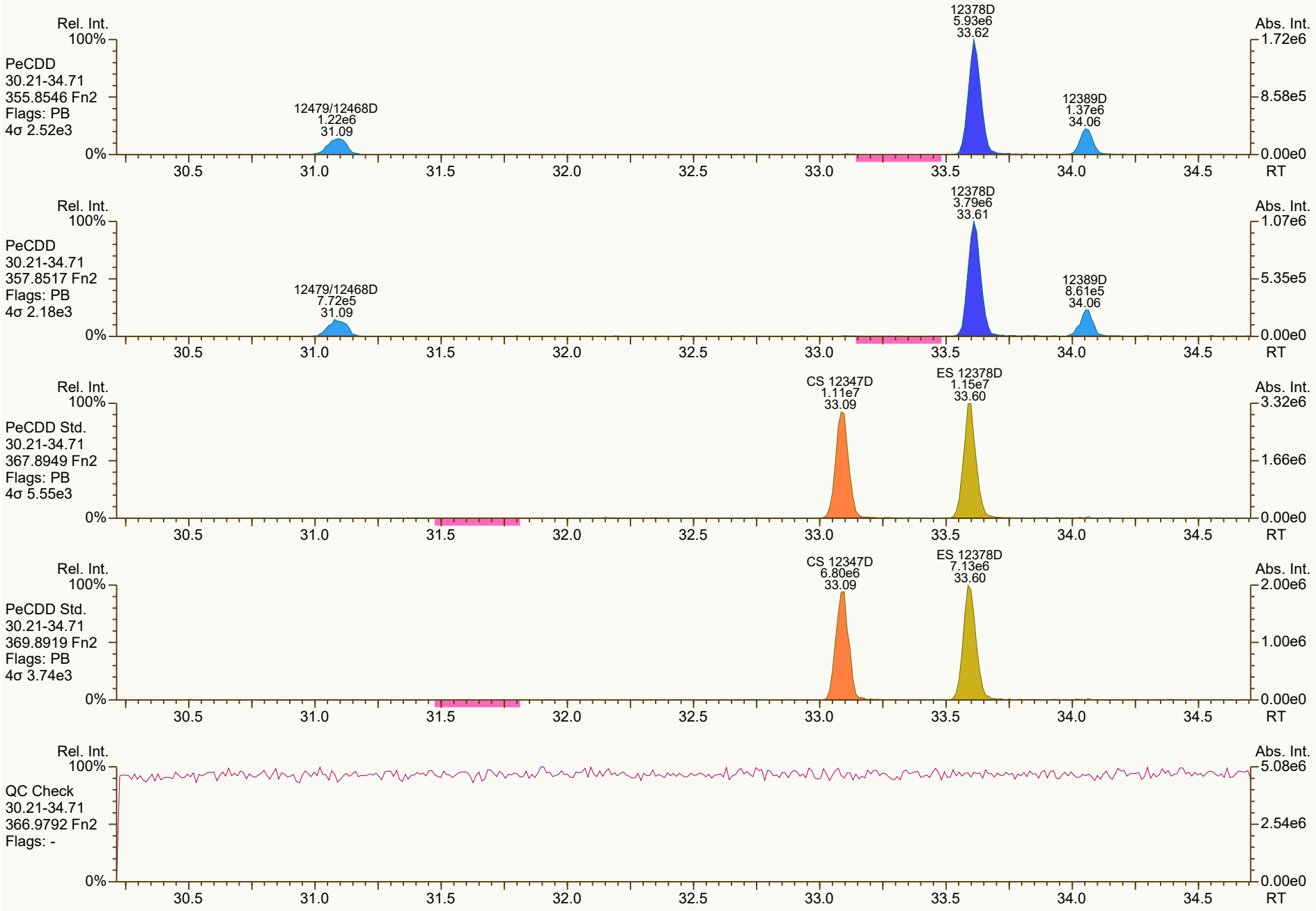
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
PKD: 25-Feb-2022 08:39 Printed: 25-Feb-2022 09:10


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
5.53e6
2.76e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
5.08e6
2.54e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.86e7
9.28e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.15e7
5.77e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.03e7
5.13e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.23e3
0%
1368D
1.53e6
24.50
1239D
1.15e6*
28.05
2378D
1.37e6
28.21
1289D
1.62e6
29.20
Abs. Int.
3.88e5
1.94e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.13e3
0%
1368D
1.90e6
24.50
1239D
1.36e6*
28.05
2378D
1.69e6
28.21
1289D
1.99e6
29.19
Abs. Int.
4.82e5
2.41e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.07e3
0%
CS 37Cl-2378D
1.01e7
28.21
Abs. Int.
2.36e6
1.18e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 7.89e3
0%
JS 1234D
1.05e7
27.52
ES 2378D
9.92e6
28.19
Abs. Int.
2.61e6
1.30e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.69e3
0%
JS 1234D
1.28e7
27.52
ES 2378D
1.19e7
28.19
Abs. Int.
3.02e6
1.51e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 2.52e3
12479/12468D
1.22e6
31.09
12378D
5.93e6
33.62
12389D
1.37e6
34.06
Abs. Int.
1.72e6
8.58e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 2.18e3
12479/12468D
7.72e5
31.09
12378D
3.79e6
33.61
12389D
8.61e5
34.06
Abs. Int.
1.07e6
5.35e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 5.55e3
CS 12347D
1.11e7
33.09
ES 12378D
1.15e7
33.60
Abs. Int.
3.32e6
1.66e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 3.74e3
CS 12347D
6.80e6
33.09
ES 12378D
7.13e6
33.60
Abs. Int.
2.00e6
1.00e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Abs. Int.
5.08e6
2.54e6
0.00e0
0%
30.5
31.0
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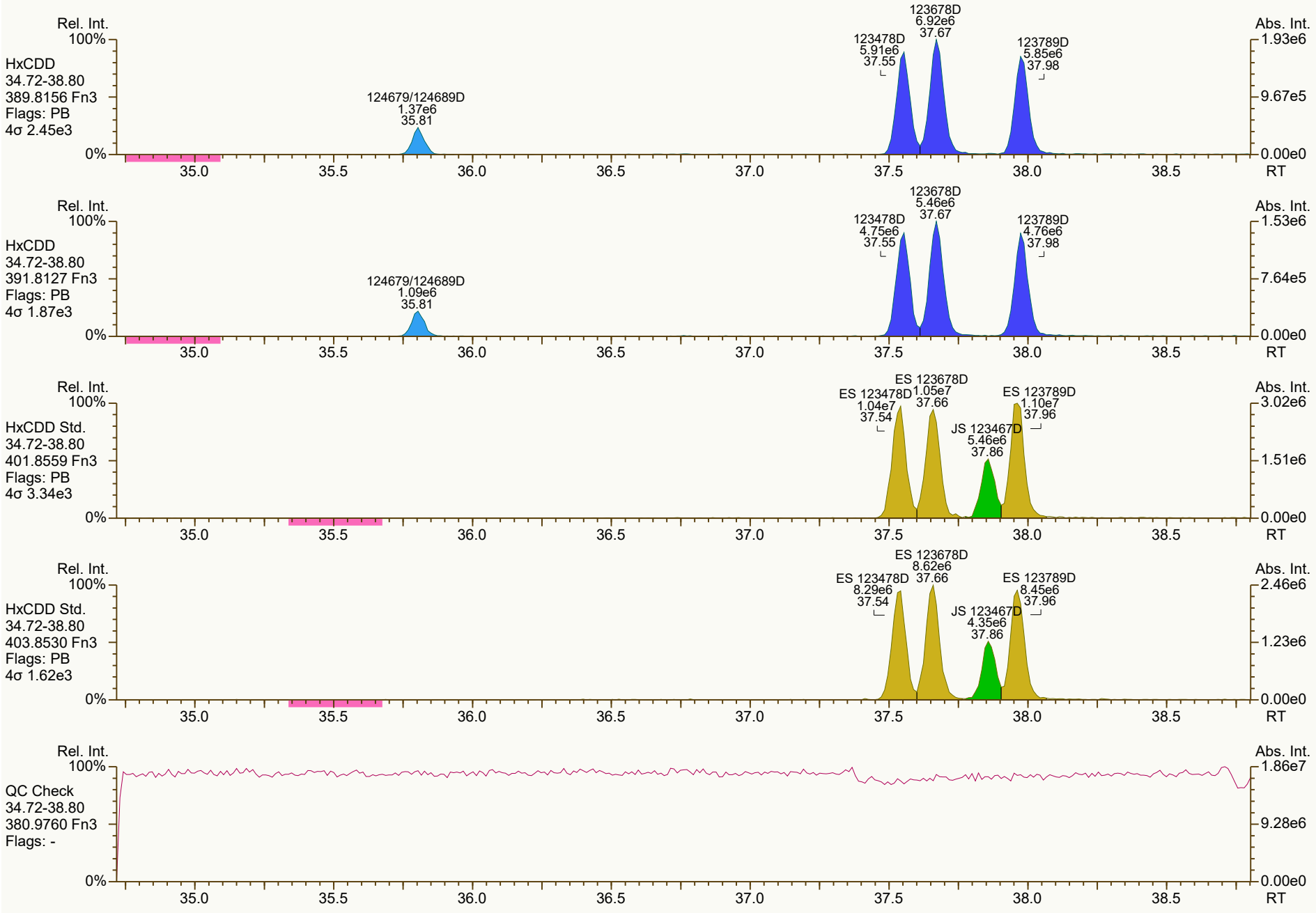
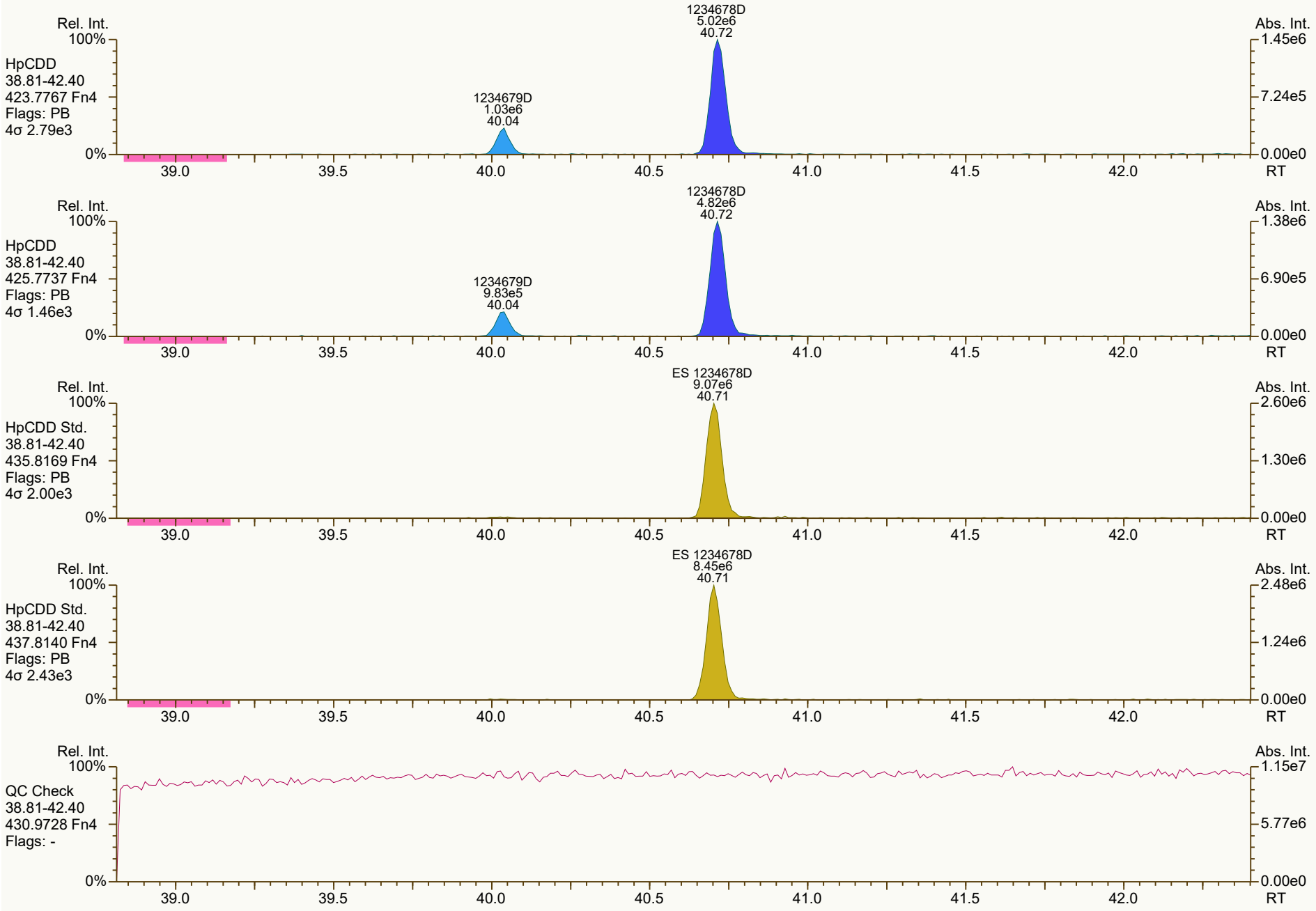
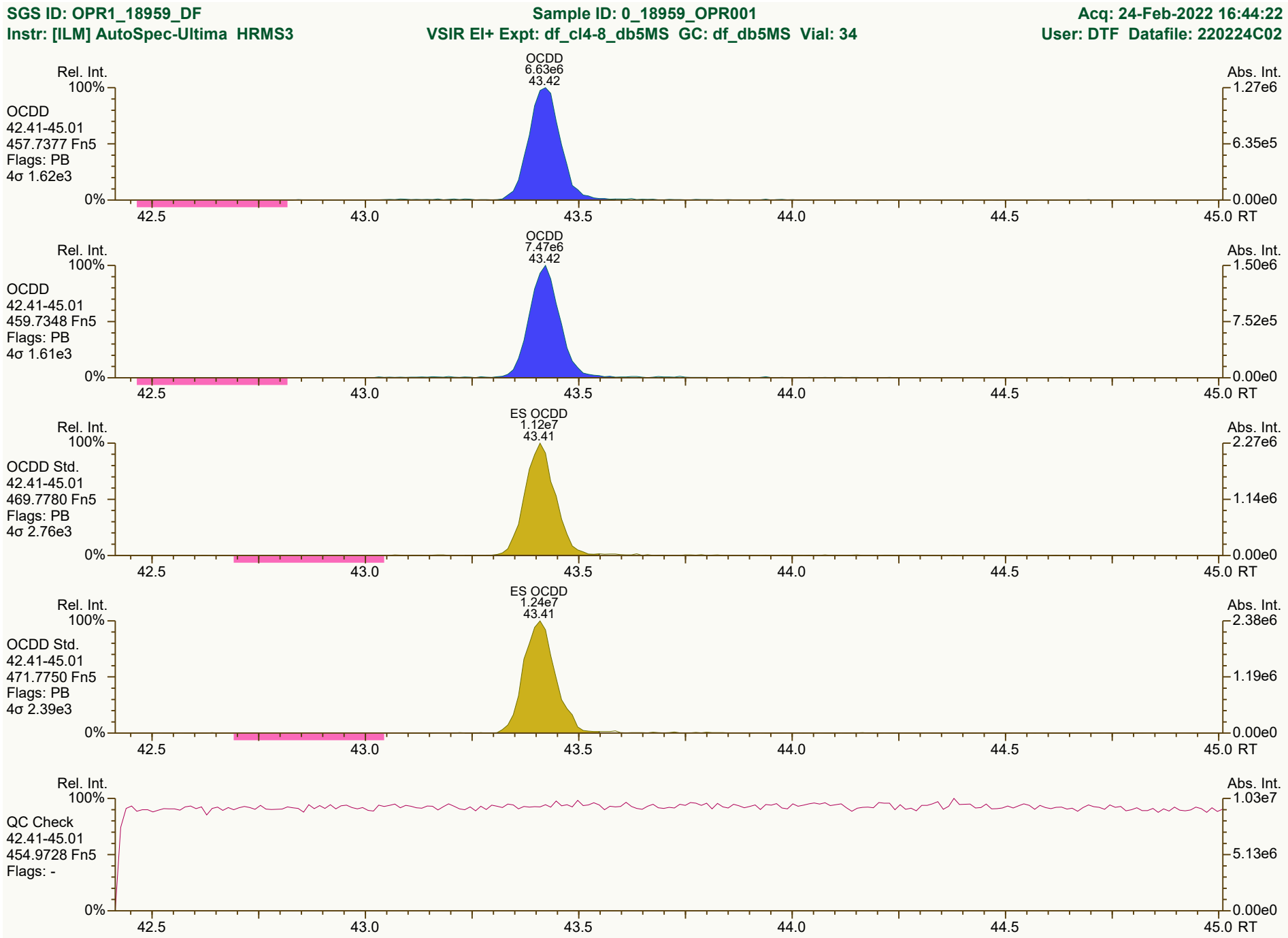
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 2.45e3
0%
124679/124689D
1.37e6
35.81
123478D
5.91e6
37.55
123678D
6.92e6
37.67
123789D
5.85e6
37.98
Abs. Int.
1.93e6
9.67e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.87e3
0%
124679/124689D
1.09e6
35.81
123478D
4.75e6
37.55
123678D
5.46e6
37.67
123789D
4.76e6
37.98
Abs. Int.
1.53e6
7.64e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 3.34e3
0%
ES 123478D
1.04e7
37.54
ES 123678D
1.05e7
37.66
JS 123467D
5.46e6
37.86
ES 123789D
1.10e7
37.96
Abs. Int.
3.02e6
1.51e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 1.62e3
0%
ES 123478D
8.29e6
37.54
ES 123678D
8.62e6
37.66
JS 123467D
4.35e6
37.86
ES 123789D
8.45e6
37.96
Abs. Int.
2.46e6
1.23e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.86e7
9.28e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 2.79e3
1234678D
5.02e6
40.72
1234679D
1.03e6
40.04
Abs. Int.
1.45e6
7.24e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.46e3
1234678D
4.82e6
40.72
1234679D
9.83e5
40.04
Abs. Int.
1.38e6
6.90e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 2.00e3
ES 1234678D
9.07e6
40.71
Abs. Int.
2.60e6
1.30e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.43e3
ES 1234678D
8.45e6
40.71
Abs. Int.
2.48e6
1.24e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.15e7
5.77e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT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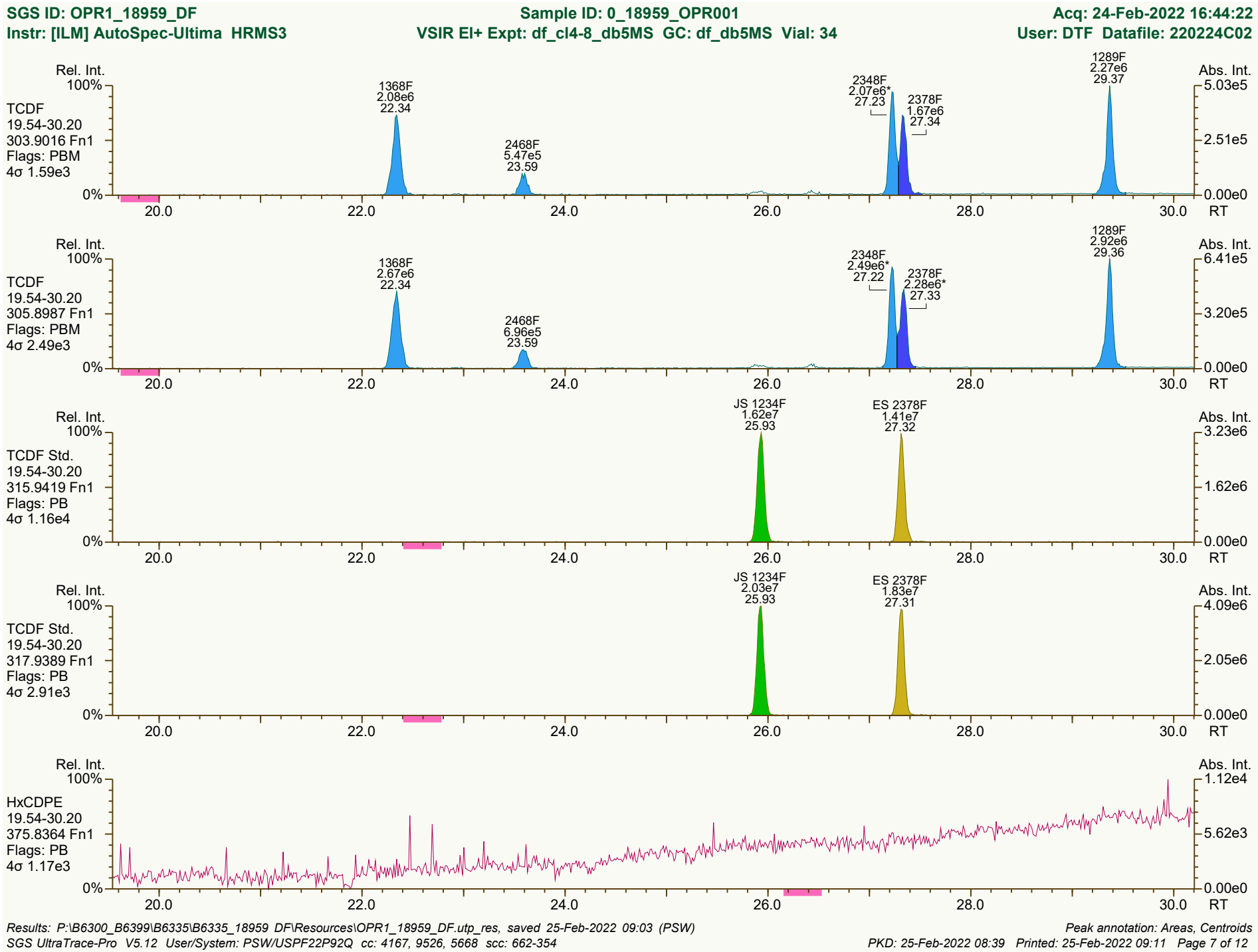
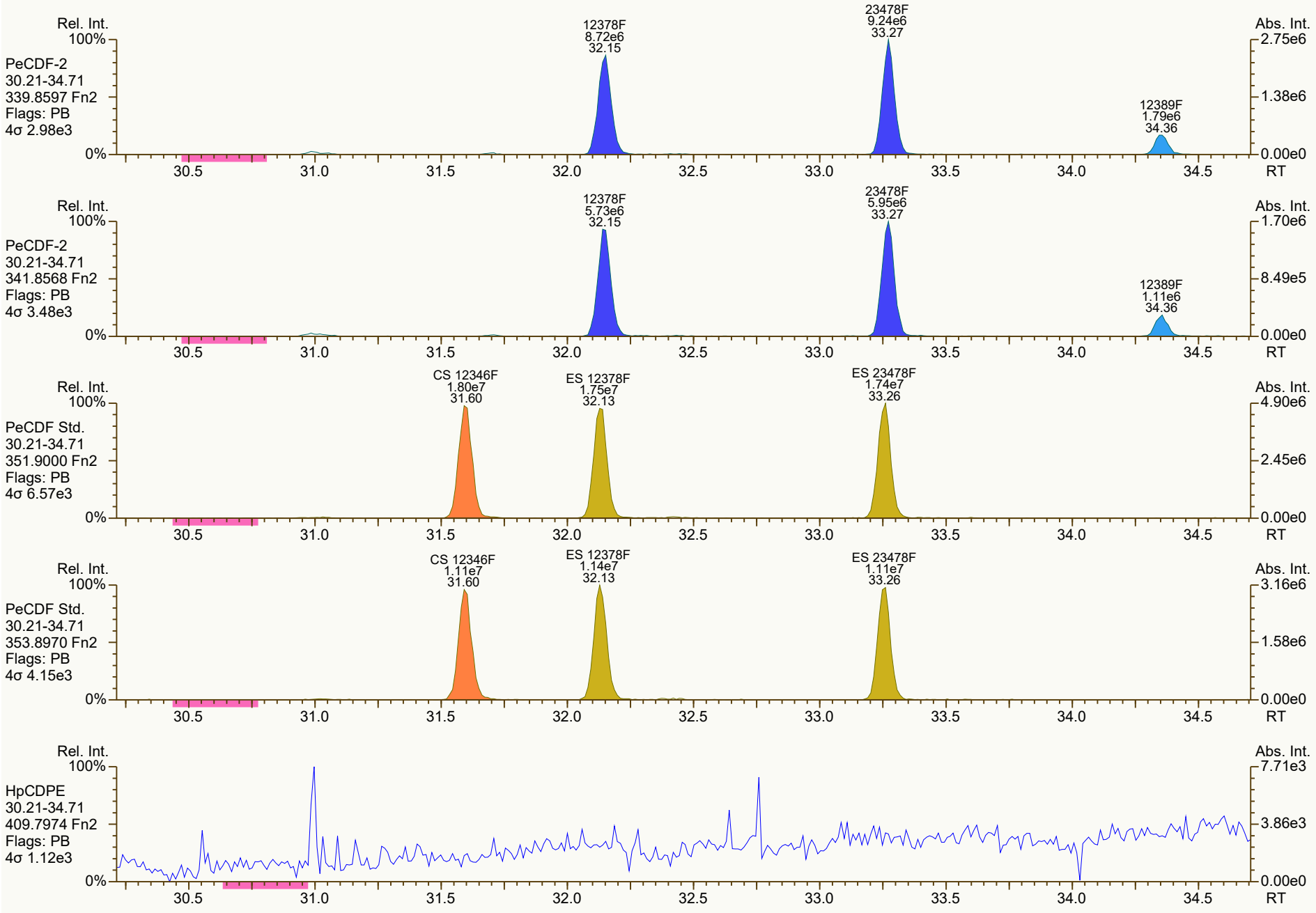
Sample ID: 0_18959_OPR001
Acq: 24-Feb-2022 16:44:22
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 34
User: DTF Datafile: 220224C02
OCDD
6.63e6
43.42
Rel. Int.
Abs. Int.
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 1.62e3
OCDD
7.47e6
43.42
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 1.61e3
ES OCDD
1.12e7
43.41
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 2.76e3
ES OCDD
1.24e7
43.41
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 2.39e3
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
RT
Results: P:\B6300_B6399\B6335\B6335_18959 DF\Resources\OPR1_18959_DF.utp_res, saved 25-Feb-2022 09:03 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6679, 9141 scc: 662-354
PKD: 25-Feb-2022 08:39 Printed: 25-Feb-2022 09:11 Page 6 of 12


SGS ID: OPR1_18959_DF
Sample ID: 0_18959_OPR001
Acq: 24-Feb-2022 16:44:22
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 34
User: DTF Datafile: 220224C02
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.59e3
1368F 2.08e6 22.34
2468F 5.47e5 23.59
2348F 2.07e6* 27.23
2378F 1.67e6 27.34
1289F 2.27e6 29.37
5.03e5
2.51e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.49e3
1368F 2.67e6 22.34
2468F 6.96e5 23.59
2348F 2.49e6* 27.22
2378F 2.28e6* 27.33
1289F 2.92e6 29.36
6.41e5
3.20e5
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 1.16e4
JS 1234F 1.62e7 25.93
ES 2378F 1.41e7 27.32
3.23e6
1.62e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.91e3
JS 1234F 2.03e7 25.93
ES 2378F 1.83e7 27.31
4.09e6
2.05e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.17e3
1.12e4
5.62e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6300_B6399\B6335\B6335_18959 DF\Resources\OPR1_18959_DF.utp_res, saved 25-Feb-2022 09:03 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4167, 9526, 5668 scc: 662-354
PKD: 25-Feb-2022 08:39 Printed: 25-Feb-2022 09:11 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.25e3
13468/12468F
1.59e7
29.29
Abs. Int.
4.07e6
2.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.02e3
13468/12468F
1.05e7
29.29
Abs. Int.
2.61e6
1.31e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
5.53e6
2.76e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 2.98e3
12378F
8.72e6
32.15
23478F
9.24e6
33.27
12389F
1.79e6
34.36
Abs. Int.
2.75e6
1.38e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 3.48e3
12378F
5.73e6
32.15
23478F
5.95e6
33.27
12389F
1.11e6
34.36
Abs. Int.
1.70e6
8.49e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 6.57e3
CS 12346F
1.80e7
31.60
ES 12378F
1.75e7
32.13
ES 23478F
1.74e7
33.26
Abs. Int.
4.90e6
2.45e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 4.15e3
CS 12346F
1.11e7
31.60
ES 12378F
1.14e7
32.13
ES 23478F
1.11e7
33.26
Abs. Int.
3.16e6
1.58e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: PB
4σ 1.12e3
Abs. Int.
7.71e3
3.86e3
0.00e0
0%
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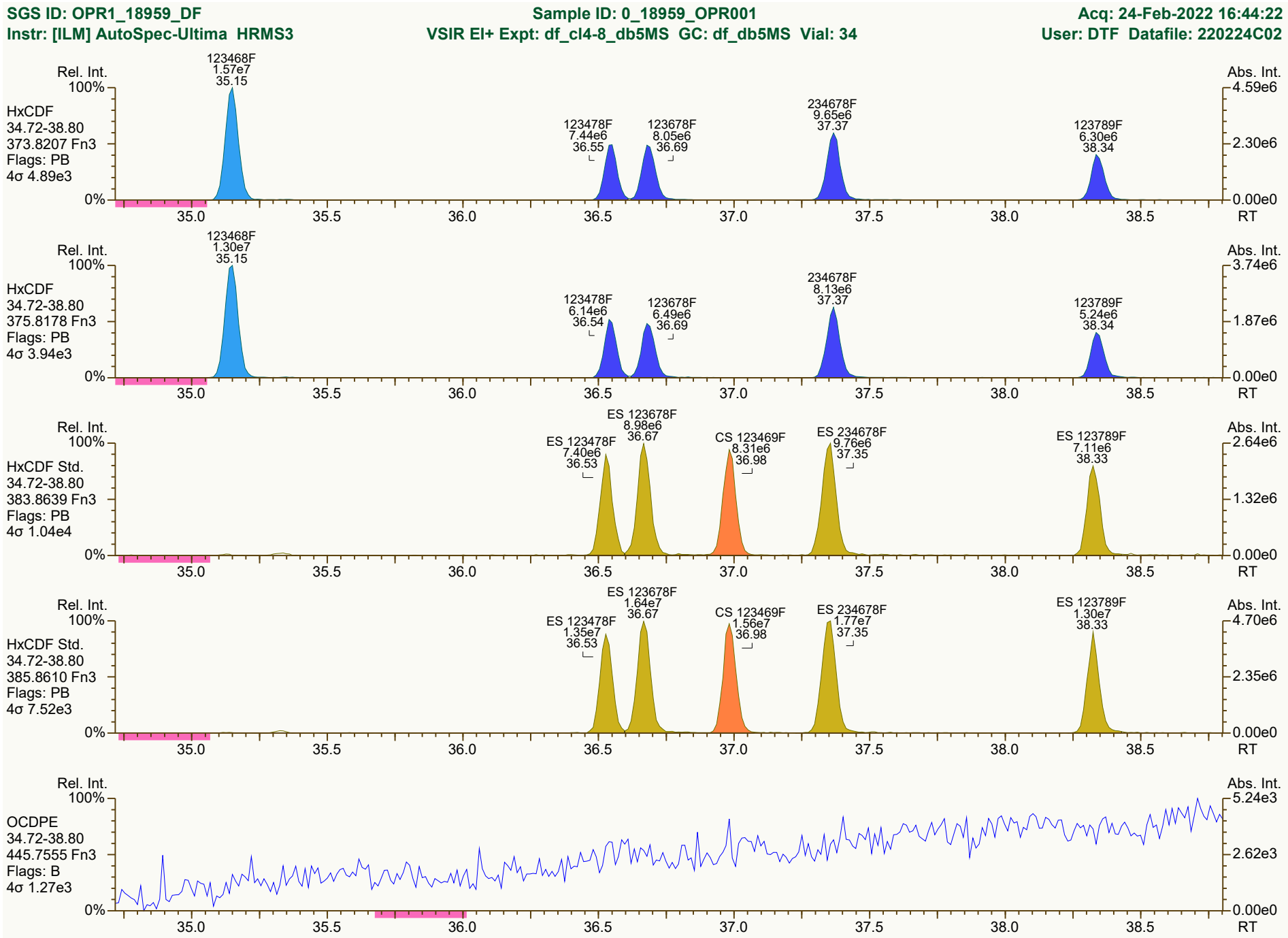
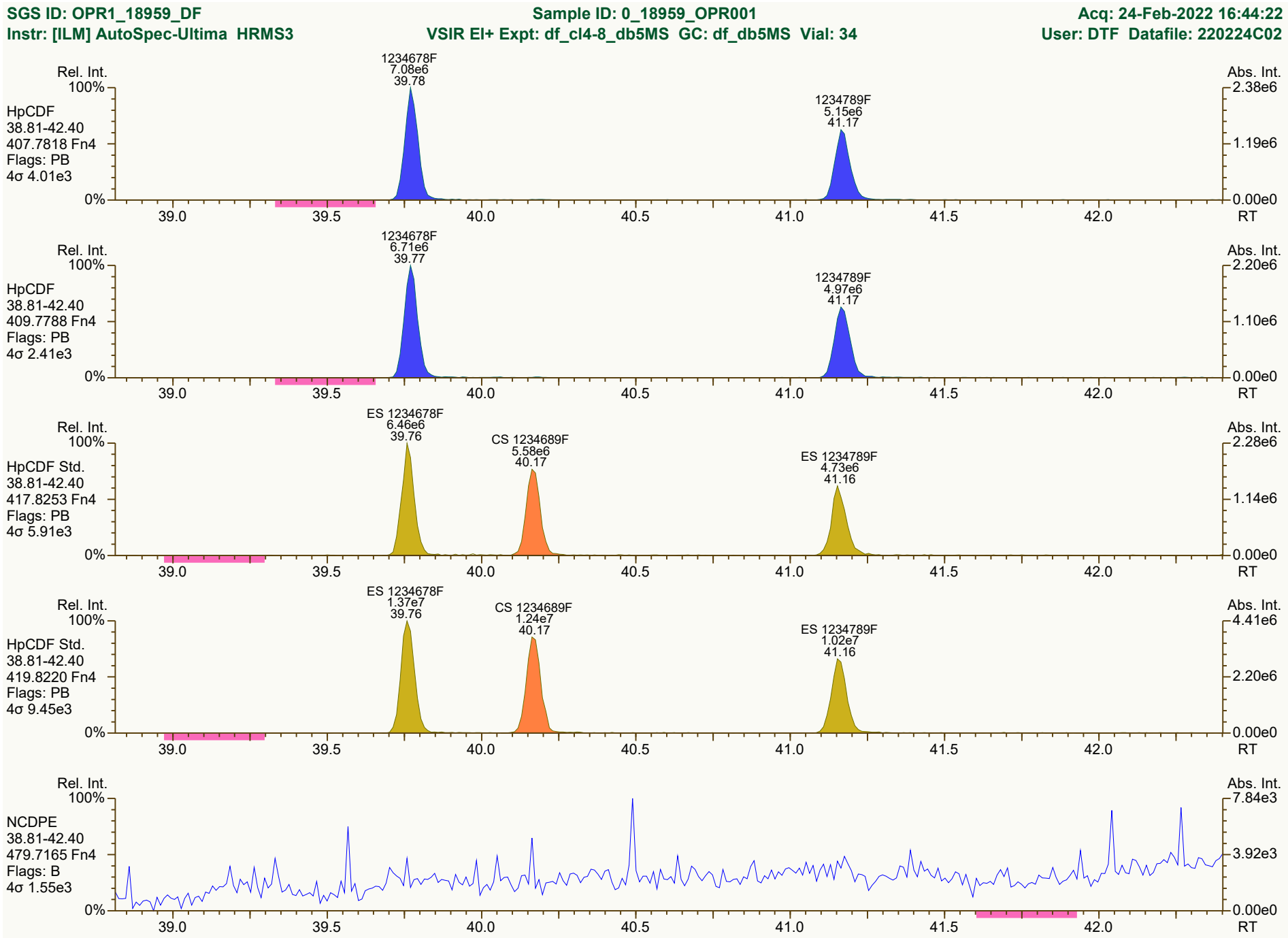
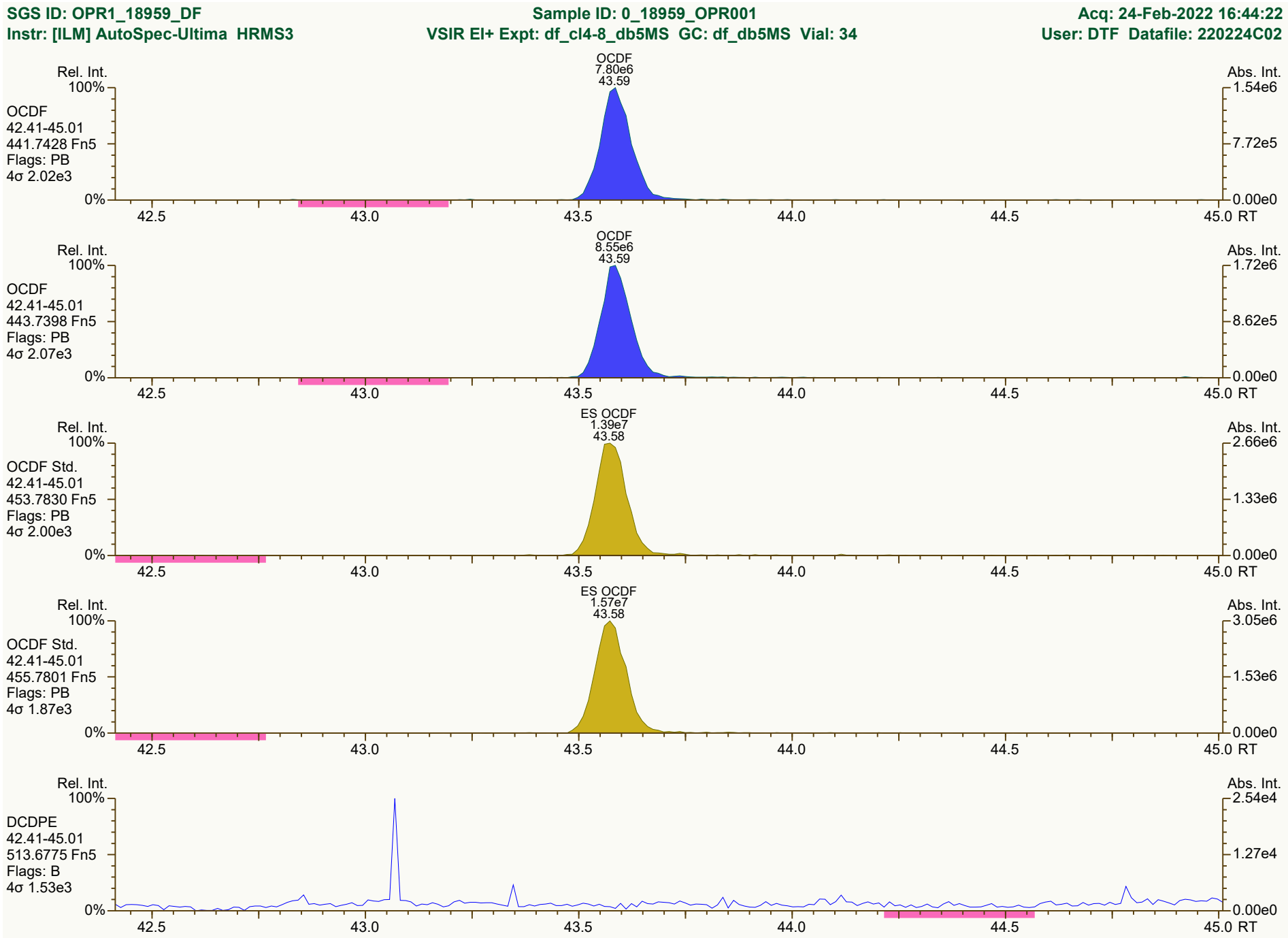
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


SGS ID: OPR1_18959_DF
Sample ID: 0_18959_OPR001
Acq: 24-Feb-2022 16:44:22
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 34
User: DTF Datafile: 220224C02
Rel. Int.
Abs. Int.
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PB
4σ 4.89e3
123468F 1.57e7 35.15
123478F 7.44e6 36.55
123678F 8.05e6 36.69
234678F 9.65e6 37.37
123789F 6.30e6 38.34
4.59e6
2.30e6
0.00e0
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PB
4σ 3.94e3
123468F 1.30e7 35.15
123478F 6.14e6 36.54
123678F 6.49e6 36.69
234678F 8.13e6 37.37
123789F 5.24e6 38.34
3.74e6
1.87e6
0.00e0
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 1.04e4
ES 123478F 7.40e6 36.53
ES 123678F 8.98e6 36.67
CS 123469F 8.31e6 36.98
ES 234678F 9.76e6 37.35
ES 123789F 7.11e6 38.33
2.64e6
1.32e6
0.00e0
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 7.52e3
ES 123478F 1.35e7 36.53
ES 123678F 1.64e7 36.67
CS 123469F 1.56e7 36.98
ES 234678F 1.77e7 37.35
ES 123789F 1.30e7 38.33
4.70e6
2.35e6
0.00e0
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.27e3
5.24e3
2.62e3
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT



Results: P:\B6300_B6399\B6335\B6335_18959 DF\Resources\OPR1_18959_DF.utp_res, saved 25-Feb-2022 09:03 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6612, 1355, 1511 scc: 662-354
PKD: 25-Feb-2022 08:39 Printed: 25-Feb-2022 09:11 Page 11 of 12


SGS ID: OPR1_18959_DF
Sample ID: 0_18959_OPR001
Acq: 24-Feb-2022 16:44:22
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 34
User: DTF Datafile: 220224C02
OCDF
7.80e6
43.59
Rel. Int.
Abs. Int.
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 2.02e3
OCDF
8.55e6
43.59
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 2.07e3
ES OCDF
1.39e7
43.58
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 2.00e3
ES OCDF
1.57e7
43.58
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 1.87e3
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.53e3
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6300_B6399\B6335\B6335_18959 DF\Resources\OPR1_18959_DF.utp_res, saved 25-Feb-2022 09:03 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0197, 1759, 8847 scc: 662-354
PKD: 25-Feb-2022 08:39 Printed: 25-Feb-2022 09:11 Page 12 of 12

Lab ID: OPR2_18959_DF **Acq'd: 24 Feb 2022 17:30 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18959_OPR002 **UTP: 25-Feb-2022 09:03:33 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 120-753-JFS**

Datafile: 220224C03 **Report: 25 Feb 2022 09:05 pw** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.21		1.0008	1.0007	-0.2	2.68E+06	0.77	Y	1.18	10.3	4297.135	0.172
12378-PeCDD	33.62		1.0007	1.0006	-0.2	9.43E+06	1.56	Y	1.04	46.7	4034.269	0.174
123478-HxCDD	37.55		1.0004	1.0005	+0.2	1.03E+07	1.25	Y	1.09	51.5	4634.744	0.199
123678-HxCDD	37.67		1.0036	1.0037	+0.2	1.19E+07	1.24	Y	1.15	52.1	4634.744	0.184
123789-HxCDD	37.98		1.0118	1.0118	0	1.02E+07	1.23	Y	1.05	48.2	4634.744	0.179
1234678-HpCDD	40.72		1.0002	1.0003	+0.2	9.60E+06	1.04	Y	1.06	50.2	4106.076	0.186
OCDD	43.43		1.0003	1.0003	0	1.40E+07	0.90	Y	1.13	102	3918.859	0.388
2378-TCDF	27.34		1.0008	1.0008	0	3.62E+06	0.77	Y	1.08	10	2745.453	0.0835
12378-PeCDF	32.15		1.0005	1.0005	0	1.44E+07	1.51	Y	1.02	48.4	4596.387	0.143
23478-PeCDF	33.28		1.0005	1.0005	0	1.50E+07	1.53	Y	1.02	51.4	4596.387	0.144
123478-HxCDF	36.55		1.0004	1.0004	0	1.32E+07	1.23	Y	1.27	47.3	2570.2541	0.0774
123678-HxCDF	36.69		1.0004	1.0005	+0.2	1.45E+07	1.22	Y	1.15	49.2	2570.2541	0.0789
234678-HxCDF	37.37		1.0005	1.0005	0	1.74E+07	1.23	Y	1.19	51.4	2570.2541	0.0694
123789-HxCDF	38.35		1.0004	1.0005	+0.2	1.12E+07	1.22	Y	1.16	48.4	2570.2541	0.0934
1234678-HpCDF	39.77		1.0003	1.0003	0	1.35E+07	1.02	Y	1.37	48.1	4201.146	0.118
1234789-HpCDF	41.18		1.0003	1.0003	0	9.55E+06	1.02	Y	1.31	48.7	4201.146	0.178
OCDF	43.60		1.0002	1.0003	+0.3	1.58E+07	0.90	Y	1.07	96.1	3607.646	0.286

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.19	1.0243	1.0244	+0.2	2.19E+07	0.79	Y	1.05	85.7
ES 12378-PeCDD	33.60	1.2198	1.2210	+2.4	1.95E+07	1.58	Y	0.88	90.7
ES 123478-HxCDD	37.53	0.9916	0.9914	-0.5	1.84E+07	1.27	Y	0.97	96.9
ES 123678-HxCDD	37.66	0.9947	0.9946	-0.2	1.98E+07	1.32	Y	0.94	107
ES 123789-HxCDD	37.97	1.0029	1.0028	-0.2	2.02E+07	1.25	Y	1.09	94.6
ES 1234678-HpCDD	40.71	1.0749	1.0753	+1.0	1.80E+07	1.06	Y	0.91	101
ES OCDD	43.41	1.1460	1.1467	+1.8	2.44E+07	0.90	Y	0.62	100
ES 2378-TCDF	27.32	1.0531	1.0536	+0.8	3.35E+07	0.77	Y	1.06	82.8
ES 12378-PeCDF	32.14	1.2378	1.2393	+2.9	2.91E+07	1.57	Y	0.91	83.8
ES 23478-PeCDF	33.26	1.2810	1.2827	+3.4	2.86E+07	1.54	Y	0.88	84.9
ES 123478-HxCDF	36.53	0.9650	0.9649	-0.2	2.20E+07	0.52	Y	1.20	94
ES 123678-HxCDF	36.67	0.9688	0.9686	-0.4	2.55E+07	0.55	Y	1.35	96.5
ES 234678-HxCDF	37.35	0.9866	0.9866	0	2.86E+07	0.54	Y	1.24	118
ES 123789-HxCDF	38.33	1.0125	1.0124	-0.2	1.99E+07	0.51	Y	1.16	87.9
ES 1234678-HpCDF	39.76	1.0501	1.0503	+0.5	2.05E+07	0.45	Y	0.97	108
ES 1234789-HpCDF	41.16	1.0870	1.0873	+0.7	1.50E+07	0.47	Y	0.85	90.1
ES OCDF	43.59	1.1505	1.1513	+2.1	3.06E+07	0.90	Y	0.81	96.9

Lab ID: OPR2_18959_DF **Acq'd:** 24 Feb 2022 17:30 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18959_OPR002 **UTP:** 25-Feb-2022 09:03:33 PSW **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 120-753-JFS

Datafile: 220224C03 **Report:** 25 Feb 2022 09:05 pw **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.52		-	-	-	2.45E+07	0.80	Y	-	-
JS 1234-TCDF	25.93		-	-	-	3.81E+07	0.79	Y	-	-
JS 123467-HxCDD	37.86		-	-	-	9.77E+06	1.24	Y	-	-
CS 37Cl-2378-TCDD	28.21		1.0251	1.0252	+0.2	1.00E+07	n/a	-	1.20	85.3
CS 12347-PeCDD	33.09		1.2016	1.2025	+1.8	1.80E+07	1.50	Y	0.75	97.5
CS 12346-PeCDF	31.60		1.2172	1.2187	+2.8	2.91E+07	1.58	Y	0.85	89.5
CS 123469-HxCDF	36.99		0.9771	0.9769	-0.4	2.44E+07	0.53	Y	1.12	112
CS 1234689-HpCDF	40.17		1.0608	1.0611	+0.7	1.75E+07	0.46	Y	0.89	101
~~SS 37Cl-2378-TCDD~~	~~28.21~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.00E+07~~	~~n/a~~		~~1.15~~	~~99.7~~
~~SS 12347-PeCDD~~	~~33.09~~		~~1.2016~~	~~1.2025~~	~~+1.8~~	~~1.80E+07~~	~~1.50~~	~~Y~~	~~0.86~~	~~107~~
~~SS 12346-PeCDF~~	~~31.60~~		~~1.2172~~	~~1.2187~~	~~+2.8~~	~~2.91E+07~~	~~1.58~~	~~Y~~	~~0.94~~	~~107~~
~~SS 123469-HxCDF~~	~~36.99~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~2.44E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~115~~
~~SS 1234689-HpCDF~~	~~40.17~~		~~1.0608~~	~~1.0611~~	~~+0.7~~	~~1.75E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~92.8~~

Totals	Conc	EMPC
Total TCDD	50.1	50.1
Total PeCDD	70.7	70.7
Total HxCDD	165	165
Total HpCDD	61.8	61.8
Total Tetra-Octa Dioxins	450	450
Total TCDF	57.9	57.9
Total PeCDF	209	209
Total HxCDF	310	310
Total HpCDF	96.8	96.8
Total Tetra-Octa Furans	770	770
Total Tetra-Octa Dioxins & Furans	1220	1220

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.765	0.77
Response	2.69E+06	2.68E+06

Lab ID: OPR2_18959_DF **Acq'd: 24 Feb 2022 17:30 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18959_OPR002 **UTP: 25-Feb-2022 09:03:33 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 120-753-JFS**

Datafile: 220224C03 **Report: 25 Feb 2022 09:05 pw** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.50		0.8701	0.8692	-1.3	3.82E+06	0.80	Y	1.18	14.7	4297.135	0.172
1379-TCDD	NotFnd		0.8829						1.18		4297.135	0.172
1369-TCDD	NotFnd		0.8982						1.18		4297.135	0.172
1469-TCDD	NotFnd		0.9261						1.18		4297.135	0.172
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4297.135	0.172
1378-TCDD	NotFnd		0.9417						1.18		4297.135	0.172
1268-TCDD	NotFnd		0.9487						1.18		4297.135	0.172
1478-TCDD	NotFnd		0.9576						1.18		4297.135	0.172
1279-TCDD	NotFnd		0.9636						1.18		4297.135	0.172
1234/1269-TCDD	NotFnd		0.9761						1.18		4297.135	0.172
1236-TCDD	NotFnd		0.9812						1.18		4297.135	0.172
1237/1238-TCDD	NotFnd		0.9905						1.18		4297.135	0.172
1239-TCDD	28.05		0.9951	0.9951	0	2.67E+06	0.82	Y	1.18	10.3	4297.135	0.172
2378-TCDD	**28.21**		**1.0008**	1.0007	**-0.2**	2.68E+06	0.77	Y	**1.18**	**10.3**	**4297.135**	**0.172**
1278-TCDD	NotFnd		1.0124						1.18		4297.135	0.172
1267-TCDD	NotFnd		1.0172						1.18		4297.135	0.172
1289-TCDD	29.20		1.0354	1.0357	+0.5	3.84E+06	0.79	Y	1.18	14.8	4297.135	0.172
12479/12468-PeCDD	31.09		0.9255	0.9255	0	2.30E+06	1.59	Y	1.04	11.4	4034.269	0.174
12469-PeCDD	NotFnd		0.9416						1.04		4034.269	0.174
12368-PeCDD	NotFnd		0.9582						1.04		4034.269	0.174
12478-PeCDD	NotFnd		0.9637						1.04		4034.269	0.174
12379-PeCDD	NotFnd		0.9668						1.04		4034.269	0.174
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		4034.269	0.174
12346/12347-PeCDD	NotFnd		0.9858						1.04		4034.269	0.174
12378-PeCDD	33.62		**1.0007**	**1.0006**	**-0.2**	**9.43E+06**	**1.56**	**Y**	**1.04**	**46.7**	**4034.269**	**0.174**
12367-PeCDD	NotFnd		1.0036						1.04		4034.269	0.174
12389-PeCDD	34.06		1.0137	1.0138	+0.2	2.56E+06	1.55	Y	1.04	12.6	4034.269	0.174
124679/124689-HxCDD	35.81		0.9540	0.9540	0	2.79E+06	1.24	Y	1.10	13.1	4634.744	0.187
123468-HxCDD	NotFnd		0.9715						1.10		4634.744	0.187
123679/123689-HxCDD	NotFnd		0.9793						1.10		4634.744	0.187
123469-HxCDD	NotFnd		0.9829						1.10		4634.744	0.187
123478-HxCDD	37.55		**1.0004**	**1.0005**	**+0.2**	**1.03E+07**	**1.25**	**Y**	1.09	**51.5**	**4634.744**	**0.199**
123678-HxCDD	37.67		**1.0036**	**1.0037**	**+0.2**	**1.19E+07**	**1.24**	**Y**	1.15	**52.1**	**4634.744**	**0.184**
123467-HxCDD	NotFnd		1.0089						1.10		4634.744	0.187
123789-HxCDD	37.98		**1.0118**	**1.0118**	**0**	**1.02E+07**	**1.23**	**Y**	1.05	**48.2**	**4634.744**	**0.179**

Lab ID: OPR2_18959_DF | **Acq'd: 24 Feb 2022 17:30 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18959_OPR002 | **UTP: 25-Feb-2022 09:03:33 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 120-753-JFS**

Datafile: 220224C03 | **Report: 25 Feb 2022 09:05 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.04		0.9836	0.9835	-0.2	2.22E+06	1.02	Y	1.06	11.6	4106.076	0.186
1234678-HpCDD	**40.72**		**1.0002**	**1.0003**	**+0.2**	**9.60E+06**	**1.04**	**Y**	**1.06**	**50.2**	**4106.076**	**0.186**
OCDD	**43.43**		**1.0003**	**1.0003**	**0**	**1.40E+07**	**0.90**	**Y**	**1.13**	**102**	**3918.859**	**0.388**
OCDD-a	43.42		1.0002	1.0002	0	8.57E+05	2.29	Y	0.07	97.6	3688.309	5.72
1368-TCDF	22.34		0.8191	0.8177	-1.9	5.39E+06	0.81	Y	1.08	14.9	2745.453	0.0835
1468-TCDF	NotFnd		0.8408						1.08		2745.453	0.0835
2468-TCDF	23.59		0.8645	0.8634	-1.6	1.21E+06	0.72	Y	1.08	3.35	2745.453	0.0835
1346/1246-TCDF	NotFnd		0.8772						1.08		2745.453	0.0835
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		2745.453	0.0835
1348-TCDF	NotFnd		0.8932						1.08		2745.453	0.0835
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		2745.453	0.0835
1268-TCDF	NotFnd		0.9119						1.08		2745.453	0.0835
1467-TCDF	NotFnd		0.9170						1.08		2745.453	0.0835
1478-TCDF	NotFnd		0.9234						1.08		2745.453	0.0835
1369/1237-TCDF	NotFnd		0.9369						1.08		2745.453	0.0835
2467-TCDF	NotFnd		0.9415						1.08		2745.453	0.0835
2368-TCDF	NotFnd		0.9475						1.08		2745.453	0.0835
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		2745.453	0.0835
1278-TCDF	NotFnd		0.9676						1.08		2745.453	0.0835
1349-TCDF	NotFnd		0.9722						1.08		2745.453	0.0835
1267-TCDF	NotFnd		0.9777						1.08		2745.453	0.0835
2346/1249-TCDF	NotFnd		0.9843						1.08		2745.453	0.0835
2347/1279-TCDF	NotFnd		0.9926						1.08		2745.453	0.0835
2348-TCDF	27.23		0.9968	0.9968	0	5.10E+06	0.79	Y	1.08	14.1	2745.453	0.0835
2378-TCDF	**27.34**		**1.0008**	**1.0008**	**0**	**3.62E+06**	**0.77**	**Y**	**1.08**	**10**	**2745.453**	**0.0835**
2367/3467-TCDF	NotFnd		1.0142						1.08		2745.453	0.0835
1269-TCDF	NotFnd		1.0235						1.08		2745.453	0.0835
1239-TCDF	NotFnd		1.0329						1.08		2745.453	0.0835
1289-TCDF	29.37		1.0742	1.0750	+1.4	5.57E+06	0.77	Y	1.08	15.4	2745.453	0.0835
13468/12468-PeCDF	29.29		0.9122	0.9115	-1.2	2.89E+07	1.61	Y	1.02	98.1	2704.616	0.0845
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		4596.387	0.144
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		4596.387	0.144
14678-PeCDF	NotFnd		0.9685						1.02		4596.387	0.144
13479-PeCDF	NotFnd		0.9716						1.02		4596.387	0.144
13469/12479-PeCDF	NotFnd		0.9794						1.02		4596.387	0.144
12346-PeCDF	NotFnd		0.9836						1.02		4596.387	0.144

Lab ID: OPR2_18959_DF **Acq'd: 24 Feb 2022 17:30 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18959_OPR002 **UTP: 25-Feb-2022 09:03:33 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 120-753-JFS**

Datafile: 220224C03 **Report: 25 Feb 2022 09:05 pw** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		4596.387	0.144
12347-PeCDF	NotFnd		0.9891						1.02		4596.387	0.144
12348-PeCDF	NotFnd		0.9938						1.02		4596.387	0.144
12378-PeCDF	**32.15**		**1.0005**	**1.0005**	**0**	**1.44E+07**	**1.51**	**Y**	**1.02**	**48.4**	**4596.387**	**0.143**
12678/12367-PeCDF	NotFnd		1.0091						1.02		4596.387	0.144
12379-PeCDF	NotFnd		1.0144						1.02		4596.387	0.144
12679-PeCDF	NotFnd		0.9927						1.02		4596.387	0.144
23467/12369-PeCDF	NotFnd		0.9965						1.02		4596.387	0.144
23478-PeCDF	**33.28**		**1.0005**	**1.0005**	**0**	**1.50E+07**	**1.53**	**Y**	**1.02**	**51.4**	**4596.387**	**0.144**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4596.387	0.144
12349-PeCDF	NotFnd		1.0101						1.02		4596.387	0.144
12389-PeCDF	34.36		1.0330	1.0331	+0.2	3.25E+06	1.53	Y	1.02	11	4596.387	0.144
123468-HxCDF	35.15		0.9622	0.9623	+0.2	3.27E+07	1.24	Y	1.19	114	2570.2541	0.0786
124678/134678-HxCDF	NotFnd		0.9678						1.19		2570.2541	0.0786
134679-HxCDF	NotFnd		0.9741						1.19		2570.2541	0.0786
124679-HxCDF	NotFnd		0.9795						1.19		2570.2541	0.0786
124689-HxCDF	NotFnd		0.9856						1.19		2570.2541	0.0786
123467-HxCDF	NotFnd		0.9972						1.19		2570.2541	0.0786
123478-HxCDF	**36.55**		**1.0004**	**1.0004**	**0**	**1.32E+07**	**1.23**	**Y**	**1.27**	**47.3**	**2570.2541**	**0.0774**
123678-HxCDF	**36.69**		**1.0004**	**1.0005**	**+0.2**	**1.45E+07**	**1.22**	**Y**	**1.15**	**49.2**	**2570.2541**	**0.0789**
123479-HxCDF	NotFnd		1.0048						1.19		2570.2541	0.0786
123469-HxCDF	NotFnd		1.0089						1.19		2570.2541	0.0786
123679-HxCDF	NotFnd		0.9942						1.19		2570.2541	0.0786
234678-HxCDF	**37.37**		**1.0005**	**1.0005**	**0**	**1.74E+07**	**1.23**	**Y**	**1.19**	**51.4**	**2570.2541**	**0.0694**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2570.2541	0.0786
123789-HxCDF	**38.35**		**1.0004**	**1.0005**	**+0.2**	**1.12E+07**	**1.22**	**Y**	**1.16**	**48.4**	**2570.2541**	**0.0934**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		2570.2541	0.0786
1234678-HpCDF	**39.77**		**1.0003**	**1.0003**	**0**	**1.35E+07**	**1.02**	**Y**	**1.37**	**48.1**	**4201.146**	**0.118**
1234679-HpCDF	NotFnd		1.0068						1.34		4201.146	0.143
1234689-HpCDF	NotFnd		1.0104						1.34		4201.146	0.143
1234789-HpCDF	**41.18**		**1.0003**	**1.0003**	**0**	**9.55E+06**	**1.02**	**Y**	**1.31**	**48.7**	**4201.146**	**0.178**
OCDF	**43.60**		**1.0002**	**1.0003**	**+0.3**	**1.58E+07**	**0.90**	**Y**	**1.07**	**96.1**	**3607.646**	**0.286**
OCDF-a	43.60		1.0001	1.0002	+0.3	9.31E+05	2.43	Y	0.07	91.6	3733.727	4.77

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220224C03	Analysis Date:	24-FEB-2022 17:30:43
Lab ID:	OPR2_18959_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	10.3	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	46.7	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	51.5	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	52.1	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	48.2	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	50.2	35	-	70	Y
OCDD	100	102	78	-	144	Y
2,3,7,8-TCDF	10	10	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	48.4	40	-	67	Y
2,3,4,7,8-PeCDF	50	51.4	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	47.3	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	49.2	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	51.4	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	48.4	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	48.1	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	48.7	39	-	69	Y
OCDF	100	96.1	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 25 Feb 2022 09:05 Analyst: pw

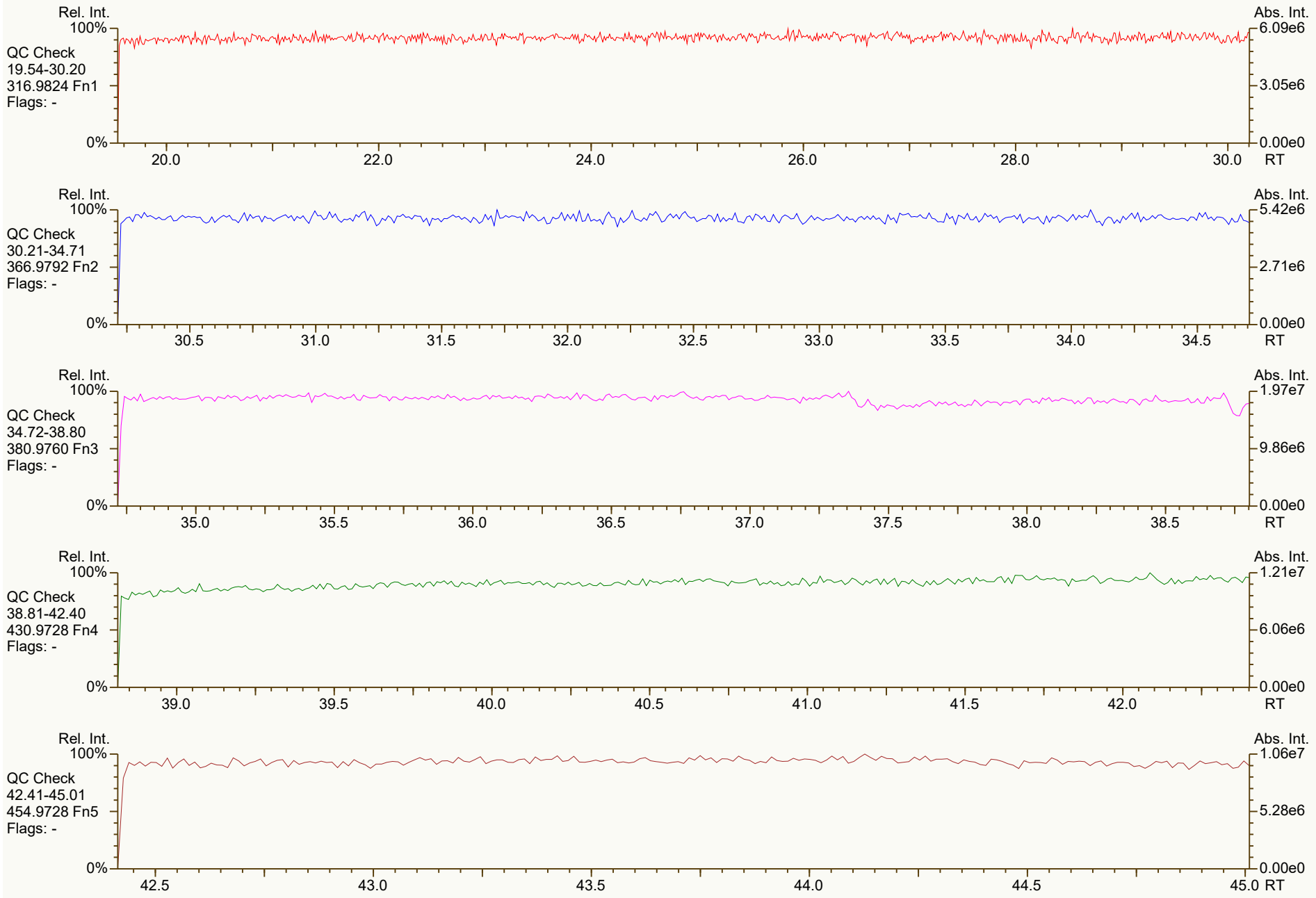
METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

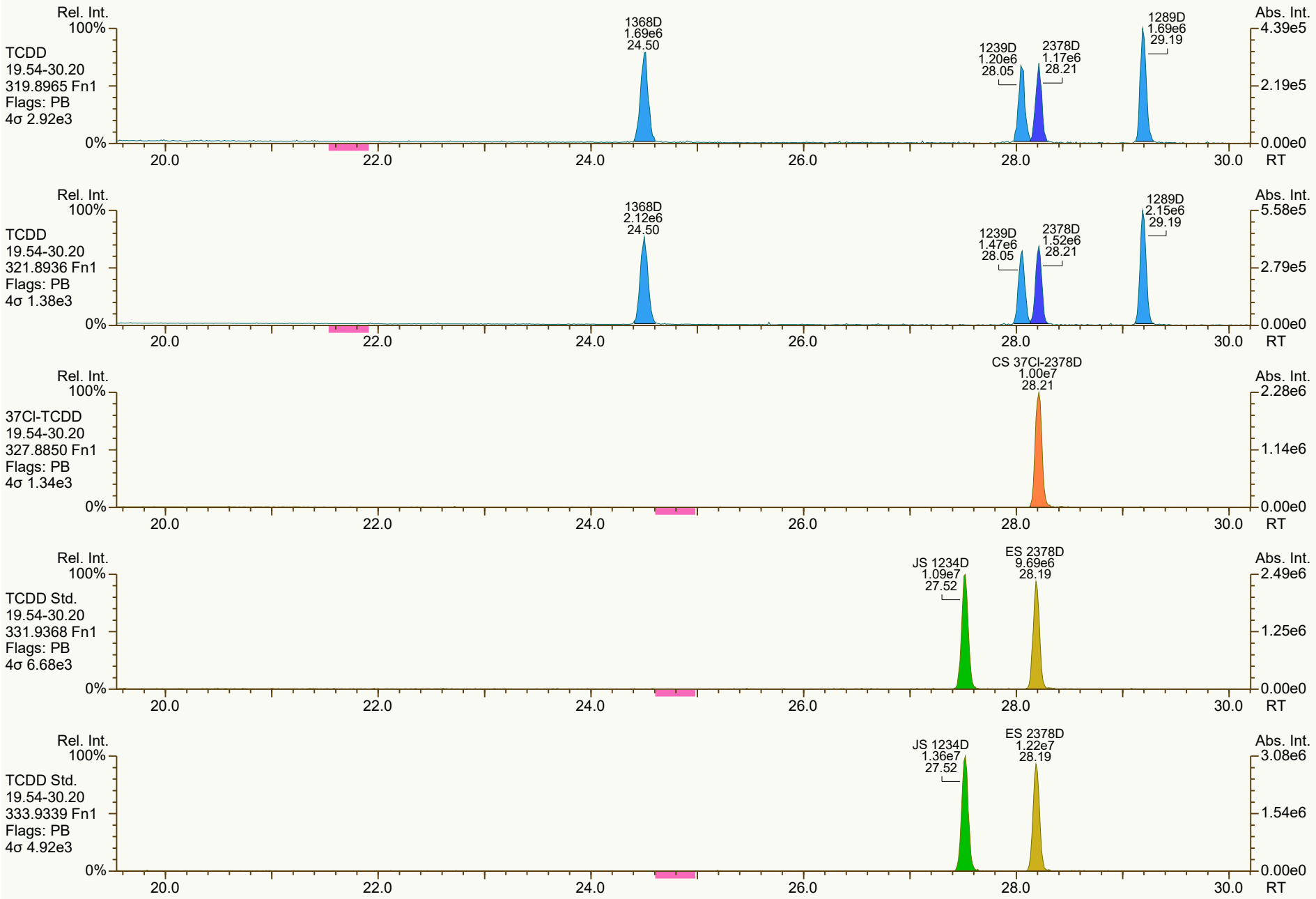
Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220224C03	Analysis Date:	24-FEB-2022 17:30:43
Lab ID:	OPR2_18959_DF		

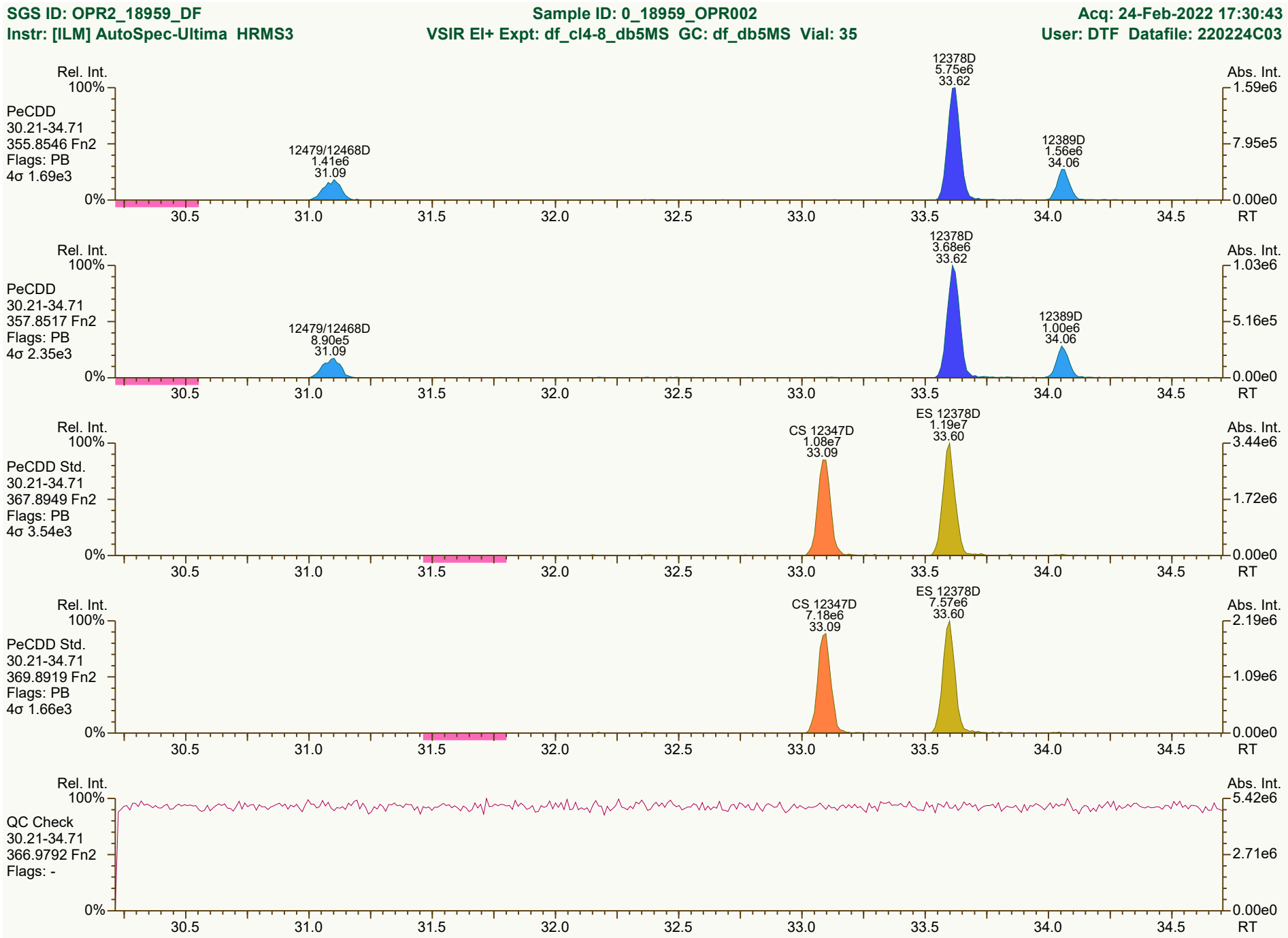
LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	85.7	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	90.7	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	96.9	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	107	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	94.6	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	101	26	-	166	Y
13C-OCDD	200	200	26	-	397	Y
13C-2,3,7,8-TCDF	100	82.8	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	83.8	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	84.9	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	94	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	96.5	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	118	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	87.9	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	108	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	90.1	20	-	186	Y
13C-OCDF	200	194	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	34.1	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 25 Feb 2022 09:05 Analyst: pw


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
6.09e6
3.05e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
5.42e6
2.71e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.97e7
9.86e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.21e7
6.06e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.06e7
5.28e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 2.92e3
0%
1368D
1.69e6
24.50
1239D
1.20e6
28.05
2378D
1.17e6
28.21
1289D
1.69e6
29.19
Abs. Int.
4.39e5
2.19e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.38e3
0%
1368D
2.12e6
24.50
1239D
1.47e6
28.05
2378D
1.52e6
28.21
1289D
2.15e6
29.19
Abs. Int.
5.58e5
2.79e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.34e3
0%
CS 37Cl-2378D
1.00e7
28.21
Abs. Int.
2.28e6
1.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 6.68e3
0%
JS 1234D
1.09e7
27.52
ES 2378D
9.69e6
28.19
Abs. Int.
2.49e6
1.25e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 4.92e3
0%
JS 1234D
1.36e7
27.52
ES 2378D
1.22e7
28.19
Abs. Int.
3.08e6
1.54e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT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Sample ID: 0_18959_OPR002
Acq: 24-Feb-2022 17:30:43
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 35
User: DTF Datafile: 220224C03
Rel. Int.
Abs. Int.
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.69e3
12479/12468D
1.41e6
31.09
12378D
5.75e6
33.62
12389D
1.56e6
34.06
1.59e6
7.95e5
0.00e0
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 2.35e3
12479/12468D
8.90e5
31.09
12378D
3.68e6
33.62
12389D
1.00e6
34.06
1.03e6
5.16e5
0.00e0
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 3.54e3
CS 12347D
1.08e7
33.09
ES 12378D
1.19e7
33.60
3.44e6
1.72e6
0.00e0
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.66e3
CS 12347D
7.18e6
33.09
ES 12378D
7.57e6
33.60
2.19e6
1.09e6
0.00e0
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
5.42e6
2.71e6
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
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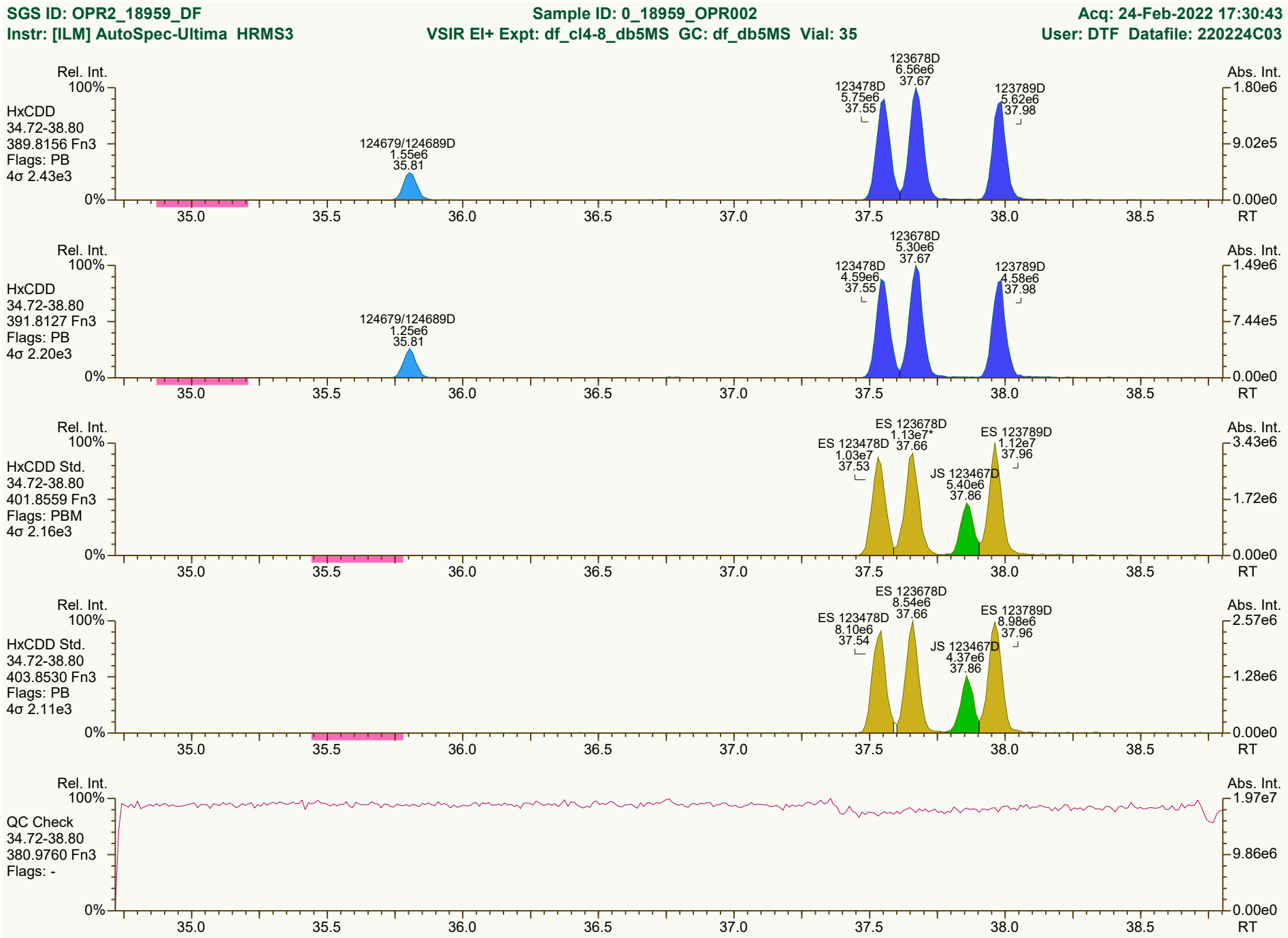
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7149, 4002 scc: 120-753
PKD: 25-Feb-2022 08:40 Printed: 25-Feb-2022 09:11 Page 3 of 12



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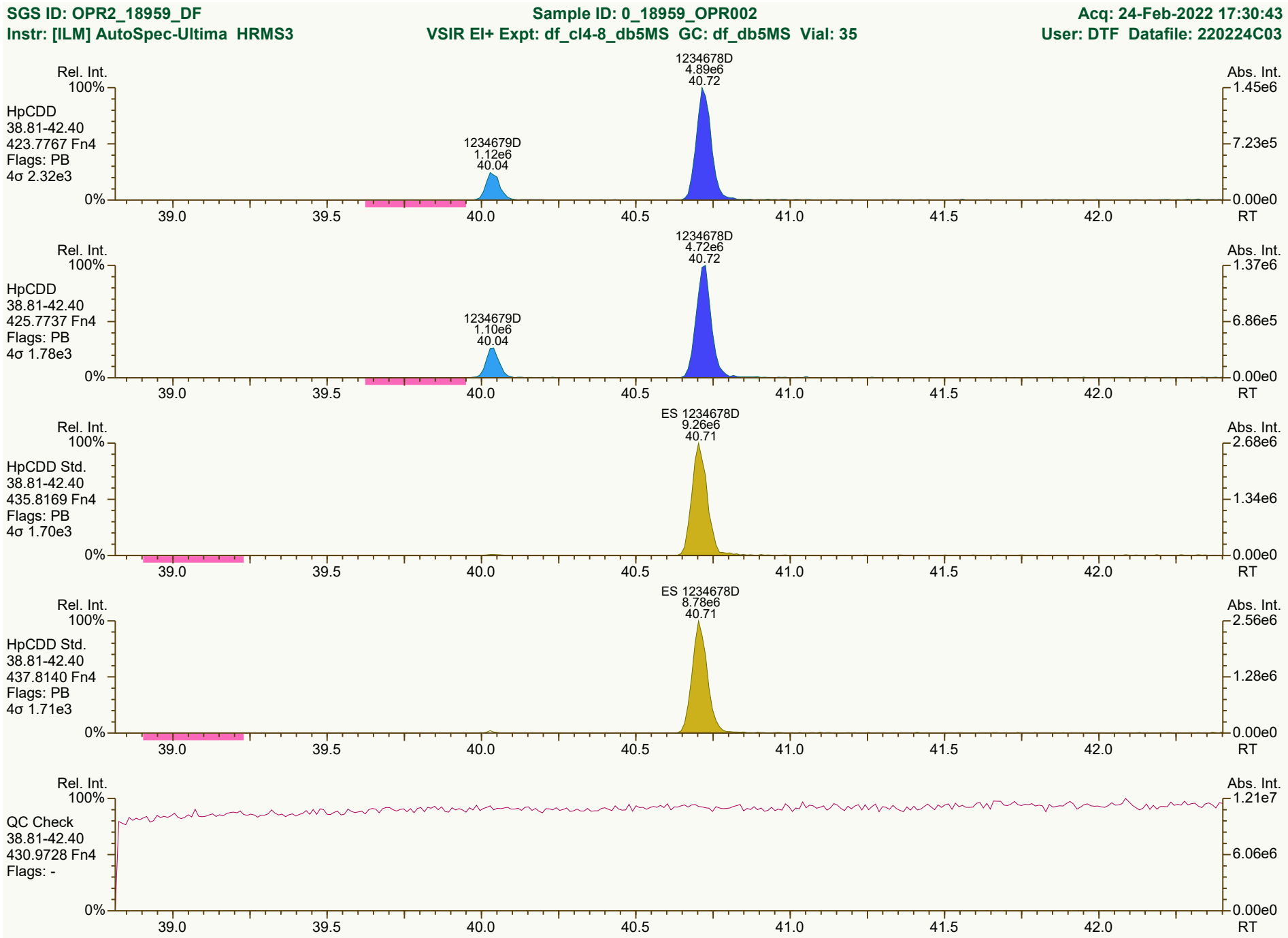
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7456, 7051 scc: 120-753
PKD: 25-Feb-2022 08:40 Printed: 25-Feb-2022 09:11 Page 4 of 12

SGS ID: OPR2_18959_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

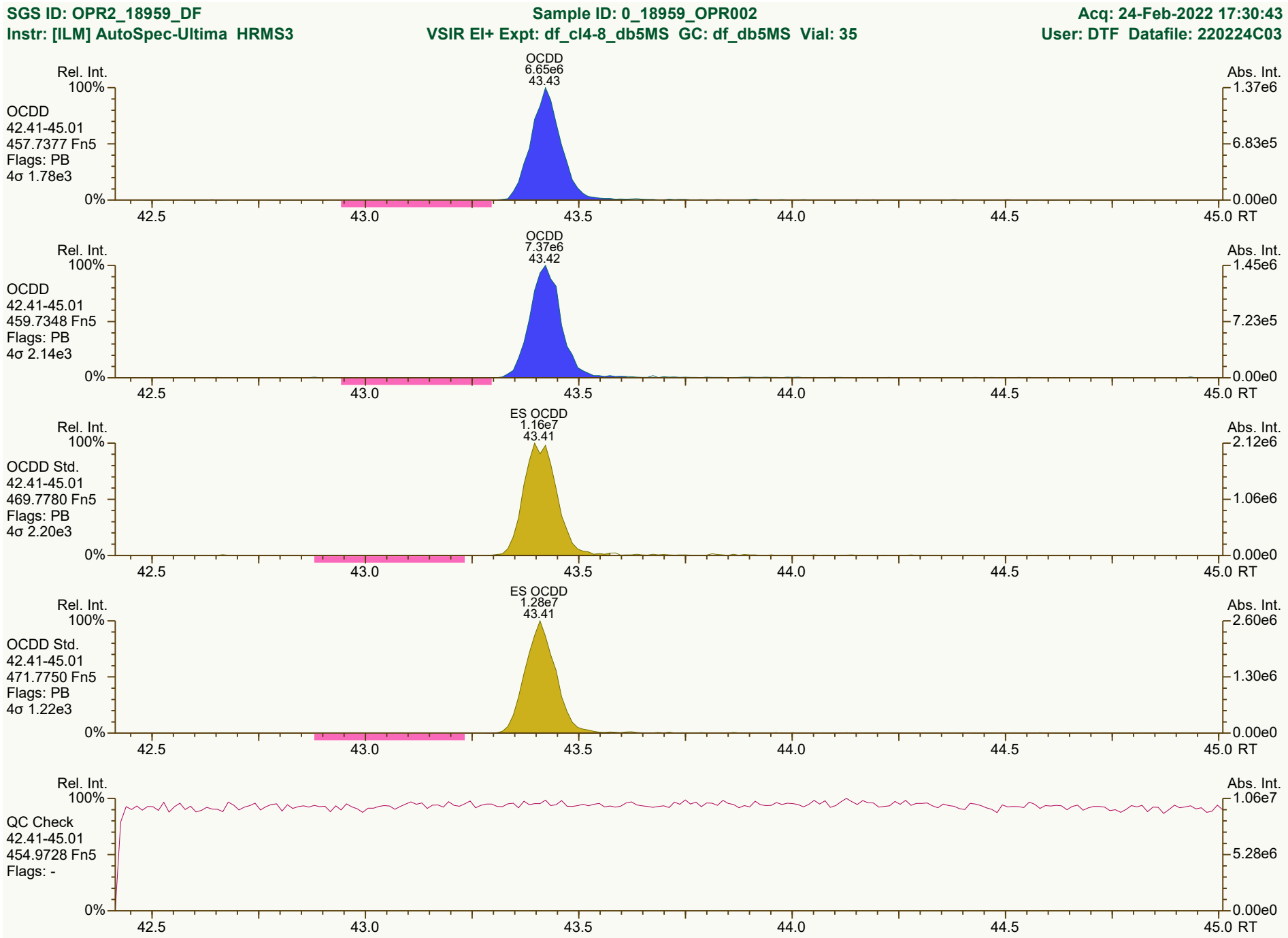
Sample ID: 0_18959_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 35

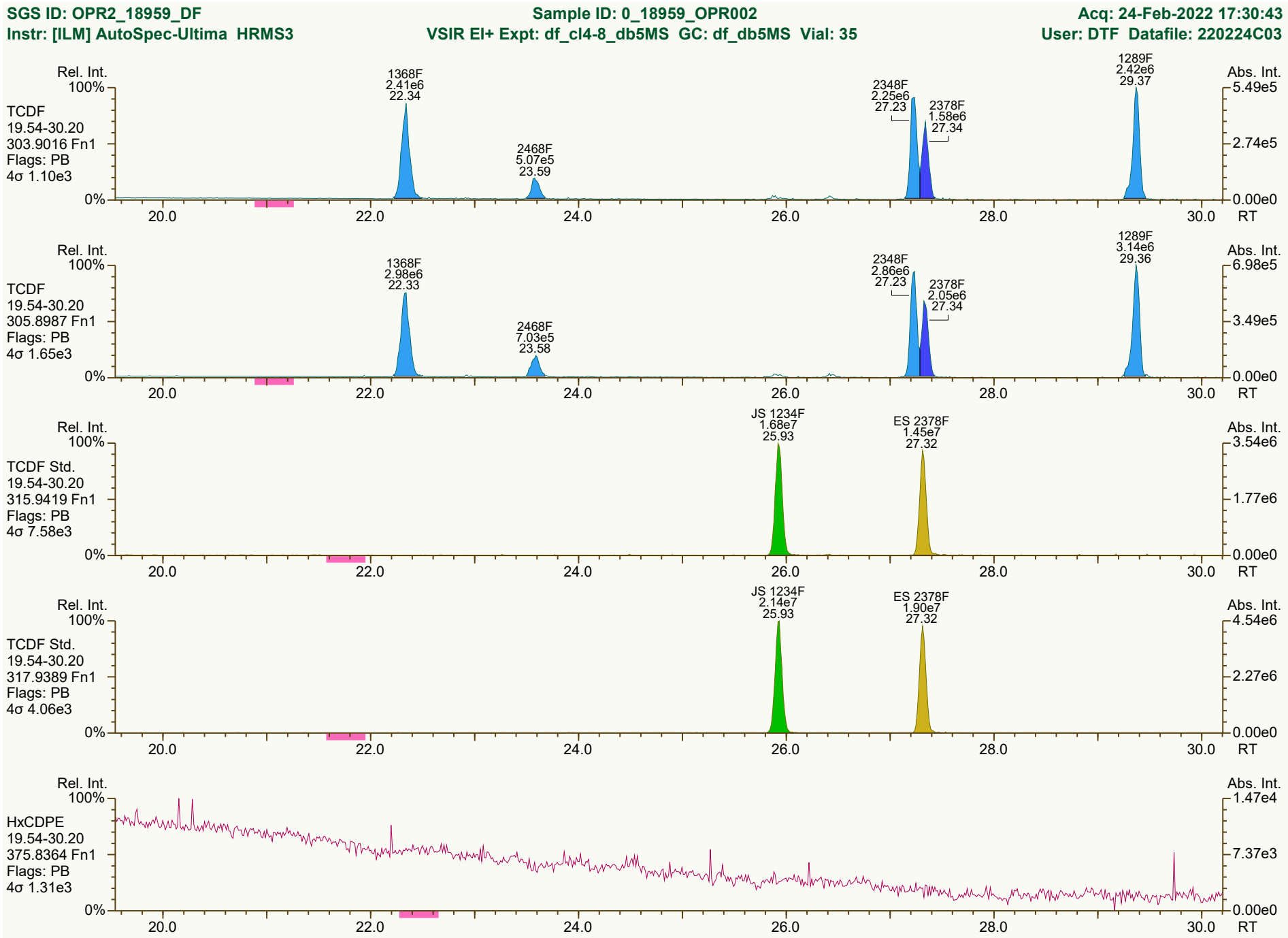
Acq: 24-Feb-2022 17:30:43
User: DTF Datafile: 220224C03



Results: P:\B6300_B6399\B6335\B6335_18959 DF\Resources\OPR2_18959_DF.utp_res, saved 25-Feb-2022 09:03 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7503, 7346 scc: 120-753

Peak annotation: Areas, Centroids
PKD: 25-Feb-2022 08:40 Printed: 25-Feb-2022 09:11 Page 5 of 12


SGS ID: OPR2_18959_DF
Sample ID: 0_18959_OPR002
Acq: 24-Feb-2022 17:30:43
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 35
User: DTF Datafile: 220224C03
Rel. Int.
Abs. Int.
OCDD
6.65e6
43.43
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 1.78e3
1.37e6
6.83e5
0.00e0
OCDD
7.37e6
43.42
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 2.14e3
1.45e6
7.23e5
ES OCDD
1.16e7
43.41
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 2.20e3
2.12e6
1.06e6
ES OCDD
1.28e7
43.41
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.22e3
2.60e6
1.30e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
1.06e7
5.28e6
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6300_B6399\B6335\B6335_18959 DF\Resources\OPR2_18959_DF.utp_res, saved 25-Feb-2022 09:03 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2997, 3513 scc: 120-753
PKD: 25-Feb-2022 08:40 Printed: 25-Feb-2022 09:11 Page 6 of 12


SGS ID: OPR2_18959_DF
Sample ID: 0_18959_OPR002
Acq: 24-Feb-2022 17:30:43
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 35
User: DTF Datafile: 220224C03
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.10e3
1368F 2.41e6 22.34
2468F 5.07e5 23.59
2348F 2.25e6 27.23
2378F 1.58e6 27.34
1289F 2.42e6 29.37
5.49e5
2.74e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 1.65e3
1368F 2.98e6 22.33
2468F 7.03e5 23.58
2348F 2.86e6 27.23
2378F 2.05e6 27.34
1289F 3.14e6 29.36
6.98e5
3.49e5
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 7.58e3
JS 1234F 1.68e7 25.93
ES 2378F 1.45e7 27.32
3.54e6
1.77e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.06e3
JS 1234F 2.14e7 25.93
ES 2378F 1.90e7 27.32
4.54e6
2.27e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.31e3
1.47e4
7.37e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6300_B6399\B6335\B6335_18959 DF\Resources\OPR2_18959_DF.utp_res, saved 25-Feb-2022 09:03 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 9595, 6276, 9674 scc: 120-753
PKD: 25-Feb-2022 08:40 Printed: 25-Feb-2022 09:11 Page 7 of 12

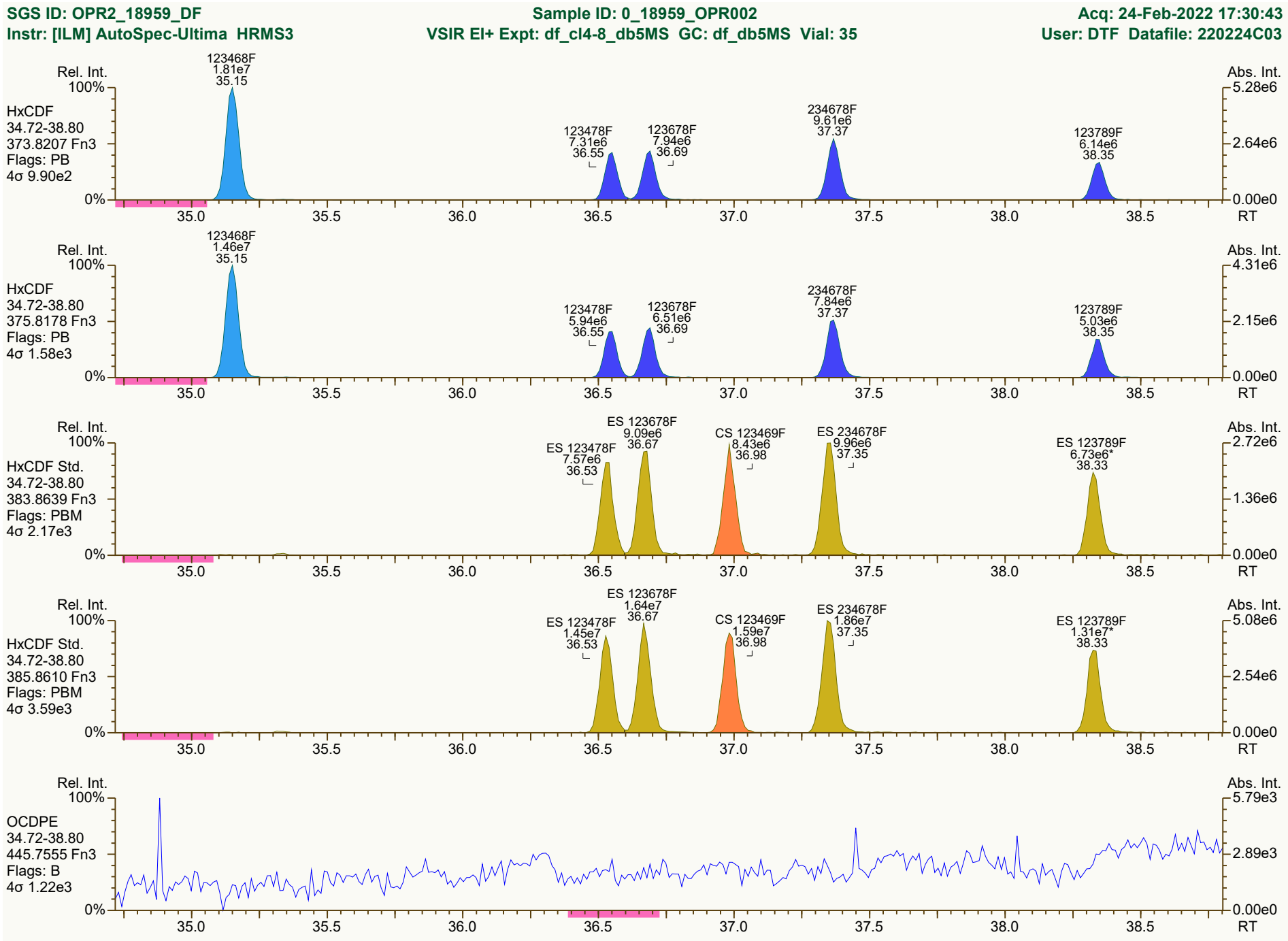

Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.40e3
13468/12468F
1.78e7
29.29
Abs. Int.
4.47e6
2.24e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.31e3
13468/12468F
1.11e7
29.29
Abs. Int.
2.87e6
1.43e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
6.09e6
3.05e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 2.75e3
0%
12378F
8.66e6
32.15
23478F
9.05e6
33.28
12389F
1.97e6
34.36
Abs. Int.
2.55e6
1.28e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 1.85e3
0%
12378F
5.75e6
32.15
23478F
5.93e6
33.27
12389F
1.29e6
34.36
Abs. Int.
1.61e6
8.04e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 2.99e3
0%
CS 12346F
1.78e7
31.60
ES 12378F
1.77e7
32.13
ES 23478F
1.73e7
33.26
Abs. Int.
4.79e6
2.39e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 1.45e3
0%
CS 12346F
1.13e7
31.60
ES 12378F
1.13e7
32.13
ES 23478F
1.13e7
33.26
Abs. Int.
3.16e6
1.58e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: PB
4σ 1.23e3
0%
Abs. Int.
6.80e3
3.40e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

SGS ID: OPR2_18959_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

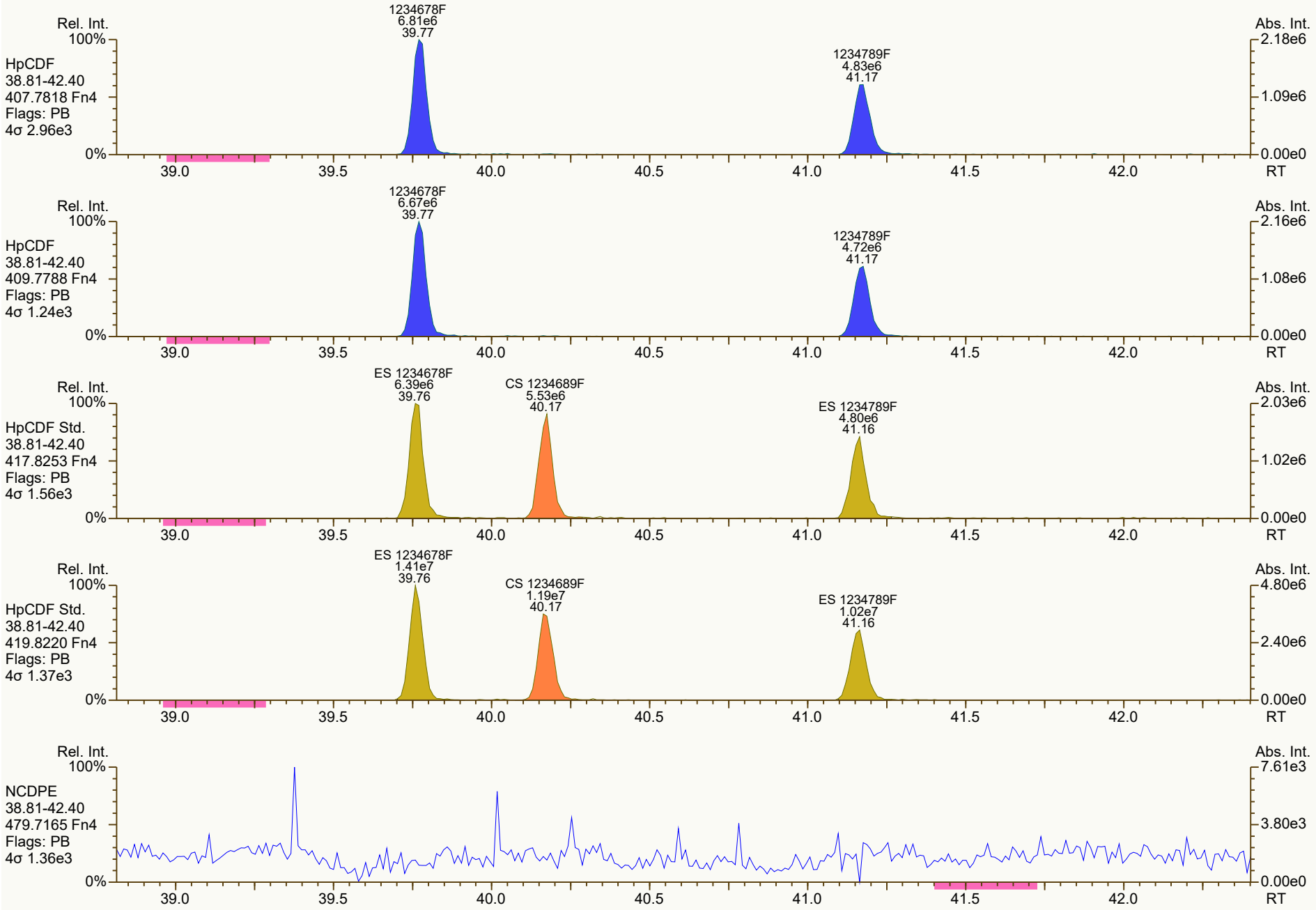
Sample ID: 0_18959_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 35

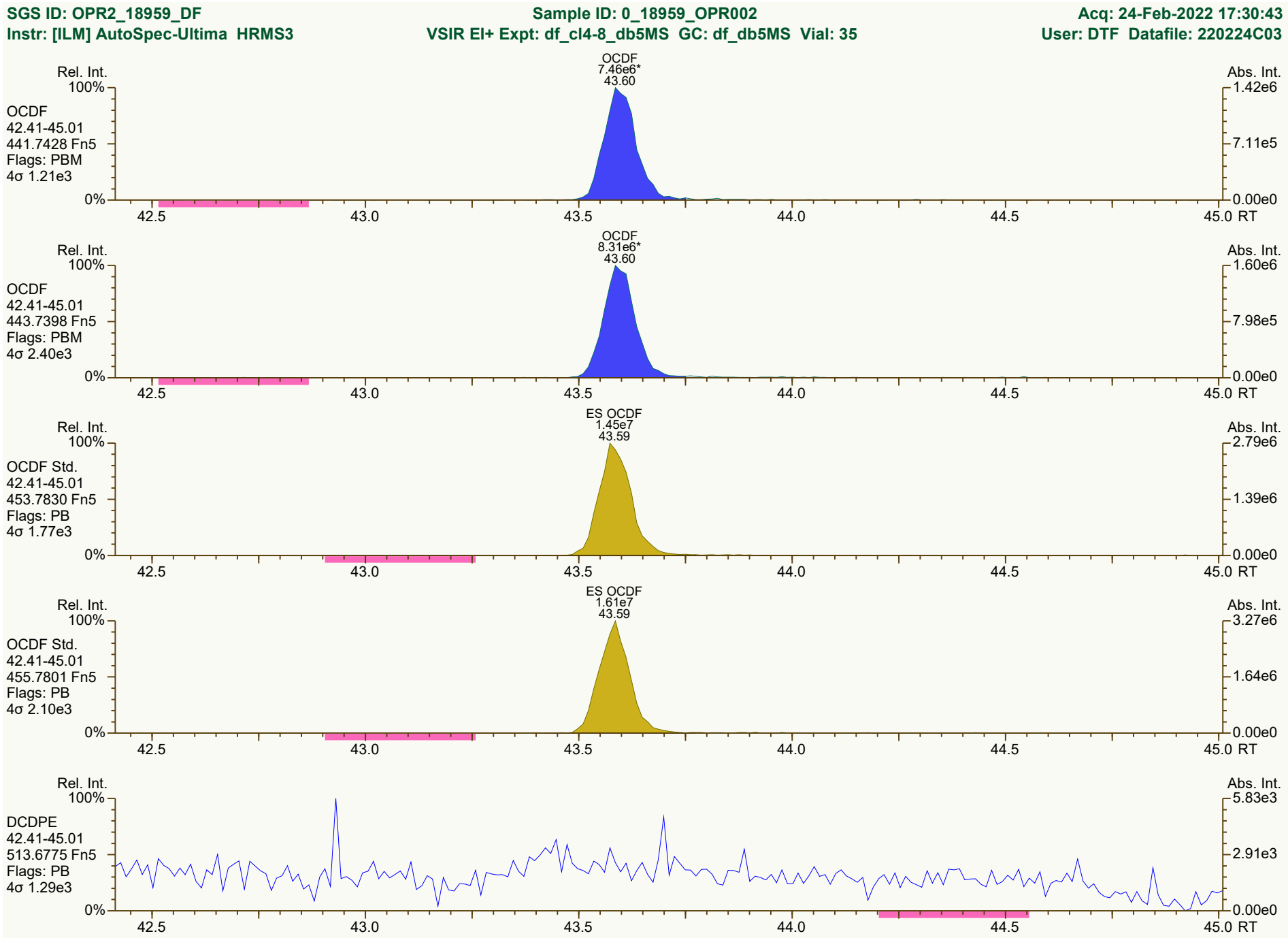
Acq: 24-Feb-2022 17:30:43
User: DTF Datafile: 220224C03



Results: P:\B6300_B6399\B6335\B6335_18959 DF\Resources\OPR2_18959_DF.utp_res, saved 25-Feb-2022 09:03 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 3766, 1394, 1235 scc: 120-753

Peak annotation: Areas, Centroids
PKD: 25-Feb-2022 08:40 Printed: 25-Feb-2022 09:11 Page 10 of 12


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 2.96e3
1234678F
6.81e6
39.77
1234789F
4.83e6
41.17
Abs. Int.
2.18e6
1.09e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.24e3
1234678F
6.67e6
39.77
1234789F
4.72e6
41.17
Abs. Int.
2.16e6
1.08e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 1.56e3
ES 1234678F
6.39e6
39.76
CS 1234689F
5.53e6
40.17
ES 1234789F
4.80e6
41.16
Abs. Int.
2.03e6
1.02e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 1.37e3
ES 1234678F
1.41e7
39.76
CS 1234689F
1.19e7
40.17
ES 1234789F
1.02e7
41.16
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.36e3
Abs. Int.
7.61e3
3.80e3
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


SGS ID: OPR2_18959_DF
Sample ID: 0_18959_OPR002
Acq: 24-Feb-2022 17:30:43
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 35
User: DTF Datafile: 220224C03
OCDF
7.46e6*
43.60
Rel. Int.
Abs. Int.
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 1.21e3
OCDF
8.31e6*
43.60
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 2.40e3
ES OCDF
1.45e7
43.59
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 1.77e3
ES OCDF
1.61e7
43.59
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 2.10e3
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.29e3
RT



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6234

28-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

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This report is approved by

Tamara Burkamper

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Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6234
Analytical Protocol(s)	1613B
No. Samples Submitted	9
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	26-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	0.2, 0.0
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.14.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements, except for the following: the reported percent deviation of CS 1,2,3,4,6,8,9-HpCDF is above SOP criteria. There is no method specified criteria for these standards and no adverse impact on results.

No re-extractions or dilutions were required.

B6234_005: the reported ion ratio of labeled standard ES 1,2,3,7,8,9-HxCDD is outside method criteria.

OPR1/OPR2_18872 meet accuracy and precision criteria, except for the following: RPD of 2,3,7,8-TCDF is >20%.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-021822-S-SB-NC-S-51 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	22-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.18 g	Lab Sample ID	B6336_18970_DF_003	Date Extracted:	28-Feb-2022
Date Collected:	18-Feb-2022	% Solid:	84.7%	QC Batch No:	18970	Date Analyzed:	02-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	4:40:35

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	2.1				ES 2378-TCDD	94.3	
12378-PeCDD	ND	0.407			ES 12378-PeCDD	101	
123478-HxCDD	0.679			J	ES 123478-HxCDD	98.9	
123678-HxCDD	1.53			J	ES 123678-HxCDD	98.1	
123789-HxCDD	2.55				ES 123789-HxCDD	98.2	
1234678-HpCDD	47.3				ES 1234678-HpCDD	97.9	
OCDD	675				ES OCDD	84.9	
2378-TCDF	6.28				ES 2378-TCDF	76.8	
12378-PeCDF	0.437			J	ES 12378-PeCDF	95.5	
23478-PeCDF	ND	0.214			ES 23478-PeCDF	85.2	
123478-HxCDF	0.923			J	ES 123478-HxCDF	94.9	
123678-HxCDF	0.303			J	ES 123678-HxCDF	114	
234678-HxCDF	EMPC		0.403	J	ES 234678-HxCDF	110	
123789-HxCDF	ND	0.205			ES 123789-HxCDF	89.1	
1234678-HpCDF	6.14				ES 1234678-HpCDF	131	
1234789-HpCDF	0.624			J	ES 1234789-HpCDF	80.7	
OCDF	25				ES OCDF	67.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	98.2	
Total TCDD	10		10.8		CS 12347-PeCDD	105	
Total PeCDD	8.89		8.89		CS 12346-PeCDF	99.4	
Total HxCDD	47.8		50.5		CS 123469-HxCDF	119	
Total HpCDD	129		129		CS 1234689-HpCDF	117	
Total TCDF	9.64		11.6				
Total PeCDF	2.12		3.2				
Total HxCDF	5.07		6.48				
Total HpCDF	11.7		11.7				
Total PCDD/Fs	**925**		**932**				
WHO-2005 TEQs							
TEQ: ND=0	4.09		4.13				
TEQ: ND=DL/2	4.34	0.495	4.38				
TEQ: ND=DL	4.59	0.991	4.63				

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Sample ID: 11215131-021822-S-SB-NC-S-51 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	22-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.18 g	Lab Sample ID:	B6336_18970_DF_003	Date Extracted:	28-Feb-2022
Date Collected:	18-Feb-2022	% Solid:	84.7%	QC Batch No.:	18970	Date Analyzed:	02-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	4:40:35

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.277)		12479/12468D	1.1	J	124679/124689D	35.4		1234679D	81.8	
1379D	(0.277)		12469D	6.3		123468D	[0.762]	J	1234678D	47.3	
1369D	(0.277)		12368D	(0.407)		123679/123689D	7.68				
1469D	7.89		12478D	(0.407)		123469D	[1.06]	J			
1247D...[4]	(0.277)		12379D	(0.407)		123478D	0.679	J			
1378D	(0.277)		12369D...[3]	1.49	J	123678D	1.53	J			
1268D	(0.277)		12346/12347D	(0.407)		123467D	[0.819]	J			
1478D	(0.277)		12378D	(0.407)		123789D	2.55		**Conc.**	129	
1279D	(0.277)		12367D	(0.407)					**EMPC**	129	
1234/1269D	[0.758]		12389D	(0.407)							
1236D	(0.277)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.277)										
1239D	(0.277)								OCDD	675	
2378D	2.1										
1278D	(0.277)										
1267D	(0.277)										
1289D	(0.277)										
Conc.	10		**Conc.**	8.89		**Conc.**	47.8				
EMPC	10.8		**EMPC**	8.89		**EMPC**	50.5				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	4.09	4.13
TEQ: ND=DL/2	4.34	4.38
TEQ: ND=DL	4.59	4.63

	Conc.	EMPC
Total PCDD/Fs	925	932

Checkcode: 301-892-DTM

Report Created: 02-Mar-2022 09:10 Analyst: TF

Sample ID: 11215131-021822-S-SB-NC-S-51 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	22-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.18 g	Lab Sample ID:	B6336_18970_DF_003	Date Extracted:	28-Feb-2022
Date Collected:	18-Feb-2022	% Solid:	84.7%	QC Batch No.:	18970	Date Analyzed:	02-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	4:40:35

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.265)		13468/12468F	1.26	J	123468F	[1.01]	J	1234678F	6.14	
1468F	(0.265)		13678F...[3]	0.429	J	124678/134678F	2.65		1234679F	(0.244)	
2468F	0.568		12368F...[3]	[1.07]	J	134679F	(0.167)		1234689F	4.99	
1346/1246F	(0.265)		14678F	(0.205)		124679F	(0.167)		1234789F	0.624	J
1347F...[3]	(0.265)		13479F	(0.205)		124689F	1.19	J			
1348F	(0.265)		13469/12479F	(0.205)		123467F	(0.167)				
1248F...[3]	(0.265)		12346F	(0.205)		123478F	0.923	J			
1268F	(0.265)		23468/12469F	(0.205)		123678F	0.303	J			
1467F	(0.265)		12347F	(0.205)		123479F	(0.167)				
1478F	[0.438]	J	12348F	(0.205)		123469F	(0.167)				
1369/1237F	(0.265)		12378F	0.437	J	123679F	(0.167)				
2467F	(0.265)		12678/12367F	(0.205)		234678F	[0.403]	J	**Conc.**	11.7	
2368F	[0.895]		12379F	(0.205)		234678/123689F	0		**EMPC**	11.7	
1238F...[5]	(0.265)		12679F	(0.205)		123689F	(0.167)				
1278F	1.49		23467/12369F	(0.205)		123789F	(0.205)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.265)		23478F	(0.214)		123789/123489F	0				
1267F	(0.265)		23478/12489F	0		123489F	(0.167)		OCDF	25	
2346/1249F	(0.265)		12489F	(0.205)							
2347/1279F	(0.265)		12349F	(0.205)							
2348F	(0.265)		12389F	(0.205)							
2378F	6.28										
2367/3467F	1.31										
1269F	(0.265)										
1239F	(0.265)										
1289F	[0.636]										
Conc.	9.64		**Conc.**	2.12		**Conc.**	5.07				
EMPC	11.6		**EMPC**	3.2		**EMPC**	6.48				

Checkcode: 301-892-DTM

Report Created: 02-Mar-2022 09:10 Analyst: TF

Sample ID: 11215131-021822-S-SB-NC-S-51 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6336_18970_DF_003
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.18 g	QC Batch No.:	18970
Date Collected:	18-Feb-2022	Split:	-	Date Extracted:	28-Feb-2022
Date Received:	22-Feb-2022	Dilution:	-	Date Analyzed:	02-Mar-2022 04:40
Lab Project No:	B6336	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	2.1		0.277	2.1	2.1	2.1
12378-PeCDD	(0.407)		0.407	(0.204)	(0.407)	(0.407)
123478-HxCDD	0.679	J	0.467	0.0679	0.0679	0.0679
123678-HxCDD	1.53	J	0.444	0.153	0.153	0.153
123789-HxCDD	2.55		0.413	0.255	0.255	0.255
1234678-HpCDD	47.3		0.317	0.473	0.473	0.473
OCDD	675		0.753	0.675	0.0675	0.203
2378-TCDF	6.28		0.265	0.628	0.628	0.628
12378-PeCDF	0.437	J	0.196	0.0219	0.0219	0.0131
23478-PeCDF	(0.214)		0.214	(0.107)	(0.107)	(0.0643)
123478-HxCDF	0.923	J	0.179	0.0923	0.0923	0.0923
123678-HxCDF	0.303	J	0.137	0.0303	0.0303	0.0303
234678-HxCDF	[0.403]	J	0.164	[0.0403]	[0.0403]	[0.0403]
123789-HxCDF	(0.205)		0.205	(0.0205)	(0.0205)	(0.0205)
1234678-HpCDF	6.14		0.162	0.0614	0.0614	0.0614
1234789-HpCDF	0.624	J	0.398	0.00624	0.00624	0.00624
OCDF	25		0.694	0.025	0.0025	0.00749

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TEQ Summaries			
EMPC = 0, ND = 0	4.59	3.96	4.09
EMPC = 0, ND = DL / 2	4.76	4.23	4.34
EMPC = 0, ND = DL	4.92	4.5	4.59
EMPC = 0, < J-level = 0	4.22	3.59	3.73
EMPC = EMPC, ND = 0	4.63	4	4.13
EMPC = EMPC, ND = DL / 2	4.8	4.27	4.38
EMPC = EMPC, ND = DL	4.96	4.54	4.63
EMPC = EMPC, < J-level = 0	4.22	3.59	3.73

Checkcode: 301-892-DTM

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Sample ID: Method Blank B6336_18970 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18970_DF_SDS	Date Extracted:	28-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18970	Date Analyzed:	02-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:35:14

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.24			ES 2378-TCDD	99.7	
12378-PeCDD	ND	0.226			ES 12378-PeCDD	106	
123478-HxCDD	ND	0.241			ES 123478-HxCDD	100	
123678-HxCDD	ND	0.254			ES 123678-HxCDD	99.5	
123789-HxCDD	ND	0.23			ES 123789-HxCDD	99.6	
1234678-HpCDD	ND	0.254			ES 1234678-HpCDD	101	
OCDD	ND	0.605			ES OCDD	84.9	
2378-TCDF	ND	0.147			ES 2378-TCDF	92.5	
12378-PeCDF	ND	0.164			ES 12378-PeCDF	106	
23478-PeCDF	ND	0.166			ES 23478-PeCDF	104	
123478-HxCDF	ND	0.131			ES 123478-HxCDF	102	
123678-HxCDF	ND	0.113			ES 123678-HxCDF	119	
234678-HxCDF	ND	0.143			ES 234678-HxCDF	117	
123789-HxCDF	ND	0.157			ES 123789-HxCDF	104	
1234678-HpCDF	ND	0.153			ES 1234678-HpCDF	115	
1234789-HpCDF	ND	0.24			ES 1234789-HpCDF	97.6	
OCDF	ND	0.522			ES OCDF	86	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	98.4	
Total TCDD	ND	0.24	ND		CS 12347-PeCDD	113	
Total PeCDD	ND	0.226	ND		CS 12346-PeCDF	113	
Total HxCDD	ND	0.241	ND		CS 123469-HxCDF	113	
Total HpCDD	ND	0.254	ND		CS 1234689-HpCDF	109	
Total TCDF	ND	0.147	ND				
Total PeCDF	ND	0.165	ND				
Total HxCDF	ND	0.134	ND				
Total HpCDF	ND	0.19	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	0.335	0.335	0.335				
TEQ: ND=DL	0.669	0.669	0.669				

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Sample ID: Method Blank B6336_18970 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18970_DF_SDS	Date Extracted:	28-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18970	Date Analyzed:	02-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:35:14

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.24)		12479/12468D	(0.226)		124679/124689D	(0.241)		1234679D	(0.254)	
1379D	(0.24)		12469D	(0.226)		123468D	(0.241)		1234678D	(0.254)	
1369D	(0.24)		12368D	(0.226)		123679/123689D	(0.241)				
1469D	(0.24)		12478D	(0.226)		123469D	(0.241)				
1247D...[4]	(0.24)		12379D	(0.226)		123478D	(0.241)				
1378D	(0.24)		12369D...[3]	(0.226)		123678D	(0.254)				
1268D	(0.24)		12346/12347D	(0.226)		123467D	(0.241)				
1478D	(0.24)		12378D	(0.226)		123789D	(0.23)		**Conc.**	0	
1279D	(0.24)		12367D	(0.226)					**EMPC**	0	
1234/1269D	(0.24)		12389D	(0.226)							
1236D	(0.24)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.24)										
1239D	(0.24)								OCDD	(0.605)	
2378D	(0.24)										
1278D	(0.24)										
1267D	(0.24)										
1289D	(0.24)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	0.335	0.335
TEQ: ND=DL	0.669	0.669

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 069-213-GLS

Report Created: 02-Mar-2022 09:10 Analyst: TF

Sample ID: Method Blank B6336_18970 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18970_DF_SDS	Date Extracted:	28-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18970	Date Analyzed:	02-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	1:35:14

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.147)		13468/12468F	(0.16)		123468F	(0.134)		1234678F	(0.153)	
1468F	(0.147)		13678F...[3]	(0.165)		124678/134678F	(0.134)		1234679F	(0.19)	
2468F	(0.147)		12368F...[3]	(0.165)		134679F	(0.134)		1234689F	(0.19)	
1346/1246F	(0.147)		14678F	(0.165)		124679F	(0.134)		1234789F	(0.24)	
1347F...[3]	(0.147)		13479F	(0.165)		124689F	(0.134)				
1348F	(0.147)		13469/12479F	(0.165)		123467F	(0.134)				
1248F...[3]	(0.147)		12346F	(0.165)		123478F	(0.131)				
1268F	(0.147)		23468/12469F	(0.165)		123678F	(0.113)				
1467F	(0.147)		12347F	(0.165)		123479F	(0.134)				
1478F	(0.147)		12348F	(0.165)		123469F	(0.134)				
1369/1237F	(0.147)		12378F	(0.164)		123679F	(0.134)				
2467F	(0.147)		12678/12367F	(0.165)		234678F	(0.143)		**Conc.**	0	
2368F	(0.147)		12379F	(0.165)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.147)		12679F	(0.165)		123689F	(0.134)				
1278F	(0.147)		23467/12369F	(0.165)		123789F	(0.157)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.147)		23478F	(0.166)		123789/123489F	0			**(pg/g)**	
1267F	(0.147)		23478/12489F	0		123489F	(0.134)		OCDF	(0.522)	
2346/1249F	(0.147)		12489F	(0.165)							
2347/1279F	(0.147)		12349F	(0.165)							
2348F	(0.147)		12389F	(0.165)							
2378F	(0.147)										
2367/3467F	(0.147)										
1269F	(0.147)										
1239F	(0.147)										
1289F	(0.147)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 069-213-GLS

Report Created: 02-Mar-2022 09:10 Analyst: TF

Sample ID: Method Blank B6336_18970 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18970_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18970
Date Collected:	n/a	Split:	-	Date Extracted:	28-Feb-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	02-Mar-2022 01:35
Lab Project No:	B6336	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.24)		0.24	(0.24)	(0.24)	(0.24)
12378-PeCDD	(0.226)		0.226	(0.113)	(0.226)	(0.226)
123478-HxCDD	(0.241)		0.241	(0.0241)	(0.0241)	(0.0241)
123678-HxCDD	(0.254)		0.254	(0.0254)	(0.0254)	(0.0254)
123789-HxCDD	(0.23)		0.23	(0.023)	(0.023)	(0.023)
1234678-HpCDD	(0.254)		0.254	(0.00254)	(0.00254)	(0.00254)
OCDD	(0.605)		0.605	(0.000605)	(0.0000605)	(0.000182)
2378-TCDF	(0.147)		0.147	(0.0147)	(0.0147)	(0.0147)
12378-PeCDF	(0.164)		0.164	(0.00818)	(0.00818)	(0.00491)
23478-PeCDF	(0.166)		0.166	(0.0831)	(0.0831)	(0.0498)
123478-HxCDF	(0.131)		0.131	(0.0131)	(0.0131)	(0.0131)
123678-HxCDF	(0.113)		0.113	(0.0113)	(0.0113)	(0.0113)
234678-HxCDF	(0.143)		0.143	(0.0143)	(0.0143)	(0.0143)
123789-HxCDF	(0.157)		0.157	(0.0157)	(0.0157)	(0.0157)
1234678-HpCDF	(0.153)		0.153	(0.00153)	(0.00153)	(0.00153)
1234789-HpCDF	(0.24)		0.24	(0.0024)	(0.0024)	(0.0024)
OCDF	(0.522)		0.522	(0.000522)	(0.0000522)	(0.000157)

TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.297	0.353	0.335
EMPC = 0, ND = DL	0.594	0.705	0.669
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.297	0.353	0.335
EMPC = EMPC, ND = DL	0.594	0.705	0.669
EMPC = EMPC, < J-level = 0	0	0	0

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Checkcode: 069-213-GLS

Sample ID: 0_18970_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18970_DF	Date Extracted:	28-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18970	Date Analyzed:	01-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:29:54

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.3				ES 2378-TCDD	90	
12378-PeCDD	46.3				ES 12378-PeCDD	99.4	
123478-HxCDD	51.1				ES 123478-HxCDD	103	
123678-HxCDD	51.5				ES 123678-HxCDD	102	
123789-HxCDD	51.2				ES 123789-HxCDD	100	
1234678-HpCDD	51.8				ES 1234678-HpCDD	105	
OCDD	105				ES OCDD	102	
2378-TCDF	10.1				ES 2378-TCDF	85.1	
12378-PeCDF	49.2				ES 12378-PeCDF	91.7	
23478-PeCDF	51.7				ES 23478-PeCDF	91.1	
123478-HxCDF	48.7				ES 123478-HxCDF	107	
123678-HxCDF	52.4				ES 123678-HxCDF	110	
234678-HxCDF	51.1				ES 234678-HxCDF	111	
123789-HxCDF	46.6				ES 123789-HxCDF	110	
1234678-HpCDF	49.6				ES 1234678-HpCDF	119	
1234789-HpCDF	49.8				ES 1234789-HpCDF	107	
OCDF	99.1				ES OCDF	104	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	97.8	
Total TCDD	52.9		52.9		CS 12347-PeCDD	101	
Total PeCDD	70.6		70.6		CS 12346-PeCDF	96.8	
Total HxCDD	169		169		CS 123469-HxCDF	121	
Total HpCDD	64		64		CS 1234689-HpCDF	122	
Total TCDF	60		60				
Total PeCDF	198		198				
Total HxCDF	325		325				
Total HpCDF	99.4		99.4				
Total PCDD/Fs	**1,240**		**1,240**				
WHO-2005 TEQs							
TEQ: ND=0	112		112				
TEQ: ND=DL/2	112	0.386	112				
TEQ: ND=DL	112	0.772	112				

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Sample ID: 0_18970_OPR002 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18970_DF	Date Extracted:	28-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18970	Date Analyzed:	01-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	23:16:15

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.9				ES 2378-TCDD	92.5	
12378-PeCDD	49.5				ES 12378-PeCDD	98.4	
123478-HxCDD	55.9				ES 123478-HxCDD	95.3	
123678-HxCDD	55.6				ES 123678-HxCDD	95.3	
123789-HxCDD	51.2				ES 123789-HxCDD	96.7	
1234678-HpCDD	54.2				ES 1234678-HpCDD	92.9	
OCDD	107				ES OCDD	84.2	
2378-TCDF	11				ES 2378-TCDF	84.5	
12378-PeCDF	49.7				ES 12378-PeCDF	96.1	
23478-PeCDF	52.7				ES 23478-PeCDF	97.9	
123478-HxCDF	53.4				ES 123478-HxCDF	98.2	
123678-HxCDF	50				ES 123678-HxCDF	118	
234678-HxCDF	52.9				ES 234678-HxCDF	113	
123789-HxCDF	47.3				ES 123789-HxCDF	103	
1234678-HpCDF	49.4				ES 1234678-HpCDF	116	
1234789-HpCDF	51.8				ES 1234789-HpCDF	96	
OCDF	102				ES OCDF	83.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	98.2	
Total TCDD	50.8		50.8		CS 12347-PeCDD	109	
Total PeCDD	74.5		74.5		CS 12346-PeCDF	105	
Total HxCDD	179		179		CS 123469-HxCDF	119	
Total HpCDD	67		67		CS 1234689-HpCDF	116	
Total TCDF	59.8		59.8				
Total PeCDF	193		193				
Total HxCDF	323		323				
Total HpCDF	101		101				
Total PCDD/Fs	**1,260**		**1,260**				
WHO-2005 TEQs							
TEQ: ND=0	118		118				
TEQ: ND=DL/2	118	0.276	118				
TEQ: ND=DL	118	0.553	118				

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Sample DUP

Method 1613B

Sample ID: 0_18970_OPR001

Analyte	OPR1_18970_DF pg/uL	OPR2_18970_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	11.3	11.9	4.8%
1,2,3,7,8-PeCDD	46.3	49.5	6.6%
1,2,3,4,7,8-HxCDD	51.1	55.9	9.0%
1,2,3,6,7,8-HxCDD	51.5	55.6	7.5%
1,2,3,7,8,9-HxCDD	51.2	51.2	0.1%
1,2,3,4,6,7,8-HpCDD	51.8	54.2	4.4%
OCDD	105	107	1.9%
2,3,7,8-TCDF	10.1	11	8.3%
1,2,3,7,8-PeCDF	49.2	49.7	0.9%
2,3,4,7,8-PeCDF	51.7	52.7	1.9%
1,2,3,4,7,8-HxCDF	48.7	53.4	9.2%
1,2,3,6,7,8-HxCDF	52.4	50	4.6%
2,3,4,6,7,8-HxCDF	51.1	52.9	3.6%
1,2,3,7,8,9-HxCDF	46.6	47.3	1.6%
1,2,3,4,6,7,8-HpCDF	49.6	49.4	0.4%
1,2,3,4,7,8,9-HpCDF	49.8	51.8	3.9%
OCDF	99.1	102	2.6%
Totals			
Total TCDD	52.9	50.8	4.0%
Total PeCDD	70.6	74.5	5.4%
Total HxCDD	169	179	5.6%
Total HpCDD	64	67	4.5%
Total TCDF	60	59.8	0.3%
Total PeCDF	198	193	2.2%
Total HxCDF	325	323	0.7%
Total HpCDF	99.4	101	1.8%

Sample Receipt Notification

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*22-Feb-22 at 10:22*
AP Project name:	*B6336*
Requested TAT:	*3 business days*
Projected due date:	*3-Mar-22*
Matrix:	*Solid*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-021822-S-SB-NC-O-54	B6336_001	Solid - HOLD	1	4oz clear	18-Feb-22	14:10	3.1	1	490527045884
11215131-021822-S-SB-NC-B-17	B6336_002	Solid - HOLD	1	4oz clear	18-Feb-22	14:20	3.1	1	490527045884
11215131-021822-S-SB-NC-S-51	B6336_003*	Solid	1	4oz clear	18-Feb-22	14:30	3.1	1	490527045884
11215131-021922-S-SB-NC-O-53	B6336_004	Solid	1	4oz clear	19-Feb-22	08:15	3.1	1	490527045884
11215131-021922-S-SB-NC-O-51	B6336_005	Solid	1	4oz clear	19-Feb-22	09:10	3.1	1	490527045884

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact *sample taken off HOLD per email dated 2/25/2022

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Taylor McKnight *Logged in by: Taylor McKnight* *QC'ed by:* TB 2/28/2022

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

SGS CHAIN OF CUSTODY B6336

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston, T
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

PRESERVATIVE: None

ANALYSIS & METHOD: M1613B; ~~M8290A~~; ~~M1668A~~; ~~M1668C~~; HR-PAH; ~~M4600~~

QC: MS | MSD | DUP

see SSOW

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B	QC	QTY	REMARKS
11215131-021822-S-SB-NC-O-54	2/18/22	1410	C	S	4oz	X		1	HOLD *
11215131-021822-S-SB-NC-B-17	1	1420	C	S	4oz	X		1	HOLD *
11215131-021822-S-SB-NC-S-51	↓	1430	C	S	4oz	X		1	HOLD *
11215131-021922-S-SB-NC-S-50	2/19/22	0800	C	S	4oz	X		1	RUSH * see Tm 2/22
11215131-021922-S-SB-NC-O-53	1	0815	C	S	4oz	X		1	*
11215131-021922-S-SB-NC-O-51	↓	0910	C	S	4oz	X		1	*

	DATE:	TIME:		
COLLECTED/RELINQUISHED BY (1): Sarah Belanger	2/19/22	1145	RECEIVED BY: Meagan Willis	RECEIVED BY LABORATORY: DATE: 2/22/22 TIME: 10:21
RELINQUISHED BY (2): Meagan Willis	2/21/22	0815	RECEIVED BY: 2/21/22 0815	COOLER SEAL: ☐ INTACT ☐ BROKEN ☑ ABSENT
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY: 2/22/22 10:22	CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT
				CARRIER: TEMP: °C 3.1 IR4
				TRACKING #:

* = Samples in this Project

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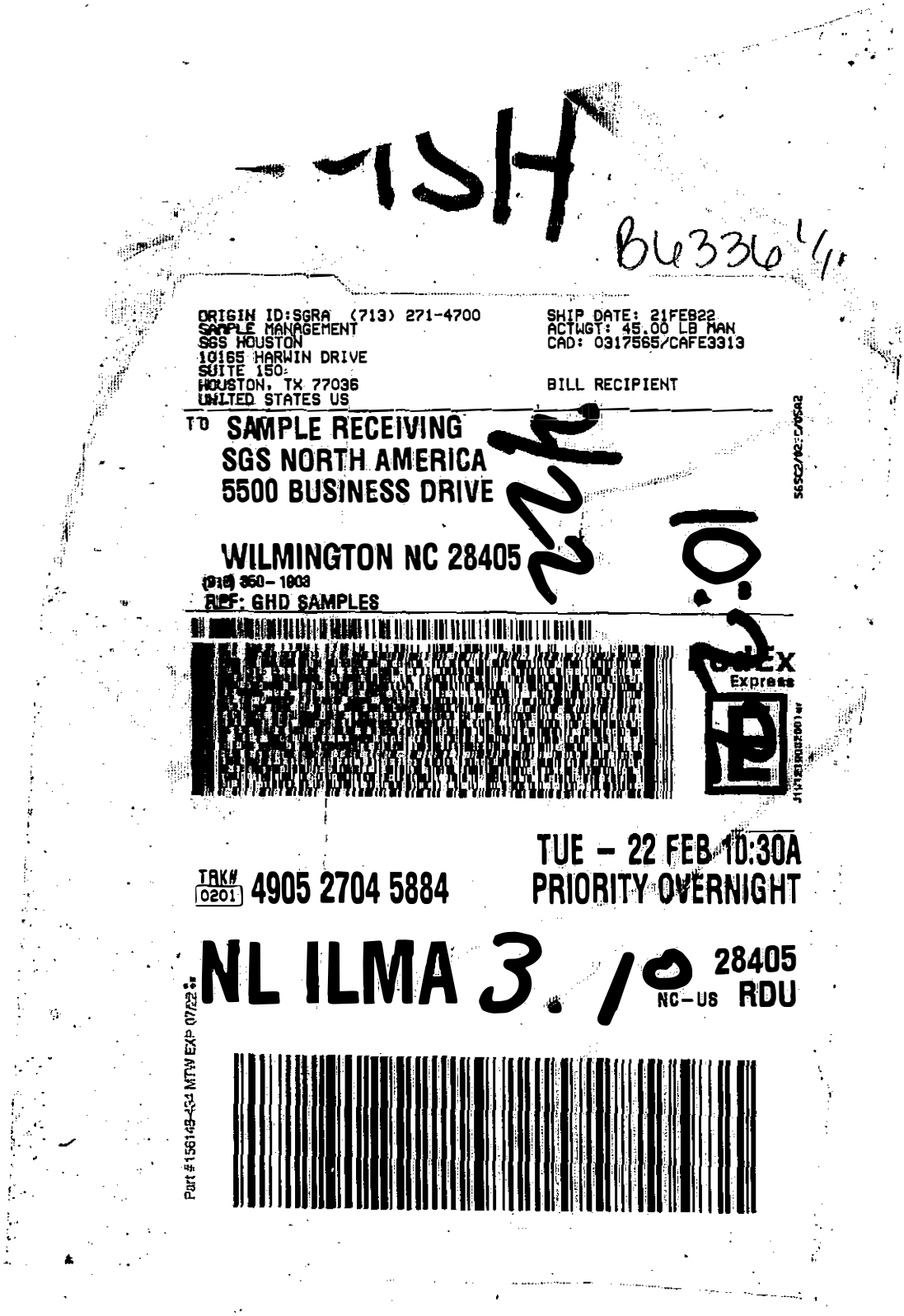
Member of the SGS Group (SGS SA)



-TSH

B6336 1/1

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 21FEB22
ACTWGT: 45.00 LB MAN
CAD: 0317565/CAFE3313

BILL RECIPIENT

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

2/22

10:30

FedEx Express

TUE - 22 FEB 10:30A
PRIORITY OVERNIGHT

TRK# 0201 4905 2704 5884

NL ILMA 3.10 28405 NC-US RDU

Part # 156143-434 MTW EXP 07/22

Project Initiation Form

Project Number: B6336

Initiation Date: 2/28/2022

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Solid

TAT: 3 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR & PRD

10 g DWE extraction

Samples 003 taken OFF HOLD

Read and understood, initial and date: Prep Lab: KE 2/28/22 JRM 2/28/22 RAS 3/1/22 HRMS Lab:

Reporting Instructions

M1613B
Full Report

OPR/PRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab:

PM Initials: tburkamper Date: 28-Feb-2022

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Methods: PCB / PAH | (PCDD/F) / WHO-2 | QUANTICS / USV | DoD PCDD/F / PEST | Extraction Type: (SDS) / CLL | TALEX Carbon SPE | [Solid] | Final Volume: 20 mL

Batch# 18970 | Split: ~~1/2~~ ~~NO~~ | Extract Initial/Date: KE 2/28/22 | Clean-up Initial/Date: ~~JRH~~ 3/1/22 | Transfer Init/Date: ~~KPS~~ 3/1/22

Lab Sample ID	Extraction Position / Solvent: TOL	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B6336_18970_003	25	12.02				gray, clay-like/sandy
MB1_18970	22	10.00				sodium sulfate
OPR1_18970	23	10.00				sodium sulfate
OPR2_18970	24	10.00				sodium sulfate

~~300~~ 3/1/22

Supply IDs

Toluene	STL14-26
MeCHL	STL14-27
Florisil	SPLS-91
Hexane	STL14-29
Silica	SPLS-69
S Nitrate	N/A
Base Silica	SPLS-92
HydroMatrix	N/A
Tetradecane	SPLS-73D
H_2SO_4	N/A
A Silica	SPLS-90
Sodium Sulfate	SPLS-80B

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	JRH 3/2/22
Carbon Column Date/Initial:	
GPC Date/Initial:	
BondElute Date/Initial:	

Cycle Time

JRH 01/27/22 TOL	Start: ~~1515~~	1515
	Stop:	0915
HEX	Start:	
	Stop:	
DCM	Start:	JRH 3/2/22
	Stop:	

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Methods: PCB PCDD/F QUANTICS DoD PCDD/F
PAH WHO-2 USV PEST

Solid

Batch# 18970

Inter-Department Communication Sheet

SGS

Wt. Volume Results

Batch #: 18970

Comments:

QC 3/2/22

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6336_003	2.39	5.14	4.72	84.73%	84.73%			11.8	12.02	10.18

% Solid Determination WorkSheet

SGS

Batch: 18970

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	10g DWE	Comments
B6336_18970_003	2.39	5.14	4.72	11.80	

Date/Initials: KE 2/18/22

SGS

Methods: PCB / PAH | PCDD/F / WHO-2 | QUANTICS / USV | DoD PCDD/F / PEST | Solid

Batch # 18970

Spiker Initials/Date:	JRH 3/1/22	JRH 3/1/22	JRH 3/1/22	3/1/22	3/1/22		
Lab Sample ID	D/F Ax-A Amount: 20µL Observer Initials	D/F Ax-B Amount: 20µL Observer Initials	D/F ES Amount: 20µL Observer Initials	D/F CS Amount: 20µL Observer Initials	D/F JS Amount: 20µL Observer Initials	Amount: Observer Initials	Amount: Observer Initials
B6336_18970_003	—	—	KE	JRH	KE		
MB1_18970	—	—	KE	JRH	KE		
OPR1_18970	KE	KE	KE	JRH	KE		
OPR2_18970	KE	KE	KE	JRH	KE		

3/1/22

Standard Information

Pipette ID							3/1/22
Spike ID	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS		
SIL #	26-2-8	25-87-2	26-2-9	25-403-1	25-384-1		
Concentration	10 pg/µL	10 pg/mL	100 pg/µL	100 pg/µL	100 pg/µL		
Expiration Date	7/9/28	6/22/22	8/2028	2/15/23	1/28/23		

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
9	220301C09	3	CS3_220301_DF_CB	1.00	25-347-1	DTF	469-035	01-Mar-2022	20:49:11
10	220301C11	58	OPR1_18970_DF	1.00	0_18970_OPR001	DTF	674-870	01-Mar-2022	22:29:54
11	220301C12	59	OPR2_18970_DF	1.00	0_18970_OPR002	DTF	757-124	01-Mar-2022	23:16:15
13	220301C13	2	SBS_220301_DF_CB	1.00	20-61-1	DTF	812-051	02-Mar-2022	00:02:34
14	220301C15	57	MB1_18970_DF_SDS	10.00	Method Blank	DTF	069-213	02-Mar-2022	01:35:14
15	220301C19	60	B6336_18970_DF_003	10.18	11215131-021822-S-SB-NC-S-51	DTF	301-892	02-Mar-2022	04:40:35

REVIEWED
Tyler_Fritz , 3/2/2022, 9:21:01 AM

REVIEWED
Amber_Kornegay , 3/2/2022, 10:19:05 AM

Lab ID: MB1_18970_DF_SDS **Acq'd:** 02 Mar 2022 01:35 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6336_18970 **UTP:** 02-Mar-2022 09:08:26 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 069-213-GLS

Datafile: 220301C15 **Report:** 02 Mar 2022 09:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	3330.151	0.24
12378-PeCDD	NotFnd		1.0007	-		-	-	-	1.04	-	2793.306	0.226
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2646.179	0.241
123678-HxCDD	NotFnd		1.0036	-		-	-	-	1.15	-	2646.179	0.254
123789-HxCDD	NotFnd		1.0118	-		-	-	-	1.05	-	2646.179	0.23
1234678-HpCDD	NotFnd		1.0002	-		-	-	-	1.06	-	2424.156	0.254
OCDD	NotFnd		1.0003	-		-	-	-	1.13	-	2565.23	0.605
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	2395.2544	0.147
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3012.644	0.164
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3012.644	0.166
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2365.407	0.131
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2365.407	0.113
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2365.407	0.143
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2365.407	0.157
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2885.663	0.153
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2885.663	0.24
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	2643.77	0.522

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.18	1.0243	1.0243	0	2.27E+07	0.80	Y	1.05	99.7
ES 12378-PeCDD	33.59	1.2198	1.2210	+2.4	2.03E+07	1.59	Y	0.88	106
ES 123478-HxCDD	37.53	0.9916	0.9915	-0.2	1.76E+07	1.34	Y	0.97	100
ES 123678-HxCDD	37.65	0.9947	0.9947	0	1.70E+07	1.26	Y	0.94	99.5
ES 123789-HxCDD	37.95	1.0029	1.0028	-0.2	1.97E+07	1.27	Y	1.09	99.6
ES 1234678-HpCDD	40.70	1.0749	1.0754	+1.2	1.66E+07	1.08	Y	0.91	101
ES OCDD	43.41	1.1460	1.1471	+2.9	1.92E+07	0.88	Y	0.62	84.9
ES 2378-TCDF	27.31	1.0531	1.0535	+0.7	3.43E+07	0.83	Y	1.06	92.5
ES 12378-PeCDF	32.12	1.2378	1.2393	+2.9	3.38E+07	1.59	Y	0.91	106
ES 23478-PeCDF	33.25	1.2810	1.2826	+3.2	3.23E+07	1.49	Y	0.88	104
ES 123478-HxCDF	36.52	0.9650	0.9649	-0.2	2.21E+07	0.56	Y	1.20	102
ES 123678-HxCDF	36.66	0.9688	0.9686	-0.4	2.92E+07	0.54	Y	1.35	119
ES 234678-HxCDF	37.34	0.9866	0.9866	0	2.63E+07	0.54	Y	1.24	117
ES 123789-HxCDF	38.32	1.0125	1.0125	0	2.17E+07	0.51	Y	1.16	104
ES 1234678-HpCDF	39.76	1.0501	1.0504	+0.7	2.02E+07	0.46	Y	0.97	115
ES 1234789-HpCDF	41.16	1.0870	1.0874	+1.0	1.50E+07	0.46	Y	0.85	97.6
ES OCDF	43.59	1.1505	1.1516	+2.9	2.51E+07	0.90	Y	0.81	86

Lab ID: MB1_18970_DF_SDS | **Acq'd:** 02 Mar 2022 01:35 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6336_18970 | **UTP:** 02-Mar-2022 09:08:26 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 069-213-GLS

Datafile: 220301C15 | **Report:** 02 Mar 2022 09:10 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.51		-	-	-	2.18E+07	0.81	Y	-	-
JS 1234-TCDF	25.92		-	-	-	3.51E+07	0.78	Y	-	-
JS 123467-HxCDD	37.85		-	-	-	9.04E+06	1.27	Y	-	-
CS 37Cl-2378-TCDD	28.20		1.0251	1.0252	+0.2	1.03E+07	n/a	-	1.20	98.4
CS 12347-PeCDD	33.08		1.2016	1.2026	+2.0	1.86E+07	1.49	Y	0.75	113
CS 12346-PeCDF	31.59		1.2172	1.2187	+2.8	3.36E+07	1.59	Y	0.85	113
CS 123469-HxCDF	36.98		0.9771	0.9770	-0.2	2.28E+07	0.54	Y	1.12	113
CS 1234689-HpCDF	40.16		1.0608	1.0612	+1.0	1.74E+07	0.47	Y	0.89	109
~~SS 37Cl-2378-TCDD~~	~~28.20~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.03E+07~~	~~n/a~~		~~1.15~~	~~99~~
~~SS 12347-PeCDD~~	~~33.08~~		~~1.2016~~	~~1.2026~~	~~+2.0~~	~~1.86E+07~~	~~1.49~~	~~Y~~	~~0.86~~	~~106~~
~~SS 12346-PeCDF~~	~~31.59~~		~~1.2172~~	~~1.2187~~	~~+2.8~~	~~3.36E+07~~	~~1.59~~	~~Y~~	~~0.94~~	~~106~~
~~SS 123469-HxCDF~~	~~36.98~~		~~0.9771~~	~~0.9770~~	~~-0.2~~	~~2.28E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~94.6~~
~~SS 1234689-HpCDF~~	~~40.16~~		~~1.0608~~	~~1.0612~~	~~+1.0~~	~~1.74E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~93.8~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: MB1_18970_DF_SDS **Acq'd: 02 Mar 2022 01:35 DTF** **Wt/Vol: 10.00 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6336_18970 **UTP: 02-Mar-2022 09:08:26 DTF** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 069-213-GLS**

Datafile: 220301C15 **Report: 02 Mar 2022 09:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		3330.151	0.24
1379-TCDD	NotFnd		0.8829						1.18		3330.151	0.24
1369-TCDD	NotFnd		0.8982						1.18		3330.151	0.24
1469-TCDD	NotFnd		0.9261						1.18		3330.151	0.24
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		3330.151	0.24
1378-TCDD	NotFnd		0.9417						1.18		3330.151	0.24
1268-TCDD	NotFnd		0.9487						1.18		3330.151	0.24
1478-TCDD	NotFnd		0.9576						1.18		3330.151	0.24
1279-TCDD	NotFnd		0.9636						1.18		3330.151	0.24
1234/1269-TCDD	NotFnd		0.9761						1.18		3330.151	0.24
1236-TCDD	NotFnd		0.9812						1.18		3330.151	0.24
1237/1238-TCDD	NotFnd		0.9905						1.18		3330.151	0.24
1239-TCDD	NotFnd		0.9951						1.18		3330.151	0.24
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**3330.151**	**0.24**
1278-TCDD	NotFnd		1.0124						1.18		3330.151	0.24
1267-TCDD	NotFnd		1.0172						1.18		3330.151	0.24
1289-TCDD	NotFnd		1.0354						1.18		3330.151	0.24
12479/12468-PeCDD	NotFnd		0.9255						1.04		2793.306	0.226
12469-PeCDD	NotFnd		0.9416						1.04		2793.306	0.226
12368-PeCDD	NotFnd		0.9582						1.04		2793.306	0.226
12478-PeCDD	NotFnd		0.9637						1.04		2793.306	0.226
12379-PeCDD	NotFnd		0.9668						1.04		2793.306	0.226
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		2793.306	0.226
12346/12347-PeCDD	NotFnd		0.9858						1.04		2793.306	0.226
12378-PeCDD	NotFnd		**1.0007**						**1.04**		**2793.306**	**0.226**
12367-PeCDD	NotFnd		1.0036						1.04		2793.306	0.226
12389-PeCDD	NotFnd		1.0137						1.04		2793.306	0.226
124679/124689-HxCDD	NotFnd		0.9540						1.10		2646.179	0.241
123468-HxCDD	NotFnd		0.9715						1.10		2646.179	0.241
123679/123689-HxCDD	NotFnd		0.9793						1.10		2646.179	0.241
123469-HxCDD	NotFnd		0.9829						1.10		2646.179	0.241
123478-HxCDD	NotFnd		**1.0004**						1.09		**2646.179**	**0.241**
123678-HxCDD	NotFnd		**1.0036**						1.15		**2646.179**	**0.254**
123467-HxCDD	NotFnd		1.0089						1.10		2646.179	0.241
123789-HxCDD	NotFnd		**1.0118**						1.05		**2646.179**	**0.23**

Lab ID: MB1_18970_DF_SDS | **Acq'd:** 02 Mar 2022 01:35 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6336_18970 | **UTP:** 02-Mar-2022 09:08:26 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 069-213-GLS

Datafile: 220301C15 | **Report:** 02 Mar 2022 09:10 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9836						1.06		2424.156	0.254
1234678-HpCDD	**NotFnd**		**1.0002**						**1.06**		**2424.156**	**0.254**
OCDD	**NotFnd**		**1.0003**						**1.13**		**2565.23**	**0.605**
OCDD-a	NotFnd		1.0002						0.07		3017.415	11.1
1368-TCDF	NotFnd		0.8191						1.08		2395.2544	0.147
1468-TCDF	NotFnd		0.8408						1.08		2395.2544	0.147
2468-TCDF	NotFnd		0.8645						1.08		2395.2544	0.147
1346/1246-TCDF	NotFnd		0.8772						1.08		2395.2544	0.147
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		2395.2544	0.147
1348-TCDF	NotFnd		0.8932						1.08		2395.2544	0.147
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		2395.2544	0.147
1268-TCDF	NotFnd		0.9119						1.08		2395.2544	0.147
1467-TCDF	NotFnd		0.9170						1.08		2395.2544	0.147
1478-TCDF	NotFnd		0.9234						1.08		2395.2544	0.147
1369/1237-TCDF	NotFnd		0.9369						1.08		2395.2544	0.147
2467-TCDF	NotFnd		0.9415						1.08		2395.2544	0.147
2368-TCDF	NotFnd		0.9475						1.08		2395.2544	0.147
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		2395.2544	0.147
1278-TCDF	NotFnd		0.9676						1.08		2395.2544	0.147
1349-TCDF	NotFnd		0.9722						1.08		2395.2544	0.147
1267-TCDF	NotFnd		0.9777						1.08		2395.2544	0.147
2346/1249-TCDF	NotFnd		0.9843						1.08		2395.2544	0.147
2347/1279-TCDF	NotFnd		0.9926						1.08		2395.2544	0.147
2348-TCDF	NotFnd		0.9968						1.08		2395.2544	0.147
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**2395.2544**	**0.147**
2367/3467-TCDF	NotFnd		1.0142						1.08		2395.2544	0.147
1269-TCDF	NotFnd		1.0235						1.08		2395.2544	0.147
1239-TCDF	NotFnd		1.0329						1.08		2395.2544	0.147
1289-TCDF	NotFnd		1.0742						1.08		2395.2544	0.147
13468/12468-PeCDF	NotFnd		0.9122						1.02		2919.954	0.16
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		3012.644	0.165
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		3012.644	0.165
14678-PeCDF	NotFnd		0.9685						1.02		3012.644	0.165
13479-PeCDF	NotFnd		0.9716						1.02		3012.644	0.165
13469/12479-PeCDF	NotFnd		0.9794						1.02		3012.644	0.165
12346-PeCDF	NotFnd		0.9836						1.02		3012.644	0.165

Lab ID: MB1_18970_DF_SDS | **Acq'd:** 02 Mar 2022 01:35 DTF | **Wt/Vol:** 10.00 g | **ICAL:** HRMS3_DF_10272021 10NOV2021

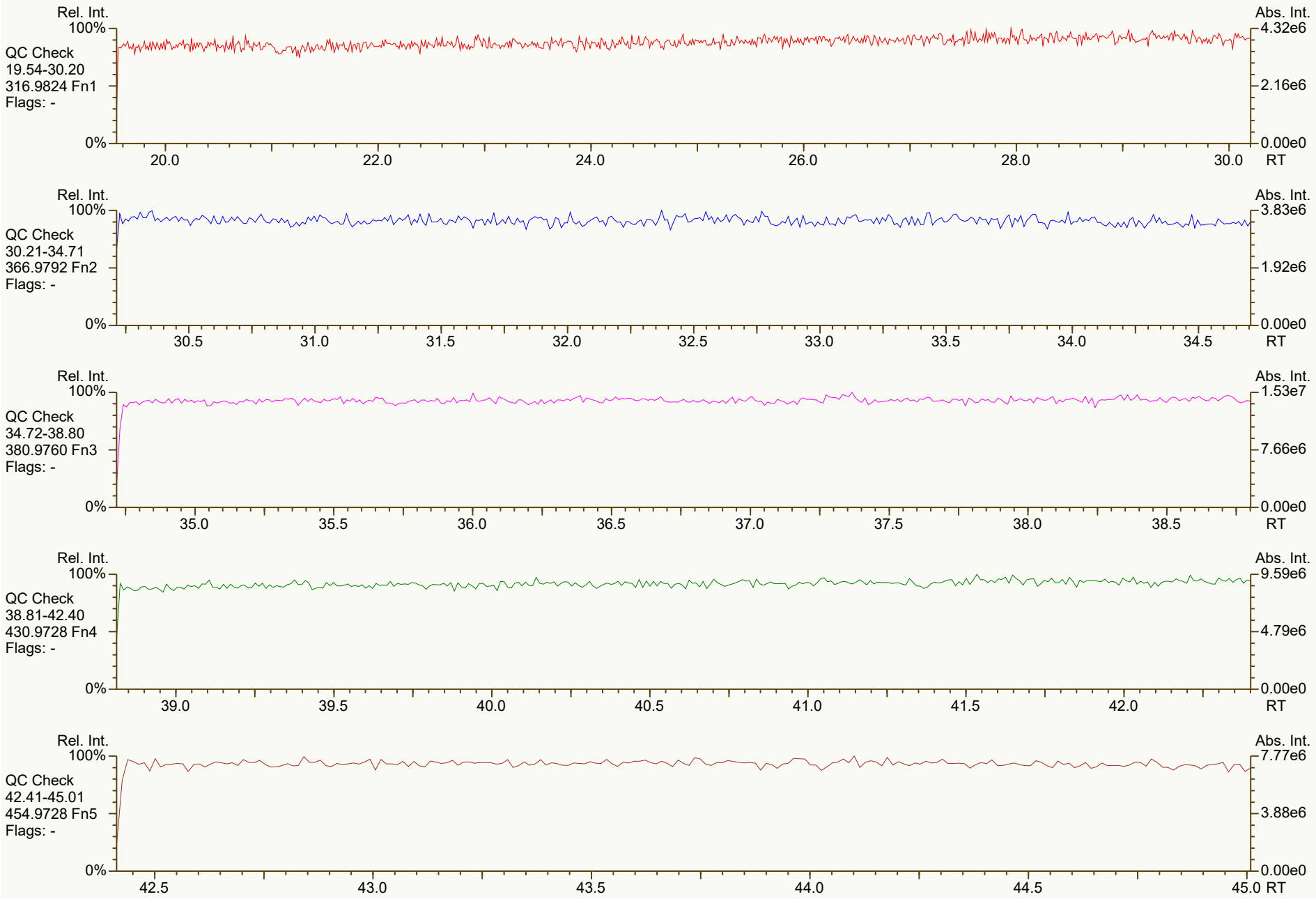
Client ID: Method Blank B6336_18970 | **UTP:** 02-Mar-2022 09:08:26 DTF | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 069-213-GLS

Datafile: 220301C15 | **Report:** 02 Mar 2022 09:10 TF | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		3012.644	0.165
12347-PeCDF	NotFnd		0.9891						1.02		3012.644	0.165
12348-PeCDF	NotFnd		0.9938						1.02		3012.644	0.165
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3012.644**	**0.164**
12678/12367-PeCDF	NotFnd		1.0091						1.02		3012.644	0.165
12379-PeCDF	NotFnd		1.0144						1.02		3012.644	0.165
12679-PeCDF	NotFnd		0.9927						1.02		3012.644	0.165
23467/12369-PeCDF	NotFnd		0.9965						1.02		3012.644	0.165
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3012.644**	**0.166**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3012.644	0.165
12349-PeCDF	NotFnd		1.0101						1.02		3012.644	0.165
12389-PeCDF	NotFnd		1.0330						1.02		3012.644	0.165
123468-HxCDF	NotFnd		0.9622						1.19		2365.407	0.134
124678/134678-HxCDF	NotFnd		0.9678						1.19		2365.407	0.134
134679-HxCDF	NotFnd		0.9741						1.19		2365.407	0.134
124679-HxCDF	NotFnd		0.9795						1.19		2365.407	0.134
124689-HxCDF	NotFnd		0.9856						1.19		2365.407	0.134
123467-HxCDF	NotFnd		0.9972						1.19		2365.407	0.134
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2365.407**	**0.131**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2365.407**	**0.113**
123479-HxCDF	NotFnd		1.0048						1.19		2365.407	0.134
123469-HxCDF	NotFnd		1.0089						1.19		2365.407	0.134
123679-HxCDF	NotFnd		0.9942						1.19		2365.407	0.134
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2365.407**	**0.143**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2365.407	0.134
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2365.407**	**0.157**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		2365.407	0.134
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2885.663**	**0.153**
1234679-HpCDF	NotFnd		1.0068						1.34		2885.663	0.19
1234689-HpCDF	NotFnd		1.0104						1.34		2885.663	0.19
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2885.663**	**0.24**
OCDF	**NotFnd**		**1.0002**						**1.07**		**2643.77**	**0.522**
OCDF-a	NotFnd		1.0001						0.07		2729.902	8.71

SGS ID: MB1_18970_DF_SDS | **Sample ID: Method Blank** | **Acq: 02-Mar-2022 01:35:14**

Instr: [ILM] AutoSpec-Ultima HRMS3 | **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 57** | **User: DTF Datafile: 220301C15**



Results: P:\B6300_B6399\B6336\B6336_18970 DF\Resources\MB1_18970_DF_SDS.utp_res, saved 02-Mar-2022 09:08 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 scc: 069-213 *PKD: n/a Printed: 02-Mar-2022 09:15 Page 1 of 12*

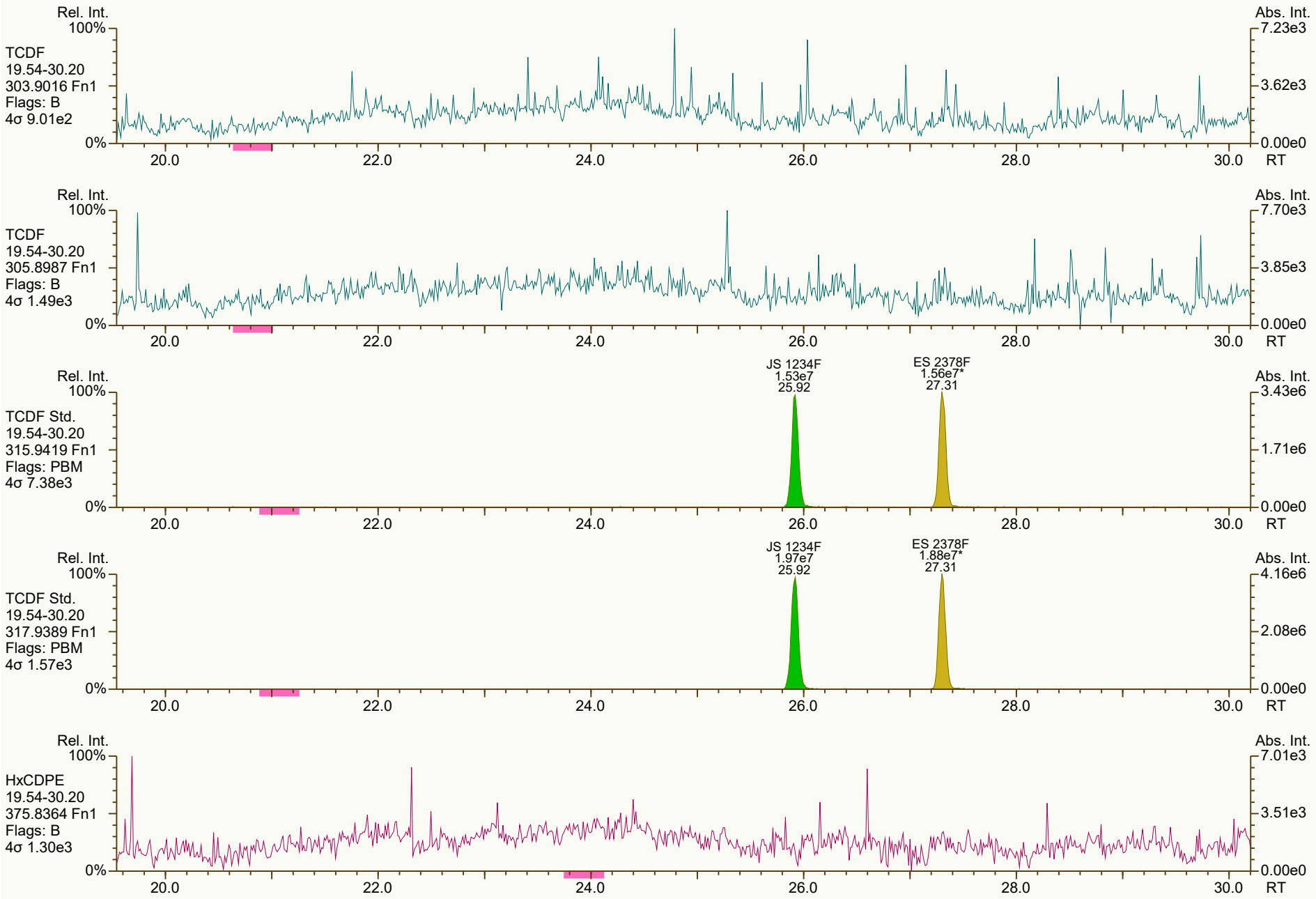

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 2.11e3
0%
Abs. Int.
8.35e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.22e3
0%
Abs. Int.
6.47e3
3.23e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.12e3
0%
CS 37Cl-2378D
1.03e7
28.20
Abs. Int.
2.45e6
1.23e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 5.17e3
0%
JS 1234D
9.76e6
27.51
ES 2378D
1.01e7
28.18
Abs. Int.
2.60e6
1.30e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 1.66e3
0%
JS 1234D
1.20e7
27.51
ES 2378D
1.26e7
28.18
Abs. Int.
3.04e6
1.52e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

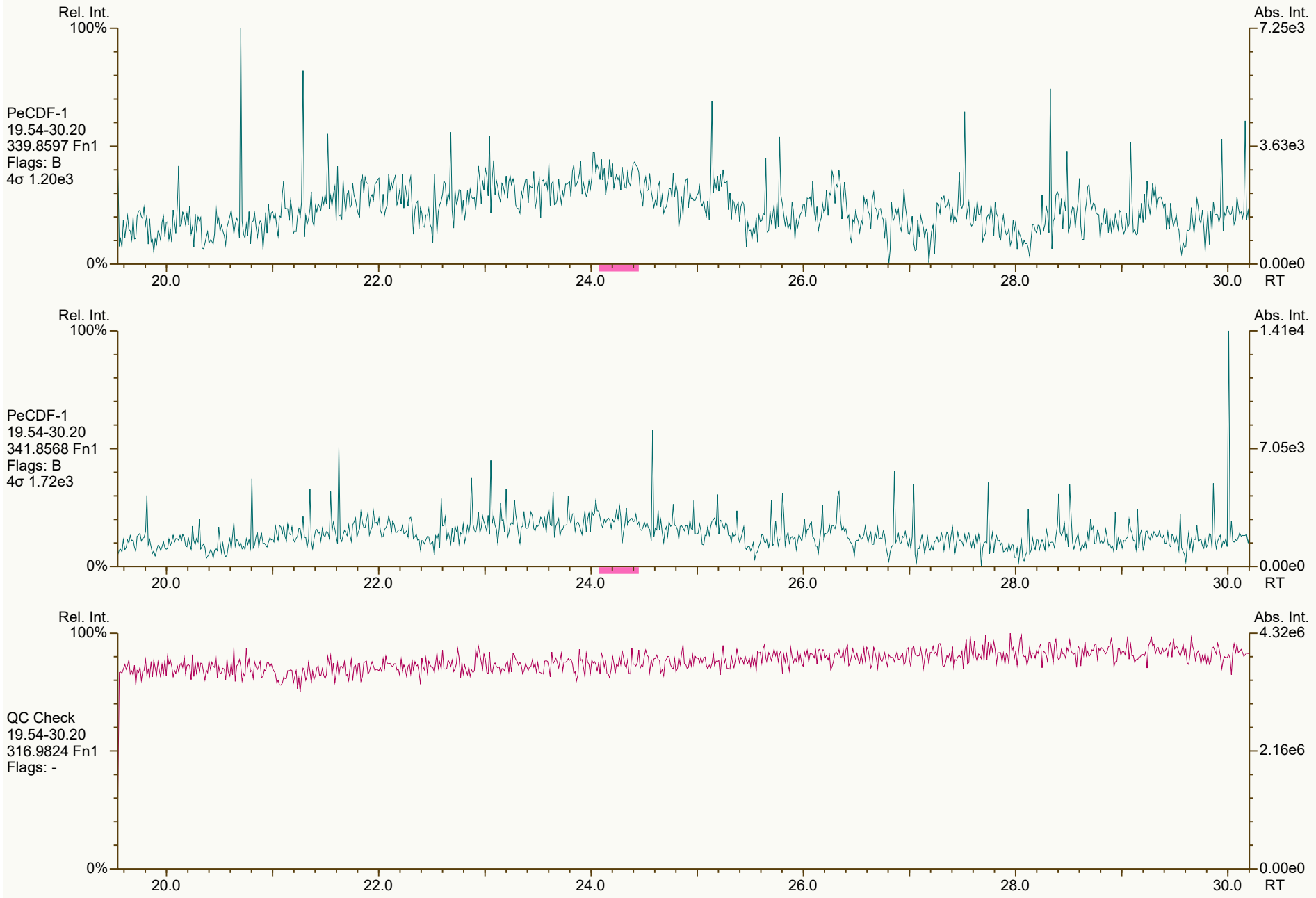

Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
7.86e3
3.93e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.21e3
0%
Abs. Int.
5.07e3
2.54e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 1.67e3
CS 12347D
1.11e7
33.08
ES 12378D
1.25e7
33.59
0%
Abs. Int.
3.66e6
1.83e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.72e3
CS 12347D
7.46e6
33.08
ES 12378D
7.86e6
33.59
0%
Abs. Int.
2.22e6
1.11e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.83e6
1.92e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

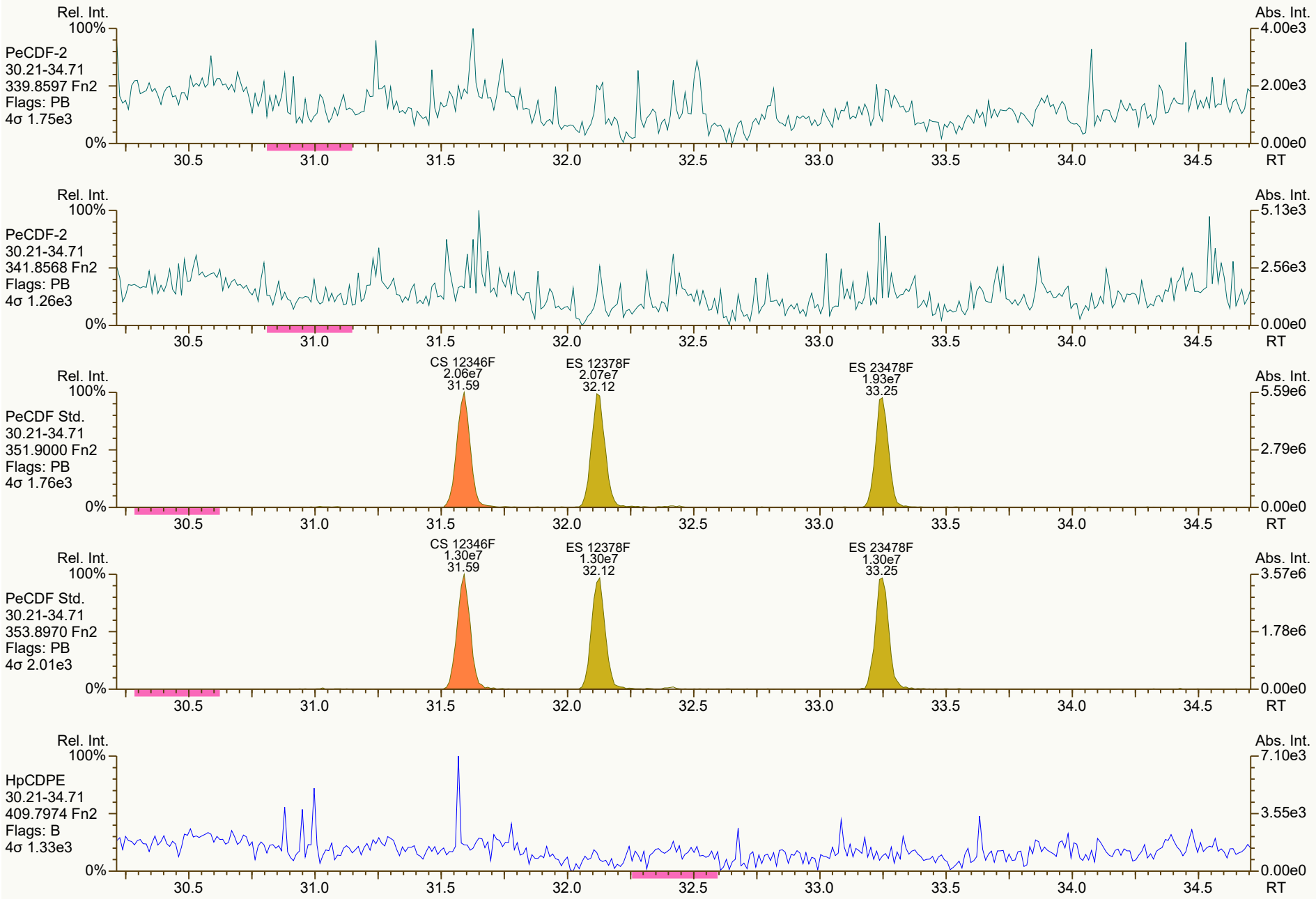

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 1.24e3
0%
Abs. Int.
5.45e3
2.72e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: B
4σ 1.41e3
0%
Abs. Int.
6.95e3
3.47e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 1.78e3
0%
ES 123478D
1.01e7
37.53
ES 123678D
9.49e6
37.65
JS 123467D
5.06e6
37.85
ES 123789D
1.10e7
37.95
Abs. Int.
3.07e6
1.53e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 1.56e3
0%
ES 123478D
7.51e6
37.53
ES 123678D
7.51e6
37.65
JS 123467D
3.98e6
37.85
ES 123789D
8.68e6
37.95
Abs. Int.
2.55e6
1.27e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.53e7
7.66e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

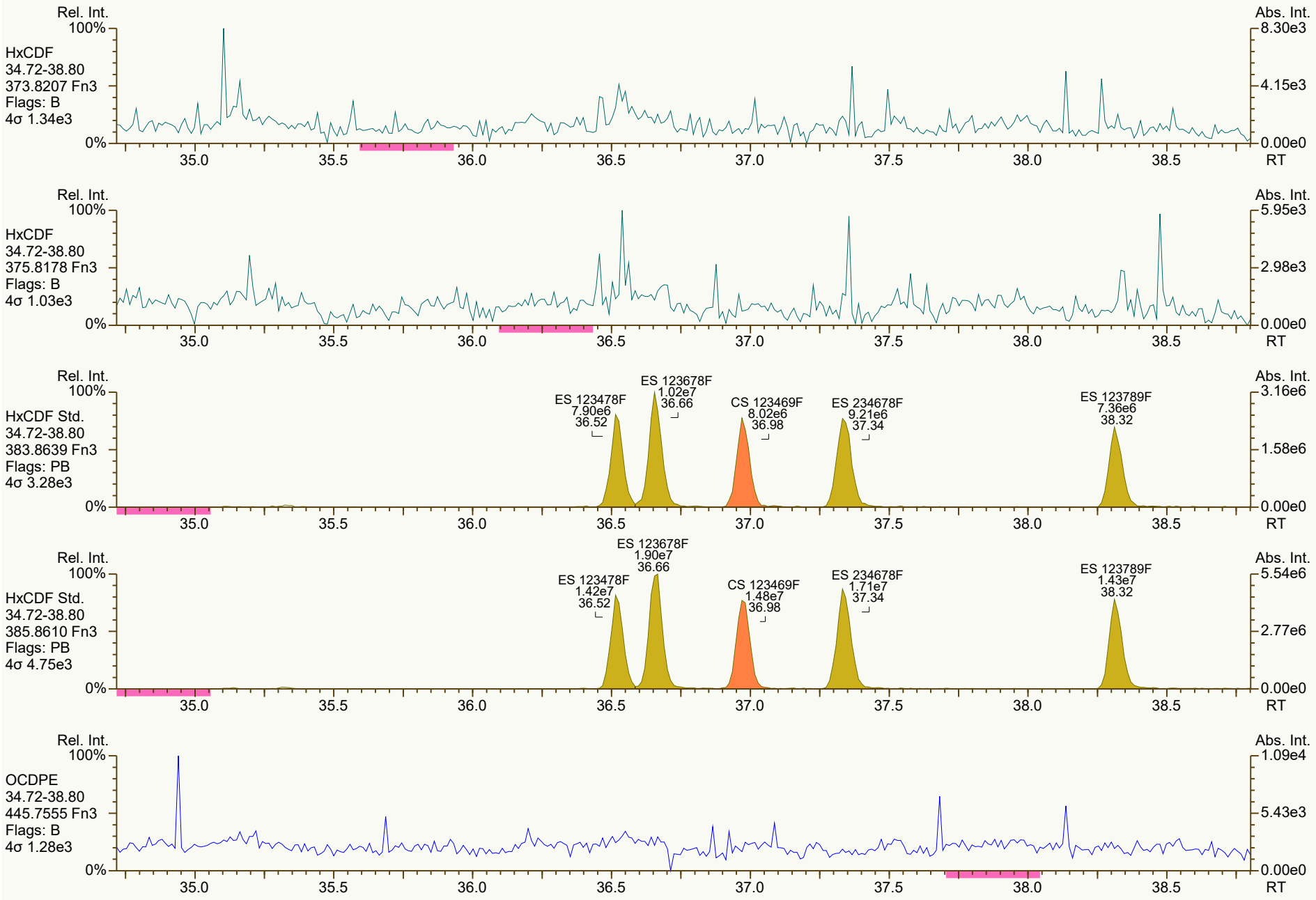

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: B
4σ 1.37e3
0%
Abs. Int.
5.29e3
2.64e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: B
4σ 1.05e3
0%
Abs. Int.
4.77e3
2.38e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
8.63e6*
40.70
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 1.40e3
0%
Abs. Int.
2.34e6
1.17e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
7.98e6*
40.70
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 1.48e3
0%
Abs. Int.
2.28e6
1.14e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
9.59e6
4.79e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

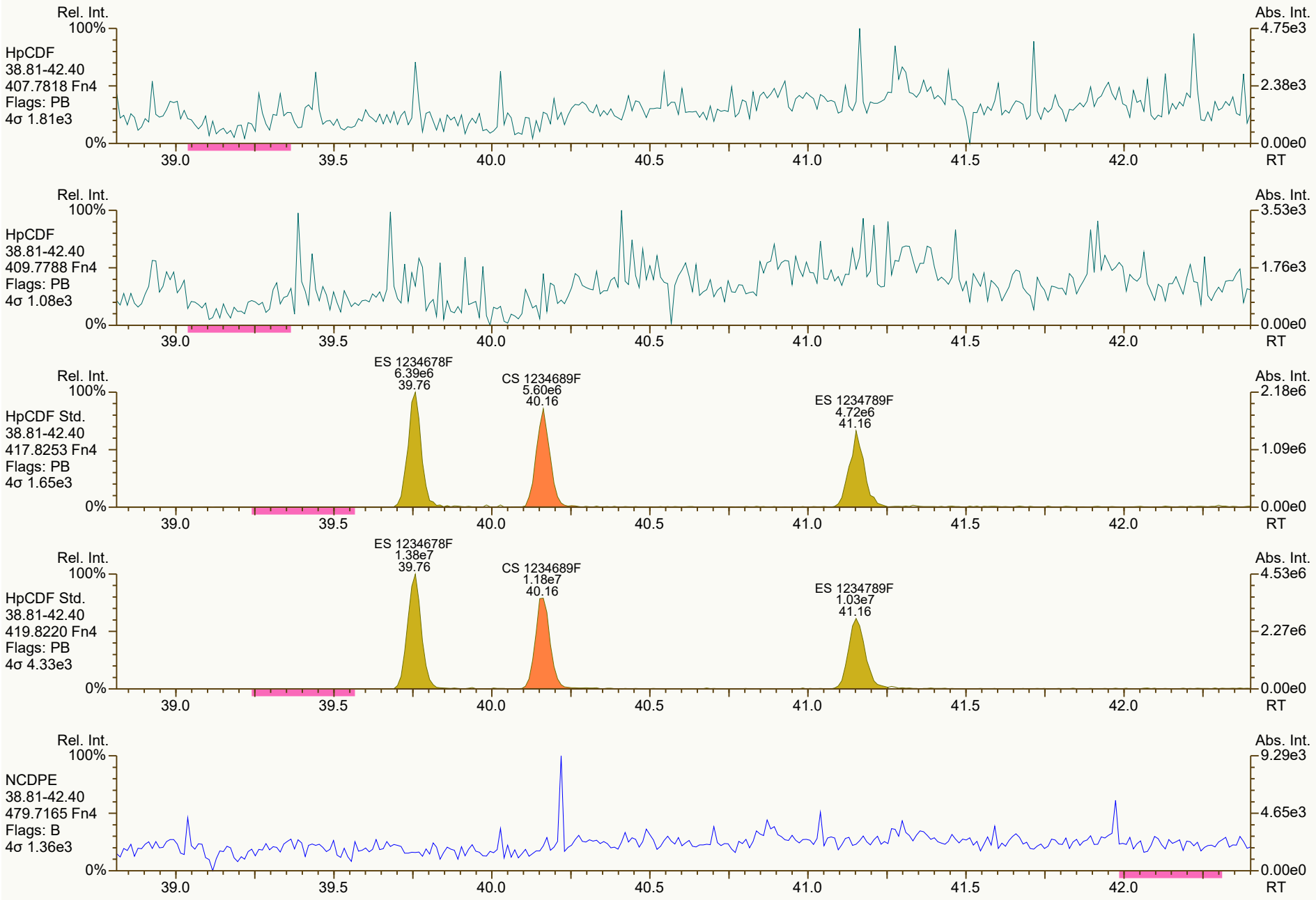

Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 1.38e3
0%
Abs. Int.
5.94e3
2.97e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 1.19e3
0%
Abs. Int.
8.15e3
4.07e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
8.96e6*
43.41
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.49e3
0%
Abs. Int.
1.76e6
8.80e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.02e7*
43.41
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.85e3
0%
Abs. Int.
1.93e6
9.64e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.77e6
3.88e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

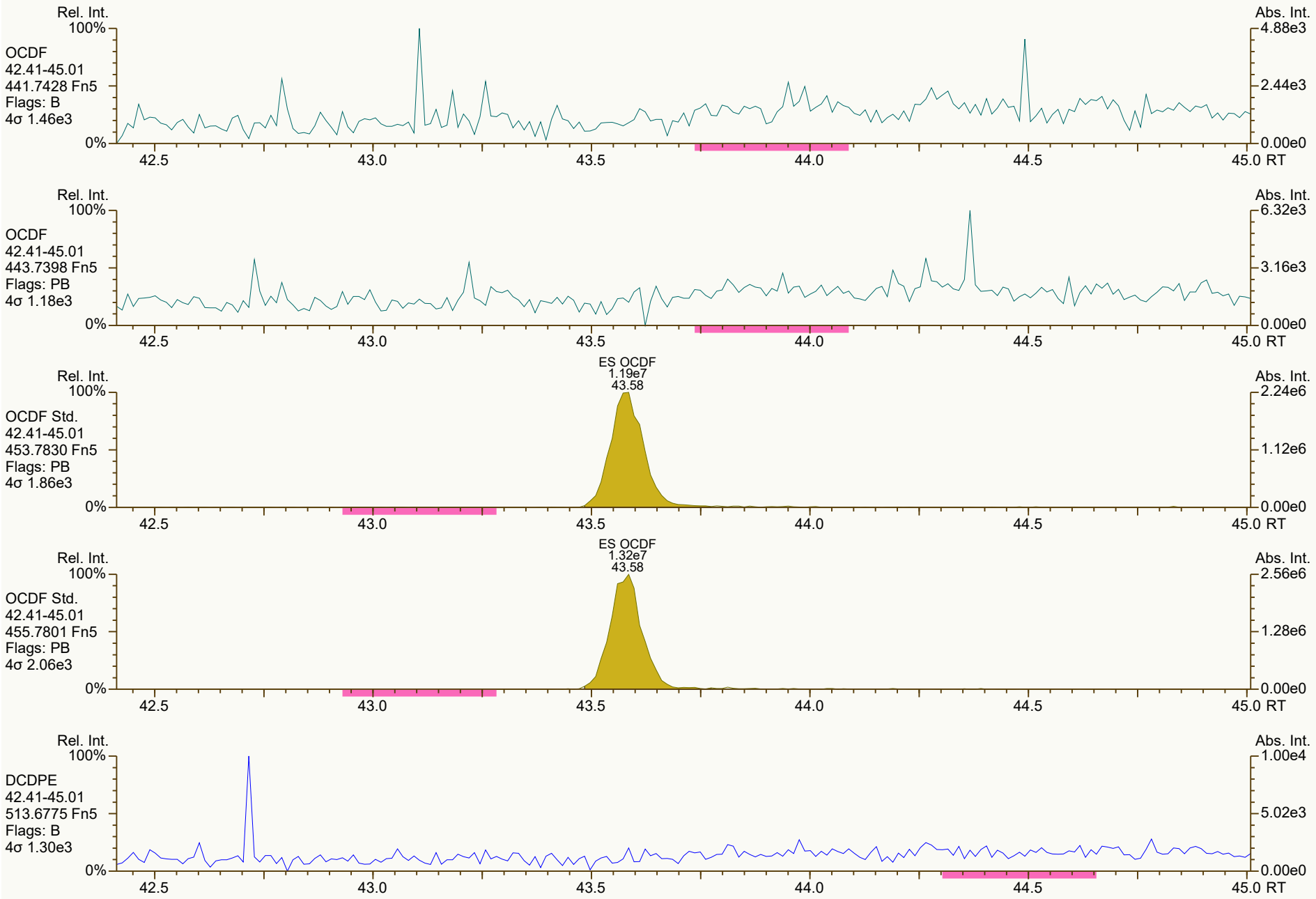

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: B
4σ 9.01e2
0%
Abs. Int.
7.23e3
3.62e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 1.49e3
0%
Abs. Int.
7.70e3
3.85e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PBM
4σ 7.38e3
0%
JS 1234F
1.53e7
25.92
ES 2378F
1.56e7*
27.31
Abs. Int.
3.43e6
1.71e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PBM
4σ 1.57e3
0%
JS 1234F
1.97e7
25.92
ES 2378F
1.88e7*
27.31
Abs. Int.
4.16e6
2.08e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.30e3
0%
Abs. Int.
7.01e3
3.51e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
7.25e3
3.63e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.20e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.41e4
7.05e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.72e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.32e6
2.16e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.75e3
0%
Abs. Int.
4.00e3
2.00e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 1.26e3
5.13e3
2.56e3
CS 12346F
2.06e7
31.59
ES 12378F
2.07e7
32.12
ES 23478F
1.93e7
33.25
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 1.76e3
5.59e6
2.79e6
CS 12346F
1.30e7
31.59
ES 12378F
1.30e7
32.12
ES 23478F
1.30e7
33.25
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.01e3
3.57e6
1.78e6
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.33e3
7.10e3
3.55e3


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: B
4σ 1.34e3
0%
Abs. Int.
8.30e3
4.15e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: B
4σ 1.03e3
0%
Abs. Int.
5.95e3
2.98e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 3.28e3
0%
ES 123478F
7.90e6
36.52
ES 123678F
1.02e7
36.66
CS 123469F
8.02e6
36.98
ES 234678F
9.21e6
37.34
ES 123789F
7.36e6
38.32
Abs. Int.
3.16e6
1.58e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 4.75e3
0%
ES 123478F
1.42e7
36.52
ES 123678F
1.90e7
36.66
CS 123469F
1.48e7
36.98
ES 234678F
1.71e7
37.34
ES 123789F
1.43e7
38.32
Abs. Int.
5.54e6
2.77e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.28e3
0%
Abs. Int.
1.09e4
5.43e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.81e3
0%
Abs. Int.
4.75e3
2.38e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.08e3
0%
Abs. Int.
3.53e3
1.76e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 1.65e3
0%
ES 1234678F
6.39e6
39.76
CS 1234689F
5.60e6
40.16
ES 1234789F
4.72e6
41.16
Abs. Int.
2.18e6
1.09e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 4.33e3
0%
ES 1234678F
1.38e7
39.76
CS 1234689F
1.18e7
40.16
ES 1234789F
1.03e7
41.16
Abs. Int.
4.53e6
2.27e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.36e3
0%
Abs. Int.
9.29e3
4.65e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: B
4σ 1.46e3
0%
Abs. Int.
4.88e3
2.44e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.18e3
0%
Abs. Int.
6.32e3
3.16e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.19e7
43.58
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 1.86e3
0%
Abs. Int.
2.24e6
1.12e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.32e7
43.58
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 2.06e3
0%
Abs. Int.
2.56e6
1.28e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.30e3
0%
Abs. Int.
1.00e4
5.02e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6336_18970_DF_003 **Acq'd:** 02 Mar 2022 04:40 DTF **Wt/Vol:** 10.18 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-NC-S-51 **UTP:** 02-Mar-2022 09:08:26 DTF **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 301-892-DTM

Datafile: 220301C19 **Report:** 02 Mar 2022 09:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.20		1.0008	1.0007	-0.2	2.66E+05	0.70	Y	1.18	2.1	3236.061	0.277
12378-PeCDD	NotFnd		1.0007	-		-	-	-	1.04	-	4424.259	0.407
123478-HxCDD	37.55	J	1.0004	1.0006	+0.5	6.00E+04	1.12	Y	1.09	0.679	4678.928	0.467
123678-HxCDD	37.66	J	1.0036	1.0036	0	1.38E+05	1.09	Y	1.15	1.53	4678.928	0.444
123789-HxCDD	37.97		1.0118	1.0118	0	2.42E+05	1.11	Y	1.05	2.55	4678.928	0.413
1234678-HpCDD	40.71		1.0002	1.0003	+0.2	3.79E+06	1.04	Y	1.06	47.3	2862.062	0.317
OCDD	43.42		1.0003	1.0003	0	3.40E+07	0.90	Y	1.13	675	2904.081	0.753
2378-TCDF	27.32		1.0008	1.0006	-0.3	9.97E+05	0.84	Y	1.08	6.28	3646.029	0.265
12378-PeCDF	32.14	J	1.0005	1.0004	-0.2	7.06E+04	1.41	Y	1.02	0.437	3373.884	0.196
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	3373.884	0.214
123478-HxCDF	36.54	J	1.0004	1.0005	+0.2	1.13E+05	1.26	Y	1.27	0.923	2505.5382	0.179
123678-HxCDF	36.68	J	1.0004	1.0004	0	4.54E+04	1.11	Y	1.15	0.303	2505.5382	0.137
234678-HxCDF	37.35	J EMPC	1.0005	1.0004	-0.2	5.52E+04	1.49	N	1.19	0.403	2505.5382	0.164
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2505.5382	0.205
1234678-HpCDF	39.77		1.0003	1.0003	0	9.04E+05	1.03	Y	1.37	6.14	3094.318	0.162
1234789-HpCDF	41.17	J	1.0003	1.0004	+0.2	4.73E+04	0.95	Y	1.31	0.624	3094.318	0.398
OCDF	43.59		1.0002	1.0003	+0.3	1.23E+06	0.87	Y	1.07	25	2697.302	0.694

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.18		1.0243	1.0244	+0.2	2.10E+07	0.78	Y	1.05	94.3
ES 12378-PeCDD	33.59		1.2198	1.2213	+3.0	1.90E+07	1.61	Y	0.88	101
ES 123478-HxCDD	37.53		0.9916	0.9915	-0.2	1.60E+07	1.28	Y	0.97	98.9
ES 123678-HxCDD	37.65		0.9947	0.9947	0	1.54E+07	1.27	Y	0.94	98.1
ES 123789-HxCDD	37.95		1.0029	1.0028	-0.2	1.78E+07	1.24	Y	1.09	98.2
ES 1234678-HpCDD	40.70		1.0749	1.0754	+1.2	1.48E+07	1.04	Y	0.91	97.9
ES OCDD	43.41		1.1460	1.1469	+2.3	1.76E+07	0.87	Y	0.62	84.9
ES 2378-TCDF	27.30		1.0531	1.0537	+1.0	2.89E+07	0.80	Y	1.06	76.8
ES 12378-PeCDF	32.13		1.2378	1.2398	+3.9	3.09E+07	1.58	Y	0.91	95.5
ES 23478-PeCDF	33.25		1.2810	1.2832	+4.4	2.68E+07	1.58	Y	0.88	85.2
ES 123478-HxCDF	36.52		0.9650	0.9650	0	1.89E+07	0.54	Y	1.20	94.9
ES 123678-HxCDF	36.66		0.9688	0.9687	-0.2	2.55E+07	0.54	Y	1.35	114
ES 234678-HxCDF	37.34		0.9866	0.9866	0	2.26E+07	0.53	Y	1.24	110
ES 123789-HxCDF	38.32		1.0125	1.0125	0	1.71E+07	0.54	Y	1.16	89.1
ES 1234678-HpCDF	39.76		1.0501	1.0505	+1.0	2.11E+07	0.47	Y	0.97	131
ES 1234789-HpCDF	41.16		1.0870	1.0875	+1.2	1.14E+07	0.47	Y	0.85	80.7
ES OCDF	43.57		1.1505	1.1513	+2.1	1.80E+07	0.90	Y	0.81	67.3

Lab ID: B6336_18970_DF_003 **Acq'd:** 02 Mar 2022 04:40 DTF **Wt/Vol:** 10.18 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-NC-S-51 **UTP:** 02-Mar-2022 09:08:26 DTF **J-level:** 0.491 pg/g **Split:** 1 **Checkcode:** 301-892-DTM

Datafile: 220301C19 **Report:** 02 Mar 2022 09:10 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.50		-	-	-	2.13E+07	0.82	Y	-	-
JS 1234-TCDF	25.91		-	-	-	3.56E+07	0.84	Y	-	-
JS 123467-HxCDD	37.85		-	-	-	8.29E+06	1.24	Y	-	-
CS 37Cl-2378-TCDD	28.20		1.0251	1.0252	+0.2	1.00E+07	n/a	-	1.20	98.2
CS 12347-PeCDD	33.08		1.2016	1.2029	+2.6	1.69E+07	1.61	Y	0.75	105
CS 12346-PeCDF	31.59		1.2172	1.2192	+3.8	3.01E+07	1.56	Y	0.85	99.4
CS 123469-HxCDF	36.98		0.9771	0.9770	-0.2	2.20E+07	0.56	Y	1.12	119
CS 1234689-HpCDF	40.16		1.0608	1.0612	+1.0	1.72E+07	0.46	Y	0.89	117
~~SS 37Cl-2378-TCDD~~	~~28.20~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.00E+07~~	~~n/a~~		~~1.15~~	~~104~~
~~SS 12347-PeCDD~~	~~33.08~~		~~1.2016~~	~~1.2029~~	~~+2.6~~	~~1.69E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~104~~
~~SS 12346-PeCDF~~	~~31.59~~		~~1.2172~~	~~1.2192~~	~~+3.8~~	~~3.01E+07~~	~~1.56~~	~~Y~~	~~0.94~~	~~104~~
~~SS 123469-HxCDF~~	~~36.98~~		~~0.9771~~	~~0.9770~~	~~-0.2~~	~~2.20E+07~~	~~0.56~~	~~Y~~	~~0.83~~	~~104~~
~~SS 1234689-HpCDF~~	~~40.16~~		~~1.0608~~	~~1.0612~~	~~+1.0~~	~~1.72E+07~~	~~0.46~~	~~Y~~	~~0.92~~	~~88.9~~

Totals	Conc	EMPC
Total TCDD	10	10.8
Total PeCDD	8.89	8.89
Total HxCDD	47.8	50.5
Total HpCDD	129	129
Total Tetra-Octa Dioxins	871	874
Total TCDF	9.64	11.6
Total PeCDF	2.12	3.2
Total HxCDF	5.07	6.48
Total HpCDF	11.7	11.7
Total Tetra-Octa Furans	53.6	58
Total Tetra-Octa Dioxins & Furans	925	932

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.674	0.70
Response	2.72E+05	2.66E+05

Lab ID: B6336_18970_DF_003 **Acq'd: 02 Mar 2022 04:40 DTF** **Wt/Vol: 10.18 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021822-S-SB-NC-S-51 **UTP: 02-Mar-2022 09:08:26 DTF** **J-level: 0.491 pg/g** **Split: 1** **Checkcode: 301-892-DTM**

Datafile: 220301C19 **Report: 02 Mar 2022 09:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		3236.061	0.277
1379-TCDD	NotFnd		0.8829						1.18		3236.061	0.277
1369-TCDD	NotFnd		0.8982						1.18		3236.061	0.277
1469-TCDD	26.08		0.9261	0.9256	-0.8	9.99E+05	0.74	Y	1.18	7.89	3236.061	0.277
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		3236.061	0.277
1378-TCDD	NotFnd		0.9417						1.18		3236.061	0.277
1268-TCDD	NotFnd		0.9487						1.18		3236.061	0.277
1478-TCDD	NotFnd		0.9576						1.18		3236.061	0.277
1279-TCDD	NotFnd		0.9636						1.18		3236.061	0.277
1234/1269-TCDD	27.49	EMPC	0.9761	0.9757	-0.7	9.59E+04	0.99	N	1.18	0.758	3236.061	0.277
1236-TCDD	NotFnd		0.9812						1.18		3236.061	0.277
1237/1238-TCDD	NotFnd		0.9905						1.18		3236.061	0.277
1239-TCDD	NotFnd		0.9951						1.18		3236.061	0.277
2378-TCDD	**28.20**		**1.0008**	1.0007	**-0.2**	2.66E+05	0.70	Y	**1.18**	**2.1**	**3236.061**	**0.277**
1278-TCDD	NotFnd		1.0124						1.18		3236.061	0.277
1267-TCDD	NotFnd		1.0172						1.18		3236.061	0.277
1289-TCDD	NotFnd		1.0354						1.18		3236.061	0.277
12479/12468-PeCDD	31.07	J	0.9255	0.9251	-0.7	1.10E+05	1.52	Y	1.04	1.1	4424.259	0.407
12469-PeCDD	31.62		0.9416	0.9413	-0.6	6.31E+05	1.61	Y	1.04	6.3	4424.259	0.407
12368-PeCDD	NotFnd		0.9582						1.04		4424.259	0.407
12478-PeCDD	NotFnd		0.9637						1.04		4424.259	0.407
12379-PeCDD	NotFnd		0.9668						1.04		4424.259	0.407
12369/12467/12489-PeCDD	32.74	J	0.9746	0.9747	+0.2	1.49E+05	1.74	Y	1.04	1.49	4424.259	0.407
12346/12347-PeCDD	NotFnd		0.9858						1.04		4424.259	0.407
12378-PeCDD	NotFnd		**1.0007**						**1.04**		**4424.259**	**0.407**
12367-PeCDD	NotFnd		1.0036						1.04		4424.259	0.407
12389-PeCDD	NotFnd		1.0137						1.04		4424.259	0.407
124679/124689-HxCDD	35.80		0.9540	0.9539	-0.2	3.23E+06	1.28	Y	1.10	35.4	4678.928	0.44
123468-HxCDD	36.47	J EMPC	0.9715	0.9717	+0.4	6.95E+04	1.66	N	1.10	0.762	4678.928	0.44
123679/123689-HxCDD	36.75		0.9793	0.9793	0	7.00E+05	1.31	Y	1.10	7.68	4678.928	0.44
123469-HxCDD	36.89	J EMPC	0.9829	0.9829	0	9.63E+04	1.53	N	1.10	1.06	4678.928	0.44
123478-HxCDD	37.55	J	**1.0004**	**1.0006**	**+0.5**	**6.00E+04**	**1.12**	**Y**	1.09	**0.679**	**4678.928**	**0.467**
123678-HxCDD	37.66	J	**1.0036**	**1.0036**	**0**	**1.38E+05**	**1.09**	**Y**	1.15	**1.53**	**4678.928**	**0.444**
123467-HxCDD	37.86	J EMPC	1.0089	1.0090	+0.2	7.48E+04	1.68	N	1.10	0.819	4678.928	0.44
123789-HxCDD	37.97		**1.0118**	**1.0118**	**0**	**2.42E+05**	**1.11**	**Y**	1.05	**2.55**	**4678.928**	**0.413**

Lab ID: B6336_18970_DF_003 **Acq'd: 02 Mar 2022 04:40 DTF** **Wt/Vol: 10.18 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021822-S-SB-NC-S-51 **UTP: 02-Mar-2022 09:08:26 DTF** **J-level: 0.491 pg/g** **Split: 1** **Checkcode: 301-892-DTM**

Datafile: 220301C19 **Report: 02 Mar 2022 09:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

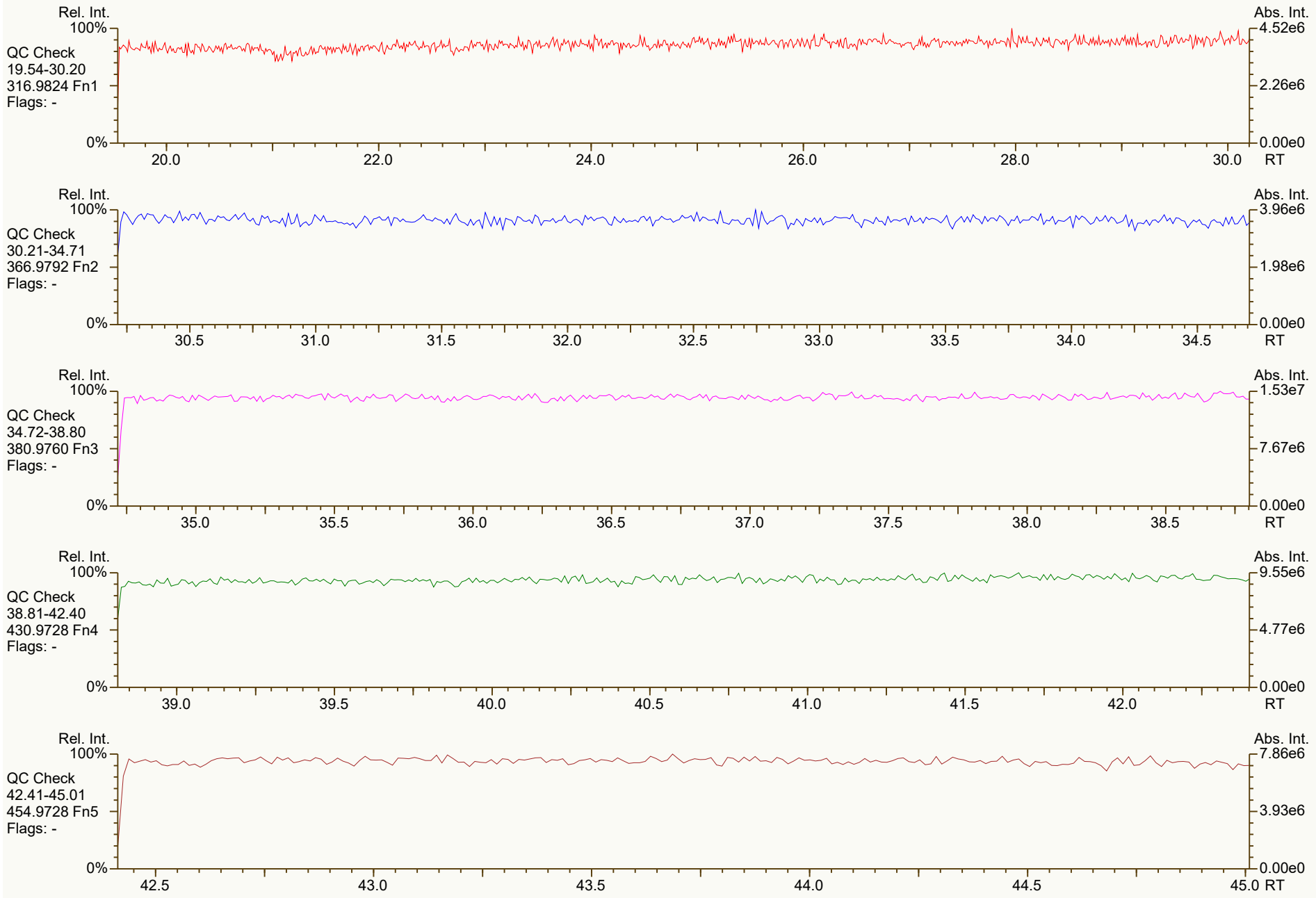
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.03		0.9836	0.9836	0	6.55E+06	1.06	Y	1.06	81.8	2862.062	0.317
1234678-HpCDD	**40.71**		**1.0002**	**1.0003**	**+0.2**	**3.79E+06**	**1.04**	**Y**	**1.06**	**47.3**	**2862.062**	**0.317**
OCDD	**43.42**		**1.0003**	**1.0003**	**0**	**3.40E+07**	**0.90**	**Y**	**1.13**	**675**	**2904.081**	**0.753**
OCDD-a	43.42		1.0002	1.0002	0	2.13E+06	2.47	Y	0.07	662	3386.879	13.7
1368-TCDF	NotFnd		0.8191						1.08		3646.029	0.265
1468-TCDF	NotFnd		0.8408						1.08		3646.029	0.265
2468-TCDF	23.58		0.8645	0.8637	-1.1	9.02E+04	0.87	Y	1.08	0.568	3646.029	0.265
1346/1246-TCDF	NotFnd		0.8772						1.08		3646.029	0.265
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		3646.029	0.265
1348-TCDF	NotFnd		0.8932						1.08		3646.029	0.265
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		3646.029	0.265
1268-TCDF	NotFnd		0.9119						1.08		3646.029	0.265
1467-TCDF	NotFnd		0.9170						1.08		3646.029	0.265
1478-TCDF	25.18	J EMPC	0.9234	0.9223	-1.7	6.95E+04	0.64	N	1.08	0.438	3646.029	0.265
1369/1237-TCDF	NotFnd		0.9369						1.08		3646.029	0.265
2467-TCDF	NotFnd		0.9415						1.08		3646.029	0.265
2368-TCDF	25.91	EMPC	0.9475	0.9488	+2.0	1.42E+05	0.95	N	1.08	0.895	3646.029	0.265
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		3646.029	0.265
1278-TCDF	26.41		0.9676	0.9674	-0.3	2.36E+05	0.87	Y	1.08	1.49	3646.029	0.265
1349-TCDF	NotFnd		0.9722						1.08		3646.029	0.265
1267-TCDF	NotFnd		0.9777						1.08		3646.029	0.265
2346/1249-TCDF	NotFnd		0.9843						1.08		3646.029	0.265
2347/1279-TCDF	NotFnd		0.9926						1.08		3646.029	0.265
2348-TCDF	NotFnd		0.9968						1.08		3646.029	0.265
2378-TCDF	**27.32**		**1.0008**	**1.0006**	**-0.3**	**9.97E+05**	**0.84**	**Y**	**1.08**	**6.28**	**3646.029**	**0.265**
2367/3467-TCDF	27.68		1.0142	1.0139	-0.5	2.08E+05	0.74	Y	1.08	1.31	3646.029	0.265
1269-TCDF	NotFnd		1.0235						1.08		3646.029	0.265
1239-TCDF	NotFnd		1.0329						1.08		3646.029	0.265
1289-TCDF	29.35	EMPC	1.0742	1.0751	+1.6	1.01E+05	0.95	N	1.08	0.636	3646.029	0.265
13468/12468-PeCDF	29.32	J	0.9122	0.9127	+0.9	1.88E+05	1.48	Y	1.02	1.26	2629.22	0.16
13678/13467/12467-PeCDF	30.88	J	0.9606	0.9611	+0.9	6.44E+04	1.34	Y	1.02	0.429	3373.884	0.205
12368/13478/12478-PeCDF	31.04	J EMPC	0.9655	0.9663	+1.5	1.61E+05	1.05	N	1.02	1.07	3373.884	0.205
14678-PeCDF	NotFnd		0.9685						1.02		3373.884	0.205
13479-PeCDF	NotFnd		0.9716						1.02		3373.884	0.205
13469/12479-PeCDF	NotFnd		0.9794						1.02		3373.884	0.205
12346-PeCDF	NotFnd		0.9836						1.02		3373.884	0.205

Lab ID: B6336_18970_DF_003 **Acq'd: 02 Mar 2022 04:40 DTF** **Wt/Vol: 10.18 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021822-S-SB-NC-S-51 **UTP: 02-Mar-2022 09:08:26 DTF** **J-level: 0.491 pg/g** **Split: 1** **Checkcode: 301-892-DTM**

Datafile: 220301C19 **Report: 02 Mar 2022 09:10 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		3373.884	0.205
12347-PeCDF	NotFnd		0.9891						1.02		3373.884	0.205
12348-PeCDF	NotFnd		0.9938						1.02		3373.884	0.205
12378-PeCDF	**32.14**	J	**1.0005**	**1.0004**	**-0.2**	**7.06E+04**	**1.41**	**Y**	**1.02**	**0.437**	**3373.884**	**0.196**
12678/12367-PeCDF	NotFnd		1.0091						1.02		3373.884	0.205
12379-PeCDF	NotFnd		1.0144						1.02		3373.884	0.205
12679-PeCDF	NotFnd		0.9927						1.02		3373.884	0.205
23467/12369-PeCDF	NotFnd		0.9965						1.02		3373.884	0.205
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**3373.884**	**0.214**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		3373.884	0.205
12349-PeCDF	NotFnd		1.0101						1.02		3373.884	0.205
12389-PeCDF	NotFnd		1.0330						1.02		3373.884	0.205
123468-HxCDF	35.15	J EMPC	0.9622	0.9622	0	1.29E+05	1.00	N	1.19	1.01	2505.5382	0.167
124678/134678-HxCDF	35.34		0.9678	0.9677	-0.2	3.39E+05	1.26	Y	1.19	2.65	2505.5382	0.167
134679-HxCDF	NotFnd		0.9741						1.19		2505.5382	0.167
124679-HxCDF	NotFnd		0.9795						1.19		2505.5382	0.167
124689-HxCDF	36.00	J	0.9856	0.9855	-0.2	1.52E+05	1.22	Y	1.19	1.19	2505.5382	0.167
123467-HxCDF	NotFnd		0.9972						1.19		2505.5382	0.167
123478-HxCDF	**36.54**	J	**1.0004**	**1.0005**	**+0.2**	**1.13E+05**	**1.26**	**Y**	**1.27**	**0.923**	**2505.5382**	**0.179**
123678-HxCDF	**36.68**	J	**1.0004**	**1.0004**	**0**	**4.54E+04**	**1.11**	**Y**	**1.15**	**0.303**	**2505.5382**	**0.137**
123479-HxCDF	NotFnd		1.0048						1.19		2505.5382	0.167
123469-HxCDF	NotFnd		1.0089						1.19		2505.5382	0.167
123679-HxCDF	NotFnd		0.9942						1.19		2505.5382	0.167
234678-HxCDF	**37.35**	J EMPC	**1.0005**	**1.0004**	**-0.2**	**5.52E+04**	**1.49**	**N**	**1.19**	**0.403**	**2505.5382**	**0.164**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2505.5382	0.167
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2505.5382**	**0.205**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		2505.5382	0.167
1234678-HpCDF	**39.77**		**1.0003**	**1.0003**	**0**	**9.04E+05**	**1.03**	**Y**	**1.37**	**6.14**	**3094.318**	**0.162**
1234679-HpCDF	NotFnd		1.0068						1.34		3094.318	0.244
1234689-HpCDF	40.17		1.0104	1.0104	0	5.52E+05	0.91	Y	1.34	4.99	3094.318	0.244
1234789-HpCDF	**41.17**	**J**	**1.0003**	**1.0004**	**+0.2**	**4.73E+04**	**0.95**	**Y**	**1.31**	**0.624**	**3094.318**	**0.398**
OCDF	**43.59**		**1.0002**	**1.0003**	**+0.3**	**1.23E+06**	**0.87**	**Y**	**1.07**	**25**	**2697.302**	**0.694**
OCDF-a	NotFnd		1.0001						0.07		3371.315	14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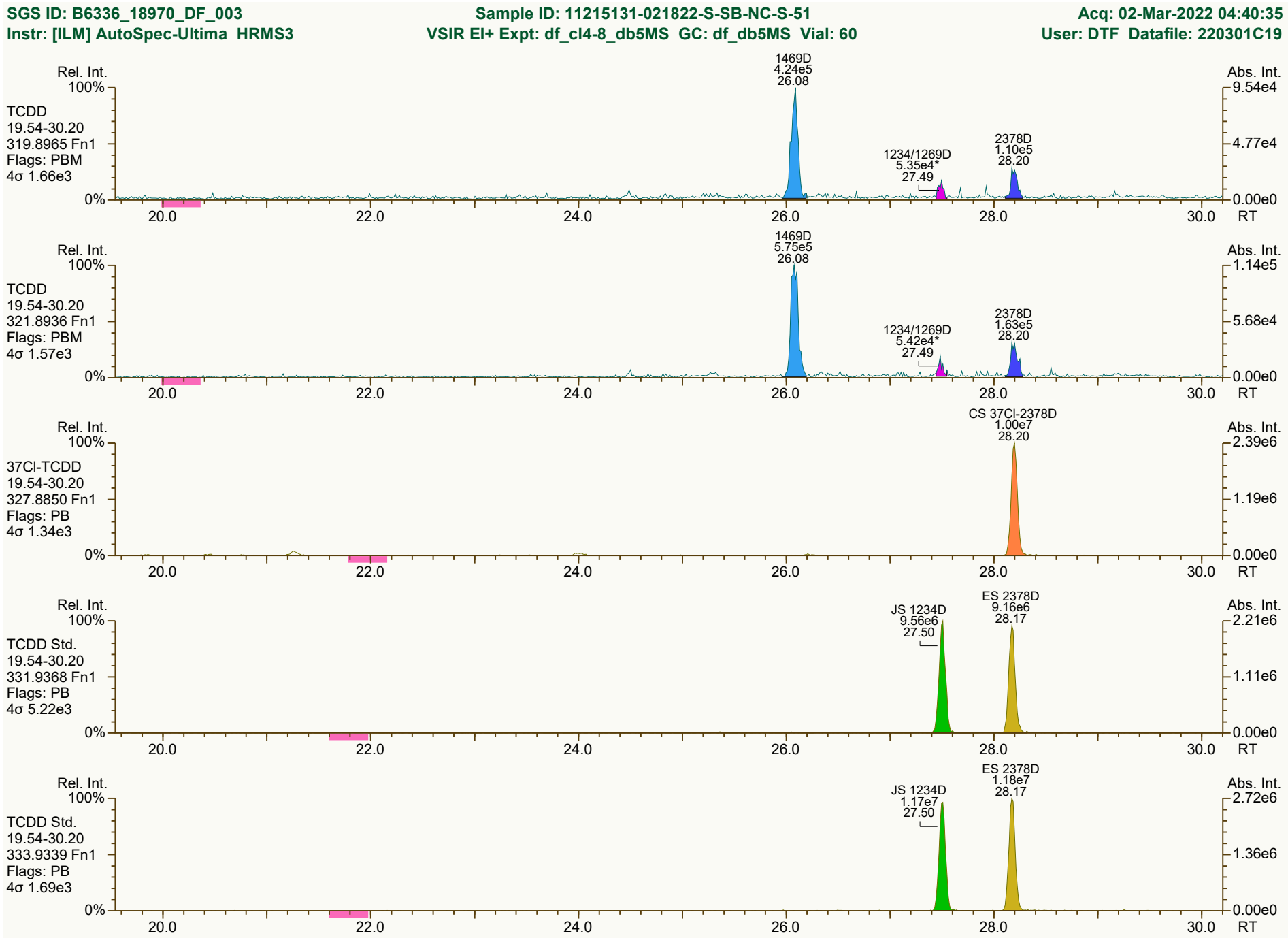
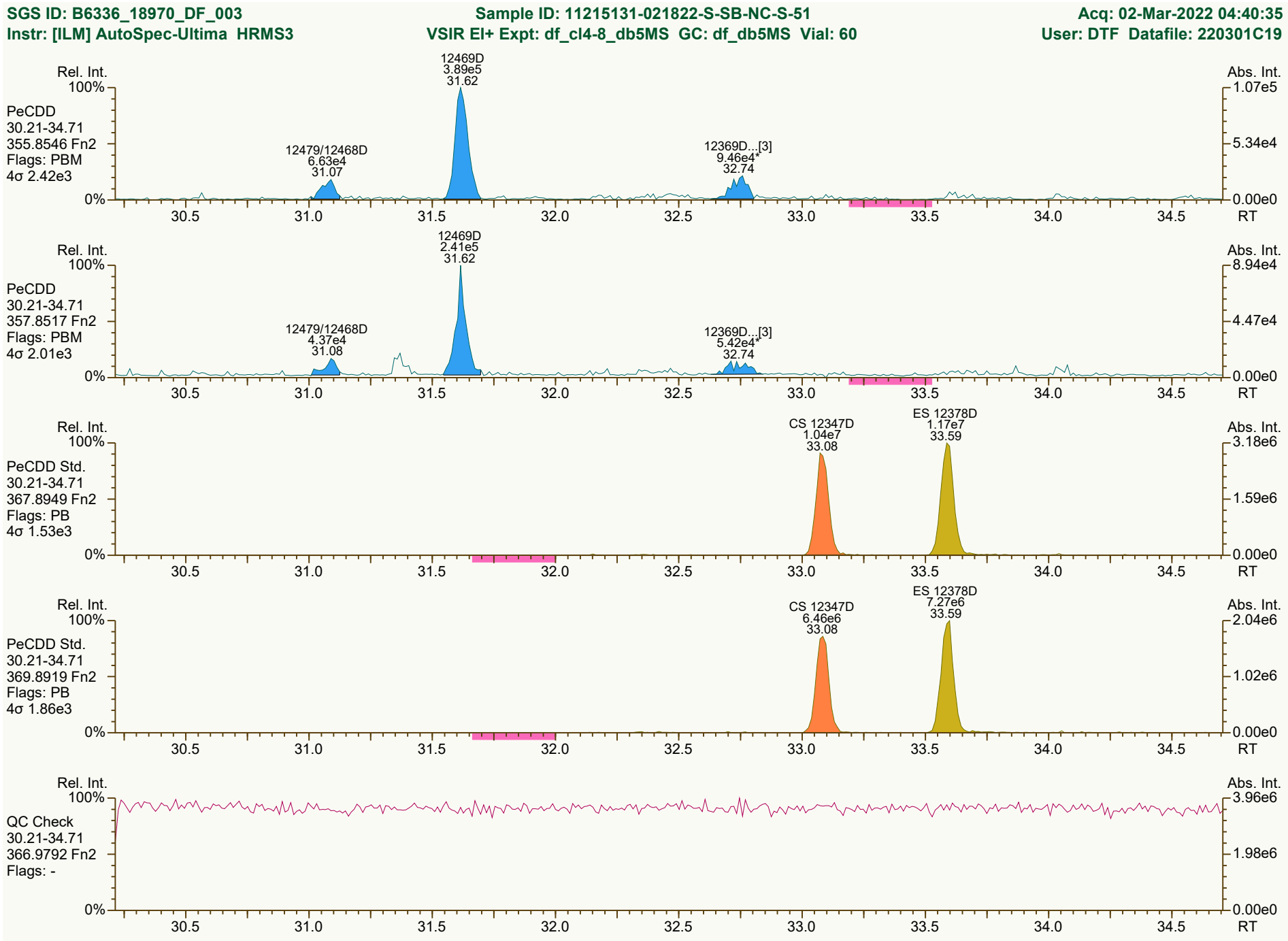
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
4.52e6
2.26e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.53e7
7.67e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
9.55e6
4.77e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.86e6
3.93e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT

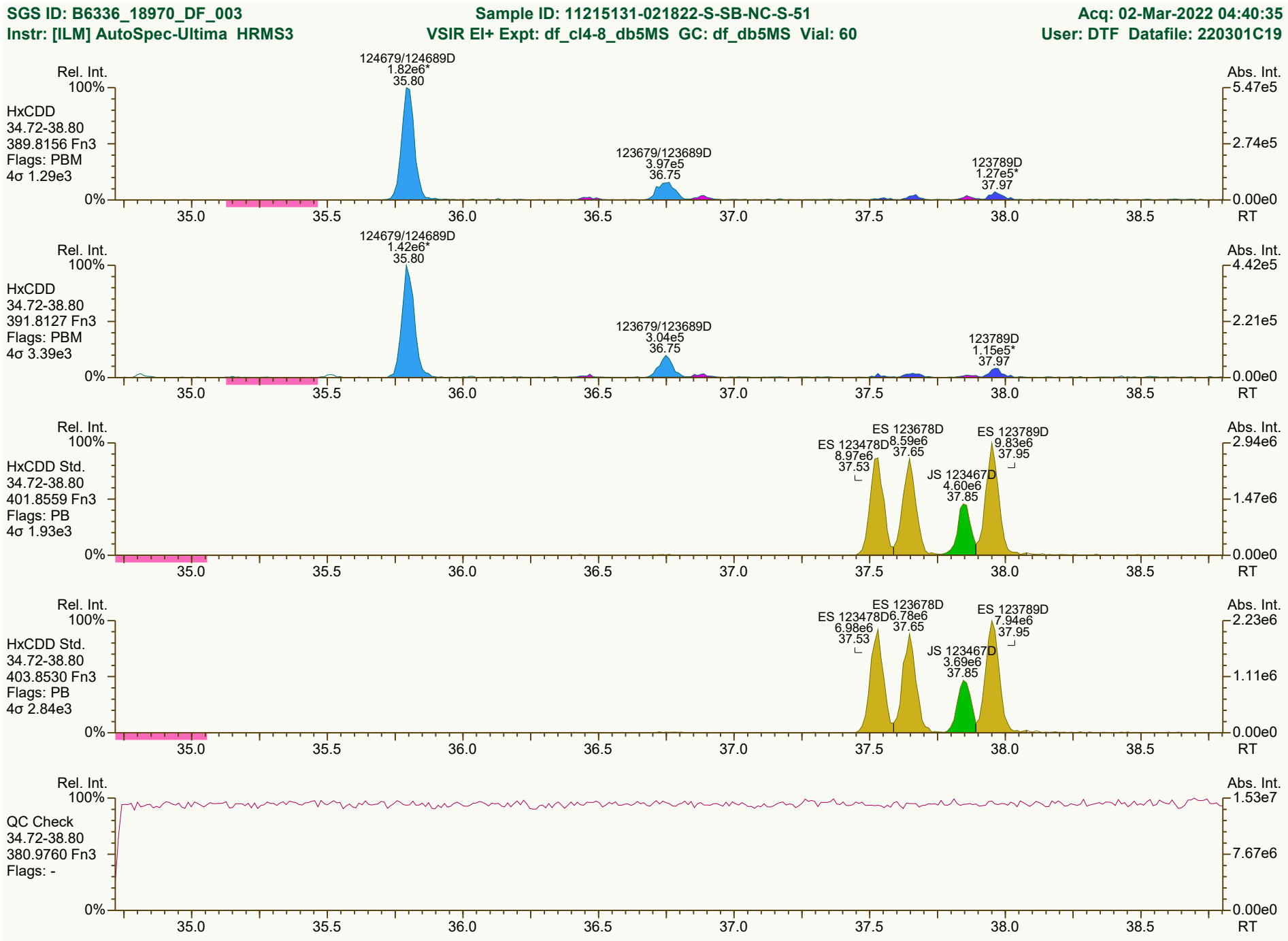
SGS ID: B6336_18970_DF_003 | Sample ID: 11215131-021822-S-SB-NC-S-51 | Acq: 02-Mar-2022 04:40:35
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 60 | User: DTF Datafile: 220301C19



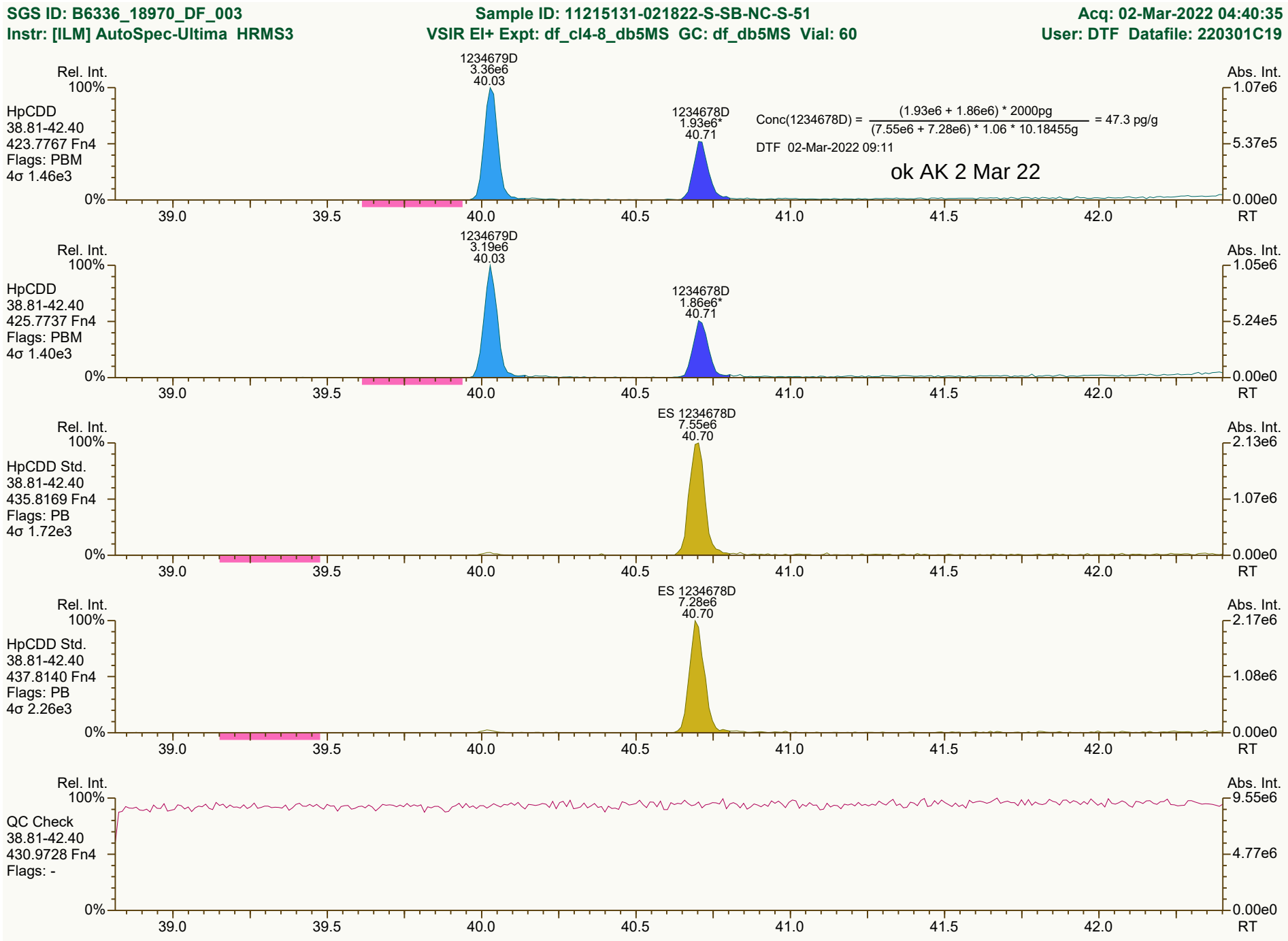
Results: P:\B6300_B6399\B6336\B6336_18970 DF\Resources\B6336_18970_DF_003.utp_res, saved 02-Mar-2022 09:11 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0427, 2071, 8176 scc: 301-892 | PKD: 02-Mar-2022 09:08 Printed: 02-Mar-2022 09:15 Page 2 of 12



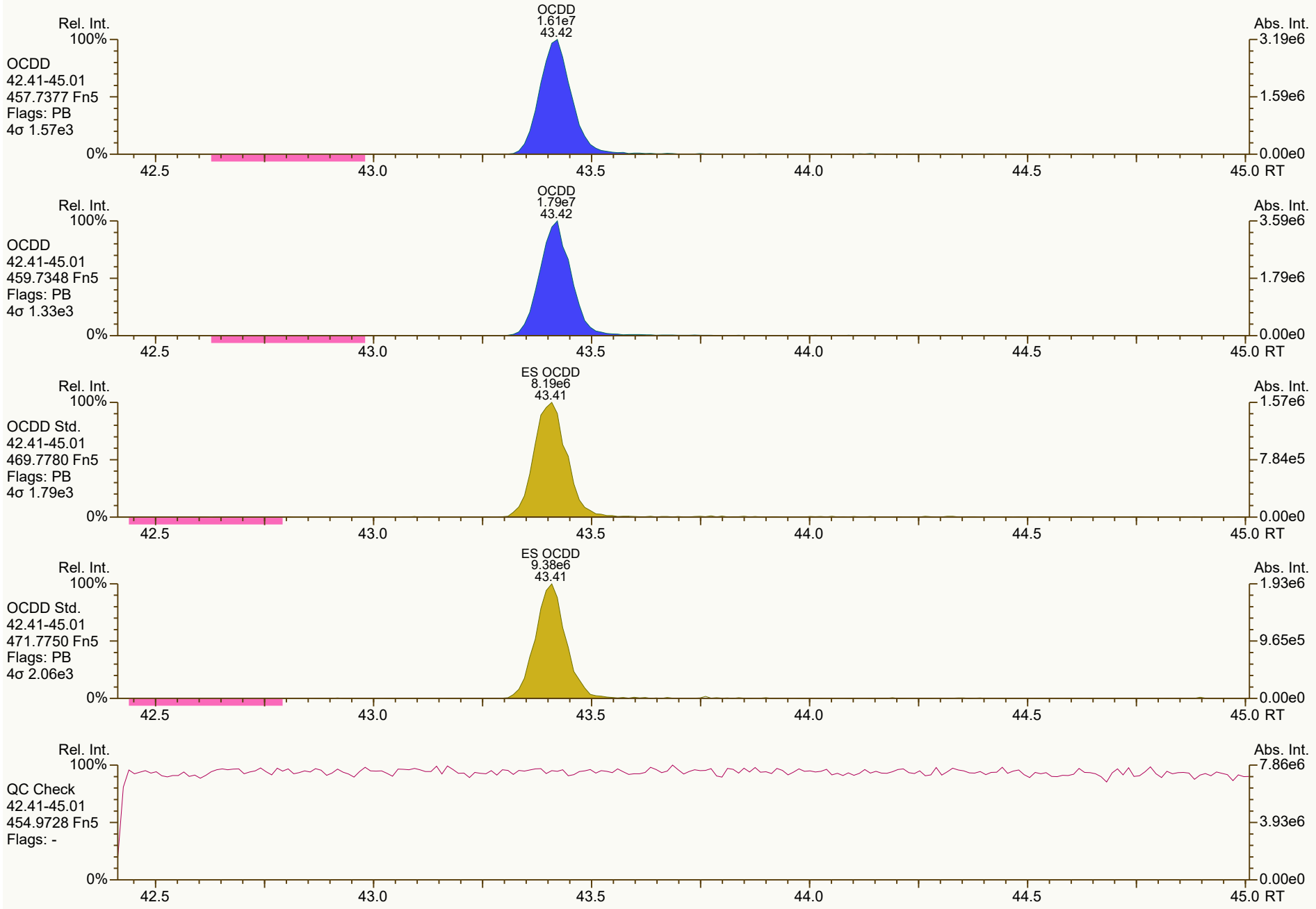
Results: P:\B6300_B6399\B6336\B6336_18970 DF\Resources\B6336_18970_DF_003.utp_res, saved 02-Mar-2022 09:11 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9522, 3450 scc: 301-892
Revised: 02-Mar-2022 09:05 (DTF) Printed: 02-Mar-2022 09:15 Page 3 of 12

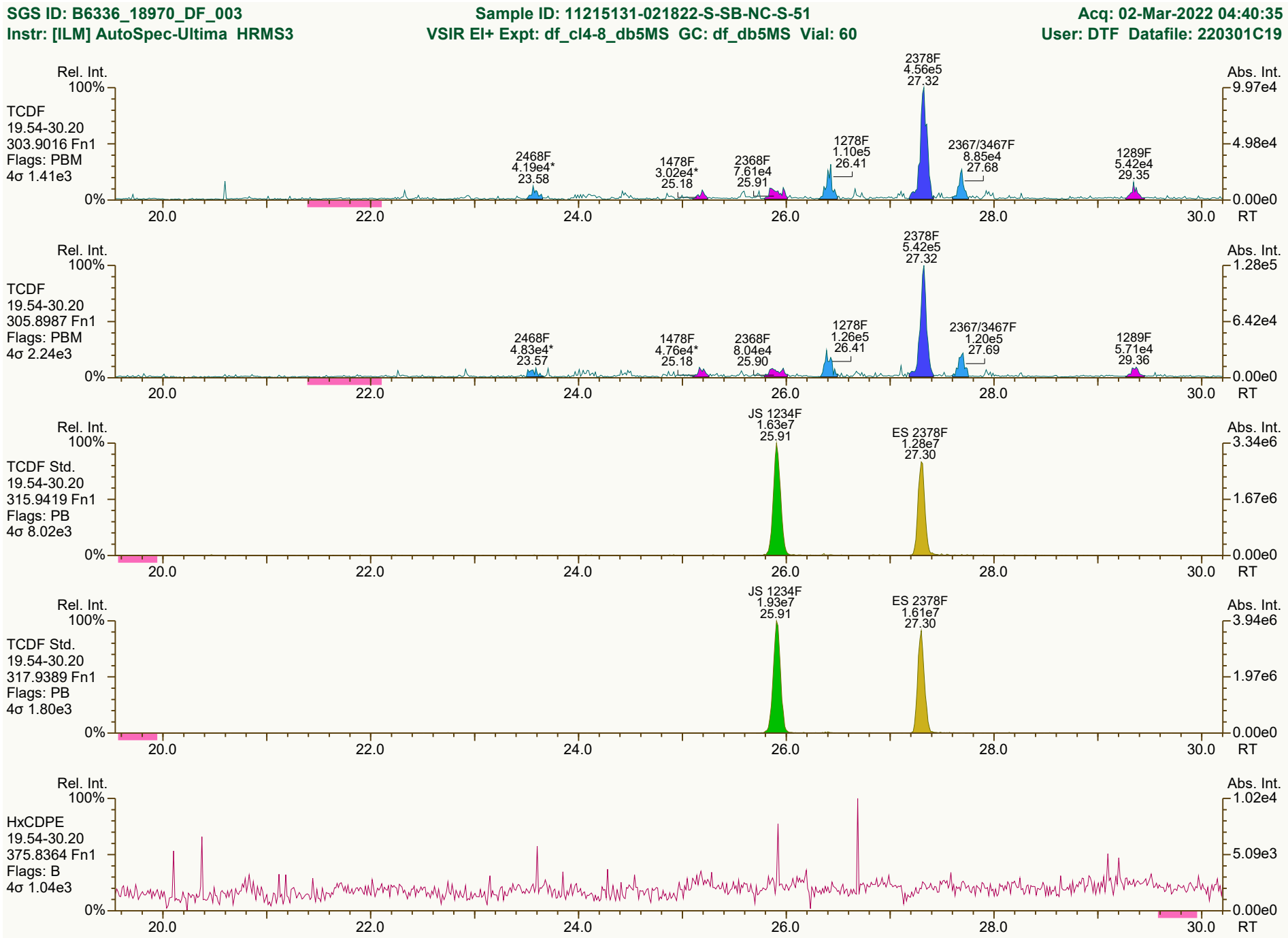

SGS ID: B6336_18970_DF_003
Sample ID: 11215131-021822-S-SB-NC-S-51
Acq: 02-Mar-2022 04:40:35
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 60
User: DTF Datafile: 220301C19
Rel. Int.
Abs. Int.
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 1.29e3
124679/124689D
1.82e6*
35.80
123679/123689D
3.97e5
36.75
123789D
1.27e5*
37.97
5.47e5
2.74e5
0.00e0
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 3.39e3
124679/124689D
1.42e6*
35.80
123679/123689D
3.04e5
36.75
123789D
1.15e5*
37.97
4.42e5
2.21e5
0.00e0
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 1.93e3
ES 123478D
8.97e6
37.53
ES 123678D
8.59e6
37.65
JS 123467D
4.60e6
37.85
ES 123789D
9.83e6
37.95
2.94e6
1.47e6
0.00e0
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 2.84e3
ES 123478D
6.98e6
37.53
ES 123678D
6.78e6
37.65
JS 123467D
3.69e6
37.85
ES 123789D
7.94e6
37.95
2.23e6
1.11e6
0.00e0
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
1.53e7
7.67e6
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Results: P:\B6300_B6399\B6336\B6336_18970 DF\Resources\B6336_18970_DF_003.utp_res, saved 02-Mar-2022 09:11 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6633, 0805 scc: 301-892
Revised: 02-Mar-2022 09:05 (DTF) Printed: 02-Mar-2022 09:15 Page 4 of 12

SGS ID: B6336_18970_DF_003 | Sample ID: 11215131-021822-S-SB-NC-S-51 | Acq: 02-Mar-2022 04:40:35
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 60 | User: DTF Datafile: 220301C19



Results: P:\B6300_B6399\B6336\B6336_18970 DF\Resources\B6336_18970_DF_003.utp_res, saved 02-Mar-2022 09:11 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2295, 8424 scc: 301-892 | Revised: 02-Mar-2022 09:05 (DTF) Printed: 02-Mar-2022 09:15 Page 5 of 12


OCDD
1.61e7
43.42
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 1.57e3
0%
Abs. Int.
3.19e6
1.59e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.79e7
43.42
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 1.33e3
3.59e6
1.79e6
ES OCDD
8.19e6
43.41
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 1.79e3
1.57e6
7.84e5
ES OCDD
9.38e6
43.41
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 2.06e3
1.93e6
9.65e5
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
7.86e6
3.93e6


SGS ID: B6336_18970_DF_003
Sample ID: 11215131-021822-S-SB-NC-S-51
Acq: 02-Mar-2022 04:40:35
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 60
User: DTF Datafile: 220301C19
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.41e3
2468F 4.19e4* 23.58
1478F 3.02e4* 25.18
2368F 7.61e4 25.91
1278F 1.10e5 26.41
2378F 4.56e5 27.32
2367/3467F 8.85e4 27.68
1289F 5.42e4 29.35
9.97e4
4.98e4
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 2.24e3
2468F 4.83e4* 23.57
1478F 4.76e4* 25.18
2368F 8.04e4 25.90
1278F 1.26e5 26.41
2378F 5.42e5 27.32
2367/3467F 1.20e5 27.69
1289F 5.71e4 29.36
1.28e5
6.42e4
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 8.02e3
JS 1234F 1.63e7 25.91
ES 2378F 1.28e7 27.30
3.34e6
1.67e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 1.80e3
JS 1234F 1.93e7 25.91
ES 2378F 1.61e7 27.30
3.94e6
1.97e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.04e3
1.02e4
5.09e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6300_B6399\B6336\B6336_18970 DF\Resources\B6336_18970_DF_003.utp_res, saved 02-Mar-2022 09:11 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2944, 9672, 4735 scc: 301-892
Revised: 02-Mar-2022 09:06 (DTF) Printed: 02-Mar-2022 09:15 Page 7 of 12

SGS ID: B6336_18970_DF_003 | Sample ID: 11215131-021822-S-SB-NC-S-51 | Acq: 02-Mar-2022 04:40:35

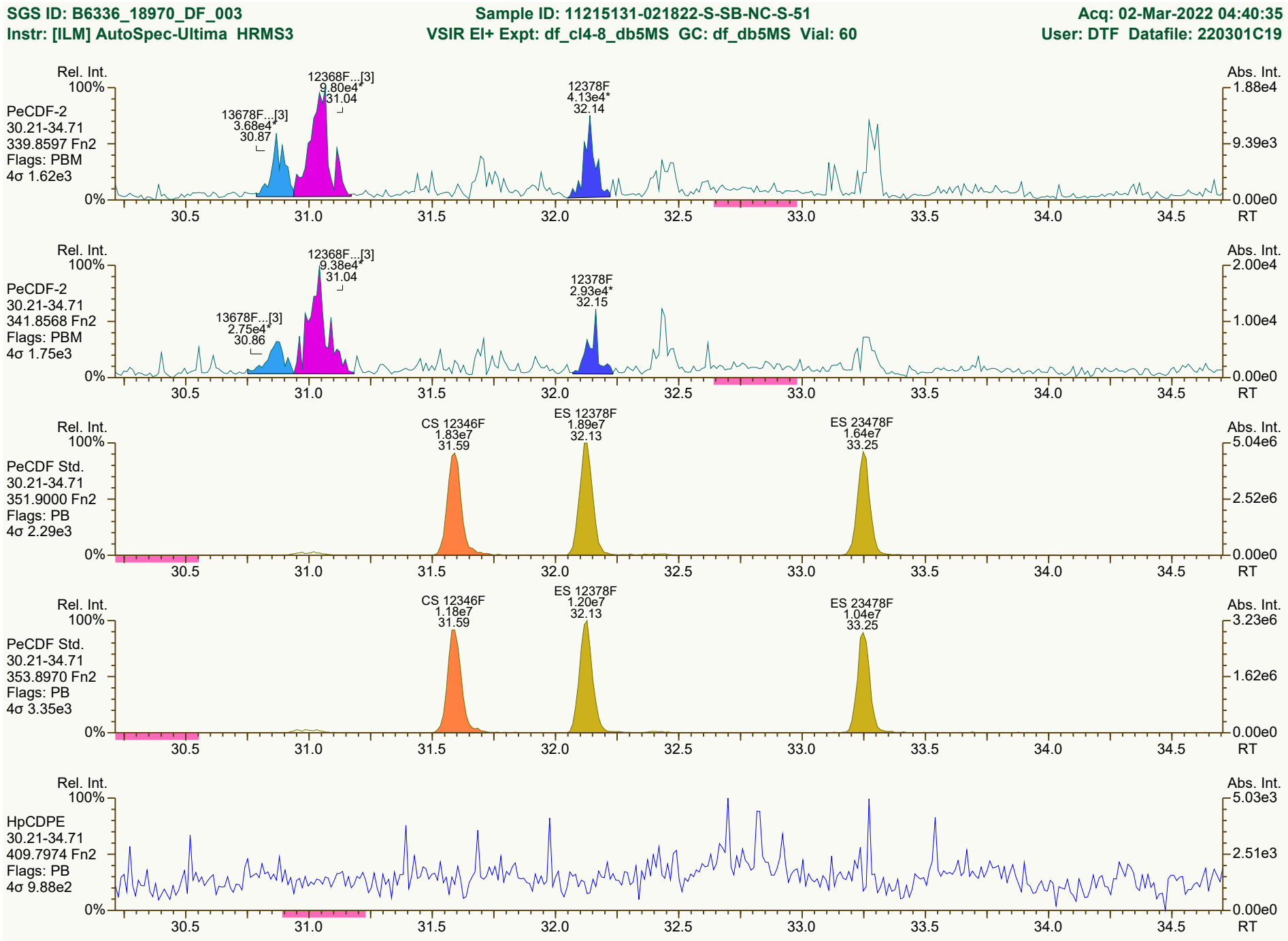
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 60 | User: DTF Datafile: 220301C19



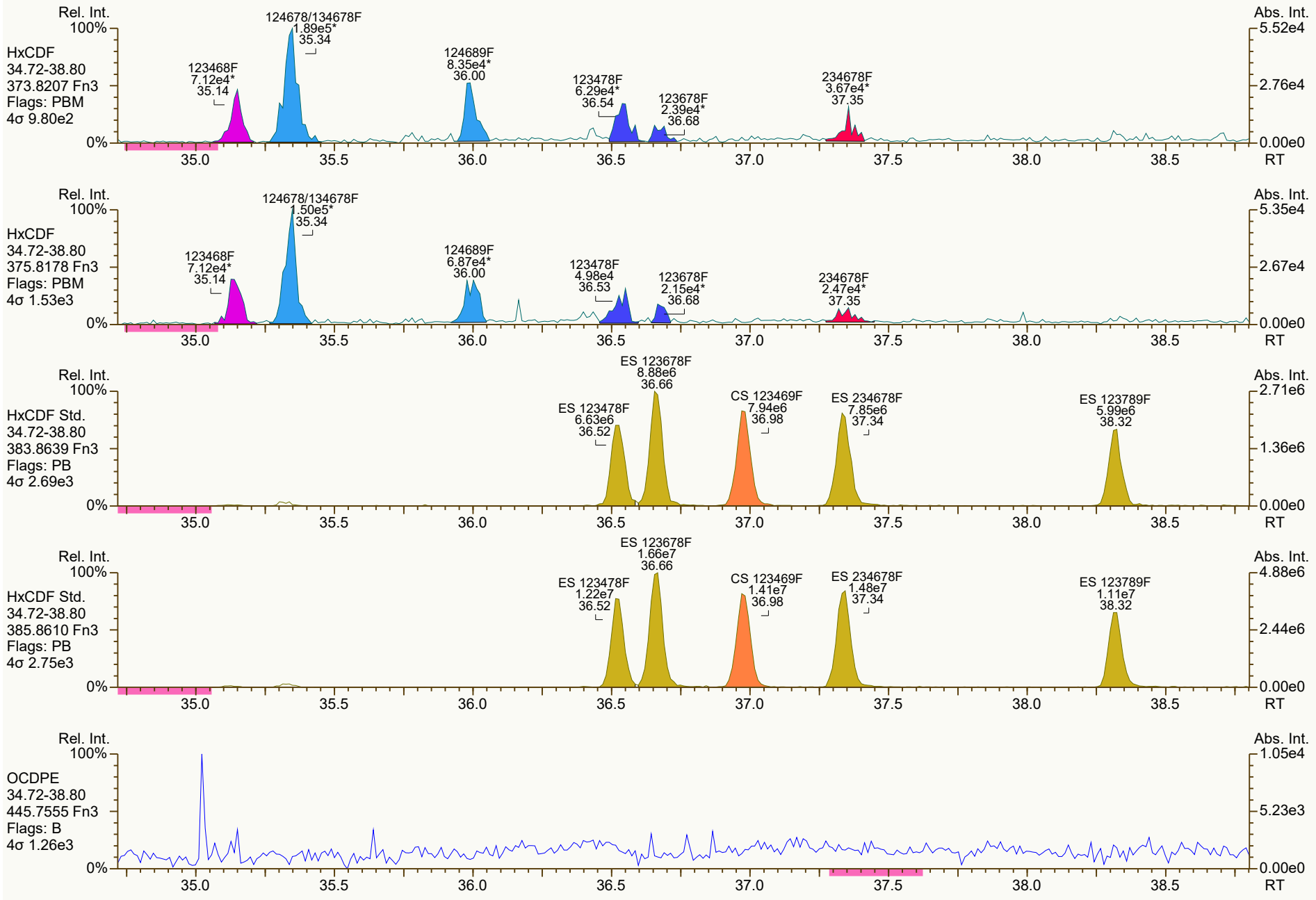
Results: P:\B6300_B6399\B6336\B6336_18970 DF\Resources\B6336_18970_DF_003.utp_res, saved 02-Mar-2022 09:11 (DTF) *Peak annotation: Areas, Centroids*

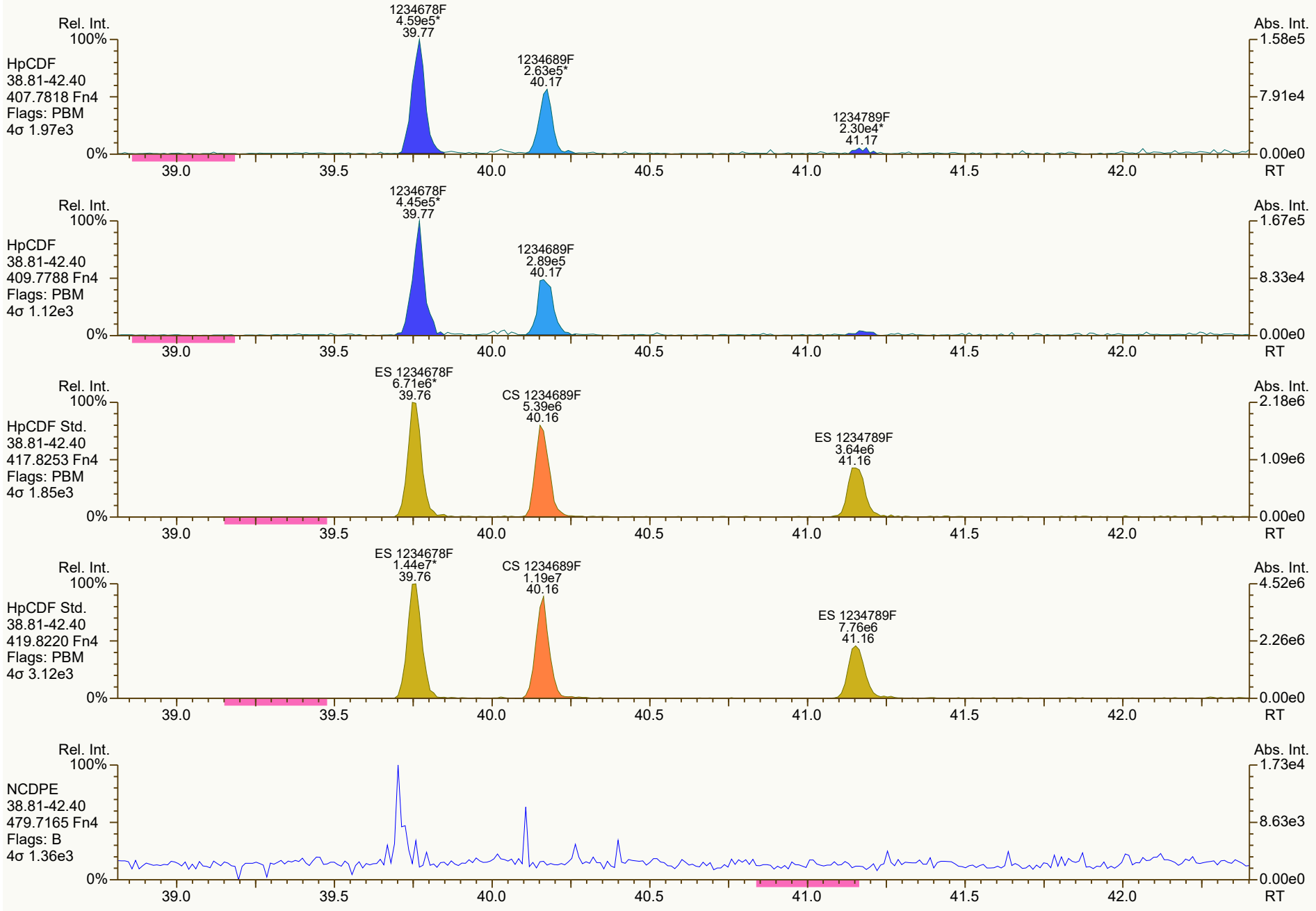
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0673 scc: 301-892 *Revised: 02-Mar-2022 09:06 (DTF) Printed: 02-Mar-2022 09:15 Page 8 of 12*

SGS ID: B6336_18970_DF_003 | Sample ID: 11215131-021822-S-SB-NC-S-51 | Acq: 02-Mar-2022 04:40:35
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 60 | User: DTF Datafile: 220301C19



Results: P:\B6300_B6399\B6336\B6336_18970 DF\Resources\B6336_18970_DF_003.utp_res, saved 02-Mar-2022 09:11 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5163, 1873, 8286 scc: 301-892 | Revised: 02-Mar-2022 09:06 (DTF) Printed: 02-Mar-2022 09:15 Page 9 of 12


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 9.80e2
123468F 7.12e4* 35.14
124678/134678F 1.89e5* 35.34
124689F 8.35e4* 36.00
123478F 6.29e4* 36.54
123678F 2.39e4* 36.68
234678F 3.67e4* 37.35
Abs. Int.
5.52e4
2.76e4
0.00e0
0%
35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 RT
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 1.53e3
123468F 7.12e4* 35.14
124678/134678F 1.50e5* 35.34
124689F 6.87e4* 36.00
123478F 4.98e4 36.53
123678F 2.15e4* 36.68
234678F 2.47e4* 37.35
5.35e4
2.67e4
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 2.69e3
ES 123678F 8.88e6 36.66
ES 123478F 6.63e6 36.52
CS 123469F 7.94e6 36.98
ES 234678F 7.85e6 37.34
ES 123789F 5.99e6 38.32
2.71e6
1.36e6
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 2.75e3
ES 123678F 1.66e7 36.66
ES 123478F 1.22e7 36.52
CS 123469F 1.41e7 36.98
ES 234678F 1.48e7 37.34
ES 123789F 1.11e7 38.32
4.88e6
2.44e6
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.26e3
1.05e4
5.23e3


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 1.97e3
1234678F
4.59e5*
39.77
1234689F
2.63e5*
40.17
1234789F
2.30e4*
41.17
Abs. Int.
1.58e5
7.91e4
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 1.12e3
1234678F
4.45e5*
39.77
1234689F
2.89e5
40.17
Abs. Int.
1.67e5
8.33e4
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 1.85e3
ES 1234678F
6.71e6*
39.76
CS 1234689F
5.39e6
40.16
ES 1234789F
3.64e6
41.16
Abs. Int.
2.18e6
1.09e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 3.12e3
ES 1234678F
1.44e7*
39.76
CS 1234689F
1.19e7
40.16
ES 1234789F
7.76e6
41.16
Abs. Int.
4.52e6
2.26e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.36e3
Abs. Int.
1.73e4
8.63e3
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

SGS ID: B6336_18970_DF_003 | Sample ID: 11215131-021822-S-SB-NC-S-51 | Acq: 02-Mar-2022 04:40:35

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 60 | User: DTF Datafile: 220301C19



Results: P:\B6300_B6399\B6336\B6336_18970 DF\Resources\B6336_18970_DF_003.utp_res, saved 02-Mar-2022 09:11 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1396, 7343, 5932 scc: 301-892 | *PKD: 02-Mar-2022 09:08 Printed: 02-Mar-2022 09:15 Page 12 of 12*

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
9	220301C09	3	CS3_220301_DF_CB	1.00	25-347-1	DTF	469-035	01-Mar-2022	20:49:11
10	220301C11	58	OPR1_18970_DF	1.00	0_18970_OPR001	DTF	674-870	01-Mar-2022	22:29:54
11	220301C12	59	OPR2_18970_DF	1.00	0_18970_OPR002	DTF	757-124	01-Mar-2022	23:16:15
13	220301C13	2	SBS_220301_DF_CB	1.00	20-61-1	DTF	812-051	02-Mar-2022	00:02:34
14	220301C15	57	MB1_18970_DF_SDS	10.00	Method Blank	DTF	069-213	02-Mar-2022	01:35:14
15	220301C19	60	B6336_18970_DF_003	10.18	11215131-021822-S-SB-NC-S-51	DTF	301-892	02-Mar-2022	04:40:35

REVIEWED
Tyler_Fritz , 3/2/2022, 9:21:01 AM

REVIEWED
Amber_Kornegay , 3/2/2022, 10:06:43 AM

Dioxin/Furan QC Summary	Acq'd: 01 Mar 2022 20:49 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220301_DF_CB	UTP: 02-Mar-2022 09:08:23 DTF	Checkcode: 469-035-KKG
Sample ID: 25-347-1	Report: 02 Mar 2022 09:09 TF	Datafile: 220301C09

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.19	3.63E+06	0.82	Y	1.18	1.19	0%
12378-PeCDD	33.60	1.40E+07	1.54	Y	1.04	1.04	1%
123478-HxCDD	37.53	1.31E+07	1.23	Y	1.09	1.09	0%
123678-HxCDD	37.65	1.31E+07	1.28	Y	1.15	1.16	1%
123789-HxCDD	37.96	1.41E+07	1.27	Y	1.05	1.04	-1%
1234678-HpCDD	40.70	1.25E+07	1.02	Y	1.06	1.03	-3%
OCDD	43.41	2.07E+07	0.89	Y	1.13	1.11	-1%
2378-TCDF	27.32	5.05E+06	0.76	Y	1.08	1.06	-2%
12378-PeCDF	32.13	2.06E+07	1.54	Y	1.02	0.97	-5%
23478-PeCDF	33.26	2.05E+07	1.52	Y	1.02	0.98	-4%
123478-HxCDF	36.53	1.91E+07	1.22	Y	1.27	1.21	-5%
123678-HxCDF	36.67	2.01E+07	1.24	Y	1.15	1.14	-1%
234678-HxCDF	37.34	1.92E+07	1.23	Y	1.19	1.15	-4%
123789-HxCDF	38.33	1.74E+07	1.24	Y	1.16	1.14	-2%
1234678-HpCDF	39.76	1.74E+07	1.04	Y	1.37	1.31	-4%
1234789-HpCDF	41.16	1.56E+07	1.02	Y	1.31	1.26	-4%
OCDF	43.58	2.65E+07	0.89	Y	1.07	1.07	0%
ES 2378-TCDD	28.17	3.06E+07	0.81	Y	1.05	0.99	-5%
ES 12378-PeCDD	33.577	2.70E+07	1.62	Y	0.88	0.87	-1%
ES 123478-HxCDD	37.515	2.40E+07	1.27	Y	0.97	1.02	5%
ES 123678-HxCDD	37.637	2.26E+07	1.31	Y	0.94	0.96	2%
ES 123789-HxCDD	37.942	2.71E+07	1.30	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.69	2.44E+07	1.07	Y	0.91	1.03	13%
ES OCDD	43.392	3.72E+07	0.88	Y	0.62	0.79	26%
ES 2378-TCDF	27.302	4.76E+07	0.79	Y	1.06	1.01	-5%
ES 12378-PeCDF	32.115	4.24E+07	1.58	Y	0.91	0.90	-2%
ES 23478-PeCDF	33.239	4.17E+07	1.60	Y	0.88	0.88	0%
ES 123478-HxCDF	36.513	3.18E+07	0.53	Y	1.20	1.35	12%
ES 123678-HxCDF	36.652	3.53E+07	0.54	Y	1.35	1.50	11%
ES 234678-HxCDF	37.327	3.35E+07	0.50	Y	1.24	1.42	14%
ES 123789-HxCDF	38.311	3.04E+07	0.54	Y	1.16	1.29	12%
ES 1234678-HpCDF	39.744	2.66E+07	0.46	Y	0.97	1.13	16%
ES 1234789-HpCDF	41.148	2.48E+07	0.47	Y	0.85	1.05	23%
ES OCDF	43.568	4.96E+07	0.91	Y	0.81	1.05	30%

Dioxin/Furan QC Summary	Acq'd: 01 Mar 2022 20:49 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220301_DF_CB	UTP: 02-Mar-2022 09:08:23 DTF	Checkcode: 469-035-KKG
Sample ID: 25-347-1	Report: 02 Mar 2022 09:09 TF	Datafile: 220301C09

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.50	3.08E+07	0.78	Y	-	-	-
JS 1234-TCDF	25.92	4.73E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.84	1.18E+07	1.16	Y	-	-	-
CS 37Cl-2378-TCDD	28.19	4.08E+06	n/a	-	1.20	1.32	10%
CS 12347-PeCDD	33.07	2.47E+07	1.65	Y	0.75	0.80	6%
CS 12346-PeCDF	31.58	4.08E+07	1.59	Y	0.85	0.86	1%
CS 123469-HxCDF	36.97	3.20E+07	0.56	Y	1.12	1.36	21%
CS 1234689-HpCDF	40.15	2.67E+07	0.43	Y	0.89	1.13	27%
~~SS 37Cl-2378-TCDD~~	~~28.19~~	~~4.08E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.33~~	~~16%~~
~~SS 12347-PeCDD~~	~~33.07~~	~~2.47E+07~~	~~1.65~~	~~Y~~	~~0.86~~	~~0.92~~	~~7%~~
~~SS 12346-PeCDF~~	~~31.58~~	~~4.08E+07~~	~~1.59~~	~~Y~~	~~0.94~~	~~0.96~~	~~3%~~
~~SS 123469-HxCDF~~	~~36.97~~	~~3.20E+07~~	~~0.56~~	~~Y~~	~~0.83~~	~~0.91~~	~~9%~~
~~SS 1234689-HpCDF~~	~~40.15~~	~~2.67E+07~~	~~0.43~~	~~Y~~	~~0.92~~	~~1.00~~	~~9%~~
~~OCDD-a~~	~~43.40~~	~~1.39E+06~~	~~2.79~~	~~Y~~	~~0.07~~	~~0.07~~	~~4%~~
~~OCDF-a~~	~~43.58~~	~~1.68E+06~~	~~2.25~~	~~Y~~	~~0.07~~	~~0.07~~	~~2%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220301C09 Analysis Date: 01-MAR-2022 20:49:11

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.82	0.65 - 0.89	Y	10	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.54	1.32 - 1.78	Y	50.3	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.23	1.05 - 1.43	Y	50.1	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	50.6	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	49.6	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.02	0.88 - 1.20	Y	48.4	43 - 58	Y
OCDD	M+2/M+4	0.89	0.76 - 1.02	Y	98.6	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.76	0.65 - 0.89	Y	9.84	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.54	1.32 - 1.78	Y	47.4	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.52	1.32 - 1.78	Y	48.1	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05 - 1.43	Y	47.4	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	49.3	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	48.2	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	49.1	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88 - 1.20	Y	47.8	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.02	0.88 - 1.20	Y	48.2	43 - 58	Y
OCDF	M+2/M+4	0.89	0.76 - 1.02	Y	99.7	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 02 Mar 2022 09:09 Analyst: TF

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

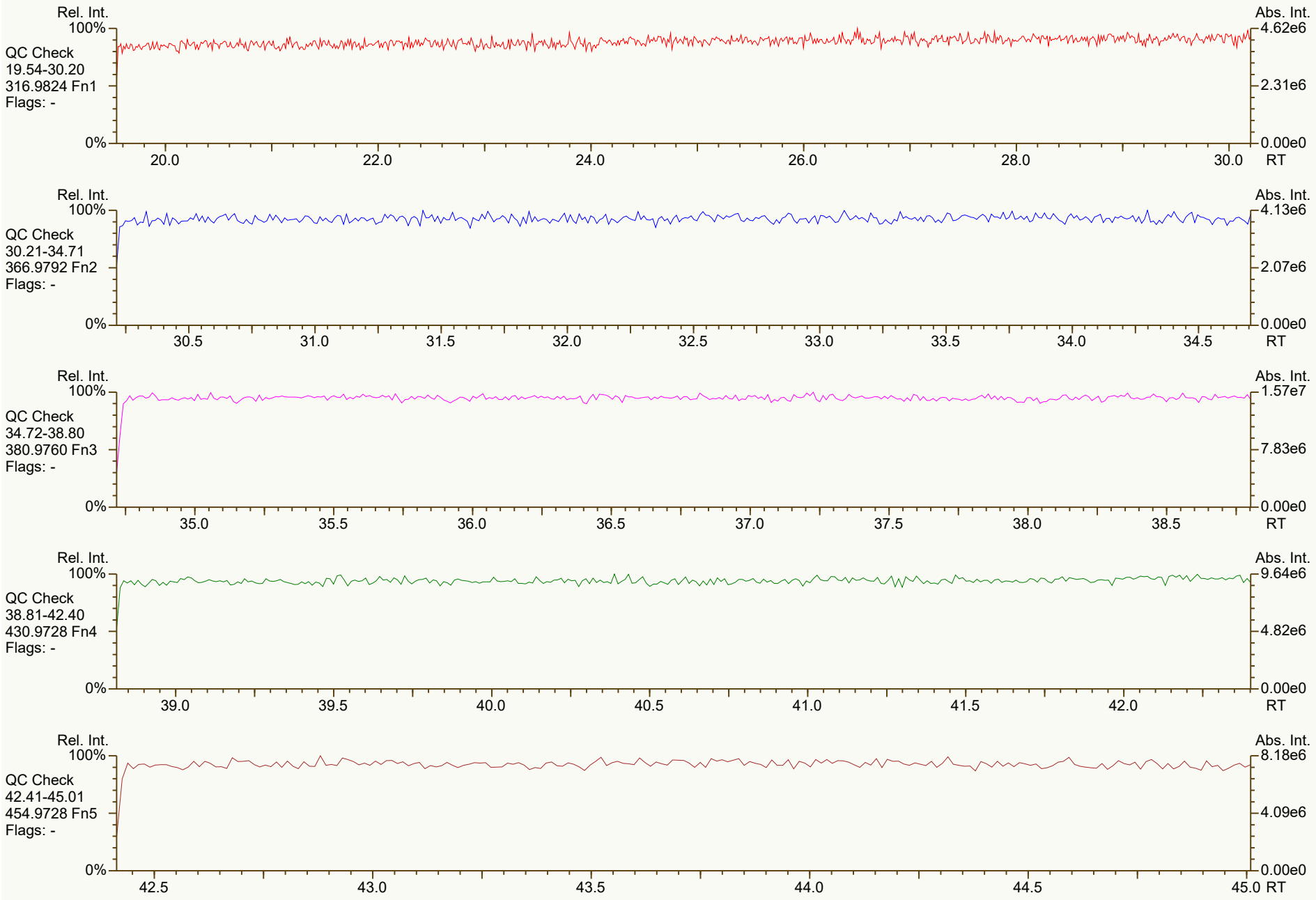
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

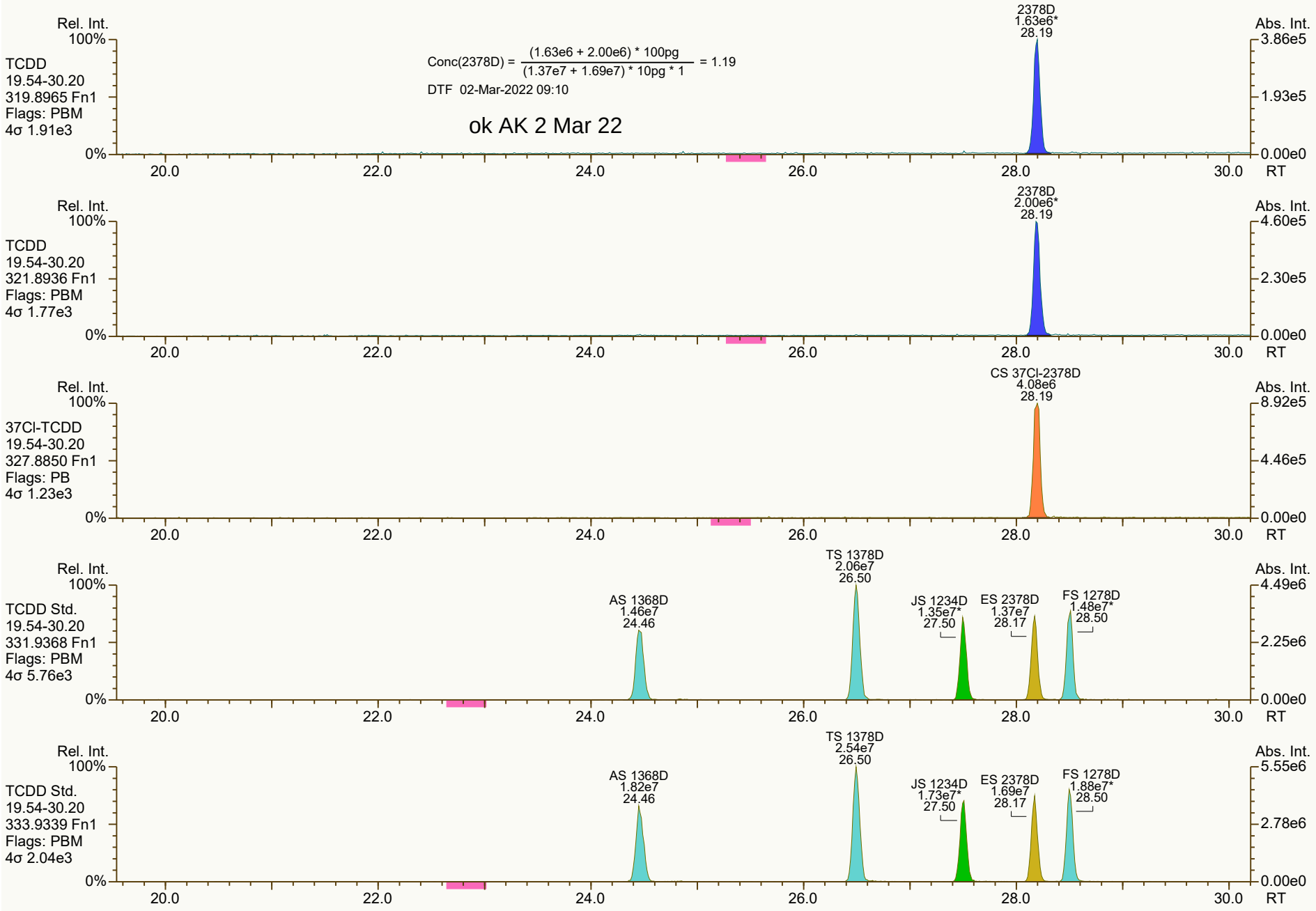
Instrument ID: HRMS3 GC Column ID: ZB-5ms

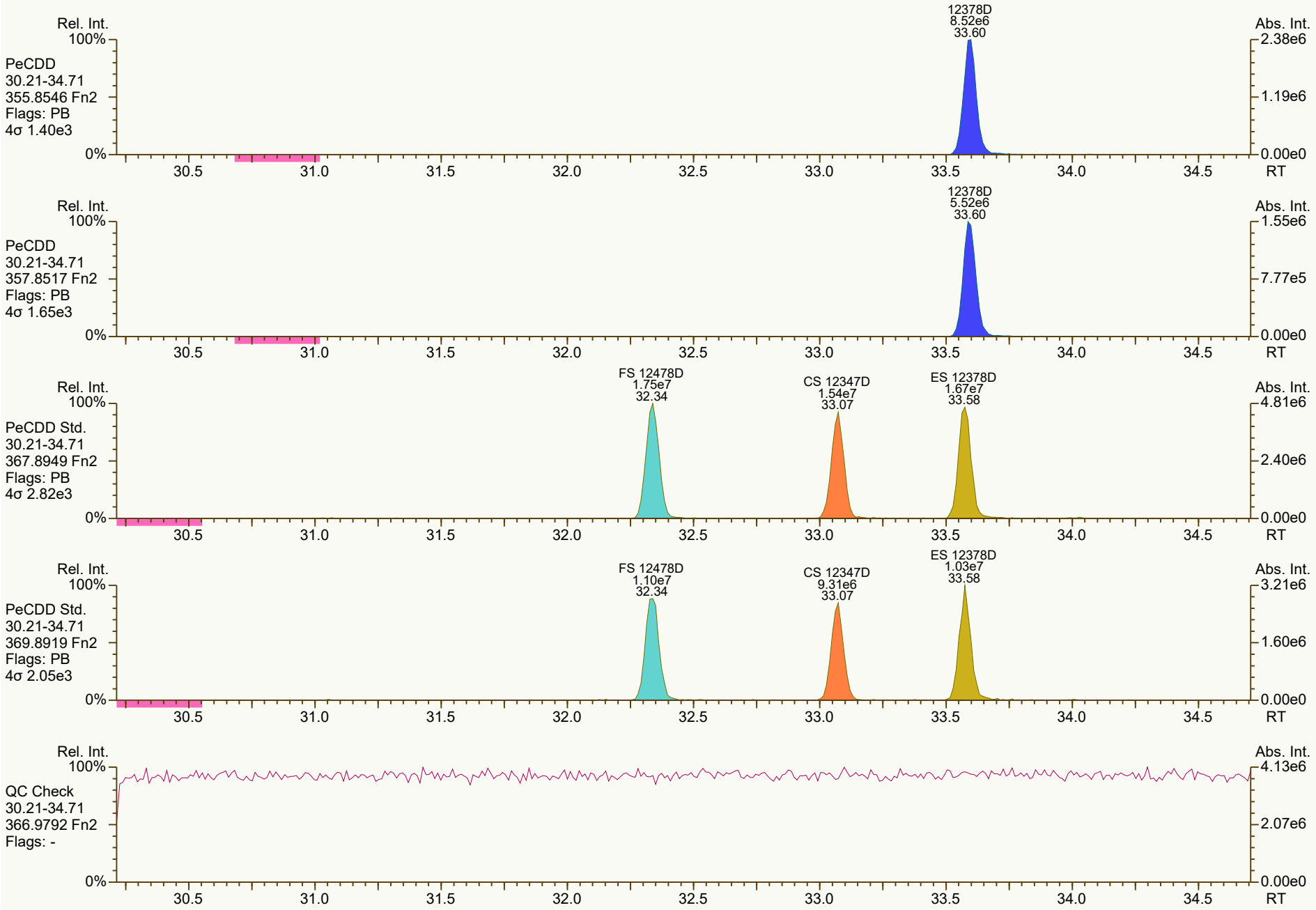
VER Data Filename: 220301C09 Analysis Date: 01-MAR-2022 20:49:11

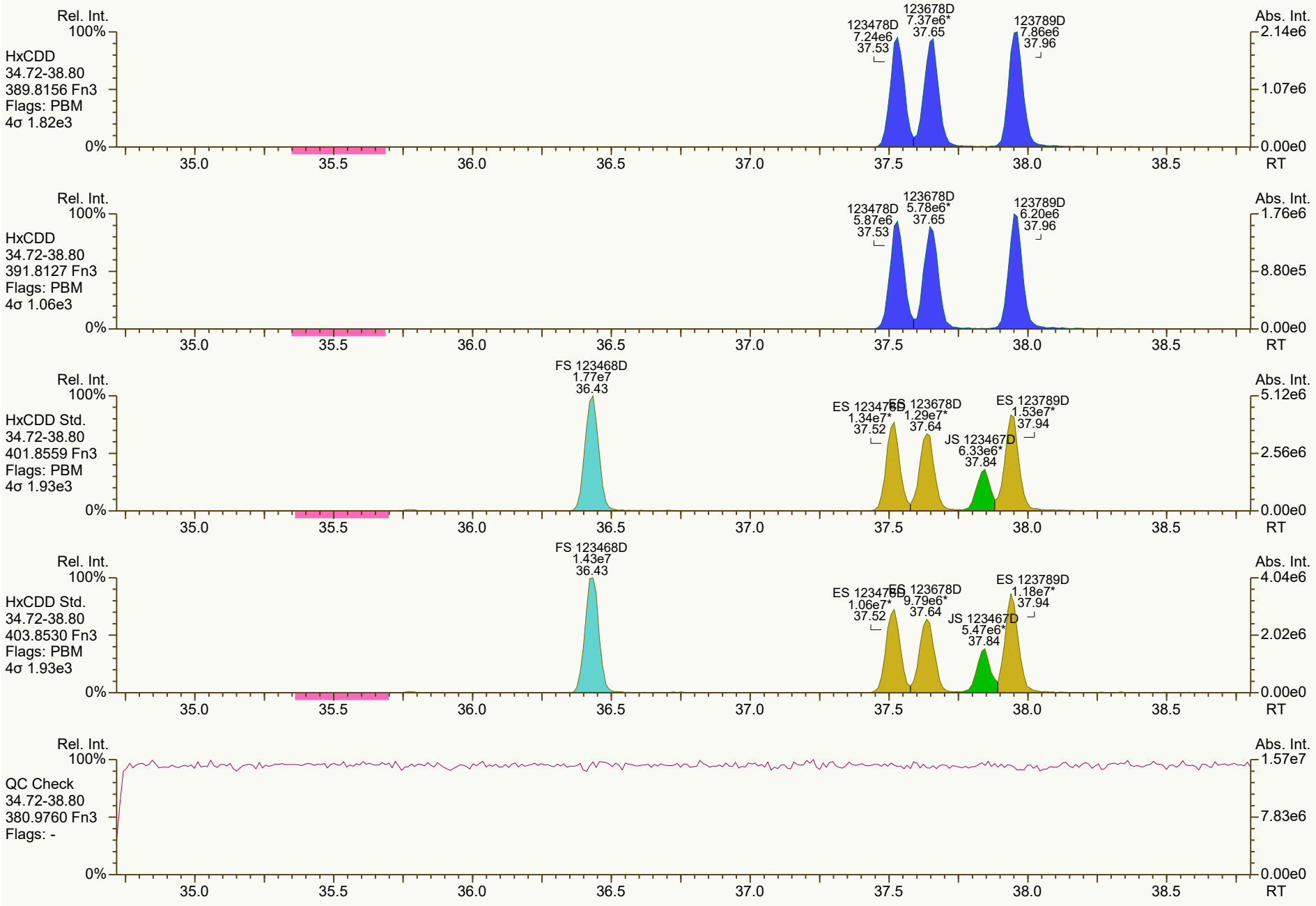
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
13C-2,3,7,8-TCDD	M/M+2	0.81	0.65 - 0.89	Y	95	82 - 121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.62	1.32 - 1.78	Y	99.5	62 - 160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	105	85 - 117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.31	1.05 - 1.43	Y	102	85 - 118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.30	1.05 - 1.43	Y	105	85 - 118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88 - 1.20	Y	113	72 - 138	Y
13C-OCDD	M+2/M+4	0.88	0.76 - 1.02	Y	252	96 - 415	Y
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65 - 0.89	Y	94.9	71 - 140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32 - 1.78	Y	98.4	76 - 130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.60	1.32 - 1.78	Y	100	77 - 130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43 - 0.59	Y	112	76 - 131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	111	70 - 143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.50	0.43 - 0.59	Y	114	73 - 137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	112	74 - 135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37 - 0.51	Y	116	78 - 129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.47	0.37 - 0.51	Y	123	77 - 129	Y
13C-OCDF	M+2/M+4	0.91	0.76 - 1.02	Y	260	96 - 415	Y
CLEANUP STANDARDS							
37Cl-2,3,7,8-TCDD	n/a				11	7.9 - 12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.65	1.32 - 1.78	Y	106	70 - 130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.59	1.32 - 1.78	Y	101	70 - 130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.56	0.43 - 0.59	Y	121	70 - 130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.43	0.37 - 0.51	Y	127	70 - 130	Y

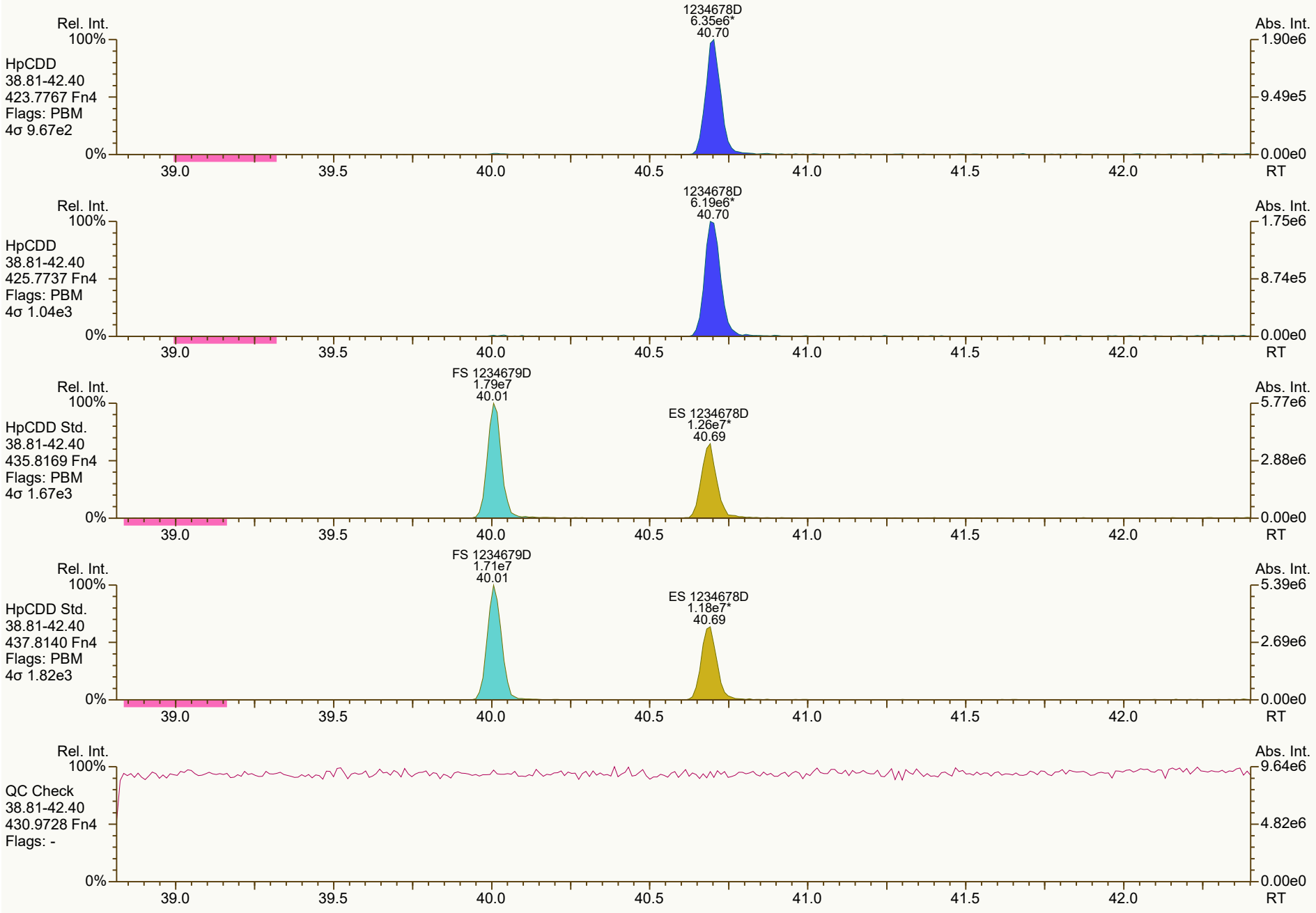
Processed: 02 Mar 2022 09:09 Analyst: TF

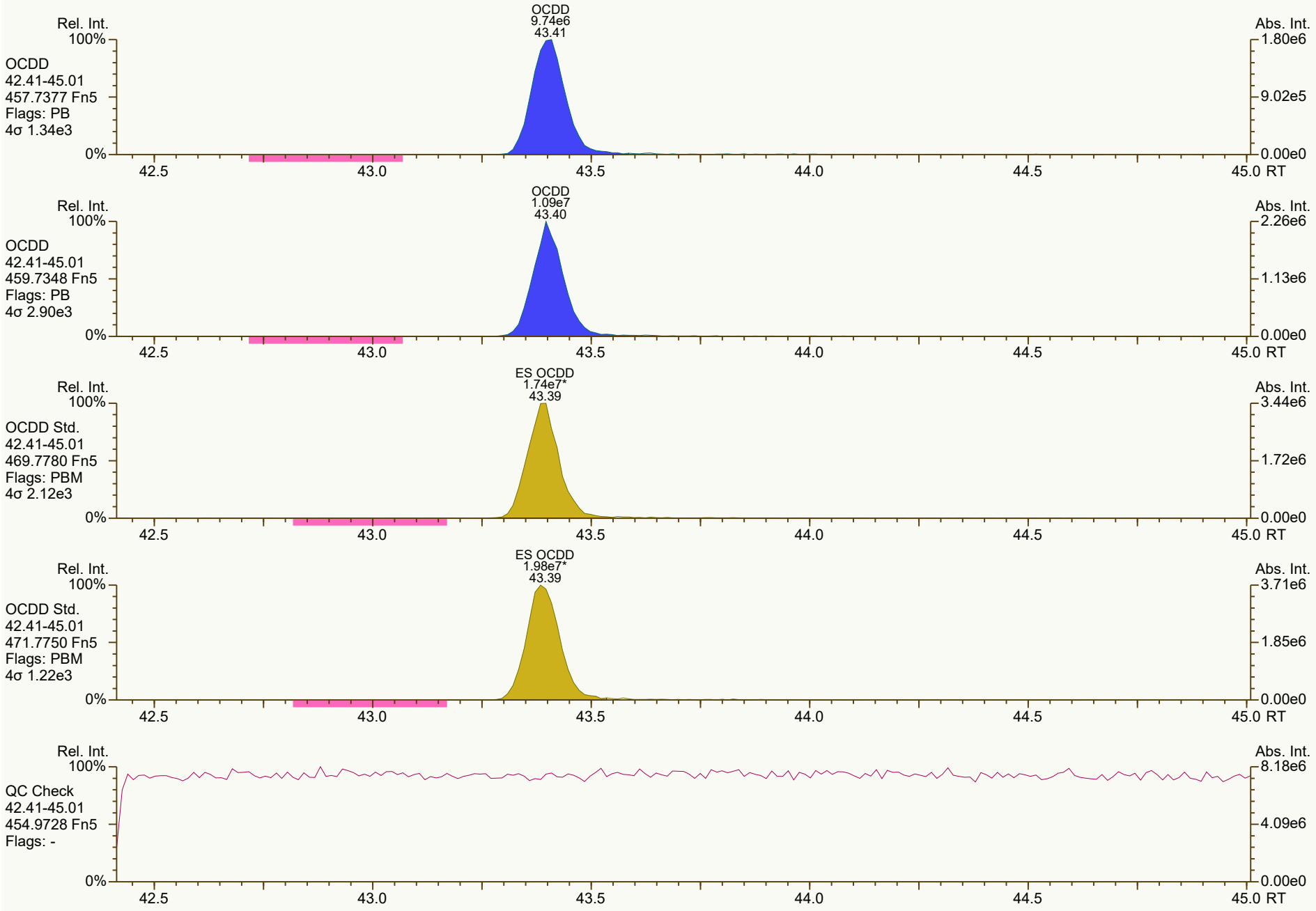

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.62e6
2.31e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.13e6
2.07e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.57e7
7.83e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
9.64e6
4.82e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
8.18e6
4.09e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.91e3
0%
Conc(2378D) = (1.63e6 + 2.00e6) * 100pg / (1.37e7 + 1.69e7) * 10pg * 1 = 1.19
DTF 02-Mar-2022 09:10
ok AK 2 Mar 22
2378D
1.63e6*
28.19
Abs. Int.
3.86e5
1.93e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.77e3
0%
2378D
2.00e6*
28.19
Abs. Int.
4.60e5
2.30e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.23e3
0%
CS 37Cl-2378D
4.08e6
28.19
Abs. Int.
8.92e5
4.46e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PBM
4σ 5.76e3
0%
AS 1368D
1.46e7
24.46
TS 1378D
2.06e7
26.50
JS 1234D
1.35e7*
27.50
ES 2378D
1.37e7
28.17
FS 1278D
1.48e7*
28.50
Abs. Int.
4.49e6
2.25e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PBM
4σ 2.04e3
0%
AS 1368D
1.82e7
24.46
TS 1378D
2.54e7
26.50
JS 1234D
1.73e7*
27.50
ES 2378D
1.69e7
28.17
FS 1278D
1.88e7*
28.50
Abs. Int.
5.55e6
2.78e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.40e3
0%
12378D
8.52e6
33.60
Abs. Int.
2.38e6
1.19e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.65e3
0%
12378D
5.52e6
33.60
Abs. Int.
1.55e6
7.77e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.82e3
0%
FS 12478D
1.75e7
32.34
CS 12347D
1.54e7
33.07
ES 12378D
1.67e7
33.58
Abs. Int.
4.81e6
2.40e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.05e3
0%
FS 12478D
1.10e7
32.34
CS 12347D
9.31e6
33.07
ES 12378D
1.03e7
33.58
Abs. Int.
3.21e6
1.60e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.13e6
2.07e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

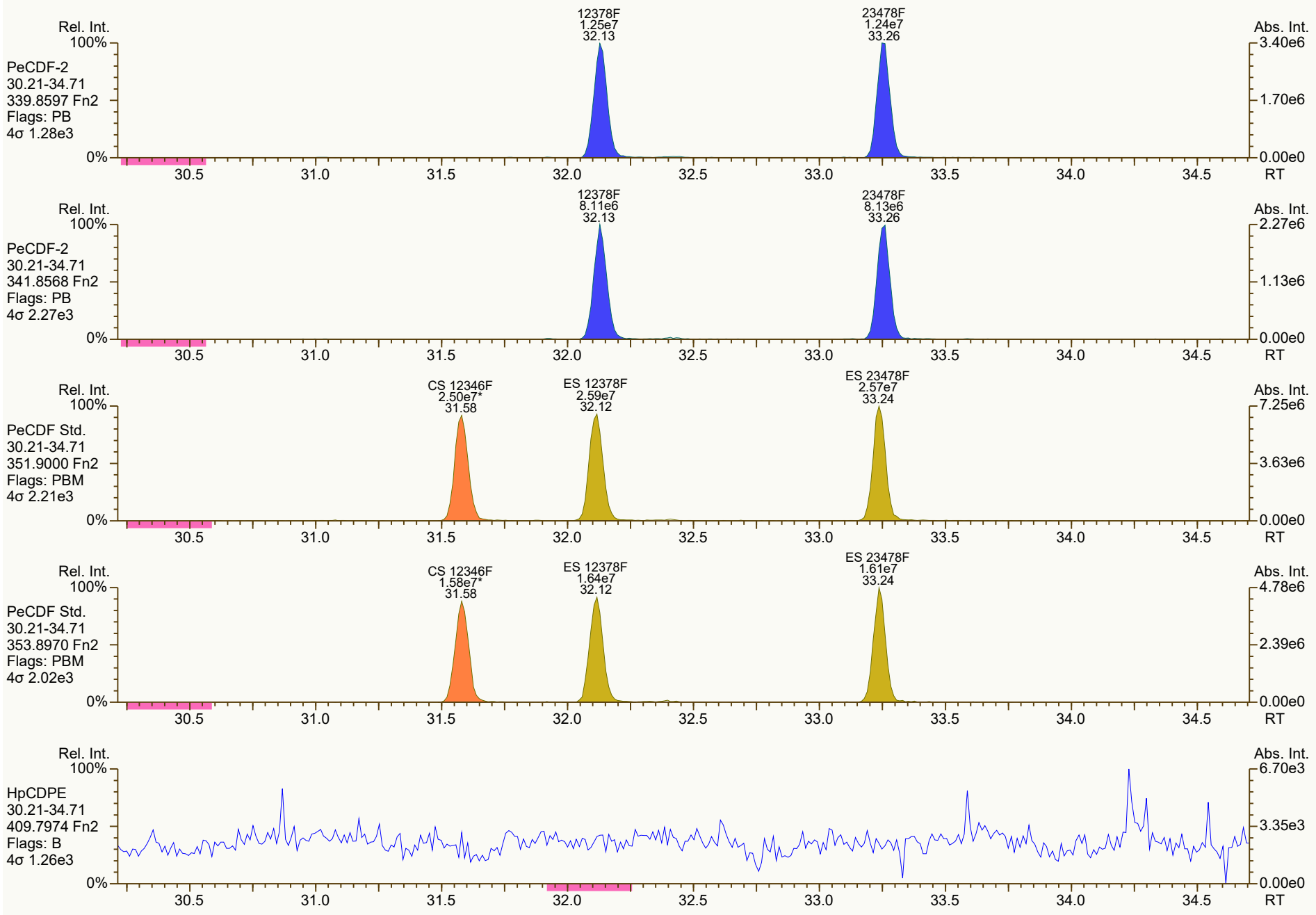

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 1.82e3
123478D
7.24e6
37.53
123678D
7.37e6*
37.65
123789D
7.86e6
37.96
Abs. Int.
2.14e6
1.07e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 1.06e3
123478D
5.87e6
37.53
123678D
5.78e6*
37.65
123789D
6.20e6
37.96
Abs. Int.
1.76e6
8.80e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.77e7
36.43
ES 123478D
1.34e7*
37.52
ES 123678D
1.29e7*
37.64
JS 123467D
6.33e6*
37.84
ES 123789D
1.53e7*
37.94
Abs. Int.
5.12e6
2.56e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.43e7
36.43
ES 123478D
1.06e7*
37.52
ES 123678D
9.79e6*
37.64
JS 123467D
5.47e6*
37.84
ES 123789D
1.18e7*
37.94
Abs. Int.
4.04e6
2.02e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
1.57e7
7.83e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

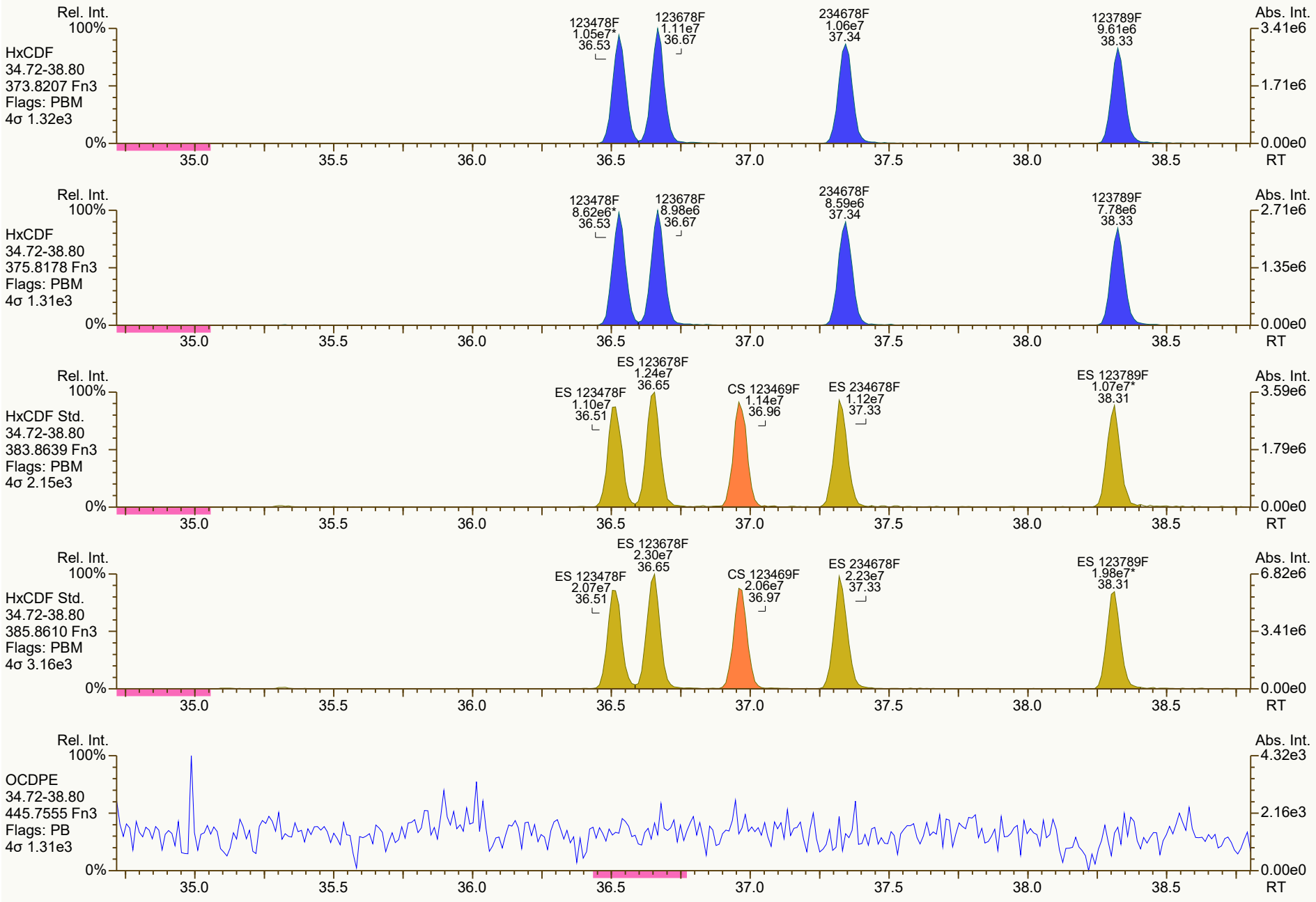

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 9.67e2
1234678D
6.35e6*
40.70
Abs. Int.
1.90e6
9.49e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 1.04e3
1234678D
6.19e6*
40.70
Abs. Int.
1.75e6
8.74e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 1.67e3
FS 1234679D
1.79e7
40.01
ES 1234678D
1.26e7*
40.69
Abs. Int.
5.77e6
2.88e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 1.82e3
FS 1234679D
1.71e7
40.01
ES 1234678D
1.18e7*
40.69
Abs. Int.
5.39e6
2.69e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
9.64e6
4.82e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

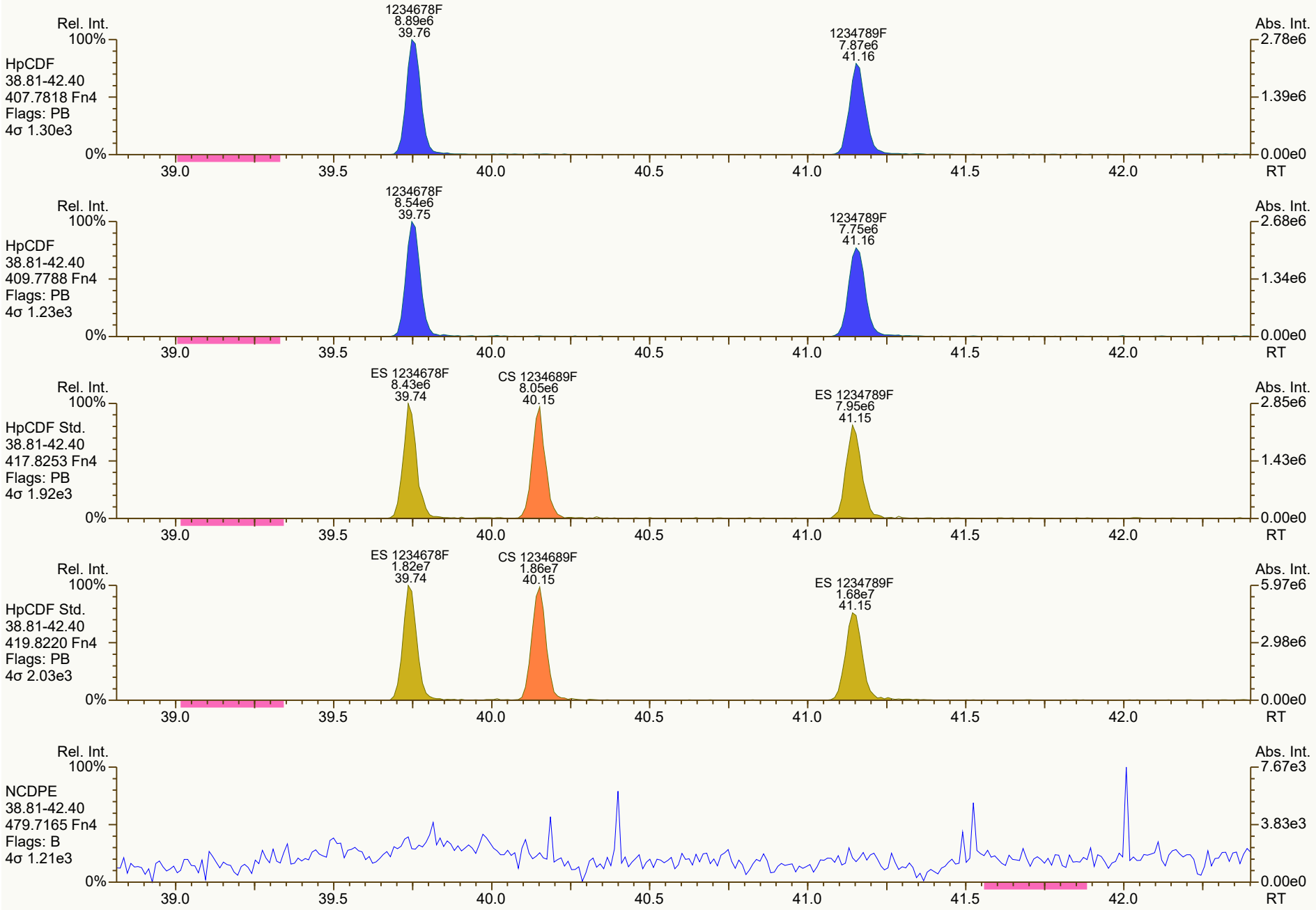

Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 1.34e3
0%
OCDD
9.74e6
43.41
Abs. Int.
1.80e6
9.02e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 2.90e3
0%
OCDD
1.09e7
43.40
Abs. Int.
2.26e6
1.13e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 2.12e3
0%
ES OCDD
1.74e7*
43.39
Abs. Int.
3.44e6
1.72e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.22e3
0%
ES OCDD
1.98e7*
43.39
Abs. Int.
3.71e6
1.85e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
8.18e6
4.09e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

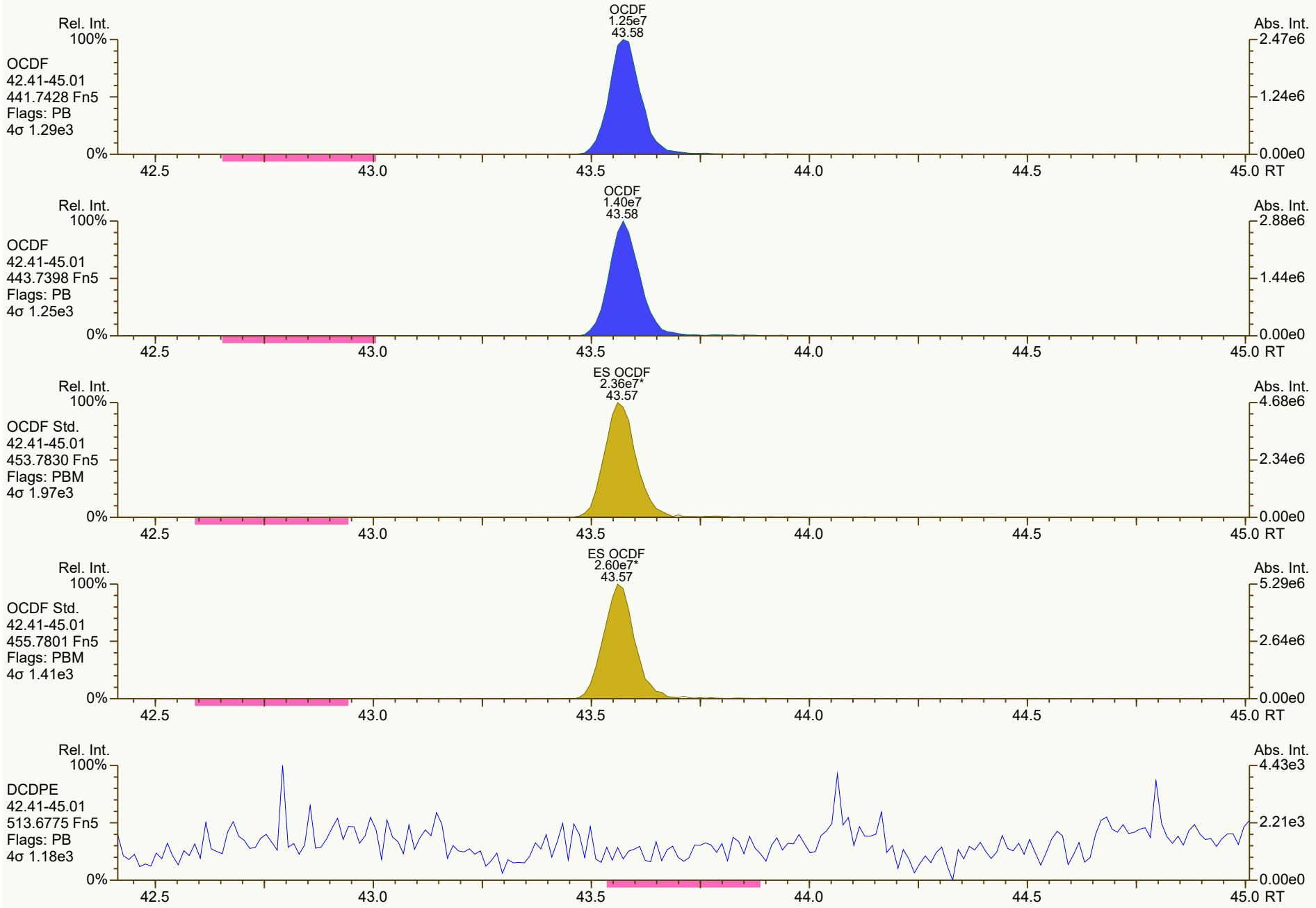

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 9.82e2
2378F
2.18e6*
27.32
Abs. Int.
4.86e5
2.43e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.34e3
2378F
2.88e6*
27.32
Abs. Int.
6.55e5
3.28e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PBM
4σ 7.57e3
AS 1368F
2.43e7
22.30
JS 1234F
2.09e7
25.92
ES 2378F
2.10e7*
27.30
Abs. Int.
4.79e6
2.39e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PBM
4σ 1.74e3
AS 1368F
3.03e7
22.30
JS 1234F
2.64e7
25.92
ES 2378F
2.65e7*
27.30
Abs. Int.
6.04e6
3.02e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.06e3
Abs. Int.
1.04e4
5.20e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT

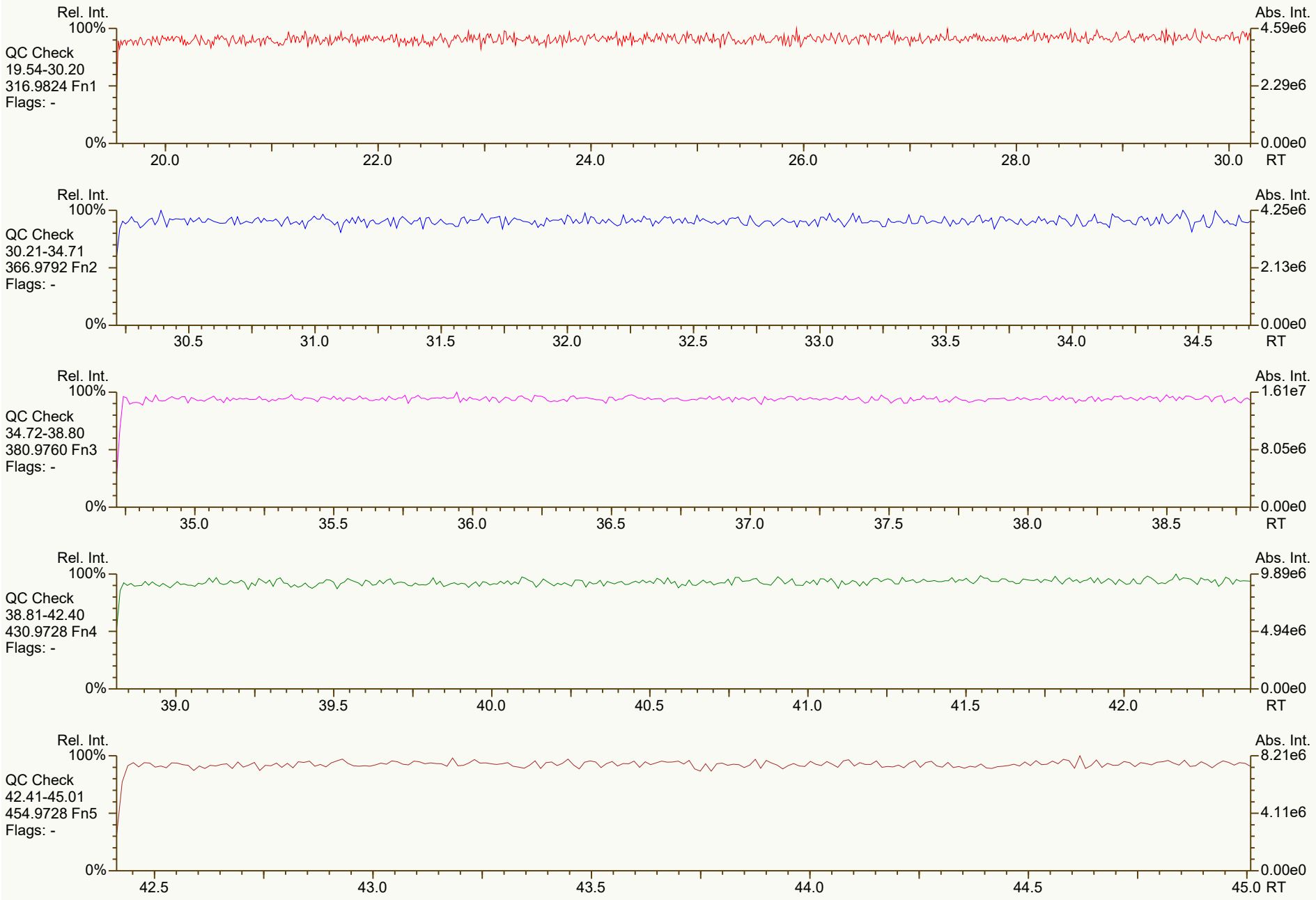

Rel. Int.
100%
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.17e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.66e4
8.28e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.30e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.62e6
2.31e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.28e3
0%
12378F
1.25e7
32.13
23478F
1.24e7
33.26
Abs. Int.
3.40e6
1.70e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 2.27e3
0%
12378F
8.11e6
32.13
23478F
8.13e6
33.26
Abs. Int.
2.27e6
1.13e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PBM
4σ 2.21e3
0%
CS 12346F
2.50e7*
31.58
ES 12378F
2.59e7
32.12
ES 23478F
2.57e7
33.24
Abs. Int.
7.25e6
3.63e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PBM
4σ 2.02e3
0%
CS 12346F
1.58e7*
31.58
ES 12378F
1.64e7
32.12
ES 23478F
1.61e7
33.24
Abs. Int.
4.78e6
2.39e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.26e3
0%
Abs. Int.
6.70e3
3.35e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 1.32e3
0%
123478F
1.05e7*
36.53
123678F
1.11e7
36.67
234678F
1.06e7
37.34
123789F
9.61e6
38.33
Abs. Int.
3.41e6
1.71e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 1.31e3
0%
123478F
8.62e6*
36.53
123678F
8.98e6
36.67
234678F
8.59e6
37.34
123789F
7.78e6
38.33
Abs. Int.
2.71e6
1.35e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 2.15e3
0%
ES 123678F
1.24e7
36.65
ES 123478F
1.10e7
36.51
CS 123469F
1.14e7
36.96
ES 234678F
1.12e7
37.33
ES 123789F
1.07e7*
38.31
Abs. Int.
3.59e6
1.79e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 3.16e3
0%
ES 123678F
2.30e7
36.65
ES 123478F
2.07e7
36.51
CS 123469F
2.06e7
36.97
ES 234678F
2.23e7
37.33
ES 123789F
1.98e7*
38.31
Abs. Int.
6.82e6
3.41e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.31e3
0%
Abs. Int.
4.32e3
2.16e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.30e3
1234678F
8.89e6
39.76
1234789F
7.87e6
41.16
Abs. Int.
2.78e6
1.39e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.23e3
1234678F
8.54e6
39.75
1234789F
7.75e6
41.16
Abs. Int.
2.68e6
1.34e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 1.92e3
ES 1234678F
8.43e6
39.74
CS 1234689F
8.05e6
40.15
ES 1234789F
7.95e6
41.15
Abs. Int.
2.85e6
1.43e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 2.03e3
ES 1234678F
1.82e7
39.74
CS 1234689F
1.86e7
40.15
ES 1234789F
1.68e7
41.15
Abs. Int.
5.97e6
2.98e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.21e3
Abs. Int.
7.67e3
3.83e3
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDF
1.25e7
43.58
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.29e3
0%
Abs. Int.
2.47e6
1.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.40e7
43.58
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.25e3
2.88e6
1.44e6
ES OCDF
2.36e7*
43.57
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 1.97e3
4.68e6
2.34e6
ES OCDF
2.60e7*
43.57
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 1.41e3
5.29e6
2.64e6
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.18e3
4.43e3
2.21e3

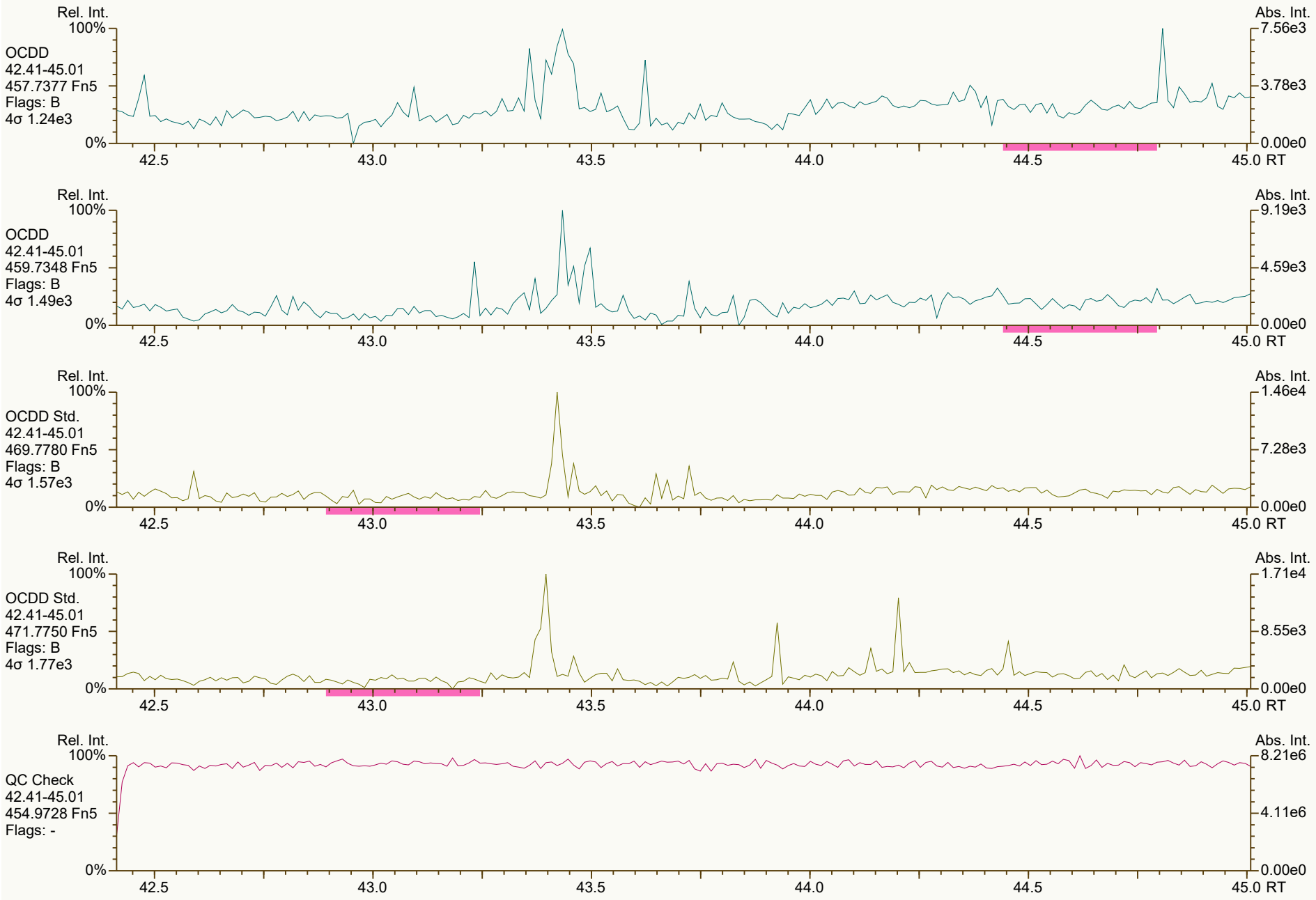

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.59e6
2.29e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.25e6
2.13e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.61e7
8.05e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
9.89e6
4.94e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
8.21e6
4.11e6
0.00e0


Rel. Int.
100%
0%
Abs. Int.
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 1.84e3
7.59e3
3.79e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.42e3
9.36e3
4.68e3
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: B
4σ 9.25e2
1.69e4
8.46e3
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 5.17e3
1.97e4
9.86e3
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 3.35e3
1.36e4
6.80e3


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: B
4σ 1.20e3
0%
Abs. Int.
8.60e3
4.30e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.64e3
0%
Abs. Int.
5.25e3
2.62e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
1.17e4
5.83e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.55e3
0%
Abs. Int.
3.88e4
1.94e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.25e6
2.13e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 1.23e3
0%
Abs. Int.
5.84e3
2.92e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.50e3
0%
Abs. Int.
5.40e3
2.70e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: B
4σ 1.98e3
0%
Abs. Int.
1.27e4
6.36e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: B
4σ 1.62e3
0%
Abs. Int.
1.58e4
7.92e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.61e7
8.05e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: B
4σ 1.09e3
0%
Abs. Int.
4.43e3
2.21e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.27e3
0%
Abs. Int.
4.35e3
2.18e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: B
4σ 1.88e3
0%
Abs. Int.
1.25e4
6.27e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: B
4σ 1.45e3
0%
Abs. Int.
1.48e4
7.39e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
9.89e6
4.94e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 1.24e3
0%
Abs. Int.
7.56e3
3.78e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 1.49e3
0%
Abs. Int.
9.19e3
4.59e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: B
4σ 1.57e3
0%
Abs. Int.
1.46e4
7.28e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: B
4σ 1.77e3
0%
Abs. Int.
1.71e4
8.55e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
8.21e6
4.11e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


2468F
3.24e5*
23.59
Rel. Int.
100%
0%
Abs. Int.
6.37e4
3.18e4
0.00e0
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.18e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
2468F
4.12e5*
23.59
8.02e4
4.01e4
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.57e3
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 5.31e3
2.84e4
1.42e4
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 2.96e3
1.90e4
9.48e3
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.31e3
5.96e3
2.98e3


Rel. Int.
100%
0%
Abs. Int.
1.29e4
6.43e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.08e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.41e4
7.04e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.21e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
4.59e6
2.29e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: B
4σ 8.88e2
0%
Abs. Int.
8.02e3
4.01e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: B
4σ 1.10e3
0%
Abs. Int.
5.95e3
2.97e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.95e4
9.77e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: B
4σ 1.48e3
0%
Abs. Int.
1.96e4
9.78e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: PB
4σ 1.05e3
0%
Abs. Int.
1.13e4
5.63e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: B
4σ 1.40e3
0%
Abs. Int.
6.96e3
3.48e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: B
4σ 1.34e3
0%
Abs. Int.
1.02e4
5.11e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.11e4
5.56e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: B
4σ 1.94e3
0%
Abs. Int.
1.42e4
7.12e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.06e3
0%
Abs. Int.
1.50e4
7.51e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: B
4σ 1.49e3
0%
Abs. Int.
9.68e3
4.84e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: B
4σ 1.20e3
0%
Abs. Int.
8.55e3
4.27e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 2.19e3
0%
Abs. Int.
1.01e4
5.05e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: B
4σ 2.31e3
0%
Abs. Int.
2.79e4
1.39e4
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.03e3
0%
Abs. Int.
1.03e4
5.14e3
0.00e0
39.0
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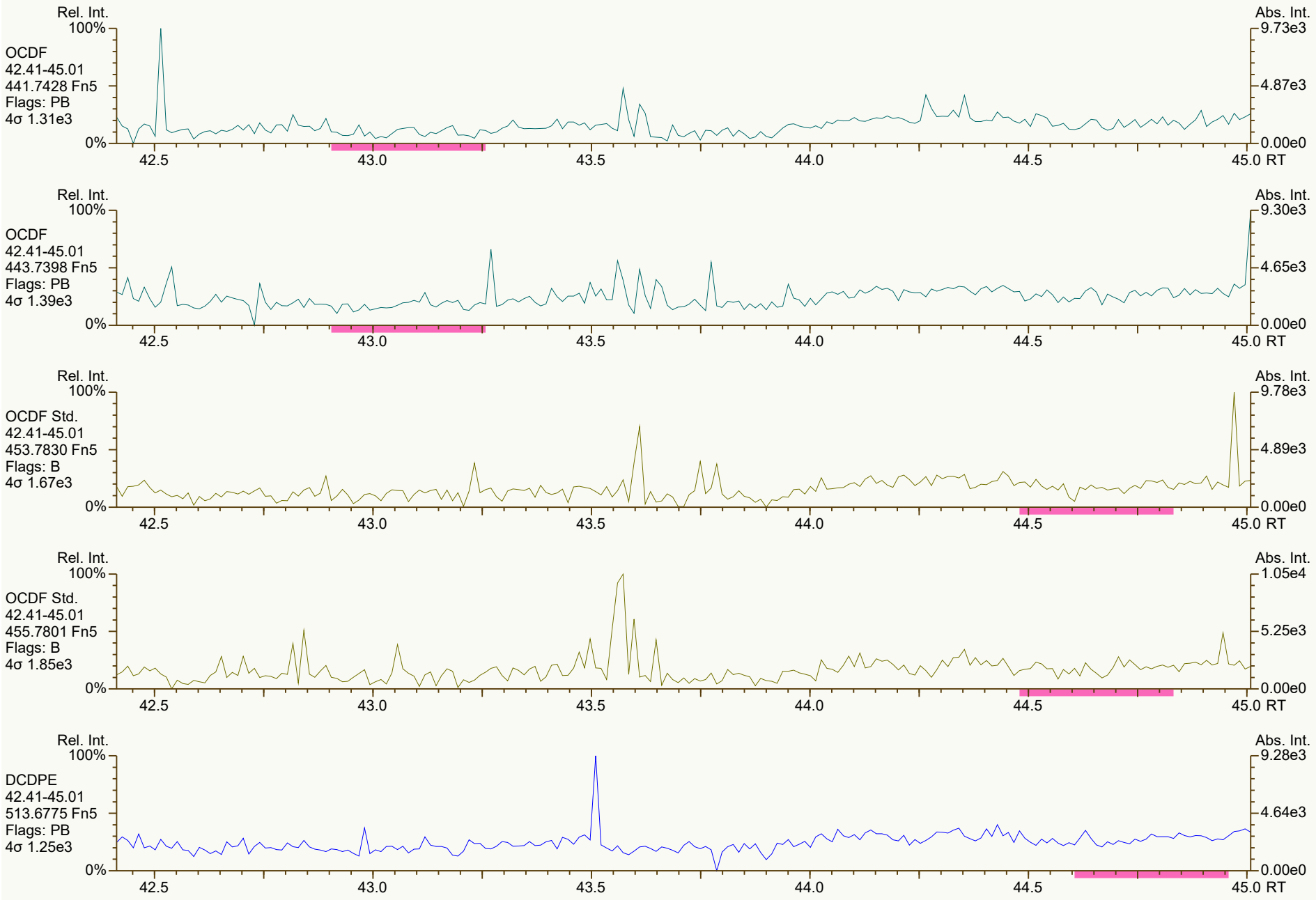
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.31e3
0%
Abs. Int.
9.73e3
4.87e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.39e3
0%
Abs. Int.
9.30e3
4.65e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
9.78e3
4.89e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: B
4σ 1.85e3
0%
Abs. Int.
1.05e4
5.25e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.25e3
0%
Abs. Int.
9.28e3
4.64e3
0.00e0
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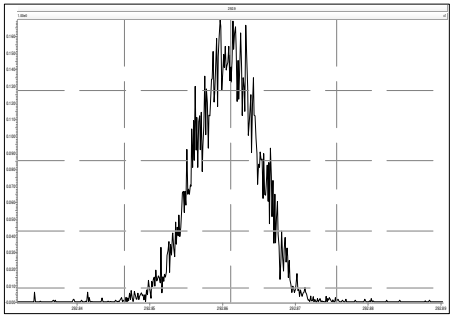
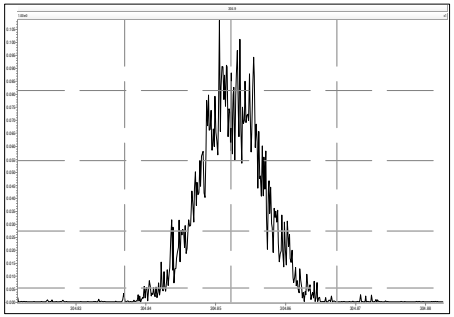
44.5
45.0 RT

Printed: Tuesday, March 01, 2022 12:23:25 Eastern Standard Time

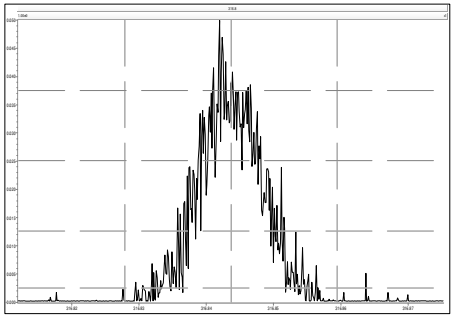
M 292.9824 R 15753



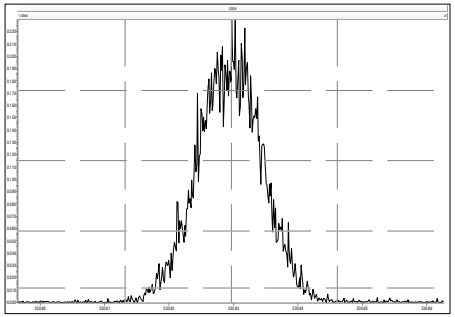
M 304.9824 R 15588



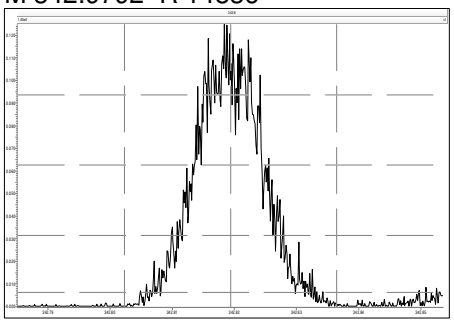
M 316.9824 R 15791



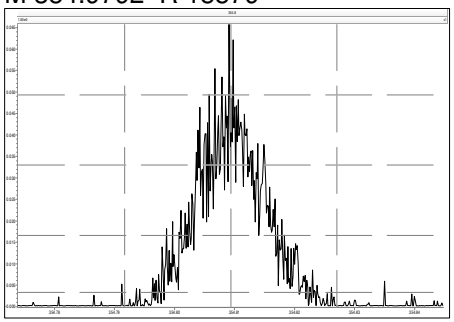
M 330.9792 R 14627



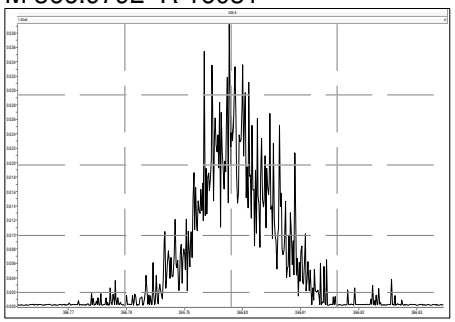
M 342.9792 R 14836



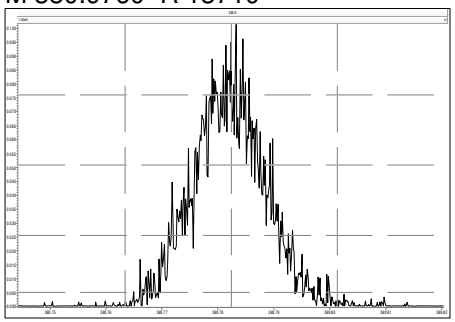
M 354.9792 R 15579



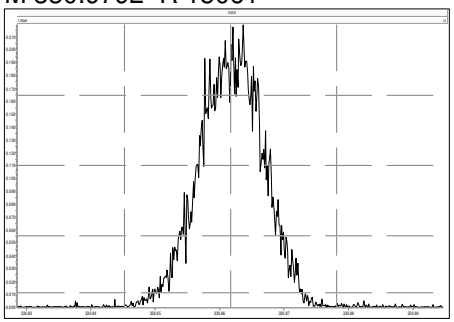
M 366.9792 R 16031



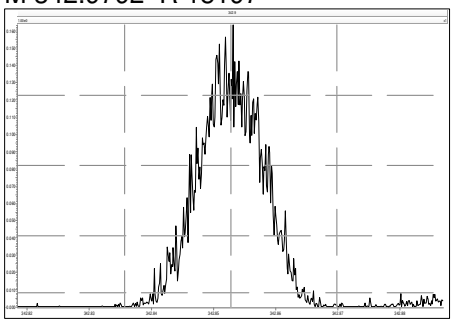
M 380.9760 R 13710



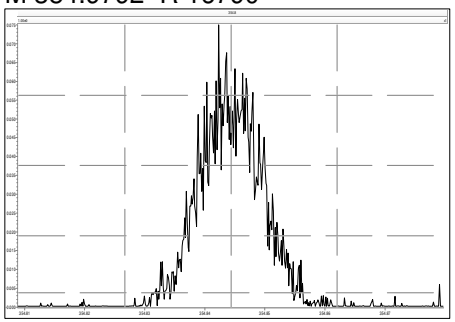
M 330.9792 R 15061



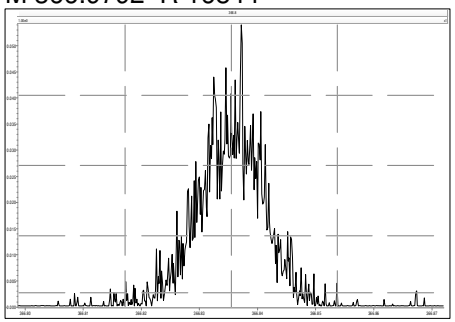
M 342.9792 R 15197



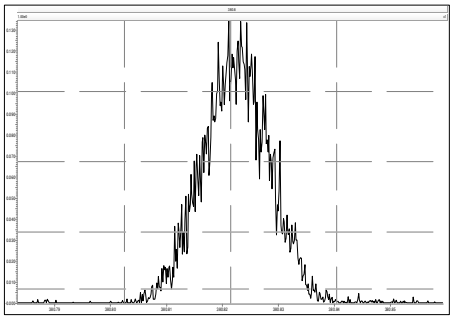
M 354.9792 R 16790



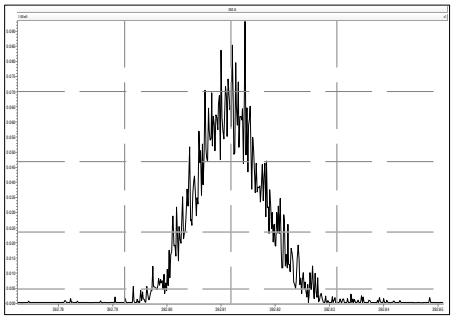
M 366.9792 R 16844



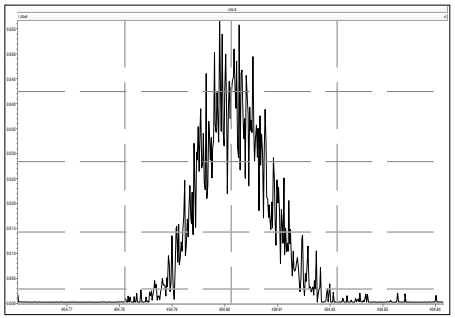
M 380.9760 R 14292



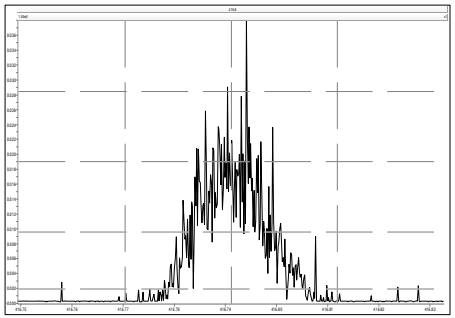
M 392.9760 R 15624



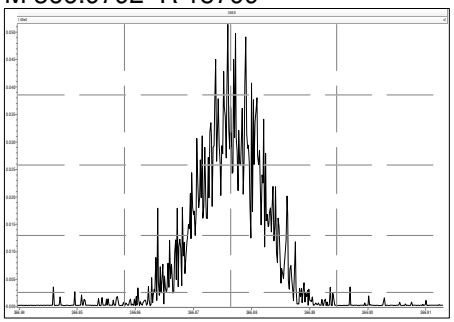
M 404.9760 R 15533



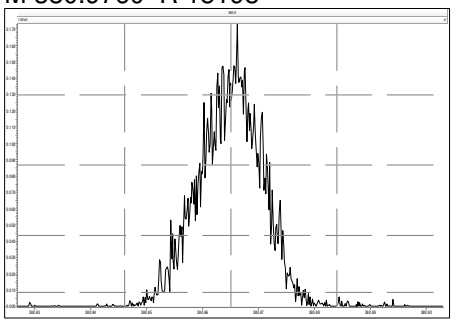
M 416.9760 R 20253



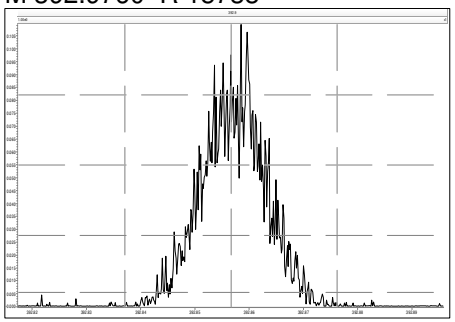
M 366.9792 R 15799



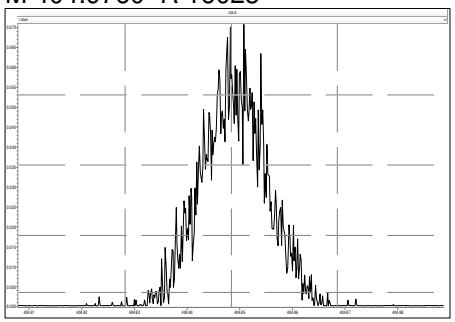
M 380.9760 R 15198



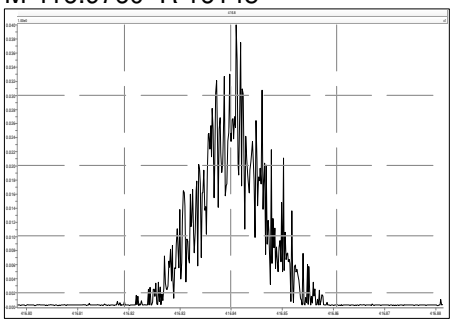
M 392.9760 R 15738



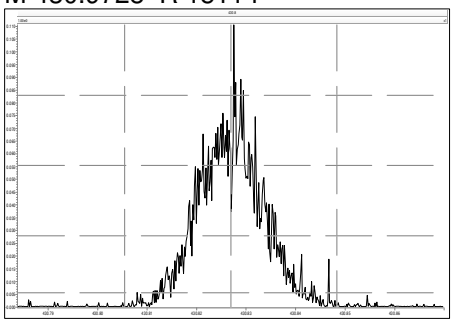
M 404.9760 R 16025



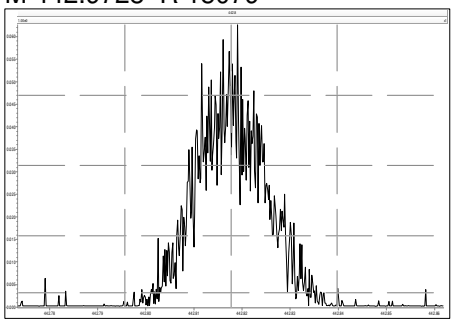
M 416.9760 R 16145



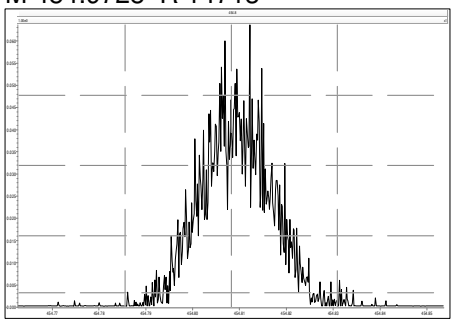
M 430.9728 R 15114



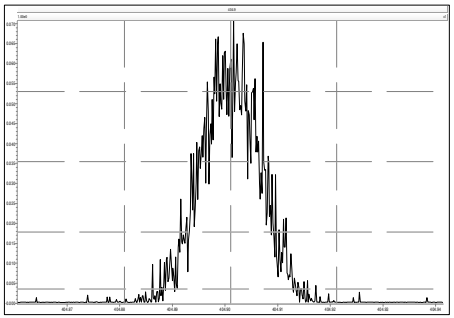
M 442.9728 R 15079



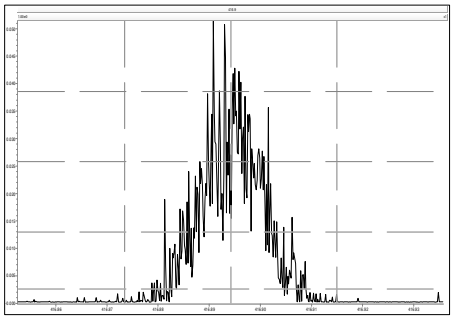
M 454.9728 R 14713



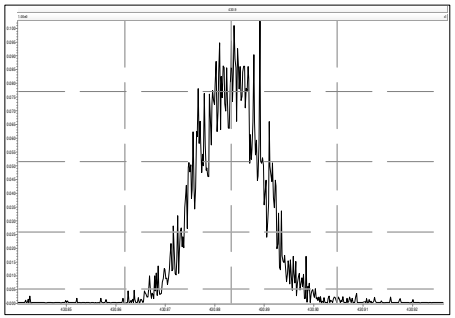
M 404.9760 R 17438



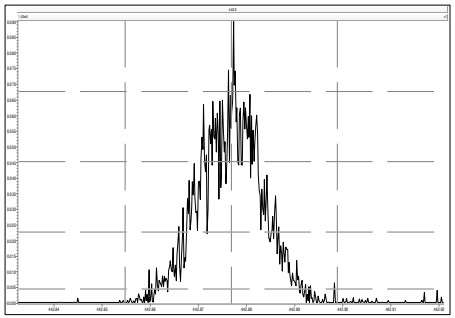
M 416.9760 R 16894



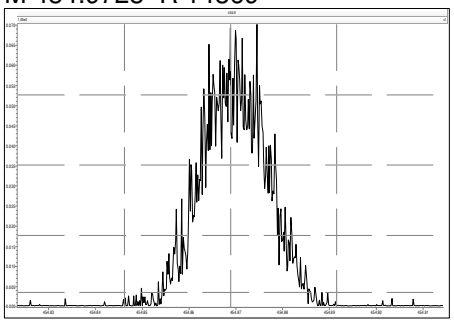
M 430.9728 R 15579



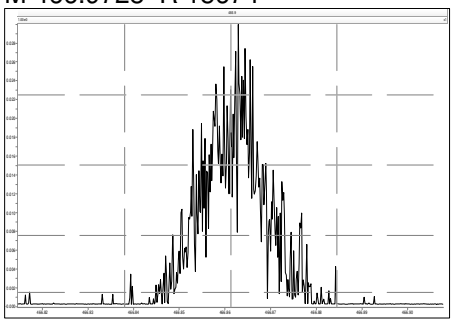
M 442.9728 R 15785



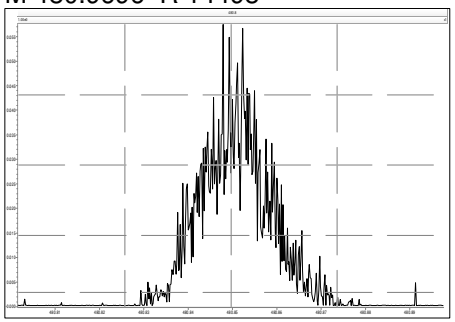
M 454.9728 R 14369



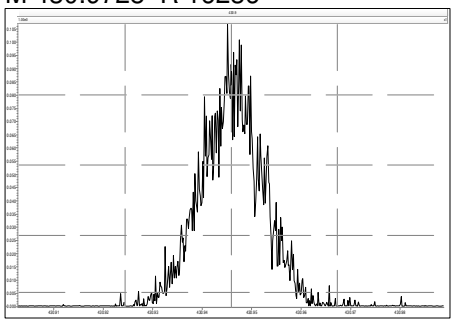
M 466.9728 R 15674



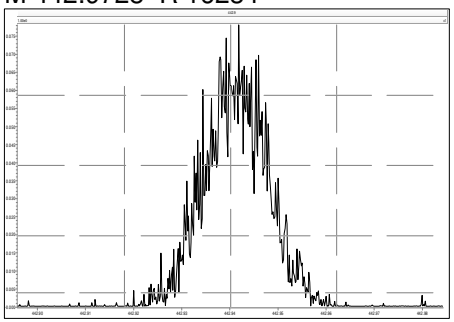
M 480.9696 R 14498



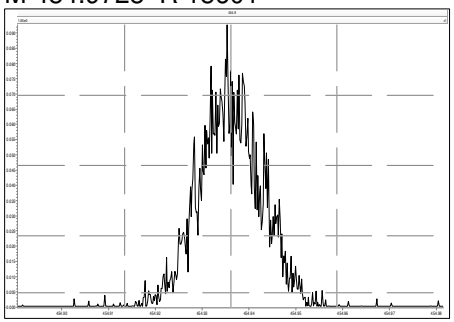
M 430.9728 R 16236



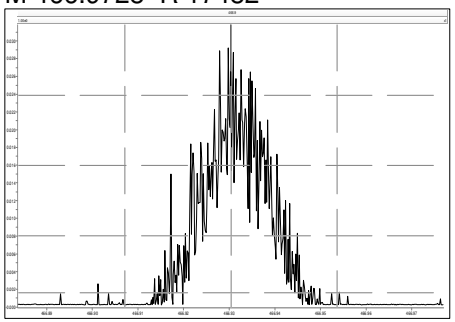
M 442.9728 R 16234



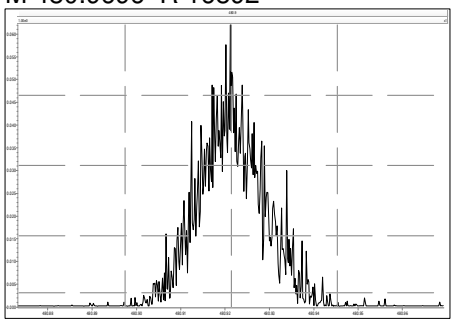
M 454.9728 R 15601



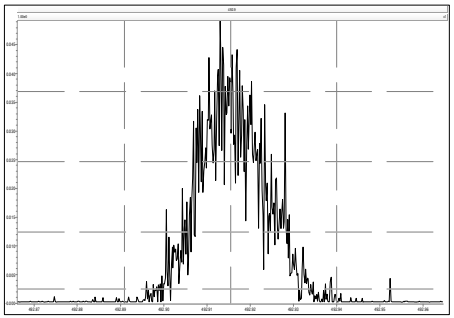
M 466.9728 R 17482



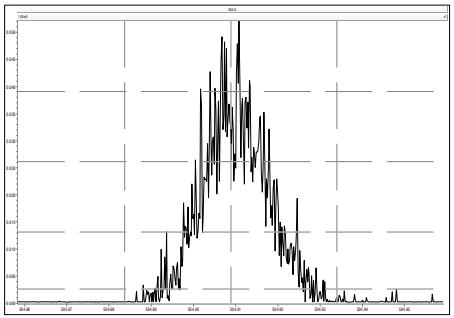
M 480.9696 R 16892



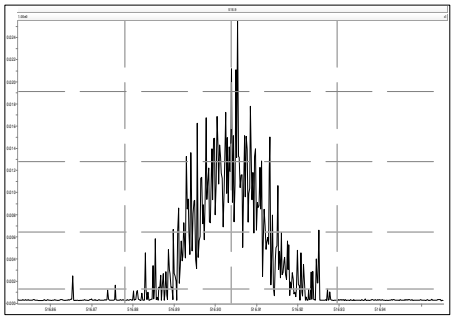
M 492.9696 R 16556



M 504.9696 R 16031



M 516.9697 R 17444



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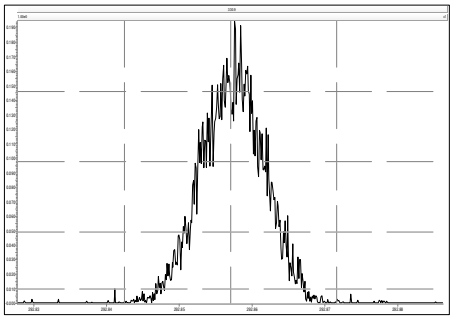
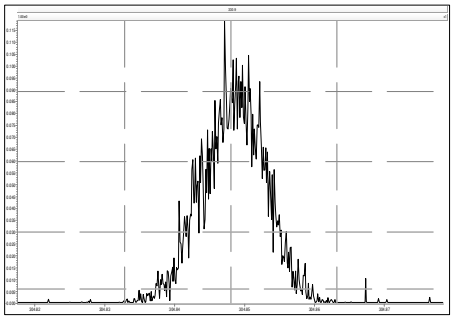
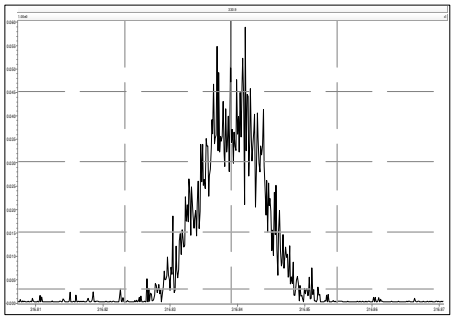
M 292.9824 R 15112



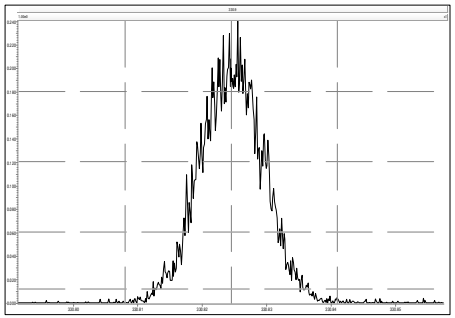
M 304.9824 R 15982



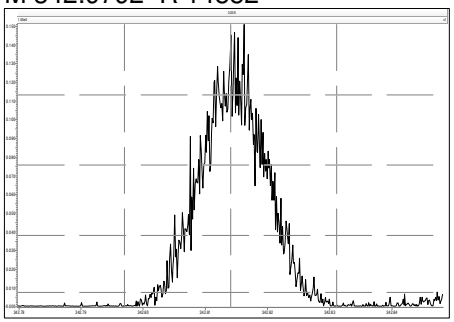
M 316.9824 R 16458



M 330.9792 R 14931



M 342.9792 R 14552



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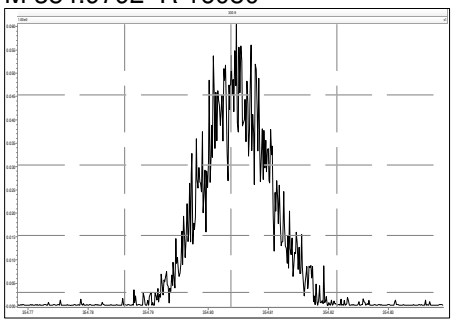

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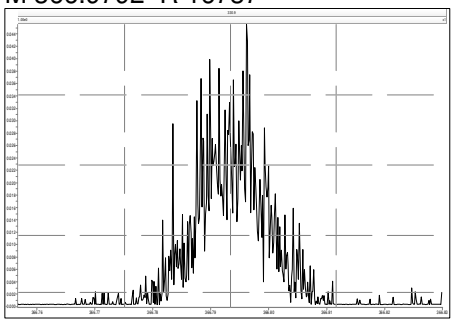
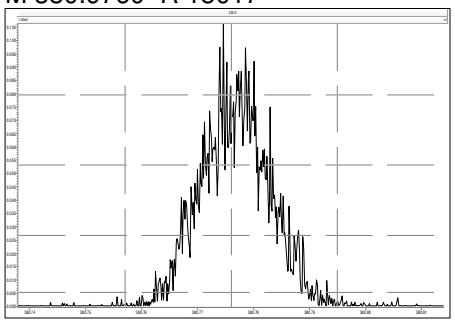
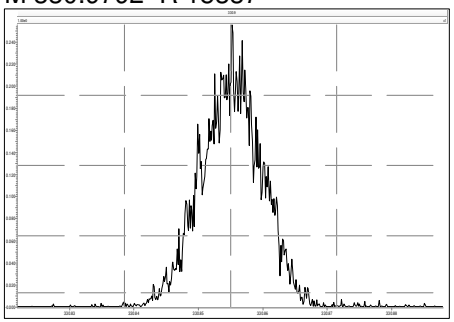


M 380.9760 R 15017



M 330.9792 R 15337



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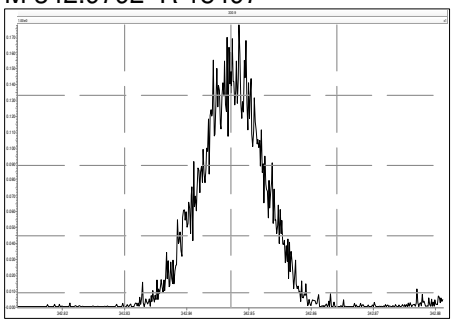

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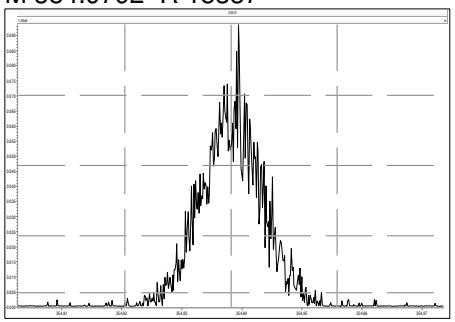

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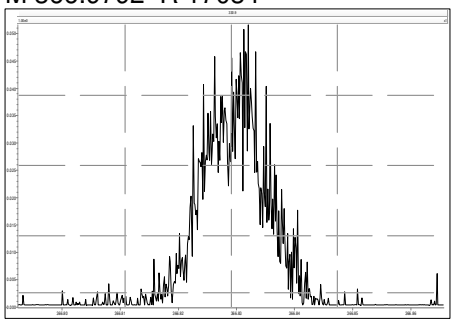

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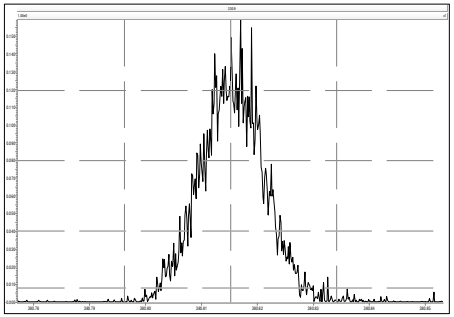

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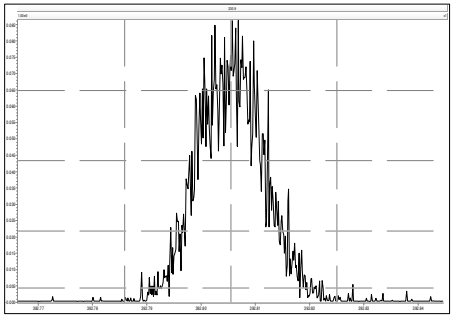

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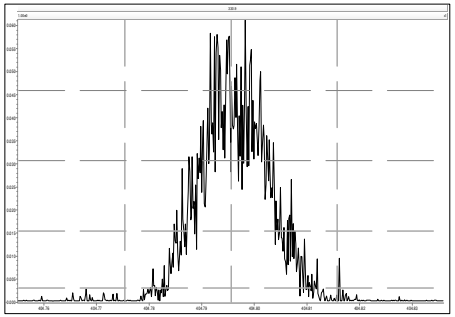
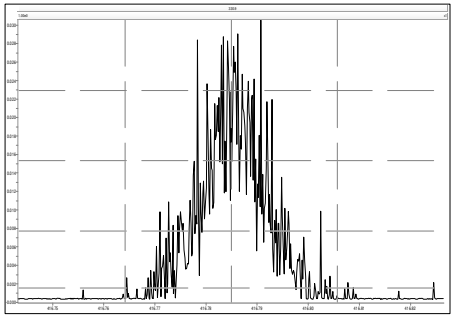


M 416.9760 R 16453



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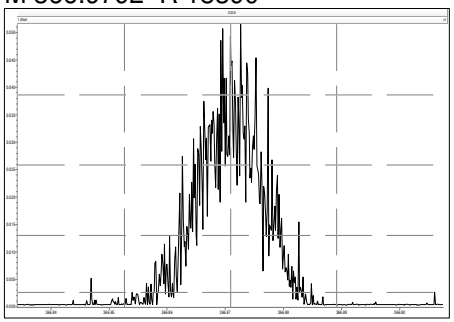

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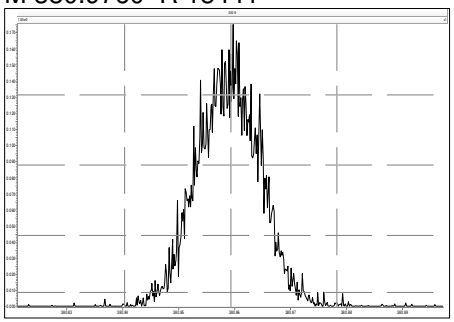
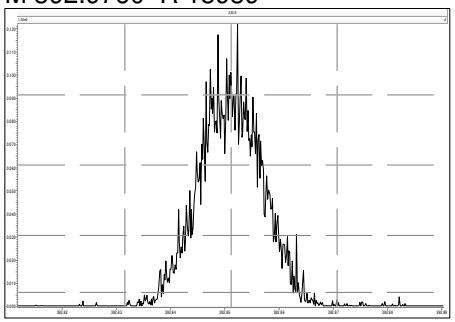


M 392.9760 R 15939



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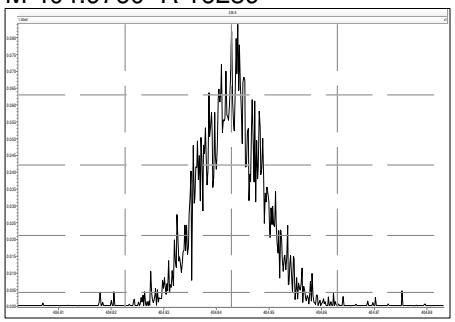
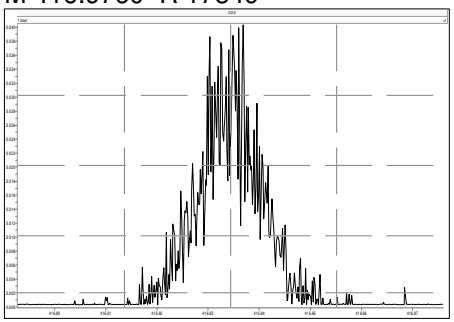
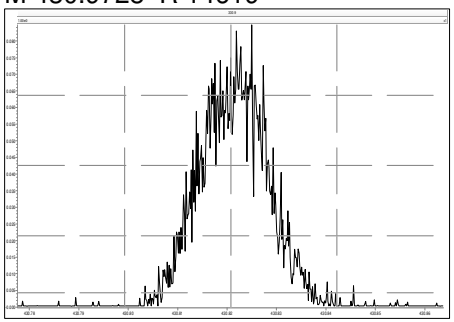


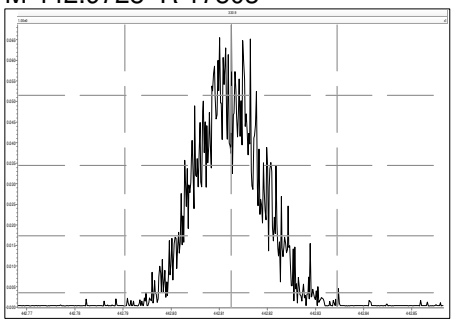
M 416.9760 R 17549



M 430.9728 R 14619



M 442.9728 R 17503



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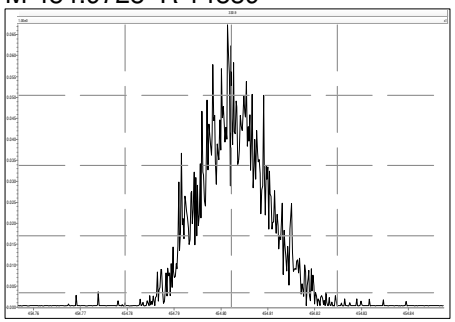

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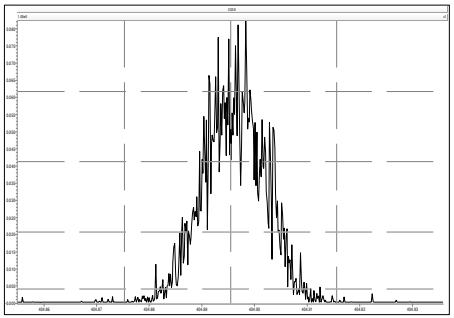
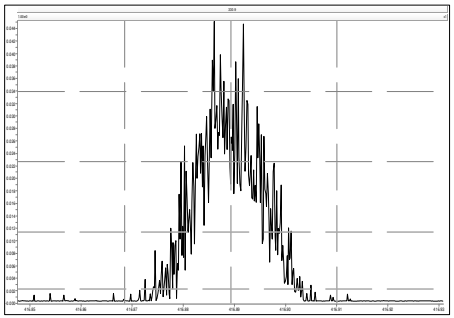


M 416.9760 R 17301



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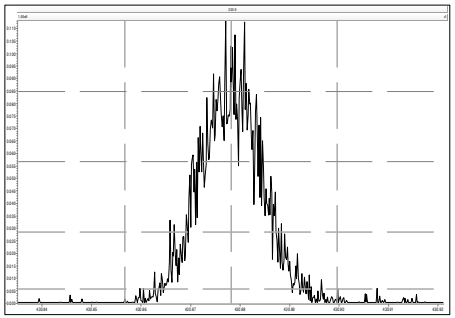

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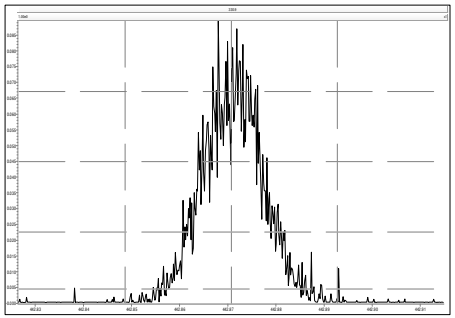

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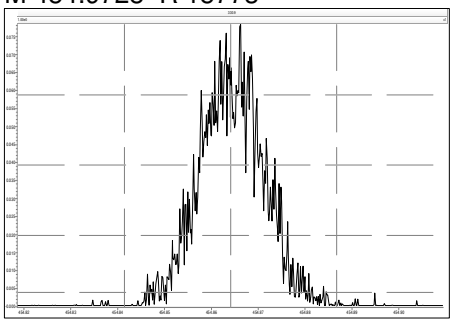

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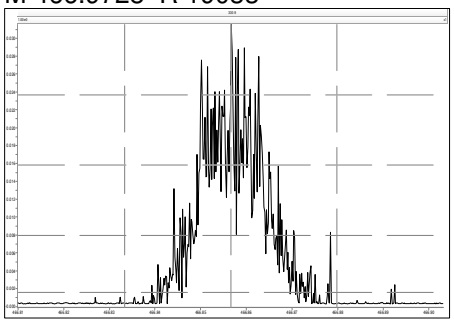
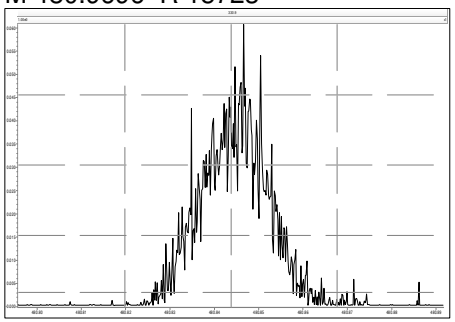


M 480.9696 R 15723



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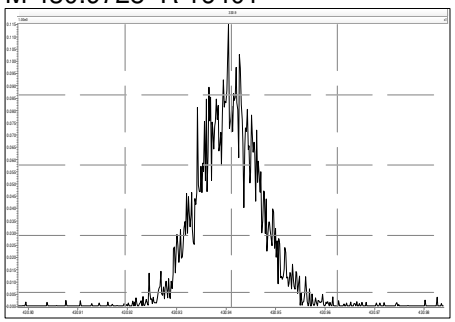

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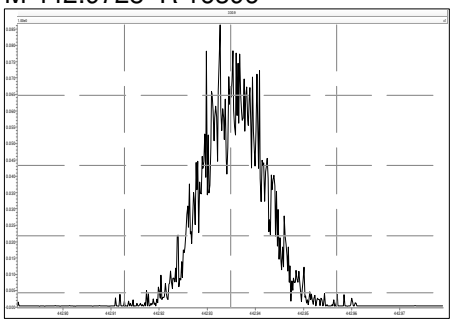

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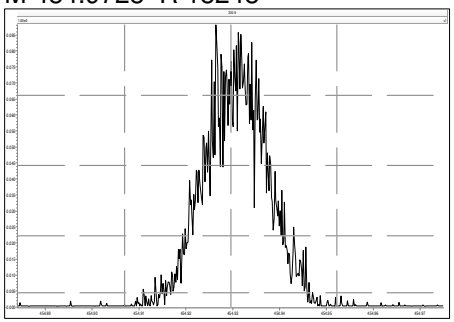

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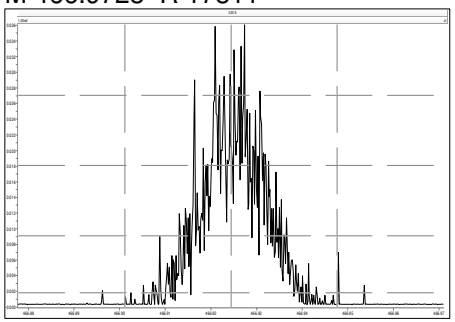

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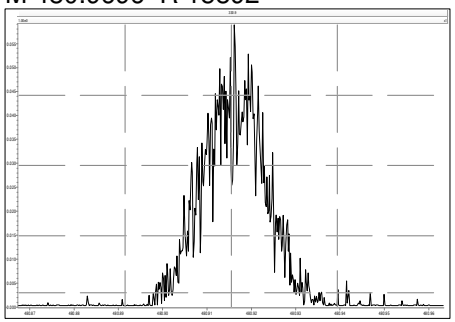
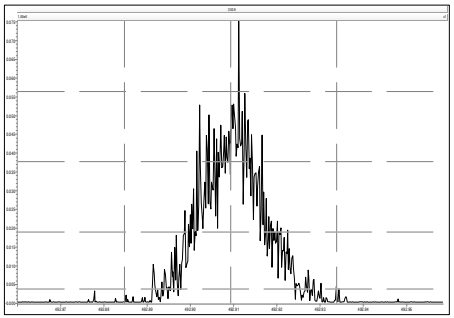


M 492.9696 R 16792



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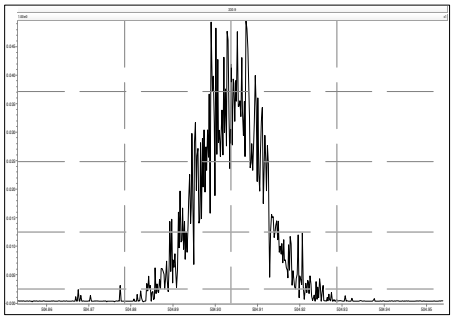

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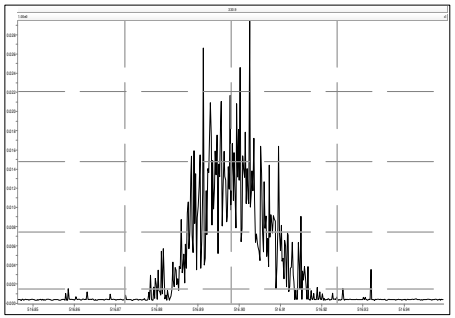

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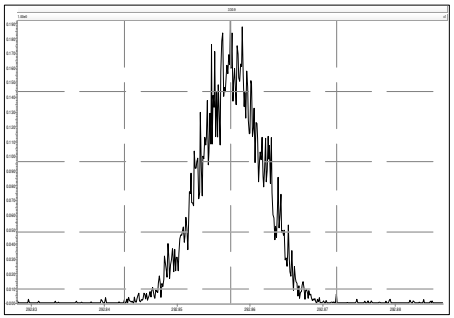

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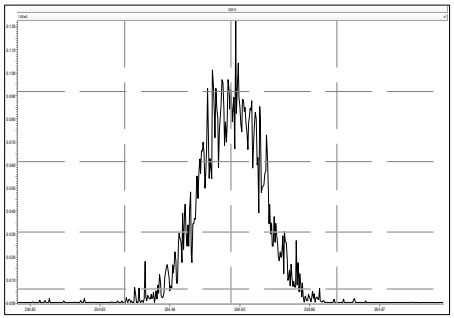

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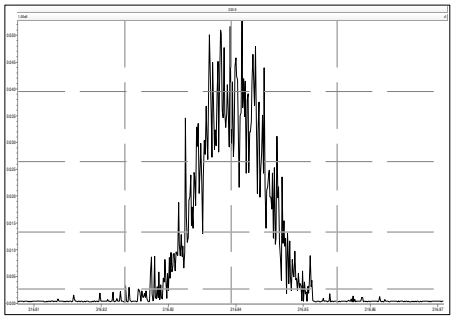

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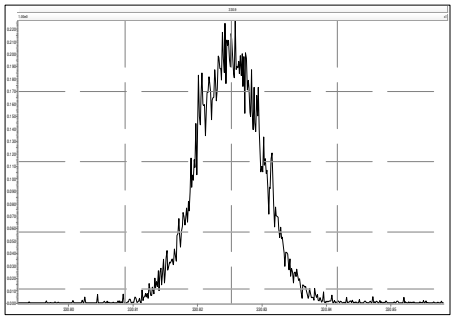

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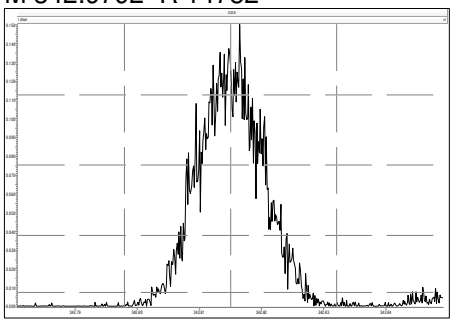
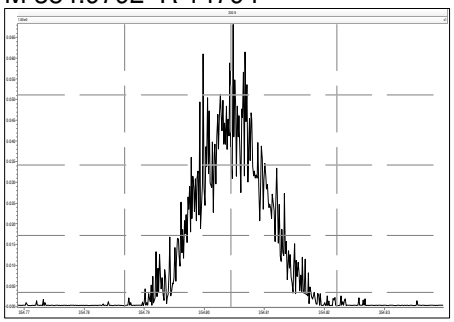


M 354.9792 R 14794



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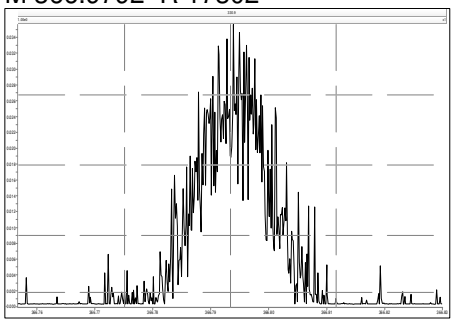

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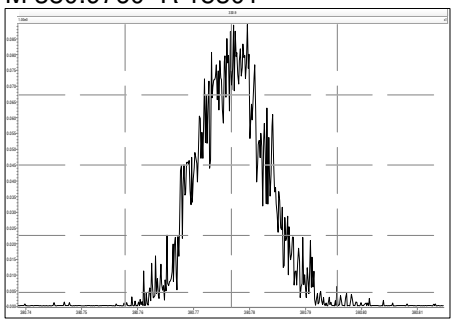

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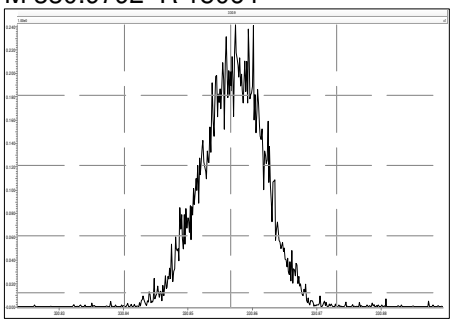

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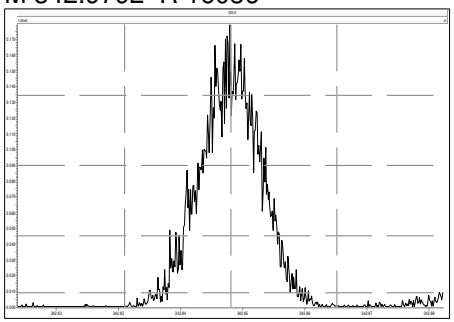

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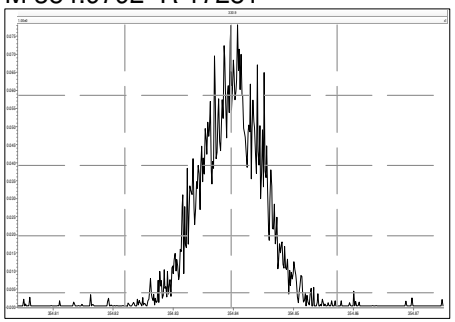

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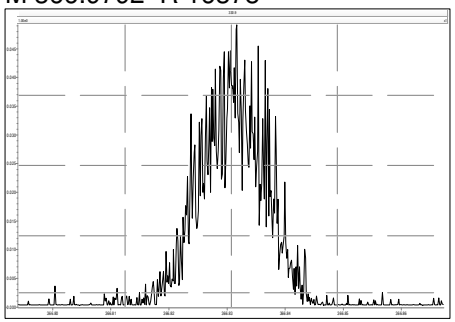

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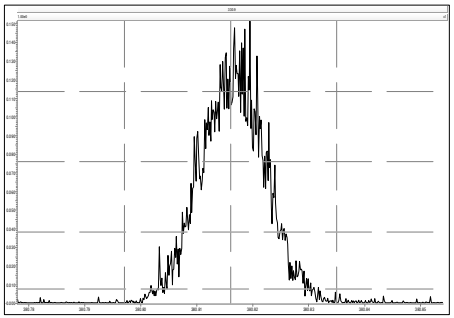

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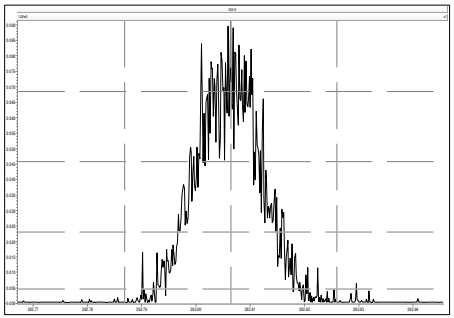

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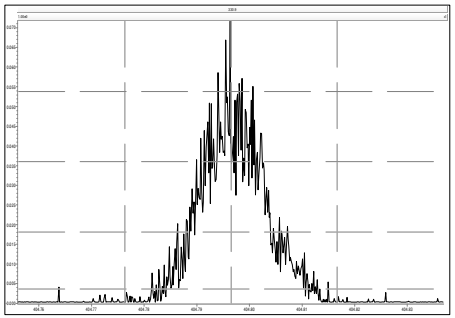
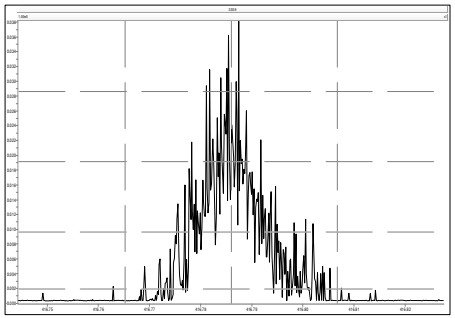


M 416.9760 R 20765



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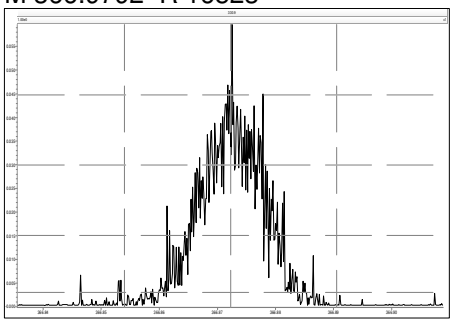
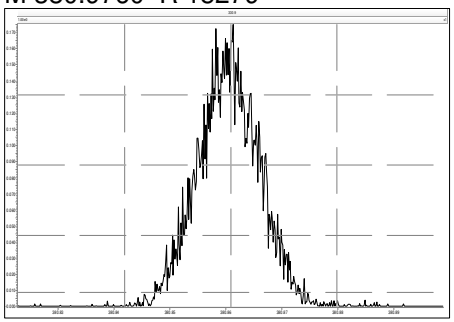


M 380.9760 R 15279



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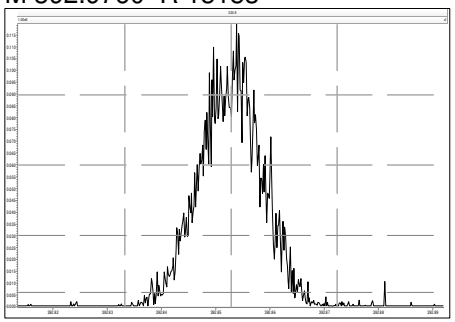

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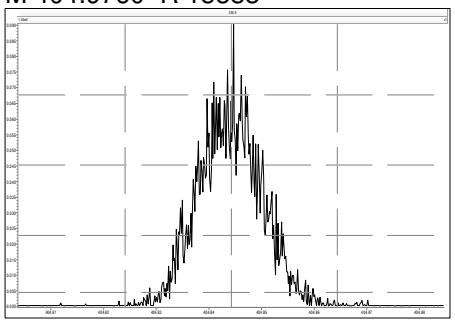
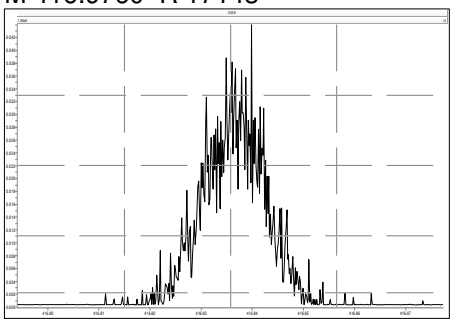
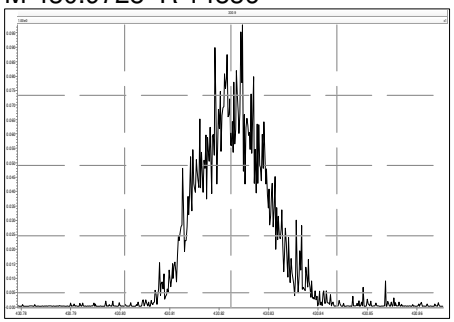


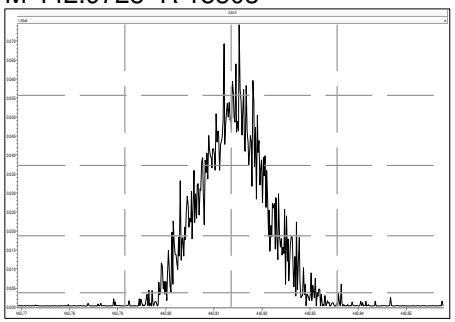
M 416.9760 R 17143



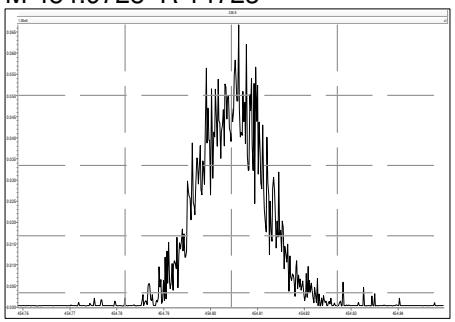
M 430.9728 R 14836



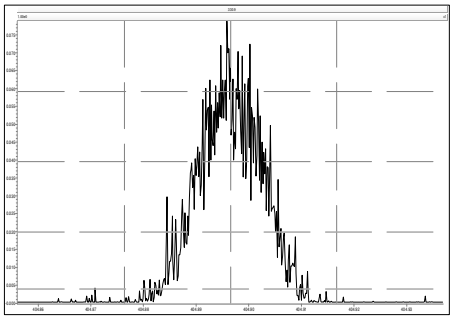
M 442.9728 R 15503



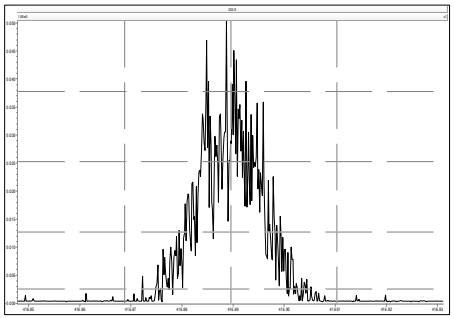
M 454.9728 R 14723



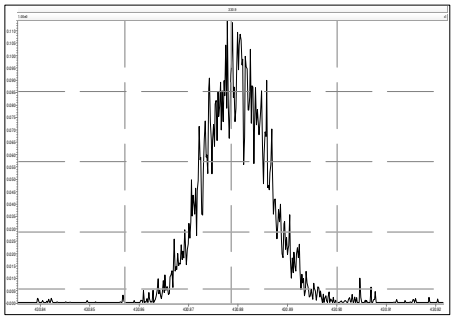
M 404.9760 R 16031



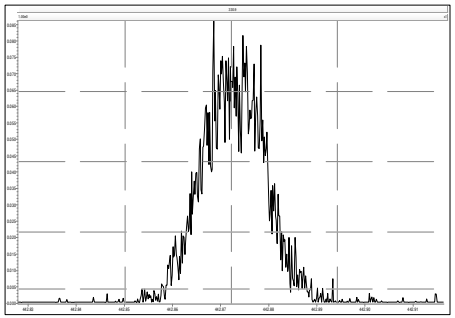
M 416.9760 R 18057



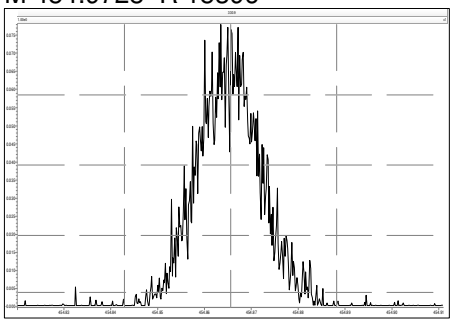
M 430.9728 R 14995



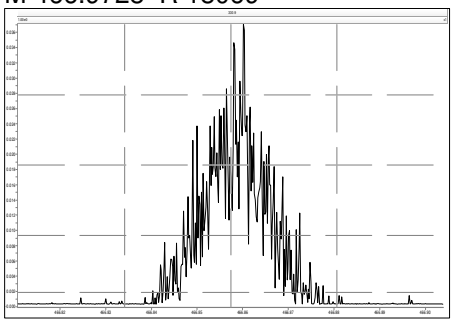
M 442.9728 R 15252



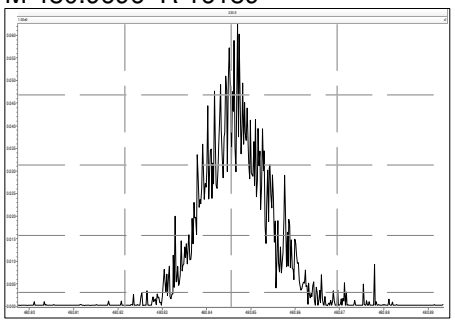
M 454.9728 R 15396



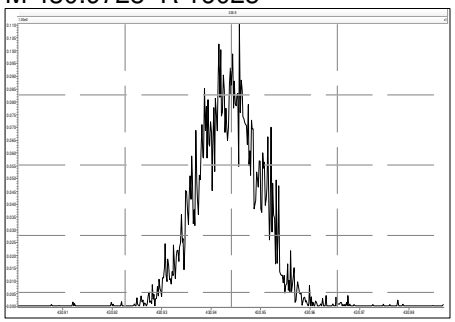
M 466.9728 R 18069



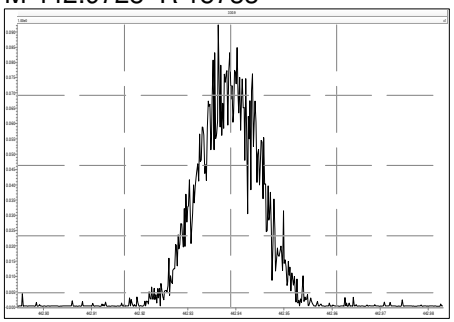
M 480.9696 R 16189



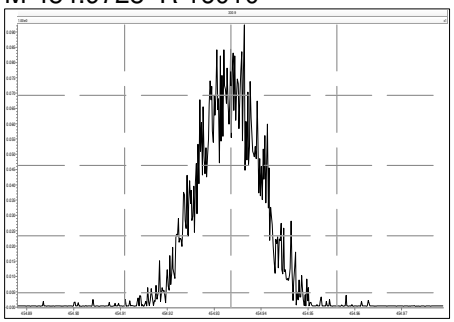
M 430.9728 R 16025



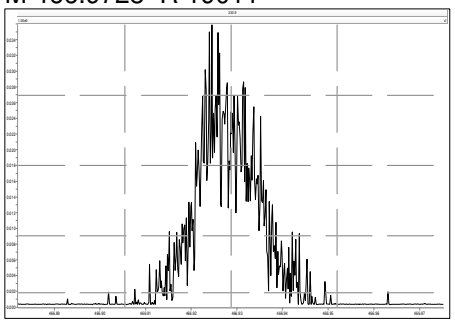
M 442.9728 R 15733



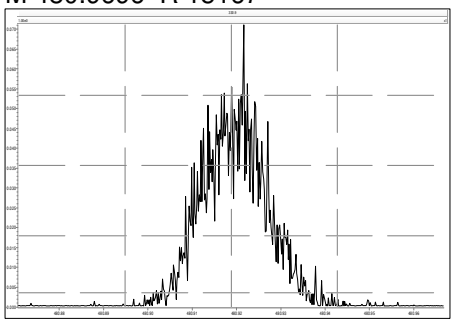
M 454.9728 R 16010



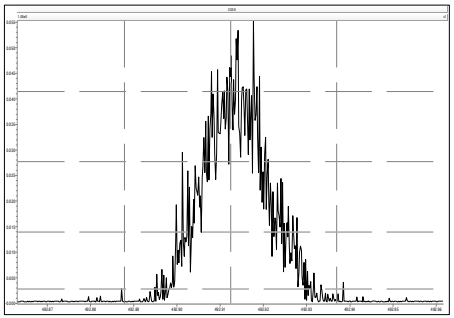
M 466.9728 R 19011



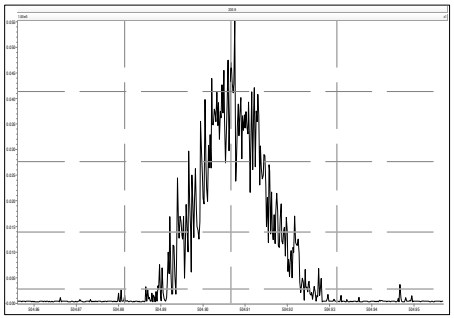
M 480.9696 R 15167



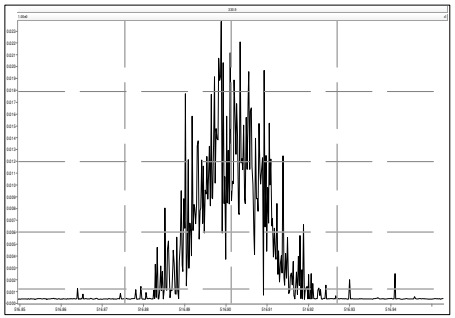
M 492.9696 R 15723



M 504.9696 R 16423



M 516.9697 R 18315



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
Tyler_Fritz , 11/11/2021, 4:44:03 PM

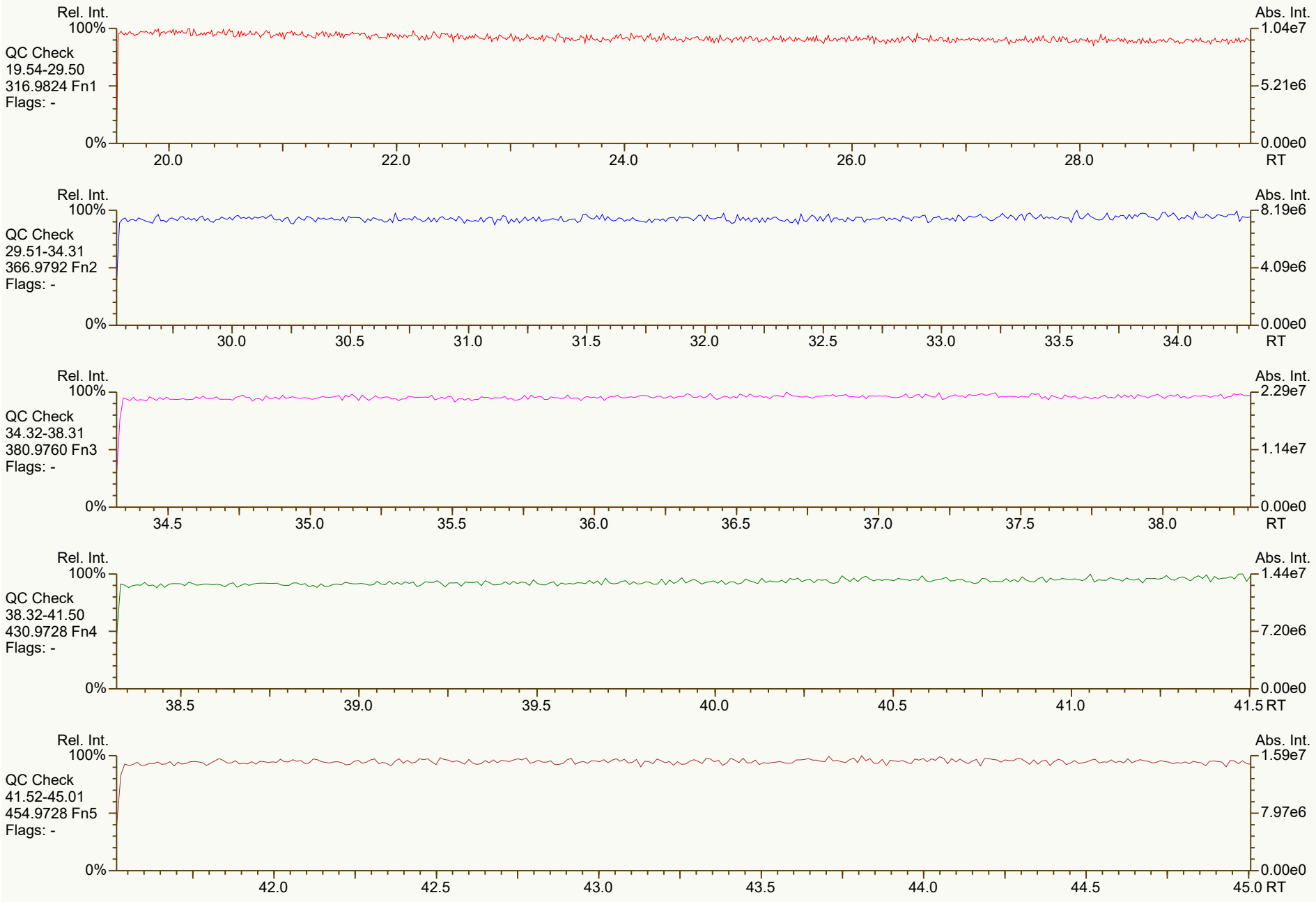
APPROVED
Amy_Boehm , 11/11/2021, 5:28:50 PM

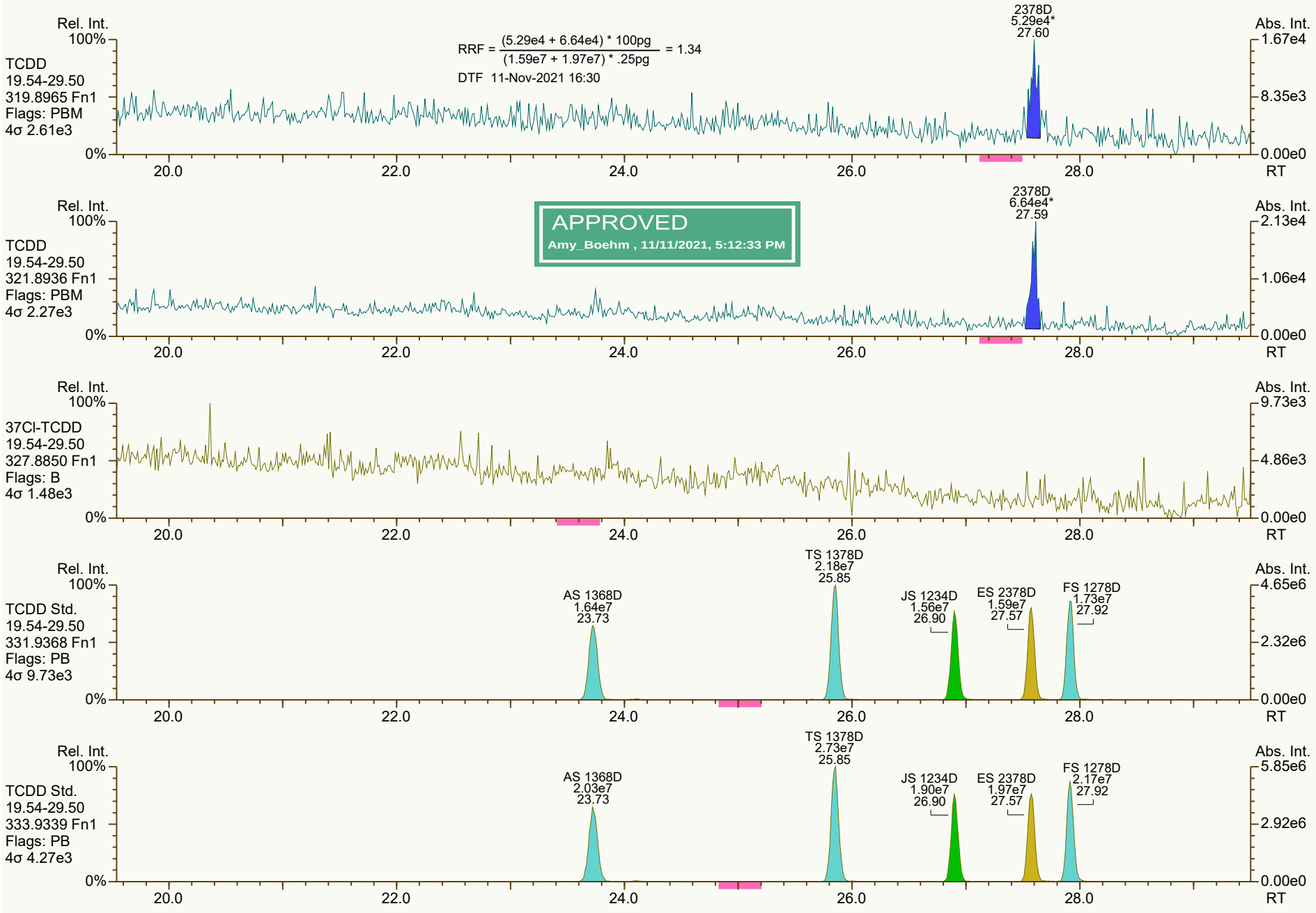
Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

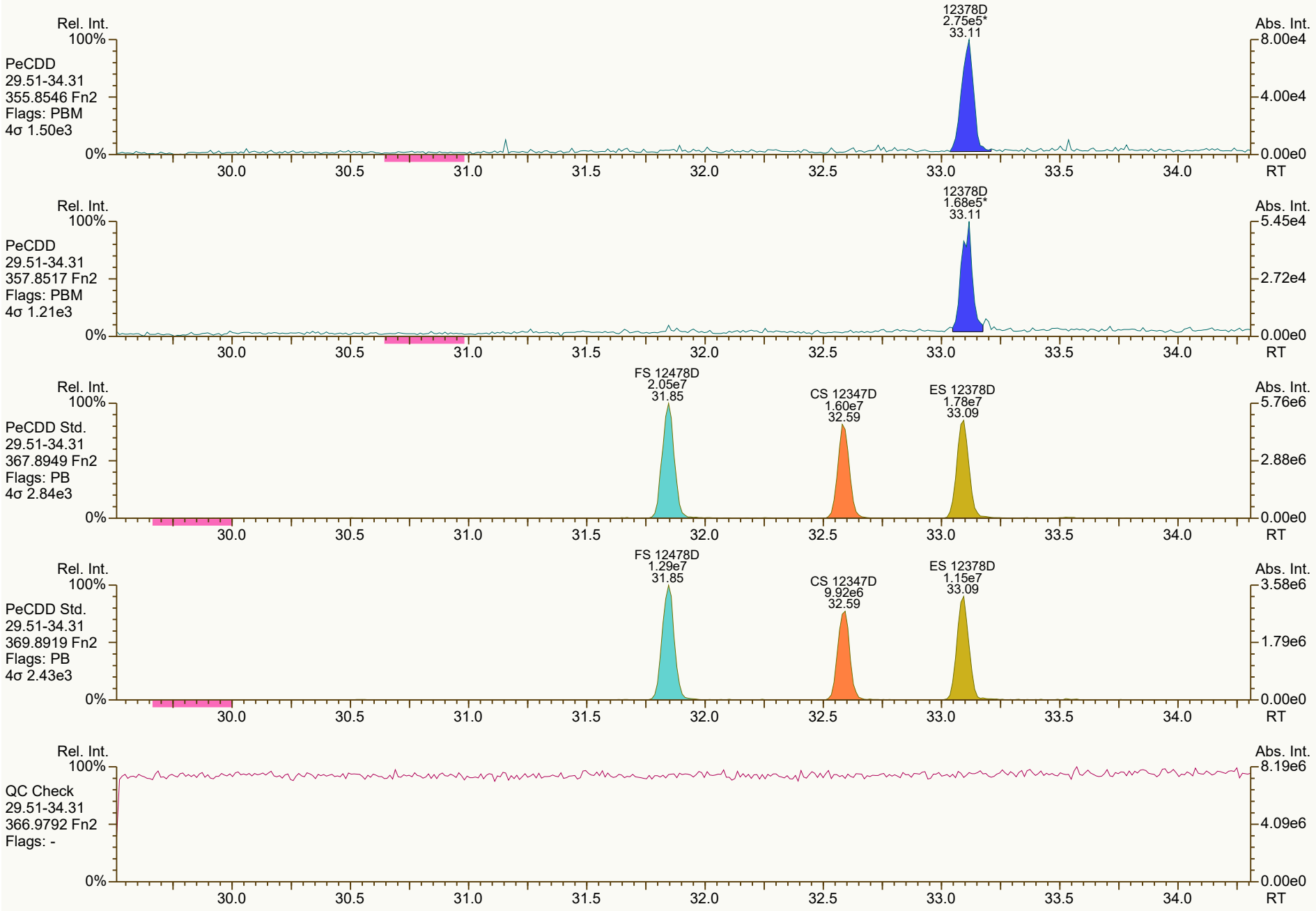
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

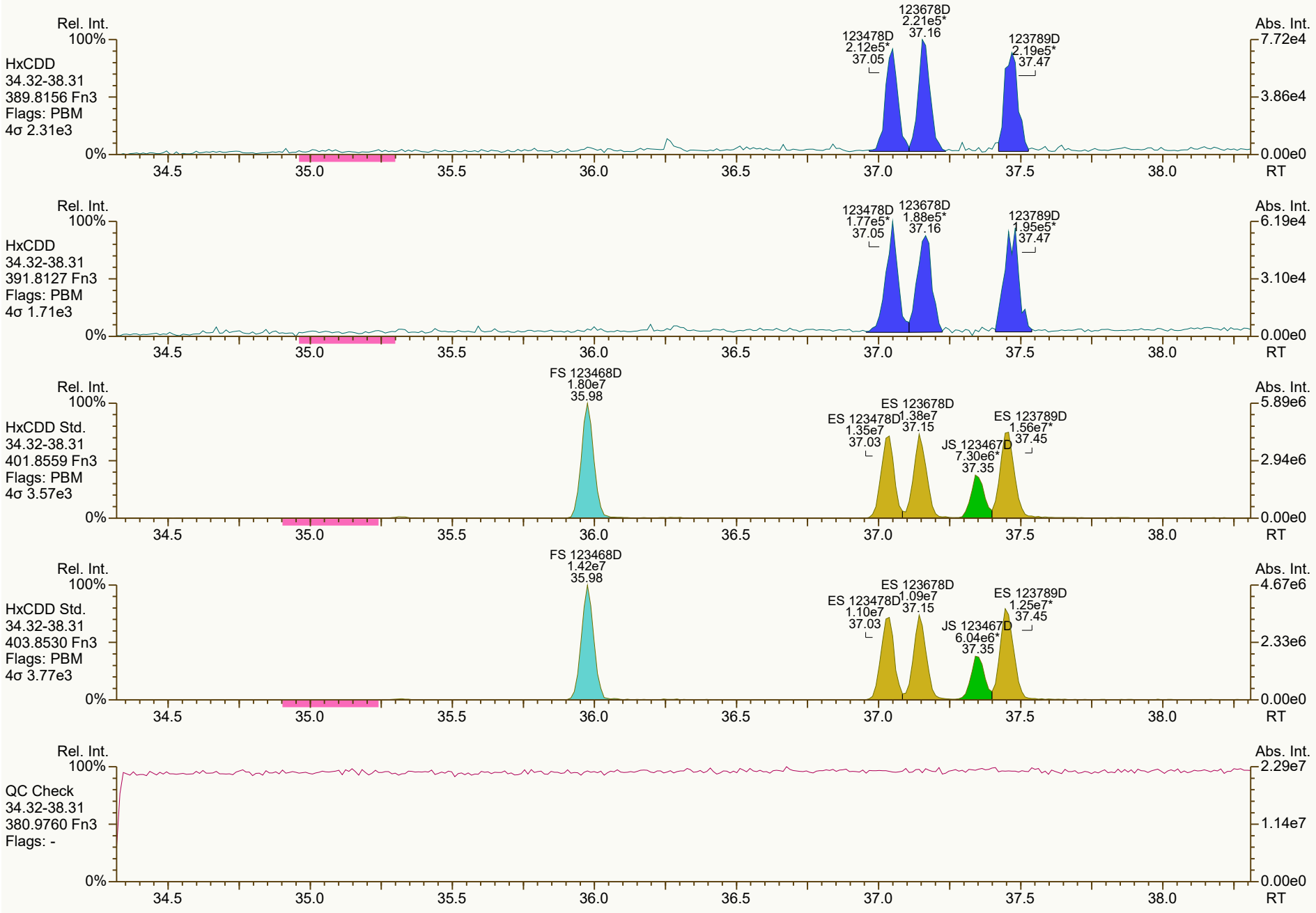
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

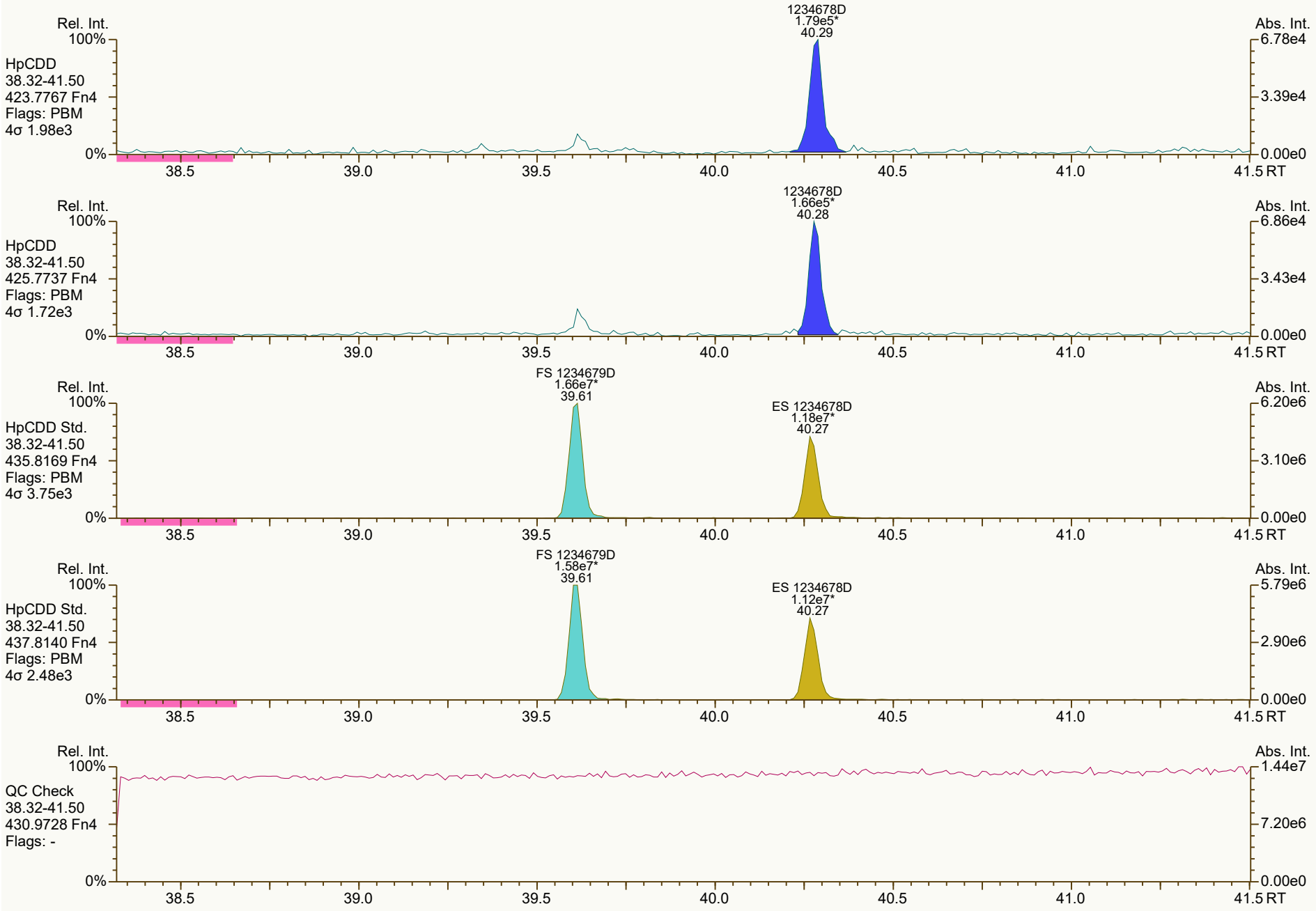
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF					ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF					Checkcode: 245-007-QLD
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF					Datafile: 211110C04
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%

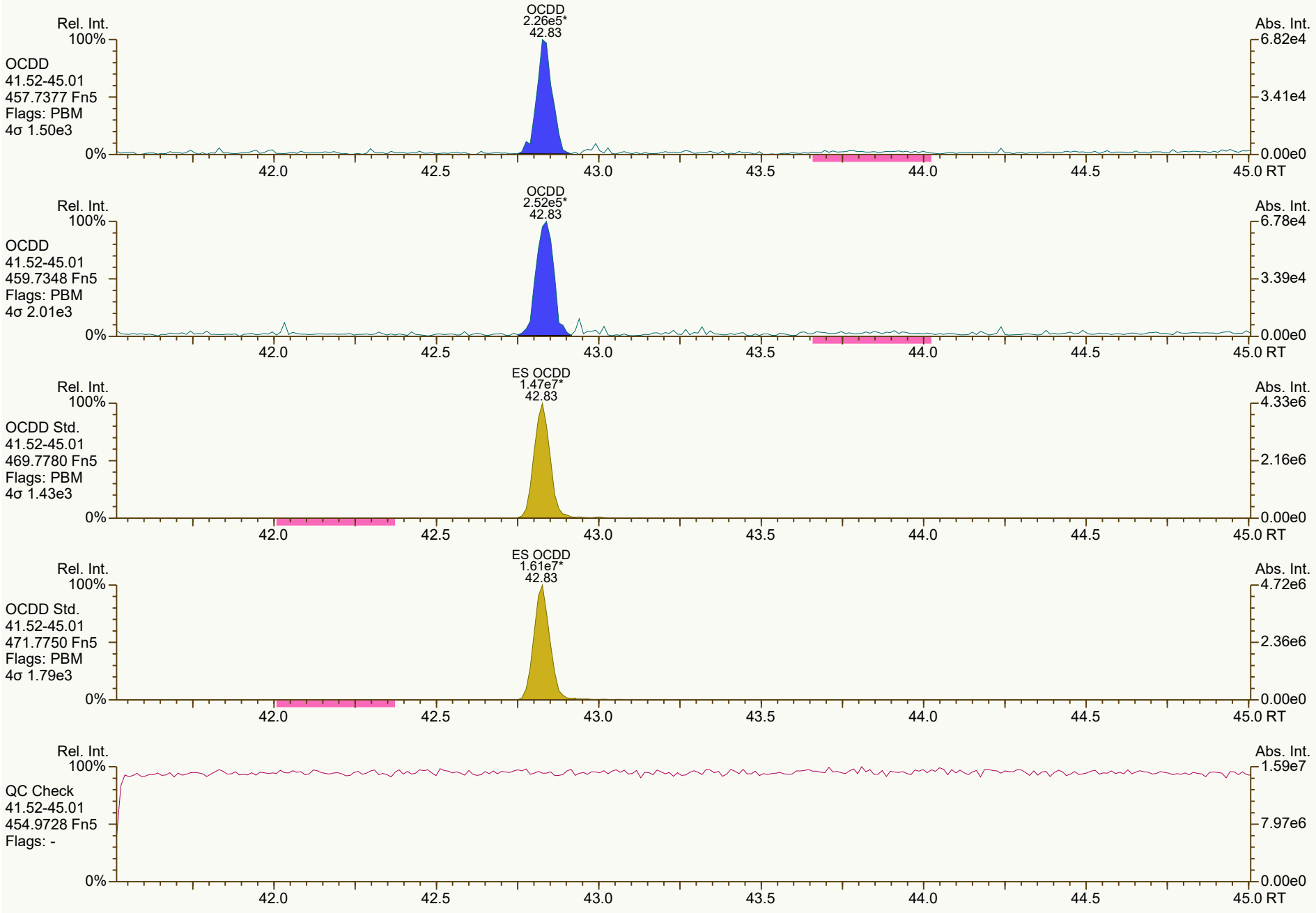

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.04e7
5.21e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.19e6
4.09e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.29e7
1.14e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.44e7
7.20e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.97e6
0.00e0

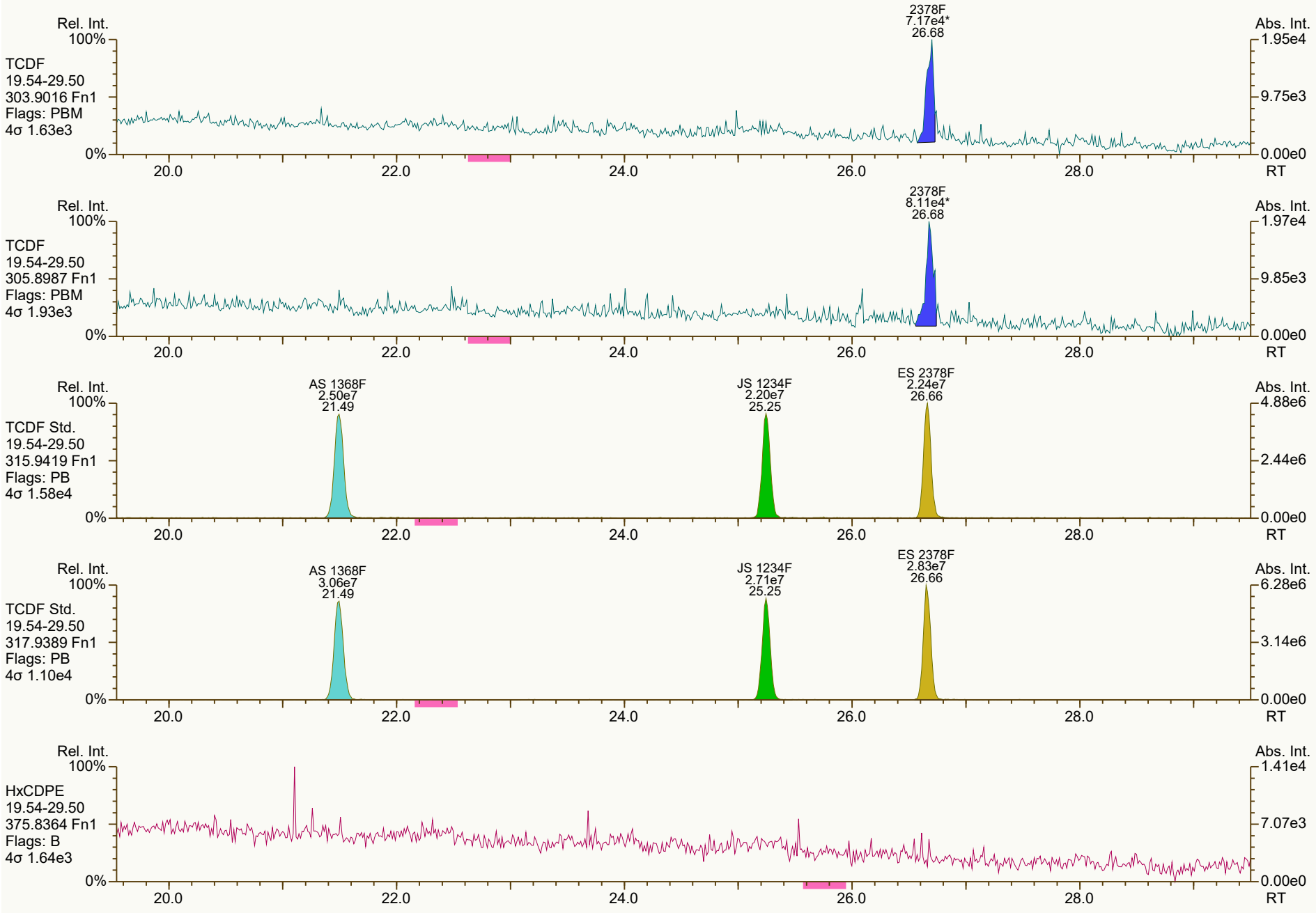

Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
0%
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
Abs. Int.
1.67e4
8.35e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
2.13e4
1.06e4
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

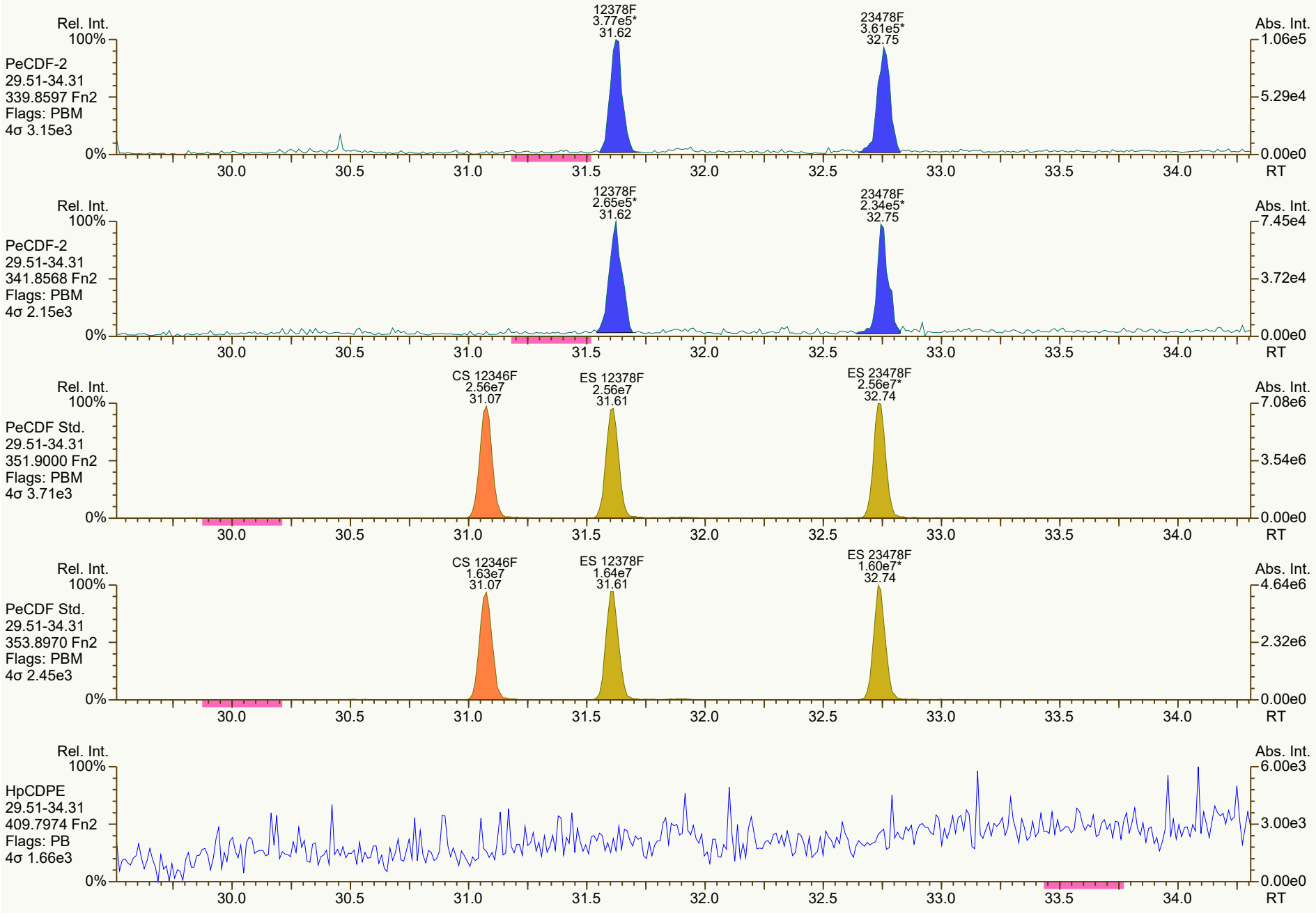

Rel. Int.
Abs. Int.
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
123478D 2.12e5* 37.05
123678D 2.21e5* 37.16
123789D 2.19e5* 37.47
7.72e4
3.86e4
0.00e0
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
123478D 1.77e5* 37.05
123678D 1.88e5* 37.16
123789D 1.95e5* 37.47
6.19e4
3.10e4
0.00e0
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
FS 123468D 1.80e7 35.98
ES 123478D 1.35e7 37.03
ES 123678D 1.38e7 37.15
JS 123467D 7.30e6* 37.35
ES 123789D 1.56e7* 37.45
5.89e6
2.94e6
0.00e0
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
FS 123468D 1.42e7 35.98
ES 123478D 1.10e7 37.03
ES 123678D 1.09e7 37.15
JS 123467D 6.04e6* 37.35
ES 123789D 1.25e7* 37.45
4.67e6
2.33e6
0.00e0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.29e7
1.14e7
0.00e0
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

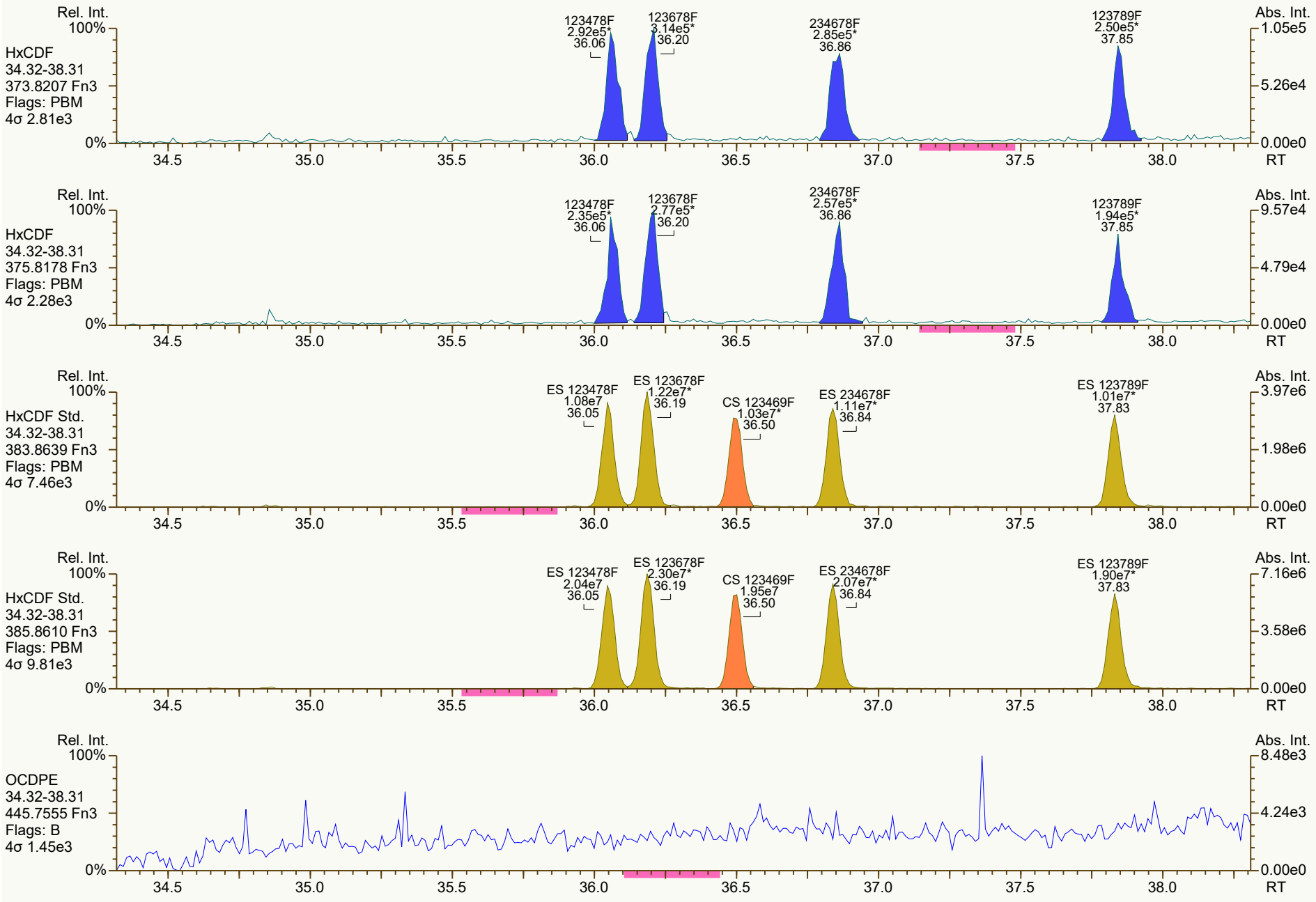

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

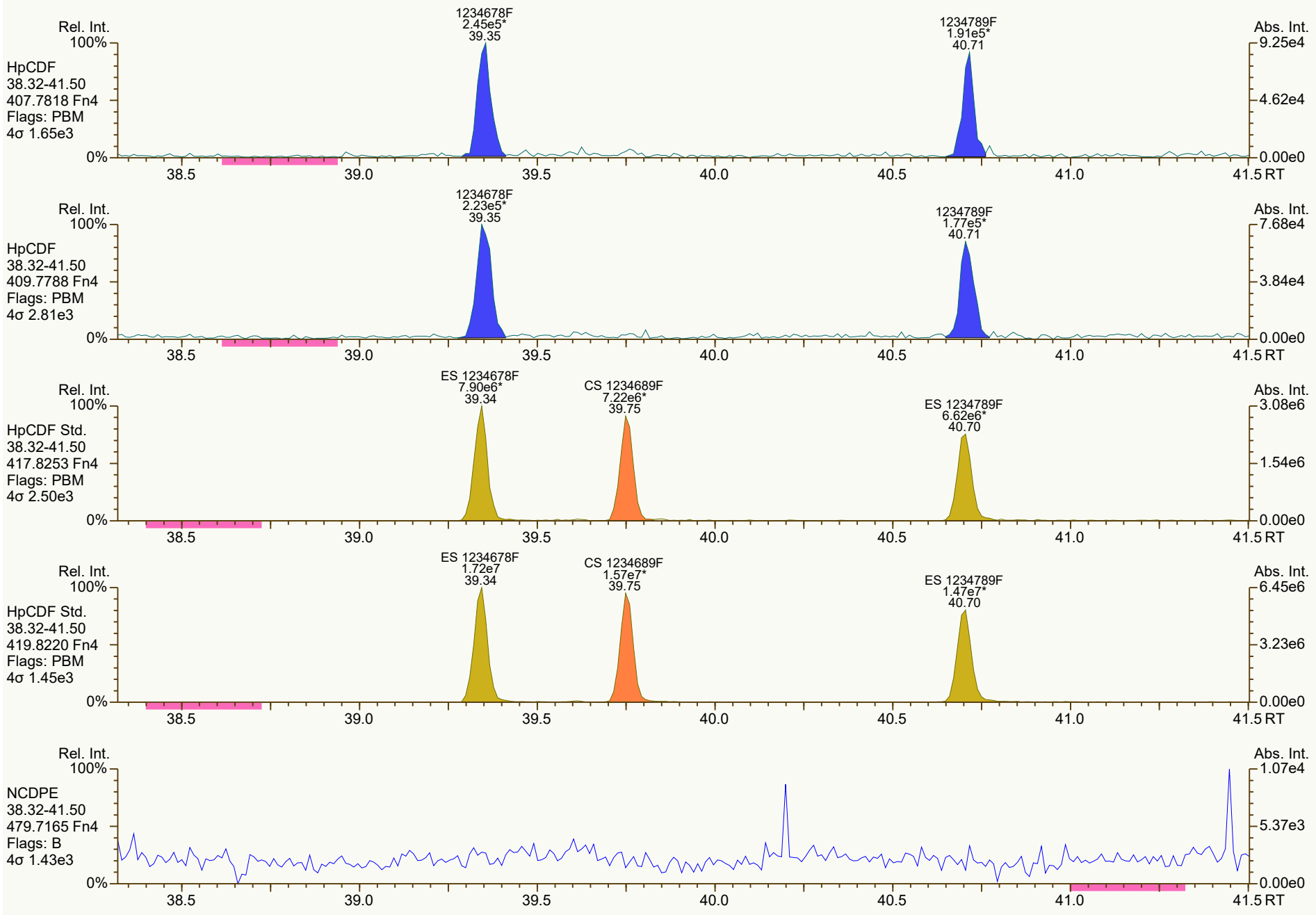

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
0%
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
0%
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
0%
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.41e4
7.07e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.25e4
6.27e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: PB
4σ 2.44e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.40e4
7.01e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 1.85e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.04e7
5.21e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

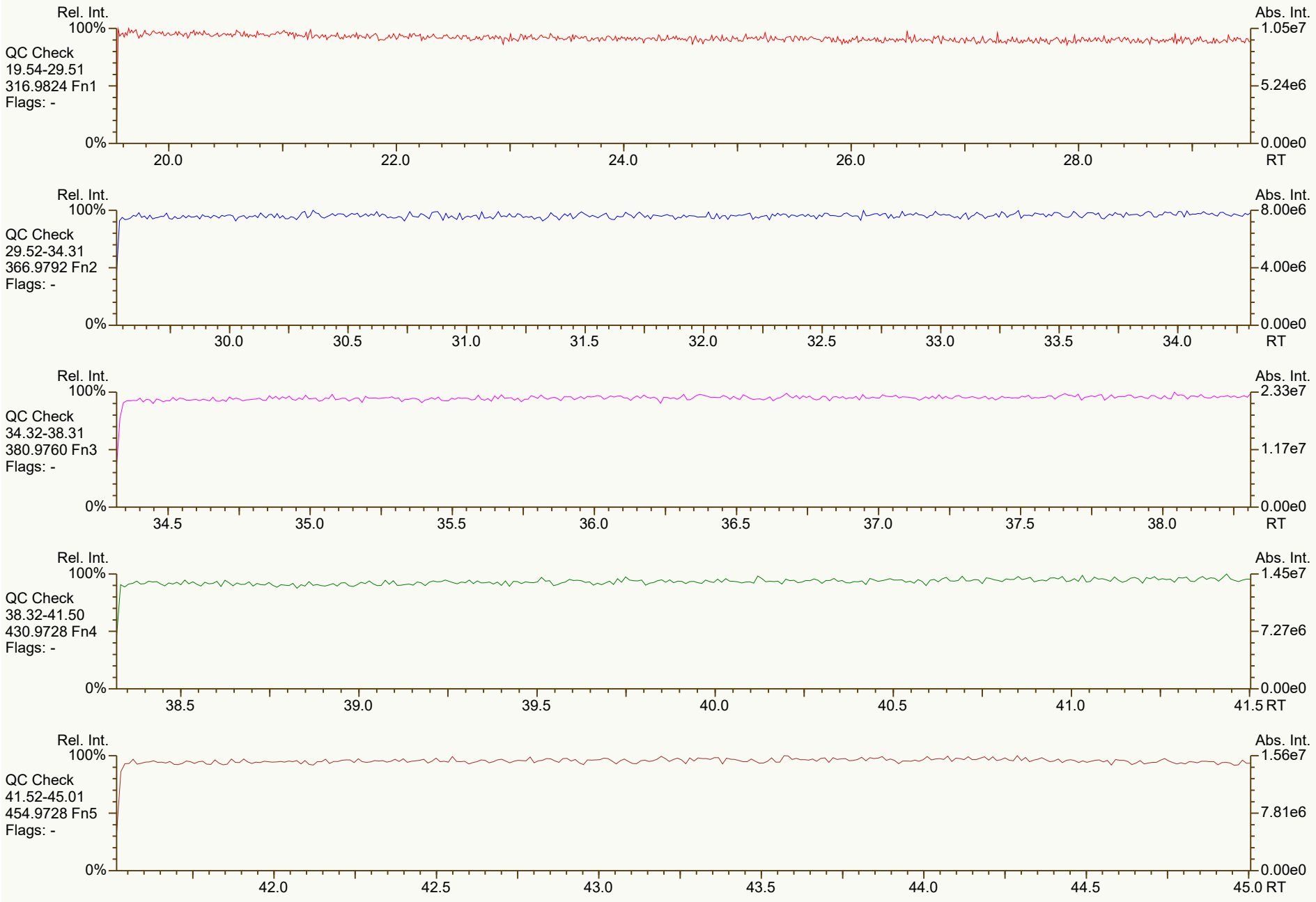

Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
0%
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
0%
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
0%
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
0%
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

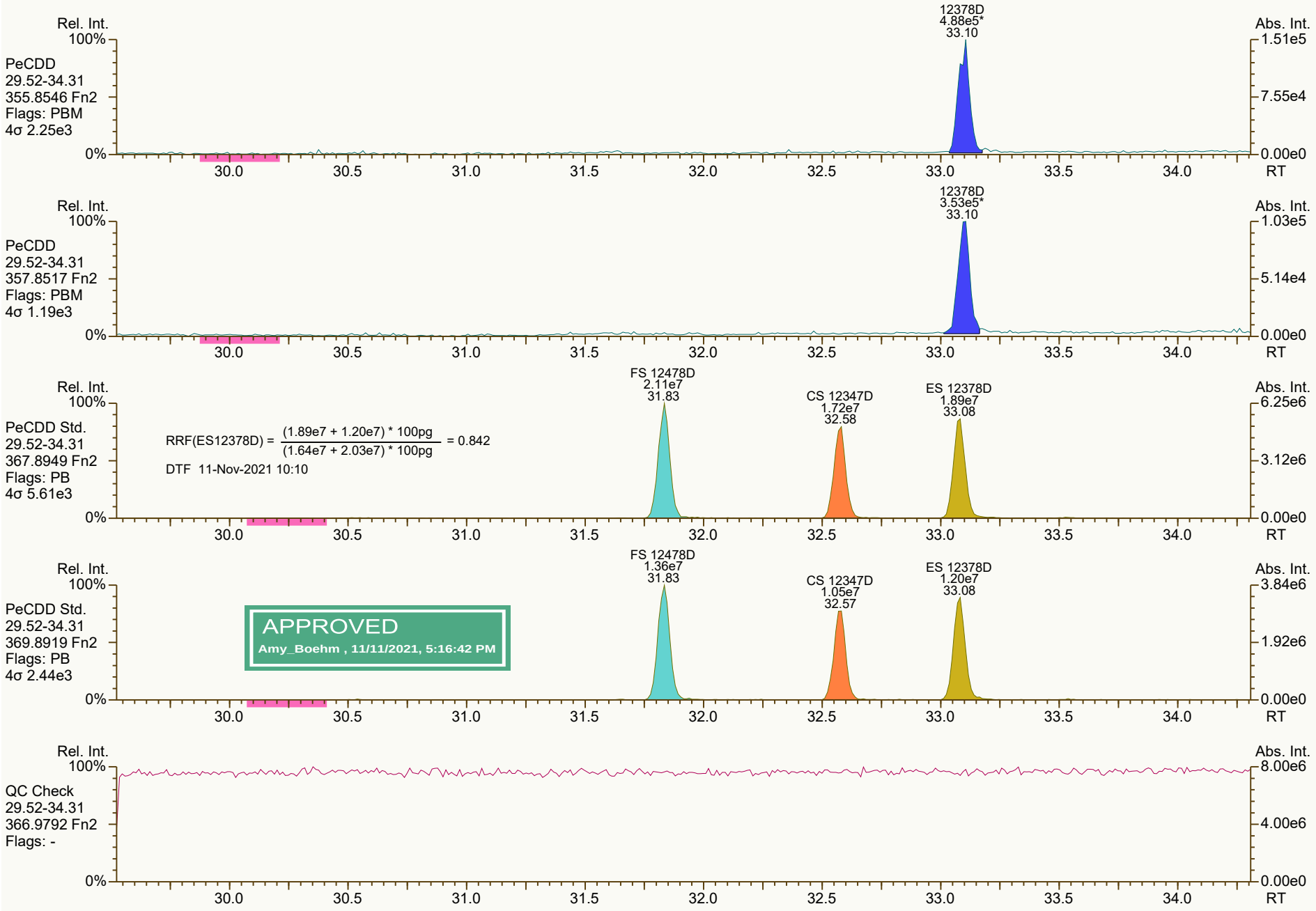

OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

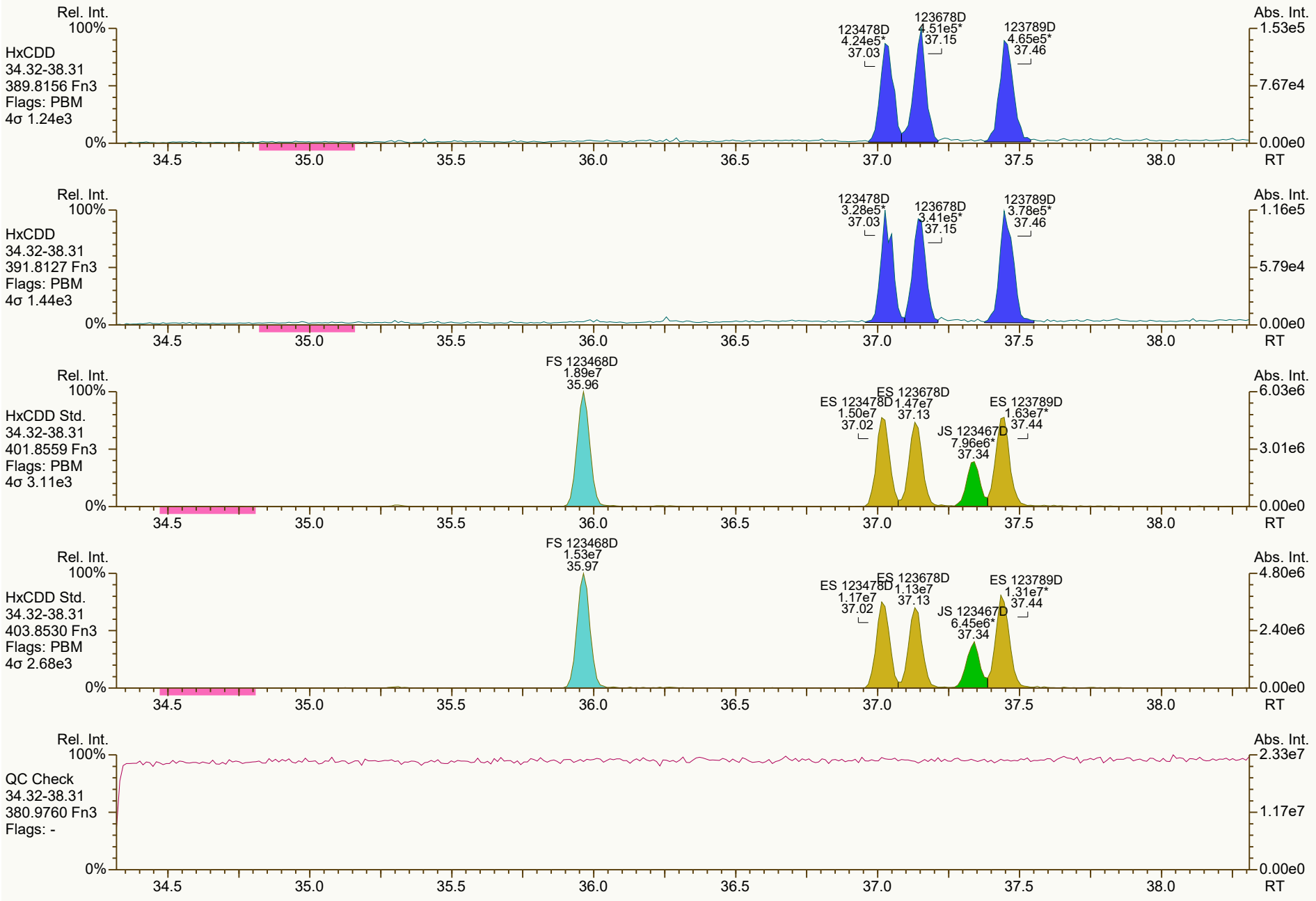
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

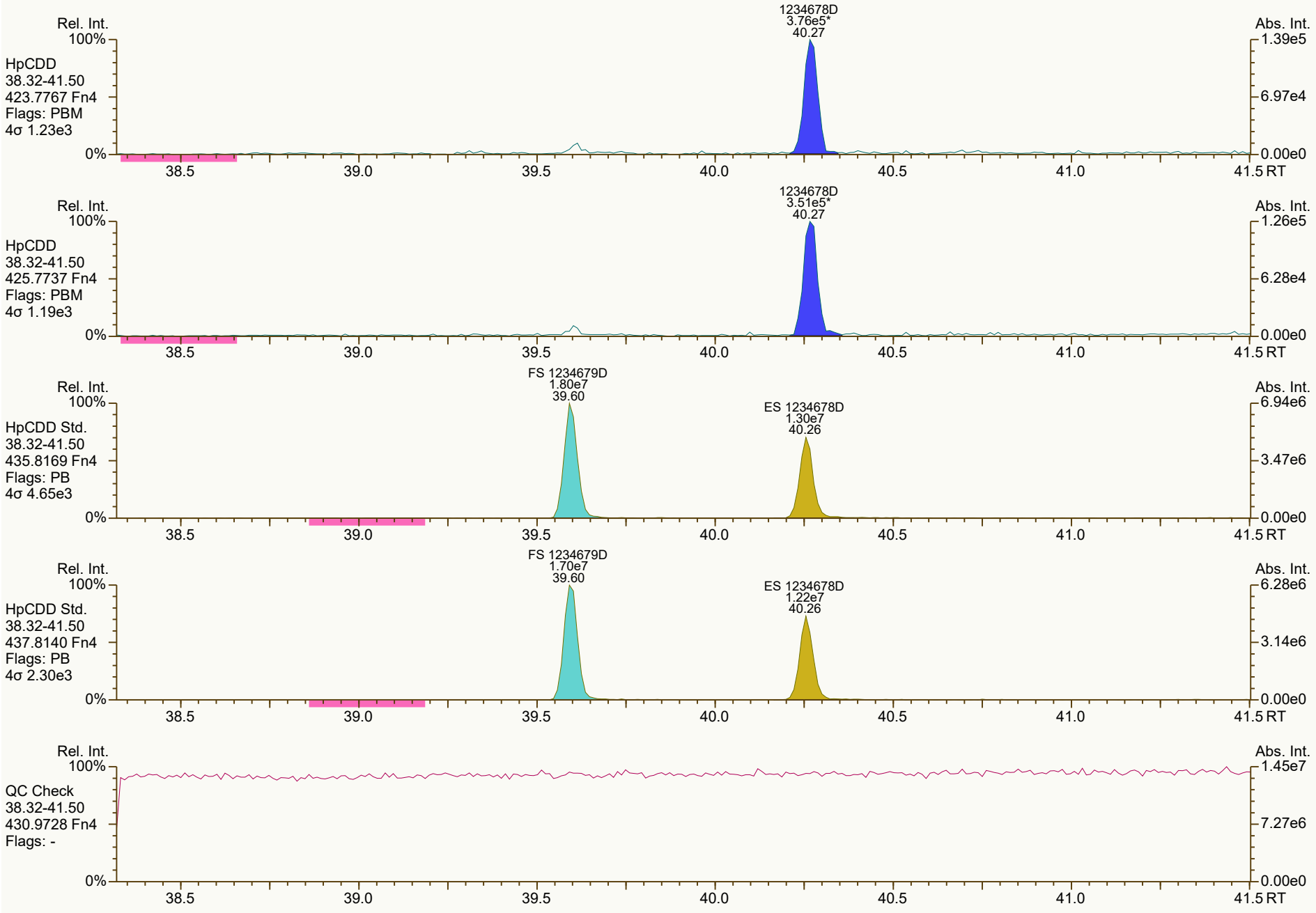
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

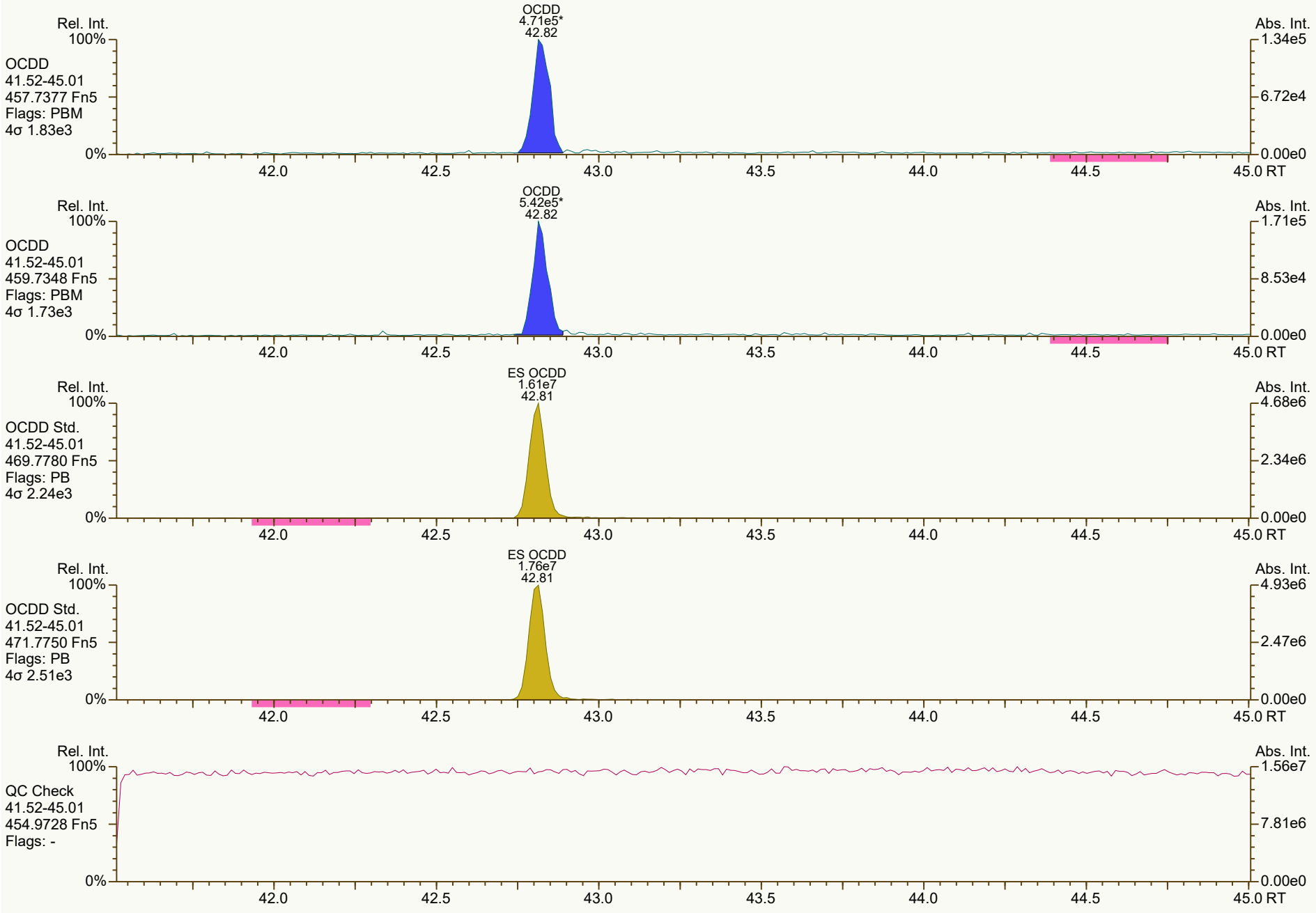

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.05e7
5.24e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.00e6
4.00e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.45e7
7.27e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.56e7
7.81e6
0.00e0

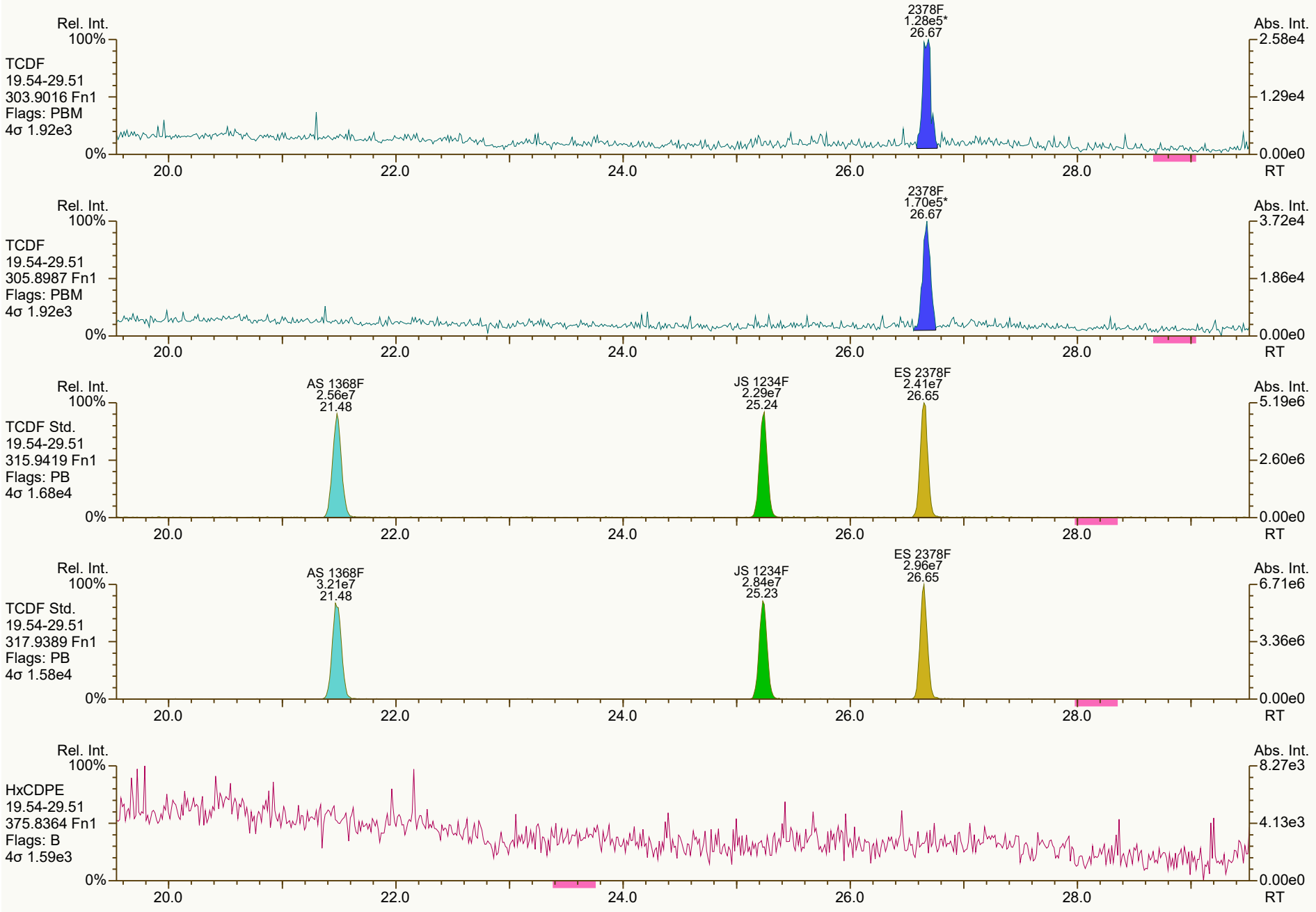

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

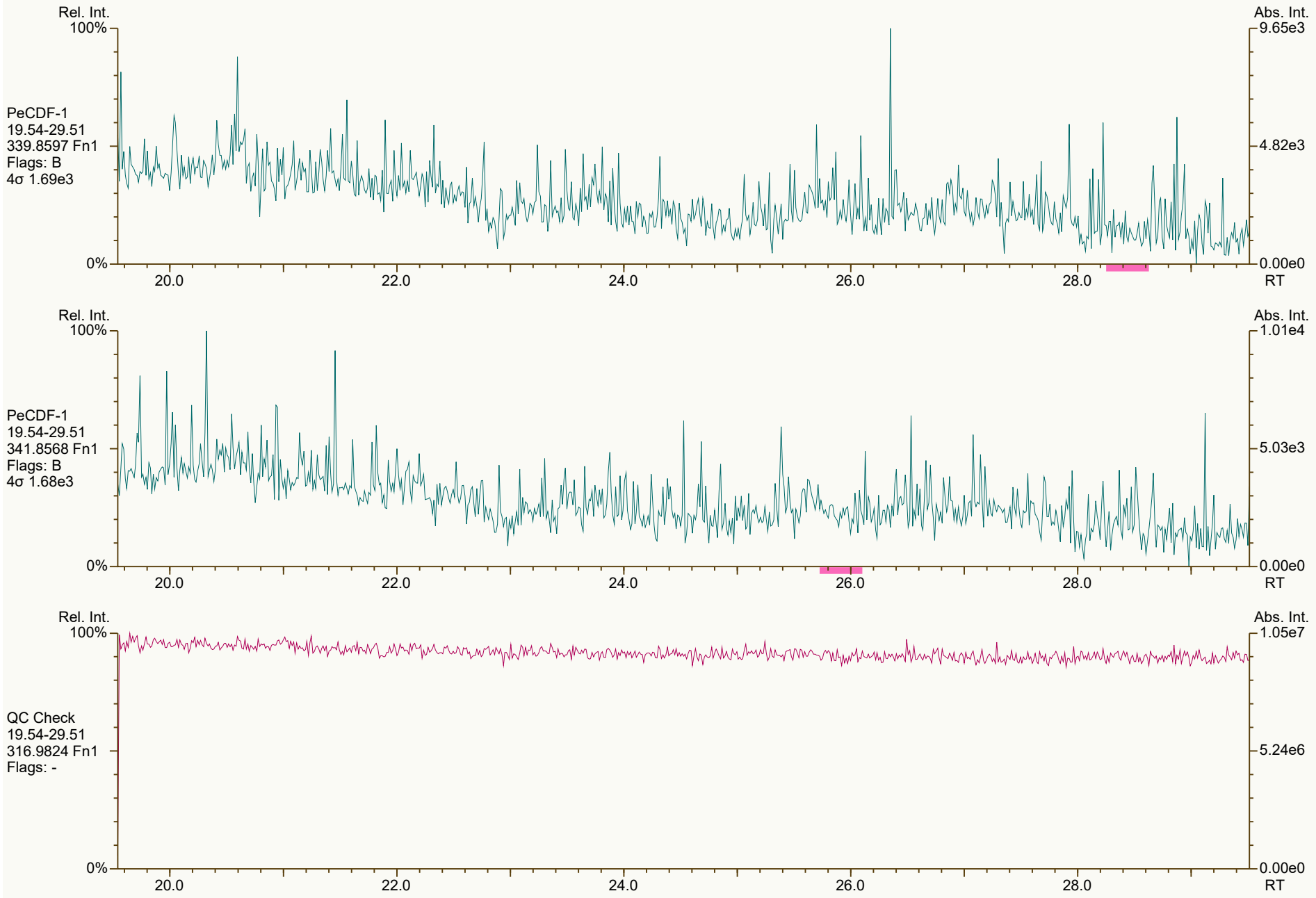

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
Abs. Int.
1.03e5
5.14e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
Abs. Int.
6.25e6
3.12e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.00e6
4.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123478D
1.50e7
37.02
ES 123678D
1.47e7
37.13
JS 123467D
7.96e6*
37.34
ES 123789D
1.63e7*
37.44
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123478D
1.17e7
37.02
ES 123678D
1.13e7
37.13
JS 123467D
6.45e6*
37.34
ES 123789D
1.31e7*
37.44
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

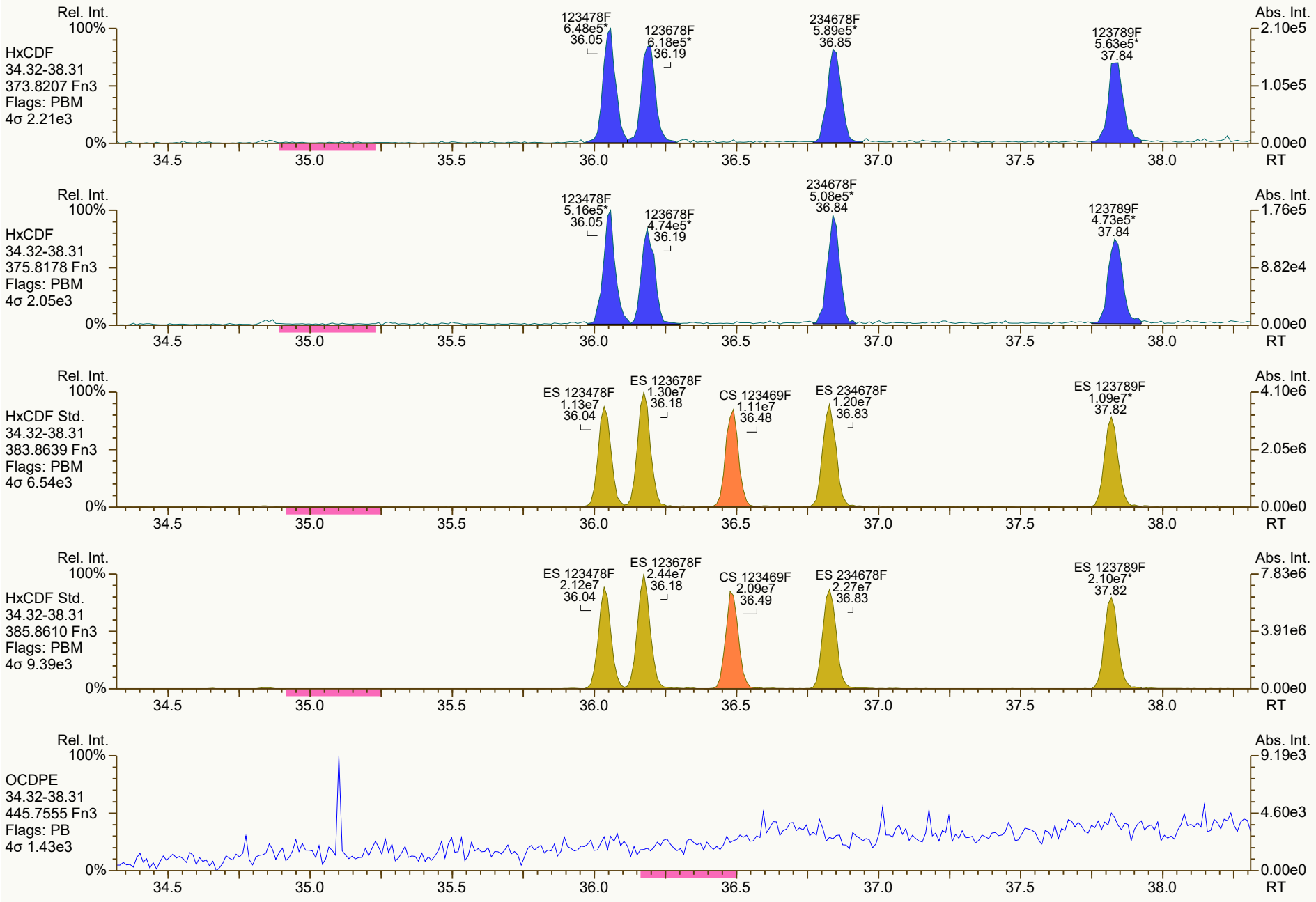

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

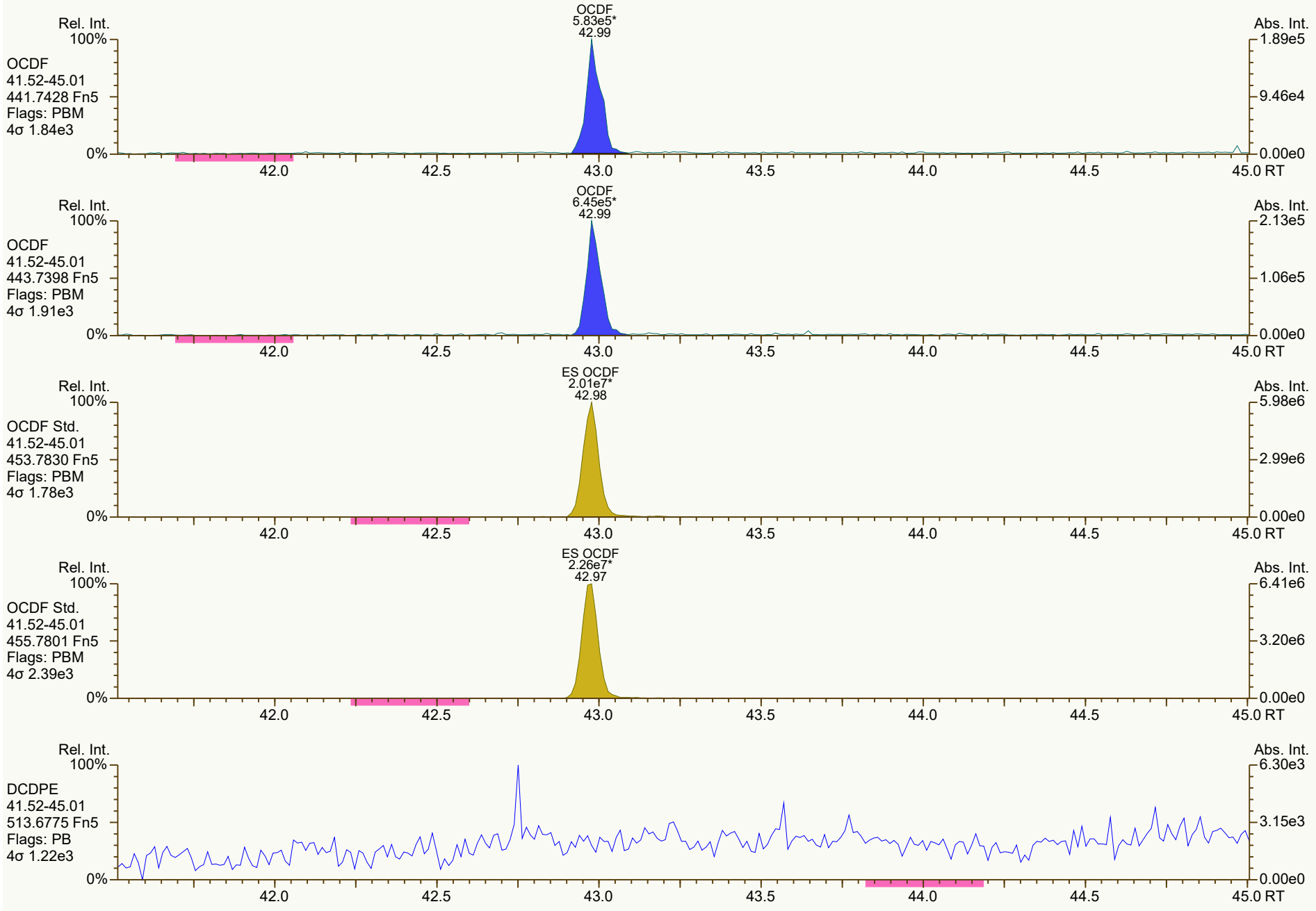

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
0%
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
Abs. Int.
2.10e5
1.05e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
0%
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
Abs. Int.
1.40e5
7.02e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
0%
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
Abs. Int.
7.54e6
3.77e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
0%
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
Abs. Int.
4.85e6
2.42e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
0%
Abs. Int.
1.10e4
5.51e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
0%
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
1.76e5
8.82e4
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
4.10e6
2.05e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
7.83e6
3.91e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
9.19e3
4.60e3

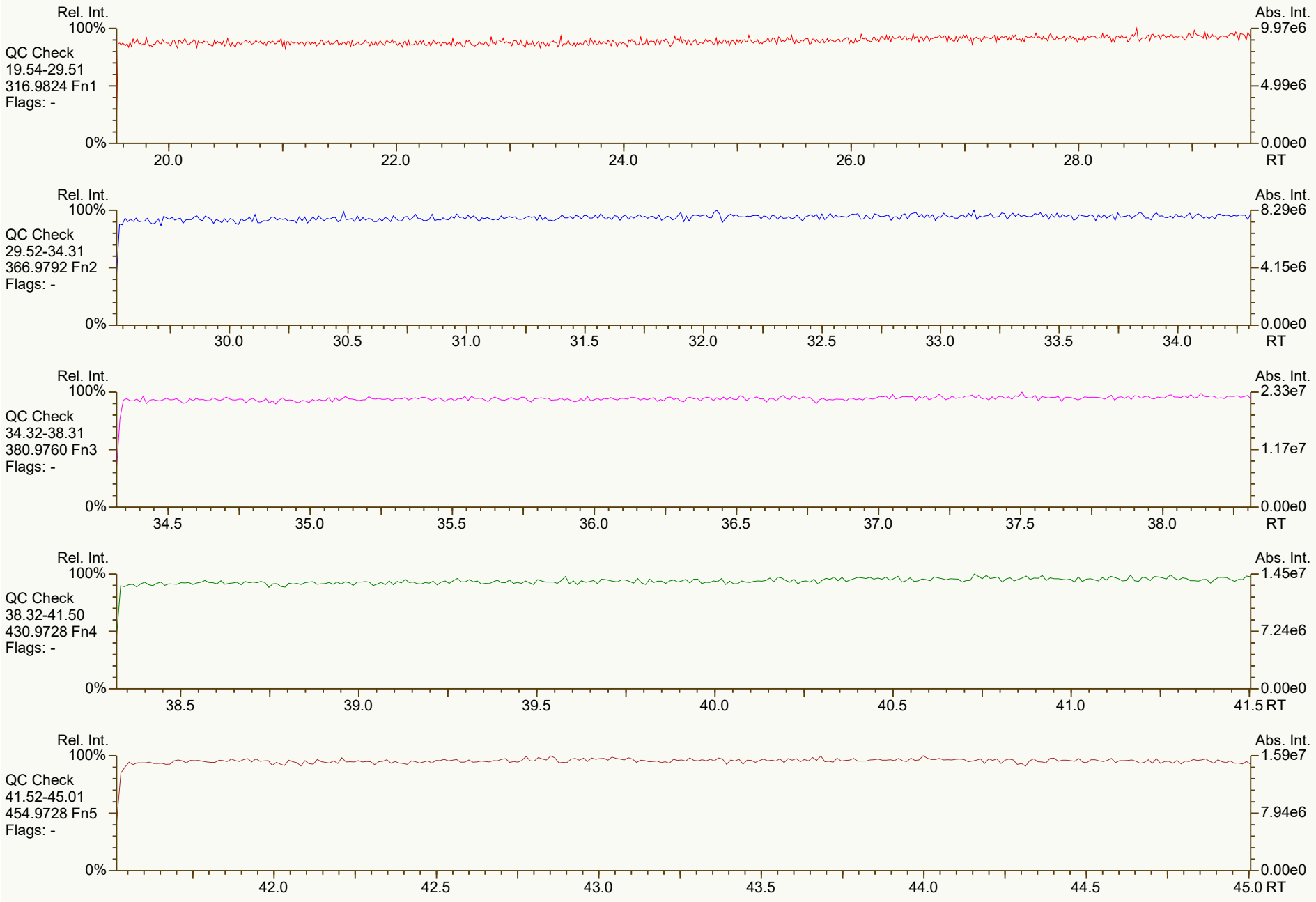

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
0%
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
Abs. Int.
2.00e5
9.99e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
0%
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
Abs. Int.
1.67e5
8.36e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
0%
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
Abs. Int.
3.13e6
1.57e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
0%
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
Abs. Int.
6.42e6
3.21e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
0%
Abs. Int.
3.72e3
1.86e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

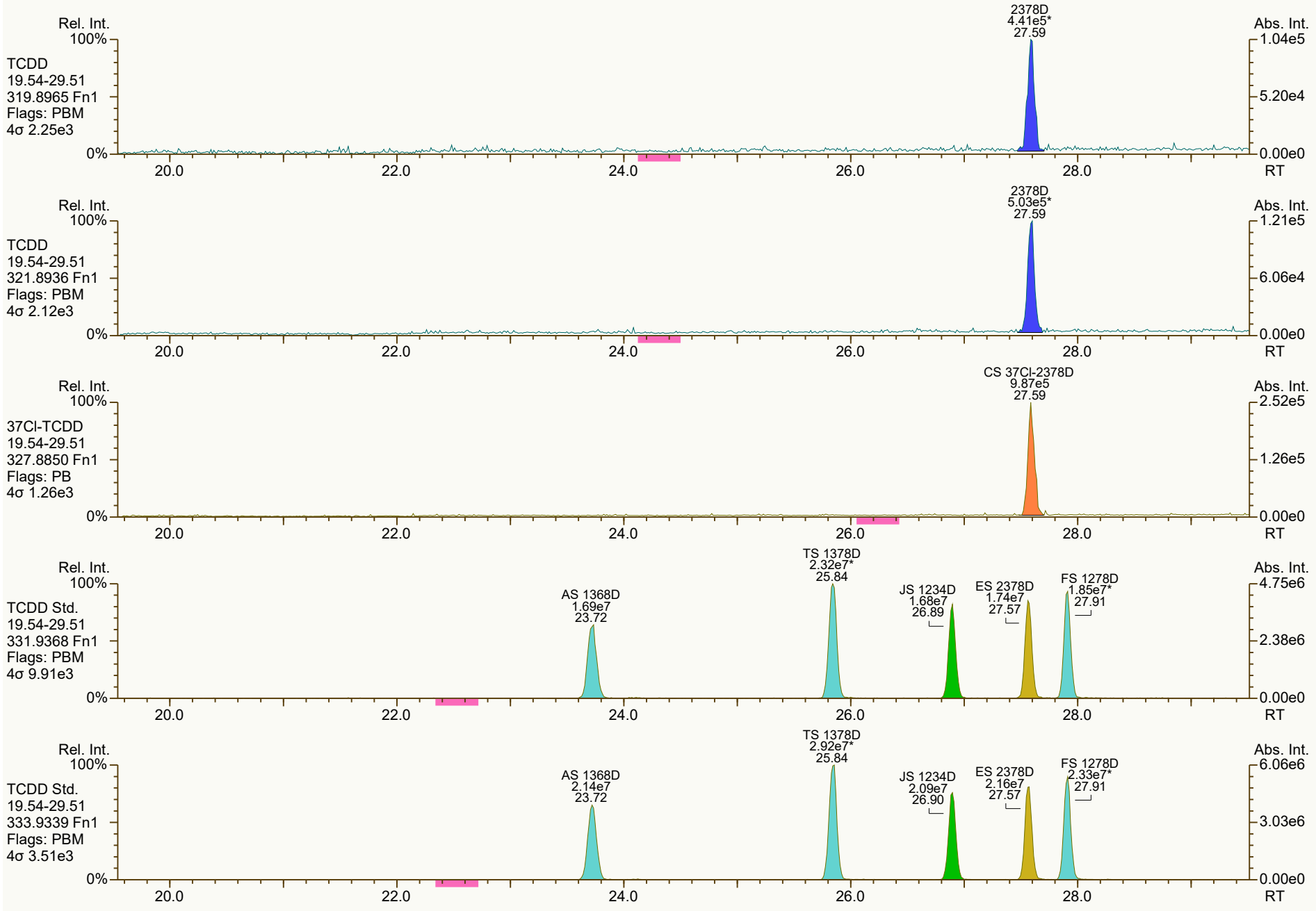

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
OCDF
5.83e5*
42.99
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
OCDF
6.45e5*
42.99
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
ES OCDF
2.01e7*
42.98
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
ES OCDF
2.26e7*
42.97
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

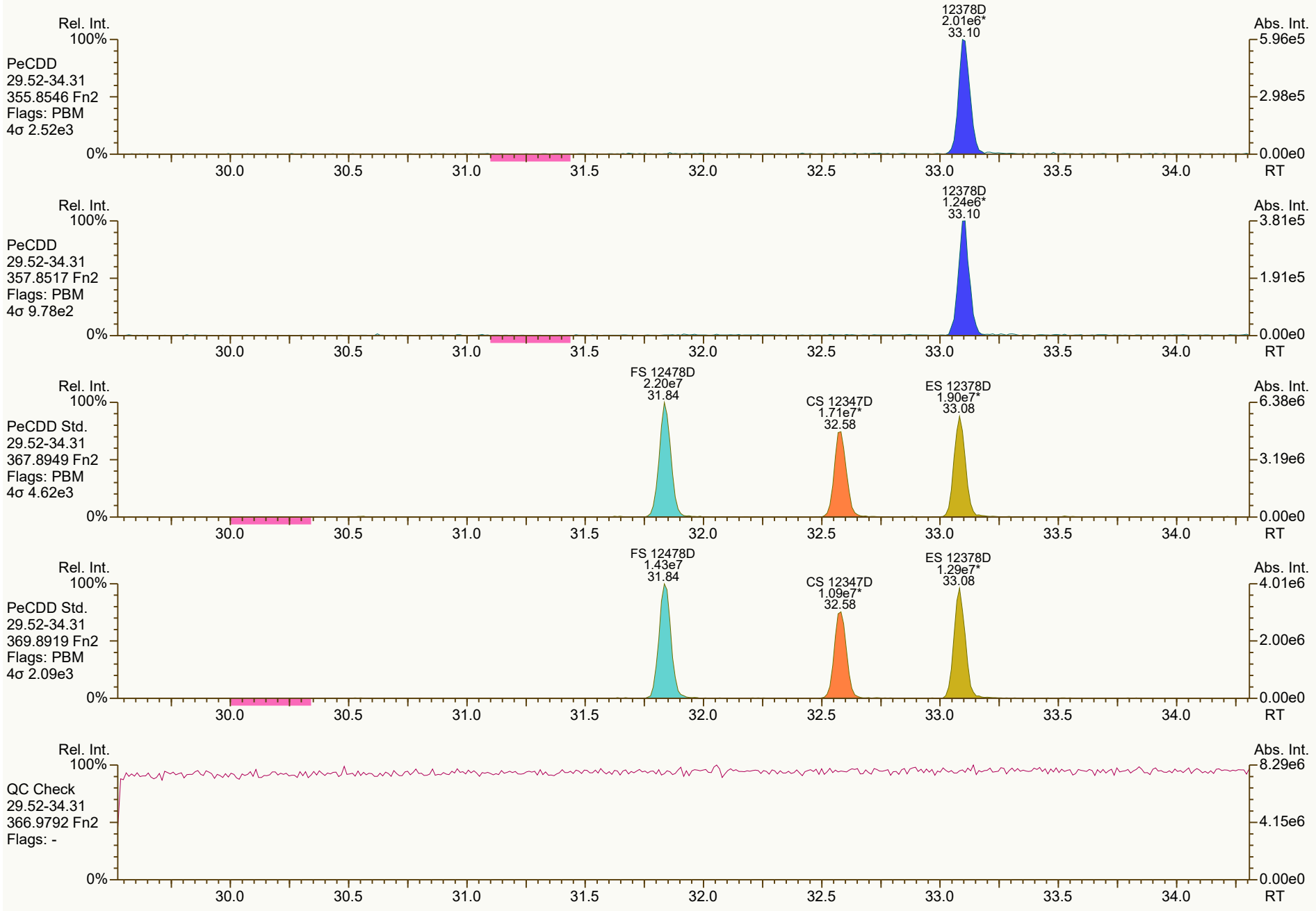
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 12:34 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS2_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 385-758-WQN	
Sample ID: 25-6-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C06	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

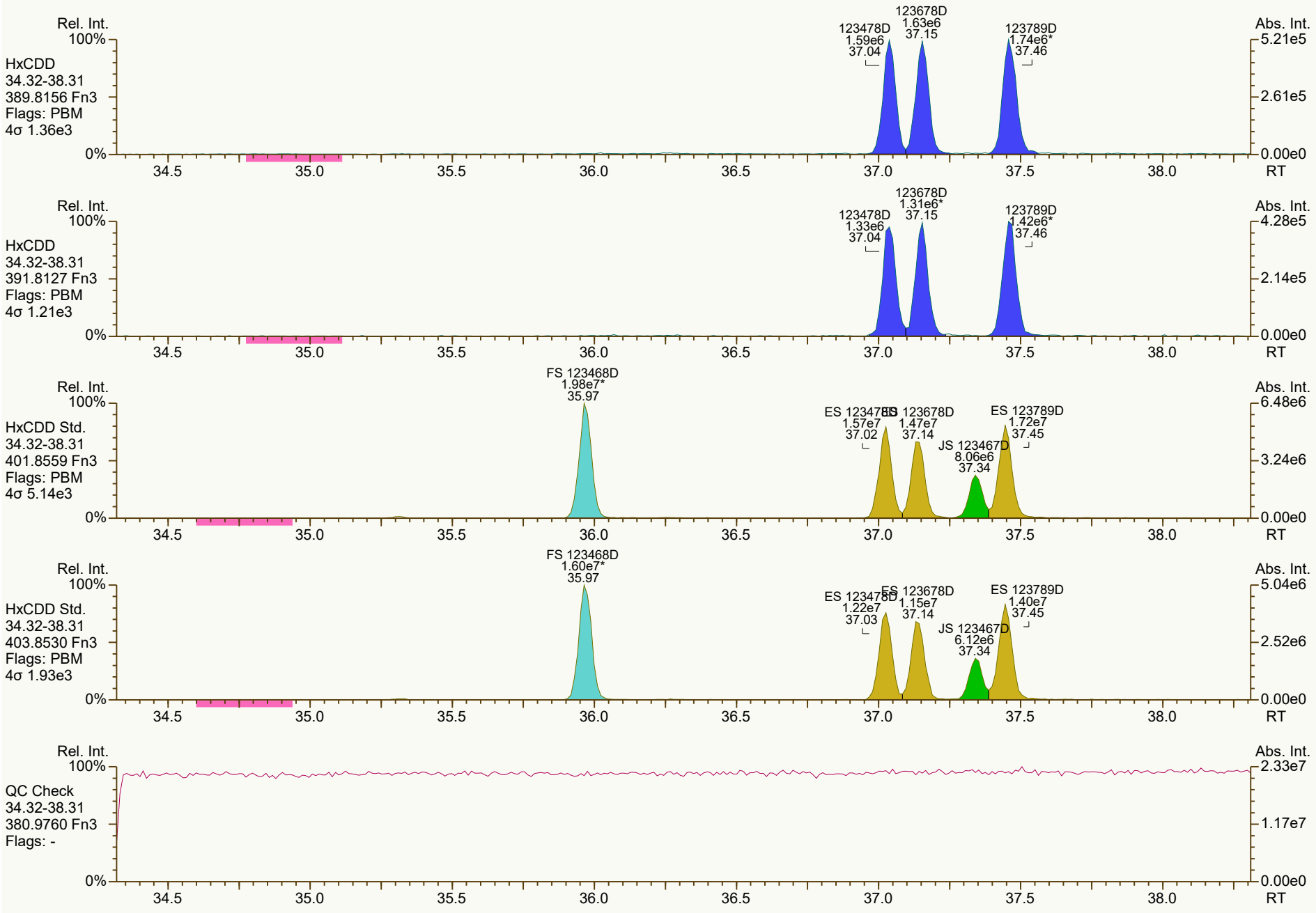
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

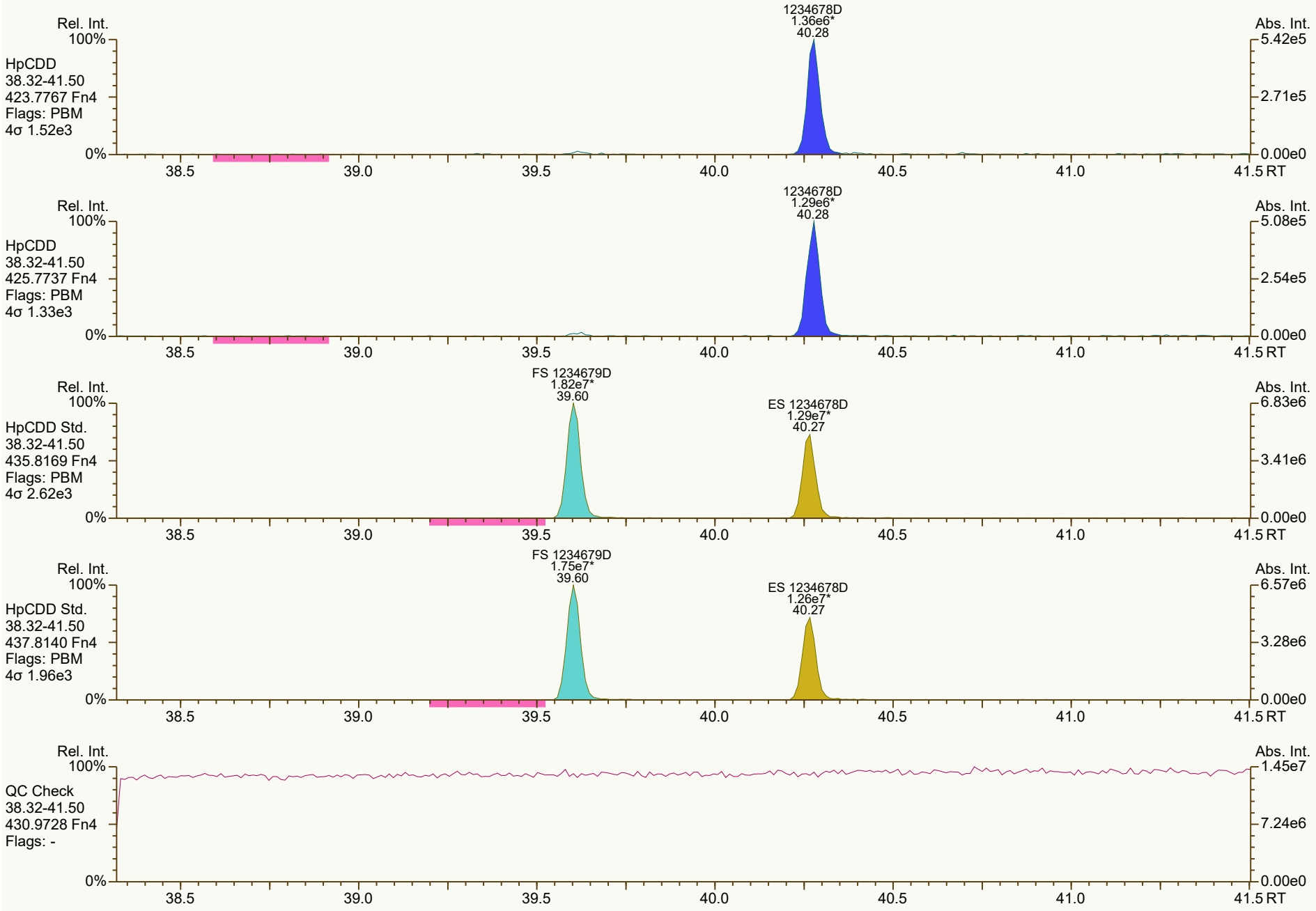
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

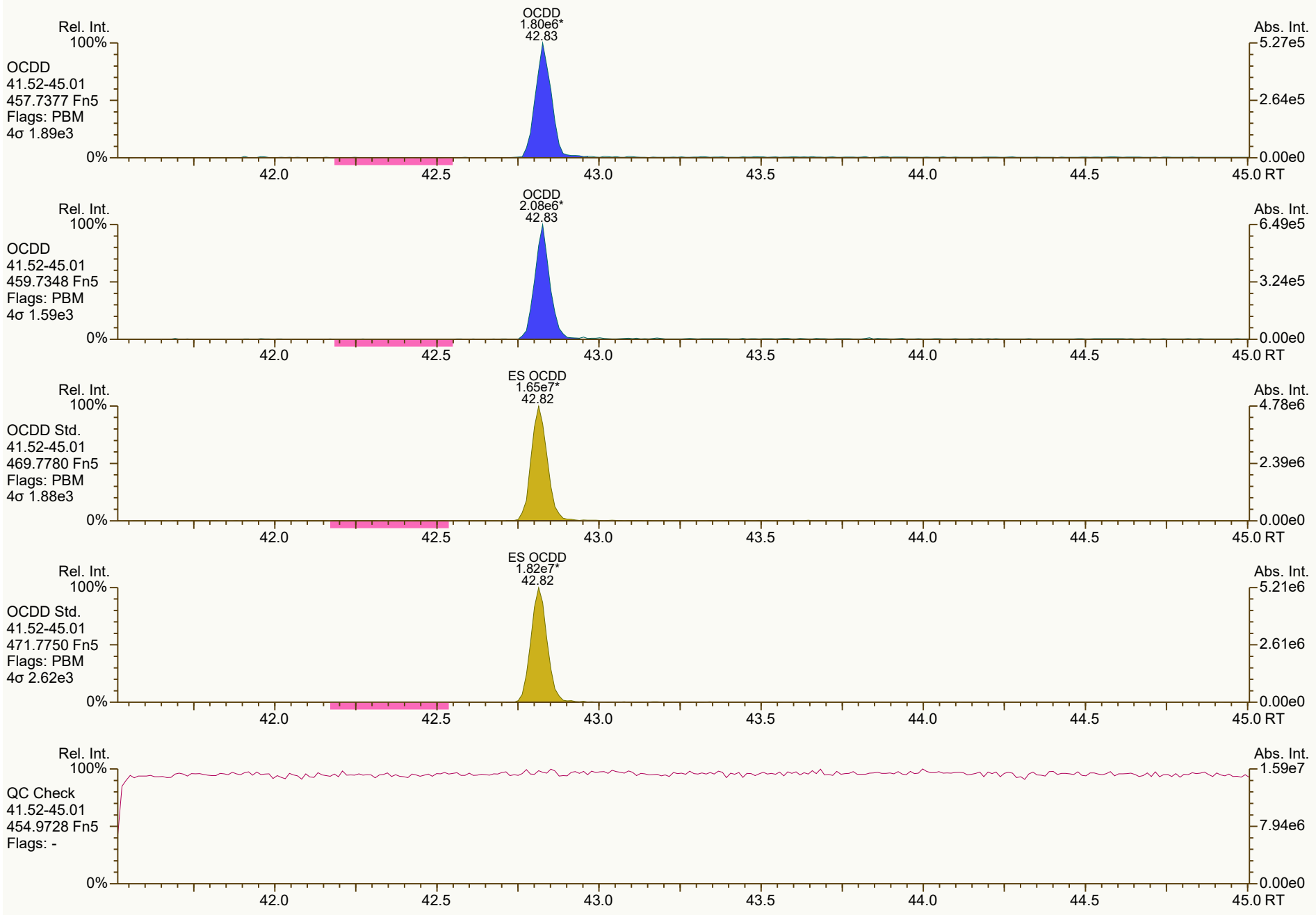

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0

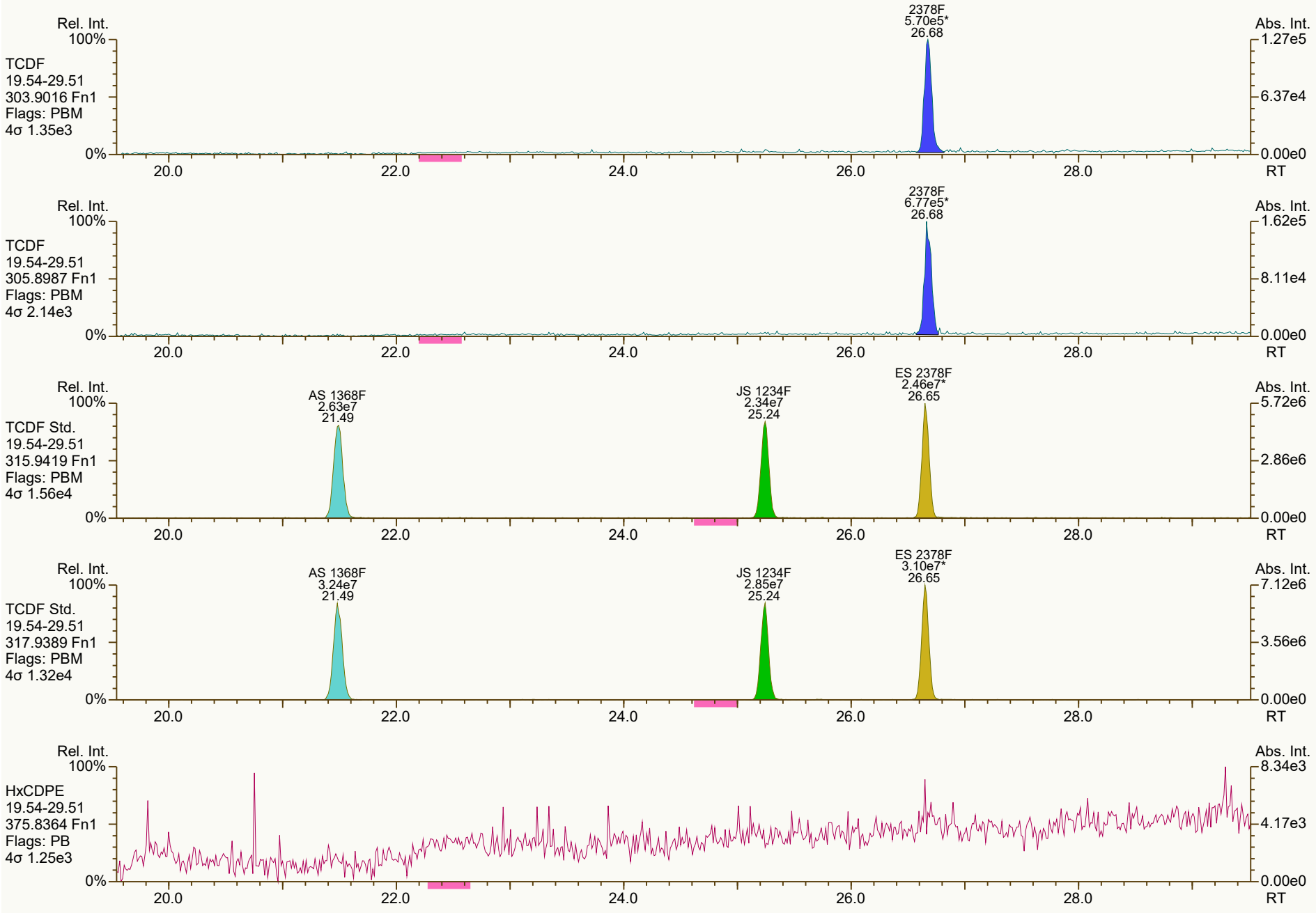

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
Abs. Int.
4.28e5
2.14e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
Abs. Int.
6.48e6
3.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
Abs. Int.
5.04e6
2.52e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
0%
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
0%
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
0%
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
0%
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

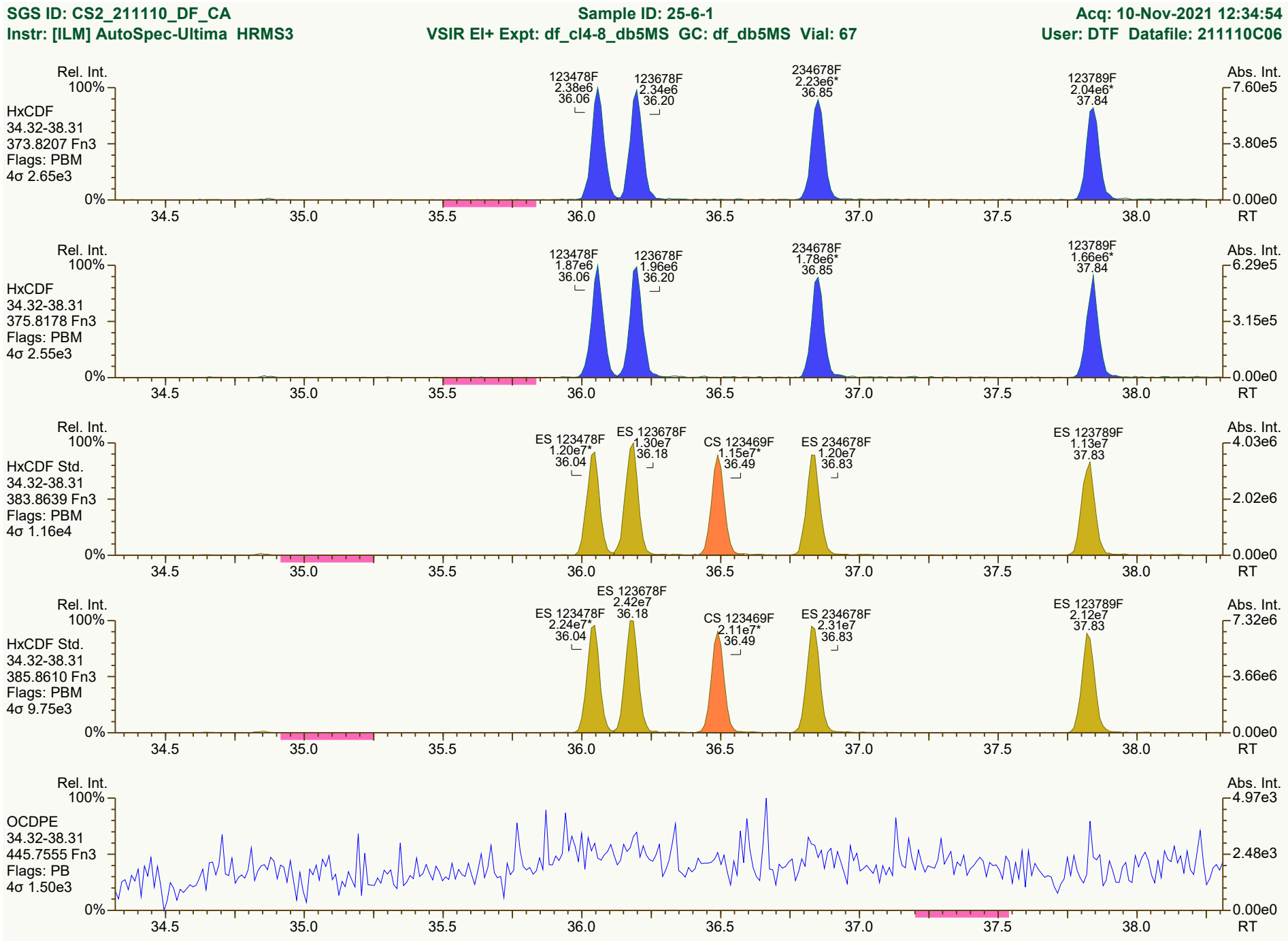

Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
Abs. Int.
5.27e5
2.63e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
0%
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
Abs. Int.
8.01e6
4.01e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
0%
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
Abs. Int.
5.19e6
2.59e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
6.67e3
3.33e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

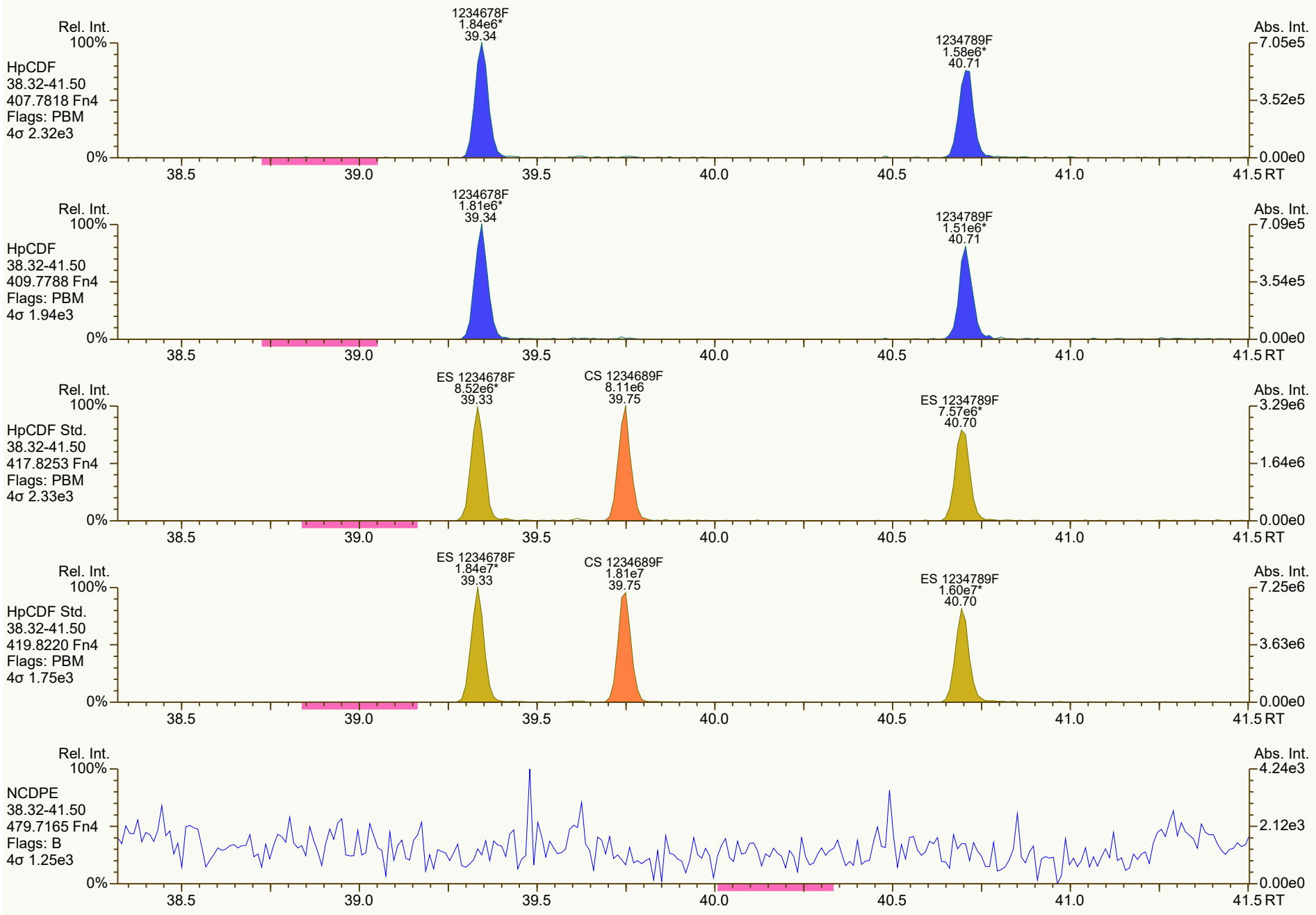
SGS ID: CS2_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

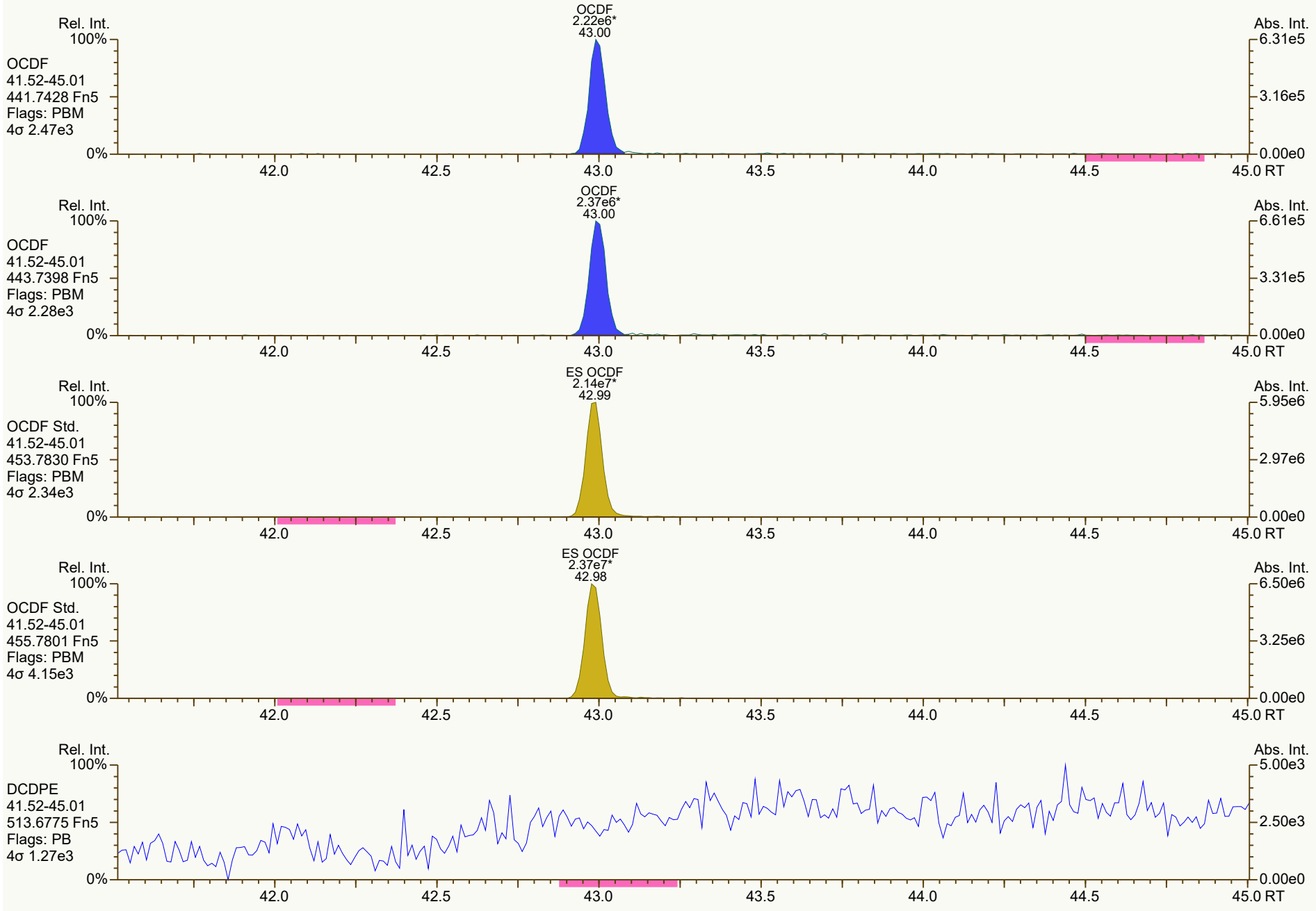
Sample ID: 25-6-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67

Acq: 10-Nov-2021 12:34:54
User: DTF Datafile: 211110C06



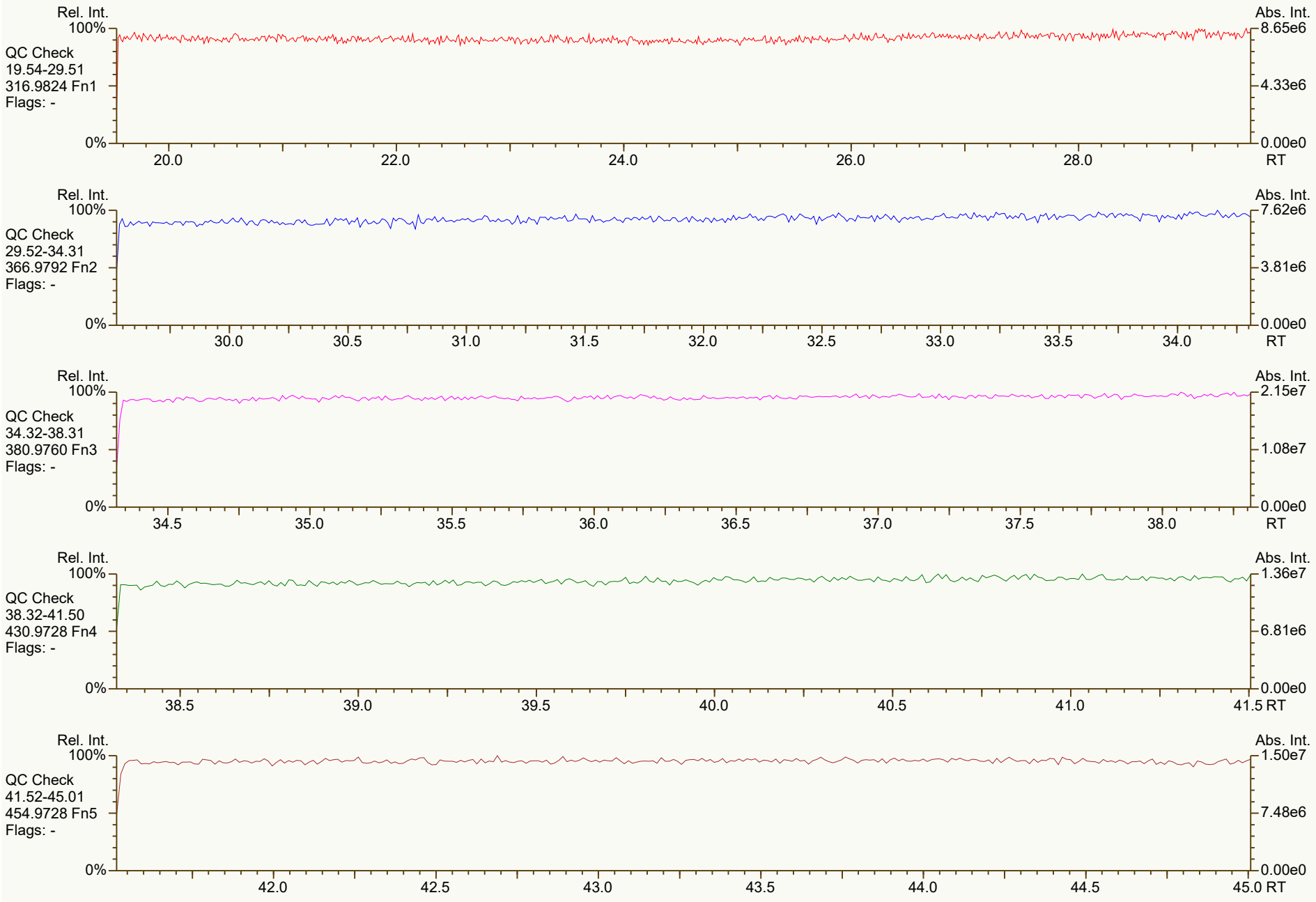
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 7496, 9123, 5141 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 10 of 12


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
0%
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
0%
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
0%
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
0%
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
0%
Abs. Int.
4.24e3
2.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

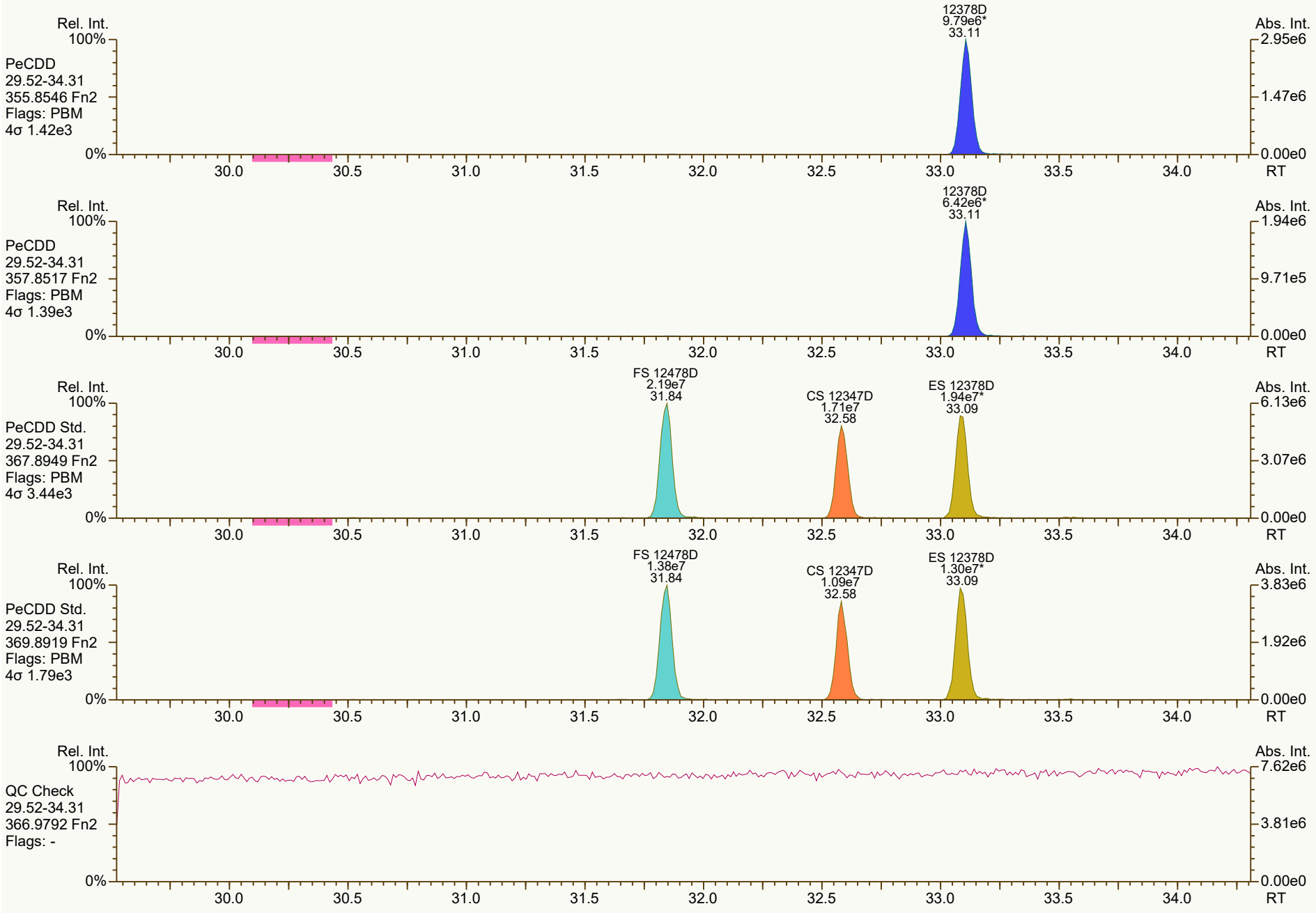

OCDF
2.22e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
0%
Abs. Int.
6.31e5
3.16e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.37e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
0%
Abs. Int.
6.61e5
3.31e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.14e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
5.95e6
2.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.37e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
0%
Abs. Int.
6.50e6
3.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

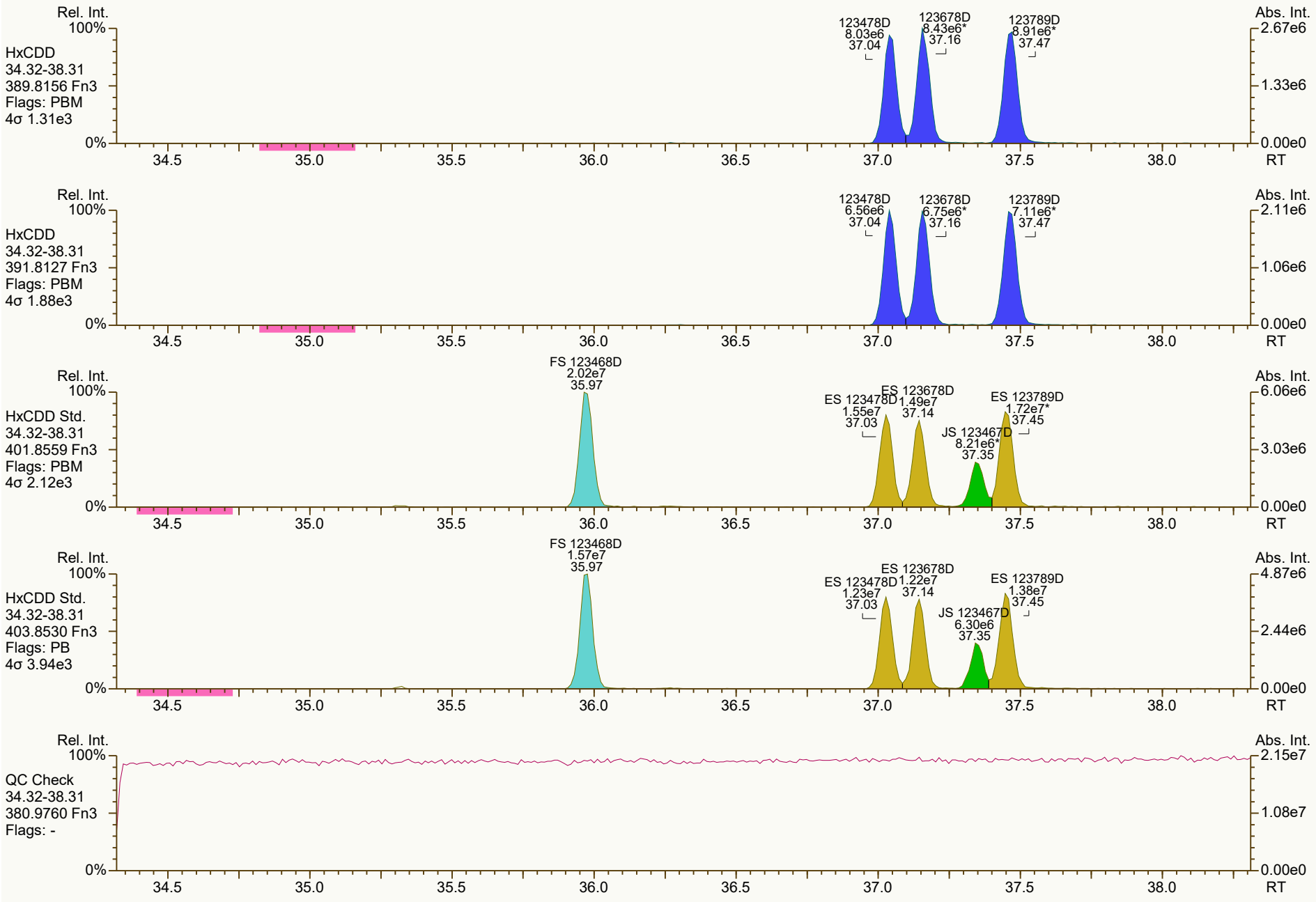
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

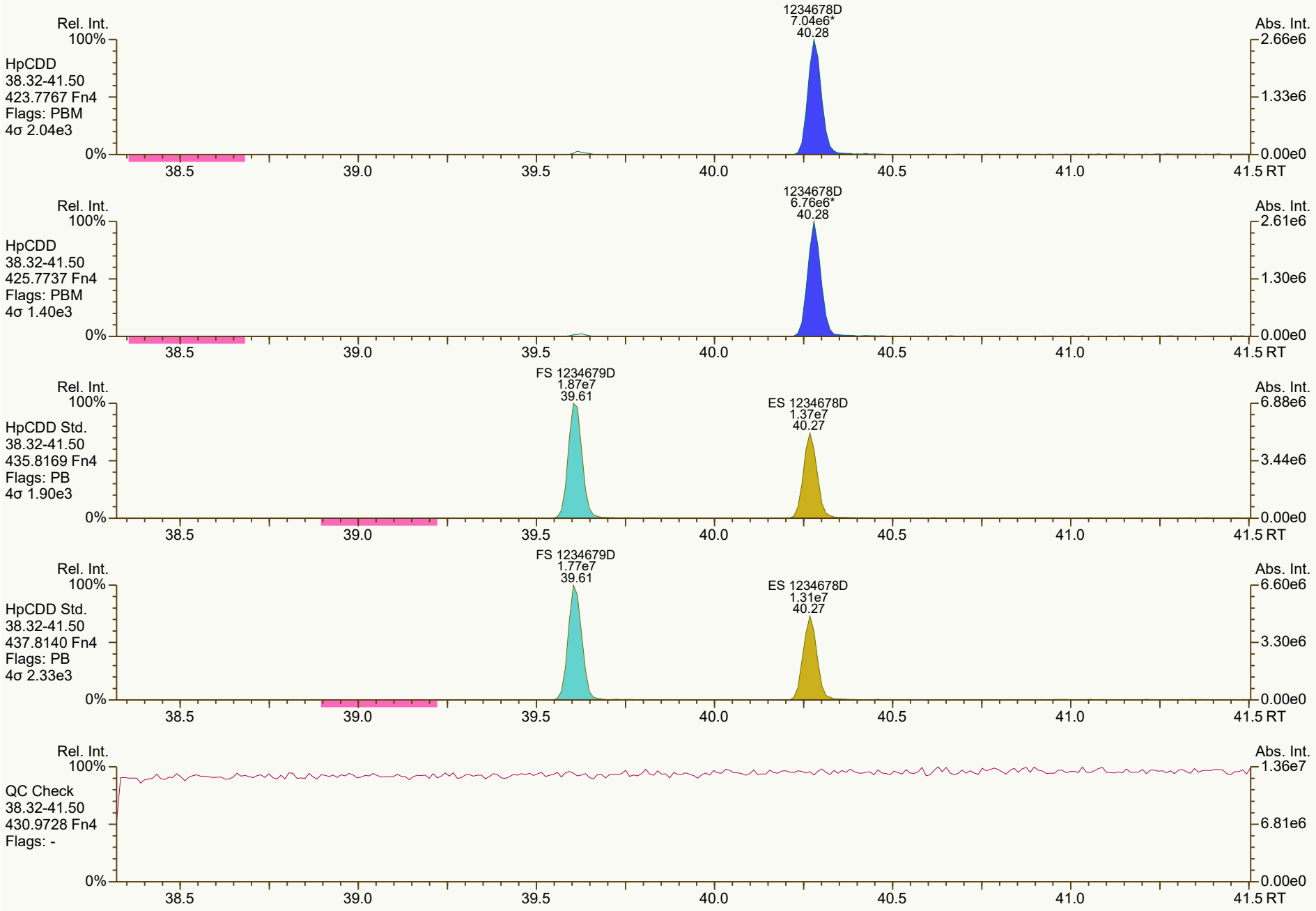
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%

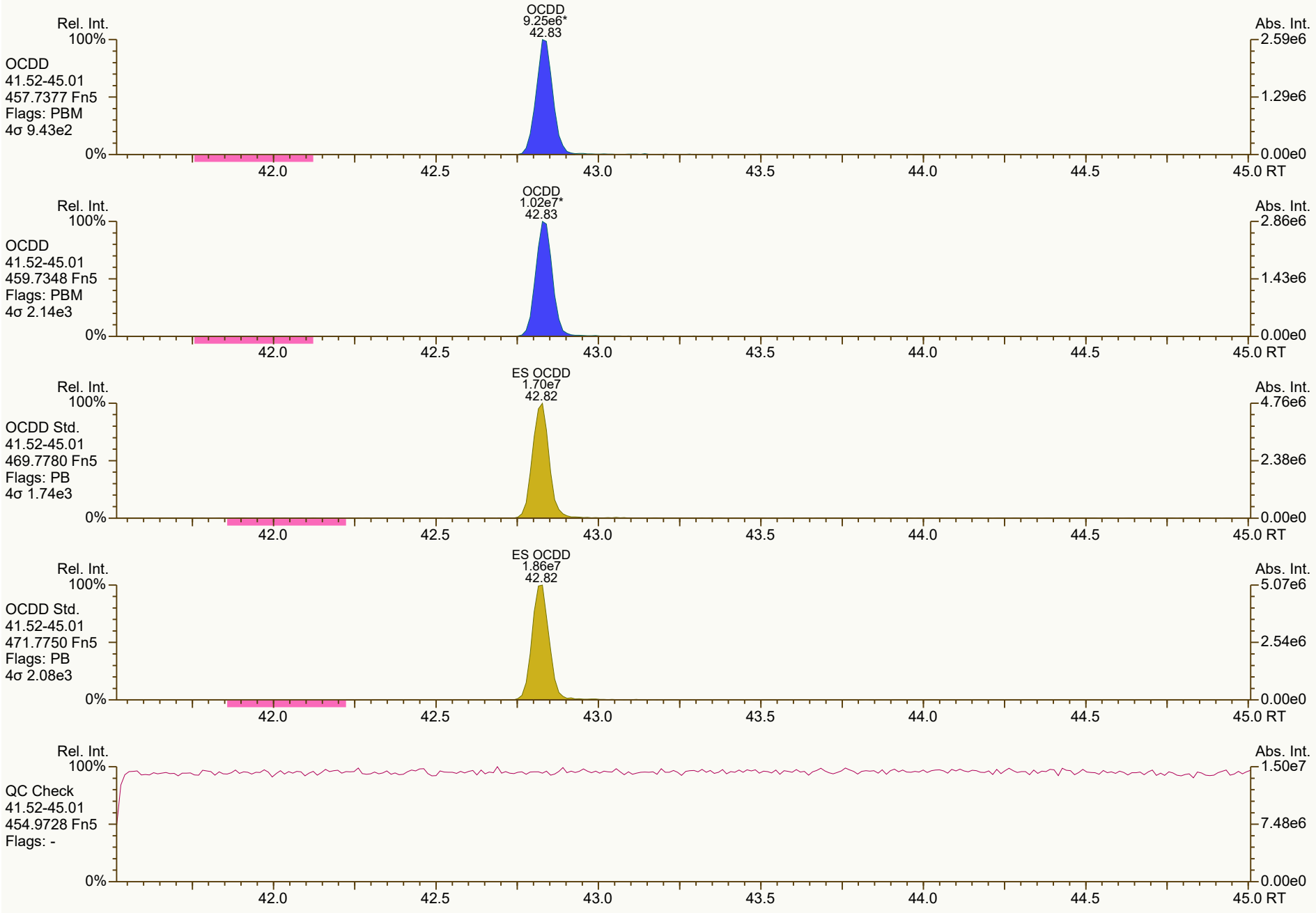

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
0%
2378D
1.99e6
27.60
Abs. Int.
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
0%
2378D
2.55e6
27.60
Abs. Int.
5.98e5
2.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
Abs. Int.
1.03e6
5.16e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
0%
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
Abs. Int.
4.80e6
2.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
0%
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.62e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

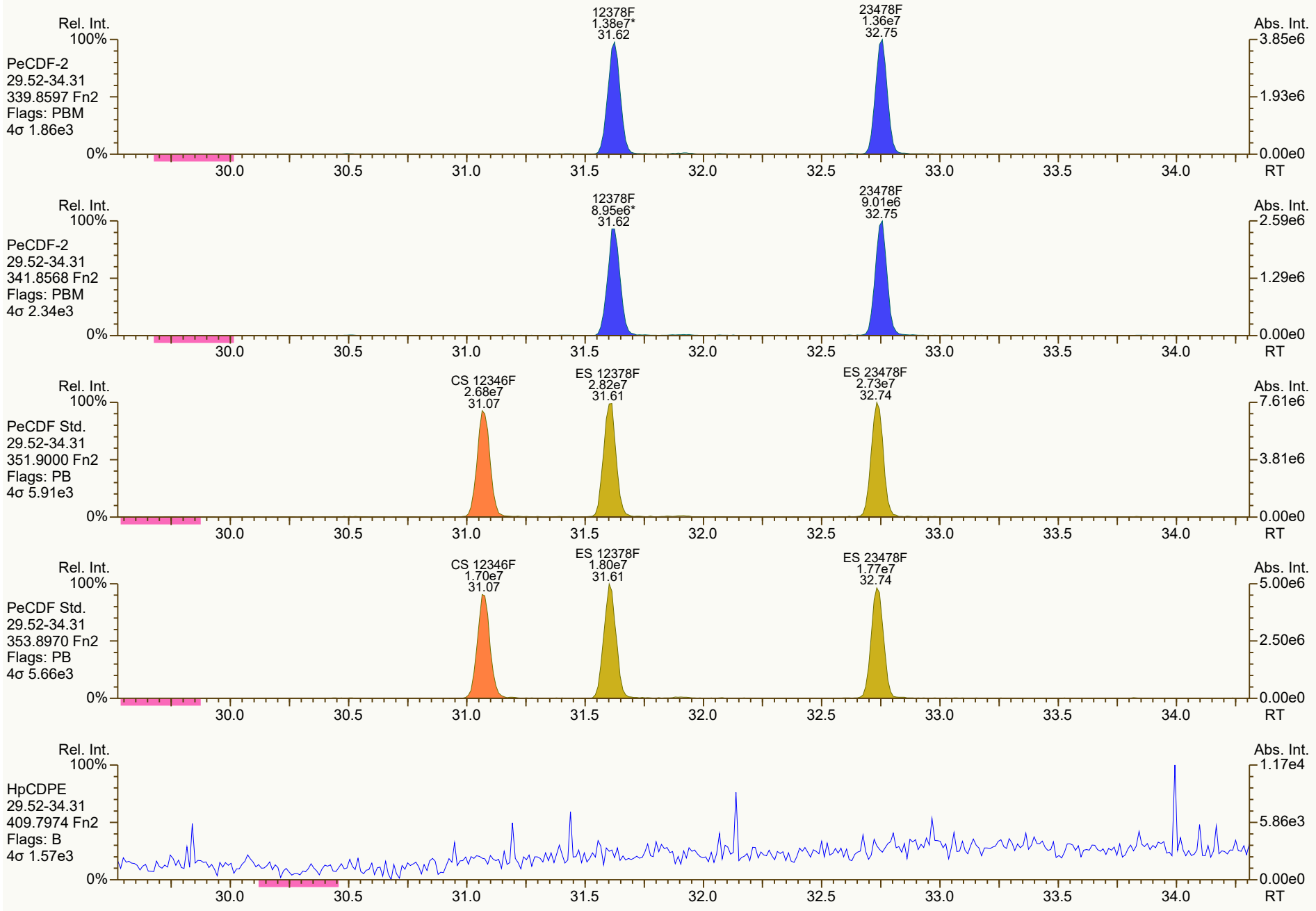

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
0%
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
0%
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
0%
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
0%
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.15e7
1.08e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

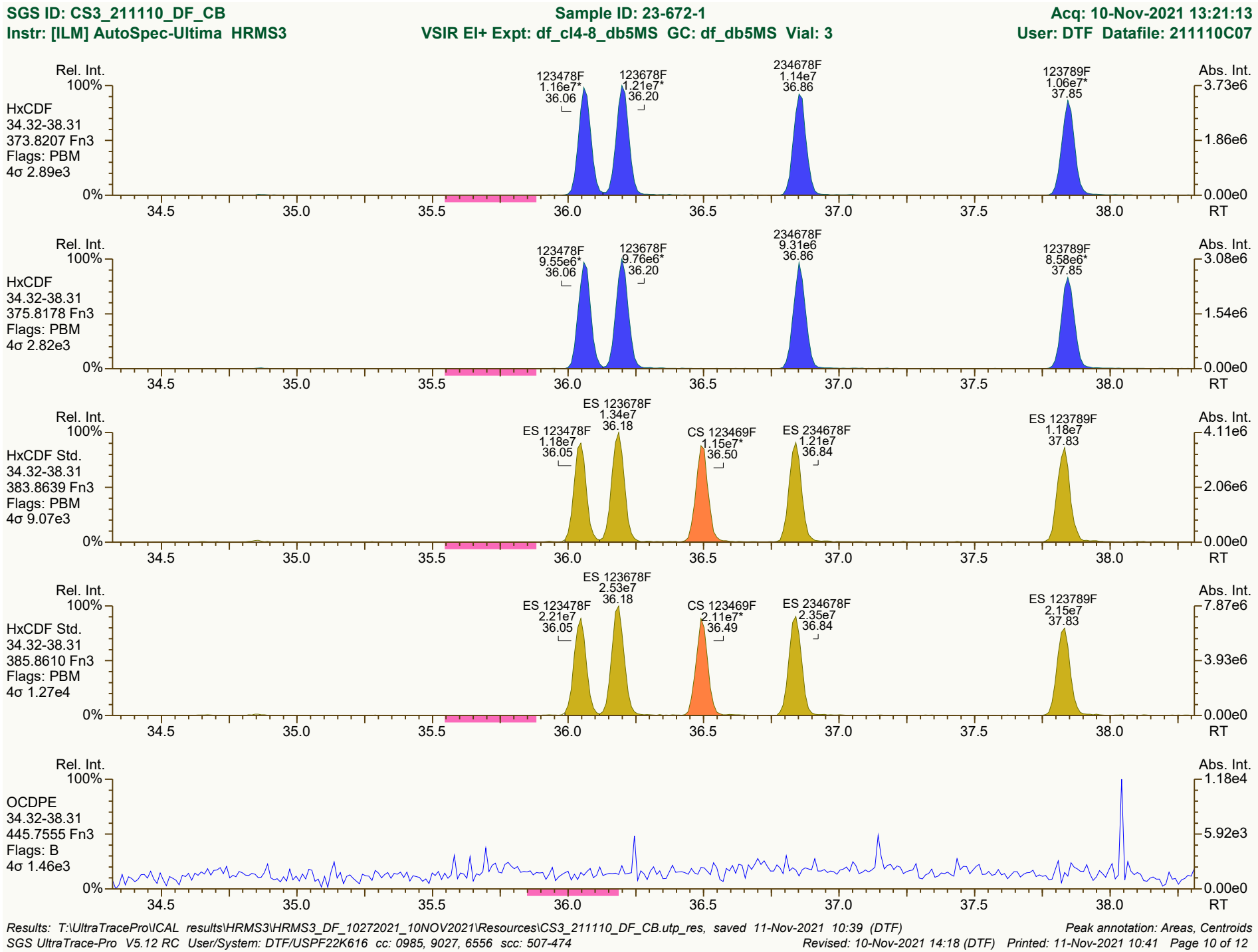

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

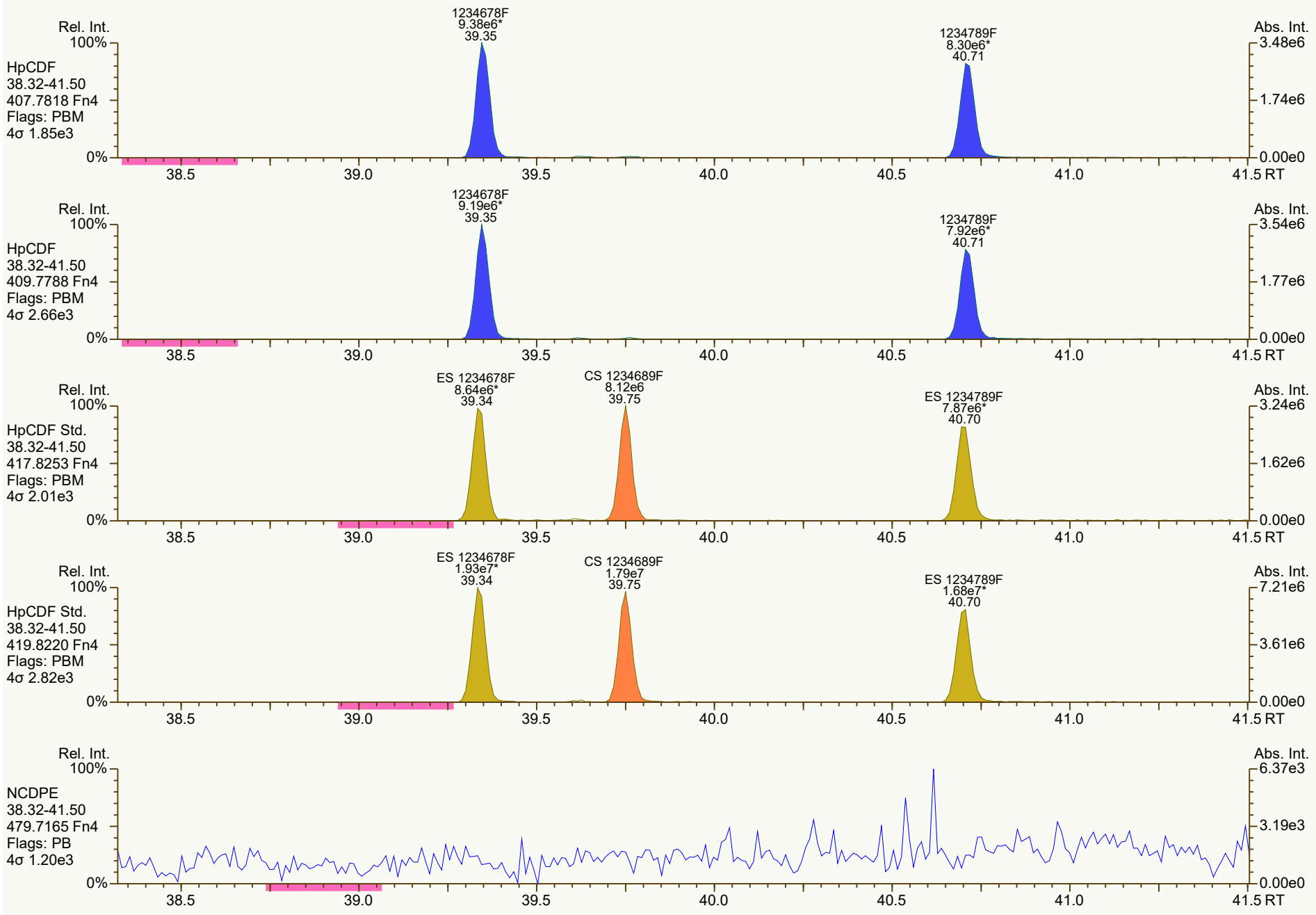

OCDD
9.25e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.02e7*
42.83
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
2.86e6
1.43e6
ES OCDD
1.70e7
42.82
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
4.76e6
2.38e6
ES OCDD
1.86e7
42.82
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
5.07e6
2.54e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.50e7
7.48e6


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
0%
2378F
2.58e6
26.68
Abs. Int.
5.81e5
2.91e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
0%
2378F
3.32e6
26.68
Abs. Int.
7.66e5
3.83e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
0%
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
Abs. Int.
5.45e6
2.73e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
0%
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
Abs. Int.
6.76e6
3.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
0%
Abs. Int.
6.84e3
3.42e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.86e3
12378F
1.38e7*
31.62
23478F
1.36e7
32.75
Abs. Int.
3.85e6
1.93e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.34e3
12378F
8.95e6*
31.62
23478F
9.01e6
32.75
Abs. Int.
2.59e6
1.29e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 5.91e3
CS 12346F
2.68e7
31.07
ES 12378F
2.82e7
31.61
ES 23478F
2.73e7
32.74
Abs. Int.
7.61e6
3.81e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 5.66e3
CS 12346F
1.70e7
31.07
ES 12378F
1.80e7
31.61
ES 23478F
1.77e7
32.74
Abs. Int.
5.00e6
2.50e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.57e3
Abs. Int.
1.17e4
5.86e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

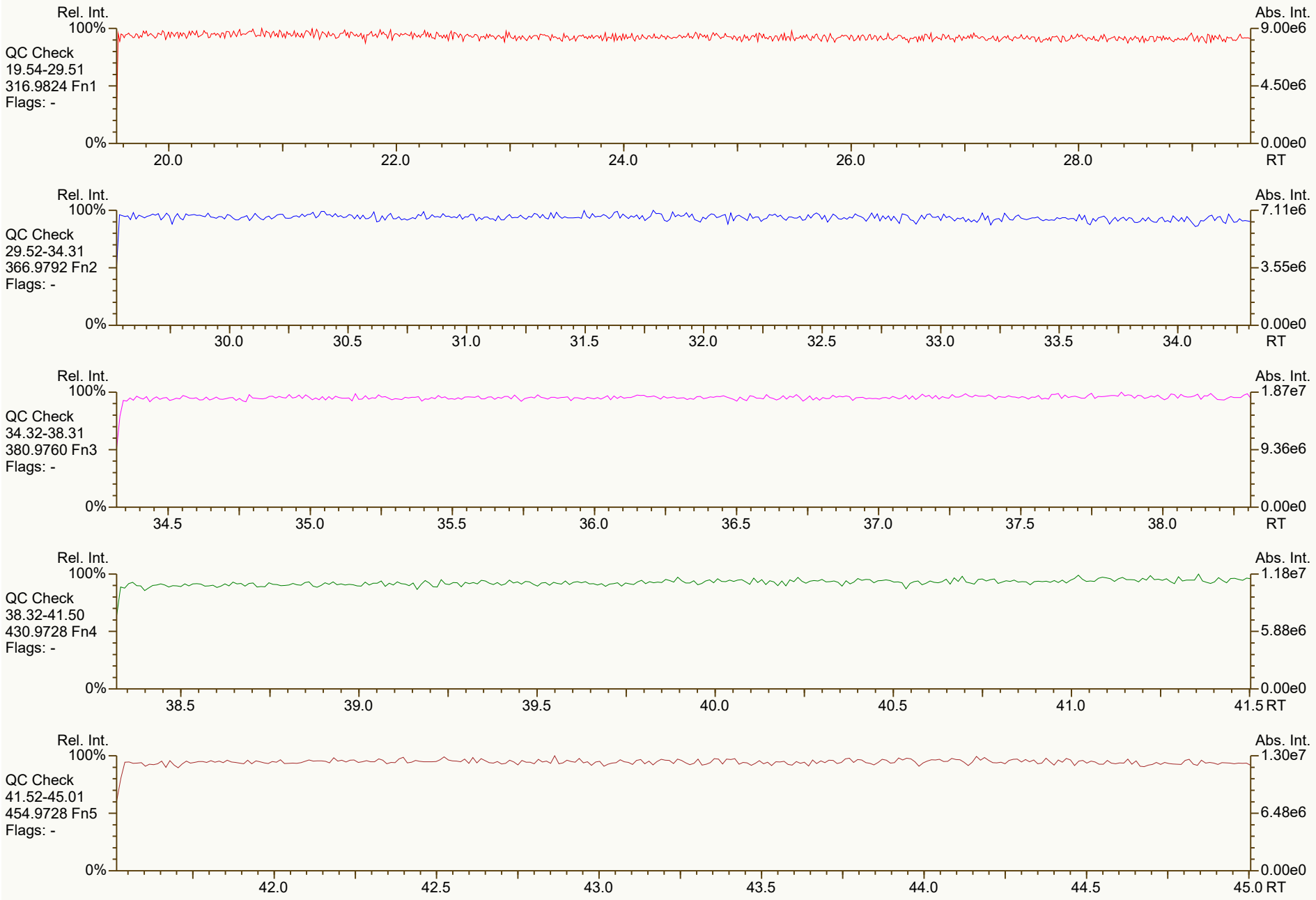

SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
123478F 1.16e7* 36.06
123678F 1.21e7* 36.20
234678F 1.14e7 36.86
123789F 1.06e7* 37.85
3.73e6
1.86e6
0.00e0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
123478F 9.55e6* 36.06
123678F 9.76e6* 36.20
234678F 9.31e6 36.86
123789F 8.58e6* 37.85
3.08e6
1.54e6
0.00e0
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
ES 123478F 1.18e7 36.05
ES 123678F 1.34e7 36.18
CS 123469F 1.15e7* 36.50
ES 234678F 1.21e7 36.84
ES 123789F 1.18e7 37.83
4.11e6
2.06e6
0.00e0
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
ES 123478F 2.21e7 36.05
ES 123678F 2.53e7 36.18
CS 123469F 2.11e7* 36.49
ES 234678F 2.35e7 36.84
ES 123789F 2.15e7 37.83
7.87e6
3.93e6
0.00e0
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
1.18e4
5.92e3
0.00e0
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0985, 9027, 6556 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 10 of 12

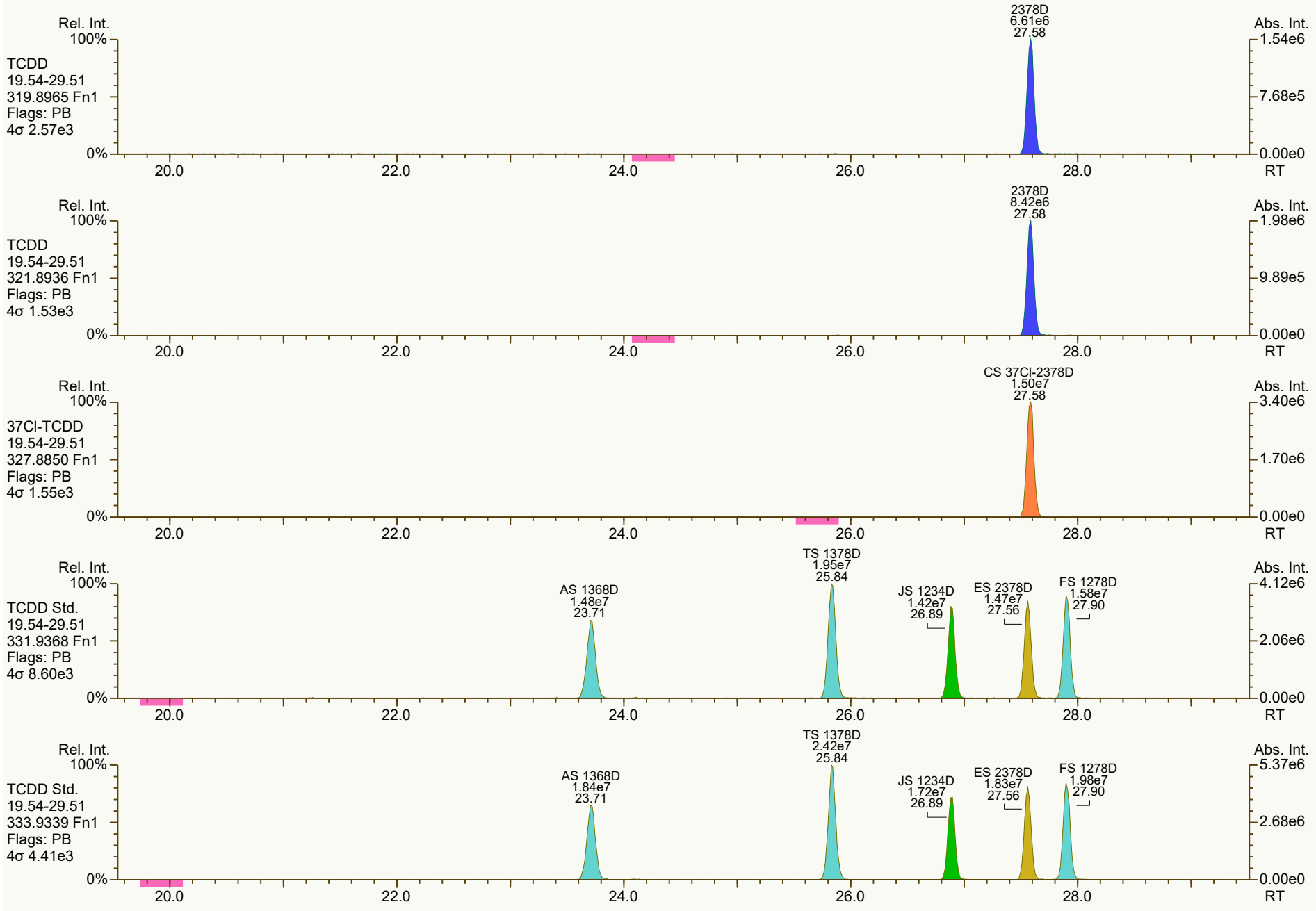

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
0%
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
Abs. Int.
3.48e6
1.74e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
0%
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
Abs. Int.
3.54e6
1.77e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
0%
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
Abs. Int.
3.24e6
1.62e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
0%
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
Abs. Int.
7.21e6
3.61e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
0%
Abs. Int.
6.37e3
3.19e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

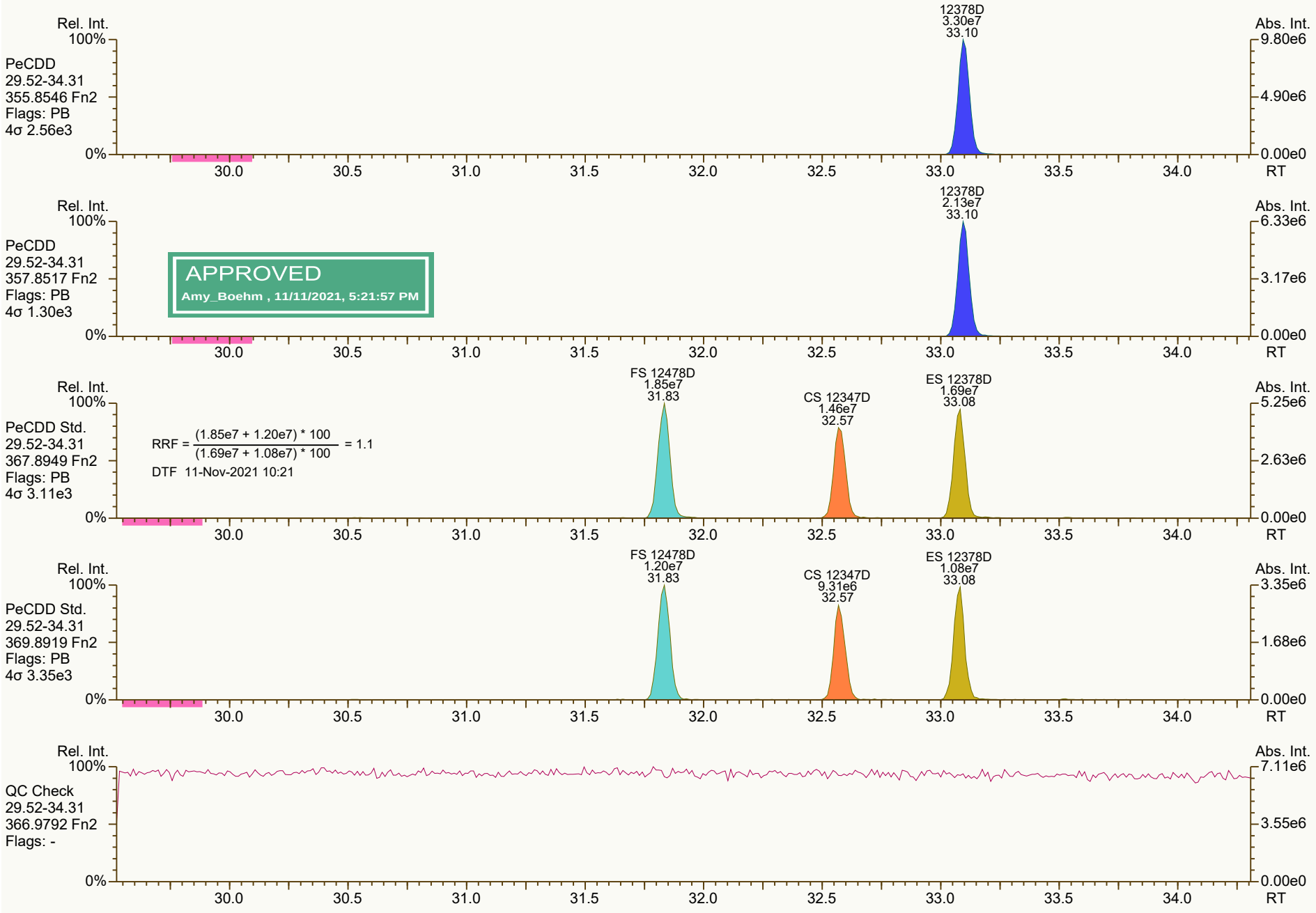

OCDF
1.15e7*
43.00
Rel. Int.
Abs. Int.
100%
0%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
3.25e6
1.62e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
3.53e6
1.76e6
ES OCDF
2.21e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
6.08e6
3.04e6
ES OCDF
2.39e7*
42.99
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
6.65e6
3.32e6
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
4.82e3
2.41e3

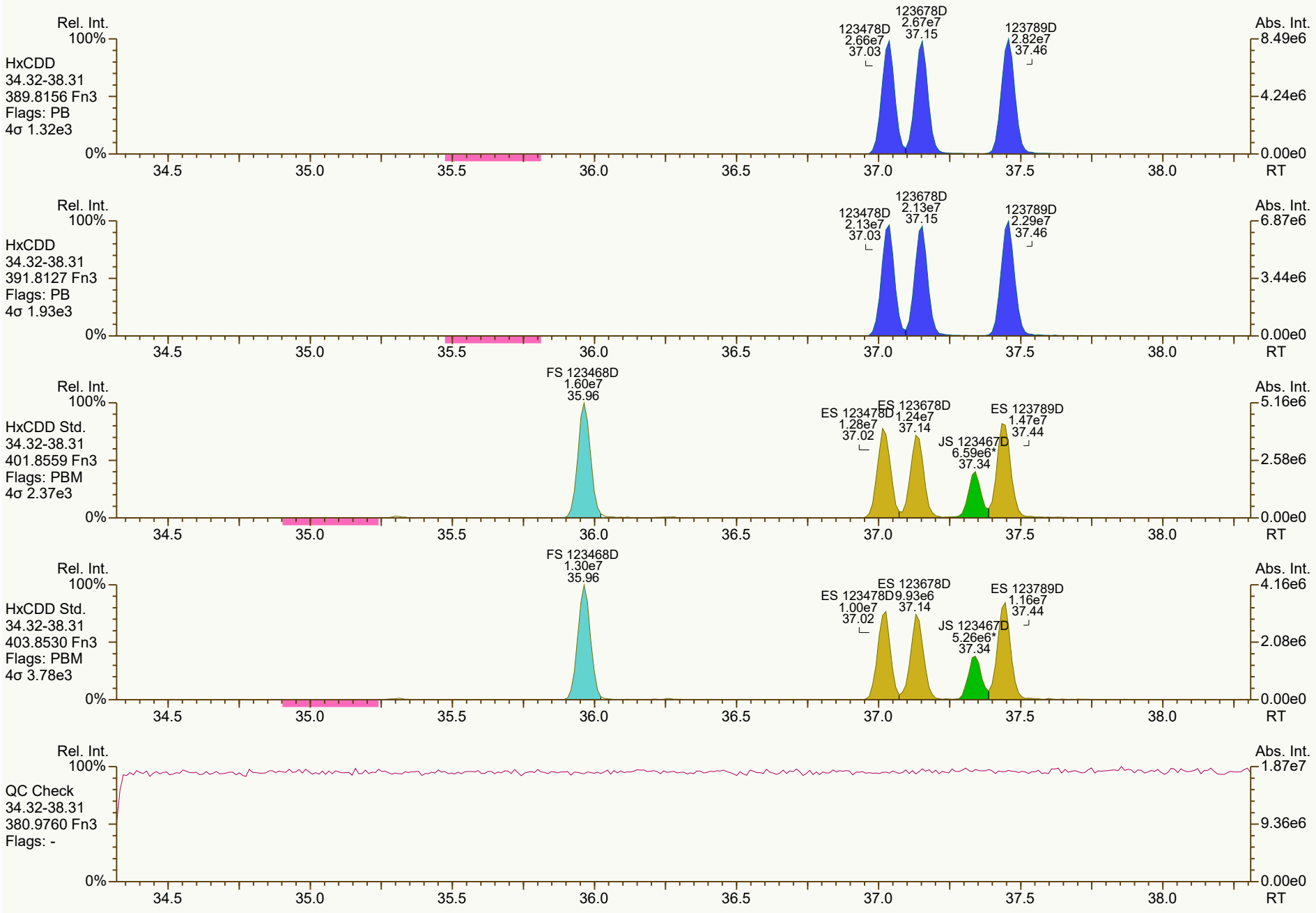
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:07 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS4_211110_DF_CA		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 855-576-PGM	
Sample ID: 25-5-4		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C08	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

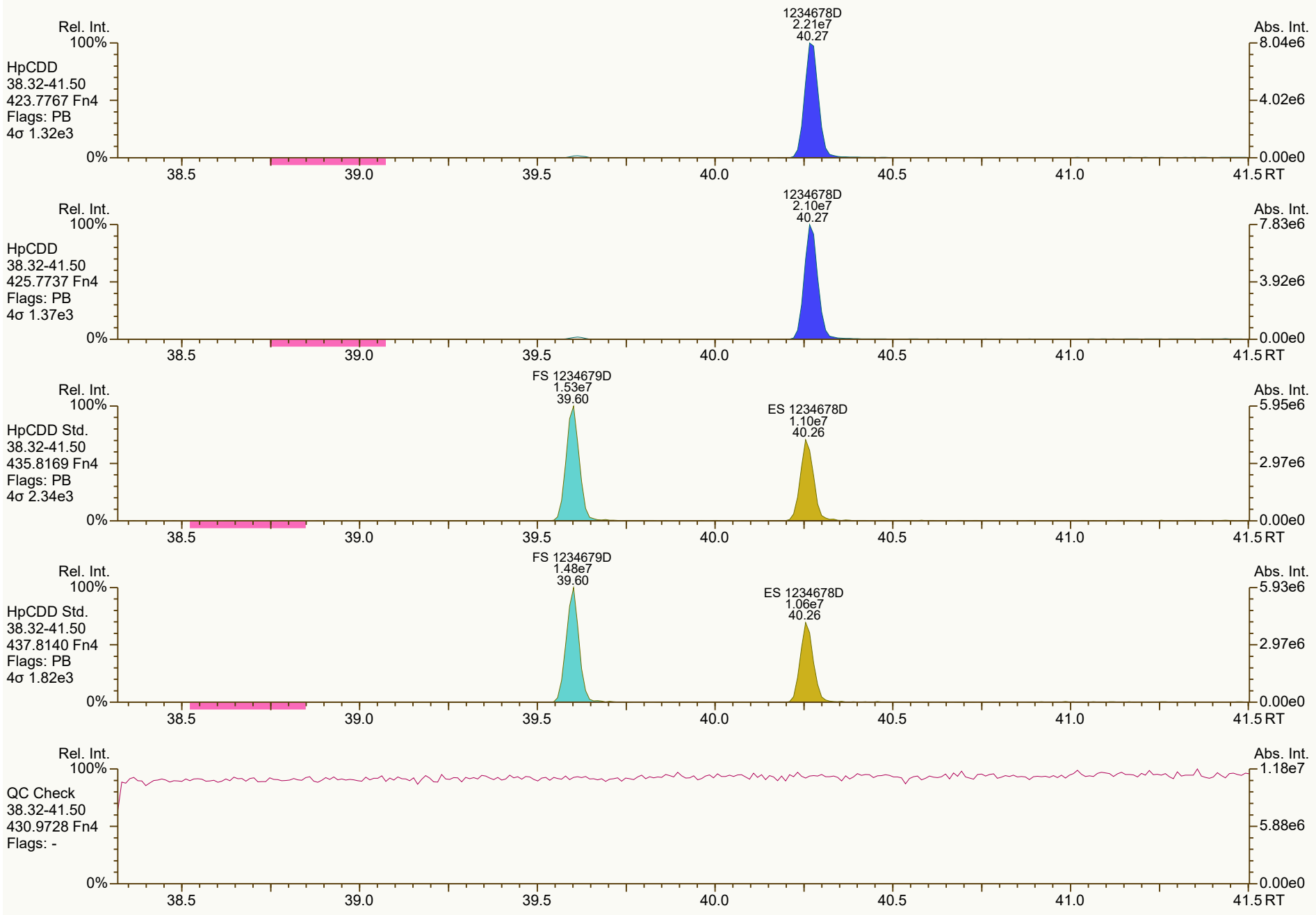
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:07 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS4_211110_DF_CA		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 855-576-PGM	
Sample ID: 25-5-4		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C08	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

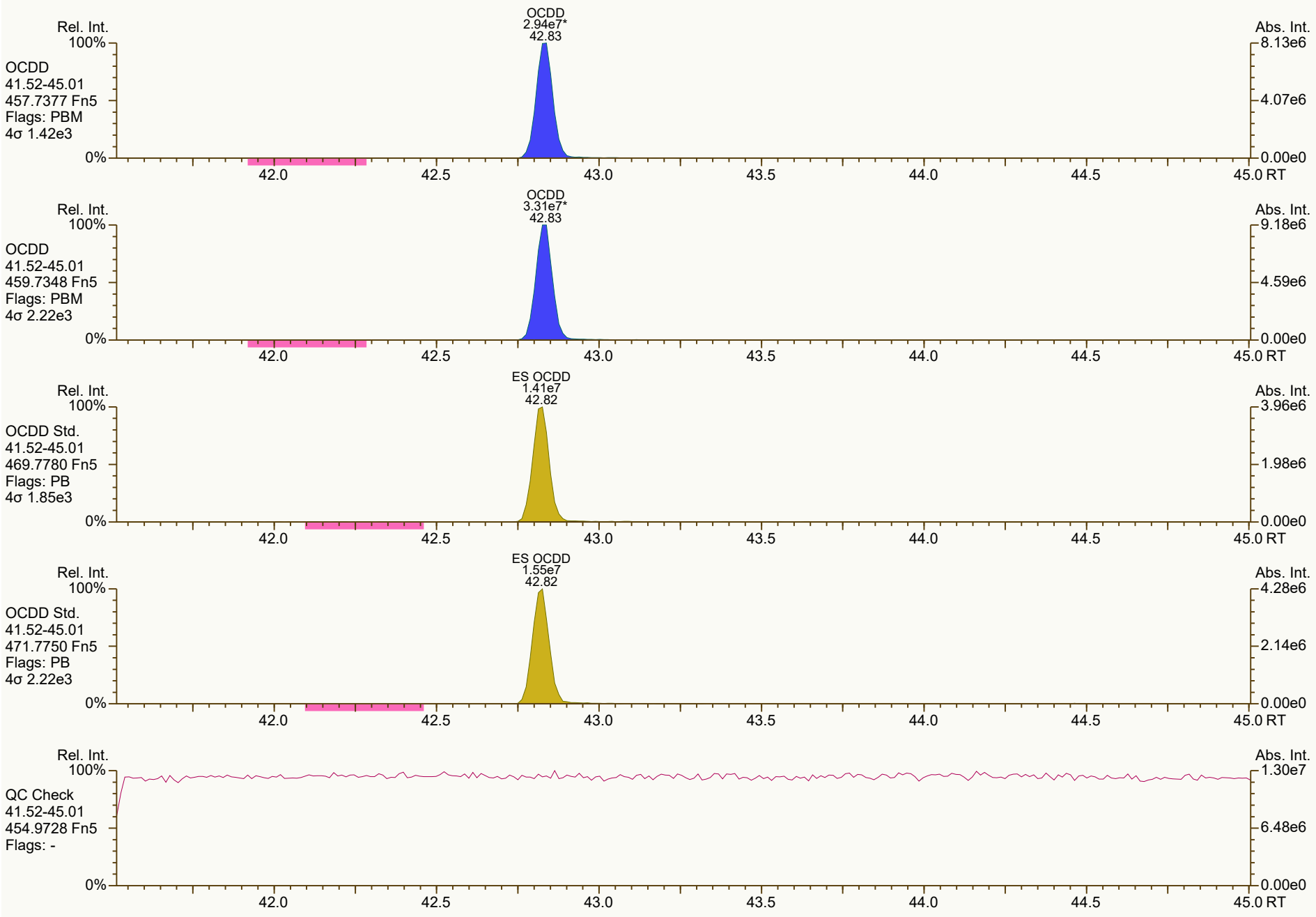

Rel. Int.
100%
0%
Abs. Int.
9.00e6
4.50e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.87e7
9.36e6
0.00e0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.18e7
5.88e6
0.00e0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Rel. Int.
100%
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT


Rel. Int.
100%
0%
Abs. Int.
RT
20.0
22.0
24.0
26.0
28.0
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
2378D
6.61e6
27.58
1.54e6
7.68e5
0.00e0
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
2378D
8.42e6
27.58
1.98e6
9.89e5
0.00e0
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
CS 37Cl-2378D
1.50e7
27.58
3.40e6
1.70e6
0.00e0
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
4.12e6
2.06e6
0.00e0
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
5.37e6
2.68e6
0.00e0


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
12378D
2.13e7
33.10
6.33e6
3.17e6
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
5.25e6
2.63e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
3.35e6
1.68e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
7.11e6
3.55e6

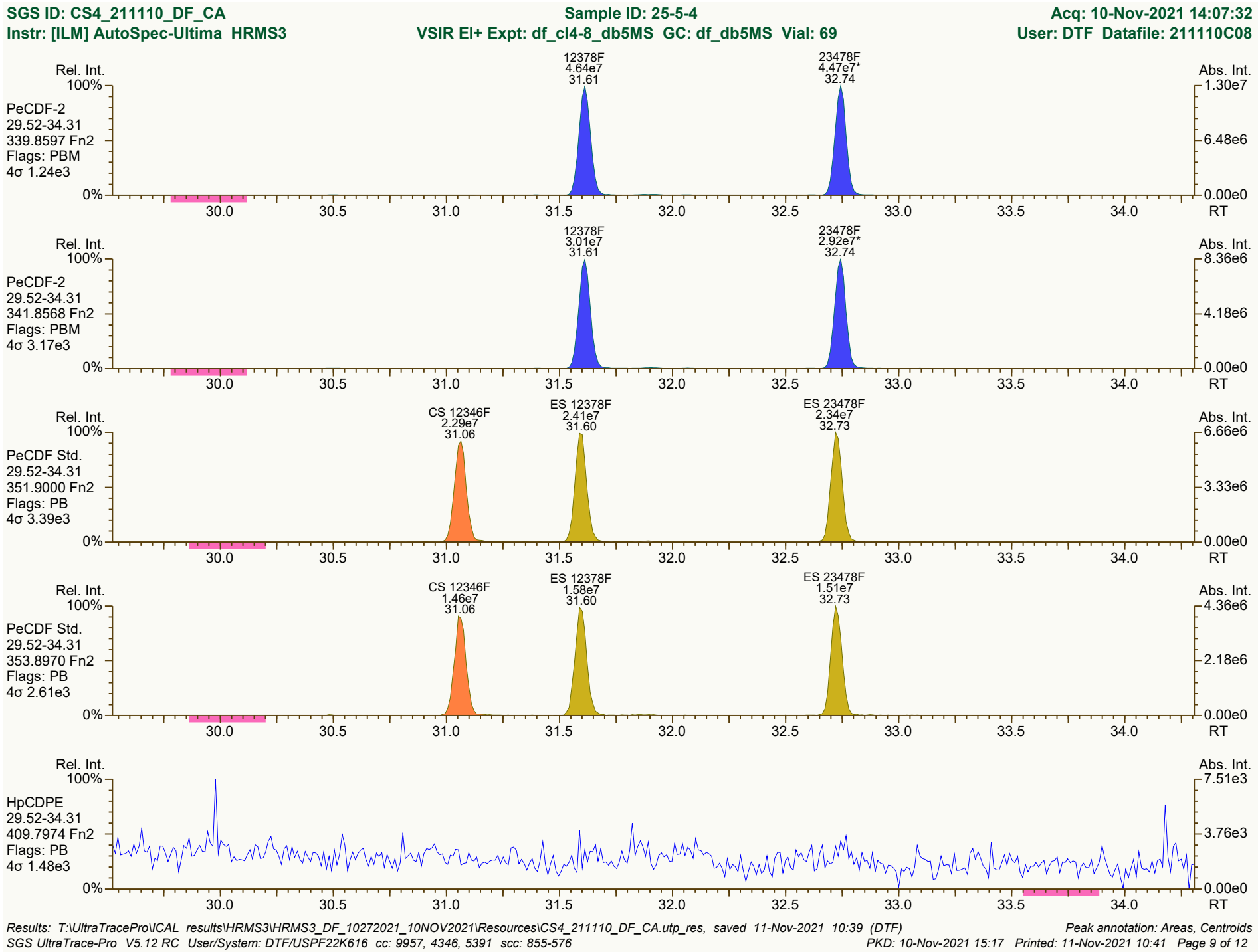

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

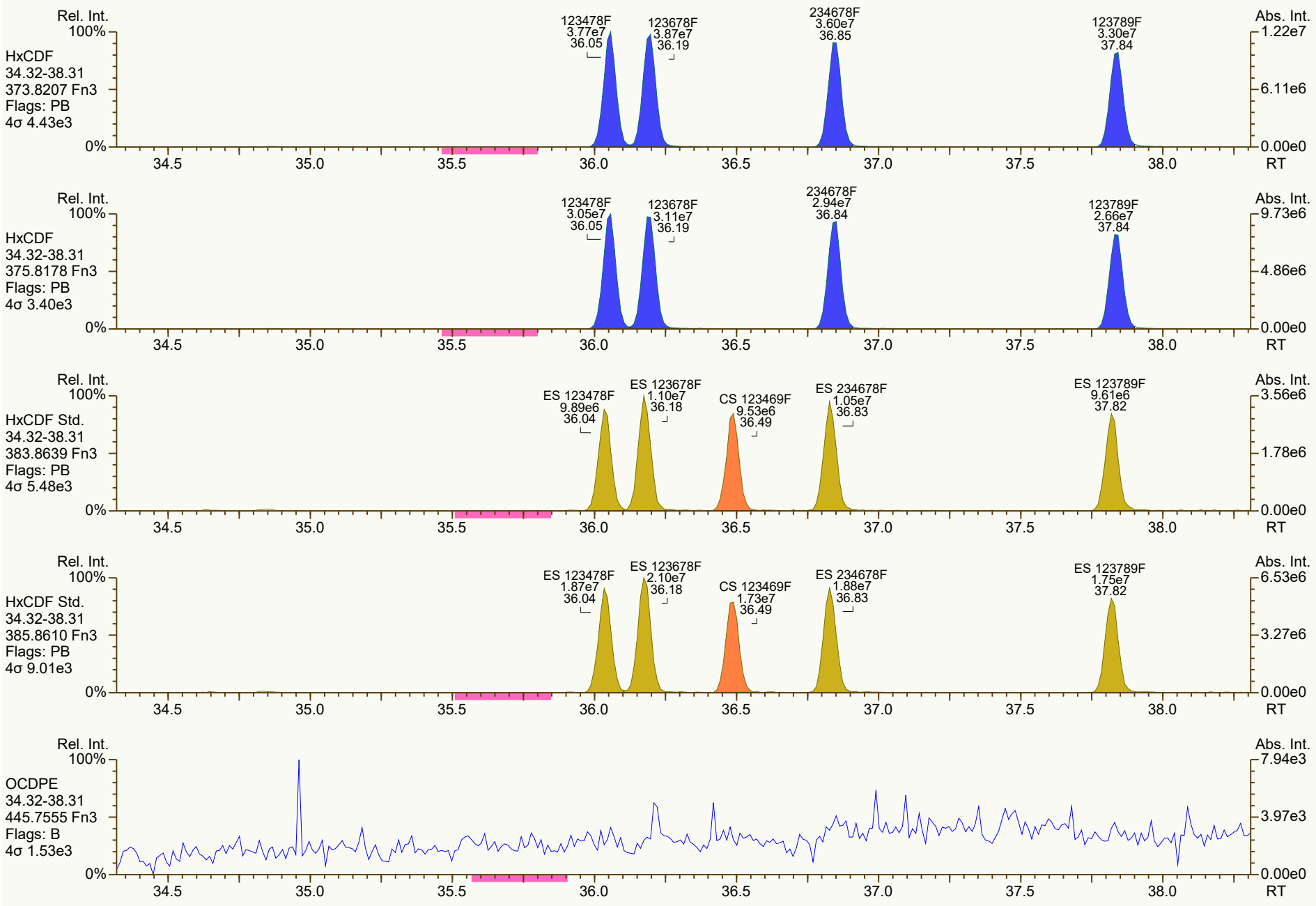

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
0%
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
0%
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
0%
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
0%
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.18e7
5.88e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

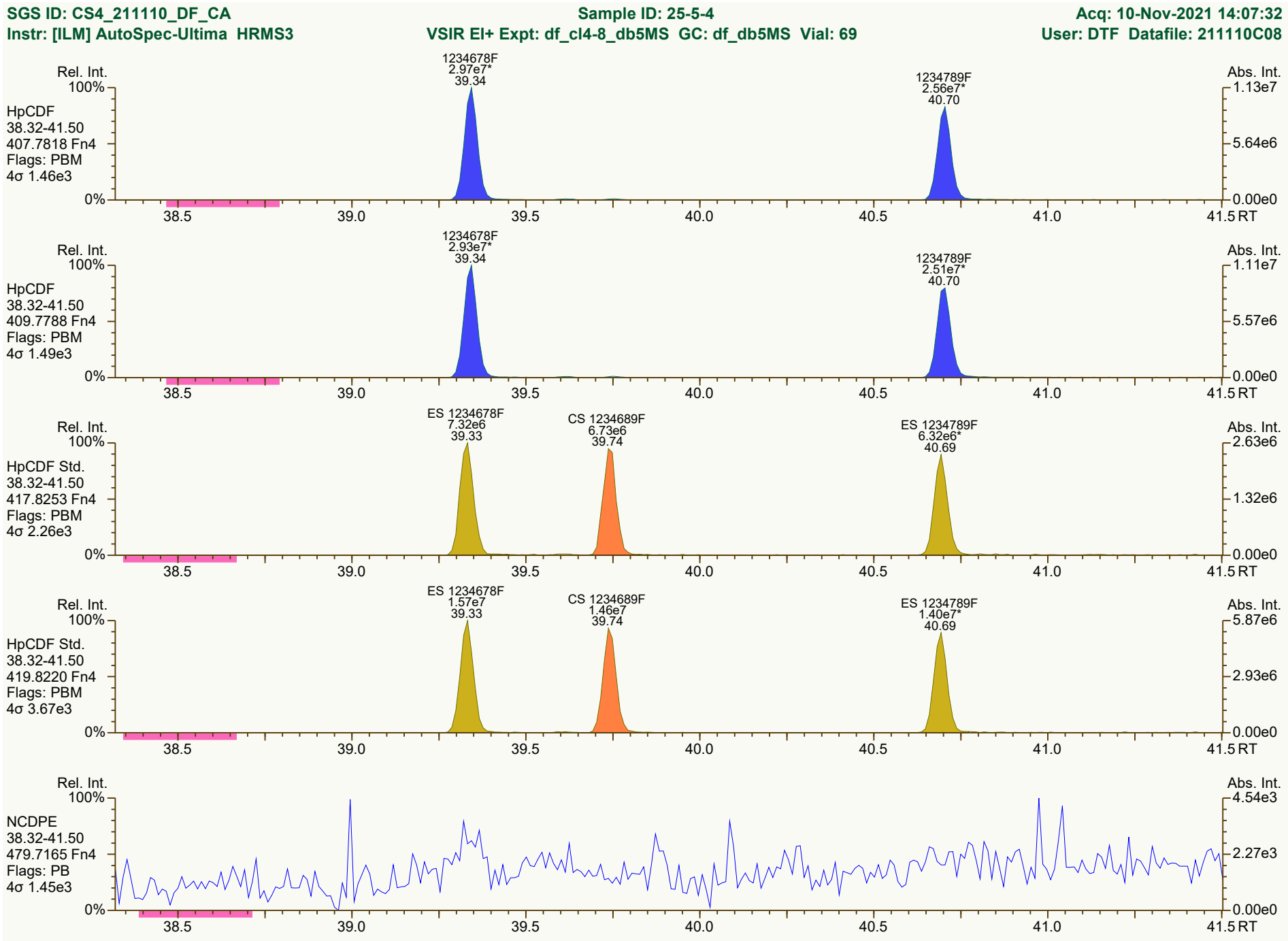

OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

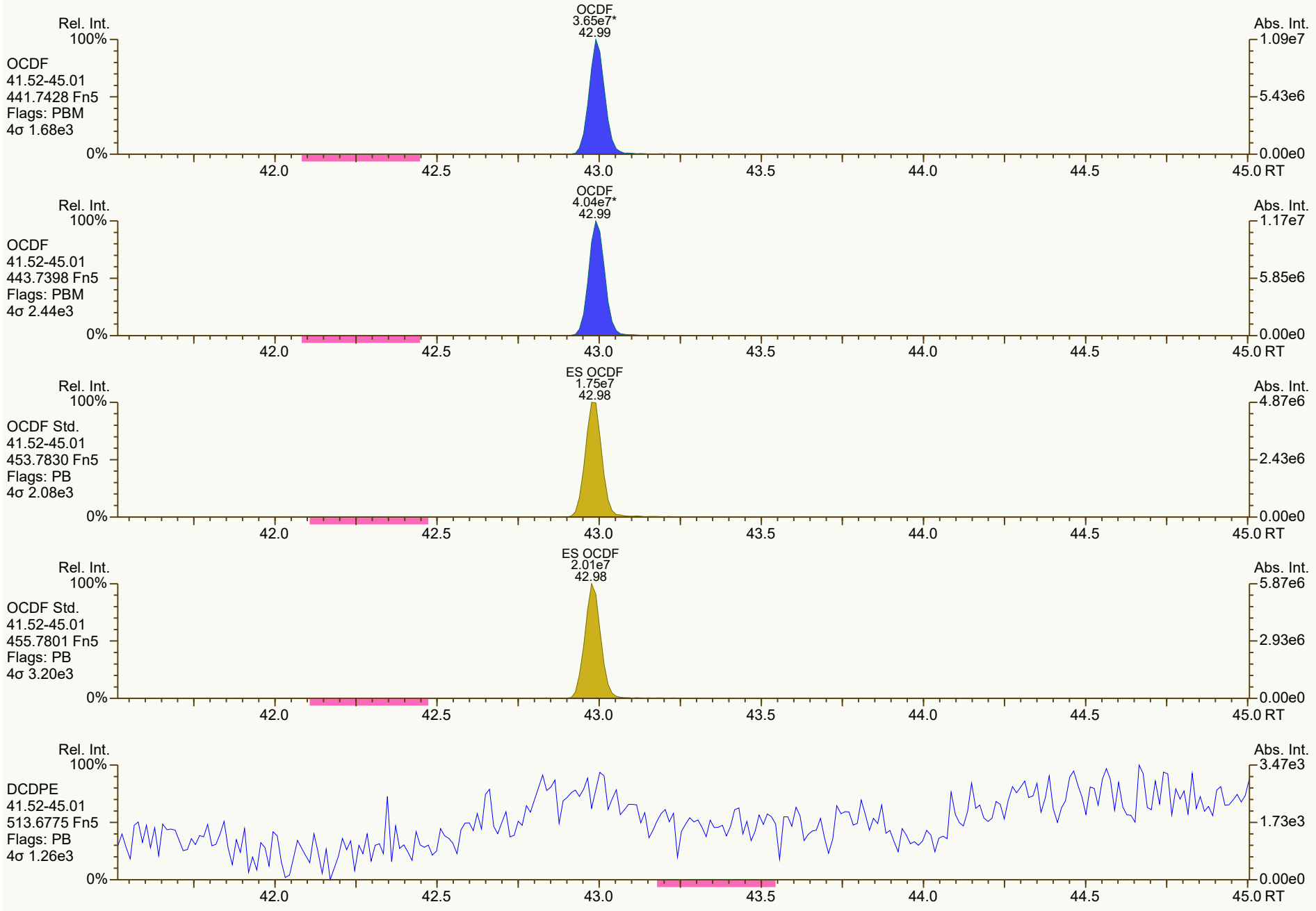

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
2378F
1.07e7
26.67
2.41e6
1.20e6
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
4.47e6
2.23e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
5.68e6
2.84e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
9.44e3
4.72e3


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
8.94e3
4.47e3
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
9.00e6
4.50e6


SGS ID: CS4_211110_DF_CA
Sample ID: 25-5-4
Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 211110C08
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
1.30e7
6.48e6
0.00e0
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
8.36e6
4.18e6
0.00e0
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
6.66e6
3.33e6
0.00e0
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
4.36e6
2.18e6
0.00e0
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
7.51e3
3.76e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9957, 4346, 5391 scc: 855-576
PKD: 10-Nov-2021 15:17 Printed: 11-Nov-2021 10:41 Page 9 of 12


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3


SGS ID: CS4_211110_DF_CA
Sample ID: 25-5-4
Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 211110C08
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
1.13e7
5.64e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
1.11e7
5.57e6
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
2.63e6
1.32e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
5.87e6
2.93e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
4.54e3
2.27e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 2764, 9565, 4492 scc: 855-576
Revised: 10-Nov-2021 15:17 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

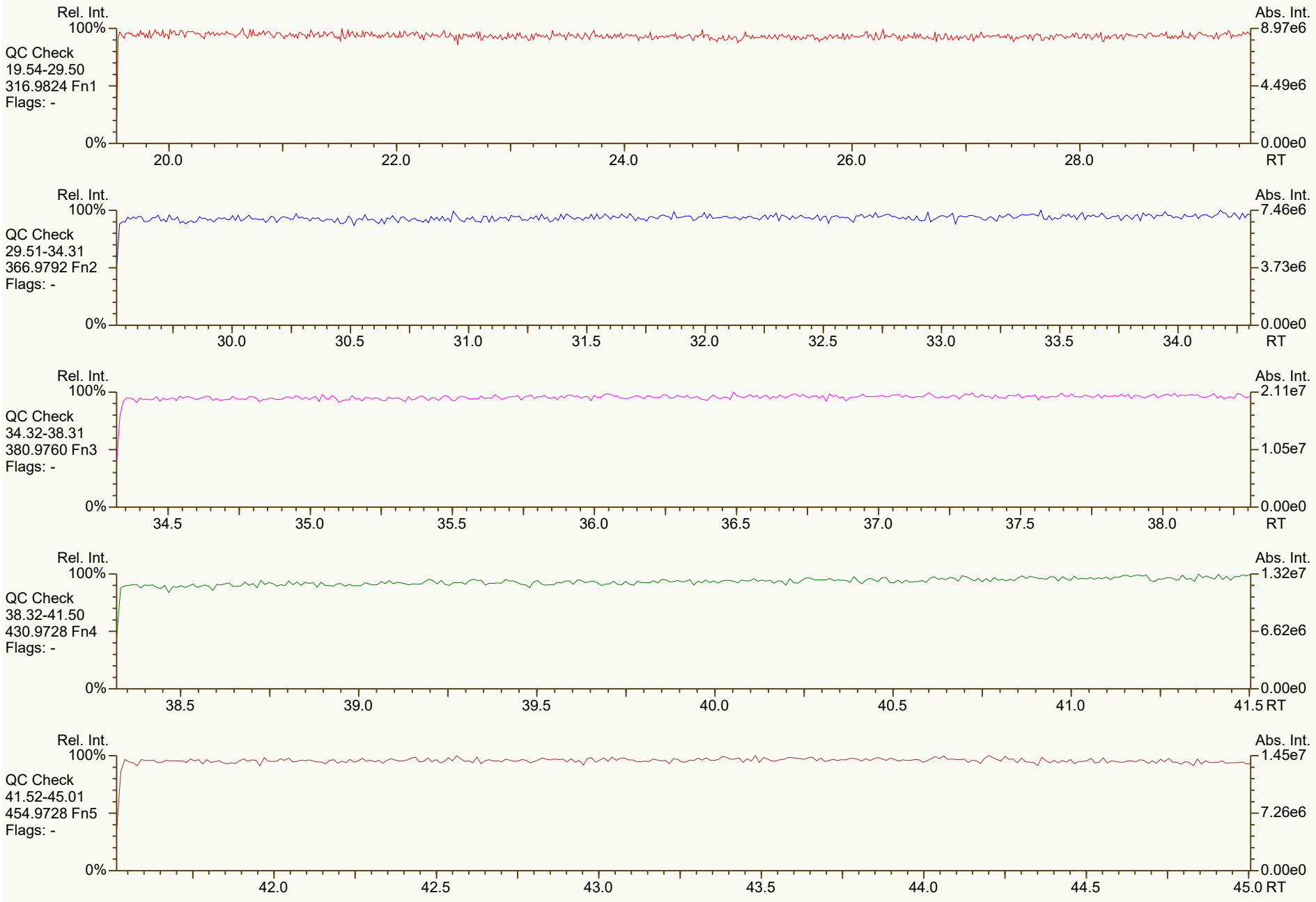

OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

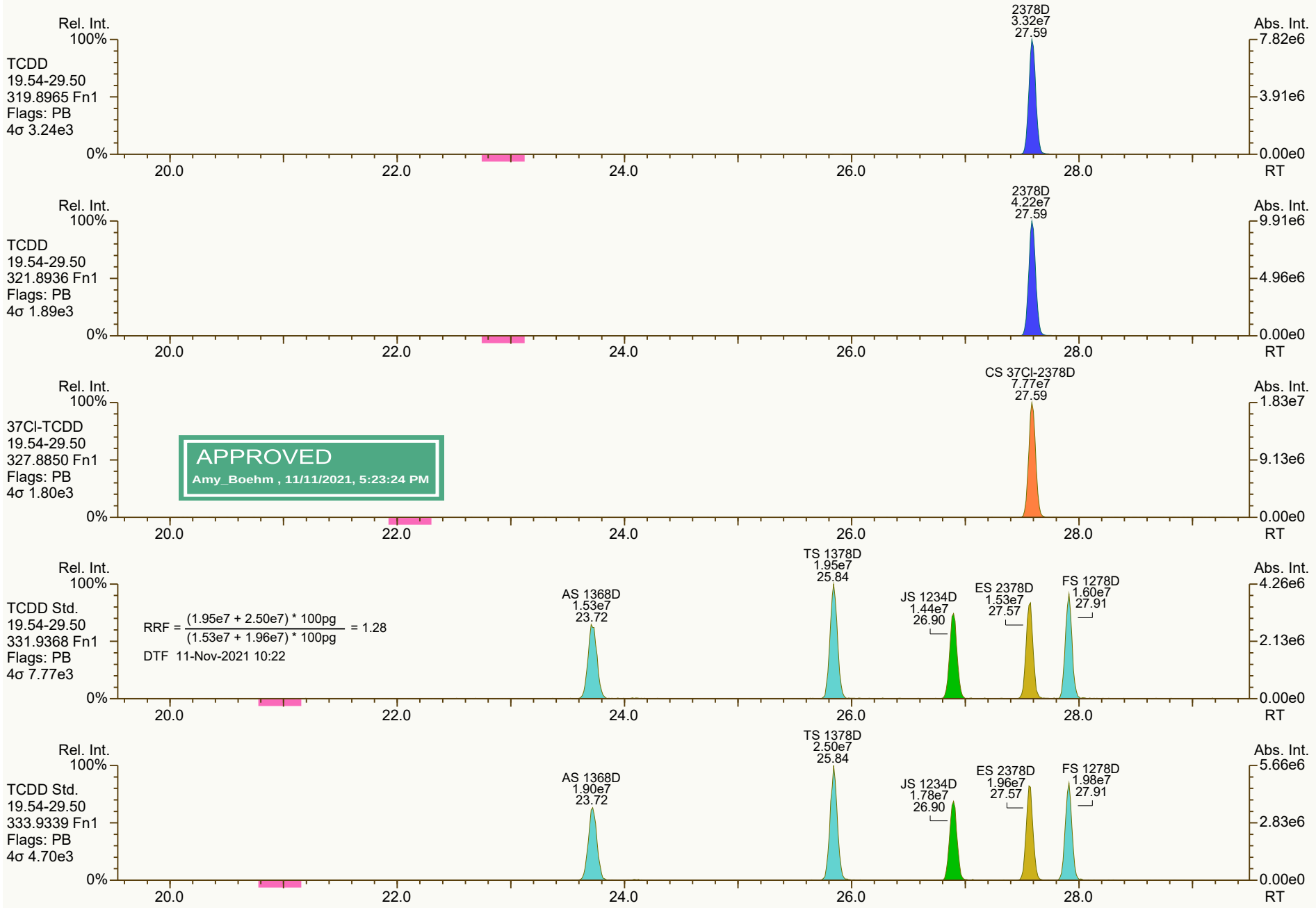
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

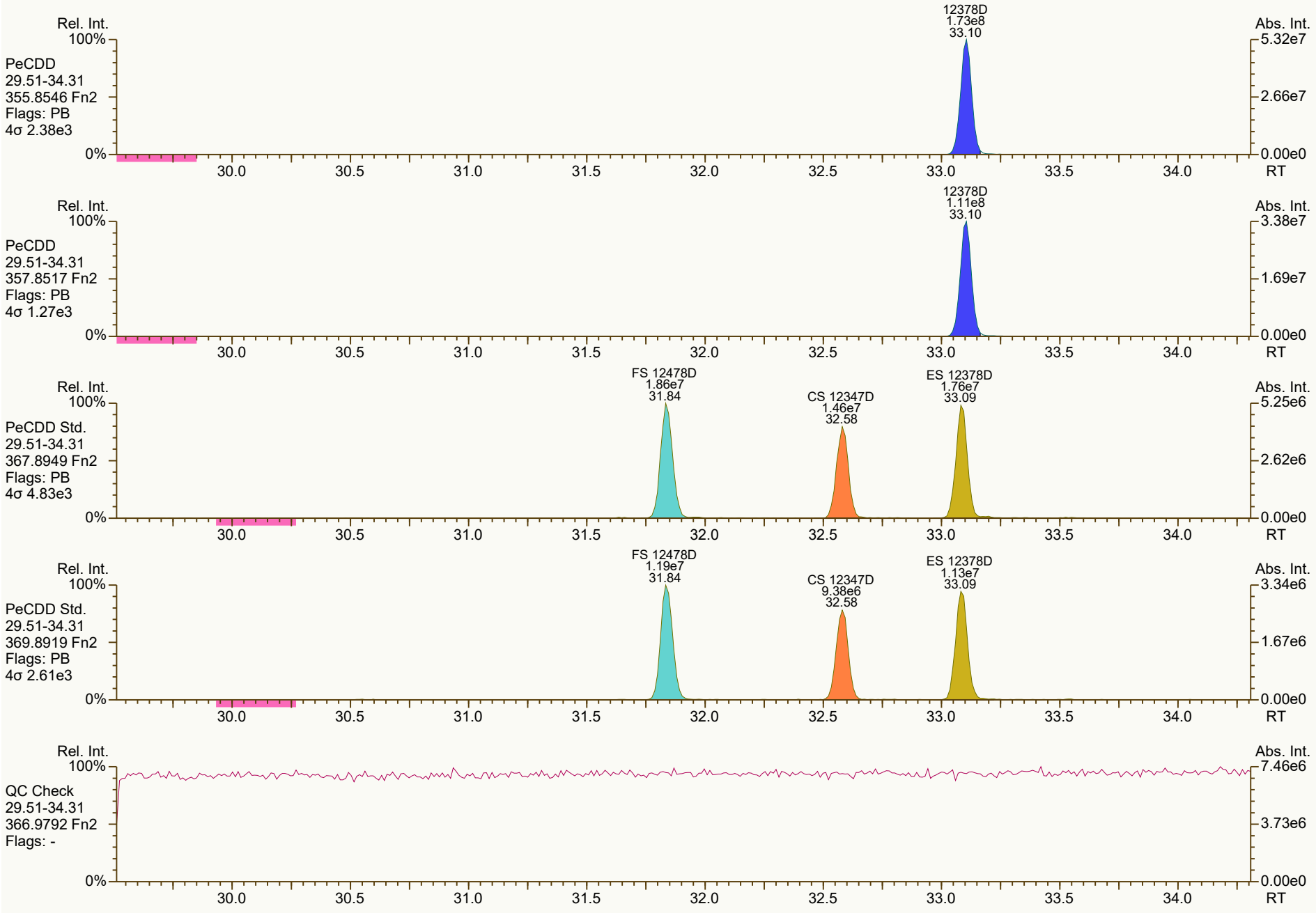
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

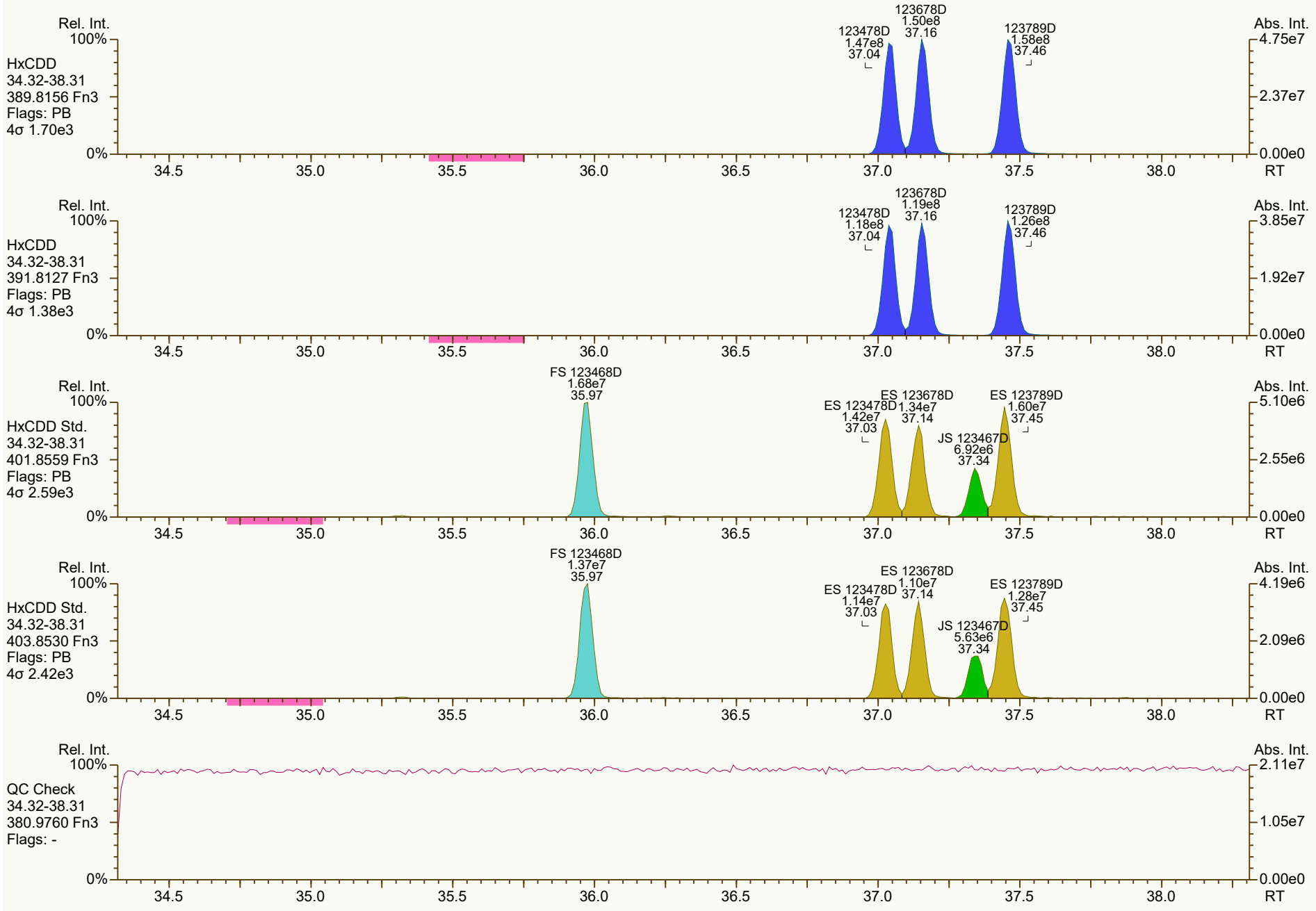
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

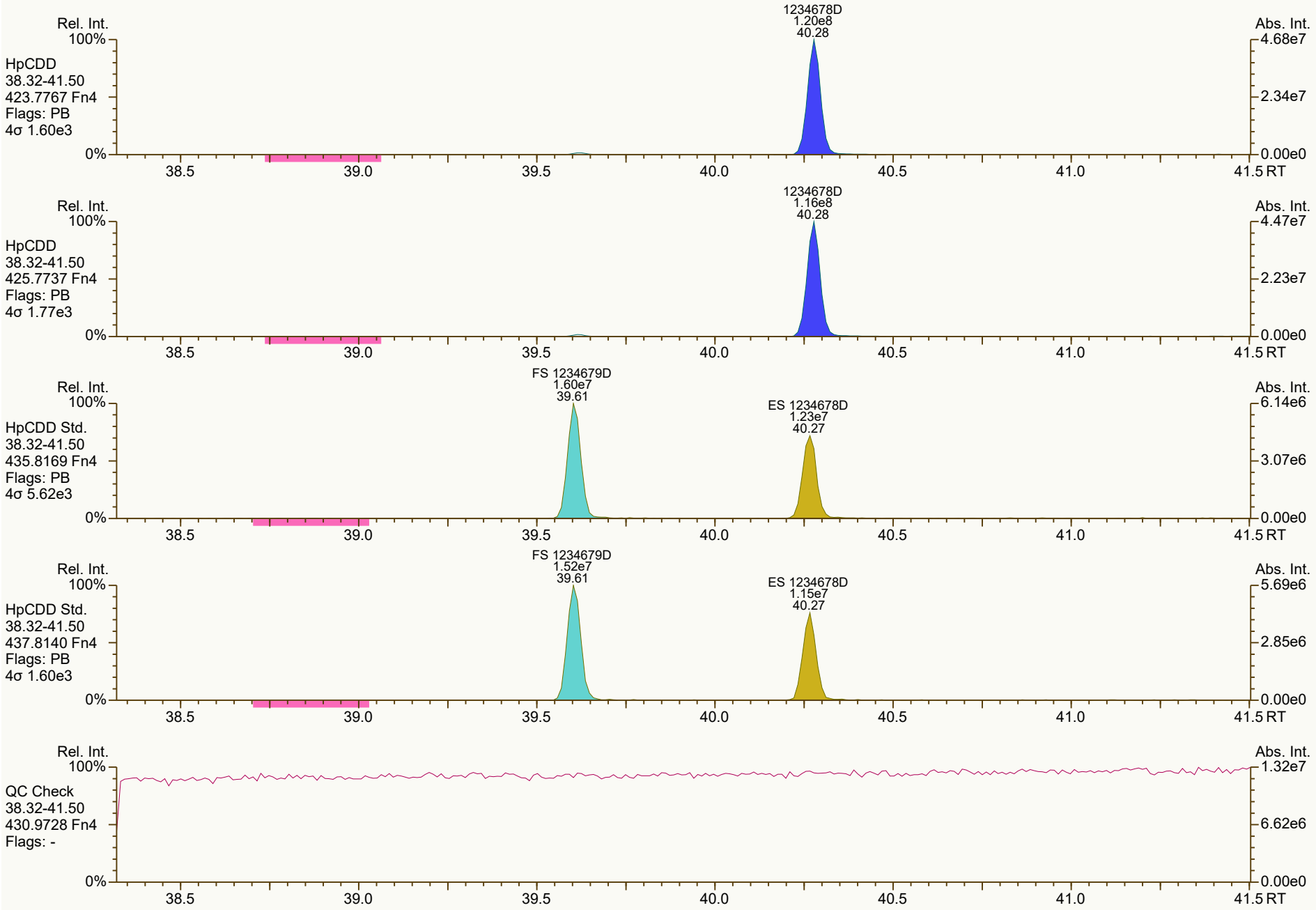
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

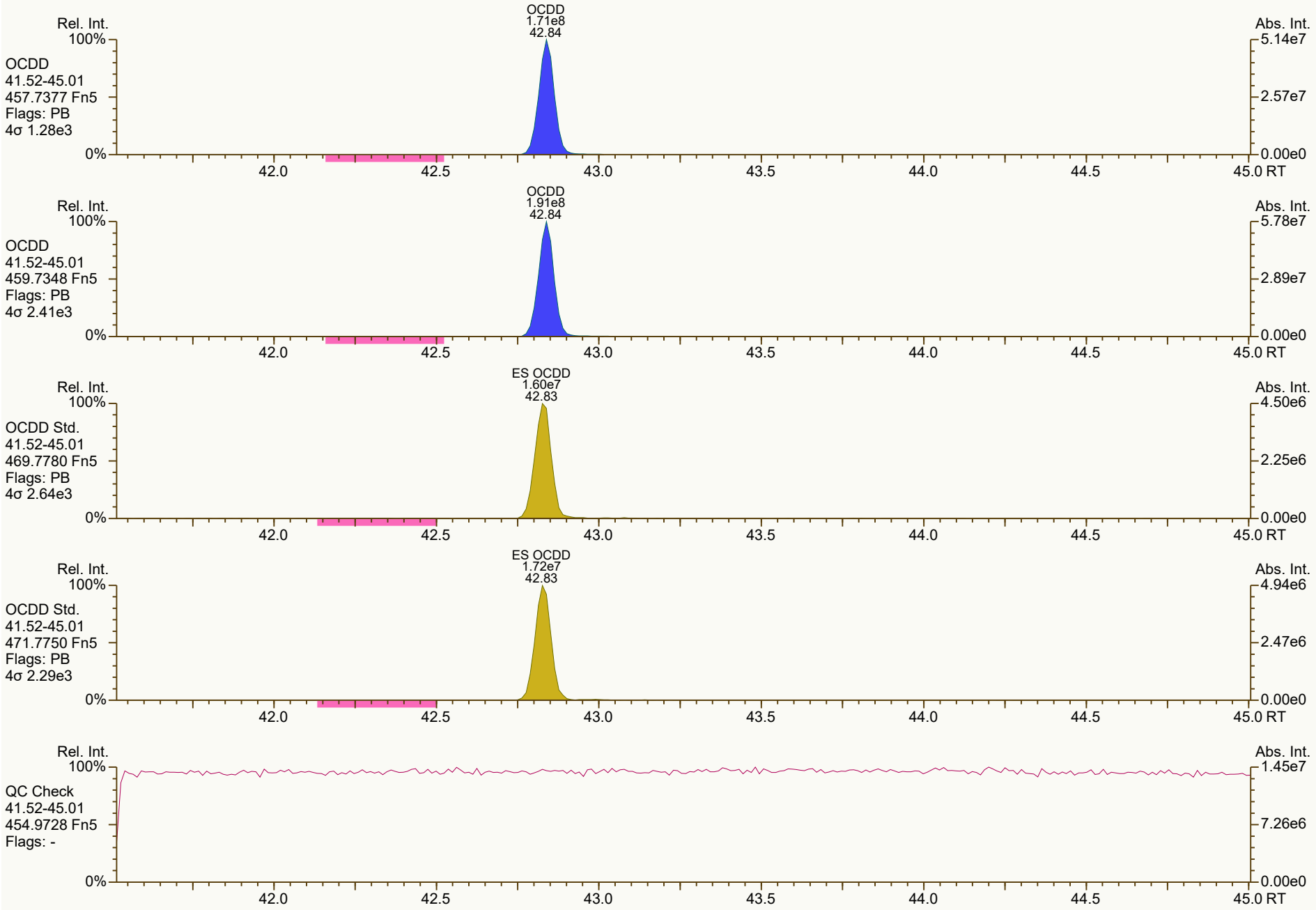

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.97e6
4.49e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.46e6
3.73e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.11e7
1.05e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.32e7
6.62e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.45e7
7.26e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
2378D
4.22e7
27.59
9.91e6
4.96e6
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
1.83e7
9.13e6
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
4.26e6
2.13e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
5.66e6
2.83e6


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
0%
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
0%
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
0%
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
0%
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

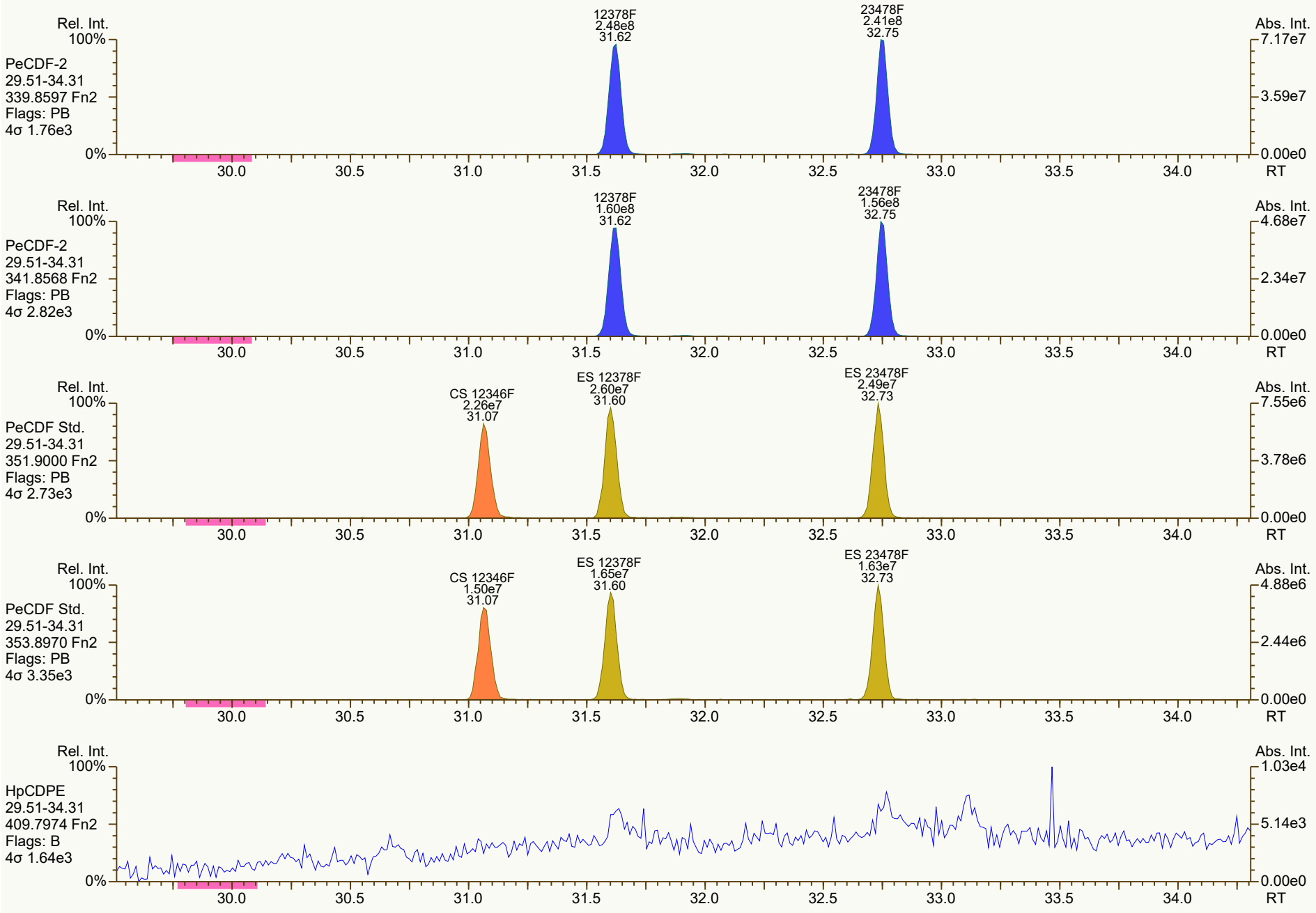

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

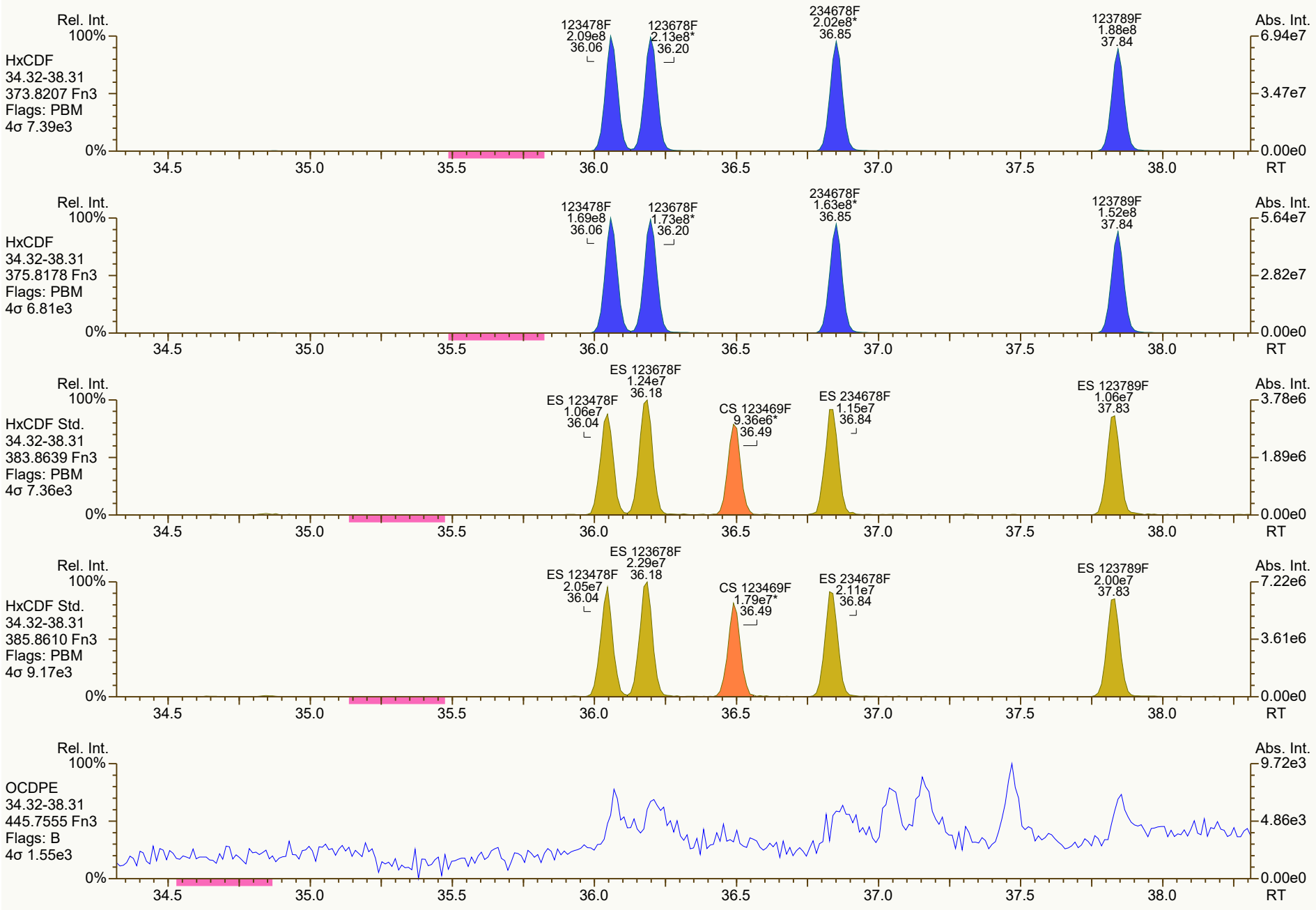

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

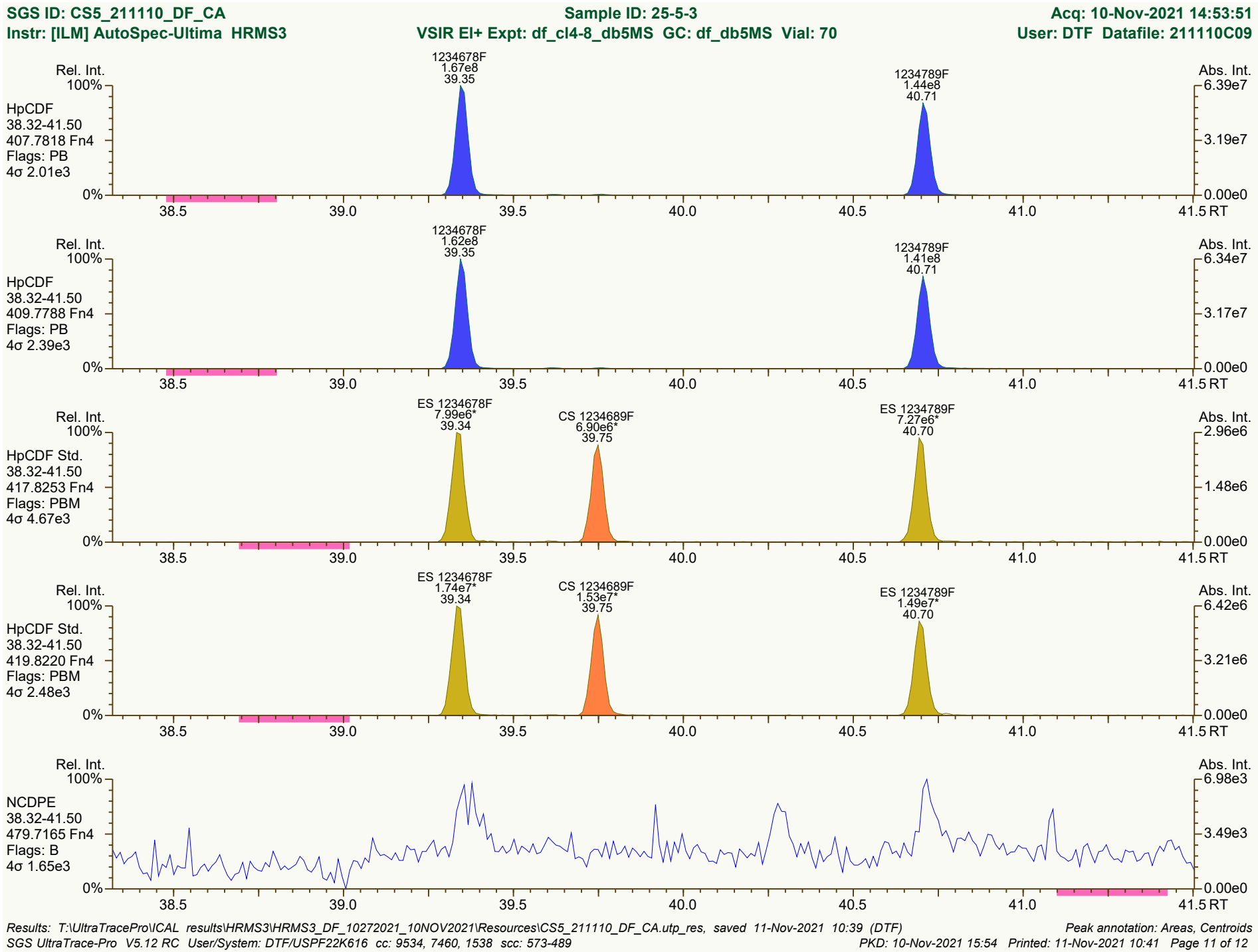

OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6

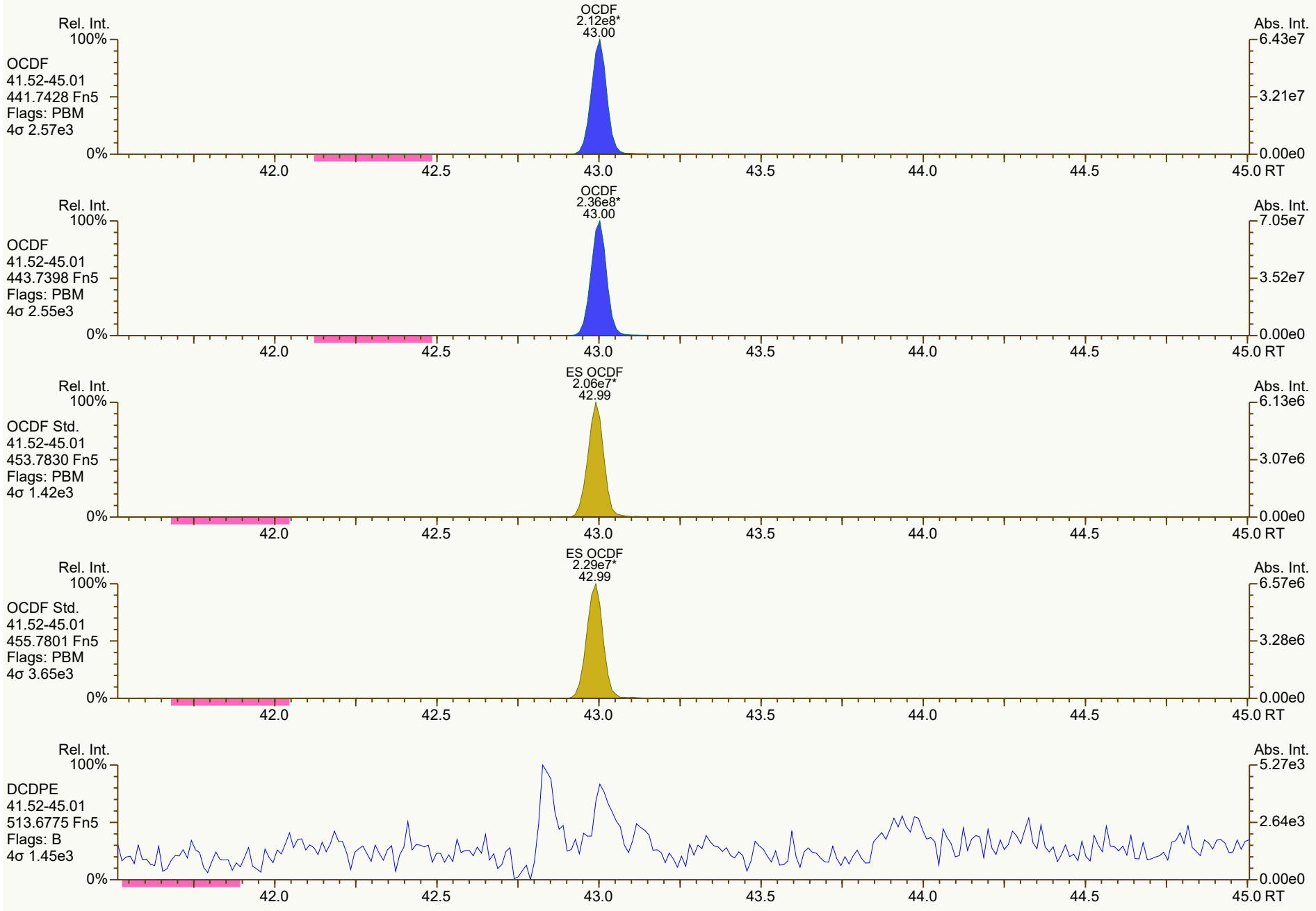

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
0%
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
0%
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
0%
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
0%
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.03e4
5.14e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
123478F
2.09e8
36.06
123678F
2.13e8*
36.20
234678F
2.02e8*
36.85
123789F
1.88e8
37.84
Abs. Int.
6.94e7
3.47e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
123478F
1.69e8
36.06
123678F
1.73e8*
36.20
234678F
1.63e8*
36.85
123789F
1.52e8
37.84
Abs. Int.
5.64e7
2.82e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
ES 123678F
1.24e7
36.18
ES 123478F
1.06e7
36.04
CS 123469F
9.36e6*
36.49
ES 234678F
1.15e7
36.84
ES 123789F
1.06e7
37.83
Abs. Int.
3.78e6
1.89e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
ES 123678F
2.29e7
36.18
ES 123478F
2.05e7
36.04
CS 123469F
1.79e7*
36.49
ES 234678F
2.11e7
36.84
ES 123789F
2.00e7
37.83
Abs. Int.
7.22e6
3.61e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
Abs. Int.
9.72e3
4.86e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: CS5_211110_DF_CA
Sample ID: 25-5-3
Acq: 10-Nov-2021 14:53:51
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 211110C09
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9534, 7460, 1538 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 11 of 12

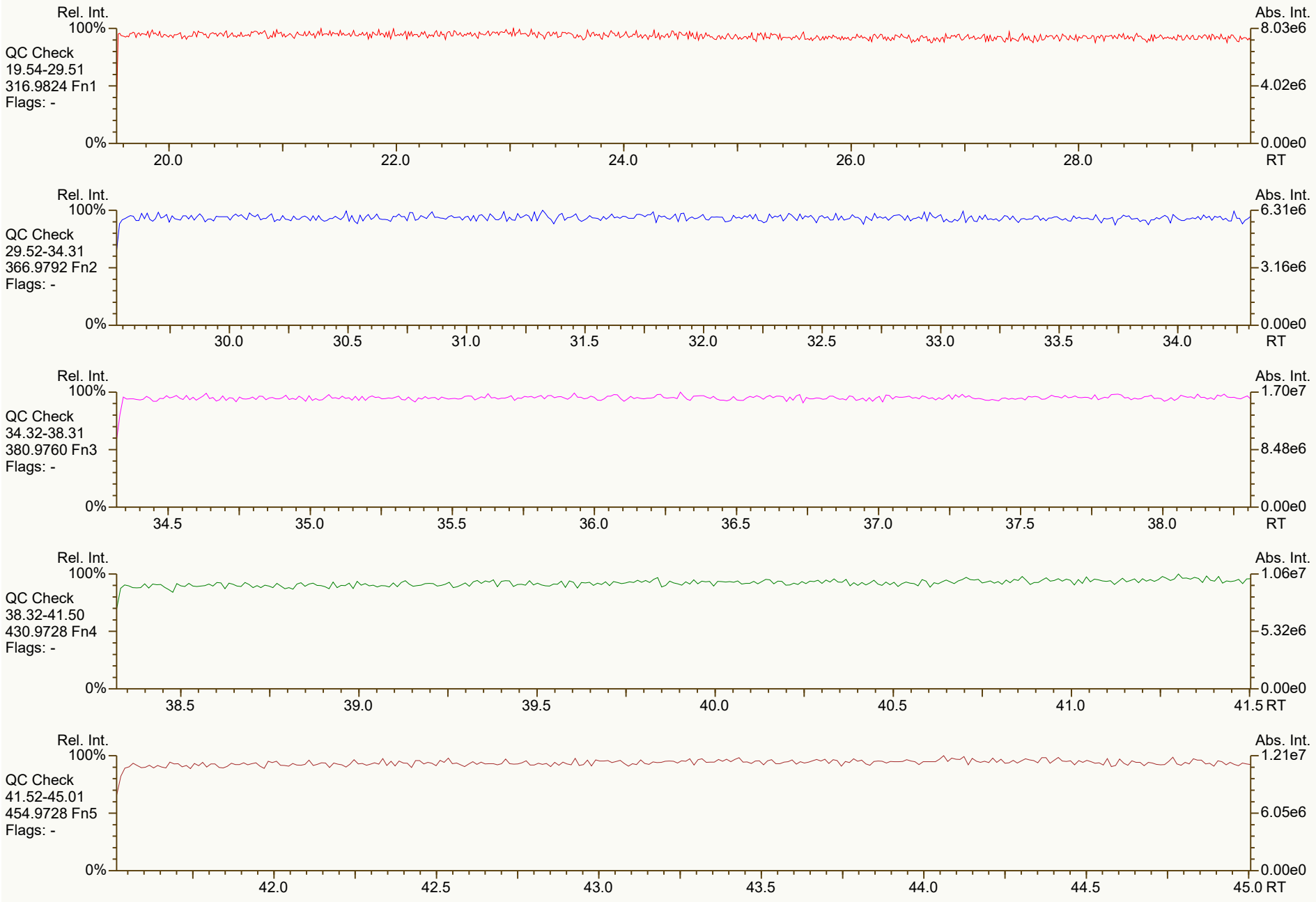

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

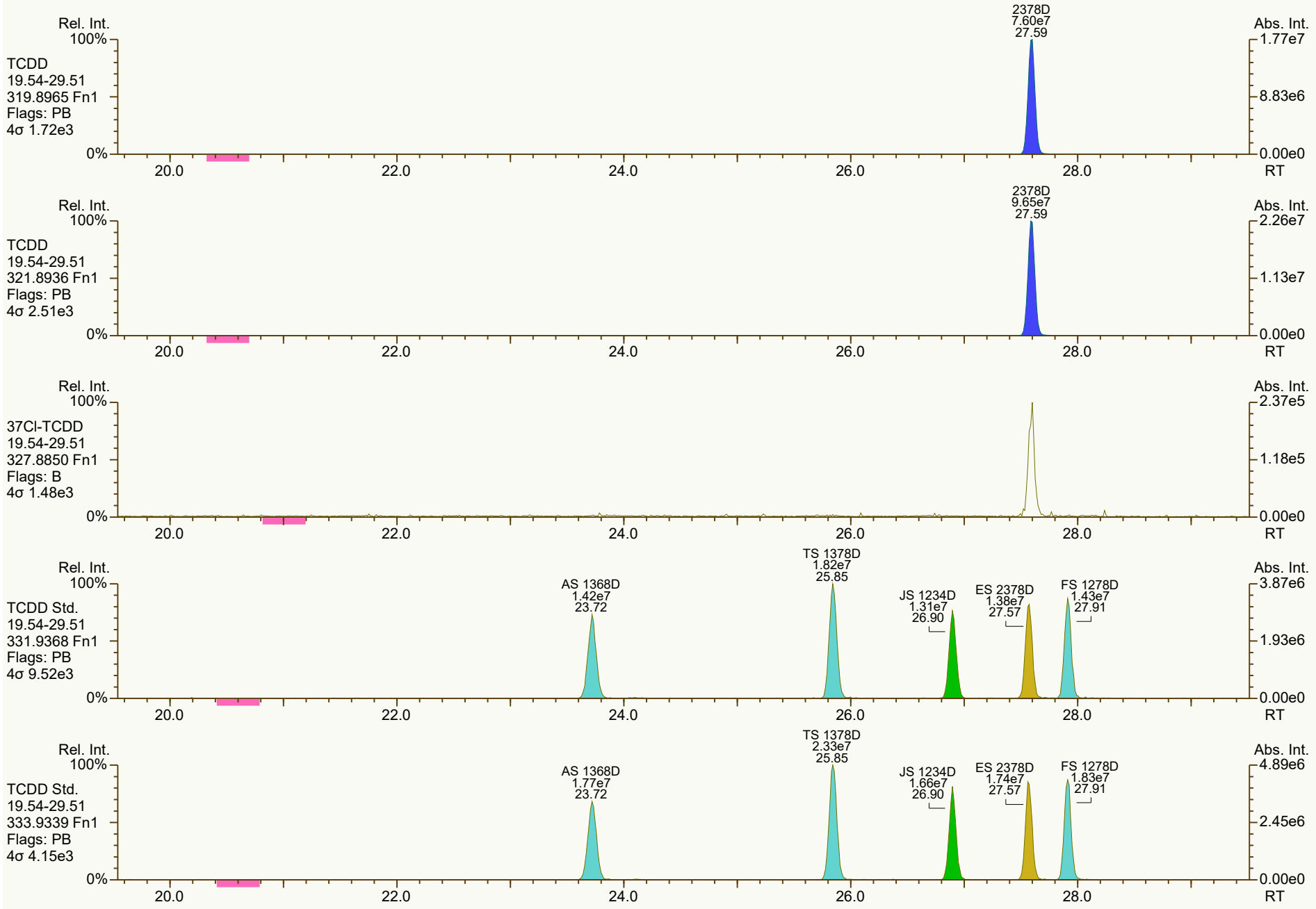
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

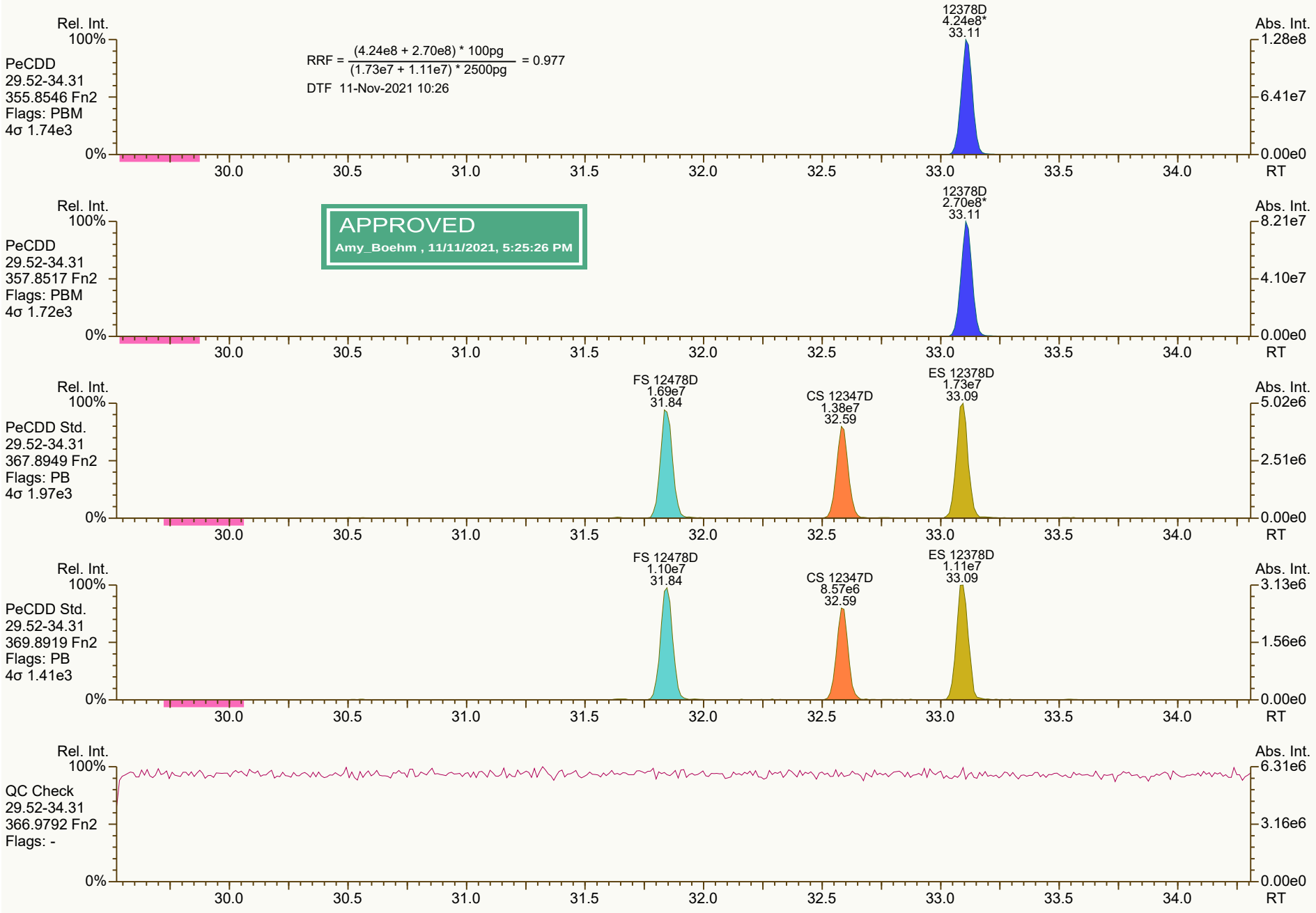
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

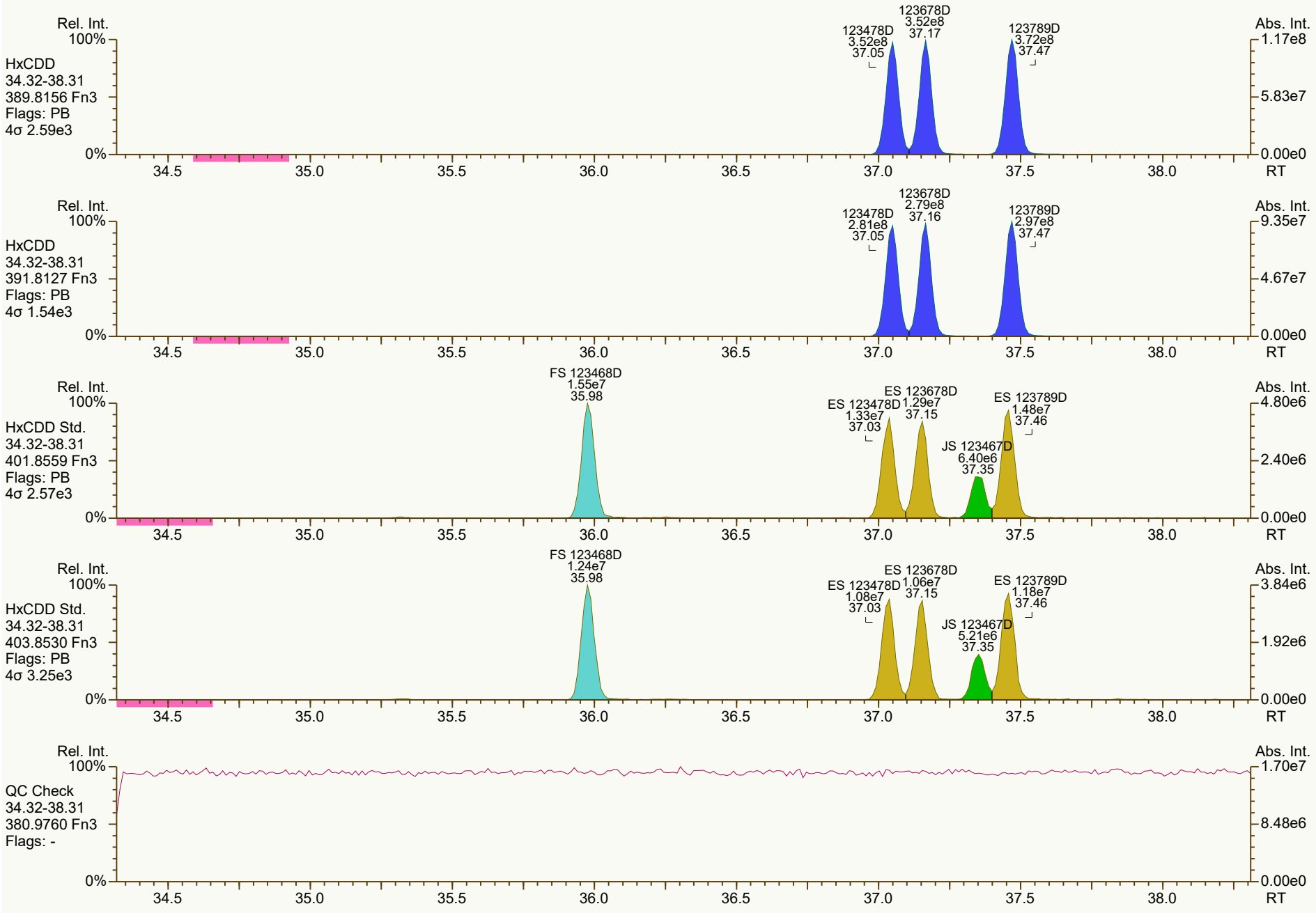
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

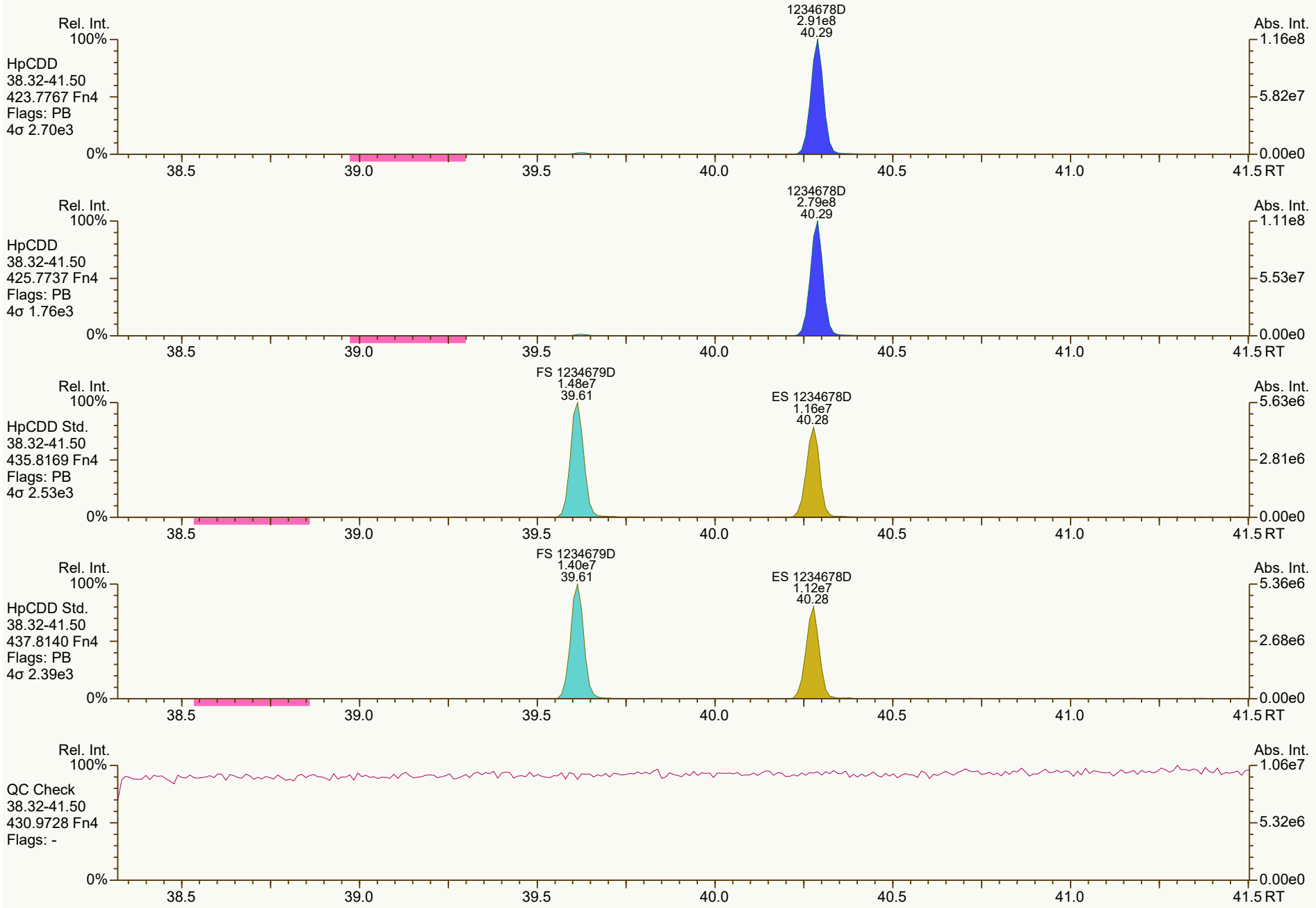
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

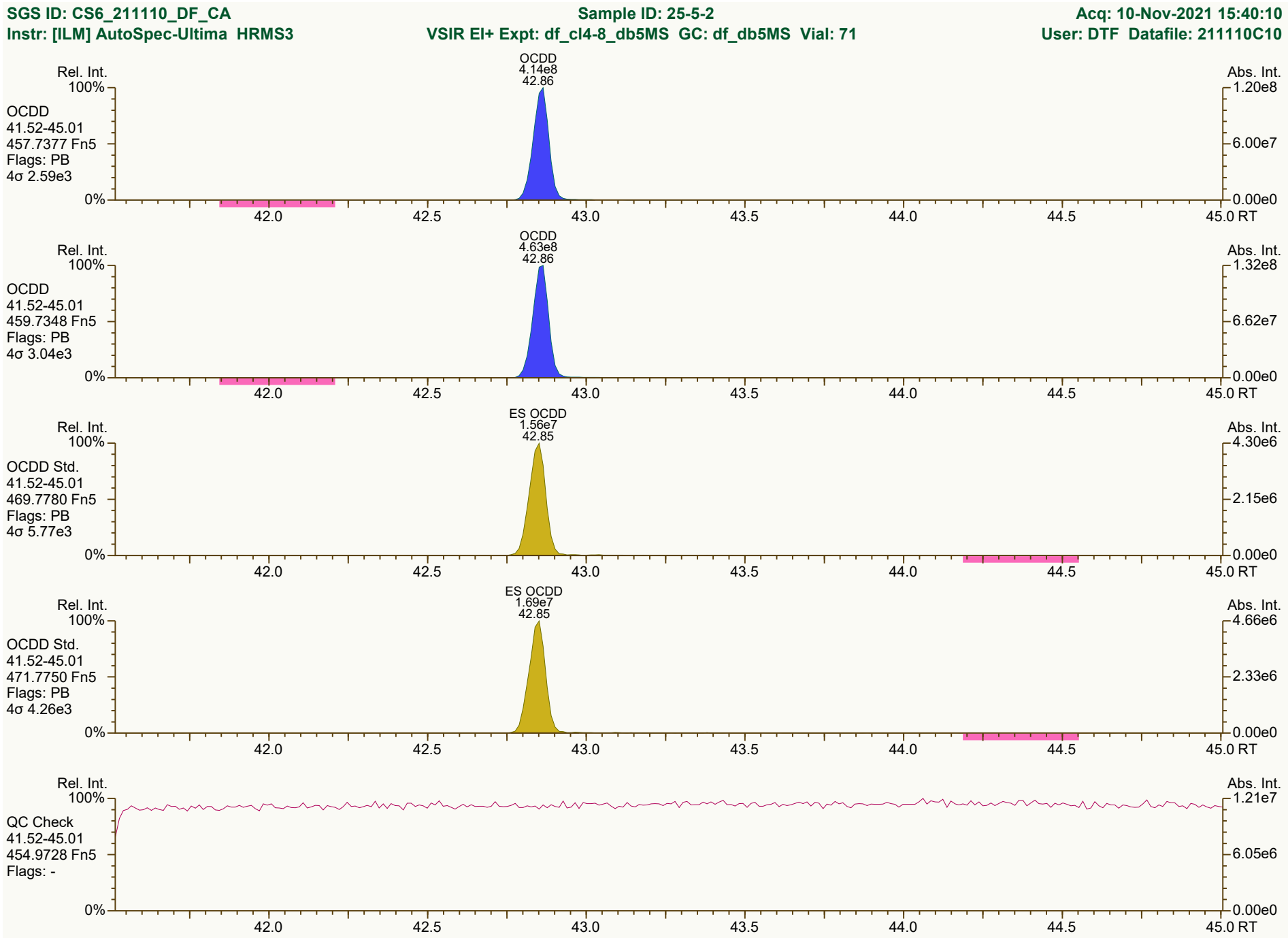

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
0%
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
0%
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
6.31e6
3.16e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

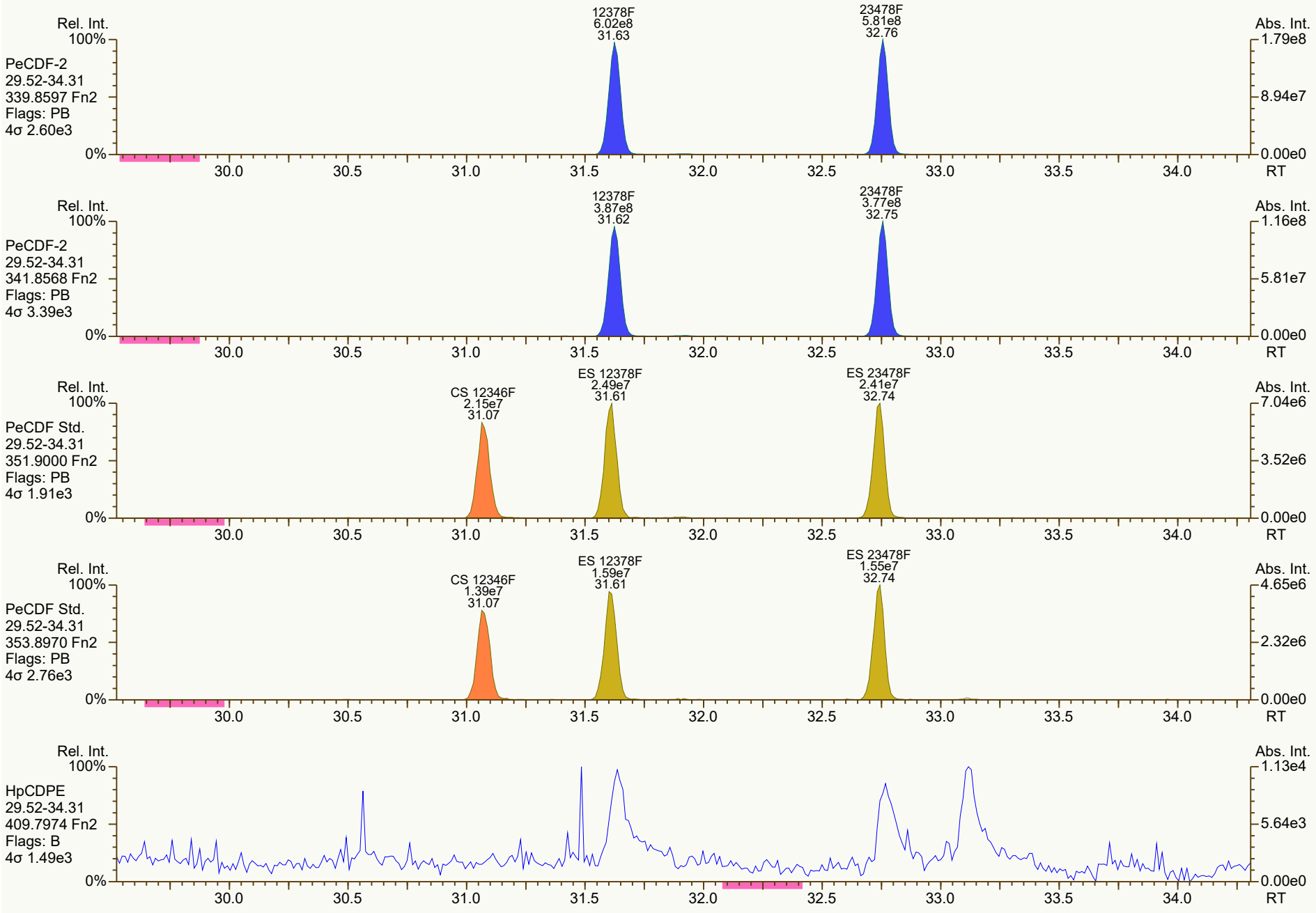

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
0%
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
0%
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
0%
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
0%
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.70e7
8.48e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

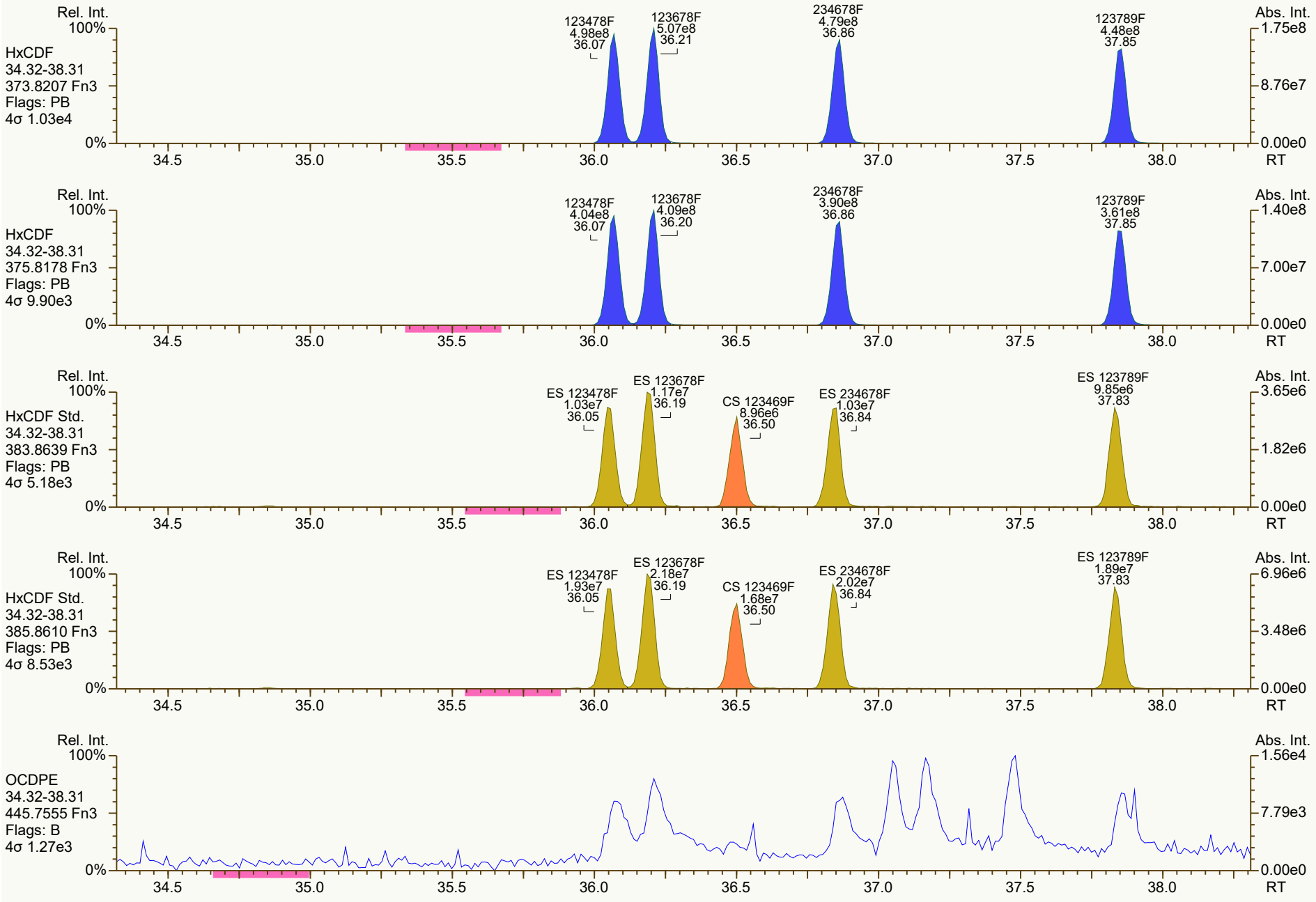

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

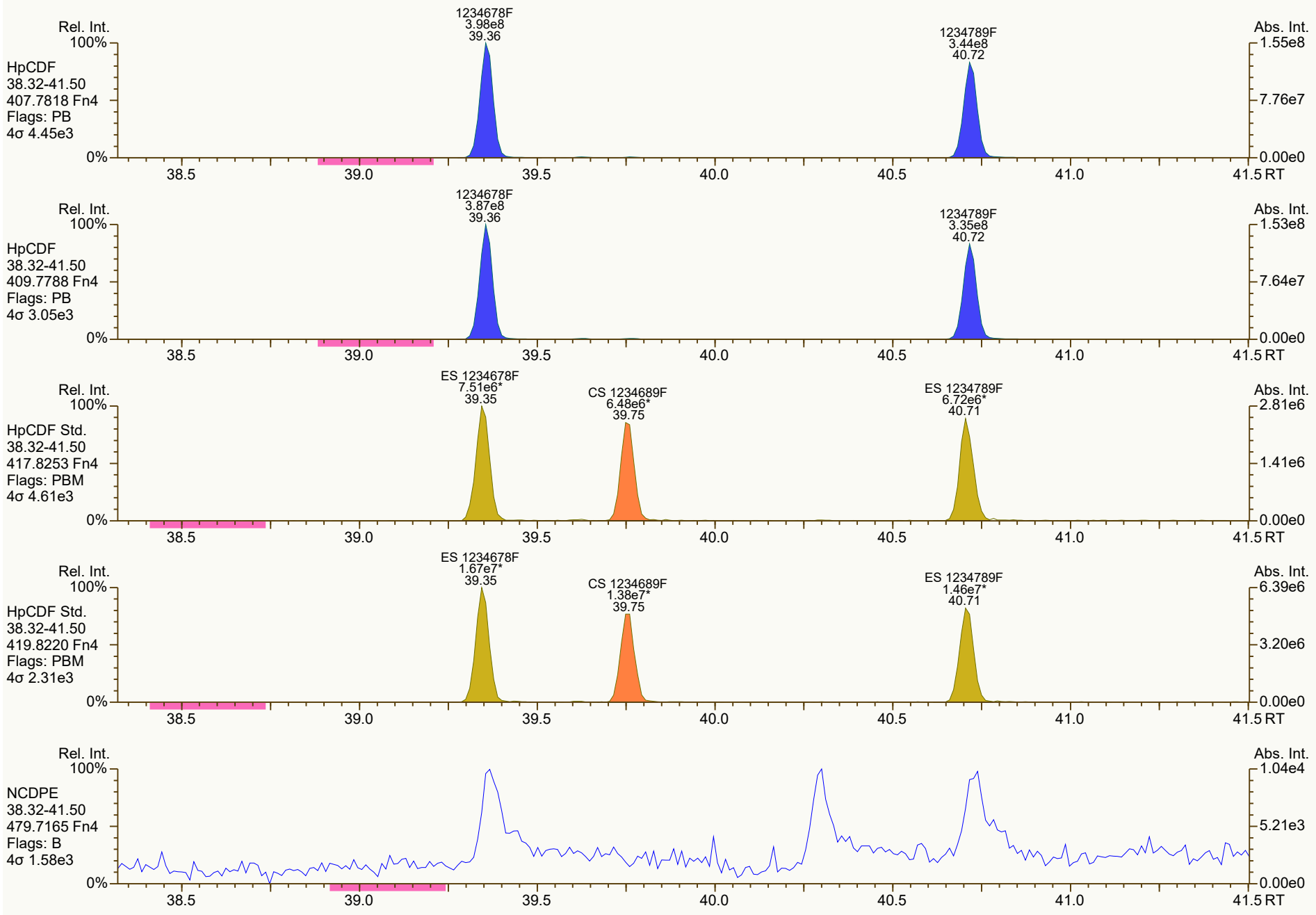

SGS ID: CS6_211110_DF_CA
Sample ID: 25-5-2
Acq: 10-Nov-2021 15:40:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 211110C10
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
OCDD
4.14e8
42.86
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
OCDD
4.63e8
42.86
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
ES OCDD
1.56e7
42.85
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
ES OCDD
1.69e7
42.85
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
Rel. Int.
100%
0%
Abs. Int.
1.20e8
6.00e7
0.00e0
1.32e8
6.62e7
4.30e6
2.15e6
4.66e6
2.33e6
1.21e7
6.05e6
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS6_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6614, 8805 scc: 172-736
PKD: 10-Nov-2021 16:46 Printed: 11-Nov-2021 10:41 Page 6 of 12

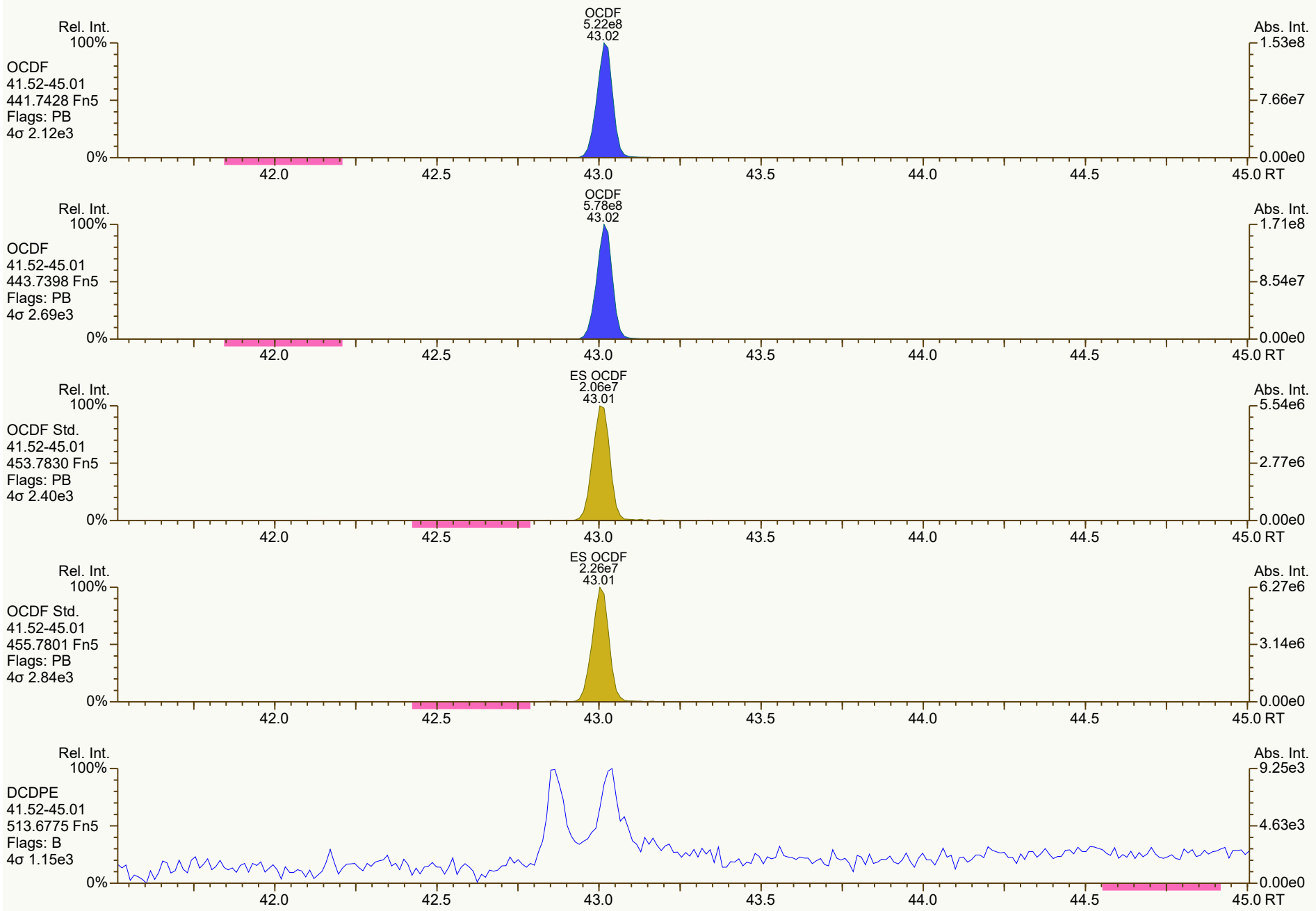

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
2378F
1.26e8
26.68
2.85e7
1.42e7
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
4.38e6
2.19e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
5.43e6
2.72e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
6.34e3
3.17e3

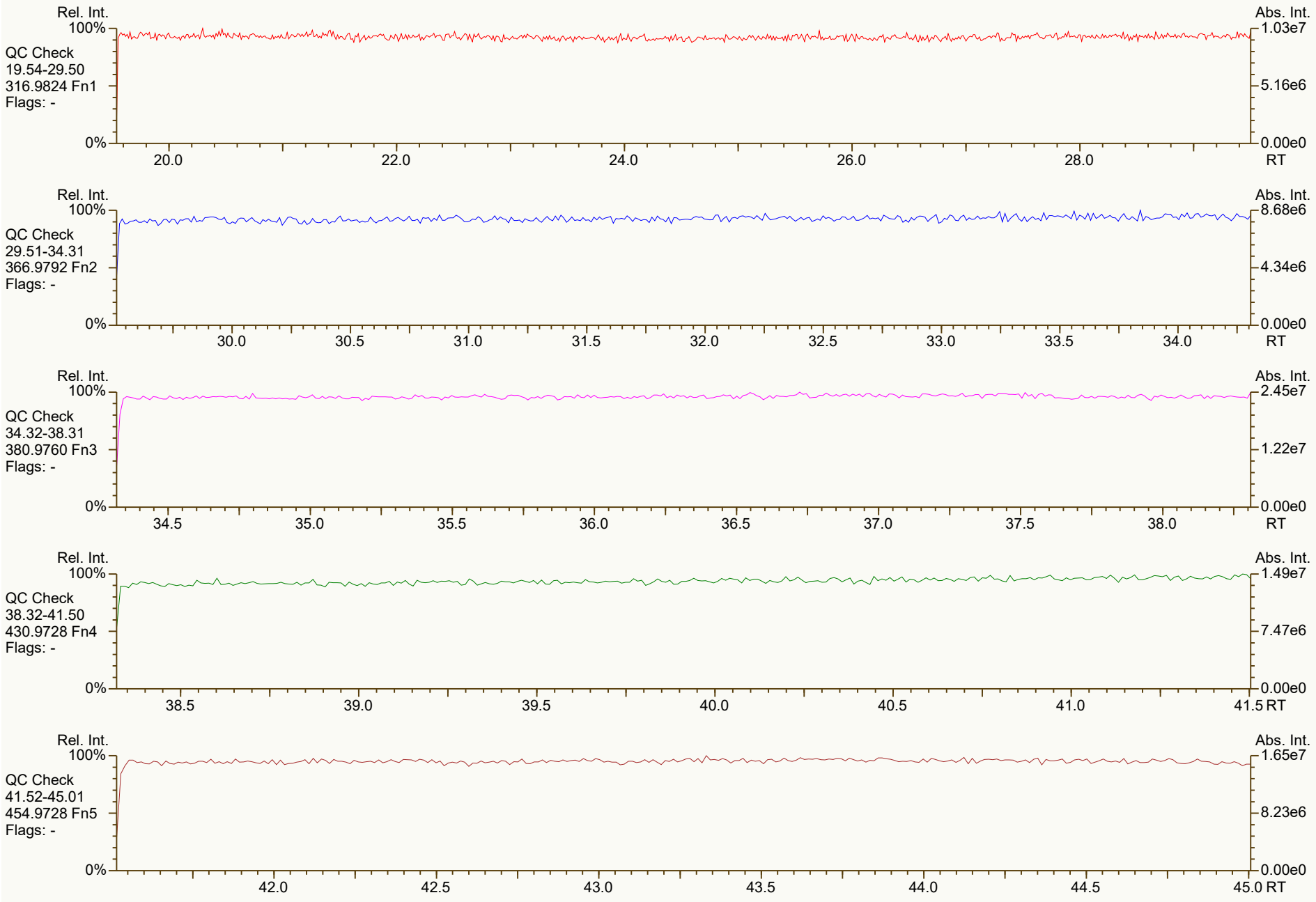

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
Abs. Int.
1.13e4
5.64e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.65e7
8.23e6
0.00e0

SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

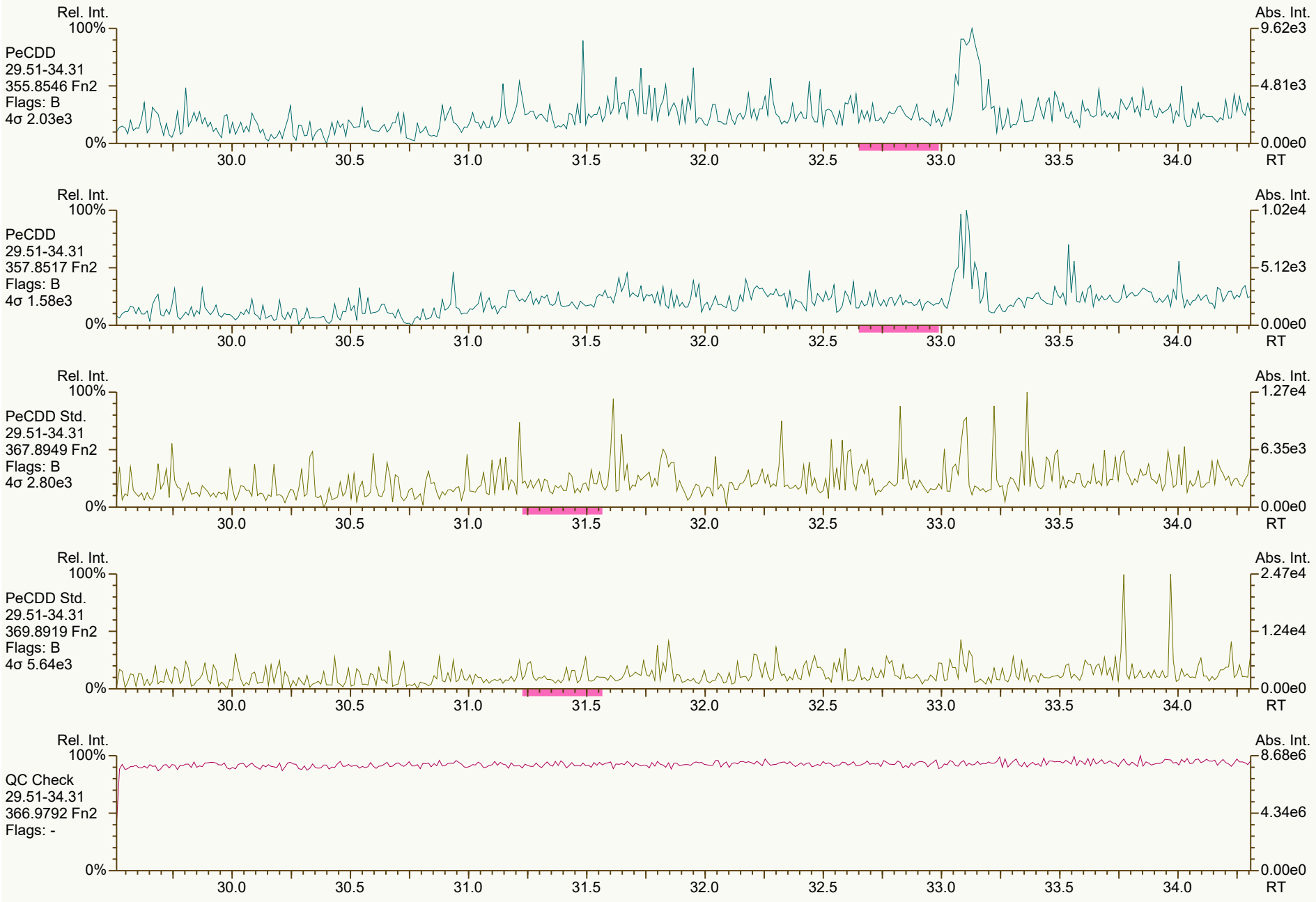
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1*


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

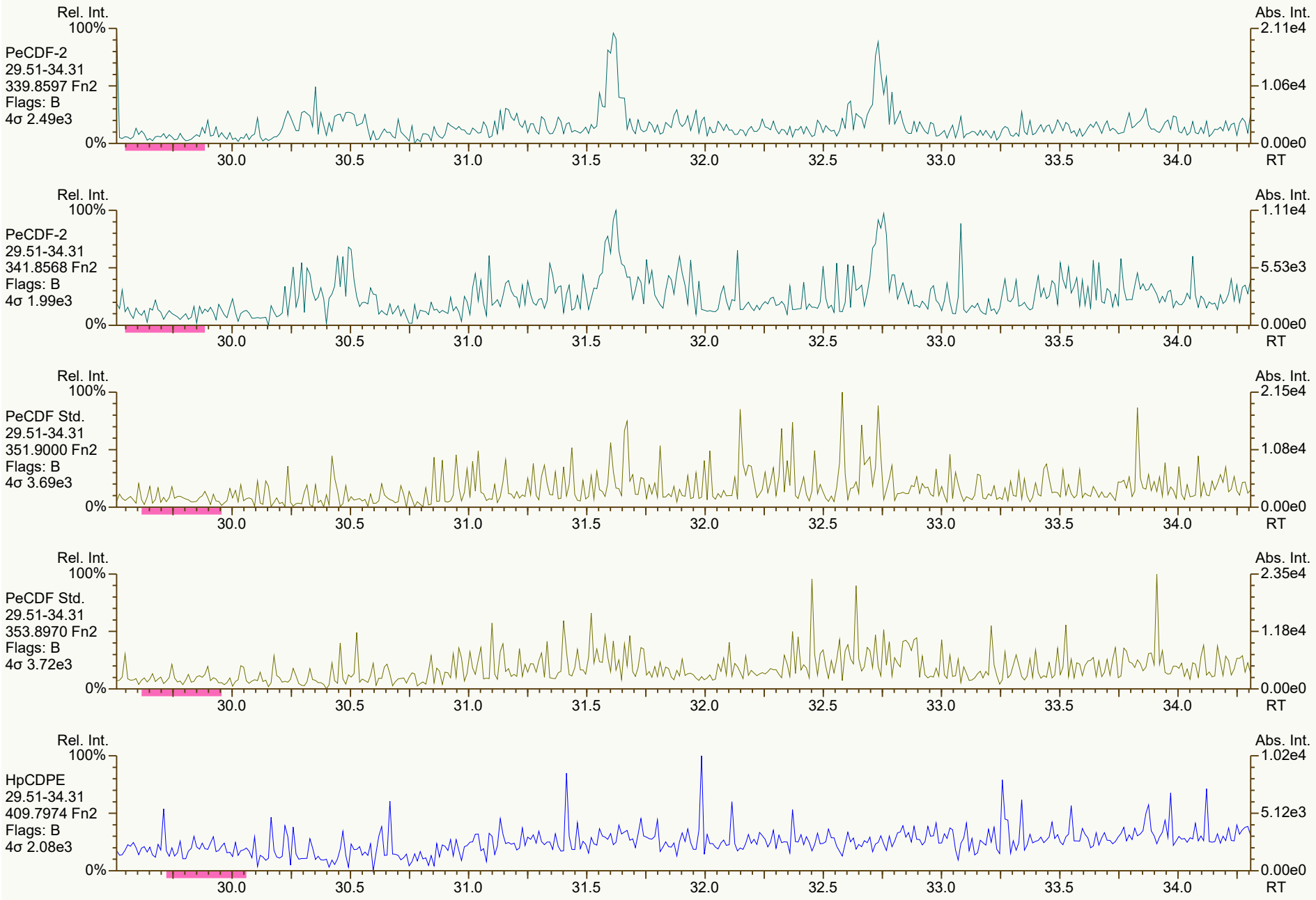

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

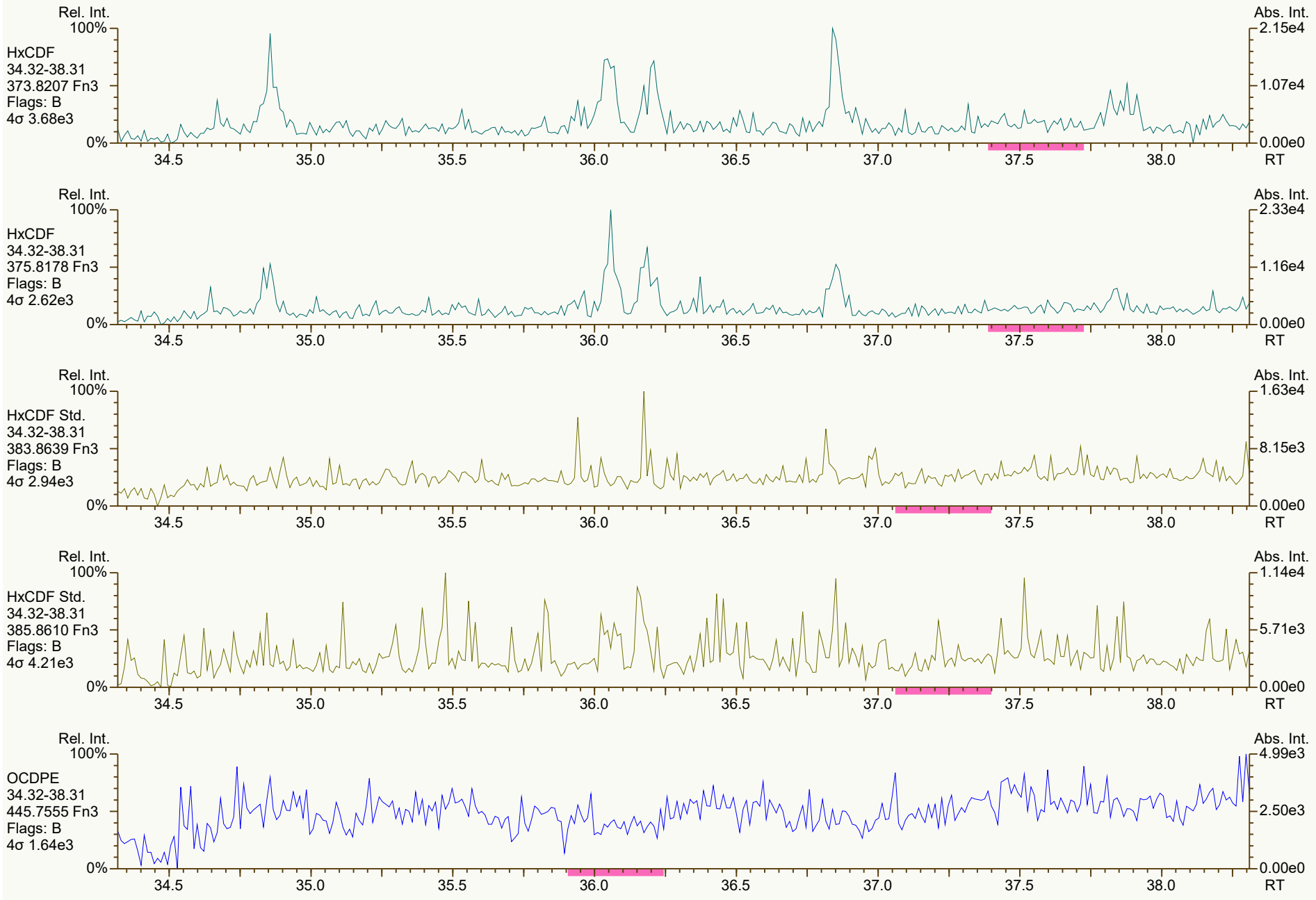

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
Abs. Int.
7.07e4
3.53e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
Abs. Int.
1.06e5
5.32e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
Abs. Int.
5.11e4
2.56e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
Abs. Int.
2.83e4
1.42e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
Abs. Int.
9.47e3
4.73e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

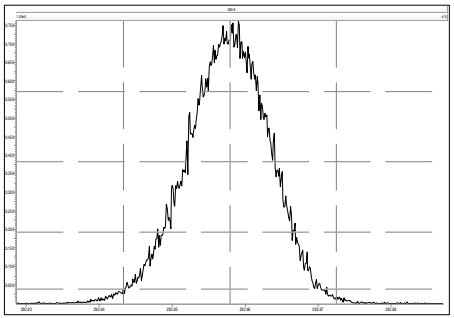

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

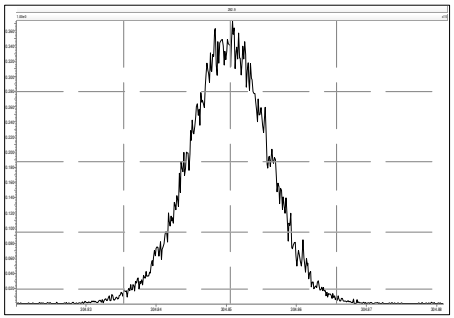
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

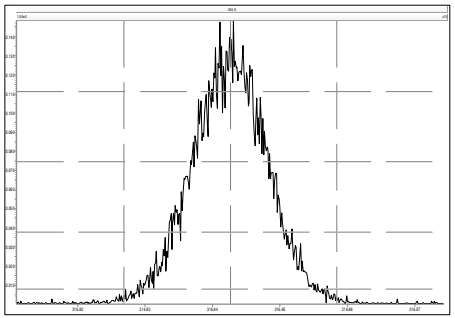
M 292.9824 R 10731



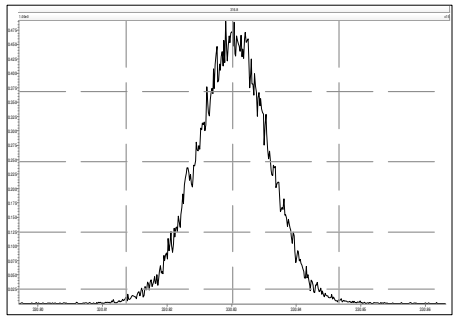
M 304.9824 R 11311



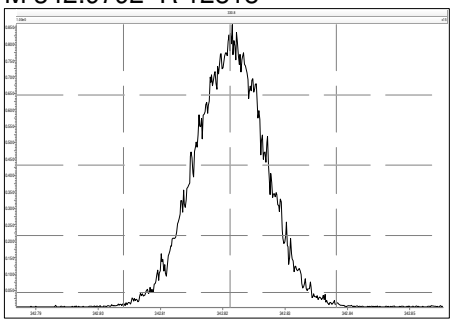
M 316.9824 R 12373



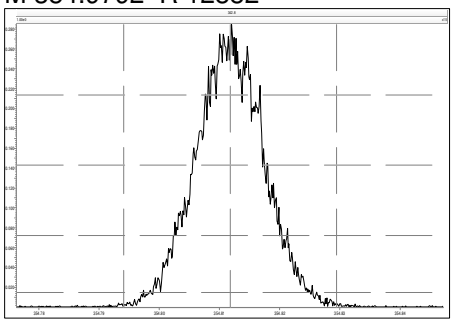
M 330.9792 R 12887



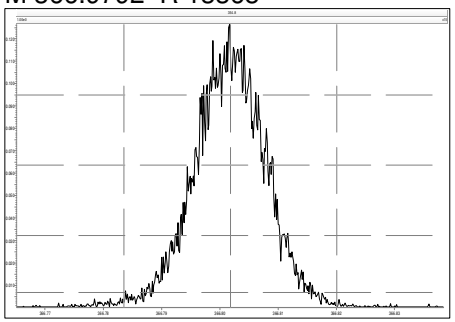
M 342.9792 R 12818



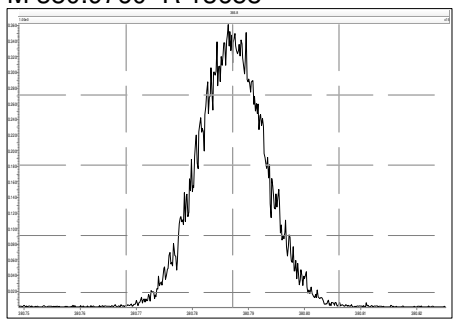
M 354.9792 R 12882



M 366.9792 R 13368



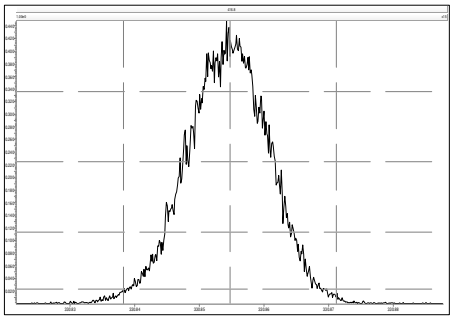
M 380.9760 R 13658



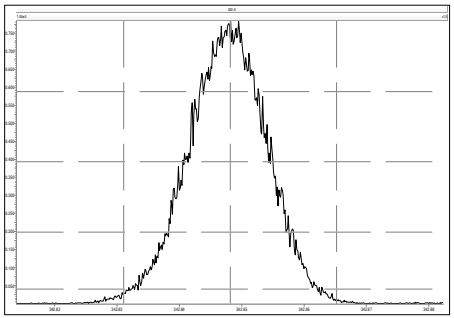
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

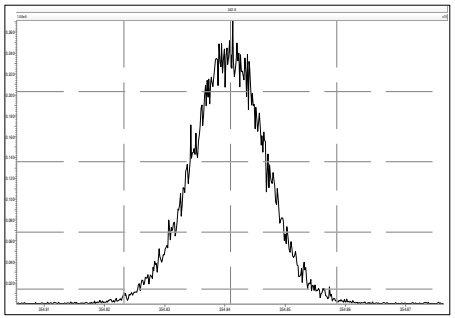
M 330.9792 R 11112



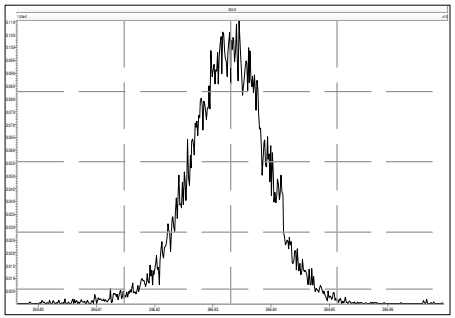
M 342.9792 R 11909



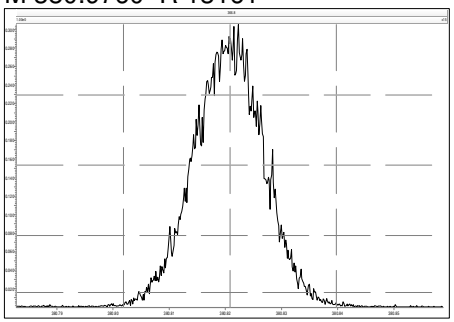
M 354.9792 R 11684



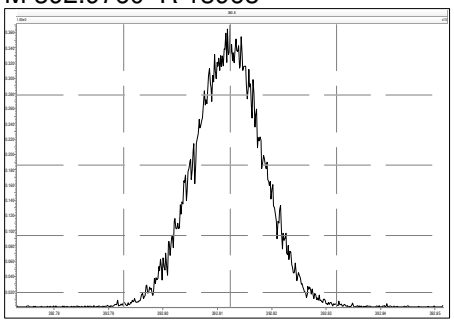
M 366.9792 R 11962



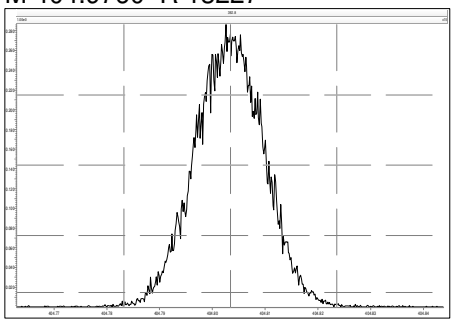
M 380.9760 R 13161



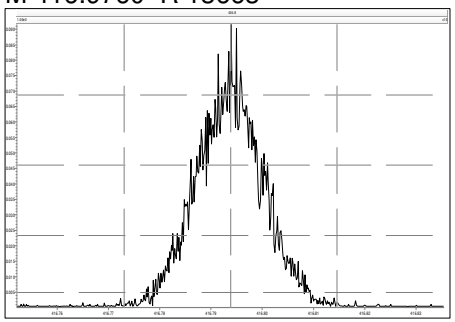
M 392.9760 R 13968



M 404.9760 R 13227



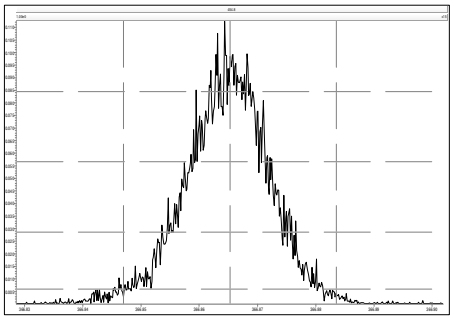
M 416.9760 R 13663



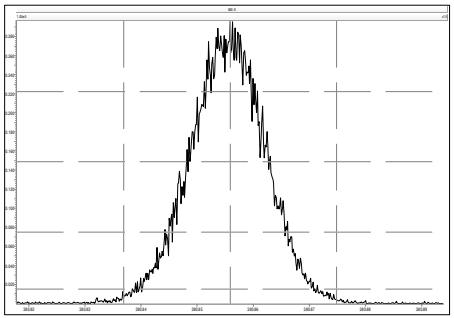
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

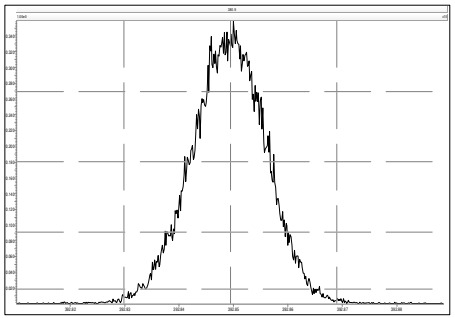
M 366.9792 R 10680



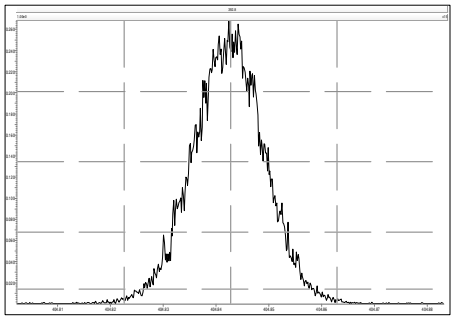
M 380.9760 R 12315



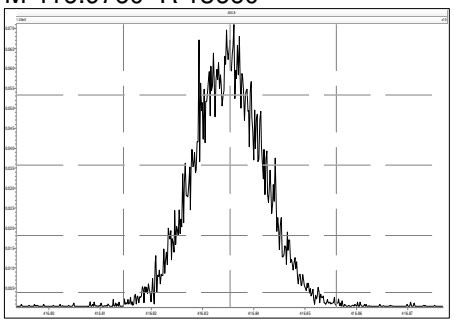
M 392.9760 R 12197



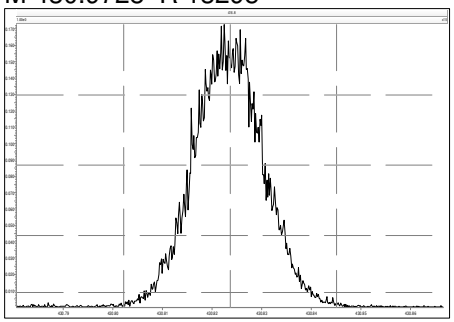
M 404.9760 R 12433



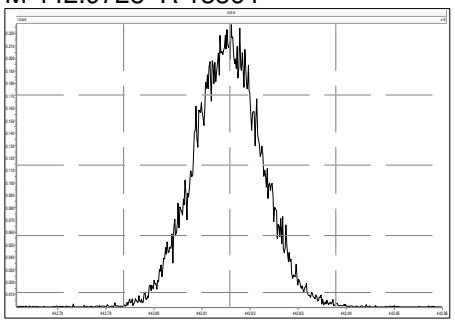
M 416.9760 R 13660



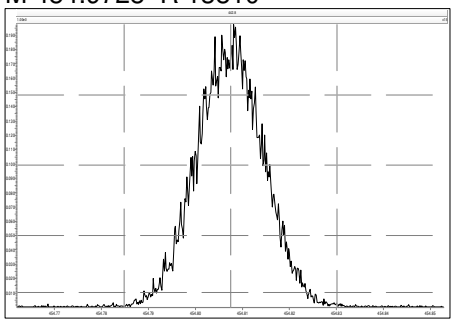
M 430.9728 R 13295



M 442.9728 R 13364



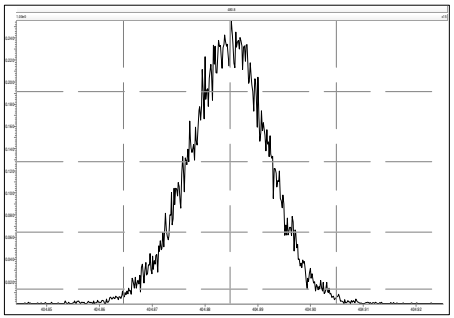
M 454.9728 R 13810



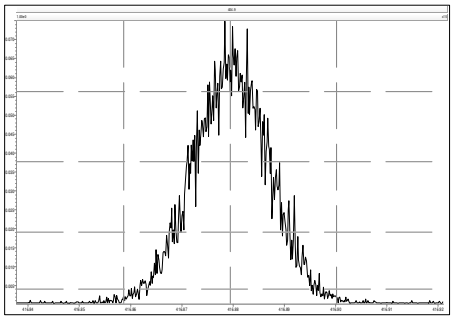
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

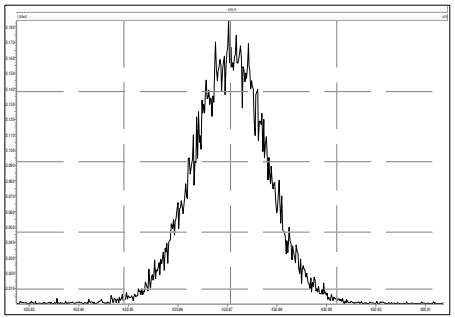
M 404.9760 R 11679



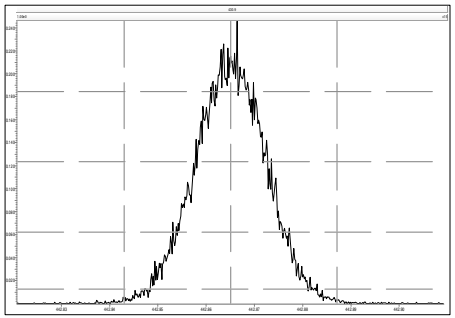
M 416.9760 R 12886



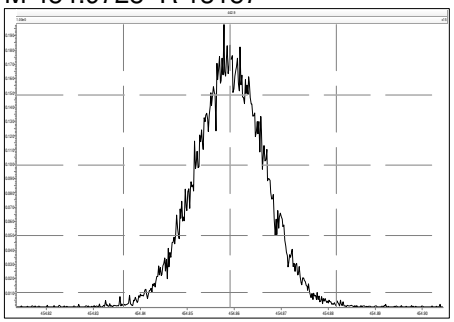
M 430.9728 R 12253



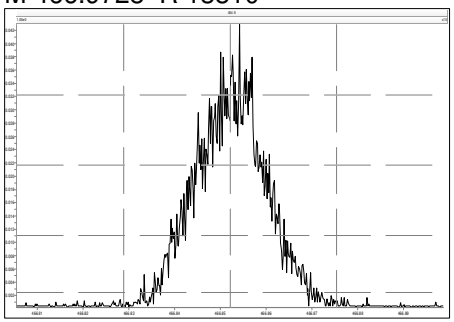
M 442.9728 R 12756



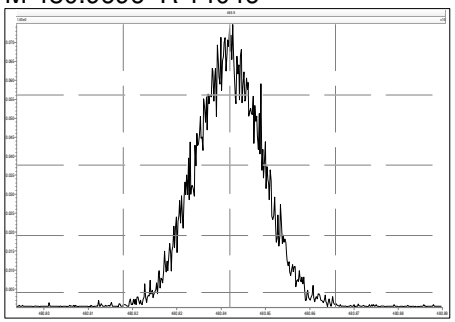
M 454.9728 R 13157



M 466.9728 R 13810



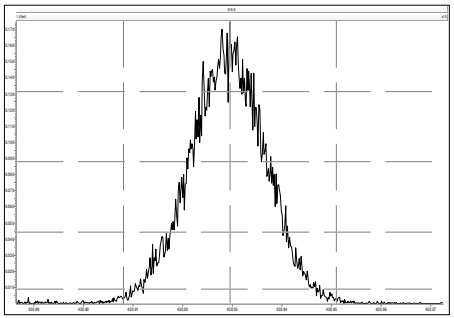
M 480.9696 R 14046



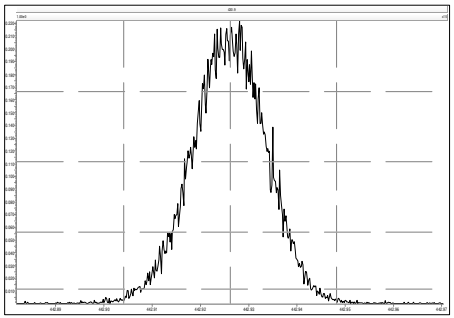
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

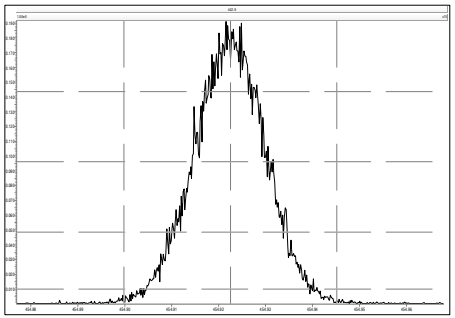
M 430.9728 R 11574



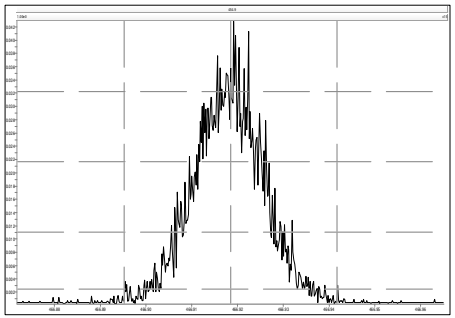
M 442.9728 R 12198



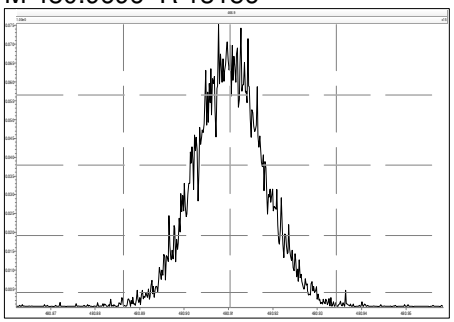
M 454.9728 R 12950



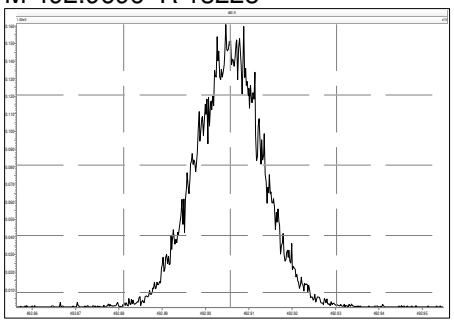
M 466.9728 R 13088



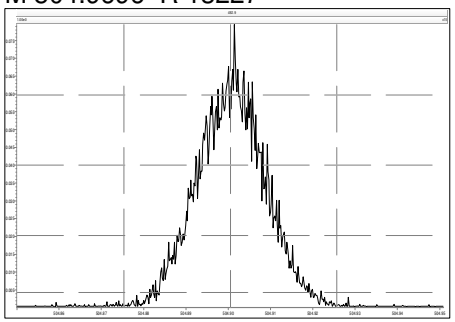
M 480.9696 R 13156



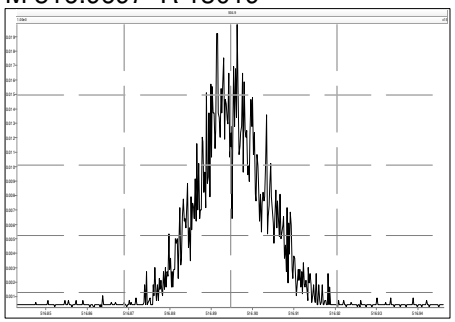
M 492.9696 R 13228



M 504.9696 R 13227



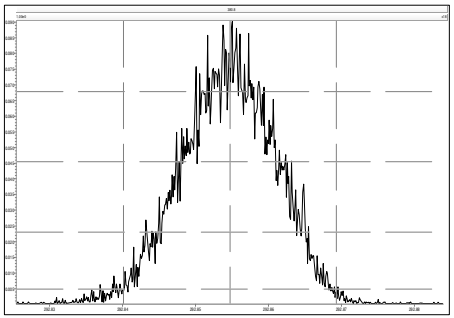
M 516.9697 R 13019



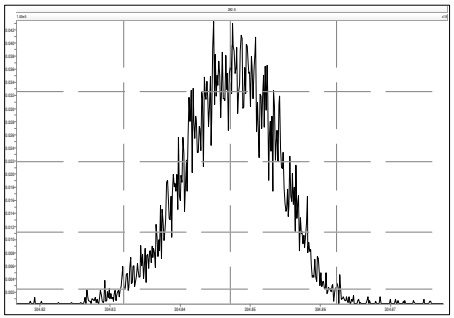
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

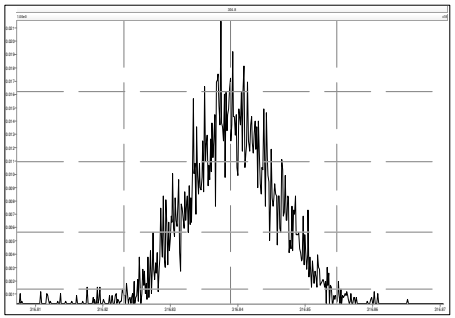
M 292.9824 R 10122



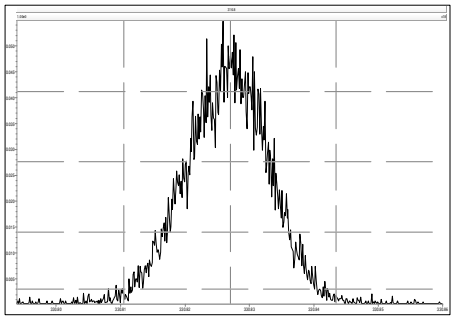
M 304.9824 R 10329



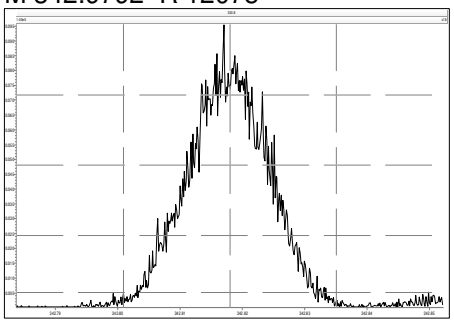
M 316.9824 R 11964



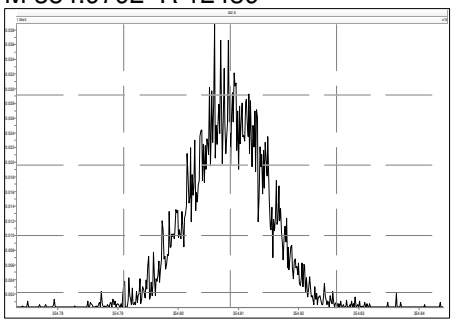
M 330.9792 R 11062



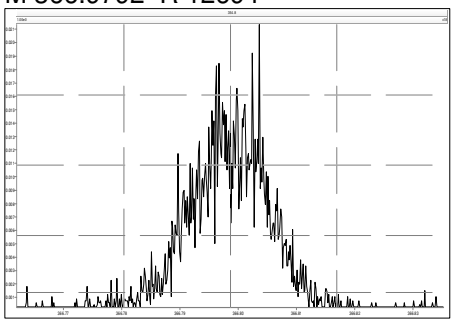
M 342.9792 R 12075



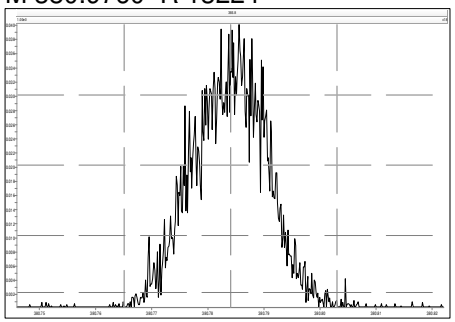
M 354.9792 R 12439



M 366.9792 R 12694



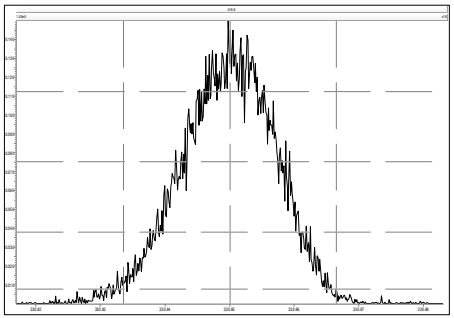
M 380.9760 R 13224



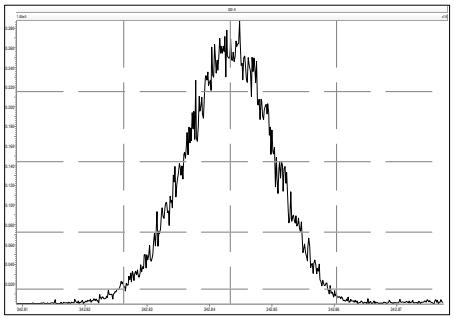
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

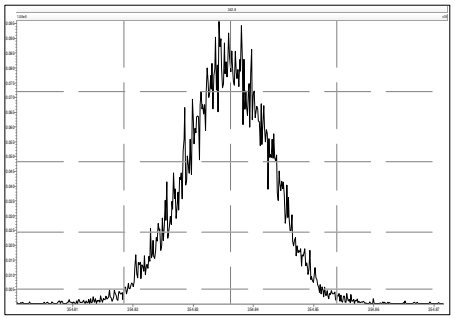
M 330.9792 R 10730



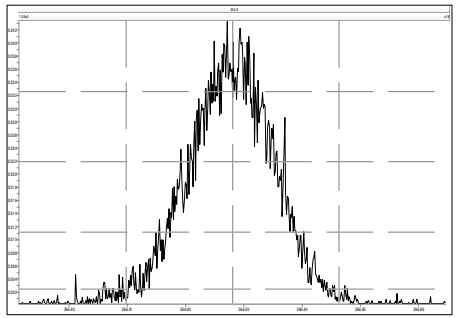
M 342.9792 R 10039



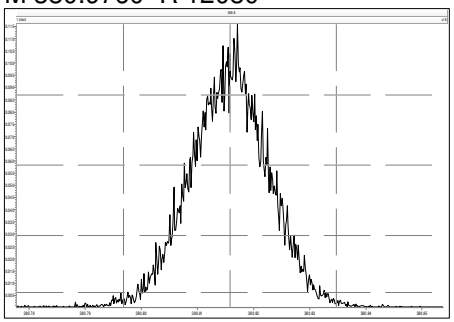
M 354.9792 R 11108



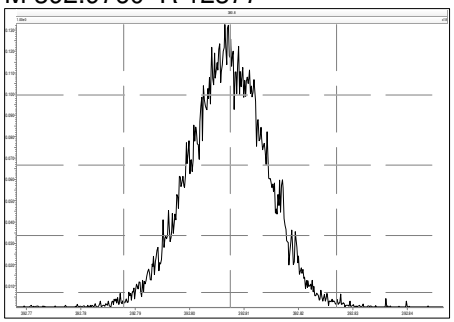
M 366.9792 R 11520



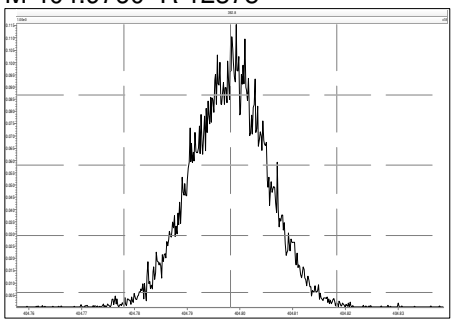
M 380.9760 R 12080



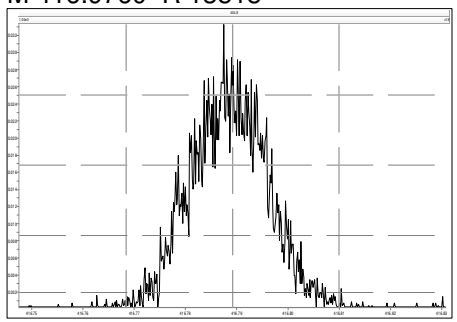
M 392.9760 R 12377



M 404.9760 R 12375



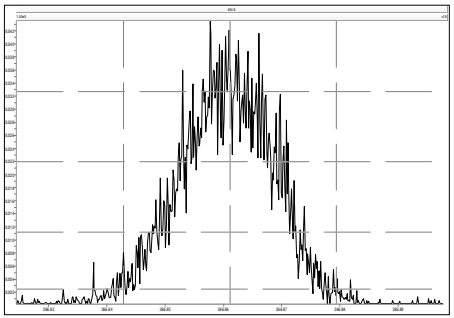
M 416.9760 R 13515



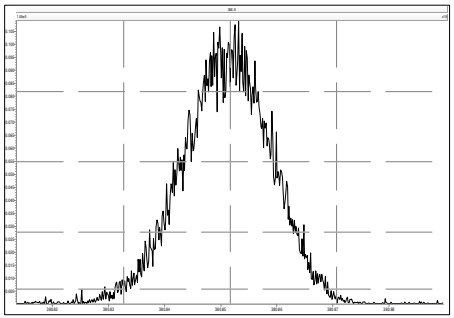
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

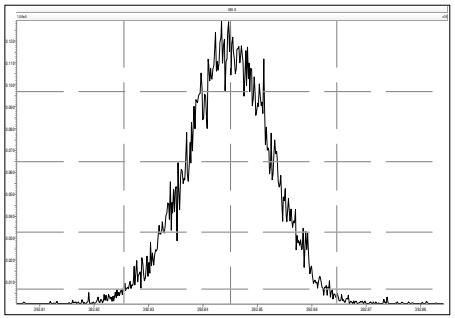
M 366.9792 R 10866



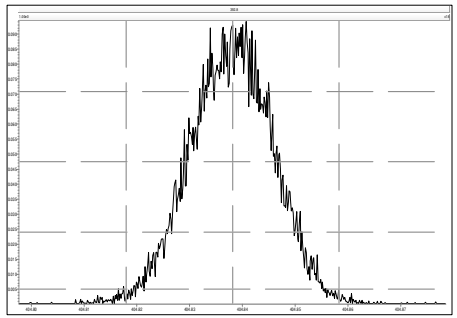
M 380.9760 R 10416



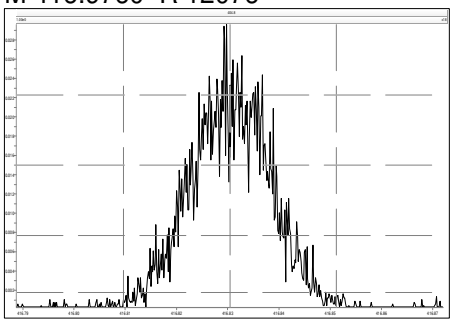
M 392.9760 R 10640



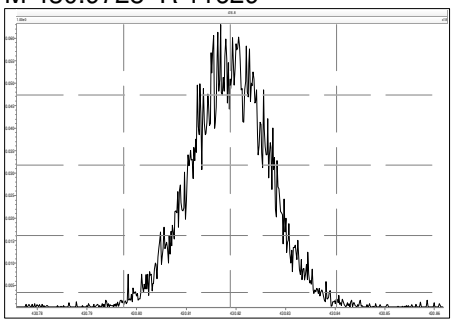
M 404.9760 R 11957



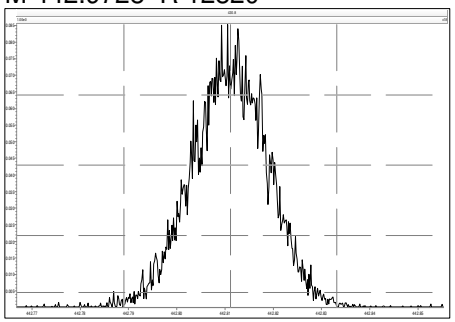
M 416.9760 R 12076



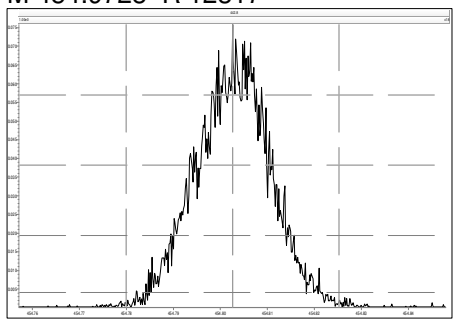
M 430.9728 R 11629



M 442.9728 R 12820



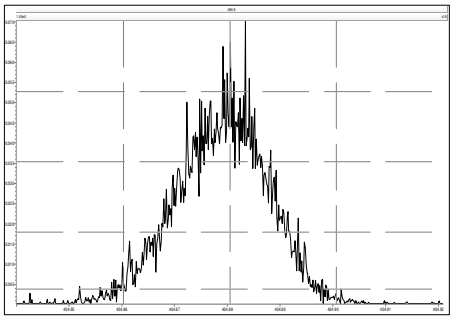
M 454.9728 R 12317



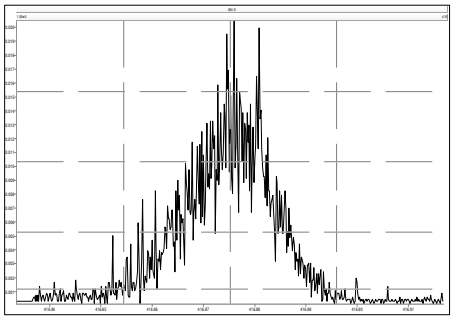
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

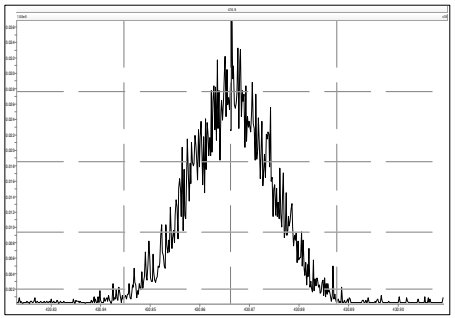
M 404.9760 R 10505



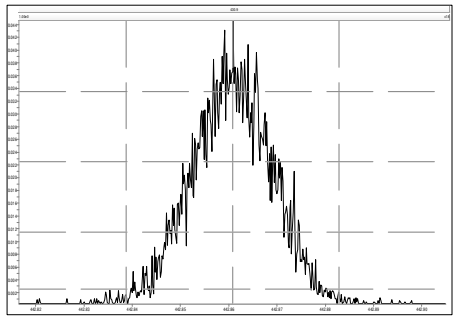
M 416.9760 R 12500



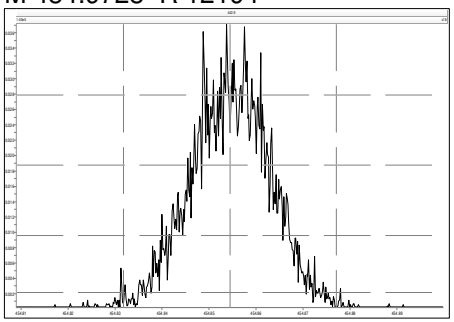
M 430.9728 R 11362



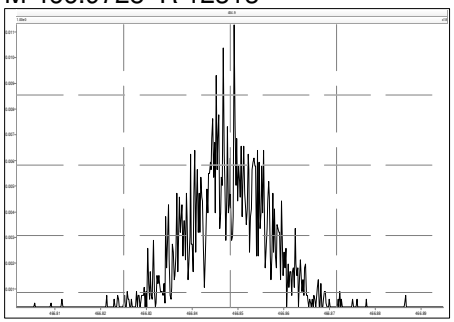
M 442.9728 R 12756



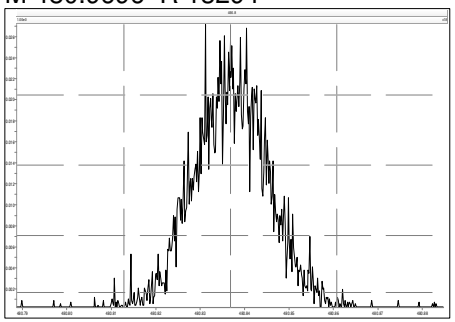
M 454.9728 R 12194



M 466.9728 R 12313



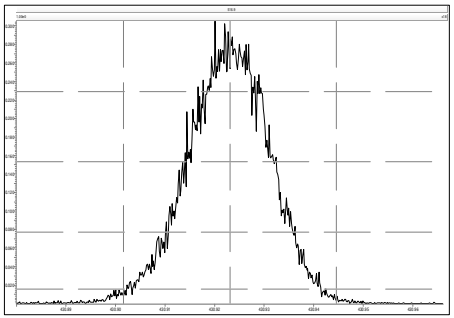
M 480.9696 R 13294



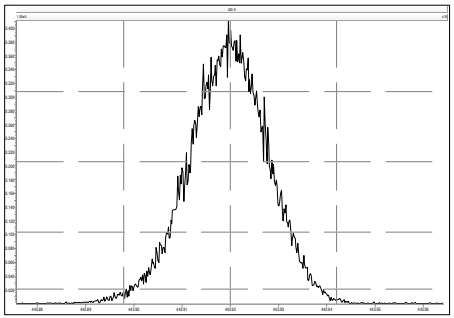
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

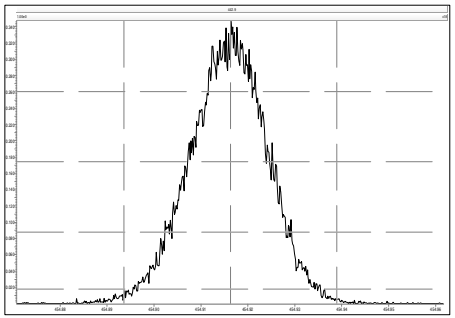
M 430.9728 R 11312



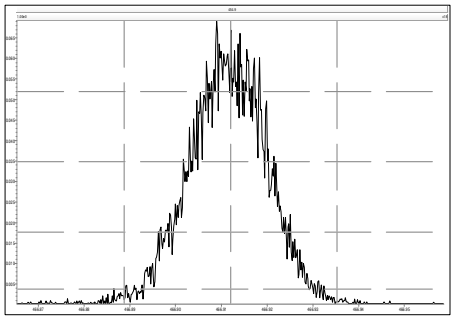
M 442.9728 R 11110



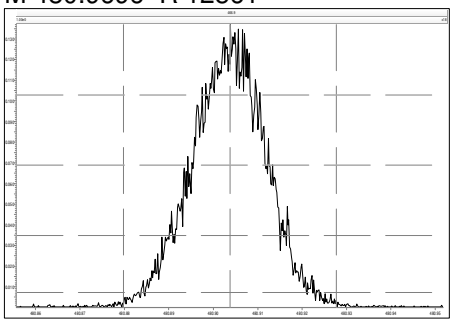
M 454.9728 R 11906



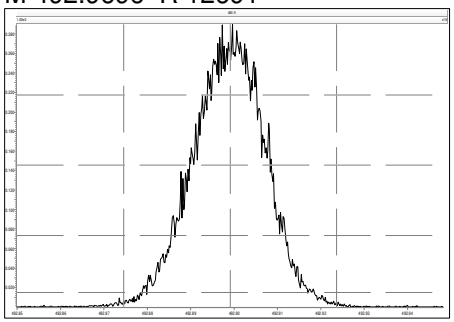
M 466.9728 R 12562



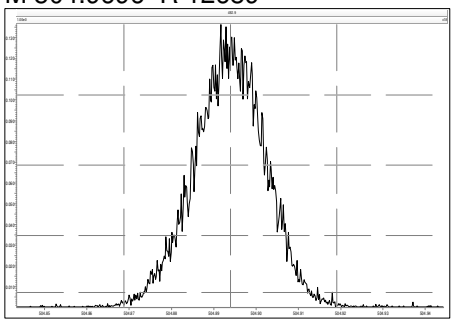
M 480.9696 R 12561



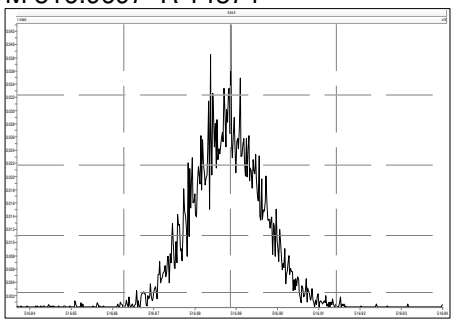
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



REVIEWED
Amber_Kornegay , 3/2/2022, 10:11:54 AM

Lab ID: OPR1_18970_DF **Acq'd:** 01 Mar 2022 22:29 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18970_OPR001 **UTP:** 02-Mar-2022 09:08:24 DTF **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 674-870-DXZ

Datafile: 220301C11 **Report:** 02 Mar 2022 09:09 TF **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.20		1.0008	1.0008	0	1.98E+06	0.77	Y	1.18	11.3	4107.935	0.252
12378-PeCDD	33.60		1.0007	1.0007	0	6.58E+06	1.61	Y	1.04	46.3	3687.227	0.229
123478-HxCDD	37.53		1.0004	1.0004	0	6.46E+06	1.27	Y	1.09	51.1	2882.545	0.199
123678-HxCDD	37.65		1.0036	1.0036	0	6.66E+06	1.26	Y	1.15	51.5	2882.545	0.191
123789-HxCDD	37.96		1.0118	1.0118	0	6.82E+06	1.28	Y	1.05	51.2	2882.545	0.189
1234678-HpCDD	40.70		1.0002	1.0003	+0.2	6.11E+06	1.05	Y	1.06	51.8	2446.005	0.173
OCDD	43.40		1.0003	1.0003	0	8.71E+06	0.89	Y	1.13	105	3694.171	0.547
2378-TCDF	27.33		1.0008	1.0009	+0.2	2.46E+06	0.75	Y	1.08	10.1	2543.68	0.117
12378-PeCDF	32.14		1.0005	1.0005	0	1.06E+07	1.54	Y	1.02	49.2	5437.627	0.236
23478-PeCDF	33.26		1.0005	1.0005	0	1.06E+07	1.52	Y	1.02	51.7	5437.627	0.226
123478-HxCDF	36.53		1.0004	1.0004	0	9.20E+06	1.24	Y	1.27	48.7	7699.583	0.333
123678-HxCDF	36.67		1.0004	1.0005	+0.2	1.05E+07	1.25	Y	1.15	52.4	7699.583	0.313
234678-HxCDF	37.35		1.0005	1.0005	0	9.70E+06	1.24	Y	1.19	51.1	7699.583	0.368
123789-HxCDF	38.33		1.0004	1.0005	+0.2	8.02E+06	1.26	Y	1.16	46.6	7699.583	0.389
1234678-HpCDF	39.75		1.0003	1.0003	0	9.11E+06	1.02	Y	1.37	49.6	3229.366	0.13
1234789-HpCDF	41.15		1.0003	1.0003	0	6.90E+06	1.07	Y	1.31	49.8	3229.366	0.204
OCDF	43.57		1.0002	1.0003	+0.3	1.04E+07	0.92	Y	1.07	99.1	3214.211	0.387

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.17	1.0243	1.0244	+0.2	1.48E+07	0.80	Y	1.05	90
ES 12378-PeCDD	33.58	1.2198	1.2210	+2.4	1.37E+07	1.56	Y	0.88	99.4
ES 123478-HxCDD	37.52	0.9916	0.9914	-0.5	1.16E+07	1.25	Y	0.97	103
ES 123678-HxCDD	37.64	0.9947	0.9946	-0.2	1.13E+07	1.24	Y	0.94	102
ES 123789-HxCDD	37.95	1.0029	1.0028	-0.2	1.27E+07	1.24	Y	1.09	100
ES 1234678-HpCDD	40.69	1.0749	1.0752	+0.7	1.11E+07	1.15	Y	0.91	105
ES OCDD	43.39	1.1460	1.1466	+1.6	1.48E+07	0.90	Y	0.62	102
ES 2378-TCDF	27.30	1.0531	1.0535	+0.7	2.26E+07	0.81	Y	1.06	85.1
ES 12378-PeCDF	32.12	1.2378	1.2393	+2.9	2.10E+07	1.52	Y	0.91	91.7
ES 23478-PeCDF	33.24	1.2810	1.2827	+3.4	2.02E+07	1.58	Y	0.88	91.1
ES 123478-HxCDF	36.51	0.9650	0.9649	-0.2	1.49E+07	0.56	Y	1.20	107
ES 123678-HxCDF	36.65	0.9688	0.9686	-0.4	1.73E+07	0.54	Y	1.35	110
ES 234678-HxCDF	37.33	0.9866	0.9864	-0.4	1.60E+07	0.55	Y	1.24	111
ES 123789-HxCDF	38.31	1.0125	1.0124	-0.2	1.48E+07	0.51	Y	1.16	110
ES 1234678-HpCDF	39.74	1.0501	1.0503	+0.5	1.34E+07	0.46	Y	0.97	119
ES 1234789-HpCDF	41.14	1.0870	1.0872	+0.5	1.06E+07	0.47	Y	0.85	107
ES OCDF	43.56	1.1505	1.1511	+1.6	1.96E+07	0.86	Y	0.81	104

Lab ID: OPR1_18970_DF | **Acq'd:** 01 Mar 2022 22:29 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18970_OPR001 | **UTP:** 02-Mar-2022 09:08:24 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 674-870-DXZ

Datafile: 220301C11 | **Report:** 02 Mar 2022 09:09 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.50		-	-	-	1.57E+07	0.77	Y	-	-
JS 1234-TCDF	25.92		-	-	-	2.51E+07	0.83	Y	-	-
JS 123467-HxCDD	37.84		-	-	-	5.82E+06	1.21	Y	-	-
CS 37Cl-2378-TCDD	28.19		1.0251	1.0252	+0.2	7.38E+06	n/a	-	1.20	97.8
CS 12347-PeCDD	33.07		1.2016	1.2026	+2.0	1.19E+07	1.57	Y	0.75	101
CS 12346-PeCDF	31.58		1.2172	1.2187	+2.8	2.07E+07	1.55	Y	0.85	96.8
CS 123469-HxCDF	36.97		0.9771	0.9769	-0.4	1.57E+07	0.57	Y	1.12	121
CS 1234689-HpCDF	40.15		1.0608	1.0610	+0.5	1.26E+07	0.48	Y	0.89	122
~~SS 37Cl-2378-TCDD~~	~~28.19~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~7.38E+06~~	~~n/a~~		~~1.15~~	~~109~~
~~SS 12347-PeCDD~~	~~33.07~~		~~1.2016~~	~~1.2026~~	~~+2.0~~	~~1.19E+07~~	~~1.57~~	~~Y~~	~~0.86~~	~~101~~
~~SS 12346-PeCDF~~	~~31.58~~		~~1.2172~~	~~1.2187~~	~~+2.8~~	~~2.07E+07~~	~~1.55~~	~~Y~~	~~0.94~~	~~105~~
~~SS 123469-HxCDF~~	~~36.97~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~1.57E+07~~	~~0.57~~	~~Y~~	~~0.83~~	~~109~~
~~SS 1234689-HpCDF~~	~~40.15~~		~~1.0608~~	~~1.0610~~	~~+0.5~~	~~1.26E+07~~	~~0.48~~	~~Y~~	~~0.92~~	~~102~~

Totals	Conc	EMPC
Total TCDD	52.9	52.9
Total PeCDD	70.6	70.6
Total HxCDD	169	169
Total HpCDD	64	64
Total Tetra-Octa Dioxins	462	462
Total TCDF	60	60
Total PeCDF	198	198
Total HxCDF	325	325
Total HpCDF	99.4	99.4
Total Tetra-Octa Furans	781	781
Total Tetra-Octa Dioxins & Furans	1240	1240

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.763	0.77
Response	1.98E+06	1.98E+06

Lab ID: OPR1_18970_DF | **Acq'd: 01 Mar 2022 22:29 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18970_OPR001 | **UTP: 02-Mar-2022 09:08:24 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 674-870-DXZ**

Datafile: 220301C11 | **Report: 02 Mar 2022 09:09 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.49		0.8701	0.8693	-1.2	2.67E+06	0.77	Y	1.18	15.3	4107.935	0.252
1379-TCDD	NotFnd		0.8829						1.18		4107.935	0.252
1369-TCDD	NotFnd		0.8982						1.18		4107.935	0.252
1469-TCDD	NotFnd		0.9261						1.18		4107.935	0.252
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		4107.935	0.252
1378-TCDD	NotFnd		0.9417						1.18		4107.935	0.252
1268-TCDD	NotFnd		0.9487						1.18		4107.935	0.252
1478-TCDD	NotFnd		0.9576						1.18		4107.935	0.252
1279-TCDD	NotFnd		0.9636						1.18		4107.935	0.252
1234/1269-TCDD	NotFnd		0.9761						1.18		4107.935	0.252
1236-TCDD	NotFnd		0.9812						1.18		4107.935	0.252
1237/1238-TCDD	NotFnd		0.9905						1.18		4107.935	0.252
1239-TCDD	28.04		0.9951	0.9952	+0.2	2.00E+06	0.77	Y	1.18	11.4	4107.935	0.252
2378-TCDD	**28.20**		**1.0008**	1.0008	**0**	1.98E+06	0.77	Y	**1.18**	**11.3**	**4107.935**	**0.252**
1278-TCDD	NotFnd		1.0124						1.18		4107.935	0.252
1267-TCDD	NotFnd		1.0172						1.18		4107.935	0.252
1289-TCDD	29.18		1.0354	1.0358	+0.7	2.61E+06	0.76	Y	1.18	14.9	4107.935	0.252
12479/12468-PeCDD	31.08		0.9255	0.9254	-0.2	1.62E+06	1.58	Y	1.04	11.4	3687.227	0.229
12469-PeCDD	NotFnd		0.9416						1.04		3687.227	0.229
12368-PeCDD	NotFnd		0.9582						1.04		3687.227	0.229
12478-PeCDD	NotFnd		0.9637						1.04		3687.227	0.229
12379-PeCDD	NotFnd		0.9668						1.04		3687.227	0.229
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		3687.227	0.229
12346/12347-PeCDD	NotFnd		0.9858						1.04		3687.227	0.229
12378-PeCDD	33.60		**1.0007**	**1.0007**	**0**	**6.58E+06**	**1.61**	**Y**	**1.04**	**46.3**	**3687.227**	**0.229**
12367-PeCDD	NotFnd		1.0036						1.04		3687.227	0.229
12389-PeCDD	34.05		1.0137	1.0139	+0.4	1.83E+06	1.47	Y	1.04	12.9	3687.227	0.229
124679/124689-HxCDD	35.79		0.9540	0.9540	0	2.02E+06	1.19	Y	1.10	15.6	2882.545	0.193
123468-HxCDD	NotFnd		0.9715						1.10		2882.545	0.193
123679/123689-HxCDD	NotFnd		0.9793						1.10		2882.545	0.193
123469-HxCDD	NotFnd		0.9829						1.10		2882.545	0.193
123478-HxCDD	37.53		**1.0004**	**1.0004**	**0**	**6.46E+06**	**1.27**	**Y**	1.09	**51.1**	**2882.545**	**0.199**
123678-HxCDD	37.65		**1.0036**	**1.0036**	**0**	**6.66E+06**	**1.26**	**Y**	1.15	**51.5**	**2882.545**	**0.191**
123467-HxCDD	NotFnd		1.0089						1.10		2882.545	0.193
123789-HxCDD	37.96		**1.0118**	**1.0118**	**0**	**6.82E+06**	**1.28**	**Y**	1.05	**51.2**	**2882.545**	**0.189**

Lab ID: OPR1_18970_DF **Acq'd: 01 Mar 2022 22:29 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18970_OPR001 **UTP: 02-Mar-2022 09:08:24 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 674-870-DXZ**

Datafile: 220301C11 **Report: 02 Mar 2022 09:09 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.02		0.9836	0.9835	-0.2	1.44E+06	1.12	Y	1.06	12.2	2446.005	0.173
1234678-HpCDD	**40.70**		**1.0002**	**1.0003**	**+0.2**	**6.11E+06**	**1.05**	**Y**	**1.06**	**51.8**	**2446.005**	**0.173**
OCDD	**43.40**		**1.0003**	**1.0003**	**0**	**8.71E+06**	**0.89**	**Y**	**1.13**	**105**	**3694.171**	**0.547**
OCDD-a	43.40		1.0002	1.0002	0	4.84E+05	2.68	Y	0.07	91.1	3707.568	8.58
1368-TCDF	22.33		0.8191	0.8178	-1.7	3.63E+06	0.73	Y	1.08	14.9	2543.68	0.117
1468-TCDF	NotFnd		0.8408						1.08		2543.68	0.117
2468-TCDF	23.58		0.8645	0.8637	-1.1	9.47E+05	0.76	Y	1.08	3.88	2543.68	0.117
1346/1246-TCDF	NotFnd		0.8772						1.08		2543.68	0.117
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		2543.68	0.117
1348-TCDF	NotFnd		0.8932						1.08		2543.68	0.117
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		2543.68	0.117
1268-TCDF	NotFnd		0.9119						1.08		2543.68	0.117
1467-TCDF	NotFnd		0.9170						1.08		2543.68	0.117
1478-TCDF	NotFnd		0.9234						1.08		2543.68	0.117
1369/1237-TCDF	NotFnd		0.9369						1.08		2543.68	0.117
2467-TCDF	NotFnd		0.9415						1.08		2543.68	0.117
2368-TCDF	NotFnd		0.9475						1.08		2543.68	0.117
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		2543.68	0.117
1278-TCDF	NotFnd		0.9676						1.08		2543.68	0.117
1349-TCDF	NotFnd		0.9722						1.08		2543.68	0.117
1267-TCDF	NotFnd		0.9777						1.08		2543.68	0.117
2346/1249-TCDF	NotFnd		0.9843						1.08		2543.68	0.117
2347/1279-TCDF	NotFnd		0.9926						1.08		2543.68	0.117
2348-TCDF	27.21		0.9968	0.9967	-0.2	3.63E+06	0.78	Y	1.08	14.9	2543.68	0.117
2378-TCDF	**27.33**		**1.0008**	**1.0009**	**+0.2**	**2.46E+06**	**0.75**	**Y**	**1.08**	**10.1**	**2543.68**	**0.117**
2367/3467-TCDF	NotFnd		1.0142						1.08		2543.68	0.117
1269-TCDF	NotFnd		1.0235						1.08		2543.68	0.117
1239-TCDF	NotFnd		1.0329						1.08		2543.68	0.117
1289-TCDF	29.35		1.0742	1.0749	+1.2	3.99E+06	0.82	Y	1.08	16.3	2543.68	0.117
13468/12468-PeCDF	29.27		0.9122	0.9114	-1.4	1.80E+07	1.56	Y	1.02	85.6	2819.995	0.12
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		5437.627	0.231
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		5437.627	0.231
14678-PeCDF	NotFnd		0.9685						1.02		5437.627	0.231
13479-PeCDF	NotFnd		0.9716						1.02		5437.627	0.231
13469/12479-PeCDF	NotFnd		0.9794						1.02		5437.627	0.231
12346-PeCDF	NotFnd		0.9836						1.02		5437.627	0.231

Lab ID: OPR1_18970_DF | **Acq'd: 01 Mar 2022 22:29 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18970_OPR001 | **UTP: 02-Mar-2022 09:08:24 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 674-870-DXZ**

Datafile: 220301C11 | **Report: 02 Mar 2022 09:09 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		5437.627	0.231
12347-PeCDF	NotFnd		0.9891						1.02		5437.627	0.231
12348-PeCDF	NotFnd		0.9938						1.02		5437.627	0.231
12378-PeCDF	**32.14**		**1.0005**	**1.0005**	**0**	**1.06E+07**	**1.54**	**Y**	**1.02**	**49.2**	**5437.627**	**0.236**
12678/12367-PeCDF	NotFnd		1.0091						1.02		5437.627	0.231
12379-PeCDF	NotFnd		1.0144						1.02		5437.627	0.231
12679-PeCDF	NotFnd		0.9927						1.02		5437.627	0.231
23467/12369-PeCDF	NotFnd		0.9965						1.02		5437.627	0.231
23478-PeCDF	**33.26**		**1.0005**	**1.0005**	**0**	**1.06E+07**	**1.52**	**Y**	**1.02**	**51.7**	**5437.627**	**0.226**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5437.627	0.231
12349-PeCDF	NotFnd		1.0101						1.02		5437.627	0.231
12389-PeCDF	34.34		1.0330	1.0331	+0.2	2.39E+06	1.49	Y	1.02	11.3	5437.627	0.231
123468-HxCDF	35.13		0.9622	0.9622	0	2.38E+07	1.24	Y	1.19	126	7699.583	0.349
124678/134678-HxCDF	NotFnd		0.9678						1.19		7699.583	0.349
134679-HxCDF	NotFnd		0.9741						1.19		7699.583	0.349
124679-HxCDF	NotFnd		0.9795						1.19		7699.583	0.349
124689-HxCDF	NotFnd		0.9856						1.19		7699.583	0.349
123467-HxCDF	NotFnd		0.9972						1.19		7699.583	0.349
123478-HxCDF	**36.53**		**1.0004**	**1.0004**	**0**	**9.20E+06**	**1.24**	**Y**	**1.27**	**48.7**	**7699.583**	**0.333**
123678-HxCDF	**36.67**		**1.0004**	**1.0005**	**+0.2**	**1.05E+07**	**1.25**	**Y**	**1.15**	**52.4**	**7699.583**	**0.313**
123479-HxCDF	NotFnd		1.0048						1.19		7699.583	0.349
123469-HxCDF	NotFnd		1.0089						1.19		7699.583	0.349
123679-HxCDF	NotFnd		0.9942						1.19		7699.583	0.349
234678-HxCDF	**37.35**		**1.0005**	**1.0005**	**0**	**9.70E+06**	**1.24**	**Y**	**1.19**	**51.1**	**7699.583**	**0.368**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		7699.583	0.349
123789-HxCDF	**38.33**		**1.0004**	**1.0005**	**+0.2**	**8.02E+06**	**1.26**	**Y**	**1.16**	**46.6**	**7699.583**	**0.389**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		7699.583	0.349
1234678-HpCDF	**39.75**		**1.0003**	**1.0003**	**0**	**9.11E+06**	**1.02**	**Y**	**1.37**	**49.6**	**3229.366**	**0.13**
1234679-HpCDF	NotFnd		1.0068						1.34		3229.366	0.163
1234689-HpCDF	NotFnd		1.0104						1.34		3229.366	0.163
1234789-HpCDF	**41.15**		**1.0003**	**1.0003**	**0**	**6.90E+06**	**1.07**	**Y**	**1.31**	**49.8**	**3229.366**	**0.204**
OCDF	**43.57**		**1.0002**	**1.0003**	**+0.3**	**1.04E+07**	**0.92**	**Y**	**1.07**	**99.1**	**3214.211**	**0.387**
OCDF-a	43.58	**EMPC**	1.0001	1.0005	+1.0	3.04E+05	3.52	N	0.07	46.7	3484.202	6.77

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220301C11	Analysis Date:	01-MAR-2022 22:29:54
Lab ID:	OPR1_18970_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.3	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	46.3	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	51.1	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	51.5	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	51.2	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	51.8	35	-	70	Y
OCDD	100	105	78	-	144	Y
2,3,7,8-TCDF	10	10.1	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	49.2	40	-	67	Y
2,3,4,7,8-PeCDF	50	51.7	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	48.7	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	52.4	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	51.1	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	46.6	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	49.6	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	49.8	39	-	69	Y
OCDF	100	99.1	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 02 Mar 2022 09:09 Analyst: TF

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name: SGS North America
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021
Instrument ID: HRMS3 GC Column ID: ZB-5ms
VER Data Filename: 220301C11 Analysis Date: 01-MAR-2022 22:29:54
Lab ID: OPR1_18970_DF

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	90	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	99.4	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	103	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	102	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	100	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	105	26	-	166	Y
13C-OCDD	200	203	26	-	397	Y
13C-2,3,7,8-TCDF	100	85.1	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	91.7	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	91.1	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	107	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	110	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	111	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	110	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	119	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	107	20	-	186	Y
13C-OCDF	200	209	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	39.1	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

Processed: 02 Mar 2022 09:09 Analyst: TF

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220301C11	Analysis Date:	01-MAR-2022 22:29:54
Lab ID:	OPR1_18970_DF		

Window Defining Standards Results

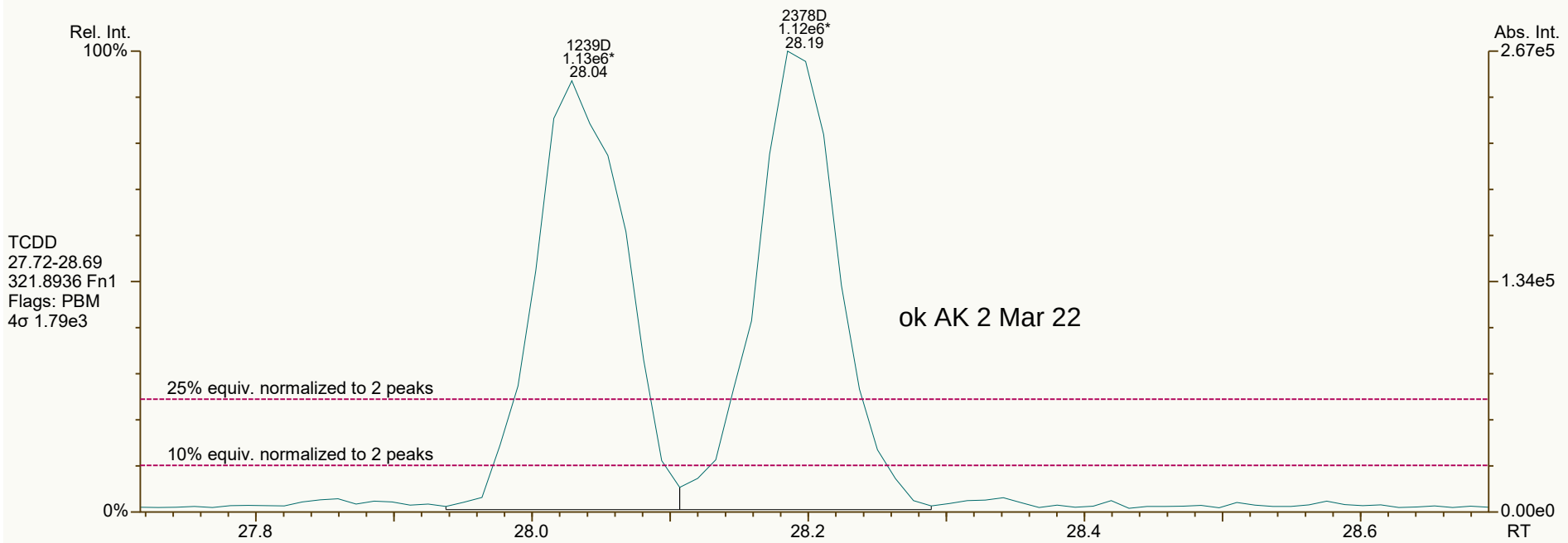
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.49	1289-TCDD	29.18
12479/12468-PeCDD	31.08	12389-PeCDD	34.05
124679/124689-HxCDD	35.79	123789-HxCDD	37.96
1234679-HpCDD	40.02	1234678-HpCDD	40.70
1368-TCDF	22.33	1289-TCDF	29.35
13468/12468-PeCDF	29.27	12389-PeCDF	34.34
123468-HxCDF	35.13	123789-HxCDF	38.33
1234678-HpCDF	39.75	1234789-HpCDF	41.15

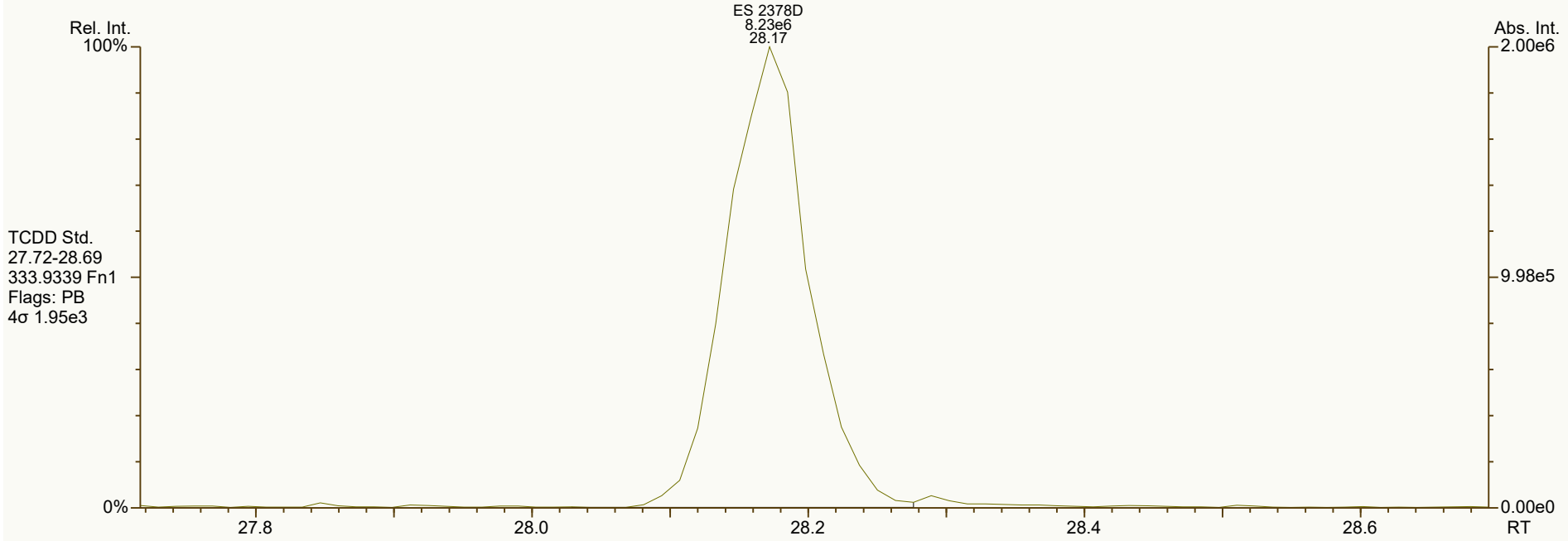
Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.04	2378-TCDD	28.20
2348-TCDF	27.21	2378-TCDF	27.33

Processed: 02 Mar 2022 09:09 Analyst: TF

SGS ID: OPR1_18970_DF
Sample ID: 0_18970_OPR001
Acq: 01-Mar-2022 22:29:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 58
User: DTF Datafile: 220301C11





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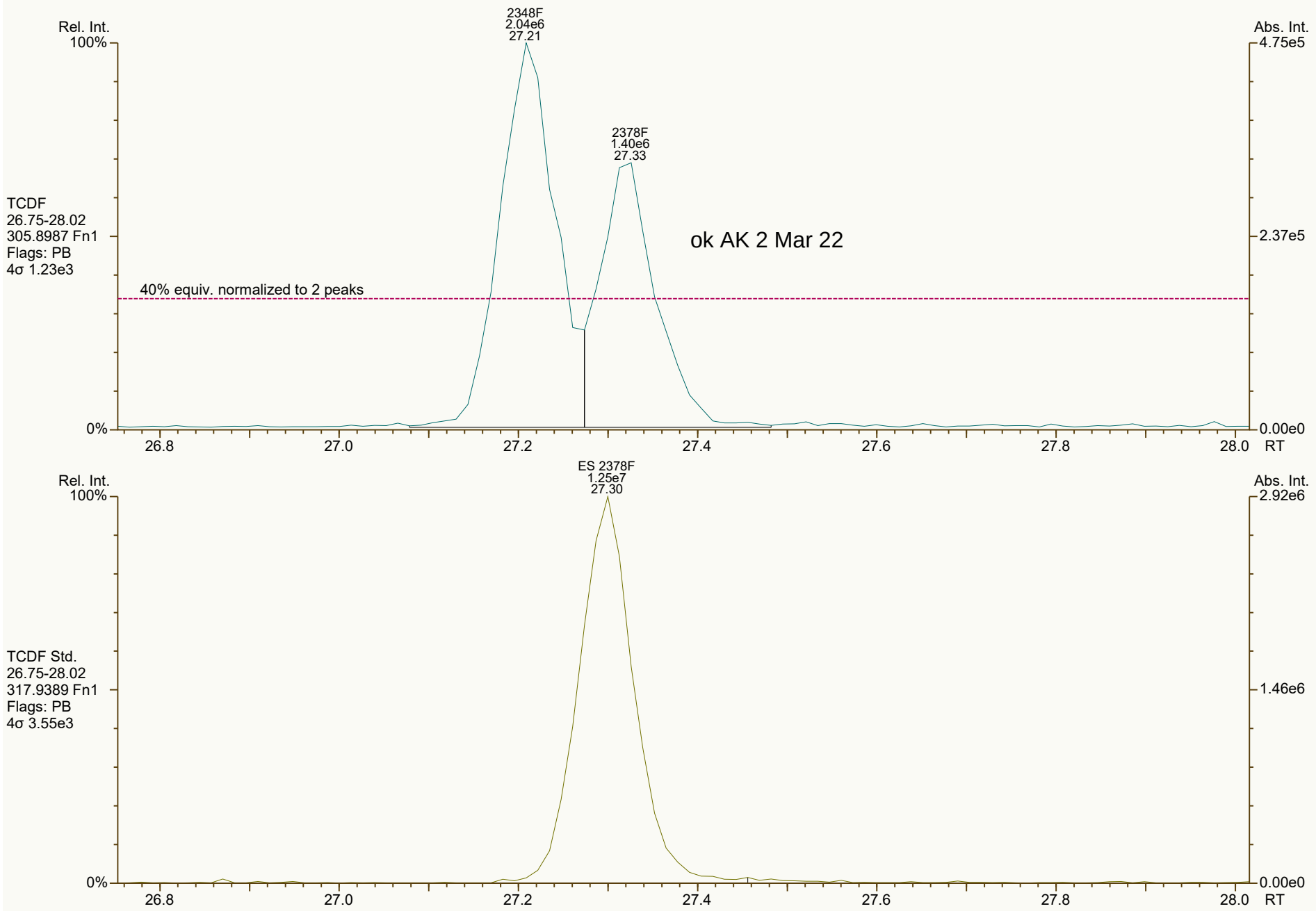
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 02-Mar-2022 09:01 (DTF) Printed: 02-Mar-2022 09:12

SGS ID: OPR1_18970_DF
Sample ID: 0_18970_OPR001
Acq: 01-Mar-2022 22:29:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 58
User: DTF Datafile: 220301C11



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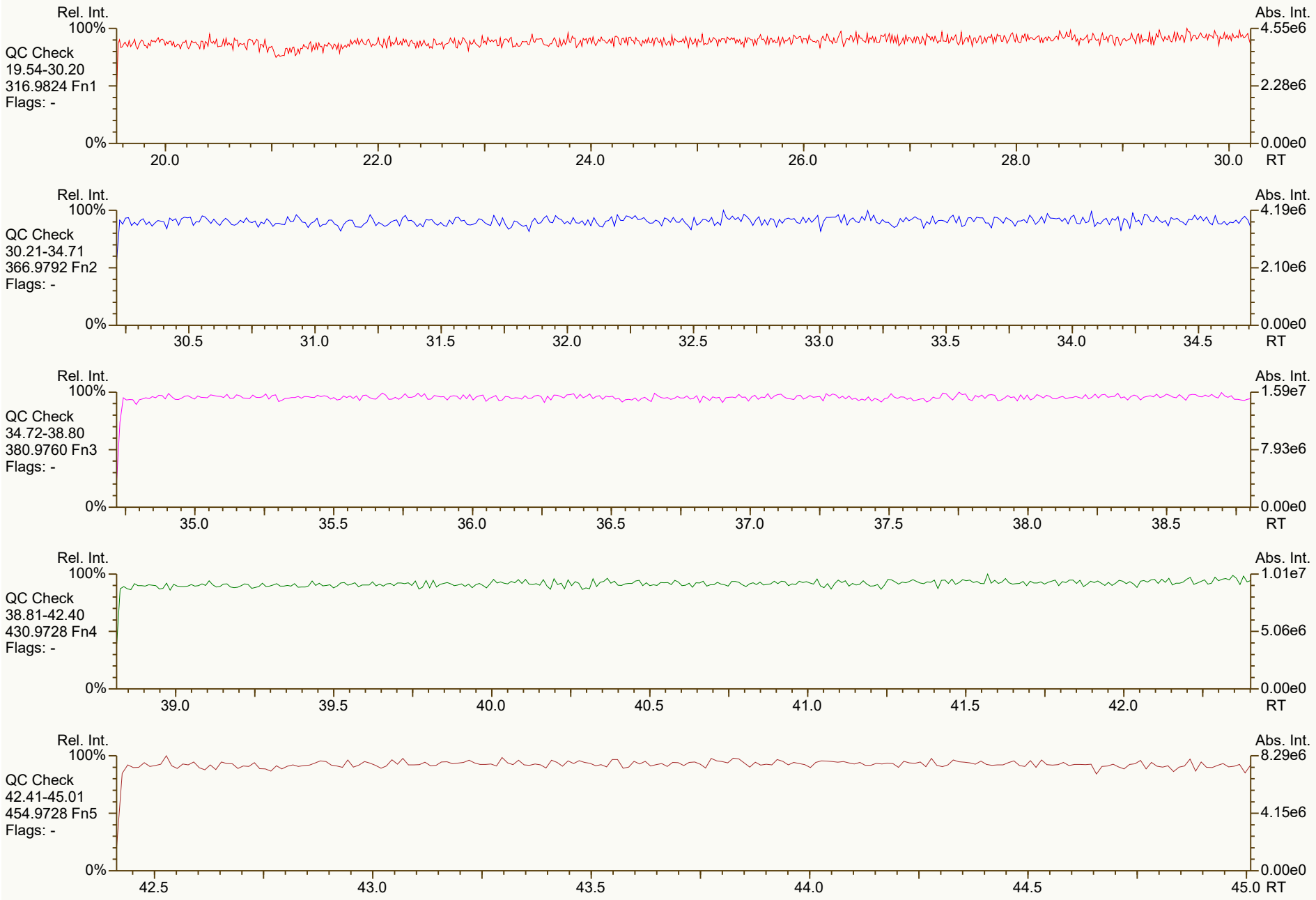
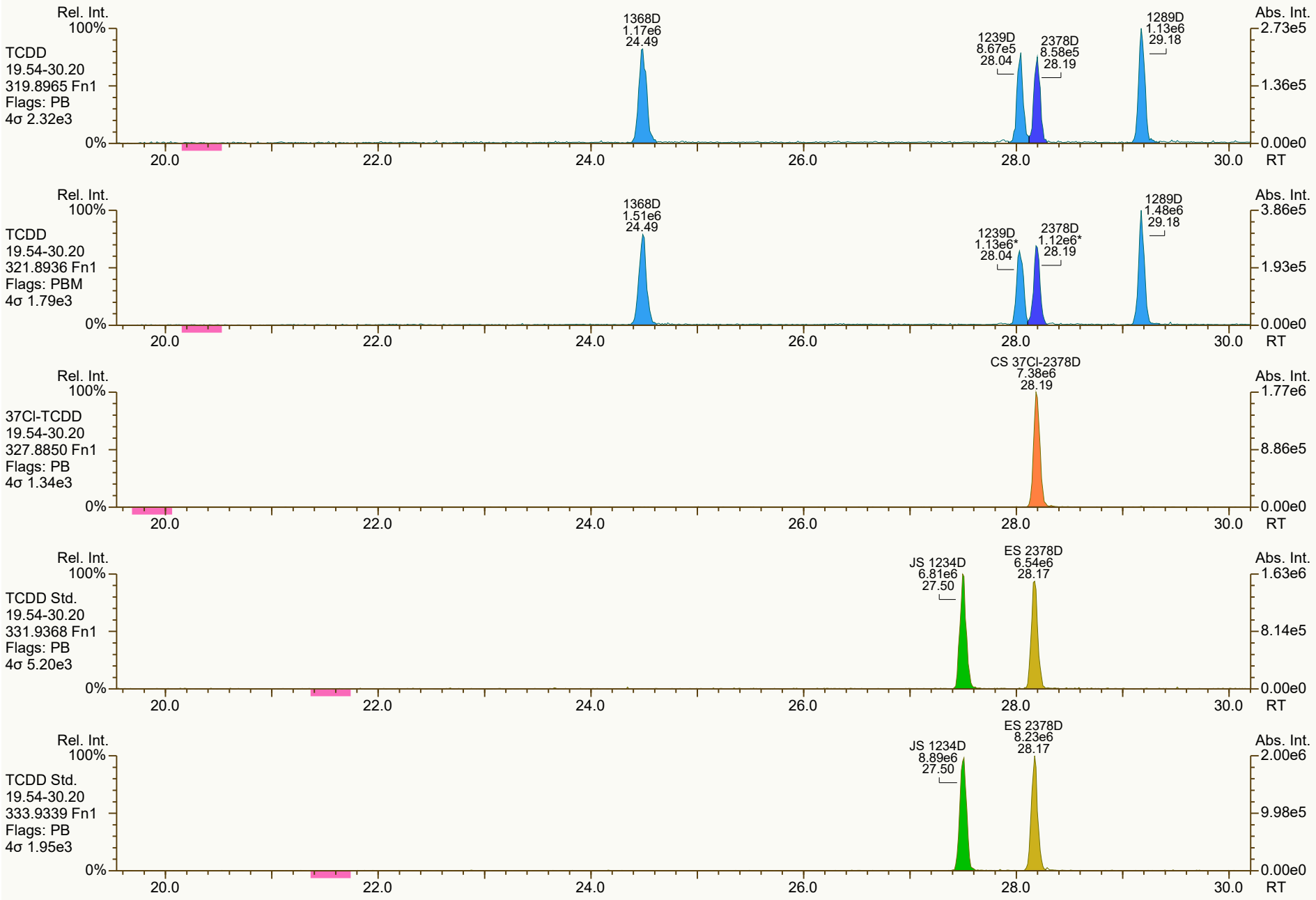
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
PKD: 02-Mar-2022 09:01 Printed: 02-Mar-2022 09:12


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.55e6
2.28e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.19e6
2.10e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.59e7
7.93e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.01e7
5.06e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0

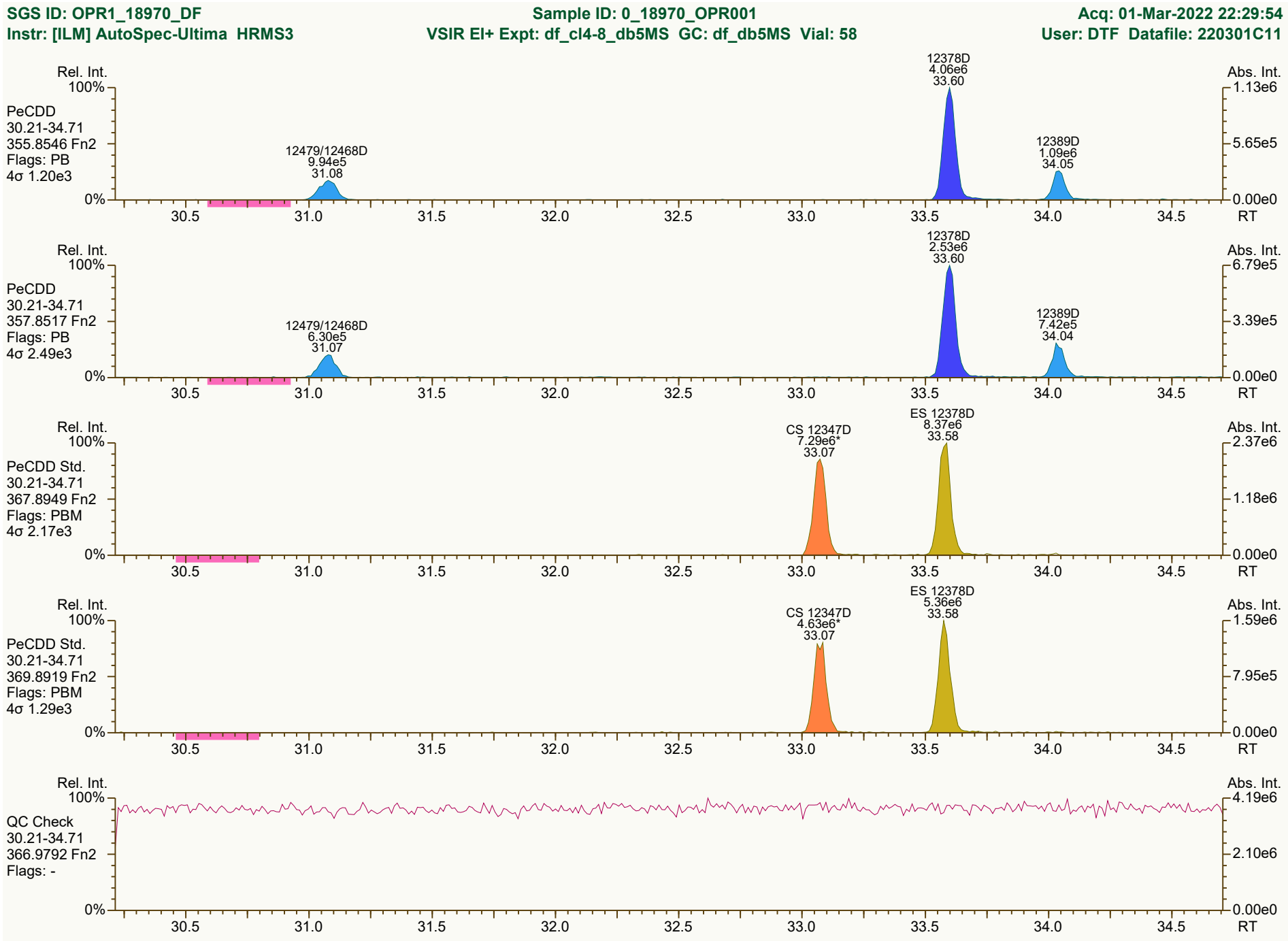
SGS ID: OPR1_18970_DF | Sample ID: 0_18970_OPR001 | Acq: 01-Mar-2022 22:29:54

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 58 | User: DTF Datafile: 220301C11



Results: P:\B6300_B6399\B6336\B6336_18970 DF\Resources\OPR1_18970_DF.utp_res, saved 02-Mar-2022 09:08 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5910, 0619, 1959 scc: 674-870 | *Revised: 02-Mar-2022 09:01 (DTF) Printed: 02-Mar-2022 09:14 Page 2 of 12*

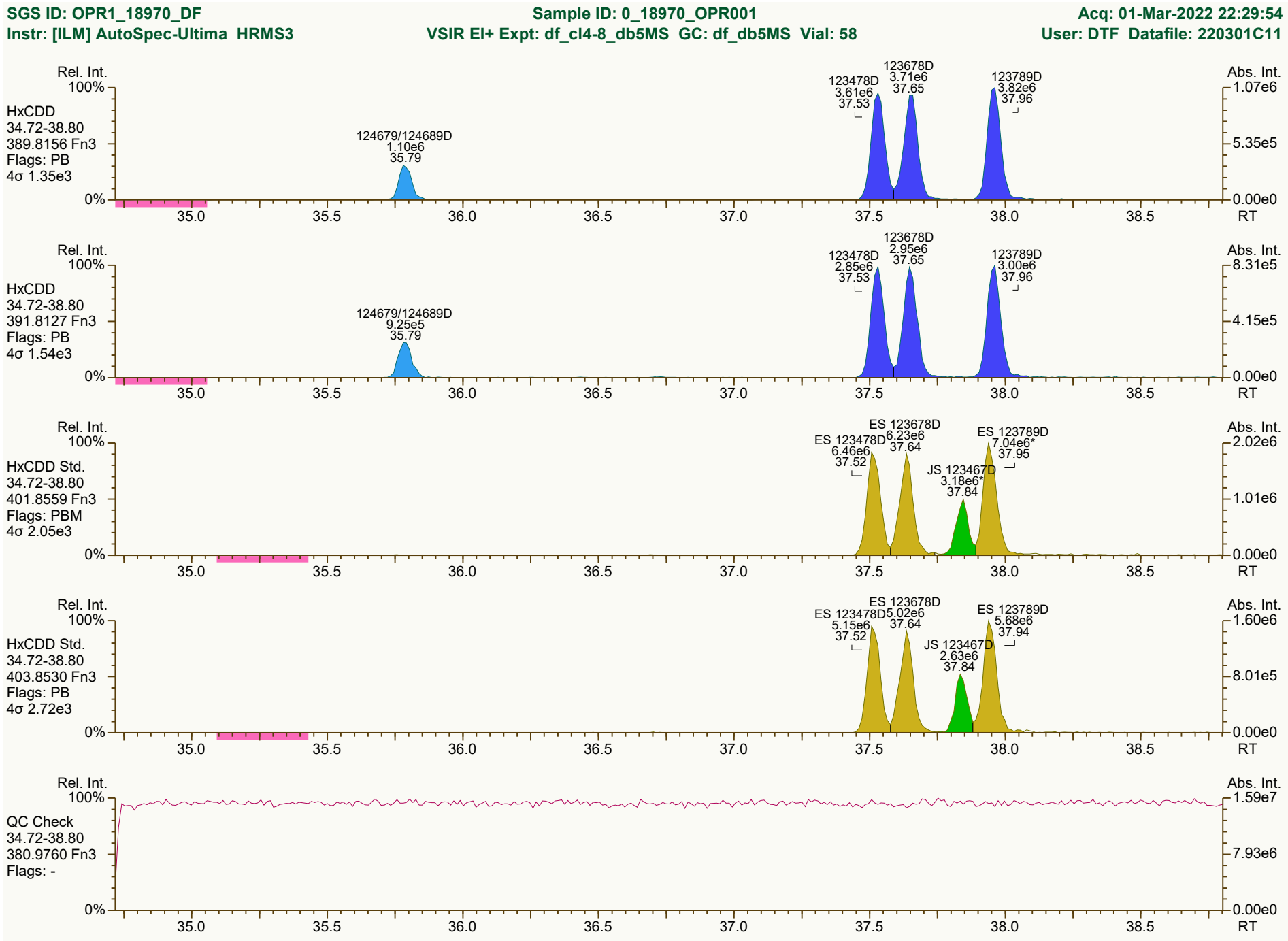


Results: P:\B6300_B6399\B6336\B6336_18970 DF\Resources\OPR1_18970_DF.utp_res, saved 02-Mar-2022 09:08 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3891, 1048 scc: 674-870
Revised: 02-Mar-2022 09:01 (DTF) Printed: 02-Mar-2022 09:14 Page 3 of 12

SGS ID: OPR1_18970_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

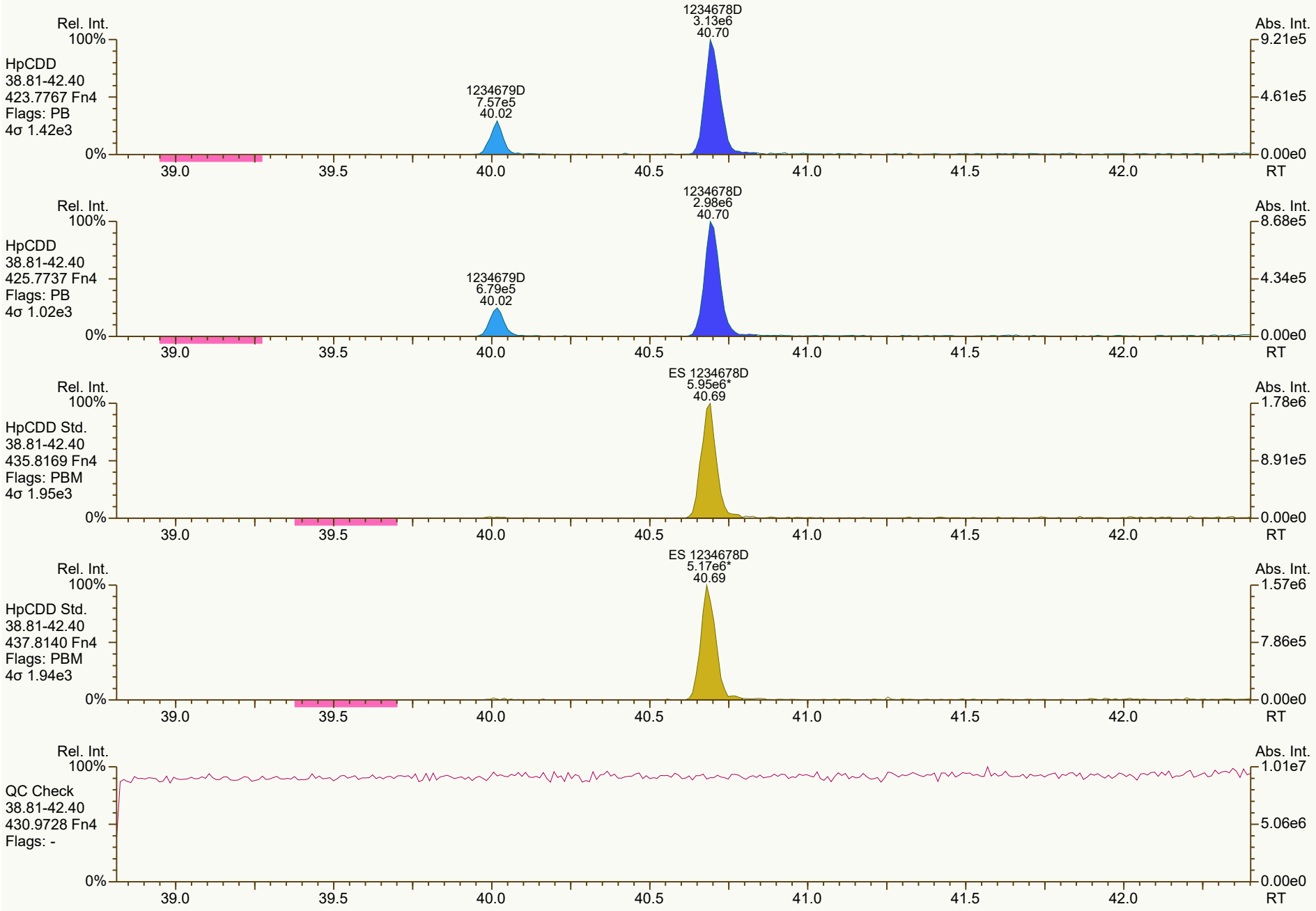
Sample ID: 0_18970_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 58

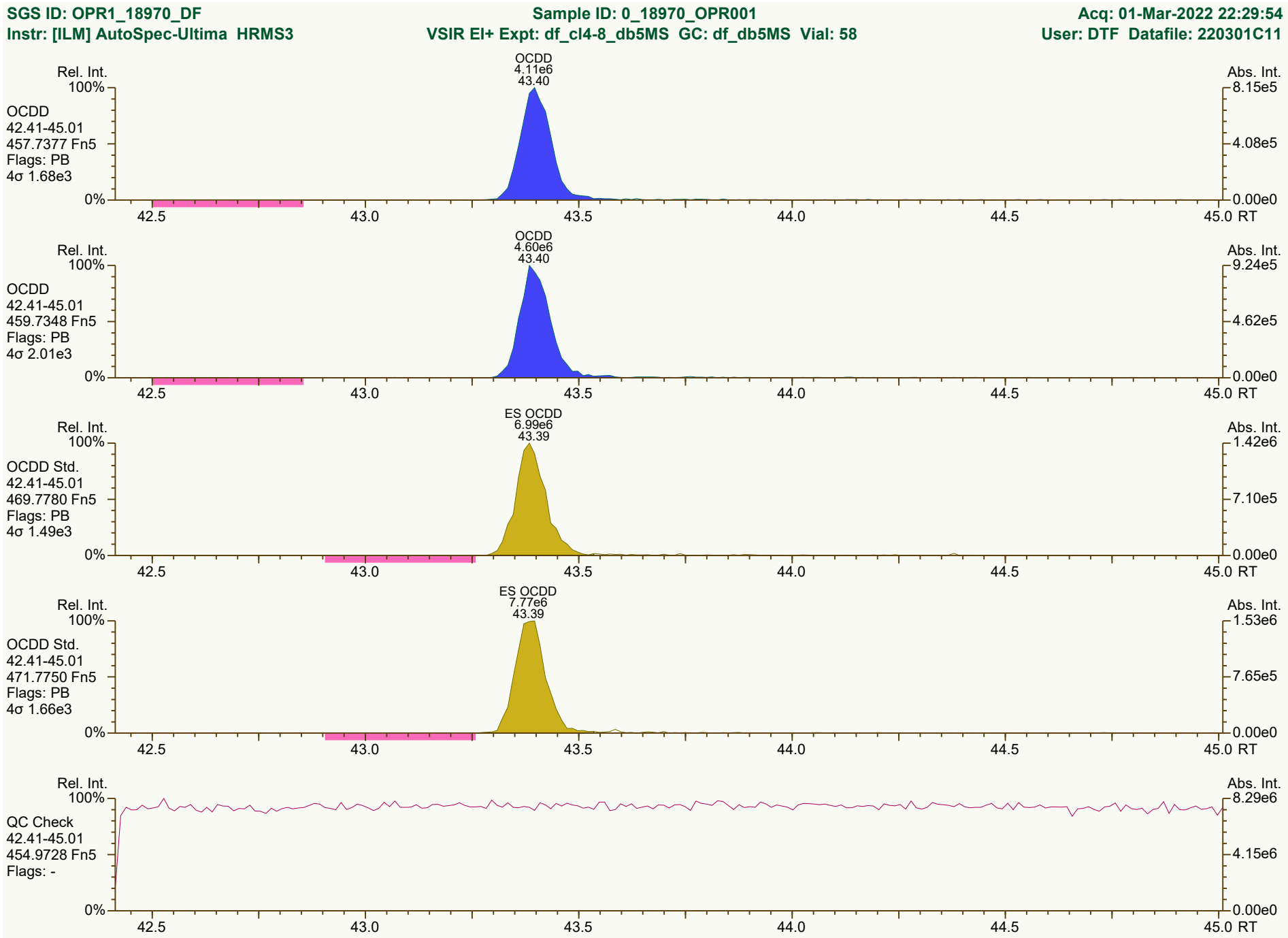
Acq: 01-Mar-2022 22:29:54
User: DTF Datafile: 220301C11

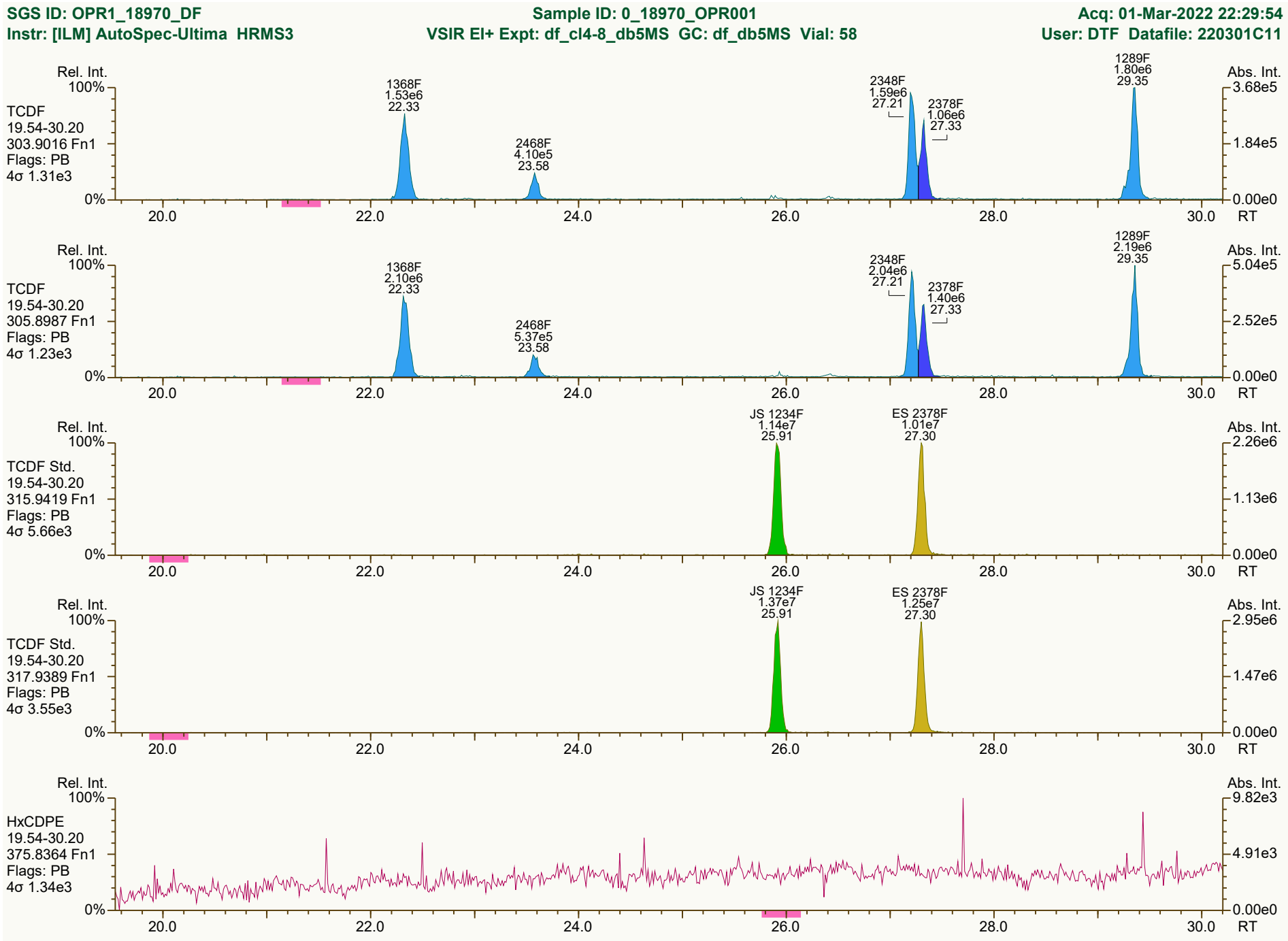


Results: P:\B6300_B6399\B6336\B6336_18970 DF\Resources\OPR1_18970_DF.utp_res, saved 02-Mar-2022 09:08 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8011, 9949 scc: 674-870

Peak annotation: Areas, Centroids
Revised: 02-Mar-2022 09:01 (DTF) Printed: 02-Mar-2022 09:14 Page 4 of 12


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 1.42e3
1234678D
3.13e6
40.70
1234679D
7.57e5
40.02
Abs. Int.
9.21e5
4.61e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.02e3
1234678D
2.98e6
40.70
1234679D
6.79e5
40.02
Abs. Int.
8.68e5
4.34e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 1.95e3
ES 1234678D
5.95e6*
40.69
Abs. Int.
1.78e6
8.91e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PBM
4σ 1.94e3
ES 1234678D
5.17e6*
40.69
Abs. Int.
1.57e6
7.86e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
1.01e7
5.06e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


SGS ID: OPR1_18970_DF
Sample ID: 0_18970_OPR001
Acq: 01-Mar-2022 22:29:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 58
User: DTF Datafile: 220301C11
OCDD
4.11e6
43.40
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 1.68e3
0%
Abs. Int.
8.15e5
4.08e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.60e6
43.40
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 2.01e3
0%
Abs. Int.
9.24e5
4.62e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
6.99e6
43.39
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 1.49e3
0%
Abs. Int.
1.42e6
7.10e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
7.77e6
43.39
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.66e3
0%
Abs. Int.
1.53e6
7.65e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
8.29e6
4.15e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6300_B6399\B6336\B6336_18970 DF\Resources\OPR1_18970_DF.utp_res, saved 02-Mar-2022 09:08 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8529, 4844 scc: 674-870
PKD: 02-Mar-2022 09:00 Printed: 02-Mar-2022 09:14 Page 6 of 12


SGS ID: OPR1_18970_DF
Sample ID: 0_18970_OPR001
Acq: 01-Mar-2022 22:29:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 58
User: DTF Datafile: 220301C11
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.31e3
1368F 1.53e6 22.33
2468F 4.10e5 23.58
2348F 1.59e6 27.21
2378F 1.06e6 27.33
1289F 1.80e6 29.35
3.68e5
1.84e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 1.23e3
1368F 2.10e6 22.33
2468F 5.37e5 23.58
2348F 2.04e6 27.21
2378F 1.40e6 27.33
1289F 2.19e6 29.35
5.04e5
2.52e5
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 5.66e3
JS 1234F 1.14e7 25.91
ES 2378F 1.01e7 27.30
2.26e6
1.13e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 3.55e3
JS 1234F 1.37e7 25.91
ES 2378F 1.25e7 27.30
2.95e6
1.47e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.34e3
9.82e3
4.91e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6300_B6399\B6336\B6336_18970 DF\Resources\OPR1_18970_DF.utp_res, saved 02-Mar-2022 09:08 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2587, 7207, 0234 scc: 674-870
PKD: 02-Mar-2022 09:01 Printed: 02-Mar-2022 09:14 Page 7 of 12

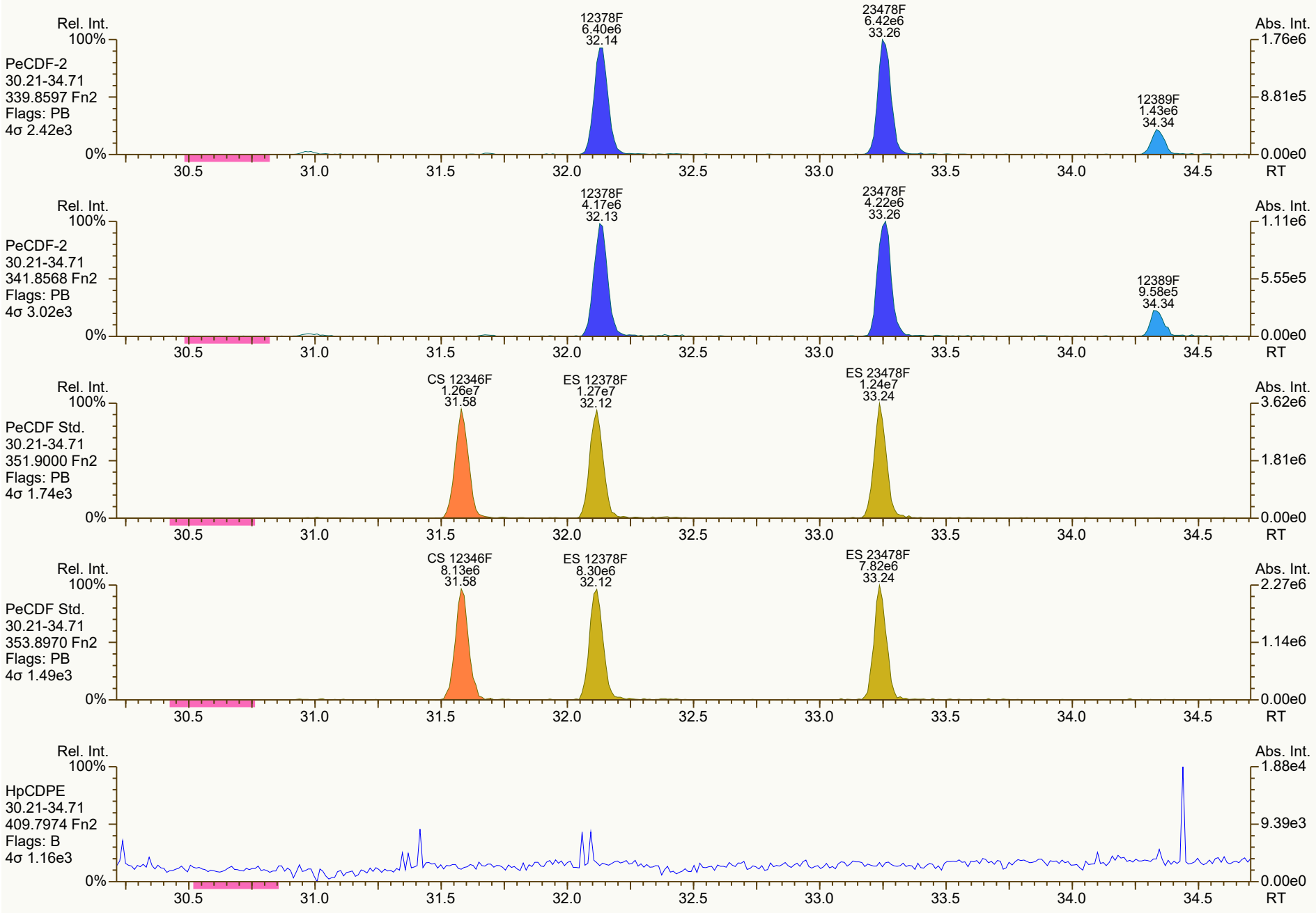
SGS ID: OPR1_18970_DF
Sample ID: 0_18970_OPR001
Acq: 01-Mar-2022 22:29:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 58
User: DTF Datafile: 220301C11



Results: P:\B6300_B6399\B6336\B6336_18970 DF\Resources\OPR1_18970_DF.utp_res, saved 02-Mar-2022 09:08 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5162 scc: 674-870
PKD: 02-Mar-2022 09:00 Printed: 02-Mar-2022 09:14 Page 8 of 12

SGS ID: OPR1_18970_DF | Sample ID: 0_18970_OPR001 | Acq: 01-Mar-2022 22:29:54

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 58 | User: DTF Datafile: 220301C11



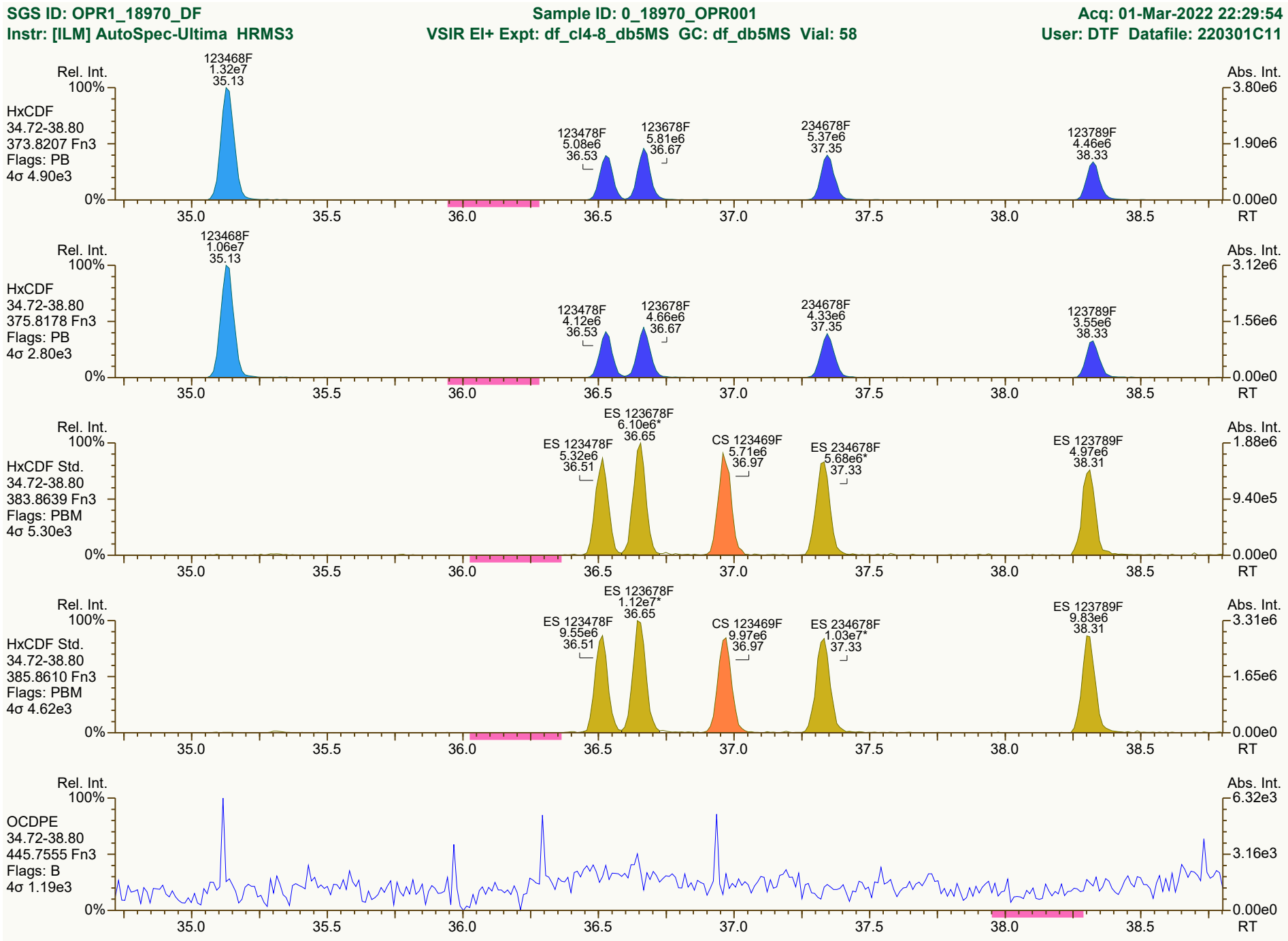
Results: P:\B6300_B6399\B6336\B6336_18970 DF\Resources\OPR1_18970_DF.utp_res, saved 02-Mar-2022 09:08 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1360, 0353, 6694 scc: 674-870 | *PKD: 02-Mar-2022 09:01 Printed: 02-Mar-2022 09:14 Page 9 of 12*

SGS ID: OPR1_18970_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

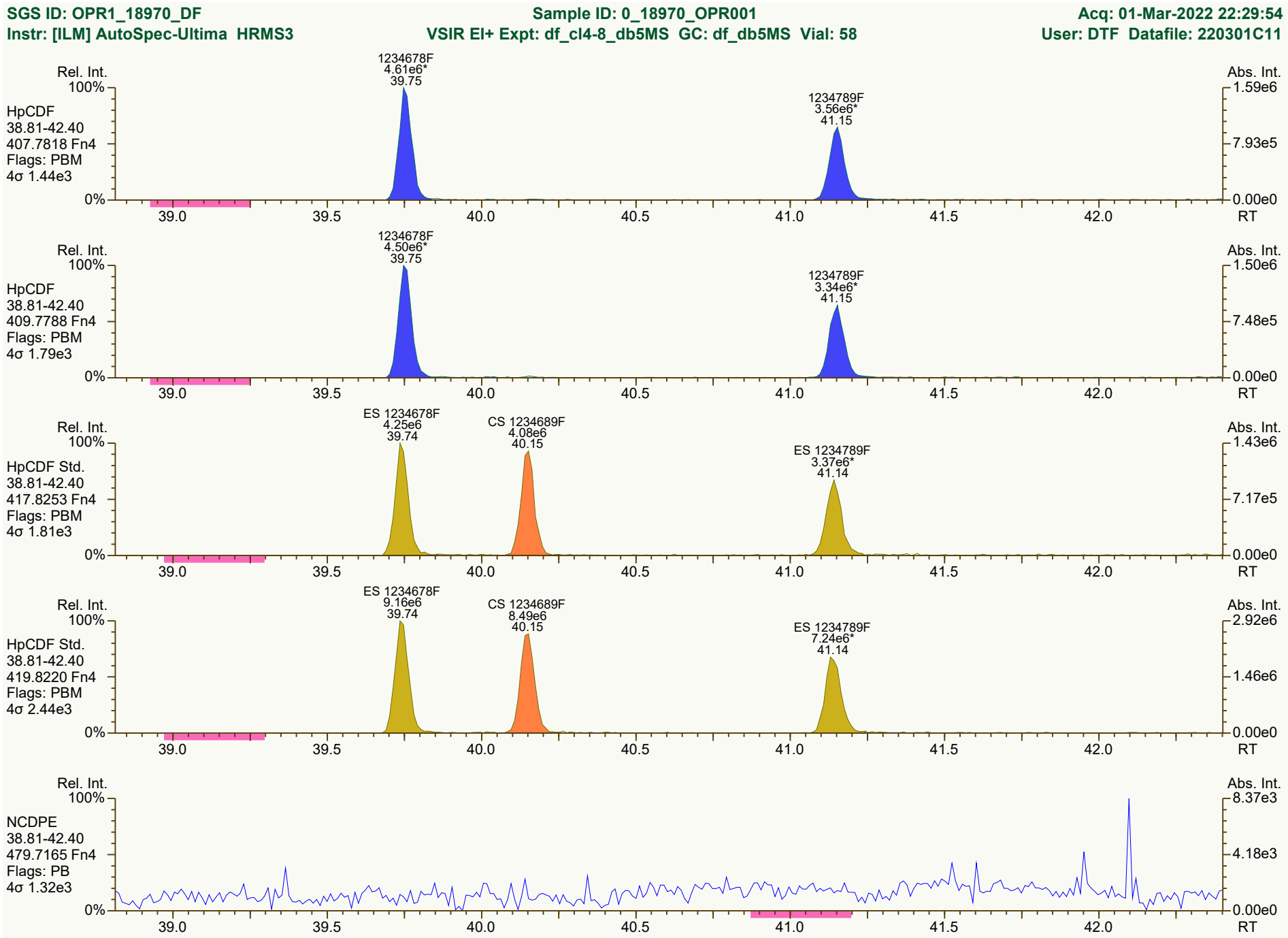
Sample ID: 0_18970_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 58

Acq: 01-Mar-2022 22:29:54
User: DTF Datafile: 220301C11



Results: P:\B6300_B6399\B6336\B6336_18970 DF\Resources\OPR1_18970_DF.utp_res, saved 02-Mar-2022 09:08 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8591, 0309, 5059 scc: 674-870

Peak annotation: Areas, Centroids
PKD: 02-Mar-2022 09:01 Printed: 02-Mar-2022 09:14 Page 10 of 12

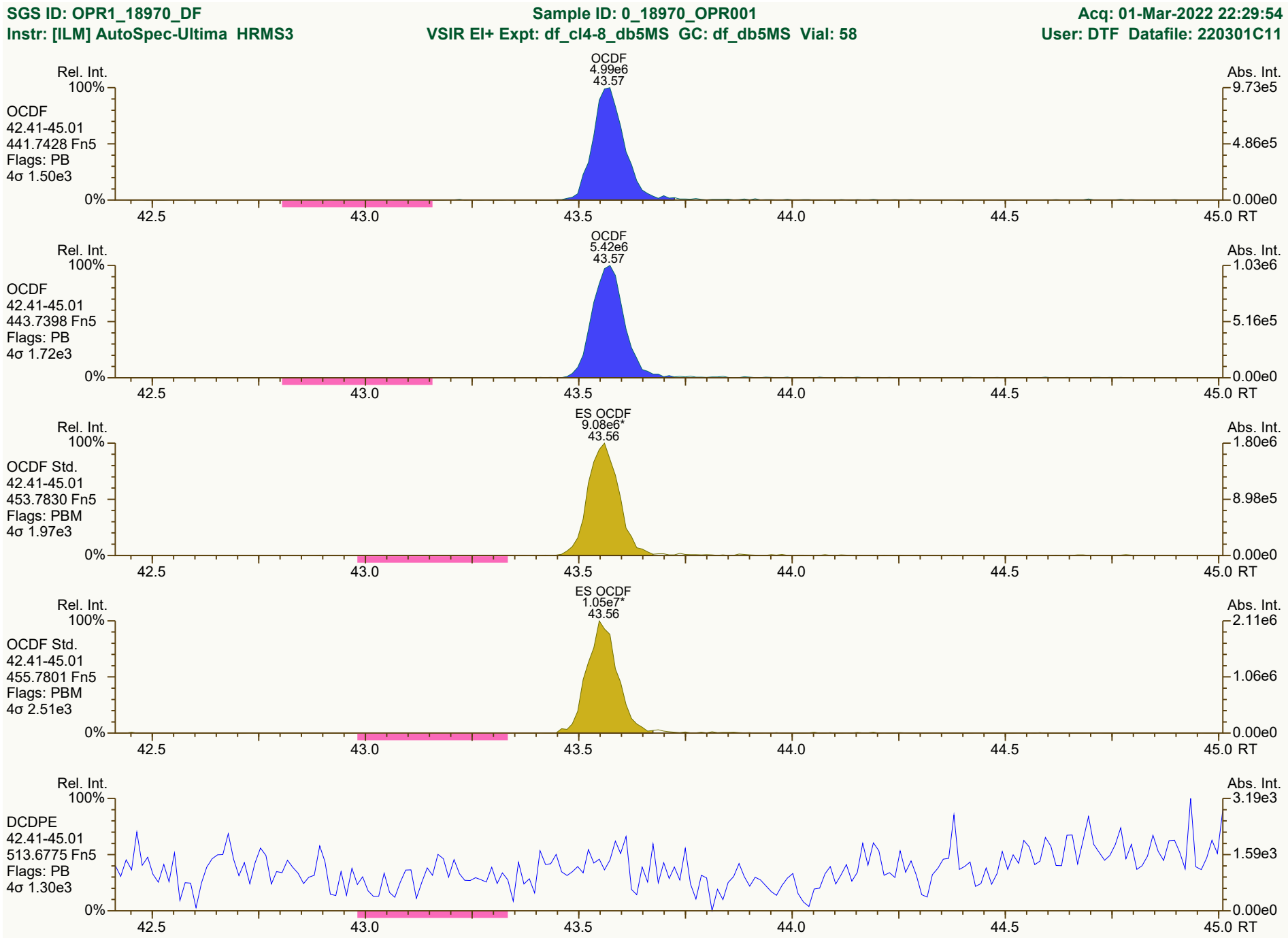


Results: P:\B6300_B6399\B6336\B6336_18970 DF\Resources\OPR1_18970_DF.utp_res, saved 02-Mar-2022 09:08 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6790, 7032, 4426 scc: 674-870
Revised: 02-Mar-2022 09:01 (DTF) Printed: 02-Mar-2022 09:14 Page 11 of 12

SGS ID: OPR1_18970_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18970_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 58

Acq: 01-Mar-2022 22:29:54
User: DTF Datafile: 220301C11



Results: P:\B6300_B6399\B6336\B6336_18970 DF\Resources\OPR1_18970_DF.utp_res, saved 02-Mar-2022 09:08 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7126, 5675, 1329 scc: 674-870

Peak annotation: Areas, Centroids
Revised: 02-Mar-2022 09:01 (DTF) Printed: 02-Mar-2022 09:14 Page 12 of 12

Lab ID: OPR2_18970_DF **Acq'd: 01 Mar 2022 23:16 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18970_OPR002 **UTP: 02-Mar-2022 09:08:25 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 757-124-CVL**

Datafile: 220301C12 **Report: 02 Mar 2022 09:09 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.19		1.0008	1.0008	0	2.97E+06	0.80	Y	1.18	11.9	3734.198	0.159
12378-PeCDD	33.60		1.0007	1.0006	-0.2	9.69E+06	1.58	Y	1.04	49.5	2791.954	0.125
123478-HxCDD	37.54		1.0004	1.0004	0	9.32E+06	1.25	Y	1.09	55.9	2846.443	0.136
123678-HxCDD	37.66		1.0036	1.0037	+0.2	9.48E+06	1.27	Y	1.15	55.6	2846.443	0.137
123789-HxCDD	37.97		1.0118	1.0119	+0.2	9.35E+06	1.25	Y	1.05	51.2	2846.443	0.138
1234678-HpCDD	40.72		1.0002	1.0003	+0.2	8.03E+06	1.05	Y	1.06	54.2	2789.132	0.174
OCDD	43.42		1.0003	1.0003	0	1.04E+07	0.93	Y	1.13	107	2969.347	0.389
2378-TCDF	27.32		1.0008	1.0007	-0.2	3.70E+06	0.74	Y	1.08	11	2981.724	0.0935
12378-PeCDF	32.14		1.0005	1.0006	+0.2	1.56E+07	1.51	Y	1.02	49.7	8853.178	0.276
23478-PeCDF	33.26		1.0005	1.0005	0	1.62E+07	1.50	Y	1.02	52.7	8853.178	0.263
123478-HxCDF	36.54		1.0004	1.0005	+0.2	1.32E+07	1.22	Y	1.27	53.4	9576.193	0.325
123678-HxCDF	36.68		1.0004	1.0004	0	1.52E+07	1.26	Y	1.15	50	9576.193	0.268
234678-HxCDF	37.36		1.0005	1.0005	0	1.46E+07	1.25	Y	1.19	52.9	9576.193	0.314
123789-HxCDF	38.34		1.0004	1.0004	0	1.08E+07	1.25	Y	1.16	47.3	9576.193	0.369
1234678-HpCDF	39.77		1.0003	1.0003	0	1.25E+07	1.04	Y	1.37	49.4	2210.0753	0.0635
1234789-HpCDF	41.17		1.0003	1.0003	0	9.13E+06	1.05	Y	1.31	51.8	2210.0753	0.102
OCDF	43.59		1.0002	1.0003	+0.3	1.21E+07	0.88	Y	1.07	102	2498.056	0.277

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.17	1.0243	1.0244	+0.2	2.12E+07	0.83	Y	1.05	92.5
ES 12378-PeCDD	33.58	1.2198	1.2213	+3.0	1.89E+07	1.55	Y	0.88	98.4
ES 123478-HxCDD	37.52	0.9916	0.9914	-0.5	1.53E+07	1.27	Y	0.97	95.3
ES 123678-HxCDD	37.64	0.9947	0.9946	-0.2	1.49E+07	1.25	Y	0.94	95.3
ES 123789-HxCDD	37.96	1.0029	1.0028	-0.2	1.74E+07	1.26	Y	1.09	96.7
ES 1234678-HpCDD	40.70	1.0749	1.0755	+1.5	1.40E+07	1.08	Y	0.91	92.9
ES OCDD	43.41	1.1460	1.1469	+2.3	1.73E+07	0.92	Y	0.62	84.2
ES 2378-TCDF	27.30	1.0531	1.0536	+0.8	3.13E+07	0.80	Y	1.06	84.5
ES 12378-PeCDF	32.12	1.2378	1.2397	+3.7	3.06E+07	1.57	Y	0.91	96.1
ES 23478-PeCDF	33.24	1.2810	1.2831	+4.2	3.02E+07	1.60	Y	0.88	97.9
ES 123478-HxCDF	36.52	0.9650	0.9649	-0.2	1.94E+07	0.55	Y	1.20	98.2
ES 123678-HxCDF	36.66	0.9688	0.9687	-0.2	2.64E+07	0.54	Y	1.35	118
ES 234678-HxCDF	37.34	0.9866	0.9866	0	2.32E+07	0.55	Y	1.24	113
ES 123789-HxCDF	38.32	1.0125	1.0125	0	1.97E+07	0.54	Y	1.16	103
ES 1234678-HpCDF	39.75	1.0501	1.0504	+0.7	1.85E+07	0.47	Y	0.97	116
ES 1234789-HpCDF	41.16	1.0870	1.0874	+1.0	1.35E+07	0.47	Y	0.85	96
ES OCDF	43.58	1.1505	1.1515	+2.6	2.22E+07	0.93	Y	0.81	83.3

Lab ID: OPR2_18970_DF | **Acq'd:** 01 Mar 2022 23:16 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18970_OPR002 | **UTP:** 02-Mar-2022 09:08:25 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 757-124-CVL

Datafile: 220301C12 | **Report:** 02 Mar 2022 09:09 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.50		-	-	-	2.19E+07	0.81	Y	-	-
JS 1234-TCDF	25.91		-	-	-	3.49E+07	0.79	Y	-	-
JS 123467-HxCDD	37.85		-	-	-	8.25E+06	1.24	Y	-	-
CS 37Cl-2378-TCDD	28.19		1.0251	1.0252	+0.2	1.03E+07	n/a	-	1.20	98.2
CS 12347-PeCDD	33.08		1.2016	1.2028	+2.4	1.79E+07	1.55	Y	0.75	109
CS 12346-PeCDF	31.58		1.2172	1.2191	+3.6	3.11E+07	1.54	Y	0.85	105
CS 123469-HxCDF	36.97		0.9771	0.9769	-0.4	2.19E+07	0.56	Y	1.12	119
CS 1234689-HpCDF	40.16		1.0608	1.0612	+1.0	1.69E+07	0.49	Y	0.89	116
~~SS 37Cl-2378-TCDD~~	~~28.19~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.03E+07~~	~~n/a~~		~~1.15~~	~~106~~
~~SS 12347-PeCDD~~	~~33.08~~		~~1.2016~~	~~1.2028~~	~~+2.4~~	~~1.79E+07~~	~~1.55~~	~~Y~~	~~0.86~~	~~110~~
~~SS 12346-PeCDF~~	~~31.58~~		~~1.2172~~	~~1.2191~~	~~+3.6~~	~~3.11E+07~~	~~1.54~~	~~Y~~	~~0.94~~	~~109~~
~~SS 123469-HxCDF~~	~~36.97~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~2.19E+07~~	~~0.56~~	~~Y~~	~~0.83~~	~~100~~
~~SS 1234689-HpCDF~~	~~40.16~~		~~1.0608~~	~~1.0612~~	~~+1.0~~	~~1.69E+07~~	~~0.49~~	~~Y~~	~~0.92~~	~~99.7~~

Totals	Conc	EMPC
Total TCDD	50.8	50.8
Total PeCDD	74.5	74.5
Total HxCDD	179	179
Total HpCDD	67	67
Total Tetra-Octa Dioxins	478	478
Total TCDF	59.8	59.8
Total PeCDF	193	193
Total HxCDF	323	323
Total HpCDF	101	101
Total Tetra-Octa Furans	779	779
Total Tetra-Octa Dioxins & Furans	1260	1260

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.794	0.80
Response	2.98E+06	2.97E+06

Lab ID: OPR2_18970_DF | **Acq'd: 01 Mar 2022 23:16 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18970_OPR002 | **UTP: 02-Mar-2022 09:08:25 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 757-124-CVL**

Datafile: 220301C12 | **Report: 02 Mar 2022 09:09 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.48		0.8701	0.8691	-1.5	3.63E+06	0.77	Y	1.18	14.5	3734.198	0.159
1379-TCDD	NotFnd		0.8829						1.18		3734.198	0.159
1369-TCDD	NotFnd		0.8982						1.18		3734.198	0.159
1469-TCDD	NotFnd		0.9261						1.18		3734.198	0.159
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		3734.198	0.159
1378-TCDD	NotFnd		0.9417						1.18		3734.198	0.159
1268-TCDD	NotFnd		0.9487						1.18		3734.198	0.159
1478-TCDD	NotFnd		0.9576						1.18		3734.198	0.159
1279-TCDD	NotFnd		0.9636						1.18		3734.198	0.159
1234/1269-TCDD	NotFnd		0.9761						1.18		3734.198	0.159
1236-TCDD	NotFnd		0.9812						1.18		3734.198	0.159
1237/1238-TCDD	NotFnd		0.9905						1.18		3734.198	0.159
1239-TCDD	28.03		0.9951	0.9951	0	2.58E+06	0.82	Y	1.18	10.3	3734.198	0.159
2378-TCDD	**28.19**		**1.0008**	1.0008	**0**	2.97E+06	0.80	Y	**1.18**	**11.9**	**3734.198**	**0.159**
1278-TCDD	NotFnd		1.0124						1.18		3734.198	0.159
1267-TCDD	NotFnd		1.0172						1.18		3734.198	0.159
1289-TCDD	29.18		1.0354	1.0358	+0.7	3.56E+06	0.77	Y	1.18	14.2	3734.198	0.159
12479/12468-PeCDD	31.08		0.9255	0.9254	-0.2	2.48E+06	1.50	Y	1.04	12.6	2791.954	0.125
12469-PeCDD	NotFnd		0.9416						1.04		2791.954	0.125
12368-PeCDD	NotFnd		0.9582						1.04		2791.954	0.125
12478-PeCDD	NotFnd		0.9637						1.04		2791.954	0.125
12379-PeCDD	NotFnd		0.9668						1.04		2791.954	0.125
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		2791.954	0.125
12346/12347-PeCDD	NotFnd		0.9858						1.04		2791.954	0.125
12378-PeCDD	33.60		**1.0007**	**1.0006**	**-0.2**	**9.69E+06**	**1.58**	**Y**	**1.04**	**49.5**	**2791.954**	**0.125**
12367-PeCDD	NotFnd		1.0036						1.04		2791.954	0.125
12389-PeCDD	34.05		1.0137	1.0138	+0.2	2.43E+06	1.56	Y	1.04	12.4	2791.954	0.125
124679/124689-HxCDD	35.79		0.9540	0.9539	-0.2	2.86E+06	1.22	Y	1.10	16.5	2846.443	0.137
123468-HxCDD	NotFnd		0.9715						1.10		2846.443	0.137
123679/123689-HxCDD	NotFnd		0.9793						1.10		2846.443	0.137
123469-HxCDD	NotFnd		0.9829						1.10		2846.443	0.137
123478-HxCDD	37.54		**1.0004**	**1.0004**	**0**	**9.32E+06**	**1.25**	**Y**	1.09	**55.9**	**2846.443**	**0.136**
123678-HxCDD	37.66		**1.0036**	**1.0037**	**+0.2**	**9.48E+06**	**1.27**	**Y**	1.15	**55.6**	**2846.443**	**0.137**
123467-HxCDD	NotFnd		1.0089						1.10		2846.443	0.137
123789-HxCDD	37.97		**1.0118**	**1.0119**	**+0.2**	**9.35E+06**	**1.25**	**Y**	1.05	**51.2**	**2846.443**	**0.138**

Lab ID: OPR2_18970_DF **Acq'd: 01 Mar 2022 23:16 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18970_OPR002 **UTP: 02-Mar-2022 09:08:25 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 757-124-CVL**

Datafile: 220301C12 **Report: 02 Mar 2022 09:09 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.03		0.9836	0.9835	-0.2	1.90E+06	1.01	Y	1.06	12.8	2789.132	0.174
1234678-HpCDD	**40.72**		**1.0002**	**1.0003**	**+0.2**	**8.03E+06**	**1.05**	**Y**	**1.06**	**54.2**	**2789.132**	**0.174**
OCDD	**43.42**		**1.0003**	**1.0003**	**0**	**1.04E+07**	**0.93**	**Y**	**1.13**	**107**	**2969.347**	**0.389**
OCDD-a	43.42		1.0002	1.0004	+0.5	4.23E+05	2.64	Y	0.07	67.8	3505.516	7.18
1368-TCDF	22.32		0.8191	0.8175	-2.1	5.03E+06	0.78	Y	1.08	14.9	2981.724	0.0935
1468-TCDF	NotFnd		0.8408						1.08		2981.724	0.0935
2468-TCDF	23.56		0.8645	0.8632	-1.8	1.19E+06	0.69	Y	1.08	3.52	2981.724	0.0935
1346/1246-TCDF	NotFnd		0.8772						1.08		2981.724	0.0935
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		2981.724	0.0935
1348-TCDF	NotFnd		0.8932						1.08		2981.724	0.0935
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		2981.724	0.0935
1268-TCDF	NotFnd		0.9119						1.08		2981.724	0.0935
1467-TCDF	NotFnd		0.9170						1.08		2981.724	0.0935
1478-TCDF	NotFnd		0.9234						1.08		2981.724	0.0935
1369/1237-TCDF	NotFnd		0.9369						1.08		2981.724	0.0935
2467-TCDF	NotFnd		0.9415						1.08		2981.724	0.0935
2368-TCDF	NotFnd		0.9475						1.08		2981.724	0.0935
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		2981.724	0.0935
1278-TCDF	NotFnd		0.9676						1.08		2981.724	0.0935
1349-TCDF	NotFnd		0.9722						1.08		2981.724	0.0935
1267-TCDF	NotFnd		0.9777						1.08		2981.724	0.0935
2346/1249-TCDF	NotFnd		0.9843						1.08		2981.724	0.0935
2347/1279-TCDF	NotFnd		0.9926						1.08		2981.724	0.0935
2348-TCDF	27.21		0.9968	0.9967	-0.2	4.88E+06	0.74	Y	1.08	14.5	2981.724	0.0935
2378-TCDF	**27.32**		**1.0008**	**1.0007**	**-0.2**	**3.70E+06**	**0.74**	**Y**	**1.08**	**11**	**2981.724**	**0.0935**
2367/3467-TCDF	NotFnd		1.0142						1.08		2981.724	0.0935
1269-TCDF	NotFnd		1.0235						1.08		2981.724	0.0935
1239-TCDF	NotFnd		1.0329						1.08		2981.724	0.0935
1289-TCDF	29.35		1.0742	1.0751	+1.6	5.40E+06	0.75	Y	1.08	16	2981.724	0.0935
13468/12468-PeCDF	29.27		0.9122	0.9114	-1.4	2.50E+07	1.50	Y	1.02	80.6	2727.02	0.0831
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		8853.178	0.27
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		8853.178	0.27
14678-PeCDF	NotFnd		0.9685						1.02		8853.178	0.27
13479-PeCDF	NotFnd		0.9716						1.02		8853.178	0.27
13469/12479-PeCDF	NotFnd		0.9794						1.02		8853.178	0.27
12346-PeCDF	NotFnd		0.9836						1.02		8853.178	0.27

Lab ID: OPR2_18970_DF **Acq'd: 01 Mar 2022 23:16 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18970_OPR002 **UTP: 02-Mar-2022 09:08:25 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 757-124-CVL**

Datafile: 220301C12 **Report: 02 Mar 2022 09:09 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		8853.178	0.27
12347-PeCDF	NotFnd		0.9891						1.02		8853.178	0.27
12348-PeCDF	NotFnd		0.9938						1.02		8853.178	0.27
12378-PeCDF	**32.14**		**1.0005**	**1.0006**	**+0.2**	**1.56E+07**	**1.51**	**Y**	**1.02**	**49.7**	**8853.178**	**0.276**
12678/12367-PeCDF	NotFnd		1.0091						1.02		8853.178	0.27
12379-PeCDF	NotFnd		1.0144						1.02		8853.178	0.27
12679-PeCDF	NotFnd		0.9927						1.02		8853.178	0.27
23467/12369-PeCDF	NotFnd		0.9965						1.02		8853.178	0.27
23478-PeCDF	**33.26**		**1.0005**	**1.0005**	**0**	**1.62E+07**	**1.50**	**Y**	**1.02**	**52.7**	**8853.178**	**0.263**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		8853.178	0.27
12349-PeCDF	NotFnd		1.0101						1.02		8853.178	0.27
12389-PeCDF	34.35		1.0330	1.0331	+0.2	3.25E+06	1.54	Y	1.02	10.5	8853.178	0.27
123468-HxCDF	35.14		0.9622	0.9623	+0.2	3.15E+07	1.24	Y	1.19	119	9576.193	0.314
124678/134678-HxCDF	NotFnd		0.9678						1.19		9576.193	0.314
134679-HxCDF	NotFnd		0.9741						1.19		9576.193	0.314
124679-HxCDF	NotFnd		0.9795						1.19		9576.193	0.314
124689-HxCDF	NotFnd		0.9856						1.19		9576.193	0.314
123467-HxCDF	NotFnd		0.9972						1.19		9576.193	0.314
123478-HxCDF	**36.54**		**1.0004**	**1.0005**	**+0.2**	**1.32E+07**	**1.22**	**Y**	**1.27**	**53.4**	**9576.193**	**0.325**
123678-HxCDF	**36.68**		**1.0004**	**1.0004**	**0**	**1.52E+07**	**1.26**	**Y**	**1.15**	**50**	**9576.193**	**0.268**
123479-HxCDF	NotFnd		1.0048						1.19		9576.193	0.314
123469-HxCDF	NotFnd		1.0089						1.19		9576.193	0.314
123679-HxCDF	NotFnd		0.9942						1.19		9576.193	0.314
234678-HxCDF	**37.36**		**1.0005**	**1.0005**	**0**	**1.46E+07**	**1.25**	**Y**	**1.19**	**52.9**	**9576.193**	**0.314**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		9576.193	0.314
123789-HxCDF	**38.34**		**1.0004**	**1.0004**	**0**	**1.08E+07**	**1.25**	**Y**	**1.16**	**47.3**	**9576.193**	**0.369**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		9576.193	0.314
1234678-HpCDF	**39.77**		**1.0003**	**1.0003**	**0**	**1.25E+07**	**1.04**	**Y**	**1.37**	**49.4**	**2210.0753**	**0.0635**
1234679-HpCDF	NotFnd		1.0068						1.34		2210.0753	0.0796
1234689-HpCDF	NotFnd		1.0104						1.34		2210.0753	0.0796
1234789-HpCDF	**41.17**		**1.0003**	**1.0003**	**0**	**9.13E+06**	**1.05**	**Y**	**1.31**	**51.8**	**2210.0753**	**0.102**
OCDF	**43.59**		**1.0002**	**1.0003**	**+0.3**	**1.21E+07**	**0.88**	**Y**	**1.07**	**102**	**2498.056**	**0.277**
OCDF-a	43.59	**EMPC**	1.0001	1.0001	0	6.53E+05	1.74	N	0.07	88.6	3471.177	6.22

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220301C12	Analysis Date:	01-MAR-2022 23:16:15
Lab ID:	OPR2_18970_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.9	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	49.5	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	55.9	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	55.6	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	51.2	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	54.2	35	-	70	Y
OCDD	100	107	78	-	144	Y
2,3,7,8-TCDF	10	11	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	49.7	40	-	67	Y
2,3,4,7,8-PeCDF	50	52.7	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	53.4	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	50	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	52.9	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	47.3	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	49.4	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	51.8	39	-	69	Y
OCDF	100	102	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 02 Mar 2022 09:09 Analyst: TF

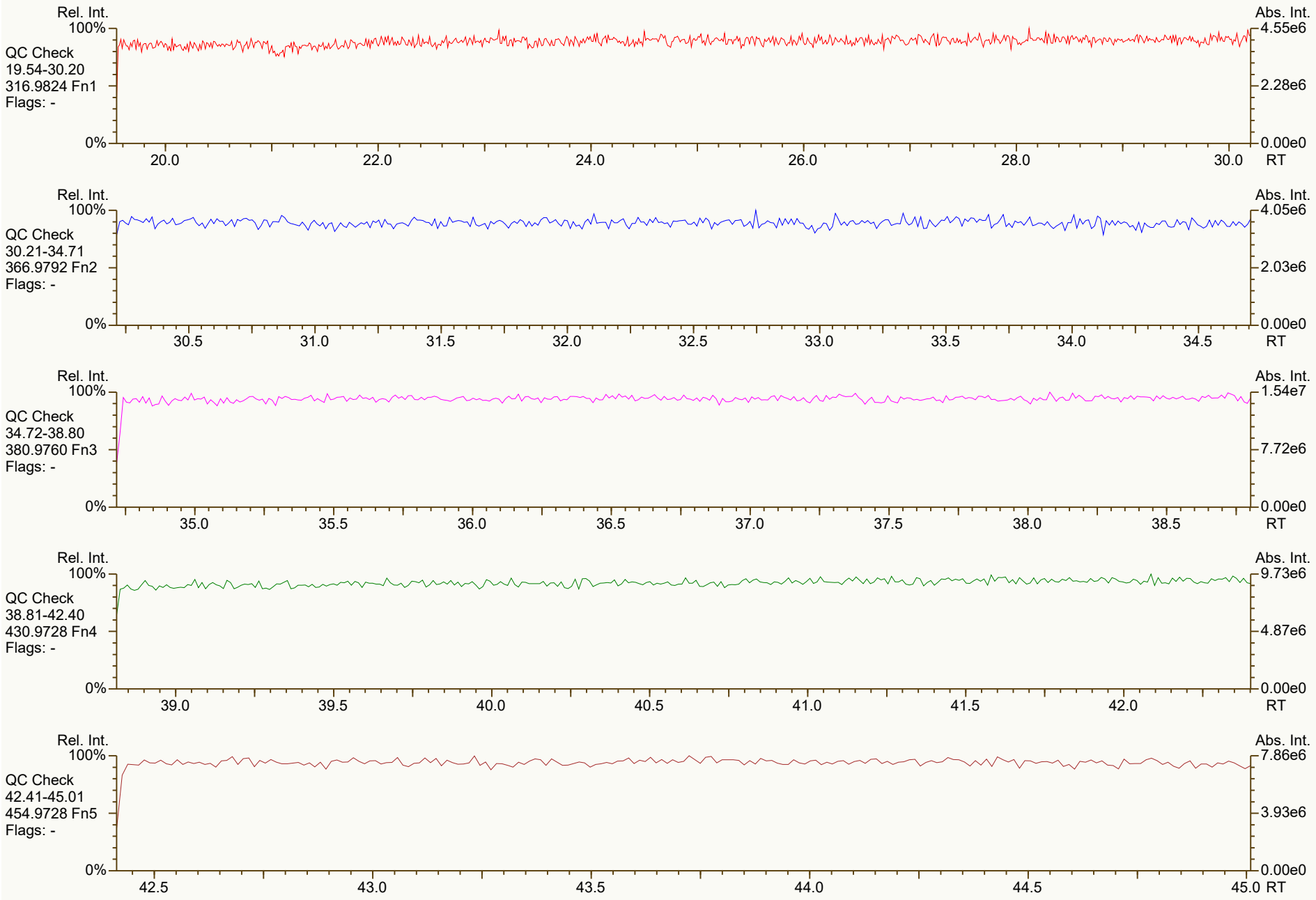
METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220301C12	Analysis Date:	01-MAR-2022 23:16:15
Lab ID:	OPR2_18970_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	92.5	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	98.4	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	95.3	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	95.3	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	96.7	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	92.9	26	-	166	Y
13C-OCDD	200	168	26	-	397	Y
13C-2,3,7,8-TCDF	100	84.5	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	96.1	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	97.9	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	98.2	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	118	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	113	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	103	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	116	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	96	20	-	186	Y
13C-OCDF	200	167	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	39.3	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

Processed: 02 Mar 2022 09:09 Analyst: TF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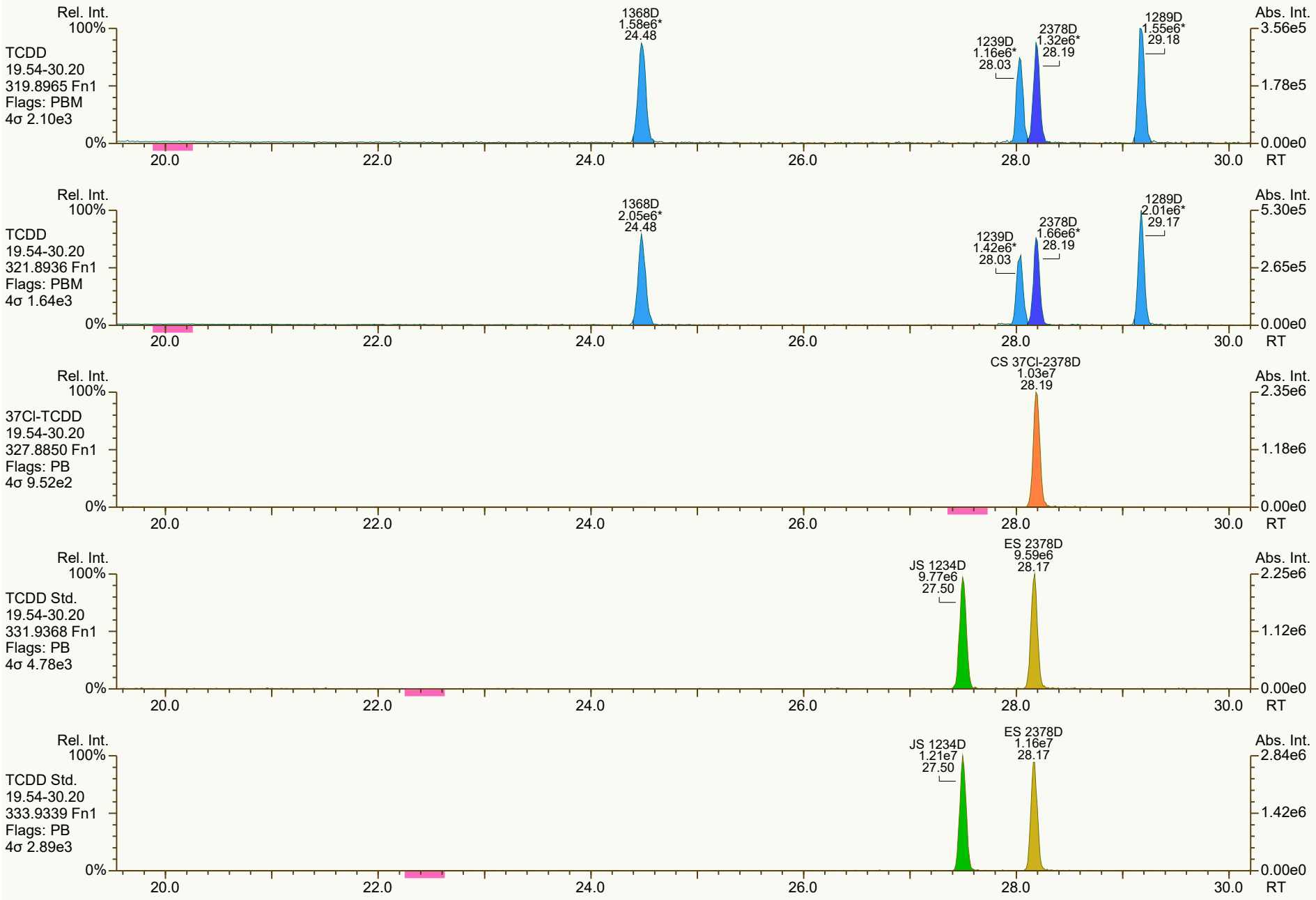
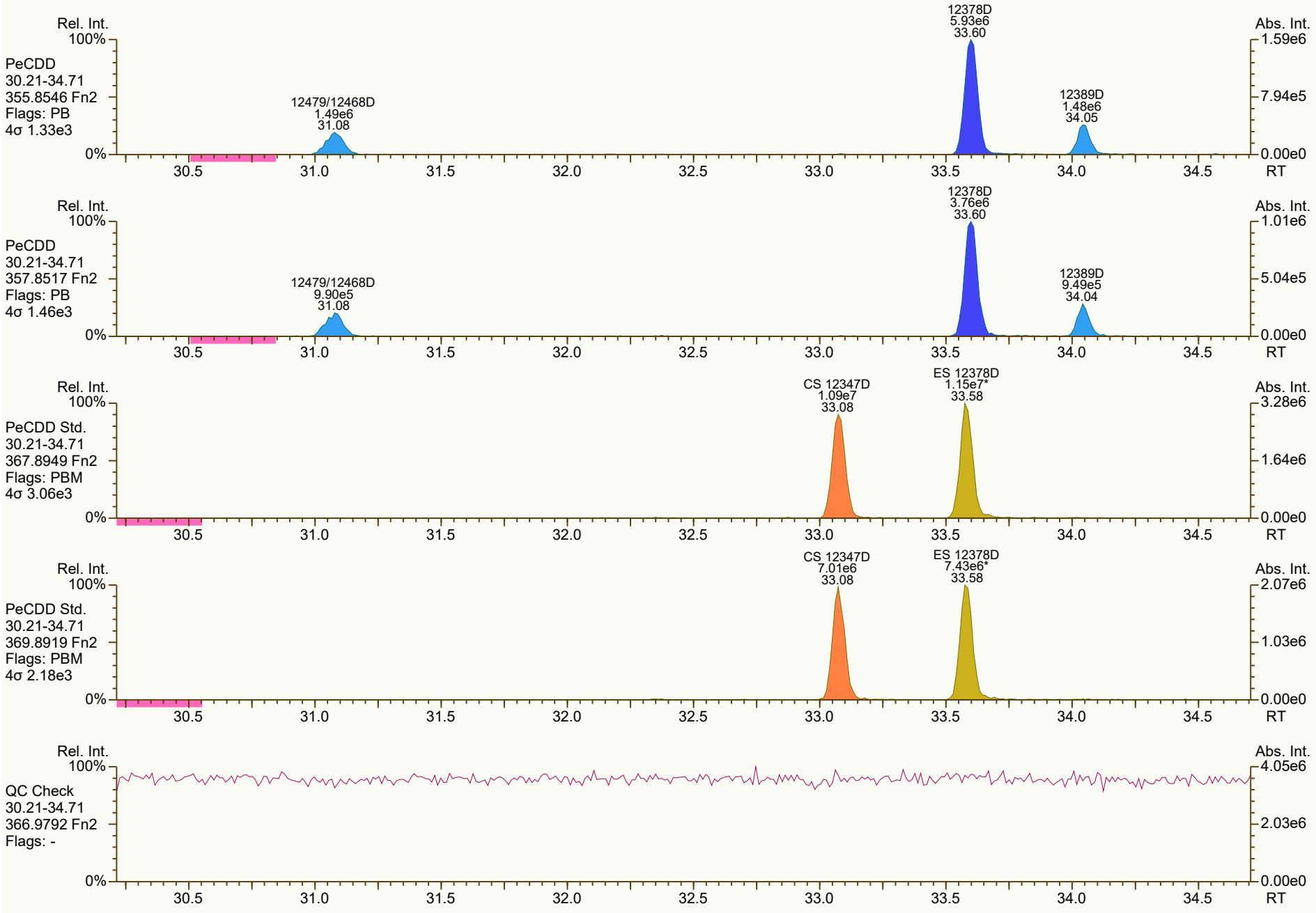
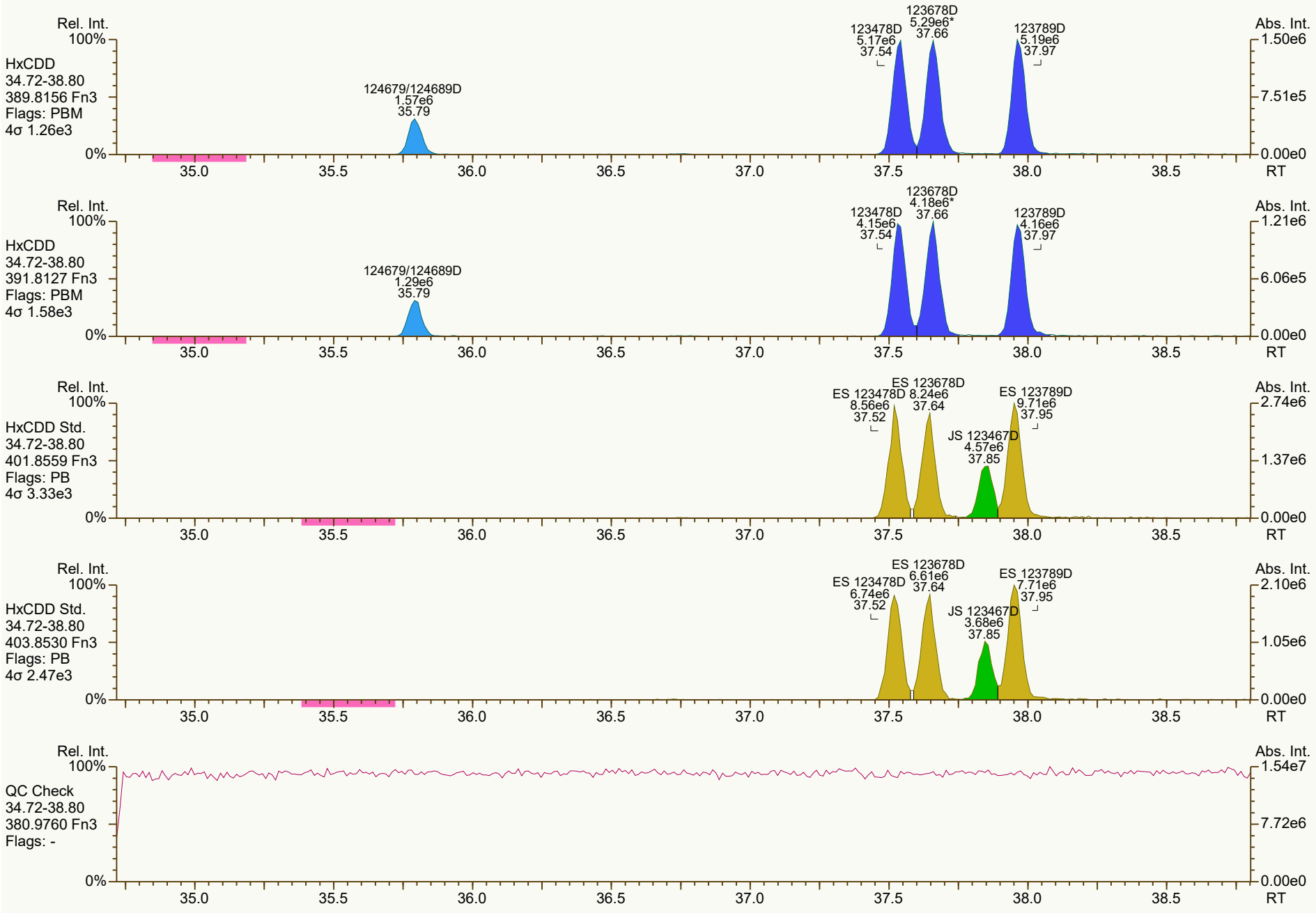
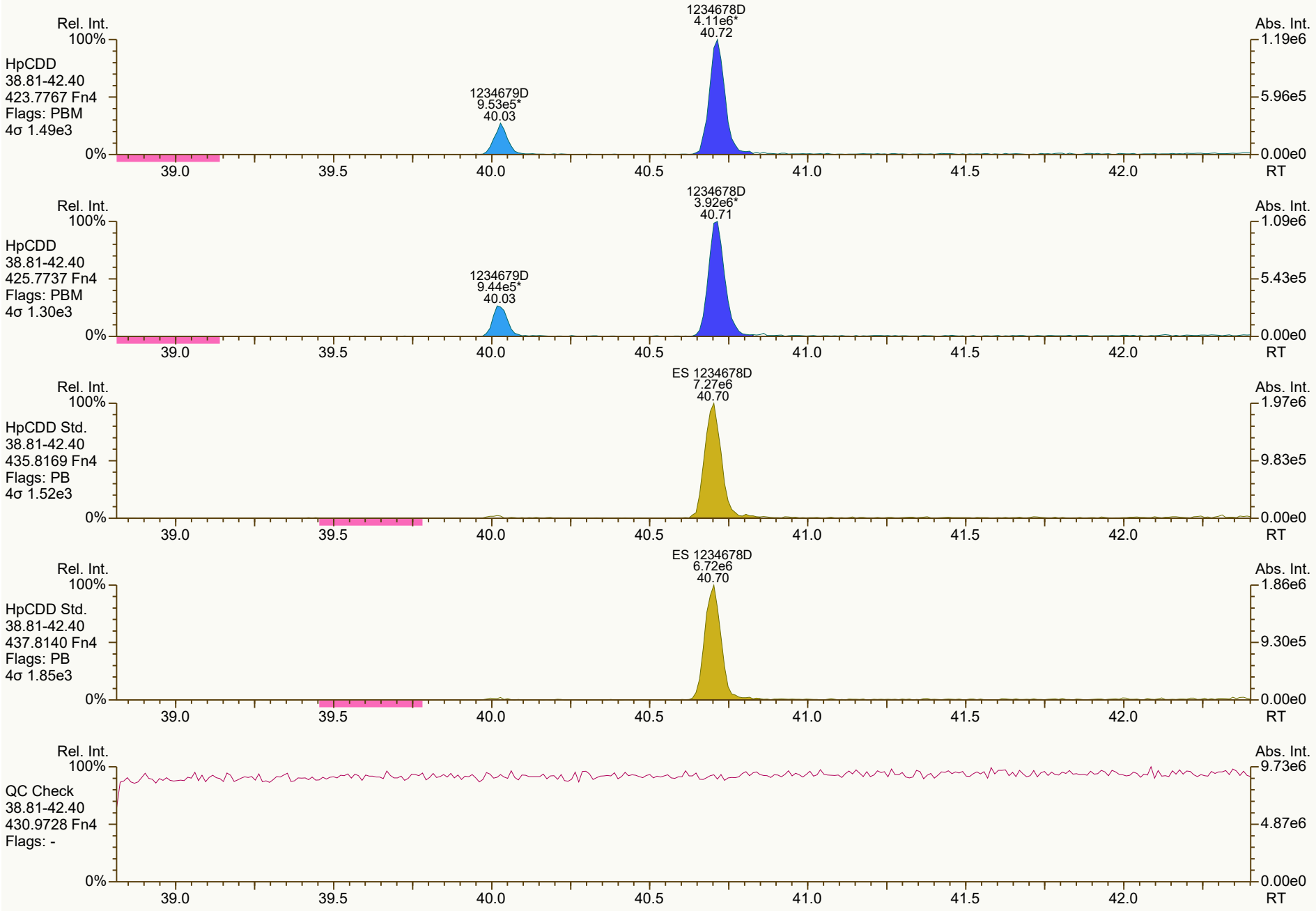
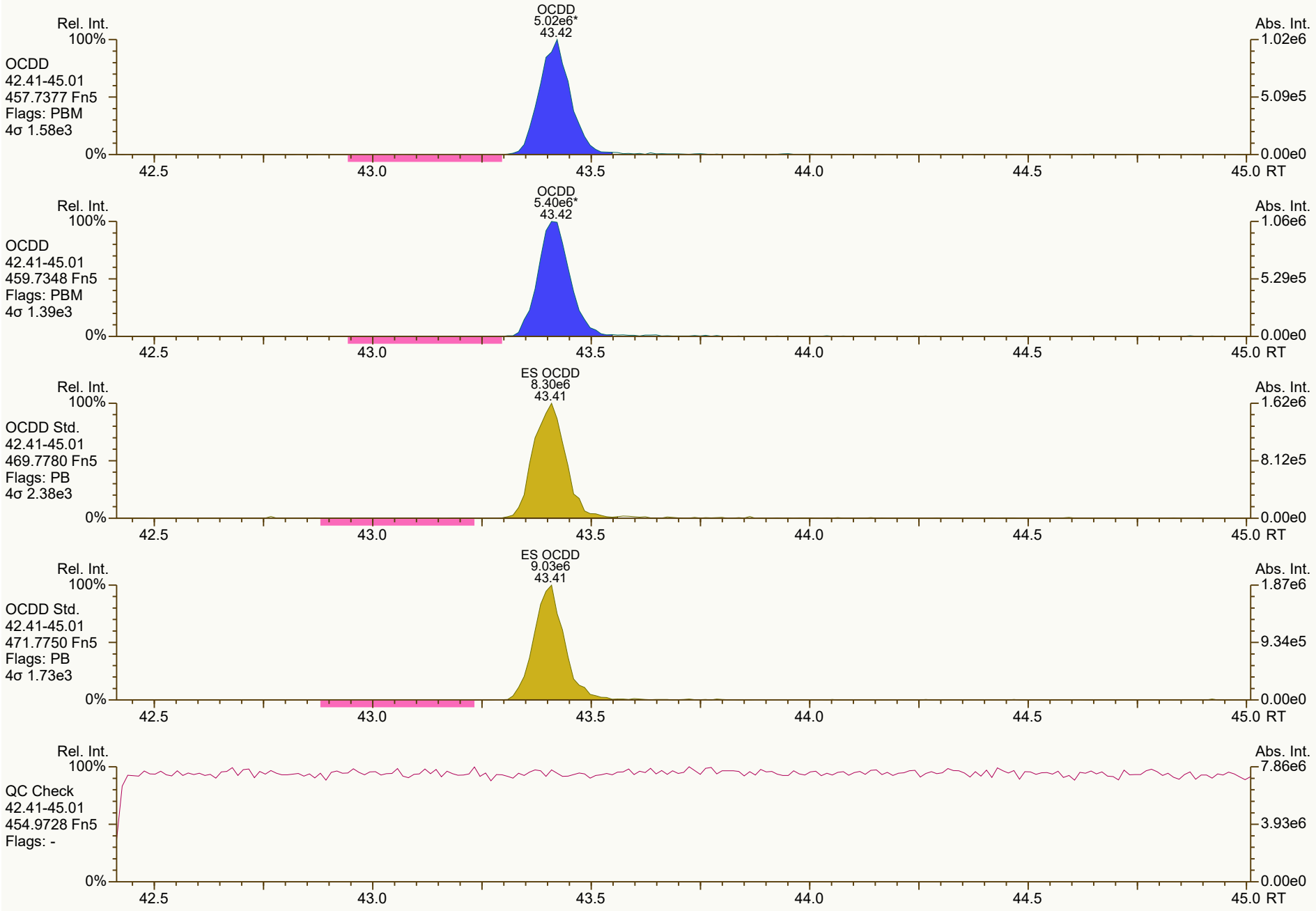
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
4.55e6
2.28e6
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
4.05e6
2.03e6
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
1.54e7
7.72e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
9.73e6
4.87e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
7.86e6
3.93e6
0.00e0

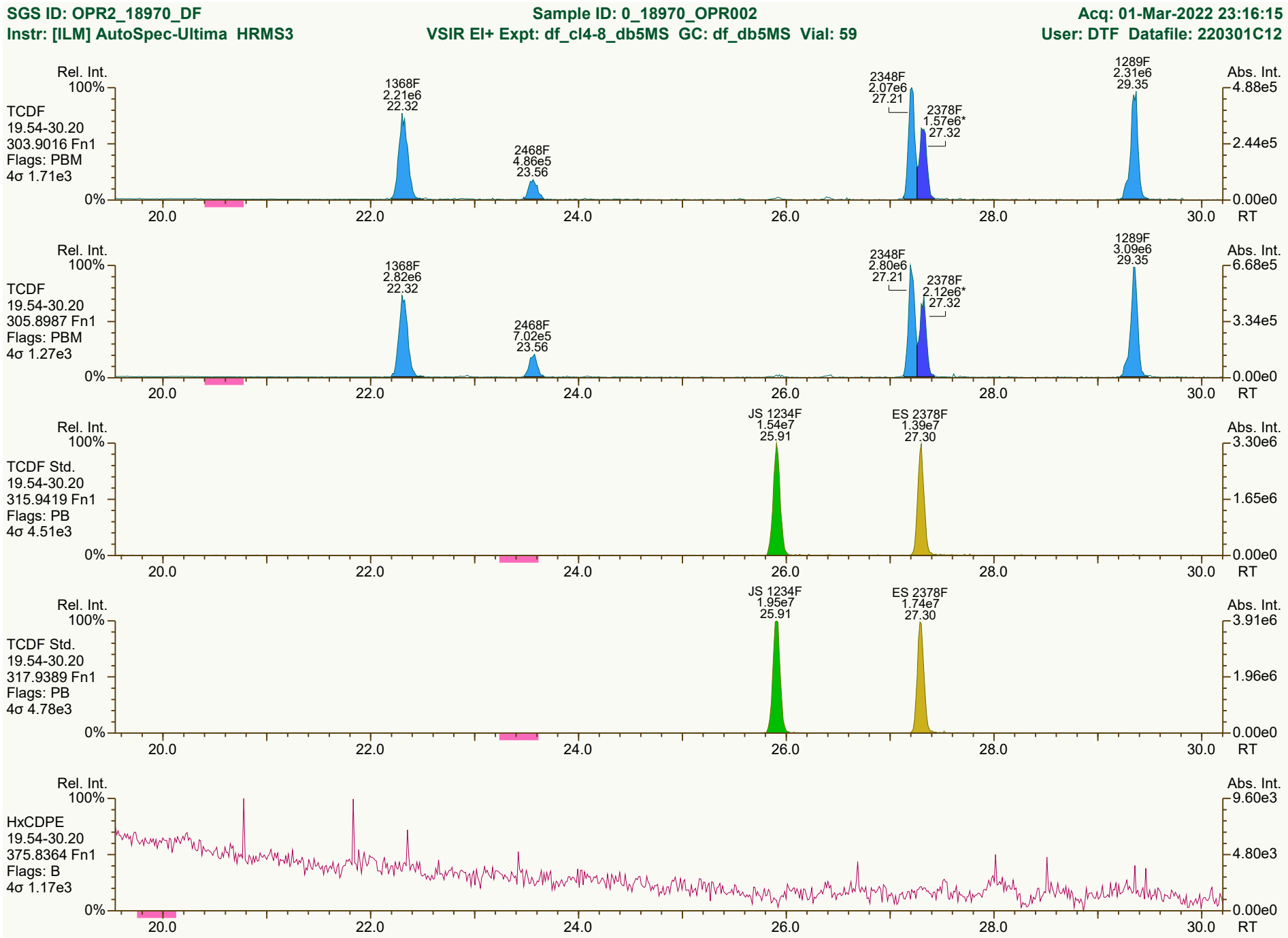

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 2.10e3
0%
1368D
1.58e6*
24.48
1239D
1.16e6*
28.03
2378D
1.32e6*
28.19
1289D
1.55e6*
29.18
Abs. Int.
3.56e5
1.78e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.64e3
0%
1368D
2.05e6*
24.48
1239D
1.42e6*
28.03
2378D
1.66e6*
28.19
1289D
2.01e6*
29.17
Abs. Int.
5.30e5
2.65e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 9.52e2
0%
CS 37Cl-2378D
1.03e7
28.19
Abs. Int.
2.35e6
1.18e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 4.78e3
0%
JS 1234D
9.77e6
27.50
ES 2378D
9.59e6
28.17
Abs. Int.
2.25e6
1.12e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.89e3
0%
JS 1234D
1.21e7
27.50
ES 2378D
1.16e7
28.17
Abs. Int.
2.84e6
1.42e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.33e3
0%
12479/12468D
1.49e6
31.08
12378D
5.93e6
33.60
12389D
1.48e6
34.05
Abs. Int.
1.59e6
7.94e5
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.46e3
0%
12479/12468D
9.90e5
31.08
12378D
3.76e6
33.60
12389D
9.49e5
34.04
Abs. Int.
1.01e6
5.04e5
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PBM
4σ 3.06e3
0%
CS 12347D
1.09e7
33.08
ES 12378D
1.15e7*
33.58
Abs. Int.
3.28e6
1.64e6
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PBM
4σ 2.18e3
0%
CS 12347D
7.01e6
33.08
ES 12378D
7.43e6*
33.58
Abs. Int.
2.07e6
1.03e6
0.00e0
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.05e6
2.03e6
0.00e0
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 1.26e3
0%
124679/124689D
1.57e6
35.79
123478D
5.17e6
37.54
123678D
5.29e6*
37.66
123789D
5.19e6
37.97
Abs. Int.
1.50e6
7.51e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 1.58e3
0%
124679/124689D
1.29e6
35.79
123478D
4.15e6
37.54
123678D
4.18e6*
37.66
123789D
4.16e6
37.97
Abs. Int.
1.21e6
6.06e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 3.33e3
0%
ES 123478D
8.56e6
37.52
ES 123678D
8.24e6
37.64
JS 123467D
4.57e6
37.85
ES 123789D
9.71e6
37.95
Abs. Int.
2.74e6
1.37e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 2.47e3
0%
ES 123478D
6.74e6
37.52
ES 123678D
6.61e6
37.64
JS 123467D
3.68e6
37.85
ES 123789D
7.71e6
37.95
Abs. Int.
2.10e6
1.05e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.54e7
7.72e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 1.49e3
1234678D
4.11e6*
40.72
1234679D
9.53e5*
40.03
Abs. Int.
1.19e6
5.96e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 1.30e3
1234678D
3.92e6*
40.71
1234679D
9.44e5*
40.03
Abs. Int.
1.09e6
5.43e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 1.52e3
ES 1234678D
7.27e6
40.70
Abs. Int.
1.97e6
9.83e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.85e3
ES 1234678D
6.72e6
40.70
Abs. Int.
1.86e6
9.30e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
9.73e6
4.87e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

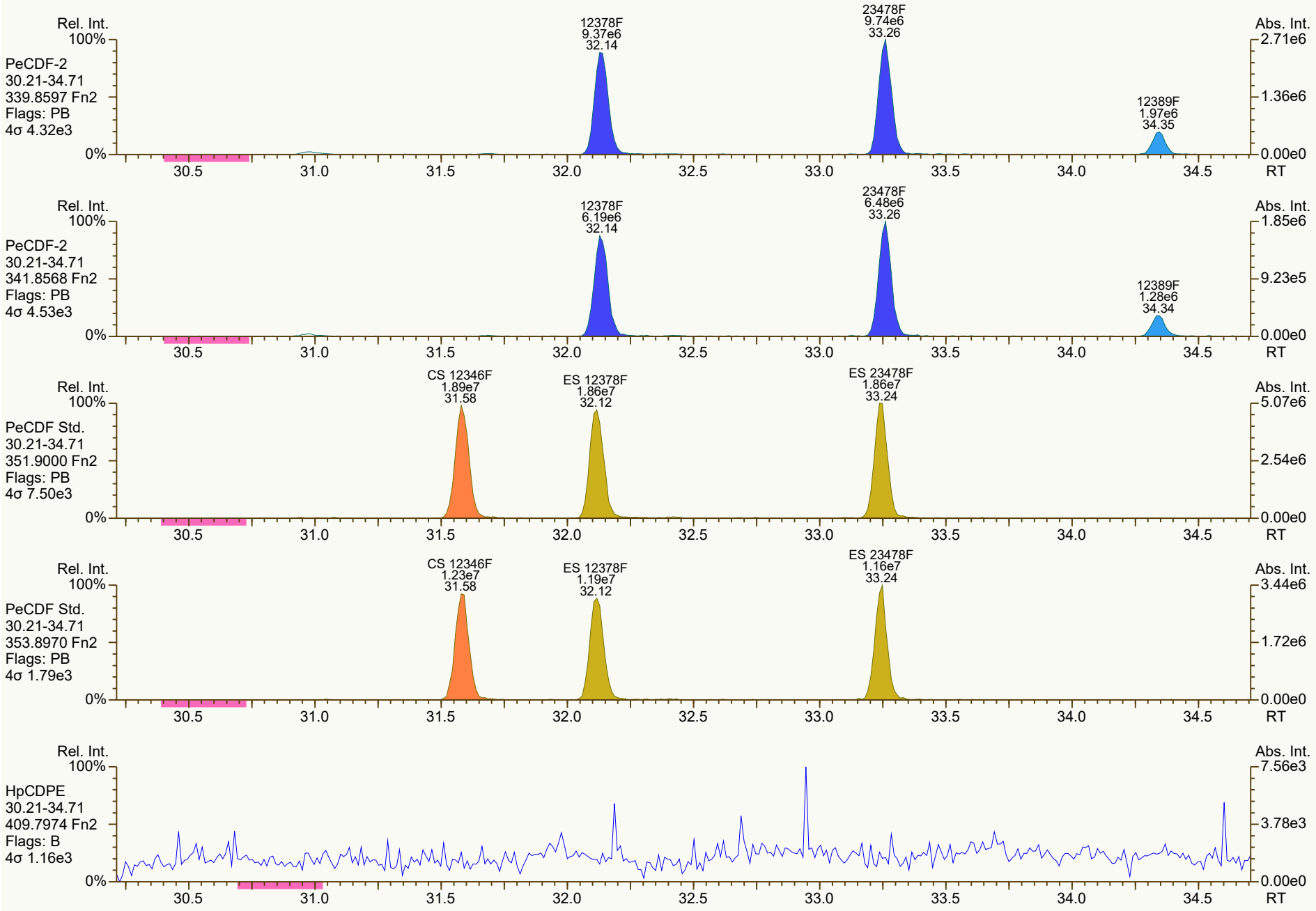

OCDD
5.02e6*
43.42
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 1.58e3
0%
Abs. Int.
1.02e6
5.09e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.40e6*
43.42
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 1.39e3
0%
Abs. Int.
1.06e6
5.29e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
8.30e6
43.41
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 2.38e3
0%
Abs. Int.
1.62e6
8.12e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
9.03e6
43.41
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.73e3
0%
Abs. Int.
1.87e6
9.34e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.86e6
3.93e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: OPR2_18970_DF
Sample ID: 0_18970_OPR002
Acq: 01-Mar-2022 23:16:15
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 59
User: DTF Datafile: 220301C12
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.71e3
1368F 2.21e6 22.32
2468F 4.86e5 23.56
2348F 2.07e6 27.21
2378F 1.57e6* 27.32
1289F 2.31e6 29.35
4.88e5
2.44e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.27e3
1368F 2.82e6 22.32
2468F 7.02e5 23.56
2348F 2.80e6 27.21
2378F 2.12e6* 27.32
1289F 3.09e6 29.35
6.68e5
3.34e5
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 4.51e3
JS 1234F 1.54e7 25.91
ES 2378F 1.39e7 27.30
3.30e6
1.65e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 4.78e3
JS 1234F 1.95e7 25.91
ES 2378F 1.74e7 27.30
3.91e6
1.96e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.17e3
9.60e3
4.80e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6300_B6399\B6336\B6336_18970 DF\Resources\OPR2_18970_DF.utp_res, saved 02-Mar-2022 09:08 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3080, 7959, 6444 scc: 757-124
PKD: 02-Mar-2022 09:03 Printed: 02-Mar-2022 09:15 Page 7 of 12

SGS ID: OPR2_18970_DF
Sample ID: 0_18970_OPR002
Acq: 01-Mar-2022 23:16:15
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 59
User: DTF Datafile: 220301C12

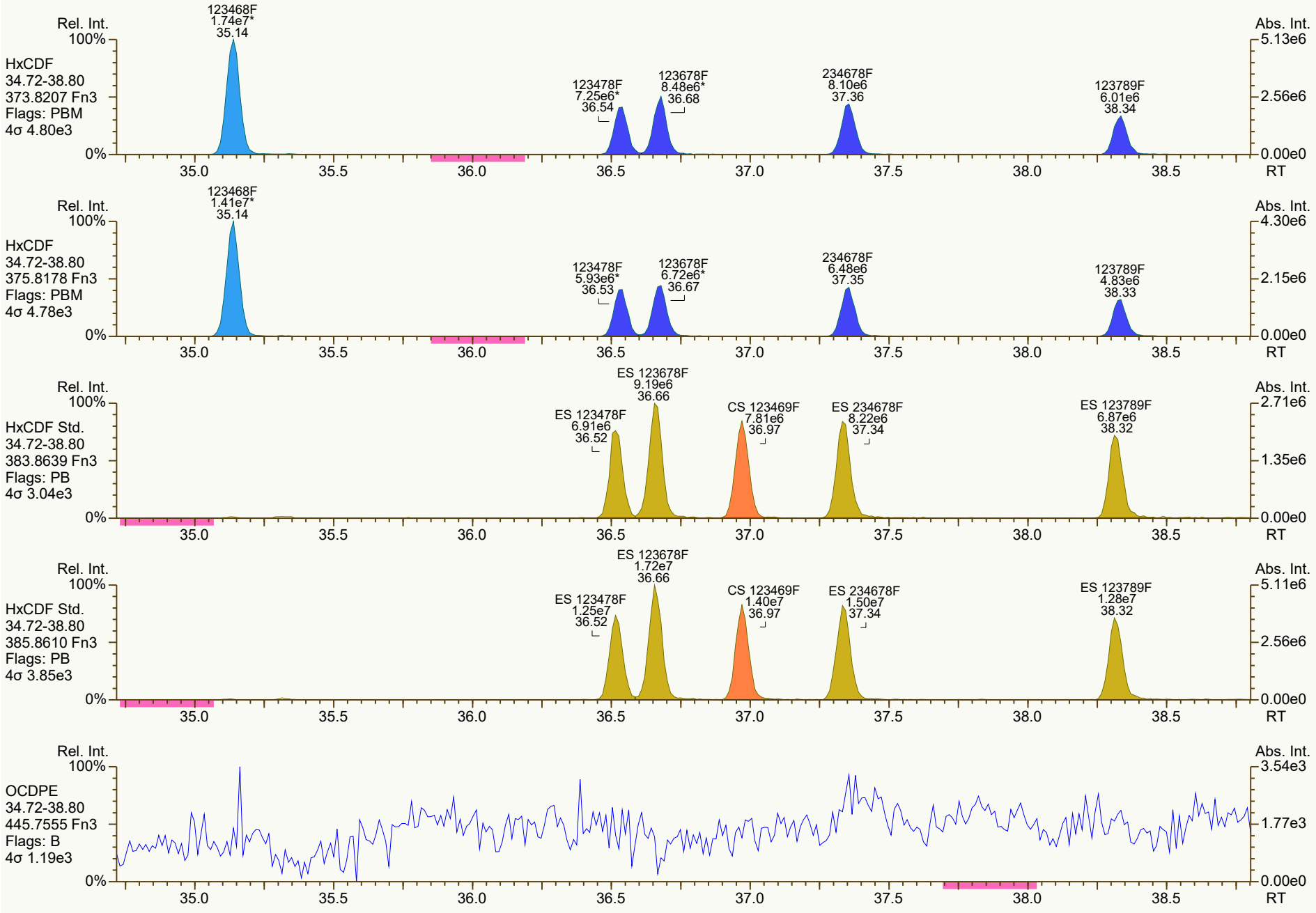


Results: P:\B6300_B6399\B6336\B6336_18970 DF\Resources\OPR2_18970_DF.utp_res, saved 02-Mar-2022 09:08 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3660 scc: 757-124
Revised: 02-Mar-2022 09:02 (DTF) Printed: 02-Mar-2022 09:15 Page 8 of 12


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 4.32e3
0%
12378F
9.37e6
32.14
23478F
9.74e6
33.26
12389F
1.97e6
34.35
Abs. Int.
2.71e6
1.36e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 4.53e3
0%
12378F
6.19e6
32.14
23478F
6.48e6
33.26
12389F
1.28e6
34.34
Abs. Int.
1.85e6
9.23e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 7.50e3
0%
CS 12346F
1.89e7
31.58
ES 12378F
1.86e7
32.12
ES 23478F
1.86e7
33.24
Abs. Int.
5.07e6
2.54e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 1.79e3
0%
CS 12346F
1.23e7
31.58
ES 12378F
1.19e7
32.12
ES 23478F
1.16e7
33.24
Abs. Int.
3.44e6
1.72e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.16e3
0%
Abs. Int.
7.56e3
3.78e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

SGS ID: OPR2_18970_DF | Sample ID: 0_18970_OPR002 | Acq: 01-Mar-2022 23:16:15

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 59 | User: DTF Datafile: 220301C12



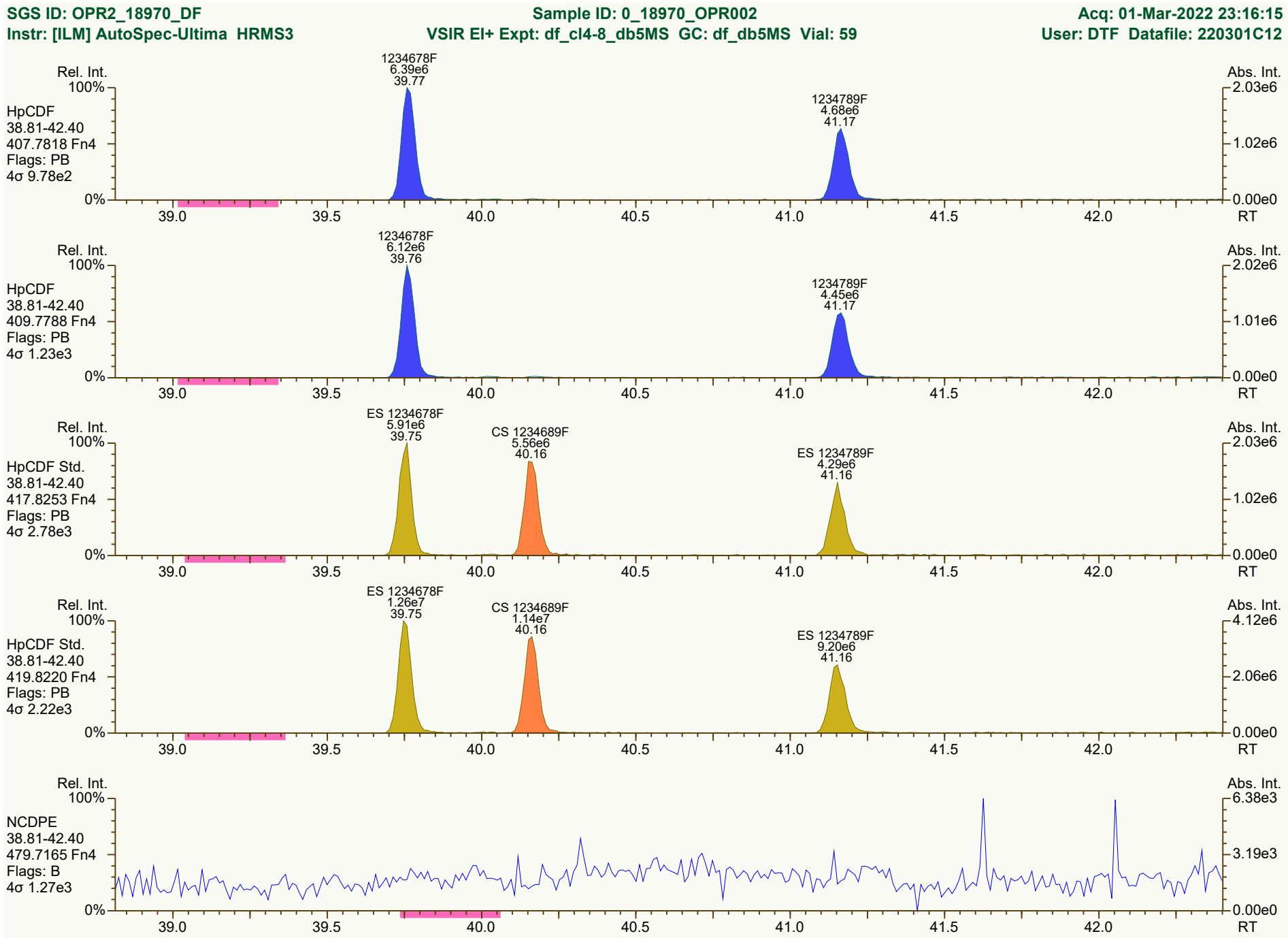
Results: P:\B6300_B6399\B6336\B6336_18970 DF\Resources\OPR2_18970_DF.utp_res, saved 02-Mar-2022 09:08 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3428, 2136, 0297 scc: 757-124 *Revised: 02-Mar-2022 09:03 (DTF) Printed: 02-Mar-2022 09:15 Page 10 of 12*

SGS ID: OPR2_18970_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18970_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 59

Acq: 01-Mar-2022 23:16:15
User: DTF Datafile: 220301C12



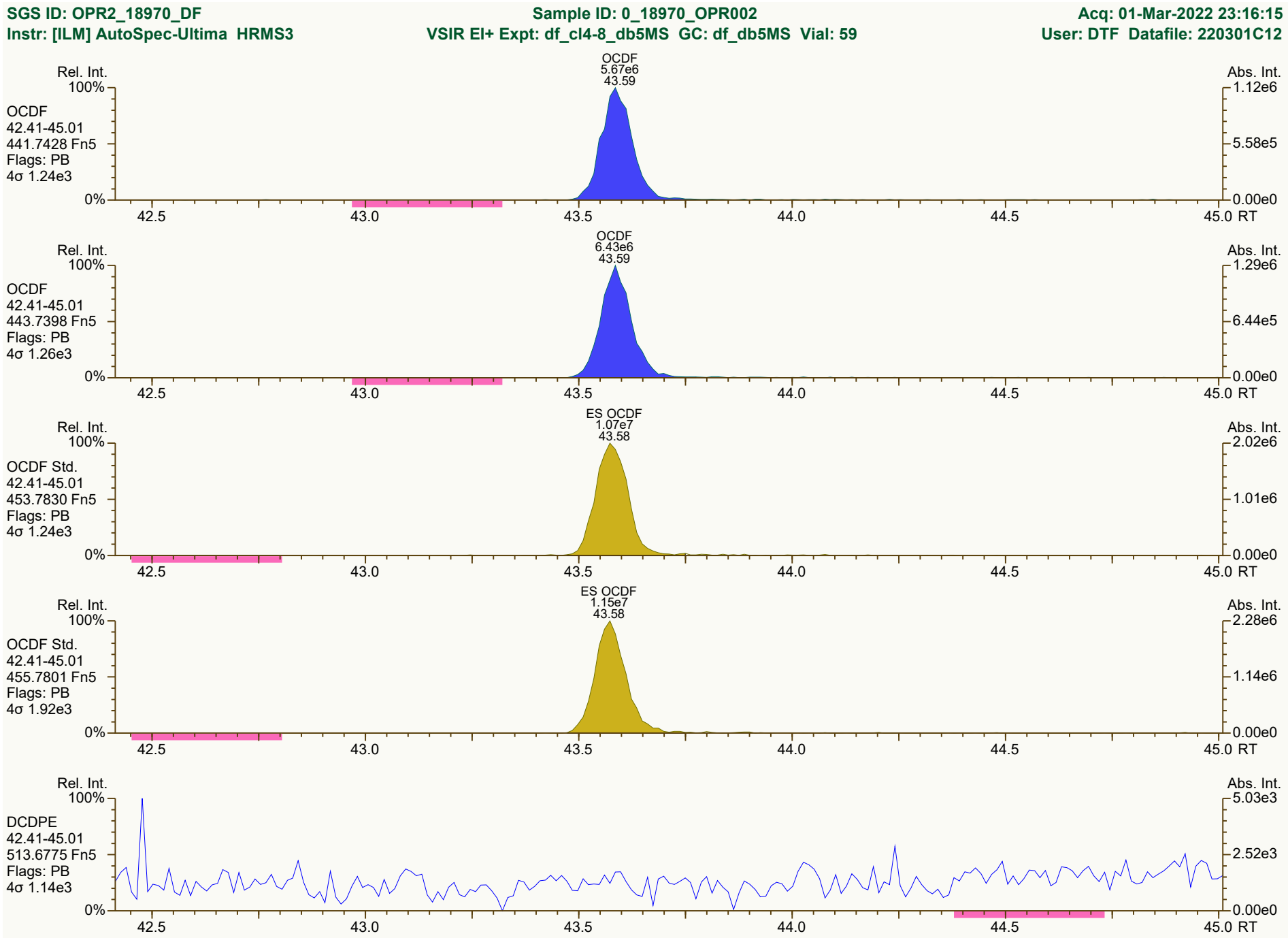
Results: P:\B6300_B6399\B6336\B6336_18970 DF\Resources\OPR2_18970_DF.utp_res, saved 02-Mar-2022 09:08 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5156, 3532, 7068 scc: 757-124

Peak annotation: Areas, Centroids
Revised: 02-Mar-2022 09:03 (DTF) Printed: 02-Mar-2022 09:15 Page 11 of 12

SGS ID: OPR2_18970_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18970_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 59

Acq: 01-Mar-2022 23:16:15
User: DTF Datafile: 220301C12



Results: P:\B6300_B6399\B6336\B6336_18970 DF\Resources\OPR2_18970_DF.utp_res, saved 02-Mar-2022 09:08 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7842, 0109, 1195 scc: 757-124

Peak annotation: Areas, Centroids
PKD: 02-Mar-2022 09:02 Printed: 02-Mar-2022 09:15 Page 12 of 12



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6234

28-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

Meagan Willis

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This report is approved by

Tamara Burkamper

tamara.burkamper@sgs.com

Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6234
Analytical Protocol(s)	1613B
No. Samples Submitted	9
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	26-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	0.2, 0.0
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.14.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements, except for the following: the reported percent deviation of CS 1,2,3,4,6,8,9-HpCDF is above SOP criteria. There is no method specified criteria for these standards and no adverse impact on results.

No re-extractions or dilutions were required.

B6234_005: the reported ion ratio of labeled standard ES 1,2,3,7,8,9-HxCDD is outside method criteria.

OPR1/OPR2_18872 meet accuracy and precision criteria, except for the following: RPD of 2,3,7,8-TCDF is >20%.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-021922-S-SB-NC-O-53 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	22-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID	B6336_18968_DF_004	Date Extracted:	28-Feb-2022
Date Collected:	19-Feb-2022	% Solid:	62.0 %	QC Batch No:	18968	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:19:52

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	595				ES 2378-TCDD	92	
12378-PeCDD	6.85				ES 12378-PeCDD	87.7	
123478-HxCDD	1.68			J	ES 123478-HxCDD	92	
123678-HxCDD	4.34				ES 123678-HxCDD	102	
123789-HxCDD	3.31				ES 123789-HxCDD	102	
1234678-HpCDD	124				ES 1234678-HpCDD	95.6	
OCDD	1,750				ES OCDD	91.1	
2378-TCDF	1,960			E	ES 2378-TCDF	88.8	
12378-PeCDF	80.3				ES 12378-PeCDF	92.6	
23478-PeCDF	59.8			PR	ES 23478-PeCDF	94.5	
123478-HxCDF	111				ES 123478-HxCDF	98.8	
123678-HxCDF	30.1				ES 123678-HxCDF	108	
234678-HxCDF	7.78				ES 234678-HxCDF	107	
123789-HxCDF	ND	0.512			ES 123789-HxCDF	103	
1234678-HpCDF	42.7				ES 1234678-HpCDF	108	
1234789-HpCDF	11				ES 1234789-HpCDF	107	
OCDF	71.2				ES OCDF	98.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	86	
Total TCDD	666		669		CS 12347-PeCDD	92.6	
Total PeCDD	18		18		CS 12346-PeCDF	99.4	
Total HxCDD	60.3		61.8		CS 123469-HxCDF	119	
Total HpCDD	285		285		CS 1234689-HpCDF	120	
Total TCDF	3,890		3,890				
Total PeCDF	228		228				
Total HxCDF	191		192				
Total HpCDF	85.8		85.8				
Total PCDD/Fs	**7,240**		**7,250**				
WHO-2005 TEQs							
TEQ: ND=0	836		836				
TEQ: ND=DL/2	836	0.437	836				
TEQ: ND=DL	836	0.875	836				

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Sample ID: 11215131-021922-S-SB-NC-O-53 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	22-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6336_18968_DF_004	Date Extracted:	28-Feb-2022
Date Collected:	19-Feb-2022	% Solid:	62.0 %	QC Batch No.:	18968	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:19:52

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[1.01]		12479/12468D	2.9		124679/124689D	30.4		1234679D	161	
1379D	0.599		12469D	2.1	J	123468D	2.14	J	1234678D	124	
1369D	(0.238)		12368D	1.19	J	123679/123689D	17.3				
1469D	1.26		12478D	1.32	J	123469D	[1.49]	J			
1247D...[4]	[1.08]		12379D	0.69	J	123478D	1.68	J			
1378D	1.75		12369D...[3]	1.38	J	123678D	4.34				
1268D	(0.238)		12346/12347D	0.352	J	123467D	1.09	J			
1478D	1.33		12378D	6.85		123789D	3.31		**Conc.**	285	
1279D	(0.238)		12367D	0.787	J				**EMPC**	285	
1234/1269D	0.495		12389D	0.408	J						
1236D	(0.238)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	8.74										
1239D	(0.238)								OCDD	1750	
2378D	595										
1278D	53.5										
1267D	3.41										
1289D	[1.58]										
Conc.	666		**Conc.**	18		**Conc.**	60.3				
EMPC	669		**EMPC**	18		**EMPC**	61.8				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	836	836
TEQ: ND=DL/2	836	836
TEQ: ND=DL	836	836

	Conc.	EMPC
Total PCDD/Fs	7,240	7,250

Checkcode: 574-830-LLM

Report Created: 04-Mar-2022 09:53 Analyst: pw

Sample ID: 11215131-021922-S-SB-NC-O-53 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	22-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	Lab Sample ID:	B6336_18968_DF_004	Date Extracted:	28-Feb-2022
Date Collected:	19-Feb-2022	% Solid:	62.0 %	QC Batch No.:	18968	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	18:19:52

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[0.462]	J	13468/12468F	8.01		123468F	3.21		1234678F	42.7	
1468F	2.71		13678F...[3]	1.58	J	124678/134678F	18.5		1234679F	1.44	J
2468F	2.66		12368F...[3]	36.4		134679F	(0.432)		1234689F	30.7	
1346/1246F	[0.951]		14678F	1.75	J	124679F	(0.432)		1234789F	11	
1347F...[3]	19.1		13479F	[0.232]	J	124689F	11.3				
1348F	4.24		13469/12479F	(0.253)		123467F	[0.744]	J			
1248F...[3]	83.3		12346F	(0.253)		123478F	111				
1268F	29.6		23468/12469F	2.37	J	123678F	30.1				
1467F	4.2		12347F	1.66	J	123479F	(0.432)				
1478F	73.9		12348F	7.11		123469F	(0.432)				
1369/1237F	20.1		12378F	80.3		123679F	(0.432)				
2467F	2.38		12678/12367F	24.4		234678F	7.78		**Conc.**	85.8	
2368F	55		12379F	(0.253)		234678/123689F	0		**EMPC**	85.8	
1238F...[5]	94.2		12679F	(0.253)		123689F	(0.432)				
1278F	933		23467/12369F	1.41	J	123789F	(0.512)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.205)		23478F	59.8	PR	123789/123489F	0				
1267F	48.6		23478/12489F	0		123489F	8.77		OCDF	71.2	
2346/1249F	7.31		12489F	(0.253)							
2347/1279F	22.3		12349F	(0.253)							
2348F	172		12389F	3.25							
2378F	1960	E									
2367/3467F	162										
1269F	32.2										
1239F	(0.205)										
1289F	163										
Conc.	3,890		**Conc.**	228		**Conc.**	191				
EMPC	3,890		**EMPC**	228		**EMPC**	192				

Checkcode: 574-830-LLM

Report Created: 04-Mar-2022 09:53 Analyst: pw

Sample ID: 11215131-021922-S-SB-NC-O-53 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6336_18968_DF_004
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.12 g	QC Batch No.:	18968
Date Collected:	19-Feb-2022	Split:	-	Date Extracted:	28-Feb-2022
Date Received:	22-Feb-2022	Dilution:	-	Date Analyzed:	03-Mar-2022 18:19
Lab Project No:	B6336	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	595		0.238	595	595	595
12378-PeCDD	6.85		0.248	3.43	6.85	6.85
123478-HxCDD	1.68	J	0.351	0.168	0.168	0.168
123678-HxCDD	4.34		0.362	0.434	0.434	0.434
123789-HxCDD	3.31		0.338	0.331	0.331	0.331
1234678-HpCDD	124		0.298	1.24	1.24	1.24
OCDD	1750		0.311	1.75	0.175	0.524
2378-TCDF	1960	E	0.205	196	196	196
12378-PeCDF	80.3		0.254	4.01	4.01	2.41
23478-PeCDF	59.8	PR	0.251	29.9	29.9	17.9
123478-HxCDF	111		0.412	11.1	11.1	11.1
123678-HxCDF	30.1		0.404	3.01	3.01	3.01
234678-HxCDF	7.78		0.414	0.778	0.778	0.778
123789-HxCDF	(0.512)		0.512	(0.0512)	(0.0512)	(0.0512)
1234678-HpCDF	42.7		0.133	0.427	0.427	0.427
1234789-HpCDF	11		0.136	0.11	0.11	0.11
OCDF	71.2		0.284	0.0712	0.00712	0.0214

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TEQ Summaries			
EMPC = 0, ND = 0	847	849	836
EMPC = 0, ND = DL / 2	847	849	836
EMPC = 0, ND = DL	847	849	836
EMPC = 0, < J-level = 0	847	849	835
EMPC = EMPC, ND = 0	847	849	836
EMPC = EMPC, ND = DL / 2	847	849	836
EMPC = EMPC, ND = DL	847	849	836
EMPC = EMPC, < J-level = 0	847	849	835

Checkcode: 574-830-LLM

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Sample ID: 11215131-021922-S-SB-NC-O-51 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	22-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID	B6336_18968_DF_005	Date Extracted:	28-Feb-2022
Date Collected:	19-Feb-2022	% Solid:	78.8 %	QC Batch No:	18968	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:07:20

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	336				ES 2378-TCDD	84.4	
12378-PeCDD	6.26				ES 12378-PeCDD	74.4	
123478-HxCDD	4.93				ES 123478-HxCDD	85.8	
123678-HxCDD	23.9				ES 123678-HxCDD	93.4	
123789-HxCDD	9.6				ES 123789-HxCDD	95.3	
1234678-HpCDD	726				ES 1234678-HpCDD	83.3	
OCDD	11,500			E	ES OCDD	85.8	
2378-TCDF	1,160			E	ES 2378-TCDF	82.8	
12378-PeCDF	52				ES 12378-PeCDF	81	
23478-PeCDF	42				ES 23478-PeCDF	81.2	
123478-HxCDF	89.6				ES 123478-HxCDF	96.4	
123678-HxCDF	30.9				ES 123678-HxCDF	104	
234678-HxCDF	12.4				ES 234678-HxCDF	95	
123789-HxCDF	ND	0.59			ES 123789-HxCDF	96.3	
1234678-HpCDF	147				ES 1234678-HpCDF	101	
1234789-HpCDF	19.4				ES 1234789-HpCDF	97.6	
OCDF	308				ES OCDF	94.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	73.1	
Total TCDD	386		389		CS 12347-PeCDD	75.1	
Total PeCDD	20.6		29		CS 12346-PeCDF	81.2	
Total HxCDD	185		187		CS 123469-HxCDF	105	
Total HpCDD	1,600		1,600		CS 1234689-HpCDF	104	
Total TCDF	2,380		2,380				
Total PeCDF	246		246				
Total HxCDF	308		308				
Total HpCDF	423		423				
Total PCDD/Fs	**17,300**		**17,300**				
WHO-2005 TEQs							
TEQ: ND=0	502		502				
TEQ: ND=DL/2	502	0.522	502				
TEQ: ND=DL	502	1.04	502				

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Sample ID: 11215131-021922-S-SB-NC-O-51 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	22-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID:	B6336_18968_DF_005	Date Extracted:	28-Feb-2022
Date Collected:	19-Feb-2022	% Solid:	78.8 %	QC Batch No.:	18968	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	19:07:20

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	7.83		12479/12468D	7.12		124679/124689D	56.4		1234679D	874	
1379D	2.29		12469D	[2.15]	J	123468D	8.42		1234678D	726	
1369D	0.307	J	12368D	3.08		123679/123689D	75.5				
1469D	0.251	J	12478D	[3.81]		123469D	6.06				
1247D...[4]	[1.05]		12379D	1.79	J	123478D	4.93				
1378D	[1.58]		12369D...[3]	2.39	J	123678D	23.9				
1268D	(0.269)		12346/12347D	[0.883]	J	123467D	[2.27]	J			
1478D	1.17		12378D	6.26		123789D	9.6		**Conc.**	1,600	
1279D	(0.269)		12367D	[0.704]	J				**EMPC**	1,600	
1234/1269D	(0.269)		12389D	[0.856]	J						
1236D	(0.269)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	5.4										
1239D	(0.269)								OCDD	11500	E
2378D	336										
1278D	32.7										
1267D	(0.269)										
1289D	(0.269)										
Conc.	386		**Conc.**	20.6		**Conc.**	185				
EMPC	389		**EMPC**	29		**EMPC**	187				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	502	502
TEQ: ND=DL/2	502	502
TEQ: ND=DL	502	502

	Conc.	EMPC
Total PCDD/Fs	17,300	17,300

Checkcode: 584-607-WXN

Report Created: 04-Mar-2022 09:53 Analyst: pw

Sample ID: 11215131-021922-S-SB-NC-O-51 Method 1613B

Client Data		Sample Data		Laboratory Data		
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received: 22-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	Lab Sample ID:	B6336_18968_DF_005	Date Extracted: 28-Feb-2022
Date Collected:	19-Feb-2022	% Solid:	78.8 %	QC Batch No.:	18968	Date Analyzed: 03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed: 19:07:20

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	1.3		13468/12468F	48.9		123468F	15		1234678F	147	
1468F	4.14		13678F...[3]	7.76		124678/134678F	72.5		1234679F	5.54	
2468F	10.5		12368F...[3]	43.8		134679F	(0.511)		1234689F	251	
1346/1246F	2.87		14678F	3.03		124679F	3.01		1234789F	19.4	
1347F...[3]	15.1		13479F	0.7	J	124689F	72.2				
1348F	4.84		13469/12479F	2.58		123467F	3.11				
1248F...[3]	59.5		12346F	0.96	J	123478F	89.6				
1268F	22.9		23468/12469F	8.13		123678F	30.9				
1467F	4.51		12347F	1.62	J	123479F	(0.511)				
1478F	51.2		12348F	5.82		123469F	1.67	J			
1369/1237F	12.6		12378F	52		123679F	(0.511)				
2467F	3.1		12678/12367F	23.1		234678F	12.4		**Conc.**	423	
2368F	33.4		12379F	(0.226)		234678/123689F	0		**EMPC**	423	
1238F...[5]	67.3		12679F	[0.502]	J	123689F	(0.511)				
1278F	559		23467/12369F	2.54		123789F	(0.59)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.298)		23478F	42		123789/123489F	0			**(pg/g)**	
1267F	31.8		23478/12489F	0		123489F	7.67		OCDF	308	
2346/1249F	5.19		12489F	(0.226)							
2347/1279F	14		12349F	(0.226)							
2348F	103		12389F	2.69							
2378F	1160	E									
2367/3467F	101										
1269F	19.8										
1239F	(0.298)										
1289F	95.5										
Conc.	2,380		**Conc.**	246		**Conc.**	308				
EMPC	2,380		**EMPC**	246		**EMPC**	308				

Checkcode: 584-607-WXN

Report Created: 04-Mar-2022 09:53 Analyst: pw

Sample ID: 11215131-021922-S-SB-NC-O-51 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6336_18968_DF_005
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.14 g	QC Batch No.:	18968
Date Collected:	19-Feb-2022	Split:	-	Date Extracted:	28-Feb-2022
Date Received:	22-Feb-2022	Dilution:	-	Date Analyzed:	03-Mar-2022 19:07
Lab Project No:	B6336	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	336		0.269	336	336	336
12378-PeCDD	6.26		0.323	3.13	6.26	6.26
123478-HxCDD	4.93		0.441	0.493	0.493	0.493
123678-HxCDD	23.9		0.443	2.39	2.39	2.39
123789-HxCDD	9.6		0.442	0.96	0.96	0.96
1234678-HpCDD	726		0.452	7.26	7.26	7.26
OCDD	11500	E	0.493	11.5	1.15	3.44
2378-TCDF	1160	E	0.298	116	116	116
12378-PeCDF	52		0.228	2.6	2.6	1.56
23478-PeCDF	42		0.225	21	21	12.6
123478-HxCDF	89.6		0.49	8.96	8.96	8.96
123678-HxCDF	30.9		0.467	3.09	3.09	3.09
234678-HxCDF	12.4		0.513	1.24	1.24	1.24
123789-HxCDF	(0.59)		0.59	(0.059)	(0.059)	(0.059)
1234678-HpCDF	147		0.166	1.47	1.47	1.47
1234789-HpCDF	19.4		0.179	0.194	0.194	0.194
OCDF	308		0.283	0.308	0.0308	0.0925

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TEQ Summaries			
EMPC = 0, ND = 0	517	509	502
EMPC = 0, ND = DL / 2	517	509	502
EMPC = 0, ND = DL	517	509	502
EMPC = 0, < J-level = 0	517	509	502
EMPC = EMPC, ND = 0	517	509	502
EMPC = EMPC, ND = DL / 2	517	509	502
EMPC = EMPC, ND = DL	517	509	502
EMPC = EMPC, < J-level = 0	517	509	502

Checkcode: 584-607-WXN

SGS North America - DF v0.99

Sample ID: Method Blank B6336_18968 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18968_DF_SDS	Date Extracted:	28-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18968	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:32:19

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.225			ES 2378-TCDD	90.7	
12378-PeCDD	ND	0.225			ES 12378-PeCDD	84.7	
123478-HxCDD	ND	0.208			ES 123478-HxCDD	96.2	
123678-HxCDD	ND	0.201			ES 123678-HxCDD	99.8	
123789-HxCDD	ND	0.216			ES 123789-HxCDD	97.7	
1234678-HpCDD	ND	0.218			ES 1234678-HpCDD	90.1	
OCDD	ND	0.314			ES OCDD	81.8	
2378-TCDF	ND	0.213			ES 2378-TCDF	82.6	
12378-PeCDF	ND	0.14			ES 12378-PeCDF	89.8	
23478-PeCDF	ND	0.137			ES 23478-PeCDF	89.5	
123478-HxCDF	ND	0.15			ES 123478-HxCDF	101	
123678-HxCDF	ND	0.13			ES 123678-HxCDF	115	
234678-HxCDF	ND	0.143			ES 234678-HxCDF	114	
123789-HxCDF	ND	0.18			ES 123789-HxCDF	100	
1234678-HpCDF	ND	0.117			ES 1234678-HpCDF	113	
1234789-HpCDF	ND	0.143			ES 1234789-HpCDF	100	
OCDF	ND	0.227			ES OCDF	85.3	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	84.4	
Total TCDD	ND	0.225	ND		CS 12347-PeCDD	89.5	
Total PeCDD	ND	0.225	ND		CS 12346-PeCDF	91.3	
Total HxCDD	ND	0.208	ND		CS 123469-HxCDF	113	
Total HpCDD	ND	0.218	ND		CS 1234689-HpCDF	118	
Total TCDF	ND	0.213	ND				
Total PeCDF	ND	0.138	ND				
Total HxCDF	ND	0.149	ND				
Total HpCDF	ND	0.128	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	0.322	0.322	0.322				
TEQ: ND=DL	0.645	0.645	0.645				

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Sample ID: Method Blank B6336_18968 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18968_DF_SDS	Date Extracted:	28-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18968	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:32:19

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.225)		12479/12468D	(0.225)		124679/124689D	(0.208)		1234679D	(0.218)	
1379D	(0.225)		12469D	(0.225)		123468D	(0.208)		1234678D	(0.218)	
1369D	(0.225)		12368D	(0.225)		123679/123689D	(0.208)				
1469D	(0.225)		12478D	(0.225)		123469D	(0.208)				
1247D...[4]	(0.225)		12379D	(0.225)		123478D	(0.208)				
1378D	(0.225)		12369D...[3]	(0.225)		123678D	(0.201)				
1268D	(0.225)		12346/12347D	(0.225)		123467D	(0.208)				
1478D	(0.225)		12378D	(0.225)		123789D	(0.216)		**Conc.**	0	
1279D	(0.225)		12367D	(0.225)					**EMPC**	0	
1234/1269D	(0.225)		12389D	(0.225)							
1236D	(0.225)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.225)										
1239D	(0.225)								OCDD	(0.314)	
2378D	(0.225)										
1278D	(0.225)										
1267D	(0.225)										
1289D	(0.225)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	0.322	0.322
TEQ: ND=DL	0.645	0.645

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 284-793-BDY

Report Created: 04-Mar-2022 09:53 Analyst: pw

Sample ID: Method Blank B6336_18968 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18968_DF_SDS	Date Extracted:	28-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18968	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	17:32:19

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.213)		13468/12468F	(0.2)		123468F	(0.149)		1234678F	(0.117)	
1468F	(0.213)		13678F...[3]	(0.138)		124678/134678F	(0.149)		1234679F	(0.128)	
2468F	(0.213)		12368F...[3]	(0.138)		134679F	(0.149)		1234689F	(0.128)	
1346/1246F	(0.213)		14678F	(0.138)		124679F	(0.149)		1234789F	(0.143)	
1347F...[3]	(0.213)		13479F	(0.138)		124689F	(0.149)				
1348F	(0.213)		13469/12479F	(0.138)		123467F	(0.149)				
1248F...[3]	(0.213)		12346F	(0.138)		123478F	(0.15)				
1268F	(0.213)		23468/12469F	(0.138)		123678F	(0.13)				
1467F	(0.213)		12347F	(0.138)		123479F	(0.149)				
1478F	(0.213)		12348F	(0.138)		123469F	(0.149)				
1369/1237F	(0.213)		12378F	(0.14)		123679F	(0.149)				
2467F	(0.213)		12678/12367F	(0.138)		234678F	(0.143)		**Conc.**	0	
2368F	(0.213)		12379F	(0.138)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.213)		12679F	(0.138)		123689F	(0.149)				
1278F	(0.213)		23467/12369F	(0.138)		123789F	(0.18)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.213)		23478F	(0.137)		123789/123489F	0				
1267F	(0.213)		23478/12489F	0		123489F	(0.149)		OCDF	(0.227)	
2346/1249F	(0.213)		12489F	(0.138)							
2347/1279F	(0.213)		12349F	(0.138)							
2348F	(0.213)		12389F	(0.138)							
2378F	(0.213)										
2367/3467F	(0.213)										
1269F	(0.213)										
1239F	(0.213)										
1289F	(0.213)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 284-793-BDY

Report Created: 04-Mar-2022 09:53 Analyst: pw

Sample ID: Method Blank B6336_18968 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18968_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18968
Date Collected:	n/a	Split:	-	Date Extracted:	28-Feb-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	03-Mar-2022 17:32
Lab Project No:	B6336	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.225)		0.225	(0.225)	(0.225)	(0.225)
12378-PeCDD	(0.225)		0.225	(0.113)	(0.225)	(0.225)
123478-HxCDD	(0.208)		0.208	(0.0208)	(0.0208)	(0.0208)
123678-HxCDD	(0.201)		0.201	(0.0201)	(0.0201)	(0.0201)
123789-HxCDD	(0.216)		0.216	(0.0216)	(0.0216)	(0.0216)
1234678-HpCDD	(0.218)		0.218	(0.00218)	(0.00218)	(0.00218)
OCDD	(0.314)		0.314	(0.000314)	(0.0000314)	(0.0000941)
2378-TCDF	(0.213)		0.213	(0.0213)	(0.0213)	(0.0213)
12378-PeCDF	(0.14)		0.14	(0.00699)	(0.00699)	(0.00419)
23478-PeCDF	(0.137)		0.137	(0.0686)	(0.0686)	(0.0412)
123478-HxCDF	(0.15)		0.15	(0.015)	(0.015)	(0.015)
123678-HxCDF	(0.13)		0.13	(0.013)	(0.013)	(0.013)
234678-HxCDF	(0.143)		0.143	(0.0143)	(0.0143)	(0.0143)
123789-HxCDF	(0.18)		0.18	(0.018)	(0.018)	(0.018)
1234678-HpCDF	(0.117)		0.117	(0.00117)	(0.00117)	(0.00117)
1234789-HpCDF	(0.143)		0.143	(0.00143)	(0.00143)	(0.00143)
OCDF	(0.227)		0.227	(0.000227)	(0.0000227)	(0.000068)

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TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.281	0.337	0.322
EMPC = 0, ND = DL	0.563	0.675	0.645
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.281	0.337	0.322
EMPC = EMPC, ND = DL	0.563	0.675	0.645
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 284-793-BDY

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Sample ID: 0_18968_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18968_DF	Date Extracted:	28-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18968	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	15:10:32

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	8.94				ES 2378-TCDD	91.5	
12378-PeCDD	45.3				ES 12378-PeCDD	88.2	
123478-HxCDD	52.1				ES 123478-HxCDD	99.6	
123678-HxCDD	55.9				ES 123678-HxCDD	106	
123789-HxCDD	47.3				ES 123789-HxCDD	104	
1234678-HpCDD	52.9				ES 1234678-HpCDD	95.3	
OCDD	104				ES OCDD	84.9	
2378-TCDF	11.2				ES 2378-TCDF	82.1	
12378-PeCDF	53.3				ES 12378-PeCDF	93.1	
23478-PeCDF	57.2				ES 23478-PeCDF	93.3	
123478-HxCDF	53.3				ES 123478-HxCDF	103	
123678-HxCDF	53.8				ES 123678-HxCDF	124	
234678-HxCDF	55.8				ES 234678-HxCDF	123	
123789-HxCDF	50.1				ES 123789-HxCDF	98.4	
1234678-HpCDF	54.2				ES 1234678-HpCDF	116	
1234789-HpCDF	52.6				ES 1234789-HpCDF	104	
OCDF	107				ES OCDF	88.4	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	81.3	
Total TCDD	41.3		41.3		CS 12347-PeCDD	91.9	
Total PeCDD	66.9		66.9		CS 12346-PeCDF	94.3	
Total HxCDD	169		169		CS 123469-HxCDF	115	
Total HpCDD	64.9		64.9		CS 1234689-HpCDF	117	
Total TCDF	61.3		61.3				
Total PeCDF	215		215				
Total HxCDF	344		344				
Total HpCDF	107		107				
Total PCDD/Fs	**1,280**		**1,280**				
WHO-2005 TEQs							
TEQ: ND=0	113		113				
TEQ: ND=DL/2	113	0.252	113				
TEQ: ND=DL	113	0.504	113				

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Sample ID: 0_18968_OPR002 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18968_DF	Date Extracted:	28-Feb-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18968	Date Analyzed:	03-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	15:57:14

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	9.77				ES 2378-TCDD	91.1	
12378-PeCDD	48.4				ES 12378-PeCDD	78.6	
123478-HxCDD	55.3				ES 123478-HxCDD	86.6	
123678-HxCDD	58.8				ES 123678-HxCDD	89.1	
123789-HxCDD	52.1				ES 123789-HxCDD	86.5	
1234678-HpCDD	60.9				ES 1234678-HpCDD	78.7	
OCDD	116				ES OCDD	74.5	
2378-TCDF	12.5				ES 2378-TCDF	74	
12378-PeCDF	56.3				ES 12378-PeCDF	82	
23478-PeCDF	62.5				ES 23478-PeCDF	77.2	
123478-HxCDF	56.6				ES 123478-HxCDF	88.3	
123678-HxCDF	56.4				ES 123678-HxCDF	102	
234678-HxCDF	58.1				ES 234678-HxCDF	98.7	
123789-HxCDF	54.2				ES 123789-HxCDF	81.7	
1234678-HpCDF	56.2				ES 1234678-HpCDF	111	
1234789-HpCDF	56.4				ES 1234789-HpCDF	84.2	
OCDF	115				ES OCDF	72.7	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	86	
Total TCDD	46		46		CS 12347-PeCDD	87	
Total PeCDD	73.9		73.9		CS 12346-PeCDF	88.2	
Total HxCDD	182		182		CS 123469-HxCDF	108	
Total HpCDD	75.6		75.6		CS 1234689-HpCDF	111	
Total TCDF	72.8		72.8				
Total PeCDF	248		248				
Total HxCDF	383		383				
Total HpCDF	113		113				
Total PCDD/Fs	**1,420**		**1,420**				
WHO-2005 TEQs							
TEQ: ND=0	121		121				
TEQ: ND=DL/2	121	0.242	121				
TEQ: ND=DL	121	0.485	121				

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Sample DUP			Method 1613B
Sample ID: 0_18968_OPR001			
Analyte	**OPR1_18968_DF pg/uL**	**OPR2_18968_DF (DUP) pg/uL**	**RPD**
2,3,7,8-TCDD	8.94	9.77	8.9%
1,2,3,7,8-PeCDD	45.3	48.4	6.6%
1,2,3,4,7,8-HxCDD	52.1	55.3	6.0%
1,2,3,6,7,8-HxCDD	55.9	58.8	5.1%
1,2,3,7,8,9-HxCDD	47.3	52.1	9.5%
1,2,3,4,6,7,8-HpCDD	52.9	60.9	14.1%
OCDD	104	116	10.3%
2,3,7,8-TCDF	11.2	12.5	11.1%
1,2,3,7,8-PeCDF	53.3	56.3	5.5%
2,3,4,7,8-PeCDF	57.2	62.5	8.9%
1,2,3,4,7,8-HxCDF	53.3	56.6	6.0%
1,2,3,6,7,8-HxCDF	53.8	56.4	4.7%
2,3,4,6,7,8-HxCDF	55.8	58.1	4.1%
1,2,3,7,8,9-HxCDF	50.1	54.2	7.8%
1,2,3,4,6,7,8-HpCDF	54.2	56.2	3.6%
1,2,3,4,7,8,9-HpCDF	52.6	56.4	6.9%
OCDF	107	115	7.1%
Totals			
Total TCDD	41.3	46	10.7%
Total PeCDD	66.9	73.9	10.0%
Total HxCDD	169	182	7.4%
Total HpCDD	64.9	75.6	15.1%
Total TCDF	61.3	72.8	17.1%
Total PeCDF	215	248	14.3%
Total HxCDF	344	383	10.8%
Total HpCDF	107	113	5.2%

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*22-Feb-22 at 10:22*
AP Project name:	*B6336*
Requested TAT:	*10 business days*
Projected due date:	*8-Mar-22*
Matrix:	*Solid*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-021822-S-SB-NC-O-54	B6336_001	Solid - HOLD	1	4oz clear	18-Feb-22	14:10	3.1	1	490527045884
11215131-021822-S-SB-NC-B-17	B6336_002	Solid - HOLD	1	4oz clear	18-Feb-22	14:20	3.1	1	490527045884
11215131-021822-S-SB-NC-S-51	B6336_003	Solid - HOLD	1	4oz clear	18-Feb-22	14:30	3.1	1	490527045884
11215131-021922-S-SB-NC-O-53	B6336_004	Solid	1	4oz clear	19-Feb-22	08:15	3.1	1	490527045884
11215131-021922-S-SB-NC-O-51	B6336_005	Solid	1	4oz clear	19-Feb-22	09:10	3.1	1	490527045884

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: *Taylor McKnight* *Logged in by:* *Taylor McKnight* *QC'ed by:* AK 22 Feb 22

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

SGS CHAIN OF CUSTODY B6336

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ☒ Level II ☒ Level IV
SPECIAL DELIVERABLES:
☐ DoD ☒ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (☒ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

PRESERVATIVE: None

ANALYSIS & METHOD: M1613B, ~~M8290A~~, ~~M1668A~~, ~~M1668C~~, ~~HR-PAH~~, ~~M1699~~ (SAB)

see SSOW

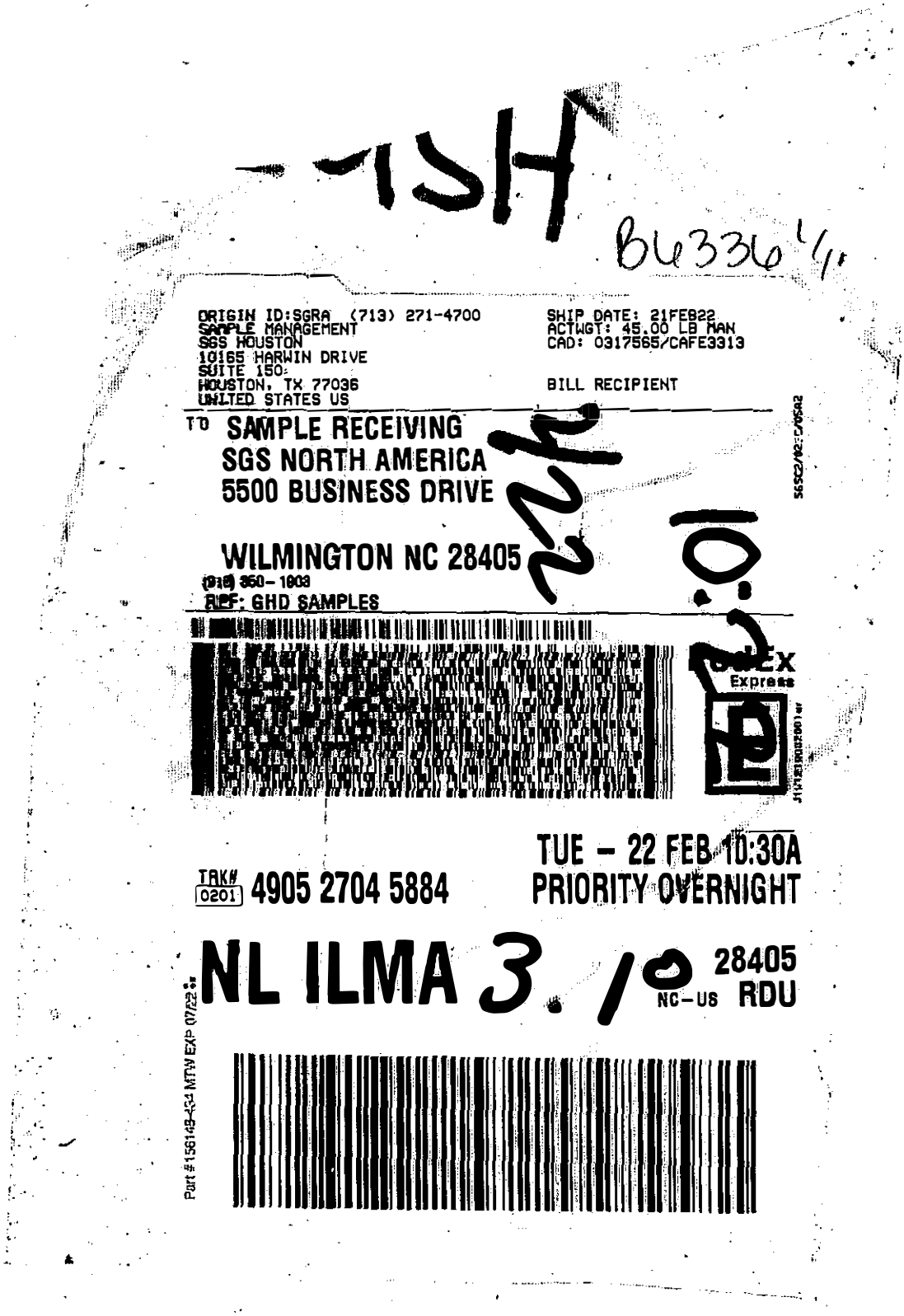
SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B	~~M8290A~~	~~M1668A~~	~~M1668C~~	~~HR-PAH~~	~~M1699~~	QC MS	QC MSD	QC DUP	QTY	REMARKS
1215131-021822-S-SB-NC-0-54	2/18/22	1410	C	S	4oz	X									1	HOLD *
1215131-021822-S-SB-NC-B-17	1	1420	C	S	4oz	X									1	HOLD *
1215131-021822-S-SB-NC-S-51	↓	1430	C	S	4oz	X									1	HOLD *
1215131-021922-S-SB-NC-S-50	2/19/22	0800	C	S	4oz	X									1	RUSH * ee Tm 2/22/
1215131-021922-S-SB-NC-0-53	1	0815	C	S	4oz	X									1	*
1215131-021922-S-SB-NC-0-51	↓	0910	C	S	4oz	X									1	*

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:	RECEIVED BY LABORATORY: DATE:	TIME:
Sarah Belanger	2/19/22	1145	Meagan Willis	2/22/22	10:22
RELINQUISHED BY (2):	DATE:	TIME:	RECEIVED BY:	COOLER SEAL: ☐ INTACT ☐ BROKEN ☒ ABSENT	
Meagan Willis	2/21/22	0815	[signature] 2/21/22 0815	CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT	
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY: [signature] 2/22/22 10:22	CARRIER:	TEMP: °C 3.1 IR4
				TRACKING #:	

* = Samples in this Project

SGS NORTH AMERICA INC ENVIRONMENT HEALTH & SAFETY 5500 Business Drive Wilmington, NC 28405 910 350 1903 | 866 846 8290 www.sgs.com/ehs

Member of the SGS Group (SGS SA)



-TSH

B6336 1/1

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 21FEB22
ACTWGT: 45.00 LB MAN
CAD: 0317565/CAFE3313

BILL RECIPIENT

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

2:22

10:01

Express

TUE - 22 FEB 10:30A
PRIORITY OVERNIGHT

TRK# 0201 4905 2704 5884

NL ILMA 3.10 28405
NC-US RDU

Part # 156143-434 MTW EXP 07/22

Project Initiation Form

Project Number: B6336

Initiation Date: 23-Feb-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Solid

TAT: 10 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR & OPRD

10 g DWE extraction

Samples 001-003 on HOLD

Read and understood, initial and date: Prep Lab: ME 2/28/22 JAH 3/29/22 RAB 3/2/22 HRMS Lab:

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab:

PM Initials: akornegay Date: 23-Feb-2022

SGS

Methods: PCB / PAH | PCDD/F / WHO-2 | QUANTICS / USV | DoD PCDD/F / PEST | Extraction Type: SDS / CLL | TALEX / Carbon SPE | Solid | Final Volume: 20 µL

Batch# 18968 | Split: 1/2 1/4 | Extract Initial/Date: [illegible] 2/25/22 | Clean-up Initial/Date: [illegible] 3/2/22 | Transfer Init/Date: [illegible] 3/7/22

Lab Sample ID	Extraction Position Solvent: TOL	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B6336_18968_004	6	16.32				gray/tan, clay-like/sandy
B6336_18968_005	7	12.87				gray/tan, clay-like, oil smell
MB1_18968	3	10.00				sodium sulfate
OPR1_18968	4	10.00				sodium sulfate
OPR2_18968	5	10.00				sodium sulfate

TB 3/8/22

[illegible] 3/2/22

Supply IDs

Toluene	SRL14-26
McCHL	SRL1.27
Florisil	SRLS.91
Hexane	SRL14-29
Silica	SRLS.69
S Nitrate	N/A
Base Silica	SRLS.92
HydroMatrix	N/A
Tetradecane	SRLS-730
H_2SO_4	N/A
A Silica	SRLS.90
Sodium Sulfate	SRLS-80B

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	TB 3/8/22
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

2/28/22 TOL	Start: ~~1315~~ 1515
	Stop: 0915
HEX	Start:
	Stop:
DCM	Start:
	Stop:

TB 3/8/22

SGS

Methods: PCB PCDD/F QUANTICS DoD PCDD/F
PAH WHO-2 USV PEST

Solid

Batch# 18968

Inter-Department Communication Sheet

SGS

Wt. Volume Results

Batch #: 18968 Comments:

Lab Sample ID	Boat WT.	Sample Wt + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6336_004	2.34	4.63	3.76	62.01%	62.01%			16.13	16.32	10.12
B6336_005	2.32	5.24	4.62	78.77%	78.77%			12.7	12.87	10.14

% Solid Determination WorkSheet

SGS

Batch: 18968

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	10g DWE	Comments
B6336_18968_004	2.34	4.63	3.76	16.13	
B6336_18968_005	2.32	5.24	4.62	12.70	

3/2/22

Date/Initials: 2/28/22

SGS

Methods: PCB / PAH | PCDD/F / WHO-2 | QUANTICS / USV | DoD PCDD/F / PEST | Solid

Batch # 18968

Lab Sample ID	Spiker Initials/Date: JRH 2/28/22	JRH 2/28/22	JRH 2/28/22	3/2/22	3/2/22		
	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS		
	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount: 20µL	Amount:	Amount:
	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials	Observer Initials
B6336_18968_004	—	—	KE	JRH	JRH		
B6336_18968_005	—	—	KE	JRH	JRH		
MB1_18968	—	—	KE	JRH	JRH		
OPR1_18968	KE	KE	KE	JRH	JRH		
OPR2_18968	KE	KE	KE	JRH	JRH		

3/2/22

Standard Information

Pipette ID							3/2/22
Spike ID	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS		
SIL #	26-2-8	25-187-2	24-2-9	25-403-1	25-384-1		
Concentration	10 pg/µL	10 pg/µL	100 pg/µL	100 pg/µL	100 pg/µL		
Expiration Date	7/9/28	6/22/22	8/2028	2/15/23	1/29/23		

REVIEWED
Tamara Burkamper , 3/8/2022, 8:51:28 AM

SGS Environmental Services — Run Log

Project: B6336_18968_DF

Instrument: MM3 (AutoSpec-Ultima)

MS Experiment: df_cl4-8_db5MS

GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
6	220303R06	3	CS3_220303_DF_RB ✓	1.00	SIL 25-347-1	PSW	816-776	03-Mar-2022	12:09:15
7	220303R07	11	OPR1_18968_DF	1.00	0_18968_OPR001	PSW	848-547	03-Mar-2022	15:10:32
8	220303R08	12	OPR2_18968_DF	1.00	0_18968_OPR002	PSW	127-109	03-Mar-2022	15:57:14
9	220303R09	2	SBS_220303_DF_RB	1.00	SIL 20-61-1	PSW	501-196	03-Mar-2022	16:44:46
10	220303R10	10	MB1_18968_DF_SDS	10.00	Method Blank	PSW	284-793	03-Mar-2022	17:32:19
11	220303R11	13	B6336_18968_DF_004	10.12	11215131-021922-S-SB-NC-O-53	PSW	574-830	03-Mar-2022	18:19:52
12	220303R12	14	B6336_18968_DF_005 ✓	10.14	11215131-021922-S-SB-NC-O-51	PSW	584-607	03-Mar-2022	19:07:20

REVIEWED
paul_walton , 3/4/2022, 10:02:10 AM

Lab ID: MB1_18968_DF_SDS **Acq'd:** 03 Mar 2022 17:32 PSW **Wt/Vol:** 10.00 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: Method Blank B6336_18968 **UTP:** 04-Mar-2022 09:49:55 PSW **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 284-793-BDY

Datafile: 220303R10 **Report:** 04 Mar 2022 09:53 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0009	-		-	-	-	1.34	-	3347.688	0.225
12378-PeCDD	NotFnd		1.0006	-		-	-	-	1.06	-	2950.671	0.225
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.06	-	2708.577	0.208
123678-HxCDD	NotFnd		1.0035	-		-	-	-	1.08	-	2708.577	0.201
123789-HxCDD	NotFnd		1.0117	-		-	-	-	1.02	-	2708.577	0.216
1234678-HpCDD	NotFnd		1.0003	-		-	-	-	0.97	-	2928.335	0.218
OCDD	NotFnd		1.0003	-		-	-	-	1.07	-	2577.148	0.314
2378-TCDF	NotFnd		1.0007	-		-	-	-	0.96	-	3178.332	0.213
12378-PeCDF	NotFnd		1.0006	-		-	-	-	0.95	-	2484.583	0.14
23478-PeCDF	NotFnd		1.0005	-		-	-	-	0.94	-	2484.583	0.137
123478-HxCDF	NotFnd		1.0005	-		-	-	-	1.23	-	2620.953	0.15
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.13	-	2620.953	0.13
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.15	-	2620.953	0.143
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	2620.953	0.18
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.36	-	2505.875	0.117
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.30	-	2505.875	0.143
OCDF	NotFnd		1.0002	-		-	-	-	1.03	-	2412.854	0.227

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.89	1.0272	1.0273	+0.2	2.45E+07	0.79	Y	1.03	90.7
ES 12378-PeCDD	32.51	1.2414	1.2422	+1.6	2.29E+07	1.64	Y	1.03	84.7
ES 123478-HxCDD	36.46	0.9916	0.9917	+0.2	1.95E+07	1.28	Y	0.99	96.2
ES 123678-HxCDD	36.58	0.9947	0.9948	+0.2	1.98E+07	1.26	Y	0.97	99.8
ES 123789-HxCDD	36.87	1.0029	1.0029	0	2.24E+07	1.24	Y	1.12	97.7
ES 1234678-HpCDD	39.79	1.0818	1.0823	+1.2	1.82E+07	1.05	Y	0.99	90.1
ES OCDD	42.21	1.1473	1.1480	+1.8	2.59E+07	0.90	Y	0.78	81.8
ES 2378-TCDF	25.96	1.0613	1.0616	+0.5	3.82E+07	0.79	Y	1.08	82.6
ES 12378-PeCDF	31.00	1.2667	1.2677	+1.9	3.58E+07	1.57	Y	0.93	89.8
ES 23478-PeCDF	32.17	1.3143	1.3155	+2.3	3.52E+07	1.60	Y	0.92	89.5
ES 123478-HxCDF	35.48	0.9649	0.9650	+0.2	2.35E+07	0.52	Y	1.14	101
ES 123678-HxCDF	35.63	0.9689	0.9690	+0.2	3.05E+07	0.53	Y	1.30	115
ES 234678-HxCDF	36.29	0.9870	0.9872	+0.4	2.80E+07	0.54	Y	1.20	114
ES 123789-HxCDF	37.26	1.0131	1.0134	+0.7	2.33E+07	0.54	Y	1.14	100
ES 1234678-HpCDF	38.84	1.0560	1.0564	+0.9	2.18E+07	0.46	Y	0.95	113
ES 1234789-HpCDF	40.21	1.0932	1.0938	+1.4	1.73E+07	0.44	Y	0.85	100
ES OCDF	42.37	1.1518	1.1525	+1.8	3.22E+07	0.91	Y	0.93	85.3

Lab ID: MB1_18968_DF_SDS | **Acq'd:** 03 Mar 2022 17:32 PSW | **Wt/Vol:** 10.00 g | **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: Method Blank B6336_18968 | **UTP:** 04-Mar-2022 09:49:55 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 284-793-BDY

Datafile: 220303R10 | **Report:** 04 Mar 2022 09:53 pw | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.17		-	-	-	2.62E+07	0.76	Y	-	-
JS 1234-TCDF	24.45		-	-	-	4.27E+07	0.82	Y	-	-
JS 123467-HxCDD	36.77		-	-	-	1.02E+07	1.26	Y	-	-
CS 37Cl-2378-TCDD	26.91		1.0281	1.0282	+0.2	1.16E+07	n/a	-	1.31	84.4
CS 12347-PeCDD	31.99		1.2217	1.2224	+1.3	2.09E+07	1.58	Y	0.89	89.5
CS 12346-PeCDF	30.45		1.2442	1.2452	+1.8	3.38E+07	1.64	Y	0.87	91.3
CS 123469-HxCDF	35.94		0.9773	0.9774	+0.2	2.51E+07	0.54	Y	1.09	113
CS 1234689-HpCDF	39.27		1.0676	1.0681	+1.2	2.07E+07	0.46	Y	0.86	118
~~SS 37Cl-2378-TCDD~~	~~26.91~~		~~1.0281~~	~~1.0282~~	~~+0.2~~	~~1.16E+07~~	~~n/a~~		~~1.26~~	~~93.6~~
~~SS 12347-PeCDD~~	~~31.99~~		~~1.2217~~	~~1.2224~~	~~+1.3~~	~~2.09E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~106~~
~~SS 12346-PeCDF~~	~~30.45~~		~~1.2442~~	~~1.2452~~	~~+1.8~~	~~3.38E+07~~	~~1.64~~	~~Y~~	~~0.93~~	~~102~~
~~SS 123469-HxCDF~~	~~35.94~~		~~0.9773~~	~~0.9774~~	~~+0.2~~	~~2.51E+07~~	~~0.54~~	~~Y~~	~~0.84~~	~~90~~
~~SS 1234689-HpCDF~~	~~39.27~~		~~1.0676~~	~~1.0681~~	~~+1.2~~	~~2.07E+07~~	~~0.46~~	~~Y~~	~~0.91~~	~~104~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: MB1_18968_DF_SDS **Acq'd: 03 Mar 2022 17:32 PSW** **Wt/Vol: 10.00 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: Method Blank B6336_18968 **UTP: 04-Mar-2022 09:49:55 PSW** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 284-793-BDY**

Datafile: 220303R10 **Report: 04 Mar 2022 09:53 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8510						1.34		3347.688	0.225
1379-TCDD	NotFnd		0.8661						1.34		3347.688	0.225
1369-TCDD	NotFnd		0.8845						1.34		3347.688	0.225
1469-TCDD	NotFnd		0.9171						1.34		3347.688	0.225
1247/1246/1248/1249-TCDD	NotFnd		0.9266						1.34		3347.688	0.225
1378-TCDD	NotFnd		0.9342						1.34		3347.688	0.225
1268-TCDD	NotFnd		0.9423						1.34		3347.688	0.225
1478-TCDD	NotFnd		0.9525						1.34		3347.688	0.225
1279-TCDD	NotFnd		0.9592						1.34		3347.688	0.225
1234/1269-TCDD	NotFnd		0.9737						1.34		3347.688	0.225
1236-TCDD	NotFnd		0.9793						1.34		3347.688	0.225
1237/1238-TCDD	NotFnd		0.9892						1.34		3347.688	0.225
1239-TCDD	NotFnd		0.9946						1.34		3347.688	0.225
2378-TCDD	**NotFnd**		**1.0009**						**1.34**		**3347.688**	**0.225**
1278-TCDD	NotFnd		1.0140						1.34		3347.688	0.225
1267-TCDD	NotFnd		1.0195						1.34		3347.688	0.225
1289-TCDD	NotFnd		1.0397						1.34		3347.688	0.225
12479/12468-PeCDD	NotFnd		0.9204						1.06		2950.671	0.225
12469-PeCDD	NotFnd		0.9378						1.06		2950.671	0.225
12368-PeCDD	NotFnd		0.9554						1.06		2950.671	0.225
12478-PeCDD	NotFnd		0.9614						1.06		2950.671	0.225
12379-PeCDD	NotFnd		0.9646						1.06		2950.671	0.225
12369/12467/12489-PeCDD	NotFnd		0.9731						1.06		2950.671	0.225
12346/12347-PeCDD	NotFnd		0.9848						1.06		2950.671	0.225
12378-PeCDD	NotFnd		**1.0006**						**1.06**		**2950.671**	**0.225**
12367-PeCDD	NotFnd		1.0038						1.06		2950.671	0.225
12389-PeCDD	NotFnd		1.0145						1.06		2950.671	0.225
124679/124689-HxCDD	NotFnd		0.9531						1.05		2708.577	0.208
123468-HxCDD	NotFnd		0.9714						1.05		2708.577	0.208
123679/123689-HxCDD	NotFnd		0.9795						1.05		2708.577	0.208
123469-HxCDD	NotFnd		0.9833						1.05		2708.577	0.208
123478-HxCDD	NotFnd		**1.0004**						1.06		**2708.577**	**0.208**
123678-HxCDD	NotFnd		**1.0035**						1.08		**2708.577**	**0.201**
123467-HxCDD	NotFnd		1.0088						1.05		2708.577	0.208
123789-HxCDD	NotFnd		**1.0117**						1.02		**2708.577**	**0.216**

Lab ID: MB1_18968_DF_SDS | **Acq'd:** 03 Mar 2022 17:32 PSW | **Wt/Vol:** 10.00 g | **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: Method Blank B6336_18968 | **UTP:** 04-Mar-2022 09:49:55 PSW | **J-level:** 0.5 pg/g | **Split:** 1 | **Checkcode:** 284-793-BDY

Datafile: 220303R10 | **Report:** 04 Mar 2022 09:53 pw | **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

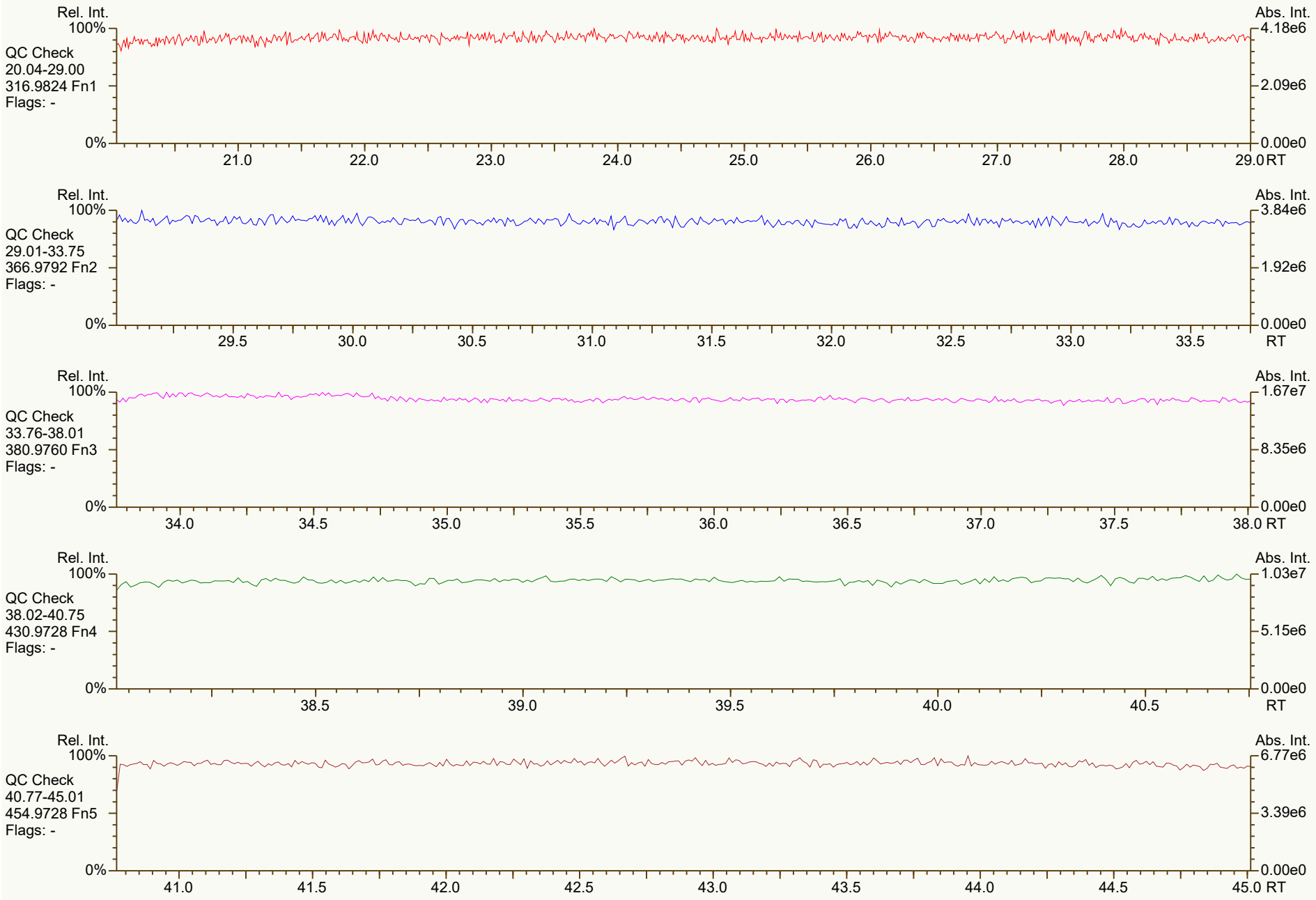
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9835						0.97		2928.335	0.218
1234678-HpCDD	**NotFnd**		**1.0003**						**0.97**		**2928.335**	**0.218**
OCDD	**NotFnd**		**1.0003**						**1.07**		**2577.148**	**0.314**
OCDD-a	NotFnd		1.0002						0.07		3491.983	6.89
1368-TCDF	NotFnd		0.7960						0.96		3178.332	0.213
1468-TCDF	NotFnd		0.8178						0.96		3178.332	0.213
2468-TCDF	NotFnd		0.8428						0.96		3178.332	0.213
1346/1246-TCDF	NotFnd		0.8574						0.96		3178.332	0.213
1347/1378/1247-TCDF	NotFnd		0.8641						0.96		3178.332	0.213
1348-TCDF	NotFnd		0.8762						0.96		3178.332	0.213
1248/1367/1379-TCDF	NotFnd		0.8819						0.96		3178.332	0.213
1268-TCDF	NotFnd		0.8986						0.96		3178.332	0.213
1467-TCDF	NotFnd		0.9045						0.96		3178.332	0.213
1478-TCDF	NotFnd		0.9117						0.96		3178.332	0.213
1369/1237-TCDF	NotFnd		0.9275						0.96		3178.332	0.213
2467-TCDF	NotFnd		0.9334						0.96		3178.332	0.213
2368-TCDF	NotFnd		0.9399						0.96		3178.332	0.213
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9435						0.96		3178.332	0.213
1278-TCDF	NotFnd		0.9629						0.96		3178.332	0.213
1349-TCDF	NotFnd		0.9680						0.96		3178.332	0.213
1267-TCDF	NotFnd		0.9747						0.96		3178.332	0.213
2346/1249-TCDF	NotFnd		0.9823						0.96		3178.332	0.213
2347/1279-TCDF	NotFnd		0.9915						0.96		3178.332	0.213
2348-TCDF	NotFnd		0.9962						0.96		3178.332	0.213
2378-TCDF	**NotFnd**		**1.0007**						**0.96**		**3178.332**	**0.213**
2367/3467-TCDF	NotFnd		1.0162						0.96		3178.332	0.213
1269-TCDF	NotFnd		1.0259						0.96		3178.332	0.213
1239-TCDF	NotFnd		1.0370						0.96		3178.332	0.213
1289-TCDF	NotFnd		1.0828						0.96		3178.332	0.213
13468/12468-PeCDF	NotFnd		0.9051						0.94		3590.769	0.2
13678/13467/12467-PeCDF	NotFnd		0.9577						0.94		2484.583	0.138
12368/13478/12478-PeCDF	NotFnd		0.9630						0.94		2484.583	0.138
14678-PeCDF	NotFnd		0.9664						0.94		2484.583	0.138
13479-PeCDF	NotFnd		0.9694						0.94		2484.583	0.138
13469/12479-PeCDF	NotFnd		0.9781						0.94		2484.583	0.138
12346-PeCDF	NotFnd		0.9828						0.94		2484.583	0.138

Lab ID: MB1_18968_DF_SDS **Acq'd: 03 Mar 2022 17:32 PSW** **Wt/Vol: 10.00 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: Method Blank B6336_18968 **UTP: 04-Mar-2022 09:49:55 PSW** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 284-793-BDY**

Datafile: 220303R10 **Report: 04 Mar 2022 09:53 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

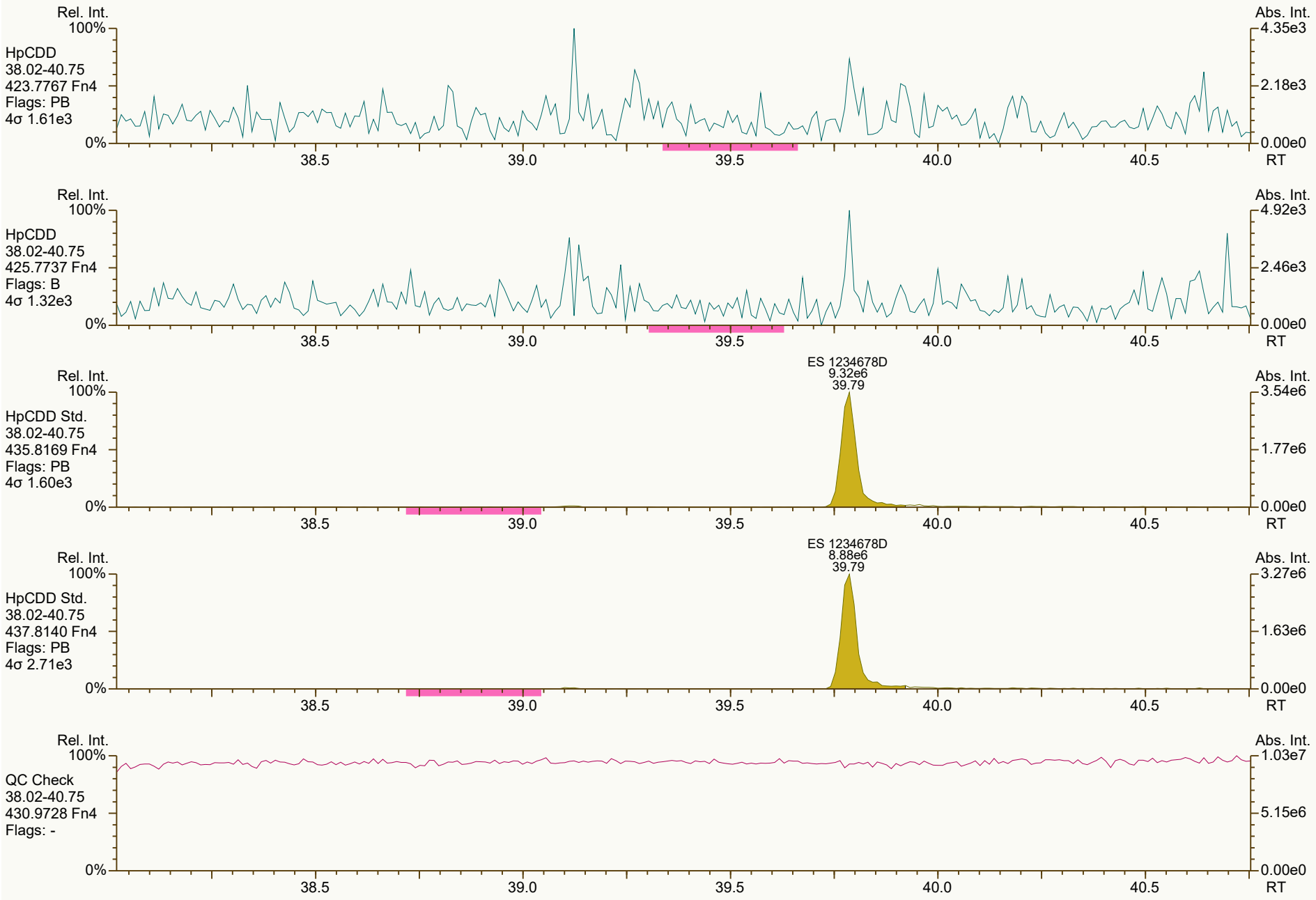
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9858						0.94		2484.583	0.138
12347-PeCDF	NotFnd		0.9881						0.94		2484.583	0.138
12348-PeCDF	NotFnd		0.9935						0.94		2484.583	0.138
12378-PeCDF	**NotFnd**		**1.0006**						**0.95**		**2484.583**	**0.14**
12678/12367-PeCDF	NotFnd		1.0099						0.94		2484.583	0.138
12379-PeCDF	NotFnd		1.0154						0.94		2484.583	0.138
12679-PeCDF	NotFnd		0.9922						0.94		2484.583	0.138
23467/12369-PeCDF	NotFnd		0.9964						0.94		2484.583	0.138
23478-PeCDF	**NotFnd**		**1.0005**						**0.94**		**2484.583**	**0.137**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0046						0.94		2484.583	0.138
12349-PeCDF	NotFnd		1.0105						0.94		2484.583	0.138
12389-PeCDF	NotFnd		1.0346						0.94		2484.583	0.138
123468-HxCDF	NotFnd		0.9606						1.16		2620.953	0.149
124678/134678-HxCDF	NotFnd		0.9664						1.16		2620.953	0.149
134679-HxCDF	NotFnd		0.9729						1.16		2620.953	0.149
124679-HxCDF	NotFnd		0.9786						1.16		2620.953	0.149
124689-HxCDF	NotFnd		0.9850						1.16		2620.953	0.149
123467-HxCDF	NotFnd		0.9971						1.16		2620.953	0.149
123478-HxCDF	**NotFnd**		**1.0005**						**1.23**		**2620.953**	**0.15**
123678-HxCDF	**NotFnd**		**1.0004**						**1.13**		**2620.953**	**0.13**
123479-HxCDF	NotFnd		1.0049						1.16		2620.953	0.149
123469-HxCDF	NotFnd		1.0091						1.16		2620.953	0.149
123679-HxCDF	NotFnd		0.9941						1.16		2620.953	0.149
234678-HxCDF	**NotFnd**		**1.0005**						**1.15**		**2620.953**	**0.143**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		2620.953	0.149
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**2620.953**	**0.18**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	NotFnd		1.0009						1.16		2620.953	0.149
1234678-HpCDF	**NotFnd**		**1.0003**						**1.36**		**2505.875**	**0.117**
1234679-HpCDF	NotFnd		1.0076						1.33		2505.875	0.128
1234689-HpCDF	NotFnd		1.0112						1.33		2505.875	0.128
1234789-HpCDF	**NotFnd**		**1.0003**						**1.30**		**2505.875**	**0.143**
OCDF	**NotFnd**		**1.0002**						**1.03**		**2412.854**	**0.227**
OCDF-a	NotFnd		1.0002						0.06		3588.219	5.83


Rel. Int.
100%
0%
Abs. Int.
4.18e6
2.09e6
0.00e0
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
0%
Abs. Int.
3.84e6
1.92e6
0.00e0
QC Check
29.01-33.75
366.9792 Fn2
Flags: -
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
0%
Abs. Int.
1.67e7
8.35e6
0.00e0
QC Check
33.76-38.01
380.9760 Fn3
Flags: -
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.15e6
0.00e0
QC Check
38.02-40.75
430.9728 Fn4
Flags: -
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
0%
Abs. Int.
6.77e6
3.39e6
0.00e0
QC Check
40.77-45.01
454.9728 Fn5
Flags: -
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
20.04-29.00
319.8965 Fn1
Flags: B
4σ 1.93e3
0%
Abs. Int.
8.88e3
4.44e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDD
20.04-29.00
321.8936 Fn1
Flags: PB
4σ 1.42e3
0%
Abs. Int.
4.59e3
2.29e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
37Cl-TCDD
20.04-29.00
327.8850 Fn1
Flags: PB
4σ 1.45e3
0%
CS 37Cl-2378D
1.16e7
26.91
Abs. Int.
2.66e6
1.33e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDD Std.
20.04-29.00
331.9368 Fn1
Flags: PB
4σ 3.70e3
0%
JS 1234D
1.13e7
26.17
ES 2378D
1.08e7
26.89
Abs. Int.
2.45e6
1.22e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDD Std.
20.04-29.00
333.9339 Fn1
Flags: PB
4σ 3.18e3
0%
JS 1234D
1.49e7
26.17
ES 2378D
1.37e7
26.89
Abs. Int.
3.30e6
1.65e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT


Rel. Int.
100%
PeCDD
29.01-33.75
355.8546 Fn2
Flags: PB
4σ 1.36e3
0%
Abs. Int.
4.62e3
2.31e3
0.00e0
RT
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
PeCDD
29.01-33.75
357.8517 Fn2
Flags: PB
4σ 1.59e3
3.85e3
1.92e3
PeCDD Std.
29.01-33.75
367.8949 Fn2
Flags: PBM
4σ 2.83e3
CS 12347D
1.28e7
31.99
ES 12378D
1.42e7*
32.51
3.84e6
1.92e6
PeCDD Std.
29.01-33.75
369.8919 Fn2
Flags: PBM
4σ 2.34e3
CS 12347D
8.10e6
31.99
ES 12378D
8.69e6*
32.51
2.35e6
1.17e6
QC Check
29.01-33.75
366.9792 Fn2
Flags: -

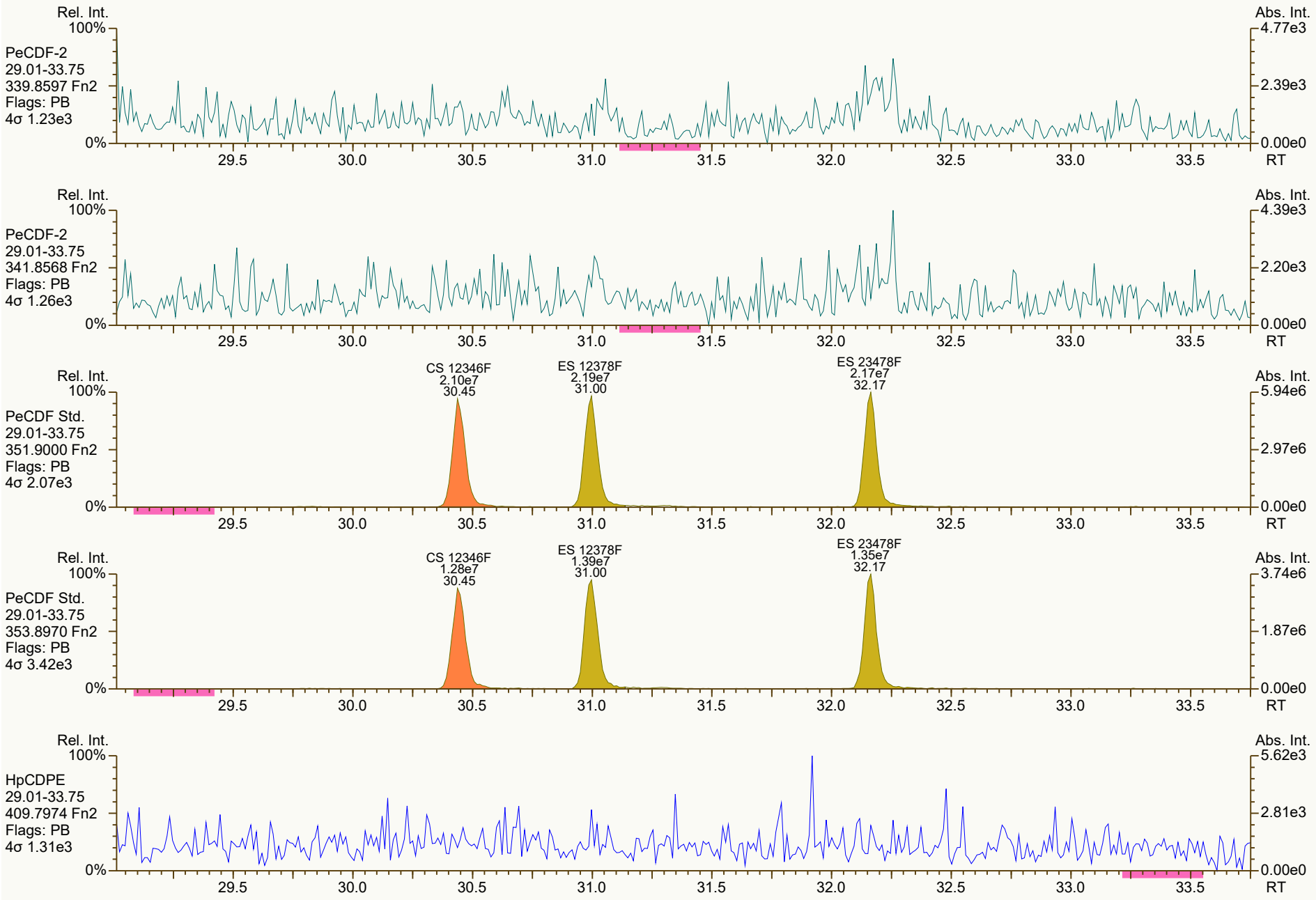

Rel. Int.
100%
HxCDD
33.76-38.01
389.8156 Fn3
Flags: B
4σ 1.34e3
0%
Abs. Int.
5.25e3
2.63e3
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
HxCDD
33.76-38.01
391.8127 Fn3
Flags: PB
4σ 1.37e3
4.40e3
2.20e3
HxCDD Std.
33.76-38.01
401.8559 Fn3
Flags: PB
4σ 2.08e3
ES 123678D
1.10e7
36.58
ES 123478D
1.09e7
36.46
ES 123789D
1.24e7
36.87
JS 123467D
5.68e6
36.77
3.46e6
1.73e6
HxCDD Std.
33.76-38.01
403.8530 Fn3
Flags: PB
4σ 2.13e3
ES 123678D
8.78e6
36.58
ES 123478D
8.56e6
36.46
ES 123789D
1.00e7
36.87
JS 123467D
4.51e6
36.77
2.85e6
1.43e6
QC Check
33.76-38.01
380.9760 Fn3
Flags: -
1.67e7
8.35e6

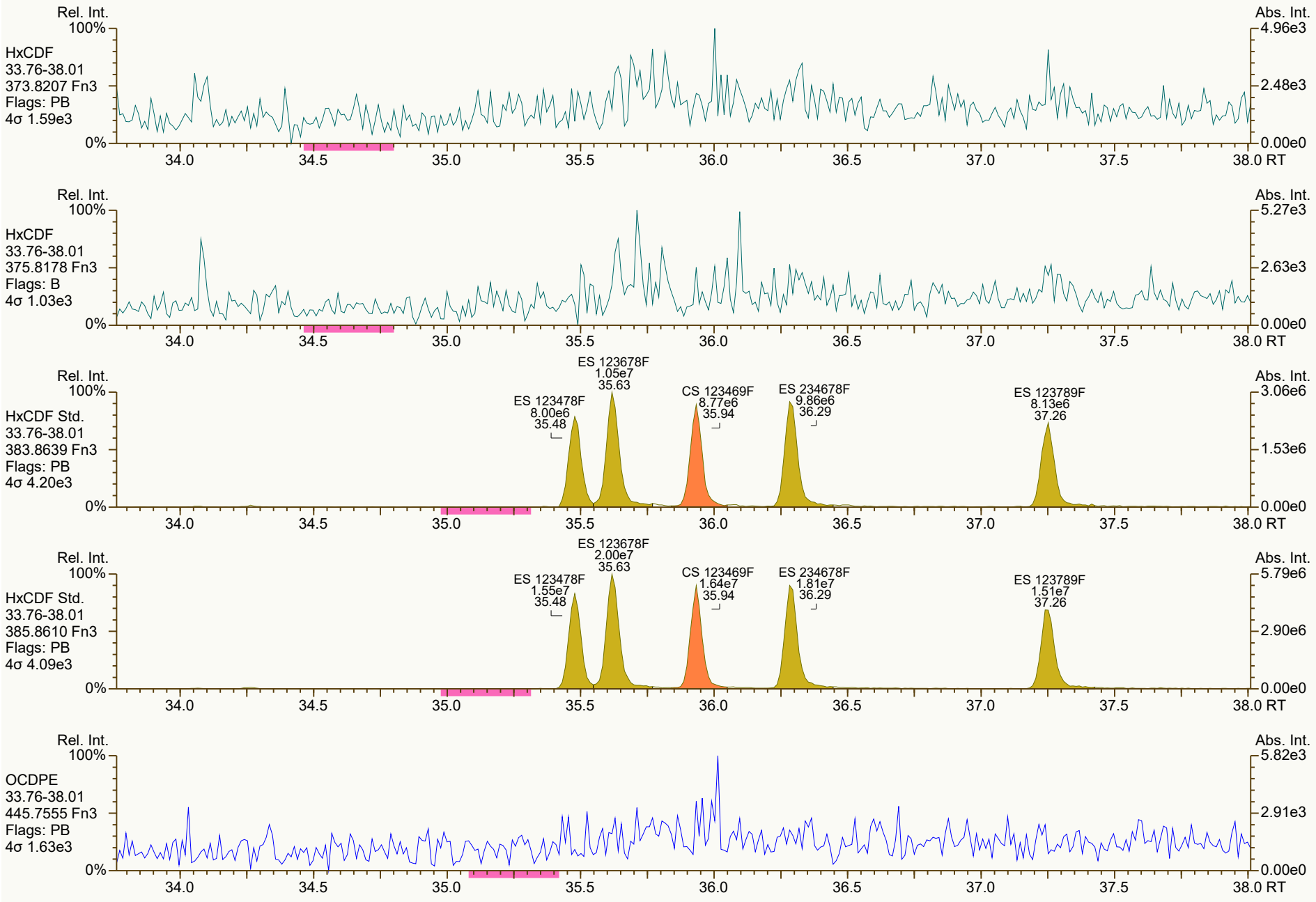

Rel. Int.
100%
HpCDD
38.02-40.75
423.7767 Fn4
Flags: PB
4σ 1.61e3
0%
Abs. Int.
4.35e3
2.18e3
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD
38.02-40.75
425.7737 Fn4
Flags: B
4σ 1.32e3
0%
Abs. Int.
4.92e3
2.46e3
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
ES 1234678D
9.32e6
39.79
Rel. Int.
100%
HpCDD Std.
38.02-40.75
435.8169 Fn4
Flags: PB
4σ 1.60e3
0%
Abs. Int.
3.54e6
1.77e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
ES 1234678D
8.88e6
39.79
Rel. Int.
100%
HpCDD Std.
38.02-40.75
437.8140 Fn4
Flags: PB
4σ 2.71e3
0%
Abs. Int.
3.27e6
1.63e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
QC Check
38.02-40.75
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.03e7
5.15e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT

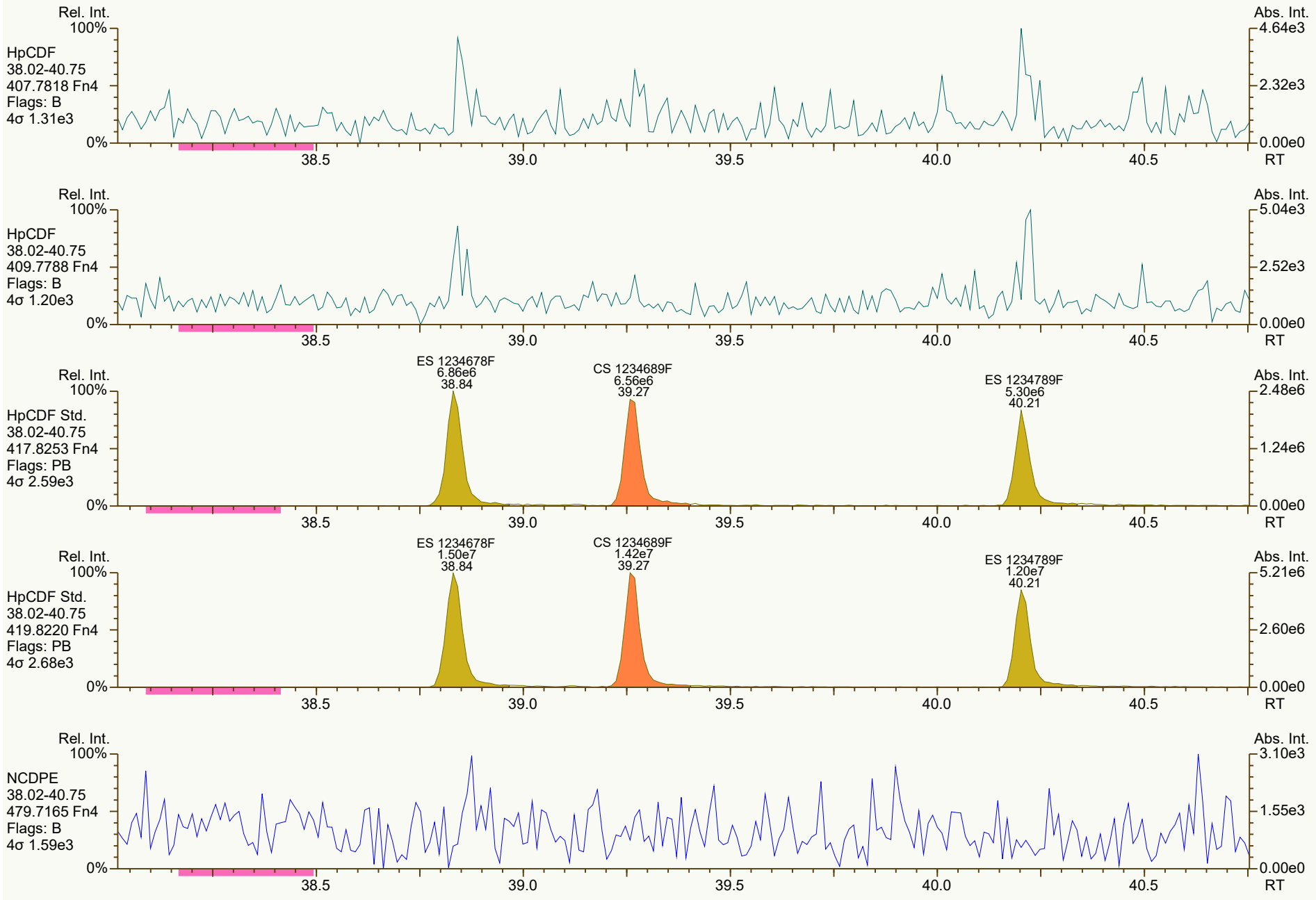

Rel. Int.
100%
OCDD
40.77-45.01
457.7377 Fn5
Flags: B
4σ 1.32e3
0%
Abs. Int.
5.25e3
2.62e3
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
40.77-45.01
459.7348 Fn5
Flags: PB
4σ 1.25e3
0%
Abs. Int.
7.80e3
3.90e3
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.23e7
42.21
Rel. Int.
100%
OCDD Std.
40.77-45.01
469.7780 Fn5
Flags: PB
4σ 1.95e3
0%
Abs. Int.
3.63e6
1.82e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.36e7
42.21
Rel. Int.
100%
OCDD Std.
40.77-45.01
471.7750 Fn5
Flags: PB
4σ 2.26e3
0%
Abs. Int.
4.14e6
2.07e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
40.77-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.77e6
3.39e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
20.04-29.00
303.9016 Fn1
Flags: PB
4σ 1.55e3
0%
Abs. Int.
2.12e5
1.06e5
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDF
20.04-29.00
305.8987 Fn1
Flags: B
4σ 1.63e3
0%
Abs. Int.
4.53e3
2.27e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDF Std.
20.04-29.00
315.9419 Fn1
Flags: PB
4σ 8.98e3
JS 1234F
1.92e7
24.45
ES 2378F
1.68e7
25.96
0%
Abs. Int.
3.68e6
1.84e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDF Std.
20.04-29.00
317.9389 Fn1
Flags: PB
4σ 9.49e3
JS 1234F
2.35e7
24.45
ES 2378F
2.13e7
25.96
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
HxCDPE
20.04-29.00
375.8364 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
1.07e5
5.36e4
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT


Rel. Int.
100%
0%
Abs. Int.
5.26e3
2.63e3
0.00e0
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: B
4σ 1.92e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
0%
Abs. Int.
5.67e3
2.83e3
0.00e0
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: B
4σ 1.67e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
0%
Abs. Int.
4.18e6
2.09e6
0.00e0
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT


Rel. Int.
100%
PeCDF-2
29.01-33.75
339.8597 Fn2
Flags: PB
4σ 1.23e3
0%
Abs. Int.
4.77e3
2.39e3
0.00e0
RT
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
Rel. Int.
100%
PeCDF-2
29.01-33.75
341.8568 Fn2
Flags: PB
4σ 1.26e3
0%
Abs. Int.
4.39e3
2.20e3
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
29.01-33.75
351.9000 Fn2
Flags: PB
4σ 2.07e3
0%
CS 12346F
2.10e7
30.45
ES 12378F
2.19e7
31.00
ES 23478F
2.17e7
32.17
Abs. Int.
5.94e6
2.97e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
29.01-33.75
353.8970 Fn2
Flags: PB
4σ 3.42e3
0%
CS 12346F
1.28e7
30.45
ES 12378F
1.39e7
31.00
ES 23478F
1.35e7
32.17
Abs. Int.
3.74e6
1.87e6
0.00e0
RT
Rel. Int.
100%
HpCDPE
29.01-33.75
409.7974 Fn2
Flags: PB
4σ 1.31e3
0%
Abs. Int.
5.62e3
2.81e3
0.00e0
RT


Rel. Int.
100%
HxCDF
33.76-38.01
373.8207 Fn3
Flags: PB
4σ 1.59e3
0%
Abs. Int.
4.96e3
2.48e3
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
HxCDF
33.76-38.01
375.8178 Fn3
Flags: B
4σ 1.03e3
0%
Abs. Int.
5.27e3
2.63e3
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
HxCDF Std.
33.76-38.01
383.8639 Fn3
Flags: PB
4σ 4.20e3
0%
ES 123678F
1.05e7
35.63
ES 123478F
8.00e6
35.48
CS 123469F
8.77e6
35.94
ES 234678F
9.86e6
36.29
ES 123789F
8.13e6
37.26
Abs. Int.
3.06e6
1.53e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
HxCDF Std.
33.76-38.01
385.8610 Fn3
Flags: PB
4σ 4.09e3
0%
ES 123678F
2.00e7
35.63
ES 123478F
1.55e7
35.48
CS 123469F
1.64e7
35.94
ES 234678F
1.81e7
36.29
ES 123789F
1.51e7
37.26
Abs. Int.
5.79e6
2.90e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
OCDPE
33.76-38.01
445.7555 Fn3
Flags: PB
4σ 1.63e3
0%
Abs. Int.
5.82e3
2.91e3
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT


Rel. Int.
100%
HpCDF
38.02-40.75
407.7818 Fn4
Flags: B
4σ 1.31e3
0%
Abs. Int.
4.64e3
2.32e3
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDF
38.02-40.75
409.7788 Fn4
Flags: B
4σ 1.20e3
0%
Abs. Int.
5.04e3
2.52e3
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDF Std.
38.02-40.75
417.8253 Fn4
Flags: PB
4σ 2.59e3
0%
ES 1234678F
6.86e6
38.84
CS 1234689F
6.56e6
39.27
ES 1234789F
5.30e6
40.21
Abs. Int.
2.48e6
1.24e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDF Std.
38.02-40.75
419.8220 Fn4
Flags: PB
4σ 2.68e3
0%
ES 1234678F
1.50e7
38.84
CS 1234689F
1.42e7
39.27
ES 1234789F
1.20e7
40.21
Abs. Int.
5.21e6
2.60e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
NCDPE
38.02-40.75
479.7165 Fn4
Flags: B
4σ 1.59e3
0%
Abs. Int.
3.10e3
1.55e3
0.00e0
38.5
39.0
39.5
40.0
40.5
RT


Rel. Int.
100%
OCDF
40.77-45.01
441.7428 Fn5
Flags: B
4σ 1.33e3
0%
Abs. Int.
5.98e3
2.99e3
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
40.77-45.01
443.7398 Fn5
Flags: B
4σ 1.08e3
0%
Abs. Int.
4.32e3
2.16e3
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.54e7
42.37
Rel. Int.
100%
OCDF Std.
40.77-45.01
453.7830 Fn5
Flags: PB
4σ 1.82e3
0%
Abs. Int.
4.95e6
2.48e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.68e7
42.37
Rel. Int.
100%
OCDF Std.
40.77-45.01
455.7801 Fn5
Flags: PB
4σ 3.08e3
0%
Abs. Int.
5.26e6
2.63e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
40.77-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
3.48e3
1.74e3
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6336_18968_DF_004 **Acq'd:** 03 Mar 2022 18:19 PSW **Wt/Vol:** 10.12 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-021922-S-SB-NC-O-53 **UTP:** 04-Mar-2022 09:49:55 PSW **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 574-830-LLM

Datafile: 220303R11 **Report:** 04 Mar 2022 09:53 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.93		1.0009	1.0010	+0.2	1.06E+08	0.79	Y	1.34	595	3775.628	0.238
12378-PeCDD	32.54		1.0006	1.0005	-0.2	9.17E+05	1.60	Y	1.06	6.85	3286.215	0.248
123478-HxCDD	36.49	J	1.0004	1.0004	0	1.83E+05	1.27	Y	1.06	1.68	4795.231	0.351
123678-HxCDD	36.60		1.0035	1.0036	+0.2	5.25E+05	1.37	Y	1.08	4.34	4795.231	0.362
123789-HxCDD	36.90		1.0117	1.0117	0	4.36E+05	1.35	Y	1.02	3.31	4795.231	0.338
1234678-HpCDD	39.81		1.0003	1.0002	-0.2	1.29E+07	1.03	Y	0.97	124	4441.788	0.298
OCDD	42.23		1.0003	1.0003	0	1.49E+08	0.90	Y	1.07	1,750	3428.494	0.311
2378-TCDF	26.00	E	1.0007	1.0010	+0.5	3.85E+08	0.79	Y	0.96	1,960	3309.445	0.205
12378-PeCDF	31.03		1.0006	1.0006	0	1.40E+07	1.62	Y	0.95	80.3	4714.108	0.254
23478-PeCDF	32.21	PR	1.0005	1.0007	+0.4	1.04E+07	1.56	Y	0.94	59.8	4714.108	0.251
123478-HxCDF	35.51		1.0005	1.0005	0	1.75E+07	1.28	Y	1.23	111	7810.704	0.412
123678-HxCDF	35.66		1.0004	1.0006	+0.4	5.39E+06	1.25	Y	1.13	30.1	7810.704	0.404
234678-HxCDF	36.31		1.0005	1.0003	-0.4	1.30E+06	1.30	Y	1.15	7.78	7810.704	0.414
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	7810.704	0.512
1234678-HpCDF	38.86		1.0003	1.0003	0	6.74E+06	1.06	Y	1.36	42.7	2632.457	0.133
1234789-HpCDF	40.23		1.0003	1.0003	0	1.46E+06	1.04	Y	1.30	11	2632.457	0.136
OCDF	42.39		1.0002	1.0002	0	7.49E+06	0.88	Y	1.03	71.2	3738.241	0.284

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.91	1.0272	1.0272	0	2.62E+07	0.72	Y	1.03	92
ES 12378-PeCDD	32.53	1.2414	1.2418	+0.8	2.49E+07	1.62	Y	1.03	87.7
ES 123478-HxCDD	36.47	0.9916	0.9917	+0.2	2.04E+07	1.28	Y	0.99	92
ES 123678-HxCDD	36.59	0.9947	0.9949	+0.4	2.21E+07	1.28	Y	0.97	102
ES 123789-HxCDD	36.88	1.0029	1.0029	0	2.56E+07	1.28	Y	1.12	102
ES 1234678-HpCDD	39.80	1.0818	1.0822	+1.0	2.11E+07	1.05	Y	0.99	95.6
ES OCDD	42.22	1.1473	1.1479	+1.5	3.15E+07	0.93	Y	0.78	91.1
ES 2378-TCDF	25.98	1.0613	1.0615	+0.3	4.05E+07	0.79	Y	1.08	88.8
ES 12378-PeCDF	31.02	1.2667	1.2674	+1.3	3.64E+07	1.62	Y	0.93	92.6
ES 23478-PeCDF	32.18	1.3143	1.3151	+1.5	3.67E+07	1.56	Y	0.92	94.5
ES 123478-HxCDF	35.49	0.9649	0.9651	+0.4	2.51E+07	0.52	Y	1.14	98.8
ES 123678-HxCDF	35.64	0.9689	0.9690	+0.2	3.13E+07	0.52	Y	1.30	108
ES 234678-HxCDF	36.30	0.9870	0.9871	+0.2	2.86E+07	0.52	Y	1.20	107
ES 123789-HxCDF	37.27	1.0131	1.0134	+0.7	2.60E+07	0.52	Y	1.14	103
ES 1234678-HpCDF	38.85	1.0560	1.0563	+0.7	2.29E+07	0.44	Y	0.95	108
ES 1234789-HpCDF	40.22	1.0932	1.0936	+1.0	2.02E+07	0.44	Y	0.85	107
ES OCDF	42.38	1.1518	1.1525	+1.8	4.05E+07	0.90	Y	0.93	98.3

Lab ID: B6336_18968_DF_004 **Acq'd:** 03 Mar 2022 18:19 PSW **Wt/Vol:** 10.12 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-021922-S-SB-NC-O-53 **UTP:** 04-Mar-2022 09:49:55 PSW **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 574-830-LLM

Datafile: 220303R11 **Report:** 04 Mar 2022 09:53 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.19		-	-	-	2.75E+07	0.74	Y	-	-
JS 1234-TCDF	24.47		-	-	-	4.21E+07	0.79	Y	-	-
JS 123467-HxCDD	36.78		-	-	-	1.11E+07	1.27	Y	-	-
CS 37Cl-2378-TCDD	26.93		1.0281	1.0281	0	1.24E+07	n/a	-	1.31	86
CS 12347-PeCDD	32.01		1.2217	1.2220	+0.6	2.27E+07	1.65	Y	0.89	92.6
CS 12346-PeCDF	30.46		1.2442	1.2449	+1.3	3.63E+07	1.56	Y	0.87	99.4
CS 123469-HxCDF	35.95		0.9773	0.9775	+0.4	2.88E+07	0.53	Y	1.09	119
CS 1234689-HpCDF	39.28		1.0676	1.0680	+0.9	2.31E+07	0.45	Y	0.86	120
SS 37Cl-2378-TCDD	26.93		1.0281	1.0281	0	1.24E+07	n/a		1.26	94
SS 12347-PeCDD	32.01		1.2217	1.2220	+0.6	2.27E+07	1.65	Y	0.86	105
SS 12346-PeCDF	30.46		1.2442	1.2449	+1.3	3.63E+07	1.56	Y	0.93	107
SS 123469-HxCDF	35.95		0.9773	0.9775	+0.4	2.88E+07	0.53	Y	0.84	109
SS 1234689-HpCDF	39.28		1.0676	1.0680	+0.9	2.31E+07	0.45	Y	0.91	110

Totals	Conc	EMPC
Total TCDD	666	669
Total PeCDD	18	18
Total HxCDD	60.3	61.8
Total HpCDD	285	285
Total Tetra-Octa Dioxins	2780	2780
Total TCDF	3,890	3890
Total PeCDF	228	228
Total HxCDF	191	192
Total HpCDF	85.8	85.8
Total Tetra-Octa Furans	4,460	4470
Total Tetra-Octa Dioxins & Furans	7240	7250

Lab ID: B6336_18968_DF_004 **Acq'd: 03 Mar 2022 18:19 PSW** **Wt/Vol: 10.12 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-021922-S-SB-NC-O-53 **UTP: 04-Mar-2022 09:49:55 PSW** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 574-830-LLM**

Datafile: 220303R11 **Report: 04 Mar 2022 09:53 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	22.88	EMPC	0.8510	0.8504	-0.8	1.80E+05	1.01	N	1.34	1.01	3775.628	0.238
1379-TCDD	23.29		0.8661	0.8656	-0.7	1.07E+05	0.71	Y	1.34	0.599	3775.628	0.238
1369-TCDD	NotFnd		0.8845						1.34		3775.628	0.238
1469-TCDD	24.67		0.9171	0.9168	-0.4	2.25E+05	0.77	Y	1.34	1.26	3775.628	0.238
1247/1246/1248/1249-TCDD	24.92	EMPC	0.9266	0.9261	-0.7	1.92E+05	0.98	N	1.34	1.08	3775.628	0.238
1378-TCDD	25.13		0.9342	0.9341	-0.2	3.12E+05	0.77	Y	1.34	1.75	3775.628	0.238
1268-TCDD	NotFnd		0.9423						1.34		3775.628	0.238
1478-TCDD	25.63		0.9525	0.9525	0	2.37E+05	0.82	Y	1.34	1.33	3775.628	0.238
1279-TCDD	NotFnd		0.9592						1.34		3775.628	0.238
1234/1269-TCDD	26.20		0.9737	0.9737	0	8.80E+04	0.80	Y	1.34	0.495	3775.628	0.238
1236-TCDD	NotFnd		0.9793						1.34		3775.628	0.238
1237/1238-TCDD	26.62		0.9892	0.9893	+0.2	1.55E+06	0.84	Y	1.34	8.74	3775.628	0.238
1239-TCDD	NotFnd		0.9946						1.34		3775.628	0.238
2378-TCDD	**26.93**		**1.0009**	1.0010	**+0.2**	1.06E+08	0.79	Y	**1.34**	**595**	**3775.628**	**0.238**
1278-TCDD	27.28		1.0140	1.0141	+0.2	9.51E+06	0.81	Y	1.34	53.5	3775.628	0.238
1267-TCDD	27.43		1.0195	1.0193	-0.3	6.07E+05	0.75	Y	1.34	3.41	3775.628	0.238
1289-TCDD	27.99	EMPC	1.0397	1.0403	+1.0	2.82E+05	0.98	N	1.34	1.58	3775.628	0.238
12479/12468-PeCDD	29.94		0.9204	0.9204	0	3.88E+05	1.73	Y	1.06	2.9	3286.215	0.248
12469-PeCDD	30.50	J	0.9378	0.9377	-0.2	2.80E+05	1.38	Y	1.06	2.1	3286.215	0.248
12368-PeCDD	31.07	J	0.9554	0.9554	0	1.59E+05	1.65	Y	1.06	1.19	3286.215	0.248
12478-PeCDD	31.27	J	0.9614	0.9614	0	1.77E+05	1.45	Y	1.06	1.32	3286.215	0.248
12379-PeCDD	31.37	J	0.9646	0.9645	-0.2	9.23E+04	1.50	Y	1.06	0.69	3286.215	0.248
12369/12467/12489-PeCDD	31.65	J	0.9731	0.9730	-0.2	1.85E+05	1.66	Y	1.06	1.38	3286.215	0.248
12346/12347-PeCDD	32.03	J	0.9848	0.9847	-0.2	4.71E+04	1.57	Y	1.06	0.352	3286.215	0.248
12378-PeCDD	32.54		**1.0006**	**1.0005**	**-0.2**	**9.17E+05**	**1.60**	**Y**	**1.06**	**6.85**	**3286.215**	**0.248**
12367-PeCDD	32.65	J	1.0038	1.0036	-0.4	1.05E+05	1.42	Y	1.06	0.787	3286.215	0.248
12389-PeCDD	33.00	J	1.0145	1.0145	0	5.45E+04	1.64	Y	1.06	0.408	3286.215	0.248
124679/124689-HxCDD	34.77		0.9531	0.9532	+0.2	3.67E+06	1.27	Y	1.05	30.4	4795.231	0.349
123468-HxCDD	35.43	J	0.9714	0.9713	-0.2	2.59E+05	1.25	Y	1.05	2.14	4795.231	0.349
123679/123689-HxCDD	35.73		0.9795	0.9795	0	2.09E+06	1.28	Y	1.05	17.3	4795.231	0.349
123469-HxCDD	35.85	J EMPC	0.9833	0.9830	-0.6	1.80E+05	1.45	N	1.05	1.49	4795.231	0.349
123478-HxCDD	36.49	J	**1.0004**	**1.0004**	**0**	**1.83E+05**	**1.27**	**Y**	1.06	**1.68**	**4795.231**	**0.351**
123678-HxCDD	36.60		**1.0035**	**1.0036**	**+0.2**	**5.25E+05**	**1.37**	**Y**	1.08	**4.34**	**4795.231**	**0.362**
123467-HxCDD	36.79	J	1.0088	1.0086	-0.4	1.32E+05	1.32	Y	1.05	1.09	4795.231	0.349
123789-HxCDD	36.90		**1.0117**	**1.0117**	**0**	**4.36E+05**	**1.35**	**Y**	1.02	**3.31**	**4795.231**	**0.338**

Lab ID: B6336_18968_DF_004 **Acq'd:** 03 Mar 2022 18:19 PSW **Wt/Vol:** 10.12 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-021922-S-SB-NC-O-53 **UTP:** 04-Mar-2022 09:49:55 PSW **J-level:** 0.494 pg/g **Split:** 1 **Checkcode:** 574-830-LLM

Datafile: 220303R11 **Report:** 04 Mar 2022 09:53 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

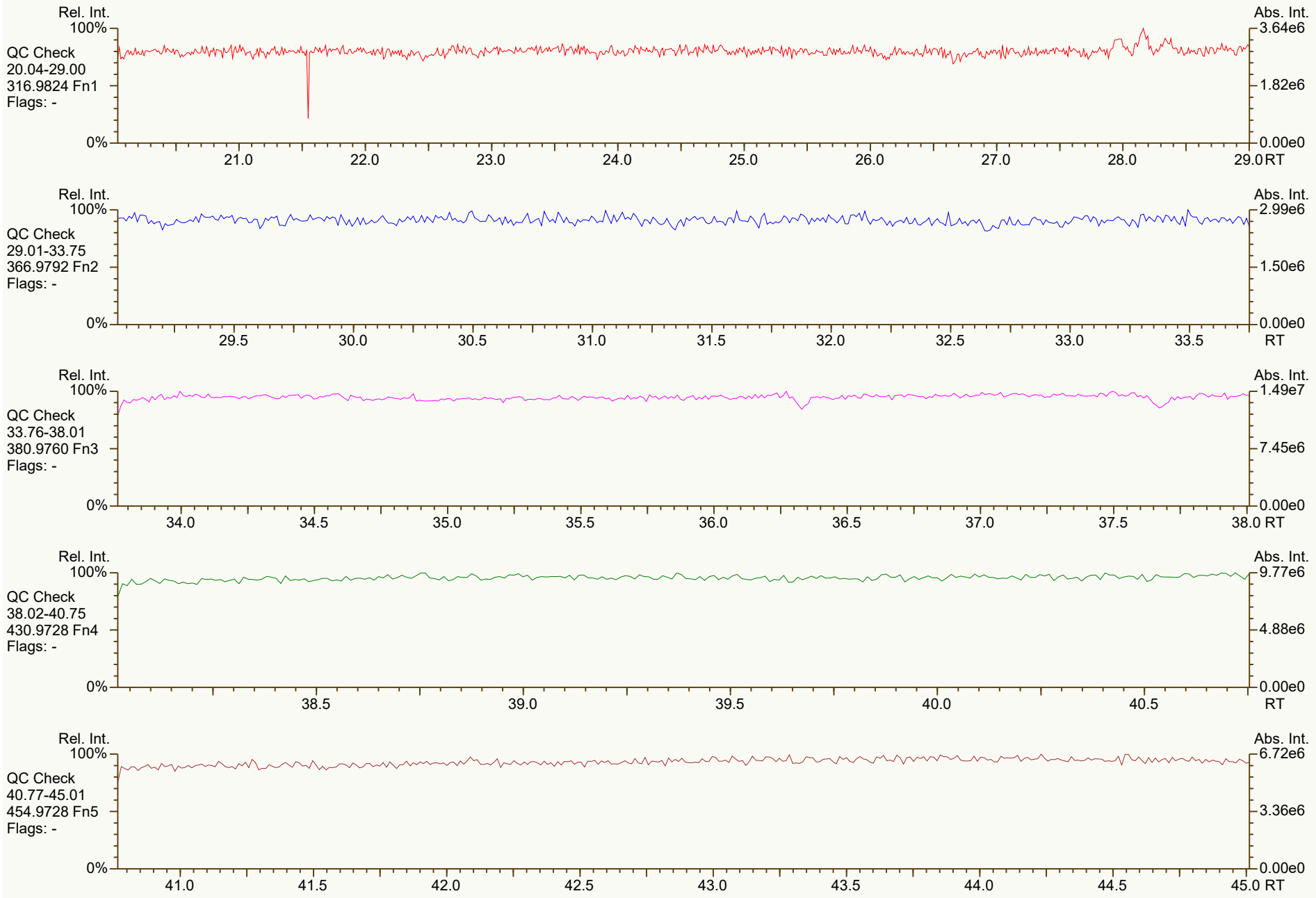
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.14		0.9835	0.9834	-0.2	1.68E+07	1.04	Y	0.97	161	4441.788	0.298
1234678-HpCDD	**39.81**		**1.0003**	**1.0002**	**-0.2**	**1.29E+07**	**1.03**	**Y**	**0.97**	**124**	**4441.788**	**0.298**
OCDD	**42.23**		**1.0003**	**1.0003**	**0**	**1.49E+08**	**0.90**	**Y**	**1.07**	**1,750**	**3428.494**	**0.311**
OCDD-a	42.22		1.0002	1.0002	0	8.88E+06	2.39	Y	0.07	1,690	5748.826	8.45
1368-TCDF	20.66	J EMPC	0.7960	0.7951	-1.1	9.10E+04	0.61	N	0.96	0.462	3309.445	0.205
1468-TCDF	21.23		0.8178	0.8174	-0.5	5.35E+05	0.74	Y	0.96	2.71	3309.445	0.205
2468-TCDF	21.88		0.8428	0.8422	-0.8	5.25E+05	0.77	Y	0.96	2.66	3309.445	0.205
1346/1246-TCDF	22.31	EMPC	0.8574	0.8589	+2.0	1.87E+05	0.91	N	0.96	0.951	3309.445	0.205
1347/1378/1247-TCDF	22.47		0.8641	0.8650	+1.2	3.76E+06	0.77	Y	0.96	19.1	3309.445	0.205
1348-TCDF	22.74		0.8762	0.8753	-1.2	8.34E+05	0.78	Y	0.96	4.24	3309.445	0.205
1248/1367/1379-TCDF	22.87		0.8819	0.8802	-2.3	1.64E+07	0.78	Y	0.96	83.3	3309.445	0.205
1268-TCDF	23.34		0.8986	0.8984	-0.3	5.83E+06	0.79	Y	0.96	29.6	3309.445	0.205
1467-TCDF	23.49		0.9045	0.9044	-0.1	8.28E+05	0.78	Y	0.96	4.2	3309.445	0.205
1478-TCDF	23.68		0.9117	0.9116	-0.1	1.46E+07	0.78	Y	0.96	73.9	3309.445	0.205
1369/1237-TCDF	24.10		0.9275	0.9277	+0.3	3.95E+06	0.78	Y	0.96	20.1	3309.445	0.205
2467-TCDF	24.25		0.9334	0.9333	-0.1	4.69E+05	0.75	Y	0.96	2.38	3309.445	0.205
2368-TCDF	24.41		0.9399	0.9397	-0.3	1.08E+07	0.76	Y	0.96	55	3309.445	0.205
1238/1234/1678/1469/1236-TCDF	24.49		0.9435	0.9429	-0.9	1.86E+07	0.78	Y	0.96	94.2	3309.445	0.205
1278-TCDF	25.01		0.9629	0.9628	-0.2	1.84E+08	0.79	Y	0.96	933	3309.445	0.205
1349-TCDF	NotFnd		0.9680						0.96		3309.445	0.205
1267-TCDF	25.31		0.9747	0.9744	-0.5	9.58E+06	0.78	Y	0.96	48.6	3309.445	0.205
2346/1249-TCDF	25.53		0.9823	0.9828	+0.8	1.44E+06	0.76	Y	0.96	7.31	3309.445	0.205
2347/1279-TCDF	25.75		0.9915	0.9911	-0.6	4.39E+06	0.79	Y	0.96	22.3	3309.445	0.205
2348-TCDF	25.89		0.9962	0.9965	+0.5	3.39E+07	0.78	Y	0.96	172	3309.445	0.205
2378-TCDF	**26.00**	E	**1.0007**	**1.0010**	**+0.5**	**3.85E+08**	**0.79**	**Y**	**0.96**	**1,960**	**3309.445**	**0.205**
2367/3467-TCDF	26.39		1.0162	1.0157	-0.8	3.18E+07	0.78	Y	0.96	162	3309.445	0.205
1269-TCDF	26.65		1.0259	1.0260	+0.2	6.35E+06	0.75	Y	0.96	32.2	3309.445	0.205
1239-TCDF	NotFnd		1.0370						0.96		3309.445	0.205
1289-TCDF	28.16		1.0828	1.0839	+1.9	3.21E+07	0.81	Y	0.96	163	3309.445	0.205
13468/12468-PeCDF	28.09		0.9051	0.9056	+0.8	1.40E+06	1.59	Y	0.94	8.01	3402.701	0.182
13678/13467/12467-PeCDF	29.72	J	0.9577	0.9582	+0.9	2.75E+05	1.43	Y	0.94	1.58	4714.108	0.253
12368/13478/12478-PeCDF	29.89		0.9630	0.9636	+1.1	6.34E+06	1.59	Y	0.94	36.4	4714.108	0.253
14678-PeCDF	29.99	J	0.9664	0.9668	+0.7	3.06E+05	1.50	Y	0.94	1.75	4714.108	0.253
13479-PeCDF	30.11	J EMPC	0.9694	0.9709	+2.7	4.04E+04	1.21	N	0.94	0.232	4714.108	0.253
13469/12479-PeCDF	NotFnd		0.9781						0.94		4714.108	0.253
12346-PeCDF	NotFnd		0.9828						0.94		4714.108	0.253

Lab ID: B6336_18968_DF_004 **Acq'd: 03 Mar 2022 18:19 PSW** **Wt/Vol: 10.12 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-021922-S-SB-NC-O-53 **UTP: 04-Mar-2022 09:49:55 PSW** **J-level: 0.494 pg/g** **Split: 1** **Checkcode: 574-830-LLM**

Datafile: 220303R11 **Report: 04 Mar 2022 09:53 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	30.58	J	0.9858	0.9858	0	4.14E+05	1.45	Y	0.94	2.37	4714.108	0.253
12347-PeCDF	30.65	J	0.9881	0.9881	0	2.89E+05	1.55	Y	0.94	1.66	4714.108	0.253
12348-PeCDF	30.81		0.9935	0.9934	-0.2	1.24E+06	1.51	Y	0.94	7.11	4714.108	0.253
12378-PeCDF	**31.03**		**1.0006**	**1.0006**	**0**	**1.40E+07**	**1.62**	**Y**	**0.95**	**80.3**	**4714.108**	**0.254**
12678/12367-PeCDF	31.34		1.0099	1.0105	+1.1	4.26E+06	1.54	Y	0.94	24.4	4714.108	0.253
12379-PeCDF	NotFnd		1.0154						0.94		4714.108	0.253
12679-PeCDF	NotFnd		0.9922						0.94		4714.108	0.253
23467/12369-PeCDF	32.06	J	0.9964	0.9961	-0.6	2.46E+05	1.56	Y	0.94	1.41	4714.108	0.253
23478-PeCDF	**32.21**		**1.0005**	**1.0007**	**+0.4**	**1.04E+07**	**1.56**	**Y**	**0.94**	**59.8**	**4714.108**	**0.251**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0046						0.94		4714.108	0.253
12349-PeCDF	NotFnd		1.0105						0.94		4714.108	0.253
12389-PeCDF	33.29		1.0346	1.0345	-0.2	5.66E+05	1.51	Y	0.94	3.25	4714.108	0.253
123468-HxCDF	34.10		0.9606	0.9606	0	5.24E+05	1.27	Y	1.16	3.21	7810.704	0.432
124678/134678-HxCDF	34.30		0.9664	0.9664	0	3.02E+06	1.27	Y	1.16	18.5	7810.704	0.432
134679-HxCDF	NotFnd		0.9729						1.16		7810.704	0.432
124679-HxCDF	NotFnd		0.9786						1.16		7810.704	0.432
124689-HxCDF	34.97		0.9850	0.9851	+0.2	1.84E+06	1.38	Y	1.16	11.3	7810.704	0.432
123467-HxCDF	35.38	J EMPC	0.9971	0.9969	-0.4	1.22E+05	1.45	N	1.16	0.744	7810.704	0.432
123478-HxCDF	**35.51**		**1.0005**	**1.0005**	**0**	**1.75E+07**	**1.28**	**Y**	**1.23**	**111**	**7810.704**	**0.412**
123678-HxCDF	**35.66**		**1.0004**	**1.0006**	**+0.4**	**5.39E+06**	**1.25**	**Y**	**1.13**	**30.1**	**7810.704**	**0.404**
123479-HxCDF	NotFnd		1.0049						1.16		7810.704	0.432
123469-HxCDF	NotFnd		1.0091						1.16		7810.704	0.432
123679-HxCDF	NotFnd		0.9941						1.16		7810.704	0.432
234678-HxCDF	**36.31**		**1.0005**	**1.0003**	**-0.4**	**1.30E+06**	**1.30**	**Y**	**1.15**	**7.78**	**7810.704**	**0.414**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		7810.704	0.432
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**7810.704**	**0.512**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.32		1.0009	1.0013	+0.9	1.43E+06	1.35	Y	1.16	8.77	7810.704	0.432
1234678-HpCDF	**38.86**		**1.0003**	**1.0003**	**0**	**6.74E+06**	**1.06**	**Y**	**1.36**	**42.7**	**2632.457**	**0.133**
1234679-HpCDF	39.13	**J**	1.0076	1.0072	-0.9	2.09E+05	1.16	Y	1.33	1.44	2632.457	0.134
1234689-HpCDF	39.29		1.0112	1.0114	+0.5	4.46E+06	1.06	Y	1.33	30.7	2632.457	0.134
1234789-HpCDF	**40.23**		**1.0003**	**1.0003**	**0**	**1.46E+06**	**1.04**	**Y**	**1.30**	**11**	**2632.457**	**0.136**
OCDF	**42.39**		**1.0002**	**1.0002**	**0**	**7.49E+06**	**0.88**	**Y**	**1.03**	**71.2**	**3738.241**	**0.284**
OCDF-a	42.39	**EMPC**	1.0002	1.0001	-0.3	3.58E+05	2.05	N	0.06	58.9	3598.286	4.72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316.9824 Fn1
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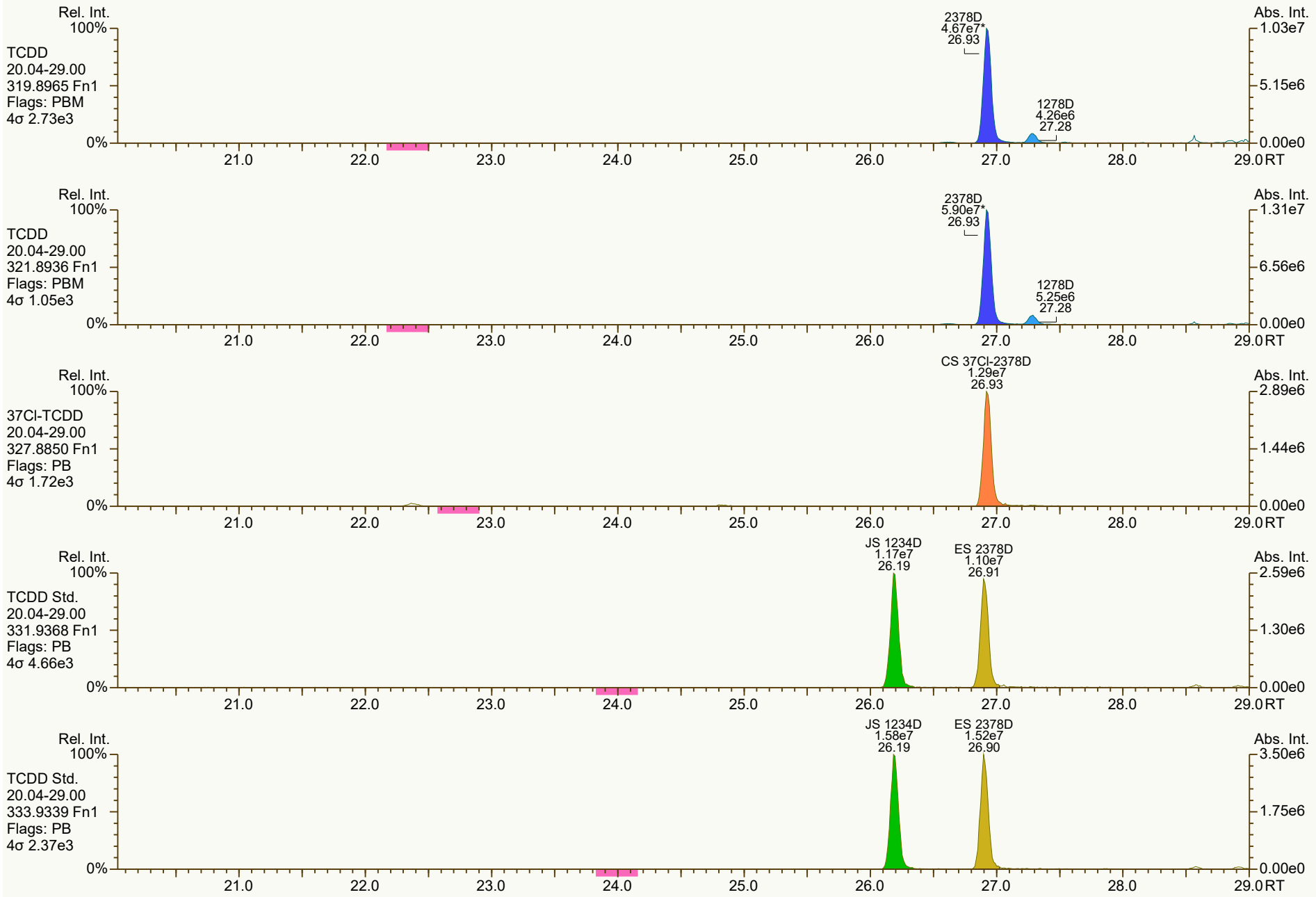
1.82e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
QC Check
29.01-33.75
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.99e6
1.50e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
QC Check
33.76-38.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.49e7
7.45e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
QC Check
38.02-40.75
430.9728 Fn4
Flags: -
0%
Abs. Int.
9.77e6
4.88e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
QC Check
40.77-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.72e6
3.36e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
20.04-29.00
319.8965 Fn1
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4σ 2.73e3
0%
2378D
4.67e7*
26.93
1278D
4.26e6
27.28
Abs. Int.
1.03e7
5.15e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDD
20.04-29.00
321.8936 Fn1
Flags: PBM
4σ 1.05e3
0%
2378D
5.90e7*
26.93
1278D
5.25e6
27.28
Abs. Int.
1.31e7
6.56e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
37Cl-TCDD
20.04-29.00
327.8850 Fn1
Flags: PB
4σ 1.72e3
0%
CS 37Cl-2378D
1.29e7
26.93
Abs. Int.
2.89e6
1.44e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDD Std.
20.04-29.00
331.9368 Fn1
Flags: PB
4σ 4.66e3
0%
JS 1234D
1.17e7
26.19
ES 2378D
1.10e7
26.91
Abs. Int.
2.59e6
1.30e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDD Std.
20.04-29.00
333.9339 Fn1
Flags: PB
4σ 2.37e3
0%
JS 1234D
1.58e7
26.19
ES 2378D
1.52e7
26.90
Abs. Int.
3.50e6
1.75e6
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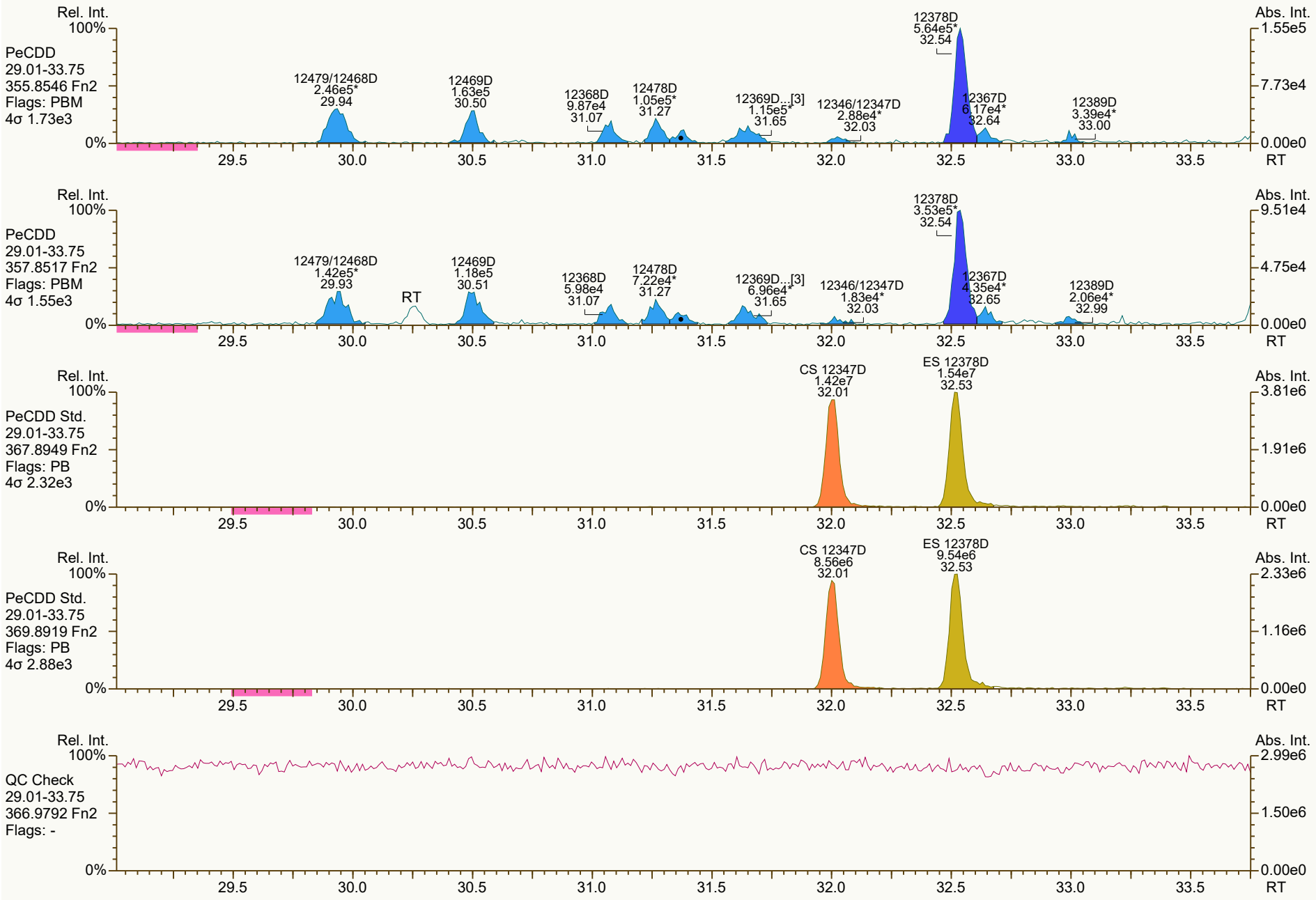
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT


Rel. Int.
100%
PeCDD
29.01-33.75
355.8546 Fn2
Flags: PBM
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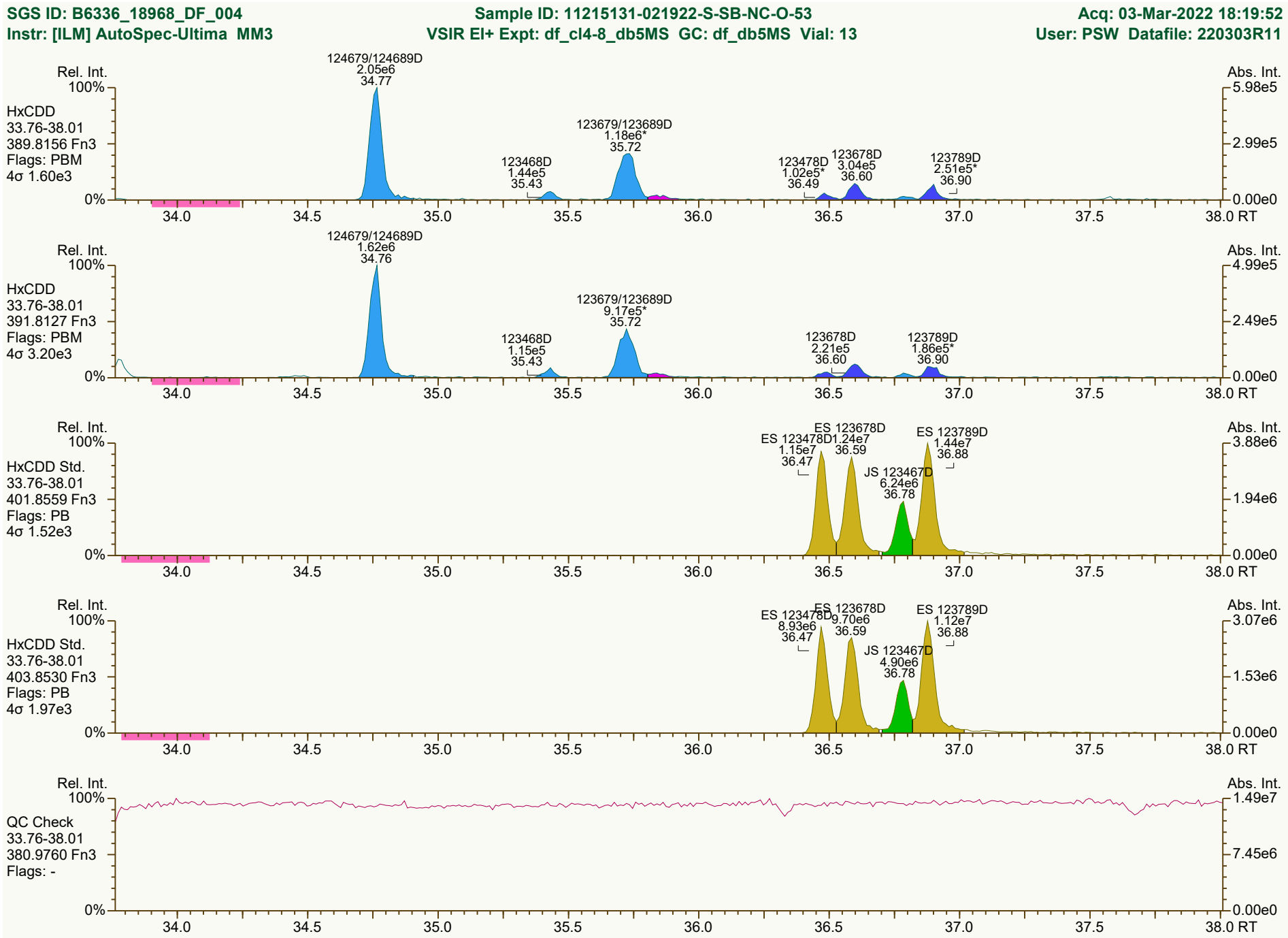
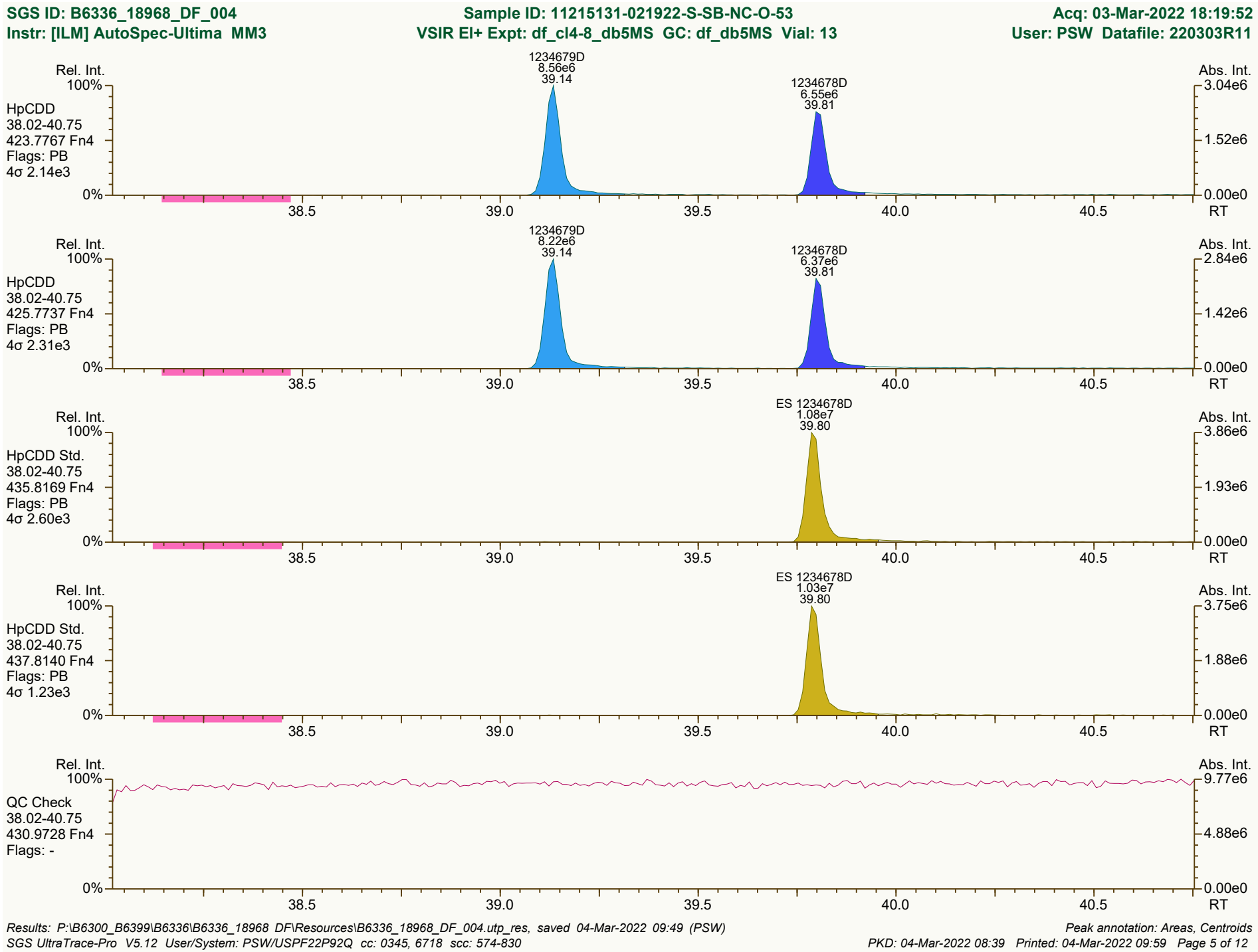
12479/12468D
2.46e5*
29.94
12469D
1.63e5
30.50
12368D
9.87e4
31.07
12478D
1.05e5*
31.27
12369D...[3]
1.15e5*
31.65
12346/12347D
2.88e4*
32.03
12378D
5.64e5*
32.54
12367D
6.17e4*
32.64
12389D
3.39e4*
33.00
Abs. Int.
1.55e5
7.73e4
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD
29.01-33.75
357.8517 Fn2
Flags: PBM
4σ 1.55e3
12479/12468D
1.42e5*
29.93
RT
12469D
1.18e5
30.51
12368D
5.98e4
31.07
12478D
7.22e4*
31.27
12369D...[3]
6.96e4*
31.65
12346/12347D
1.83e4*
32.03
12378D
3.53e5*
32.54
12367D
4.35e4*
32.65
12389D
2.06e4*
32.99
Abs. Int.
9.51e4
4.75e4
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD Std.
29.01-33.75
367.8949 Fn2
Flags: PB
4σ 2.32e3
CS 12347D
1.42e7
32.01
ES 12378D
1.54e7
32.53
Abs. Int.
3.81e6
1.91e6
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD Std.
29.01-33.75
369.8919 Fn2
Flags: PB
4σ 2.88e3
CS 12347D
8.56e6
32.01
ES 12378D
9.54e6
32.53
Abs. Int.
2.33e6
1.16e6
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
QC Check
29.01-33.75
366.9792 Fn2
Flags: -
Abs. Int.
2.99e6
1.50e6
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT

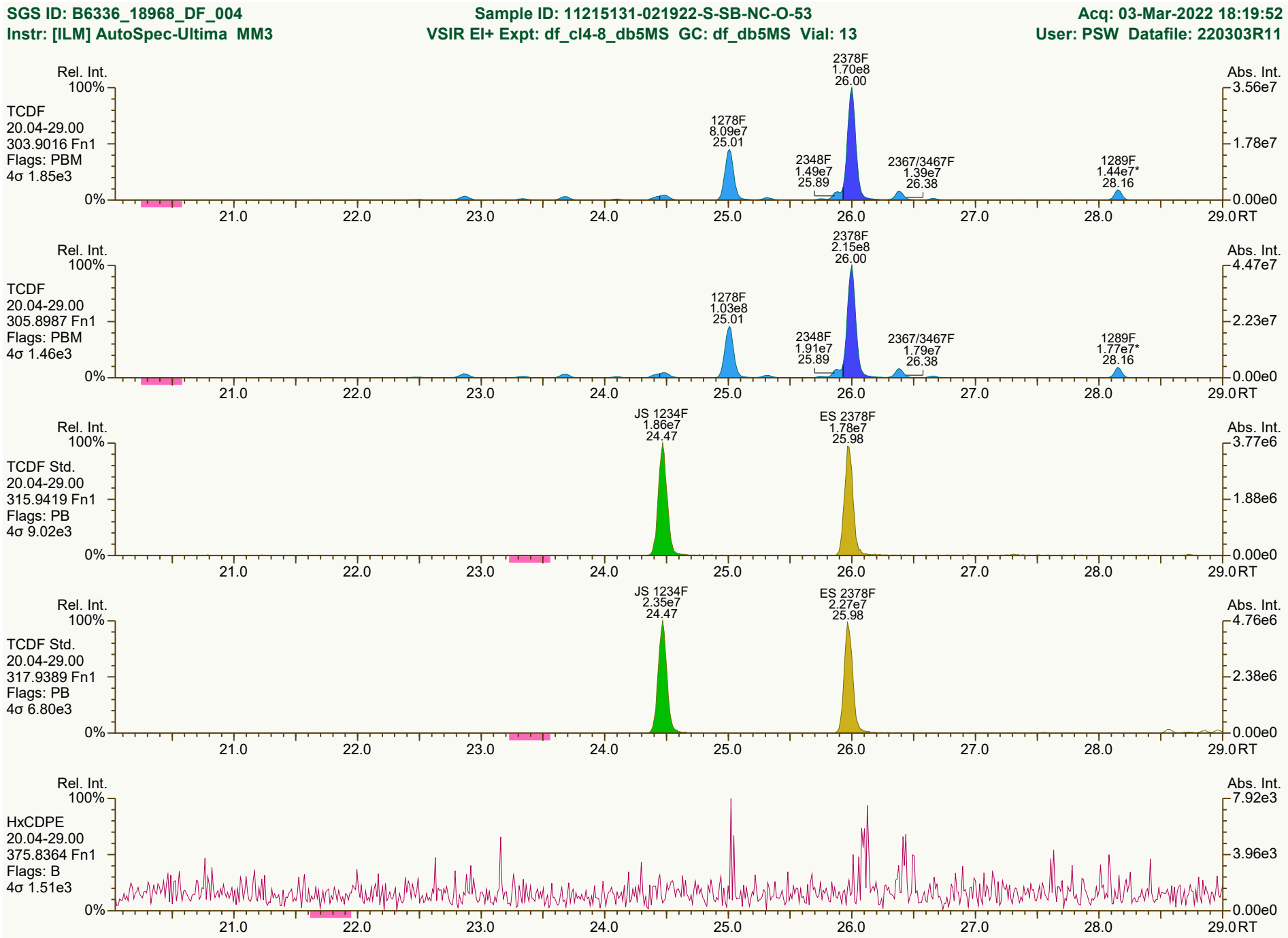
SGS ID: B6336_18968_DF_004 | Sample ID: 11215131-021922-S-SB-NC-O-53 | Acq: 03-Mar-2022 18:19:52
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 13 | User: PSW Datafile: 220303R11



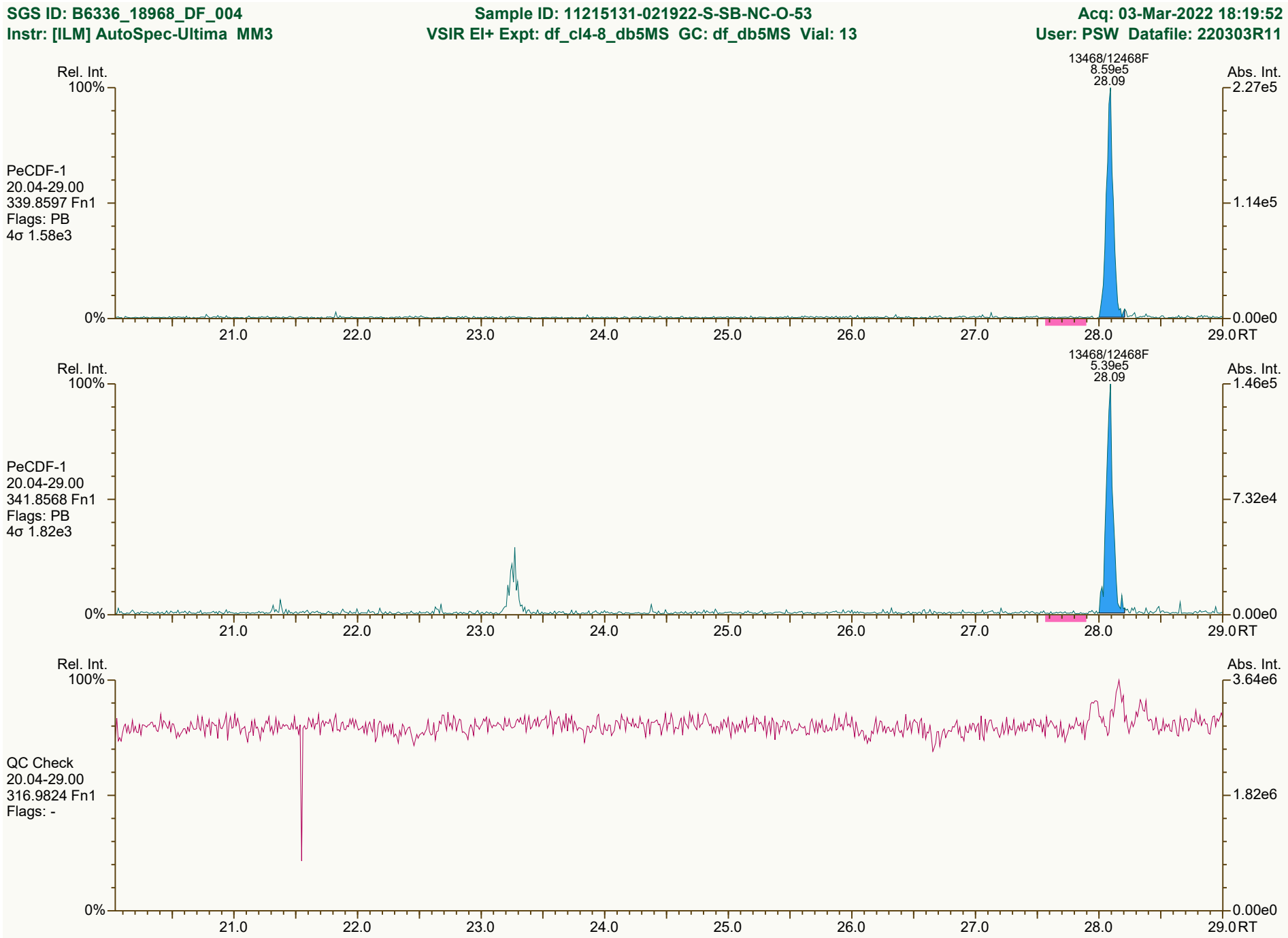
Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\B6336_18968_DF_004.utp_res, saved 04-Mar-2022 09:49 (PSW) | *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7713, 9801 scc: 574-830 | *PKD: 04-Mar-2022 08:39 Printed: 04-Mar-2022 09:59 Page 4 of 12*


SGS ID: B6336_18968_DF_004
Sample ID: 11215131-021922-S-SB-NC-O-53
Acq: 03-Mar-2022 18:19:52
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 13
User: PSW Datafile: 220303R11
Rel. Int.
Abs. Int.
HpCDD
38.02-40.75
423.7767 Fn4
Flags: PB
4σ 2.14e3
1234679D
8.56e6
39.14
1234678D
6.55e6
39.81
3.04e6
1.52e6
0.00e0
HpCDD
38.02-40.75
425.7737 Fn4
Flags: PB
4σ 2.31e3
1234679D
8.22e6
39.14
1234678D
6.37e6
39.81
2.84e6
1.42e6
0.00e0
HpCDD Std.
38.02-40.75
435.8169 Fn4
Flags: PB
4σ 2.60e3
ES 1234678D
1.08e7
39.80
3.86e6
1.93e6
0.00e0
HpCDD Std.
38.02-40.75
437.8140 Fn4
Flags: PB
4σ 1.23e3
ES 1234678D
1.03e7
39.80
3.75e6
1.88e6
0.00e0
QC Check
38.02-40.75
430.9728 Fn4
Flags: -
9.77e6
4.88e6
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
RT
Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\B6336_18968_DF_004.utp_res, saved 04-Mar-2022 09:49 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0345, 6718 scc: 574-830
PKD: 04-Mar-2022 08:39 Printed: 04-Mar-2022 09:59 Page 5 of 12

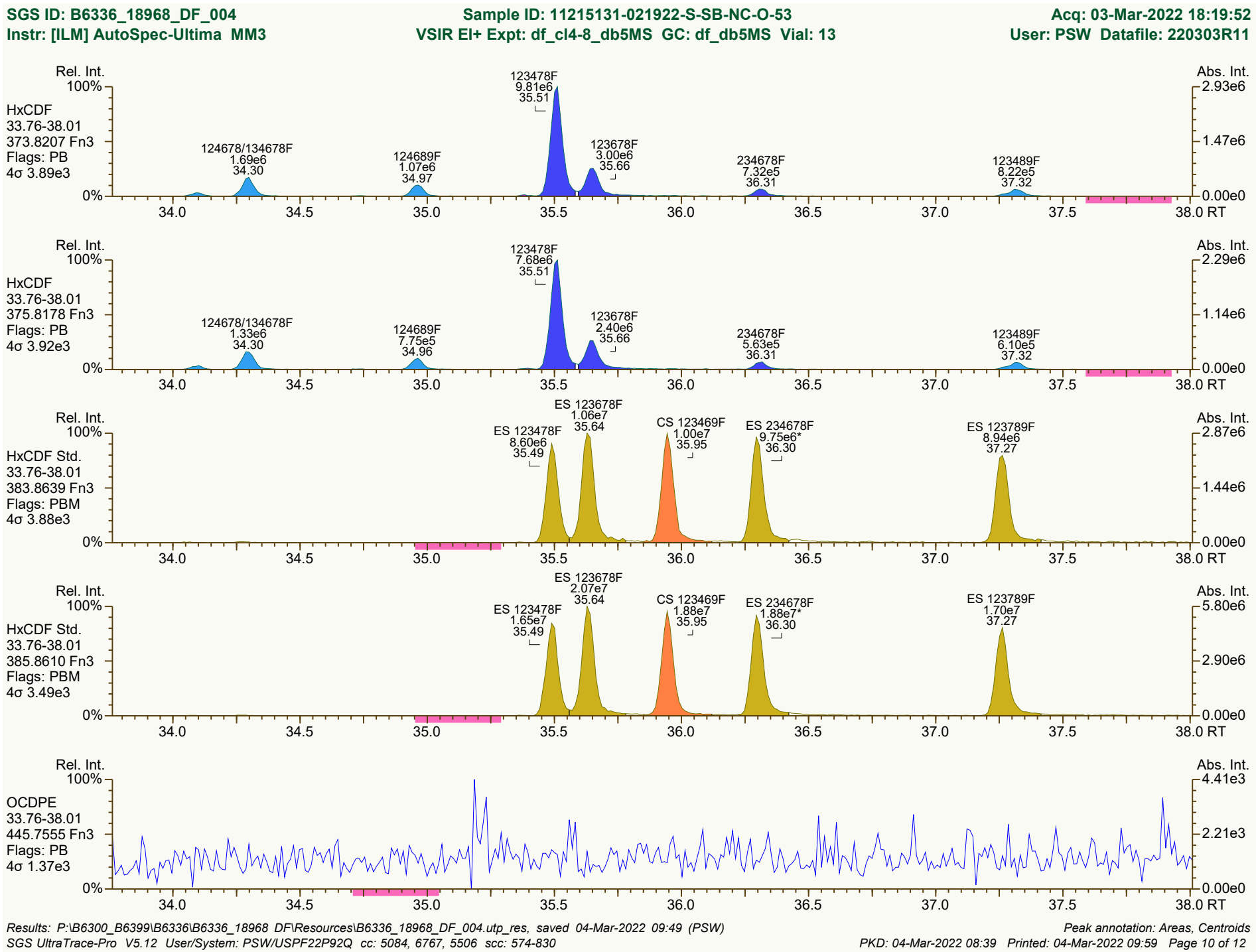

OCDD
7.06e7
42.23
Rel. Int.
100%
OCDD
40.77-45.01
457.7377 Fn5
Flags: PB
4σ 1.82e3
0%
Abs. Int.
2.29e7
1.15e7
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
7.86e7
42.23
Rel. Int.
100%
OCDD
40.77-45.01
459.7348 Fn5
Flags: PB
4σ 1.61e3
0%
Abs. Int.
2.57e7
1.29e7
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.52e7
42.22
Rel. Int.
100%
OCDD Std.
40.77-45.01
469.7780 Fn5
Flags: PB
4σ 2.63e3
0%
Abs. Int.
4.91e6
2.45e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.63e7
42.21
Rel. Int.
100%
OCDD Std.
40.77-45.01
471.7750 Fn5
Flags: PB
4σ 2.00e3
0%
Abs. Int.
4.92e6
2.46e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
40.77-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.72e6
3.36e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

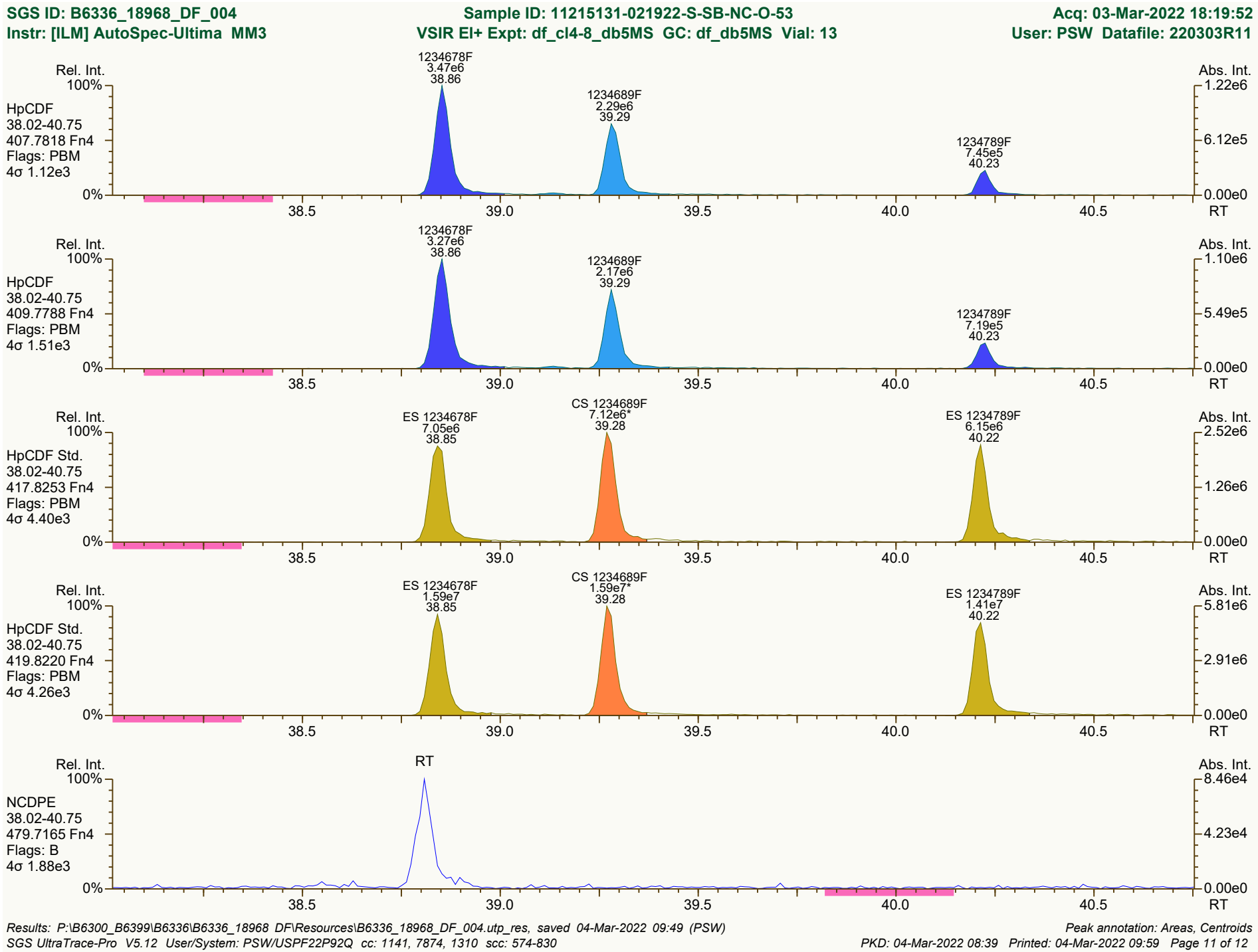


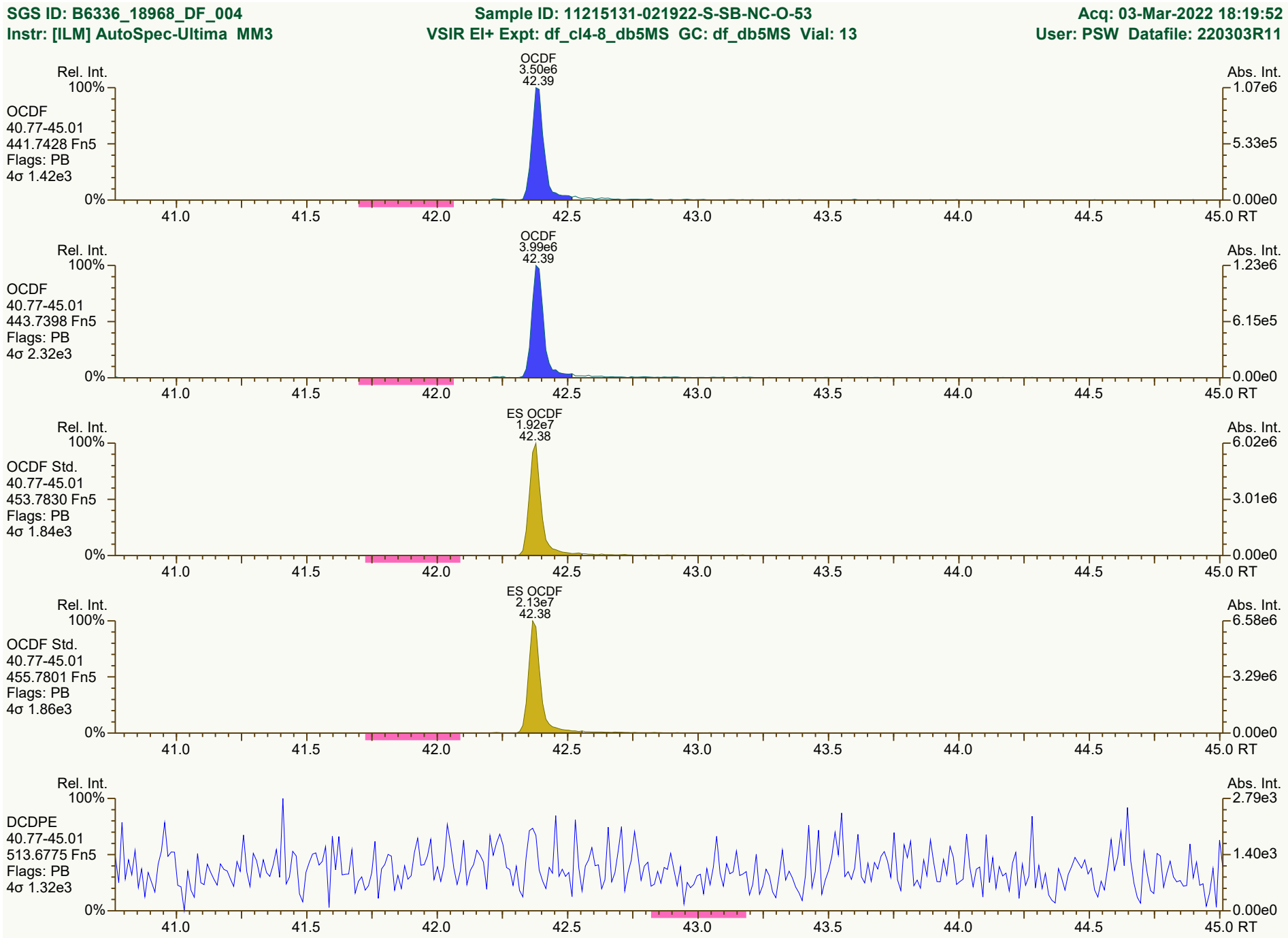
Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\B6336_18968_DF_004.utp_res, saved 04-Mar-2022 09:49 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2794, 7074, 7260 scc: 574-830
PKD: 04-Mar-2022 08:39 Printed: 04-Mar-2022 09:59 Page 7 of 12


SGS ID: B6336_18968_DF_004
Sample ID: 11215131-021922-S-SB-NC-O-53
Acq: 03-Mar-2022 18:19:52
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 13
User: PSW Datafile: 220303R11
Rel. Int.
100%
0%
Abs. Int.
2.27e5
1.14e5
0.00e0
13468/12468F
8.59e5
28.09
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: PB
4σ 1.58e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
13468/12468F
5.39e5
28.09
1.46e5
7.32e4
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: PB
4σ 1.82e3
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
3.64e6
1.82e6
Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\B6336_18968_DF_004.utp_res, saved 04-Mar-2022 09:49 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4327 scc: 574-830
PKD: 04-Mar-2022 08:39 Printed: 04-Mar-2022 09:59 Page 8 of 12


Rel. Int.
100%
PeCDF-2
29.01-33.75
339.8597 Fn2
Flags: PBM
4σ 2.71e3
12368F...[3]
3.89e6*
29.89
12348F
7.46e5
30.81
12378F
8.66e6
31.03
12678/12367F
2.58e6
31.34
23478F
6.35e6
32.21
Abs. Int.
2.27e6
1.13e6
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDF-2
29.01-33.75
341.8568 Fn2
Flags: PBM
4σ 2.00e3
12368F...[3]
2.45e6*
29.89
12348F
4.94e5
30.81
12378F
5.34e6
31.03
12678/12367F
1.68e6
31.34
23478F
4.08e6
32.20
PR
Abs. Int.
1.45e6
7.24e5
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDF Std.
29.01-33.75
351.9000 Fn2
Flags: PB
4σ 3.73e3
CS 12346F
2.22e7
30.46
ES 12378F
2.25e7
31.02
ES 23478F
2.24e7
32.18
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDF Std.
29.01-33.75
353.8970 Fn2
Flags: PB
4σ 3.20e3
CS 12346F
1.42e7
30.46
ES 12378F
1.39e7
31.02
ES 23478F
1.43e7
32.18
Abs. Int.
3.74e6
1.87e6
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
HpCDPE
29.01-33.75
409.7974 Fn2
Flags: B
4σ 1.31e3
Abs. Int.
7.50e3
3.75e3
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT


SGS ID: B6336_18968_DF_004
Sample ID: 11215131-021922-S-SB-NC-O-53
Acq: 03-Mar-2022 18:19:52
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 13
User: PSW Datafile: 220303R11
Rel. Int.
Abs. Int.
HxCDF
33.76-38.01
373.8207 Fn3
Flags: PB
4σ 3.89e3
123478F 9.81e6 35.51
124678/134678F 1.69e6 34.30
124689F 1.07e6 34.97
123678F 3.00e6 35.66
234678F 7.32e5 36.31
123489F 8.22e5 37.32
HxCDF
33.76-38.01
375.8178 Fn3
Flags: PB
4σ 3.92e3
123478F 7.68e6 35.51
124678/134678F 1.33e6 34.30
124689F 7.75e5 34.96
123678F 2.40e6 35.66
234678F 5.63e5 36.31
123489F 6.10e5 37.32
HxCDF Std.
33.76-38.01
383.8639 Fn3
Flags: PBM
4σ 3.88e3
ES 123678F 1.06e7 35.64
ES 123478F 8.60e6 35.49
CS 123469F 1.00e7 35.95
ES 234678F 9.75e6* 36.30
ES 123789F 8.94e6 37.27
HxCDF Std.
33.76-38.01
385.8610 Fn3
Flags: PBM
4σ 3.49e3
ES 123678F 2.07e7 35.64
ES 123478F 1.65e7 35.49
CS 123469F 1.88e7 35.95
ES 234678F 1.88e7* 36.30
ES 123789F 1.70e7 37.27
OCDPE
33.76-38.01
445.7555 Fn3
Flags: PB
4σ 1.37e3
0%
100%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\B6336_18968_DF_004.utp_res, saved 04-Mar-2022 09:49 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5084, 6767, 5506 scc: 574-830
PKD: 04-Mar-2022 08:39 Printed: 04-Mar-2022 09:59 Page 10 of 12


SGS ID: B6336_18968_DF_004
Sample ID: 11215131-021922-S-SB-NC-O-53
Acq: 03-Mar-2022 18:19:52
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 13
User: PSW Datafile: 220303R11
Rel. Int.
Abs. Int.
HpCDF
38.02-40.75
407.7818 Fn4
Flags: PBM
4σ 1.12e3
1234678F
3.47e6
38.86
1234689F
2.29e6
39.29
1234789F
7.45e5
40.23
1.22e6
6.12e5
0.00e0
HpCDF
38.02-40.75
409.7788 Fn4
Flags: PBM
4σ 1.51e3
1234678F
3.27e6
38.86
1234689F
2.17e6
39.29
1234789F
7.19e5
40.23
1.10e6
5.49e5
0.00e0
HpCDF Std.
38.02-40.75
417.8253 Fn4
Flags: PBM
4σ 4.40e3
ES 1234678F
7.05e6
38.85
CS 1234689F
7.12e6*
39.28
ES 1234789F
6.15e6
40.22
2.52e6
1.26e6
0.00e0
HpCDF Std.
38.02-40.75
419.8220 Fn4
Flags: PBM
4σ 4.26e3
ES 1234678F
1.59e7
38.85
CS 1234689F
1.59e7*
39.28
ES 1234789F
1.41e7
40.22
5.81e6
2.91e6
0.00e0
NCDPE
38.02-40.75
479.7165 Fn4
Flags: B
4σ 1.88e3
RT
8.46e4
4.23e4
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
RT
Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\B6336_18968_DF_004.utp_res, saved 04-Mar-2022 09:49 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1141, 7874, 1310 scc: 574-830
PKD: 04-Mar-2022 08:39 Printed: 04-Mar-2022 09:59 Page 11 of 12


SGS ID: B6336_18968_DF_004
Sample ID: 11215131-021922-S-SB-NC-O-53
Acq: 03-Mar-2022 18:19:52
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 13
User: PSW Datafile: 220303R11
OCDF
3.50e6
42.39
Rel. Int.
Abs. Int.
OCDF
40.77-45.01
441.7428 Fn5
Flags: PB
4σ 1.42e3
OCDF
3.99e6
42.39
OCDF
40.77-45.01
443.7398 Fn5
Flags: PB
4σ 2.32e3
ES OCDF
1.92e7
42.38
OCDF Std.
40.77-45.01
453.7830 Fn5
Flags: PB
4σ 1.84e3
ES OCDF
2.13e7
42.38
OCDF Std.
40.77-45.01
455.7801 Fn5
Flags: PB
4σ 1.86e3
DCDPE
40.77-45.01
513.6775 Fn5
Flags: PB
4σ 1.32e3
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\B6336_18968_DF_004.utp_res, saved 04-Mar-2022 09:49 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 0701, 7666, 7906 scc: 574-830
PKD: 04-Mar-2022 08:39 Printed: 04-Mar-2022 09:59 Page 12 of 12

Lab ID: B6336_18968_DF_005 **Acq'd:** 03 Mar 2022 19:07 PSW **Wt/Vol:** 10.14 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-021922-S-SB-NC-O-51 **UTP:** 04-Mar-2022 09:49:56 PSW **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 584-607-WXN

Datafile: 220303R12 **Report:** 04 Mar 2022 09:53 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.94		1.0009	1.0009	0	6.46E+07	0.79	Y	1.34	336	4444.157	0.269
12378-PeCDD	32.56		1.0006	1.0005	-0.2	8.35E+05	1.49	Y	1.06	6.26	4549.966	0.323
123478-HxCDD	36.50		1.0004	1.0003	-0.2	5.35E+05	1.24	Y	1.06	4.93	6093.155	0.441
123678-HxCDD	36.62		1.0035	1.0036	+0.2	2.84E+06	1.24	Y	1.08	23.9	6093.155	0.443
123789-HxCDD	36.91		1.0117	1.0116	-0.2	1.26E+06	1.32	Y	1.02	9.6	6093.155	0.442
1234678-HpCDD	39.82		1.0003	1.0003	0	7.05E+07	1.06	Y	0.97	726	6258.061	0.452
OCDD	42.25	E	1.0003	1.0004	+0.3	9.86E+08	0.90	Y	1.07	11,500	5353.536	0.493
2378-TCDF	26.01	E	1.0007	1.0010	+0.5	2.47E+08	0.79	Y	0.96	1,160	5247.889	0.298
12378-PeCDF	31.05		1.0006	1.0006	0	9.17E+06	1.56	Y	0.95	52	4150.117	0.228
23478-PeCDF	32.22		1.0005	1.0007	+0.4	7.30E+06	1.59	Y	0.94	42	4150.117	0.225
123478-HxCDF	35.52		1.0005	1.0005	0	1.47E+07	1.24	Y	1.23	89.6	9430.614	0.49
123678-HxCDF	35.67		1.0004	1.0006	+0.4	5.66E+06	1.26	Y	1.13	30.9	9430.614	0.467
234678-HxCDF	36.32		1.0005	1.0002	-0.7	1.97E+06	1.28	Y	1.15	12.4	9430.614	0.513
123789-HxCDF	NotFnd		1.0005	-		-	-	-	1.14	-	9430.614	0.59
1234678-HpCDF	38.87		1.0003	1.0003	0	2.32E+07	1.05	Y	1.36	147	3490.221	0.166
1234789-HpCDF	40.24		1.0003	1.0004	+0.2	2.52E+06	1.06	Y	1.30	19.4	3490.221	0.179
OCDF	42.41		1.0002	1.0003	+0.3	3.33E+07	0.91	Y	1.03	308	3899.213	0.283

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.92	1.0272	1.0273	+0.2	2.82E+07	0.77	Y	1.03	84.4
ES 12378-PeCDD	32.54	1.2414	1.2418	+0.8	2.49E+07	1.60	Y	1.03	74.4
ES 123478-HxCDD	36.49	0.9916	0.9917	+0.2	2.03E+07	1.28	Y	0.99	85.8
ES 123678-HxCDD	36.60	0.9947	0.9949	+0.4	2.16E+07	1.33	Y	0.97	93.4
ES 123789-HxCDD	36.90	1.0029	1.0030	+0.2	2.55E+07	1.27	Y	1.12	95.3
ES 1234678-HpCDD	39.81	1.0818	1.0821	+0.7	1.96E+07	1.01	Y	0.99	83.3
ES OCDD	42.23	1.1473	1.1478	+1.3	3.17E+07	0.91	Y	0.78	85.8
ES 2378-TCDF	25.99	1.0613	1.0616	+0.5	4.37E+07	0.80	Y	1.08	82.8
ES 12378-PeCDF	31.03	1.2667	1.2674	+1.3	3.68E+07	1.57	Y	0.93	81
ES 23478-PeCDF	32.19	1.3143	1.3150	+1.4	3.65E+07	1.55	Y	0.92	81.2
ES 123478-HxCDF	35.51	0.9649	0.9651	+0.4	2.62E+07	0.51	Y	1.14	96.4
ES 123678-HxCDF	35.65	0.9689	0.9690	+0.2	3.20E+07	0.53	Y	1.30	104
ES 234678-HxCDF	36.32	0.9870	0.9871	+0.2	2.72E+07	0.53	Y	1.20	95
ES 123789-HxCDF	37.28	1.0131	1.0133	+0.4	2.60E+07	0.52	Y	1.14	96.3
ES 1234678-HpCDF	38.86	1.0560	1.0563	+0.7	2.29E+07	0.45	Y	0.95	101
ES 1234789-HpCDF	40.23	1.0932	1.0935	+0.7	1.97E+07	0.46	Y	0.85	97.6
ES OCDF	42.40	1.1518	1.1524	+1.5	4.15E+07	0.89	Y	0.93	94.3

Lab ID: B6336_18968_DF_005 **Acq'd:** 03 Mar 2022 19:07 PSW **Wt/Vol:** 10.14 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-021922-S-SB-NC-O-51 **UTP:** 04-Mar-2022 09:49:56 PSW **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 584-607-WXN

Datafile: 220303R12 **Report:** 04 Mar 2022 09:53 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.21		-	-	-	3.23E+07	0.75	Y	-	-
JS 1234-TCDF	24.48		-	-	-	4.87E+07	0.79	Y	-	-
JS 123467-HxCDD	36.79		-	-	-	1.19E+07	1.29	Y	-	-
CS 37Cl-2378-TCDD	26.94		1.0281	1.0282	+0.2	1.24E+07	n/a	-	1.31	73.1
CS 12347-PeCDD	32.02		1.2217	1.2219	+0.4	2.16E+07	1.66	Y	0.89	75.1
CS 12346-PeCDF	30.48		1.2442	1.2449	+1.3	3.43E+07	1.59	Y	0.87	81.2
CS 123469-HxCDF	35.96		0.9773	0.9776	+0.6	2.72E+07	0.53	Y	1.09	105
CS 1234689-HpCDF	39.29		1.0676	1.0680	+0.9	2.14E+07	0.45	Y	0.86	104
~~SS 37Cl-2378-TCDD~~	~~26.94~~		~~1.0281~~	~~1.0282~~	~~+0.2~~	~~1.24E+07~~	~~n/a~~		~~1.26~~	~~87.1~~
~~SS 12347-PeCDD~~	~~32.02~~		~~1.2217~~	~~1.2219~~	~~+0.4~~	~~2.16E+07~~	~~1.66~~	~~Y~~	~~0.86~~	~~101~~
~~SS 12346-PeCDF~~	~~30.48~~		~~1.2442~~	~~1.2449~~	~~+1.3~~	~~3.43E+07~~	~~1.59~~	~~Y~~	~~0.93~~	~~100~~
~~SS 123469-HxCDF~~	~~35.96~~		~~0.9773~~	~~0.9776~~	~~+0.6~~	~~2.72E+07~~	~~0.53~~	~~Y~~	~~0.84~~	~~101~~
~~SS 1234689-HpCDF~~	~~39.29~~		~~1.0676~~	~~1.0680~~	~~+0.9~~	~~2.14E+07~~	~~0.45~~	~~Y~~	~~0.91~~	~~103~~

Totals	Conc	EMPC
Total TCDD	386	389
Total PeCDD	20.6	29
Total HxCDD	185	187
Total HpCDD	1600	1600
Total Tetra-Octa Dioxins	13700	13700
Total TCDF	2,380	2380
Total PeCDF	246	246
Total HxCDF	308	308
Total HpCDF	423	423
Total Tetra-Octa Furans	3,670	3670
Total Tetra-Octa Dioxins & Furans	17300	17300

Lab ID: B6336_18968_DF_005 **Acq'd: 03 Mar 2022 19:07 PSW** **Wt/Vol: 10.14 g** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 11215131-021922-S-SB-NC-O-51 **UTP: 04-Mar-2022 09:49:56 PSW** **J-level: 0.493 pg/g** **Split: 1** **Checkcode: 584-607-WXN**

Datafile: 220303R12 **Report: 04 Mar 2022 09:53 pw** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	22.90		0.8510	0.8505	-0.7	1.50E+06	0.83	Y	1.34	7.83	4444.157	0.269
1379-TCDD	23.30		0.8661	0.8654	-1.0	4.39E+05	0.78	Y	1.34	2.29	4444.157	0.269
1369-TCDD	23.79	J	0.8845	0.8837	-1.1	5.89E+04	0.85	Y	1.34	0.307	4444.157	0.269
1469-TCDD	24.69	J	0.9171	0.9171	0	4.82E+04	0.67	Y	1.34	0.251	4444.157	0.269
1247/1246/1248/1249-TCDD	24.93	EMPC	0.9266	0.9260	-0.9	2.01E+05	0.96	N	1.34	1.05	4444.157	0.269
1378-TCDD	25.14	EMPC	0.9342	0.9338	-0.6	3.03E+05	0.93	N	1.34	1.58	4444.157	0.269
1268-TCDD	NotFnd		0.9423						1.34		4444.157	0.269
1478-TCDD	25.64		0.9525	0.9523	-0.3	2.25E+05	0.74	Y	1.34	1.17	4444.157	0.269
1279-TCDD	NotFnd		0.9592						1.34		4444.157	0.269
1234/1269-TCDD	NotFnd		0.9737						1.34		4444.157	0.269
1236-TCDD	NotFnd		0.9793						1.34		4444.157	0.269
1237/1238-TCDD	26.63		0.9892	0.9891	-0.2	1.04E+06	0.86	Y	1.34	5.4	4444.157	0.269
1239-TCDD	NotFnd		0.9946						1.34		4444.157	0.269
2378-TCDD	**26.94**		**1.0009**	1.0009	**0**	6.46E+07	0.79	Y	**1.34**	**336**	**4444.157**	**0.269**
1278-TCDD	27.30		1.0140	1.0140	0	6.28E+06	0.81	Y	1.34	32.7	4444.157	0.269
1267-TCDD	NotFnd		1.0195						1.34		4444.157	0.269
1289-TCDD	NotFnd		1.0397						1.34		4444.157	0.269
12479/12468-PeCDD	29.95		0.9204	0.9204	0	9.51E+05	1.44	Y	1.06	7.12	4549.966	0.323
12469-PeCDD	30.52	J EMPC	0.9378	0.9377	-0.2	2.88E+05	0.65	N	1.06	2.15	4549.966	0.323
12368-PeCDD	31.08		0.9554	0.9552	-0.4	4.11E+05	1.39	Y	1.06	3.08	4549.966	0.323
12478-PeCDD	31.29	EMPC	0.9614	0.9615	+0.2	5.09E+05	0.77	N	1.06	3.81	4549.966	0.323
12379-PeCDD	31.39	J	0.9646	0.9647	+0.2	2.40E+05	1.51	Y	1.06	1.79	4549.966	0.323
12369/12467/12489-PeCDD	31.66	J	0.9731	0.9730	-0.2	3.19E+05	1.62	Y	1.06	2.39	4549.966	0.323
12346/12347-PeCDD	32.04	J EMPC	0.9848	0.9847	-0.2	1.18E+05	1.83	N	1.06	0.883	4549.966	0.323
12378-PeCDD	32.56		**1.0006**	**1.0005**	**-0.2**	**8.35E+05**	**1.49**	**Y**	**1.06**	**6.26**	**4549.966**	**0.323**
12367-PeCDD	32.66	J EMPC	1.0038	1.0037	-0.2	9.40E+04	1.81	N	1.06	0.704	4549.966	0.323
12389-PeCDD	33.01	J EMPC	1.0145	1.0145	0	1.14E+05	1.17	N	1.06	0.856	4549.966	0.323
124679/124689-HxCDD	34.78		0.9531	0.9532	+0.2	6.75E+06	1.23	Y	1.05	56.4	6093.155	0.441
123468-HxCDD	35.44		0.9714	0.9714	0	1.01E+06	1.28	Y	1.05	8.42	6093.155	0.441
123679/123689-HxCDD	35.74		0.9795	0.9797	+0.4	9.03E+06	1.26	Y	1.05	75.5	6093.155	0.441
123469-HxCDD	35.88		0.9833	0.9834	+0.2	7.26E+05	1.27	Y	1.05	6.06	6093.155	0.441
123478-HxCDD	36.50		**1.0004**	**1.0003**	**-0.2**	**5.35E+05**	**1.24**	**Y**	1.06	**4.93**	**6093.155**	**0.441**
123678-HxCDD	36.62		**1.0035**	**1.0036**	**+0.2**	**2.84E+06**	**1.24**	**Y**	1.08	**23.9**	**6093.155**	**0.443**
123467-HxCDD	36.80	J EMPC	1.0088	1.0087	-0.2	2.72E+05	1.51	N	1.05	2.27	6093.155	0.441
123789-HxCDD	36.91		**1.0117**	**1.0116**	**-0.2**	**1.26E+06**	**1.32**	**Y**	1.02	**9.6**	**6093.155**	**0.442**

Lab ID: B6336_18968_DF_005 | Acq'd: 03 Mar 2022 19:07 PSW | Wt/Vol: 10.14 g | ICAL: MM3_DF_10272021_27JUL2021

Client ID: 11215131-021922-S-SB-NC-O-51 | UTP: 04-Mar-2022 09:49:56 PSW | J-level: 0.493 pg/g | Split: 1 | Checkcode: 584-607-WXN

Datafile: 220303R12 | Report: 04 Mar 2022 09:53 pw | Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

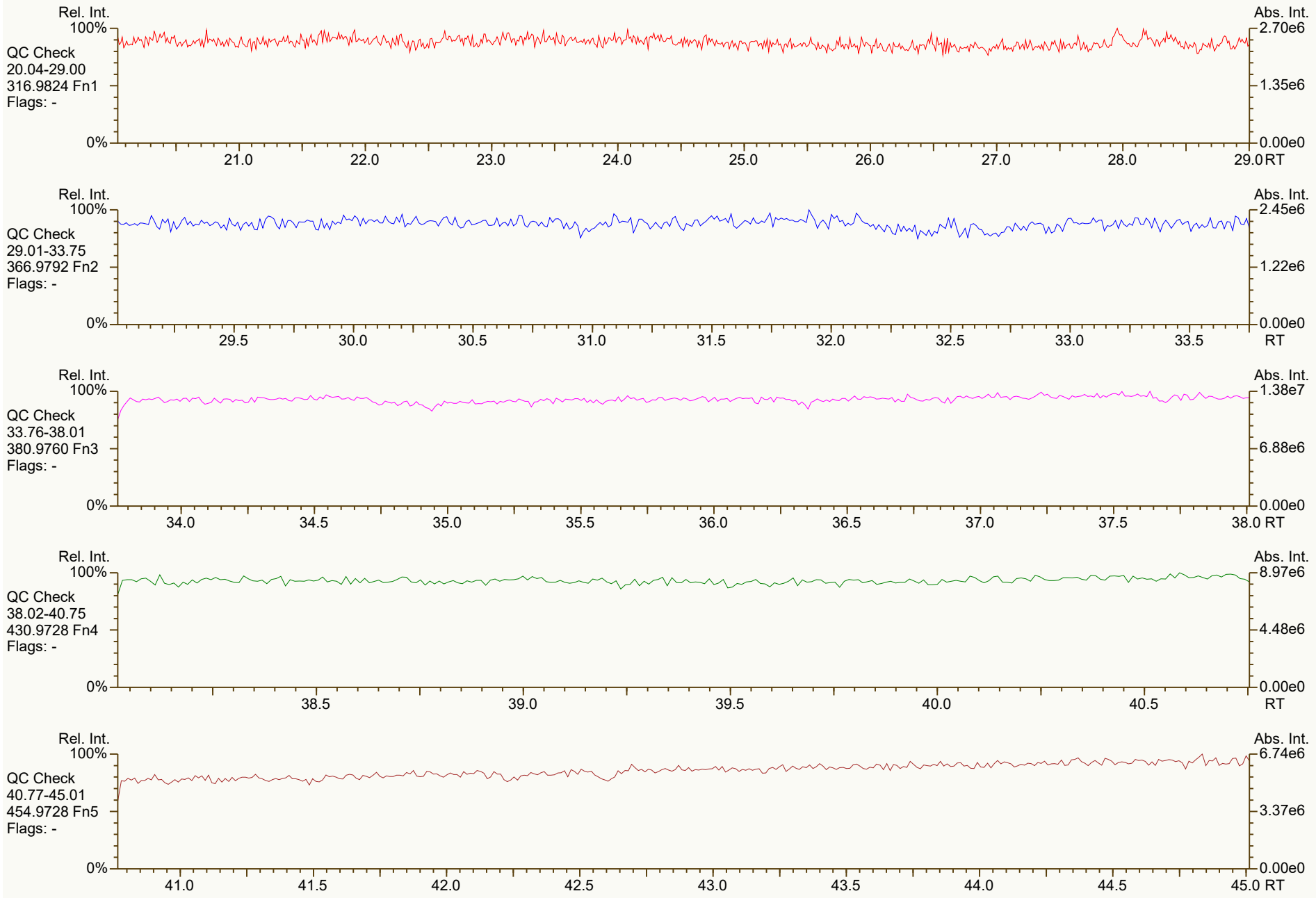
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.15		0.9835	0.9835	0	8.48E+07	1.04	Y	0.97	874	6258.061	0.452
1234678-HpCDD	**39.82**		**1.0003**	**1.0003**	**0**	**7.05E+07**	**1.06**	**Y**	**0.97**	**726**	**6258.061**	**0.452**
OCDD	**42.25**	**E**	**1.0003**	**1.0004**	**+0.3**	**9.86E+08**	**0.90**	**Y**	**1.07**	**11,500**	**5353.536**	**0.493**
OCDD-a	42.24	E	1.0002	1.0002	0	5.84E+07	2.47	Y	0.07	11,000	4717.113	7.04
1368-TCDF	20.66		0.7960	0.7950	-1.2	2.77E+05	0.78	Y	0.96	1.3	5247.889	0.298
1468-TCDF	21.23		0.8178	0.8168	-1.3	8.81E+05	0.76	Y	0.96	4.14	5247.889	0.298
2468-TCDF	21.89		0.8428	0.8422	-0.8	2.24E+06	0.78	Y	0.96	10.5	5247.889	0.298
1346/1246-TCDF	22.33		0.8574	0.8591	+2.3	6.12E+05	0.79	Y	0.96	2.87	5247.889	0.298
1347/1378/1247-TCDF	22.48		0.8641	0.8648	+0.9	3.22E+06	0.79	Y	0.96	15.1	5247.889	0.298
1348-TCDF	22.76		0.8762	0.8756	-0.8	1.03E+06	0.74	Y	0.96	4.84	5247.889	0.298
1248/1367/1379-TCDF	22.87		0.8819	0.8801	-2.5	1.27E+07	0.79	Y	0.96	59.5	5247.889	0.298
1268-TCDF	23.35		0.8986	0.8983	-0.4	4.87E+06	0.78	Y	0.96	22.9	5247.889	0.298
1467-TCDF	23.50		0.9045	0.9041	-0.6	9.60E+05	0.72	Y	0.96	4.51	5247.889	0.298
1478-TCDF	23.69		0.9117	0.9114	-0.4	1.09E+07	0.78	Y	0.96	51.2	5247.889	0.298
1369/1237-TCDF	24.11		0.9275	0.9275	0	2.68E+06	0.74	Y	0.96	12.6	5247.889	0.298
2467-TCDF	24.25		0.9334	0.9331	-0.4	6.59E+05	0.81	Y	0.96	3.1	5247.889	0.298
2368-TCDF	24.41		0.9399	0.9394	-0.7	7.11E+06	0.80	Y	0.96	33.4	5247.889	0.298
1238/1234/1678/1469/1236-TCDF	24.50		0.9435	0.9428	-1.0	1.43E+07	0.79	Y	0.96	67.3	5247.889	0.298
1278-TCDF	25.02		0.9629	0.9629	0	1.19E+08	0.79	Y	0.96	559	5247.889	0.298
1349-TCDF	NotFnd		0.9680						0.96		5247.889	0.298
1267-TCDF	25.32		0.9747	0.9744	-0.5	6.76E+06	0.78	Y	0.96	31.8	5247.889	0.298
2346/1249-TCDF	25.54		0.9823	0.9827	+0.6	1.10E+06	0.81	Y	0.96	5.19	5247.889	0.298
2347/1279-TCDF	25.76		0.9915	0.9911	-0.6	2.98E+06	0.80	Y	0.96	14	5247.889	0.298
2348-TCDF	25.90		0.9962	0.9965	+0.5	2.20E+07	0.79	Y	0.96	103	5247.889	0.298
2378-TCDF	**26.01**	E	**1.0007**	**1.0010**	**+0.5**	**2.47E+08**	**0.79**	**Y**	**0.96**	**1,160**	**5247.889**	**0.298**
2367/3467-TCDF	26.40		1.0162	1.0156	-1.0	2.15E+07	0.79	Y	0.96	101	5247.889	0.298
1269-TCDF	26.66		1.0259	1.0259	0	4.21E+06	0.80	Y	0.96	19.8	5247.889	0.298
1239-TCDF	NotFnd		1.0370						0.96		5247.889	0.298
1289-TCDF	28.17		1.0828	1.0839	+1.9	2.03E+07	0.81	Y	0.96	95.5	5247.889	0.298
13468/12468-PeCDF	28.10		0.9051	0.9057	+1.0	8.56E+06	1.51	Y	0.94	48.9	3779.272	0.206
13678/13467/12467-PeCDF	29.74		0.9577	0.9584	+1.2	1.36E+06	1.63	Y	0.94	7.76	4150.117	0.226
12368/13478/12478-PeCDF	29.90		0.9630	0.9635	+0.9	7.67E+06	1.60	Y	0.94	43.8	4150.117	0.226
14678-PeCDF	29.99		0.9664	0.9667	+0.5	5.31E+05	1.71	Y	0.94	3.03	4150.117	0.226
13479-PeCDF	30.09	J	0.9694	0.9697	+0.5	1.23E+05	1.52	Y	0.94	0.7	4150.117	0.226
13469/12479-PeCDF	30.32		0.9781	0.9772	-1.6	4.52E+05	1.54	Y	0.94	2.58	4150.117	0.226
12346-PeCDF	30.48	J	0.9828	0.9822	-1.1	1.68E+05	1.69	Y	0.94	0.96	4150.117	0.226

Lab ID: B6336_18968_DF_005 **Acq'd:** 03 Mar 2022 19:07 PSW **Wt/Vol:** 10.14 g **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 11215131-021922-S-SB-NC-O-51 **UTP:** 04-Mar-2022 09:49:56 PSW **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 584-607-WXN

Datafile: 220303R12 **Report:** 04 Mar 2022 09:53 pw **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	30.59		0.9858	0.9860	+0.4	1.42E+06	1.57	Y	0.94	8.13	4150.117	0.226
12347-PeCDF	30.67	J	0.9881	0.9884	+0.6	2.83E+05	1.59	Y	0.94	1.62	4150.117	0.226
12348-PeCDF	30.83		0.9935	0.9935	0	1.02E+06	1.45	Y	0.94	5.82	4150.117	0.226
12378-PeCDF	**31.05**		**1.0006**	**1.0006**	**0**	**9.17E+06**	**1.56**	**Y**	**0.95**	**52**	**4150.117**	**0.228**
12678/12367-PeCDF	31.37		1.0099	1.0109	+1.9	4.04E+06	1.62	Y	0.94	23.1	4150.117	0.226
12379-PeCDF	NotFnd		1.0154						0.94		4150.117	0.226
12679-PeCDF	31.93	J EMPC	0.9922	0.9919	-0.6	8.79E+04	1.18	N	0.94	0.502	4150.117	0.226
23467/12369-PeCDF	32.07		0.9964	0.9962	-0.4	4.44E+05	1.64	Y	0.94	2.54	4150.117	0.226
23478-PeCDF	**32.22**		**1.0005**	**1.0007**	**+0.4**	**7.30E+06**	**1.59**	**Y**	**0.94**	**42**	**4150.117**	**0.225**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0046						0.94		4150.117	0.226
12349-PeCDF	NotFnd		1.0105						0.94		4150.117	0.226
12389-PeCDF	33.32		1.0346	1.0350	+0.8	4.72E+05	1.56	Y	0.94	2.69	4150.117	0.226
123468-HxCDF	34.11		0.9606	0.9606	0	2.46E+06	1.25	Y	1.16	15	9430.614	0.511
124678/134678-HxCDF	34.31		0.9664	0.9664	0	1.19E+07	1.24	Y	1.16	72.5	9430.614	0.511
134679-HxCDF	NotFnd		0.9729						1.16		9430.614	0.511
124679-HxCDF	34.74		0.9786	0.9784	-0.4	4.95E+05	1.24	Y	1.16	3.01	9430.614	0.511
124689-HxCDF	34.98		0.9850	0.9851	+0.2	1.19E+07	1.28	Y	1.16	72.2	9430.614	0.511
123467-HxCDF	35.40		0.9971	0.9969	-0.4	5.11E+05	1.15	Y	1.16	3.11	9430.614	0.511
123478-HxCDF	**35.52**		**1.0005**	**1.0005**	**0**	**1.47E+07**	**1.24**	**Y**	**1.23**	**89.6**	**9430.614**	**0.49**
123678-HxCDF	**35.67**		**1.0004**	**1.0006**	**+0.4**	**5.66E+06**	**1.26**	**Y**	**1.13**	**30.9**	**9430.614**	**0.467**
123479-HxCDF	NotFnd		1.0049						1.16		9430.614	0.511
123469-HxCDF	35.97	J	1.0091	1.0091	0	2.73E+05	1.19	Y	1.16	1.67	9430.614	0.511
123679-HxCDF	NotFnd		0.9941						1.16		9430.614	0.511
234678-HxCDF	**36.32**		**1.0005**	**1.0002**	**-0.7**	**1.97E+06**	**1.28**	**Y**	**1.15**	**12.4**	**9430.614**	**0.513**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		9430.614	0.511
123789-HxCDF	**NotFnd**		**1.0005**						**1.14**		**9430.614**	**0.59**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	37.33		1.0009	1.0013	+0.9	1.26E+06	1.18	Y	1.16	7.67	9430.614	0.511
1234678-HpCDF	**38.87**		**1.0003**	**1.0003**	**0**	**2.32E+07**	**1.05**	**Y**	**1.36**	**147**	**3490.221**	**0.166**
1234679-HpCDF	39.15		1.0076	1.0074	-0.5	7.95E+05	1.01	Y	1.33	5.54	3490.221	0.172
1234689-HpCDF	39.30		1.0112	1.0114	+0.5	3.60E+07	1.05	Y	1.33	251	3490.221	0.172
1234789-HpCDF	**40.24**		**1.0003**	**1.0004**	**+0.2**	**2.52E+06**	**1.06**	**Y**	**1.30**	**19.4**	**3490.221**	**0.179**
OCDF	**42.41**		**1.0002**	**1.0003**	**+0.3**	**3.33E+07**	**0.91**	**Y**	**1.03**	**308**	**3899.213**	**0.283**
OCDF-a	42.40		1.0002	1.0001	-0.3	1.79E+06	2.56	Y	0.06	287	4893.228	6.15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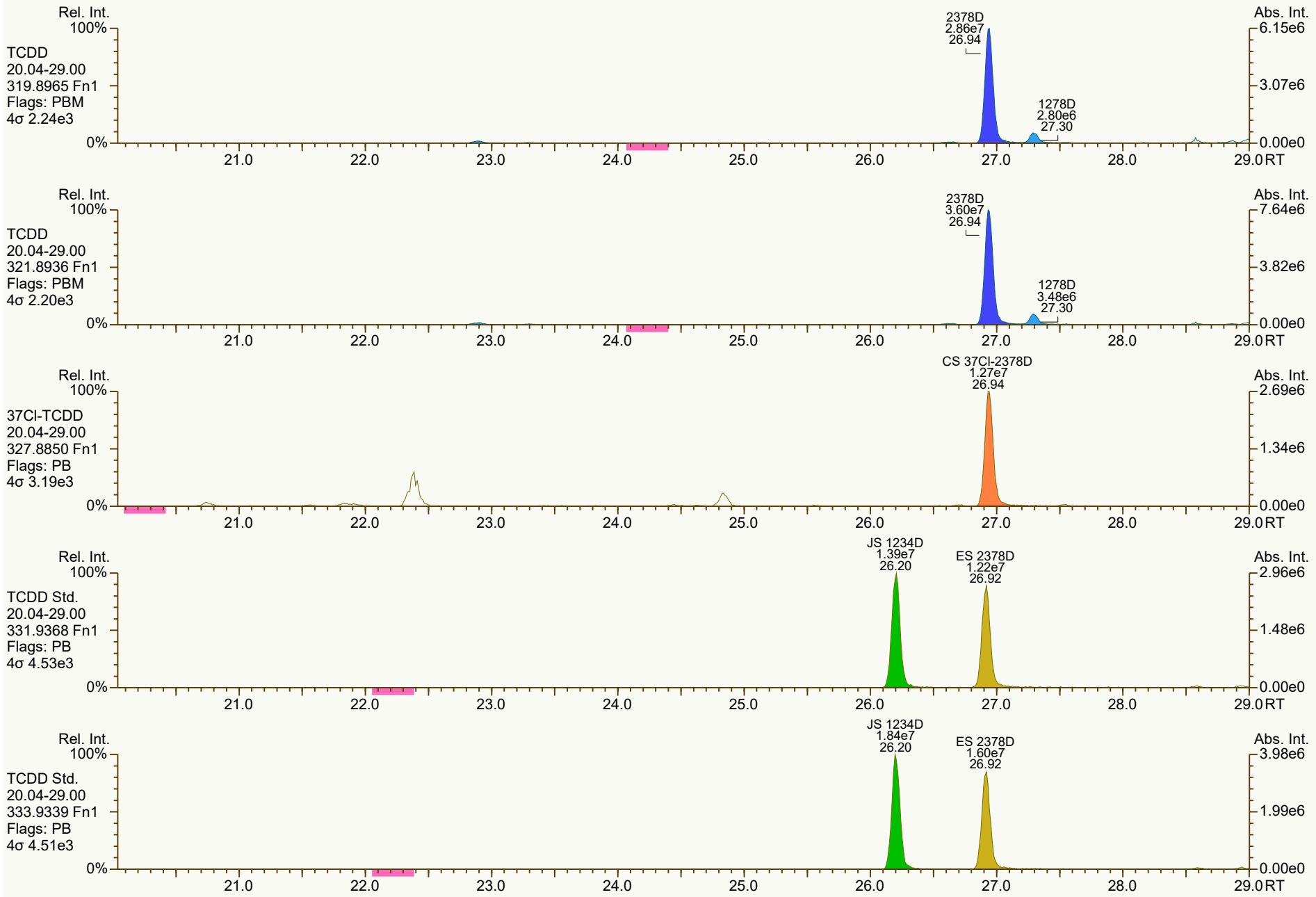
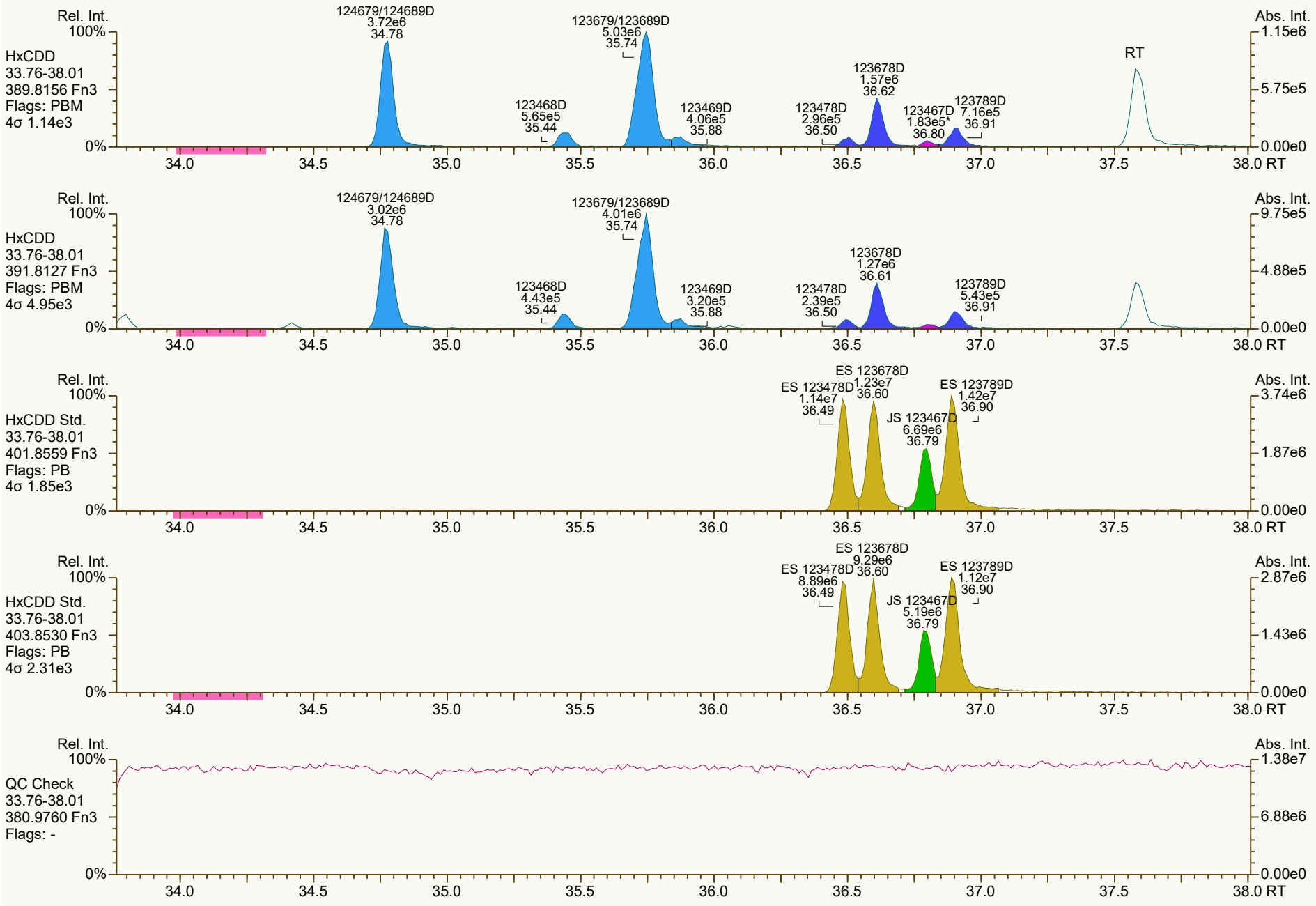
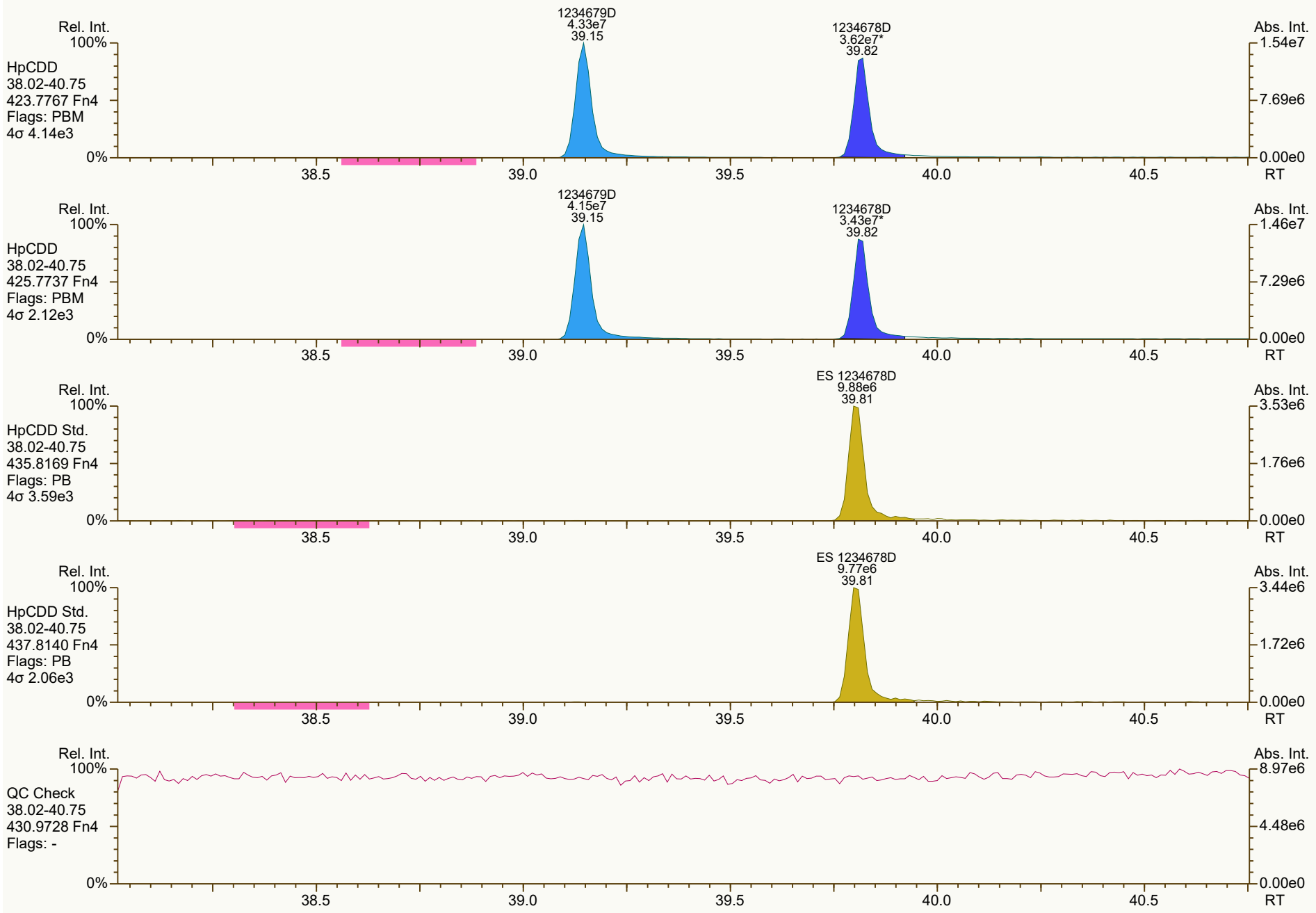
Abs. Int.
2.45e6
1.22e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
QC Check
33.76-38.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.38e7
6.88e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
QC Check
38.02-40.75
430.9728 Fn4
Flags: -
0%
Abs. Int.
8.97e6
4.48e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
QC Check
40.77-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.74e6
3.37e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

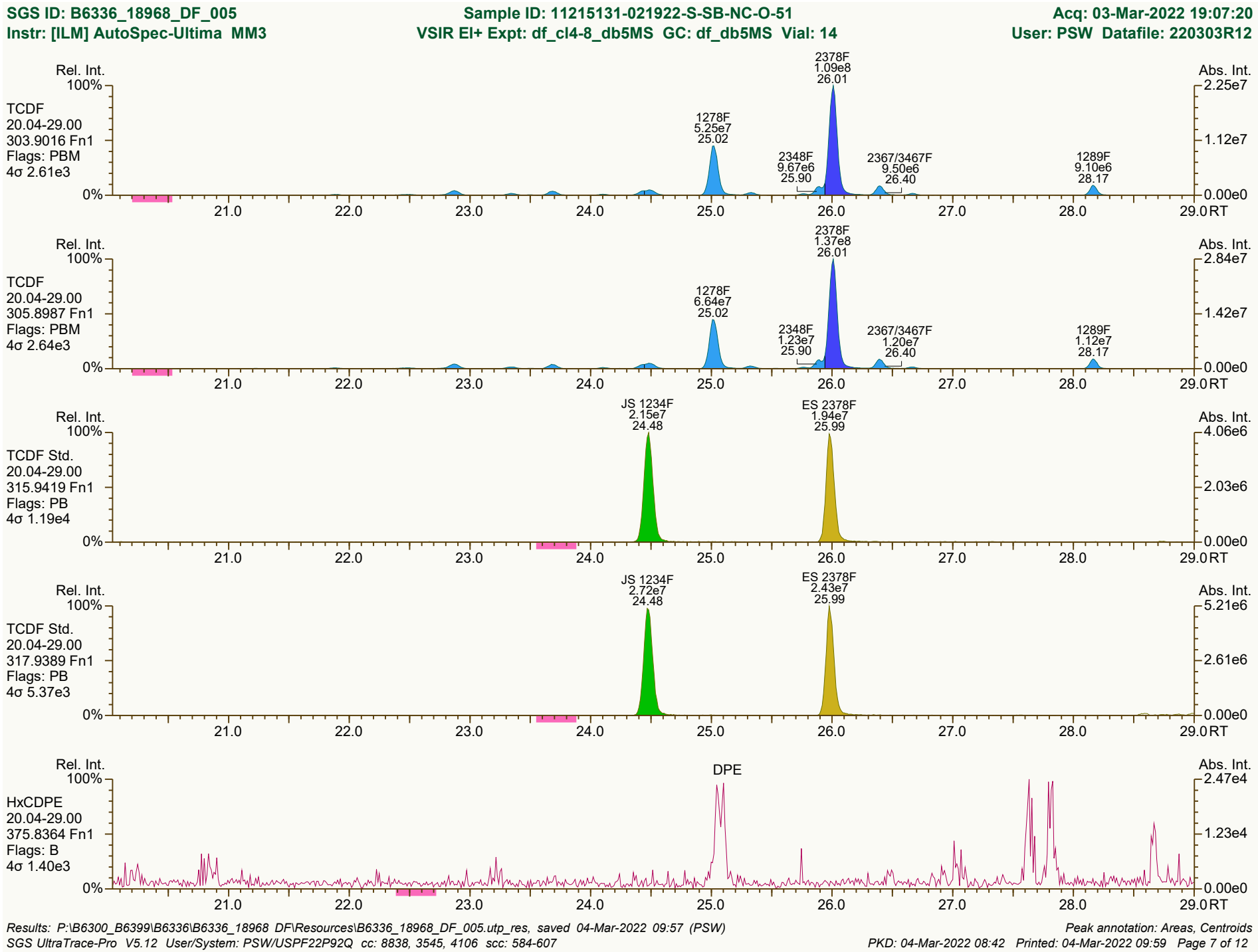

Rel. Int.
100%
TCDD
20.04-29.00
319.8965 Fn1
Flags: PBM
4σ 2.24e3
0%
2378D
2.86e7
26.94
1278D
2.80e6
27.30
Abs. Int.
6.15e6
3.07e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDD
20.04-29.00
321.8936 Fn1
Flags: PBM
4σ 2.20e3
0%
2378D
3.60e7
26.94
1278D
3.48e6
27.30
Abs. Int.
7.64e6
3.82e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
37Cl-TCDD
20.04-29.00
327.8850 Fn1
Flags: PB
4σ 3.19e3
0%
CS 37Cl-2378D
1.27e7
26.94
Abs. Int.
2.69e6
1.34e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDD Std.
20.04-29.00
331.9368 Fn1
Flags: PB
4σ 4.53e3
0%
JS 1234D
1.39e7
26.20
ES 2378D
1.22e7
26.92
Abs. Int.
2.96e6
1.48e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDD Std.
20.04-29.00
333.9339 Fn1
Flags: PB
4σ 4.51e3
0%
JS 1234D
1.84e7
26.20
ES 2378D
1.60e7
26.92
Abs. Int.
3.98e6
1.99e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT


Rel. Int.
100%
PeCDD
29.01-33.75
355.8546 Fn2
Flags: PBM
4σ 1.90e3
12479/12468D
5.62e5*
29.95
12469D
1.75e5
30.52
12368D
2.39e5
31.08
12478D
3.09e5
31.29
12379D
1.44e5
31.39
12369D...[3]
1.97e5
31.66
12346/12347D
8.45e4*
32.04
12378D
5.00e5*
32.56
12367D
6.68e4*
32.66
12389D
6.95e4*
33.01
Abs. Int.
1.37e5
6.86e4
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
RT
PeCDD
29.01-33.75
357.8517 Fn2
Flags: PBM
4σ 2.65e3
12479/12468D
3.89e5*
29.95
12469D
2.70e5
30.54
12368D
1.72e5
31.08
12478D
4.03e5
31.27
12369D...[3]
1.22e5
31.66
12346/12347D
4.63e4*
32.04
12378D
3.35e5*
32.55
12389D
5.95e4*
33.00
Abs. Int.
2.14e5
1.07e5
0.00e0
0%
RT
Rel. Int.
100%
PeCDD Std.
29.01-33.75
367.8949 Fn2
Flags: PBM
4σ 2.50e3
CS 12347D
1.35e7*
32.02
ES 12378D
1.53e7
32.54
Abs. Int.
4.04e6
2.02e6
0.00e0
0%
RT
Rel. Int.
100%
PeCDD Std.
29.01-33.75
369.8919 Fn2
Flags: PBM
4σ 3.49e3
CS 12347D
8.12e6*
32.02
ES 12378D
9.56e6
32.54
Abs. Int.
2.38e6
1.19e6
0.00e0
0%
RT
Rel. Int.
100%
QC Check
29.01-33.75
366.9792 Fn2
Flags: -
Abs. Int.
2.45e6
1.22e6
0.00e0
0%
RT

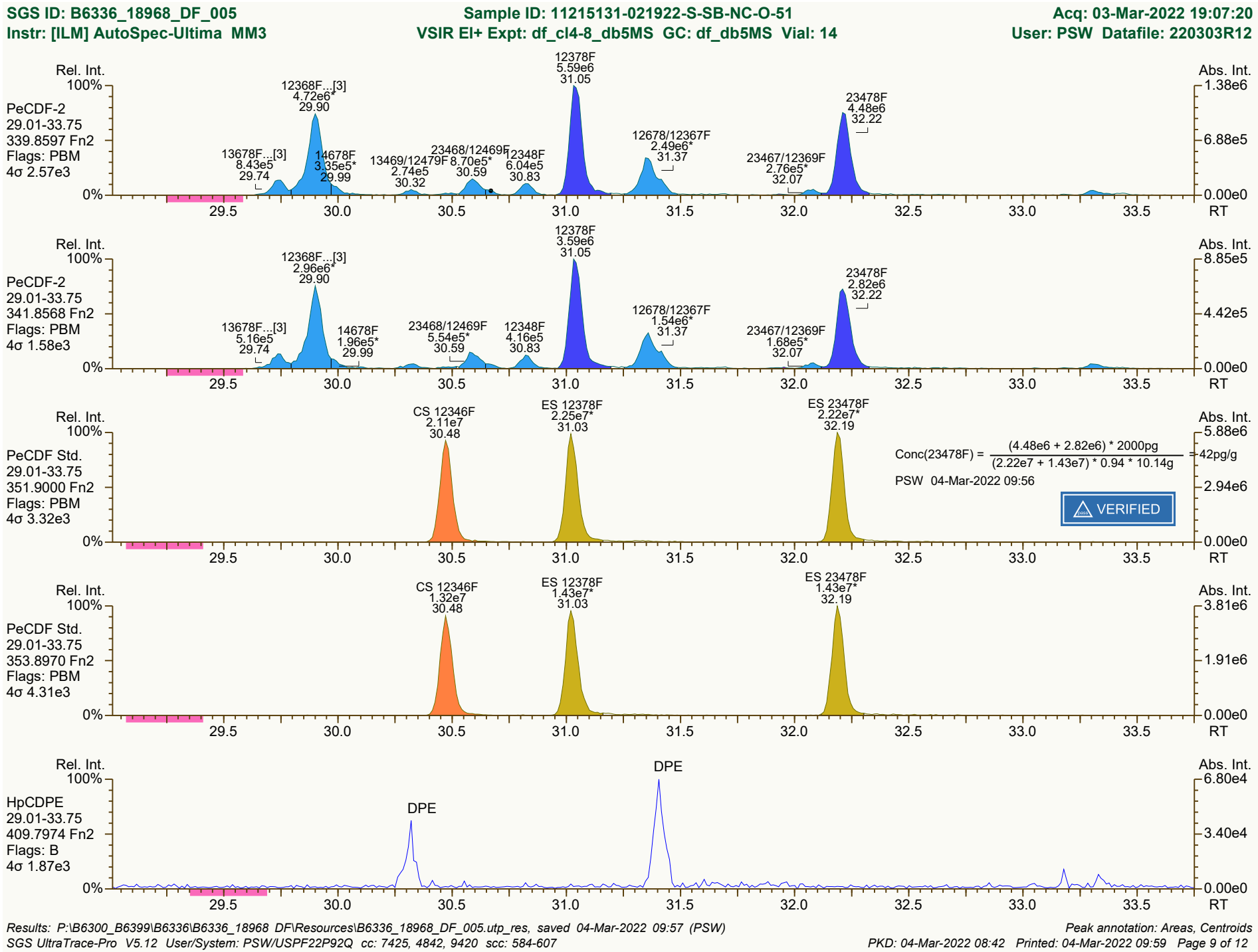

Rel. Int.
100%
HxCDD
33.76-38.01
389.8156 Fn3
Flags: PBM
4σ 1.14e3
0%
124679/124689D
3.72e6
34.78
123679/123689D
5.03e6
35.74
123468D
5.65e5
35.44
123469D
4.06e5
35.88
123478D
2.96e5
36.50
123678D
1.57e6
36.62
123467D
1.83e5*
36.80
123789D
7.16e5
36.91
RT
Abs. Int.
1.15e6
5.75e5
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
HxCDD
33.76-38.01
391.8127 Fn3
Flags: PBM
4σ 4.95e3
0%
124679/124689D
3.02e6
34.78
123679/123689D
4.01e6
35.74
123468D
4.43e5
35.44
123469D
3.20e5
35.88
123478D
2.39e5
36.50
123678D
1.27e6
36.61
123789D
5.43e5
36.91
Abs. Int.
9.75e5
4.88e5
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
HxCDD Std.
33.76-38.01
401.8559 Fn3
Flags: PB
4σ 1.85e3
0%
ES 123678D
1.23e7
36.60
ES 123478D
1.14e7
36.49
ES 123789D
1.42e7
36.90
JS 123467D
6.69e6
36.79
Abs. Int.
3.74e6
1.87e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
HxCDD Std.
33.76-38.01
403.8530 Fn3
Flags: PB
4σ 2.31e3
0%
ES 123678D
9.29e6
36.60
ES 123478D
8.89e6
36.49
ES 123789D
1.12e7
36.90
JS 123467D
5.19e6
36.79
Abs. Int.
2.87e6
1.43e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
QC Check
33.76-38.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.38e7
6.88e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT

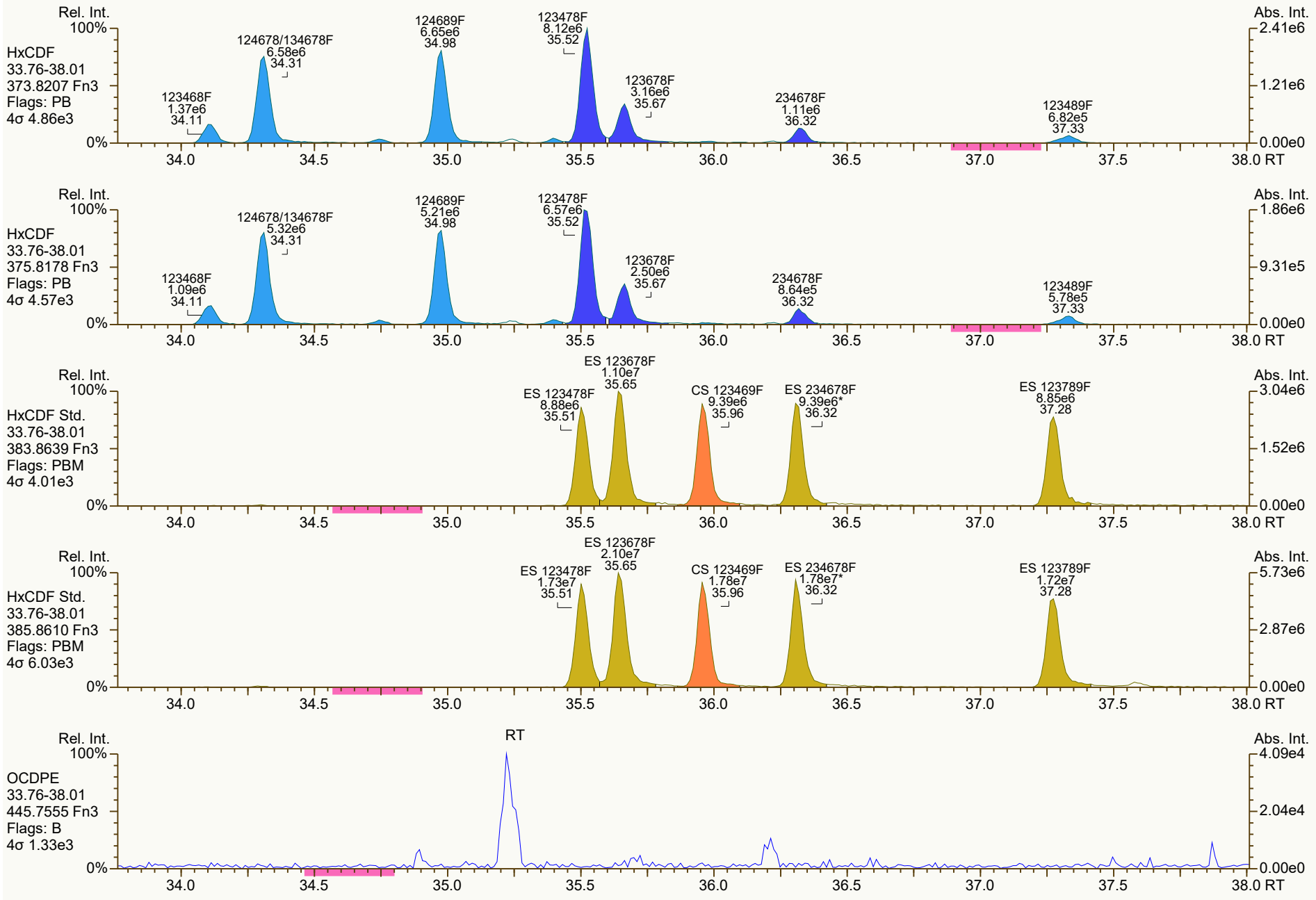

Rel. Int.
100%
HpCDD
38.02-40.75
423.7767 Fn4
Flags: PBM
4σ 4.14e3
0%
1234679D
4.33e7
39.15
1234678D
3.62e7*
39.82
Abs. Int.
1.54e7
7.69e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD
38.02-40.75
425.7737 Fn4
Flags: PBM
4σ 2.12e3
0%
1234679D
4.15e7
39.15
1234678D
3.43e7*
39.82
Abs. Int.
1.46e7
7.29e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD Std.
38.02-40.75
435.8169 Fn4
Flags: PB
4σ 3.59e3
0%
ES 1234678D
9.88e6
39.81
Abs. Int.
3.53e6
1.76e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD Std.
38.02-40.75
437.8140 Fn4
Flags: PB
4σ 2.06e3
0%
ES 1234678D
9.77e6
39.81
Abs. Int.
3.44e6
1.72e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
QC Check
38.02-40.75
430.9728 Fn4
Flags: -
0%
Abs. Int.
8.97e6
4.48e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT


OCDD
4.66e8
42.24
Rel. Int.
100%
OCDD
40.77-45.01
457.7377 Fn5
Flags: PB
4σ 3.10e3
0%
Abs. Int.
1.39e8
6.95e7
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.20e8
42.24
Rel. Int.
100%
OCDD
40.77-45.01
459.7348 Fn5
Flags: PB
4σ 2.26e3
0%
Abs. Int.
1.58e8
7.92e7
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.51e7
42.23
Rel. Int.
100%
OCDD Std.
40.77-45.01
469.7780 Fn5
Flags: PB
4σ 2.48e3
0%
Abs. Int.
4.77e6
2.39e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.66e7
42.23
Rel. Int.
100%
OCDD Std.
40.77-45.01
471.7750 Fn5
Flags: PB
4σ 2.95e3
0%
Abs. Int.
5.07e6
2.54e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
40.77-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.74e6
3.37e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

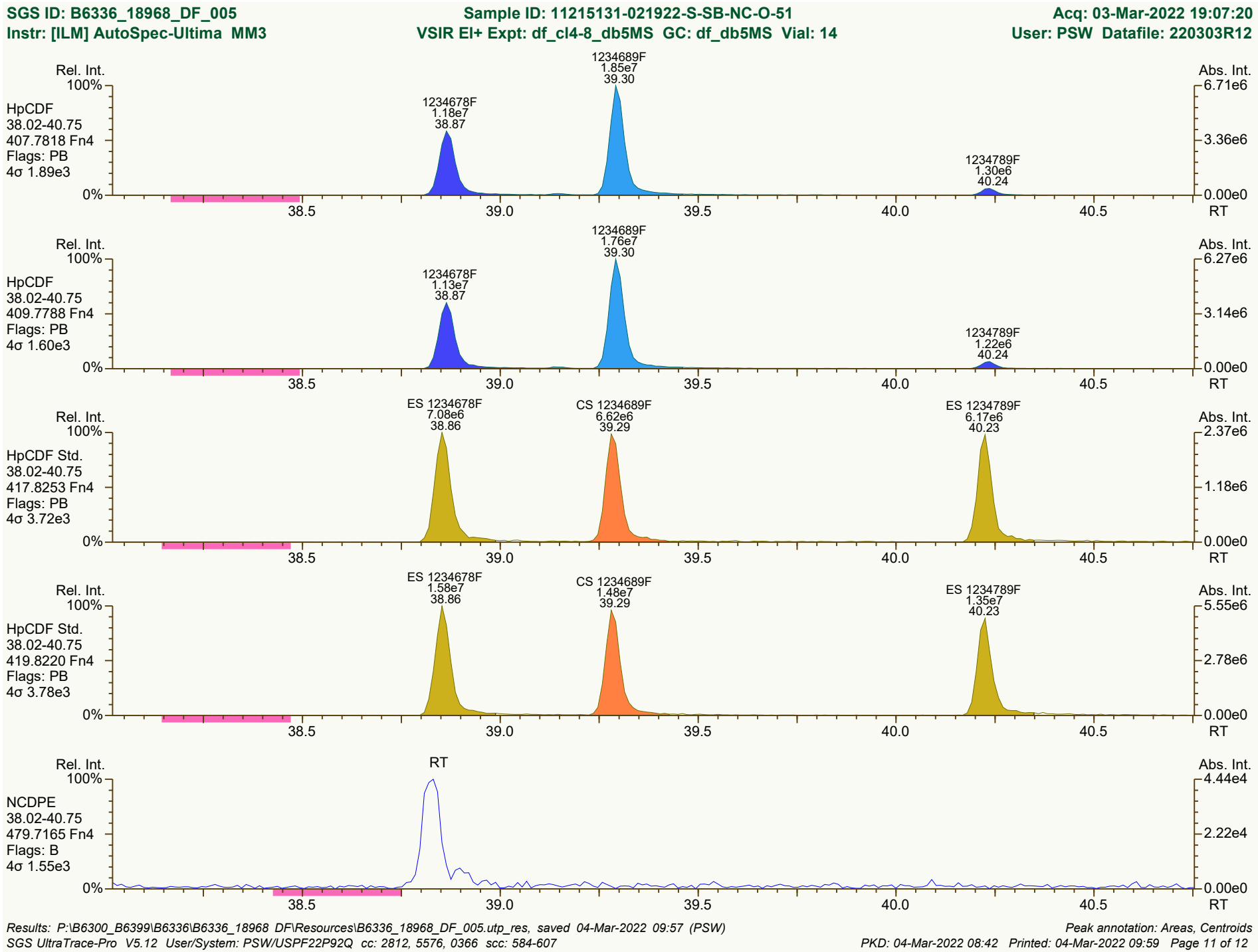

SGS ID: B6336_18968_DF_005
Sample ID: 11215131-021922-S-SB-NC-O-51
Acq: 03-Mar-2022 19:07:20
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 14
User: PSW Datafile: 220303R12
Rel. Int.
Abs. Int.
TCDF
20.04-29.00
303.9016 Fn1
Flags: PBM
4σ 2.61e3
2378F
1.09e8
26.01
1278F
5.25e7
25.02
2348F
9.67e6
25.90
2367/3467F
9.50e6
26.40
1289F
9.10e6
28.17
2.25e7
1.12e7
0.00e0
TCDF
20.04-29.00
305.8987 Fn1
Flags: PBM
4σ 2.64e3
2378F
1.37e8
26.01
1278F
6.64e7
25.02
2348F
1.23e7
25.90
2367/3467F
1.20e7
26.40
1289F
1.12e7
28.17
2.84e7
1.42e7
0.00e0
TCDF Std.
20.04-29.00
315.9419 Fn1
Flags: PB
4σ 1.19e4
JS 1234F
2.15e7
24.48
ES 2378F
1.94e7
25.99
4.06e6
2.03e6
0.00e0
TCDF Std.
20.04-29.00
317.9389 Fn1
Flags: PB
4σ 5.37e3
JS 1234F
2.72e7
24.48
ES 2378F
2.43e7
25.99
5.21e6
2.61e6
0.00e0
HxCDPE
20.04-29.00
375.8364 Fn1
Flags: B
4σ 1.40e3
DPE
2.47e4
1.23e4
0.00e0
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\B6336_18968_DF_005.utp_res, saved 04-Mar-2022 09:57 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8838, 3545, 4106 scc: 584-607
PKD: 04-Mar-2022 08:42 Printed: 04-Mar-2022 09:59 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.19e6
5.96e5
0.00e0
13468/12468F
5.16e6
28.10
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: PB
4σ 1.32e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
13468/12468F
3.41e6
28.10
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: PB
4σ 2.46e3
7.76e5
3.88e5
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
2.70e6
1.35e6

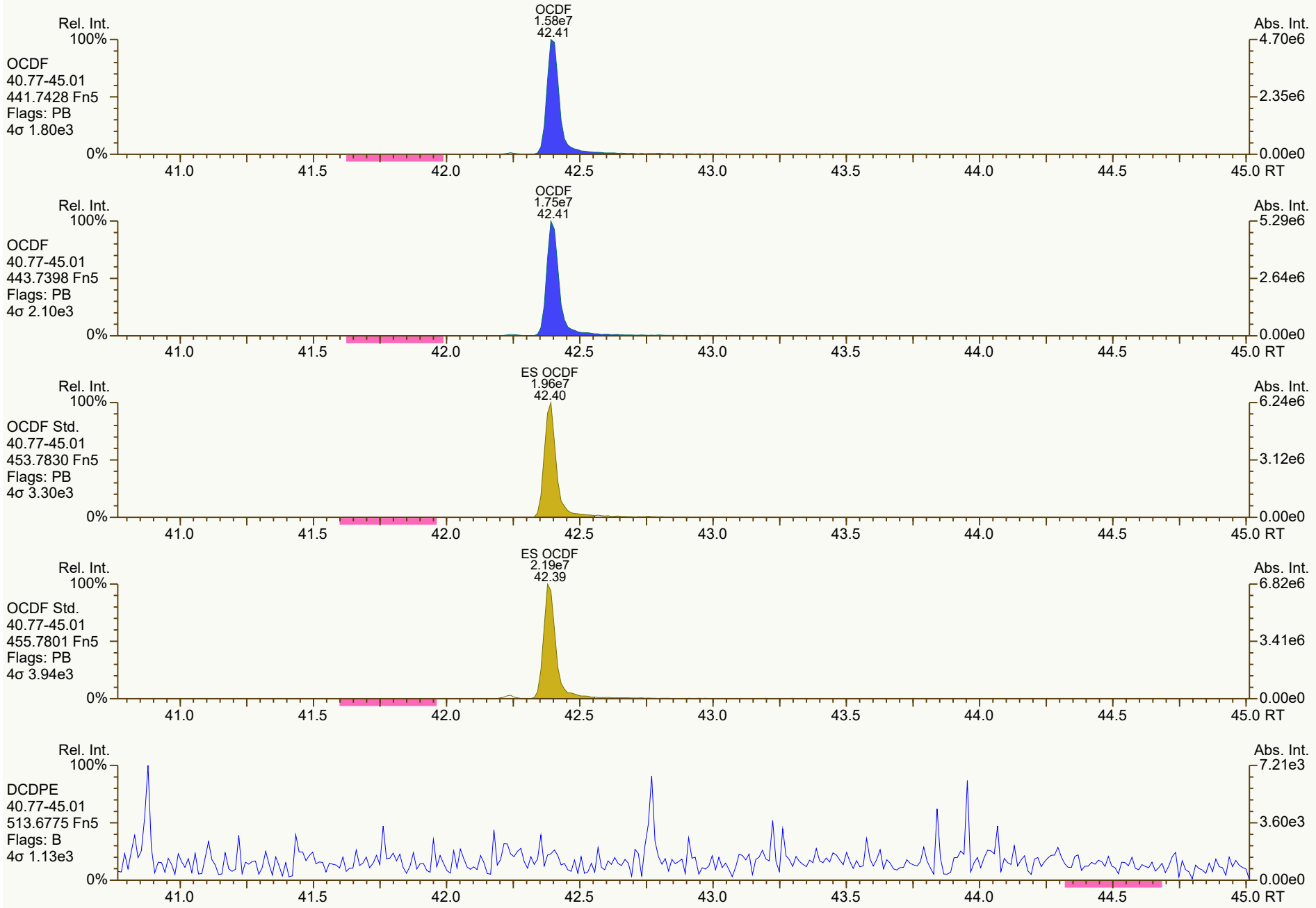

SGS ID: B6336_18968_DF_005
Sample ID: 11215131-021922-S-SB-NC-O-51
Acq: 03-Mar-2022 19:07:20
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 14
User: PSW Datafile: 220303R12
PeCDF-2
29.01-33.75
339.8597 Fn2
Flags: PBM
4σ 2.57e3
12368F...[3] 4.72e6* 29.90
13678F...[3] 8.43e5 29.74
14678F 3.35e5* 29.99
13469/12479F 2.74e5 30.32
23468/12469F 8.70e5* 30.59
12348F 6.04e5 30.83
12378F 5.59e6 31.05
12678/12367F 2.49e6* 31.37
23467/12369F 2.76e5* 32.07
23478F 4.48e6 32.22
PeCDF-2
29.01-33.75
341.8568 Fn2
Flags: PBM
4σ 1.58e3
12368F...[3] 2.96e6* 29.90
13678F...[3] 5.16e5 29.74
14678F 1.96e5* 29.99
23468/12469F 5.54e5* 30.59
12348F 4.16e5 30.83
12378F 3.59e6 31.05
12678/12367F 1.54e6* 31.37
23467/12369F 1.68e5* 32.07
23478F 2.82e6 32.22
PeCDF Std.
29.01-33.75
351.9000 Fn2
Flags: PBM
4σ 3.32e3
CS 12346F 2.11e7 30.48
ES 12378F 2.25e7* 31.03
ES 23478F 2.22e7* 32.19
Conc(23478F) = (4.48e6 + 2.82e6) * 2000pg / (2.22e7 + 1.43e7) * 0.94 * 10.14g = 42pg/g
PSW 04-Mar-2022 09:56
VERIFIED
PeCDF Std.
29.01-33.75
353.8970 Fn2
Flags: PBM
4σ 4.31e3
CS 12346F 1.32e7 30.48
ES 12378F 1.43e7* 31.03
ES 23478F 1.43e7* 32.19
HpCDPE
29.01-33.75
409.7974 Fn2
Flags: B
4σ 1.87e3
DPE
DPE
Rel. Int.
Abs. Int.
RT
Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\B6336_18968_DF_005.utp_res, saved 04-Mar-2022 09:57 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7425, 4842, 9420 scc: 584-607
PKD: 04-Mar-2022 08:42 Printed: 04-Mar-2022 09:59 Page 9 of 12


Rel. Int.
100%
HxCDF
33.76-38.01
373.8207 Fn3
Flags: PB
4σ 4.86e3
123468F 1.37e6 34.11
124678/134678F 6.58e6 34.31
124689F 6.65e6 34.98
123478F 8.12e6 35.52
123678F 3.16e6 35.67
234678F 1.11e6 36.32
123489F 6.82e5 37.33
Abs. Int.
2.41e6
1.21e6
0.00e0
0%
34.0 34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 RT
HxCDF
33.76-38.01
375.8178 Fn3
Flags: PB
4σ 4.57e3
123468F 1.09e6 34.11
124678/134678F 5.32e6 34.31
124689F 5.21e6 34.98
123478F 6.57e6 35.52
123678F 2.50e6 35.67
234678F 8.64e5 36.32
123489F 5.78e5 37.33
1.86e6
9.31e5
HxCDF Std.
33.76-38.01
383.8639 Fn3
Flags: PBM
4σ 4.01e3
ES 123678F 1.10e7 35.65
ES 123478F 8.88e6 35.51
CS 123469F 9.39e6 35.96
ES 234678F 9.39e6* 36.32
ES 123789F 8.85e6 37.28
3.04e6
1.52e6
HxCDF Std.
33.76-38.01
385.8610 Fn3
Flags: PBM
4σ 6.03e3
ES 123678F 2.10e7 35.65
ES 123478F 1.73e7 35.51
CS 123469F 1.78e7 35.96
ES 234678F 1.78e7* 36.32
ES 123789F 1.72e7 37.28
5.73e6
2.87e6
OCDPE
33.76-38.01
445.7555 Fn3
Flags: B
4σ 1.33e3
RT
4.09e4
2.04e4

SGS ID: B6336_18968_DF_005 | Sample ID: 11215131-021922-S-SB-NC-O-51 | Acq: 03-Mar-2022 19:07:20
Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 14 | User: PSW Datafile: 220303R12



Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\B6336_18968_DF_005.utp_res, saved 04-Mar-2022 09:57 (PSW) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2812, 5576, 0366 scc: 584-607 | PKD: 04-Mar-2022 08:42 Printed: 04-Mar-2022 09:59 Page 11 of 12


OCDF
1.58e7
42.41
Rel. Int.
100%
OCDF
40.77-45.01
441.7428 Fn5
Flags: PB
4σ 1.80e3
0%
Abs. Int.
4.70e6
2.35e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.75e7
42.41
Rel. Int.
100%
OCDF
40.77-45.01
443.7398 Fn5
Flags: PB
4σ 2.10e3
0%
Abs. Int.
5.29e6
2.64e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.96e7
42.40
Rel. Int.
100%
OCDF Std.
40.77-45.01
453.7830 Fn5
Flags: PB
4σ 3.30e3
0%
Abs. Int.
6.24e6
3.12e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.19e7
42.39
Rel. Int.
100%
OCDF Std.
40.77-45.01
455.7801 Fn5
Flags: PB
4σ 3.94e3
0%
Abs. Int.
6.82e6
3.41e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
40.77-45.01
513.6775 Fn5
Flags: B
4σ 1.13e3
0%
Abs. Int.
7.21e3
3.60e3
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

REVIEWED
Tamara Burkamper , 3/8/2022, 8:42:18 AM

SGS Environmental Services — Run Log

Project: B6336_18968_DF

Instrument: MM3 (AutoSpec-Ultima)

MS Experiment: df_cl4-8_db5MS

GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
6	220303R06	3	CS3_220303_DF_RB ✓	1.00	SIL 25-347-1	PSW	816-776	03-Mar-2022	12:09:15
7	220303R07	11	OPR1_18968_DF	1.00	0_18968_OPR001	PSW	848-547	03-Mar-2022	15:10:32
8	220303R08	12	OPR2_18968_DF	1.00	0_18968_OPR002	PSW	127-109	03-Mar-2022	15:57:14
9	220303R09	2	SBS_220303_DF_RB	1.00	SIL 20-61-1	PSW	501-196	03-Mar-2022	16:44:46
10	220303R10	10	MB1_18968_DF_SDS	10.00	Method Blank	PSW	284-793	03-Mar-2022	17:32:19
11	220303R11	13	B6336_18968_DF_004	10.12	11215131-021922-S-SB-NC-O-53	PSW	574-830	03-Mar-2022	18:19:52
12	220303R12	14	B6336_18968_DF_005 ✓	10.14	11215131-021922-S-SB-NC-O-51	PSW	584-607	03-Mar-2022	19:07:20

REVIEWED
paul_walton , 3/4/2022, 10:02:10 AM

Dioxin/Furan QC Summary	Acq'd: 03 Mar 2022 12:09 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_220303_DF_RB	UTP: 04-Mar-2022 09:49:53 PSW	Checkcode: 816-776-SGD
Sample ID: SIL 25-347-1	Report: 04 Mar 2022 09:52 pw	Datafile: 220303R06

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	26.92	2.70E+06	0.81	Y	1.34	1.09	-19%
12378-PeCDD	32.54	1.08E+07	1.61	Y	1.06	0.99	-7%
123478-HxCDD	36.48	9.44E+06	1.22	Y	1.06	1.03	-2%
123678-HxCDD	36.60	1.04E+07	1.29	Y	1.08	1.10	2%
123789-HxCDD	36.90	1.06E+07	1.27	Y	1.02	0.97	-5%
1234678-HpCDD	39.81	9.21E+06	1.04	Y	0.97	0.97	0%
OCDD	42.22	1.59E+07	0.91	Y	1.07	1.05	-2%
2378-TCDF	25.99	3.94E+06	0.82	Y	0.96	0.98	2%
12378-PeCDF	31.02	1.76E+07	1.59	Y	0.95	1.03	9%
23478-PeCDF	32.19	1.72E+07	1.56	Y	0.94	1.01	8%
123478-HxCDF	35.51	1.52E+07	1.24	Y	1.23	1.24	1%
123678-HxCDF	35.65	1.68E+07	1.24	Y	1.13	1.15	2%
234678-HxCDF	36.32	1.54E+07	1.28	Y	1.15	1.15	0%
123789-HxCDF	37.28	1.38E+07	1.26	Y	1.14	1.14	1%
1234678-HpCDF	38.86	1.43E+07	1.02	Y	1.36	1.37	1%
1234789-HpCDF	40.23	1.26E+07	1.02	Y	1.30	1.33	2%
OCDF	42.39	2.11E+07	0.92	Y	1.03	1.05	3%
ES 2378-TCDD	26.89	2.49E+07	0.75	Y	1.03	0.95	-8%
ES 12378-PeCDD	32.52	2.18E+07	1.61	Y	1.03	0.84	-19%
ES 123478-HxCDD	36.471	1.83E+07	1.30	Y	0.99	0.96	-3%
ES 123678-HxCDD	36.585	1.89E+07	1.31	Y	0.97	0.99	2%
ES 123789-HxCDD	36.882	2.19E+07	1.30	Y	1.12	1.15	2%
ES 1234678-HpCDD	39.798	1.89E+07	1.08	Y	0.99	0.99	0%
ES OCDD	42.21	3.02E+07	0.90	Y	0.78	0.79	2%
ES 2378-TCDF	25.964	4.03E+07	0.80	Y	1.08	0.97	-10%
ES 12378-PeCDF	31.005	3.43E+07	1.58	Y	0.93	0.83	-11%
ES 23478-PeCDF	32.173	3.40E+07	1.59	Y	0.92	0.82	-11%
ES 123478-HxCDF	35.488	2.45E+07	0.53	Y	1.14	1.29	13%
ES 123678-HxCDF	35.634	2.92E+07	0.53	Y	1.30	1.53	18%
ES 234678-HxCDF	36.303	2.68E+07	0.54	Y	1.20	1.41	17%
ES 123789-HxCDF	37.267	2.41E+07	0.51	Y	1.14	1.27	11%
ES 1234678-HpCDF	38.846	2.09E+07	0.45	Y	0.95	1.10	16%
ES 1234789-HpCDF	40.222	1.90E+07	0.44	Y	0.85	1.00	18%
ES OCDF	42.379	4.02E+07	0.92	Y	0.93	1.06	14%

Dioxin/Furan QC Summary	Acq'd: 03 Mar 2022 12:09 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_220303_DF_RB	UTP: 04-Mar-2022 09:49:53 PSW	Checkcode: 816-776-SGD
Sample ID: SIL 25-347-1	Report: 04 Mar 2022 09:52 pw	Datafile: 220303R06

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.18	2.61E+07	0.78	Y	-	-	-
JS 1234-TCDF	24.46	4.14E+07	0.79	Y	-	-	-
JS 123467-HxCDD	36.78	9.52E+06	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	26.92	3.17E+06	n/a	-	1.31	1.22	-7%
CS 12347-PeCDD	32.00	2.12E+07	1.66	Y	0.89	0.81	-9%
CS 12346-PeCDF	30.45	3.42E+07	1.60	Y	0.87	0.83	-5%
CS 123469-HxCDF	35.95	2.61E+07	0.53	Y	1.09	1.37	26%
CS 1234689-HpCDF	39.27	2.14E+07	0.45	Y	0.86	1.12	30%
~~SS 37Cl-2378-TCDD~~	~~26.92~~	~~3.17E+06~~	~~n/a~~	~~-~~	~~1.26~~	~~1.28~~	~~1%~~
~~SS 12347-PeCDD~~	~~32.00~~	~~2.12E+07~~	~~1.66~~	~~Y~~	~~0.86~~	~~0.97~~	~~12%~~
~~SS 12346-PeCDF~~	~~30.45~~	~~3.42E+07~~	~~1.60~~	~~Y~~	~~0.93~~	~~1.00~~	~~7%~~
~~SS 123469-HxCDF~~	~~35.95~~	~~2.61E+07~~	~~0.53~~	~~Y~~	~~0.84~~	~~0.89~~	~~6%~~
~~SS 1234689-HpCDF~~	~~39.27~~	~~2.14E+07~~	~~0.45~~	~~Y~~	~~0.91~~	~~1.02~~	~~12%~~
~~OCDD-a~~	~~42.22~~	~~9.91E+05~~	~~2.59~~	~~Y~~	~~0.07~~	~~0.07~~	~~-1%~~
~~OCDF-a~~	~~42.38~~	~~1.17E+06~~	~~2.30~~	~~Y~~	~~0.06~~	~~0.06~~	~~-2%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 220303R06 Analysis Date: 03-MAR-2022 12:09:15

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.81	0.65 - 0.89	Y	8.08	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.61	1.32 - 1.78	Y	46.6	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.22	1.05 - 1.43	Y	48.9	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05 - 1.43	Y	51	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	47.5	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88 - 1.20	Y	50	43 - 58	Y
OCDD	M+2/M+4	0.91	0.76 - 1.02	Y	98.5	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.82	0.65 - 0.89	Y	10.2	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32 - 1.78	Y	54.3	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32 - 1.78	Y	53.8	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	50.3	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	51	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.28	1.05 - 1.43	Y	49.8	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	50.3	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.02	0.88 - 1.20	Y	50.5	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.02	0.88 - 1.20	Y	51.1	43 - 58	Y
OCDF	M+2/M+4	0.92	0.76 - 1.02	Y	103	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 04 Mar 2022 09:52 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

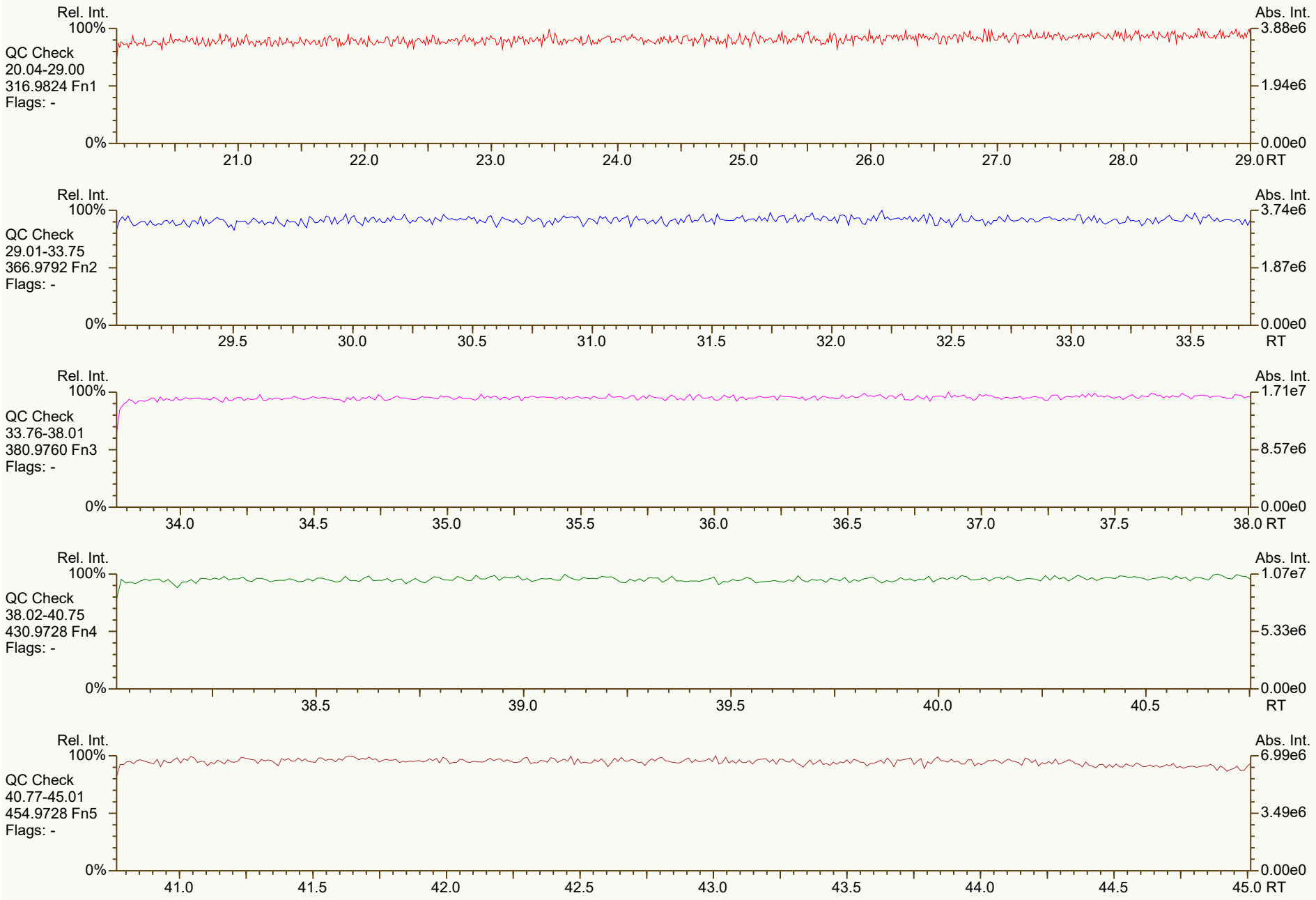
Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

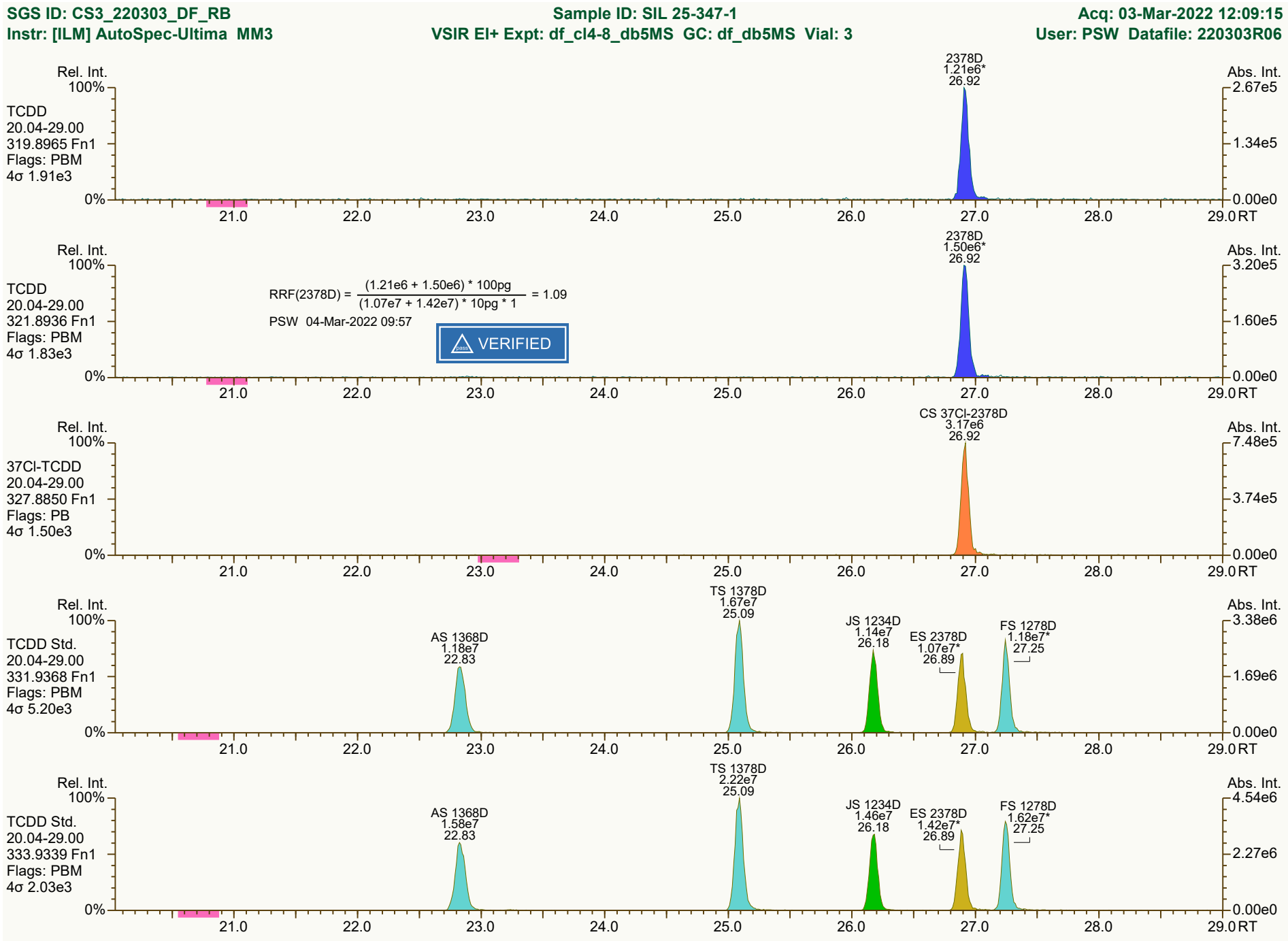
Instrument ID: MM3 GC Column ID: ZB-5ms

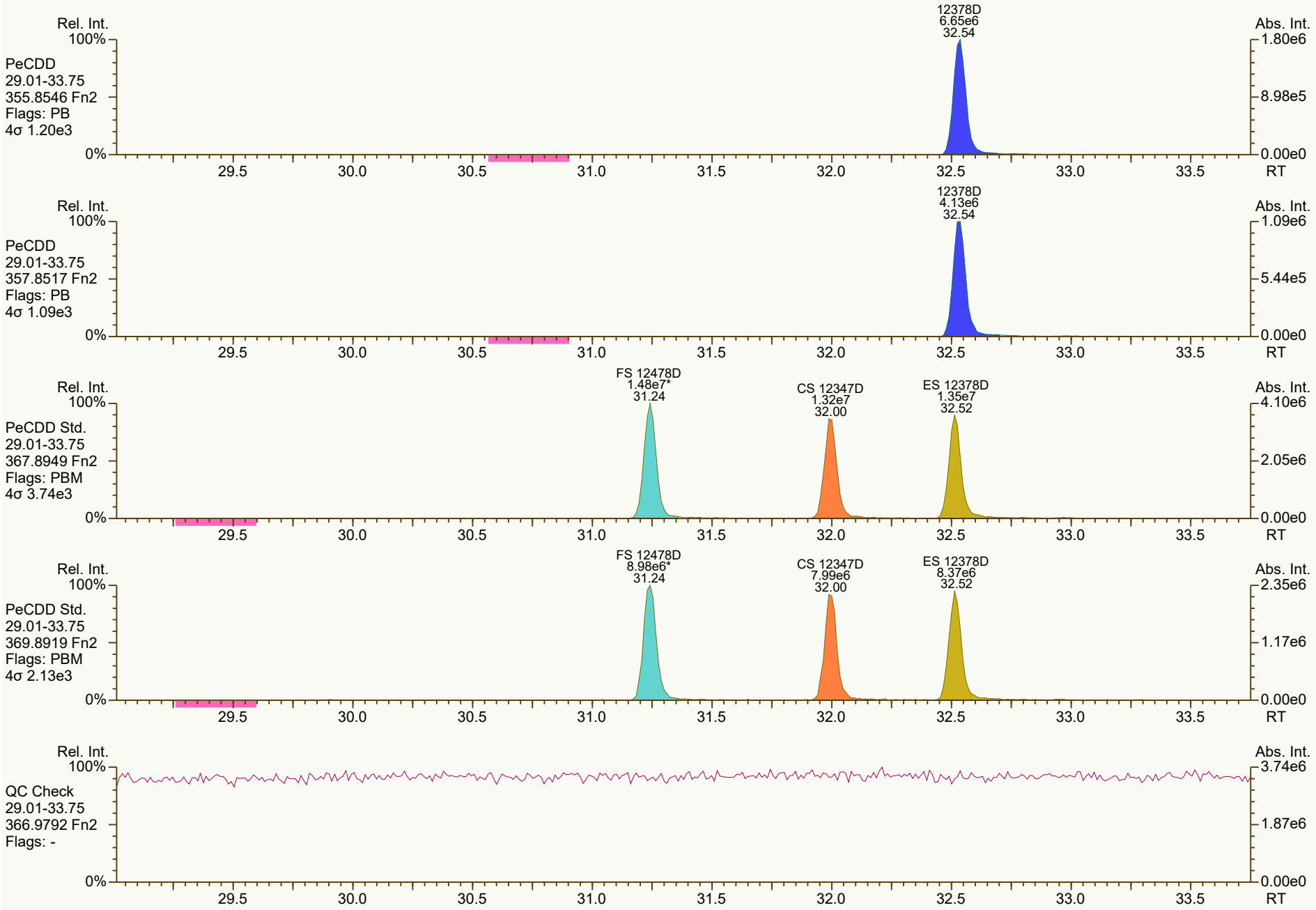
VER Data Filename: 220303R06 Analysis Date: 03-MAR-2022 12:09:15

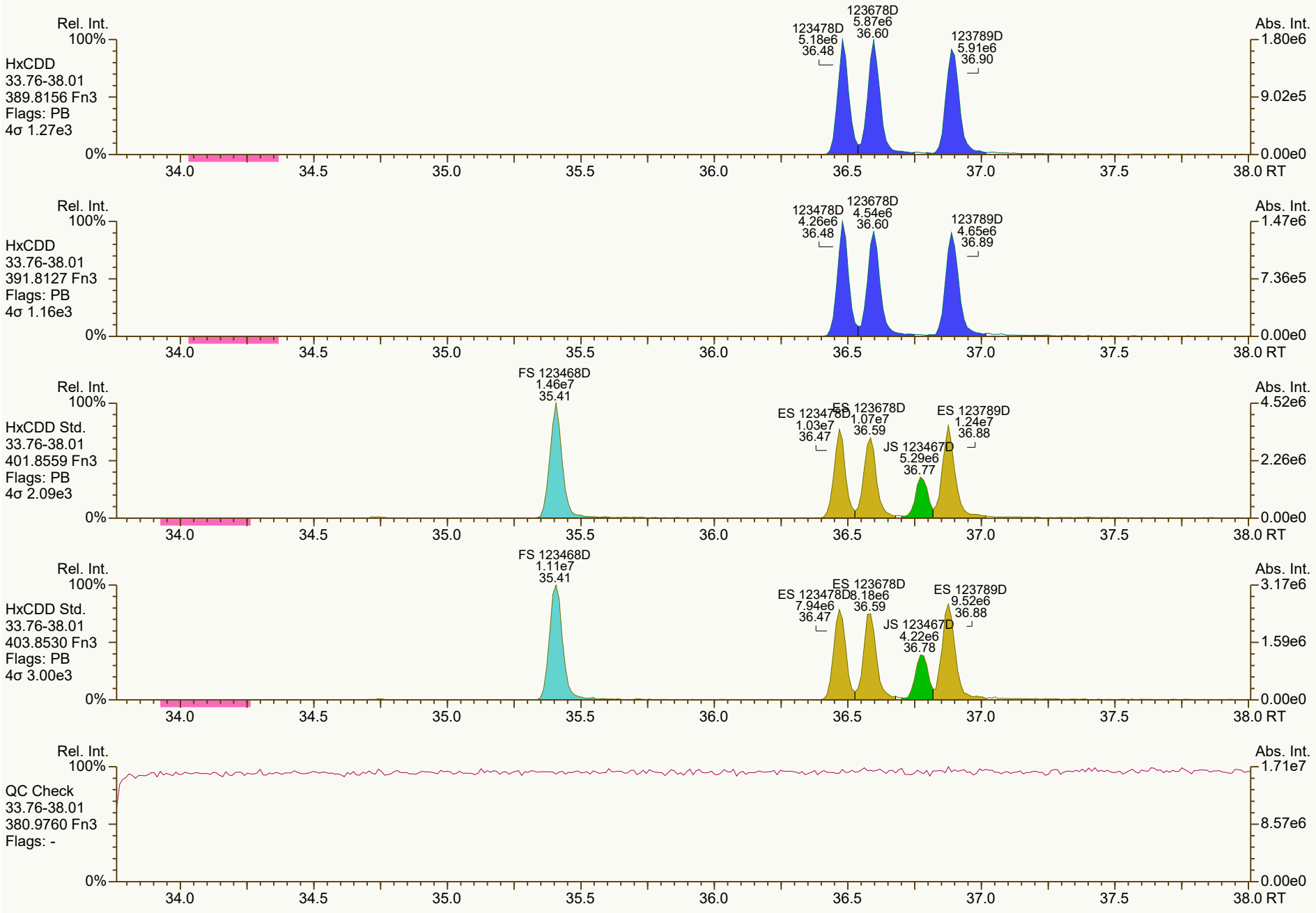
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.75	0.65	-	0.89	Y	92.3	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.61	1.32	-	1.78	Y	81	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.30	1.05	-	1.43	Y	96.6	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.31	1.05	-	1.43	Y	102	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.30	1.05	-	1.43	Y	102	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.08	0.88	-	1.20	Y	100	72	-	138	Y
13C-OCDD	M+2/M+4	0.90	0.76	-	1.02	Y	204	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65	-	0.89	Y	89.8	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	88.6	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32	-	1.78	Y	89.1	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	113	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	118	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	117	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.51	0.43	-	0.59	Y	111	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	116	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.44	0.37	-	0.51	Y	118	77	-	129	Y
13C-OCDF	M+2/M+4	0.92	0.76	-	1.02	Y	228	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						9.29	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.66	1.32	-	1.78	Y	91.2	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.60	1.32	-	1.78	Y	95.3	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	126	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	130	70	-	130	Y

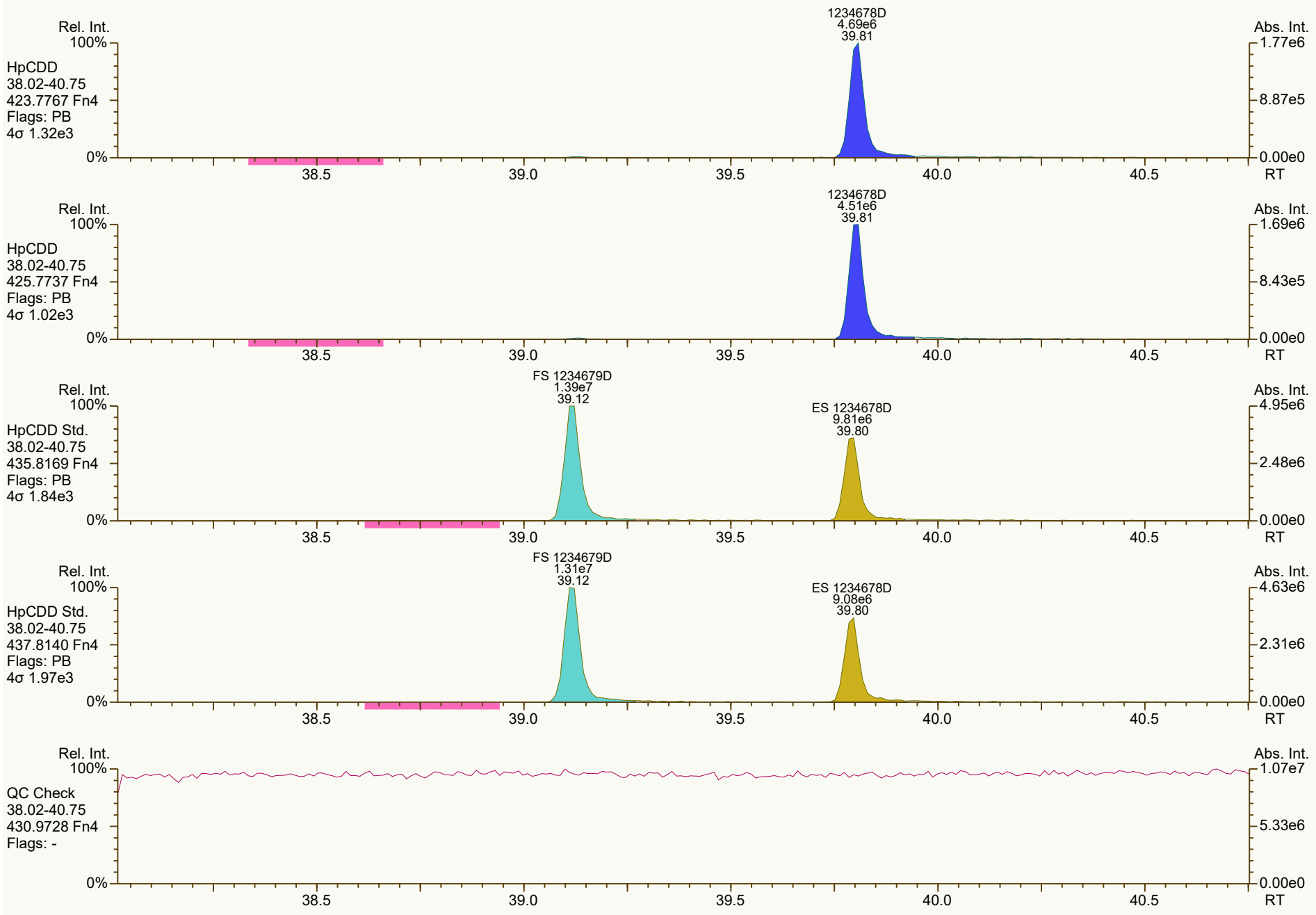
Processed: 04 Mar 2022 09:52 Analyst: pw

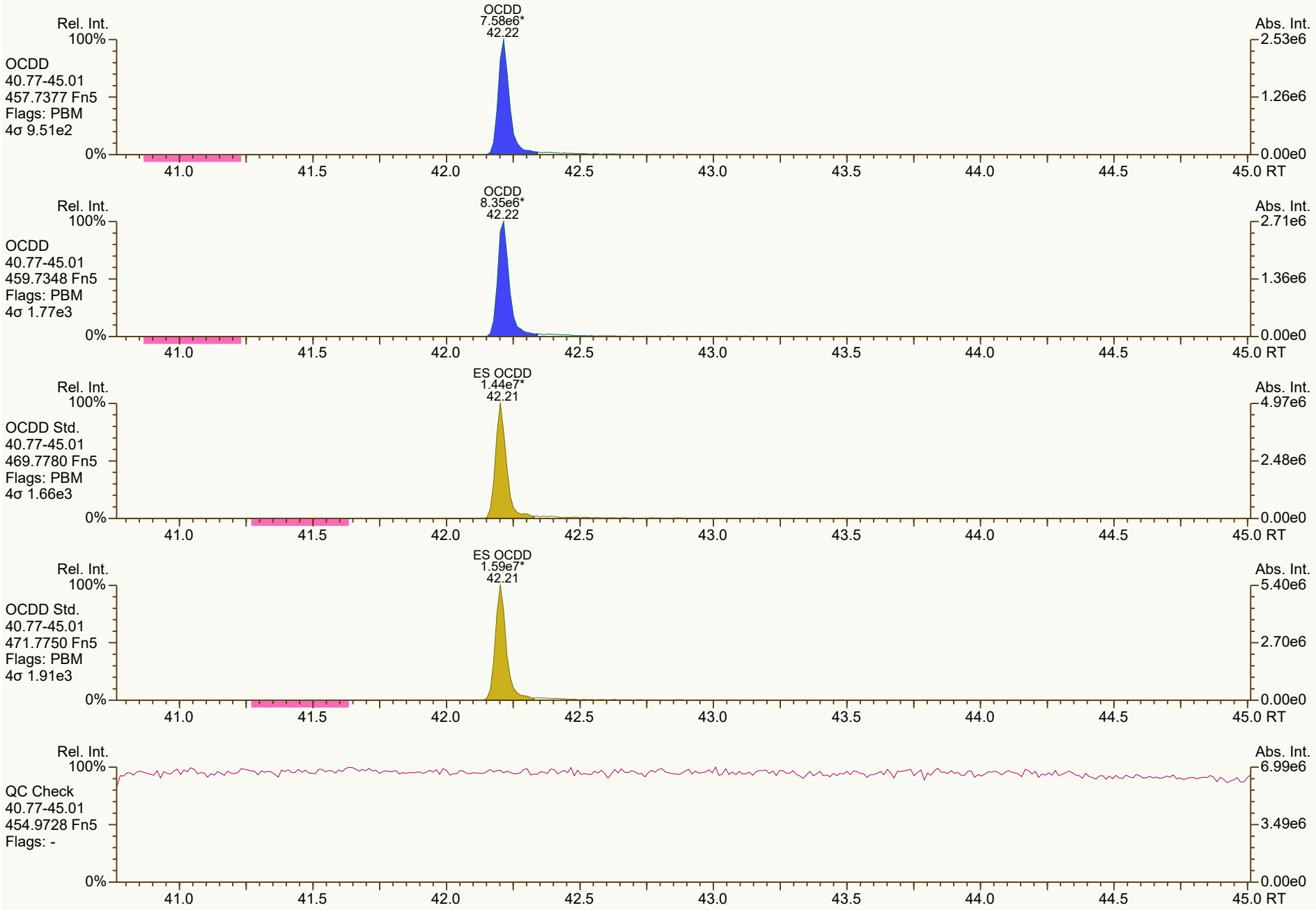

Rel. Int.
100%
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.88e6
1.94e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
QC Check
29.01-33.75
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.74e6
1.87e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
QC Check
33.76-38.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.71e7
8.57e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
QC Check
38.02-40.75
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.07e7
5.33e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
QC Check
40.77-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.99e6
3.49e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

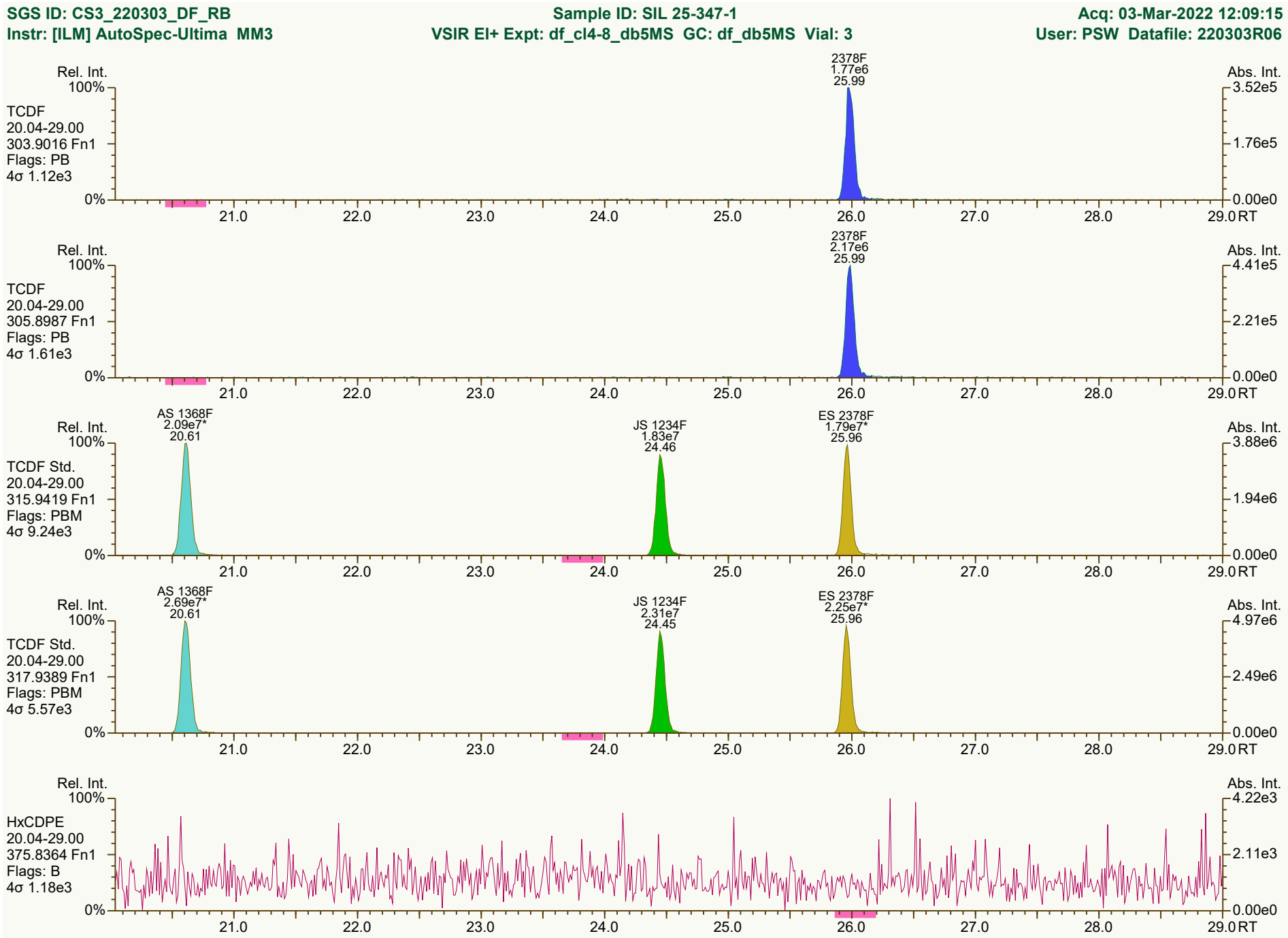

SGS ID: CS3_220303_DF_RB
Sample ID: SIL 25-347-1
Acq: 03-Mar-2022 12:09:15
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220303R06
Rel. Int.
Abs. Int.
TCDD
20.04-29.00
319.8965 Fn1
Flags: PBM
4σ 1.91e3
2378D
1.21e6*
26.92
2.67e5
1.34e5
0.00e0
RRF(2378D) = (1.21e6 + 1.50e6) * 100pg / (1.07e7 + 1.42e7) * 10pg * 1 = 1.09
PSW 04-Mar-2022 09:57
VERIFIED
TCDD
20.04-29.00
321.8936 Fn1
Flags: PBM
4σ 1.83e3
2378D
1.50e6*
26.92
3.20e5
1.60e5
0.00e0
37Cl-TCDD
20.04-29.00
327.8850 Fn1
Flags: PB
4σ 1.50e3
CS 37Cl-2378D
3.17e6
26.92
7.48e5
3.74e5
0.00e0
TCDD Std.
20.04-29.00
331.9368 Fn1
Flags: PBM
4σ 5.20e3
AS 1368D
1.18e7
22.83
TS 1378D
1.67e7
25.09
JS 1234D
1.14e7
26.18
ES 2378D
1.07e7*
26.89
FS 1278D
1.18e7*
27.25
3.38e6
1.69e6
0.00e0
TCDD Std.
20.04-29.00
333.9339 Fn1
Flags: PBM
4σ 2.03e3
AS 1368D
1.58e7
22.83
TS 1378D
2.22e7
25.09
JS 1234D
1.46e7
26.18
ES 2378D
1.42e7*
26.89
FS 1278D
1.62e7*
27.25
4.54e6
2.27e6
0.00e0
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\CS3_220303_DF_RB.utp_res, saved 04-Mar-2022 09:57 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 7796, 6933, 7587 scc: 816-776
Revised: 03-Mar-2022 13:10 (PSW) Printed: 04-Mar-2022 09:58 Page 2 of 12


Rel. Int.
100%
PeCDD
29.01-33.75
355.8546 Fn2
Flags: PB
4σ 1.20e3
12378D
6.65e6
32.54
Abs. Int.
1.80e6
8.98e5
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD
29.01-33.75
357.8517 Fn2
Flags: PB
4σ 1.09e3
12378D
4.13e6
32.54
Abs. Int.
1.09e6
5.44e5
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD Std.
29.01-33.75
367.8949 Fn2
Flags: PBM
4σ 3.74e3
FS 12478D
1.48e7*
31.24
CS 12347D
1.32e7
32.00
ES 12378D
1.35e7
32.52
Abs. Int.
4.10e6
2.05e6
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD Std.
29.01-33.75
369.8919 Fn2
Flags: PBM
4σ 2.13e3
FS 12478D
8.98e6*
31.24
CS 12347D
7.99e6
32.00
ES 12378D
8.37e6
32.52
Abs. Int.
2.35e6
1.17e6
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
QC Check
29.01-33.75
366.9792 Fn2
Flags: -
Abs. Int.
3.74e6
1.87e6
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT


Rel. Int.
100%
HxCDD
33.76-38.01
389.8156 Fn3
Flags: PB
4σ 1.27e3
123478D
5.18e6
36.48
123678D
5.87e6
36.60
123789D
5.91e6
36.90
Abs. Int.
1.80e6
9.02e5
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
HxCDD
33.76-38.01
391.8127 Fn3
Flags: PB
4σ 1.16e3
123478D
4.26e6
36.48
123678D
4.54e6
36.60
123789D
4.65e6
36.89
Abs. Int.
1.47e6
7.36e5
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
HxCDD Std.
33.76-38.01
401.8559 Fn3
Flags: PB
4σ 2.09e3
FS 123468D
1.46e7
35.41
ES 123478D
1.03e7
36.47
ES 123678D
1.07e7
36.59
JS 123467D
5.29e6
36.77
ES 123789D
1.24e7
36.88
Abs. Int.
4.52e6
2.26e6
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
HxCDD Std.
33.76-38.01
403.8530 Fn3
Flags: PB
4σ 3.00e3
FS 123468D
1.11e7
35.41
ES 123478D
7.94e6
36.47
ES 123678D
8.18e6
36.59
JS 123467D
4.22e6
36.78
ES 123789D
9.52e6
36.88
Abs. Int.
3.17e6
1.59e6
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
QC Check
33.76-38.01
380.9760 Fn3
Flags: -
Abs. Int.
1.71e7
8.57e6
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT


Rel. Int.
100%
HpCDD
38.02-40.75
423.7767 Fn4
Flags: PB
4σ 1.32e3
0%
1234678D
4.69e6
39.81
Abs. Int.
1.77e6
8.87e5
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD
38.02-40.75
425.7737 Fn4
Flags: PB
4σ 1.02e3
0%
1234678D
4.51e6
39.81
Abs. Int.
1.69e6
8.43e5
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD Std.
38.02-40.75
435.8169 Fn4
Flags: PB
4σ 1.84e3
0%
FS 1234679D
1.39e7
39.12
ES 1234678D
9.81e6
39.80
Abs. Int.
4.95e6
2.48e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD Std.
38.02-40.75
437.8140 Fn4
Flags: PB
4σ 1.97e3
0%
FS 1234679D
1.31e7
39.12
ES 1234678D
9.08e6
39.80
Abs. Int.
4.63e6
2.31e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
QC Check
38.02-40.75
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.07e7
5.33e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT


OCDD
7.58e6*
42.22
Rel. Int.
100%
OCDD
40.77-45.01
457.7377 Fn5
Flags: PBM
4σ 9.51e2
0%
Abs. Int.
2.53e6
1.26e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
8.35e6*
42.22
Rel. Int.
100%
OCDD
40.77-45.01
459.7348 Fn5
Flags: PBM
4σ 1.77e3
0%
Abs. Int.
2.71e6
1.36e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.44e7*
42.21
Rel. Int.
100%
OCDD Std.
40.77-45.01
469.7780 Fn5
Flags: PBM
4σ 1.66e3
0%
Abs. Int.
4.97e6
2.48e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.59e7*
42.21
Rel. Int.
100%
OCDD Std.
40.77-45.01
471.7750 Fn5
Flags: PBM
4σ 1.91e3
0%
Abs. Int.
5.40e6
2.70e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
40.77-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.99e6
3.49e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT



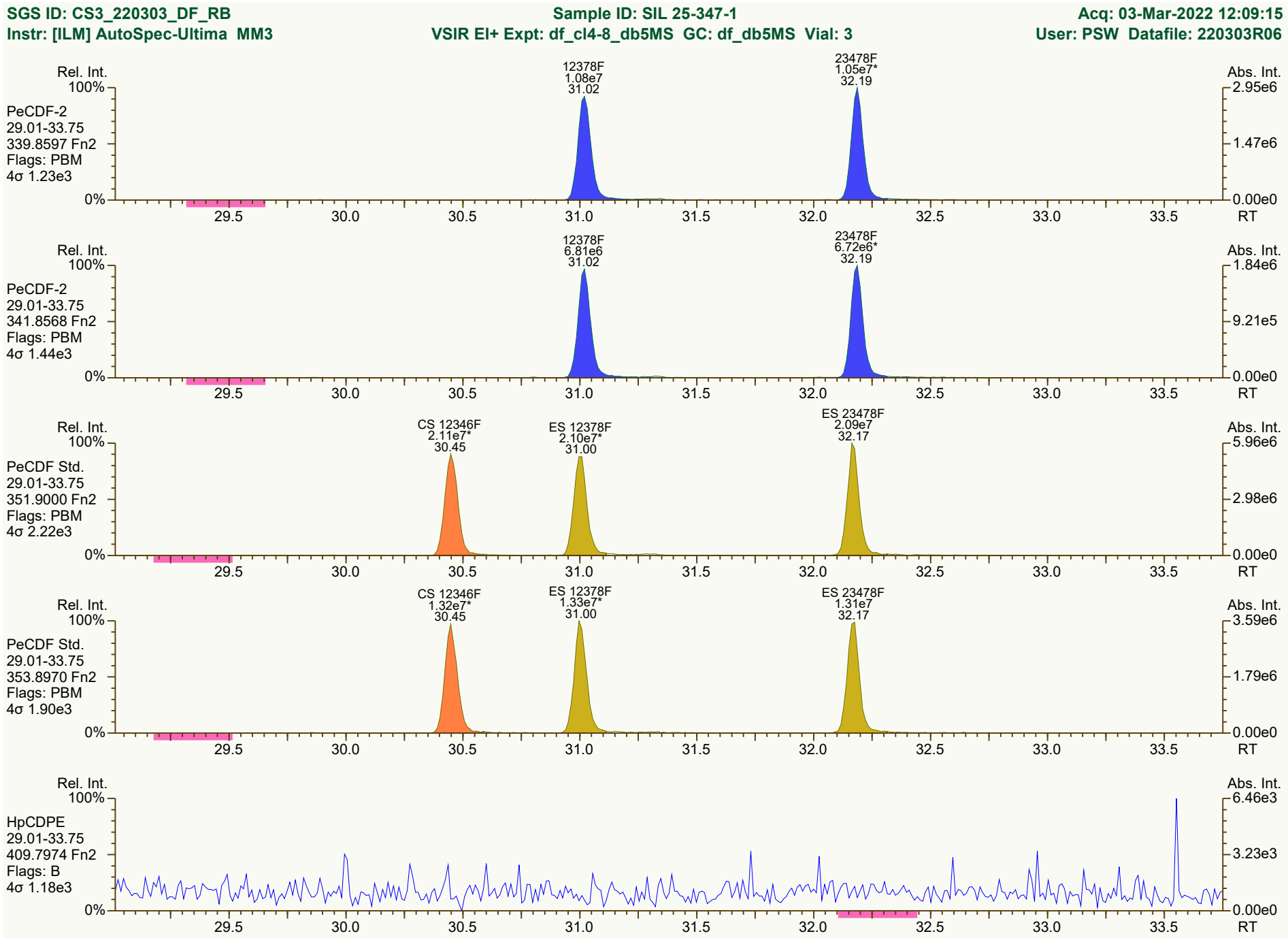
Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\CS3_220303_DF_RB.utp_res, saved 04-Mar-2022 09:57 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1468, 4098, 4660 scc: 816-776
PKD: 03-Mar-2022 13:10 Printed: 04-Mar-2022 09:58 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
3.63e3
1.81e3
0.00e0
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: B
4σ 1.40e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
0%
Abs. Int.
4.48e3
2.24e3
0.00e0
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: PB
4σ 1.18e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
0%
Abs. Int.
3.88e6
1.94e6
0.00e0
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT

SGS ID: CS3_220303_DF_RB
Instr: [ILM] AutoSpec-Ultima MM3

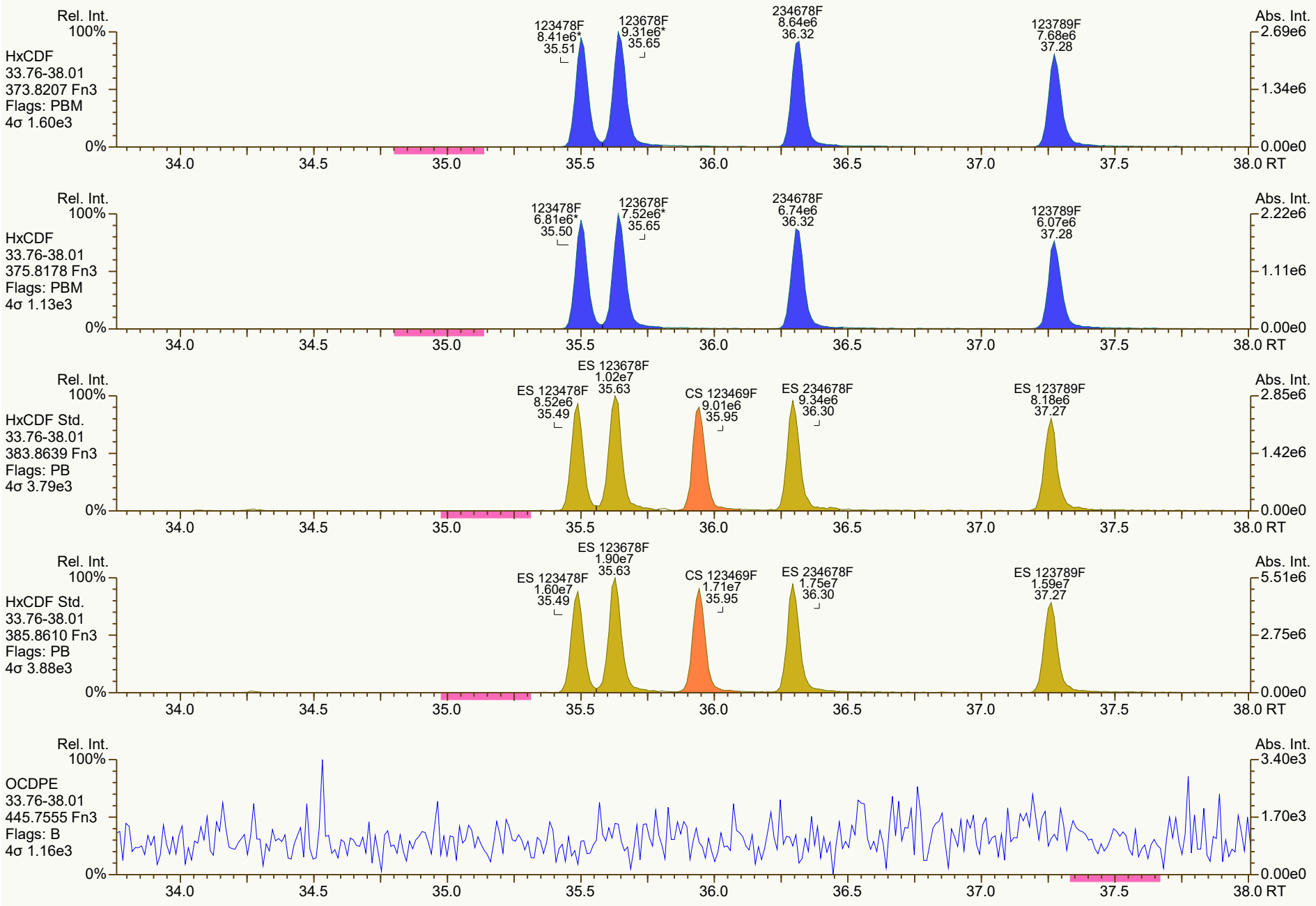
Sample ID: SIL 25-347-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3

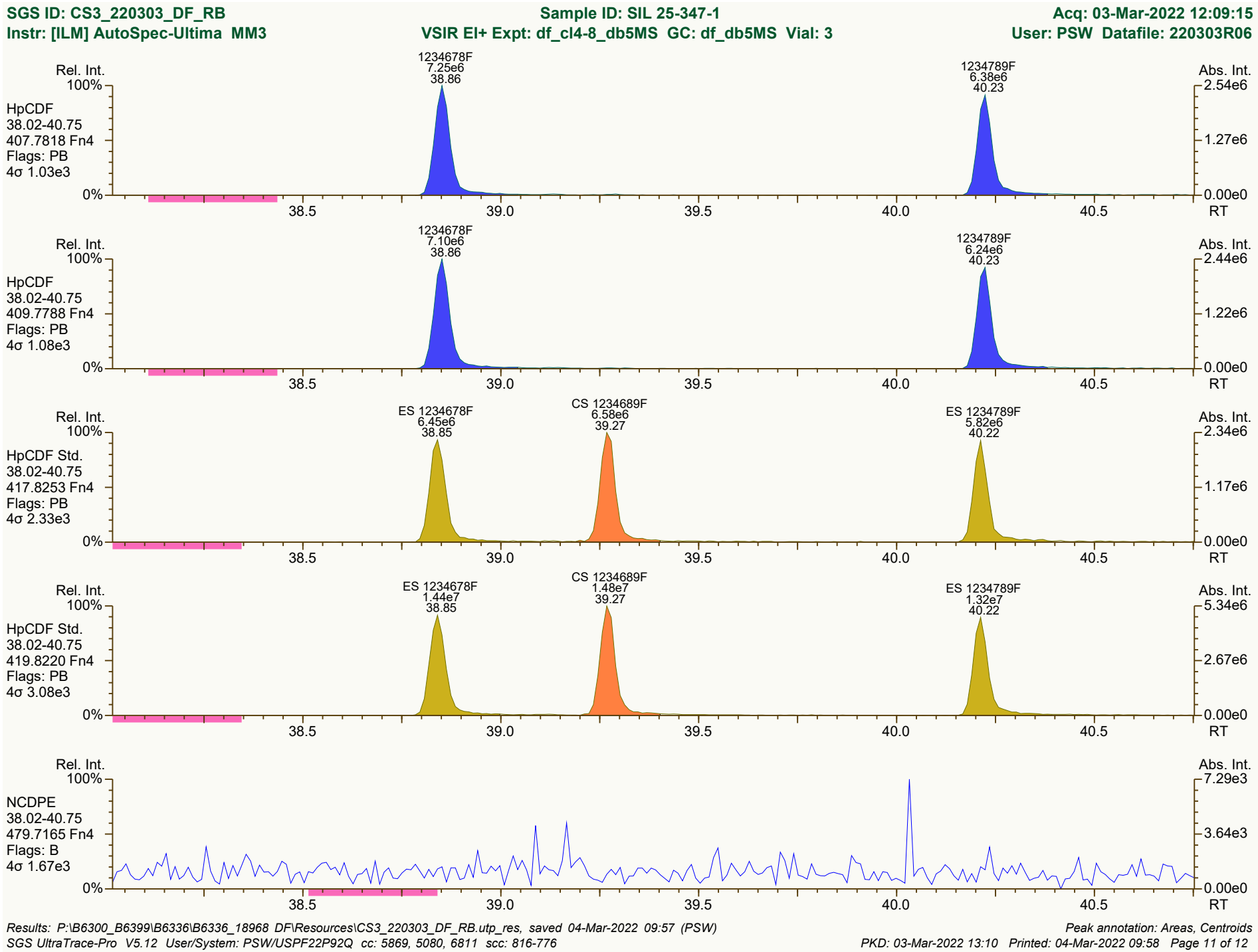
Acq: 03-Mar-2022 12:09:15
User: PSW Datafile: 220303R06

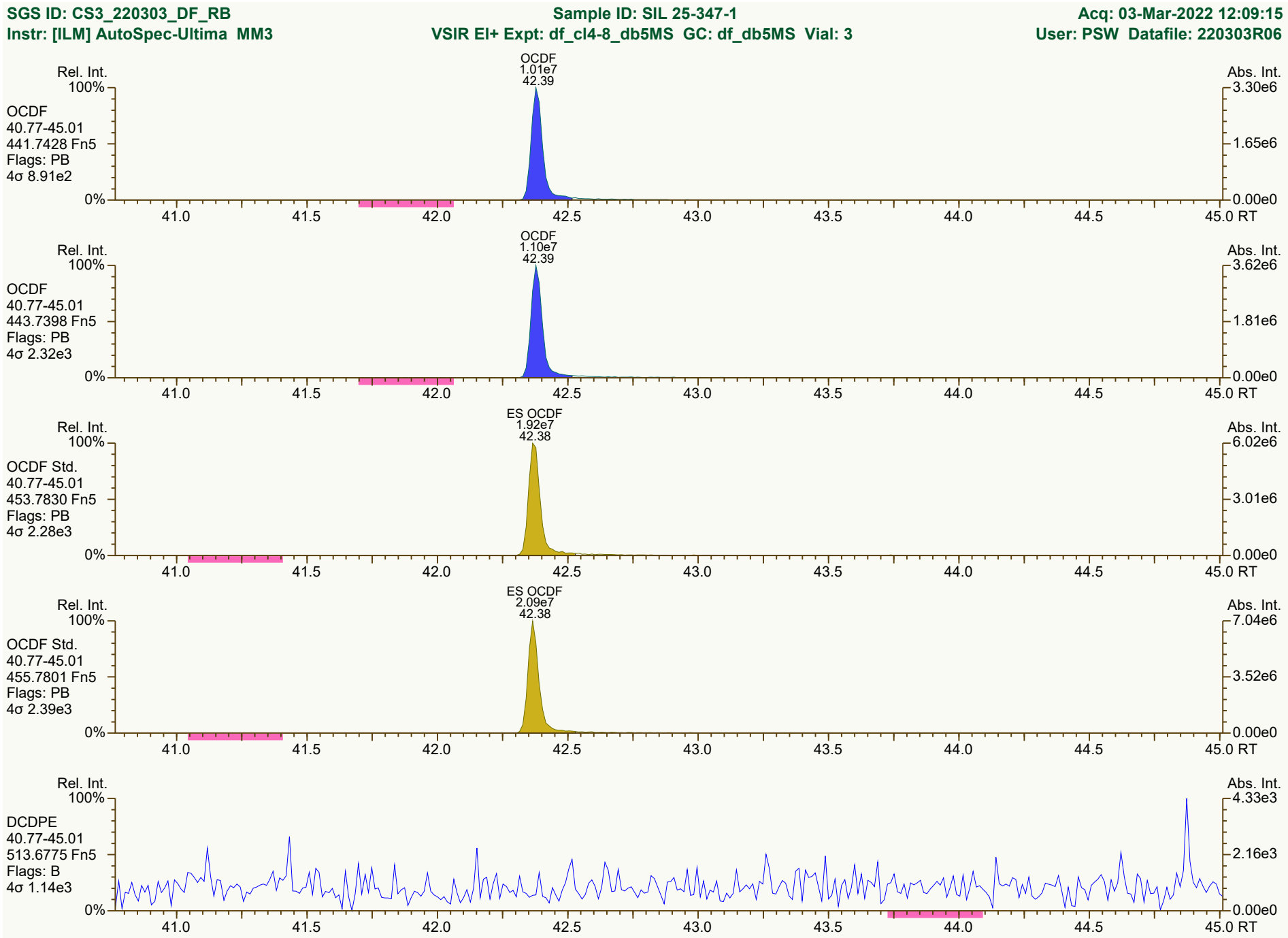


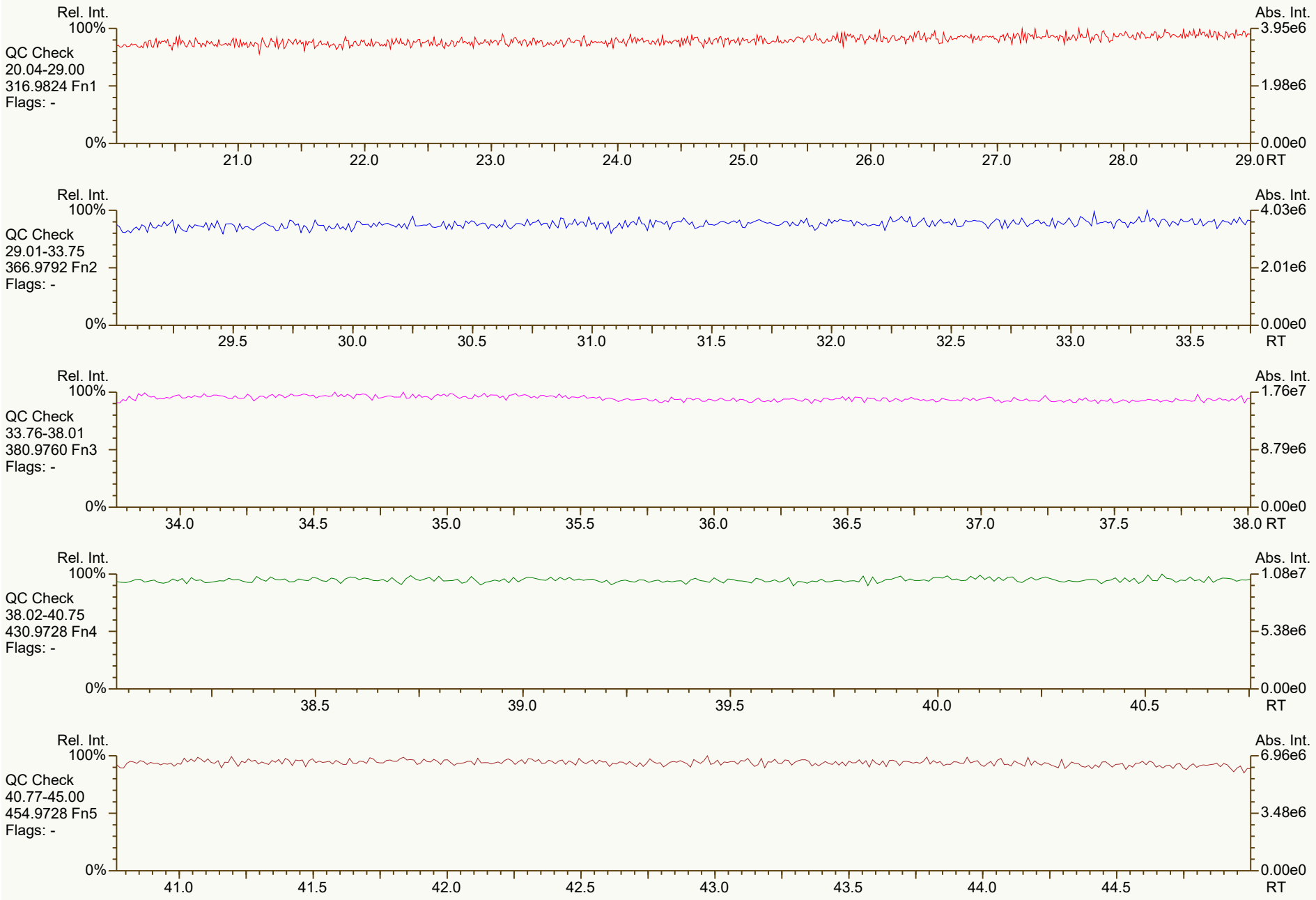
Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\CS3_220303_DF_RB.utp_res, saved 04-Mar-2022 09:57 (PSW)
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8813, 0444, 5912 scc: 816-776

Peak annotation: Areas, Centroids
PKD: 03-Mar-2022 13:10 Printed: 04-Mar-2022 09:58 Page 9 of 12


Rel. Int.
100%
HxCDF
33.76-38.01
373.8207 Fn3
Flags: PBM
4σ 1.60e3
123478F
8.41e6*
35.51
123678F
9.31e6*
35.65
234678F
8.64e6
36.32
123789F
7.68e6
37.28
Abs. Int.
2.69e6
1.34e6
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
HxCDF
33.76-38.01
375.8178 Fn3
Flags: PBM
4σ 1.13e3
123478F
6.81e6*
35.50
123678F
7.52e6*
35.65
234678F
6.74e6
36.32
123789F
6.07e6
37.28
Abs. Int.
2.22e6
1.11e6
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
HxCDF Std.
33.76-38.01
383.8639 Fn3
Flags: PB
4σ 3.79e3
ES 123678F
1.02e7
35.63
ES 123478F
8.52e6
35.49
CS 123469F
9.01e6
35.95
ES 234678F
9.34e6
36.30
ES 123789F
8.18e6
37.27
Abs. Int.
2.85e6
1.42e6
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
HxCDF Std.
33.76-38.01
385.8610 Fn3
Flags: PB
4σ 3.88e3
ES 123678F
1.90e7
35.63
ES 123478F
1.60e7
35.49
CS 123469F
1.71e7
35.95
ES 234678F
1.75e7
36.30
ES 123789F
1.59e7
37.27
Abs. Int.
5.51e6
2.75e6
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
OCDPE
33.76-38.01
445.7555 Fn3
Flags: B
4σ 1.16e3
Abs. Int.
3.40e3
1.70e3
0.00e0
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT


SGS ID: CS3_220303_DF_RB
Sample ID: SIL 25-347-1
Acq: 03-Mar-2022 12:09:15
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220303R06
Rel. Int.
Abs. Int.
HpCDF
38.02-40.75
407.7818 Fn4
Flags: PB
4σ 1.03e3
1234678F
7.25e6
38.86
1234789F
6.38e6
40.23
HpCDF
38.02-40.75
409.7788 Fn4
Flags: PB
4σ 1.08e3
1234678F
7.10e6
38.86
1234789F
6.24e6
40.23
HpCDF Std.
38.02-40.75
417.8253 Fn4
Flags: PB
4σ 2.33e3
ES 1234678F
6.45e6
38.85
CS 1234689F
6.58e6
39.27
ES 1234789F
5.82e6
40.22
HpCDF Std.
38.02-40.75
419.8220 Fn4
Flags: PB
4σ 3.08e3
ES 1234678F
1.44e7
38.85
CS 1234689F
1.48e7
39.27
ES 1234789F
1.32e7
40.22
NCDPE
38.02-40.75
479.7165 Fn4
Flags: B
4σ 1.67e3
38.5
39.0
39.5
40.0
40.5
RT
Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\CS3_220303_DF_RB.utp_res, saved 04-Mar-2022 09:57 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5869, 5080, 6811 scc: 816-776
PKD: 03-Mar-2022 13:10 Printed: 04-Mar-2022 09:58 Page 11 of 12


SGS ID: CS3_220303_DF_RB
Sample ID: SIL 25-347-1
Acq: 03-Mar-2022 12:09:15
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 220303R06
Rel. Int.
Abs. Int.
OCDF
1.01e7
42.39
OCDF
40.77-45.01
441.7428 Fn5
Flags: PB
4σ 8.91e2
3.30e6
1.65e6
0.00e0
OCDF
1.10e7
42.39
OCDF
40.77-45.01
443.7398 Fn5
Flags: PB
4σ 2.32e3
3.62e6
1.81e6
ES OCDF
1.92e7
42.38
OCDF Std.
40.77-45.01
453.7830 Fn5
Flags: PB
4σ 2.28e3
6.02e6
3.01e6
ES OCDF
2.09e7
42.38
OCDF Std.
40.77-45.01
455.7801 Fn5
Flags: PB
4σ 2.39e3
7.04e6
3.52e6
DCDPE
40.77-45.01
513.6775 Fn5
Flags: B
4σ 1.14e3
4.33e3
2.16e3
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\CS3_220303_DF_RB.utp_res, saved 04-Mar-2022 09:57 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6272, 1880, 1138 scc: 816-776
PKD: 03-Mar-2022 13:10 Printed: 04-Mar-2022 09:58 Page 12 of 12


Rel. Int.
100%
0%
Abs. Int.
3.95e6
1.98e6
0.00e0
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
0%
Abs. Int.
4.03e6
2.01e6
0.00e0
QC Check
29.01-33.75
366.9792 Fn2
Flags: -
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
0%
Abs. Int.
1.76e7
8.79e6
0.00e0
QC Check
33.76-38.01
380.9760 Fn3
Flags: -
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
0%
Abs. Int.
1.08e7
5.38e6
0.00e0
QC Check
38.02-40.75
430.9728 Fn4
Flags: -
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
0%
Abs. Int.
6.96e6
3.48e6
0.00e0
QC Check
40.77-45.00
454.9728 Fn5
Flags: -
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
RT

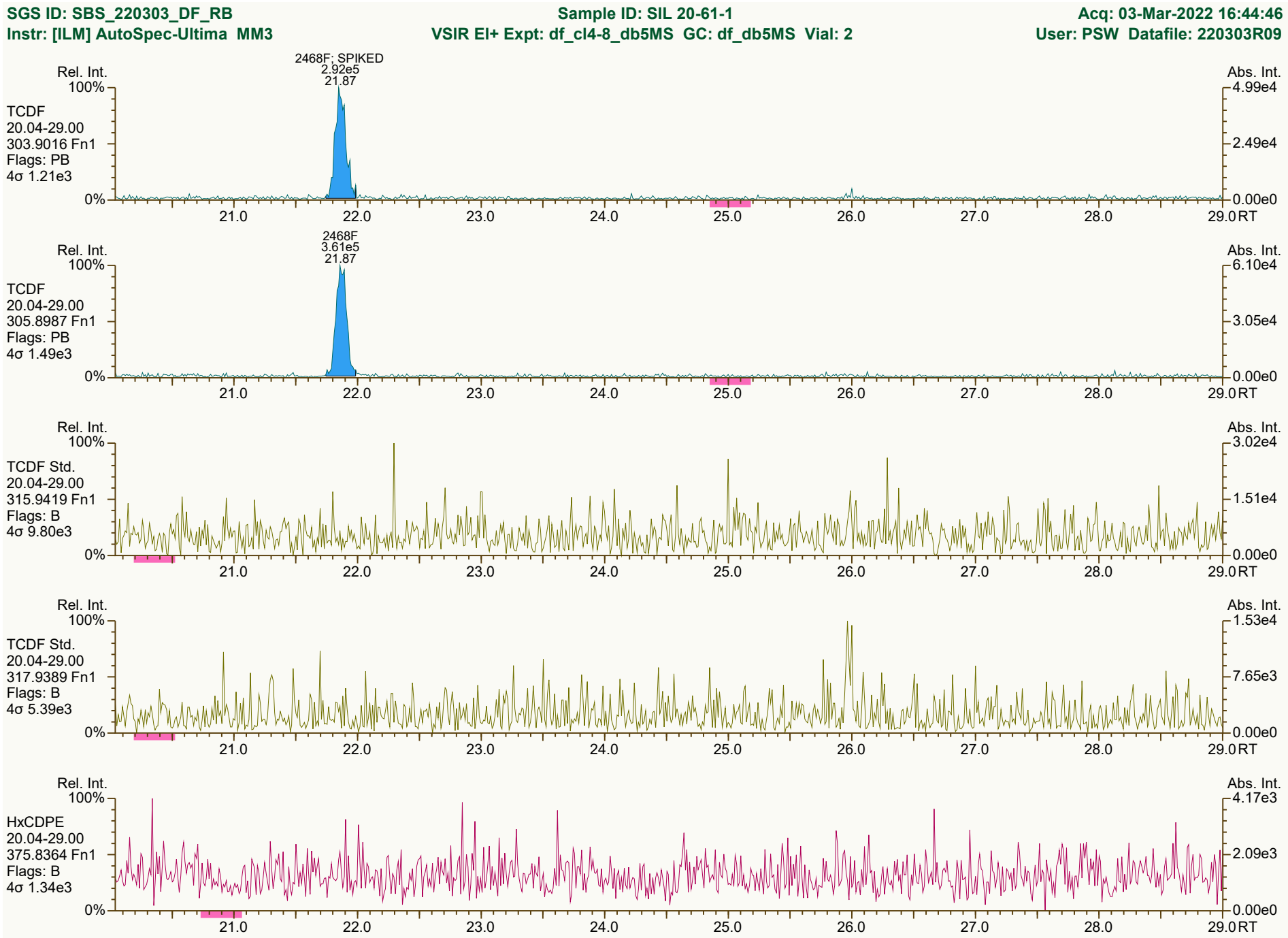

Rel. Int.
100%
TCDD
20.04-29.00
319.8965 Fn1
Flags: B
4σ 1.71e3
0%
Abs. Int.
4.82e3
2.41e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDD
20.04-29.00
321.8936 Fn1
Flags: PB
4σ 1.54e3
0%
Abs. Int.
3.98e3
1.99e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
37Cl-TCDD
20.04-29.00
327.8850 Fn1
Flags: B
4σ 1.43e3
0%
Abs. Int.
6.51e3
3.26e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDD Std.
20.04-29.00
331.9368 Fn1
Flags: B
4σ 3.26e3
0%
Abs. Int.
1.21e4
6.05e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
TCDD Std.
20.04-29.00
333.9339 Fn1
Flags: B
4σ 2.85e3
0%
Abs. Int.
1.38e4
6.88e3
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT


Rel. Int.
100%
PeCDD
29.01-33.75
355.8546 Fn2
Flags: PB
4σ 1.33e3
0%
Abs. Int.
4.73e3
2.36e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD
29.01-33.75
357.8517 Fn2
Flags: PB
4σ 1.14e3
0%
Abs. Int.
5.61e3
2.80e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD Std.
29.01-33.75
367.8949 Fn2
Flags: B
4σ 1.86e3
0%
Abs. Int.
9.70e3
4.85e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD Std.
29.01-33.75
369.8919 Fn2
Flags: B
4σ 2.27e3
0%
Abs. Int.
9.43e3
4.72e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
QC Check
29.01-33.75
366.9792 Fn2
Flags: -
0%
Abs. Int.
4.03e6
2.01e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT


Rel. Int.
100%
HxCDD
33.76-38.01
389.8156 Fn3
Flags: B
4σ 9.93e2
0%
Abs. Int.
6.59e3
3.30e3
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
HxCDD
33.76-38.01
391.8127 Fn3
Flags: B
4σ 1.42e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
HxCDD Std.
33.76-38.01
401.8559 Fn3
Flags: B
4σ 1.88e3
0%
Abs. Int.
1.57e4
7.84e3
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
HxCDD Std.
33.76-38.01
403.8530 Fn3
Flags: B
4σ 2.45e3
0%
Abs. Int.
1.50e4
7.49e3
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
QC Check
33.76-38.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.76e7
8.79e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT


Rel. Int.
100%
HpCDD
38.02-40.75
423.7767 Fn4
Flags: B
4σ 1.31e3
0%
Abs. Int.
8.08e3
4.04e3
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD
38.02-40.75
425.7737 Fn4
Flags: B
4σ 1.49e3
0%
Abs. Int.
5.19e3
2.59e3
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD Std.
38.02-40.75
435.8169 Fn4
Flags: B
4σ 1.86e3
0%
Abs. Int.
1.18e4
5.90e3
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDD Std.
38.02-40.75
437.8140 Fn4
Flags: B
4σ 2.08e3
0%
Abs. Int.
6.76e3
3.38e3
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
QC Check
38.02-40.75
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.08e7
5.38e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT


Rel. Int.
100%
OCDD
40.77-45.00
457.7377 Fn5
Flags: B
4σ 1.39e3
0%
Abs. Int.
6.43e3
3.22e3
0.00e0
RT
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
Rel. Int.
100%
OCDD
40.77-45.00
459.7348 Fn5
Flags: B
4σ 1.89e3
0%
Abs. Int.
9.67e3
4.83e3
0.00e0
RT
Rel. Int.
100%
OCDD Std.
40.77-45.00
469.7780 Fn5
Flags: B
4σ 2.28e3
0%
Abs. Int.
1.58e4
7.91e3
0.00e0
RT
Rel. Int.
100%
OCDD Std.
40.77-45.00
471.7750 Fn5
Flags: B
4σ 2.04e3
0%
Abs. Int.
1.44e4
7.18e3
0.00e0
RT
Rel. Int.
100%
QC Check
40.77-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.96e6
3.48e6
0.00e0
RT



Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\SBS_220303_DF_RB.utp_res, saved 04-Mar-2022 08:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2619, 6676, 2118 scc: 501-196
PKD: 04-Mar-2022 08:12 Printed: 04-Mar-2022 09:58 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
4.12e3
2.06e3
0.00e0
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: B
4σ 1.53e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
0%
Abs. Int.
1.08e4
5.41e3
0.00e0
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: B
4σ 1.36e3
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
0%
Abs. Int.
3.95e6
1.98e6
0.00e0
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT


Rel. Int.
100%
PeCDF-2
29.01-33.75
339.8597 Fn2
Flags: B
4σ 9.24e2
0%
Abs. Int.
6.66e3
3.33e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDF-2
29.01-33.75
341.8568 Fn2
Flags: B
4σ 1.29e3
0%
Abs. Int.
4.91e3
2.45e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDF Std.
29.01-33.75
351.9000 Fn2
Flags: B
4σ 1.85e3
0%
Abs. Int.
1.25e4
6.25e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDF Std.
29.01-33.75
353.8970 Fn2
Flags: B
4σ 1.74e3
0%
Abs. Int.
1.90e4
9.50e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
HpCDPE
29.01-33.75
409.7974 Fn2
Flags: PB
4σ 1.46e3
0%
Abs. Int.
5.13e3
2.56e3
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT


Rel. Int.
100%
HxCDF
33.76-38.01
373.8207 Fn3
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
HxCDF
33.76-38.01
375.8178 Fn3
Flags: B
4σ 1.47e3
0%
Abs. Int.
5.98e3
2.99e3
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
HxCDF Std.
33.76-38.01
383.8639 Fn3
Flags: B
4σ 1.76e3
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
HxCDF Std.
33.76-38.01
385.8610 Fn3
Flags: B
4σ 3.03e3
0%
Abs. Int.
1.83e4
9.14e3
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
OCDPE
33.76-38.01
445.7555 Fn3
Flags: PB
4σ 1.21e3
0%
Abs. Int.
3.48e3
1.74e3
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT

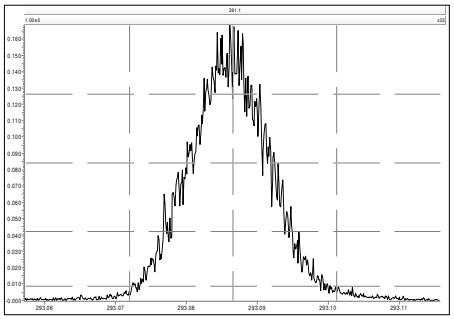

Rel. Int.
100%
HpCDF
38.02-40.75
407.7818 Fn4
Flags: B
4σ 1.18e3
0%
Abs. Int.
5.76e3
2.88e3
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDF
38.02-40.75
409.7788 Fn4
Flags: B
4σ 1.32e3
0%
Abs. Int.
6.44e3
3.22e3
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDF Std.
38.02-40.75
417.8253 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
9.09e3
4.54e3
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
HpCDF Std.
38.02-40.75
419.8220 Fn4
Flags: B
4σ 1.70e3
0%
Abs. Int.
1.52e4
7.62e3
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
NCDPE
38.02-40.75
479.7165 Fn4
Flags: PB
4σ 1.40e3
0%
Abs. Int.
3.90e3
1.95e3
0.00e0
38.5
39.0
39.5
40.0
40.5
RT


Rel. Int.
100%
OCDF
40.77-45.00
441.7428 Fn5
Flags: B
4σ 2.12e3
0%
Abs. Int.
1.23e4
6.17e3
0.00e0
RT
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
Rel. Int.
100%
OCDF
40.77-45.00
443.7398 Fn5
Flags: PB
4σ 1.40e3
0%
Abs. Int.
9.66e3
4.83e3
0.00e0
RT
Rel. Int.
100%
OCDF Std.
40.77-45.00
453.7830 Fn5
Flags: B
4σ 1.98e3
0%
Abs. Int.
1.48e4
7.38e3
0.00e0
RT
Rel. Int.
100%
OCDF Std.
40.77-45.00
455.7801 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.50e4
7.52e3
0.00e0
RT
Rel. Int.
100%
DCDPE
40.77-45.00
513.6775 Fn5
Flags: PB
4σ 1.54e3
0%
Abs. Int.
3.73e3
1.87e3
0.00e0
RT

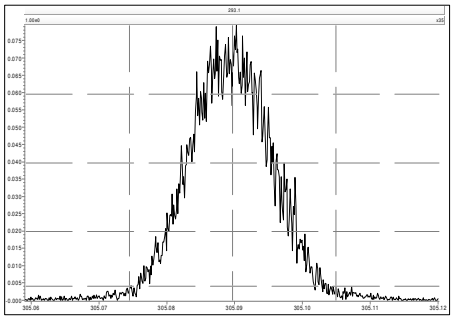
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Thursday, March 03, 2022 08:07:27 Eastern Standard Time

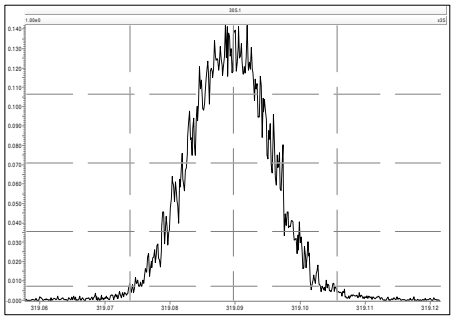
M 292.9824 R 11362



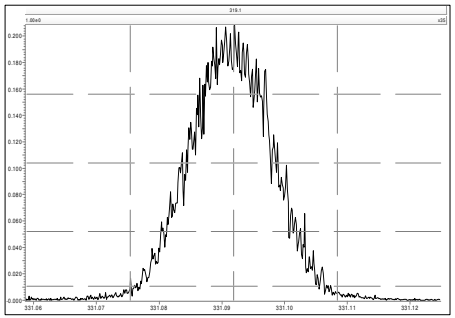
M 304.9824 R 11844



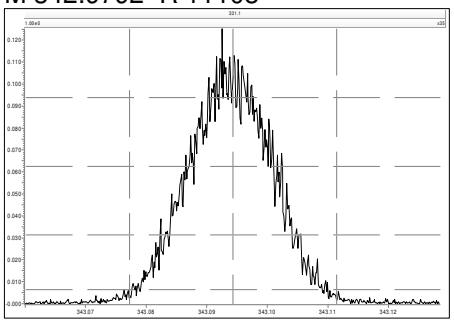
M 318.9792 R 11787



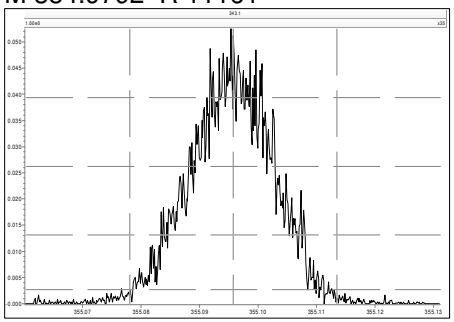
M 330.9792 R 11627



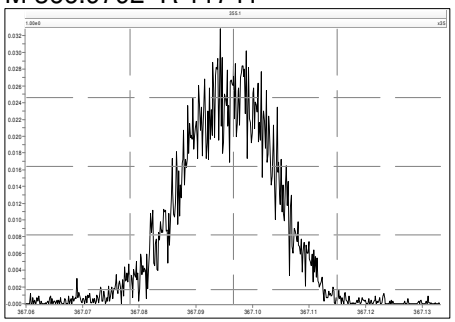
M 342.9792 R 11108



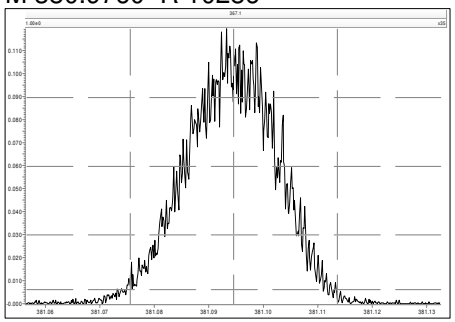
M 354.9792 R 11161



M 366.9792 R 11741



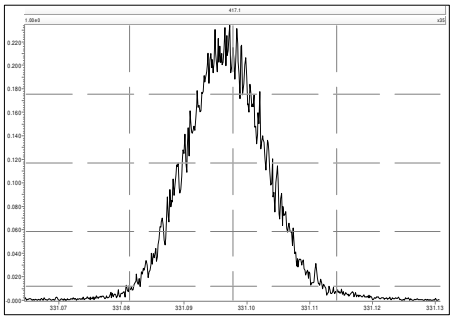
M 380.9760 R 10286



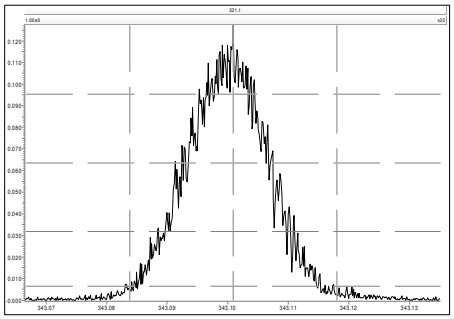
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Thursday, March 03, 2022 08:07:44 Eastern Standard Time

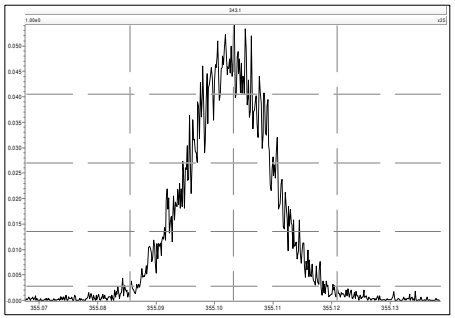
M 330.9792 R 11012



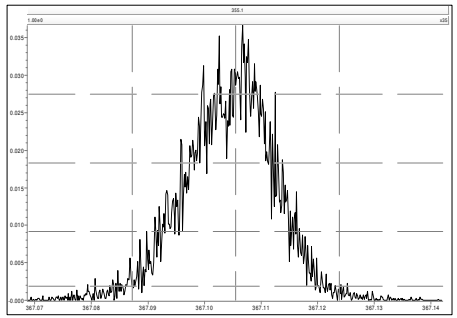
M 342.9792 R 11113



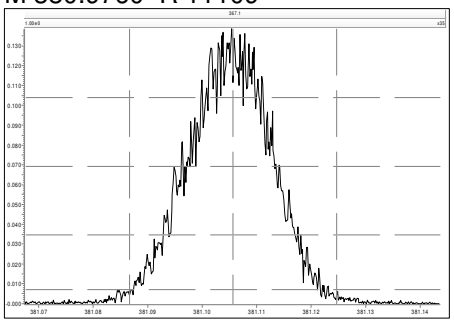
M 354.9792 R 11161



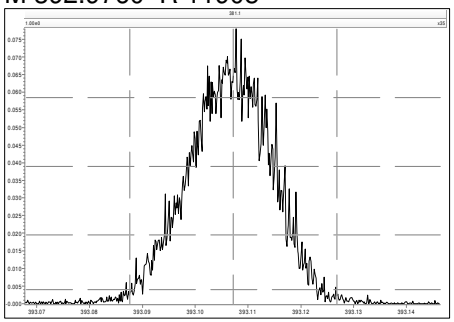
M 366.9792 R 12023



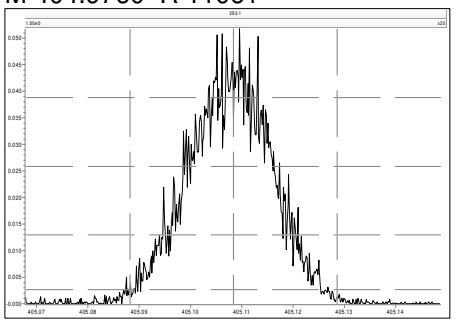
M 380.9760 R 11109



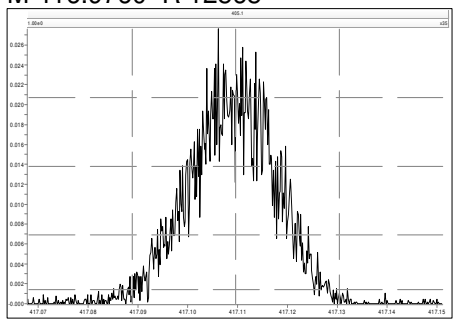
M 392.9760 R 11905



M 404.9760 R 11061



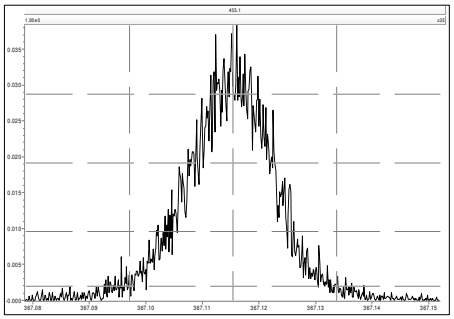
M 416.9760 R 12565



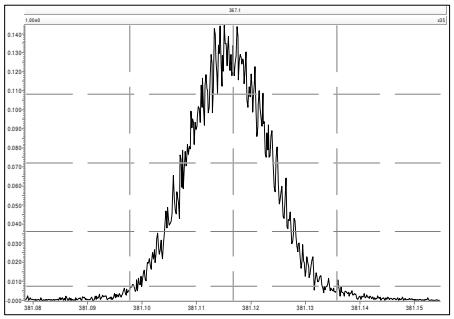
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Thursday, March 03, 2022 08:08:05 Eastern Standard Time

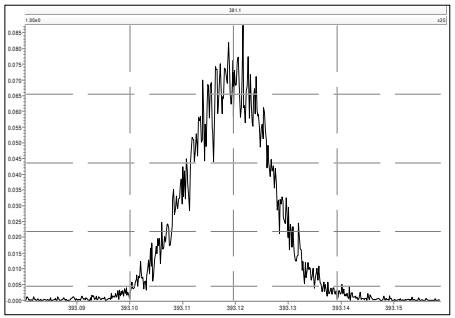
M 366.9792 R 10637



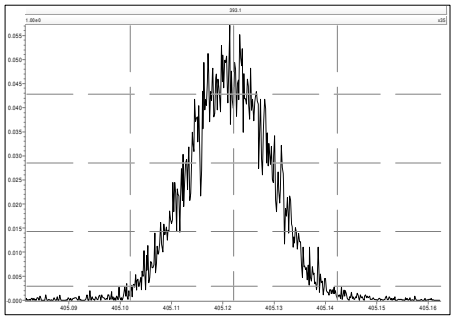
M 380.9760 R 11790



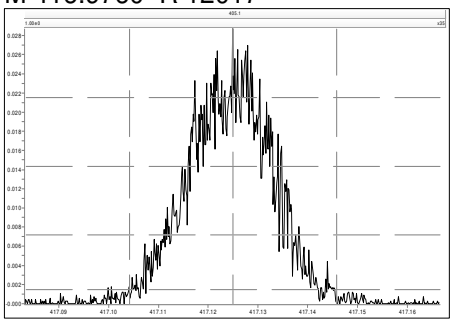
M 392.9760 R 11849



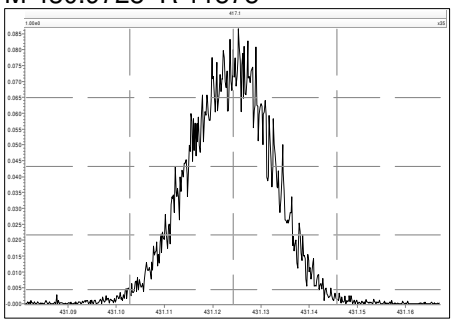
M 404.9760 R 12195



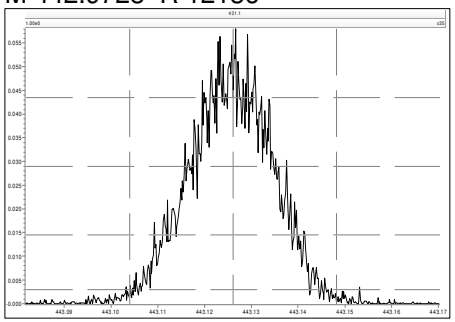
M 416.9760 R 12017



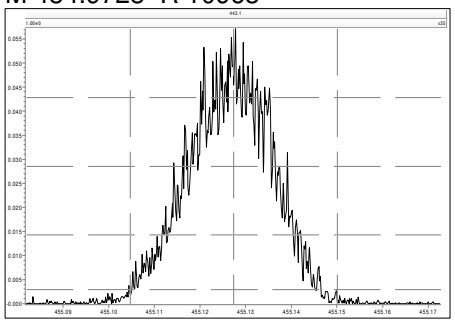
M 430.9728 R 11575



M 442.9728 R 12136



M 454.9728 R 10963



File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

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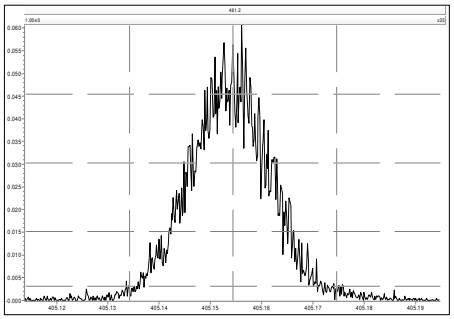
M 404.9760 R 10819



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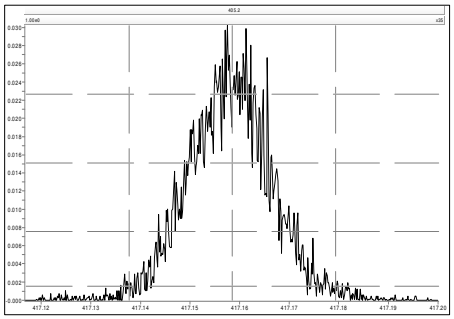
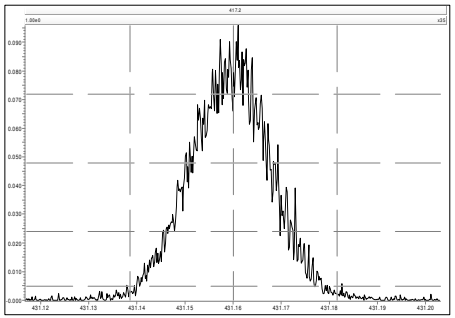
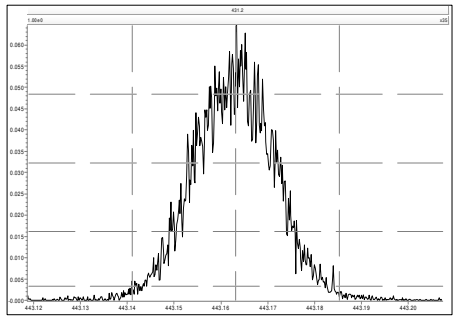


M 430.9728 R 11209



M 442.9728 R 11161



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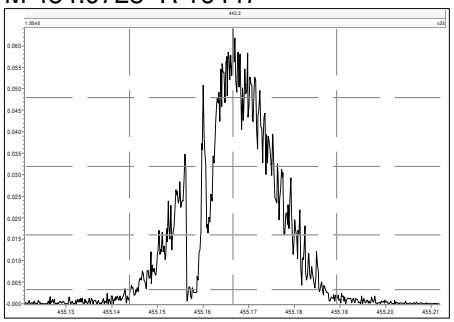
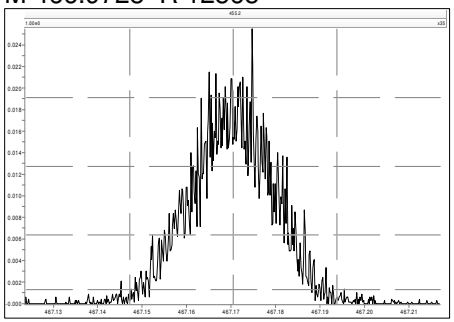
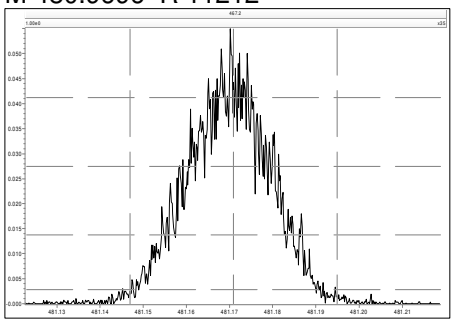


M 466.9728 R 12565



M 480.9696 R 11212



File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

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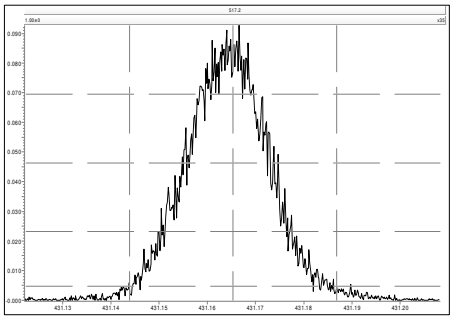
M 430.9728 R 12017



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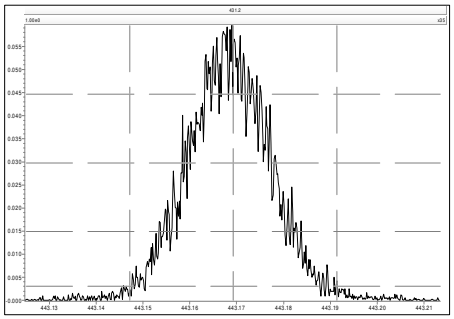

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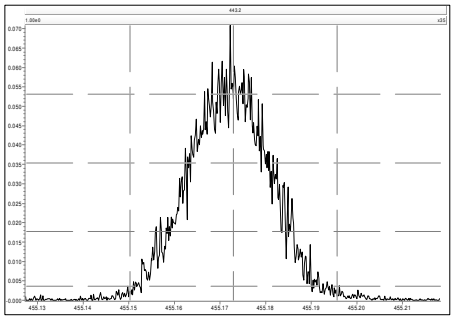

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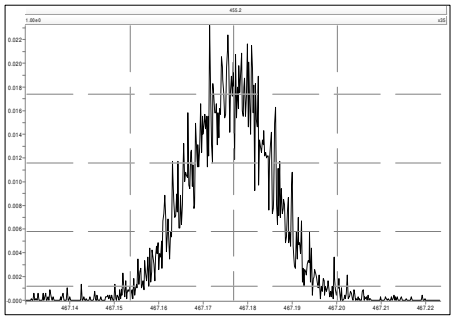

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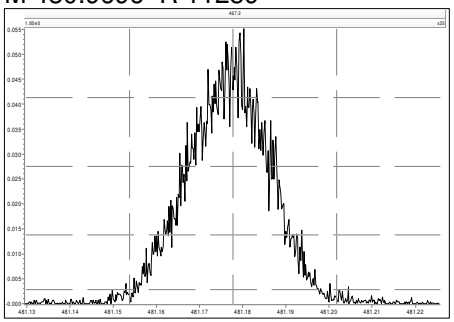

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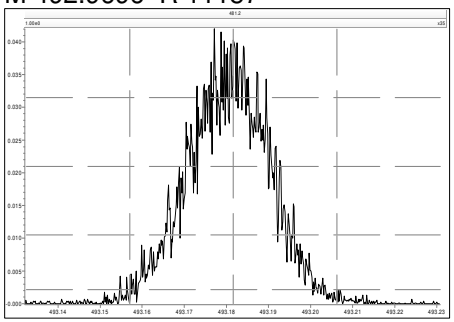

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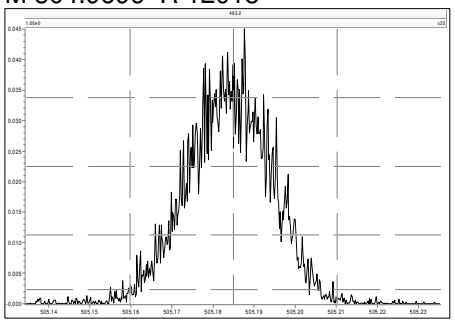

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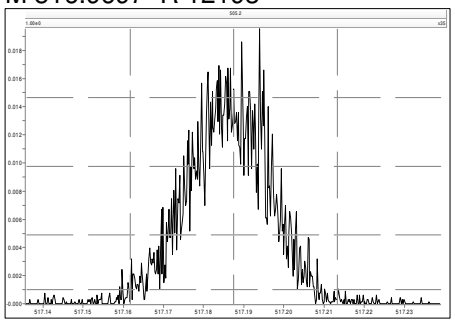

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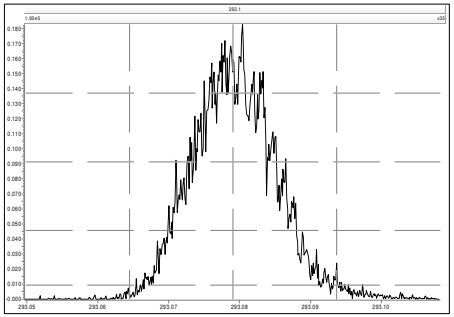

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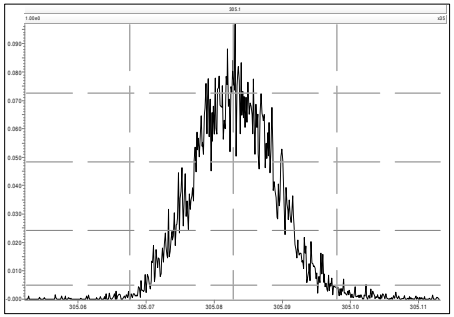

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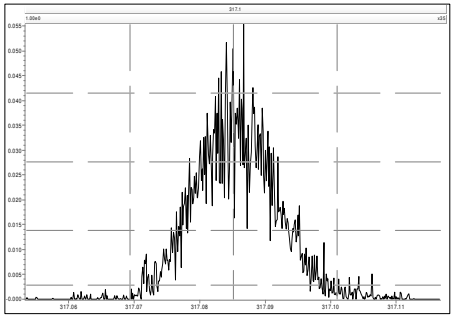
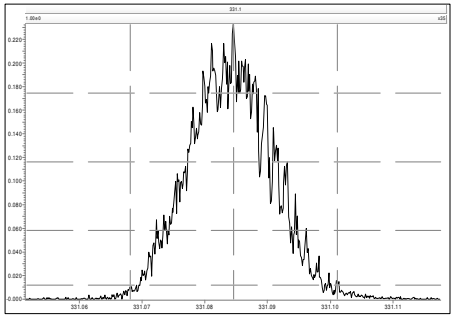


M 330.9792 R 11161



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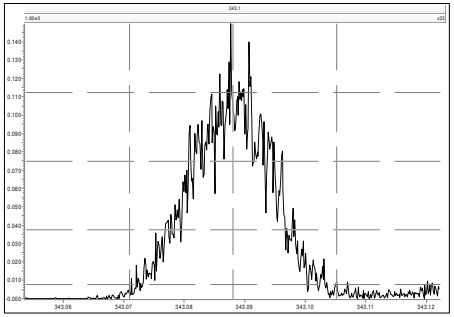

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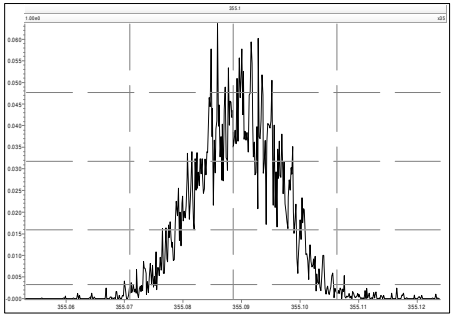
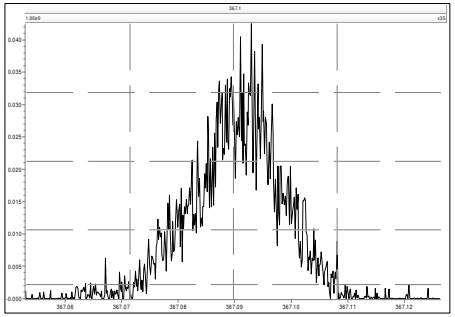
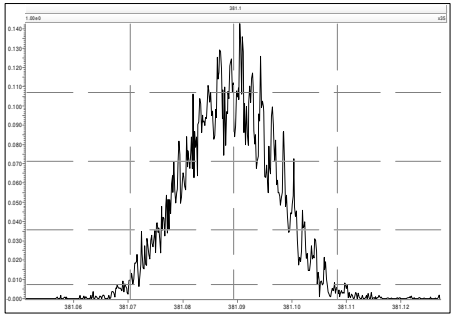


M 366.9792 R 11869



M 380.9760 R 10434



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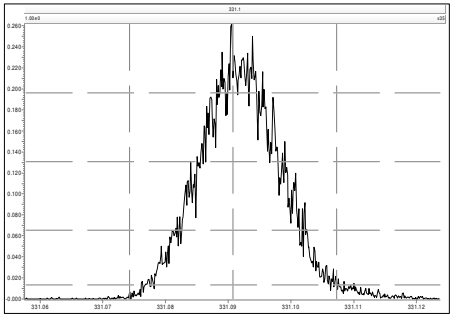

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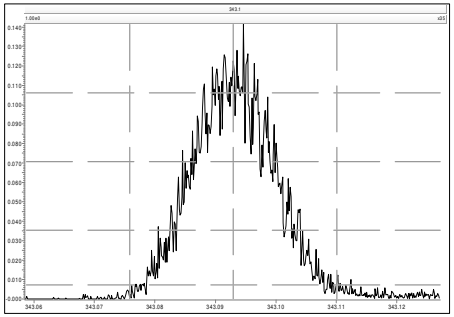

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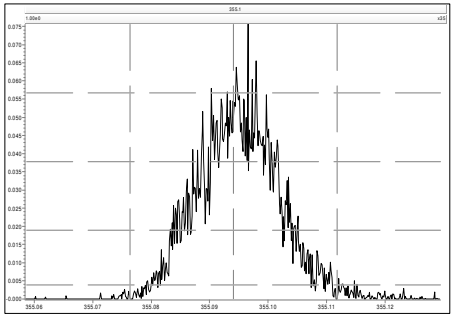

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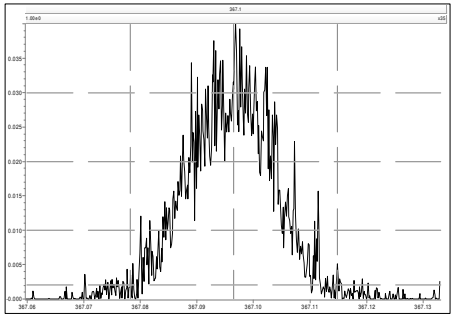

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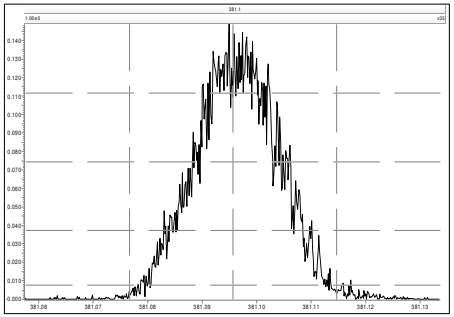

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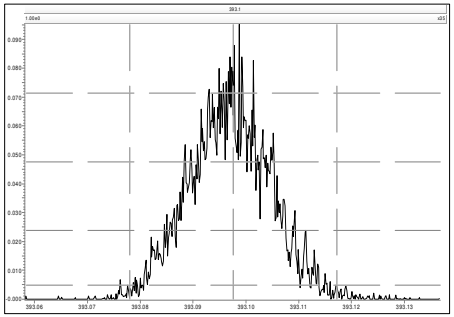
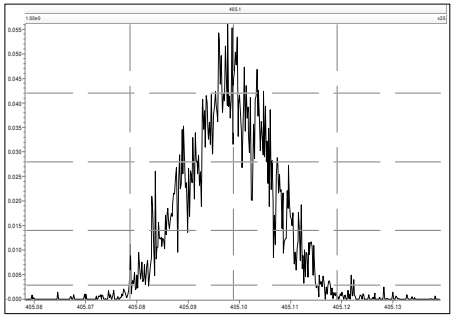


M 404.9760 R 11868



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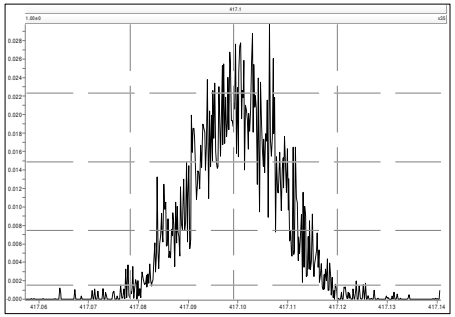

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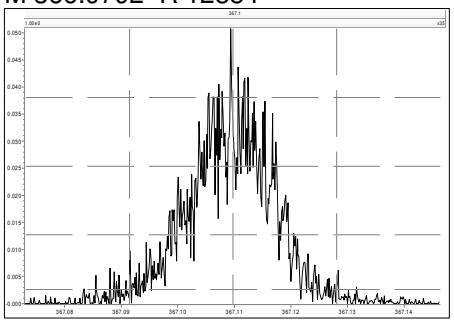

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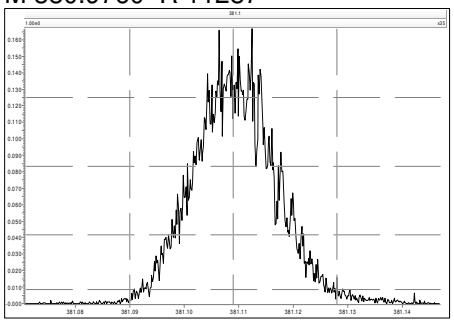
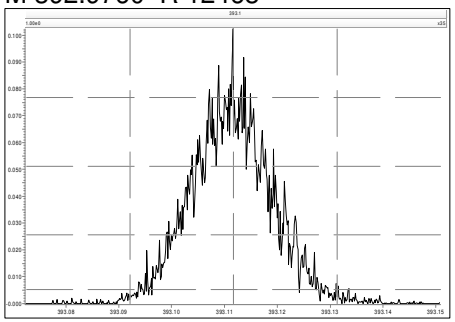


M 392.9760 R 12468



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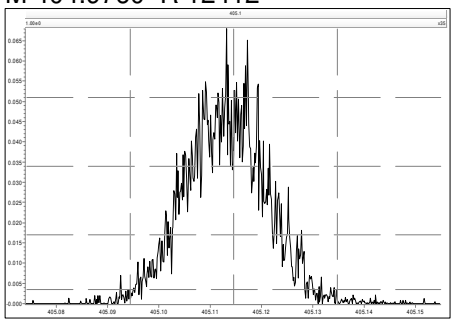
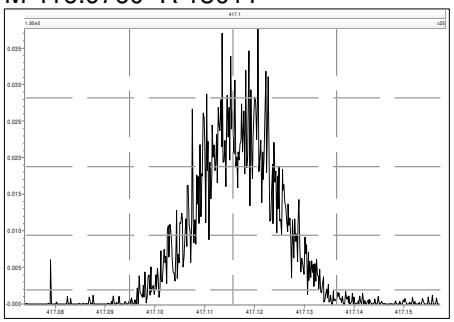
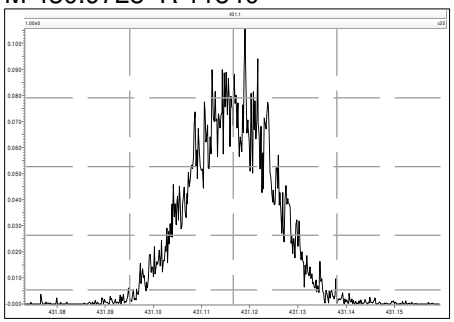


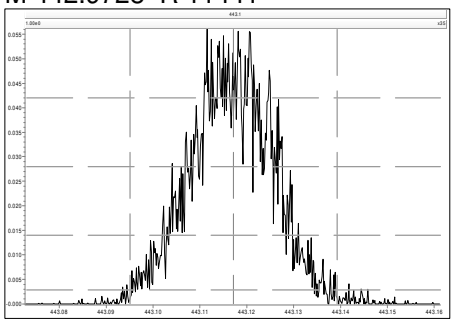
M 416.9760 R 13011



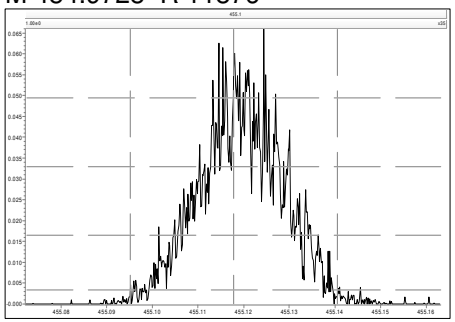
M 430.9728 R 11540



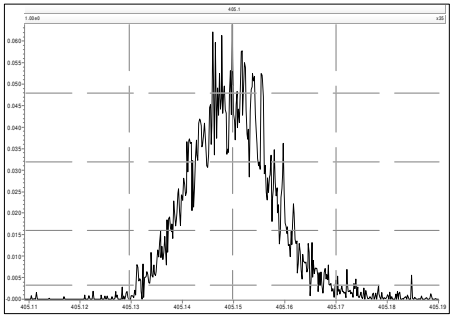
M 442.9728 R 11441



M 454.9728 R 11876



M 404.9760 R 12090



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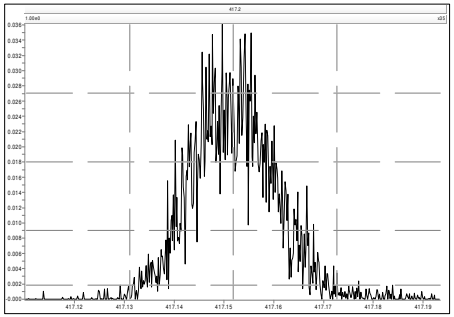

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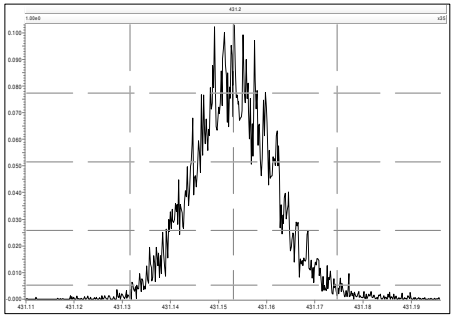

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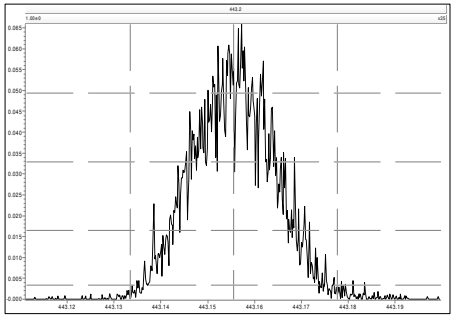

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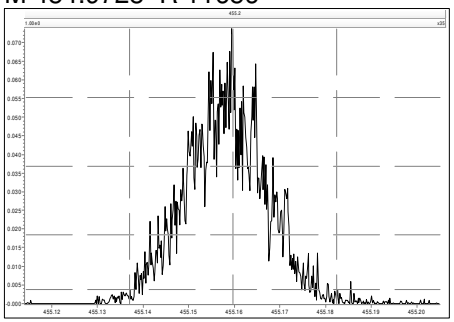

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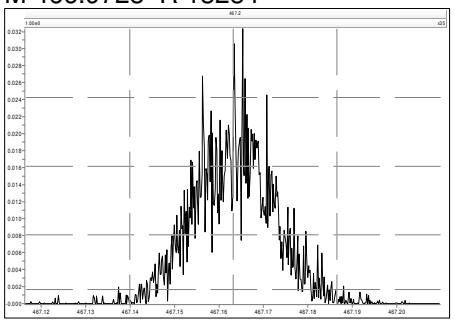

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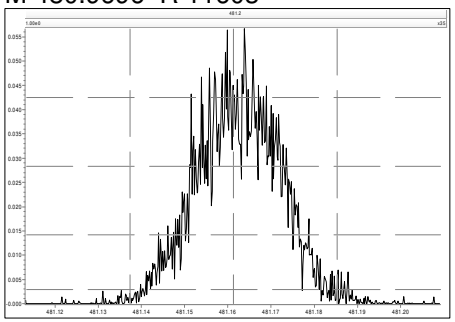
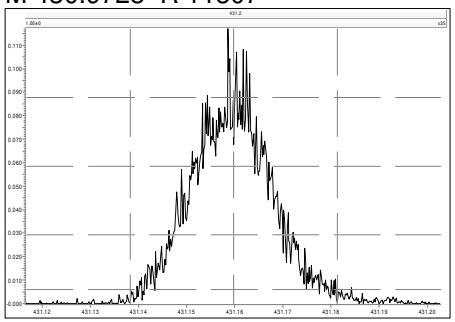
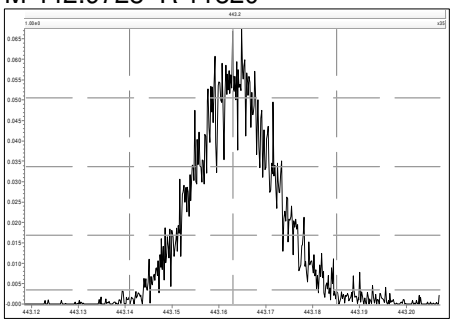


M 430.9728 R 11507



M 442.9728 R 11820



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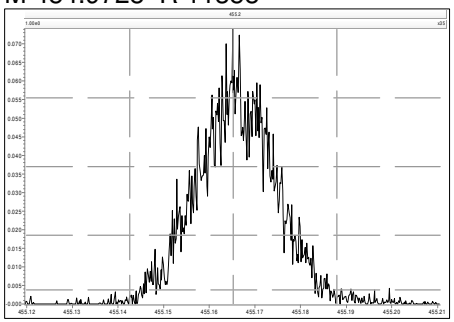
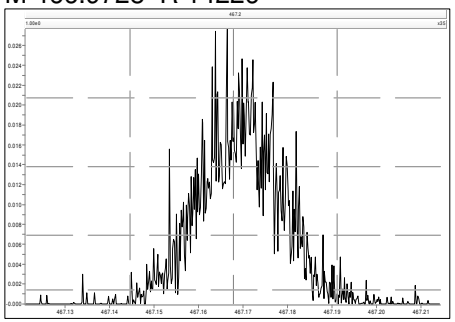
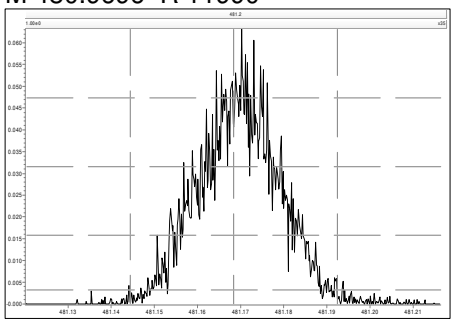


M 466.9728 R 14226



M 480.9696 R 11990



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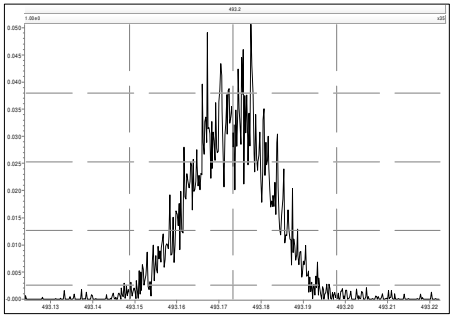
M 492.9696 R 13123



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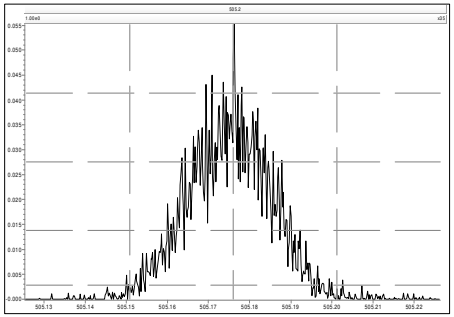
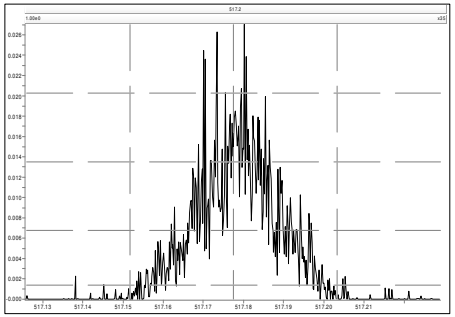


M 516.9697 R 14832



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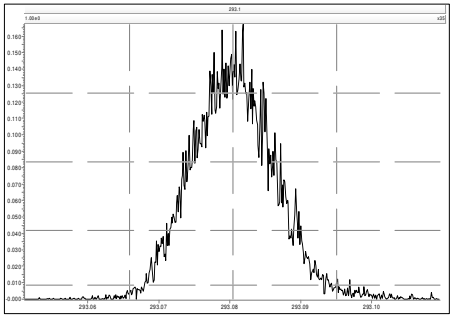
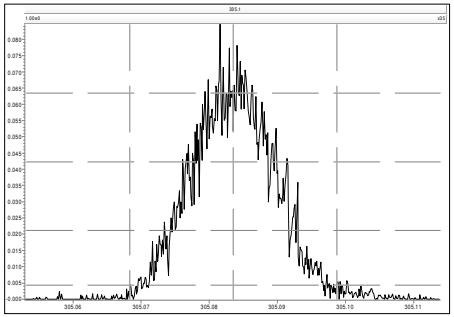
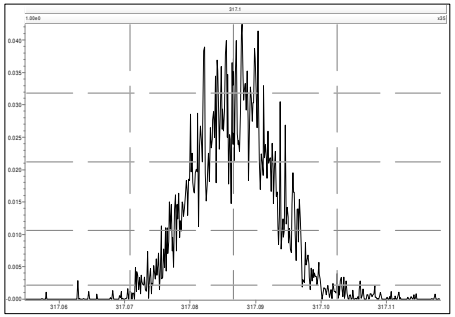


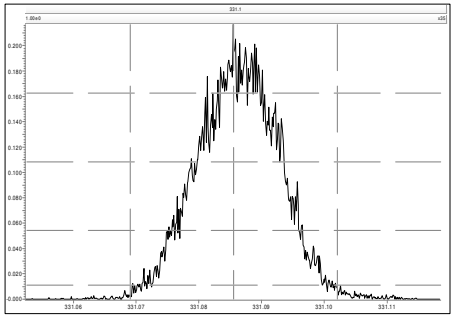
M 304.9824 R 11643



M 316.9824 R 13699



M 330.9792 R 11311



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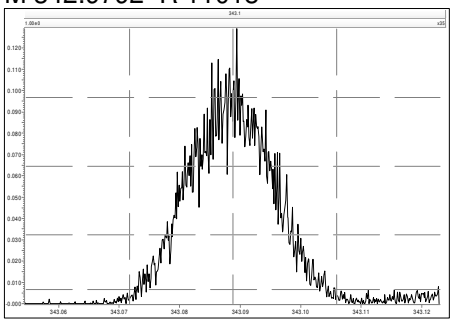

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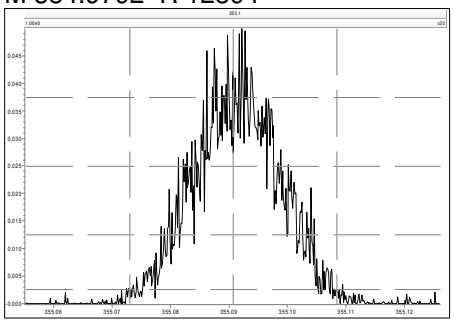
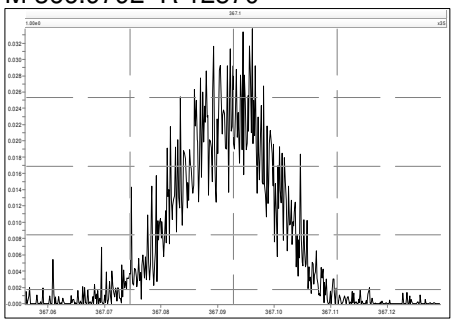
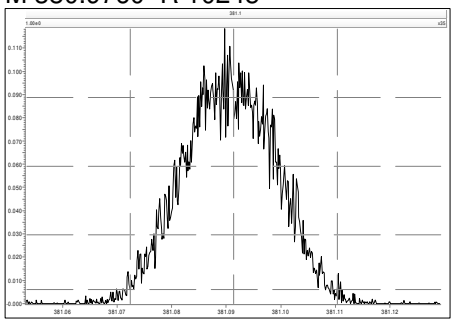


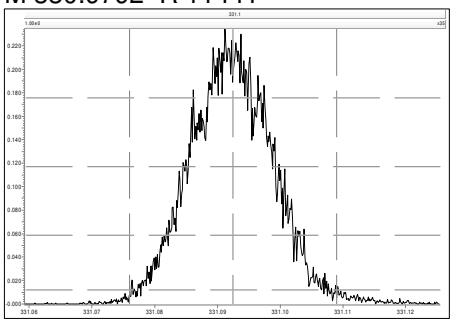
M 366.9792 R 12570



M 380.9760 R 10245



M 330.9792 R 11441



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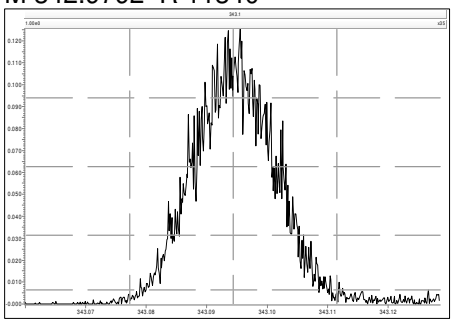

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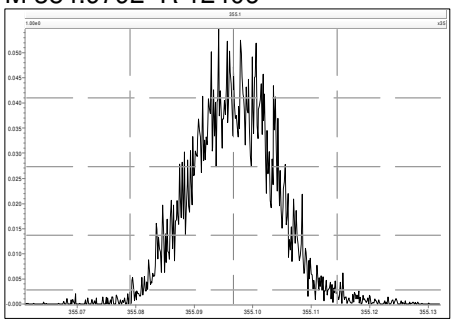

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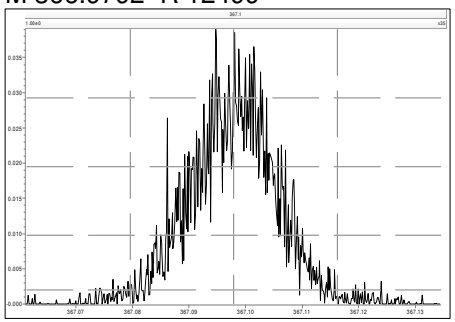
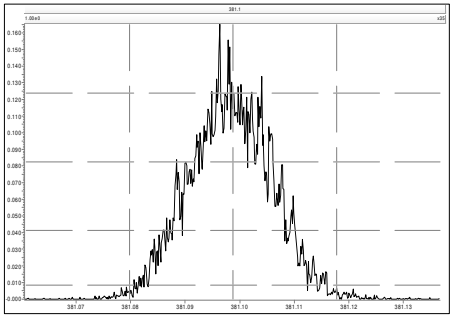
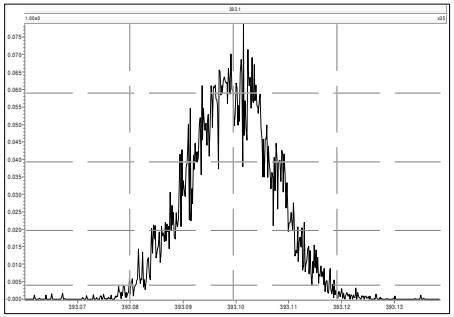


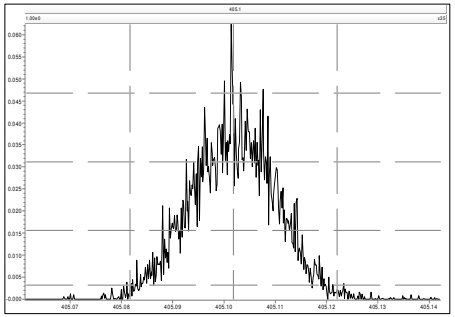
M 380.9760 R 12329



M 392.9760 R 11468



M 404.9760 R 11441



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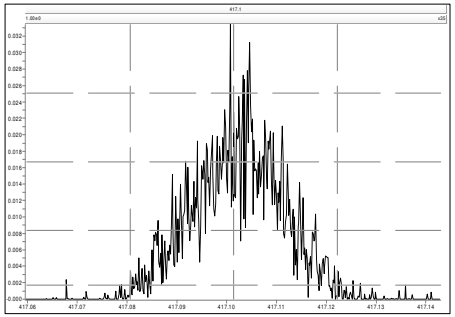
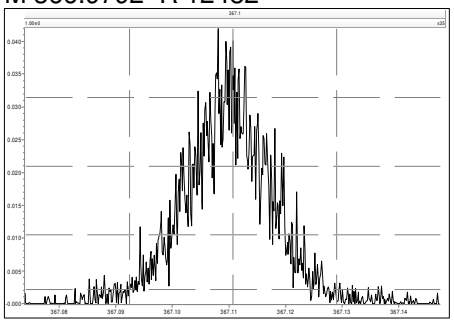


M 366.9792 R 12482



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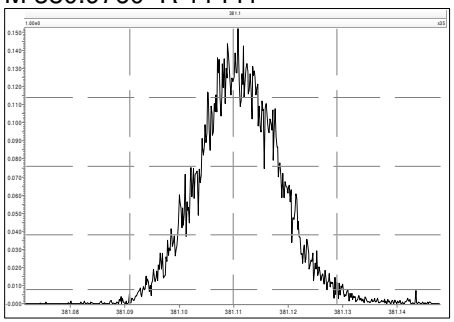

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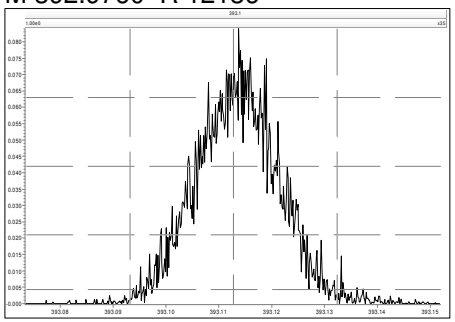

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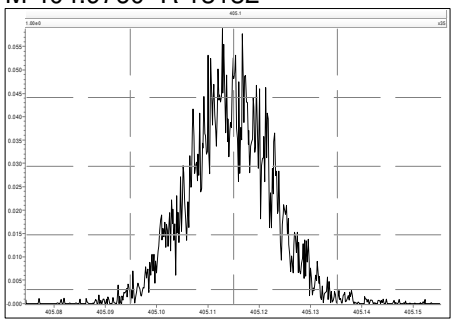

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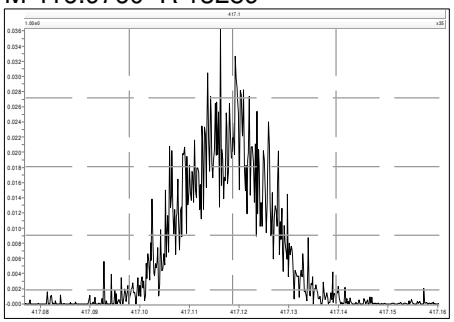
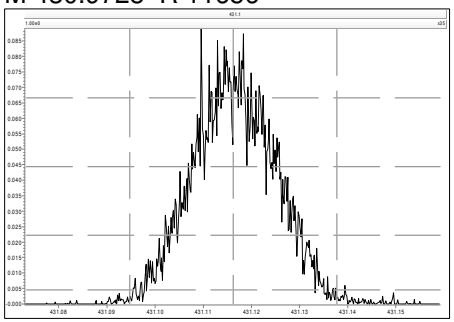
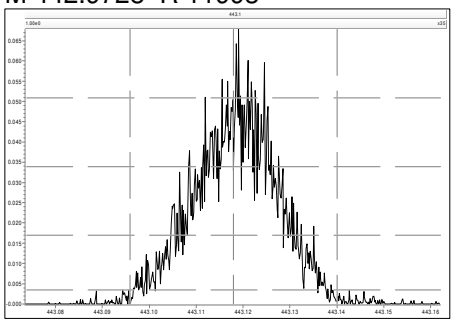


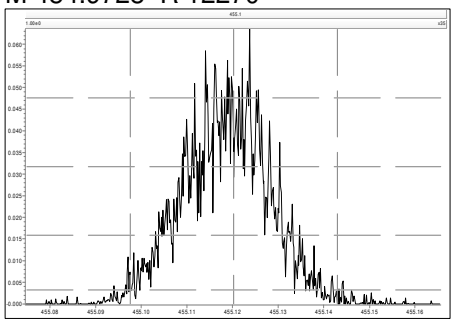
M 430.9728 R 11656



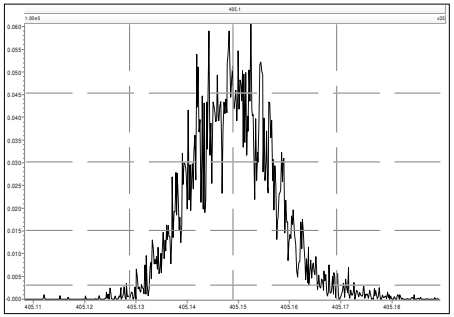
M 442.9728 R 11993



M 454.9728 R 12270



M 404.9760 R 12908



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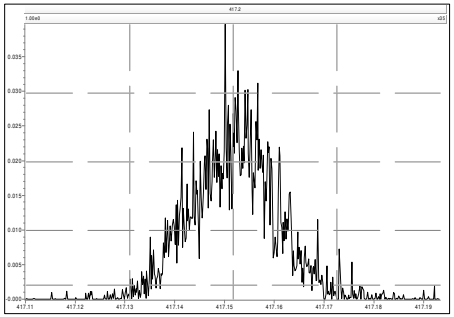

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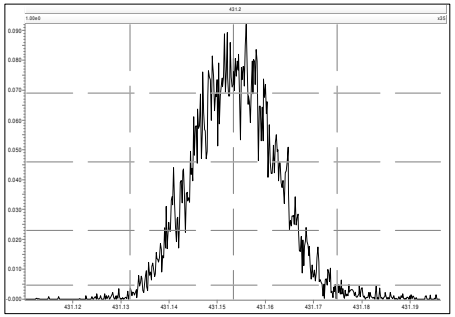
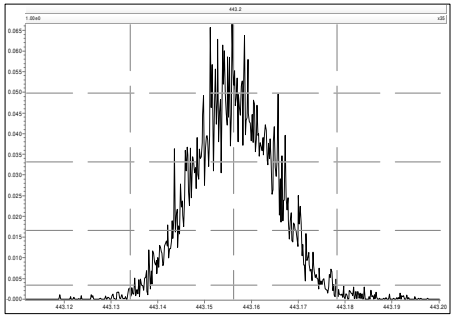
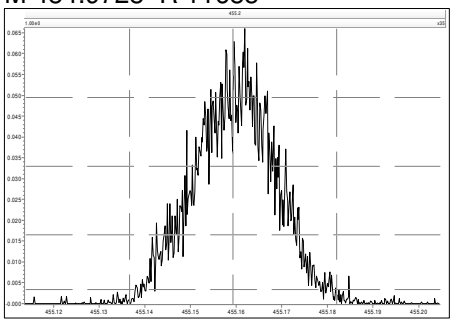


M 442.9728 R 12136



M 454.9728 R 11685



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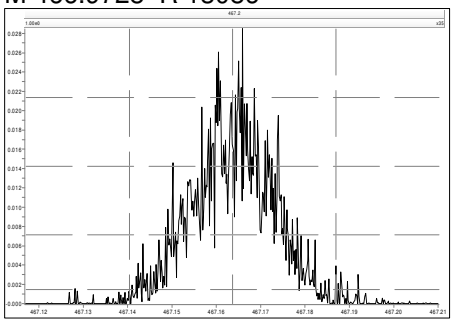

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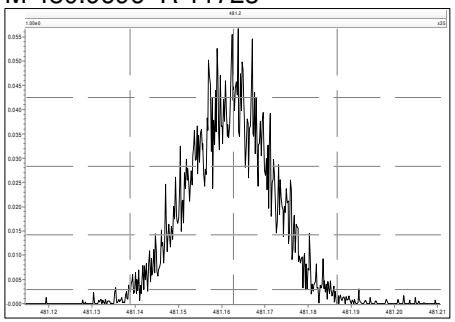
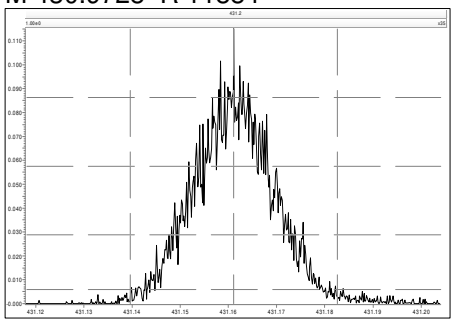
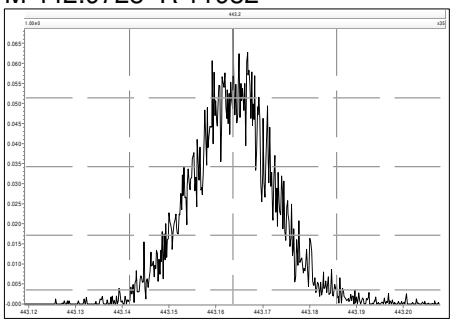


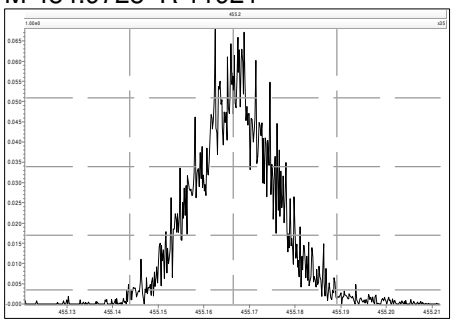
M 430.9728 R 11884



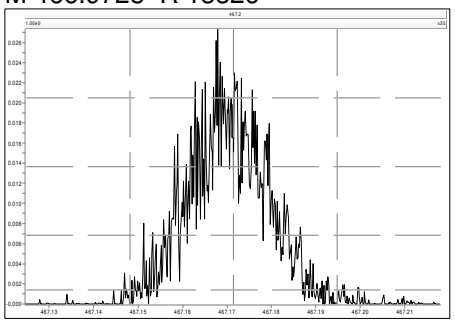
M 442.9728 R 11932



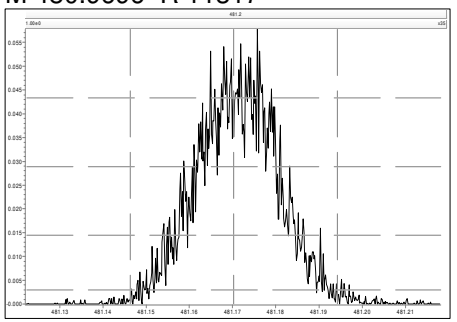
M 454.9728 R 11921



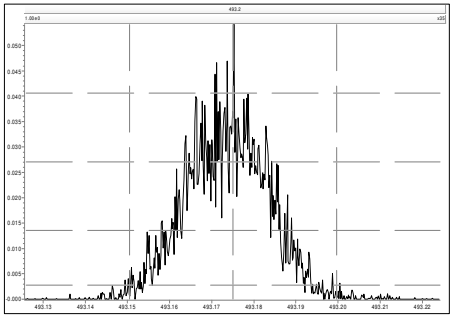
M 466.9728 R 13826



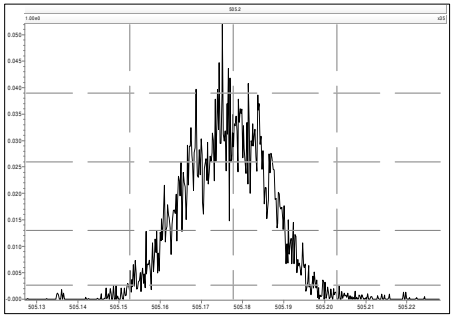
M 480.9696 R 11317



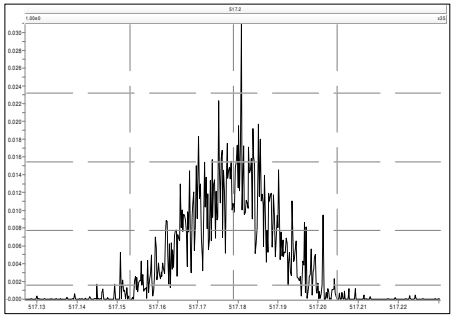
M 492.9696 R 12853



M 504.9696 R 12908



M 516.9697 R 14044



Dioxin/Furan ICAL Summary — SGS North America — Processed: 27 Jul 2021 15:01

ICAL: MM3_DF_10272021_27JUL2021
Data Acquired: 27-Jul-2021

Name	Mean	% RSD	210727R02 0.25 pg/uL CS0	210727R03 0.5 pg/uL CS1	210727R04 2 pg/uL CS2	210727R05 10 pg/uL CS3	210727R06 40 pg/uL CS4	210727R07 200 pg/uL CS5	210727R08 500 pg/uL CS6
2378-TCDD	1.34	4.7%	1.45 ✓	1.34	1.26	1.32	1.30	1.35	1.39
12378-PeCDD	1.06	2.0%	1.09	1.07	1.02	1.05	1.06	1.07	1.05
123478-HxCDD	1.06	3.3%	1.10	1.10	0.99	1.05	1.05	1.06	1.05
123678-HxCDD	1.08	2.9%	1.12	1.07	1.02 ✓	1.08	1.10	1.10	1.09
123789-HxCDD	1.02	4.8%	1.10	1.05	0.95	0.99	0.99	1.01	1.00
1234678-HpCDD	0.97	4.1%	1.05	0.95	0.92	0.95	0.98	0.98	1.00
OCDD	1.07	4.2%	1.15	1.04	1.01	1.07	1.08 ✓	1.06	1.08
2378-TCDF	0.96	3.7%	1.01	0.94	0.90	0.95	0.96	0.97	0.99
12378-PeCDF	0.95	3.2%	1.00	0.94	0.90	0.94	0.95	0.93	0.96
23478-PeCDF	0.94	3.7%	0.99	0.90 ✓	0.90	0.92	0.93	0.96	0.96
123478-HxCDF	1.23	3.3%	1.32	1.23	1.19	1.22	1.24	1.24	1.22
123678-HxCDF	1.13	3.0%	1.17	1.16	1.07	1.10	1.13	1.14	1.14
234678-HxCDF	1.15	4.2%	1.23	1.19	1.08	1.14	1.13	1.15	1.15
123789-HxCDF	1.14	3.5%	1.19	1.08	1.09	1.14	1.14	1.15	1.16 ✓
1234678-HpCDF	1.36	3.6%	1.46	1.35	1.31	1.34 ✓	1.33	1.37	1.36
1234789-HpCDF	1.30	4.0%	1.34	1.20	1.26	1.34	1.30	1.35	1.33
OCDF	1.03	4.1%	1.01	1.01	0.95	1.03	1.05	1.06 ✓	1.08
ES 2378-TCDD	1.03	1.7%	1.02	1.02	1.02	1.05	1.06	1.04	1.02
ES 12378-PeCDD	1.03	3.5%	1.01	1.02	0.99	1.01	1.03	1.07	1.10
ES 123478-HxCDD	0.99	4.4%	0.97	0.93	0.99	1.00	0.98	1.03	1.07
ES 123678-HxCDD	0.97	5.2%	0.94	0.91	0.95	1.01	0.94	1.02	1.05
ES 123789-HxCDD	1.12	5.1%	1.09	1.04	1.12	1.14	1.09	1.17	1.22
ES 1234678-HpCDD	0.99	5.2%	0.95	0.92	0.98	1.02	0.97	1.05	1.06
ES OCDD	0.78	8.4%	0.73	0.71	0.74	0.77	0.75	0.85	0.89
ES 2378-TCDF	1.08	1.2%	1.06	1.08	1.07 ✓	1.09	1.09	1.08	1.10
ES 12378-PeCDF	0.93	2.7%	0.91	0.91	0.92	0.93	0.95	0.95	0.98
ES 23478-PeCDF	0.92	2.4%	0.90	0.91	0.90	0.93	0.93	0.93	0.96
ES 123478-HxCDF	1.14	5.9%	1.09	1.04	1.13	1.18	1.12	1.21	1.23
ES 123678-HxCDF	1.30	4.9%	1.24	1.21	1.27	1.35	1.27	1.36	1.37
ES 234678-HxCDF	1.20	4.9%	1.14	1.12	1.18	1.23	1.20	1.27	1.27
ES 123789-HxCDF	1.14	5.9%	1.06	1.07	1.11	1.16	1.12	1.20	1.24
ES 1234678-HpCDF	0.95	5.7%	0.90	0.88	0.92	0.98	0.94	1.00	1.03
ES 1234789-HpCDF	0.85	7.0%	0.79	0.78	0.82	0.86	0.83	0.90	0.94
ES OCDF	0.93	8.9%	0.86	0.83	0.88	0.93	0.90	1.01	1.06

Dioxin/Furan ICAL Summary			SGS North America					Processed: 27 Jul 2021 15:01	
ICAL: MM3_DF_10272021_27JUL2021									
Data Acquired: 27-Jul-2021			210727R02	210727R03	210727R04	210727R05	210727R06	210727R07	210727R08
			0.25 pg/uL	**0.5 pg/uL**	**2 pg/uL**	**10 pg/uL**	**40 pg/uL**	**200 pg/uL**	**500 pg/uL**
Name	**Mean**	**% RSD**	**CS0**	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**
CS 37Cl-2378-TCDD	1.31	2.3%	-	1.32	1.27	1.30	1.31	1.35	-
CS 12347-PeCDD	0.89	2.1%	0.89	0.91	0.88	0.87	0.93	0.88	0.89
CS 12346-PeCDF	0.87	1.7%	0.86	0.88	0.86	0.89	0.88	0.86	0.85
CS 123469-HxCDF	1.09	2.8%	1.06	1.04	1.08	1.14	1.09	1.12	1.09
CS 1234689-HpCDF	0.86	3.3%	0.86	0.84	0.86	0.92	0.86	0.86	0.84
SS 37Cl-2378-TCDD	1.26	2.3%	-	1.29	1.25	1.24	1.23	1.29	-
SS 12347-PeCDD	0.86	4.0%	0.88	0.89	0.89	0.86	0.90	0.82 ✓	0.81
SS 12346-PeCDF	0.93	3.5%	0.94	0.97	0.93	0.96	0.93	0.91	0.87
SS 123469-HxCDF	0.84	2.8%	0.86	0.86	0.85	0.84	0.86	0.82	0.80
SS 1234689-HpCDF	0.91	6.0%	0.96	0.96	0.94	0.94	0.92	0.86	0.81
AS 1368-TCDD	1.02	0.7%	1.01	1.03	1.02	1.02 ✓	1.02	1.04	1.02
AS 1368-TCDF	1.08	1.9%	1.05	1.06	1.07	1.10	1.09	1.10	1.07
~~OCDD-a~~	~~0.07~~	~~7.2%~~	~~0.06~~	~~0.08~~	~~0.07~~	~~0.07~~	~~0.07~~	~~0.06~~	~~0.07~~
~~OCDF-a~~	~~0.06~~	~~7.0%~~	~~0.05~~	~~0.06~~	~~0.05~~	~~0.06~~	~~0.06~~	~~0.06~~	~~0.06~~
Not reported from this ICAL - CL 28Jul21									
Totals									
Total TCDD	1.34	4.7%	1.45	1.34	1.26	1.32	1.30	1.35	1.39
Total PeCDD	1.06	2.0%	1.09	1.07	1.02	1.05	1.06	1.07	1.05
Total HxCDD	1.05	3.3%	1.11	1.07	0.99	1.04	1.05	1.06	1.05
Total HpCDD	0.97	4.1%	1.05	0.95	0.92	0.95	0.98	0.98	1.00
Total TCDF	0.96	3.7%	1.01	0.94	0.90	0.95	0.96	0.97	0.99
Total PeCDF	0.94	3.3%	1.00	0.92	0.90	0.93	0.94	0.95	0.96
Total HxCDF	1.16	3.1%	1.23	1.16	1.11	1.15	1.16	1.17	1.17
Total HpCDF	1.33	3.2%	1.40	1.28	1.28	1.34	1.32	1.36	1.34
FS 1278-TCDD	1.08	0.7%	1.08	1.08	1.09	1.08	1.08	1.08	1.10
FS 12478-PeCDD	1.09	3.7%	1.10	1.10 ✓	1.12	1.13	1.13	1.07	1.01
FS 123468-HxCDD	1.26	4.2%	1.27	1.30	1.28	1.32	1.28	1.24	1.16
FS 1234679-HpCDD	1.36	5.0%	1.41	1.37	1.38	1.42	1.38 ✓	1.30	1.23
TS 1378-TCDD	1.35	2.3%	1.36 ✓	1.38	1.36	1.31	1.30	1.35	1.37

Instrument: MM3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
1	210727R01	2	SBS_210727_DF_RA	1.00	SIL 20-61-1	PSW	638-037	27-Jul-2021	08:17:39
2	210727R02	85	CS0_210727_DF_RA	1.00	SIL 25-6-3	PSW	693-472	27-Jul-2021	09:04:23
3	210727R03	86	CS1_210727_DF_RA	1.00	SIL 25-6-2	PSW	554-132	27-Jul-2021	09:54:34
4	210727R04	87	CS2_210727_DF_RA	1.00	SIL 25-6-1	PSW	377-233	27-Jul-2021	10:44:24
5	210727R05	3	CS3_210727_DF_RA	1.00	SIL 23-672-1	PSW	230-891	27-Jul-2021	11:32:33
6	210727R06	88	CS4_210727_DF_RA	1.00	SIL 25-5-4	PSW	602-590	27-Jul-2021	12:19:16
7	210727R07	89	CS5_210727_DF_RA	1.00	SIL 25-5-3	PSW	147-553	27-Jul-2021	13:09:36
8	210727R08	90	CS6_210727_DF_RA	1.00	SIL 25-5-2	PSW	783-472	27-Jul-2021	13:58:27

Alternate OCDD/OCDF - NR in this ICAL. CL 28Jul21

REVIEWED
paul_walton , 7/28/2021, 8:31:00 AM

APPROVED
Carla_Lyon , 7/28/2021, 12:25:08 PM

Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

Dioxin/Furan STD Association	SGS Environmental Services

Individual Native Standards

2378-TCDD	ES 2378-TCDD
12378-PeCDD	ES 12378-PeCDD
123478-HxCDD	ES 123478-HxCDD
123678-HxCDD	ES 123678-HxCDD
123789-HxCDD	ES 123789-HxCDD
1234678-HpCDD	ES 1234678-HpCDD
OCDD	ES OCDD
2378-TCDF	ES 2378-TCDF
12378-PeCDF	ES 12378-PeCDF
23478-PeCDF	ES 23478-PeCDF
123478-HxCDF	ES 123478-HxCDF
123678-HxCDF	ES 123678-HxCDF
234678-HxCDF	ES 234678-HxCDF
123789-HxCDF	ES 123789-HxCDF
1234678-HpCDF	ES 1234678-HpCDF
1234789-HpCDF	ES 1234789-HpCDF
OCDF	ES OCDF

Cleanup/Sampling Standards

CS 37Cl-2378-TCDD	1234 TCDD 13C12
CS 12347-PeCDD	1234 TCDD 13C12
CS 12346-PeCDF	1234 TCDF 13C12
CS 123469-HxCDF	123467 HxCDD 13C12
CS 1234689-HpCDF	123467 HxCDD 13C12

Alternate Standards

AS 1368-TCDD	1234 TCDD 13C12
AS 1368-TCDF	1234 TCDF 13C12

Shipping Standards

FS 1278-TCDD	ES 2378-TCDD
FS 12478-PeCDD	ES 12378-PeCDD
FS 123468-HxCDD	ES 123478-HxCDD
FS 1234679-HpCDD	ES 1234678-HpCDD
TS 1378-TCDD	ES 2378-TCDD

Extraction Standards

ES 2378-TCDD	1234 TCDD 13C12
ES 12378-PeCDD	1234 TCDD 13C12
ES 123478-HxCDD	123467 HxCDD 13C12
ES 123678-HxCDD	123467 HxCDD 13C12
ES 123789-HxCDD	123467 HxCDD 13C12
ES 1234678-HpCDD	123467 HxCDD 13C12
ES OCDD	123467 HxCDD 13C12
ES 2378-TCDF	1234 TCDF 13C12
ES 12378-PeCDF	1234 TCDF 13C12
ES 23478-PeCDF	1234 TCDF 13C12
ES 123478-HxCDF	123467 HxCDD 13C12
ES 123678-HxCDF	123467 HxCDD 13C12
ES 234678-HxCDF	123467 HxCDD 13C12
ES 123789-HxCDF	123467 HxCDD 13C12
ES 1234678-HpCDF	123467 HxCDD 13C12
ES 1234789-HpCDF	123467 HxCDD 13C12
ES OCDF	123467 HxCDD 13C12

Injection Standards

1234 TCDD 13C12
1234 TCDF 13C12
123467 HxCDD 13C12

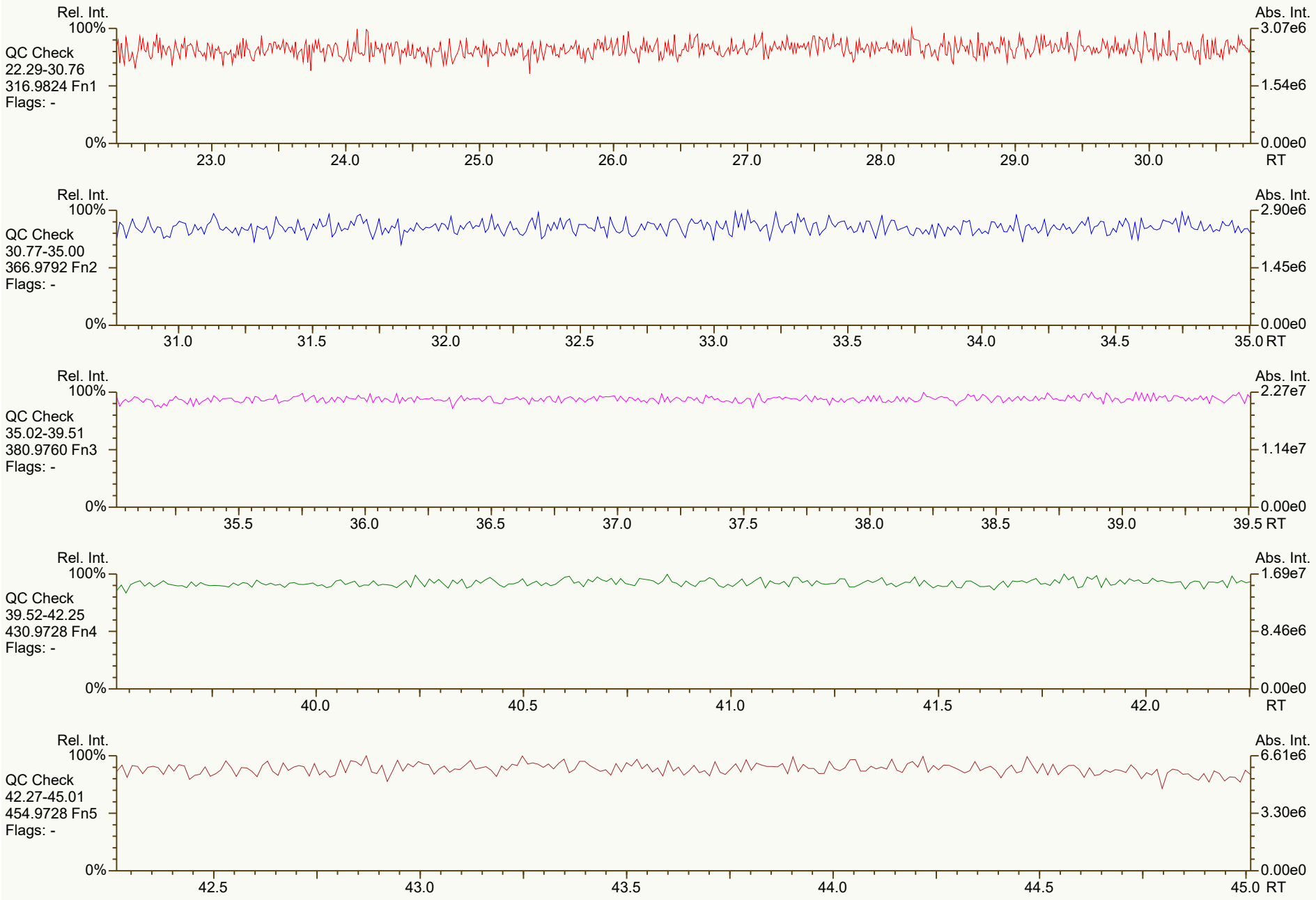
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 09:04 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS0_210727_DF_RA	UTP: 27-Jul-2021 15:00:19 PSW	Checkcode: 693-472-SFB
Sample ID: SIL 25-6-3	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R02

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.52	6.43E+05	0.73	Y	1.34	1.45	8%
12378-PeCDD	33.80	2.41E+06	1.48	Y	1.06	1.09	3%
123478-HxCDD	37.67	2.24E+06	1.35	Y	1.06	1.10	4%
123678-HxCDD	37.78	2.20E+06	1.31	Y	1.08	1.12	3%
123789-HxCDD	38.07	2.52E+06	1.21	Y	1.02	1.10	9%
1234678-HpCDD	40.66	2.08E+06	0.99	Y	0.97	1.05	7%
OCDD	43.22	3.52E+06	0.85	Y	1.07	1.15	8%
2378-TCDF	27.66	7.49E+05	0.72	Y	0.96	1.01	5%
12378-PeCDF	32.38	3.19E+06	1.44	Y	0.95	1.00	5%
23478-PeCDF	33.46	3.11E+06	1.57	Y	0.94	0.99	6%
123478-HxCDF	36.68	3.00E+06	1.23	Y	1.23	1.32	7%
123678-HxCDF	36.82	3.05E+06	1.18	Y	1.13	1.17	4%
234678-HxCDF	37.49	2.95E+06	1.17	Y	1.15	1.23	7%
123789-HxCDF	38.42	2.65E+06	1.30	Y	1.14	1.19	5%
1234678-HpCDF	39.76	2.75E+06	1.00	Y	1.36	1.46	7%
1234789-HpCDF	41.10	2.20E+06	1.11	Y	1.30	1.34	3%
OCDF	43.40	3.66E+06	0.85	Y	1.03	1.01	-1%
ES 2378-TCDD	28.50	1.77E+08	0.79	Y	1.03	1.02	-2%
ES 12378-PeCDD	33.781	1.77E+08	1.63	Y	1.03	1.01	-2%
ES 123478-HxCDD	37.653	1.63E+08	1.26	Y	0.99	0.97	-2%
ES 123678-HxCDD	37.766	1.57E+08	1.27	Y	0.97	0.94	-3%
ES 123789-HxCDD	38.056	1.82E+08	1.26	Y	1.12	1.09	-3%
ES 1234678-HpCDD	40.643	1.59E+08	1.05	Y	0.99	0.95	-4%
ES OCDD	43.205	2.44E+08	0.92	Y	0.78	0.73	-6%
ES 2378-TCDF	27.645	2.97E+08	0.78	Y	1.08	1.06	-2%
ES 12378-PeCDF	32.355	2.55E+08	1.55	Y	0.93	0.91	-2%
ES 23478-PeCDF	33.445	2.50E+08	1.56	Y	0.92	0.90	-3%
ES 123478-HxCDF	36.661	1.82E+08	0.53	Y	1.14	1.09	-5%
ES 123678-HxCDF	36.801	2.08E+08	0.53	Y	1.30	1.24	-4%
ES 234678-HxCDF	37.466	1.92E+08	0.53	Y	1.20	1.14	-5%
ES 123789-HxCDF	38.399	1.78E+08	0.52	Y	1.14	1.06	-7%
ES 1234678-HpCDF	39.748	1.51E+08	0.44	Y	0.95	0.90	-5%
ES 1234789-HpCDF	41.09	1.32E+08	0.45	Y	0.85	0.79	-7%
ES OCDF	43.389	2.89E+08	0.89	Y	0.93	0.86	-7%

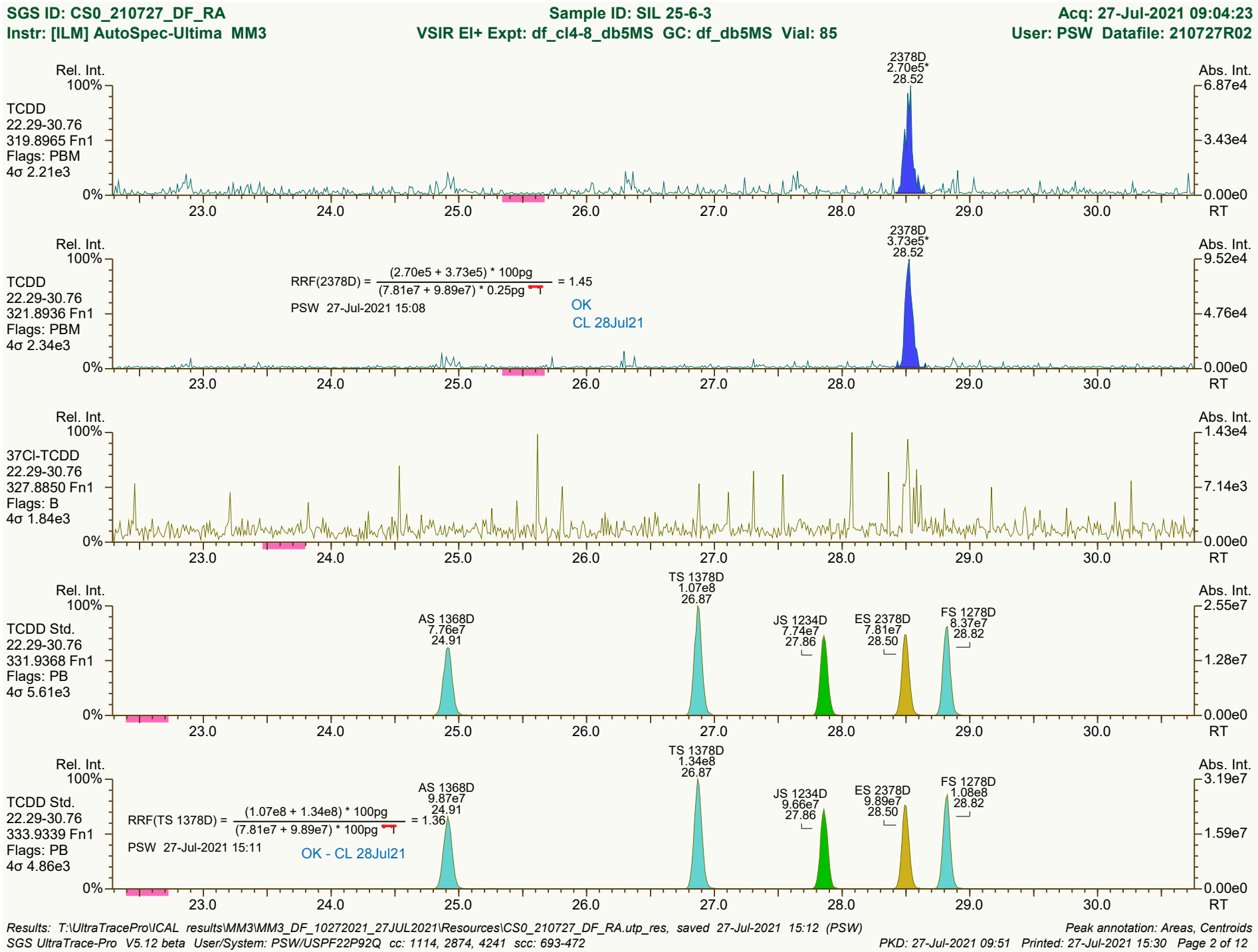
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 09:04 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS0_210727_DF_RA	UTP: 27-Jul-2021 15:00:19 PSW	Checkcode: 693-472-SFB
Sample ID: SIL 25-6-3	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R02

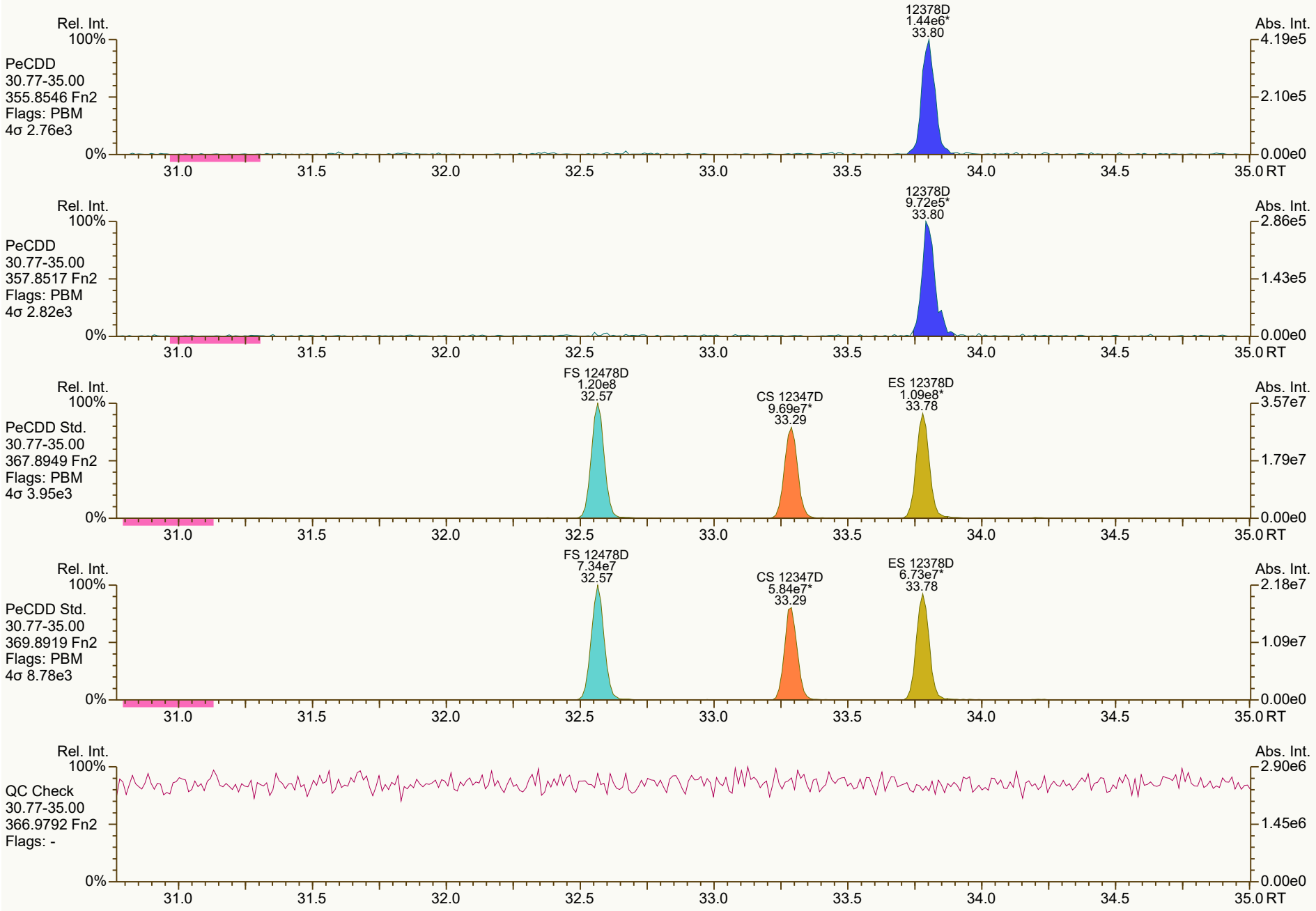
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.86	1.74E+08	0.80	Y	-	-	-
JS 1234-TCDF	26.33	2.80E+08	0.79	Y	-	-	-
JS 123467-HxCDD	37.96	8.38E+07	1.33	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.31		
CS 12347-PeCDD	33.29	1.55E+08	1.66	Y	0.89	0.89	0%
CS 12346-PeCDF	31.84	2.41E+08	1.54	Y	0.87	0.86	-1%
CS 123469-HxCDF	37.12	1.78E+08	0.52	Y	1.09	1.06	-2%
CS 1234689-HpCDF	40.13	1.44E+08	0.45	Y	0.86	0.86	-1%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.26		
SS 12347-PeCDD	33.29	1.55E+08	1.66	Y	0.86	0.88	2%
SS 12346-PeCDF	31.84	2.41E+08	1.54	Y	0.93	0.94	2%
SS 123469-HxCDF	37.12	1.78E+08	0.52	Y	0.84	0.86	2%
SS 1234689-HpCDF	40.13	1.44E+08	0.45	Y	0.91	0.96	5%
AS 1368-TCDD	24.91	1.76E+08	0.79	Y	1.02	1.01	-1%
AS 1368-TCDF	22.86	2.95E+08	0.78	Y	1.08	1.05	-2%
FS 1278-TCDD	28.82	1.91E+08	0.78	Y	1.08	1.08	0%
FS 12478-PeCDD	32.57	1.94E+08	1.64	Y	1.09	1.10	0%
FS 123468-HxCDD	36.58	2.07E+08	1.26	Y	1.26	1.27	0%
FS 1234679-HpCDD	39.99	2.24E+08	1.06	Y	1.36	1.41	4%
TS 1378-TCDD	26.87	2.41E+08	0.79	Y	1.35	1.36	1%
~~OCDD-a~~	~~43.22~~	~~1.80E+05~~	~~0.99~~	~~N~~	~~0.07~~	~~0.06~~	~~-11%~~
~~OCDF-a~~	~~43.41~~	~~1.98E+05~~	~~2.81~~	~~Y~~	~~0.06~~	~~0.05~~	~~-7%~~

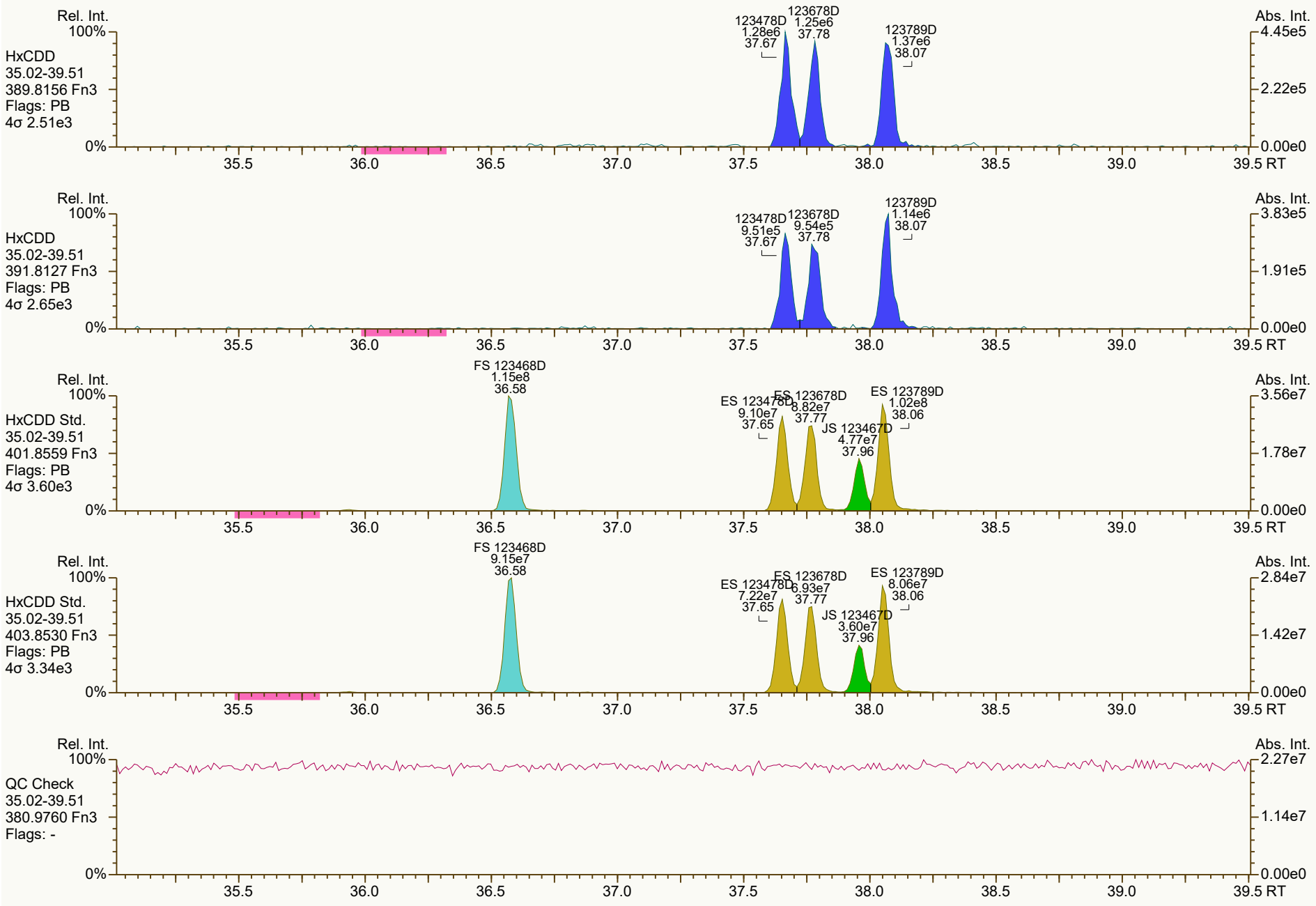
Not reported from this ICAL - CL 28Jul21

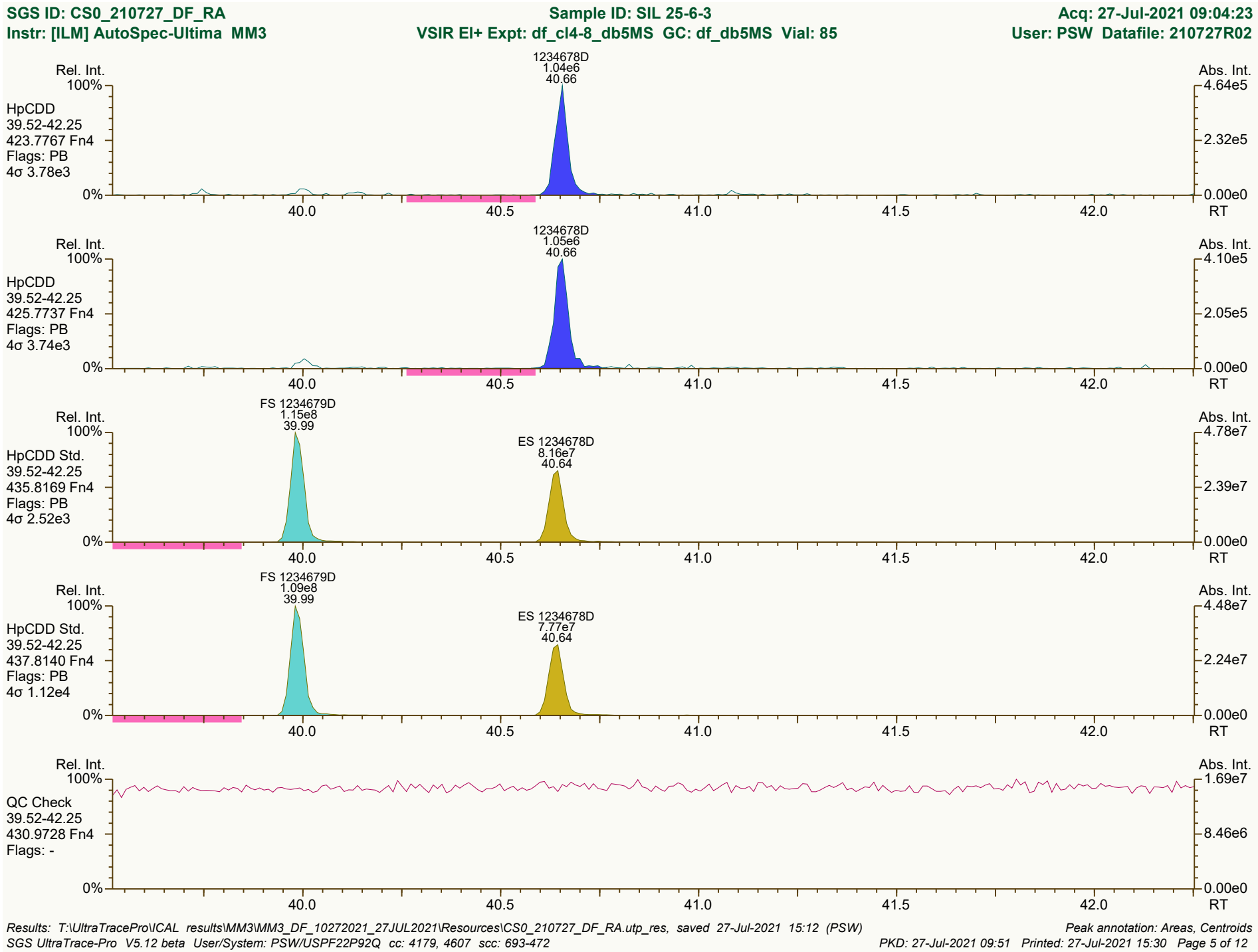


Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q scc: 693-472
PKD: n/a Printed: 27-Jul-2021 15:30 Page 1 of 12

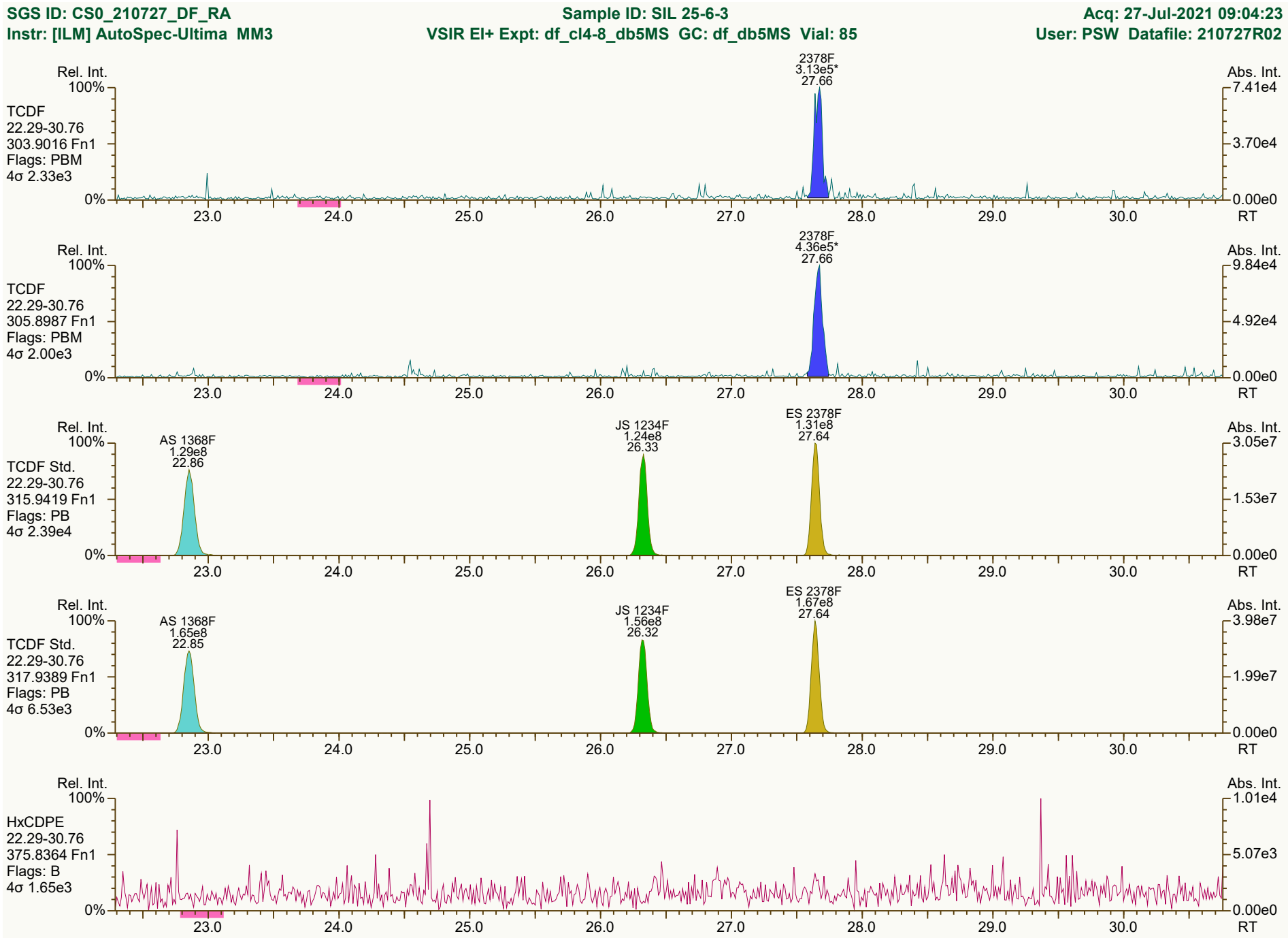

SGS ID: CS0_210727_DF_RA
Sample ID: SIL 25-6-3
Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: PSW Datafile: 210727R02
Rel. Int.
Abs. Int.
TCDD
22.29-30.76
319.8965 Fn1
Flags: PBM
4σ 2.21e3
2378D
2.70e5*
28.52
6.87e4
3.43e4
0.00e0
RT
TCDD
22.29-30.76
321.8936 Fn1
Flags: PBM
4σ 2.34e3
RRF(2378D) = (2.70e5 + 3.73e5) * 100pg / (7.81e7 + 9.89e7) * 0.25pg = 1.45
PSW 27-Jul-2021 15:08
OK
CL 28Jul21
2378D
3.73e5*
28.52
9.52e4
4.76e4
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: B
4σ 1.84e3
1.43e4
7.14e3
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 5.61e3
AS 1368D
7.76e7
24.91
TS 1378D
1.07e8
26.87
JS 1234D
7.74e7
27.86
ES 2378D
7.81e7
28.50
FS 1278D
8.37e7
28.82
2.55e7
1.28e7
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 4.86e3
RRF(TS 1378D) = (1.07e8 + 1.34e8) * 100pg / (7.81e7 + 9.89e7) * 100pg = 1.36
PSW 27-Jul-2021 15:11
OK - CL 28Jul21
AS 1368D
9.87e7
24.91
TS 1378D
1.34e8
26.87
JS 1234D
9.66e7
27.86
ES 2378D
9.89e7
28.50
FS 1278D
1.08e8
28.82
3.19e7
1.59e7
0%
100%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1114, 2874, 4241 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 2 of 12


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PBM
4σ 2.76e3
0%
12378D
1.44e6*
33.80
Abs. Int.
4.19e5
2.10e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PBM
4σ 2.82e3
0%
12378D
9.72e5*
33.80
Abs. Int.
2.86e5
1.43e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PBM
4σ 3.95e3
0%
FS 12478D
1.20e8
32.57
CS 12347D
9.69e7*
33.29
ES 12378D
1.09e8*
33.78
Abs. Int.
3.57e7
1.79e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PBM
4σ 8.78e3
0%
FS 12478D
7.34e7
32.57
CS 12347D
5.84e7*
33.29
ES 12378D
6.73e7*
33.78
Abs. Int.
2.18e7
1.09e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.90e6
1.45e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

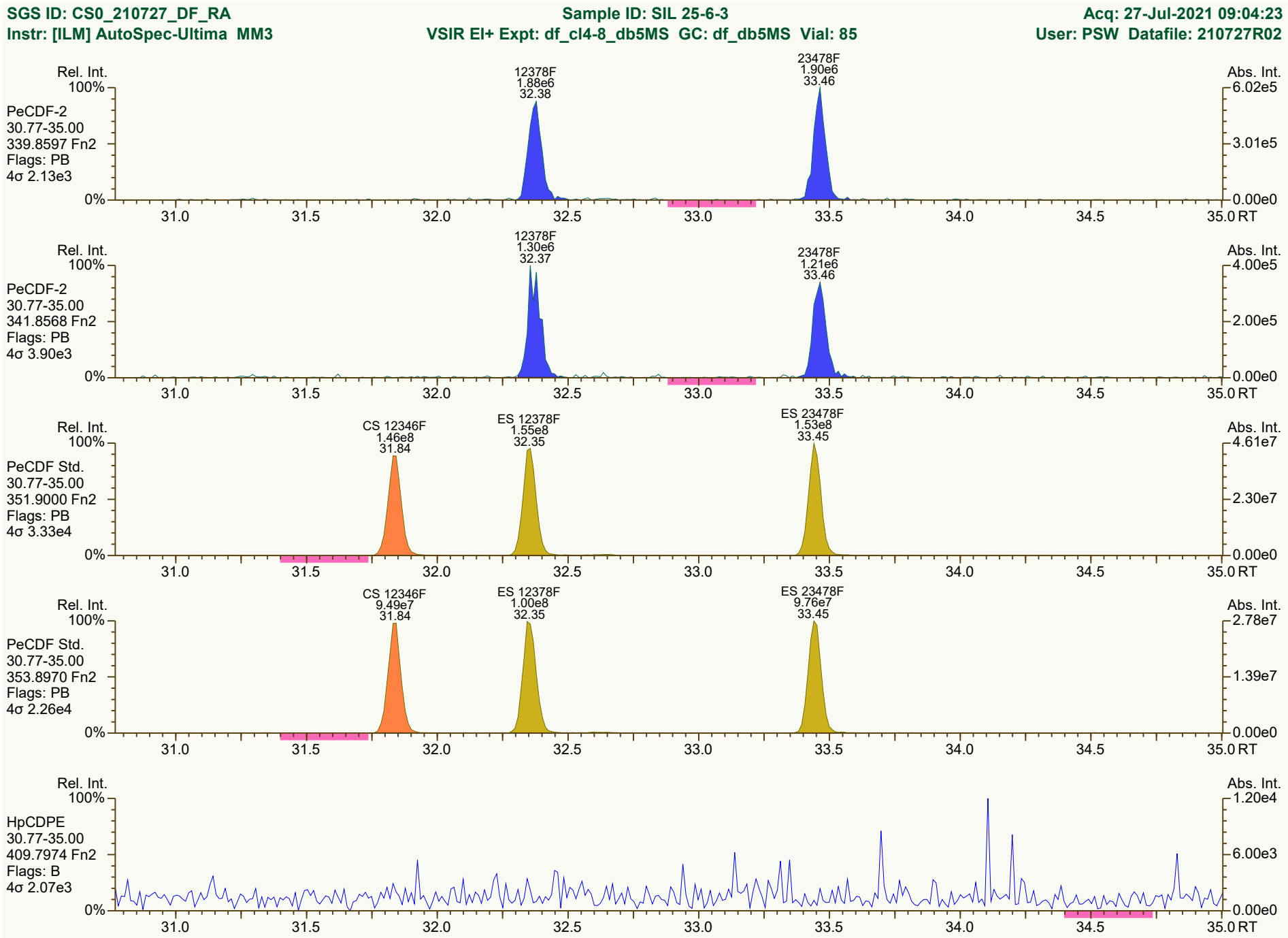

Rel. Int.
Abs. Int.
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.51e3
123478D 1.28e6 37.67
123678D 1.25e6 37.78
123789D 1.37e6 38.07
4.45e5
2.22e5
0.00e0
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.65e3
123478D 9.51e5 37.67
123678D 9.54e5 37.78
123789D 1.14e6 38.07
3.83e5
1.91e5
0.00e0
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PB
4σ 3.60e3
FS 123468D 1.15e8 36.58
ES 123478D 9.10e7 37.65
ES 123678D 8.82e7 37.77
JS 123467D 4.77e7 37.96
ES 123789D 1.02e8 38.06
3.56e7
1.78e7
0.00e0
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PB
4σ 3.34e3
FS 123468D 9.15e7 36.58
ES 123478D 7.22e7 37.65
ES 123678D 6.93e7 37.77
JS 123467D 3.60e7 37.96
ES 123789D 8.06e7 38.06
2.84e7
1.42e7
0.00e0
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
2.27e7
1.14e7
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


SGS ID: CS0_210727_DF_RA
Sample ID: SIL 25-6-3
Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: PSW Datafile: 210727R02
Rel. Int.
Abs. Int.
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 3.78e3
1234678D
1.04e6
40.66
4.64e5
2.32e5
0.00e0
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 3.74e3
1234678D
1.05e6
40.66
4.10e5
2.05e5
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 2.52e3
FS 1234679D
1.15e8
39.99
ES 1234678D
8.16e7
40.64
4.78e7
2.39e7
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 1.12e4
FS 1234679D
1.09e8
39.99
ES 1234678D
7.77e7
40.64
4.48e7
2.24e7
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
1.69e7
8.46e6
100%
0%
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 4179, 4607 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 5 of 12

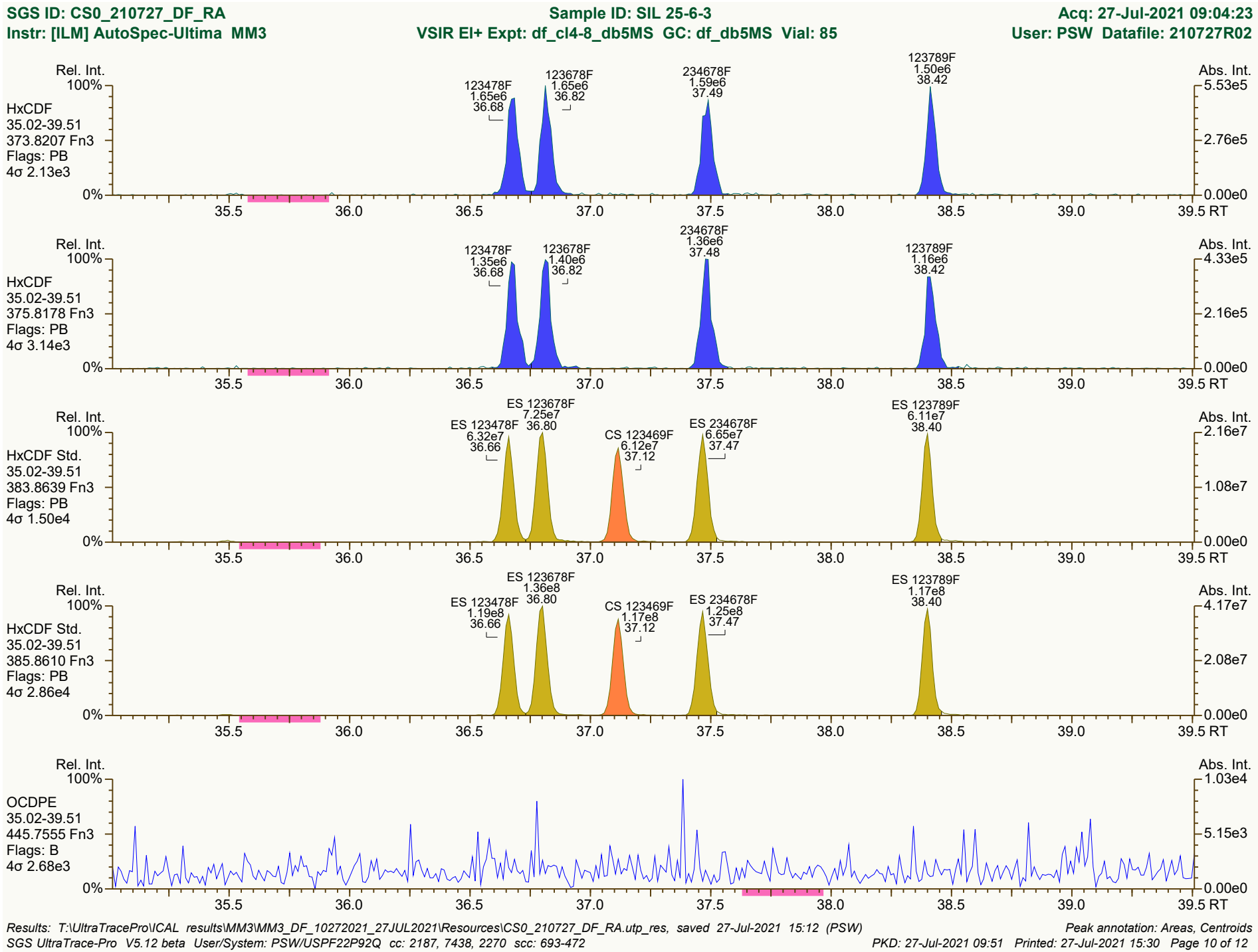

OCDD
1.61e6
43.21
Rel. Int.
100%
OCDD
42.27-45.01
457.7377 Fn5
Flags: PB
4σ 2.80e3
0%
Abs. Int.
5.57e5
2.78e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e6
43.22
Rel. Int.
100%
OCDD
42.27-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
Abs. Int.
5.93e5
2.96e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.17e8*
43.21
Rel. Int.
100%
OCDD Std.
42.27-45.01
469.7780 Fn5
Flags: PBM
4σ 3.76e3
0%
Abs. Int.
3.80e7
1.90e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.27e8*
43.21
Rel. Int.
100%
OCDD Std.
42.27-45.01
471.7750 Fn5
Flags: PBM
4σ 3.92e3
0%
Abs. Int.
4.10e7
2.05e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.61e6
3.30e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: CS0_210727_DF_RA
Sample ID: SIL 25-6-3
Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: PSW Datafile: 210727R02
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PBM
4σ 2.33e3
2378F
3.13e5*
27.66
7.41e4
3.70e4
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PBM
4σ 2.00e3
2378F
4.36e5*
27.66
9.84e4
4.92e4
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 2.39e4
AS 1368F
1.29e8
22.86
JS 1234F
1.24e8
26.33
ES 2378F
1.31e8
27.64
3.05e7
1.53e7
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 6.53e3
AS 1368F
1.65e8
22.85
JS 1234F
1.56e8
26.32
ES 2378F
1.67e8
27.64
3.98e7
1.99e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 1.65e3
1.01e4
5.07e3
100%
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 3692, 2809, 0990 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
4.15e4
2.08e4
0.00e0
RT
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 2.62e3
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 1.94e3
2.30e4
1.15e4
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
3.07e6
1.54e6
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0



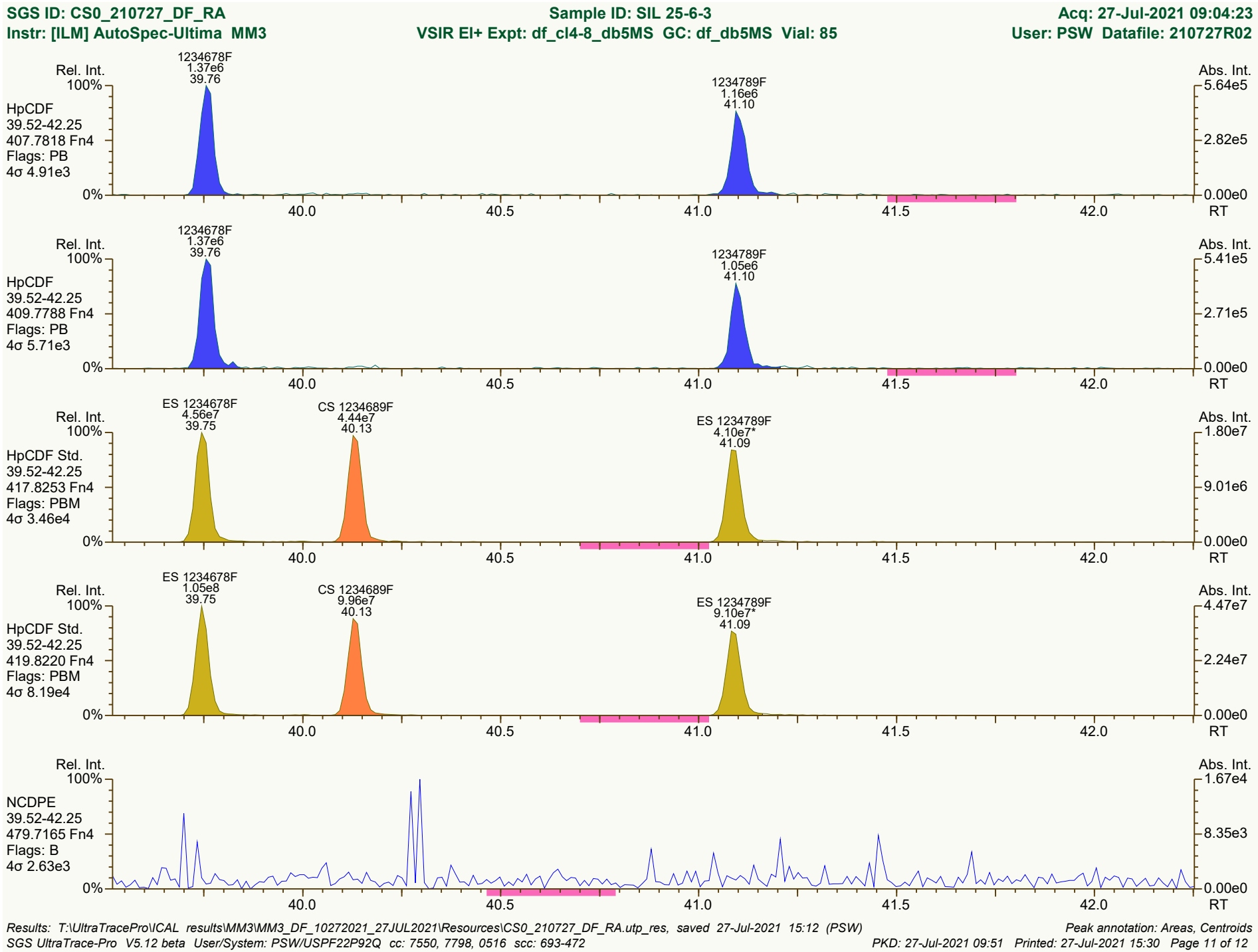
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 5157, 6421, 1573 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 9 of 12


SGS ID: CS0_210727_DF_RA
Sample ID: SIL 25-6-3
Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: PSW Datafile: 210727R02
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PB
4σ 2.13e3
123478F 1.65e6 36.68
123678F 1.65e6 36.82
234678F 1.59e6 37.49
123789F 1.50e6 38.42
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PB
4σ 3.14e3
123478F 1.35e6 36.68
123678F 1.40e6 36.82
234678F 1.36e6 37.48
123789F 1.16e6 38.42
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 1.50e4
ES 123478F 6.32e7 36.66
ES 123678F 7.25e7 36.80
CS 123469F 6.12e7 37.12
ES 234678F 6.65e7 37.47
ES 123789F 6.11e7 38.40
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 2.86e4
ES 123478F 1.19e8 36.66
ES 123678F 1.36e8 36.80
CS 123469F 1.17e8 37.12
ES 234678F 1.25e8 37.47
ES 123789F 1.17e8 38.40
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.68e3
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
5.53e5
2.76e5
0.00e0
4.33e5
2.16e5
2.16e7
1.08e7
4.17e7
2.08e7
1.03e4
5.15e3
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 2187, 7438, 2270 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 10 of 12

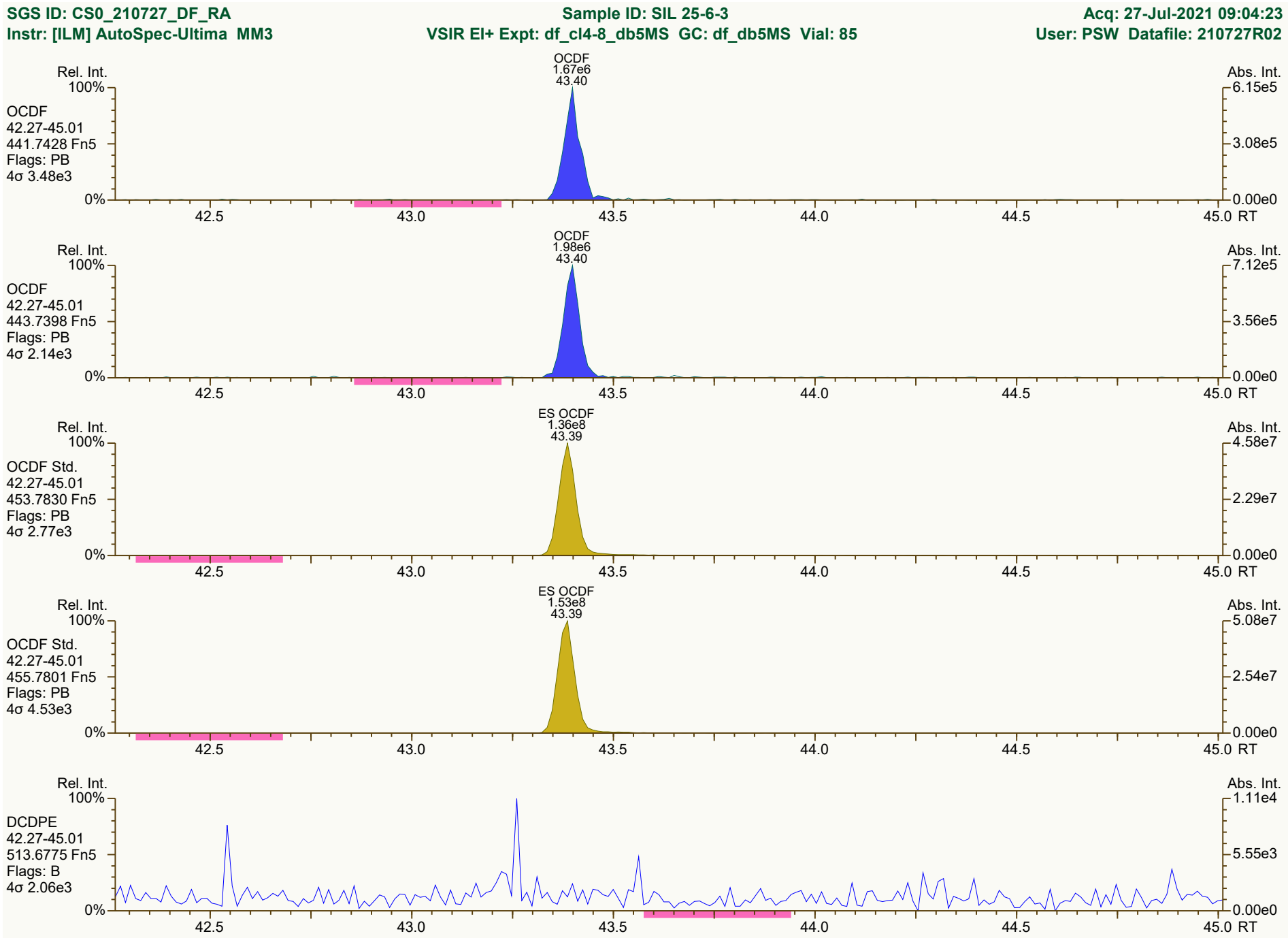
SGS ID: CS0_210727_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: SIL 25-6-3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85

Acq: 27-Jul-2021 09:04:23
User: PSW Datafile: 210727R02



Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 7550, 7798, 0516 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 11 of 12


SGS ID: CS0_210727_DF_RA
Sample ID: SIL 25-6-3
Acq: 27-Jul-2021 09:04:23
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 85
User: PSW Datafile: 210727R02
OCDF
1.67e6
43.40
Rel. Int.
100%
OCDF
42.27-45.01
441.7428 Fn5
Flags: PB
4σ 3.48e3
0%
Abs. Int.
6.15e5
3.08e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.98e6
43.40
Rel. Int.
100%
OCDF
42.27-45.01
443.7398 Fn5
Flags: PB
4σ 2.14e3
0%
Abs. Int.
7.12e5
3.56e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.36e8
43.39
Rel. Int.
100%
OCDF Std.
42.27-45.01
453.7830 Fn5
Flags: PB
4σ 2.77e3
0%
Abs. Int.
4.58e7
2.29e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.53e8
43.39
Rel. Int.
100%
OCDF Std.
42.27-45.01
455.7801 Fn5
Flags: PB
4σ 4.53e3
0%
Abs. Int.
5.08e7
2.54e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.27-45.01
513.6775 Fn5
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.11e4
5.55e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS0_210727_DF_RA.utp_res, saved 27-Jul-2021 15:12 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 2212, 1649, 1411 scc: 693-472
PKD: 27-Jul-2021 09:51 Printed: 27-Jul-2021 15:30 Page 12 of 12

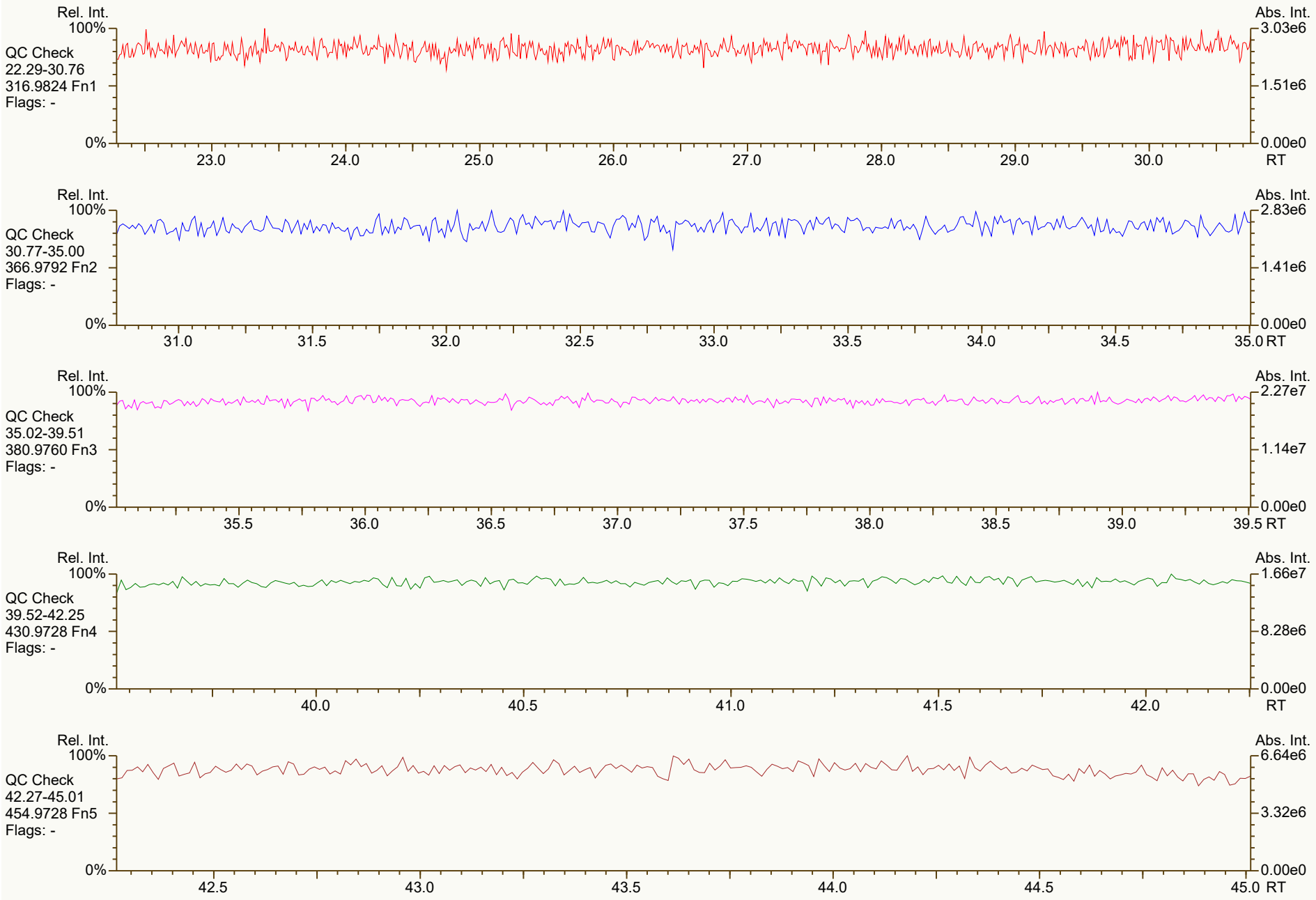
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 09:54 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS1_210727_DF_RA	UTP: 27-Jul-2021 15:00:19 PSW	Checkcode: 554-132-FHC
Sample ID: SIL 25-6-2	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R03

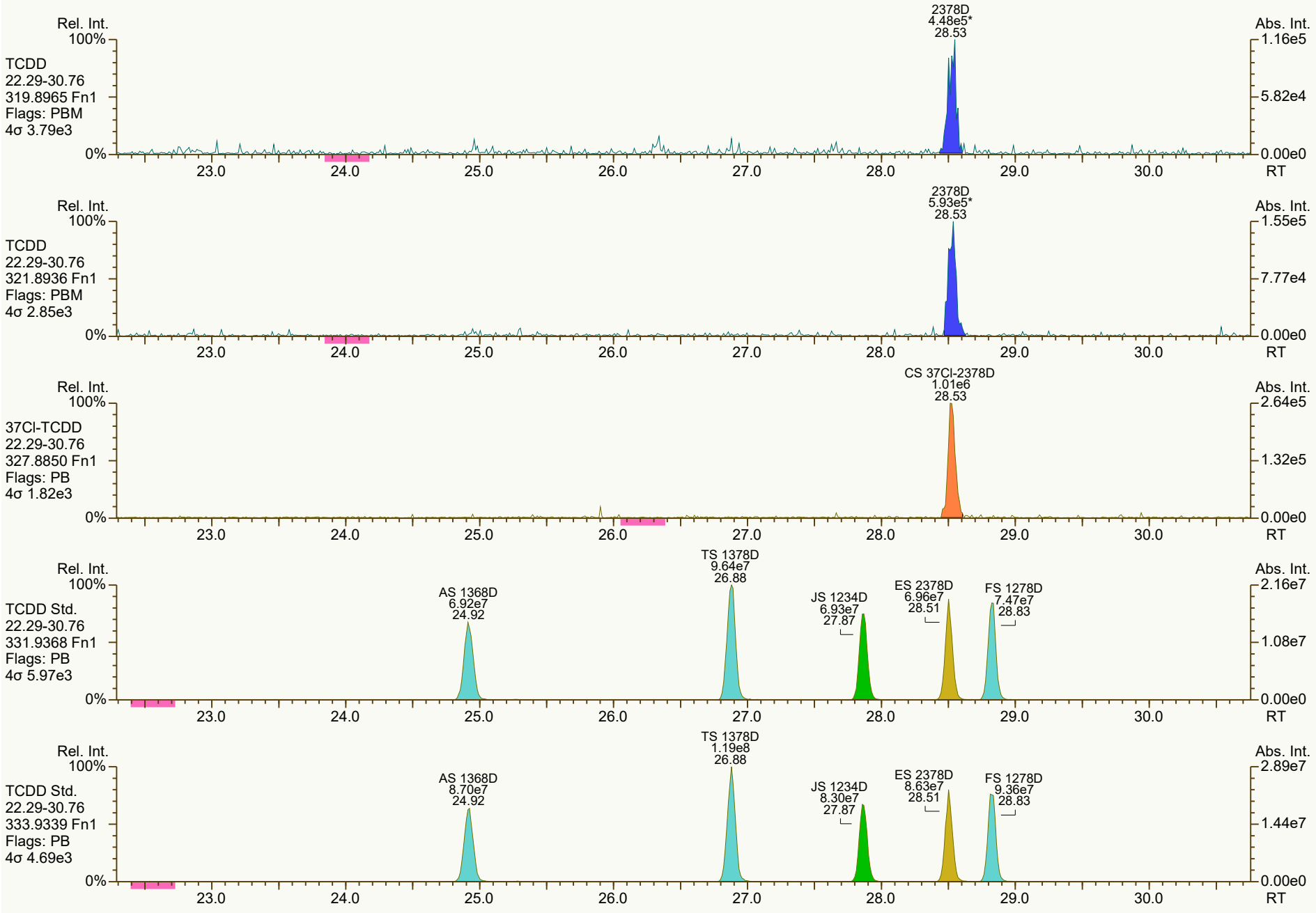
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	1.04E+06	0.76	Y	1.34	1.34	-1%
12378-PeCDD	33.81	4.16E+06	1.48	Y	1.06	1.07	1%
123478-HxCDD	37.68	3.92E+06	1.22	Y	1.06	1.10	4%
123678-HxCDD	37.79	3.74E+06	1.22	Y	1.08	1.07	-1%
123789-HxCDD	38.08	4.22E+06	1.33	Y	1.02	1.05	4%
1234678-HpCDD	40.66	3.34E+06	1.16	Y	0.97	0.95	-3%
OCDD	43.23	5.66E+06	0.85	Y	1.07	1.04	-3%
2378-TCDF	27.67	1.25E+06	0.72	Y	0.96	0.94	-2%
12378-PeCDF	32.38	5.24E+06	1.54	Y	0.95	0.94	0%
23478-PeCDF	33.47	5.06E+06	1.63	Y	0.94	0.90	-4%
123478-HxCDF	36.69	4.92E+06	1.14	Y	1.23	1.23	-1%
123678-HxCDF	36.83	5.41E+06	1.33	Y	1.13	1.16	3%
234678-HxCDF	37.49	5.10E+06	1.23	Y	1.15	1.19	3%
123789-HxCDF	38.42	4.41E+06	1.28	Y	1.14	1.08	-5%
1234678-HpCDF	39.76	4.59E+06	0.97	Y	1.36	1.35	0%
1234789-HpCDF	41.11	3.63E+06	1.08	Y	1.30	1.20	-7%
OCDF	43.41	6.46E+06	0.90	Y	1.03	1.01	-2%
ES 2378-TCDD	28.51	1.56E+08	0.81	Y	1.03	1.02	-1%
ES 12378-PeCDD	33.789	1.56E+08	1.63	Y	1.03	1.02	-1%
ES 123478-HxCDD	37.66	1.43E+08	1.26	Y	0.99	0.93	-6%
ES 123678-HxCDD	37.773	1.40E+08	1.27	Y	0.97	0.91	-6%
ES 123789-HxCDD	38.062	1.60E+08	1.24	Y	1.12	1.04	-7%
ES 1234678-HpCDD	40.65	1.41E+08	1.06	Y	0.99	0.92	-8%
ES OCDD	43.215	2.18E+08	0.91	Y	0.78	0.71	-9%
ES 2378-TCDF	27.651	2.66E+08	0.77	Y	1.08	1.08	0%
ES 12378-PeCDF	32.362	2.22E+08	1.59	Y	0.93	0.91	-3%
ES 23478-PeCDF	33.454	2.24E+08	1.55	Y	0.92	0.91	-1%
ES 123478-HxCDF	36.667	1.60E+08	0.52	Y	1.14	1.04	-9%
ES 123678-HxCDF	36.807	1.86E+08	0.54	Y	1.30	1.21	-7%
ES 234678-HxCDF	37.474	1.72E+08	0.53	Y	1.20	1.12	-7%
ES 123789-HxCDF	38.407	1.64E+08	0.51	Y	1.14	1.07	-6%
ES 1234678-HpCDF	39.755	1.36E+08	0.46	Y	0.95	0.88	-7%
ES 1234789-HpCDF	41.099	1.21E+08	0.45	Y	0.85	0.78	-7%
ES OCDF	43.396	2.56E+08	0.88	Y	0.93	0.83	-10%

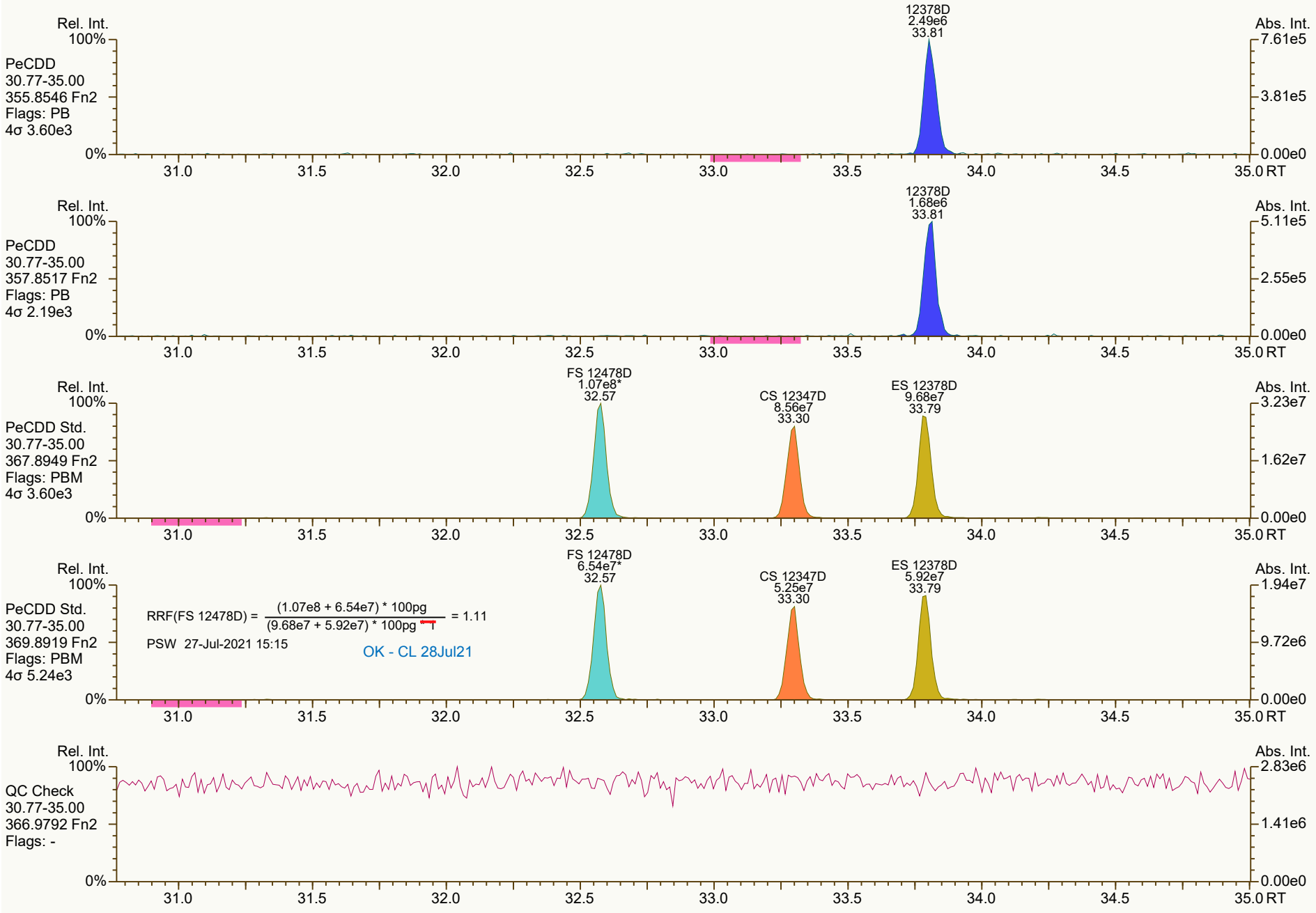
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 09:54 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS1_210727_DF_RA	UTP: 27-Jul-2021 15:00:19 PSW	Checkcode: 554-132-FHC
Sample ID: SIL 25-6-2	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R03

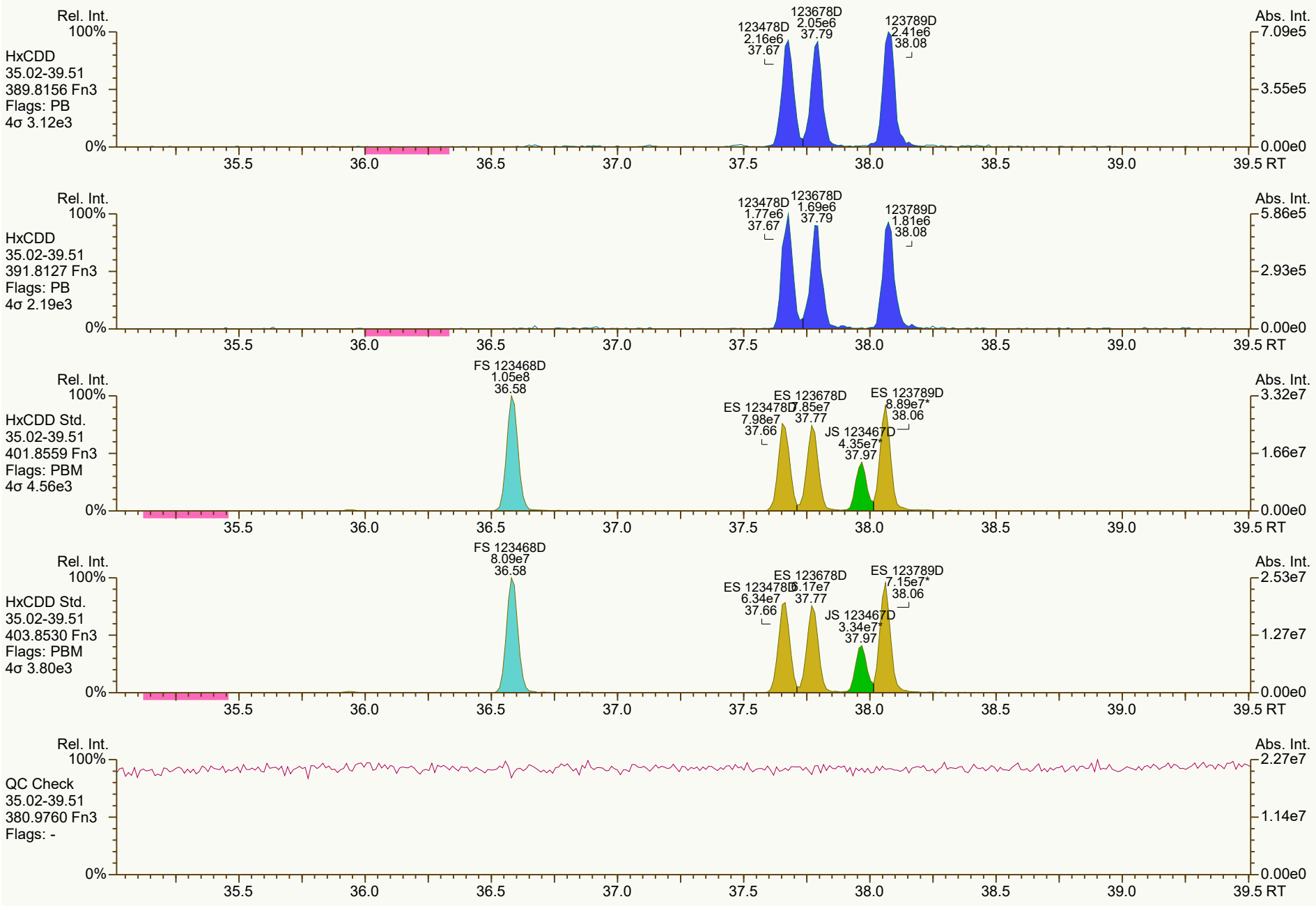
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.87	1.52E+08	0.83	Y	-	-	-
JS 1234-TCDF	26.33	2.45E+08	0.77	Y	-	-	-
JS 123467-HxCDD	37.97	7.69E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	1.01E+06	n/a	-	1.31	1.32	1%
CS 12347-PeCDD	33.30	1.38E+08	1.63	Y	0.89	0.91	2%
CS 12346-PeCDF	31.85	2.15E+08	1.58	Y	0.87	0.88	1%
CS 123469-HxCDF	37.12	1.61E+08	0.52	Y	1.09	1.04	-4%
CS 1234689-HpCDF	40.14	1.30E+08	0.44	Y	0.86	0.84	-2%
SS 37Cl-2378-TCDD	28.53	1.01E+06	n/a	-	1.26	1.29	2%
SS 12347-PeCDD	33.30	1.38E+08	1.63	Y	0.86	0.89	2%
SS 12346-PeCDF	31.85	2.15E+08	1.58	Y	0.93	0.97	4%
SS 123469-HxCDF	37.12	1.61E+08	0.52	Y	0.84	0.86	3%
SS 1234689-HpCDF	40.14	1.30E+08	0.44	Y	0.91	0.96	5%
AS 1368-TCDD	24.92	1.56E+08	0.80	Y	1.02	1.03	0%
AS 1368-TCDF	22.86	2.59E+08	0.77	Y	1.08	1.06	-2%
FS 1278-TCDD	28.83	1.68E+08	0.80	Y	1.08	1.08	0%
FS 12478-PeCDD	32.58	1.72E+08	1.63	Y	1.09	1.10	1%
FS 123468-HxCDD	36.59	1.86E+08	1.29	Y	1.26	1.30	3%
FS 1234679-HpCDD	39.99	1.93E+08	1.05	Y	1.36	1.37	1%
TS 1378-TCDD	26.88	2.16E+08	0.81	Y	1.35	1.38	3%
~~OCDD-a~~	~~43.23~~	~~4.10E+05~~	~~2.91~~	~~N~~	~~0.07~~	~~0.08~~	~~14%~~
~~OCDF-a~~	~~43.40~~	~~3.79E+05~~	~~1.92~~	~~N~~	~~0.06~~	~~0.06~~	~~0%~~

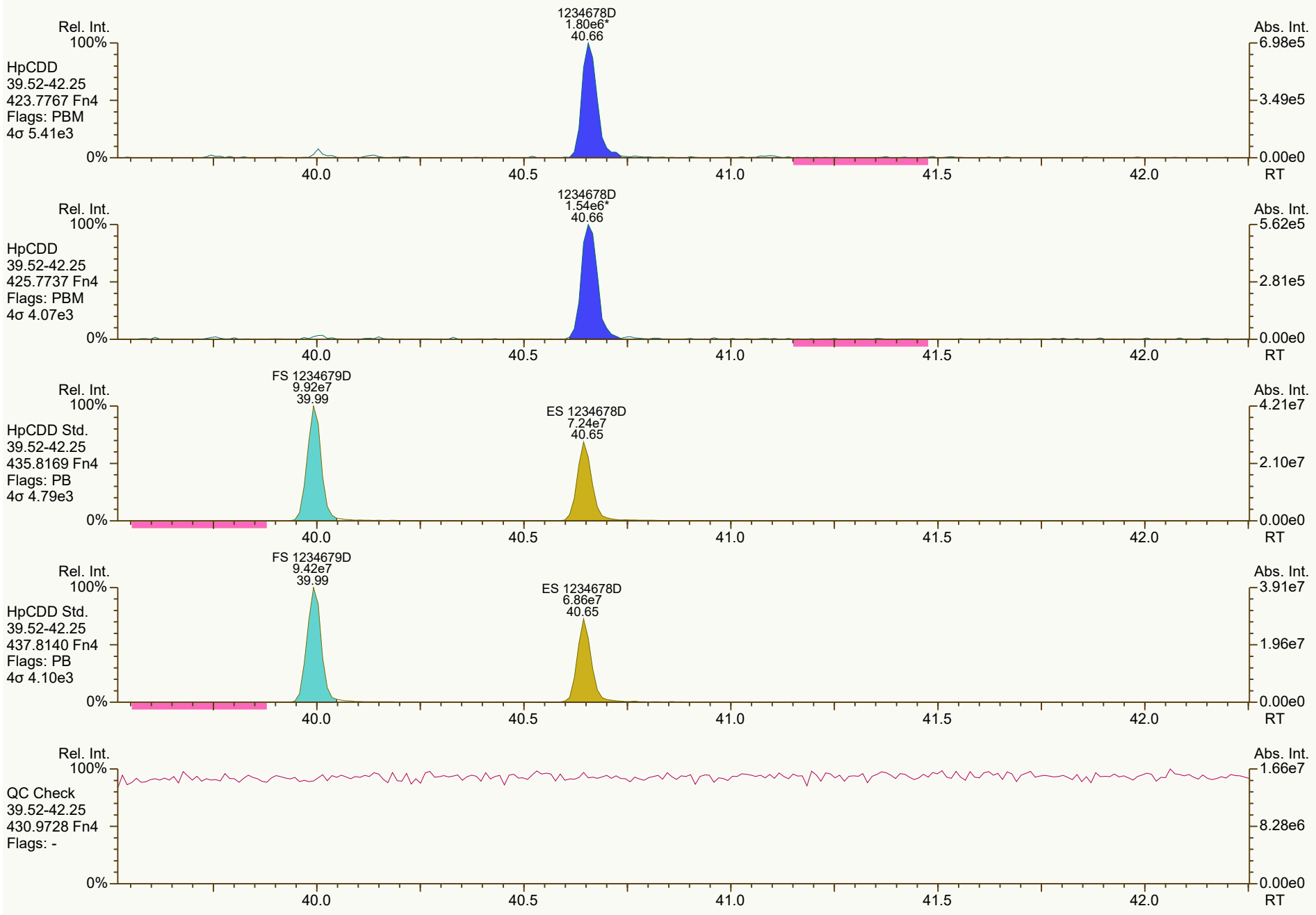
Not reported from this ICAL - CL 28Jul21


Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.03e6
1.51e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.83e6
1.41e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.27e7
1.14e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.66e7
8.28e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.64e6
3.32e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

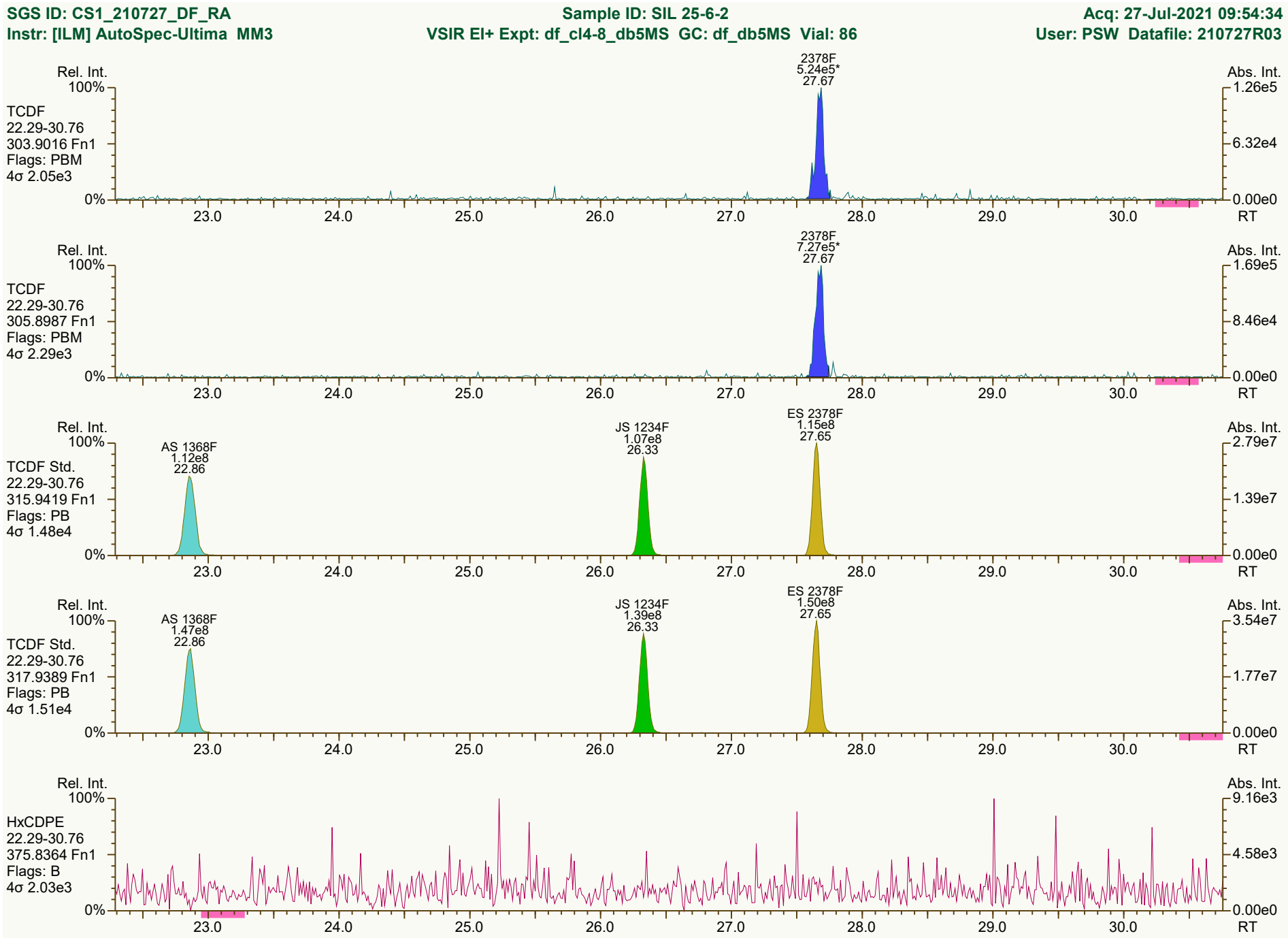

Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: PBM
4σ 3.79e3
0%
2378D
4.48e5*
28.53
Abs. Int.
1.16e5
5.82e4
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: PBM
4σ 2.85e3
0%
2378D
5.93e5*
28.53
Abs. Int.
1.55e5
7.77e4
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 1.82e3
0%
CS 37Cl-2378D
1.01e6
28.53
Abs. Int.
2.64e5
1.32e5
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 5.97e3
0%
AS 1368D
6.92e7
24.92
TS 1378D
9.64e7
26.88
JS 1234D
6.93e7
27.87
ES 2378D
6.96e7
28.51
FS 1278D
7.47e7
28.83
Abs. Int.
2.16e7
1.08e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 4.69e3
0%
AS 1368D
8.70e7
24.92
TS 1378D
1.19e8
26.88
JS 1234D
8.30e7
27.87
ES 2378D
8.63e7
28.51
FS 1278D
9.36e7
28.83
Abs. Int.
2.89e7
1.44e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 3.60e3
0%
12378D
2.49e6
33.81
Abs. Int.
7.61e5
3.81e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.19e3
0%
12378D
1.68e6
33.81
Abs. Int.
5.11e5
2.55e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PBM
4σ 3.60e3
0%
FS 12478D
1.07e8*
32.57
CS 12347D
8.56e7
33.30
ES 12378D
9.68e7
33.79
Abs. Int.
3.23e7
1.62e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PBM
4σ 5.24e3
0%
RRF(FS 12478D) = (1.07e8 + 6.54e7) * 100pg / (9.68e7 + 5.92e7) * 100pg = 1.11
PSW 27-Jul-2021 15:15
OK - CL 28Jul21
FS 12478D
6.54e7*
32.57
CS 12347D
5.25e7
33.30
ES 12378D
5.92e7
33.79
Abs. Int.
1.94e7
9.72e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.83e6
1.41e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 3.12e3
123478D
2.16e6
37.67
123678D
2.05e6
37.79
123789D
2.41e6
38.08
Abs. Int.
7.09e5
3.55e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.19e3
123478D
1.77e6
37.67
123678D
1.69e6
37.79
123789D
1.81e6
38.08
Abs. Int.
5.86e5
2.93e5
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 4.56e3
FS 123468D
1.05e8
36.58
ES 123478D
7.98e7
37.66
ES 123678D
7.85e7
37.77
JS 123467D
4.35e7*
37.97
ES 123789D
8.89e7*
38.06
Abs. Int.
3.32e7
1.66e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 3.80e3
FS 123468D
8.09e7
36.58
ES 123478D
6.34e7
37.66
ES 123678D
6.17e7
37.77
JS 123467D
3.34e7*
37.97
ES 123789D
7.15e7*
38.06
Abs. Int.
2.53e7
1.27e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
Abs. Int.
2.27e7
1.14e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PBM
4σ 5.41e3
1234678D
1.80e6*
40.66
Abs. Int.
6.98e5
3.49e5
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PBM
4σ 4.07e3
1234678D
1.54e6*
40.66
Abs. Int.
5.62e5
2.81e5
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 4.79e3
FS 1234679D
9.92e7
39.99
ES 1234678D
7.24e7
40.65
Abs. Int.
4.21e7
2.10e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 4.10e3
FS 1234679D
9.42e7
39.99
ES 1234678D
6.86e7
40.65
Abs. Int.
3.91e7
1.96e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
Abs. Int.
1.66e7
8.28e6
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT


OCDD
2.61e6
43.23
Rel. Int.
100%
OCDD
42.27-45.01
457.7377 Fn5
Flags: PB
4σ 2.60e3
0%
Abs. Int.
8.02e5
4.01e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.05e6
43.22
Rel. Int.
100%
OCDD
42.27-45.01
459.7348 Fn5
Flags: PB
4σ 3.89e3
0%
Abs. Int.
1.09e6
5.45e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.04e8
43.22
Rel. Int.
100%
OCDD Std.
42.27-45.01
469.7780 Fn5
Flags: PB
4σ 2.94e3
0%
Abs. Int.
3.50e7
1.75e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.14e8
43.22
Rel. Int.
100%
OCDD Std.
42.27-45.01
471.7750 Fn5
Flags: PB
4σ 3.15e3
0%
Abs. Int.
3.84e7
1.92e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.64e6
3.32e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

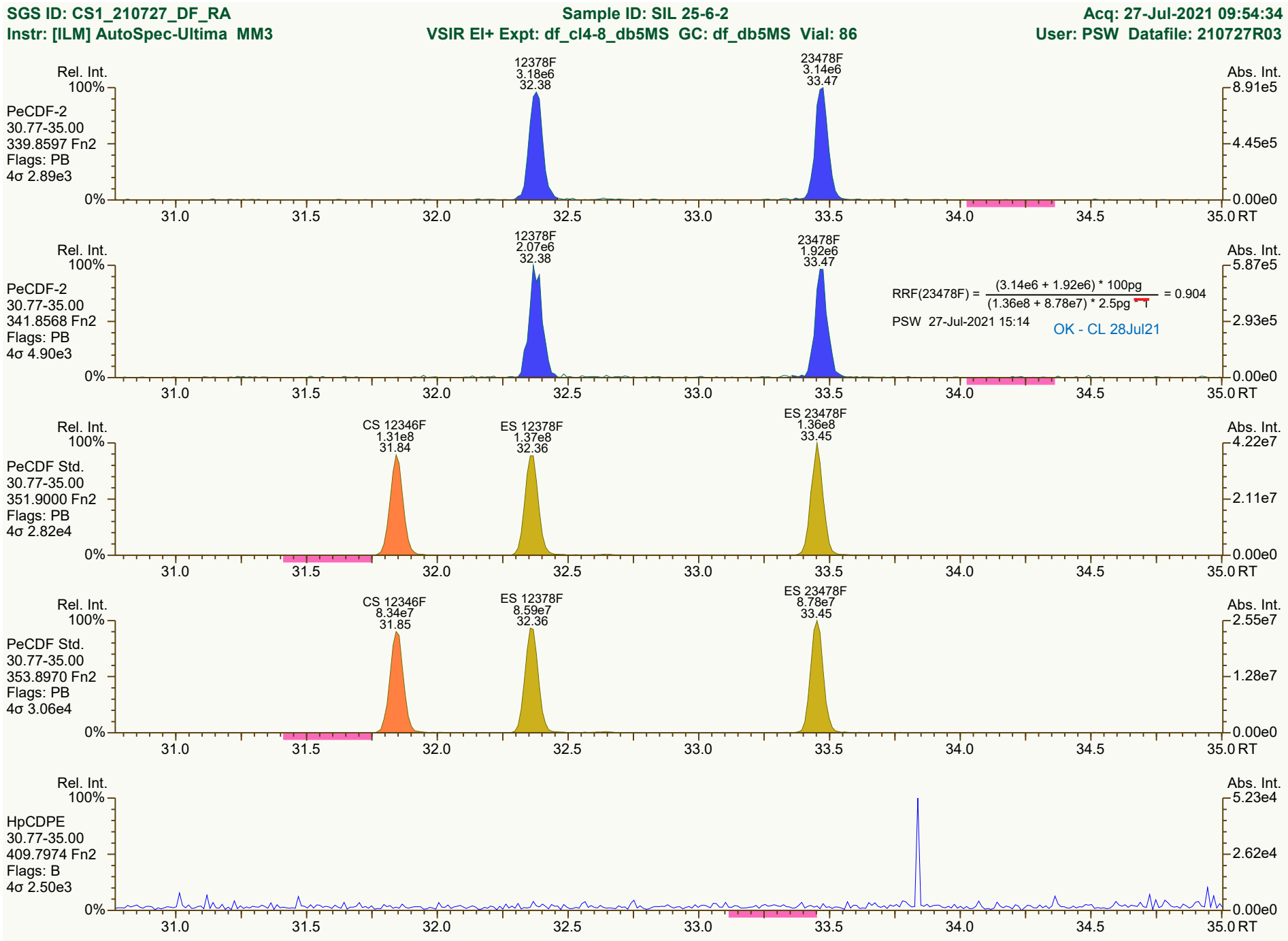

SGS ID: CS1_210727_DF_RA
Sample ID: SIL 25-6-2
Acq: 27-Jul-2021 09:54:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86
User: PSW Datafile: 210727R03
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PBM
4σ 2.05e3
2378F
5.24e5*
27.67
1.26e5
6.32e4
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PBM
4σ 2.29e3
2378F
7.27e5*
27.67
1.69e5
8.46e4
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.48e4
AS 1368F
1.12e8
22.86
JS 1234F
1.07e8
26.33
ES 2378F
1.15e8
27.65
2.79e7
1.39e7
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.51e4
AS 1368F
1.47e8
22.86
JS 1234F
1.39e8
26.33
ES 2378F
1.50e8
27.65
3.54e7
1.77e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.03e3
9.16e3
4.58e3
100%
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0890, 2579, 1486 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 2.43e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.13e4
5.66e3
0.00e0
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 2.60e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.03e6
1.51e6
0.00e0
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT

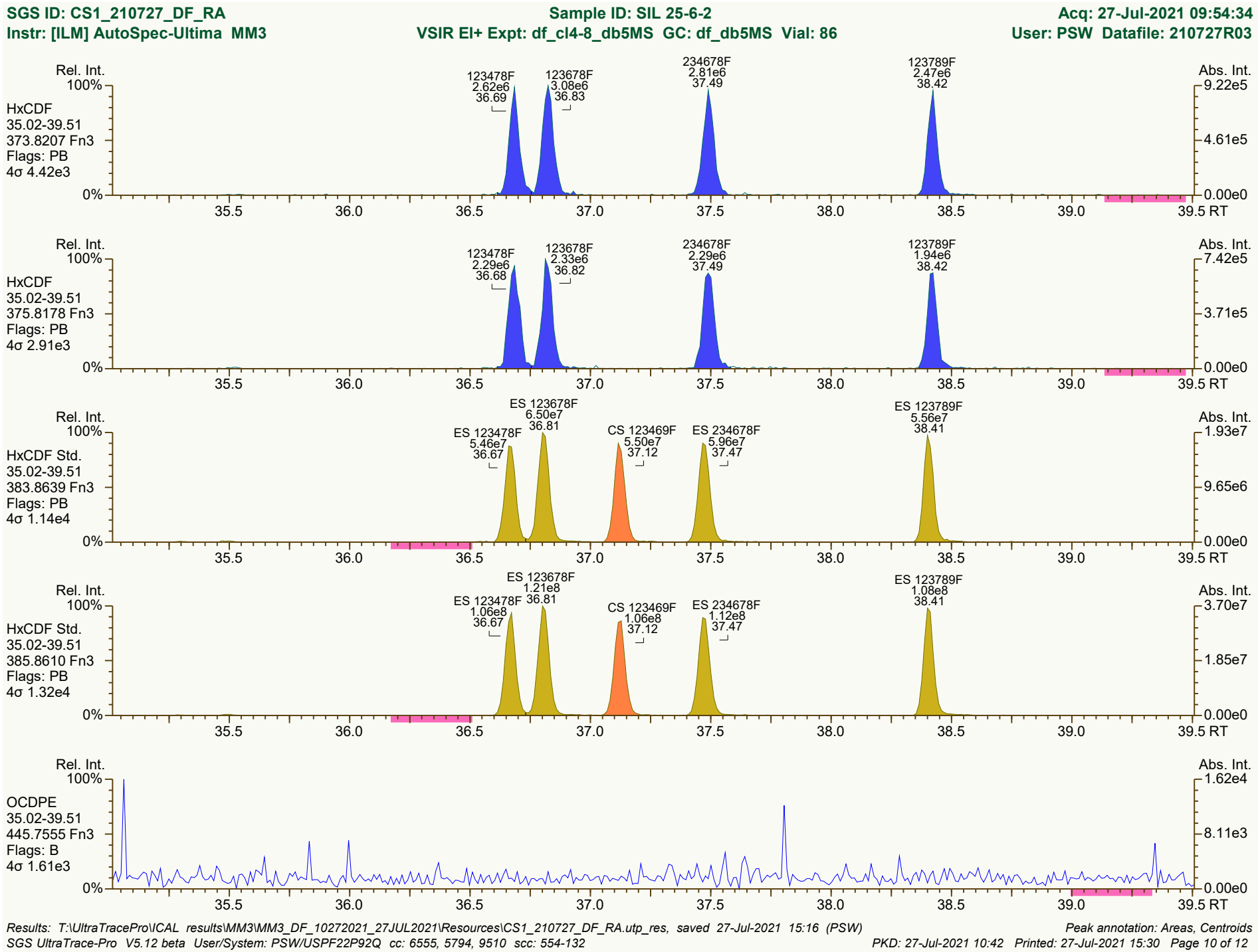
SGS ID: CS1_210727_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

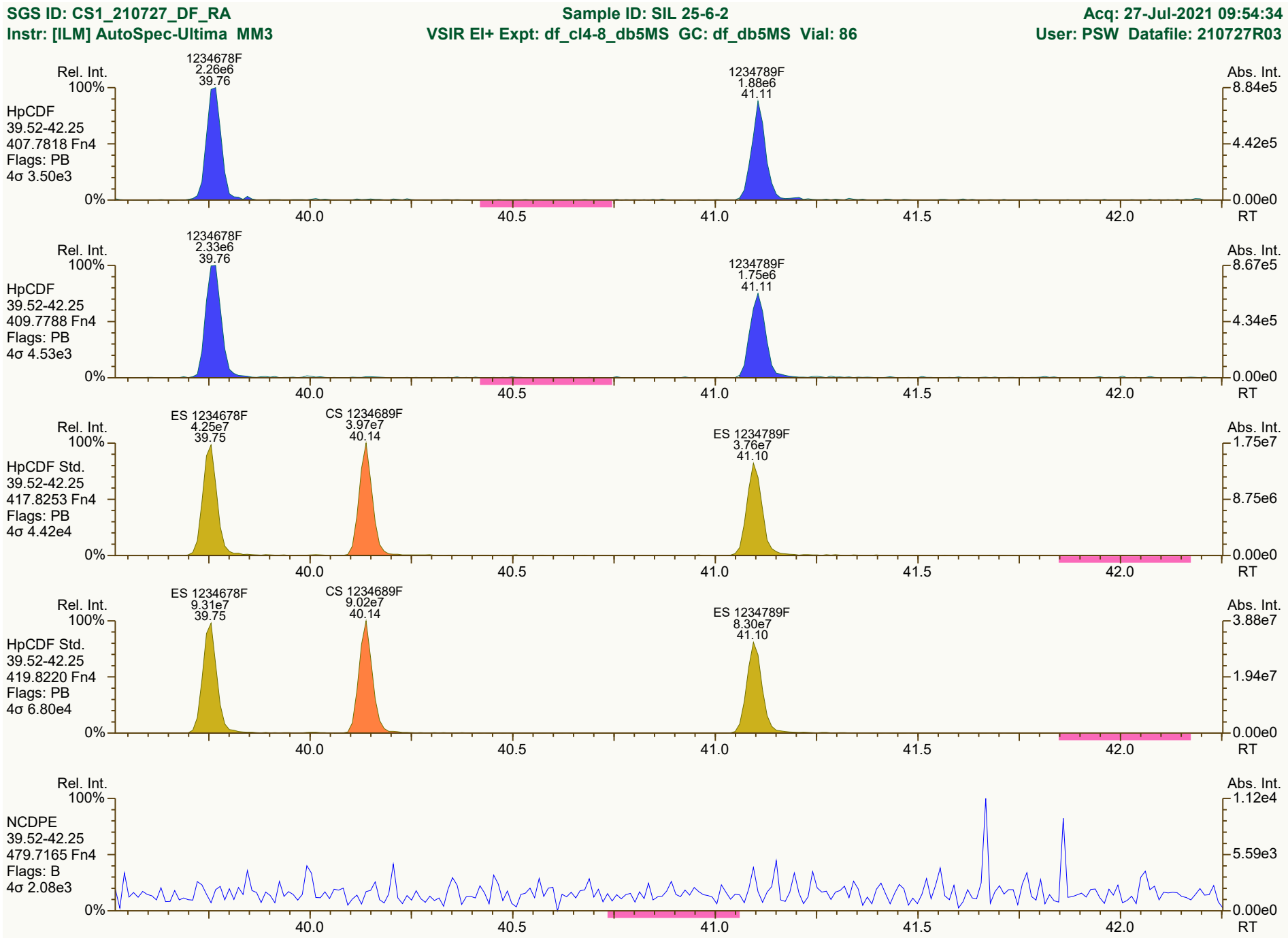
Sample ID: SIL 25-6-2
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86

Acq: 27-Jul-2021 09:54:34
User: PSW Datafile: 210727R03



Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0783, 1661, 1108 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 9 of 12


SGS ID: CS1_210727_DF_RA
Sample ID: SIL 25-6-2
Acq: 27-Jul-2021 09:54:34
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 86
User: PSW Datafile: 210727R03
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PB
4σ 4.42e3
123478F 2.62e6 36.69
123678F 3.08e6 36.83
234678F 2.81e6 37.49
123789F 2.47e6 38.42
9.22e5
4.61e5
0.00e0
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PB
4σ 2.91e3
123478F 2.29e6 36.68
123678F 2.33e6 36.82
234678F 2.29e6 37.49
123789F 1.94e6 38.42
7.42e5
3.71e5
0.00e0
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 1.14e4
ES 123478F 5.46e7 36.67
ES 123678F 6.50e7 36.81
CS 123469F 5.50e7 37.12
ES 234678F 5.96e7 37.47
ES 123789F 5.56e7 38.41
1.93e7
9.65e6
0.00e0
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 1.32e4
ES 123478F 1.06e8 36.67
ES 123678F 1.21e8 36.81
CS 123469F 1.06e8 37.12
ES 234678F 1.12e8 37.47
ES 123789F 1.08e8 38.41
3.70e7
1.85e7
0.00e0
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 1.61e3
1.62e4
8.11e3
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 6555, 5794, 9510 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 10 of 12



Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS1_210727_DF_RA.utp_res, saved 27-Jul-2021 15:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8166, 3912, 7586 scc: 554-132
PKD: 27-Jul-2021 10:42 Printed: 27-Jul-2021 15:30 Page 11 of 12


Rel. Int.
100%
OCDF
42.27-45.01
441.7428 Fn5
Flags: PB
4σ 2.65e3
0%
OCDF
3.07e6
43.41
Abs. Int.
1.08e6
5.38e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.27-45.01
443.7398 Fn5
Flags: PB
4σ 2.50e3
0%
OCDF
3.39e6
43.41
Abs. Int.
1.14e6
5.68e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.27-45.01
453.7830 Fn5
Flags: PB
4σ 5.40e3
0%
ES OCDF
1.20e8
43.40
Abs. Int.
3.80e7
1.90e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.27-45.01
455.7801 Fn5
Flags: PB
4σ 4.03e3
0%
ES OCDF
1.36e8
43.39
Abs. Int.
4.28e7
2.14e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.27-45.01
513.6775 Fn5
Flags: B
4σ 1.92e3
0%
Abs. Int.
8.67e3
4.33e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

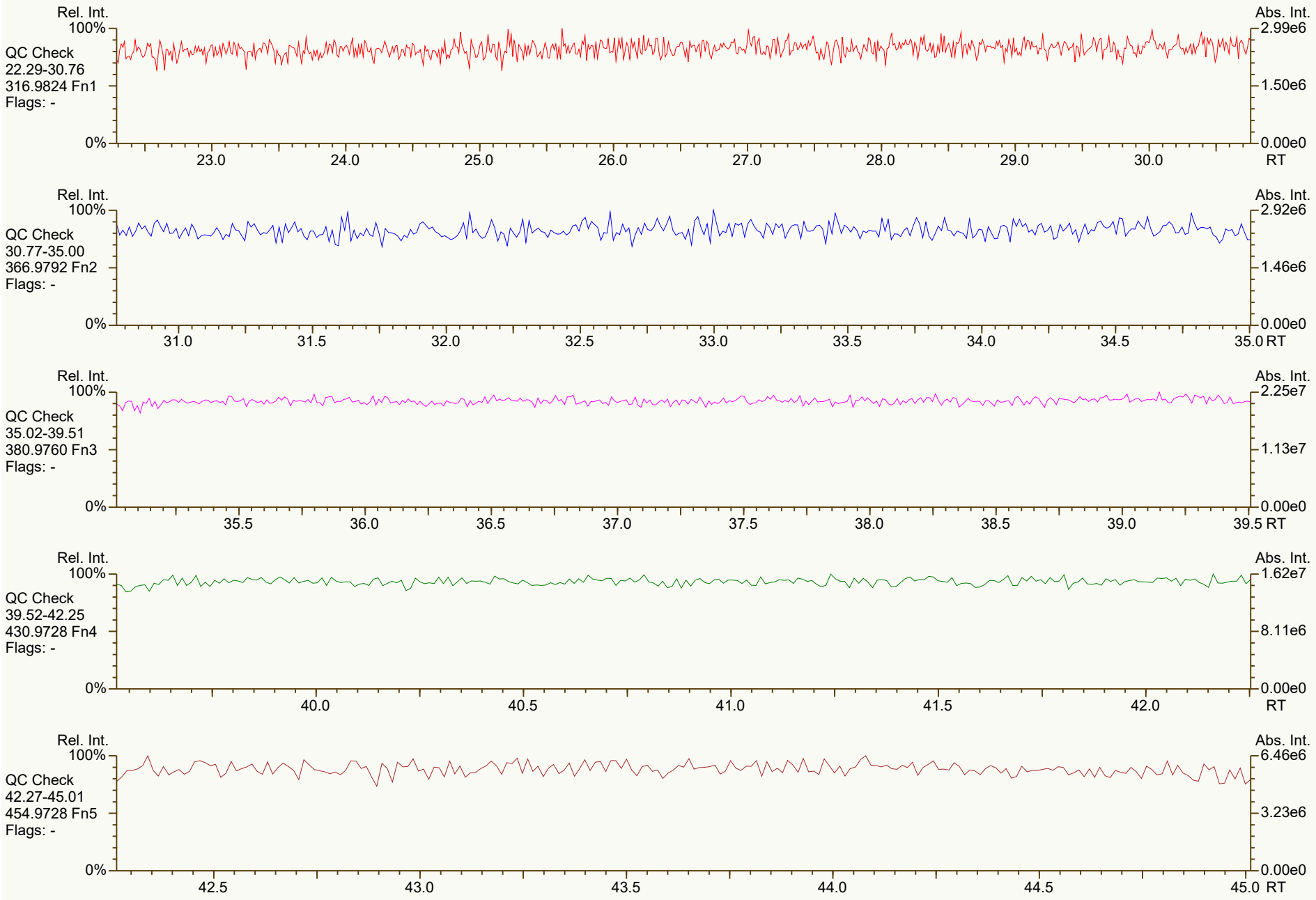
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 10:44 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS2_210727_DF_RA	UTP: 27-Jul-2021 15:00:20 PSW	Checkcode: 377-233-TNL
Sample ID: SIL 25-6-1	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R04

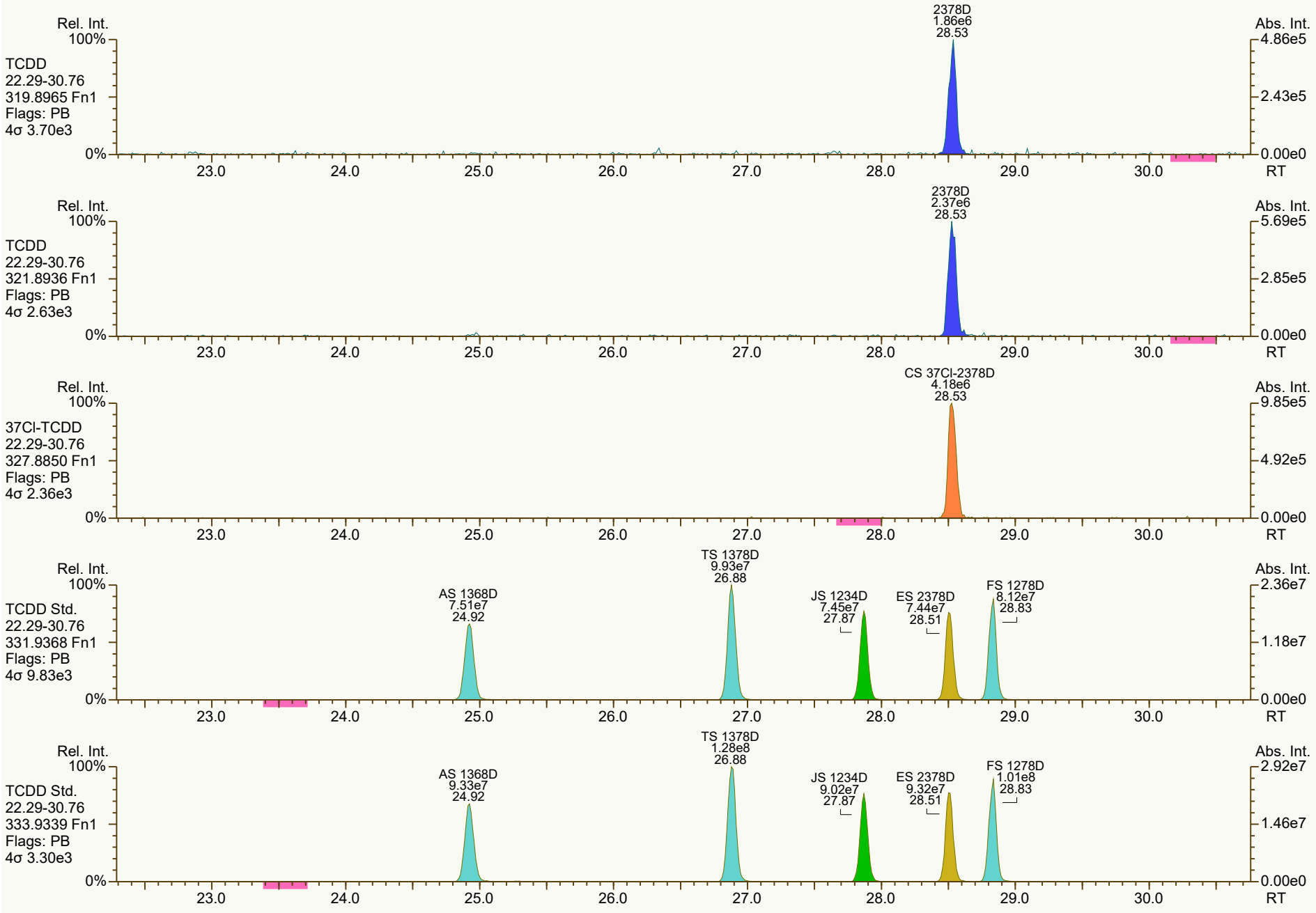
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	4.23E+06	0.79	Y	1.34	1.26	-6%
12378-PeCDD	33.81	1.67E+07	1.63	Y	1.06	1.02	-4%
123478-HxCDD	37.68	1.53E+07	1.32	Y	1.06	0.99	-6%
123678-HxCDD	37.80	1.52E+07	1.22	Y	1.08	1.02	-5%
123789-HxCDD	38.08	1.66E+07	1.25	Y	1.02	0.95	-6%
1234678-HpCDD	40.67	1.41E+07	1.01	Y	0.97	0.92	-6%
OCDD	43.23	2.33E+07	0.88	Y	1.07	1.01	-6%
2378-TCDF	27.68	5.04E+06	0.83	Y	0.96	0.90	-6%
12378-PeCDF	32.39	2.16E+07	1.63	Y	0.95	0.90	-5%
23478-PeCDF	33.48	2.12E+07	1.52	Y	0.94	0.90	-4%
123478-HxCDF	36.69	2.09E+07	1.25	Y	1.23	1.19	-4%
123678-HxCDF	36.83	2.13E+07	1.24	Y	1.13	1.07	-5%
234678-HxCDF	37.50	1.98E+07	1.20	Y	1.15	1.08	-6%
123789-HxCDF	38.43	1.89E+07	1.24	Y	1.14	1.09	-4%
1234678-HpCDF	39.77	1.87E+07	1.01	Y	1.36	1.31	-4%
1234789-HpCDF	41.12	1.60E+07	1.02	Y	1.30	1.26	-3%
OCDF	43.41	2.61E+07	0.92	Y	1.03	0.95	-7%
ES 2378-TCDD	28.51	1.68E+08	0.80	Y	1.03	1.02	-2%
ES 12378-PeCDD	33.794	1.63E+08	1.66	Y	1.03	0.99	-4%
ES 123478-HxCDD	37.667	1.54E+08	1.28	Y	0.99	0.99	-1%
ES 123678-HxCDD	37.781	1.49E+08	1.24	Y	0.97	0.95	-2%
ES 123789-HxCDD	38.07	1.75E+08	1.26	Y	1.12	1.12	0%
ES 1234678-HpCDD	40.658	1.53E+08	1.06	Y	0.99	0.98	-1%
ES OCDD	43.222	2.31E+08	0.90	Y	0.78	0.74	-5%
ES 2378-TCDF	27.656	2.80E+08	0.80	Y	1.08	1.07	-1%
ES 12378-PeCDF	32.368	2.40E+08	1.55	Y	0.93	0.92	-2%
ES 23478-PeCDF	33.459	2.36E+08	1.59	Y	0.92	0.90	-2%
ES 123478-HxCDF	36.674	1.76E+08	0.52	Y	1.14	1.13	-1%
ES 123678-HxCDF	36.814	1.99E+08	0.52	Y	1.30	1.27	-2%
ES 234678-HxCDF	37.481	1.84E+08	0.52	Y	1.20	1.18	-2%
ES 123789-HxCDF	38.416	1.73E+08	0.52	Y	1.14	1.11	-2%
ES 1234678-HpCDF	39.761	1.43E+08	0.44	Y	0.95	0.92	-3%
ES 1234789-HpCDF	41.105	1.28E+08	0.46	Y	0.85	0.82	-3%
ES OCDF	43.404	2.74E+08	0.87	Y	0.93	0.88	-5%

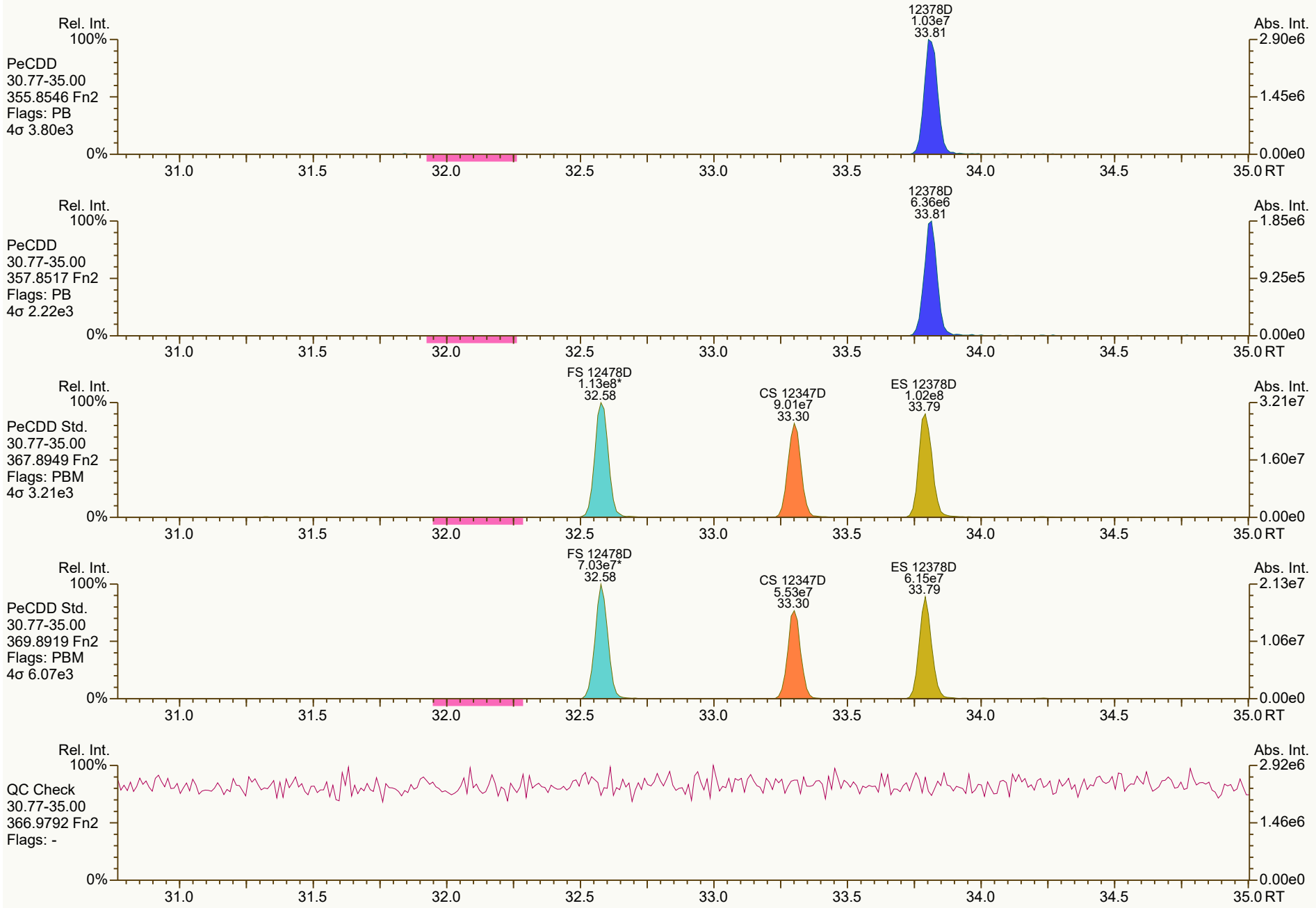
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 10:44 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS2_210727_DF_RA	UTP: 27-Jul-2021 15:00:20 PSW	Checkcode: 377-233-TNL
Sample ID: SIL 25-6-1	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R04

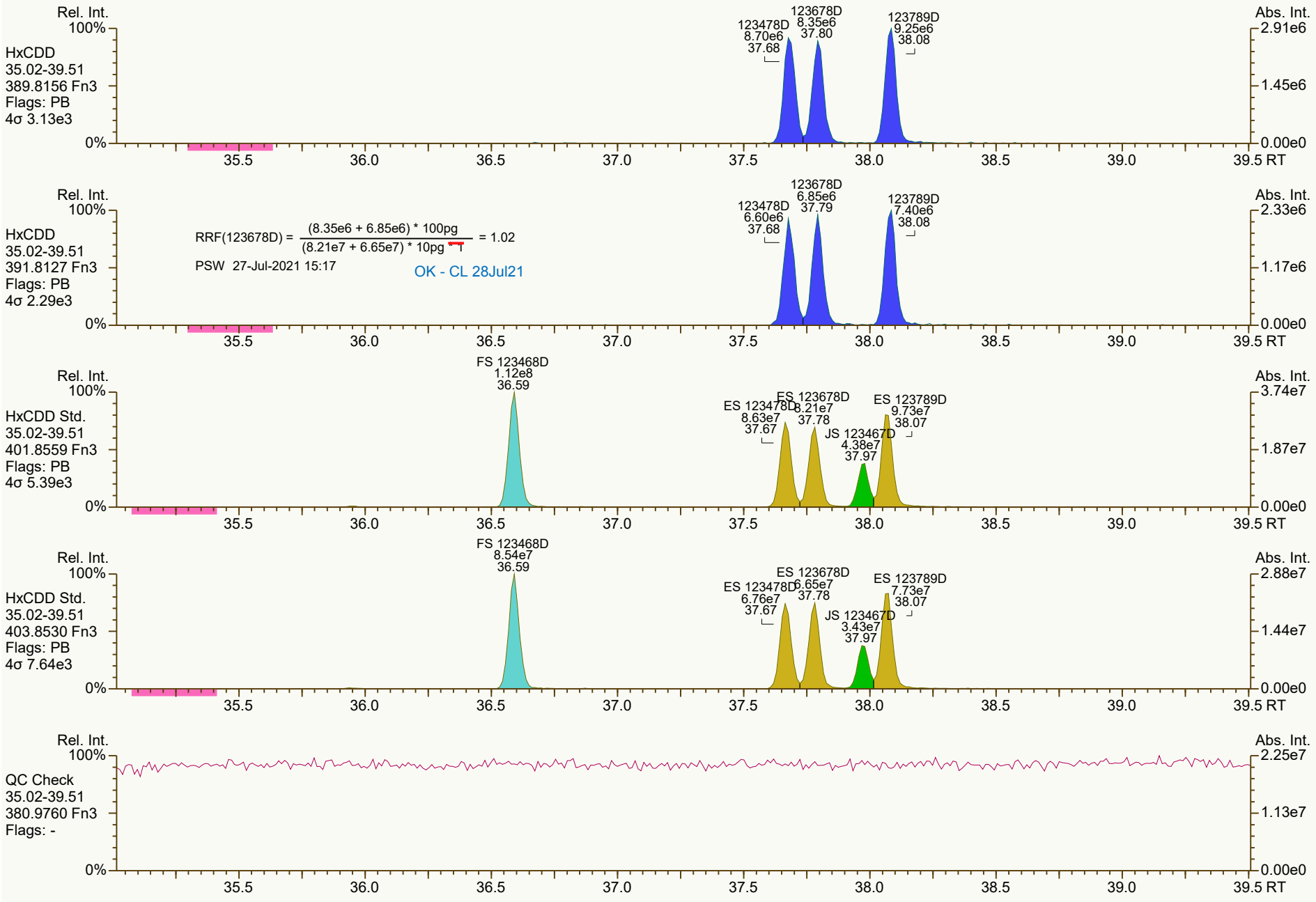
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.87	1.65E+08	0.83	Y	-	-	-
JS 1234-TCDF	26.34	2.62E+08	0.75	Y	-	-	-
JS 123467-HxCDD	37.97	7.80E+07	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	4.18E+06	n/a	-	1.31	1.27	-3%
CS 12347-PeCDD	33.30	1.45E+08	1.63	Y	0.89	0.88	-1%
CS 12346-PeCDF	31.85	2.24E+08	1.58	Y	0.87	0.86	-1%
CS 123469-HxCDF	37.13	1.69E+08	0.52	Y	1.09	1.08	-1%
CS 1234689-HpCDF	40.15	1.35E+08	0.46	Y	0.86	0.86	0%
SS 37Cl-2378-TCDD	28.53	4.18E+06	n/a	-	1.26	1.25	-1%
SS 12347-PeCDD	33.30	1.45E+08	1.63	Y	0.86	0.89	3%
SS 12346-PeCDF	31.85	2.24E+08	1.58	Y	0.93	0.93	0%
SS 123469-HxCDF	37.13	1.69E+08	0.52	Y	0.84	0.85	1%
SS 1234689-HpCDF	40.15	1.35E+08	0.46	Y	0.91	0.94	3%
AS 1368-TCDD	24.92	1.68E+08	0.81	Y	1.02	1.02	0%
AS 1368-TCDF	22.86	2.81E+08	0.77	Y	1.08	1.07	-1%
FS 1278-TCDD	28.83	1.83E+08	0.80	Y	1.08	1.09	0%
FS 12478-PeCDD	32.58	1.83E+08	1.61	Y	1.09	1.12	3%
FS 123468-HxCDD	36.59	1.97E+08	1.31	Y	1.26	1.28	2%
FS 1234679-HpCDD	40.00	2.12E+08	1.04	Y	1.36	1.38	2%
TS 1378-TCDD	26.88	2.27E+08	0.78	Y	1.35	1.36	1%
~~OCDD-a~~	~~43.23~~	~~1.51E+06~~	~~2.07~~	~~N~~	~~0.07~~	~~0.07~~	~~-1%~~
~~OCDF-a~~	~~43.41~~	~~1.45E+06~~	~~3.13~~	~~N~~	~~0.06~~	~~0.05~~	~~-11%~~

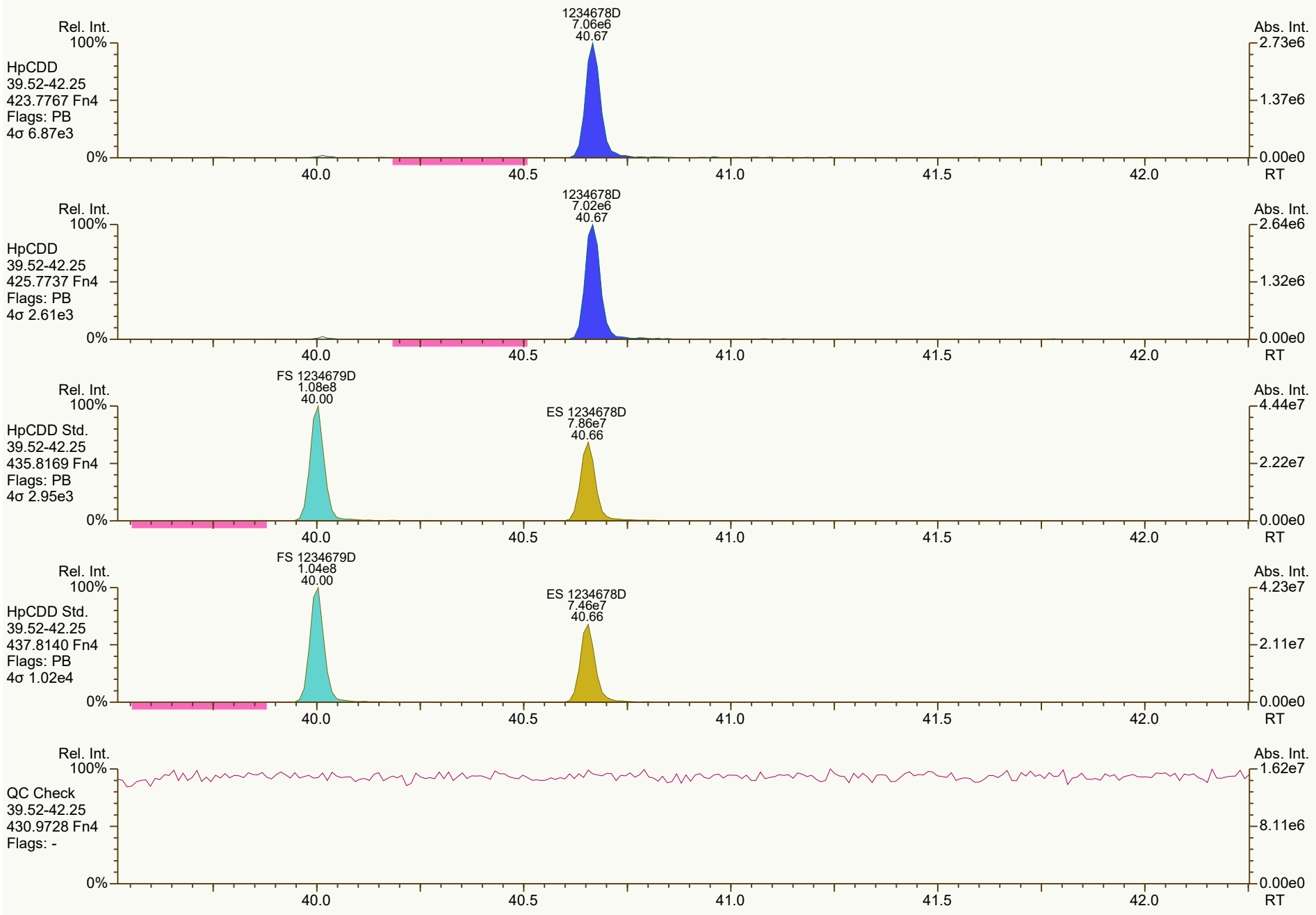
Not reported from this ICAL - CL 28Jul21


Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
2.99e6
1.50e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.92e6
1.46e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.25e7
1.13e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.62e7
8.11e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.46e6
3.23e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

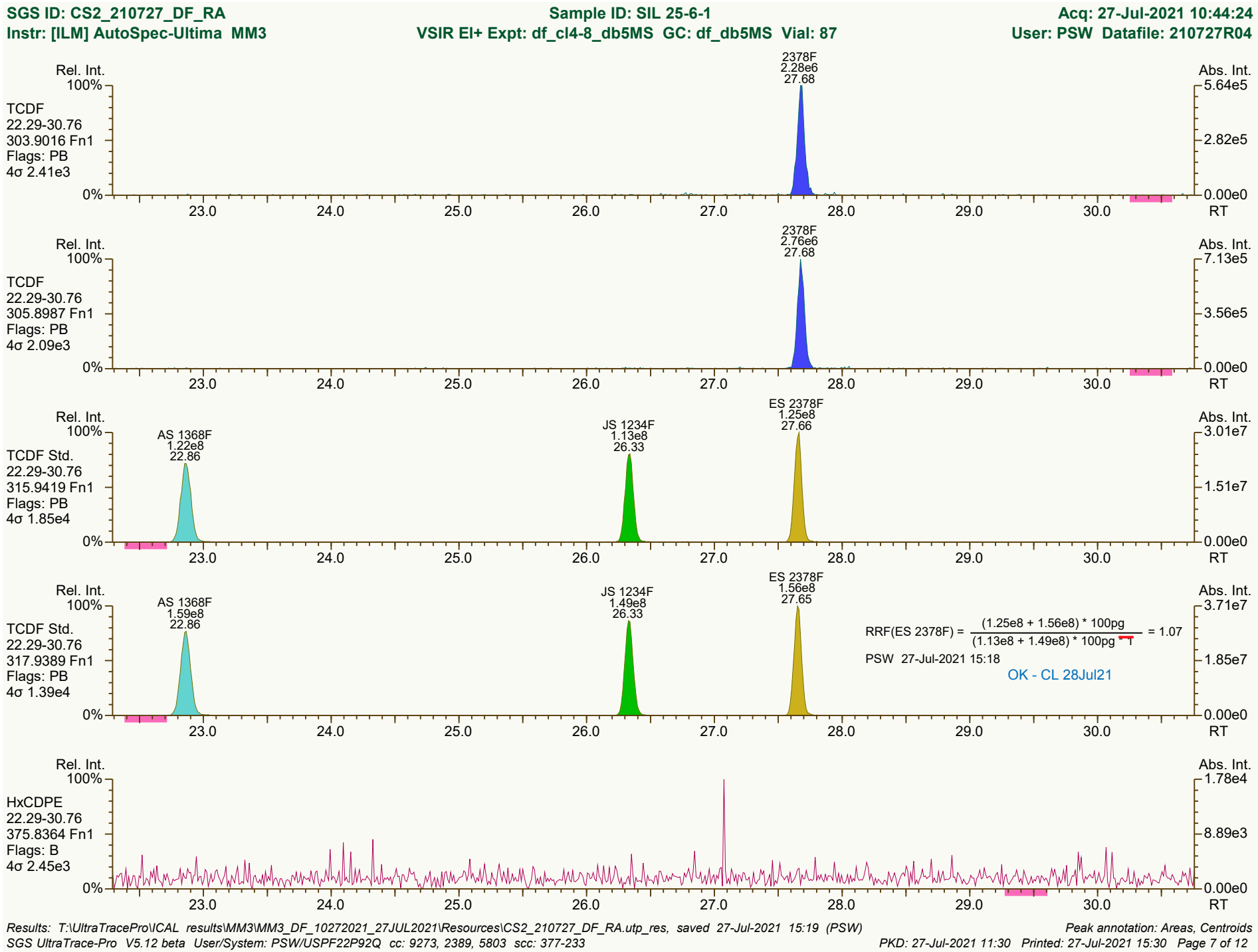

Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 3.70e3
0%
2378D
1.86e6
28.53
Abs. Int.
4.86e5
2.43e5
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.63e3
0%
2378D
2.37e6
28.53
Abs. Int.
5.69e5
2.85e5
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 2.36e3
0%
CS 37Cl-2378D
4.18e6
28.53
Abs. Int.
9.85e5
4.92e5
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 9.83e3
0%
AS 1368D
7.51e7
24.92
TS 1378D
9.93e7
26.88
JS 1234D
7.45e7
27.87
ES 2378D
7.44e7
28.51
FS 1278D
8.12e7
28.83
Abs. Int.
2.36e7
1.18e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 3.30e3
0%
AS 1368D
9.33e7
24.92
TS 1378D
1.28e8
26.88
JS 1234D
9.02e7
27.87
ES 2378D
9.32e7
28.51
FS 1278D
1.01e8
28.83
Abs. Int.
2.92e7
1.46e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 3.80e3
12378D
1.03e7
33.81
Abs. Int.
2.90e6
1.45e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.22e3
12378D
6.36e6
33.81
Abs. Int.
1.85e6
9.25e5
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PBM
4σ 3.21e3
FS 12478D
1.13e8*
32.58
CS 12347D
9.01e7
33.30
ES 12378D
1.02e8
33.79
Abs. Int.
3.21e7
1.60e7
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PBM
4σ 6.07e3
FS 12478D
7.03e7*
32.58
CS 12347D
5.53e7
33.30
ES 12378D
6.15e7
33.79
Abs. Int.
2.13e7
1.06e7
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
Abs. Int.
2.92e6
1.46e6
0.00e0
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

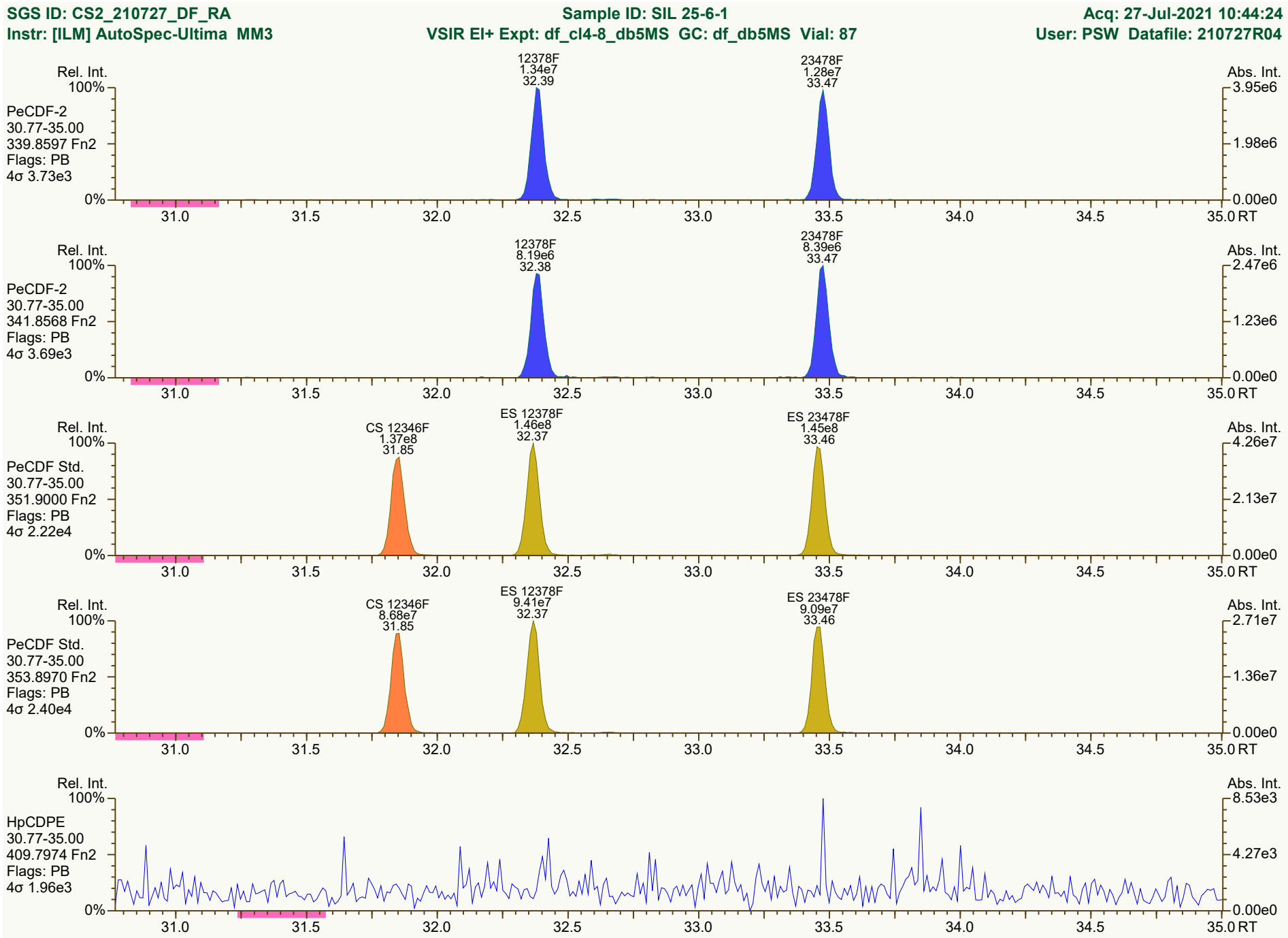

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 3.13e3
123478D 8.70e6 37.68
123678D 8.35e6 37.80
123789D 9.25e6 38.08
Abs. Int.
2.91e6
1.45e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.29e3
RRF(123678D) = (8.35e6 + 6.85e6) * 100pg / (8.21e7 + 6.65e7) * 10pg = 1.02
PSW 27-Jul-2021 15:17
OK - CL 28Jul21
123478D 6.60e6 37.68
123678D 6.85e6 37.79
123789D 7.40e6 38.08
2.33e6
1.17e6
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PB
4σ 5.39e3
FS 123468D 1.12e8 36.59
ES 123478D 8.63e7 37.67
ES 123678D 8.21e7 37.78
JS 123467D 4.38e7 37.97
ES 123789D 9.73e7 38.07
3.74e7
1.87e7
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PB
4σ 7.64e3
FS 123468D 8.54e7 36.59
ES 123478D 6.76e7 37.67
ES 123678D 6.65e7 37.78
JS 123467D 3.43e7 37.97
ES 123789D 7.73e7 38.07
2.88e7
1.44e7
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
2.25e7
1.13e7

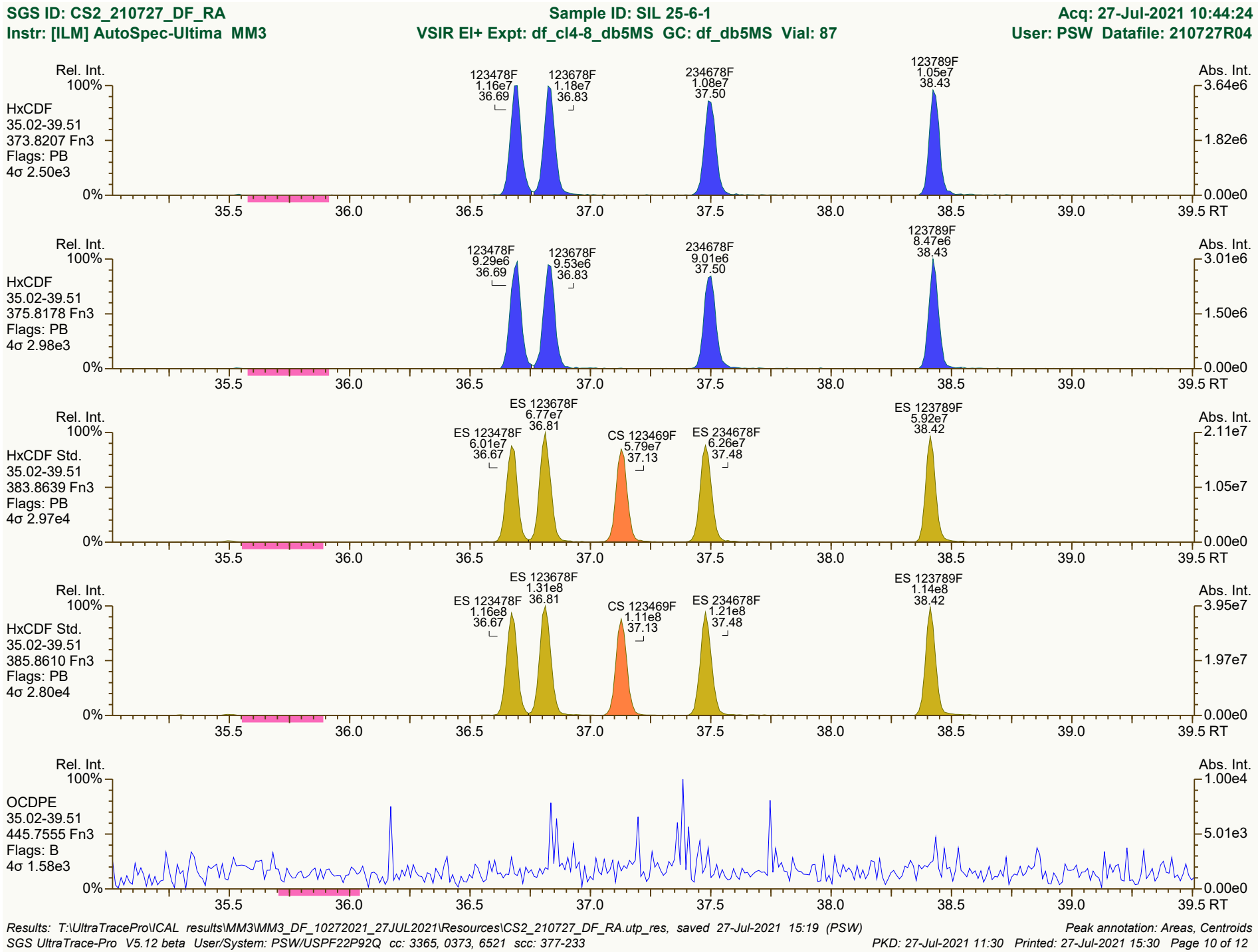

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 6.87e3
0%
1234678D
7.06e6
40.67
Abs. Int.
2.73e6
1.37e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 2.61e3
0%
1234678D
7.02e6
40.67
Abs. Int.
2.64e6
1.32e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 2.95e3
0%
FS 1234679D
1.08e8
40.00
ES 1234678D
7.86e7
40.66
Abs. Int.
4.44e7
2.22e7
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 1.02e4
0%
FS 1234679D
1.04e8
40.00
ES 1234678D
7.46e7
40.66
Abs. Int.
4.23e7
2.11e7
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.62e7
8.11e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT


OCDD
1.09e7
43.23
Rel. Int.
100%
OCDD
42.27-45.01
457.7377 Fn5
Flags: PB
4σ 3.62e3
0%
Abs. Int.
3.54e6
1.77e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.24e7
43.23
OCDD
42.27-45.01
459.7348 Fn5
Flags: PB
4σ 1.67e3
4.01e6
2.00e6
ES OCDD
1.10e8
43.22
OCDD Std.
42.27-45.01
469.7780 Fn5
Flags: PB
4σ 3.79e3
3.53e7
1.77e7
ES OCDD
1.22e8
43.22
OCDD Std.
42.27-45.01
471.7750 Fn5
Flags: PB
4σ 7.59e3
3.84e7
1.92e7
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
6.46e6
3.23e6


SGS ID: CS2_210727_DF_RA
Sample ID: SIL 25-6-1
Acq: 27-Jul-2021 10:44:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87
User: PSW Datafile: 210727R04
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.41e3
2378F
2.28e6
27.68
5.64e5
2.82e5
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.09e3
2378F
2.76e6
27.68
7.13e5
3.56e5
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.85e4
AS 1368F
1.22e8
22.86
JS 1234F
1.13e8
26.33
ES 2378F
1.25e8
27.66
3.01e7
1.51e7
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.39e4
AS 1368F
1.59e8
22.86
JS 1234F
1.49e8
26.33
ES 2378F
1.56e8
27.65
RRF(ES 2378F) = (1.25e8 + 1.56e8) * 100pg / (1.13e8 + 1.49e8) * 100pg * 1 = 1.07
PSW 27-Jul-2021 15:18
OK - CL 28Jul21
3.71e7
1.85e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.45e3
1.78e4
8.89e3
100%
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 9273, 2389, 5803 scc: 377-233
PKD: 27-Jul-2021 11:30 Printed: 27-Jul-2021 15:30 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.66e4
8.28e3
0.00e0
RT
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 3.30e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
Rel. Int.
100%
0%
Abs. Int.
2.64e4
1.32e4
0.00e0
RT
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 2.23e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
Rel. Int.
100%
0%
Abs. Int.
2.99e6
1.50e6
0.00e0
RT
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0

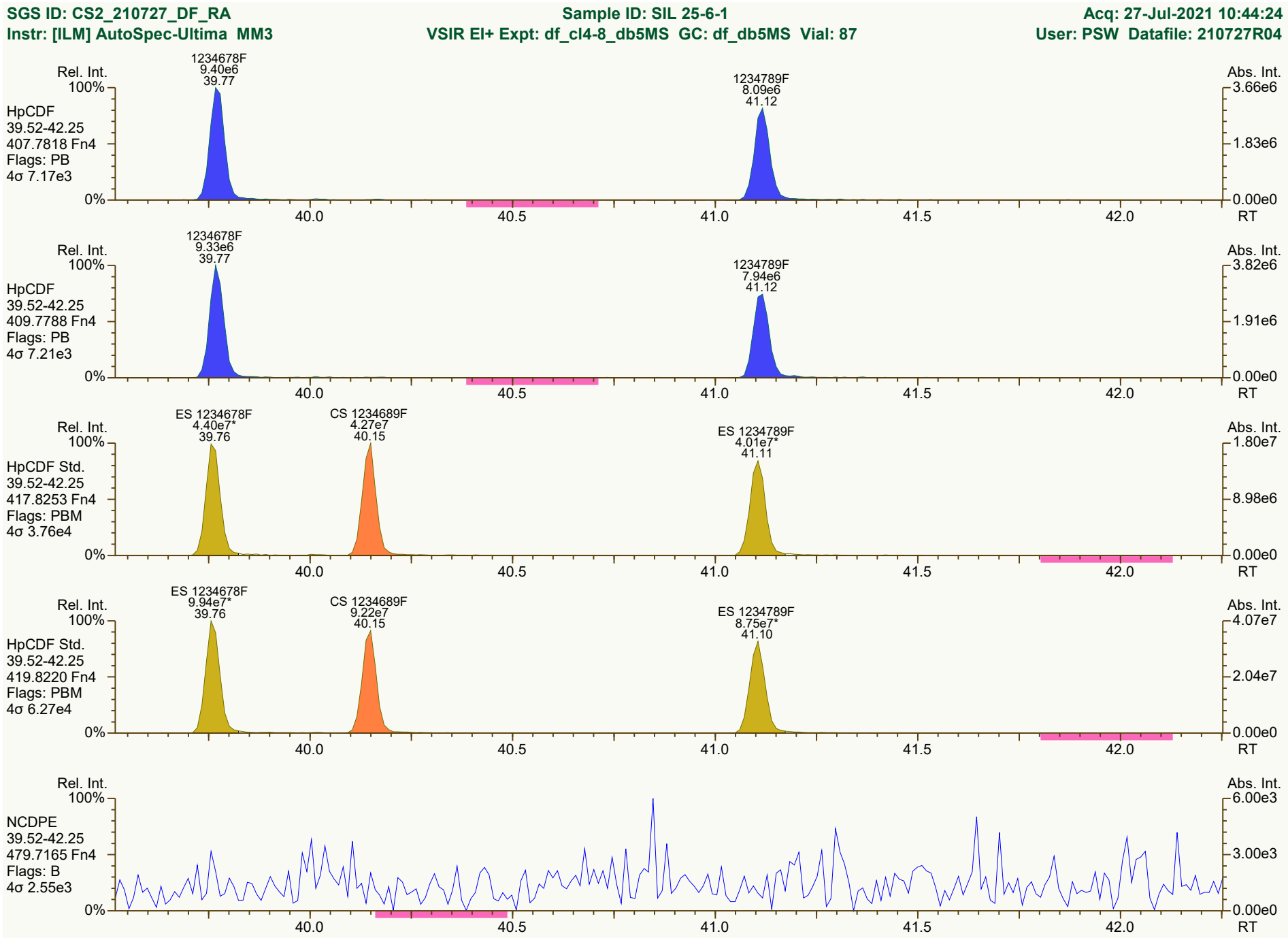

SGS ID: CS2_210727_DF_RA
Sample ID: SIL 25-6-1
Acq: 27-Jul-2021 10:44:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87
User: PSW Datafile: 210727R04
Rel. Int.
Abs. Int.
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 3.73e3
12378F
1.34e7
32.39
23478F
1.28e7
33.47
3.95e6
1.98e6
0.00e0
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 3.69e3
12378F
8.19e6
32.38
23478F
8.39e6
33.47
2.47e6
1.23e6
0.00e0
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PB
4σ 2.22e4
CS 12346F
1.37e8
31.85
ES 12378F
1.46e8
32.37
ES 23478F
1.45e8
33.46
4.26e7
2.13e7
0.00e0
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PB
4σ 2.40e4
CS 12346F
8.68e7
31.85
ES 12378F
9.41e7
32.37
ES 23478F
9.09e7
33.46
2.71e7
1.36e7
0.00e0
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: PB
4σ 1.96e3
8.53e3
4.27e3
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 9467, 2451, 0183 scc: 377-233
PKD: 27-Jul-2021 11:30 Printed: 27-Jul-2021 15:30 Page 9 of 12


SGS ID: CS2_210727_DF_RA
Sample ID: SIL 25-6-1
Acq: 27-Jul-2021 10:44:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87
User: PSW Datafile: 210727R04
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PB
4σ 2.50e3
123478F 1.16e7 36.69
123678F 1.18e7 36.83
234678F 1.08e7 37.50
123789F 1.05e7 38.43
3.64e6
1.82e6
0.00e0
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PB
4σ 2.98e3
123478F 9.29e6 36.69
123678F 9.53e6 36.83
234678F 9.01e6 37.50
123789F 8.47e6 38.43
3.01e6
1.50e6
0.00e0
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 2.97e4
ES 123478F 6.01e7 36.67
ES 123678F 6.77e7 36.81
CS 123469F 5.79e7 37.13
ES 234678F 6.26e7 37.48
ES 123789F 5.92e7 38.42
2.11e7
1.05e7
0.00e0
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 2.80e4
ES 123478F 1.16e8 36.67
ES 123678F 1.31e8 36.81
CS 123469F 1.11e8 37.13
ES 234678F 1.21e8 37.48
ES 123789F 1.14e8 38.42
3.95e7
1.97e7
0.00e0
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 1.58e3
1.00e4
5.01e3
0.00e0
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 3365, 0373, 6521 scc: 377-233
PKD: 27-Jul-2021 11:30 Printed: 27-Jul-2021 15:30 Page 10 of 12

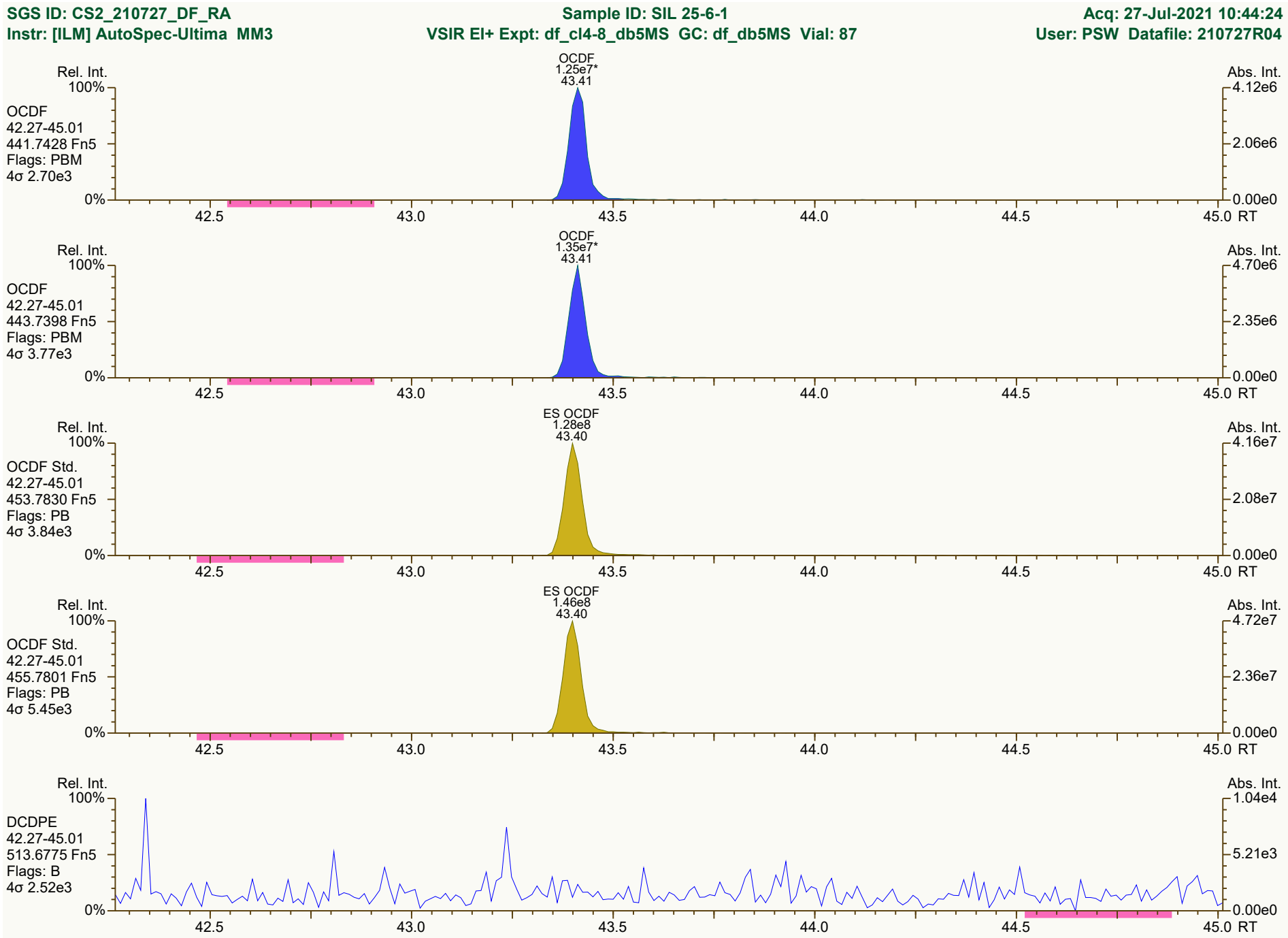
SGS ID: CS2_210727_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: SIL 25-6-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87

Acq: 27-Jul-2021 10:44:24
User: PSW Datafile: 210727R04



Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 7424, 0679, 0705 scc: 377-233
PKD: 27-Jul-2021 11:30 Printed: 27-Jul-2021 15:30 Page 11 of 12


SGS ID: CS2_210727_DF_RA
Sample ID: SIL 25-6-1
Acq: 27-Jul-2021 10:44:24
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 87
User: PSW Datafile: 210727R04
OCDF
1.25e7*
43.41
Rel. Int.
Abs. Int.
OCDF
42.27-45.01
441.7428 Fn5
Flags: PBM
4σ 2.70e3
OCDF
1.35e7*
43.41
OCDF
42.27-45.01
443.7398 Fn5
Flags: PBM
4σ 3.77e3
ES OCDF
1.28e8
43.40
OCDF Std.
42.27-45.01
453.7830 Fn5
Flags: PB
4σ 3.84e3
ES OCDF
1.46e8
43.40
OCDF Std.
42.27-45.01
455.7801 Fn5
Flags: PB
4σ 5.45e3
DCDPE
42.27-45.01
513.6775 Fn5
Flags: B
4σ 2.52e3
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS2_210727_DF_RA.utp_res, saved 27-Jul-2021 15:19 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 3363, 4372, 5962 scc: 377-233
PKD: 27-Jul-2021 11:30 Printed: 27-Jul-2021 15:30 Page 12 of 12

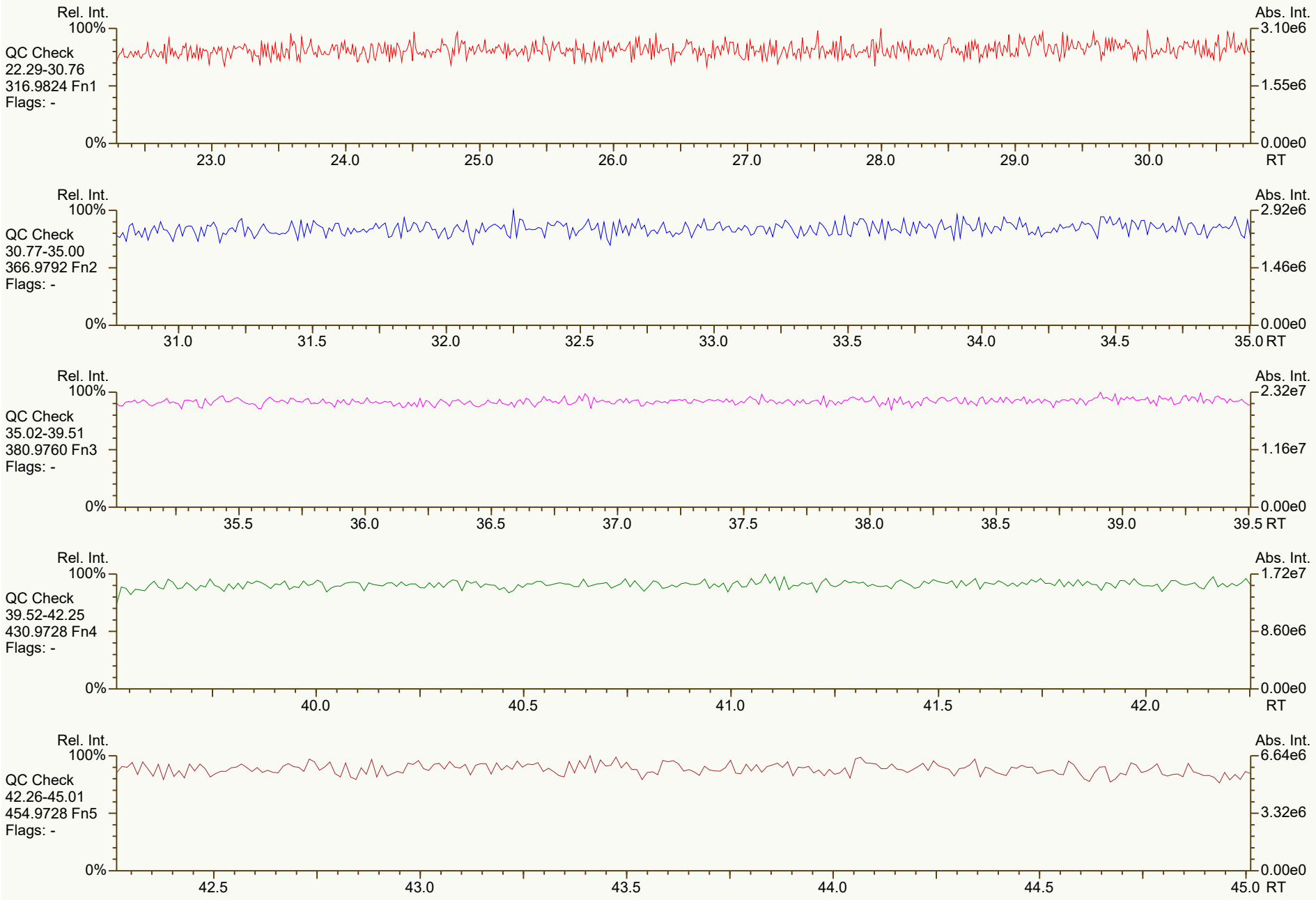
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 11:32 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_210727_DF_RA	UTP: 27-Jul-2021 15:00:20 PSW	Checkcode: 230-891-PQT
Sample ID: SIL 23-672-1	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R05

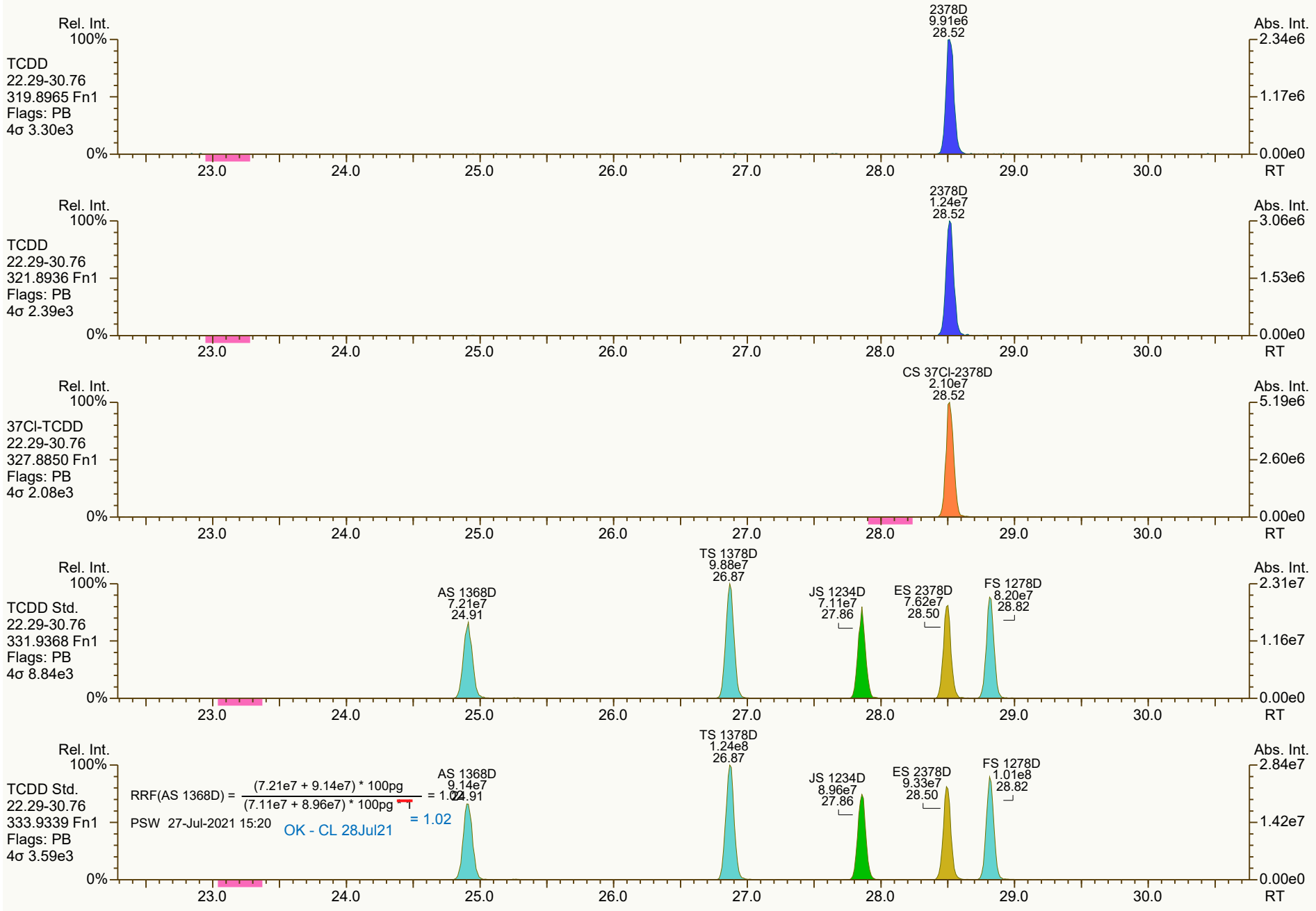
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.52	2.23E+07	0.80	Y	1.34	1.32	-2%
12378-PeCDD	33.80	8.56E+07	1.57	Y	1.06	1.05	-1%
123478-HxCDD	37.67	7.63E+07	1.25	Y	1.06	1.05	-1%
123678-HxCDD	37.78	7.89E+07	1.25	Y	1.08	1.08	0%
123789-HxCDD	38.07	8.22E+07	1.23	Y	1.02	0.99	-2%
1234678-HpCDD	40.66	7.06E+07	1.03	Y	0.97	0.95	-2%
OCDD	43.22	1.21E+08	0.89	Y	1.07	1.07	0%
2378-TCDF	27.66	2.66E+07	0.80	Y	0.96	0.95	-1%
12378-PeCDF	32.37	1.11E+08	1.56	Y	0.95	0.94	-1%
23478-PeCDF	33.46	1.09E+08	1.56	Y	0.94	0.92	-2%
123478-HxCDF	36.68	1.05E+08	1.22	Y	1.23	1.22	-2%
123678-HxCDF	36.82	1.08E+08	1.25	Y	1.13	1.10	-2%
234678-HxCDF	37.49	1.02E+08	1.24	Y	1.15	1.14	-1%
123789-HxCDF	38.42	9.59E+07	1.23	Y	1.14	1.14	0%
1234678-HpCDF	39.76	9.62E+07	1.03	Y	1.36	1.34	-1%
1234789-HpCDF	41.10	8.35E+07	1.03	Y	1.30	1.34	3%
OCDF	43.41	1.40E+08	0.89	Y	1.03	1.03	0%
ES 2378-TCDD	28.50	1.70E+08	0.82	Y	1.03	1.05	2%
ES 12378-PeCDD	33.782	1.63E+08	1.65	Y	1.03	1.01	-2%
ES 123478-HxCDD	37.654	1.45E+08	1.26	Y	0.99	1.00	0%
ES 123678-HxCDD	37.768	1.46E+08	1.27	Y	0.97	1.01	3%
ES 123789-HxCDD	38.057	1.66E+08	1.23	Y	1.12	1.14	1%
ES 1234678-HpCDD	40.644	1.48E+08	1.08	Y	0.99	1.02	3%
ES OCDD	43.211	2.25E+08	0.88	Y	0.78	0.77	-1%
ES 2378-TCDF	27.643	2.80E+08	0.79	Y	1.08	1.09	1%
ES 12378-PeCDF	32.354	2.37E+08	1.58	Y	0.93	0.93	-1%
ES 23478-PeCDF	33.446	2.37E+08	1.53	Y	0.92	0.93	0%
ES 123478-HxCDF	36.661	1.72E+08	0.52	Y	1.14	1.18	4%
ES 123678-HxCDF	36.801	1.96E+08	0.52	Y	1.30	1.35	4%
ES 234678-HxCDF	37.469	1.79E+08	0.54	Y	1.20	1.23	2%
ES 123789-HxCDF	38.404	1.68E+08	0.52	Y	1.14	1.16	2%
ES 1234678-HpCDF	39.75	1.43E+08	0.45	Y	0.95	0.98	4%
ES 1234789-HpCDF	41.092	1.25E+08	0.44	Y	0.85	0.86	1%
ES OCDF	43.395	2.71E+08	0.89	Y	0.93	0.93	1%

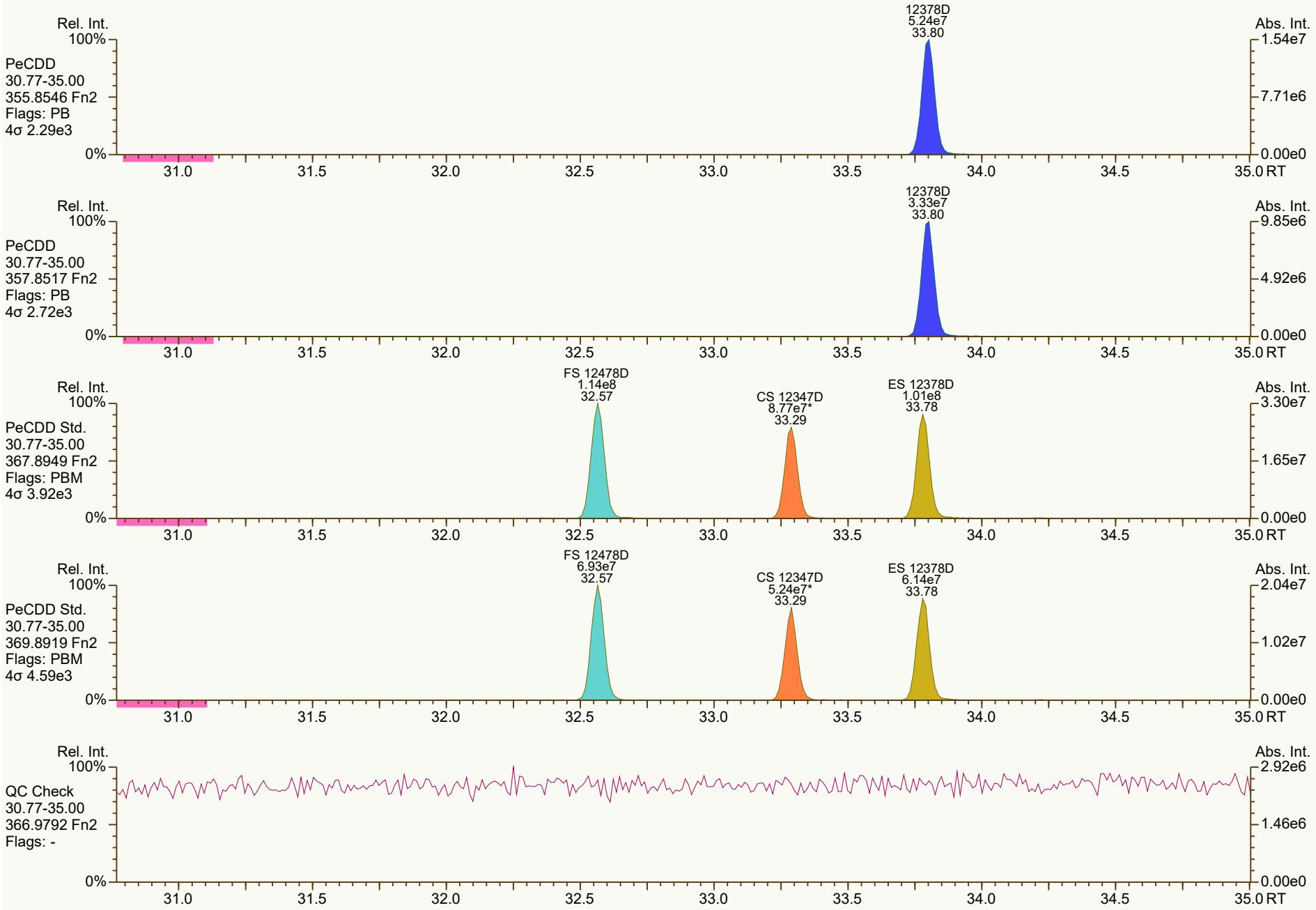
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 11:32 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_210727_DF_RA	UTP: 27-Jul-2021 15:00:20 PSW	Checkcode: 230-891-PQT
Sample ID: SIL 23-672-1	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R05

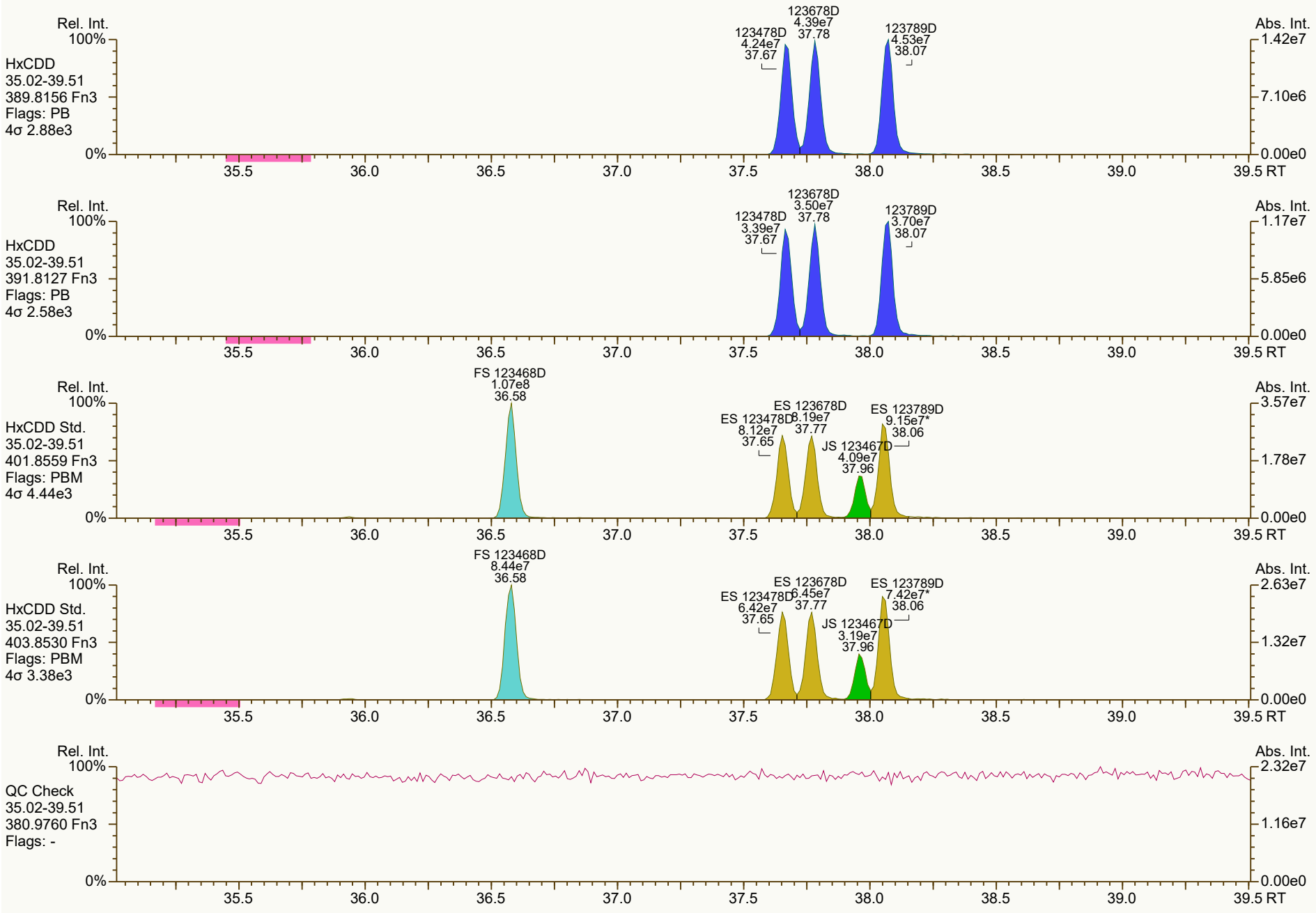
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.86	1.61E+08	0.79	Y	-	-	-
JS 1234-TCDF	26.32	2.56E+08	0.77	Y	-	-	-
JS 123467-HxCDD	37.96	7.28E+07	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	28.52	2.10E+07	n/a	-	1.31	1.30	0%
CS 12347-PeCDD	33.29	1.40E+08	1.67	Y	0.89	0.87	-2%
CS 12346-PeCDF	31.84	2.28E+08	1.55	Y	0.87	0.89	2%
CS 123469-HxCDF	37.12	1.65E+08	0.52	Y	1.09	1.14	4%
CS 1234689-HpCDF	40.13	1.35E+08	0.46	Y	0.86	0.92	7%
SS 37Cl-2378-TCDD	28.52	2.10E+07	n/a	-	1.26	1.24	-2%
SS 12347-PeCDD	33.29	1.40E+08	1.67	Y	0.86	0.86	0%
SS 12346-PeCDF	31.84	2.28E+08	1.55	Y	0.93	0.96	3%
SS 123469-HxCDF	37.12	1.65E+08	0.52	Y	0.84	0.84	0%
SS 1234689-HpCDF	40.13	1.35E+08	0.46	Y	0.91	0.94	3%
AS 1368-TCDD	24.91	1.64E+08	0.79	Y	1.02	1.02	0%
AS 1368-TCDF	22.85	2.82E+08	0.79	Y	1.08	1.10	2%
FS 1278-TCDD	28.82	1.83E+08	0.81	Y	1.08	1.08	0%
FS 12478-PeCDD	32.57	1.84E+08	1.65	Y	1.09	1.13	3%
FS 123468-HxCDD	36.58	1.91E+08	1.27	Y	1.26	1.32	4%
FS 1234679-HpCDD	39.99	2.10E+08	1.06	Y	1.36	1.42	5%
TS 1378-TCDD	26.87	2.23E+08	0.80	Y	1.35	1.31	-3%
~~OCDD-a~~	~~43.22~~	~~7.32E+06~~	~~2.45~~	~~Y~~	~~0.07~~	~~0.07~~	~~-1%~~
~~OCDF-a~~	~~43.40~~	~~8.14E+06~~	~~2.47~~	~~Y~~	~~0.06~~	~~0.06~~	~~1%~~

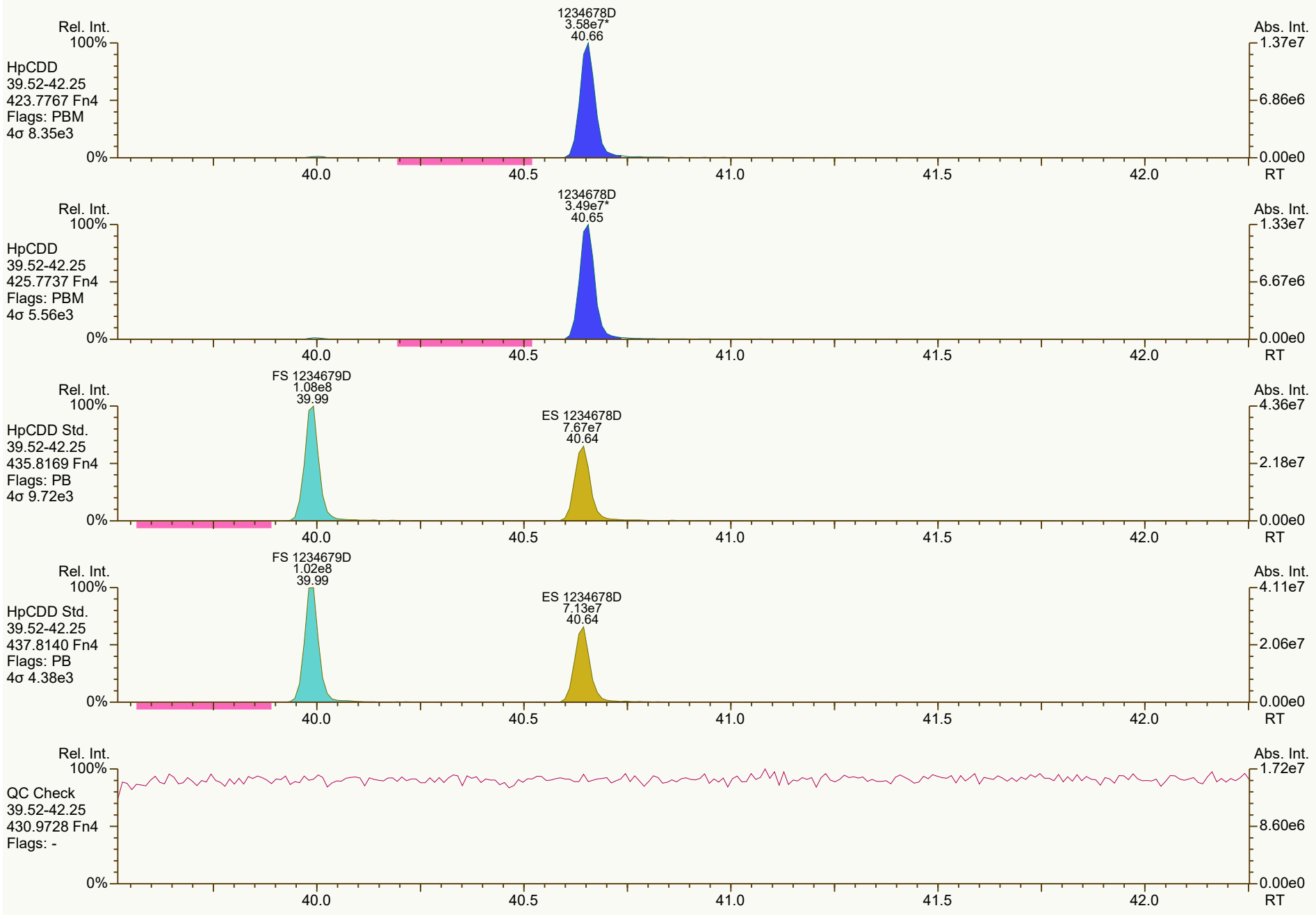
Not reported from this ICAL - CL 28Jul21


Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.10e6
1.55e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.92e6
1.46e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.32e7
1.16e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.72e7
8.60e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.64e6
3.32e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

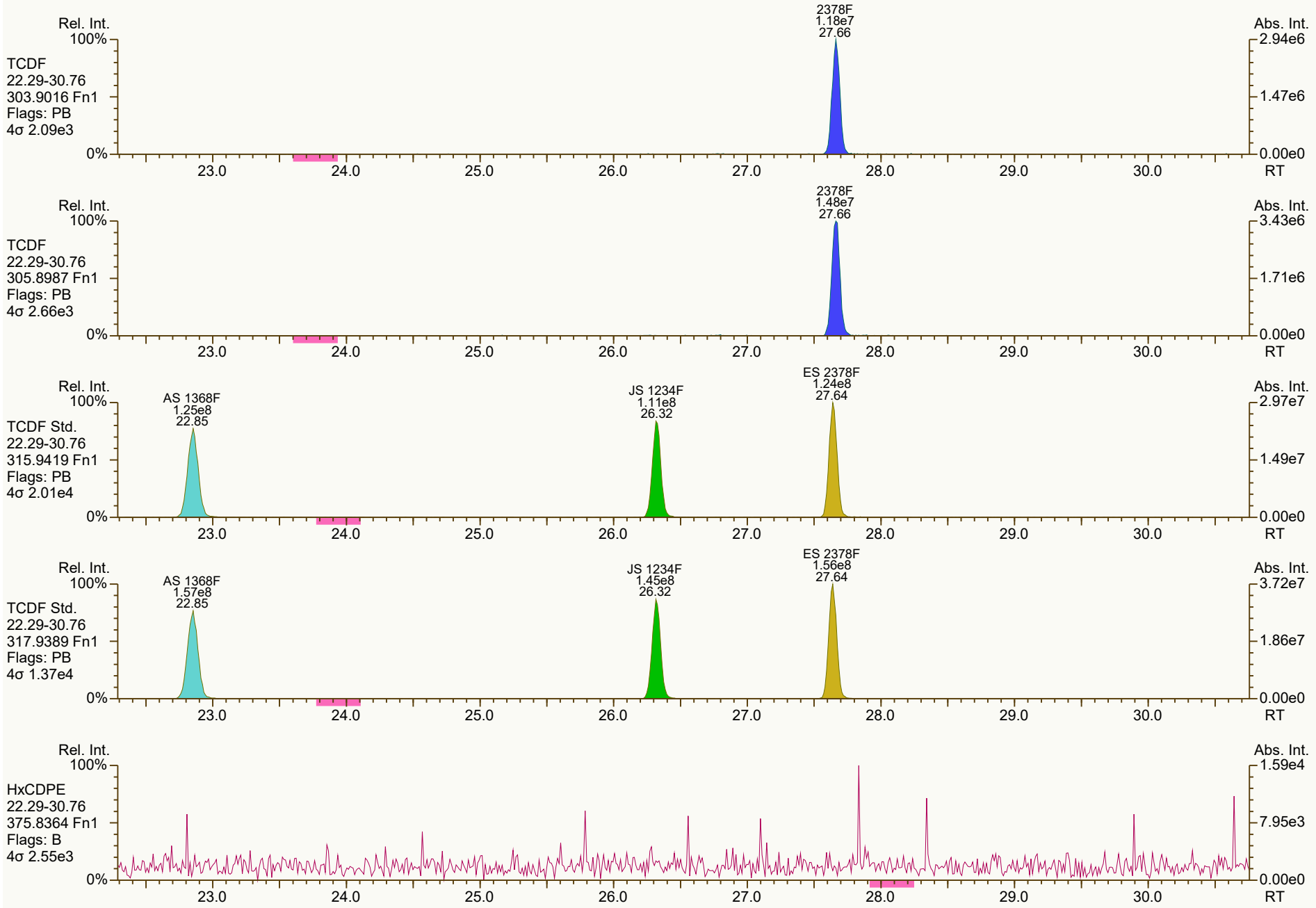

Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 3.30e3
0%
2378D
9.91e6
28.52
Abs. Int.
2.34e6
1.17e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.39e3
0%
2378D
1.24e7
28.52
Abs. Int.
3.06e6
1.53e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 2.08e3
0%
CS 37Cl-2378D
2.10e7
28.52
Abs. Int.
5.19e6
2.60e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 8.84e3
0%
AS 1368D
7.21e7
24.91
TS 1378D
9.88e7
26.87
JS 1234D
7.11e7
27.86
ES 2378D
7.62e7
28.50
FS 1278D
8.20e7
28.82
Abs. Int.
2.31e7
1.16e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 3.59e3
0%
RRF(AS 1368D) = (7.21e7 + 9.14e7) * 100pg / (7.11e7 + 8.96e7) * 100pg = 1.02
PSW 27-Jul-2021 15:20
OK - CL 28Jul21
= 1.02
AS 1368D
9.14e7
24.91
TS 1378D
1.24e8
26.87
JS 1234D
8.96e7
27.86
ES 2378D
9.33e7
28.50
FS 1278D
1.01e8
28.82
Abs. Int.
2.84e7
1.42e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 2.29e3
0%
12378D
5.24e7
33.80
Abs. Int.
1.54e7
7.71e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.72e3
0%
12378D
3.33e7
33.80
Abs. Int.
9.85e6
4.92e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PBM
4σ 3.92e3
0%
FS 12478D
1.14e8
32.57
CS 12347D
8.77e7*
33.29
ES 12378D
1.01e8
33.78
Abs. Int.
3.30e7
1.65e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PBM
4σ 4.59e3
0%
FS 12478D
6.93e7
32.57
CS 12347D
5.24e7*
33.29
ES 12378D
6.14e7
33.78
Abs. Int.
2.04e7
1.02e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.92e6
1.46e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

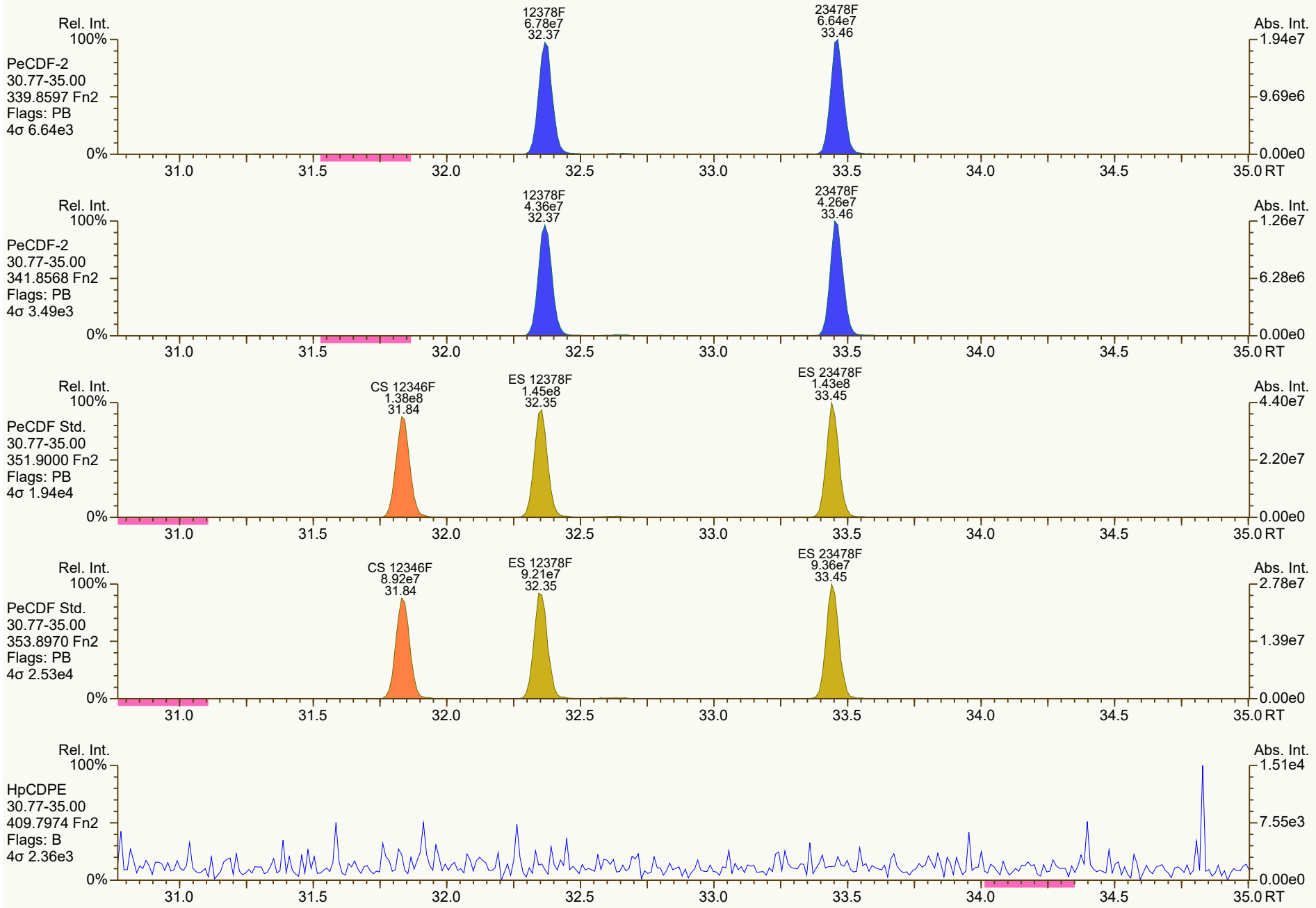

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.88e3
123678D
4.39e7
37.78
123478D
4.24e7
37.67
123789D
4.53e7
38.07
Abs. Int.
1.42e7
7.10e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.58e3
123678D
3.50e7
37.78
123478D
3.39e7
37.67
123789D
3.70e7
38.07
Abs. Int.
1.17e7
5.85e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 4.44e3
FS 123468D
1.07e8
36.58
ES 123678D
8.19e7
37.77
ES 123478D
8.12e7
37.65
ES 123789D
9.15e7*
38.06
JS 123467D
4.09e7
37.96
Abs. Int.
3.57e7
1.78e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 3.38e3
FS 123468D
8.44e7
36.58
ES 123678D
6.45e7
37.77
ES 123478D
6.42e7
37.65
ES 123789D
7.42e7*
38.06
JS 123467D
3.19e7
37.96
Abs. Int.
2.63e7
1.32e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
Abs. Int.
2.32e7
1.16e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT

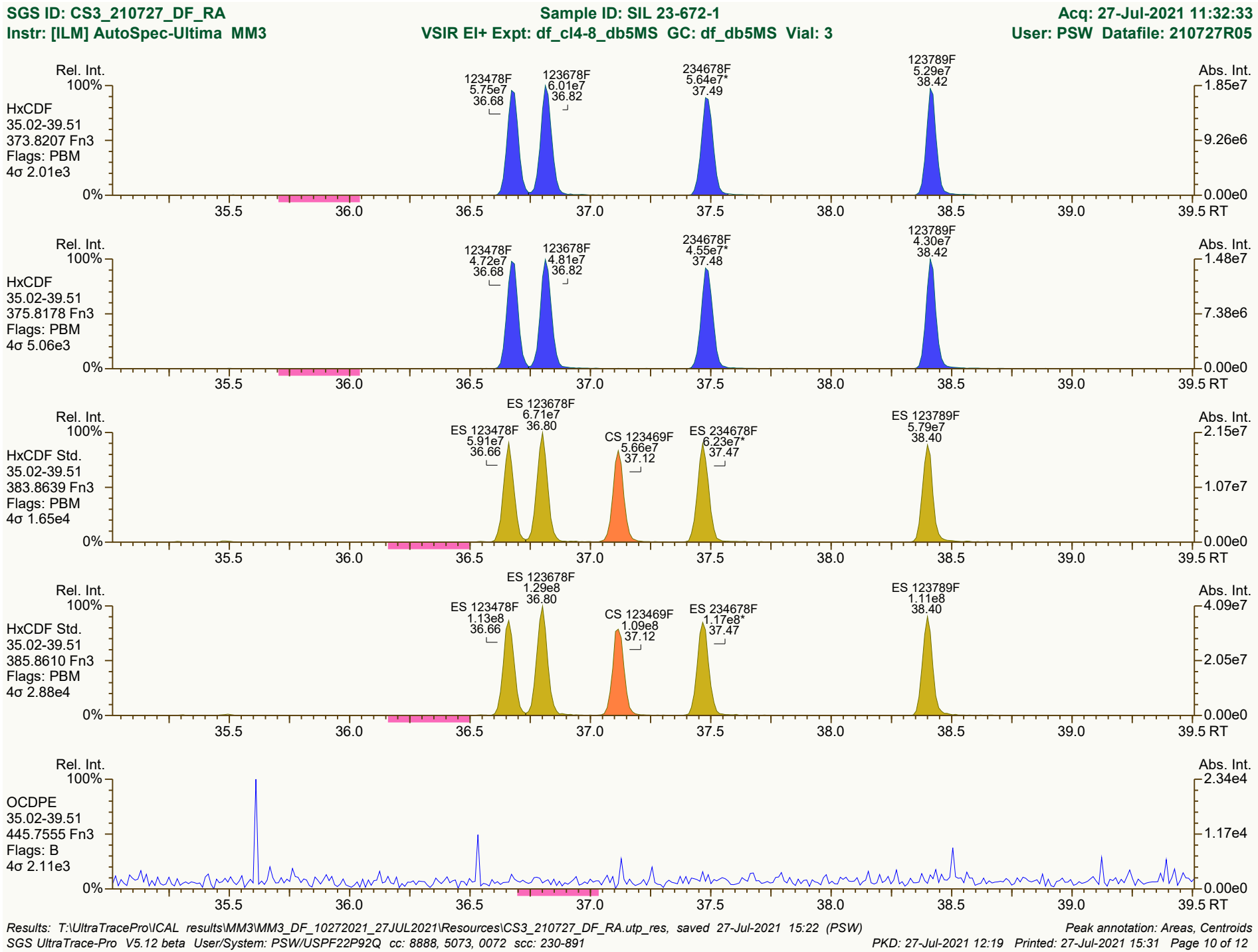

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PBM
4σ 8.35e3
0%
1234678D
3.58e7*
40.66
Abs. Int.
1.37e7
6.86e6
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PBM
4σ 5.56e3
1234678D
3.49e7*
40.65
1.33e7
6.67e6
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 9.72e3
FS 1234679D
1.08e8
39.99
ES 1234678D
7.67e7
40.64
4.36e7
2.18e7
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 4.38e3
FS 1234679D
1.02e8
39.99
ES 1234678D
7.13e7
40.64
4.11e7
2.06e7
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
1.72e7
8.60e6

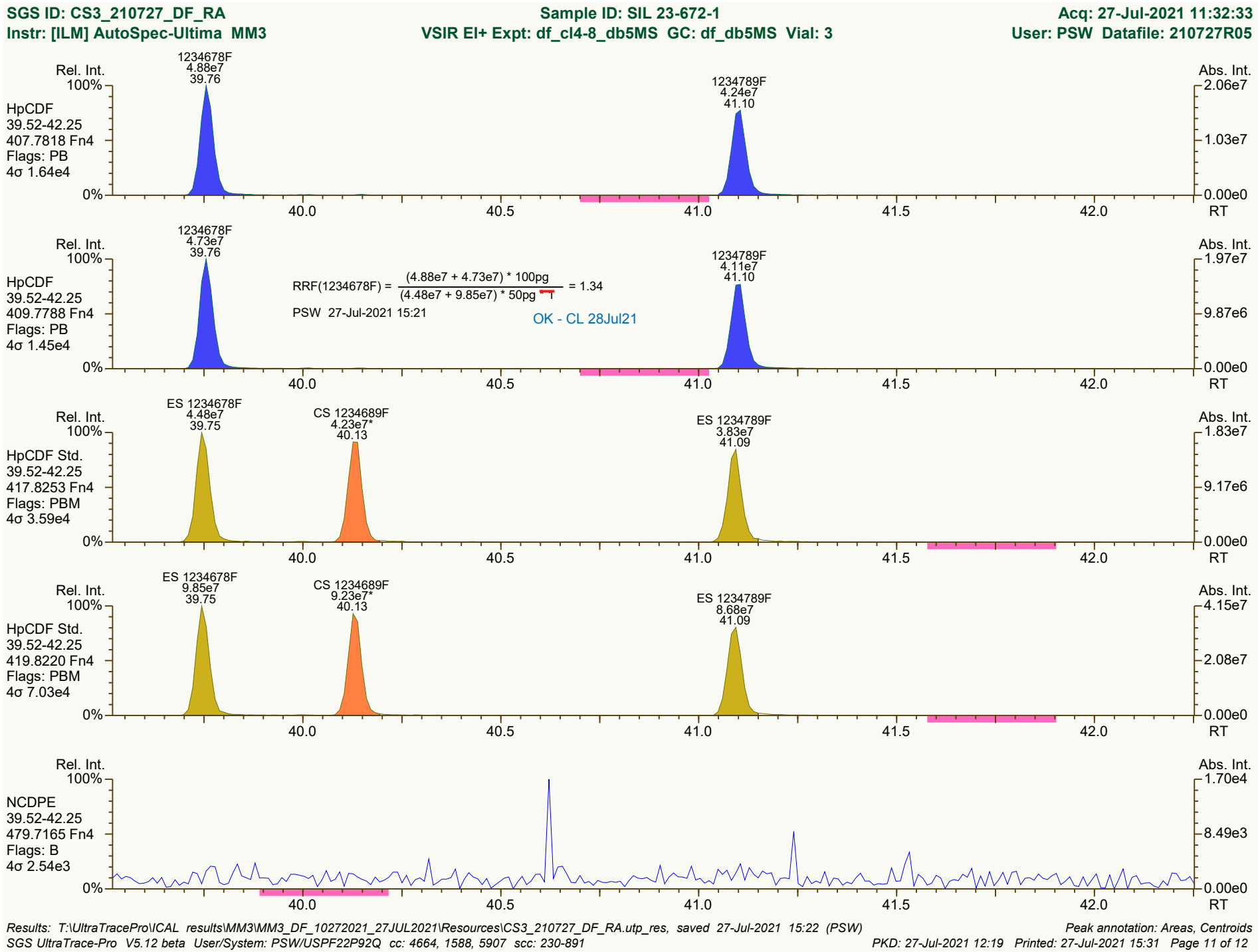

OCDD
5.68e7*
43.22
Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: PBM
4σ 3.46e3
0%
Abs. Int.
2.00e7
1.00e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
6.38e7*
43.22
OCDD
42.26-45.01
459.7348 Fn5
Flags: PBM
4σ 3.66e3
2.18e7
1.09e7
ES OCDD
1.05e8*
43.21
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PBM
4σ 6.38e3
3.38e7
1.69e7
ES OCDD
1.20e8*
43.21
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PBM
4σ 5.59e3
3.96e7
1.98e7
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
6.64e6
3.32e6

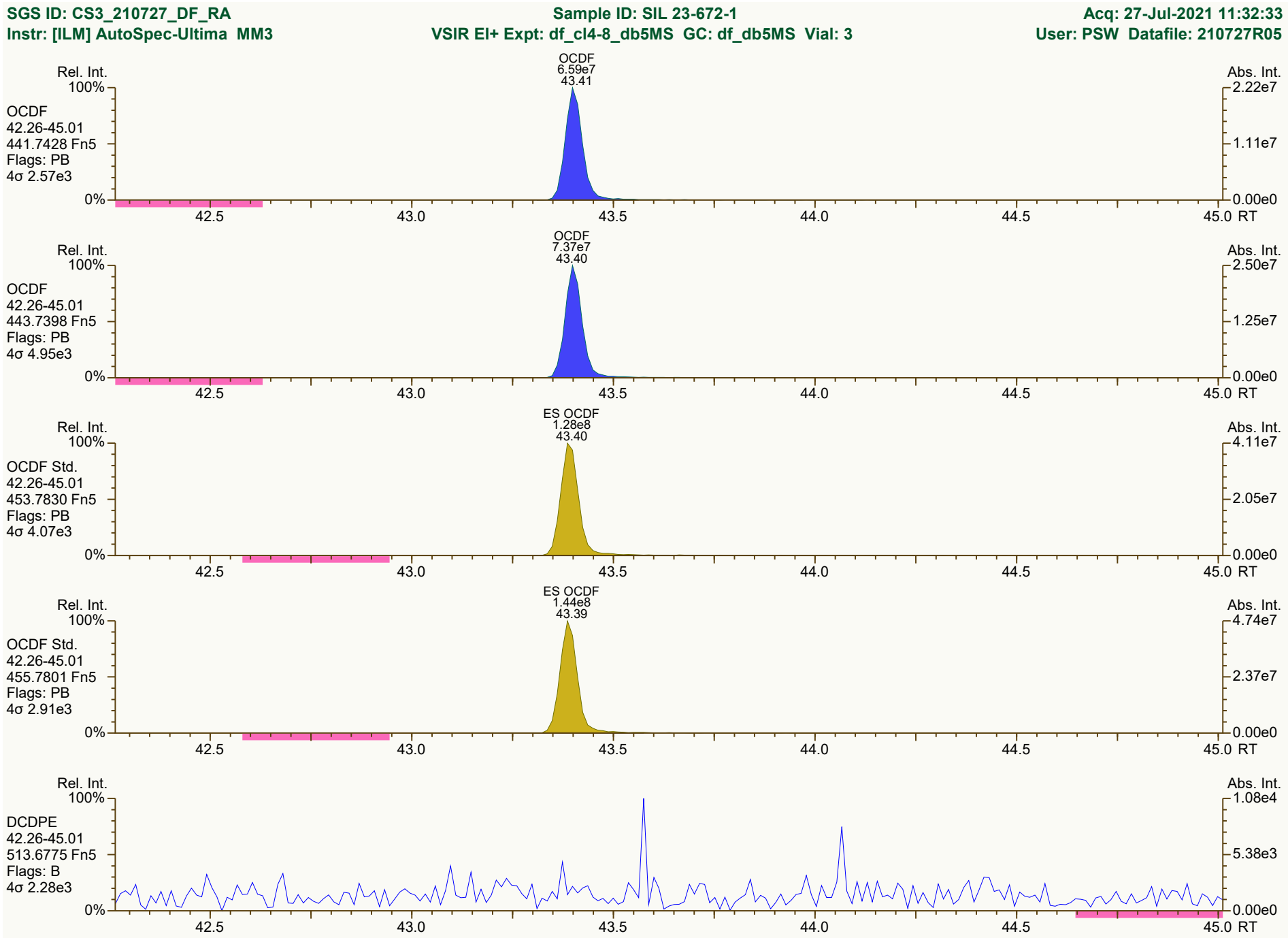

Rel. Int.
100%
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.09e3
0%
2378F
1.18e7
27.66
Abs. Int.
2.94e6
1.47e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.66e3
0%
2378F
1.48e7
27.66
Abs. Int.
3.43e6
1.71e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 2.01e4
0%
AS 1368F
1.25e8
22.85
JS 1234F
1.11e8
26.32
ES 2378F
1.24e8
27.64
Abs. Int.
2.97e7
1.49e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.37e4
0%
AS 1368F
1.57e8
22.85
JS 1234F
1.45e8
26.32
ES 2378F
1.56e8
27.64
Abs. Int.
3.72e7
1.86e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.55e3
0%
Abs. Int.
1.59e4
7.95e3
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.52e4
7.61e3
0.00e0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 3.35e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.57e4
7.83e3
0.00e0
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 2.27e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.10e6
1.55e6
0.00e0
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 6.64e3
0%
12378F
6.78e7
32.37
23478F
6.64e7
33.46
Abs. Int.
1.94e7
9.69e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 3.49e3
0%
12378F
4.36e7
32.37
23478F
4.26e7
33.46
Abs. Int.
1.26e7
6.28e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PB
4σ 1.94e4
0%
CS 12346F
1.38e8
31.84
ES 12378F
1.45e8
32.35
ES 23478F
1.43e8
33.45
Abs. Int.
4.40e7
2.20e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PB
4σ 2.53e4
0%
CS 12346F
8.92e7
31.84
ES 12378F
9.21e7
32.35
ES 23478F
9.36e7
33.45
Abs. Int.
2.78e7
1.39e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.36e3
0%
Abs. Int.
1.51e4
7.55e3
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


SGS ID: CS3_210727_DF_RA
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 11:32:33
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R05
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 2.01e3
123478F 5.75e7 36.68
123678F 6.01e7 36.82
234678F 5.64e7* 37.49
123789F 5.29e7 38.42
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 5.06e3
123478F 4.72e7 36.68
123678F 4.81e7 36.82
234678F 4.55e7* 37.48
123789F 4.30e7 38.42
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PBM
4σ 1.65e4
ES 123478F 5.91e7 36.66
ES 123678F 6.71e7 36.80
CS 123469F 5.66e7 37.12
ES 234678F 6.23e7* 37.47
ES 123789F 5.79e7 38.40
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PBM
4σ 2.88e4
ES 123478F 1.13e8 36.66
ES 123678F 1.29e8 36.80
CS 123469F 1.09e8 37.12
ES 234678F 1.17e8* 37.47
ES 123789F 1.11e8 38.40
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.11e3
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


SGS ID: CS3_210727_DF_RA
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 11:32:33
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R05
Rel. Int.
Abs. Int.
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 1.64e4
1234678F
4.88e7
39.76
1234789F
4.24e7
41.10
2.06e7
1.03e7
0.00e0
RT
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 1.45e4
1234678F
4.73e7
39.76
RRF(1234678F) = (4.88e7 + 4.73e7) * 100pg / (4.48e7 + 9.85e7) * 50pg = 1.34
PSW 27-Jul-2021 15:21
OK - CL 28Jul21
1234789F
4.11e7
41.10
1.97e7
9.87e6
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PBM
4σ 3.59e4
ES 1234678F
4.48e7
39.75
CS 1234689F
4.23e7*
40.13
ES 1234789F
3.83e7
41.09
1.83e7
9.17e6
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PBM
4σ 7.03e4
ES 1234678F
9.85e7
39.75
CS 1234689F
9.23e7*
40.13
ES 1234789F
8.68e7
41.09
4.15e7
2.08e7
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.54e3
1.70e4
8.49e3
100%
0%
40.0
40.5
41.0
41.5
42.0
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RA.utp_res, saved 27-Jul-2021 15:22 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 4664, 1588, 5907 scc: 230-891
PKD: 27-Jul-2021 12:19 Printed: 27-Jul-2021 15:31 Page 11 of 12


SGS ID: CS3_210727_DF_RA
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 11:32:33
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R05
OCDF
6.59e7
43.41
Rel. Int.
Abs. Int.
OCDF
42.26-45.01
441.7428 Fn5
Flags: PB
4σ 2.57e3
OCDF
7.37e7
43.40
OCDF
42.26-45.01
443.7398 Fn5
Flags: PB
4σ 4.95e3
ES OCDF
1.28e8
43.40
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PB
4σ 4.07e3
ES OCDF
1.44e8
43.39
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PB
4σ 2.91e3
DCDPE
42.26-45.01
513.6775 Fn5
Flags: B
4σ 2.28e3
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RA.utp_res, saved 27-Jul-2021 15:22 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0361, 7459, 0947 scc: 230-891
PKD: 27-Jul-2021 12:19 Printed: 27-Jul-2021 15:31 Page 12 of 12

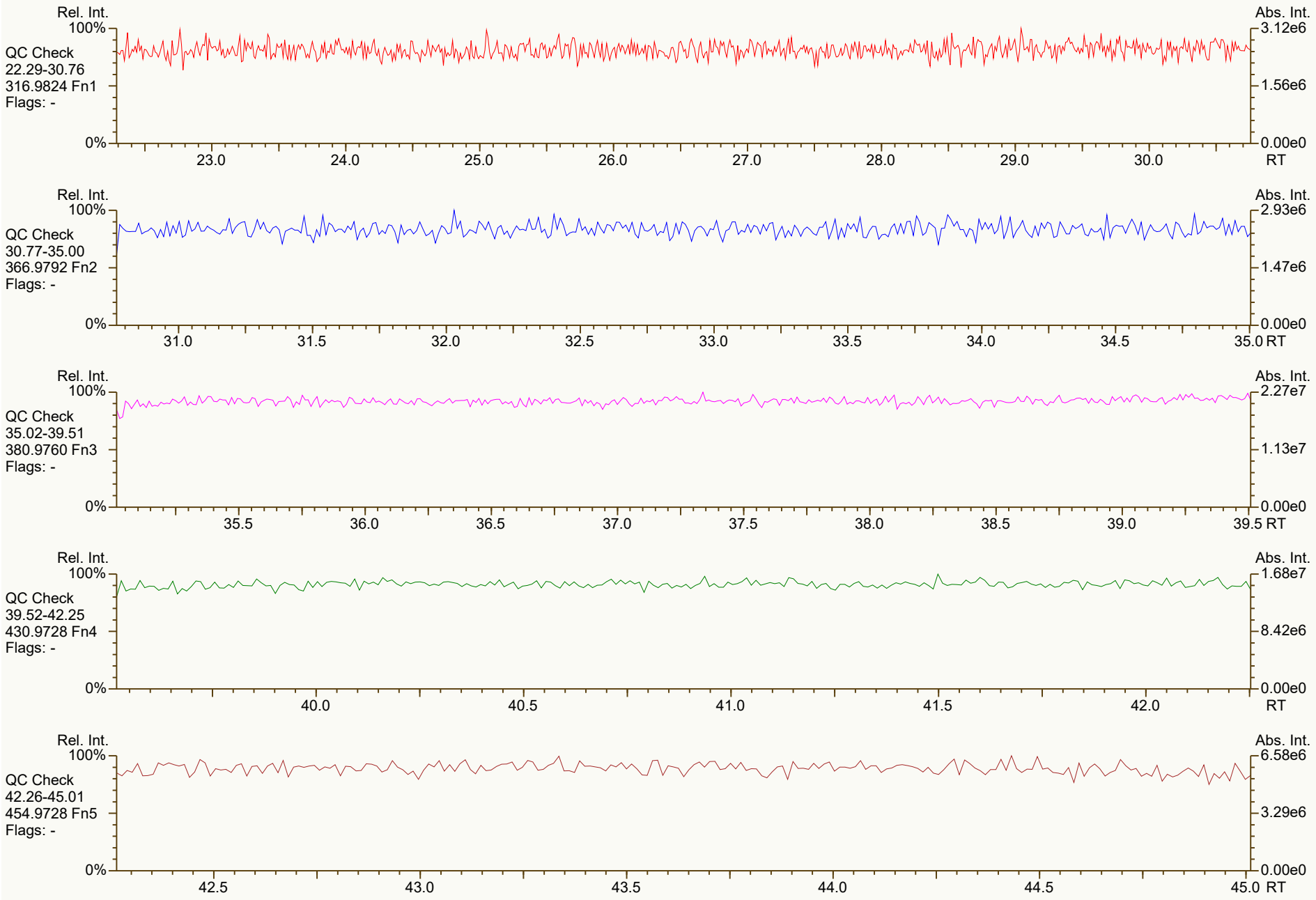
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 12:19 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS4_210727_DF_RA	UTP: 27-Jul-2021 15:00:21 PSW	Checkcode: 602-590-JSF
Sample ID: SIL 25-5-4	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R06

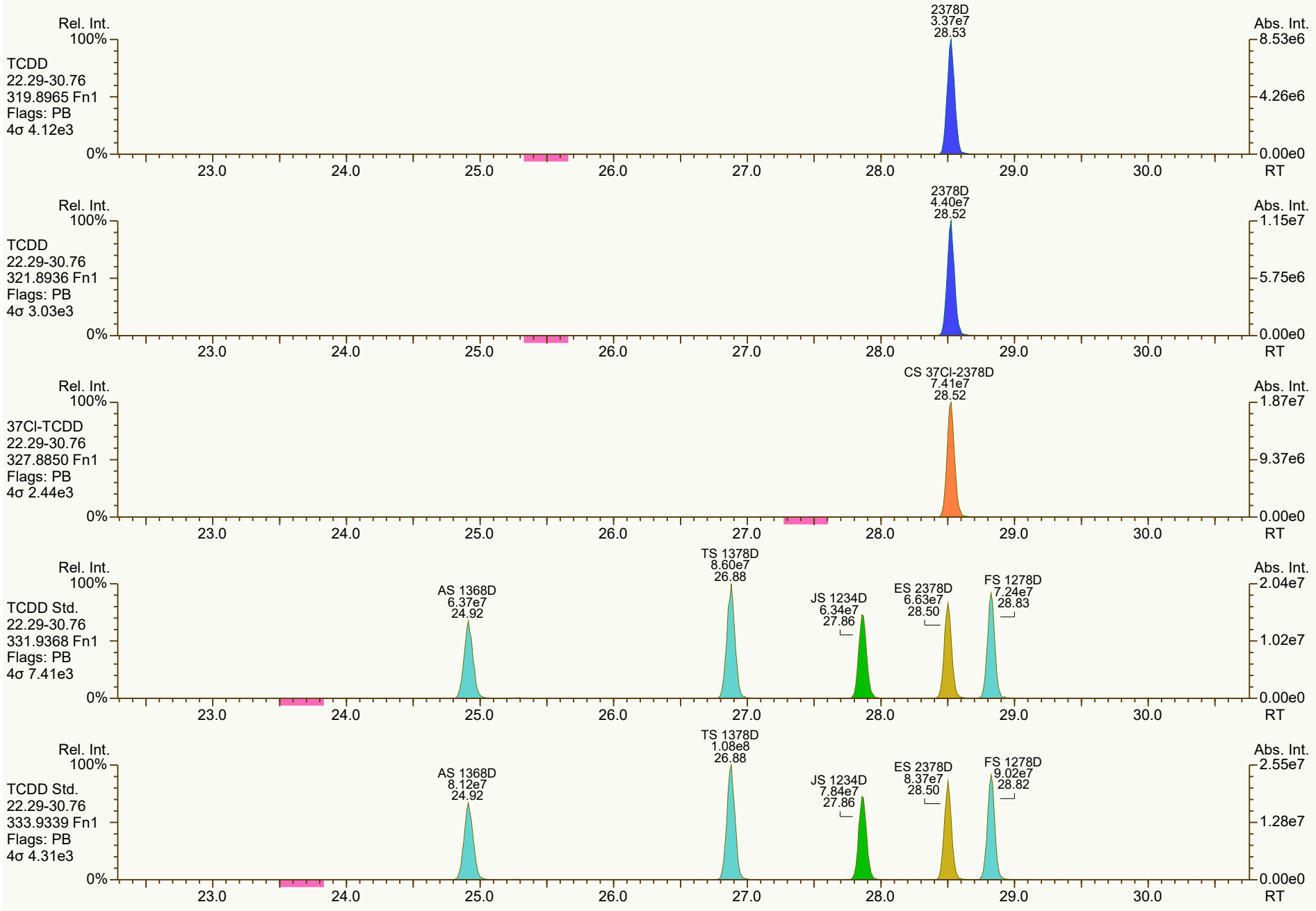
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	7.77E+07	0.76	Y	1.34	1.30	-4%
12378-PeCDD	33.81	3.10E+08	1.55	Y	1.06	1.06	0%
123478-HxCDD	37.68	2.82E+08	1.23	Y	1.06	1.05	-1%
123678-HxCDD	37.79	2.84E+08	1.24	Y	1.08	1.10	2%
123789-HxCDD	38.08	2.99E+08	1.23	Y	1.02	0.99	-2%
1234678-HpCDD	40.67	2.61E+08	1.03	Y	0.97	0.98	0%
OCDD	43.23	4.49E+08	0.90	Y	1.07	1.08	1%
2378-TCDF	27.67	9.59E+07	0.77	Y	0.96	0.96	0%
12378-PeCDF	32.38	4.09E+08	1.58	Y	0.95	0.95	0%
23478-PeCDF	33.47	3.96E+08	1.56	Y	0.94	0.93	-1%
123478-HxCDF	36.69	3.82E+08	1.23	Y	1.23	1.24	0%
123678-HxCDF	36.83	3.97E+08	1.25	Y	1.13	1.13	0%
234678-HxCDF	37.49	3.75E+08	1.25	Y	1.15	1.13	-2%
123789-HxCDF	38.43	3.51E+08	1.24	Y	1.14	1.14	0%
1234678-HpCDF	39.77	3.45E+08	1.03	Y	1.36	1.33	-2%
1234789-HpCDF	41.11	2.99E+08	1.04	Y	1.30	1.30	0%
OCDF	43.41	5.22E+08	0.91	Y	1.03	1.05	2%
ES 2378-TCDD	28.50	1.50E+08	0.79	Y	1.03	1.06	2%
ES 12378-PeCDD	33.789	1.46E+08	1.59	Y	1.03	1.03	0%
ES 123478-HxCDD	37.662	1.34E+08	1.28	Y	0.99	0.98	-2%
ES 123678-HxCDD	37.775	1.29E+08	1.28	Y	0.97	0.94	-4%
ES 123789-HxCDD	38.064	1.51E+08	1.27	Y	1.12	1.09	-3%
ES 1234678-HpCDD	40.654	1.33E+08	1.06	Y	0.99	0.97	-2%
ES OCDD	43.216	2.07E+08	0.92	Y	0.78	0.75	-3%
ES 2378-TCDF	27.649	2.49E+08	0.80	Y	1.08	1.09	1%
ES 12378-PeCDF	32.362	2.16E+08	1.57	Y	0.93	0.95	2%
ES 23478-PeCDF	33.454	2.12E+08	1.56	Y	0.92	0.93	1%
ES 123478-HxCDF	36.668	1.54E+08	0.51	Y	1.14	1.12	-2%
ES 123678-HxCDF	36.808	1.75E+08	0.53	Y	1.30	1.27	-2%
ES 234678-HxCDF	37.477	1.66E+08	0.53	Y	1.20	1.20	0%
ES 123789-HxCDF	38.409	1.54E+08	0.52	Y	1.14	1.12	-1%
ES 1234678-HpCDF	39.757	1.30E+08	0.45	Y	0.95	0.94	-1%
ES 1234789-HpCDF	41.102	1.15E+08	0.45	Y	0.85	0.83	-2%
ES OCDF	43.398	2.49E+08	0.90	Y	0.93	0.90	-2%

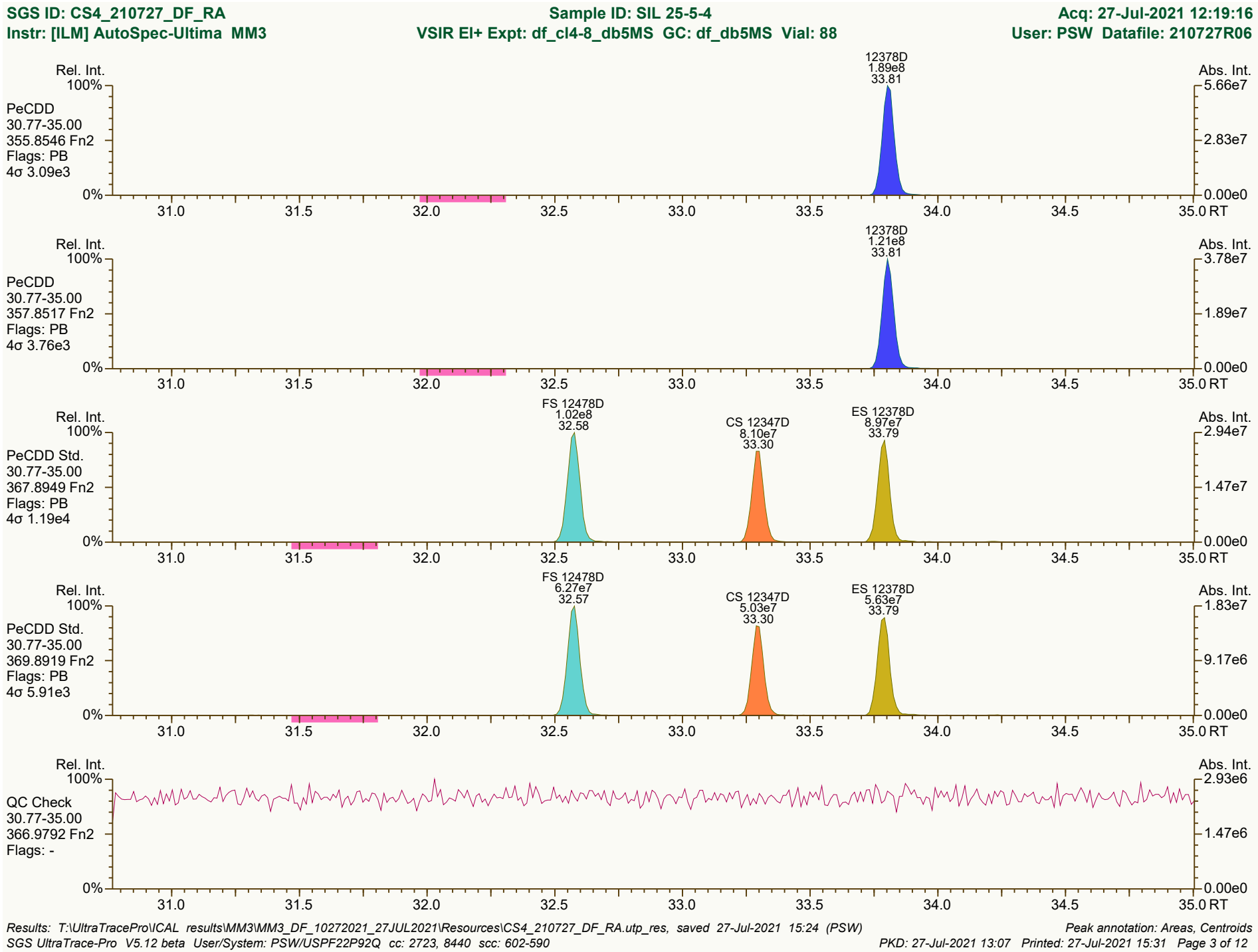
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 12:19 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS4_210727_DF_RA	UTP: 27-Jul-2021 15:00:21 PSW	Checkcode: 602-590-JSF
Sample ID: SIL 25-5-4	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R06

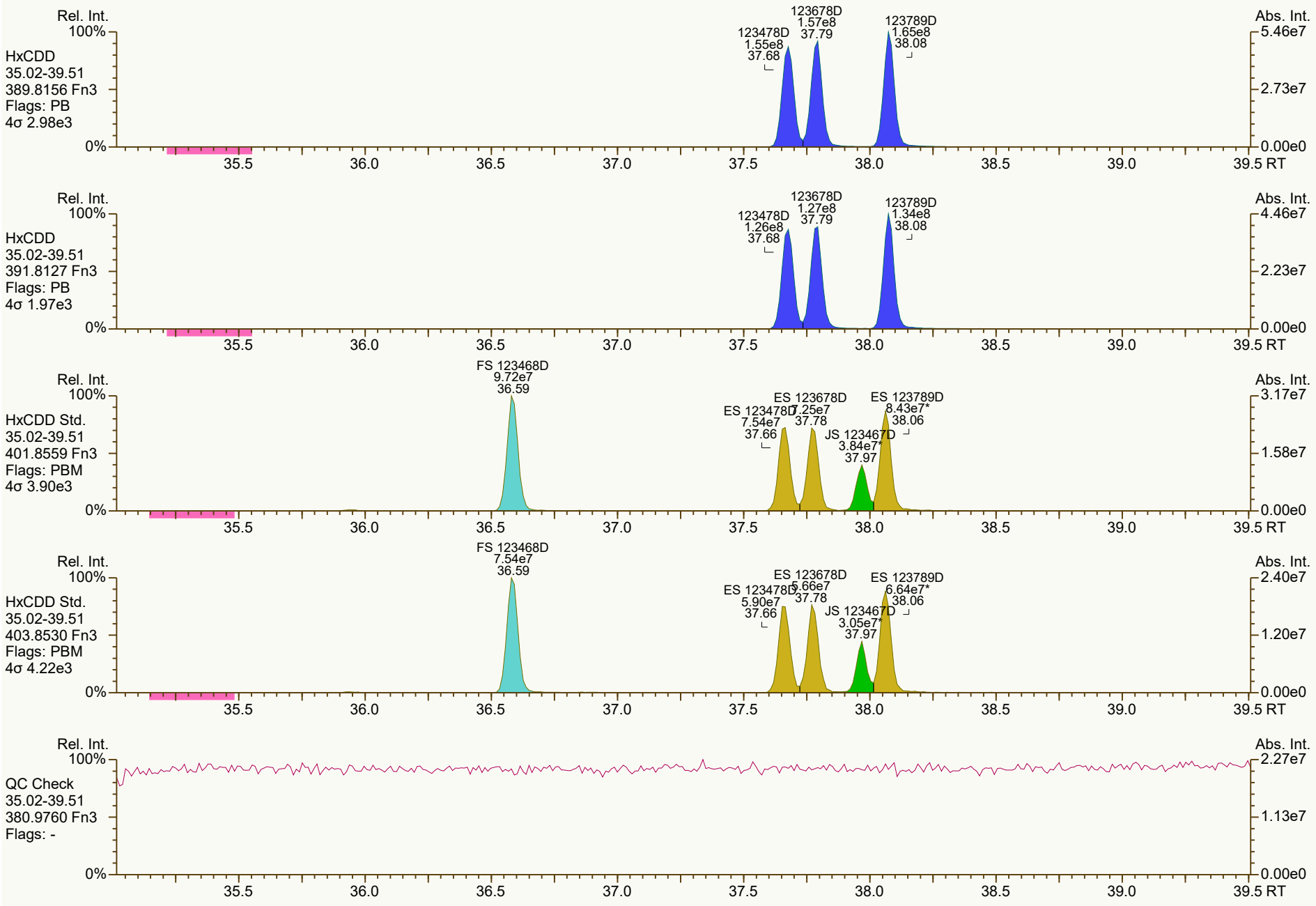
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.86	1.42E+08	0.81	Y	-	-	-
JS 1234-TCDF	26.33	2.27E+08	0.77	Y	-	-	-
JS 123467-HxCDD	37.97	6.89E+07	1.26	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	7.41E+07	n/a	-	1.31	1.31	0%
CS 12347-PeCDD	33.30	1.31E+08	1.61	Y	0.89	0.93	4%
CS 12346-PeCDF	31.84	2.01E+08	1.58	Y	0.87	0.88	2%
CS 123469-HxCDF	37.12	1.50E+08	0.54	Y	1.09	1.09	0%
CS 1234689-HpCDF	40.14	1.19E+08	0.46	Y	0.86	0.86	0%
SS 37Cl-2378-TCDD	28.53	7.41E+07	n/a	-	1.26	1.23	-2%
SS 12347-PeCDD	33.30	1.31E+08	1.61	Y	0.86	0.90	4%
SS 12346-PeCDF	31.84	2.01E+08	1.58	Y	0.93	0.93	0%
SS 123469-HxCDF	37.12	1.50E+08	0.54	Y	0.84	0.86	2%
SS 1234689-HpCDF	40.14	1.19E+08	0.46	Y	0.91	0.92	1%
AS 1368-TCDD	24.92	1.45E+08	0.79	Y	1.02	1.02	0%
AS 1368-TCDF	22.86	2.49E+08	0.79	Y	1.08	1.09	1%
FS 1278-TCDD	28.83	1.63E+08	0.80	Y	1.08	1.08	0%
FS 12478-PeCDD	32.58	1.64E+08	1.62	Y	1.09	1.13	3%
FS 123468-HxCDD	36.59	1.73E+08	1.29	Y	1.26	1.28	2%
FS 1234679-HpCDD	40.00	1.84E+08	1.07	Y	1.36	1.38	2%
TS 1378-TCDD	26.88	1.94E+08	0.79	Y	1.35	1.30	-4%
~~OCDD-a~~	~~43.22~~	~~2.77E+07~~	~~2.50~~	~~Y~~	~~0.07~~	~~0.07~~	~~1%~~
~~OCDF-a~~	~~43.41~~	~~3.08E+07~~	~~2.34~~	~~Y~~	~~0.06~~	~~0.06~~	~~4%~~

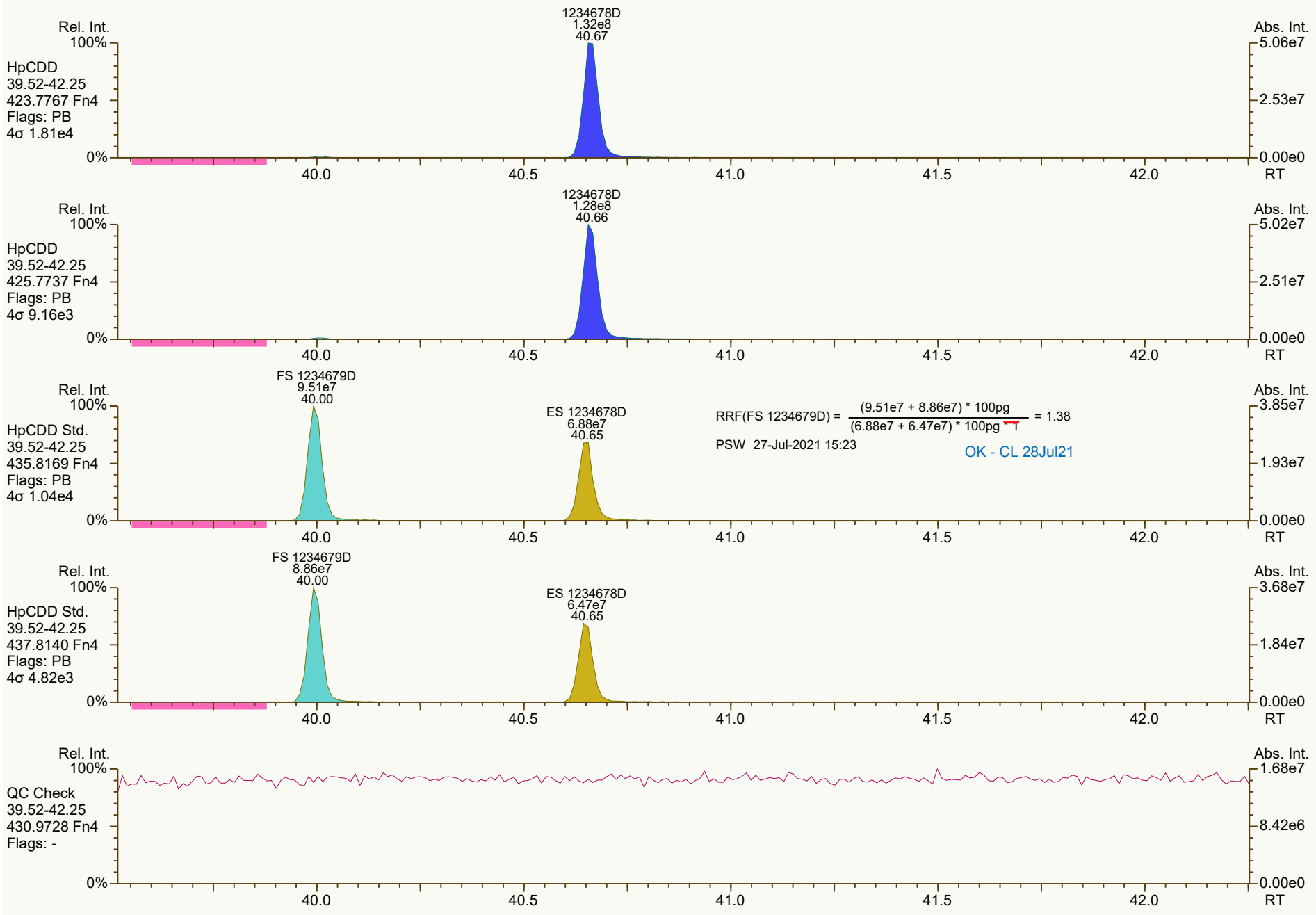
Not reported from this ICAL - CL 28Jul21

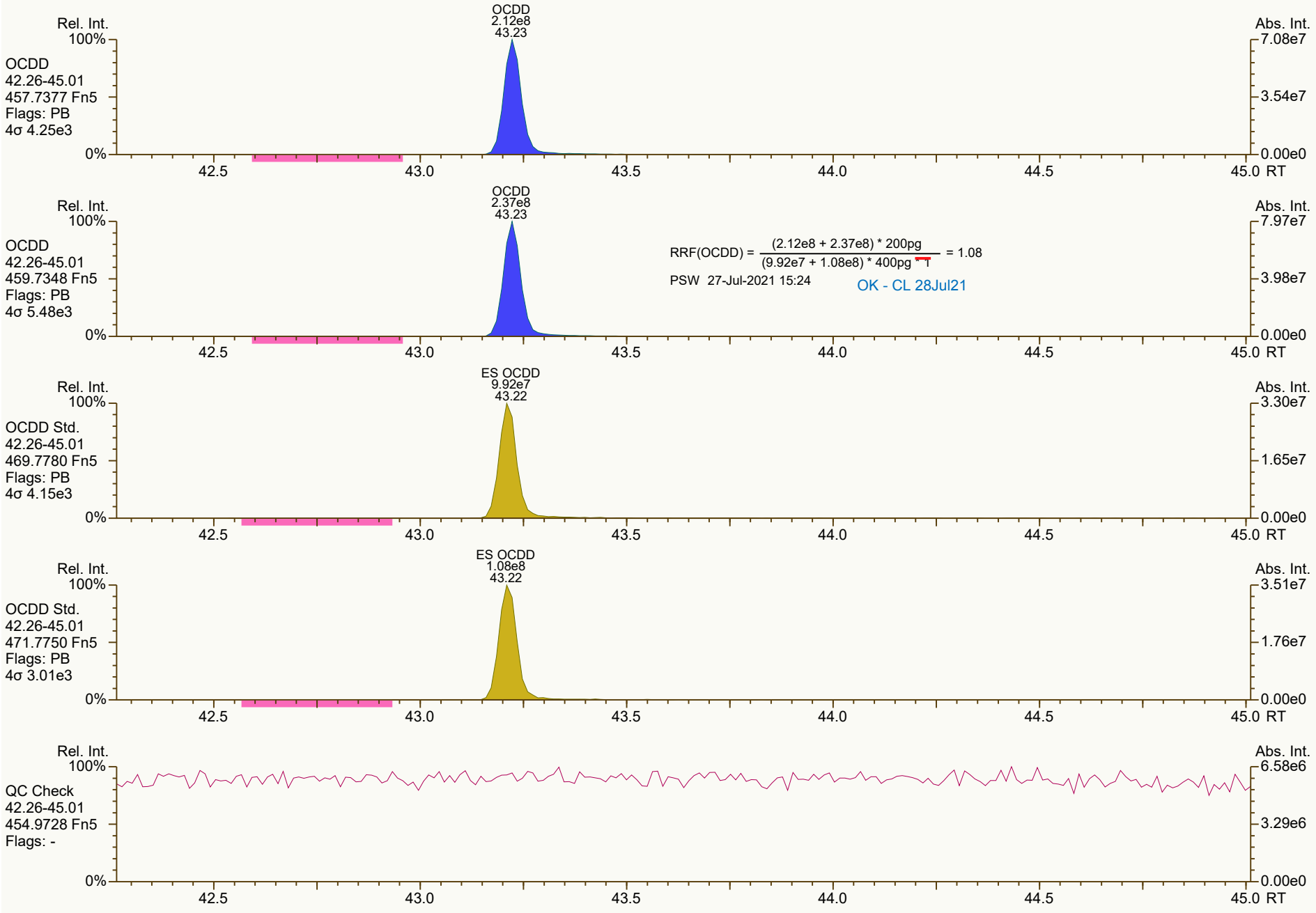

Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.12e6
1.56e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.93e6
1.47e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.27e7
1.13e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.68e7
8.42e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.58e6
3.29e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 4.12e3
0%
2378D
3.37e7
28.53
Abs. Int.
8.53e6
4.26e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 3.03e3
0%
2378D
4.40e7
28.52
Abs. Int.
1.15e7
5.75e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 2.44e3
0%
CS 37Cl-2378D
7.41e7
28.52
Abs. Int.
1.87e7
9.37e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 7.41e3
0%
AS 1368D
6.37e7
24.92
TS 1378D
8.60e7
26.88
JS 1234D
6.34e7
27.86
ES 2378D
6.63e7
28.50
FS 1278D
7.24e7
28.83
Abs. Int.
2.04e7
1.02e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 4.31e3
0%
AS 1368D
8.12e7
24.92
TS 1378D
1.08e8
26.88
JS 1234D
7.84e7
27.86
ES 2378D
8.37e7
28.50
FS 1278D
9.02e7
28.82
Abs. Int.
2.55e7
1.28e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


SGS ID: CS4_210727_DF_RA
Sample ID: SIL 25-5-4
Acq: 27-Jul-2021 12:19:16
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 88
User: PSW Datafile: 210727R06
Rel. Int.
Abs. Int.
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 3.09e3
12378D
1.89e8
33.81
5.66e7
2.83e7
0.00e0
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 3.76e3
12378D
1.21e8
33.81
3.78e7
1.89e7
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PB
4σ 1.19e4
FS 12478D
1.02e8
32.58
CS 12347D
8.10e7
33.30
ES 12378D
8.97e7
33.79
2.94e7
1.47e7
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PB
4σ 5.91e3
FS 12478D
6.27e7
32.57
CS 12347D
5.03e7
33.30
ES 12378D
5.63e7
33.79
1.83e7
9.17e6
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
2.93e6
1.47e6
0%
100%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS4_210727_DF_RA.utp_res, saved 27-Jul-2021 15:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 2723, 8440 scc: 602-590
PKD: 27-Jul-2021 13:07 Printed: 27-Jul-2021 15:31 Page 3 of 12

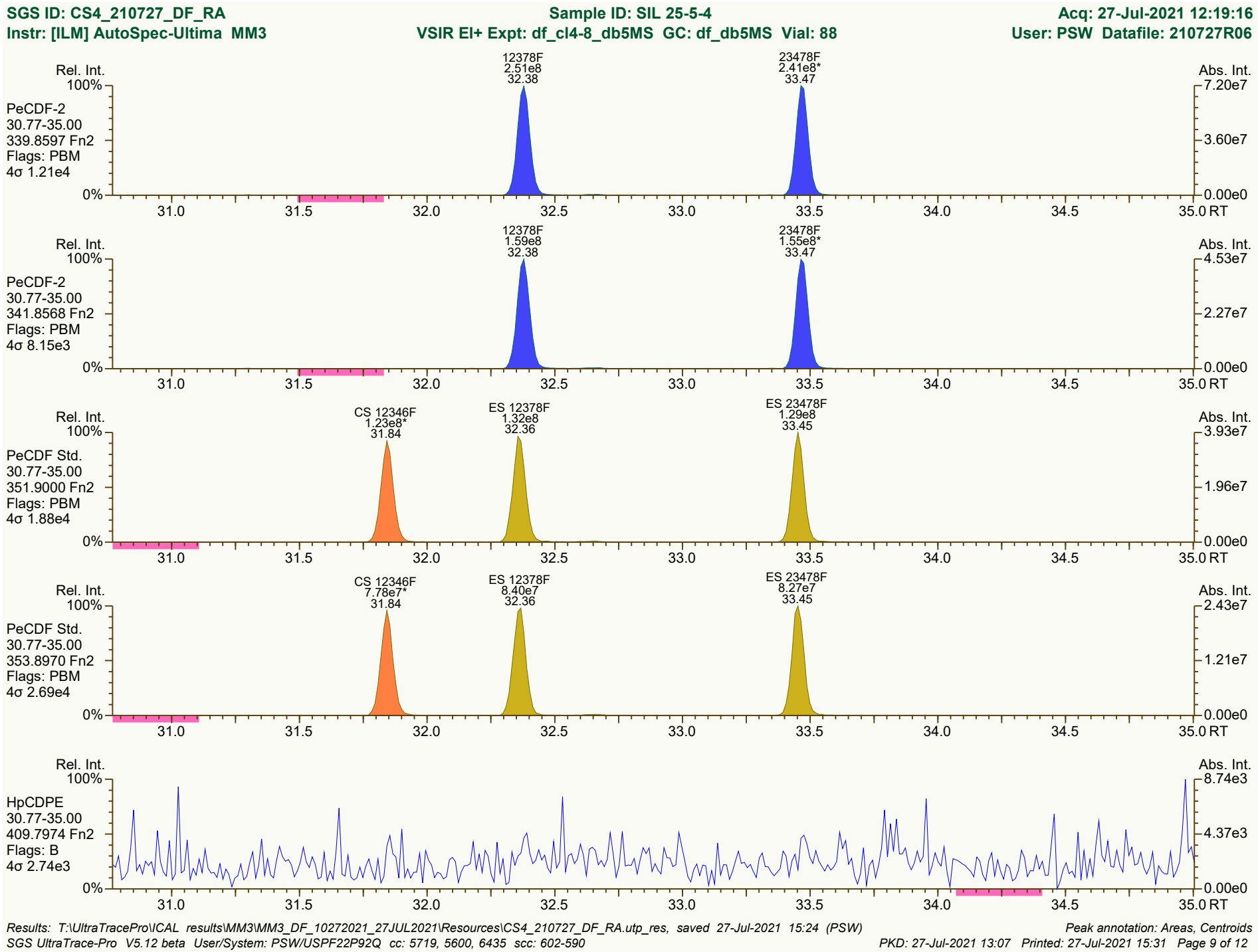

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.98e3
123678D
1.57e8
37.79
123478D
1.55e8
37.68
123789D
1.65e8
38.08
Abs. Int.
5.46e7
2.73e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 1.97e3
123678D
1.27e8
37.79
123478D
1.26e8
37.68
123789D
1.34e8
38.08
Abs. Int.
4.46e7
2.23e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 3.90e3
FS 123468D
9.72e7
36.59
ES 123678D
7.25e7
37.78
ES 123478D
7.54e7
37.66
ES 123789D
8.43e7*
38.06
JS 123467D
3.84e7*
37.97
Abs. Int.
3.17e7
1.58e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 4.22e3
FS 123468D
7.54e7
36.59
ES 123678D
5.66e7
37.78
ES 123478D
5.90e7
37.66
ES 123789D
6.64e7*
38.06
JS 123467D
3.05e7*
37.97
Abs. Int.
2.40e7
1.20e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
Abs. Int.
2.27e7
1.13e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT

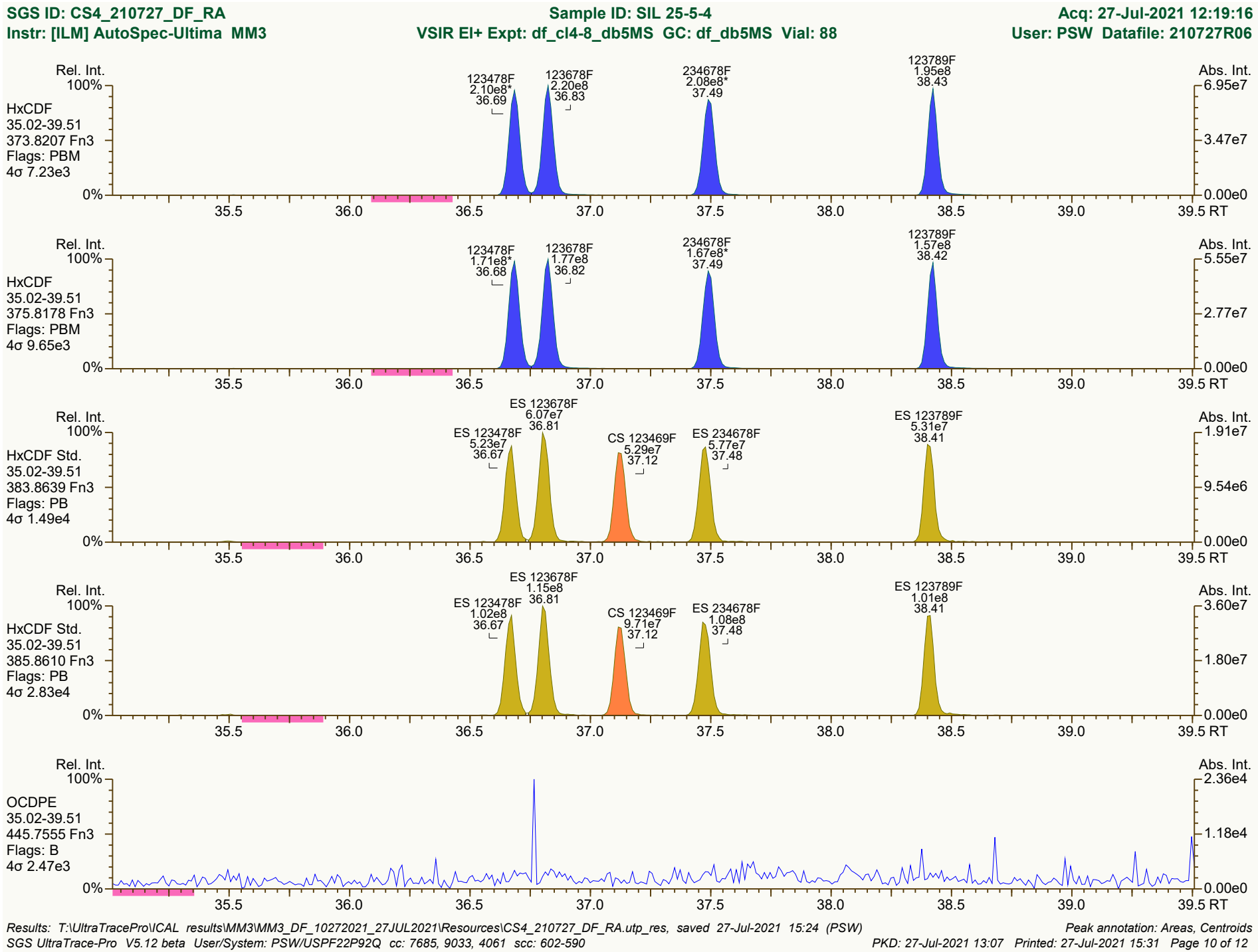

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 1.81e4
1234678D
1.32e8
40.67
Abs. Int.
5.06e7
2.53e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 9.16e3
1234678D
1.28e8
40.66
5.02e7
2.51e7
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 1.04e4
FS 1234679D
9.51e7
40.00
ES 1234678D
6.88e7
40.65
3.85e7
1.93e7
RRF(FS 1234679D) = (9.51e7 + 8.86e7) * 100pg / (6.88e7 + 6.47e7) * 100pg = 1.38
PSW 27-Jul-2021 15:23
OK - CL 28Jul21
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 4.82e3
FS 1234679D
8.86e7
40.00
ES 1234678D
6.47e7
40.65
3.68e7
1.84e7
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
1.68e7
8.42e6

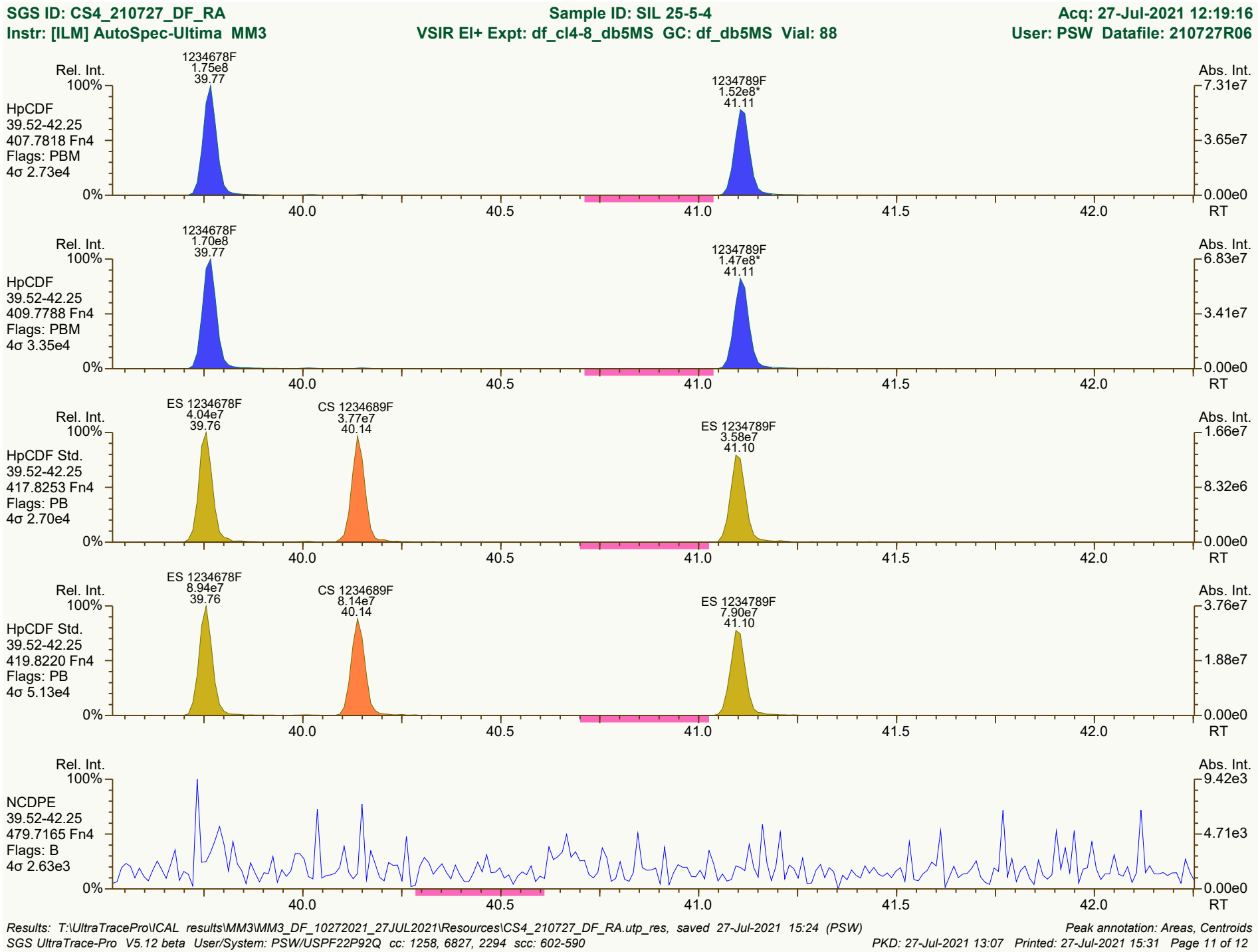

OCDD
2.12e8
43.23
Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: PB
4σ 4.25e3
0%
Abs. Int.
7.08e7
3.54e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.37e8
43.23
OCDD
42.26-45.01
459.7348 Fn5
Flags: PB
4σ 5.48e3
RRF(OCDD) = (2.12e8 + 2.37e8) * 200pg / (9.92e7 + 1.08e8) * 400pg = 1.08
PSW 27-Jul-2021 15:24
OK - CL 28Jul21
7.97e7
3.98e7
ES OCDD
9.92e7
43.22
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PB
4σ 4.15e3
3.30e7
1.65e7
ES OCDD
1.08e8
43.22
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PB
4σ 3.01e3
3.51e7
1.76e7
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
6.58e6
3.29e6

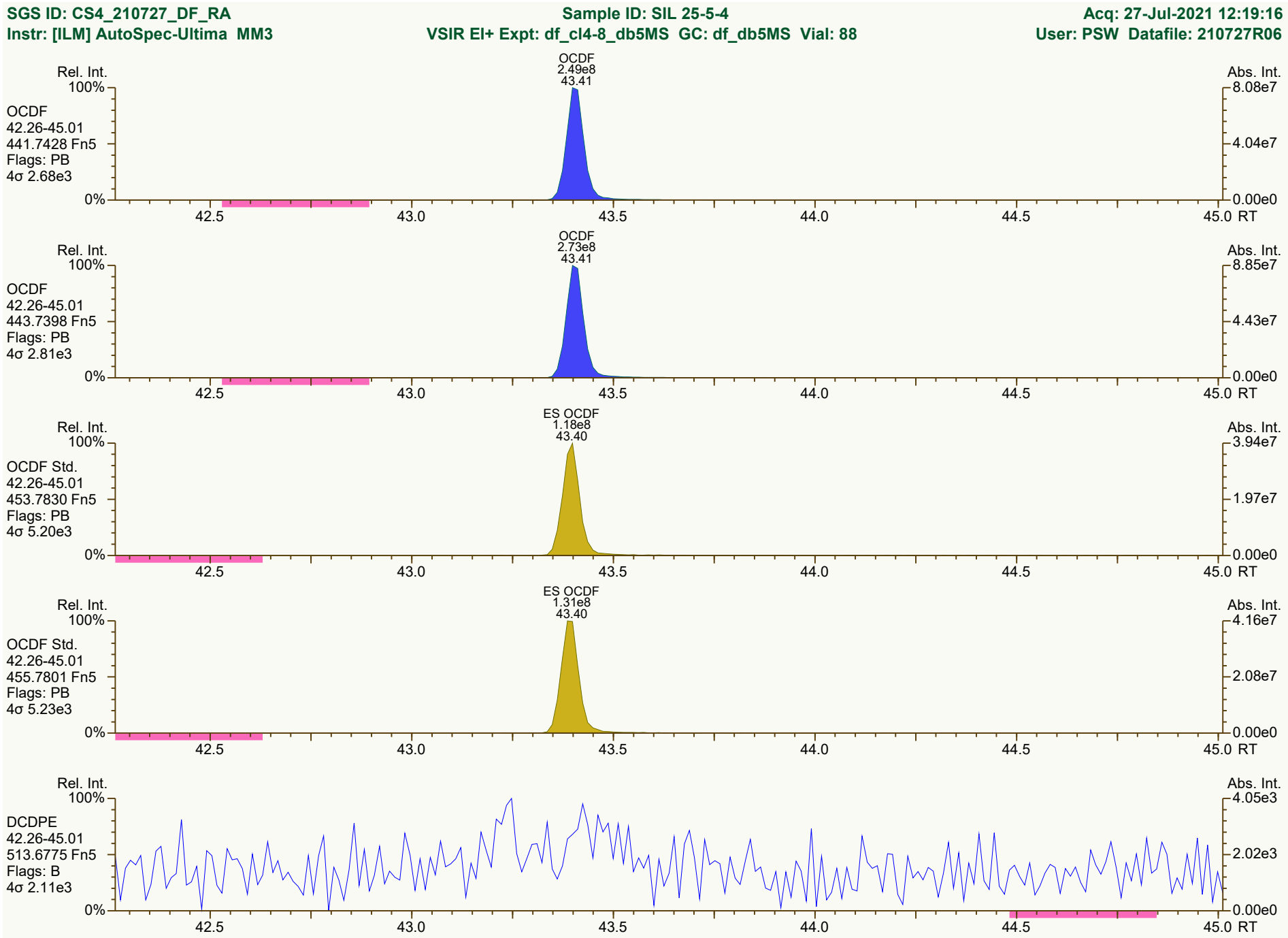

Rel. Int.
100%
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.95e3
0%
2378F
4.17e7
27.67
Abs. Int.
9.81e6
4.91e6
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
Rel. Int.
100%
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.51e3
0%
2378F
5.43e7
27.67
Abs. Int.
1.28e7
6.42e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 2.36e4
0%
AS 1368F
1.10e8
22.86
JS 1234F
9.87e7
26.33
ES 2378F
1.10e8
27.65
Abs. Int.
2.69e7
1.34e7
0.00e0
RT
Rel. Int.
100%
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.34e4
0%
AS 1368F
1.39e8
22.85
JS 1234F
1.29e8
26.33
ES 2378F
1.38e8
27.65
Abs. Int.
3.21e7
1.60e7
0.00e0
RT
Rel. Int.
100%
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.81e3
0%
Abs. Int.
9.37e3
4.68e3
0.00e0
RT


Rel. Int.
100%
0%
Abs. Int.
1.32e4
6.61e3
0.00e0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 2.55e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.14e4
1.07e4
0.00e0
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 3.28e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
3.12e6
1.56e6
0.00e0
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


SGS ID: CS4_210727_DF_RA
Sample ID: SIL 25-5-4
Acq: 27-Jul-2021 12:19:16
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 88
User: PSW Datafile: 210727R06
Rel. Int.
Abs. Int.
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PBM
4σ 1.21e4
12378F
2.51e8
32.38
23478F
2.41e8*
33.47
7.20e7
3.60e7
0.00e0
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PBM
4σ 8.15e3
12378F
1.59e8
32.38
23478F
1.55e8*
33.47
4.53e7
2.27e7
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PBM
4σ 1.88e4
CS 12346F
1.23e8*
31.84
ES 12378F
1.32e8
32.36
ES 23478F
1.29e8
33.45
3.93e7
1.96e7
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PBM
4σ 2.69e4
CS 12346F
7.78e7*
31.84
ES 12378F
8.40e7
32.36
ES 23478F
8.27e7
33.45
2.43e7
1.21e7
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.74e3
8.74e3
4.37e3
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS4_210727_DF_RA.utp_res, saved 27-Jul-2021 15:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 5719, 5600, 6435 scc: 602-590
PKD: 27-Jul-2021 13:07 Printed: 27-Jul-2021 15:31 Page 9 of 12


SGS ID: CS4_210727_DF_RA
Sample ID: SIL 25-5-4
Acq: 27-Jul-2021 12:19:16
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 88
User: PSW Datafile: 210727R06
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 7.23e3
123478F 2.10e8* 36.69
123678F 2.20e8 36.83
234678F 2.08e8* 37.49
123789F 1.95e8 38.43
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 9.65e3
123478F 1.71e8* 36.68
123678F 1.77e8 36.82
234678F 1.67e8* 37.49
123789F 1.57e8 38.42
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 1.49e4
ES 123478F 5.23e7 36.67
ES 123678F 6.07e7 36.81
CS 123469F 5.29e7 37.12
ES 234678F 5.77e7 37.48
ES 123789F 5.31e7 38.41
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 2.83e4
ES 123478F 1.02e8 36.67
ES 123678F 1.15e8 36.81
CS 123469F 9.71e7 37.12
ES 234678F 1.08e8 37.48
ES 123789F 1.01e8 38.41
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.47e3
100%
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
6.95e7
3.47e7
0.00e0
5.55e7
2.77e7
1.91e7
9.54e6
3.60e7
1.80e7
2.36e4
1.18e4


SGS ID: CS4_210727_DF_RA
Sample ID: SIL 25-5-4
Acq: 27-Jul-2021 12:19:16
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 88
User: PSW Datafile: 210727R06
Rel. Int.
Abs. Int.
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PBM
4σ 2.73e4
1234678F
1.75e8
39.77
1234789F
1.52e8*
41.11
7.31e7
3.65e7
0.00e0
RT
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PBM
4σ 3.35e4
1234678F
1.70e8
39.77
1234789F
1.47e8*
41.11
6.83e7
3.41e7
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PB
4σ 2.70e4
ES 1234678F
4.04e7
39.76
CS 1234689F
3.77e7
40.14
ES 1234789F
3.58e7
41.10
1.66e7
8.32e6
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PB
4σ 5.13e4
ES 1234678F
8.94e7
39.76
CS 1234689F
8.14e7
40.14
ES 1234789F
7.90e7
41.10
3.76e7
1.88e7
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.63e3
9.42e3
4.71e3
100%
0%
40.0
40.5
41.0
41.5
42.0
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS4_210727_DF_RA.utp_res, saved 27-Jul-2021 15:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1258, 6827, 2294 scc: 602-590
PKD: 27-Jul-2021 13:07 Printed: 27-Jul-2021 15:31 Page 11 of 12


SGS ID: CS4_210727_DF_RA
Sample ID: SIL 25-5-4
Acq: 27-Jul-2021 12:19:16
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 88
User: PSW Datafile: 210727R06
OCDF
2.49e8
43.41
Rel. Int.
100%
OCDF
42.26-45.01
441.7428 Fn5
Flags: PB
4σ 2.68e3
0%
Abs. Int.
8.08e7
4.04e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.73e8
43.41
Rel. Int.
100%
OCDF
42.26-45.01
443.7398 Fn5
Flags: PB
4σ 2.81e3
0%
Abs. Int.
8.85e7
4.43e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.18e8
43.40
Rel. Int.
100%
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PB
4σ 5.20e3
0%
Abs. Int.
3.94e7
1.97e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.31e8
43.40
Rel. Int.
100%
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PB
4σ 5.23e3
0%
Abs. Int.
4.16e7
2.08e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.26-45.01
513.6775 Fn5
Flags: B
4σ 2.11e3
0%
Abs. Int.
4.05e3
2.02e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS4_210727_DF_RA.utp_res, saved 27-Jul-2021 15:24 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 2596, 6257, 4495 scc: 602-590
PKD: 27-Jul-2021 13:07 Printed: 27-Jul-2021 15:31 Page 12 of 12

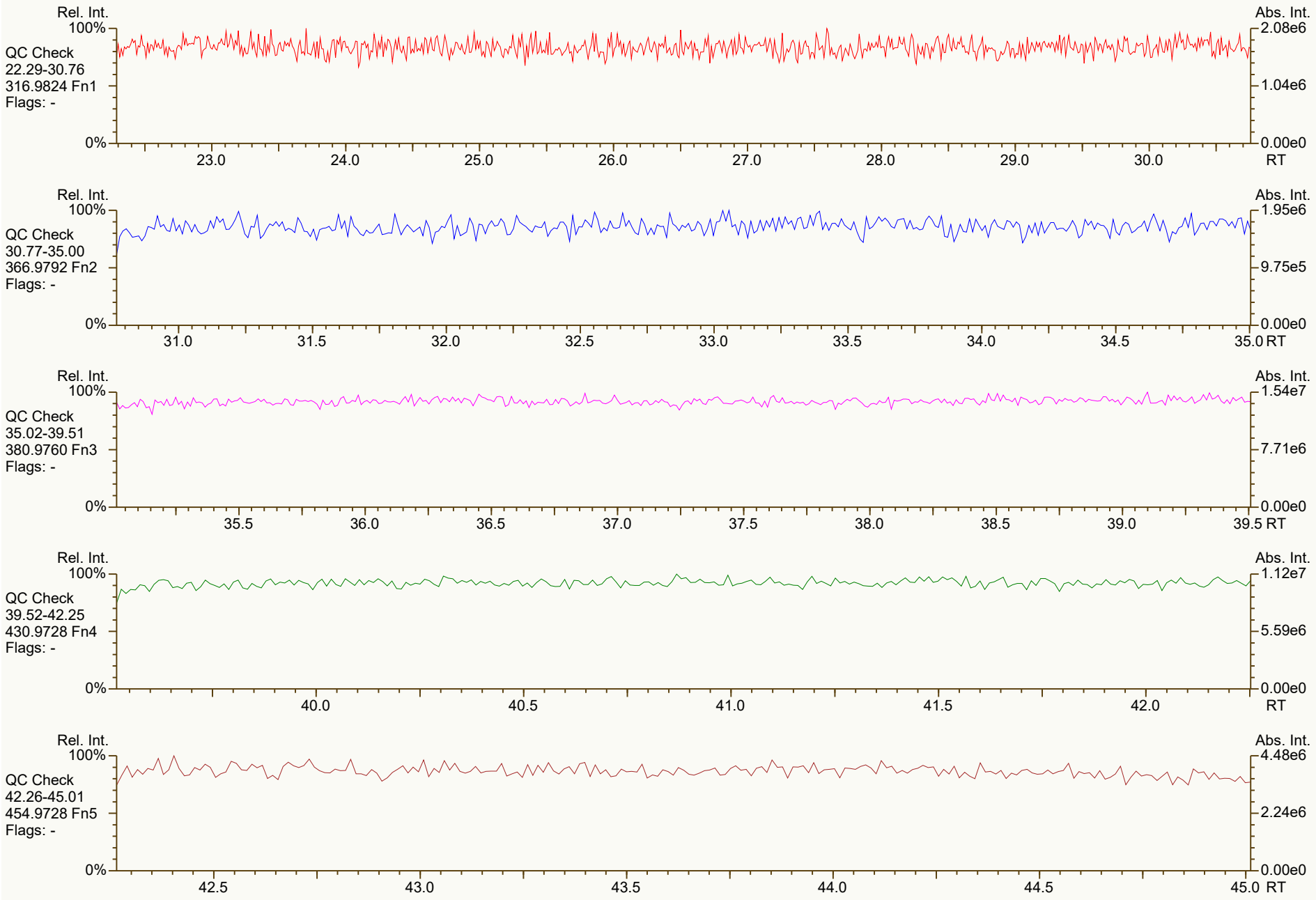
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 13:09 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS5_210727_DF_RA	UTP: 27-Jul-2021 15:00:22 PSW	Checkcode: 147-553-CLL
Sample ID: SIL 25-5-3	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R07

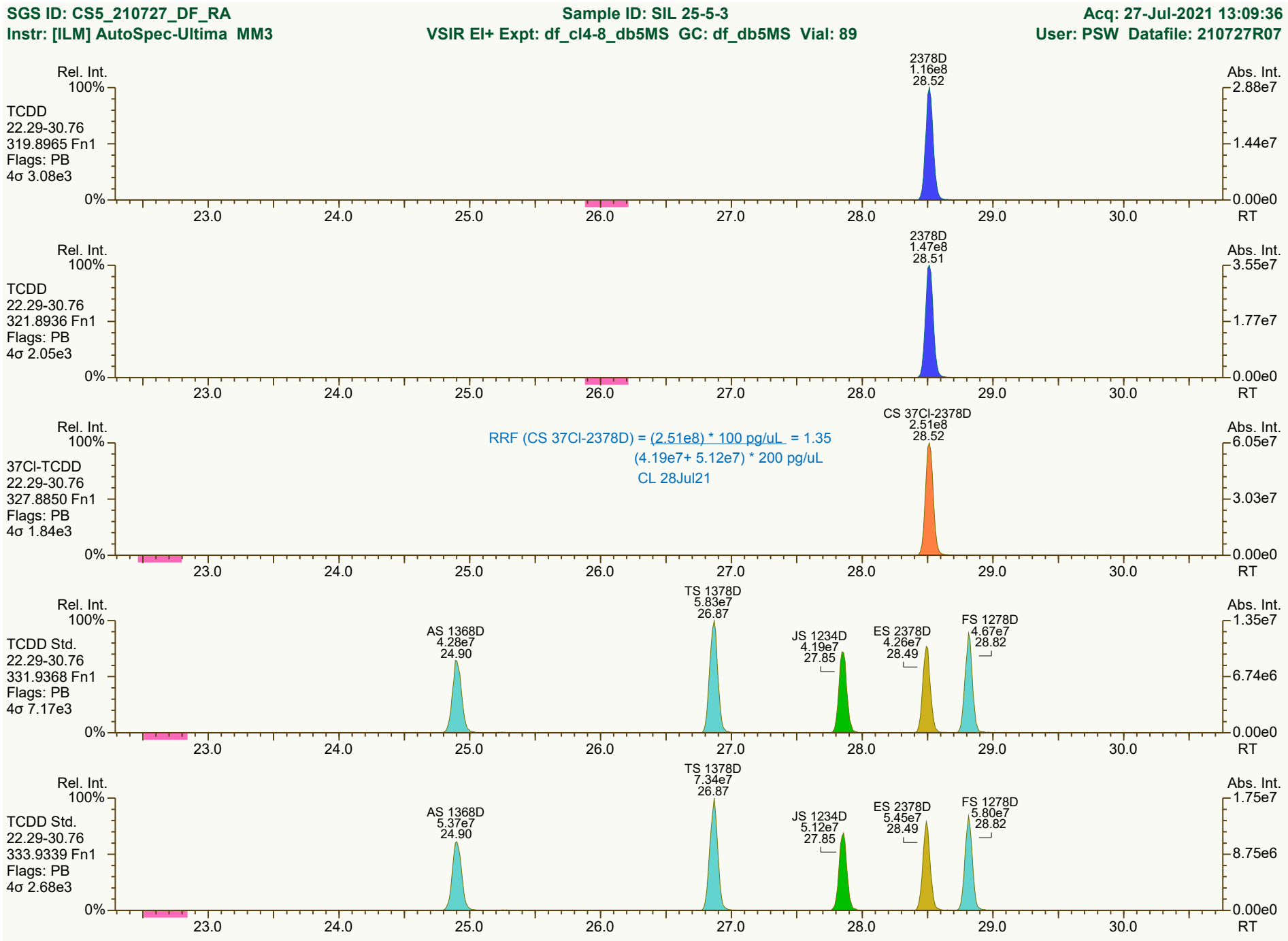
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.52	2.63E+08	0.78	Y	1.34	1.35	1%
12378-PeCDD	33.80	1.06E+09	1.56	Y	1.06	1.07	1%
123478-HxCDD	37.67	9.52E+08	1.24	Y	1.06	1.06	0%
123678-HxCDD	37.78	9.75E+08	1.25	Y	1.08	1.10	1%
123789-HxCDD	38.07	1.03E+09	1.25	Y	1.02	1.01	-1%
1234678-HpCDD	40.66	8.94E+08	1.04	Y	0.97	0.98	1%
OCDD	43.22	1.57E+09	0.88	Y	1.07	1.06	-1%
2378-TCDF	27.66	3.19E+08	0.77	Y	0.96	0.97	1%
12378-PeCDF	32.37	1.33E+09	1.51	Y	0.95	0.93	-1%
23478-PeCDF	33.46	1.36E+09	1.58	Y	0.94	0.96	3%
123478-HxCDF	36.68	1.30E+09	1.25	Y	1.23	1.24	0%
123678-HxCDF	36.82	1.35E+09	1.25	Y	1.13	1.14	1%
234678-HxCDF	37.49	1.27E+09	1.24	Y	1.15	1.15	0%
123789-HxCDF	38.42	1.20E+09	1.24	Y	1.14	1.15	2%
1234678-HpCDF	39.76	1.19E+09	1.03	Y	1.36	1.37	1%
1234789-HpCDF	41.10	1.06E+09	1.03	Y	1.30	1.35	4%
OCDF	43.40	1.87E+09	0.90	Y	1.03	1.06	3%
ES 2378-TCDD	28.49	9.72E+07	0.78	Y	1.03	1.04	1%
ES 12378-PeCDD	33.782	9.96E+07	1.62	Y	1.03	1.07	3%
ES 123478-HxCDD	37.654	8.99E+07	1.27	Y	0.99	1.03	4%
ES 123678-HxCDD	37.768	8.89E+07	1.27	Y	0.97	1.02	5%
ES 123789-HxCDD	38.058	1.02E+08	1.27	Y	1.12	1.17	4%
ES 1234678-HpCDD	40.644	9.11E+07	1.06	Y	0.99	1.05	6%
ES OCDD	43.21	1.48E+08	0.89	Y	0.78	0.85	9%
ES 2378-TCDF	27.639	1.64E+08	0.80	Y	1.08	1.08	0%
ES 12378-PeCDF	32.354	1.43E+08	1.61	Y	0.93	0.95	1%
ES 23478-PeCDF	33.446	1.41E+08	1.56	Y	0.92	0.93	1%
ES 123478-HxCDF	36.662	1.05E+08	0.52	Y	1.14	1.21	6%
ES 123678-HxCDF	36.801	1.19E+08	0.53	Y	1.30	1.36	5%
ES 234678-HxCDF	37.468	1.11E+08	0.51	Y	1.20	1.27	6%
ES 123789-HxCDF	38.402	1.04E+08	0.54	Y	1.14	1.20	5%
ES 1234678-HpCDF	39.749	8.70E+07	0.46	Y	0.95	1.00	5%
ES 1234789-HpCDF	41.092	7.84E+07	0.46	Y	0.85	0.90	6%
ES OCDF	43.392	1.76E+08	0.89	Y	0.93	1.01	9%

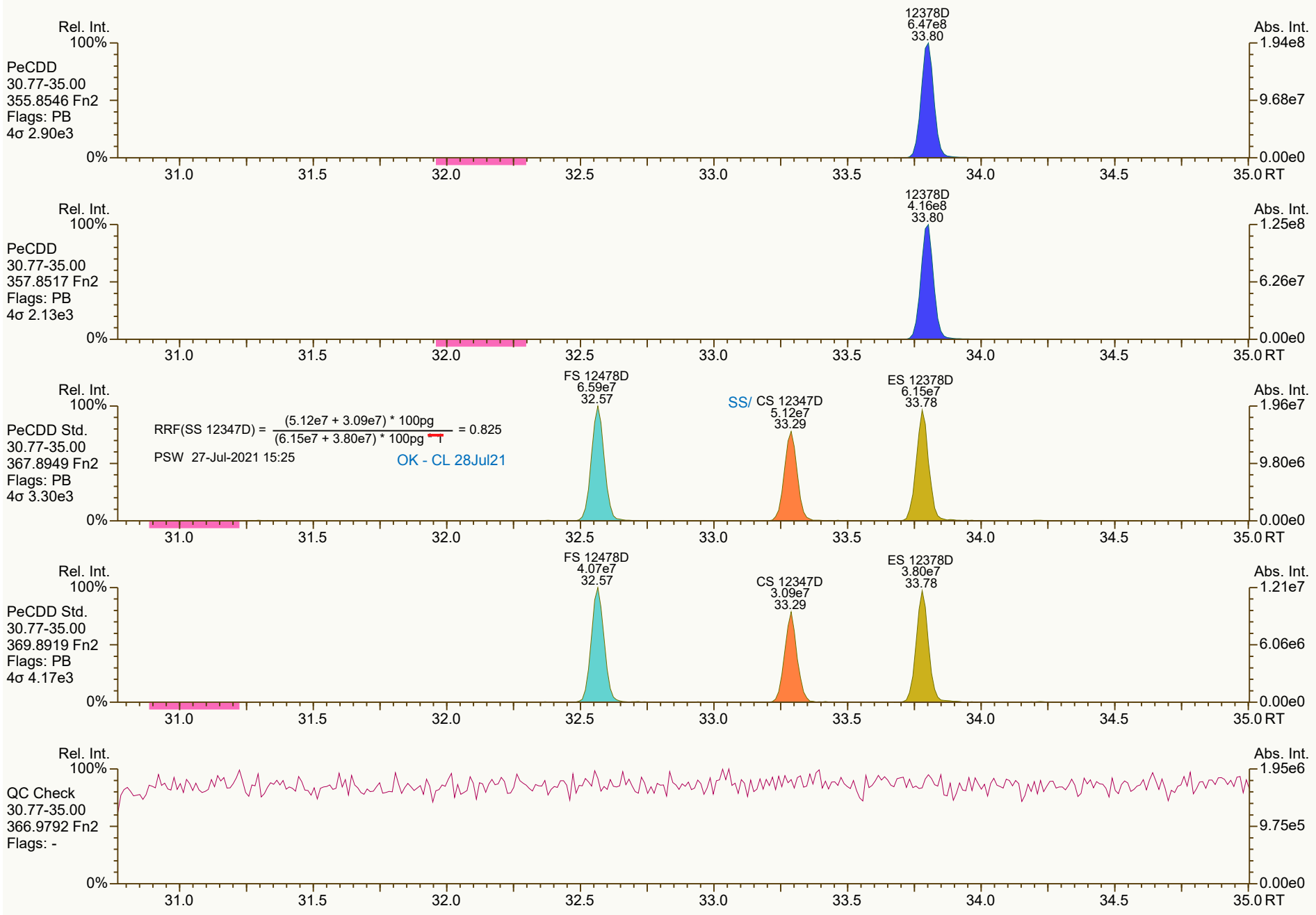
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 13:09 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS5_210727_DF_RA	UTP: 27-Jul-2021 15:00:22 PSW	Checkcode: 147-553-CLL
Sample ID: SIL 25-5-3	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R07

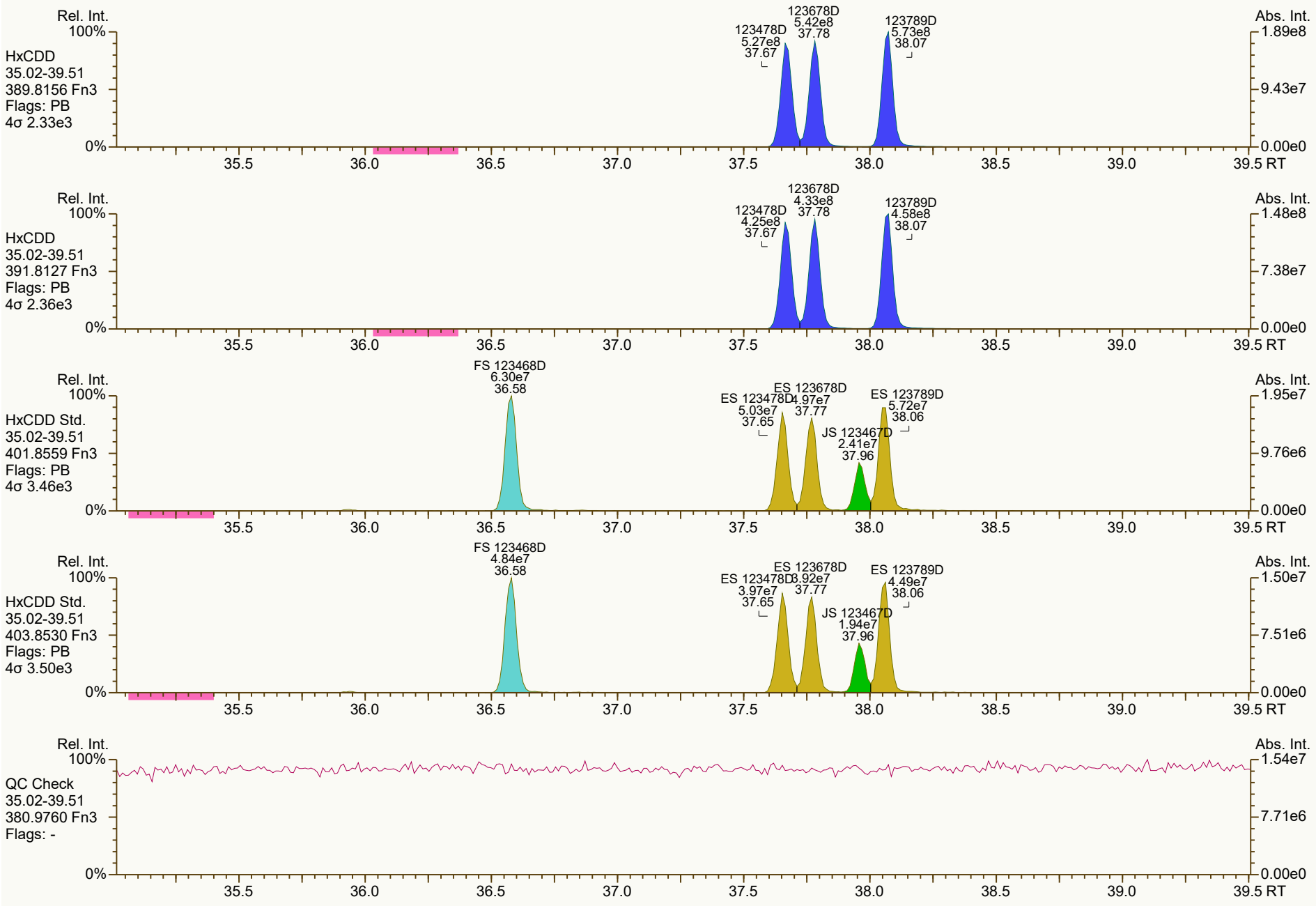
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.85	9.31E+07	0.82	Y	-	-	-
JS 1234-TCDF	26.32	1.51E+08	0.79	Y	-	-	-
JS 123467-HxCDD	37.96	4.35E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	28.52	2.51E+08	n/a	-	1.31	1.35	3%
CS 12347-PeCDD	33.29	8.21E+07	1.66	Y	0.89	0.88	-1%
CS 12346-PeCDF	31.84	1.30E+08	1.57	Y	0.87	0.86	-1%
CS 123469-HxCDF	37.11	9.75E+07	0.53	Y	1.09	1.12	3%
CS 1234689-HpCDF	40.13	7.48E+07	0.44	Y	0.86	0.86	-1%
SS 37Cl-2378-TCDD	28.52	2.51E+08	n/a	-	1.26	1.29	3%
SS 12347-PeCDD	33.29	8.21E+07	1.66	Y	0.86	0.82	-5%
SS 12346-PeCDF	31.84	1.30E+08	1.57	Y	0.93	0.91	-2%
SS 123469-HxCDF	37.11	9.75E+07	0.53	Y	0.84	0.82	-2%
SS 1234689-HpCDF	40.13	7.48E+07	0.44	Y	0.91	0.86	-6%
AS 1368-TCDD	24.90	9.65E+07	0.80	Y	1.02	1.04	1%
AS 1368-TCDF	22.84	1.66E+08	0.78	Y	1.08	1.10	2%
FS 1278-TCDD	28.82	1.05E+08	0.81	Y	1.08	1.08	-1%
FS 12478-PeCDD	32.57	1.07E+08	1.62	Y	1.09	1.07	-2%
FS 123468-HxCDD	36.58	1.11E+08	1.30	Y	1.26	1.24	-2%
FS 1234679-HpCDD	39.99	1.18E+08	1.06	Y	1.36	1.30	-4%
TS 1378-TCDD	26.87	1.32E+08	0.79	Y	1.35	1.35	1%
~~OCDD-a~~	~~43.22~~	~~9.57E+07~~	~~2.52~~	~~Y~~	~~0.07~~	~~0.06~~	~~-2%~~
~~OCDF-a~~	~~43.40~~	~~1.10E+08~~	~~2.51~~	~~Y~~	~~0.06~~	~~0.06~~	~~5%~~

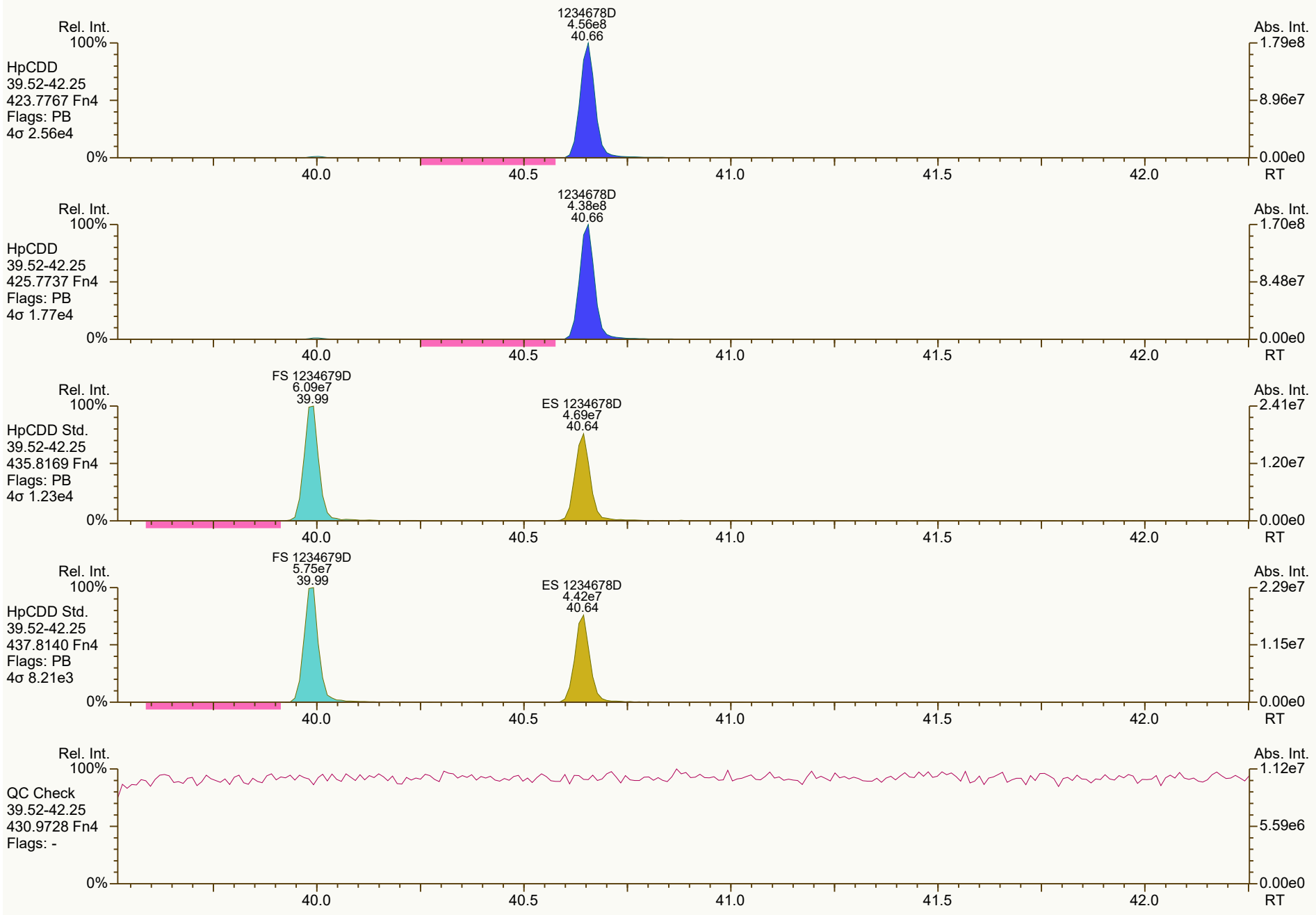
Not reported from this ICAL - CL 28Jul21


Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
2.08e6
1.04e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.95e6
9.75e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.54e7
7.71e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.12e7
5.59e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.48e6
2.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: CS5_210727_DF_RA
Sample ID: SIL 25-5-3
Acq: 27-Jul-2021 13:09:36
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 89
User: PSW Datafile: 210727R07
Rel. Int.
Abs. Int.
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 3.08e3
2378D
1.16e8
28.52
2.88e7
1.44e7
0.00e0
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.05e3
2378D
1.47e8
28.51
3.55e7
1.77e7
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 1.84e3
RRF (CS 37Cl-2378D) = (2.51e8) * 100 pg/uL = 1.35
(4.19e7+ 5.12e7) * 200 pg/uL
CL 28Jul21
CS 37Cl-2378D
2.51e8
28.52
6.05e7
3.03e7
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 7.17e3
AS 1368D
4.28e7
24.90
TS 1378D
5.83e7
26.87
JS 1234D
4.19e7
27.85
ES 2378D
4.26e7
28.49
FS 1278D
4.67e7
28.82
1.35e7
6.74e6
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 2.68e3
AS 1368D
5.37e7
24.90
TS 1378D
7.34e7
26.87
JS 1234D
5.12e7
27.85
ES 2378D
5.45e7
28.49
FS 1278D
5.80e7
28.82
1.75e7
8.75e6
100%
0%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PB
4σ 2.90e3
0%
12378D
6.47e8
33.80
Abs. Int.
1.94e8
9.68e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PB
4σ 2.13e3
0%
12378D
4.16e8
33.80
Abs. Int.
1.25e8
6.26e7
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PB
4σ 3.30e3
0%
RRF(SS 12347D) = (5.12e7 + 3.09e7) * 100pg / (6.15e7 + 3.80e7) * 100pg = 0.825
PSW 27-Jul-2021 15:25
OK - CL 28Jul21
FS 12478D
6.59e7
32.57
SS/ CS 12347D
5.12e7
33.29
ES 12378D
6.15e7
33.78
Abs. Int.
1.96e7
9.80e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PB
4σ 4.17e3
0%
FS 12478D
4.07e7
32.57
CS 12347D
3.09e7
33.29
ES 12378D
3.80e7
33.78
Abs. Int.
1.21e7
6.06e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.95e6
9.75e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.33e3
123478D
5.27e8
37.67
123678D
5.42e8
37.78
123789D
5.73e8
38.07
Abs. Int.
1.89e8
9.43e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 2.36e3
123478D
4.25e8
37.67
123678D
4.33e8
37.78
123789D
4.58e8
38.07
Abs. Int.
1.48e8
7.38e7
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PB
4σ 3.46e3
FS 123468D
6.30e7
36.58
ES 123478D
5.03e7
37.65
ES 123678D
4.97e7
37.77
JS 123467D
2.41e7
37.96
ES 123789D
5.72e7
38.06
Abs. Int.
1.95e7
9.76e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PB
4σ 3.50e3
FS 123468D
4.84e7
36.58
ES 123478D
3.97e7
37.65
ES 123678D
3.92e7
37.77
JS 123467D
1.94e7
37.96
ES 123789D
4.49e7
38.06
Abs. Int.
1.50e7
7.51e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
Abs. Int.
1.54e7
7.71e6
0.00e0
0%
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 2.56e4
1234678D
4.56e8
40.66
Abs. Int.
1.79e8
8.96e7
0.00e0
0%
40.0
40.5
41.0
41.5
42.0
RT
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 1.77e4
1234678D
4.38e8
40.66
1.70e8
8.48e7
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 1.23e4
FS 1234679D
6.09e7
39.99
ES 1234678D
4.69e7
40.64
2.41e7
1.20e7
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 8.21e3
FS 1234679D
5.75e7
39.99
ES 1234678D
4.42e7
40.64
2.29e7
1.15e7
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
1.12e7
5.59e6


OCDD
7.34e8*
43.22
Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
2.52e8
1.26e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
8.31e8*
43.22
Rel. Int.
100%
OCDD
42.26-45.01
459.7348 Fn5
Flags: PBM
4σ 2.52e3
0%
Abs. Int.
2.81e8
1.40e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
6.94e7
43.21
Rel. Int.
100%
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PB
4σ 3.01e3
0%
Abs. Int.
2.31e7
1.16e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
7.81e7
43.21
Rel. Int.
100%
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PB
4σ 3.23e3
0%
Abs. Int.
2.71e7
1.35e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.48e6
2.24e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: CS5_210727_DF_RA
Instr: [ILM] AutoSpec-Ultima MM3

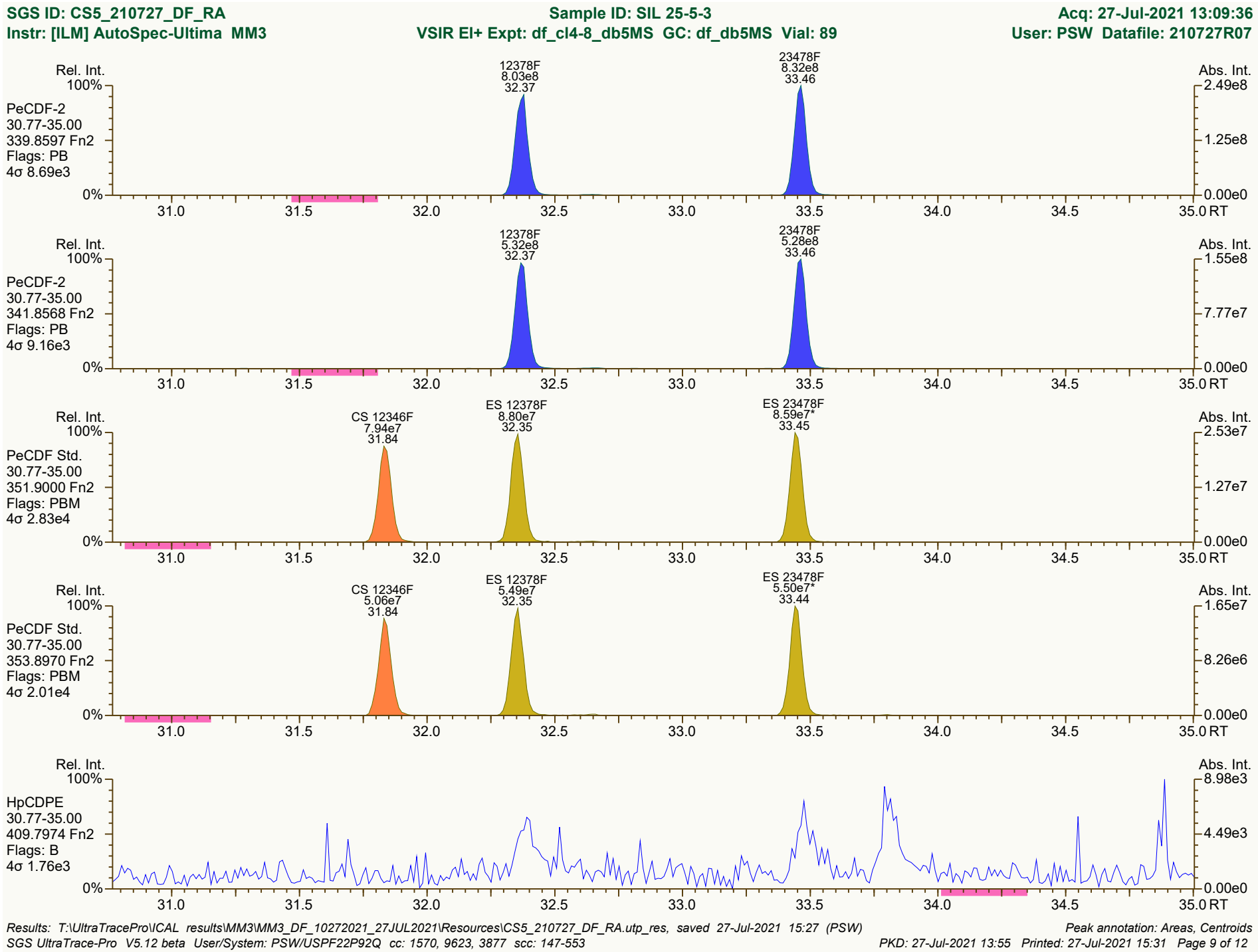
Sample ID: SIL 25-5-3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 89

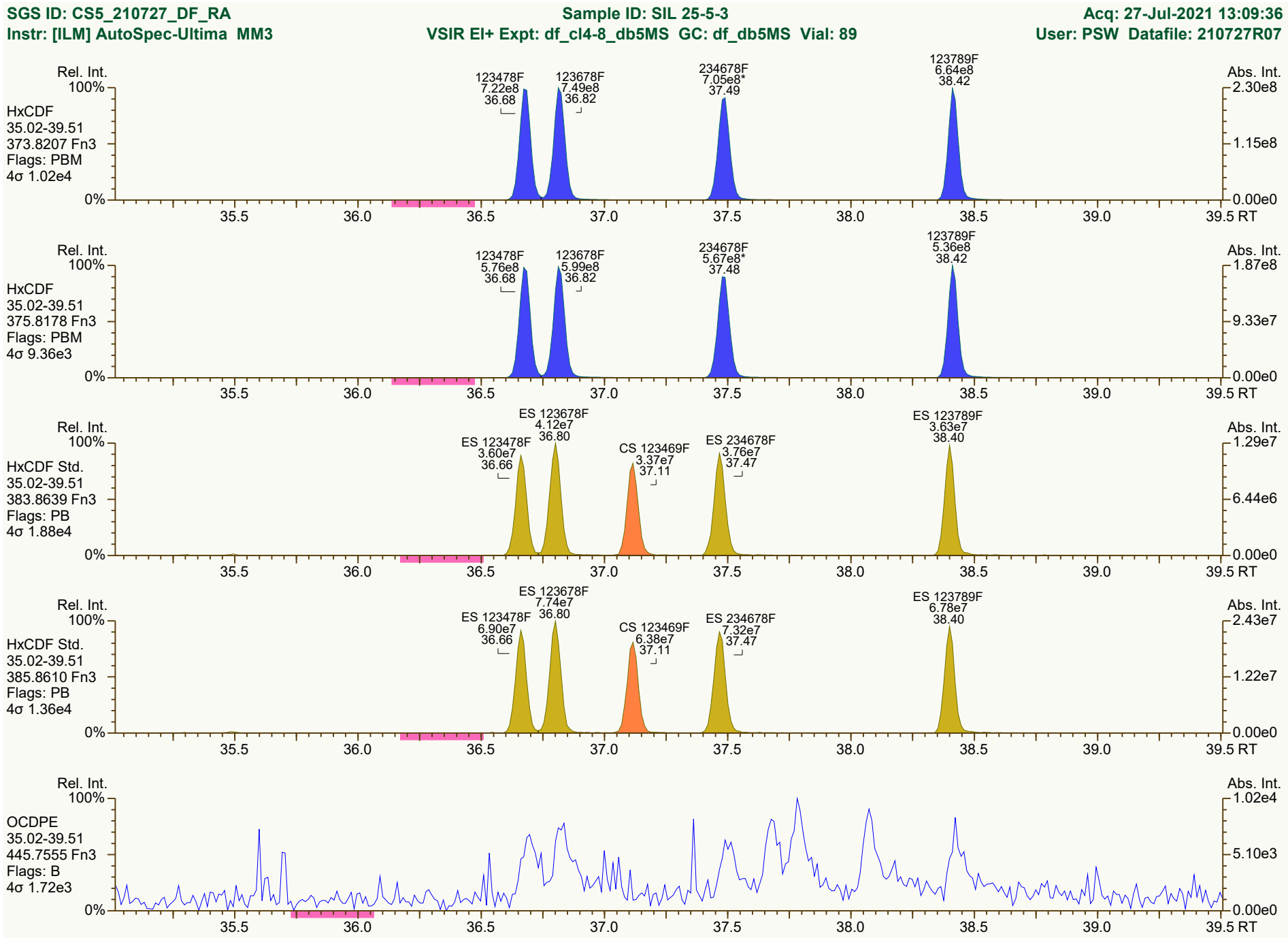
Acq: 27-Jul-2021 13:09:36
User: PSW Datafile: 210727R07



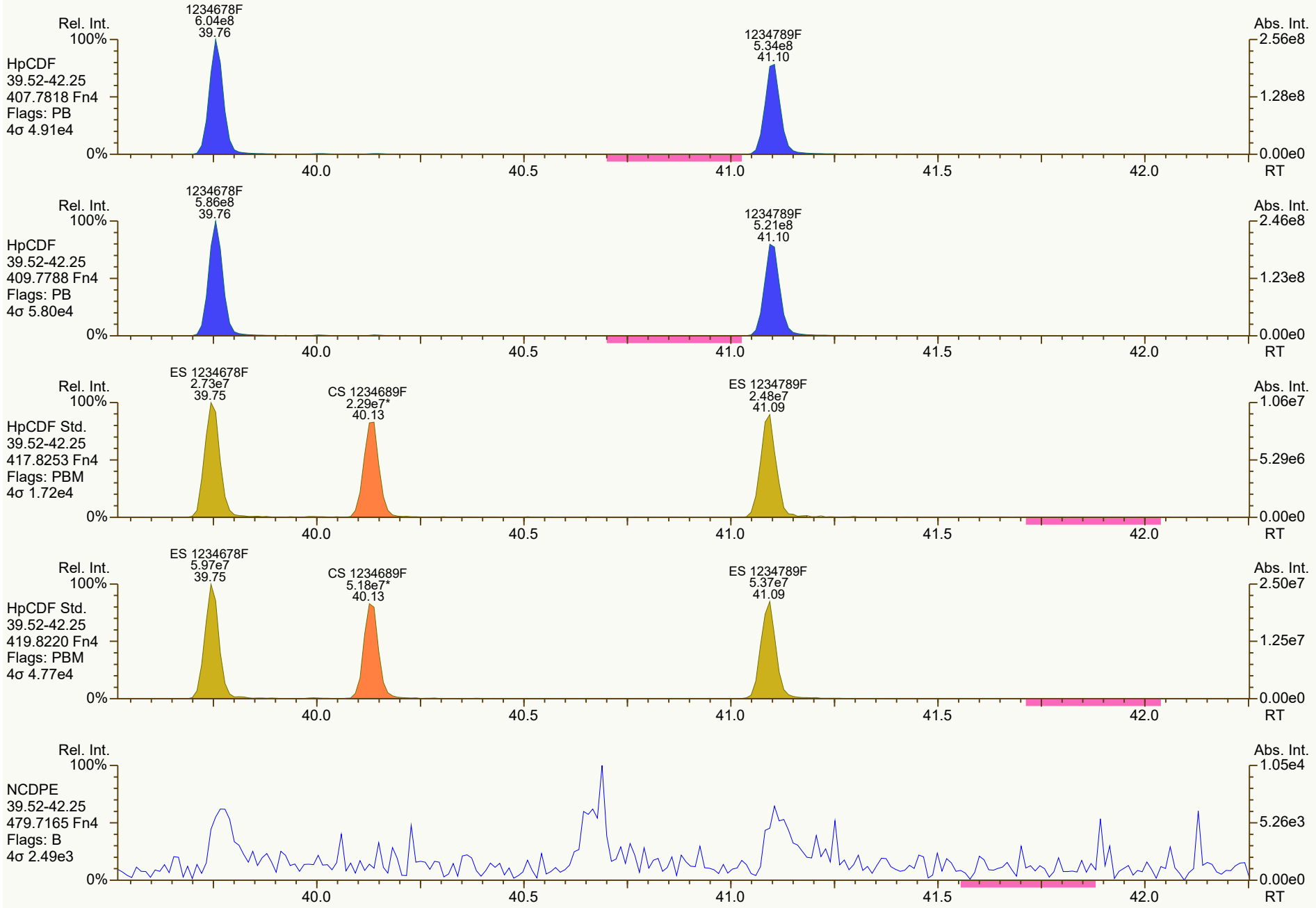
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS5_210727_DF_RA.utp_res, saved 27-Jul-2021 15:27 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1711, 4954, 8949 scc: 147-553
PKD: 27-Jul-2021 13:55 Printed: 27-Jul-2021 15:31 Page 7 of 12

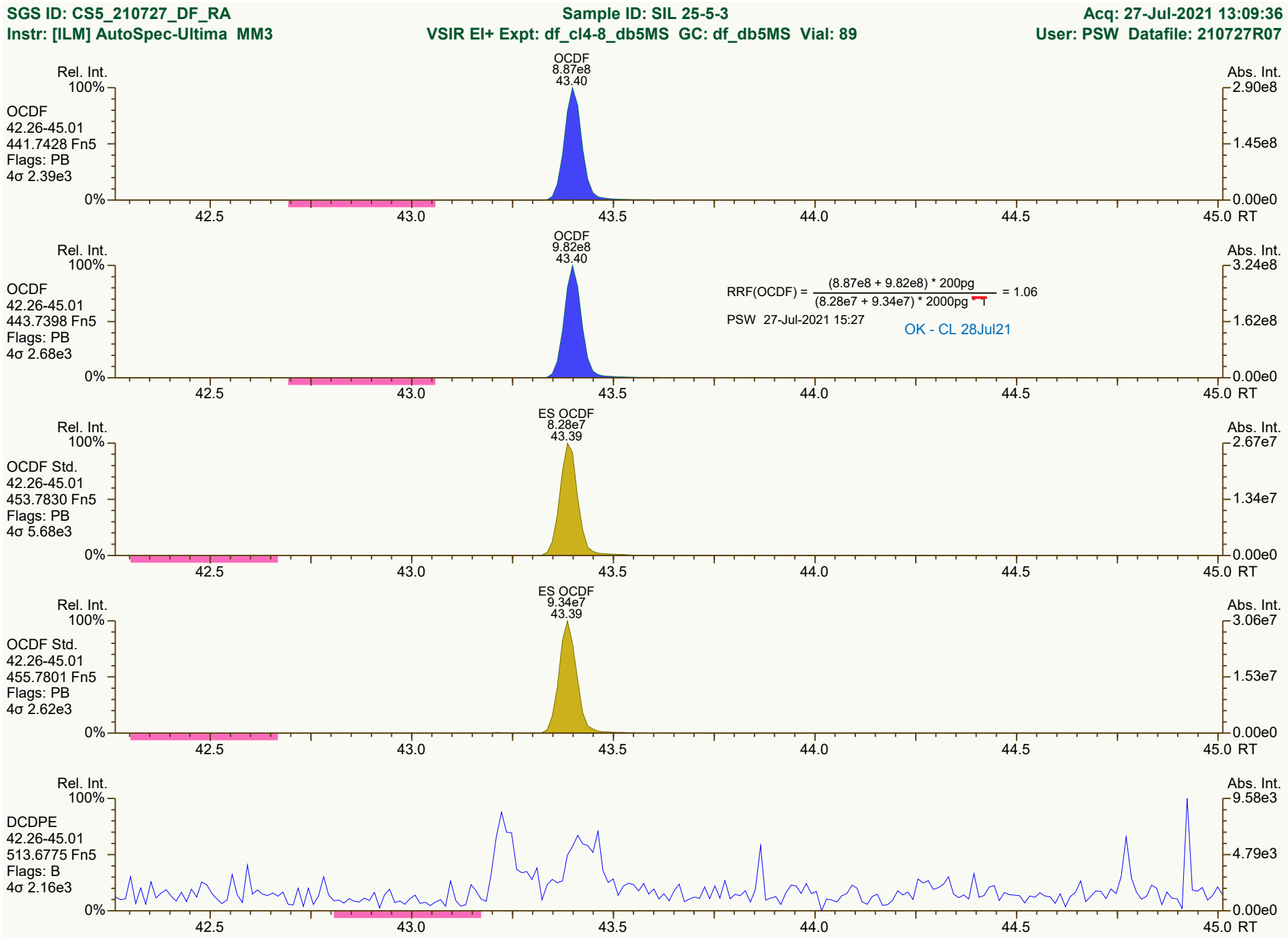

Rel. Int.
100%
0%
Abs. Int.
1.63e4
8.16e3
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 1.94e3
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 2.68e3
1.16e4
5.81e3
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
2.08e6
1.04e6


SGS ID: CS5_210727_DF_RA
Sample ID: SIL 25-5-3
Acq: 27-Jul-2021 13:09:36
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 89
User: PSW Datafile: 210727R07
Rel. Int.
Abs. Int.
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 8.69e3
12378F
8.03e8
32.37
23478F
8.32e8
33.46
2.49e8
1.25e8
0.00e0
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 9.16e3
12378F
5.32e8
32.37
23478F
5.28e8
33.46
1.55e8
7.77e7
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PBM
4σ 2.83e4
CS 12346F
7.94e7
31.84
ES 12378F
8.80e7
32.35
ES 23478F
8.59e7*
33.45
2.53e7
1.27e7
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PBM
4σ 2.01e4
CS 12346F
5.06e7
31.84
ES 12378F
5.49e7
32.35
ES 23478F
5.50e7*
33.44
1.65e7
8.26e6
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 1.76e3
8.98e3
4.49e3
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
0.00e0
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS5_210727_DF_RA.utp_res, saved 27-Jul-2021 15:27 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1570, 9623, 3877 scc: 147-553
PKD: 27-Jul-2021 13:55 Printed: 27-Jul-2021 15:31 Page 9 of 12



Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS5_210727_DF_RA.utp_res, saved 27-Jul-2021 15:27 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 5016, 0733, 9416 scc: 147-553
PKD: 27-Jul-2021 13:55 Printed: 27-Jul-2021 15:31 Page 10 of 12


Rel. Int.
100%
0%
Abs. Int.
RT
40.0
40.5
41.0
41.5
42.0
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 4.91e4
1234678F
6.04e8
39.76
1234789F
5.34e8
41.10
2.56e8
1.28e8
0.00e0
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 5.80e4
1234678F
5.86e8
39.76
1234789F
5.21e8
41.10
2.46e8
1.23e8
0.00e0
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PBM
4σ 1.72e4
ES 1234678F
2.73e7
39.75
CS 1234689F
2.29e7*
40.13
ES 1234789F
2.48e7
41.09
1.06e7
5.29e6
0.00e0
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PBM
4σ 4.77e4
ES 1234678F
5.97e7
39.75
CS 1234689F
5.18e7*
40.13
ES 1234789F
5.37e7
41.09
2.50e7
1.25e7
0.00e0
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.49e3
1.05e4
5.26e3
0.00e0


SGS ID: CS5_210727_DF_RA
Sample ID: SIL 25-5-3
Acq: 27-Jul-2021 13:09:36
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 89
User: PSW Datafile: 210727R07
Rel. Int.
100%
OCDF
42.26-45.01
441.7428 Fn5
Flags: PB
4σ 2.39e3
0%
OCDF
8.87e8
43.40
Abs. Int.
2.90e8
1.45e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.26-45.01
443.7398 Fn5
Flags: PB
4σ 2.68e3
0%
OCDF
9.82e8
43.40
RRF(OCDF) = (8.87e8 + 9.82e8) * 200pg / (8.28e7 + 9.34e7) * 2000pg = 1.06
PSW 27-Jul-2021 15:27
OK - CL 28Jul21
Abs. Int.
3.24e8
1.62e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PB
4σ 5.68e3
0%
ES OCDF
8.28e7
43.39
Abs. Int.
2.67e7
1.34e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PB
4σ 2.62e3
0%
ES OCDF
9.34e7
43.39
Abs. Int.
3.06e7
1.53e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.26-45.01
513.6775 Fn5
Flags: B
4σ 2.16e3
0%
Abs. Int.
9.58e3
4.79e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS5_210727_DF_RA.utp_res, saved 27-Jul-2021 15:27 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 3045, 1808, 0585 scc: 147-553
PKD: 27-Jul-2021 13:55 Printed: 27-Jul-2021 15:31 Page 12 of 12

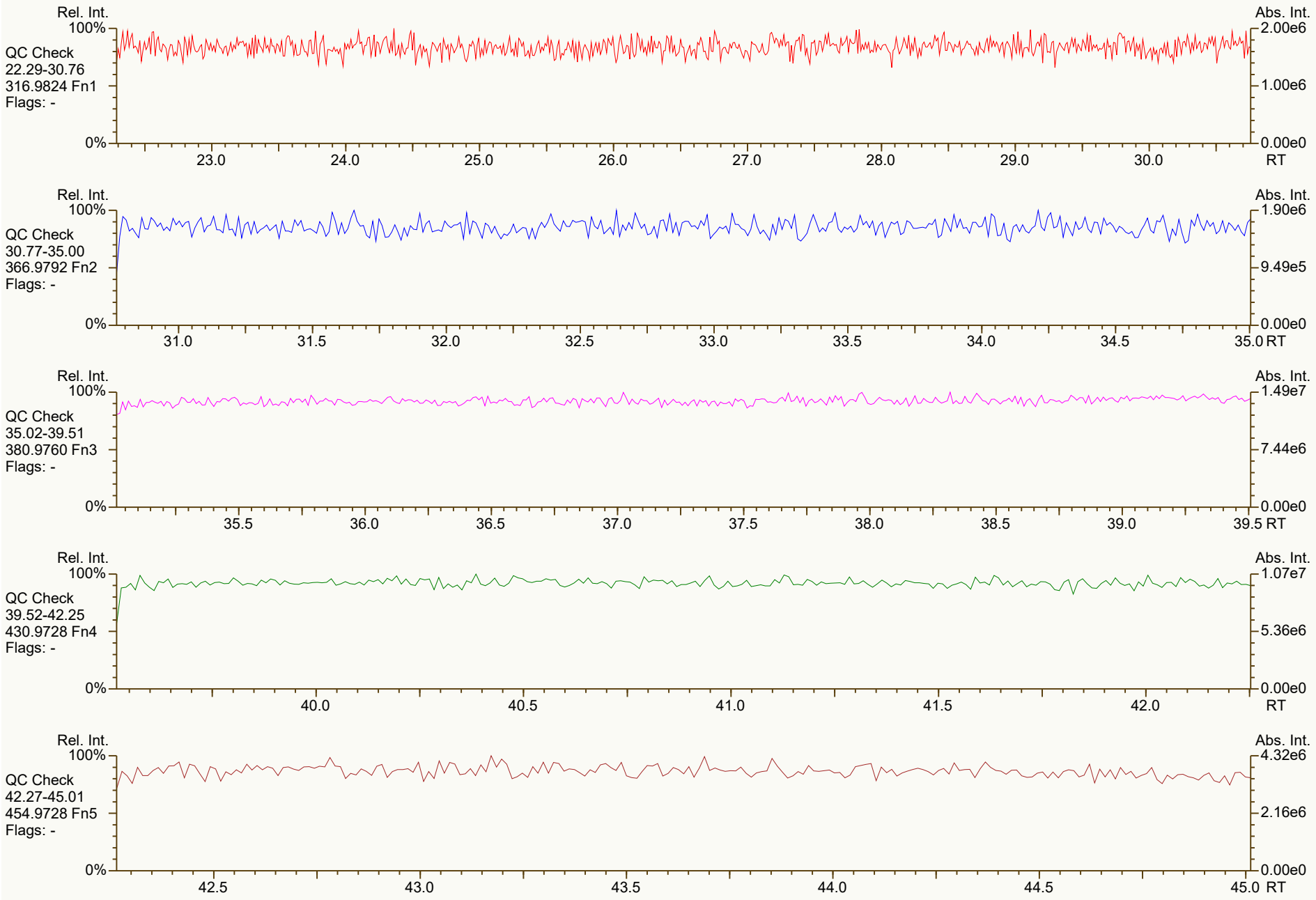
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 13:58 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS6_210727_DF_RA	UTP: 27-Jul-2021 15:00:22 PSW	Checkcode: 783-472-ZXK
Sample ID: SIL 25-5-2	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R08

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	6.45E+08	0.79	Y	1.34	1.39	3%
12378-PeCDD	33.81	2.62E+09	1.57	Y	1.06	1.05	0%
123478-HxCDD	37.68	2.41E+09	1.26	Y	1.06	1.05	-1%
123678-HxCDD	37.79	2.46E+09	1.25	Y	1.08	1.09	1%
123789-HxCDD	38.08	2.63E+09	1.25	Y	1.02	1.00	-1%
1234678-HpCDD	40.66	2.28E+09	1.03	Y	0.97	1.00	2%
OCDD	43.24	4.13E+09	0.89	Y	1.07	1.08	1%
2378-TCDF	27.67	7.99E+08	0.77	Y	0.96	0.99	3%
12378-PeCDF	32.38	3.47E+09	1.57	Y	0.95	0.96	2%
23478-PeCDF	33.47	3.38E+09	1.55	Y	0.94	0.96	2%
123478-HxCDF	36.69	3.24E+09	1.24	Y	1.23	1.22	-1%
123678-HxCDF	36.83	3.36E+09	1.24	Y	1.13	1.14	0%
234678-HxCDF	37.49	3.14E+09	1.25	Y	1.15	1.15	0%
123789-HxCDF	38.43	3.10E+09	1.25	Y	1.14	1.16	2%
1234678-HpCDF	39.77	3.01E+09	1.04	Y	1.36	1.36	0%
1234789-HpCDF	41.11	2.70E+09	1.03	Y	1.30	1.33	2%
OCDF	43.42	4.91E+09	0.91	Y	1.03	1.08	5%
ES 2378-TCDD	28.50	9.29E+07	0.78	Y	1.03	1.02	-1%
ES 12378-PeCDD	33.791	9.93E+07	1.63	Y	1.03	1.10	6%
ES 123478-HxCDD	37.663	9.19E+07	1.24	Y	0.99	1.07	7%
ES 123678-HxCDD	37.778	9.02E+07	1.27	Y	0.97	1.05	7%
ES 123789-HxCDD	38.067	1.05E+08	1.27	Y	1.12	1.22	8%
ES 1234678-HpCDD	40.65	9.14E+07	1.03	Y	0.99	1.06	7%
ES OCDD	43.227	1.53E+08	0.91	Y	0.78	0.89	14%
ES 2378-TCDF	27.65	1.62E+08	0.78	Y	1.08	1.10	2%
ES 12378-PeCDF	32.365	1.44E+08	1.56	Y	0.93	0.98	5%
ES 23478-PeCDF	33.455	1.42E+08	1.59	Y	0.92	0.96	4%
ES 123478-HxCDF	36.671	1.06E+08	0.53	Y	1.14	1.23	8%
ES 123678-HxCDF	36.81	1.18E+08	0.53	Y	1.30	1.37	6%
ES 234678-HxCDF	37.477	1.09E+08	0.52	Y	1.20	1.27	5%
ES 123789-HxCDF	38.411	1.07E+08	0.52	Y	1.14	1.24	9%
ES 1234678-HpCDF	39.757	8.85E+07	0.45	Y	0.95	1.03	8%
ES 1234789-HpCDF	41.1	8.15E+07	0.45	Y	0.85	0.94	12%
ES OCDF	43.407	1.83E+08	0.90	Y	0.93	1.06	14%

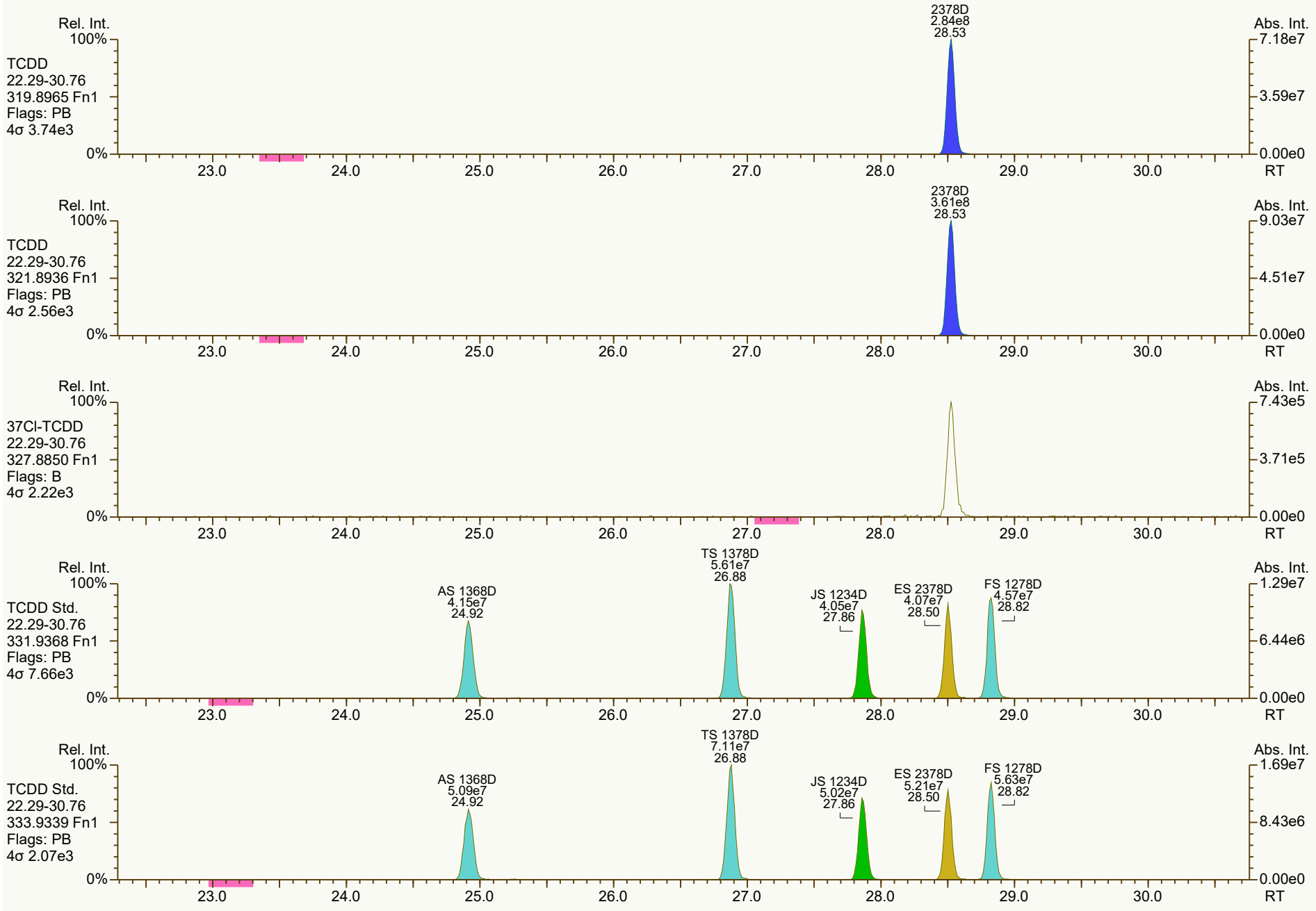
Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 13:58 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS6_210727_DF_RA	UTP: 27-Jul-2021 15:00:22 PSW	Checkcode: 783-472-ZXK
Sample ID: SIL 25-5-2	Report: 27 Jul 2021 15:02 pw	Datafile: 210727R08

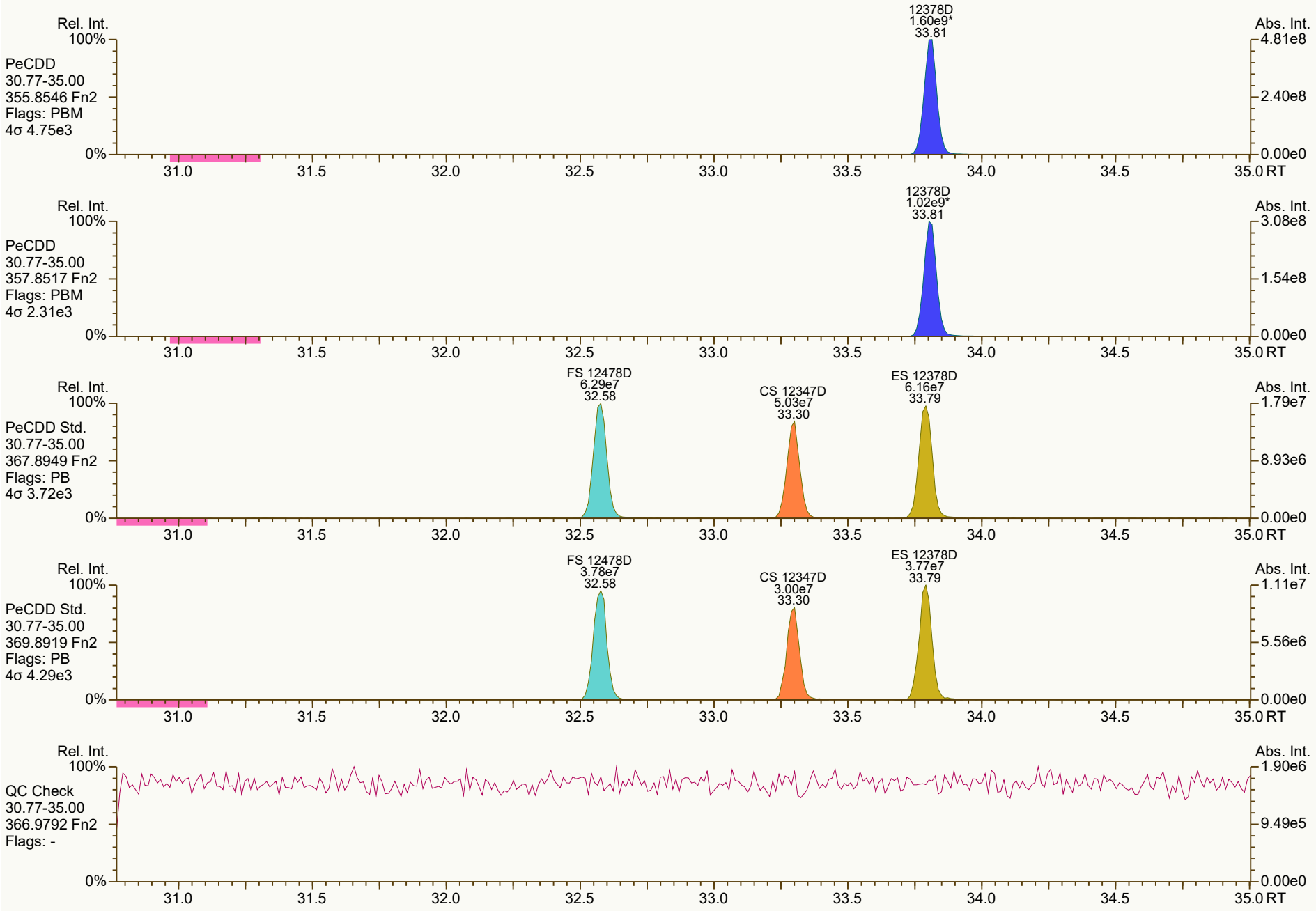
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.86	9.07E+07	0.81	Y	-	-	-
JS 1234-TCDF	26.33	1.47E+08	0.79	Y	-	-	-
JS 123467-HxCDD	37.97	4.31E+07	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.31		
CS 12347-PeCDD	33.30	8.03E+07	1.68	Y	0.89	0.89	-1%
CS 12346-PeCDF	31.84	1.25E+08	1.54	Y	0.87	0.85	-2%
CS 123469-HxCDF	37.12	9.43E+07	0.51	Y	1.09	1.09	0%
CS 1234689-HpCDF	40.14	7.21E+07	0.44	Y	0.86	0.84	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.26		
SS 12347-PeCDD	33.30	8.03E+07	1.68	Y	0.86	0.81	-6%
SS 12346-PeCDF	31.84	1.25E+08	1.54	Y	0.93	0.87	-7%
SS 123469-HxCDF	37.12	9.43E+07	0.51	Y	0.84	0.80	-5%
SS 1234689-HpCDF	40.14	7.21E+07	0.44	Y	0.91	0.81	-11%
AS 1368-TCDD	24.92	9.24E+07	0.82	Y	1.02	1.02	0%
AS 1368-TCDF	22.86	1.58E+08	0.79	Y	1.08	1.07	0%
FS 1278-TCDD	28.83	1.02E+08	0.81	Y	1.08	1.10	1%
FS 12478-PeCDD	32.58	1.01E+08	1.67	Y	1.09	1.01	-7%
FS 123468-HxCDD	36.59	1.06E+08	1.23	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.99	1.12E+08	1.07	Y	1.36	1.23	-9%
TS 1378-TCDD	26.88	1.27E+08	0.79	Y	1.35	1.37	2%
~~OCDD-a~~	~~43.23~~	~~2.53E+08~~	~~2.47~~	~~Y~~	~~0.07~~	~~0.07~~	~~0%~~
~~OCDF-a~~	~~43.42~~	~~2.93E+08~~	~~2.57~~	~~Y~~	~~0.06~~	~~0.06~~	~~8%~~

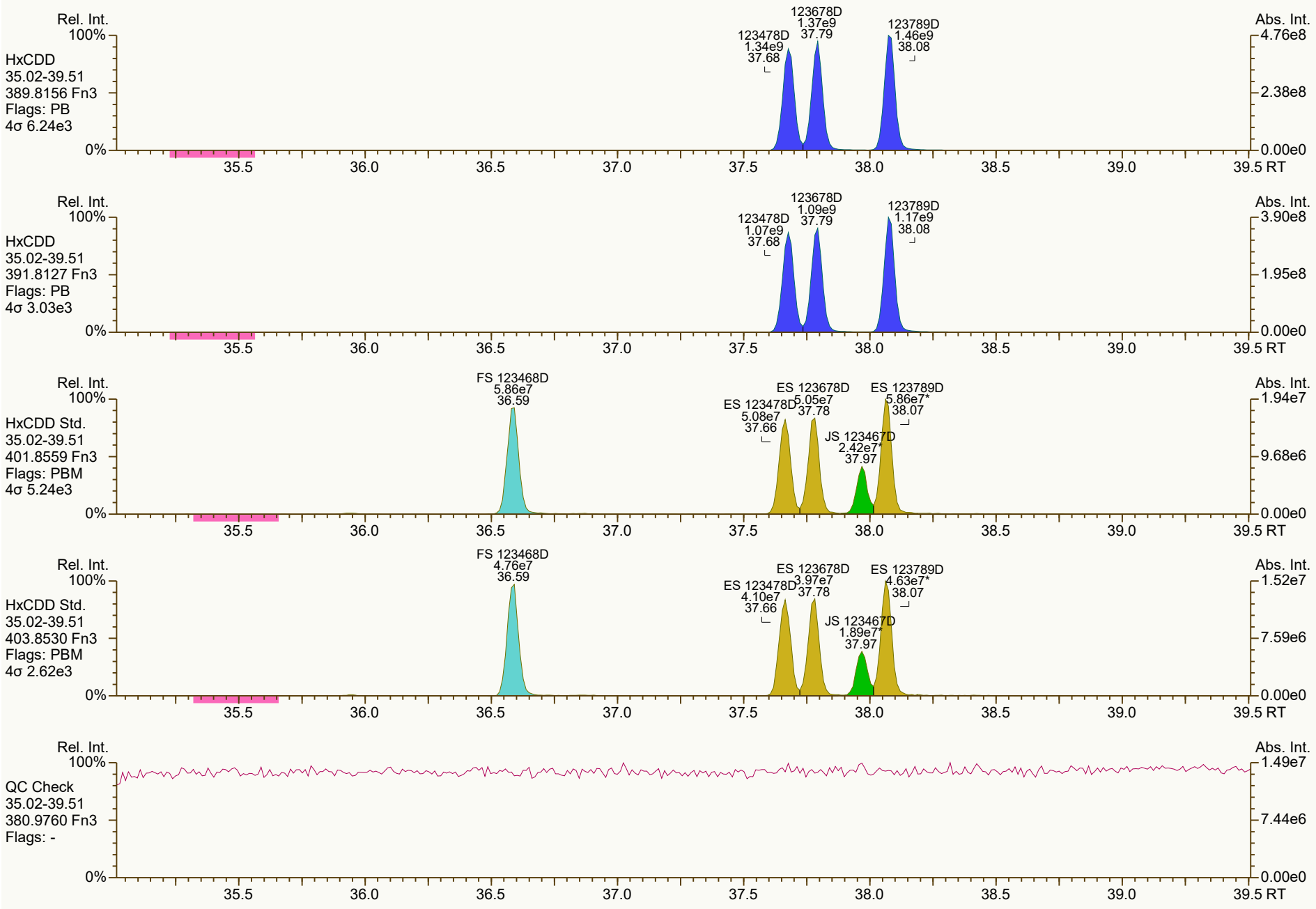
Not reported from this ICAL - CL 28Jul21

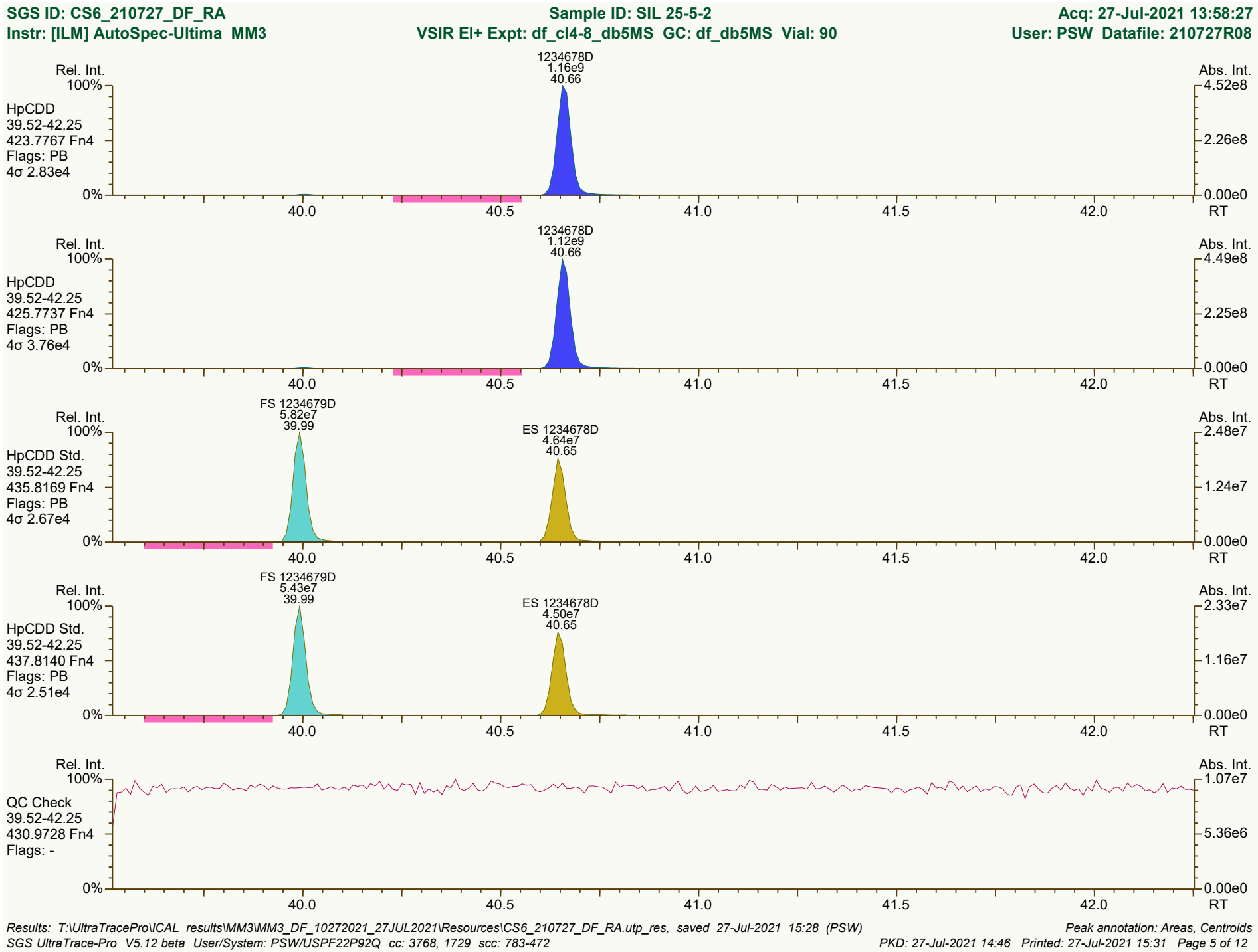


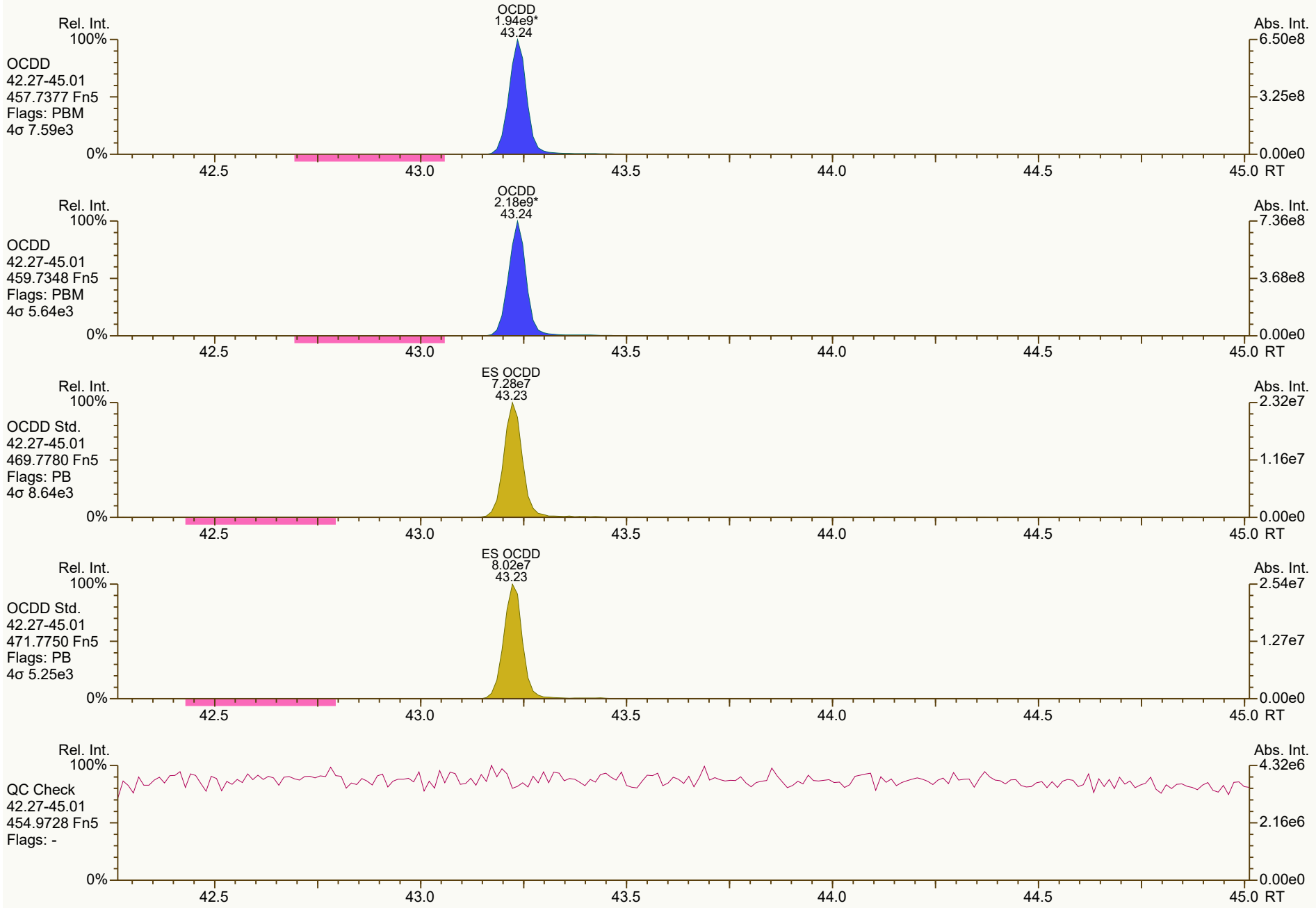
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q scc: 783-472
PKD: n/a Printed: 27-Jul-2021 15:31 Page 1 of 12


Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 3.74e3
0%
2378D
2.84e8
28.53
Abs. Int.
7.18e7
3.59e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.56e3
0%
2378D
3.61e8
28.53
Abs. Int.
9.03e7
4.51e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: B
4σ 2.22e3
0%
Abs. Int.
7.43e5
3.71e5
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 7.66e3
0%
AS 1368D
4.15e7
24.92
TS 1378D
5.61e7
26.88
JS 1234D
4.05e7
27.86
ES 2378D
4.07e7
28.50
FS 1278D
4.57e7
28.82
Abs. Int.
1.29e7
6.44e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 2.07e3
0%
AS 1368D
5.09e7
24.92
TS 1378D
7.11e7
26.88
JS 1234D
5.02e7
27.86
ES 2378D
5.21e7
28.50
FS 1278D
5.63e7
28.82
Abs. Int.
1.69e7
8.43e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: PBM
4σ 4.75e3
0%
12378D
1.60e9*
33.81
Abs. Int.
4.81e8
2.40e8
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: PBM
4σ 2.31e3
0%
12378D
1.02e9*
33.81
Abs. Int.
3.08e8
1.54e8
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: PB
4σ 3.72e3
0%
FS 12478D
6.29e7
32.58
CS 12347D
5.03e7
33.30
ES 12378D
6.16e7
33.79
Abs. Int.
1.79e7
8.93e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: PB
4σ 4.29e3
0%
FS 12478D
3.78e7
32.58
CS 12347D
3.00e7
33.30
ES 12378D
3.77e7
33.79
Abs. Int.
1.11e7
5.56e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.90e6
9.49e5
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT

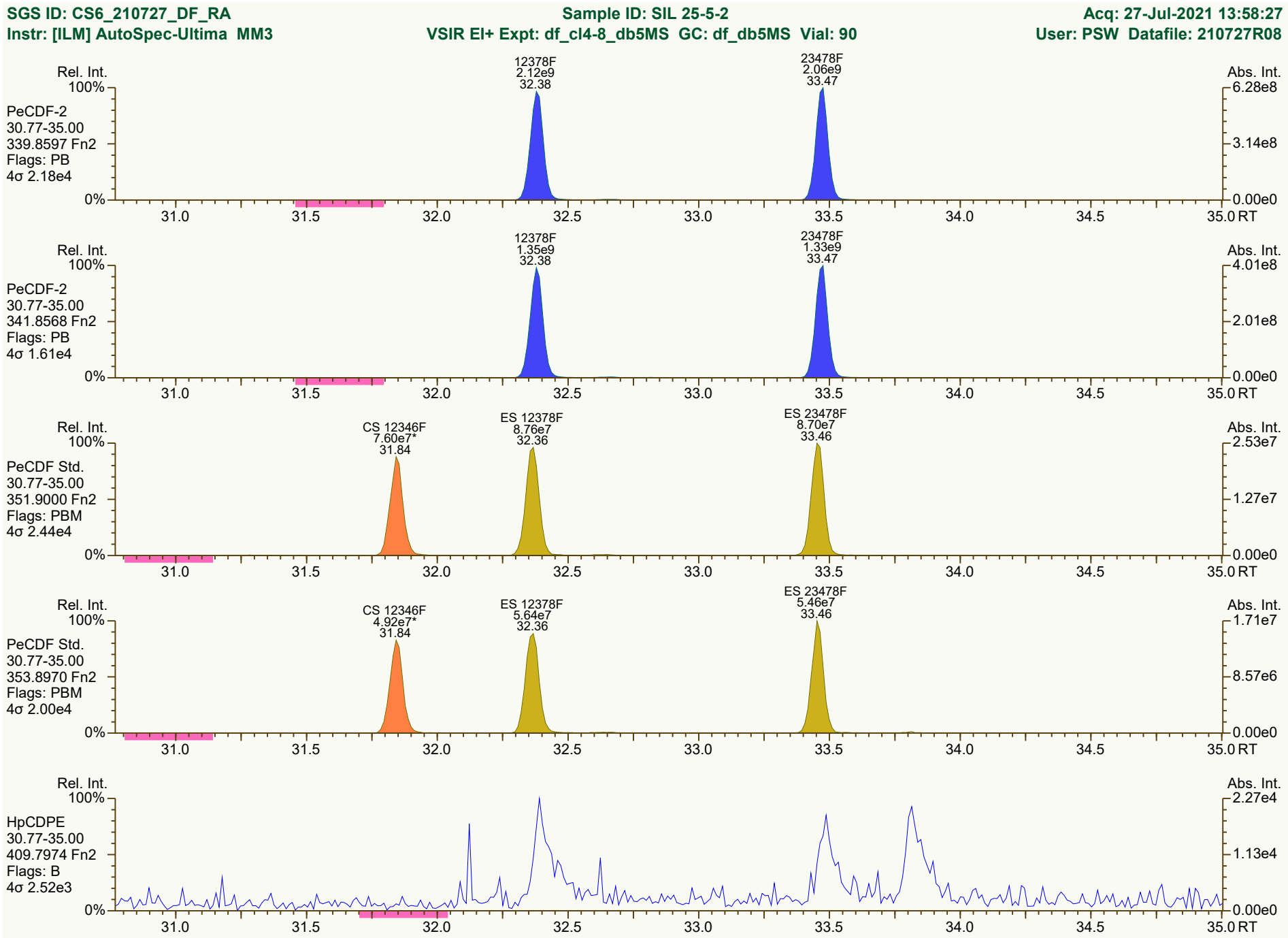

Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 6.24e3
123478D 1.34e9 37.68
123678D 1.37e9 37.79
123789D 1.46e9 38.08
Abs. Int.
4.76e8
2.38e8
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 3.03e3
123478D 1.07e9 37.68
123678D 1.09e9 37.79
123789D 1.17e9 38.08
Abs. Int.
3.90e8
1.95e8
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 5.24e3
FS 123468D 5.86e7 36.59
ES 123478D 5.08e7 37.66
ES 123678D 5.05e7 37.78
JS 123467D 2.42e7* 37.97
ES 123789D 5.86e7* 38.07
Abs. Int.
1.94e7
9.68e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 2.62e3
FS 123468D 4.76e7 36.59
ES 123478D 4.10e7 37.66
ES 123678D 3.97e7 37.78
JS 123467D 1.89e7* 37.97
ES 123789D 4.63e7* 38.07
Abs. Int.
1.52e7
7.59e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
Abs. Int.
1.49e7
7.44e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT

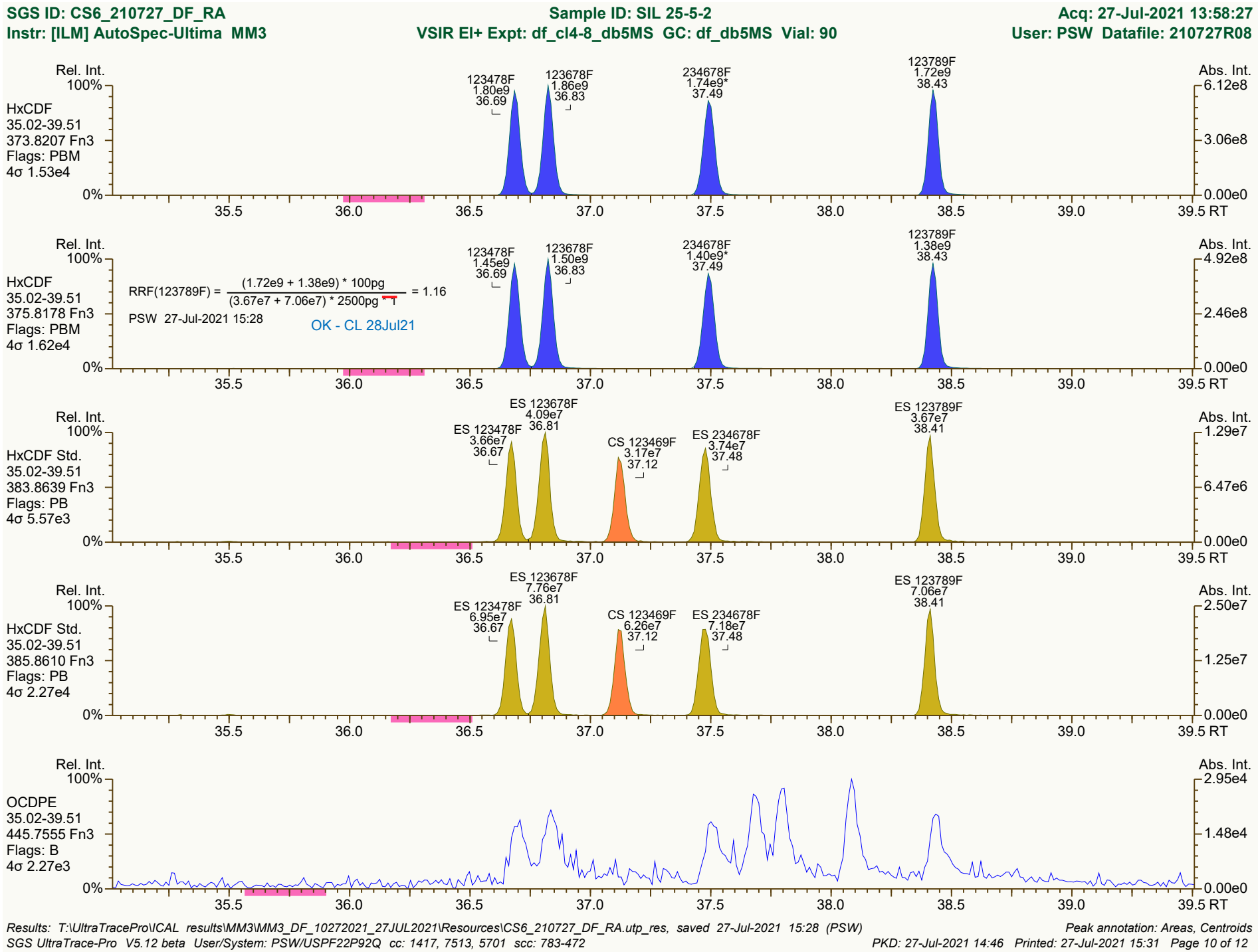

SGS ID: CS6_210727_DF_RA
Sample ID: SIL 25-5-2
Acq: 27-Jul-2021 13:58:27
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90
User: PSW Datafile: 210727R08
Rel. Int.
Abs. Int.
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 2.83e4
1234678D
1.16e9
40.66
4.52e8
2.26e8
0.00e0
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 3.76e4
1234678D
1.12e9
40.66
4.49e8
2.25e8
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PB
4σ 2.67e4
FS 1234679D
5.82e7
39.99
ES 1234678D
4.64e7
40.65
2.48e7
1.24e7
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PB
4σ 2.51e4
FS 1234679D
5.43e7
39.99
ES 1234678D
4.50e7
40.65
2.33e7
1.16e7
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
1.07e7
5.36e6
100%
0%
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 3768, 1729 scc: 783-472
PKD: 27-Jul-2021 14:46 Printed: 27-Jul-2021 15:31 Page 5 of 12

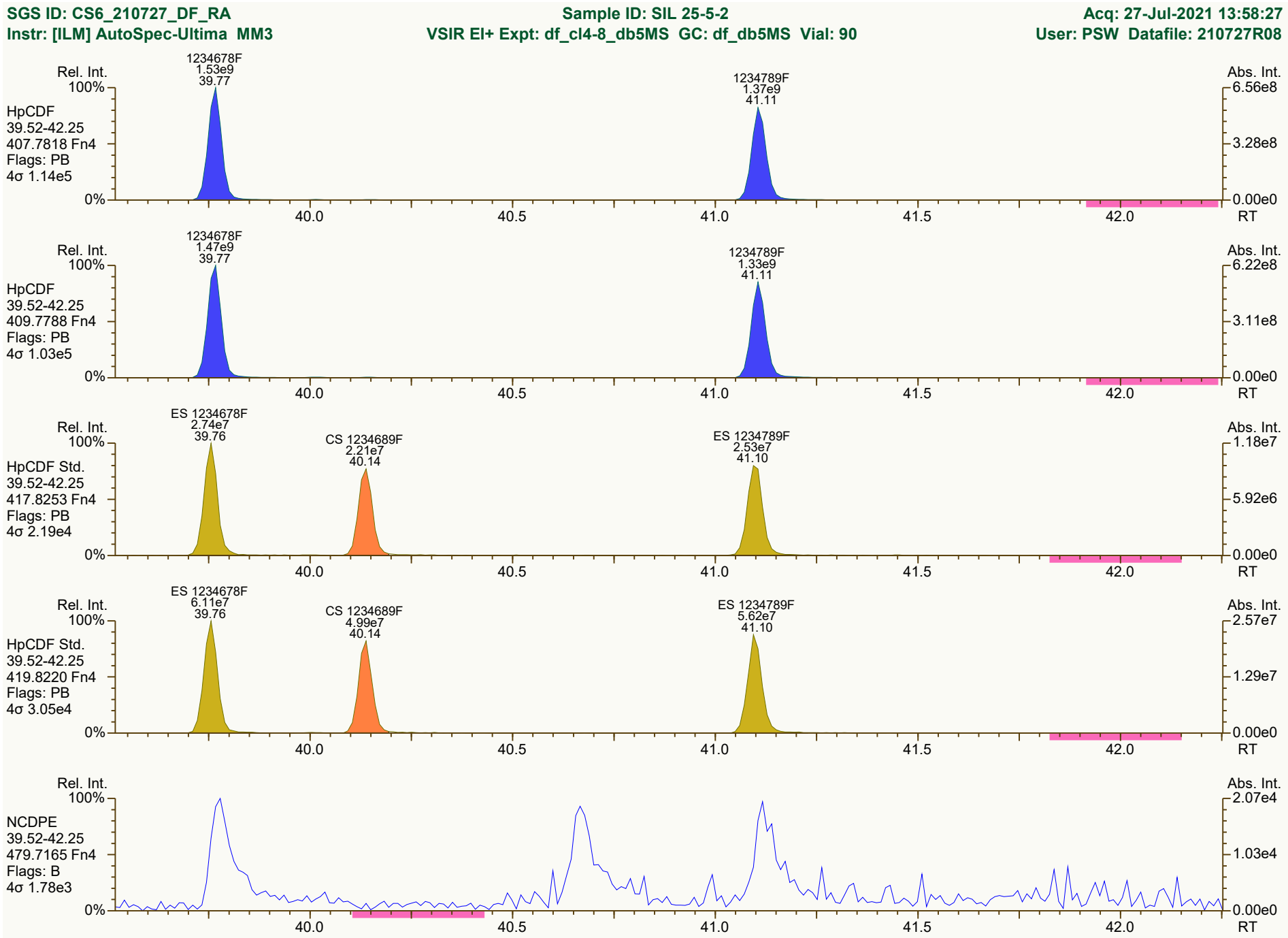

OCDD
1.94e9*
43.24
Rel. Int.
100%
OCDD
42.27-45.01
457.7377 Fn5
Flags: PBM
4σ 7.59e3
0%
Abs. Int.
6.50e8
3.25e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.18e9*
43.24
Rel. Int.
100%
OCDD
42.27-45.01
459.7348 Fn5
Flags: PBM
4σ 5.64e3
0%
Abs. Int.
7.36e8
3.68e8
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
7.28e7
43.23
Rel. Int.
100%
OCDD Std.
42.27-45.01
469.7780 Fn5
Flags: PB
4σ 8.64e3
0%
Abs. Int.
2.32e7
1.16e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
8.02e7
43.23
Rel. Int.
100%
OCDD Std.
42.27-45.01
471.7750 Fn5
Flags: PB
4σ 5.25e3
0%
Abs. Int.
2.54e7
1.27e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.27-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.32e6
2.16e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

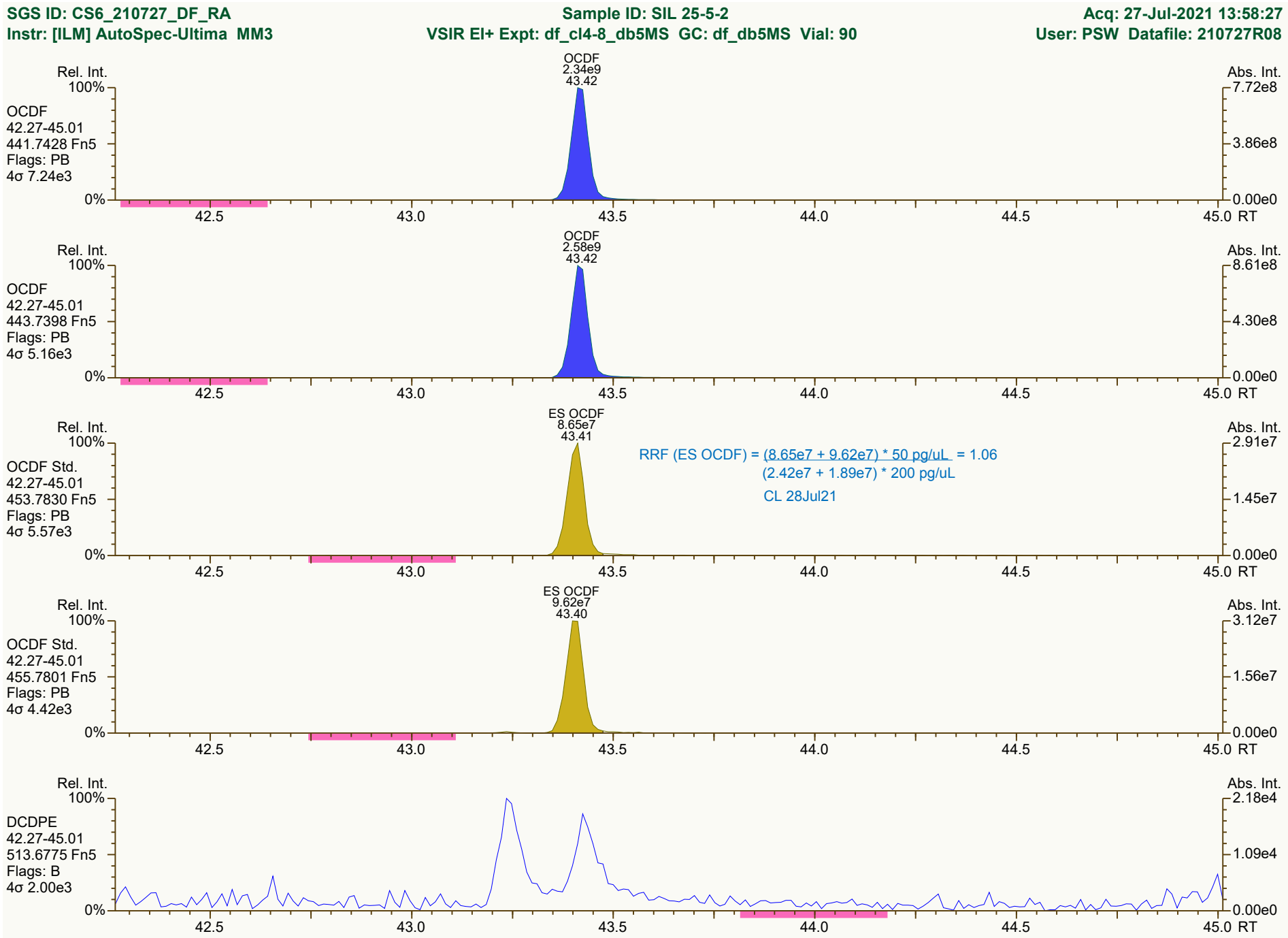

Rel. Int.
100%
0%
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.81e3
2378F
3.47e8
27.67
8.18e7
4.09e7
0.00e0
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.63e3
2378F
4.52e8
27.67
1.06e8
5.31e7
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.51e4
AS 1368F
6.97e7
22.86
JS 1234F
6.51e7
26.33
ES 2378F
7.12e7
27.65
1.73e7
8.65e6
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 8.59e3
AS 1368F
8.87e7
22.85
JS 1234F
8.23e7
26.33
ES 2378F
9.09e7
27.65
2.19e7
1.09e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.16e3
1.85e4
9.24e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
2.08e4
1.04e4
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 3.81e3
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 4.96e3
1.40e4
7.01e3
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
2.00e6
1.00e6


SGS ID: CS6_210727_DF_RA
Sample ID: SIL 25-5-2
Acq: 27-Jul-2021 13:58:27
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90
User: PSW Datafile: 210727R08
Rel. Int.
Abs. Int.
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 2.18e4
12378F
2.12e9
32.38
23478F
2.06e9
33.47
6.28e8
3.14e8
0.00e0
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 1.61e4
12378F
1.35e9
32.38
23478F
1.33e9
33.47
4.01e8
2.01e8
0.00e0
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PBM
4σ 2.44e4
CS 12346F
7.60e7*
31.84
ES 12378F
8.76e7
32.36
ES 23478F
8.70e7
33.46
2.53e7
1.27e7
0.00e0
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PBM
4σ 2.00e4
CS 12346F
4.92e7*
31.84
ES 12378F
5.64e7
32.36
ES 23478F
5.46e7
33.46
1.71e7
8.57e6
0.00e0
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.52e3
2.27e4
1.13e4
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 5183, 3073, 9003 scc: 783-472
PKD: 27-Jul-2021 14:46 Printed: 27-Jul-2021 15:31 Page 9 of 12


SGS ID: CS6_210727_DF_RA
Sample ID: SIL 25-5-2
Acq: 27-Jul-2021 13:58:27
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90
User: PSW Datafile: 210727R08
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 1.53e4
123478F 1.80e9 36.69
123678F 1.86e9 36.83
234678F 1.74e9* 37.49
123789F 1.72e9 38.43
6.12e8
3.06e8
0.00e0
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 1.62e4
RRF(123789F) = (1.72e9 + 1.38e9) * 100pg / (3.67e7 + 7.06e7) * 2500pg = 1.16
PSW 27-Jul-2021 15:28
OK - CL 28Jul21
123478F 1.45e9 36.69
123678F 1.50e9 36.83
234678F 1.40e9* 37.49
123789F 1.38e9 38.43
4.92e8
2.46e8
0.00e0
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 5.57e3
ES 123478F 3.66e7 36.67
ES 123678F 4.09e7 36.81
CS 123469F 3.17e7 37.12
ES 234678F 3.74e7 37.48
ES 123789F 3.67e7 38.41
1.29e7
6.47e6
0.00e0
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 2.27e4
ES 123478F 6.95e7 36.67
ES 123678F 7.76e7 36.81
CS 123469F 6.26e7 37.12
ES 234678F 7.18e7 37.48
ES 123789F 7.06e7 38.41
2.50e7
1.25e7
0.00e0
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.27e3
2.95e4
1.48e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1417, 7513, 5701 scc: 783-472
PKD: 27-Jul-2021 14:46 Printed: 27-Jul-2021 15:31 Page 10 of 12


SGS ID: CS6_210727_DF_RA
Sample ID: SIL 25-5-2
Acq: 27-Jul-2021 13:58:27
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90
User: PSW Datafile: 210727R08
Rel. Int.
Abs. Int.
HpCDF
39.52-42.25
407.7818 Fn4
Flags: PB
4σ 1.14e5
1234678F
1.53e9
39.77
1234789F
1.37e9
41.11
6.56e8
3.28e8
0.00e0
HpCDF
39.52-42.25
409.7788 Fn4
Flags: PB
4σ 1.03e5
1234678F
1.47e9
39.77
1234789F
1.33e9
41.11
6.22e8
3.11e8
0.00e0
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: PB
4σ 2.19e4
ES 1234678F
2.74e7
39.76
CS 1234689F
2.21e7
40.14
ES 1234789F
2.53e7
41.10
1.18e7
5.92e6
0.00e0
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: PB
4σ 3.05e4
ES 1234678F
6.11e7
39.76
CS 1234689F
4.99e7
40.14
ES 1234789F
5.62e7
41.10
2.57e7
1.29e7
0.00e0
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 1.78e3
2.07e4
1.03e4
0.00e0
100%
0%
40.0
40.5
41.0
41.5
42.0
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0766, 6357, 1189 scc: 783-472
PKD: 27-Jul-2021 14:46 Printed: 27-Jul-2021 15:31 Page 11 of 12


SGS ID: CS6_210727_DF_RA
Sample ID: SIL 25-5-2
Acq: 27-Jul-2021 13:58:27
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 90
User: PSW Datafile: 210727R08
OCDF
2.34e9
43.42
Rel. Int.
Abs. Int.
OCDF
42.27-45.01
441.7428 Fn5
Flags: PB
4σ 7.24e3
OCDF
2.58e9
43.42
OCDF
42.27-45.01
443.7398 Fn5
Flags: PB
4σ 5.16e3
ES OCDF
8.65e7
43.41
OCDF Std.
42.27-45.01
453.7830 Fn5
Flags: PB
4σ 5.57e3
RRF (ES OCDF) = (8.65e7 + 9.62e7) * 50 pg/uL = 1.06
(2.42e7 + 1.89e7) * 200 pg/uL
CL 28Jul21
ES OCDF
9.62e7
43.40
OCDF Std.
42.27-45.01
455.7801 Fn5
Flags: PB
4σ 4.42e3
DCDPE
42.27-45.01
513.6775 Fn5
Flags: B
4σ 2.00e3
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS6_210727_DF_RA.utp_res, saved 27-Jul-2021 15:28 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8670, 9652, 4309 scc: 783-472
PKD: 27-Jul-2021 14:46 Printed: 27-Jul-2021 15:32 Page 12 of 12

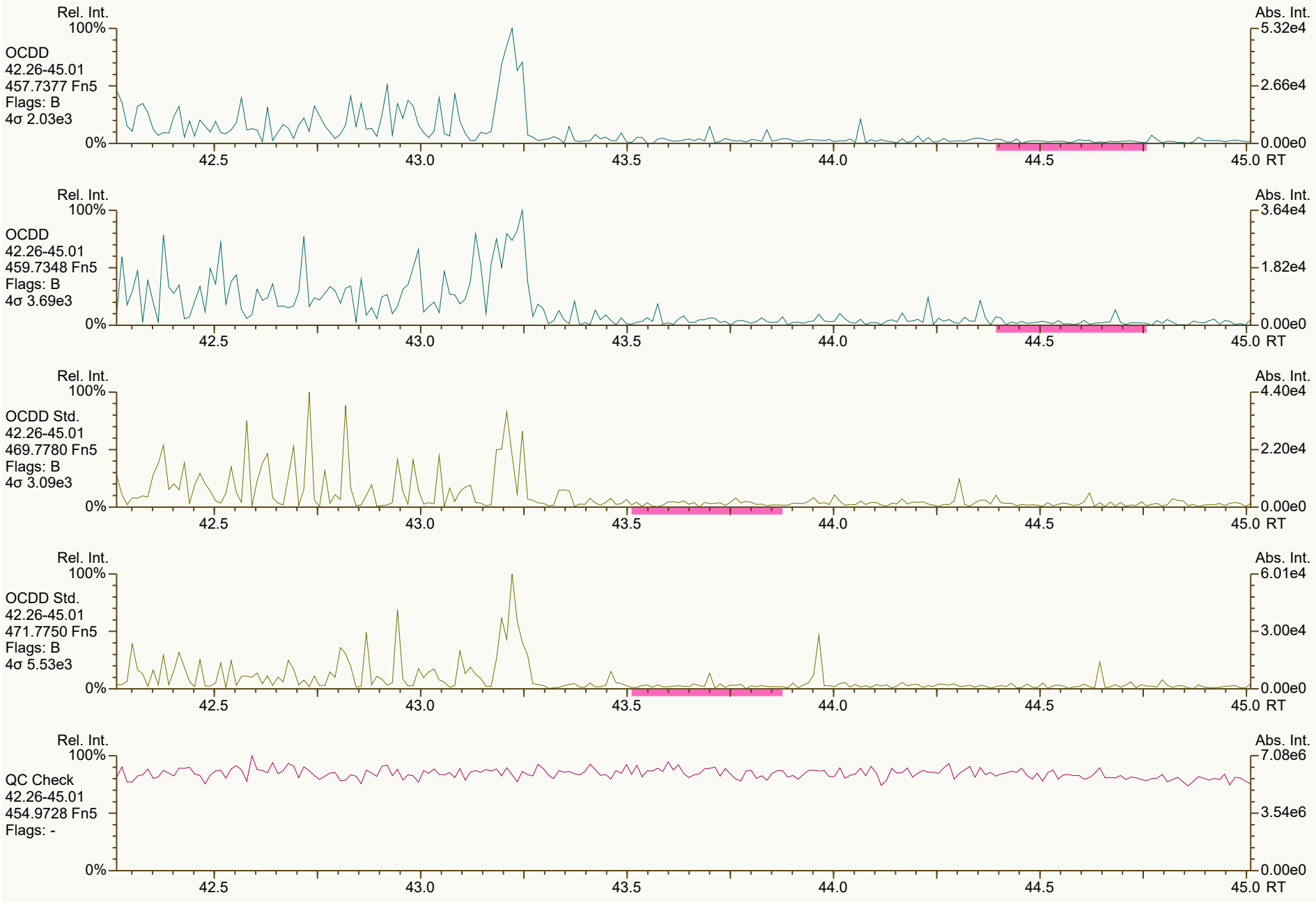

Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
3.23e6
1.61e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.06e6
1.53e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.38e7
1.19e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.77e7
8.83e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.08e6
3.54e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

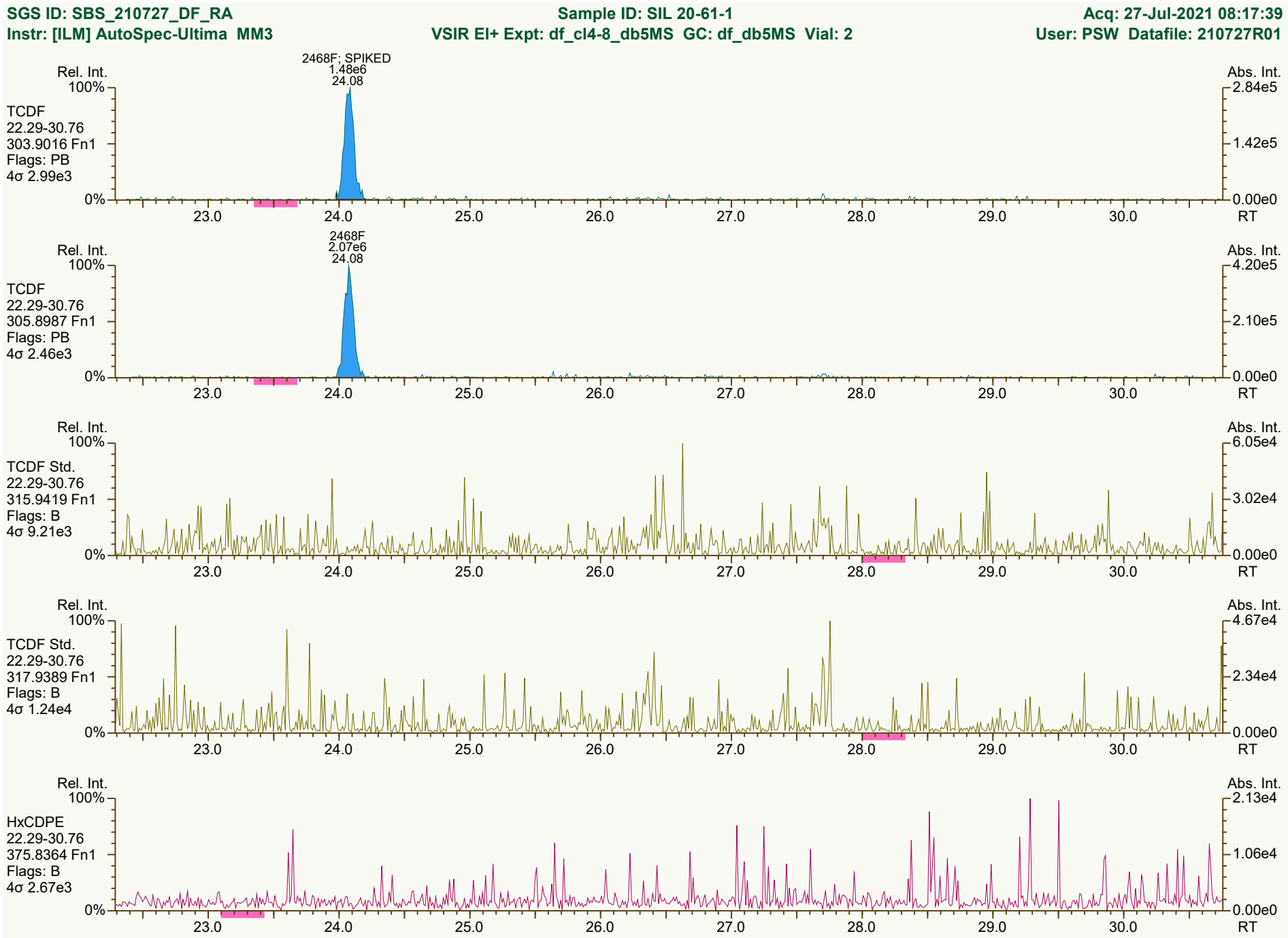

Rel. Int.
100%
TCDD
22.29-30.76
319.8965 Fn1
Flags: B
4σ 5.46e3
0%
Abs. Int.
1.96e4
9.79e3
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: B
4σ 3.81e3
0%
Abs. Int.
1.72e4
8.58e3
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.57e4
7.86e3
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: B
4σ 1.19e4
0%
Abs. Int.
4.60e4
2.30e4
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: B
4σ 4.18e3
0%
Abs. Int.
4.81e4
2.40e4
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


Rel. Int.
100%
PeCDD
30.77-35.00
355.8546 Fn2
Flags: B
4σ 9.54e3
0%
Abs. Int.
3.89e4
1.94e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD
30.77-35.00
357.8517 Fn2
Flags: B
4σ 5.05e3
0%
Abs. Int.
2.54e4
1.27e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
367.8949 Fn2
Flags: B
4σ 5.45e3
0%
Abs. Int.
6.36e4
3.18e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDD Std.
30.77-35.00
369.8919 Fn2
Flags: B
4σ 4.94e3
0%
Abs. Int.
2.95e4
1.48e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.06e6
1.53e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: B
4σ 4.48e3
0%
Abs. Int.
4.12e4
2.06e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: B
4σ 3.42e3
0%
Abs. Int.
3.84e4
1.92e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: B
4σ 5.33e3
0%
Abs. Int.
4.48e4
2.24e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: B
4σ 6.09e3
0%
Abs. Int.
7.66e4
3.83e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.38e7
1.19e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: B
4σ 8.10e3
0%
Abs. Int.
5.65e4
2.82e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: B
4σ 9.20e3
0%
Abs. Int.
3.29e4
1.64e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: B
4σ 7.86e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: B
4σ 3.02e3
0%
Abs. Int.
6.85e4
3.43e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.77e7
8.83e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT

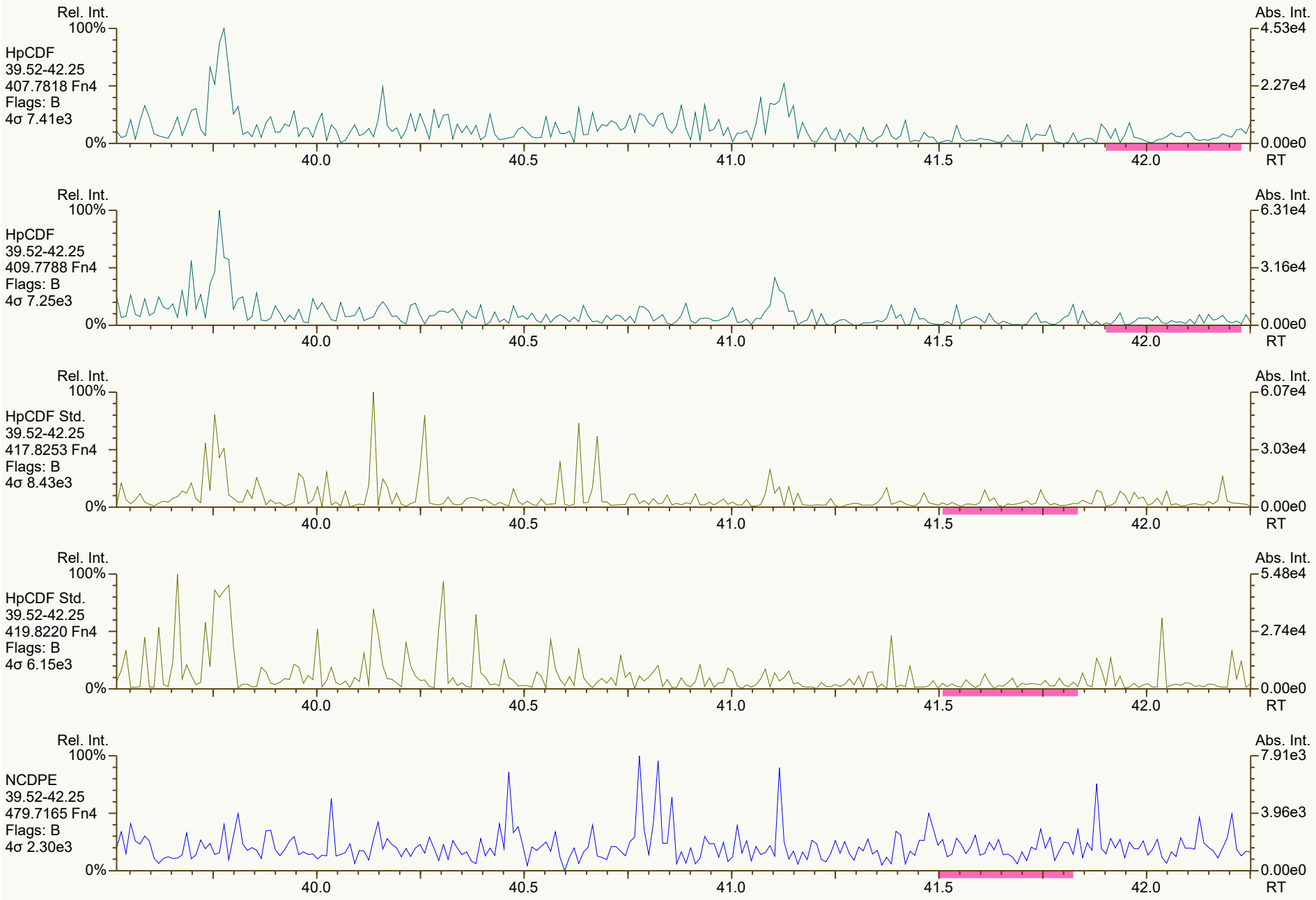

Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: B
4σ 2.03e3
0%
Abs. Int.
5.32e4
2.66e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.26-45.01
459.7348 Fn5
Flags: B
4σ 3.69e3
0%
Abs. Int.
3.64e4
1.82e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: B
4σ 3.09e3
0%
Abs. Int.
4.40e4
2.20e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: B
4σ 5.53e3
0%
Abs. Int.
6.01e4
3.00e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
7.08e6
3.54e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: SBS_210727_DF_RA
Sample ID: SIL 20-61-1
Acq: 27-Jul-2021 08:17:39
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: PSW Datafile: 210727R01
2468F: SPIKED
1.48e6
24.08
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PB
4σ 2.99e3
2468F
2.07e6
24.08
TCDF
22.29-30.76
305.8987 Fn1
Flags: PB
4σ 2.46e3
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: B
4σ 9.21e3
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: B
4σ 1.24e4
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.67e3
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\SBS_210727_DF_RA.utp_res, saved 27-Jul-2021 09:16 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 9293, 5161, 7483 scc: 638-037
PKD: 27-Jul-2021 09:16 Printed: 27-Jul-2021 15:30 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
3.87e4
1.94e4
0.00e0
RT
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 6.47e3
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 6.41e3
3.57e4
1.78e4
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
3.23e6
1.61e6


Rel. Int.
100%
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: B
4σ 6.52e3
0%
Abs. Int.
4.88e4
2.44e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: B
4σ 6.57e3
0%
Abs. Int.
3.28e4
1.64e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: B
4σ 2.11e3
0%
Abs. Int.
6.19e4
3.10e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: B
4σ 3.42e3
0%
Abs. Int.
5.42e4
2.71e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.38e3
0%
Abs. Int.
2.31e4
1.15e4
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT


Rel. Int.
100%
HxCDF
35.02-39.51
373.8207 Fn3
Flags: B
4σ 6.81e3
0%
Abs. Int.
5.46e4
2.73e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF
35.02-39.51
375.8178 Fn3
Flags: B
4σ 4.05e3
0%
Abs. Int.
3.51e4
1.76e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: B
4σ 6.70e3
0%
Abs. Int.
4.23e4
2.11e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: B
4σ 1.33e4
0%
Abs. Int.
8.19e4
4.10e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.51e3
0%
Abs. Int.
2.13e4
1.06e4
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT


Rel. Int.
100%
HpCDF
39.52-42.25
407.7818 Fn4
Flags: B
4σ 7.41e3
0%
Abs. Int.
4.53e4
2.27e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
39.52-42.25
409.7788 Fn4
Flags: B
4σ 7.25e3
0%
Abs. Int.
6.31e4
3.16e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
417.8253 Fn4
Flags: B
4σ 8.43e3
0%
Abs. Int.
6.07e4
3.03e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
39.52-42.25
419.8220 Fn4
Flags: B
4σ 6.15e3
0%
Abs. Int.
5.48e4
2.74e4
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
39.52-42.25
479.7165 Fn4
Flags: B
4σ 2.30e3
0%
Abs. Int.
7.91e3
3.96e3
0.00e0
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.26-45.01
441.7428 Fn5
Flags: B
4σ 2.18e3
0%
Abs. Int.
4.13e4
2.06e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.26-45.01
443.7398 Fn5
Flags: B
4σ 1.96e3
0%
Abs. Int.
5.82e4
2.91e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: B
4σ 3.42e3
0%
Abs. Int.
6.44e4
3.22e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: B
4σ 2.75e3
0%
Abs. Int.
6.15e4
3.08e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.26-45.01
513.6775 Fn5
Flags: PB
4σ 2.12e3
0%
Abs. Int.
5.85e3
2.93e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Instrument: MM3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
15	210727R15	3	CS3_210727_DF_RB ✓	1.00	SIL 23-672-1	PSW	320-816	27-Jul-2021	19:43:55
16	210727R16	92	CS3_210727_DF_RC	1.00	ICV SIL 24-11-9 ✓	PSW	537-883	27-Jul-2021	20:31:28

REVIEWED
paul_walton , 7/28/2021, 8:29:53 AM

APPROVED
Carla_Lyon , 7/28/2021, 12:25:21 PM

Dioxin/Furan QC Summary		Acq'd: 27 Jul 2021 19:43 PSW				ICAL: MM3_DF_10272021_27JUL2021	
Lab ID: CS3_210727_DF_RB		UTP: 28-Jul-2021 08:16:58 PSW				Checkcode: 320-816-PRY	
Sample ID: SIL 23-672-1		Report: 28 Jul 2021 08:18 pw				Datafile: 210727R15	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	28.53	1.67E+07	0.81	Y	1.34	1.35	0%
12378-PeCDD	33.81	6.38E+07	1.58	Y	1.06	1.06	0%
123478-HxCDD	37.68	5.49E+07	1.25	Y	1.06	1.06	1%
123678-HxCDD	37.79	5.63E+07	1.26	Y	1.08	1.10	2%
123789-HxCDD	38.08	5.86E+07	1.24	Y	1.02	1.00	-2%
1234678-HpCDD	40.66	4.96E+07	1.04	Y	0.97	0.98	0%
OCDD	43.23	8.27E+07	0.89	Y	1.07	1.07	0%
2378-TCDF	27.67	2.12E+07	0.80	Y	0.96	0.97	1%
12378-PeCDF	32.38	8.71E+07	1.57	Y	0.95	0.97	2%
23478-PeCDF	33.47	7.79E+07	1.46	Y	0.94	0.92	-2%
123478-HxCDF	36.69	7.88E+07	1.25	Y	1.23	1.25	2%
123678-HxCDF	36.83	8.26E+07	1.26	Y	1.13	1.13	0%
234678-HxCDF	37.49	7.73E+07	1.25	Y	1.15	1.18	2%
123789-HxCDF	38.43	6.95E+07	1.26	Y	1.14	1.13	0%
1234678-HpCDF	39.77	7.02E+07	1.03	Y	1.36	1.34	-2%
1234789-HpCDF	41.11	5.97E+07	1.05	Y	1.30	1.36	5%
OCDF	43.41	9.92E+07	0.91	Y	1.03	1.06	3%
ES 2378-TCDD	28.50	1.24E+08	0.80	Y	1.03	1.03	-1%
ES 12378-PeCDD	33.788	1.20E+08	1.66	Y	1.03	0.99	-4%
ES 123478-HxCDD	37.661	1.03E+08	1.29	Y	0.99	0.98	-1%
ES 123678-HxCDD	37.775	1.02E+08	1.32	Y	0.97	0.97	0%
ES 123789-HxCDD	38.065	1.17E+08	1.31	Y	1.12	1.12	-1%
ES 1234678-HpCDD	40.653	1.01E+08	1.07	Y	0.99	0.96	-3%
ES OCDD	43.218	1.54E+08	0.91	Y	0.78	0.73	-6%
ES 2378-TCDF	27.65	2.18E+08	0.77	Y	1.08	1.07	-1%
ES 12378-PeCDF	32.362	1.80E+08	1.58	Y	0.93	0.89	-5%
ES 23478-PeCDF	33.452	1.68E+08	1.62	Y	0.92	0.83	-10%
ES 123478-HxCDF	36.669	1.26E+08	0.54	Y	1.14	1.19	4%
ES 123678-HxCDF	36.809	1.47E+08	0.50	Y	1.30	1.39	7%
ES 234678-HxCDF	37.476	1.31E+08	0.52	Y	1.20	1.25	4%
ES 123789-HxCDF	38.411	1.23E+08	0.52	Y	1.14	1.17	3%
ES 1234678-HpCDF	39.758	1.05E+08	0.47	Y	0.95	1.00	5%
ES 1234789-HpCDF	41.102	8.75E+07	0.45	Y	0.85	0.83	-2%
ES OCDF	43.399	1.88E+08	0.89	Y	0.93	0.89	-4%

Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 19:43 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_210727_DF_RB	UTP: 28-Jul-2021 08:16:58 PSW	Checkcode: 320-816-PRY
Sample ID: SIL 23-672-1	Report: 28 Jul 2021 08:18 pw	Datafile: 210727R15

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.87	1.21E+08	0.79	Y	-	-	-
JS 1234-TCDF	26.33	2.03E+08	0.78	Y	-	-	-
JS 123467-HxCDD	37.97	5.27E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	28.53	1.55E+07	n/a	-	1.31	1.28	-2%
CS 12347-PeCDD	33.30	1.05E+08	1.66	Y	0.89	0.87	-3%
CS 12346-PeCDF	31.84	1.75E+08	1.58	Y	0.87	0.86	-1%
CS 123469-HxCDF	37.12	1.22E+08	0.52	Y	1.09	1.16	7%
CS 1234689-HpCDF	40.14	9.48E+07	0.44	Y	0.86	0.90	4%
SS 37Cl-2378-TCDD	28.53	1.55E+07	n/a	-	1.26	1.25	-1%
SS 12347-PeCDD	33.30	1.05E+08	1.66	Y	0.86	0.87	1%
SS 12346-PeCDF	31.84	1.75E+08	1.58	Y	0.93	0.97	4%
SS 123469-HxCDF	37.12	1.22E+08	0.52	Y	0.84	0.83	-1%
SS 1234689-HpCDF	40.14	9.48E+07	0.44	Y	0.91	0.90	-1%
~~OCDD-a~~	~~43.22~~	~~4.70E+06~~	~~2.62~~	~~Y~~	~~0.07~~	~~0.06~~	~~-8%~~
~~OCDF-a~~	~~43.41~~	~~5.40E+06~~	~~2.31~~	~~Y~~	~~0.06~~	~~0.06~~	~~-3%~~

Not reported from this ICAL - CL 28Jul21

METHOD 8290A **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R15 Analysis Date: 27-JUL-2021 19:43:55

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	M/M+2	0.81	0.65	-	0.89	Y	10	8	-	12	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32	-	1.78	Y	50.1	40	-	60	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	50.3	40	-	60	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05	-	1.43	Y	50.9	40	-	60	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05	-	1.43	Y	49.1	40	-	60	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88	-	1.20	Y	50.1	40	-	60	Y
OCDD	M+2/M+4	0.89	0.76	-	1.02	Y	100	80	-	120	Y
2,3,7,8-TCDF	M/M+2	0.80	0.65	-	0.89	Y	10.1	8	-	12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32	-	1.78	Y	51.2	40	-	60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.46	1.32	-	1.78	Y	49.2	40	-	60	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05	-	1.43	Y	50.8	40	-	60	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05	-	1.43	Y	49.8	40	-	60	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05	-	1.43	Y	51.1	40	-	60	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05	-	1.43	Y	49.8	40	-	60	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88	-	1.20	Y	49.1	40	-	60	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88	-	1.20	Y	52.4	40	-	60	Y
OCDF	M+2/M+4	0.91	0.76	-	1.02	Y	103	80	-	120	Y

Processed: 28 Jul 2021 08:17 Analyst: pw

METHOD 8290A **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R15 Analysis Date: 27-JUL-2021 19:43:55

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65	-	0.89	Y	99.2	70	-	130	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.66	1.32	-	1.78	Y	96.1	70	-	130	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.29	1.05	-	1.43	Y	98.7	70	-	130	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.32	1.05	-	1.43	Y	99.8	70	-	130	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.31	1.05	-	1.43	Y	99.2	70	-	130	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88	-	1.20	Y	97.1	70	-	130	Y
13C-OCDD	M+2/M+4	0.91	0.76	-	1.02	Y	188	140	-	260	Y
13C-2,3,7,8-TCDF	M/M+2	0.77	0.65	-	0.89	Y	98.9	70	-	130	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	94.8	70	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.62	1.32	-	1.78	Y	89.9	70	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	104	70	-	130	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.50	0.43	-	0.59	Y	107	70	-	130	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	104	70	-	130	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	103	70	-	130	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.47	0.37	-	0.51	Y	105	70	-	130	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	98.1	70	-	130	Y
13C-OCDF	M+2/M+4	0.89	0.76	-	1.02	Y	193	140	-	260	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						9.78	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.66	1.32	-	1.78	Y	97	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	99.1	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	107	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.44	0.37	-	0.51	Y	104	70	-	130	Y

Processed: 28 Jul 2021 08:17 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R15 Analysis Date: 27-JUL-2021 19:43:55

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.81	0.65 - 0.89	Y	10	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32 - 1.78	Y	50.1	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	50.3	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05 - 1.43	Y	50.9	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	49.1	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88 - 1.20	Y	50.1	43 - 58	Y
OCDD	M+2/M+4	0.89	0.76 - 1.02	Y	100	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.80	0.65 - 0.89	Y	10.1	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32 - 1.78	Y	51.2	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.46	1.32 - 1.78	Y	49.2	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	50.8	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	49.8	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05 - 1.43	Y	51.1	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	49.8	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88 - 1.20	Y	49.1	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88 - 1.20	Y	52.4	43 - 58	Y
OCDF	M+2/M+4	0.91	0.76 - 1.02	Y	103	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 28 Jul 2021 08:18 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

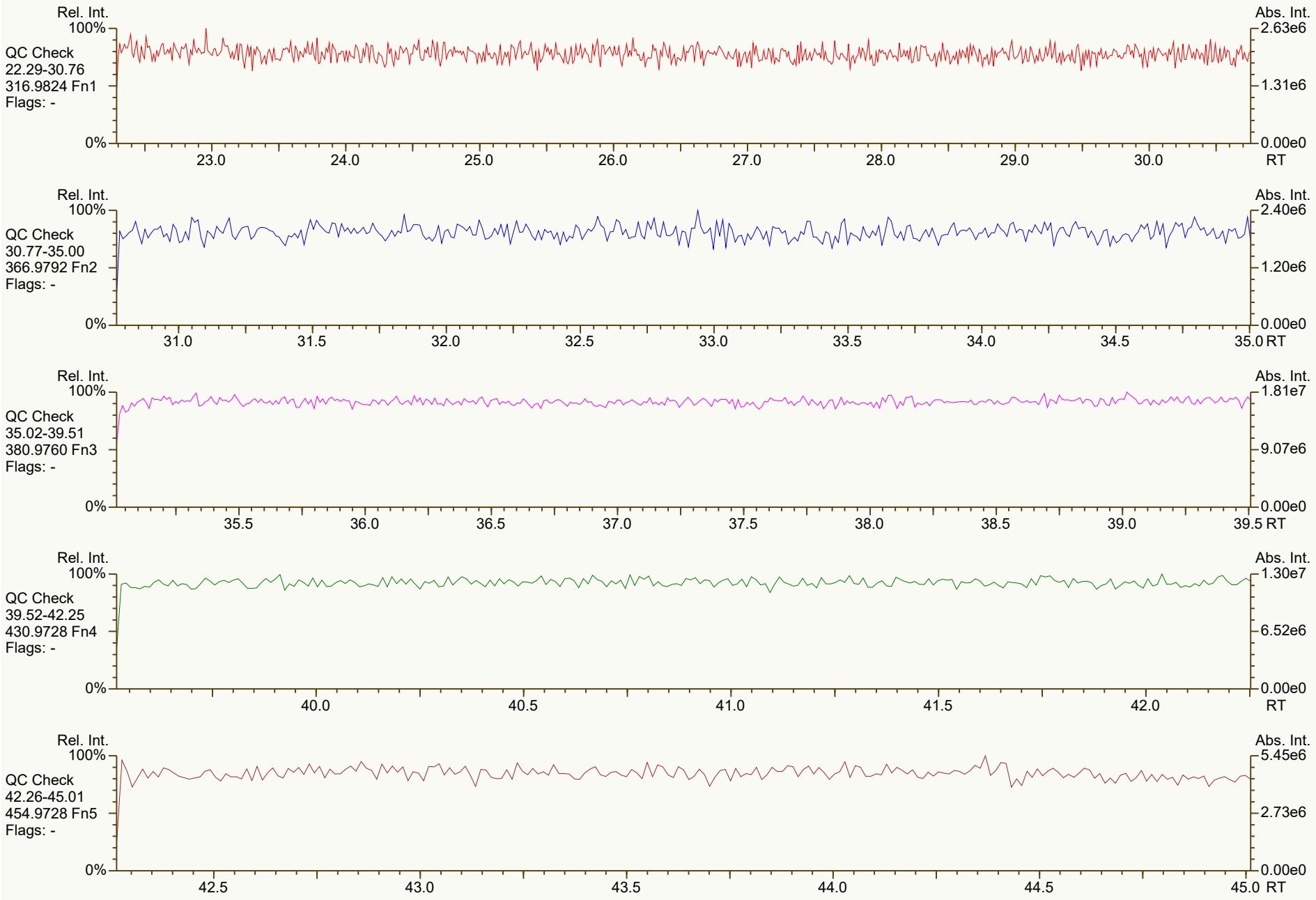
Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

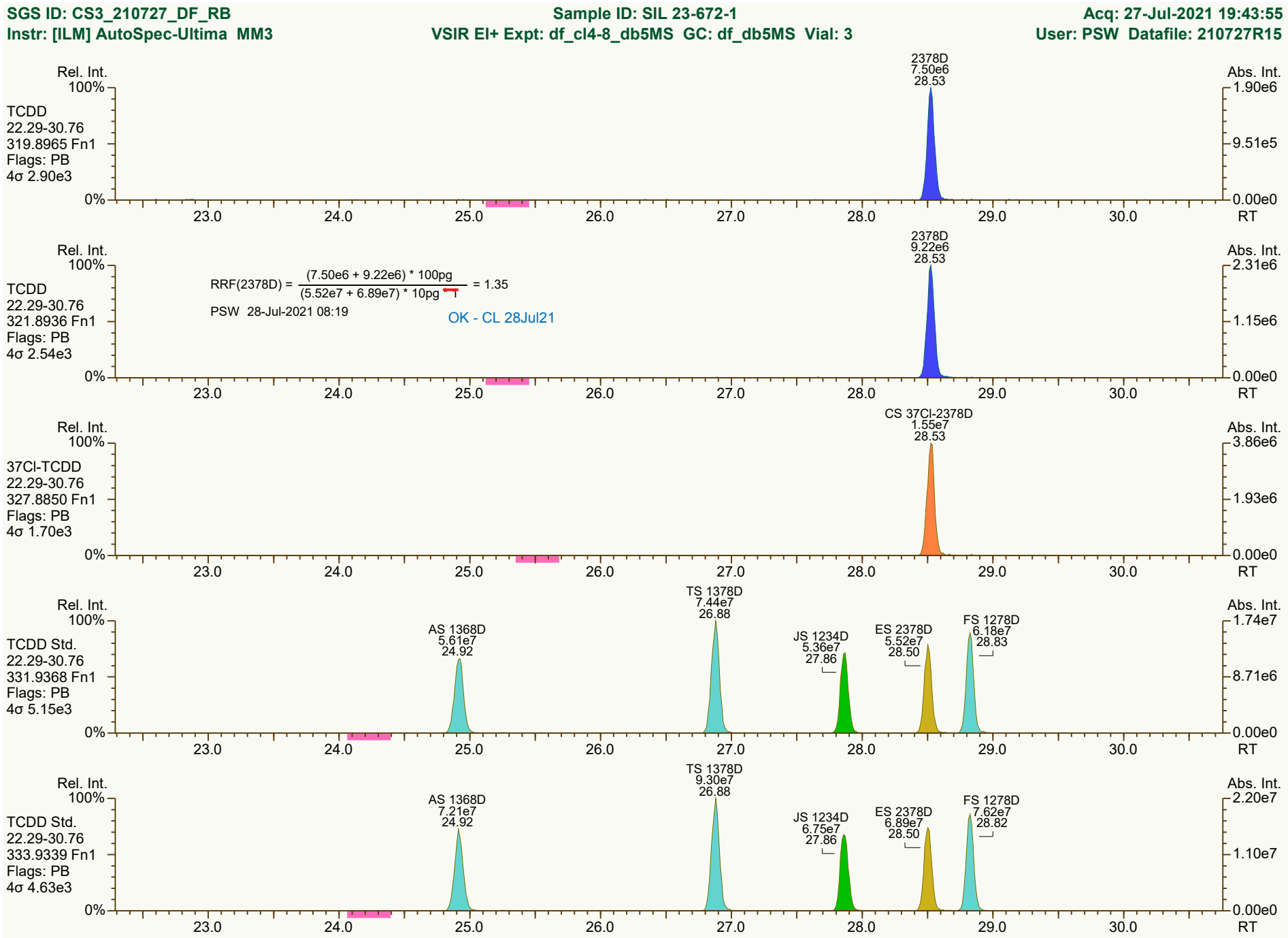
Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R15 Analysis Date: 27-JUL-2021 19:43:55

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65	-	0.89	Y	99.2	82	-	121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.66	1.32	-	1.78	Y	96.1	62	-	160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.29	1.05	-	1.43	Y	98.7	85	-	117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.32	1.05	-	1.43	Y	99.8	85	-	118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.31	1.05	-	1.43	Y	99.2	85	-	118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88	-	1.20	Y	97.1	72	-	138	Y
13C-OCDD	M+2/M+4	0.91	0.76	-	1.02	Y	188	96	-	415	Y
13C-2,3,7,8-TCDF	M/M+2	0.77	0.65	-	0.89	Y	98.9	71	-	140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	94.8	76	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.62	1.32	-	1.78	Y	89.9	77	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43	-	0.59	Y	104	76	-	131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.50	0.43	-	0.59	Y	107	70	-	143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	104	73	-	137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	103	74	-	135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.47	0.37	-	0.51	Y	105	78	-	129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	98.1	77	-	129	Y
13C-OCDF	M+2/M+4	0.89	0.76	-	1.02	Y	193	96	-	415	Y
CLEANUP STANDARDS											
37Cl-2,3,7,8-TCDD	n/a						9.78	7.9	-	12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.66	1.32	-	1.78	Y	97	70	-	130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	99.1	70	-	130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	107	70	-	130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.44	0.37	-	0.51	Y	104	70	-	130	Y

Processed: 28 Jul 2021 08:18 Analyst: pw

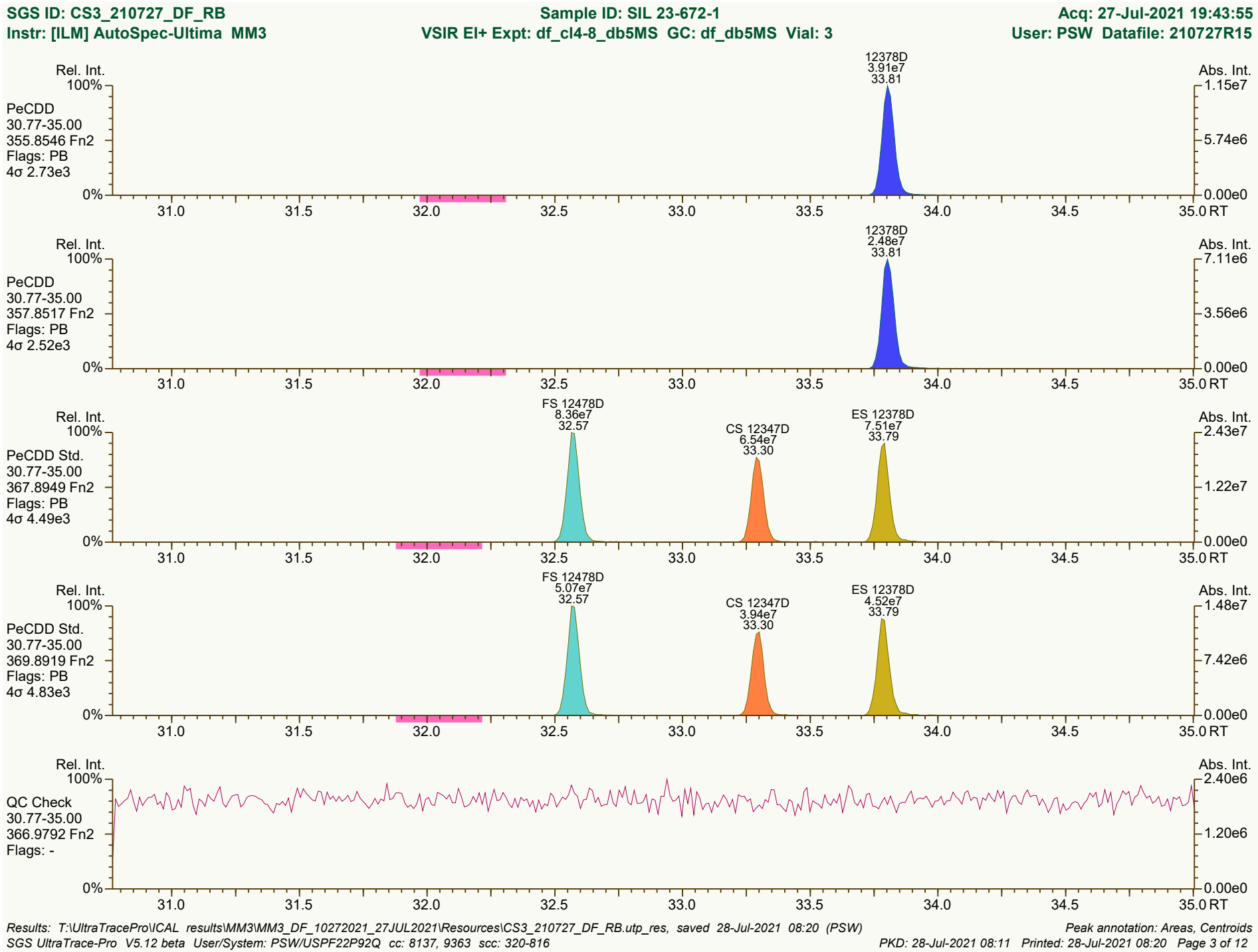

Rel. Int.
100%
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
0%
Abs. Int.
2.63e6
1.31e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.40e6
1.20e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.81e7
9.07e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.30e7
6.52e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.45e6
2.73e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: CS3_210727_DF_RB
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 19:43:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R15
Rel. Int.
Abs. Int.
TCDD
22.29-30.76
319.8965 Fn1
Flags: PB
4σ 2.90e3
2378D
7.50e6
28.53
1.90e6
9.51e5
0.00e0
RT
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.54e3
RRF(2378D) = (7.50e6 + 9.22e6) * 100pg / (5.52e7 + 6.89e7) * 10pg = 1.35
PSW 28-Jul-2021 08:19
OK - CL 28Jul21
2378D
9.22e6
28.53
2.31e6
1.15e6
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: PB
4σ 1.70e3
CS 37Cl-2378D
1.55e7
28.53
3.86e6
1.93e6
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 5.15e3
AS 1368D
5.61e7
24.92
TS 1378D
7.44e7
26.88
JS 1234D
5.36e7
27.86
ES 2378D
5.52e7
28.50
FS 1278D
6.18e7
28.83
1.74e7
8.71e6
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 4.63e3
AS 1368D
7.21e7
24.92
TS 1378D
9.30e7
26.88
JS 1234D
6.75e7
27.86
ES 2378D
6.89e7
28.50
FS 1278D
7.62e7
28.82
2.20e7
1.10e7
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
0%
100%
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 2864, 8257, 5037 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:20 Page 2 of 12

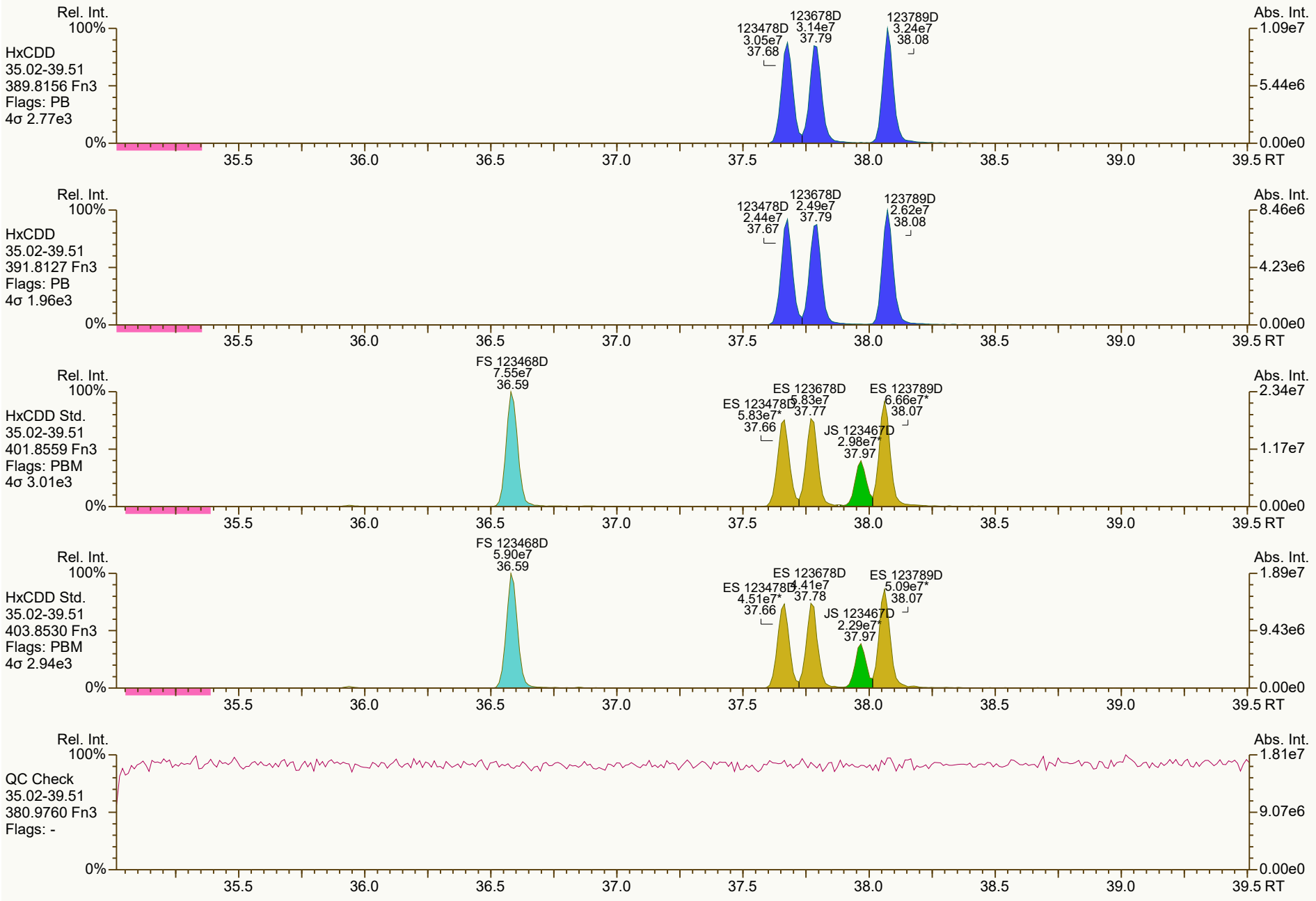
SGS ID: CS3_210727_DF_RB
Instr: [ILM] AutoSpec-Ultima MM3

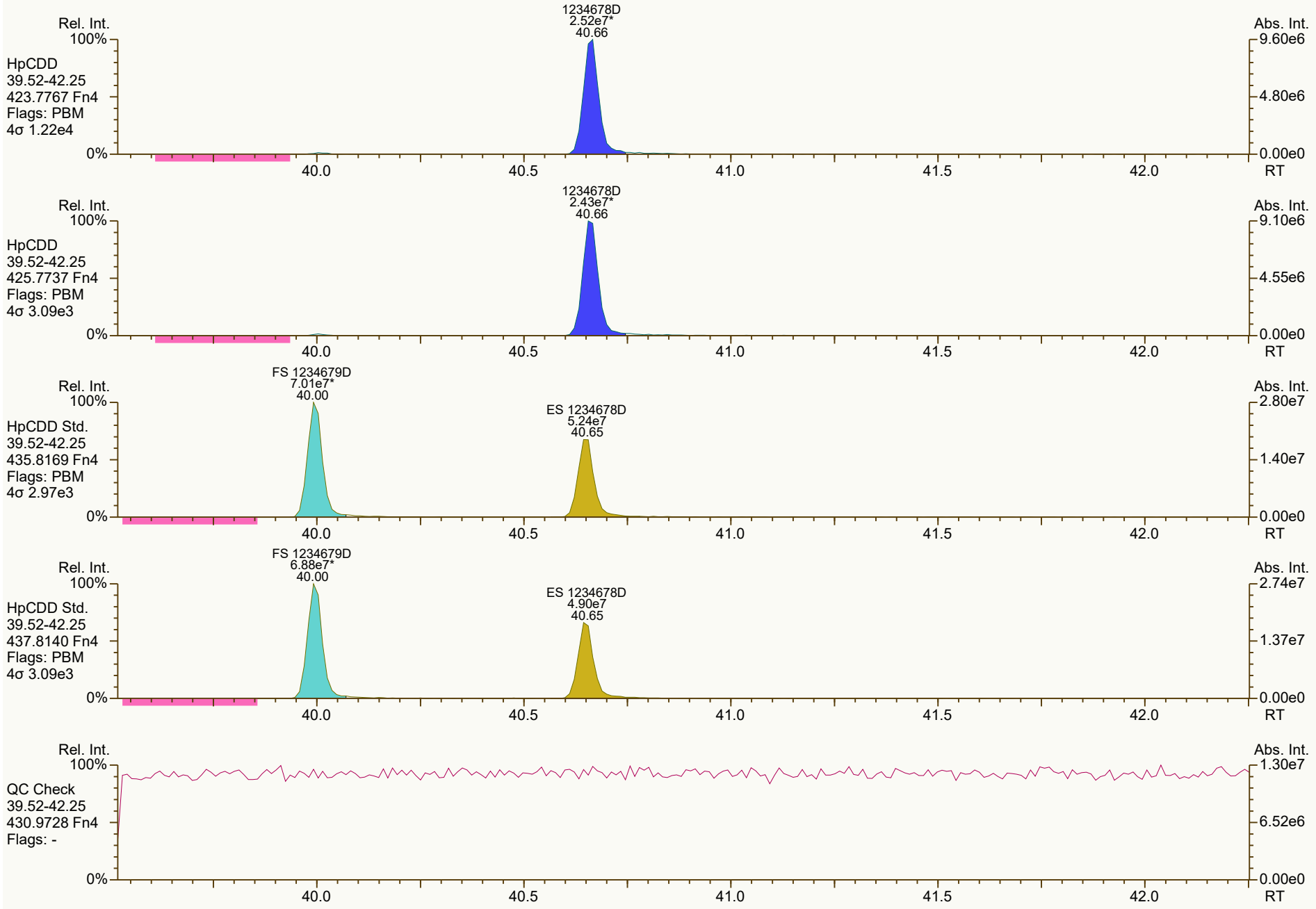
Sample ID: SIL 23-672-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3

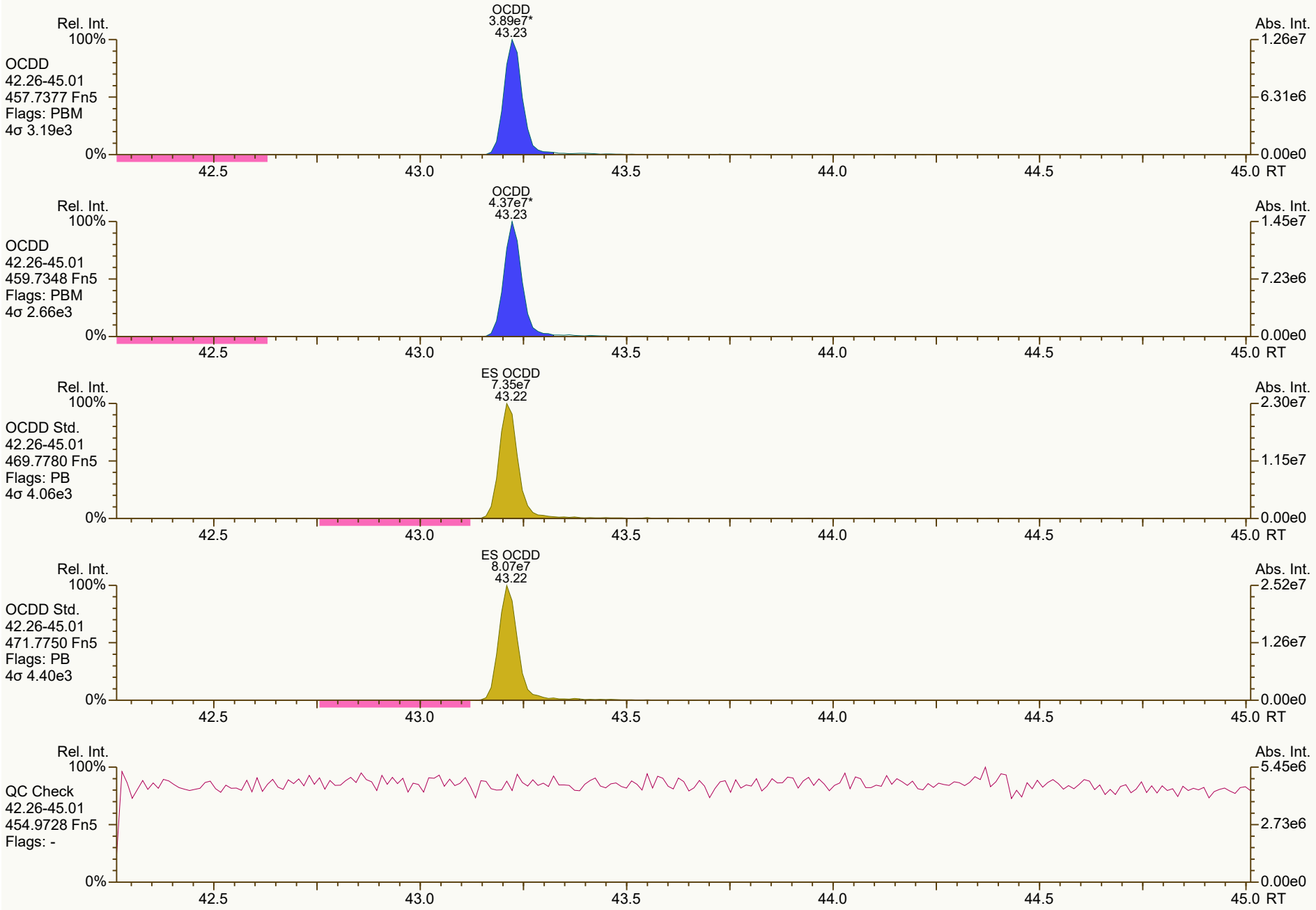
Acq: 27-Jul-2021 19:43:55
User: PSW Datafile: 210727R15



Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8137, 9363 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:20 Page 3 of 12


Rel. Int.
100%
HxCDD
35.02-39.51
389.8156 Fn3
Flags: PB
4σ 2.77e3
123478D 3.05e7 37.68
123678D 3.14e7 37.79
123789D 3.24e7 38.08
Abs. Int.
1.09e7
5.44e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
HxCDD
35.02-39.51
391.8127 Fn3
Flags: PB
4σ 1.96e3
123478D 2.44e7 37.67
123678D 2.49e7 37.79
123789D 2.62e7 38.08
Abs. Int.
8.46e6
4.23e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
401.8559 Fn3
Flags: PBM
4σ 3.01e3
FS 123468D 7.55e7 36.59
ES 123478D 5.83e7* 37.66
ES 123678D 5.83e7* 37.77
JS 123467D 2.98e7* 37.97
ES 123789D 6.66e7* 38.07
Abs. Int.
2.34e7
1.17e7
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
HxCDD Std.
35.02-39.51
403.8530 Fn3
Flags: PBM
4σ 2.94e3
FS 123468D 5.90e7 36.59
ES 123478D 4.51e7* 37.66
ES 123678D 4.41e7* 37.78
JS 123467D 2.29e7* 37.97
ES 123789D 5.09e7* 38.07
Abs. Int.
1.89e7
9.43e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
Abs. Int.
1.81e7
9.07e6
0.00e0
0%
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT


Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PBM
4σ 1.22e4
0%
1234678D
2.52e7*
40.66
Abs. Int.
9.60e6
4.80e6
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PBM
4σ 3.09e3
0%
1234678D
2.43e7*
40.66
Abs. Int.
9.10e6
4.55e6
0.00e0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PBM
4σ 2.97e3
0%
FS 1234679D
7.01e7*
40.00
ES 1234678D
5.24e7
40.65
Abs. Int.
2.80e7
1.40e7
0.00e0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PBM
4σ 3.09e3
0%
FS 1234679D
6.88e7*
40.00
ES 1234678D
4.90e7
40.65
Abs. Int.
2.74e7
1.37e7
0.00e0
RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.30e7
6.52e6
0.00e0
RT


OCDD
3.89e7*
43.23
Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: PBM
4σ 3.19e3
0%
Abs. Int.
1.26e7
6.31e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.37e7*
43.23
Rel. Int.
100%
OCDD
42.26-45.01
459.7348 Fn5
Flags: PBM
4σ 2.66e3
0%
Abs. Int.
1.45e7
7.23e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
7.35e7
43.22
Rel. Int.
100%
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PB
4σ 4.06e3
0%
Abs. Int.
2.30e7
1.15e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
8.07e7
43.22
Rel. Int.
100%
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PB
4σ 4.40e3
0%
Abs. Int.
2.52e7
1.26e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
5.45e6
2.73e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: CS3_210727_DF_RB
Instr: [ILM] AutoSpec-Ultima MM3

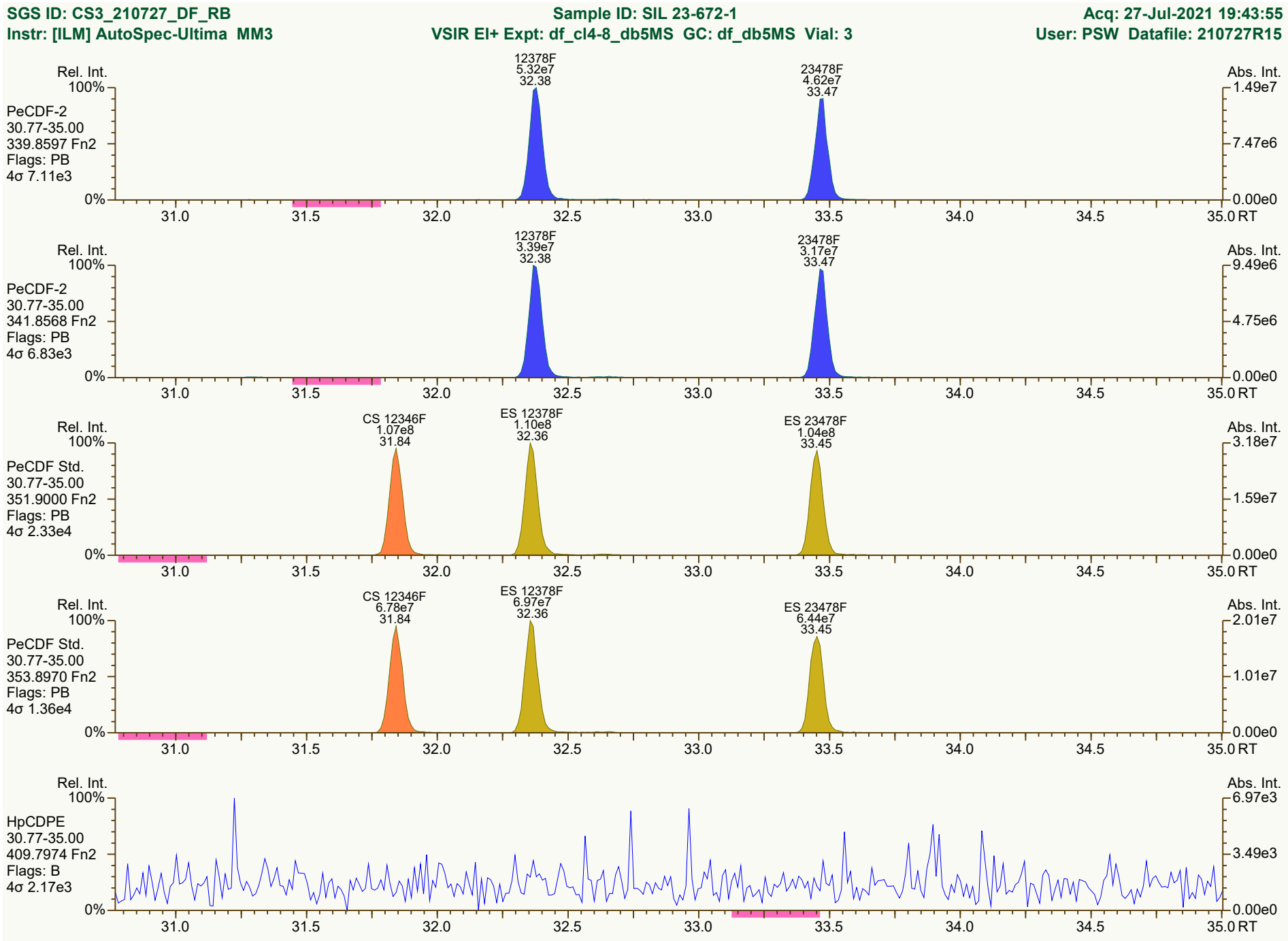
Sample ID: SIL 23-672-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3

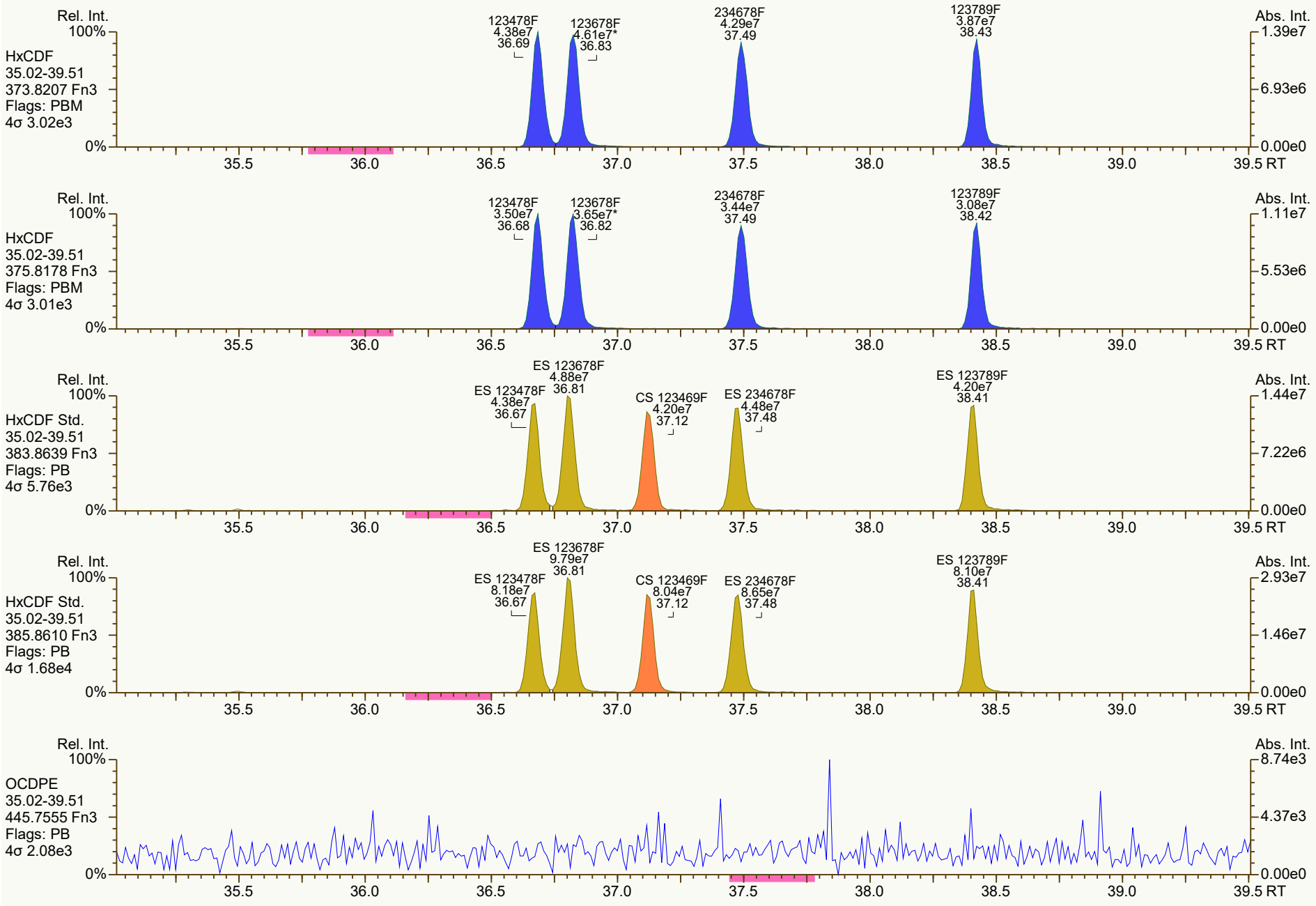
Acq: 27-Jul-2021 19:43:55
User: PSW Datafile: 210727R15

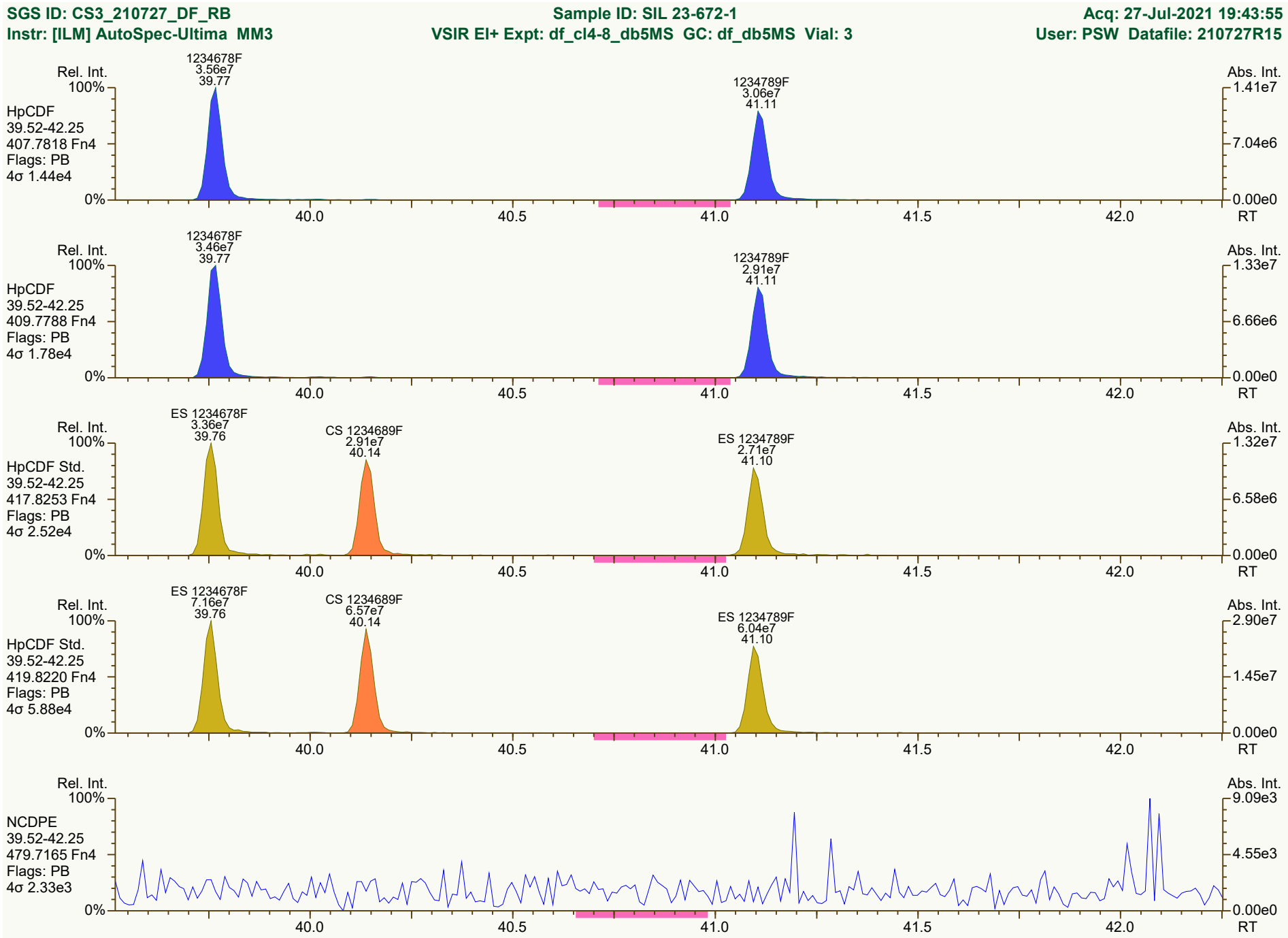


Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0914, 1634, 7773 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:21 Page 7 of 12

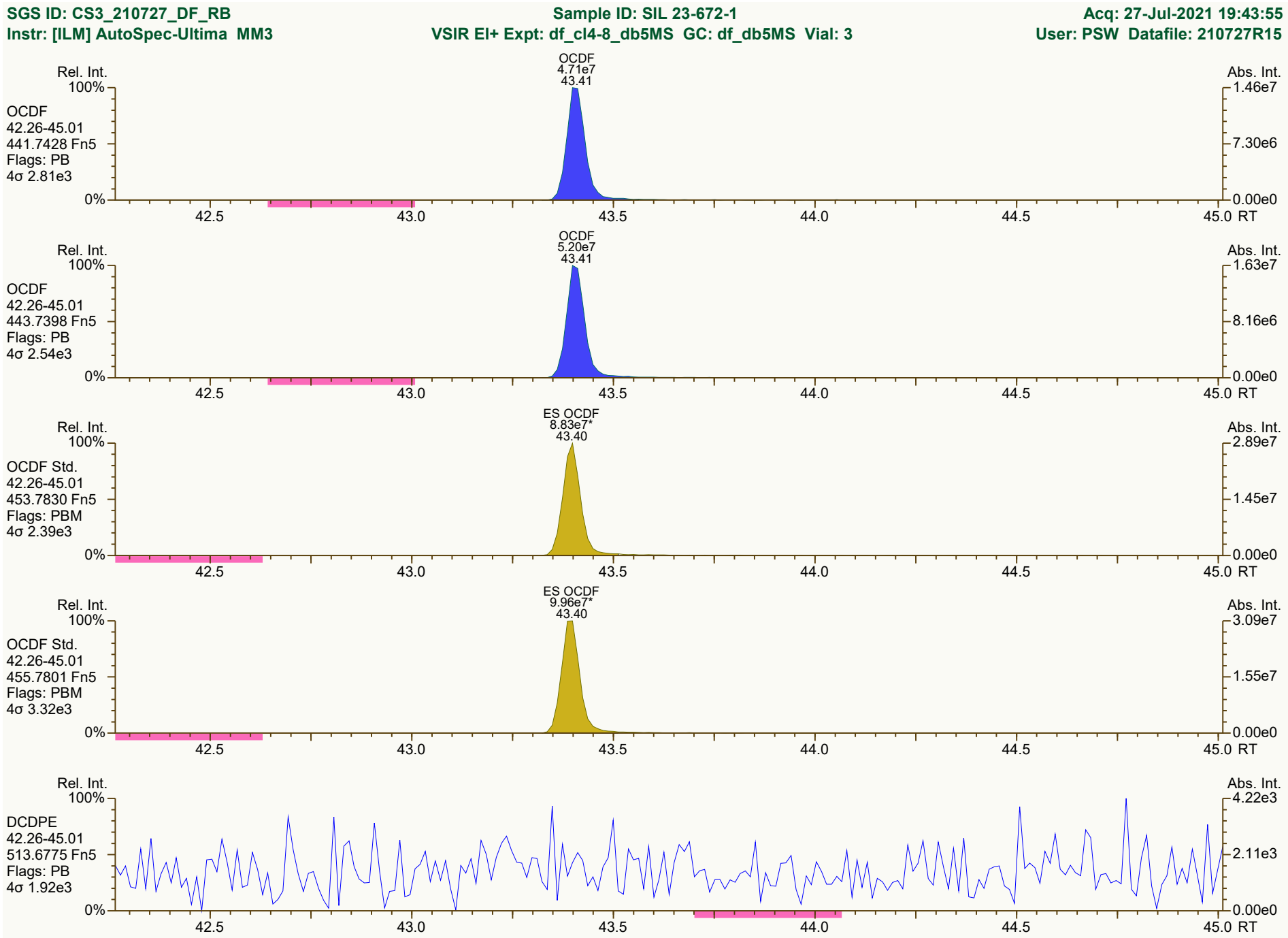

Rel. Int.
100%
0%
Abs. Int.
2.70e4
1.35e4
0.00e0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 2.78e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.25e4
6.25e3
0.00e0
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 2.56e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.63e6
1.31e6
0.00e0
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT


SGS ID: CS3_210727_DF_RB
Instr: [ILM] AutoSpec-Ultima MM3
Sample ID: SIL 23-672-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
Acq: 27-Jul-2021 19:43:55
User: PSW Datafile: 210727R15
Rel. Int.
Abs. Int.
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 7.11e3
12378F
5.32e7
32.38
23478F
4.62e7
33.47
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 6.83e3
12378F
3.39e7
32.38
23478F
3.17e7
33.47
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PB
4σ 2.33e4
CS 12346F
1.07e8
31.84
ES 12378F
1.10e8
32.36
ES 23478F
1.04e8
33.45
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PB
4σ 1.36e4
CS 12346F
6.78e7
31.84
ES 12378F
6.97e7
32.36
ES 23478F
6.44e7
33.45
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.17e3
RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1037, 5263, 2332 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:21 Page 9 of 12


Rel. Int.
100%
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 3.02e3
0%
123478F
4.38e7
36.69
123678F
4.61e7*
36.83
234678F
4.29e7
37.49
123789F
3.87e7
38.43
Abs. Int.
1.39e7
6.93e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 3.01e3
0%
123478F
3.50e7
36.68
123678F
3.65e7*
36.82
234678F
3.44e7
37.49
123789F
3.08e7
38.42
Abs. Int.
1.11e7
5.53e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PB
4σ 5.76e3
0%
ES 123478F
4.38e7
36.67
ES 123678F
4.88e7
36.81
CS 123469F
4.20e7
37.12
ES 234678F
4.48e7
37.48
ES 123789F
4.20e7
38.41
Abs. Int.
1.44e7
7.22e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PB
4σ 1.68e4
0%
ES 123478F
8.18e7
36.67
ES 123678F
9.79e7
36.81
CS 123469F
8.04e7
37.12
ES 234678F
8.65e7
37.48
ES 123789F
8.10e7
38.41
Abs. Int.
2.93e7
1.46e7
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
OCDPE
35.02-39.51
445.7555 Fn3
Flags: PB
4σ 2.08e3
0%
Abs. Int.
8.74e3
4.37e3
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT



Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 0218, 7977, 3988 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:21 Page 11 of 12


SGS ID: CS3_210727_DF_RB
Sample ID: SIL 23-672-1
Acq: 27-Jul-2021 19:43:55
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: PSW Datafile: 210727R15
OCDF
4.71e7
43.41
Rel. Int.
Abs. Int.
OCDF
42.26-45.01
441.7428 Fn5
Flags: PB
4σ 2.81e3
OCDF
5.20e7
43.41
OCDF
42.26-45.01
443.7398 Fn5
Flags: PB
4σ 2.54e3
ES OCDF
8.83e7*
43.40
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PBM
4σ 2.39e3
ES OCDF
9.96e7*
43.40
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PBM
4σ 3.32e3
DCDPE
42.26-45.01
513.6775 Fn5
Flags: PB
4σ 1.92e3
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RB.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 6396, 9005, 0471 scc: 320-816
PKD: 28-Jul-2021 08:11 Printed: 28-Jul-2021 08:21 Page 12 of 12

Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 20:31 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_210727_DF_RC	UTP: 28-Jul-2021 08:16:59 PSW	Checkcode: 537-883-PJZ
Sample ID: ICV SIL 24-11-9	Report: 28 Jul 2021 08:18 pw	Datafile: 210727R16

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.53	2.48E+07	0.79	Y	1.34	1.22	-9%
12378-PeCDD	33.81	9.55E+07	1.55	Y	1.06	0.98	-8%
123478-HxCDD	37.68	8.89E+07	1.25	Y	1.06	1.04	-1%
123678-HxCDD	37.80	9.70E+07	1.25	Y	1.08	1.14	5%
123789-HxCDD	38.09	9.52E+07	1.24	Y	1.02	0.95	-7%
1234678-HpCDD	40.67	8.40E+07	1.03	Y	0.97	0.99	1%
OCDD	43.24	1.45E+08	0.90	Y	1.07	1.07	0%
2378-TCDF	27.68	3.32E+07	0.79	Y	0.96	0.95	-1%
12378-PeCDF	32.38	1.28E+08	1.52	Y	0.95	0.87	-8%
23478-PeCDF	33.48	1.47E+08	1.58	Y	0.94	1.00	6%
123478-HxCDF	36.69	1.27E+08	1.27	Y	1.23	1.25	1%
123678-HxCDF	36.83	1.34E+08	1.26	Y	1.13	1.11	-2%
234678-HxCDF	37.50	1.26E+08	1.24	Y	1.15	1.17	1%
123789-HxCDF	38.43	1.13E+08	1.25	Y	1.14	1.10	-3%
1234678-HpCDF	39.77	1.18E+08	1.02	Y	1.36	1.34	-2%
1234789-HpCDF	41.12	9.93E+07	1.03	Y	1.30	1.29	-1%
OCDF	43.42	1.67E+08	0.90	Y	1.03	1.02	-1%
ES 2378-TCDD	28.51	2.04E+08	0.81	Y	1.03	0.96	-7%
ES 12378-PeCDD	33.795	1.95E+08	1.65	Y	1.03	0.92	-11%
ES 123478-HxCDD	37.667	1.70E+08	1.28	Y	0.99	0.98	-2%
ES 123678-HxCDD	37.781	1.70E+08	1.29	Y	0.97	0.97	0%
ES 123789-HxCDD	38.071	2.01E+08	1.25	Y	1.12	1.15	2%
ES 1234678-HpCDD	40.656	1.70E+08	1.05	Y	0.99	0.97	-2%
ES OCDD	43.225	2.69E+08	0.90	Y	0.78	0.77	-1%
ES 2378-TCDF	27.654	3.51E+08	0.77	Y	1.08	0.99	-9%
ES 12378-PeCDF	32.366	2.97E+08	1.58	Y	0.93	0.84	-10%
ES 23478-PeCDF	33.459	2.95E+08	1.56	Y	0.92	0.84	-9%
ES 123478-HxCDF	36.673	2.04E+08	0.52	Y	1.14	1.17	2%
ES 123678-HxCDF	36.814	2.41E+08	0.53	Y	1.30	1.38	7%
ES 234678-HxCDF	37.481	2.17E+08	0.52	Y	1.20	1.24	3%
ES 123789-HxCDF	38.414	2.06E+08	0.52	Y	1.14	1.18	4%
ES 1234678-HpCDF	39.764	1.76E+08	0.46	Y	0.95	1.01	6%
ES 1234789-HpCDF	41.106	1.54E+08	0.45	Y	0.85	0.88	4%
ES OCDF	43.408	3.28E+08	0.88	Y	0.93	0.94	2%

Dioxin/Furan QC Summary	Acq'd: 27 Jul 2021 20:31 PSW	ICAL: MM3_DF_10272021_27JUL2021
Lab ID: CS3_210727_DF_RC	UTP: 28-Jul-2021 08:16:59 PSW	Checkcode: 537-883-PJZ
Sample ID: ICV SIL 24-11-9	Report: 28 Jul 2021 08:18 pw	Datafile: 210727R16

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.87	2.13E+08	0.81	Y	-	-	-
JS 1234-TCDF	26.33	3.53E+08	0.79	Y	-	-	-
JS 123467-HxCDD	37.97	8.73E+08	1.21	Y	-	-	-
~~OCDD-a~~	~~43.23~~	~~9.07E+06~~	~~2.21~~	~~Y~~	~~0.07~~	~~0.07~~	~~2%~~
~~OCDF-a~~	~~43.42~~	~~9.95E+06~~	~~2.34~~	~~Y~~	~~0.06~~	~~0.06~~	~~2%~~

Not reported from this ICAL - CL 28Jul21

METHOD 8290A **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R16 Analysis Date: 27-JUL-2021 20:31:28

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	M/M+2	0.79	0.65	-	0.89	Y	9.05	8	-	12	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32	-	1.78	Y	46.2	40	-	60	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	49.4	40	-	60	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	52.7	40	-	60	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05	-	1.43	Y	46.7	40	-	60	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.03	0.88	-	1.20	Y	50.7	40	-	60	Y
OCDD	M+2/M+4	0.90	0.76	-	1.02	Y	100	80	-	120	Y
2,3,7,8-TCDF	M/M+2	0.79	0.65	-	0.89	Y	9.87	8	-	12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.52	1.32	-	1.78	Y	45.8	40	-	60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	53.1	40	-	60	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.27	1.05	-	1.43	Y	50.5	40	-	60	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05	-	1.43	Y	49.2	40	-	60	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05	-	1.43	Y	50.6	40	-	60	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05	-	1.43	Y	48.4	40	-	60	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.02	0.88	-	1.20	Y	49.2	40	-	60	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88	-	1.20	Y	49.7	40	-	60	Y
OCDF	M+2/M+4	0.90	0.76	-	1.02	Y	99.5	80	-	120	Y

Processed: 28 Jul 2021 08:17 Analyst: pw

METHOD 8290A **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R16 Analysis Date: 27-JUL-2021 20:31:28

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	M/M+2	0.81	0.65	-	0.89	Y	92.9	70	-	130	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.65	1.32	-	1.78	Y	88.8	70	-	130	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05	-	1.43	Y	98.1	70	-	130	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05	-	1.43	Y	100	70	-	130	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	102	70	-	130	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88	-	1.20	Y	98.2	70	-	130	Y
13C-OCDD	M+2/M+4	0.90	0.76	-	1.02	Y	198	140	-	260	Y
13C-2,3,7,8-TCDF	M/M+2	0.77	0.65	-	0.89	Y	91.5	70	-	130	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	89.8	70	-	130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32	-	1.78	Y	90.5	70	-	130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	102	70	-	130	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43	-	0.59	Y	107	70	-	130	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	103	70	-	130	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43	-	0.59	Y	104	70	-	130	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37	-	0.51	Y	106	70	-	130	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37	-	0.51	Y	104	70	-	130	Y
13C-OCDF	M+2/M+4	0.88	0.76	-	1.02	Y	203	140	-	260	Y
CLEANUP STANDARDS n/a - CL 28Jul21											
~~37Cl-2,3,7,8-TCDD~~	~~n/a~~						~~0~~	~~7.9~~	~~-~~	~~12.7~~	~~N~~
~~13C-1,2,3,4,7-PeCDD~~	~~M+2/M+4~~	~~0.00~~	~~1.32~~	~~-~~	~~1.78~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~
~~13C-1,2,3,4,6-PeCDF~~	~~M+2/M+4~~	~~0.00~~	~~1.32~~	~~-~~	~~1.78~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~
~~13C-1,2,3,4,6,9-HxCDF~~	~~M/M+2~~	~~0.00~~	~~0.43~~	~~-~~	~~0.59~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~
~~13C-1,2,3,4,6,8,9-HpCDF~~	~~M/M+2~~	~~0.00~~	~~0.37~~	~~-~~	~~0.51~~	~~N~~	~~0~~	~~70~~	~~-~~	~~130~~	~~N~~

Processed: 28 Jul 2021 08:17 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R16 Analysis Date: 27-JUL-2021 20:31:28

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS			OK	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	M/M+2	0.79	0.65	-	0.89	Y	9.05	7.8	-	12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32	-	1.78	Y	46.2	39	-	65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	49.4	39	-	64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05	-	1.43	Y	52.7	39	-	64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05	-	1.43	Y	46.7	41	-	61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.03	0.88	-	1.20	Y	50.7	43	-	58	Y
OCDD	M+2/M+4	0.90	0.76	-	1.02	Y	100	79	-	126	Y
2,3,7,8-TCDF	M/M+2	0.79	0.65	-	0.89	Y	9.87	8.4	-	12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.52	1.32	-	1.78	Y	45.8	41	-	60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32	-	1.78	Y	53.1	41	-	61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.27	1.05	-	1.43	Y	50.5	45	-	56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05	-	1.43	Y	49.2	44	-	57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05	-	1.43	Y	50.6	44	-	57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05	-	1.43	Y	48.4	45	-	56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.02	0.88	-	1.20	Y	49.2	45	-	55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88	-	1.20	Y	49.7	43	-	58	Y
OCDF	M+2/M+4	0.90	0.76	-	1.02	Y	99.5	63	-	159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 28 Jul 2021 08:18 Analyst: pw

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

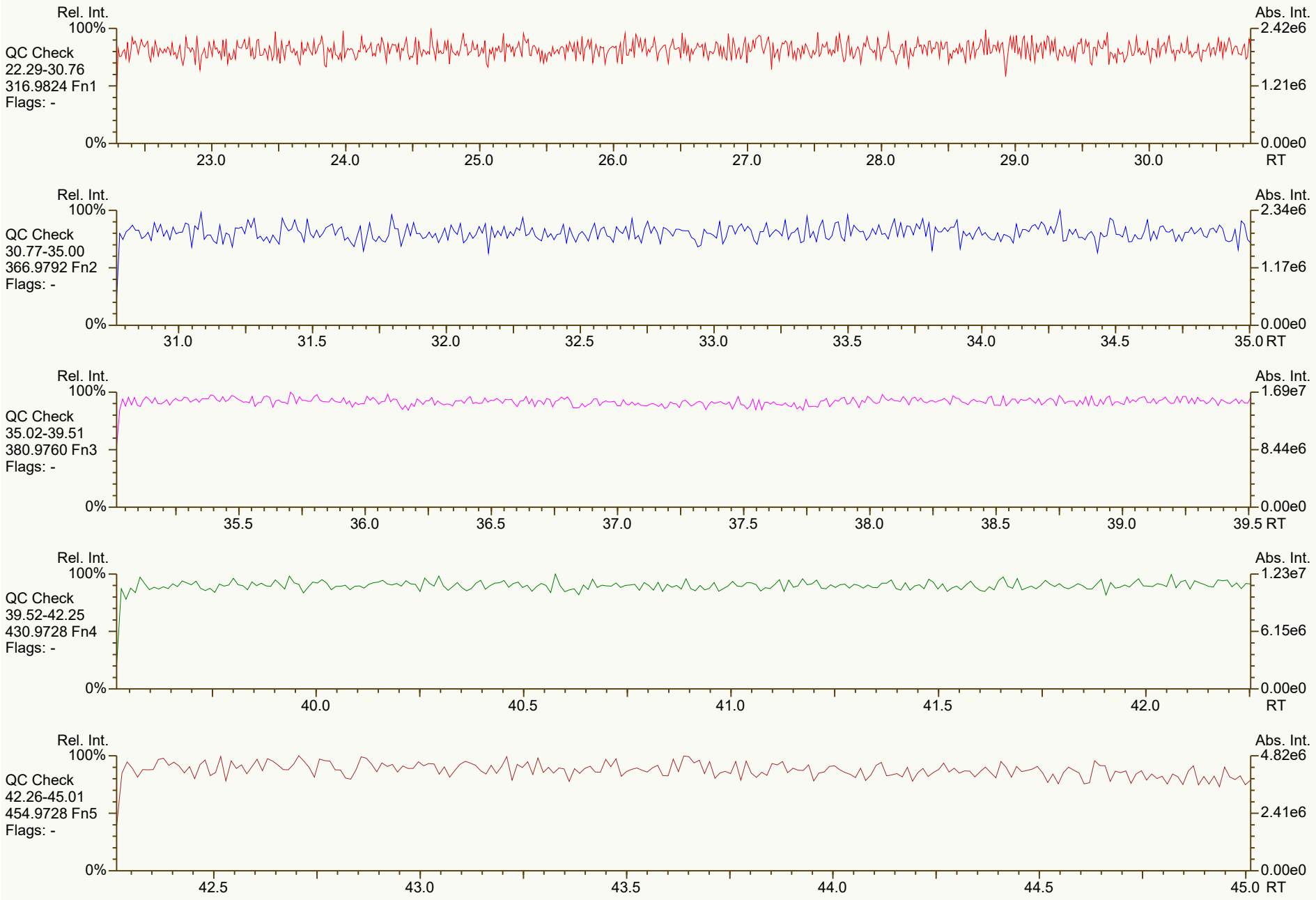
Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021

Instrument ID: MM3 GC Column ID: ZB-5ms

VER Data Filename: 210727R16 Analysis Date: 27-JUL-2021 20:31:28

LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
13C-2,3,7,8-TCDD	M/M+2	0.81	0.65 - 0.89	Y	92.9	82 - 121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.65	1.32 - 1.78	Y	88.8	62 - 160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	98.1	85 - 117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05 - 1.43	Y	100	85 - 118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	102	85 - 118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88 - 1.20	Y	98.2	72 - 138	Y
13C-OCDD	M+2/M+4	0.90	0.76 - 1.02	Y	198	96 - 415	Y
13C-2,3,7,8-TCDF	M/M+2	0.77	0.65 - 0.89	Y	91.5	71 - 140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32 - 1.78	Y	89.8	76 - 130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32 - 1.78	Y	90.5	77 - 130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43 - 0.59	Y	102	76 - 131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43 - 0.59	Y	107	70 - 143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43 - 0.59	Y	103	73 - 137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43 - 0.59	Y	104	74 - 135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37 - 0.51	Y	106	78 - 129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37 - 0.51	Y	104	77 - 129	Y
13C-OCDF	M+2/M+4	0.88	0.76 - 1.02	Y	203	96 - 415	Y
CLEANUP STANDARDS	n/a - CL 28Jul21						
~~37Cl-2,3,7,8-TCDD~~	~~n/a~~				~~0~~	~~7.9 - 12.7~~	~~N~~
~~13C-1,2,3,4,7-PeCDD~~	~~M+2/M+4~~	~~0.00~~	~~1.32 - 1.78~~	~~N~~	~~0~~	~~70 - 130~~	~~N~~
~~13C-1,2,3,4,6-PeCDF~~	~~M+2/M+4~~	~~0.00~~	~~1.32 - 1.78~~	~~N~~	~~0~~	~~70 - 130~~	~~N~~
~~13C-1,2,3,4,6,9-HxCDF~~	~~M/M+2~~	~~0.00~~	~~0.43 - 0.59~~	~~N~~	~~0~~	~~70 - 130~~	~~N~~
~~13C-1,2,3,4,6,8,9-HpCDF~~	~~M/M+2~~	~~0.00~~	~~0.37 - 0.51~~	~~N~~	~~0~~	~~70 - 130~~	~~N~~

Processed: 28 Jul 2021 08:18 Analyst: pw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1.21e6
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23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
QC Check
30.77-35.00
366.9792 Fn2
Flags: -
0%
Abs. Int.
2.34e6
1.17e6
0.00e0
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Rel. Int.
100%
QC Check
35.02-39.51
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.69e7
8.44e6
0.00e0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5 RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.23e7
6.15e6
0.00e0
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.82e6
2.41e6
0.00e0
42.5
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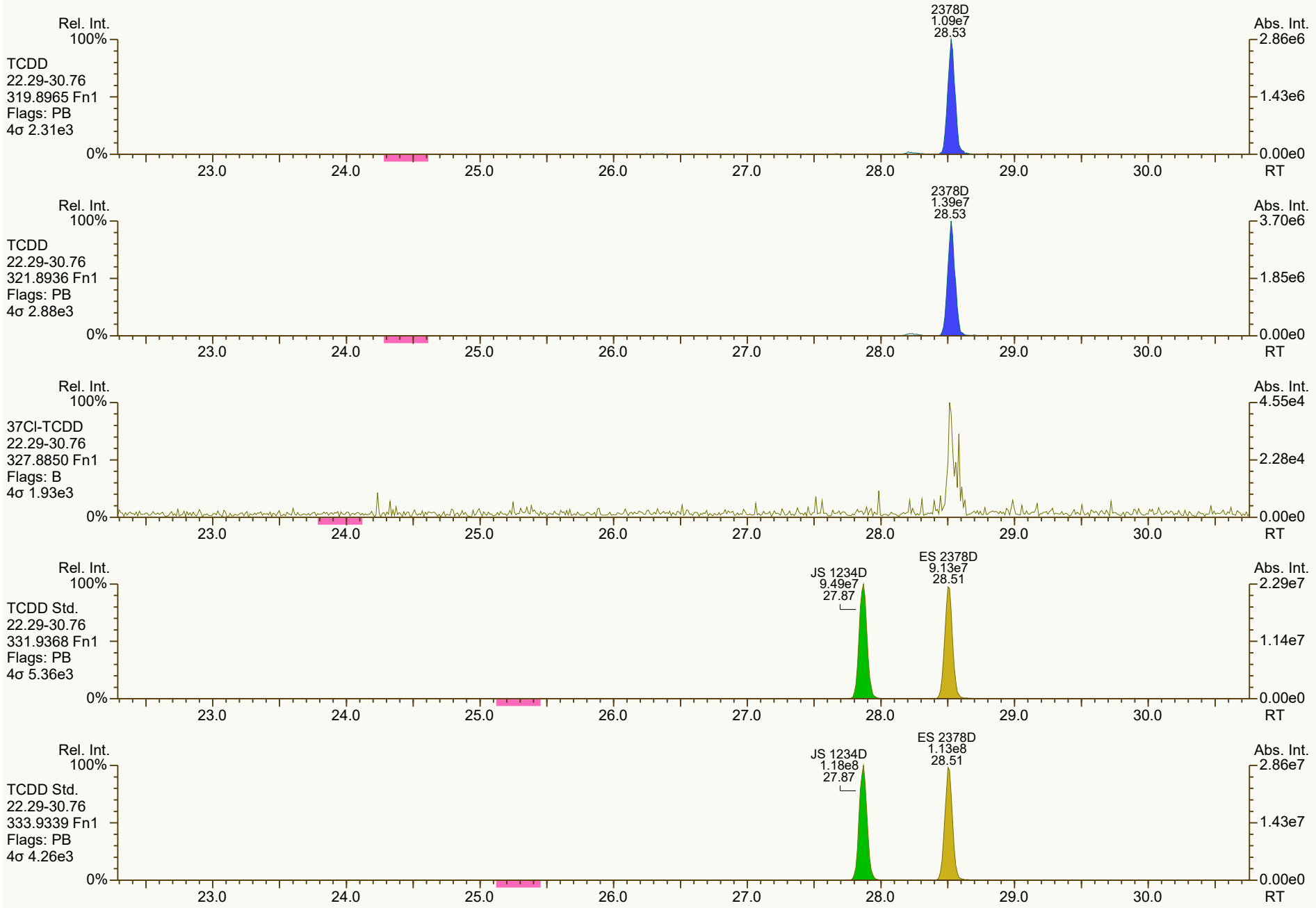
44.5
45.0 RT


Rel. Int.
100%
TCDD
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319.8965 Fn1
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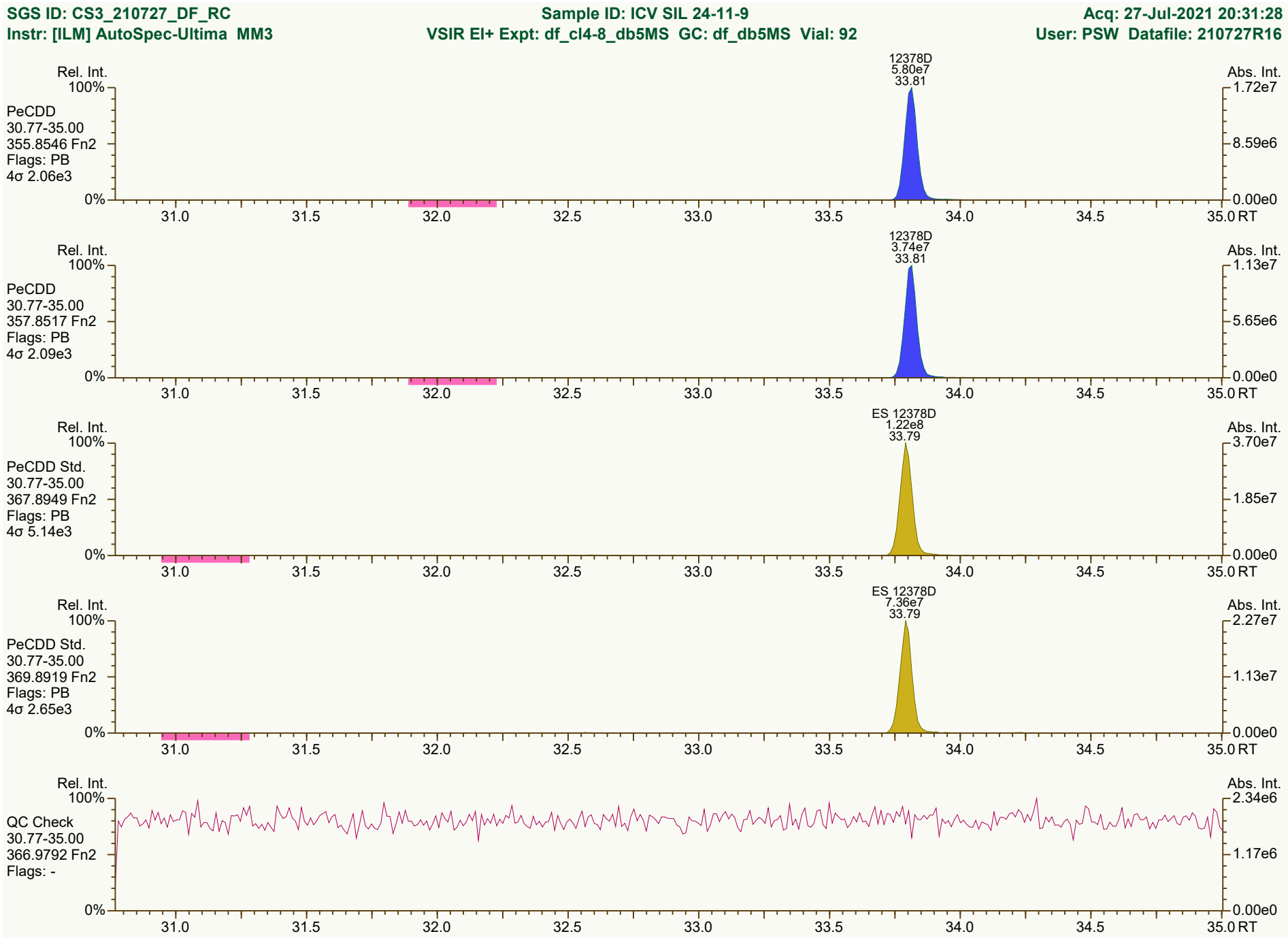
0%
2378D
1.09e7
28.53
Abs. Int.
2.86e6
1.43e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD
22.29-30.76
321.8936 Fn1
Flags: PB
4σ 2.88e3
0%
2378D
1.39e7
28.53
Abs. Int.
3.70e6
1.85e6
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
22.29-30.76
327.8850 Fn1
Flags: B
4σ 1.93e3
0%
Abs. Int.
4.55e4
2.28e4
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
331.9368 Fn1
Flags: PB
4σ 5.36e3
0%
JS 1234D
9.49e7
27.87
ES 2378D
9.13e7
28.51
Abs. Int.
2.29e7
1.14e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
TCDD Std.
22.29-30.76
333.9339 Fn1
Flags: PB
4σ 4.26e3
0%
JS 1234D
1.18e8
27.87
ES 2378D
1.13e8
28.51
Abs. Int.
2.86e7
1.43e7
0.00e0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT

SGS ID: CS3_210727_DF_RC
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: ICV SIL 24-11-9
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92

Acq: 27-Jul-2021 20:31:28
User: PSW Datafile: 210727R16



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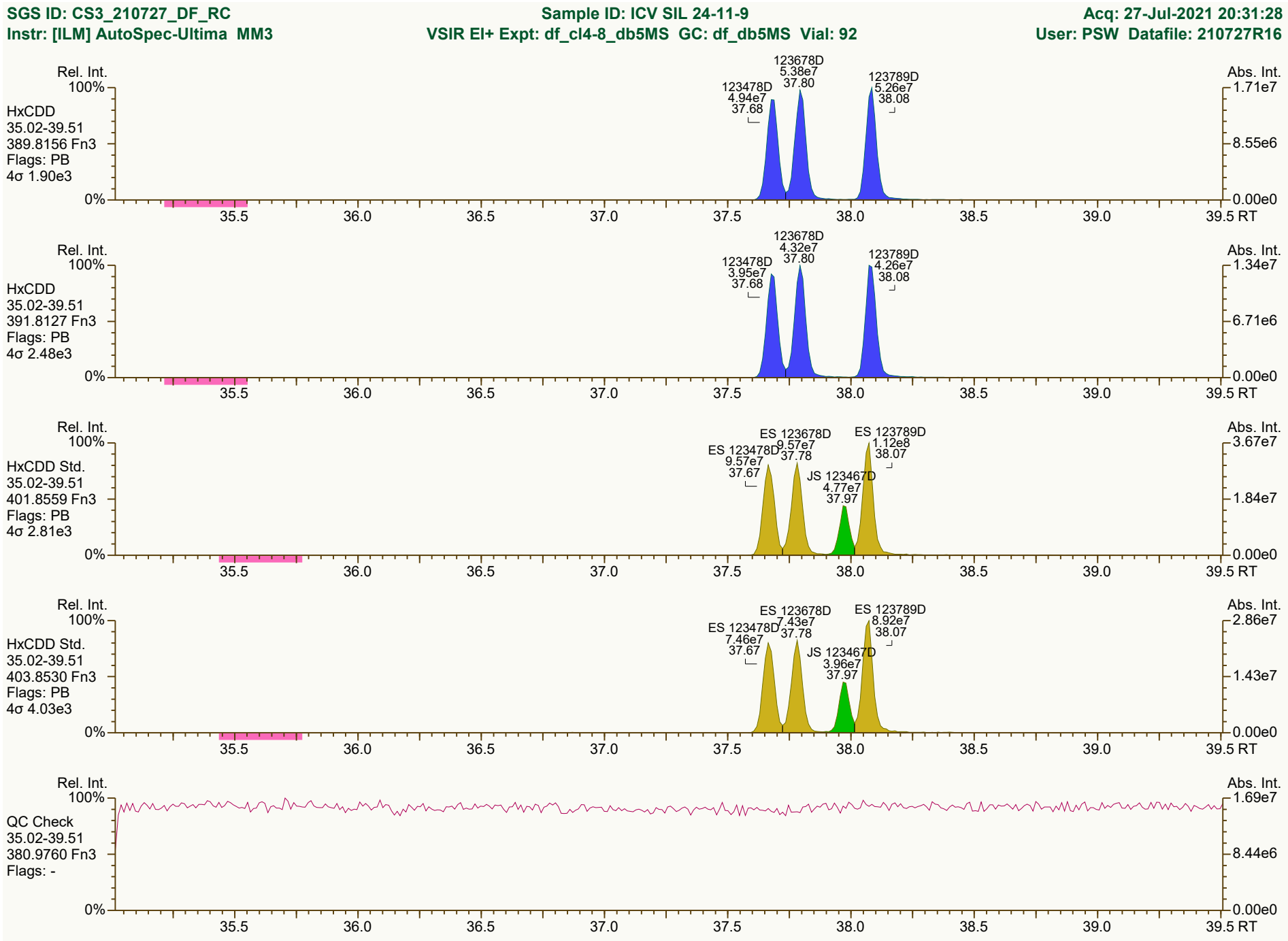
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8171, 5797 scc: 537-883
PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 3 of 12

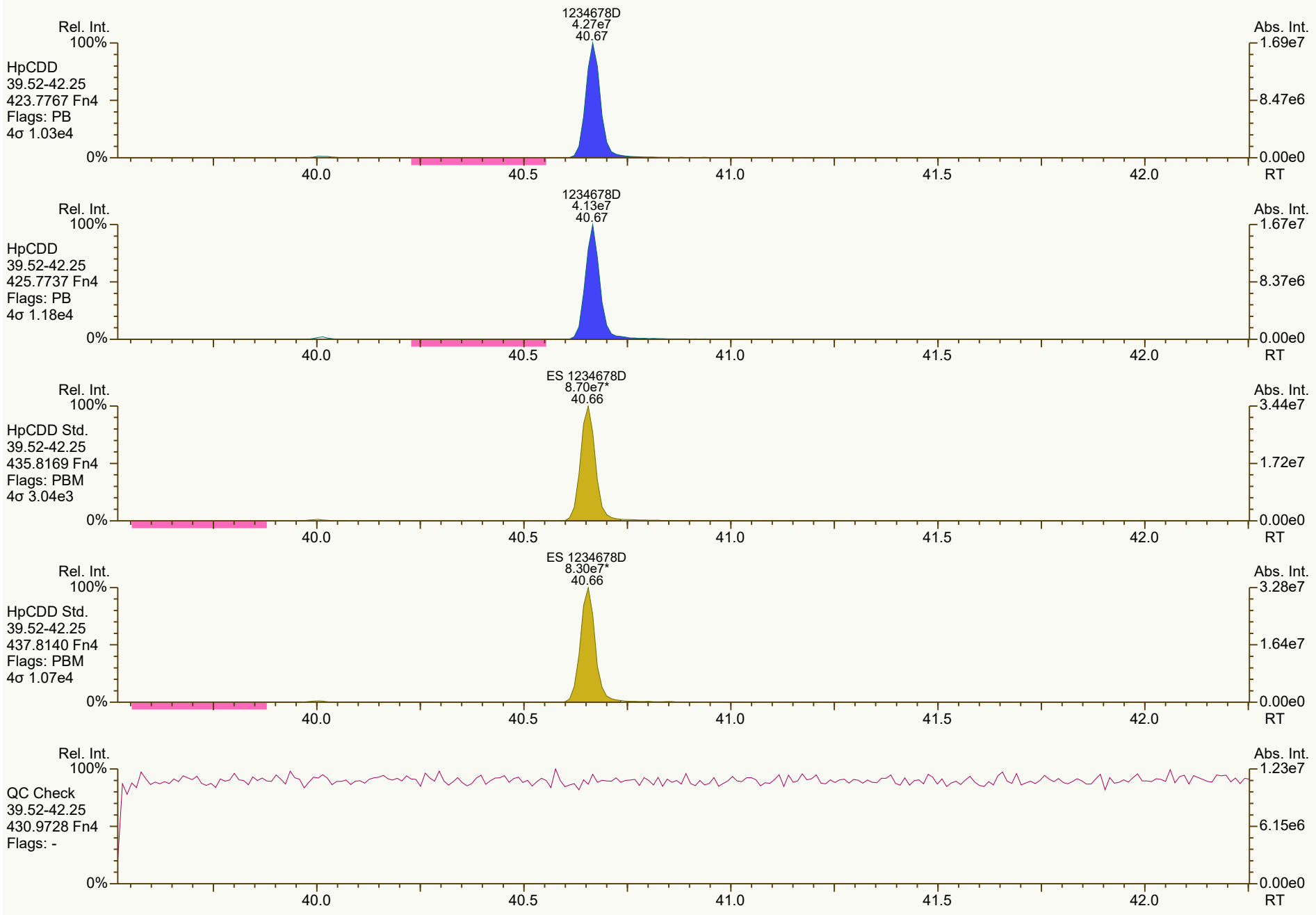
SGS ID: CS3_210727_DF_RC
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: ICV SIL 24-11-9
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92

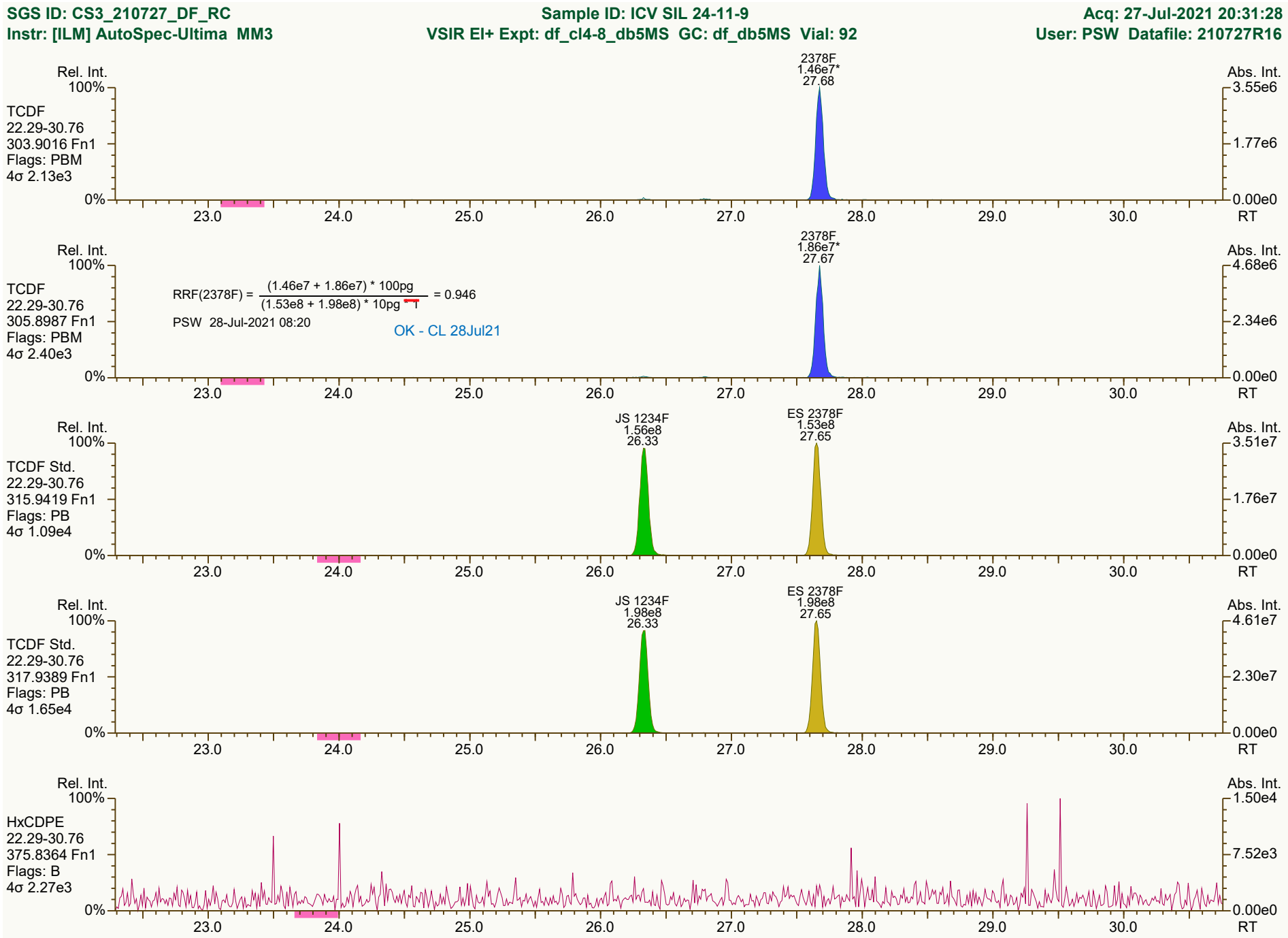
Acq: 27-Jul-2021 20:31:28
User: PSW Datafile: 210727R16



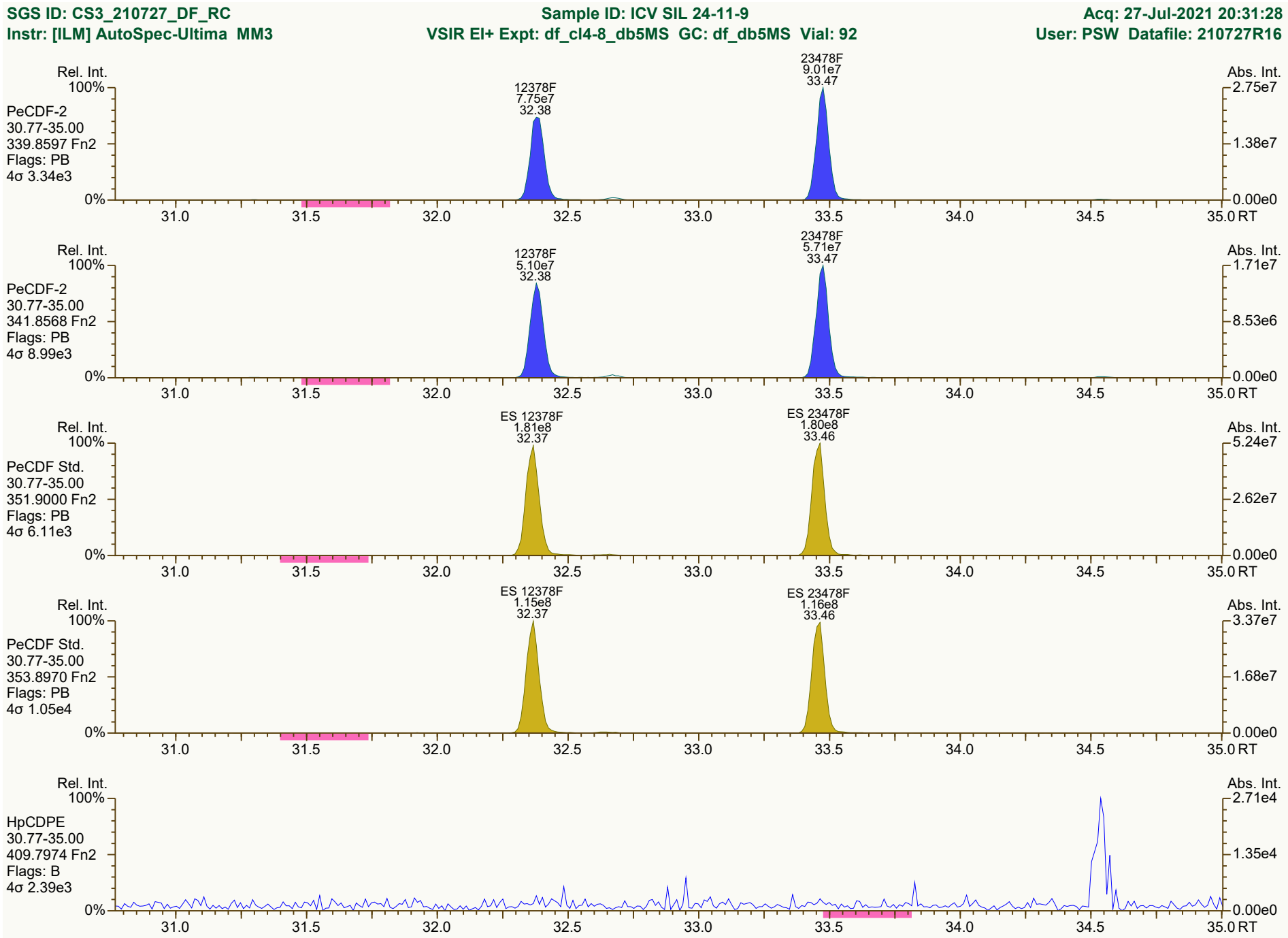
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 1539, 7390 scc: 537-883
PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 4 of 12

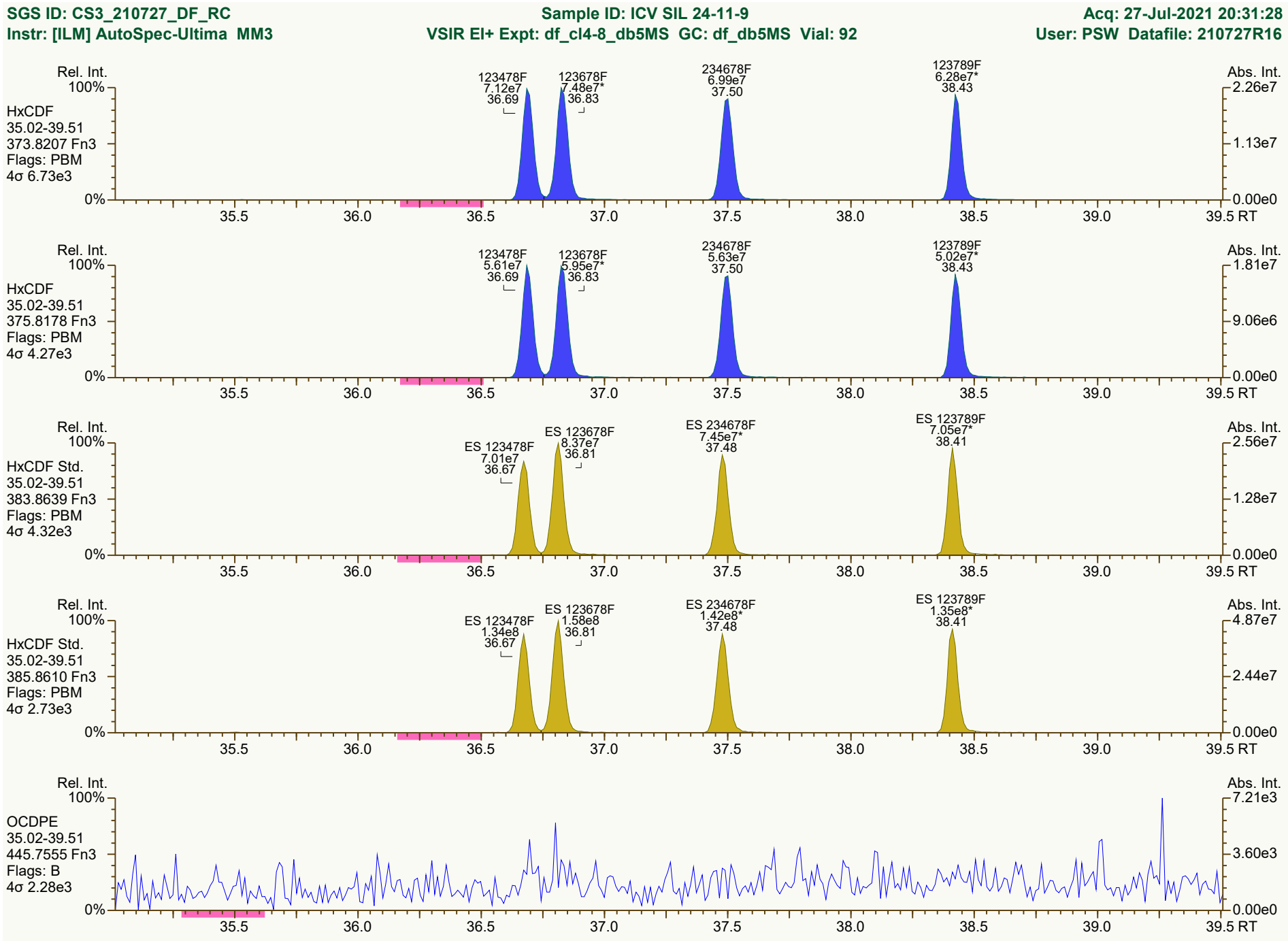

Rel. Int.
100%
HpCDD
39.52-42.25
423.7767 Fn4
Flags: PB
4σ 1.03e4
0%
1234678D
4.27e7
40.67
Abs. Int.
1.69e7
8.47e6
0.00e0
RT
40.0
40.5
41.0
41.5
42.0
Rel. Int.
100%
HpCDD
39.52-42.25
425.7737 Fn4
Flags: PB
4σ 1.18e4
0%
1234678D
4.13e7
40.67
Abs. Int.
1.67e7
8.37e6
0.00e0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
435.8169 Fn4
Flags: PBM
4σ 3.04e3
0%
ES 1234678D
8.70e7*
40.66
Abs. Int.
3.44e7
1.72e7
0.00e0
RT
Rel. Int.
100%
HpCDD Std.
39.52-42.25
437.8140 Fn4
Flags: PBM
4σ 1.07e4
0%
ES 1234678D
8.30e7*
40.66
Abs. Int.
3.28e7
1.64e7
0.00e0
RT
Rel. Int.
100%
QC Check
39.52-42.25
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.23e7
6.15e6
0.00e0
RT


Rel. Int.
100%
OCDD
42.26-45.01
457.7377 Fn5
Flags: PBM
4σ 2.37e3
0%
OCDD
6.83e7*
43.24
Abs. Int.
2.30e7
1.15e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.26-45.01
459.7348 Fn5
Flags: PBM
4σ 4.65e3
0%
OCDD
7.63e7*
43.23
Abs. Int.
2.58e7
1.29e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.26-45.01
469.7780 Fn5
Flags: PBM
4σ 3.40e3
0%
ES OCDD
1.28e8*
43.22
Abs. Int.
4.34e7
2.17e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.26-45.01
471.7750 Fn5
Flags: PBM
4σ 5.30e3
0%
ES OCDD
1.41e8*
43.22
Abs. Int.
4.68e7
2.34e7
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.26-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
4.82e6
2.41e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: CS3_210727_DF_RC
Sample ID: ICV SIL 24-11-9
Acq: 27-Jul-2021 20:31:28
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92
User: PSW Datafile: 210727R16
Rel. Int.
Abs. Int.
TCDF
22.29-30.76
303.9016 Fn1
Flags: PBM
4σ 2.13e3
2378F
1.46e7*
27.68
3.55e6
1.77e6
0.00e0
RT
TCDF
22.29-30.76
305.8987 Fn1
Flags: PBM
4σ 2.40e3
RRF(2378F) = (1.46e7 + 1.86e7) * 100pg / (1.53e8 + 1.98e8) * 10pg = 0.946
PSW 28-Jul-2021 08:20
OK - CL 28Jul21
2378F
1.86e7*
27.67
4.68e6
2.34e6
TCDF Std.
22.29-30.76
315.9419 Fn1
Flags: PB
4σ 1.09e4
JS 1234F
1.56e8
26.33
ES 2378F
1.53e8
27.65
3.51e7
1.76e7
TCDF Std.
22.29-30.76
317.9389 Fn1
Flags: PB
4σ 1.65e4
JS 1234F
1.98e8
26.33
ES 2378F
1.98e8
27.65
4.61e7
2.30e7
HxCDPE
22.29-30.76
375.8364 Fn1
Flags: B
4σ 2.27e3
1.50e4
7.52e3
0%
100%
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 3261, 3217, 9207 scc: 537-883
PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
1.31e4
6.54e3
0.00e0
PeCDF-1
22.29-30.76
339.8597 Fn1
Flags: B
4σ 2.61e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.75e4
8.73e3
0.00e0
PeCDF-1
22.29-30.76
341.8568 Fn1
Flags: B
4σ 3.05e3
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.42e6
1.21e6
0.00e0
QC Check
22.29-30.76
316.9824 Fn1
Flags: -
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
RT

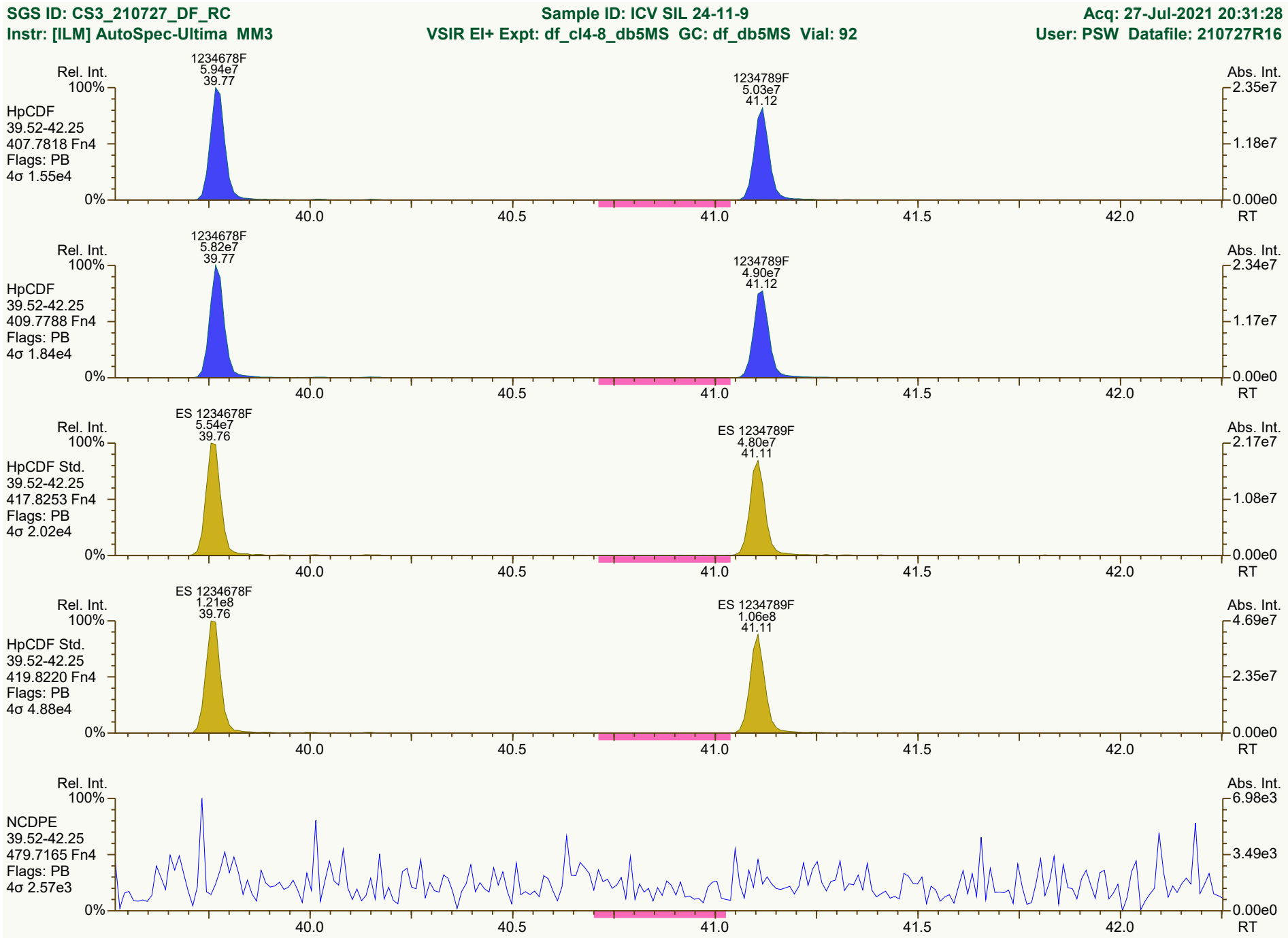

SGS ID: CS3_210727_DF_RC
Sample ID: ICV SIL 24-11-9
Acq: 27-Jul-2021 20:31:28
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92
User: PSW Datafile: 210727R16
Rel. Int.
Abs. Int.
PeCDF-2
30.77-35.00
339.8597 Fn2
Flags: PB
4σ 3.34e3
12378F
7.75e7
32.38
23478F
9.01e7
33.47
2.75e7
1.38e7
0.00e0
PeCDF-2
30.77-35.00
341.8568 Fn2
Flags: PB
4σ 8.99e3
12378F
5.10e7
32.38
23478F
5.71e7
33.47
1.71e7
8.53e6
0.00e0
PeCDF Std.
30.77-35.00
351.9000 Fn2
Flags: PB
4σ 6.11e3
ES 12378F
1.81e8
32.37
ES 23478F
1.80e8
33.46
5.24e7
2.62e7
0.00e0
PeCDF Std.
30.77-35.00
353.8970 Fn2
Flags: PB
4σ 1.05e4
ES 12378F
1.15e8
32.37
ES 23478F
1.16e8
33.46
3.37e7
1.68e7
0.00e0
HpCDPE
30.77-35.00
409.7974 Fn2
Flags: B
4σ 2.39e3
2.71e4
1.35e4
0.00e0
100%
0%
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 5316, 2043, 4878 scc: 537-883
PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 9 of 12


SGS ID: CS3_210727_DF_RC
Sample ID: ICV SIL 24-11-9
Acq: 27-Jul-2021 20:31:28
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92
User: PSW Datafile: 210727R16
Rel. Int.
Abs. Int.
HxCDF
35.02-39.51
373.8207 Fn3
Flags: PBM
4σ 6.73e3
123478F 7.12e7 36.69
123678F 7.48e7* 36.83
234678F 6.99e7 37.50
123789F 6.28e7* 38.43
HxCDF
35.02-39.51
375.8178 Fn3
Flags: PBM
4σ 4.27e3
123478F 5.61e7 36.69
123678F 5.95e7* 36.83
234678F 5.63e7 37.50
123789F 5.02e7* 38.43
HxCDF Std.
35.02-39.51
383.8639 Fn3
Flags: PBM
4σ 4.32e3
ES 123478F 7.01e7 36.67
ES 123678F 8.37e7 36.81
ES 234678F 7.45e7* 37.48
ES 123789F 7.05e7* 38.41
HxCDF Std.
35.02-39.51
385.8610 Fn3
Flags: PBM
4σ 2.73e3
ES 123478F 1.34e8 36.67
ES 123678F 1.58e8 36.81
ES 234678F 1.42e8* 37.48
ES 123789F 1.35e8* 38.41
OCDPE
35.02-39.51
445.7555 Fn3
Flags: B
4σ 2.28e3
35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 RT

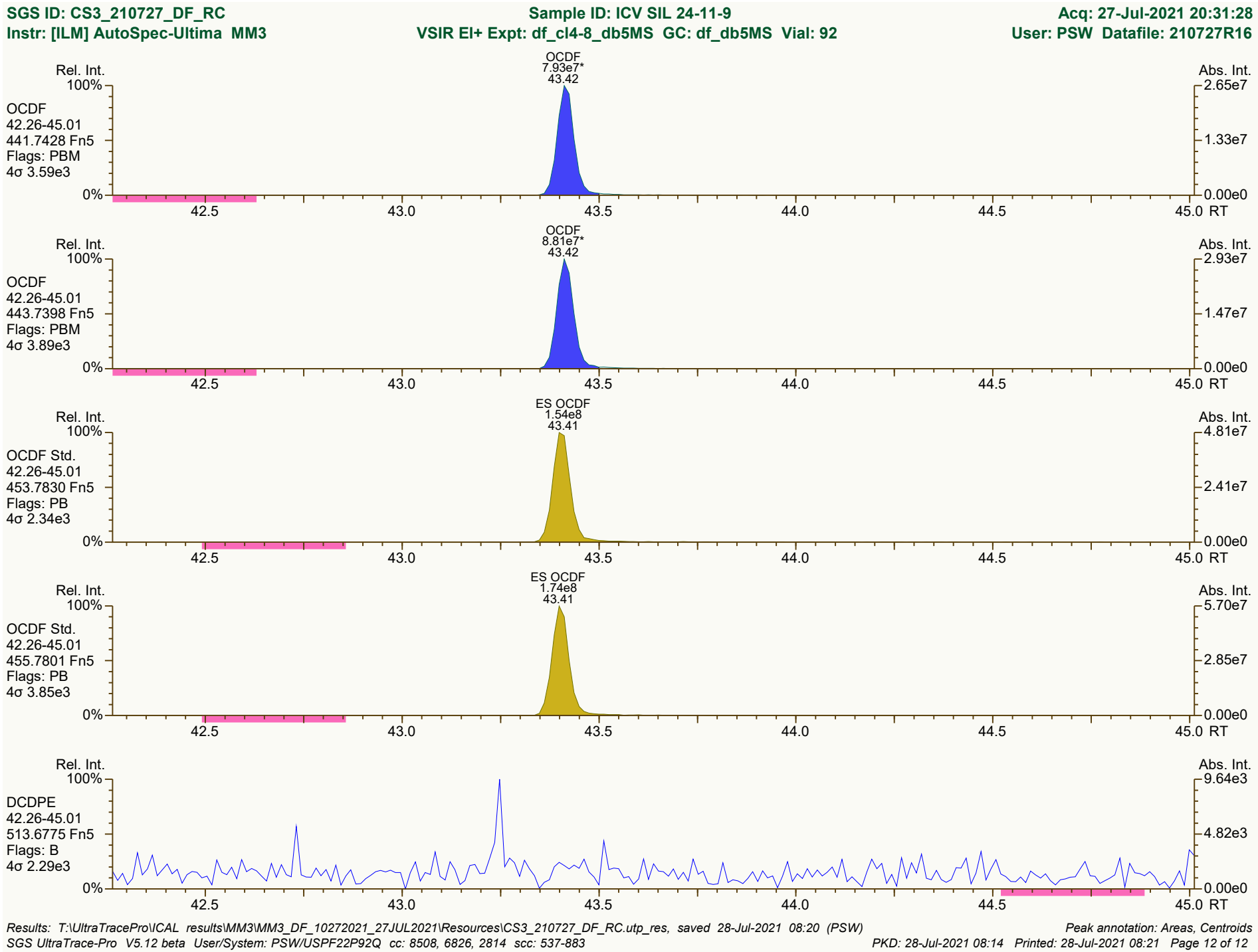
SGS ID: CS3_210727_DF_RC
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: ICV SIL 24-11-9
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92

Acq: 27-Jul-2021 20:31:28
User: PSW Datafile: 210727R16



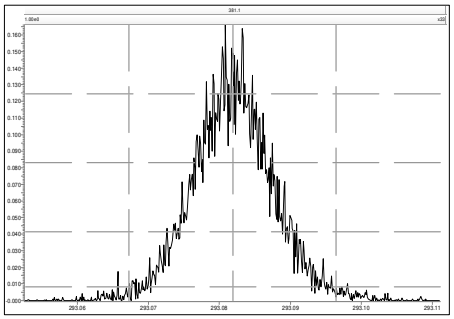
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 6305, 0778, 6253 scc: 537-883
PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 11 of 12


SGS ID: CS3_210727_DF_RC
Sample ID: ICV SIL 24-11-9
Acq: 27-Jul-2021 20:31:28
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 92
User: PSW Datafile: 210727R16
Rel. Int.
Abs. Int.
OCDF
7.93e7*
43.42
OCDF
42.26-45.01
441.7428 Fn5
Flags: PBM
4σ 3.59e3
2.65e7
1.33e7
0.00e0
OCDF
8.81e7*
43.42
OCDF
42.26-45.01
443.7398 Fn5
Flags: PBM
4σ 3.89e3
2.93e7
1.47e7
ES OCDF
1.54e8
43.41
OCDF Std.
42.26-45.01
453.7830 Fn5
Flags: PB
4σ 2.34e3
4.81e7
2.41e7
ES OCDF
1.74e8
43.41
OCDF Std.
42.26-45.01
455.7801 Fn5
Flags: PB
4σ 3.85e3
5.70e7
2.85e7
DCDPE
42.26-45.01
513.6775 Fn5
Flags: B
4σ 2.29e3
9.64e3
4.82e3
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\MM3\MM3_DF_10272021_27JUL2021\Resources\CS3_210727_DF_RC.utp_res, saved 28-Jul-2021 08:20 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 beta User/System: PSW/USPF22P92Q cc: 8508, 6826, 2814 scc: 537-883
PKD: 28-Jul-2021 08:14 Printed: 28-Jul-2021 08:21 Page 12 of 12

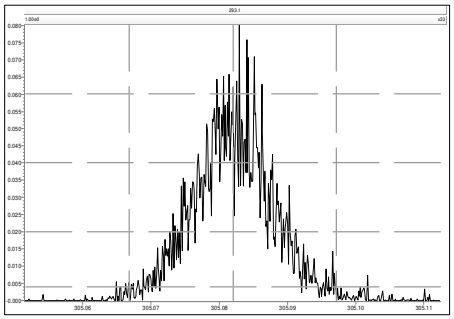
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, July 27, 2021 08:15:38 Eastern Daylight Time

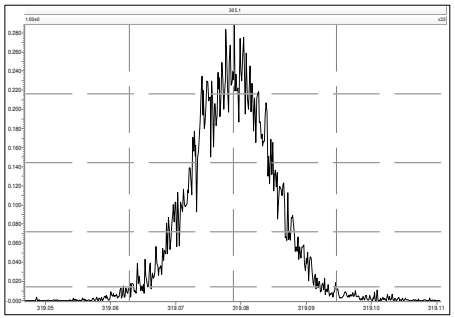
M 292.9824 R 12951



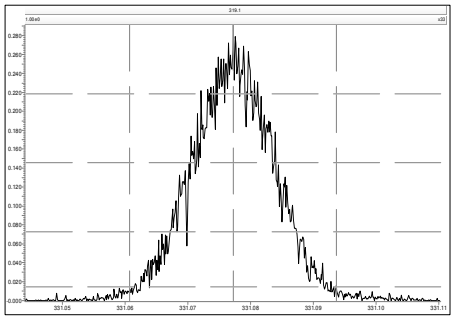
M 304.9824 R 13589



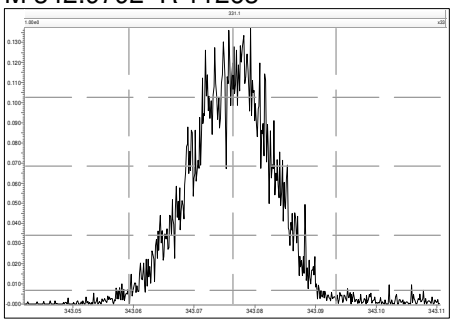
M 318.9792 R 11848



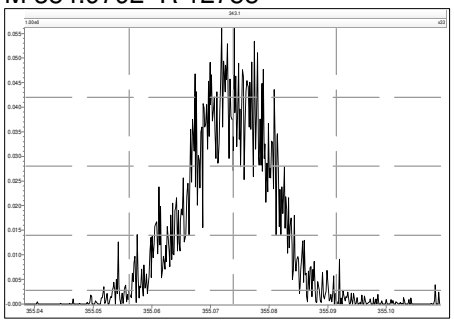
M 330.9792 R 11310



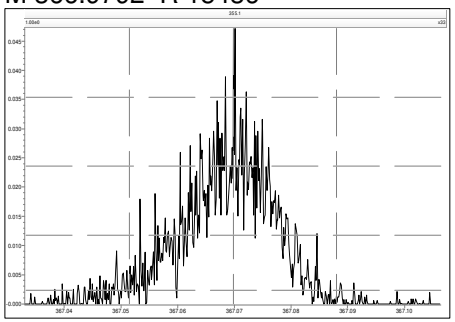
M 342.9792 R 11263



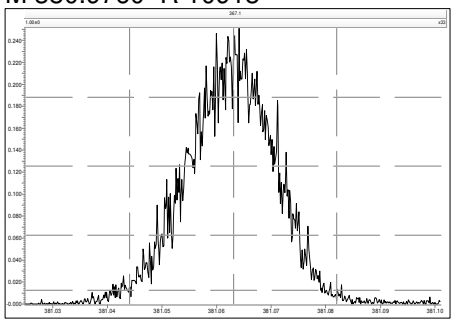
M 354.9792 R 12755



M 366.9792 R 15436



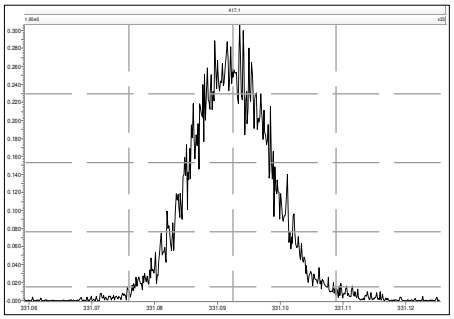
M 380.9760 R 10918



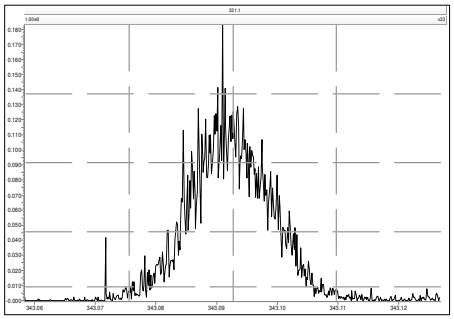
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Tuesday, July 27, 2021 08:16:03 Eastern Daylight Time

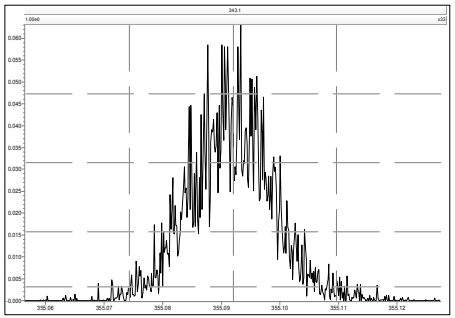
M 330.9792 R 11165



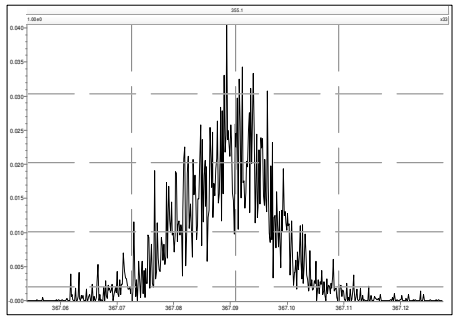
M 342.9792 R 12440



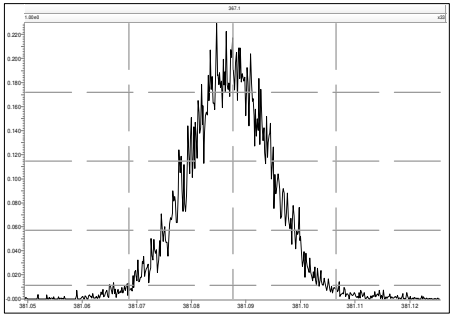
M 354.9792 R 12626



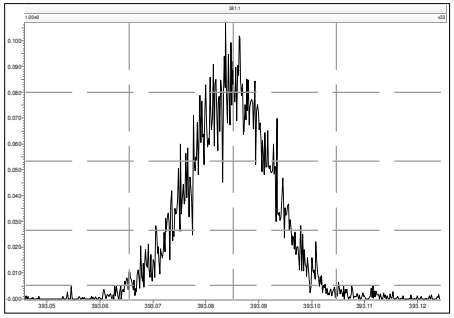
M 366.9792 R 12134



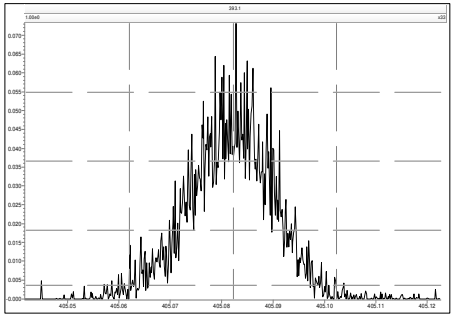
M 380.9760 R 10727



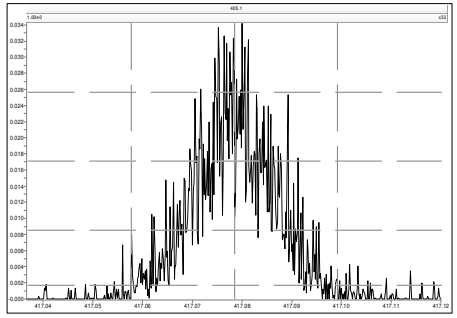
M 392.9760 R 12019



M 404.9760 R 11685



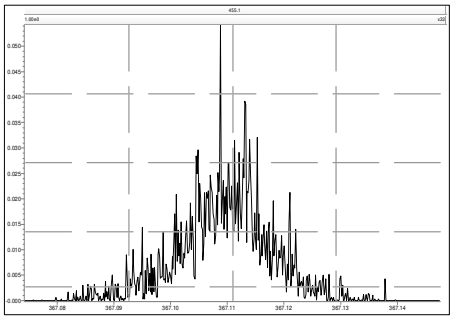
M 416.9760 R 14046



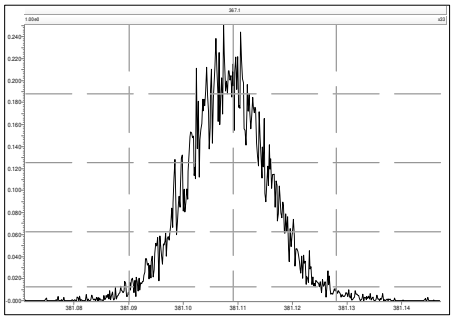
File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Tuesday, July 27, 2021 08:16:24 Eastern Daylight Time

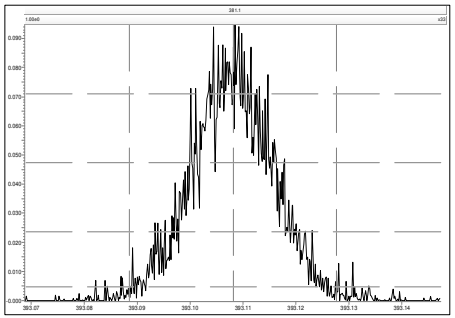
M 366.9792 R 13020



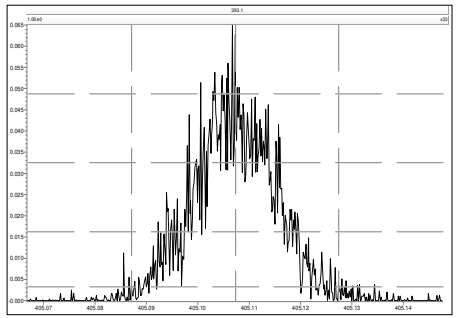
M 380.9760 R 11361



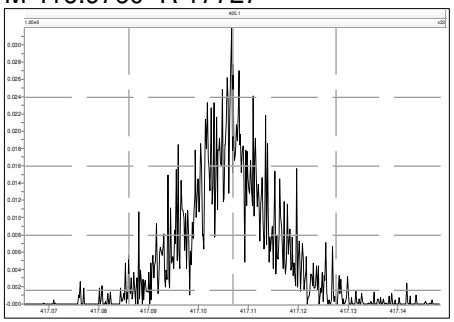
M 392.9760 R 11464



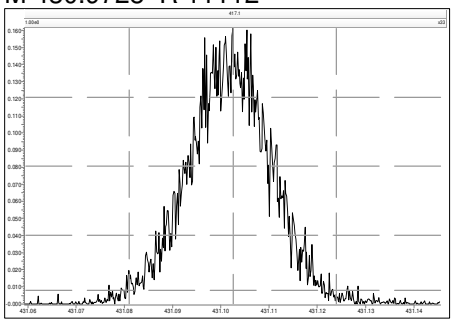
M 404.9760 R 12314



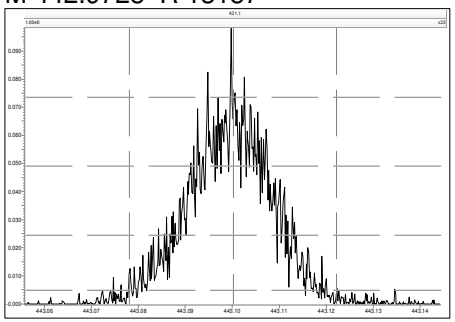
M 416.9760 R 17727



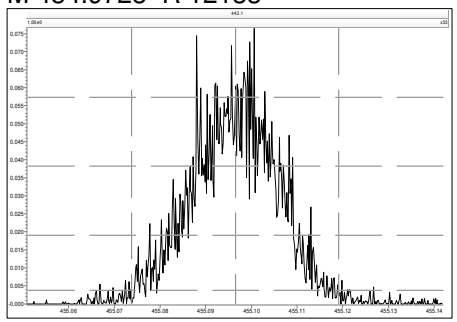
M 430.9728 R 11112



M 442.9728 R 13157



M 454.9728 R 12133



File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

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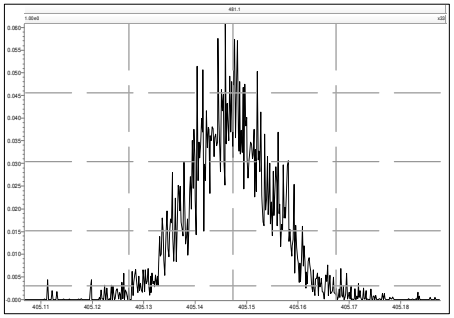
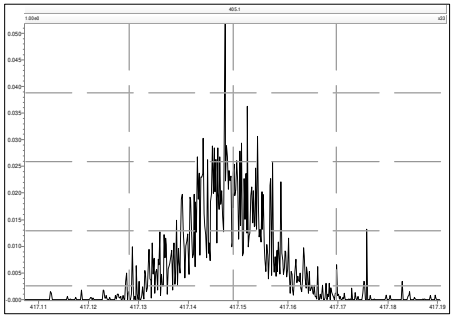
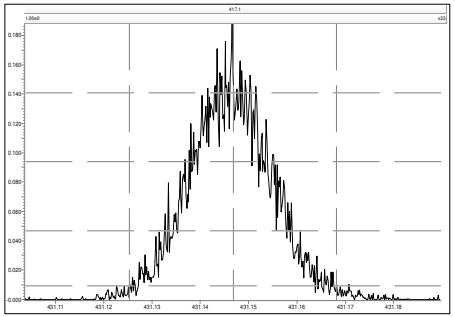
M 404.9760 R 12954



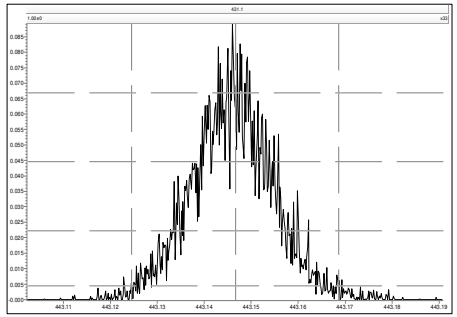
M 416.9760 R 17005



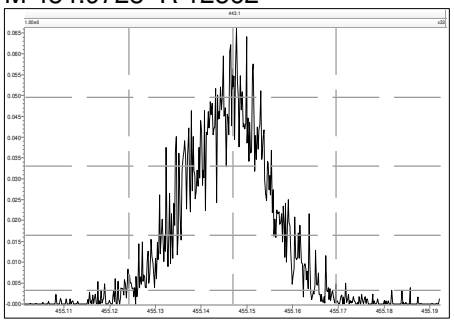
M 430.9728 R 11739



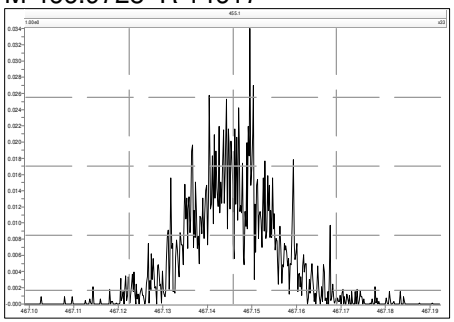
M 442.9728 R 11849



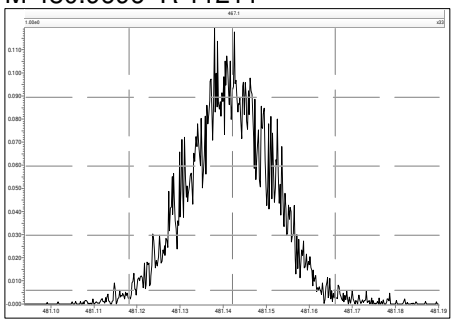
M 454.9728 R 12562



M 466.9728 R 14617



M 480.9696 R 11211



File: Experiment: df_cl4-8_db5MS.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

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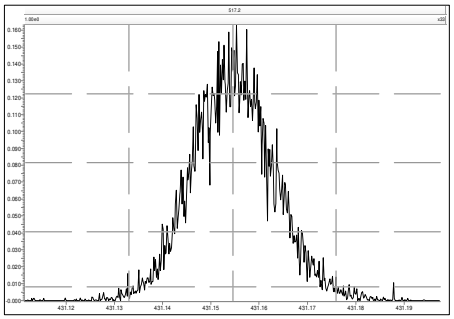
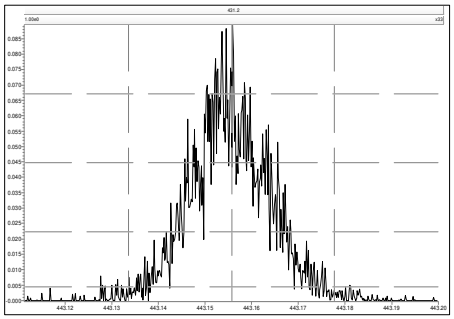
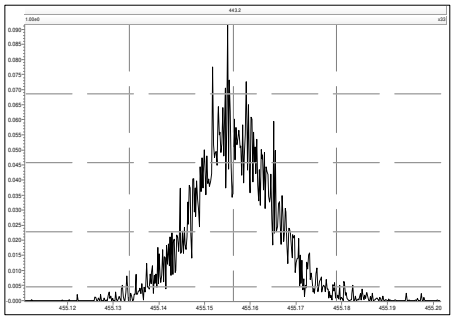
M 430.9728 R 11739



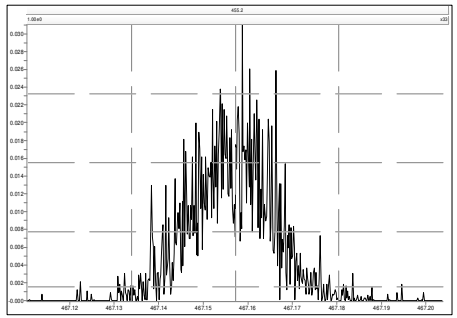
M 442.9728 R 12623



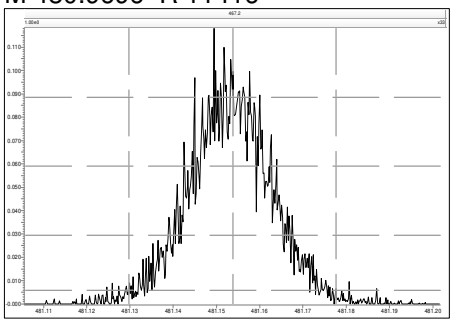
M 454.9728 R 12952



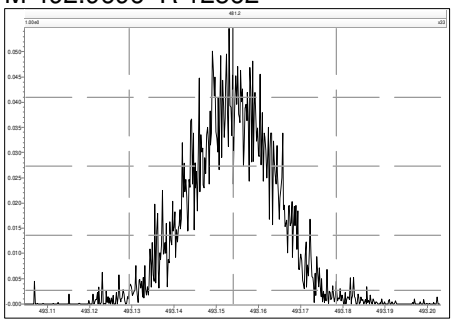
M 466.9728 R 17238



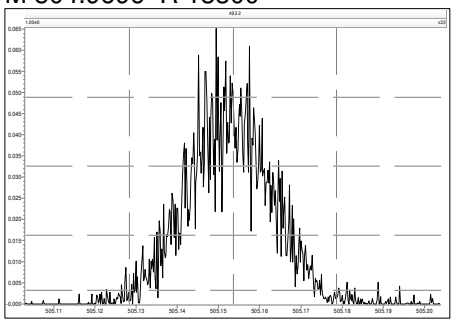
M 480.9696 R 11416



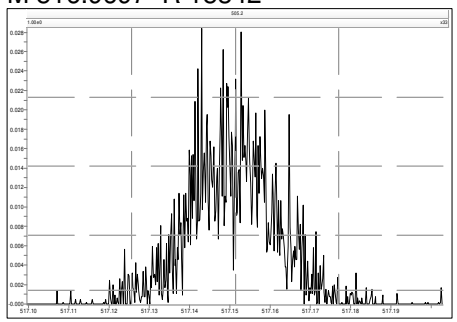
M 492.9696 R 12562



M 504.9696 R 13300



M 516.9697 R 15342



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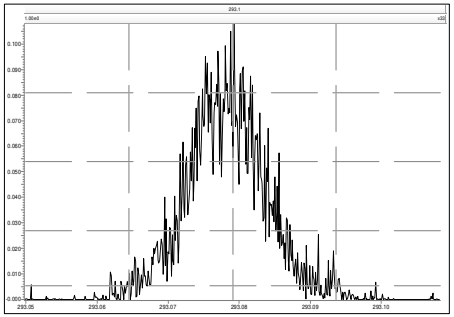
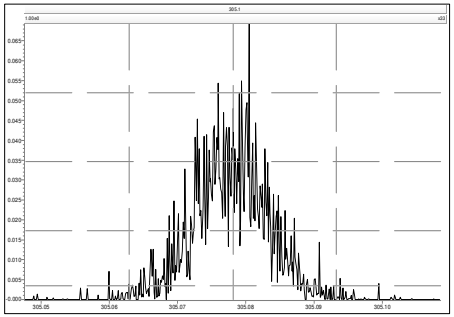
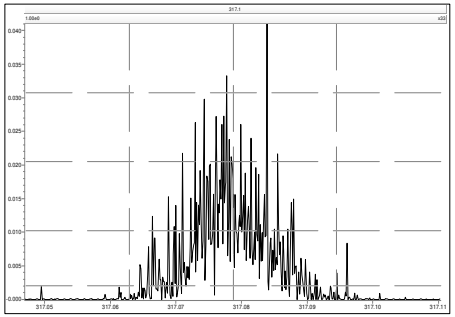
M 292.9824 R 13333



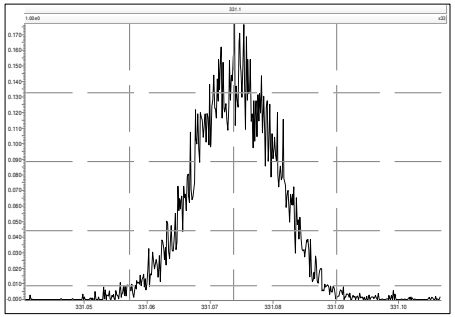
M 304.9824 R 14839



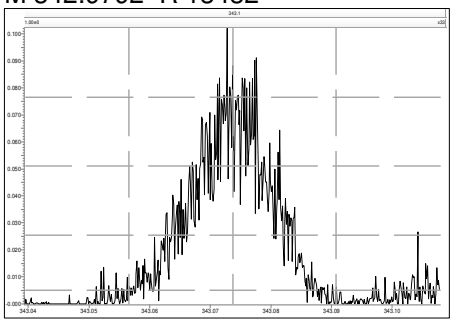
M 316.9824 R 17537



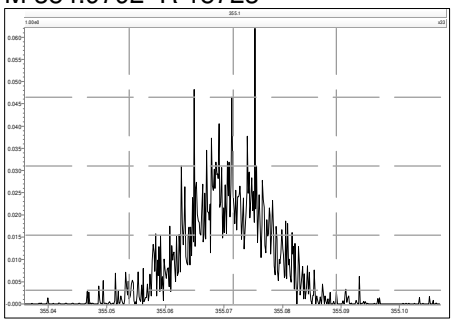
M 330.9792 R 11836



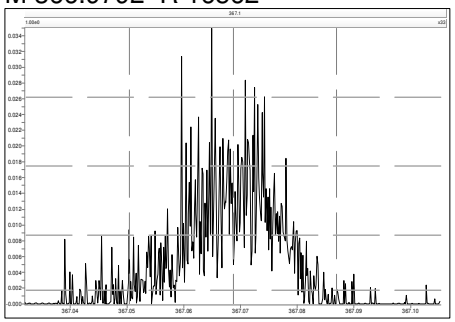
M 342.9792 R 13432



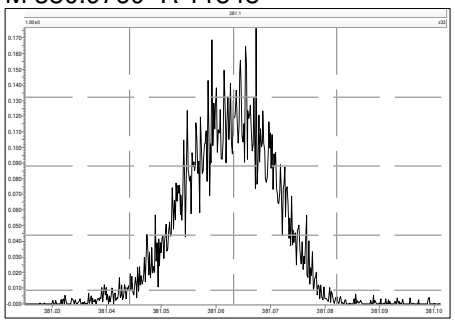
M 354.9792 R 15723



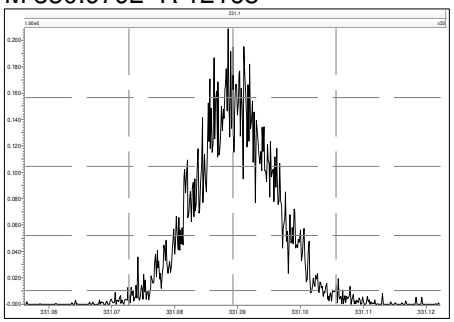
M 366.9792 R 16562



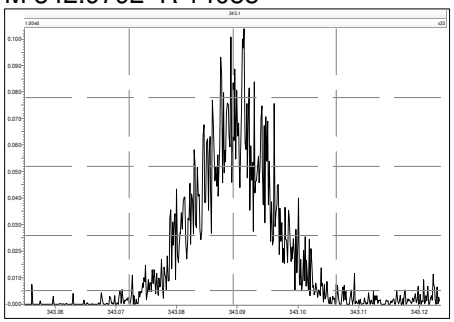
M 380.9760 R 11548



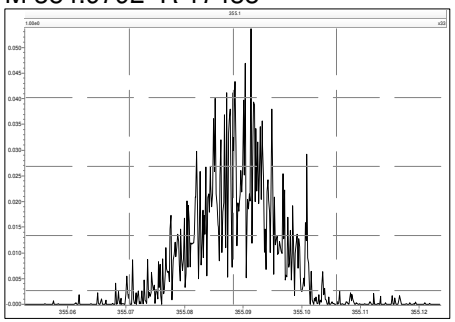
M 330.9792 R 12168



M 342.9792 R 14085



M 354.9792 R 17438



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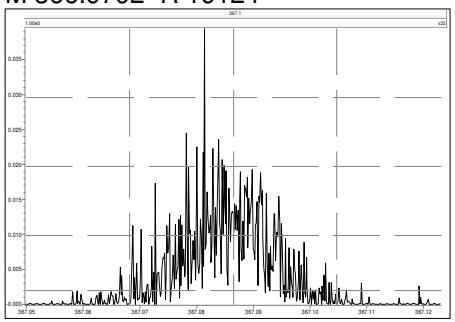
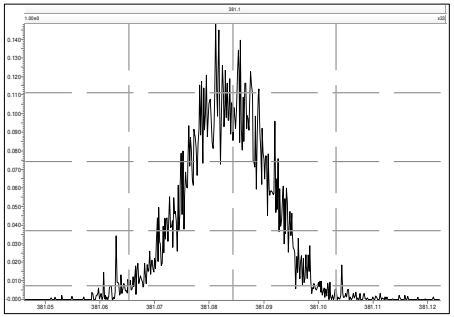
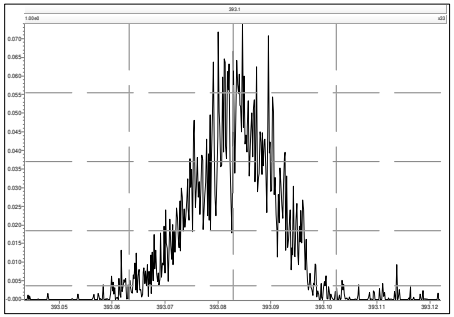


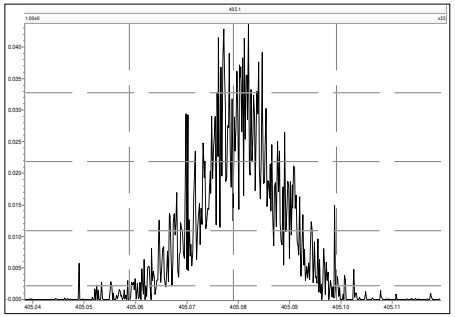
M 380.9760 R 12109



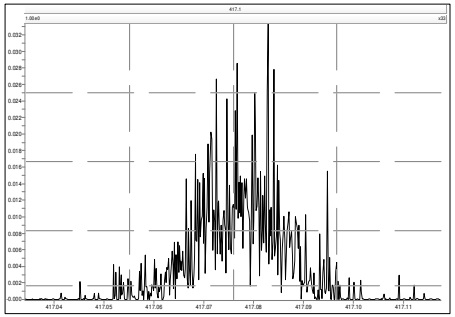
M 392.9760 R 12919



M 404.9760 R 13512



M 416.9760 R 18043



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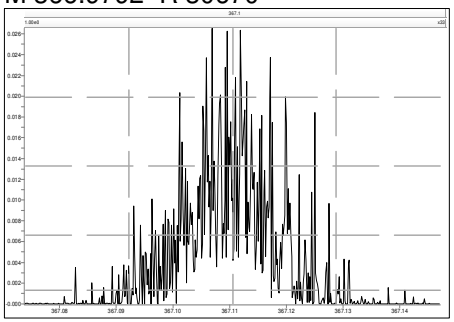
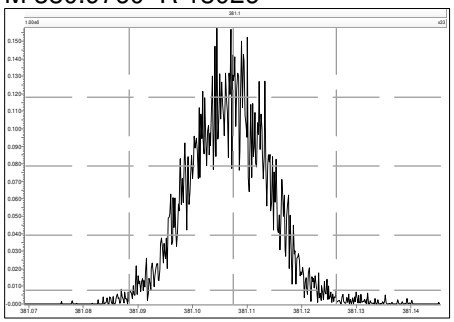
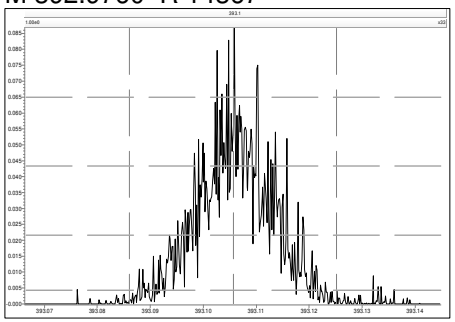


M 380.9760 R 13026



M 392.9760 R 14367



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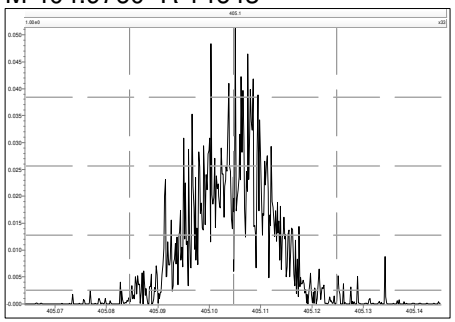
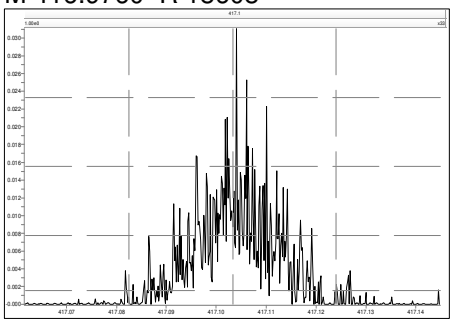
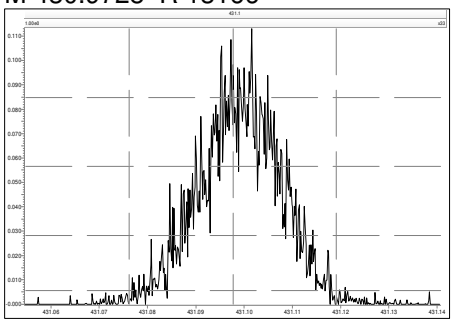


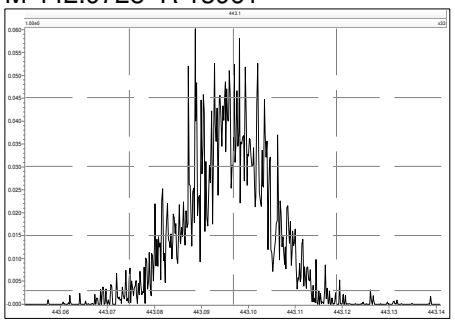
M 416.9760 R 18608



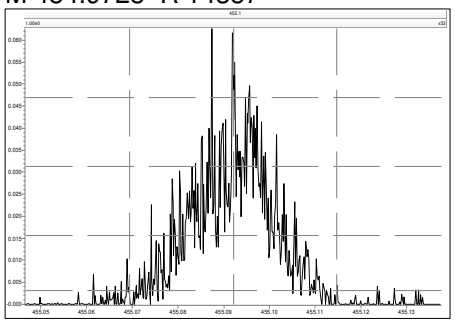
M 430.9728 R 13166



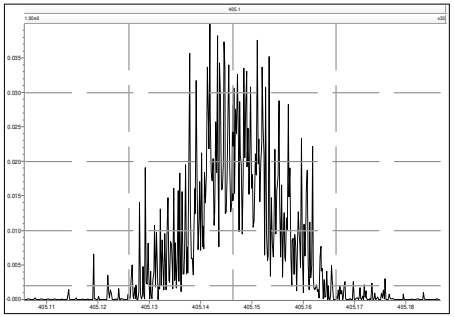
M 442.9728 R 13961



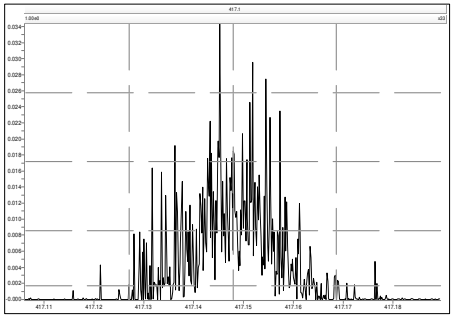
M 454.9728 R 14357



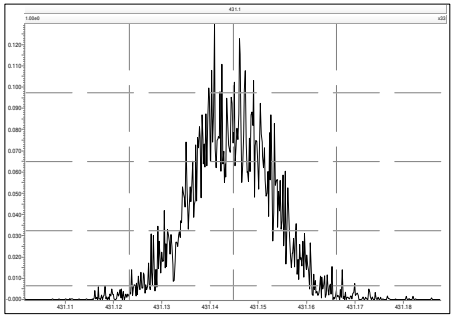
M 404.9760 R 17503



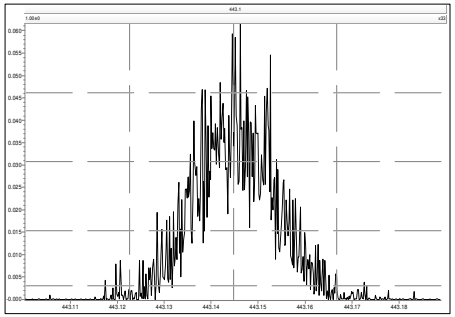
M 416.9760 R 20591



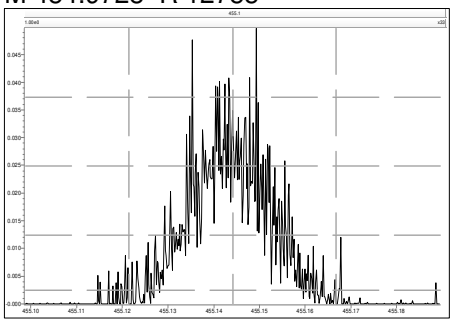
M 430.9728 R 12961



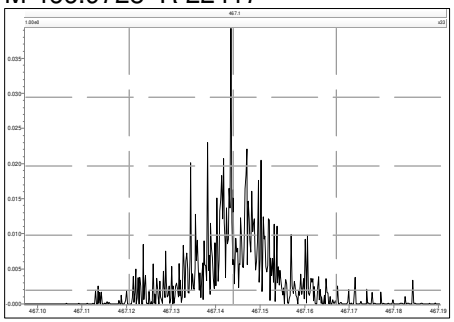
M 442.9728 R 13157



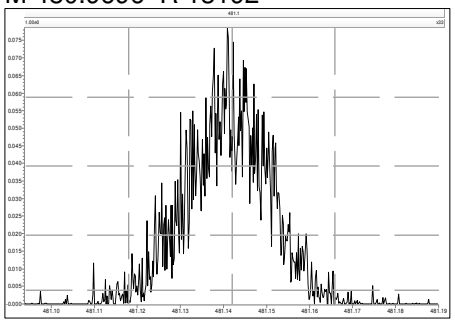
M 454.9728 R 12755



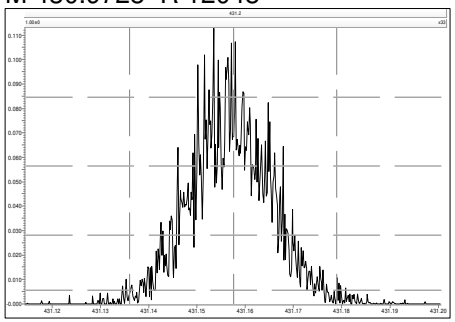
M 466.9728 R 22417



M 480.9696 R 13192



M 430.9728 R 12048



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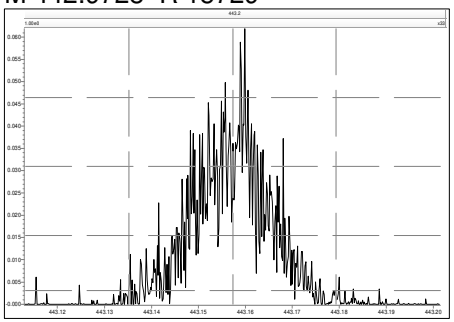

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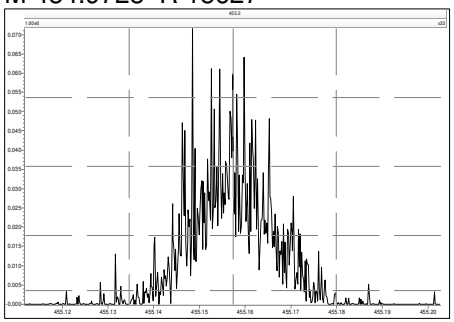

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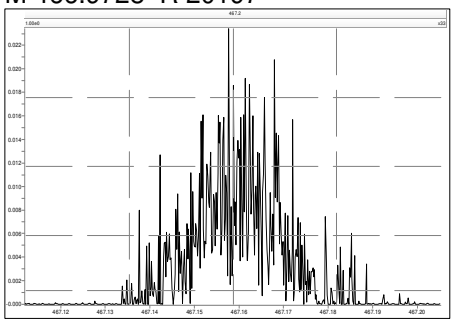

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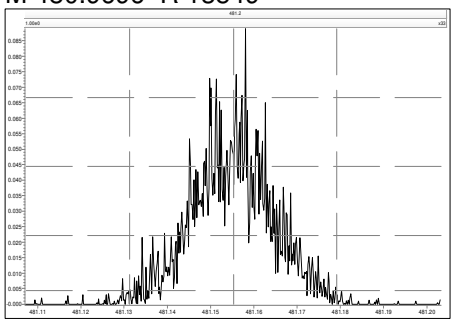

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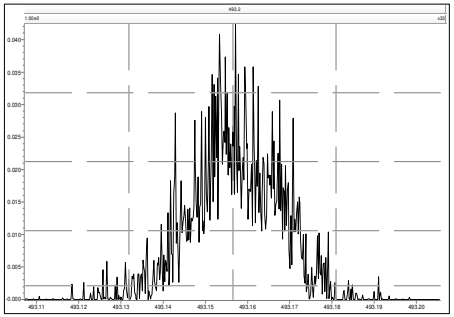

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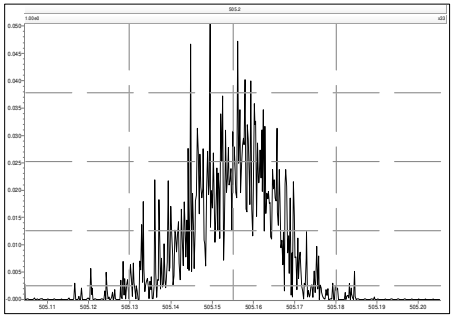

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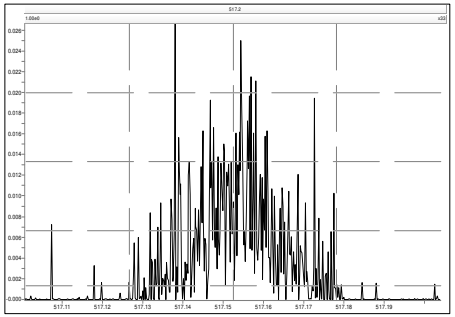

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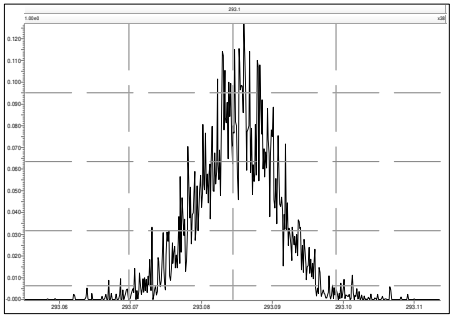

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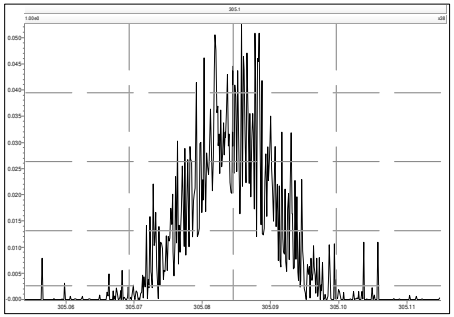

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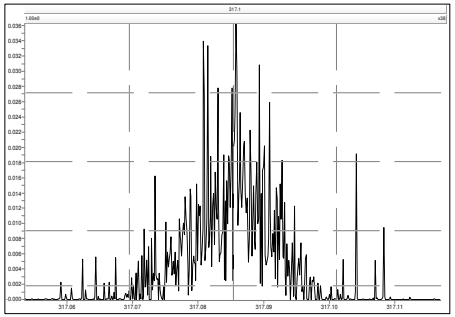

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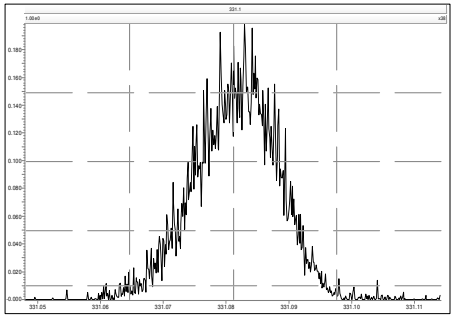

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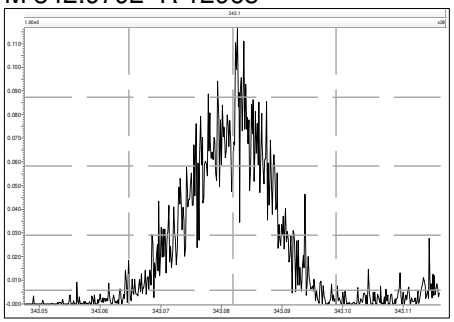

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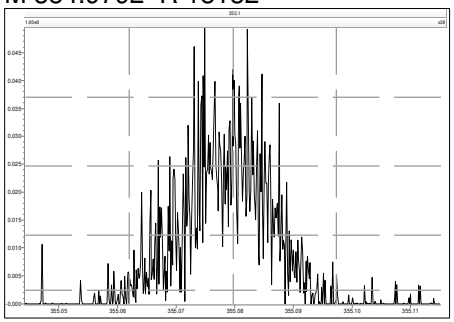

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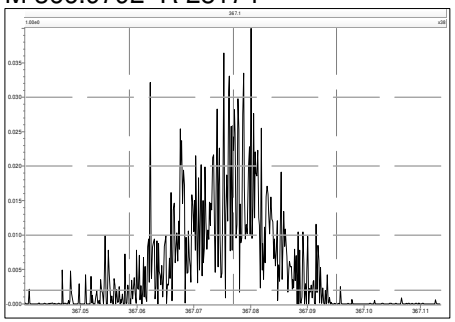

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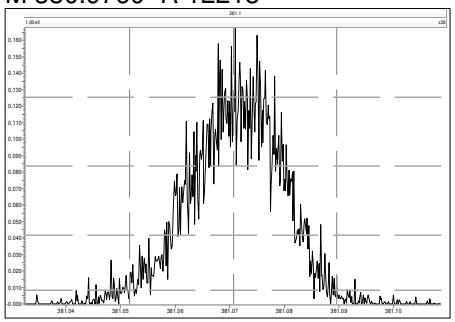

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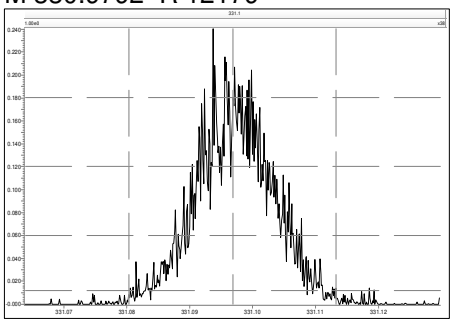

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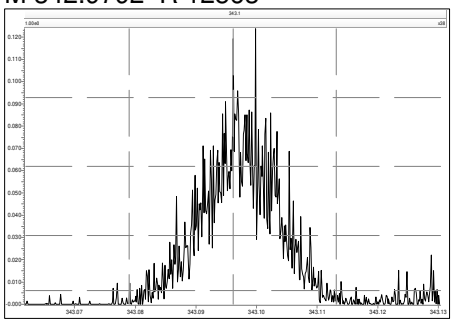

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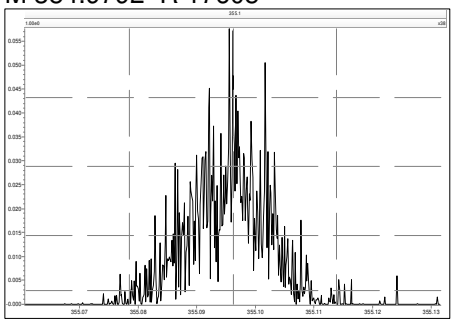

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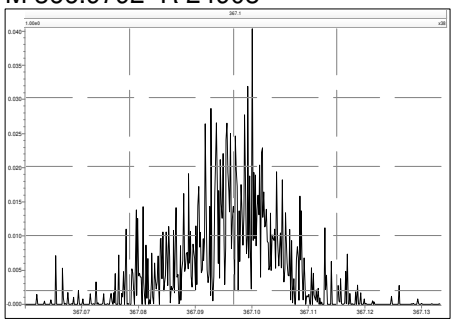

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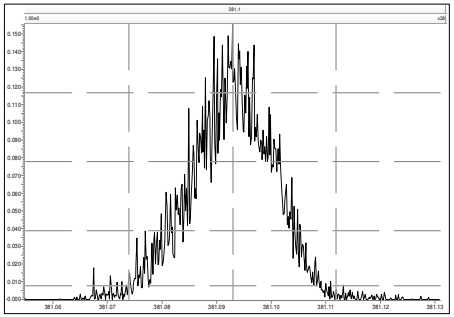

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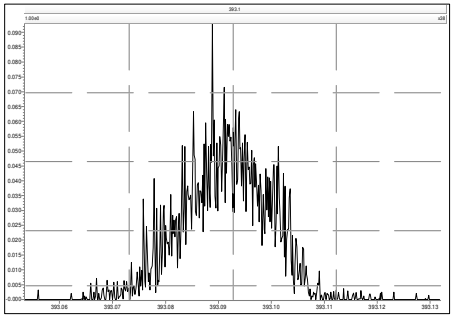

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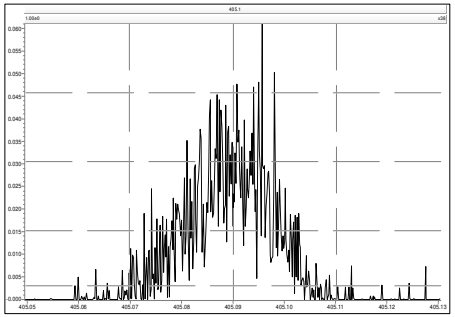

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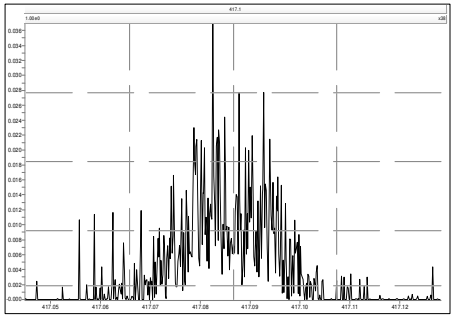

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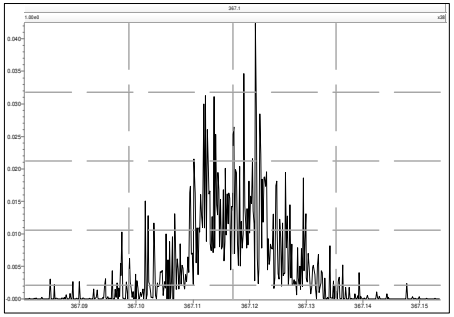

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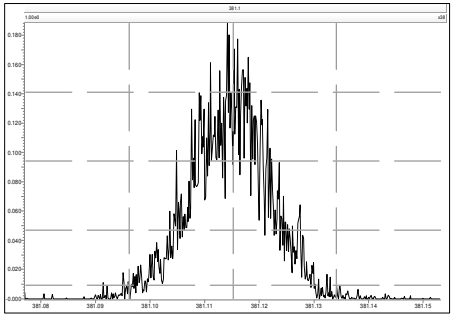

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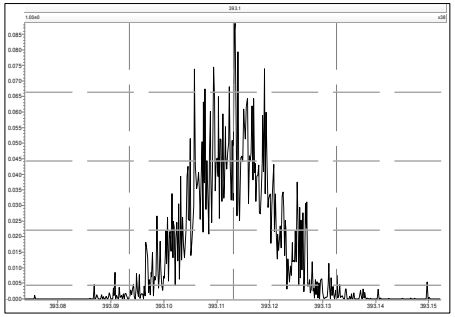

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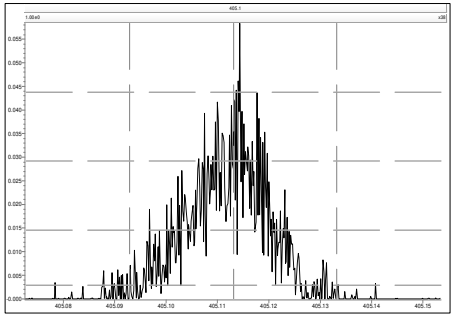

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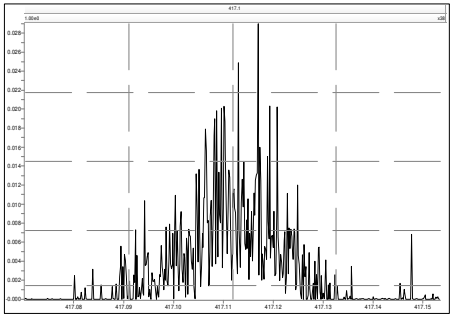

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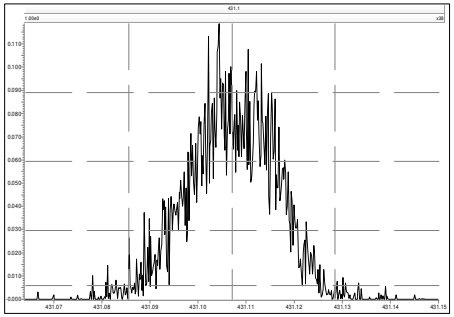

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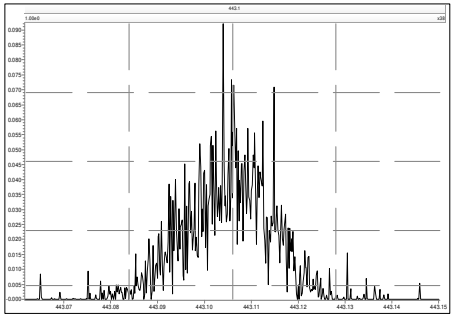

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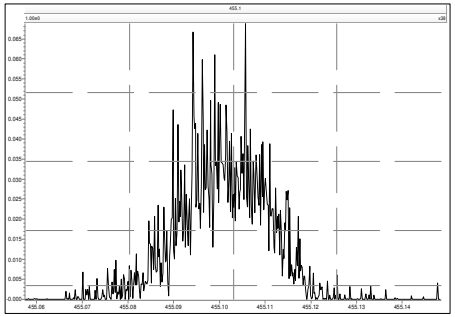

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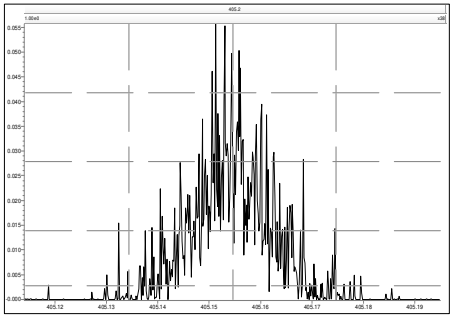

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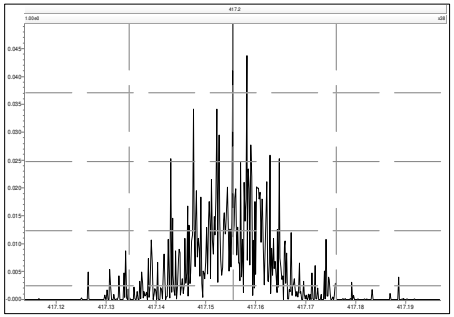

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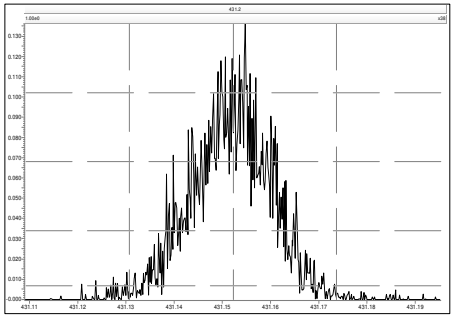

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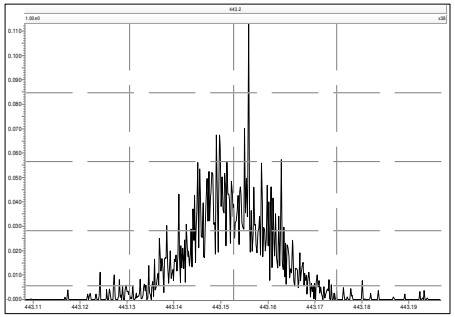

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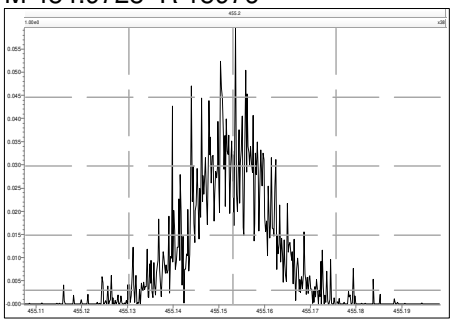

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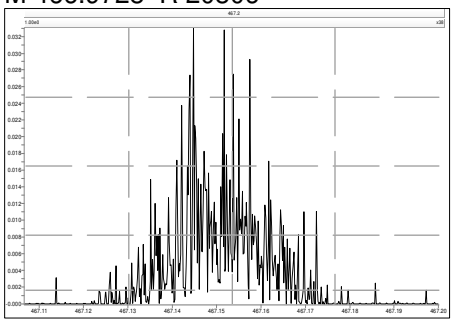

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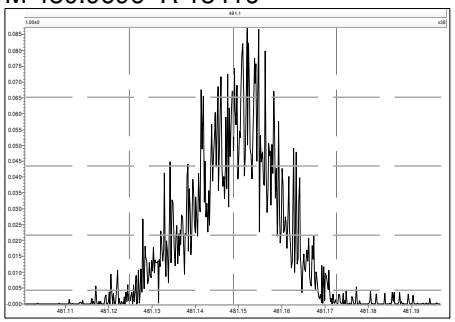

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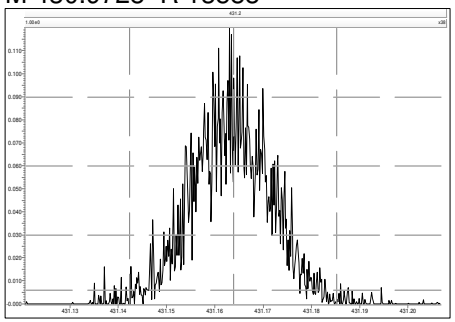

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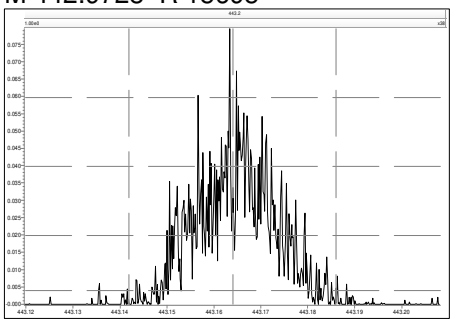

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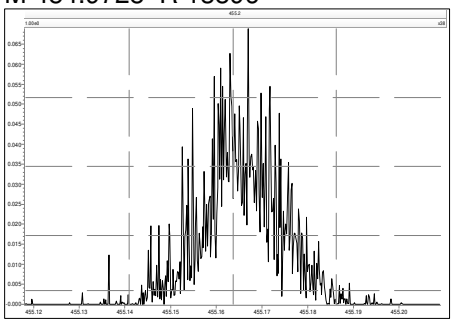

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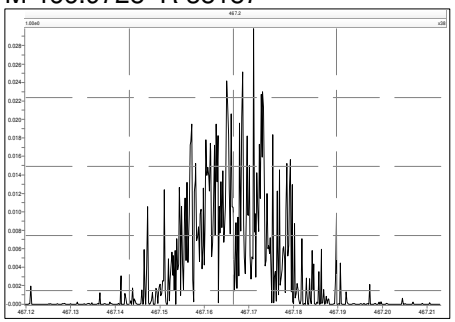

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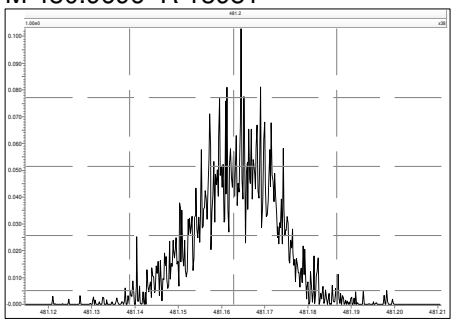

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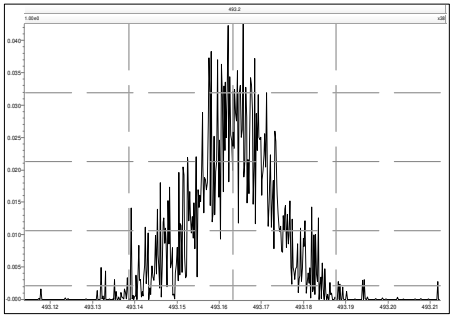

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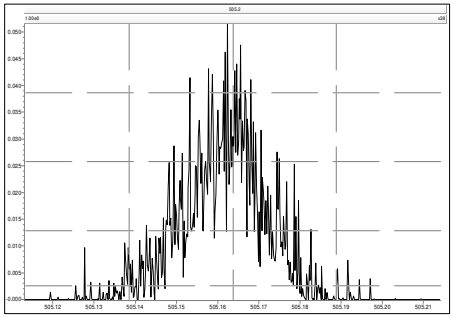

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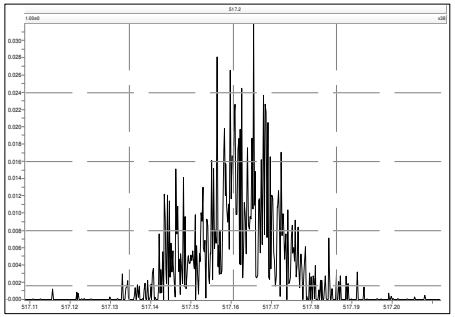

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REVIEWED
Tamara Burkamper , 3/8/2022, 8:44:59 AM

Acq'd: 03 Mar 2022 15:10 PSW

Wt/Vol: 1 uL

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Checkcode: 848-547-SHX

Datafile: 220303R07

Report: 04 Mar 2022 09:53 pw

Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

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2378-TCDD	26.94		1.0009	1.0007	-0.3	2.83E+06	0.80	Y	1.34	8.94	3910.715	0.138
12378-PeCDD	32.56		1.0006	1.0006	0	1.09E+07	1.59	Y	1.06	45.3	2440.854	0.1
123478-HxCDD	36.50		1.0004	1.0004	0	1.08E+07	1.28	Y	1.06	52.1	3676.241	0.136
123678-HxCDD	36.62		1.0035	1.0036	+0.2	1.24E+07	1.27	Y	1.08	55.9	3676.241	0.148
123789-HxCDD	36.91		1.0117	1.0117	0	1.12E+07	1.28	Y	1.02	47.3	3676.241	0.143
1234678-HpCDD	39.82		1.0003	1.0002	-0.2	9.68E+06	1.05	Y	0.97	52.9	4009.54	0.153
OCDD	42.23		1.0003	1.0002	-0.3	1.46E+07	0.90	Y	1.07	104	5700.268	0.314
2378-TCDF	26.01		1.0007	1.0010	+0.5	3.95E+06	0.82	Y	0.96	11.2	2598.037	0.0881
12378-PeCDF	31.04		1.0006	1.0006	0	1.80E+07	1.58	Y	0.95	53.3	5657.123	0.159
23478-PeCDF	32.21		1.0005	1.0005	0	1.90E+07	1.58	Y	0.94	57.2	5657.123	0.162
123478-HxCDF	35.52		1.0005	1.0005	0	1.54E+07	1.25	Y	1.23	53.3	13268.819	0.397
123678-HxCDF	35.67		1.0004	1.0005	+0.2	1.95E+07	1.28	Y	1.13	53.8	13268.819	0.314
234678-HxCDF	36.34		1.0005	1.0005	0	1.88E+07	1.25	Y	1.15	55.8	13268.819	0.36
123789-HxCDF	37.30		1.0005	1.0004	-0.2	1.27E+07	1.26	Y	1.14	50.1	13268.819	0.502
1234678-HpCDF	38.87		1.0003	1.0003	0	1.62E+07	1.03	Y	1.36	54.2	3497.205	0.0863
1234789-HpCDF	40.24		1.0003	1.0003	0	1.20E+07	1.05	Y	1.30	52.6	3497.205	0.105
OCDF	42.40		1.0002	1.0003	+0.3	1.79E+07	0.92	Y	1.03	107	5716.18	0.267

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.92	1.0272	1.0273	+0.2	2.36E+07	0.76	Y	1.03	91.5
ES 12378-PeCDD	32.54	1.2414	1.2418	+0.8	2.27E+07	1.58	Y	1.03	88.2
ES 123478-HxCDD	36.48	0.9916	0.9917	+0.2	1.97E+07	1.28	Y	0.99	99.6
ES 123678-HxCDD	36.60	0.9947	0.9949	+0.4	2.05E+07	1.28	Y	0.97	106
ES 123789-HxCDD	36.90	1.0029	1.0030	+0.2	2.32E+07	1.28	Y	1.12	104
ES 1234678-HpCDD	39.81	1.0818	1.0822	+1.0	1.88E+07	1.08	Y	0.99	95.3
ES OCDD	42.22	1.1473	1.1478	+1.3	2.62E+07	0.87	Y	0.78	84.9
ES 2378-TCDF	25.99	1.0613	1.0615	+0.3	3.67E+07	0.78	Y	1.08	82.1
ES 12378-PeCDF	31.02	1.2667	1.2673	+1.1	3.58E+07	1.61	Y	0.93	93.1
ES 23478-PeCDF	32.19	1.3143	1.3150	+1.4	3.55E+07	1.56	Y	0.92	93.3
ES 123478-HxCDF	35.50	0.9649	0.9651	+0.4	2.34E+07	0.52	Y	1.14	103
ES 123678-HxCDF	35.65	0.9689	0.9690	+0.2	3.20E+07	0.53	Y	1.30	124
ES 234678-HxCDF	36.32	0.9870	0.9873	+0.7	2.93E+07	0.52	Y	1.20	123
ES 123789-HxCDF	37.28	1.0131	1.0134	+0.7	2.22E+07	0.52	Y	1.14	98.4
ES 1234678-HpCDF	38.86	1.0560	1.0563	+0.7	2.19E+07	0.47	Y	0.95	116
ES 1234789-HpCDF	40.23	1.0932	1.0936	+1.0	1.75E+07	0.45	Y	0.85	104
ES OCDF	42.39	1.1518	1.1523	+1.3	3.25E+07	0.89	Y	0.93	88.4

Lab ID: OPR1_18968_DF **Acq'd:** 03 Mar 2022 15:10 PSW **Wt/Vol:** 1 uL **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 0_18968_OPR001 **UTP:** 04-Mar-2022 09:49:54 PSW **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 848-547-SHX

Datafile: 220303R07 **Report:** 04 Mar 2022 09:53 pw **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.20		-	-	-	2.49E+07	0.73	Y	-	-
JS 1234-TCDF	24.48		-	-	-	4.12E+07	0.81	Y	-	-
JS 123467-HxCDD	36.79		-	-	-	9.93E+06	1.27	Y	-	-
CS 37Cl-2378-TCDD	26.94		1.0281	1.0282	+0.2	1.06E+07	n/a	-	1.31	81.3
CS 12347-PeCDD	32.02		1.2217	1.2220	+0.6	2.04E+07	1.58	Y	0.89	91.9
CS 12346-PeCDF	30.47		1.2442	1.2447	+0.9	3.37E+07	1.60	Y	0.87	94.3
CS 123469-HxCDF	35.96		0.9773	0.9775	+0.4	2.49E+07	0.51	Y	1.09	115
CS 1234689-HpCDF	39.29		1.0676	1.0680	+0.9	2.01E+07	0.45	Y	0.86	117
~~SS 37Cl-2378-TCDD~~	~~26.94~~		~~1.0281~~	~~1.0282~~	~~+0.2~~	~~1.06E+07~~	~~n/a~~		~~1.26~~	~~89.3~~
~~SS 12347-PeCDD~~	~~32.02~~		~~1.2217~~	~~1.2220~~	~~+0.6~~	~~2.04E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~104~~
~~SS 12346-PeCDF~~	~~30.47~~		~~1.2442~~	~~1.2447~~	~~+0.9~~	~~3.37E+07~~	~~1.60~~	~~Y~~	~~0.93~~	~~101~~
~~SS 123469-HxCDF~~	~~35.96~~		~~0.9773~~	~~0.9775~~	~~+0.4~~	~~2.49E+07~~	~~0.51~~	~~Y~~	~~0.84~~	~~92.4~~
~~SS 1234689-HpCDF~~	~~39.29~~		~~1.0676~~	~~1.0680~~	~~+0.9~~	~~2.01E+07~~	~~0.45~~	~~Y~~	~~0.91~~	~~101~~

Totals	Conc	EMPC
Total TCDD	41.3	41.3
Total PeCDD	66.9	66.9
Total HxCDD	169	169
Total HpCDD	64.9	64.9
Total Tetra-Octa Dioxins	447	447
Total TCDF	61.3	61.3
Total PeCDF	215	215
Total HxCDF	344	344
Total HpCDF	107	107
Total Tetra-Octa Furans	834	834
Total Tetra-Octa Dioxins & Furans	1280	1280

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.794	0.80
Response	2.84E+06	2.83E+06

Lab ID: OPR1_18968_DF **Acq'd: 03 Mar 2022 15:10 PSW** **Wt/Vol: 1 uL** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18968_OPR001 **UTP: 04-Mar-2022 09:49:54 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 848-547-SHX**

Datafile: 220303R07 **Report: 04 Mar 2022 09:53 pw** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	22.89		0.8510	0.8506	-0.5	3.91E+06	0.76	Y	1.34	12.3	3910.715	0.138
1379-TCDD	NotFnd		0.8661						1.34		3910.715	0.138
1369-TCDD	NotFnd		0.8845						1.34		3910.715	0.138
1469-TCDD	NotFnd		0.9171						1.34		3910.715	0.138
1247/1246/1248/1249-TCDD	NotFnd		0.9266						1.34		3910.715	0.138
1378-TCDD	NotFnd		0.9342						1.34		3910.715	0.138
1268-TCDD	NotFnd		0.9423						1.34		3910.715	0.138
1478-TCDD	NotFnd		0.9525						1.34		3910.715	0.138
1279-TCDD	NotFnd		0.9592						1.34		3910.715	0.138
1234/1269-TCDD	NotFnd		0.9737						1.34		3910.715	0.138
1236-TCDD	NotFnd		0.9793						1.34		3910.715	0.138
1237/1238-TCDD	NotFnd		0.9892						1.34		3910.715	0.138
1239-TCDD	26.77		0.9946	0.9945	-0.2	2.57E+06	0.76	Y	1.34	8.11	3910.715	0.138
2378-TCDD	**26.94**		**1.0009**	1.0007	**-0.3**	2.83E+06	0.80	Y	**1.34**	**8.94**	**3910.715**	**0.138**
1278-TCDD	NotFnd		1.0140						1.34		3910.715	0.138
1267-TCDD	NotFnd		1.0195						1.34		3910.715	0.138
1289-TCDD	27.98		1.0397	1.0397	0	3.77E+06	0.79	Y	1.34	11.9	3910.715	0.138
12479/12468-PeCDD	29.95		0.9204	0.9204	0	2.47E+06	1.57	Y	1.06	10.2	2440.854	0.1
12469-PeCDD	NotFnd		0.9378						1.06		2440.854	0.1
12368-PeCDD	NotFnd		0.9554						1.06		2440.854	0.1
12478-PeCDD	NotFnd		0.9614						1.06		2440.854	0.1
12379-PeCDD	NotFnd		0.9646						1.06		2440.854	0.1
12369/12467/12489-PeCDD	NotFnd		0.9731						1.06		2440.854	0.1
12346/12347-PeCDD	NotFnd		0.9848						1.06		2440.854	0.1
12378-PeCDD	32.56		**1.0006**	**1.0006**	**0**	**1.09E+07**	**1.59**	**Y**	**1.06**	**45.3**	**2440.854**	**0.1**
12367-PeCDD	NotFnd		1.0038						1.06		2440.854	0.1
12389-PeCDD	33.01		1.0145	1.0145	0	2.72E+06	1.53	Y	1.06	11.3	2440.854	0.1
124679/124689-HxCDD	34.77		0.9531	0.9531	0	3.06E+06	1.26	Y	1.05	13.8	3676.241	0.143
123468-HxCDD	NotFnd		0.9714						1.05		3676.241	0.143
123679/123689-HxCDD	NotFnd		0.9795						1.05		3676.241	0.143
123469-HxCDD	NotFnd		0.9833						1.05		3676.241	0.143
123478-HxCDD	36.50		**1.0004**	**1.0004**	**0**	**1.08E+07**	**1.28**	**Y**	1.06	**52.1**	**3676.241**	**0.136**
123678-HxCDD	36.62		**1.0035**	**1.0036**	**+0.2**	**1.24E+07**	**1.27**	**Y**	1.08	**55.9**	**3676.241**	**0.148**
123467-HxCDD	NotFnd		1.0088						1.05		3676.241	0.143
123789-HxCDD	36.91		**1.0117**	**1.0117**	**0**	**1.12E+07**	**1.28**	**Y**	1.02	**47.3**	**3676.241**	**0.143**

Lab ID: OPR1_18968_DF **Acq'd: 03 Mar 2022 15:10 PSW** **Wt/Vol: 1 uL** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18968_OPR001 **UTP: 04-Mar-2022 09:49:54 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 848-547-SHX**

Datafile: 220303R07 **Report: 04 Mar 2022 09:53 pw** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.15		0.9835	0.9834	-0.2	2.20E+06	1.02	Y	0.97	12	4009.54	0.153
1234678-HpCDD	**39.82**		**1.0003**	**1.0002**	**-0.2**	**9.68E+06**	**1.05**	**Y**	**0.97**	**52.9**	**4009.54**	**0.153**
OCDD	**42.23**		**1.0003**	**1.0002**	**-0.3**	**1.46E+07**	**0.90**	**Y**	**1.07**	**104**	**5700.268**	**0.314**
OCDD-a	42.23		1.0002	1.0002	0	8.04E+05	2.49	Y	0.07	92.9	4184.168	3.74
1368-TCDF	20.68		0.7960	0.7957	-0.4	5.78E+06	0.76	Y	0.96	16.4	2598.037	0.0881
1468-TCDF	NotFnd		0.8178						0.96		2598.037	0.0881
2468-TCDF	21.89		0.8428	0.8424	-0.5	1.32E+06	0.79	Y	0.96	3.75	2598.037	0.0881
1346/1246-TCDF	NotFnd		0.8574						0.96		2598.037	0.0881
1347/1378/1247-TCDF	NotFnd		0.8641						0.96		2598.037	0.0881
1348-TCDF	NotFnd		0.8762						0.96		2598.037	0.0881
1248/1367/1379-TCDF	NotFnd		0.8819						0.96		2598.037	0.0881
1268-TCDF	NotFnd		0.8986						0.96		2598.037	0.0881
1467-TCDF	NotFnd		0.9045						0.96		2598.037	0.0881
1478-TCDF	NotFnd		0.9117						0.96		2598.037	0.0881
1369/1237-TCDF	NotFnd		0.9275						0.96		2598.037	0.0881
2467-TCDF	NotFnd		0.9334						0.96		2598.037	0.0881
2368-TCDF	NotFnd		0.9399						0.96		2598.037	0.0881
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9435						0.96		2598.037	0.0881
1278-TCDF	NotFnd		0.9629						0.96		2598.037	0.0881
1349-TCDF	NotFnd		0.9680						0.96		2598.037	0.0881
1267-TCDF	NotFnd		0.9747						0.96		2598.037	0.0881
2346/1249-TCDF	NotFnd		0.9823						0.96		2598.037	0.0881
2347/1279-TCDF	NotFnd		0.9915						0.96		2598.037	0.0881
2348-TCDF	25.89		0.9962	0.9963	+0.2	5.44E+06	0.80	Y	0.96	15.5	2598.037	0.0881
2378-TCDF	**26.01**		**1.0007**	**1.0010**	**+0.5**	**3.95E+06**	**0.82**	**Y**	**0.96**	**11.2**	**2598.037**	**0.0881**
2367/3467-TCDF	NotFnd		1.0162						0.96		2598.037	0.0881
1269-TCDF	NotFnd		1.0259						0.96		2598.037	0.0881
1239-TCDF	NotFnd		1.0370						0.96		2598.037	0.0881
1289-TCDF	28.16		1.0828	1.0838	+1.7	5.11E+06	0.76	Y	0.96	14.5	2598.037	0.0881
13468/12468-PeCDF	28.06		0.9051	0.9045	-1.0	3.12E+07	1.59	Y	0.94	93	3164.393	0.0898
13678/13467/12467-PeCDF	NotFnd		0.9577						0.94		5657.123	0.161
12368/13478/12478-PeCDF	NotFnd		0.9630						0.94		5657.123	0.161
14678-PeCDF	NotFnd		0.9664						0.94		5657.123	0.161
13479-PeCDF	NotFnd		0.9694						0.94		5657.123	0.161
13469/12479-PeCDF	NotFnd		0.9781						0.94		5657.123	0.161
12346-PeCDF	NotFnd		0.9828						0.94		5657.123	0.161

Lab ID: OPR1_18968_DF **Acq'd: 03 Mar 2022 15:10 PSW** **Wt/Vol: 1 uL** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18968_OPR001 **UTP: 04-Mar-2022 09:49:54 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 848-547-SHX**

Datafile: 220303R07 **Report: 04 Mar 2022 09:53 pw** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9858						0.94		5657.123	0.161
12347-PeCDF	NotFnd		0.9881						0.94		5657.123	0.161
12348-PeCDF	NotFnd		0.9935						0.94		5657.123	0.161
12378-PeCDF	**31.04**		**1.0006**	**1.0006**	**0**	**1.80E+07**	**1.58**	**Y**	**0.95**	**53.3**	**5657.123**	**0.159**
12678/12367-PeCDF	NotFnd		1.0099						0.94		5657.123	0.161
12379-PeCDF	NotFnd		1.0154						0.94		5657.123	0.161
12679-PeCDF	NotFnd		0.9922						0.94		5657.123	0.161
23467/12369-PeCDF	NotFnd		0.9964						0.94		5657.123	0.161
23478-PeCDF	**32.21**		**1.0005**	**1.0005**	**0**	**1.90E+07**	**1.58**	**Y**	**0.94**	**57.2**	**5657.123**	**0.162**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0046						0.94		5657.123	0.161
12349-PeCDF	NotFnd		1.0105						0.94		5657.123	0.161
12389-PeCDF	33.31		1.0346	1.0347	+0.2	3.87E+06	1.52	Y	0.94	11.5	5657.123	0.161
123468-HxCDF	34.10		0.9606	0.9606	0	4.07E+07	1.24	Y	1.16	131	13268.819	0.383
124678/134678-HxCDF	NotFnd		0.9664						1.16		13268.819	0.383
134679-HxCDF	NotFnd		0.9729						1.16		13268.819	0.383
124679-HxCDF	NotFnd		0.9786						1.16		13268.819	0.383
124689-HxCDF	NotFnd		0.9850						1.16		13268.819	0.383
123467-HxCDF	NotFnd		0.9971						1.16		13268.819	0.383
123478-HxCDF	**35.52**		**1.0005**	**1.0005**	**0**	**1.54E+07**	**1.25**	**Y**	**1.23**	**53.3**	**13268.819**	**0.397**
123678-HxCDF	**35.67**		**1.0004**	**1.0005**	**+0.2**	**1.95E+07**	**1.28**	**Y**	**1.13**	**53.8**	**13268.819**	**0.314**
123479-HxCDF	NotFnd		1.0049						1.16		13268.819	0.383
123469-HxCDF	NotFnd		1.0091						1.16		13268.819	0.383
123679-HxCDF	NotFnd		0.9941						1.16		13268.819	0.383
234678-HxCDF	**36.34**		**1.0005**	**1.0005**	**0**	**1.88E+07**	**1.25**	**Y**	**1.15**	**55.8**	**13268.819**	**0.36**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		13268.819	0.383
123789-HxCDF	**37.30**		**1.0005**	**1.0004**	**-0.2**	**1.27E+07**	**1.26**	**Y**	**1.14**	**50.1**	**13268.819**	**0.502**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	NotFnd		1.0009						1.16		13268.819	0.383
1234678-HpCDF	**38.87**		**1.0003**	**1.0003**	**0**	**1.62E+07**	**1.03**	**Y**	**1.36**	**54.2**	**3497.205**	**0.0863**
1234679-HpCDF	NotFnd		1.0076						1.33		3497.205	0.0948
1234689-HpCDF	NotFnd		1.0112						1.33		3497.205	0.0948
1234789-HpCDF	**40.24**		**1.0003**	**1.0003**	**0**	**1.20E+07**	**1.05**	**Y**	**1.30**	**52.6**	**3497.205**	**0.105**
OCDF	**42.40**		**1.0002**	**1.0003**	**+0.3**	**1.79E+07**	**0.92**	**Y**	**1.03**	**107**	**5716.18**	**0.267**
OCDF-a	42.39		1.0002	1.0001	-0.3	8.53E+05	2.51	Y	0.06	88.5	4414.919	3.57

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
VER Data Filename:	220303R07	Analysis Date:	03-MAR-2022 15:10:32
Lab ID:	OPR1_18968_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	8.94	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	45.3	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	52.1	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	55.9	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	47.3	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	52.9	35	-	70	Y
OCDD	100	104	78	-	144	Y
2,3,7,8-TCDF	10	11.2	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	53.3	40	-	67	Y
2,3,4,7,8-PeCDF	50	57.2	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	53.3	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	53.8	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	55.8	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	50.1	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	54.2	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	52.6	39	-	69	Y
OCDF	100	107	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 04 Mar 2022 09:53 Analyst: pw

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name: SGS North America
Initial Calibration: ICAL: MM3_DF_10272021_27JUL2021
Instrument ID: MM3 GC Column ID: ZB-5ms
VER Data Filename: 220303R07 Analysis Date: 03-MAR-2022 15:10:32
Lab ID: OPR1_18968_DF

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	91.5	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	88.2	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	99.6	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	106	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	104	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	95.3	26	-	166	Y
13C-OCDD	200	170	26	-	397	Y
13C-2,3,7,8-TCDF	100	82.1	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	93.1	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	93.3	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	103	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	124	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	123	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	98.4	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	116	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	104	20	-	186	Y
13C-OCDF	200	177	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	32.5	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

Processed: 04 Mar 2022 09:53 Analyst: pw

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220303R07	Analysis Date:	03-MAR-2022 15:10:32
Lab ID:	OPR1_18968_DF		

Window Defining Standards Results

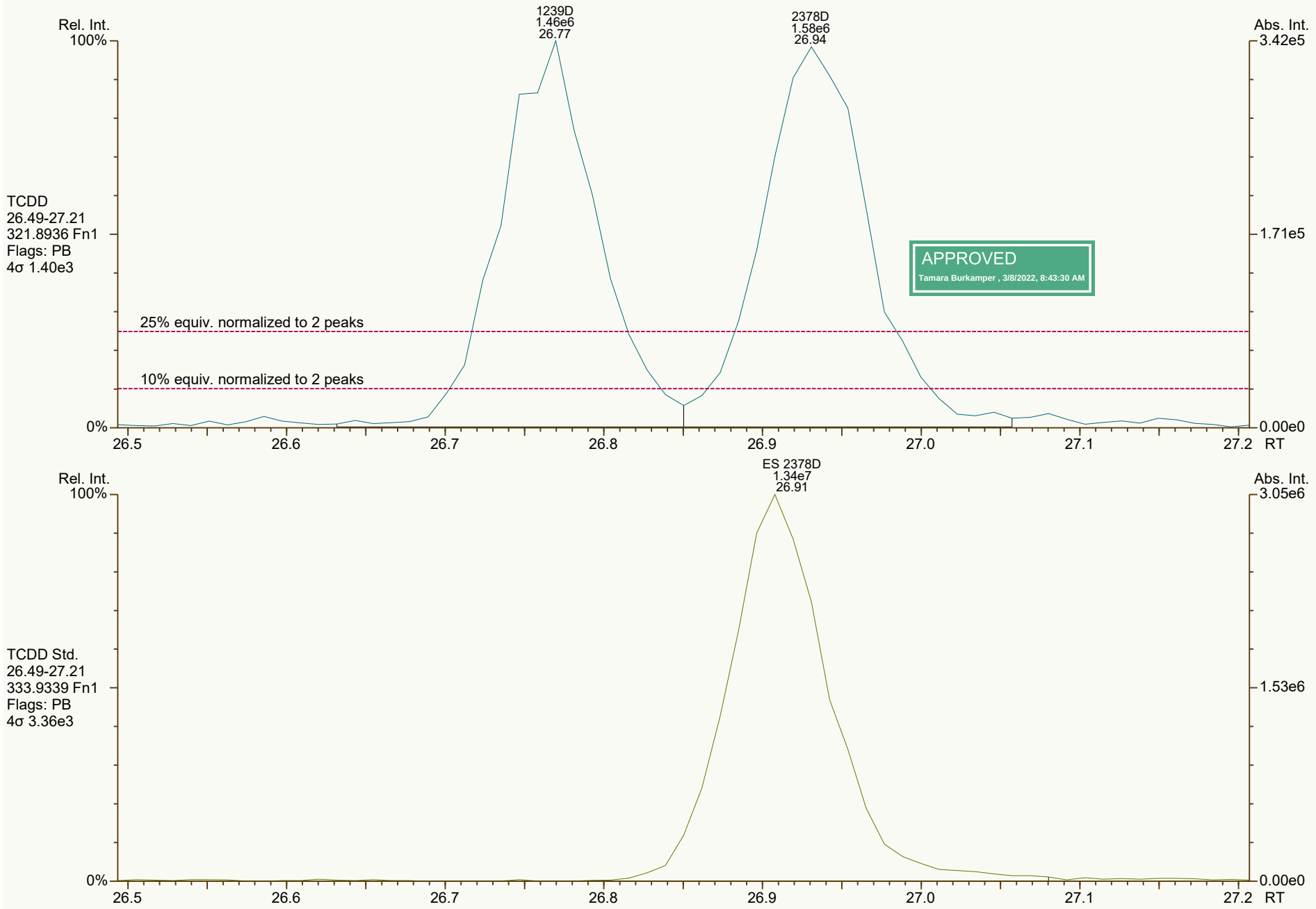
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	22.89	1289-TCDD	27.98
12479/12468-PeCDD	29.95	12389-PeCDD	33.01
124679/124689-HxCDD	34.77	123789-HxCDD	36.91
1234679-HpCDD	39.15	1234678-HpCDD	39.82
1368-TCDF	20.68	1289-TCDF	28.16
13468/12468-PeCDF	28.06	12389-PeCDF	33.31
123468-HxCDF	34.10	123789-HxCDF	37.30
1234678-HpCDF	38.87	1234789-HpCDF	40.24

Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	26.77	2378-TCDD	26.94
2348-TCDF	25.89	2378-TCDF	26.01

Processed: 04 Mar 2022 09:53 Analyst: pw

SGS ID: OPR1_18968_DF
Sample ID: 0_18968_OPR001
Acq: 03-Mar-2022 15:10:32
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11
User: PSW Datafile: 220303R07

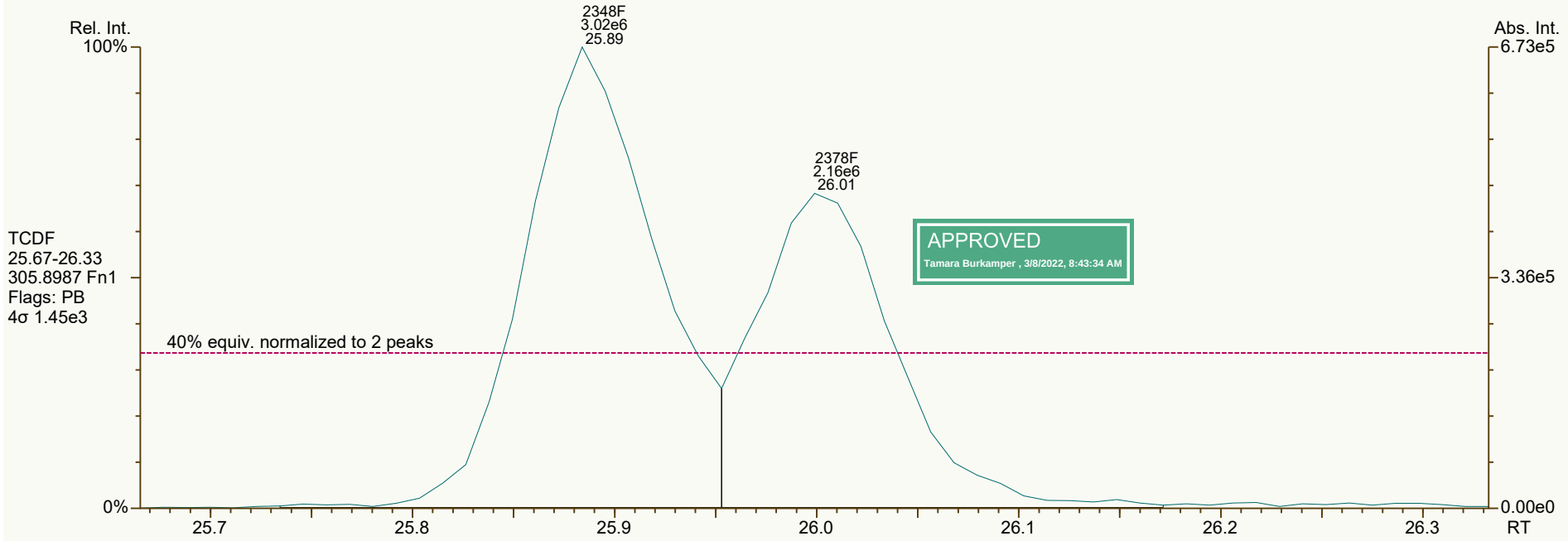


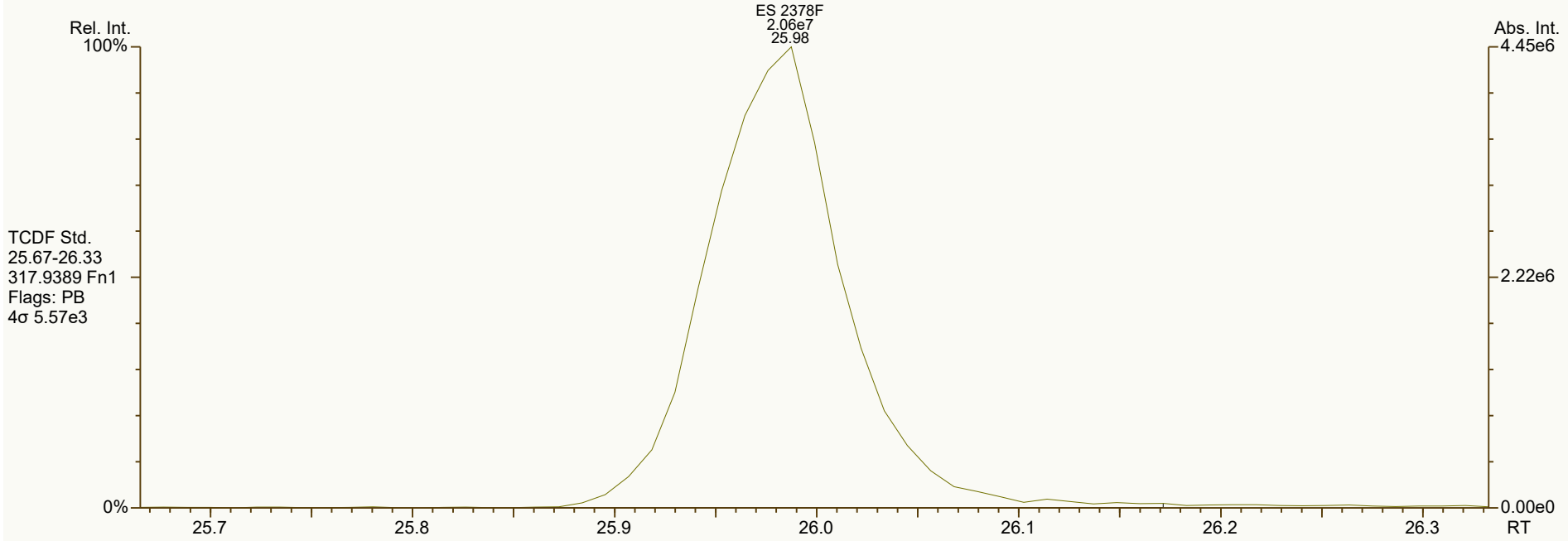
Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\OPR1_18968_DF.utp_res, saved 04-Mar-2022 09:49 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q
PKD: 03-Mar-2022 16:01 Printed: 04-Mar-2022 09:57

SGS ID: OPR1_18968_DF
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: 0_18968_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11

Acq: 03-Mar-2022 15:10:32
User: PSW Datafile: 220303R07





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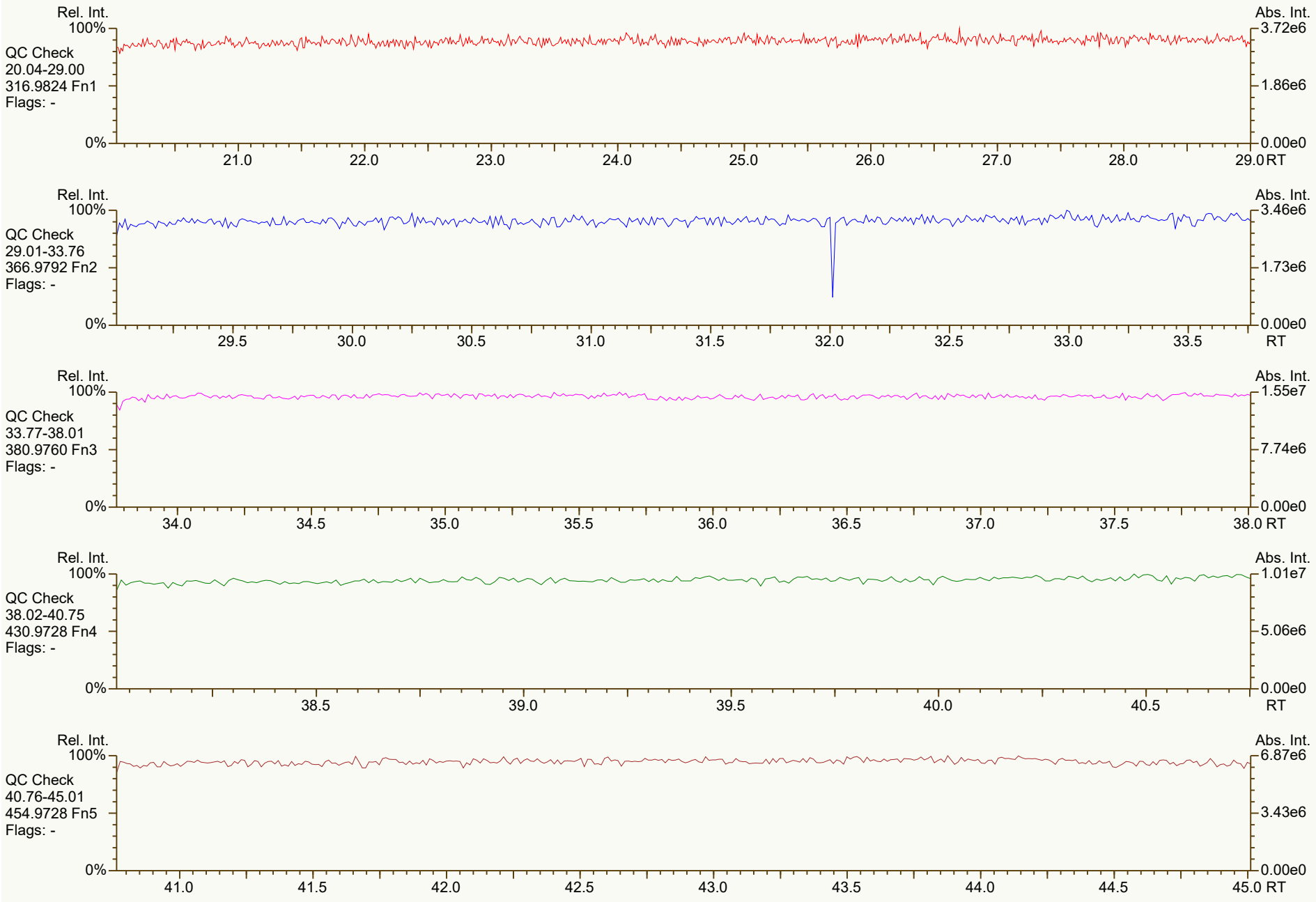
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q

Peak annotation: Areas, Centroids
PKD: 03-Mar-2022 16:01 Printed: 04-Mar-2022 09:57

SGS ID: OPR1_18968_DF | Sample ID: 0_18968_OPR001 | Acq: 03-Mar-2022 15:10:32

Instr: [ILM] AutoSpec-Ultima MM3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11 | User: PSW Datafile: 220303R07



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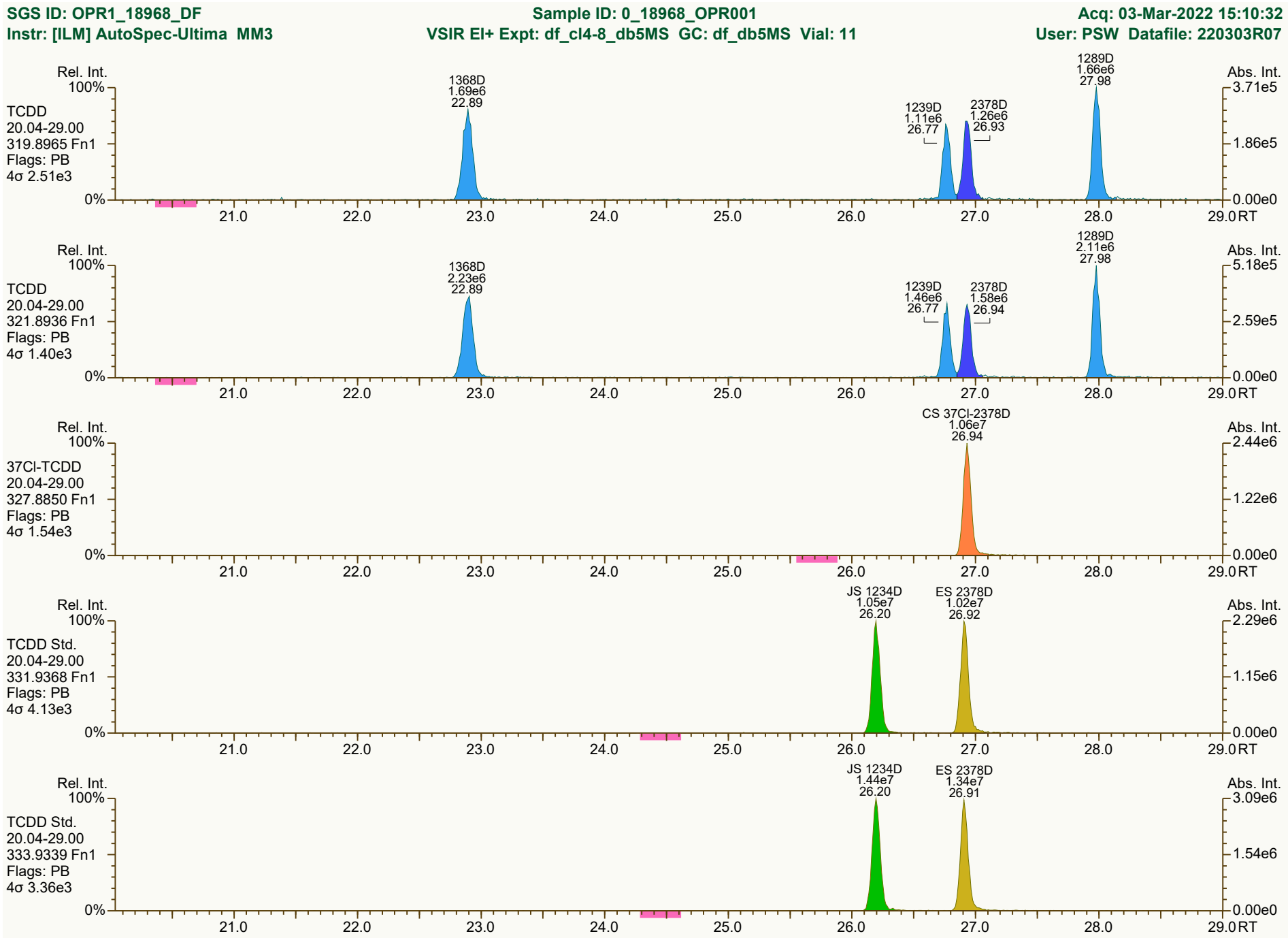
Peak annotation: Areas, Centroids

SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q scc: 848-547

PKD: n/a Printed: 04-Mar-2022 09:58 Page 1 of 12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Sample ID: 0_18968_OPR001
Acq: 03-Mar-2022 15:10:32
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11
User: PSW Datafile: 220303R07
Rel. Int.
Abs. Int.
TCDD
20.04-29.00
319.8965 Fn1
Flags: PB
4σ 2.51e3
1368D 1.69e6 22.89
1239D 1.11e6 26.77
2378D 1.26e6 26.93
1289D 1.66e6 27.98
TCDD
20.04-29.00
321.8936 Fn1
Flags: PB
4σ 1.40e3
1368D 2.23e6 22.89
1239D 1.46e6 26.77
2378D 1.58e6 26.94
1289D 2.11e6 27.98
37Cl-TCDD
20.04-29.00
327.8850 Fn1
Flags: PB
4σ 1.54e3
CS 37Cl-2378D 1.06e7 26.94
TCDD Std.
20.04-29.00
331.9368 Fn1
Flags: PB
4σ 4.13e3
JS 1234D 1.05e7 26.20
ES 2378D 1.02e7 26.92
TCDD Std.
20.04-29.00
333.9339 Fn1
Flags: PB
4σ 3.36e3
JS 1234D 1.44e7 26.20
ES 2378D 1.34e7 26.91
RT
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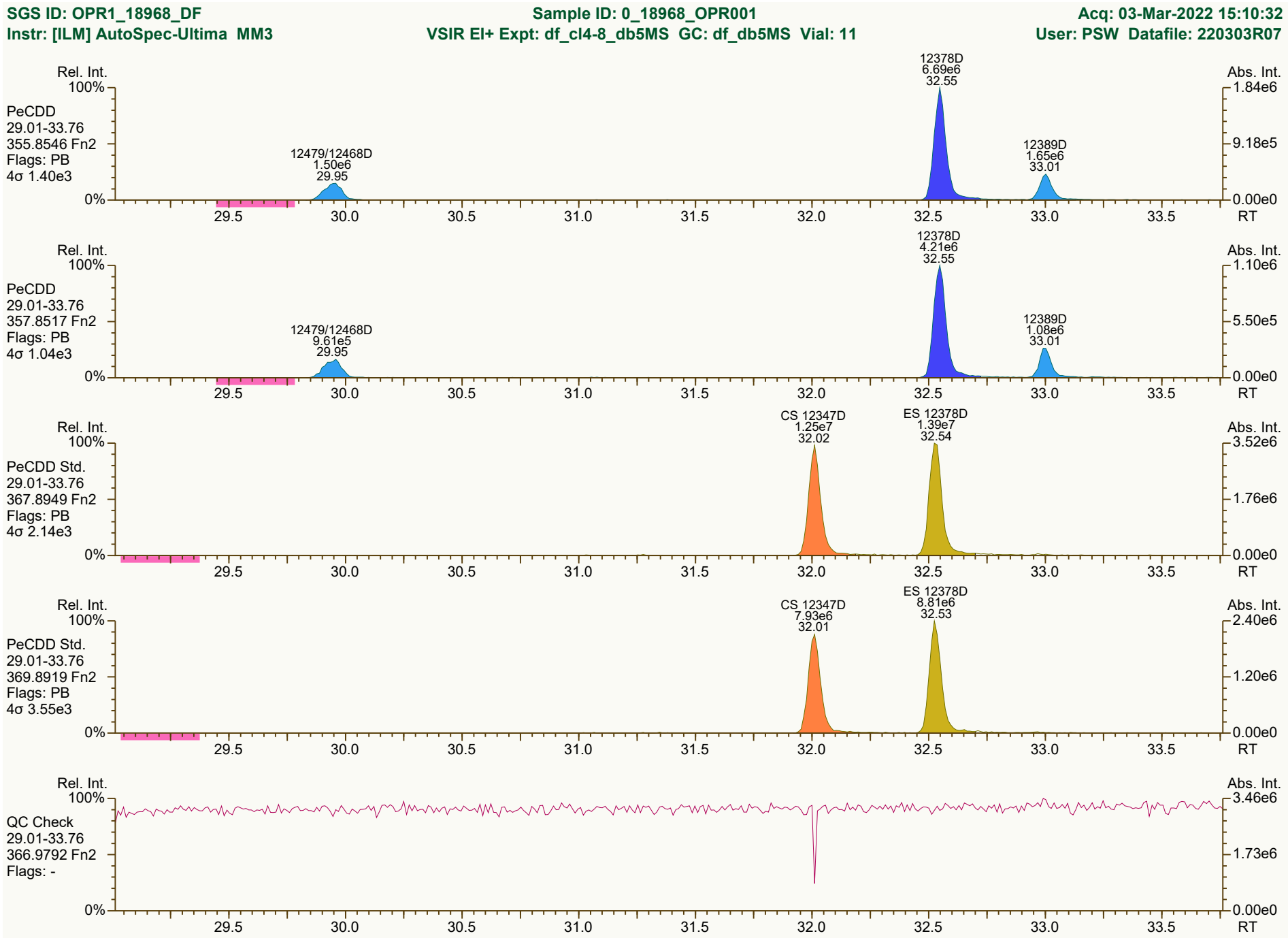
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4891, 5571, 2428 scc: 848-547
PKD: 03-Mar-2022 16:01 Printed: 04-Mar-2022 09:58 Page 2 of 12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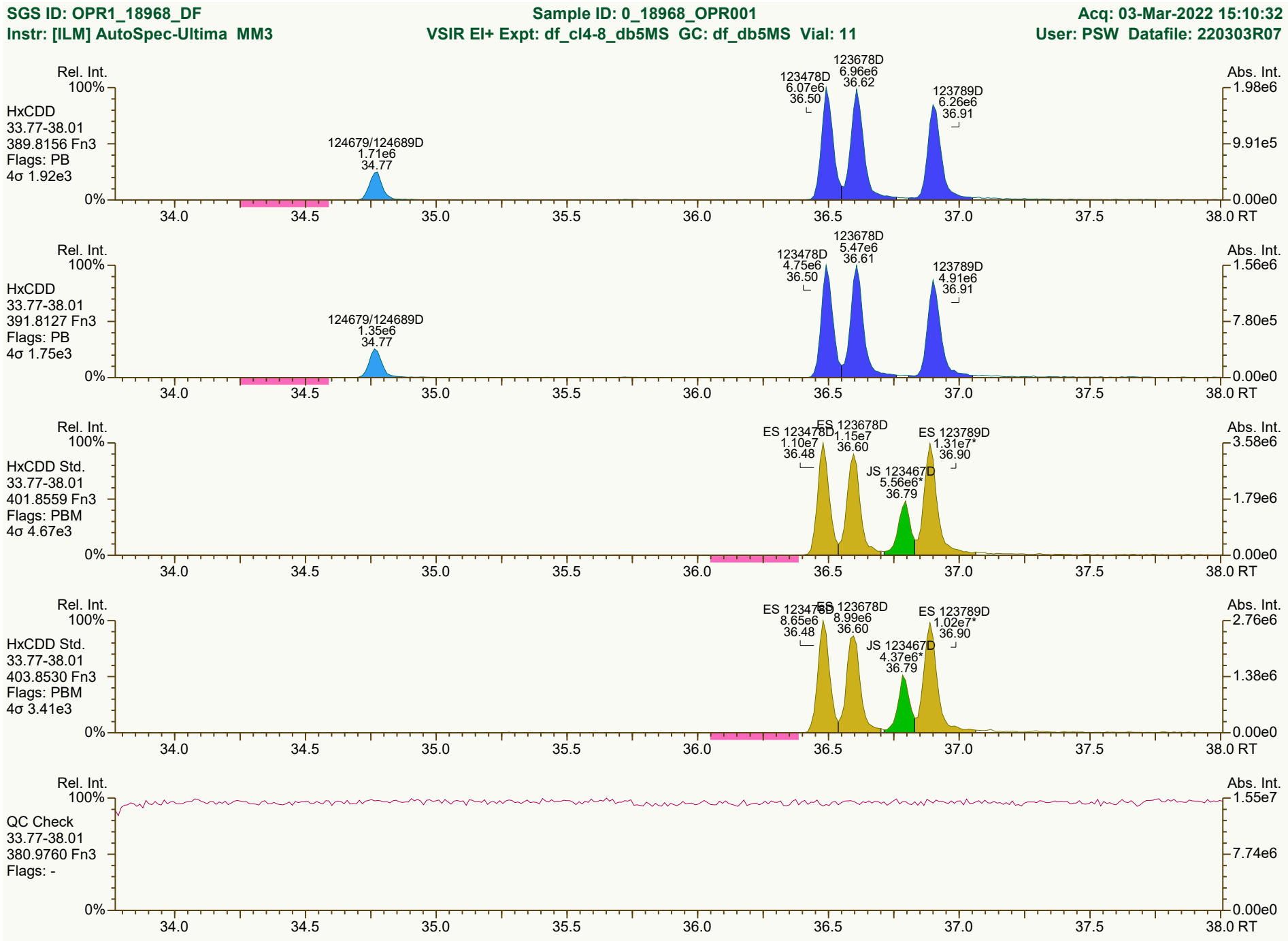
Sample ID: 0_18968_OPR001
Acq: 03-Mar-2022 15:10:32
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11
User: PSW Datafile: 220303R07
Rel. Int.
Abs. Int.
PeCDD
29.01-33.76
355.8546 Fn2
Flags: PB
4σ 1.40e3
12479/12468D
1.50e6
29.95
12378D
6.69e6
32.55
12389D
1.65e6
33.01
1.84e6
9.18e5
0.00e0
PeCDD
29.01-33.76
357.8517 Fn2
Flags: PB
4σ 1.04e3
12479/12468D
9.61e5
29.95
12378D
4.21e6
32.55
12389D
1.08e6
33.01
1.10e6
5.50e5
0.00e0
PeCDD Std.
29.01-33.76
367.8949 Fn2
Flags: PB
4σ 2.14e3
CS 12347D
1.25e7
32.02
ES 12378D
1.39e7
32.54
3.52e6
1.76e6
0.00e0
PeCDD Std.
29.01-33.76
369.8919 Fn2
Flags: PB
4σ 3.55e3
CS 12347D
7.93e6
32.01
ES 12378D
8.81e6
32.53
2.40e6
1.20e6
0.00e0
QC Check
29.01-33.76
366.9792 Fn2
Flags: -
3.46e6
1.73e6
0.00e0
100%
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\OPR1_18968_DF.utp_res, saved 04-Mar-2022 09:49 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4939, 9494 scc: 848-547
PKD: 03-Mar-2022 16:01 Printed: 04-Mar-2022 09:58 Page 3 of 12



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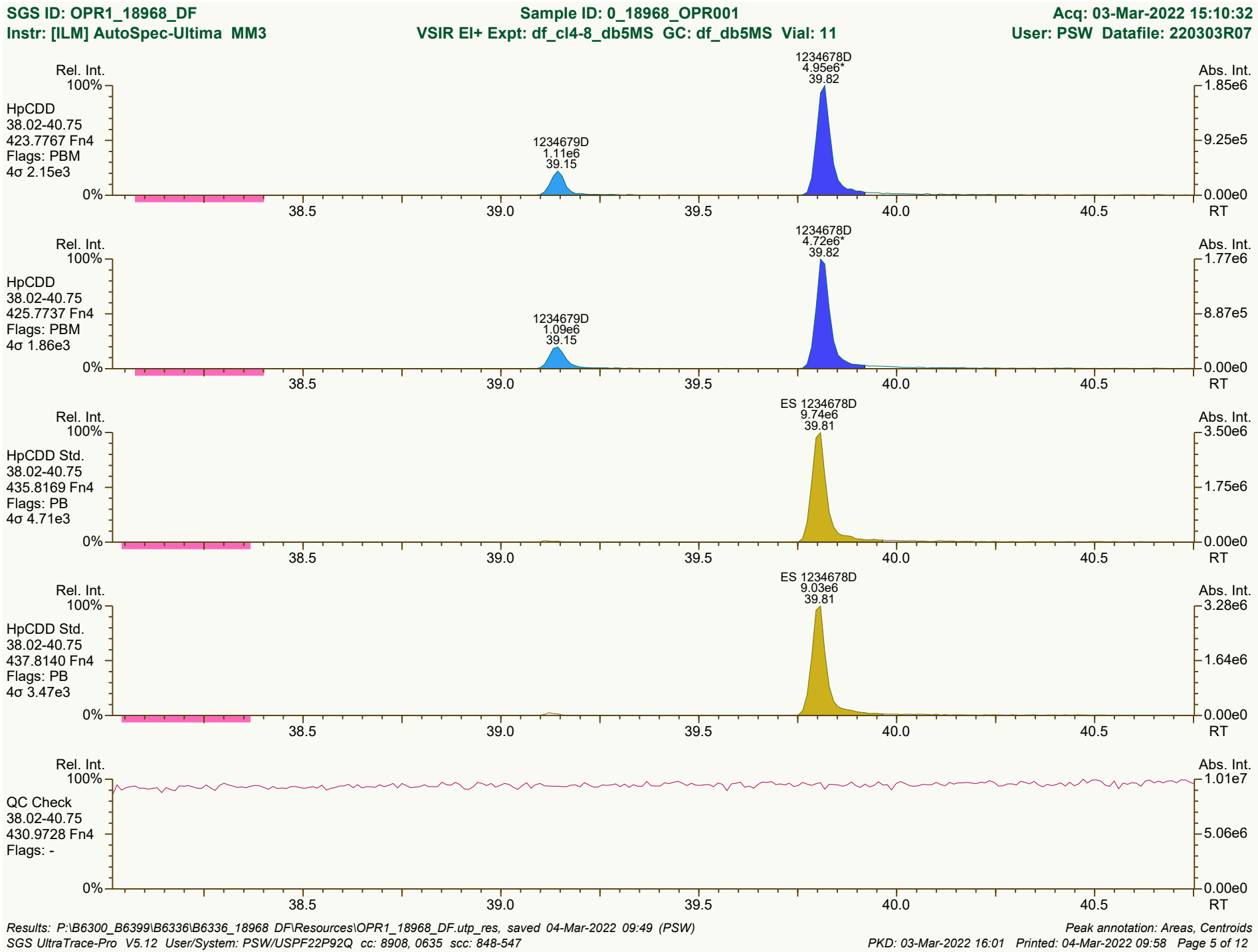
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6976, 5906 scc: 848-547
PKD: 03-Mar-2022 16:01 Printed: 04-Mar-2022 09:58 Page 4 of 12

SGS ID: OPR1_18968_DF
Instr: [ILM] AutoSpec-Ultima MM3

Sample ID: 0_18968_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11

Acq: 03-Mar-2022 15:10:32
User: PSW Datafile: 220303R07



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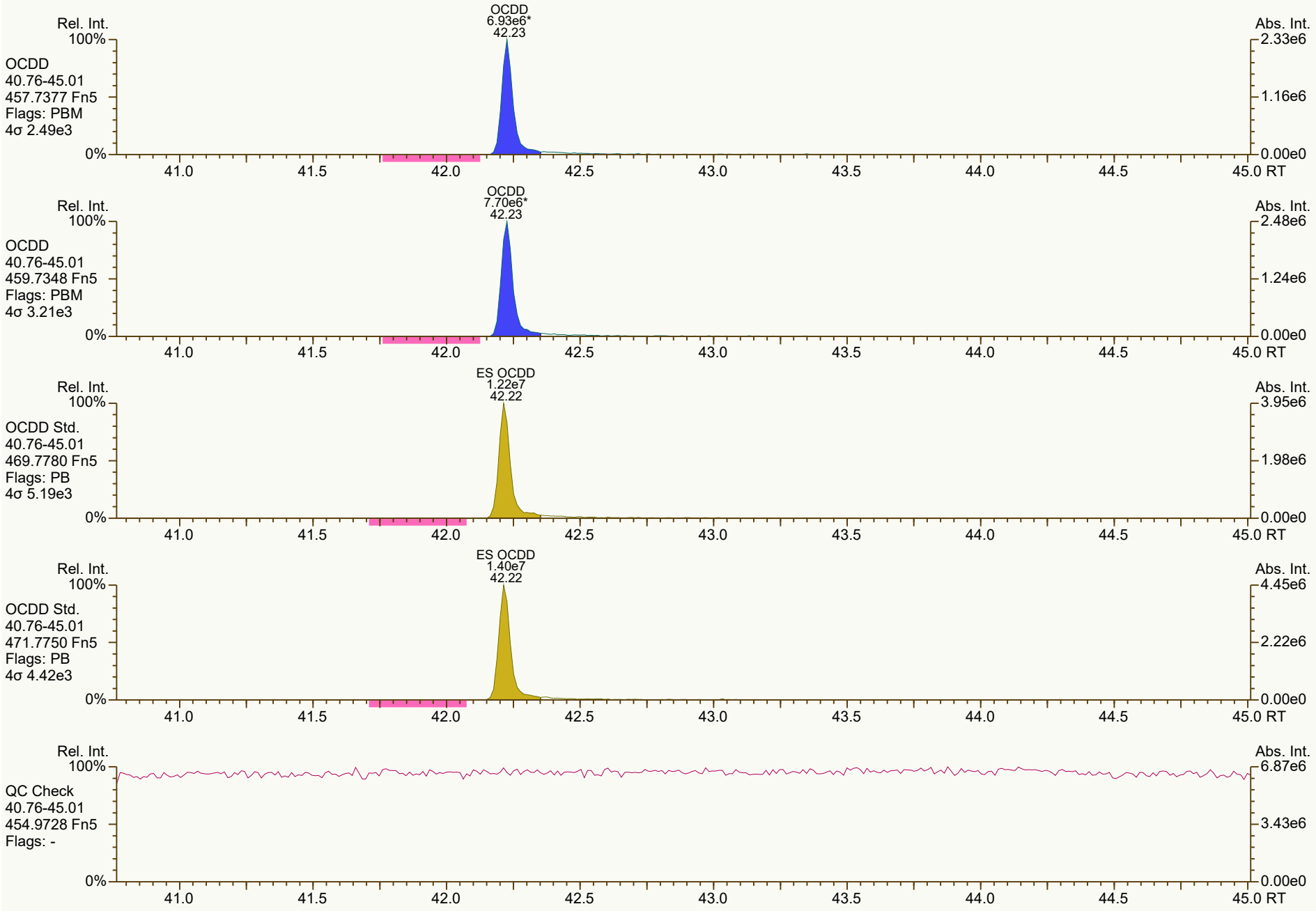
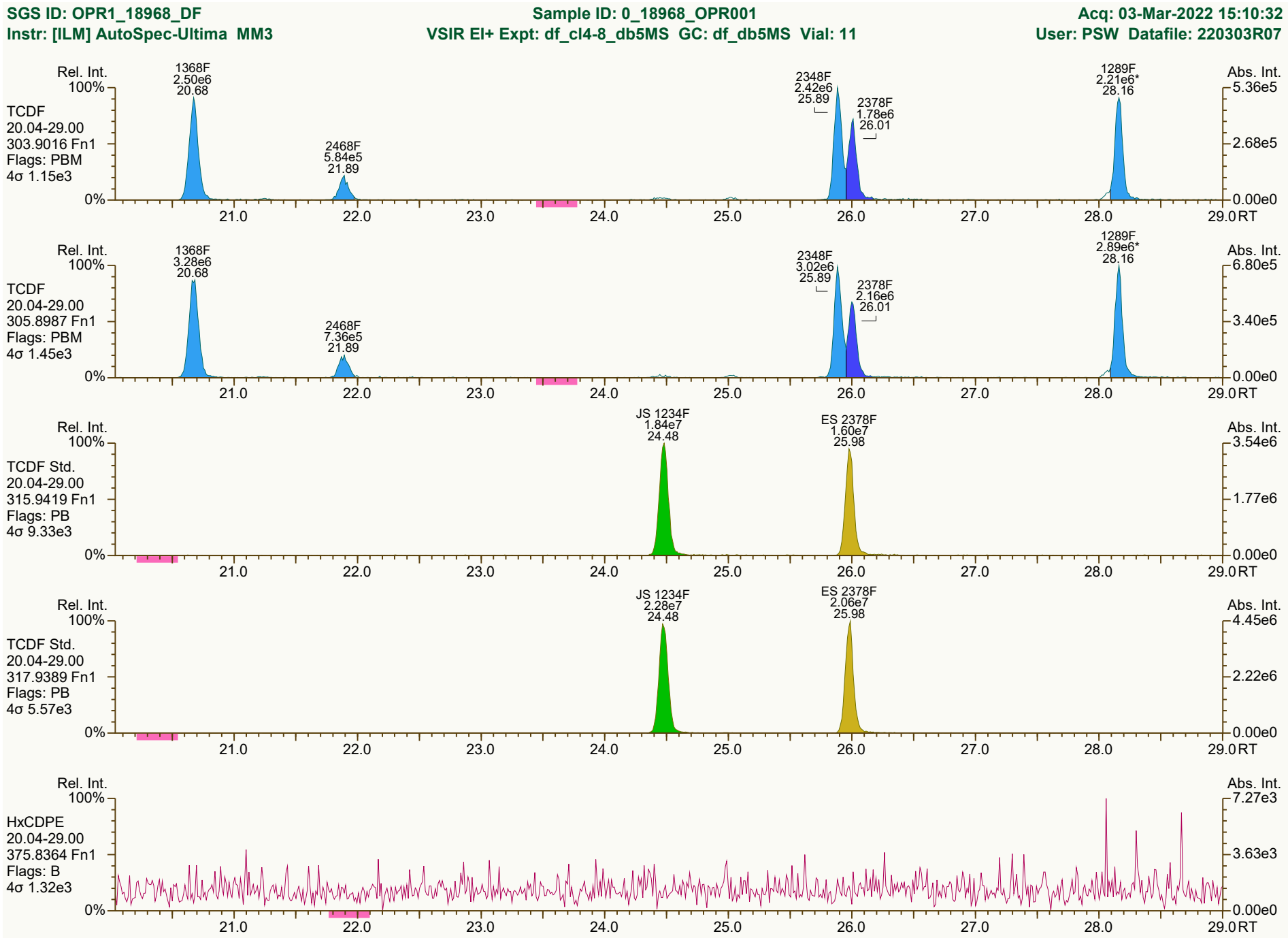
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8908, 0635 scc: 848-547

Peak annotation: Areas, Centroids
PKD: 03-Mar-2022 16:01 Printed: 04-Mar-2022 09:58 Page 5 of 12


OCDD
6.93e6*
42.23
Rel. Int.
100%
OCDD
40.76-45.01
457.7377 Fn5
Flags: PBM
4σ 2.49e3
0%
Abs. Int.
2.33e6
1.16e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
7.70e6*
42.23
Rel. Int.
100%
OCDD
40.76-45.01
459.7348 Fn5
Flags: PBM
4σ 3.21e3
0%
Abs. Int.
2.48e6
1.24e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.22e7
42.22
Rel. Int.
100%
OCDD Std.
40.76-45.01
469.7780 Fn5
Flags: PB
4σ 5.19e3
0%
Abs. Int.
3.95e6
1.98e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.40e7
42.22
Rel. Int.
100%
OCDD Std.
40.76-45.01
471.7750 Fn5
Flags: PB
4σ 4.42e3
0%
Abs. Int.
4.45e6
2.22e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
40.76-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.87e6
3.43e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT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Sample ID: 0_18968_OPR001
Acq: 03-Mar-2022 15:10:32
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11
User: PSW Datafile: 220303R07
Rel. Int.
Abs. Int.
TCDF
20.04-29.00
303.9016 Fn1
Flags: PBM
4σ 1.15e3
1368F
2.50e6
20.68
2468F
5.84e5
21.89
2348F
2.42e6
25.89
2378F
1.78e6
26.01
1289F
2.21e6*
28.16
5.36e5
2.68e5
0.00e0
TCDF
20.04-29.00
305.8987 Fn1
Flags: PBM
4σ 1.45e3
1368F
3.28e6
20.68
2468F
7.36e5
21.89
2348F
3.02e6
25.89
2378F
2.16e6
26.01
1289F
2.89e6*
28.16
6.80e5
3.40e5
0.00e0
TCDF Std.
20.04-29.00
315.9419 Fn1
Flags: PB
4σ 9.33e3
JS 1234F
1.84e7
24.48
ES 2378F
1.60e7
25.98
3.54e6
1.77e6
0.00e0
TCDF Std.
20.04-29.00
317.9389 Fn1
Flags: PB
4σ 5.57e3
JS 1234F
2.28e7
24.48
ES 2378F
2.06e7
25.98
4.45e6
2.22e6
0.00e0
HxCDPE
20.04-29.00
375.8364 Fn1
Flags: B
4σ 1.32e3
7.27e3
3.63e3
0.00e0
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT


Rel. Int.
100%
0%
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: PB
4σ 1.59e3
13468/12468F
1.92e7
28.06
Abs. Int.
4.47e6
2.23e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
0%
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: PB
4σ 1.58e3
13468/12468F
1.21e7
28.06
Abs. Int.
2.86e6
1.43e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
0%
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
Abs. Int.
3.72e6
1.86e6
0.00e0
21.0
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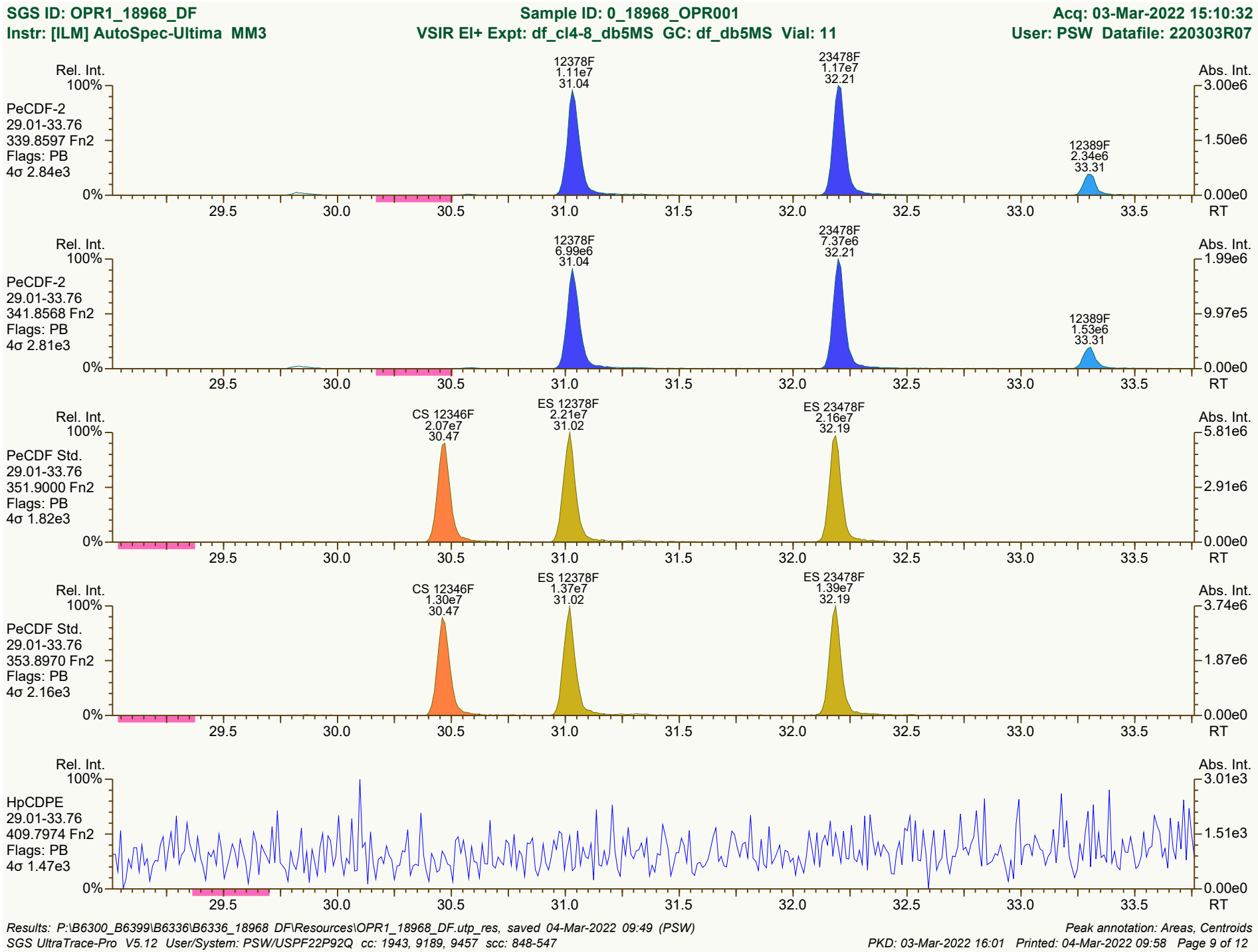
24.0
25.0
26.0
27.0
28.0
29.0 RT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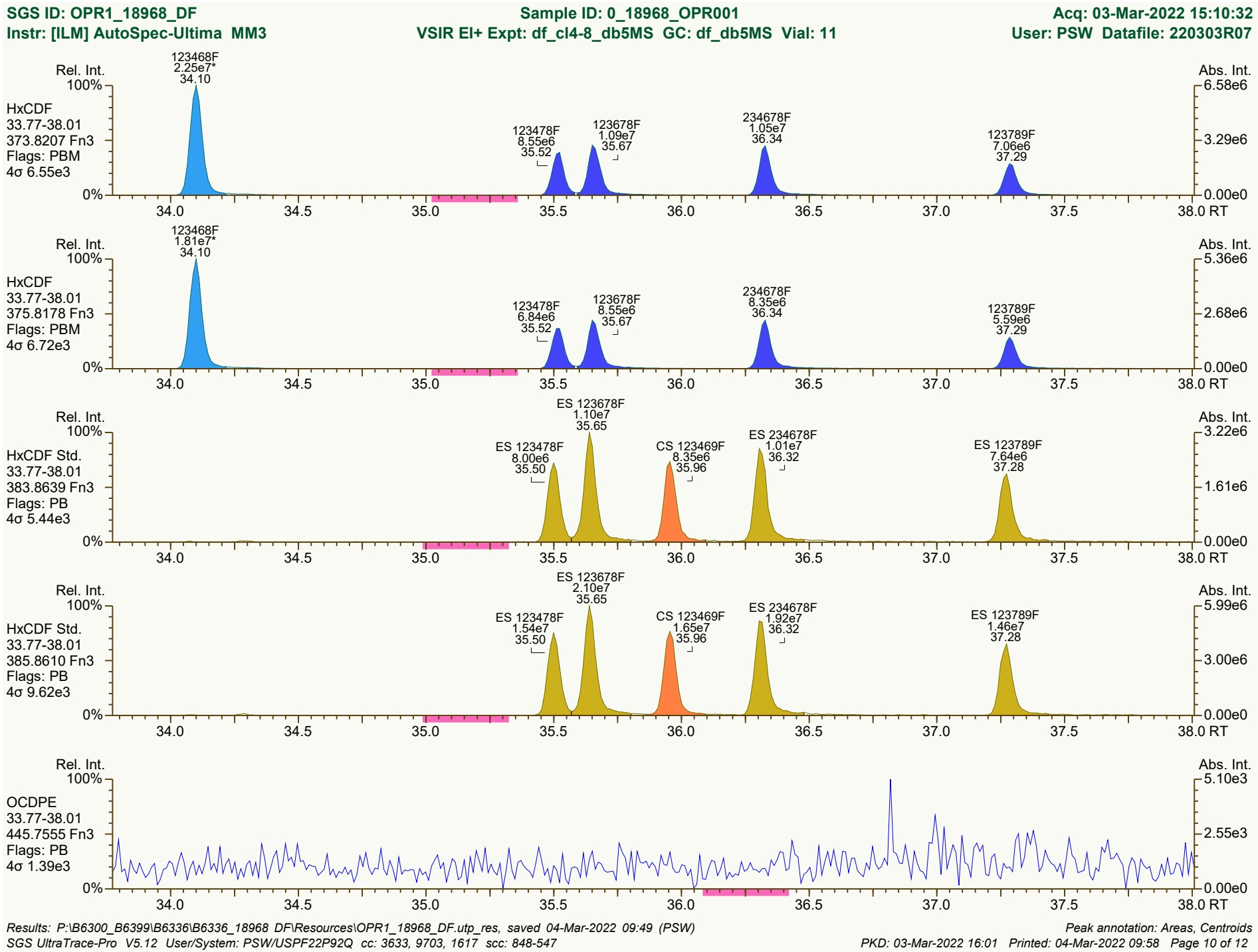
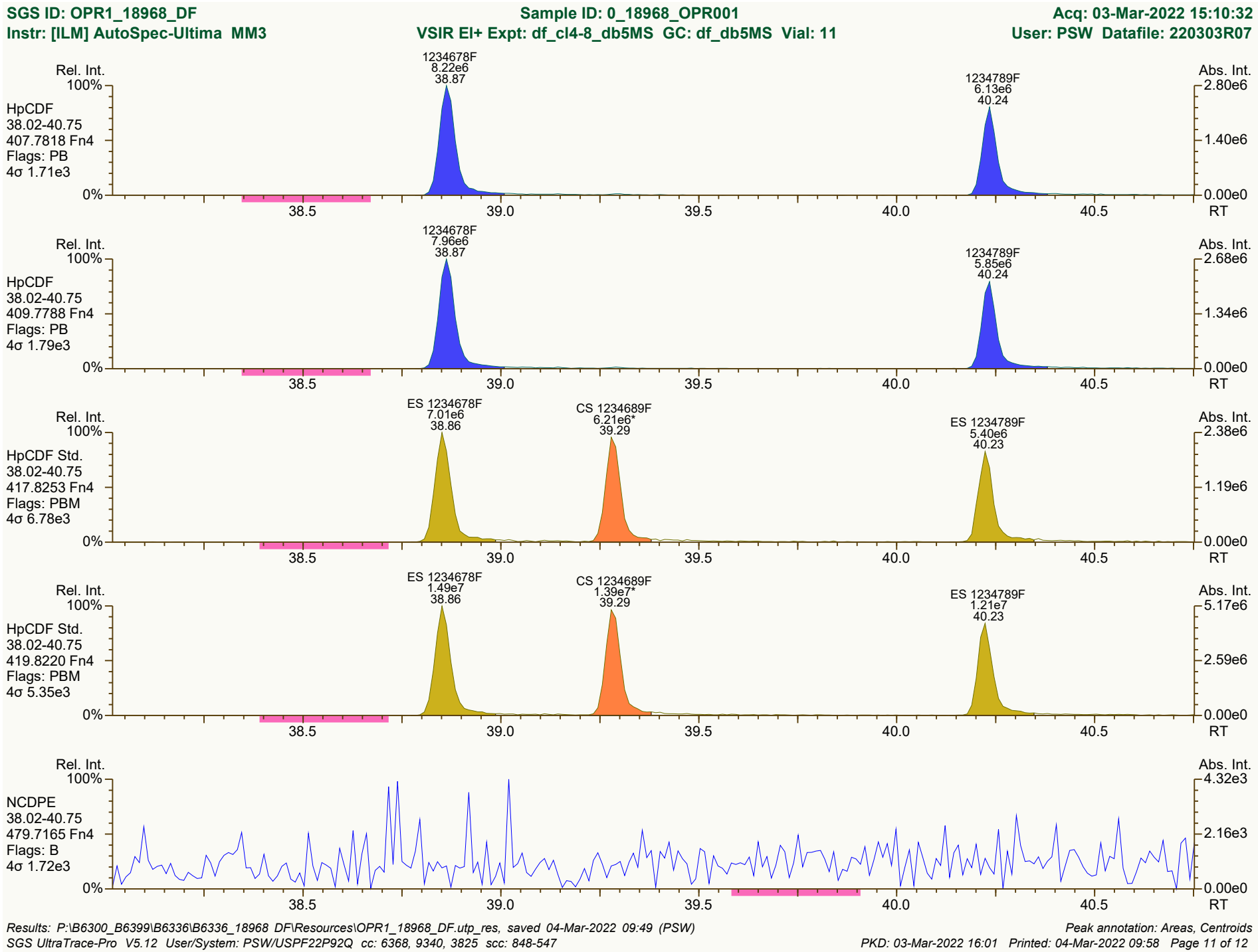
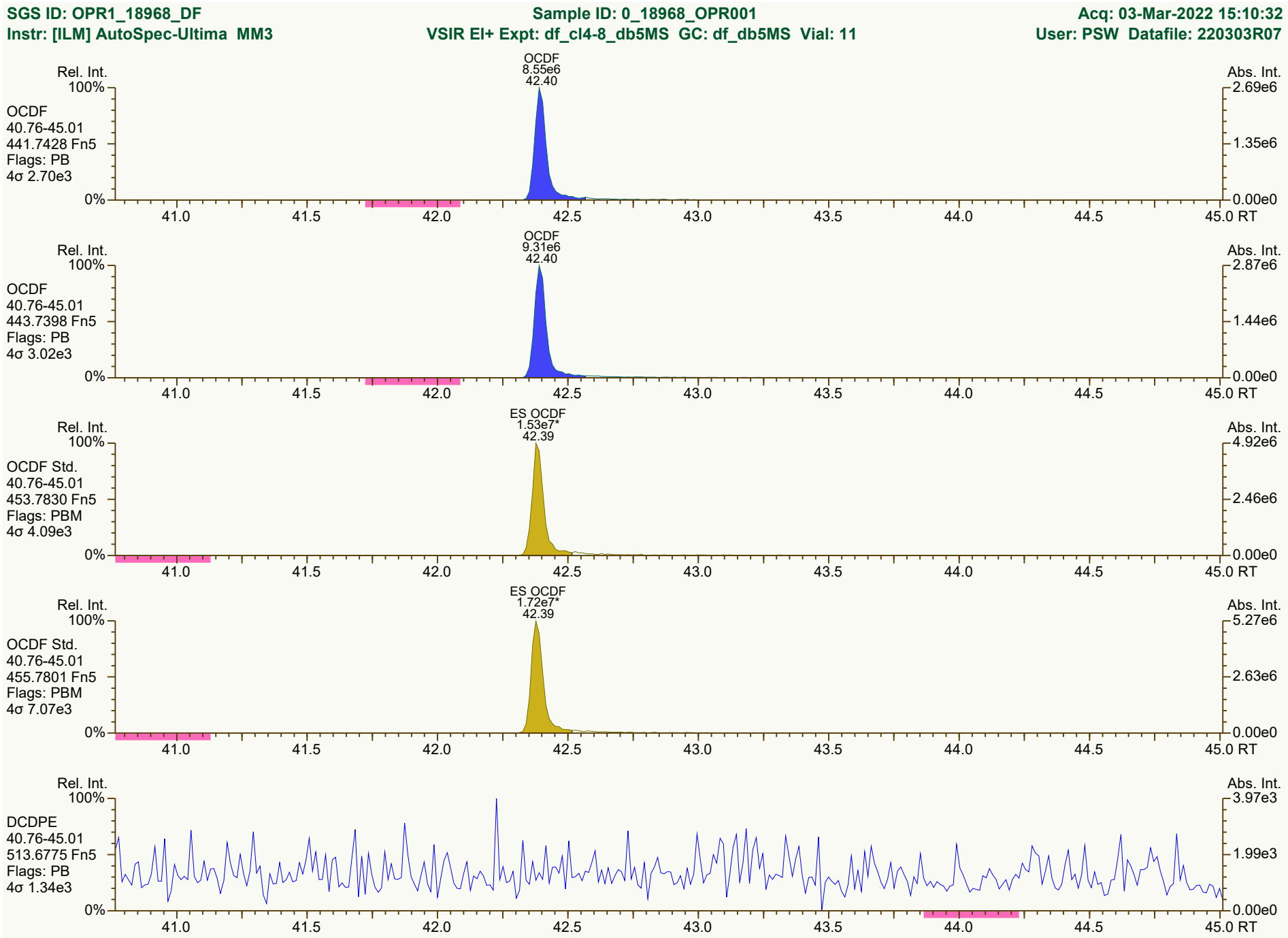
Sample ID: 0_18968_OPR001
Acq: 03-Mar-2022 15:10:32
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11
User: PSW Datafile: 220303R07
Rel. Int.
Abs. Int.
PeCDF-2
29.01-33.76
339.8597 Fn2
Flags: PB
4σ 2.84e3
12378F
1.11e7
31.04
23478F
1.17e7
32.21
12389F
2.34e6
33.31
3.00e6
1.50e6
0.00e0
RT
PeCDF-2
29.01-33.76
341.8568 Fn2
Flags: PB
4σ 2.81e3
12378F
6.99e6
31.04
23478F
7.37e6
32.21
12389F
1.53e6
33.31
1.99e6
9.97e5
PeCDF Std.
29.01-33.76
351.9000 Fn2
Flags: PB
4σ 1.82e3
CS 12346F
2.07e7
30.47
ES 12378F
2.21e7
31.02
ES 23478F
2.16e7
32.19
5.81e6
2.91e6
PeCDF Std.
29.01-33.76
353.8970 Fn2
Flags: PB
4σ 2.16e3
CS 12346F
1.30e7
30.47
ES 12378F
1.37e7
31.02
ES 23478F
1.39e7
32.19
3.74e6
1.87e6
HpCDPE
29.01-33.76
409.7974 Fn2
Flags: PB
4σ 1.47e3
3.01e3
1.51e3
100%
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\OPR1_18968_DF.utp_res, saved 04-Mar-2022 09:49 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1943, 9189, 9457 scc: 848-547
PKD: 03-Mar-2022 16:01 Printed: 04-Mar-2022 09:58 Page 9 of 12


SGS ID: OPR1_18968_DF
Sample ID: 0_18968_OPR001
Acq: 03-Mar-2022 15:10:32
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11
User: PSW Datafile: 220303R07
Rel. Int.
Abs. Int.
HxCDF
33.77-38.01
373.8207 Fn3
Flags: PBM
4σ 6.55e3
123468F
2.25e7*
34.10
123478F
8.55e6
35.52
123678F
1.09e7
35.67
234678F
1.05e7
36.34
123789F
7.06e6
37.29
6.58e6
3.29e6
0.00e0
HxCDF
33.77-38.01
375.8178 Fn3
Flags: PBM
4σ 6.72e3
123468F
1.81e7*
34.10
123478F
6.84e6
35.52
123678F
8.55e6
35.67
234678F
8.35e6
36.34
123789F
5.59e6
37.29
5.36e6
2.68e6
0.00e0
HxCDF Std.
33.77-38.01
383.8639 Fn3
Flags: PB
4σ 5.44e3
ES 123678F
1.10e7
35.65
ES 123478F
8.00e6
35.50
CS 123469F
8.35e6
35.96
ES 234678F
1.01e7
36.32
ES 123789F
7.64e6
37.28
3.22e6
1.61e6
0.00e0
HxCDF Std.
33.77-38.01
385.8610 Fn3
Flags: PB
4σ 9.62e3
ES 123678F
2.10e7
35.65
ES 123478F
1.54e7
35.50
CS 123469F
1.65e7
35.96
ES 234678F
1.92e7
36.32
ES 123789F
1.46e7
37.28
5.99e6
3.00e6
0.00e0
OCDPE
33.77-38.01
445.7555 Fn3
Flags: PB
4σ 1.39e3
5.10e3
2.55e3
0.00e0
100%
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT


SGS ID: OPR1_18968_DF
Sample ID: 0_18968_OPR001
Acq: 03-Mar-2022 15:10:32
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11
User: PSW Datafile: 220303R07
Rel. Int.
Abs. Int.
HpCDF
38.02-40.75
407.7818 Fn4
Flags: PB
4σ 1.71e3
1234678F
8.22e6
38.87
1234789F
6.13e6
40.24
2.80e6
1.40e6
0.00e0
HpCDF
38.02-40.75
409.7788 Fn4
Flags: PB
4σ 1.79e3
1234678F
7.96e6
38.87
1234789F
5.85e6
40.24
2.68e6
1.34e6
0.00e0
HpCDF Std.
38.02-40.75
417.8253 Fn4
Flags: PBM
4σ 6.78e3
ES 1234678F
7.01e6
38.86
CS 1234689F
6.21e6*
39.29
ES 1234789F
5.40e6
40.23
2.38e6
1.19e6
0.00e0
HpCDF Std.
38.02-40.75
419.8220 Fn4
Flags: PBM
4σ 5.35e3
ES 1234678F
1.49e7
38.86
CS 1234689F
1.39e7*
39.29
ES 1234789F
1.21e7
40.23
5.17e6
2.59e6
0.00e0
NCDPE
38.02-40.75
479.7165 Fn4
Flags: B
4σ 1.72e3
4.32e3
2.16e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
RT
Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\OPR1_18968_DF.utp_res, saved 04-Mar-2022 09:49 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6368, 9340, 3825 scc: 848-547
PKD: 03-Mar-2022 16:01 Printed: 04-Mar-2022 09:58 Page 11 of 12


SGS ID: OPR1_18968_DF
Sample ID: 0_18968_OPR001
Acq: 03-Mar-2022 15:10:32
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 11
User: PSW Datafile: 220303R07
OCDF
8.55e6
42.40
Rel. Int.
Abs. Int.
OCDF
40.76-45.01
441.7428 Fn5
Flags: PB
4σ 2.70e3
OCDF
9.31e6
42.40
OCDF
40.76-45.01
443.7398 Fn5
Flags: PB
4σ 3.02e3
ES OCDF
1.53e7*
42.39
OCDF Std.
40.76-45.01
453.7830 Fn5
Flags: PBM
4σ 4.09e3
ES OCDF
1.72e7*
42.39
OCDF Std.
40.76-45.01
455.7801 Fn5
Flags: PBM
4σ 7.07e3
DCDPE
40.76-45.01
513.6775 Fn5
Flags: PB
4σ 1.34e3
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\OPR1_18968_DF.utp_res, saved 04-Mar-2022 09:49 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 2022, 3139, 4337 scc: 848-547
PKD: 03-Mar-2022 16:01 Printed: 04-Mar-2022 09:58 Page 12 of 12

Lab ID: OPR2_18968_DF **Acq'd:** 03 Mar 2022 15:57 PSW **Wt/Vol:** 1 uL **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 0_18968_OPR002 **UTP:** 04-Mar-2022 09:49:54 PSW **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 127-109-XFV

Datafile: 220303R08 **Report:** 04 Mar 2022 09:53 pw **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	26.92		1.0009	1.0009	0	3.27E+06	0.80	Y	1.34	9.77	3431.389	0.113
12378-PeCDD	32.54		1.0006	1.0006	0	1.10E+07	1.58	Y	1.06	48.4	2600.101	0.107
123478-HxCDD	36.48		1.0004	1.0004	0	1.08E+07	1.25	Y	1.06	55.3	2385.655	0.101
123678-HxCDD	36.60		1.0035	1.0036	+0.2	1.18E+07	1.25	Y	1.08	58.8	2385.655	0.102
123789-HxCDD	36.90		1.0117	1.0117	0	1.10E+07	1.24	Y	1.02	52.1	2385.655	0.104
1234678-HpCDD	39.81		1.0003	1.0005	+0.5	9.94E+06	1.04	Y	0.97	60.9	3649.183	0.144
OCDD	42.22		1.0003	1.0003	0	1.54E+07	0.90	Y	1.07	116	2897.217	0.169
2378-TCDF	25.99		1.0007	1.0009	+0.3	4.29E+06	0.81	Y	0.96	12.5	3991.739	0.135
12378-PeCDF	31.03		1.0006	1.0006	0	1.81E+07	1.59	Y	0.95	56.3	5601.766	0.17
23478-PeCDF	32.19		1.0005	1.0006	+0.2	1.86E+07	1.55	Y	0.94	62.5	5601.766	0.178
123478-HxCDF	35.50		1.0005	1.0005	0	1.51E+07	1.26	Y	1.23	56.6	12198.316	0.372
123678-HxCDF	35.65		1.0004	1.0005	+0.2	1.81E+07	1.27	Y	1.13	56.4	12198.316	0.348
234678-HxCDF	36.31		1.0005	1.0004	-0.2	1.70E+07	1.27	Y	1.15	58.1	12198.316	0.377
123789-HxCDF	37.28		1.0005	1.0005	0	1.22E+07	1.28	Y	1.14	54.2	12198.316	0.494
1234678-HpCDF	38.86		1.0003	1.0003	0	1.72E+07	1.06	Y	1.36	56.2	3092.483	0.079
1234789-HpCDF	40.23		1.0003	1.0002	-0.2	1.12E+07	1.05	Y	1.30	56.4	3092.483	0.107
OCDF	42.39		1.0002	1.0003	+0.3	1.70E+07	0.91	Y	1.03	115	3875.942	0.195

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	26.89	1.0272	1.0273	+0.2	2.49E+07	0.76	Y	1.03	91.1
ES 12378-PeCDD	32.52	1.2414	1.2423	+1.8	2.15E+07	1.52	Y	1.03	78.6
ES 123478-HxCDD	36.47	0.9916	0.9918	+0.4	1.85E+07	1.30	Y	0.99	86.6
ES 123678-HxCDD	36.58	0.9947	0.9949	+0.4	1.86E+07	1.24	Y	0.97	89.1
ES 123789-HxCDD	36.88	1.0029	1.0030	+0.2	2.08E+07	1.28	Y	1.12	86.5
ES 1234678-HpCDD	39.79	1.0818	1.0822	+1.0	1.67E+07	1.09	Y	0.99	78.7
ES OCDD	42.21	1.1473	1.1480	+1.8	2.48E+07	0.89	Y	0.78	74.5
ES 2378-TCDF	25.96	1.0613	1.0617	+0.6	3.56E+07	0.80	Y	1.08	74
ES 12378-PeCDF	31.01	1.2667	1.2680	+2.4	3.40E+07	1.60	Y	0.93	82
ES 23478-PeCDF	32.17	1.3143	1.3156	+2.5	3.16E+07	1.57	Y	0.92	77.2
ES 123478-HxCDF	35.49	0.9649	0.9651	+0.4	2.16E+07	0.54	Y	1.14	88.3
ES 123678-HxCDF	35.63	0.9689	0.9690	+0.2	2.84E+07	0.52	Y	1.30	102
ES 234678-HxCDF	36.30	0.9870	0.9872	+0.4	2.54E+07	0.51	Y	1.20	98.7
ES 123789-HxCDF	37.26	1.0131	1.0133	+0.4	1.99E+07	0.53	Y	1.14	81.7
ES 1234678-HpCDF	38.84	1.0560	1.0564	+0.9	2.26E+07	0.45	Y	0.95	111
ES 1234789-HpCDF	40.22	1.0932	1.0937	+1.2	1.53E+07	0.46	Y	0.85	84.2
ES OCDF	42.38	1.1518	1.1524	+1.5	2.88E+07	0.92	Y	0.93	72.7

Lab ID: OPR2_18968_DF | **Acq'd:** 03 Mar 2022 15:57 PSW | **Wt/Vol:** 1 uL | **ICAL:** MM3_DF_10272021_27JUL2021

Client ID: 0_18968_OPR002 | **UTP:** 04-Mar-2022 09:49:54 PSW | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 127-109-XFV

Datafile: 220303R08 | **Report:** 04 Mar 2022 09:53 pw | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	26.18		-	-	-	2.64E+07	0.78	Y	-	-
JS 1234-TCDF	24.45		-	-	-	4.44E+07	0.78	Y	-	-
JS 123467-HxCDD	36.77		-	-	-	1.07E+07	1.32	Y	-	-
CS 37Cl-2378-TCDD	26.92		1.0281	1.0283	+0.3	1.19E+07	n/a	-	1.31	86
CS 12347-PeCDD	32.00		1.2217	1.2224	+1.3	2.05E+07	1.56	Y	0.89	87
CS 12346-PeCDF	30.46		1.2442	1.2454	+2.2	3.40E+07	1.61	Y	0.87	88.2
CS 123469-HxCDF	35.94		0.9773	0.9775	+0.4	2.53E+07	0.52	Y	1.09	108
CS 1234689-HpCDF	39.27		1.0676	1.0680	+0.9	2.05E+07	0.45	Y	0.86	111
~~SS 37Cl-2378-TCDD~~	~~26.92~~		~~1.0281~~	~~1.0283~~	~~+0.3~~	~~1.19E+07~~	~~n/a~~		~~1.26~~	~~94.9~~
~~SS 12347-PeCDD~~	~~32.00~~		~~1.2217~~	~~1.2224~~	~~+1.3~~	~~2.05E+07~~	~~1.56~~	~~Y~~	~~0.86~~	~~111~~
~~SS 12346-PeCDF~~	~~30.46~~		~~1.2442~~	~~1.2454~~	~~+2.2~~	~~3.40E+07~~	~~1.61~~	~~Y~~	~~0.93~~	~~100~~
~~SS 123469-HxCDF~~	~~35.94~~		~~0.9773~~	~~0.9775~~	~~+0.4~~	~~2.53E+07~~	~~0.52~~	~~Y~~	~~0.84~~	~~106~~
~~SS 1234689-HpCDF~~	~~39.27~~		~~1.0676~~	~~1.0680~~	~~+0.9~~	~~2.05E+07~~	~~0.45~~	~~Y~~	~~0.91~~	~~99.7~~

Totals	Conc	EMPC
Total TCDD	46	46
Total PeCDD	73.9	73.9
Total HxCDD	182	182
Total HpCDD	75.6	75.6
Total Tetra-Octa Dioxins	493	493
Total TCDF	72.8	72.8
Total PeCDF	248	248
Total HxCDF	383	383
Total HpCDF	113	113
Total Tetra-Octa Furans	932	932
Total Tetra-Octa Dioxins & Furans	1420	1420

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.793	0.80
Response	3.28E+06	3.27E+06

Lab ID: OPR2_18968_DF | **Acq'd: 03 Mar 2022 15:57 PSW** | **Wt/Vol: 1 uL** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18968_OPR002 | **UTP: 04-Mar-2022 09:49:54 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 127-109-XFV**

Datafile: 220303R08 | **Report: 04 Mar 2022 09:53 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	22.86		0.8510	0.8501	-1.2	4.53E+06	0.82	Y	1.34	13.6	3431.389	0.113
1379-TCDD	NotFnd		0.8661						1.34		3431.389	0.113
1369-TCDD	NotFnd		0.8845						1.34		3431.389	0.113
1469-TCDD	NotFnd		0.9171						1.34		3431.389	0.113
1247/1246/1248/1249-TCDD	NotFnd		0.9266						1.34		3431.389	0.113
1378-TCDD	NotFnd		0.9342						1.34		3431.389	0.113
1268-TCDD	NotFnd		0.9423						1.34		3431.389	0.113
1478-TCDD	NotFnd		0.9525						1.34		3431.389	0.113
1279-TCDD	NotFnd		0.9592						1.34		3431.389	0.113
1234/1269-TCDD	NotFnd		0.9737						1.34		3431.389	0.113
1236-TCDD	NotFnd		0.9793						1.34		3431.389	0.113
1237/1238-TCDD	NotFnd		0.9892						1.34		3431.389	0.113
1239-TCDD	26.75		0.9946	0.9946	0	3.11E+06	0.77	Y	1.34	9.31	3431.389	0.113
2378-TCDD	**26.92**		**1.0009**	1.0009	**0**	3.27E+06	0.80	Y	**1.34**	**9.77**	**3431.389**	**0.113**
1278-TCDD	NotFnd		1.0140						1.34		3431.389	0.113
1267-TCDD	NotFnd		1.0195						1.34		3431.389	0.113
1289-TCDD	27.97		1.0397	1.0399	+0.3	4.46E+06	0.78	Y	1.34	13.3	3431.389	0.113
12479/12468-PeCDD	29.93		0.9204	0.9204	0	2.72E+06	1.66	Y	1.06	12	2600.101	0.107
12469-PeCDD	NotFnd		0.9378						1.06		2600.101	0.107
12368-PeCDD	NotFnd		0.9554						1.06		2600.101	0.107
12478-PeCDD	NotFnd		0.9614						1.06		2600.101	0.107
12379-PeCDD	NotFnd		0.9646						1.06		2600.101	0.107
12369/12467/12489-PeCDD	NotFnd		0.9731						1.06		2600.101	0.107
12346/12347-PeCDD	NotFnd		0.9848						1.06		2600.101	0.107
12378-PeCDD	32.54		**1.0006**	**1.0006**	**0**	**1.10E+07**	**1.58**	**Y**	**1.06**	**48.4**	**2600.101**	**0.107**
12367-PeCDD	NotFnd		1.0038						1.06		2600.101	0.107
12389-PeCDD	32.99		1.0145	1.0145	0	3.08E+06	1.58	Y	1.06	13.5	2600.101	0.107
124679/124689-HxCDD	34.76		0.9531	0.9531	0	3.21E+06	1.21	Y	1.05	15.8	2385.655	0.102
123468-HxCDD	NotFnd		0.9714						1.05		2385.655	0.102
123679/123689-HxCDD	NotFnd		0.9795						1.05		2385.655	0.102
123469-HxCDD	NotFnd		0.9833						1.05		2385.655	0.102
123478-HxCDD	36.48		**1.0004**	**1.0004**	**0**	**1.08E+07**	**1.25**	**Y**	1.06	**55.3**	**2385.655**	**0.101**
123678-HxCDD	36.60		**1.0035**	**1.0036**	**+0.2**	**1.18E+07**	**1.25**	**Y**	1.08	**58.8**	**2385.655**	**0.102**
123467-HxCDD	NotFnd		1.0088						1.05		2385.655	0.102
123789-HxCDD	36.90		**1.0117**	**1.0117**	**0**	**1.10E+07**	**1.24**	**Y**	1.02	**52.1**	**2385.655**	**0.104**

Lab ID: OPR2_18968_DF **Acq'd: 03 Mar 2022 15:57 PSW** **Wt/Vol: 1 uL** **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18968_OPR002 **UTP: 04-Mar-2022 09:49:54 PSW** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 127-109-XFV**

Datafile: 220303R08 **Report: 04 Mar 2022 09:53 pw** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	39.13		0.9835	0.9834	-0.2	2.39E+06	1.08	Y	0.97	14.6	3649.183	0.144
1234678-HpCDD	**39.81**		**1.0003**	**1.0005**	**+0.5**	**9.94E+06**	**1.04**	**Y**	**0.97**	**60.9**	**3649.183**	**0.144**
OCDD	**42.22**		**1.0003**	**1.0003**	**0**	**1.54E+07**	**0.90**	**Y**	**1.07**	**116**	**2897.217**	**0.169**
OCDD-a	42.21		1.0002	1.0000	-0.5	8.09E+05	2.78	Y	0.07	98.7	4164.102	3.93
1368-TCDF	20.64		0.7960	0.7951	-1.1	6.78E+06	0.78	Y	0.96	19.8	3991.739	0.135
1468-TCDF	NotFnd		0.8178						0.96		3991.739	0.135
2468-TCDF	21.86		0.8428	0.8419	-1.2	1.60E+06	0.74	Y	0.96	4.69	3991.739	0.135
1346/1246-TCDF	NotFnd		0.8574						0.96		3991.739	0.135
1347/1378/1247-TCDF	NotFnd		0.8641						0.96		3991.739	0.135
1348-TCDF	NotFnd		0.8762						0.96		3991.739	0.135
1248/1367/1379-TCDF	NotFnd		0.8819						0.96		3991.739	0.135
1268-TCDF	NotFnd		0.8986						0.96		3991.739	0.135
1467-TCDF	NotFnd		0.9045						0.96		3991.739	0.135
1478-TCDF	NotFnd		0.9117						0.96		3991.739	0.135
1369/1237-TCDF	NotFnd		0.9275						0.96		3991.739	0.135
2467-TCDF	NotFnd		0.9334						0.96		3991.739	0.135
2368-TCDF	NotFnd		0.9399						0.96		3991.739	0.135
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9435						0.96		3991.739	0.135
1278-TCDF	NotFnd		0.9629						0.96		3991.739	0.135
1349-TCDF	NotFnd		0.9680						0.96		3991.739	0.135
1267-TCDF	NotFnd		0.9747						0.96		3991.739	0.135
2346/1249-TCDF	NotFnd		0.9823						0.96		3991.739	0.135
2347/1279-TCDF	NotFnd		0.9915						0.96		3991.739	0.135
2348-TCDF	25.87		0.9962	0.9963	+0.2	6.13E+06	0.76	Y	0.96	17.9	3991.739	0.135
2378-TCDF	**25.99**		**1.0007**	**1.0009**	**+0.3**	**4.29E+06**	**0.81**	**Y**	**0.96**	**12.5**	**3991.739**	**0.135**
2367/3467-TCDF	NotFnd		1.0162						0.96		3991.739	0.135
1269-TCDF	NotFnd		1.0259						0.96		3991.739	0.135
1239-TCDF	NotFnd		1.0370						0.96		3991.739	0.135
1289-TCDF	28.15		1.0828	1.0841	+2.2	6.09E+06	0.76	Y	0.96	17.8	3991.739	0.135
13468/12468-PeCDF	28.04		0.9051	0.9044	-1.2	3.59E+07	1.56	Y	0.94	116	3078.728	0.0954
13678/13467/12467-PeCDF	NotFnd		0.9577						0.94		5601.766	0.174
12368/13478/12478-PeCDF	NotFnd		0.9630						0.94		5601.766	0.174
14678-PeCDF	NotFnd		0.9664						0.94		5601.766	0.174
13479-PeCDF	NotFnd		0.9694						0.94		5601.766	0.174
13469/12479-PeCDF	NotFnd		0.9781						0.94		5601.766	0.174
12346-PeCDF	NotFnd		0.9828						0.94		5601.766	0.174

Lab ID: OPR2_18968_DF | **Acq'd: 03 Mar 2022 15:57 PSW** | **Wt/Vol: 1 uL** | **ICAL: MM3_DF_10272021_27JUL2021**

Client ID: 0_18968_OPR002 | **UTP: 04-Mar-2022 09:49:54 PSW** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 127-109-XFV**

Datafile: 220303R08 | **Report: 04 Mar 2022 09:53 pw** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9858						0.94		5601.766	0.174
12347-PeCDF	NotFnd		0.9881						0.94		5601.766	0.174
12348-PeCDF	NotFnd		0.9935						0.94		5601.766	0.174
12378-PeCDF	**31.03**		**1.0006**	**1.0006**	**0**	**1.81E+07**	**1.59**	**Y**	**0.95**	**56.3**	**5601.766**	**0.17**
12678/12367-PeCDF	NotFnd		1.0099						0.94		5601.766	0.174
12379-PeCDF	NotFnd		1.0154						0.94		5601.766	0.174
12679-PeCDF	NotFnd		0.9922						0.94		5601.766	0.174
23467/12369-PeCDF	NotFnd		0.9964						0.94		5601.766	0.174
23478-PeCDF	**32.19**		**1.0005**	**1.0006**	**+0.2**	**1.86E+07**	**1.55**	**Y**	**0.94**	**62.5**	**5601.766**	**0.178**
23478/12489-PeCDF	NotFnd		0.0000						0.94			
12489-PeCDF	NotFnd		1.0046						0.94		5601.766	0.174
12349-PeCDF	NotFnd		1.0105						0.94		5601.766	0.174
12389-PeCDF	33.29		1.0346	1.0348	+0.4	4.14E+06	1.58	Y	0.94	13.4	5601.766	0.174
123468-HxCDF	34.09		0.9606	0.9606	0	4.38E+07	1.24	Y	1.16	158	12198.316	0.39
124678/134678-HxCDF	NotFnd		0.9664						1.16		12198.316	0.39
134679-HxCDF	NotFnd		0.9729						1.16		12198.316	0.39
124679-HxCDF	NotFnd		0.9786						1.16		12198.316	0.39
124689-HxCDF	NotFnd		0.9850						1.16		12198.316	0.39
123467-HxCDF	NotFnd		0.9971						1.16		12198.316	0.39
123478-HxCDF	**35.50**		**1.0005**	**1.0005**	**0**	**1.51E+07**	**1.26**	**Y**	**1.23**	**56.6**	**12198.316**	**0.372**
123678-HxCDF	**35.65**		**1.0004**	**1.0005**	**+0.2**	**1.81E+07**	**1.27**	**Y**	**1.13**	**56.4**	**12198.316**	**0.348**
123479-HxCDF	NotFnd		1.0049						1.16		12198.316	0.39
123469-HxCDF	NotFnd		1.0091						1.16		12198.316	0.39
123679-HxCDF	NotFnd		0.9941						1.16		12198.316	0.39
234678-HxCDF	**36.31**		**1.0005**	**1.0004**	**-0.2**	**1.70E+07**	**1.27**	**Y**	**1.15**	**58.1**	**12198.316**	**0.377**
234678/123689-HxCDF	NotFnd		0.0000						1.15			
123689-HxCDF	NotFnd		1.0054						1.16		12198.316	0.39
123789-HxCDF	**37.28**		**1.0005**	**1.0005**	**0**	**1.22E+07**	**1.28**	**Y**	**1.14**	**54.2**	**12198.316**	**0.494**
123789/123489-HxCDF	NotFnd		0.0000						1.14			
123489-HxCDF	NotFnd		1.0009						1.16		12198.316	0.39
1234678-HpCDF	**38.86**		**1.0003**	**1.0003**	**0**	**1.72E+07**	**1.06**	**Y**	**1.36**	**56.2**	**3092.483**	**0.079**
1234679-HpCDF	NotFnd		1.0076						1.33		3092.483	0.0905
1234689-HpCDF	NotFnd		1.0112						1.33		3092.483	0.0905
1234789-HpCDF	**40.23**		**1.0003**	**1.0002**	**-0.2**	**1.12E+07**	**1.05**	**Y**	**1.30**	**56.4**	**3092.483**	**0.107**
OCDF	**42.39**		**1.0002**	**1.0003**	**+0.3**	**1.70E+07**	**0.91**	**Y**	**1.03**	**115**	**3875.942**	**0.195**
OCDF-a	42.38	**EMPC**	1.0002	1.0001	-0.3	9.25E+05	2.04	N	0.06	108	3506.179	3.05

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
VER Data Filename:	220303R08	Analysis Date:	03-MAR-2022 15:57:14
Lab ID:	OPR2_18968_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	9.77	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	48.4	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	55.3	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	58.8	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	52.1	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	60.9	35	-	70	Y
OCDD	100	116	78	-	144	Y
2,3,7,8-TCDF	10	12.5	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	56.3	40	-	67	Y
2,3,4,7,8-PeCDF	50	62.5	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	56.6	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	56.4	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	58.1	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	54.2	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	56.2	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	56.4	39	-	69	Y
OCDF	100	115	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 04 Mar 2022 09:53 Analyst: pw

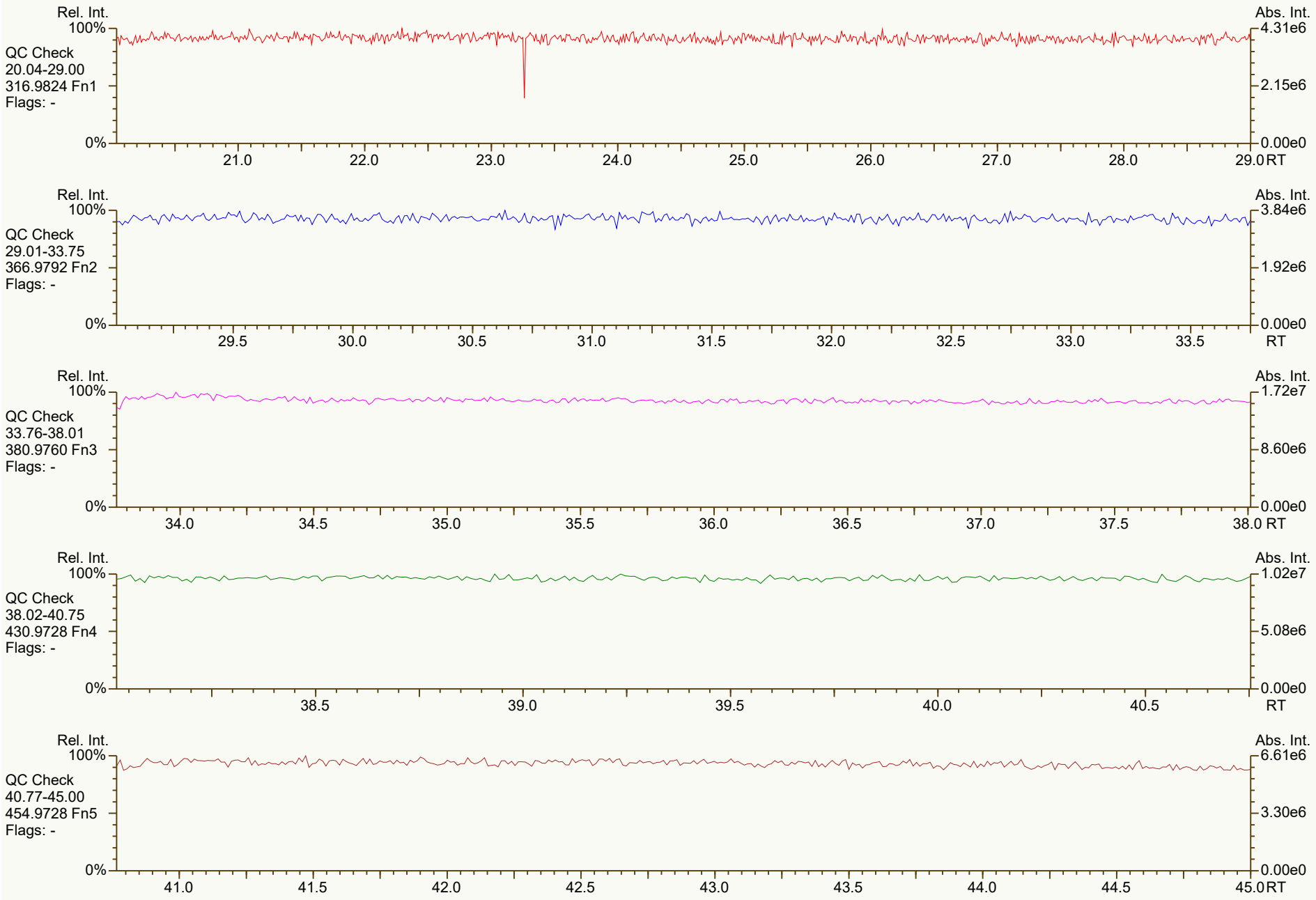
METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: MM3_DF_10272021_27JUL2021		
Instrument ID:	MM3	GC Column ID:	ZB-5ms
VER Data Filename:	220303R08	Analysis Date:	03-MAR-2022 15:57:14
Lab ID:	OPR2_18968_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	91.1	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	78.6	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	86.6	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	89.1	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	86.5	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	78.7	26	-	166	Y
13C-OCDD	200	149	26	-	397	Y
13C-2,3,7,8-TCDF	100	74	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	82	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	77.2	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	88.3	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	102	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	98.7	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	81.7	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	111	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	84.2	20	-	186	Y
13C-OCDF	200	145	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	34.4	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 04 Mar 2022 09:53 Analyst: pw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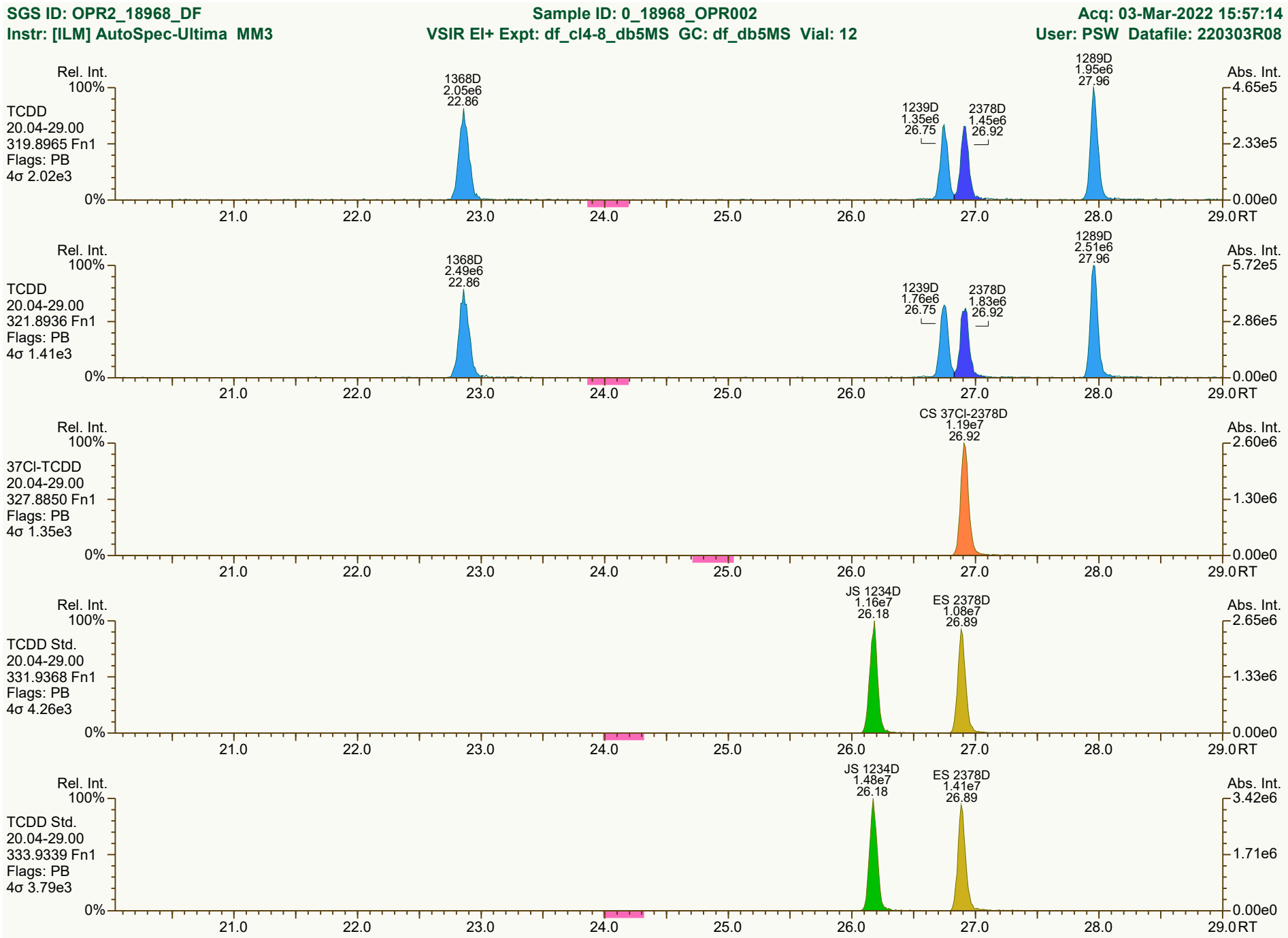
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
0%
Abs. Int.
4.31e6
2.15e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
QC Check
29.01-33.75
366.9792 Fn2
Flags: -
0%
Abs. Int.
3.84e6
1.92e6
0.00e0
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
QC Check
33.76-38.01
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.72e7
8.60e6
0.00e0
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Rel. Int.
100%
QC Check
38.02-40.75
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.02e7
5.08e6
0.00e0
38.5
39.0
39.5
40.0
40.5
RT
Rel. Int.
100%
QC Check
40.77-45.00
454.9728 Fn5
Flags: -
0%
Abs. Int.
6.61e6
3.30e6
0.00e0
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT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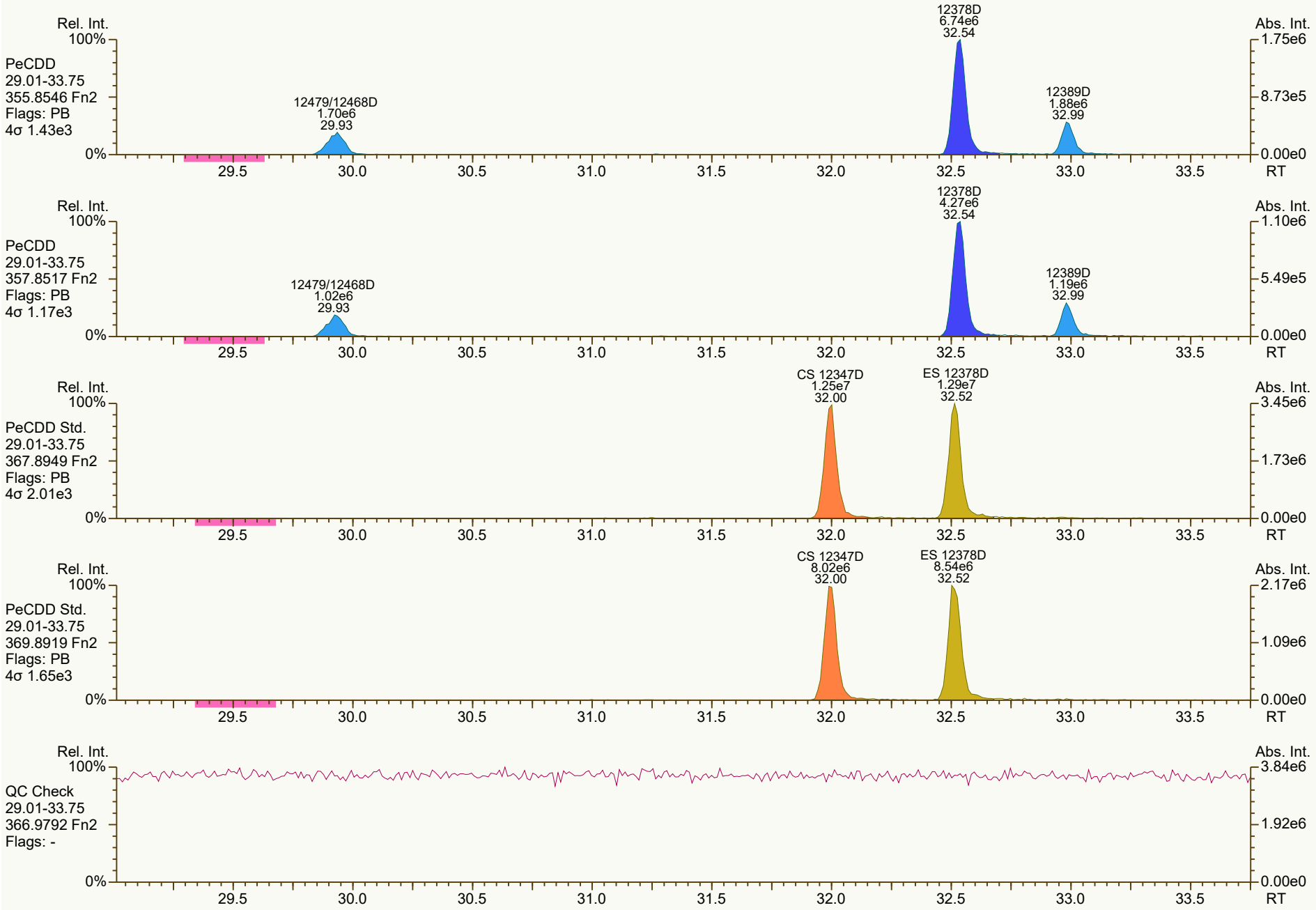
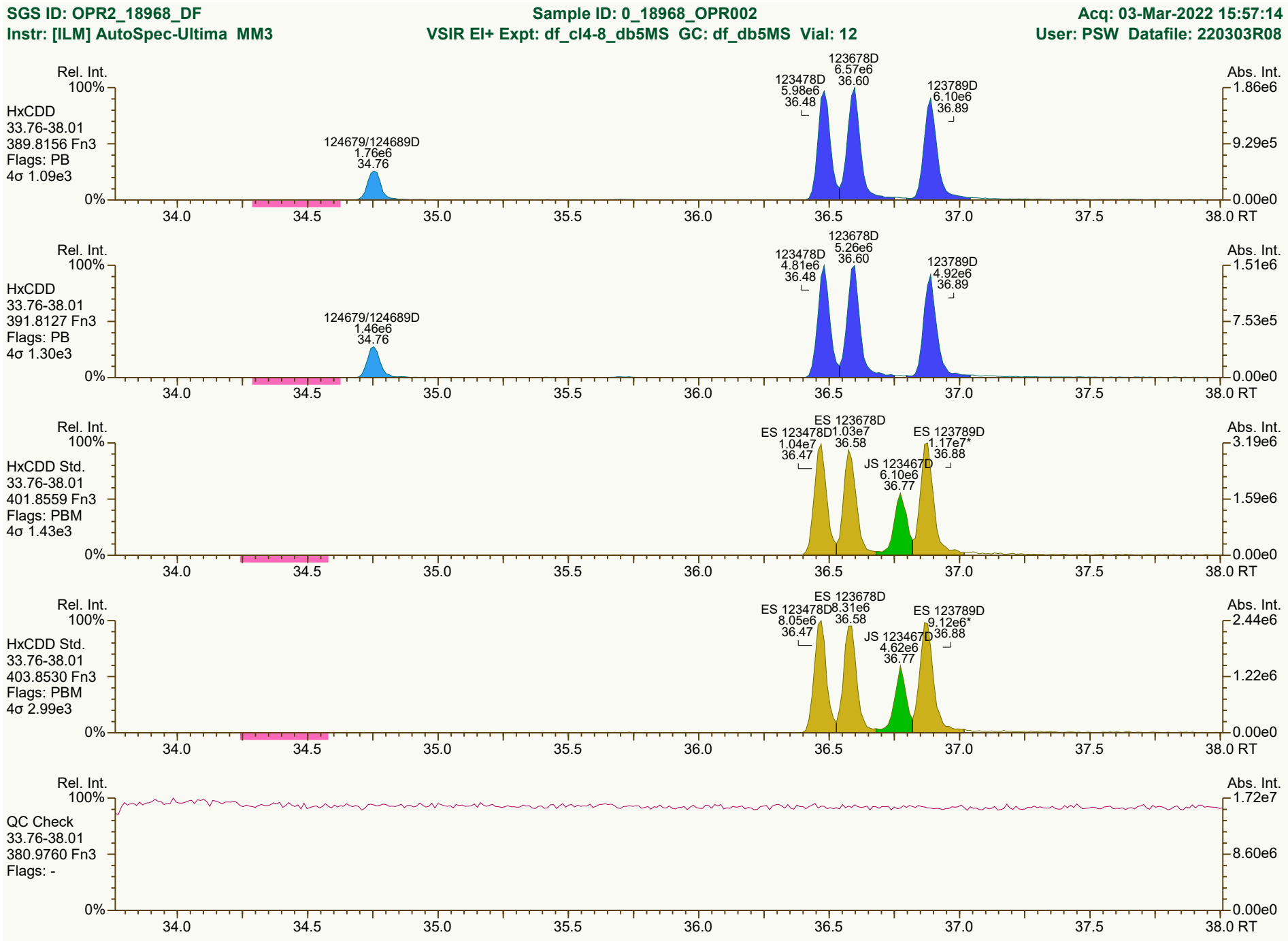
Sample ID: 0_18968_OPR002
Acq: 03-Mar-2022 15:57:14
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 12
User: PSW Datafile: 220303R08
Rel. Int.
Abs. Int.
TCDD
20.04-29.00
319.8965 Fn1
Flags: PB
4σ 2.02e3
1368D 2.05e6 22.86
1239D 1.35e6 26.75
2378D 1.45e6 26.92
1289D 1.95e6 27.96
4.65e5
2.33e5
0.00e0
TCDD
20.04-29.00
321.8936 Fn1
Flags: PB
4σ 1.41e3
1368D 2.49e6 22.86
1239D 1.76e6 26.75
2378D 1.83e6 26.92
1289D 2.51e6 27.96
5.72e5
2.86e5
0.00e0
37Cl-TCDD
20.04-29.00
327.8850 Fn1
Flags: PB
4σ 1.35e3
CS 37Cl-2378D 1.19e7 26.92
2.60e6
1.30e6
0.00e0
TCDD Std.
20.04-29.00
331.9368 Fn1
Flags: PB
4σ 4.26e3
JS 1234D 1.16e7 26.18
ES 2378D 1.08e7 26.89
2.65e6
1.33e6
0.00e0
TCDD Std.
20.04-29.00
333.9339 Fn1
Flags: PB
4σ 3.79e3
JS 1234D 1.48e7 26.18
ES 2378D 1.41e7 26.89
3.42e6
1.71e6
0.00e0
100%
0%
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0
RT
Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\OPR2_18968_DF.utp_res, saved 04-Mar-2022 09:49 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 5351, 8743, 8584 scc: 127-109
PKD: 04-Mar-2022 08:10 Printed: 04-Mar-2022 09:58 Page 2 of 12


Rel. Int.
100%
PeCDD
29.01-33.75
355.8546 Fn2
Flags: PB
4σ 1.43e3
12479/12468D
1.70e6
29.93
12378D
6.74e6
32.54
12389D
1.88e6
32.99
Abs. Int.
1.75e6
8.73e5
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD
29.01-33.75
357.8517 Fn2
Flags: PB
4σ 1.17e3
12479/12468D
1.02e6
29.93
12378D
4.27e6
32.54
12389D
1.19e6
32.99
Abs. Int.
1.10e6
5.49e5
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD Std.
29.01-33.75
367.8949 Fn2
Flags: PB
4σ 2.01e3
CS 12347D
1.25e7
32.00
ES 12378D
1.29e7
32.52
Abs. Int.
3.45e6
1.73e6
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
PeCDD Std.
29.01-33.75
369.8919 Fn2
Flags: PB
4σ 1.65e3
CS 12347D
8.02e6
32.00
ES 12378D
8.54e6
32.52
Abs. Int.
2.17e6
1.09e6
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT
Rel. Int.
100%
QC Check
29.01-33.75
366.9792 Fn2
Flags: -
Abs. Int.
3.84e6
1.92e6
0.00e0
0%
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
RT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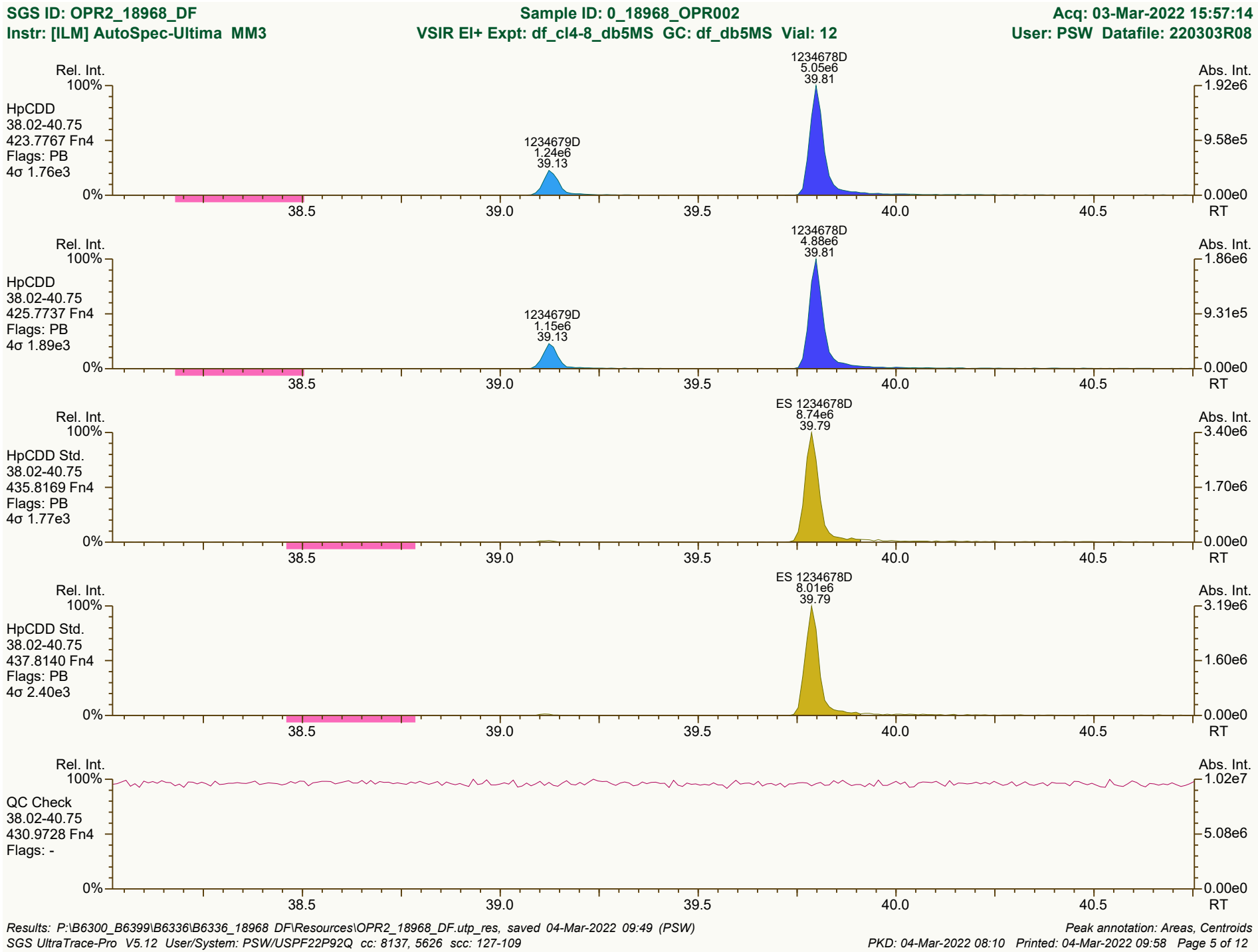
Sample ID: 0_18968_OPR002
Acq: 03-Mar-2022 15:57:14
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 12
User: PSW Datafile: 220303R08
Rel. Int.
Abs. Int.
HxCDD
33.76-38.01
389.8156 Fn3
Flags: PB
4σ 1.09e3
124679/124689D
1.76e6
34.76
123478D
5.98e6
36.48
123678D
6.57e6
36.60
123789D
6.10e6
36.89
1.86e6
9.29e5
0.00e0
HxCDD
33.76-38.01
391.8127 Fn3
Flags: PB
4σ 1.30e3
124679/124689D
1.46e6
34.76
123478D
4.81e6
36.48
123678D
5.26e6
36.60
123789D
4.92e6
36.89
1.51e6
7.53e5
0.00e0
HxCDD Std.
33.76-38.01
401.8559 Fn3
Flags: PBM
4σ 1.43e3
ES 123478D
1.04e7
36.47
ES 123678D
1.03e7
36.58
JS 123467D
6.10e6
36.77
ES 123789D
1.17e7*
36.88
3.19e6
1.59e6
0.00e0
HxCDD Std.
33.76-38.01
403.8530 Fn3
Flags: PBM
4σ 2.99e3
ES 123478D
8.05e6
36.47
ES 123678D
8.31e6
36.58
JS 123467D
4.62e6
36.77
ES 123789D
9.12e6*
36.88
2.44e6
1.22e6
0.00e0
QC Check
33.76-38.01
380.9760 Fn3
Flags: -
1.72e7
8.60e6
0.00e0
100%
0%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\OPR2_18968_DF.utp_res, saved 04-Mar-2022 09:49 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8558, 2460 scc: 127-109
PKD: 04-Mar-2022 08:10 Printed: 04-Mar-2022 09:58 Page 4 of 12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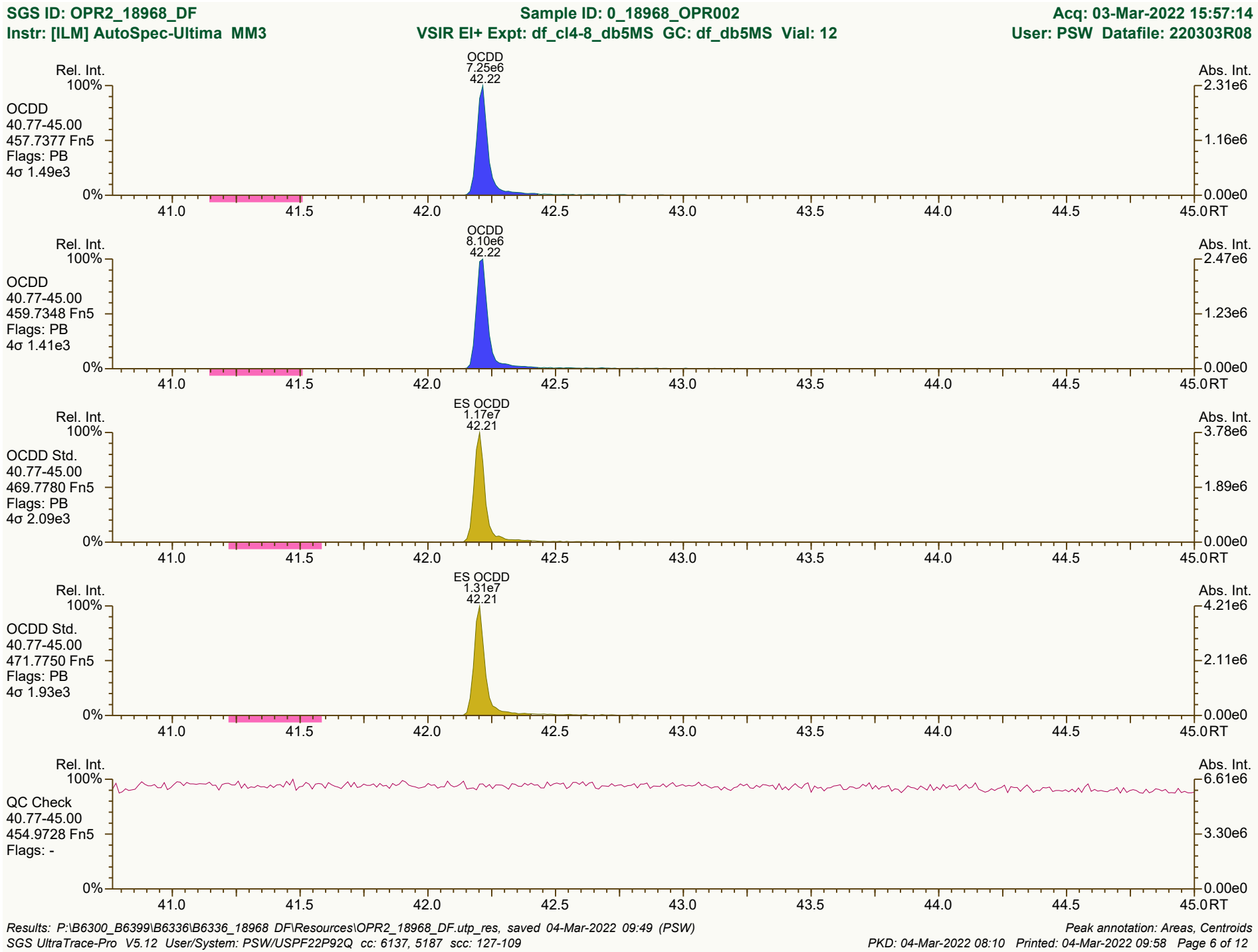
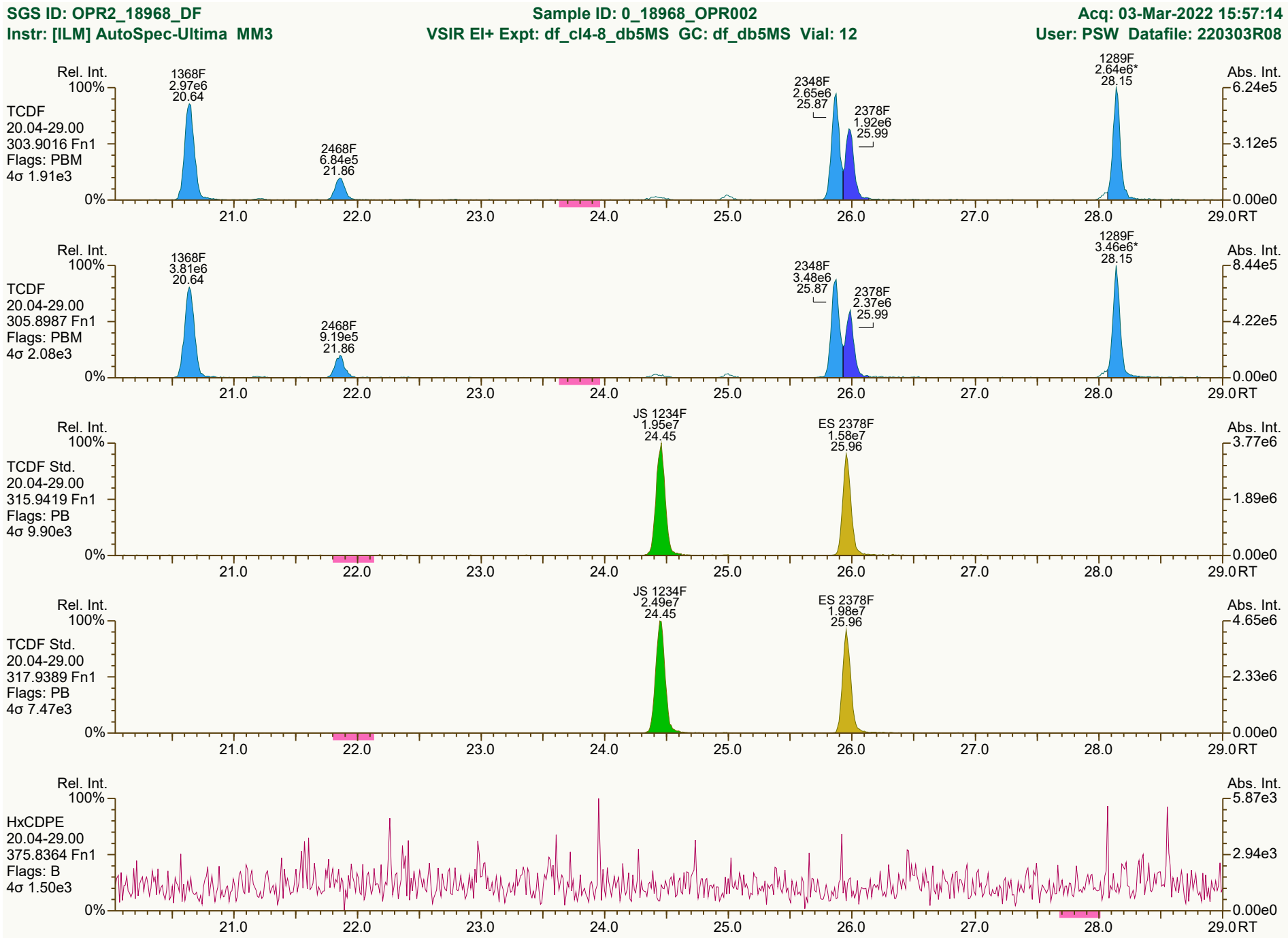
Sample ID: 0_18968_OPR002
Acq: 03-Mar-2022 15:57:14
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 12
User: PSW Datafile: 220303R08
Rel. Int.
Abs. Int.
HpCDD
38.02-40.75
423.7767 Fn4
Flags: PB
4σ 1.76e3
1234678D
5.05e6
39.81
1234679D
1.24e6
39.13
1.92e6
9.58e5
0.00e0
HpCDD
38.02-40.75
425.7737 Fn4
Flags: PB
4σ 1.89e3
1234678D
4.88e6
39.81
1234679D
1.15e6
39.13
1.86e6
9.31e5
HpCDD Std.
38.02-40.75
435.8169 Fn4
Flags: PB
4σ 1.77e3
ES 1234678D
8.74e6
39.79
3.40e6
1.70e6
HpCDD Std.
38.02-40.75
437.8140 Fn4
Flags: PB
4σ 2.40e3
ES 1234678D
8.01e6
39.79
3.19e6
1.60e6
QC Check
38.02-40.75
430.9728 Fn4
Flags: -
1.02e7
5.08e6
100%
0%
38.5
39.0
39.5
40.0
40.5
RT
Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\OPR2_18968_DF.utp_res, saved 04-Mar-2022 09:49 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8137, 5626 scc: 127-109
PKD: 04-Mar-2022 08:10 Printed: 04-Mar-2022 09:58 Page 5 of 12


SGS ID: OPR2_18968_DF
Sample ID: 0_18968_OPR002
Acq: 03-Mar-2022 15:57:14
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 12
User: PSW Datafile: 220303R08
Rel. Int.
Abs. Int.
OCDD
7.25e6
42.22
OCDD
40.77-45.00
457.7377 Fn5
Flags: PB
4σ 1.49e3
OCDD
8.10e6
42.22
OCDD
40.77-45.00
459.7348 Fn5
Flags: PB
4σ 1.41e3
ES OCDD
1.17e7
42.21
OCDD Std.
40.77-45.00
469.7780 Fn5
Flags: PB
4σ 2.09e3
ES OCDD
1.31e7
42.21
OCDD Std.
40.77-45.00
471.7750 Fn5
Flags: PB
4σ 1.93e3
QC Check
40.77-45.00
454.9728 Fn5
Flags: -
RT
Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\OPR2_18968_DF.utp_res, saved 04-Mar-2022 09:49 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6137, 5187 scc: 127-109
PKD: 04-Mar-2022 08:10 Printed: 04-Mar-2022 09:58 Page 6 of 12



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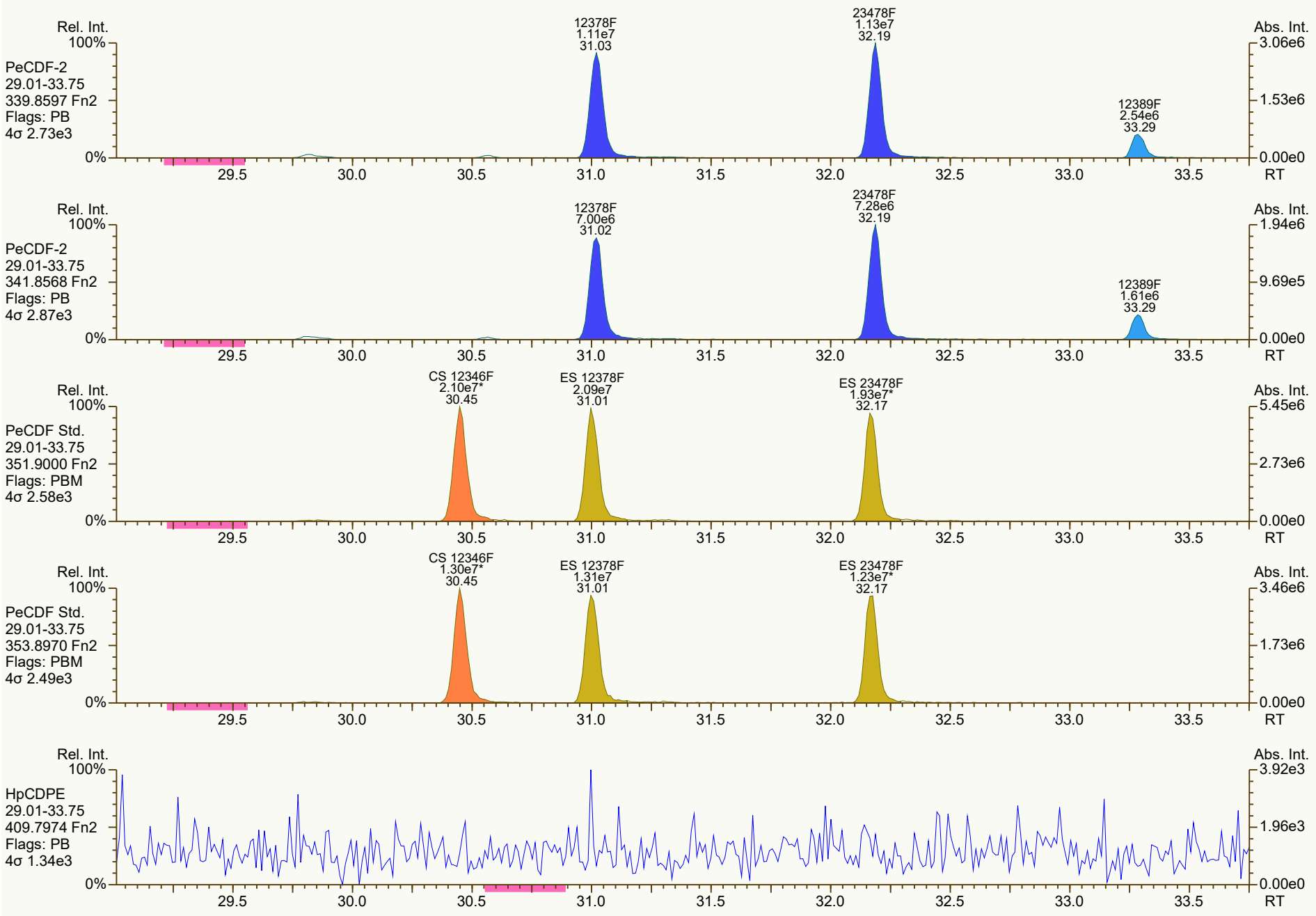
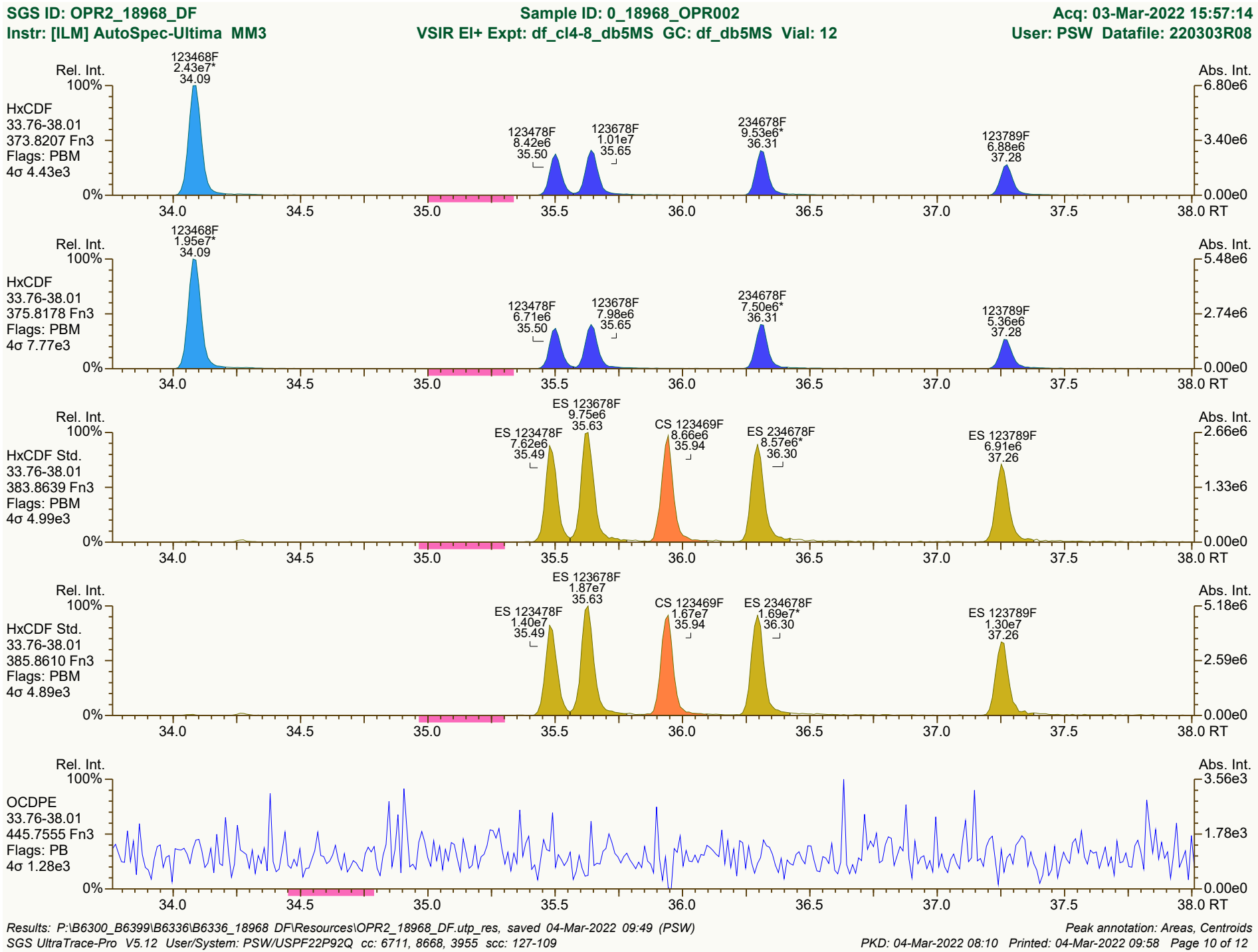
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 8651, 2097, 1364 scc: 127-109
PKD: 04-Mar-2022 08:10 Printed: 04-Mar-2022 09:58 Page 7 of 12


Rel. Int.
100%
0%
PeCDF-1
20.04-29.00
339.8597 Fn1
Flags: PBM
4σ 1.46e3
13468/12468F
2.19e7*
28.04
Abs. Int.
5.24e6
2.62e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
0%
PeCDF-1
20.04-29.00
341.8568 Fn1
Flags: PBM
4σ 1.62e3
13468/12468F
1.40e7*
28.04
Abs. Int.
3.35e6
1.67e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT
Rel. Int.
100%
0%
QC Check
20.04-29.00
316.9824 Fn1
Flags: -
Abs. Int.
4.31e6
2.15e6
0.00e0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0 RT


Rel. Int.
100%
PeCDF-2
29.01-33.75
339.8597 Fn2
Flags: PB
4σ 2.73e3
0%
12378F
1.11e7
31.03
23478F
1.13e7
32.19
12389F
2.54e6
33.29
Abs. Int.
3.06e6
1.53e6
0.00e0
RT
29.5
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
Rel. Int.
100%
PeCDF-2
29.01-33.75
341.8568 Fn2
Flags: PB
4σ 2.87e3
0%
12378F
7.00e6
31.02
23478F
7.28e6
32.19
12389F
1.61e6
33.29
Abs. Int.
1.94e6
9.69e5
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
29.01-33.75
351.9000 Fn2
Flags: PBM
4σ 2.58e3
0%
CS 12346F
2.10e7*
30.45
ES 12378F
2.09e7
31.01
ES 23478F
1.93e7*
32.17
Abs. Int.
5.45e6
2.73e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
29.01-33.75
353.8970 Fn2
Flags: PBM
4σ 2.49e3
0%
CS 12346F
1.30e7*
30.45
ES 12378F
1.31e7
31.01
ES 23478F
1.23e7*
32.17
Abs. Int.
3.46e6
1.73e6
0.00e0
RT
Rel. Int.
100%
HpCDPE
29.01-33.75
409.7974 Fn2
Flags: PB
4σ 1.34e3
0%
Abs. Int.
3.92e3
1.96e3
0.00e0
RT


SGS ID: OPR2_18968_DF
Sample ID: 0_18968_OPR002
Acq: 03-Mar-2022 15:57:14
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 12
User: PSW Datafile: 220303R08
Rel. Int.
Abs. Int.
HxCDF
33.76-38.01
373.8207 Fn3
Flags: PBM
4σ 4.43e3
123468F
2.43e7*
34.09
123478F
8.42e6
35.50
123678F
1.01e7
35.65
234678F
9.53e6*
36.31
123789F
6.88e6
37.28
HxCDF
33.76-38.01
375.8178 Fn3
Flags: PBM
4σ 7.77e3
123468F
1.95e7*
34.09
123478F
6.71e6
35.50
123678F
7.98e6
35.65
234678F
7.50e6*
36.31
123789F
5.36e6
37.28
HxCDF Std.
33.76-38.01
383.8639 Fn3
Flags: PBM
4σ 4.99e3
ES 123678F
9.75e6
35.63
ES 123478F
7.62e6
35.49
CS 123469F
8.66e6
35.94
ES 234678F
8.57e6*
36.30
ES 123789F
6.91e6
37.26
HxCDF Std.
33.76-38.01
385.8610 Fn3
Flags: PBM
4σ 4.89e3
ES 123678F
1.87e7
35.63
ES 123478F
1.40e7
35.49
CS 123469F
1.67e7
35.94
ES 234678F
1.69e7*
36.30
ES 123789F
1.30e7
37.26
OCDPE
33.76-38.01
445.7555 Fn3
Flags: PB
4σ 1.28e3
0%
100%
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0 RT
Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\OPR2_18968_DF.utp_res, saved 04-Mar-2022 09:49 (PSW)
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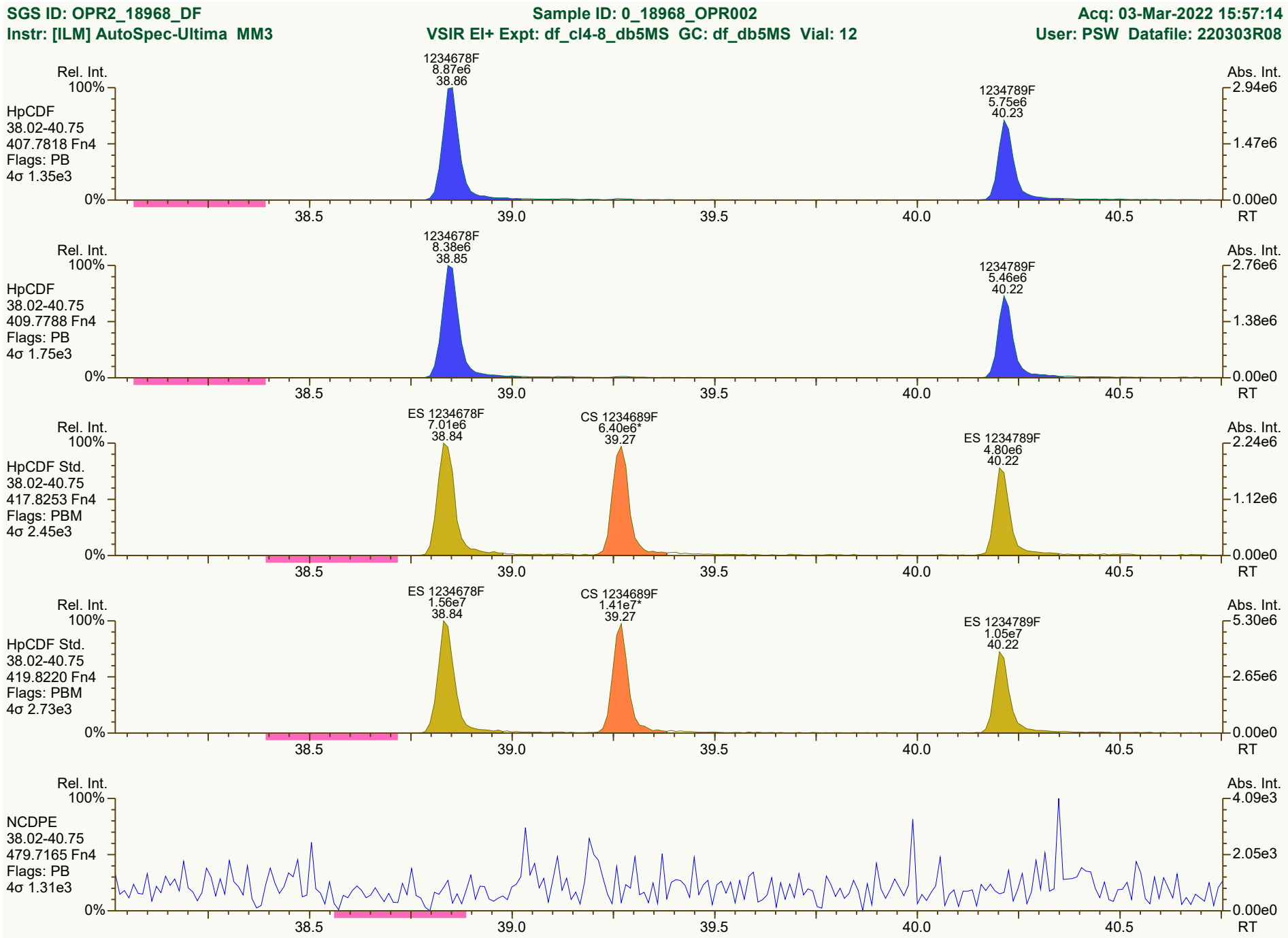
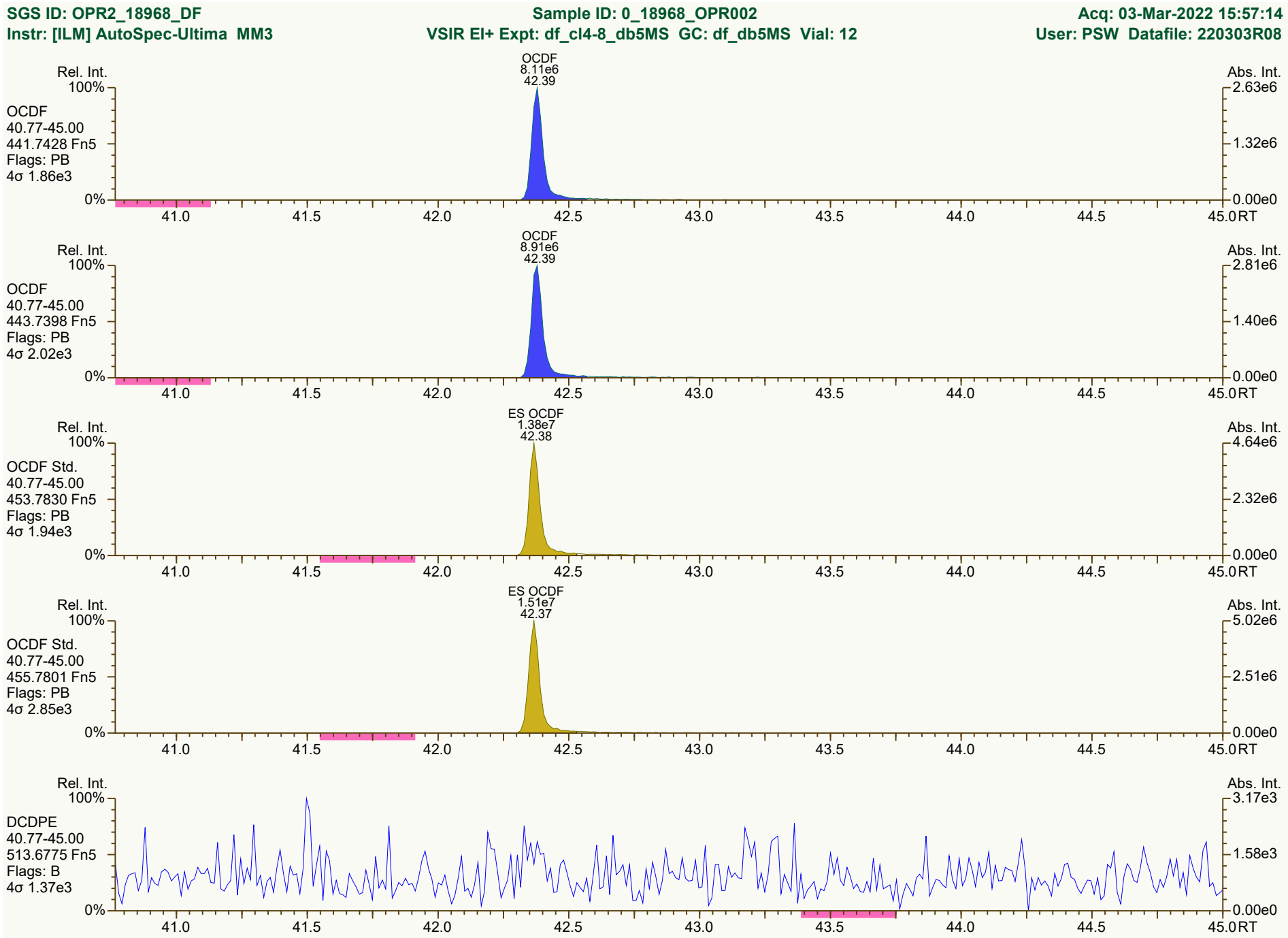
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 6711, 8668, 3955 scc: 127-109
PKD: 04-Mar-2022 08:10 Printed: 04-Mar-2022 09:58 Page 10 of 12


SGS ID: OPR2_18968_DF
Sample ID: 0_18968_OPR002
Acq: 03-Mar-2022 15:57:14
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 12
User: PSW Datafile: 220303R08
Rel. Int.
Abs. Int.
HpCDF
38.02-40.75
407.7818 Fn4
Flags: PB
4σ 1.35e3
1234678F
8.87e6
38.86
1234789F
5.75e6
40.23
2.94e6
1.47e6
0.00e0
HpCDF
38.02-40.75
409.7788 Fn4
Flags: PB
4σ 1.75e3
1234678F
8.38e6
38.85
1234789F
5.46e6
40.22
2.76e6
1.38e6
0.00e0
HpCDF Std.
38.02-40.75
417.8253 Fn4
Flags: PBM
4σ 2.45e3
ES 1234678F
7.01e6
38.84
CS 1234689F
6.40e6*
39.27
ES 1234789F
4.80e6
40.22
2.24e6
1.12e6
0.00e0
HpCDF Std.
38.02-40.75
419.8220 Fn4
Flags: PBM
4σ 2.73e3
ES 1234678F
1.56e7
38.84
CS 1234689F
1.41e7*
39.27
ES 1234789F
1.05e7
40.22
5.30e6
2.65e6
0.00e0
NCDPE
38.02-40.75
479.7165 Fn4
Flags: PB
4σ 1.31e3
4.09e3
2.05e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
RT
Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\OPR2_18968_DF.utp_res, saved 04-Mar-2022 09:49 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 4997, 4102, 8492 scc: 127-109
PKD: 04-Mar-2022 08:10 Printed: 04-Mar-2022 09:58 Page 11 of 12


SGS ID: OPR2_18968_DF
Sample ID: 0_18968_OPR002
Acq: 03-Mar-2022 15:57:14
Instr: [ILM] AutoSpec-Ultima MM3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 12
User: PSW Datafile: 220303R08
Rel. Int.
Abs. Int.
OCDF
8.11e6
42.39
OCDF
40.77-45.00
441.7428 Fn5
Flags: PB
4σ 1.86e3
2.63e6
1.32e6
0.00e0
OCDF
8.91e6
42.39
OCDF
40.77-45.00
443.7398 Fn5
Flags: PB
4σ 2.02e3
2.81e6
1.40e6
ES OCDF
1.38e7
42.38
OCDF Std.
40.77-45.00
453.7830 Fn5
Flags: PB
4σ 1.94e3
4.64e6
2.32e6
ES OCDF
1.51e7
42.37
OCDF Std.
40.77-45.00
455.7801 Fn5
Flags: PB
4σ 2.85e3
5.02e6
2.51e6
DCDPE
40.77-45.00
513.6775 Fn5
Flags: B
4σ 1.37e3
3.17e3
1.58e3
100%
0%
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Results: P:\B6300_B6399\B6336\B6336_18968 DF\Resources\OPR2_18968_DF.utp_res, saved 04-Mar-2022 09:49 (PSW)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: PSW/USPF22P92Q cc: 1801, 3743, 8814 scc: 127-109
PKD: 04-Mar-2022 08:10 Printed: 04-Mar-2022 09:58 Page 12 of 12



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6234

28-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

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This report is approved by

Tamara Burkamper

tamara.burkamper@sgs.com

Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6234
Analytical Protocol(s)	1613B
No. Samples Submitted	9
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	26-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	0.2, 0.0
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.14.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements, except for the following: the reported percent deviation of CS 1,2,3,4,6,8,9-HpCDF is above SOP criteria. There is no method specified criteria for these standards and no adverse impact on results.

No re-extractions or dilutions were required.

B6234_005: the reported ion ratio of labeled standard ES 1,2,3,7,8,9-HxCDD is outside method criteria.

OPR1/OPR2_18872 meet accuracy and precision criteria, except for the following: RPD of 2,3,7,8-TCDF is >20%.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-021822-S-SB-NC-O-54 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	22-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.07 g	Lab Sample ID	B6336_18971_DF_001	Date Extracted:	03-Mar-2022
Date Collected:	18-Feb-2022	% Solid:	82.6 %	QC Batch No:	18971	Date Analyzed:	09-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:28:06

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	34.4				ES 2378-TCDD	95.6	
12378-PeCDD	1.29			J	ES 12378-PeCDD	104	
123478-HxCDD	2.49				ES 123478-HxCDD	95.5	
123678-HxCDD	8.47				ES 123678-HxCDD	90.8	
123789-HxCDD	4.27				ES 123789-HxCDD	93	
1234678-HpCDD	172				ES 1234678-HpCDD	94.6	
OCDD	2,390				ES OCDD	87.7	
2378-TCDF	108				ES 2378-TCDF	89.5	
12378-PeCDF	5.58				ES 12378-PeCDF	97	
23478-PeCDF	5.52			PR	ES 23478-PeCDF	100	
123478-HxCDF	11.6				ES 123478-HxCDF	95.7	
123678-HxCDF	3.36				ES 123678-HxCDF	97	
234678-HxCDF	2.39			J	ES 234678-HxCDF	105	
123789-HxCDF	ND	0.344			ES 123789-HxCDF	96.2	
1234678-HpCDF	35.7				ES 1234678-HpCDF	103	
1234789-HpCDF	4.61				ES 1234789-HpCDF	96.4	
OCDF	160				ES OCDF	89	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	96.2	
Total TCDD	39.6		45.7		CS 12347-PeCDD	105	
Total PeCDD	13.3		15.4		CS 12346-PeCDF	102	
Total HxCDD	80.4		81.7		CS 123469-HxCDF	105	
Total HpCDD	432		432		CS 1234689-HpCDF	109	
Total TCDF	214		215				
Total PeCDF	40.9		41.4				
Total HxCDF	52.6		53.5				
Total HpCDF	87.4		87.4				
Total PCDD/Fs	**3,500**		**3,520**				
WHO-2005 TEQs							
TEQ: ND=0	54.5		54.5				
TEQ: ND=DL/2	54.5	0.338	54.5				
TEQ: ND=DL	54.5	0.677	54.5				

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Sample ID: 11215131-021822-S-SB-NC-O-54 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	22-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.07 g	Lab Sample ID:	B6336_18971_DF_001	Date Extracted:	03-Mar-2022
Date Collected:	18-Feb-2022	% Solid:	82.6 %	QC Batch No.:	18971	Date Analyzed:	09-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:28:06

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	2.17		12479/12468D	4.53		124679/124689D	33.2		1234679D	260	
1379D	1.01		12469D	2.99		123468D	6.22		1234678D	172	
1369D	(0.174)		12368D	1.81	J	123679/123689D	22.5				
1469D	[2.78]		12478D	1.22	J	123469D	3.15				
1247D...[4]	(0.174)		12379D	1.04	J	123478D	2.49				
1378D	0.595		12369D...[3]	[1.65]	J	123678D	8.47				
1268D	(0.174)		12346/12347D	[0.458]	J	123467D	[1.33]	J			
1478D	(0.174)		12378D	1.29	J	123789D	4.27		**Conc.**	432	
1279D	(0.174)		12367D	0.405	J				**EMPC**	432	
1234/1269D	[0.483]	J	12389D	(0.207)							
1236D	(0.174)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	1.44										
1239D	(0.174)								OCDD	2390	
2378D	34.4										
1278D	[2.83]										
1267D	(0.174)										
1289D	(0.174)										
Conc.	39.6		**Conc.**	13.3		**Conc.**	80.4				
EMPC	45.7		**EMPC**	15.4		**EMPC**	81.7				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	54.5	54.5
TEQ: ND=DL/2	54.5	54.5
TEQ: ND=DL	54.5	54.5

	Conc.	EMPC
Total PCDD/Fs	3,500	3,520

Checkcode: 285-098-FZV

Report Created: 09-Mar-2022 11:43 Analyst: TF

Sample ID: 11215131-021822-S-SB-NC-O-54 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	22-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.07 g	Lab Sample ID:	B6336_18971_DF_001	Date Extracted:	03-Mar-2022
Date Collected:	18-Feb-2022	% Solid:	82.6 %	QC Batch No.:	18971	Date Analyzed:	09-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	2:28:06

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	0.803		13468/12468F	6.6		123468F	4.46		1234678F	35.7	
1468F	2.38		13678F...[3]	3.01		124678/134678F	13.7		1234679F	2.65	
2468F	3.36		12368F...[3]	8.52		134679F	(0.301)		1234689F	44.4	
1346/1246F	1.41		14678F	1.39	J	124679F	0.841	J	1234789F	4.61	
1347F...[3]	4.67		13479F	(0.197)		124689F	12.1				
1348F	[1.02]		13469/12479F	(0.197)		123467F	2.5				
1248F...[3]	5.14		12346F	0.604	J	123478F	11.6				
1268F	2.84		23468/12469F	1.49	J	123678F	3.36				
1467F	1		12347F	1.96	J	123479F	(0.301)				
1478F	4.95		12348F	1.87	J	123469F	[0.919]	J			
1369/1237F	1.67		12378F	5.58		123679F	(0.301)				
2467F	1.36		12678/12367F	2.84		234678F	2.39	J	**Conc.**	87.4	
2368F	10.3		12379F	(0.197)		234678/123689F	0		**EMPC**	87.4	
1238F...[5]	(0.109)		12679F	(0.197)		123689F	(0.301)				
1278F	33.5		23467/12369F	1.04	J	123789F	(0.344)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.109)		23478F	5.52	PR	123789/123489F	0				
1267F	3.63		23478/12489F	0		123489F	1.53	J	OCDF	160	
2346/1249F	(0.109)		12489F	(0.197)							
2347/1279F	2.31		12349F	[0.516]	J						
2348F	4.06		12389F	0.434	J						
2378F	108										
2367/3467F	14.3										
1269F	1.86										
1239F	(0.109)										
1289F	6.49										
Conc.	214		**Conc.**	40.9		**Conc.**	52.6				
EMPC	215		**EMPC**	41.4		**EMPC**	53.5				

Checkcode: 285-098-FZV

Report Created: 09-Mar-2022 11:43 Analyst: TF

Sample ID: 11215131-021822-S-SB-NC-O-54 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6336_18971_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.07 g	QC Batch No.:	18971
Date Collected:	18-Feb-2022	Split:	-	Date Extracted:	03-Mar-2022
Date Received:	22-Feb-2022	Dilution:	-	Date Analyzed:	09-Mar-2022 02:28
Lab Project No:	B6336	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	34.4		0.174	34.4	34.4	34.4
12378-PeCDD	1.29	J	0.207	0.647	1.29	1.29
123478-HxCDD	2.49		0.319	0.249	0.249	0.249
123678-HxCDD	8.47		0.324	0.847	0.847	0.847
123789-HxCDD	4.27		0.296	0.427	0.427	0.427
1234678-HpCDD	172		0.238	1.72	1.72	1.72
OCDD	2390		0.41	2.39	0.239	0.716
2378-TCDF	108		0.109	10.8	10.8	10.8
12378-PeCDF	5.58		0.202	0.279	0.279	0.168
23478-PeCDF	5.52	PR	0.192	2.76	2.76	1.65
123478-HxCDF	11.6		0.287	1.16	1.16	1.16
123678-HxCDF	3.36		0.281	0.336	0.336	0.336
234678-HxCDF	2.39	J	0.301	0.239	0.239	0.239
123789-HxCDF	(0.344)		0.344	(0.0344)	(0.0344)	(0.0344)
1234678-HpCDF	35.7		0.145	0.357	0.357	0.357
1234789-HpCDF	4.61		0.225	0.0461	0.0461	0.0461
OCDF	160		0.297	0.16	0.016	0.048

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TEQ Summaries			
EMPC = 0, ND = 0	56.8	55.2	54.5
EMPC = 0, ND = DL / 2	56.8	55.2	54.5
EMPC = 0, ND = DL	56.9	55.2	54.5
EMPC = 0, < J-level = 0	55.9	53.6	52.9
EMPC = EMPC, ND = 0	56.8	55.2	54.5
EMPC = EMPC, ND = DL / 2	56.8	55.2	54.5
EMPC = EMPC, ND = DL	56.9	55.2	54.5
EMPC = EMPC, < J-level = 0	55.9	53.6	52.9

Checkcode: 285-098-FZV

Sample ID: 11215131-021822-S-SB-NC-B-17 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	22-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.15 g	Lab Sample ID	B6336_18971_DF_002	Date Extracted:	03-Mar-2022
Date Collected:	18-Feb-2022	% Solid:	81.4 %	QC Batch No:	18971	Date Analyzed:	09-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:14:27

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	162				ES 2378-TCDD	90.6	
12378-PeCDD	2.77				ES 12378-PeCDD	95.4	
123478-HxCDD	0.992			J	ES 123478-HxCDD	91.8	
123678-HxCDD	2.01			J	ES 123678-HxCDD	92.4	
123789-HxCDD	4.53				ES 123789-HxCDD	92.1	
1234678-HpCDD	73.8				ES 1234678-HpCDD	89.7	
OCDD	851				ES OCDD	80.1	
2378-TCDF	454				ES 2378-TCDF	87.3	
12378-PeCDF	23.3				ES 12378-PeCDF	95.7	
23478-PeCDF	19.6			PR	ES 23478-PeCDF	96.1	
123478-HxCDF	35.4				ES 123478-HxCDF	96.4	
123678-HxCDF	11				ES 123678-HxCDF	104	
234678-HxCDF	4.45				ES 234678-HxCDF	104	
123789-HxCDF	ND	0.274			ES 123789-HxCDF	92.7	
1234678-HpCDF	12.8				ES 1234678-HpCDF	106	
1234789-HpCDF	4.53				ES 1234789-HpCDF	84.9	
OCDF	9.34				ES OCDF	76.9	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	95.3	
Total TCDD	207		213		CS 12347-PeCDD	104	
Total PeCDD	36.8		38.7		CS 12346-PeCDF	103	
Total HxCDD	164		166		CS 123469-HxCDF	109	
Total HpCDD	369		369		CS 1234689-HpCDF	106	
Total TCDF	941		981				
Total PeCDF	107		107				
Total HxCDF	74		76				
Total HpCDF	21.7		23.4				
Total PCDD/Fs	**2,780**		**2,840**				
WHO-2005 TEQs							
TEQ: ND=0	224		224				
TEQ: ND=DL/2	224	0.391	224				
TEQ: ND=DL	224	0.783	224				

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Sample ID: 11215131-021822-S-SB-NC-B-17 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	22-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.15 g	Lab Sample ID:	B6336_18971_DF_002	Date Extracted:	03-Mar-2022
Date Collected:	18-Feb-2022	% Solid:	81.4 %	QC Batch No.:	18971	Date Analyzed:	09-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:14:27

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	[0.701]		12479/12468D	2.3	J	124679/124689D	118		1234679D	296	
1379D	0.481	J	12469D	22.1		123468D	[2]	J	1234678D	73.8	
1369D	(0.205)		12368D	0.75	J	123679/123689D	29.8				
1469D	22.9		12478D	1.14	J	123469D	5.7				
1247D...[4]	1.75		12379D	[0.89]	J	123478D	0.992	J			
1378D	1.27		12369D...[3]	6.67		123678D	2.01	J			
1268D	[0.432]	J	12346/12347D	[0.725]	J	123467D	3.44				
1478D	[0.646]		12378D	2.77		123789D	4.53		**Conc.**	369	
1279D	[0.443]	J	12367D	[0.355]	J				**EMPC**	369	
1234/1269D	3.17		12389D	1.05	J						
1236D	[0.349]	J							**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	[3]										
1239D	[0.419]	J							OCDD	851	
2378D	162										
1278D	14.8										
1267D	(0.205)										
1289D	[0.576]										
Conc.	207		**Conc.**	36.8		**Conc.**	164				
EMPC	213		**EMPC**	38.7		**EMPC**	166				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	224	224
TEQ: ND=DL/2	224	224
TEQ: ND=DL	224	224

	Conc.	EMPC
Total PCDD/Fs	2,780	2,840

Checkcode: 095-401-HGW

Report Created: 09-Mar-2022 11:44 Analyst: TF

Sample ID: 11215131-021822-S-SB-NC-B-17 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	22-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.15 g	Lab Sample ID:	B6336_18971_DF_002	Date Extracted:	03-Mar-2022
Date Collected:	18-Feb-2022	% Solid:	81.4 %	QC Batch No.:	18971	Date Analyzed:	09-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	3:14:27

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	[3.25]		13468/12468F	4.62		123468F	2.61		1234678F	12.8	
1468F	2.76		13678F...[3]	7.53		124678/134678F	9.61		1234679F	[1.78]	J
2468F	2.89		12368F...[3]	17.1		134679F	1.24	J	1234689F	4.37	
1346/1246F	3.44		14678F	2.99		124679F	1.55	J	1234789F	4.53	
1347F...[3]	17.4		13479F	1.85	J	124689F	1.91	J			
1348F	4.12		13469/12479F	2.06	J	123467F	1.81	J			
1248F...[3]	28.8		12346F	1.47	J	123478F	35.4				
1268F	11.5		23468/12469F	3.69		123678F	11				
1467F	2.61		12347F	1.88	J	123479F	1.16	J			
1478F	22.1		12348F	3.14		123469F	[0.542]	J			
1369/1237F	9.38		12378F	23.3		123679F	[1.4]	J			
2467F	[3.81]		12678/12367F	10.3		234678F	4.45		**Conc.**	21.7	
2368F	20.3		12379F	1.24	J	234678/123689F	0		**EMPC**	23.4	
1238F...[5]	33.4		12679F	1.05	J	123689F	(0.227)				
1278F	211		23467/12369F	3.42		123789F	(0.274)		**Octa-Furan**	**Conc (pg/g)**	**Qualifiers**
1349F	(0.129)		23478F	19.6	PR	123789/123489F	0				
1267F	14.8		23478/12489F	0		123489F	3.3		OCDF	9.34	
2346/1249F	5.35		12489F	(0.275)							
2347/1279F	10.8		12349F	[0.413]	J						
2348F	[31.7]		12389F	1.42	J						
2378F	454										
2367/3467F	44.4										
1269F	7.3										
1239F	[1.42]										
1289F	35.6										
Conc.	941		**Conc.**	107		**Conc.**	74				
EMPC	981		**EMPC**	107		**EMPC**	76				

Checkcode: 095-401-HGW

Report Created: 09-Mar-2022 11:44 Analyst: TF

Sample ID: 11215131-021822-S-SB-NC-B-17 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	B6336_18971_DF_002
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.15 g	QC Batch No.:	18971
Date Collected:	18-Feb-2022	Split:	-	Date Extracted:	03-Mar-2022
Date Received:	22-Feb-2022	Dilution:	-	Date Analyzed:	09-Mar-2022 03:14
Lab Project No:	B6336	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	162		0.205	162	162	162
12378-PeCDD	2.77		0.304	1.39	2.77	2.77
123478-HxCDD	0.992	J	0.24	0.0992	0.0992	0.0992
123678-HxCDD	2.01	J	0.23	0.201	0.201	0.201
123789-HxCDD	4.53		0.218	0.453	0.453	0.453
1234678-HpCDD	73.8		0.253	0.738	0.738	0.738
OCDD	851		0.715	0.851	0.0851	0.255
2378-TCDF	454		0.129	45.4	45.4	45.4
12378-PeCDF	23.3		0.265	1.17	1.17	0.7
23478-PeCDF	19.6	PR	0.286	9.79	9.79	5.88
123478-HxCDF	35.4		0.225	3.54	3.54	3.54
123678-HxCDF	11		0.199	1.1	1.1	1.1
234678-HxCDF	4.45		0.221	0.445	0.445	0.445
123789-HxCDF	(0.274)		0.274	(0.0274)	(0.0274)	(0.0274)
1234678-HpCDF	12.8		0.119	0.128	0.128	0.128
1234789-HpCDF	4.53		0.2	0.0453	0.0453	0.0453
OCDF	9.34		0.468	0.00934	0.000934	0.0028

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TEQ Summaries			
EMPC = 0, ND = 0	228	228	224
EMPC = 0, ND = DL / 2	228	228	224
EMPC = 0, ND = DL	228	228	224
EMPC = 0, < J-level = 0	227	228	224
EMPC = EMPC, ND = 0	228	228	224
EMPC = EMPC, ND = DL / 2	228	228	224
EMPC = EMPC, ND = DL	228	228	224
EMPC = EMPC, < J-level = 0	227	228	224

Checkcode: 095-401-HGW

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Sample ID: Method Blank B6336_18971 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID	MB1_18971_DF_SDS	Date Extracted:	03-Mar-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18971	Date Analyzed:	09-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:55:25

Analyte	Conc. (pg/g)	DL (pg/g)	EMPC (pg/g)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	0.189			ES 2378-TCDD	91.8	
12378-PeCDD	ND	0.195			ES 12378-PeCDD	97.2	
123478-HxCDD	ND	0.2			ES 123478-HxCDD	104	
123678-HxCDD	ND	0.209			ES 123678-HxCDD	103	
123789-HxCDD	ND	0.199			ES 123789-HxCDD	101	
1234678-HpCDD	ND	0.183			ES 1234678-HpCDD	96.4	
OCDD	ND	0.461			ES OCDD	85.8	
2378-TCDF	ND	0.0986			ES 2378-TCDF	90.8	
12378-PeCDF	ND	0.159			ES 12378-PeCDF	94.8	
23478-PeCDF	ND	0.144			ES 23478-PeCDF	95.6	
123478-HxCDF	ND	0.141			ES 123478-HxCDF	100	
123678-HxCDF	ND	0.12			ES 123678-HxCDF	108	
234678-HxCDF	ND	0.123			ES 234678-HxCDF	116	
123789-HxCDF	ND	0.154			ES 123789-HxCDF	100	
1234678-HpCDF	ND	0.131			ES 1234678-HpCDF	108	
1234789-HpCDF	ND	0.2			ES 1234789-HpCDF	95.7	
OCDF	ND	0.424			ES OCDF	87.1	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	94	
Total TCDD	ND	0.189	ND		CS 12347-PeCDD	104	
Total PeCDD	ND	0.195	ND		CS 12346-PeCDF	103	
Total HxCDD	ND	0.202	ND		CS 123469-HxCDF	115	
Total HpCDD	ND	0.183	ND		CS 1234689-HpCDF	110	
Total TCDF	ND	0.0986	ND				
Total PeCDF	ND	0.152	ND				
Total HxCDF	ND	0.133	ND				
Total HpCDF	ND	0.161	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	0.281	0.281	0.281				
TEQ: ND=DL	0.561	0.561	0.561				

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Sample ID: Method Blank B6336_18971 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18971_DF_SDS	Date Extracted:	03-Mar-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18971	Date Analyzed:	09-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:55:25

Tetra-Dioxins	Conc. (pg/g)	Qualifiers	Penta-Dioxins	Conc. (pg/g)	Qualifiers	Hexa-Dioxins	Conc (pg/g)	Qualifiers	Hepta-Dioxins	Conc (pg/g)	Qualifiers
1368D	(0.189)		12479/12468D	(0.195)		124679/124689D	(0.202)		1234679D	(0.183)	
1379D	(0.189)		12469D	(0.195)		123468D	(0.202)		1234678D	(0.183)	
1369D	(0.189)		12368D	(0.195)		123679/123689D	(0.202)				
1469D	(0.189)		12478D	(0.195)		123469D	(0.202)				
1247D...[4]	(0.189)		12379D	(0.195)		123478D	(0.2)				
1378D	(0.189)		12369D...[3]	(0.195)		123678D	(0.209)				
1268D	(0.189)		12346/12347D	(0.195)		123467D	(0.202)				
1478D	(0.189)		12378D	(0.195)		123789D	(0.199)		**Conc.**	0	
1279D	(0.189)		12367D	(0.195)					**EMPC**	0	
1234/1269D	(0.189)		12389D	(0.195)							
1236D	(0.189)								**Octa-Dioxin**	**Conc (pg/g)**	**Qualifiers**
1237/1238D	(0.189)										
1239D	(0.189)								OCDD	(0.461)	
2378D	(0.189)										
1278D	(0.189)										
1267D	(0.189)										
1289D	(0.189)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	0.281	0.281
TEQ: ND=DL	0.561	0.561

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 366-378-DVD

Report Created: 09-Mar-2022 11:43 Analyst: TF

Sample ID: Method Blank B6336_18971 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	Lab Sample ID:	MB1_18971_DF_SDS	Date Extracted:	03-Mar-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No.:	18971	Date Analyzed:	09-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	0:55:25

Tetra-Furans	Conc. (pg/g)	Qualifiers	Penta-Furans	Conc. (pg/g)	Qualifiers	Hexa-Furans	Conc (pg/g)	Qualifiers	Hepta-Furans	Conc (pg/g)	Qualifiers
1368F	(0.0986)		13468/12468F	(0.151)		123468F	(0.133)		1234678F	(0.131)	
1468F	(0.0986)		13678F...[3]	(0.152)		124678/134678F	(0.133)		1234679F	(0.161)	
2468F	(0.0986)		12368F...[3]	(0.152)		134679F	(0.133)		1234689F	(0.161)	
1346/1246F	(0.0986)		14678F	(0.152)		124679F	(0.133)		1234789F	(0.2)	
1347F...[3]	(0.0986)		13479F	(0.152)		124689F	(0.133)				
1348F	(0.0986)		13469/12479F	(0.152)		123467F	(0.133)				
1248F...[3]	(0.0986)		12346F	(0.152)		123478F	(0.141)				
1268F	(0.0986)		23468/12469F	(0.152)		123678F	(0.12)				
1467F	(0.0986)		12347F	(0.152)		123479F	(0.133)				
1478F	(0.0986)		12348F	(0.152)		123469F	(0.133)				
1369/1237F	(0.0986)		12378F	(0.159)		123679F	(0.133)				
2467F	(0.0986)		12678/12367F	(0.152)		234678F	(0.123)		**Conc.**	0	
2368F	(0.0986)		12379F	(0.152)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(0.0986)		12679F	(0.152)		123689F	(0.133)				
1278F	(0.0986)		23467/12369F	(0.152)		123789F	(0.154)		**Octa-Furan**	**Conc**	**Qualifiers**
1349F	(0.0986)		23478F	(0.144)		123789/123489F	0			**(pg/g)**	
1267F	(0.0986)		23478/12489F	0		123489F	(0.133)		OCDF	(0.424)	
2346/1249F	(0.0986)		12489F	(0.152)							
2347/1279F	(0.0986)		12349F	(0.152)							
2348F	(0.0986)		12389F	(0.152)							
2378F	(0.0986)										
2367/3467F	(0.0986)										
1269F	(0.0986)										
1239F	(0.0986)										
1289F	(0.0986)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 366-378-DVD

Report Created: 09-Mar-2022 11:43 Analyst: TF

Sample ID: Method Blank B6336_18971 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Solid	Lab Sample ID:	MB1_18971_DF_SDS
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	10.00 g	QC Batch No.:	18971
Date Collected:	n/a	Split:	-	Date Extracted:	03-Mar-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	09-Mar-2022 00:55
Lab Project No:	B6336	Units	pg/g		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(0.189)		0.189	(0.189)	(0.189)	(0.189)
12378-PeCDD	(0.195)		0.195	(0.0974)	(0.195)	(0.195)
123478-HxCDD	(0.2)		0.2	(0.02)	(0.02)	(0.02)
123678-HxCDD	(0.209)		0.209	(0.0209)	(0.0209)	(0.0209)
123789-HxCDD	(0.199)		0.199	(0.0199)	(0.0199)	(0.0199)
1234678-HpCDD	(0.183)		0.183	(0.00183)	(0.00183)	(0.00183)
OCDD	(0.461)		0.461	(0.000461)	(0.0000461)	(0.000138)
2378-TCDF	(0.0986)		0.0986	(0.00986)	(0.00986)	(0.00986)
12378-PeCDF	(0.159)		0.159	(0.00797)	(0.00797)	(0.00478)
23478-PeCDF	(0.144)		0.144	(0.0721)	(0.0721)	(0.0433)
123478-HxCDF	(0.141)		0.141	(0.0141)	(0.0141)	(0.0141)
123678-HxCDF	(0.12)		0.12	(0.012)	(0.012)	(0.012)
234678-HxCDF	(0.123)		0.123	(0.0123)	(0.0123)	(0.0123)
123789-HxCDF	(0.154)		0.154	(0.0154)	(0.0154)	(0.0154)
1234678-HpCDF	(0.131)		0.131	(0.00131)	(0.00131)	(0.00131)
1234789-HpCDF	(0.2)		0.2	(0.002)	(0.002)	(0.002)
OCDF	(0.424)		0.424	(0.000424)	(0.0000424)	(0.000127)

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TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	0.248	0.297	0.281
EMPC = 0, ND = DL	0.497	0.593	0.561
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	0.248	0.297	0.281
EMPC = EMPC, ND = DL	0.497	0.593	0.561
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 366-378-DVD

SGS North America - DF v0.99

Sample ID: 0_18971_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18971_DF	Date Extracted:	03-Mar-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18971	Date Analyzed:	08-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	21:50:05

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	10.8				ES 2378-TCDD	98	
12378-PeCDD	48.6				ES 12378-PeCDD	102	
123478-HxCDD	51				ES 123478-HxCDD	100	
123678-HxCDD	53.1				ES 123678-HxCDD	96.2	
123789-HxCDD	50.2				ES 123789-HxCDD	94.1	
1234678-HpCDD	51.8				ES 1234678-HpCDD	88.9	
OCDD	106				ES OCDD	72.2	
2378-TCDF	10.5				ES 2378-TCDF	86.5	
12378-PeCDF	48.5				ES 12378-PeCDF	96.7	
23478-PeCDF	51.5				ES 23478-PeCDF	96.6	
123478-HxCDF	50.8				ES 123478-HxCDF	99.3	
123678-HxCDF	50.3				ES 123678-HxCDF	113	
234678-HxCDF	53				ES 234678-HxCDF	110	
123789-HxCDF	48.8				ES 123789-HxCDF	92.7	
1234678-HpCDF	50.4				ES 1234678-HpCDF	103	
1234789-HpCDF	50.6				ES 1234789-HpCDF	86.1	
OCDF	102				ES OCDF	70.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	99.6	
Total TCDD	50		50		CS 12347-PeCDD	108	
Total PeCDD	74.2		74.2		CS 12346-PeCDF	103	
Total HxCDD	171		171		CS 123469-HxCDF	109	
Total HpCDD	64		64		CS 1234689-HpCDF	103	
Total TCDF	60.1		60.1				
Total PeCDF	194		194				
Total HxCDF	327		327				
Total HpCDF	101		101				
Total PCDD/Fs	**1,250**		**1,250**				
WHO-2005 TEQs							
TEQ: ND=0	115		115				
TEQ: ND=DL/2	115	0.245	115				
TEQ: ND=DL	115	0.49	115				

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Sample ID: 0_18971_OPR002 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Solid	Lab Project ID:	B6336	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18971_DF	Date Extracted:	03-Mar-2022
Date Collected:	n/a	% Solid:	n/a	QC Batch No:	18971	Date Analyzed:	08-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	22:36:25

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.2				ES 2378-TCDD	102	
12378-PeCDD	48				ES 12378-PeCDD	105	
123478-HxCDD	53.7				ES 123478-HxCDD	101	
123678-HxCDD	53.5				ES 123678-HxCDD	100	
123789-HxCDD	52.7				ES 123789-HxCDD	94.5	
1234678-HpCDD	52.4				ES 1234678-HpCDD	91.5	
OCDD	107				ES OCDD	77.9	
2378-TCDF	10.9				ES 2378-TCDF	91	
12378-PeCDF	48.7				ES 12378-PeCDF	103	
23478-PeCDF	51.5				ES 23478-PeCDF	102	
123478-HxCDF	49.6				ES 123478-HxCDF	101	
123678-HxCDF	50.9				ES 123678-HxCDF	115	
234678-HxCDF	52.1				ES 234678-HxCDF	114	
123789-HxCDF	49				ES 123789-HxCDF	97.4	
1234678-HpCDF	50				ES 1234678-HpCDF	107	
1234789-HpCDF	51.2				ES 1234789-HpCDF	89.1	
OCDF	101				ES OCDF	75.2	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	99.4	
Total TCDD	49.8		49.8		CS 12347-PeCDD	108	
Total PeCDD	74.4		74.4		CS 12346-PeCDF	108	
Total HxCDD	176		176		CS 123469-HxCDF	111	
Total HpCDD	65		65		CS 1234689-HpCDF	105	
Total TCDF	60		60				
Total PeCDF	192		192				
Total HxCDF	321		321				
Total HpCDF	101		101				
Total PCDD/Fs	**1,250**		**1,250**				
WHO-2005 TEQs							
TEQ: ND=0	115		115				
TEQ: ND=DL/2	115	0.192	115				
TEQ: ND=DL	115	0.384	115				

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Sample DUP

Method 1613B

Sample ID: 0_18971_OPR001

Analyte	OPR1_18971_DF pg/uL	OPR2_18971_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	10.8	11.2	3.3%
1,2,3,7,8-PeCDD	48.6	48	1.3%
1,2,3,4,7,8-HxCDD	51	53.7	5.1%
1,2,3,6,7,8-HxCDD	53.1	53.5	0.7%
1,2,3,7,8,9-HxCDD	50.2	52.7	4.9%
1,2,3,4,6,7,8-HpCDD	51.8	52.4	1.2%
OCDD	106	107	1.5%
2,3,7,8-TCDF	10.5	10.9	3.7%
1,2,3,7,8-PeCDF	48.5	48.7	0.5%
2,3,4,7,8-PeCDF	51.5	51.5	0.1%
1,2,3,4,7,8-HxCDF	50.8	49.6	2.4%
1,2,3,6,7,8-HxCDF	50.3	50.9	1.1%
2,3,4,6,7,8-HxCDF	53	52.1	1.6%
1,2,3,7,8,9-HxCDF	48.8	49	0.4%
1,2,3,4,6,7,8-HpCDF	50.4	50	0.8%
1,2,3,4,7,8,9-HpCDF	50.6	51.2	1.3%
OCDF	102	101	1.3%
Totals			
Total TCDD	50	49.8	0.3%
Total PeCDD	74.2	74.4	0.2%
Total HxCDD	171	176	3.3%
Total HpCDD	64	65	1.6%
Total TCDF	60.1	60	0.2%
Total PeCDF	194	192	1.1%
Total HxCDF	327	321	1.7%
Total HpCDF	101	101	0.2%

Sample Receipt Notification

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Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*22-Feb-22 at 10:22*
AP Project name:	*B6336*
Requested TAT:	*10 business days*
Projected due date:	*14-Mar-22*
Matrix:	*Solid*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-021822-S-SB-NC-O-54	B6336_001*	Solid	1	4oz clear	18-Feb-22	14:10	3.1	1	490527045884
11215131-021822-S-SB-NC-B-17	B6336_002*	Solid	1	4oz clear	18-Feb-22	14:20	3.1	1	490527045884
11215131-021822-S-SB-NC-S-51	B6336_003	Solid	1	4oz clear	18-Feb-22	14:30	3.1	1	490527045884
11215131-021922-S-SB-NC-O-53	B6336_004	Solid	1	4oz clear	19-Feb-22	08:15	3.1	1	490527045884
11215131-021922-S-SB-NC-O-51	B6336_005	Solid	1	4oz clear	19-Feb-22	09:10	3.1	1	490527045884

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact *samples taken off HOLD per email dated 2/25/2022

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Taylor McKnight *Logged in by: Taylor McKnight* *QC'ed by:* TB 2/28/2022

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

SGS CHAIN OF CUSTODY B6336

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ■ Level II ■ Level IV
SPECIAL DELIVERABLES:
☐ DoD ■ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston, T
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

INVOICE TO (■ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

PRESERVATIVE: None

ANALYSIS & METHOD: M1613B; ~~M8290A~~; ~~M1668A~~; ~~M1668C~~; HR-PAH; ~~M4600~~

QC: MS | MSD | DUP

see SSOW

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B	QC	QTY	REMARKS
11215131-021822-S-SB-NC-O-54	2/18/22	1410	C	S	4oz	X		1	HOLD *
11215131-021822-S-SB-NC-B-17	1	1420	C	S	4oz	X		1	HOLD *
11215131-021822-S-SB-NC-S-51	↓	1430	C	S	4oz	X		1	HOLD *
11215131-021922-S-SB-NC-S-50	2/19/22	0800	C	S	4oz	X		1	RUSH * see Tm 2/22
11215131-021922-S-SB-NC-O-53	1	0815	C	S	4oz	X		1	*
11215131-021922-S-SB-NC-O-51	↓	0910	C	S	4oz	X		1	*

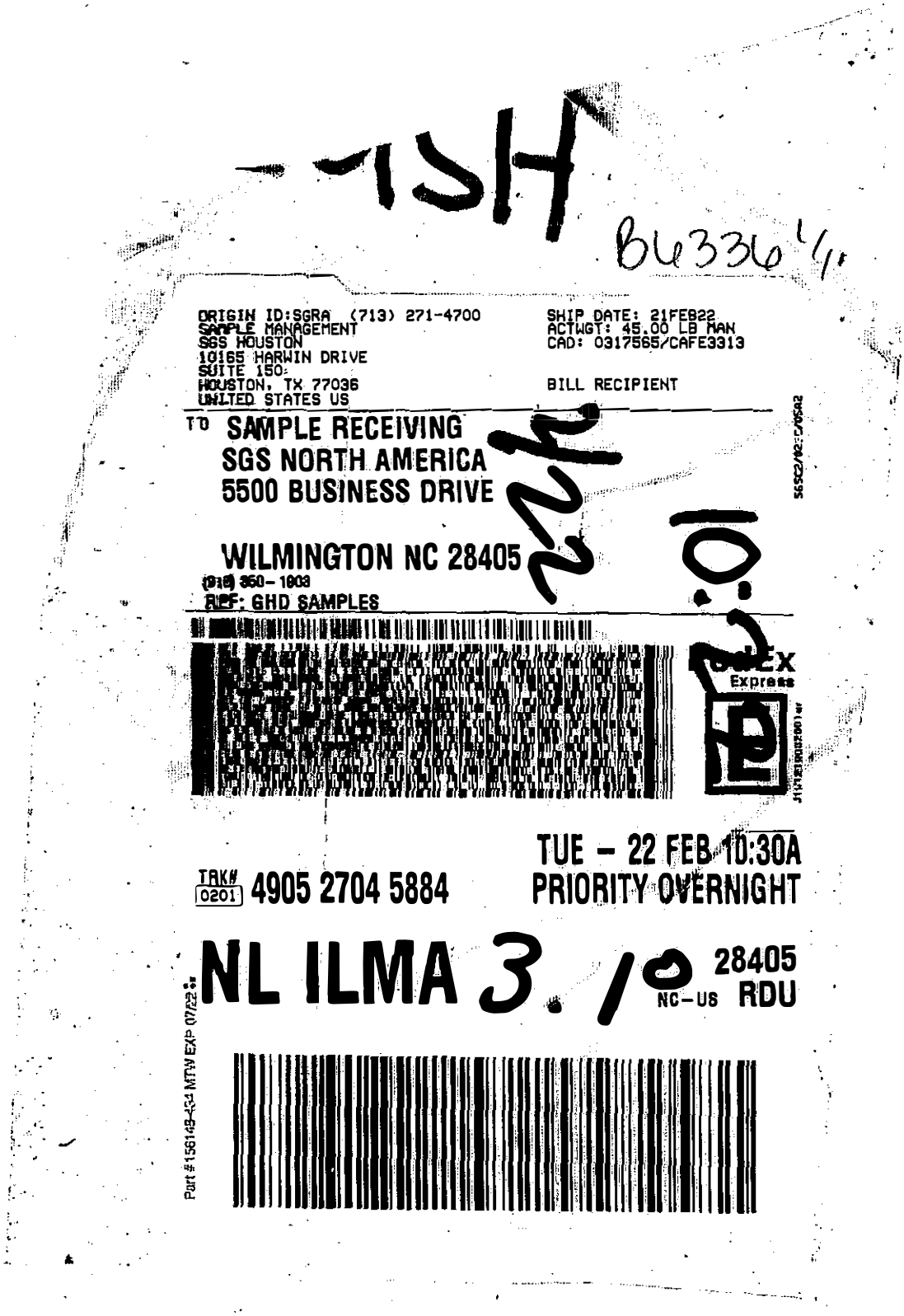
	DATE:	TIME:	
COLLECTED/RELINQUISHED BY (1): Sarah Belanger	2/19/22	1145	RECEIVED BY: Meagan Willis
RELINQUISHED BY (2): Meagan Willis	2/21/22	0815	RECEIVED BY: 2/21/22 0815
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY: 2/22/22 10:22

RECEIVED BY LABORATORY: DATE: 2/22/22 TIME: 10:22
COOLER SEAL: ☐ INTACT ☐ BROKEN ☑ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT
CARRIER: TEMP: °C 3.1 IR4
TRACKING #:

* = Samples in this Project

SGS NORTH AMERICA INC | ENVIRONMENT HEALTH & SAFETY 5500 Business Drive Wilmington, NC 28405 910 350 1903 | 866 846 8290 www.sgs.com/ehs

Member of the SGS Group (SGS SA)



-TSH

B6336 1/1

ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US

SHIP DATE: 21FEB22
ACTWGT: 45.00 LB MAN
CAD: 0317565/CAFE3313

BILL RECIPIENT

TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE

WILMINGTON NC 28405
(910) 350-1903
REF: GHD SAMPLES

22

10:30

Express

TUE - 22 FEB 10:30A
PRIORITY OVERNIGHT

TRK# 0201 4905 2704 5884

NL ILMA 3.10 28405
NC-US RDU

Part # 156143-434 MTW EXP 07/22

Project Initiation Form

Project Number: B6336

Initiation Date: 2/28/2022

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Solid

TAT: 3 days

Project Manager: Tamara

Special Instructions

M1613B w/ OPR & OPRD

10 g DWE extraction

Samples 001 and 002 taken OFF HOLD

Read and understood, initial and date: Prep Lab: KE 3/3/22 3/3/22 HRMS Lab:

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab:

PM Initials: tburkamper Date: 28-Feb-2022

SGS

Methods: PCB PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Extraction Type: SDS CLL | TALEX Carbon SPE | Solid | Final Volume: 20µL

Batch# 18971 | Split: 1/2 ~~1/4~~ | Extract Initial/Date: [illegible] 3/3/22 | Clean-up Initial/Date: [illegible] 3/7/22 | Transfer Init/Date: [illegible] 3/8/22

Lab Sample ID	Extraction Position (Solvent: TOL)	Extraction Weight/Volume g	mL	(Td)	ASECS #	Observations
B6336_18971_001	4	12.19				brown, clay-like
B6336_18971_002	5	12.47				gray, sandy/clay-like
MB1_18971	1	10.00				sodium sulfate
OPR1_18971	2	10.00				sodium sulfate
OPR2_18971	3	10.00				sodium sulfate

Supply IDs

Toluene	STL14-26
MeCHL	STL14-27
Florisil	SPLS-91
Hexane	STL14-29
Silica	SPLS-69
S Nitrate	N/A
Base Silica	SPLS-92
HydroMatrix	N/A
Tetradecane	SPLS-73D
H_2SO_4	N/A
A Silica	SPLS-90
Sodium Sulfate	SPLS-80B

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	
GPC Date/Initial:	09 Mar 22
Bond-Elute Date/Initial:	

Cycle Time

TOL	Start: 1630
	Stop: 0945
HEX	Start:
	Stop:
DCM	Start:
	Stop:

09 Mar 22

3/8/22

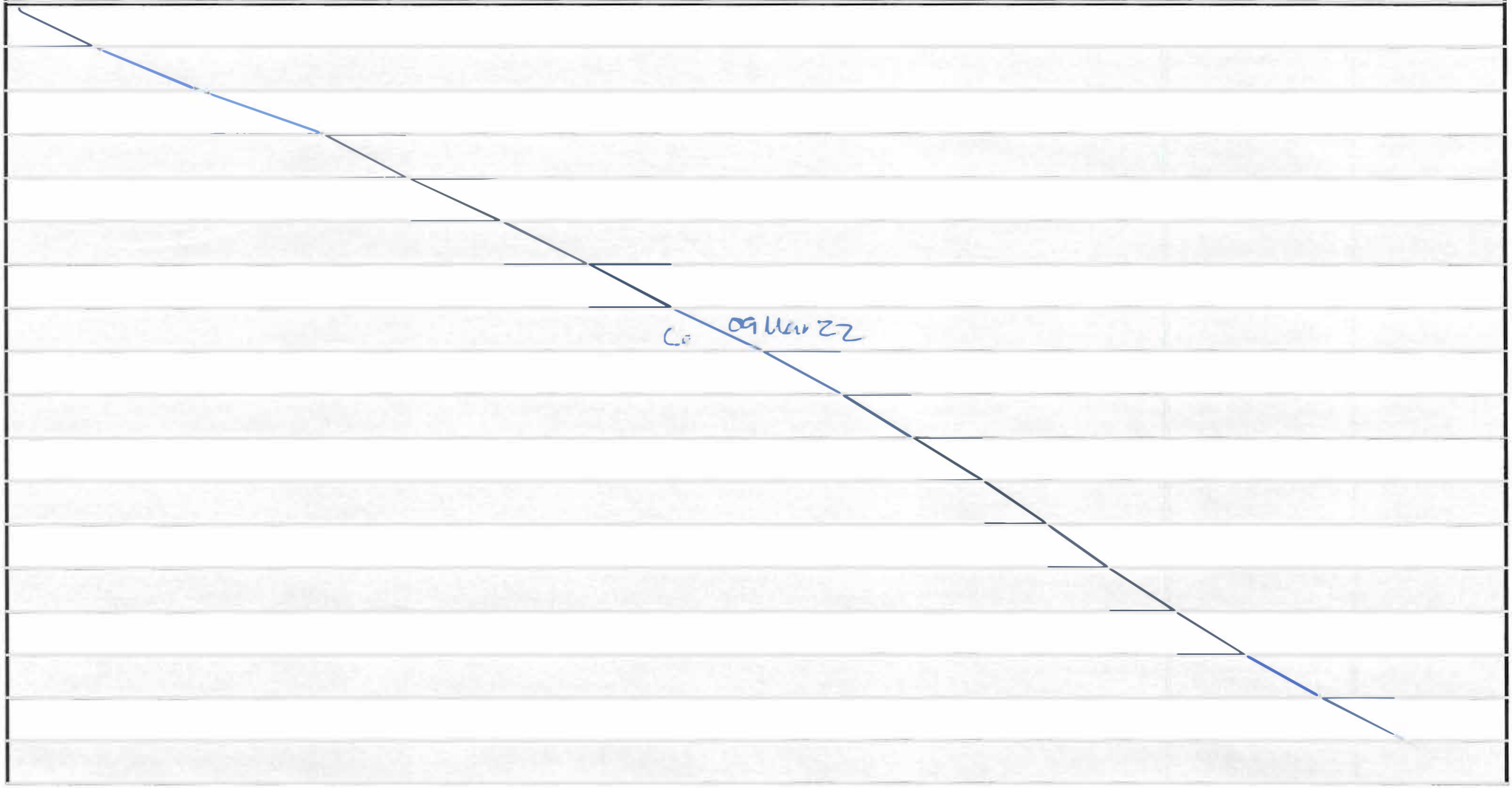
SGS

Methods: PCB PCDD/F QUANTICS DoD PCDD/F
PAH WHO-2 USV PEST

Solid

Batch# 18971

Inter-Department Communication Sheet



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Wt. Volume Results

Batch #: 18971 **Comments:**

Lab Sample ID	Boat WT.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	% Solid	Average % Solid	RSD	Qtest Ratio (if Applicable)	Dry Wt. Equiv.	Extracted Wt.	Final Wt.
B6336_001	2.37	5.02	4.56	82.64%	82.64%			12.1	12.19	10.07
B6336_002	2.4	5.25	4.72	81.40%	81.40%		09 Mar 22	12.28	12.47	10.15

09 Mar 22

% Solid Determination WorkSheet

SGS

Batch: 18971

Lab Sample ID	Boat Wt.	Sample Wt. + Boat Wt.	Dried Sample + Boat Wt.	10g DWE	Comments
B6336_18971_001	2.37	5.02	4.56	12.10	
B6336_18971_002	2.40	5.25	4.72	12.28	

3/30/22

Date/Initials: KE 3/30/22

SGS

Methods: PCB / PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Solid

Batch # 18971

Spiker Initials/Date: 3/3/22 | 3/3/22 | 3/3/22 | 3/7/22 | 3/7/22

Lab Sample ID	D/F Ax-A Amount: 20µL Observer Initials	D/F Ax-B Amount: 20µL Observer Initials	D/F ES Amount: 20µL Observer Initials	D/F CS Amount: 20µL Observer Initials	D/F JS Amount: 20µL Observer Initials	Amount: Observer Initials	Amount: Observer Initials
B6336_18971_001	—	—	KE	KE	JRH		
B6336_18971_002	—	—	KE	KE	JRH		
MB1_18971	—	—	KE	KE	JRH		
OPR1_18971	KE	KE	KE	KE	JRH		
OPR2_18971	KE	KE	KE	KE	JRH		

3/8/22

Standard Information

Pipette ID					
Spike ID	D/F Ax-A	D/F Ax-B	D/F ES	D/F CS	D/F JS
SIL #	26-2-8	25-187-2	26-2-9	25.403.1	25.384.1
Concentration	10 pg/µL	10 pg/µL	100 pg/µL	100 pg/µL	100 pg/µL
Expiration Date	7/9/28	6/22/22	8/2025	2/15/23	1/28/23

3/8/22

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
12	220308C12	3	CS3_220308_DF_CB	1.00	25-347-1	DTF	418-042	08-Mar-2022	21:03:48
13	220308C13	36	OPR1_18971_DF	1.00	0_18971_OPR001	DTF	714-698	08-Mar-2022	21:50:05
14	220308C14	37	OPR2_18971_DF	1.00	0_18971_OPR002	DTF	813-174	08-Mar-2022	22:36:25
16	220308C16	2	SBS_220308_DF_CC	1.00	20-61-1	DTF	771-990	09-Mar-2022	00:09:05
17	220308C17	35	MB1_18971_DF_SDS	10.00	Method Blank	DTF	366-378	09-Mar-2022	00:55:25
18	220308C19	38	B6336_18971_DF_001	10.07	11215131-021822-S-SB-NC-O-54	DTF	285-098	09-Mar-2022	02:28:06
19	220308C20	39	B6336_18971_DF_002	10.15	11215131-021822-S-SB-NC-B-17	DTF	095-401	09-Mar-2022	03:14:27

REVIEWED
Tyler_Fritz , 3/9/2022, 11:52:52 AM

APPROVED
Carla_Lyon , 3/9/2022, 2:08:44 PM

Lab ID: MB1_18971_DF_SDS **Acq'd:** 09 Mar 2022 00:55 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6336_18971 **UTP:** 09-Mar-2022 11:41:49 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 366-378-DVD

Datafile: 220308C17 **Report:** 09 Mar 2022 11:43 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	2528.918	0.189
12378-PeCDD	NotFnd		1.0007	-		-	-	-	1.04	-	2489.997	0.195
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2360.406	0.2
123678-HxCDD	NotFnd		1.0036	-		-	-	-	1.15	-	2360.406	0.209
123789-HxCDD	NotFnd		1.0118	-		-	-	-	1.05	-	2360.406	0.199
1234678-HpCDD	NotFnd		1.0002	-		-	-	-	1.06	-	1866.9806	0.183
OCDD	NotFnd		1.0003	-		-	-	-	1.13	-	2152.3876	0.461
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	1770.7158	0.0986
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2831.394	0.159
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2831.394	0.144
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2261.414	0.141
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2261.414	0.12
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2261.414	0.123
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2261.414	0.154
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2373.807	0.131
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2373.807	0.2
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	2427.566	0.424

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.14	1.0243	1.0244	+0.2	2.45E+07	0.82	Y	1.05	91.8
ES 12378-PeCDD	33.56	1.2198	1.2217	+3.8	2.18E+07	1.49	Y	0.88	97.2
ES 123478-HxCDD	37.50	0.9916	0.9913	-0.7	1.92E+07	1.28	Y	0.97	104
ES 123678-HxCDD	37.62	0.9947	0.9945	-0.5	1.85E+07	1.25	Y	0.94	103
ES 123789-HxCDD	37.93	1.0029	1.0028	-0.2	2.08E+07	1.23	Y	1.09	101
ES 1234678-HpCDD	40.68	1.0749	1.0754	+1.2	1.67E+07	1.01	Y	0.91	96.4
ES OCDD	43.38	1.1460	1.1468	+2.1	2.03E+07	0.89	Y	0.62	85.8
ES 2378-TCDF	27.27	1.0531	1.0536	+0.8	3.74E+07	0.80	Y	1.06	90.8
ES 12378-PeCDF	32.09	1.2378	1.2401	+4.4	3.36E+07	1.50	Y	0.91	94.8
ES 23478-PeCDF	33.22	1.2810	1.2836	+5.2	3.29E+07	1.50	Y	0.88	95.6
ES 123478-HxCDF	36.50	0.9650	0.9649	-0.2	2.28E+07	0.51	Y	1.20	100
ES 123678-HxCDF	36.64	0.9688	0.9686	-0.4	2.77E+07	0.56	Y	1.35	108
ES 234678-HxCDF	37.32	0.9866	0.9865	-0.2	2.73E+07	0.53	Y	1.24	116
ES 123789-HxCDF	38.30	1.0125	1.0124	-0.2	2.20E+07	0.55	Y	1.16	100
ES 1234678-HpCDF	39.74	1.0501	1.0505	+1.0	1.98E+07	0.44	Y	0.97	108
ES 1234789-HpCDF	41.13	1.0870	1.0874	+1.0	1.55E+07	0.46	Y	0.85	95.7
ES OCDF	43.55	1.1505	1.1513	+2.1	2.67E+07	0.89	Y	0.81	87.1

Lab ID: MB1_18971_DF_SDS **Acq'd:** 09 Mar 2022 00:55 DTF **Wt/Vol:** 10.00 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6336_18971 **UTP:** 09-Mar-2022 11:41:49 DTF **J-level:** 0.5 pg/g **Split:** 1 **Checkcode:** 366-378-DVD

Datafile: 220308C17 **Report:** 09 Mar 2022 11:43 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.47		-	-	-	2.55E+07	0.82	Y	-	-	
JS 1234-TCDF	25.88		-	-	-	3.89E+07	0.78	Y	-	-	
JS 123467-HxCDD	37.83		-	-	-	9.48E+06	1.26	Y	-	-	
CS 37Cl-2378-TCDD	28.16		1.0251	1.0252	+0.2	1.15E+07	n/a	-	1.20	94	
CS 12347-PeCDD	33.05		1.2016	1.2032	+3.2	1.99E+07	1.67	Y	0.75	104	
CS 12346-PeCDF	31.56		1.2172	1.2194	+4.2	3.42E+07	1.55	Y	0.85	103	
CS 123469-HxCDF	36.95		0.9771	0.9768	-0.7	2.44E+07	0.53	Y	1.12	115	
CS 1234689-HpCDF	40.14		1.0608	1.0612	+1.0	1.85E+07	0.44	Y	0.89	110	
~~SS 37Cl-2378-TCDD~~	~~28.16~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.15E+07~~	~~n/a~~		~~1.15~~	~~103~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.05~~		~~1.2016~~	~~1.2032~~	~~+3.2~~	~~1.99E+07~~	~~1.67~~	~~Y~~	~~0.86~~	~~106~~	CL 09Mar22
~~SS 12346-PeCDF~~	~~31.56~~		~~1.2172~~	~~1.2194~~	~~+4.2~~	~~3.42E+07~~	~~1.55~~	~~Y~~	~~0.94~~	~~109~~	
~~SS 123469-HxCDF~~	~~36.95~~		~~0.9771~~	~~0.9768~~	~~-0.7~~	~~2.44E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~106~~	
~~SS 1234689-HpCDF~~	~~40.14~~		~~1.0608~~	~~1.0612~~	~~+1.0~~	~~1.85E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~102~~	

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: MB1_18971_DF_SDS **Acq'd: 09 Mar 2022 00:55 DTF** **Wt/Vol: 10.00 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6336_18971 **UTP: 09-Mar-2022 11:41:49 DTF** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 366-378-DVD**

Datafile: 220308C17 **Report: 09 Mar 2022 11:43 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		2528.918	0.189
1379-TCDD	NotFnd		0.8829						1.18		2528.918	0.189
1369-TCDD	NotFnd		0.8982						1.18		2528.918	0.189
1469-TCDD	NotFnd		0.9261						1.18		2528.918	0.189
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		2528.918	0.189
1378-TCDD	NotFnd		0.9417						1.18		2528.918	0.189
1268-TCDD	NotFnd		0.9487						1.18		2528.918	0.189
1478-TCDD	NotFnd		0.9576						1.18		2528.918	0.189
1279-TCDD	NotFnd		0.9636						1.18		2528.918	0.189
1234/1269-TCDD	NotFnd		0.9761						1.18		2528.918	0.189
1236-TCDD	NotFnd		0.9812						1.18		2528.918	0.189
1237/1238-TCDD	NotFnd		0.9905						1.18		2528.918	0.189
1239-TCDD	NotFnd		0.9951						1.18		2528.918	0.189
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**2528.918**	**0.189**
1278-TCDD	NotFnd		1.0124						1.18		2528.918	0.189
1267-TCDD	NotFnd		1.0172						1.18		2528.918	0.189
1289-TCDD	NotFnd		1.0354						1.18		2528.918	0.189
12479/12468-PeCDD	NotFnd		0.9255						1.04		2489.997	0.195
12469-PeCDD	NotFnd		0.9416						1.04		2489.997	0.195
12368-PeCDD	NotFnd		0.9582						1.04		2489.997	0.195
12478-PeCDD	NotFnd		0.9637						1.04		2489.997	0.195
12379-PeCDD	NotFnd		0.9668						1.04		2489.997	0.195
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		2489.997	0.195
12346/12347-PeCDD	NotFnd		0.9858						1.04		2489.997	0.195
12378-PeCDD	NotFnd		**1.0007**						**1.04**		**2489.997**	**0.195**
12367-PeCDD	NotFnd		1.0036						1.04		2489.997	0.195
12389-PeCDD	NotFnd		1.0137						1.04		2489.997	0.195
124679/124689-HxCDD	NotFnd		0.9540						1.10		2360.406	0.202
123468-HxCDD	NotFnd		0.9715						1.10		2360.406	0.202
123679/123689-HxCDD	NotFnd		0.9793						1.10		2360.406	0.202
123469-HxCDD	NotFnd		0.9829						1.10		2360.406	0.202
123478-HxCDD	NotFnd		**1.0004**						1.09		**2360.406**	**0.2**
123678-HxCDD	NotFnd		**1.0036**						1.15		**2360.406**	**0.209**
123467-HxCDD	NotFnd		1.0089						1.10		2360.406	0.202
123789-HxCDD	NotFnd		**1.0118**						1.05		**2360.406**	**0.199**

Lab ID: MB1_18971_DF_SDS | **Acq'd: 09 Mar 2022 00:55 DTF** | **Wt/Vol: 10.00 g** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6336_18971 | **UTP: 09-Mar-2022 11:41:49 DTF** | **J-level: 0.5 pg/g** | **Split: 1** | **Checkcode: 366-378-DVD**

Datafile: 220308C17 | **Report: 09 Mar 2022 11:43 TF** | **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

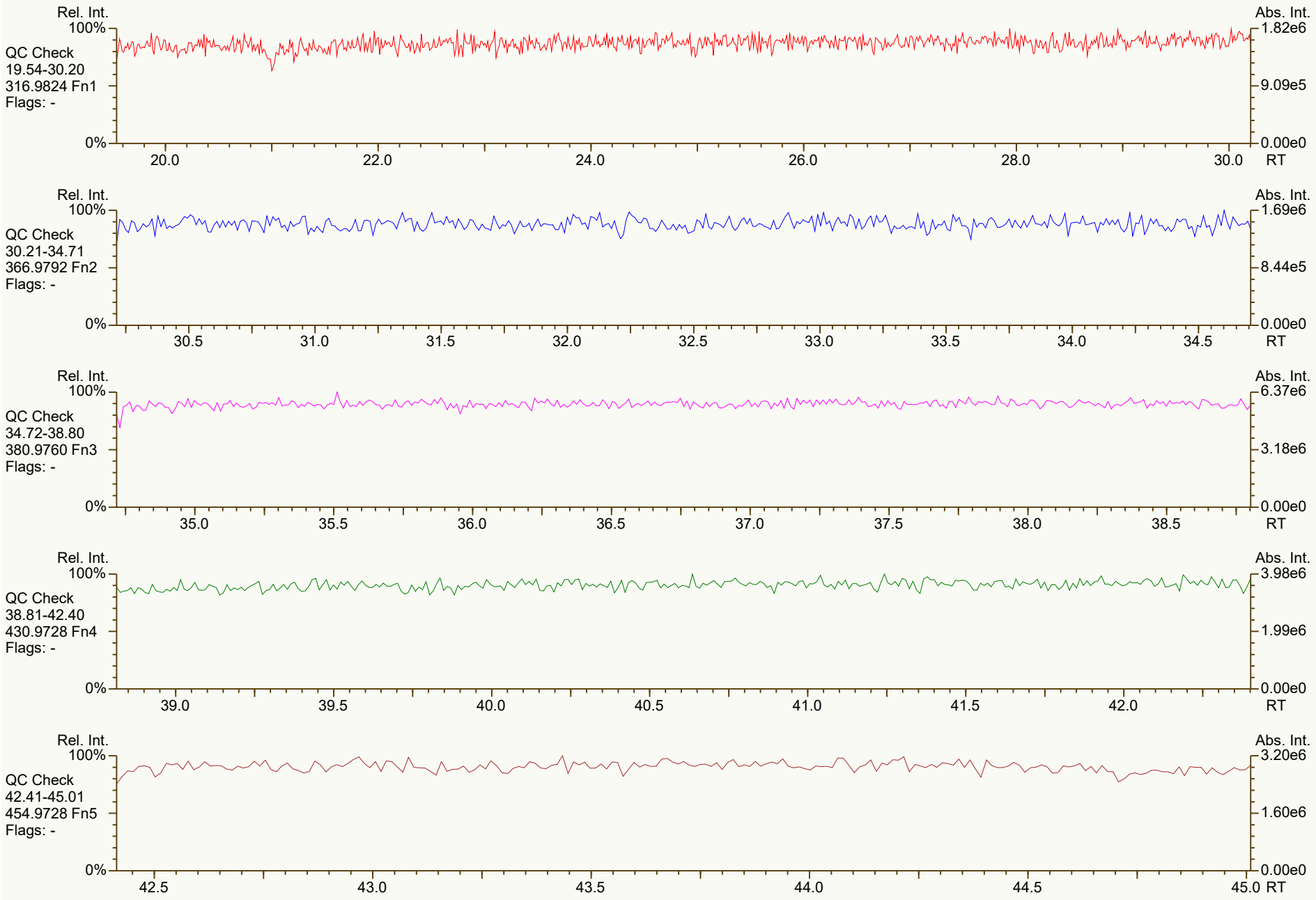
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9836						1.06		1866.9806	0.183
1234678-HpCDD	**NotFnd**		**1.0002**						**1.06**		**1866.9806**	**0.183**
OCDD	**NotFnd**		**1.0003**						**1.13**		**2152.3876**	**0.461**
OCDD-a	NotFnd		1.0002						0.07		3178.723	10.7
1368-TCDF	NotFnd		0.8191						1.08		1770.7158	0.0986
1468-TCDF	NotFnd		0.8408						1.08		1770.7158	0.0986
2468-TCDF	NotFnd		0.8645						1.08		1770.7158	0.0986
1346/1246-TCDF	NotFnd		0.8772						1.08		1770.7158	0.0986
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		1770.7158	0.0986
1348-TCDF	NotFnd		0.8932						1.08		1770.7158	0.0986
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		1770.7158	0.0986
1268-TCDF	NotFnd		0.9119						1.08		1770.7158	0.0986
1467-TCDF	NotFnd		0.9170						1.08		1770.7158	0.0986
1478-TCDF	NotFnd		0.9234						1.08		1770.7158	0.0986
1369/1237-TCDF	NotFnd		0.9369						1.08		1770.7158	0.0986
2467-TCDF	NotFnd		0.9415						1.08		1770.7158	0.0986
2368-TCDF	NotFnd		0.9475						1.08		1770.7158	0.0986
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		1770.7158	0.0986
1278-TCDF	NotFnd		0.9676						1.08		1770.7158	0.0986
1349-TCDF	NotFnd		0.9722						1.08		1770.7158	0.0986
1267-TCDF	NotFnd		0.9777						1.08		1770.7158	0.0986
2346/1249-TCDF	NotFnd		0.9843						1.08		1770.7158	0.0986
2347/1279-TCDF	NotFnd		0.9926						1.08		1770.7158	0.0986
2348-TCDF	NotFnd		0.9968						1.08		1770.7158	0.0986
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**1770.7158**	**0.0986**
2367/3467-TCDF	NotFnd		1.0142						1.08		1770.7158	0.0986
1269-TCDF	NotFnd		1.0235						1.08		1770.7158	0.0986
1239-TCDF	NotFnd		1.0329						1.08		1770.7158	0.0986
1289-TCDF	NotFnd		1.0742						1.08		1770.7158	0.0986
13468/12468-PeCDF	NotFnd		0.9122						1.02		2809.516	0.151
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		2831.394	0.152
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		2831.394	0.152
14678-PeCDF	NotFnd		0.9685						1.02		2831.394	0.152
13479-PeCDF	NotFnd		0.9716						1.02		2831.394	0.152
13469/12479-PeCDF	NotFnd		0.9794						1.02		2831.394	0.152
12346-PeCDF	NotFnd		0.9836						1.02		2831.394	0.152

Lab ID: MB1_18971_DF_SDS **Acq'd: 09 Mar 2022 00:55 DTF** **Wt/Vol: 10.00 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6336_18971 **UTP: 09-Mar-2022 11:41:49 DTF** **J-level: 0.5 pg/g** **Split: 1** **Checkcode: 366-378-DVD**

Datafile: 220308C17 **Report: 09 Mar 2022 11:43 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		2831.394	0.152
12347-PeCDF	NotFnd		0.9891						1.02		2831.394	0.152
12348-PeCDF	NotFnd		0.9938						1.02		2831.394	0.152
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2831.394**	**0.159**
12678/12367-PeCDF	NotFnd		1.0091						1.02		2831.394	0.152
12379-PeCDF	NotFnd		1.0144						1.02		2831.394	0.152
12679-PeCDF	NotFnd		0.9927						1.02		2831.394	0.152
23467/12369-PeCDF	NotFnd		0.9965						1.02		2831.394	0.152
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2831.394**	**0.144**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2831.394	0.152
12349-PeCDF	NotFnd		1.0101						1.02		2831.394	0.152
12389-PeCDF	NotFnd		1.0330						1.02		2831.394	0.152
123468-HxCDF	NotFnd		0.9622						1.19		2261.414	0.133
124678/134678-HxCDF	NotFnd		0.9678						1.19		2261.414	0.133
134679-HxCDF	NotFnd		0.9741						1.19		2261.414	0.133
124679-HxCDF	NotFnd		0.9795						1.19		2261.414	0.133
124689-HxCDF	NotFnd		0.9856						1.19		2261.414	0.133
123467-HxCDF	NotFnd		0.9972						1.19		2261.414	0.133
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2261.414**	**0.141**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2261.414**	**0.12**
123479-HxCDF	NotFnd		1.0048						1.19		2261.414	0.133
123469-HxCDF	NotFnd		1.0089						1.19		2261.414	0.133
123679-HxCDF	NotFnd		0.9942						1.19		2261.414	0.133
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2261.414**	**0.123**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2261.414	0.133
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2261.414**	**0.154**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		2261.414	0.133
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2373.807**	**0.131**
1234679-HpCDF	NotFnd		1.0068						1.34		2373.807	0.161
1234689-HpCDF	NotFnd		1.0104						1.34		2373.807	0.161
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2373.807**	**0.2**
OCDF	**NotFnd**		**1.0002**						**1.07**		**2427.566**	**0.424**
OCDF-a	NotFnd		1.0001						0.07		2540.734	7.16

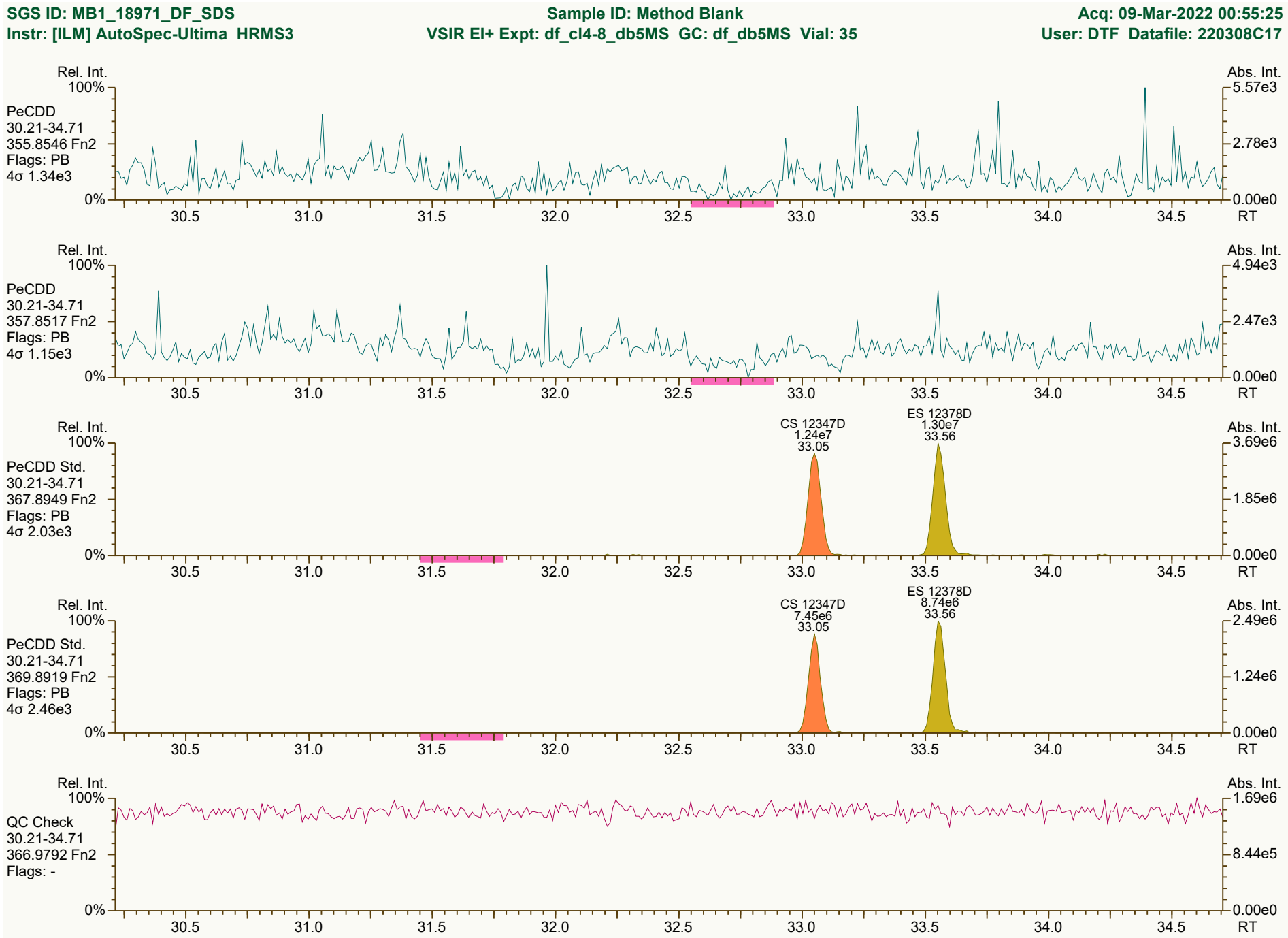

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.82e6
9.09e5
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
1.69e6
8.44e5
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
6.37e6
3.18e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
3.98e6
1.99e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
3.20e6
1.60e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 1.29e3
0%
Abs. Int.
7.58e3
3.79e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.24e3
0%
Abs. Int.
7.43e3
3.72e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.27e3
0%
CS 37Cl-2378D
1.15e7
28.16
Abs. Int.
2.72e6
1.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 2.28e3
0%
JS 1234D
1.15e7
27.47
ES 2378D
1.10e7
28.14
Abs. Int.
2.55e6
1.27e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 1.72e3
0%
JS 1234D
1.40e7
27.47
ES 2378D
1.35e7
28.14
Abs. Int.
3.32e6
1.66e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: MB1_18971_DF_SDS
Instr: [ILM] AutoSpec-Ultima HRMS3

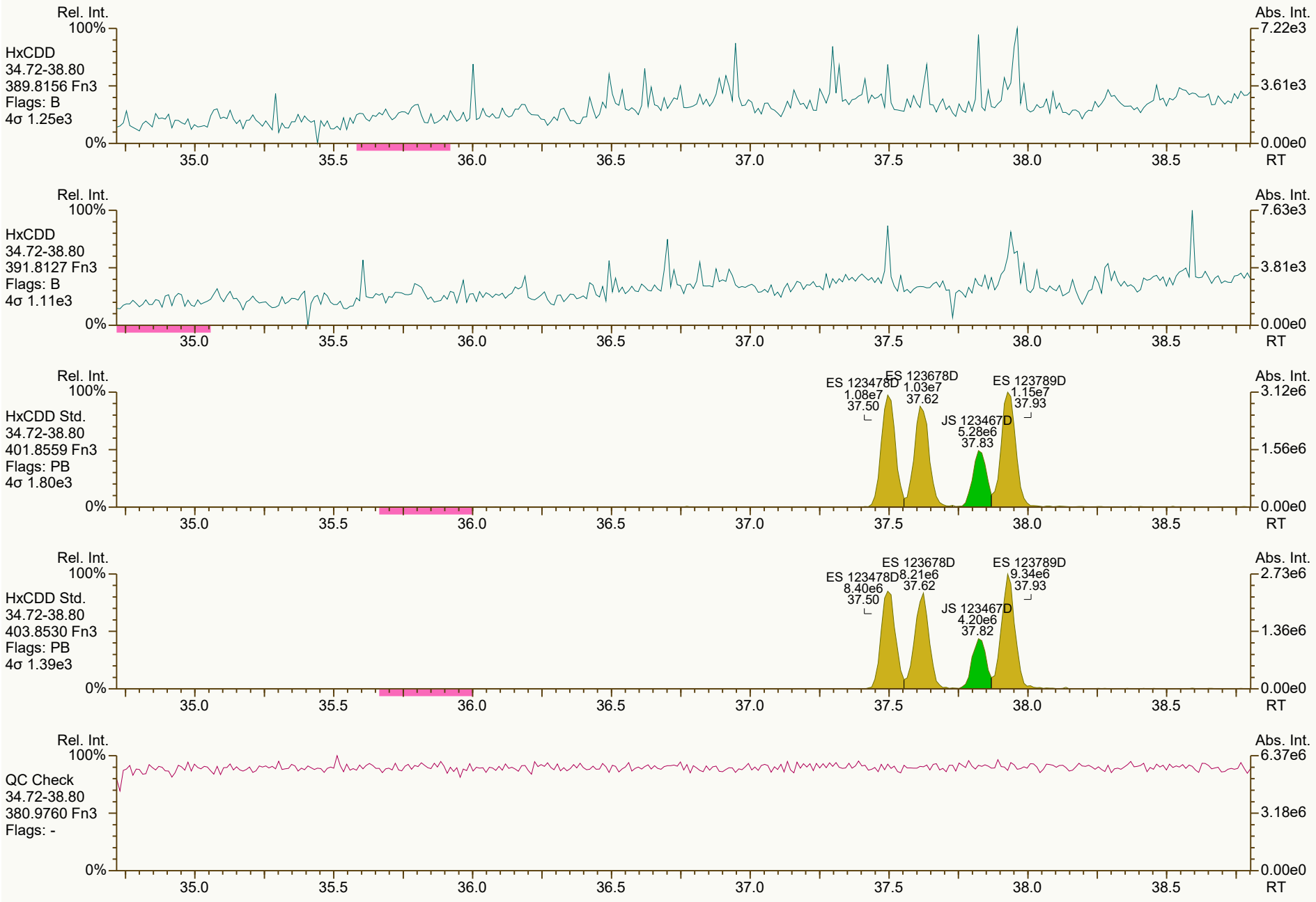
Sample ID: Method Blank
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 35

Acq: 09-Mar-2022 00:55:25
User: DTF Datafile: 220308C17



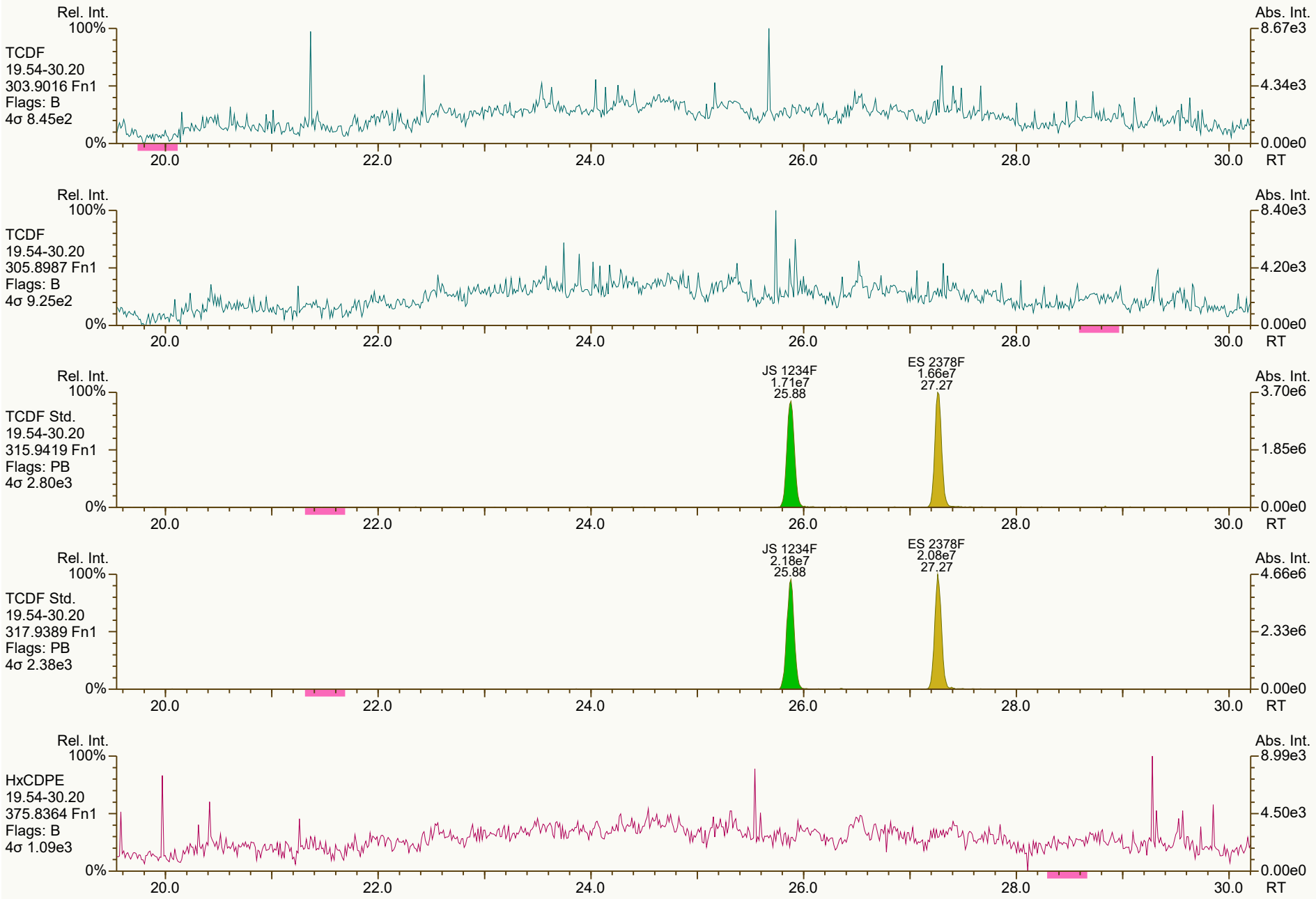
Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\MB1_18971_DF_SDS.utp_res, saved 09-Mar-2022 11:41 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1357, 2913 scc: 366-378

Peak annotation: Areas, Centroids
PKD: 09-Mar-2022 11:25 Printed: 09-Mar-2022 11:48 Page 3 of 12


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: B
4σ 1.25e3
0%
Abs. Int.
7.22e3
3.61e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: B
4σ 1.11e3
0%
Abs. Int.
7.63e3
3.81e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 1.80e3
0%
ES 123478D
1.08e7
37.50
ES 123678D
1.03e7
37.62
JS 123467D
5.28e6
37.83
ES 123789D
1.15e7
37.93
Abs. Int.
3.12e6
1.56e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 1.39e3
0%
ES 123478D
8.40e6
37.50
ES 123678D
8.21e6
37.62
JS 123467D
4.20e6
37.82
ES 123789D
9.34e6
37.93
Abs. Int.
2.73e6
1.36e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
6.37e6
3.18e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

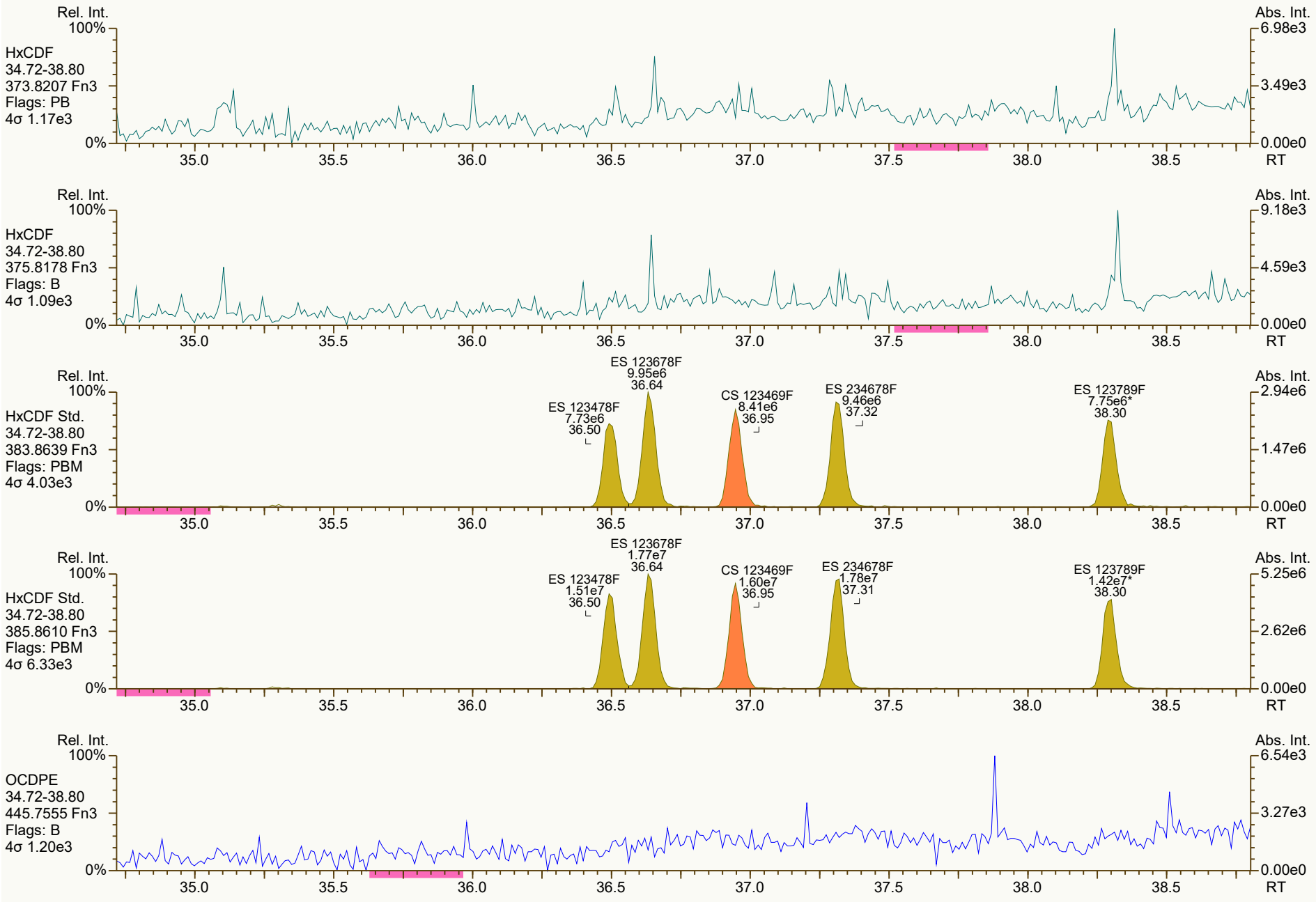

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: B
4σ 9.11e2
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 9.56e2
0%
Abs. Int.
5.54e3
2.77e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
8.40e6
40.68
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 1.41e3
0%
Abs. Int.
2.43e6
1.21e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
8.30e6
40.68
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.02e3
0%
Abs. Int.
2.38e6
1.19e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
3.98e6
1.99e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

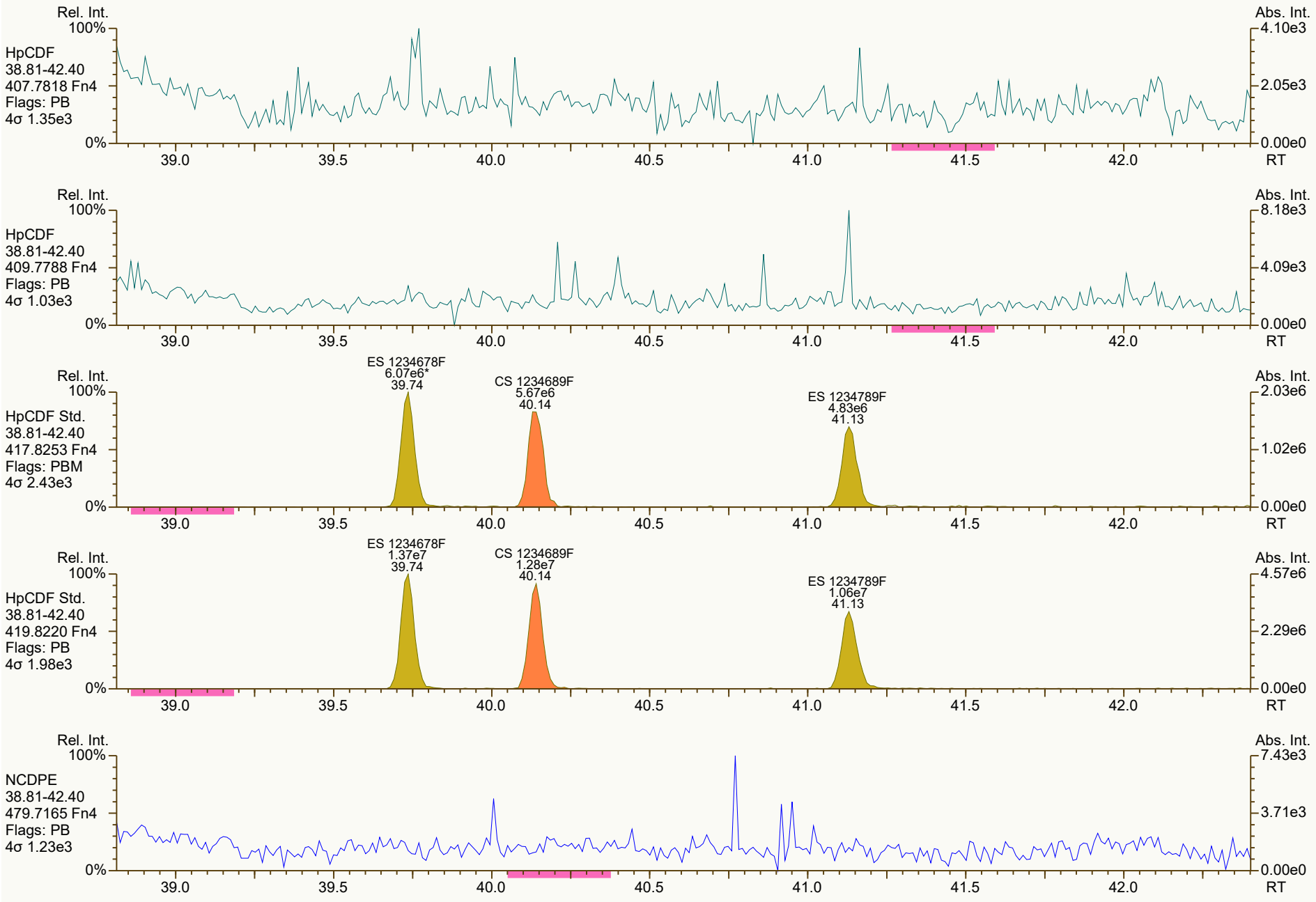

Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 9.93e2
0%
Abs. Int.
4.68e3
2.34e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 1.16e3
0%
Abs. Int.
6.94e3
3.47e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
9.58e6
43.38
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 1.41e3
0%
Abs. Int.
1.96e6
9.78e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.07e7
43.38
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.53e3
0%
Abs. Int.
2.07e6
1.03e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
3.20e6
1.60e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: B
4σ 8.45e2
0%
Abs. Int.
8.67e3
4.34e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 9.25e2
0%
Abs. Int.
8.40e3
4.20e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 2.80e3
0%
JS 1234F
1.71e7
25.88
ES 2378F
1.66e7
27.27
Abs. Int.
3.70e6
1.85e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.38e3
0%
JS 1234F
2.18e7
25.88
ES 2378F
2.08e7
27.27
Abs. Int.
4.66e6
2.33e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.09e3
0%
Abs. Int.
8.99e3
4.50e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
7.07e3
3.54e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.60e3
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.21e3
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
1.34e4
6.70e3
1.82e6
9.09e5


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: B
4σ 1.27e3
0%
Abs. Int.
7.95e3
3.98e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 1.57e3
0%
Abs. Int.
6.91e3
3.45e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 2.01e3
0%
CS 12346F
2.07e7
31.56
ES 12378F
2.01e7
32.09
ES 23478F
1.97e7
33.22
Abs. Int.
5.78e6
2.89e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 1.97e3
0%
CS 12346F
1.34e7
31.56
ES 12378F
1.34e7
32.09
ES 23478F
1.31e7
33.22
Abs. Int.
3.71e6
1.85e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: PB
4σ 1.42e3
0%
Abs. Int.
4.62e3
2.31e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PB
4σ 1.17e3
0%
Abs. Int.
6.98e3
3.49e3
0.00e0
RT
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: B
4σ 1.09e3
0%
Abs. Int.
9.18e3
4.59e3
0.00e0
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 4.03e3
0%
ES 123678F
9.95e6
36.64
ES 123478F
7.73e6
36.50
CS 123469F
8.41e6
36.95
ES 234678F
9.46e6
37.32
ES 123789F
7.75e6*
38.30
Abs. Int.
2.94e6
1.47e6
0.00e0
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 6.33e3
0%
ES 123678F
1.77e7
36.64
ES 123478F
1.51e7
36.50
CS 123469F
1.60e7
36.95
ES 234678F
1.78e7
37.31
ES 123789F
1.42e7*
38.30
Abs. Int.
5.25e6
2.62e6
0.00e0
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.20e3
0%
Abs. Int.
6.54e3
3.27e3
0.00e0
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.35e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.03e3
0%
Abs. Int.
8.18e3
4.09e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 2.43e3
0%
ES 1234678F
6.07e6*
39.74
CS 1234689F
5.67e6
40.14
ES 1234789F
4.83e6
41.13
Abs. Int.
2.03e6
1.02e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 1.98e3
0%
ES 1234678F
1.37e7
39.74
CS 1234689F
1.28e7
40.14
ES 1234789F
1.06e7
41.13
Abs. Int.
4.57e6
2.29e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.23e3
0%
Abs. Int.
7.43e3
3.71e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: B
4σ 1.33e3
0%
Abs. Int.
6.14e3
3.07e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: B
4σ 1.10e3
0%
Abs. Int.
6.90e3
3.45e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.26e7
43.55
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 1.58e3
0%
Abs. Int.
2.52e6
1.26e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.41e7
43.55
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 2.06e3
0%
Abs. Int.
2.95e6
1.47e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.24e3
0%
Abs. Int.
5.63e3
2.81e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: B6336_18971_DF_001 **Acq'd:** 09 Mar 2022 02:28 DTF **Wt/Vol:** 10.07 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-NC-O-54 **UTP:** 09-Mar-2022 11:41:50 DTF **J-level:** 0.497 pg/g **Split:** 1 **Checkcode:** 285-098-FZV

Datafile: 220308C19 **Report:** 09 Mar 2022 11:44 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.16		1.0008	1.0008	0	5.77E+06	0.82	Y	1.18	34.4	2794.979	0.174
12378-PeCDD	33.57	J	1.0007	1.0005	-0.4	1.74E+05	1.76	Y	1.04	1.29	3067.841	0.207
123478-HxCDD	37.51		1.0004	1.0004	0	3.06E+05	1.35	Y	1.09	2.49	4434.428	0.319
123678-HxCDD	37.63		1.0036	1.0037	+0.2	1.01E+06	1.38	Y	1.15	8.47	4434.428	0.324
123789-HxCDD	37.94		1.0118	1.0118	0	5.51E+05	1.25	Y	1.05	4.27	4434.428	0.296
1234678-HpCDD	40.69		1.0002	1.0004	+0.5	1.91E+07	1.05	Y	1.06	172	3005.693	0.238
OCDD	43.38		1.0003	1.0002	-0.3	1.79E+08	0.91	Y	1.13	2,390	2599.985	0.41
2378-TCDF	27.28		1.0008	1.0008	0	2.42E+07	0.81	Y	1.08	108	2318.639	0.109
12378-PeCDF	32.10		1.0005	1.0005	0	1.11E+06	1.47	Y	1.02	5.58	4367.341	0.202
23478-PeCDF	33.24	PR	1.0005	1.0008	+0.6	1.09E+06	1.42	Y	1.02	5.52	4367.341	0.192
123478-HxCDF	36.51		1.0004	1.0005	+0.2	2.06E+06	1.26	Y	1.27	11.6	6277.715	0.287
123678-HxCDF	36.65		1.0004	1.0005	+0.2	6.18E+05	1.17	Y	1.15	3.36	6277.715	0.281
234678-HxCDF	37.32	J	1.0005	1.0004	-0.2	4.51E+05	1.23	Y	1.19	2.39	6277.715	0.301
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	6277.715	0.344
1234678-HpCDF	39.74		1.0003	1.0002	-0.2	5.93E+06	1.05	Y	1.37	35.7	3329.392	0.145
1234789-HpCDF	41.13		1.0003	1.0003	0	6.00E+05	1.05	Y	1.31	4.61	3329.392	0.225
OCDF	43.55		1.0002	1.0002	0	1.50E+07	0.85	Y	1.07	160	2406.623	0.297

Name	Act RT		Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.14		1.0243	1.0245	+0.3	2.81E+07	0.79	Y	1.05	95.6
ES 12378-PeCDD	33.55		1.2198	1.2217	+3.8	2.57E+07	1.58	Y	0.88	104
ES 123478-HxCDD	37.49		0.9916	0.9914	-0.4	2.24E+07	1.27	Y	0.97	95.5
ES 123678-HxCDD	37.61		0.9947	0.9946	-0.2	2.07E+07	1.21	Y	0.94	90.8
ES 123789-HxCDD	37.92		1.0029	1.0027	-0.5	2.45E+07	1.28	Y	1.09	93
ES 1234678-HpCDD	40.67		1.0749	1.0754	+1.2	2.08E+07	1.05	Y	0.91	94.6
ES OCDD	43.37		1.1460	1.1468	+2.1	2.64E+07	0.92	Y	0.62	87.7
ES 2378-TCDF	27.26		1.0531	1.0536	+0.8	4.13E+07	0.83	Y	1.06	89.5
ES 12378-PeCDF	32.09		1.2378	1.2401	+4.4	3.84E+07	1.58	Y	0.91	97
ES 23478-PeCDF	33.21		1.2810	1.2836	+5.2	3.85E+07	1.55	Y	0.88	100
ES 123478-HxCDF	36.49		0.9650	0.9649	-0.2	2.77E+07	0.54	Y	1.20	95.7
ES 123678-HxCDF	36.63		0.9688	0.9686	-0.4	3.16E+07	0.53	Y	1.35	97
ES 234678-HxCDF	37.31		0.9866	0.9864	-0.4	3.16E+07	0.54	Y	1.24	105
ES 123789-HxCDF	38.29		1.0125	1.0124	-0.2	2.68E+07	0.54	Y	1.16	96.2
ES 1234678-HpCDF	39.73		1.0501	1.0504	+0.7	2.41E+07	0.45	Y	0.97	103
ES 1234789-HpCDF	41.12		1.0870	1.0873	+0.7	1.98E+07	0.45	Y	0.85	96.4
ES OCDF	43.54		1.1505	1.1512	+1.8	3.47E+07	0.90	Y	0.81	89

Lab ID: B6336_18971_DF_001 **Acq'd:** 09 Mar 2022 02:28 DTF **Wt/Vol:** 10.07 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-NC-O-54 **UTP:** 09-Mar-2022 11:41:50 DTF **J-level:** 0.497 pg/g **Split:** 1 **Checkcode:** 285-098-FZV

Datafile: 220308C19 **Report:** 09 Mar 2022 11:44 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.46		-	-	-	2.81E+07	0.81	Y	-	-	
JS 1234-TCDF	25.88		-	-	-	4.35E+07	0.81	Y	-	-	
JS 123467-HxCDD	37.82		-	-	-	1.21E+07	1.25	Y	-	-	
CS 37Cl-2378-TCDD	28.16		1.0251	1.0253	+0.3	1.30E+07	n/a	-	1.20	96.2	
CS 12347-PeCDD	33.05		1.2016	1.2033	+3.4	2.23E+07	1.61	Y	0.75	105	
CS 12346-PeCDF	31.55		1.2172	1.2194	+4.2	3.78E+07	1.53	Y	0.85	102	
CS 123469-HxCDF	36.94		0.9771	0.9768	-0.7	2.83E+07	0.54	Y	1.12	105	
CS 1234689-HpCDF	40.14		1.0608	1.0612	+1.0	2.33E+07	0.47	Y	0.89	109	
~~SS 37Cl-2378-TCDD~~	~~28.16~~		~~1.0251~~	~~1.0253~~	~~+0.3~~	~~1.30E+07~~	~~n/a~~		~~1.15~~	~~101~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.05~~		~~1.2016~~	~~1.2033~~	~~+3.4~~	~~2.23E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~101~~	CL 09Mar22
~~SS 12346-PeCDF~~	~~31.55~~		~~1.2172~~	~~1.2194~~	~~+4.2~~	~~3.78E+07~~	~~1.53~~	~~Y~~	~~0.94~~	~~105~~	
~~SS 123469-HxCDF~~	~~36.94~~		~~0.9771~~	~~0.9768~~	~~-0.7~~	~~2.83E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~108~~	
~~SS 1234689-HpCDF~~	~~40.14~~		~~1.0608~~	~~1.0612~~	~~+1.0~~	~~2.33E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~105~~	

Totals	Conc	EMPC
Total TCDD	39.6	45.7
Total PeCDD	13.3	15.4
Total HxCDD	80.4	81.7
Total HpCDD	432	432
Total Tetra-Octa Dioxins	2950	2960
Total TCDF	214	215
Total PeCDF	40.9	41.4
Total HxCDF	52.6	53.5
Total HpCDF	87.4	87.4
Total Tetra-Octa Furans	555	557
Total Tetra-Octa Dioxins & Furans	3500	3520

Lab ID: B6336_18971_DF_001 **Acq'd: 09 Mar 2022 02:28 DTF** **Wt/Vol: 10.07 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021822-S-SB-NC-O-54 **UTP: 09-Mar-2022 11:41:50 DTF** **J-level: 0.497 pg/g** **Split: 1** **Checkcode: 285-098-FZV**

Datafile: 220308C19 **Report: 09 Mar 2022 11:44 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.44		0.8701	0.8687	-2.1	3.64E+05	0.72	Y	1.18	2.17	2794.979	0.174
1379-TCDD	24.81		0.8829	0.8818	-1.6	1.69E+05	0.85	Y	1.18	1.01	2794.979	0.174
1369-TCDD	NotFnd		0.8982						1.18		2794.979	0.174
1469-TCDD	26.04	EMPC	0.9261	0.9254	-1.1	4.66E+05	0.89	N	1.18	2.78	2794.979	0.174
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		2794.979	0.174
1378-TCDD	26.48		0.9417	0.9412	-0.8	9.98E+04	0.68	Y	1.18	0.595	2794.979	0.174
1268-TCDD	NotFnd		0.9487						1.18		2794.979	0.174
1478-TCDD	NotFnd		0.9576						1.18		2794.979	0.174
1279-TCDD	NotFnd		0.9636						1.18		2794.979	0.174
1234/1269-TCDD	27.44	J EMPC	0.9761	0.9754	-1.2	8.09E+04	1.01	N	1.18	0.483	2794.979	0.174
1236-TCDD	NotFnd		0.9812						1.18		2794.979	0.174
1237/1238-TCDD	27.87		0.9905	0.9907	+0.3	2.42E+05	0.84	Y	1.18	1.44	2794.979	0.174
1239-TCDD	NotFnd		0.9951						1.18		2794.979	0.174
2378-TCDD	**28.16**		**1.0008**	1.0008	**0**	5.77E+06	0.82	Y	**1.18**	**34.4**	**2794.979**	**0.174**
1278-TCDD	28.49	EMPC	1.0124	1.0126	+0.3	4.74E+05	0.63	N	1.18	2.83	2794.979	0.174
1267-TCDD	NotFnd		1.0172						1.18		2794.979	0.174
1289-TCDD	NotFnd		1.0354						1.18		2794.979	0.174
12479/12468-PeCDD	31.04		0.9255	0.9252	-0.6	6.09E+05	1.46	Y	1.04	4.53	3067.841	0.207
12469-PeCDD	31.58		0.9416	0.9412	-0.8	4.02E+05	1.38	Y	1.04	2.99	3067.841	0.207
12368-PeCDD	32.14	J	0.9582	0.9579	-0.6	2.43E+05	1.65	Y	1.04	1.81	3067.841	0.207
12478-PeCDD	32.33	J	0.9637	0.9636	-0.2	1.64E+05	1.67	Y	1.04	1.22	3067.841	0.207
12379-PeCDD	32.44	J	0.9668	0.9667	-0.2	1.40E+05	1.65	Y	1.04	1.04	3067.841	0.207
12369/12467/12489-PeCDD	32.70	J EMPC	0.9746	0.9746	0	2.21E+05	1.90	N	1.04	1.65	3067.841	0.207
12346/12347-PeCDD	33.07	J EMPC	0.9858	0.9856	-0.4	6.15E+04	1.96	N	1.04	0.458	3067.841	0.207
12378-PeCDD	33.57	J	**1.0007**	**1.0005**	**-0.4**	**1.74E+05**	**1.76**	**Y**	**1.04**	**1.29**	**3067.841**	**0.207**
12367-PeCDD	33.66	J	1.0036	1.0033	-0.6	5.44E+04	1.60	Y	1.04	0.405	3067.841	0.207
12389-PeCDD	NotFnd		1.0137						1.04		3067.841	0.207
124679/124689-HxCDD	35.77		0.9540	0.9540	0	4.12E+06	1.25	Y	1.10	33.2	4434.428	0.312
123468-HxCDD	36.43		0.9715	0.9715	0	7.73E+05	1.24	Y	1.10	6.22	4434.428	0.312
123679/123689-HxCDD	36.72		0.9793	0.9794	+0.2	2.80E+06	1.23	Y	1.10	22.5	4434.428	0.312
123469-HxCDD	36.84		0.9829	0.9827	-0.4	3.91E+05	1.28	Y	1.10	3.15	4434.428	0.312
123478-HxCDD	37.51		**1.0004**	**1.0004**	**0**	**3.06E+05**	**1.35**	**Y**	1.09	**2.49**	**4434.428**	**0.319**
123678-HxCDD	37.63		**1.0036**	**1.0037**	**+0.2**	**1.01E+06**	**1.38**	**Y**	1.15	**8.47**	**4434.428**	**0.324**
123467-HxCDD	37.83	J EMPC	1.0089	1.0089	0	1.66E+05	1.45	N	1.10	1.33	4434.428	0.312
123789-HxCDD	37.94		**1.0118**	**1.0118**	**0**	**5.51E+05**	**1.25**	**Y**	1.05	**4.27**	**4434.428**	**0.296**

Lab ID: B6336_18971_DF_001 **Acq'd: 09 Mar 2022 02:28 DTF** **Wt/Vol: 10.07 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021822-S-SB-NC-O-54 **UTP: 09-Mar-2022 11:41:50 DTF** **J-level: 0.497 pg/g** **Split: 1** **Checkcode: 285-098-FZV**

Datafile: 220308C19 **Report: 09 Mar 2022 11:44 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

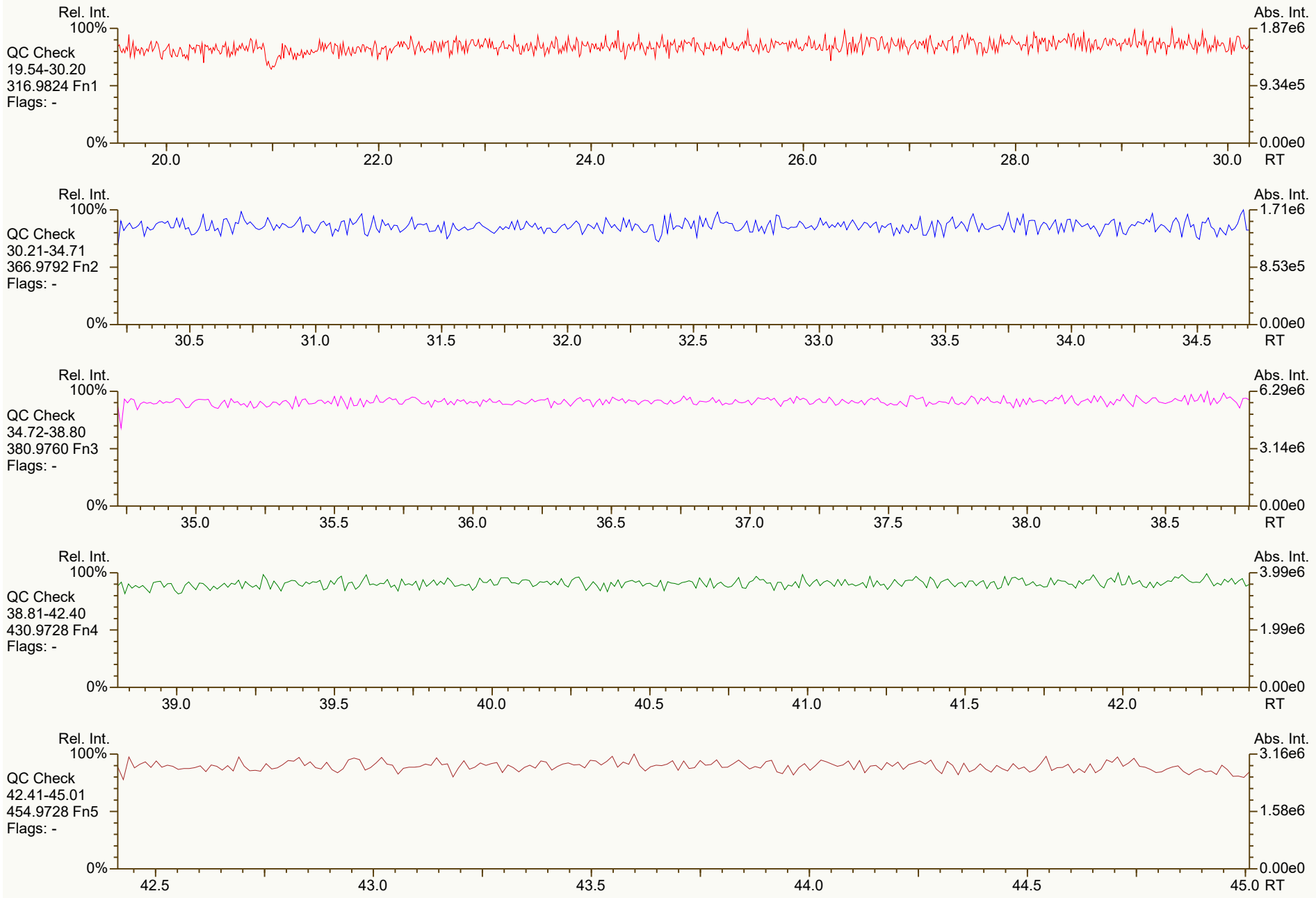
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.00		0.9836	0.9836	0	2.88E+07	1.04	Y	1.06	260	3005.693	0.238
1234678-HpCDD	**40.69**		**1.0002**	**1.0004**	**+0.5**	**1.91E+07**	**1.05**	**Y**	**1.06**	**172**	**3005.693**	**0.238**
OCDD	**43.38**		**1.0003**	**1.0002**	**-0.3**	**1.79E+08**	**0.91**	**Y**	**1.13**	**2,390**	**2599.985**	**0.41**
OCDD-a	43.38		1.0002	1.0002	0	1.12E+07	2.45	Y	0.07	2,330	4585.497	11.3
1368-TCDF	22.29		0.8191	0.8176	-2.0	1.80E+05	0.78	Y	1.08	0.803	2318.639	0.109
1468-TCDF	22.88		0.8408	0.8391	-2.3	5.33E+05	0.73	Y	1.08	2.38	2318.639	0.109
2468-TCDF	23.53		0.8645	0.8631	-2.0	7.53E+05	0.78	Y	1.08	3.36	2318.639	0.109
1346/1246-TCDF	23.94		0.8772	0.8783	+1.6	3.16E+05	0.76	Y	1.08	1.41	2318.639	0.109
1347/1378/1247-TCDF	24.07		0.8833	0.8830	-0.4	1.05E+06	0.75	Y	1.08	4.67	2318.639	0.109
1348-TCDF	24.34	EMPC	0.8932	0.8928	-0.6	2.28E+05	0.65	N	1.08	1.02	2318.639	0.109
1248/1367/1379-TCDF	24.42		0.8980	0.8959	-3.1	1.15E+06	0.75	Y	1.08	5.14	2318.639	0.109
1268-TCDF	24.84		0.9119	0.9112	-1.0	6.36E+05	0.73	Y	1.08	2.84	2318.639	0.109
1467-TCDF	24.98		0.9170	0.9165	-0.7	2.24E+05	0.75	Y	1.08	1	2318.639	0.109
1478-TCDF	25.16		0.9234	0.9228	-0.9	1.11E+06	0.79	Y	1.08	4.95	2318.639	0.109
1369/1237-TCDF	25.53		0.9369	0.9365	-0.6	3.75E+05	0.76	Y	1.08	1.67	2318.639	0.109
2467-TCDF	25.66		0.9415	0.9411	-0.6	3.05E+05	0.81	Y	1.08	1.36	2318.639	0.109
2368-TCDF	25.86		0.9475	0.9484	+1.4	2.31E+06	0.84	Y	1.08	10.3	2318.639	0.109
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		2318.639	0.109
1278-TCDF	26.37		0.9676	0.9674	-0.3	7.51E+06	0.80	Y	1.08	33.5	2318.639	0.109
1349-TCDF	NotFnd		0.9722						1.08		2318.639	0.109
1267-TCDF	26.65		0.9777	0.9776	-0.2	8.15E+05	0.73	Y	1.08	3.63	2318.639	0.109
2346/1249-TCDF	NotFnd		0.9843						1.08		2318.639	0.109
2347/1279-TCDF	27.06		0.9926	0.9927	+0.2	5.17E+05	0.86	Y	1.08	2.31	2318.639	0.109
2348-TCDF	27.17		0.9968	0.9965	-0.5	9.09E+05	0.75	Y	1.08	4.06	2318.639	0.109
2378-TCDF	**27.28**		**1.0008**	**1.0008**	**0**	**2.42E+07**	**0.81**	**Y**	**1.08**	**108**	**2318.639**	**0.109**
2367/3467-TCDF	27.65		1.0142	1.0141	-0.2	3.21E+06	0.80	Y	1.08	14.3	2318.639	0.109
1269-TCDF	27.90		1.0235	1.0233	-0.3	4.16E+05	0.81	Y	1.08	1.86	2318.639	0.109
1239-TCDF	NotFnd		1.0329						1.08		2318.639	0.109
1289-TCDF	29.32		1.0742	1.0754	+2.1	1.46E+06	0.79	Y	1.08	6.49	2318.639	0.109
13468/12468-PeCDF	29.27		0.9122	0.9123	+0.2	1.31E+06	1.58	Y	1.02	6.6	2648.389	0.119
13678/13467/12467-PeCDF	30.84		0.9606	0.9611	+0.9	5.97E+05	1.65	Y	1.02	3.01	4367.341	0.197
12368/13478/12478-PeCDF	30.99		0.9655	0.9660	+0.9	1.69E+06	1.55	Y	1.02	8.52	4367.341	0.197
14678-PeCDF	31.08	J	0.9685	0.9686	+0.2	2.76E+05	1.68	Y	1.02	1.39	4367.341	0.197
13479-PeCDF	NotFnd		0.9716						1.02		4367.341	0.197
13469/12479-PeCDF	NotFnd		0.9794						1.02		4367.341	0.197
12346-PeCDF	31.56	J	0.9836	0.9836	0	1.20E+05	1.56	Y	1.02	0.604	4367.341	0.197

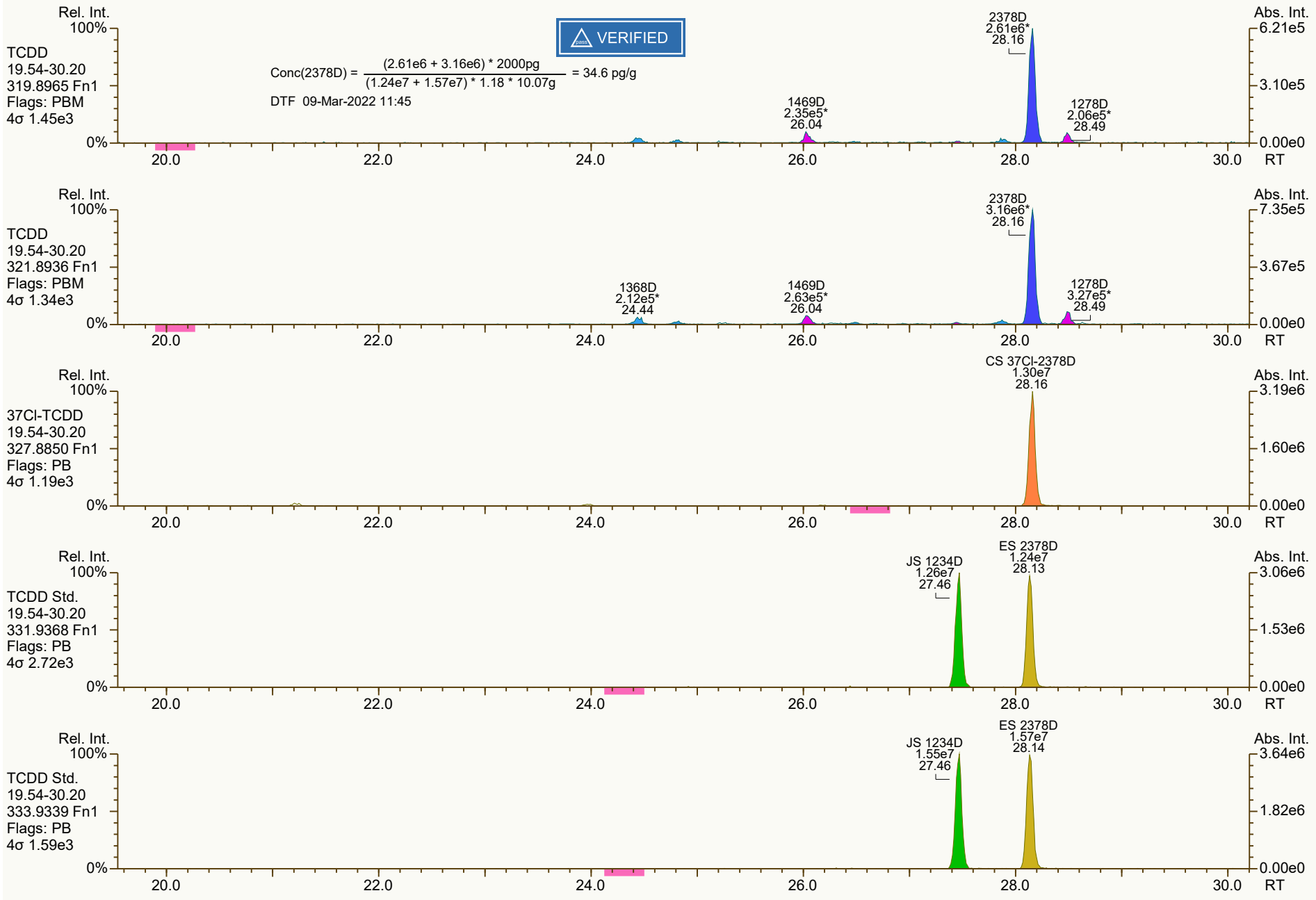
Lab ID: B6336_18971_DF_001 **Acq'd: 09 Mar 2022 02:28 DTF** **Wt/Vol: 10.07 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

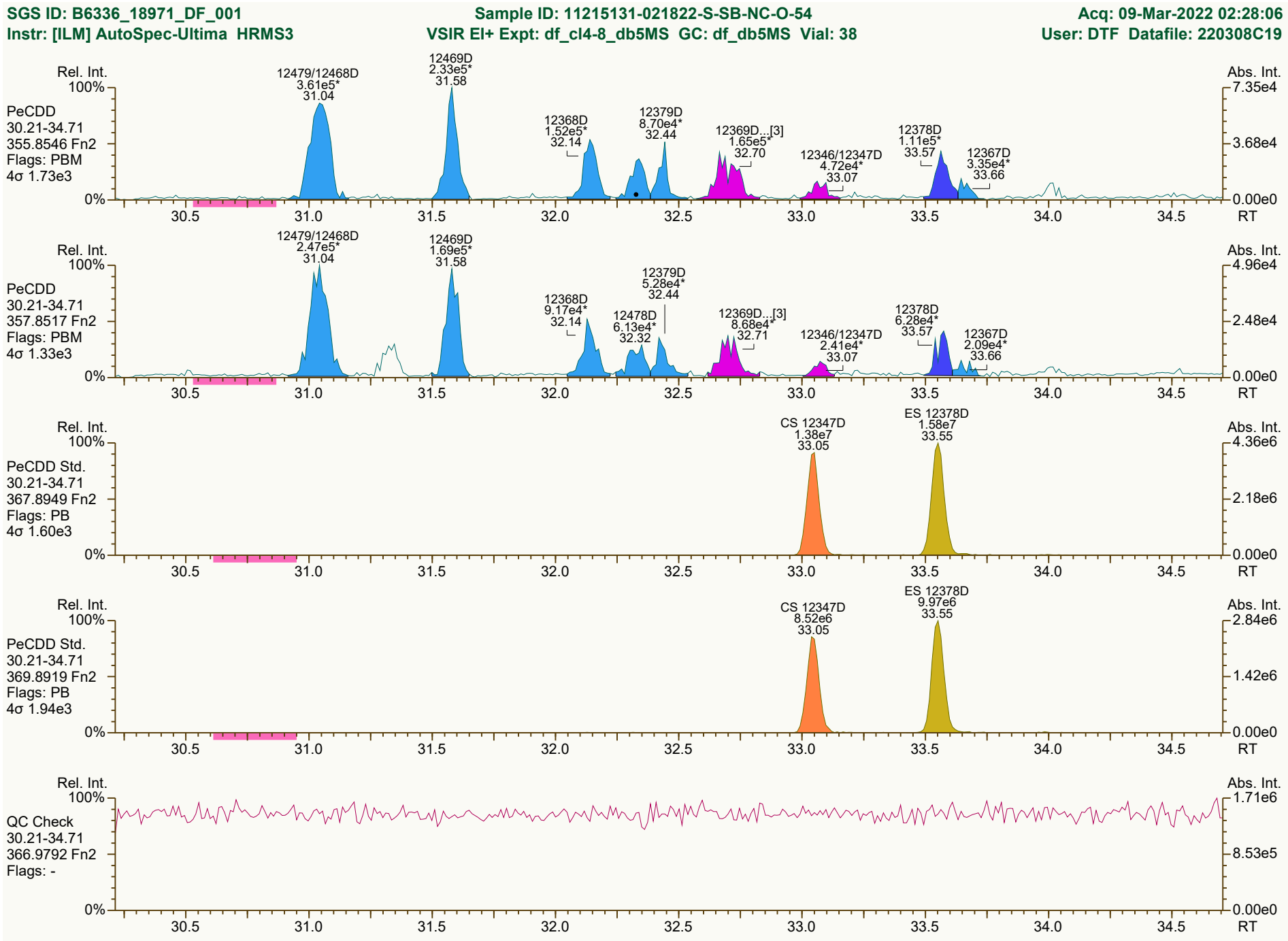
Client ID: 11215131-021822-S-SB-NC-O-54 **UTP: 09-Mar-2022 11:41:50 DTF** **J-level: 0.497 pg/g** **Split: 1** **Checkcode: 285-098-FZV**

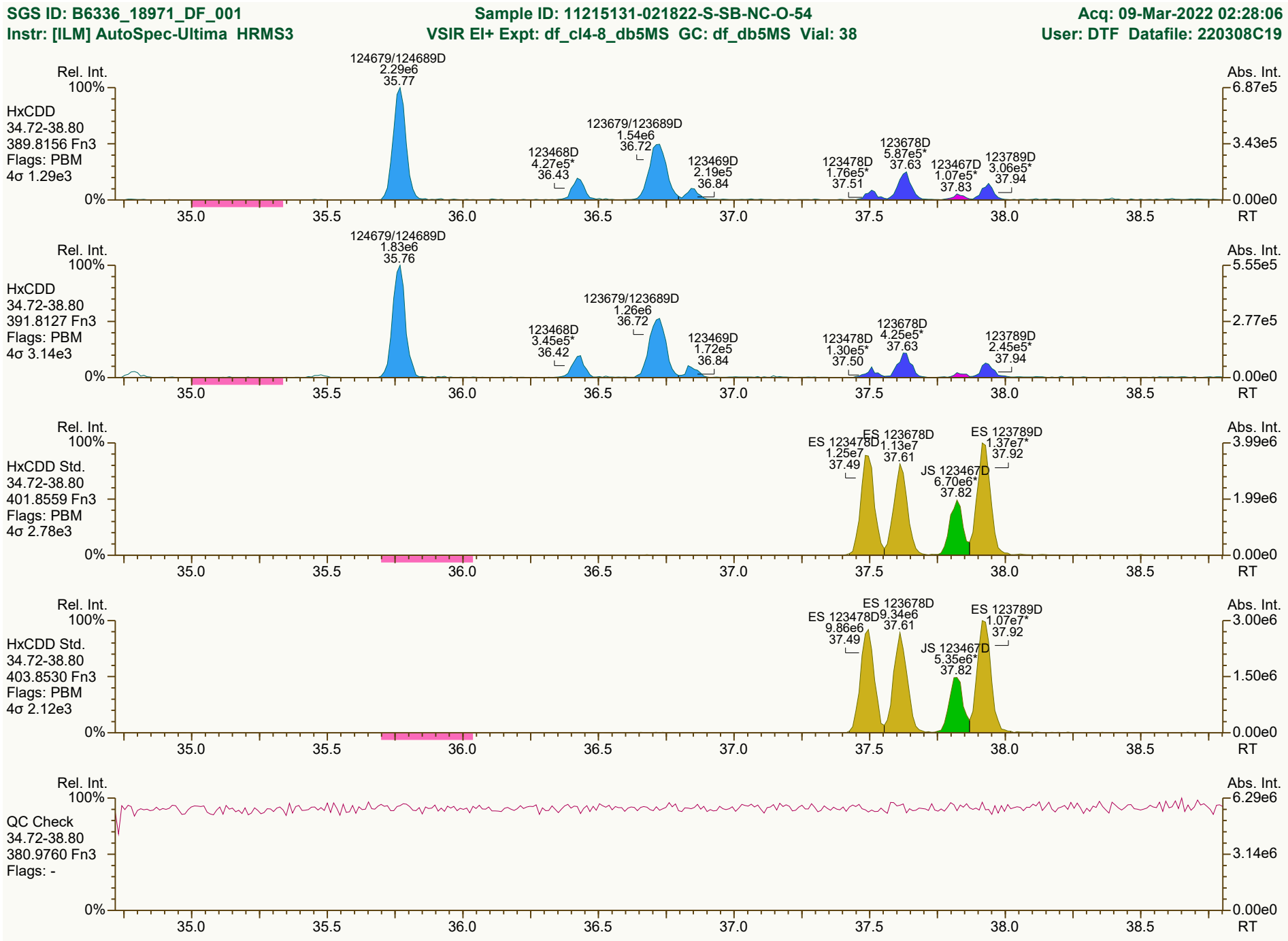
Datafile: 220308C19 **Report: 09 Mar 2022 11:44 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

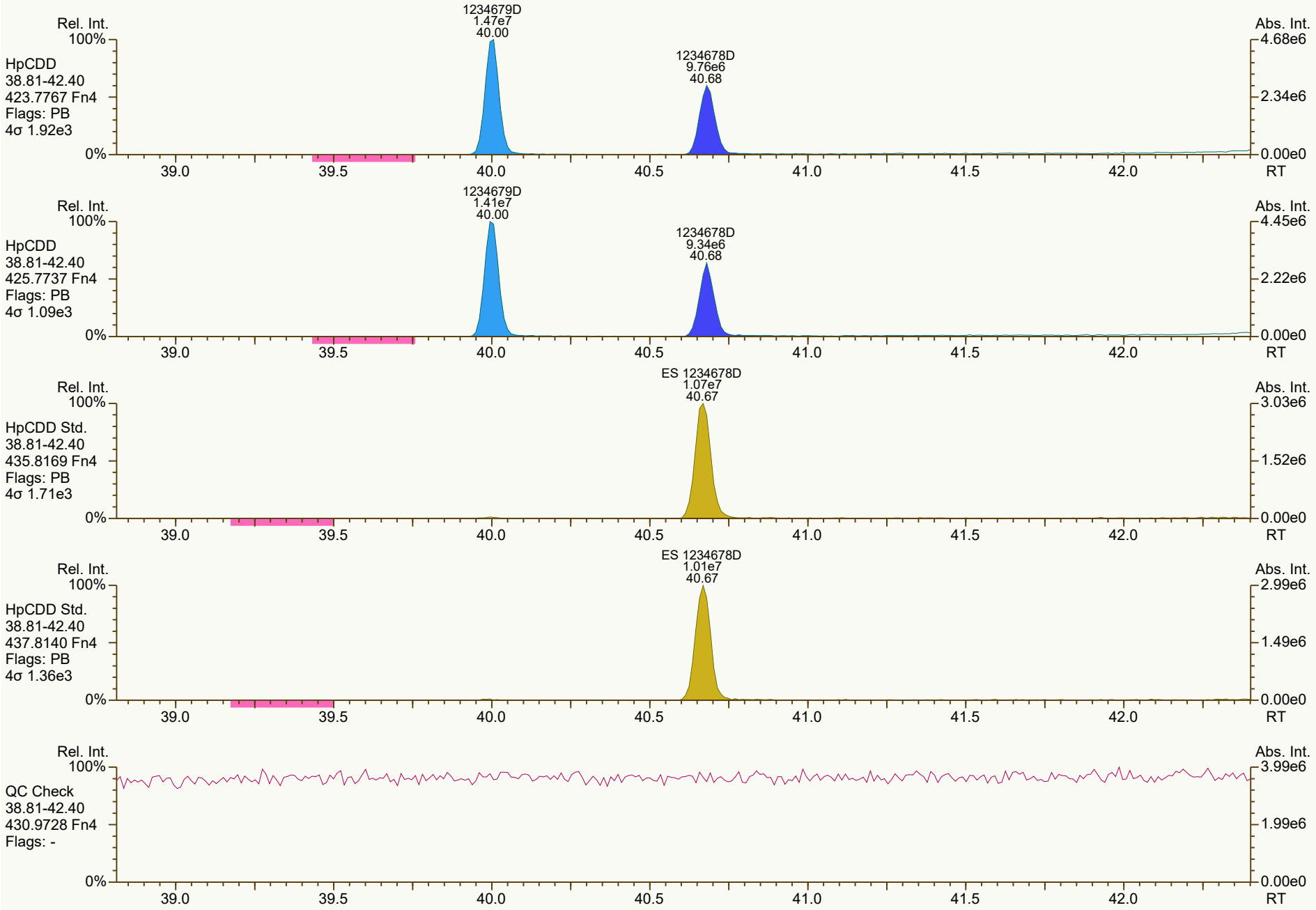
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.65	J	0.9866	0.9865	-0.2	2.94E+05	1.64	Y	1.02	1.49	4367.341	0.197
12347-PeCDF	31.73	J	0.9891	0.9887	-0.8	3.88E+05	1.49	Y	1.02	1.96	4367.341	0.197
12348-PeCDF	31.89	J	0.9938	0.9939	+0.2	3.70E+05	1.50	Y	1.02	1.87	4367.341	0.197
12378-PeCDF	**32.10**		**1.0005**	**1.0005**	**0**	**1.11E+06**	**1.47**	**Y**	**1.02**	**5.58**	**4367.341**	**0.202**
12678/12367-PeCDF	32.40		1.0091	1.0098	+1.4	5.63E+05	1.45	Y	1.02	2.84	4367.341	0.197
12379-PeCDF	NotFnd		1.0144						1.02		4367.341	0.197
12679-PeCDF	NotFnd		0.9927						1.02		4367.341	0.197
23467/12369-PeCDF	33.10	J	0.9965	0.9966	+0.2	2.05E+05	1.78	Y	1.02	1.04	4367.341	0.197
23478-PeCDF	**33.24**	PR	**1.0005**	**1.0008**	**+0.6**	**1.09E+06**	**1.42**	**Y**	**1.02**	**5.52**	**4367.341**	**0.192**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		4367.341	0.197
12349-PeCDF	33.59	J EMPC	1.0101	1.0114	+2.6	1.02E+05	1.13	N	1.02	0.516	4367.341	0.197
12389-PeCDF	34.32	J	1.0330	1.0334	+0.8	8.60E+04	1.62	Y	1.02	0.434	4367.341	0.197
123468-HxCDF	35.11		0.9622	0.9621	-0.2	7.89E+05	1.18	Y	1.19	4.46	6277.715	0.301
124678/134678-HxCDF	35.31		0.9678	0.9675	-0.6	2.43E+06	1.23	Y	1.19	13.7	6277.715	0.301
134679-HxCDF	NotFnd		0.9741						1.19		6277.715	0.301
124679-HxCDF	35.74	J	0.9795	0.9794	-0.2	1.49E+05	1.39	Y	1.19	0.841	6277.715	0.301
124689-HxCDF	35.97		0.9856	0.9856	0	2.15E+06	1.22	Y	1.19	12.1	6277.715	0.301
123467-HxCDF	36.39		0.9972	0.9971	-0.2	4.43E+05	1.33	Y	1.19	2.5	6277.715	0.301
123478-HxCDF	**36.51**		**1.0004**	**1.0005**	**+0.2**	**2.06E+06**	**1.26**	**Y**	**1.27**	**11.6**	**6277.715**	**0.287**
123678-HxCDF	**36.65**		**1.0004**	**1.0005**	**+0.2**	**6.18E+05**	**1.17**	**Y**	**1.15**	**3.36**	**6277.715**	**0.281**
123479-HxCDF	NotFnd		1.0048						1.19		6277.715	0.301
123469-HxCDF	36.96	J EMPC	1.0089	1.0091	+0.4	1.63E+05	1.51	N	1.19	0.919	6277.715	0.301
123679-HxCDF	NotFnd		0.9942						1.19		6277.715	0.301
234678-HxCDF	**37.32**	J	**1.0005**	**1.0004**	**-0.2**	**4.51E+05**	**1.23**	**Y**	**1.19**	**2.39**	**6277.715**	**0.301**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6277.715	0.301
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**6277.715**	**0.344**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.34	J	1.0006	1.0012	+1.4	2.70E+05	1.09	Y	1.19	1.53	6277.715	0.301
1234678-HpCDF	**39.74**		**1.0003**	**1.0002**	**-0.2**	**5.93E+06**	**1.05**	**Y**	**1.37**	**35.7**	**3329.392**	**0.145**
1234679-HpCDF	40.00		1.0068	1.0070	+0.5	3.92E+05	1.10	Y	1.34	2.65	3329.392	0.181
1234689-HpCDF	40.15		1.0104	1.0106	+0.5	6.57E+06	1.06	Y	1.34	44.4	3329.392	0.181
1234789-HpCDF	**41.13**		**1.0003**	**1.0003**	**0**	**6.00E+05**	**1.05**	**Y**	**1.31**	**4.61**	**3329.392**	**0.225**
OCDF	**43.55**		**1.0002**	**1.0002**	**0**	**1.50E+07**	**0.85**	**Y**	**1.07**	**160**	**2406.623**	**0.297**
OCDF-a	43.55		1.0001	1.0002	+0.3	1.06E+06	2.77	Y	0.07	184	3864.057	7.7


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.87e6
9.34e5
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
1.71e6
8.53e5
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
6.29e6
3.14e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
3.99e6
1.99e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
3.16e6
1.58e6
0.00e0

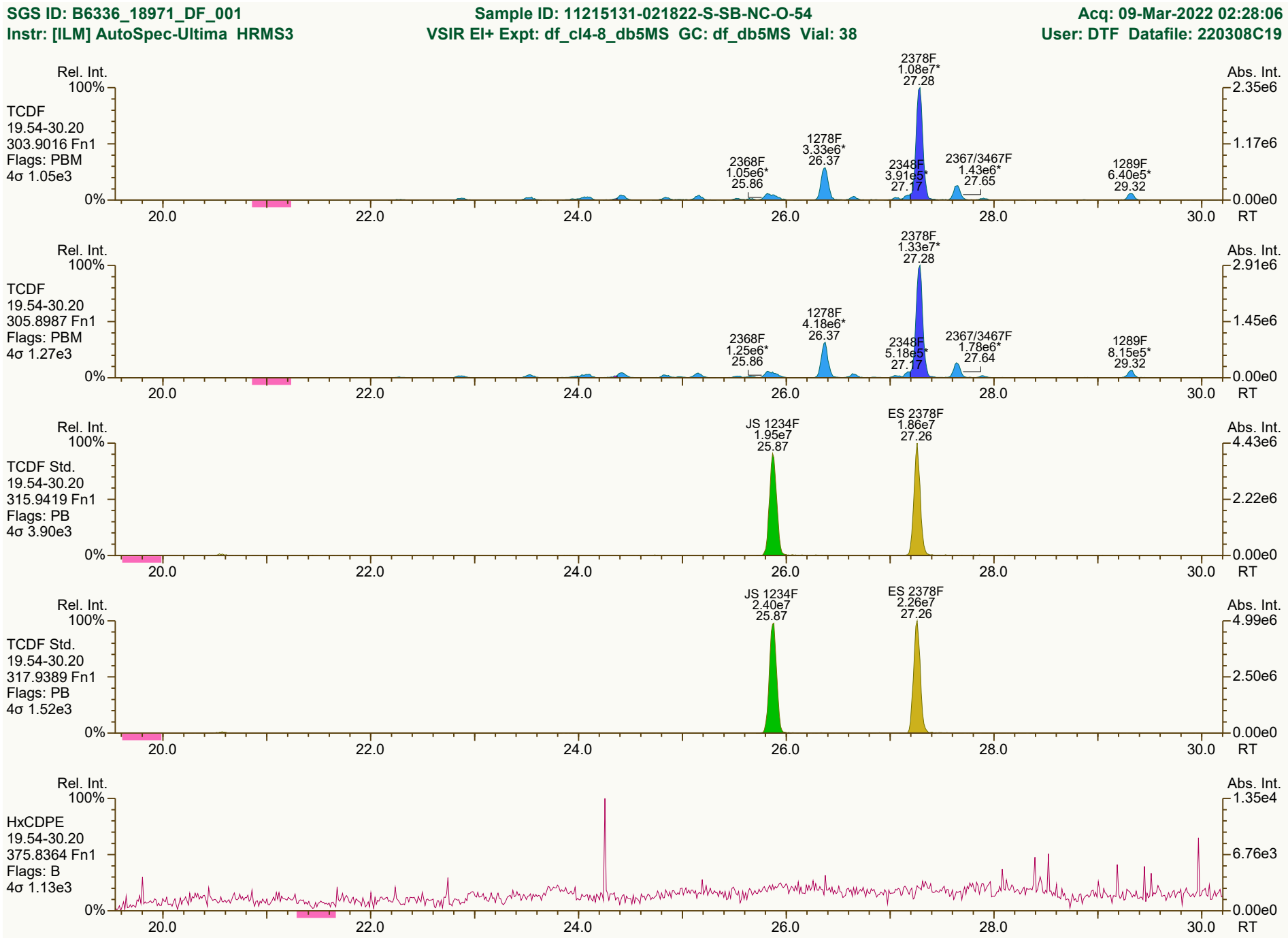

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.45e3
0%
VERIFIED
Conc(2378D) = (2.61e6 + 3.16e6) * 2000pg / (1.24e7 + 1.57e7) * 1.18 * 10.07g = 34.6 pg/g
DTF 09-Mar-2022 11:45
2378D
2.61e6*
28.16
1469D
2.35e5*
26.04
1278D
2.06e5*
28.49
Abs. Int.
6.21e5
3.10e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.34e3
0%
2378D
3.16e6*
28.16
1368D
2.12e5*
24.44
1469D
2.63e5*
26.04
1278D
3.27e5*
28.49
Abs. Int.
7.35e5
3.67e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.19e3
0%
CS 37Cl-2378D
1.30e7
28.16
Abs. Int.
3.19e6
1.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 2.72e3
0%
JS 1234D
1.26e7
27.46
ES 2378D
1.24e7
28.13
Abs. Int.
3.06e6
1.53e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 1.59e3
0%
JS 1234D
1.55e7
27.46
ES 2378D
1.57e7
28.14
Abs. Int.
3.64e6
1.82e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6336_18971_DF_001
Sample ID: 11215131-021822-S-SB-NC-O-54
Acq: 09-Mar-2022 02:28:06
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 38
User: DTF Datafile: 220308C19
Rel. Int.
Abs. Int.
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 1.73e3
12479/12468D
3.61e5*
31.04
12469D
2.33e5*
31.58
12368D
1.52e5*
32.14
12379D
8.70e4*
32.44
12369D...[3]
1.65e5*
32.70
12346/12347D
4.72e4*
33.07
12378D
1.11e5*
33.57
12367D
3.35e4*
33.66
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 1.33e3
12479/12468D
2.47e5*
31.04
12469D
1.69e5*
31.58
12368D
9.17e4*
32.14
12478D
6.13e4*
32.32
12379D
5.28e4*
32.44
12369D...[3]
8.68e4*
32.71
12346/12347D
2.41e4*
33.07
12378D
6.28e4*
33.57
12367D
2.09e4*
33.66
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 1.60e3
CS 12347D
1.38e7
33.05
ES 12378D
1.58e7
33.55
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.94e3
CS 12347D
8.52e6
33.05
ES 12378D
9.97e6
33.55
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
RT
Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\B6336_18971_DF_001.utp_res, saved 09-Mar-2022 11:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1649, 2313 scc: 285-098
Revised: 09-Mar-2022 11:28 (DTF) Printed: 09-Mar-2022 11:48 Page 3 of 12

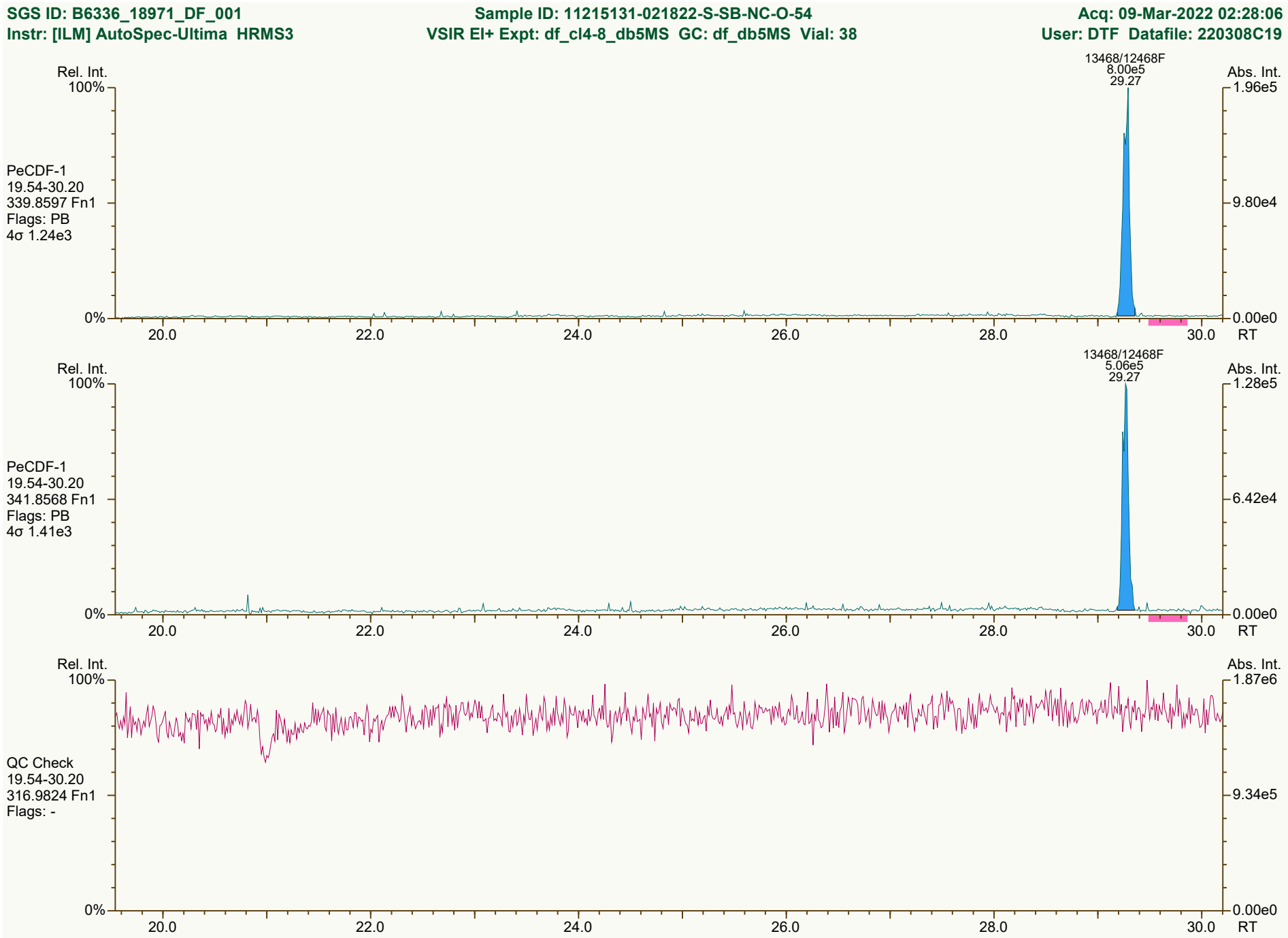

SGS ID: B6336_18971_DF_001
Sample ID: 11215131-021822-S-SB-NC-O-54
Acq: 09-Mar-2022 02:28:06
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 38
User: DTF Datafile: 220308C19
Rel. Int.
Abs. Int.
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 1.29e3
124679/124689D
2.29e6
35.77
123468D
4.27e5*
36.43
123679/123689D
1.54e6
36.72
123469D
2.19e5
36.84
123478D
1.76e5*
37.51
123678D
5.87e5*
37.63
123467D
1.07e5*
37.83
123789D
3.06e5*
37.94
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 3.14e3
124679/124689D
1.83e6
35.76
123468D
3.45e5*
36.42
123679/123689D
1.26e6
36.72
123469D
1.72e5
36.84
123478D
1.30e5*
37.50
123678D
4.25e5*
37.63
123789D
2.45e5*
37.94
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 2.78e3
ES 123478D
1.25e7
37.49
ES 123678D
1.13e7
37.61
JS 123467D
6.70e6*
37.82
ES 123789D
1.37e7*
37.92
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 2.12e3
ES 123478D
9.86e6
37.49
ES 123678D
9.34e6
37.61
JS 123467D
5.35e6*
37.82
ES 123789D
1.07e7*
37.92
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
6.87e5
3.43e5
0.00e0
5.55e5
2.77e5
3.99e6
1.99e6
3.00e6
1.50e6
6.29e6
3.14e6

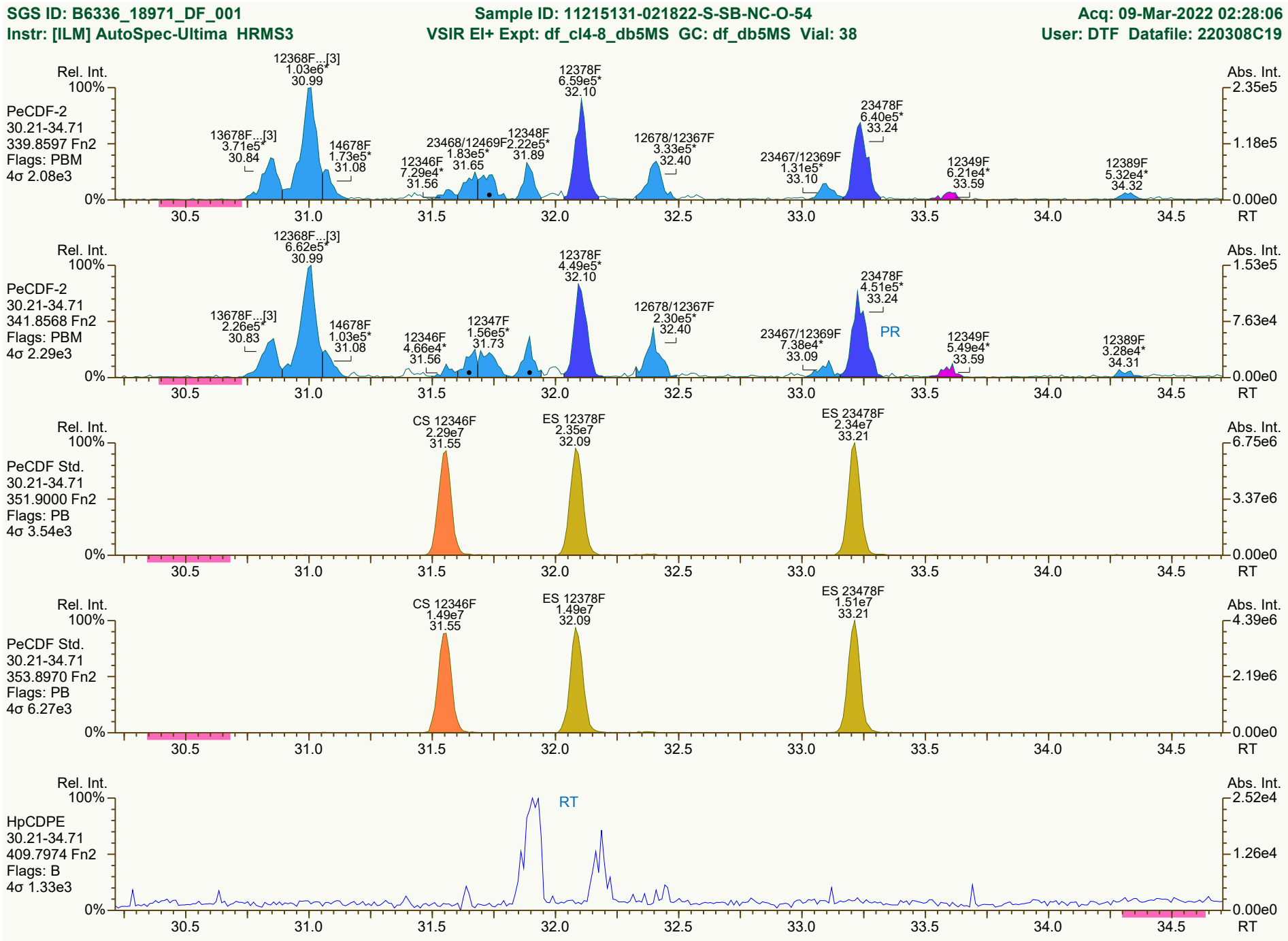

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 1.92e3
1234679D
1.47e7
40.00
1234678D
9.76e6
40.68
Abs. Int.
4.68e6
2.34e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.09e3
1234679D
1.41e7
40.00
1234678D
9.34e6
40.68
Abs. Int.
4.45e6
2.22e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 1.71e3
ES 1234678D
1.07e7
40.67
Abs. Int.
3.03e6
1.52e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.36e3
ES 1234678D
1.01e7
40.67
Abs. Int.
2.99e6
1.49e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
3.99e6
1.99e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

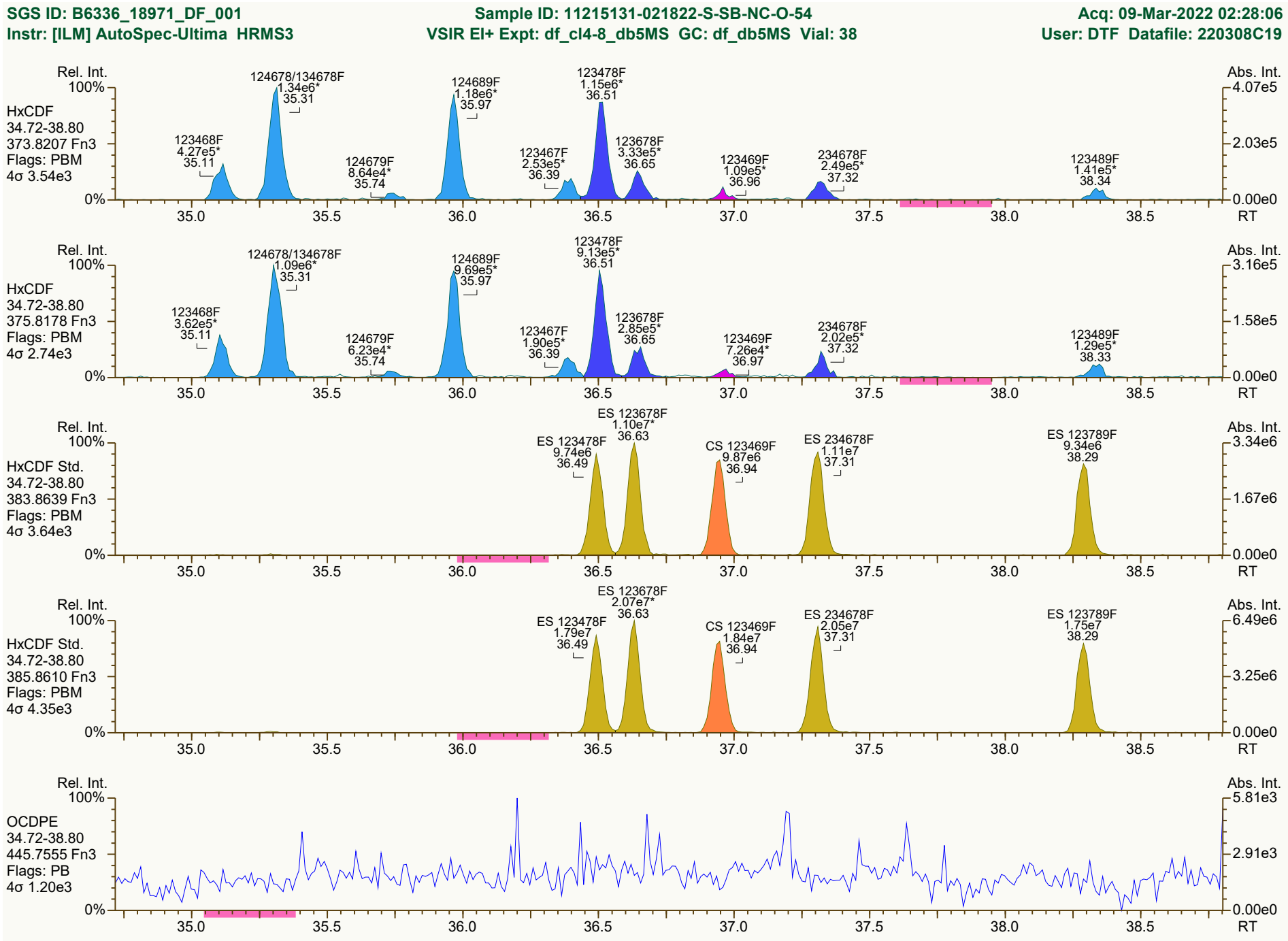

OCDD
8.49e7
43.38
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 1.31e3
0%
Abs. Int.
1.75e7
8.76e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
9.37e7
43.38
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 1.29e3
0%
Abs. Int.
1.93e7
9.64e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.26e7
43.37
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 1.79e3
0%
Abs. Int.
2.68e6
1.34e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.38e7
43.37
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 2.47e3
0%
Abs. Int.
2.82e6
1.41e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
3.16e6
1.58e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

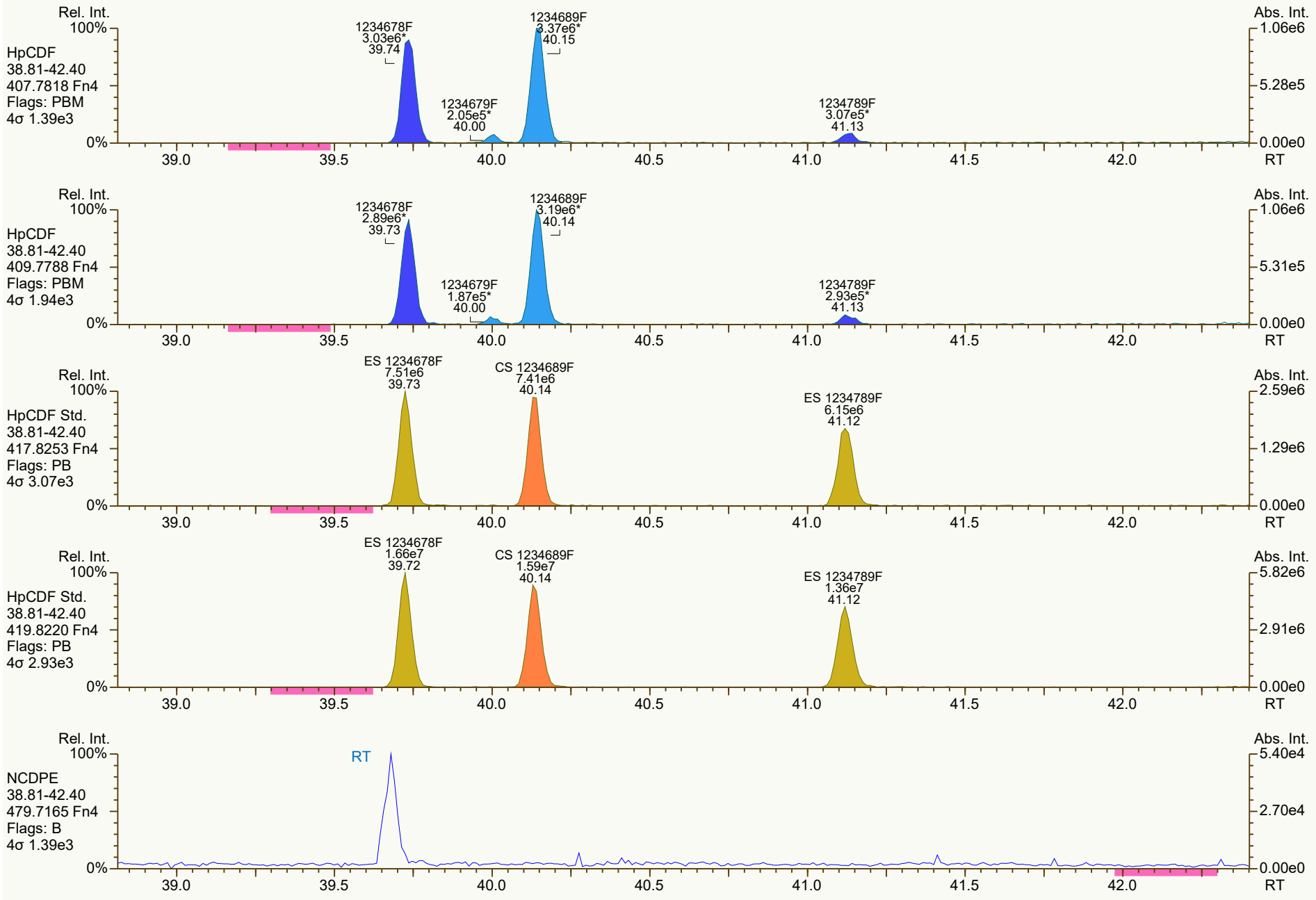


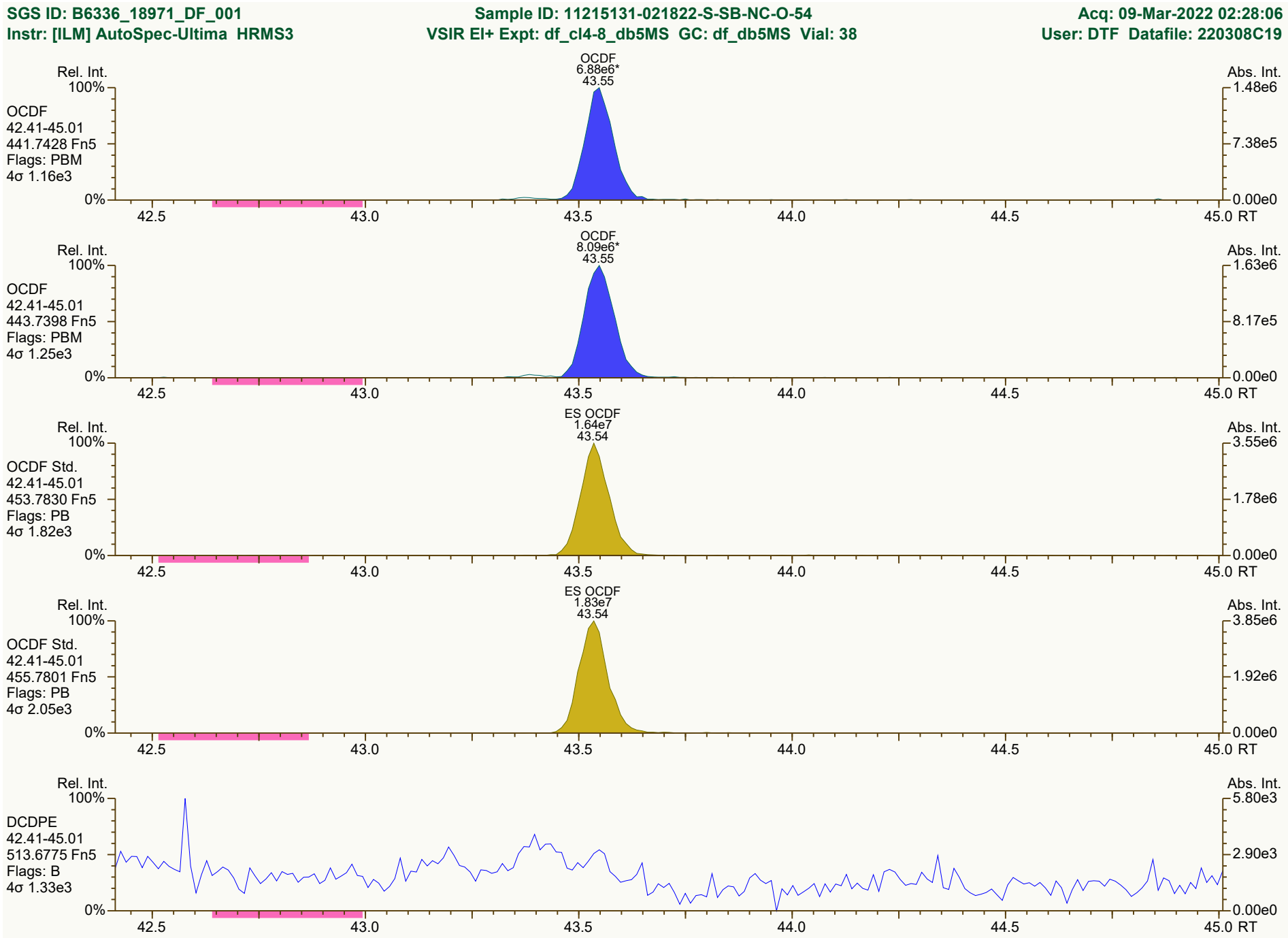
Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\B6336_18971_DF_001.utp_res, saved 09-Mar-2022 11:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1199, 5121, 4511 scc: 285-098
Revised: 09-Mar-2022 11:29 (DTF) Printed: 09-Mar-2022 11:48 Page 7 of 12


SGS ID: B6336_18971_DF_001
Sample ID: 11215131-021822-S-SB-NC-O-54
Acq: 09-Mar-2022 02:28:06
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 38
User: DTF Datafile: 220308C19
Rel. Int.
100%
0%
Abs. Int.
1.96e5
9.80e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
30.0
13468/12468F
8.00e5
29.27
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.24e3
13468/12468F
5.06e5
29.27
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.41e3
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
1.87e6
9.34e5
Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\B6336_18971_DF_001.utp_res, saved 09-Mar-2022 11:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5229 scc: 285-098
Revised: 09-Mar-2022 11:26 (DTF) Printed: 09-Mar-2022 11:48 Page 8 of 12


SGS ID: B6336_18971_DF_001
Sample ID: 11215131-021822-S-SB-NC-O-54
Acq: 09-Mar-2022 02:28:06
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 38
User: DTF Datafile: 220308C19
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 2.08e3
12368F...[3] 1.03e6* 30.99
13678F...[3] 3.71e5* 30.84
14678F 1.73e5* 31.08
12346F 7.29e4* 31.56
23468/12469F 1.83e5* 31.65
12348F 2.22e5* 31.89
12378F 6.59e5* 32.10
12678/12367F 3.33e5* 32.40
23467/12369F 1.31e5* 33.10
23478F 6.40e5* 33.24
12349F 6.21e4* 33.59
12389F 5.32e4* 34.32
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 2.29e3
12368F...[3] 6.62e5* 30.99
13678F...[3] 2.26e5* 30.83
14678F 1.03e5* 31.08
12346F 4.66e4* 31.56
12347F 1.56e5* 31.73
12378F 4.49e5* 32.10
12678/12367F 2.30e5* 32.40
23467/12369F 7.38e4* 33.09
23478F 4.51e5* 33.24
PR
12349F 5.49e4* 33.59
12389F 3.28e4* 34.31
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 3.54e3
CS 12346F 2.29e7 31.55
ES 12378F 2.35e7 32.09
ES 23478F 2.34e7 33.21
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 6.27e3
CS 12346F 1.49e7 31.55
ES 12378F 1.49e7 32.09
ES 23478F 1.51e7 33.21
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.33e3
RT
Rel. Int.
Abs. Int.
100%
0%
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
2.35e5
1.18e5
0.00e0
1.53e5
7.63e4
6.75e6
3.37e6
4.39e6
2.19e6
2.52e4
1.26e4
Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\B6336_18971_DF_001.utp_res, saved 09-Mar-2022 11:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 6879, 7404, 4683 scc: 285-098
Revised: 09-Mar-2022 11:30 (DTF) Printed: 09-Mar-2022 11:48 Page 9 of 12


SGS ID: B6336_18971_DF_001
Sample ID: 11215131-021822-S-SB-NC-O-54
Acq: 09-Mar-2022 02:28:06
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 38
User: DTF Datafile: 220308C19
Rel. Int.
Abs. Int.
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 3.54e3
123468F 4.27e5* 35.11
124678/134678F 1.34e6* 35.31
124679F 8.64e4* 35.74
124689F 1.18e6* 35.97
123467F 2.53e5* 36.39
123478F 1.15e6* 36.51
123678F 3.33e5* 36.65
123469F 1.09e5* 36.96
234678F 2.49e5* 37.32
123489F 1.41e5* 38.34
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 2.74e3
123468F 3.62e5* 35.11
124678/134678F 1.09e6* 35.31
124679F 6.23e4* 35.74
124689F 9.69e5* 35.97
123467F 1.90e5* 36.39
123478F 9.13e5* 36.51
123678F 2.85e5* 36.65
123469F 7.26e4* 36.97
234678F 2.02e5* 37.32
123489F 1.29e5* 38.33
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 3.64e3
ES 123478F 9.74e6 36.49
ES 123678F 1.10e7* 36.63
CS 123469F 9.87e6 36.94
ES 234678F 1.11e7 37.31
ES 123789F 9.34e6 38.29
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 4.35e3
ES 123478F 1.79e7 36.49
ES 123678F 2.07e7* 36.63
CS 123469F 1.84e7 36.94
ES 234678F 2.05e7 37.31
ES 123789F 1.75e7 38.29
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.20e3
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
4.07e5
2.03e5
0.00e0
3.16e5
1.58e5
3.34e6
1.67e6
6.49e6
3.25e6
5.81e3
2.91e3
Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\B6336_18971_DF_001.utp_res, saved 09-Mar-2022 11:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5919, 8274, 9078 scc: 285-098
Revised: 09-Mar-2022 11:31 (DTF) Printed: 09-Mar-2022 11:48 Page 10 of 12


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 1.39e3
1234678F
3.03e6*
39.74
1234679F
2.05e5*
40.00
1234689F
3.37e6*
40.15
1234789F
3.07e5*
41.13
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.06e6
5.28e5
0.00e0
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 1.94e3
1234678F
2.89e6*
39.73
1234679F
1.87e5*
40.00
1234689F
3.19e6*
40.14
1234789F
2.93e5*
41.13
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
1.06e6
5.31e5
0.00e0
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 3.07e3
ES 1234678F
7.51e6
39.73
CS 1234689F
7.41e6
40.14
ES 1234789F
6.15e6
41.12
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
2.59e6
1.29e6
0.00e0
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 2.93e3
ES 1234678F
1.66e7
39.72
CS 1234689F
1.59e7
40.14
ES 1234789F
1.36e7
41.12
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
5.82e6
2.91e6
0.00e0
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.39e3
RT
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
5.40e4
2.70e4
0.00e0


SGS ID: B6336_18971_DF_001
Sample ID: 11215131-021822-S-SB-NC-O-54
Acq: 09-Mar-2022 02:28:06
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 38
User: DTF Datafile: 220308C19
OCDF
6.88e6*
43.55
Rel. Int.
Abs. Int.
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 1.16e3
OCDF
8.09e6*
43.55
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 1.25e3
ES OCDF
1.64e7
43.54
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 1.82e3
ES OCDF
1.83e7
43.54
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 2.05e3
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.33e3
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\B6336_18971_DF_001.utp_res, saved 09-Mar-2022 11:46 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5159, 2388, 5933 scc: 285-098
Revised: 09-Mar-2022 11:32 (DTF) Printed: 09-Mar-2022 11:48 Page 12 of 12

Lab ID: B6336_18971_DF_002 **Acq'd:** 09 Mar 2022 03:14 DTF **Wt/Vol:** 10.15 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-NC-B-17 **UTP:** 09-Mar-2022 11:41:51 DTF **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 095-401-HGW

Datafile: 220308C20 **Report:** 09 Mar 2022 11:44 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.16		1.0008	1.0008	0	2.49E+07	0.79	Y	1.18	162	2986.208	0.205
12378-PeCDD	33.58		1.0007	1.0006	-0.2	3.30E+05	1.54	Y	1.04	2.77	4162.72	0.304
123478-HxCDD	37.52	J	1.0004	1.0005	+0.2	1.04E+05	1.07	Y	1.09	0.992	2854.266	0.24
123678-HxCDD	37.63	J	1.0036	1.0036	0	2.17E+05	1.21	Y	1.15	2.01	2854.266	0.23
123789-HxCDD	37.94		1.0118	1.0119	+0.2	5.14E+05	1.20	Y	1.05	4.53	2854.266	0.218
1234678-HpCDD	40.69		1.0002	1.0003	+0.2	6.91E+06	1.08	Y	1.06	73.8	2797.532	0.253
OCDD	43.40		1.0003	1.0003	0	5.17E+07	0.88	Y	1.13	851	3418.84	0.715
2378-TCDF	27.29		1.0008	1.0008	0	9.50E+07	0.78	Y	1.08	454	2554.436	0.129
12378-PeCDF	32.11		1.0005	1.0005	0	4.38E+06	1.49	Y	1.02	23.3	5811.408	0.265
23478-PeCDF	33.24	PR	1.0005	1.0007	+0.4	3.56E+06	1.59	Y	1.02	19.6	5811.408	0.286
123478-HxCDF	36.51		1.0004	1.0005	+0.2	5.60E+06	1.24	Y	1.27	35.4	4298.283	0.225
123678-HxCDF	36.65		1.0004	1.0004	0	1.92E+06	1.16	Y	1.15	11	4298.283	0.199
234678-HxCDF	37.33		1.0005	1.0004	-0.2	7.37E+05	1.14	Y	1.19	4.45	4298.283	0.221
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	4298.283	0.274
1234678-HpCDF	39.75		1.0003	1.0002	-0.2	1.94E+06	1.06	Y	1.37	12.8	2456.441	0.119
1234789-HpCDF	41.15		1.0003	1.0003	0	4.61E+05	1.11	Y	1.31	4.53	2456.441	0.2
OCDF	43.57		1.0002	1.0003	+0.3	6.70E+05	0.77	Y	1.07	9.34	2855.995	0.468

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.14	1.0243	1.0244	+0.2	2.55E+07	0.80	Y	1.05	90.6
ES 12378-PeCDD	33.56	1.2198	1.2218	+4.0	2.26E+07	1.58	Y	0.88	95.4
ES 123478-HxCDD	37.50	0.9916	0.9914	-0.4	1.90E+07	1.35	Y	0.97	91.8
ES 123678-HxCDD	37.62	0.9947	0.9946	-0.2	1.85E+07	1.25	Y	0.94	92.4
ES 123789-HxCDD	37.93	1.0029	1.0028	-0.2	2.13E+07	1.25	Y	1.09	92.1
ES 1234678-HpCDD	40.68	1.0749	1.0755	+1.5	1.74E+07	1.09	Y	0.91	89.7
ES OCDD	43.39	1.1460	1.1471	+2.9	2.12E+07	0.92	Y	0.62	80.1
ES 2378-TCDF	27.26	1.0531	1.0537	+1.0	3.83E+07	0.78	Y	1.06	87.3
ES 12378-PeCDF	32.09	1.2378	1.2403	+4.8	3.61E+07	1.54	Y	0.91	95.7
ES 23478-PeCDF	33.22	1.2810	1.2838	+5.6	3.51E+07	1.59	Y	0.88	96.1
ES 123478-HxCDF	36.50	0.9650	0.9649	-0.2	2.45E+07	0.54	Y	1.20	96.4
ES 123678-HxCDF	36.64	0.9688	0.9687	-0.2	2.98E+07	0.54	Y	1.35	104
ES 234678-HxCDF	37.31	0.9866	0.9865	-0.2	2.75E+07	0.52	Y	1.24	104
ES 123789-HxCDF	38.30	1.0125	1.0125	0	2.27E+07	0.54	Y	1.16	92.7
ES 1234678-HpCDF	39.74	1.0501	1.0506	+1.2	2.19E+07	0.47	Y	0.97	106
ES 1234789-HpCDF	41.14	1.0870	1.0876	+1.5	1.53E+07	0.46	Y	0.85	84.9
ES OCDF	43.56	1.1505	1.1516	+2.9	2.64E+07	0.94	Y	0.81	76.9

Lab ID: B6336_18971_DF_002 **Acq'd:** 09 Mar 2022 03:14 DTF **Wt/Vol:** 10.15 g **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-NC-B-17 **UTP:** 09-Mar-2022 11:41:51 DTF **J-level:** 0.493 pg/g **Split:** 1 **Checkcode:** 095-401-HGW

Datafile: 220308C20 **Report:** 09 Mar 2022 11:44 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.47		-	-	-	2.69E+07	0.80	Y	-	-	
JS 1234-TCDF	25.87		-	-	-	4.14E+07	0.79	Y	-	-	
JS 123467-HxCDD	37.82		-	-	-	1.06E+07	1.21	Y	-	-	
CS 37Cl-2378-TCDD	28.16		1.0251	1.0252	+0.2	1.23E+07	n/a	-	1.20	95.3	
CS 12347-PeCDD	33.05		1.2016	1.2033	+3.4	2.10E+07	1.60	Y	0.75	104	
CS 12346-PeCDF	31.56		1.2172	1.2197	+4.7	3.63E+07	1.56	Y	0.85	103	
CS 123469-HxCDF	36.95		0.9771	0.9768	-0.7	2.59E+07	0.53	Y	1.12	109	
CS 1234689-HpCDF	40.14		1.0608	1.0613	+1.2	2.00E+07	0.45	Y	0.89	106	
~~SS 37Cl-2378-TCDD~~	~~28.16~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.23E+07~~	~~n/a~~		~~1.15~~	~~105~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.05~~		~~1.2016~~	~~1.2033~~	~~+3.4~~	~~2.10E+07~~	~~1.60~~	~~Y~~	~~0.86~~	~~109~~	CL 09Mar22
~~SS 12346-PeCDF~~	~~31.56~~		~~1.2172~~	~~1.2197~~	~~+4.7~~	~~3.63E+07~~	~~1.56~~	~~Y~~	~~0.94~~	~~100~~	
~~SS 123469-HxCDF~~	~~36.95~~		~~0.9771~~	~~0.9768~~	~~-0.7~~	~~2.59E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~105~~	
~~SS 1234689-HpCDF~~	~~40.14~~		~~1.0608~~	~~1.0613~~	~~+1.2~~	~~2.00E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~99.6~~	

Totals	Conc	EMPC
Total TCDD	207	213
Total PeCDD	36.8	38.7
Total HxCDD	164	166
Total HpCDD	369	369
Total Tetra-Octa Dioxins	1630	1640
Total TCDF	941	981
Total PeCDF	107	107
Total HxCDF	74	76
Total HpCDF	21.7	23.4
Total Tetra-Octa Furans	1,150	1200
Total Tetra-Octa Dioxins & Furans	2780	2840

Lab ID: B6336_18971_DF_002 **Acq'd: 09 Mar 2022 03:14 DTF** **Wt/Vol: 10.15 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021822-S-SB-NC-B-17 **UTP: 09-Mar-2022 11:41:51 DTF** **J-level: 0.493 pg/g** **Split: 1** **Checkcode: 095-401-HGW**

Datafile: 220308C20 **Report: 09 Mar 2022 11:44 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.44	EMPC	0.8701	0.8687	-2.1	1.08E+05	0.91	N	1.18	0.701	2986.208	0.205
1379-TCDD	24.80	J	0.8829	0.8815	-2.1	7.39E+04	0.79	Y	1.18	0.481	2986.208	0.205
1369-TCDD	NotFnd		0.8982						1.18		2986.208	0.205
1469-TCDD	26.04		0.9261	0.9256	-0.8	3.52E+06	0.76	Y	1.18	22.9	2986.208	0.205
1247/1246/1248/1249-TCDD	26.29		0.9348	0.9344	-0.6	2.68E+05	0.80	Y	1.18	1.75	2986.208	0.205
1378-TCDD	26.48		0.9417	0.9412	-0.8	1.95E+05	0.71	Y	1.18	1.27	2986.208	0.205
1268-TCDD	26.70	J EMPC	0.9487	0.9488	+0.2	6.64E+04	1.09	N	1.18	0.432	2986.208	0.205
1478-TCDD	26.93	EMPC	0.9576	0.9571	-0.8	9.92E+04	0.95	N	1.18	0.646	2986.208	0.205
1279-TCDD	27.10	J EMPC	0.9636	0.9630	-1.0	6.79E+04	1.20	N	1.18	0.443	2986.208	0.205
1234/1269-TCDD	27.46		0.9761	0.9759	-0.3	4.87E+05	0.73	Y	1.18	3.17	2986.208	0.205
1236-TCDD	27.61	J EMPC	0.9812	0.9811	-0.2	5.36E+04	1.09	N	1.18	0.349	2986.208	0.205
1237/1238-TCDD	27.86	EMPC	0.9905	0.9903	-0.3	4.60E+05	0.89	N	1.18	3	2986.208	0.205
1239-TCDD	28.00	J EMPC	0.9951	0.9952	+0.2	6.43E+04	1.14	N	1.18	0.419	2986.208	0.205
2378-TCDD	**28.16**		**1.0008**	1.0008	**0**	2.49E+07	0.79	Y	**1.18**	**162**	**2986.208**	**0.205**
1278-TCDD	28.49		1.0124	1.0126	+0.3	2.27E+06	0.77	Y	1.18	14.8	2986.208	0.205
1267-TCDD	NotFnd		1.0172						1.18		2986.208	0.205
1289-TCDD	29.15	EMPC	1.0354	1.0360	+1.0	8.84E+04	0.91	N	1.18	0.576	2986.208	0.205
12479/12468-PeCDD	31.05	J	0.9255	0.9252	-0.6	2.73E+05	1.55	Y	1.04	2.3	4162.72	0.304
12469-PeCDD	31.59		0.9416	0.9413	-0.6	2.62E+06	1.52	Y	1.04	22.1	4162.72	0.304
12368-PeCDD	32.15	J	0.9582	0.9581	-0.2	8.91E+04	1.47	Y	1.04	0.75	4162.72	0.304
12478-PeCDD	32.34	J	0.9637	0.9636	-0.2	1.36E+05	1.47	Y	1.04	1.14	4162.72	0.304
12379-PeCDD	32.44	J EMPC	0.9668	0.9667	-0.2	1.06E+05	1.26	N	1.04	0.89	4162.72	0.304
12369/12467/12489-PeCDD	32.70		0.9746	0.9745	-0.2	7.92E+05	1.51	Y	1.04	6.67	4162.72	0.304
12346/12347-PeCDD	33.08	J EMPC	0.9858	0.9859	+0.2	8.62E+04	1.29	N	1.04	0.725	4162.72	0.304
12378-PeCDD	33.58		**1.0007**	**1.0006**	**-0.2**	**3.30E+05**	**1.54**	**Y**	**1.04**	**2.77**	**4162.72**	**0.304**
12367-PeCDD	33.68	J EMPC	1.0036	1.0037	+0.2	4.22E+04	0.60	N	1.04	0.355	4162.72	0.304
12389-PeCDD	34.02	J	1.0137	1.0137	0	1.25E+05	1.61	Y	1.04	1.05	4162.72	0.304
124679/124689-HxCDD	35.77		0.9540	0.9540	0	1.28E+07	1.25	Y	1.10	118	2854.266	0.229
123468-HxCDD	36.43	J EMPC	0.9715	0.9716	+0.2	2.18E+05	1.05	N	1.10	2	2854.266	0.229
123679/123689-HxCDD	36.72		0.9793	0.9792	-0.2	3.25E+06	1.26	Y	1.10	29.8	2854.266	0.229
123469-HxCDD	36.85		0.9829	0.9828	-0.2	6.21E+05	1.27	Y	1.10	5.7	2854.266	0.229
123478-HxCDD	37.52	J	**1.0004**	**1.0005**	**+0.2**	**1.04E+05**	**1.07**	**Y**	1.09	**0.992**	**2854.266**	**0.24**
123678-HxCDD	37.63	J	**1.0036**	**1.0036**	**0**	**2.17E+05**	**1.21**	**Y**	1.15	**2.01**	**2854.266**	**0.23**
123467-HxCDD	37.84		1.0089	1.0092	+0.7	3.75E+05	1.24	Y	1.10	3.44	2854.266	0.229
123789-HxCDD	37.94		**1.0118**	**1.0119**	**+0.2**	**5.14E+05**	**1.20**	**Y**	1.05	**4.53**	**2854.266**	**0.218**

Lab ID: B6336_18971_DF_002 **Acq'd: 09 Mar 2022 03:14 DTF** **Wt/Vol: 10.15 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021822-S-SB-NC-B-17 **UTP: 09-Mar-2022 11:41:51 DTF** **J-level: 0.493 pg/g** **Split: 1** **Checkcode: 095-401-HGW**

Datafile: 220308C20 **Report: 09 Mar 2022 11:44 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

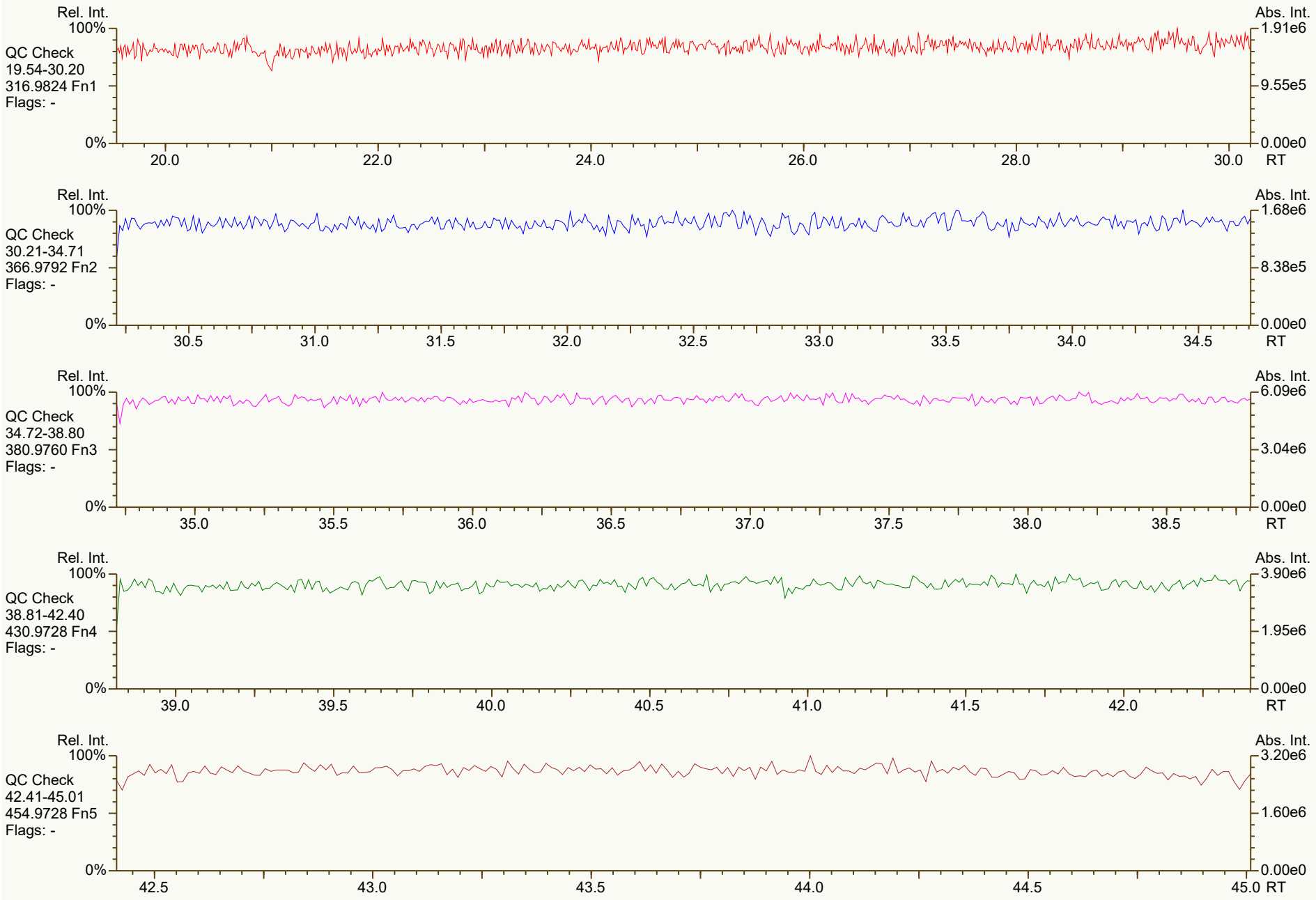
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.01		0.9836	0.9836	0	2.77E+07	1.05	Y	1.06	296	2797.532	0.253
1234678-HpCDD	**40.69**		**1.0002**	**1.0003**	**+0.2**	**6.91E+06**	**1.08**	**Y**	**1.06**	**73.8**	**2797.532**	**0.253**
OCDD	**43.40**		**1.0003**	**1.0003**	**0**	**5.17E+07**	**0.88**	**Y**	**1.13**	**851**	**3418.84**	**0.715**
OCDD-a	43.40		1.0002	1.0002	0	3.44E+06	2.46	Y	0.07	887	3545.356	11.6
1368-TCDF	22.27	EMPC	0.8191	0.8169	-2.9	6.80E+05	0.89	N	1.08	3.25	2554.436	0.129
1468-TCDF	22.87		0.8408	0.8389	-2.6	5.78E+05	0.79	Y	1.08	2.76	2554.436	0.129
2468-TCDF	23.53		0.8645	0.8630	-2.1	6.06E+05	0.83	Y	1.08	2.89	2554.436	0.129
1346/1246-TCDF	23.90		0.8772	0.8765	-1.0	7.22E+05	0.73	Y	1.08	3.44	2554.436	0.129
1347/1378/1247-TCDF	24.05		0.8833	0.8821	-1.7	3.64E+06	0.81	Y	1.08	17.4	2554.436	0.129
1348-TCDF	24.31		0.8932	0.8918	-2.0	8.64E+05	0.83	Y	1.08	4.12	2554.436	0.129
1248/1367/1379-TCDF	24.42		0.8980	0.8958	-3.2	6.03E+06	0.78	Y	1.08	28.8	2554.436	0.129
1268-TCDF	24.84		0.9119	0.9111	-1.2	2.40E+06	0.79	Y	1.08	11.5	2554.436	0.129
1467-TCDF	24.98		0.9170	0.9163	-1.0	5.47E+05	0.76	Y	1.08	2.61	2554.436	0.129
1478-TCDF	25.15		0.9234	0.9224	-1.5	4.63E+06	0.77	Y	1.08	22.1	2554.436	0.129
1369/1237-TCDF	25.53		0.9369	0.9365	-0.6	1.97E+06	0.88	Y	1.08	9.38	2554.436	0.129
2467-TCDF	25.66	EMPC	0.9415	0.9413	-0.3	7.99E+05	0.89	N	1.08	3.81	2554.436	0.129
2368-TCDF	25.82		0.9475	0.9471	-0.6	4.26E+06	0.81	Y	1.08	20.3	2554.436	0.129
1238/1234/1678/1469/1236-TCDF	25.90		0.9507	0.9500	-1.1	7.00E+06	0.75	Y	1.08	33.4	2554.436	0.129
1278-TCDF	26.37		0.9676	0.9673	-0.5	4.42E+07	0.80	Y	1.08	211	2554.436	0.129
1349-TCDF	NotFnd		0.9722						1.08		2554.436	0.129
1267-TCDF	26.65		0.9777	0.9776	-0.2	3.10E+06	0.82	Y	1.08	14.8	2554.436	0.129
2346/1249-TCDF	26.84		0.9843	0.9846	+0.5	1.12E+06	0.87	Y	1.08	5.35	2554.436	0.129
2347/1279-TCDF	27.06		0.9926	0.9925	-0.2	2.27E+06	0.75	Y	1.08	10.8	2554.436	0.129
2348-TCDF	27.17	EMPC	0.9968	0.9967	-0.2	6.63E+06	0.93	N	1.08	31.7	2554.436	0.129
2378-TCDF	**27.29**		**1.0008**	**1.0008**	**0**	**9.50E+07**	**0.78**	**Y**	**1.08**	**454**	**2554.436**	**0.129**
2367/3467-TCDF	27.65		1.0142	1.0141	-0.2	9.30E+06	0.78	Y	1.08	44.4	2554.436	0.129
1269-TCDF	27.90		1.0235	1.0233	-0.3	1.53E+06	0.75	Y	1.08	7.3	2554.436	0.129
1239-TCDF	28.17	EMPC	1.0329	1.0332	+0.5	2.97E+05	0.89	N	1.08	1.42	2554.436	0.129
1289-TCDF	29.32		1.0742	1.0756	+2.5	7.46E+06	0.79	Y	1.08	35.6	2554.436	0.129
13468/12468-PeCDF	29.26		0.9122	0.9119	-0.5	8.54E+05	1.33	Y	1.02	4.62	3015.026	0.143
13678/13467/12467-PeCDF	30.82		0.9606	0.9604	-0.4	1.39E+06	1.68	Y	1.02	7.53	5811.408	0.275
12368/13478/12478-PeCDF	30.99		0.9655	0.9657	+0.4	3.17E+06	1.49	Y	1.02	17.1	5811.408	0.275
14678-PeCDF	31.07		0.9685	0.9681	-0.7	5.52E+05	1.47	Y	1.02	2.99	5811.408	0.275
13479-PeCDF	31.18	J	0.9716	0.9714	-0.4	3.41E+05	1.48	Y	1.02	1.85	5811.408	0.275
13469/12479-PeCDF	31.43	J	0.9794	0.9793	-0.2	3.81E+05	1.66	Y	1.02	2.06	5811.408	0.275
12346-PeCDF	31.58	J	0.9836	0.9840	+0.8	2.71E+05	1.38	Y	1.02	1.47	5811.408	0.275

Lab ID: B6336_18971_DF_002 **Acq'd: 09 Mar 2022 03:14 DTF** **Wt/Vol: 10.15 g** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021822-S-SB-NC-B-17 **UTP: 09-Mar-2022 11:41:51 DTF** **J-level: 0.493 pg/g** **Split: 1** **Checkcode: 095-401-HGW**

Datafile: 220308C20 **Report: 09 Mar 2022 11:44 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	31.66		0.9866	0.9867	+0.2	6.82E+05	1.40	Y	1.02	3.69	5811.408	0.275
12347-PeCDF	31.74	J	0.9891	0.9890	-0.2	3.46E+05	1.69	Y	1.02	1.88	5811.408	0.275
12348-PeCDF	31.90		0.9938	0.9939	+0.2	5.80E+05	1.72	Y	1.02	3.14	5811.408	0.275
12378-PeCDF	**32.11**		**1.0005**	**1.0005**	**0**	**4.38E+06**	**1.49**	**Y**	**1.02**	**23.3**	**5811.408**	**0.265**
12678/12367-PeCDF	32.40		1.0091	1.0095	+0.8	1.89E+06	1.47	Y	1.02	10.3	5811.408	0.275
12379-PeCDF	32.56	J	1.0144	1.0147	+0.6	2.29E+05	1.43	Y	1.02	1.24	5811.408	0.275
12679-PeCDF	32.97	J	0.9927	0.9927	0	1.93E+05	1.53	Y	1.02	1.05	5811.408	0.275
23467/12369-PeCDF	33.11		0.9965	0.9967	+0.4	6.32E+05	1.40	Y	1.02	3.42	5811.408	0.275
23478-PeCDF	**33.24**	PR	**1.0005**	**1.0007**	**+0.4**	**3.56E+06**	**1.59**	**Y**	**1.02**	**19.6**	**5811.408**	**0.286**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5811.408	0.275
12349-PeCDF	33.57	J EMPC	1.0101	1.0105	+0.8	7.63E+04	1.07	N	1.02	0.413	5811.408	0.275
12389-PeCDF	34.32	J	1.0330	1.0331	+0.2	2.63E+05	1.35	Y	1.02	1.42	5811.408	0.275
123468-HxCDF	35.11		0.9622	0.9621	-0.2	4.13E+05	1.10	Y	1.19	2.61	4298.283	0.227
124678/134678-HxCDF	35.32		0.9678	0.9677	-0.2	1.52E+06	1.22	Y	1.19	9.61	4298.283	0.227
134679-HxCDF	35.55	J	0.9741	0.9741	0	1.96E+05	1.21	Y	1.19	1.24	4298.283	0.227
124679-HxCDF	35.74	J	0.9795	0.9794	-0.2	2.46E+05	1.16	Y	1.19	1.55	4298.283	0.227
124689-HxCDF	35.97	J	0.9856	0.9857	+0.2	3.02E+05	1.18	Y	1.19	1.91	4298.283	0.227
123467-HxCDF	36.40	J	0.9972	0.9972	0	2.87E+05	1.20	Y	1.19	1.81	4298.283	0.227
123478-HxCDF	**36.51**		**1.0004**	**1.0005**	**+0.2**	**5.60E+06**	**1.24**	**Y**	**1.27**	**35.4**	**4298.283**	**0.225**
123678-HxCDF	**36.65**		**1.0004**	**1.0004**	**0**	**1.92E+06**	**1.16**	**Y**	**1.15**	**11**	**4298.283**	**0.199**
123479-HxCDF	36.81	J	1.0048	1.0048	0	1.84E+05	1.22	Y	1.19	1.16	4298.283	0.227
123469-HxCDF	36.97	J EMPC	1.0089	1.0090	+0.2	8.59E+04	1.47	N	1.19	0.542	4298.283	0.227
123679-HxCDF	37.10	J EMPC	0.9942	0.9942	0	2.22E+05	1.05	N	1.19	1.4	4298.283	0.227
234678-HxCDF	**37.33**		**1.0005**	**1.0004**	**-0.2**	**7.37E+05**	**1.14**	**Y**	**1.19**	**4.45**	**4298.283**	**0.221**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		4298.283	0.227
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**4298.283**	**0.274**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	38.34		1.0006	1.0011	+1.2	5.23E+05	1.23	Y	1.19	3.3	4298.283	0.227
1234678-HpCDF	**39.75**		**1.0003**	**1.0002**	**-0.2**	**1.94E+06**	**1.06**	**Y**	**1.37**	**12.8**	**2456.441**	**0.119**
1234679-HpCDF	40.02	**J EMPC**	1.0068	1.0070	+0.5	2.25E+05	0.83	N	1.34	1.78	2456.441	0.152
1234689-HpCDF	40.15		1.0104	1.0104	0	5.52E+05	1.03	Y	1.34	4.37	2456.441	0.152
1234789-HpCDF	**41.15**		**1.0003**	**1.0003**	**0**	**4.61E+05**	**1.11**	**Y**	**1.31**	**4.53**	**2456.441**	**0.2**
OCDF	**43.57**		**1.0002**	**1.0003**	**+0.3**	**6.70E+05**	**0.77**	**Y**	**1.07**	**9.34**	**2855.995**	**0.468**
OCDF-a	NotFnd		1.0001						0.07		3219.007	8.52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QC Check
19.54-30.20
316.9824 Fn1
Flags: -
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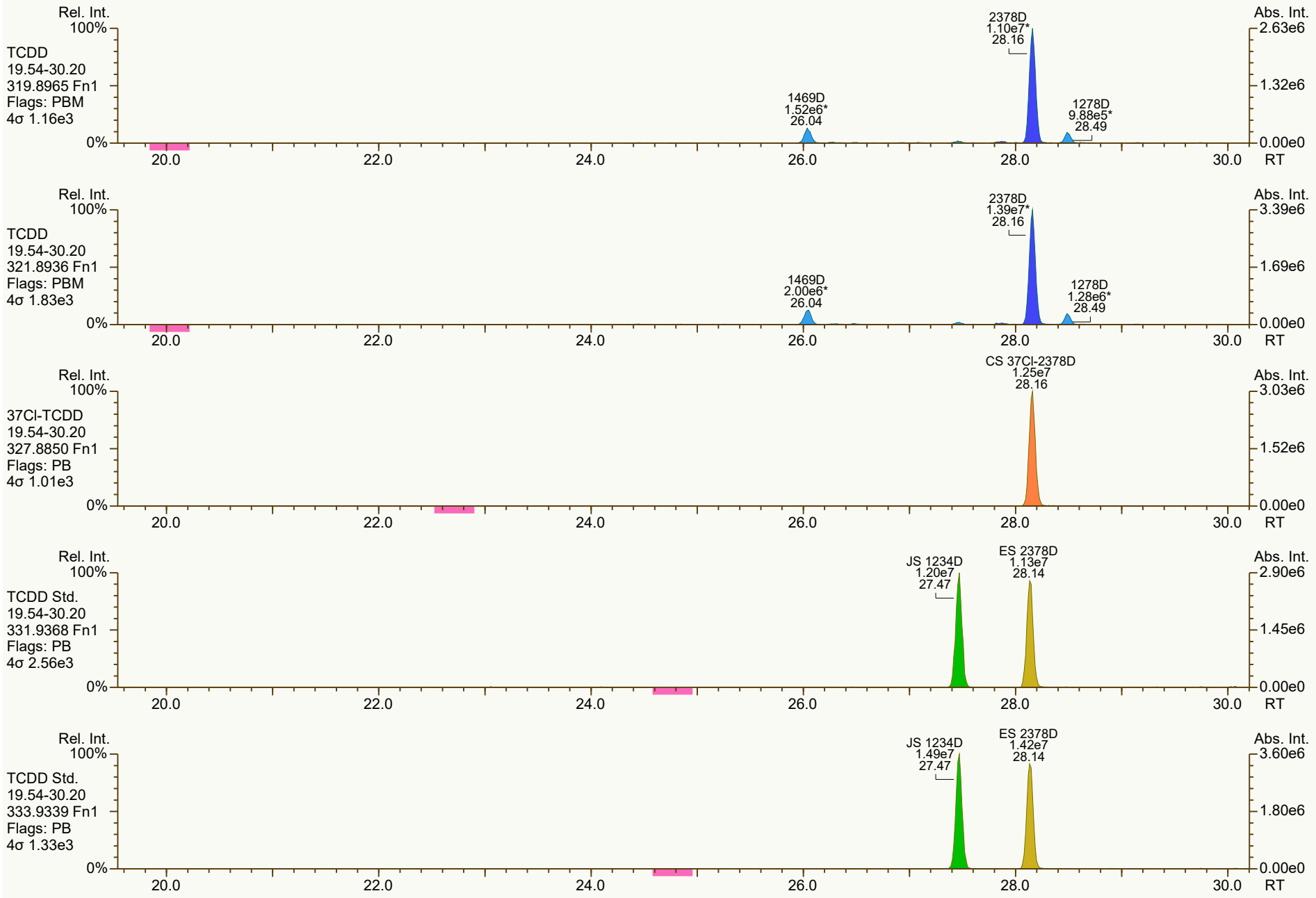
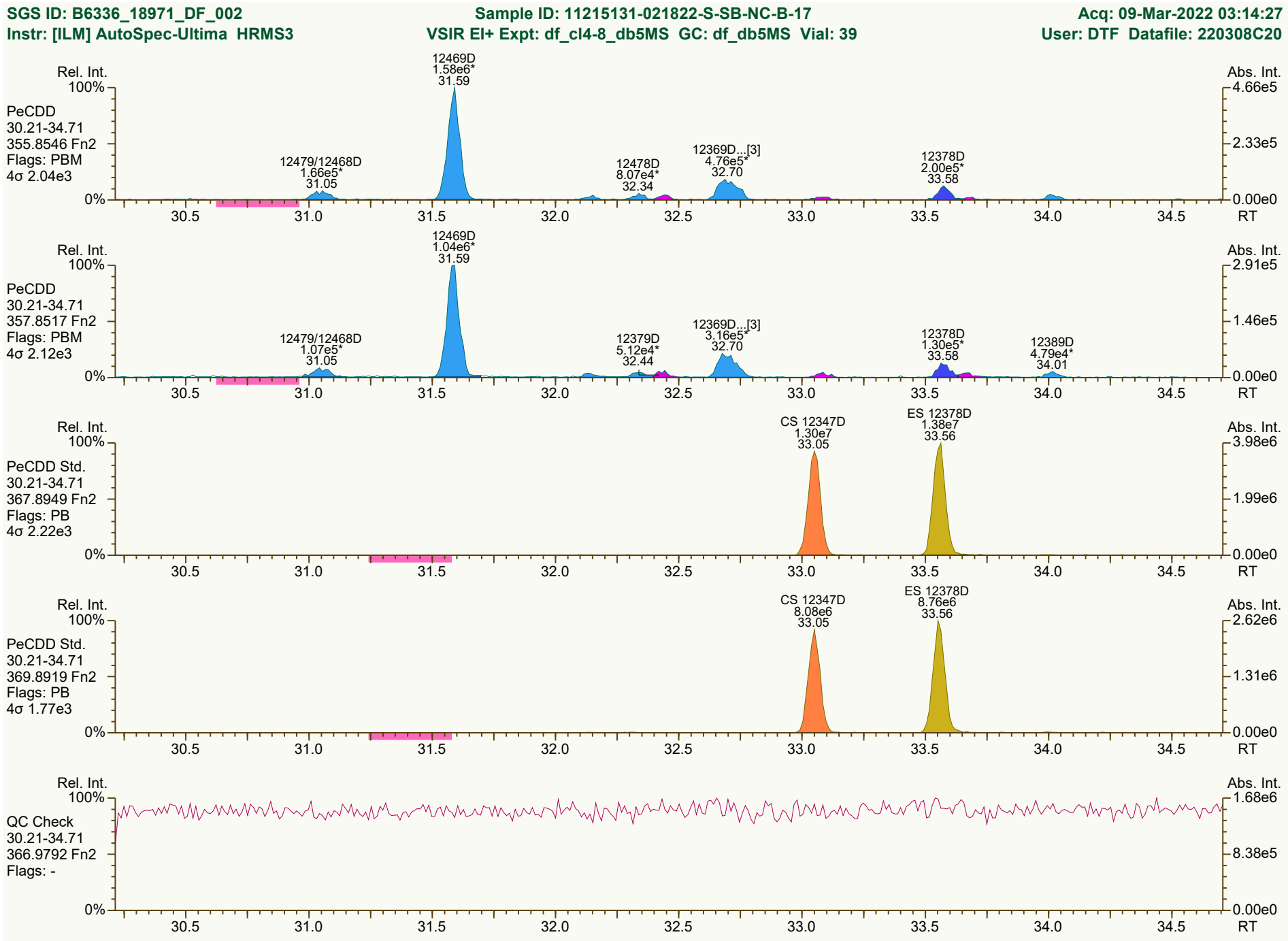
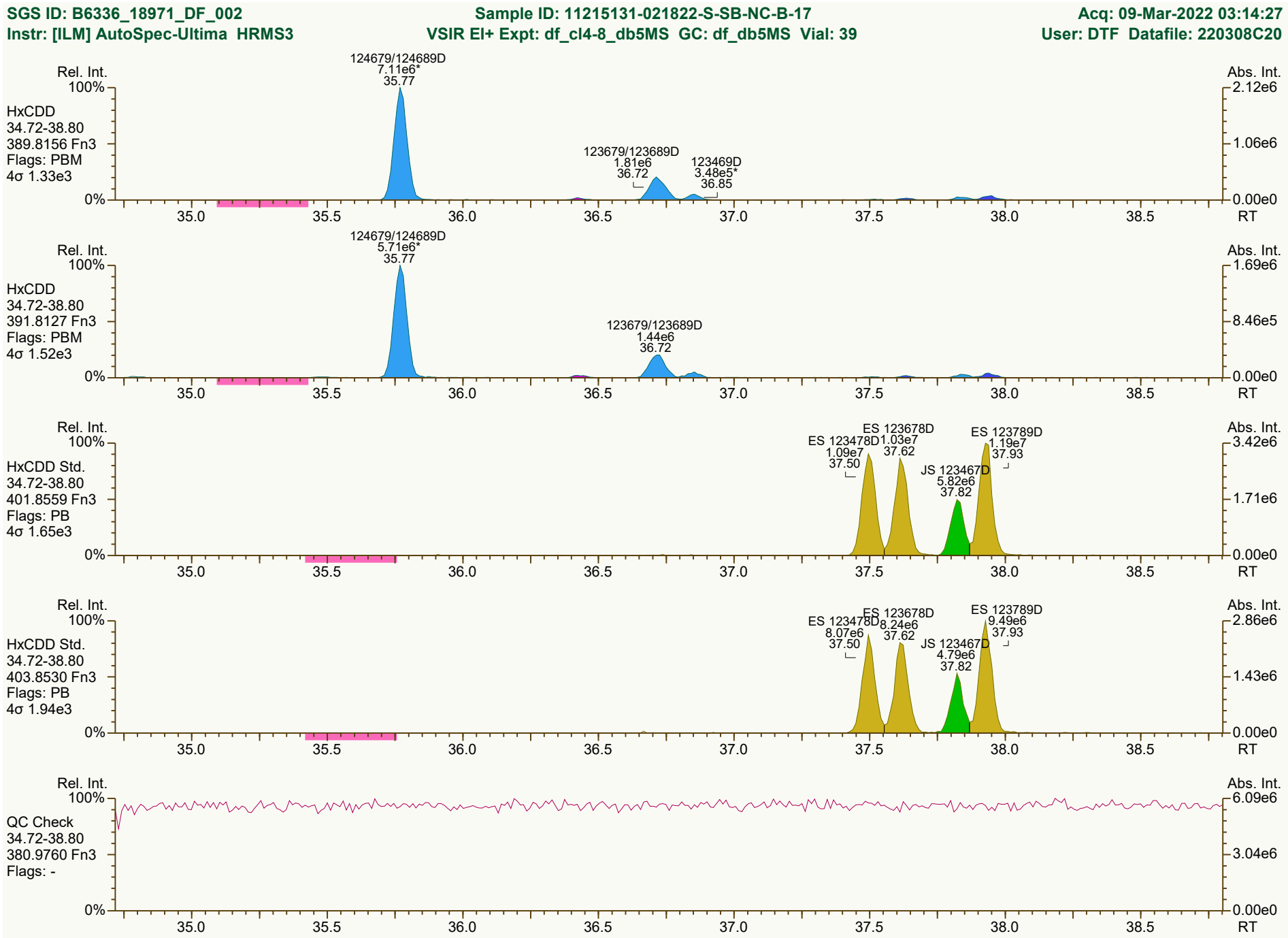
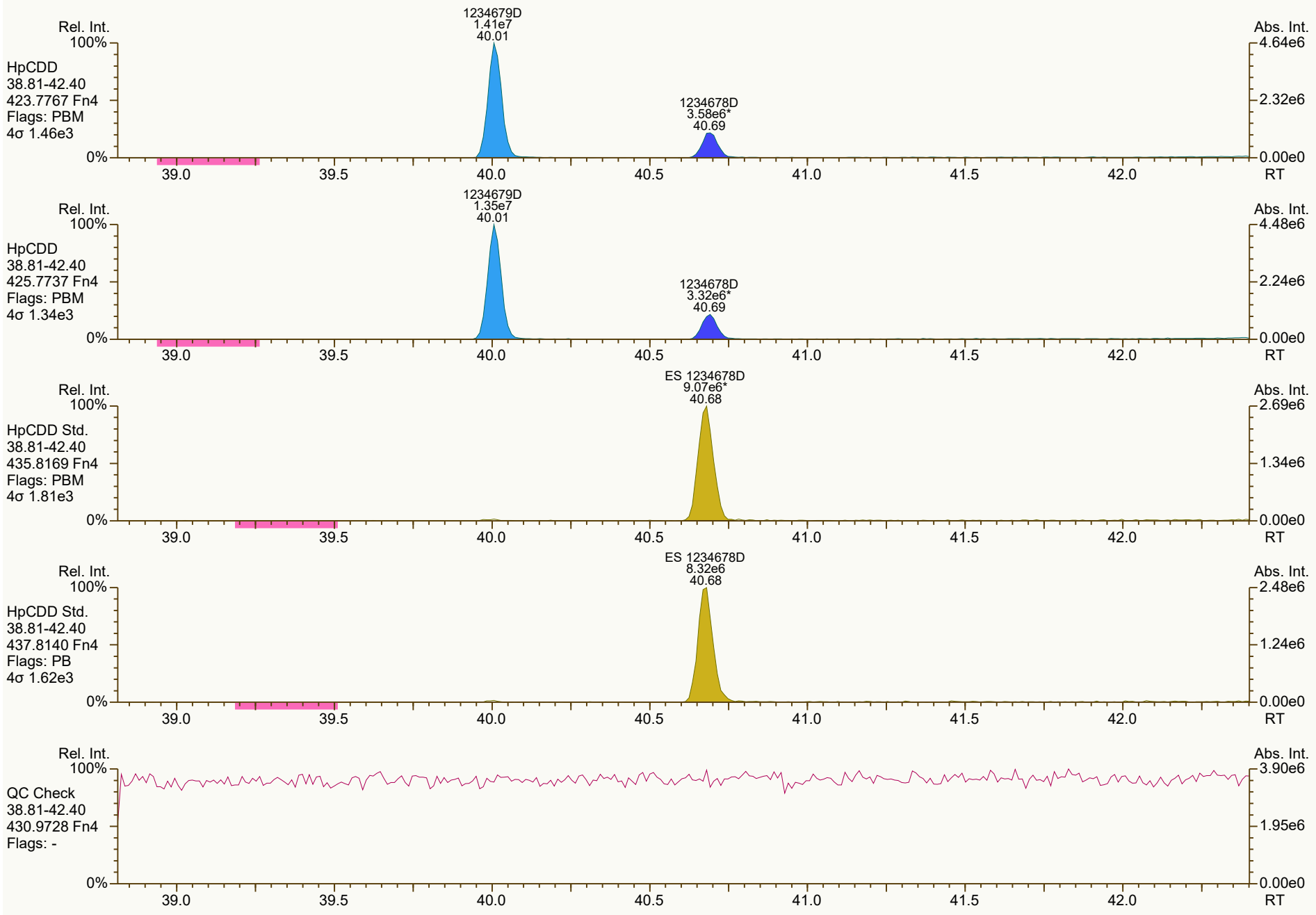
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.91e6
9.55e5
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
1.68e6
8.38e5
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
6.09e6
3.04e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
3.90e6
1.95e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
3.20e6
1.60e6
0.00e0

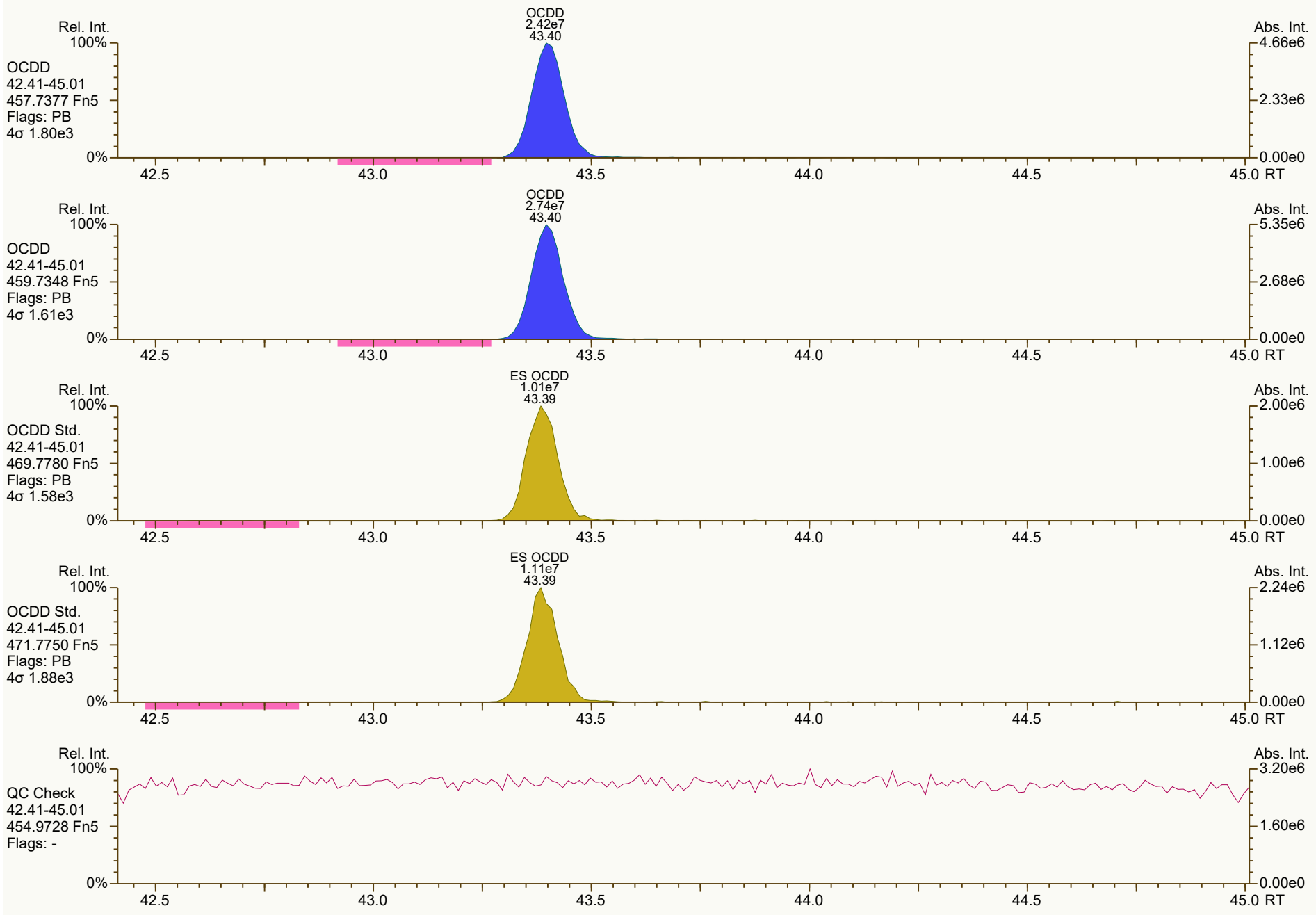

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.16e3
0%
2378D
1.10e7*
28.16
1469D
1.52e6*
26.04
1278D
9.88e5*
28.49
Abs. Int.
2.63e6
1.32e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.83e3
0%
2378D
1.39e7*
28.16
1469D
2.00e6*
26.04
1278D
1.28e6*
28.49
Abs. Int.
3.39e6
1.69e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.01e3
0%
CS 37Cl-2378D
1.25e7
28.16
Abs. Int.
3.03e6
1.52e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 2.56e3
0%
JS 1234D
1.20e7
27.47
ES 2378D
1.13e7
28.14
Abs. Int.
2.90e6
1.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 1.33e3
0%
JS 1234D
1.49e7
27.47
ES 2378D
1.42e7
28.14
Abs. Int.
3.60e6
1.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6336_18971_DF_002
Sample ID: 11215131-021822-S-SB-NC-B-17
Acq: 09-Mar-2022 03:14:27
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 39
User: DTF Datafile: 220308C20
Rel. Int.
Abs. Int.
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 2.04e3
12469D
1.58e6*
31.59
12479/12468D
1.66e5*
31.05
12478D
8.07e4*
32.34
12369D...[3]
4.76e5*
32.70
12378D
2.00e5*
33.58
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 2.12e3
12469D
1.04e6*
31.59
12479/12468D
1.07e5*
31.05
12379D
5.12e4*
32.44
12369D...[3]
3.16e5*
32.70
12378D
1.30e5*
33.58
12389D
4.79e4*
34.01
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.22e3
CS 12347D
1.30e7
33.05
ES 12378D
1.38e7
33.56
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.77e3
CS 12347D
8.08e6
33.05
ES 12378D
8.76e6
33.56
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
RT
Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\B6336_18971_DF_002.utp_res, saved 09-Mar-2022 11:41 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7856, 4962 scc: 095-401
Revised: 09-Mar-2022 11:35 (DTF) Printed: 09-Mar-2022 11:48 Page 3 of 12



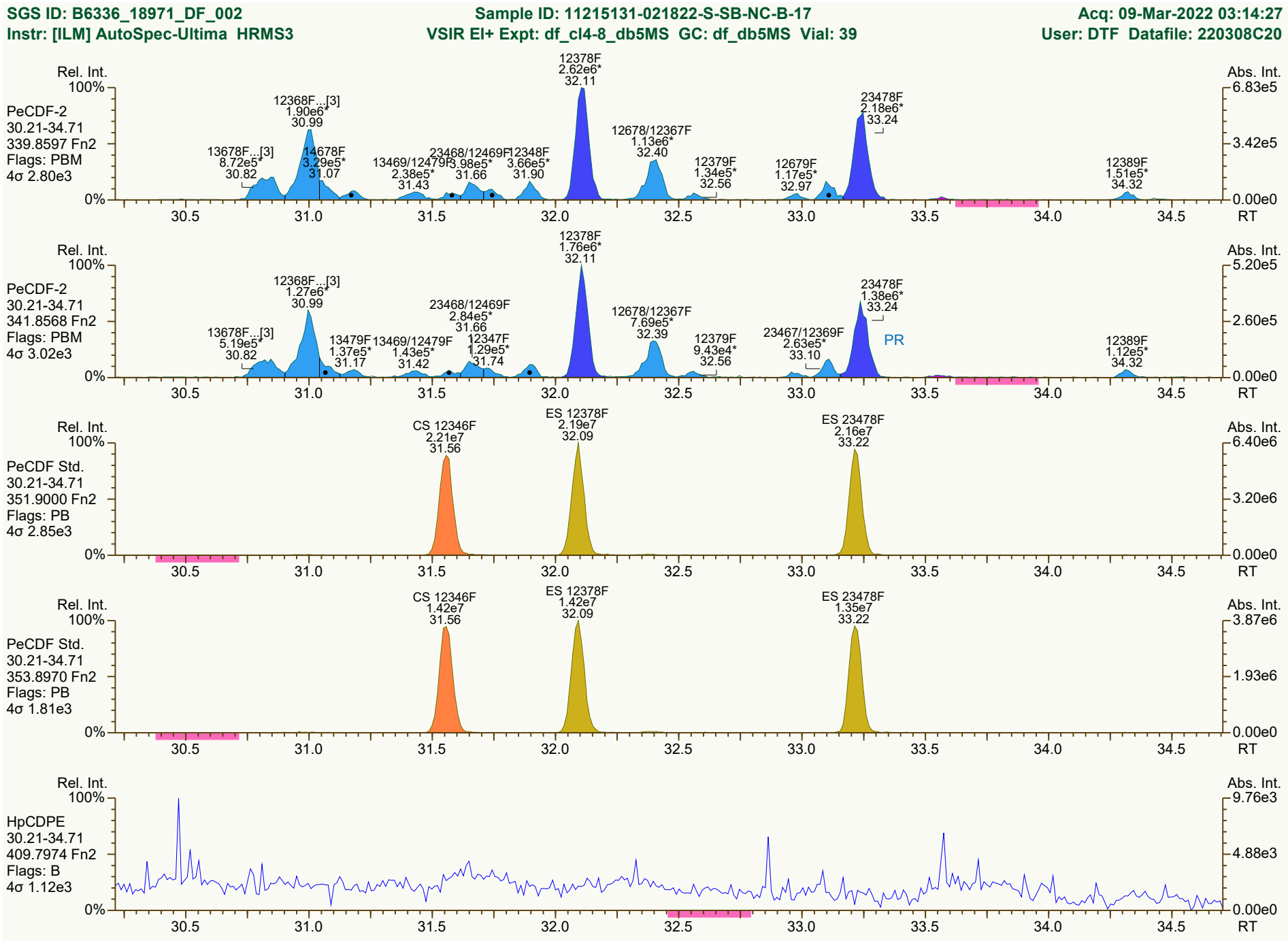
Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\B6336_18971_DF_002.utp_res, saved 09-Mar-2022 11:41 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3037, 9976 scc: 095-401
Revised: 09-Mar-2022 11:35 (DTF) Printed: 09-Mar-2022 11:49 Page 4 of 12

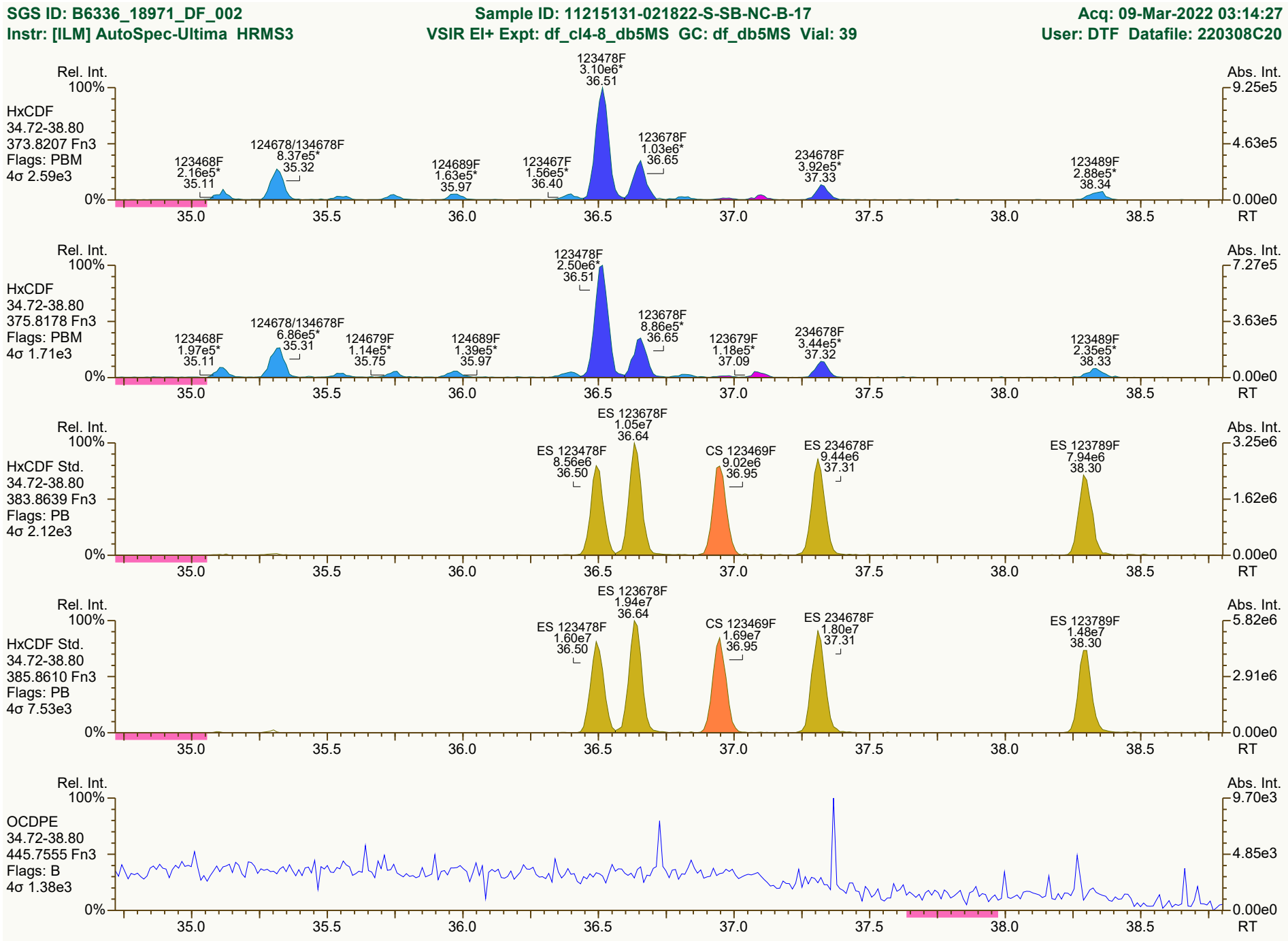

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 1.46e3
1234679D
1.41e7
40.01
1234678D
3.58e6*
40.69
Abs. Int.
4.64e6
2.32e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 1.34e3
1234679D
1.35e7
40.01
1234678D
3.32e6*
40.69
Abs. Int.
4.48e6
2.24e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PBM
4σ 1.81e3
ES 1234678D
9.07e6*
40.68
Abs. Int.
2.69e6
1.34e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.62e3
ES 1234678D
8.32e6
40.68
Abs. Int.
2.48e6
1.24e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
3.90e6
1.95e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

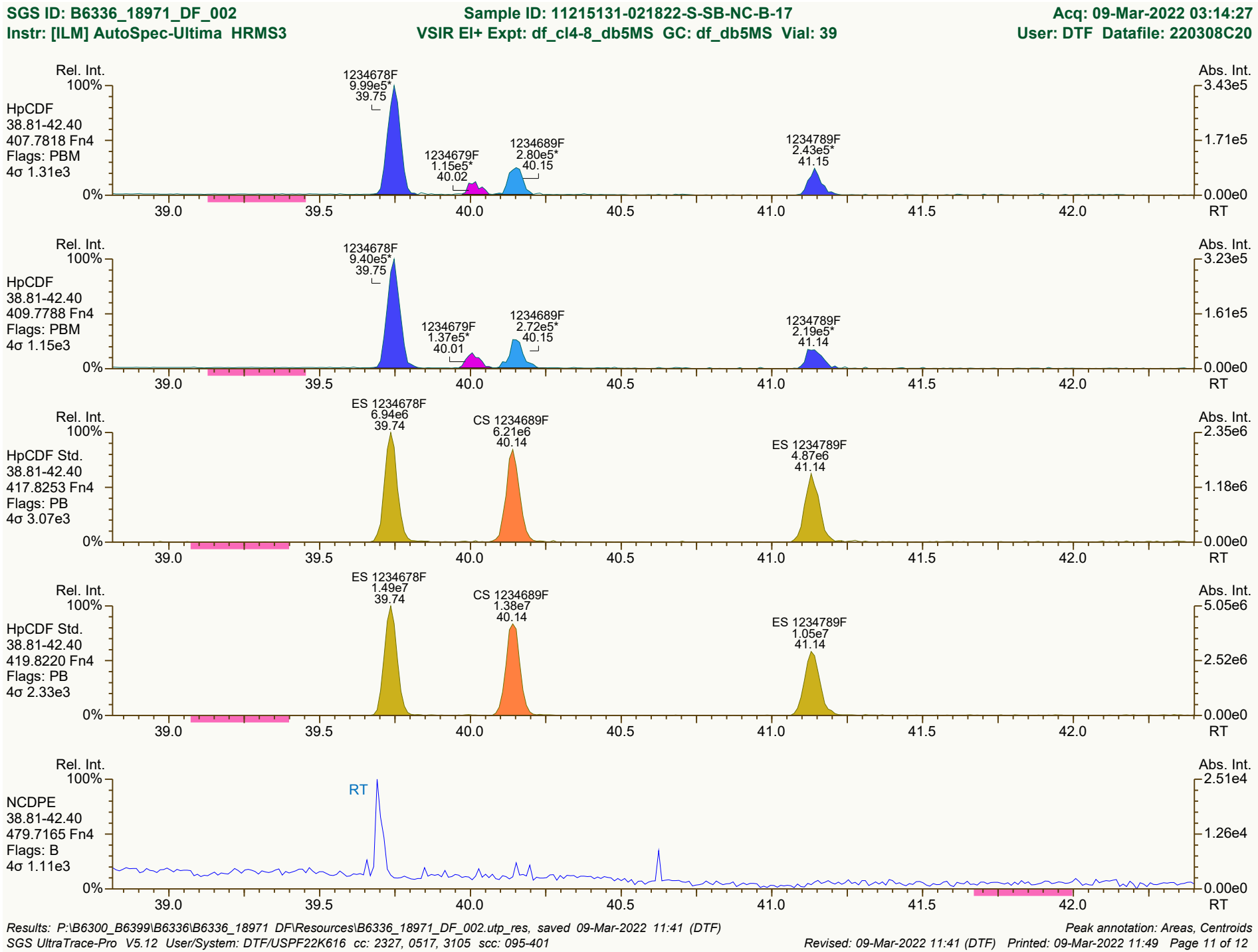

OCDD
2.42e7
43.40
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 1.80e3
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.74e7
43.40
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 1.61e3
5.35e6
2.68e6
ES OCDD
1.01e7
43.39
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 1.58e3
2.00e6
1.00e6
ES OCDD
1.11e7
43.39
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.88e3
2.24e6
1.12e6
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
3.20e6
1.60e6

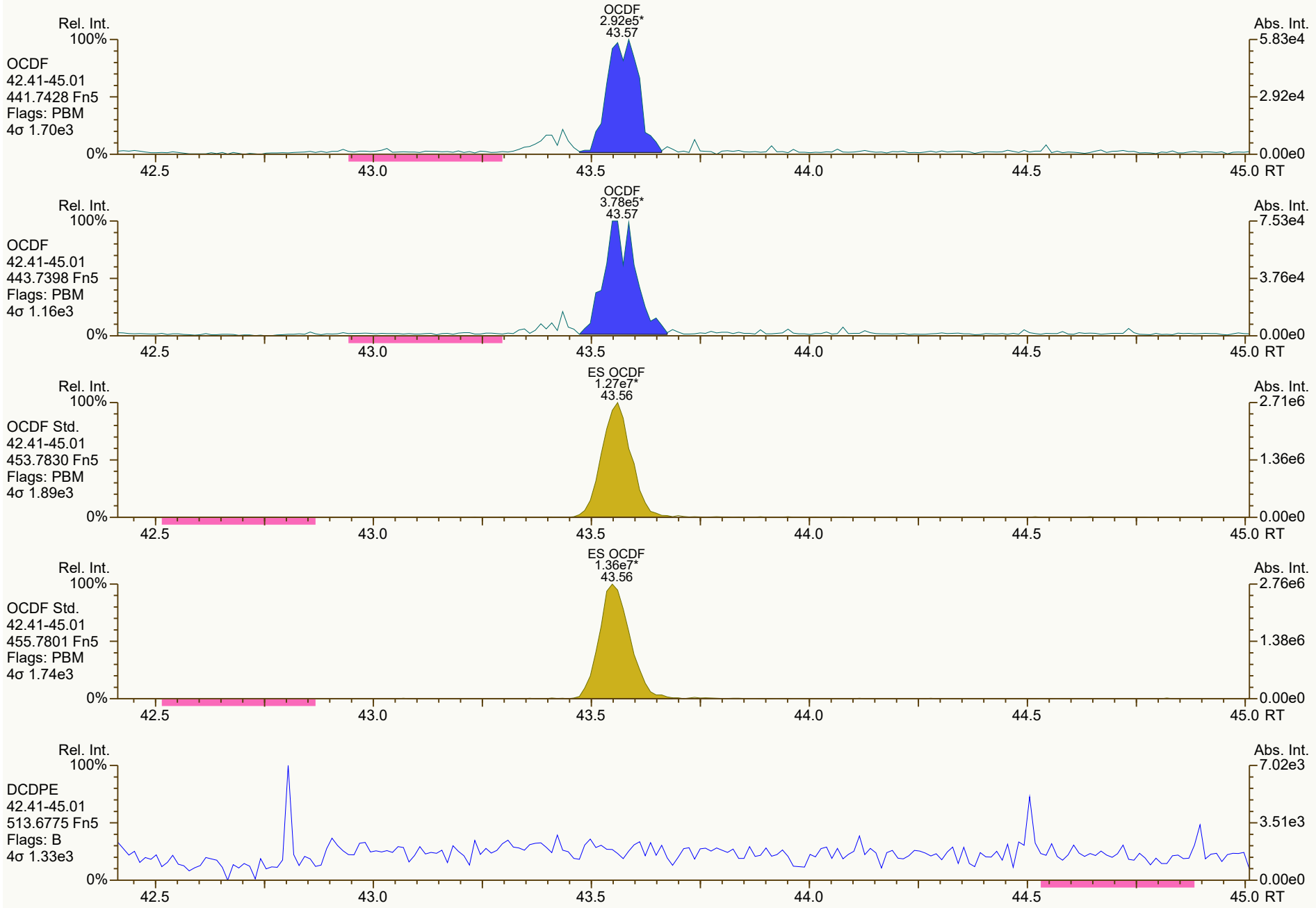

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.28e3
0%
2378F
4.16e7*
27.28
1278F
1.96e7*
26.37
2368F
1.90e6*
25.82
1238F...[5]
3.01e6*
25.90
2348F
3.48e6*
27.17
2367/3467F
4.08e6*
27.65
1289F
3.30e6*
29.32
Abs. Int.
9.43e6
4.71e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.28e3
0%
2378F
5.34e7*
27.28
1278F
2.45e7*
26.37
2368F
2.36e6*
25.82
1238F...[5]
4.00e6*
25.90
2348F
3.75e6*
27.16
2367/3467F
5.22e6*
27.64
1289F
4.17e6*
29.32
Abs. Int.
1.18e7
5.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 4.53e3
0%
JS 1234F
1.82e7
25.87
ES 2378F
1.68e7
27.26
Abs. Int.
3.96e6
1.98e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.65e3
0%
JS 1234F
2.32e7
25.87
ES 2378F
2.15e7
27.26
Abs. Int.
4.81e6
2.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.14e3
0%
Abs. Int.
8.80e3
4.40e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PBM
4σ 1.61e3
13468/12468F
4.88e5*
29.26
Abs. Int.
1.27e5
6.33e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PBM
4σ 1.41e3
13468/12468F
3.66e5*
29.26
Abs. Int.
7.72e4
3.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
1.91e6
9.55e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: B6336_18971_DF_002
Sample ID: 11215131-021822-S-SB-NC-B-17
Acq: 09-Mar-2022 03:14:27
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 39
User: DTF Datafile: 220308C20
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 2.80e3
12378F 2.62e6* 32.11
12368F...[3] 1.90e6* 30.99
23478F 2.18e6* 33.24
12678/12367F 1.13e6* 32.40
13678F...[3] 8.72e5* 30.82
14678F 3.29e5* 31.07
13469/12479F 2.38e5* 31.43
23468/12469F 3.98e5* 31.66
12348F 3.66e5* 31.90
12379F 1.34e5* 32.56
12679F 1.17e5* 32.97
12389F 1.51e5* 34.32
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 3.02e3
12378F 1.76e6* 32.11
12368F...[3] 1.27e6* 30.99
23478F 1.38e6* 33.24
23468/12469F 2.84e5* 31.66
12678/12367F 7.69e5* 32.39
13678F...[3] 5.19e5* 30.82
13479F 1.37e5* 31.17
13469/12479F 1.43e5* 31.42
12347F 1.29e5* 31.74
12379F 9.43e4* 32.56
23467/12369F 2.63e5* 33.10
PR
12389F 1.12e5* 34.32
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 2.85e3
CS 12346F 2.21e7 31.56
ES 12378F 2.19e7 32.09
ES 23478F 2.16e7 33.22
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 1.81e3
CS 12346F 1.42e7 31.56
ES 12378F 1.42e7 32.09
ES 23478F 1.35e7 33.22
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.12e3
Rel. Int.
Abs. Int.
RT
Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\B6336_18971_DF_002.utp_res, saved 09-Mar-2022 11:41 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5992, 9404, 4616 scc: 095-401
Revised: 09-Mar-2022 11:39 (DTF) Printed: 09-Mar-2022 11:49 Page 9 of 12


SGS ID: B6336_18971_DF_002
Sample ID: 11215131-021822-S-SB-NC-B-17
Acq: 09-Mar-2022 03:14:27
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 39
User: DTF Datafile: 220308C20
Rel. Int.
Abs. Int.
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PBM
4σ 2.59e3
123478F 3.10e6* 36.51
123678F 1.03e6* 36.65
124678/134678F 8.37e5* 35.32
123468F 2.16e5* 35.11
124689F 1.63e5* 35.97
123467F 1.56e5* 36.40
234678F 3.92e5* 37.33
123489F 2.88e5* 38.34
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PBM
4σ 1.71e3
123478F 2.50e6* 36.51
123678F 8.86e5* 36.65
124678/134678F 6.86e5* 35.31
123468F 1.97e5* 35.11
124679F 1.14e5* 35.75
124689F 1.39e5* 35.97
123679F 1.18e5* 37.09
234678F 3.44e5* 37.32
123489F 2.35e5* 38.33
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 2.12e3
ES 123678F 1.05e7 36.64
ES 123478F 8.56e6 36.50
CS 123469F 9.02e6 36.95
ES 234678F 9.44e6 37.31
ES 123789F 7.94e6 38.30
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 7.53e3
ES 123678F 1.94e7 36.64
ES 123478F 1.60e7 36.50
CS 123469F 1.69e7 36.95
ES 234678F 1.80e7 37.31
ES 123789F 1.48e7 38.30
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.38e3
RT
Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\B6336_18971_DF_002.utp_res, saved 09-Mar-2022 11:41 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0841, 0332, 3924 scc: 095-401
Revised: 09-Mar-2022 11:40 (DTF) Printed: 09-Mar-2022 11:49 Page 10 of 12


SGS ID: B6336_18971_DF_002
Sample ID: 11215131-021822-S-SB-NC-B-17
Acq: 09-Mar-2022 03:14:27
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 39
User: DTF Datafile: 220308C20
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PBM
4σ 1.31e3
1234678F
9.99e5*
39.75
1234679F
1.15e5*
40.02
1234689F
2.80e5*
40.15
1234789F
2.43e5*
41.15
3.43e5
1.71e5
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PBM
4σ 1.15e3
1234678F
9.40e5*
39.75
1234679F
1.37e5*
40.01
1234689F
2.72e5*
40.15
1234789F
2.19e5*
41.14
3.23e5
1.61e5
0.00e0
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 3.07e3
ES 1234678F
6.94e6
39.74
CS 1234689F
6.21e6
40.14
ES 1234789F
4.87e6
41.14
2.35e6
1.18e6
0.00e0
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 2.33e3
ES 1234678F
1.49e7
39.74
CS 1234689F
1.38e7
40.14
ES 1234789F
1.05e7
41.14
5.05e6
2.52e6
0.00e0
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 1.11e3
RT
2.51e4
1.26e4
0.00e0
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\B6336_18971_DF_002.utp_res, saved 09-Mar-2022 11:41 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2327, 0517, 3105 scc: 095-401
Revised: 09-Mar-2022 11:41 (DTF) Printed: 09-Mar-2022 11:49 Page 11 of 12


OCDF
2.92e5*
43.57
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 1.70e3
0%
Abs. Int.
5.83e4
2.92e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.78e5*
43.57
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 1.16e3
7.53e4
3.76e4
ES OCDF
1.27e7*
43.56
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 1.89e3
2.71e6
1.36e6
ES OCDF
1.36e7*
43.56
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 1.74e3
2.76e6
1.38e6
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.33e3
7.02e3
3.51e3

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
12	220308C12	3	CS3_220308_DF_CB	1.00	25-347-1	DTF	418-042	08-Mar-2022	21:03:48
13	220308C13	36	OPR1_18971_DF	1.00	0_18971_OPR001	DTF	714-698	08-Mar-2022	21:50:05
14	220308C14	37	OPR2_18971_DF	1.00	0_18971_OPR002	DTF	813-174	08-Mar-2022	22:36:25
16	220308C16	2	SBS_220308_DF_CC	1.00	20-61-1	DTF	771-990	09-Mar-2022	00:09:05
17	220308C17	35	MB1_18971_DF_SDS	10.00	Method Blank	DTF	366-378	09-Mar-2022	00:55:25
18	220308C19	38	B6336_18971_DF_001	10.07	11215131-021822-S-SB-NC-O-54	DTF	285-098	09-Mar-2022	02:28:06
19	220308C20	39	B6336_18971_DF_002	10.15	11215131-021822-S-SB-NC-B-17	DTF	095-401	09-Mar-2022	03:14:27

REVIEWED
Tyler_Fritz , 3/9/2022, 11:52:52 AM

APPROVED
Carla_Lyon , 3/9/2022, 1:20:48 PM

Dioxin/Furan QC Summary	Acq'd: 08 Mar 2022 21:03 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220308_DF_CB	UTP: 09-Mar-2022 11:41:47 DTF	Checkcode: 418-042-LZQ
Sample ID: 25-347-1	Report: 09 Mar 2022 11:43 TF	Datafile: 220308C12

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.16	3.83E+06	0.79	Y	1.18	1.22	3%
12378-PeCDD	33.57	1.44E+07	1.58	Y	1.04	1.04	1%
123478-HxCDD	37.50	1.27E+07	1.28	Y	1.09	1.10	1%
123678-HxCDD	37.62	1.29E+07	1.30	Y	1.15	1.14	-1%
123789-HxCDD	37.93	1.40E+07	1.25	Y	1.05	1.07	2%
1234678-HpCDD	40.68	1.12E+07	1.08	Y	1.06	1.03	-3%
OCDD	43.37	1.68E+07	0.93	Y	1.13	1.12	0%
2378-TCDF	27.29	5.36E+06	0.80	Y	1.08	1.07	0%
12378-PeCDF	32.10	2.17E+07	1.57	Y	1.02	1.01	-1%
23478-PeCDF	33.22	2.13E+07	1.56	Y	1.02	1.00	-2%
123478-HxCDF	36.50	1.93E+07	1.24	Y	1.27	1.23	-3%
123678-HxCDF	36.64	2.01E+07	1.22	Y	1.15	1.14	-1%
234678-HxCDF	37.32	1.89E+07	1.22	Y	1.19	1.17	-2%
123789-HxCDF	38.30	1.67E+07	1.23	Y	1.16	1.10	-6%
1234678-HpCDF	39.73	1.67E+07	1.02	Y	1.37	1.34	-2%
1234789-HpCDF	41.13	1.41E+07	1.04	Y	1.31	1.29	-2%
OCDF	43.54	2.17E+07	0.91	Y	1.07	1.06	-1%
ES 2378-TCDD	28.13	3.14E+07	0.81	Y	1.05	1.02	-2%
ES 12378-PeCDD	33.547	2.76E+07	1.54	Y	0.88	0.90	2%
ES 123478-HxCDD	37.485	2.32E+07	1.28	Y	0.97	0.98	1%
ES 123678-HxCDD	37.607	2.27E+07	1.27	Y	0.94	0.96	2%
ES 123789-HxCDD	37.914	2.61E+07	1.24	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.667	2.19E+07	1.06	Y	0.91	0.93	1%
ES OCDD	43.361	2.99E+07	0.89	Y	0.62	0.63	2%
ES 2378-TCDF	27.265	4.99E+07	0.79	Y	1.06	1.02	-4%
ES 12378-PeCDF	32.082	4.29E+07	1.54	Y	0.91	0.87	-4%
ES 23478-PeCDF	33.208	4.26E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.485	3.14E+07	0.53	Y	1.20	1.33	11%
ES 123678-HxCDF	36.623	3.51E+07	0.55	Y	1.35	1.49	10%
ES 234678-HxCDF	37.298	3.24E+07	0.54	Y	1.24	1.37	10%
ES 123789-HxCDF	38.284	3.03E+07	0.53	Y	1.16	1.29	11%
ES 1234678-HpCDF	39.72	2.50E+07	0.46	Y	0.97	1.06	9%
ES 1234789-HpCDF	41.118	2.20E+07	0.46	Y	0.85	0.93	9%
ES OCDF	43.53	4.10E+07	0.91	Y	0.81	0.87	7%

Dioxin/Furan QC Summary	Acq'd: 08 Mar 2022 21:03 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220308_DF_CB	UTP: 09-Mar-2022 11:41:47 DTF	Checkcode: 418-042-LZQ
Sample ID: 25-347-1	Report: 09 Mar 2022 11:43 TF	Datafile: 220308C12

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.47	3.08E+07	0.78	Y	-	-	-
JS 1234-TCDF	25.88	4.90E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.81	1.18E+07	1.28	Y	-	-	-
CS 37Cl-2378-TCDD	28.16	4.15E+06	n/a	-	1.20	1.35	12%
CS 12347-PeCDD	33.04	2.53E+07	1.61	Y	0.75	0.82	9%
CS 12346-PeCDF	31.55	4.13E+07	1.55	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.94	3.17E+07	0.54	Y	1.12	1.34	20%
CS 1234689-HpCDF	40.13	2.41E+07	0.47	Y	0.89	1.02	15%
~~SS 37Cl-2378-TCDD~~	~~28.16~~	~~4.15E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.32~~	~~15%~~
~~SS 12347-PeCDD~~	~~33.04~~	~~2.53E+07~~	~~1.61~~	~~Y~~	~~0.86~~	~~0.92~~	~~7%~~
~~SS 12346-PeCDF~~	~~31.55~~	~~4.13E+07~~	~~1.55~~	~~Y~~	~~0.94~~	~~0.96~~	~~3%~~
~~SS 123469-HxCDF~~	~~36.94~~	~~3.17E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~0.90~~	~~9%~~
~~SS 1234689-HpCDF~~	~~40.13~~	~~2.41E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~0.97~~	~~5%~~
Not used in this project.							
CL 09Mar22							
~~OCDD-a~~	~~43.37~~	~~8.50E+05~~	~~2.91~~	~~N~~	~~0.07~~	~~0.06~~	~~-21%~~
~~OCDF-a~~	~~43.54~~	~~1.09E+06~~	~~3.69~~	~~N~~	~~0.07~~	~~0.05~~	~~-20%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220308C12 Analysis Date: 08-MAR-2022 21:03:48

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.79	0.65 - 0.89	Y	10.3	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32 - 1.78	Y	50.4	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	50.4	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.30	1.05 - 1.43	Y	49.6	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05 - 1.43	Y	51.2	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.08	0.88 - 1.20	Y	48.4	43 - 58	Y
OCDD	M+2/M+4	0.93	0.76 - 1.02	Y	99.8	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.80	0.65 - 0.89	Y	9.96	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32 - 1.78	Y	49.3	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32 - 1.78	Y	49.2	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	48.4	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.22	1.05 - 1.43	Y	49.6	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.22	1.05 - 1.43	Y	49.1	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.23	1.05 - 1.43	Y	47.2	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.02	0.88 - 1.20	Y	49	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	0.88 - 1.20	Y	49.2	43 - 58	Y
OCDF	M+2/M+4	0.91	0.76 - 1.02	Y	98.7	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 09 Mar 2022 11:43 Analyst: TF

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

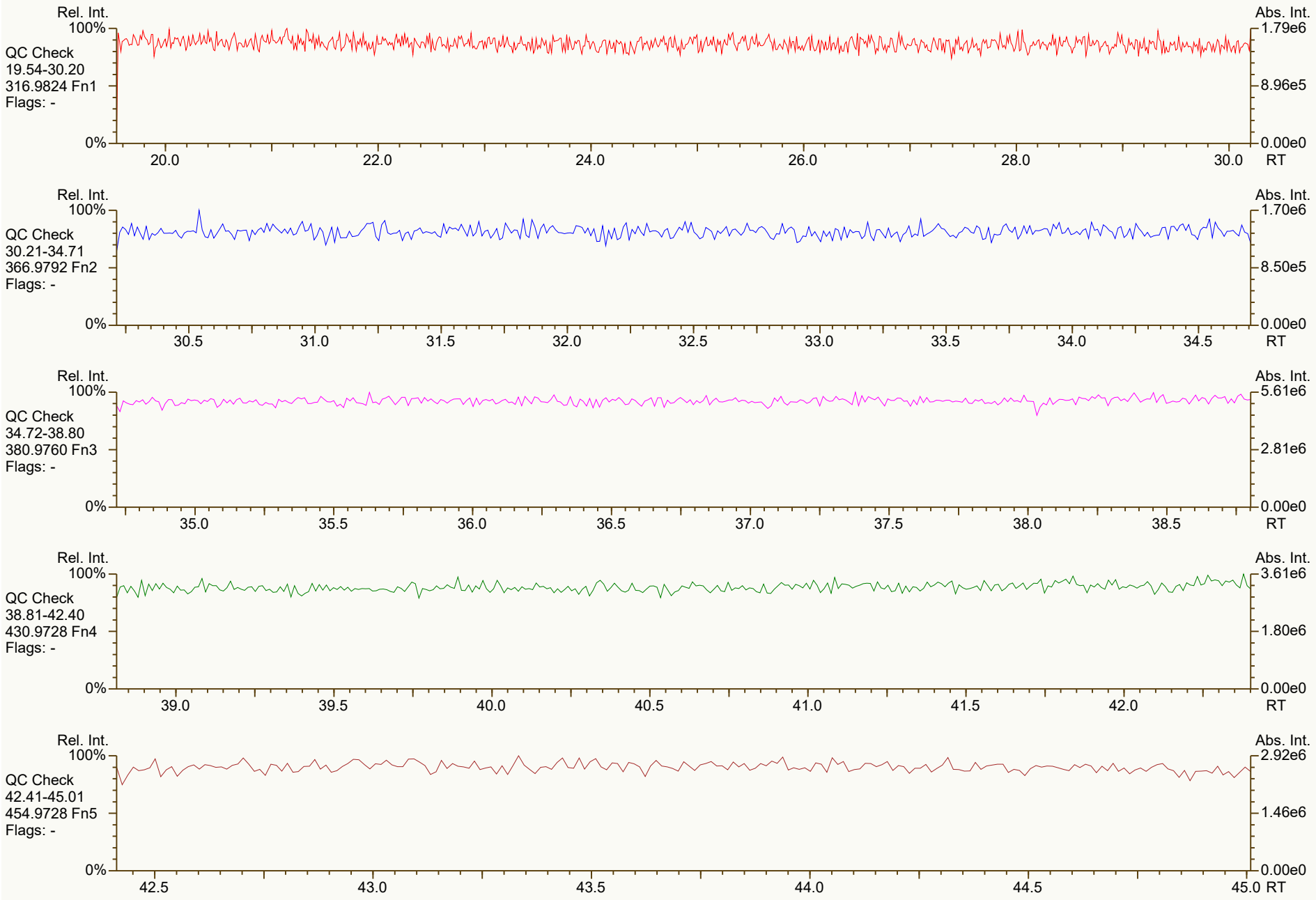
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

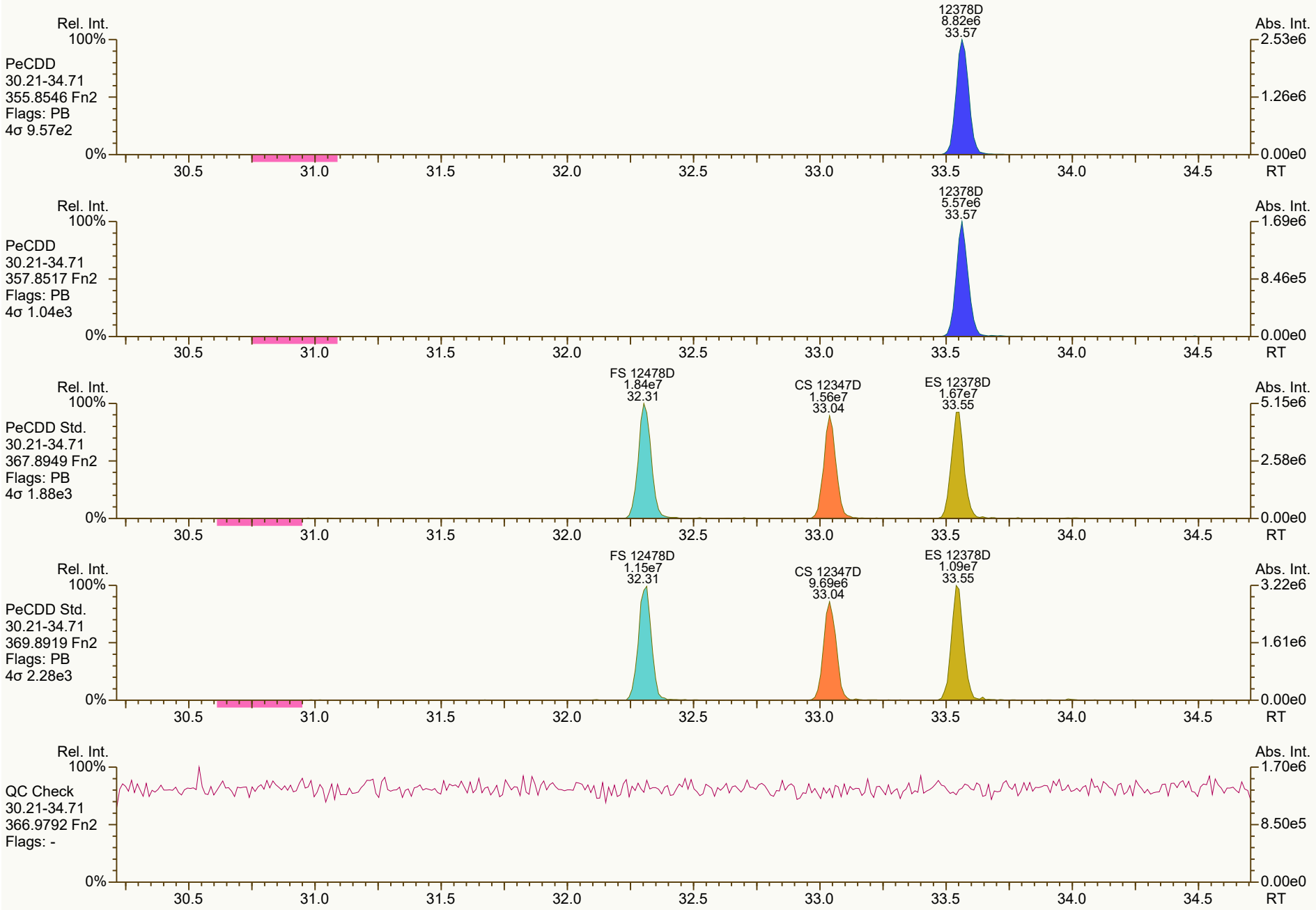
VER Data Filename: 220308C12 Analysis Date: 08-MAR-2022 21:03:48

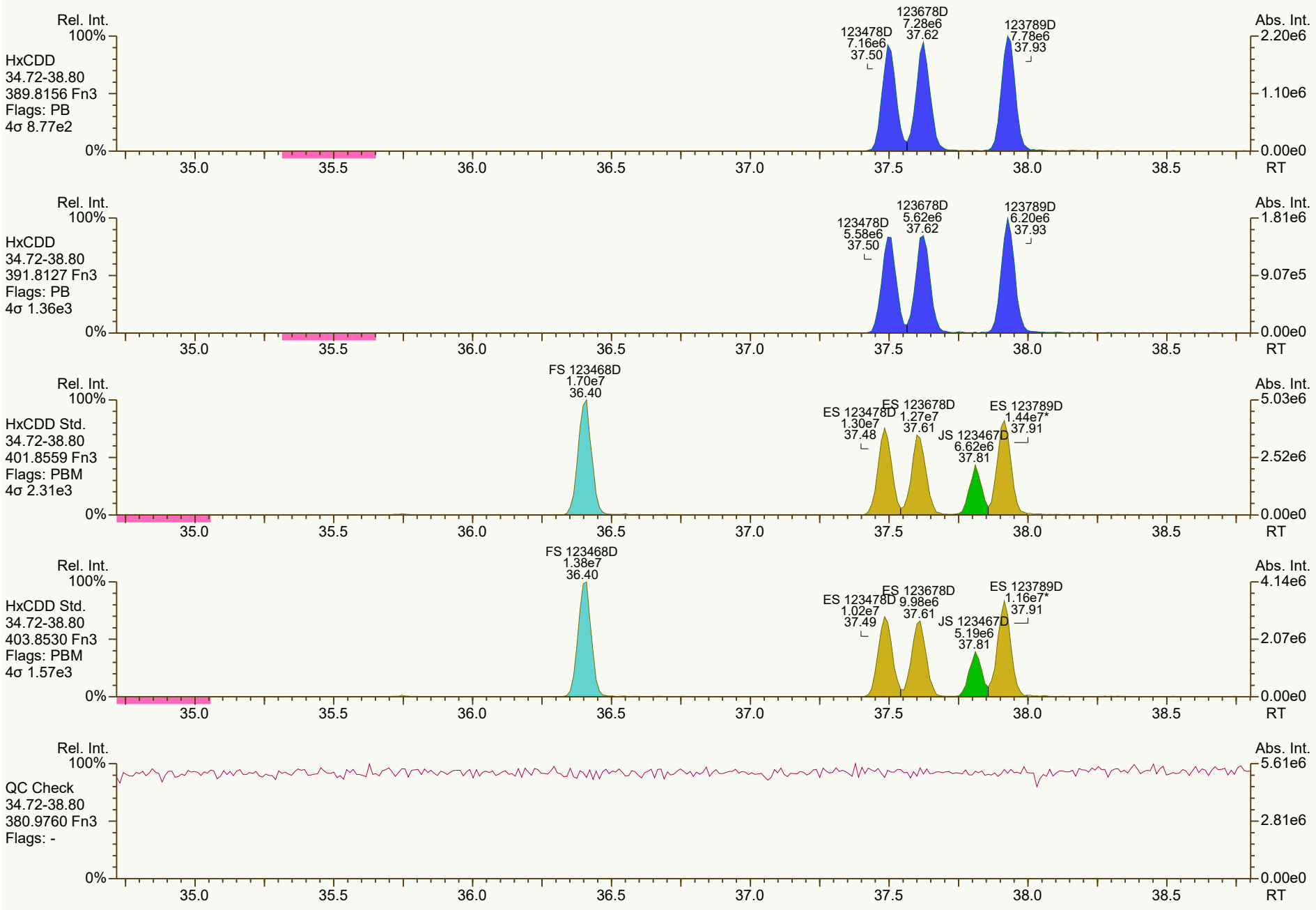
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
13C-2,3,7,8-TCDD	M/M+2	0.81	0.65 - 0.89	Y	97.7	82 - 121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.54	1.32 - 1.78	Y	102	62 - 160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	101	85 - 117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	102	85 - 118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05 - 1.43	Y	101	85 - 118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88 - 1.20	Y	101	72 - 138	Y
13C-OCDD	M+2/M+4	0.89	0.76 - 1.02	Y	203	96 - 415	Y
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65 - 0.89	Y	96.1	71 - 140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.54	1.32 - 1.78	Y	96.1	76 - 130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32 - 1.78	Y	98.4	77 - 130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43 - 0.59	Y	111	76 - 131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.55	0.43 - 0.59	Y	110	70 - 143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	110	73 - 137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.53	0.43 - 0.59	Y	111	74 - 135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37 - 0.51	Y	109	78 - 129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.46	0.37 - 0.51	Y	109	77 - 129	Y
13C-OCDF	M+2/M+4	0.91	0.76 - 1.02	Y	215	96 - 415	Y
CLEANUP STANDARDS							
37Cl-2,3,7,8-TCDD	n/a				11.2	7.9 - 12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.61	1.32 - 1.78	Y	109	70 - 130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.55	1.32 - 1.78	Y	99.2	70 - 130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	120	70 - 130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.47	0.37 - 0.51	Y	115	70 - 130	Y

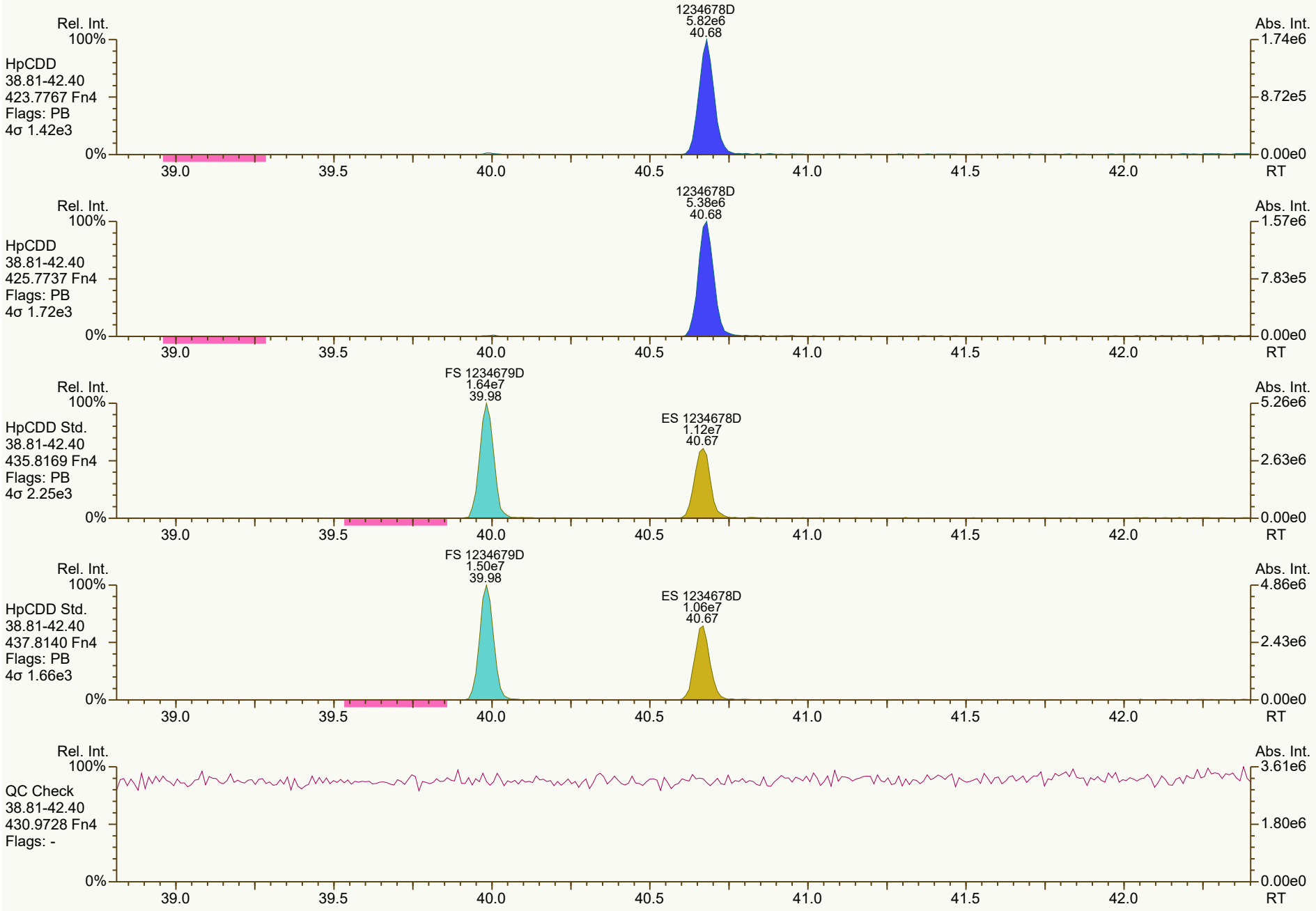
Processed: 09 Mar 2022 11:43 Analyst: TF

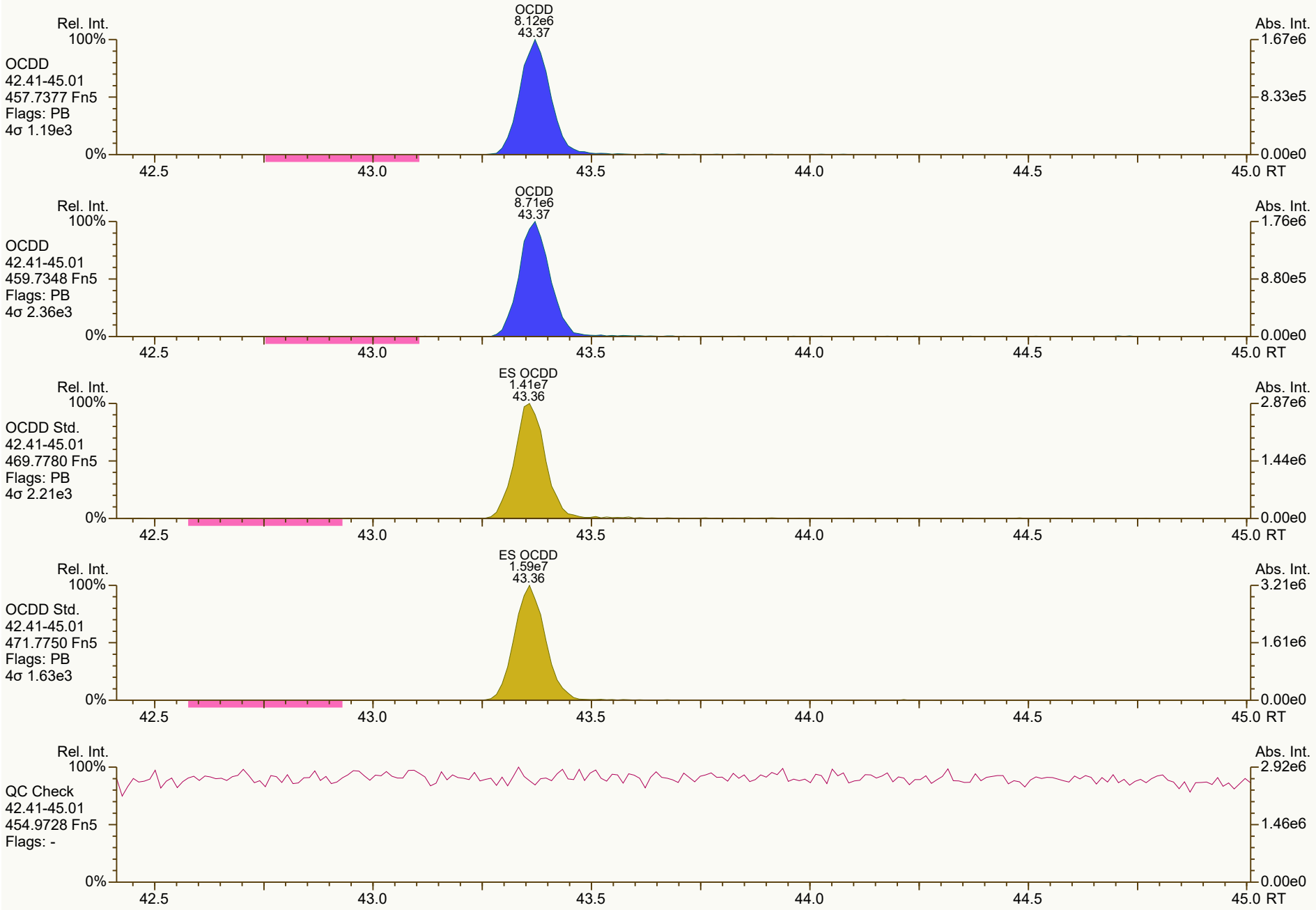

Rel. Int.
100%
0%
Abs. Int.
1.79e6
8.96e5
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.70e6
8.50e5
0.00e0
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
0%
Abs. Int.
5.61e6
2.81e6
0.00e0
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
0%
Abs. Int.
3.61e6
1.80e6
0.00e0
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.92e6
1.46e6
0.00e0
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
42.5
43.0
43.5
44.0
44.5
45.0
RT

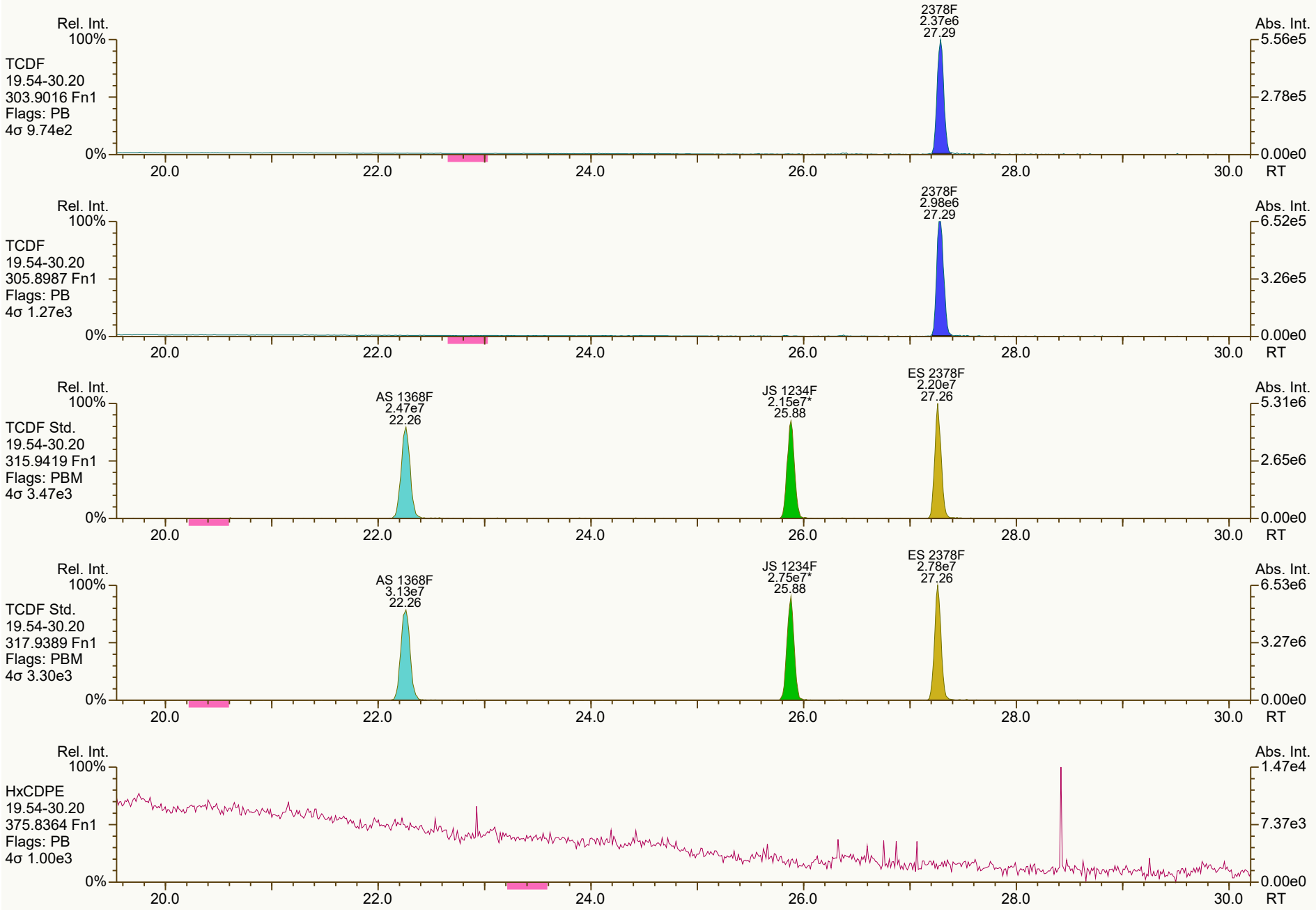

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 1.65e3
0%
2378D RRF = (1.69e6 + 2.14e6) * 100pg / (1.41e7 + 1.73e7) * 10pg = 1.22
DTF 09-Mar-2022 11:44
VERIFIED
2378D
1.69e6
28.16
Abs. Int.
4.41e5
2.20e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.30e3
0%
2378D
2.14e6
28.16
Abs. Int.
5.36e5
2.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.22e3
0%
CS 37Cl-2378D
4.15e6
28.16
Abs. Int.
9.59e5
4.80e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 2.37e3
0%
AS 1368D
1.49e7
24.42
TS 1378D
2.12e7
26.46
JS 1234D
1.35e7
27.47
ES 2378D
1.41e7
28.13
FS 1278D
1.55e7
28.47
Abs. Int.
4.74e6
2.37e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.02e3
0%
AS 1368D
1.86e7
24.42
TS 1378D
2.67e7
26.46
JS 1234D
1.73e7
27.47
ES 2378D
1.73e7
28.13
FS 1278D
1.97e7
28.47
Abs. Int.
6.07e6
3.04e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 9.57e2
0%
12378D
8.82e6
33.57
Abs. Int.
2.53e6
1.26e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.04e3
0%
12378D
5.57e6
33.57
Abs. Int.
1.69e6
8.46e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 1.88e3
0%
FS 12478D
1.84e7
32.31
CS 12347D
1.56e7
33.04
ES 12378D
1.67e7
33.55
Abs. Int.
5.15e6
2.58e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 2.28e3
0%
FS 12478D
1.15e7
32.31
CS 12347D
9.69e6
33.04
ES 12378D
1.09e7
33.55
Abs. Int.
3.22e6
1.61e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.70e6
8.50e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

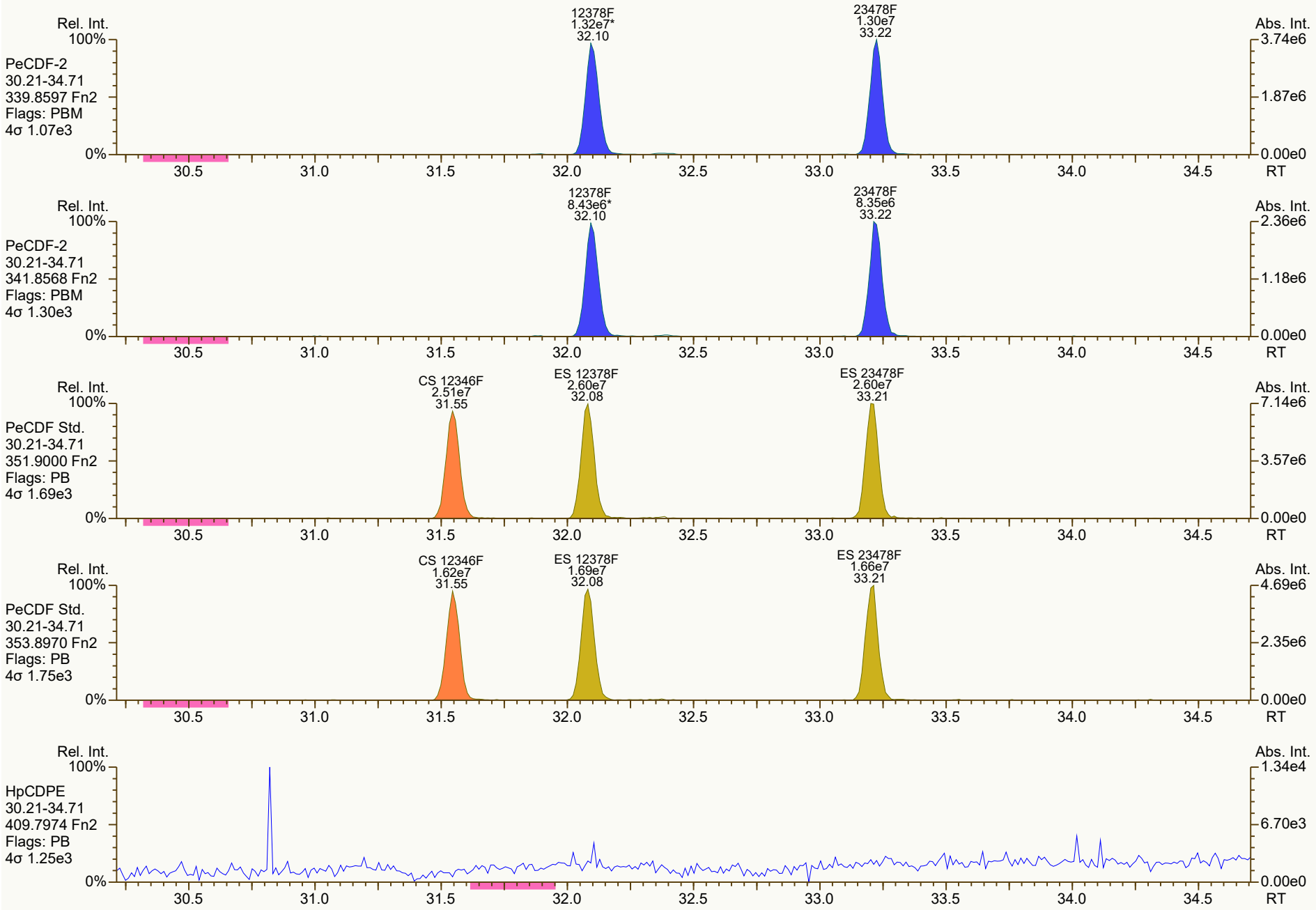

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 8.77e2
123478D
7.16e6
37.50
123678D
7.28e6
37.62
123789D
7.78e6
37.93
Abs. Int.
2.20e6
1.10e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.36e3
123478D
5.58e6
37.50
123678D
5.62e6
37.62
123789D
6.20e6
37.93
Abs. Int.
1.81e6
9.07e5
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 2.31e3
FS 123468D
1.70e7
36.40
ES 123478D
1.30e7
37.48
ES 123678D
1.27e7
37.61
JS 123467D
6.62e6
37.81
ES 123789D
1.44e7*
37.91
Abs. Int.
5.03e6
2.52e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 1.57e3
FS 123468D
1.38e7
36.40
ES 123478D
1.02e7
37.49
ES 123678D
9.98e6
37.61
JS 123467D
5.19e6
37.81
ES 123789D
1.16e7*
37.91
Abs. Int.
4.14e6
2.07e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
5.61e6
2.81e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

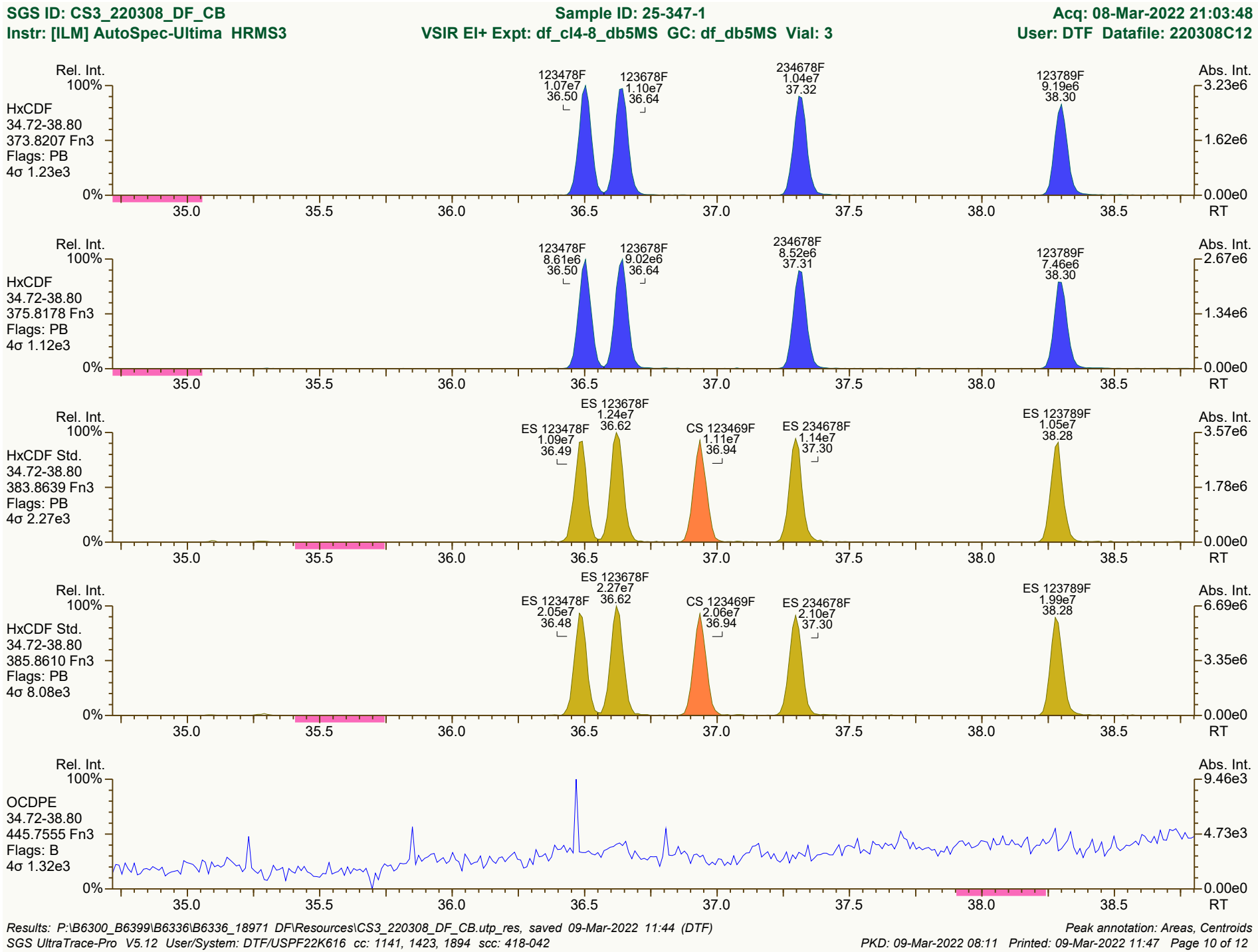

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 1.42e3
1234678D
5.82e6
40.68
Abs. Int.
1.74e6
8.72e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.72e3
1234678D
5.38e6
40.68
Abs. Int.
1.57e6
7.83e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 2.25e3
FS 1234679D
1.64e7
39.98
ES 1234678D
1.12e7
40.67
Abs. Int.
5.26e6
2.63e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.66e3
FS 1234679D
1.50e7
39.98
ES 1234678D
1.06e7
40.67
Abs. Int.
4.86e6
2.43e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
3.61e6
1.80e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

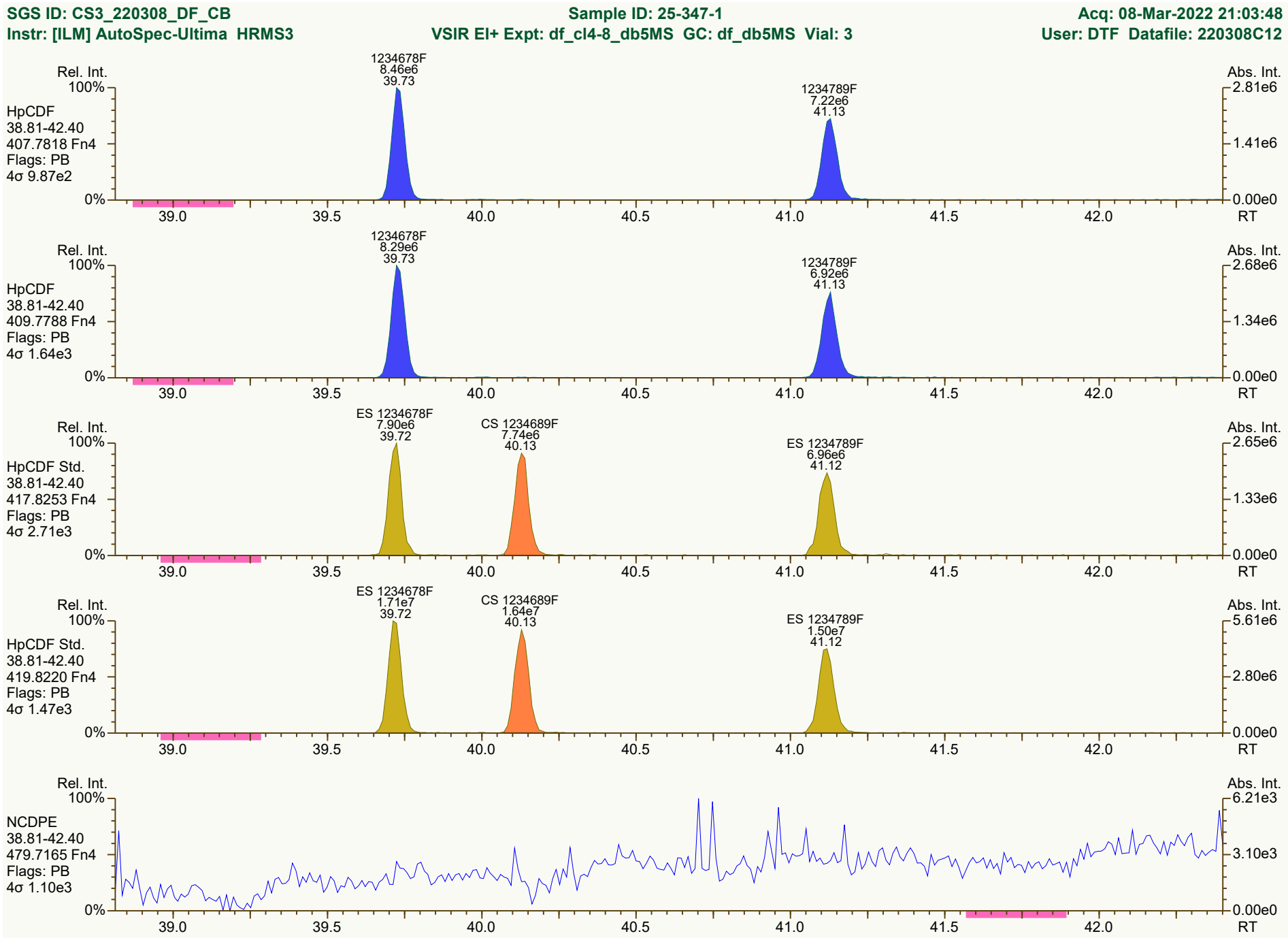

OCDD
8.12e6
43.37
Rel. Int.
Abs. Int.
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 1.19e3
OCDD
8.71e6
43.37
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 2.36e3
ES OCDD
1.41e7
43.36
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 2.21e3
ES OCDD
1.59e7
43.36
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.63e3
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
1.67e6
8.33e5
0.00e0
1.76e6
8.80e5
2.87e6
1.44e6
3.21e6
1.61e6
2.92e6
1.46e6

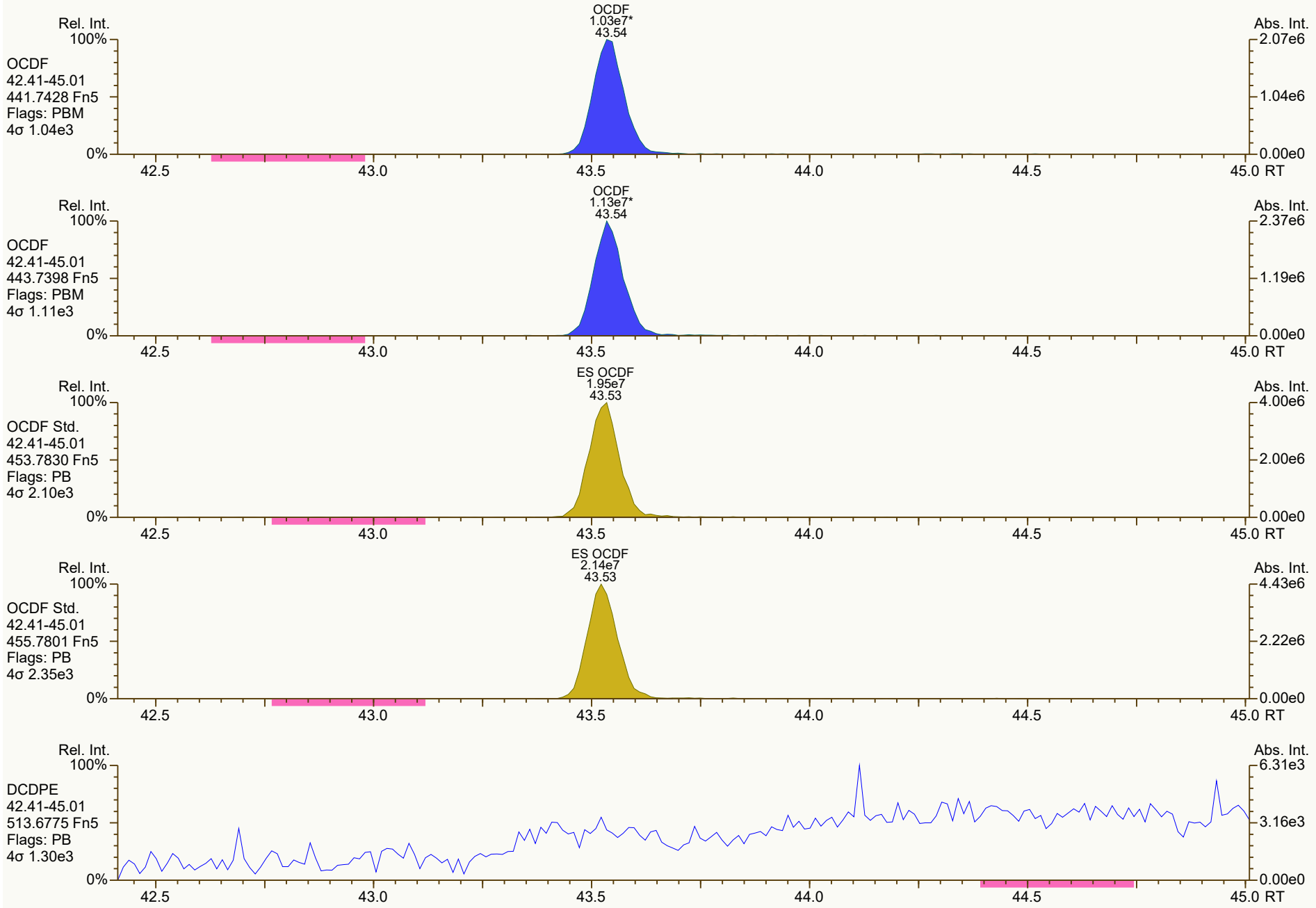

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 9.74e2
0%
2378F
2.37e6
27.29
Abs. Int.
5.56e5
2.78e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 1.27e3
0%
2378F
2.98e6
27.29
Abs. Int.
6.52e5
3.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PBM
4σ 3.47e3
0%
AS 1368F
2.47e7
22.26
JS 1234F
2.15e7*
25.88
ES 2378F
2.20e7
27.26
Abs. Int.
5.31e6
2.65e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PBM
4σ 3.30e3
0%
AS 1368F
3.13e7
22.26
JS 1234F
2.75e7*
25.88
ES 2378F
2.78e7
27.26
Abs. Int.
6.53e6
3.27e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.00e3
0%
Abs. Int.
1.47e4
7.37e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

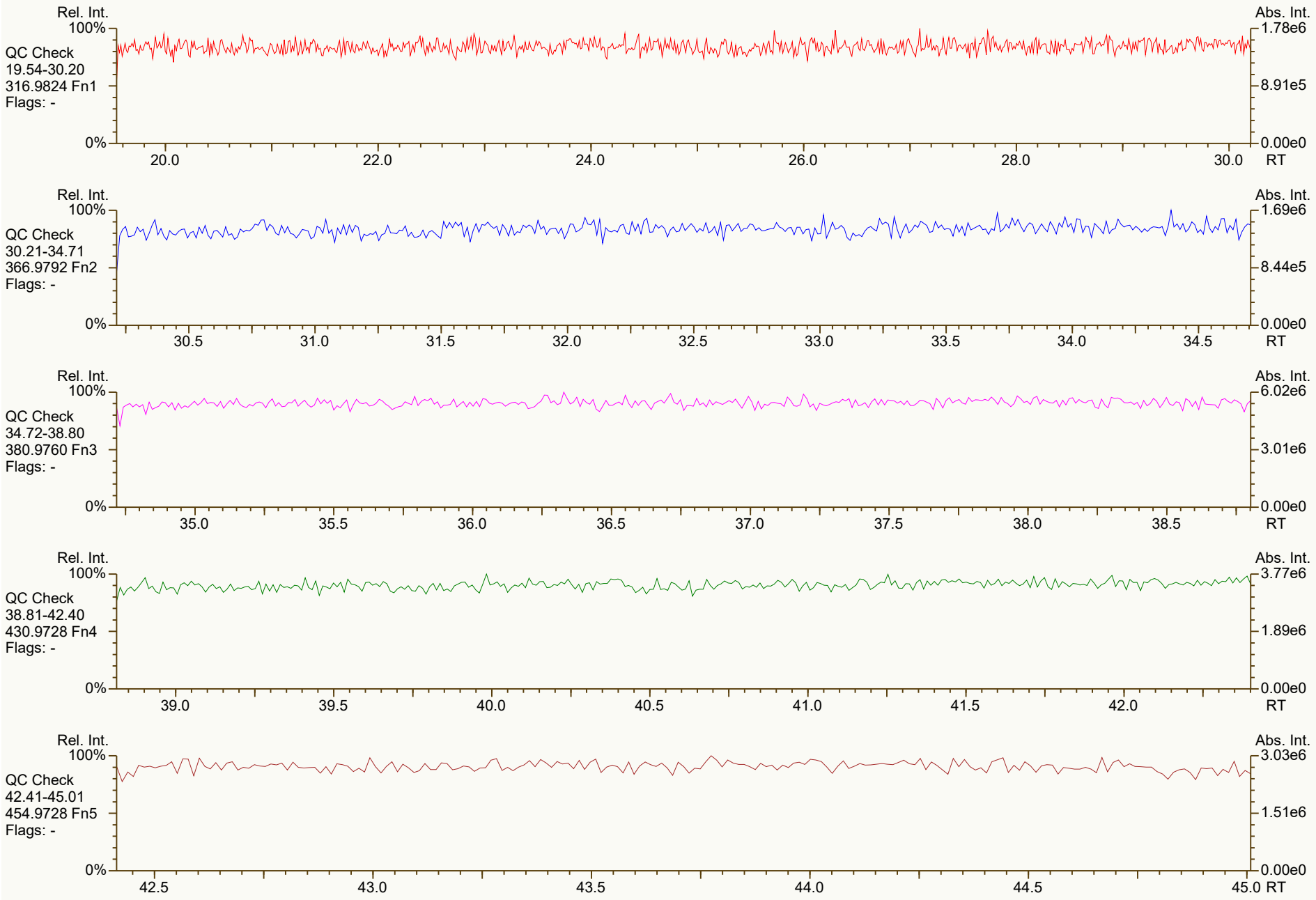

Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.73e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.11e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.27e4
6.33e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.54e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.79e6
8.96e5
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PBM
4σ 1.07e3
0%
12378F
1.32e7*
32.10
23478F
1.30e7
33.22
Abs. Int.
3.74e6
1.87e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PBM
4σ 1.30e3
0%
12378F
8.43e6*
32.10
23478F
8.35e6
33.22
Abs. Int.
2.36e6
1.18e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 1.69e3
0%
CS 12346F
2.51e7
31.55
ES 12378F
2.60e7
32.08
ES 23478F
2.60e7
33.21
Abs. Int.
7.14e6
3.57e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 1.75e3
0%
CS 12346F
1.62e7
31.55
ES 12378F
1.69e7
32.08
ES 23478F
1.66e7
33.21
Abs. Int.
4.69e6
2.35e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: PB
4σ 1.25e3
0%
Abs. Int.
1.34e4
6.70e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


SGS ID: CS3_220308_DF_CB
Sample ID: 25-347-1
Acq: 08-Mar-2022 21:03:48
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220308C12
Rel. Int.
Abs. Int.
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PB
4σ 1.23e3
123478F 1.07e7 36.50
123678F 1.10e7 36.64
234678F 1.04e7 37.32
123789F 9.19e6 38.30
3.23e6
1.62e6
0.00e0
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PB
4σ 1.12e3
123478F 8.61e6 36.50
123678F 9.02e6 36.64
234678F 8.52e6 37.31
123789F 7.46e6 38.30
2.67e6
1.34e6
0.00e0
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 2.27e3
ES 123478F 1.09e7 36.49
ES 123678F 1.24e7 36.62
CS 123469F 1.11e7 36.94
ES 234678F 1.14e7 37.30
ES 123789F 1.05e7 38.28
3.57e6
1.78e6
0.00e0
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 8.08e3
ES 123478F 2.05e7 36.48
ES 123678F 2.27e7 36.62
CS 123469F 2.06e7 36.94
ES 234678F 2.10e7 37.30
ES 123789F 1.99e7 38.28
6.69e6
3.35e6
0.00e0
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.32e3
9.46e3
4.73e3
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

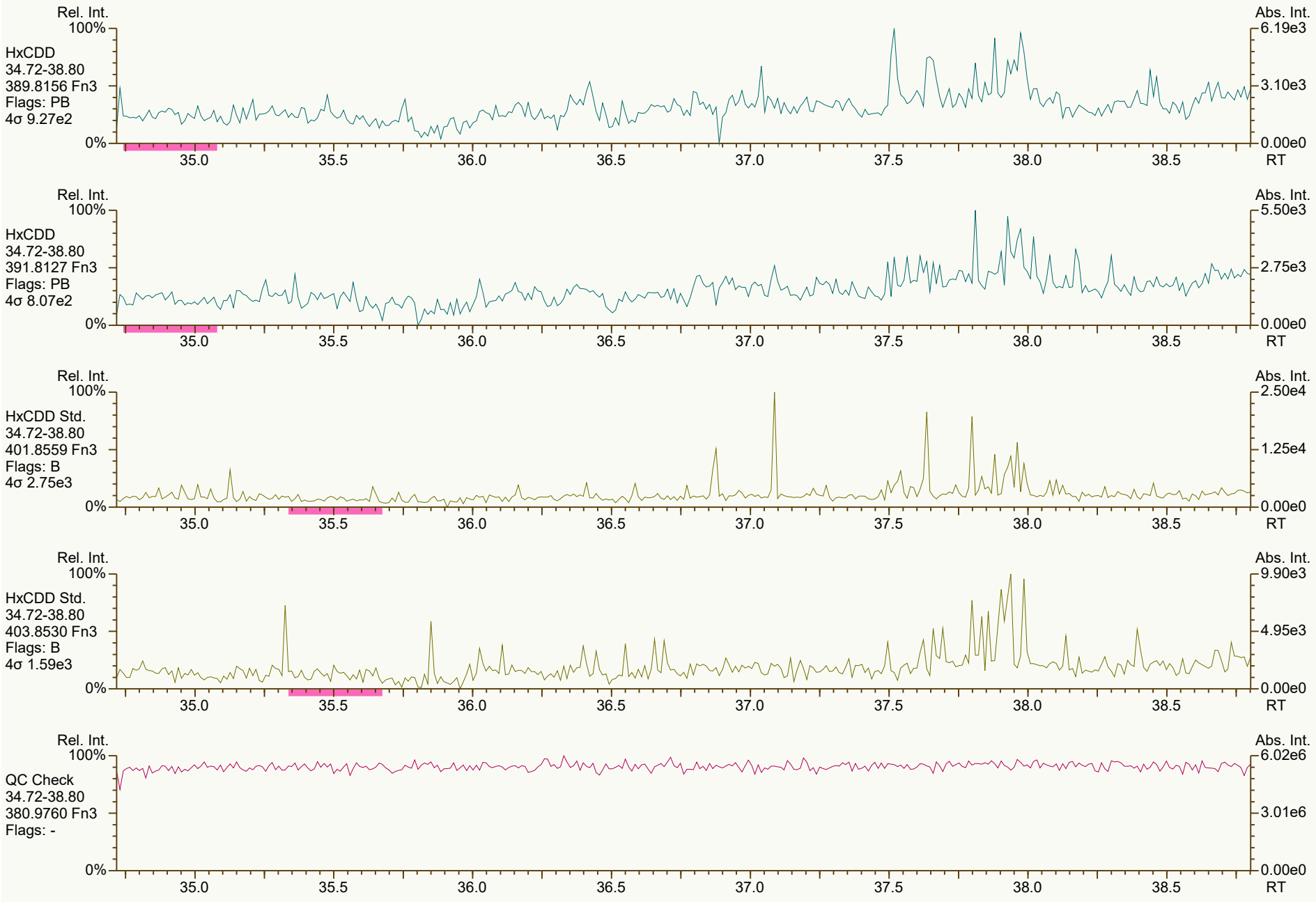

SGS ID: CS3_220308_DF_CB
Sample ID: 25-347-1
Acq: 08-Mar-2022 21:03:48
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 220308C12
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 9.87e2
1234678F
8.46e6
39.73
1234789F
7.22e6
41.13
2.81e6
1.41e6
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.64e3
1234678F
8.29e6
39.73
1234789F
6.92e6
41.13
2.68e6
1.34e6
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 2.71e3
ES 1234678F
7.90e6
39.72
CS 1234689F
7.74e6
40.13
ES 1234789F
6.96e6
41.12
2.65e6
1.33e6
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 1.47e3
ES 1234678F
1.71e7
39.72
CS 1234689F
1.64e7
40.13
ES 1234789F
1.50e7
41.12
5.61e6
2.80e6
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.10e3
6.21e3
3.10e3
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\CS3_220308_DF_CB.utp_res, saved 09-Mar-2022 11:44 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5666, 2131, 0914 scc: 418-042
PKD: 09-Mar-2022 08:10 Printed: 09-Mar-2022 11:47 Page 11 of 12


OCDF
1.03e7*
43.54
Rel. Int.
Abs. Int.
OCDF
42.41-45.01
441.7428 Fn5
Flags: PBM
4σ 1.04e3
OCDF
1.13e7*
43.54
OCDF
42.41-45.01
443.7398 Fn5
Flags: PBM
4σ 1.11e3
ES OCDF
1.95e7
43.53
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 2.10e3
ES OCDF
2.14e7
43.53
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 2.35e3
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.30e3
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
0%
Abs. Int.
1.78e6
8.91e5
0.00e0
RT
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
1.69e6
8.44e5
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
6.02e6
3.01e6
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
3.77e6
1.89e6
39.0
39.5
40.0
40.5
41.0
41.5
42.0
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
3.03e6
1.51e6
42.5
43.0
43.5
44.0
44.5
45.0


Rel. Int.
100%
0%
Abs. Int.
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 1.21e3
6.55e3
3.27e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.02e3
7.10e3
3.55e3
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: B
4σ 1.16e3
9.87e3
4.94e3
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 2.43e3
2.05e4
1.02e4
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 1.63e3
2.00e4
1.00e4

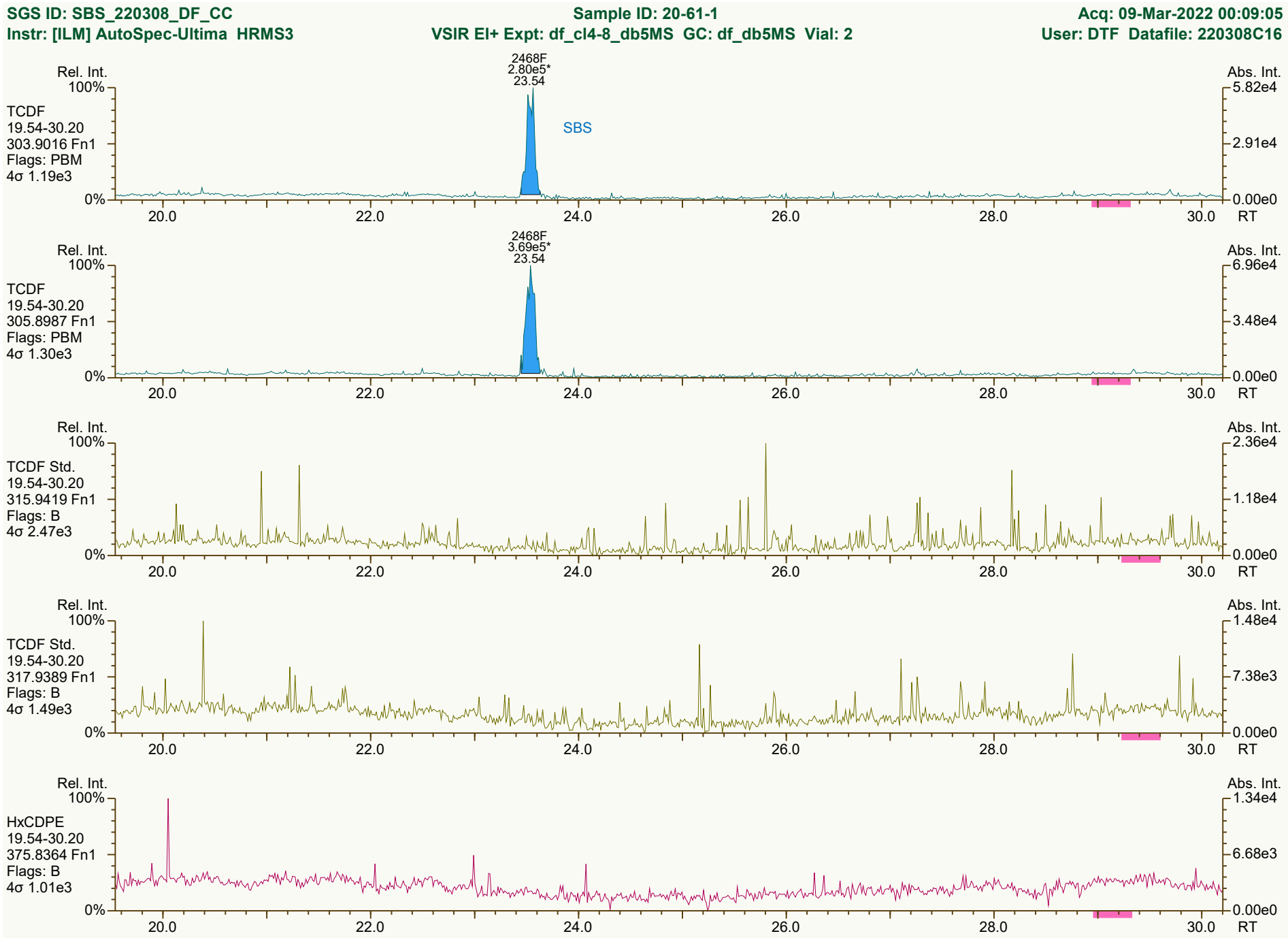

Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: B
4σ 1.06e3
0%
Abs. Int.
8.48e3
4.24e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.27e3
0%
Abs. Int.
4.01e3
2.01e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: B
4σ 1.52e3
0%
Abs. Int.
3.39e4
1.70e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: B
4σ 1.54e3
0%
Abs. Int.
8.17e3
4.08e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.69e6
8.44e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

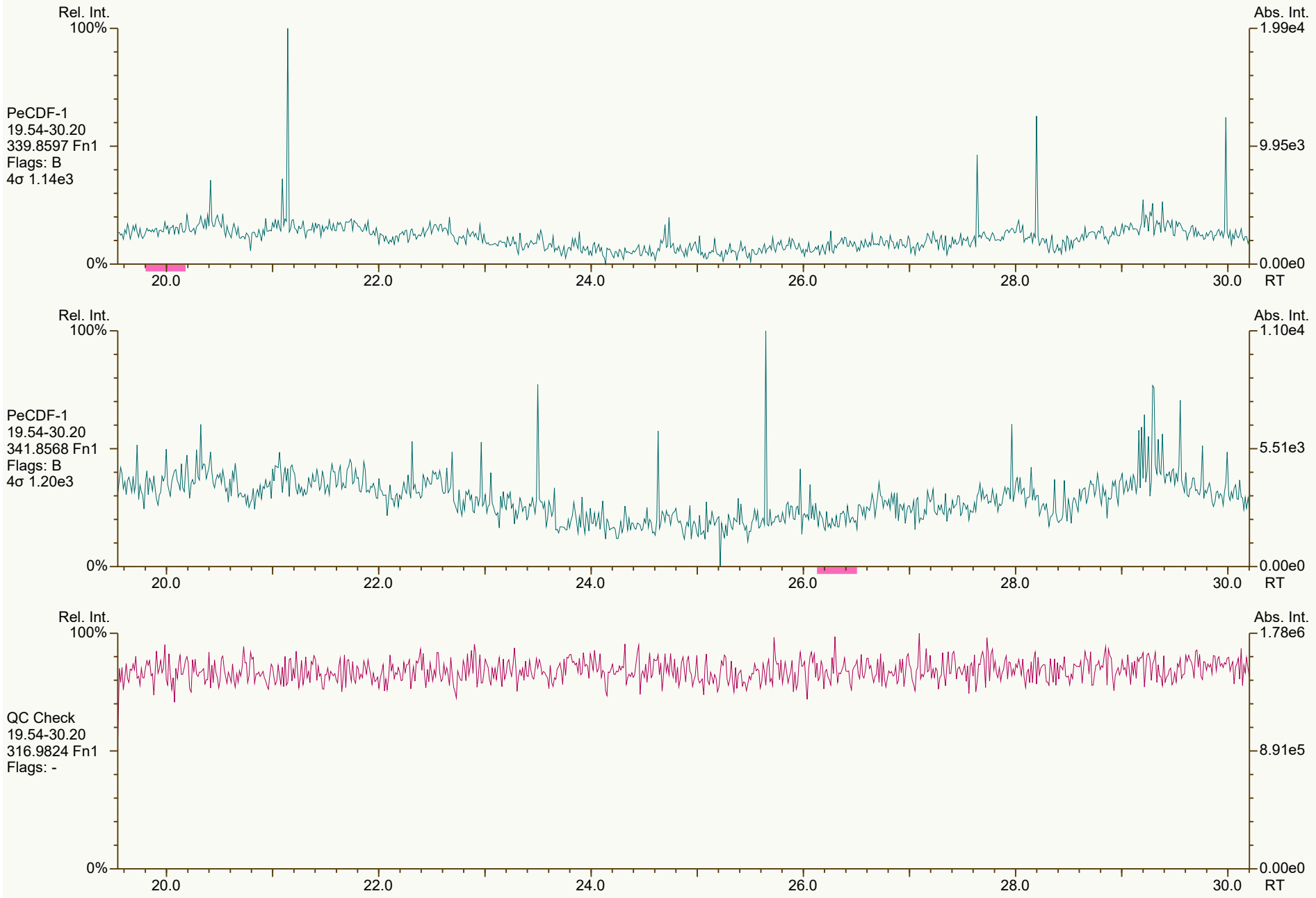

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 9.27e2
0%
Abs. Int.
6.19e3
3.10e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 8.07e2
0%
Abs. Int.
5.50e3
2.75e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: B
4σ 2.75e3
0%
Abs. Int.
2.50e4
1.25e4
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: B
4σ 1.59e3
0%
Abs. Int.
9.90e3
4.95e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
6.02e6
3.01e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: B
4σ 1.12e3
0%
Abs. Int.
6.38e3
3.19e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: B
4σ 1.47e3
0%
Abs. Int.
9.36e3
4.68e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.37e3
4.68e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: B
4σ 1.47e3
0%
Abs. Int.
1.33e4
6.64e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
3.77e6
1.89e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 1.09e3
0%
Abs. Int.
6.57e3
3.29e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 1.32e3
0%
Abs. Int.
9.57e3
4.79e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: B
4σ 1.94e3
0%
Abs. Int.
1.65e4
8.23e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: B
4σ 1.57e3
0%
Abs. Int.
8.32e3
4.16e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
3.03e6
1.51e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: SBS_220308_DF_CC
Instr: [ILM] AutoSpec-Ultima HRMS3
Sample ID: 20-61-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
Acq: 09-Mar-2022 00:09:05
User: DTF Datafile: 220308C16




Rel. Int.
100%
0%
Abs. Int.
1.99e4
9.95e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.14e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.10e4
5.51e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.20e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.78e6
8.91e5
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.47e3
0%
Abs. Int.
8.21e3
4.10e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 1.08e3
0%
Abs. Int.
5.05e3
2.52e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: B
4σ 1.65e3
0%
Abs. Int.
2.70e4
1.35e4
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: B
4σ 1.63e3
0%
Abs. Int.
1.10e4
5.50e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.26e3
0%
Abs. Int.
1.30e4
6.50e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: B
4σ 1.21e3
0%
Abs. Int.
7.07e3
3.54e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: B
4σ 1.02e3
0%
Abs. Int.
5.37e3
2.68e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: B
4σ 1.91e3
0%
Abs. Int.
1.16e4
5.82e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: B
4σ 1.69e3
0%
Abs. Int.
1.55e4
7.74e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.39e3
0%
Abs. Int.
1.44e4
7.19e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

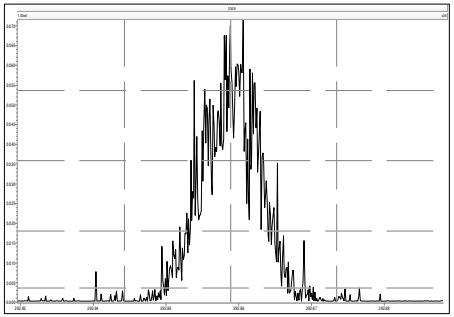


Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\SBS_220308_DF_CC.utp_res, saved 09-Mar-2022 09:13 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2975, 6420, 6178 scc: 771-990
PKD: 09-Mar-2022 09:13 Printed: 09-Mar-2022 11:48 Page 11 of 12

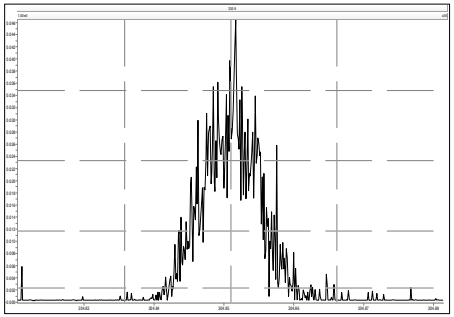

Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.65e3
0%
Abs. Int.
5.31e3
2.66e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.16e3
0%
Abs. Int.
5.02e3
2.51e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: B
4σ 1.63e3
0%
Abs. Int.
9.08e3
4.54e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: B
4σ 1.37e3
0%
Abs. Int.
2.36e4
1.18e4
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.12e3
0%
Abs. Int.
5.73e3
2.86e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Printed: Tuesday, March 08, 2022 20:09:21 Eastern Standard Time

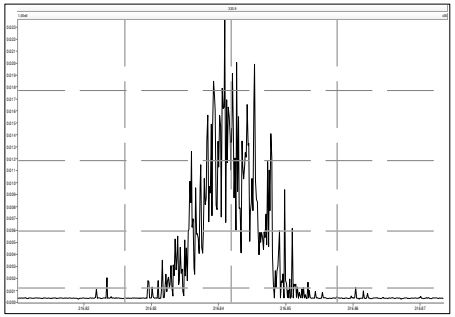
M 292.9824 R 17609



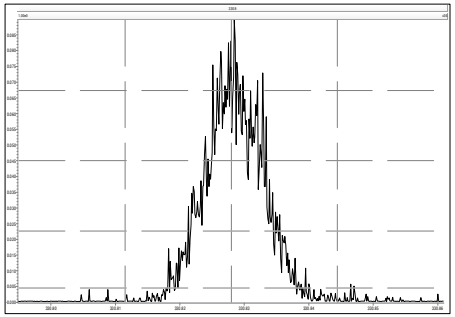
M 304.9824 R 19767



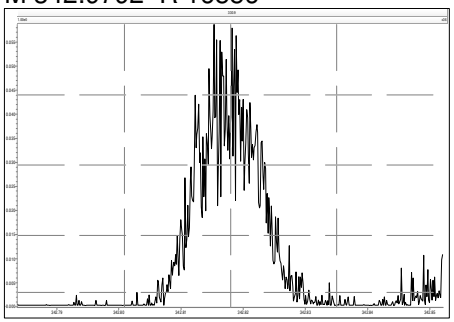
M 316.9824 R 28239



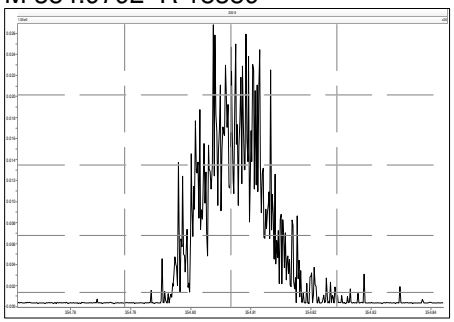
M 330.9792 R 16850



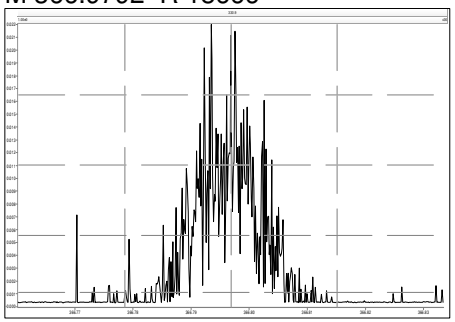
M 342.9792 R 16556



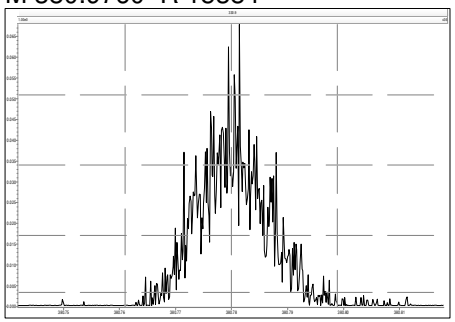
M 354.9792 R 18389



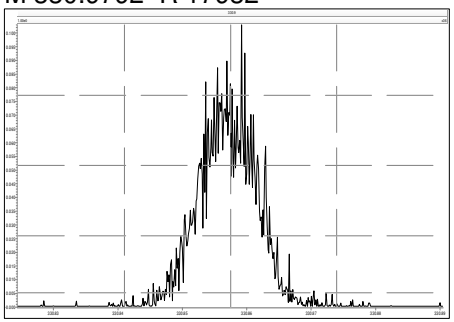
M 366.9792 R 18666



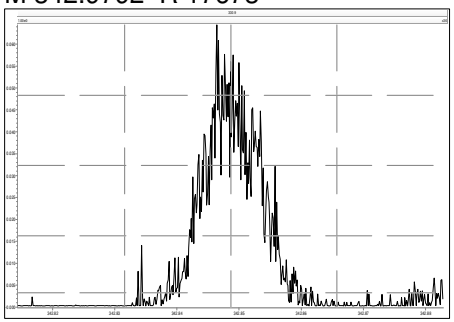
M 380.9760 R 15384



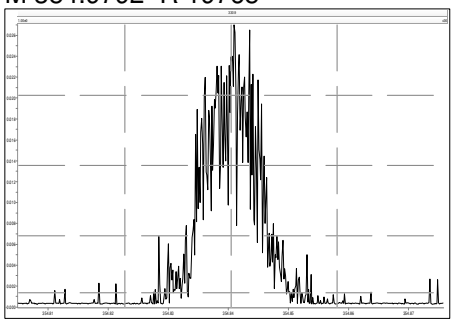
M 330.9792 R 17932



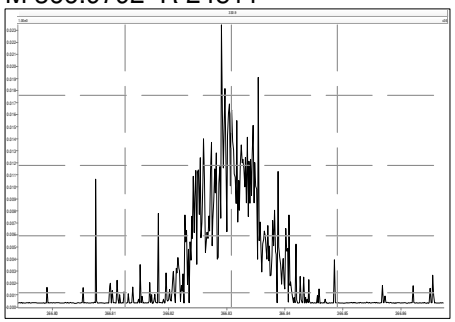
M 342.9792 R 17673



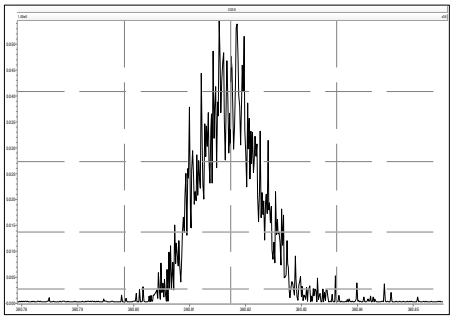
M 354.9792 R 19765



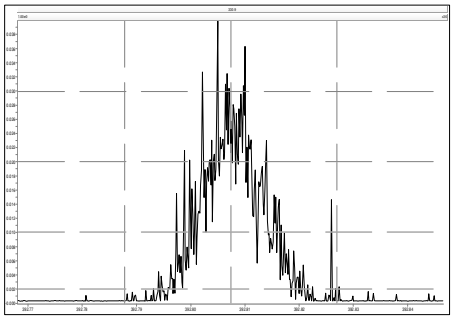
M 366.9792 R 24511



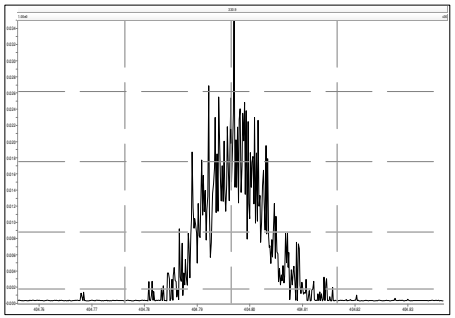
M 380.9760 R 17361



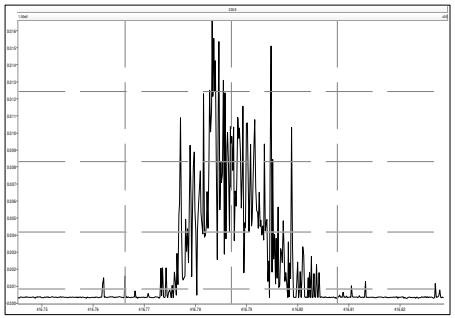
M 392.9760 R 16737



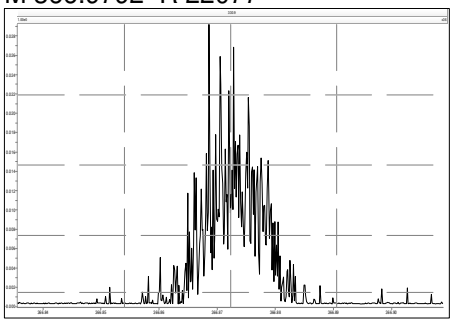
M 404.9760 R 19469



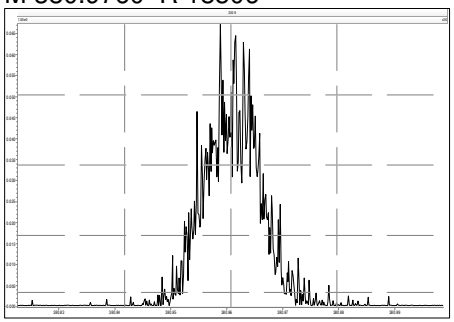
M 416.9760 R 23179



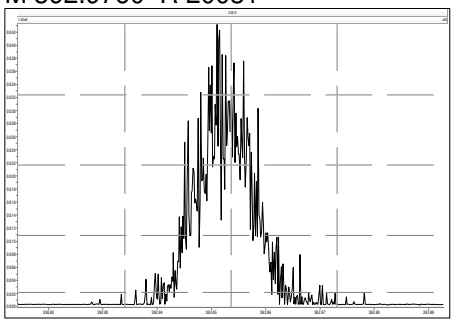
M 366.9792 R 22077



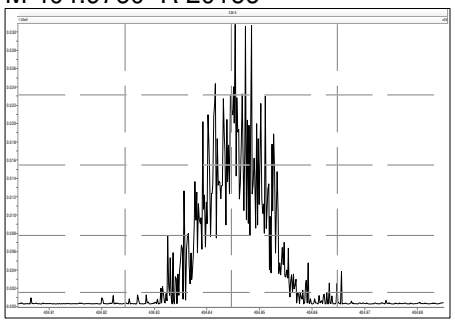
M 380.9760 R 18506



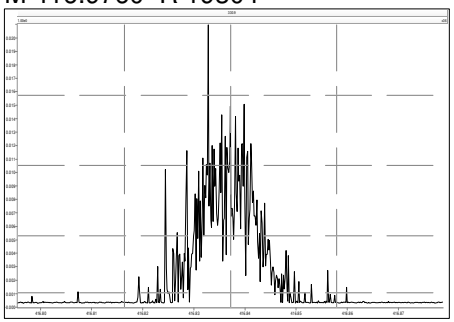
M 392.9760 R 20031



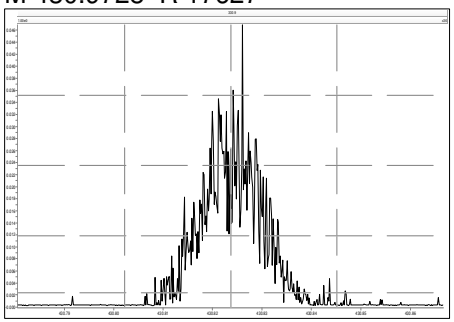
M 404.9760 R 20166



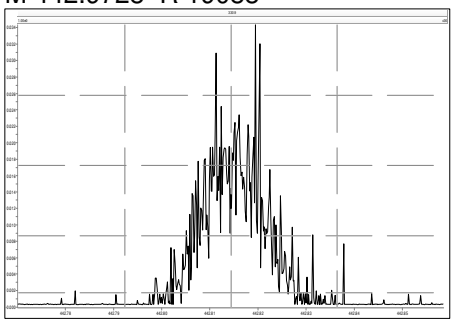
M 416.9760 R 19304



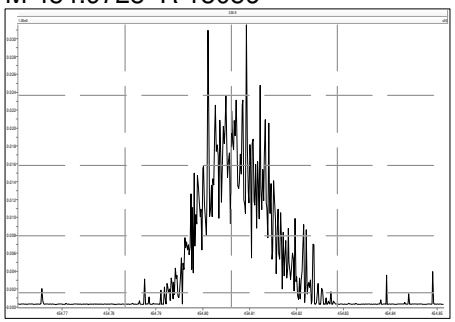
M 430.9728 R 17627



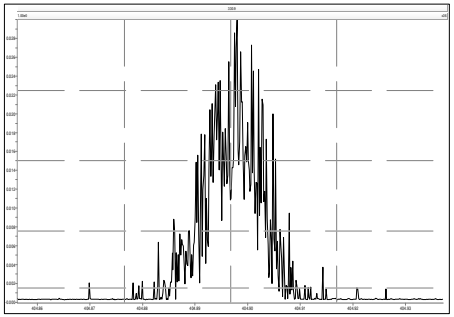
M 442.9728 R 19088



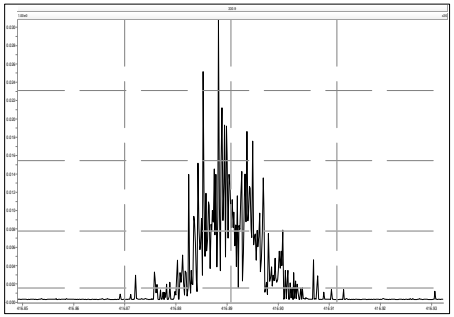
M 454.9728 R 18056



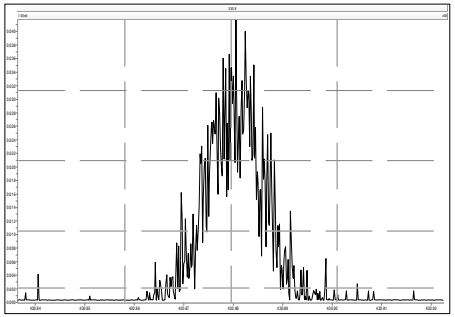
M 404.9760 R 21791



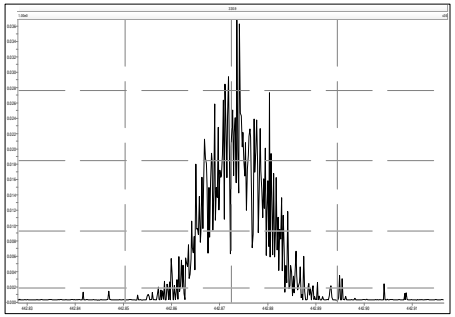
M 416.9760 R 23197



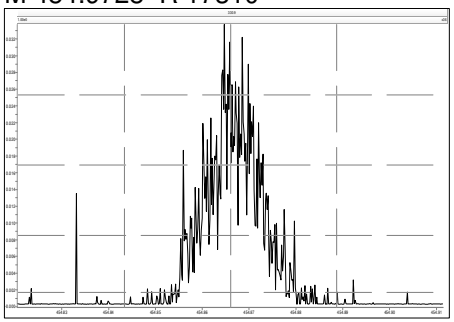
M 430.9728 R 18256



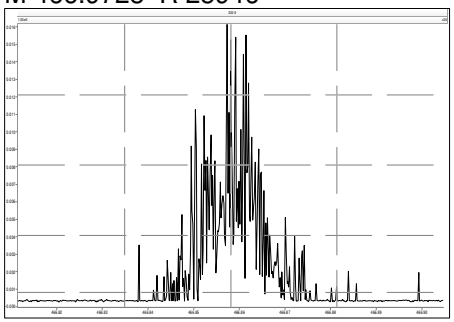
M 442.9728 R 20683



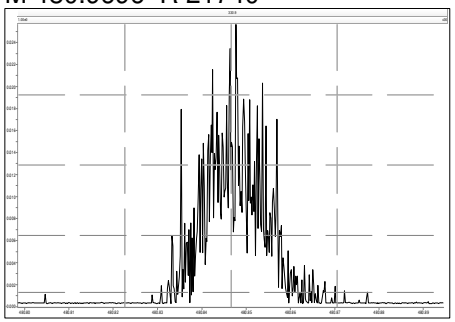
M 454.9728 R 17310



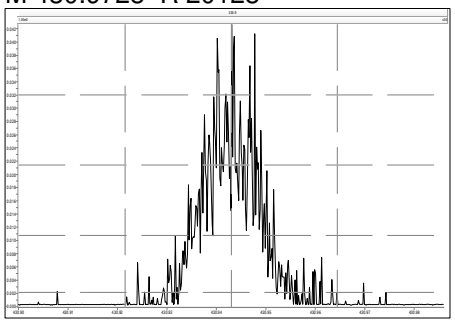
M 466.9728 R 25946



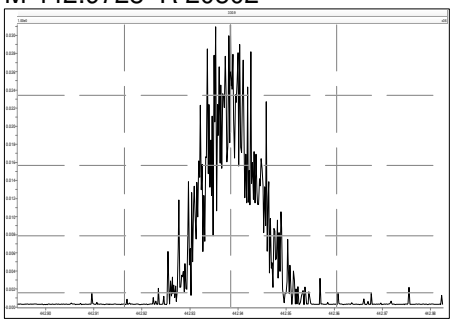
M 480.9696 R 21740



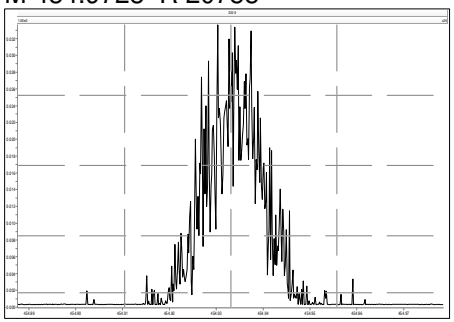
M 430.9728 R 20128



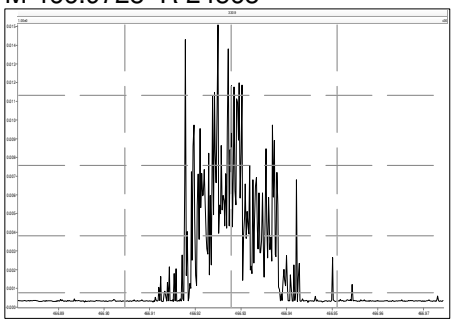
M 442.9728 R 20502



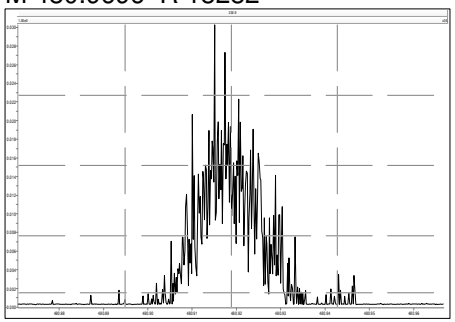
M 454.9728 R 20755



M 466.9728 R 24568

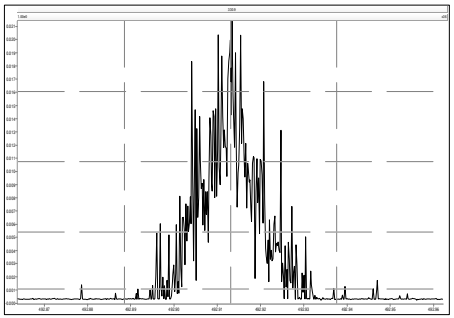


M 480.9696 R 18282

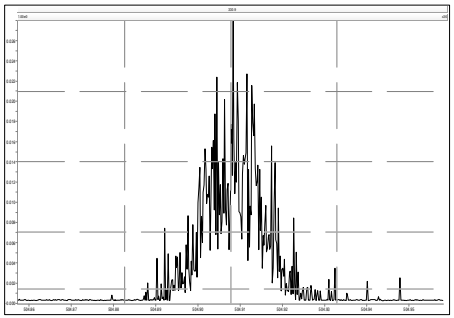


Printed: Tuesday, March 08, 2022 20:09:21 Eastern Standard Time

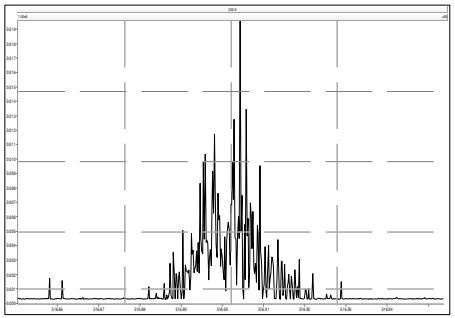
M 492.9696 R 20408



M 504.9696 R 18192



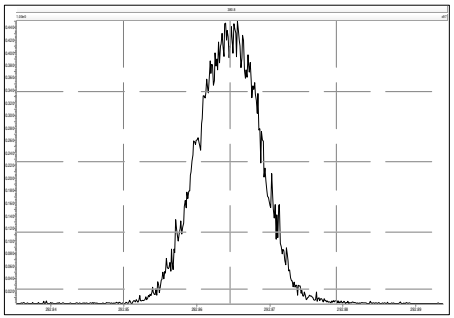
M 516.9697 R 13586



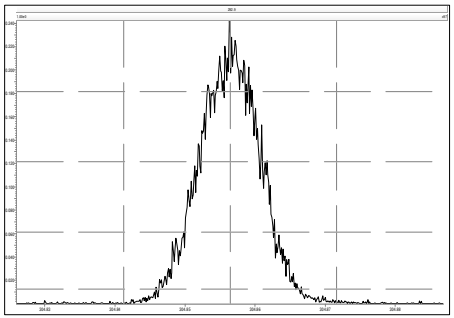
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, March 09, 2022 08:05:02 Eastern Standard Time

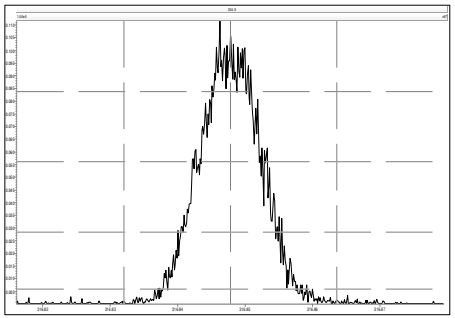
M 292.9824 R 15530



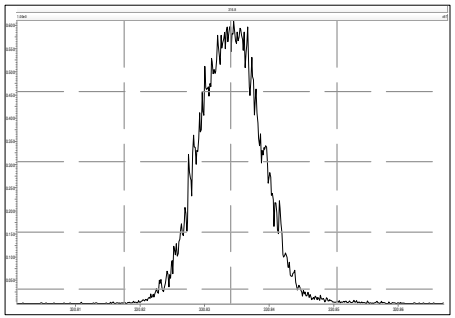
M 304.9824 R 15059



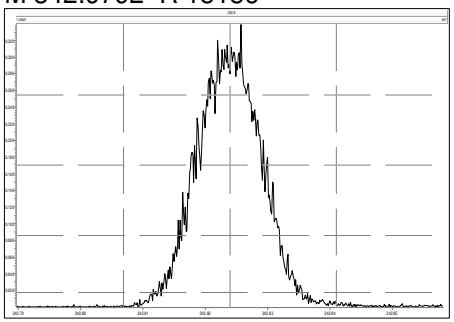
M 316.9824 R 15818



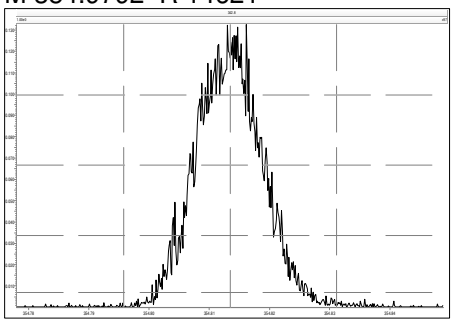
M 330.9792 R 16026



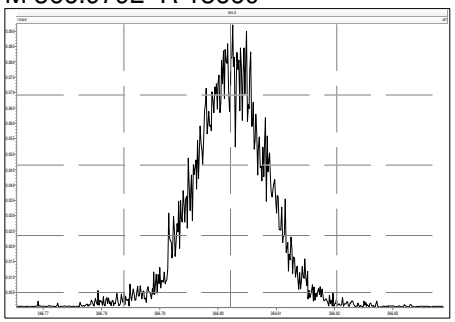
M 342.9792 R 15156



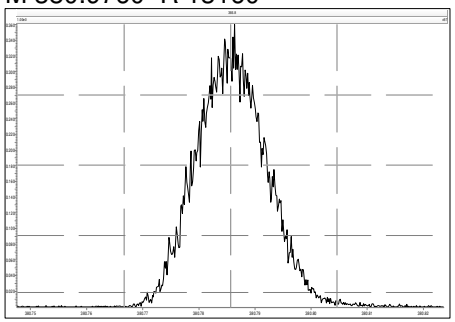
M 354.9792 R 14621



M 366.9792 R 13660



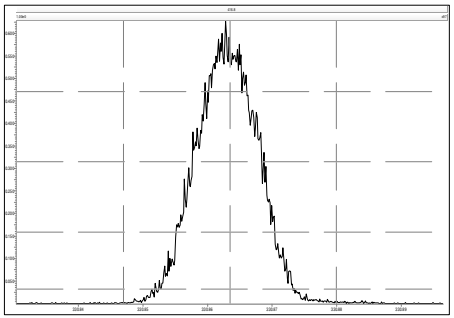
M 380.9760 R 13160



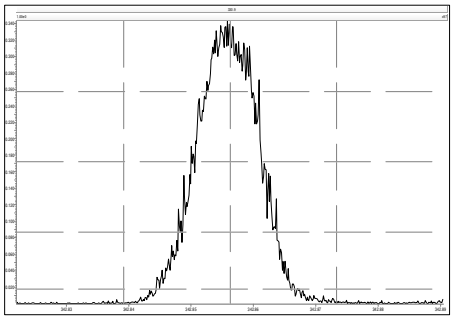
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, March 09, 2022 08:05:19 Eastern Standard Time

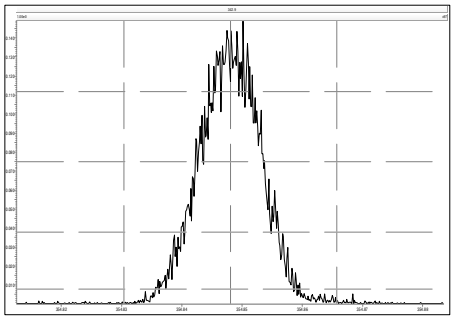
M 330.9792 R 15825



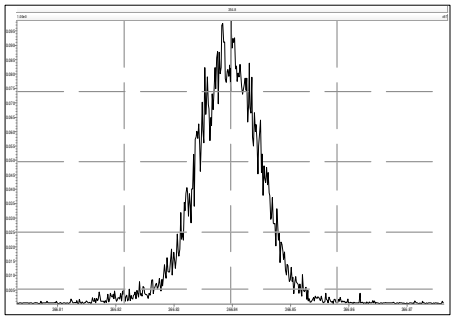
M 342.9792 R 15822



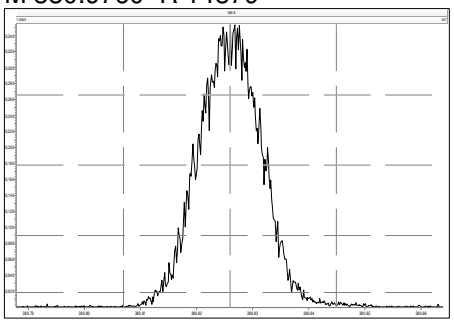
M 354.9792 R 15531



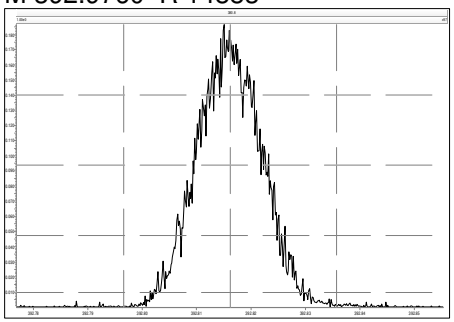
M 366.9792 R 15244



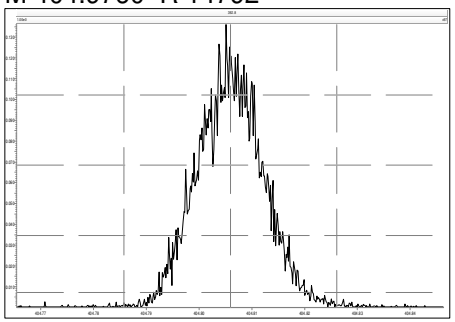
M 380.9760 R 14879



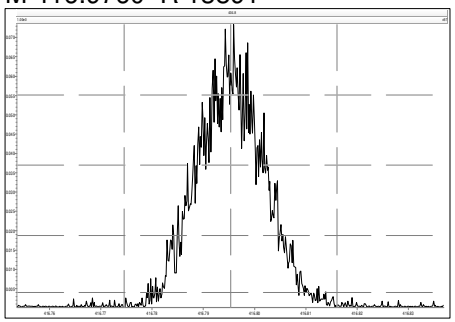
M 392.9760 R 14883



M 404.9760 R 14792



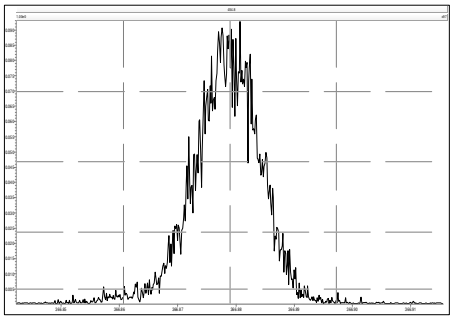
M 416.9760 R 13891



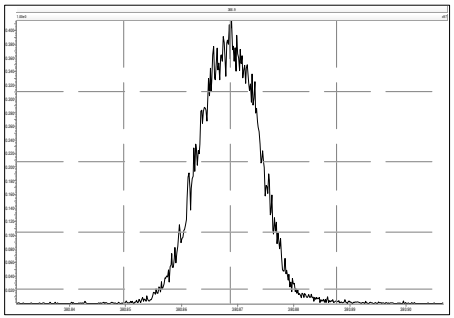
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, March 09, 2022 08:05:36 Eastern Standard Time

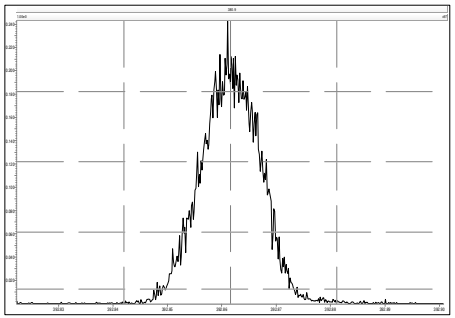
M 366.9792 R 15627



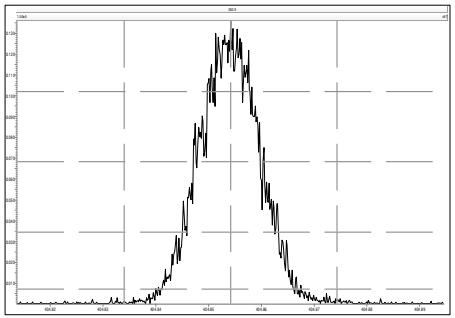
M 380.9760 R 16340



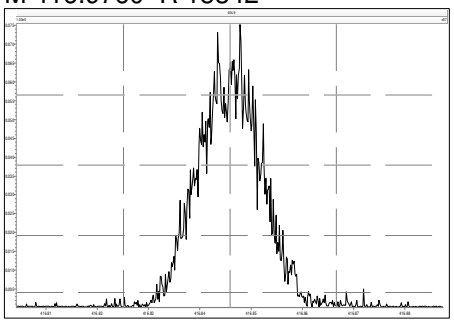
M 392.9760 R 16029



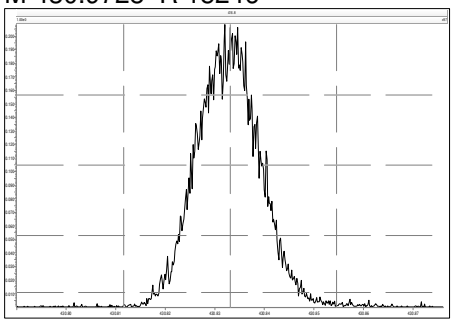
M 404.9760 R 15919



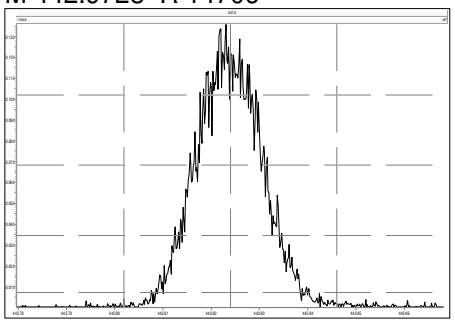
M 416.9760 R 15342



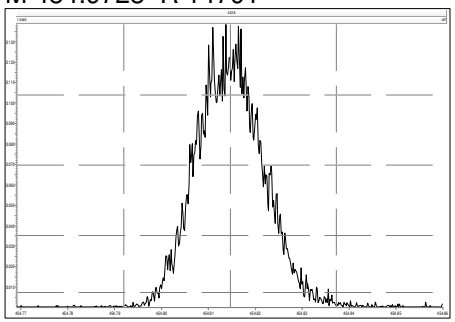
M 430.9728 R 15246



M 442.9728 R 14706



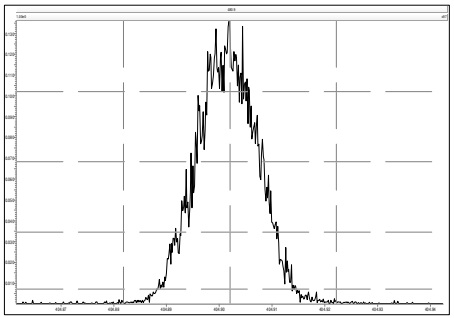
M 454.9728 R 14791



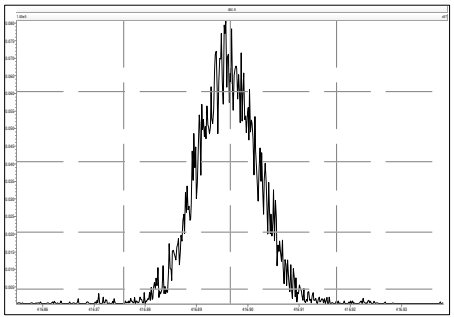
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, March 09, 2022 08:05:55 Eastern Standard Time

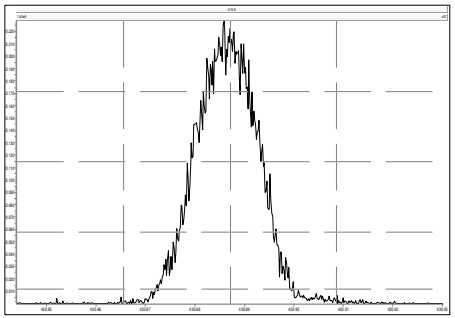
M 404.9760 R 15241



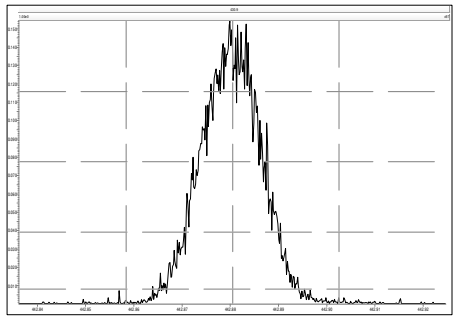
M 416.9760 R 16892



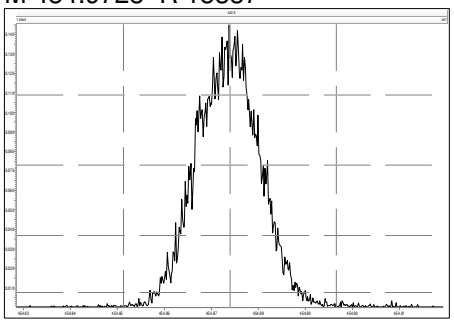
M 430.9728 R 15336



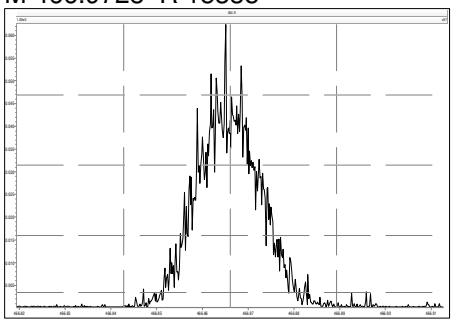
M 442.9728 R 16126



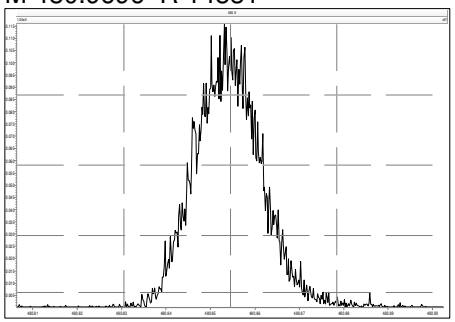
M 454.9728 R 15337



M 466.9728 R 15335



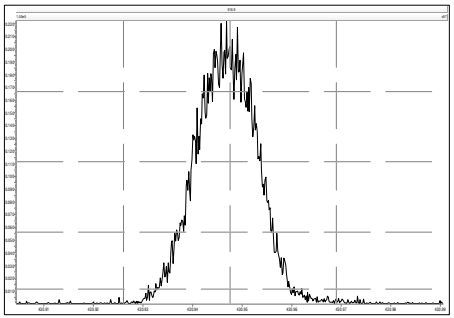
M 480.9696 R 14531



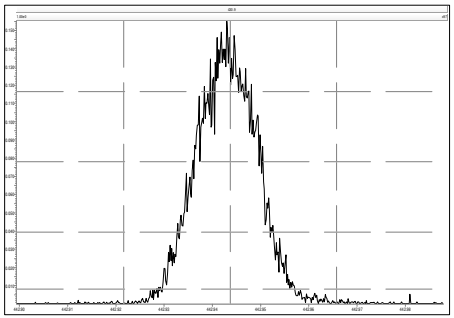
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, March 09, 2022 08:06:11 Eastern Standard Time

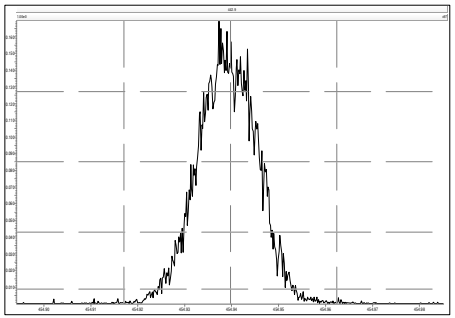
M 430.9728 R 16027



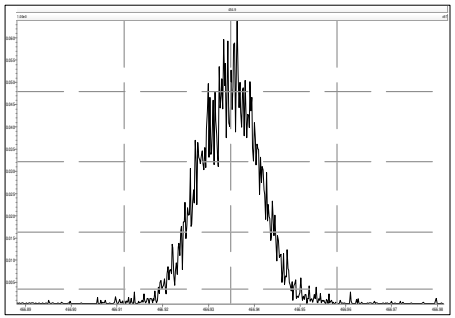
M 442.9728 R 16133



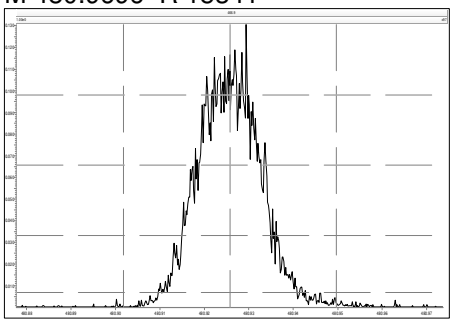
M 454.9728 R 16126



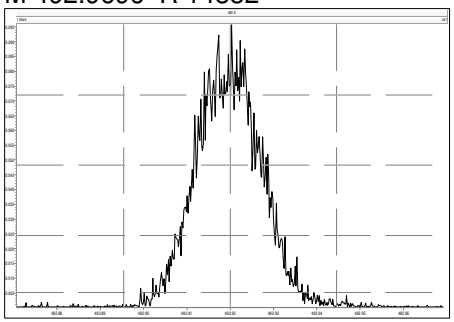
M 466.9728 R 15823



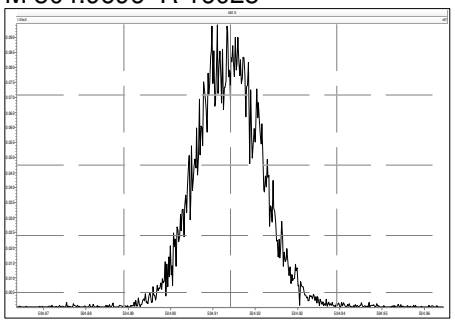
M 480.9696 R 15341



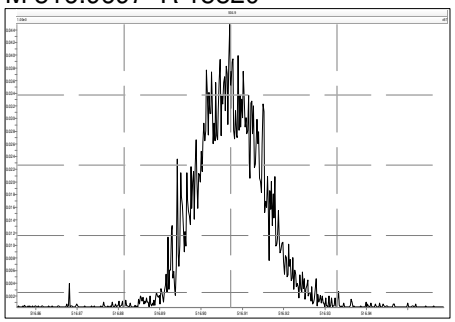
M 492.9696 R 14882



M 504.9696 R 16025



M 516.9697 R 15820



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
Tyler_Fritz , 11/11/2021, 4:44:03 PM

APPROVED
Amy_Boehm , 11/11/2021, 5:28:50 PM

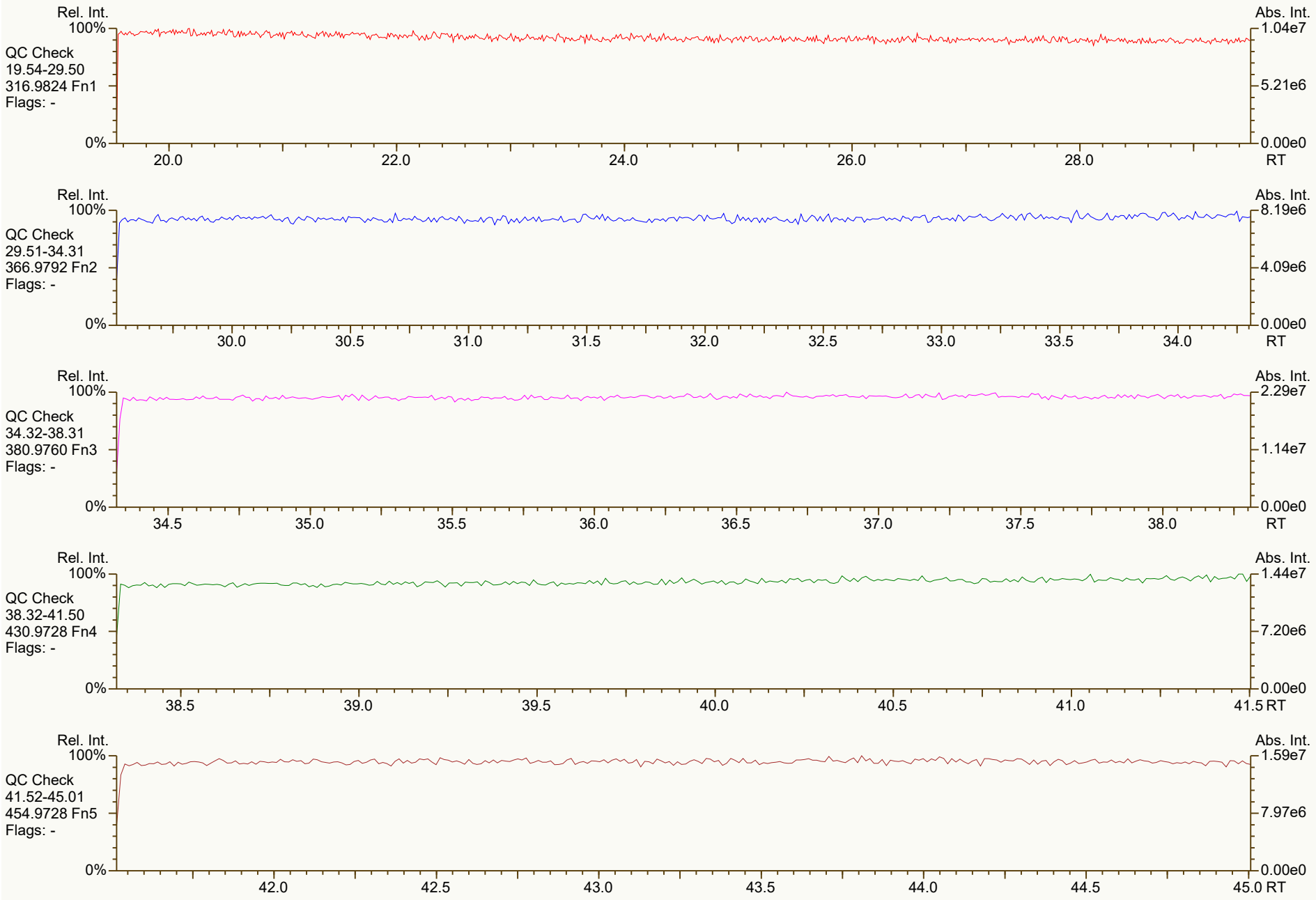
Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

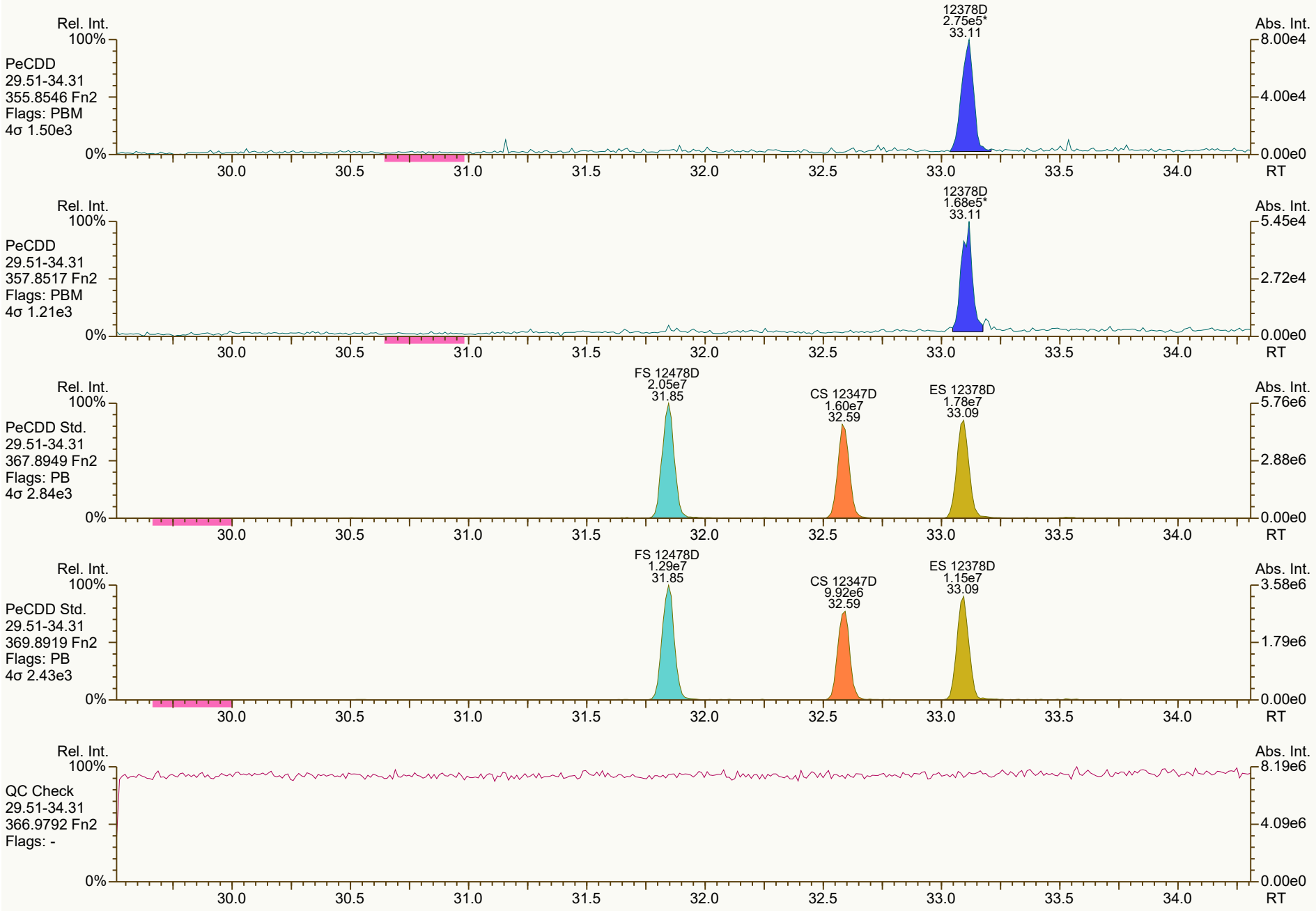
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

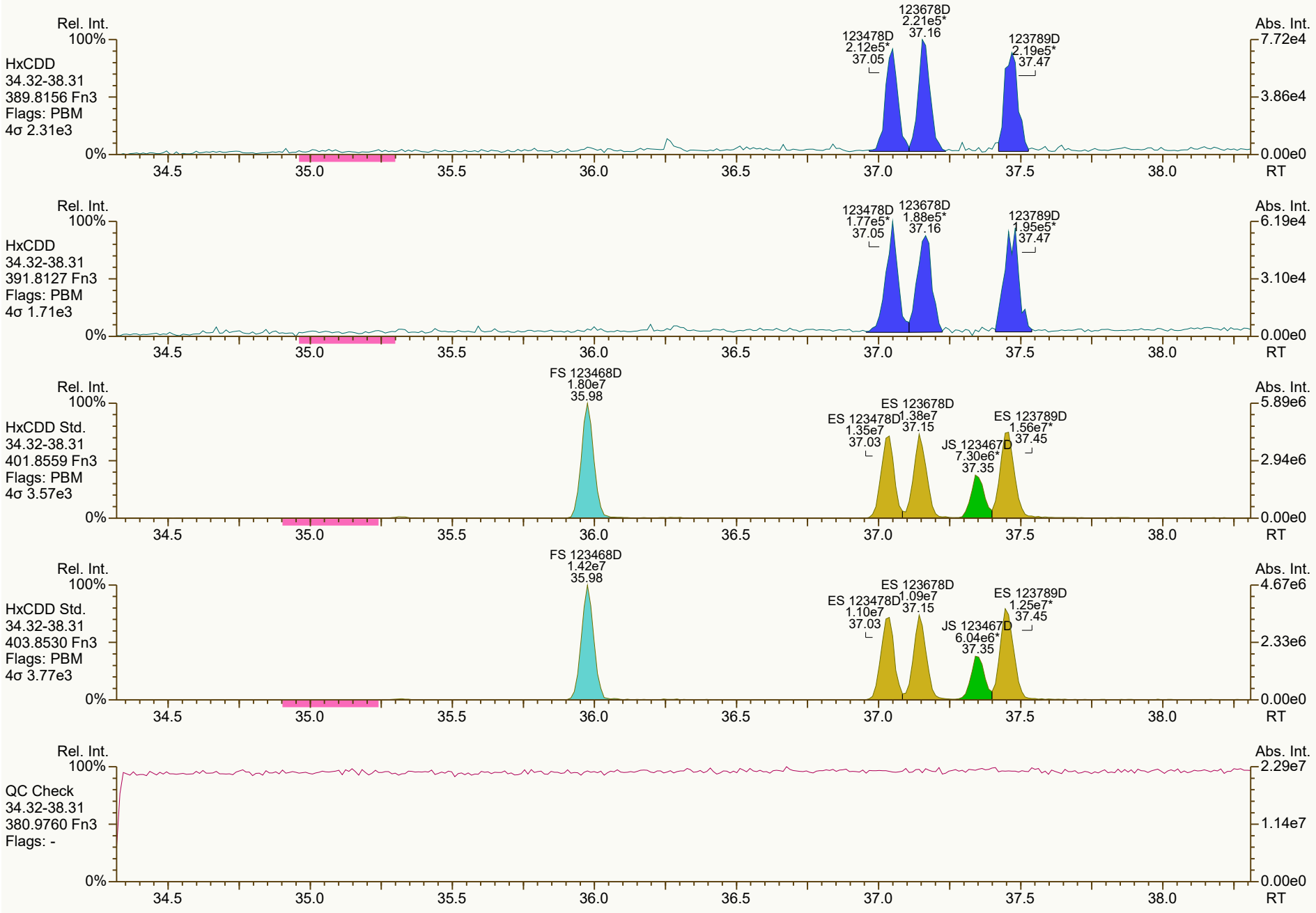
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

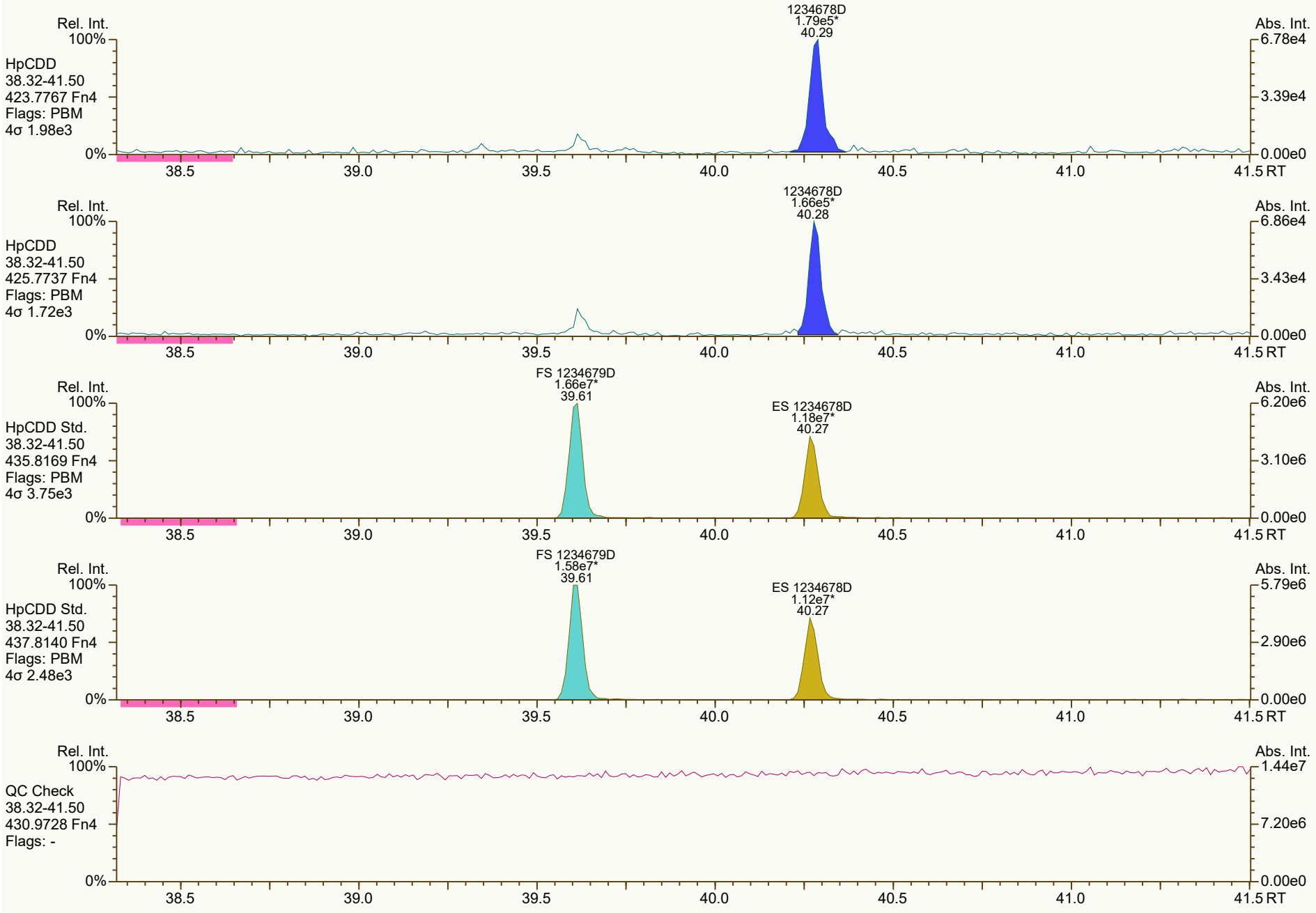
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.04e7
5.21e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.19e6
4.09e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.29e7
1.14e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.44e7
7.20e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.97e6
0.00e0

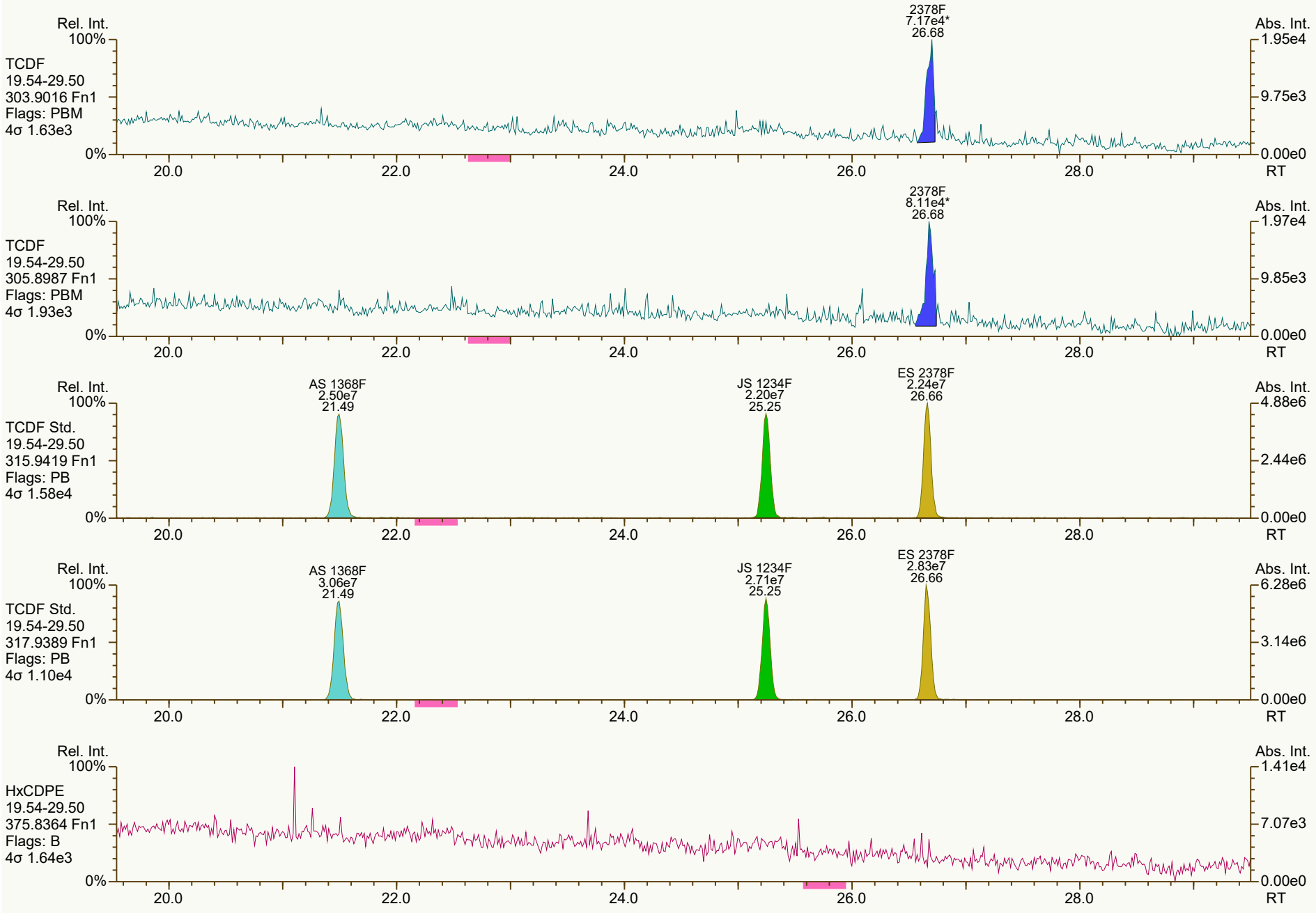

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
2378D
5.29e4*
27.60
1.67e4
8.35e3
0.00e0
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
2.13e4
1.06e4
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6
0%
100%
20.0
22.0
24.0
26.0
28.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3504, 1483, 2998 scc: 245-007
Revised: 11-Nov-2021 16:18 (DTF) Printed: 11-Nov-2021 16:32 Page 2 of 12


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

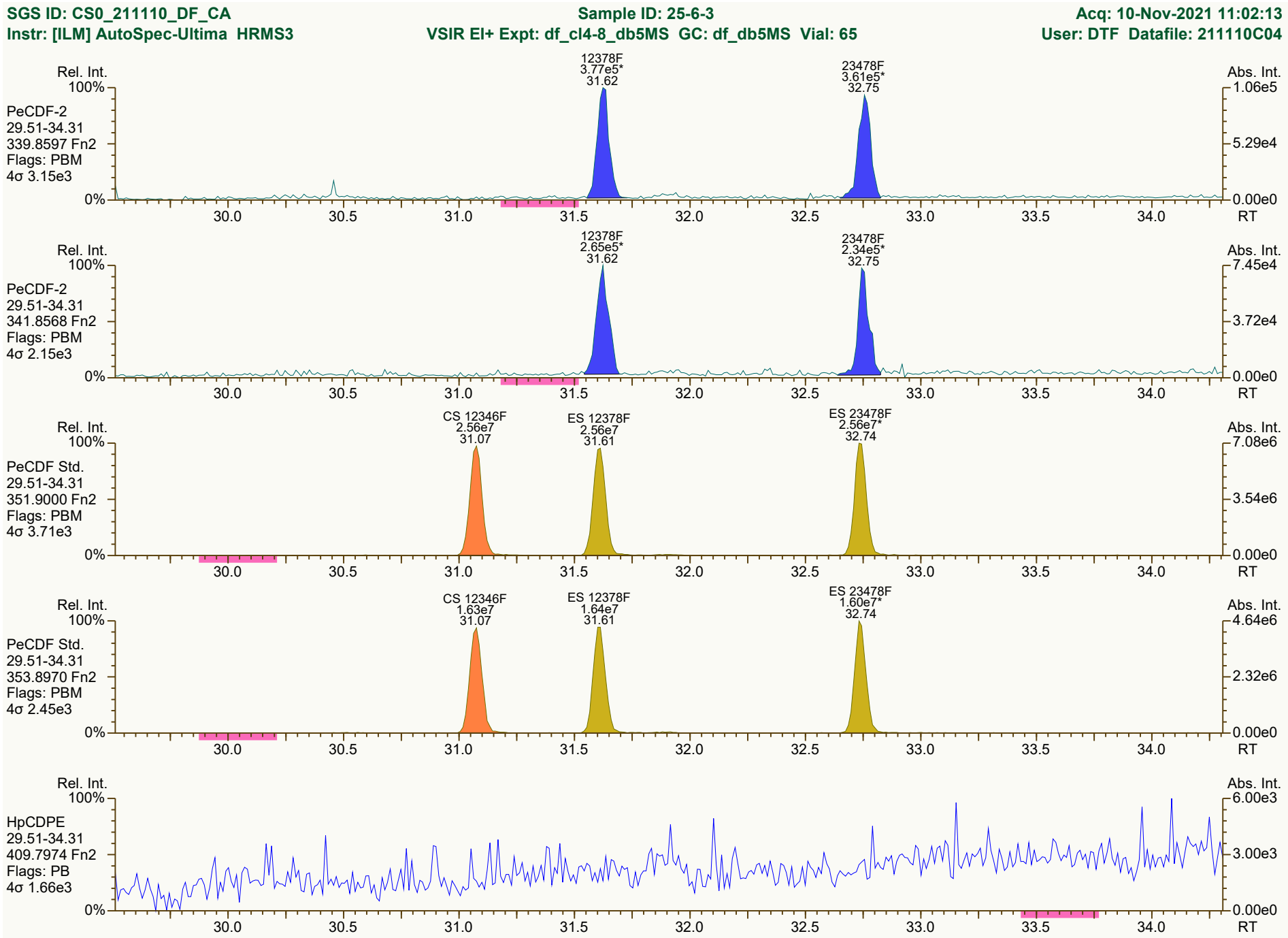

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
123478D 2.12e5* 37.05
123678D 2.21e5* 37.16
123789D 2.19e5* 37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
123478D 1.77e5* 37.05
123678D 1.88e5* 37.16
123789D 1.95e5* 37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
FS 123468D 1.80e7 35.98
ES 123478D 1.35e7 37.03
ES 123678D 1.38e7 37.15
JS 123467D 7.30e6* 37.35
ES 123789D 1.56e7* 37.45
Abs. Int.
5.89e6
2.94e6
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
FS 123468D 1.42e7 35.98
ES 123478D 1.10e7 37.03
ES 123678D 1.09e7 37.15
JS 123467D 6.04e6* 37.35
ES 123789D 1.25e7* 37.45
Abs. Int.
4.67e6
2.33e6
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.29e7
1.14e7
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

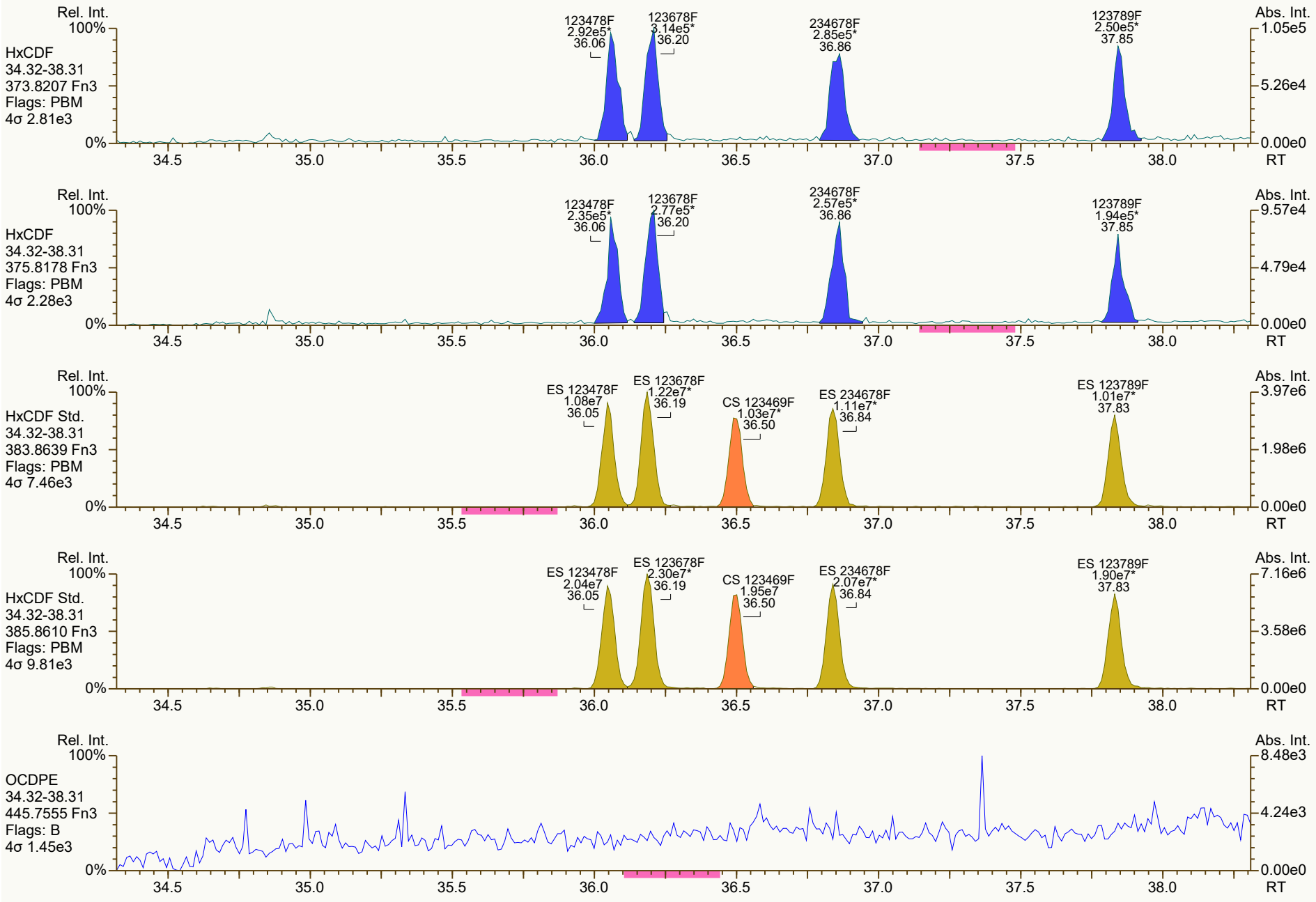

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
Abs. Int.
1.41e4
7.07e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT

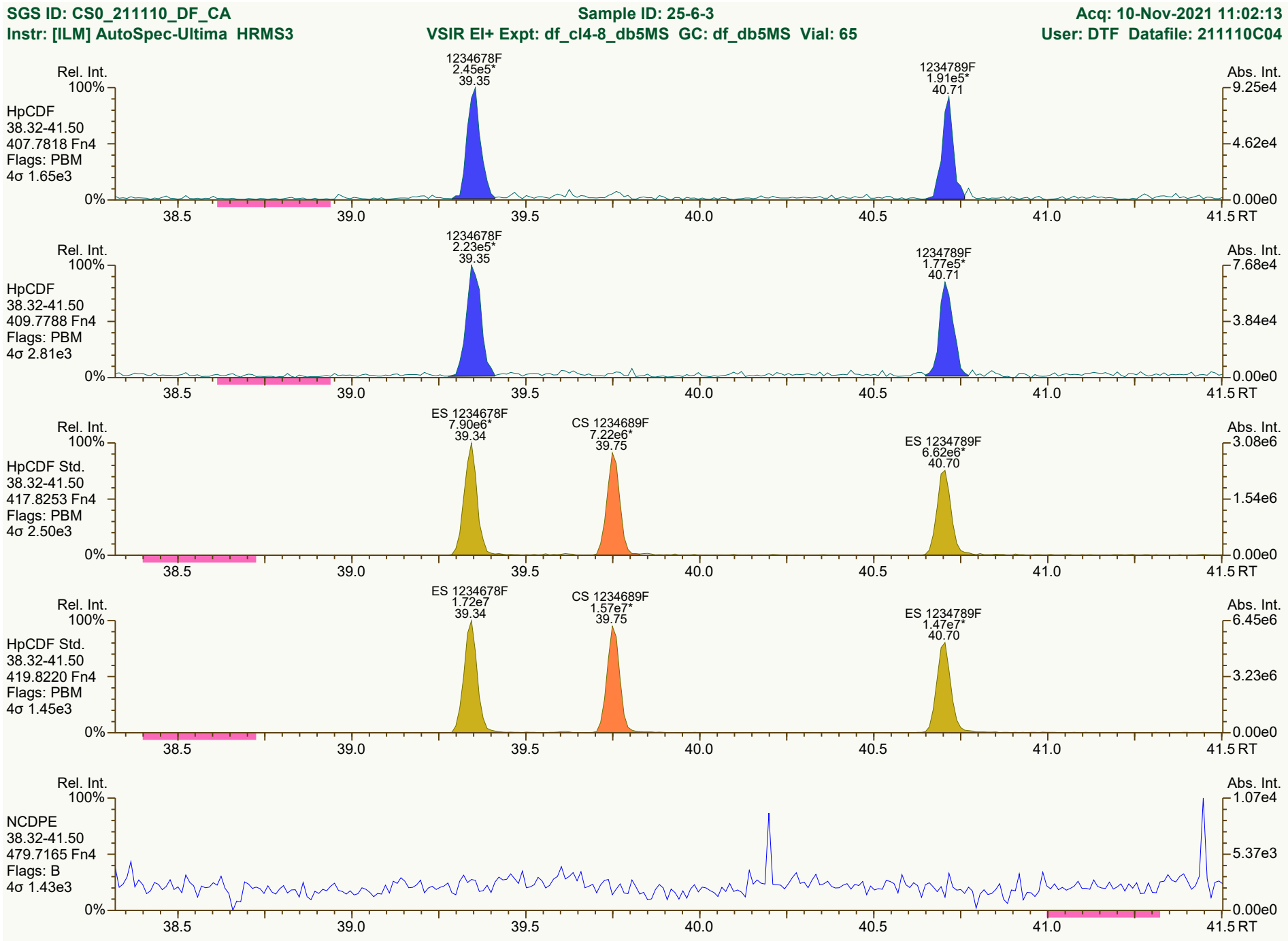

Rel. Int.
100%
0%
Abs. Int.
1.25e4
6.27e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: PB
4σ 2.44e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.40e4
7.01e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 1.85e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.04e7
5.21e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT

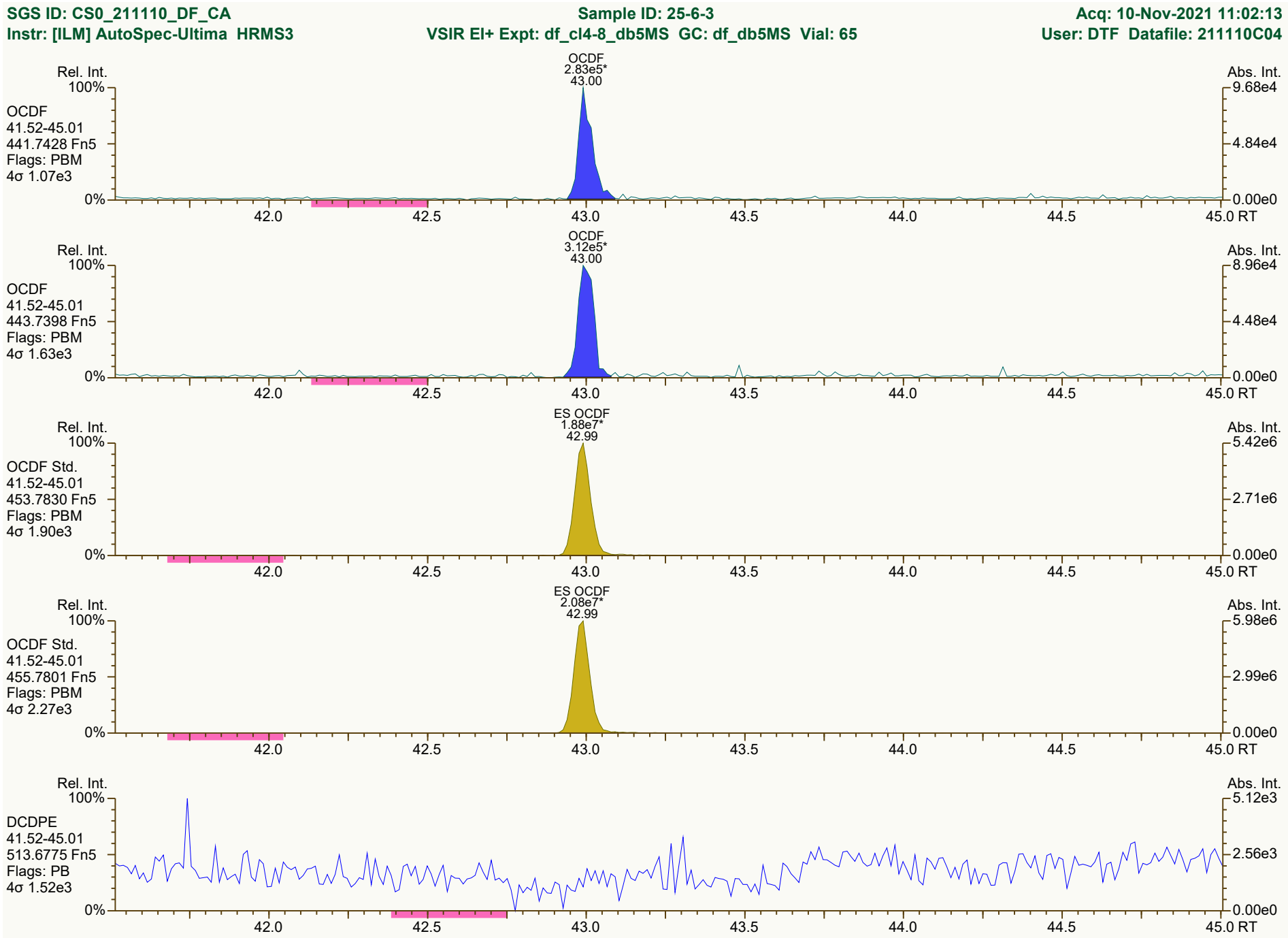


Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9286, 1873, 4001 scc: 245-007 *Revised: 11-Nov-2021 16:18 (DTF) Printed: 11-Nov-2021 16:32 Page 9 of 12*


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
Abs. Int.
8.48e3
4.24e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

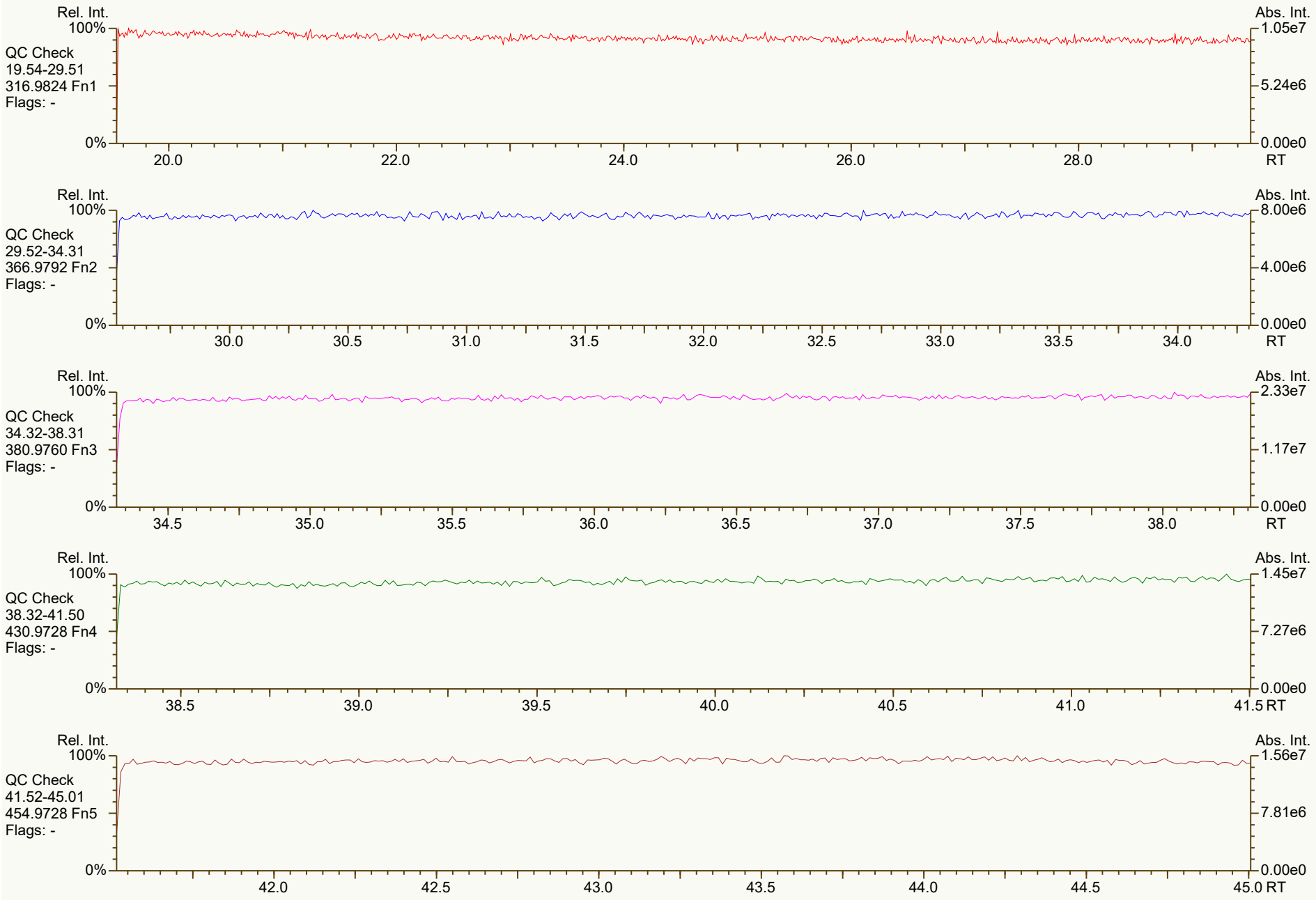

SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
9.25e4
4.62e4
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
7.68e4
3.84e4
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
3.08e6
1.54e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
6.45e6
3.23e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
1.07e4
5.37e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0834, 2511, 5505 scc: 245-007
Revised: 10-Nov-2021 13:36 (DTF) Printed: 11-Nov-2021 16:32 Page 11 of 12


SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04
Rel. Int.
Abs. Int.
OCDF
2.83e5*
43.00
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
9.68e4
4.84e4
0.00e0
OCDF
3.12e5*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
8.96e4
4.48e4
0.00e0
ES OCDF
1.88e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
5.42e6
2.71e6
0.00e0
ES OCDF
2.08e7*
42.99
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
5.98e6
2.99e6
0.00e0
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
5.12e3
2.56e3
0.00e0
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 5689, 8554, 0504 scc: 245-007
Revised: 10-Nov-2021 13:36 (DTF) Printed: 11-Nov-2021 16:32 Page 12 of 12

Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

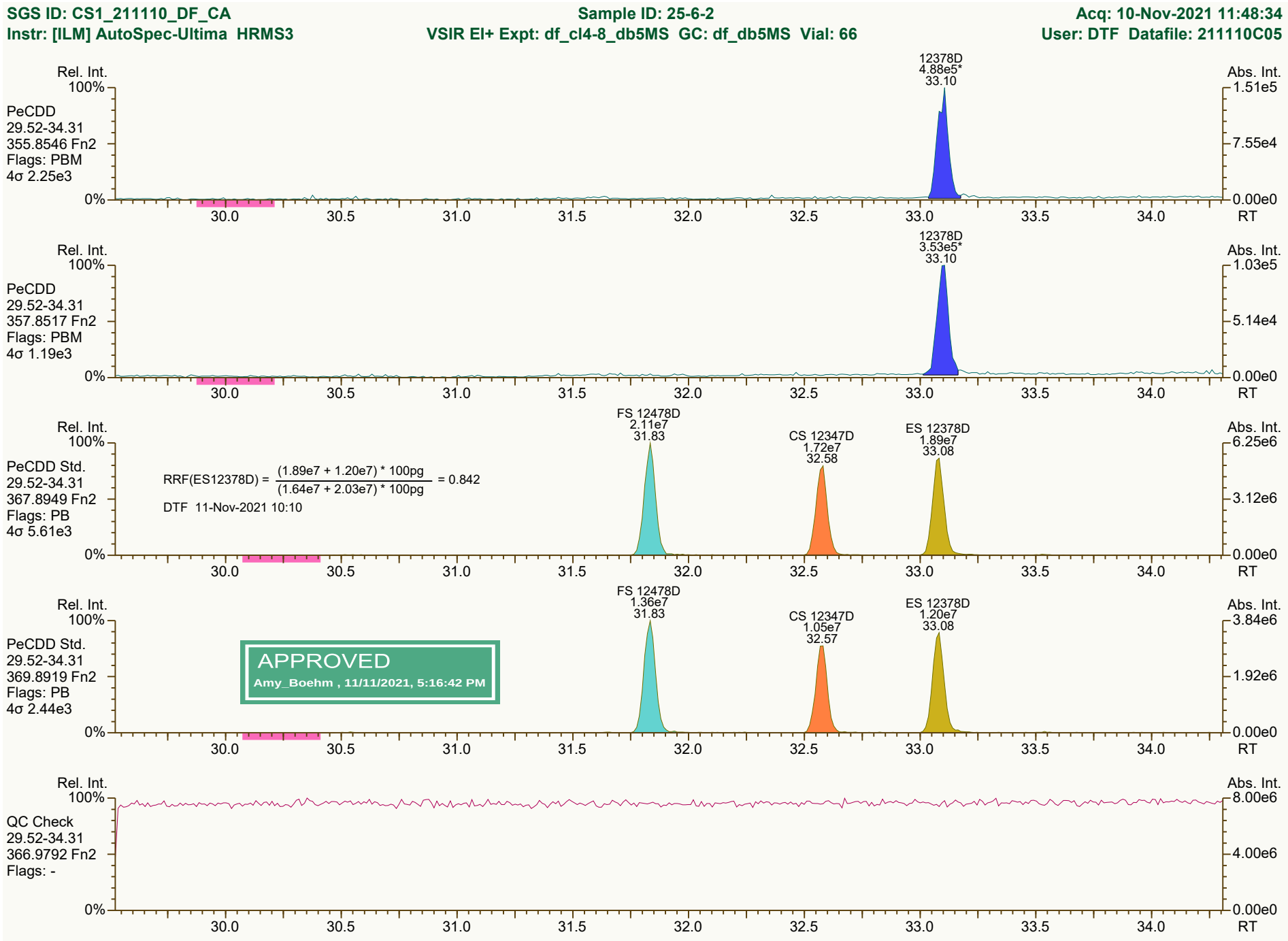
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

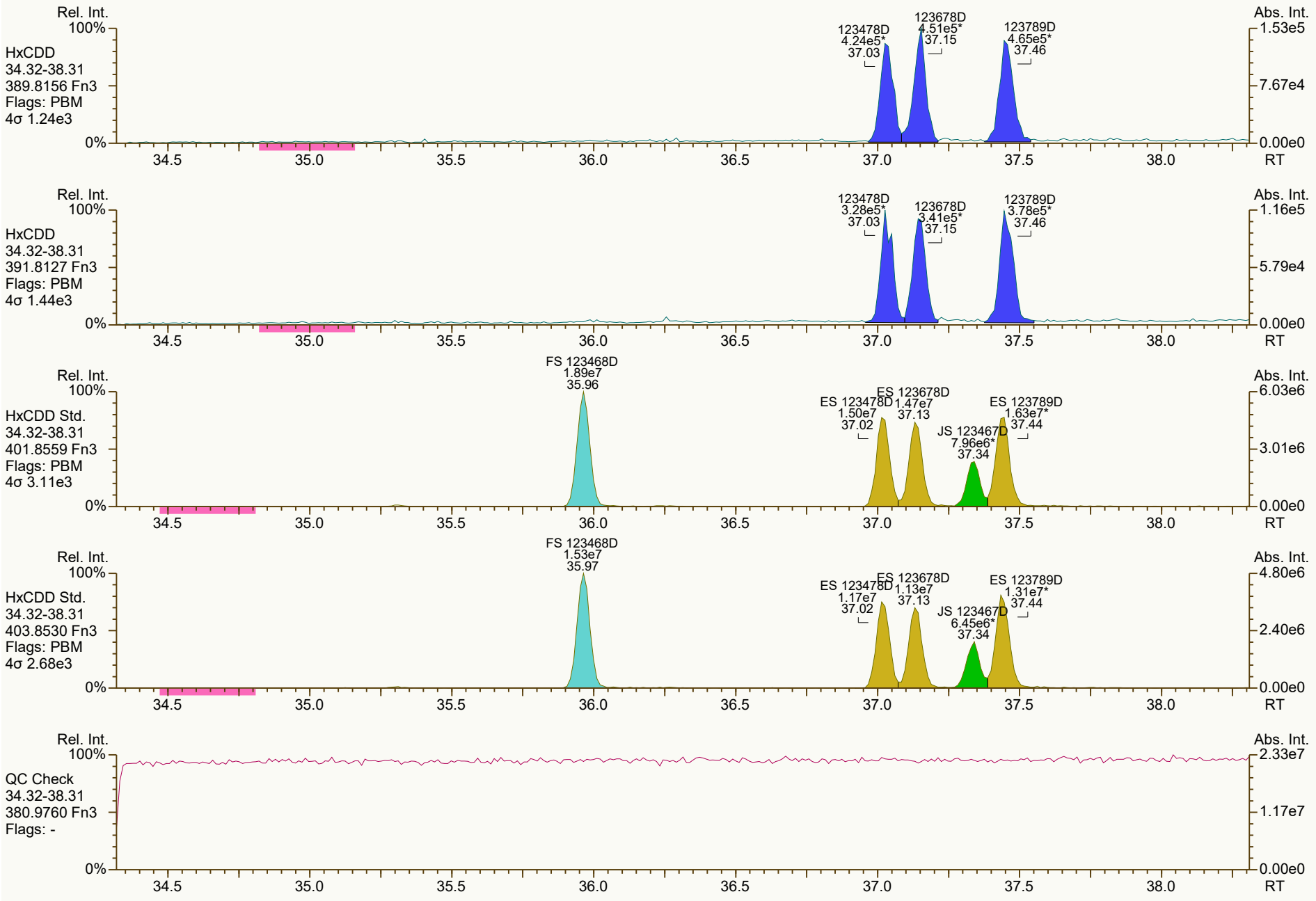
SGS ID: CS1_211110_DF_CA | **Sample ID: 25-6-2** | **Acq: 10-Nov-2021 11:48:34**
Instr: [ILM] AutoSpec-Ultima HRMS3 | **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66** | **User: DTF Datafile: 211110C05**

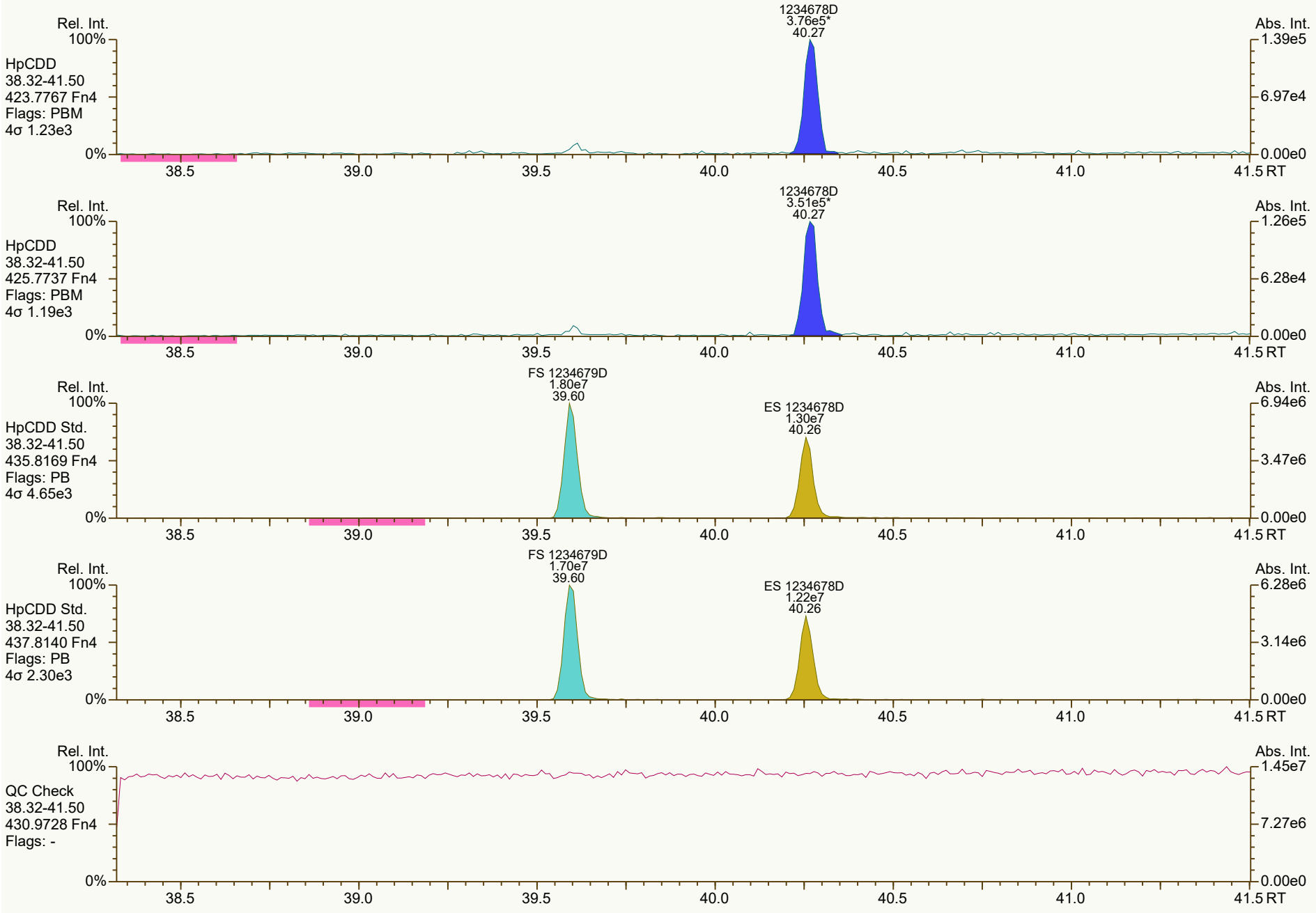


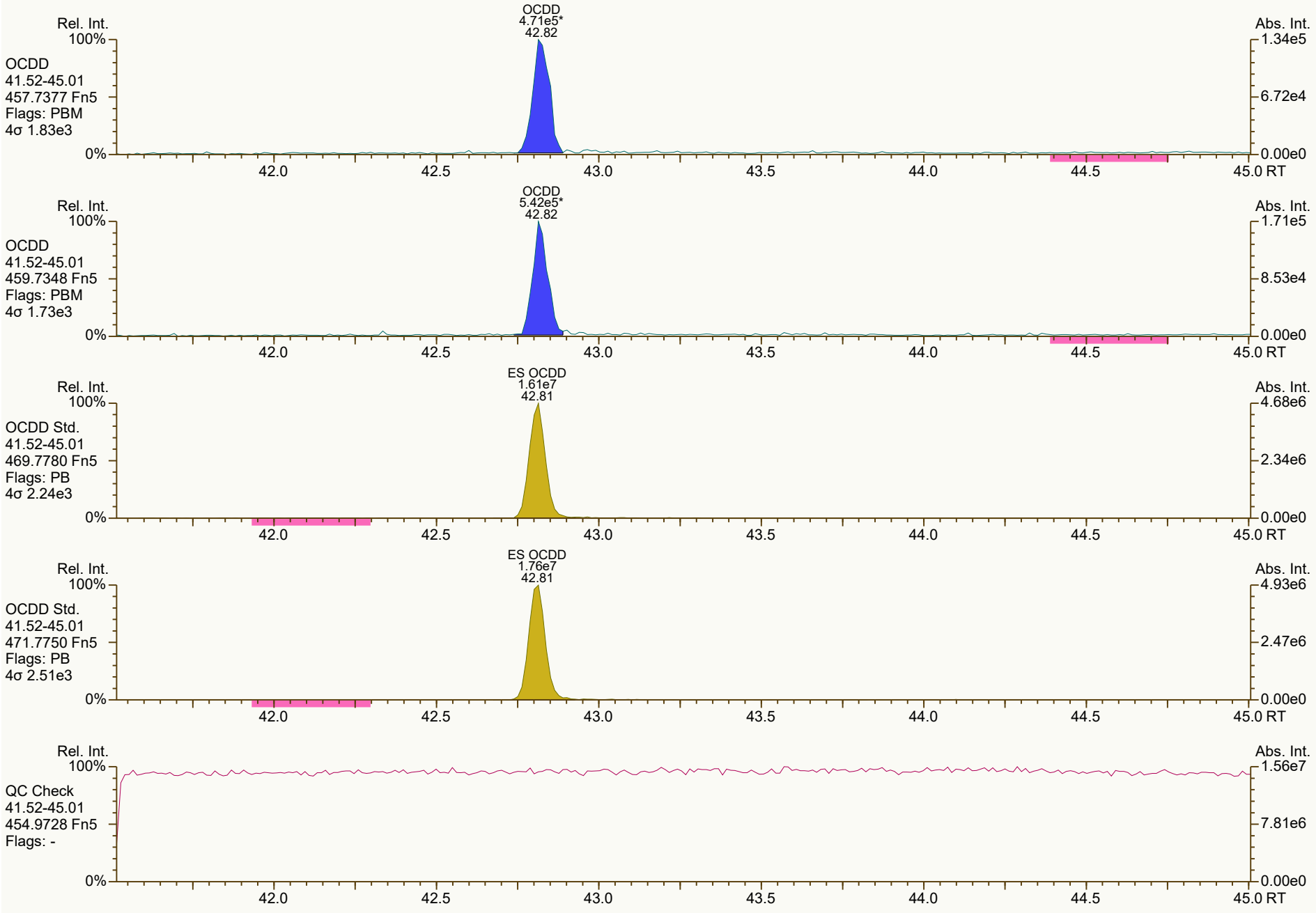
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 scc: 419-111 *PKD: n/a Printed: 11-Nov-2021 10:40 Page 1 of 12*

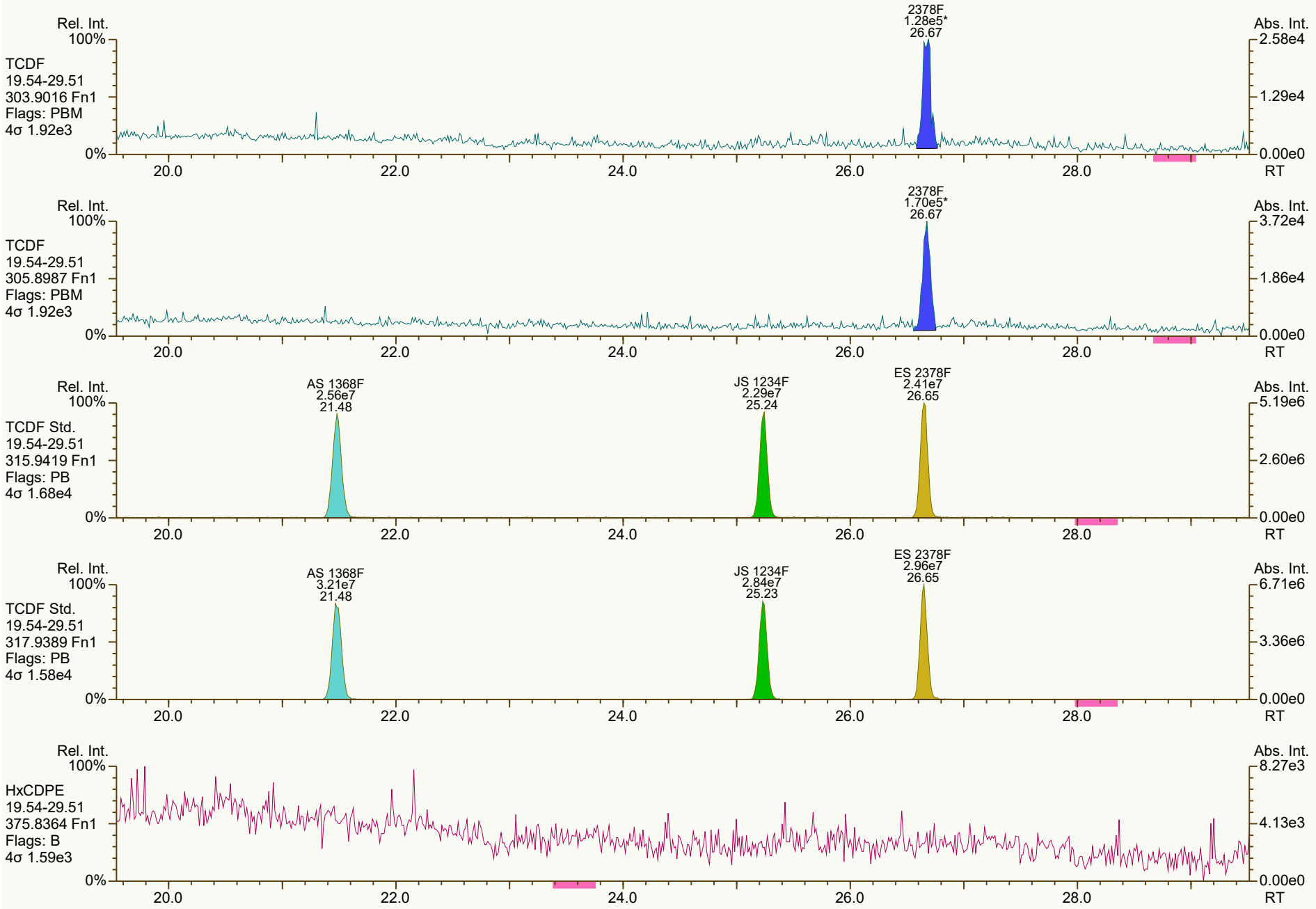

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

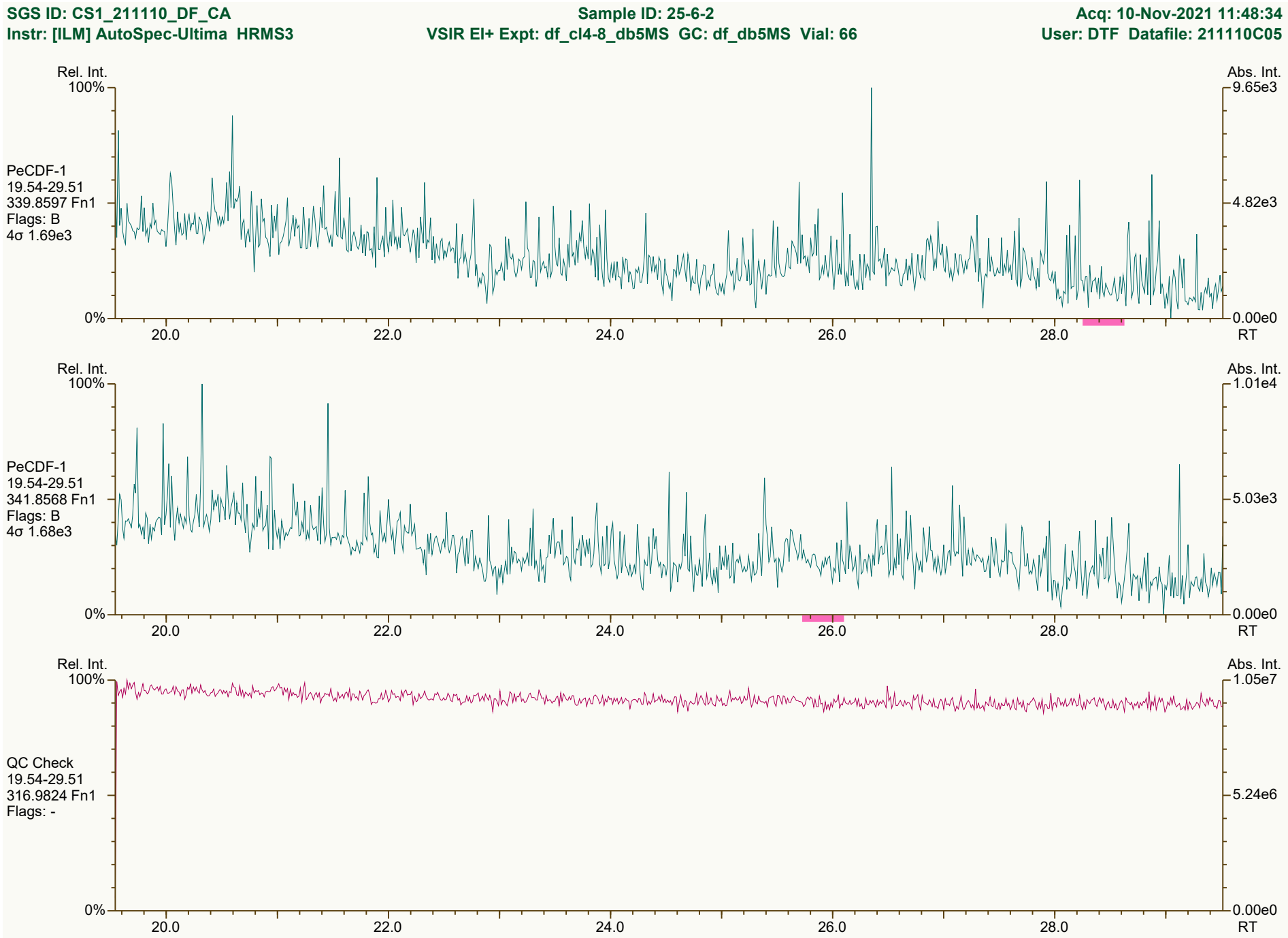

SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
1.51e5
7.55e4
0.00e0
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6
0%
100%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0571, 3921 scc: 419-111
Revised: 10-Nov-2021 13:37 (DTF) Printed: 11-Nov-2021 10:40 Page 3 of 12


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123678D
1.47e7
37.13
ES 123478D
1.50e7
37.02
ES 123789D
1.63e7*
37.44
JS 123467D
7.96e6*
37.34
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123678D
1.13e7
37.13
ES 123478D
1.17e7
37.02
ES 123789D
1.31e7*
37.44
JS 123467D
6.45e6*
37.34
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

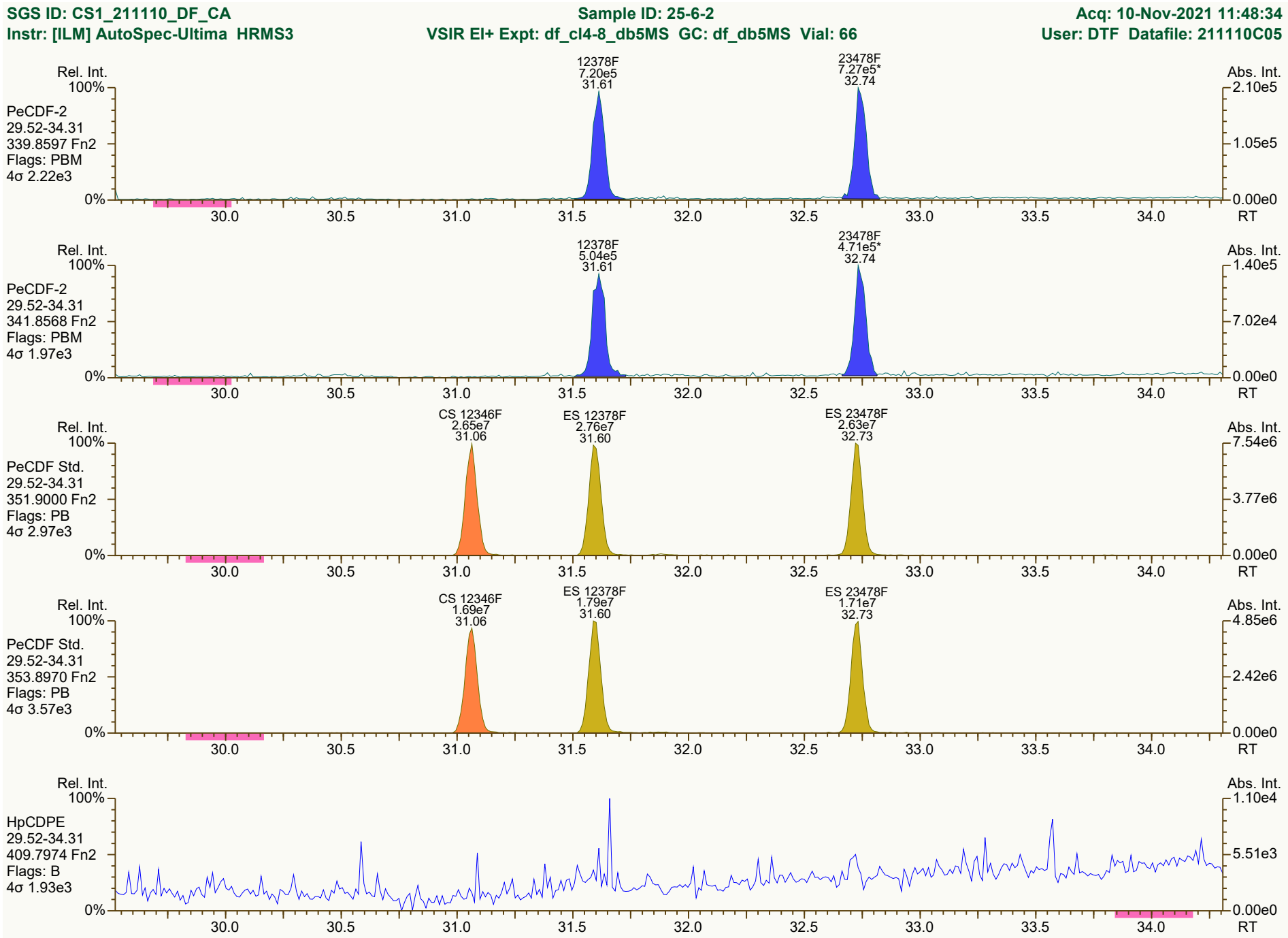

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 2313 scc: 419-111
Revised: 10-Nov-2021 13:36 (DTF) Printed: 11-Nov-2021 10:40 Page 8 of 12

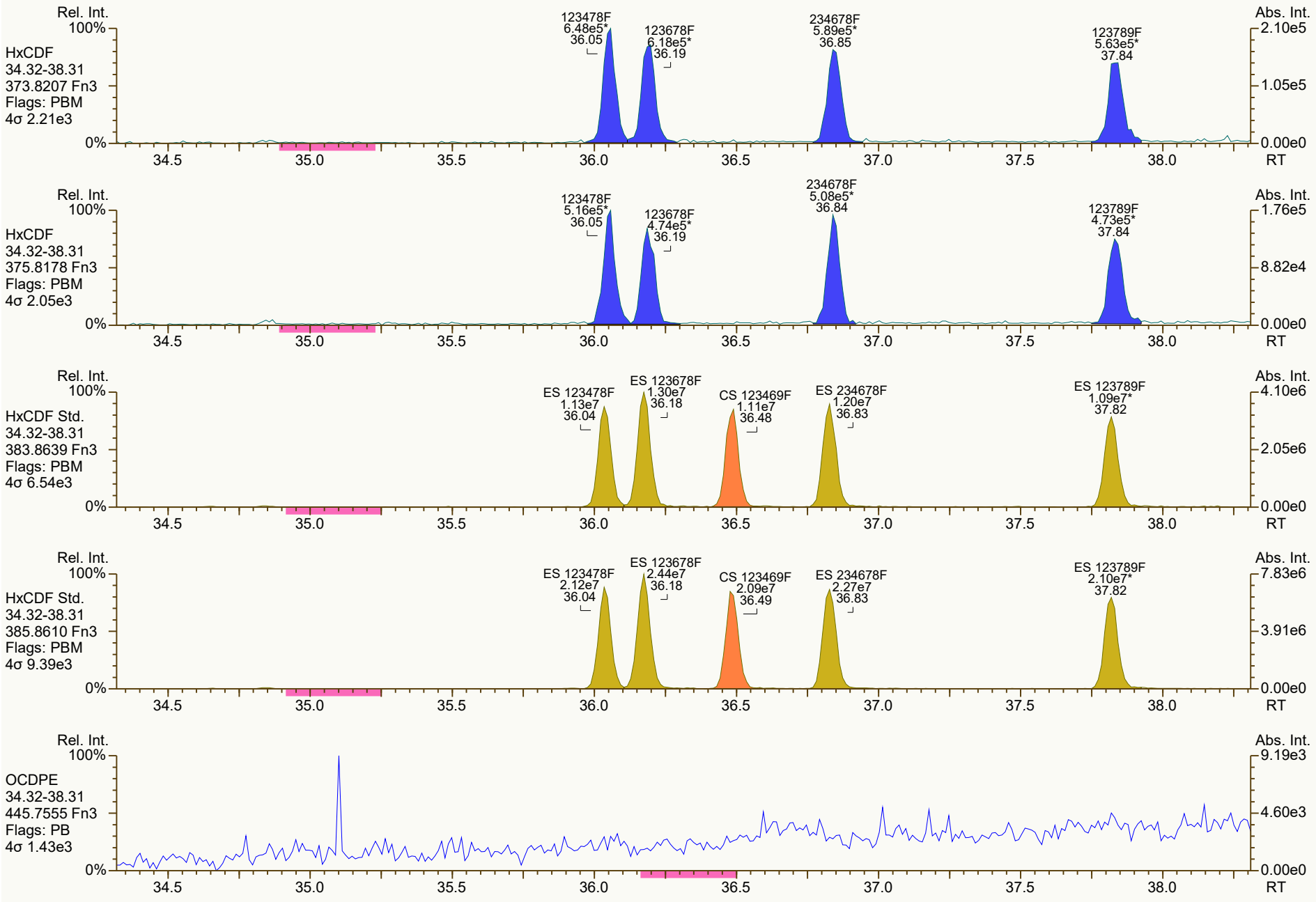
SGS ID: CS1_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

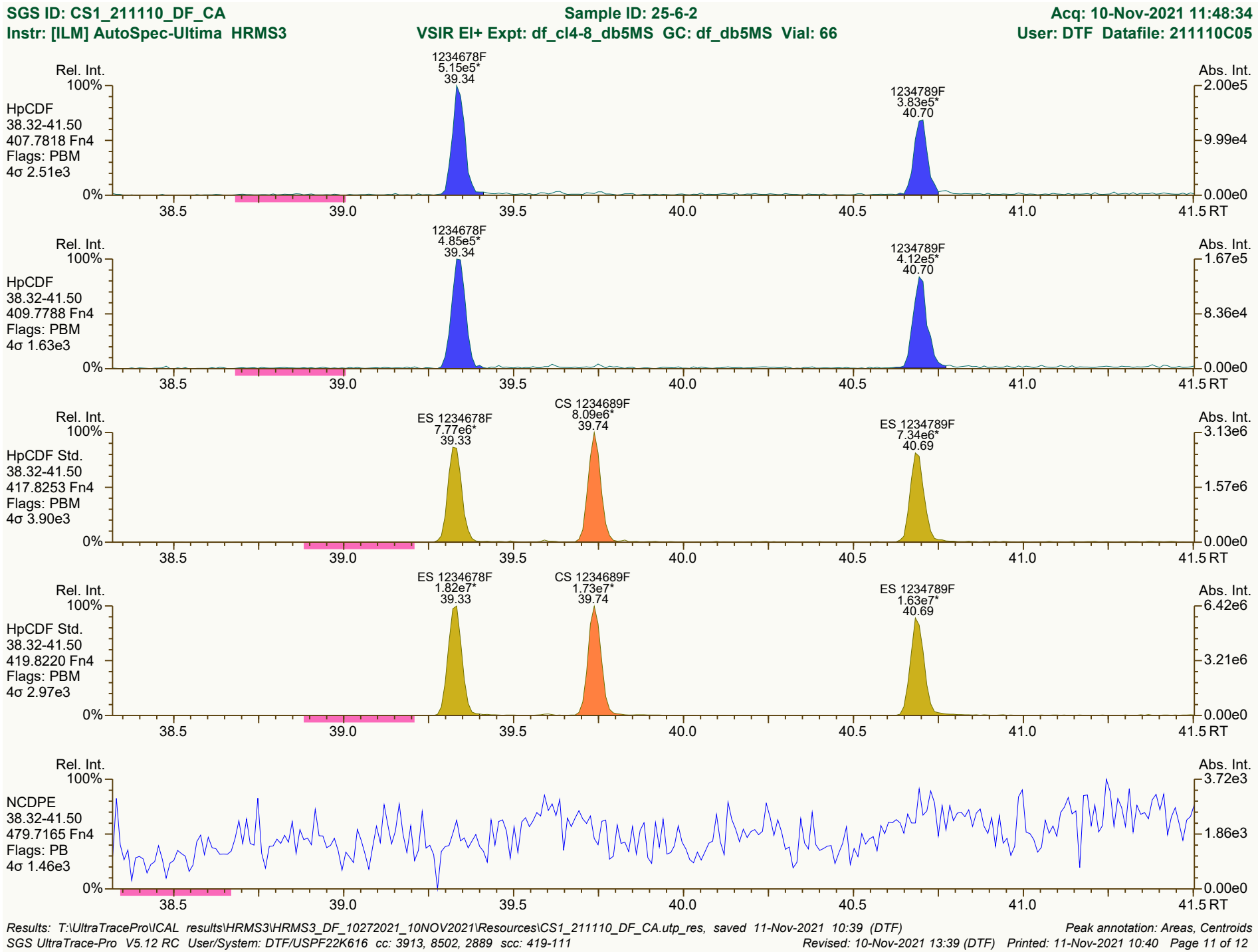
Sample ID: 25-6-2
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66

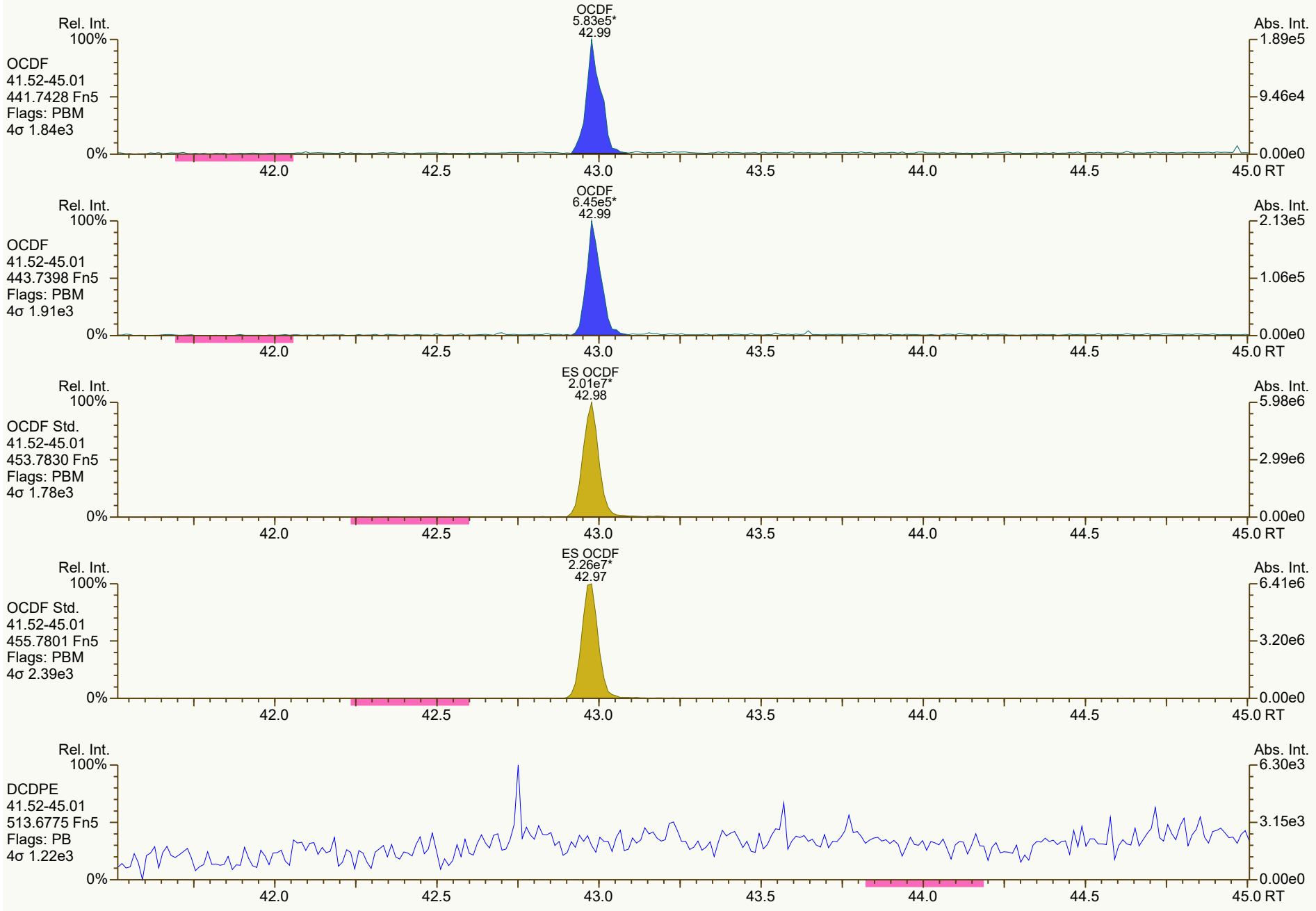
Acq: 10-Nov-2021 11:48:34
User: DTF Datafile: 211110C05



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9368, 4994, 0902 scc: 419-111 *Revised: 10-Nov-2021 13:38 (DTF) Printed: 11-Nov-2021 10:40 Page 9 of 12*


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
Abs. Int.
1.76e5
8.82e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
Abs. Int.
4.10e6
2.05e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
Abs. Int.
7.83e6
3.91e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
Abs. Int.
9.19e3
4.60e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

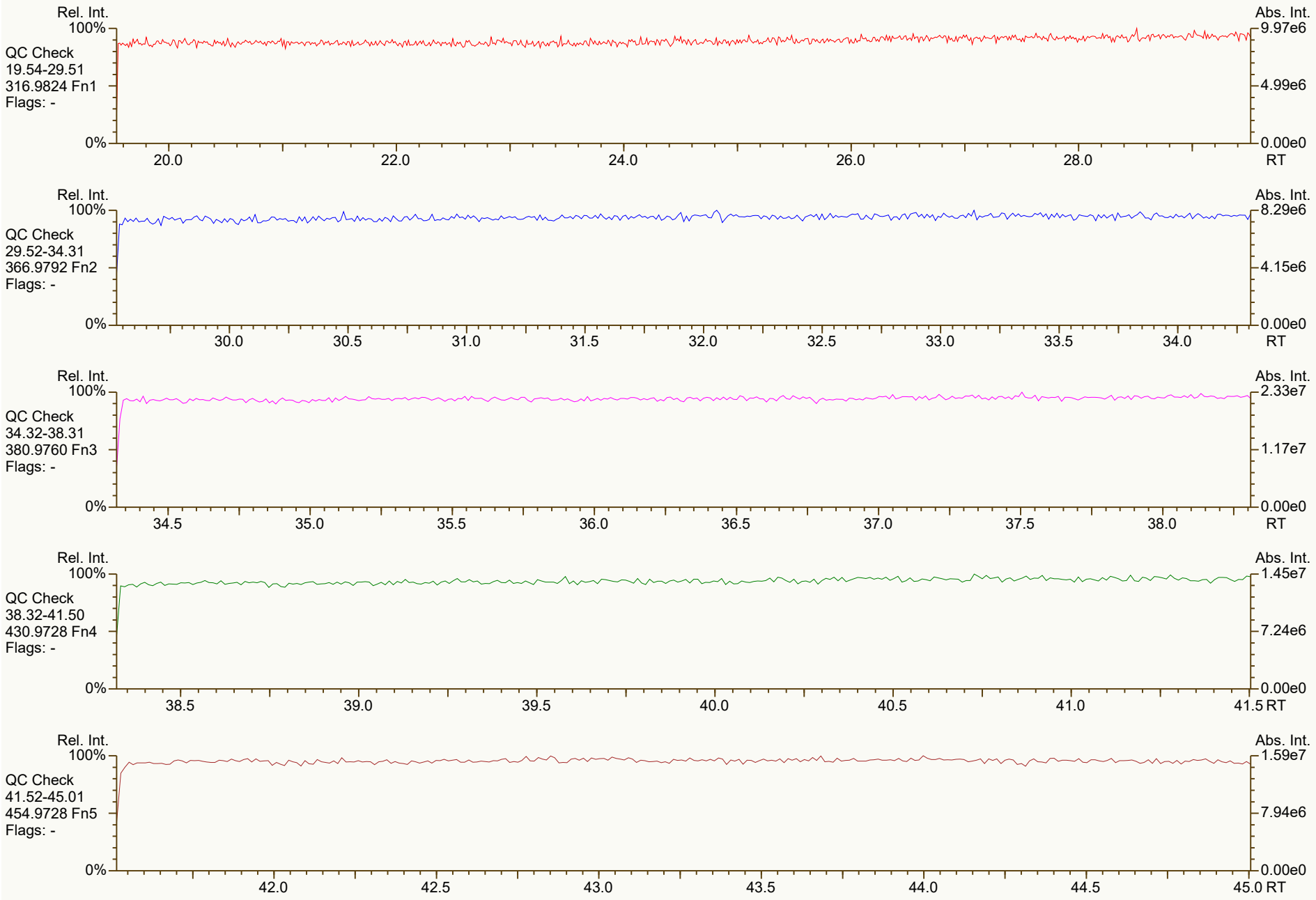

SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
2.00e5
9.99e4
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
1.67e5
8.36e4
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
3.13e6
1.57e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
3.72e3
1.86e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3913, 8502, 2889 scc: 419-111
Revised: 10-Nov-2021 13:39 (DTF) Printed: 11-Nov-2021 10:40 Page 11 of 12

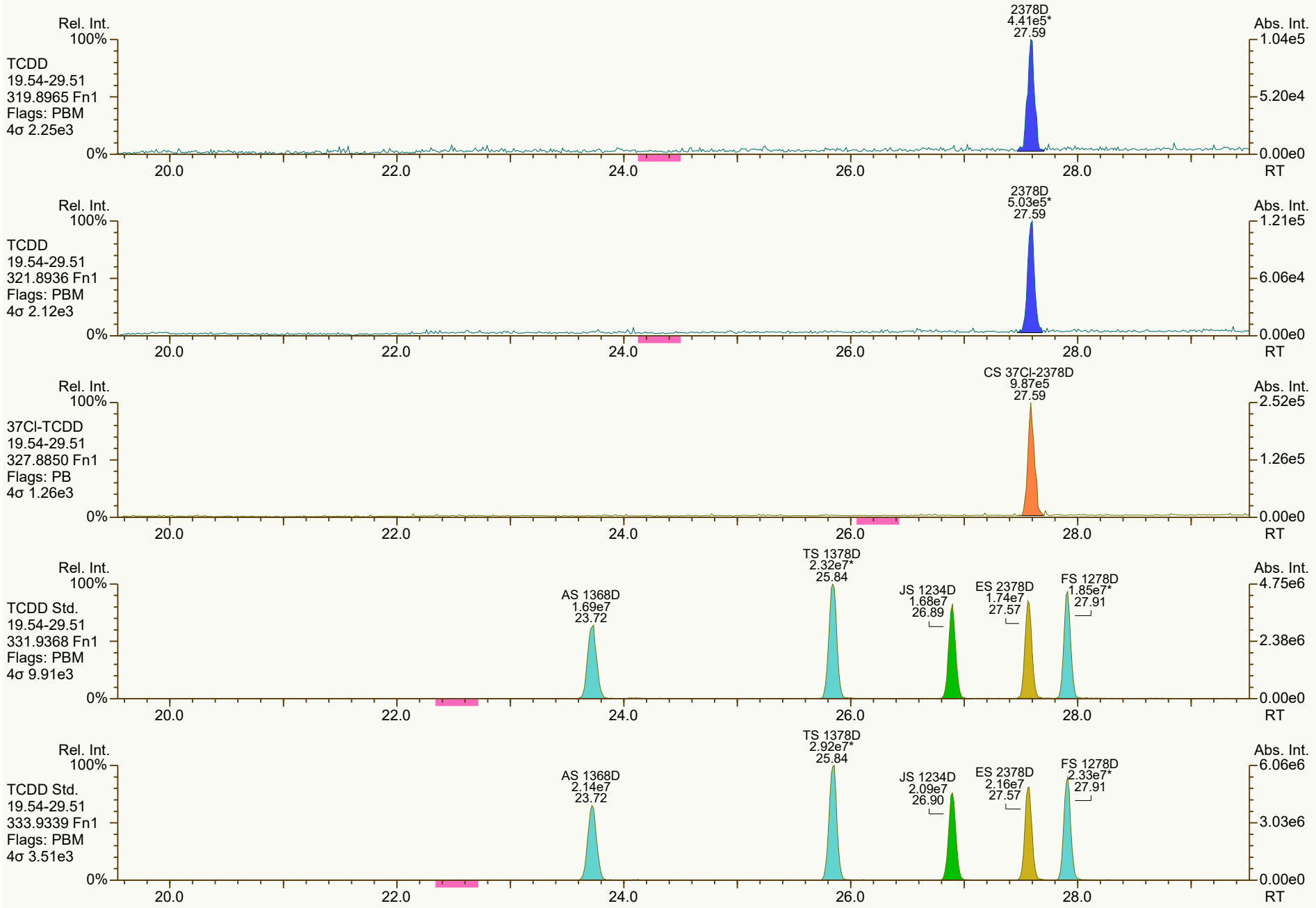

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
OCDF
5.83e5*
42.99
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
OCDF
6.45e5*
42.99
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
ES OCDF
2.01e7*
42.98
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
ES OCDF
2.26e7*
42.97
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

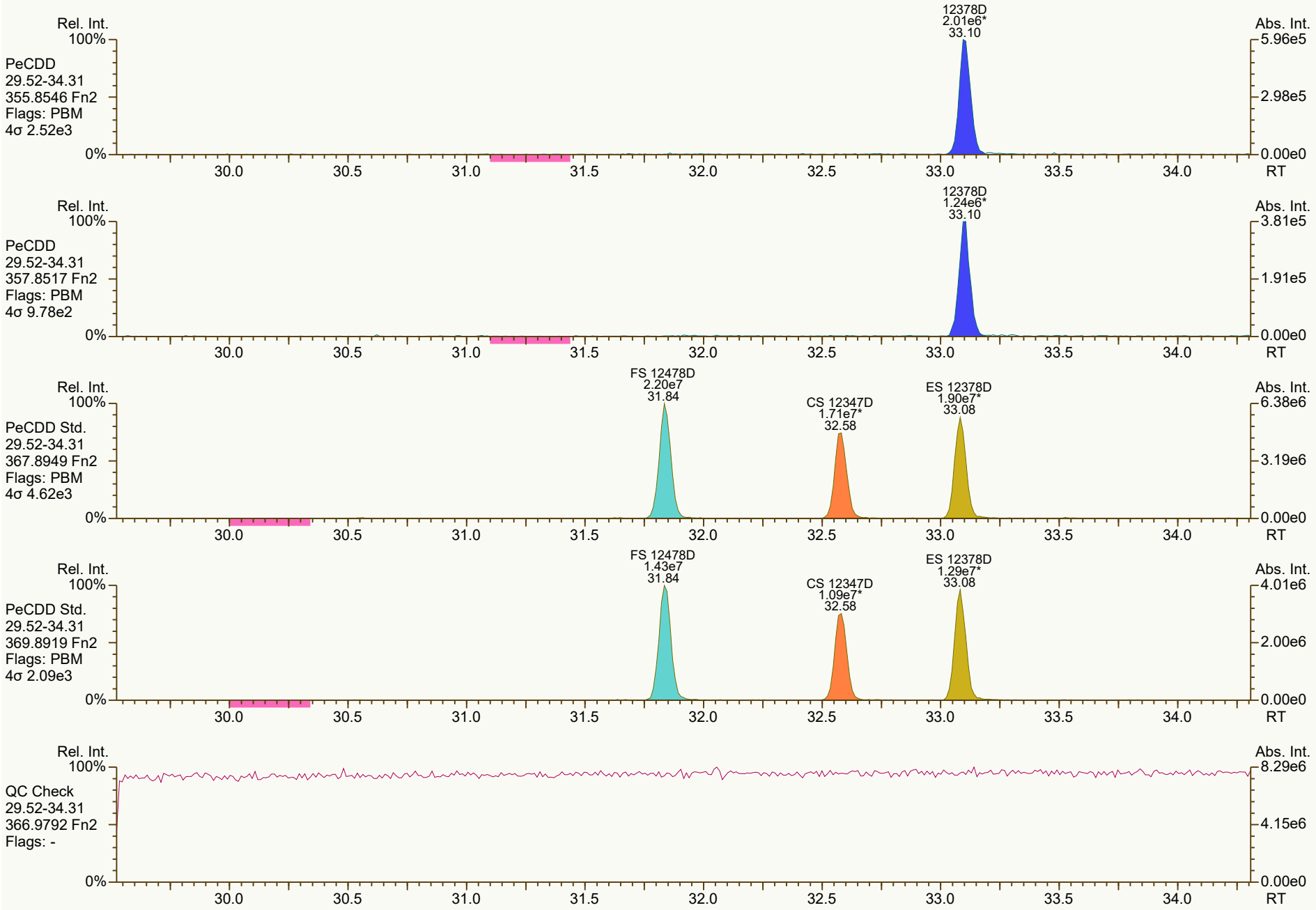
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 12:34 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS2_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 385-758-WQN	
Sample ID: 25-6-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C06	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

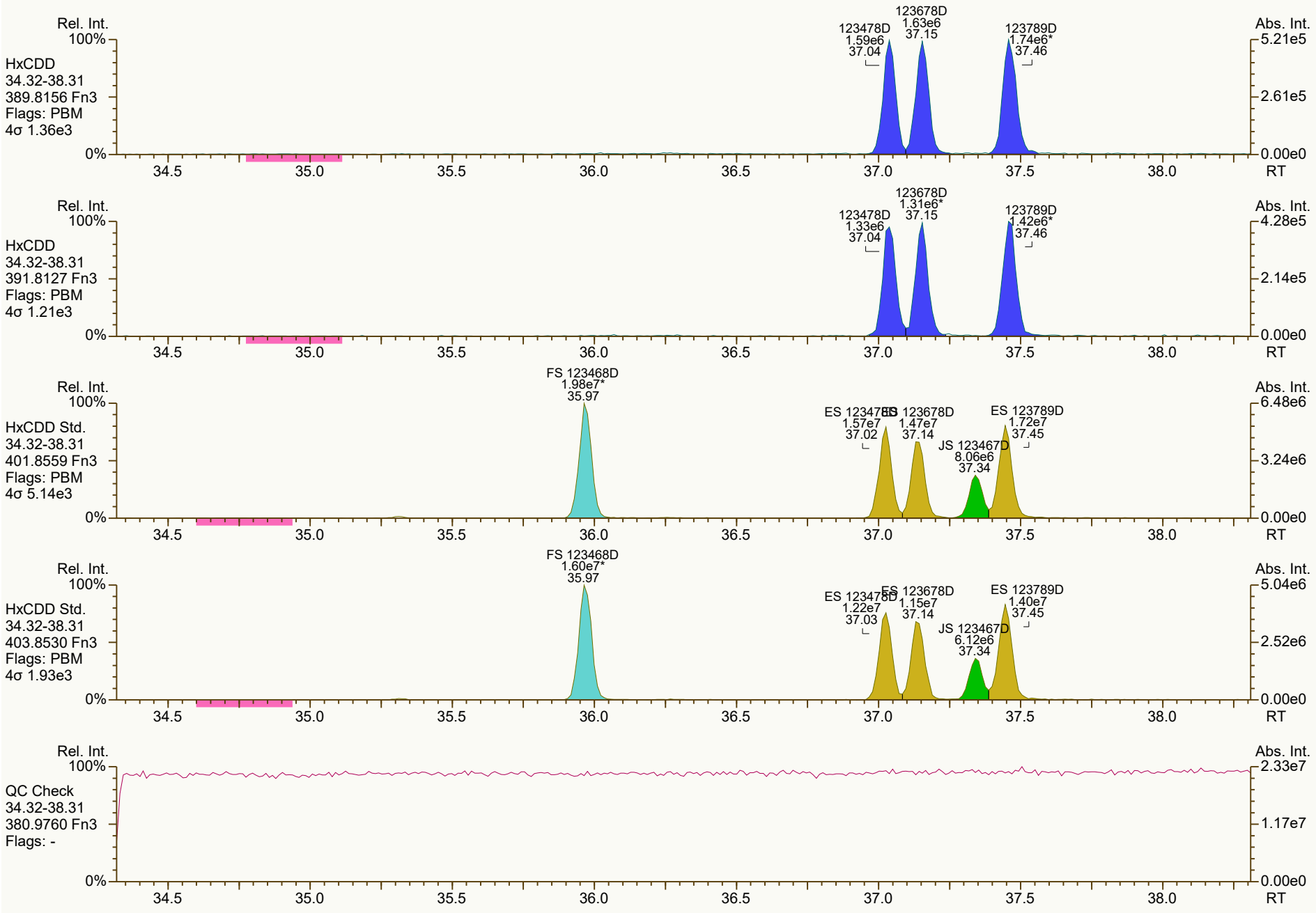
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

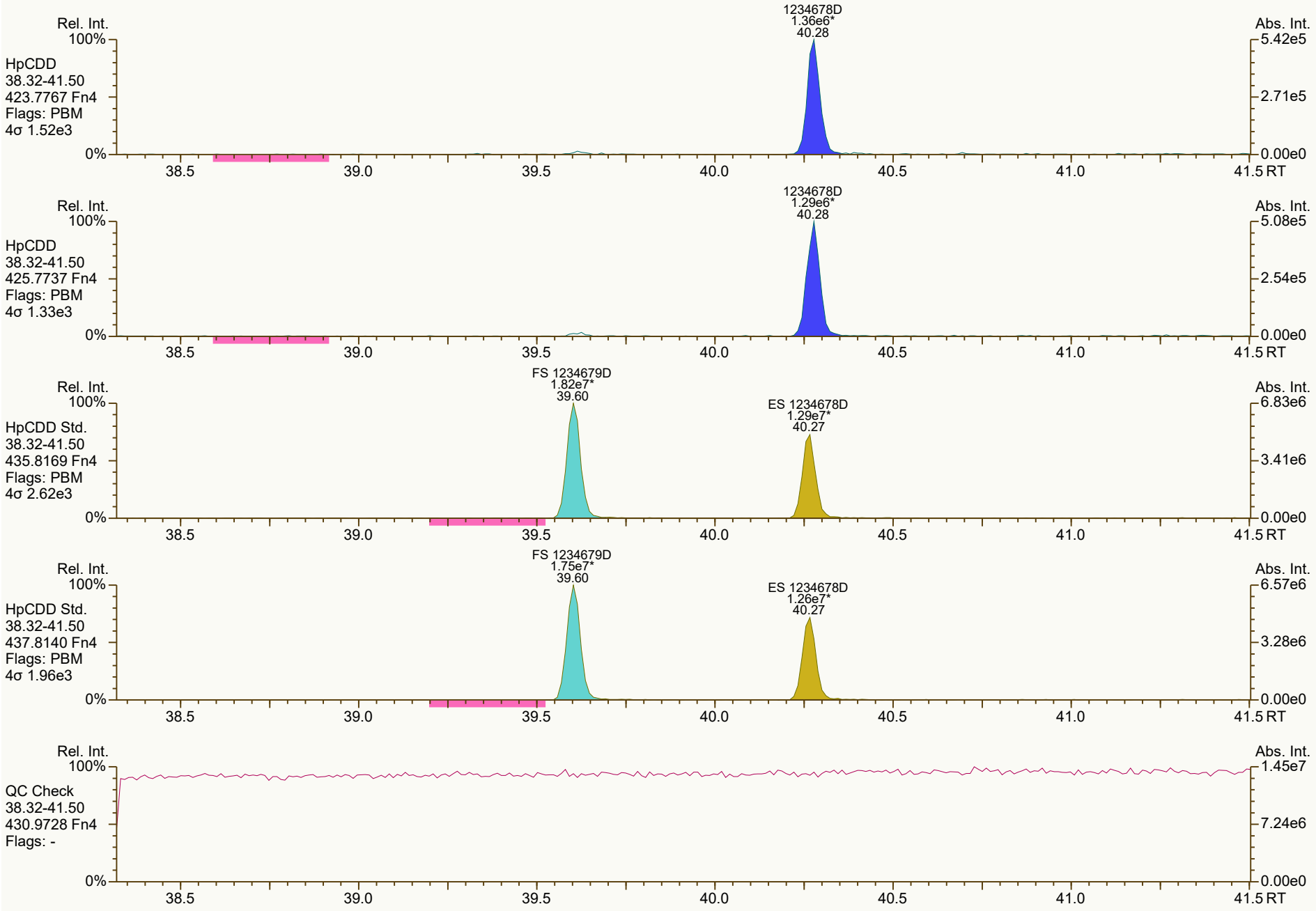
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

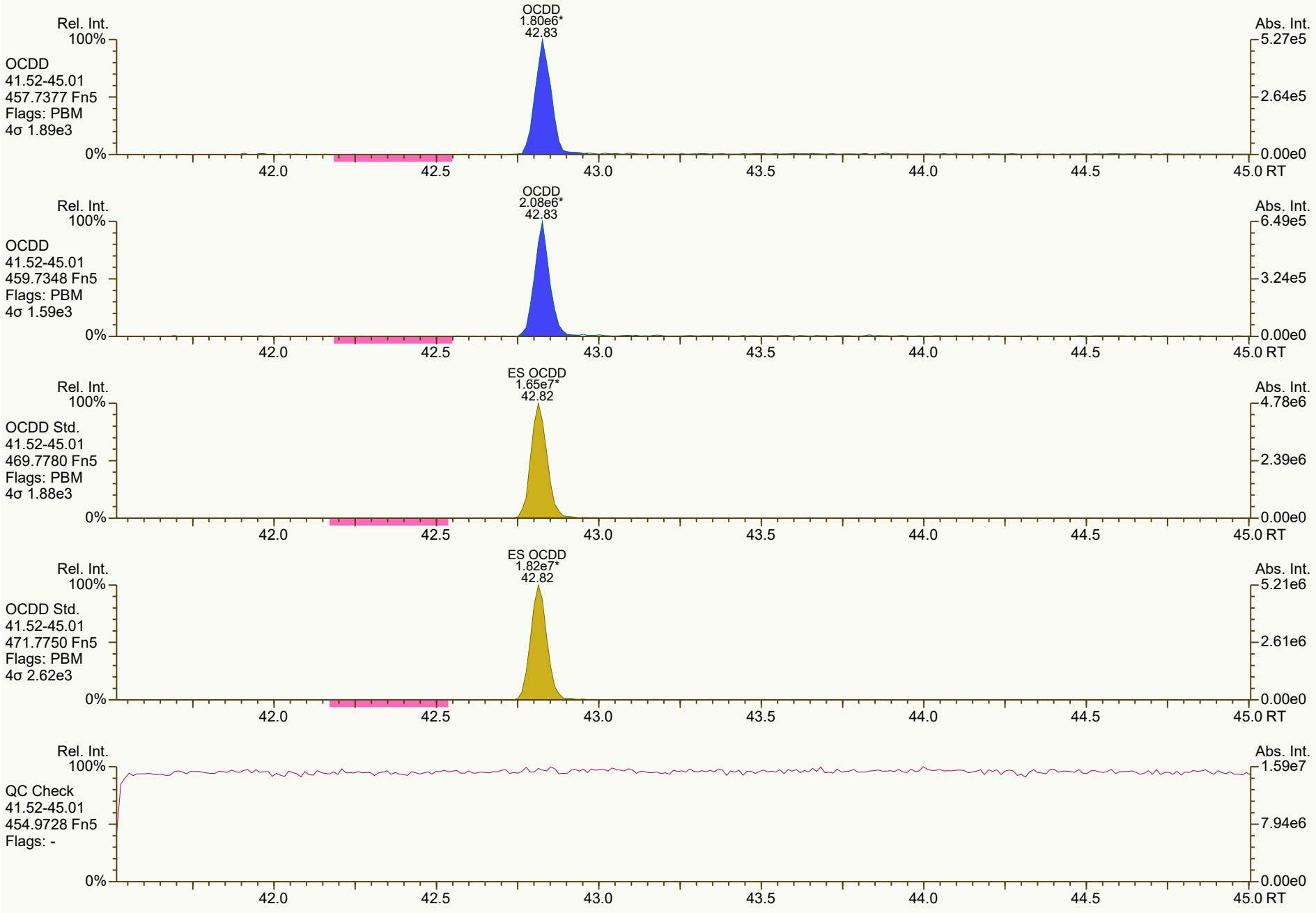

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0

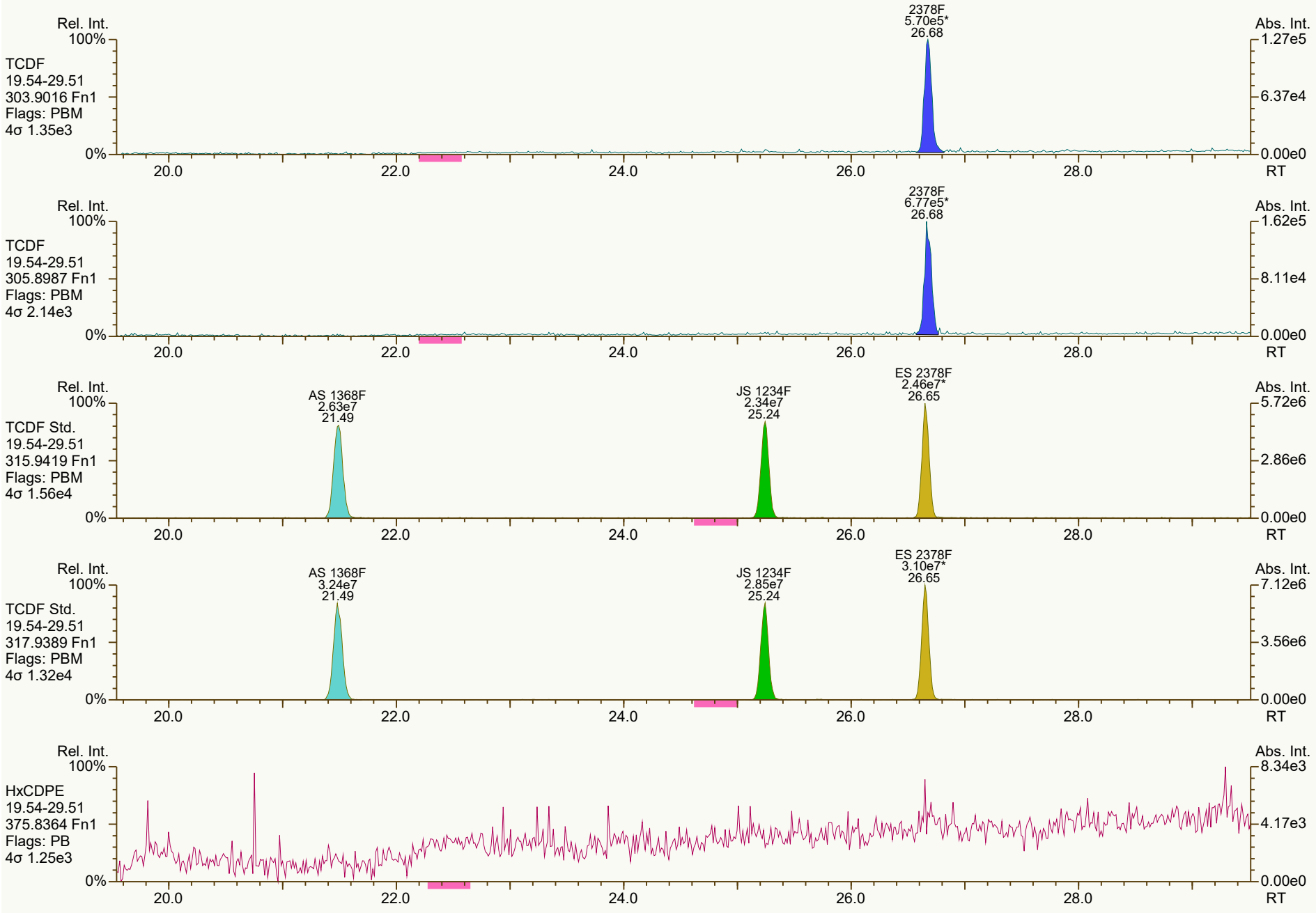

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

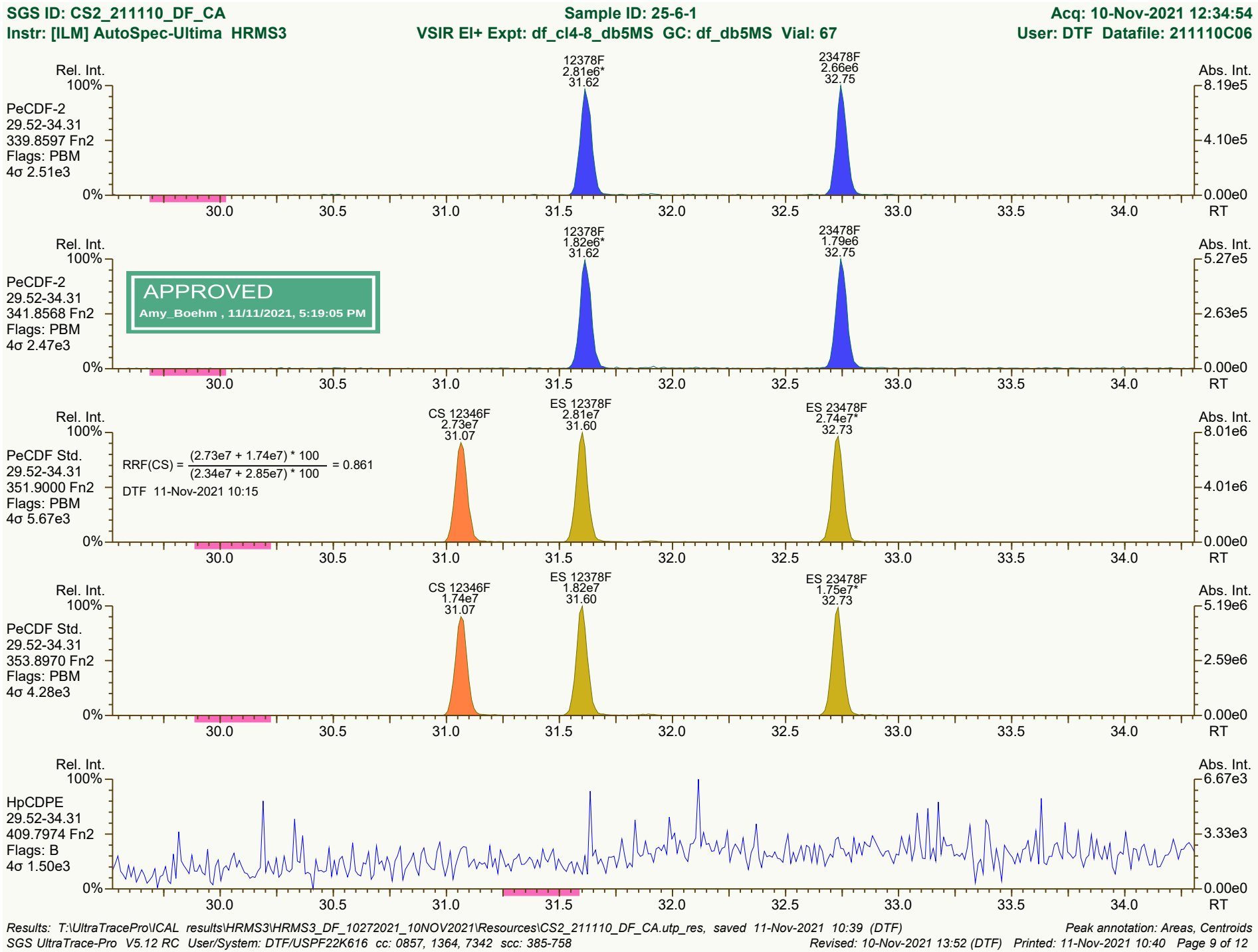

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
4.28e5
2.14e5
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
6.48e6
3.24e6
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
5.04e6
2.52e6
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.33e7
1.17e7

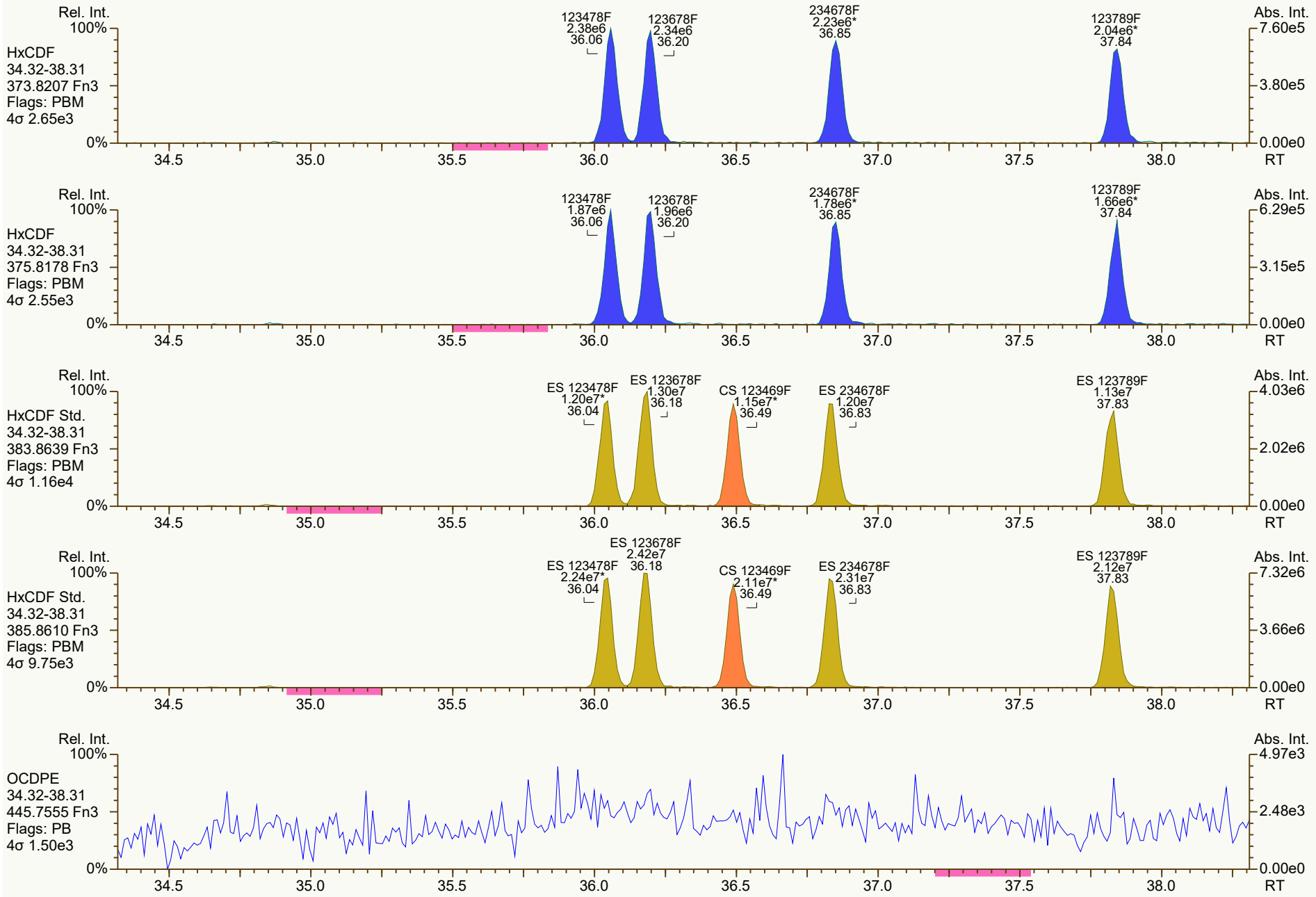

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

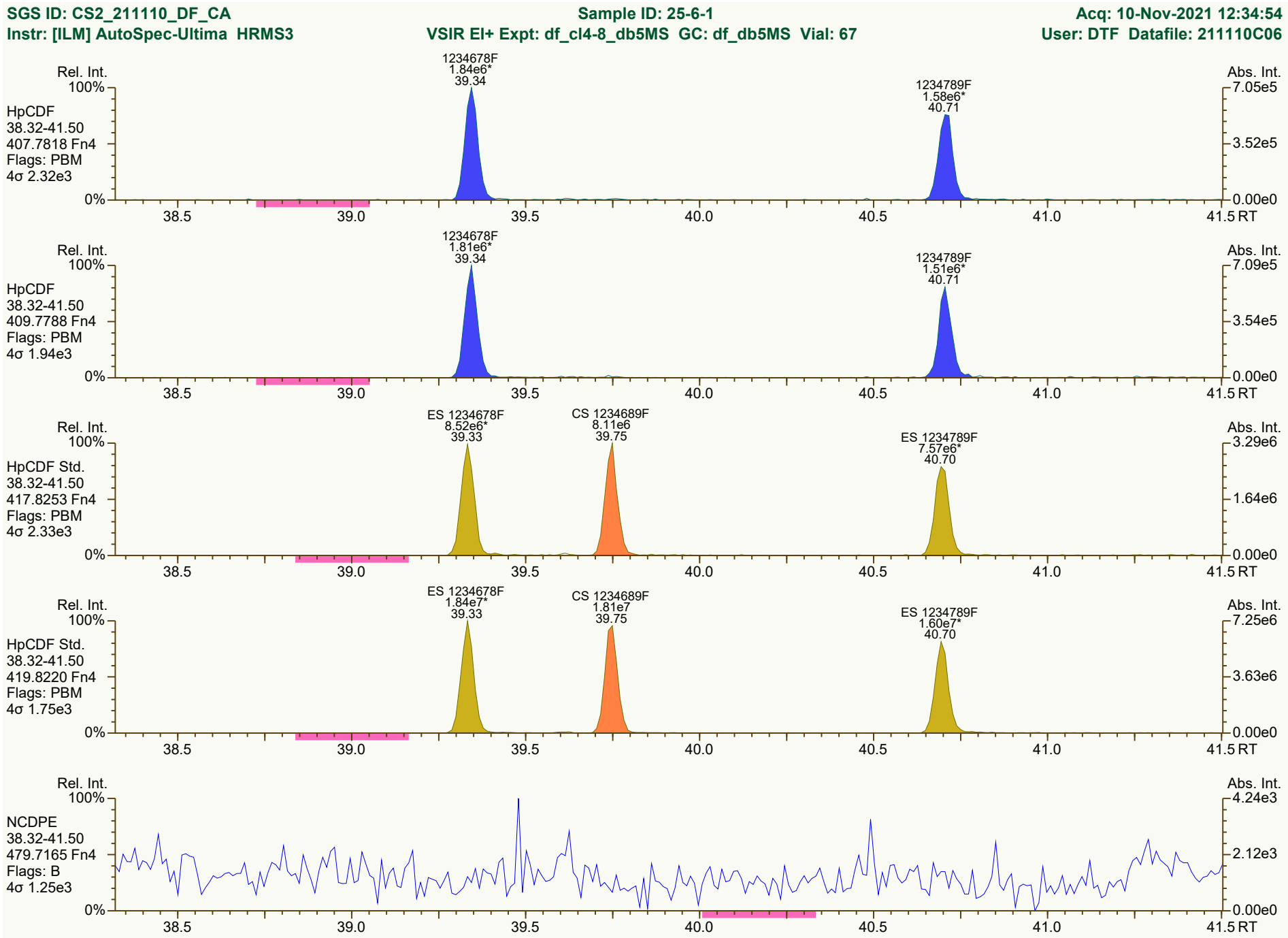

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

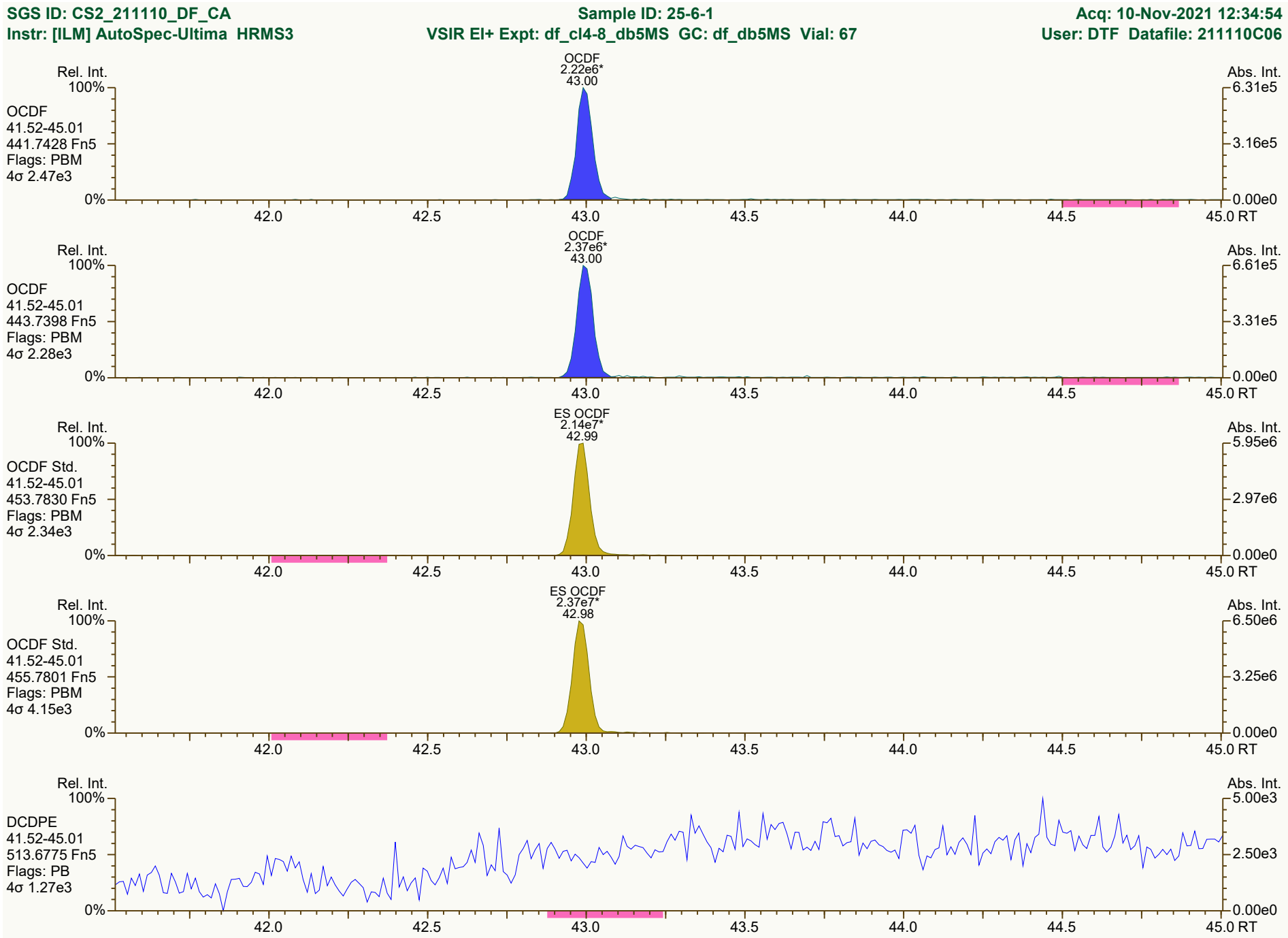

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
0%
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
0%
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
0%
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
0%
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
8.19e5
4.10e5
0.00e0
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
5.27e5
2.63e5
0.00e0
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
8.01e6
4.01e6
0.00e0
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
5.19e6
2.59e6
0.00e0
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
6.67e3
3.33e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0857, 1364, 7342 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 9 of 12


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
6.29e5
3.15e5
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
4.03e6
2.02e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
ES 123478F
2.24e7*
36.04
ES 123678F
2.42e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
7.32e6
3.66e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
4.97e3
2.48e3


SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
7.05e5
3.52e5
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
7.09e5
3.54e5
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
3.29e6
1.64e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
7.25e6
3.63e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
4.24e3
2.12e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9701, 2681, 3728 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 11 of 12

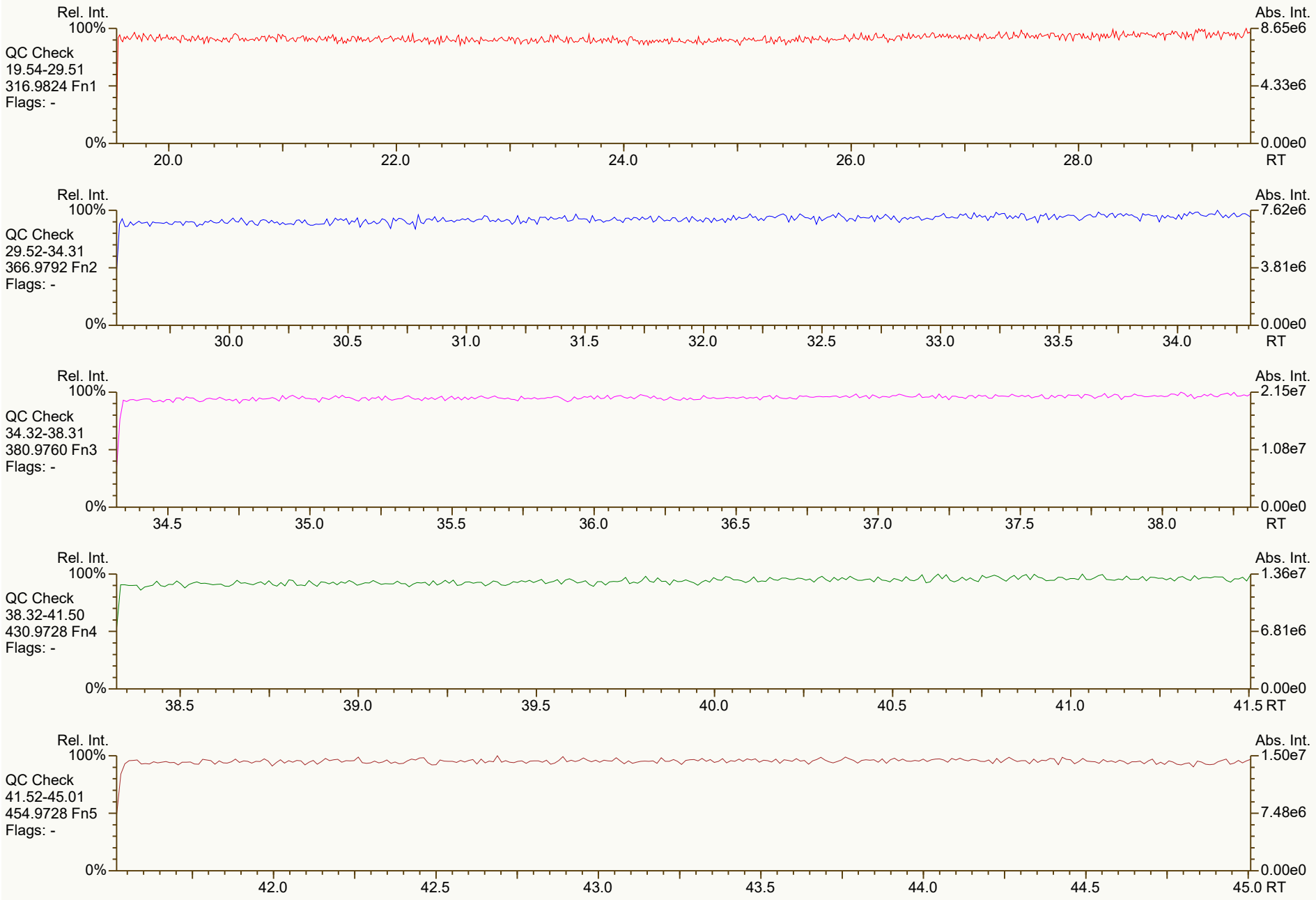

SGS ID: CS2_211110_DF_CA
Sample ID: 25-6-1
Acq: 10-Nov-2021 12:34:54
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 67
User: DTF Datafile: 211110C06
Rel. Int.
Abs. Int.
OCDF
2.22e6*
43.00
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
6.31e5
3.16e5
0.00e0
OCDF
2.37e6*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
6.61e5
3.31e5
0.00e0
ES OCDF
2.14e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
5.95e6
2.97e6
0.00e0
ES OCDF
2.37e7*
42.98
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
6.50e6
3.25e6
0.00e0
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
5.00e3
2.50e3
0.00e0
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS2_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 5547, 1929, 8450 scc: 385-758
Revised: 10-Nov-2021 13:52 (DTF) Printed: 11-Nov-2021 10:40 Page 12 of 12

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

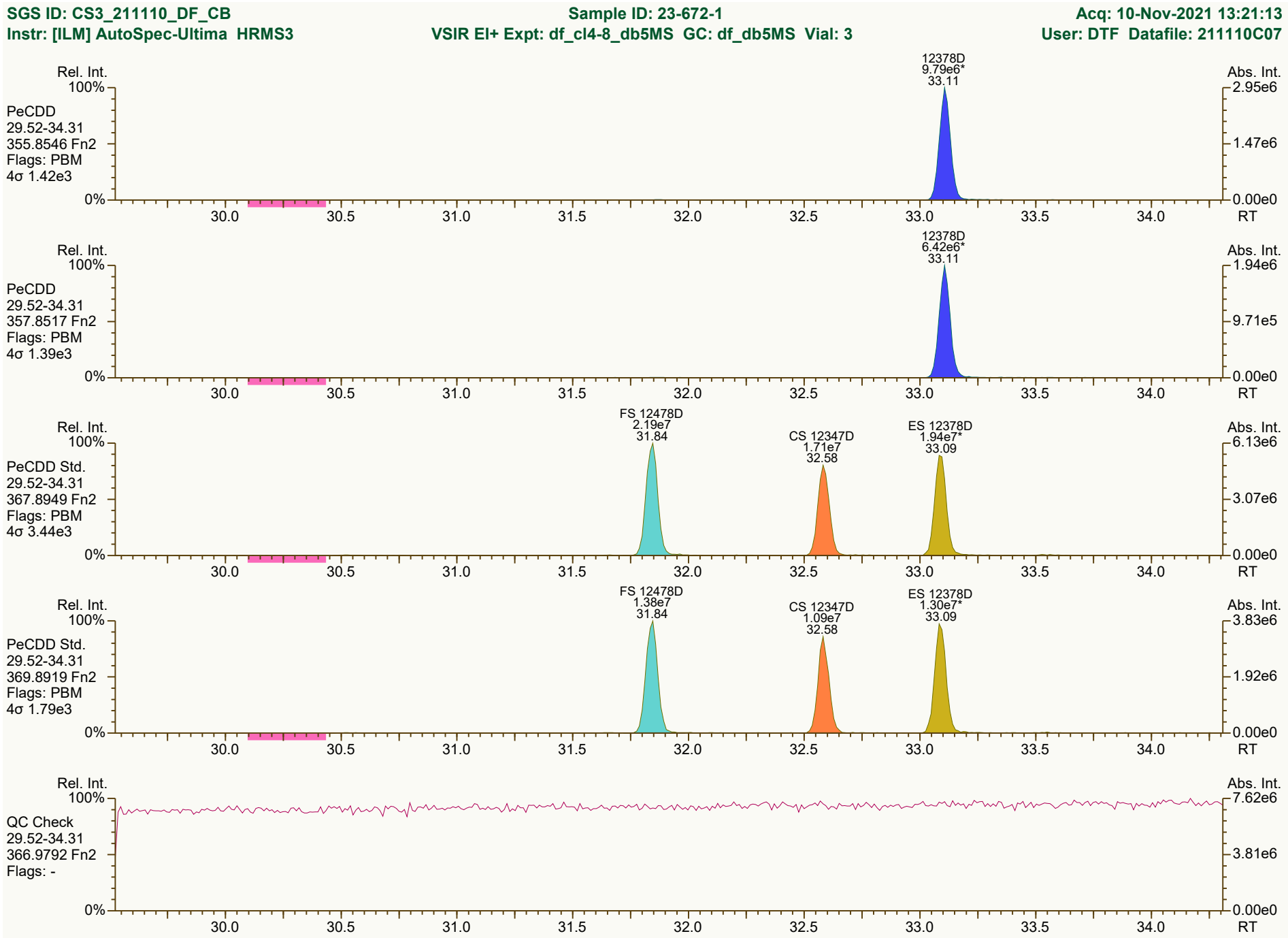
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%

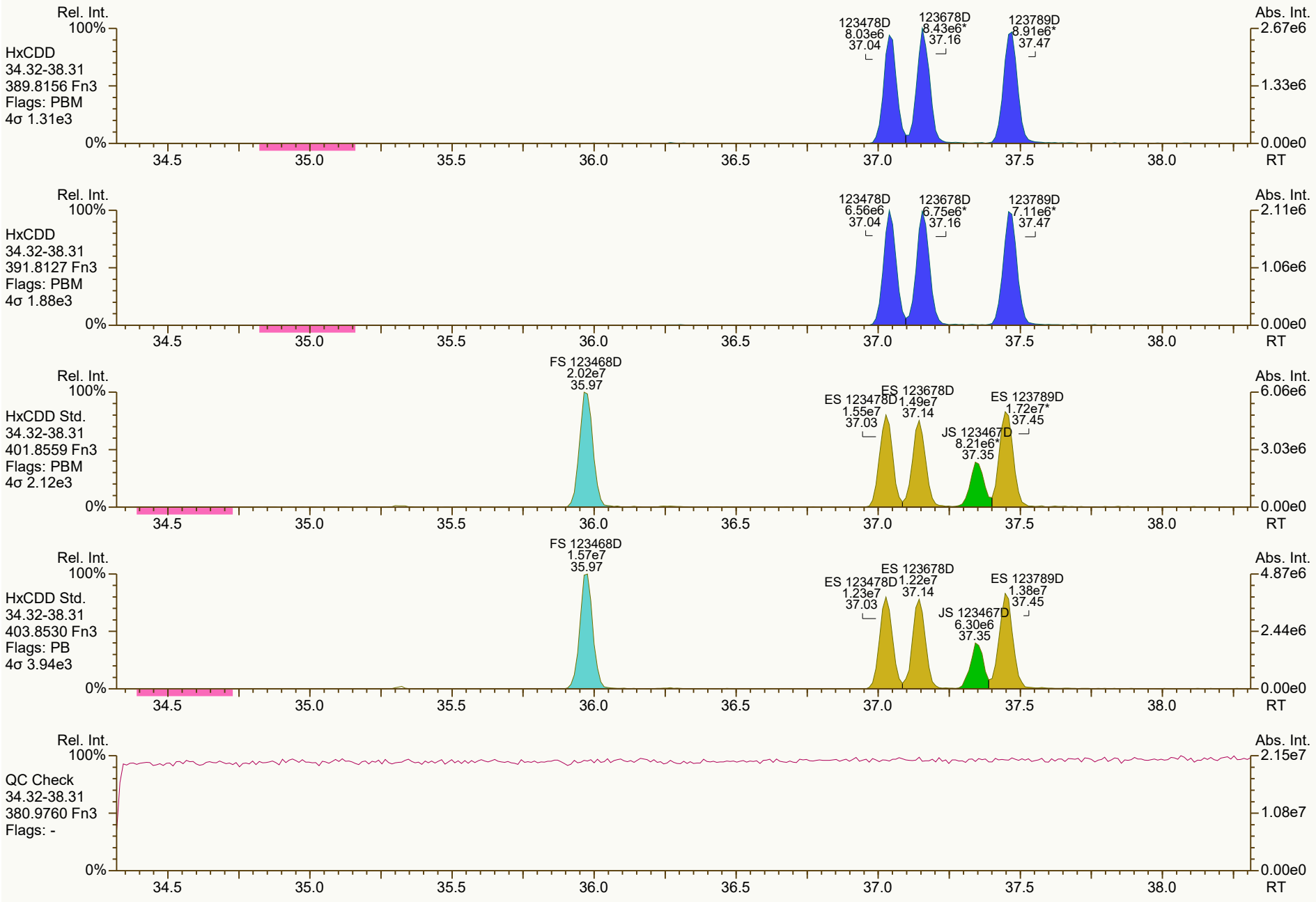

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0

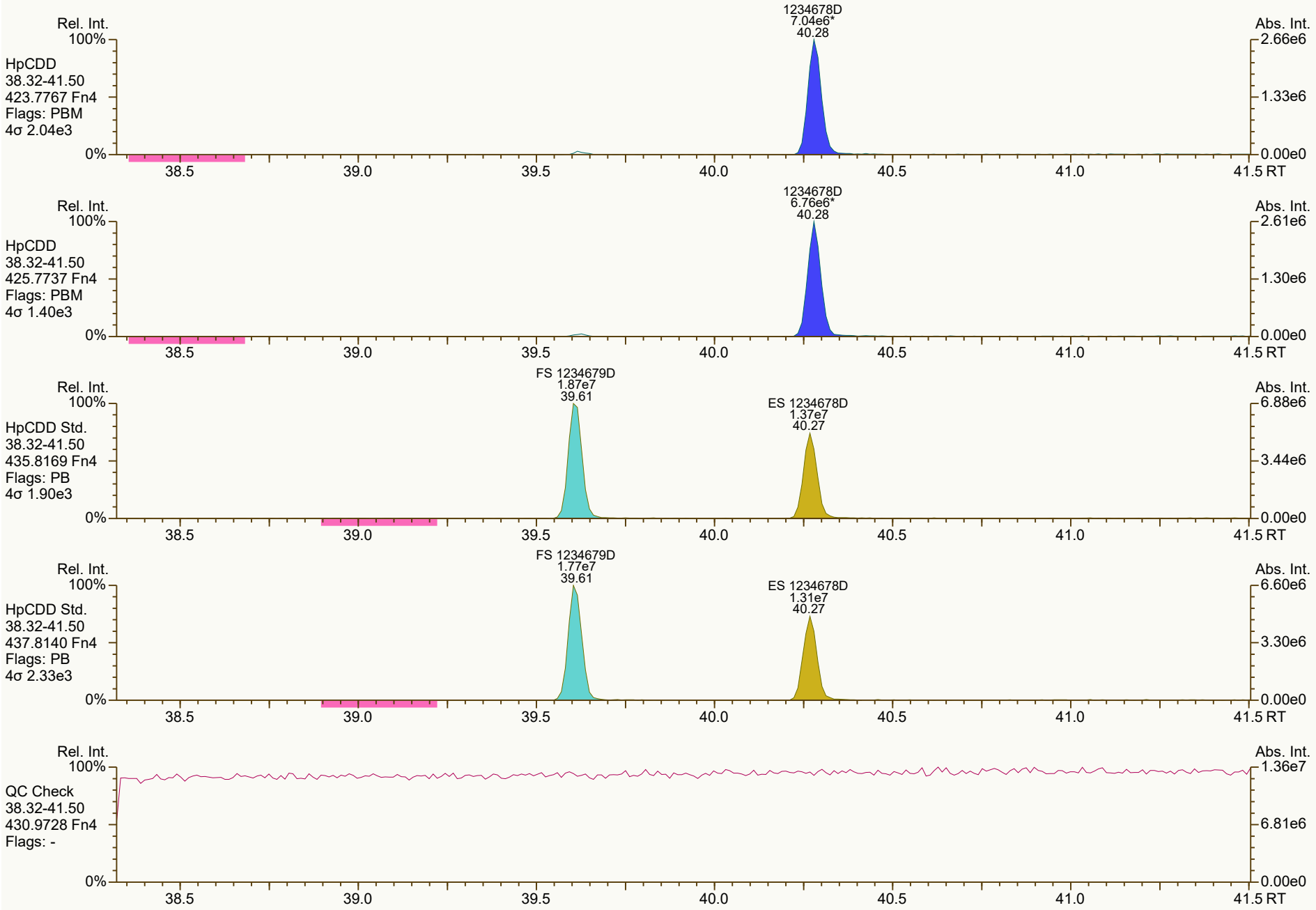

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
0%
2378D
1.99e6
27.60
Abs. Int.
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
0%
2378D
2.55e6
27.60
Abs. Int.
5.98e5
2.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
Abs. Int.
1.03e6
5.16e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
0%
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
Abs. Int.
4.80e6
2.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
0%
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT



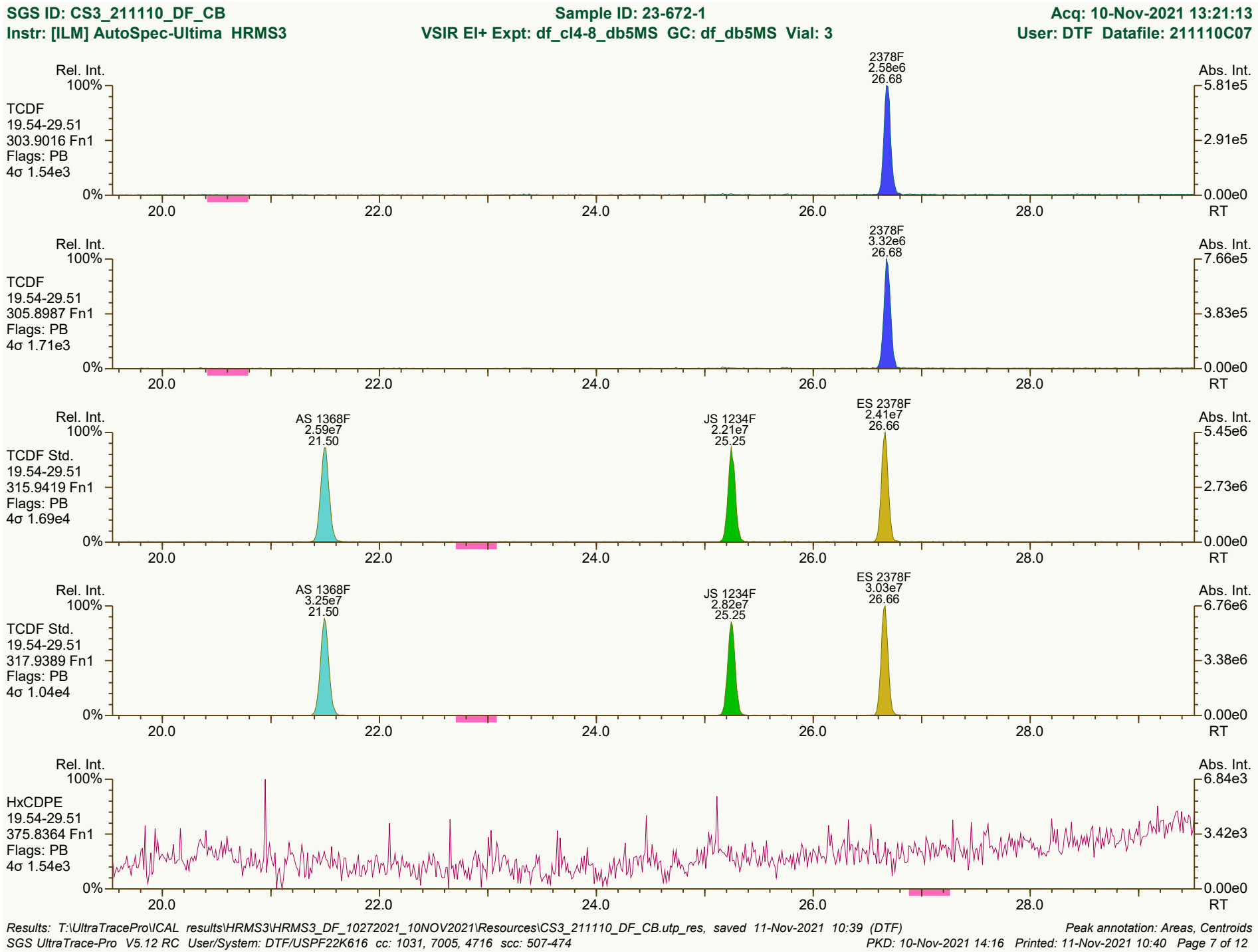
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3355, 9798 scc: 507-474 *Revised: 10-Nov-2021 14:17 (DTF) Printed: 11-Nov-2021 10:40 Page 3 of 12*

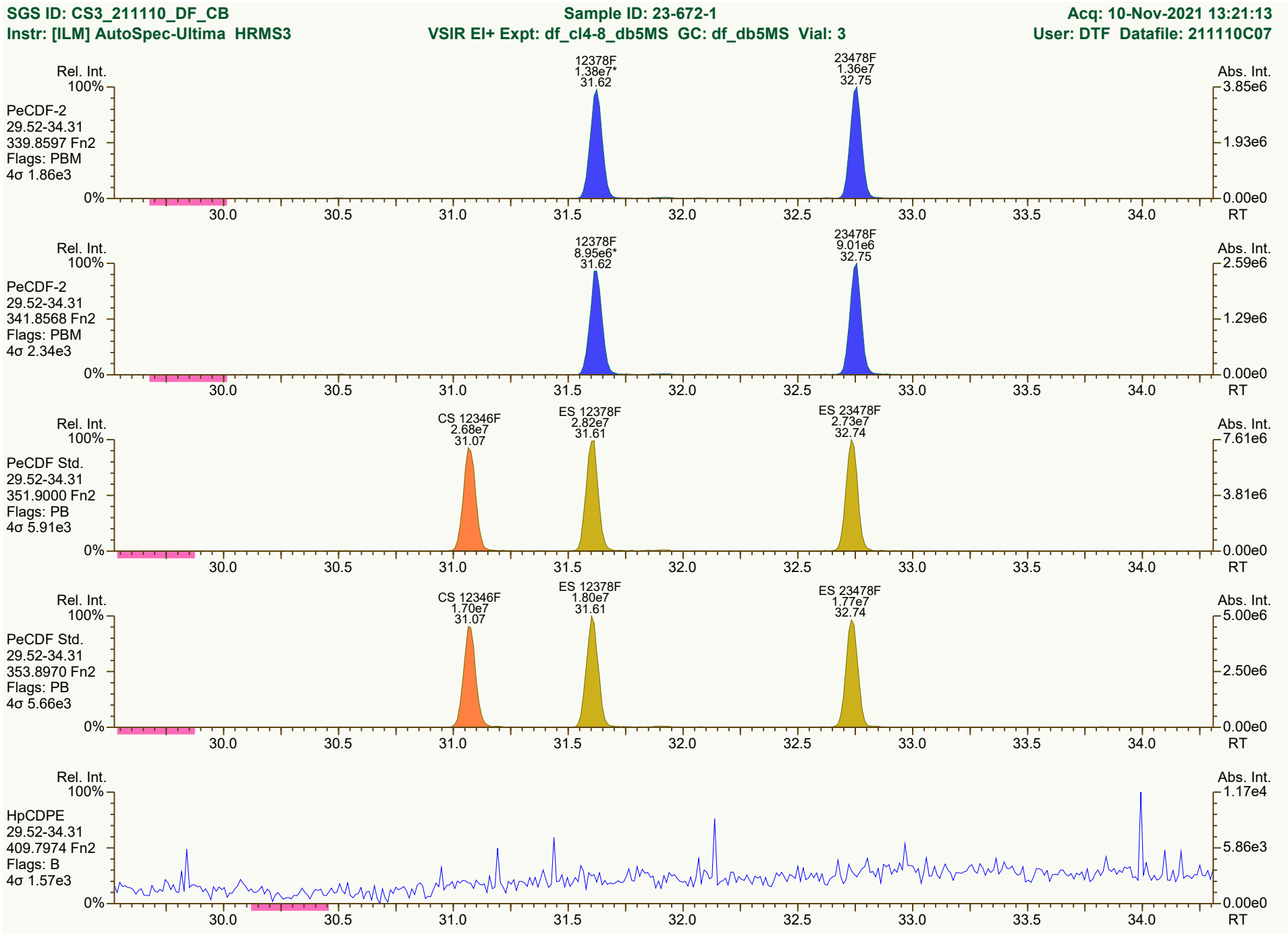

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
OCDD
9.25e6*
42.83
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
OCDD
1.02e7*
42.83
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
ES OCDD
1.70e7
42.82
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
ES OCDD
1.86e7
42.82
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

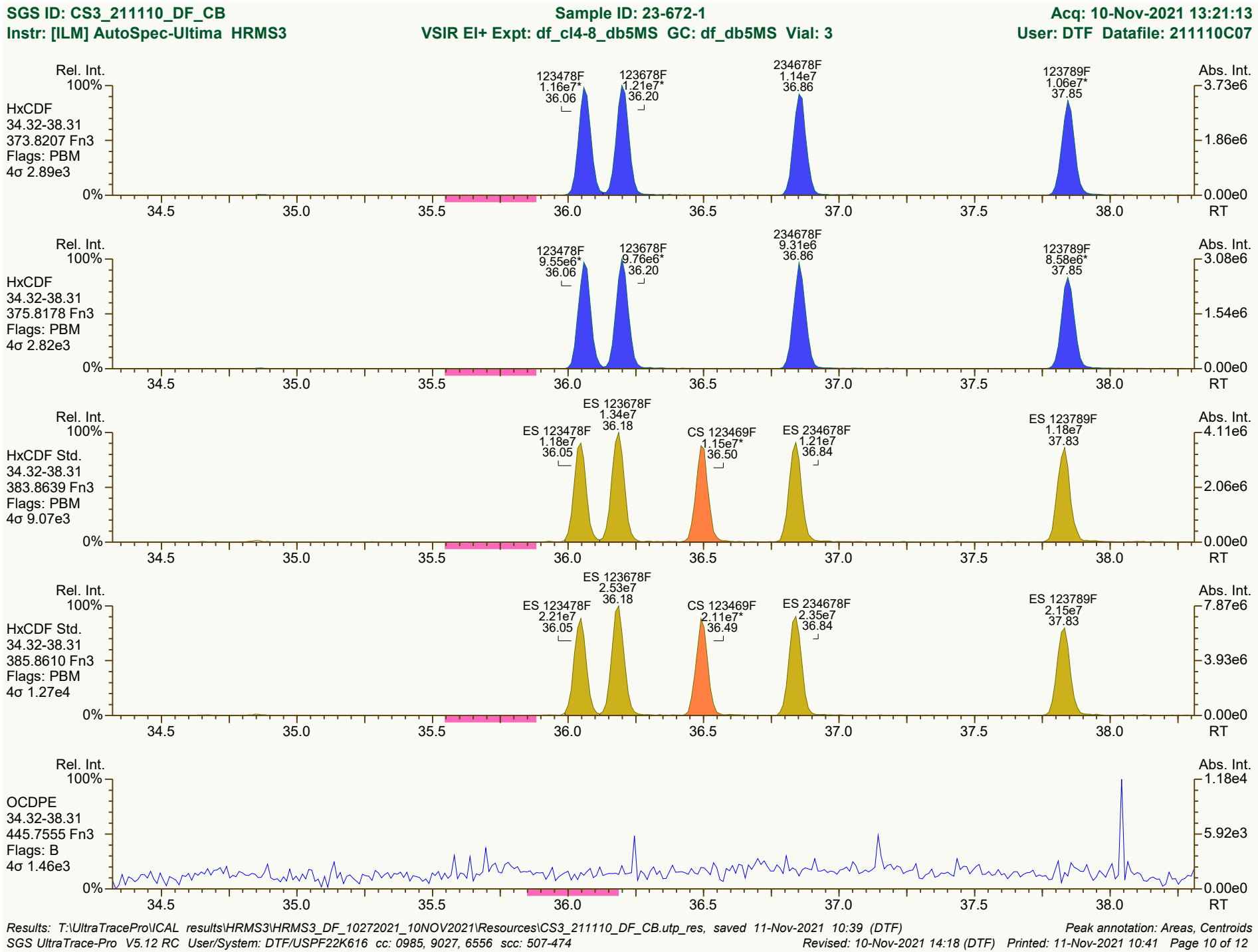

SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
2378F
2.58e6
26.68
5.81e5
2.91e5
0.00e0
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
2378F
3.32e6
26.68
7.66e5
3.83e5
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
5.45e6
2.73e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
6.76e6
3.38e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
6.84e3
3.42e3
0%
100%
20.0
22.0
24.0
26.0
28.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 1031, 7005, 4716 scc: 507-474
PKD: 10-Nov-2021 14:16 Printed: 11-Nov-2021 10:40 Page 7 of 12

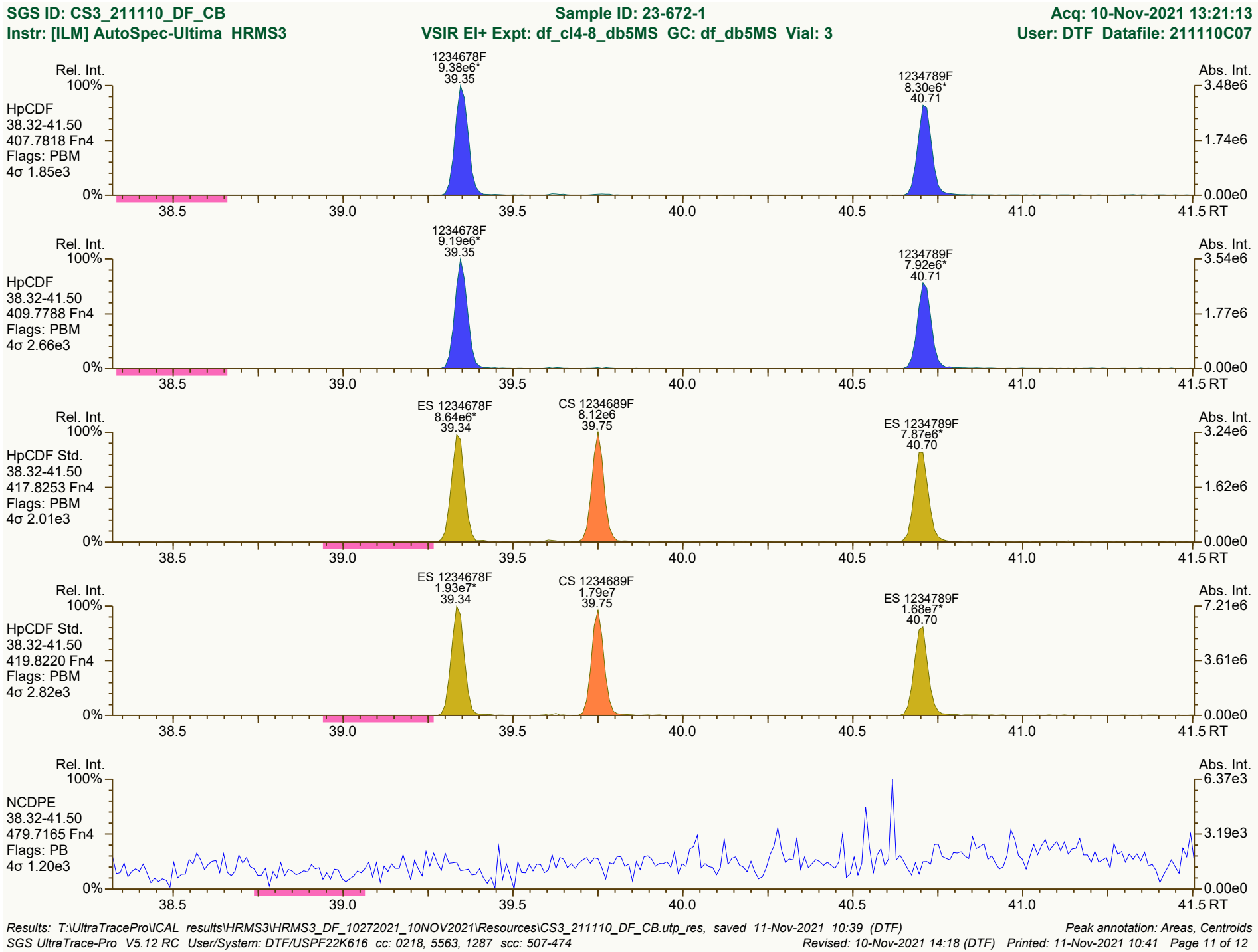

Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0728, 8378, 8418 scc: 507-474 *Revised: 10-Nov-2021 14:17 (DTF) Printed: 11-Nov-2021 10:41 Page 9 of 12*


SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
123478F 1.16e7* 36.06
123678F 1.21e7* 36.20
234678F 1.14e7 36.86
123789F 1.06e7* 37.85
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
123478F 9.55e6* 36.06
123678F 9.76e6* 36.20
234678F 9.31e6 36.86
123789F 8.58e6* 37.85
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
ES 123478F 1.18e7 36.05
ES 123678F 1.34e7 36.18
CS 123469F 1.15e7* 36.50
ES 234678F 1.21e7 36.84
ES 123789F 1.18e7 37.83
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
ES 123478F 2.21e7 36.05
ES 123678F 2.53e7 36.18
CS 123469F 2.11e7* 36.49
ES 234678F 2.35e7 36.84
ES 123789F 2.15e7 37.83
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
100%
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
3.73e6
1.86e6
0.00e0
3.08e6
1.54e6
4.11e6
2.06e6
7.87e6
3.93e6
1.18e4
5.92e3
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0985, 9027, 6556 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 10 of 12

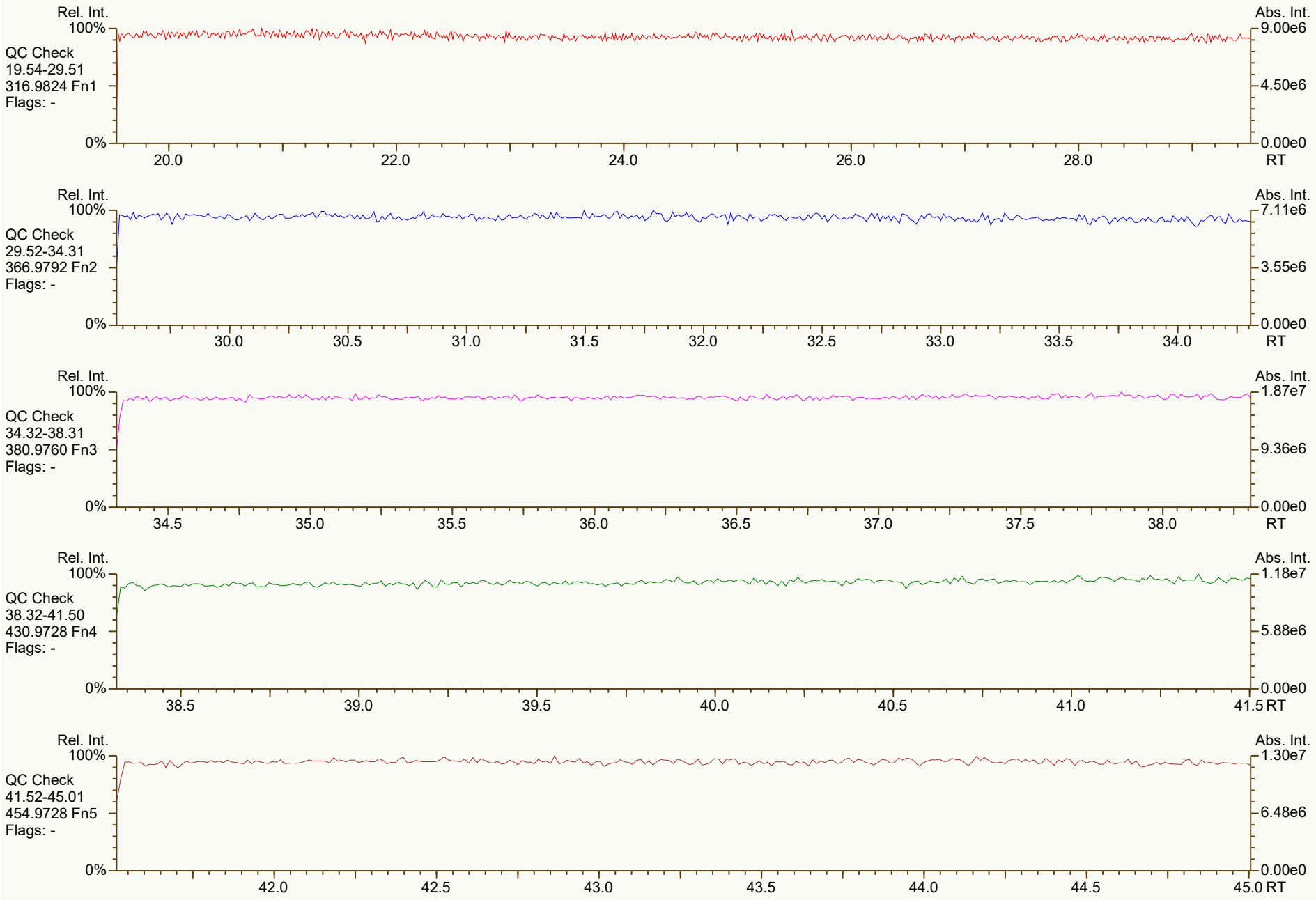

SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
3.48e6
1.74e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
3.54e6
1.77e6
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
3.24e6
1.62e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
7.21e6
3.61e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
6.37e3
3.19e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0218, 5563, 1287 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

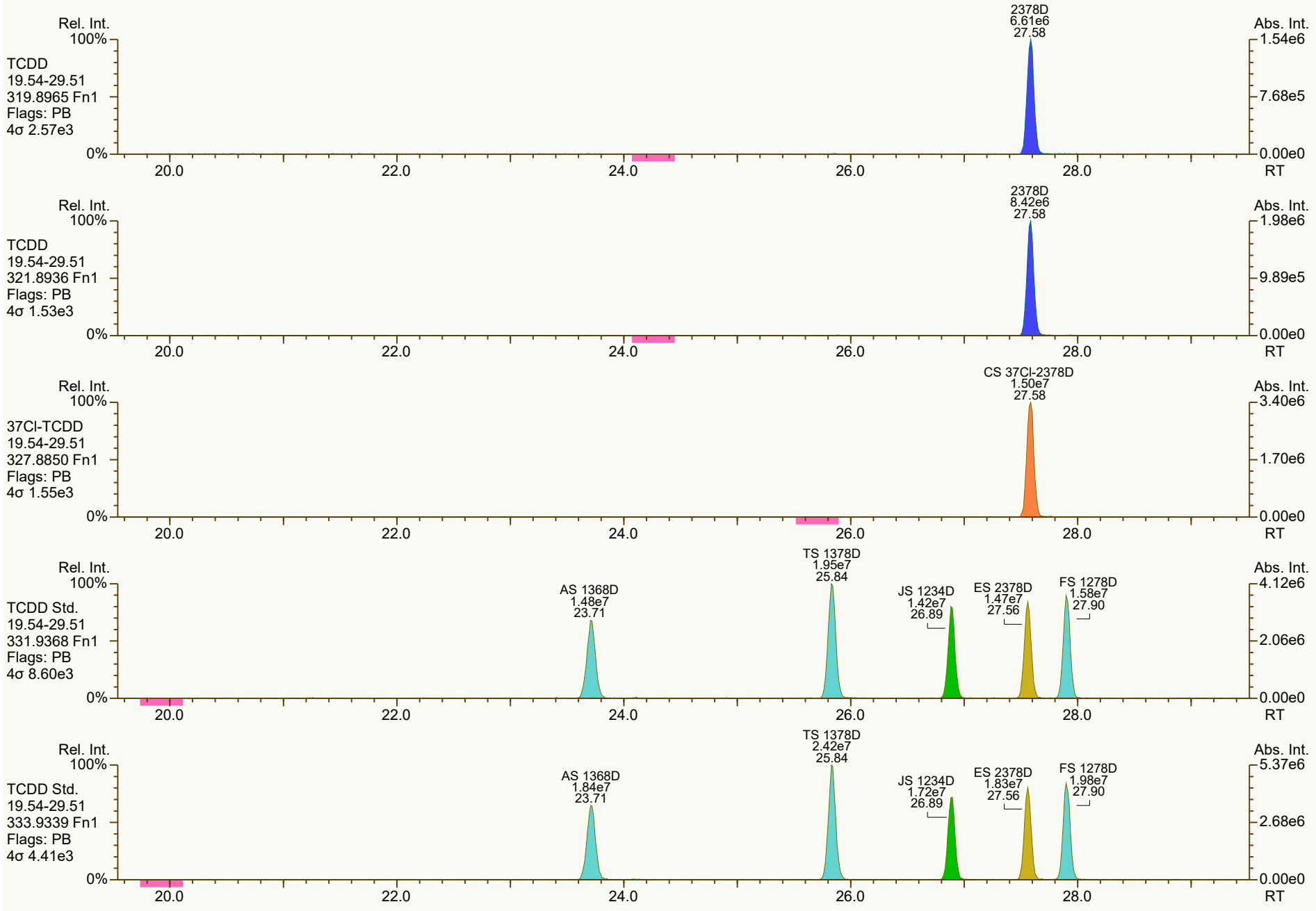

OCDF
1.15e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
3.25e6
1.62e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
1.28e7*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
0%
Abs. Int.
3.53e6
1.76e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.21e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
0%
Abs. Int.
6.08e6
3.04e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.39e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
0%
Abs. Int.
6.65e6
3.32e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
0%
Abs. Int.
4.82e3
2.41e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

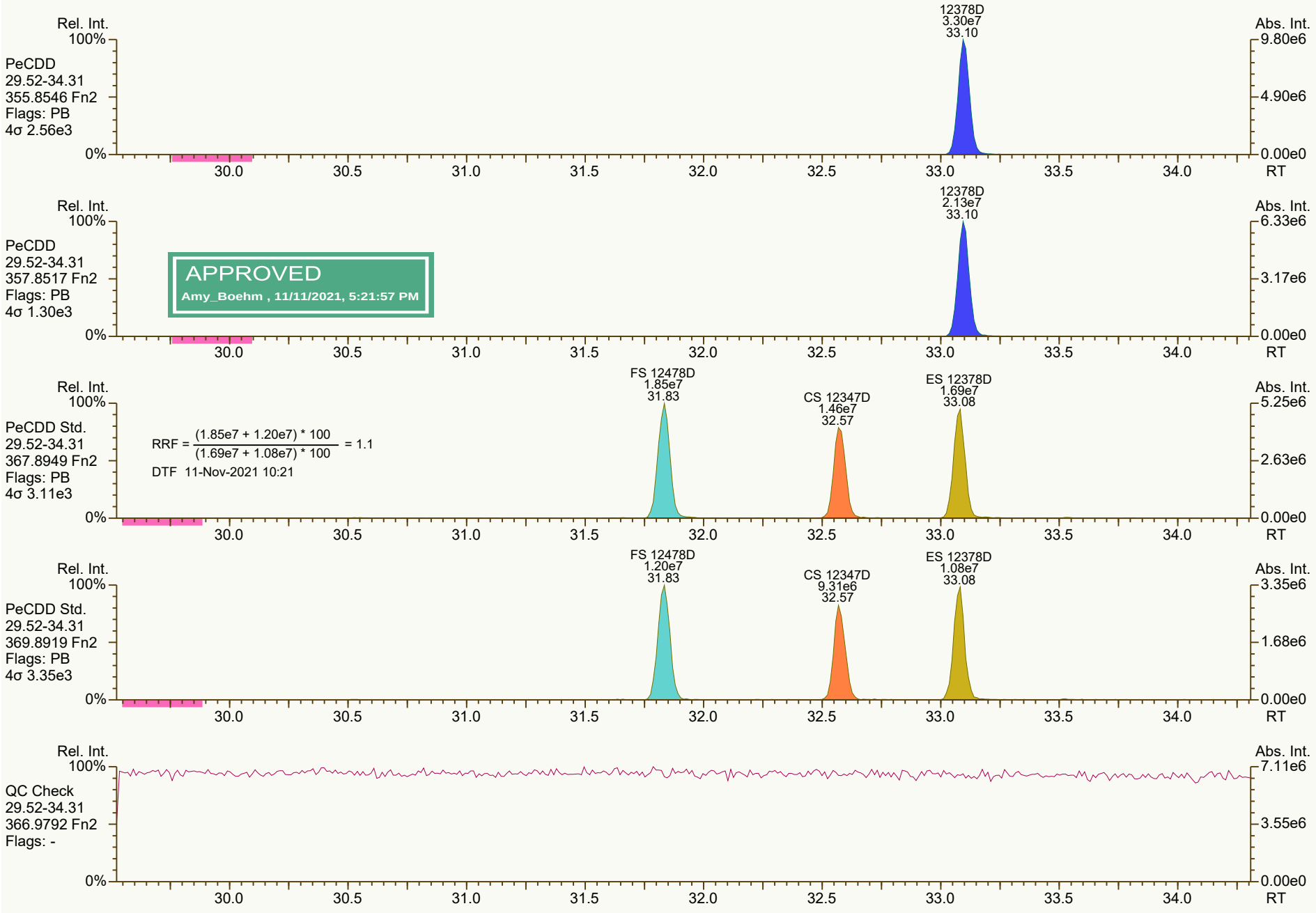
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

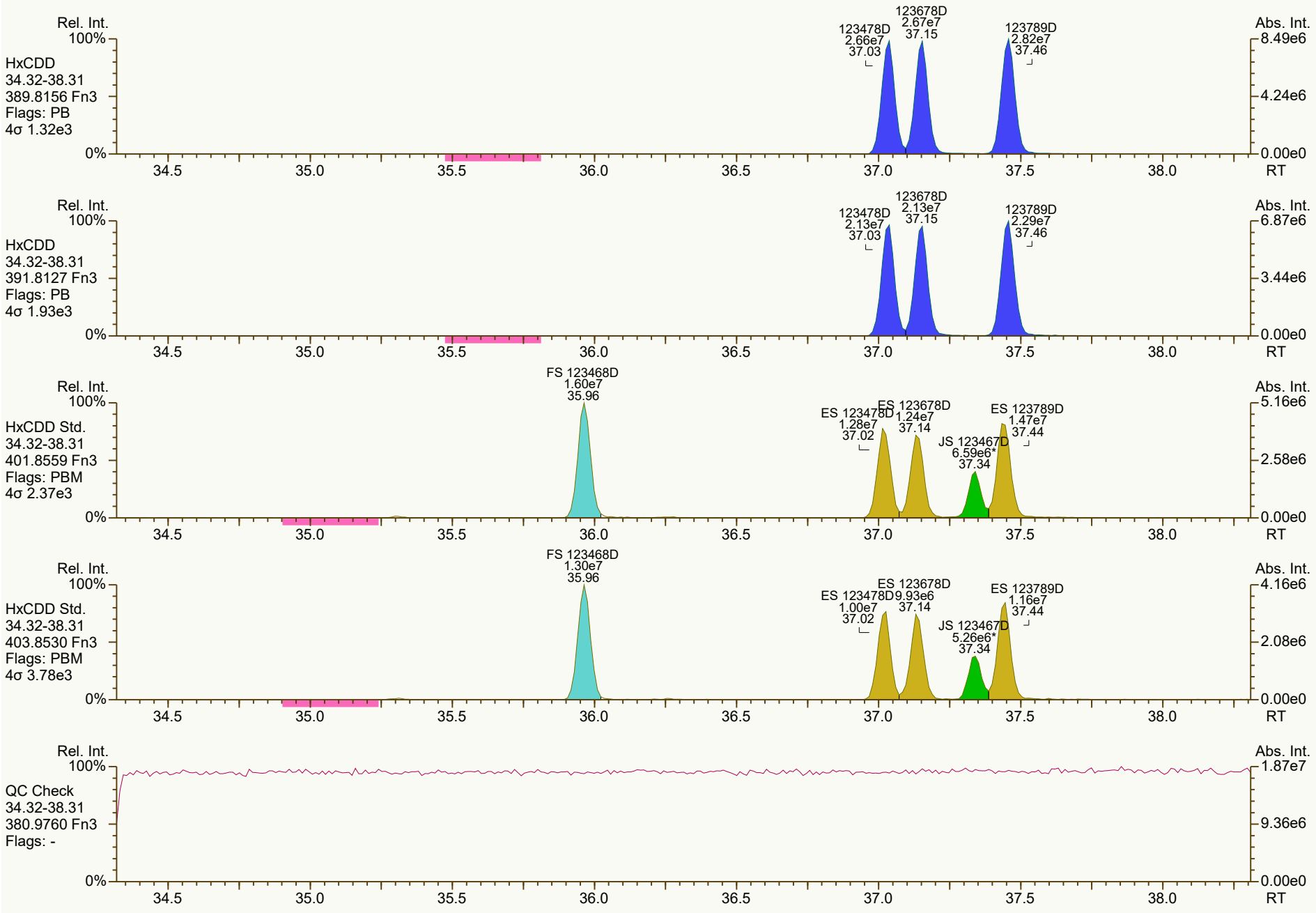
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

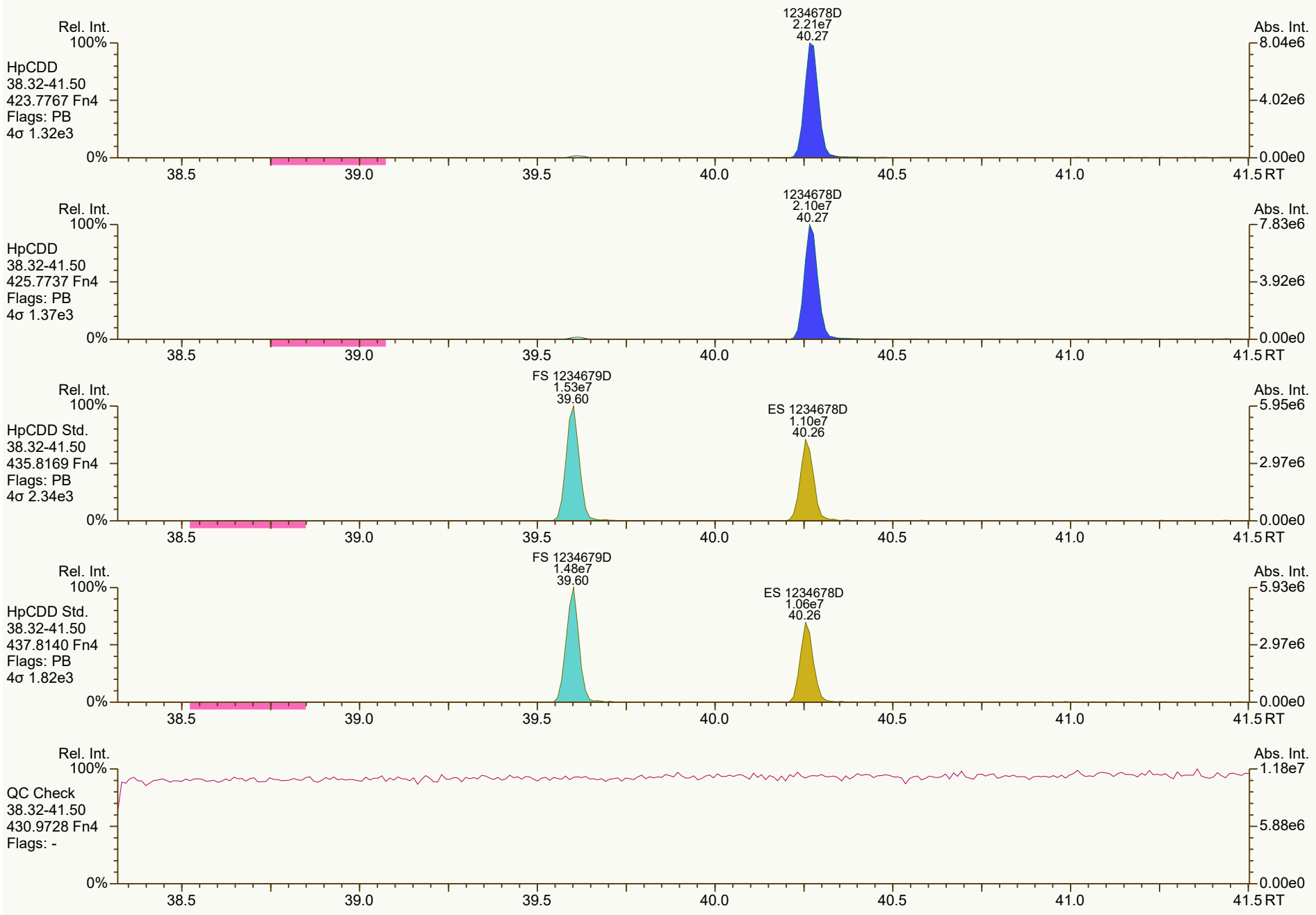
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:07 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS4_211110_DF_CA		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 855-576-PGM	
Sample ID: 25-5-4		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C08	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

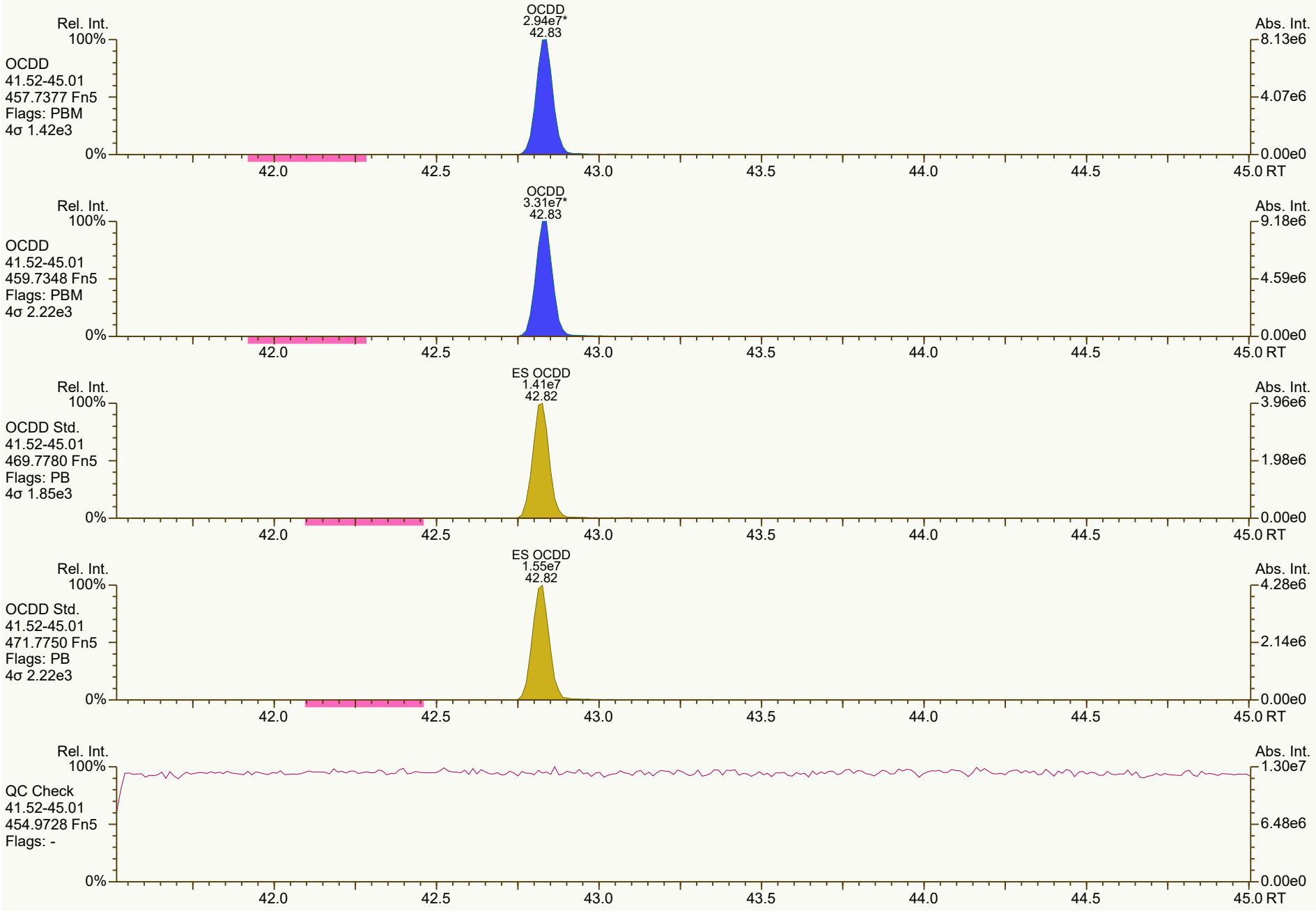

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.00e6
4.50e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.11e6
3.55e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.87e7
9.36e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.18e7
5.88e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.30e7
6.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
12378D
2.13e7
33.10
6.33e6
3.17e6
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
5.25e6
2.63e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
3.35e6
1.68e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
7.11e6
3.55e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
0%
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
0%
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
0%
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
0%
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.18e7
5.88e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

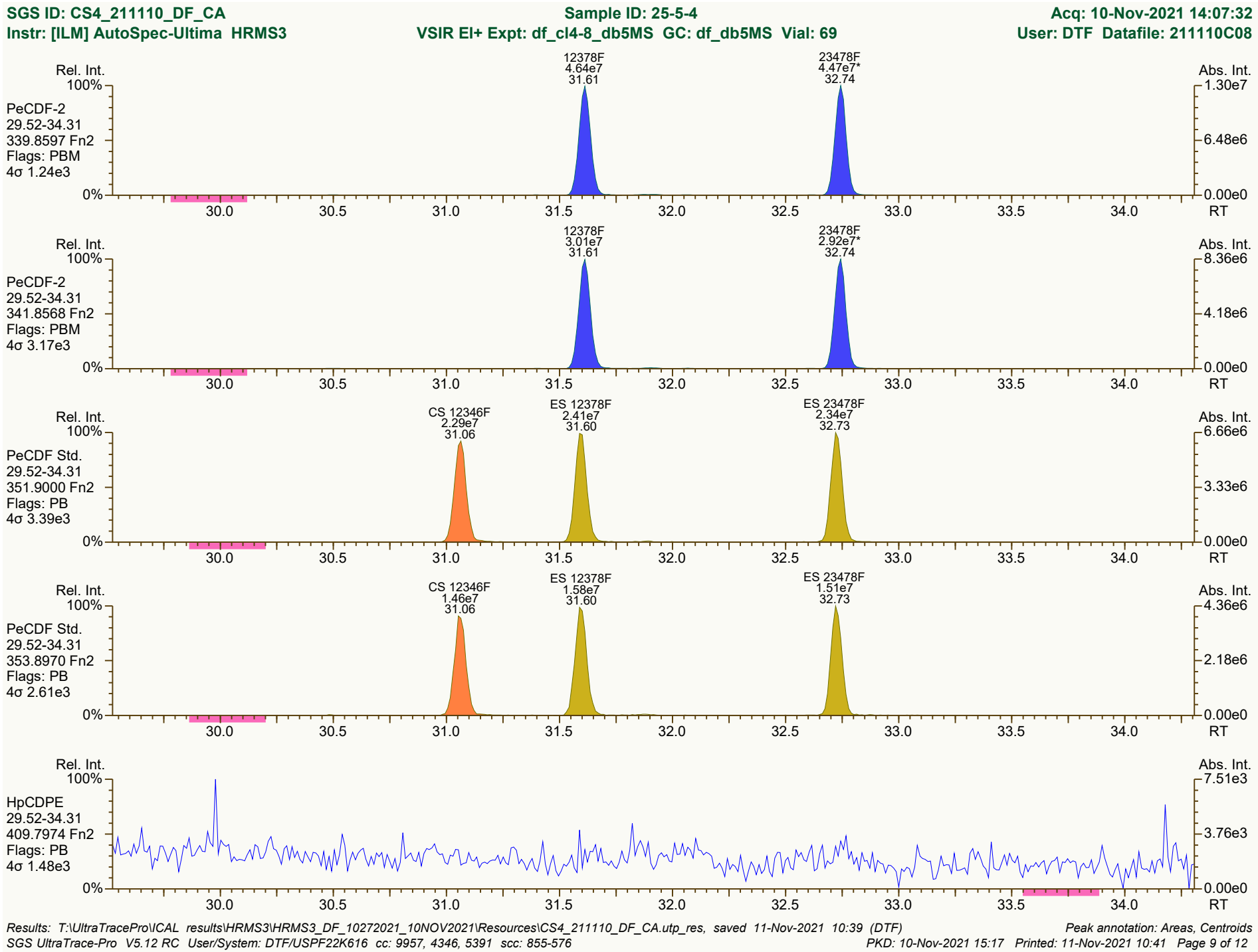

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
RT
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
8.94e3
4.47e3
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
9.00e6
4.50e6
20.0
22.0
24.0
26.0
28.0

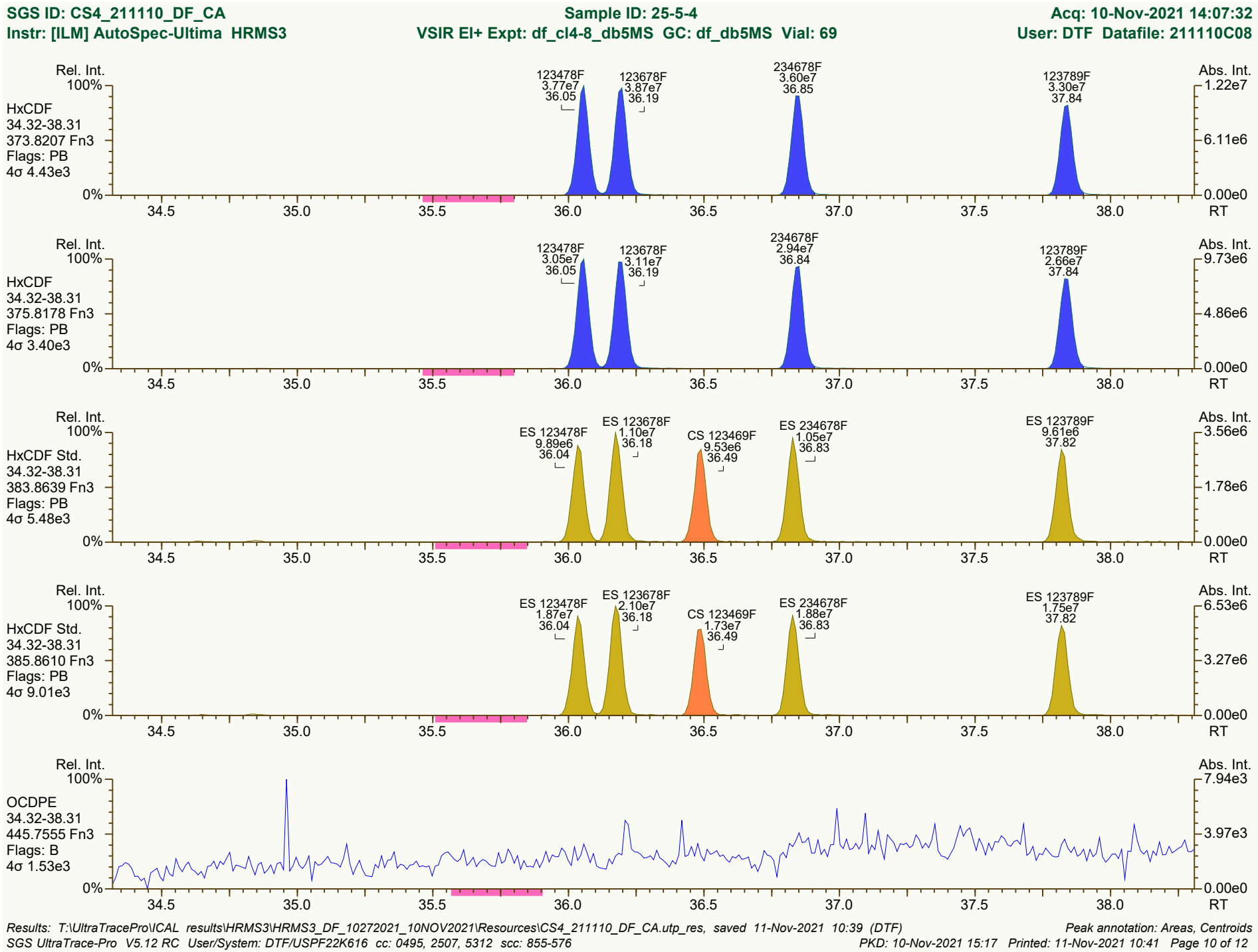
SGS ID: CS4_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

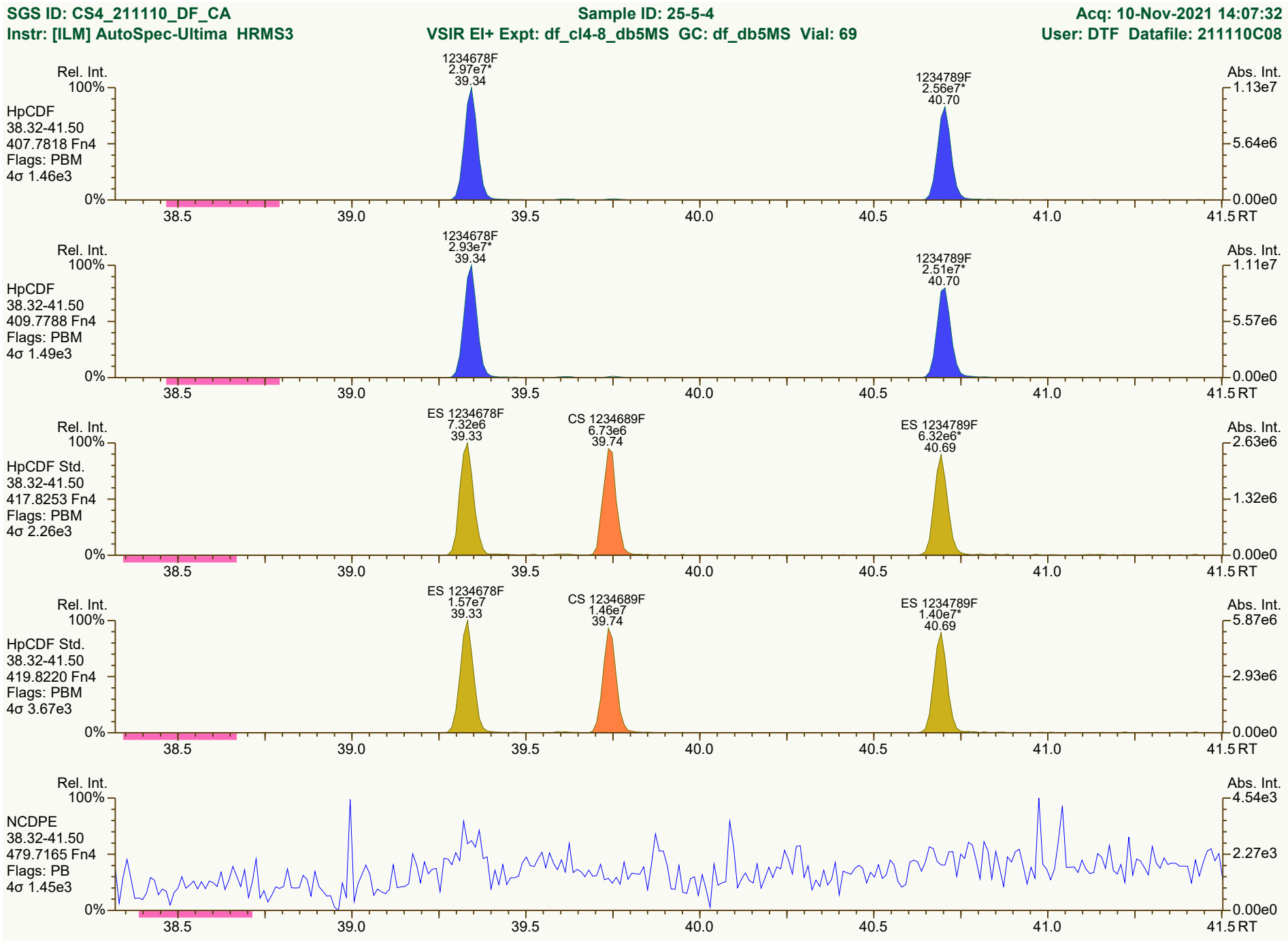
Sample ID: 25-5-4
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69

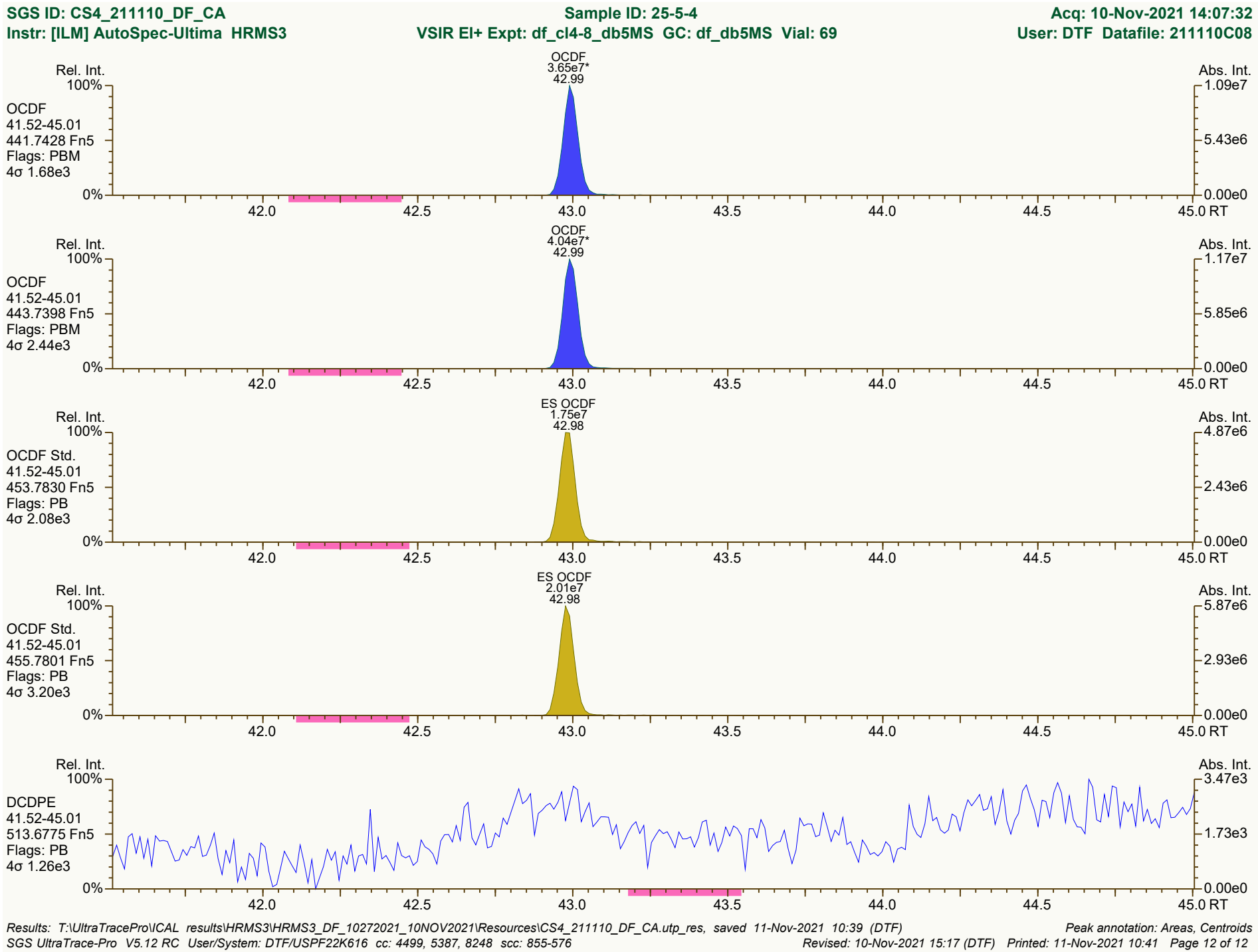
Acq: 10-Nov-2021 14:07:32
User: DTF Datafile: 211110C08



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9957, 4346, 5391 scc: 855-576
PKD: 10-Nov-2021 15:17 Printed: 11-Nov-2021 10:41 Page 9 of 12


SGS ID: CS4_211110_DF_CA
Sample ID: 25-5-4
Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 211110C08
Rel. Int.
Abs. Int.
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
123478F 3.77e7 36.05
123678F 3.87e7 36.19
234678F 3.60e7 36.85
123789F 3.30e7 37.84
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F 3.05e7 36.05
123678F 3.11e7 36.19
234678F 2.94e7 36.84
123789F 2.66e7 37.84
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F 9.89e6 36.04
ES 123678F 1.10e7 36.18
CS 123469F 9.53e6 36.49
ES 234678F 1.05e7 36.83
ES 123789F 9.61e6 37.82
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F 1.87e7 36.04
ES 123678F 2.10e7 36.18
CS 123469F 1.73e7 36.49
ES 234678F 1.88e7 36.83
ES 123789F 1.75e7 37.82
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0495, 2507, 5312 scc: 855-576
PKD: 10-Nov-2021 15:17 Printed: 11-Nov-2021 10:41 Page 10 of 12


SGS ID: CS4_211110_DF_CA
Sample ID: 25-5-4
Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 211110C08
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
1.13e7
5.64e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
1.11e7
5.57e6
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
2.63e6
1.32e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
5.87e6
2.93e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
4.54e3
2.27e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 2764, 9565, 4492 scc: 855-576
Revised: 10-Nov-2021 15:17 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12


SGS ID: CS4_211110_DF_CA
Sample ID: 25-5-4
Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 211110C08
Rel. Int.
Abs. Int.
OCDF
3.65e7*
42.99
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
1.09e7
5.43e6
0.00e0
OCDF
4.04e7*
42.99
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
1.17e7
5.85e6
ES OCDF
1.75e7
42.98
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
4.87e6
2.43e6
ES OCDF
2.01e7
42.98
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
5.87e6
2.93e6
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
3.47e3
1.73e3
100%
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4499, 5387, 8248 scc: 855-576
Revised: 10-Nov-2021 15:17 (DTF) Printed: 11-Nov-2021 10:41 Page 12 of 12

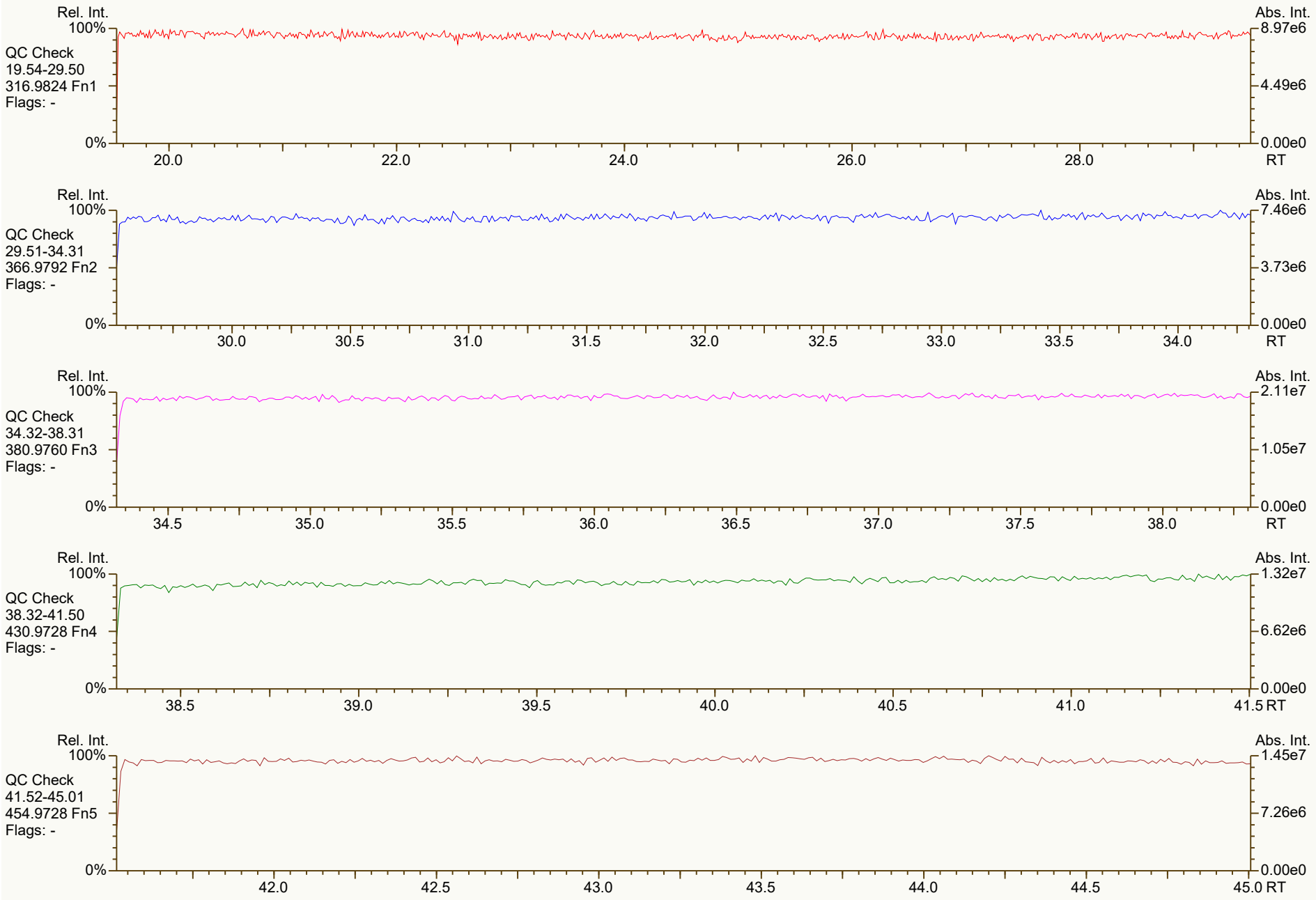
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

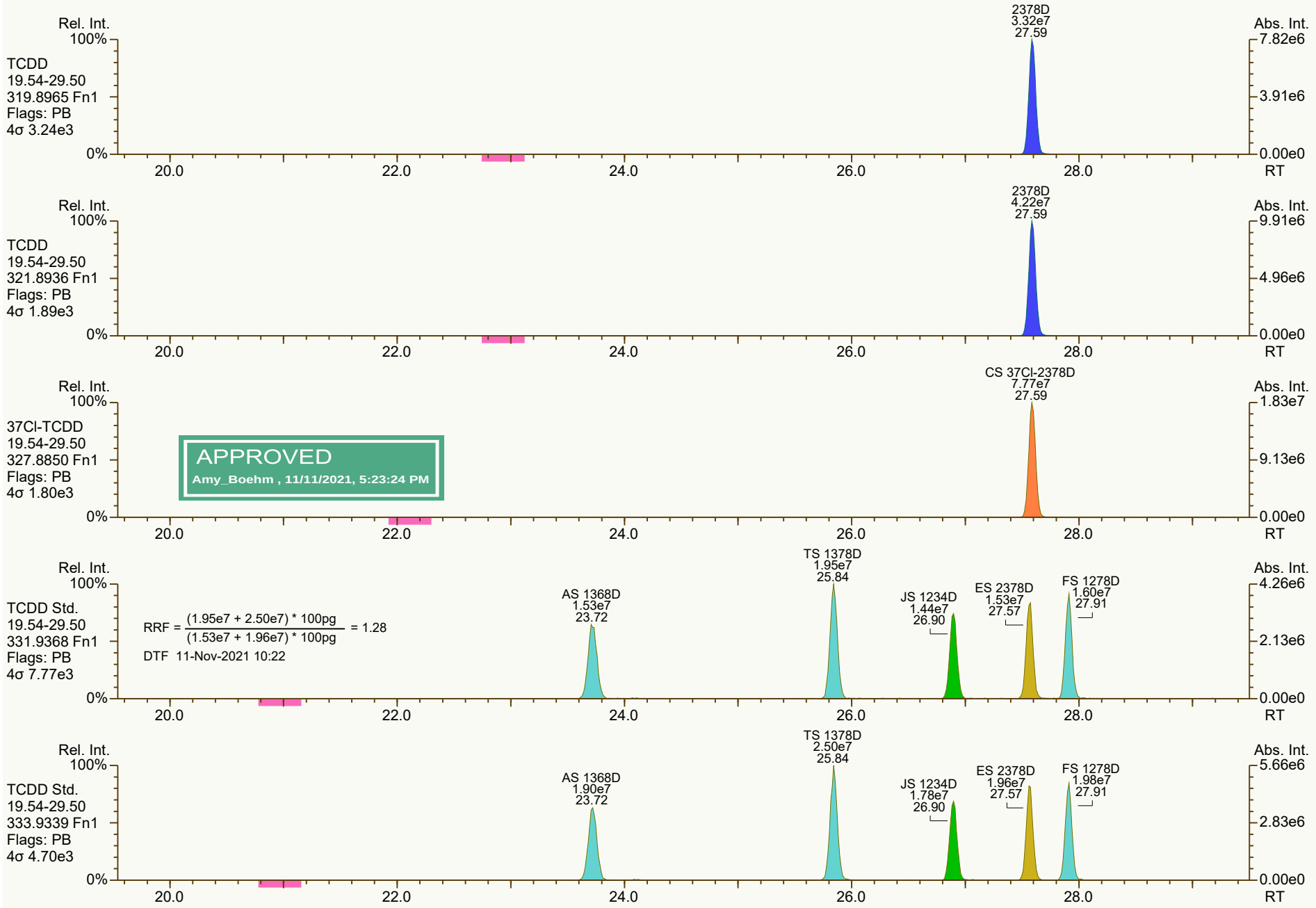
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

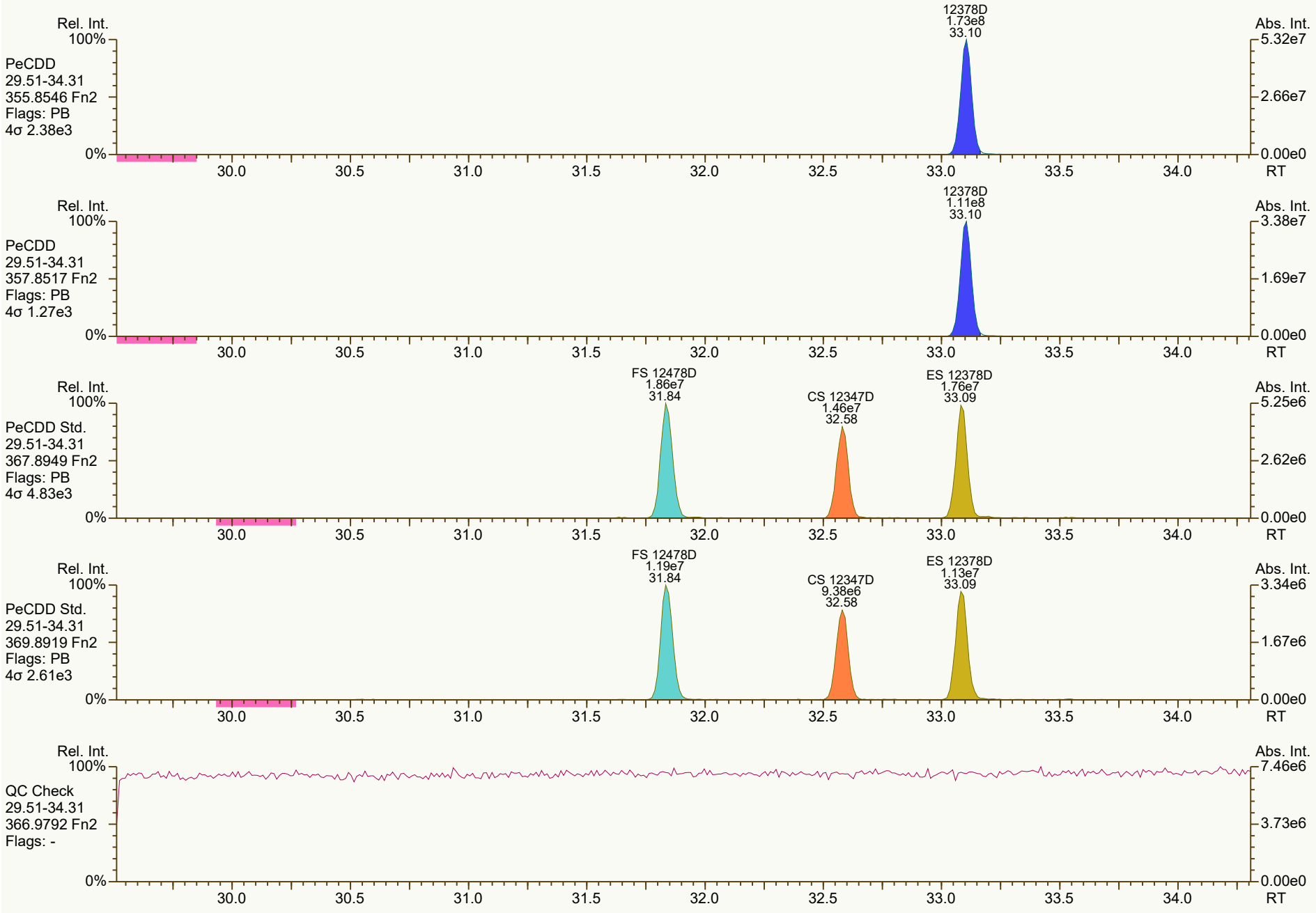
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

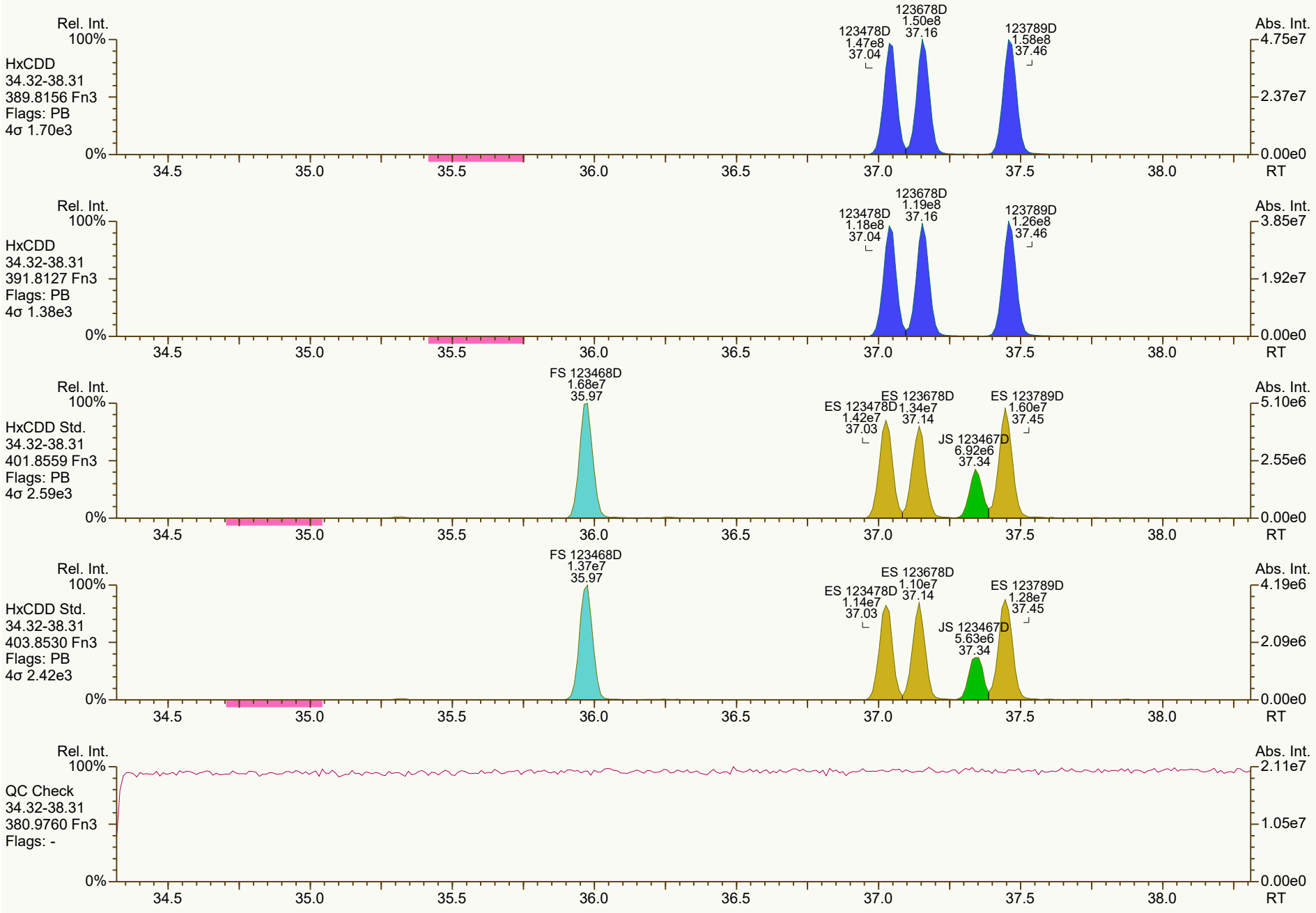
SGS ID: CS5_211110_DF_CA | **Sample ID: 25-5-3** | **Acq: 10-Nov-2021 14:53:51**
Instr: [ILM] AutoSpec-Ultima HRMS3 | **VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70** | **User: DTF Datafile: 211110C09**

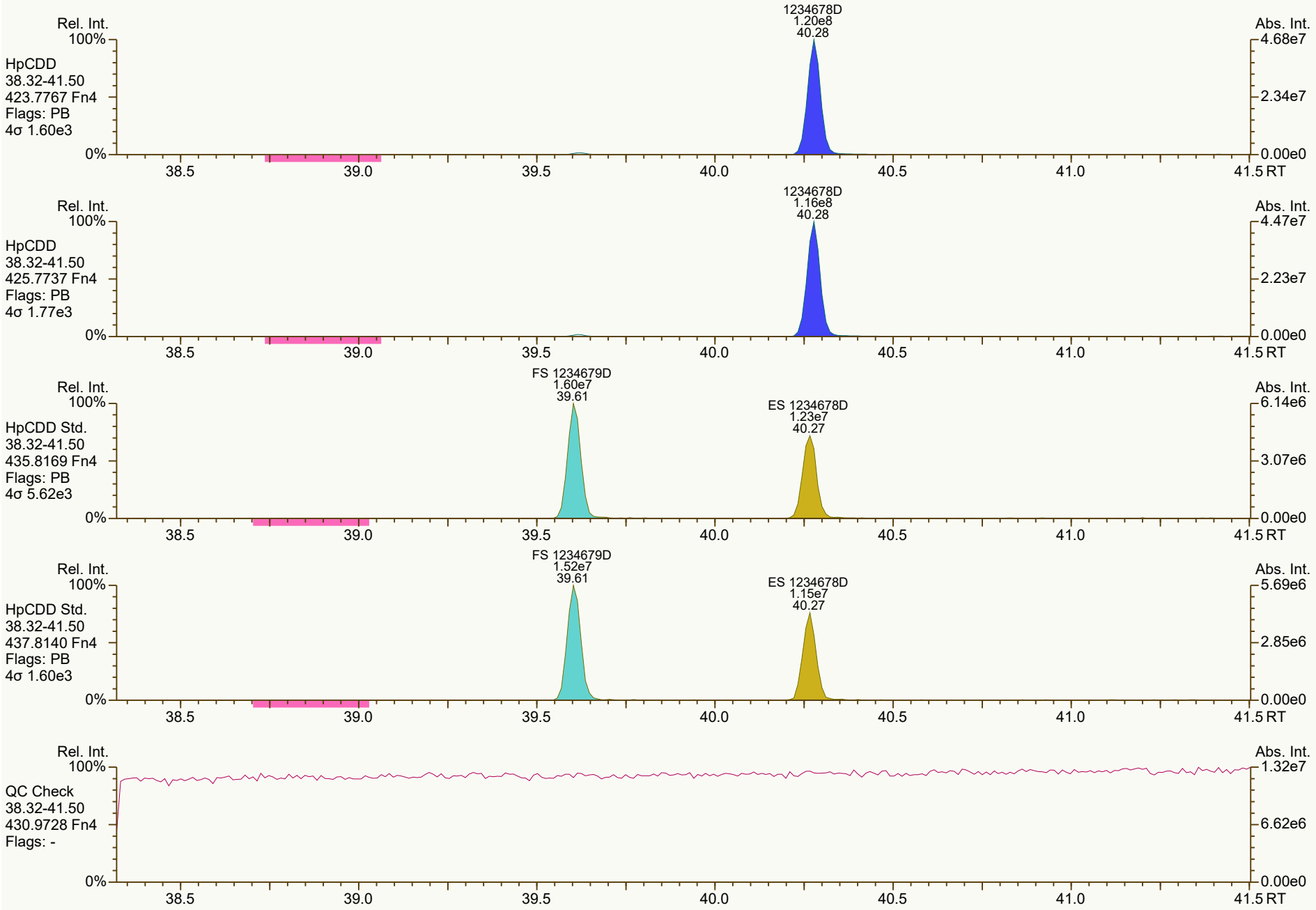


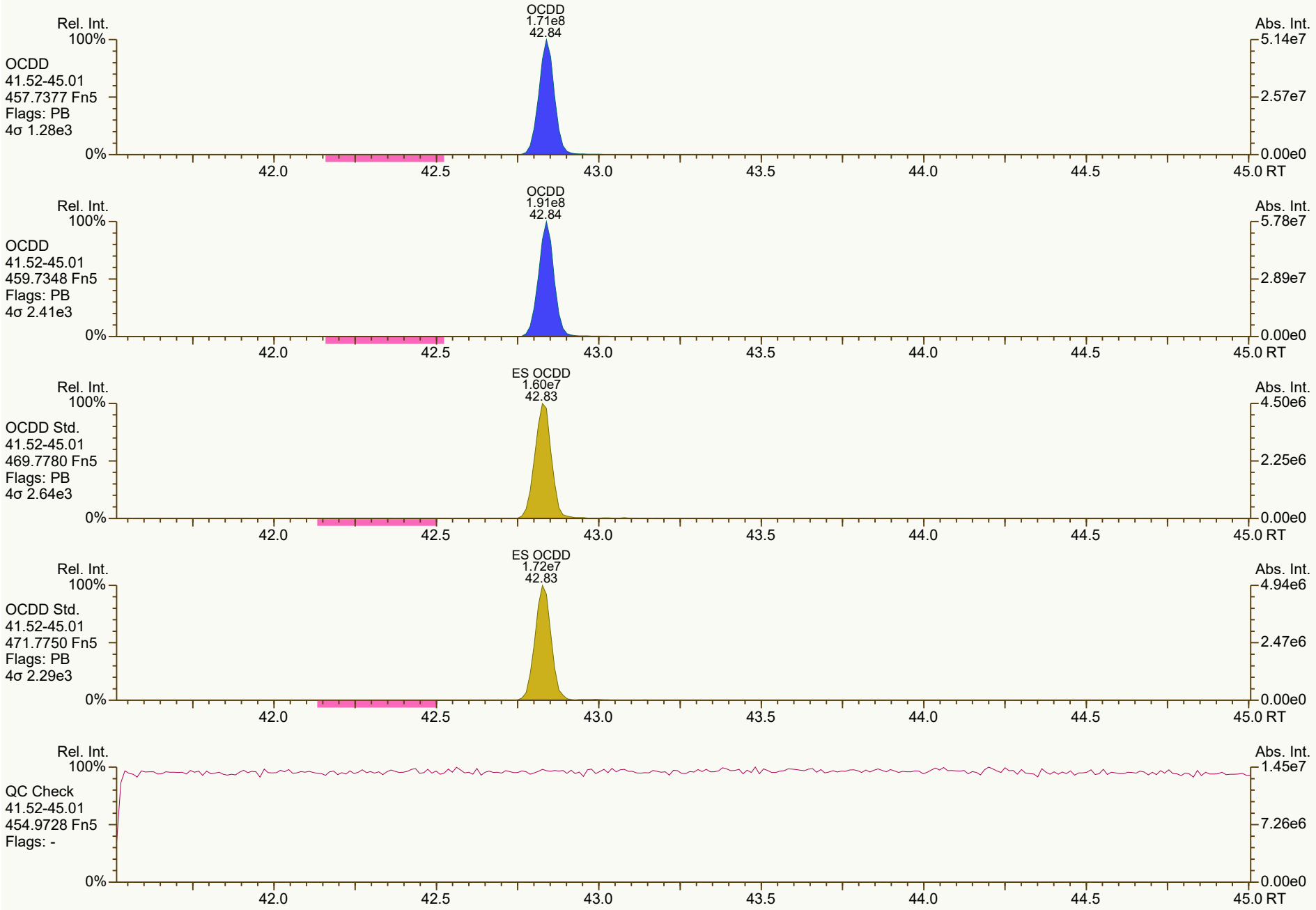
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 scc: 573-489 *PKD: n/a Printed: 11-Nov-2021 10:41 Page 1 of 12*


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
0%
2378D
4.22e7
27.59
Abs. Int.
9.91e6
4.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
Abs. Int.
1.83e7
9.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
0%
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
Abs. Int.
4.26e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
0%
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
Abs. Int.
5.66e6
2.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
0%
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
0%
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
0%
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
0%
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
0%
123478D
1.47e8
37.04
123678D
1.50e8
37.16
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
0%
123478D
1.18e8
37.04
123678D
1.19e8
37.16
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
0%
FS 123468D
1.68e7
35.97
ES 123478D
1.42e7
37.03
ES 123678D
1.34e7
37.14
JS 123467D
6.92e6
37.34
ES 123789D
1.60e7
37.45
Abs. Int.
5.10e6
2.55e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
0%
FS 123468D
1.37e7
35.97
ES 123478D
1.14e7
37.03
ES 123678D
1.10e7
37.14
JS 123467D
5.63e6
37.34
ES 123789D
1.28e7
37.45
Abs. Int.
4.19e6
2.09e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.11e7
1.05e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
1.71e8
42.84
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
1.91e8
42.84
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
5.78e7
2.89e7
ES OCDD
1.60e7
42.83
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
4.50e6
2.25e6
ES OCDD
1.72e7
42.83
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
4.94e6
2.47e6
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
1.45e7
7.26e6


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

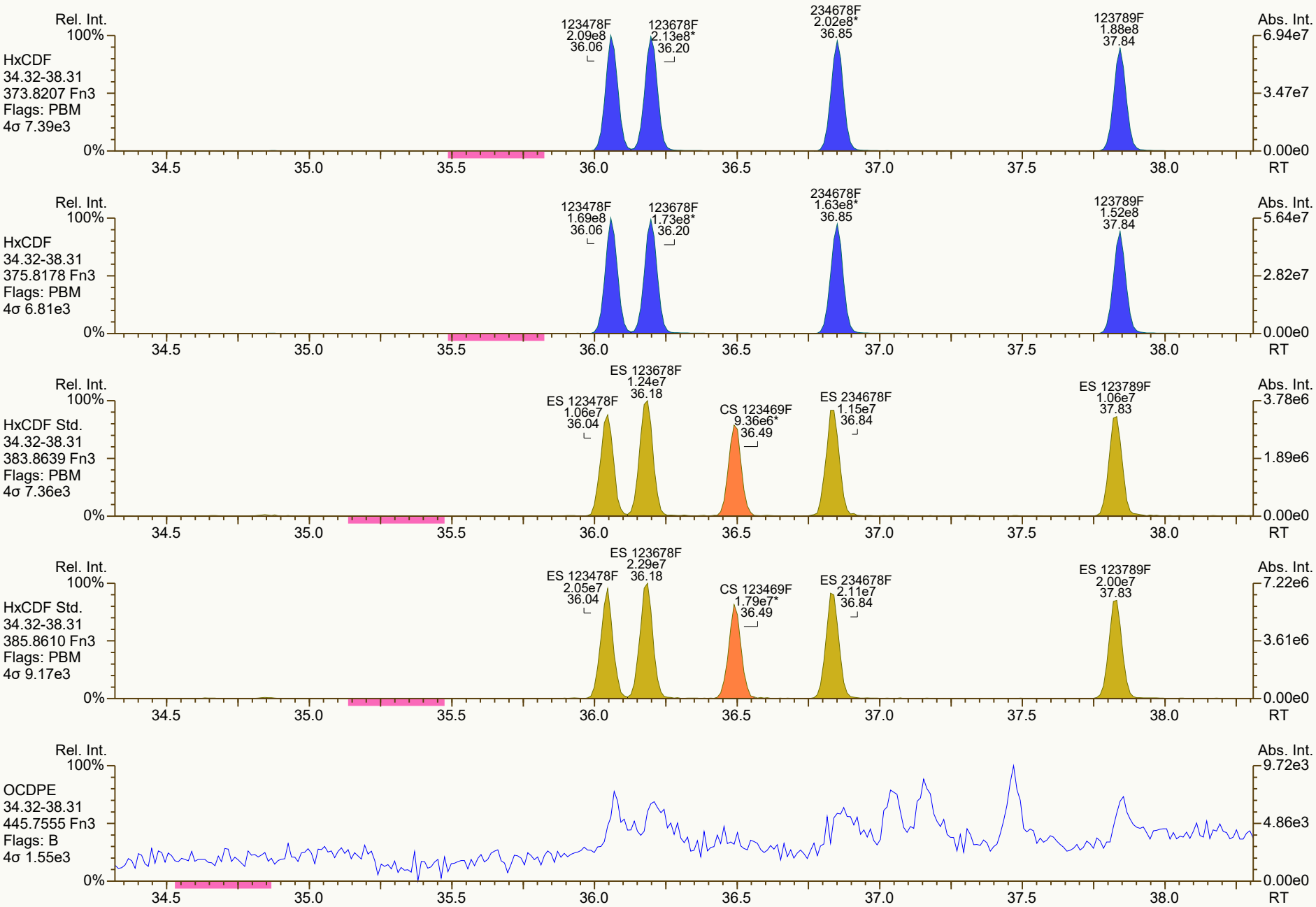

Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
0%
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
0%
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
0%
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
0%
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.03e4
5.14e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

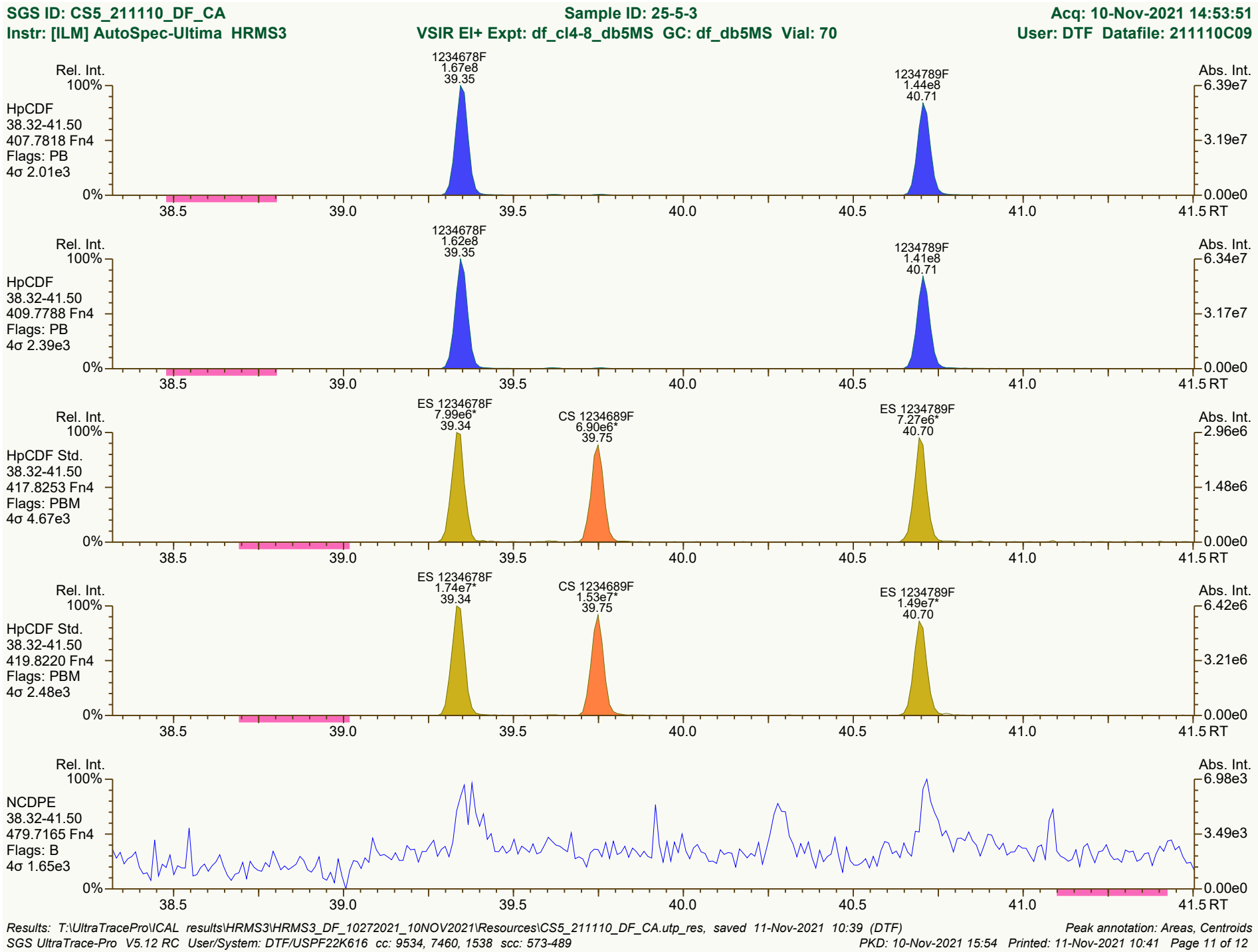
SGS ID: CS5_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

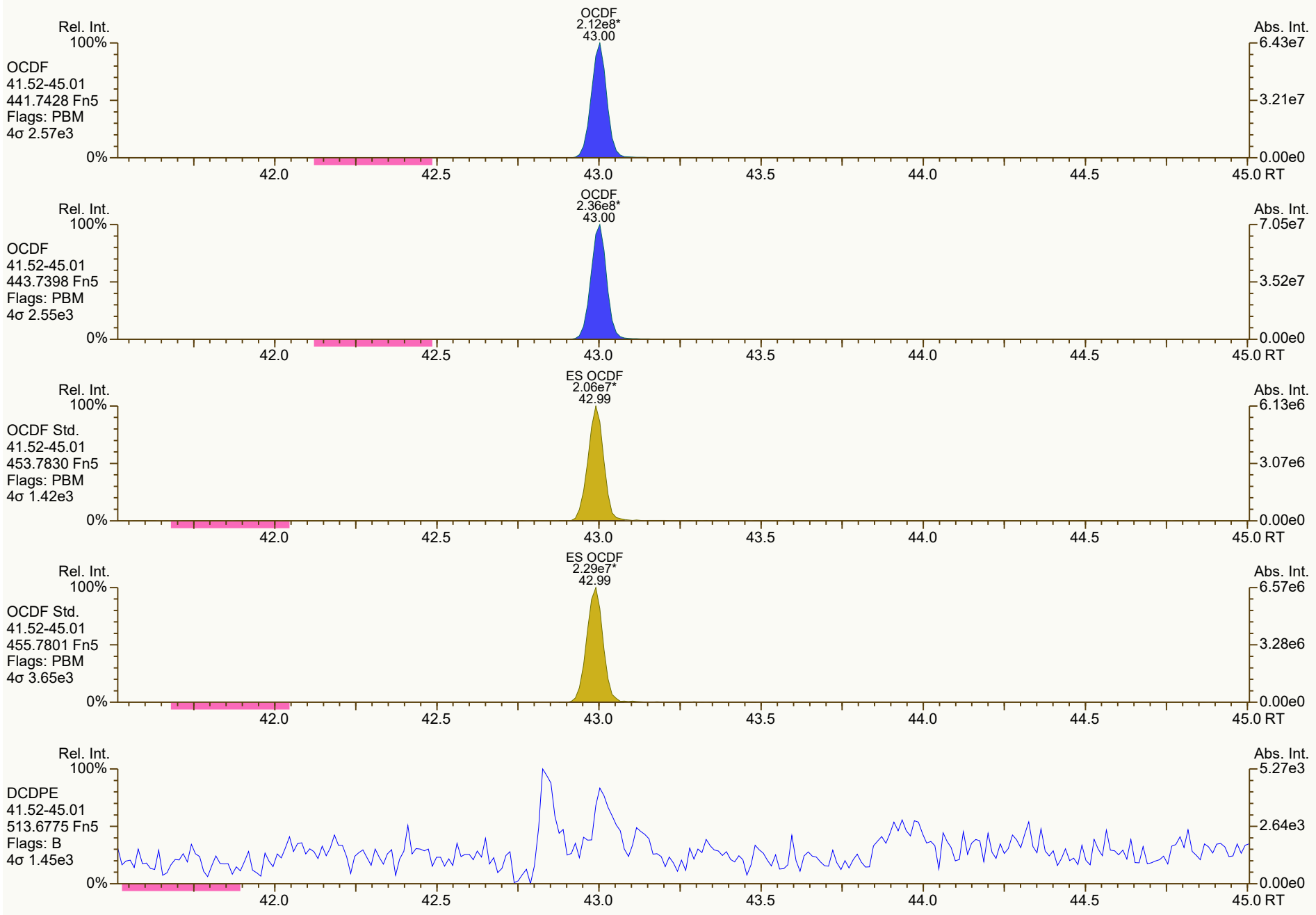
Sample ID: 25-5-3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70

Acq: 10-Nov-2021 14:53:51
User: DTF Datafile: 211110C09



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 7902, 6877, 1014 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 10 of 12


SGS ID: CS5_211110_DF_CA
Sample ID: 25-5-3
Acq: 10-Nov-2021 14:53:51
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 70
User: DTF Datafile: 211110C09
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
6.39e7
3.19e7
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
6.34e7
3.17e7
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
2.96e6
1.48e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
6.42e6
3.21e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
6.98e3
3.49e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS5_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9534, 7460, 1538 scc: 573-489
PKD: 10-Nov-2021 15:54 Printed: 11-Nov-2021 10:41 Page 11 of 12

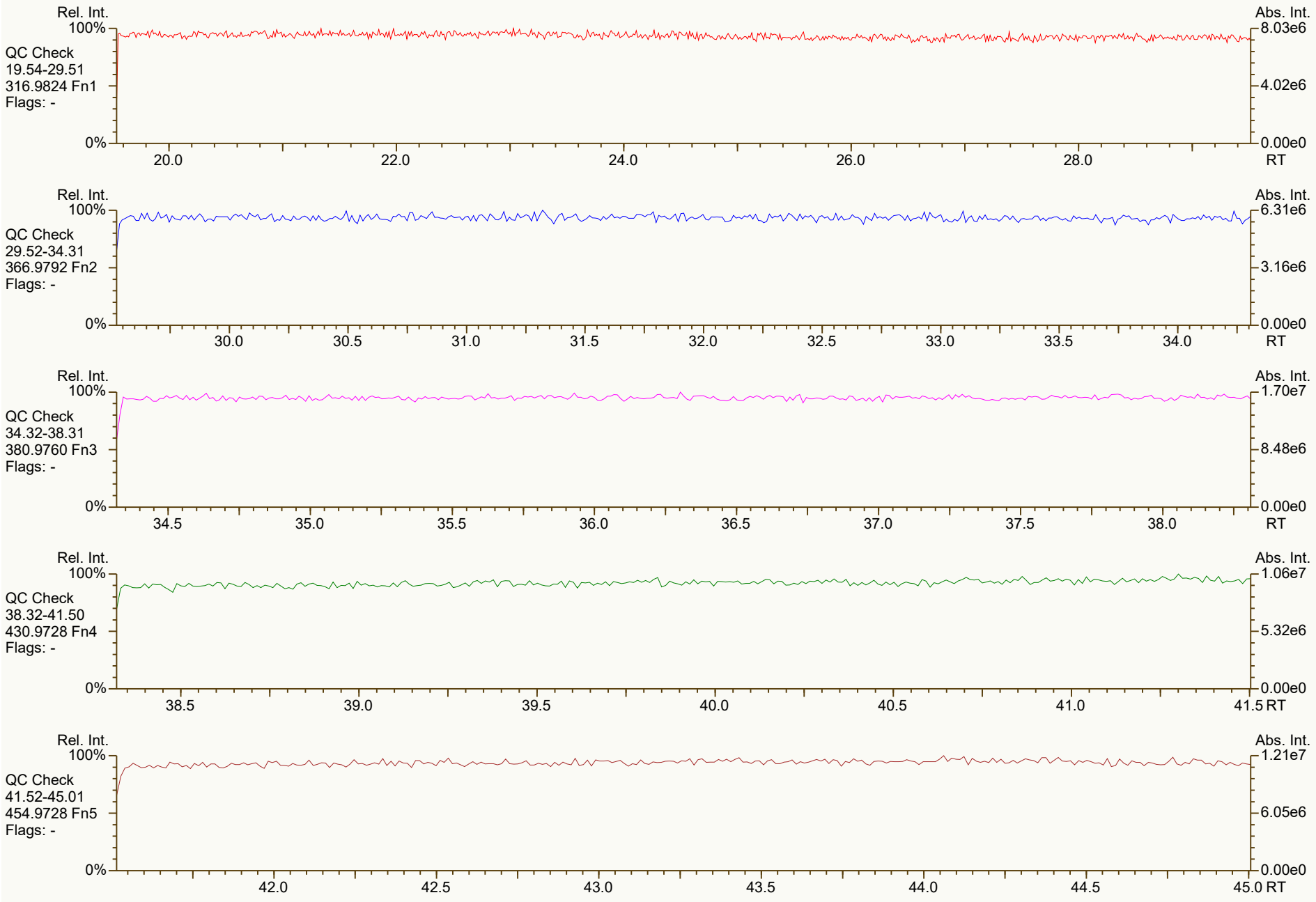

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

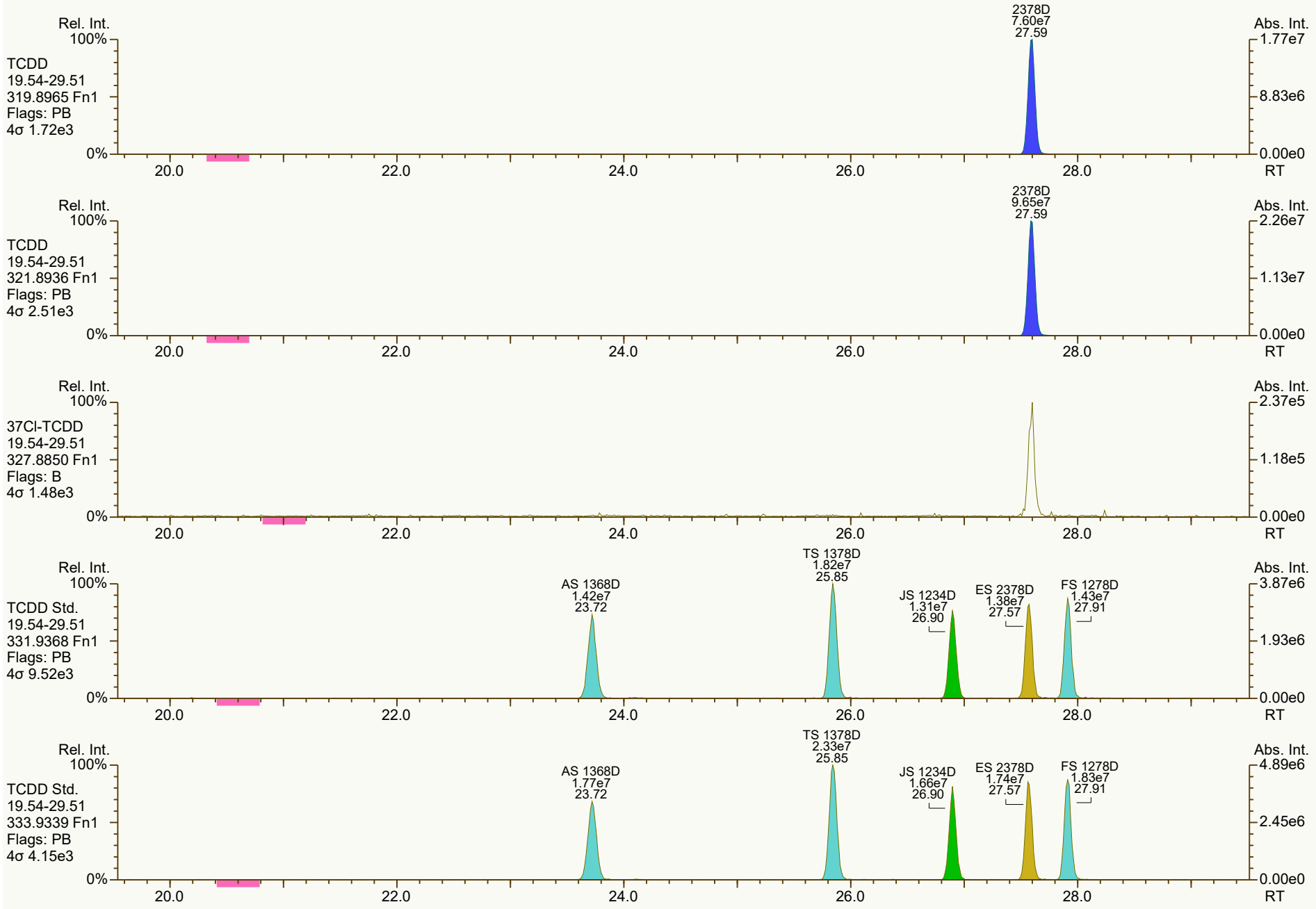
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

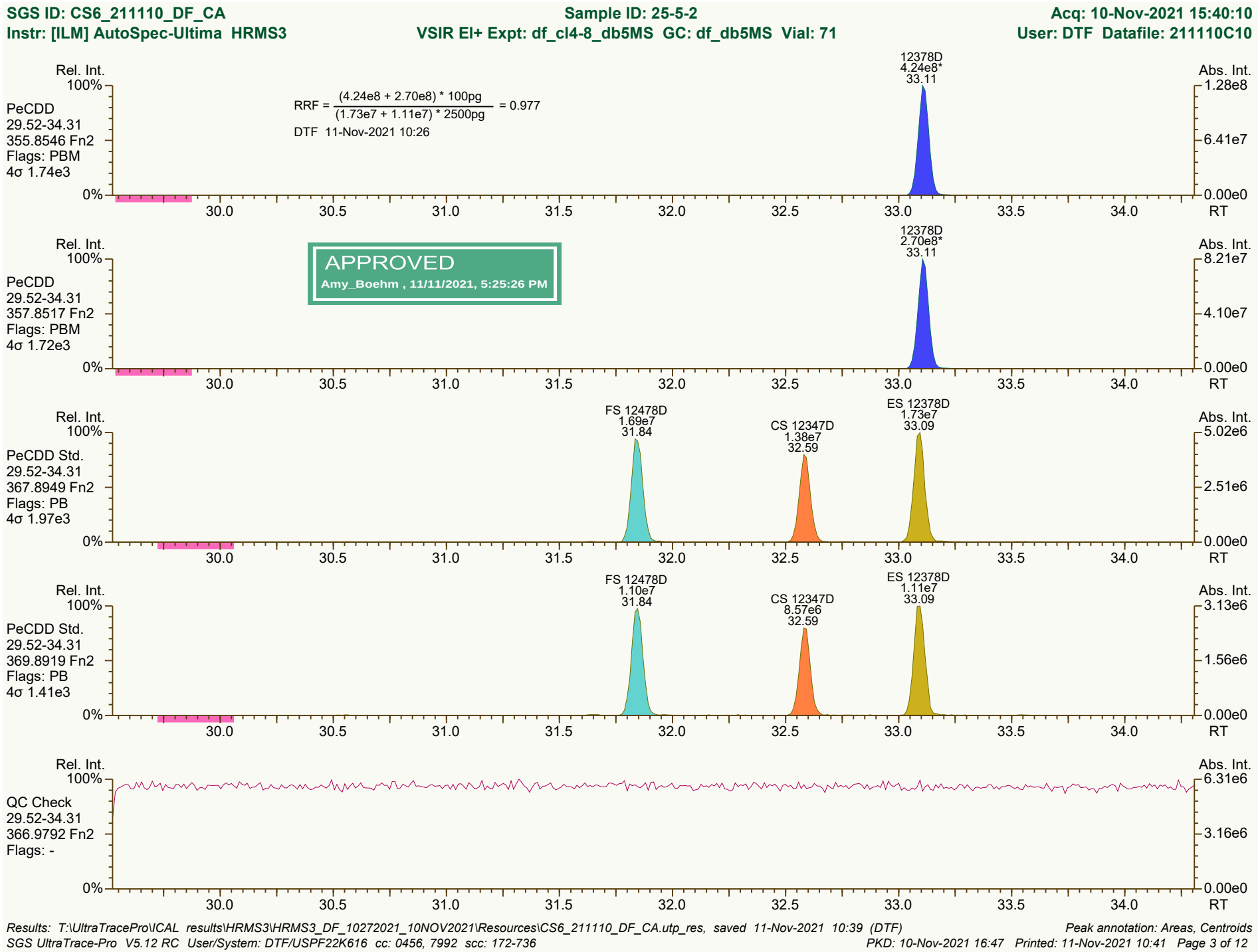
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

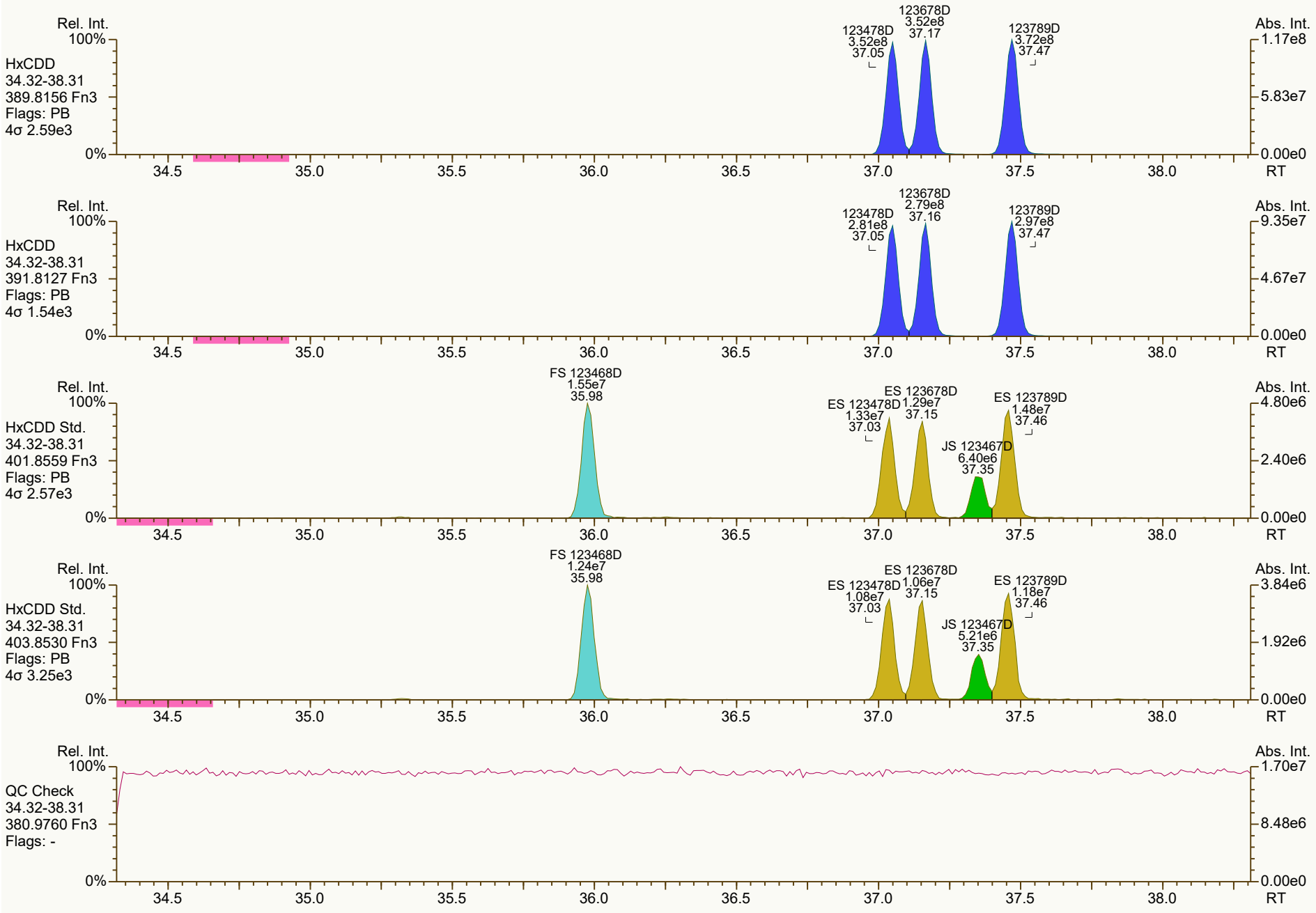
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

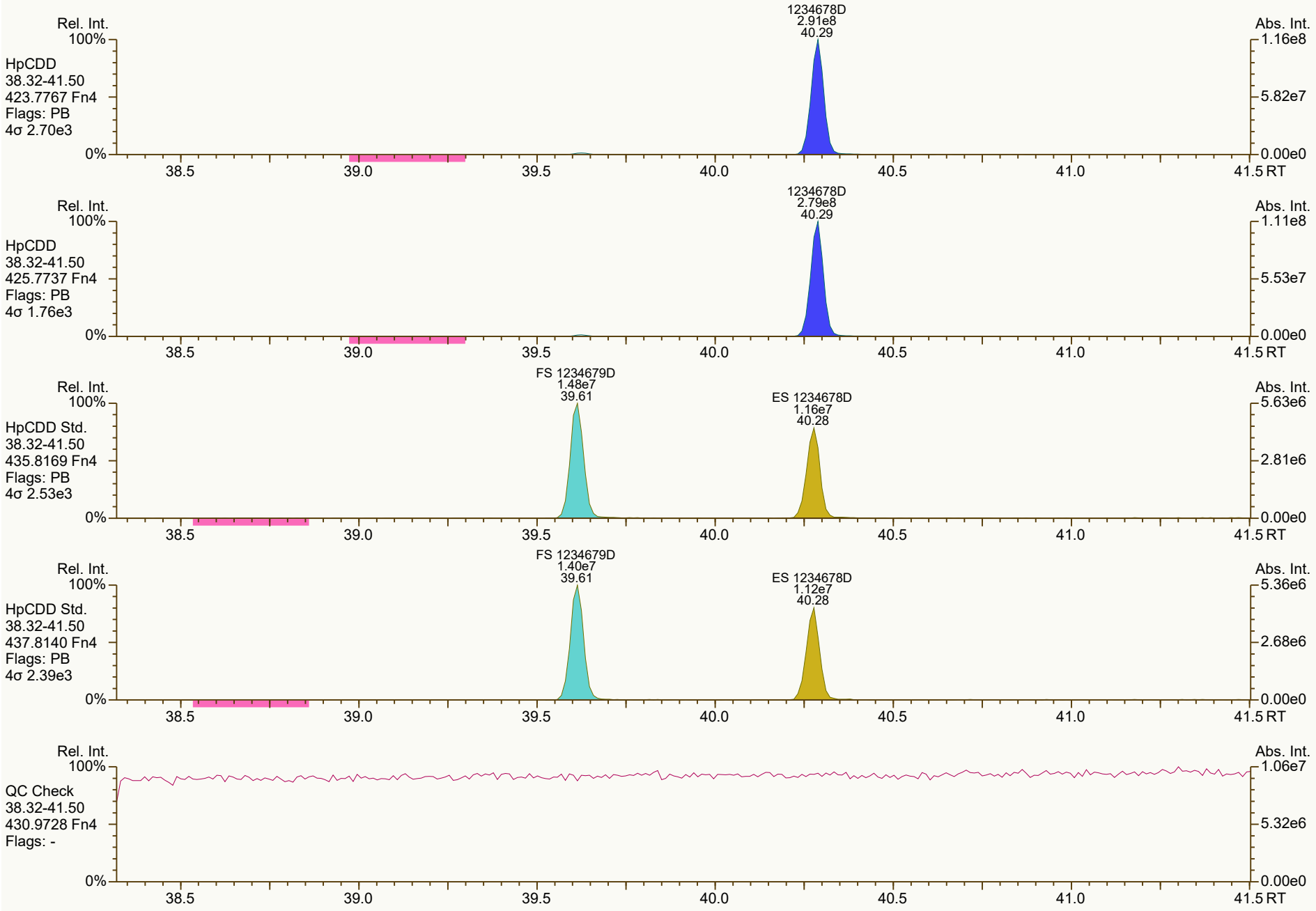
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

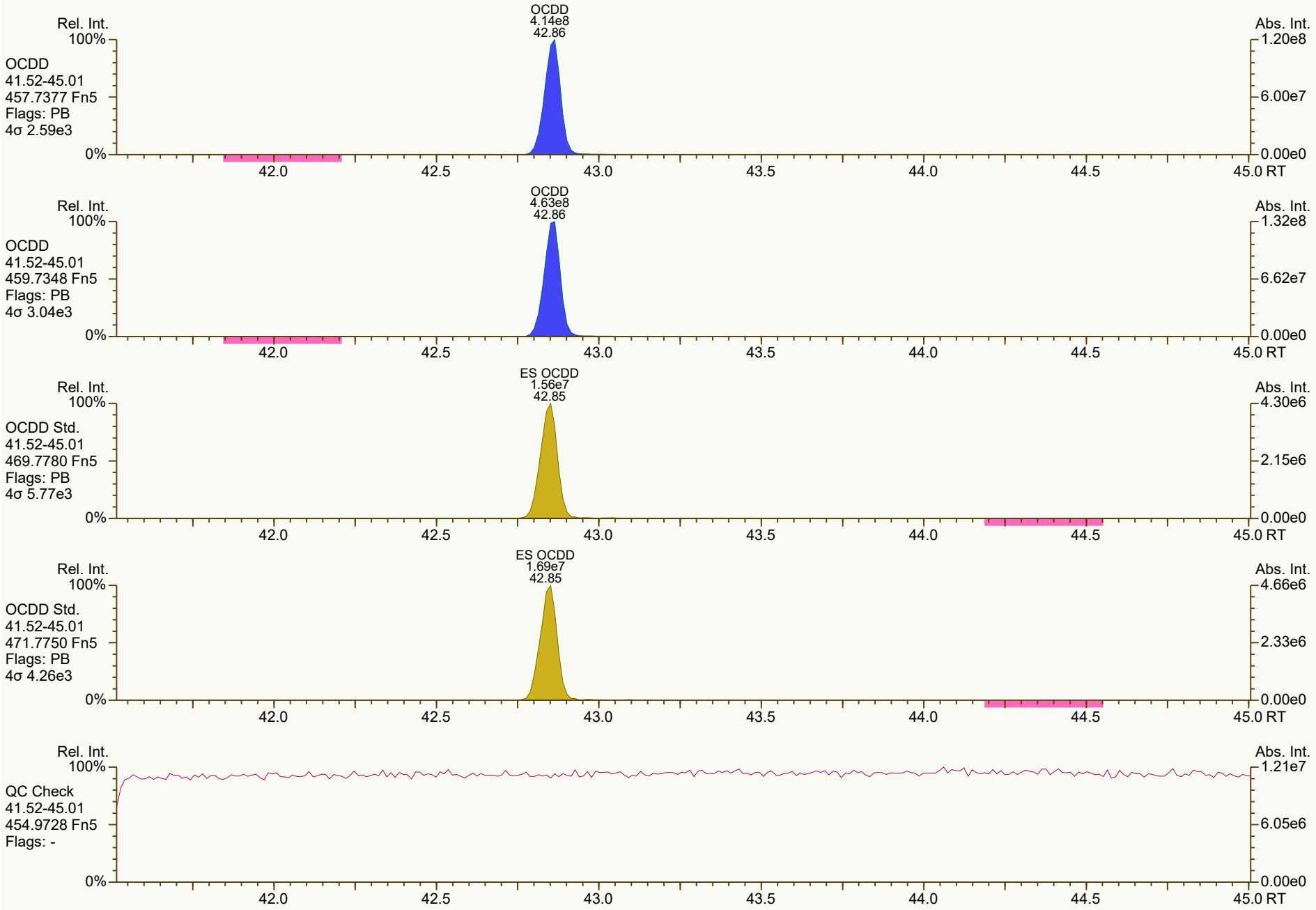

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


SGS ID: CS6_211110_DF_CA
Sample ID: 25-5-2
Acq: 10-Nov-2021 15:40:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 211110C10
Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
6.31e6
3.16e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS6_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0456, 7992 scc: 172-736
PKD: 10-Nov-2021 16:47 Printed: 11-Nov-2021 10:41 Page 3 of 12

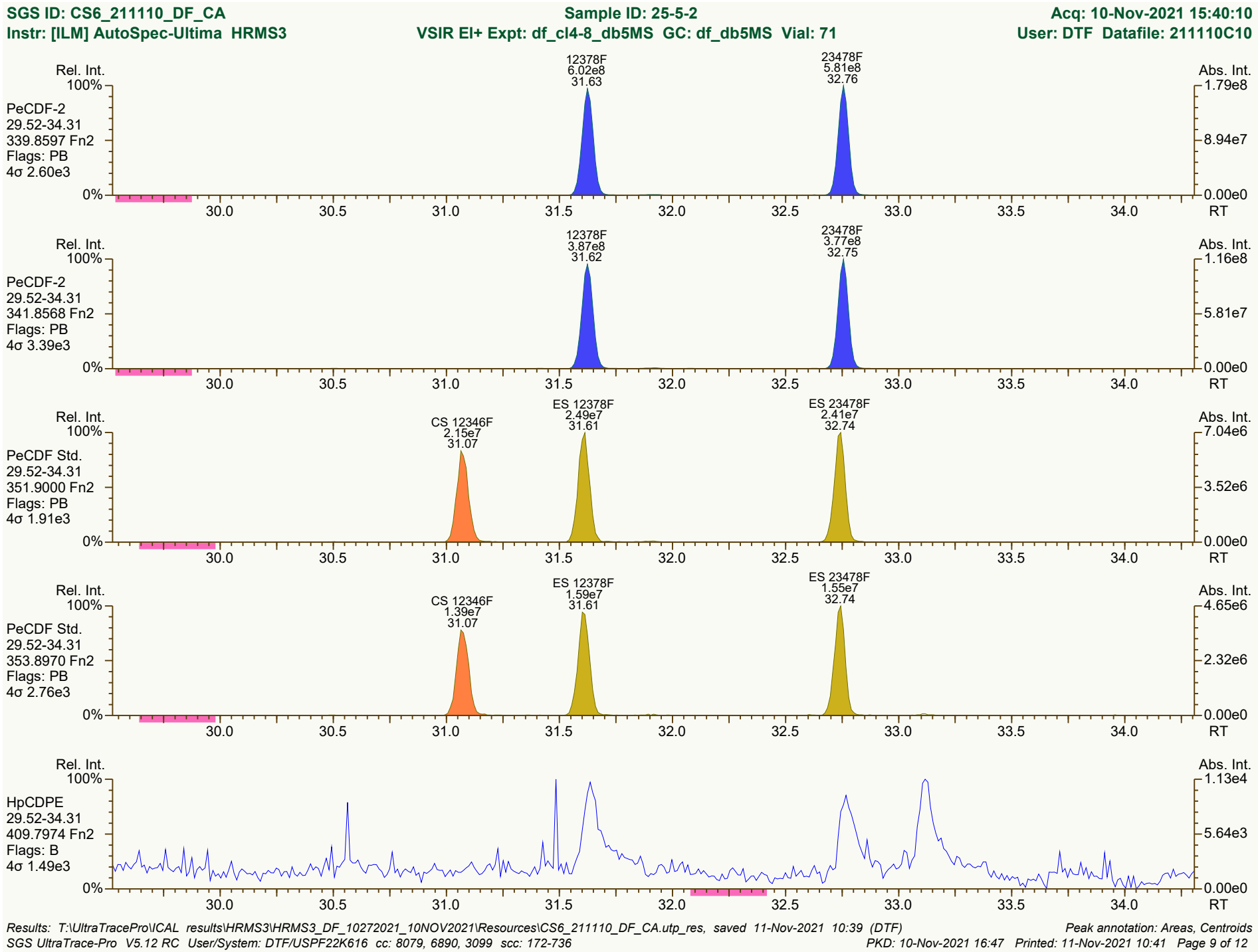

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
0%
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
0%
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
0%
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
0%
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.70e7
8.48e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDD
4.14e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
4.63e8
42.86
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.56e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.69e7
42.85
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

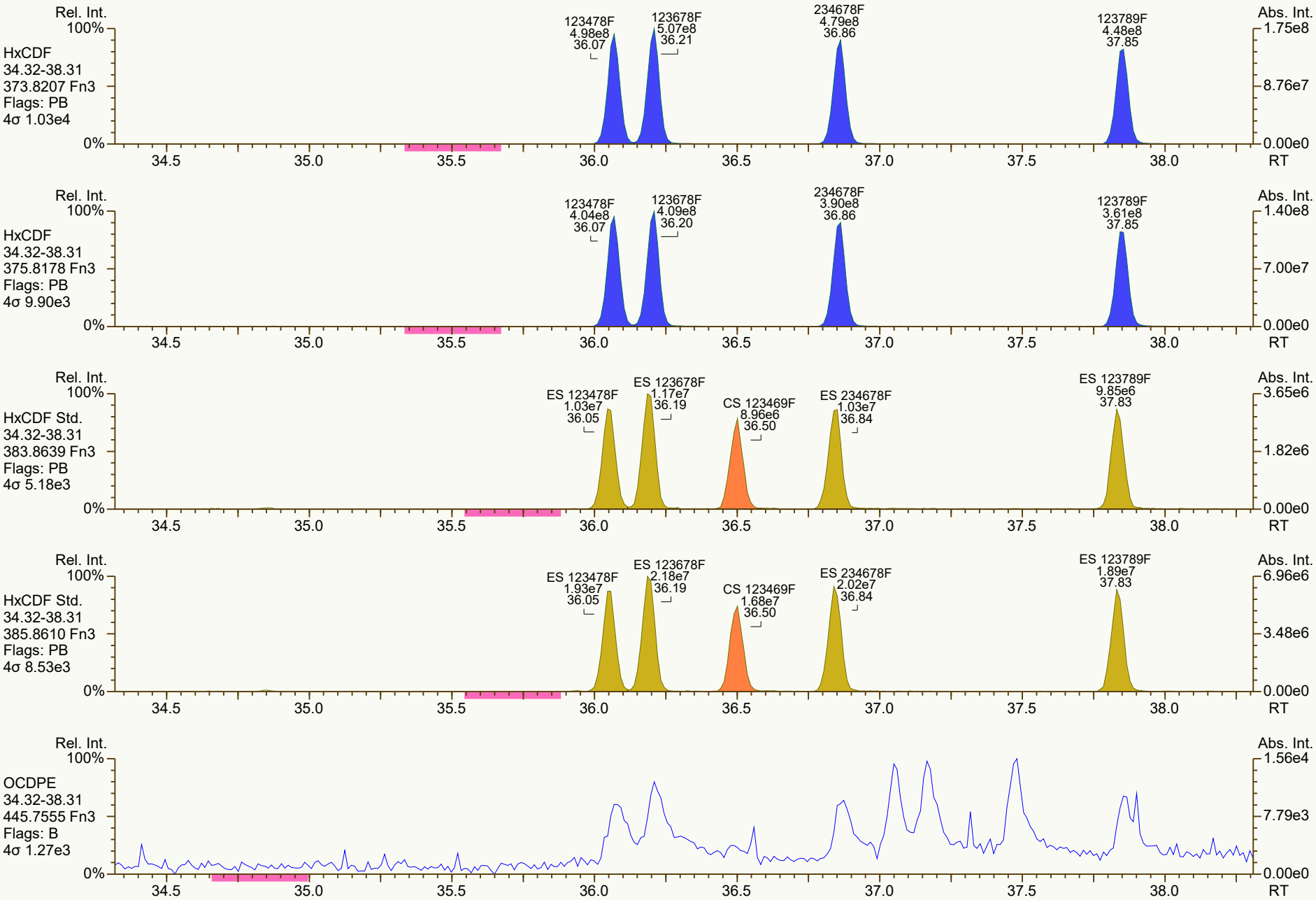

Rel. Int.
100%
0%
Abs. Int.
9.54e3
4.77e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 2.51e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.38e4
6.90e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.99e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.03e6
4.02e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


SGS ID: CS6_211110_DF_CA
Sample ID: 25-5-2
Acq: 10-Nov-2021 15:40:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 211110C10
Rel. Int.
Abs. Int.
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
12378F
6.02e8
31.63
23478F
5.81e8
32.76
1.79e8
8.94e7
0.00e0
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
12378F
3.87e8
31.62
23478F
3.77e8
32.75
1.16e8
5.81e7
0.00e0
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
7.04e6
3.52e6
0.00e0
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
4.65e6
2.32e6
0.00e0
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
1.13e4
5.64e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS6_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 8079, 6890, 3099 scc: 172-736
PKD: 10-Nov-2021 16:47 Printed: 11-Nov-2021 10:41 Page 9 of 12

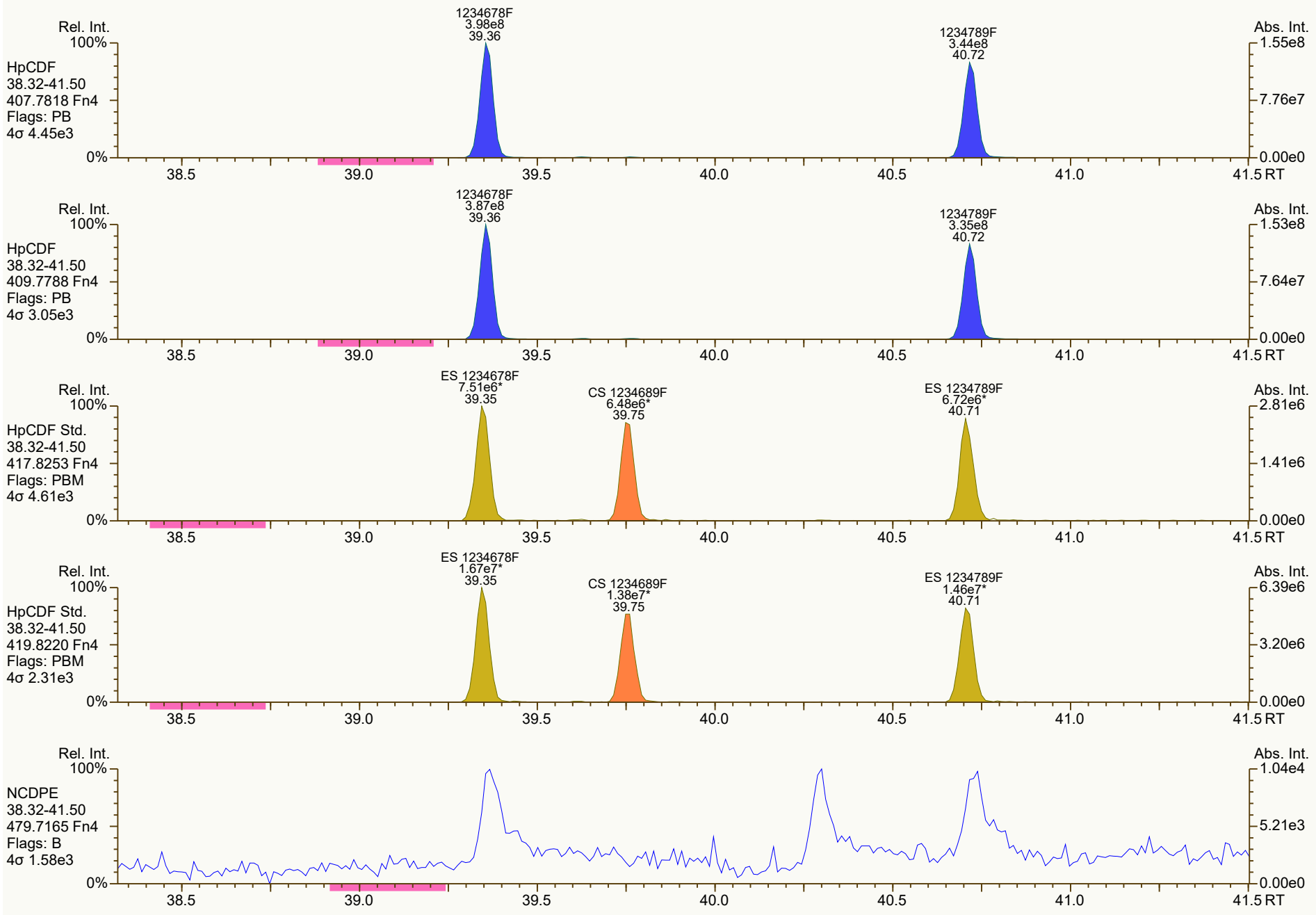
SGS ID: CS6_211110_DF_CA
Instr: [ILM] AutoSpec-Ultima HRMS3

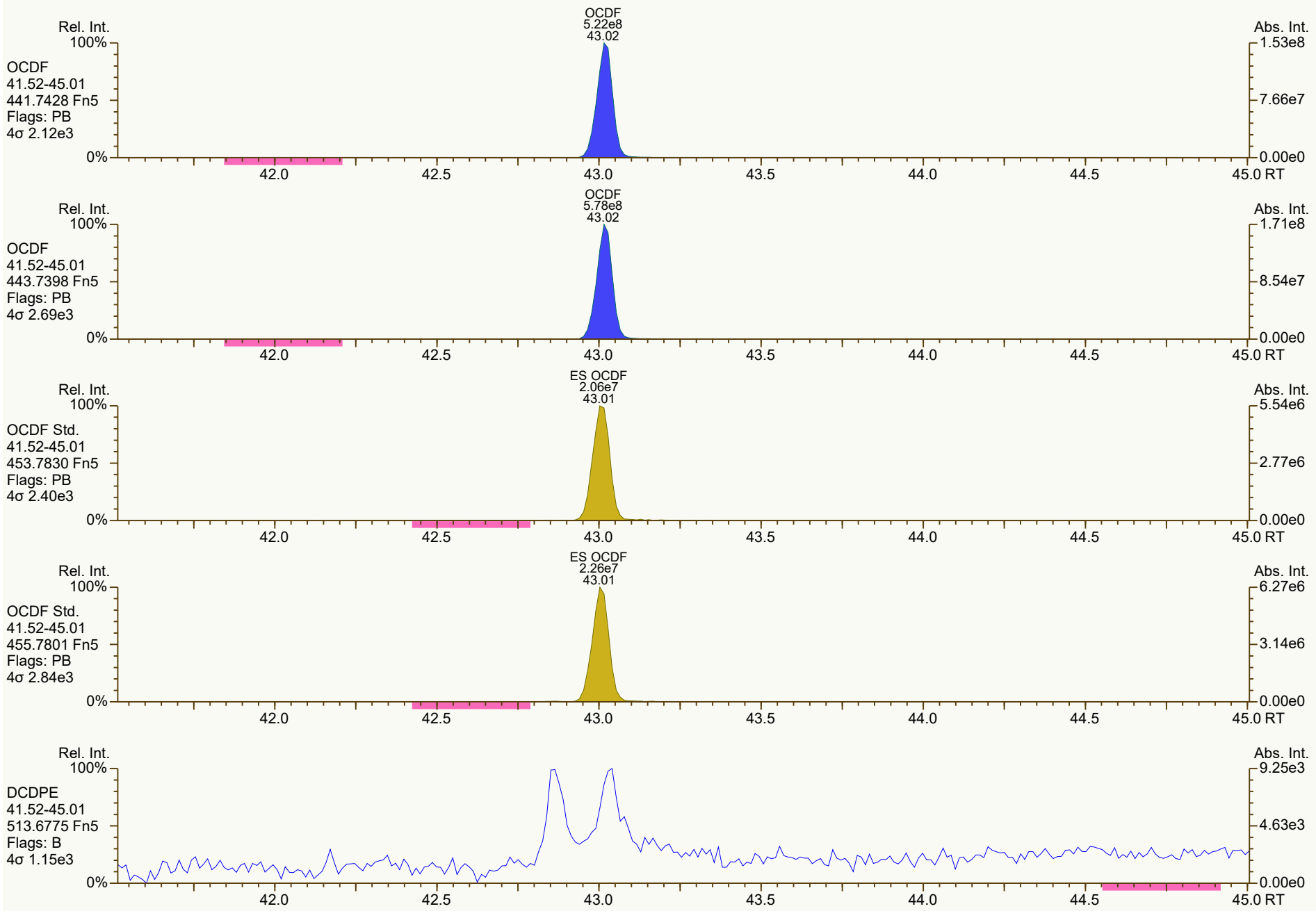
Sample ID: 25-5-2
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71

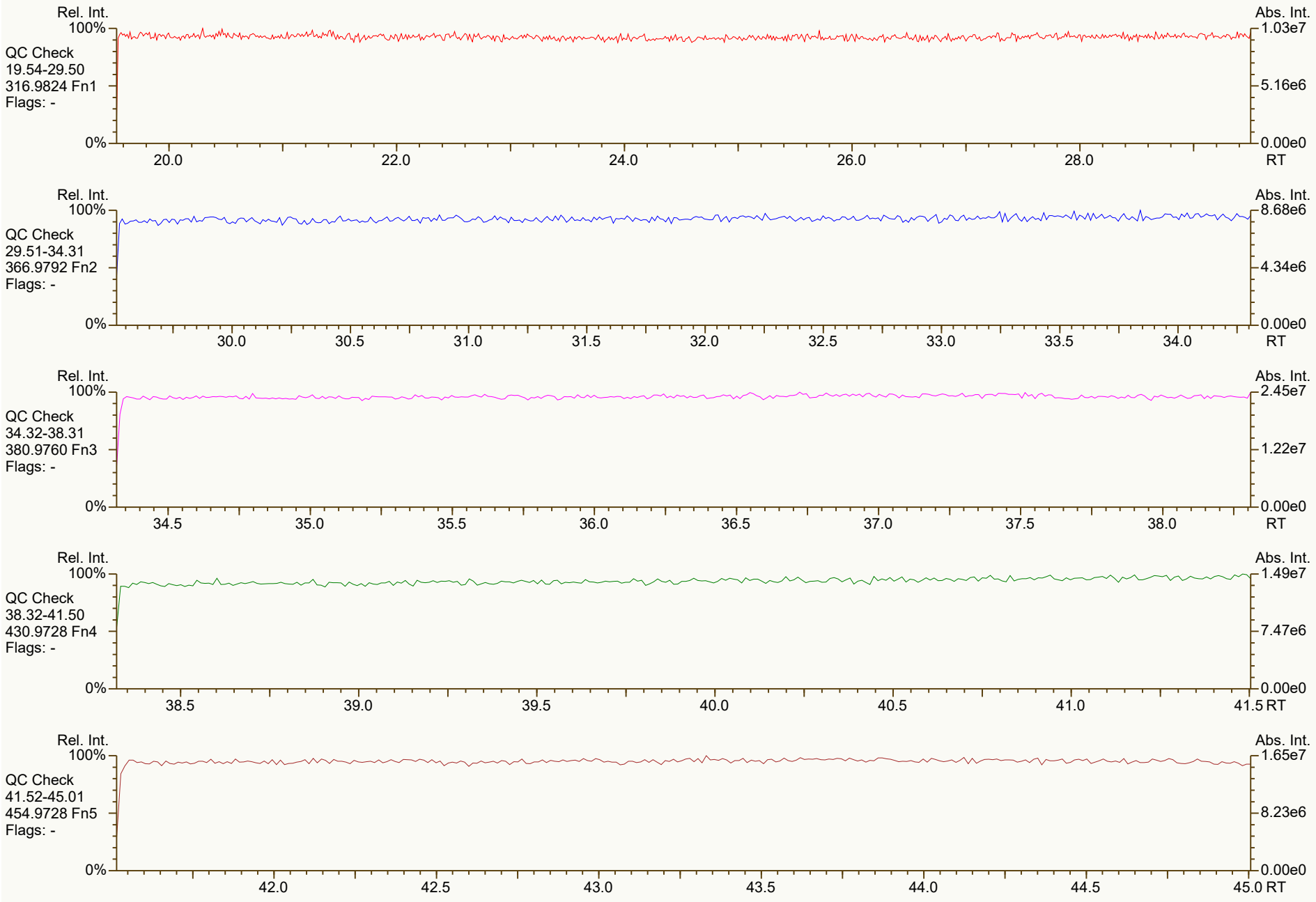
Acq: 10-Nov-2021 15:40:10
User: DTF Datafile: 211110C10



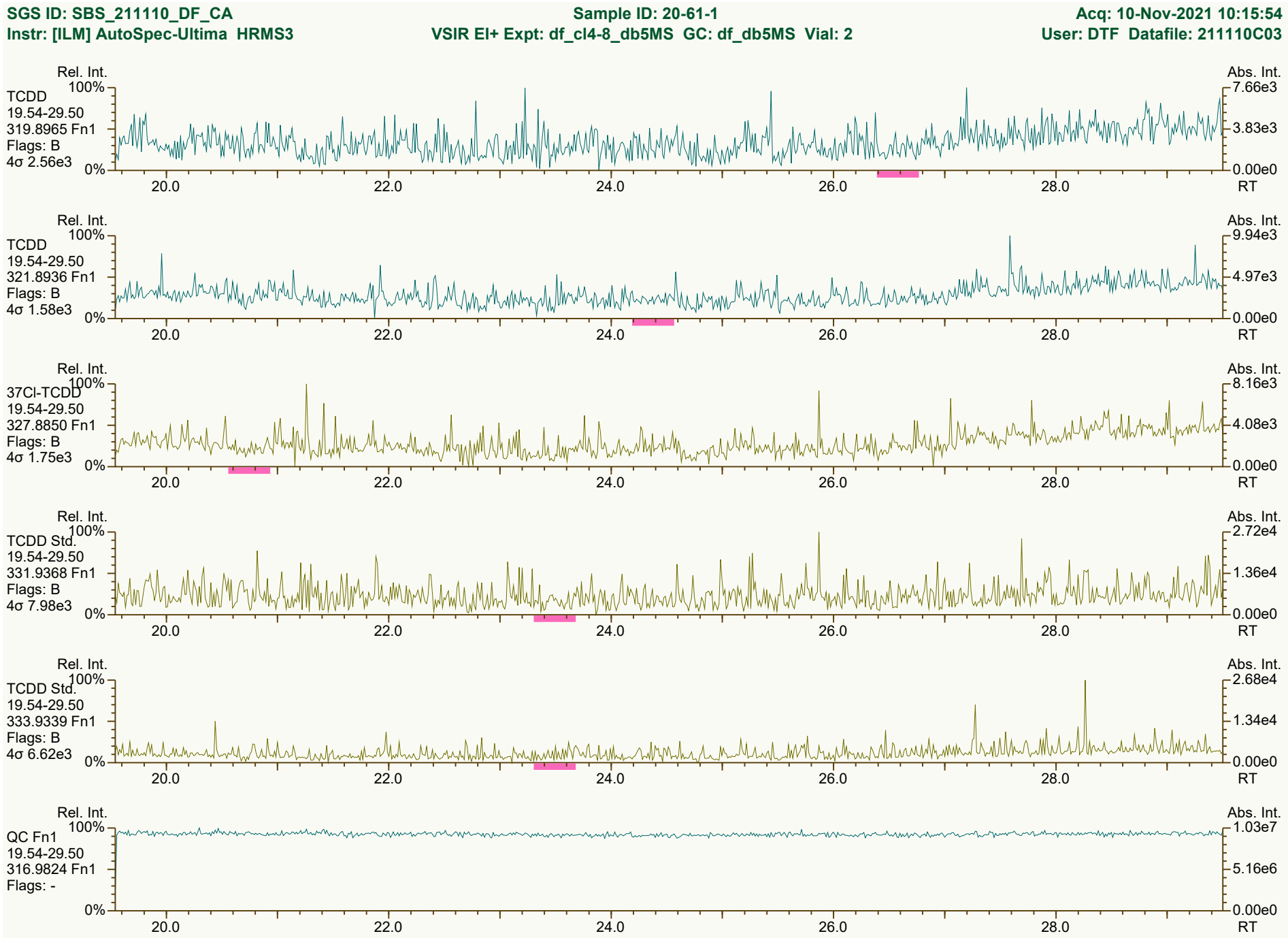
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS6_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3049, 4880, 9677 scc: 172-736
PKD: 10-Nov-2021 16:47 Printed: 11-Nov-2021 10:41 Page 10 of 12


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

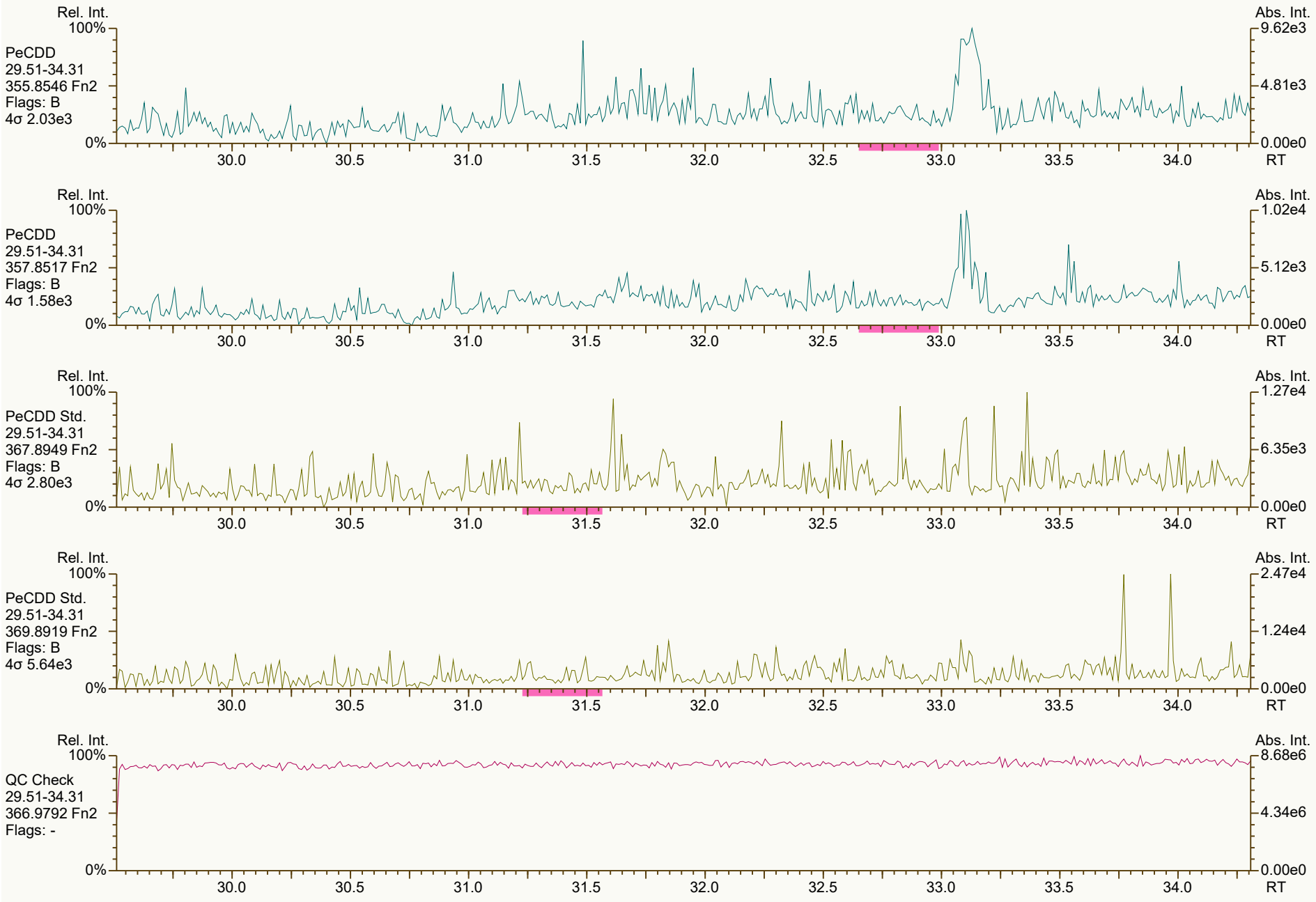

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.65e7
8.23e6
0.00e0

SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1*


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

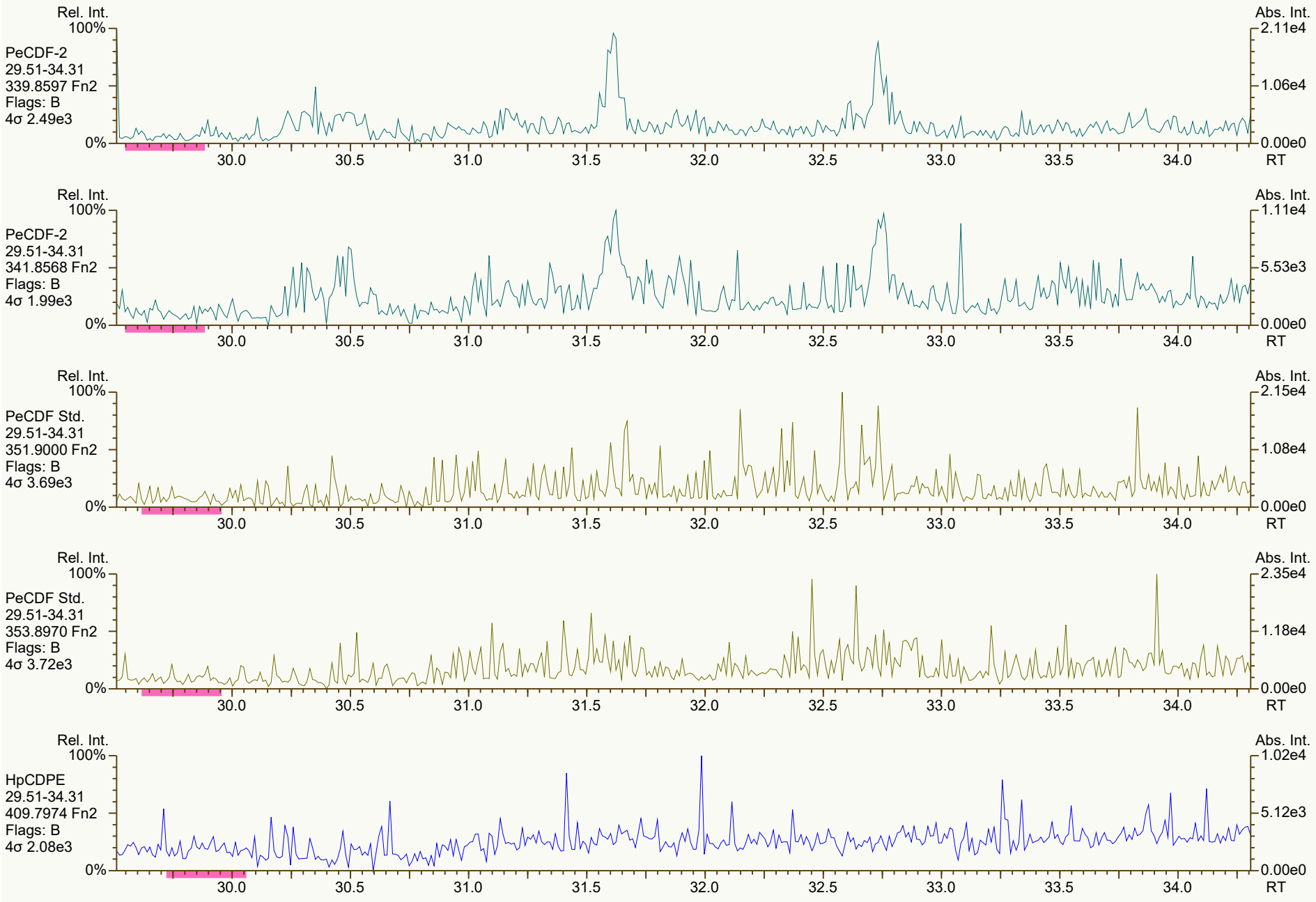

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

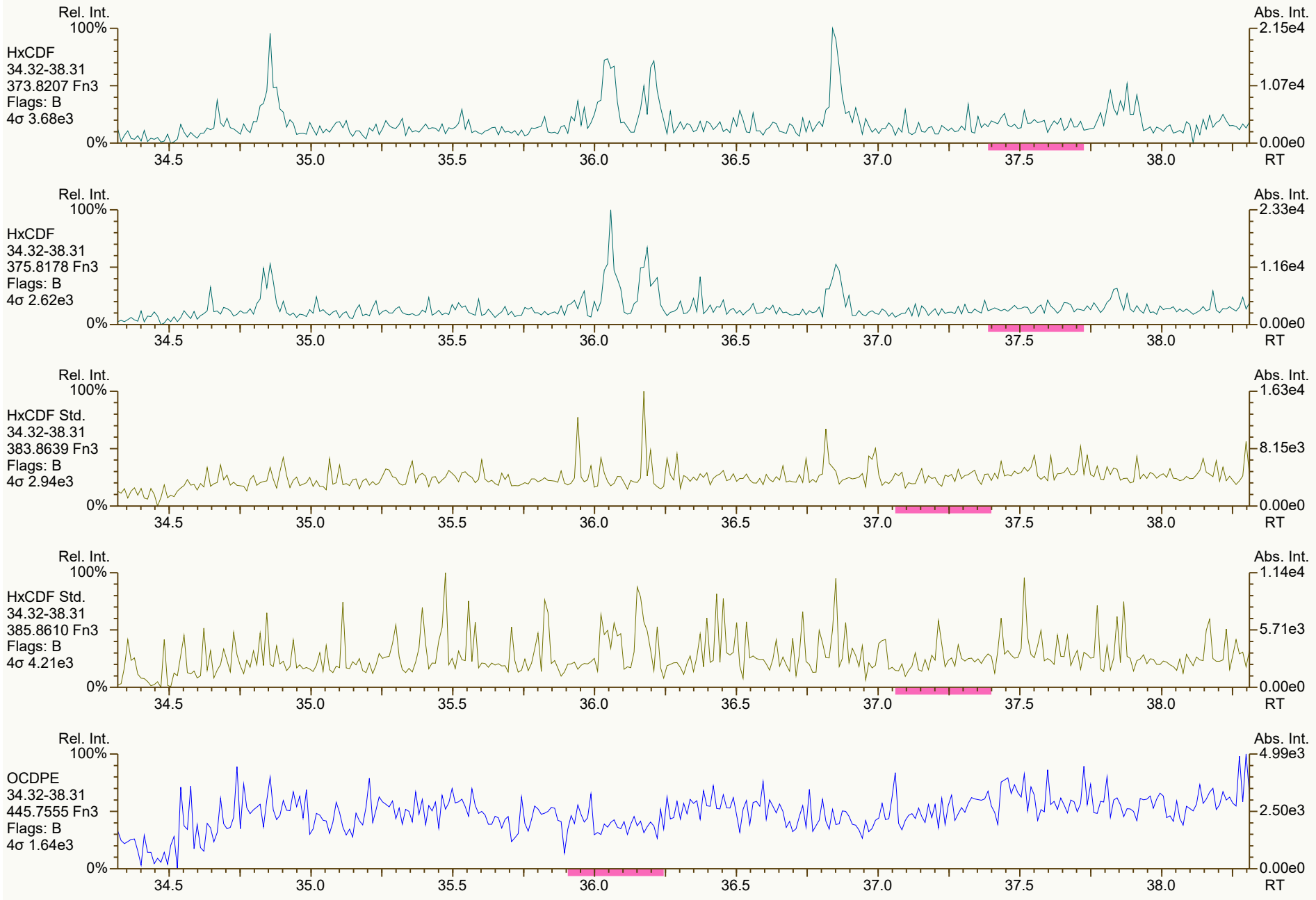

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


2468F
3.48e5*
22.78
Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
7.07e4
3.53e4
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
2468F
5.04e5*
22.78
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
1.06e5
5.32e4
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
5.11e4
2.56e4
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
2.83e4
1.42e4
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
9.47e3
4.73e3


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

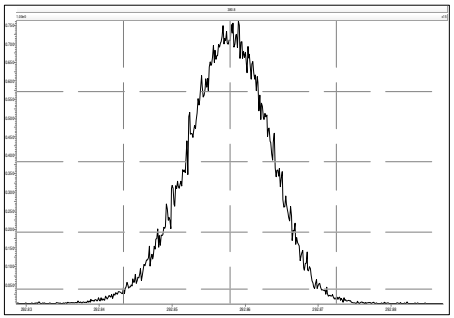

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

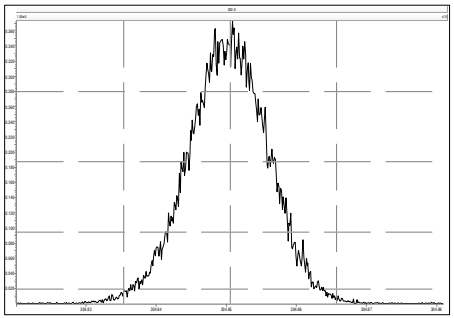
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

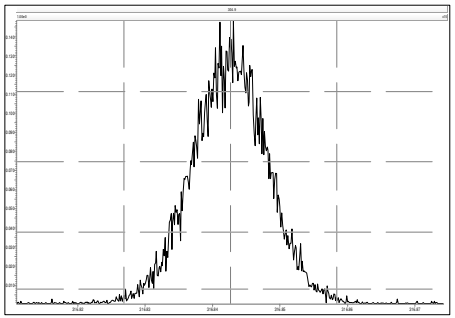
M 292.9824 R 10731



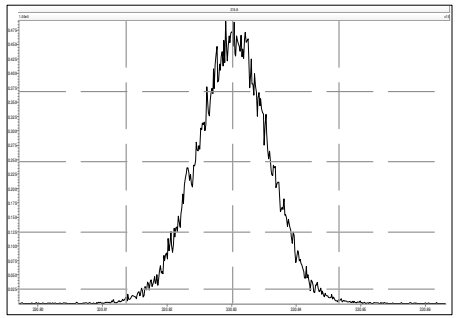
M 304.9824 R 11311



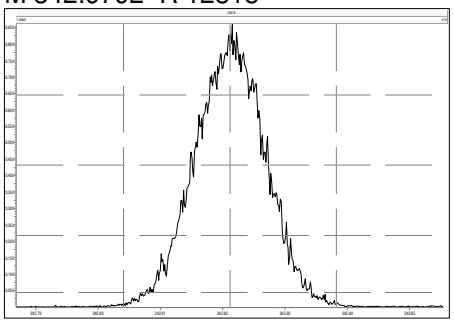
M 316.9824 R 12373



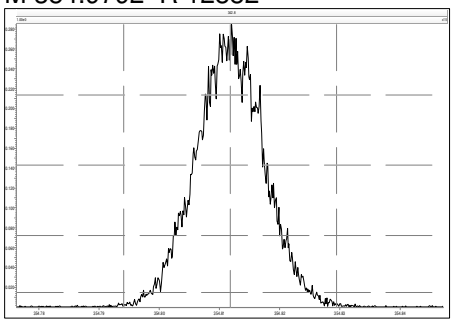
M 330.9792 R 12887



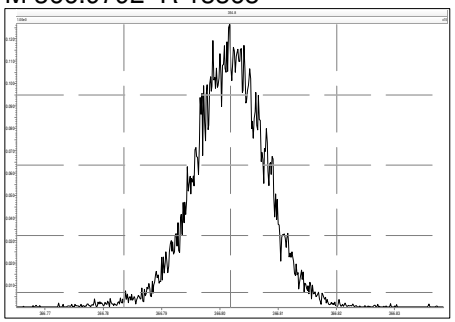
M 342.9792 R 12818



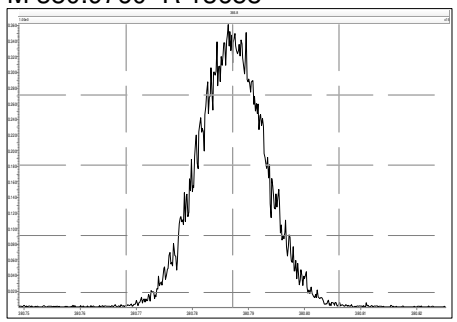
M 354.9792 R 12882



M 366.9792 R 13368



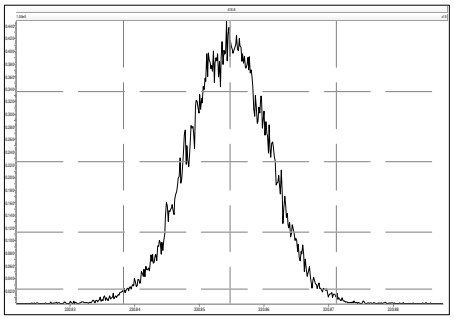
M 380.9760 R 13658



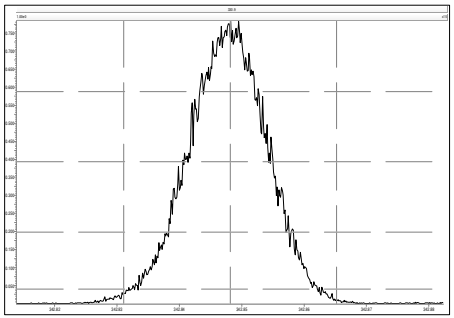
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

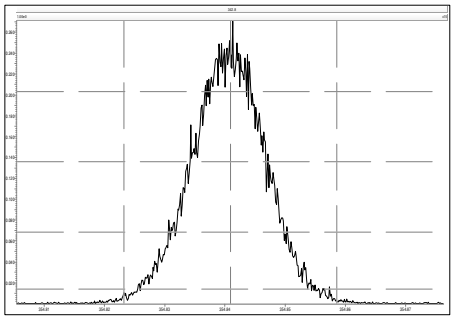
M 330.9792 R 11112



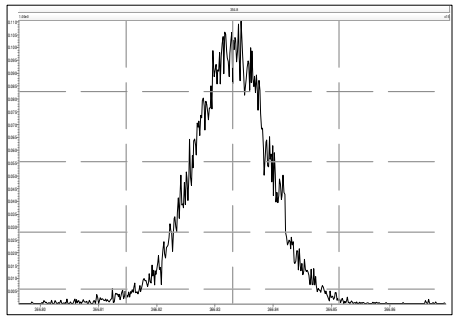
M 342.9792 R 11909



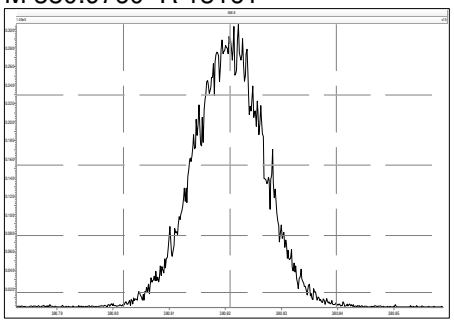
M 354.9792 R 11684



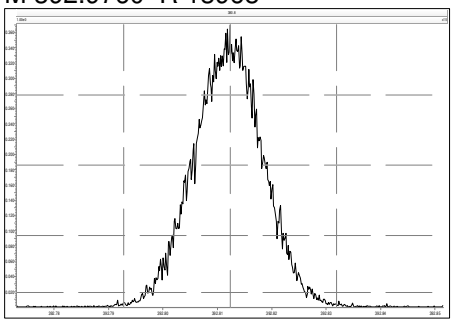
M 366.9792 R 11962



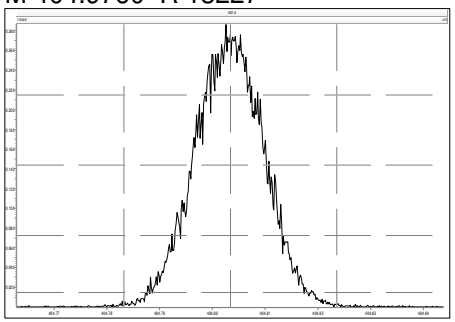
M 380.9760 R 13161



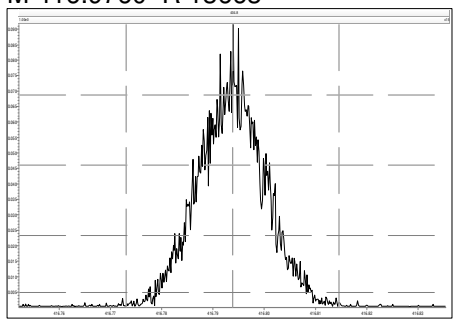
M 392.9760 R 13968



M 404.9760 R 13227



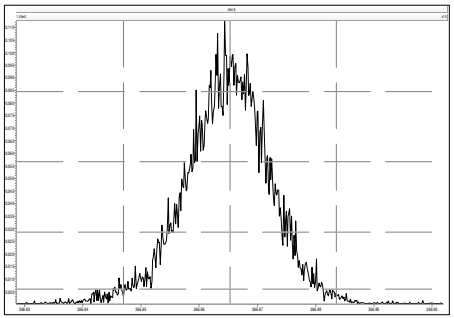
M 416.9760 R 13663



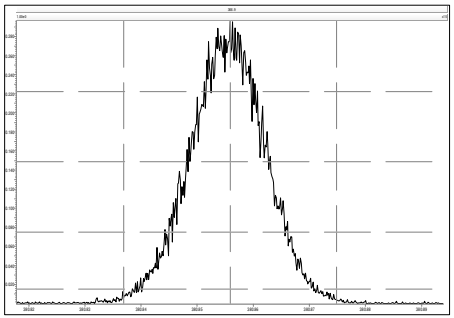
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

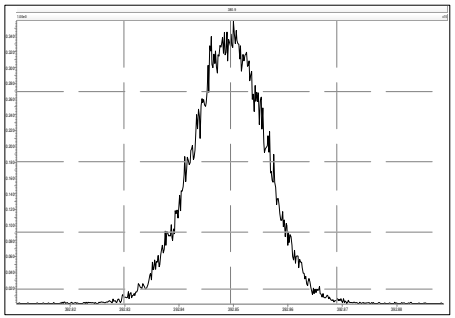
M 366.9792 R 10680



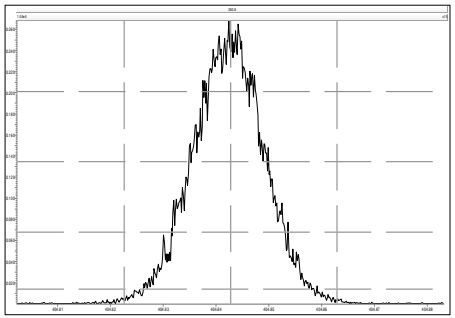
M 380.9760 R 12315



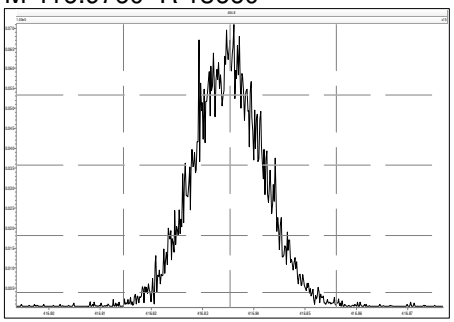
M 392.9760 R 12197



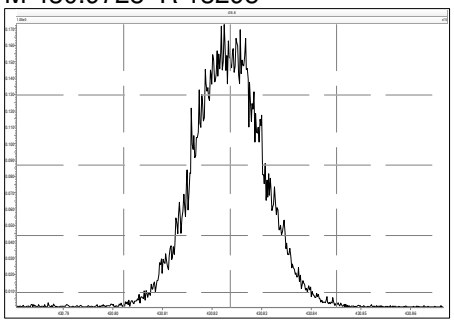
M 404.9760 R 12433



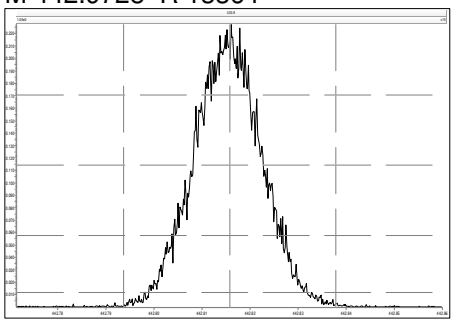
M 416.9760 R 13660



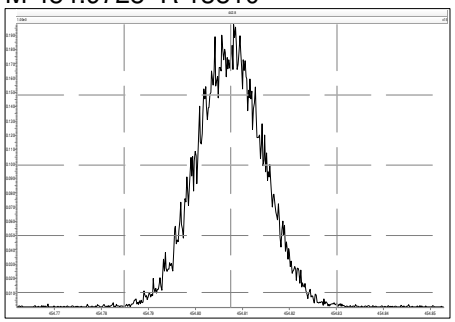
M 430.9728 R 13295



M 442.9728 R 13364



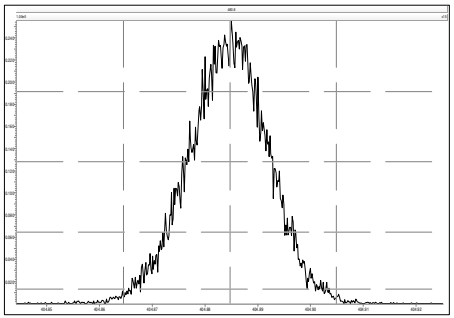
M 454.9728 R 13810



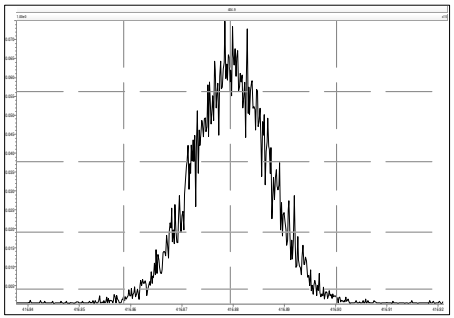
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

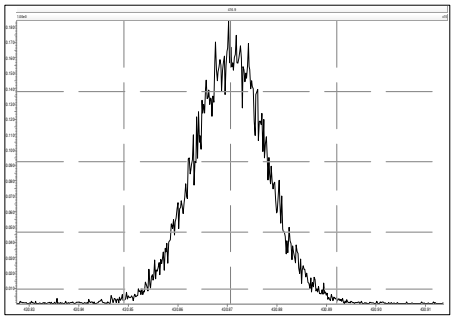
M 404.9760 R 11679



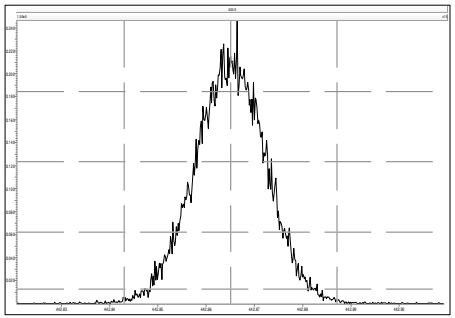
M 416.9760 R 12886



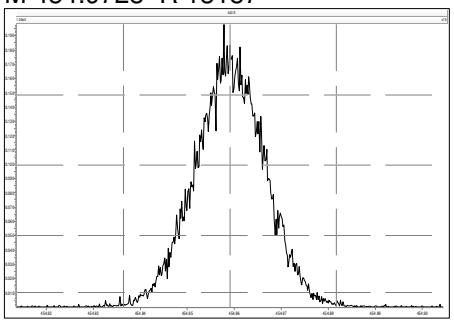
M 430.9728 R 12253



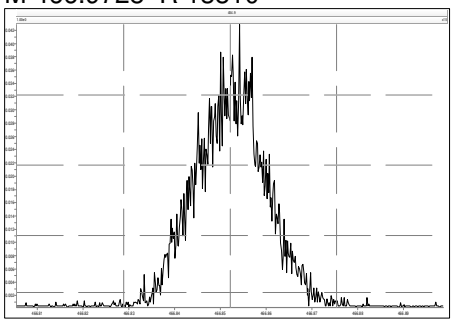
M 442.9728 R 12756



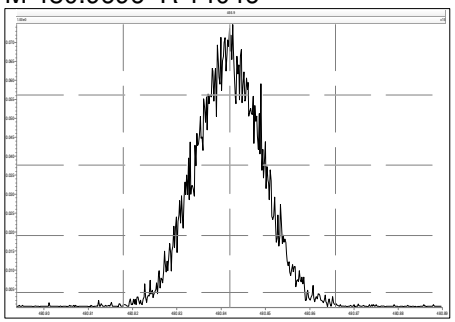
M 454.9728 R 13157



M 466.9728 R 13810



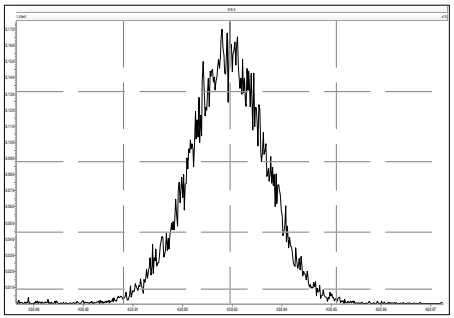
M 480.9696 R 14046



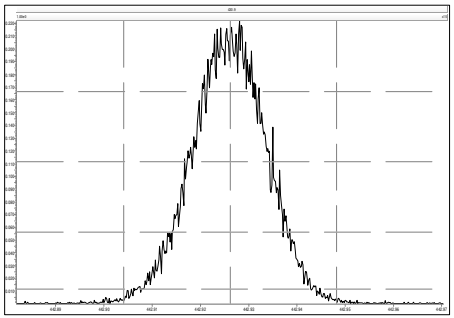
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

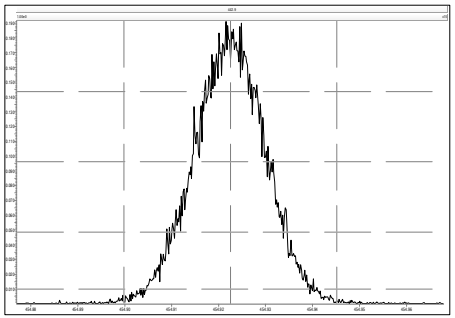
M 430.9728 R 11574



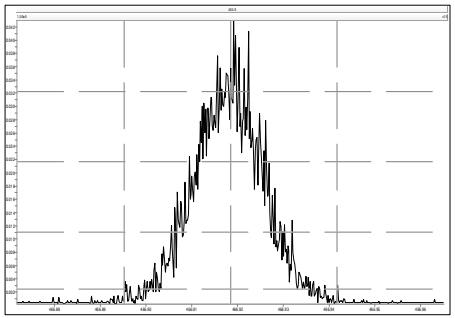
M 442.9728 R 12198



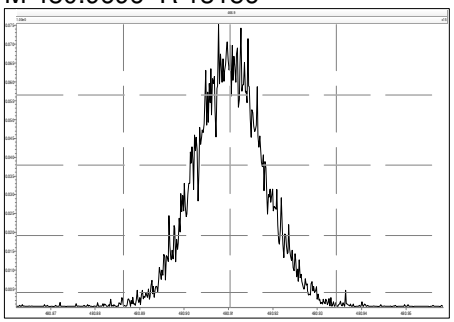
M 454.9728 R 12950



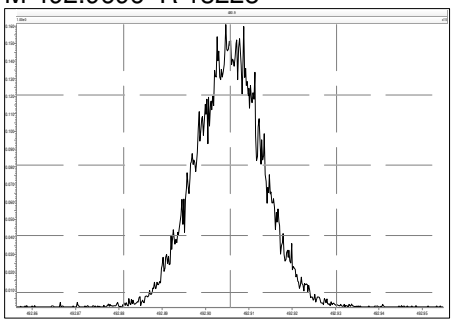
M 466.9728 R 13088



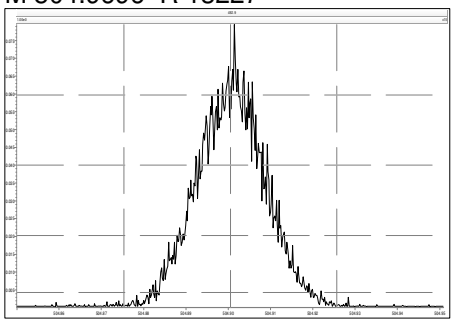
M 480.9696 R 13156



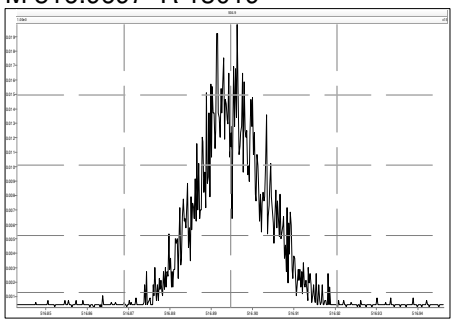
M 492.9696 R 13228



M 504.9696 R 13227



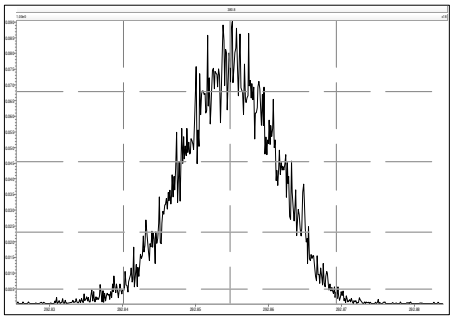
M 516.9697 R 13019



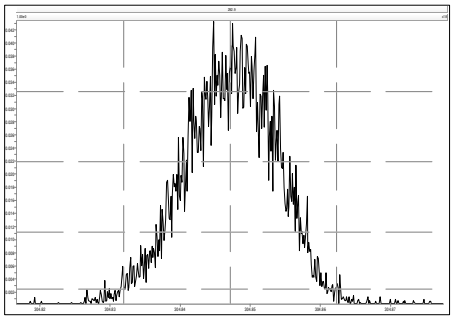
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

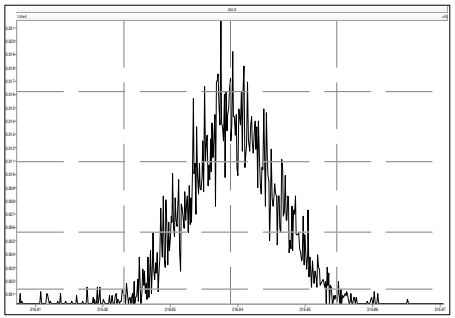
M 292.9824 R 10122



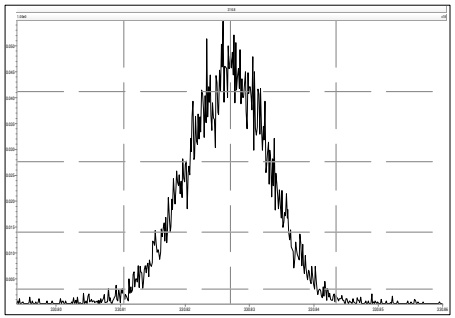
M 304.9824 R 10329



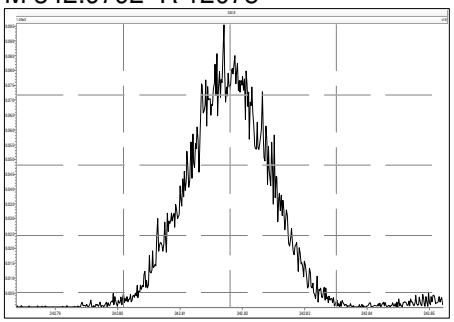
M 316.9824 R 11964



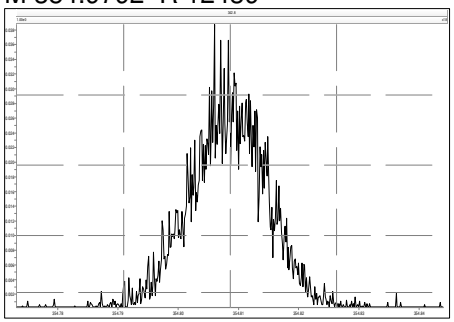
M 330.9792 R 11062



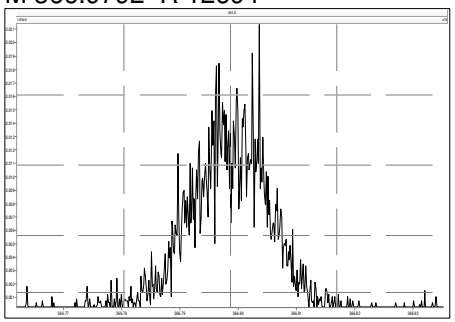
M 342.9792 R 12075



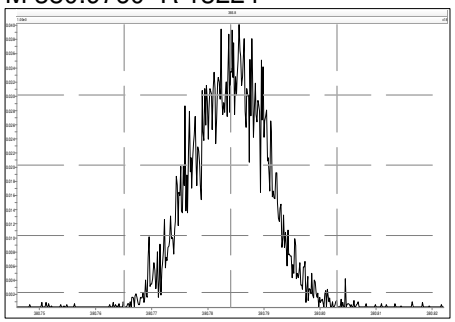
M 354.9792 R 12439



M 366.9792 R 12694



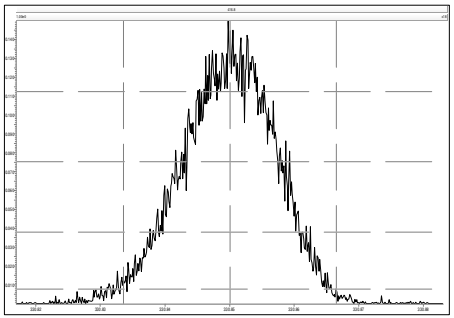
M 380.9760 R 13224



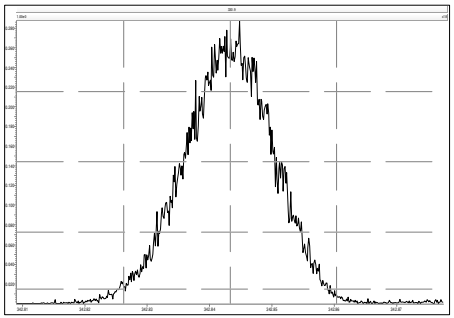
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

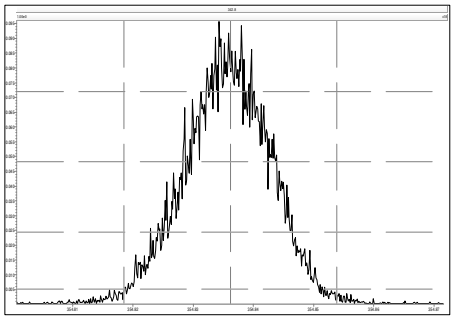
M 330.9792 R 10730



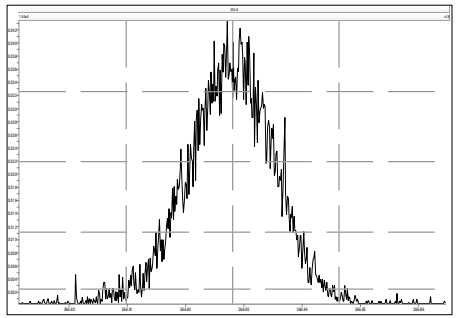
M 342.9792 R 10039



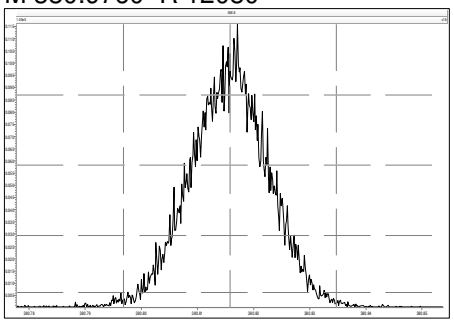
M 354.9792 R 11108



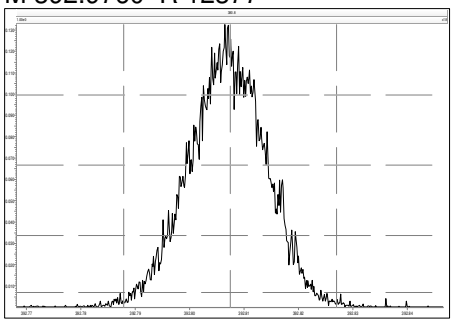
M 366.9792 R 11520



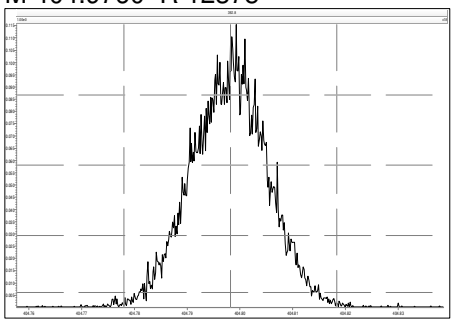
M 380.9760 R 12080



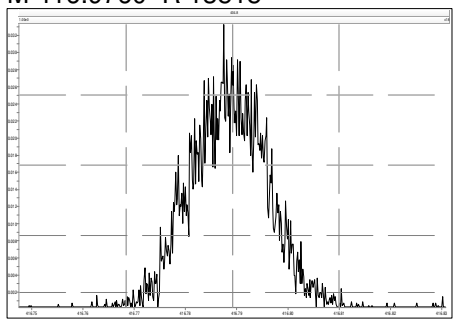
M 392.9760 R 12377



M 404.9760 R 12375



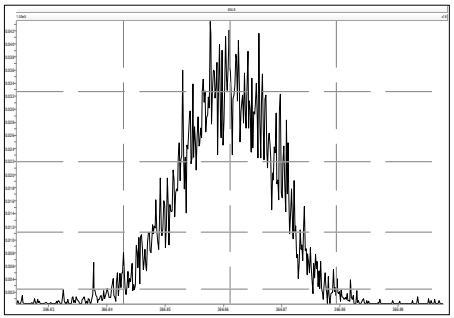
M 416.9760 R 13515



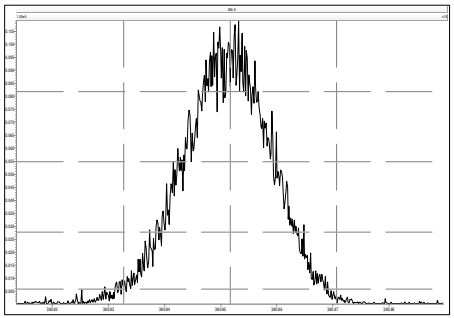
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

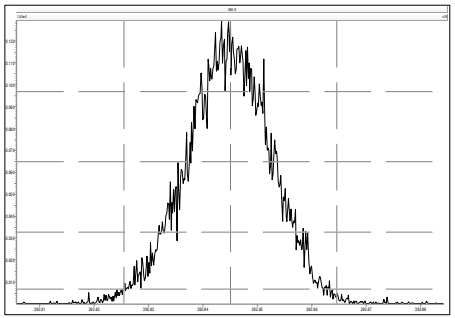
M 366.9792 R 10866



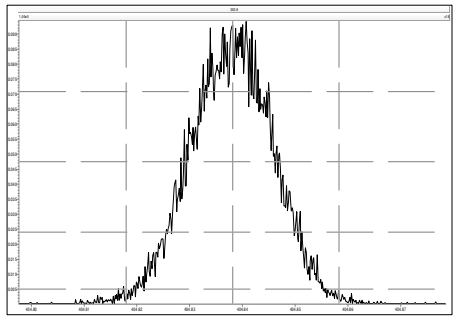
M 380.9760 R 10416



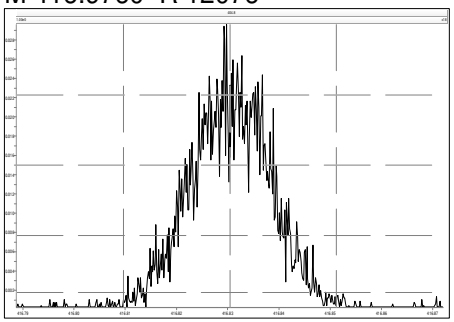
M 392.9760 R 10640



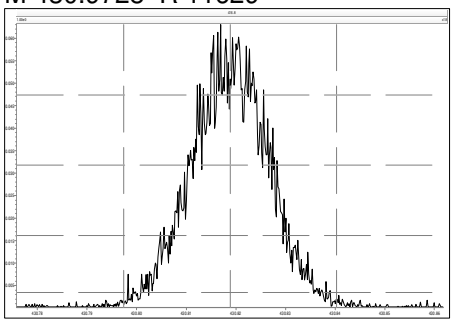
M 404.9760 R 11957



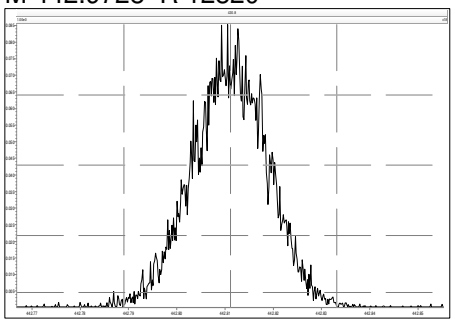
M 416.9760 R 12076



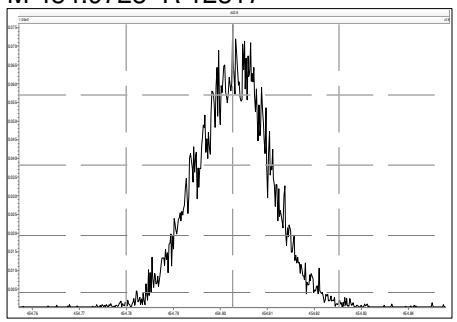
M 430.9728 R 11629



M 442.9728 R 12820



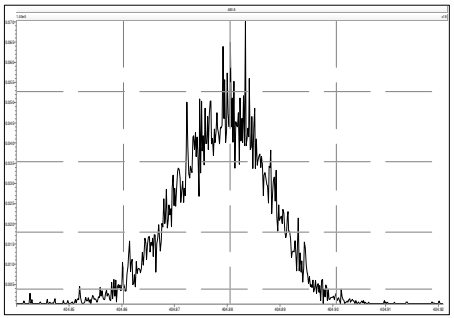
M 454.9728 R 12317



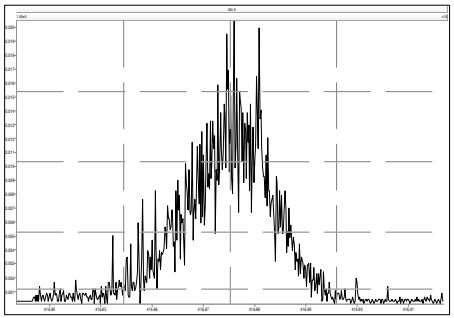
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

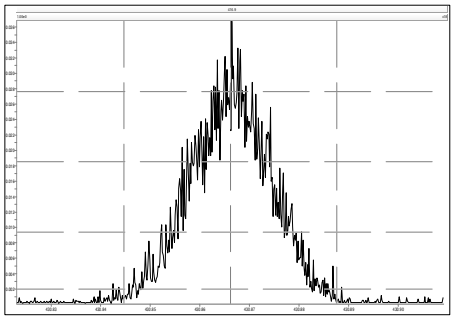
M 404.9760 R 10505



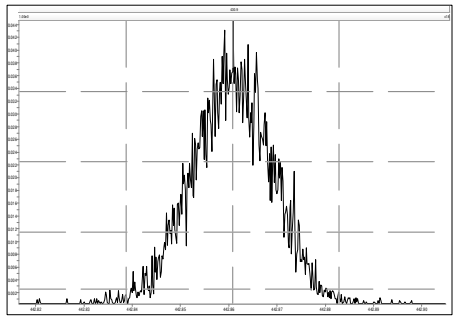
M 416.9760 R 12500



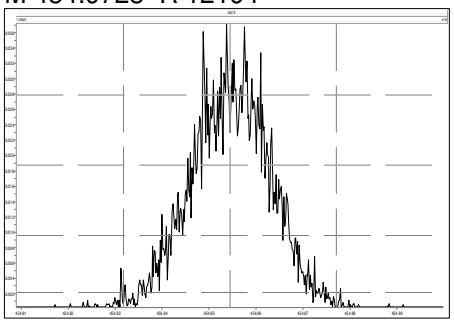
M 430.9728 R 11362



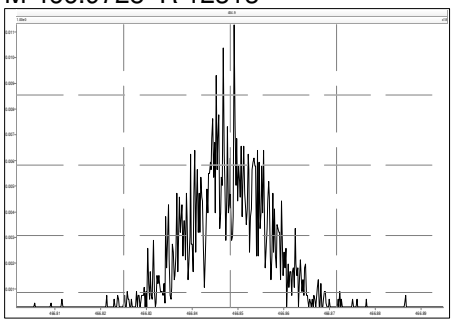
M 442.9728 R 12756



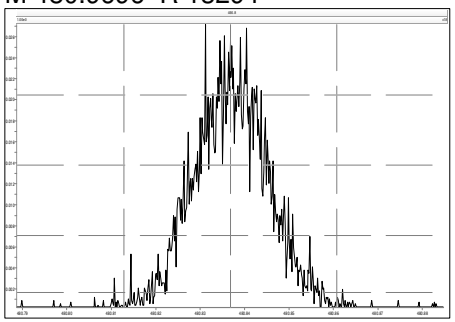
M 454.9728 R 12194



M 466.9728 R 12313



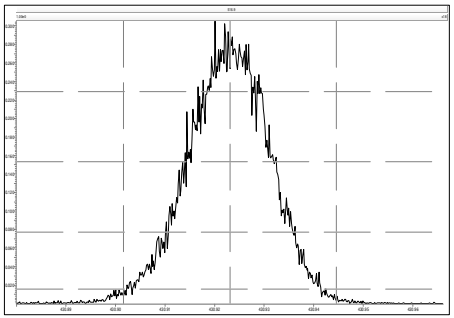
M 480.9696 R 13294



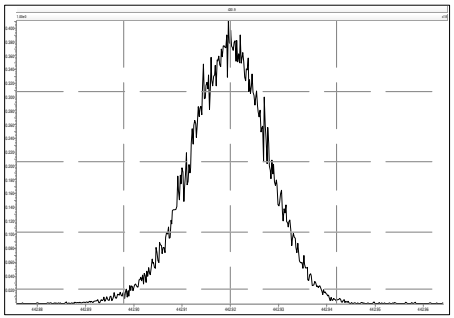
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

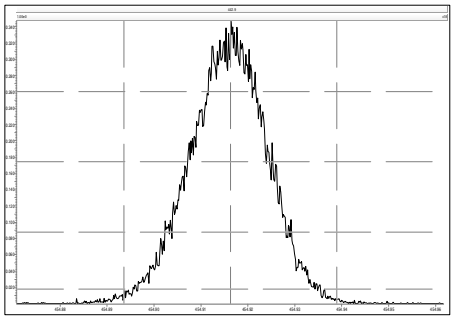
M 430.9728 R 11312



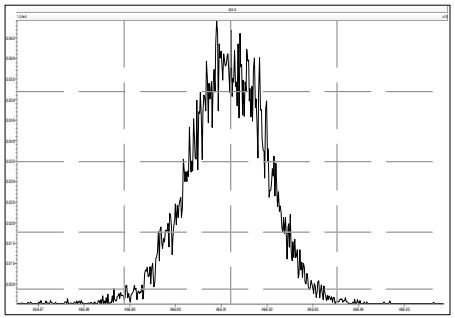
M 442.9728 R 11110



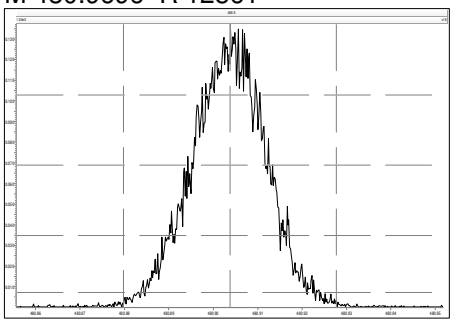
M 454.9728 R 11906



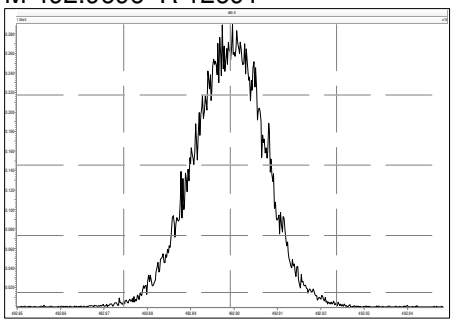
M 466.9728 R 12562



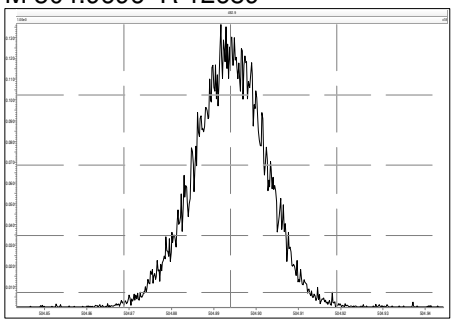
M 480.9696 R 12561



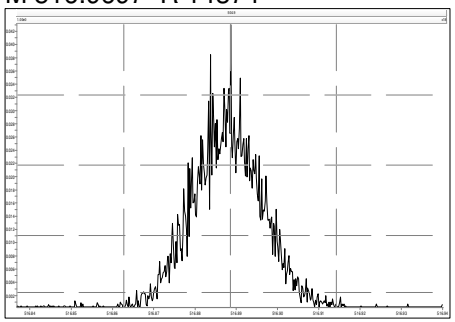
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



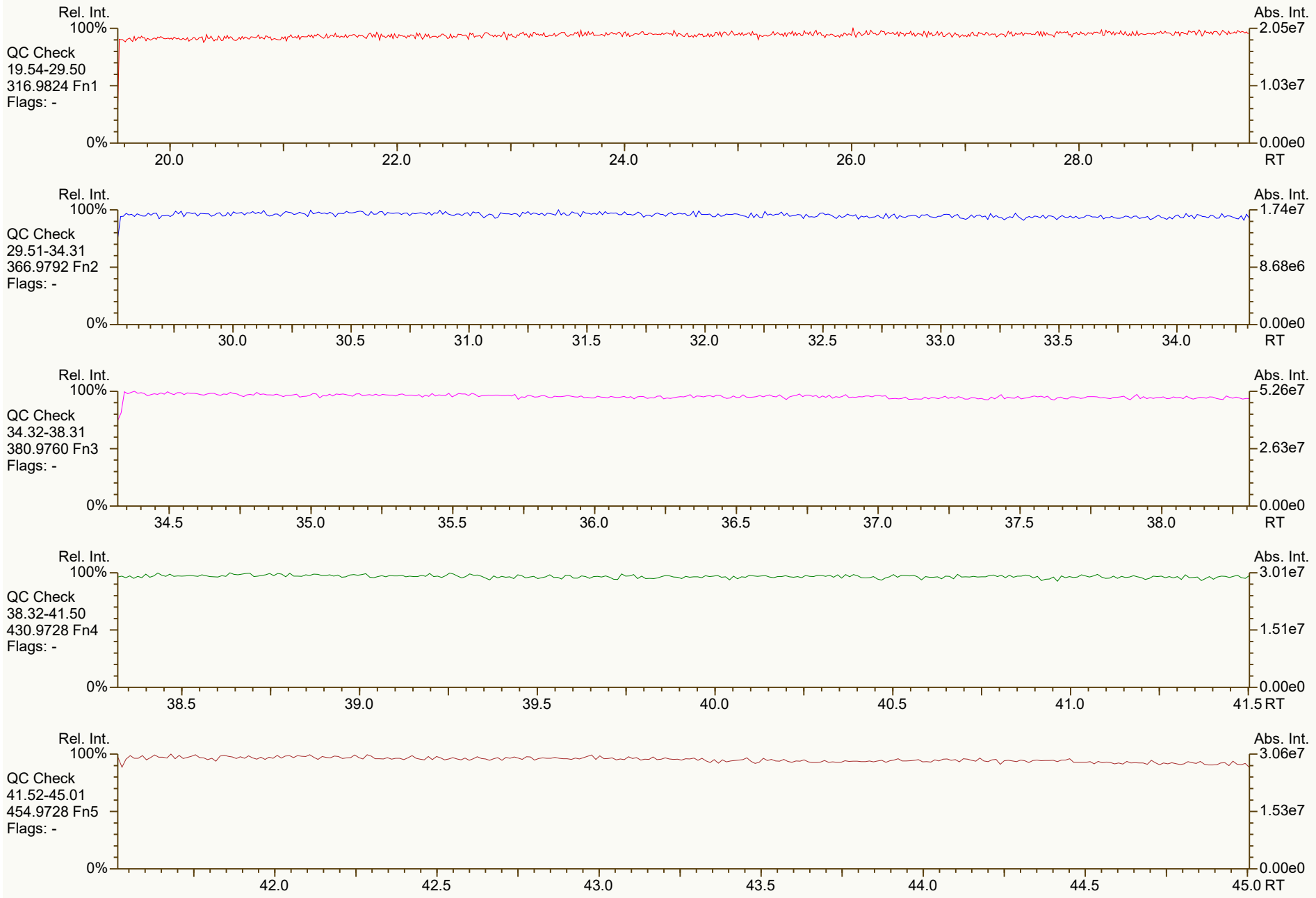
ICV

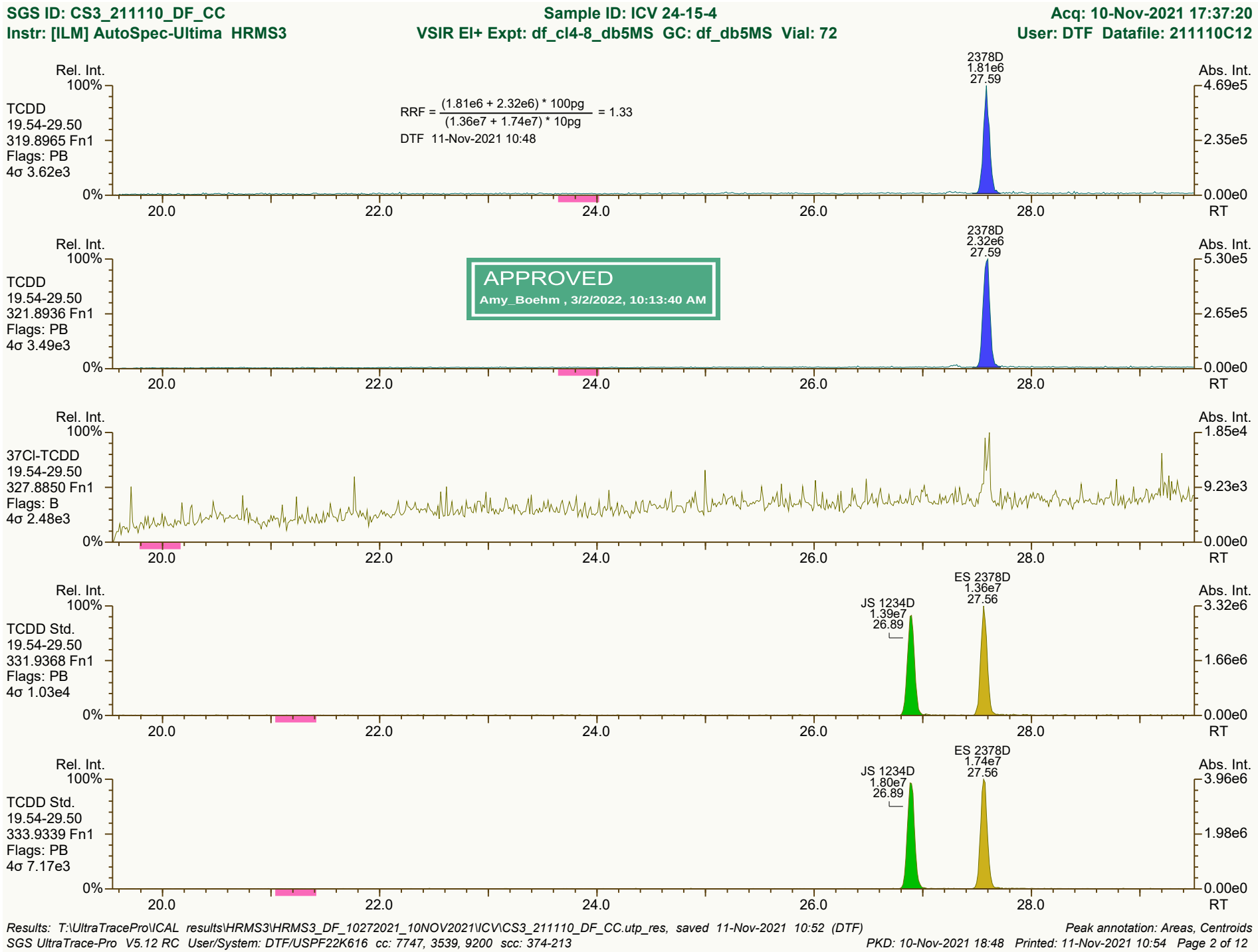
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 17:37 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CC	UTP: 10-Nov-2021 18:48:15 DTF	Checkcode: 374-213-QVL
Sample ID: ICV 24-15-4	Report: 11 Nov 2021 16:42 TF	Datafile: 211110C12

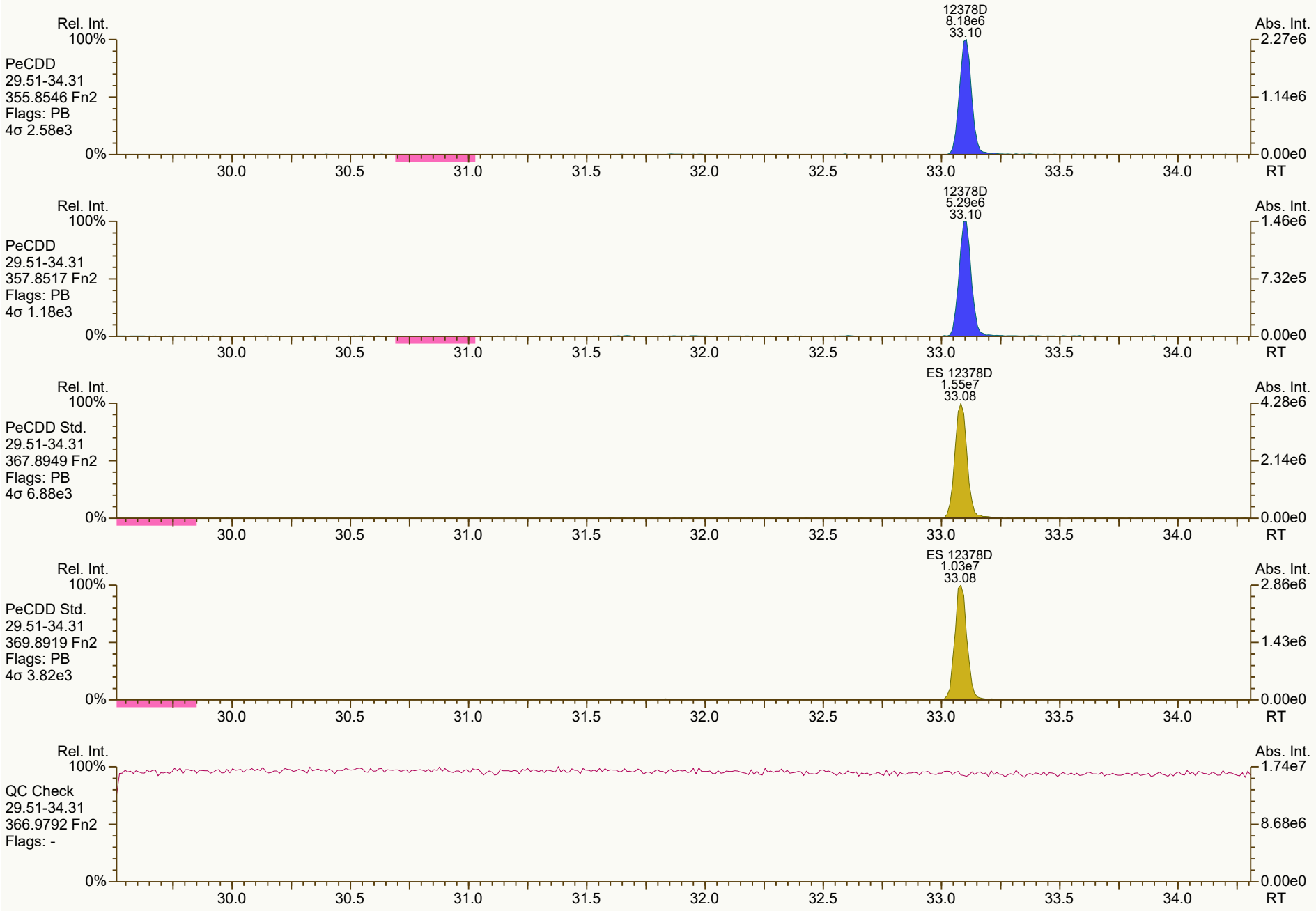
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	4.13E+06	0.78	Y	1.18	1.33	12%
12378-PeCDD	33.10	1.35E+07	1.55	Y	1.04	1.05	1%
123478-HxCDD	37.04	1.36E+07	1.26	Y	1.09	1.18	8%
123678-HxCDD	37.16	1.42E+07	1.24	Y	1.15	1.26	10%
123789-HxCDD	37.46	1.41E+07	1.23	Y	1.05	1.04	0%
1234678-HpCDD	40.28	1.20E+07	1.04	Y	1.06	1.13	6%
OCDD	42.84	1.80E+07	0.90	Y	1.13	1.20	7%
2378-TCDF	26.67	5.08E+06	0.80	Y	1.08	1.14	6%
12378-PeCDF	31.62	1.94E+07	1.53	Y	1.02	1.05	3%
23478-PeCDF	32.75	2.02E+07	1.52	Y	1.02	1.10	8%
123478-HxCDF	36.06	1.89E+07	1.25	Y	1.27	1.38	8%
123678-HxCDF	36.20	1.96E+07	1.24	Y	1.15	1.22	6%
234678-HxCDF	36.85	1.91E+07	1.24	Y	1.19	1.30	10%
123789-HxCDF	37.84	1.62E+07	1.21	Y	1.16	1.18	1%
1234678-HpCDF	39.35	1.68E+07	1.02	Y	1.37	1.45	6%
1234789-HpCDF	40.71	1.42E+07	1.01	Y	1.31	1.42	9%
OCDF	43.01	2.16E+07	0.90	Y	1.07	1.14	6%
ES 2378-TCDD	27.57	3.10E+07	0.78	Y	1.05	0.97	-7%
ES 12378-PeCDD	33.085	2.58E+07	1.50	Y	0.88	0.81	-8%
ES 123478-HxCDD	37.023	2.31E+07	1.24	Y	0.97	0.96	-2%
ES 123678-HxCDD	37.14	2.25E+07	1.21	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.447	2.69E+07	1.21	Y	1.09	1.12	2%
ES 1234678-HpCDD	40.268	2.12E+07	1.07	Y	0.91	0.88	-4%
ES OCDD	42.827	2.99E+07	0.92	Y	0.62	0.62	-1%
ES 2378-TCDF	26.652	4.46E+07	0.81	Y	1.06	0.97	-8%
ES 12378-PeCDF	31.599	3.69E+07	1.57	Y	0.91	0.80	-12%
ES 23478-PeCDF	32.731	3.67E+07	1.58	Y	0.88	0.80	-10%
ES 123478-HxCDF	36.041	2.74E+07	0.54	Y	1.20	1.14	-5%
ES 123678-HxCDF	36.182	3.20E+07	0.55	Y	1.35	1.33	-2%
ES 234678-HxCDF	36.836	2.93E+07	0.52	Y	1.24	1.21	-2%
ES 123789-HxCDF	37.827	2.76E+07	0.54	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.337	2.32E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.704	1.99E+07	0.46	Y	0.85	0.83	-3%
ES OCDF	42.996	3.78E+07	0.90	Y	0.81	0.78	-3%

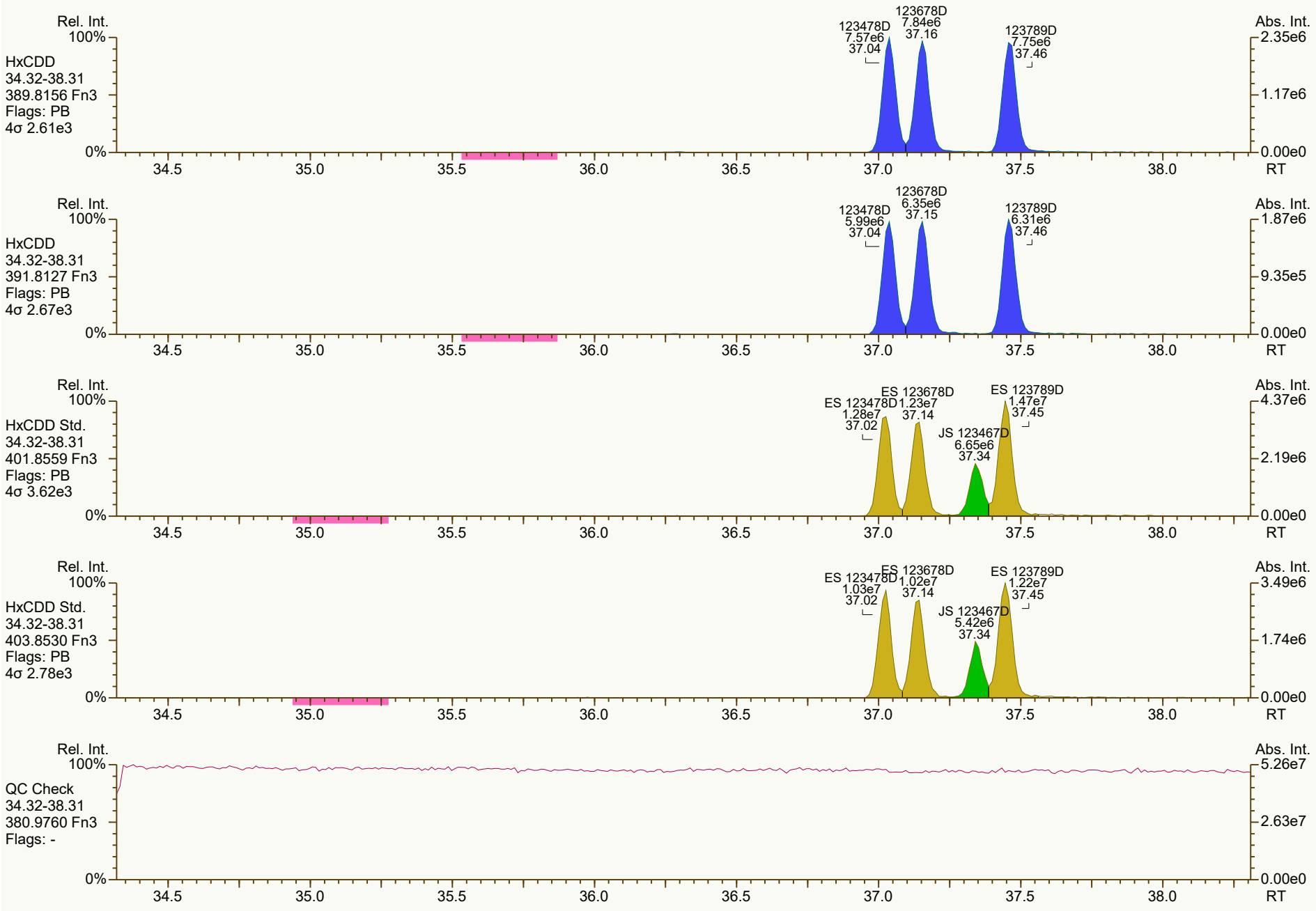
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 17:37 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CC	UTP: 10-Nov-2021 18:48:15 DTF	Checkcode: 374-213-QVL
Sample ID: ICV 24-15-4	Report: 11 Nov 2021 16:42 TF	Datafile: 211110C12

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.19E+07	0.77	Y	-	-	-
JS 1234-TCDF	25.24	4.59E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.21E+07	1.23	Y	-	-	-
CS 37Cl 2378 TCDD	0.00	0.00E+00	n/a	-	1.20	0.00	-100%
CS 12347 PeCDD	0.00	0.00E+00	0.00	0	0.75	0.00	-100%
CS 12346 PeCDF	0.00	0.00E+00	0.00	0	0.85	0.00	-100%
CS 123469 HxCDF	0.00	0.00E+00	0.00	0	1.12	0.00	-100%
CS 1234689 HpCDF	0.00	0.00E+00	0.00	0	0.89	0.00	-100%
SS 37Cl 2378 TCDD	0.00	0.00E+00	n/a	-	1.15	0.00	-100%
SS 12347 PeCDD	0.00	0.00E+00	0.00	0	0.86	0.00	-100%
SS 12346 PeCDF	0.00	0.00E+00	0.00	0	0.94	0.00	-100%
SS 123469 HxCDF	0.00	0.00E+00	0.00	0	0.83	0.00	-100%
SS 1234689 HpCDF	0.00	0.00E+00	0.00	0	0.92	0.00	-100%
OCDD a	42.83	8.82E+05	3.54	N	0.07	0.06	-10%
OCDF a	43.01	1.42E+06	2.57	Y	0.07	0.07	13%

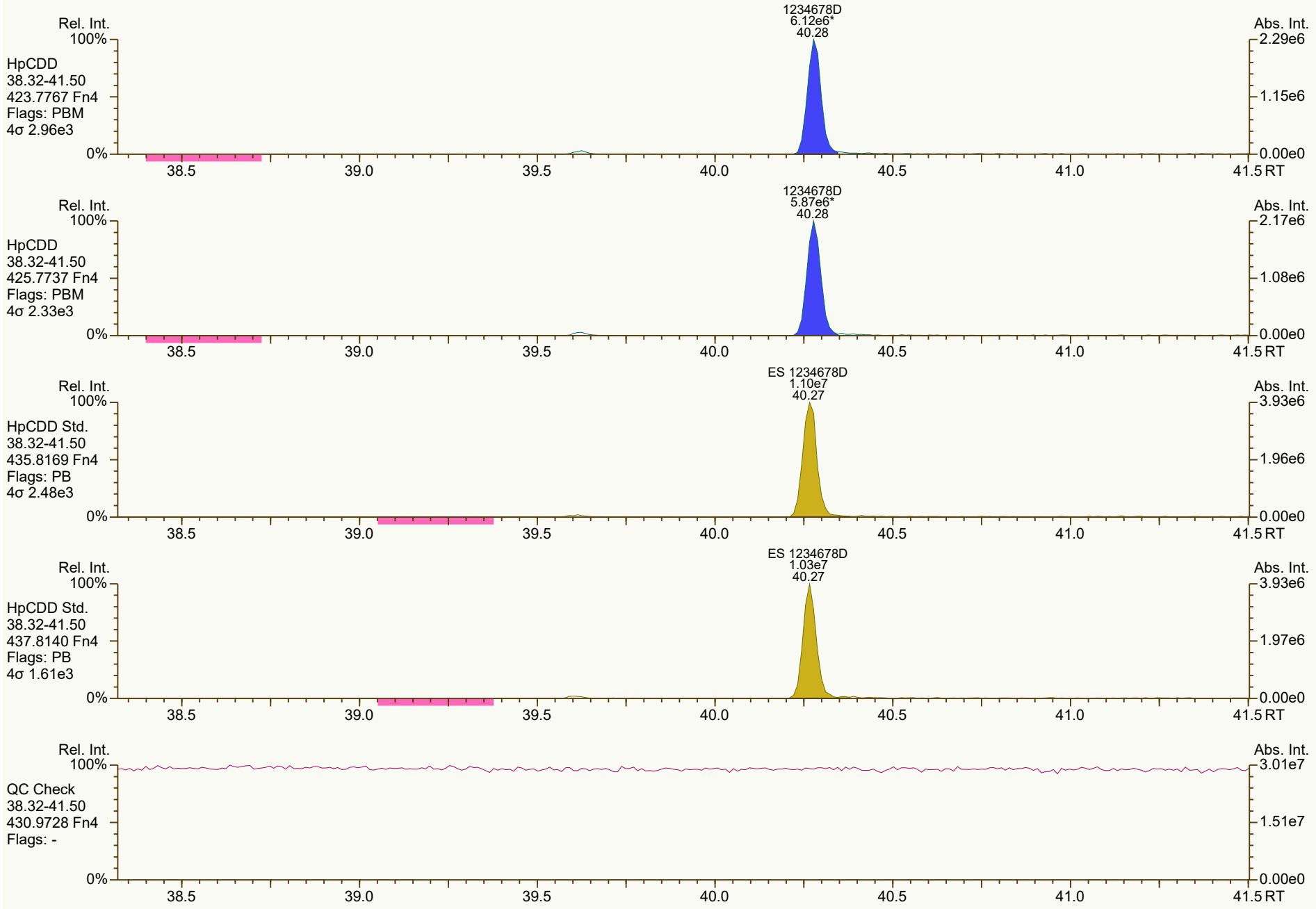

Rel. Int.
100%
0%
Abs. Int.
2.05e7
1.03e7
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
Rel. Int.
100%
0%
Abs. Int.
1.74e7
8.68e6
0.00e0
RT
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Rel. Int.
100%
0%
Abs. Int.
5.26e7
2.63e7
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Rel. Int.
100%
0%
Abs. Int.
3.01e7
1.51e7
0.00e0
RT
38.5
39.0
39.5
40.0
40.5
41.0
41.5
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Rel. Int.
100%
0%
Abs. Int.
3.06e7
1.53e7
0.00e0
RT
42.0
42.5
43.0
43.5
44.0
44.5
45.0
QC Check
41.52-45.01
454.9728 Fn5
Flags: -


SGS ID: CS3_211110_DF_CC
Sample ID: ICV 24-15-4
Acq: 10-Nov-2021 17:37:20
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72
User: DTF Datafile: 211110C12
Rel. Int.
Abs. Int.
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.62e3
2378D
1.81e6
27.59
4.69e5
2.35e5
0.00e0
RRF = (1.81e6 + 2.32e6) * 100pg / (1.36e7 + 1.74e7) * 10pg = 1.33
DTF 11-Nov-2021 10:48
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 3.49e3
2378D
2.32e6
27.59
5.30e5
2.65e5
0.00e0
APPROVED
Amy_Boehm , 3/2/2022, 10:13:40 AM
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 2.48e3
1.85e4
9.23e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 1.03e4
JS 1234D
1.39e7
26.89
ES 2378D
1.36e7
27.56
3.32e6
1.66e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 7.17e3
JS 1234D
1.80e7
26.89
ES 2378D
1.74e7
27.56
3.96e6
1.98e6
100%
0%
20.0
22.0
24.0
26.0
28.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\ICV\CS3_211110_DF_CC.utp_res, saved 11-Nov-2021 10:52 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 7747, 3539, 9200 scc: 374-213
PKD: 10-Nov-2021 18:48 Printed: 11-Nov-2021 10:54 Page 2 of 12

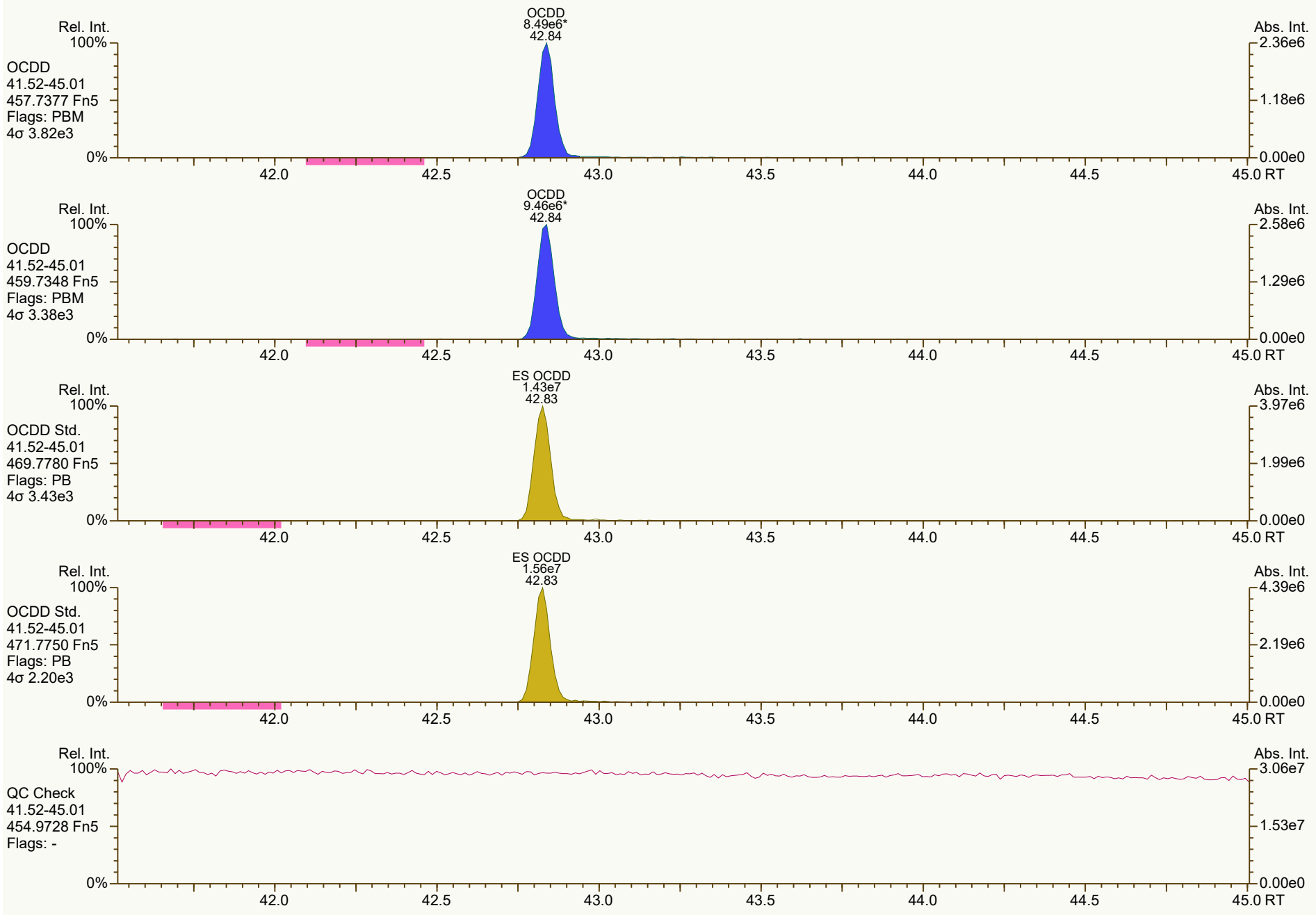

Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.58e3
12378D
8.18e6
33.10
Abs. Int.
2.27e6
1.14e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.18e3
12378D
5.29e6
33.10
Abs. Int.
1.46e6
7.32e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 6.88e3
ES 12378D
1.55e7
33.08
Abs. Int.
4.28e6
2.14e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 3.82e3
ES 12378D
1.03e7
33.08
Abs. Int.
2.86e6
1.43e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
1.74e7
8.68e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT



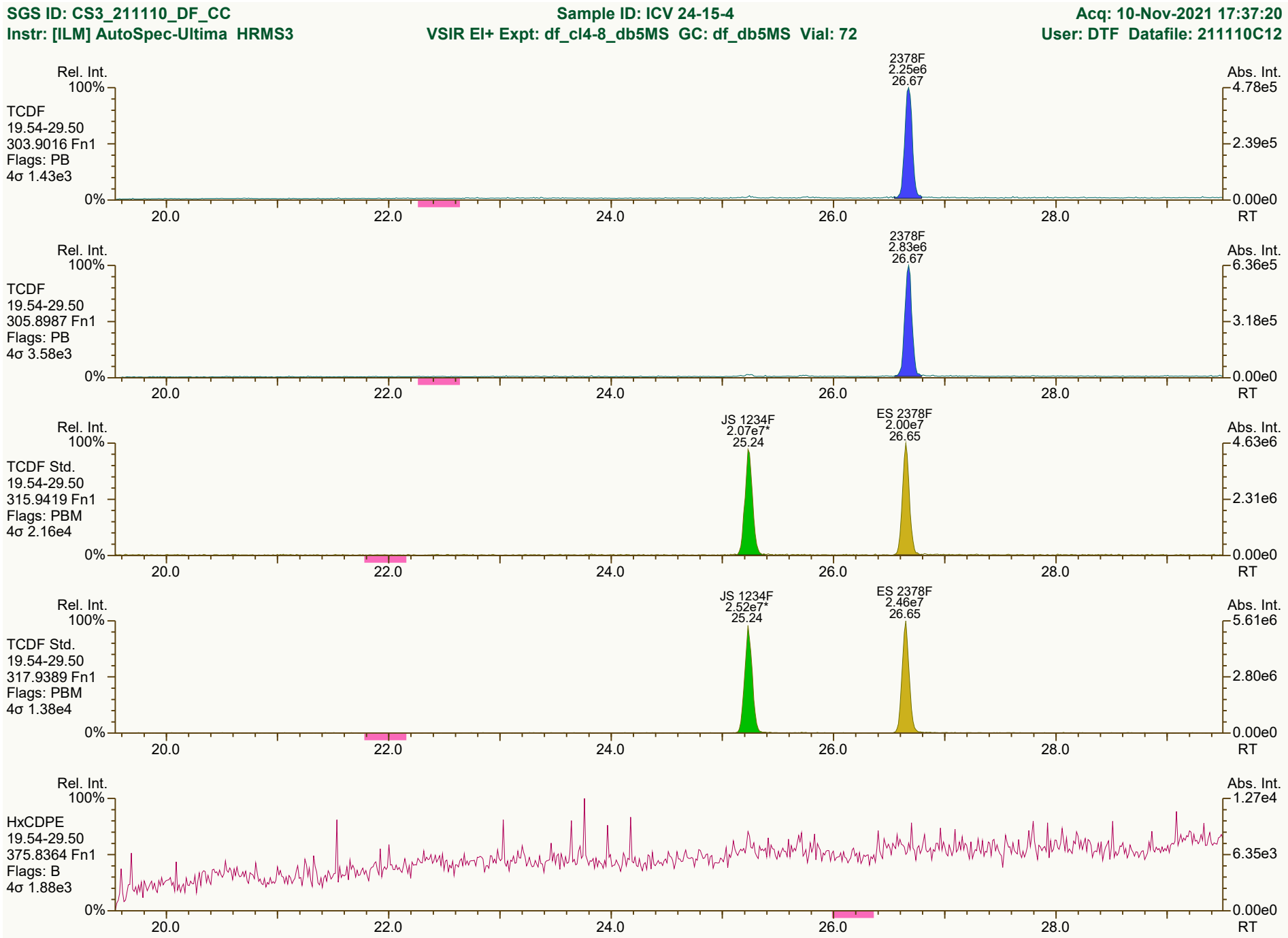
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\ICV\CS3_211110_DF_CC.utp_res, saved 11-Nov-2021 10:52 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 9278, 5011 scc: 374-213
PKD: 10-Nov-2021 18:48 Printed: 11-Nov-2021 10:54 Page 4 of 12



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\ICV\CS3_211110_DF_CC.utp_res, saved 11-Nov-2021 10:52 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0911, 6539 scc: 374-213 *Revised: 10-Nov-2021 18:47 (DTF) Printed: 11-Nov-2021 10:54 Page 5 of 12*


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 3.82e3
0%
OCDD
8.49e6*
42.84
Abs. Int.
2.36e6
1.18e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 3.38e3
0%
OCDD
9.46e6*
42.84
Abs. Int.
2.58e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 3.43e3
0%
ES OCDD
1.43e7
42.83
Abs. Int.
3.97e6
1.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.20e3
0%
ES OCDD
1.56e7
42.83
Abs. Int.
4.39e6
2.19e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
3.06e7
1.53e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: CS3_211110_DF_CC | Sample ID: ICV 24-15-4 | Acq: 10-Nov-2021 17:37:20
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72 | User: DTF Datafile: 211110C12



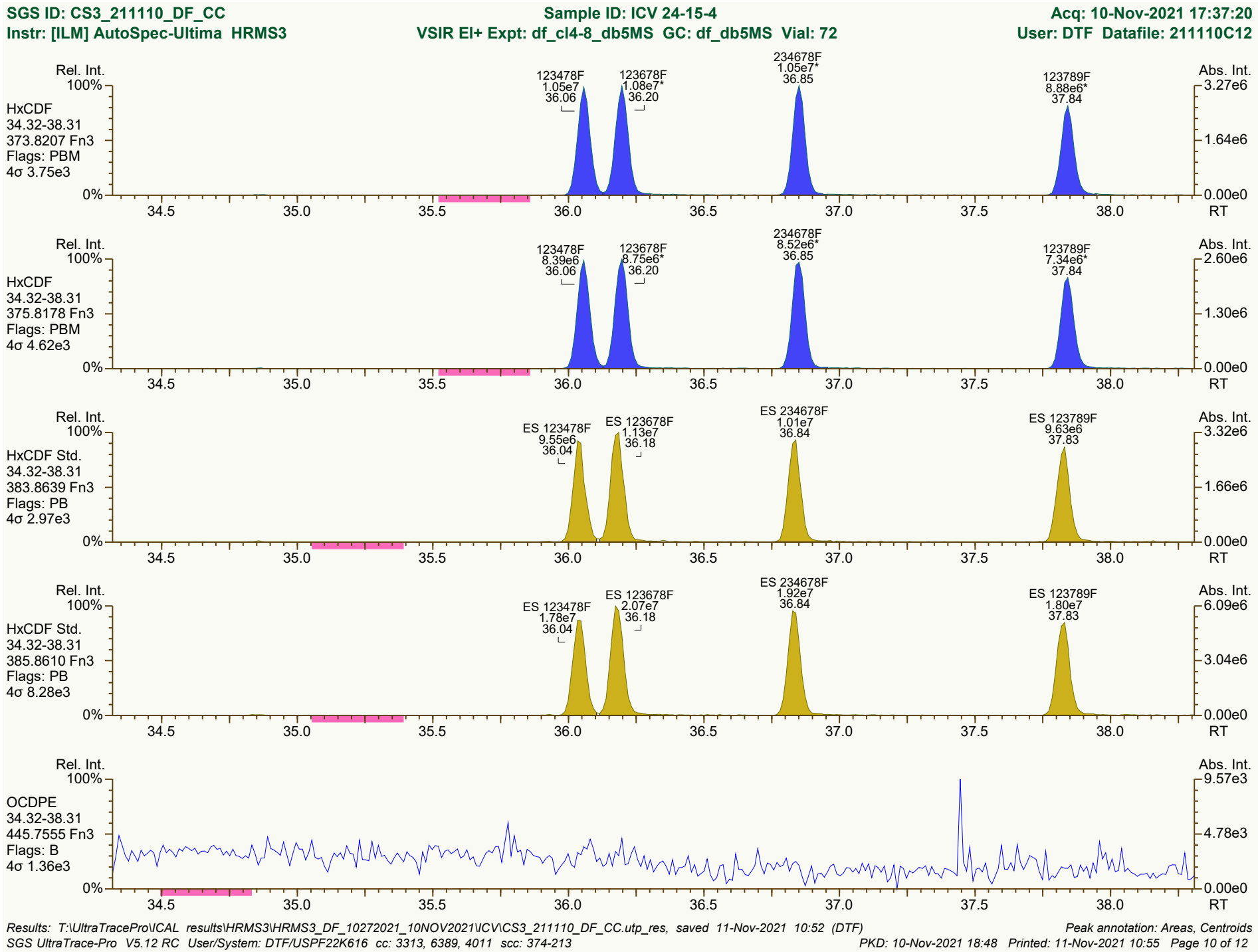
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\ICV\CS3_211110_DF_CC.utp_res, saved 11-Nov-2021 10:52 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0077, 2664, 9570 scc: 374-213 | Revised: 10-Nov-2021 18:47 (DTF) Printed: 11-Nov-2021 10:54 Page 7 of 12

SGS ID: CS3_211110_DF_CC
Sample ID: ICV 24-15-4
Acq: 10-Nov-2021 17:37:20
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72
User: DTF Datafile: 211110C12

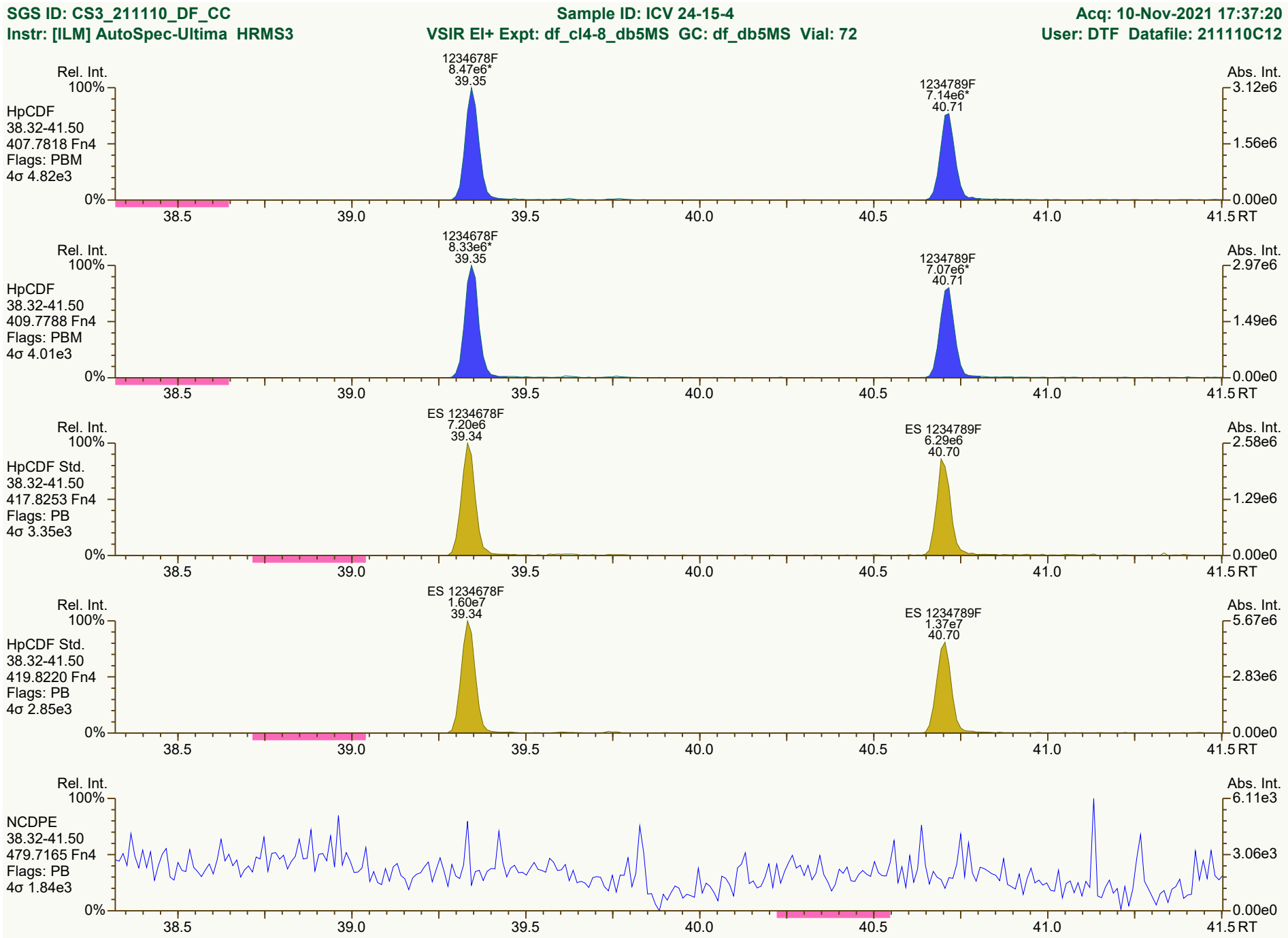


Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\ICV\CS3_211110_DF_CC.utp_res, saved 11-Nov-2021 10:52 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 1074 scc: 374-213
PKD: 10-Nov-2021 18:47 Printed: 11-Nov-2021 10:55 Page 8 of 12


SGS ID: CS3_211110_DF_CC
Sample ID: ICV 24-15-4
Acq: 10-Nov-2021 17:37:20
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72
User: DTF Datafile: 211110C12
Rel. Int.
Abs. Int.
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 3.80e3
12378F
1.17e7
31.62
23478F
1.22e7
32.75
3.48e6
1.74e6
0.00e0
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.76e3
12378F
7.66e6
31.62
23478F
8.01e6
32.75
2.35e6
1.17e6
0.00e0
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 3.75e3
ES 12378F
2.25e7
31.60
ES 23478F
2.24e7
32.73
6.56e6
3.28e6
0.00e0
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.28e3
ES 12378F
1.43e7
31.60
ES 23478F
1.42e7
32.73
4.17e6
2.08e6
0.00e0
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.07e3
1.20e4
6.02e3
0.00e0
100%
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\ICV\CS3_211110_DF_CC.utp_res, saved 11-Nov-2021 10:52 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 5743, 0930, 6634 scc: 374-213
PKD: 10-Nov-2021 18:48 Printed: 11-Nov-2021 10:55 Page 9 of 12

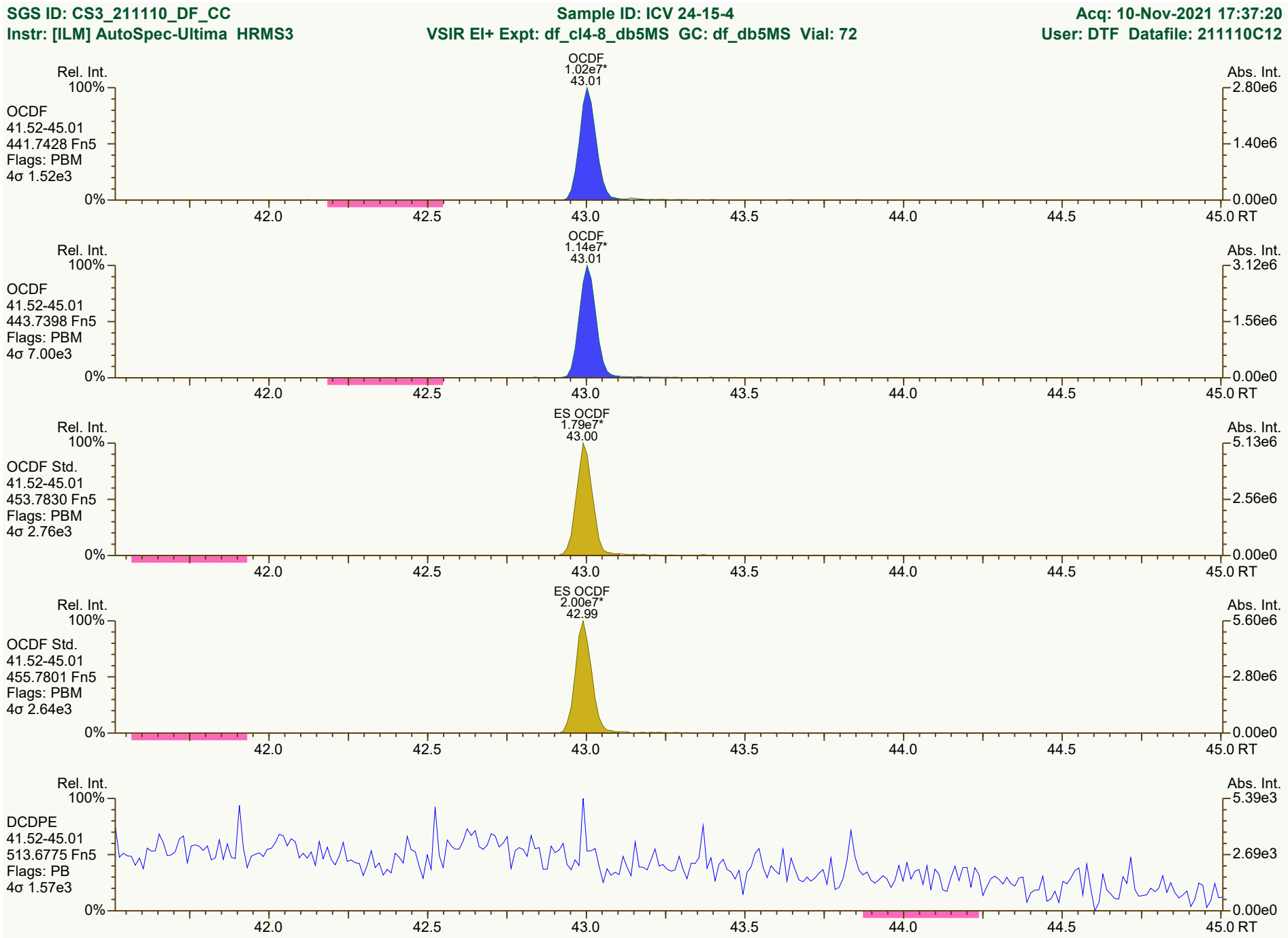

SGS ID: CS3_211110_DF_CC
Sample ID: ICV 24-15-4
Acq: 10-Nov-2021 17:37:20
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72
User: DTF Datafile: 211110C12
Rel. Int.
Abs. Int.
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 3.75e3
123478F 1.05e7 36.06
123678F 1.08e7* 36.20
234678F 1.05e7* 36.85
123789F 8.88e6* 37.84
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 4.62e3
123478F 8.39e6 36.06
123678F 8.75e6* 36.20
234678F 8.52e6* 36.85
123789F 7.34e6* 37.84
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 2.97e3
ES 123478F 9.55e6 36.04
ES 123678F 1.13e7 36.18
ES 234678F 1.01e7 36.84
ES 123789F 9.63e6 37.83
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.28e3
ES 123478F 1.78e7 36.04
ES 123678F 2.07e7 36.18
ES 234678F 1.92e7 36.84
ES 123789F 1.80e7 37.83
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.36e3
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\ICV\CS3_211110_DF_CC.utp_res, saved 11-Nov-2021 10:52 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3313, 6389, 4011 scc: 374-213
PKD: 10-Nov-2021 18:48 Printed: 11-Nov-2021 10:55 Page 10 of 12

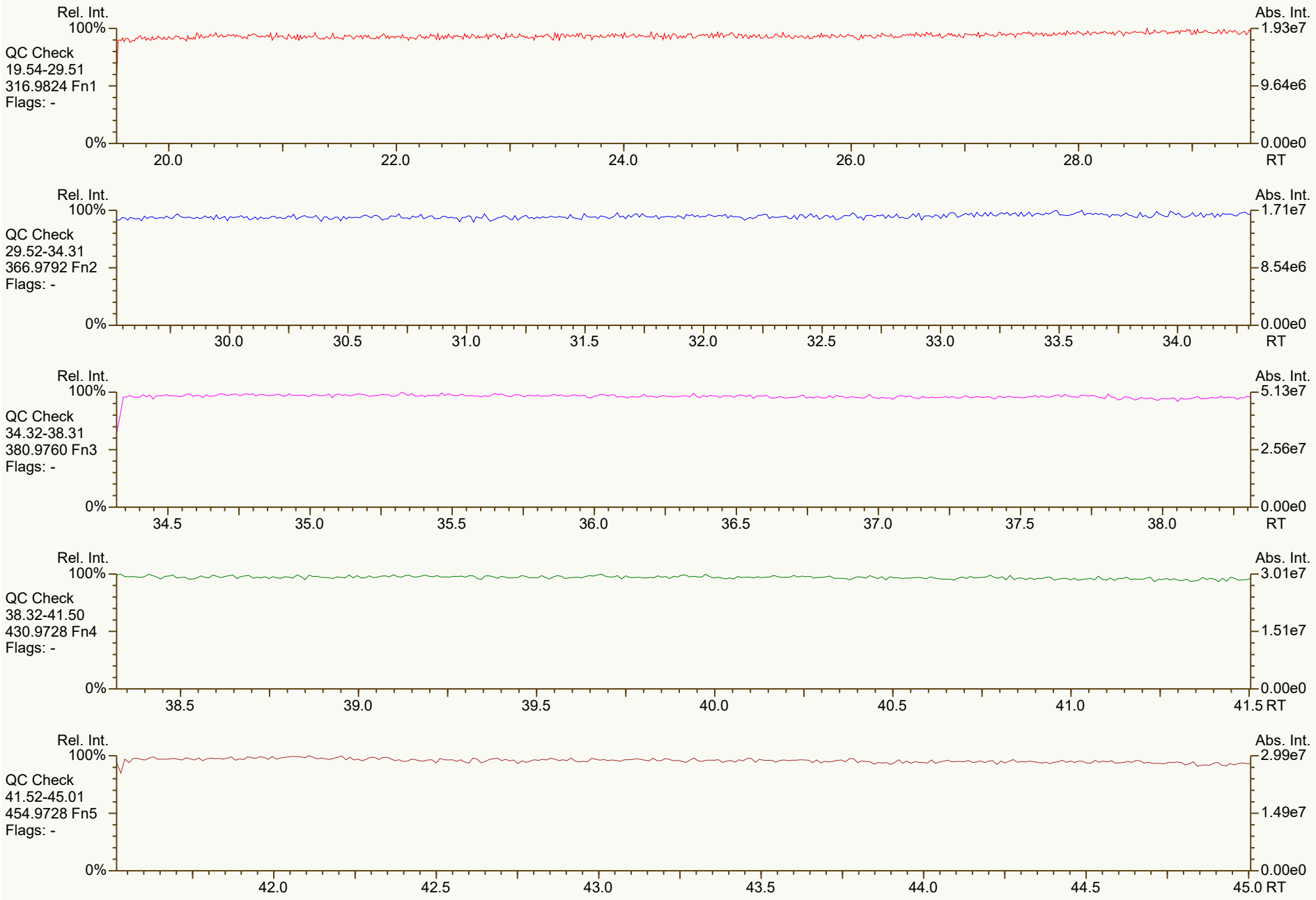
SGS ID: CS3_211110_DF_CC | Sample ID: ICV 24-15-4 | Acq: 10-Nov-2021 17:37:20
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72 | User: DTF Datafile: 211110C12

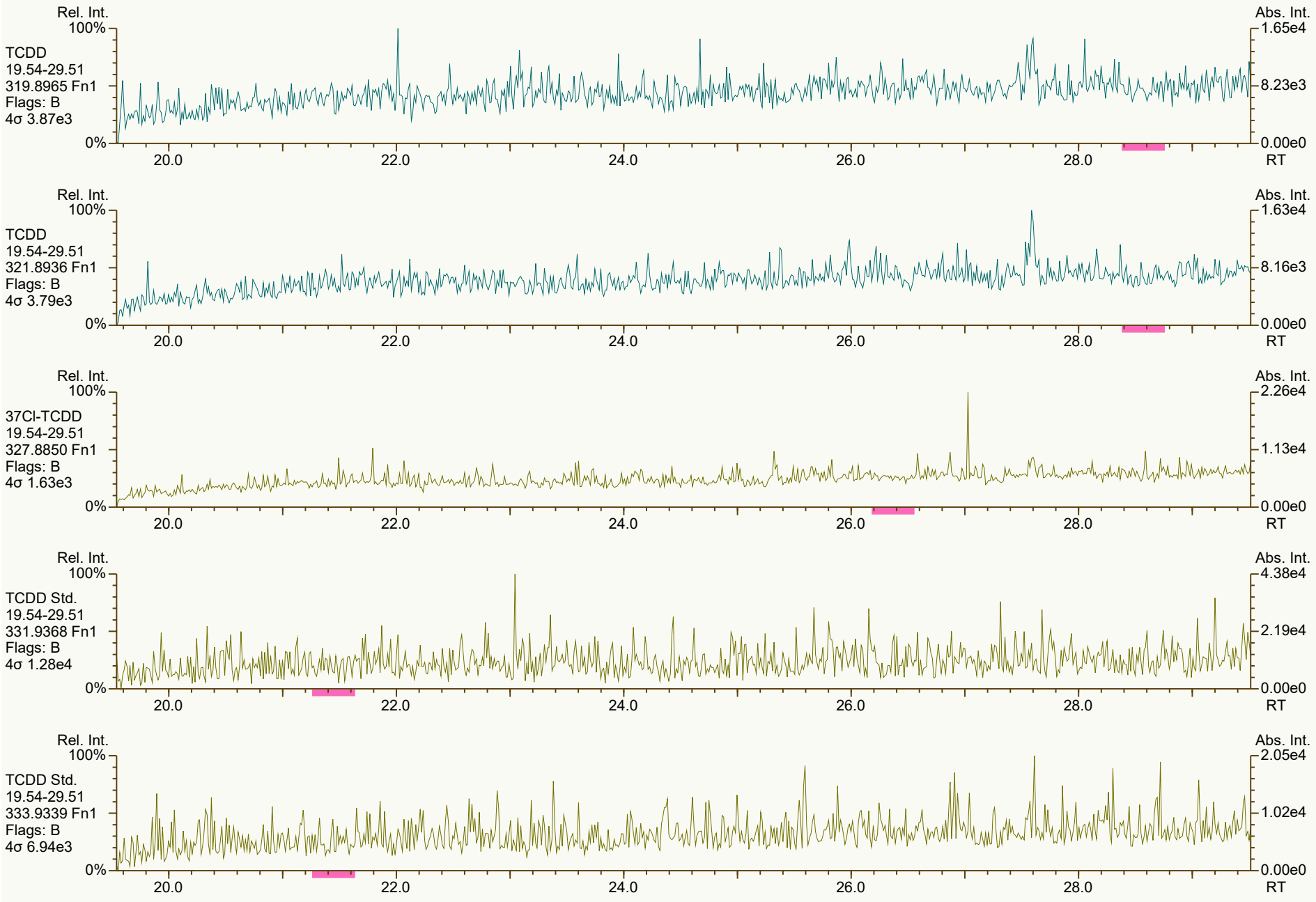


Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\ICV\CS3_211110_DF_CC.utp_res, saved 11-Nov-2021 10:52 (DTF) | Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4498, 1784, 9227 scc: 374-213 | PKD: 10-Nov-2021 18:48 Printed: 11-Nov-2021 10:55 Page 11 of 12

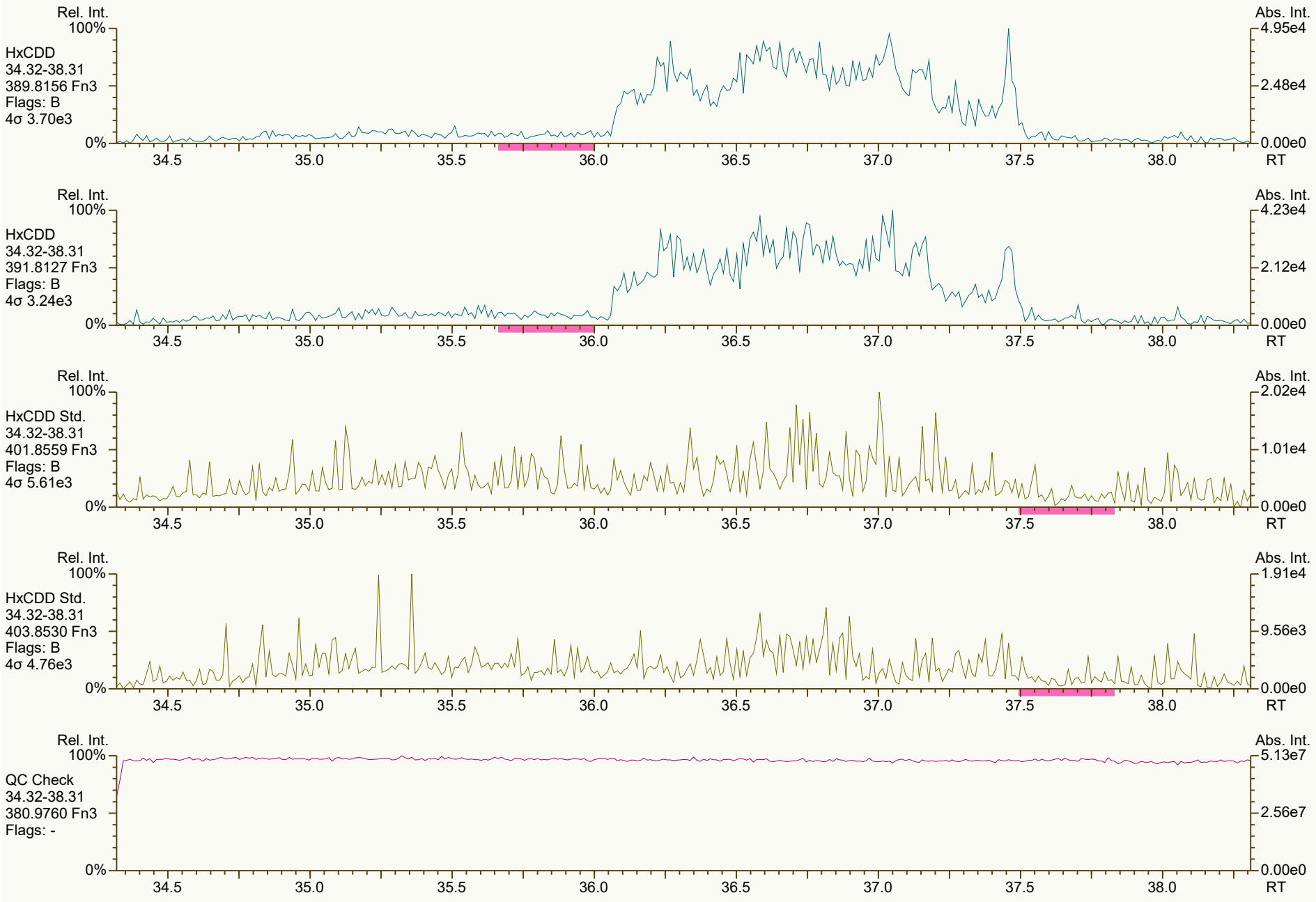
SGS ID: CS3_211110_DF_CC
Instr: [ILM] AutoSpec-Ultima HRMS3
Sample ID: ICV 24-15-4
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72
Acq: 10-Nov-2021 17:37:20
User: DTF Datafile: 211110C12



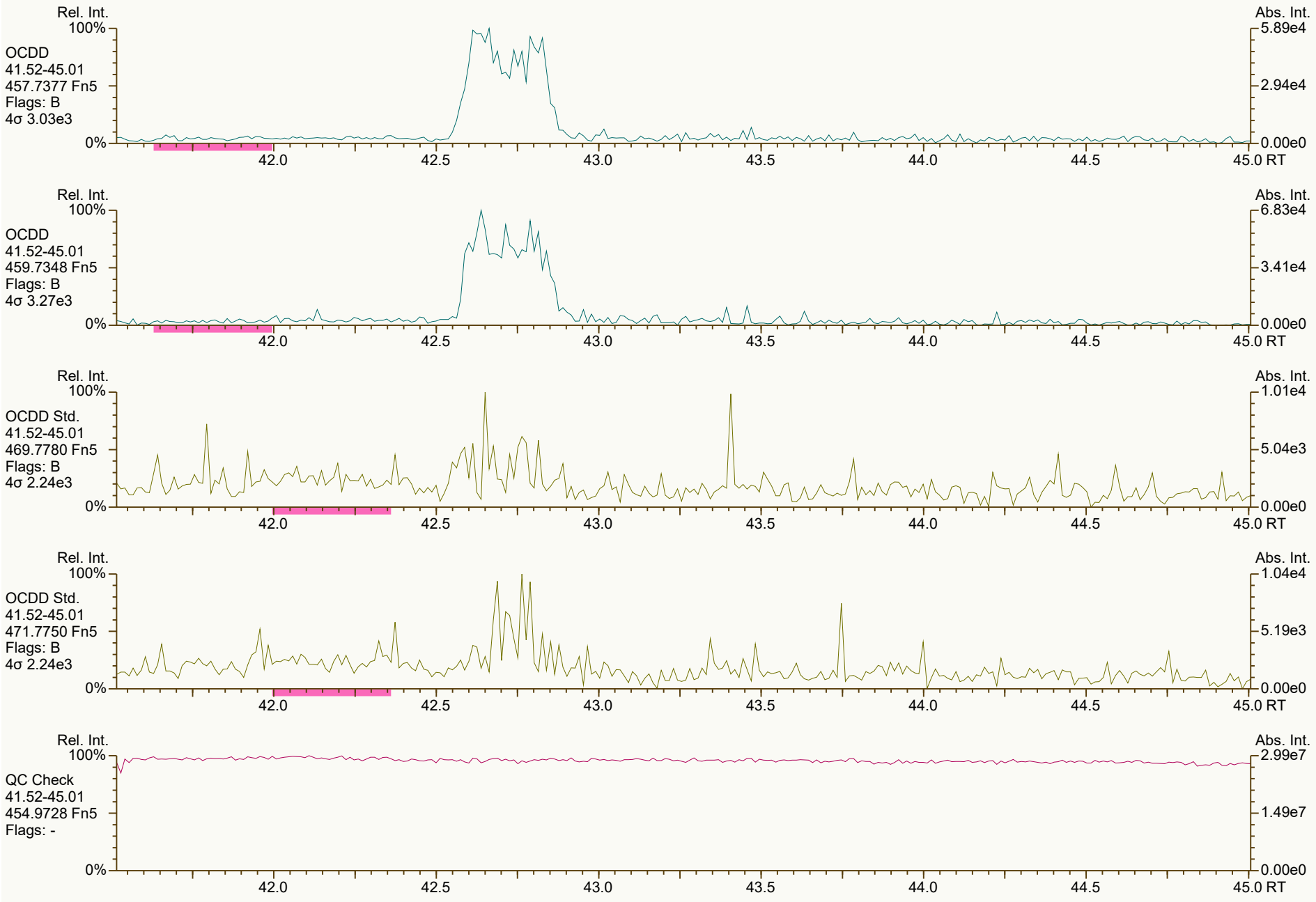

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.93e7
9.64e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
1.71e7
8.54e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
5.13e7
2.56e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
3.01e7
1.51e7
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
2.99e7
1.49e7
0.00e0

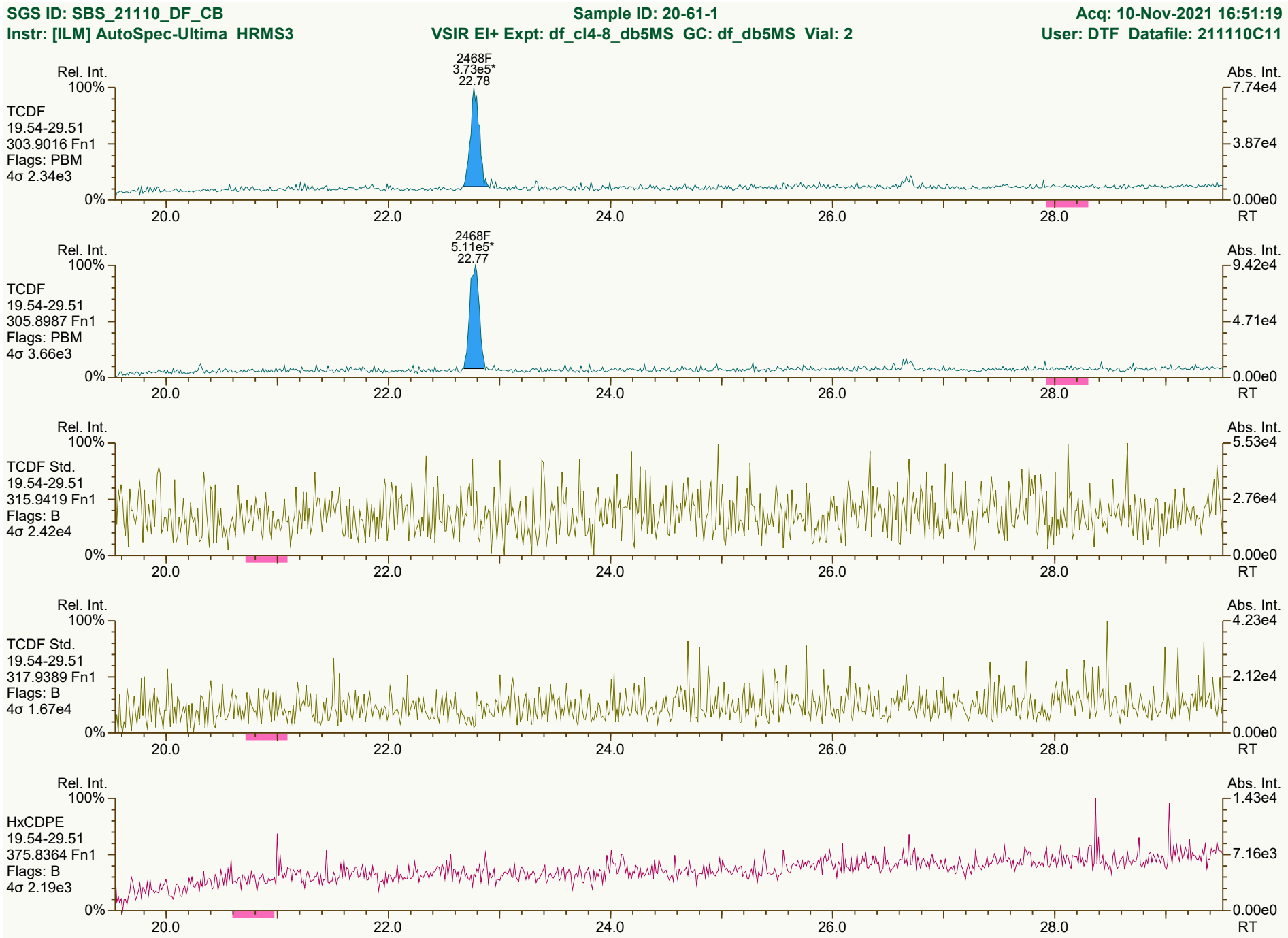

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: B
4σ 3.87e3
0%
Abs. Int.
1.65e4
8.23e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: B
4σ 3.79e3
0%
Abs. Int.
1.63e4
8.16e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.63e3
0%
Abs. Int.
2.26e4
1.13e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: B
4σ 1.28e4
0%
Abs. Int.
4.38e4
2.19e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: B
4σ 6.94e3
0%
Abs. Int.
2.05e4
1.02e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: B
4σ 3.73e3
0%
Abs. Int.
4.22e4
2.11e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: B
4σ 1.53e3
0%
Abs. Int.
2.36e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: B
4σ 7.30e3
0%
Abs. Int.
1.51e4
7.54e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: B
4σ 3.64e3
0%
Abs. Int.
1.21e4
6.04e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.71e7
8.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 3.70e3
0%
Abs. Int.
4.95e4
2.48e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 3.24e3
0%
Abs. Int.
4.23e4
2.12e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.61e3
0%
Abs. Int.
2.02e4
1.01e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 4.76e3
0%
Abs. Int.
1.91e4
9.56e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
5.13e7
2.56e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 3.29e3
0%
Abs. Int.
4.84e4
2.42e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 2.66e3
0%
Abs. Int.
4.09e4
2.04e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 3.81e3
0%
Abs. Int.
1.46e4
7.29e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.31e3
0%
Abs. Int.
1.40e4
7.00e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
3.01e7
1.51e7
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 3.03e3
0%
Abs. Int.
5.89e4
2.94e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 3.27e3
0%
Abs. Int.
6.83e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.24e3
0%
Abs. Int.
1.01e4
5.04e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.24e3
0%
Abs. Int.
1.04e4
5.19e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.99e7
1.49e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

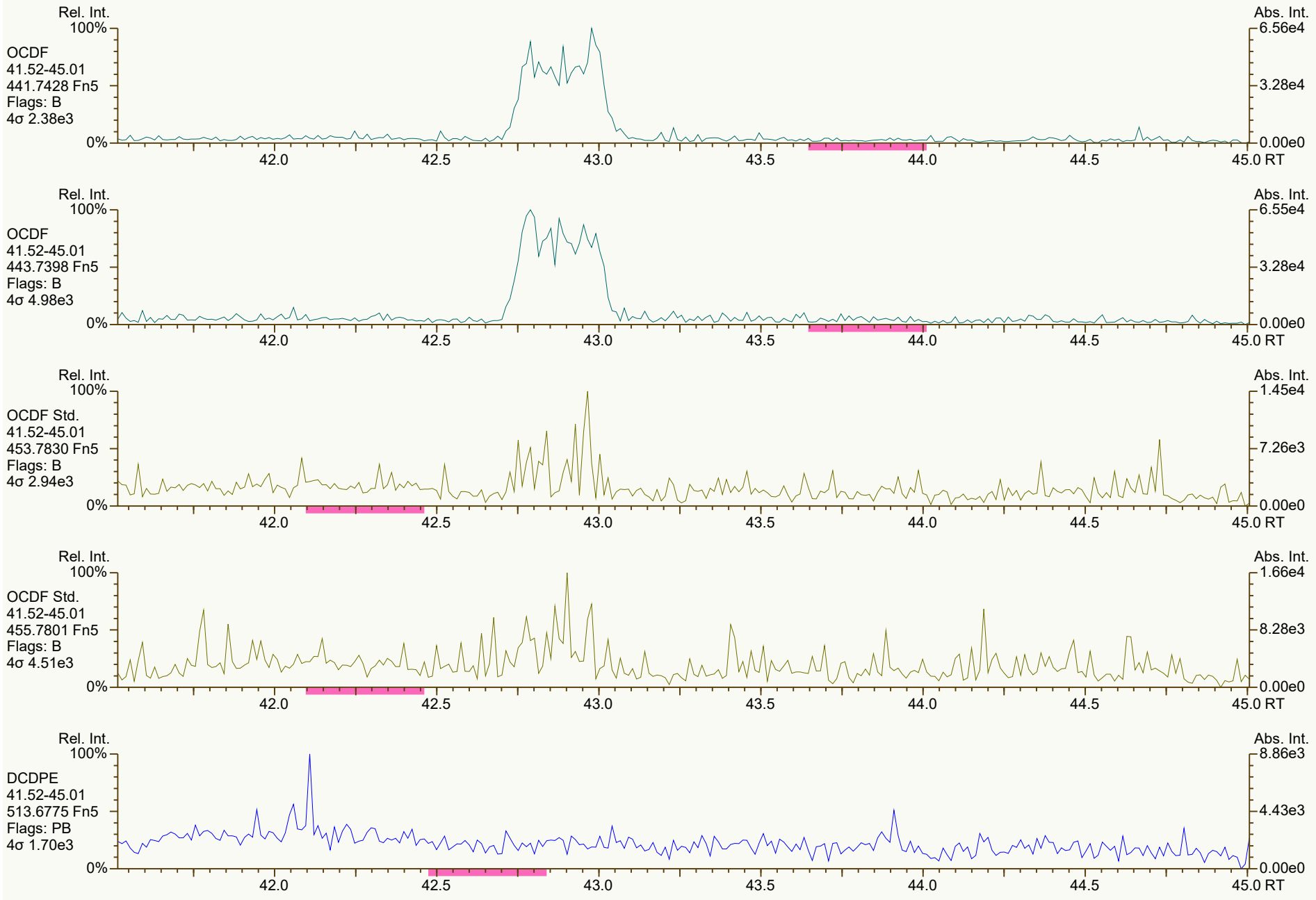

SGS ID: SBS_21110_DF_CB
Sample ID: 20-61-1
Acq: 10-Nov-2021 16:51:19
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: DTF Datafile: 211110C11
Rel. Int.
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 2.34e3
2468F
3.73e5*
22.78
7.74e4
3.87e4
0.00e0
RT
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 3.66e3
2468F
5.11e5*
22.77
9.42e4
4.71e4
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: B
4σ 2.42e4
5.53e4
2.76e4
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: B
4σ 1.67e4
4.23e4
2.12e4
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 2.19e3
1.43e4
7.16e3
100%
0%
20.0
22.0
24.0
26.0
28.0
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\ICV\SBS_21110_DF_CB.utp_res, saved 11-Nov-2021 10:52 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4049, 6762, 0399 scc: 509-084
Revised: 10-Nov-2021 18:46 (DTF) Printed: 11-Nov-2021 10:54 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 3.55e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 3.39e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.93e7
9.64e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: B
4σ 3.79e3
0%
Abs. Int.
5.15e4
2.57e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: B
4σ 3.49e3
0%
Abs. Int.
3.88e4
1.94e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: B
4σ 6.36e3
0%
Abs. Int.
2.12e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: B
4σ 3.59e3
0%
Abs. Int.
2.19e4
1.09e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 2.24e3
0%
Abs. Int.
1.09e4
5.47e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 6.67e3
0%
Abs. Int.
7.20e4
3.60e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 4.09e3
0%
Abs. Int.
5.30e4
2.65e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 3.53e3
0%
Abs. Int.
2.56e4
1.28e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 7.45e3
0%
Abs. Int.
4.02e4
2.01e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.52e3
0%
Abs. Int.
6.43e3
3.21e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 6.33e3
0%
Abs. Int.
5.63e4
2.82e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 4.99e3
0%
Abs. Int.
5.26e4
2.63e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 7.32e3
0%
Abs. Int.
2.31e4
1.15e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 2.68e3
0%
Abs. Int.
1.94e4
9.71e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.91e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 2.38e3
0%
Abs. Int.
6.56e4
3.28e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 4.98e3
0%
Abs. Int.
6.55e4
3.28e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.45e4
7.26e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.51e3
0%
Abs. Int.
1.66e4
8.28e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.70e3
0%
Abs. Int.
8.86e3
4.43e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

APPROVED
Carla_Lyon , 3/9/2022, 1:29:18 PM

Lab ID: OPR1_18971_DF **Acq'd:** 08 Mar 2022 21:50 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18971_OPR001 **UTP:** 09-Mar-2022 11:41:48 DTF **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 714-698-MXW

Datafile: 220308C13 **Report:** 09 Mar 2022 11:43 TF **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.16		1.0008	1.0008	0	3.01E+06	0.76	Y	1.18	10.8	2607.505	0.097
12378-PeCDD	33.57		1.0007	1.0006	-0.2	1.03E+07	1.60	Y	1.04	48.6	3801.743	0.16
123478-HxCDD	37.51		1.0004	1.0004	0	9.65E+06	1.24	Y	1.09	51	2907.452	0.132
123678-HxCDD	37.63		1.0036	1.0036	0	9.84E+06	1.26	Y	1.15	53.1	2907.452	0.141
123789-HxCDD	37.93		1.0118	1.0118	0	9.60E+06	1.23	Y	1.05	50.2	2907.452	0.134
1234678-HpCDD	40.68		1.0002	1.0003	+0.2	7.91E+06	1.03	Y	1.06	51.8	2056.9419	0.114
OCDD	43.37		1.0003	1.0003	0	9.53E+06	0.89	Y	1.13	106	2908.45	0.362
2378-TCDF	27.29		1.0008	1.0008	0	3.85E+06	0.81	Y	1.08	10.5	2572.957	0.0761
12378-PeCDF	32.11		1.0005	1.0006	+0.2	1.62E+07	1.53	Y	1.02	48.5	6588.021	0.186
23478-PeCDF	33.23		1.0005	1.0005	0	1.66E+07	1.53	Y	1.02	51.5	6588.021	0.183
123478-HxCDF	36.51		1.0004	1.0005	+0.2	1.37E+07	1.22	Y	1.27	50.8	9358.967	0.3
123678-HxCDF	36.65		1.0004	1.0004	0	1.57E+07	1.23	Y	1.15	50.3	9358.967	0.244
234678-HxCDF	37.32		1.0005	1.0004	-0.2	1.53E+07	1.24	Y	1.19	53	9358.967	0.3
123789-HxCDF	38.31		1.0004	1.0004	0	1.08E+07	1.25	Y	1.16	48.8	9358.967	0.366
1234678-HpCDF	39.73		1.0003	1.0003	0	1.22E+07	1.03	Y	1.37	50.4	2638.777	0.0833
1234789-HpCDF	41.13		1.0003	1.0003	0	8.61E+06	1.03	Y	1.31	50.6	2638.777	0.13
OCDF	43.54		1.0002	1.0003	+0.3	1.12E+07	0.96	Y	1.07	102	3851.774	0.393

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.14	1.0243	1.0244	+0.2	2.35E+07	0.80	Y	1.05	98
ES 12378-PeCDD	33.55	1.2198	1.2217	+3.8	2.05E+07	1.52	Y	0.88	102
ES 123478-HxCDD	37.49	0.9916	0.9914	-0.4	1.74E+07	1.25	Y	0.97	100
ES 123678-HxCDD	37.61	0.9947	0.9946	-0.2	1.61E+07	1.21	Y	0.94	96.2
ES 123789-HxCDD	37.92	1.0029	1.0027	-0.5	1.83E+07	1.30	Y	1.09	94.1
ES 1234678-HpCDD	40.67	1.0749	1.0755	+1.5	1.44E+07	1.09	Y	0.91	88.9
ES OCDD	43.36	1.1460	1.1466	+1.6	1.60E+07	0.86	Y	0.62	72.2
ES 2378-TCDF	27.27	1.0531	1.0537	+1.0	3.40E+07	0.82	Y	1.06	86.5
ES 12378-PeCDF	32.09	1.2378	1.2401	+4.4	3.26E+07	1.56	Y	0.91	96.7
ES 23478-PeCDF	33.21	1.2810	1.2836	+5.2	3.16E+07	1.55	Y	0.88	96.6
ES 123478-HxCDF	36.49	0.9650	0.9650	0	2.11E+07	0.55	Y	1.20	99.3
ES 123678-HxCDF	36.63	0.9688	0.9686	-0.4	2.71E+07	0.55	Y	1.35	113
ES 234678-HxCDF	37.30	0.9866	0.9865	-0.2	2.43E+07	0.52	Y	1.24	110
ES 123789-HxCDF	38.29	1.0125	1.0125	0	1.90E+07	0.54	Y	1.16	92.7
ES 1234678-HpCDF	39.72	1.0501	1.0504	+0.7	1.76E+07	0.46	Y	0.97	103
ES 1234789-HpCDF	41.12	1.0870	1.0874	+1.0	1.30E+07	0.46	Y	0.85	86.1
ES OCDF	43.53	1.1505	1.1510	+1.3	2.03E+07	0.92	Y	0.81	70.8

Lab ID: OPR1_18971_DF | **Acq'd:** 08 Mar 2022 21:50 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18971_OPR001 | **UTP:** 09-Mar-2022 11:41:48 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 714-698-MXW

Datafile: 220308C13 | **Report:** 09 Mar 2022 11:43 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.46		-	-	-	2.29E+07	0.83	Y	-	-	
JS 1234-TCDF	25.88		-	-	-	3.71E+07	0.79	Y	-	-	
JS 123467-HxCDD	37.82		-	-	-	8.88E+06	1.20	Y	-	-	
CS 37Cl-2378-TCDD	28.16		1.0251	1.0253	+0.3	1.10E+07	n/a	-	1.20	99.6	
CS 12347-PeCDD	33.05		1.2016	1.2033	+3.4	1.87E+07	1.57	Y	0.75	108	
CS 12346-PeCDF	31.55		1.2172	1.2195	+4.4	3.24E+07	1.60	Y	0.85	103	
CS 123469-HxCDF	36.94		0.9771	0.9769	-0.4	2.16E+07	0.53	Y	1.12	109	
CS 1234689-HpCDF	40.13		1.0608	1.0613	+1.2	1.63E+07	0.48	Y	0.89	103	
~~SS 37Cl-2378-TCDD~~	~~28.16~~		~~1.0251~~	~~1.0253~~	~~+0.3~~	~~1.10E+07~~	~~n/a~~		~~1.15~~	~~102~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.05~~		~~1.2016~~	~~1.2033~~	~~+3.4~~	~~1.87E+07~~	~~1.57~~	~~Y~~	~~0.86~~	~~106~~	CL 09Mar22
~~SS 12346-PeCDF~~	~~31.55~~		~~1.2172~~	~~1.2195~~	~~+4.4~~	~~3.24E+07~~	~~1.60~~	~~Y~~	~~0.94~~	~~106~~	
~~SS 123469-HxCDF~~	~~36.94~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~2.16E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~96.4~~	
~~SS 1234689-HpCDF~~	~~40.13~~		~~1.0608~~	~~1.0613~~	~~+1.2~~	~~1.63E+07~~	~~0.48~~	~~Y~~	~~0.92~~	~~100~~	

Totals	Conc	EMPC
Total TCDD	50	50
Total PeCDD	74.2	74.2
Total HxCDD	171	171
Total HpCDD	64	64
Total Tetra-Octa Dioxins	464	464
Total TCDF	60.1	60.1
Total PeCDF	194	194
Total HxCDF	327	327
Total HpCDF	101	101
Total Tetra-Octa Furans	784	784
Total Tetra-Octa Dioxins & Furans	1250	1250

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.758	0.76
Response	3.02E+06	3.01E+06

Lab ID: OPR1_18971_DF **Acq'd: 08 Mar 2022 21:50 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18971_OPR001 **UTP: 09-Mar-2022 11:41:48 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 714-698-MXW**

Datafile: 220308C13 **Report: 09 Mar 2022 11:43 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.45		0.8701	0.8688	-1.9	3.84E+06	0.81	Y	1.18	13.8	2607.505	0.097
1379-TCDD	NotFnd		0.8829						1.18		2607.505	0.097
1369-TCDD	NotFnd		0.8982						1.18		2607.505	0.097
1469-TCDD	NotFnd		0.9261						1.18		2607.505	0.097
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		2607.505	0.097
1378-TCDD	NotFnd		0.9417						1.18		2607.505	0.097
1268-TCDD	NotFnd		0.9487						1.18		2607.505	0.097
1478-TCDD	NotFnd		0.9576						1.18		2607.505	0.097
1279-TCDD	NotFnd		0.9636						1.18		2607.505	0.097
1234/1269-TCDD	NotFnd		0.9761						1.18		2607.505	0.097
1236-TCDD	NotFnd		0.9812						1.18		2607.505	0.097
1237/1238-TCDD	NotFnd		0.9905						1.18		2607.505	0.097
1239-TCDD	28.00		0.9951	0.9952	+0.2	3.04E+06	0.82	Y	1.18	10.9	2607.505	0.097
2378-TCDD	**28.16**		**1.0008**	1.0008	**0**	3.01E+06	0.76	Y	**1.18**	**10.8**	**2607.505**	**0.097**
1278-TCDD	NotFnd		1.0124						1.18		2607.505	0.097
1267-TCDD	NotFnd		1.0172						1.18		2607.505	0.097
1289-TCDD	29.15		1.0354	1.0359	+0.9	4.04E+06	0.80	Y	1.18	14.5	2607.505	0.097
12479/12468-PeCDD	31.05		0.9255	0.9253	-0.4	2.75E+06	1.59	Y	1.04	12.9	3801.743	0.16
12469-PeCDD	NotFnd		0.9416						1.04		3801.743	0.16
12368-PeCDD	NotFnd		0.9582						1.04		3801.743	0.16
12478-PeCDD	NotFnd		0.9637						1.04		3801.743	0.16
12379-PeCDD	NotFnd		0.9668						1.04		3801.743	0.16
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		3801.743	0.16
12346/12347-PeCDD	NotFnd		0.9858						1.04		3801.743	0.16
12378-PeCDD	33.57		**1.0007**	**1.0006**	**-0.2**	**1.03E+07**	**1.60**	**Y**	**1.04**	**48.6**	**3801.743**	**0.16**
12367-PeCDD	NotFnd		1.0036						1.04		3801.743	0.16
12389-PeCDD	34.02		1.0137	1.0138	+0.2	2.69E+06	1.59	Y	1.04	12.7	3801.743	0.16
124679/124689-HxCDD	35.77		0.9540	0.9540	0	3.07E+06	1.20	Y	1.10	16.2	2907.452	0.135
123468-HxCDD	NotFnd		0.9715						1.10		2907.452	0.135
123679/123689-HxCDD	NotFnd		0.9793						1.10		2907.452	0.135
123469-HxCDD	NotFnd		0.9829						1.10		2907.452	0.135
123478-HxCDD	37.51		**1.0004**	**1.0004**	**0**	**9.65E+06**	**1.24**	**Y**	1.09	**51**	**2907.452**	**0.132**
123678-HxCDD	37.63		**1.0036**	**1.0036**	**0**	**9.84E+06**	**1.26**	**Y**	1.15	**53.1**	**2907.452**	**0.141**
123467-HxCDD	NotFnd		1.0089						1.10		2907.452	0.135
123789-HxCDD	37.93		**1.0118**	**1.0118**	**0**	**9.60E+06**	**1.23**	**Y**	1.05	**50.2**	**2907.452**	**0.134**

Lab ID: OPR1_18971_DF **Acq'd: 08 Mar 2022 21:50 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18971_OPR001 **UTP: 09-Mar-2022 11:41:48 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 714-698-MXW**

Datafile: 220308C13 **Report: 09 Mar 2022 11:43 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.00		0.9836	0.9836	0	1.86E+06	1.01	Y	1.06	12.2	2056.9419	0.114
1234678-HpCDD	**40.68**		**1.0002**	**1.0003**	**+0.2**	**7.91E+06**	**1.03**	**Y**	**1.06**	**51.8**	**2056.9419**	**0.114**
OCDD	**43.37**		**1.0003**	**1.0003**	**0**	**9.53E+06**	**0.89**	**Y**	**1.13**	**106**	**2908.45**	**0.362**
OCDD-a	43.37		1.0002	1.0002	0	5.37E+05	2.23	Y	0.07	93	3486.38	6.79
1368-TCDF	22.28		0.8191	0.8172	-2.5	5.43E+06	0.82	Y	1.08	14.8	2572.957	0.0761
1468-TCDF	NotFnd		0.8408						1.08		2572.957	0.0761
2468-TCDF	23.53		0.8645	0.8631	-2.0	1.35E+06	0.78	Y	1.08	3.68	2572.957	0.0761
1346/1246-TCDF	NotFnd		0.8772						1.08		2572.957	0.0761
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		2572.957	0.0761
1348-TCDF	NotFnd		0.8932						1.08		2572.957	0.0761
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		2572.957	0.0761
1268-TCDF	NotFnd		0.9119						1.08		2572.957	0.0761
1467-TCDF	NotFnd		0.9170						1.08		2572.957	0.0761
1478-TCDF	NotFnd		0.9234						1.08		2572.957	0.0761
1369/1237-TCDF	NotFnd		0.9369						1.08		2572.957	0.0761
2467-TCDF	NotFnd		0.9415						1.08		2572.957	0.0761
2368-TCDF	NotFnd		0.9475						1.08		2572.957	0.0761
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		2572.957	0.0761
1278-TCDF	NotFnd		0.9676						1.08		2572.957	0.0761
1349-TCDF	NotFnd		0.9722						1.08		2572.957	0.0761
1267-TCDF	NotFnd		0.9777						1.08		2572.957	0.0761
2346/1249-TCDF	NotFnd		0.9843						1.08		2572.957	0.0761
2347/1279-TCDF	NotFnd		0.9926						1.08		2572.957	0.0761
2348-TCDF	27.17		0.9968	0.9967	-0.2	5.29E+06	0.78	Y	1.08	14.4	2572.957	0.0761
2378-TCDF	**27.29**		**1.0008**	**1.0008**	**0**	**3.85E+06**	**0.81**	**Y**	**1.08**	**10.5**	**2572.957**	**0.0761**
2367/3467-TCDF	NotFnd		1.0142						1.08		2572.957	0.0761
1269-TCDF	NotFnd		1.0235						1.08		2572.957	0.0761
1239-TCDF	NotFnd		1.0329						1.08		2572.957	0.0761
1289-TCDF	29.31		1.0742	1.0750	+1.4	6.09E+06	0.76	Y	1.08	16.6	2572.957	0.0761
13468/12468-PeCDF	29.24		0.9122	0.9113	-1.6	2.74E+07	1.51	Y	1.02	83.2	2854.967	0.08
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		6588.021	0.185
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		6588.021	0.185
14678-PeCDF	NotFnd		0.9685						1.02		6588.021	0.185
13479-PeCDF	NotFnd		0.9716						1.02		6588.021	0.185
13469/12479-PeCDF	NotFnd		0.9794						1.02		6588.021	0.185
12346-PeCDF	NotFnd		0.9836						1.02		6588.021	0.185

Lab ID: OPR1_18971_DF | **Acq'd: 08 Mar 2022 21:50 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18971_OPR001 | **UTP: 09-Mar-2022 11:41:48 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 714-698-MXW**

Datafile: 220308C13 | **Report: 09 Mar 2022 11:43 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		6588.021	0.185
12347-PeCDF	NotFnd		0.9891						1.02		6588.021	0.185
12348-PeCDF	NotFnd		0.9938						1.02		6588.021	0.185
12378-PeCDF	**32.11**		**1.0005**	**1.0006**	**+0.2**	**1.62E+07**	**1.53**	**Y**	**1.02**	**48.5**	**6588.021**	**0.186**
12678/12367-PeCDF	NotFnd		1.0091						1.02		6588.021	0.185
12379-PeCDF	NotFnd		1.0144						1.02		6588.021	0.185
12679-PeCDF	NotFnd		0.9927						1.02		6588.021	0.185
23467/12369-PeCDF	NotFnd		0.9965						1.02		6588.021	0.185
23478-PeCDF	**33.23**		**1.0005**	**1.0005**	**0**	**1.66E+07**	**1.53**	**Y**	**1.02**	**51.5**	**6588.021**	**0.183**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6588.021	0.185
12349-PeCDF	NotFnd		1.0101						1.02		6588.021	0.185
12389-PeCDF	34.32		1.0330	1.0332	+0.4	3.46E+06	1.52	Y	1.02	10.5	6588.021	0.185
123468-HxCDF	35.11		0.9622	0.9621	-0.2	3.38E+07	1.25	Y	1.19	124	9358.967	0.297
124678/134678-HxCDF	NotFnd		0.9678						1.19		9358.967	0.297
134679-HxCDF	NotFnd		0.9741						1.19		9358.967	0.297
124679-HxCDF	NotFnd		0.9795						1.19		9358.967	0.297
124689-HxCDF	NotFnd		0.9856						1.19		9358.967	0.297
123467-HxCDF	NotFnd		0.9972						1.19		9358.967	0.297
123478-HxCDF	**36.51**		**1.0004**	**1.0005**	**+0.2**	**1.37E+07**	**1.22**	**Y**	**1.27**	**50.8**	**9358.967**	**0.3**
123678-HxCDF	**36.65**		**1.0004**	**1.0004**	**0**	**1.57E+07**	**1.23**	**Y**	**1.15**	**50.3**	**9358.967**	**0.244**
123479-HxCDF	NotFnd		1.0048						1.19		9358.967	0.297
123469-HxCDF	NotFnd		1.0089						1.19		9358.967	0.297
123679-HxCDF	NotFnd		0.9942						1.19		9358.967	0.297
234678-HxCDF	**37.32**		**1.0005**	**1.0004**	**-0.2**	**1.53E+07**	**1.24**	**Y**	**1.19**	**53**	**9358.967**	**0.3**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		9358.967	0.297
123789-HxCDF	**38.31**		**1.0004**	**1.0004**	**0**	**1.08E+07**	**1.25**	**Y**	**1.16**	**48.8**	**9358.967**	**0.366**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		9358.967	0.297
1234678-HpCDF	**39.73**		**1.0003**	**1.0003**	**0**	**1.22E+07**	**1.03**	**Y**	**1.37**	**50.4**	**2638.777**	**0.0833**
1234679-HpCDF	NotFnd		1.0068						1.34		2638.777	0.103
1234689-HpCDF	NotFnd		1.0104						1.34		2638.777	0.103
1234789-HpCDF	**41.13**		**1.0003**	**1.0003**	**0**	**8.61E+06**	**1.03**	**Y**	**1.31**	**50.6**	**2638.777**	**0.13**
OCDF	**43.54**		**1.0002**	**1.0003**	**+0.3**	**1.12E+07**	**0.96**	**Y**	**1.07**	**102**	**3851.774**	**0.393**
OCDF-a	43.54		1.0001	1.0003	+0.5	6.76E+05	2.81	Y	0.07	100	3574.267	5.89

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220308C13	Analysis Date:	08-MAR-2022 21:50:05
Lab ID:	OPR1_18971_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	10.8	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	48.6	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	51	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	53.1	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	50.2	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	51.8	35	-	70	Y
OCDD	100	106	78	-	144	Y
2,3,7,8-TCDF	10	10.5	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	48.5	40	-	67	Y
2,3,4,7,8-PeCDF	50	51.5	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	50.8	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	50.3	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	53	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	48.8	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	50.4	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	50.6	39	-	69	Y
OCDF	100	102	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 09 Mar 2022 11:43 Analyst: TF

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220308C13	Analysis Date:	08-MAR-2022 21:50:05
Lab ID:	OPR1_18971_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	98	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	102	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	100	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	96.2	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	94.1	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	88.9	26	-	166	Y
13C-OCDD	200	144	26	-	397	Y
13C-2,3,7,8-TCDF	100	86.5	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	96.7	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	96.6	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	99.3	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	113	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	110	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	92.7	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	103	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	86.1	20	-	186	Y
13C-OCDF	200	142	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	39.8	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 09 Mar 2022 11:43 Analyst: TF

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220308C13	Analysis Date:	08-MAR-2022 21:50:05
Lab ID:	OPR1_18971_DF		

Window Defining Standards Results

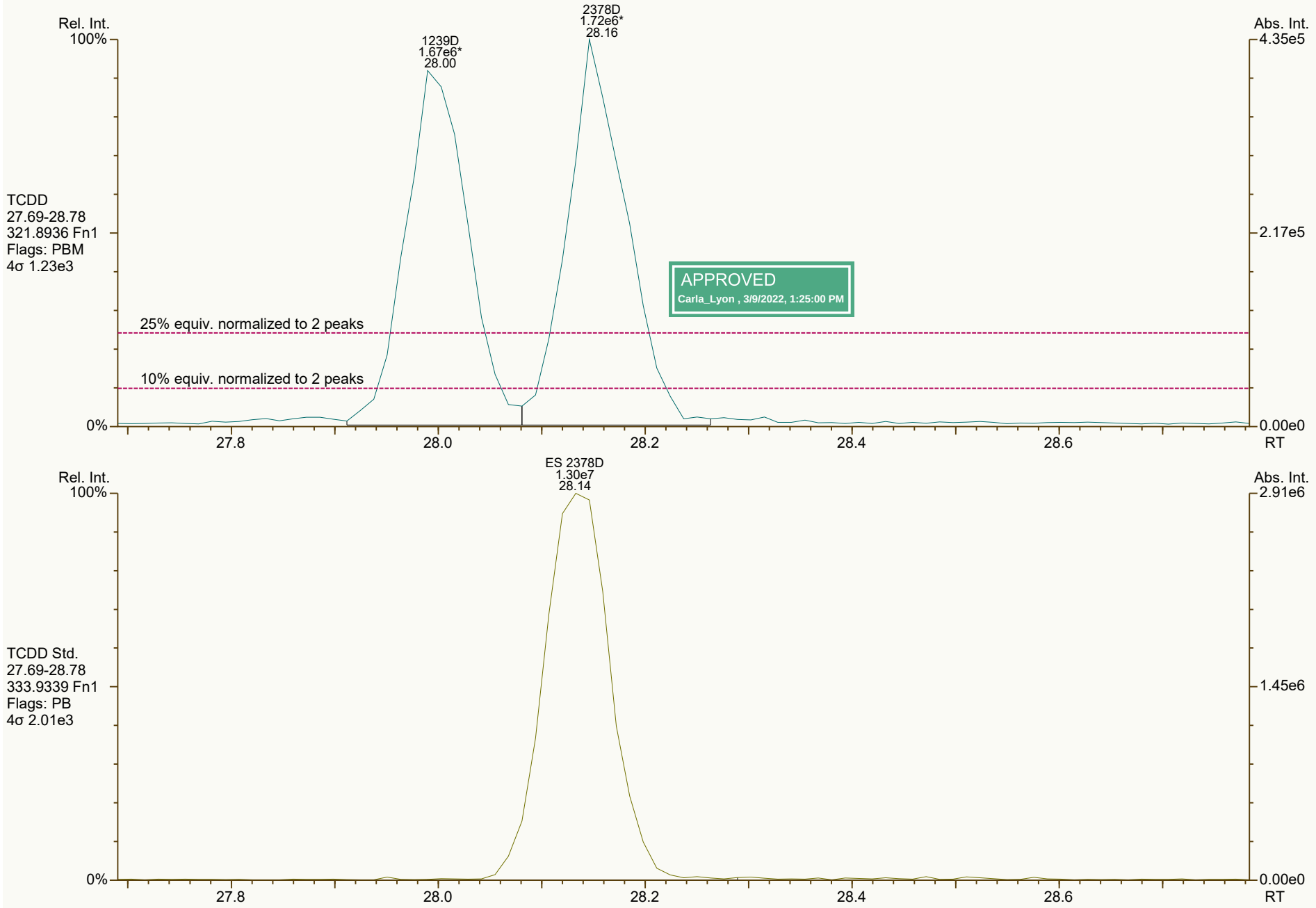
First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.45	1289-TCDD	29.15
12479/12468-PeCDD	31.05	12389-PeCDD	34.02
124679/124689-HxCDD	35.77	123789-HxCDD	37.93
1234679-HpCDD	40.00	1234678-HpCDD	40.68
1368-TCDF	22.28	1289-TCDF	29.31
13468/12468-PeCDF	29.24	12389-PeCDF	34.32
123468-HxCDF	35.11	123789-HxCDF	38.31
1234678-HpCDF	39.73	1234789-HpCDF	41.13

Isomer Specificity Test Standard Results

Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.00	2378-TCDD	28.16
2348-TCDF	27.17	2378-TCDF	27.29

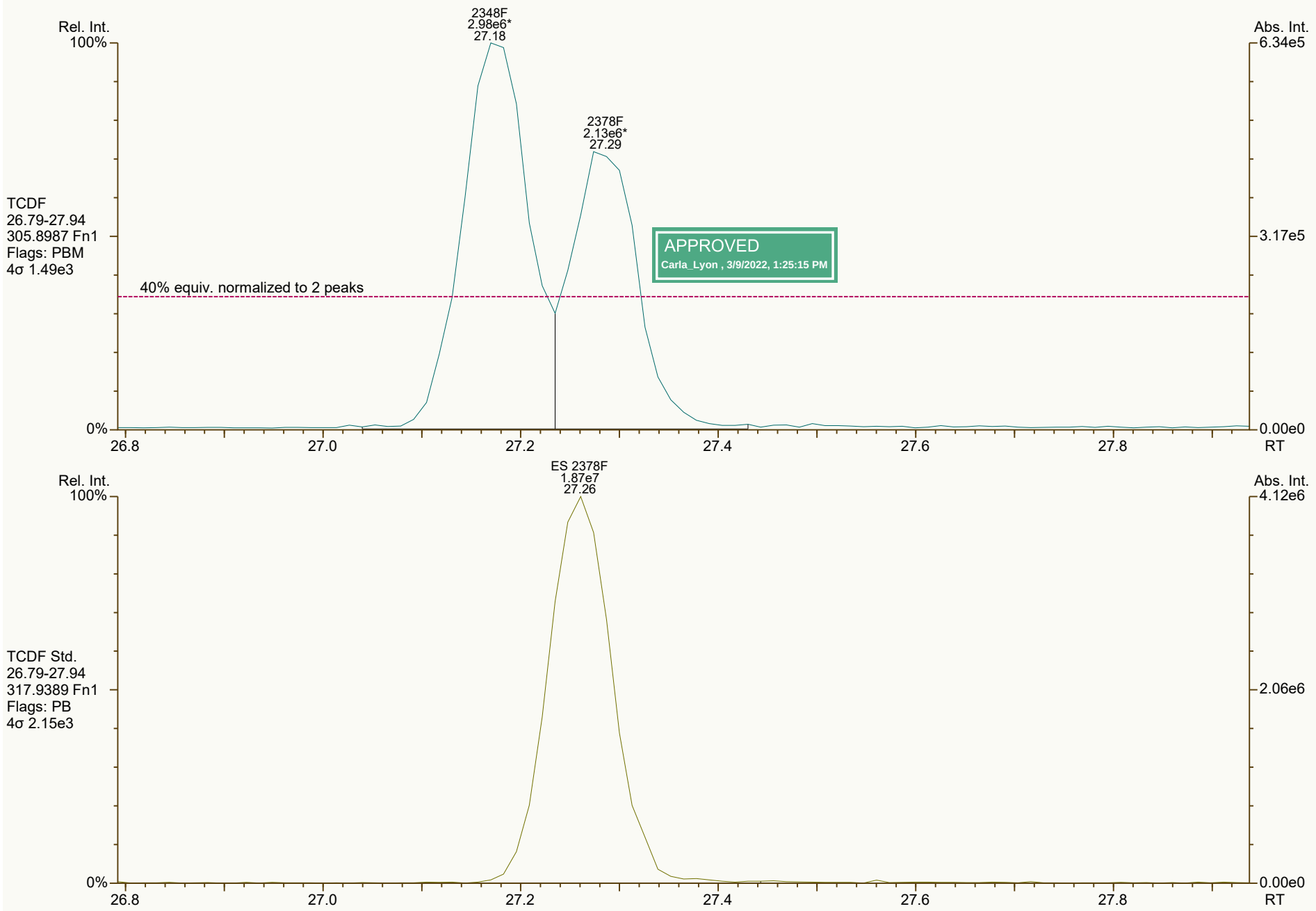
Processed: 09 Mar 2022 11:43 Analyst: TF

SGS ID: OPR1_18971_DF
Sample ID: 0_18971_OPR001
Acq: 08-Mar-2022 21:50:05
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 36
User: DTF Datafile: 220308C13

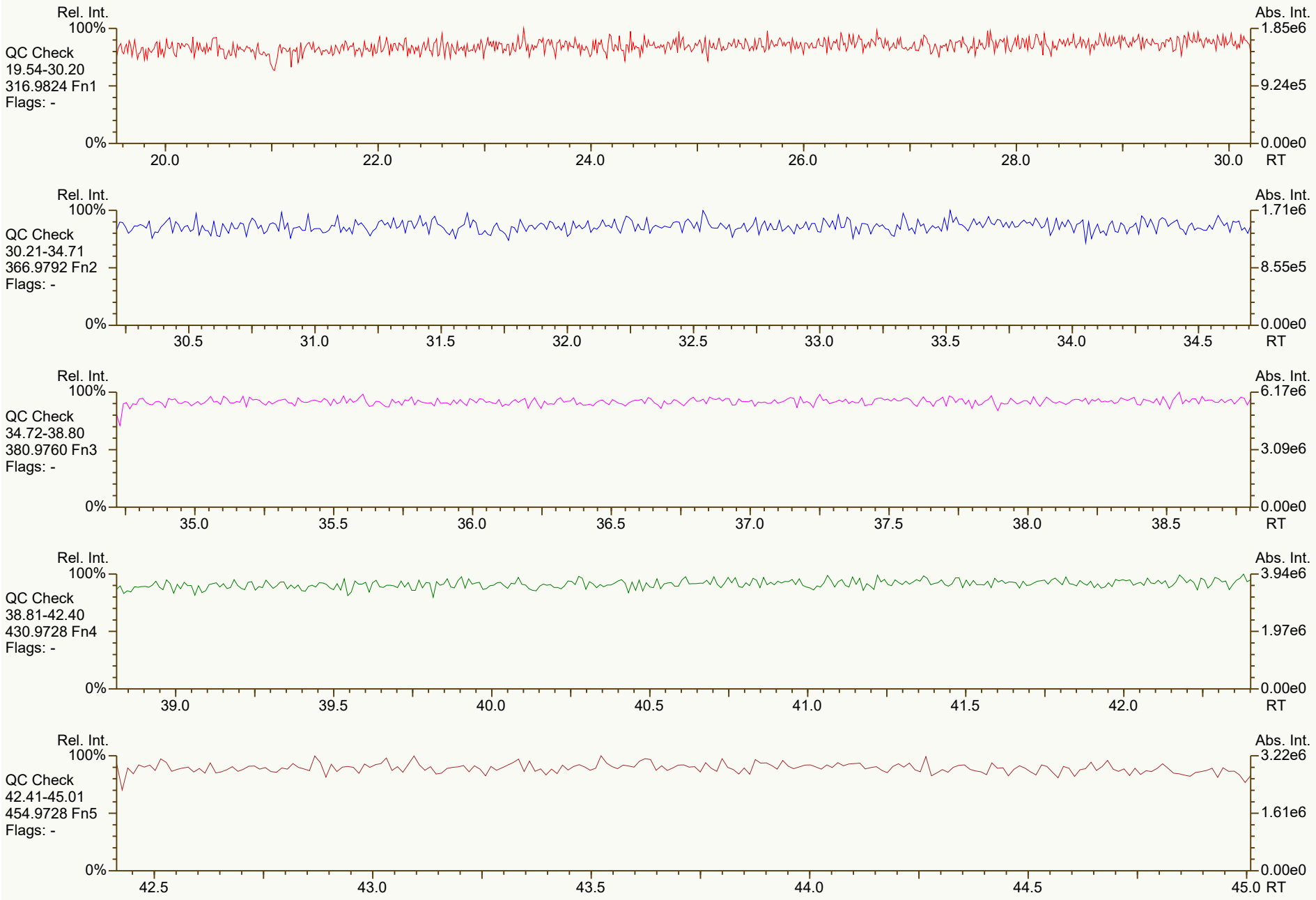


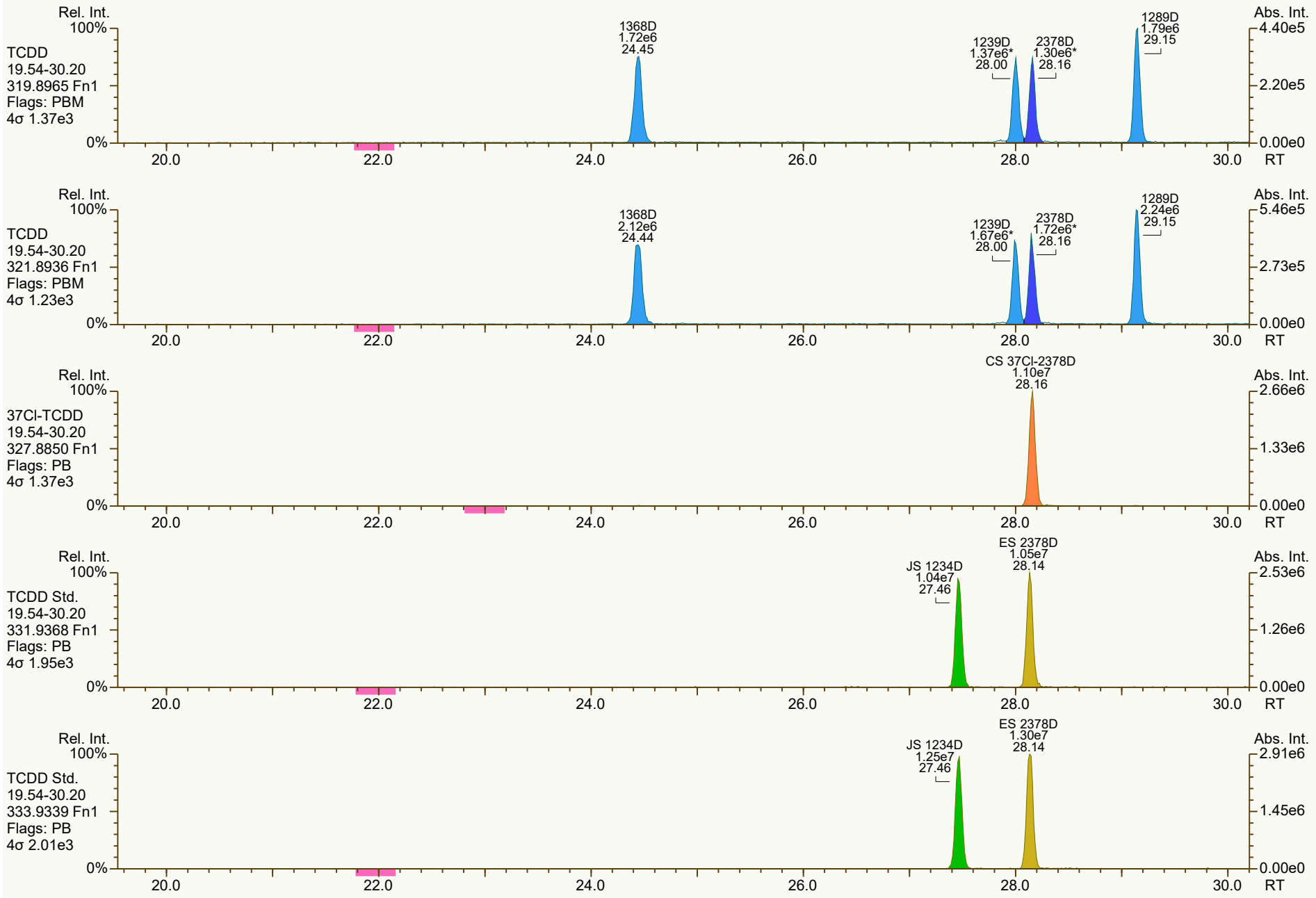
Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\OPR1_18971_DF.utp_res, saved 09-Mar-2022 11:41 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 09-Mar-2022 11:21 (DTF) Printed: 09-Mar-2022 11:46

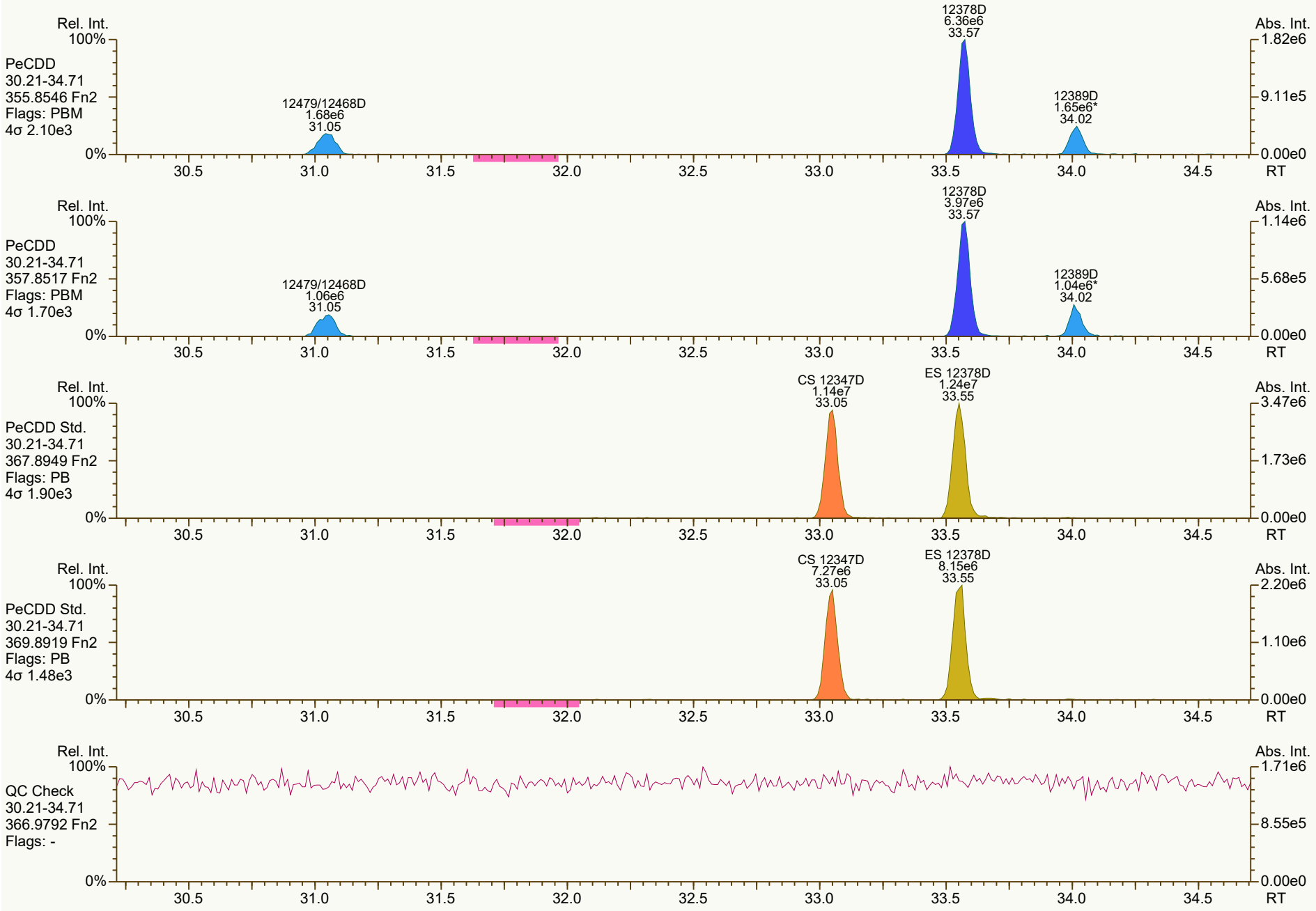
SGS ID: OPR1_18971_DF
Sample ID: 0_18971_OPR001
Acq: 08-Mar-2022 21:50:05
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 36
User: DTF Datafile: 220308C13



Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\OPR1_18971_DF.utp_res, saved 09-Mar-2022 11:41 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 09-Mar-2022 11:21 (DTF) Printed: 09-Mar-2022 11:46


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.85e6
9.24e5
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
1.71e6
8.55e5
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
6.17e6
3.09e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
3.94e6
1.97e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
3.22e6
1.61e6
0.00e0

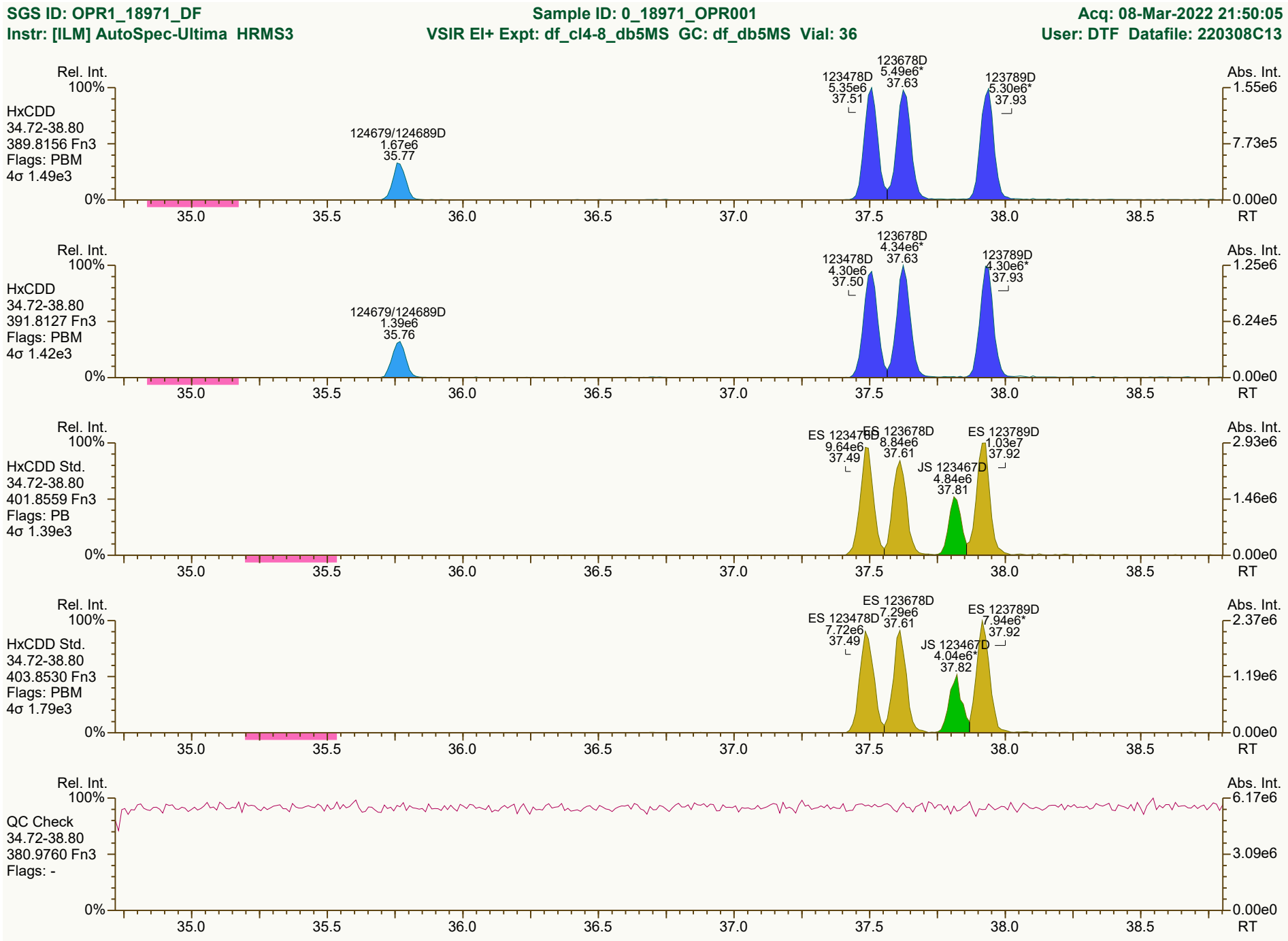

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.37e3
0%
1368D
1.72e6
24.45
1239D
1.37e6*
28.00
2378D
1.30e6*
28.16
1289D
1.79e6
29.15
Abs. Int.
4.40e5
2.20e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.23e3
0%
1368D
2.12e6
24.44
1239D
1.67e6*
28.00
2378D
1.72e6*
28.16
1289D
2.24e6
29.15
Abs. Int.
5.46e5
2.73e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.37e3
0%
CS 37Cl-2378D
1.10e7
28.16
Abs. Int.
2.66e6
1.33e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 1.95e3
0%
JS 1234D
1.04e7
27.46
ES 2378D
1.05e7
28.14
Abs. Int.
2.53e6
1.26e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.01e3
0%
JS 1234D
1.25e7
27.46
ES 2378D
1.30e7
28.14
Abs. Int.
2.91e6
1.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 2.10e3
12479/12468D
1.68e6
31.05
12378D
6.36e6
33.57
12389D
1.65e6*
34.02
Abs. Int.
1.82e6
9.11e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 1.70e3
12479/12468D
1.06e6
31.05
12378D
3.97e6
33.57
12389D
1.04e6*
34.02
Abs. Int.
1.14e6
5.68e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 1.90e3
CS 12347D
1.14e7
33.05
ES 12378D
1.24e7
33.55
Abs. Int.
3.47e6
1.73e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.48e3
CS 12347D
7.27e6
33.05
ES 12378D
8.15e6
33.55
Abs. Int.
2.20e6
1.10e6
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
Abs. Int.
1.71e6
8.55e5
0.00e0
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

SGS ID: OPR1_18971_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

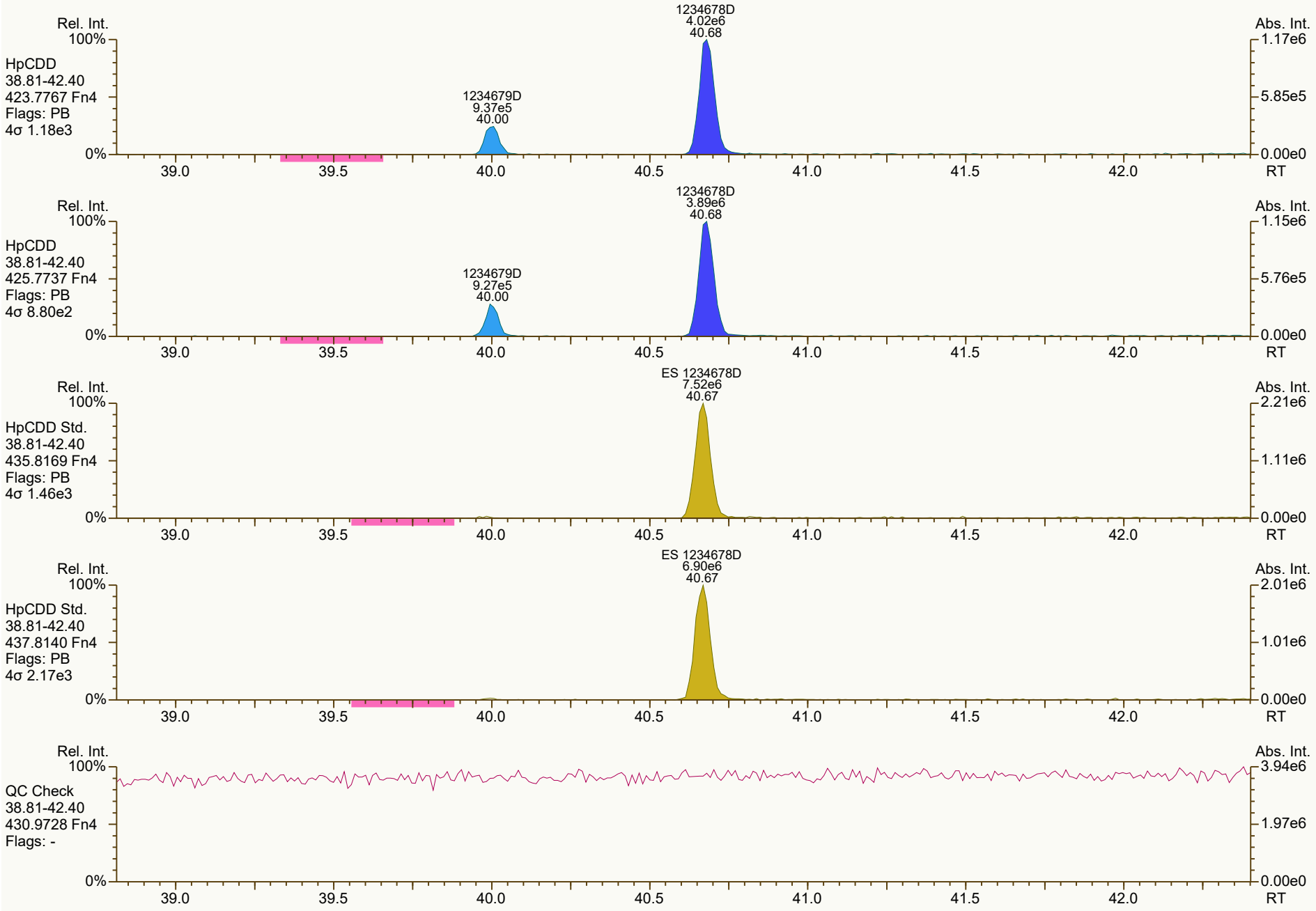
Sample ID: 0_18971_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 36

Acq: 08-Mar-2022 21:50:05
User: DTF Datafile: 220308C13

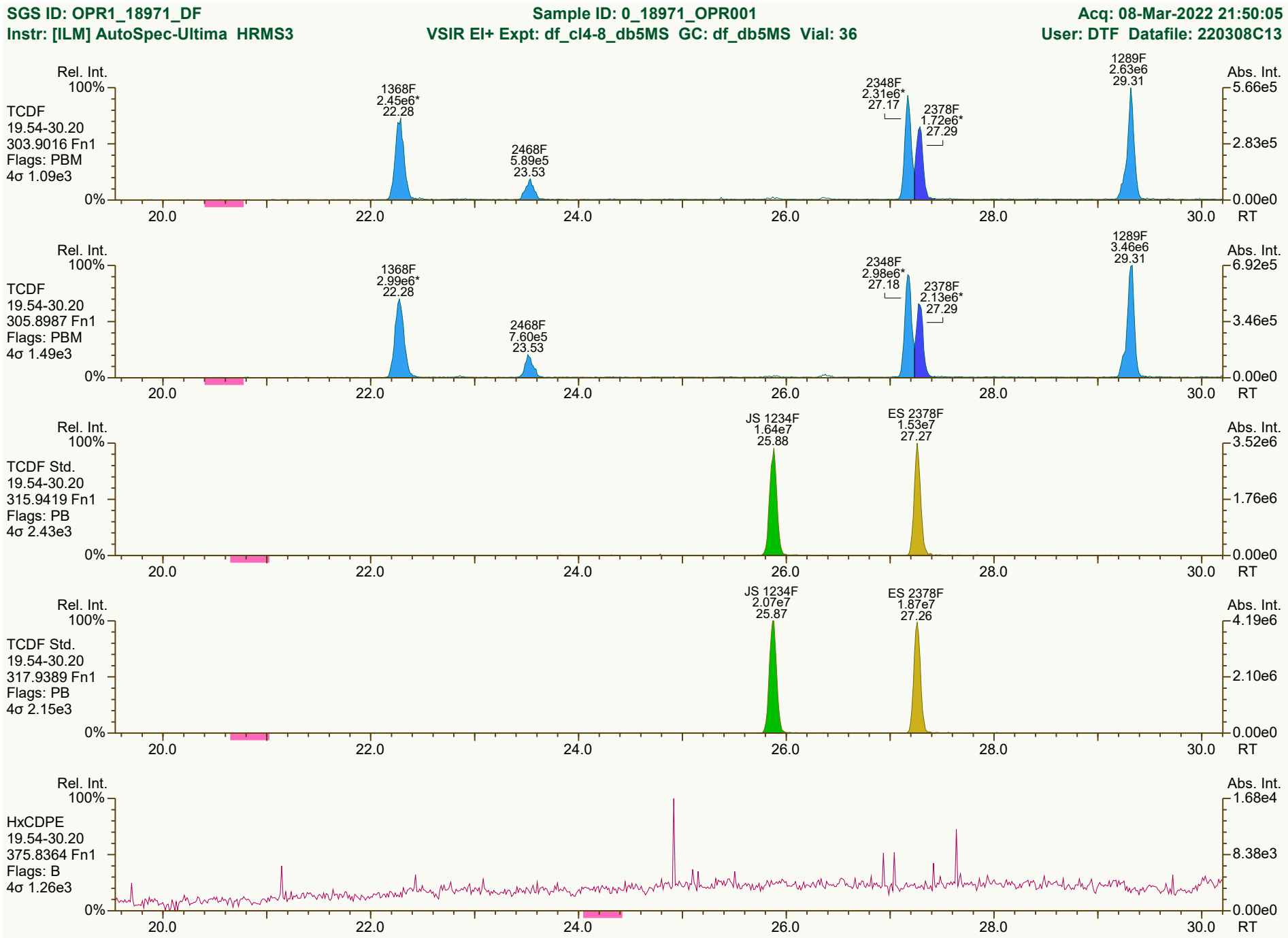


Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\OPR1_18971_DF.utp_res, saved 09-Mar-2022 11:41 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5601, 2282 scc: 714-698

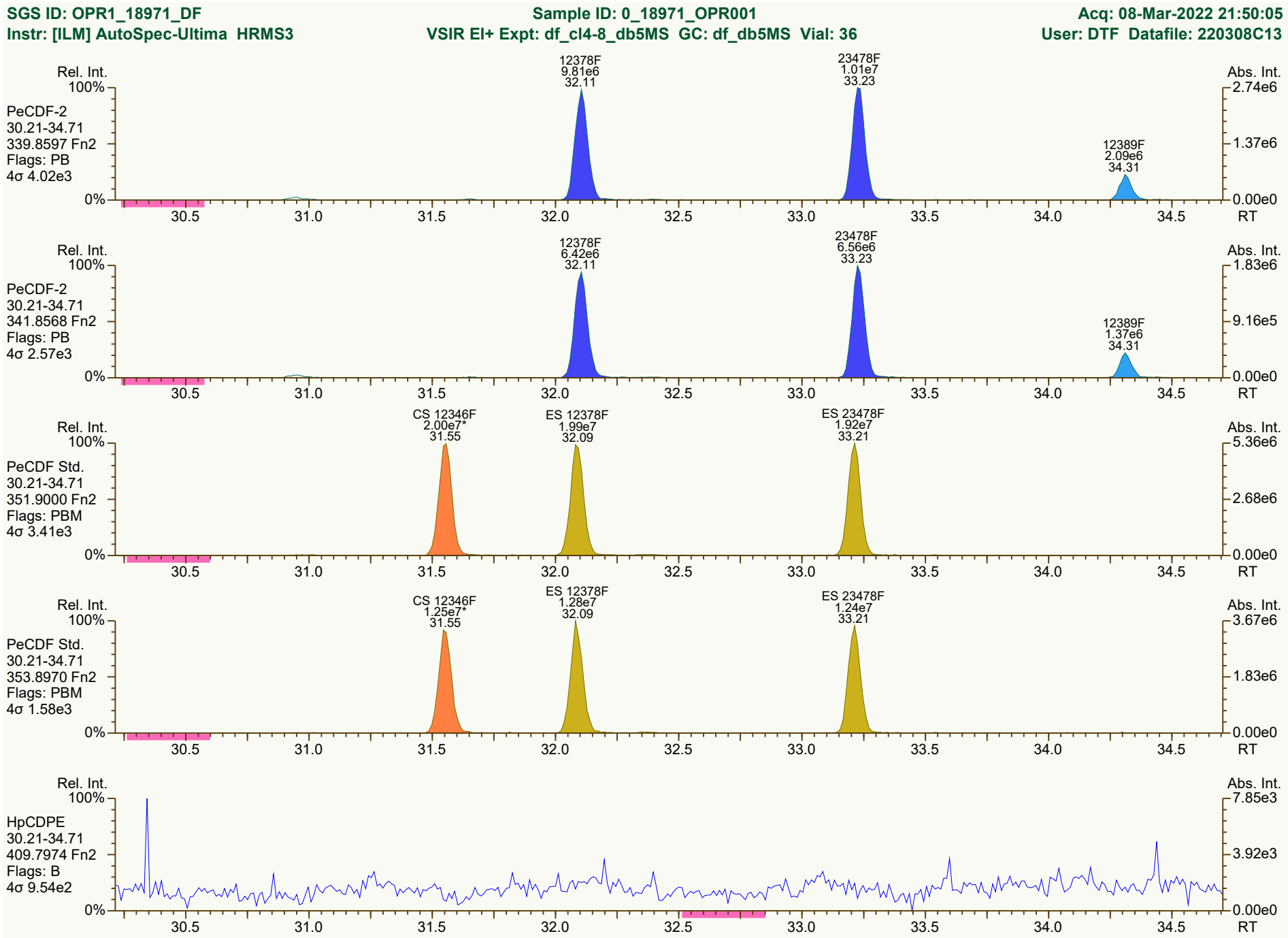
Peak annotation: Areas, Centroids
PKD: 09-Mar-2022 11:21 Printed: 09-Mar-2022 11:47 Page 4 of 12

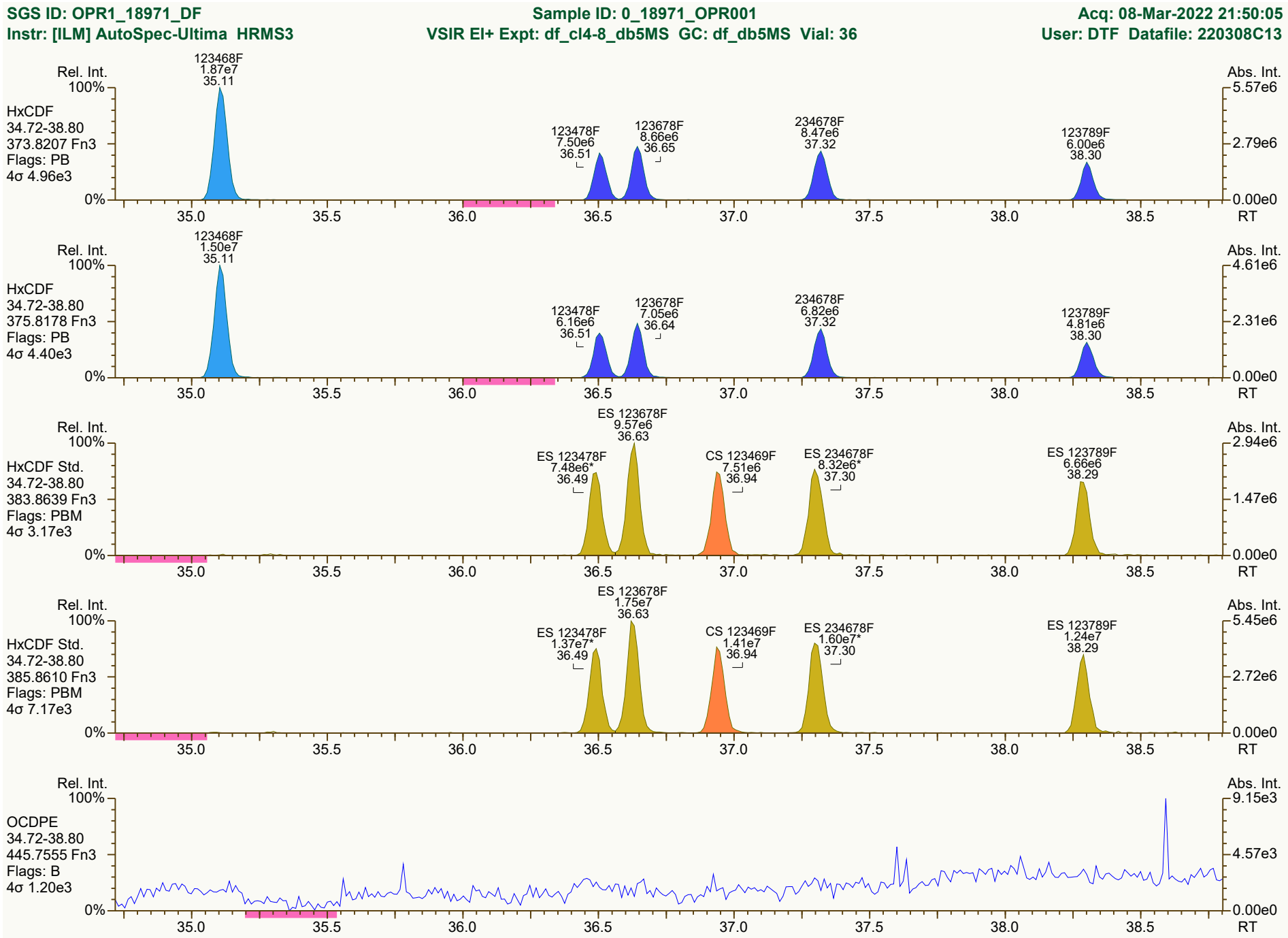

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 1.18e3
1234678D
4.02e6
40.68
1234679D
9.37e5
40.00
Abs. Int.
1.17e6
5.85e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 8.80e2
1234678D
3.89e6
40.68
1234679D
9.27e5
40.00
Abs. Int.
1.15e6
5.76e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 1.46e3
ES 1234678D
7.52e6
40.67
Abs. Int.
2.21e6
1.11e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 2.17e3
ES 1234678D
6.90e6
40.67
Abs. Int.
2.01e6
1.01e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
3.94e6
1.97e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

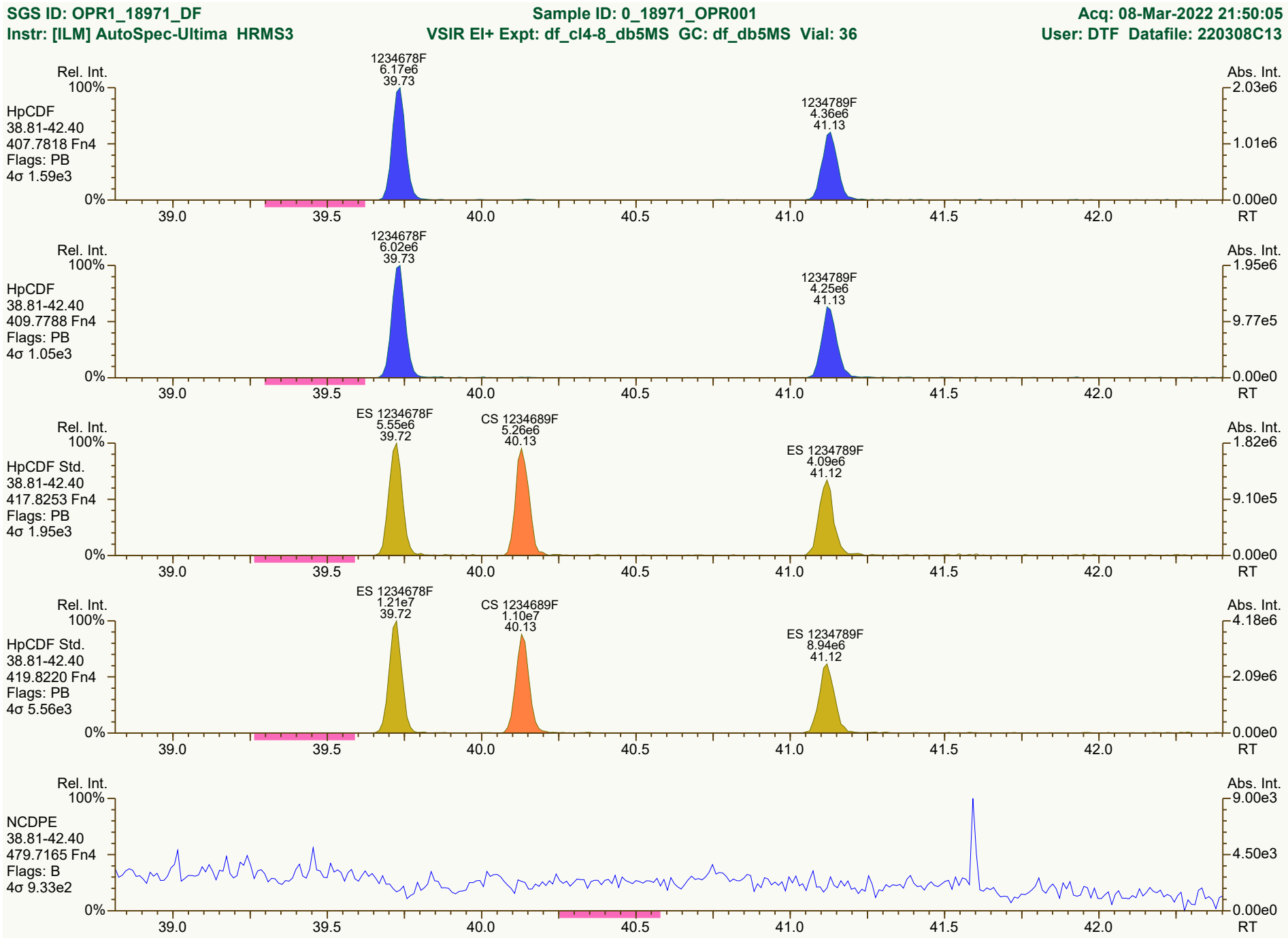

Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PBM
4σ 1.25e3
0%
OCDD
4.48e6*
43.37
Abs. Int.
9.19e5
4.59e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PBM
4σ 1.65e3
0%
OCDD
5.05e6*
43.37
Abs. Int.
1.03e6
5.15e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.96e3
0%
ES OCDD
7.39e6*
43.36
Abs. Int.
1.65e6
8.24e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 2.04e3
0%
ES OCDD
8.63e6*
43.36
Abs. Int.
1.77e6
8.87e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
3.22e6
1.61e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: OPR1_18971_DF
Sample ID: 0_18971_OPR001
Acq: 08-Mar-2022 21:50:05
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 36
User: DTF Datafile: 220308C13
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.09e3
1368F 2.45e6* 22.28
2468F 5.89e5 23.53
2348F 2.31e6* 27.17
2378F 1.72e6* 27.29
1289F 2.63e6 29.31
5.66e5
2.83e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.49e3
1368F 2.99e6* 22.28
2468F 7.60e5 23.53
2348F 2.98e6* 27.18
2378F 2.13e6* 27.29
1289F 3.46e6 29.31
6.92e5
3.46e5
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 2.43e3
JS 1234F 1.64e7 25.88
ES 2378F 1.53e7 27.27
3.52e6
1.76e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.15e3
JS 1234F 2.07e7 25.87
ES 2378F 1.87e7 27.26
4.19e6
2.10e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.26e3
1.68e4
8.38e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\OPR1_18971_DF.utp_res, saved 09-Mar-2022 11:41 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3690, 2611, 2193 scc: 714-698
PKD: 09-Mar-2022 11:21 Printed: 09-Mar-2022 11:47 Page 7 of 12

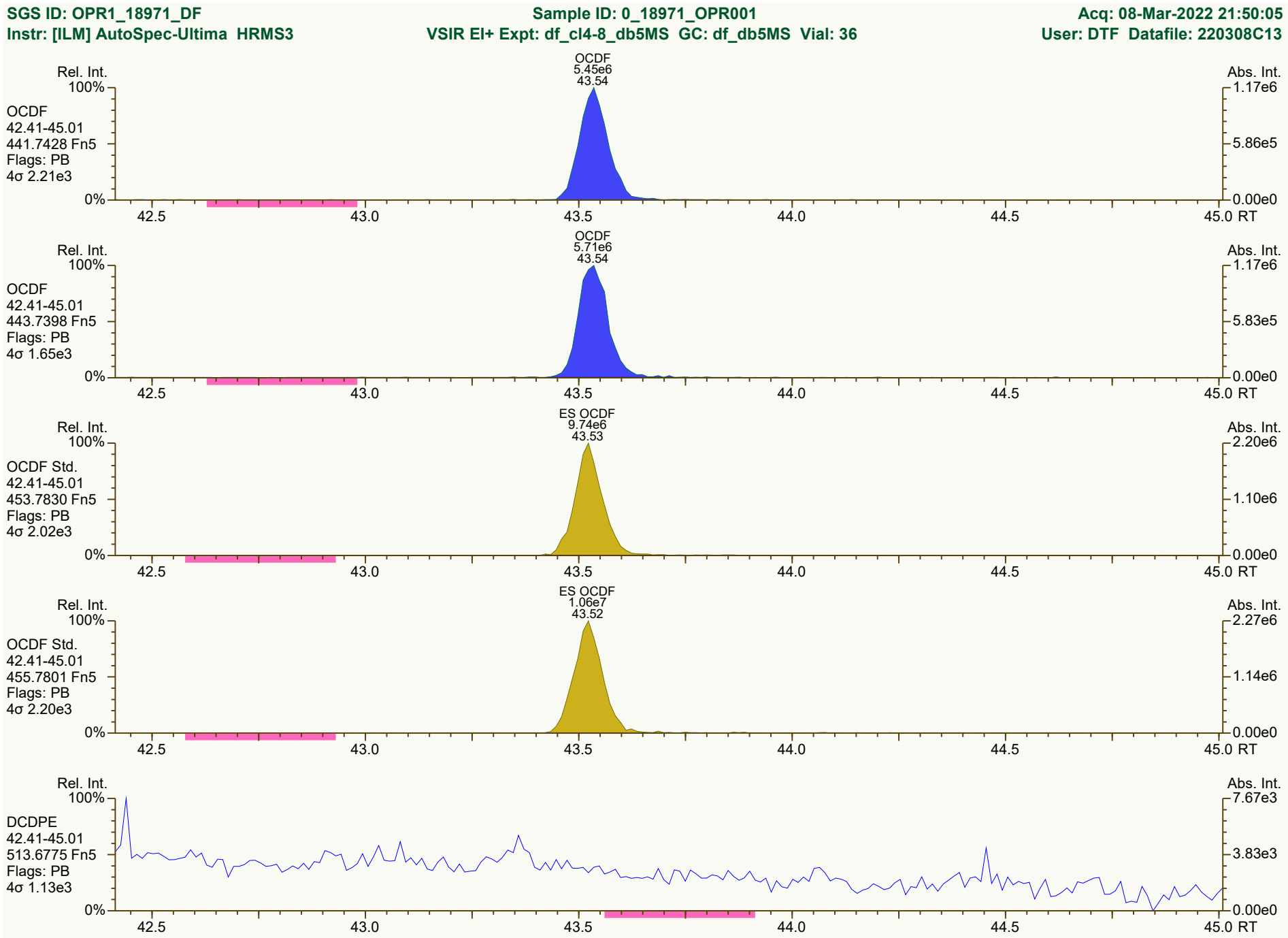

Rel. Int.
100%
0%
Abs. Int.
4.12e6
2.06e6
0.00e0
13468/12468F
1.64e7
29.24
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.39e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.88e6
1.44e6
0.00e0
13468/12468F
1.09e7
29.24
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.47e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.85e6
9.24e5
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: OPR1_18971_DF
Sample ID: 0_18971_OPR001
Acq: 08-Mar-2022 21:50:05
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 36
User: DTF Datafile: 220308C13
Rel. Int.
Abs. Int.
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 4.02e3
12378F
9.81e6
32.11
23478F
1.01e7
33.23
12389F
2.09e6
34.31
2.74e6
1.37e6
0.00e0
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 2.57e3
12378F
6.42e6
32.11
23478F
6.56e6
33.23
12389F
1.37e6
34.31
1.83e6
9.16e5
0.00e0
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PBM
4σ 3.41e3
CS 12346F
2.00e7*
31.55
ES 12378F
1.99e7
32.09
ES 23478F
1.92e7
33.21
5.36e6
2.68e6
0.00e0
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PBM
4σ 1.58e3
CS 12346F
1.25e7*
31.55
ES 12378F
1.28e7
32.09
ES 23478F
1.24e7
33.21
3.67e6
1.83e6
0.00e0
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 9.54e2
7.85e3
3.92e3
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


SGS ID: OPR1_18971_DF
Sample ID: 0_18971_OPR001
Acq: 08-Mar-2022 21:50:05
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 36
User: DTF Datafile: 220308C13
Rel. Int.
Abs. Int.
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PB
4σ 4.96e3
123468F 1.87e7 35.11
123478F 7.50e6 36.51
123678F 8.66e6 36.65
234678F 8.47e6 37.32
123789F 6.00e6 38.30
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PB
4σ 4.40e3
123468F 1.50e7 35.11
123478F 6.16e6 36.51
123678F 7.05e6 36.64
234678F 6.82e6 37.32
123789F 4.81e6 38.30
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PBM
4σ 3.17e3
ES 123678F 9.57e6 36.63
ES 123478F 7.48e6* 36.49
CS 123469F 7.51e6 36.94
ES 234678F 8.32e6* 37.30
ES 123789F 6.66e6 38.29
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PBM
4σ 7.17e3
ES 123678F 1.75e7 36.63
ES 123478F 1.37e7* 36.49
CS 123469F 1.41e7 36.94
ES 234678F 1.60e7* 37.30
ES 123789F 1.24e7 38.29
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.20e3
RT
Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\OPR1_18971_DF.utp_res, saved 09-Mar-2022 11:41 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2173, 3961, 0865 scc: 714-698
PKD: 09-Mar-2022 11:21 Printed: 09-Mar-2022 11:47 Page 10 of 12



Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\OPR1_18971_DF.utp_res, saved 09-Mar-2022 11:41 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3254, 2701, 1074 scc: 714-698
PKD: 09-Mar-2022 11:20 Printed: 09-Mar-2022 11:47 Page 11 of 12


SGS ID: OPR1_18971_DF
Sample ID: 0_18971_OPR001
Acq: 08-Mar-2022 21:50:05
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 36
User: DTF Datafile: 220308C13
Rel. Int.
Abs. Int.
OCDF
5.45e6
43.54
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 2.21e3
1.17e6
5.86e5
0.00e0
OCDF
5.71e6
43.54
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.65e3
1.17e6
5.83e5
0.00e0
ES OCDF
9.74e6
43.53
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 2.02e3
2.20e6
1.10e6
0.00e0
ES OCDF
1.06e7
43.52
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 2.20e3
2.27e6
1.14e6
0.00e0
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.13e3
7.67e3
3.83e3
0.00e0
100%
0%
42.5
43.0
43.5
44.0
44.5
45.0 RT
Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\OPR1_18971_DF.utp_res, saved 09-Mar-2022 11:41 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4614, 7501, 0770 scc: 714-698
PKD: 09-Mar-2022 11:20 Printed: 09-Mar-2022 11:47 Page 12 of 12

Lab ID: OPR2_18971_DF **Acq'd: 08 Mar 2022 22:36 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18971_OPR002 **UTP: 09-Mar-2022 11:41:49 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 813-174-DGF**

Datafile: 220308C14 **Report: 09 Mar 2022 11:43 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.16		1.0008	1.0008	0	3.91E+06	0.80	Y	1.18	11.2	2741.007	0.0843
12378-PeCDD	33.58		1.0007	1.0006	-0.2	1.27E+07	1.53	Y	1.04	48	4176.87	0.137
123478-HxCDD	37.51		1.0004	1.0004	0	1.26E+07	1.29	Y	1.09	53.7	2863.911	0.108
123678-HxCDD	37.63		1.0036	1.0037	+0.2	1.28E+07	1.26	Y	1.15	53.5	2863.911	0.113
123789-HxCDD	37.94		1.0118	1.0119	+0.2	1.26E+07	1.27	Y	1.05	52.7	2863.911	0.105
1234678-HpCDD	40.69		1.0002	1.0003	+0.2	1.02E+07	1.01	Y	1.06	52.4	2571.9	0.108
OCDD	43.38		1.0003	1.0003	0	1.29E+07	0.92	Y	1.13	107	2629.585	0.273
2378-TCDF	27.29		1.0008	1.0008	0	5.03E+06	0.79	Y	1.08	10.9	2541.378	0.0638
12378-PeCDF	32.11		1.0005	1.0005	0	2.08E+07	1.55	Y	1.02	48.7	6936.161	0.149
23478-PeCDF	33.23		1.0005	1.0005	0	2.09E+07	1.55	Y	1.02	51.5	6936.161	0.148
123478-HxCDF	36.51		1.0004	1.0005	+0.2	1.68E+07	1.22	Y	1.27	49.6	7595.293	0.178
123678-HxCDF	36.65		1.0004	1.0004	0	2.01E+07	1.26	Y	1.15	50.9	7595.293	0.163
234678-HxCDF	37.32		1.0005	1.0004	-0.2	1.93E+07	1.25	Y	1.19	52.1	7595.293	0.173
123789-HxCDF	38.31		1.0004	1.0004	0	1.41E+07	1.23	Y	1.16	49	7595.293	0.215
1234678-HpCDF	39.74		1.0003	1.0003	0	1.56E+07	1.00	Y	1.37	50	2151.3998	0.0499
1234789-HpCDF	41.14		1.0003	1.0003	0	1.12E+07	1.03	Y	1.31	51.2	2151.3998	0.0865
OCDF	43.54		1.0002	1.0002	0	1.45E+07	0.90	Y	1.07	101	2494.673	0.205

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.14	1.0243	1.0244	+0.2	2.95E+07	0.80	Y	1.05	102
ES 12378-PeCDD	33.56	1.2198	1.2215	+3.4	2.56E+07	1.55	Y	0.88	105
ES 123478-HxCDD	37.49	0.9916	0.9913	-0.7	2.15E+07	1.26	Y	0.97	101
ES 123678-HxCDD	37.62	0.9947	0.9946	-0.2	2.08E+07	1.29	Y	0.94	100
ES 123789-HxCDD	37.92	1.0029	1.0027	-0.5	2.27E+07	1.27	Y	1.09	94.5
ES 1234678-HpCDD	40.67	1.0749	1.0754	+1.2	1.84E+07	1.06	Y	0.91	91.5
ES OCDD	43.36	1.1460	1.1466	+1.6	2.14E+07	0.94	Y	0.62	77.9
ES 2378-TCDF	27.27	1.0531	1.0536	+0.8	4.27E+07	0.80	Y	1.06	91
ES 12378-PeCDF	32.09	1.2378	1.2399	+4.0	4.16E+07	1.59	Y	0.91	103
ES 23478-PeCDF	33.22	1.2810	1.2833	+4.6	3.99E+07	1.52	Y	0.88	102
ES 123478-HxCDF	36.49	0.9650	0.9649	-0.2	2.67E+07	0.56	Y	1.20	101
ES 123678-HxCDF	36.63	0.9688	0.9686	-0.4	3.42E+07	0.53	Y	1.35	115
ES 234678-HxCDF	37.31	0.9866	0.9864	-0.4	3.11E+07	0.56	Y	1.24	114
ES 123789-HxCDF	38.29	1.0125	1.0125	0	2.48E+07	0.53	Y	1.16	97.4
ES 1234678-HpCDF	39.73	1.0501	1.0504	+0.7	2.28E+07	0.48	Y	0.97	107
ES 1234789-HpCDF	41.13	1.0870	1.0874	+1.0	1.67E+07	0.45	Y	0.85	89.1
ES OCDF	43.53	1.1505	1.1510	+1.3	2.67E+07	0.87	Y	0.81	75.2

Lab ID: OPR2_18971_DF **Acq'd:** 08 Mar 2022 22:36 DTF **Wt/Vol:** 1 uL **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18971_OPR002 **UTP:** 09-Mar-2022 11:41:49 DTF **J-level:** 0.25 pg/uL **Split:** 1 **Checkcode:** 813-174-DGF

Datafile: 220308C14 **Report:** 09 Mar 2022 11:43 TF **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %	
JS 1234-TCDD	27.47		-	-	-	2.78E+07	0.79	Y	-	-	
JS 1234-TCDF	25.88		-	-	-	4.43E+07	0.80	Y	-	-	
JS 123467-HxCDD	37.82		-	-	-	1.10E+07	1.15	Y	-	-	
CS 37Cl-2378-TCDD	28.16		1.0251	1.0252	+0.2	1.33E+07	n/a	-	1.20	99.4	
CS 12347-PeCDD	33.05		1.2016	1.2031	+3.0	2.27E+07	1.60	Y	0.75	108	
CS 12346-PeCDF	31.56		1.2172	1.2193	+4.0	4.06E+07	1.61	Y	0.85	108	
CS 123469-HxCDF	36.95		0.9771	0.9769	-0.4	2.72E+07	0.53	Y	1.12	111	
CS 1234689-HpCDF	40.14		1.0608	1.0612	+1.0	2.06E+07	0.45	Y	0.89	105	
~~SS 37Cl-2378-TCDD~~	~~28.16~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.33E+07~~	~~n/a~~		~~1.15~~	~~98.1~~	Not used in this project.
~~SS 12347-PeCDD~~	~~33.05~~		~~1.2016~~	~~1.2031~~	~~+3.0~~	~~2.27E+07~~	~~1.60~~	~~Y~~	~~0.86~~	~~103~~	CL 09Mar22
~~SS 12346-PeCDF~~	~~31.56~~		~~1.2172~~	~~1.2193~~	~~+4.0~~	~~4.06E+07~~	~~1.61~~	~~Y~~	~~0.94~~	~~104~~	
~~SS 123469-HxCDF~~	~~36.95~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~2.72E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~96.2~~	
~~SS 1234689-HpCDF~~	~~40.14~~		~~1.0608~~	~~1.0612~~	~~+1.0~~	~~2.06E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~98.1~~	

Totals	Conc	EMPC
Total TCDD	49.8	49.8
Total PeCDD	74.4	74.4
Total HxCDD	176	176
Total HpCDD	65	65
Total Tetra-Octa Dioxins	473	473
Total TCDF	60	60
Total PeCDF	192	192
Total HxCDF	321	321
Total HpCDF	101	101
Total Tetra-Octa Furans	775	775
Total Tetra-Octa Dioxins & Furans	1250	1250

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.802	0.80
Response	3.92E+06	3.91E+06

Lab ID: OPR2_18971_DF **Acq'd: 08 Mar 2022 22:36 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18971_OPR002 **UTP: 09-Mar-2022 11:41:49 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 813-174-DGF**

Datafile: 220308C14 **Report: 09 Mar 2022 11:43 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.46		0.8701	0.8691	-1.5	4.82E+06	0.80	Y	1.18	13.8	2741.007	0.0843
1379-TCDD	NotFnd		0.8829						1.18		2741.007	0.0843
1369-TCDD	NotFnd		0.8982						1.18		2741.007	0.0843
1469-TCDD	NotFnd		0.9261						1.18		2741.007	0.0843
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		2741.007	0.0843
1378-TCDD	NotFnd		0.9417						1.18		2741.007	0.0843
1268-TCDD	NotFnd		0.9487						1.18		2741.007	0.0843
1478-TCDD	NotFnd		0.9576						1.18		2741.007	0.0843
1279-TCDD	NotFnd		0.9636						1.18		2741.007	0.0843
1234/1269-TCDD	NotFnd		0.9761						1.18		2741.007	0.0843
1236-TCDD	NotFnd		0.9812						1.18		2741.007	0.0843
1237/1238-TCDD	NotFnd		0.9905						1.18		2741.007	0.0843
1239-TCDD	28.01		0.9951	0.9952	+0.2	3.74E+06	0.80	Y	1.18	10.7	2741.007	0.0843
2378-TCDD	**28.16**		**1.0008**	1.0008	**0**	3.91E+06	0.80	Y	**1.18**	**11.2**	**2741.007**	**0.0843**
1278-TCDD	NotFnd		1.0124						1.18		2741.007	0.0843
1267-TCDD	NotFnd		1.0172						1.18		2741.007	0.0843
1289-TCDD	29.15		1.0354	1.0358	+0.7	4.96E+06	0.81	Y	1.18	14.2	2741.007	0.0843
12479/12468-PeCDD	31.05		0.9255	0.9253	-0.4	3.42E+06	1.56	Y	1.04	12.9	4176.87	0.137
12469-PeCDD	NotFnd		0.9416						1.04		4176.87	0.137
12368-PeCDD	NotFnd		0.9582						1.04		4176.87	0.137
12478-PeCDD	NotFnd		0.9637						1.04		4176.87	0.137
12379-PeCDD	NotFnd		0.9668						1.04		4176.87	0.137
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		4176.87	0.137
12346/12347-PeCDD	NotFnd		0.9858						1.04		4176.87	0.137
12378-PeCDD	33.58		**1.0007**	**1.0006**	**-0.2**	**1.27E+07**	**1.53**	**Y**	**1.04**	**48**	**4176.87**	**0.137**
12367-PeCDD	NotFnd		1.0036						1.04		4176.87	0.137
12389-PeCDD	34.02		1.0137	1.0138	+0.2	3.58E+06	1.57	Y	1.04	13.5	4176.87	0.137
124679/124689-HxCDD	35.77		0.9540	0.9540	0	3.90E+06	1.25	Y	1.10	16.4	2863.911	0.109
123468-HxCDD	NotFnd		0.9715						1.10		2863.911	0.109
123679/123689-HxCDD	NotFnd		0.9793						1.10		2863.911	0.109
123469-HxCDD	NotFnd		0.9829						1.10		2863.911	0.109
123478-HxCDD	37.51		**1.0004**	**1.0004**	**0**	**1.26E+07**	**1.29**	**Y**	1.09	**53.7**	**2863.911**	**0.108**
123678-HxCDD	37.63		**1.0036**	**1.0037**	**+0.2**	**1.28E+07**	**1.26**	**Y**	1.15	**53.5**	**2863.911**	**0.113**
123467-HxCDD	NotFnd		1.0089						1.10		2863.911	0.109
123789-HxCDD	37.94		**1.0118**	**1.0119**	**+0.2**	**1.26E+07**	**1.27**	**Y**	1.05	**52.7**	**2863.911**	**0.105**

Lab ID: OPR2_18971_DF **Acq'd: 08 Mar 2022 22:36 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18971_OPR002 **UTP: 09-Mar-2022 11:41:49 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 813-174-DGF**

Datafile: 220308C14 **Report: 09 Mar 2022 11:43 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.01		0.9836	0.9836	0	2.46E+06	1.02	Y	1.06	12.6	2571.9	0.108
1234678-HpCDD	**40.69**		**1.0002**	**1.0003**	**+0.2**	**1.02E+07**	**1.01**	**Y**	**1.06**	**52.4**	**2571.9**	**0.108**
OCDD	**43.38**		**1.0003**	**1.0003**	**0**	**1.29E+07**	**0.92**	**Y**	**1.13**	**107**	**2629.585**	**0.273**
OCDD-a	43.37		1.0002	1.0001	-0.3	7.15E+05	2.55	Y	0.07	92.7	3348.348	5.45
1368-TCDF	22.29		0.8191	0.8175	-2.1	6.56E+06	0.78	Y	1.08	14.2	2541.378	0.0638
1468-TCDF	NotFnd		0.8408						1.08		2541.378	0.0638
2468-TCDF	23.54		0.8645	0.8631	-2.0	1.64E+06	0.72	Y	1.08	3.56	2541.378	0.0638
1346/1246-TCDF	NotFnd		0.8772						1.08		2541.378	0.0638
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		2541.378	0.0638
1348-TCDF	NotFnd		0.8932						1.08		2541.378	0.0638
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		2541.378	0.0638
1268-TCDF	NotFnd		0.9119						1.08		2541.378	0.0638
1467-TCDF	NotFnd		0.9170						1.08		2541.378	0.0638
1478-TCDF	NotFnd		0.9234						1.08		2541.378	0.0638
1369/1237-TCDF	NotFnd		0.9369						1.08		2541.378	0.0638
2467-TCDF	NotFnd		0.9415						1.08		2541.378	0.0638
2368-TCDF	NotFnd		0.9475						1.08		2541.378	0.0638
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		2541.378	0.0638
1278-TCDF	NotFnd		0.9676						1.08		2541.378	0.0638
1349-TCDF	NotFnd		0.9722						1.08		2541.378	0.0638
1267-TCDF	NotFnd		0.9777						1.08		2541.378	0.0638
2346/1249-TCDF	NotFnd		0.9843						1.08		2541.378	0.0638
2347/1279-TCDF	NotFnd		0.9926						1.08		2541.378	0.0638
2348-TCDF	27.18		0.9968	0.9967	-0.2	6.62E+06	0.76	Y	1.08	14.4	2541.378	0.0638
2378-TCDF	**27.29**		**1.0008**	**1.0008**	**0**	**5.03E+06**	**0.79**	**Y**	**1.08**	**10.9**	**2541.378**	**0.0638**
2367/3467-TCDF	NotFnd		1.0142						1.08		2541.378	0.0638
1269-TCDF	NotFnd		1.0235						1.08		2541.378	0.0638
1239-TCDF	NotFnd		1.0329						1.08		2541.378	0.0638
1289-TCDF	29.32		1.0742	1.0751	+1.6	7.78E+06	0.81	Y	1.08	16.9	2541.378	0.0638
13468/12468-PeCDF	29.25		0.9122	0.9113	-1.6	3.37E+07	1.54	Y	1.02	80.9	2570.823	0.0552
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		6936.161	0.149
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		6936.161	0.149
14678-PeCDF	NotFnd		0.9685						1.02		6936.161	0.149
13479-PeCDF	NotFnd		0.9716						1.02		6936.161	0.149
13469/12479-PeCDF	NotFnd		0.9794						1.02		6936.161	0.149
12346-PeCDF	NotFnd		0.9836						1.02		6936.161	0.149

Lab ID: OPR2_18971_DF | **Acq'd: 08 Mar 2022 22:36 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18971_OPR002 | **UTP: 09-Mar-2022 11:41:49 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 813-174-DGF**

Datafile: 220308C14 | **Report: 09 Mar 2022 11:43 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		6936.161	0.149
12347-PeCDF	NotFnd		0.9891						1.02		6936.161	0.149
12348-PeCDF	NotFnd		0.9938						1.02		6936.161	0.149
12378-PeCDF	**32.11**		**1.0005**	**1.0005**	**0**	**2.08E+07**	**1.55**	**Y**	**1.02**	**48.7**	**6936.161**	**0.149**
12678/12367-PeCDF	NotFnd		1.0091						1.02		6936.161	0.149
12379-PeCDF	NotFnd		1.0144						1.02		6936.161	0.149
12679-PeCDF	NotFnd		0.9927						1.02		6936.161	0.149
23467/12369-PeCDF	NotFnd		0.9965						1.02		6936.161	0.149
23478-PeCDF	**33.23**		**1.0005**	**1.0005**	**0**	**2.09E+07**	**1.55**	**Y**	**1.02**	**51.5**	**6936.161**	**0.148**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6936.161	0.149
12349-PeCDF	NotFnd		1.0101						1.02		6936.161	0.149
12389-PeCDF	34.32		1.0330	1.0332	+0.4	4.44E+06	1.58	Y	1.02	10.7	6936.161	0.149
123468-HxCDF	35.11		0.9622	0.9621	-0.2	4.16E+07	1.23	Y	1.19	119	7595.293	0.18
124678/134678-HxCDF	NotFnd		0.9678						1.19		7595.293	0.18
134679-HxCDF	NotFnd		0.9741						1.19		7595.293	0.18
124679-HxCDF	NotFnd		0.9795						1.19		7595.293	0.18
124689-HxCDF	NotFnd		0.9856						1.19		7595.293	0.18
123467-HxCDF	NotFnd		0.9972						1.19		7595.293	0.18
123478-HxCDF	**36.51**		**1.0004**	**1.0005**	**+0.2**	**1.68E+07**	**1.22**	**Y**	**1.27**	**49.6**	**7595.293**	**0.178**
123678-HxCDF	**36.65**		**1.0004**	**1.0004**	**0**	**2.01E+07**	**1.26**	**Y**	**1.15**	**50.9**	**7595.293**	**0.163**
123479-HxCDF	NotFnd		1.0048						1.19		7595.293	0.18
123469-HxCDF	NotFnd		1.0089						1.19		7595.293	0.18
123679-HxCDF	NotFnd		0.9942						1.19		7595.293	0.18
234678-HxCDF	**37.32**		**1.0005**	**1.0004**	**-0.2**	**1.93E+07**	**1.25**	**Y**	**1.19**	**52.1**	**7595.293**	**0.173**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		7595.293	0.18
123789-HxCDF	**38.31**		**1.0004**	**1.0004**	**0**	**1.41E+07**	**1.23**	**Y**	**1.16**	**49**	**7595.293**	**0.215**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		7595.293	0.18
1234678-HpCDF	**39.74**		**1.0003**	**1.0003**	**0**	**1.56E+07**	**1.00**	**Y**	**1.37**	**50**	**2151.3998**	**0.0499**
1234679-HpCDF	NotFnd		1.0068						1.34		2151.3998	0.0652
1234689-HpCDF	NotFnd		1.0104						1.34		2151.3998	0.0652
1234789-HpCDF	**41.14**		**1.0003**	**1.0003**	**0**	**1.12E+07**	**1.03**	**Y**	**1.31**	**51.2**	**2151.3998**	**0.0865**
OCDF	**43.54**		**1.0002**	**1.0002**	**0**	**1.45E+07**	**0.90**	**Y**	**1.07**	**101**	**2494.673**	**0.205**
OCDF-a	43.54		1.0001	1.0002	+0.3	8.33E+05	2.82	Y	0.07	93.8	3128.604	4.16

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220308C14	Analysis Date:	08-MAR-2022 22:36:25
Lab ID:	OPR2_18971_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.2	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	48	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	53.7	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	53.5	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	52.7	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	52.4	35	-	70	Y
OCDD	100	107	78	-	144	Y
2,3,7,8-TCDF	10	10.9	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	48.7	40	-	67	Y
2,3,4,7,8-PeCDF	50	51.5	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	49.6	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	50.9	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	52.1	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	49	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	50	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	51.2	39	-	69	Y
OCDF	100	101	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 09 Mar 2022 11:43 Analyst: TF

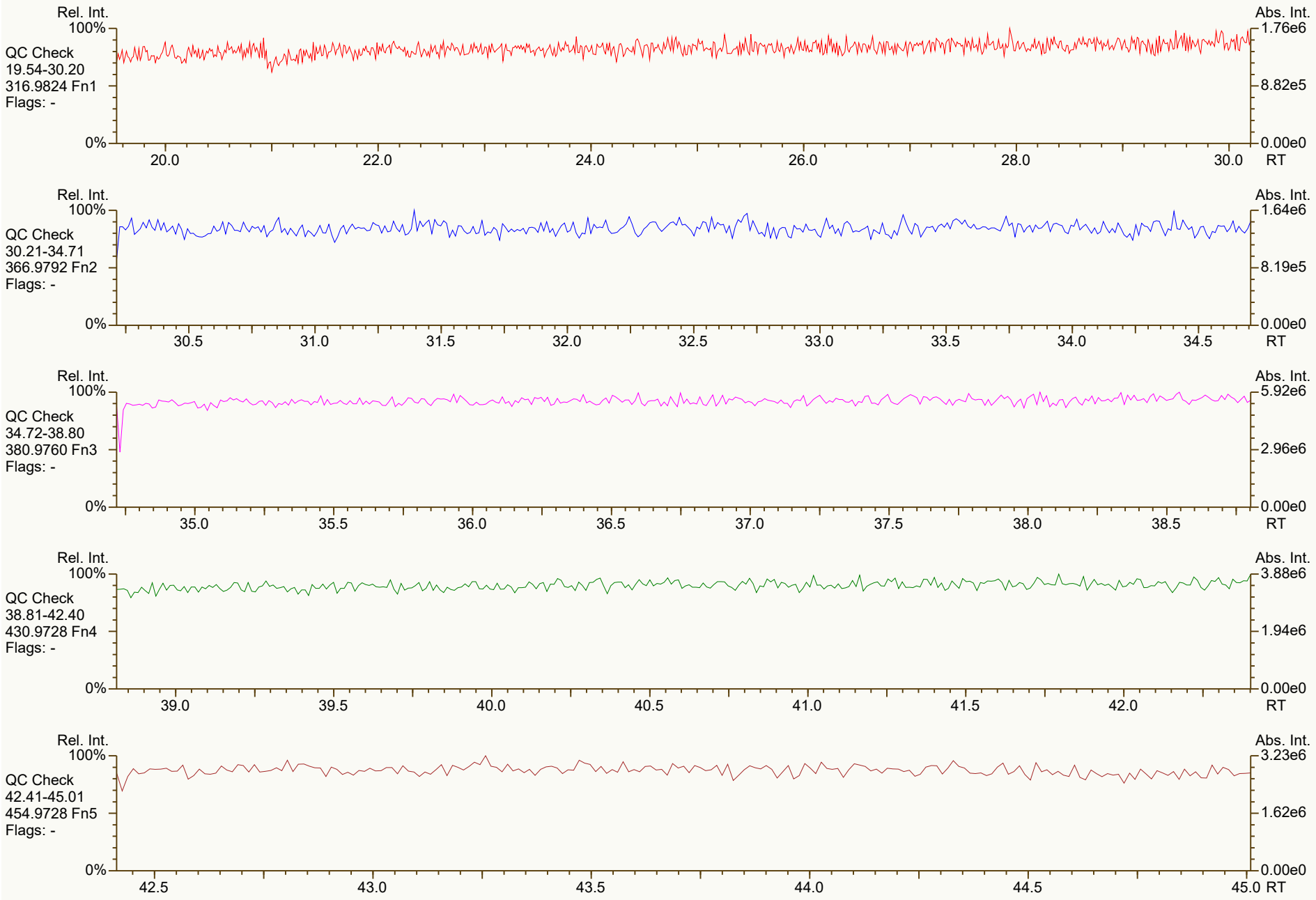
METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

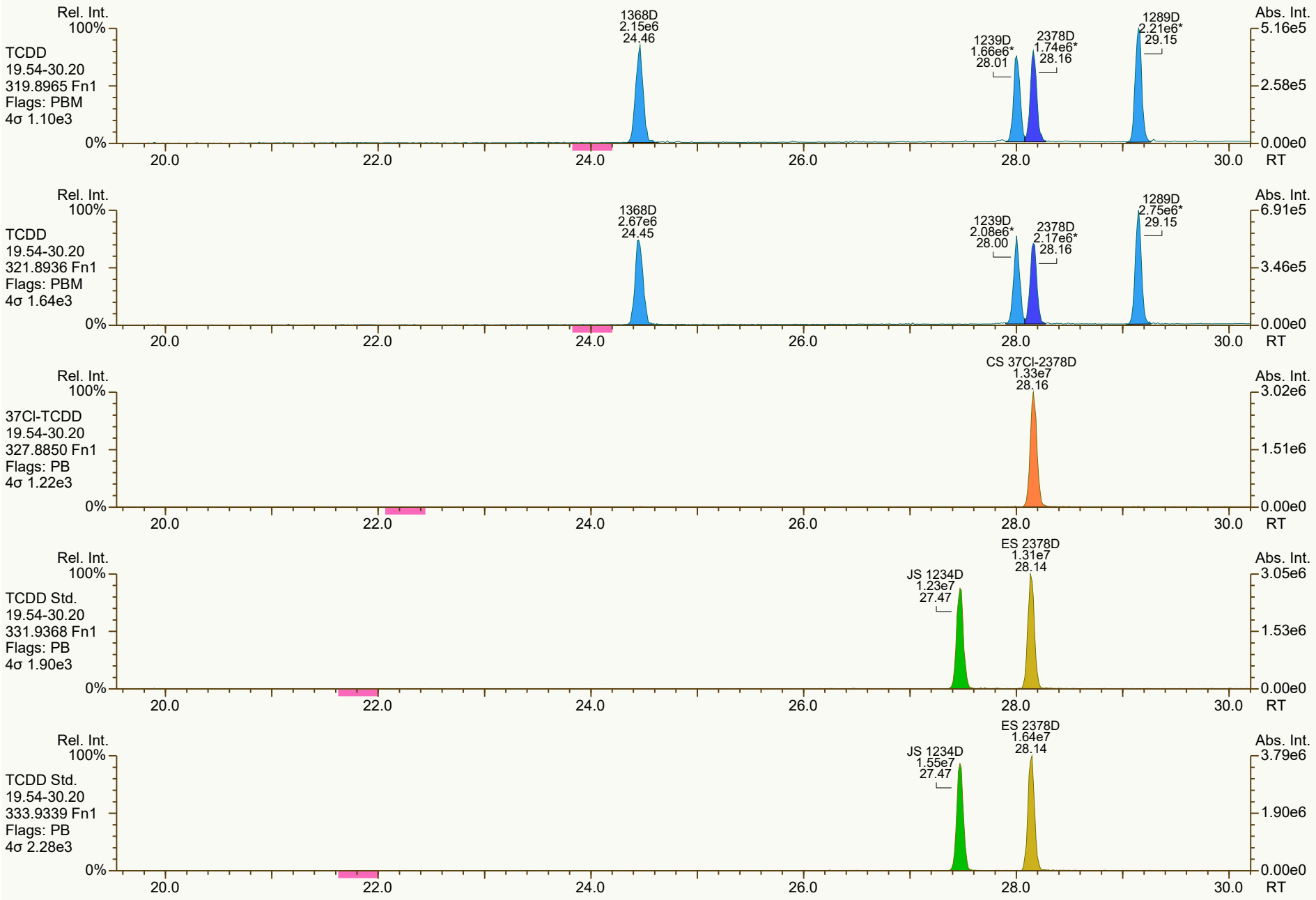
Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220308C14	Analysis Date:	08-MAR-2022 22:36:25
Lab ID:	OPR2_18971_DF		

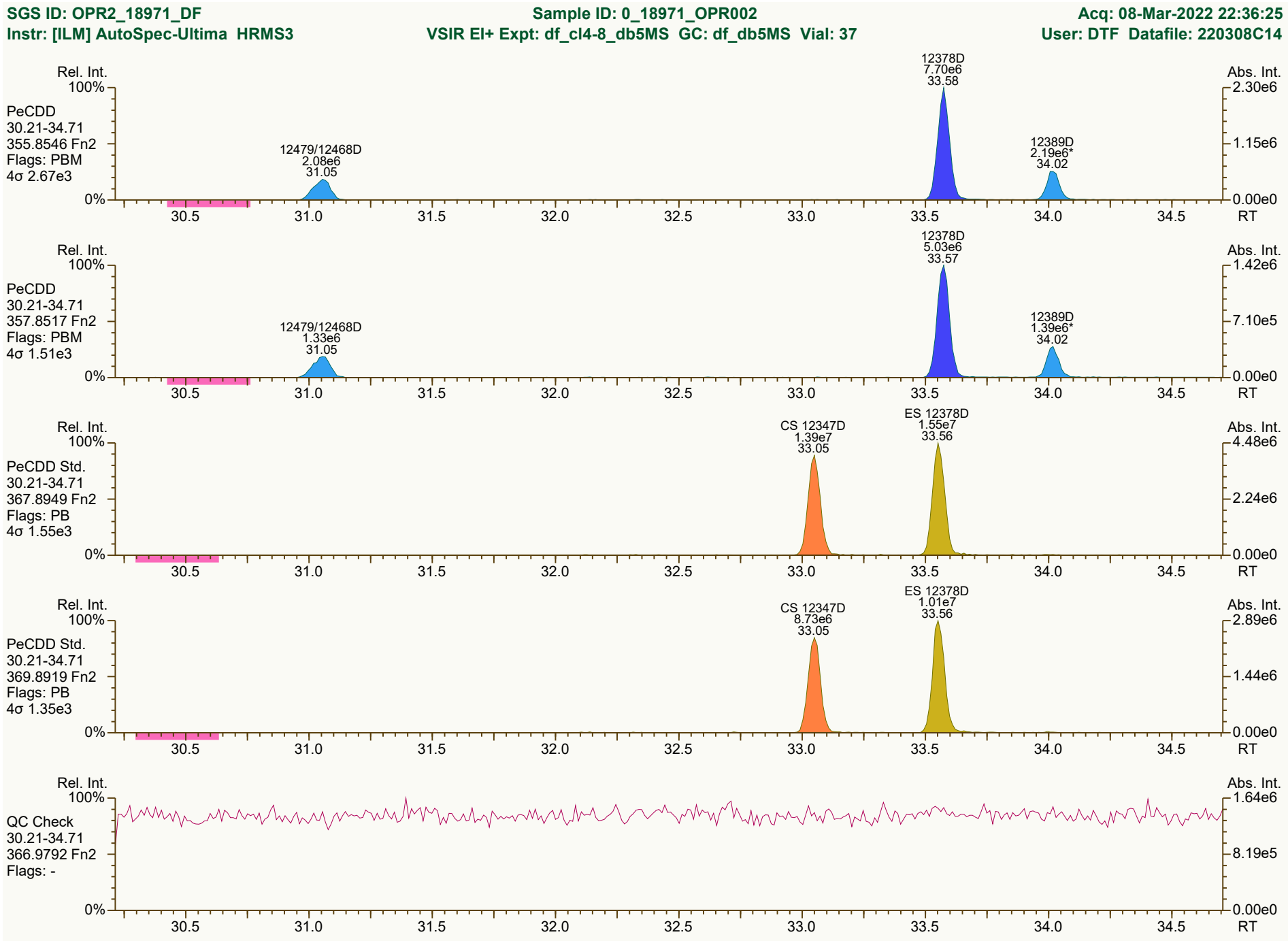
LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	102	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	105	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	101	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	100	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	94.5	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	91.5	26	-	166	Y
13C-OCDD	200	156	26	-	397	Y
13C-2,3,7,8-TCDF	100	91	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	103	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	102	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	101	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	115	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	114	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	97.4	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	107	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	89.1	20	-	186	Y
13C-OCDF	200	150	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	39.8	12.4	-	76.4	Y

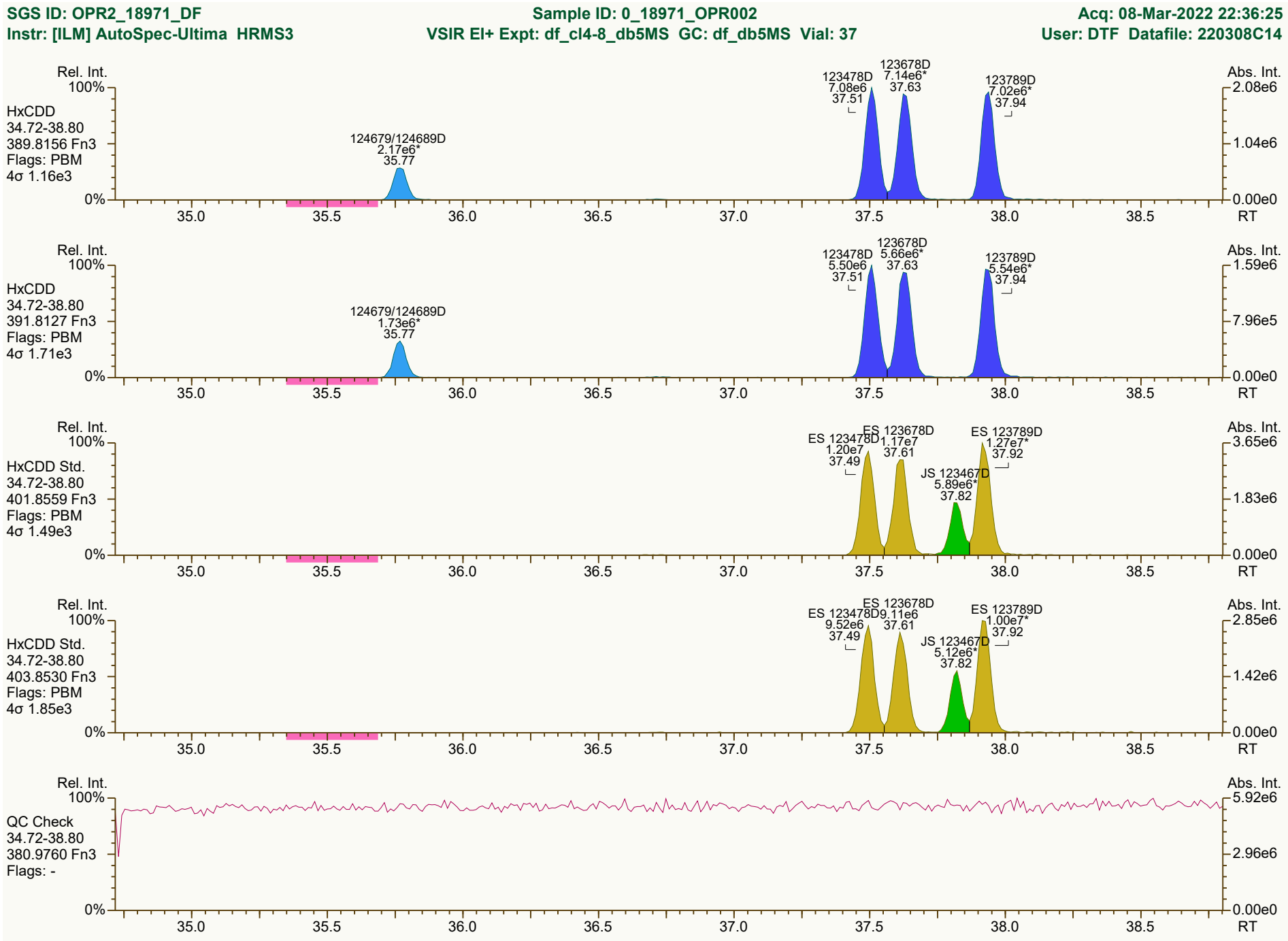
Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

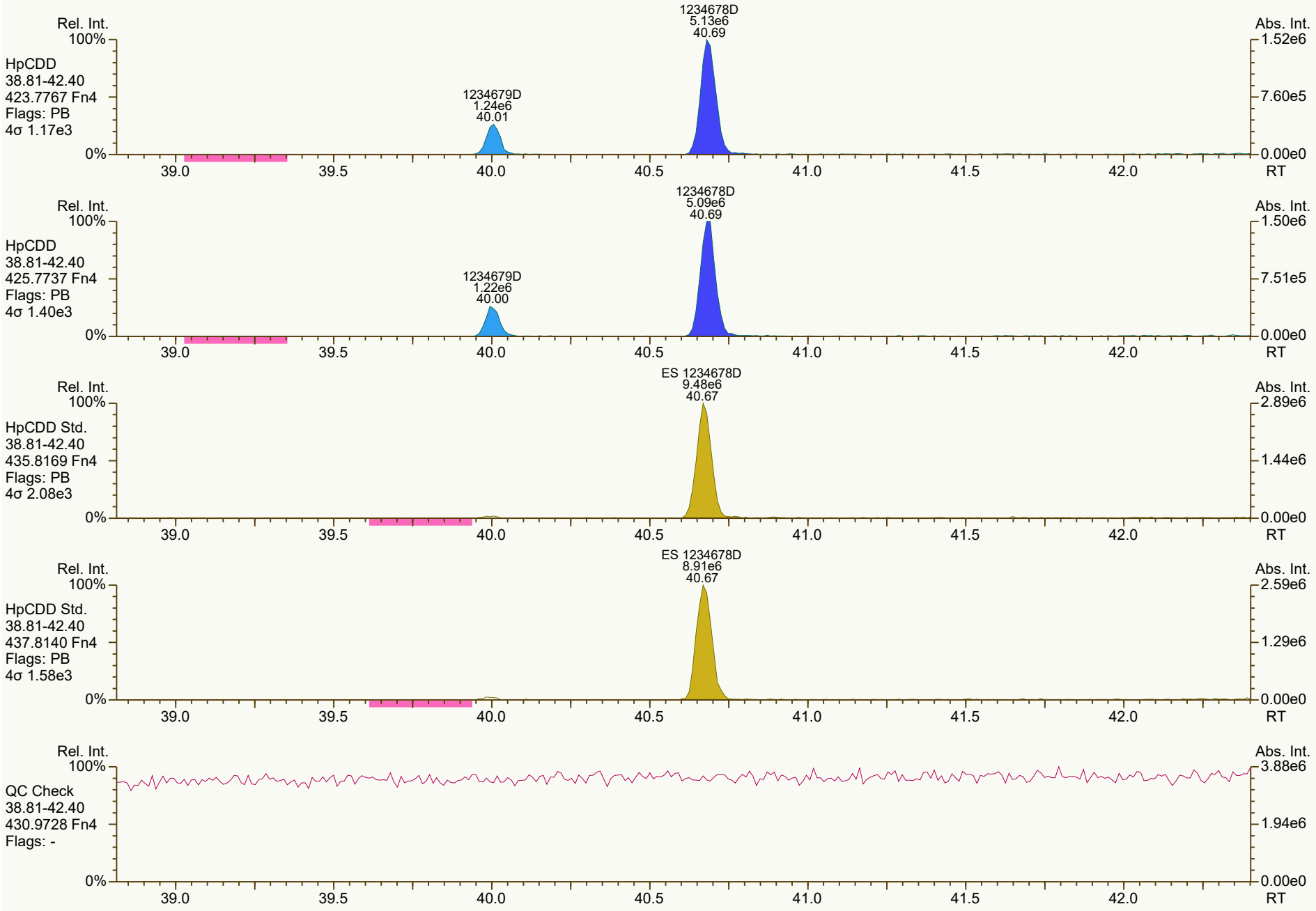
Processed: 09 Mar 2022 11:43 Analyst: TF


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.76e6
8.82e5
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
1.64e6
8.19e5
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
5.92e6
2.96e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
3.88e6
1.94e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
3.23e6
1.62e6
0.00e0

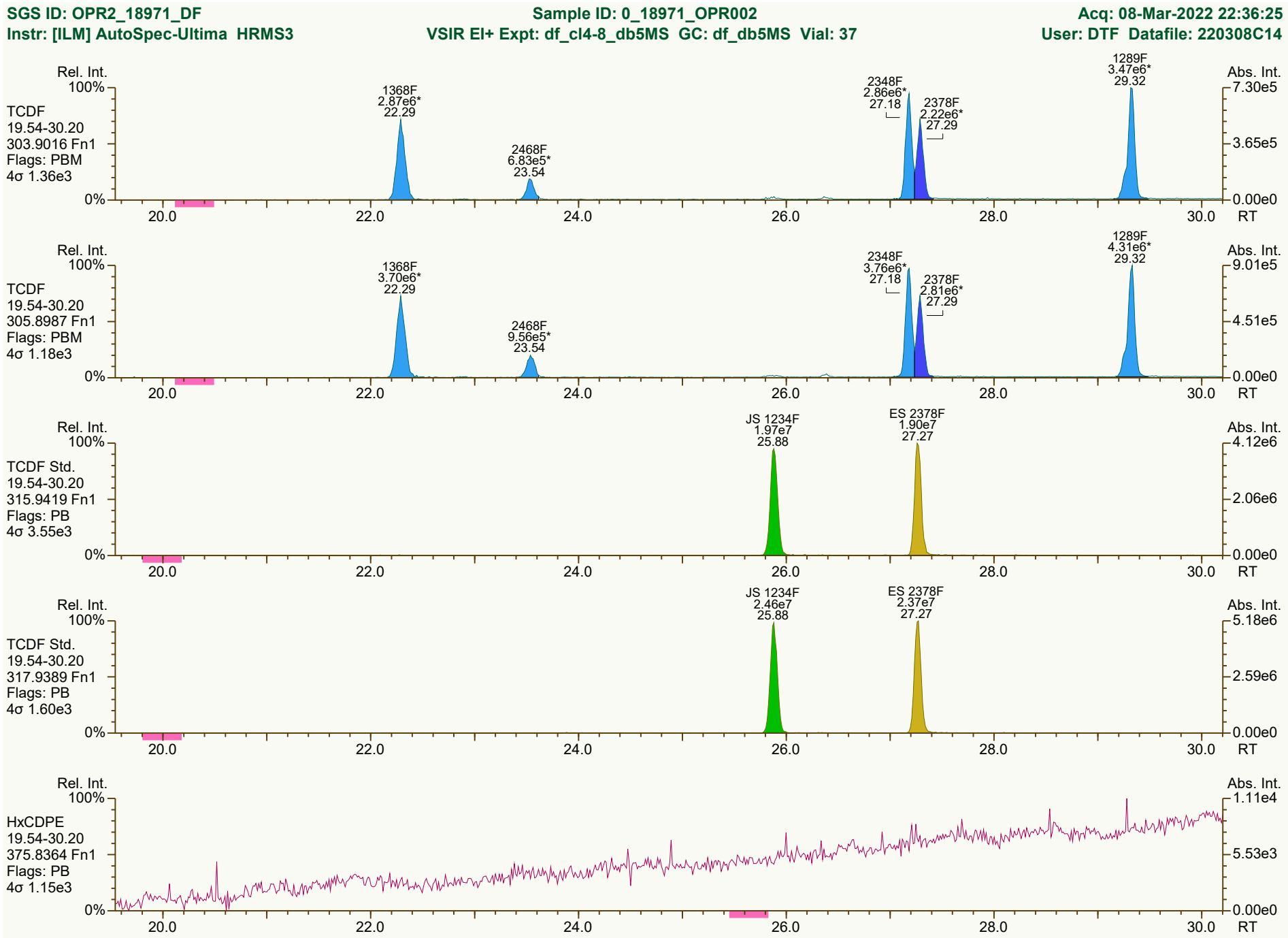

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.10e3
0%
1368D
2.15e6
24.46
1239D
1.66e6*
28.01
2378D
1.74e6*
28.16
1289D
2.21e6*
29.15
Abs. Int.
5.16e5
2.58e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.64e3
0%
1368D
2.67e6
24.45
1239D
2.08e6*
28.00
2378D
2.17e6*
28.16
1289D
2.75e6*
29.15
Abs. Int.
6.91e5
3.46e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.22e3
0%
CS 37Cl-2378D
1.33e7
28.16
Abs. Int.
3.02e6
1.51e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 1.90e3
0%
JS 1234D
1.23e7
27.47
ES 2378D
1.31e7
28.14
Abs. Int.
3.05e6
1.53e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.28e3
0%
JS 1234D
1.55e7
27.47
ES 2378D
1.64e7
28.14
Abs. Int.
3.79e6
1.90e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


SGS ID: OPR2_18971_DF
Sample ID: 0_18971_OPR002
Acq: 08-Mar-2022 22:36:25
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37
User: DTF Datafile: 220308C14
Rel. Int.
Abs. Int.
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 2.67e3
12479/12468D
2.08e6
31.05
12378D
7.70e6
33.58
12389D
2.19e6*
34.02
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 1.51e3
12479/12468D
1.33e6
31.05
12378D
5.03e6
33.57
12389D
1.39e6*
34.02
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 1.55e3
CS 12347D
1.39e7
33.05
ES 12378D
1.55e7
33.56
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.35e3
CS 12347D
8.73e6
33.05
ES 12378D
1.01e7
33.56
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
RT
Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\OPR2_18971_DF.utp_res, saved 09-Mar-2022 11:41 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8799, 8086 scc: 813-174
Revised: 09-Mar-2022 11:22 (DTF) Printed: 09-Mar-2022 11:47 Page 3 of 12


SGS ID: OPR2_18971_DF
Sample ID: 0_18971_OPR002
Acq: 08-Mar-2022 22:36:25
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37
User: DTF Datafile: 220308C14
Rel. Int.
Abs. Int.
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 1.16e3
124679/124689D
2.17e6*
35.77
123478D
7.08e6
37.51
123678D
7.14e6*
37.63
123789D
7.02e6*
37.94
2.08e6
1.04e6
0.00e0
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 1.71e3
124679/124689D
1.73e6*
35.77
123478D
5.50e6
37.51
123678D
5.66e6*
37.63
123789D
5.54e6*
37.94
1.59e6
7.96e5
0.00e0
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 1.49e3
ES 123478D
1.20e7
37.49
ES 123678D
1.17e7
37.61
JS 123467D
5.89e6*
37.82
ES 123789D
1.27e7*
37.92
3.65e6
1.83e6
0.00e0
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 1.85e3
ES 123478D
9.52e6
37.49
ES 123678D
9.11e6
37.61
JS 123467D
5.12e6*
37.82
ES 123789D
1.00e7*
37.92
2.85e6
1.42e6
0.00e0
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
5.92e6
2.96e6
0.00e0
100%
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\OPR2_18971_DF.utp_res, saved 09-Mar-2022 11:41 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3975, 4482 scc: 813-174
PKD: 09-Mar-2022 11:23 Printed: 09-Mar-2022 11:47 Page 4 of 12


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 1.17e3
1234678D
5.13e6
40.69
1234679D
1.24e6
40.01
Abs. Int.
1.52e6
7.60e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.40e3
1234678D
5.09e6
40.69
1234679D
1.22e6
40.00
Abs. Int.
1.50e6
7.51e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 2.08e3
ES 1234678D
9.48e6
40.67
Abs. Int.
2.89e6
1.44e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.58e3
ES 1234678D
8.91e6
40.67
Abs. Int.
2.59e6
1.29e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
3.88e6
1.94e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 1.34e3
0%
OCDD
6.19e6
43.38
Abs. Int.
1.28e6
6.39e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 1.29e3
0%
OCDD
6.74e6
43.37
Abs. Int.
1.45e6
7.23e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 1.60e3
0%
ES OCDD
1.04e7
43.36
Abs. Int.
2.07e6
1.03e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 2.17e3
0%
ES OCDD
1.11e7
43.36
Abs. Int.
2.39e6
1.19e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
3.23e6
1.62e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


SGS ID: OPR2_18971_DF
Sample ID: 0_18971_OPR002
Acq: 08-Mar-2022 22:36:25
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37
User: DTF Datafile: 220308C14
Rel. Int.
Abs. Int.
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.36e3
1368F 2.87e6* 22.29
2468F 6.83e5* 23.54
2348F 2.86e6* 27.18
2378F 2.22e6* 27.29
1289F 3.47e6* 29.32
7.30e5
3.65e5
0.00e0
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.18e3
1368F 3.70e6* 22.29
2468F 9.56e5* 23.54
2348F 3.76e6* 27.18
2378F 2.81e6* 27.29
1289F 4.31e6* 29.32
9.01e5
4.51e5
0.00e0
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 3.55e3
JS 1234F 1.97e7 25.88
ES 2378F 1.90e7 27.27
4.12e6
2.06e6
0.00e0
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 1.60e3
JS 1234F 2.46e7 25.88
ES 2378F 2.37e7 27.27
5.18e6
2.59e6
0.00e0
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.15e3
1.11e4
5.53e3
0.00e0
100%
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\OPR2_18971_DF.utp_res, saved 09-Mar-2022 11:41 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 2261, 7629, 3798 scc: 813-174
Revised: 09-Mar-2022 11:22 (DTF) Printed: 09-Mar-2022 11:48 Page 7 of 12

SGS ID: OPR2_18971_DF
Sample ID: 0_18971_OPR002
Acq: 08-Mar-2022 22:36:25
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37
User: DTF Datafile: 220308C14

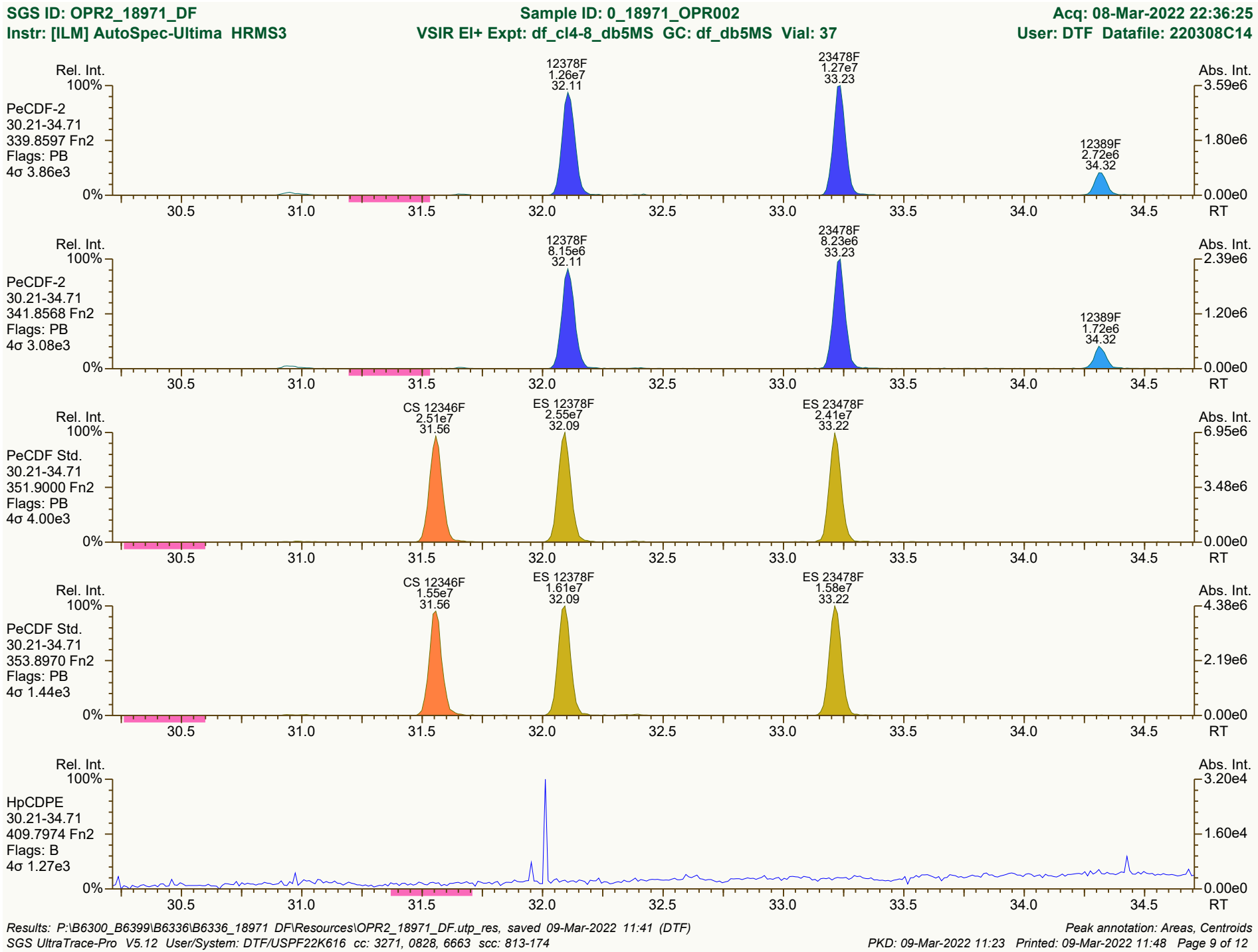


Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\OPR2_18971_DF.utp_res, saved 09-Mar-2022 11:41 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8642 scc: 813-174
Revised: 09-Mar-2022 11:23 (DTF) Printed: 09-Mar-2022 11:48 Page 8 of 12

SGS ID: OPR2_18971_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

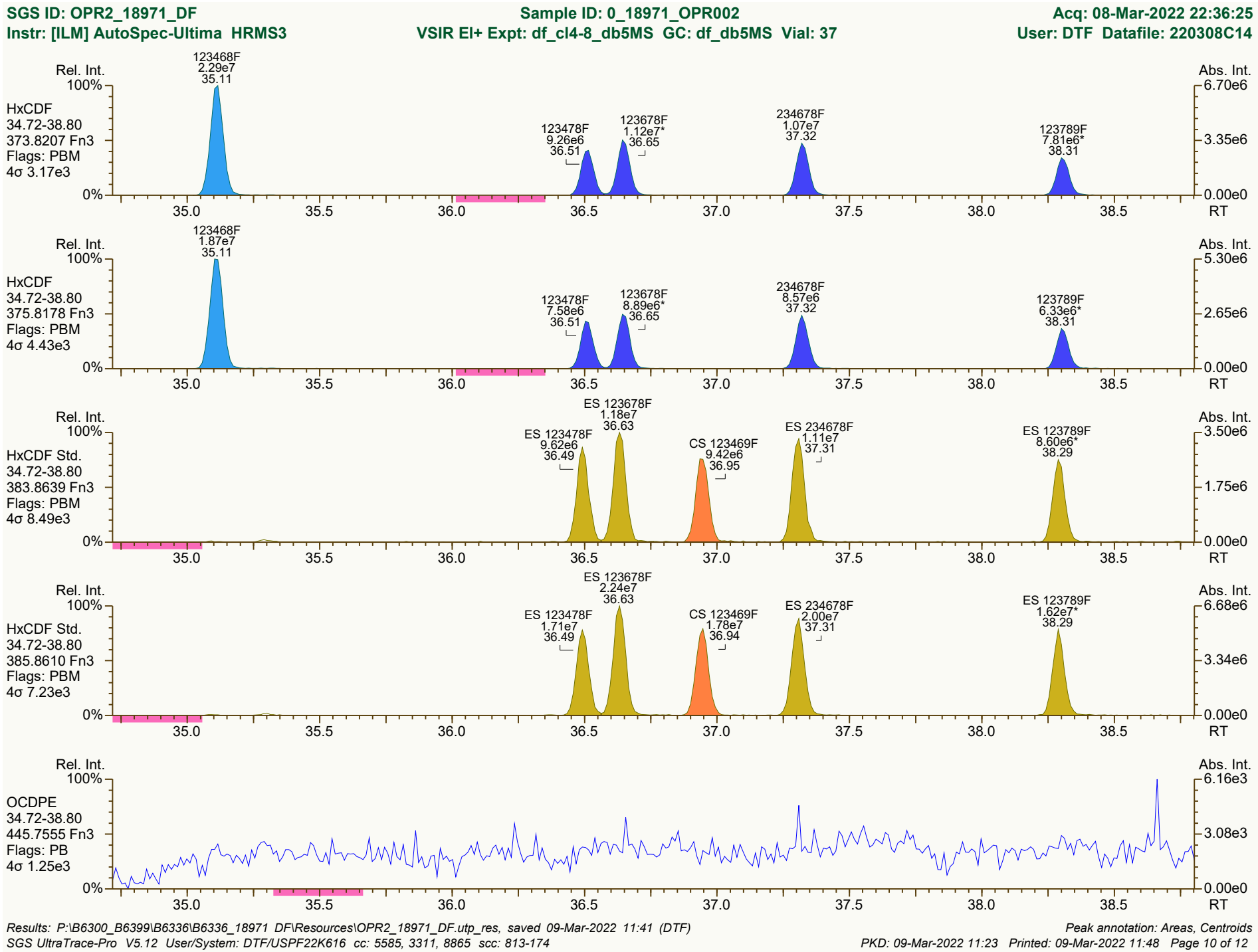
Sample ID: 0_18971_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37

Acq: 08-Mar-2022 22:36:25
User: DTF Datafile: 220308C14

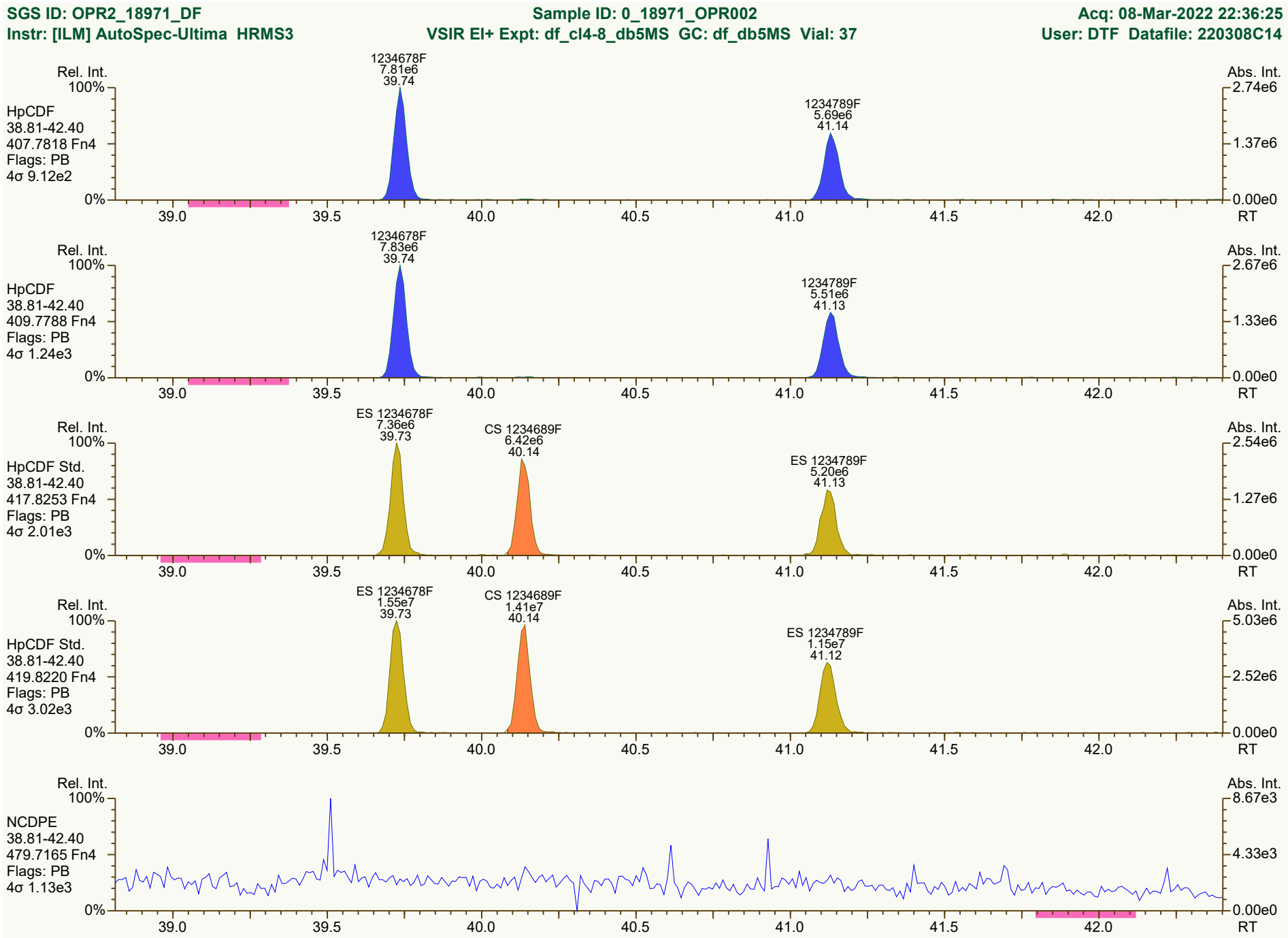


Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\OPR2_18971_DF.utp_res, saved 09-Mar-2022 11:41 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3271, 0828, 6663 scc: 813-174

Peak annotation: Areas, Centroids
PKD: 09-Mar-2022 11:23 Printed: 09-Mar-2022 11:48 Page 9 of 12



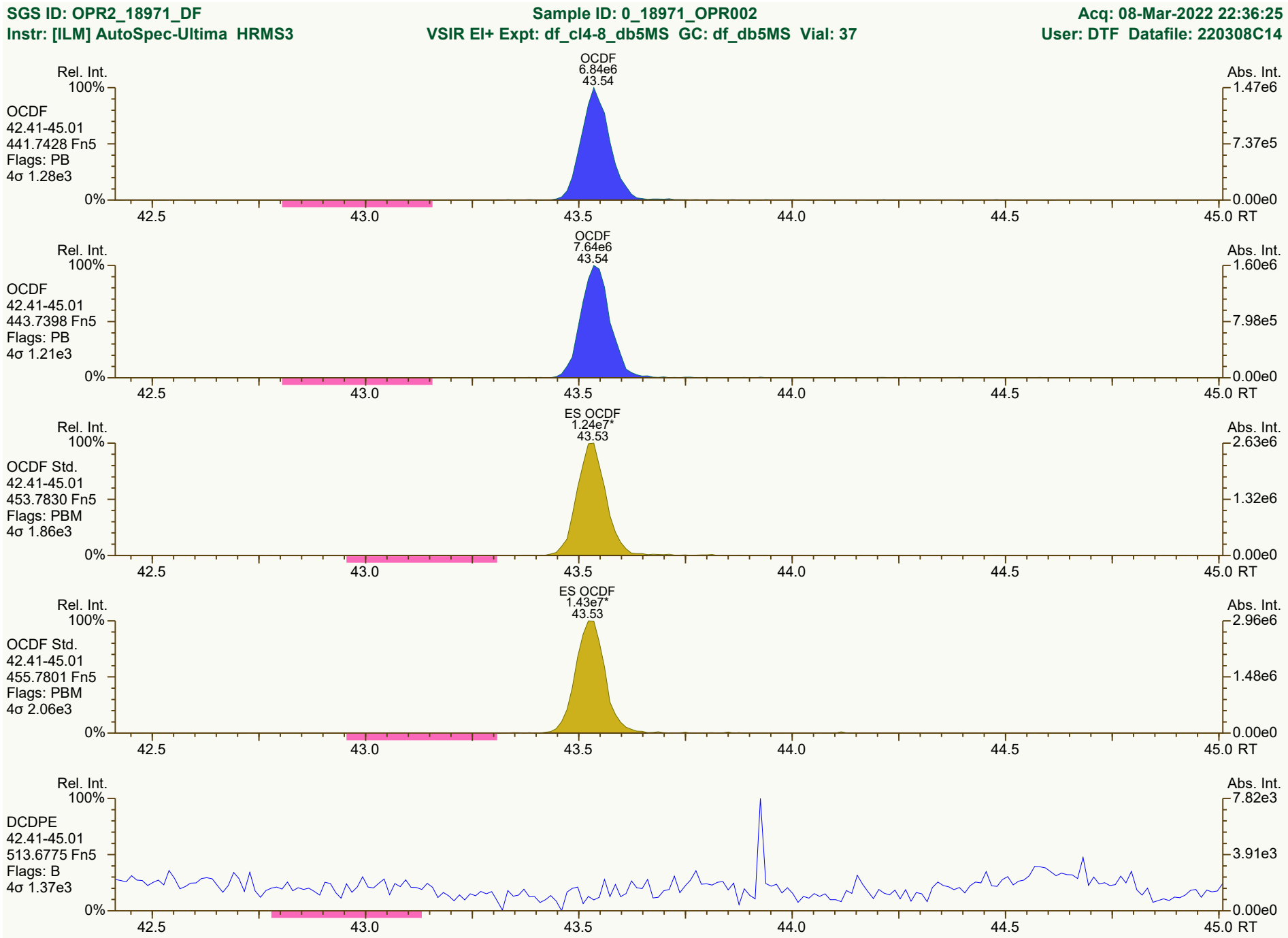
Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\OPR2_18971_DF.utp_res, saved 09-Mar-2022 11:41 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5585, 3311, 8865 scc: 813-174
PKD: 09-Mar-2022 11:23 Printed: 09-Mar-2022 11:48 Page 10 of 12


SGS ID: OPR2_18971_DF
Sample ID: 0_18971_OPR002
Acq: 08-Mar-2022 22:36:25
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37
User: DTF Datafile: 220308C14
Rel. Int.
Abs. Int.
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 9.12e2
1234678F
7.81e6
39.74
1234789F
5.69e6
41.14
2.74e6
1.37e6
0.00e0
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 1.24e3
1234678F
7.83e6
39.74
1234789F
5.51e6
41.13
2.67e6
1.33e6
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 2.01e3
ES 1234678F
7.36e6
39.73
CS 1234689F
6.42e6
40.14
ES 1234789F
5.20e6
41.13
2.54e6
1.27e6
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 3.02e3
ES 1234678F
1.55e7
39.73
CS 1234689F
1.41e7
40.14
ES 1234789F
1.15e7
41.12
5.03e6
2.52e6
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.13e3
8.67e3
4.33e3
100%
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\OPR2_18971_DF.utp_res, saved 09-Mar-2022 11:41 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7398, 1418, 7028 scc: 813-174
PKD: 09-Mar-2022 11:21 Printed: 09-Mar-2022 11:48 Page 11 of 12

SGS ID: OPR2_18971_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18971_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 37

Acq: 08-Mar-2022 22:36:25
User: DTF Datafile: 220308C14



Results: P:\B6300_B6399\B6336\B6336_18971 DF\Resources\OPR2_18971_DF.utp_res, saved 09-Mar-2022 11:41 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 8595, 2163, 4444 scc: 813-174

Peak annotation: Areas, Centroids
Revised: 09-Mar-2022 11:23 (DTF) Printed: 09-Mar-2022 11:48 Page 12 of 12



FINAL LAB REPORT

11215131-SJRWP-PCFSE

B6234

28-Jan-2022

Prepared by

SGS NORTH AMERICA

Prepared for

GHD Services Inc.

Meagan Willis

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This report is approved by

Tamara Burkamper

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Senior Project Manager

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Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	11215131-SJRWP-PCFSE
SGS Project #	B6234
Analytical Protocol(s)	1613B
No. Samples Submitted	9
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	2
Date Received	26-Jan-22
Condition Received	Good
Temperature upon Receipt (ºC)	0.2, 0.0
Extraction within Holding Time	Yes
Analysis within Holding Time	Yes

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

Requested sample analysis per Method 1613, Revision B Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, October 1994.

Samples were prepped per SW-846 Test Method 3540C: Soxhlet Extraction. Revision 3, December 1996.
and per SOPs DC_441.6, clean up per DC_365.10 and analyzed per DC_364.14.

MDL and/or validation studies provided upon request.

Soil samples are reported on “dry weight” basis.

There was no client designated MS/MSD. OPR/OPRD analyzed for precision.

Data processing uses proprietary software.

Non-Detects are reported to the EDL, which are below the calculated J-Level.

Prep chemists include Ricky Ballard, Jason Hall, and Kelsey Ellis.

Analytical Chemists include Paul Walton and/or Tyler Fritz.

All Samples were extracted and analyzed within recommended holding times.

Initial Calibration meets requirements. The low point of the ICAL is 0.25 pg/uL.

Continuing Calibration meets requirements, except for the following: the reported percent deviation of CS 1,2,3,4,6,8,9-HpCDF is above SOP criteria. There is no method specified criteria for these standards and no adverse impact on results.

No re-extractions or dilutions were required.

B6234_005: the reported ion ratio of labeled standard ES 1,2,3,7,8,9-HxCDD is outside method criteria.

OPR1/OPR2_18872 meet accuracy and precision criteria, except for the following: RPD of 2,3,7,8-TCDF is >20%.

Samples were extracted at ~10-gram dry weight equivalent and final extract volume of 20uL.

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value “H” is assigned. If the obtained value is less than half the specified value “h” is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR or R	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes “Single Ion Mode” and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS CERTIFICATIONS

Alaska DEC LAP	17-012
Alaska DEC LCP	NC00919
Arkansas	20-054-0
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Ohio	87785
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 12-Oct-2021

Sample ID: 11215131-021822-S-SB-RB-17 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6337	Date Received:	22-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	Lab Sample ID	B6337_18977_DF_001	Date Extracted:	03-Mar-2022
Date Collected:	18-Feb-2022	pH:	5	QC Batch No:	18977	Date Analyzed:	08-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:56:00

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	1.86			ES 2378-TCDD	101	
12378-PeCDD	ND	2.07			ES 12378-PeCDD	105	
123478-HxCDD	ND	2.12			ES 123478-HxCDD	96.7	
123678-HxCDD	ND	2.2			ES 123678-HxCDD	96.6	
123789-HxCDD	ND	2.11			ES 123789-HxCDD	94.2	
1234678-HpCDD	ND	2.21			ES 1234678-HpCDD	91	
OCDD	ND	7.13			ES OCDD	85.6	
2378-TCDF	ND	1.06			ES 2378-TCDF	92.9	
12378-PeCDF	ND	1.43			ES 12378-PeCDF	99.3	
23478-PeCDF	ND	1.35			ES 23478-PeCDF	103	
123478-HxCDF	ND	1.5			ES 123478-HxCDF	100	
123678-HxCDF	ND	1.39			ES 123678-HxCDF	106	
234678-HxCDF	ND	1.39			ES 234678-HxCDF	112	
123789-HxCDF	ND	1.64			ES 123789-HxCDF	102	
1234678-HpCDF	ND	1.45			ES 1234678-HpCDF	101	
1234789-HpCDF	ND	2.06			ES 1234789-HpCDF	95.6	
OCDF	ND	4.01			ES OCDF	87.6	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	101	
Total TCDD	ND	1.86	ND		CS 12347-PeCDD	108	
Total PeCDD	ND	2.07	ND		CS 12346-PeCDF	105	
Total HxCDD	ND	2.14	ND		CS 123469-HxCDF	108	
Total HpCDD	ND	2.21	ND		CS 1234689-HpCDF	107	
Total TCDF	ND	1.06	ND				
Total PeCDF	ND	1.39	ND				
Total HxCDF	ND	1.47	ND				
Total HpCDF	ND	1.72	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	2.89	2.89	2.89				
TEQ: ND=DL	5.78	5.78	5.78				

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Tel: +1 910 794-1613; Toll-Free 866 846-8290

Sample ID: 11215131-021822-S-SB-RB-17 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6337	Date Received:	22-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	Lab Sample ID:	B6337_18977_DF_001	Date Extracted:	03-Mar-2022
Date Collected:	18-Feb-2022	pH:	5	QC Batch No.:	18977	Date Analyzed:	08-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:56:00

Tetra-Dioxins	Conc. (pg/L)	Qualifiers	Penta-Dioxins	Conc. (pg/L)	Qualifiers	Hexa-Dioxins	Conc (pg/L)	Qualifiers	Hepta-Dioxins	Conc (pg/L)	Qualifiers
1368D	(1.86)		12479/12468D	(2.07)		124679/124689D	(2.14)		1234679D	(2.21)	
1379D	(1.86)		12469D	(2.07)		123468D	(2.14)		1234678D	(2.21)	
1369D	(1.86)		12368D	(2.07)		123679/123689D	(2.14)				
1469D	(1.86)		12478D	(2.07)		123469D	(2.14)				
1247D...[4]	(1.86)		12379D	(2.07)		123478D	(2.12)				
1378D	(1.86)		12369D...[3]	(2.07)		123678D	(2.2)				
1268D	(1.86)		12346/12347D	(2.07)		123467D	(2.14)				
1478D	(1.86)		12378D	(2.07)		123789D	(2.11)		**Conc.**	0	
1279D	(1.86)		12367D	(2.07)					**EMPC**	0	
1234/1269D	(1.86)		12389D	(2.07)							
1236D	(1.86)								**Octa-Dioxin**	**Conc (pg/L)**	**Qualifiers**
1237/1238D	(1.86)										
1239D	(1.86)								OCDD	(7.13)	
2378D	(1.86)										
1278D	(1.86)										
1267D	(1.86)										
1289D	(1.86)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

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Tel: +1 910 794-1613
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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	2.89	2.89
TEQ: ND=DL	5.78	5.78

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 682-399-MXC

Report Created: 09-Mar-2022 09:25 Analyst: TF

Sample ID: 11215131-021822-S-SB-RB-17 Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6337	Date Received:	22-Feb-2022
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	Lab Sample ID:	B6337_18977_DF_001	Date Extracted:	03-Mar-2022
Date Collected:	18-Feb-2022	pH:	5	QC Batch No.:	18977	Date Analyzed:	08-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:56:00

Tetra-Furans	Conc. (pg/L)	Qualifiers	Penta-Furans	Conc. (pg/L)	Qualifiers	Hexa-Furans	Conc (pg/L)	Qualifiers	Hepta-Furans	Conc (pg/L)	Qualifiers
1368F	(1.06)		13468/12468F	(1.36)		123468F	(1.47)		1234678F	(1.45)	
1468F	(1.06)		13678F...[3]	(1.39)		124678/134678F	(1.47)		1234679F	(1.72)	
2468F	(1.06)		12368F...[3]	(1.39)		134679F	(1.47)		1234689F	(1.72)	
1346/1246F	(1.06)		14678F	(1.39)		124679F	(1.47)		1234789F	(2.06)	
1347F...[3]	(1.06)		13479F	(1.39)		124689F	(1.47)				
1348F	(1.06)		13469/12479F	(1.39)		123467F	(1.47)				
1248F...[3]	(1.06)		12346F	(1.39)		123478F	(1.5)				
1268F	(1.06)		23468/12469F	(1.39)		123678F	(1.39)				
1467F	(1.06)		12347F	(1.39)		123479F	(1.47)				
1478F	(1.06)		12348F	(1.39)		123469F	(1.47)				
1369/1237F	(1.06)		12378F	(1.43)		123679F	(1.47)				
2467F	(1.06)		12678/12367F	(1.39)		234678F	(1.39)		**Conc.**	0	
2368F	(1.06)		12379F	(1.39)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(1.06)		12679F	(1.39)		123689F	(1.47)				
1278F	(1.06)		23467/12369F	(1.39)		123789F	(1.64)		**Octa-Furan**	**Conc (pg/L)**	**Qualifiers**
1349F	(1.06)		23478F	(1.35)		123789/123489F	0				
1267F	(1.06)		23478/12489F	0		123489F	(1.47)		OCDF	(4.01)	
2346/1249F	(1.06)		12489F	(1.39)							
2347/1279F	(1.06)		12349F	(1.39)							
2348F	(1.06)		12389F	(1.39)							
2378F	(1.06)										
2367/3467F	(1.06)										
1269F	(1.06)										
1239F	(1.06)										
1289F	(1.06)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 682-399-MXC

Report Created: 09-Mar-2022 09:25 Analyst: TF

Sample ID: 11215131-021822-S-SB-RB-17 TEQ Summary Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Sample ID:	B6337_18977_DF_001
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.02 L	QC Batch No.:	18977
Date Collected:	18-Feb-2022	Split:	-	Date Extracted:	03-Mar-2022
Date Received:	22-Feb-2022	Dilution:	-	Date Analyzed:	08-Mar-2022 16:56
Lab Project No:	B6337	Units	pg/L		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(1.86)		1.86	(1.86)	(1.86)	(1.86)
12378-PeCDD	(2.07)		2.07	(1.04)	(2.07)	(2.07)
123478-HxCDD	(2.12)		2.12	(0.212)	(0.212)	(0.212)
123678-HxCDD	(2.2)		2.2	(0.22)	(0.22)	(0.22)
123789-HxCDD	(2.11)		2.11	(0.211)	(0.211)	(0.211)
1234678-HpCDD	(2.21)		2.21	(0.0221)	(0.0221)	(0.0221)
OCDD	(7.13)		7.13	(0.00713)	(0.000713)	(0.00214)
2378-TCDF	(1.06)		1.06	(0.106)	(0.106)	(0.106)
12378-PeCDF	(1.43)		1.43	(0.0715)	(0.0715)	(0.0429)
23478-PeCDF	(1.35)		1.35	(0.673)	(0.673)	(0.404)
123478-HxCDF	(1.5)		1.5	(0.15)	(0.15)	(0.15)
123678-HxCDF	(1.39)		1.39	(0.139)	(0.139)	(0.139)
234678-HxCDF	(1.39)		1.39	(0.139)	(0.139)	(0.139)
123789-HxCDF	(1.64)		1.64	(0.164)	(0.164)	(0.164)
1234678-HpCDF	(1.45)		1.45	(0.0145)	(0.0145)	(0.0145)
1234789-HpCDF	(2.06)		2.06	(0.0206)	(0.0206)	(0.0206)
OCDF	(4.01)		4.01	(0.00401)	(0.000401)	(0.0012)

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TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	2.52	3.04	2.89
EMPC = 0, ND = DL	5.05	6.07	5.78
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	2.52	3.04	2.89
EMPC = EMPC, ND = DL	5.05	6.07	5.78
EMPC = EMPC, < J-level = 0	0	0	0

Checkcode: 682-399-MXC

Sample ID: Method Blank B6337_18977 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6337	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID	MB1_18977_DF_TLX	Date Extracted:	03-Mar-2022
Date Collected:	n/a	pH:	n/a	QC Batch No:	18977	Date Analyzed:	08-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:09:39

Analyte	Conc. (pg/L)	DL (pg/L)	EMPC (pg/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	1.81			ES 2378-TCDD	96.2	
12378-PeCDD	ND	2.21			ES 12378-PeCDD	101	
123478-HxCDD	ND	2.33			ES 123478-HxCDD	97.1	
123678-HxCDD	ND	2.31			ES 123678-HxCDD	95	
123789-HxCDD	ND	2.29			ES 123789-HxCDD	91.9	
1234678-HpCDD	ND	2.04			ES 1234678-HpCDD	90.6	
OCDD	ND	6.97			ES OCDD	80.3	
2378-TCDF	ND	1.45			ES 2378-TCDF	90.6	
12378-PeCDF	ND	1.81			ES 12378-PeCDF	94.4	
23478-PeCDF	ND	1.8			ES 23478-PeCDF	97.4	
123478-HxCDF	ND	1.26			ES 123478-HxCDF	98.9	
123678-HxCDF	ND	1.24			ES 123678-HxCDF	102	
234678-HxCDF	ND	1.26			ES 234678-HxCDF	112	
123789-HxCDF	ND	1.6			ES 123789-HxCDF	100	
1234678-HpCDF	ND	1.52			ES 1234678-HpCDF	98.1	
1234789-HpCDF	ND	2.26			ES 1234789-HpCDF	92	
OCDF	ND	4.49			ES OCDF	85.8	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	95.3	
Total TCDD	ND	1.81	ND		CS 12347-PeCDD	106	
Total PeCDD	ND	2.21	ND		CS 12346-PeCDF	98.9	
Total HxCDD	ND	2.31	ND		CS 123469-HxCDF	106	
Total HpCDD	ND	2.04	ND		CS 1234689-HpCDF	101	
Total TCDF	ND	1.45	ND				
Total PeCDF	ND	1.8	ND				
Total HxCDF	ND	1.33	ND				
Total HpCDF	ND	1.85	ND				
Total PCDD/Fs	**ND**		**ND**				
WHO-2005 TEQs							
TEQ: ND=0	0		0				
TEQ: ND=DL/2	3.03	3.03	3.03				
TEQ: ND=DL	6.06	6.06	6.06				

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Sample ID: Method Blank B6337_18977 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6337	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID:	MB1_18977_DF_TLX	Date Extracted:	03-Mar-2022
Date Collected:	n/a	pH:	n/a	QC Batch No.:	18977	Date Analyzed:	08-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:09:39

Tetra-Dioxins	Conc. (pg/L)	Qualifiers
1368D	(1.81)	
1379D	(1.81)	
1369D	(1.81)	
1469D	(1.81)	
1247D...[4]	(1.81)	
1378D	(1.81)	
1268D	(1.81)	
1478D	(1.81)	
1279D	(1.81)	
1234/1269D	(1.81)	
1236D	(1.81)	
1237/1238D	(1.81)	
1239D	(1.81)	
2378D	(1.81)	
1278D	(1.81)	
1267D	(1.81)	
1289D	(1.81)	
Conc.	0	
EMPC	0	

Penta-Dioxins	Conc. (pg/L)	Qualifiers
12479/12468D	(2.21)	
12469D	(2.21)	
12368D	(2.21)	
12478D	(2.21)	
12379D	(2.21)	
12369D...[3]	(2.21)	
12346/12347D	(2.21)	
12378D	(2.21)	
12367D	(2.21)	
12389D	(2.21)	
Conc.	0	
EMPC	0	

Hexa-Dioxins	Conc (pg/L)	Qualifiers
124679/124689D	(2.31)	
123468D	(2.31)	
123679/123689D	(2.31)	
123469D	(2.31)	
123478D	(2.33)	
123678D	(2.31)	
123467D	(2.31)	
123789D	(2.29)	
Conc.	0	
EMPC	0	

Hepta-Dioxins	Conc (pg/L)	Qualifiers
1234679D	(2.04)	
1234678D	(2.04)	
Conc.	0	
EMPC	0	

Octa-Dioxin	Conc (pg/L)	Qualifiers
OCDD	(6.97)	

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WHO-2005 TEQs	Conc.	EMPC
TEQ: ND=0	0	0
TEQ: ND=DL/2	3.03	3.03
TEQ: ND=DL	6.06	6.06

	Conc.	EMPC
Total PCDD/Fs	0	0

Checkcode: 691-533-TXL

Report Created: 09-Mar-2022 09:25 Analyst: TF

Sample ID: Method Blank B6337_18977 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6337	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	Lab Sample ID:	MB1_18977_DF_TLX	Date Extracted:	03-Mar-2022
Date Collected:	n/a	pH:	n/a	QC Batch No.:	18977	Date Analyzed:	08-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	16:09:39

Tetra-Furans	Conc. (pg/L)	Qualifiers	Penta-Furans	Conc. (pg/L)	Qualifiers	Hexa-Furans	Conc (pg/L)	Qualifiers	Hepta-Furans	Conc (pg/L)	Qualifiers
1368F	(1.45)		13468/12468F	(1.61)		123468F	(1.33)		1234678F	(1.52)	
1468F	(1.45)		13678F...[3]	(1.8)		124678/134678F	(1.33)		1234679F	(1.85)	
2468F	(1.45)		12368F...[3]	(1.8)		134679F	(1.33)		1234689F	(1.85)	
1346/1246F	(1.45)		14678F	(1.8)		124679F	(1.33)		1234789F	(2.26)	
1347F...[3]	(1.45)		13479F	(1.8)		124689F	(1.33)				
1348F	(1.45)		13469/12479F	(1.8)		123467F	(1.33)				
1248F...[3]	(1.45)		12346F	(1.8)		123478F	(1.26)				
1268F	(1.45)		23468/12469F	(1.8)		123678F	(1.24)				
1467F	(1.45)		12347F	(1.8)		123479F	(1.33)				
1478F	(1.45)		12348F	(1.8)		123469F	(1.33)				
1369/1237F	(1.45)		12378F	(1.81)		123679F	(1.33)				
2467F	(1.45)		12678/12367F	(1.8)		234678F	(1.26)		**Conc.**	0	
2368F	(1.45)		12379F	(1.8)		234678/123689F	0		**EMPC**	0	
1238F...[5]	(1.45)		12679F	(1.8)		123689F	(1.33)				
1278F	(1.45)		23467/12369F	(1.8)		123789F	(1.6)		**Octa-Furan**	**Conc (pg/L)**	**Qualifiers**
1349F	(1.45)		23478F	(1.8)		123789/123489F	0				
1267F	(1.45)		23478/12489F	0		123489F	(1.33)		OCDF	(4.49)	
2346/1249F	(1.45)		12489F	(1.8)							
2347/1279F	(1.45)		12349F	(1.8)							
2348F	(1.45)		12389F	(1.8)							
2378F	(1.45)										
2367/3467F	(1.45)										
1269F	(1.45)										
1239F	(1.45)										
1289F	(1.45)										
Conc.	0		**Conc.**	0		**Conc.**	0				
EMPC	0		**EMPC**	0		**EMPC**	0				

Checkcode: 691-533-TXL

Report Created: 09-Mar-2022 09:25 Analyst: TF

Sample ID: Method Blank B6337_18977 — TEQ Summary — Method 1613B

Client Project Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Sample ID:	MB1_18977_DF_TLX
Cliend Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1.00 L	QC Batch No.:	18977
Date Collected:	n/a	Split:	-	Date Extracted:	03-Mar-2022
Date Received:	n/a	Dilution:	-	Date Analyzed:	08-Mar-2022 16:09
Lab Project No:	B6337	Units	pg/L		

Analyte	Result	Qualifiers	DLs	I-TEQ	WHO-1998	WHO-2005
2378-TCDD	(1.81)		1.81	(1.81)	(1.81)	(1.81)
12378-PeCDD	(2.21)		2.21	(1.11)	(2.21)	(2.21)
123478-HxCDD	(2.33)		2.33	(0.233)	(0.233)	(0.233)
123678-HxCDD	(2.31)		2.31	(0.231)	(0.231)	(0.231)
123789-HxCDD	(2.29)		2.29	(0.229)	(0.229)	(0.229)
1234678-HpCDD	(2.04)		2.04	(0.0204)	(0.0204)	(0.0204)
OCDD	(6.97)		6.97	(0.00697)	(0.000697)	(0.00209)
2378-TCDF	(1.45)		1.45	(0.145)	(0.145)	(0.145)
12378-PeCDF	(1.81)		1.81	(0.0906)	(0.0906)	(0.0544)
23478-PeCDF	(1.8)		1.8	(0.898)	(0.898)	(0.539)
123478-HxCDF	(1.26)		1.26	(0.126)	(0.126)	(0.126)
123678-HxCDF	(1.24)		1.24	(0.124)	(0.124)	(0.124)
234678-HxCDF	(1.26)		1.26	(0.126)	(0.126)	(0.126)
123789-HxCDF	(1.6)		1.6	(0.16)	(0.16)	(0.16)
1234678-HpCDF	(1.52)		1.52	(0.0152)	(0.0152)	(0.0152)
1234789-HpCDF	(2.26)		2.26	(0.0226)	(0.0226)	(0.0226)
OCDF	(4.49)		4.49	(0.00449)	(0.000449)	(0.00135)

TEQ Summaries			
EMPC = 0, ND = 0	0	0	0
EMPC = 0, ND = DL / 2	2.68	3.22	3.03
EMPC = 0, ND = DL	5.35	6.45	6.06
EMPC = 0, < J-level = 0	0	0	0
EMPC = EMPC, ND = 0	0	0	0
EMPC = EMPC, ND = DL / 2	2.68	3.22	3.03
EMPC = EMPC, ND = DL	5.35	6.45	6.06
EMPC = EMPC, < J-level = 0	0	0	0

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Checkcode: 691-533-TXL

Sample ID: 0_18977_OPR001 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6337	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR1_18977_DF	Date Extracted:	03-Mar-2022
Date Collected:	n/a	pH:	n/a	QC Batch No:	18977	Date Analyzed:	08-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	13:41:41

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	10.6				ES 2378-TCDD	99.2	
12378-PeCDD	46.5				ES 12378-PeCDD	104	
123478-HxCDD	52				ES 123478-HxCDD	98.1	
123678-HxCDD	51.8				ES 123678-HxCDD	99.4	
123789-HxCDD	51.4				ES 123789-HxCDD	92.3	
1234678-HpCDD	52.2				ES 1234678-HpCDD	90.7	
OCDD	108				ES OCDD	83.7	
2378-TCDF	11.4				ES 2378-TCDF	92.4	
12378-PeCDF	48.2				ES 12378-PeCDF	96.3	
23478-PeCDF	53				ES 23478-PeCDF	97.1	
123478-HxCDF	52				ES 123478-HxCDF	101	
123678-HxCDF	52				ES 123678-HxCDF	104	
234678-HxCDF	52.4				ES 234678-HxCDF	109	
123789-HxCDF	48.9				ES 123789-HxCDF	101	
1234678-HpCDF	49.7				ES 1234678-HpCDF	101	
1234789-HpCDF	49.7				ES 1234789-HpCDF	97.3	
OCDF	103				ES OCDF	89	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	98.7	
Total TCDD	50.2		50.2		CS 12347-PeCDD	102	
Total PeCDD	70.1		70.1		CS 12346-PeCDF	97	
Total HxCDD	170		170		CS 123469-HxCDF	109	
Total HpCDD	64.9		64.9		CS 1234689-HpCDF	106	
Total TCDF	61.4		61.4				
Total PeCDF	198		198				
Total HxCDF	329		329				
Total HpCDF	99.4		99.4				
Total PCDD/Fs	**1,250**		**1,250**				
WHO-2005 TEQs							
TEQ: ND=0	113		113				
TEQ: ND=DL/2	113	0.308	113				
TEQ: ND=DL	113	0.615	113				

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Sample ID: 0_18977_OPR002 — Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	GHD Services Inc.	Matrix:	Aqueous	Lab Project ID:	B6337	Date Received:	n/a
Project ID:	11215131-SJRWP-PCFSE	Weight/Volume:	1 uL	Lab Sample ID	OPR2_18977_DF	Date Extracted:	03-Mar-2022
Date Collected:	n/a	pH:	n/a	QC Batch No:	18977	Date Analyzed:	08-Mar-2022
		Split:	-	Dilution:	-	Time Analyzed:	14:27:53

Analyte	Conc. (pg/uL)	DL (pg/uL)	EMPC (pg/uL)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	11.8				ES 2378-TCDD	96.3	
12378-PeCDD	49.6				ES 12378-PeCDD	107	
123478-HxCDD	54.2				ES 123478-HxCDD	101	
123678-HxCDD	55.2				ES 123678-HxCDD	99.9	
123789-HxCDD	51				ES 123789-HxCDD	97.8	
1234678-HpCDD	53.4				ES 1234678-HpCDD	94.9	
OCDD	112				ES OCDD	84.7	
2378-TCDF	11.1				ES 2378-TCDF	94.1	
12378-PeCDF	51.1				ES 12378-PeCDF	99.1	
23478-PeCDF	54.9				ES 23478-PeCDF	103	
123478-HxCDF	52.3				ES 123478-HxCDF	103	
123678-HxCDF	51.3				ES 123678-HxCDF	108	
234678-HxCDF	54.3				ES 234678-HxCDF	117	
123789-HxCDF	48.7				ES 123789-HxCDF	105	
1234678-HpCDF	50.6				ES 1234678-HpCDF	104	
1234789-HpCDF	52.4				ES 1234789-HpCDF	97.6	
OCDF	103				ES OCDF	90.5	
Totals					**Standard**	**CS Recoveries**	
					CS 37Cl-2378-TCDD	101	
Total TCDD	54.2		54.2		CS 12347-PeCDD	111	
Total PeCDD	74.5		74.5		CS 12346-PeCDF	107	
Total HxCDD	176		176		CS 123469-HxCDF	115	
Total HpCDD	65.9		65.9		CS 1234689-HpCDF	110	
Total TCDF	63.5		63.5				
Total PeCDF	207		207				
Total HxCDF	334		334				
Total HpCDF	103		103				
Total PCDD/Fs	**1,290**		**1,290**				
WHO-2005 TEQs							
TEQ: ND=0	119		119				
TEQ: ND=DL/2	119	0.173	119				
TEQ: ND=DL	119	0.347	119				

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Sample DUP

Method 1613B

Sample ID: 0_18977_OPR001

Analyte	OPR1_18977_DF pg/uL	OPR2_18977_DF (DUP) pg/uL	RPD
2,3,7,8-TCDD	10.6	11.8	10.8%
1,2,3,7,8-PeCDD	46.5	49.6	6.4%
1,2,3,4,7,8-HxCDD	52	54.2	4.2%
1,2,3,6,7,8-HxCDD	51.8	55.2	6.3%
1,2,3,7,8,9-HxCDD	51.4	51	0.8%
1,2,3,4,6,7,8-HpCDD	52.2	53.4	2.2%
OCDD	108	112	3.7%
2,3,7,8-TCDF	11.4	11.1	2.3%
1,2,3,7,8-PeCDF	48.2	51.1	5.8%
2,3,4,7,8-PeCDF	53	54.9	3.5%
1,2,3,4,7,8-HxCDF	52	52.3	0.7%
1,2,3,6,7,8-HxCDF	52	51.3	1.3%
2,3,4,6,7,8-HxCDF	52.4	54.3	3.6%
1,2,3,7,8,9-HxCDF	48.9	48.7	0.3%
1,2,3,4,6,7,8-HpCDF	49.7	50.6	1.9%
1,2,3,4,7,8,9-HpCDF	49.7	52.4	5.3%
OCDF	103	103	0.5%
Totals			
Total TCDD	50.2	54.2	7.7%
Total PeCDD	70.1	74.5	6.2%
Total HxCDD	170	176	3.5%
Total HpCDD	64.9	65.9	1.6%
Total TCDF	61.4	63.5	3.4%
Total PeCDF	198	207	4.3%
Total HxCDF	329	334	1.2%
Total HpCDF	99.4	103	3.6%

Sample Receipt Notification

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Tamara Burkamper*
Receipt Date & Time:	*22-Feb-22 at 10:22*
AP Project name:	*B6337*
Requested TAT:	*10 business days*
Projected due date:	*8-Mar-22*
Matrix:	*Aqueous*
Phone#:	*910-794-1613*
Email Address:	*Tamara.Burkamper@sgs.com*

Company Contact:	*Meagan Willis*
Company:	*GHD Services Inc.*
Project Name & Site:	*11215131-SJRWP-PCFSE*
Project PO#:	*340-002625*
QAAP/Contract #:	*file*
Requested Analysis:	*M1613B*
Phone#:	*713-907-3710*
Email Address:	*Meagan.Willis@ghd.com*

Client Smp ID	AP Smp ID	Sample Condition & Notes	Quantity	Size	Sampling Date	Sampling Time	Received Temp (°C)	Container #	Shipping #
11215131-021822-S-SB-RB-17	B6337_001	W	2	1L amber	18-Feb-22	15:20	3.1	1	490527045884

Preservation Type: **Sample Seals:** No

Notes/Comments:

Samples received intact

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Taylor McKnight *Logged in by: Taylor McKnight* *QC'ed by:* AK 22 Feb 22

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

SGS CHAIN OF CUSTODY B6337

PROJECT INFO
PROJECT: 11215131-SJRWP - PCFSE
P.O. #:
QUOTE #: file
SITE REF: International Paper
TURN AROUND TIME:
REPORT LEVEL: ☐ Level I ☒ Level II ☒ Level IV
SPECIAL DELIVERABLES:
☐ DoD ☒ EDD/Version: GHD EQuIS 4-file
☐ State of Origin:

SPECIAL INSTRUCTIONS / COMMENTS

PRESERVATIVE
None

ANALYSIS & METHOD

SEND DOCUMENTATION / RESULTS TO
COMPANY: GHD Services Inc.
CONTACT: Meagan Willis
ADDRESS: 11451 Katy Fwy #400,Houston,
PHONE: 713-907-3710 EMAIL: Meagan.Willis@

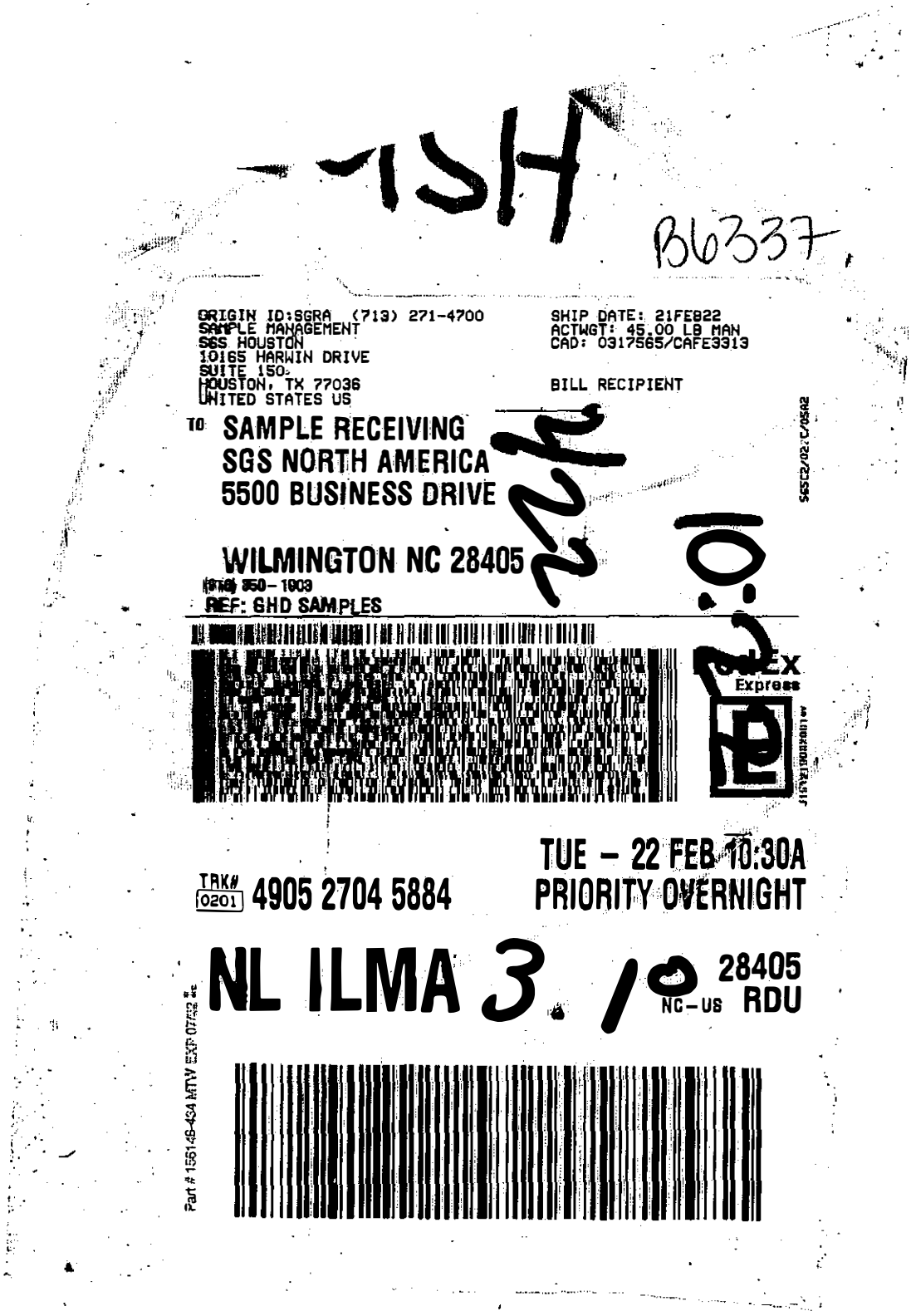
INVOICE TO (☒ CHECK IF SAME)
COMPANY:
CONTACT:
ADDRESS:
PHONE: EMAIL:

SAMPLE ID / DESCRIPTION	DATE	TIME	TYPE (C, G)	MATRIX	CONT	M1613B	~~M8290A~~	~~M1668A~~	~~M1668C~~	~~HR-PAH~~	~~M1699~~	QC MS	QC MSD	QC DUP	QTY	REMARKS See SSOW
1215131-021822-S-SB-RB-17	2/18/22	1520		W	1L	X									2	Rinse blank

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:
Sarah Belanger	2/19/22	1145	Meagan Willis
RELINQUISHED BY (2):	DATE:	TIME:	RECEIVED BY:
Meagan Willis	2/21/22	0815	[signature] 2/21/22 0815
RELINQUISHED BY (3):	DATE:	TIME:	RECEIVED BY:
			[signature]

RECEIVED BY LABORATORY: DATE: 2/22/22 TIME: 10:22
COOLER SEAL: ☐ INTACT ☐ BROKEN ☒ ABSENT
CONTAINER SEALS: ☐ INTACT ☐ BROKEN ☐ ABSENT
CARRIER: TEMP: °C 3.1 IR4
TRACKING #:

SGS NORTH AMERICA INC | ENVIRONMENT, HEALTH & SAFETY 5500 Business Drive Wilmington, NC 28405 910 350 1903 | 866 846 8290 www.sgs.com/ehs


-15H
B63337.
ORIGIN ID:SGRA (713) 271-4700
SAMPLE MANAGEMENT
SGS HOUSTON
10165 HARWIN DRIVE
SUITE 150
HOUSTON, TX 77036
UNITED STATES US
SHIP DATE: 21FEB22
ACTWGT: 45.00 LB MAN
CAD: 0317565/CAFE3313
BILL RECIPIENT
TO SAMPLE RECEIVING
SGS NORTH AMERICA
5500 BUSINESS DRIVE
WILMINGTON NC 28405
REF: GHD SAMPLES
FedEx Express
TRK# 0201 4905 2704 5884
TUE - 22 FEB 10:30A
PRIORITY OVERNIGHT
NL ILMA
28405
NC-US RDU
Part # 156148-434 MTW EXP 07/22

SGS

Project Initiation Form

Project Number: B6337

Initiation Date: 23-Feb-22

Client Name: GHD Services Inc.

Analysis Method: 1613 PCDD/F

Sample Matrix: Aqueous

TAT: 10 days

Project Manager: Tamara

Special Instructions

M1613B w/ ●PR & ●PRD

IL extraction

Read and understood, initial and date: Prep Lab: KE 3/3/22 BB 3/7/22 HRMS Lab:

Reporting Instructions

M1613B
Full Report

OPR/OPRD Summary

WHO2005 TEQ

GHD EQuIS 4-file EDD

Read and understood, initial and date: HRMS Lab:

PM Initials: akornegay Date: 23-Feb-2022

SGS

Methods: PCB (PCDD/F) QUANTICS DoD PCDD/F PAH WHO-2 USV PEST

Extraction Type: SDS (CLL) TALEX Carbon SPE

[Aqueous] Final Volume: 20 µL

Batch# 18977 | Split: ~~1/2~~ ~~1/4~~ | Extract Initial/Date: LE 3/3/22 | Clean-up Initial/Date: BAB 3/7/22 | Transfer Init/Date: BAB 3/7/22

Lab Sample ID	Extraction Position Solvent: DCM	Extraction Weight/Volume g	mL	(Td)	ASECS #	pH	Cl⁻	Observations
B6337_18977_001	9	1016.3				5	0	clear
MB1_18977	6	1000.0				5	0	distilled H_2O
OPR1_18977	7	1000.0				5	0	distilled H_2O
OPR2_18977	8	1000.0				~~50~~ LE 3/3/22	0	distilled H_2O
B6362_001	10	1003.8				6	0	clear
B6362_002	11	932.4				6	0	clear
B6362_003	12	1004.0				5	0	clear

TB 3/17/22

BAB 3/7/22

Supply IDs

Toluene	N/A
MeCHL	STL14-27
Florisil	SPL5-91
Hexane	STL14-29
Silica	SPL5-69
S Nitrate	N/A
Base Silica	N/A
HydroMatrix	N/A
Tetradecane	SPL5-73D
H_2SO_4	N/A
A Silica	SPL5-90
Sodium Sulfate	SPL5-80B

Additional Cleanup

Acid Partition Date/Initial:	
Mini-Acid Date/Initial:	
Carbon Column Date/Initial:	TB 3/9/22
GPC Date/Initial:	
Bond-Elute Date/Initial:	

Cycle Time

TOL	Star:: Stop:
HEX	Star:: Stop:
DCM	Start: 1630 Stop: 0900

TB 3/9/22

SGS

Methods: PCB PCDD/F QUANTICS DoD PCDD/F
PAH WHO-2 USV PEST

Aqueous

Batch# 18977

Inter-Department Communication Sheet

SGS

Methods: PCB PAH | PCDD/F WHO-2 | QUANTICS USV | DoD PCDD/F PEST | Aqueous

Batch # 18977

Spiker Initials/Date: 3/3/22 | 3/3/22 | 3/3/22 | 3/4/22 | 3/7/22

Lab Sample ID	DIF A1-A Amount: 20 µL Observer Initials	DIF A1-B Amount: 20 µL Observer Initials	DIF ES Amount: 20 µL Observer Initials	DIF O Amount: 20 µL Observer Initials	DIF JS Amount: 20 µL Observer Initials	Amount: Observer Initials	Amount: Observer Initials
B6337_18977_001	–	–	VE	VE	VE		
MB1_18977	–	–	VE	VE	VE		
OPR1_18977	VE	VE	VE	VE	VE		
OPR2_18977	VE	VE	VE	VE	VE		
BL362.001	–	–	VE	VE	VE		
BL362.002	–	–	VE	VE	VE		
BL362.003	–	–	VE	VE	VE		

3/7/22

Standard Information

Pipette ID							
Spike ID	DIF A1-A	DIF A1-B	DIF ES	DIF CS	DIF JS		
SIL #	26-3-8	25-187-2	26-2-9	25.403.1	25.384.1		
Concentration	10 pg/µL	10 pg/µL	100 pg/µL	100 pg/µL	100 pg/µL		
Expiration Date	7/9/22	6/22/22	8/2022	2/15/23	1/28/23		

3/3/22

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
2	220308C02	3	CS3_220308_DF_CA	1.00	25-347-1	DTF	538-719	08-Mar-2022	12:04:48
3	220308C03	28	OPR1_18977_DF	1.00	0_18977_OPR001	DTF	823-705	08-Mar-2022	13:41:41
4	220308C04	29	OPR2_18977_DF	1.00	0_18977_OPR002	DTF	479-004	08-Mar-2022	14:27:53
5	220308C05	2	SBS_220307_DF_CA	1.00	20-61-1	DTF	927-921	08-Mar-2022	15:14:07
6	220308C06	27	MB1_18977_DF_TLX	1.00	Method Blank	DTF	691-533	08-Mar-2022	16:09:39
7	220308C07	30	B6337_18977_DF_001	1.02	11215131-021822-S-SB-RB-17	DTF	682-399	08-Mar-2022	16:56:00

REVIEWED
Tyler_Fritz , 3/9/2022, 9:32:49 AM

REVIEWED
Amber_Kornegay , 3/9/2022, 10:21:44 AM

Lab ID: MB1_18977_DF_TLX **Acq'd:** 08 Mar 2022 16:09 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6337_18977 **UTP:** 09-Mar-2022 09:24:17 DTF **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 691-533-TXL

Datafile: 220308C06 **Report:** 09 Mar 2022 09:25 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	2124.4096	1.81
12378-PeCDD	NotFnd		1.0007	-		-	-	-	1.04	-	2560.88	2.21
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2411.775	2.33
123678-HxCDD	NotFnd		1.0036	-		-	-	-	1.15	-	2411.775	2.31
123789-HxCDD	NotFnd		1.0118	-		-	-	-	1.05	-	2411.775	2.29
1234678-HpCDD	NotFnd		1.0002	-		-	-	-	1.06	-	1890.0853	2.04
OCDD	NotFnd		1.0003	-		-	-	-	1.13	-	2727.804	6.97
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	2342.827	1.45
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2891.764	1.81
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2891.764	1.8
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2196.526	1.26
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2196.526	1.24
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2196.526	1.26
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2196.526	1.6
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2314.333	1.52
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2314.333	2.26
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	2135.245	4.49

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.15	1.0243	1.0244	+0.2	2.17E+07	0.85	Y	1.05	96.2
ES 12378-PeCDD	33.57	1.2198	1.2216	+3.6	1.91E+07	1.55	Y	0.88	101
ES 123478-HxCDD	37.50	0.9916	0.9915	-0.2	1.64E+07	1.33	Y	0.97	97.1
ES 123678-HxCDD	37.62	0.9947	0.9946	-0.2	1.56E+07	1.29	Y	0.94	95
ES 123789-HxCDD	37.93	1.0029	1.0028	-0.2	1.75E+07	1.34	Y	1.09	91.9
ES 1234678-HpCDD	40.68	1.0749	1.0754	+1.2	1.44E+07	1.10	Y	0.91	90.6
ES OCDD	43.36	1.1460	1.1464	+1.0	1.74E+07	0.90	Y	0.62	80.3
ES 2378-TCDF	27.28	1.0531	1.0537	+1.0	3.28E+07	0.78	Y	1.06	90.6
ES 12378-PeCDF	32.10	1.2378	1.2401	+4.4	2.94E+07	1.59	Y	0.91	94.4
ES 23478-PeCDF	33.23	1.2810	1.2835	+5.0	2.94E+07	1.54	Y	0.88	97.4
ES 123478-HxCDF	36.50	0.9650	0.9650	0	2.06E+07	0.53	Y	1.20	98.9
ES 123678-HxCDF	36.64	0.9688	0.9687	-0.2	2.41E+07	0.53	Y	1.35	102
ES 234678-HxCDF	37.31	0.9866	0.9865	-0.2	2.42E+07	0.55	Y	1.24	112
ES 123789-HxCDF	38.30	1.0125	1.0125	0	2.01E+07	0.52	Y	1.16	100
ES 1234678-HpCDF	39.73	1.0501	1.0504	+0.7	1.65E+07	0.46	Y	0.97	98.1
ES 1234789-HpCDF	41.13	1.0870	1.0875	+1.2	1.36E+07	0.48	Y	0.85	92
ES OCDF	43.54	1.1505	1.1512	+1.8	2.41E+07	0.87	Y	0.81	85.8

Lab ID: MB1_18977_DF_TLX **Acq'd:** 08 Mar 2022 16:09 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6337_18977 **UTP:** 09-Mar-2022 09:24:17 DTF **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 691-533-TXL

Datafile: 220308C06 **Report:** 09 Mar 2022 09:25 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.48		-	-	-	2.16E+07	0.80	Y	-	-
JS 1234-TCDF	25.89		-	-	-	3.42E+07	0.79	Y	-	-
JS 123467-HxCDD	37.82		-	-	-	8.69E+06	1.24	Y	-	-
CS 37Cl-2378-TCDD	28.17		1.0251	1.0253	+0.3	9.89E+06	n/a	-	1.20	95.3
CS 12347-PeCDD	33.06		1.2016	1.2031	+3.0	1.73E+07	1.58	Y	0.75	106
CS 12346-PeCDF	31.57		1.2172	1.2194	+4.2	2.88E+07	1.54	Y	0.85	98.9
CS 123469-HxCDF	36.95		0.9771	0.9770	-0.2	2.06E+07	0.53	Y	1.12	106
CS 1234689-HpCDF	40.14		1.0608	1.0612	+1.0	1.56E+07	0.44	Y	0.89	101
~~SS 37Cl-2378-TCDD~~	~~28.17~~		~~1.0251~~	~~1.0253~~	~~+0.3~~	~~9.89E+06~~	~~n/a~~		~~1.15~~	~~99.3~~
~~SS 12347-PeCDD~~	~~33.06~~		~~1.2016~~	~~1.2031~~	~~+3.0~~	~~1.73E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~105~~
~~SS 12346-PeCDF~~	~~31.57~~		~~1.2172~~	~~1.2194~~	~~+4.2~~	~~2.88E+07~~	~~1.54~~	~~Y~~	~~0.94~~	~~105~~
~~SS 123469-HxCDF~~	~~36.95~~		~~0.9771~~	~~0.9770~~	~~-0.2~~	~~2.06E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~103~~
~~SS 1234689-HpCDF~~	~~40.14~~		~~1.0608~~	~~1.0612~~	~~+1.0~~	~~1.56E+07~~	~~0.44~~	~~Y~~	~~0.92~~	~~103~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: MB1_18977_DF_TLX **Acq'd: 08 Mar 2022 16:09 DTF** **Wt/Vol: 1.00 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6337_18977 **UTP: 09-Mar-2022 09:24:17 DTF** **J-level: 5 pg/L** **Split: 1** **Checkcode: 691-533-TXL**

Datafile: 220308C06 **Report: 09 Mar 2022 09:25 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		2124.4096	1.81
1379-TCDD	NotFnd		0.8829						1.18		2124.4096	1.81
1369-TCDD	NotFnd		0.8982						1.18		2124.4096	1.81
1469-TCDD	NotFnd		0.9261						1.18		2124.4096	1.81
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		2124.4096	1.81
1378-TCDD	NotFnd		0.9417						1.18		2124.4096	1.81
1268-TCDD	NotFnd		0.9487						1.18		2124.4096	1.81
1478-TCDD	NotFnd		0.9576						1.18		2124.4096	1.81
1279-TCDD	NotFnd		0.9636						1.18		2124.4096	1.81
1234/1269-TCDD	NotFnd		0.9761						1.18		2124.4096	1.81
1236-TCDD	NotFnd		0.9812						1.18		2124.4096	1.81
1237/1238-TCDD	NotFnd		0.9905						1.18		2124.4096	1.81
1239-TCDD	NotFnd		0.9951						1.18		2124.4096	1.81
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**2124.4096**	**1.81**
1278-TCDD	NotFnd		1.0124						1.18		2124.4096	1.81
1267-TCDD	NotFnd		1.0172						1.18		2124.4096	1.81
1289-TCDD	NotFnd		1.0354						1.18		2124.4096	1.81
12479/12468-PeCDD	NotFnd		0.9255						1.04		2560.88	2.21
12469-PeCDD	NotFnd		0.9416						1.04		2560.88	2.21
12368-PeCDD	NotFnd		0.9582						1.04		2560.88	2.21
12478-PeCDD	NotFnd		0.9637						1.04		2560.88	2.21
12379-PeCDD	NotFnd		0.9668						1.04		2560.88	2.21
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		2560.88	2.21
12346/12347-PeCDD	NotFnd		0.9858						1.04		2560.88	2.21
12378-PeCDD	NotFnd		**1.0007**						**1.04**		**2560.88**	**2.21**
12367-PeCDD	NotFnd		1.0036						1.04		2560.88	2.21
12389-PeCDD	NotFnd		1.0137						1.04		2560.88	2.21
124679/124689-HxCDD	NotFnd		0.9540						1.10		2411.775	2.31
123468-HxCDD	NotFnd		0.9715						1.10		2411.775	2.31
123679/123689-HxCDD	NotFnd		0.9793						1.10		2411.775	2.31
123469-HxCDD	NotFnd		0.9829						1.10		2411.775	2.31
123478-HxCDD	NotFnd		**1.0004**						1.09		**2411.775**	**2.33**
123678-HxCDD	NotFnd		**1.0036**						1.15		**2411.775**	**2.31**
123467-HxCDD	NotFnd		1.0089						1.10		2411.775	2.31
123789-HxCDD	NotFnd		**1.0118**						1.05		**2411.775**	**2.29**

Lab ID: MB1_18977_DF_TLX **Acq'd:** 08 Mar 2022 16:09 DTF **Wt/Vol:** 1.00 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: Method Blank B6337_18977 **UTP:** 09-Mar-2022 09:24:17 DTF **J-level:** 5 pg/L **Split:** 1 **Checkcode:** 691-533-TXL

Datafile: 220308C06 **Report:** 09 Mar 2022 09:25 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

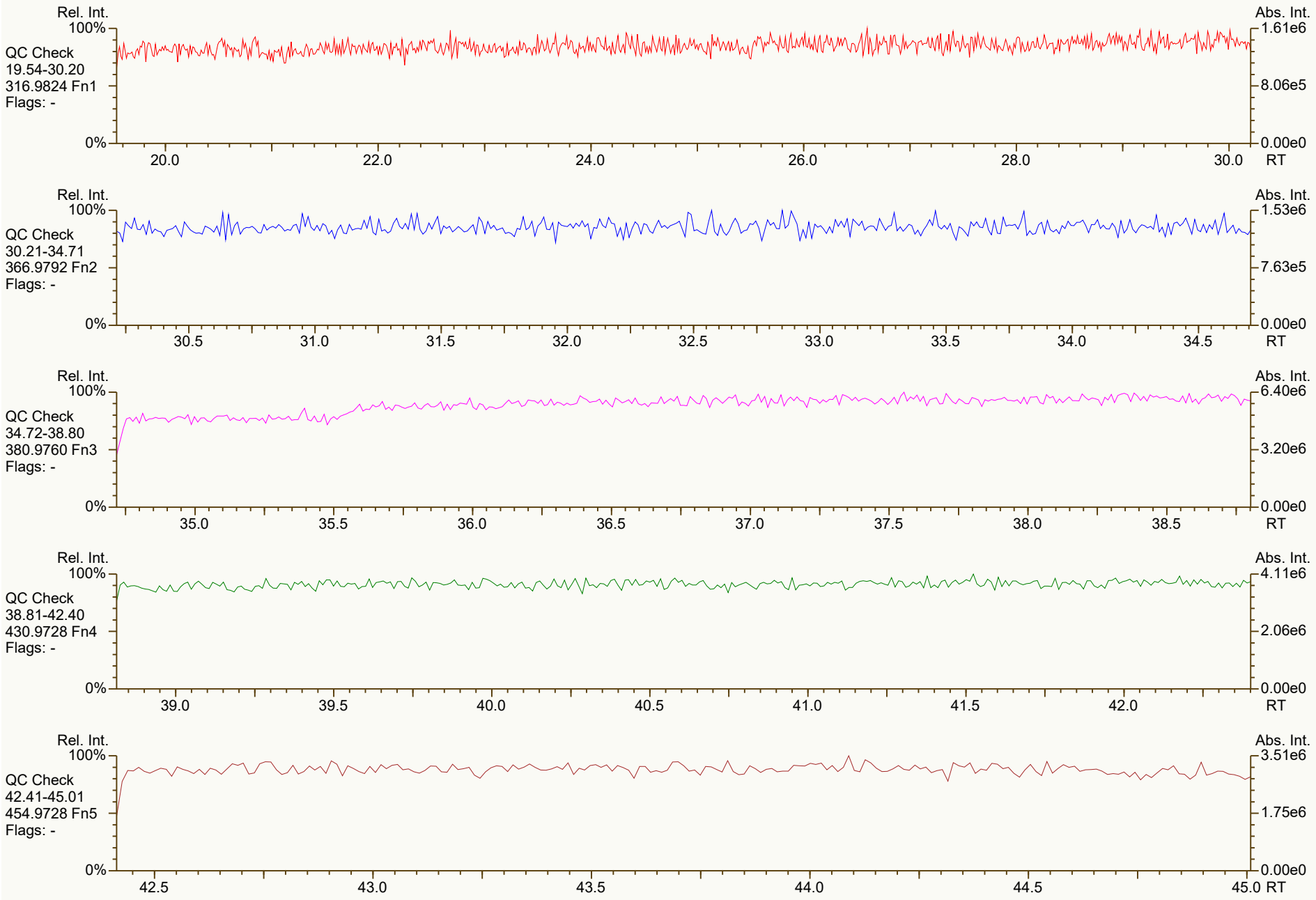
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9836						1.06		1890.0853	2.04
1234678-HpCDD	**NotFnd**		**1.0002**						**1.06**		**1890.0853**	**2.04**
OCDD	**NotFnd**		**1.0003**						**1.13**		**2727.804**	**6.97**
OCDD-a	NotFnd		1.0002						0.07		2878.717	115
1368-TCDF	NotFnd		0.8191						1.08		2342.827	1.45
1468-TCDF	NotFnd		0.8408						1.08		2342.827	1.45
2468-TCDF	NotFnd		0.8645						1.08		2342.827	1.45
1346/1246-TCDF	NotFnd		0.8772						1.08		2342.827	1.45
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		2342.827	1.45
1348-TCDF	NotFnd		0.8932						1.08		2342.827	1.45
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		2342.827	1.45
1268-TCDF	NotFnd		0.9119						1.08		2342.827	1.45
1467-TCDF	NotFnd		0.9170						1.08		2342.827	1.45
1478-TCDF	NotFnd		0.9234						1.08		2342.827	1.45
1369/1237-TCDF	NotFnd		0.9369						1.08		2342.827	1.45
2467-TCDF	NotFnd		0.9415						1.08		2342.827	1.45
2368-TCDF	NotFnd		0.9475						1.08		2342.827	1.45
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		2342.827	1.45
1278-TCDF	NotFnd		0.9676						1.08		2342.827	1.45
1349-TCDF	NotFnd		0.9722						1.08		2342.827	1.45
1267-TCDF	NotFnd		0.9777						1.08		2342.827	1.45
2346/1249-TCDF	NotFnd		0.9843						1.08		2342.827	1.45
2347/1279-TCDF	NotFnd		0.9926						1.08		2342.827	1.45
2348-TCDF	NotFnd		0.9968						1.08		2342.827	1.45
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**2342.827**	**1.45**
2367/3467-TCDF	NotFnd		1.0142						1.08		2342.827	1.45
1269-TCDF	NotFnd		1.0235						1.08		2342.827	1.45
1239-TCDF	NotFnd		1.0329						1.08		2342.827	1.45
1289-TCDF	NotFnd		1.0742						1.08		2342.827	1.45
13468/12468-PeCDF	NotFnd		0.9122						1.02		2587.646	1.61
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		2891.764	1.8
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		2891.764	1.8
14678-PeCDF	NotFnd		0.9685						1.02		2891.764	1.8
13479-PeCDF	NotFnd		0.9716						1.02		2891.764	1.8
13469/12479-PeCDF	NotFnd		0.9794						1.02		2891.764	1.8
12346-PeCDF	NotFnd		0.9836						1.02		2891.764	1.8

Lab ID: MB1_18977_DF_TLX **Acq'd: 08 Mar 2022 16:09 DTF** **Wt/Vol: 1.00 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: Method Blank B6337_18977 **UTP: 09-Mar-2022 09:24:17 DTF** **J-level: 5 pg/L Split: 1** **Checkcode: 691-533-TXL**

Datafile: 220308C06 **Report: 09 Mar 2022 09:25 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

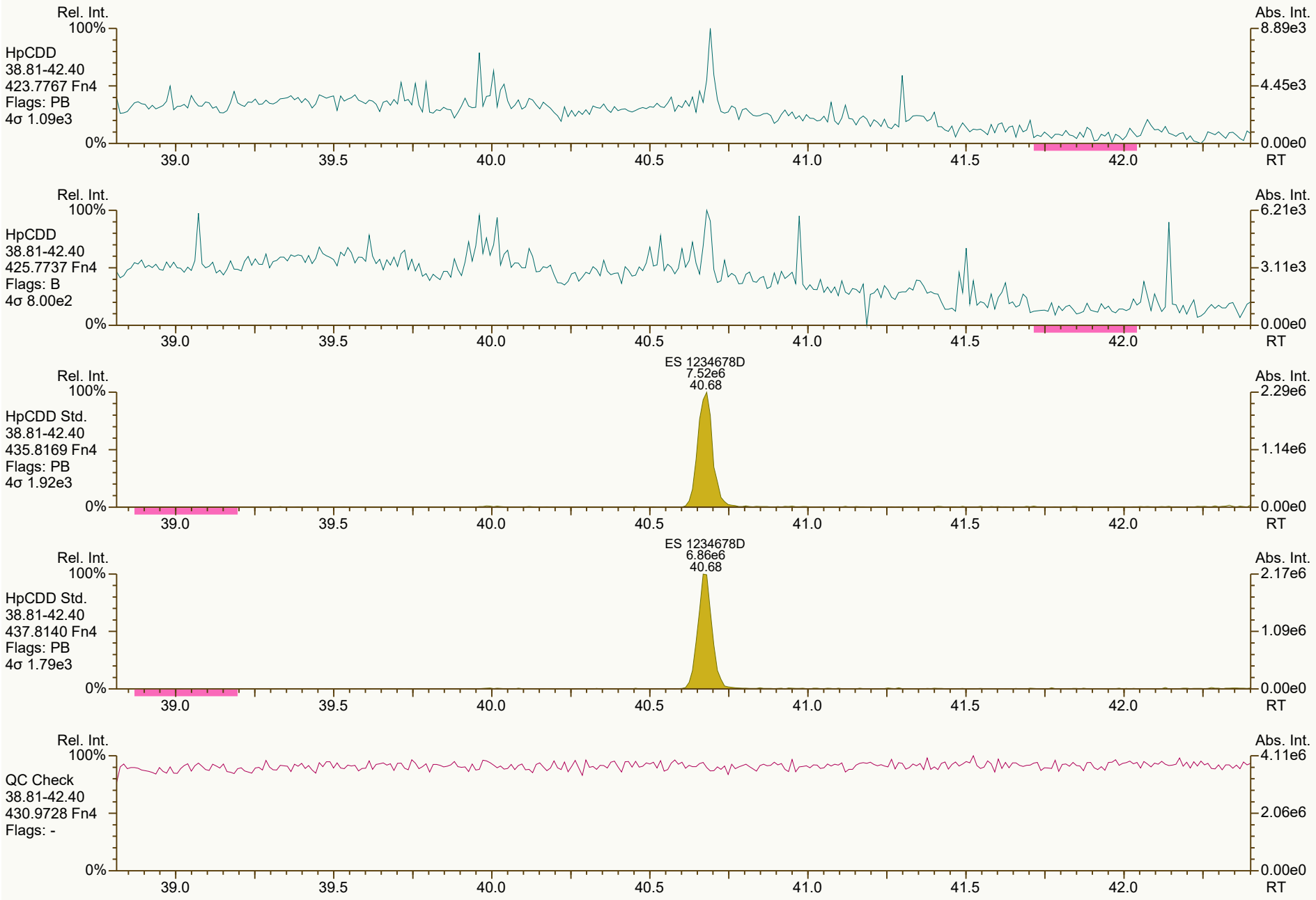
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		2891.764	1.8
12347-PeCDF	NotFnd		0.9891						1.02		2891.764	1.8
12348-PeCDF	NotFnd		0.9938						1.02		2891.764	1.8
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2891.764**	**1.81**
12678/12367-PeCDF	NotFnd		1.0091						1.02		2891.764	1.8
12379-PeCDF	NotFnd		1.0144						1.02		2891.764	1.8
12679-PeCDF	NotFnd		0.9927						1.02		2891.764	1.8
23467/12369-PeCDF	NotFnd		0.9965						1.02		2891.764	1.8
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2891.764**	**1.8**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2891.764	1.8
12349-PeCDF	NotFnd		1.0101						1.02		2891.764	1.8
12389-PeCDF	NotFnd		1.0330						1.02		2891.764	1.8
123468-HxCDF	NotFnd		0.9622						1.19		2196.526	1.33
124678/134678-HxCDF	NotFnd		0.9678						1.19		2196.526	1.33
134679-HxCDF	NotFnd		0.9741						1.19		2196.526	1.33
124679-HxCDF	NotFnd		0.9795						1.19		2196.526	1.33
124689-HxCDF	NotFnd		0.9856						1.19		2196.526	1.33
123467-HxCDF	NotFnd		0.9972						1.19		2196.526	1.33
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2196.526**	**1.26**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2196.526**	**1.24**
123479-HxCDF	NotFnd		1.0048						1.19		2196.526	1.33
123469-HxCDF	NotFnd		1.0089						1.19		2196.526	1.33
123679-HxCDF	NotFnd		0.9942						1.19		2196.526	1.33
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2196.526**	**1.26**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2196.526	1.33
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2196.526**	**1.6**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		2196.526	1.33
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2314.333**	**1.52**
1234679-HpCDF	NotFnd		1.0068						1.34		2314.333	1.85
1234689-HpCDF	NotFnd		1.0104						1.34		2314.333	1.85
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2314.333**	**2.26**
OCDF	**NotFnd**		**1.0002**						**1.07**		**2135.245**	**4.49**
OCDF-a	NotFnd		1.0001						0.07		3258.242	111

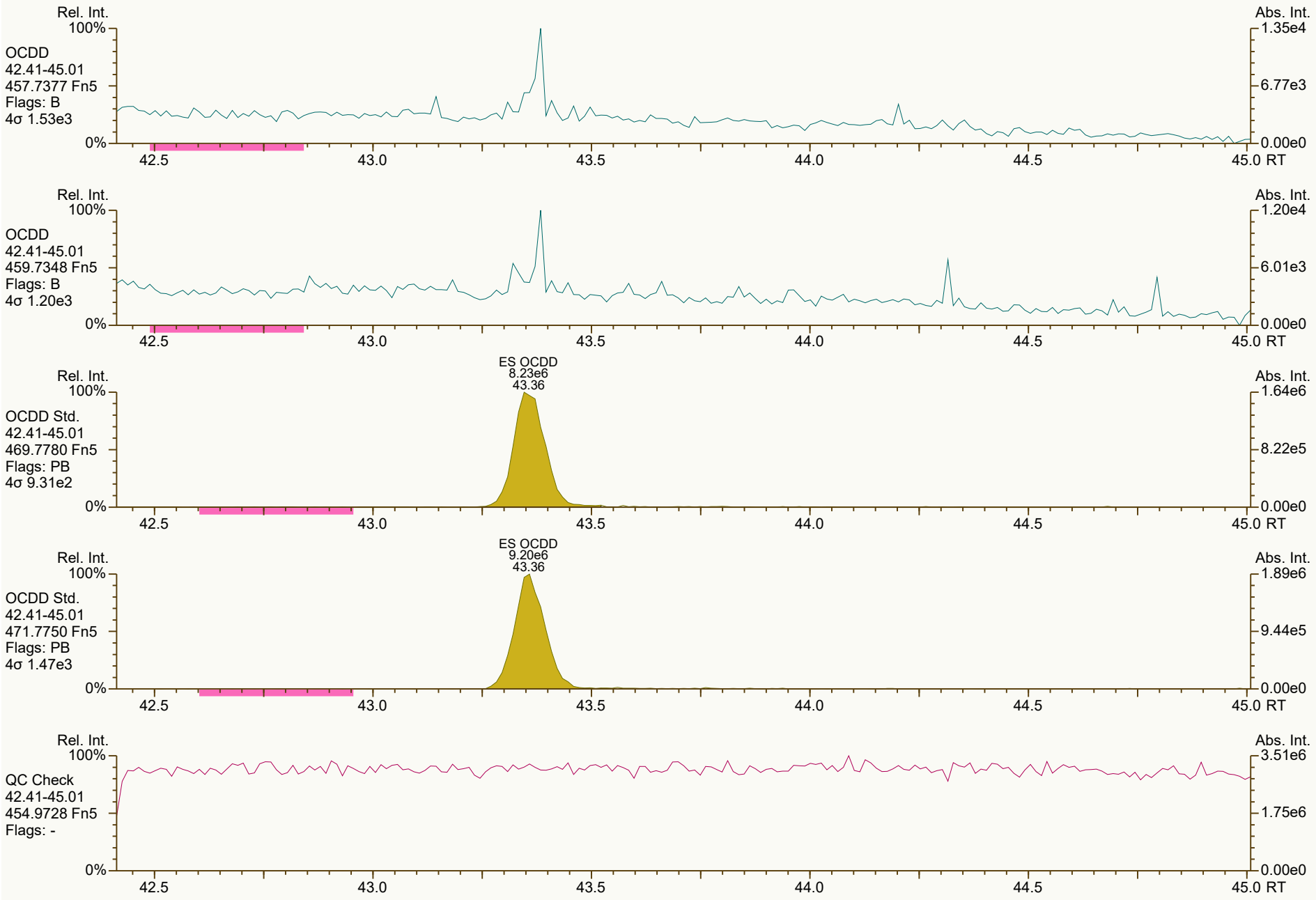

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.61e6
8.06e5
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
1.53e6
7.63e5
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
6.40e6
3.20e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
4.11e6
2.06e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
3.51e6
1.75e6
0.00e0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 1.23e3
0%
Abs. Int.
9.70e3
4.85e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 8.97e2
0%
Abs. Int.
7.13e3
3.56e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.13e3
0%
CS 37Cl-2378D
9.89e6
28.17
Abs. Int.
2.28e6
1.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 1.92e3
0%
JS 1234D
9.62e6
27.48
ES 2378D
9.96e6
28.15
Abs. Int.
2.27e6
1.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.25e3
0%
JS 1234D
1.20e7
27.48
ES 2378D
1.18e7
28.15
Abs. Int.
2.89e6
1.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: B
4σ 1.53e3
0%
Abs. Int.
6.86e3
3.43e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: B
4σ 1.03e3
0%
Abs. Int.
6.42e3
3.21e3
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 1.65e3
0%
CS 12347D
1.06e7
33.06
ES 12378D
1.16e7
33.57
Abs. Int.
3.39e6
1.70e6
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.85e3
0%
CS 12347D
6.72e6
33.06
ES 12378D
7.50e6
33.57
Abs. Int.
2.05e6
1.03e6
0.00e0
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.53e6
7.63e5
0.00e0
RT

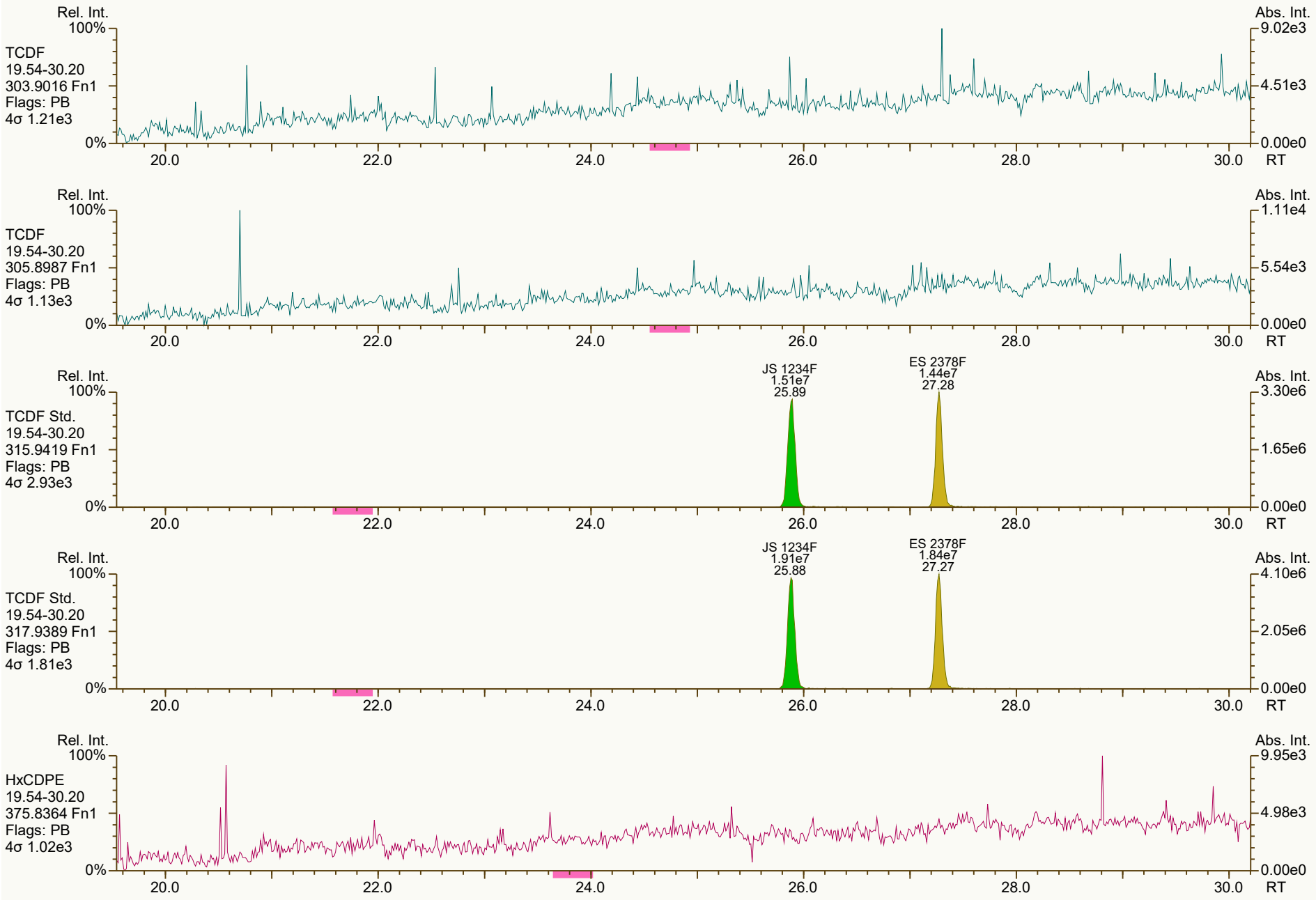

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 1.12e3
0%
Abs. Int.
5.50e3
2.75e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: B
4σ 1.29e3
0%
Abs. Int.
7.36e3
3.68e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PBM
4σ 1.55e3
0%
ES 123678D
8.77e6
37.62
ES 123478D
9.38e6
37.50
JS 123467D
4.81e6
37.82
ES 123789D
1.00e7*
37.93
Abs. Int.
2.89e6
1.44e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PBM
4σ 1.82e3
0%
ES 123678D
6.82e6
37.62
ES 123478D
7.03e6
37.50
JS 123467D
3.88e6*
37.83
ES 123789D
7.46e6*
37.93
Abs. Int.
2.25e6
1.13e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
6.40e6
3.20e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 1.09e3
0%
Abs. Int.
8.89e3
4.45e3
0.00e0
RT
39.0
39.5
40.0
40.5
41.0
41.5
42.0
HpCDD
38.81-42.40
425.7737 Fn4
Flags: B
4σ 8.00e2
6.21e3
3.11e3
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 1.92e3
ES 1234678D
7.52e6
40.68
2.29e6
1.14e6
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.79e3
ES 1234678D
6.86e6
40.68
2.17e6
1.09e6
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
4.11e6
2.06e6


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 1.53e3
0%
Abs. Int.
1.35e4
6.77e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 1.20e3
0%
Abs. Int.
1.20e4
6.01e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 9.31e2
ES OCDD
8.23e6
43.36
0%
Abs. Int.
1.64e6
8.22e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.47e3
ES OCDD
9.20e6
43.36
0%
Abs. Int.
1.89e6
9.44e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
3.51e6
1.75e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

SGS ID: MB1_18977_DF_TLX | Sample ID: Method Blank | Acq: 08-Mar-2022 16:09:39

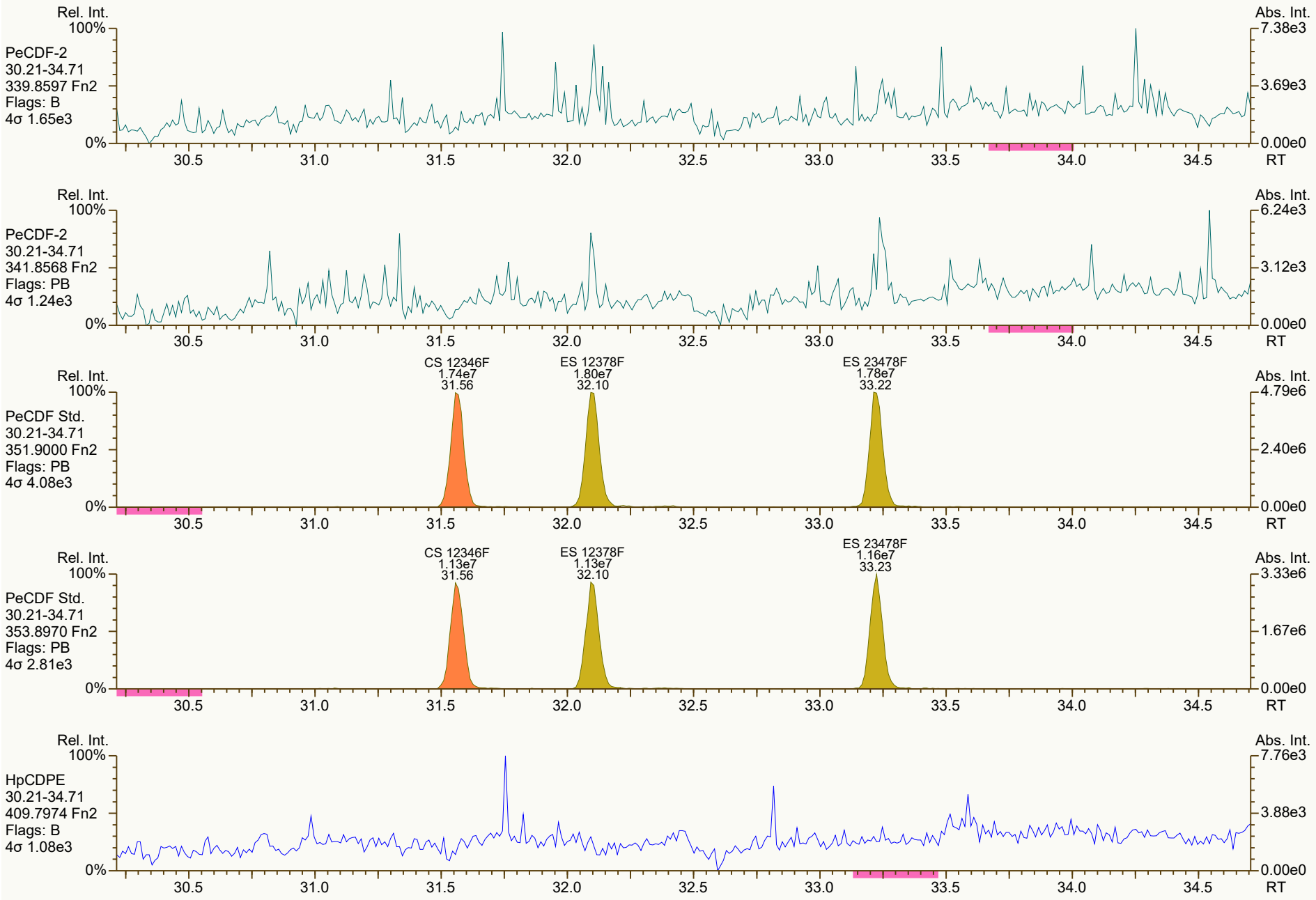
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27 | User: DTF Datafile: 220308C06

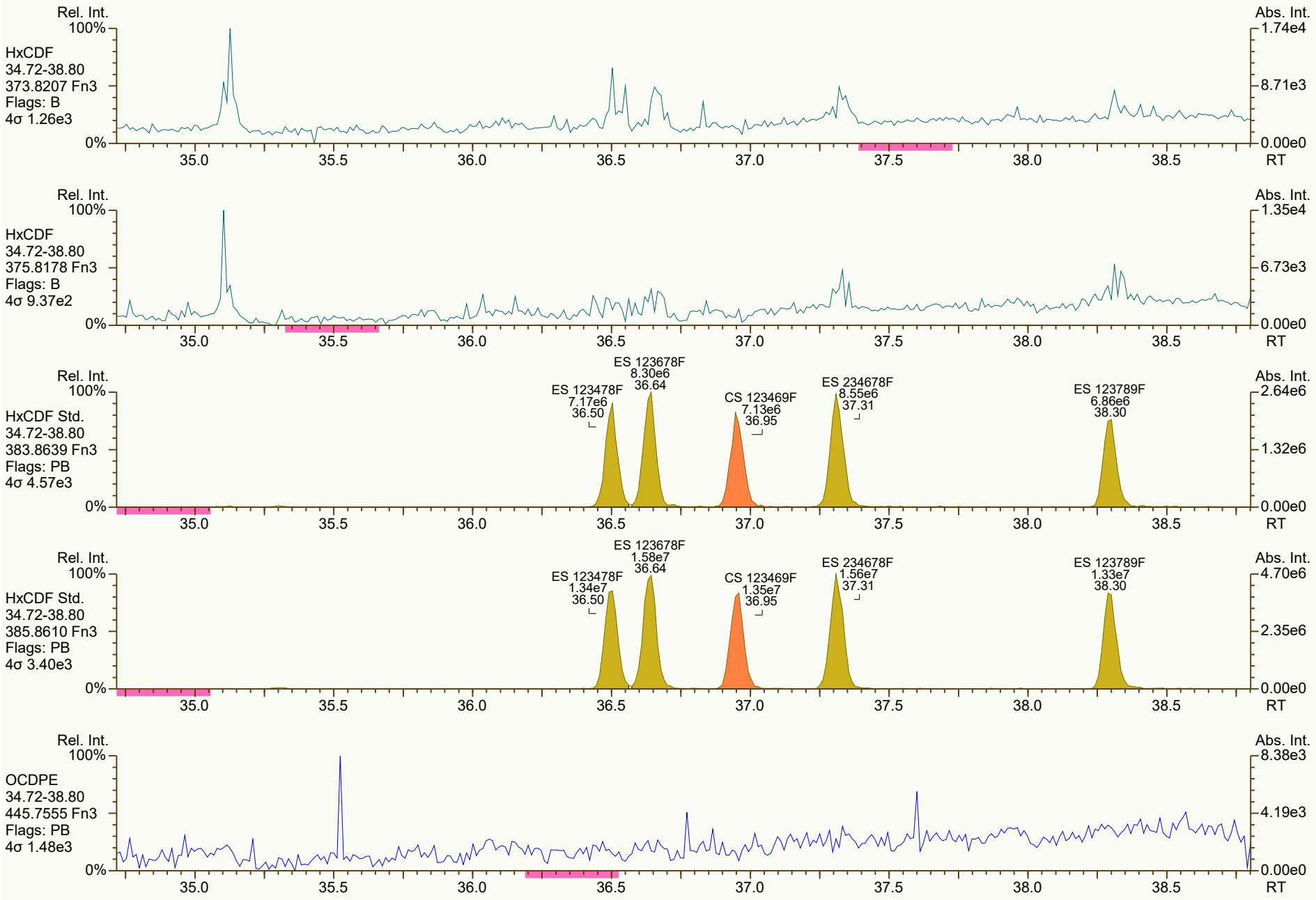


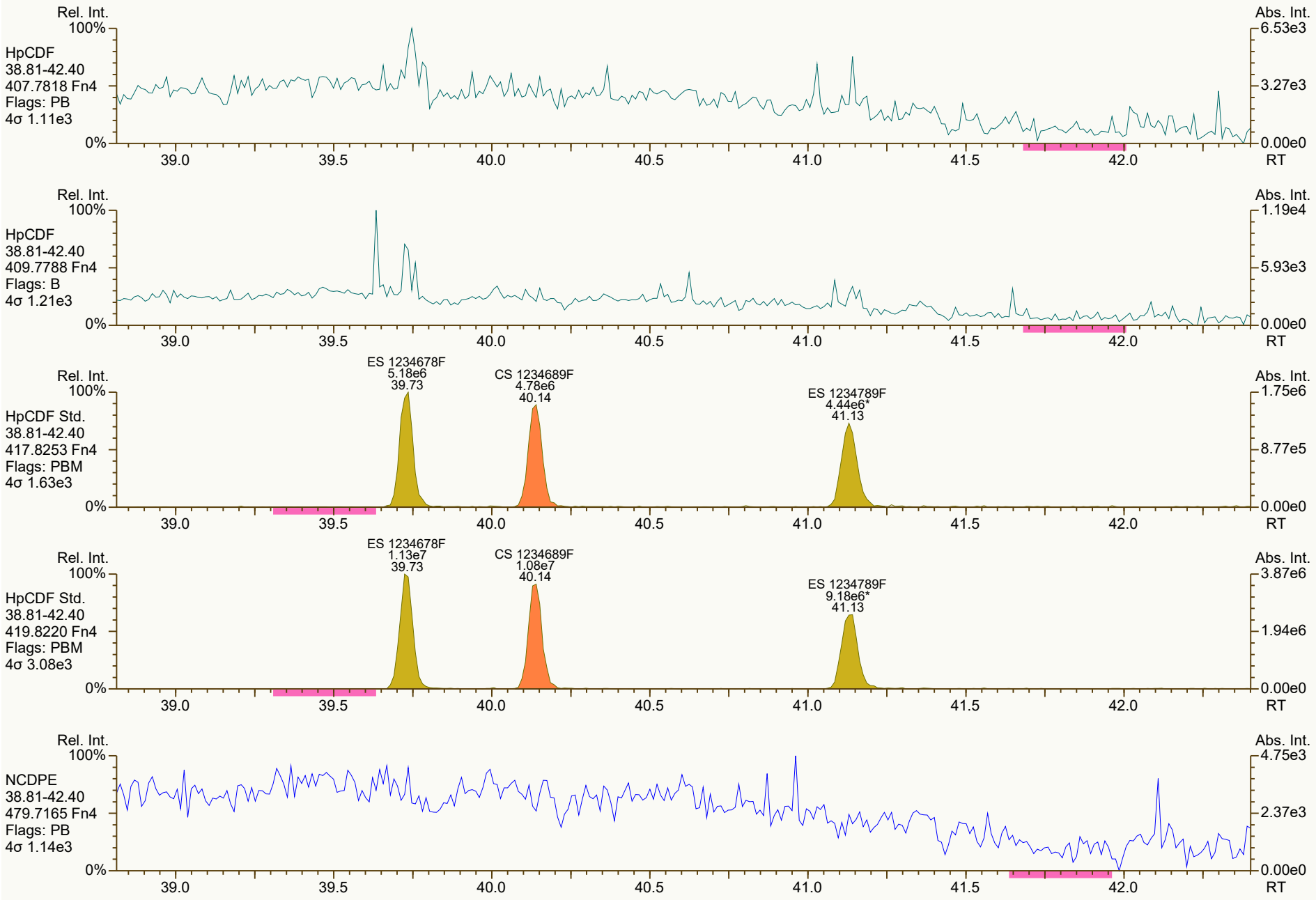
Results: P:\B6300_B6399\B6337\B6337_18977 DF\Resources\MB1_18977_DF_TLX.utp_res, saved 09-Mar-2022 09:24 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 0500, 0774, 6018 scc: 691-533 | *PKD: 09-Mar-2022 09:09 Printed: 09-Mar-2022 09:28 Page 7 of 12*


Rel. Int.
100%
0%
Abs. Int.
2.70e4
1.35e4
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.07e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.07e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.61e6
8.06e5
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: B
4σ 1.65e3
0%
Abs. Int.
7.38e3
3.69e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 1.24e3
0%
Abs. Int.
6.24e3
3.12e3
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 4.08e3
0%
CS 12346F
1.74e7
31.56
ES 12378F
1.80e7
32.10
ES 23478F
1.78e7
33.22
Abs. Int.
4.79e6
2.40e6
0.00e0
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.81e3
0%
CS 12346F
1.13e7
31.56
ES 12378F
1.13e7
32.10
ES 23478F
1.16e7
33.23
Abs. Int.
3.33e6
1.67e6
0.00e0
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.08e3
0%
Abs. Int.
7.76e3
3.88e3
0.00e0
RT

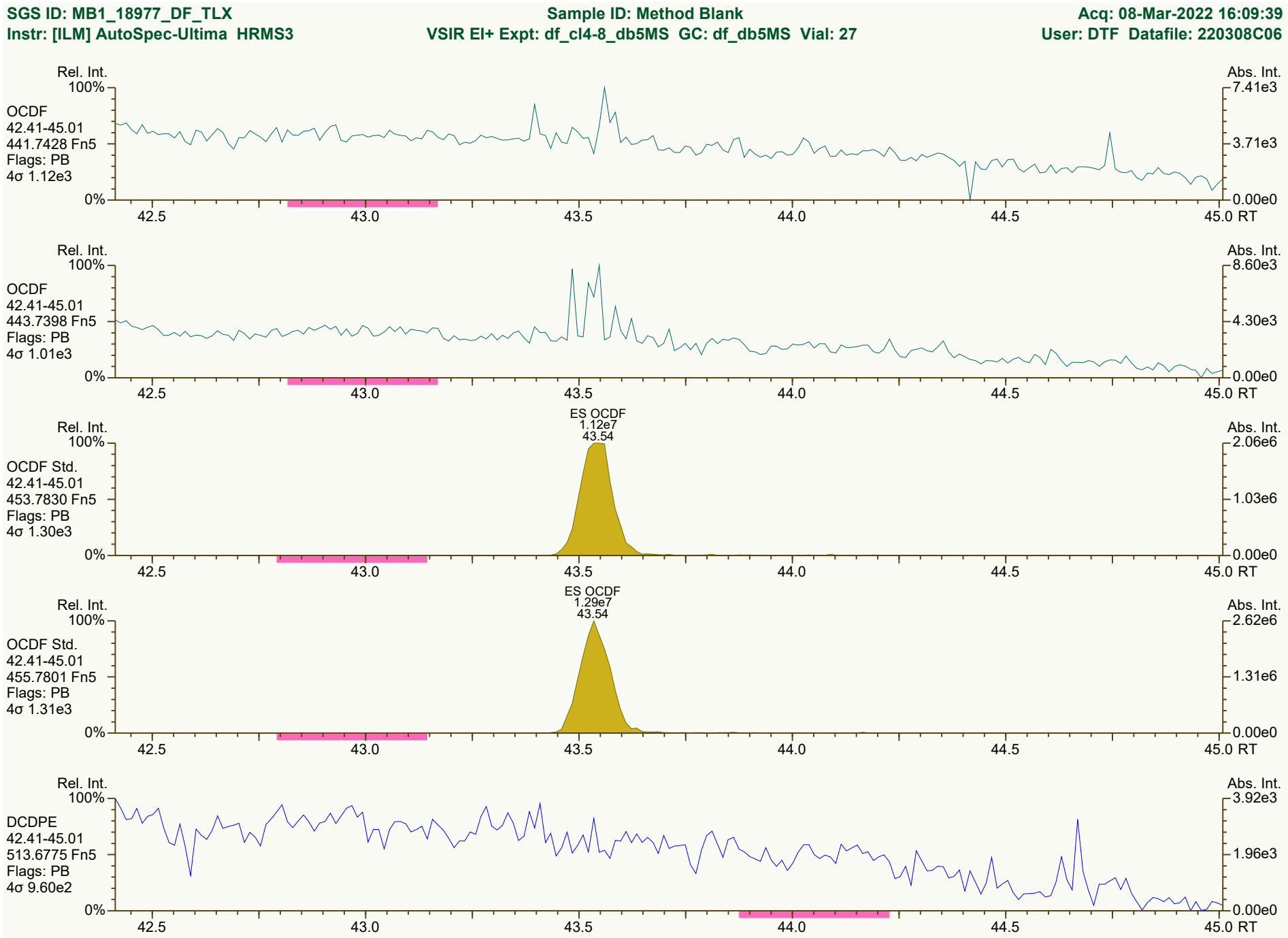

Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: B
4σ 1.26e3
0%
Abs. Int.
1.74e4
8.71e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: B
4σ 9.37e2
0%
Abs. Int.
1.35e4
6.73e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 4.57e3
0%
ES 123478F
7.17e6
36.50
ES 123678F
8.30e6
36.64
CS 123469F
7.13e6
36.95
ES 234678F
8.55e6
37.31
ES 123789F
6.86e6
38.30
Abs. Int.
2.64e6
1.32e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 3.40e3
0%
ES 123478F
1.34e7
36.50
ES 123678F
1.58e7
36.64
CS 123469F
1.35e7
36.95
ES 234678F
1.56e7
37.31
ES 123789F
1.33e7
38.30
Abs. Int.
4.70e6
2.35e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.48e3
0%
Abs. Int.
8.38e3
4.19e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 1.11e3
0%
Abs. Int.
6.53e3
3.27e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: B
4σ 1.21e3
0%
Abs. Int.
1.19e4
5.93e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 1.63e3
0%
ES 1234678F
5.18e6
39.73
CS 1234689F
4.78e6
40.14
ES 1234789F
4.44e6*
41.13
Abs. Int.
1.75e6
8.77e5
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 3.08e3
0%
ES 1234678F
1.13e7
39.73
CS 1234689F
1.08e7
40.14
ES 1234789F
9.18e6*
41.13
Abs. Int.
3.87e6
1.94e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.14e3
0%
Abs. Int.
4.75e3
2.37e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

SGS ID: MB1_18977_DF_TLX
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: Method Blank
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 27

Acq: 08-Mar-2022 16:09:39
User: DTF Datafile: 220308C06



Results: P:\B6300_B6399\B6337\B6337_18977 DF\Resources\MB1_18977_DF_TLX.utp_res, saved 09-Mar-2022 09:24 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4589, 7718, 0955 scc: 691-533

Peak annotation: Areas, Centroids
PKD: 09-Mar-2022 09:09 Printed: 09-Mar-2022 09:28 Page 12 of 12

Lab ID: B6337_18977_DF_001 **Acq'd:** 08 Mar 2022 16:56 DTF **Wt/Vol:** 1.02 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-RB-17 **UTP:** 09-Mar-2022 09:24:17 DTF **J-level:** 4.9 pg/L **Split:** 1 **Checkcode:** 682-399-MXC

Datafile: 220308C07 **Report:** 09 Mar 2022 09:25 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	NotFnd		1.0008	-		-	-	-	1.18	-	2494.453	1.86
12378-PeCDD	NotFnd		1.0007	-		-	-	-	1.04	-	2409.804	2.07
123478-HxCDD	NotFnd		1.0004	-		-	-	-	1.09	-	2335.953	2.12
123678-HxCDD	NotFnd		1.0036	-		-	-	-	1.15	-	2335.953	2.2
123789-HxCDD	NotFnd		1.0118	-		-	-	-	1.05	-	2335.953	2.11
1234678-HpCDD	NotFnd		1.0002	-		-	-	-	1.06	-	2087.45	2.21
OCDD	NotFnd		1.0003	-		-	-	-	1.13	-	3204.222	7.13
2378-TCDF	NotFnd		1.0008	-		-	-	-	1.08	-	1885.39	1.06
12378-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2410.324	1.43
23478-PeCDF	NotFnd		1.0005	-		-	-	-	1.02	-	2410.324	1.35
123478-HxCDF	NotFnd		1.0004	-		-	-	-	1.27	-	2450.835	1.5
123678-HxCDF	NotFnd		1.0004	-		-	-	-	1.15	-	2450.835	1.39
234678-HxCDF	NotFnd		1.0005	-		-	-	-	1.19	-	2450.835	1.39
123789-HxCDF	NotFnd		1.0004	-		-	-	-	1.16	-	2450.835	1.64
1234678-HpCDF	NotFnd		1.0003	-		-	-	-	1.37	-	2180.215	1.45
1234789-HpCDF	NotFnd		1.0003	-		-	-	-	1.31	-	2180.215	2.06
OCDF	NotFnd		1.0002	-		-	-	-	1.07	-	2288.45	4.01

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.13	1.0243	1.0244	+0.2	2.29E+07	0.82	Y	1.05	101
ES 12378-PeCDD	33.55	1.2198	1.2217	+3.8	2.01E+07	1.60	Y	0.88	105
ES 123478-HxCDD	37.49	0.9916	0.9914	-0.4	1.68E+07	1.24	Y	0.97	96.7
ES 123678-HxCDD	37.61	0.9947	0.9946	-0.2	1.63E+07	1.25	Y	0.94	96.6
ES 123789-HxCDD	37.92	1.0029	1.0028	-0.2	1.84E+07	1.19	Y	1.09	94.2
ES 1234678-HpCDD	40.67	1.0749	1.0754	+1.2	1.48E+07	1.09	Y	0.91	91
ES OCDD	43.36	1.1460	1.1467	+1.8	1.91E+07	0.89	Y	0.62	85.6
ES 2378-TCDF	27.26	1.0531	1.0536	+0.8	3.32E+07	0.79	Y	1.06	92.9
ES 12378-PeCDF	32.09	1.2378	1.2401	+4.4	3.05E+07	1.53	Y	0.91	99.3
ES 23478-PeCDF	33.21	1.2810	1.2836	+5.2	3.06E+07	1.52	Y	0.88	103
ES 123478-HxCDF	36.49	0.9650	0.9648	-0.4	2.14E+07	0.53	Y	1.20	100
ES 123678-HxCDF	36.63	0.9688	0.9686	-0.4	2.55E+07	0.53	Y	1.35	106
ES 234678-HxCDF	37.30	0.9866	0.9865	-0.2	2.49E+07	0.54	Y	1.24	112
ES 123789-HxCDF	38.29	1.0125	1.0125	0	2.10E+07	0.54	Y	1.16	102
ES 1234678-HpCDF	39.73	1.0501	1.0505	+1.0	1.74E+07	0.45	Y	0.97	101
ES 1234789-HpCDF	41.13	1.0870	1.0875	+1.2	1.45E+07	0.45	Y	0.85	95.6
ES OCDF	43.54	1.1505	1.1513	+2.1	2.52E+07	0.91	Y	0.81	87.6

Lab ID: B6337_18977_DF_001 **Acq'd:** 08 Mar 2022 16:56 DTF **Wt/Vol:** 1.02 L **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 11215131-021822-S-SB-RB-17 **UTP:** 09-Mar-2022 09:24:17 DTF **J-level:** 4.9 pg/L **Split:** 1 **Checkcode:** 682-399-MXC

Datafile: 220308C07 **Report:** 09 Mar 2022 09:25 TF **Stds (pg):** JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.46		-	-	-	2.18E+07	0.83	Y	-	-
JS 1234-TCDF	25.87		-	-	-	3.38E+07	0.83	Y	-	-
JS 123467-HxCDD	37.82		-	-	-	8.91E+06	1.33	Y	-	-
CS 37Cl-2378-TCDD	28.15		1.0251	1.0252	+0.2	1.05E+07	n/a	-	1.20	101
CS 12347-PeCDD	33.04		1.2016	1.2032	+3.2	1.77E+07	1.56	Y	0.75	108
CS 12346-PeCDF	31.55		1.2172	1.2194	+4.2	3.02E+07	1.57	Y	0.85	105
CS 123469-HxCDF	36.94		0.9771	0.9768	-0.7	2.15E+07	0.52	Y	1.12	108
CS 1234689-HpCDF	40.13		1.0608	1.0612	+1.0	1.69E+07	0.45	Y	0.89	107
~~SS 37Cl-2378-TCDD~~	~~28.15~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~1.05E+07~~	~~n/a~~		~~1.15~~	~~100~~
~~SS 12347-PeCDD~~	~~33.04~~		~~1.2016~~	~~1.2032~~	~~+3.2~~	~~1.77E+07~~	~~1.56~~	~~Y~~	~~0.86~~	~~103~~
~~SS 12346-PeCDF~~	~~31.55~~		~~1.2172~~	~~1.2194~~	~~+4.2~~	~~3.02E+07~~	~~1.57~~	~~Y~~	~~0.94~~	~~105~~
~~SS 123469-HxCDF~~	~~36.94~~		~~0.9771~~	~~0.9768~~	~~-0.7~~	~~2.15E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~102~~
~~SS 1234689-HpCDF~~	~~40.13~~		~~1.0608~~	~~1.0612~~	~~+1.0~~	~~1.69E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~106~~

Totals	Conc	EMPC
Total TCDD	0	0
Total PeCDD	0	0
Total HxCDD	0	0
Total HpCDD	0	0
Total Tetra-Octa Dioxins	0	0
Total TCDF	0	0
Total PeCDF	0	0
Total HxCDF	0	0
Total HpCDF	0	0
Total Tetra-Octa Furans	0	0
Total Tetra-Octa Dioxins & Furans	0	0

Lab ID: B6337_18977_DF_001 **Acq'd: 08 Mar 2022 16:56 DTF** **Wt/Vol: 1.02 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021822-S-SB-RB-17 **UTP: 09-Mar-2022 09:24:17 DTF** **J-level: 4.9 pg/L** **Split: 1** **Checkcode: 682-399-MXC**

Datafile: 220308C07 **Report: 09 Mar 2022 09:25 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	NotFnd		0.8701						1.18		2494.453	1.86
1379-TCDD	NotFnd		0.8829						1.18		2494.453	1.86
1369-TCDD	NotFnd		0.8982						1.18		2494.453	1.86
1469-TCDD	NotFnd		0.9261						1.18		2494.453	1.86
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		2494.453	1.86
1378-TCDD	NotFnd		0.9417						1.18		2494.453	1.86
1268-TCDD	NotFnd		0.9487						1.18		2494.453	1.86
1478-TCDD	NotFnd		0.9576						1.18		2494.453	1.86
1279-TCDD	NotFnd		0.9636						1.18		2494.453	1.86
1234/1269-TCDD	NotFnd		0.9761						1.18		2494.453	1.86
1236-TCDD	NotFnd		0.9812						1.18		2494.453	1.86
1237/1238-TCDD	NotFnd		0.9905						1.18		2494.453	1.86
1239-TCDD	NotFnd		0.9951						1.18		2494.453	1.86
2378-TCDD	**NotFnd**		**1.0008**						**1.18**		**2494.453**	**1.86**
1278-TCDD	NotFnd		1.0124						1.18		2494.453	1.86
1267-TCDD	NotFnd		1.0172						1.18		2494.453	1.86
1289-TCDD	NotFnd		1.0354						1.18		2494.453	1.86
12479/12468-PeCDD	NotFnd		0.9255						1.04		2409.804	2.07
12469-PeCDD	NotFnd		0.9416						1.04		2409.804	2.07
12368-PeCDD	NotFnd		0.9582						1.04		2409.804	2.07
12478-PeCDD	NotFnd		0.9637						1.04		2409.804	2.07
12379-PeCDD	NotFnd		0.9668						1.04		2409.804	2.07
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		2409.804	2.07
12346/12347-PeCDD	NotFnd		0.9858						1.04		2409.804	2.07
12378-PeCDD	NotFnd		**1.0007**						**1.04**		**2409.804**	**2.07**
12367-PeCDD	NotFnd		1.0036						1.04		2409.804	2.07
12389-PeCDD	NotFnd		1.0137						1.04		2409.804	2.07
124679/124689-HxCDD	NotFnd		0.9540						1.10		2335.953	2.14
123468-HxCDD	NotFnd		0.9715						1.10		2335.953	2.14
123679/123689-HxCDD	NotFnd		0.9793						1.10		2335.953	2.14
123469-HxCDD	NotFnd		0.9829						1.10		2335.953	2.14
123478-HxCDD	NotFnd		**1.0004**						1.09		**2335.953**	**2.12**
123678-HxCDD	NotFnd		**1.0036**						1.15		**2335.953**	**2.2**
123467-HxCDD	NotFnd		1.0089						1.10		2335.953	2.14
123789-HxCDD	NotFnd		**1.0118**						1.05		**2335.953**	**2.11**

Lab ID: B6337_18977_DF_001 **Acq'd: 08 Mar 2022 16:56 DTF** **Wt/Vol: 1.02 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021822-S-SB-RB-17 **UTP: 09-Mar-2022 09:24:17 DTF** **J-level: 4.9 pg/L** **Split: 1** **Checkcode: 682-399-MXC**

Datafile: 220308C07 **Report: 09 Mar 2022 09:25 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

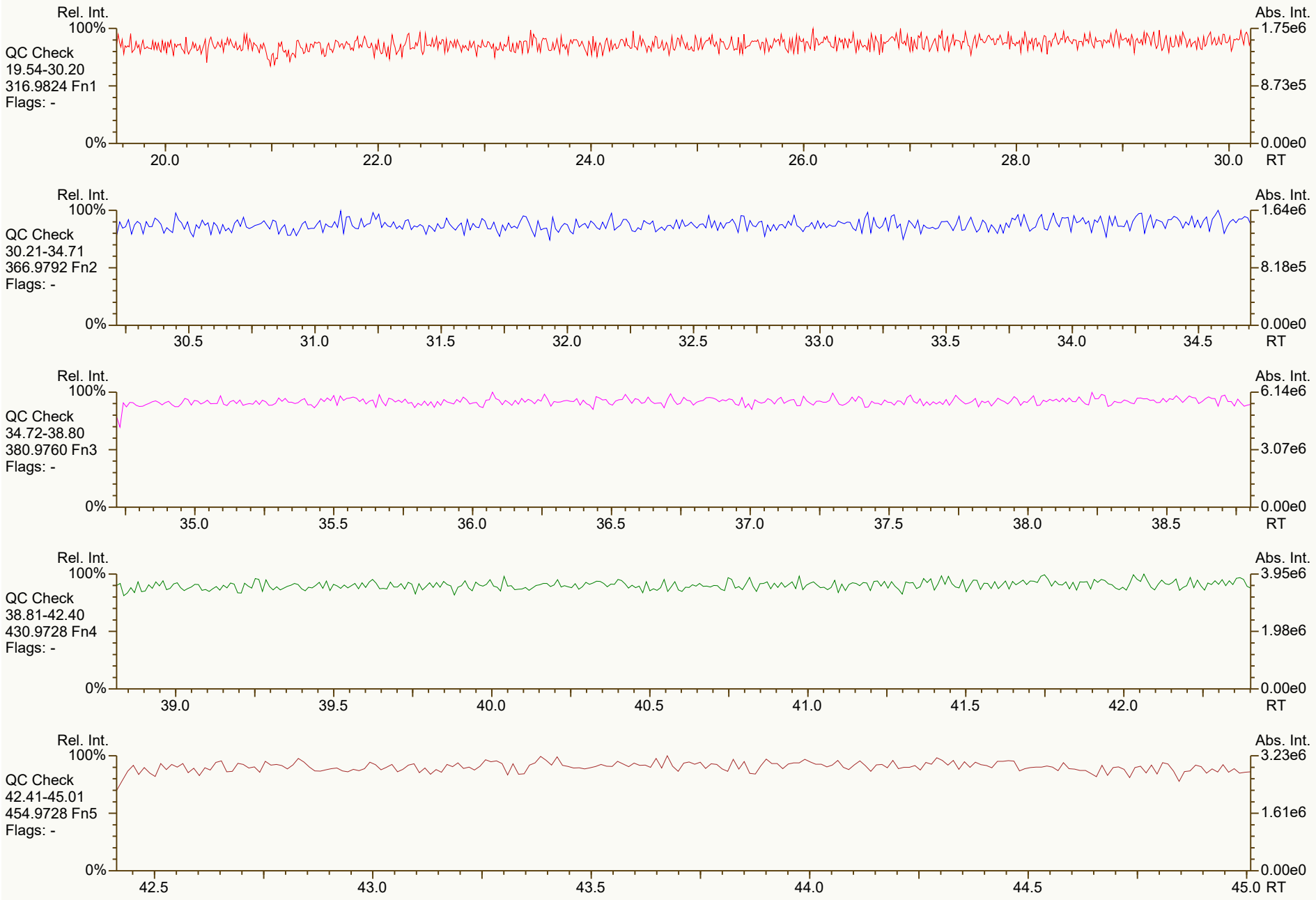
Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	NotFnd		0.9836						1.06		2087.45	2.21
1234678-HpCDD	**NotFnd**		**1.0002**						**1.06**		**2087.45**	**2.21**
OCDD	**NotFnd**		**1.0003**						**1.13**		**3204.222**	**7.13**
OCDD-a	NotFnd		1.0002						0.07		2978.312	104
1368-TCDF	NotFnd		0.8191						1.08		1885.39	1.06
1468-TCDF	NotFnd		0.8408						1.08		1885.39	1.06
2468-TCDF	NotFnd		0.8645						1.08		1885.39	1.06
1346/1246-TCDF	NotFnd		0.8772						1.08		1885.39	1.06
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		1885.39	1.06
1348-TCDF	NotFnd		0.8932						1.08		1885.39	1.06
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		1885.39	1.06
1268-TCDF	NotFnd		0.9119						1.08		1885.39	1.06
1467-TCDF	NotFnd		0.9170						1.08		1885.39	1.06
1478-TCDF	NotFnd		0.9234						1.08		1885.39	1.06
1369/1237-TCDF	NotFnd		0.9369						1.08		1885.39	1.06
2467-TCDF	NotFnd		0.9415						1.08		1885.39	1.06
2368-TCDF	NotFnd		0.9475						1.08		1885.39	1.06
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		1885.39	1.06
1278-TCDF	NotFnd		0.9676						1.08		1885.39	1.06
1349-TCDF	NotFnd		0.9722						1.08		1885.39	1.06
1267-TCDF	NotFnd		0.9777						1.08		1885.39	1.06
2346/1249-TCDF	NotFnd		0.9843						1.08		1885.39	1.06
2347/1279-TCDF	NotFnd		0.9926						1.08		1885.39	1.06
2348-TCDF	NotFnd		0.9968						1.08		1885.39	1.06
2378-TCDF	**NotFnd**		**1.0008**						**1.08**		**1885.39**	**1.06**
2367/3467-TCDF	NotFnd		1.0142						1.08		1885.39	1.06
1269-TCDF	NotFnd		1.0235						1.08		1885.39	1.06
1239-TCDF	NotFnd		1.0329						1.08		1885.39	1.06
1289-TCDF	NotFnd		1.0742						1.08		1885.39	1.06
13468/12468-PeCDF	NotFnd		0.9122						1.02		2352.983	1.36
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		2410.324	1.39
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		2410.324	1.39
14678-PeCDF	NotFnd		0.9685						1.02		2410.324	1.39
13479-PeCDF	NotFnd		0.9716						1.02		2410.324	1.39
13469/12479-PeCDF	NotFnd		0.9794						1.02		2410.324	1.39
12346-PeCDF	NotFnd		0.9836						1.02		2410.324	1.39

Lab ID: B6337_18977_DF_001 **Acq'd: 08 Mar 2022 16:56 DTF** **Wt/Vol: 1.02 L** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 11215131-021822-S-SB-RB-17 **UTP: 09-Mar-2022 09:24:17 DTF** **J-level: 4.9 pg/L** **Split: 1** **Checkcode: 682-399-MXC**

Datafile: 220308C07 **Report: 09 Mar 2022 09:25 TF** **Stds (pg): JS: 2000 ES: 2000 CS/SS: 2000, 800 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		2410.324	1.39
12347-PeCDF	NotFnd		0.9891						1.02		2410.324	1.39
12348-PeCDF	NotFnd		0.9938						1.02		2410.324	1.39
12378-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2410.324**	**1.43**
12678/12367-PeCDF	NotFnd		1.0091						1.02		2410.324	1.39
12379-PeCDF	NotFnd		1.0144						1.02		2410.324	1.39
12679-PeCDF	NotFnd		0.9927						1.02		2410.324	1.39
23467/12369-PeCDF	NotFnd		0.9965						1.02		2410.324	1.39
23478-PeCDF	**NotFnd**		**1.0005**						**1.02**		**2410.324**	**1.35**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		2410.324	1.39
12349-PeCDF	NotFnd		1.0101						1.02		2410.324	1.39
12389-PeCDF	NotFnd		1.0330						1.02		2410.324	1.39
123468-HxCDF	NotFnd		0.9622						1.19		2450.835	1.47
124678/134678-HxCDF	NotFnd		0.9678						1.19		2450.835	1.47
134679-HxCDF	NotFnd		0.9741						1.19		2450.835	1.47
124679-HxCDF	NotFnd		0.9795						1.19		2450.835	1.47
124689-HxCDF	NotFnd		0.9856						1.19		2450.835	1.47
123467-HxCDF	NotFnd		0.9972						1.19		2450.835	1.47
123478-HxCDF	**NotFnd**		**1.0004**						**1.27**		**2450.835**	**1.5**
123678-HxCDF	**NotFnd**		**1.0004**						**1.15**		**2450.835**	**1.39**
123479-HxCDF	NotFnd		1.0048						1.19		2450.835	1.47
123469-HxCDF	NotFnd		1.0089						1.19		2450.835	1.47
123679-HxCDF	NotFnd		0.9942						1.19		2450.835	1.47
234678-HxCDF	**NotFnd**		**1.0005**						**1.19**		**2450.835**	**1.39**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		2450.835	1.47
123789-HxCDF	**NotFnd**		**1.0004**						**1.16**		**2450.835**	**1.64**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		2450.835	1.47
1234678-HpCDF	**NotFnd**		**1.0003**						**1.37**		**2180.215**	**1.45**
1234679-HpCDF	NotFnd		1.0068						1.34		2180.215	1.72
1234689-HpCDF	NotFnd		1.0104						1.34		2180.215	1.72
1234789-HpCDF	**NotFnd**		**1.0003**						**1.31**		**2180.215**	**2.06**
OCDF	**NotFnd**		**1.0002**						**1.07**		**2288.45**	**4.01**
OCDF-a	NotFnd		1.0001						0.07		2939.823	83.2


Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.75e6
8.73e5
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
1.64e6
8.18e5
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
6.14e6
3.07e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
3.95e6
1.98e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
3.23e6
1.61e6
0.00e0

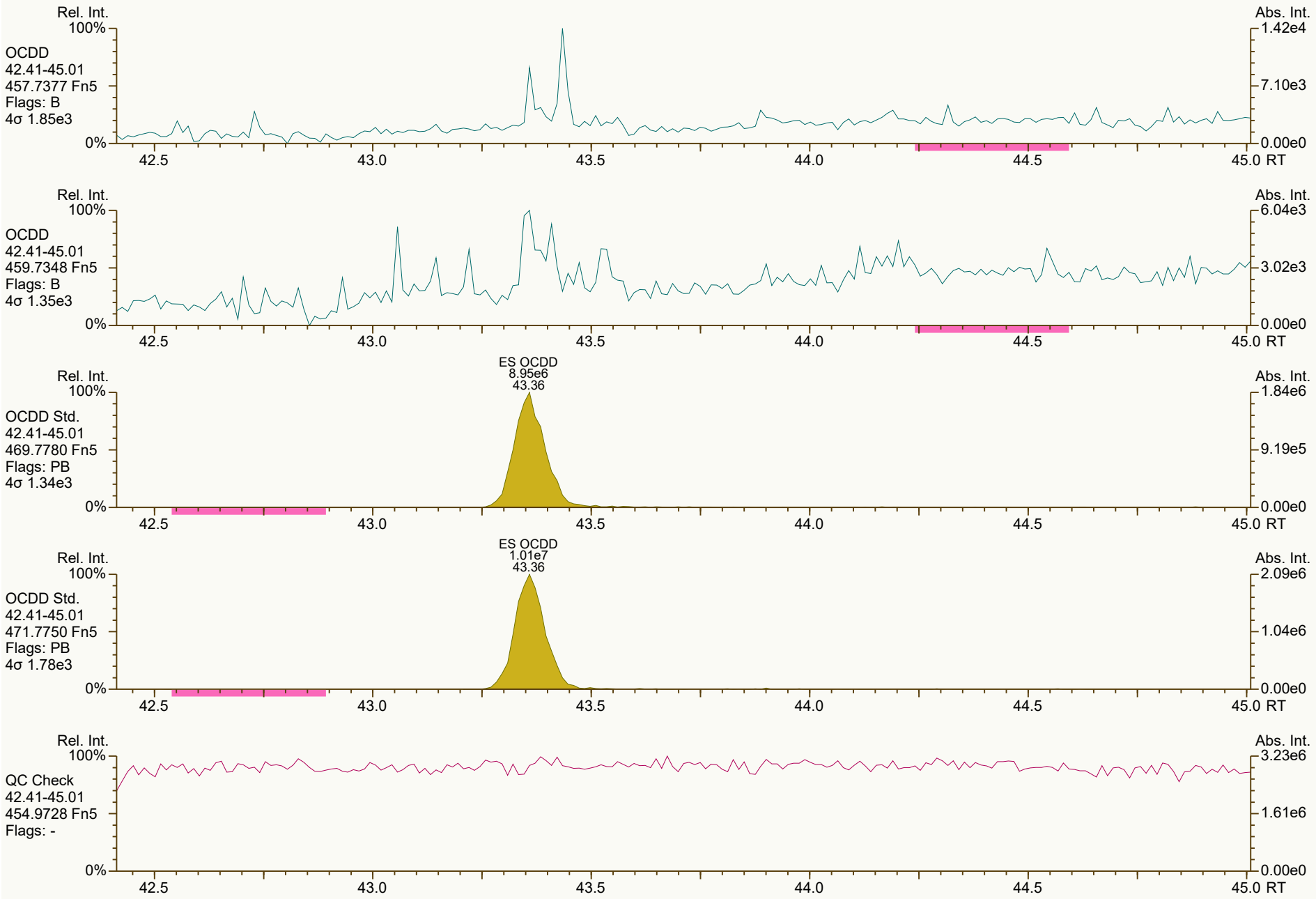

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 1.38e3
0%
Abs. Int.
1.37e4
6.85e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.12e3
0%
Abs. Int.
1.35e4
6.75e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.02e3
0%
CS 37Cl-2378D
1.05e7
28.15
Abs. Int.
2.36e6
1.18e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 2.33e3
0%
JS 1234D
9.89e6
27.46
ES 2378D
1.03e7
28.13
Abs. Int.
2.51e6
1.25e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 1.33e3
0%
JS 1234D
1.19e7
27.46
ES 2378D
1.26e7
28.13
Abs. Int.
2.90e6
1.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: B
4σ 1.33e3
0%
Abs. Int.
6.91e3
3.46e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.08e3
0%
Abs. Int.
5.88e3
2.94e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 2.05e3
0%
CS 12347D
1.08e7
33.04
ES 12378D
1.24e7
33.55
Abs. Int.
3.39e6
1.70e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.39e3
0%
CS 12347D
6.93e6
33.04
ES 12378D
7.70e6
33.55
Abs. Int.
2.11e6
1.06e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.64e6
8.18e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT



Results: P:\B6300_B6399\B6337\B6337_18977 DF\Resources\B6337_18977_DF_001.utp_res, saved 09-Mar-2022 09:24 (DTF) *Peak annotation: Areas, Centroids*
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1869, 3759 scc: 682-399 *Revised: 09-Mar-2022 09:23 (DTF) Printed: 09-Mar-2022 09:29 Page 4 of 12*

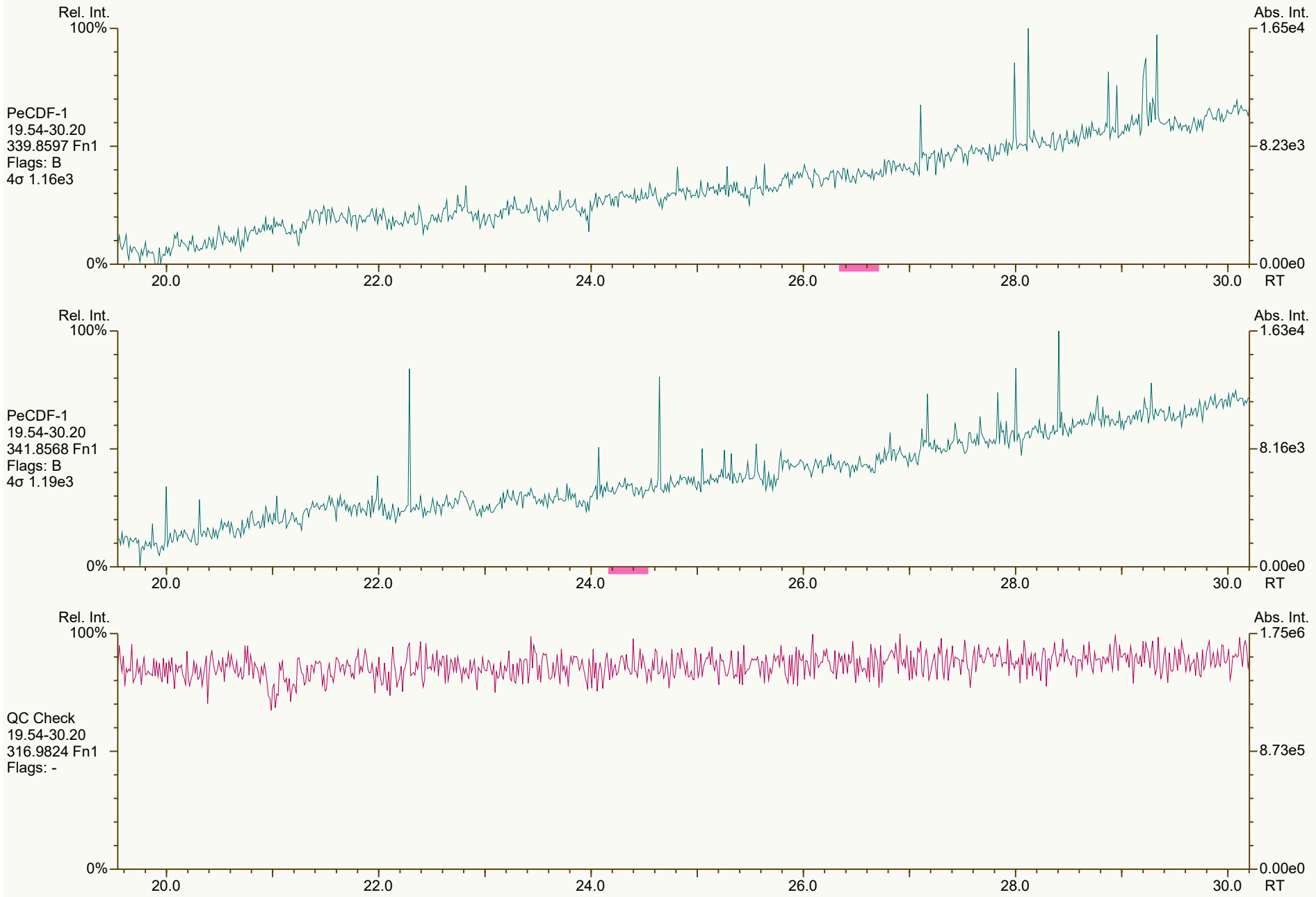

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: B
4σ 1.09e3
0%
Abs. Int.
7.04e3
3.52e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.00e3
0%
Abs. Int.
4.22e3
2.11e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
7.72e6
40.67
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 1.59e3
0%
Abs. Int.
2.28e6
1.14e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
ES 1234678D
7.09e6
40.67
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.56e3
0%
Abs. Int.
2.03e6
1.01e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
3.95e6
1.98e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 1.85e3
0%
Abs. Int.
1.42e4
7.10e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 1.35e3
0%
Abs. Int.
6.04e3
3.02e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 1.34e3
0%
ES OCDD
8.95e6
43.36
Abs. Int.
1.84e6
9.19e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.78e3
0%
ES OCDD
1.01e7
43.36
Abs. Int.
2.09e6
1.04e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
3.23e6
1.61e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 9.07e2
0%
Abs. Int.
1.15e4
5.77e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: B
4σ 9.79e2
0%
Abs. Int.
1.31e4
6.53e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 2.05e3
0%
JS 1234F
1.53e7
25.87
ES 2378F
1.47e7
27.26
Abs. Int.
3.59e6
1.79e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.00e3
0%
JS 1234F
1.85e7
25.87
ES 2378F
1.85e7
27.26
Abs. Int.
4.25e6
2.12e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.07e3
0%
Abs. Int.
1.87e4
9.34e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

SGS ID: B6337_18977_DF_001 | Sample ID: 11215131-021822-S-SB-RB-17 | Acq: 08-Mar-2022 16:56:00

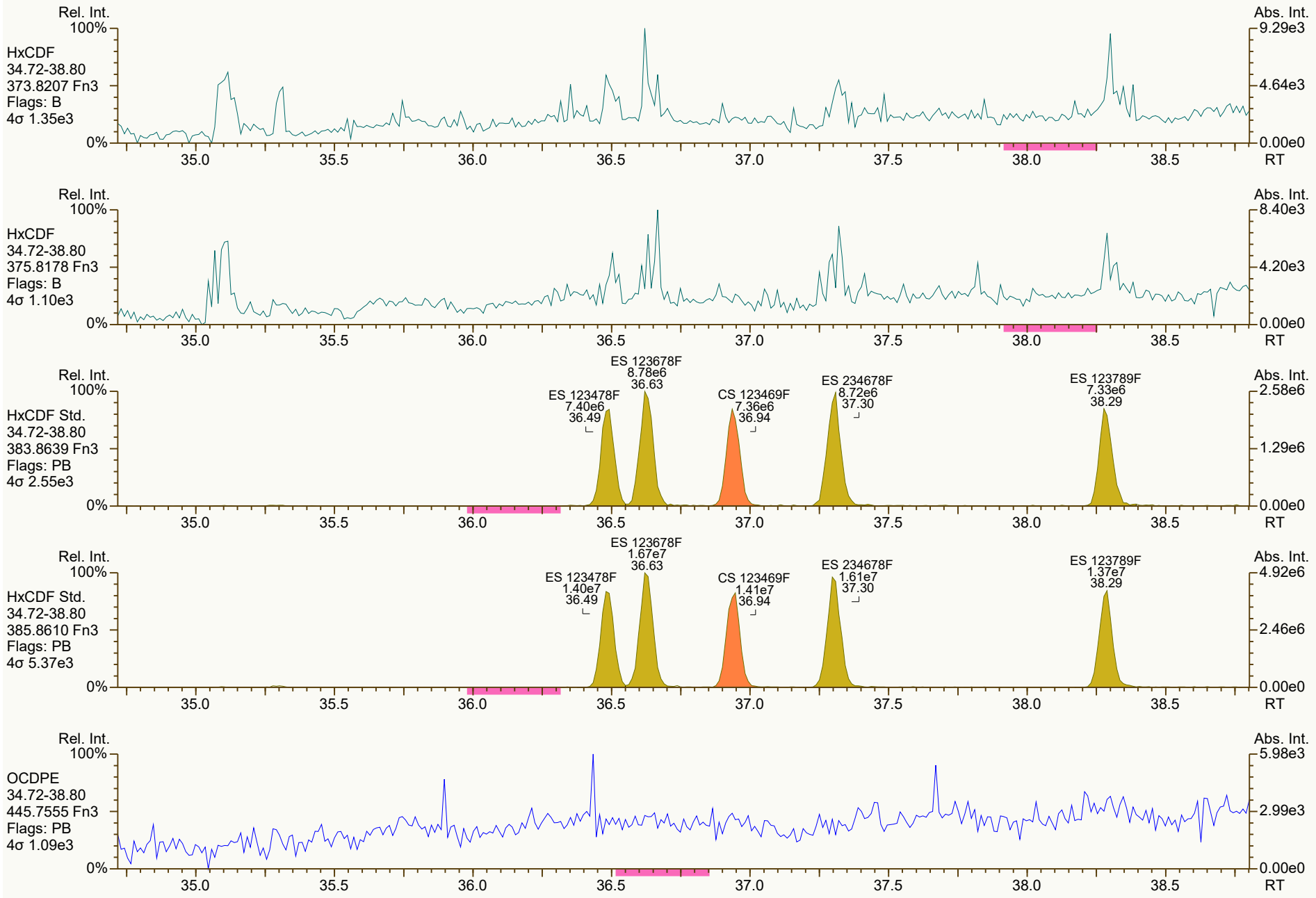
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 30 | User: DTF Datafile: 220308C07

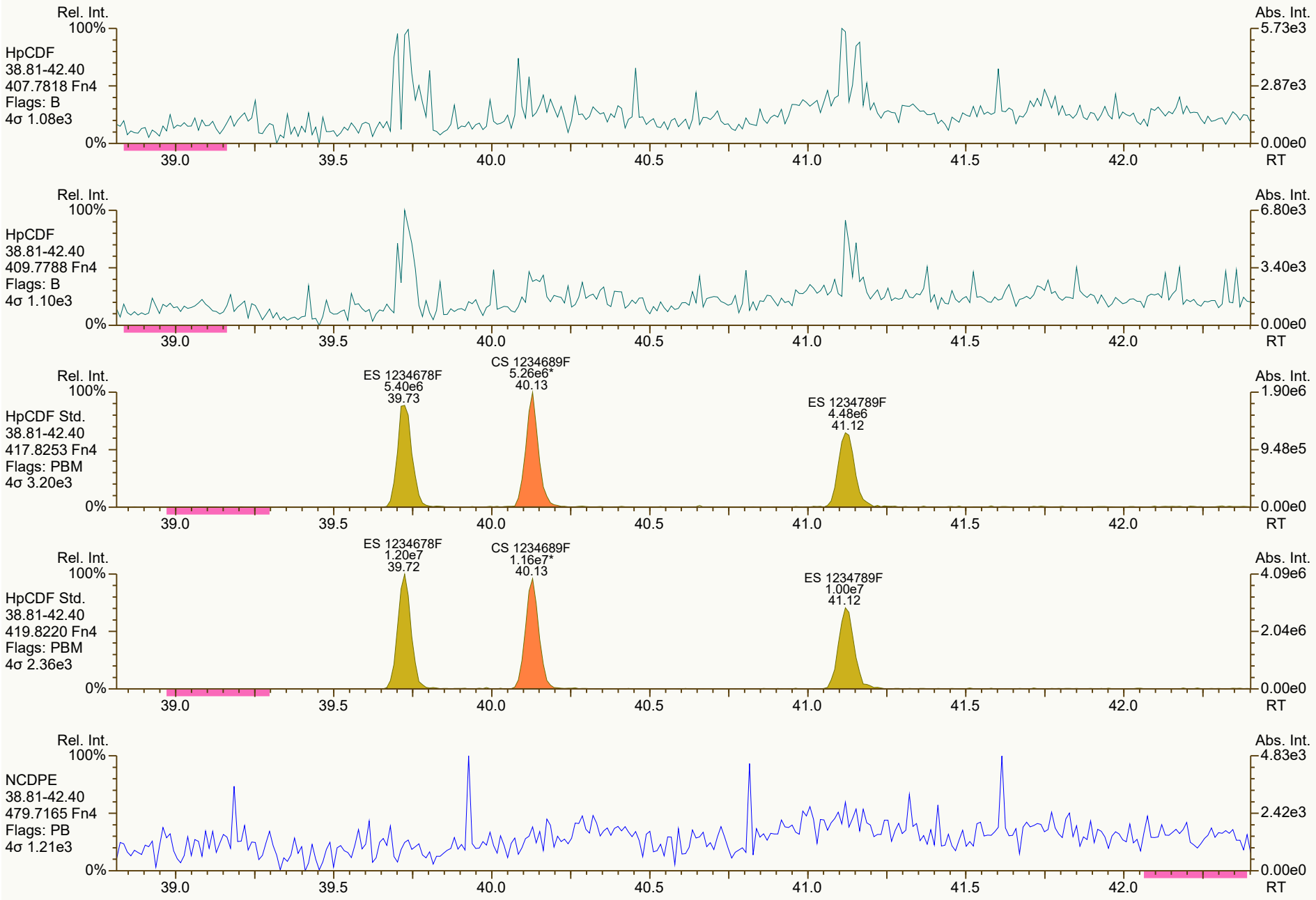


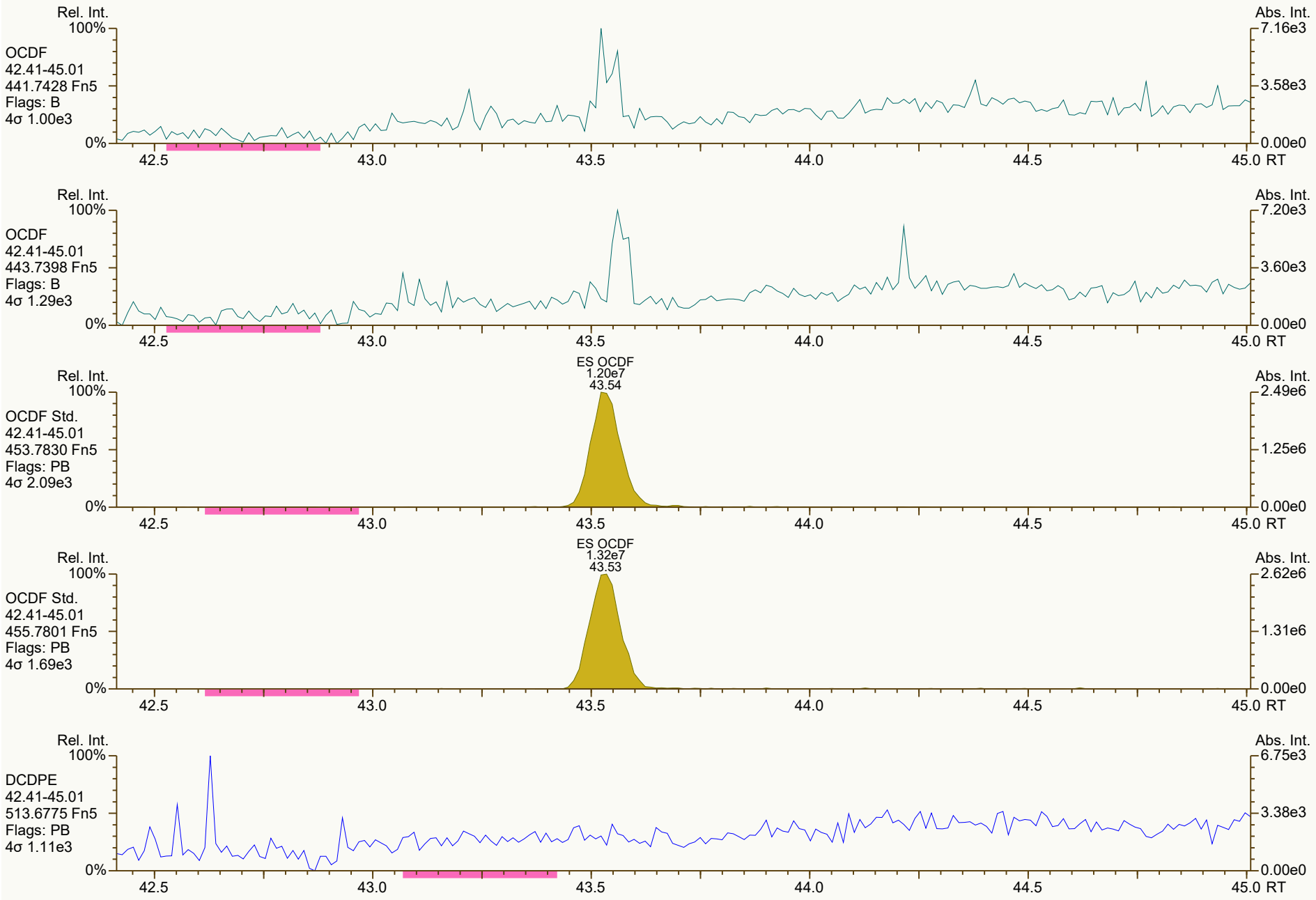
Results: P:\B6300_B6399\B6337\B6337_18977 DF\Resources\B6337_18977_DF_001.utp_res, saved 09-Mar-2022 09:24 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1179 scc: 682-399 | *PKD: 09-Mar-2022 09:23 Printed: 09-Mar-2022 09:29 Page 8 of 12*


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: B
4σ 1.08e3
0%
Abs. Int.
5.32e4
2.66e4
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: B
4σ 1.33e3
0%
Abs. Int.
3.32e4
1.66e4
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 3.53e3
0%
CS 12346F
1.84e7
31.55
ES 12378F
1.84e7
32.09
ES 23478F
1.85e7
33.21
Abs. Int.
5.19e6
2.59e6
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 1.70e3
0%
CS 12346F
1.17e7
31.55
ES 12378F
1.21e7
32.08
ES 23478F
1.22e7
33.21
Abs. Int.
3.42e6
1.71e6
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: PB
4σ 1.11e3
0%
Abs. Int.
1.91e4
9.54e3
0.00e0
30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: B
4σ 1.35e3
0%
Abs. Int.
9.29e3
4.64e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: B
4σ 1.10e3
0%
Abs. Int.
8.40e3
4.20e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 2.55e3
0%
ES 123678F
8.78e6
36.63
ES 123478F
7.40e6
36.49
CS 123469F
7.36e6
36.94
ES 234678F
8.72e6
37.30
ES 123789F
7.33e6
38.29
Abs. Int.
2.58e6
1.29e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 5.37e3
0%
ES 123678F
1.67e7
36.63
ES 123478F
1.40e7
36.49
CS 123469F
1.41e7
36.94
ES 234678F
1.61e7
37.30
ES 123789F
1.37e7
38.29
Abs. Int.
4.92e6
2.46e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.09e3
0%
Abs. Int.
5.98e3
2.99e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT


Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: B
4σ 1.08e3
0%
Abs. Int.
5.73e3
2.87e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: B
4σ 1.10e3
0%
Abs. Int.
6.80e3
3.40e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PBM
4σ 3.20e3
0%
ES 1234678F
5.40e6
39.73
CS 1234689F
5.26e6*
40.13
ES 1234789F
4.48e6
41.12
Abs. Int.
1.90e6
9.48e5
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PBM
4σ 2.36e3
0%
ES 1234678F
1.20e7
39.72
CS 1234689F
1.16e7*
40.13
ES 1234789F
1.00e7
41.12
Abs. Int.
4.09e6
2.04e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.21e3
0%
Abs. Int.
4.83e3
2.42e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: B
4σ 1.00e3
0%
Abs. Int.
7.16e3
3.58e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: B
4σ 1.29e3
0%
Abs. Int.
7.20e3
3.60e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.20e7
43.54
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 2.09e3
0%
Abs. Int.
2.49e6
1.25e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.32e7
43.53
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 1.69e3
0%
Abs. Int.
2.62e6
1.31e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.11e3
0%
Abs. Int.
6.75e3
3.38e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
2	220308C02	3	CS3_220308_DF_CA	1.00	25-347-1	DTF	538-719	08-Mar-2022	12:04:48
3	220308C03	28	OPR1_18977_DF	1.00	0_18977_OPR001	DTF	823-705	08-Mar-2022	13:41:41
4	220308C04	29	OPR2_18977_DF	1.00	0_18977_OPR002	DTF	479-004	08-Mar-2022	14:27:53
5	220308C05	2	SBS_220307_DF_CA	1.00	20-61-1	DTF	927-921	08-Mar-2022	15:14:07
6	220308C06	27	MB1_18977_DF_TLX	1.00	Method Blank	DTF	691-533	08-Mar-2022	16:09:39
7	220308C07	30	B6337_18977_DF_001	1.02	11215131-021822-S-SB-RB-17	DTF	682-399	08-Mar-2022	16:56:00

REVIEWED
Tyler_Fritz , 3/9/2022, 9:32:49 AM

REVIEWED
Amber_Kornegay , 3/9/2022, 10:08:32 AM

Dioxin/Furan QC Summary	Acq'd: 08 Mar 2022 12:04 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220308_DF_CA	UTP: 09-Mar-2022 09:24:14 DTF	Checkcode: 538-719-MRD
Sample ID: 25-347-1	Report: 09 Mar 2022 09:24 TF	Datafile: 220308C02

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	28.16	4.15E+06	0.81	Y	1.18	1.20	1%
12378-PeCDD	33.57	1.68E+07	1.63	Y	1.04	1.05	1%
123478-HxCDD	37.50	1.56E+07	1.26	Y	1.09	1.13	4%
123678-HxCDD	37.62	1.53E+07	1.27	Y	1.15	1.13	-2%
123789-HxCDD	37.93	1.66E+07	1.26	Y	1.05	1.05	0%
1234678-HpCDD	40.68	1.38E+07	1.07	Y	1.06	1.03	-3%
OCDD	43.38	2.08E+07	0.90	Y	1.13	1.16	3%
2378-TCDF	27.28	6.06E+06	0.77	Y	1.08	1.09	1%
12378-PeCDF	32.10	2.50E+07	1.56	Y	1.02	1.01	-2%
23478-PeCDF	33.23	2.44E+07	1.55	Y	1.02	1.00	-2%
123478-HxCDF	36.50	2.29E+07	1.24	Y	1.27	1.23	-3%
123678-HxCDF	36.64	2.36E+07	1.26	Y	1.15	1.12	-3%
234678-HxCDF	37.32	2.27E+07	1.24	Y	1.19	1.17	-1%
123789-HxCDF	38.30	2.04E+07	1.24	Y	1.16	1.16	-1%
1234678-HpCDF	39.73	1.99E+07	1.00	Y	1.37	1.32	-3%
1234789-HpCDF	41.13	1.68E+07	1.04	Y	1.31	1.31	0%
OCDF	43.55	2.58E+07	0.91	Y	1.07	1.08	1%
ES 2378-TCDD	28.13	3.47E+07	0.80	Y	1.05	1.01	-3%
ES 12378-PeCDD	33.546	3.20E+07	1.55	Y	0.88	0.93	6%
ES 123478-HxCDD	37.485	2.75E+07	1.28	Y	0.97	0.98	1%
ES 123678-HxCDD	37.605	2.72E+07	1.29	Y	0.94	0.97	3%
ES 123789-HxCDD	37.916	3.16E+07	1.30	Y	1.09	1.13	4%
ES 1234678-HpCDD	40.665	2.68E+07	1.07	Y	0.91	0.96	5%
ES OCDD	43.371	3.58E+07	0.91	Y	0.62	0.64	3%
ES 2378-TCDF	27.263	5.54E+07	0.82	Y	1.06	1.02	-4%
ES 12378-PeCDF	32.082	4.96E+07	1.60	Y	0.91	0.91	0%
ES 23478-PeCDF	33.207	4.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDF	36.483	3.71E+07	0.53	Y	1.20	1.33	11%
ES 123678-HxCDF	36.624	4.21E+07	0.53	Y	1.35	1.51	11%
ES 234678-HxCDF	37.299	3.88E+07	0.54	Y	1.24	1.39	12%
ES 123789-HxCDF	38.281	3.54E+07	0.53	Y	1.16	1.27	10%
ES 1234678-HpCDF	39.723	3.01E+07	0.45	Y	0.97	1.08	11%
ES 1234789-HpCDF	41.121	2.56E+07	0.44	Y	0.85	0.92	8%
ES OCDF	43.538	4.76E+07	0.89	Y	0.81	0.85	6%

Dioxin/Furan QC Summary	Acq'd: 08 Mar 2022 12:04 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_220308_DF_CA	UTP: 09-Mar-2022 09:24:14 DTF	Checkcode: 538-719-MRD
Sample ID: 25-347-1	Report: 09 Mar 2022 09:24 TF	Datafile: 220308C02

Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	27.46	3.44E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.88	5.44E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.81	1.40E+07	1.27	Y	-	-	-
CS 37Cl-2378-TCDD	28.16	4.55E+06	n/a	-	1.20	1.32	10%
CS 12347-PeCDD	33.04	2.86E+07	1.60	Y	0.75	0.83	11%
CS 12346-PeCDF	31.55	4.76E+07	1.59	Y	0.85	0.88	3%
CS 123469-HxCDF	36.94	3.81E+07	0.54	Y	1.12	1.36	22%
CS 1234689-HpCDF	40.13	2.96E+07	0.45	Y	0.89	1.06	19%
~~SS 37Cl-2378-TCDD~~	~~28.16~~	~~4.55E+06~~	~~n/a~~	~~-~~	~~1.15~~	~~1.31~~	~~14%~~
~~SS 12347-PeCDD~~	~~33.04~~	~~2.86E+07~~	~~1.60~~	~~Y~~	~~0.86~~	~~0.89~~	~~4%~~
~~SS 12346-PeCDF~~	~~31.55~~	~~4.76E+07~~	~~1.59~~	~~Y~~	~~0.94~~	~~0.96~~	~~2%~~
~~SS 123469-HxCDF~~	~~36.94~~	~~3.81E+07~~	~~0.54~~	~~Y~~	~~0.83~~	~~0.90~~	~~9%~~
~~SS 1234689-HpCDF~~	~~40.13~~	~~2.96E+07~~	~~0.45~~	~~Y~~	~~0.92~~	~~0.98~~	~~7%~~
~~OCDD-a~~	~~43.38~~	~~1.24E+06~~	~~2.64~~	~~Y~~	~~0.07~~	~~0.07~~	~~-4%~~
~~OCDF-a~~	~~43.54~~	~~1.71E+06~~	~~2.01~~	~~N~~	~~0.07~~	~~0.07~~	~~8%~~

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4A**

Lab Name: SGS North America

Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

Instrument ID: HRMS3 GC Column ID: ZB-5ms

VER Data Filename: 220308C02 Analysis Date: 08-MAR-2022 12:04:48

NATIVE ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
2,3,7,8-TCDD	M/M+2	0.81	0.65 - 0.89	Y	10.1	7.8 - 12.9	Y
1,2,3,7,8-PeCDD	M+2/M+4	1.63	1.32 - 1.78	Y	50.7	39 - 65	Y
1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05 - 1.43	Y	52	39 - 64	Y
1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05 - 1.43	Y	49.1	39 - 64	Y
1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05 - 1.43	Y	50.2	41 - 61	Y
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88 - 1.20	Y	48.6	43 - 58	Y
OCDD	M+2/M+4	0.90	0.76 - 1.02	Y	103	79 - 126	Y
2,3,7,8-TCDF	M/M+2	0.77	0.65 - 0.89	Y	10.1	8.4 - 12	Y
1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32 - 1.78	Y	49.1	41 - 60	Y
2,3,4,7,8-PeCDF	M+2/M+4	1.55	1.32 - 1.78	Y	48.9	41 - 61	Y
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	48.5	45 - 56	Y
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05 - 1.43	Y	48.6	44 - 57	Y
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	49.3	44 - 57	Y
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05 - 1.43	Y	49.6	45 - 56	Y
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.00	0.88 - 1.20	Y	48.3	45 - 55	Y
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	0.88 - 1.20	Y	50.1	43 - 58	Y
OCDF	M+2/M+4	0.91	0.76 - 1.02	Y	101	63 - 159	Y

See Table 9, Method 1613, for m/z specifications.

Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

Contract-required concentration range as specified in Table 6, Method 1613.

Processed: 09 Mar 2022 09:24 Analyst: TF

METHOD 1613B **PCDD/F CALIBRATION VERIFICATION** **FORM 4B**

Lab Name: SGS North America

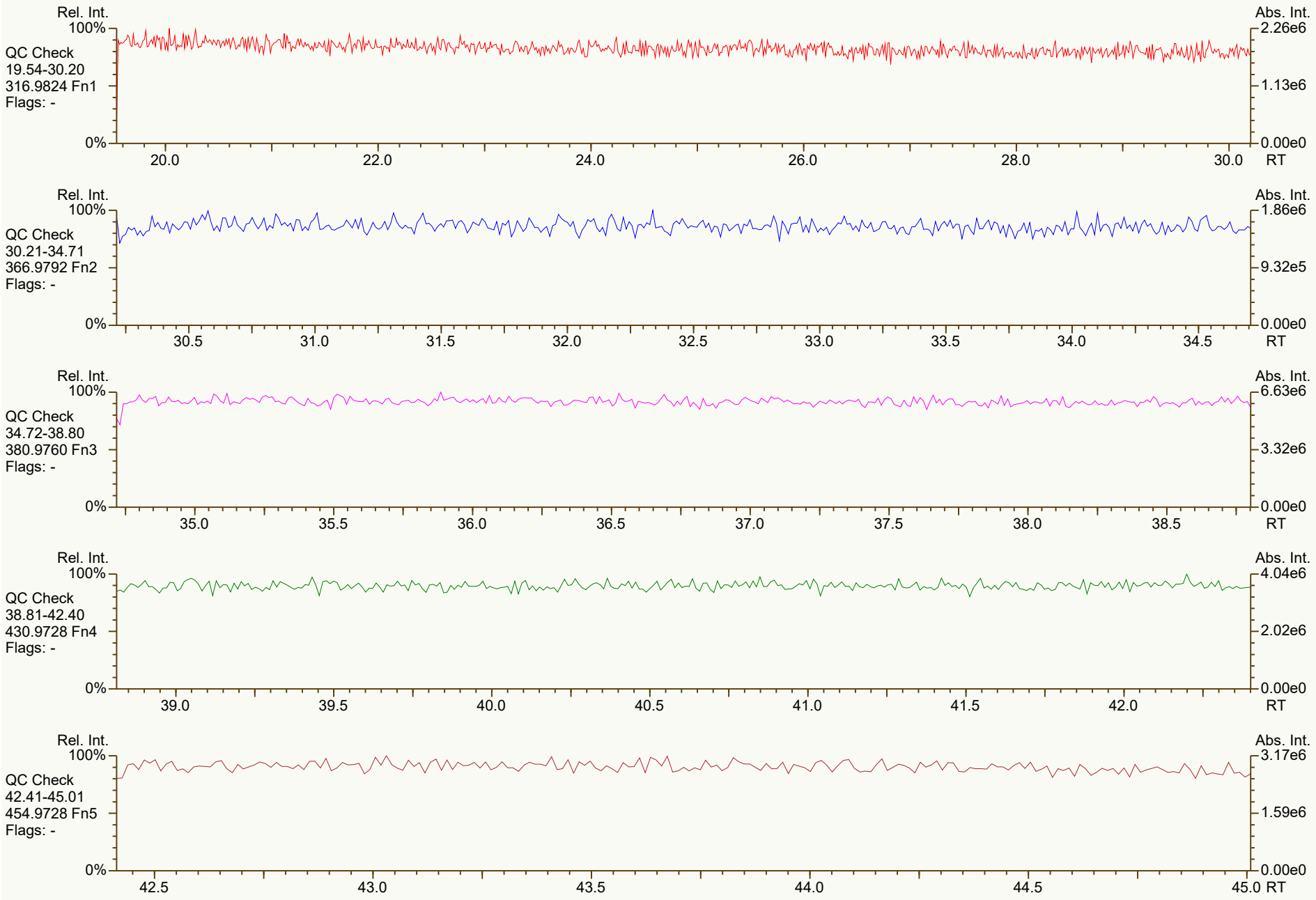
Initial Calibration: ICAL: HRMS3_DF_10272021 10NOV2021

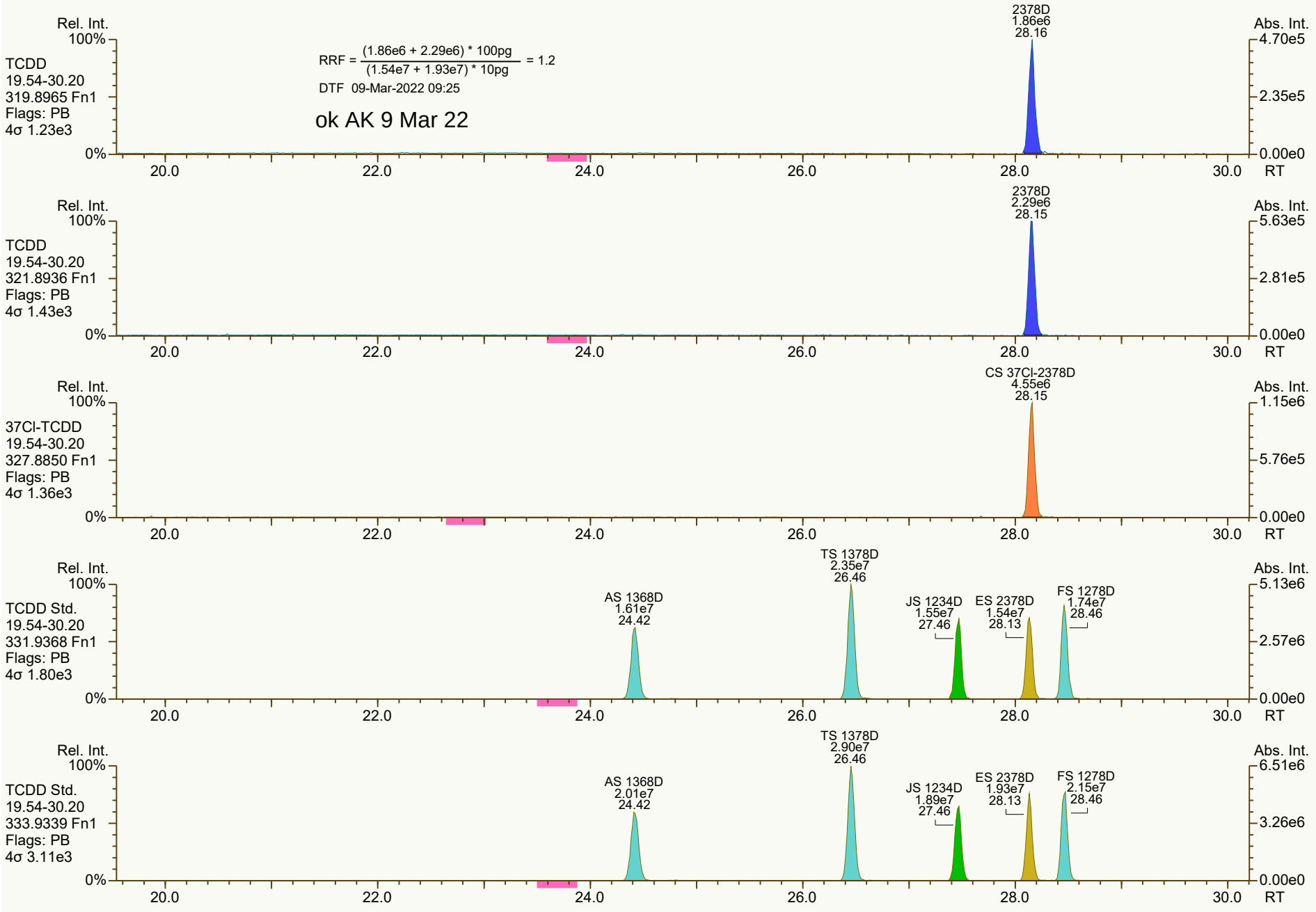
Instrument ID: HRMS3 GC Column ID: ZB-5ms

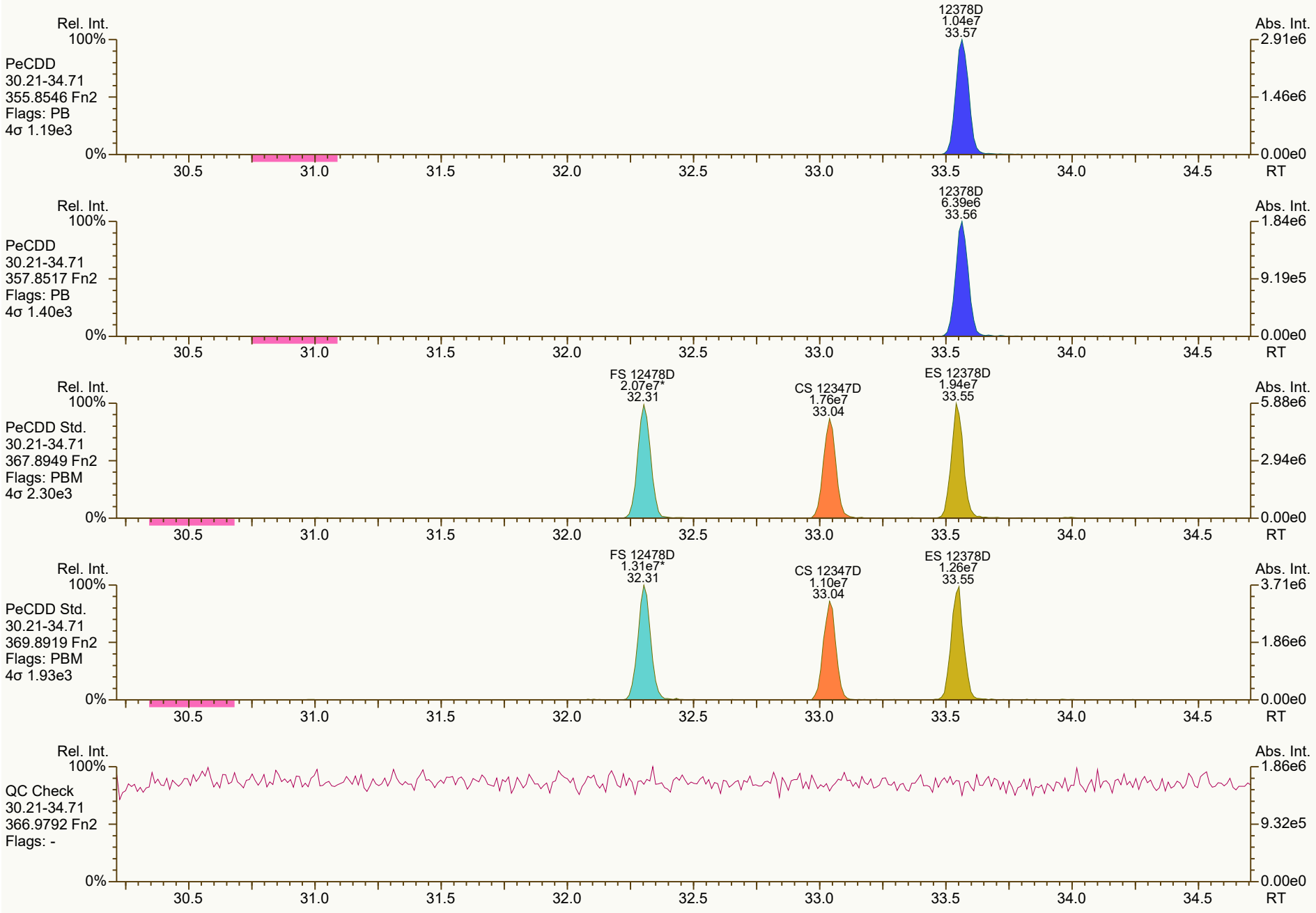
VER Data Filename: 220308C02 Analysis Date: 08-MAR-2022 12:04:48

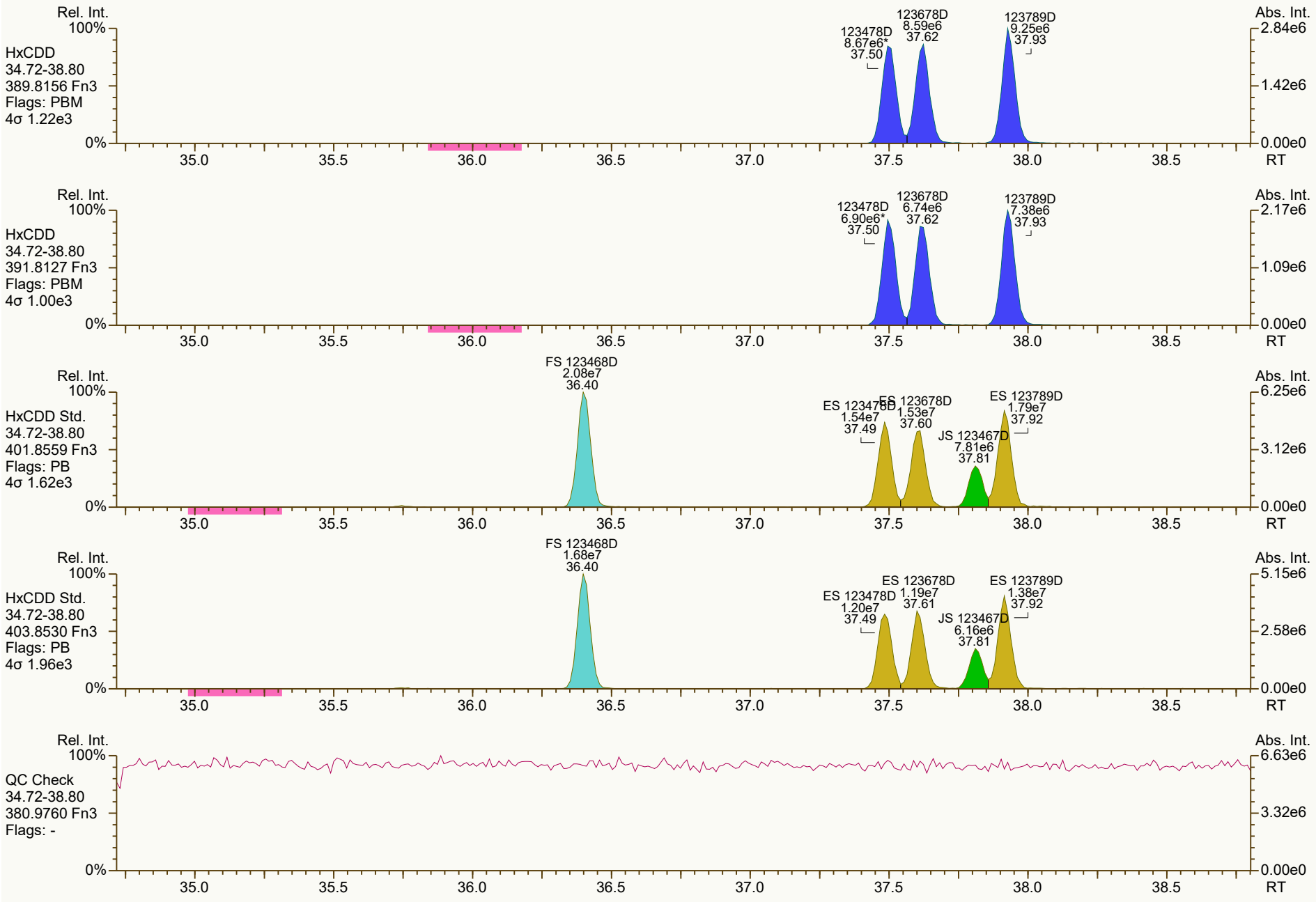
LABELED ANALYTES	M/Z's FORMING RATIO	ION ABUND. RATIO	QC LIMITS	OK	CONC. FOUND	RANGE (ng/mL)	OK
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65 - 0.89	Y	96.6	82 - 121	Y
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32 - 1.78	Y	106	62 - 160	Y
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05 - 1.43	Y	101	85 - 117	Y
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05 - 1.43	Y	103	85 - 118	Y
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.30	1.05 - 1.43	Y	104	85 - 118	Y
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88 - 1.20	Y	105	72 - 138	Y
13C-OCDD	M+2/M+4	0.91	0.76 - 1.02	Y	205	96 - 415	Y
13C-2,3,7,8-TCDF	M/M+2	0.82	0.65 - 0.89	Y	96.2	71 - 140	Y
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.60	1.32 - 1.78	Y	100	76 - 130	Y
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32 - 1.78	Y	102	77 - 130	Y
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43 - 0.59	Y	111	76 - 131	Y
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43 - 0.59	Y	111	70 - 143	Y
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	112	73 - 137	Y
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.53	0.43 - 0.59	Y	110	74 - 135	Y
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37 - 0.51	Y	111	78 - 129	Y
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.44	0.37 - 0.51	Y	108	77 - 129	Y
13C-OCDF	M+2/M+4	0.89	0.76 - 1.02	Y	211	96 - 415	Y
CLEANUP STANDARDS							
37Cl-2,3,7,8-TCDD	n/a				11	7.9 - 12.7	Y
13C-1,2,3,4,7-PeCDD	M+2/M+4	1.60	1.32 - 1.78	Y	111	70 - 130	Y
13C-1,2,3,4,6-PeCDF	M+2/M+4	1.59	1.32 - 1.78	Y	103	70 - 130	Y
13C-1,2,3,4,6,9-HxCDF	M/M+2	0.54	0.43 - 0.59	Y	122	70 - 130	Y
13C-1,2,3,4,6,8,9-HpCDF	M/M+2	0.45	0.37 - 0.51	Y	119	70 - 130	Y

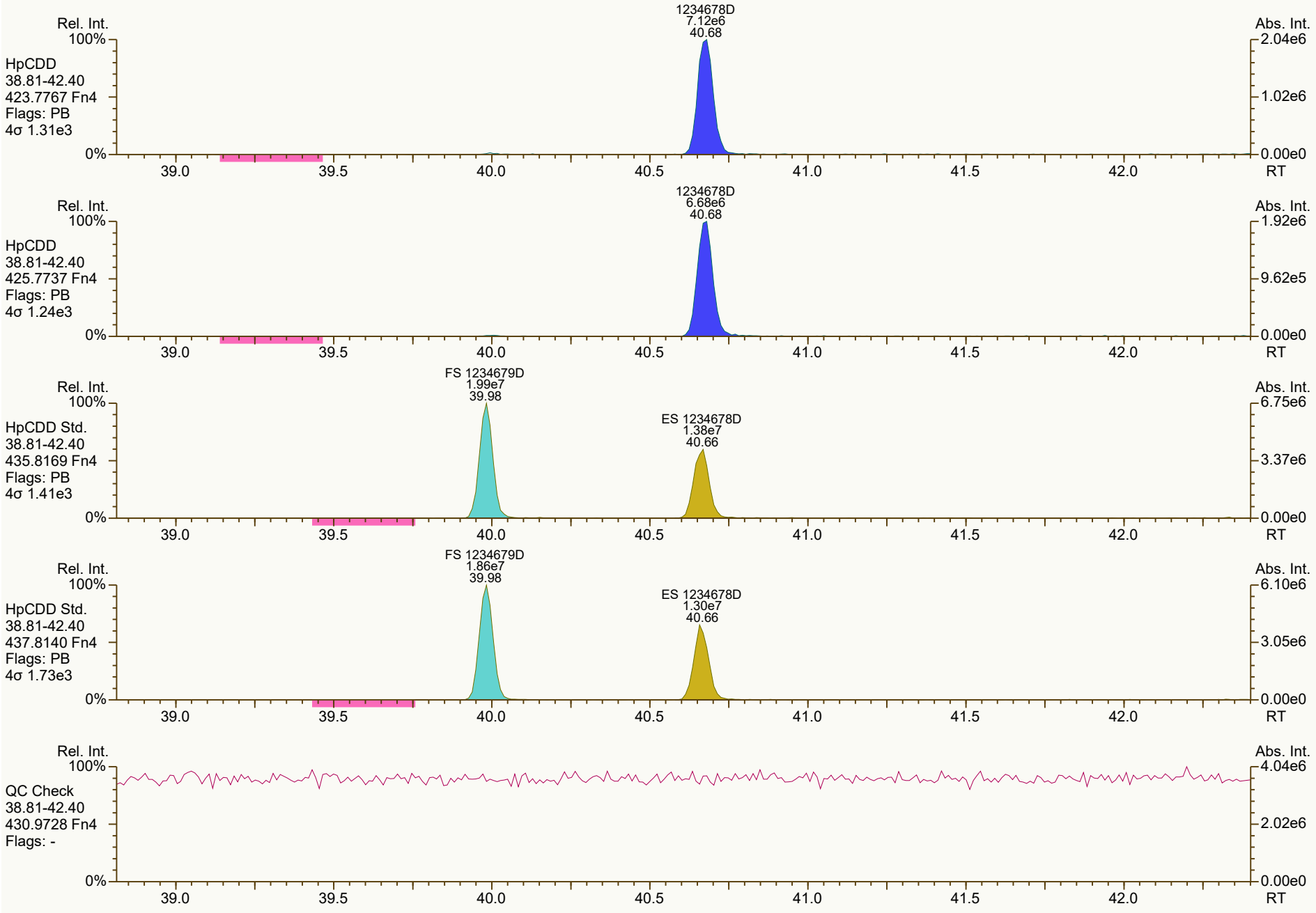
Processed: 09 Mar 2022 09:24 Analyst: TF


Rel. Int.
100%
0%
Abs. Int.
2.26e6
1.13e6
0.00e0
RT
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
1.86e6
9.32e5
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
6.63e6
3.32e6
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
4.04e6
2.02e6
39.0
39.5
40.0
40.5
41.0
41.5
42.0
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
3.17e6
1.59e6
42.5
43.0
43.5
44.0
44.5
45.0


Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PB
4σ 1.23e3
RRF = (1.86e6 + 2.29e6) * 100pg / (1.54e7 + 1.93e7) * 10pg = 1.2
DTF 09-Mar-2022 09:25
ok AK 9 Mar 22
2378D
1.86e6
28.16
Abs. Int.
4.70e5
2.35e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PB
4σ 1.43e3
2378D
2.29e6
28.15
Abs. Int.
5.63e5
2.81e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.36e3
CS 37Cl-2378D
4.55e6
28.15
Abs. Int.
1.15e6
5.76e5
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 1.80e3
AS 1368D
1.61e7
24.42
TS 1378D
2.35e7
26.46
JS 1234D
1.55e7
27.46
ES 2378D
1.54e7
28.13
FS 1278D
1.74e7
28.46
Abs. Int.
5.13e6
2.57e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 3.11e3
AS 1368D
2.01e7
24.42
TS 1378D
2.90e7
26.46
JS 1234D
1.89e7
27.46
ES 2378D
1.93e7
28.13
FS 1278D
2.15e7
28.46
Abs. Int.
6.51e6
3.26e6
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.19e3
0%
12378D
1.04e7
33.57
Abs. Int.
2.91e6
1.46e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.40e3
0%
12378D
6.39e6
33.56
Abs. Int.
1.84e6
9.19e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PBM
4σ 2.30e3
0%
FS 12478D
2.07e7*
32.31
CS 12347D
1.76e7
33.04
ES 12378D
1.94e7
33.55
Abs. Int.
5.88e6
2.94e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PBM
4σ 1.93e3
0%
FS 12478D
1.31e7*
32.31
CS 12347D
1.10e7
33.04
ES 12378D
1.26e7
33.55
Abs. Int.
3.71e6
1.86e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.86e6
9.32e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

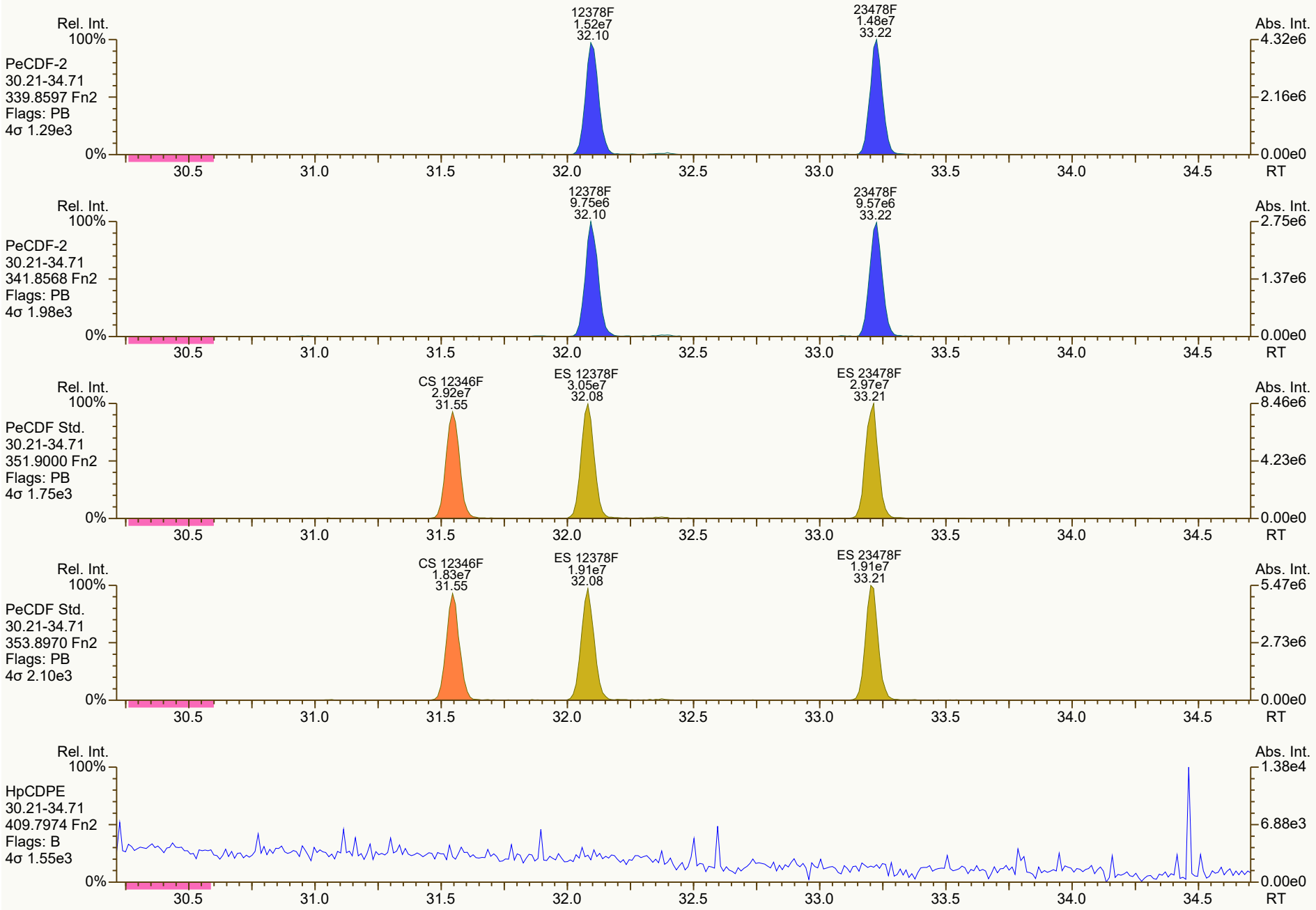

Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 1.22e3
123478D
8.67e6*
37.50
123678D
8.59e6
37.62
123789D
9.25e6
37.93
Abs. Int.
2.84e6
1.42e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 1.00e3
123478D
6.90e6*
37.50
123678D
6.74e6
37.62
123789D
7.38e6
37.93
Abs. Int.
2.17e6
1.09e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 1.62e3
FS 123468D
2.08e7
36.40
ES 123478D
1.54e7
37.49
ES 123678D
1.53e7
37.60
JS 123467D
7.81e6
37.81
ES 123789D
1.79e7
37.92
Abs. Int.
6.25e6
3.12e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 1.96e3
FS 123468D
1.68e7
36.40
ES 123478D
1.20e7
37.49
ES 123678D
1.19e7
37.61
JS 123467D
6.16e6
37.81
ES 123789D
1.38e7
37.92
Abs. Int.
5.15e6
2.58e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
Abs. Int.
6.63e6
3.32e6
0.00e0
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

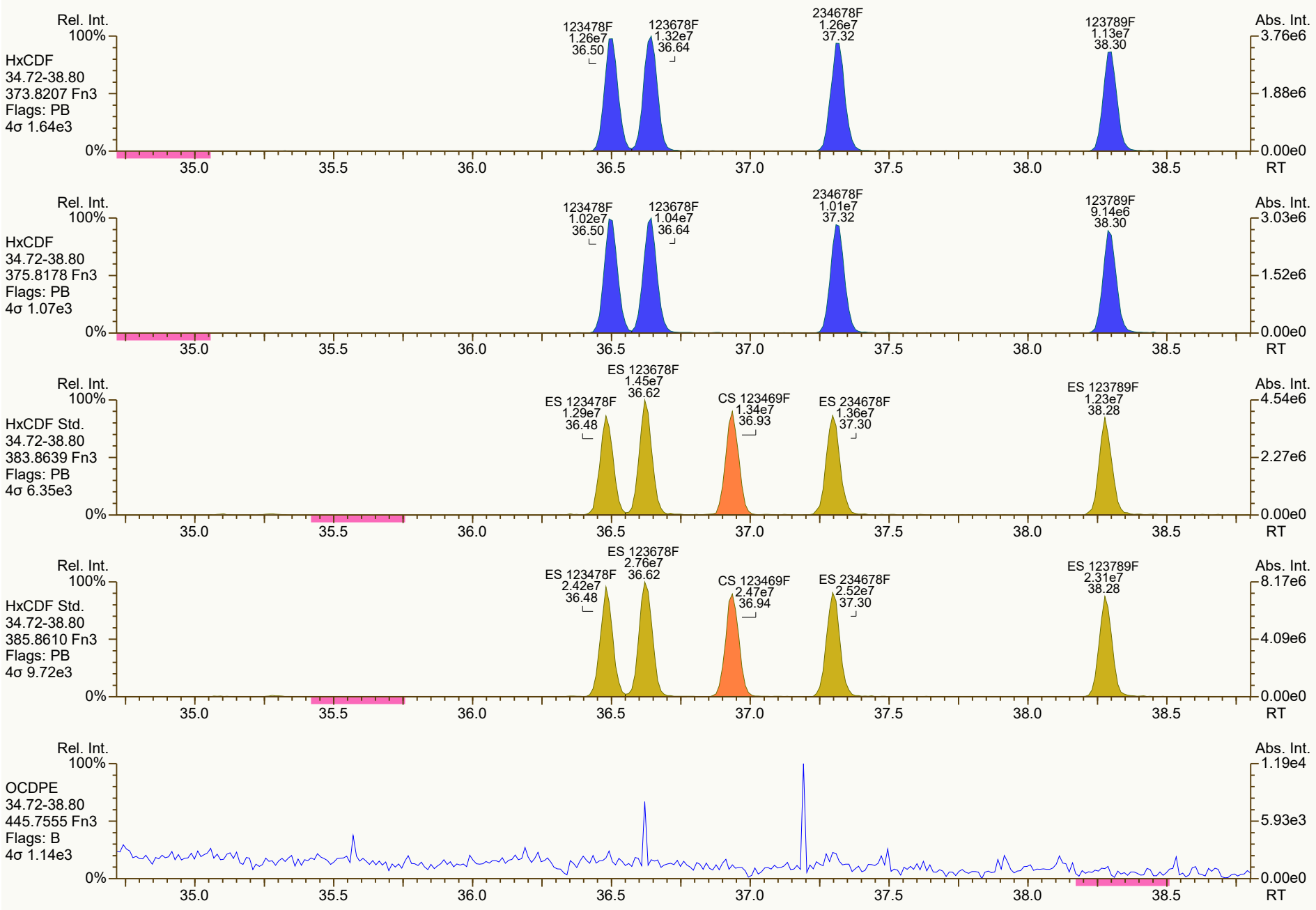

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PB
4σ 1.31e3
1234678D
7.12e6
40.68
Abs. Int.
2.04e6
1.02e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.24e3
1234678D
6.68e6
40.68
Abs. Int.
1.92e6
9.62e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 1.41e3
FS 1234679D
1.99e7
39.98
ES 1234678D
1.38e7
40.66
Abs. Int.
6.75e6
3.37e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.73e3
FS 1234679D
1.86e7
39.98
ES 1234678D
1.30e7
40.66
Abs. Int.
6.10e6
3.05e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
4.04e6
2.02e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

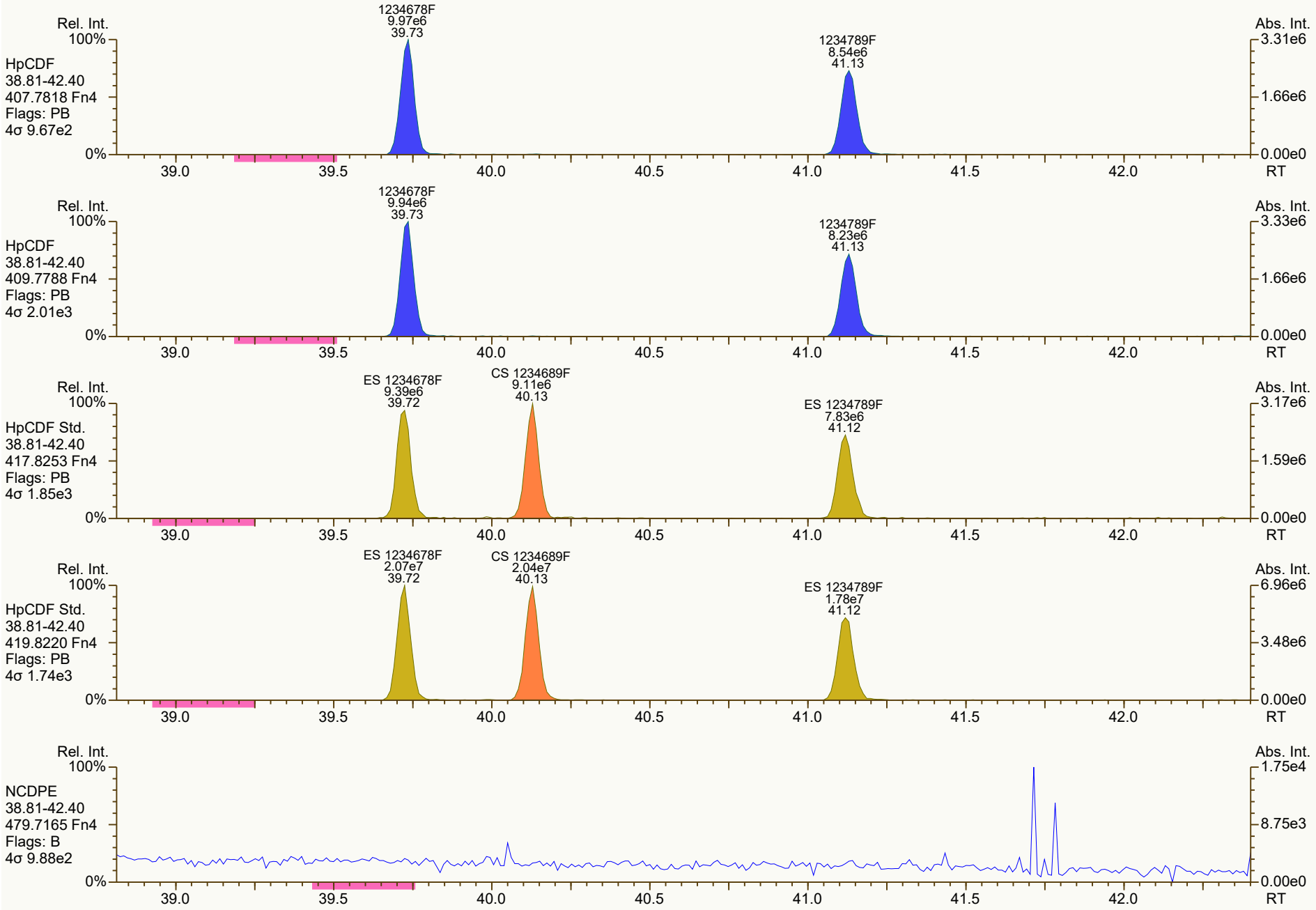

Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 1.18e3
0%
OCDD
9.85e6
43.38
Abs. Int.
1.98e6
9.90e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 1.20e3
0%
OCDD
1.09e7
43.38
Abs. Int.
2.12e6
1.06e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 2.10e3
0%
ES OCDD
1.71e7
43.37
Abs. Int.
3.46e6
1.73e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PB
4σ 1.82e3
0%
ES OCDD
1.88e7
43.37
Abs. Int.
3.65e6
1.83e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
3.17e6
1.59e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

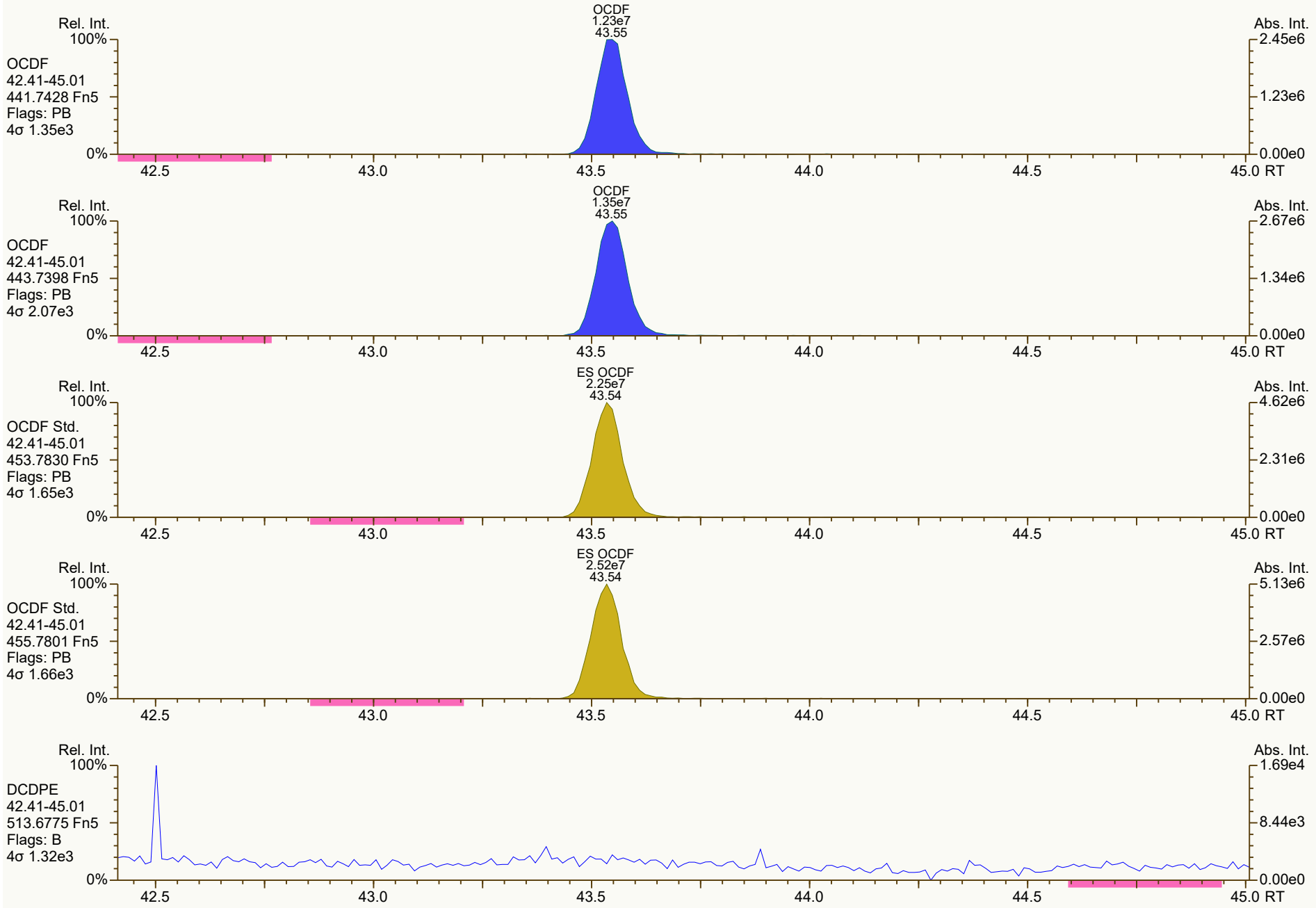

Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PB
4σ 1.14e3
0%
2378F
2.63e6
27.28
Abs. Int.
6.00e5
3.00e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PB
4σ 1.28e3
0%
2378F
3.42e6
27.28
Abs. Int.
7.29e5
3.64e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PB
4σ 3.83e3
0%
AS 1368F
2.68e7
22.25
JS 1234F
2.43e7
25.88
ES 2378F
2.49e7
27.26
Abs. Int.
5.51e6
2.76e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.05e3
0%
AS 1368F
3.34e7
22.25
JS 1234F
3.00e7
25.88
ES 2378F
3.05e7
27.26
Abs. Int.
6.67e6
3.33e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.27e3
0%
Abs. Int.
1.03e4
5.15e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.20e4
5.99e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: B
4σ 1.18e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.31e4
6.56e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.23e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.26e6
1.13e6
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT

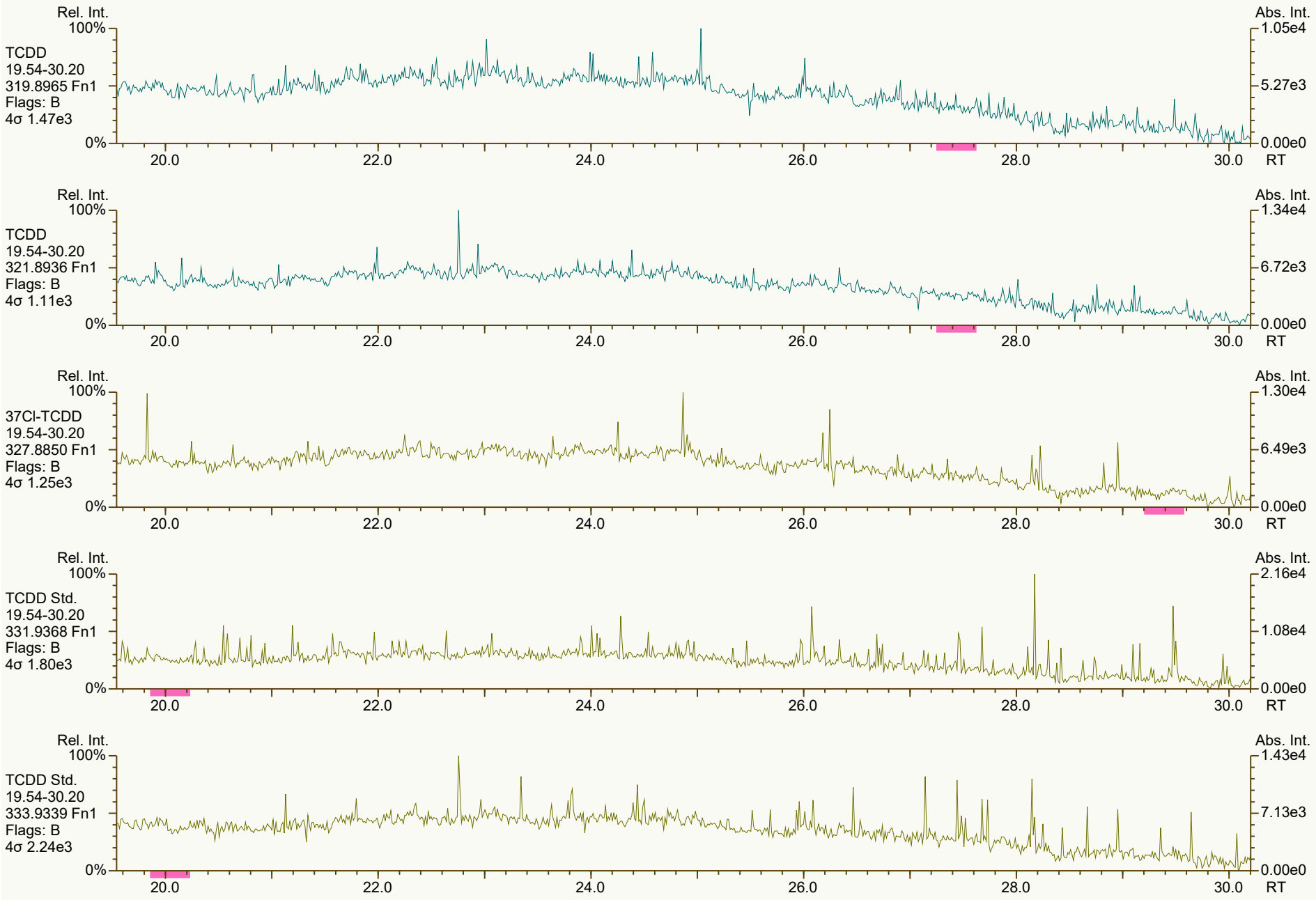

Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: PB
4σ 1.29e3
0%
12378F
1.52e7
32.10
23478F
1.48e7
33.22
Abs. Int.
4.32e6
2.16e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 1.98e3
0%
12378F
9.75e6
32.10
23478F
9.57e6
33.22
Abs. Int.
2.75e6
1.37e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: PB
4σ 1.75e3
0%
CS 12346F
2.92e7
31.55
ES 12378F
3.05e7
32.08
ES 23478F
2.97e7
33.21
Abs. Int.
8.46e6
4.23e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: PB
4σ 2.10e3
0%
CS 12346F
1.83e7
31.55
ES 12378F
1.91e7
32.08
ES 23478F
1.91e7
33.21
Abs. Int.
5.47e6
2.73e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: B
4σ 1.55e3
0%
Abs. Int.
1.38e4
6.88e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: PB
4σ 1.64e3
0%
123478F
1.26e7
36.50
123678F
1.32e7
36.64
234678F
1.26e7
37.32
123789F
1.13e7
38.30
Abs. Int.
3.76e6
1.88e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PB
4σ 1.07e3
0%
123478F
1.02e7
36.50
123678F
1.04e7
36.64
234678F
1.01e7
37.32
123789F
9.14e6
38.30
Abs. Int.
3.03e6
1.52e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: PB
4σ 6.35e3
0%
ES 123678F
1.45e7
36.62
ES 123478F
1.29e7
36.48
CS 123469F
1.34e7
36.93
ES 234678F
1.36e7
37.30
ES 123789F
1.23e7
38.28
Abs. Int.
4.54e6
2.27e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: PB
4σ 9.72e3
0%
ES 123678F
2.76e7
36.62
ES 123478F
2.42e7
36.48
CS 123469F
2.47e7
36.94
ES 234678F
2.52e7
37.30
ES 123789F
2.31e7
38.28
Abs. Int.
8.17e6
4.09e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: B
4σ 1.14e3
0%
Abs. Int.
1.19e4
5.93e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

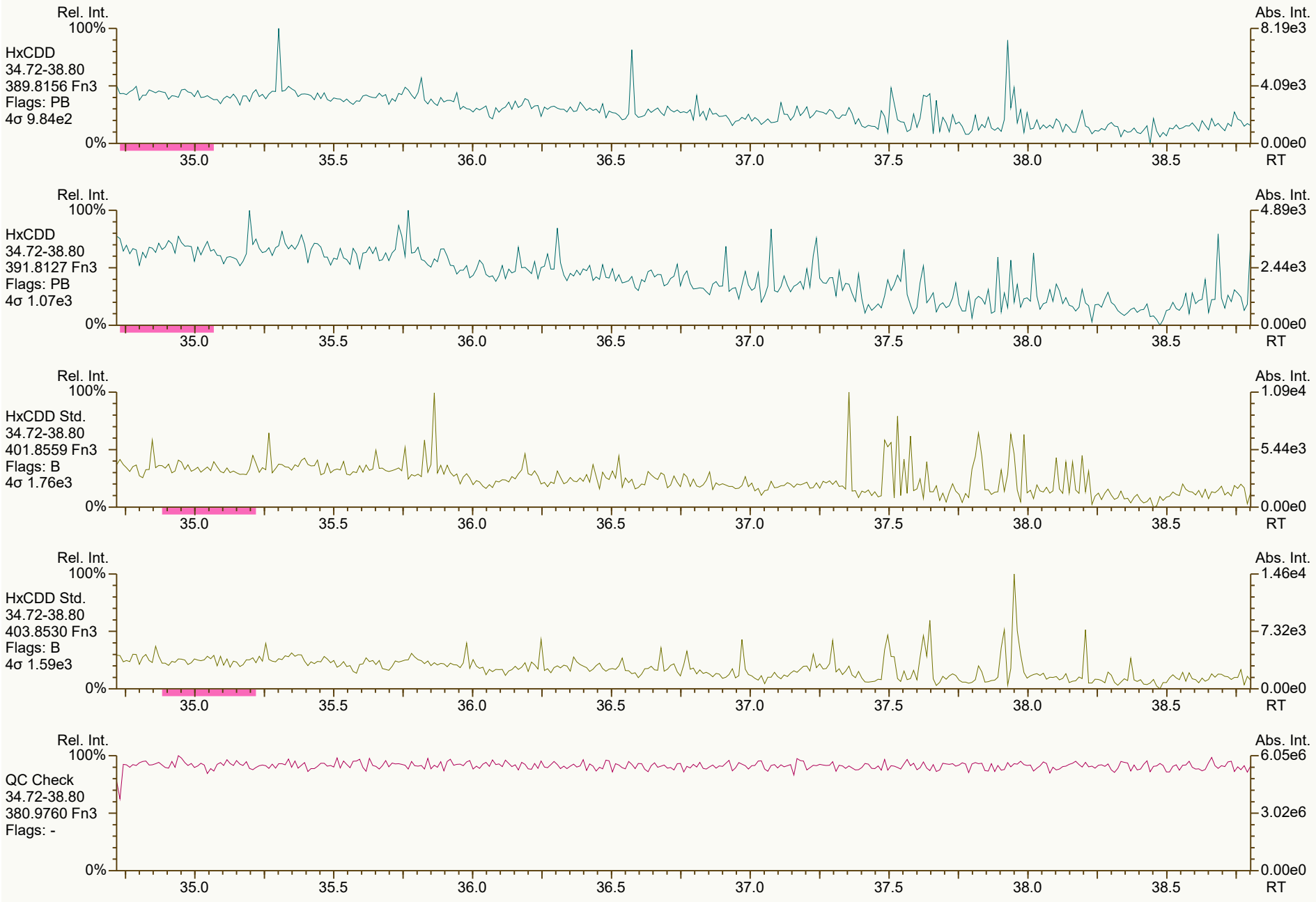

Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: PB
4σ 9.67e2
1234678F
9.97e6
39.73
1234789F
8.54e6
41.13
Abs. Int.
3.31e6
1.66e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: PB
4σ 2.01e3
1234678F
9.94e6
39.73
1234789F
8.23e6
41.13
Abs. Int.
3.33e6
1.66e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: PB
4σ 1.85e3
ES 1234678F
9.39e6
39.72
CS 1234689F
9.11e6
40.13
ES 1234789F
7.83e6
41.12
Abs. Int.
3.17e6
1.59e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: PB
4σ 1.74e3
ES 1234678F
2.07e7
39.72
CS 1234689F
2.04e7
40.13
ES 1234789F
1.78e7
41.12
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: B
4σ 9.88e2
Abs. Int.
1.75e4
8.75e3
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

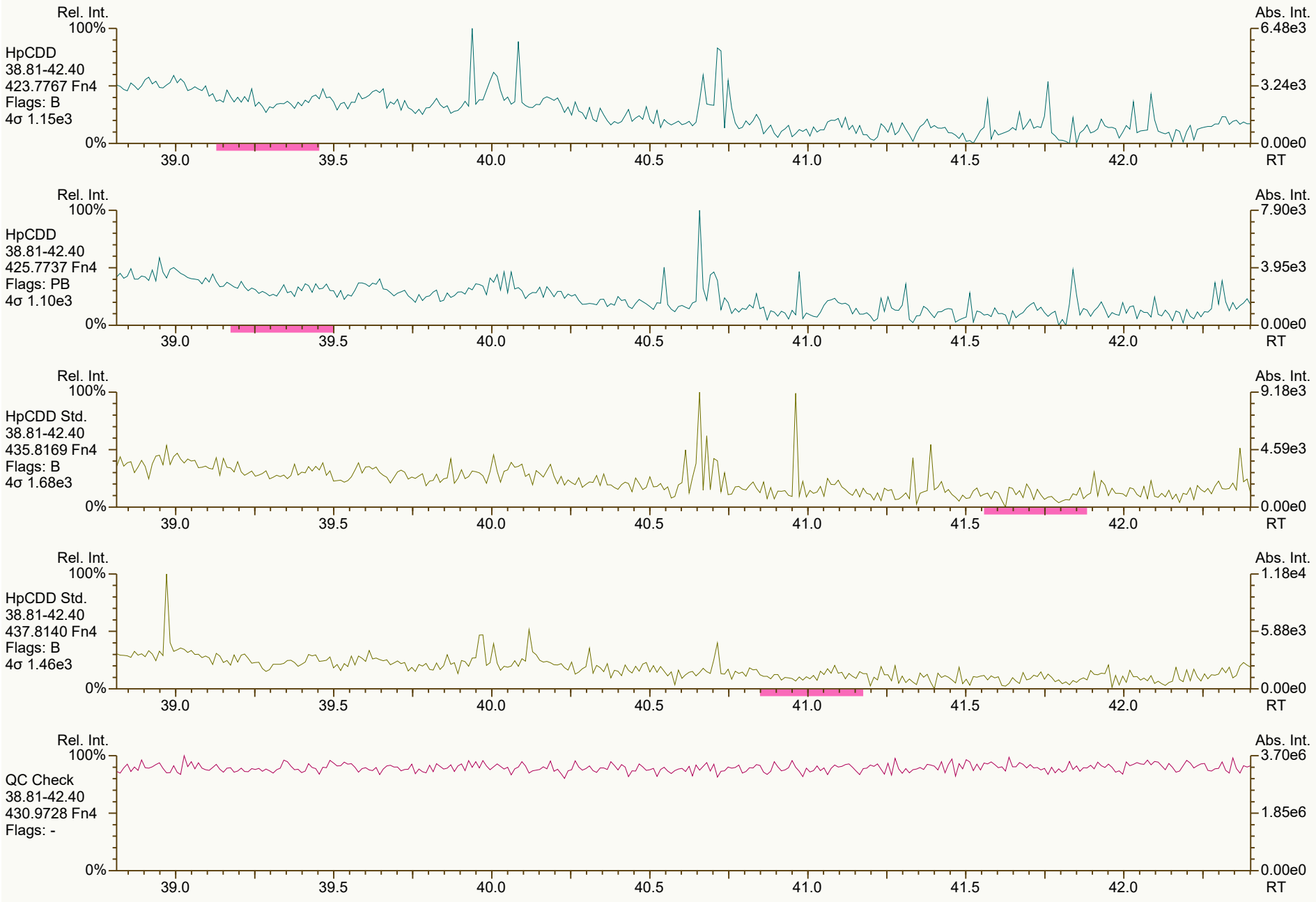

Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.35e3
0%
OCDF
1.23e7
43.55
Abs. Int.
2.45e6
1.23e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 2.07e3
0%
OCDF
1.35e7
43.55
Abs. Int.
2.67e6
1.34e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 1.65e3
0%
ES OCDF
2.25e7
43.54
Abs. Int.
4.62e6
2.31e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 1.66e3
0%
ES OCDF
2.52e7
43.54
Abs. Int.
5.13e6
2.57e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.32e3
0%
Abs. Int.
1.69e4
8.44e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

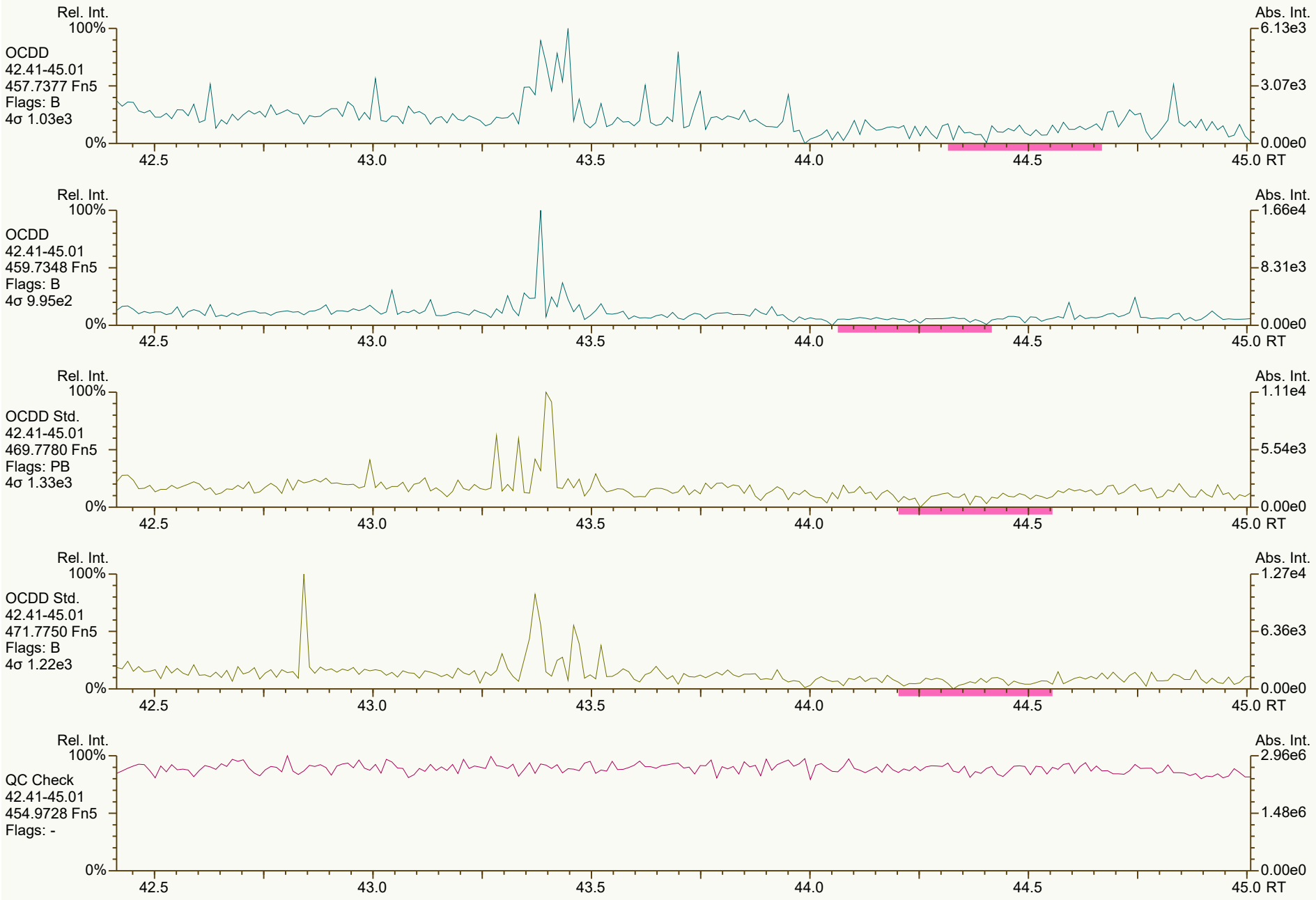

Rel. Int.
100%
0%
Abs. Int.
1.99e6
9.93e5
0.00e0
RT
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
1.72e6
8.61e5
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
6.05e6
3.02e6
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
3.70e6
1.85e6
39.0
39.5
40.0
40.5
41.0
41.5
42.0
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
2.96e6
1.48e6
42.5
43.0
43.5
44.0
44.5
45.0

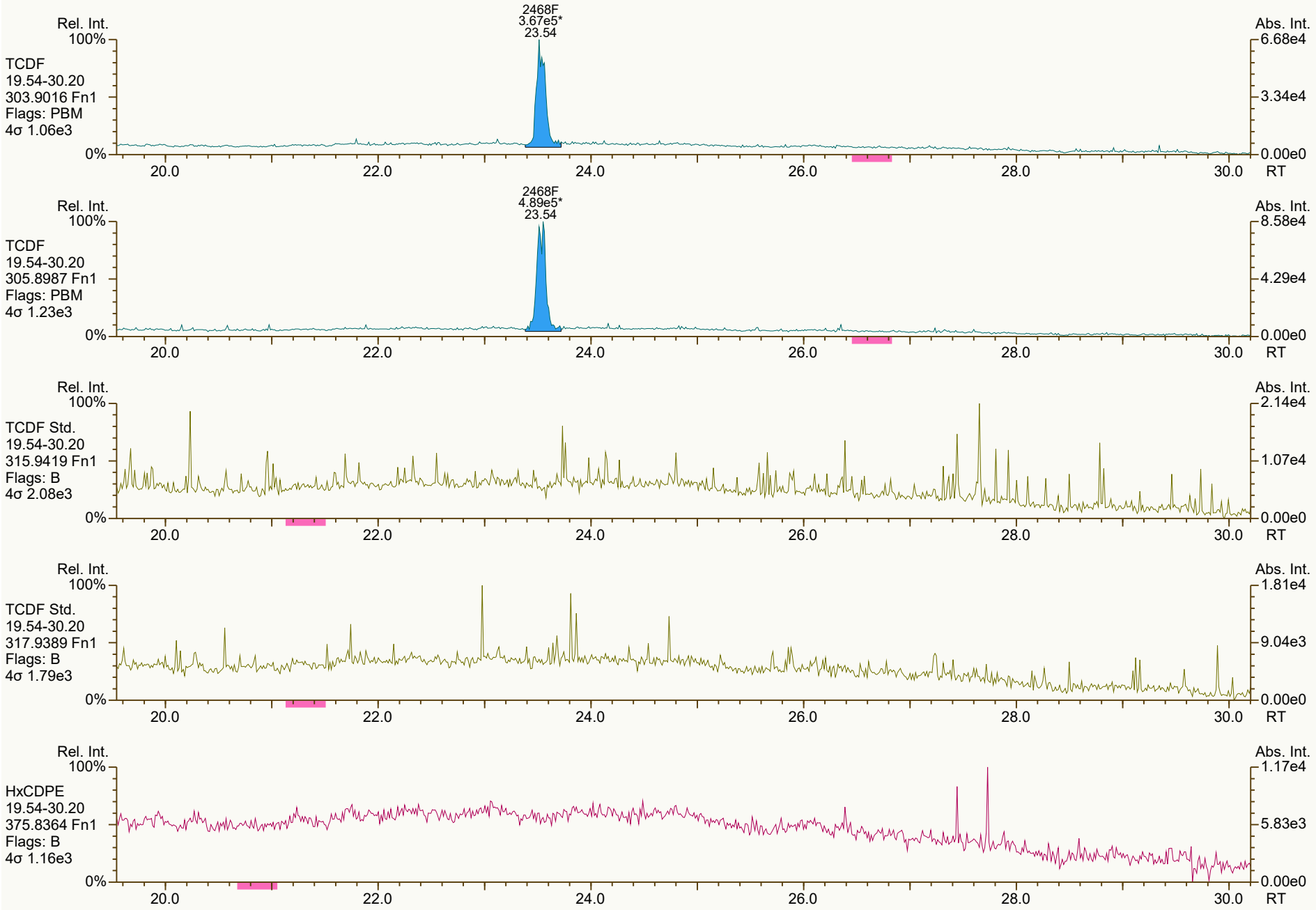

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: B
4σ 1.47e3
0%
Abs. Int.
1.05e4
5.27e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: B
4σ 1.11e3
0%
Abs. Int.
1.34e4
6.72e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: B
4σ 1.25e3
0%
Abs. Int.
1.30e4
6.49e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: B
4σ 1.80e3
0%
Abs. Int.
2.16e4
1.08e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: B
4σ 2.24e3
0%
Abs. Int.
1.43e4
7.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

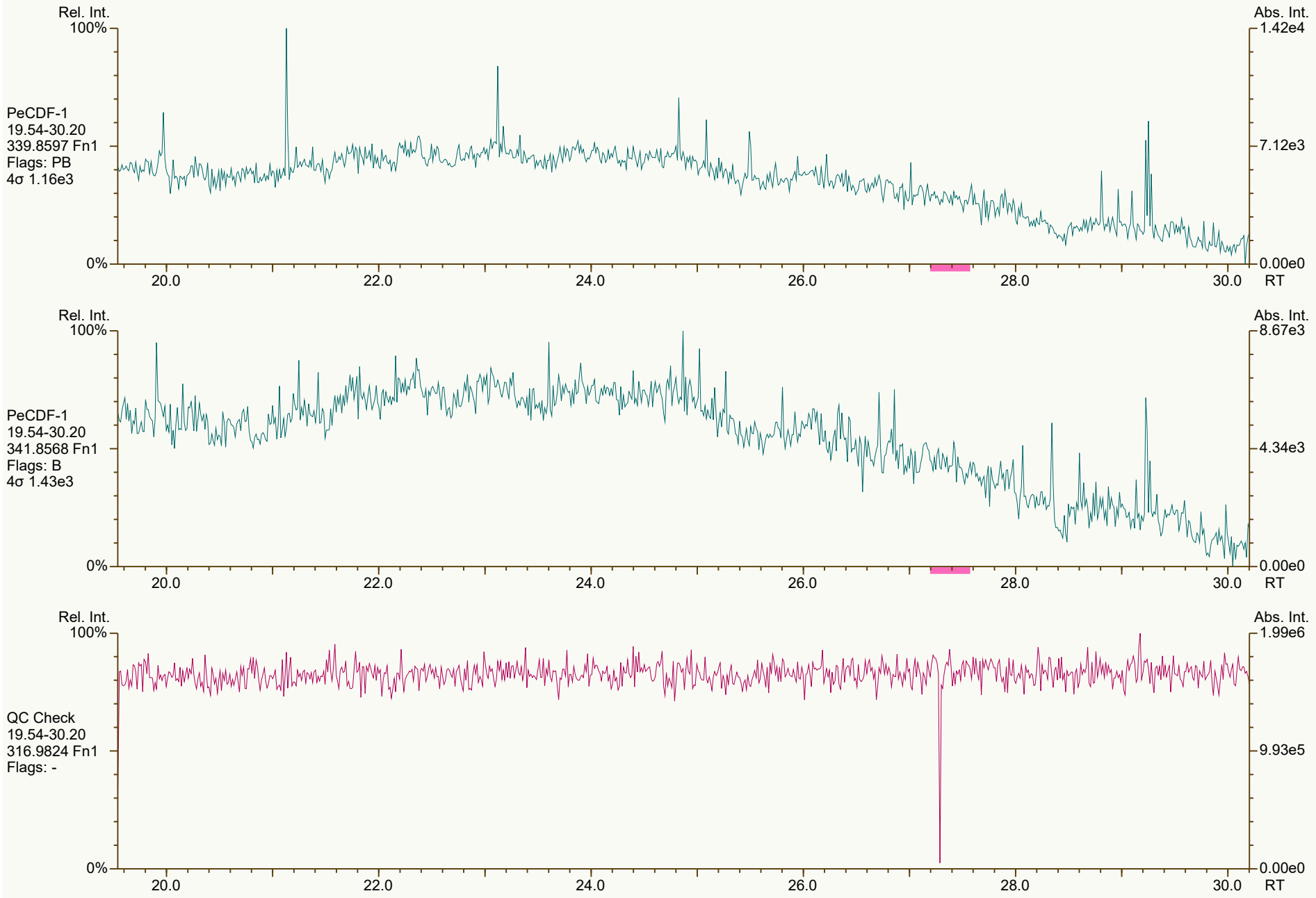

Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 1.10e3
0%
Abs. Int.
6.90e3
3.45e3
0.00e0
RT
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: B
4σ 1.19e3
0%
Abs. Int.
8.47e3
4.24e3
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: B
4σ 1.94e3
0%
Abs. Int.
2.71e4
1.36e4
0.00e0
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: B
4σ 1.20e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.72e6
8.61e5
0.00e0
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PB
4σ 9.84e2
0%
Abs. Int.
8.19e3
4.09e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PB
4σ 1.07e3
0%
Abs. Int.
4.89e3
2.44e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: B
4σ 1.76e3
0%
Abs. Int.
1.09e4
5.44e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: B
4σ 1.59e3
0%
Abs. Int.
1.46e4
7.32e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
6.05e6
3.02e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

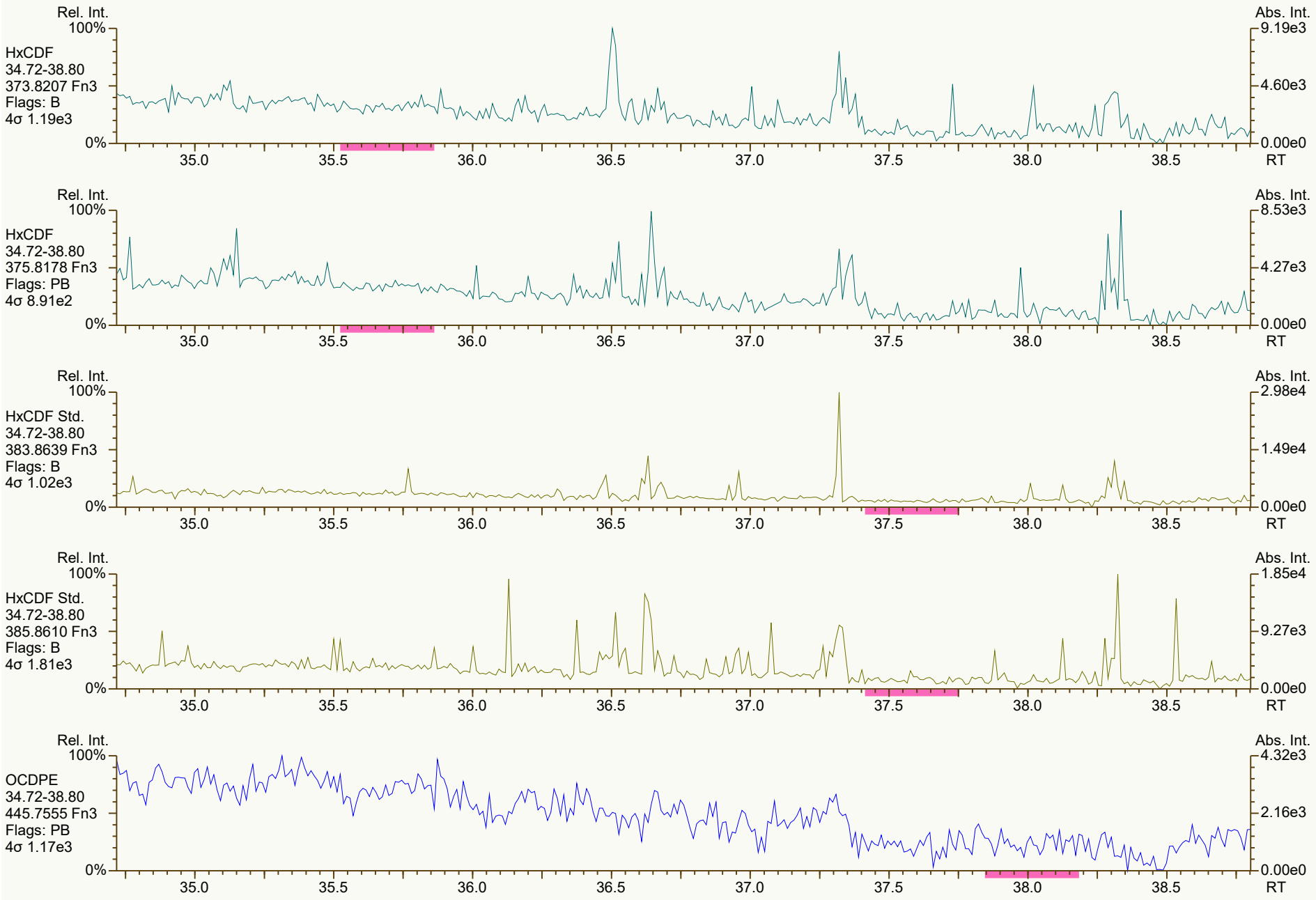

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: B
4σ 1.15e3
0%
Abs. Int.
6.48e3
3.24e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PB
4σ 1.10e3
0%
Abs. Int.
7.90e3
3.95e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: B
4σ 1.68e3
0%
Abs. Int.
9.18e3
4.59e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: B
4σ 1.46e3
0%
Abs. Int.
1.18e4
5.88e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
3.70e6
1.85e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT

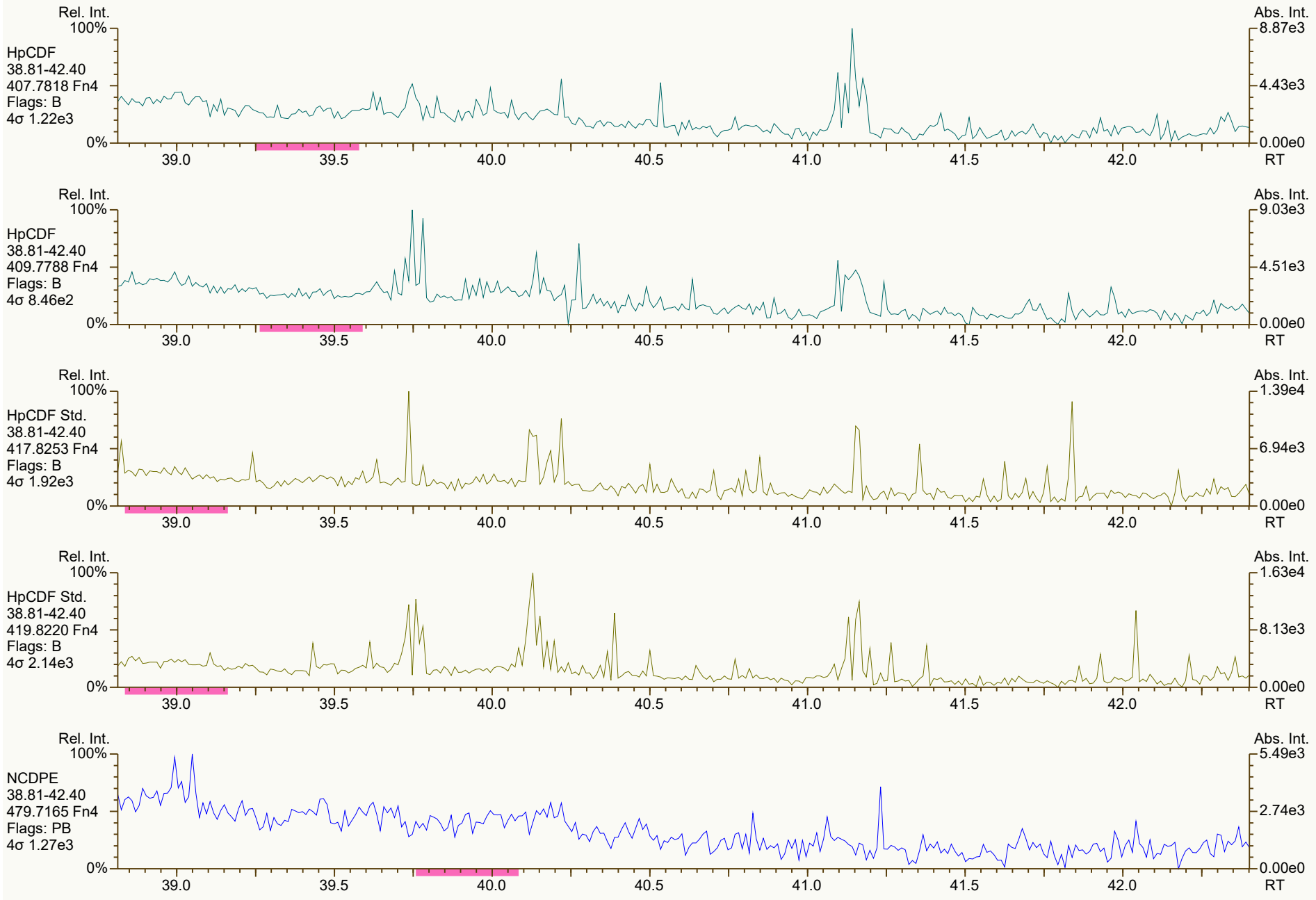

Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: B
4σ 1.03e3
0%
Abs. Int.
6.13e3
3.07e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: B
4σ 9.95e2
0%
Abs. Int.
1.66e4
8.31e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PB
4σ 1.33e3
0%
Abs. Int.
1.11e4
5.54e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: B
4σ 1.22e3
0%
Abs. Int.
1.27e4
6.36e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.96e6
1.48e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


2468F
3.67e5*
23.54
Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.06e3
0%
Abs. Int.
6.68e4
3.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
2468F
4.89e5*
23.54
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.23e3
8.58e4
4.29e4
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: B
4σ 2.08e3
2.14e4
1.07e4
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: B
4σ 1.79e3
1.81e4
9.04e3
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: B
4σ 1.16e3
1.17e4
5.83e3


Rel. Int.
100%
0%
Abs. Int.
1.42e4
7.12e3
0.00e0
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.16e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.67e3
4.34e3
0.00e0
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: B
4σ 1.43e3
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.99e6
9.93e5
0.00e0
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDF-2
30.21-34.71
339.8597 Fn2
Flags: B
4σ 1.29e3
0%
Abs. Int.
8.19e3
4.10e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF-2
30.21-34.71
341.8568 Fn2
Flags: PB
4σ 9.50e2
0%
Abs. Int.
6.85e3
3.43e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
351.9000 Fn2
Flags: B
4σ 1.76e3
0%
Abs. Int.
1.55e4
7.74e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDF Std.
30.21-34.71
353.8970 Fn2
Flags: B
4σ 1.47e3
0%
Abs. Int.
1.30e4
6.50e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
HpCDPE
30.21-34.71
409.7974 Fn2
Flags: PB
4σ 1.16e3
0%
Abs. Int.
7.78e3
3.89e3
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDF
34.72-38.80
373.8207 Fn3
Flags: B
4σ 1.19e3
0%
Abs. Int.
9.19e3
4.60e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF
34.72-38.80
375.8178 Fn3
Flags: PB
4σ 8.91e2
0%
Abs. Int.
8.53e3
4.27e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
383.8639 Fn3
Flags: B
4σ 1.02e3
0%
Abs. Int.
2.98e4
1.49e4
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDF Std.
34.72-38.80
385.8610 Fn3
Flags: B
4σ 1.81e3
0%
Abs. Int.
1.85e4
9.27e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
OCDPE
34.72-38.80
445.7555 Fn3
Flags: PB
4σ 1.17e3
0%
Abs. Int.
4.32e3
2.16e3
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

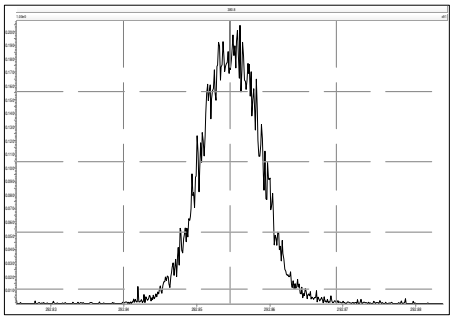

Rel. Int.
100%
HpCDF
38.81-42.40
407.7818 Fn4
Flags: B
4σ 1.22e3
0%
Abs. Int.
8.87e3
4.43e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF
38.81-42.40
409.7788 Fn4
Flags: B
4σ 8.46e2
0%
Abs. Int.
9.03e3
4.51e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
417.8253 Fn4
Flags: B
4σ 1.92e3
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDF Std.
38.81-42.40
419.8220 Fn4
Flags: B
4σ 2.14e3
0%
Abs. Int.
1.63e4
8.13e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
NCDPE
38.81-42.40
479.7165 Fn4
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.49e3
2.74e3
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: B
4σ 1.50e3
0%
Abs. Int.
1.20e4
5.98e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.20e3
0%
Abs. Int.
5.77e3
2.89e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: B
4σ 1.42e3
0%
Abs. Int.
1.09e4
5.44e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: B
4σ 1.50e3
0%
Abs. Int.
1.43e4
7.13e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.04e3
0%
Abs. Int.
5.46e3
2.73e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT

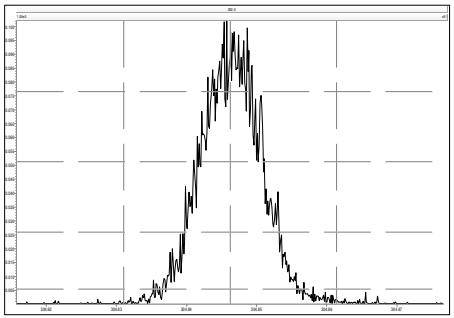
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, March 08, 2022 12:03:14 Eastern Standard Time

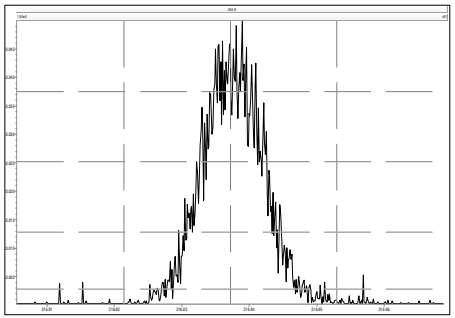
M 292.9824 R 15529



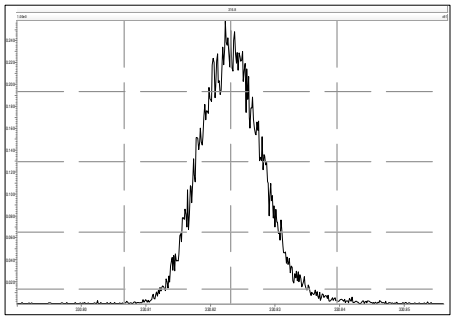
M 304.9824 R 16338



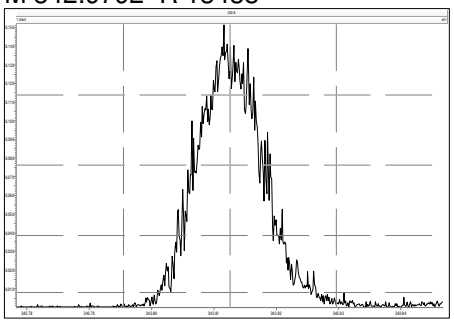
M 316.9824 R 16781



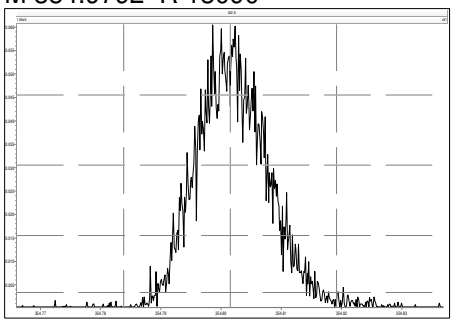
M 330.9792 R 14205



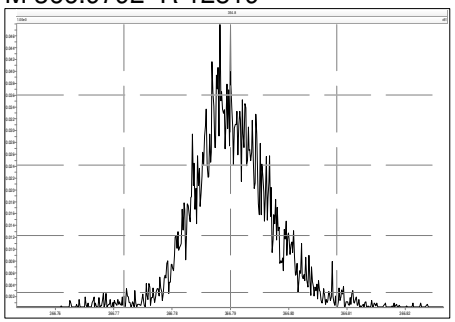
M 342.9792 R 13438



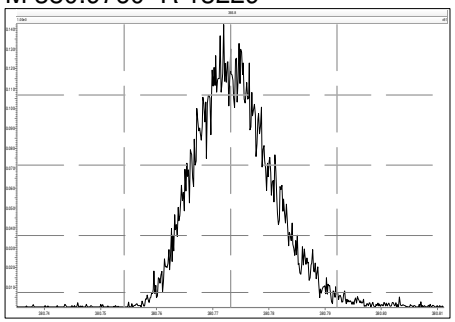
M 354.9792 R 13090



M 366.9792 R 12819



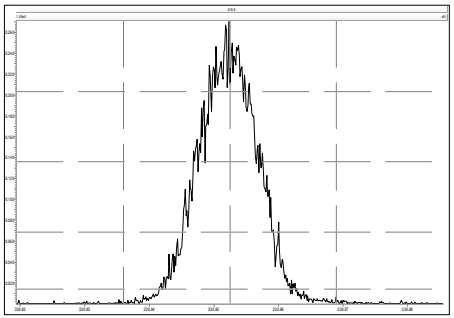
M 380.9760 R 13229



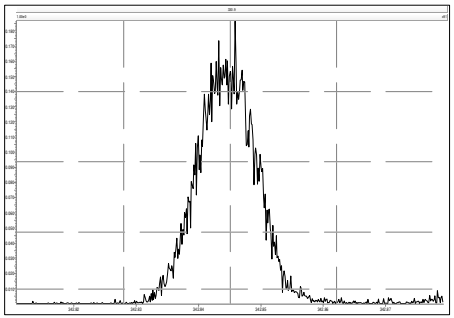
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Tuesday, March 08, 2022 12:03:31 Eastern Standard Time

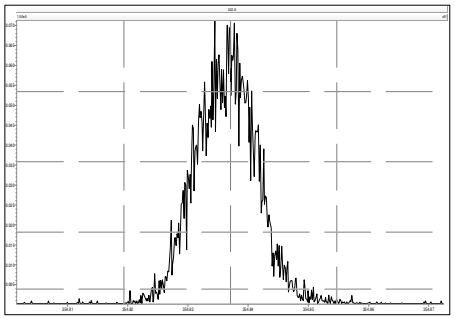
M 330.9792 R 16123



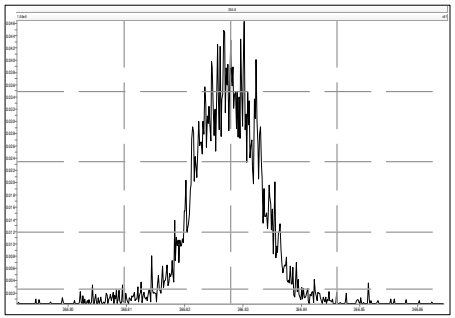
M 342.9792 R 15722



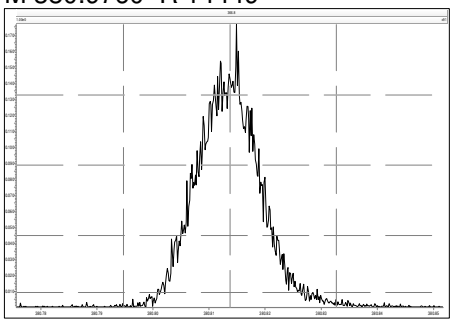
M 354.9792 R 15428



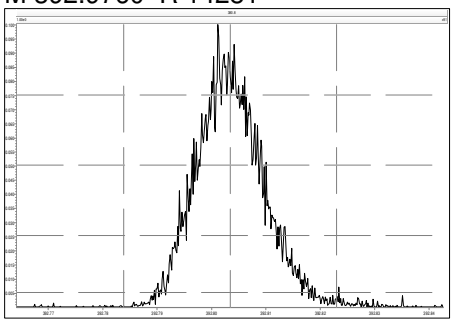
M 366.9792 R 15625



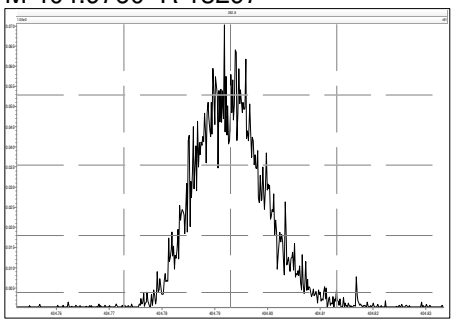
M 380.9760 R 14449



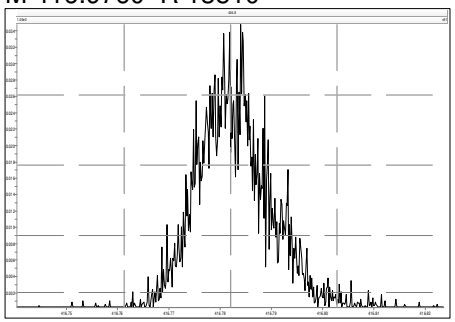
M 392.9760 R 14281



M 404.9760 R 13297



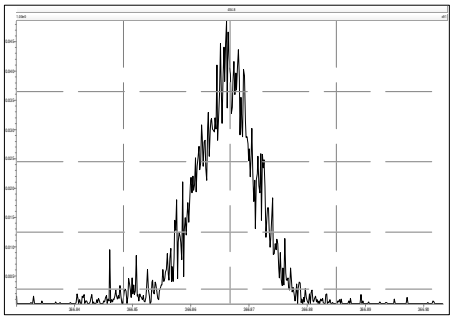
M 416.9760 R 13510



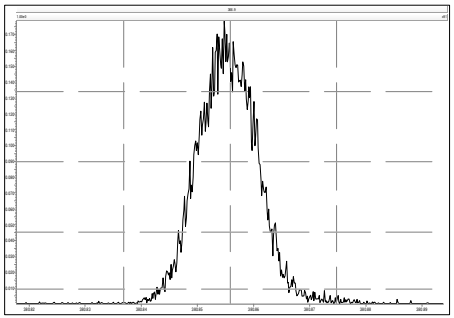
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Tuesday, March 08, 2022 12:03:48 Eastern Standard Time

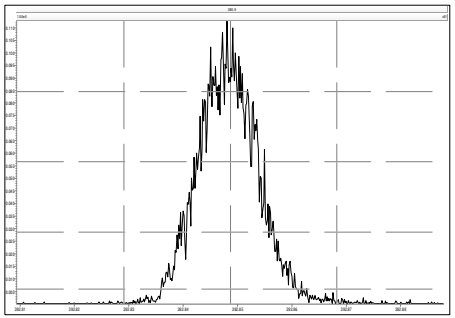
M 366.9792 R 16020



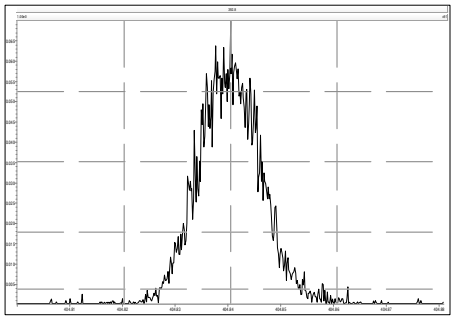
M 380.9760 R 17241



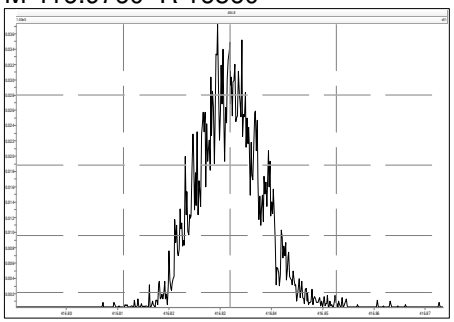
M 392.9760 R 15525



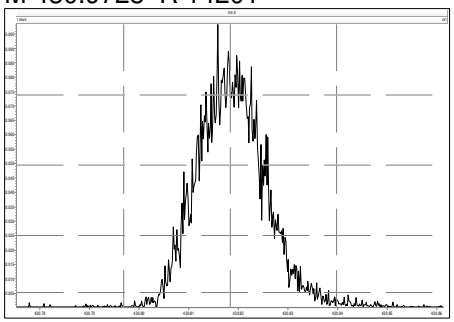
M 404.9760 R 15061



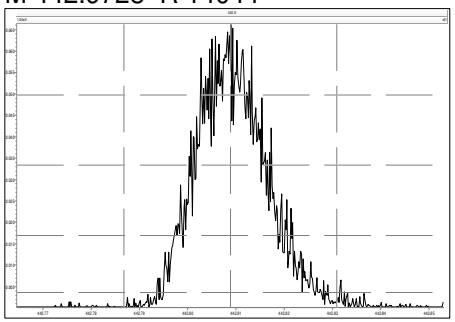
M 416.9760 R 16560



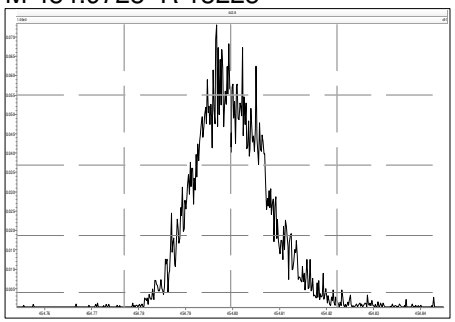
M 430.9728 R 14201



M 442.9728 R 14044



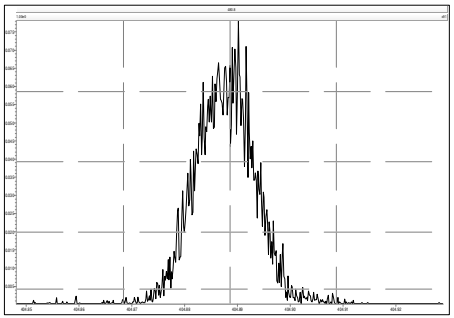
M 454.9728 R 13225



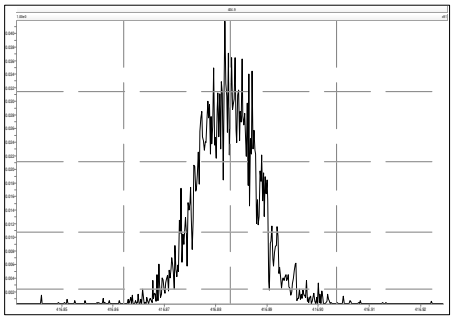
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Tuesday, March 08, 2022 12:04:03 Eastern Standard Time

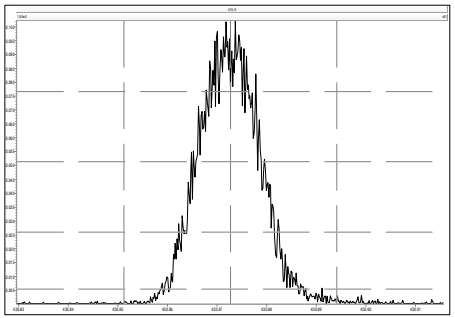
M 404.9760 R 17608



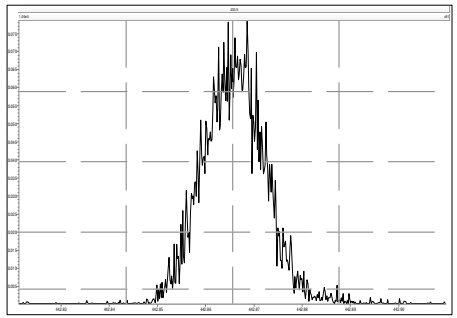
M 416.9760 R 15723



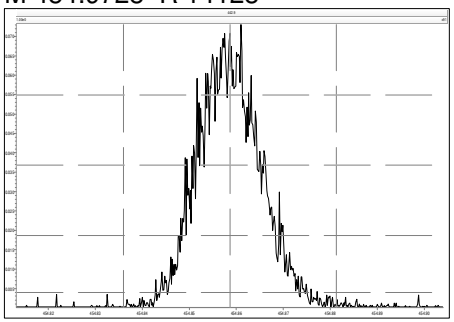
M 430.9728 R 15821



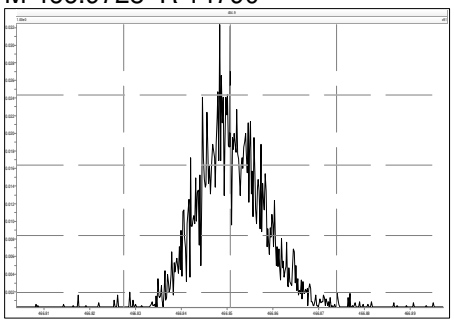
M 442.9728 R 15056



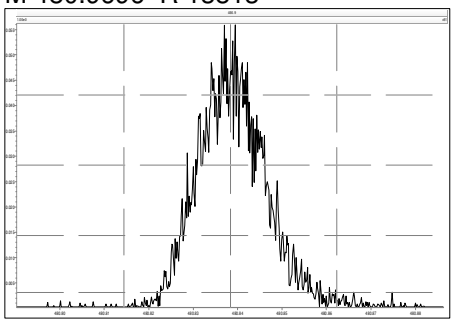
M 454.9728 R 14128



M 466.9728 R 14790



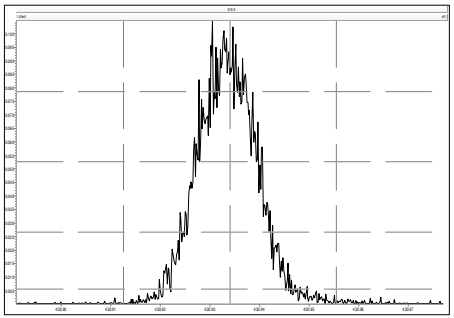
M 480.9696 R 13813



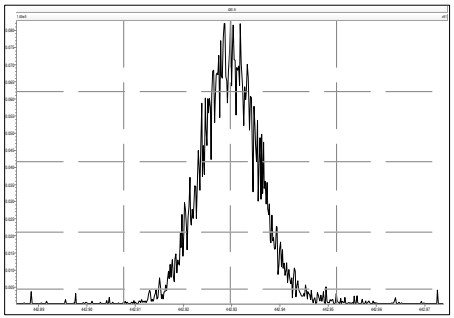
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Tuesday, March 08, 2022 12:04:19 Eastern Standard Time

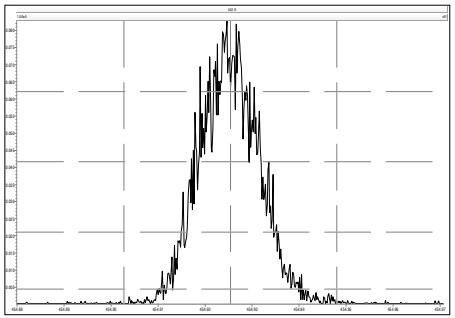
M 430.9728 R 17858



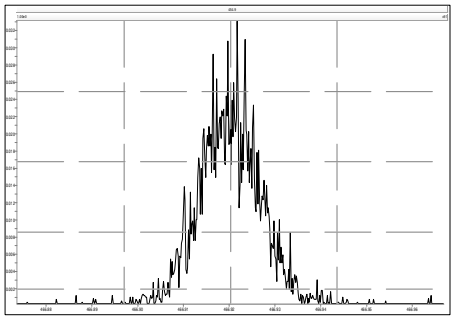
M 442.9728 R 16555



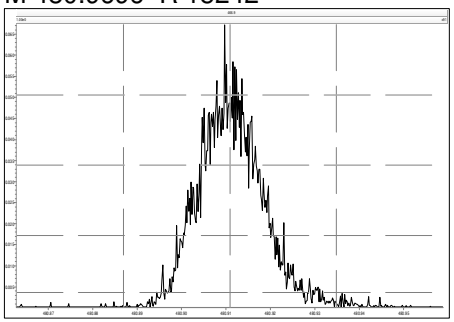
M 454.9728 R 15925



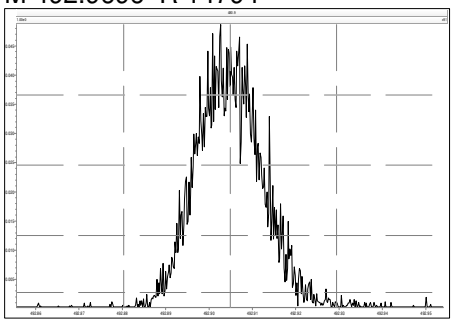
M 466.9728 R 15625



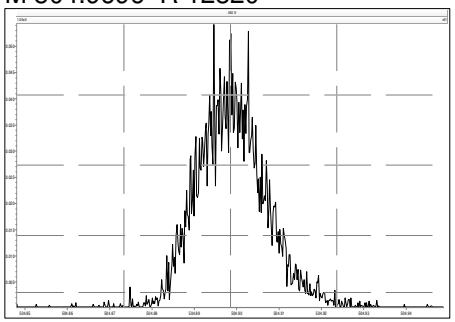
M 480.9696 R 15242



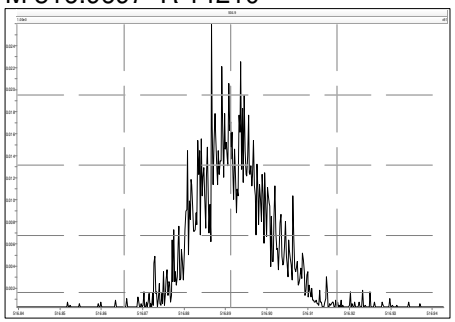
M 492.9696 R 14794



M 504.9696 R 12820



M 516.9697 R 14210



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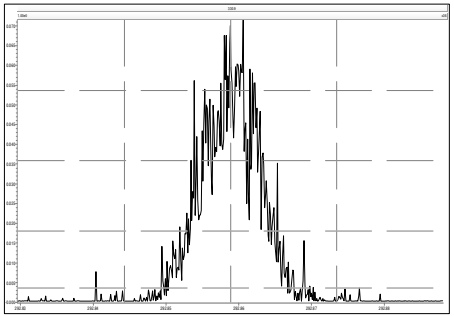
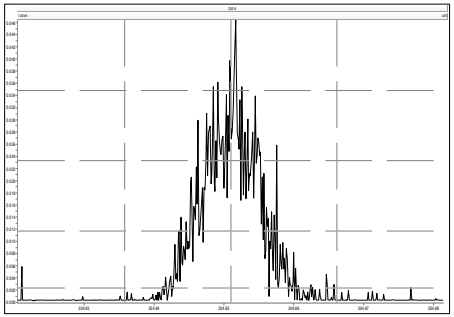
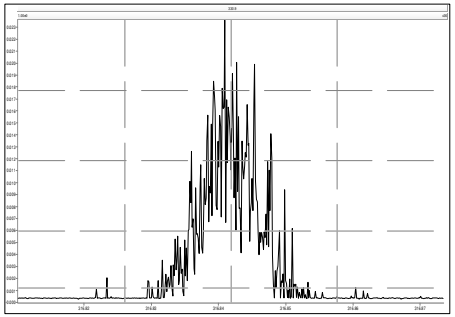
M 292.9824 R 17609



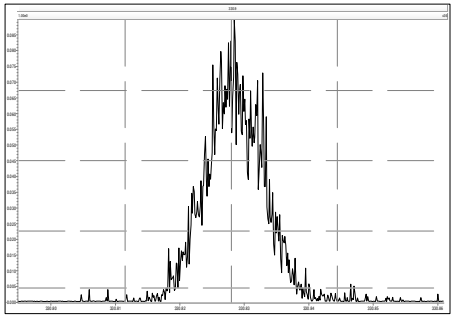
M 304.9824 R 19767



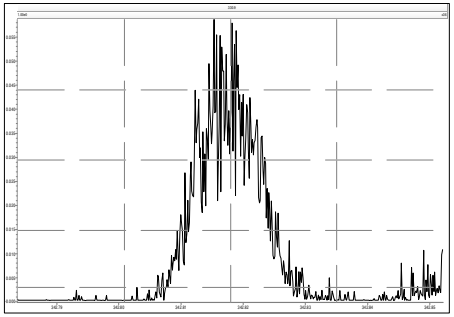
M 316.9824 R 28239



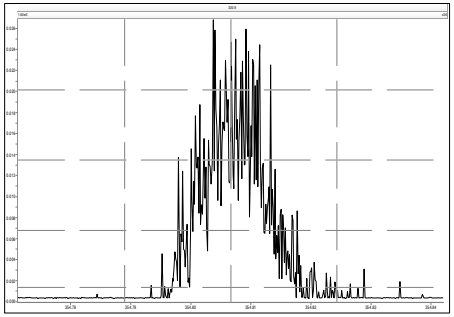
M 330.9792 R 16850



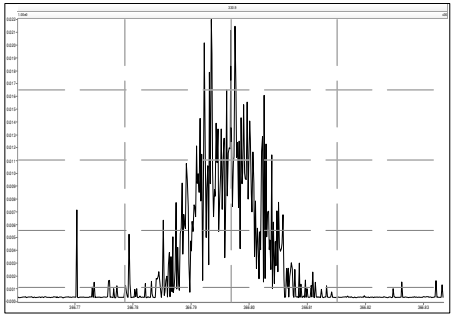
M 342.9792 R 16556



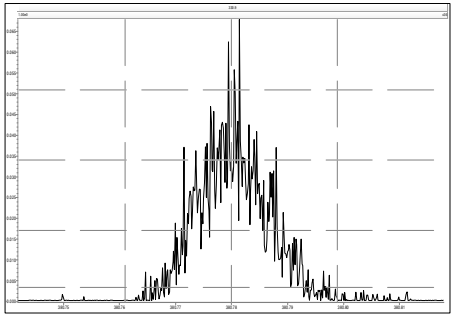
M 354.9792 R 18389



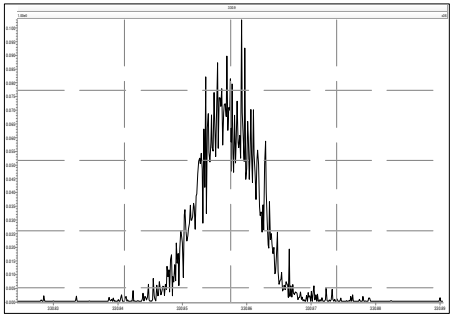
M 366.9792 R 18666



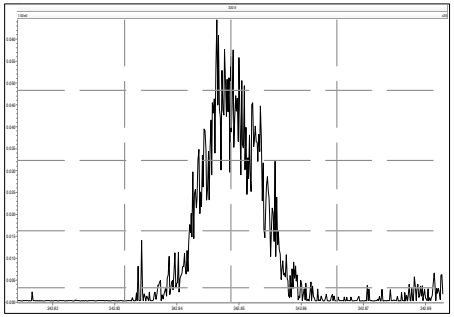
M 380.9760 R 15384



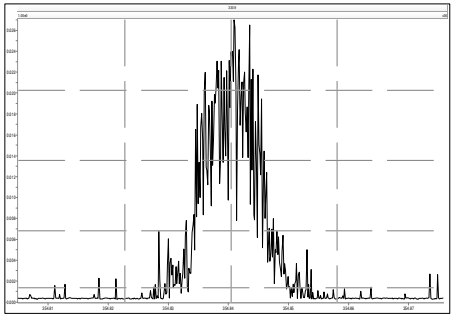
M 330.9792 R 17932



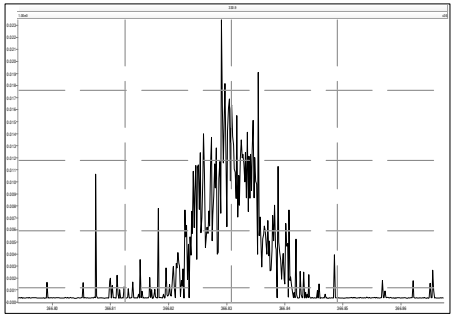
M 342.9792 R 17673



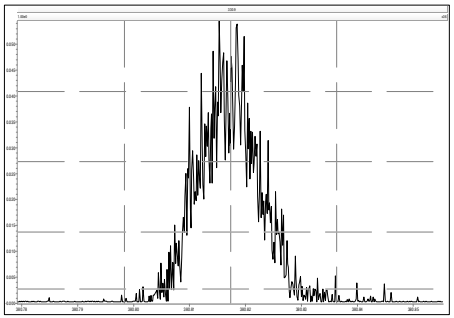
M 354.9792 R 19765



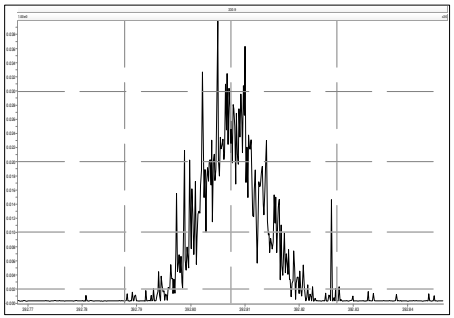
M 366.9792 R 24511



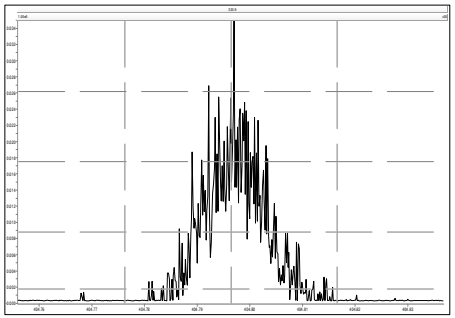
M 380.9760 R 17361



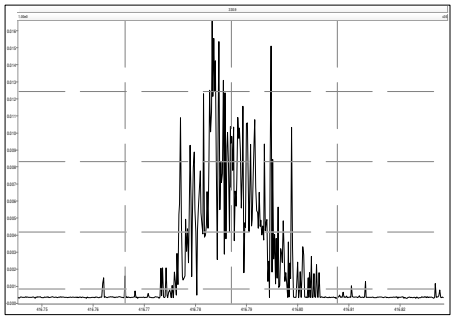
M 392.9760 R 16737



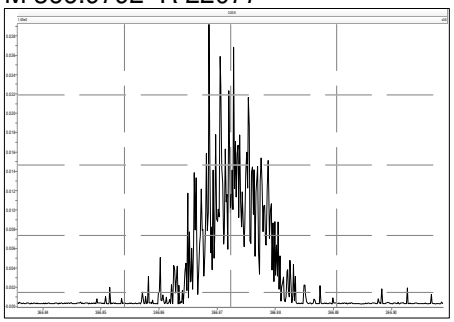
M 404.9760 R 19469



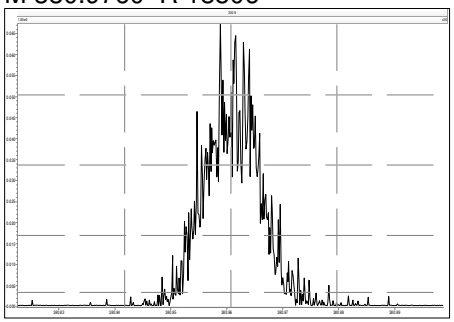
M 416.9760 R 23179



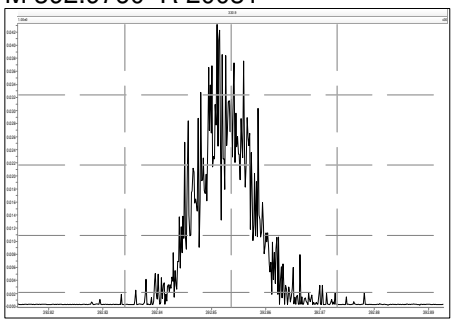
M 366.9792 R 22077



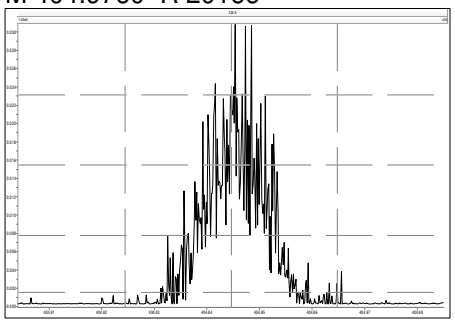
M 380.9760 R 18506



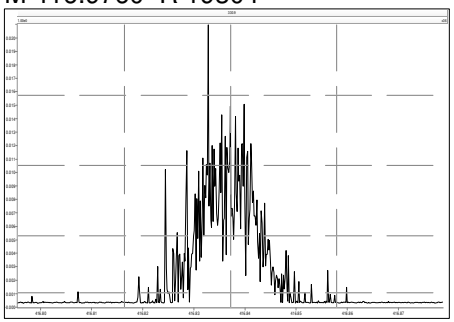
M 392.9760 R 20031



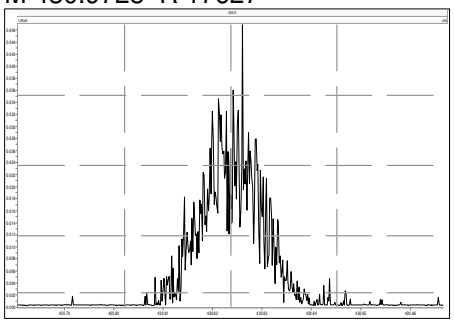
M 404.9760 R 20166



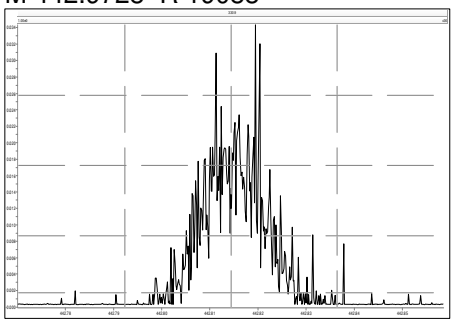
M 416.9760 R 19304



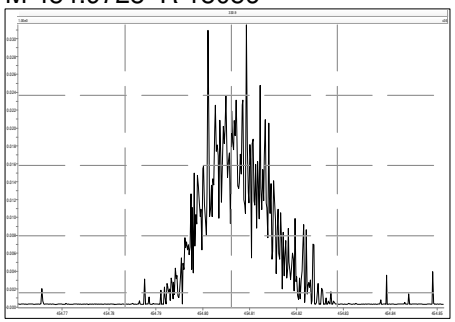
M 430.9728 R 17627



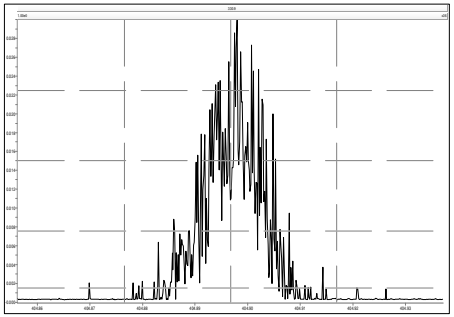
M 442.9728 R 19088



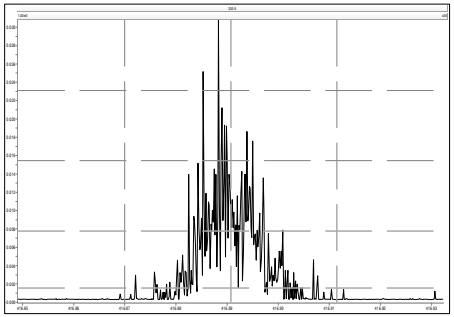
M 454.9728 R 18056



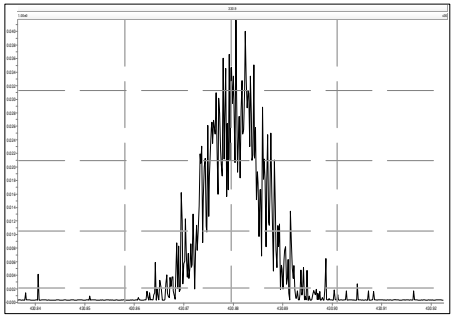
M 404.9760 R 21791



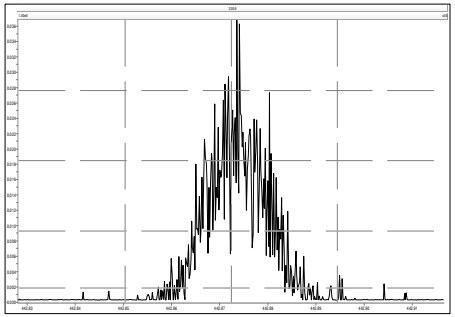
M 416.9760 R 23197



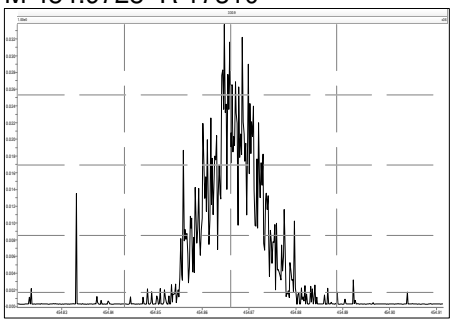
M 430.9728 R 18256



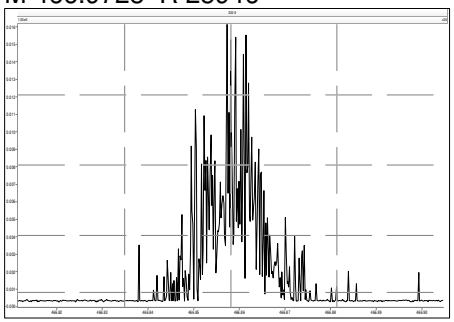
M 442.9728 R 20683



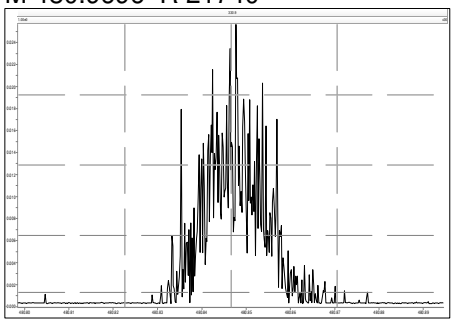
M 454.9728 R 17310



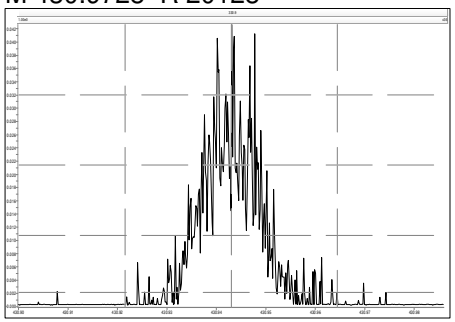
M 466.9728 R 25946



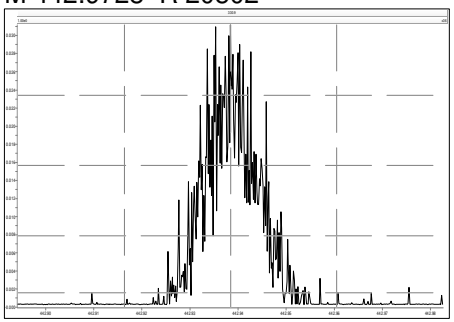
M 480.9696 R 21740



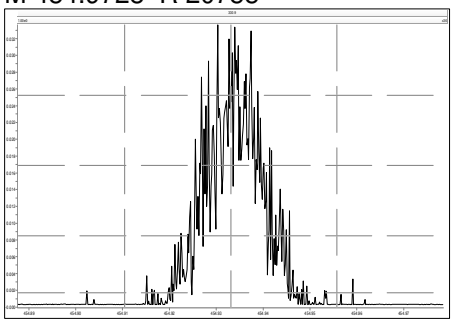
M 430.9728 R 20128



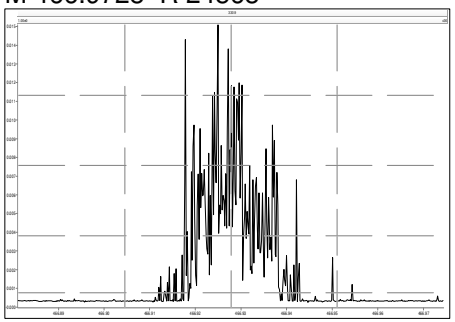
M 442.9728 R 20502



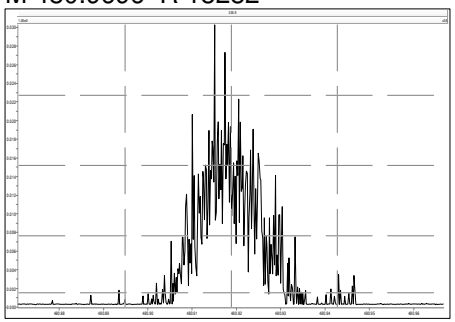
M 454.9728 R 20755



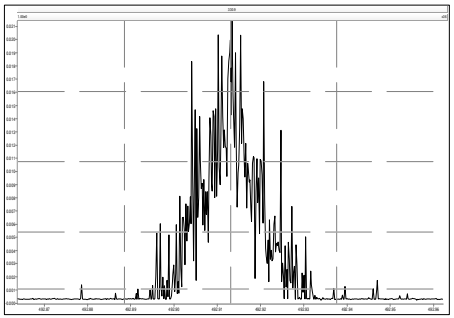
M 466.9728 R 24568



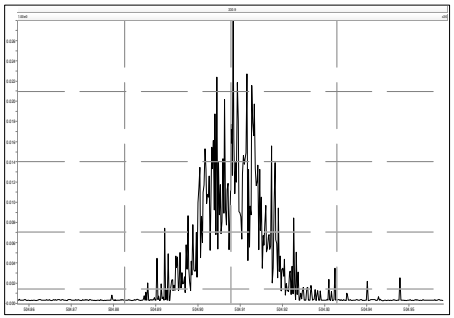
M 480.9696 R 18282



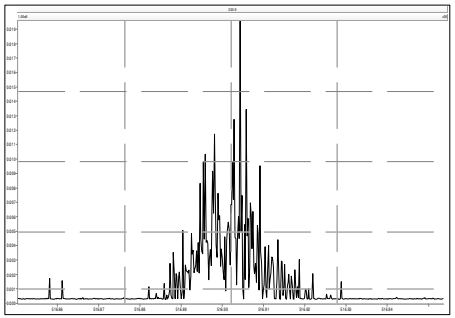
M 492.9696 R 20408



M 504.9696 R 18192



M 516.9697 R 13586



Dioxin/Furan ICAL Summary — SGS North America — Processed: 11 Nov 2021 16:24

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 0.25 pg/uL CS0	211110C05 0.5 pg/uL CS1	211110C06 2 pg/uL CS2	211110C07 10 pg/uL CS3	211110C08 40 pg/uL CS4	211110C09 200 pg/uL CS5	211110C10 500 pg/uL CS6
2378-TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
12378-PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
123478-HxCDD	1.09	7.8%	1.27	1.13	1.04	1.05	1.05	1.03	1.05
123678-HxCDD	1.15	7.9%	1.32	1.22	1.12	1.12	1.07	1.10	1.08
123789-HxCDD	1.05	7.7%	1.18	1.14	1.01	1.03	0.98	0.99	1.01
1234678-HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
OCDD	1.13	6.1%	1.24	1.20	1.12	1.09	1.06	1.09	1.08
2378-TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
12378-PeCDF	1.02	9.4%	1.22	1.08	1.00	0.98	0.96	0.96	0.97
23478-PeCDF	1.02	7.3%	1.15	1.10	0.99	1.00	0.96	0.96	0.97
123478-HxCDF	1.27	6.9%	1.35	1.43	1.24	1.25	1.19	1.21	1.22
123678-HxCDF	1.15	7.8%	1.34	1.17	1.15	1.13	1.09	1.09	1.09
234678-HxCDF	1.19	7.8%	1.37	1.27	1.14	1.16	1.12	1.12	1.14
123789-HxCDF	1.16	6.3%	1.22	1.30	1.14	1.15	1.10	1.11	1.12
1234678-HpCDF	1.37	7.5%	1.49	1.54	1.36	1.33	1.28	1.29	1.29
1234789-HpCDF	1.31	3.4%	1.38	1.34	1.31	1.32	1.25	1.28	1.27
OCDF	1.07	7.0%	1.20	1.15	1.02	1.06	1.02	1.03	1.02
ES 2378-TCDD	1.05	1.9%	1.03	1.03	1.03	1.05	1.05	1.08	1.05
ES 12378-PeCDD	0.88	4.6%	0.85	0.84	0.84	0.89	0.88	0.90	0.96
ES 123478-HxCDD	0.97	4.6%	0.92	0.93	0.99	0.96	0.96	1.02	1.04
ES 123678-HxCDD	0.94	3.8%	0.93	0.90	0.92	0.93	0.94	0.97	1.01
ES 123789-HxCDD	1.09	4.3%	1.05	1.02	1.10	1.07	1.11	1.15	1.15
ES 1234678-HpCDD	0.91	4.6%	0.86	0.87	0.90	0.92	0.91	0.95	0.98
ES OCDD	0.62	7.0%	0.58	0.58	0.61	0.61	0.62	0.66	0.70
ES 2378-TCDF	1.06	1.9%	1.03	1.05	1.07	1.08	1.04	1.07	1.07
ES 12378-PeCDF	0.91	4.6%	0.85	0.89	0.89	0.92	0.89	0.94	0.98
ES 23478-PeCDF	0.88	4.5%	0.85	0.85	0.87	0.89	0.86	0.91	0.95
ES 123478-HxCDF	1.20	4.0%	1.17	1.13	1.21	1.17	1.21	1.24	1.27
ES 123678-HxCDF	1.35	4.0%	1.32	1.30	1.31	1.33	1.35	1.41	1.44
ES 234678-HxCDF	1.24	3.7%	1.19	1.20	1.24	1.23	1.23	1.29	1.31
ES 123789-HxCDF	1.16	4.8%	1.09	1.10	1.14	1.15	1.15	1.22	1.24
ES 1234678-HpCDF	0.97	4.9%	0.94	0.90	0.95	0.96	0.97	1.01	1.04
ES 1234789-HpCDF	0.85	4.7%	0.80	0.82	0.83	0.85	0.86	0.88	0.92
ES OCDF	0.81	8.4%	0.74	0.74	0.79	0.79	0.79	0.87	0.93

ICAL: HRMS3_DF_10272021 10NOV2021
Data Acquired: 10-Nov-2021

Name	Mean	% RSD	211110C04 **0.25 pg/uL CS0**	211110C05 **0.5 pg/uL CS1**	211110C06 **2 pg/uL CS2**	211110C07 **10 pg/uL CS3**	211110C08 **40 pg/uL CS4**	211110C09 **200 pg/uL CS5**	211110C10 **500 pg/uL CS6**
CS 37Cl-2378-TCDD	1.20	6.3%	-	1.09	1.31	1.21	1.20	1.21	-
CS 12347-PeCDD	0.75	1.1%	0.75	0.75	0.74	0.77	0.76	0.74	0.75
CS 12346-PeCDF	0.85	1.5%	0.85	0.85	0.86 ✓	0.87	0.84	0.83	0.85
CS 123469-HxCDF	1.12	1.8%	1.11	1.11	1.15	1.12	1.13	1.08	1.11
CS 1234689-HpCDF	0.89	2.5%	0.86	0.88	0.93	0.90	0.90	0.88	0.87
SS 37Cl-2378-TCDD	1.15	6.5%	-	1.07	1.27	1.15	1.14	1.11	-
SS 12347-PeCDD	0.86	4.3%	0.89	0.89	0.88	0.86	0.86	0.83	0.79
SS 12346-PeCDF	0.94	4.9%	1.00	0.95	0.97	0.95	0.94	0.88	0.87
SS 123469-HxCDF	0.83	5.1%	0.85	0.85	0.88	0.84	0.84	0.77	0.77
SS 1234689-HpCDF	0.92	5.6%	0.91	0.98	0.98	0.93	0.93	0.87	0.84
AS 1368-TCDD	1.06	1.9%	1.06	1.05	1.01	1.07 ✓	1.06	1.07	1.07
AS 1368-TCDF	1.13	1.7%	1.13	1.12	1.13	1.16	1.10	1.11	1.13
OCDD-a	0.07	6.4%	-	-	0.07	0.08	0.07	0.07	0.07
OCDF-a	0.07	4.9%	0.07	-	0.07	0.07	0.07	0.06	0.06
Totals									
Total TCDD	1.18	7.4%	1.34	1.23	1.21	1.18	1.14	1.08	1.11
Total PeCDD	1.04	8.2%	1.21	1.09	1.02	1.00	0.98	0.98	0.98
Total HxCDD	1.10	7.6%	1.26	1.16	1.06	1.07	1.03	1.04	1.04
Total HpCDD	1.06	8.0%	1.20	1.16	1.04	1.03	1.00	0.99	1.00
Total TCDF	1.08	6.9%	1.21	1.11	1.12	1.09	1.03	1.00	1.00
Total PeCDF	1.02	8.3%	1.18	1.09	1.00	0.99	0.96	0.96	0.97
Total HxCDF	1.19	6.6%	1.32	1.29	1.17	1.17	1.12	1.13	1.14
Total HpCDF	1.34	5.4%	1.44	1.44	1.33	1.32	1.27	1.29	1.28
FS 1278-TCDD	1.07	2.3%	1.10	1.08	1.07	1.08	1.08	1.03	1.05
FS 12478-PeCDD	1.09	5.0%	1.14	1.12	1.14	1.10	1.10 ✓	1.06	0.98
FS 123468-HxCDD	1.26	4.6%	1.31	1.28	1.28	1.29	1.27	1.20	1.16
FS 1234679-HpCDD	1.36	4.1%	1.41	1.39	1.40	1.36	1.40	1.31	1.26
TS 1378-TCDD	1.34	2.5%	1.38	1.37	1.34	1.34	1.33	1.28 ✓	1.33

Instrument: HRMS3 (AutoSpec-Ultima) MS Experiment: df_cl4-8_db5MS GC Program: df_db5MS

#	Datafile	Vial#	Lab ID	Wt/Vol	Client/Sample ID	Analyst(s)	Checkcode	Acq Date	Acq Time
3	211110C03	2	SBS_211110_DF_CA	1.00	20-61-1	DTF	876-647	10-Nov-2021	10:15:54
4	211110C04	65	CS0_211110_DF_CA	1.00	25-6-3	DTF	245-007	10-Nov-2021	11:02:13
5	211110C05	66	CS1_211110_DF_CA	1.00	25-6-2	DTF	419-111	10-Nov-2021	11:48:34
6	211110C06	67	CS2_211110_DF_CA	1.00	25-6-1	DTF	385-758	10-Nov-2021	12:34:54
7	211110C07	3	CS3_211110_DF_CB	1.00	23-672-1	DTF	507-474	10-Nov-2021	13:21:13
8	211110C08	69	CS4_211110_DF_CA	1.00	25-5-4	DTF	855-576	10-Nov-2021	14:07:32
9	211110C09	70	CS5_211110_DF_CA	1.00	25-5-3	DTF	573-489	10-Nov-2021	14:53:51
10	211110C10	71	CS6_211110_DF_CA	1.00	25-5-2	DTF	172-736	10-Nov-2021	15:40:10

REVIEWED
Tyler_Fritz , 11/11/2021, 4:44:03 PM

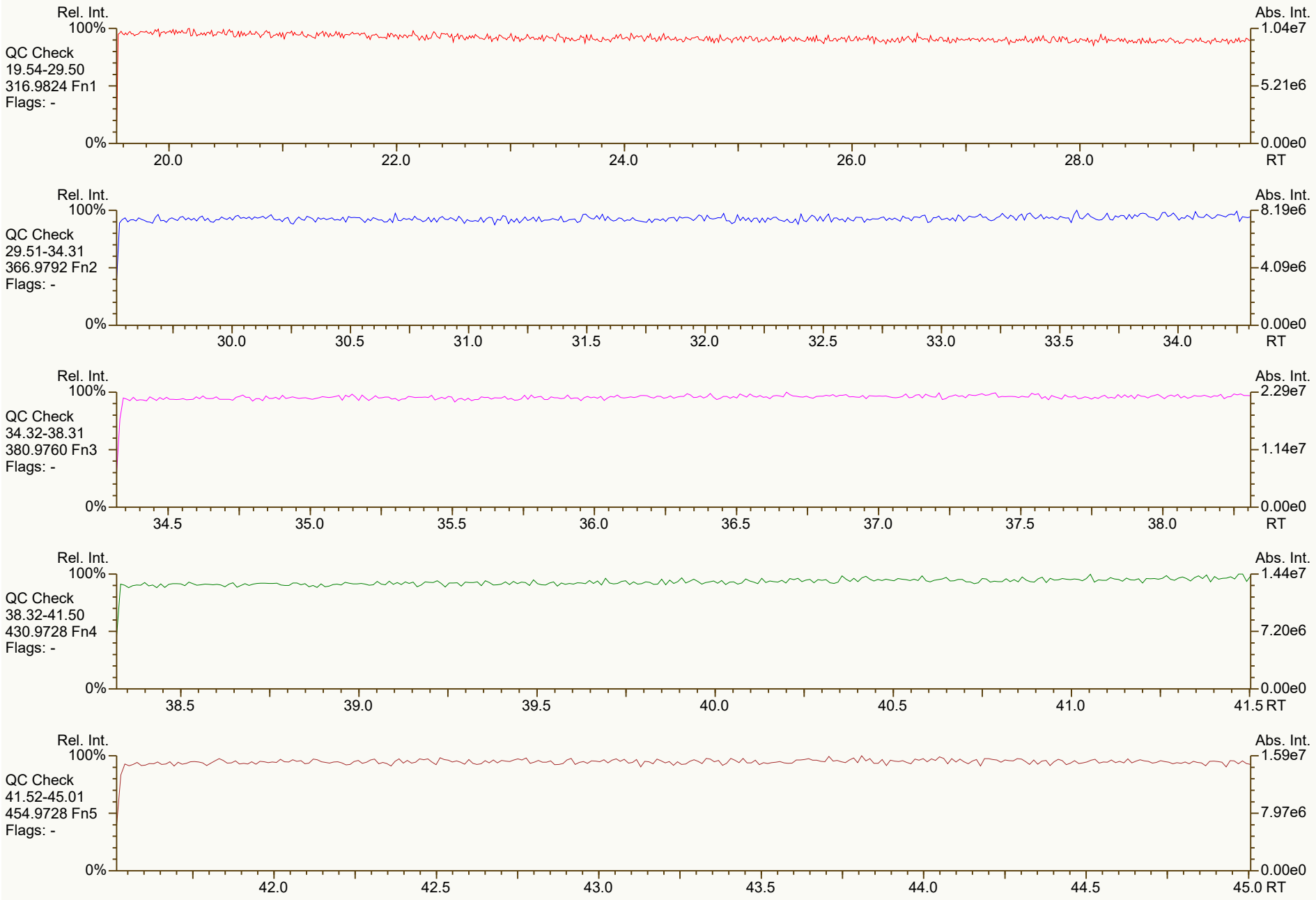
APPROVED
Amy_Boehm , 11/11/2021, 5:28:50 PM

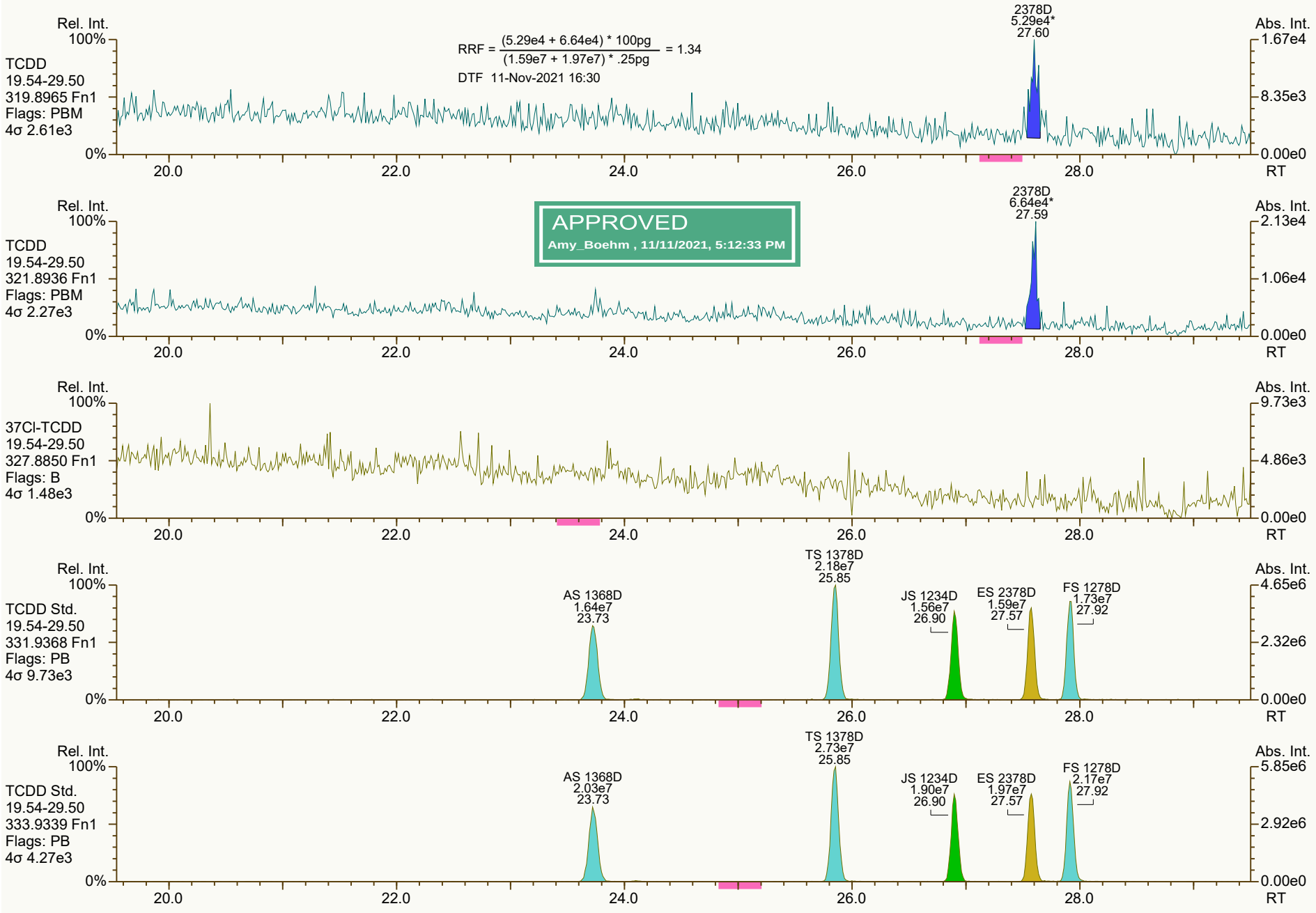
Dioxin/Furan ICAL Concentrations	SGS Environmental Services							
	Concentration							
Individual Native Standards	CS0 pg/uL	CS1 pg/uL	CS2 pg/uL	CS3 pg/uL	CS4 pg/uL	CS5 pg/uL	CS6 pg/uL	Working Standards pg/uL
2378-TCDD	0.25	0.5	2	10	40	200	500	1
12378-PeCDD	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDD	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDD	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDD	1.25	2.5	10	50	200	1000	2500	1
OCDD	2.5	5	20	100	400	2000	5000	1
2378-TCDF	0.25	0.5	2	10	40	200	500	1
12378-PeCDF	1.25	2.5	10	50	200	1000	2500	1
23478-PeCDF	1.25	2.5	10	50	200	1000	2500	1
123478-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
234678-HxCDF	1.25	2.5	10	50	200	1000	2500	1
123789-HxCDF	1.25	2.5	10	50	200	1000	2500	1
1234678-HpCDF	1.25	2.5	10	50	200	1000	2500	1
1234789-HpCDF	1.25	2.5	10	50	200	1000	2500	1
OCDF	2.5	5	20	100	400	2000	5000	1
Extraction Standards								
ES 2378-TCDD	100	100	100	100	100	100	100	10
ES 12378-PeCDD	100	100	100	100	100	100	100	10
ES 123478-HxCDD	100	100	100	100	100	100	100	10
ES 123678-HxCDD	100	100	100	100	100	100	100	10
ES 123789-HxCDD	100	100	100	100	100	100	100	10
ES 1234678-HpCDD	100	100	100	100	100	100	100	10
ES OCDD	200	200	200	200	200	200	200	10
ES 2378-TCDF	100	100	100	100	100	100	100	10
ES 12378-PeCDF	100	100	100	100	100	100	100	10
ES 23478-PeCDF	100	100	100	100	100	100	100	10
ES 123478-HxCDF	100	100	100	100	100	100	100	10
ES 123678-HxCDF	100	100	100	100	100	100	100	10
ES 234678-HxCDF	100	100	100	100	100	100	100	10
ES 123789-HxCDF	100	100	100	100	100	100	100	10
ES 1234678-HpCDF	100	100	100	100	100	100	100	10
ES 1234789-HpCDF	100	100	100	100	100	100	100	10
ES OCDF	200	200	200	200	200	200	200	10
Cleanup/Sampling Standards								
CS 37Cl-2378-TCDD	-	0.5	2	10	40	200	-	4
CS 12347-PeCDD	100	100	100	100	100	100	100	10
CS 12346-PeCDF	100	100	100	100	100	100	100	10
CS 123469-HxCDF	100	100	100	100	100	100	100	10
CS 1234689-HpCDF	100	100	100	100	100	100	100	10
Alternate Standards								
AS 1368-TCDD	100	100	100	100	100	100	100	10
AS 1368-TCDF	100	100	100	100	100	100	100	10
Shipping Standards								
FS 1278-TCDD	100	100	100	100	100	100	100	100
FS 12478-PeCDD	100	100	100	100	100	100	100	100
FS 123468-HxCDD	100	100	100	100	100	100	100	100
FS 1234679-HpCDD	100	100	100	100	100	100	100	100
TS 1378-TCDD	100	100	100	100	100	100	100	100
Injection Standards								
1234 TCDD 13C12	100	100	100	100	100	100	100	10
1234 TCDF 13C12	100	100	100	100	100	100	100	10
123467 HxCDD 13C12	50	50	50	50	50	50	50	5

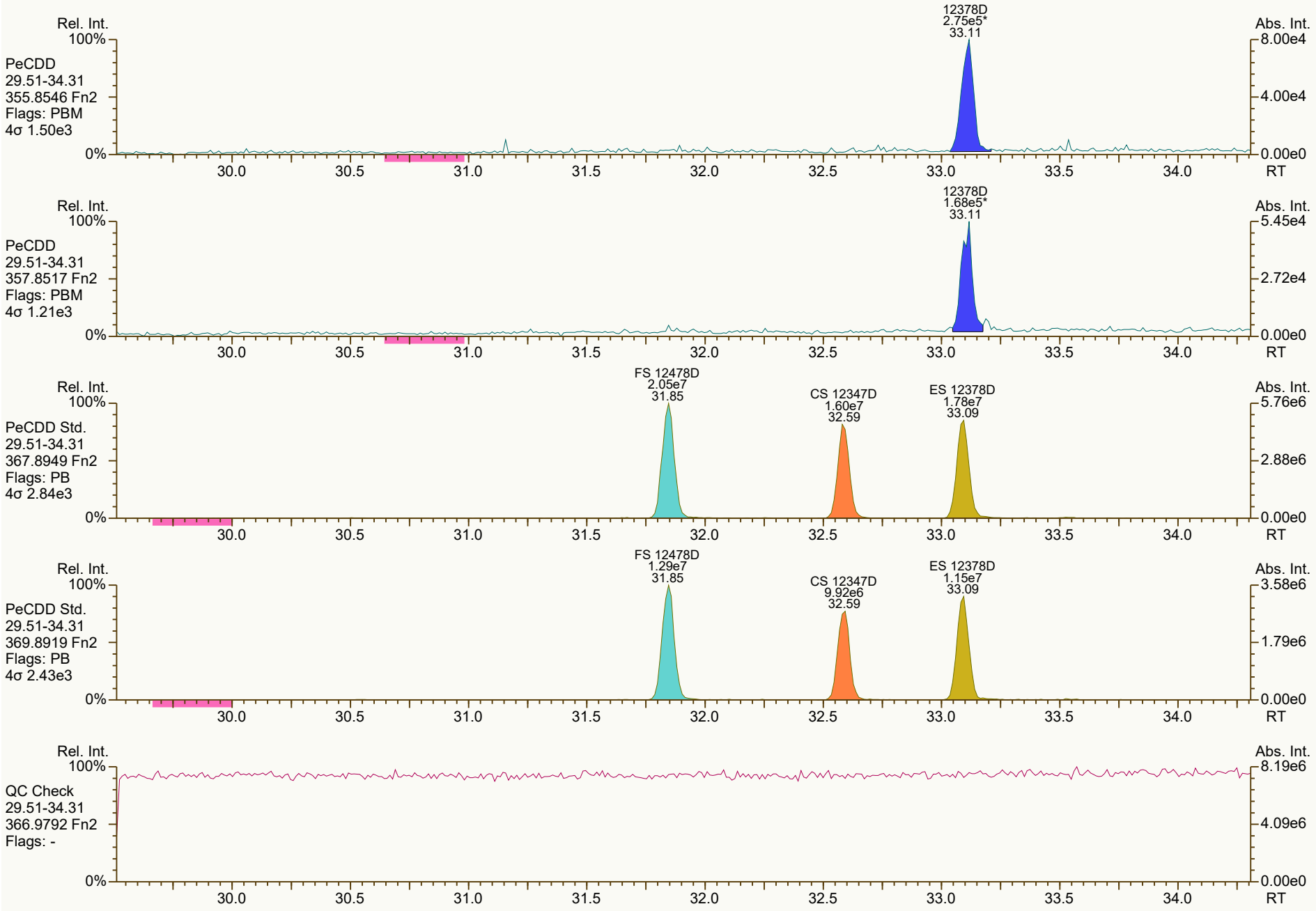
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:02 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS0_211110_DF_CA		UTP: 11-Nov-2021 16:23:33 DTF				Checkcode: 245-007-QLD	
Sample ID: 25-6-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C04	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	1.19E+05	0.80	Y	1.18	1.34	13%
12378-PeCDD	33.11	4.42E+05	1.64	Y	1.04	1.21	17%
123478-HxCDD	37.05	3.89E+05	1.20	Y	1.09	1.27	16%
123678-HxCDD	37.16	4.09E+05	1.18	Y	1.15	1.32	15%
123789-HxCDD	37.47	4.14E+05	1.13	Y	1.05	1.18	12%
1234678-HpCDD	40.29	3.45E+05	1.08	Y	1.06	1.20	13%
OCDD	42.83	4.78E+05	0.90	Y	1.13	1.24	10%
2378-TCDF	26.68	1.53E+05	0.88	Y	1.08	1.21	12%
12378-PeCDF	31.63	6.42E+05	1.42	Y	1.02	1.22	19%
23478-PeCDF	32.75	5.95E+05	1.54	Y	1.02	1.15	12%
123478-HxCDF	36.06	5.27E+05	1.24	Y	1.27	1.35	6%
123678-HxCDF	36.20	5.91E+05	1.13	Y	1.15	1.34	17%
234678-HxCDF	36.86	5.43E+05	1.11	Y	1.19	1.37	15%
123789-HxCDF	37.85	4.44E+05	1.29	Y	1.16	1.22	5%
1234678-HpCDF	39.35	4.67E+05	1.10	Y	1.37	1.49	9%
1234789-HpCDF	40.71	3.68E+05	1.08	Y	1.31	1.38	6%
OCDF	43.00	5.95E+05	0.91	Y	1.07	1.20	12%
ES 2378-TCDD	27.57	3.56E+07	0.80	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.092	2.93E+07	1.55	Y	0.88	0.85	-4%
ES 123478-HxCDD	37.032	2.45E+07	1.23	Y	0.97	0.92	-6%
ES 123678-HxCDD	37.146	2.47E+07	1.26	Y	0.94	0.93	-2%
ES 123789-HxCDD	37.455	2.81E+07	1.25	Y	1.09	1.05	-4%
ES 1234678-HpCDD	40.273	2.30E+07	1.06	Y	0.91	0.86	-6%
ES OCDD	42.826	3.08E+07	0.91	Y	0.62	0.58	-7%
ES 2378-TCDF	26.661	5.07E+07	0.79	Y	1.06	1.03	-3%
ES 12378-PeCDF	31.609	4.20E+07	1.57	Y	0.91	0.85	-6%
ES 23478-PeCDF	32.739	4.16E+07	1.60	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.049	3.11E+07	0.53	Y	1.20	1.17	-3%
ES 123678-HxCDF	36.187	3.52E+07	0.53	Y	1.35	1.32	-3%
ES 234678-HxCDF	36.84	3.18E+07	0.53	Y	1.24	1.19	-4%
ES 123789-HxCDF	37.832	2.91E+07	0.53	Y	1.16	1.09	-6%
ES 1234678-HpCDF	39.342	2.51E+07	0.46	Y	0.97	0.94	-3%
ES 1234789-HpCDF	40.703	2.14E+07	0.45	Y	0.85	0.80	-6%
ES OCDF	42.99	3.95E+07	0.90	Y	0.81	0.74	-8%

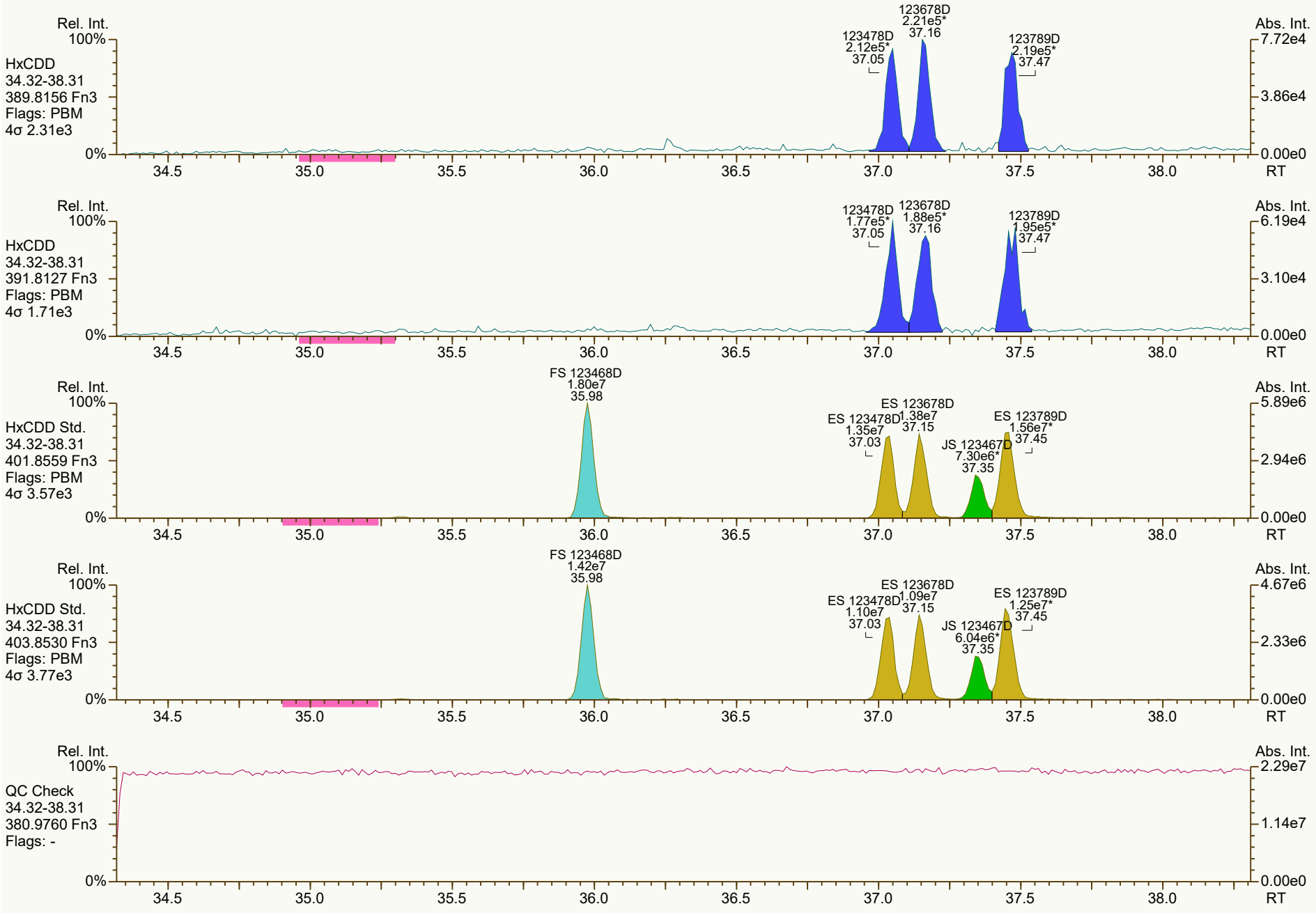
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 11:02 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS0_211110_DF_CA	UTP: 11-Nov-2021 16:23:33 DTF	Checkcode: 245-007-QLD
Sample ID: 25-6-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C04

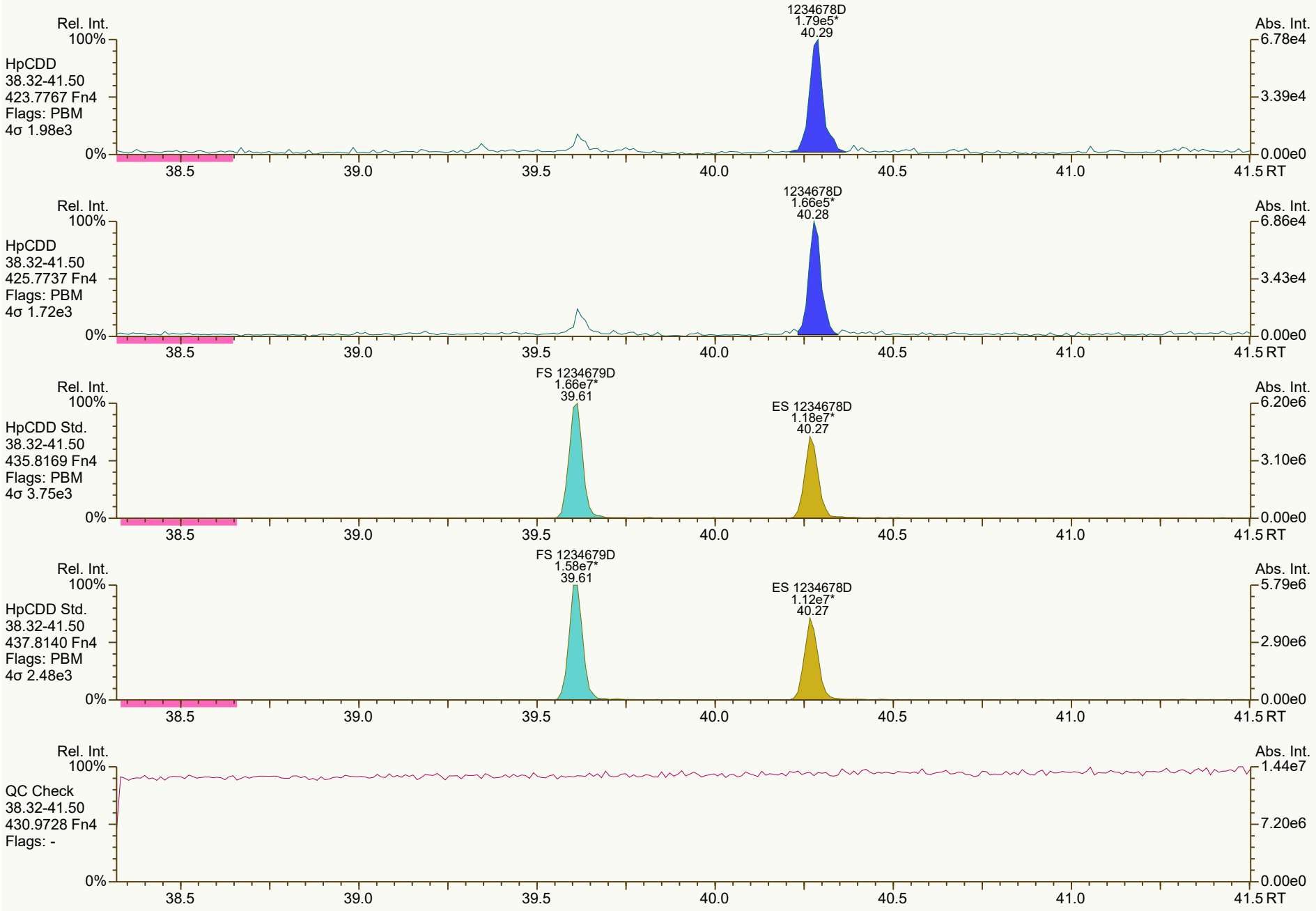
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.46E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.25	4.91E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.35	1.33E+07	1.21	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.75	0.75	-1%
CS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.98E+07	0.53	Y	1.12	1.11	0%
CS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.89	0.86	-3%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.59E+07	1.61	Y	0.86	0.89	3%
SS 12346-PeCDF	31.08	4.19E+07	1.57	Y	0.94	1.00	6%
SS 123469-HxCDF	36.50	2.98E+07	0.53	Y	0.83	0.85	2%
SS 1234689-HpCDF	39.75	2.29E+07	0.46	Y	0.92	0.91	-1%
AS 1368-TCDD	23.73	3.67E+07	0.81	Y	1.06	1.06	0%
AS 1368-TCDF	21.50	5.56E+07	0.82	Y	1.13	1.13	0%
FS 1278-TCDD	27.92	3.90E+07	0.80	Y	1.07	1.10	2%
FS 12478-PeCDD	31.85	3.33E+07	1.59	Y	1.09	1.14	4%
FS 123468-HxCDD	35.98	3.22E+07	1.26	Y	1.26	1.31	5%
FS 1234679-HpCDD	39.61	3.24E+07	1.05	Y	1.36	1.41	4%
TS 1378-TCDD	25.85	4.91E+07	0.80	Y	1.34	1.38	3%
OCDD-a	NotFnd				0.07		
OCDF-a	42.99	3.25E+04	2.38	Y	0.07	0.07	-1%

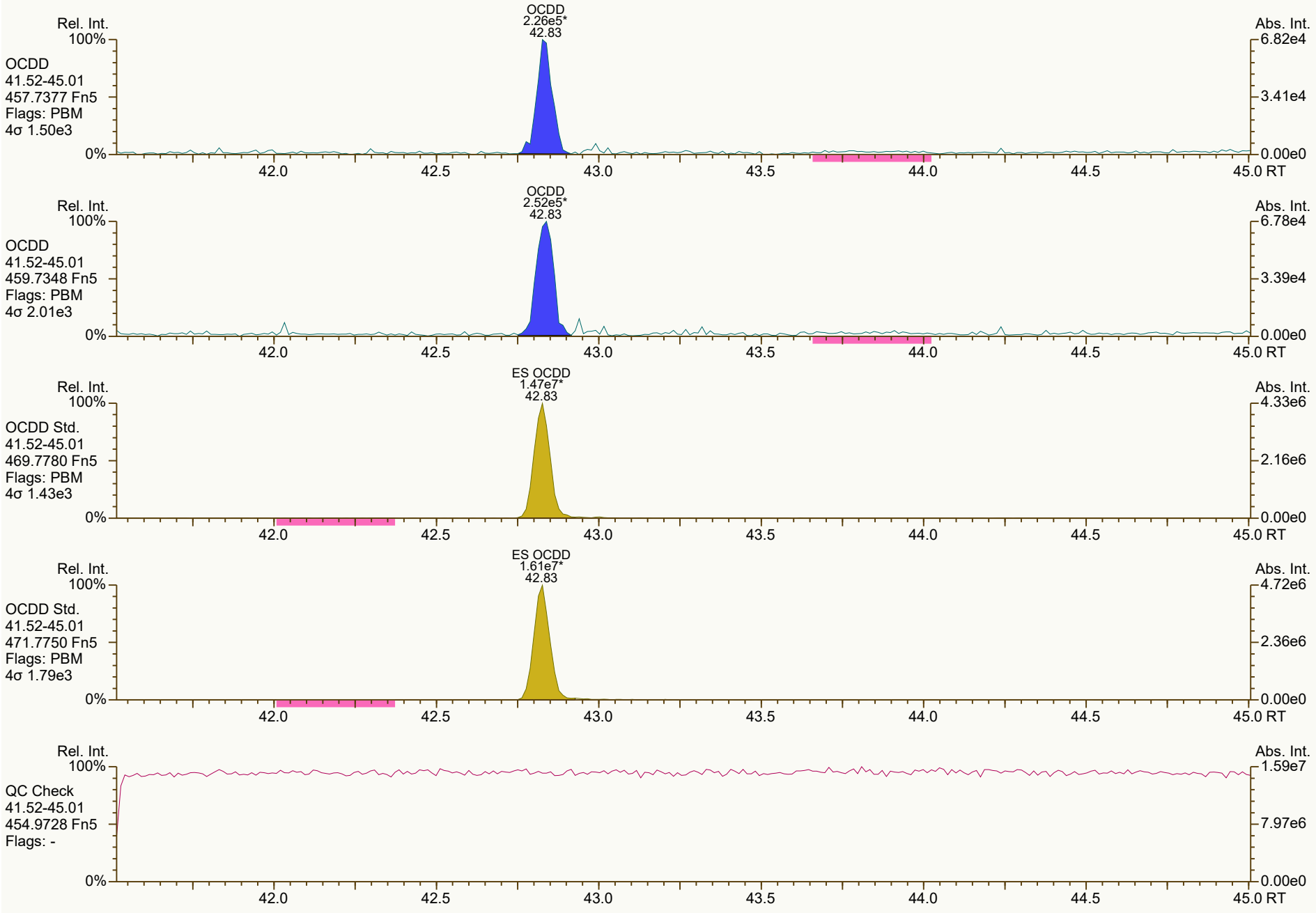

Rel. Int.
100%
0%
Abs. Int.
1.04e7
5.21e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.19e6
4.09e6
0.00e0
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.29e7
1.14e7
0.00e0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

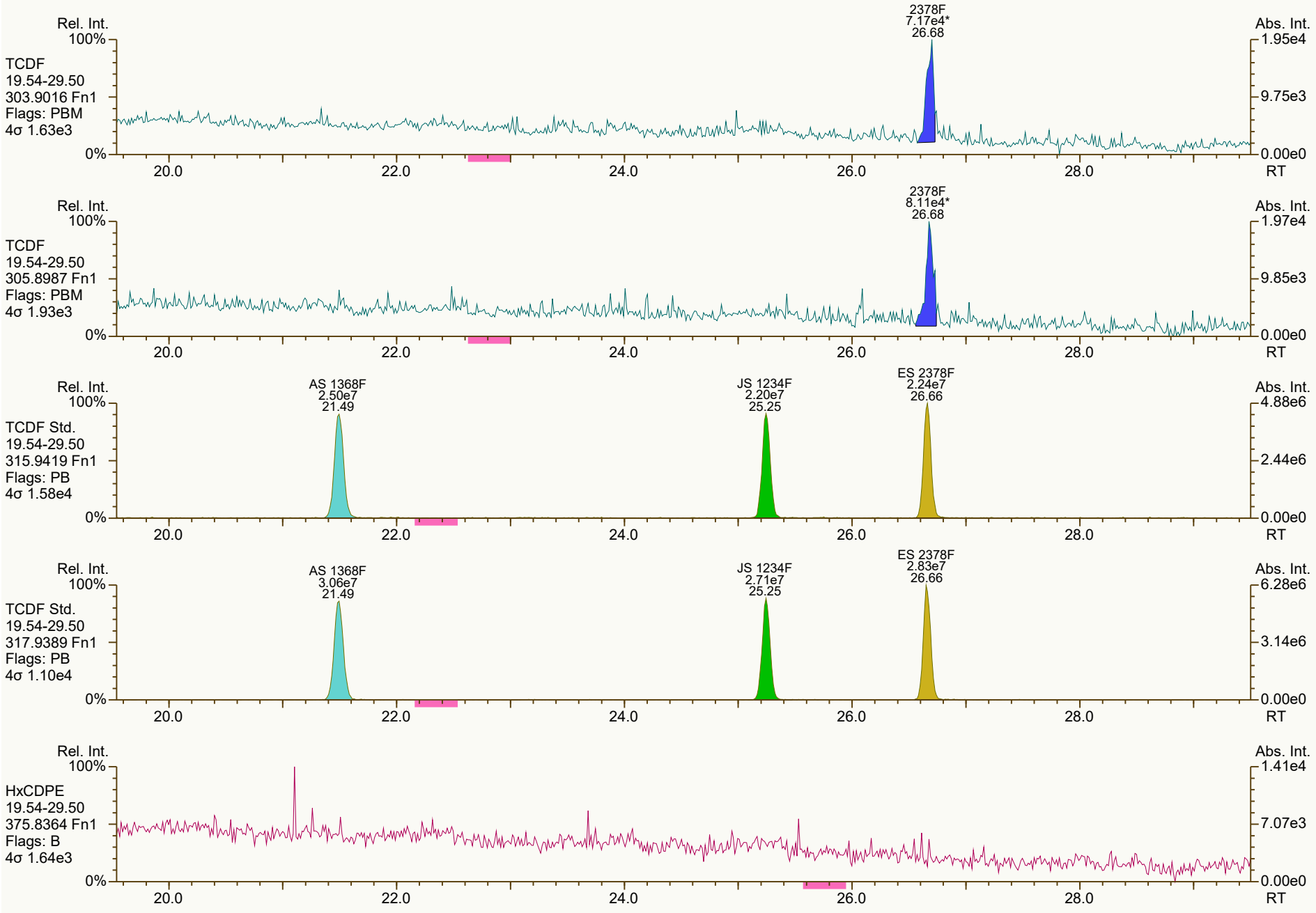

Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PBM
4σ 2.61e3
0%
RRF = (5.29e4 + 6.64e4) * 100pg / (1.59e7 + 1.97e7) * .25pg = 1.34
DTF 11-Nov-2021 16:30
2378D
5.29e4*
27.60
Abs. Int.
1.67e4
8.35e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
APPROVED
Amy_Boehm , 11/11/2021, 5:12:33 PM
TCDD
19.54-29.50
321.8936 Fn1
Flags: PBM
4σ 2.27e3
2378D
6.64e4*
27.59
2.13e4
1.06e4
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.48e3
9.73e3
4.86e3
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 9.73e3
AS 1368D
1.64e7
23.73
TS 1378D
2.18e7
25.85
JS 1234D
1.56e7
26.90
ES 2378D
1.59e7
27.57
FS 1278D
1.73e7
27.92
4.65e6
2.32e6
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.27e3
AS 1368D
2.03e7
23.73
TS 1378D
2.73e7
25.85
JS 1234D
1.90e7
26.90
ES 2378D
1.97e7
27.57
FS 1278D
2.17e7
27.92
5.85e6
2.92e6


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PBM
4σ 1.50e3
12378D
2.75e5*
33.11
Abs. Int.
8.00e4
4.00e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PBM
4σ 1.21e3
12378D
1.68e5*
33.11
Abs. Int.
5.45e4
2.72e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 2.84e3
FS 12478D
2.05e7
31.85
CS 12347D
1.60e7
32.59
ES 12378D
1.78e7
33.09
Abs. Int.
5.76e6
2.88e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.43e3
FS 12478D
1.29e7
31.85
CS 12347D
9.92e6
32.59
ES 12378D
1.15e7
33.09
Abs. Int.
3.58e6
1.79e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.19e6
4.09e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 2.31e3
123478D 2.12e5* 37.05
123678D 2.21e5* 37.16
123789D 2.19e5* 37.47
Abs. Int.
7.72e4
3.86e4
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.71e3
123478D 1.77e5* 37.05
123678D 1.88e5* 37.16
123789D 1.95e5* 37.47
Abs. Int.
6.19e4
3.10e4
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.57e3
FS 123468D 1.80e7 35.98
ES 123478D 1.35e7 37.03
ES 123678D 1.38e7 37.15
JS 123467D 7.30e6* 37.35
ES 123789D 1.56e7* 37.45
Abs. Int.
5.89e6
2.94e6
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.77e3
FS 123468D 1.42e7 35.98
ES 123478D 1.10e7 37.03
ES 123678D 1.09e7 37.15
JS 123467D 6.04e6* 37.35
ES 123789D 1.25e7* 37.45
Abs. Int.
4.67e6
2.33e6
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.29e7
1.14e7
0.00e0
0%
34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.98e3
0%
1234678D
1.79e5*
40.29
Abs. Int.
6.78e4
3.39e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.72e3
0%
1234678D
1.66e5*
40.28
Abs. Int.
6.86e4
3.43e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 3.75e3
0%
FS 1234679D
1.66e7*
39.61
ES 1234678D
1.18e7*
40.27
Abs. Int.
6.20e6
3.10e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 2.48e3
0%
FS 1234679D
1.58e7*
39.61
ES 1234678D
1.12e7*
40.27
Abs. Int.
5.79e6
2.90e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.44e7
7.20e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

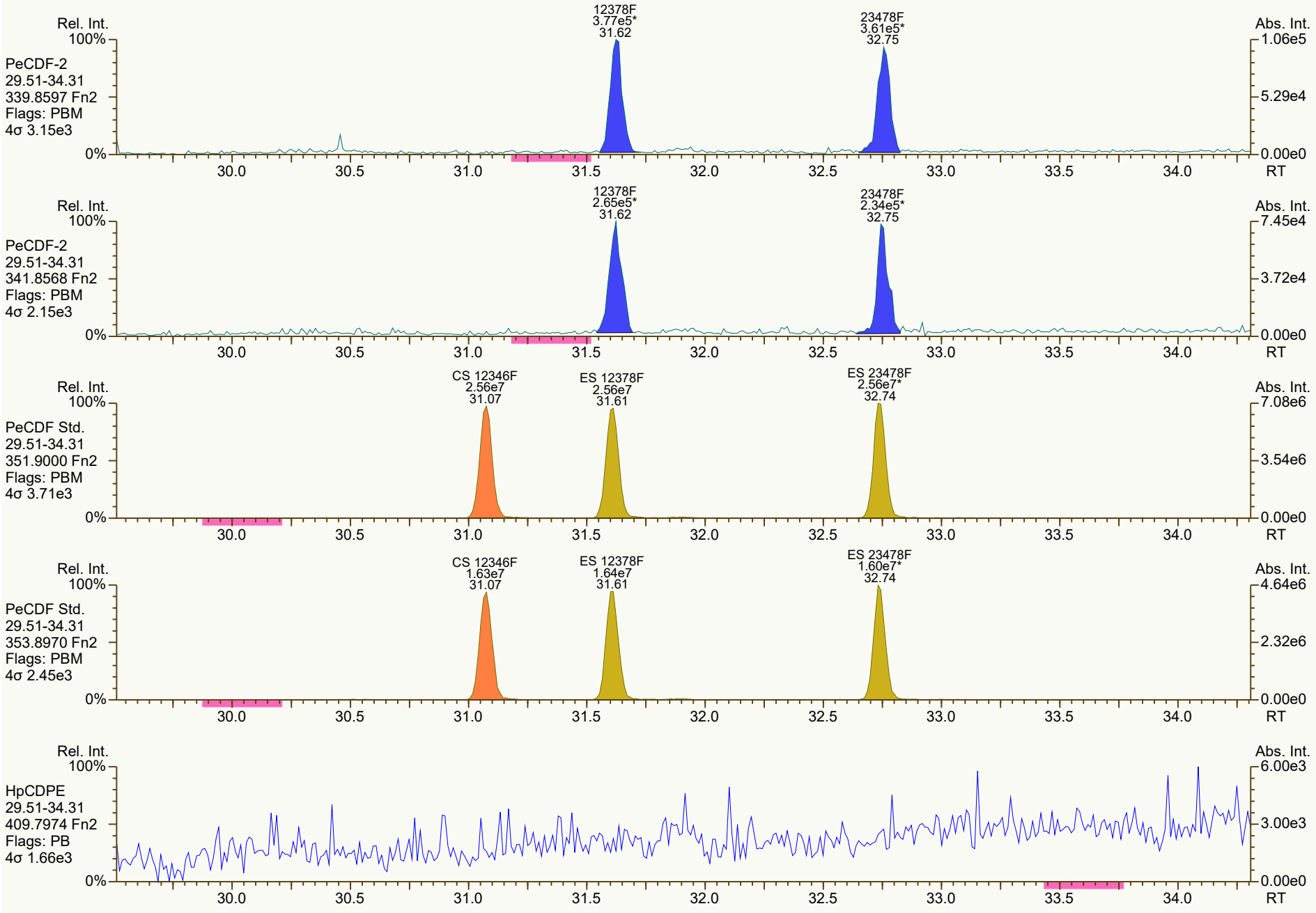

OCDD
2.26e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.50e3
0%
Abs. Int.
6.82e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.52e5*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.01e3
0%
Abs. Int.
6.78e4
3.39e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.47e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.43e3
0%
Abs. Int.
4.33e6
2.16e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7*
42.83
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 1.79e3
0%
Abs. Int.
4.72e6
2.36e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

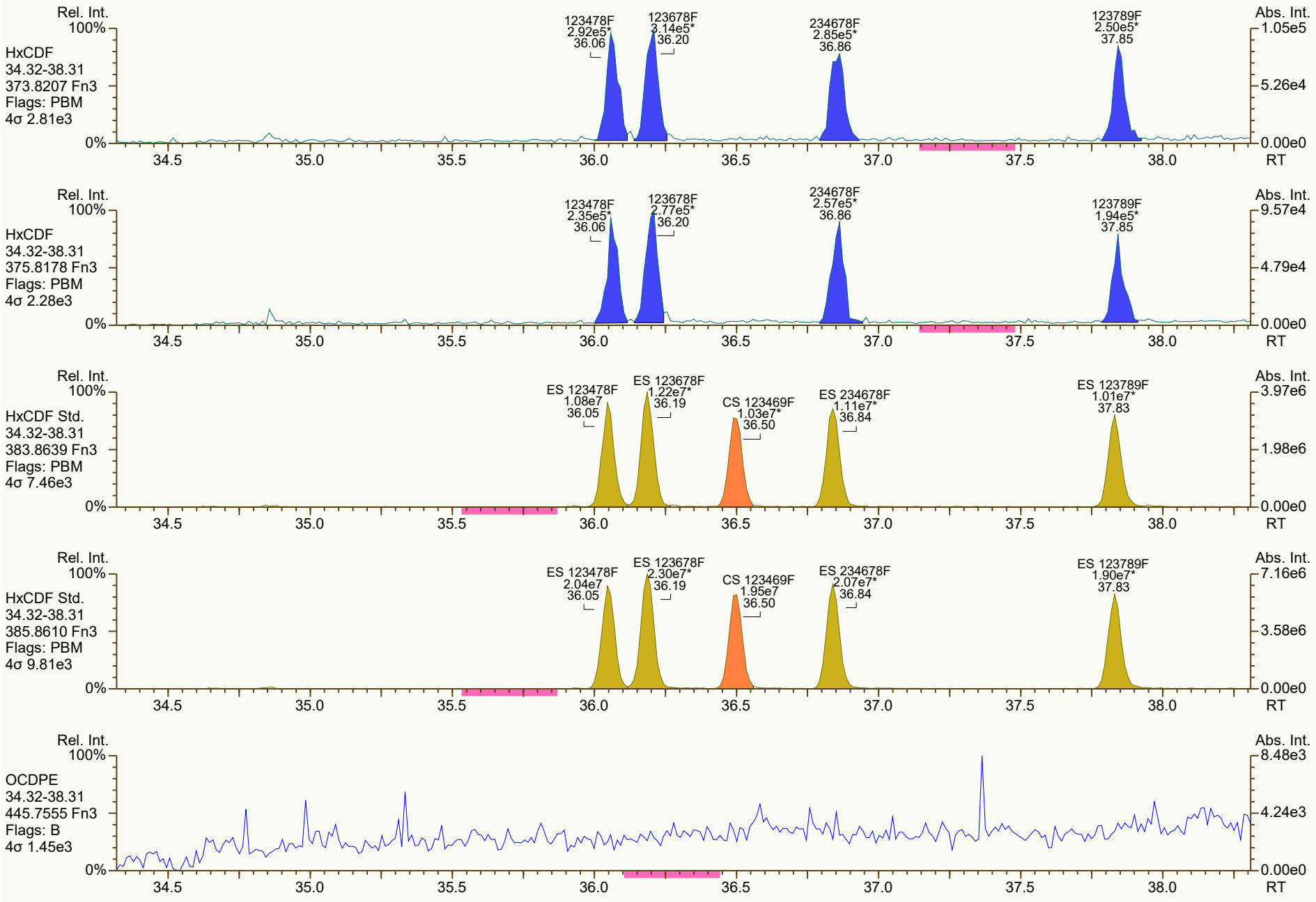

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.63e3
0%
2378F
7.17e4*
26.68
Abs. Int.
1.95e4
9.75e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 1.93e3
0%
2378F
8.11e4*
26.68
Abs. Int.
1.97e4
9.85e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
2.50e7
21.49
JS 1234F
2.20e7
25.25
ES 2378F
2.24e7
26.66
Abs. Int.
4.88e6
2.44e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.10e4
0%
AS 1368F
3.06e7
21.49
JS 1234F
2.71e7
25.25
ES 2378F
2.83e7
26.66
Abs. Int.
6.28e6
3.14e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.41e4
7.07e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

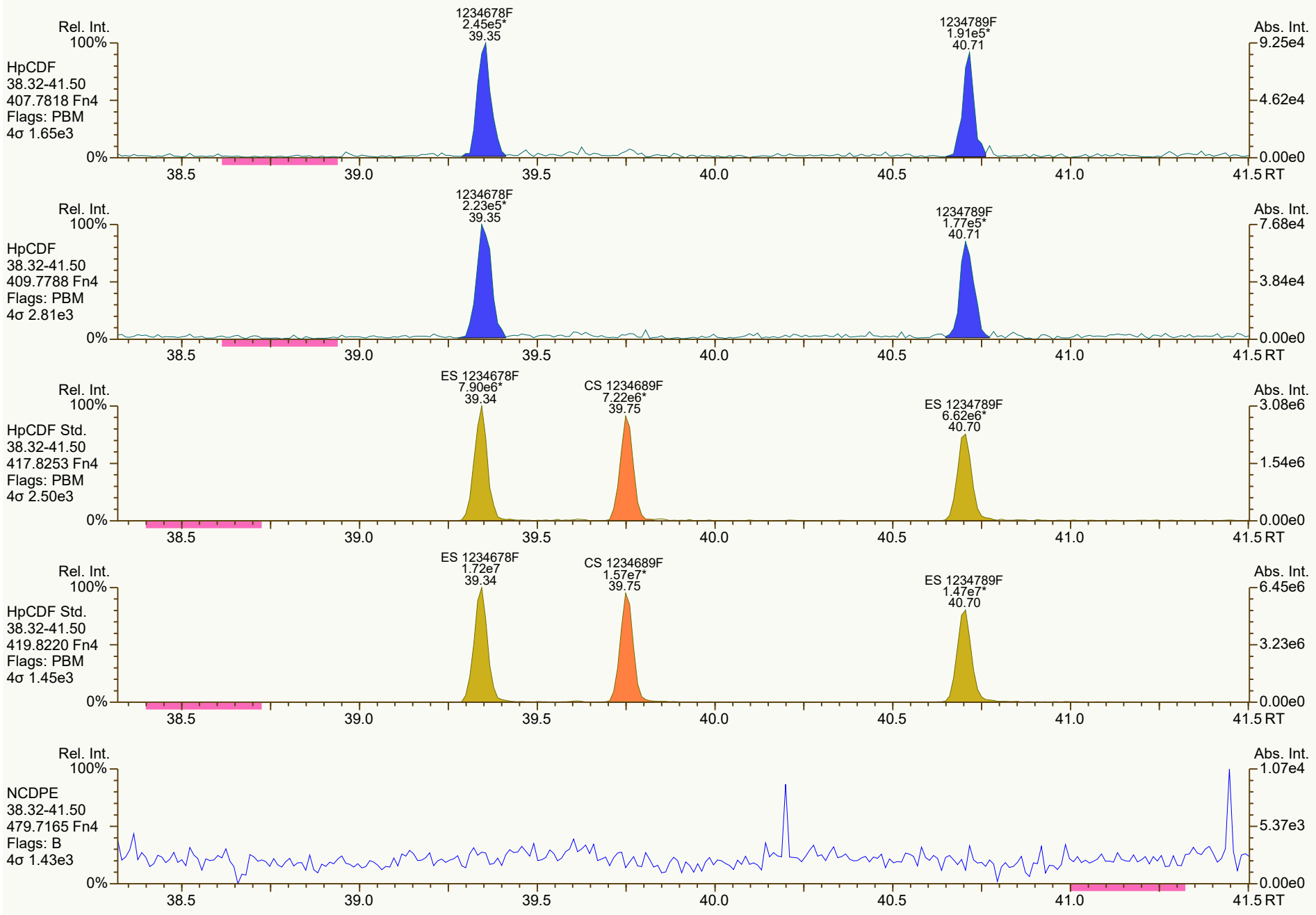
SGS ID: CS0_211110_DF_CA
Sample ID: 25-6-3
Acq: 10-Nov-2021 11:02:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 65
User: DTF Datafile: 211110C04



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS0_211110_DF_CA.utp_res, saved 11-Nov-2021 16:31 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 6412 scc: 245-007
PKD: 10-Nov-2021 13:30 Printed: 11-Nov-2021 16:32 Page 8 of 12


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PBM
4σ 3.15e3
0%
12378F
3.77e5*
31.62
23478F
3.61e5*
32.75
Abs. Int.
1.06e5
5.29e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PBM
4σ 2.15e3
0%
12378F
2.65e5*
31.62
23478F
2.34e5*
32.75
Abs. Int.
7.45e4
3.72e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PBM
4σ 3.71e3
0%
CS 12346F
2.56e7
31.07
ES 12378F
2.56e7
31.61
ES 23478F
2.56e7*
32.74
Abs. Int.
7.08e6
3.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PBM
4σ 2.45e3
0%
CS 12346F
1.63e7
31.07
ES 12378F
1.64e7
31.61
ES 23478F
1.60e7*
32.74
Abs. Int.
4.64e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: PB
4σ 1.66e3
0%
Abs. Int.
6.00e3
3.00e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

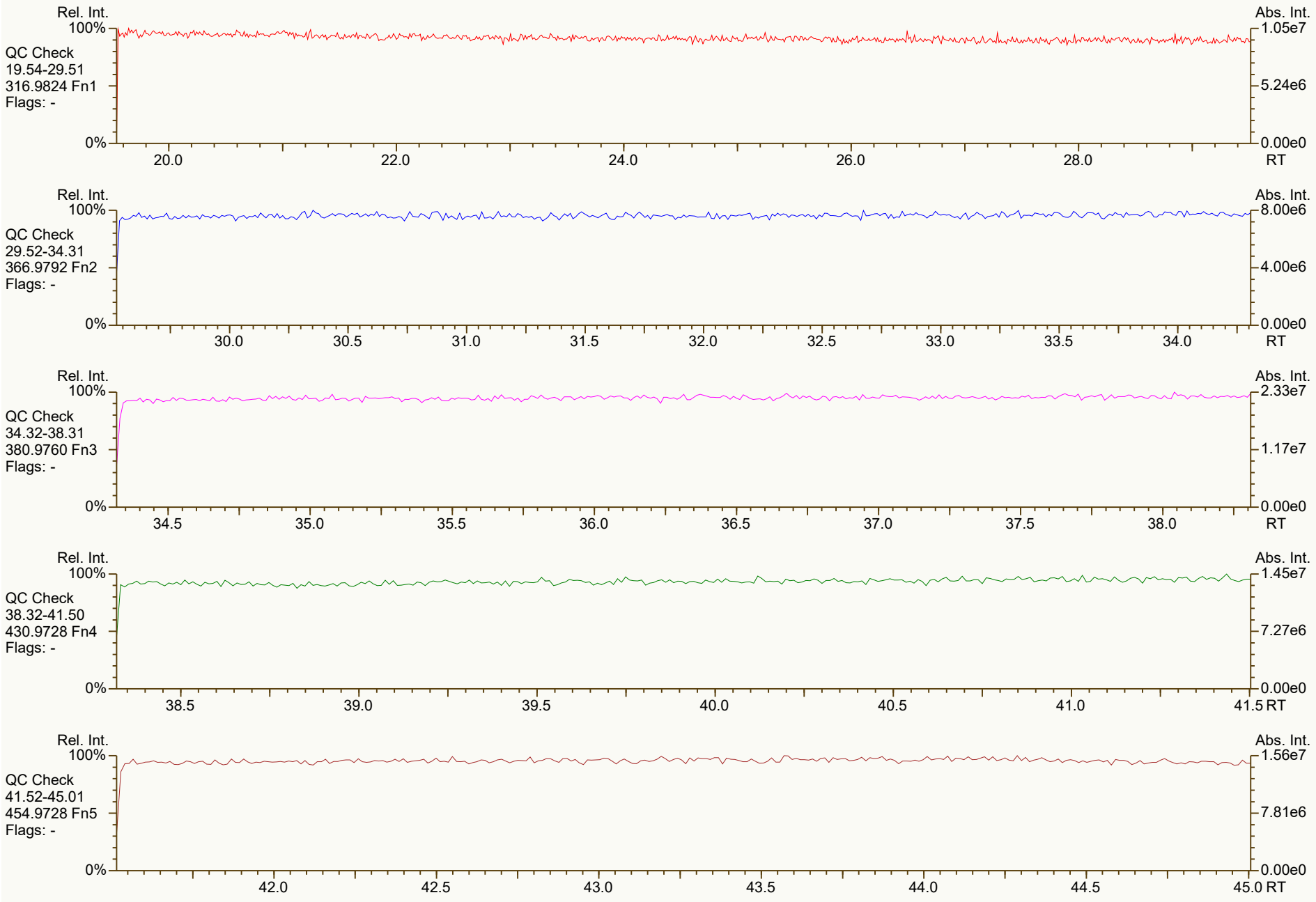

Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.81e3
123478F
2.92e5*
36.06
123678F
3.14e5*
36.20
234678F
2.85e5*
36.86
123789F
2.50e5*
37.85
Abs. Int.
1.05e5
5.26e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.28e3
123478F
2.35e5*
36.06
123678F
2.77e5*
36.20
234678F
2.57e5*
36.86
123789F
1.94e5*
37.85
Abs. Int.
9.57e4
4.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.46e3
ES 123478F
1.08e7
36.05
ES 123678F
1.22e7*
36.19
CS 123469F
1.03e7*
36.50
ES 234678F
1.11e7*
36.84
ES 123789F
1.01e7*
37.83
Abs. Int.
3.97e6
1.98e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.81e3
ES 123478F
2.04e7
36.05
ES 123678F
2.30e7*
36.19
CS 123469F
1.95e7
36.50
ES 234678F
2.07e7*
36.84
ES 123789F
1.90e7*
37.83
Abs. Int.
7.16e6
3.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.45e3
Abs. Int.
8.48e3
4.24e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.65e3
1234678F
2.45e5*
39.35
1234789F
1.91e5*
40.71
Abs. Int.
9.25e4
4.62e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.81e3
1234678F
2.23e5*
39.35
1234789F
1.77e5*
40.71
Abs. Int.
7.68e4
3.84e4
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.50e3
ES 1234678F
7.90e6*
39.34
CS 1234689F
7.22e6*
39.75
ES 1234789F
6.62e6*
40.70
Abs. Int.
3.08e6
1.54e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.45e3
ES 1234678F
1.72e7
39.34
CS 1234689F
1.57e7*
39.75
ES 1234789F
1.47e7*
40.70
Abs. Int.
6.45e6
3.23e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.43e3
Abs. Int.
1.07e4
5.37e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

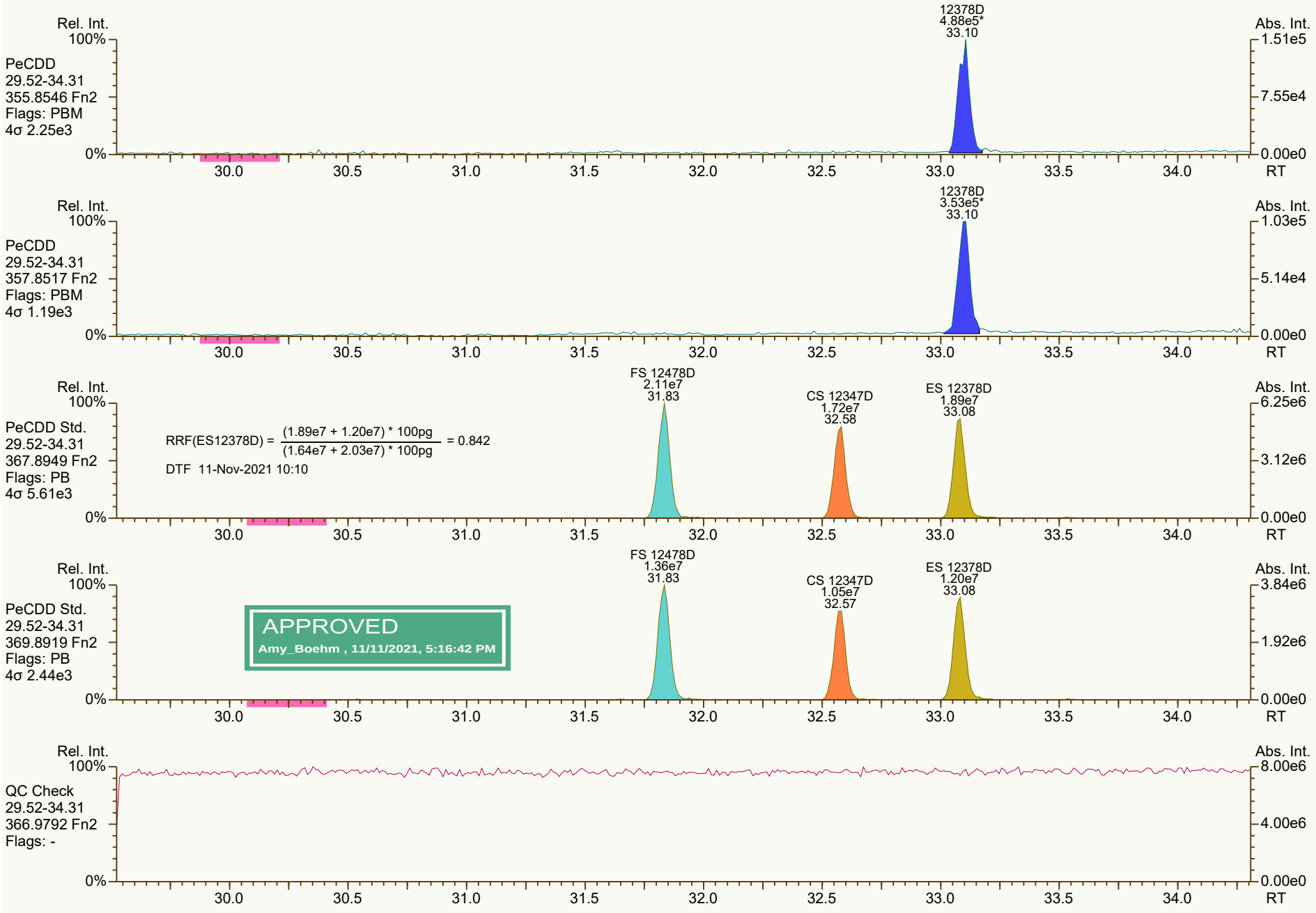

OCDF
2.83e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.07e3
0%
Abs. Int.
9.68e4
4.84e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
3.12e5*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.63e3
0%
Abs. Int.
8.96e4
4.48e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.88e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.90e3
0%
Abs. Int.
5.42e6
2.71e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.08e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.27e3
0%
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.52e3
0%
Abs. Int.
5.12e3
2.56e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

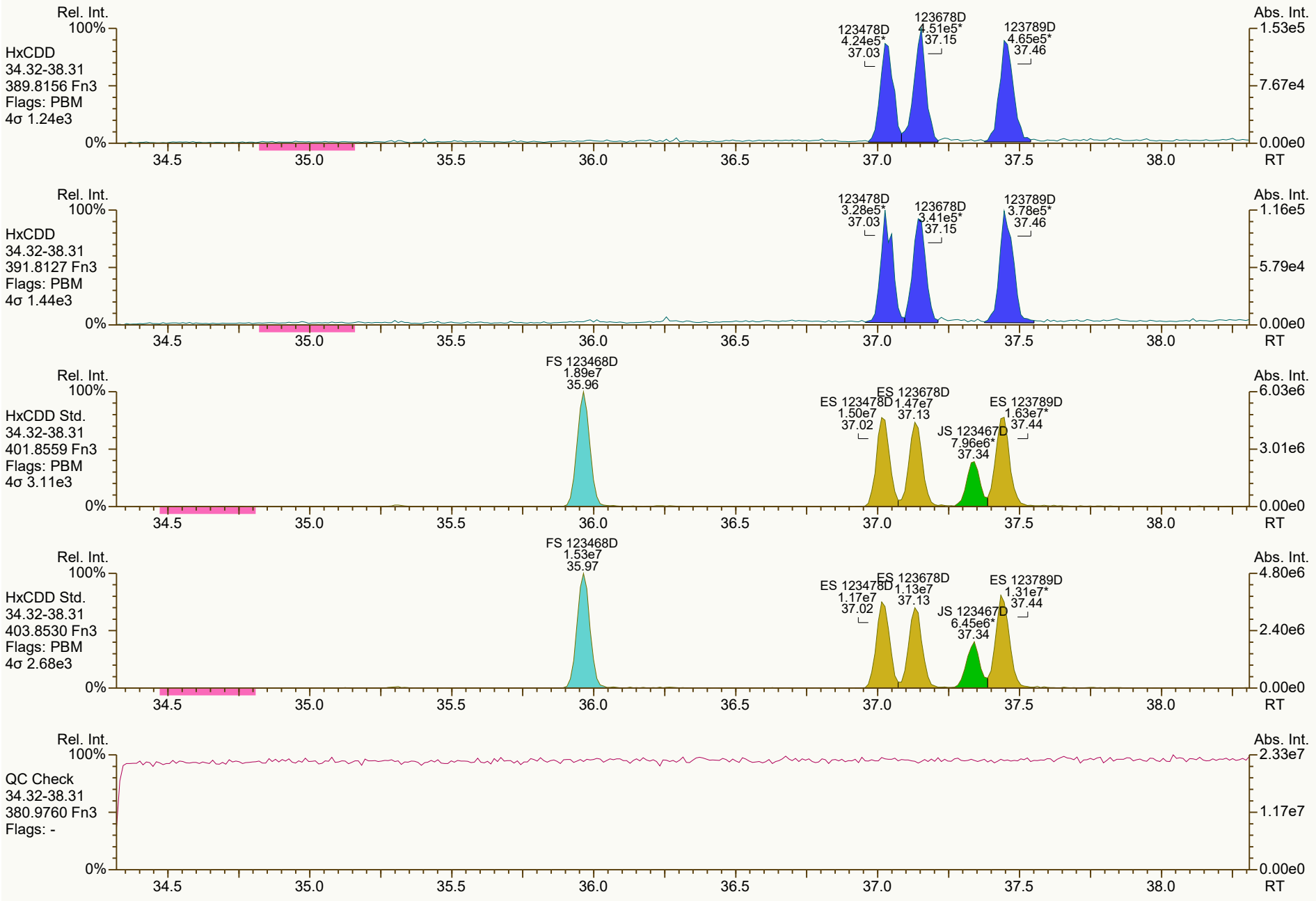
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.58	2.32E+05	0.82	Y	1.18	1.23	4%
12378-PeCDD	33.10	8.41E+05	1.39	Y	1.04	1.09	5%
123478-HxCDD	37.03	7.52E+05	1.29	Y	1.09	1.13	3%
123678-HxCDD	37.15	7.91E+05	1.32	Y	1.15	1.22	6%
123789-HxCDD	37.46	8.43E+05	1.23	Y	1.05	1.14	9%
1234678-HpCDD	40.27	7.27E+05	1.07	Y	1.06	1.16	9%
OCDD	42.82	1.01E+06	0.87	Y	1.13	1.20	7%
2378-TCDF	26.67	2.98E+05	0.75	Y	1.08	1.11	3%
12378-PeCDF	31.61	1.22E+06	1.43	Y	1.02	1.08	5%
23478-PeCDF	32.74	1.20E+06	1.54	Y	1.02	1.10	8%
123478-HxCDF	36.05	1.16E+06	1.26	Y	1.27	1.43	13%
123678-HxCDF	36.19	1.09E+06	1.31	Y	1.15	1.17	1%
234678-HxCDF	36.85	1.10E+06	1.16	Y	1.19	1.27	7%
123789-HxCDF	37.84	1.04E+06	1.19	Y	1.16	1.30	12%
1234678-HpCDF	39.34	9.99E+05	1.06	Y	1.37	1.54	12%
1234789-HpCDF	40.70	7.95E+05	0.93	Y	1.31	1.34	3%
OCDF	42.99	1.23E+06	0.91	Y	1.07	1.15	7%
ES 2378-TCDD	27.56	3.76E+07	0.79	Y	1.05	1.03	-2%
ES 12378-PeCDD	33.081	3.09E+07	1.57	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.02	2.67E+07	1.29	Y	0.97	0.93	-5%
ES 123678-HxCDD	37.135	2.60E+07	1.30	Y	0.94	0.90	-5%
ES 123789-HxCDD	37.441	2.95E+07	1.24	Y	1.09	1.02	-6%
ES 1234678-HpCDD	40.259	2.51E+07	1.07	Y	0.91	0.87	-5%
ES OCDD	42.812	3.37E+07	0.92	Y	0.62	0.58	-6%
ES 2378-TCDF	26.65	5.38E+07	0.81	Y	1.06	1.05	-1%
ES 12378-PeCDF	31.597	4.55E+07	1.55	Y	0.91	0.89	-3%
ES 23478-PeCDF	32.727	4.34E+07	1.54	Y	0.88	0.85	-4%
ES 123478-HxCDF	36.037	3.26E+07	0.53	Y	1.20	1.13	-6%
ES 123678-HxCDF	36.175	3.74E+07	0.53	Y	1.35	1.30	-4%
ES 234678-HxCDF	36.829	3.46E+07	0.53	Y	1.24	1.20	-3%
ES 123789-HxCDF	37.82	3.18E+07	0.52	Y	1.16	1.10	-4%
ES 1234678-HpCDF	39.328	2.60E+07	0.43	Y	0.97	0.90	-7%
ES 1234789-HpCDF	40.69	2.37E+07	0.45	Y	0.85	0.82	-4%
ES OCDF	42.976	4.27E+07	0.89	Y	0.81	0.74	-8%

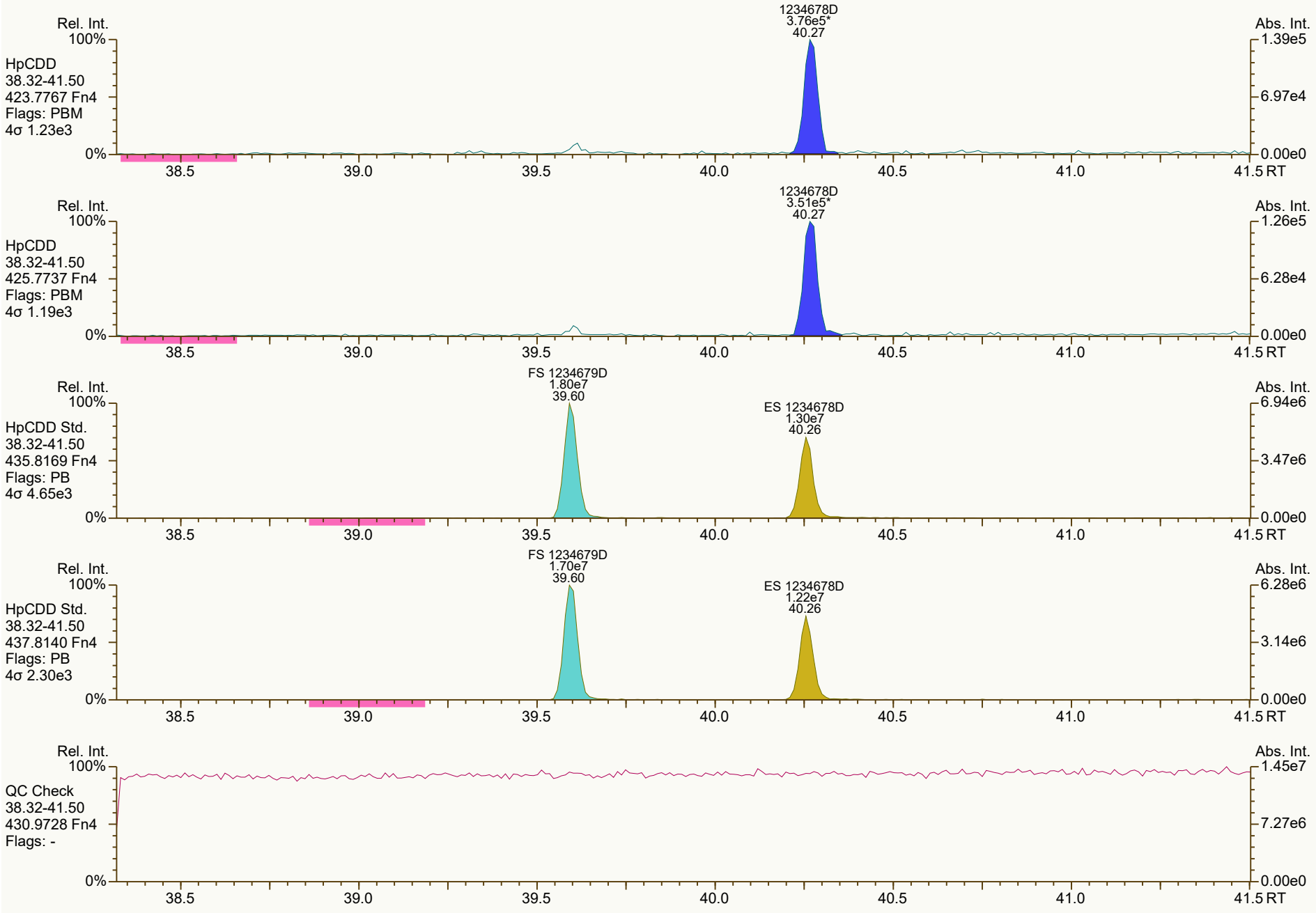
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 11:48 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS1_211110_DF_CA		UTP: 11-Nov-2021 16:22:21 DTF				Checkcode: 419-111-CRN	
Sample ID: 25-6-2		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C05	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
JS 1234-TCDD	26.89	3.67E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.13E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.44E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.20	1.09	-9%
CS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.75	0.75	0%
CS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.85	0.85	-1%
CS 123469-HxCDF	36.49	3.20E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	2.01E+05	n/a	-	1.15	1.07	-7%
SS 12347-PeCDD	32.58	2.77E+07	1.64	Y	0.86	0.89	4%
SS 12346-PeCDF	31.06	4.34E+07	1.57	Y	0.94	0.95	2%
SS 123469-HxCDF	36.49	3.20E+07	0.53	Y	0.83	0.85	3%
SS 1234689-HpCDF	39.74	2.54E+07	0.47	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.86E+07	0.79	Y	1.06	1.05	0%
AS 1368-TCDF	21.48	5.77E+07	0.80	Y	1.13	1.12	0%
FS 1278-TCDD	27.91	4.07E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.47E+07	1.55	Y	1.09	1.12	3%
FS 123468-HxCDD	35.97	3.43E+07	1.23	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.60	3.50E+07	1.06	Y	1.36	1.39	2%
TS 1378-TCDD	25.84	5.14E+07	0.80	Y	1.34	1.37	2%
OCDD-a	NotFnd				0.07		
OCDF-a	NotFnd				0.07		

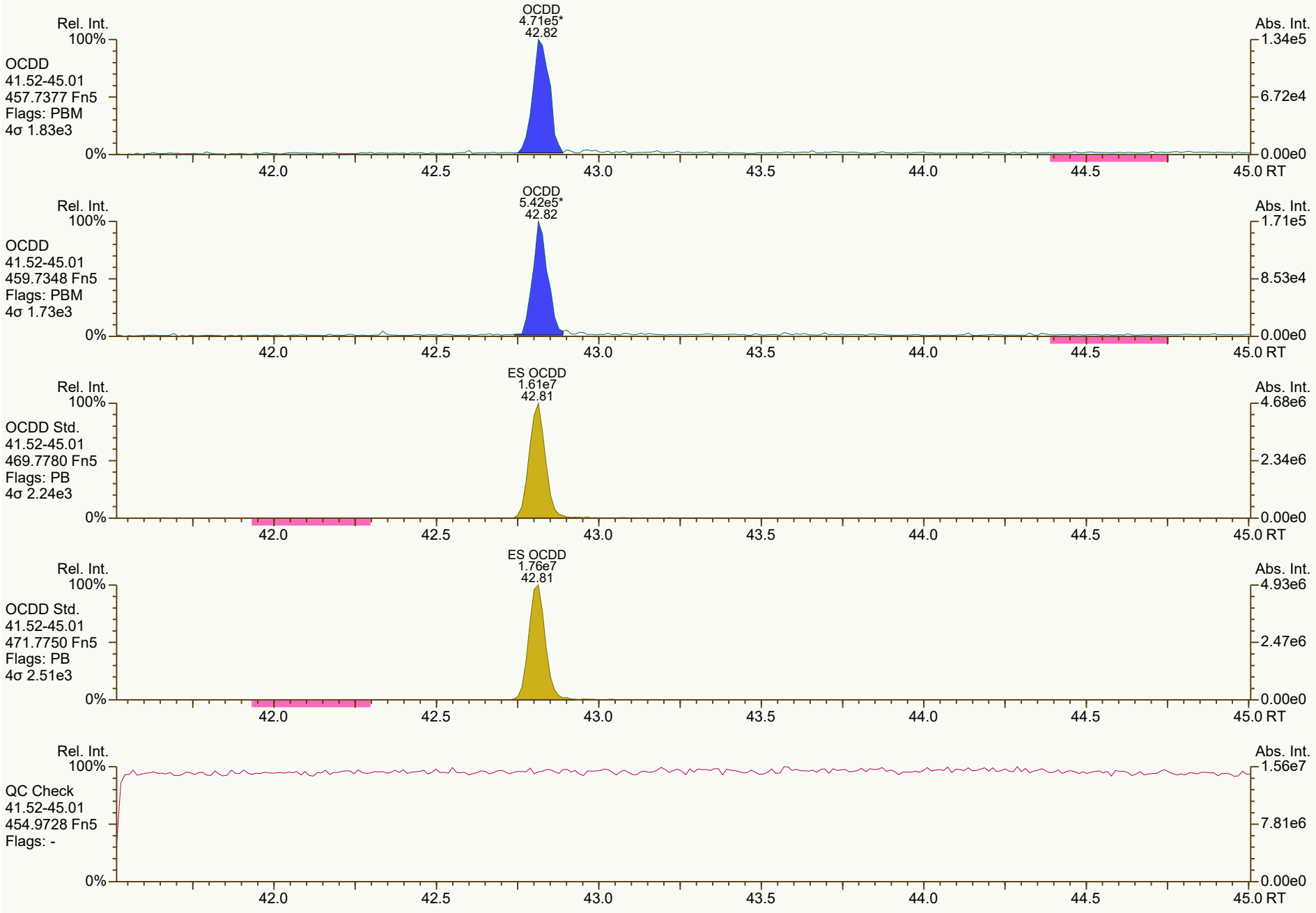

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.05e7
5.24e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.00e6
4.00e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.45e7
7.27e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.56e7
7.81e6
0.00e0

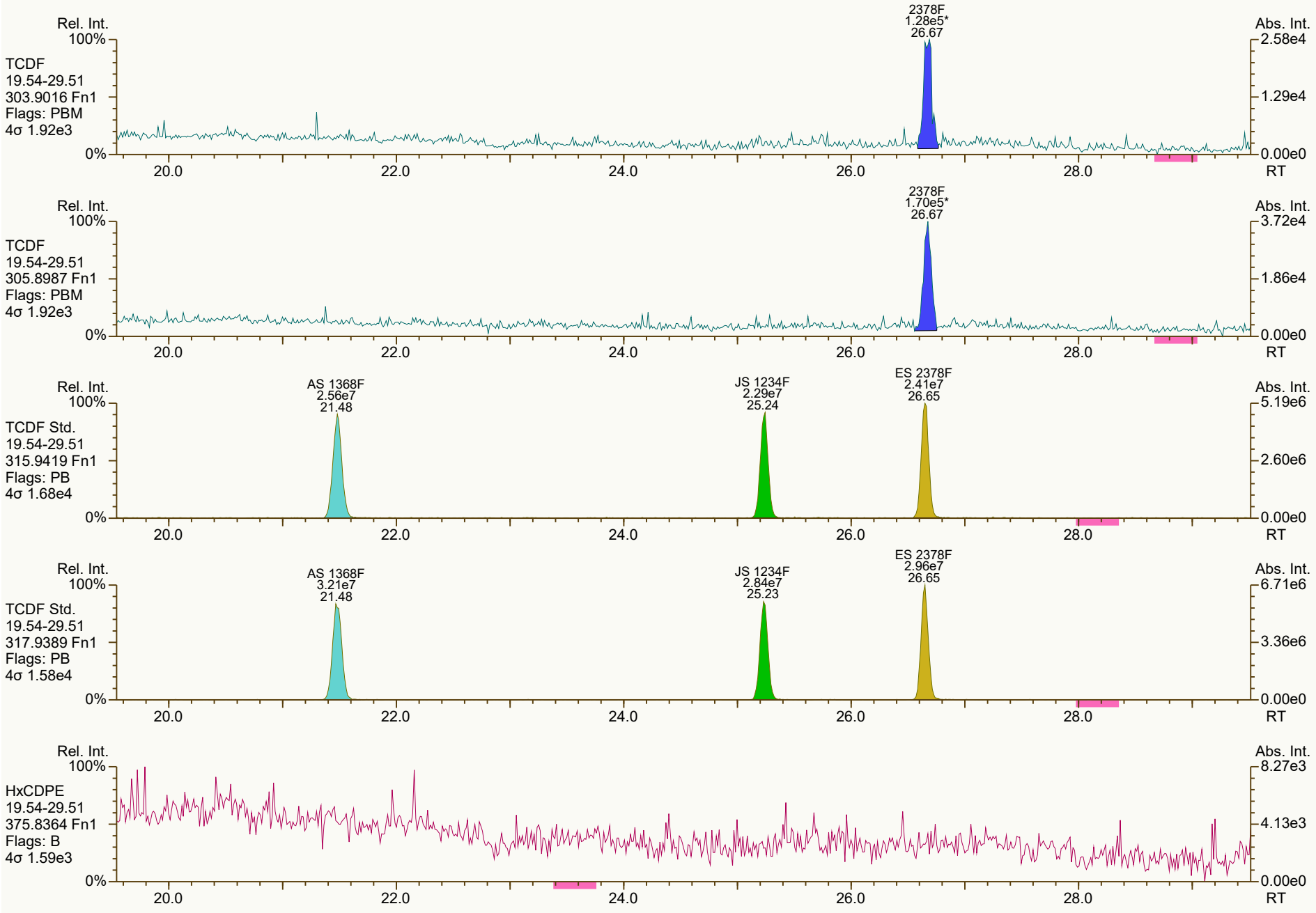

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 3.33e3
0%
2378D
1.05e5*
27.58
Abs. Int.
2.76e4
1.38e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.06e3
0%
2378D
1.27e5*
27.58
Abs. Int.
2.99e4
1.49e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.52e3
0%
CS 37Cl-2378D
2.01e5*
27.59
Abs. Int.
5.18e4
2.59e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 1.05e4
0%
AS 1368D
1.71e7
23.72
TS 1378D
2.28e7
25.84
JS 1234D
1.64e7
26.89
ES 2378D
1.66e7
27.56
FS 1278D
1.82e7
27.90
Abs. Int.
4.92e6
2.46e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 5.59e3
0%
AS 1368D
2.15e7
23.72
TS 1378D
2.86e7
25.84
JS 1234D
2.03e7
26.89
ES 2378D
2.11e7
27.56
FS 1278D
2.26e7
27.90
Abs. Int.
6.21e6
3.10e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

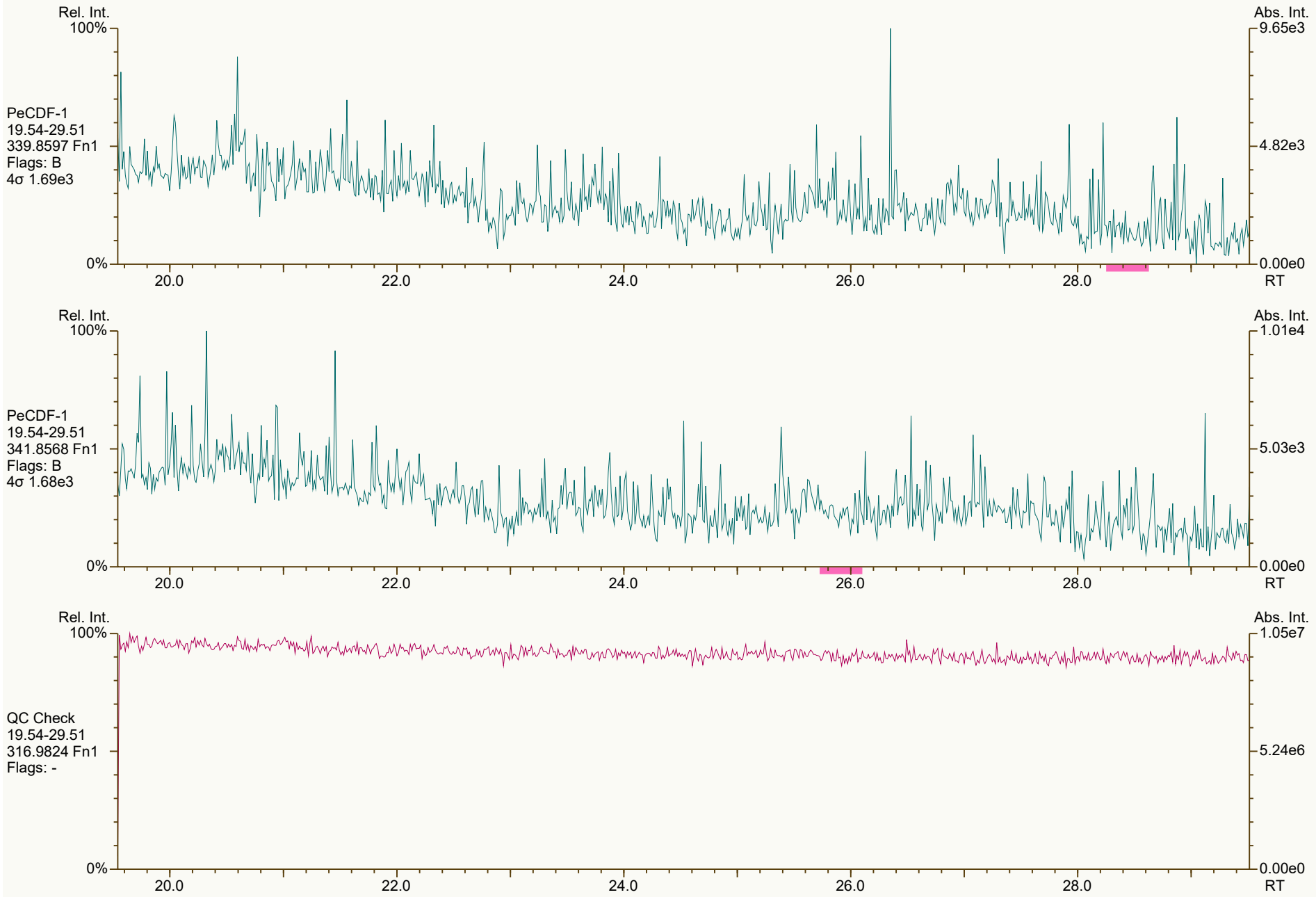

Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.25e3
12378D
4.88e5*
33.10
Abs. Int.
1.51e5
7.55e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.19e3
12378D
3.53e5*
33.10
1.03e5
5.14e4
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 5.61e3
RRF(ES12378D) = (1.89e7 + 1.20e7) * 100pg / (1.64e7 + 2.03e7) * 100pg = 0.842
DTF 11-Nov-2021 10:10
FS 12478D
2.11e7
31.83
CS 12347D
1.72e7
32.58
ES 12378D
1.89e7
33.08
6.25e6
3.12e6
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 2.44e3
APPROVED
Amy_Boehm , 11/11/2021, 5:16:42 PM
FS 12478D
1.36e7
31.83
CS 12347D
1.05e7
32.57
ES 12378D
1.20e7
33.08
3.84e6
1.92e6
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
8.00e6
4.00e6


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.24e3
123478D
4.24e5*
37.03
123678D
4.51e5*
37.15
123789D
4.65e5*
37.46
Abs. Int.
1.53e5
7.67e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.44e3
123478D
3.28e5*
37.03
123678D
3.41e5*
37.15
123789D
3.78e5*
37.46
Abs. Int.
1.16e5
5.79e4
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 3.11e3
FS 123468D
1.89e7
35.96
ES 123678D
1.47e7
37.13
ES 123478D
1.50e7
37.02
ES 123789D
1.63e7*
37.44
JS 123467D
7.96e6*
37.34
Abs. Int.
6.03e6
3.01e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 2.68e3
FS 123468D
1.53e7
35.97
ES 123678D
1.13e7
37.13
ES 123478D
1.17e7
37.02
ES 123789D
1.31e7*
37.44
JS 123467D
6.45e6*
37.34
Abs. Int.
4.80e6
2.40e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.33e7
1.17e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

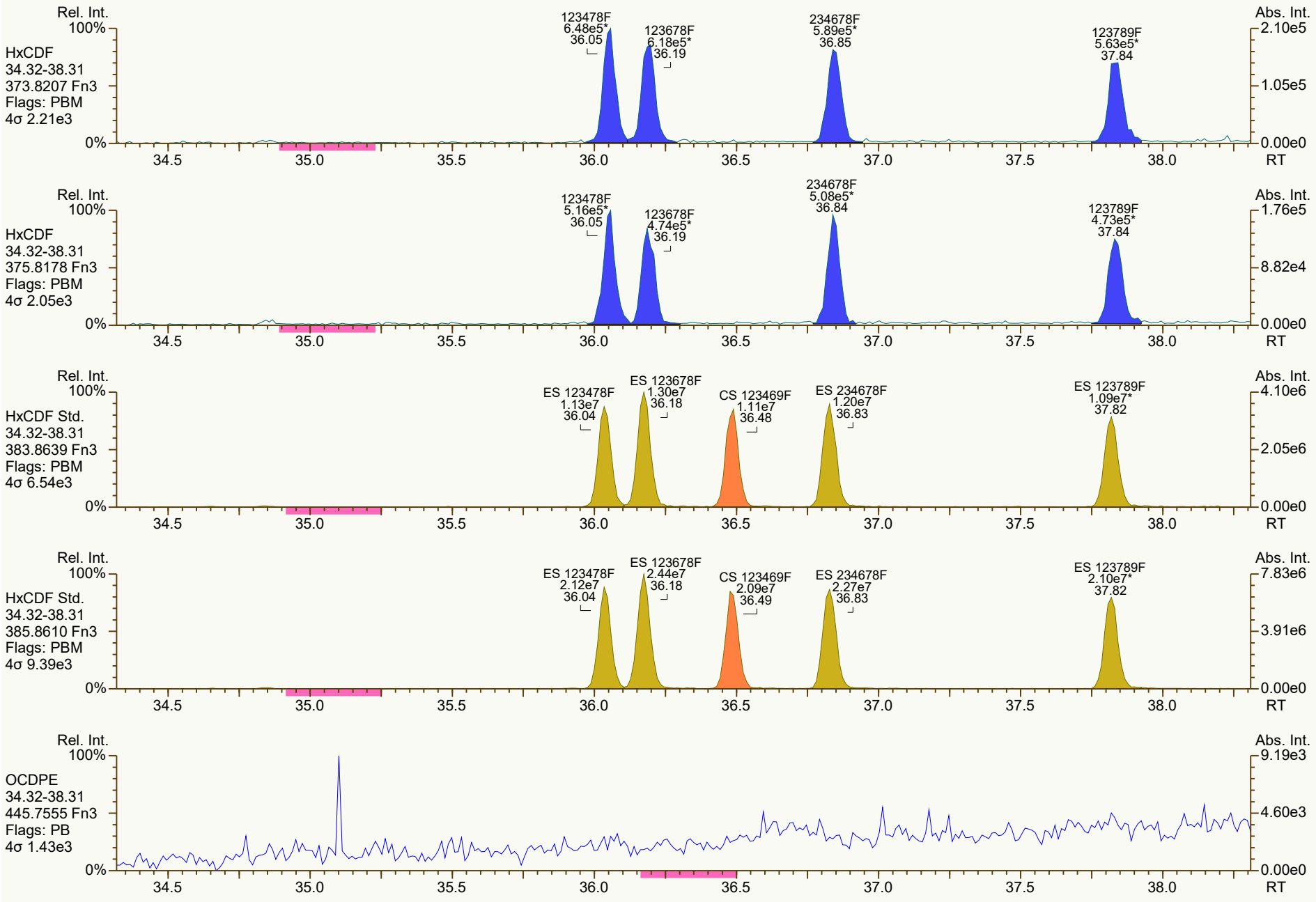

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.23e3
0%
1234678D
3.76e5*
40.27
Abs. Int.
1.39e5
6.97e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.19e3
0%
1234678D
3.51e5*
40.27
Abs. Int.
1.26e5
6.28e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 4.65e3
0%
FS 1234679D
1.80e7
39.60
ES 1234678D
1.30e7
40.26
Abs. Int.
6.94e6
3.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.30e3
0%
FS 1234679D
1.70e7
39.60
ES 1234678D
1.22e7
40.26
Abs. Int.
6.28e6
3.14e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.45e7
7.27e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

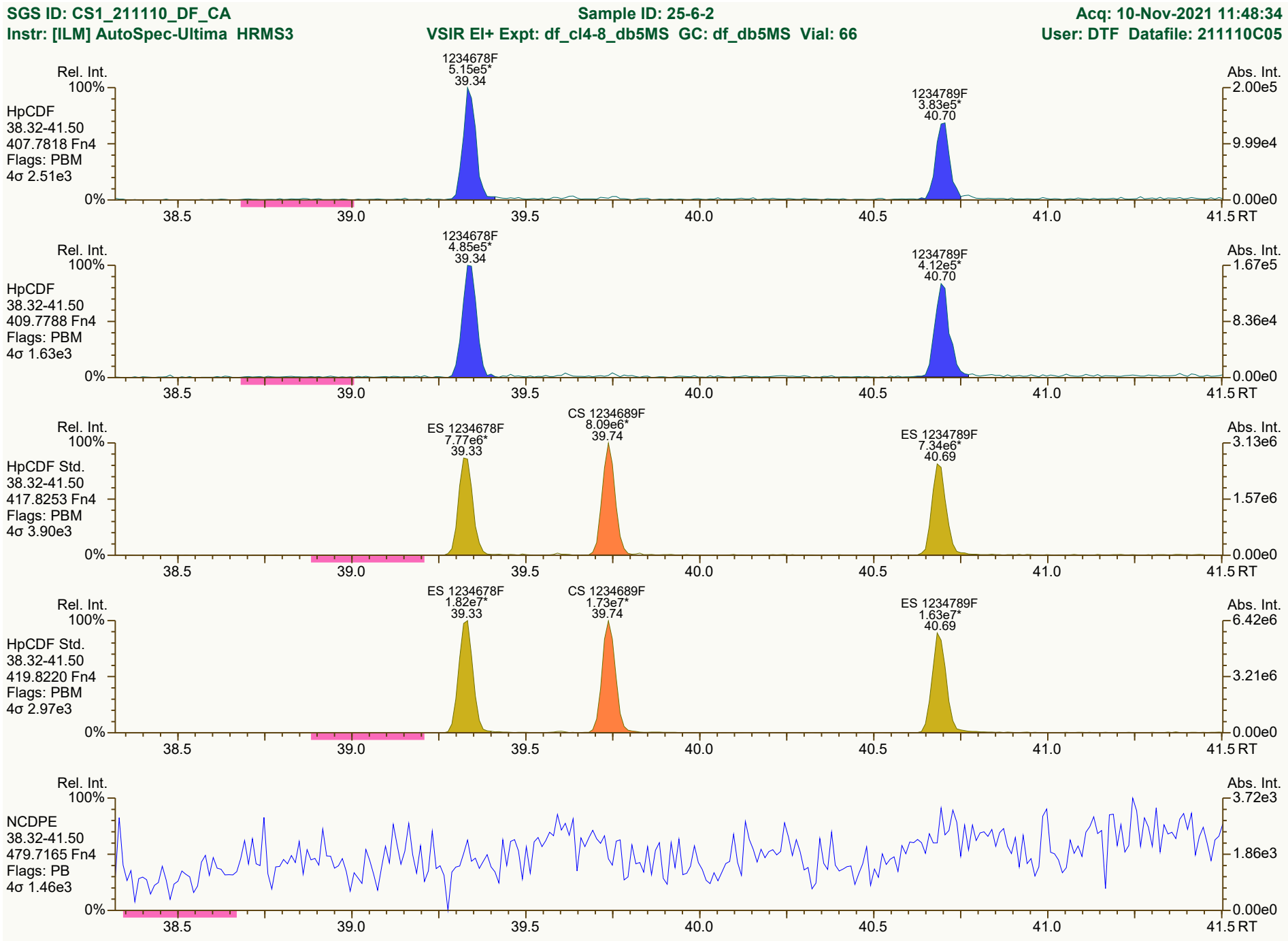

OCDD
4.71e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.83e3
0%
Abs. Int.
1.34e5
6.72e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.42e5*
42.82
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.73e3
0%
Abs. Int.
1.71e5
8.53e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.61e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.24e3
0%
Abs. Int.
4.68e6
2.34e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.76e7
42.81
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.51e3
0%
Abs. Int.
4.93e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.56e7
7.81e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

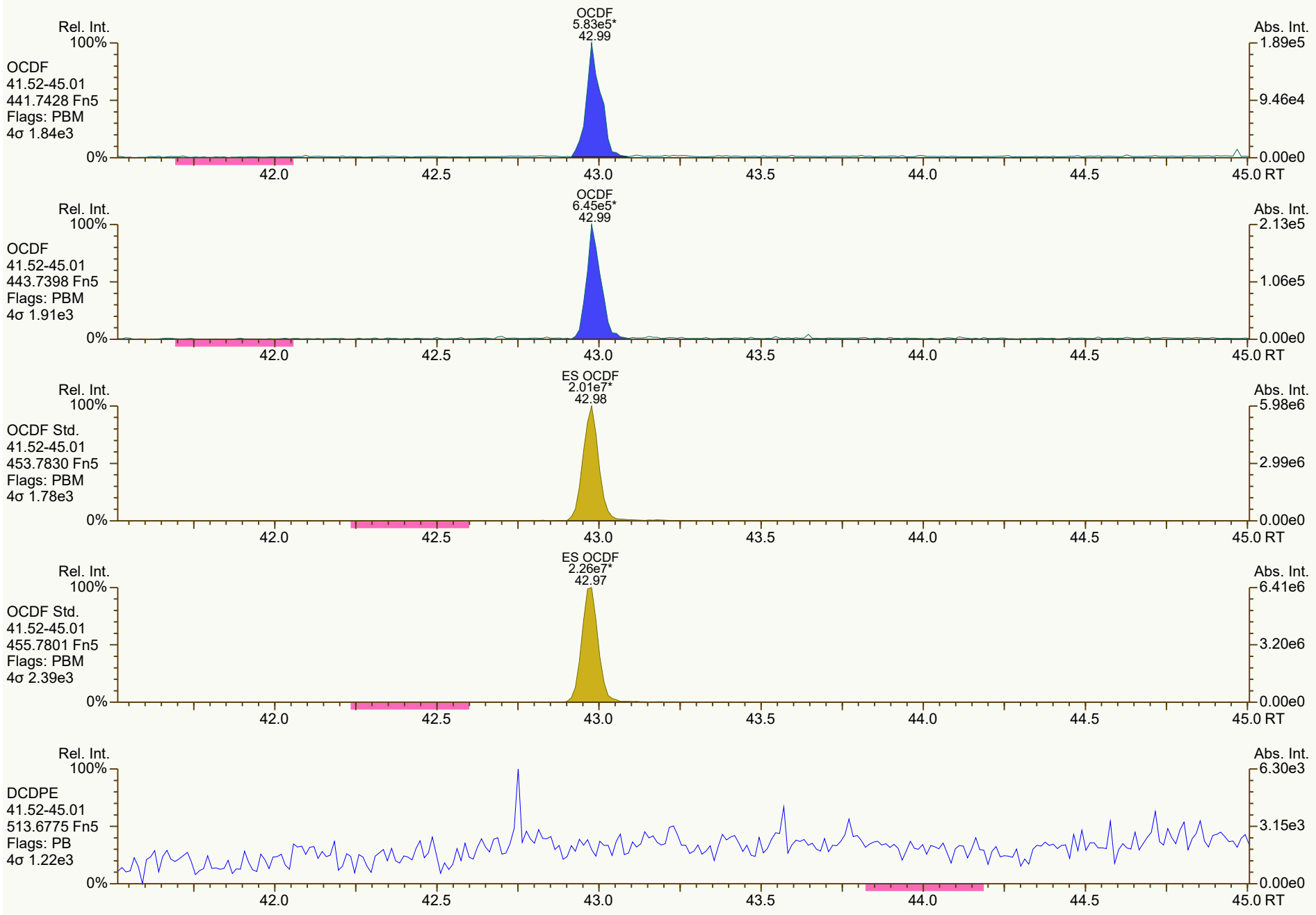

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.28e5*
26.67
Abs. Int.
2.58e4
1.29e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 1.92e3
0%
2378F
1.70e5*
26.67
Abs. Int.
3.72e4
1.86e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.68e4
0%
AS 1368F
2.56e7
21.48
JS 1234F
2.29e7
25.24
ES 2378F
2.41e7
26.65
Abs. Int.
5.19e6
2.60e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.58e4
0%
AS 1368F
3.21e7
21.48
JS 1234F
2.84e7
25.23
ES 2378F
2.96e7
26.65
Abs. Int.
6.71e6
3.36e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.59e3
0%
Abs. Int.
8.27e3
4.13e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.65e3
4.82e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.69e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.01e4
5.03e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.68e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.05e7
5.24e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.22e3
12378F
7.20e5
31.61
23478F
7.27e5*
32.74
Abs. Int.
2.10e5
1.05e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 1.97e3
12378F
5.04e5
31.61
23478F
4.71e5*
32.74
Abs. Int.
1.40e5
7.02e4
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 2.97e3
CS 12346F
2.65e7
31.06
ES 12378F
2.76e7
31.60
ES 23478F
2.63e7
32.73
Abs. Int.
7.54e6
3.77e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 3.57e3
CS 12346F
1.69e7
31.06
ES 12378F
1.79e7
31.60
ES 23478F
1.71e7
32.73
Abs. Int.
4.85e6
2.42e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.93e3
Abs. Int.
1.10e4
5.51e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.21e3
0%
123478F
6.48e5*
36.05
123678F
6.18e5*
36.19
234678F
5.89e5*
36.85
123789F
5.63e5*
37.84
Abs. Int.
2.10e5
1.05e5
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.05e3
0%
123478F
5.16e5*
36.05
123678F
4.74e5*
36.19
234678F
5.08e5*
36.84
123789F
4.73e5*
37.84
Abs. Int.
1.76e5
8.82e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 6.54e3
0%
ES 123478F
1.13e7
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.11e7
36.48
ES 234678F
1.20e7
36.83
ES 123789F
1.09e7*
37.82
Abs. Int.
4.10e6
2.05e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.39e3
0%
ES 123478F
2.12e7
36.04
ES 123678F
2.44e7
36.18
CS 123469F
2.09e7
36.49
ES 234678F
2.27e7
36.83
ES 123789F
2.10e7*
37.82
Abs. Int.
7.83e6
3.91e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.43e3
0%
Abs. Int.
9.19e3
4.60e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


SGS ID: CS1_211110_DF_CA
Sample ID: 25-6-2
Acq: 10-Nov-2021 11:48:34
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 66
User: DTF Datafile: 211110C05
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.51e3
1234678F
5.15e5*
39.34
1234789F
3.83e5*
40.70
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.63e3
1234678F
4.85e5*
39.34
1234789F
4.12e5*
40.70
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 3.90e3
ES 1234678F
7.77e6*
39.33
CS 1234689F
8.09e6*
39.74
ES 1234789F
7.34e6*
40.69
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.97e3
ES 1234678F
1.82e7*
39.33
CS 1234689F
1.73e7*
39.74
ES 1234789F
1.63e7*
40.69
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.46e3
RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS1_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3913, 8502, 2889 scc: 419-111
Revised: 10-Nov-2021 13:39 (DTF) Printed: 11-Nov-2021 10:40 Page 11 of 12

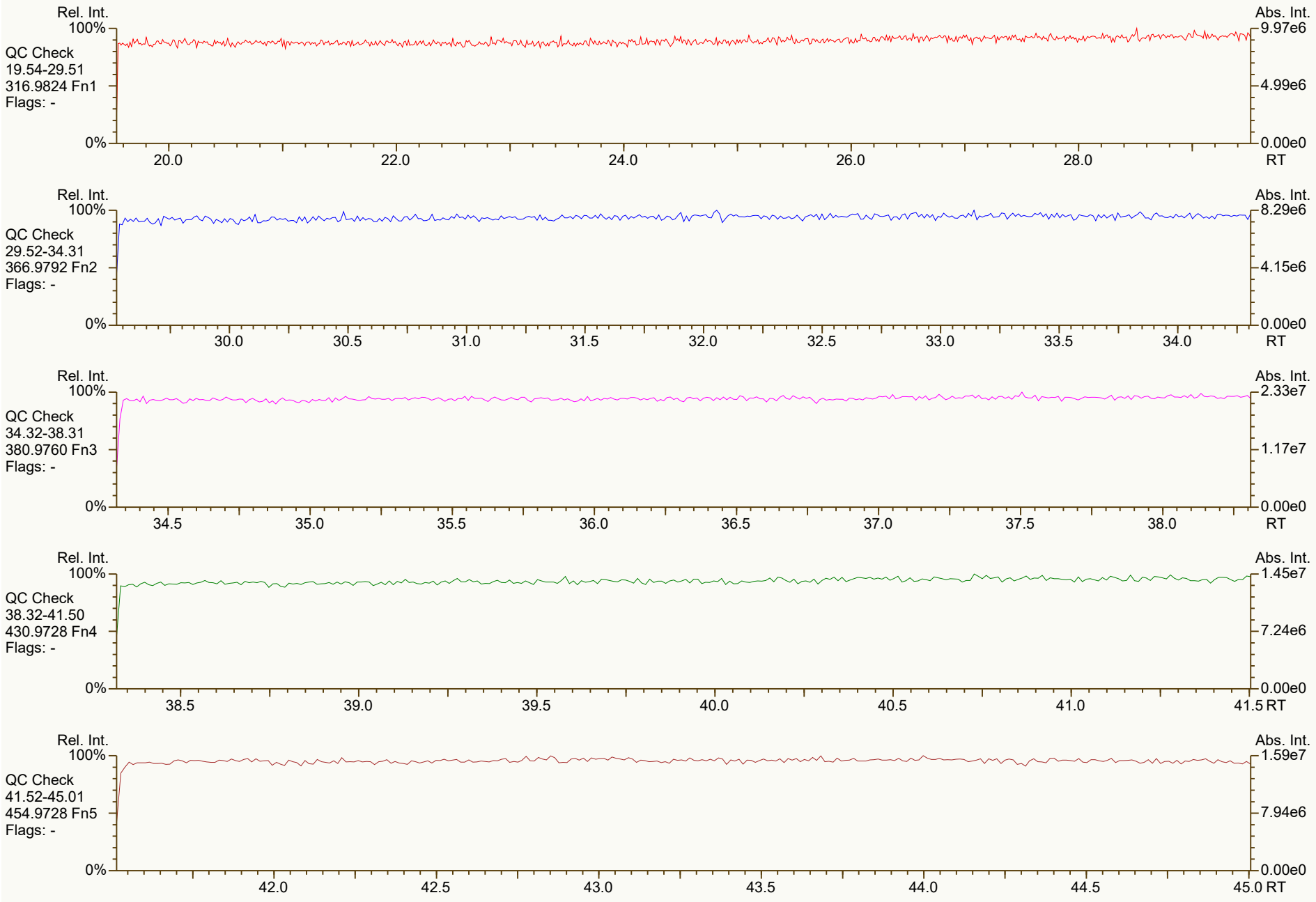

Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.84e3
0%
OCDF
5.83e5*
42.99
Abs. Int.
1.89e5
9.46e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 1.91e3
0%
OCDF
6.45e5*
42.99
Abs. Int.
2.13e5
1.06e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.78e3
0%
ES OCDF
2.01e7*
42.98
Abs. Int.
5.98e6
2.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.39e3
0%
ES OCDF
2.26e7*
42.97
Abs. Int.
6.41e6
3.20e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.22e3
0%
Abs. Int.
6.30e3
3.15e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

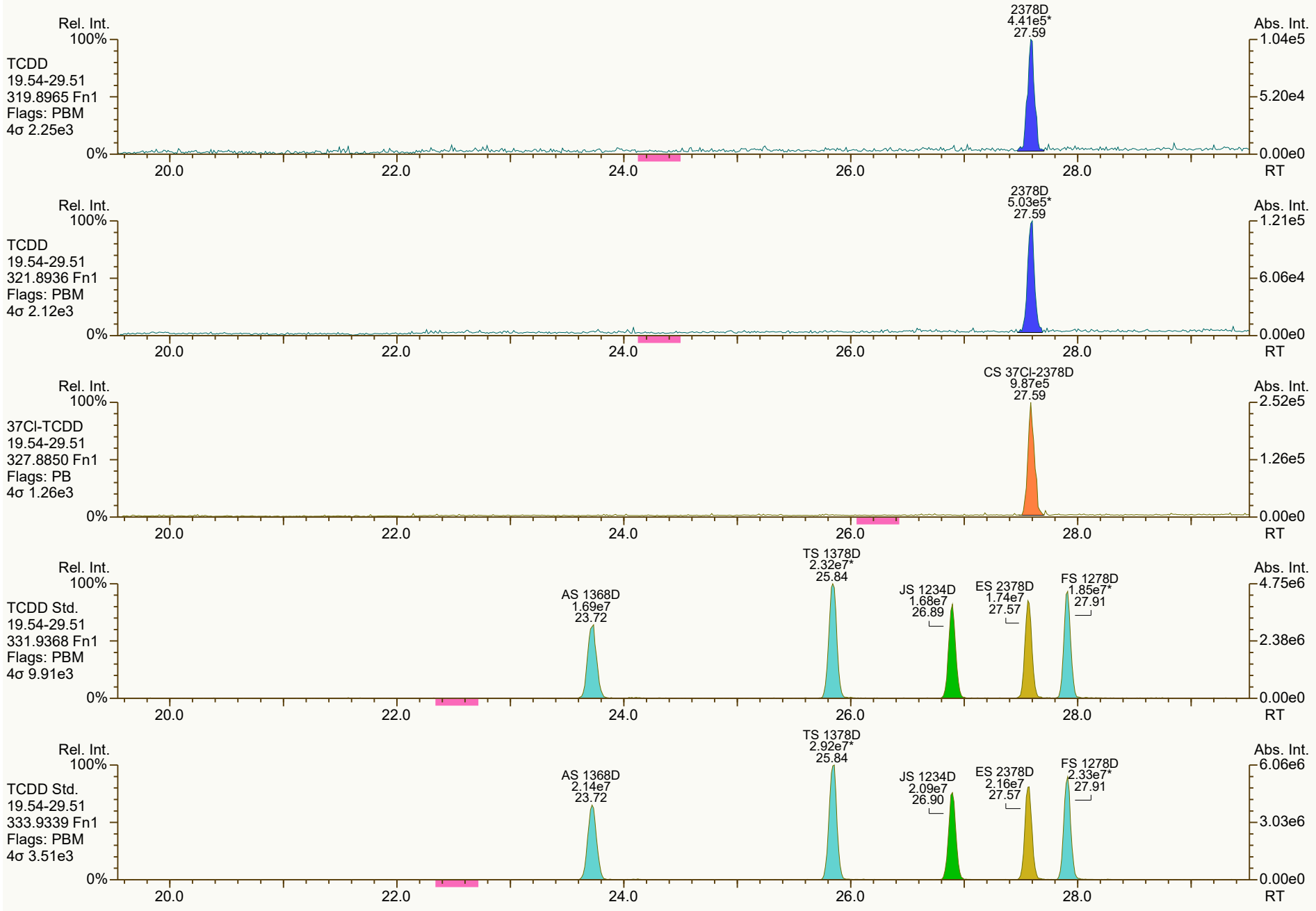
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

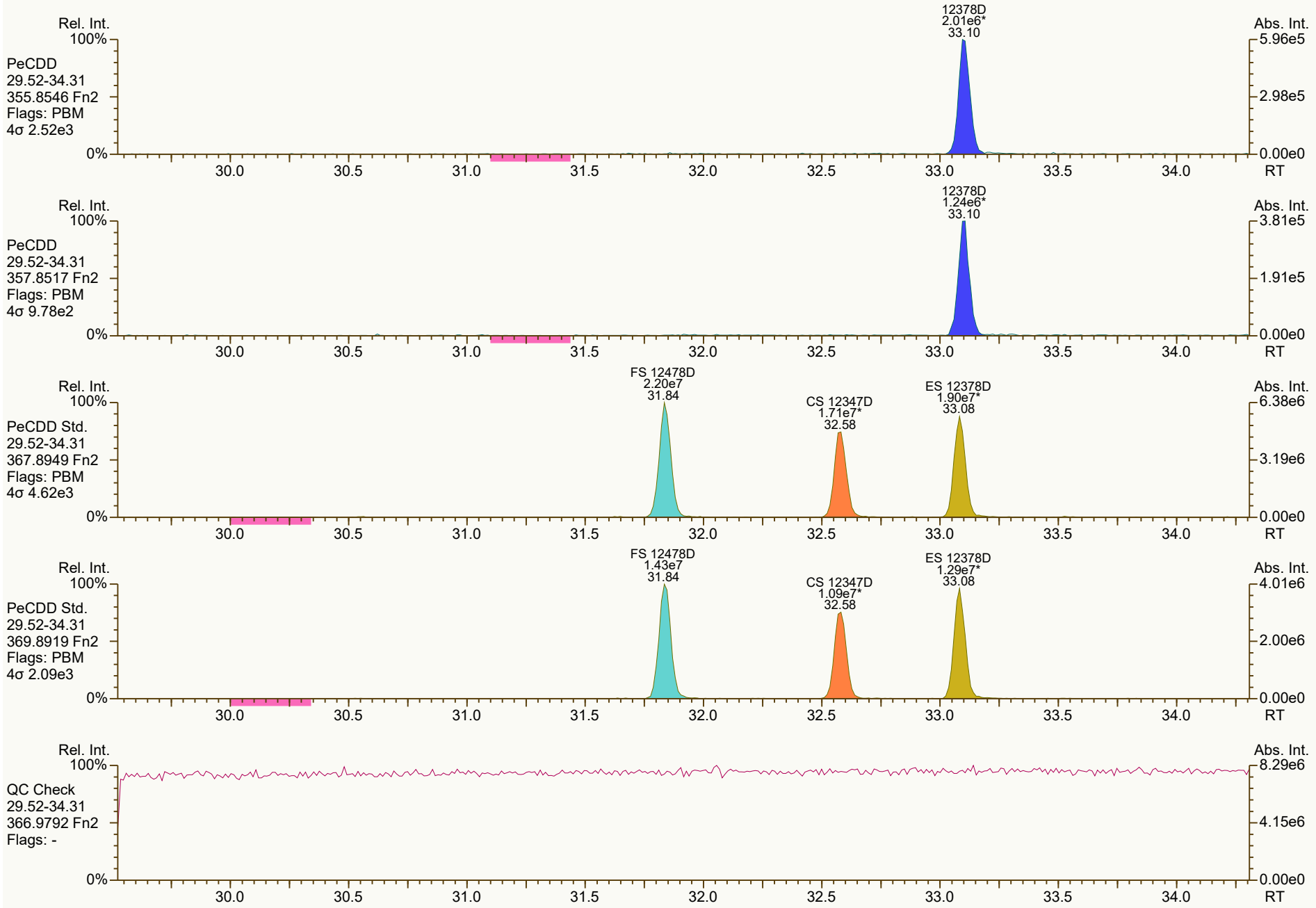
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	9.44E+05	0.88	Y	1.18	1.21	2%
12378-PeCDD	33.10	3.25E+06	1.61	Y	1.04	1.02	-2%
123478-HxCDD	37.04	2.92E+06	1.19	Y	1.09	1.04	-4%
123678-HxCDD	37.15	2.94E+06	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.46	3.16E+06	1.22	Y	1.05	1.01	-3%
1234678-HpCDD	40.28	2.64E+06	1.05	Y	1.06	1.04	-2%
OCDD	42.83	3.88E+06	0.86	Y	1.13	1.12	0%
2378-TCDF	26.68	1.25E+06	0.84	Y	1.08	1.12	4%
12378-PeCDF	31.62	4.63E+06	1.55	Y	1.02	1.00	-2%
23478-PeCDF	32.75	4.45E+06	1.49	Y	1.02	0.99	-3%
123478-HxCDF	36.06	4.25E+06	1.27	Y	1.27	1.24	-3%
123678-HxCDF	36.20	4.30E+06	1.20	Y	1.15	1.15	0%
234678-HxCDF	36.85	4.01E+06	1.25	Y	1.19	1.14	-4%
123789-HxCDF	37.84	3.70E+06	1.23	Y	1.16	1.14	-2%
1234678-HpCDF	39.35	3.66E+06	1.02	Y	1.37	1.36	-1%
1234789-HpCDF	40.71	3.08E+06	1.05	Y	1.31	1.31	0%
OCDF	43.00	4.59E+06	0.93	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.90E+07	0.80	Y	1.05	1.03	-1%
ES 12378-PeCDD	33.085	3.19E+07	1.48	Y	0.88	0.84	-4%
ES 123478-HxCDD	37.025	2.80E+07	1.29	Y	0.97	0.99	1%
ES 123678-HxCDD	37.14	2.62E+07	1.27	Y	0.94	0.92	-2%
ES 123789-HxCDD	37.448	3.12E+07	1.23	Y	1.09	1.10	1%
ES 1234678-HpCDD	40.265	2.55E+07	1.03	Y	0.91	0.90	-2%
ES OCDD	42.818	3.46E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.655	5.56E+07	0.80	Y	1.06	1.07	1%
ES 12378-PeCDF	31.601	4.63E+07	1.54	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.732	4.49E+07	1.57	Y	0.88	0.87	-2%
ES 123478-HxCDF	36.041	3.44E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.18	3.73E+07	0.54	Y	1.35	1.31	-3%
ES 234678-HxCDF	36.835	3.52E+07	0.52	Y	1.24	1.24	0%
ES 123789-HxCDF	37.826	3.24E+07	0.53	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.334	2.69E+07	0.46	Y	0.97	0.95	-2%
ES 1234789-HpCDF	40.697	2.36E+07	0.47	Y	0.85	0.83	-2%
ES OCDF	42.986	4.51E+07	0.90	Y	0.81	0.79	-2%

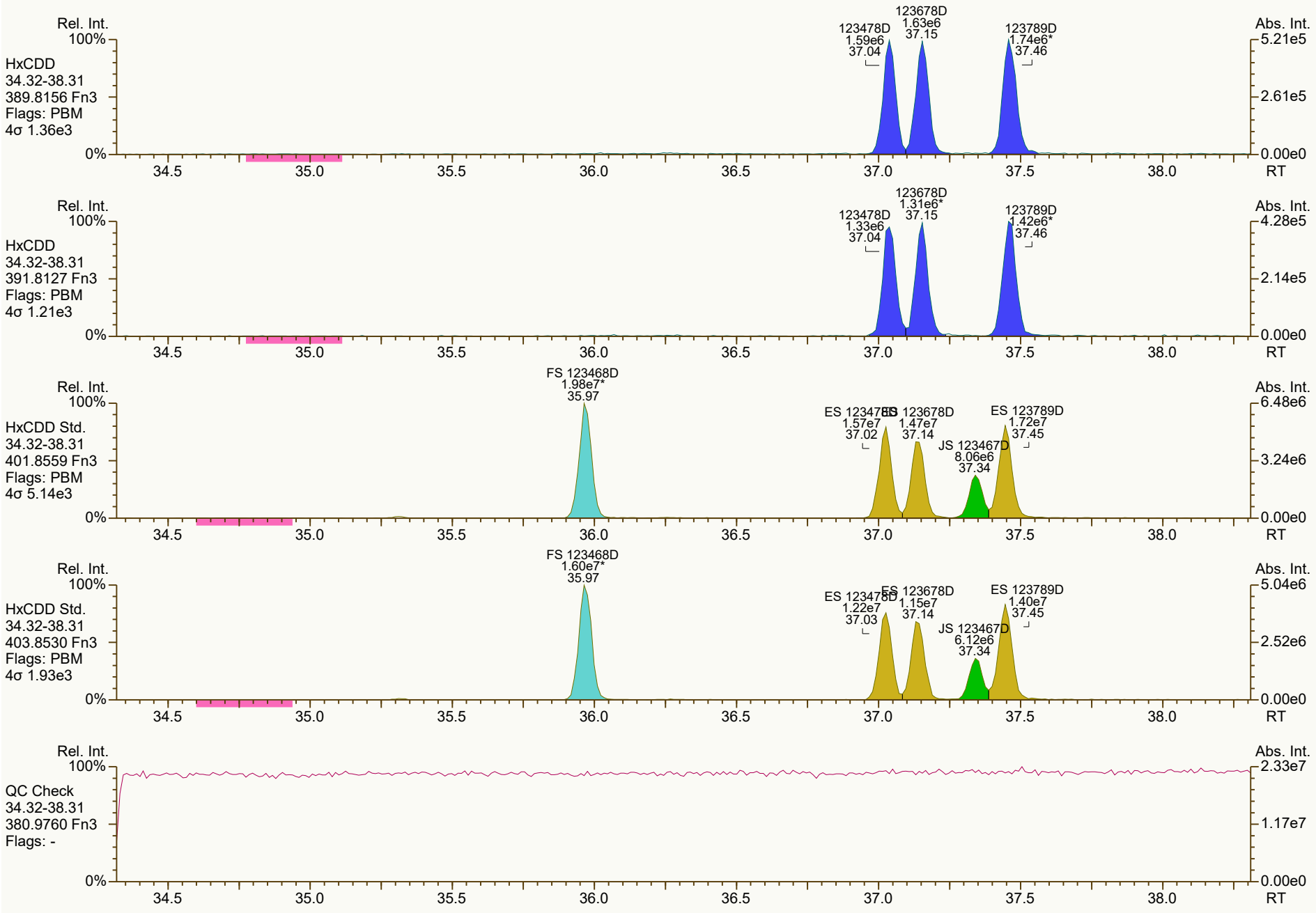
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 12:34 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS2_211110_DF_CA	UTP: 11-Nov-2021 16:22:21 DTF	Checkcode: 385-758-WQN
Sample ID: 25-6-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C06

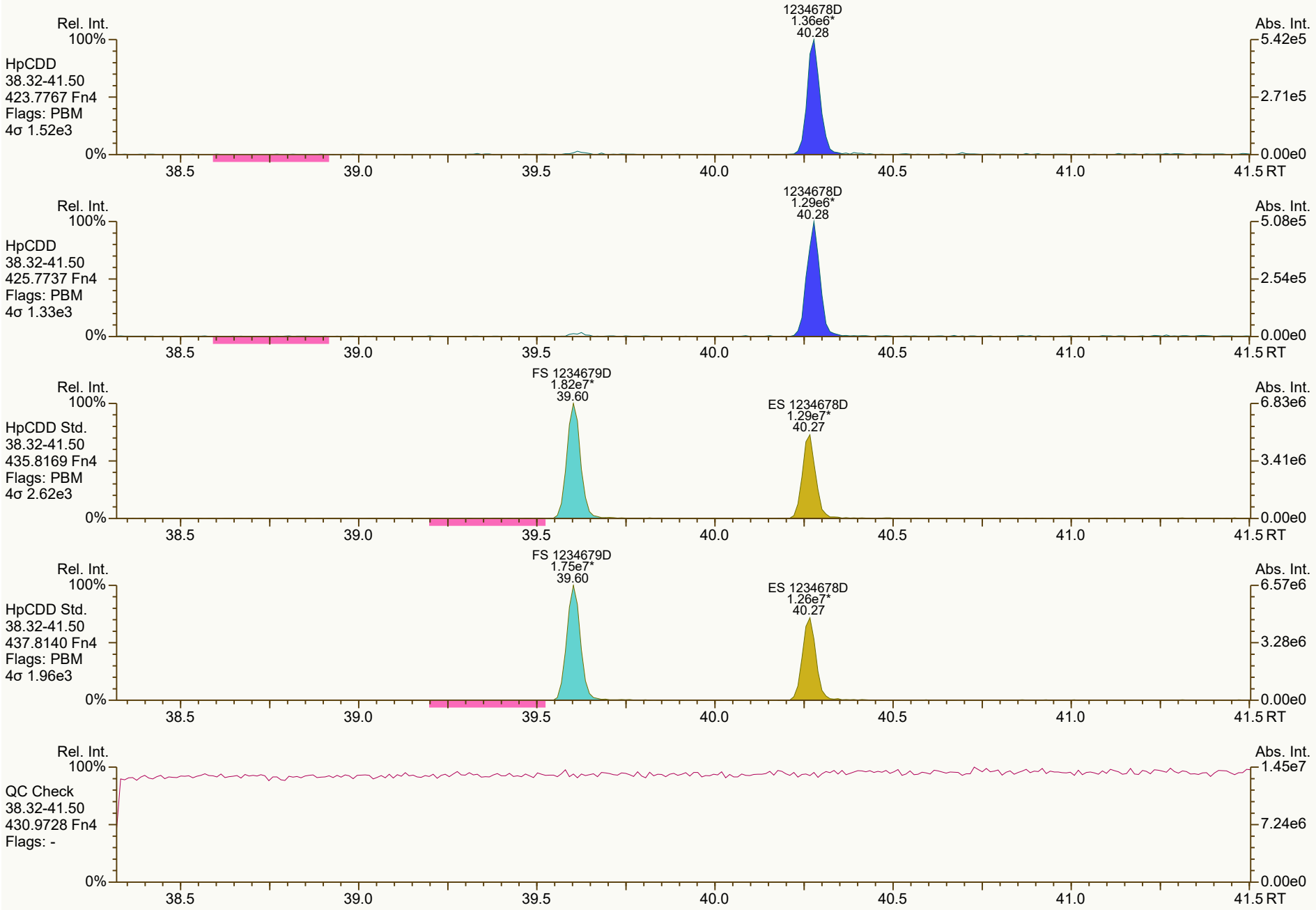
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.77E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	5.19E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.42E+07	1.32	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.20	1.31	9%
CS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.85	0.86	1%
CS 123469-HxCDF	36.49	3.27E+07	0.55	Y	1.12	1.15	3%
CS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.89	0.93	4%
SS 37Cl-2378-TCDD	27.59	9.87E+05	n/a	-	1.15	1.27	10%
SS 12347-PeCDD	32.58	2.80E+07	1.56	Y	0.86	0.88	2%
SS 12346-PeCDF	31.07	4.47E+07	1.57	Y	0.94	0.97	3%
SS 123469-HxCDF	36.49	3.27E+07	0.55	Y	0.83	0.88	6%
SS 1234689-HpCDF	39.75	2.63E+07	0.45	Y	0.92	0.98	6%
AS 1368-TCDD	23.72	3.83E+07	0.79	Y	1.06	1.01	-4%
AS 1368-TCDF	21.49	5.88E+07	0.81	Y	1.13	1.13	1%
FS 1278-TCDD	27.91	4.18E+07	0.79	Y	1.07	1.07	0%
FS 12478-PeCDD	31.84	3.63E+07	1.54	Y	1.09	1.14	4%
FS 123468-HxCDD	35.97	3.57E+07	1.24	Y	1.26	1.28	2%
FS 1234679-HpCDD	39.61	3.57E+07	1.04	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	5.24E+07	0.80	Y	1.34	1.34	1%
OCDD-a	42.83	2.58E+05	2.22	Y	0.07	0.07	3%
OCDF-a	42.99	3.24E+05	2.76	Y	0.07	0.07	8%

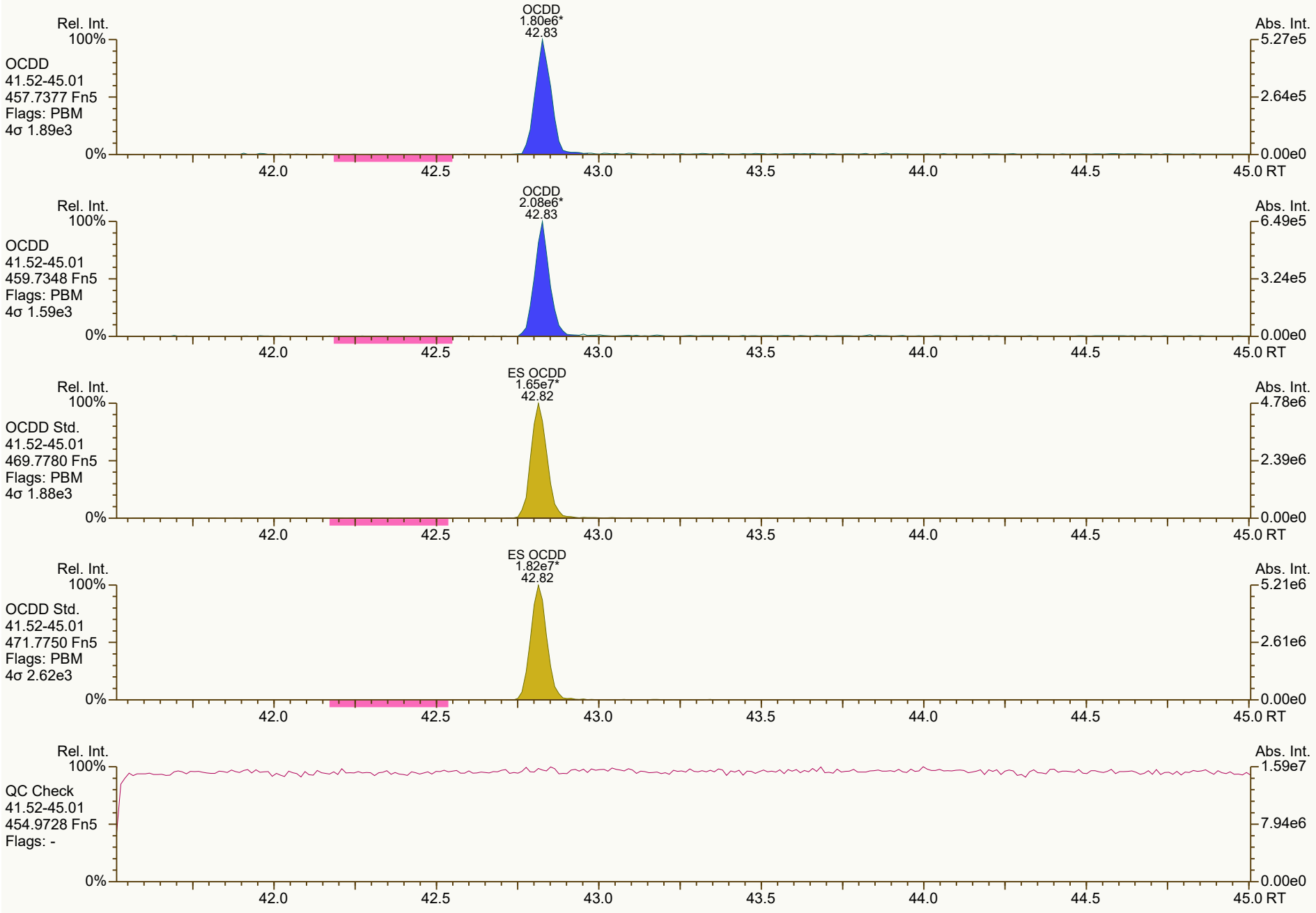

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.97e6
4.99e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.29e6
4.15e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.33e7
1.17e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.45e7
7.24e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.59e7
7.94e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PBM
4σ 2.25e3
0%
2378D
4.41e5*
27.59
Abs. Int.
1.04e5
5.20e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PBM
4σ 2.12e3
0%
2378D
5.03e5*
27.59
Abs. Int.
1.21e5
6.06e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.26e3
0%
CS 37Cl-2378D
9.87e5
27.59
Abs. Int.
2.52e5
1.26e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PBM
4σ 9.91e3
0%
AS 1368D
1.69e7
23.72
TS 1378D
2.32e7*
25.84
JS 1234D
1.68e7
26.89
ES 2378D
1.74e7
27.57
FS 1278D
1.85e7*
27.91
Abs. Int.
4.75e6
2.38e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PBM
4σ 3.51e3
0%
AS 1368D
2.14e7
23.72
TS 1378D
2.92e7*
25.84
JS 1234D
2.09e7
26.90
ES 2378D
2.16e7
27.57
FS 1278D
2.33e7*
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 2.52e3
12378D
2.01e6*
33.10
Abs. Int.
5.96e5
2.98e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 9.78e2
12378D
1.24e6*
33.10
Abs. Int.
3.81e5
1.91e5
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 4.62e3
FS 12478D
2.20e7
31.84
CS 12347D
1.71e7*
32.58
ES 12378D
1.90e7*
33.08
Abs. Int.
6.38e6
3.19e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 2.09e3
FS 12478D
1.43e7
31.84
CS 12347D
1.09e7*
32.58
ES 12378D
1.29e7*
33.08
Abs. Int.
4.01e6
2.00e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
8.29e6
4.15e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.36e3
123478D
1.59e6
37.04
123678D
1.63e6
37.15
123789D
1.74e6*
37.46
Abs. Int.
5.21e5
2.61e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.21e3
123478D
1.33e6
37.04
123678D
1.31e6*
37.15
123789D
1.42e6*
37.46
4.28e5
2.14e5
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 5.14e3
FS 123468D
1.98e7*
35.97
ES 123478D
1.57e7
37.02
ES 123678D
1.47e7
37.14
JS 123467D
8.06e6
37.34
ES 123789D
1.72e7
37.45
6.48e6
3.24e6
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 1.93e3
FS 123468D
1.60e7*
35.97
ES 123478D
1.22e7
37.03
ES 123678D
1.15e7
37.14
JS 123467D
6.12e6
37.34
ES 123789D
1.40e7
37.45
5.04e6
2.52e6
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
2.33e7
1.17e7

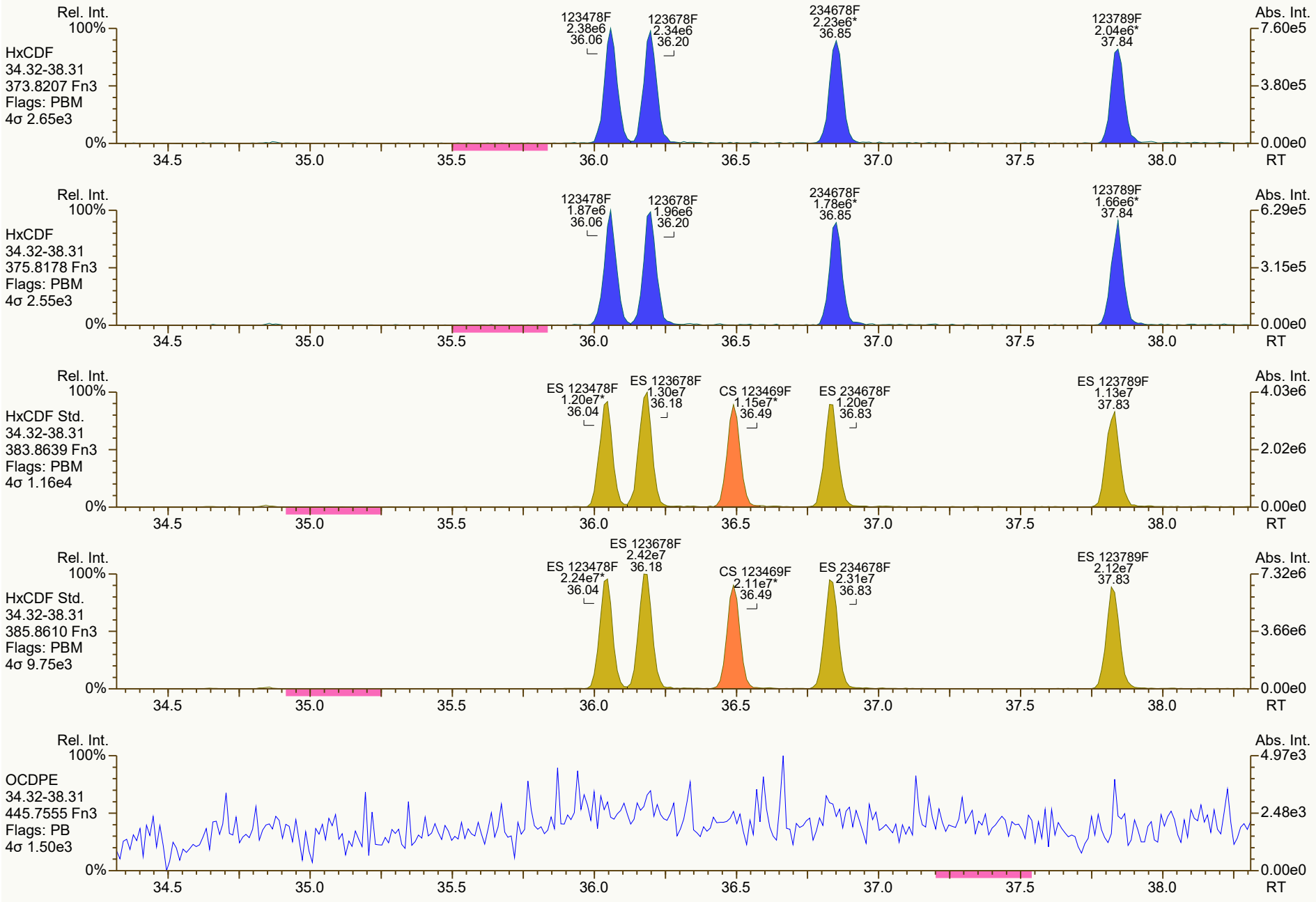

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 1.52e3
1234678D
1.36e6*
40.28
Abs. Int.
5.42e5
2.71e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.33e3
1234678D
1.29e6*
40.28
Abs. Int.
5.08e5
2.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PBM
4σ 2.62e3
FS 1234679D
1.82e7*
39.60
ES 1234678D
1.29e7*
40.27
Abs. Int.
6.83e6
3.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PBM
4σ 1.96e3
FS 1234679D
1.75e7*
39.60
ES 1234678D
1.26e7*
40.27
Abs. Int.
6.57e6
3.28e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.45e7
7.24e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

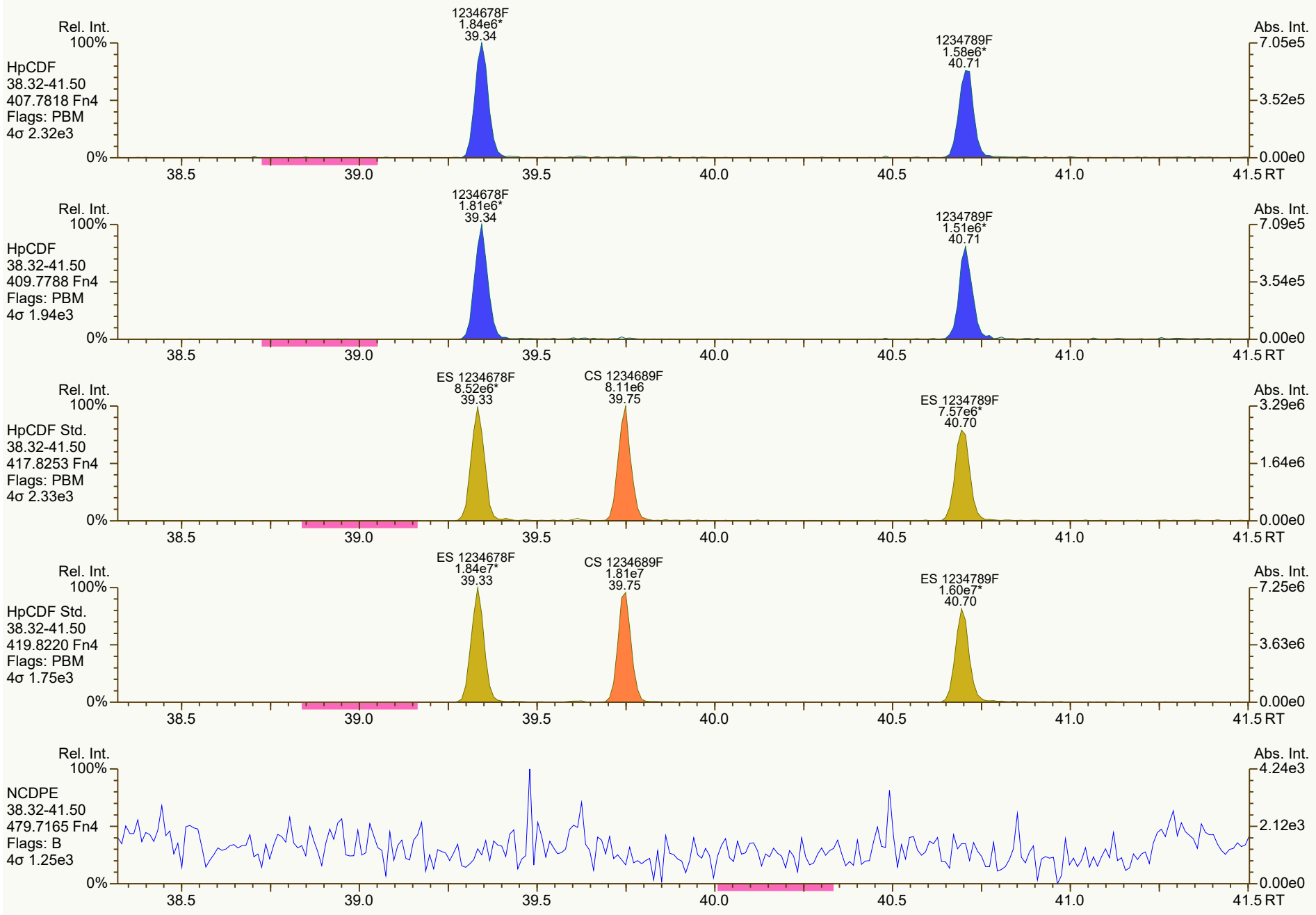

OCDD
1.80e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.89e3
0%
Abs. Int.
5.27e5
2.64e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
2.08e6*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 1.59e3
0%
Abs. Int.
6.49e5
3.24e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.65e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PBM
4σ 1.88e3
0%
Abs. Int.
4.78e6
2.39e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.82e7*
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PBM
4σ 2.62e3
0%
Abs. Int.
5.21e6
2.61e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.59e7
7.94e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

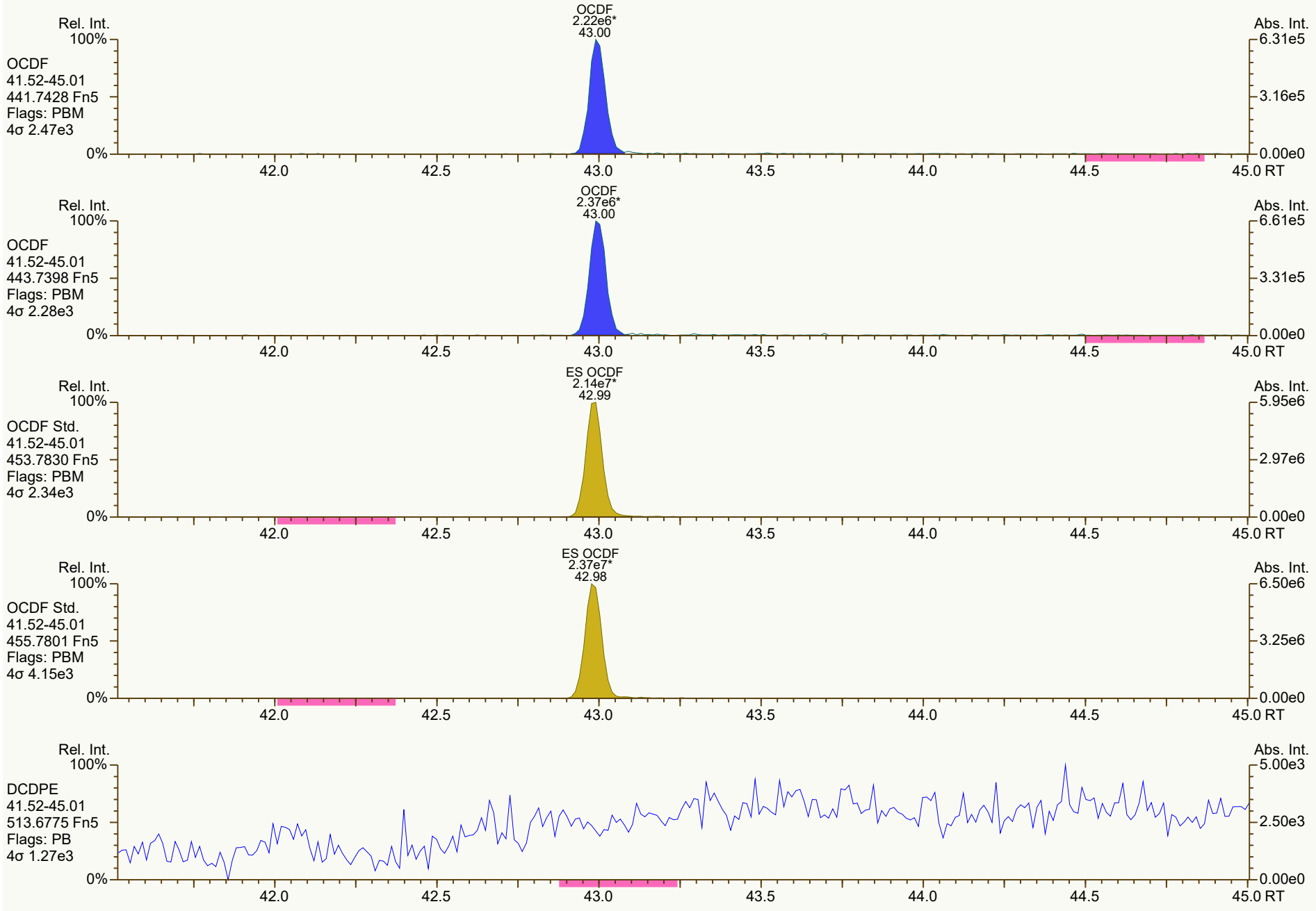

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 1.35e3
0%
2378F
5.70e5*
26.68
Abs. Int.
1.27e5
6.37e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 2.14e3
0%
2378F
6.77e5*
26.68
Abs. Int.
1.62e5
8.11e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.56e4
0%
AS 1368F
2.63e7
21.49
JS 1234F
2.34e7
25.24
ES 2378F
2.46e7*
26.65
Abs. Int.
5.72e6
2.86e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.32e4
0%
AS 1368F
3.24e7
21.49
JS 1234F
2.85e7
25.24
ES 2378F
3.10e7*
26.65
Abs. Int.
7.12e6
3.56e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.25e3
0%
Abs. Int.
8.34e3
4.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.23e3
4.62e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.53e4
7.63e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 2.32e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.97e6
4.99e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 2.51e3
0%
12378F
2.81e6*
31.62
23478F
2.66e6
32.75
Abs. Int.
8.19e5
4.10e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 2.47e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:19:05 PM
12378F
1.82e6*
31.62
23478F
1.79e6
32.75
Abs. Int.
5.27e5
2.63e5
0.00e0
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PBM
4σ 5.67e3
0%
RRF(CS) = (2.73e7 + 1.74e7) * 100 / (2.34e7 + 2.85e7) * 100 = 0.861
DTF 11-Nov-2021 10:15
CS 12346F
2.73e7
31.07
ES 12378F
2.81e7
31.60
ES 23478F
2.74e7*
32.73
Abs. Int.
8.01e6
4.01e6
0.00e0
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PBM
4σ 4.28e3
0%
CS 12346F
1.74e7
31.07
ES 12378F
1.82e7
31.60
ES 23478F
1.75e7*
32.73
Abs. Int.
5.19e6
2.59e6
0.00e0
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.50e3
0%
Abs. Int.
6.67e3
3.33e3
0.00e0


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.65e3
0%
123478F
2.38e6
36.06
123678F
2.34e6
36.20
234678F
2.23e6*
36.85
123789F
2.04e6*
37.84
Abs. Int.
7.60e5
3.80e5
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.55e3
123478F
1.87e6
36.06
123678F
1.96e6
36.20
234678F
1.78e6*
36.85
123789F
1.66e6*
37.84
6.29e5
3.15e5
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 1.16e4
ES 123478F
1.20e7*
36.04
ES 123678F
1.30e7
36.18
CS 123469F
1.15e7*
36.49
ES 234678F
1.20e7
36.83
ES 123789F
1.13e7
37.83
4.03e6
2.02e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.75e3
ES 123478F
2.24e7*
36.04
ES 123678F
2.42e7
36.18
CS 123469F
2.11e7*
36.49
ES 234678F
2.31e7
36.83
ES 123789F
2.12e7
37.83
7.32e6
3.66e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: PB
4σ 1.50e3
4.97e3
2.48e3

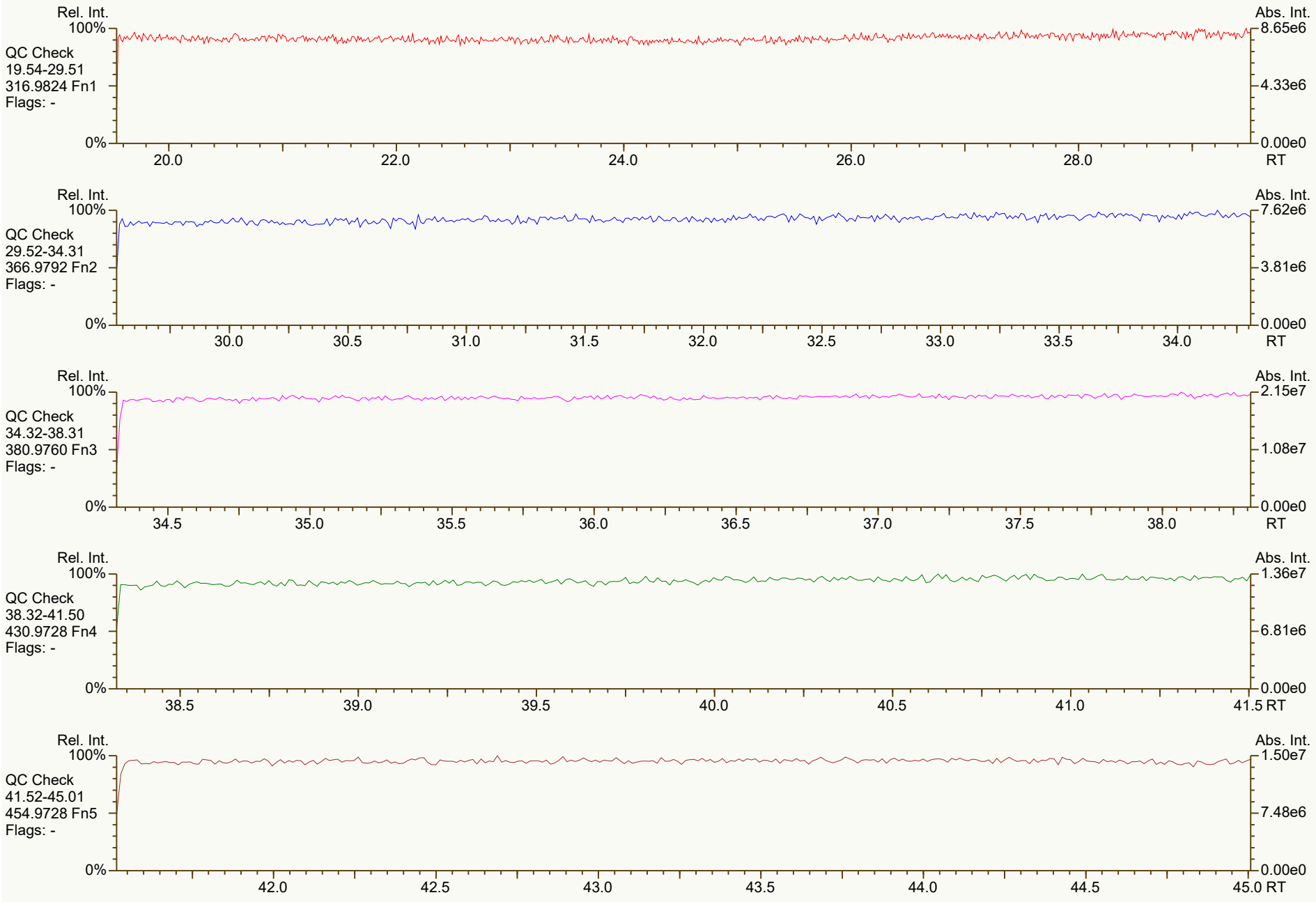

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 2.32e3
1234678F
1.84e6*
39.34
1234789F
1.58e6*
40.71
Abs. Int.
7.05e5
3.52e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.94e3
1234678F
1.81e6*
39.34
1234789F
1.51e6*
40.71
Abs. Int.
7.09e5
3.54e5
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.33e3
ES 1234678F
8.52e6*
39.33
CS 1234689F
8.11e6
39.75
ES 1234789F
7.57e6*
40.70
Abs. Int.
3.29e6
1.64e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 1.75e3
ES 1234678F
1.84e7*
39.33
CS 1234689F
1.81e7
39.75
ES 1234789F
1.60e7*
40.70
Abs. Int.
7.25e6
3.63e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.25e3
Abs. Int.
4.24e3
2.12e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


OCDF
2.22e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.47e3
0%
Abs. Int.
6.31e5
3.16e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.37e6*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.28e3
0%
Abs. Int.
6.61e5
3.31e5
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.14e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.34e3
0%
Abs. Int.
5.95e6
2.97e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.37e7*
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 4.15e3
0%
Abs. Int.
6.50e6
3.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.27e3
0%
Abs. Int.
5.00e3
2.50e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

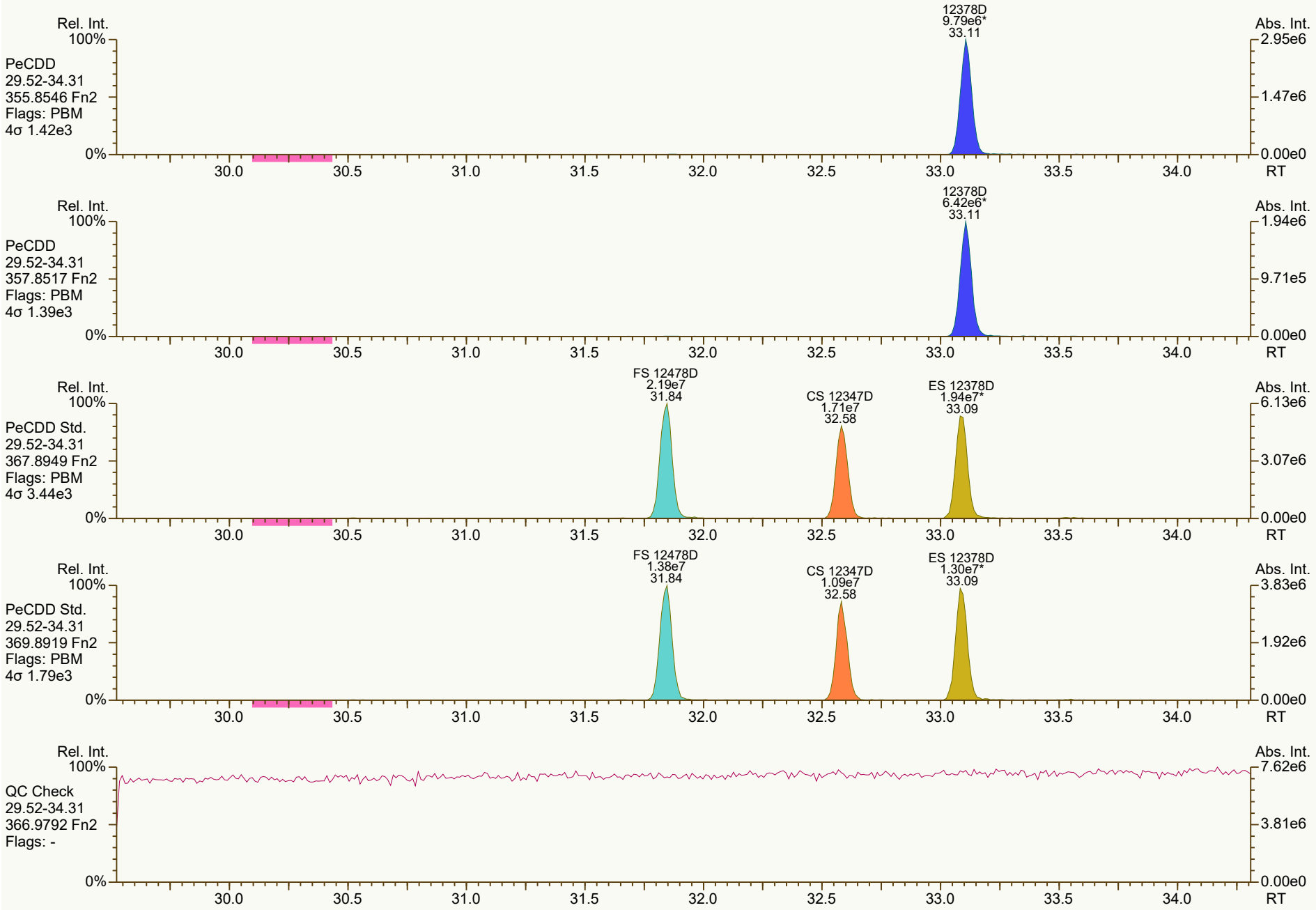
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 13:21 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS3_211110_DF_CB		UTP: 11-Nov-2021 16:22:22 DTF				Checkcode: 507-474-MKW	
Sample ID: 23-672-1		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C07	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.60	4.54E+06	0.78	Y	1.18	1.18	0%
12378-PeCDD	33.11	1.62E+07	1.53	Y	1.04	1.00	-4%
123478-HxCDD	37.04	1.46E+07	1.22	Y	1.09	1.05	-4%
123678-HxCDD	37.16	1.52E+07	1.25	Y	1.15	1.12	-2%
123789-HxCDD	37.47	1.60E+07	1.25	Y	1.05	1.03	-1%
1234678-HpCDD	40.28	1.38E+07	1.04	Y	1.06	1.03	-3%
OCDD	42.84	1.95E+07	0.90	Y	1.13	1.09	-3%
2378-TCDF	26.68	5.91E+06	0.78	Y	1.08	1.09	1%
12378-PeCDF	31.62	2.27E+07	1.54	Y	1.02	0.98	-4%
23478-PeCDF	32.75	2.26E+07	1.51	Y	1.02	1.00	-1%
123478-HxCDF	36.06	2.12E+07	1.22	Y	1.27	1.25	-2%
123678-HxCDF	36.20	2.19E+07	1.24	Y	1.15	1.13	-2%
234678-HxCDF	36.86	2.07E+07	1.22	Y	1.19	1.16	-2%
123789-HxCDF	37.85	1.92E+07	1.23	Y	1.16	1.15	-1%
1234678-HpCDF	39.35	1.86E+07	1.02	Y	1.37	1.33	-3%
1234789-HpCDF	40.71	1.62E+07	1.05	Y	1.31	1.32	1%
OCDF	43.00	2.43E+07	0.90	Y	1.07	1.06	-1%
ES 2378-TCDD	27.57	3.84E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.09	3.25E+07	1.49	Y	0.88	0.89	1%
ES 123478-HxCDD	37.028	2.78E+07	1.26	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.144	2.71E+07	1.22	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.451	3.10E+07	1.24	Y	1.09	1.07	-2%
ES 1234678-HpCDD	40.271	2.68E+07	1.04	Y	0.91	0.92	1%
ES OCDD	42.824	3.56E+07	0.91	Y	0.62	0.61	-2%
ES 2378-TCDF	26.66	5.44E+07	0.80	Y	1.06	1.08	2%
ES 12378-PeCDF	31.605	4.62E+07	1.56	Y	0.91	0.92	1%
ES 23478-PeCDF	32.736	4.50E+07	1.54	Y	0.88	0.89	1%
ES 123478-HxCDF	36.045	3.39E+07	0.53	Y	1.20	1.17	-2%
ES 123678-HxCDF	36.185	3.87E+07	0.53	Y	1.35	1.33	-1%
ES 234678-HxCDF	36.84	3.56E+07	0.52	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.831	3.33E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.338	2.79E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.703	2.46E+07	0.47	Y	0.85	0.85	0%
ES OCDF	42.992	4.59E+07	0.92	Y	0.81	0.79	-2%

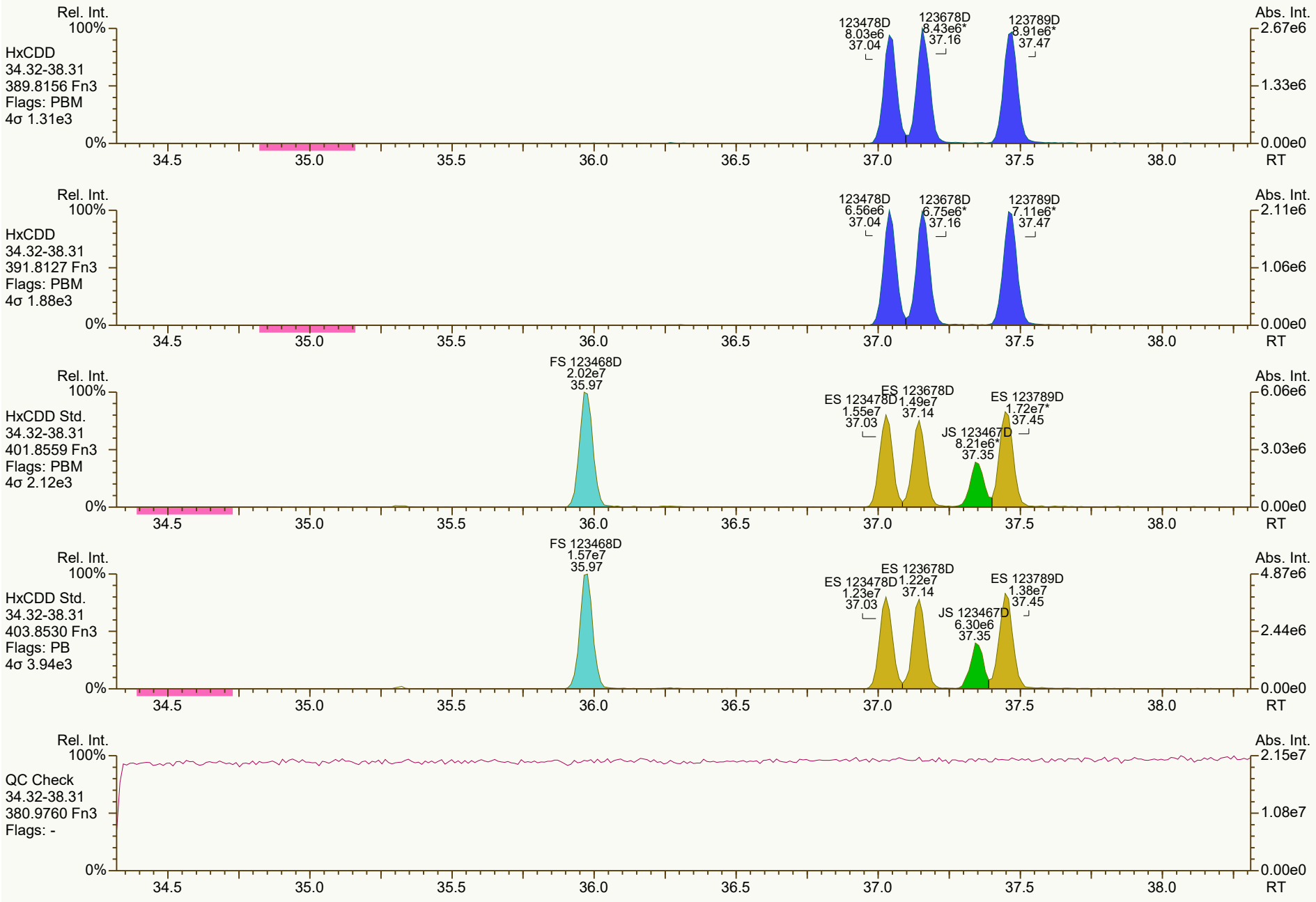
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 13:21 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CB	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 507-474-MKW
Sample ID: 23-672-1	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C07

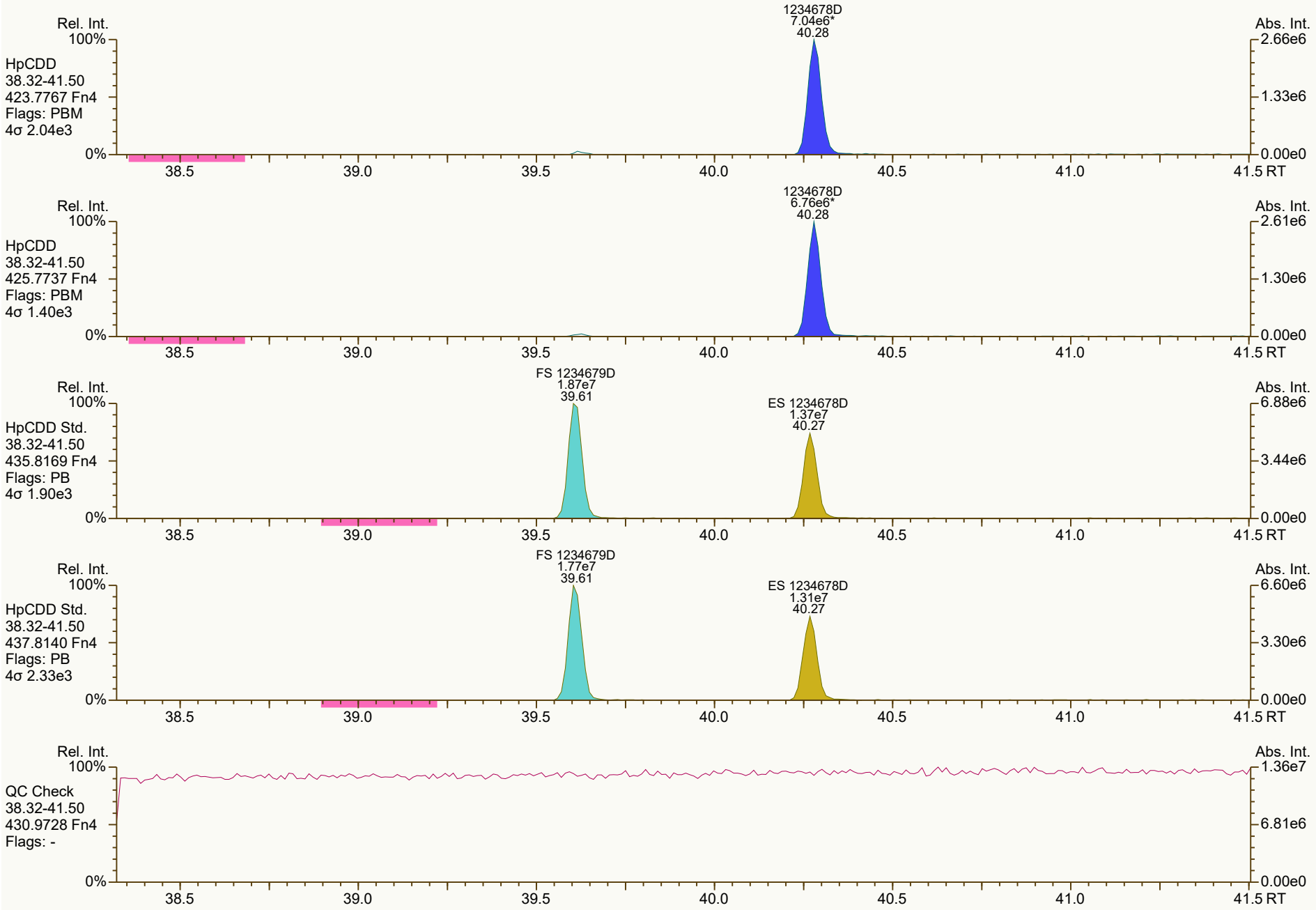
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.66E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.25	5.03E+07	0.78	Y	-	-	-
JS 123467-HxCDD	37.35	1.45E+07	1.30	Y	-	-	-
CS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.75	0.77	2%
CS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.85	0.87	2%
CS 123469-HxCDF	36.50	3.26E+07	0.54	Y	1.12	1.12	1%
CS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.60	4.42E+06	n/a	-	1.15	1.15	0%
SS 12347-PeCDD	32.59	2.80E+07	1.56	Y	0.86	0.86	1%
SS 12346-PeCDF	31.07	4.38E+07	1.58	Y	0.94	0.95	1%
SS 123469-HxCDF	36.50	3.26E+07	0.54	Y	0.83	0.84	2%
SS 1234689-HpCDF	39.75	2.60E+07	0.45	Y	0.92	0.93	2%
AS 1368-TCDD	23.73	3.93E+07	0.79	Y	1.06	1.07	2%
AS 1368-TCDF	21.50	5.84E+07	0.80	Y	1.13	1.16	3%
FS 1278-TCDD	27.91	4.15E+07	0.81	Y	1.07	1.08	1%
FS 12478-PeCDD	31.84	3.57E+07	1.59	Y	1.09	1.10	1%
FS 123468-HxCDD	35.97	3.59E+07	1.29	Y	1.26	1.29	3%
FS 1234679-HpCDD	39.61	3.63E+07	1.06	Y	1.36	1.36	0%
TS 1378-TCDD	25.85	5.15E+07	0.79	Y	1.34	1.34	0%
OCDD-a	42.83	1.39E+06	2.86	Y	0.07	0.08	9%
OCDF-a	43.00	1.53E+06	2.52	Y	0.07	0.07	0%

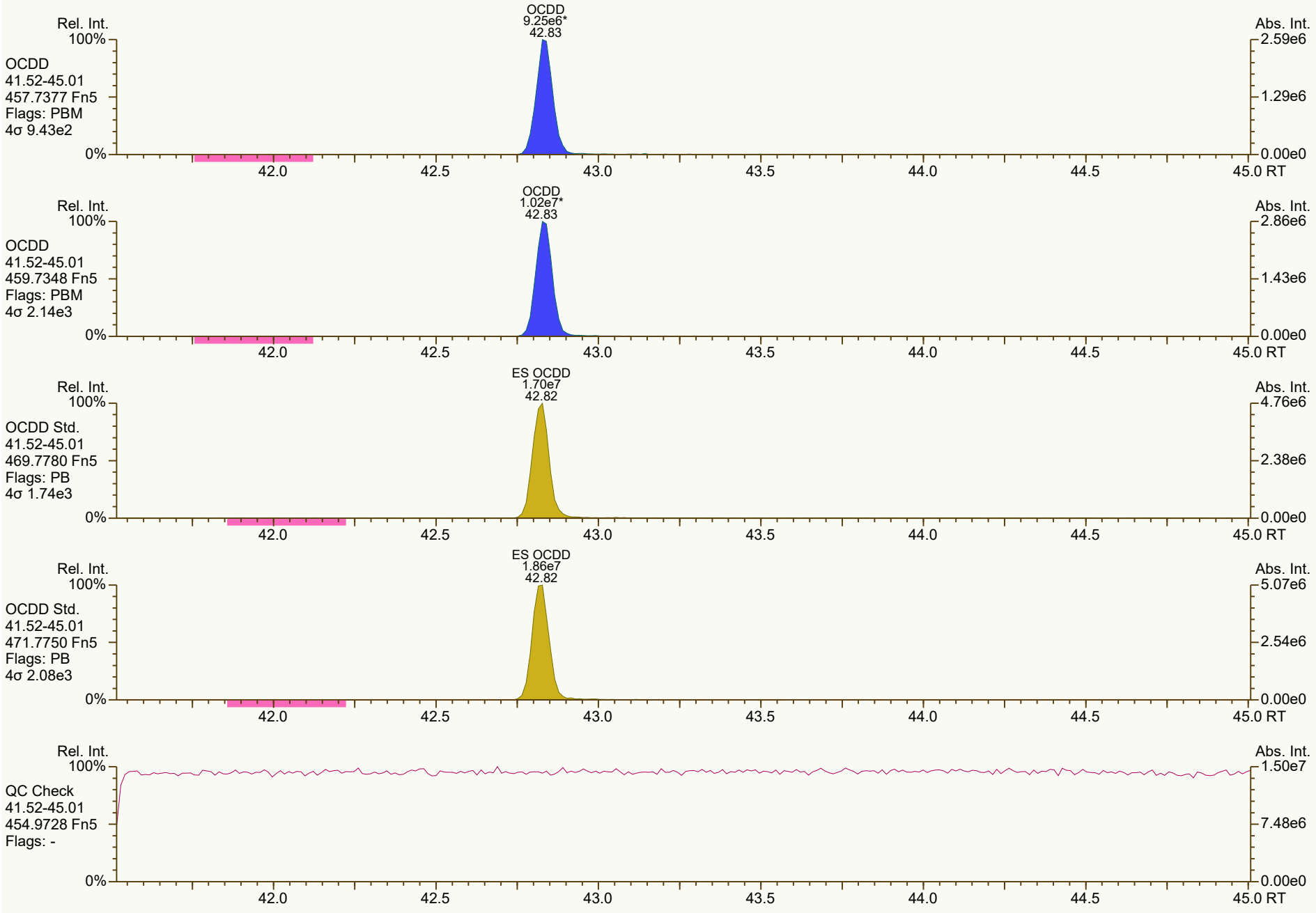

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.65e6
4.33e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.62e6
3.81e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.15e7
1.08e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.36e7
6.81e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.50e7
7.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.18e3
0%
2378D
1.99e6
27.60
Abs. Int.
4.35e5
2.17e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.12e3
0%
2378D
2.55e6
27.60
Abs. Int.
5.98e5
2.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PBM
4σ 1.34e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:20:15 PM
CS 37Cl-2378D
4.42e6*
27.60
Abs. Int.
1.03e6
5.16e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.70e3
0%
RRF = (1.73e7 + 2.20e7) * 100 / (1.61e7 + 2.04e7) * 100 = 1.08
DTF 11-Nov-2021 10:16
AS 1368D
1.73e7
23.73
TS 1378D
2.27e7
25.85
JS 1234D
1.61e7
26.90
ES 2378D
1.70e7
27.57
FS 1278D
1.85e7
27.91
Abs. Int.
4.80e6
2.40e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 6.56e3
0%
AS 1368D
2.20e7
23.73
TS 1378D
2.88e7
25.85
JS 1234D
2.04e7
26.90
ES 2378D
2.15e7
27.57
FS 1278D
2.30e7
27.91
Abs. Int.
6.06e6
3.03e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.42e3
0%
12378D
9.79e6*
33.11
Abs. Int.
2.95e6
1.47e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.39e3
0%
12378D
6.42e6*
33.11
Abs. Int.
1.94e6
9.71e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PBM
4σ 3.44e3
0%
FS 12478D
2.19e7
31.84
CS 12347D
1.71e7
32.58
ES 12378D
1.94e7*
33.09
Abs. Int.
6.13e6
3.07e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PBM
4σ 1.79e3
0%
FS 12478D
1.38e7
31.84
CS 12347D
1.09e7
32.58
ES 12378D
1.30e7*
33.09
Abs. Int.
3.83e6
1.92e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.62e6
3.81e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PBM
4σ 1.31e3
123478D
8.03e6
37.04
123678D
8.43e6*
37.16
123789D
8.91e6*
37.47
Abs. Int.
2.67e6
1.33e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PBM
4σ 1.88e3
123478D
6.56e6
37.04
123678D
6.75e6*
37.16
123789D
7.11e6*
37.47
Abs. Int.
2.11e6
1.06e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.12e3
FS 123468D
2.02e7
35.97
ES 123478D
1.55e7
37.03
ES 123678D
1.49e7
37.14
JS 123467D
8.21e6*
37.35
ES 123789D
1.72e7*
37.45
Abs. Int.
6.06e6
3.03e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.94e3
FS 123468D
1.57e7
35.97
ES 123478D
1.23e7
37.03
ES 123678D
1.22e7
37.14
JS 123467D
6.30e6
37.35
ES 123789D
1.38e7
37.45
Abs. Int.
4.87e6
2.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.15e7
1.08e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.04e3
1234678D
7.04e6*
40.28
Abs. Int.
2.66e6
1.33e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 1.40e3
1234678D
6.76e6*
40.28
Abs. Int.
2.61e6
1.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 1.90e3
FS 1234679D
1.87e7
39.61
ES 1234678D
1.37e7
40.27
Abs. Int.
6.88e6
3.44e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.33e3
FS 1234679D
1.77e7
39.61
ES 1234678D
1.31e7
40.27
Abs. Int.
6.60e6
3.30e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.36e7
6.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 9.43e2
0%
OCDD
9.25e6*
42.83
Abs. Int.
2.59e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.14e3
0%
OCDD
1.02e7*
42.83
Abs. Int.
2.86e6
1.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.74e3
0%
ES OCDD
1.70e7
42.82
Abs. Int.
4.76e6
2.38e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.08e3
0%
ES OCDD
1.86e7
42.82
Abs. Int.
5.07e6
2.54e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.50e7
7.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

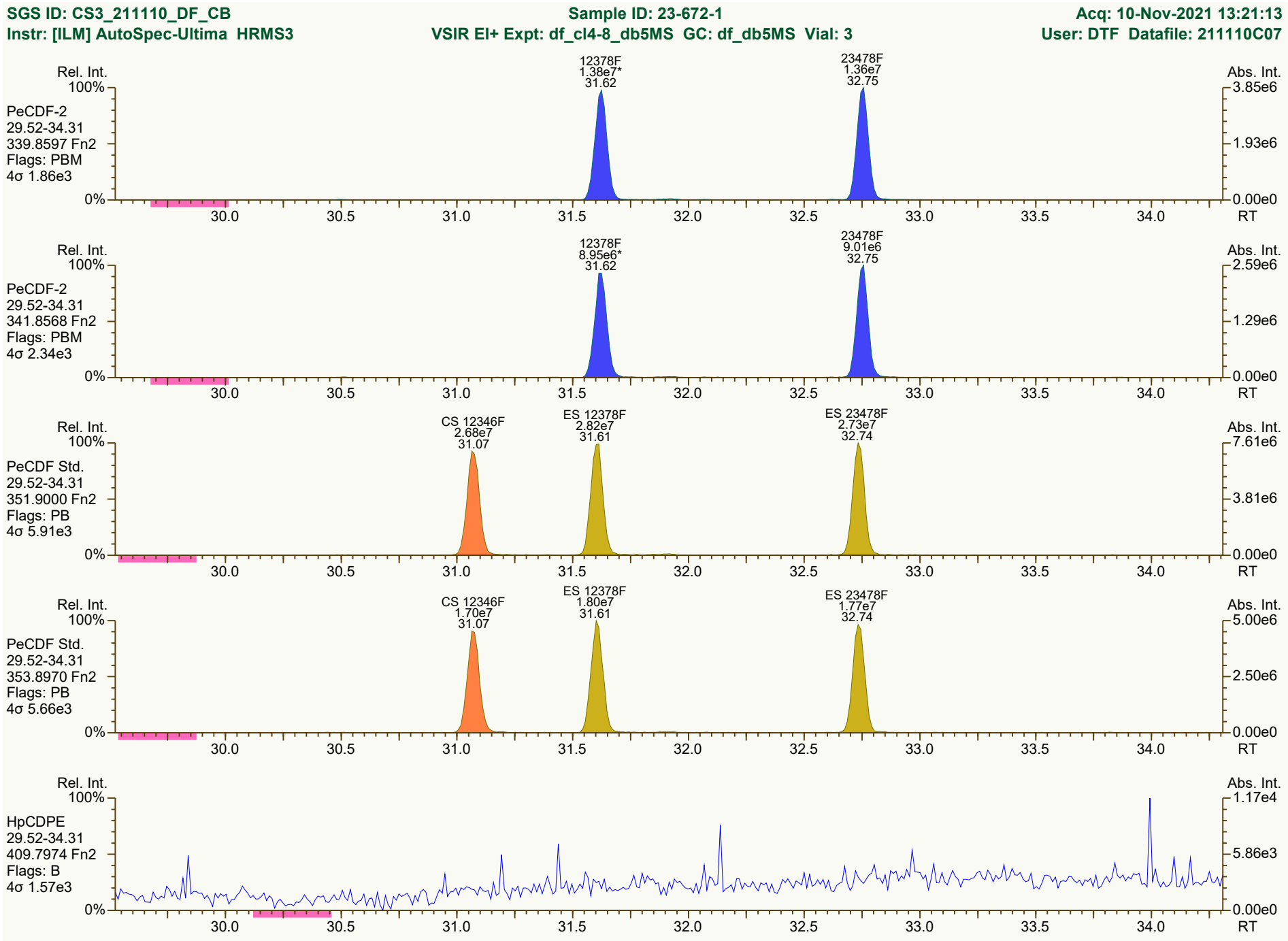

Rel. Int.
100%
0%
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.54e3
2378F
2.58e6
26.68
5.81e5
2.91e5
0.00e0
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.71e3
2378F
3.32e6
26.68
7.66e5
3.83e5
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.69e4
AS 1368F
2.59e7
21.50
JS 1234F
2.21e7
25.25
ES 2378F
2.41e7
26.66
5.45e6
2.73e6
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 1.04e4
AS 1368F
3.25e7
21.50
JS 1234F
2.82e7
25.25
ES 2378F
3.03e7
26.66
6.76e6
3.38e6
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: PB
4σ 1.54e3
6.84e3
3.42e3
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.35e4
6.76e3
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.76e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.77e4
8.83e3
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.65e6
4.33e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT

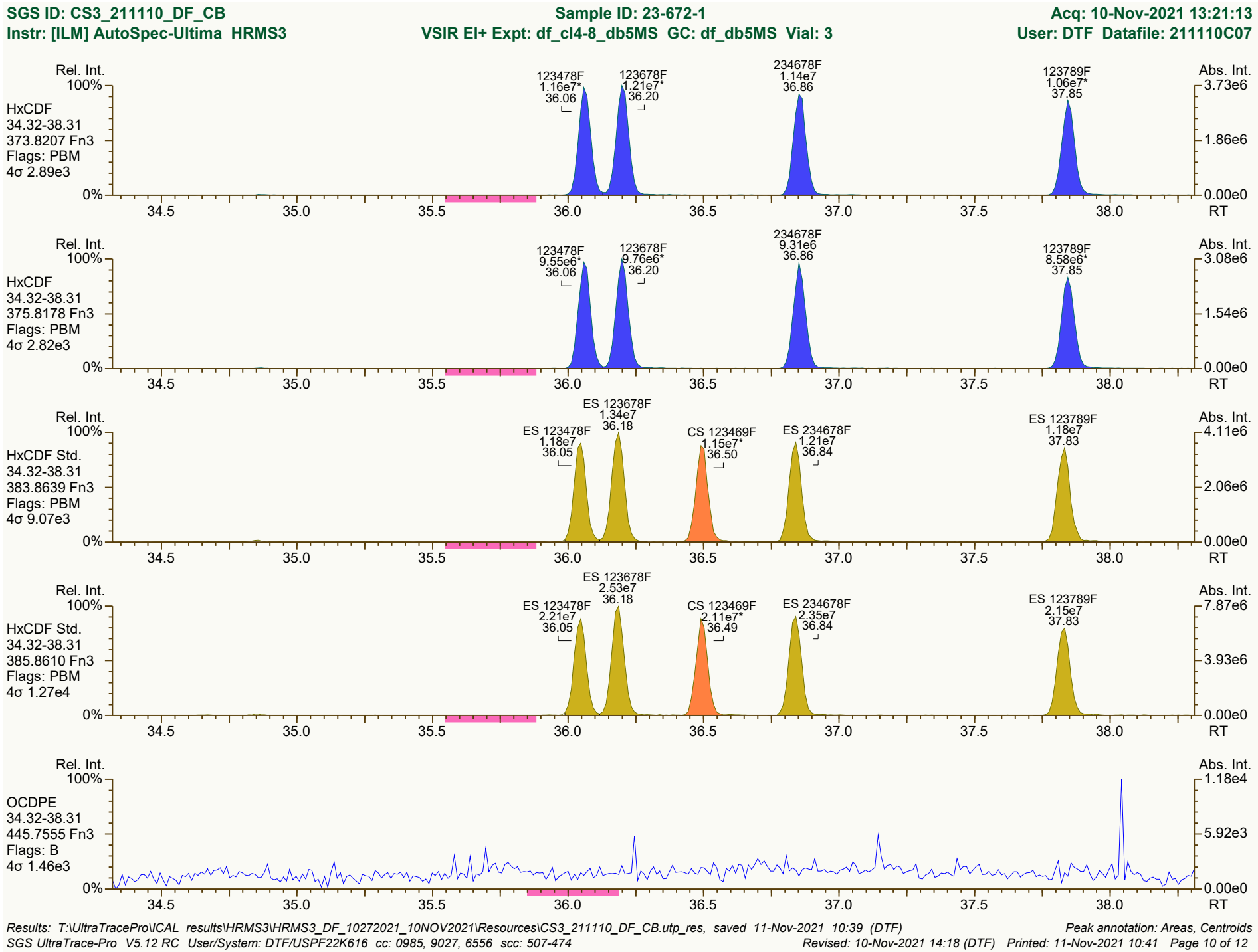
SGS ID: CS3_211110_DF_CB
Instr: [ILM] AutoSpec-Ultima HRMS3

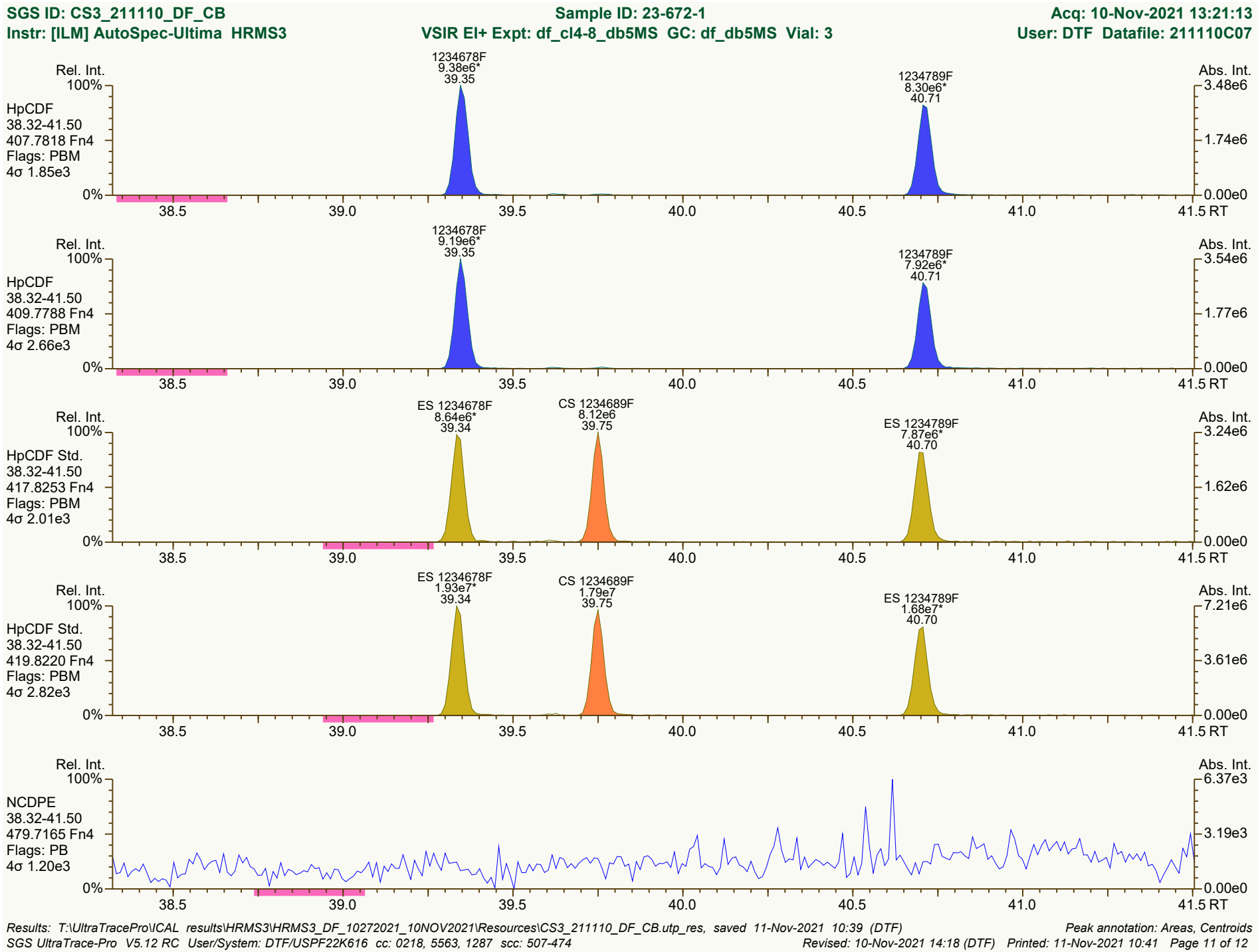
Sample ID: 23-672-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3

Acq: 10-Nov-2021 13:21:13
User: DTF Datafile: 211110C07



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0728, 8378, 8418 scc: 507-474
Revised: 10-Nov-2021 14:17 (DTF) Printed: 11-Nov-2021 10:41 Page 9 of 12


SGS ID: CS3_211110_DF_CB
Instr: [ILM] AutoSpec-Ultima HRMS3
Sample ID: 23-672-1
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
Acq: 10-Nov-2021 13:21:13
User: DTF Datafile: 211110C07
Rel. Int.
100%
0%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 2.89e3
123478F 1.16e7* 36.06
123678F 1.21e7* 36.20
234678F 1.14e7 36.86
123789F 1.06e7* 37.85
Abs. Int.
3.73e6
1.86e6
0.00e0
RT
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 2.82e3
123478F 9.55e6* 36.06
123678F 9.76e6* 36.20
234678F 9.31e6 36.86
123789F 8.58e6* 37.85
3.08e6
1.54e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 9.07e3
ES 123478F 1.18e7 36.05
ES 123678F 1.34e7 36.18
CS 123469F 1.15e7* 36.50
ES 234678F 1.21e7 36.84
ES 123789F 1.18e7 37.83
4.11e6
2.06e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 1.27e4
ES 123478F 2.21e7 36.05
ES 123678F 2.53e7 36.18
CS 123469F 2.11e7* 36.49
ES 234678F 2.35e7 36.84
ES 123789F 2.15e7 37.83
7.87e6
3.93e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.46e3
1.18e4
5.92e3
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0985, 9027, 6556 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 10 of 12


SGS ID: CS3_211110_DF_CB
Sample ID: 23-672-1
Acq: 10-Nov-2021 13:21:13
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 3
User: DTF Datafile: 211110C07
Rel. Int.
Abs. Int.
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.85e3
1234678F
9.38e6*
39.35
1234789F
8.30e6*
40.71
3.48e6
1.74e6
0.00e0
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 2.66e3
1234678F
9.19e6*
39.35
1234789F
7.92e6*
40.71
3.54e6
1.77e6
0.00e0
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.01e3
ES 1234678F
8.64e6*
39.34
CS 1234689F
8.12e6
39.75
ES 1234789F
7.87e6*
40.70
3.24e6
1.62e6
0.00e0
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.82e3
ES 1234678F
1.93e7*
39.34
CS 1234689F
1.79e7
39.75
ES 1234789F
1.68e7*
40.70
7.21e6
3.61e6
0.00e0
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.20e3
6.37e3
3.19e3
0.00e0
100%
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS3_211110_DF_CB.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 0218, 5563, 1287 scc: 507-474
Revised: 10-Nov-2021 14:18 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

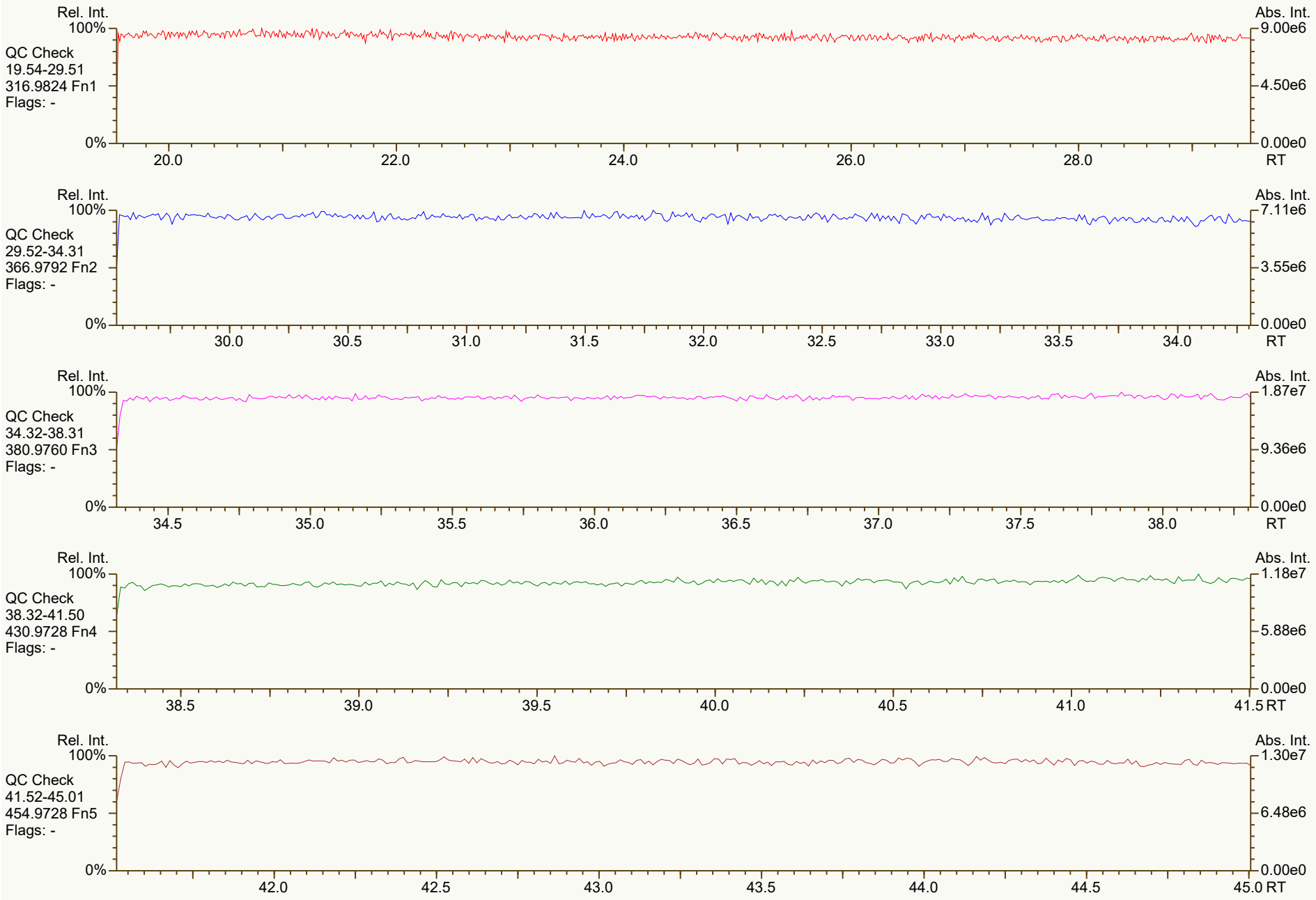

OCDF
1.15e7*
43.00
Rel. Int.
Abs. Int.
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
OCDF
1.28e7*
43.00
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 3.27e3
ES OCDF
2.21e7*
42.99
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.51e3
ES OCDF
2.39e7*
42.99
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.23e3
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.64e3
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

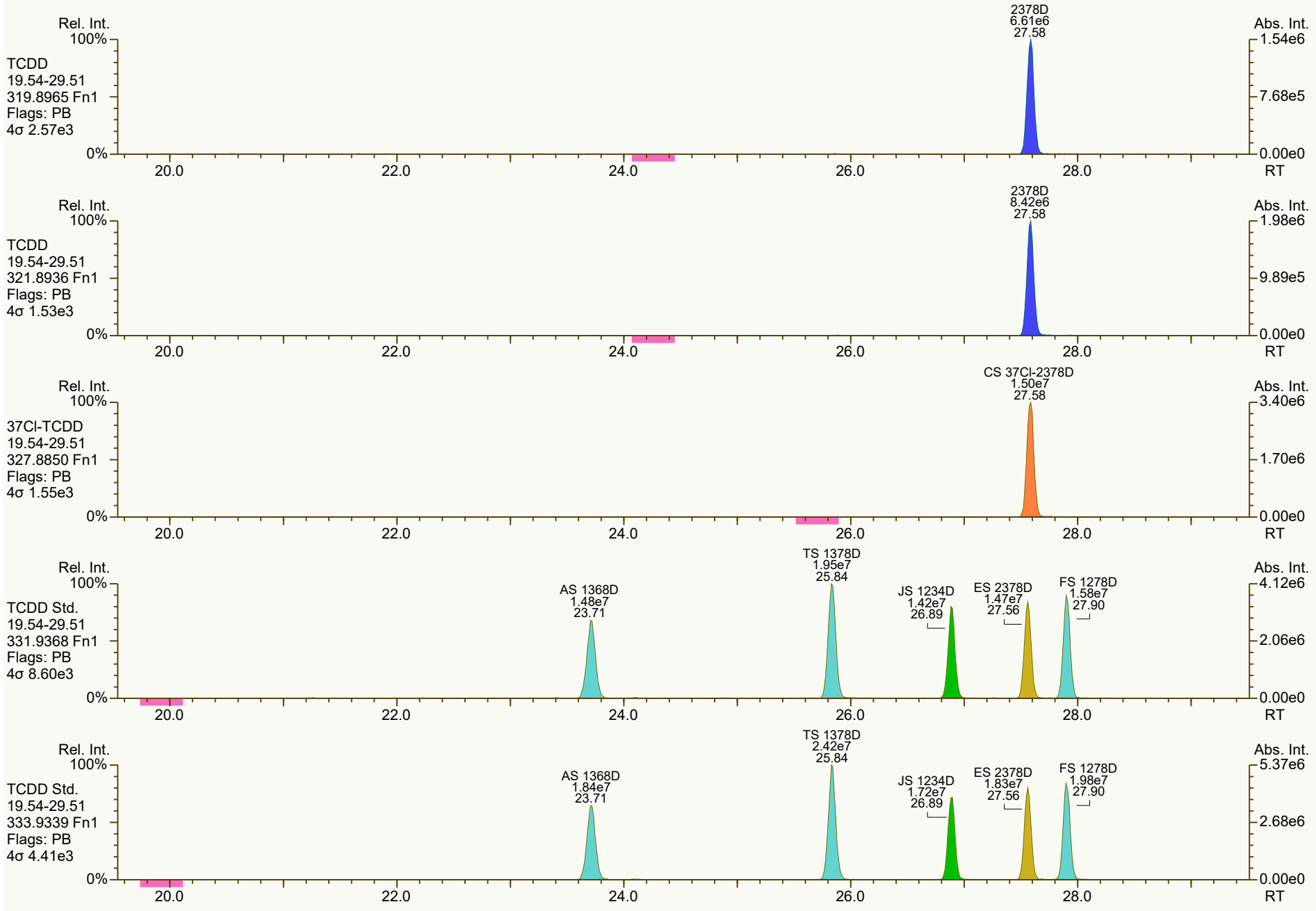
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

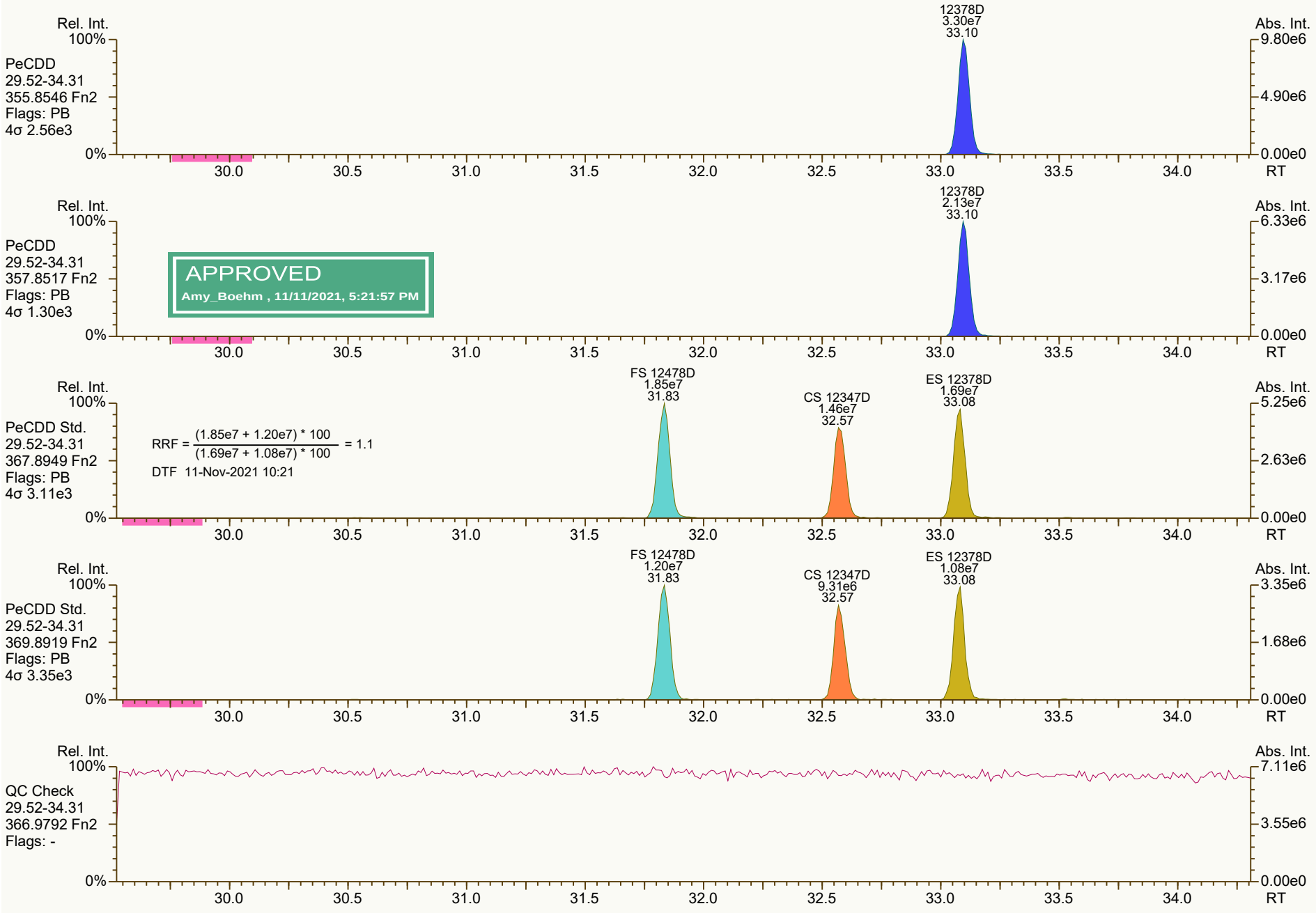
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.50E+07	0.79	Y	1.18	1.14	-4%
12378-PeCDD	33.10	5.42E+07	1.55	Y	1.04	0.98	-5%
123478-HxCDD	37.03	4.79E+07	1.25	Y	1.09	1.05	-4%
123678-HxCDD	37.15	4.80E+07	1.25	Y	1.15	1.07	-6%
123789-HxCDD	37.46	5.11E+07	1.23	Y	1.05	0.98	-7%
1234678-HpCDD	40.27	4.31E+07	1.05	Y	1.06	1.00	-6%
OCDD	42.83	6.25E+07	0.89	Y	1.13	1.06	-6%
2378-TCDF	26.67	1.91E+07	0.78	Y	1.08	1.03	-4%
12378-PeCDF	31.61	7.66E+07	1.54	Y	1.02	0.96	-6%
23478-PeCDF	32.74	7.39E+07	1.53	Y	1.02	0.96	-6%
123478-HxCDF	36.05	6.83E+07	1.24	Y	1.27	1.19	-6%
123678-HxCDF	36.19	6.98E+07	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.85	6.54E+07	1.23	Y	1.19	1.12	-6%
123789-HxCDF	37.84	5.95E+07	1.24	Y	1.16	1.10	-6%
1234678-HpCDF	39.34	5.90E+07	1.02	Y	1.37	1.28	-6%
1234789-HpCDF	40.70	5.08E+07	1.02	Y	1.31	1.25	-4%
OCDF	43.00	7.69E+07	0.90	Y	1.07	1.02	-4%
ES 2378-TCDD	27.56	3.30E+07	0.80	Y	1.05	1.05	0%
ES 12378-PeCDD	33.08	2.77E+07	1.58	Y	0.88	0.88	0%
ES 123478-HxCDD	37.019	2.28E+07	1.28	Y	0.97	0.96	-1%
ES 123678-HxCDD	37.135	2.23E+07	1.25	Y	0.94	0.94	0%
ES 123789-HxCDD	37.442	2.62E+07	1.27	Y	1.09	1.11	1%
ES 1234678-HpCDD	40.26	2.16E+07	1.03	Y	0.91	0.91	0%
ES OCDD	42.823	2.95E+07	0.91	Y	0.62	0.62	0%
ES 2378-TCDF	26.648	4.62E+07	0.80	Y	1.06	1.04	-2%
ES 12378-PeCDF	31.596	3.99E+07	1.53	Y	0.91	0.89	-2%
ES 23478-PeCDF	32.726	3.84E+07	1.55	Y	0.88	0.86	-2%
ES 123478-HxCDF	36.037	2.86E+07	0.53	Y	1.20	1.21	1%
ES 123678-HxCDF	36.177	3.20E+07	0.52	Y	1.35	1.35	0%
ES 234678-HxCDF	36.829	2.93E+07	0.56	Y	1.24	1.23	-1%
ES 123789-HxCDF	37.822	2.72E+07	0.55	Y	1.16	1.15	-1%
ES 1234678-HpCDF	39.332	2.30E+07	0.47	Y	0.97	0.97	0%
ES 1234789-HpCDF	40.694	2.03E+07	0.45	Y	0.85	0.86	1%
ES OCDF	42.984	3.76E+07	0.87	Y	0.81	0.79	-2%

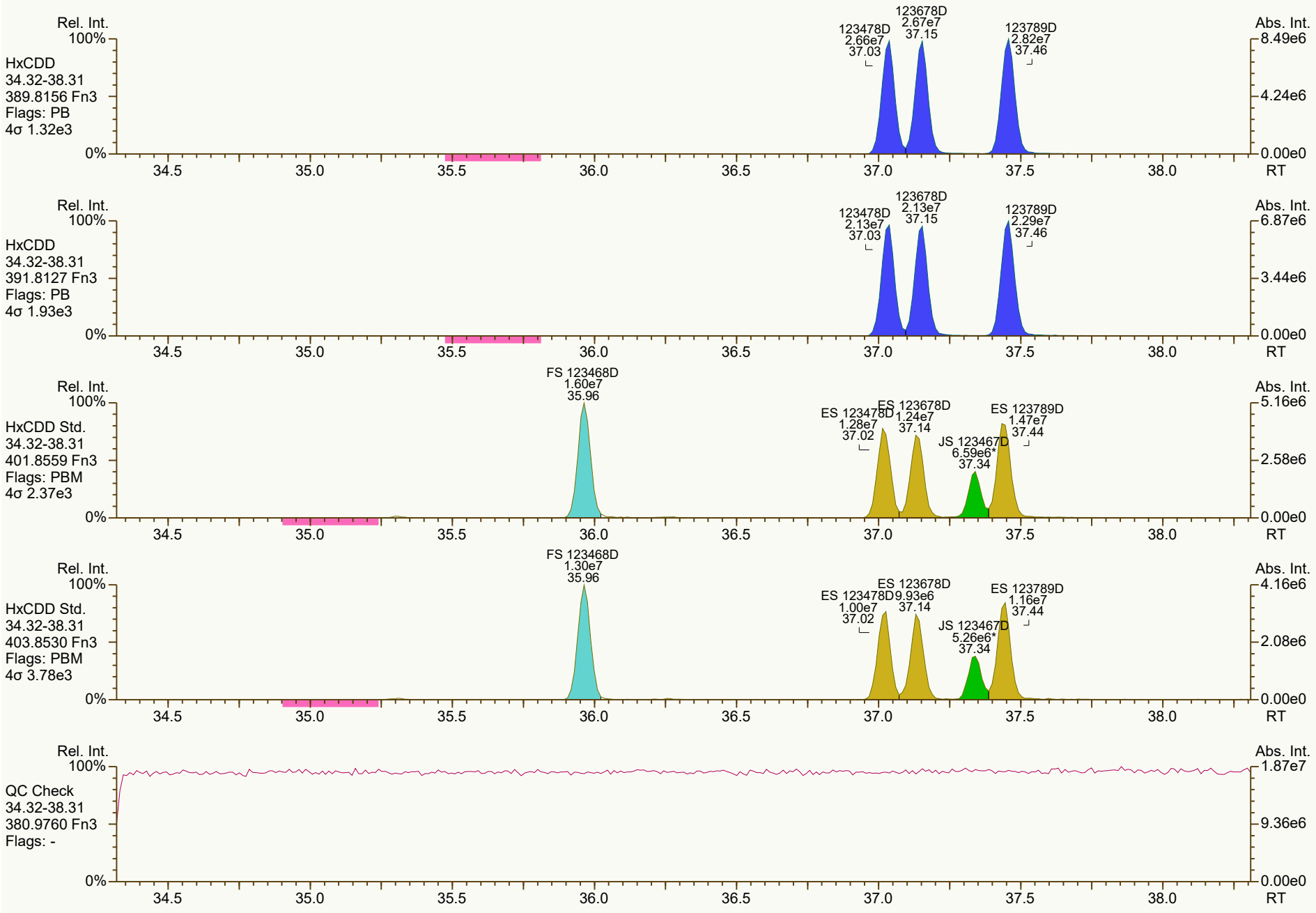
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:07 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS4_211110_DF_CA	UTP: 11-Nov-2021 16:22:22 DTF	Checkcode: 855-576-PGM
Sample ID: 25-5-4	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C08

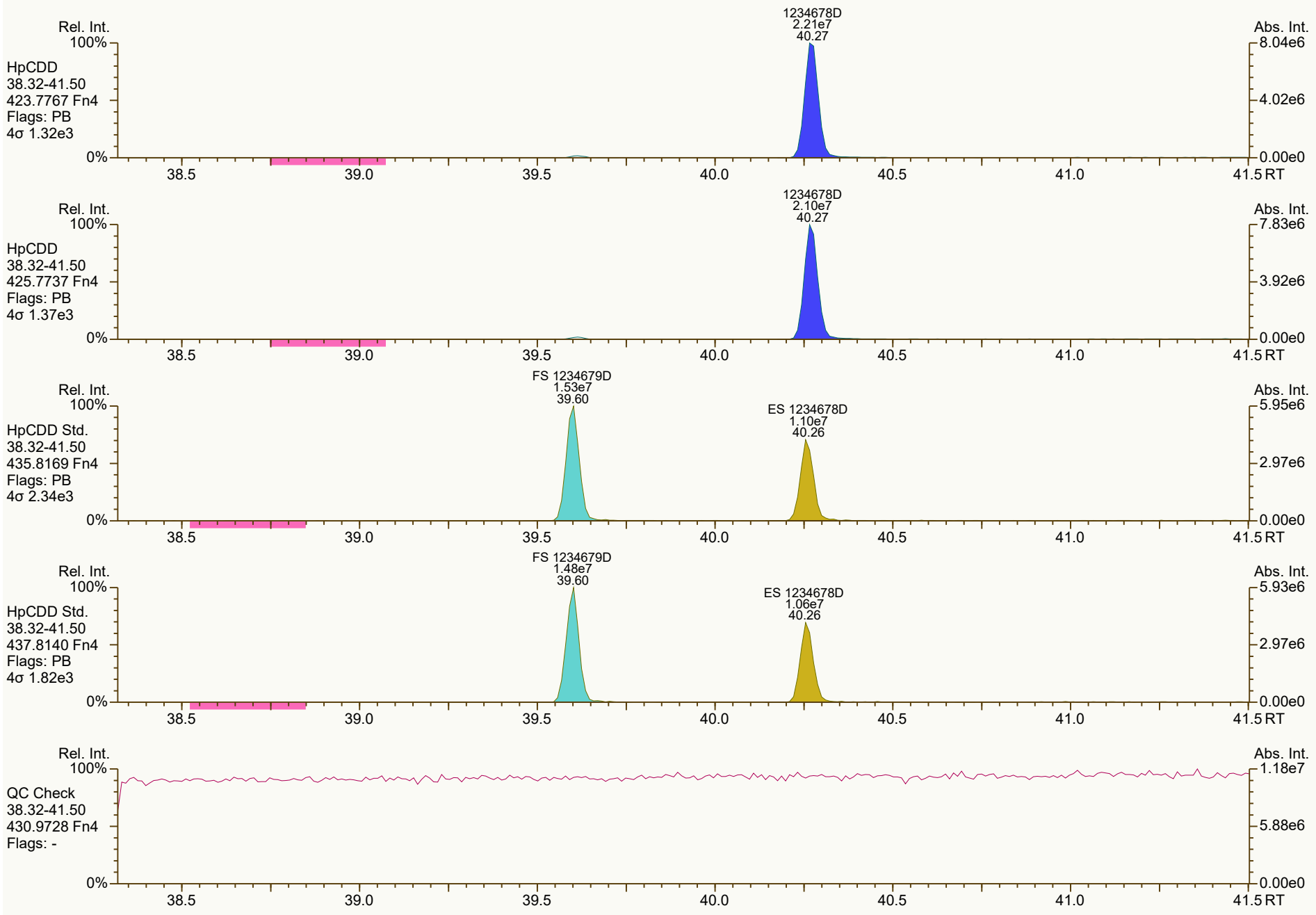
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.14E+07	0.82	Y	-	-	-
JS 1234-TCDF	25.23	4.46E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.19E+07	1.25	Y	-	-	-
CS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.20	1.20	-1%
CS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.75	0.76	1%
CS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.85	0.84	-1%
CS 123469-HxCDF	36.49	2.68E+07	0.55	Y	1.12	1.13	1%
CS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.89	0.90	1%
SS 37Cl-2378-TCDD	27.58	1.50E+07	n/a	-	1.15	1.14	-1%
SS 12347-PeCDD	32.57	2.39E+07	1.57	Y	0.86	0.86	1%
SS 12346-PeCDF	31.06	3.74E+07	1.57	Y	0.94	0.94	0%
SS 123469-HxCDF	36.49	2.68E+07	0.55	Y	0.83	0.84	1%
SS 1234689-HpCDF	39.74	2.13E+07	0.46	Y	0.92	0.93	1%
AS 1368-TCDD	23.71	3.32E+07	0.80	Y	1.06	1.06	0%
AS 1368-TCDF	21.48	4.92E+07	0.79	Y	1.13	1.10	-2%
FS 1278-TCDD	27.90	3.57E+07	0.80	Y	1.07	1.08	1%
FS 12478-PeCDD	31.83	3.05E+07	1.54	Y	1.09	1.10	1%
FS 123468-HxCDD	35.96	2.90E+07	1.23	Y	1.26	1.27	1%
FS 1234679-HpCDD	39.60	3.02E+07	1.03	Y	1.36	1.40	3%
TS 1378-TCDD	25.84	4.37E+07	0.81	Y	1.34	1.33	-1%
OCDD-a	42.83	4.22E+06	2.47	Y	0.07	0.07	-1%
OCDF-a	42.99	5.07E+06	2.63	Y	0.07	0.07	2%

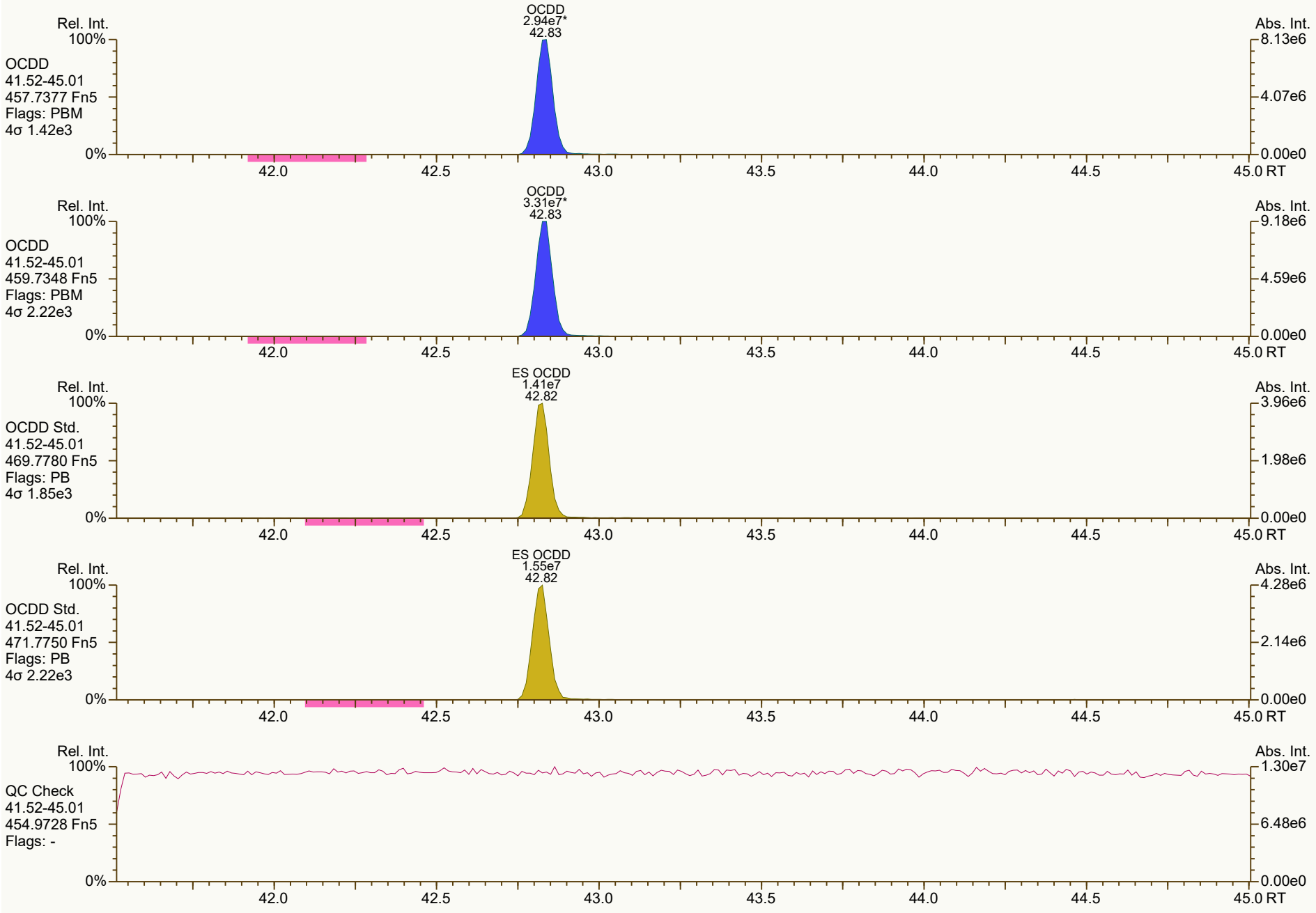

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
9.00e6
4.50e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
7.11e6
3.55e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.87e7
9.36e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.18e7
5.88e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.30e7
6.48e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 2.57e3
0%
2378D
6.61e6
27.58
Abs. Int.
1.54e6
7.68e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 1.53e3
0%
2378D
8.42e6
27.58
Abs. Int.
1.98e6
9.89e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: PB
4σ 1.55e3
0%
CS 37Cl-2378D
1.50e7
27.58
Abs. Int.
3.40e6
1.70e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 8.60e3
0%
AS 1368D
1.48e7
23.71
TS 1378D
1.95e7
25.84
JS 1234D
1.42e7
26.89
ES 2378D
1.47e7
27.56
FS 1278D
1.58e7
27.90
Abs. Int.
4.12e6
2.06e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.41e3
0%
AS 1368D
1.84e7
23.71
TS 1378D
2.42e7
25.84
JS 1234D
1.72e7
26.89
ES 2378D
1.83e7
27.56
FS 1278D
1.98e7
27.90
Abs. Int.
5.37e6
2.68e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PB
4σ 2.56e3
0%
12378D
3.30e7
33.10
Abs. Int.
9.80e6
4.90e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PB
4σ 1.30e3
APPROVED
Amy_Boehm , 11/11/2021, 5:21:57 PM
0%
12378D
2.13e7
33.10
Abs. Int.
6.33e6
3.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 3.11e3
RRF = (1.85e7 + 1.20e7) * 100 / (1.69e7 + 1.08e7) * 100 = 1.1
DTF 11-Nov-2021 10:21
0%
FS 12478D
1.85e7
31.83
CS 12347D
1.46e7
32.57
ES 12378D
1.69e7
33.08
Abs. Int.
5.25e6
2.63e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 3.35e3
0%
FS 12478D
1.20e7
31.83
CS 12347D
9.31e6
32.57
ES 12378D
1.08e7
33.08
Abs. Int.
3.35e6
1.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.11e6
3.55e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.32e3
123478D
2.66e7
37.03
123678D
2.67e7
37.15
123789D
2.82e7
37.46
Abs. Int.
8.49e6
4.24e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.93e3
123478D
2.13e7
37.03
123678D
2.13e7
37.15
123789D
2.29e7
37.46
Abs. Int.
6.87e6
3.44e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PBM
4σ 2.37e3
FS 123468D
1.60e7
35.96
ES 123478D
1.28e7
37.02
ES 123678D
1.24e7
37.14
JS 123467D
6.59e6*
37.34
ES 123789D
1.47e7
37.44
Abs. Int.
5.16e6
2.58e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PBM
4σ 3.78e3
FS 123468D
1.30e7
35.96
ES 123478D
1.00e7
37.02
ES 123678D
9.93e6
37.14
JS 123467D
5.26e6*
37.34
ES 123789D
1.16e7
37.44
Abs. Int.
4.16e6
2.08e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
1.87e7
9.36e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

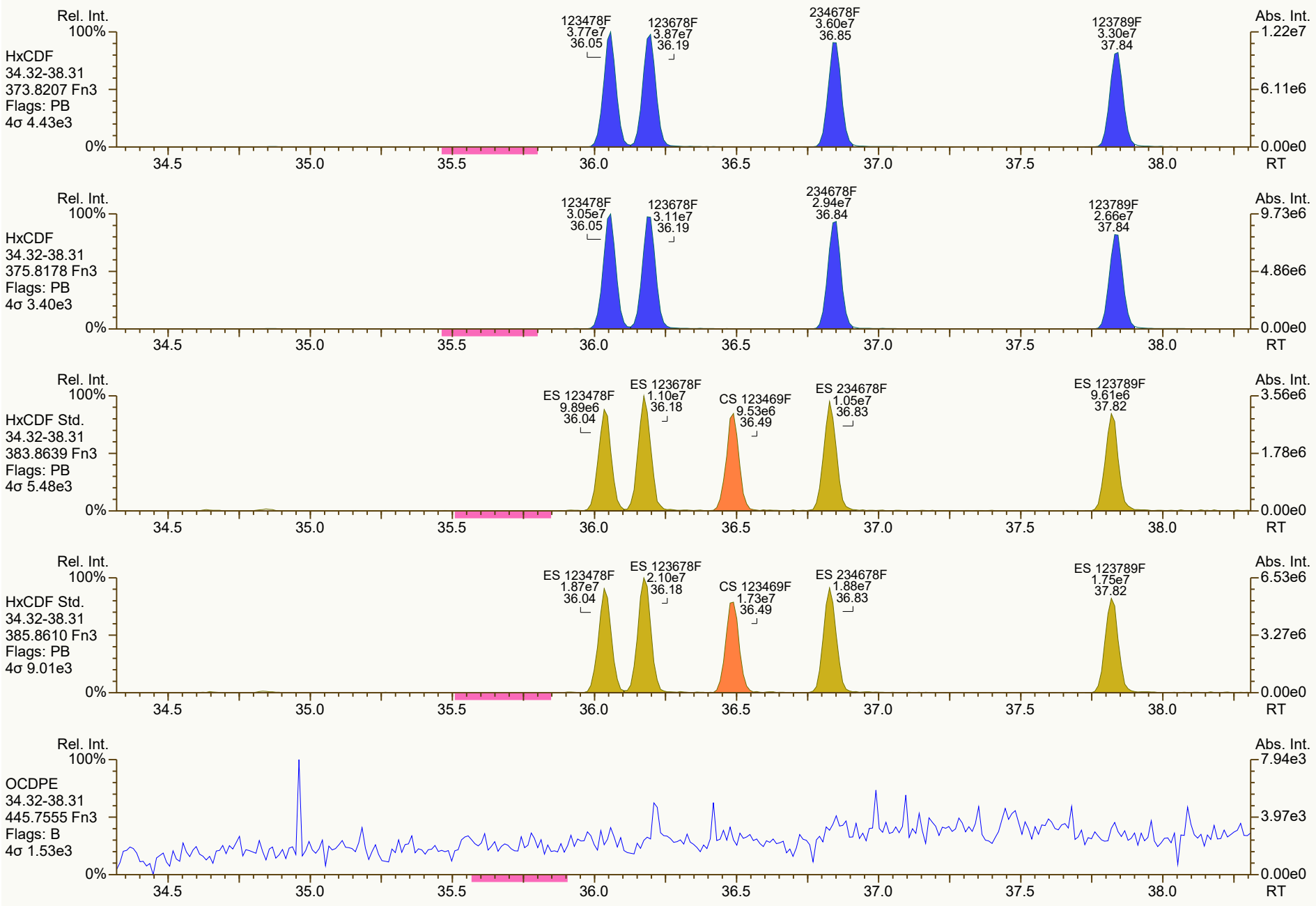

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.32e3
0%
1234678D
2.21e7
40.27
Abs. Int.
8.04e6
4.02e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.37e3
0%
1234678D
2.10e7
40.27
Abs. Int.
7.83e6
3.92e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.34e3
0%
FS 1234679D
1.53e7
39.60
ES 1234678D
1.10e7
40.26
Abs. Int.
5.95e6
2.97e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.82e3
0%
FS 1234679D
1.48e7
39.60
ES 1234678D
1.06e7
40.26
Abs. Int.
5.93e6
2.97e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.18e7
5.88e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

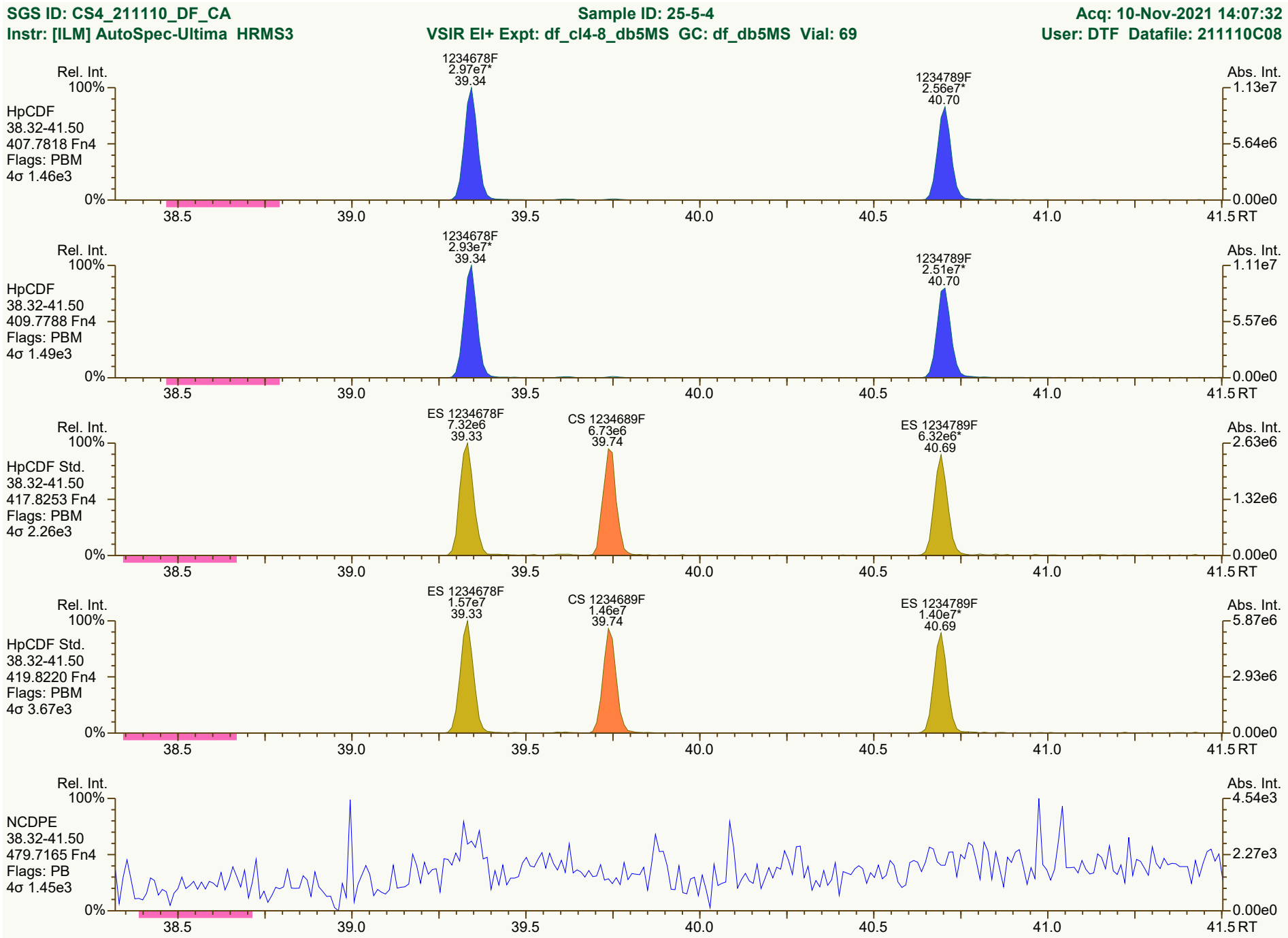

OCDD
2.94e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
8.13e6
4.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
3.31e7*
42.83
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 2.22e3
0%
Abs. Int.
9.18e6
4.59e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.41e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 1.85e3
0%
Abs. Int.
3.96e6
1.98e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
1.55e7
42.82
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.22e3
0%
Abs. Int.
4.28e6
2.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.30e7
6.48e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

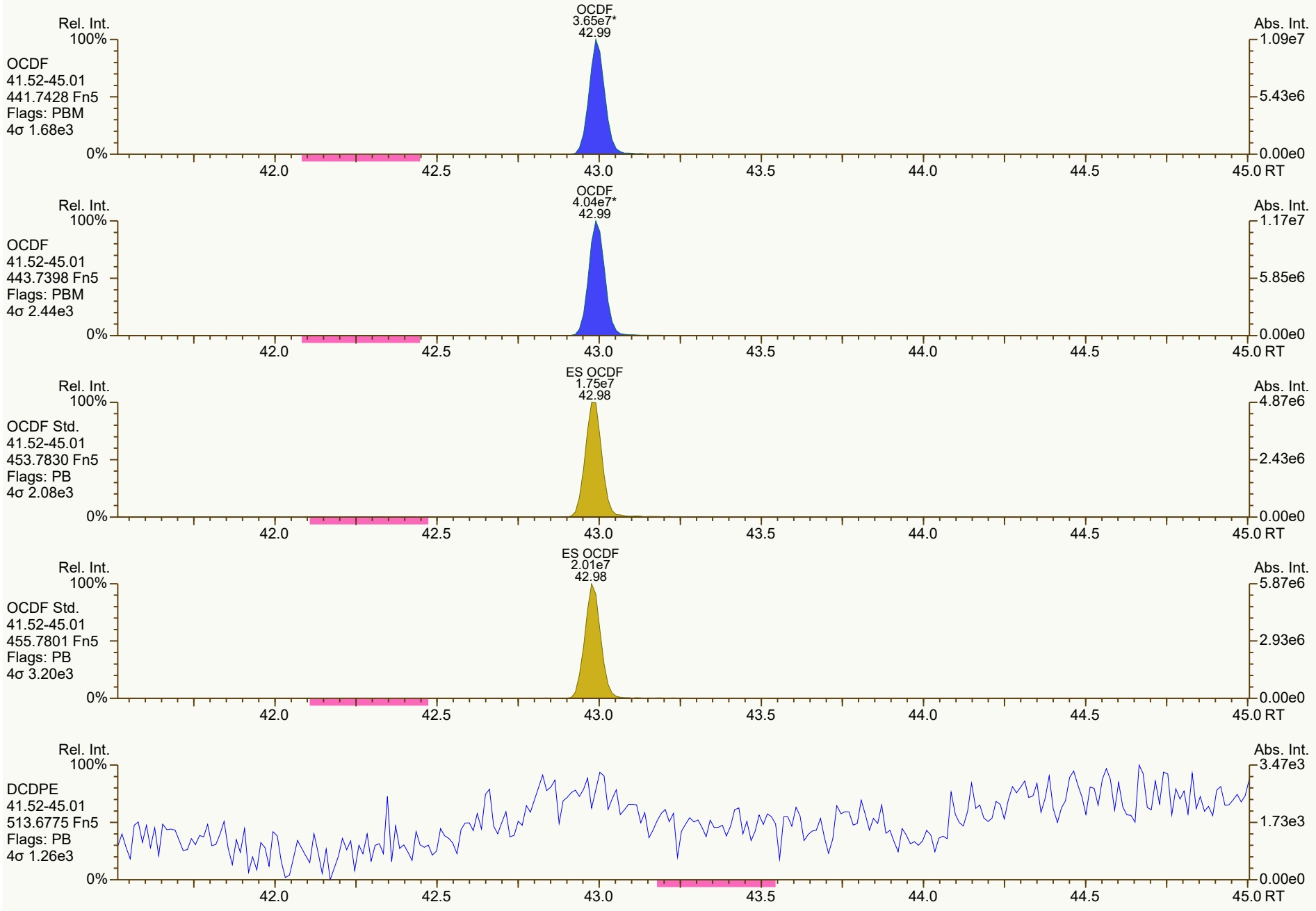

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 1.89e3
0%
2378F
8.36e6
26.67
Abs. Int.
1.89e6
9.43e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 1.73e3
0%
2378F
1.07e7
26.67
Abs. Int.
2.41e6
1.20e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PBM
4σ 1.97e4
0%
AS 1368F
2.17e7
21.48
JS 1234F
2.01e7*
25.23
ES 2378F
2.05e7
26.65
Abs. Int.
4.47e6
2.23e6
0.00e0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PBM
4σ 1.08e4
0%
AS 1368F
2.75e7
21.48
JS 1234F
2.45e7*
25.23
ES 2378F
2.57e7
26.65
Abs. Int.
5.68e6
2.84e6
0.00e0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.52e3
0%
Abs. Int.
9.44e3
4.72e3
0.00e0
RT


Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 1.83e3
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 1.52e3
8.94e3
4.47e3
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
9.00e6
4.50e6


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PBM
4σ 1.24e3
12378F
4.64e7
31.61
23478F
4.47e7*
32.74
Abs. Int.
1.30e7
6.48e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PBM
4σ 3.17e3
12378F
3.01e7
31.61
23478F
2.92e7*
32.74
Abs. Int.
8.36e6
4.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 3.39e3
CS 12346F
2.29e7
31.06
ES 12378F
2.41e7
31.60
ES 23478F
2.34e7
32.73
Abs. Int.
6.66e6
3.33e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.61e3
CS 12346F
1.46e7
31.06
ES 12378F
1.58e7
31.60
ES 23478F
1.51e7
32.73
Abs. Int.
4.36e6
2.18e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: PB
4σ 1.48e3
Abs. Int.
7.51e3
3.76e3
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 4.43e3
0%
123478F
3.77e7
36.05
123678F
3.87e7
36.19
234678F
3.60e7
36.85
123789F
3.30e7
37.84
Abs. Int.
1.22e7
6.11e6
0.00e0
RT
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 3.40e3
123478F
3.05e7
36.05
123678F
3.11e7
36.19
234678F
2.94e7
36.84
123789F
2.66e7
37.84
9.73e6
4.86e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.48e3
ES 123478F
9.89e6
36.04
ES 123678F
1.10e7
36.18
CS 123469F
9.53e6
36.49
ES 234678F
1.05e7
36.83
ES 123789F
9.61e6
37.82
3.56e6
1.78e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 9.01e3
ES 123478F
1.87e7
36.04
ES 123678F
2.10e7
36.18
CS 123469F
1.73e7
36.49
ES 234678F
1.88e7
36.83
ES 123789F
1.75e7
37.82
6.53e6
3.27e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.53e3
7.94e3
3.97e3

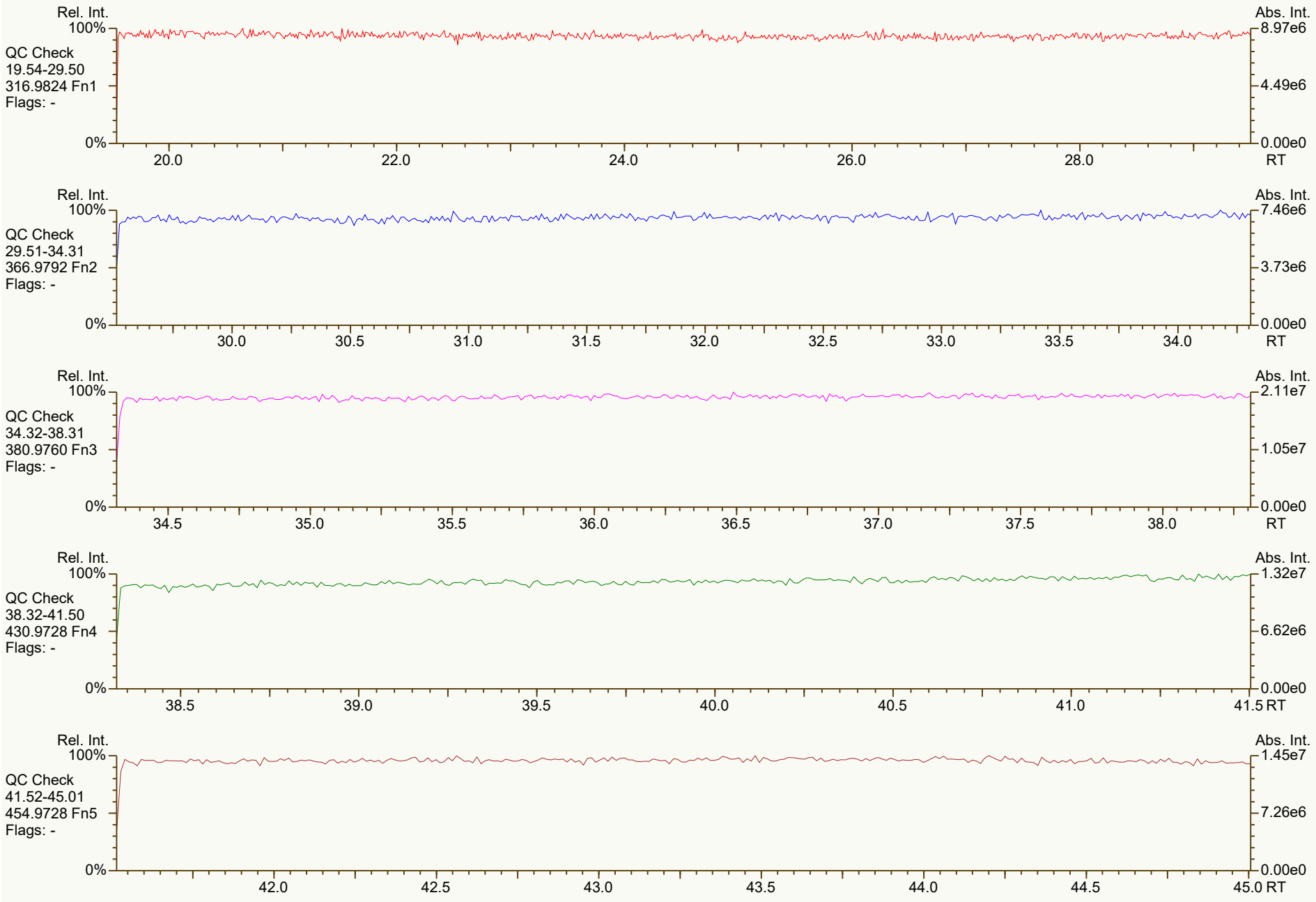

SGS ID: CS4_211110_DF_CA
Sample ID: 25-5-4
Acq: 10-Nov-2021 14:07:32
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 69
User: DTF Datafile: 211110C08
Rel. Int.
100%
0%
Abs. Int.
1.13e7
5.64e6
0.00e0
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PBM
4σ 1.46e3
1234678F
2.97e7*
39.34
1234789F
2.56e7*
40.70
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PBM
4σ 1.49e3
1234678F
2.93e7*
39.34
1234789F
2.51e7*
40.70
1.11e7
5.57e6
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 2.26e3
ES 1234678F
7.32e6
39.33
CS 1234689F
6.73e6
39.74
ES 1234789F
6.32e6*
40.69
2.63e6
1.32e6
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 3.67e3
ES 1234678F
1.57e7
39.33
CS 1234689F
1.46e7
39.74
ES 1234789F
1.40e7*
40.69
5.87e6
2.93e6
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.45e3
4.54e3
2.27e3
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS4_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 2764, 9565, 4492 scc: 855-576
Revised: 10-Nov-2021 15:17 (DTF) Printed: 11-Nov-2021 10:41 Page 11 of 12

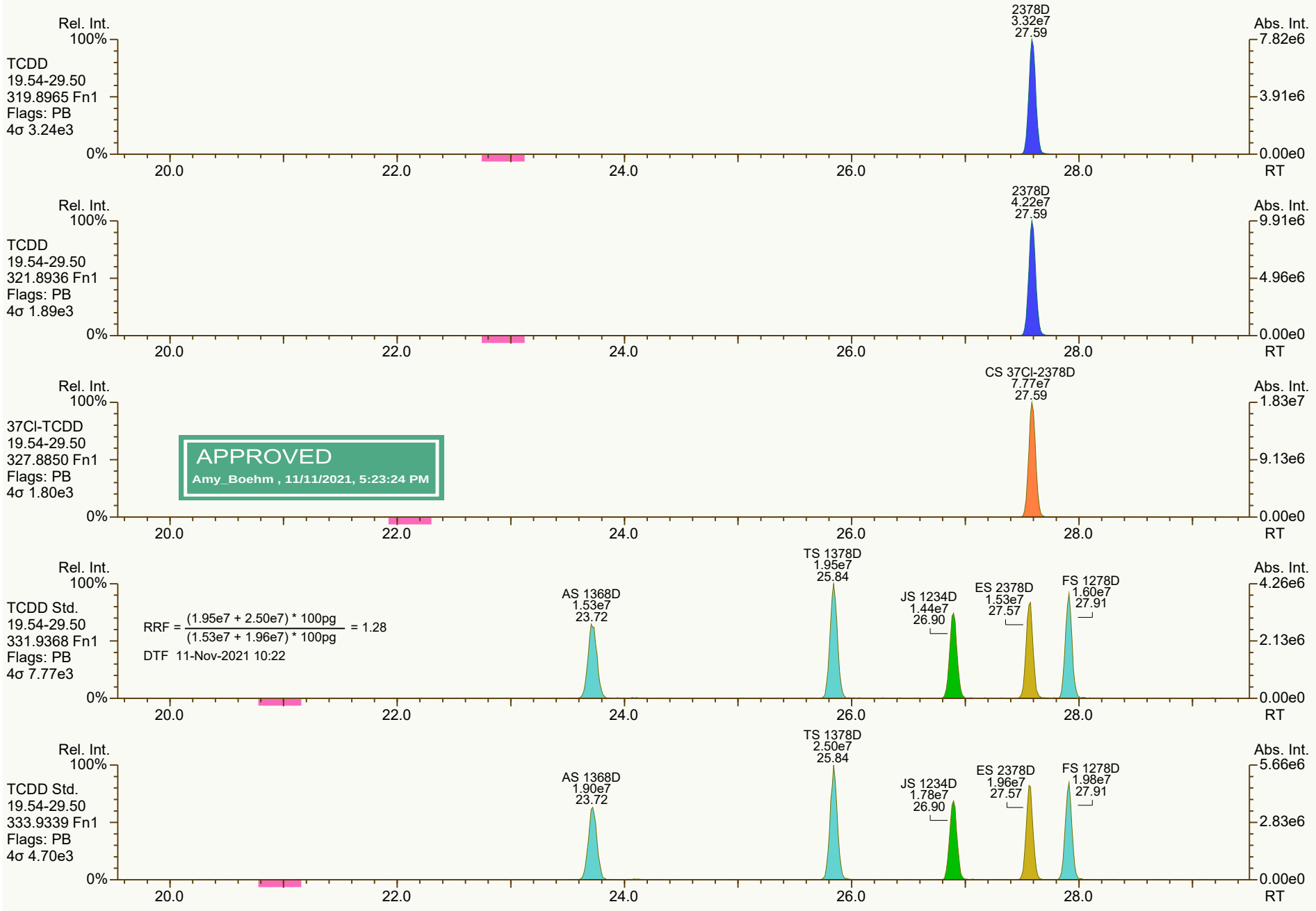

OCDF
3.65e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.68e3
0%
Abs. Int.
1.09e7
5.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
4.04e7*
42.99
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.44e3
0%
Abs. Int.
1.17e7
5.85e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.75e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.08e3
0%
Abs. Int.
4.87e6
2.43e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.01e7
42.98
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 3.20e3
0%
Abs. Int.
5.87e6
2.93e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
0%
Abs. Int.
3.47e3
1.73e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

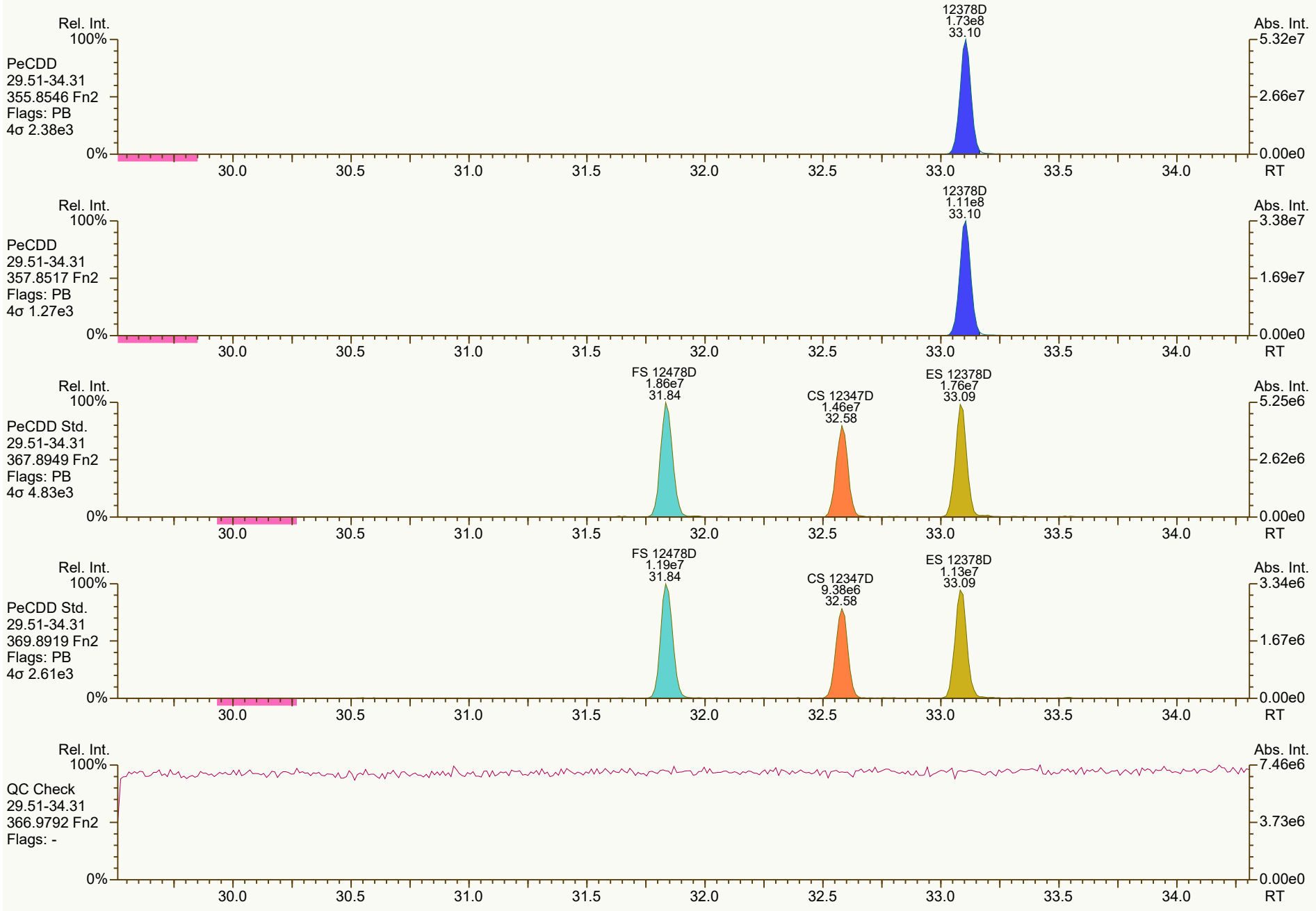
Dioxin/Furan QC Summary		Acq'd: 10 Nov 2021 14:53 DTF				ICAL: HRMS3_DF_10272021 10NOV2021	
Lab ID: CS5_211110_DF_CA		UTP: 11-Nov-2021 16:22:23 DTF				Checkcode: 573-489-BMZ	
Sample ID: 25-5-3		Report: 11 Nov 2021 16:25 TF				Datafile: 211110C09	
Name	**RT**	**Response**	**RA**	**OK**	**Ref. RRFs**	**Calc. RRFs**	**Dev'n**
2378-TCDD	27.59	7.54E+07	0.79	Y	1.18	1.08	-9%
12378-PeCDD	33.10	2.84E+08	1.56	Y	1.04	0.98	-5%
123478-HxCDD	37.04	2.65E+08	1.25	Y	1.09	1.03	-5%
123678-HxCDD	37.16	2.69E+08	1.26	Y	1.15	1.10	-4%
123789-HxCDD	37.46	2.84E+08	1.25	Y	1.05	0.99	-6%
1234678-HpCDD	40.28	2.36E+08	1.04	Y	1.06	0.99	-6%
OCDD	42.84	3.62E+08	0.89	Y	1.13	1.09	-3%
2378-TCDF	26.68	9.62E+07	0.78	Y	1.08	1.00	-8%
12378-PeCDF	31.62	4.08E+08	1.55	Y	1.02	0.96	-6%
23478-PeCDF	32.75	3.97E+08	1.54	Y	1.02	0.96	-6%
123478-HxCDF	36.06	3.78E+08	1.24	Y	1.27	1.21	-4%
123678-HxCDF	36.20	3.86E+08	1.23	Y	1.15	1.09	-5%
234678-HxCDF	36.85	3.65E+08	1.24	Y	1.19	1.12	-6%
123789-HxCDF	37.84	3.40E+08	1.24	Y	1.16	1.11	-5%
1234678-HpCDF	39.35	3.29E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.71	2.85E+08	1.03	Y	1.31	1.28	-2%
OCDF	43.00	4.48E+08	0.90	Y	1.07	1.03	-4%
ES 2378-TCDD	27.57	3.49E+07	0.78	Y	1.05	1.08	4%
ES 12378-PeCDD	33.087	2.89E+07	1.56	Y	0.88	0.90	2%
ES 123478-HxCDD	37.026	2.56E+07	1.25	Y	0.97	1.02	5%
ES 123678-HxCDD	37.142	2.44E+07	1.22	Y	0.94	0.97	3%
ES 123789-HxCDD	37.448	2.88E+07	1.26	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.267	2.37E+07	1.07	Y	0.91	0.95	4%
ES OCDD	42.829	3.32E+07	0.93	Y	0.62	0.66	6%
ES 2378-TCDF	26.655	4.83E+07	0.79	Y	1.06	1.07	1%
ES 12378-PeCDF	31.602	4.25E+07	1.58	Y	0.91	0.94	4%
ES 23478-PeCDF	32.733	4.12E+07	1.53	Y	0.88	0.91	4%
ES 123478-HxCDF	36.044	3.11E+07	0.52	Y	1.20	1.24	3%
ES 123678-HxCDF	36.182	3.54E+07	0.54	Y	1.35	1.41	4%
ES 234678-HxCDF	36.836	3.25E+07	0.54	Y	1.24	1.29	4%
ES 123789-HxCDF	37.828	3.07E+07	0.53	Y	1.16	1.22	6%
ES 1234678-HpCDF	39.337	2.54E+07	0.46	Y	0.97	1.01	4%
ES 1234789-HpCDF	40.697	2.22E+07	0.49	Y	0.85	0.88	4%
ES OCDF	42.99	4.35E+07	0.90	Y	0.81	0.87	7%

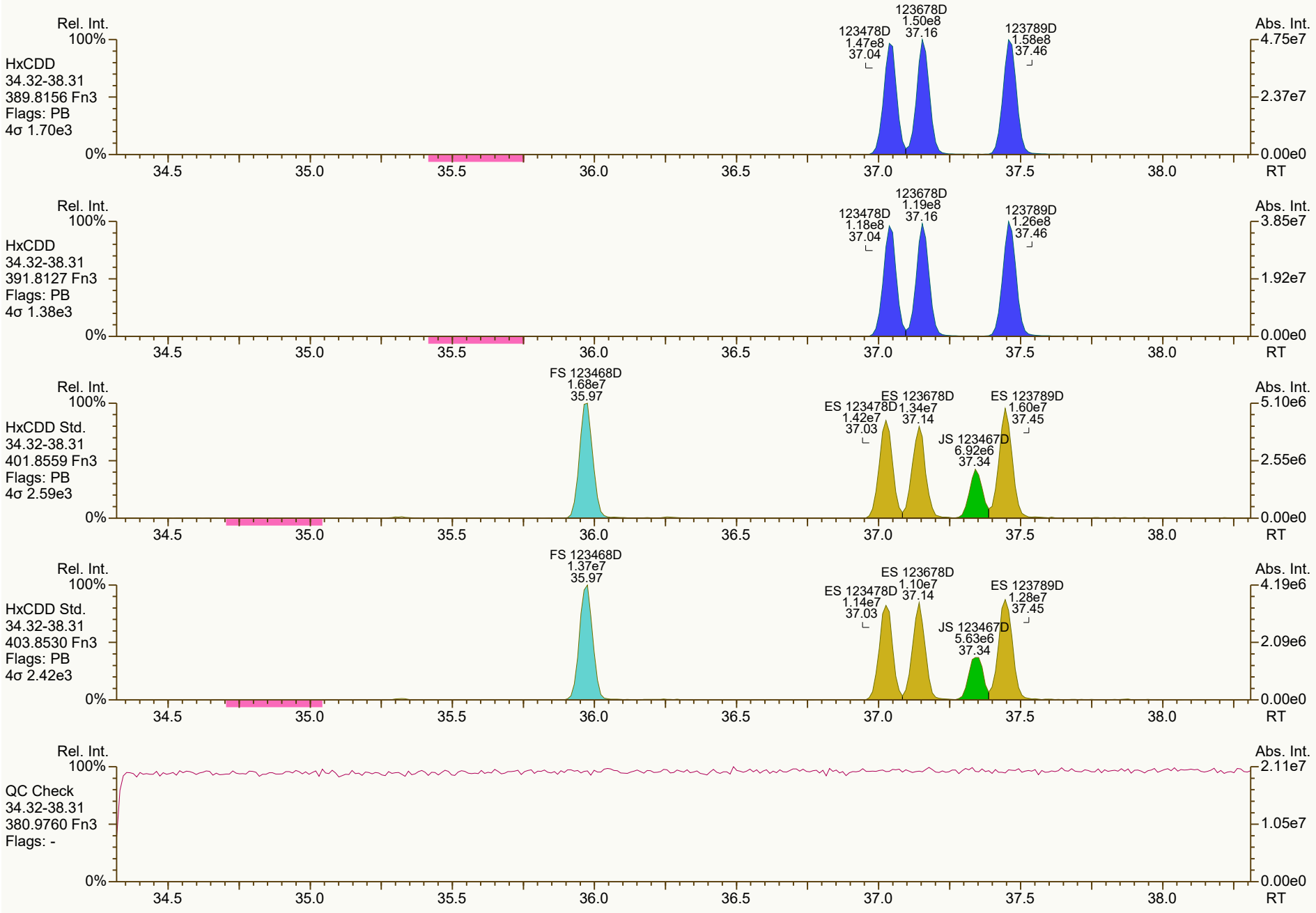
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 14:53 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS5_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 573-489-BMZ
Sample ID: 25-5-3	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C09

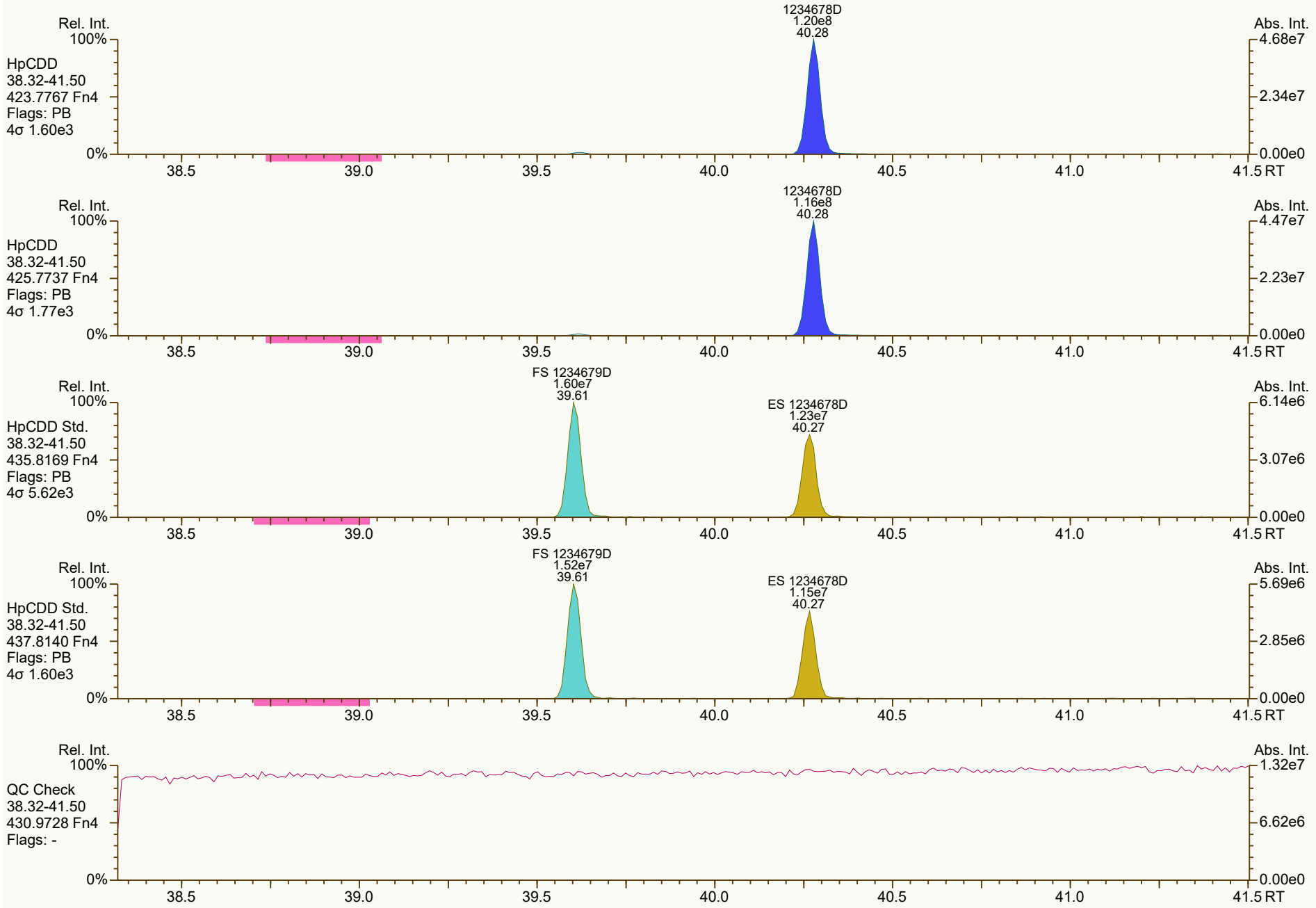
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	3.22E+07	0.81	Y	-	-	-
JS 1234-TCDF	25.24	4.50E+07	0.81	Y	-	-	-
JS 123467-HxCDD	37.34	1.26E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.20	1.21	0%
CS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.75	0.74	-1%
CS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.85	0.83	-2%
CS 123469-HxCDF	36.49	2.72E+07	0.52	Y	1.12	1.08	-3%
CS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.89	0.88	-1%
SS 37Cl-2378-TCDD	27.59	7.77E+07	n/a	-	1.15	1.11	-3%
SS 12347-PeCDD	32.58	2.40E+07	1.56	Y	0.86	0.83	-3%
SS 12346-PeCDF	31.07	3.76E+07	1.51	Y	0.94	0.88	-6%
SS 123469-HxCDF	36.49	2.72E+07	0.52	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.75	2.21E+07	0.45	Y	0.92	0.87	-5%
AS 1368-TCDD	23.72	3.43E+07	0.81	Y	1.06	1.07	1%
AS 1368-TCDF	21.49	4.99E+07	0.78	Y	1.13	1.11	-2%
FS 1278-TCDD	27.91	3.58E+07	0.81	Y	1.07	1.03	-4%
FS 12478-PeCDD	31.84	3.05E+07	1.56	Y	1.09	1.06	-3%
FS 123468-HxCDD	35.97	3.06E+07	1.22	Y	1.26	1.20	-5%
FS 1234679-HpCDD	39.61	3.12E+07	1.05	Y	1.36	1.31	-4%
TS 1378-TCDD	25.84	4.45E+07	0.78	Y	1.34	1.28	-5%
OCDD-a	42.84	2.30E+07	2.56	Y	0.07	0.07	-4%
OCDF-a	43.00	2.80E+07	2.47	Y	0.07	0.06	-3%

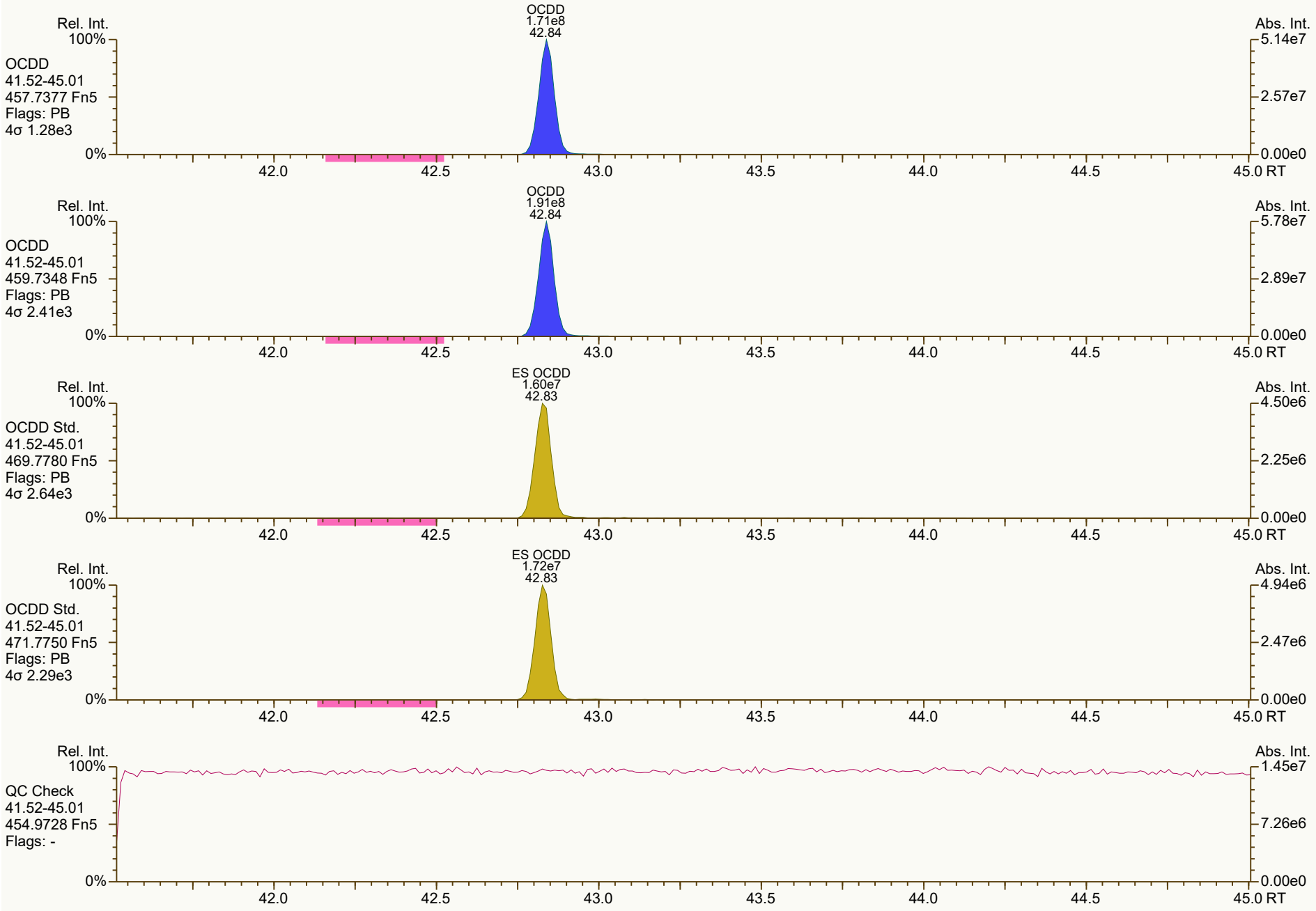

Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
7.46e6
3.73e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.11e7
1.05e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.32e7
6.62e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.45e7
7.26e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.24e3
0%
2378D
3.32e7
27.59
Abs. Int.
7.82e6
3.91e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 1.89e3
0%
2378D
4.22e7
27.59
Abs. Int.
9.91e6
4.96e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: PB
4σ 1.80e3
0%
APPROVED
Amy_Boehm , 11/11/2021, 5:23:24 PM
CS 37Cl-2378D
7.77e7
27.59
Abs. Int.
1.83e7
9.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 7.77e3
0%
RRF = (1.95e7 + 2.50e7) * 100pg / (1.53e7 + 1.96e7) * 100pg = 1.28
DTF 11-Nov-2021 10:22
AS 1368D
1.53e7
23.72
TS 1378D
1.95e7
25.84
JS 1234D
1.44e7
26.90
ES 2378D
1.53e7
27.57
FS 1278D
1.60e7
27.91
Abs. Int.
4.26e6
2.13e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 4.70e3
0%
AS 1368D
1.90e7
23.72
TS 1378D
2.50e7
25.84
JS 1234D
1.78e7
26.90
ES 2378D
1.96e7
27.57
FS 1278D
1.98e7
27.91
Abs. Int.
5.66e6
2.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.38e3
12378D
1.73e8
33.10
Abs. Int.
5.32e7
2.66e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.27e3
12378D
1.11e8
33.10
Abs. Int.
3.38e7
1.69e7
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 4.83e3
FS 12478D
1.86e7
31.84
CS 12347D
1.46e7
32.58
ES 12378D
1.76e7
33.09
Abs. Int.
5.25e6
2.62e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 2.61e3
FS 12478D
1.19e7
31.84
CS 12347D
9.38e6
32.58
ES 12378D
1.13e7
33.09
Abs. Int.
3.34e6
1.67e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
Abs. Int.
7.46e6
3.73e6
0.00e0
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

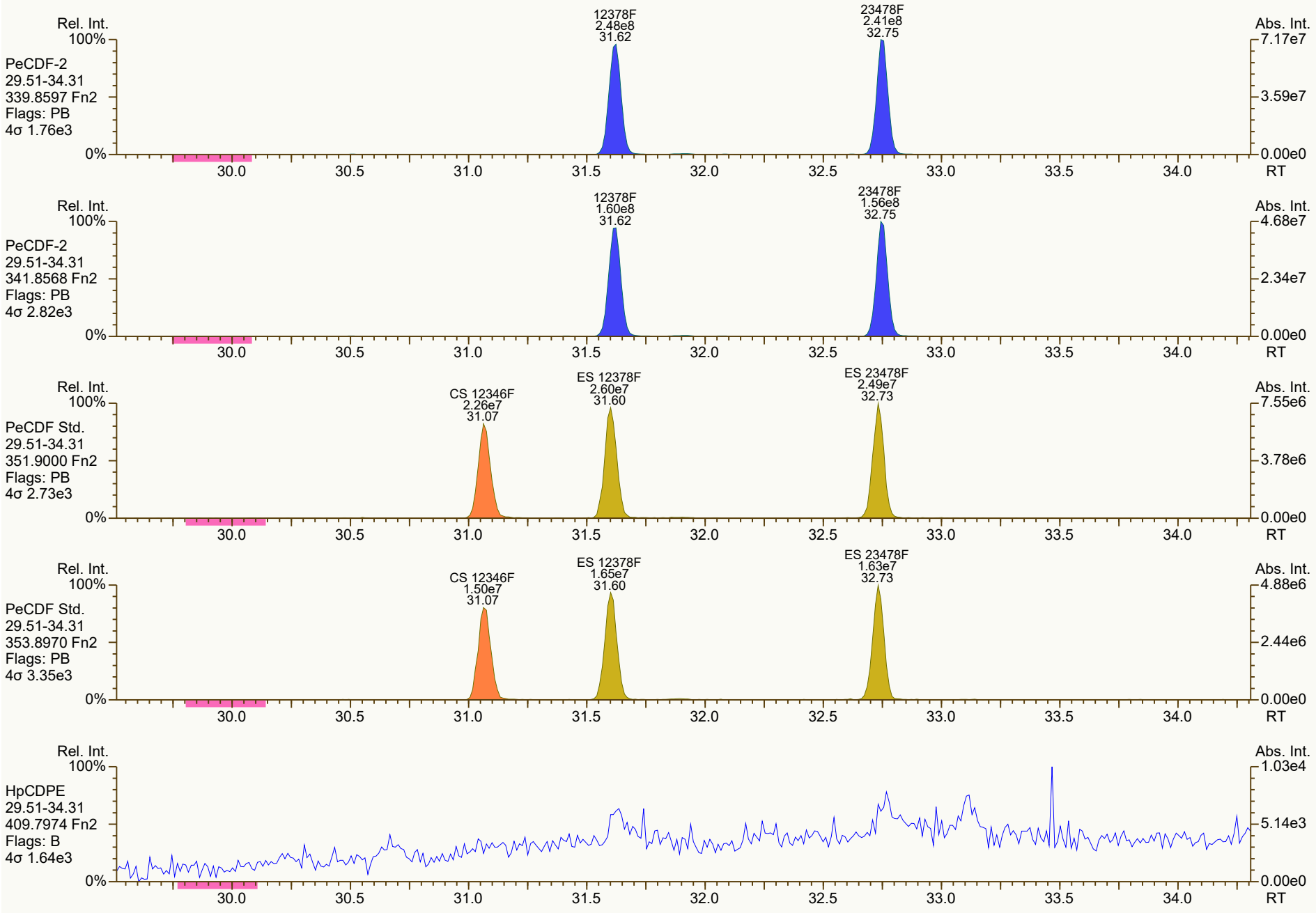

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 1.70e3
123678D
1.50e8
37.16
123478D
1.47e8
37.04
123789D
1.58e8
37.46
Abs. Int.
4.75e7
2.37e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.38e3
123678D
1.19e8
37.16
123478D
1.18e8
37.04
123789D
1.26e8
37.46
Abs. Int.
3.85e7
1.92e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.59e3
FS 123468D
1.68e7
35.97
ES 123678D
1.34e7
37.14
ES 123478D
1.42e7
37.03
ES 123789D
1.60e7
37.45
JS 123467D
6.92e6
37.34
Abs. Int.
5.10e6
2.55e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.42e3
FS 123468D
1.37e7
35.97
ES 123678D
1.10e7
37.14
ES 123478D
1.14e7
37.03
ES 123789D
1.28e7
37.45
JS 123467D
5.63e6
37.34
Abs. Int.
4.19e6
2.09e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
2.11e7
1.05e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

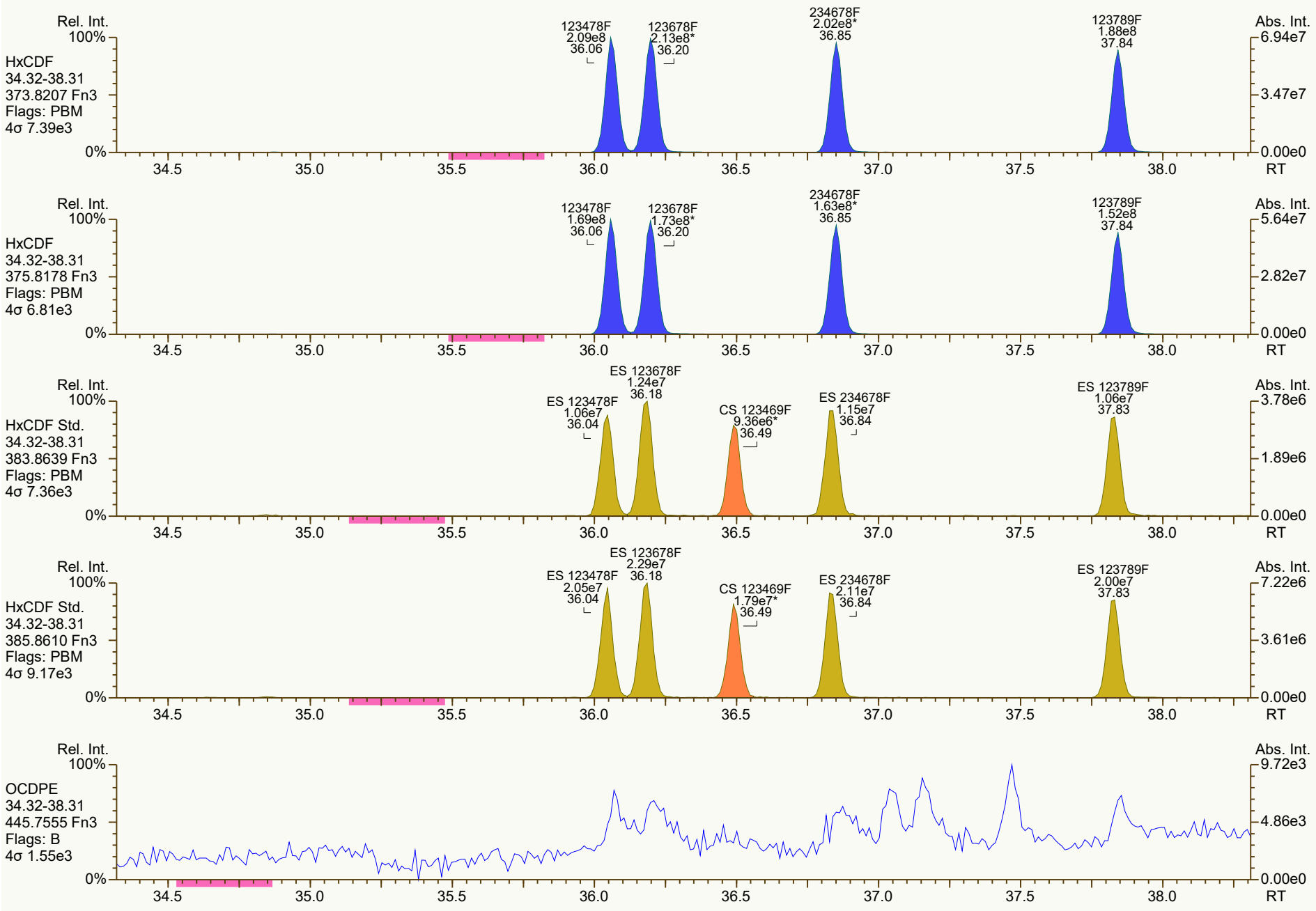

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 1.60e3
1234678D
1.20e8
40.28
Abs. Int.
4.68e7
2.34e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.77e3
1234678D
1.16e8
40.28
Abs. Int.
4.47e7
2.23e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 5.62e3
FS 1234679D
1.60e7
39.61
ES 1234678D
1.23e7
40.27
Abs. Int.
6.14e6
3.07e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.60e3
FS 1234679D
1.52e7
39.61
ES 1234678D
1.15e7
40.27
Abs. Int.
5.69e6
2.85e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.32e7
6.62e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

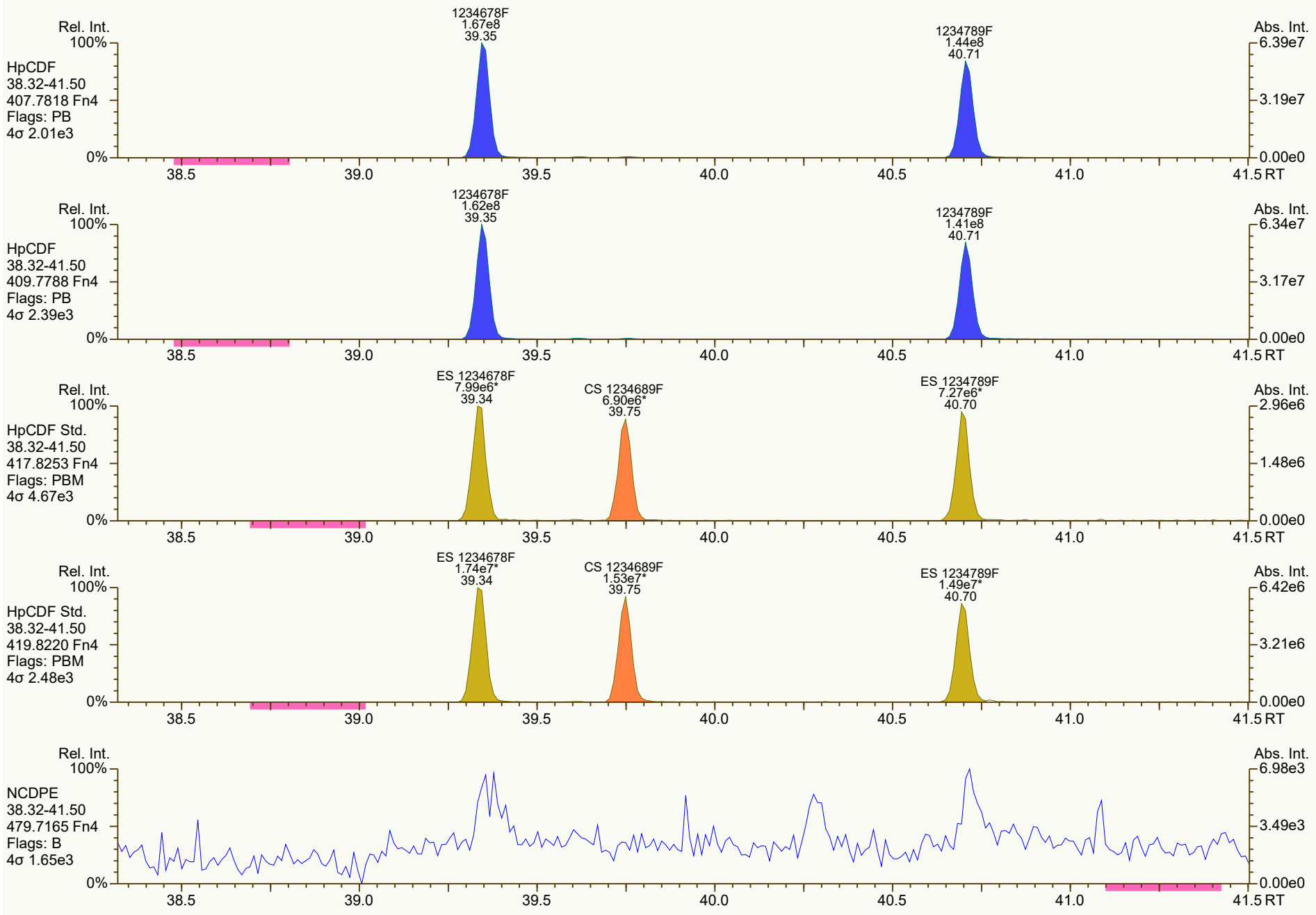

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 1.28e3
0%
OCDD
1.71e8
42.84
Abs. Int.
5.14e7
2.57e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 2.41e3
0%
OCDD
1.91e8
42.84
Abs. Int.
5.78e7
2.89e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 2.64e3
0%
ES OCDD
1.60e7
42.83
Abs. Int.
4.50e6
2.25e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.29e3
0%
ES OCDD
1.72e7
42.83
Abs. Int.
4.94e6
2.47e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.45e7
7.26e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

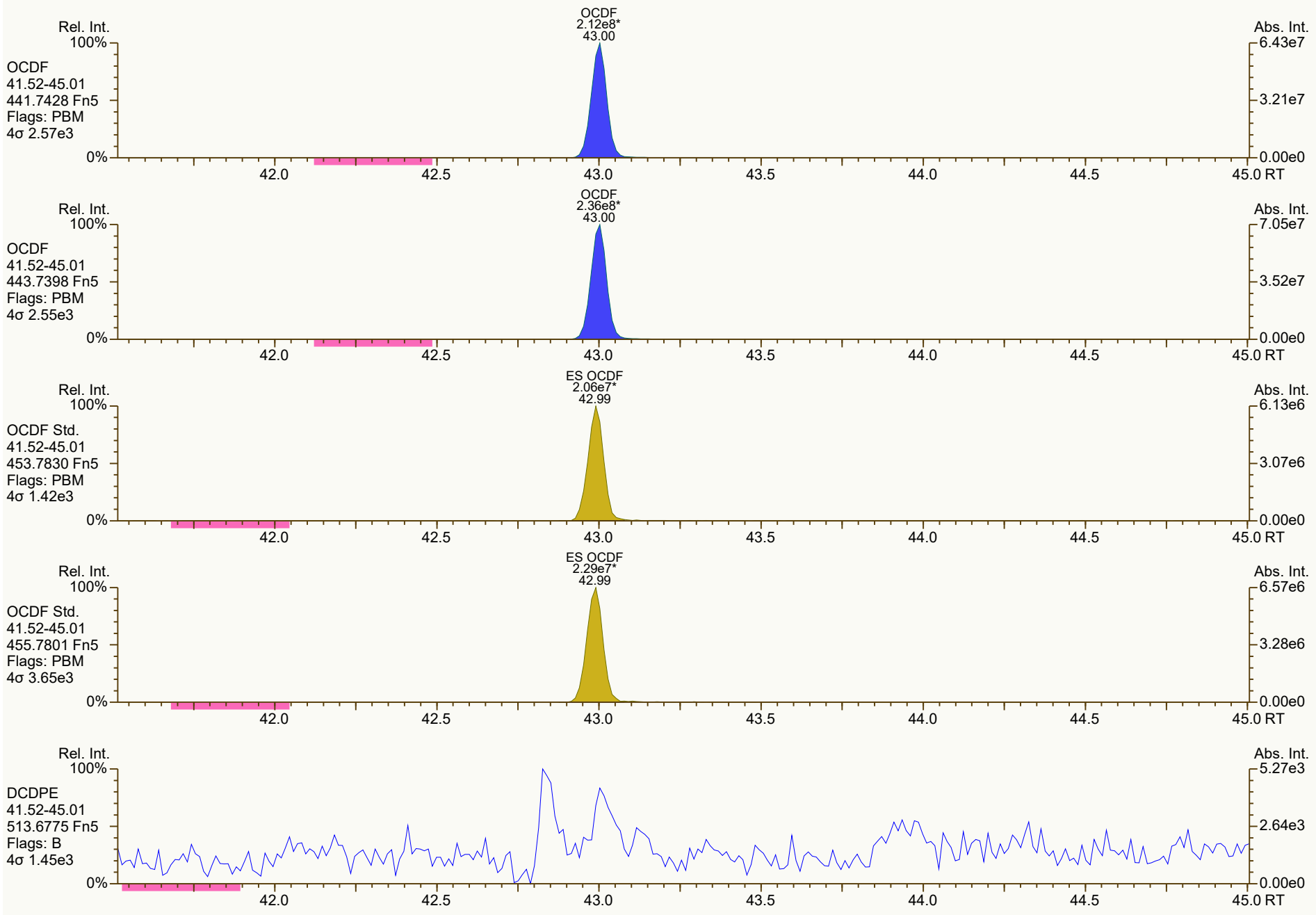

Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.90e3
0%
2378F
4.22e7
26.68
Abs. Int.
9.59e6
4.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 2.62e3
0%
2378F
5.40e7
26.68
Abs. Int.
1.21e7
6.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PB
4σ 1.77e4
0%
AS 1368F
2.19e7
21.49
JS 1234F
2.02e7
25.24
ES 2378F
2.13e7
26.65
Abs. Int.
4.70e6
2.35e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PB
4σ 1.51e4
0%
AS 1368F
2.81e7
21.49
JS 1234F
2.48e7
25.24
ES 2378F
2.69e7
26.65
Abs. Int.
5.78e6
2.89e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.60e3
0%
Abs. Int.
7.47e3
3.73e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
9.67e3
4.84e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.43e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.39e4
6.94e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.08e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
8.97e6
4.49e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 1.76e3
0%
12378F
2.48e8
31.62
23478F
2.41e8
32.75
Abs. Int.
7.17e7
3.59e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.82e3
0%
12378F
1.60e8
31.62
23478F
1.56e8
32.75
Abs. Int.
4.68e7
2.34e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 2.73e3
0%
CS 12346F
2.26e7
31.07
ES 12378F
2.60e7
31.60
ES 23478F
2.49e7
32.73
Abs. Int.
7.55e6
3.78e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.35e3
0%
CS 12346F
1.50e7
31.07
ES 12378F
1.65e7
31.60
ES 23478F
1.63e7
32.73
Abs. Int.
4.88e6
2.44e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 1.64e3
0%
Abs. Int.
1.03e4
5.14e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 7.39e3
0%
123478F
2.09e8
36.06
123678F
2.13e8*
36.20
234678F
2.02e8*
36.85
123789F
1.88e8
37.84
Abs. Int.
6.94e7
3.47e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 6.81e3
0%
123478F
1.69e8
36.06
123678F
1.73e8*
36.20
234678F
1.63e8*
36.85
123789F
1.52e8
37.84
Abs. Int.
5.64e7
2.82e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PBM
4σ 7.36e3
0%
ES 123478F
1.06e7
36.04
ES 123678F
1.24e7
36.18
CS 123469F
9.36e6*
36.49
ES 234678F
1.15e7
36.84
ES 123789F
1.06e7
37.83
Abs. Int.
3.78e6
1.89e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PBM
4σ 9.17e3
0%
ES 123478F
2.05e7
36.04
ES 123678F
2.29e7
36.18
CS 123469F
1.79e7*
36.49
ES 234678F
2.11e7
36.84
ES 123789F
2.00e7
37.83
Abs. Int.
7.22e6
3.61e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.55e3
0%
Abs. Int.
9.72e3
4.86e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 2.01e3
1234678F
1.67e8
39.35
1234789F
1.44e8
40.71
Abs. Int.
6.39e7
3.19e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 2.39e3
1234678F
1.62e8
39.35
1234789F
1.41e8
40.71
Abs. Int.
6.34e7
3.17e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.67e3
ES 1234678F
7.99e6*
39.34
CS 1234689F
6.90e6*
39.75
ES 1234789F
7.27e6*
40.70
Abs. Int.
2.96e6
1.48e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.48e3
ES 1234678F
1.74e7*
39.34
CS 1234689F
1.53e7*
39.75
ES 1234789F
1.49e7*
40.70
Abs. Int.
6.42e6
3.21e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.65e3
Abs. Int.
6.98e3
3.49e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

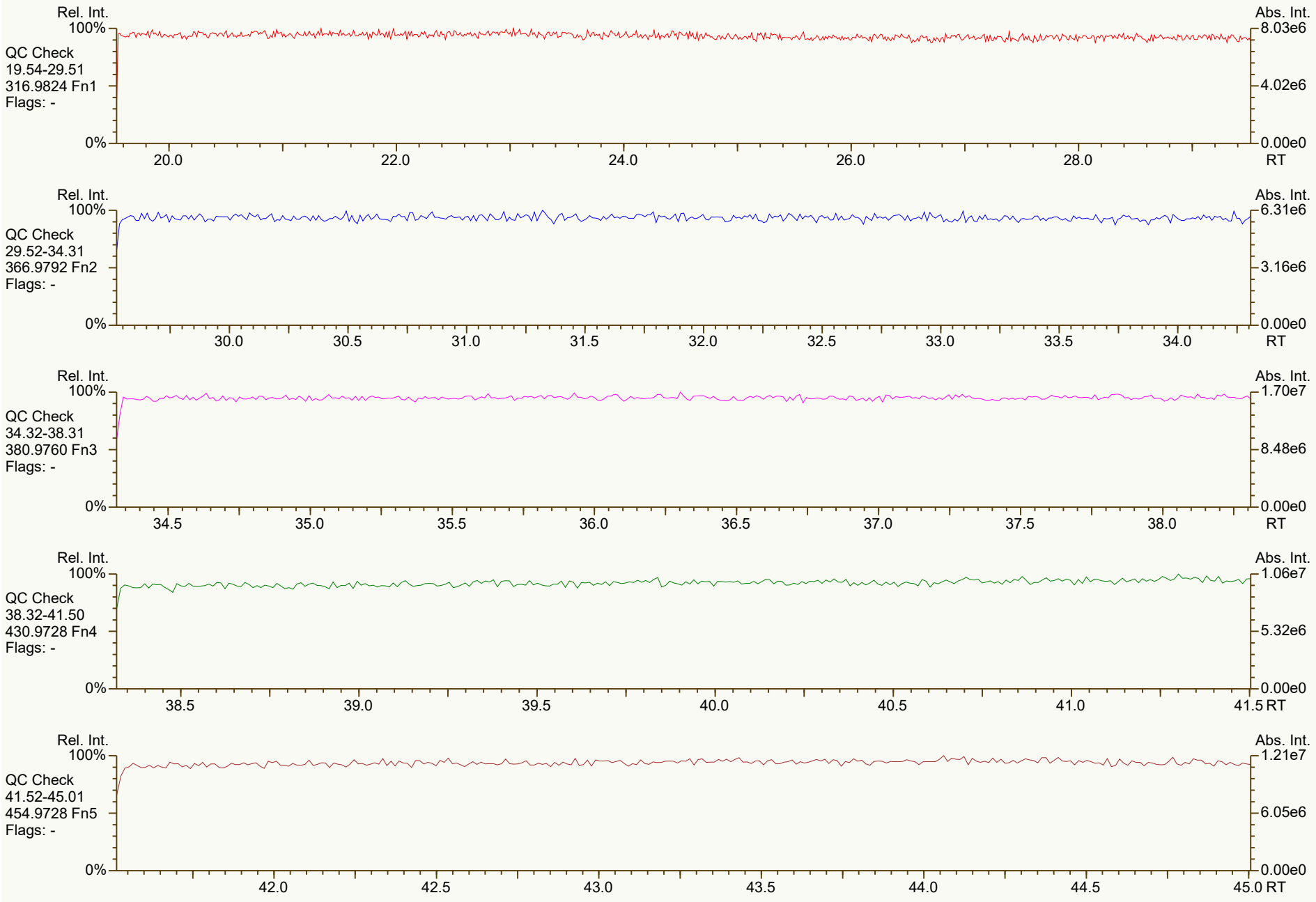

OCDF
2.12e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 2.57e3
0%
Abs. Int.
6.43e7
3.21e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
2.36e8*
43.00
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 2.55e3
0%
Abs. Int.
7.05e7
3.52e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.06e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 1.42e3
0%
Abs. Int.
6.13e6
3.07e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
2.29e7*
42.99
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 3.65e3
0%
Abs. Int.
6.57e6
3.28e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.45e3
0%
Abs. Int.
5.27e3
2.64e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

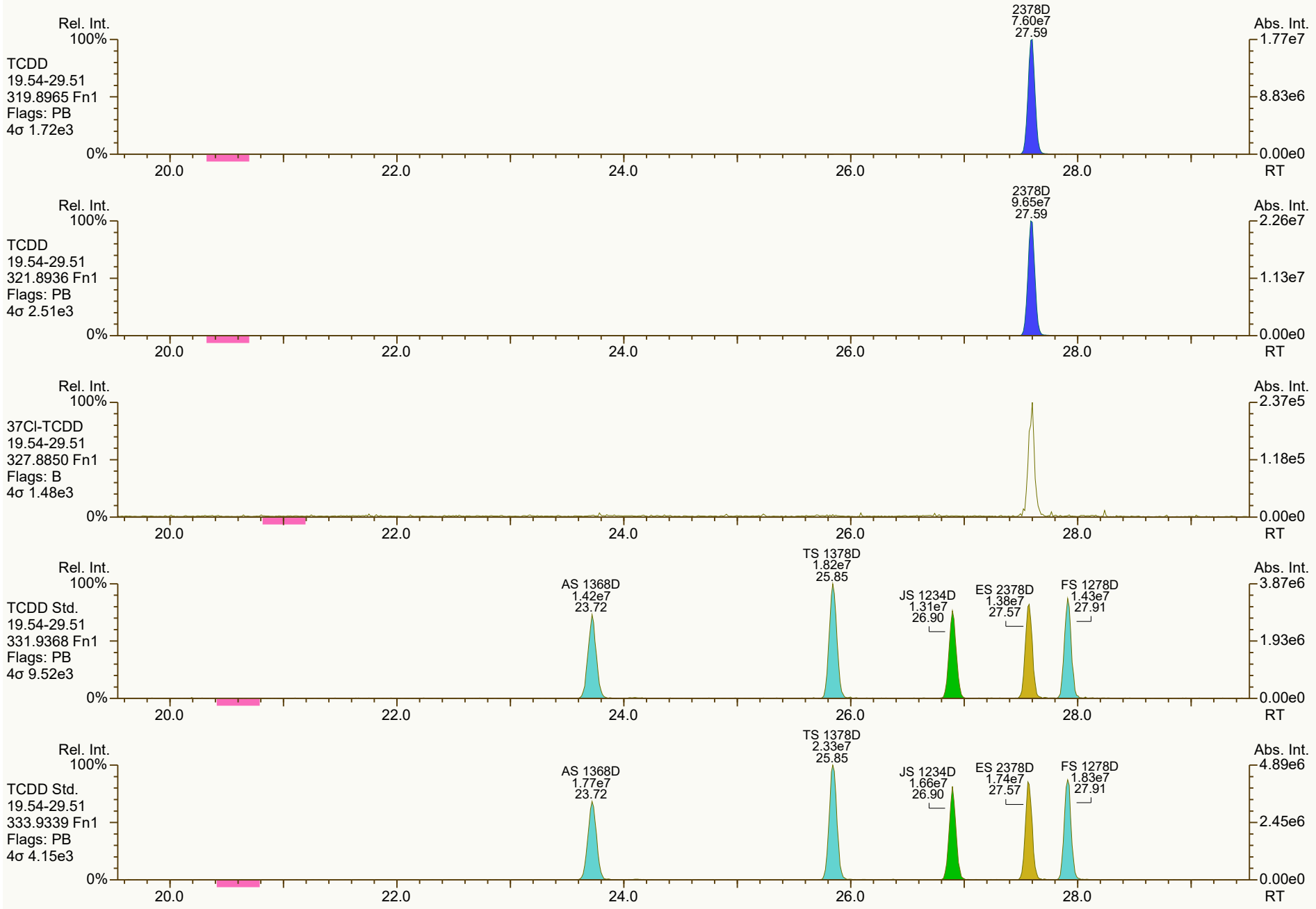
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

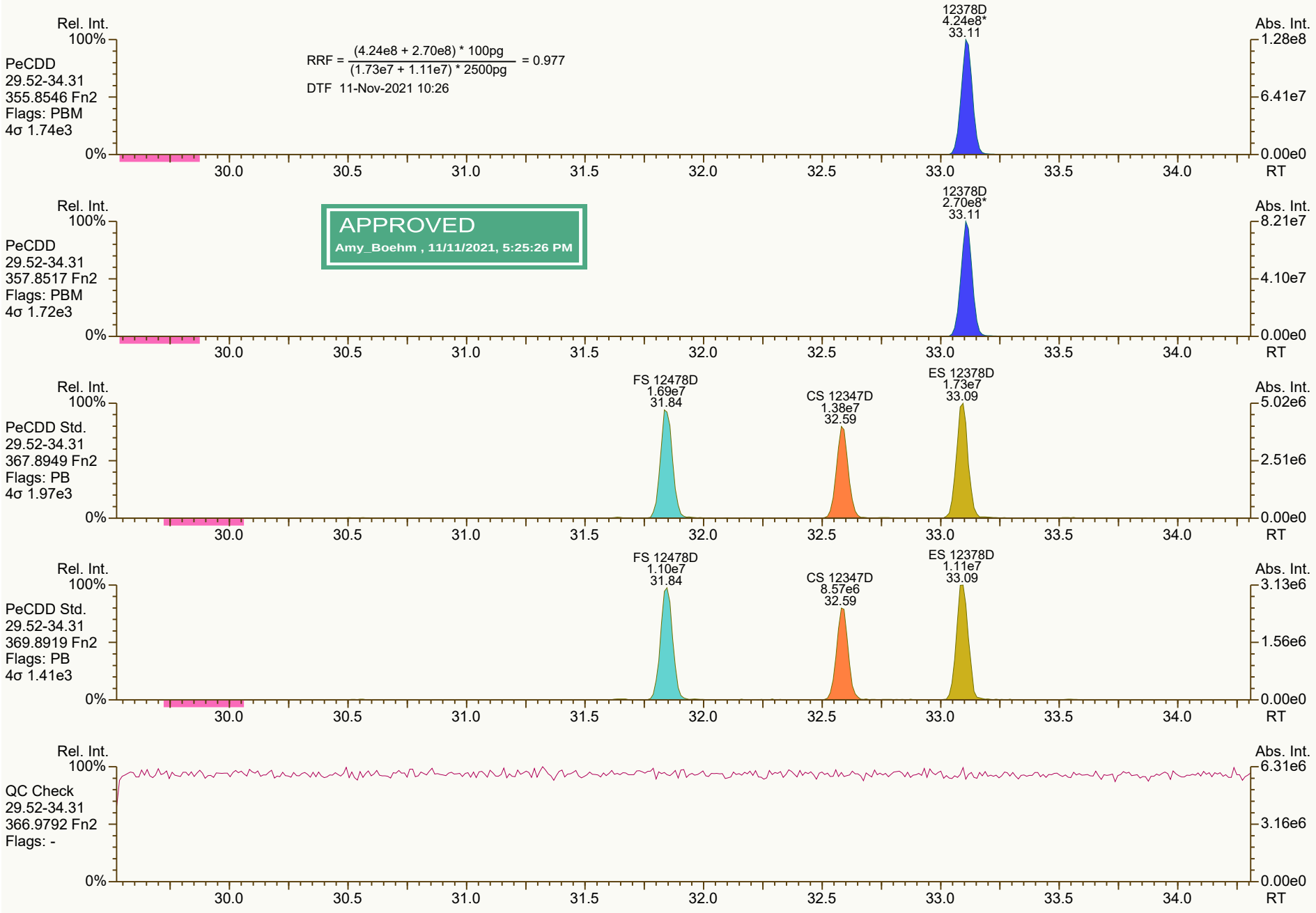
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	1.72E+08	0.79	Y	1.18	1.11	-7%
12378-PeCDD	33.11	6.93E+08	1.57	Y	1.04	0.98	-6%
123478-HxCDD	37.05	6.34E+08	1.25	Y	1.09	1.05	-3%
123678-HxCDD	37.17	6.31E+08	1.26	Y	1.15	1.08	-6%
123789-HxCDD	37.47	6.69E+08	1.25	Y	1.05	1.01	-4%
1234678-HpCDD	40.29	5.69E+08	1.04	Y	1.06	1.00	-6%
OCDD	42.86	8.78E+08	0.90	Y	1.13	1.08	-4%
2378-TCDF	26.68	2.23E+08	0.77	Y	1.08	1.00	-7%
12378-PeCDF	31.63	9.89E+08	1.56	Y	1.02	0.97	-5%
23478-PeCDF	32.76	9.58E+08	1.54	Y	1.02	0.97	-5%
123478-HxCDF	36.07	9.02E+08	1.23	Y	1.27	1.22	-4%
123678-HxCDF	36.21	9.17E+08	1.24	Y	1.15	1.09	-5%
234678-HxCDF	36.86	8.69E+08	1.23	Y	1.19	1.14	-4%
123789-HxCDF	37.85	8.09E+08	1.24	Y	1.16	1.12	-3%
1234678-HpCDF	39.36	7.85E+08	1.03	Y	1.37	1.29	-6%
1234789-HpCDF	40.72	6.79E+08	1.03	Y	1.31	1.27	-3%
OCDF	43.02	1.10E+09	0.90	Y	1.07	1.02	-5%
ES 2378-TCDD	27.57	3.12E+07	0.79	Y	1.05	1.05	0%
ES 12378-PeCDD	33.092	2.84E+07	1.56	Y	0.88	0.96	9%
ES 123478-HxCDD	37.034	2.41E+07	1.24	Y	0.97	1.04	7%
ES 123678-HxCDD	37.151	2.34E+07	1.21	Y	0.94	1.01	7%
ES 123789-HxCDD	37.455	2.66E+07	1.25	Y	1.09	1.15	5%
ES 1234678-HpCDD	40.276	2.28E+07	1.04	Y	0.91	0.98	8%
ES OCDD	42.846	3.26E+07	0.92	Y	0.62	0.70	12%
ES 2378-TCDF	26.657	4.46E+07	0.78	Y	1.06	1.07	1%
ES 12378-PeCDF	31.609	4.08E+07	1.57	Y	0.91	0.98	8%
ES 23478-PeCDF	32.739	3.96E+07	1.55	Y	0.88	0.95	8%
ES 123478-HxCDF	36.05	2.95E+07	0.53	Y	1.20	1.27	6%
ES 123678-HxCDF	36.19	3.35E+07	0.54	Y	1.35	1.44	7%
ES 234678-HxCDF	36.843	3.05E+07	0.51	Y	1.24	1.31	6%
ES 123789-HxCDF	37.835	2.88E+07	0.52	Y	1.16	1.24	7%
ES 1234678-HpCDF	39.347	2.42E+07	0.45	Y	0.97	1.04	8%
ES 1234789-HpCDF	40.708	2.13E+07	0.46	Y	0.85	0.92	8%
ES OCDF	43.008	4.32E+07	0.91	Y	0.81	0.93	15%

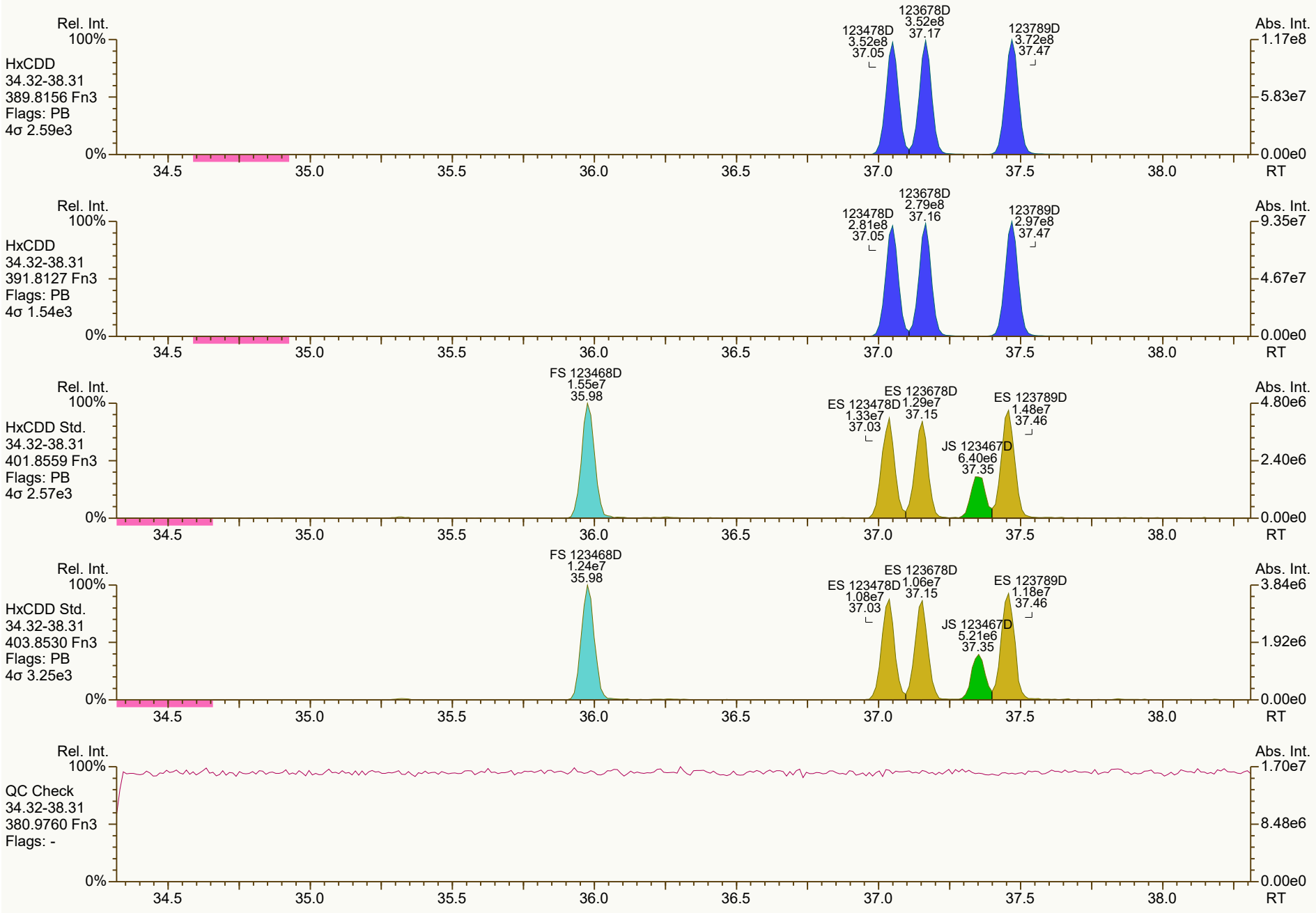
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 15:40 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS6_211110_DF_CA	UTP: 11-Nov-2021 16:22:23 DTF	Checkcode: 172-736-WQL
Sample ID: 25-5-2	Report: 11 Nov 2021 16:25 TF	Datafile: 211110C10

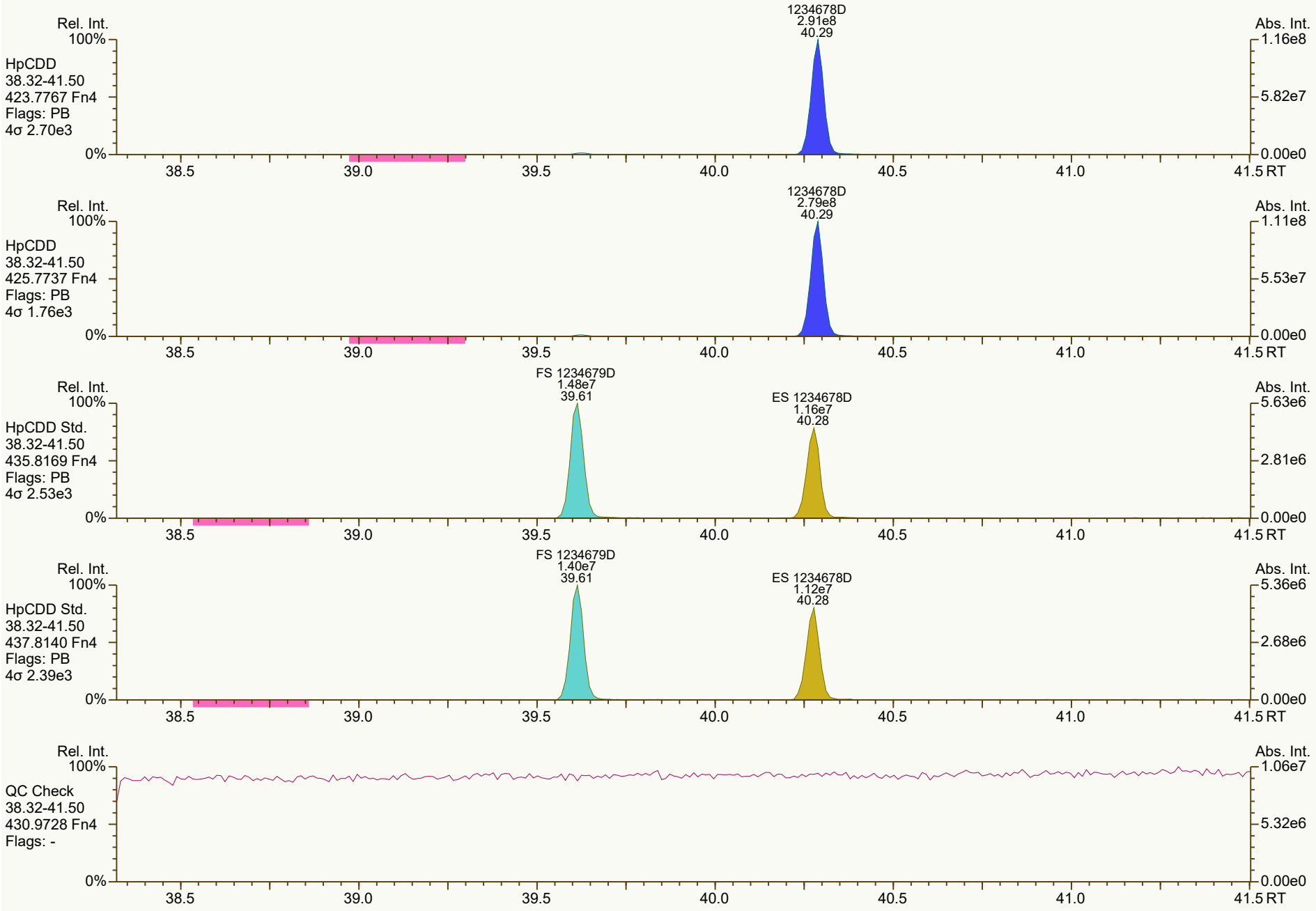
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.90	2.97E+07	0.79	Y	-	-	-
JS 1234-TCDF	25.24	4.16E+07	0.79	Y	-	-	-
JS 123467-HxCDD	37.35	1.16E+07	1.23	Y	-	-	-
CS 37Cl-2378-TCDD	NotFnd		n/a	-	1.20		
CS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.75	0.75	0%
CS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.85	0.85	0%
CS 123469-HxCDF	36.50	2.58E+07	0.53	Y	1.12	1.11	-1%
CS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.89	0.87	-2%
SS 37Cl-2378-TCDD	NotFnd		n/a	-	1.15		
SS 12347-PeCDD	32.59	2.24E+07	1.62	Y	0.86	0.79	-8%
SS 12346-PeCDF	31.07	3.54E+07	1.55	Y	0.94	0.87	-7%
SS 123469-HxCDF	36.50	2.58E+07	0.53	Y	0.83	0.77	-7%
SS 1234689-HpCDF	39.76	2.03E+07	0.47	Y	0.92	0.84	-9%
AS 1368-TCDD	23.72	3.19E+07	0.80	Y	1.06	1.07	2%
AS 1368-TCDF	21.49	4.69E+07	0.79	Y	1.13	1.13	0%
FS 1278-TCDD	27.91	3.26E+07	0.78	Y	1.07	1.05	-2%
FS 12478-PeCDD	31.85	2.80E+07	1.54	Y	1.09	0.98	-10%
FS 123468-HxCDD	35.98	2.79E+07	1.25	Y	1.26	1.16	-8%
FS 1234679-HpCDD	39.61	2.88E+07	1.06	Y	1.36	1.26	-7%
TS 1378-TCDD	25.85	4.14E+07	0.78	Y	1.34	1.33	-1%
OCDD-a	42.85	5.41E+07	2.50	Y	0.07	0.07	-8%
OCDF-a	43.02	6.71E+07	2.45	Y	0.07	0.06	-6%

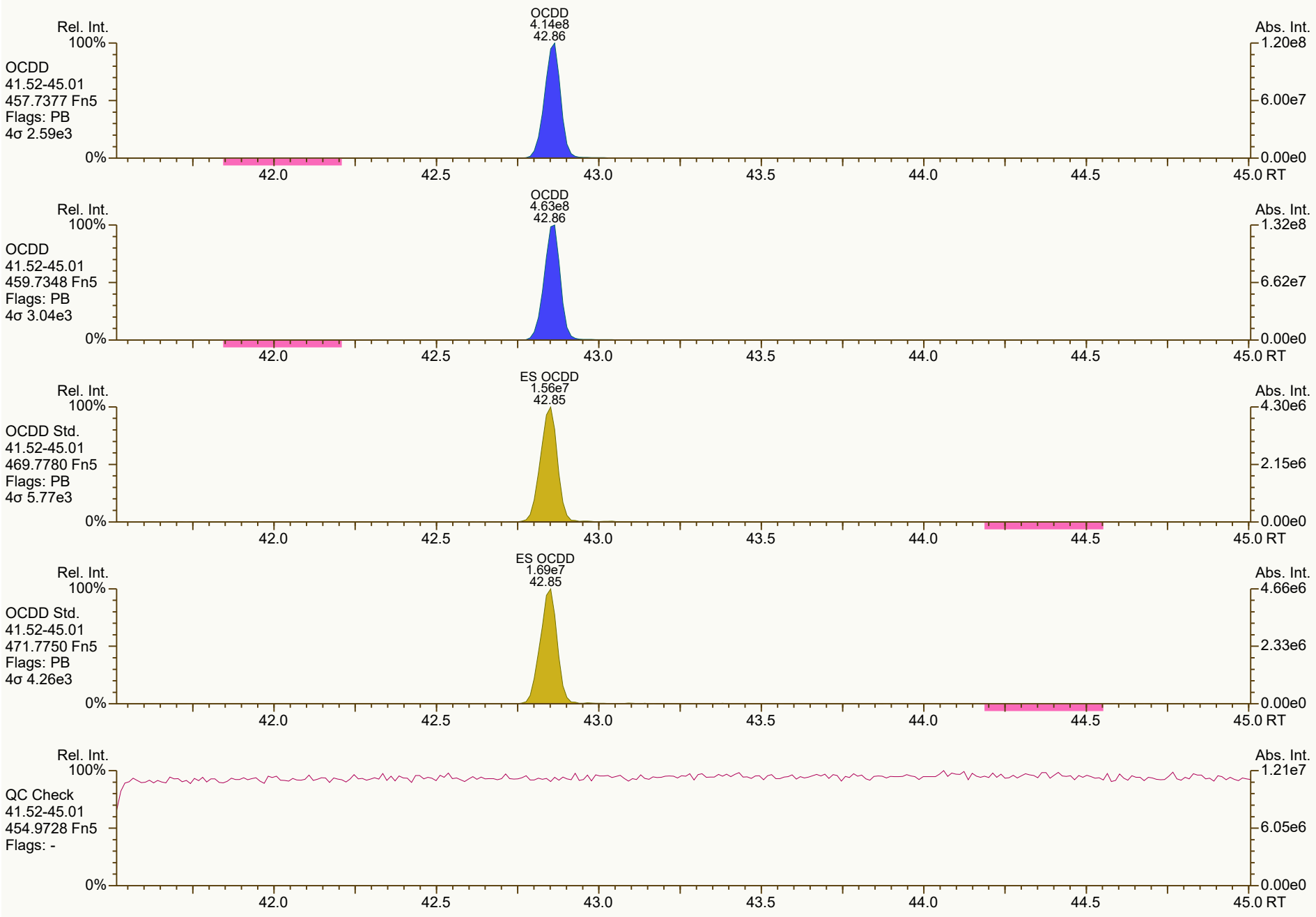

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
8.03e6
4.02e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
6.31e6
3.16e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
1.70e7
8.48e6
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Abs. Int.
1.06e7
5.32e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Abs. Int.
1.21e7
6.05e6
0.00e0


Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: PB
4σ 1.72e3
0%
2378D
7.60e7
27.59
Abs. Int.
1.77e7
8.83e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: PB
4σ 2.51e3
0%
2378D
9.65e7
27.59
Abs. Int.
2.26e7
1.13e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.48e3
0%
Abs. Int.
2.37e5
1.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: PB
4σ 9.52e3
0%
AS 1368D
1.42e7
23.72
TS 1378D
1.82e7
25.85
JS 1234D
1.31e7
26.90
ES 2378D
1.38e7
27.57
FS 1278D
1.43e7
27.91
Abs. Int.
3.87e6
1.93e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: PB
4σ 4.15e3
0%
AS 1368D
1.77e7
23.72
TS 1378D
2.33e7
25.85
JS 1234D
1.66e7
26.90
ES 2378D
1.74e7
27.57
FS 1278D
1.83e7
27.91
Abs. Int.
4.89e6
2.45e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: PBM
4σ 1.74e3
0%
RRF = (4.24e8 + 2.70e8) * 100pg / (1.73e7 + 1.11e7) * 2500pg = 0.977
DTF 11-Nov-2021 10:26
12378D
4.24e8*
33.11
Abs. Int.
1.28e8
6.41e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: PBM
4σ 1.72e3
APPROVED
Amy_Boehm , 11/11/2021, 5:25:26 PM
12378D
2.70e8*
33.11
Abs. Int.
8.21e7
4.10e7
0.00e0
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: PB
4σ 1.97e3
FS 12478D
1.69e7
31.84
CS 12347D
1.38e7
32.59
ES 12378D
1.73e7
33.09
Abs. Int.
5.02e6
2.51e6
0.00e0
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: PB
4σ 1.41e3
FS 12478D
1.10e7
31.84
CS 12347D
8.57e6
32.59
ES 12378D
1.11e7
33.09
Abs. Int.
3.13e6
1.56e6
0.00e0
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
Abs. Int.
6.31e6
3.16e6
0.00e0


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.59e3
0%
123478D
3.52e8
37.05
123678D
3.52e8
37.17
123789D
3.72e8
37.47
Abs. Int.
1.17e8
5.83e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 1.54e3
0%
123478D
2.81e8
37.05
123678D
2.79e8
37.16
123789D
2.97e8
37.47
Abs. Int.
9.35e7
4.67e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 2.57e3
0%
FS 123468D
1.55e7
35.98
ES 123478D
1.33e7
37.03
ES 123678D
1.29e7
37.15
JS 123467D
6.40e6
37.35
ES 123789D
1.48e7
37.46
Abs. Int.
4.80e6
2.40e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 3.25e3
0%
FS 123468D
1.24e7
35.98
ES 123478D
1.08e7
37.03
ES 123678D
1.06e7
37.15
JS 123467D
5.21e6
37.35
ES 123789D
1.18e7
37.46
Abs. Int.
3.84e6
1.92e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
1.70e7
8.48e6
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PB
4σ 2.70e3
1234678D
2.91e8
40.29
Abs. Int.
1.16e8
5.82e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PB
4σ 1.76e3
1234678D
2.79e8
40.29
Abs. Int.
1.11e8
5.53e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.53e3
FS 1234679D
1.48e7
39.61
ES 1234678D
1.16e7
40.28
Abs. Int.
5.63e6
2.81e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 2.39e3
FS 1234679D
1.40e7
39.61
ES 1234678D
1.12e7
40.28
Abs. Int.
5.36e6
2.68e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
1.06e7
5.32e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT

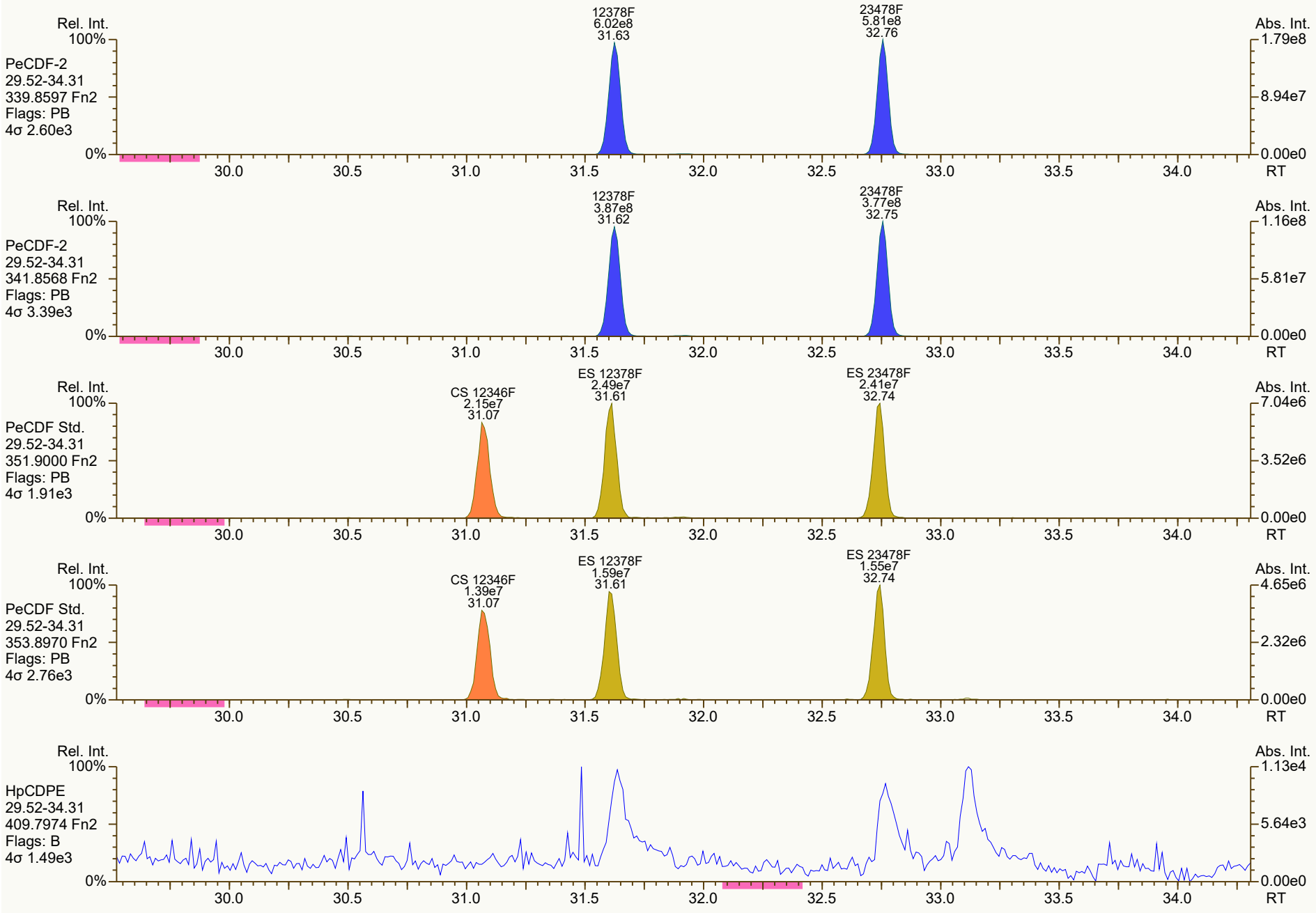

Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PB
4σ 2.59e3
0%
OCDD
4.14e8
42.86
Abs. Int.
1.20e8
6.00e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PB
4σ 3.04e3
0%
OCDD
4.63e8
42.86
Abs. Int.
1.32e8
6.62e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 5.77e3
0%
ES OCDD
1.56e7
42.85
Abs. Int.
4.30e6
2.15e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 4.26e3
0%
ES OCDD
1.69e7
42.85
Abs. Int.
4.66e6
2.33e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.21e7
6.05e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

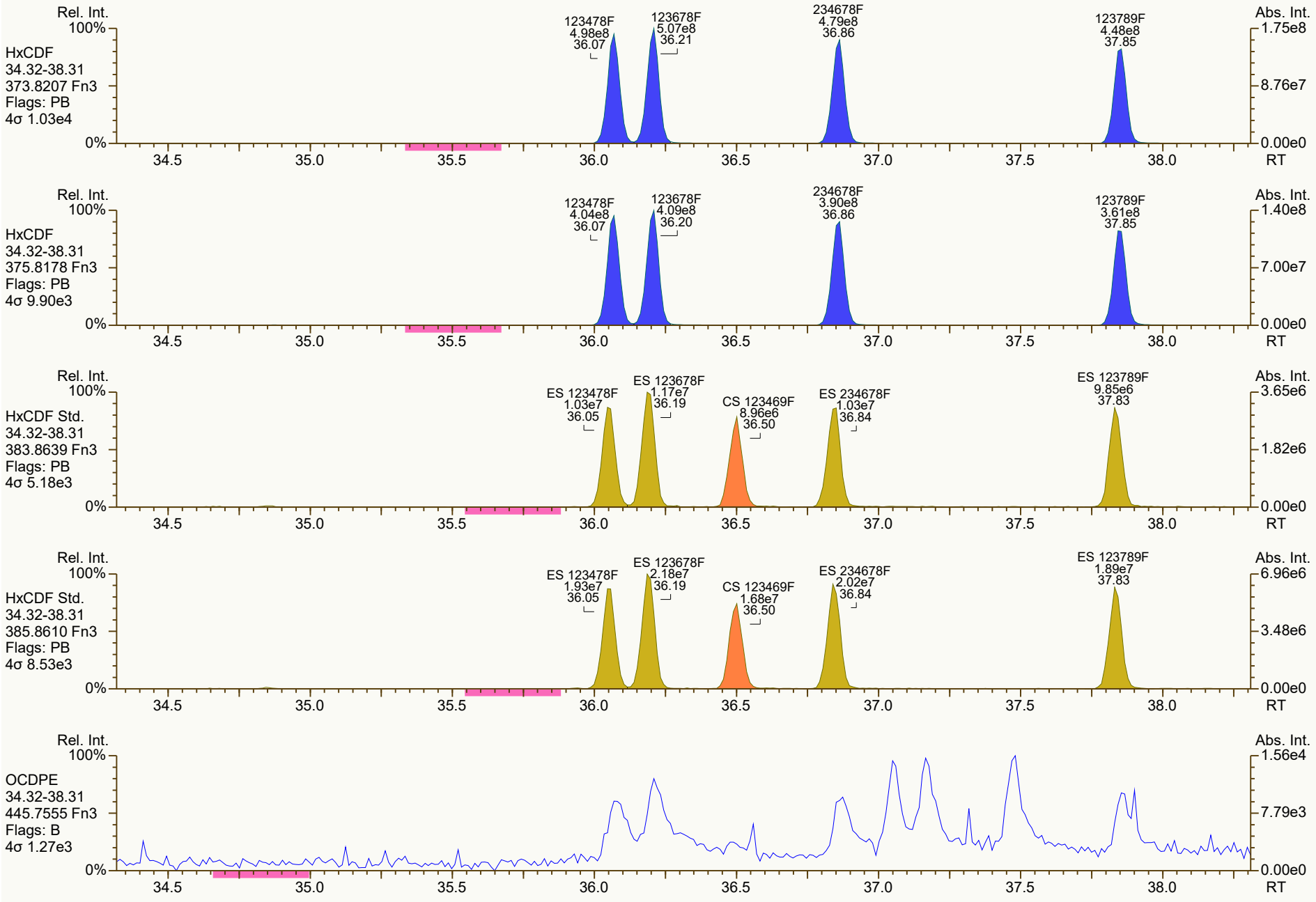

Rel. Int.
100%
TCDF
19.54-29.51
303.9016 Fn1
Flags: PB
4σ 2.26e3
0%
2378F
9.73e7
26.68
Abs. Int.
2.17e7
1.08e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.51
305.8987 Fn1
Flags: PB
4σ 2.01e3
0%
2378F
1.26e8
26.68
Abs. Int.
2.85e7
1.42e7
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: PB
4σ 1.95e4
0%
AS 1368F
2.07e7
21.49
JS 1234F
1.84e7
25.24
ES 2378F
1.95e7
26.66
Abs. Int.
4.38e6
2.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: PB
4σ 7.53e3
0%
AS 1368F
2.62e7
21.49
JS 1234F
2.32e7
25.24
ES 2378F
2.51e7
26.65
Abs. Int.
5.43e6
2.72e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 1.55e3
0%
Abs. Int.
6.34e3
3.17e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT

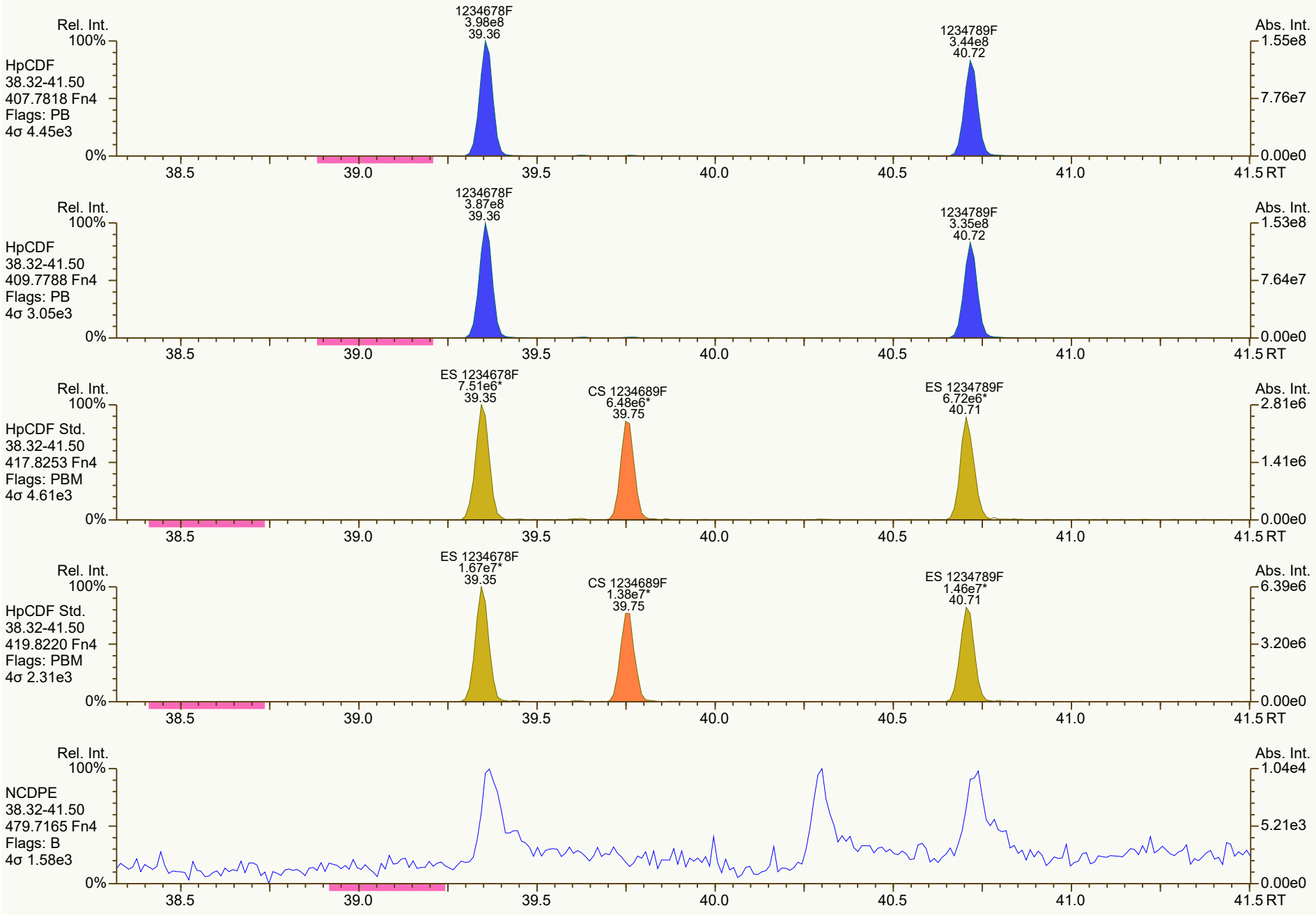
SGS ID: CS6_211110_DF_CA
Sample ID: 25-5-2
Acq: 10-Nov-2021 15:40:10
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 71
User: DTF Datafile: 211110C10

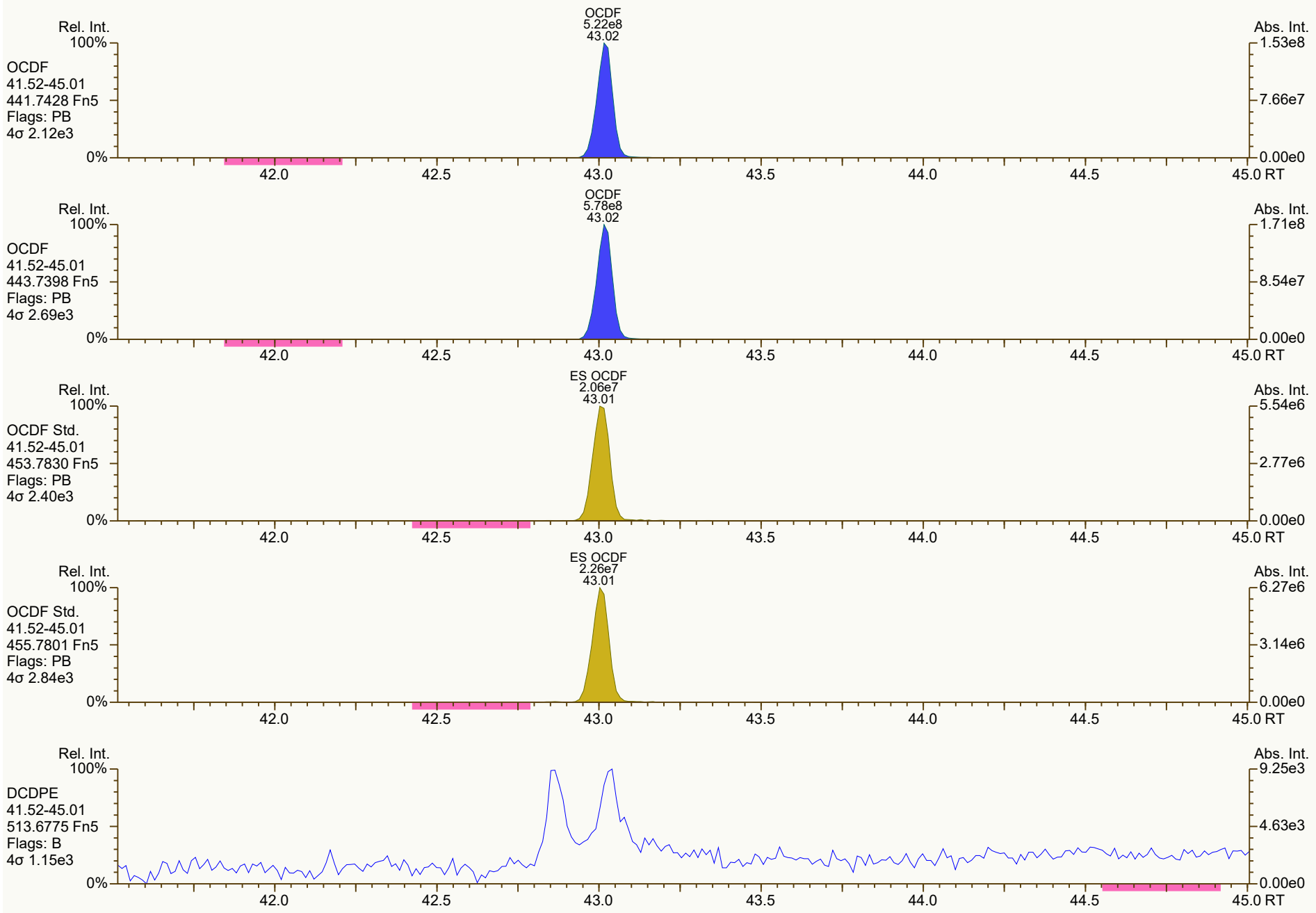


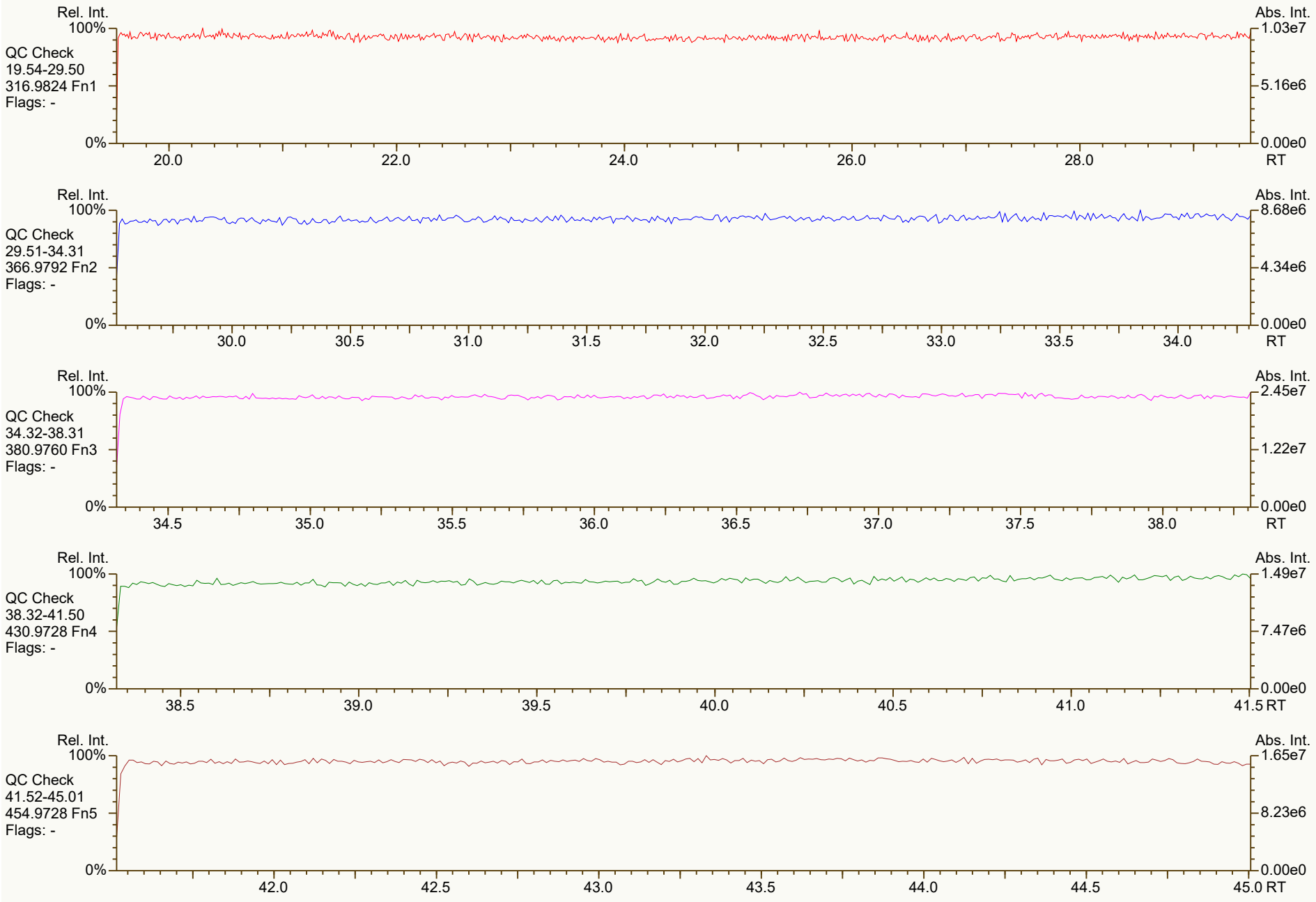
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\CS6_211110_DF_CA.utp_res, saved 11-Nov-2021 10:39 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4239 scc: 172-736
PKD: 10-Nov-2021 16:46 Printed: 11-Nov-2021 10:41 Page 8 of 12


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: PB
4σ 2.60e3
0%
12378F
6.02e8
31.63
23478F
5.81e8
32.76
Abs. Int.
1.79e8
8.94e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: PB
4σ 3.39e3
0%
12378F
3.87e8
31.62
23478F
3.77e8
32.75
Abs. Int.
1.16e8
5.81e7
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: PB
4σ 1.91e3
0%
CS 12346F
2.15e7
31.07
ES 12378F
2.49e7
31.61
ES 23478F
2.41e7
32.74
Abs. Int.
7.04e6
3.52e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: PB
4σ 2.76e3
0%
CS 12346F
1.39e7
31.07
ES 12378F
1.59e7
31.61
ES 23478F
1.55e7
32.74
Abs. Int.
4.65e6
2.32e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 1.49e3
0%
Abs. Int.
1.13e4
5.64e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PB
4σ 1.03e4
123478F
4.98e8
36.07
123678F
5.07e8
36.21
234678F
4.79e8
36.86
123789F
4.48e8
37.85
Abs. Int.
1.75e8
8.76e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PB
4σ 9.90e3
123478F
4.04e8
36.07
123678F
4.09e8
36.20
234678F
3.90e8
36.86
123789F
3.61e8
37.85
Abs. Int.
1.40e8
7.00e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 5.18e3
ES 123478F
1.03e7
36.05
ES 123678F
1.17e7
36.19
CS 123469F
8.96e6
36.50
ES 234678F
1.03e7
36.84
ES 123789F
9.85e6
37.83
Abs. Int.
3.65e6
1.82e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.53e3
ES 123478F
1.93e7
36.05
ES 123678F
2.18e7
36.19
CS 123469F
1.68e7
36.50
ES 234678F
2.02e7
36.84
ES 123789F
1.89e7
37.83
Abs. Int.
6.96e6
3.48e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.27e3
Abs. Int.
1.56e4
7.79e3
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: PB
4σ 4.45e3
1234678F
3.98e8
39.36
1234789F
3.44e8
40.72
Abs. Int.
1.55e8
7.76e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: PB
4σ 3.05e3
1234678F
3.87e8
39.36
1234789F
3.35e8
40.72
Abs. Int.
1.53e8
7.64e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: PBM
4σ 4.61e3
ES 1234678F
7.51e6*
39.35
CS 1234689F
6.48e6*
39.75
ES 1234789F
6.72e6*
40.71
Abs. Int.
2.81e6
1.41e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: PBM
4σ 2.31e3
ES 1234678F
1.67e7*
39.35
CS 1234689F
1.38e7*
39.75
ES 1234789F
1.46e7*
40.71
Abs. Int.
6.39e6
3.20e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: B
4σ 1.58e3
Abs. Int.
1.04e4
5.21e3
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: PB
4σ 2.12e3
0%
OCDF
5.22e8
43.02
Abs. Int.
1.53e8
7.66e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: PB
4σ 2.69e3
0%
OCDF
5.78e8
43.02
Abs. Int.
1.71e8
8.54e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PB
4σ 2.40e3
0%
ES OCDF
2.06e7
43.01
Abs. Int.
5.54e6
2.77e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PB
4σ 2.84e3
0%
ES OCDF
2.26e7
43.01
Abs. Int.
6.27e6
3.14e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.15e3
0%
Abs. Int.
9.25e3
4.63e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
RT
Abs. Int.
1.03e7
5.16e6
0.00e0
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Abs. Int.
8.68e6
4.34e6
0.00e0
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Abs. Int.
2.45e7
1.22e7
0.00e0
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
RT
Abs. Int.
1.49e7
7.47e6
0.00e0
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
1.65e7
8.23e6
0.00e0

SGS ID: SBS_211110_DF_CA | Sample ID: 20-61-1 | Acq: 10-Nov-2021 10:15:54

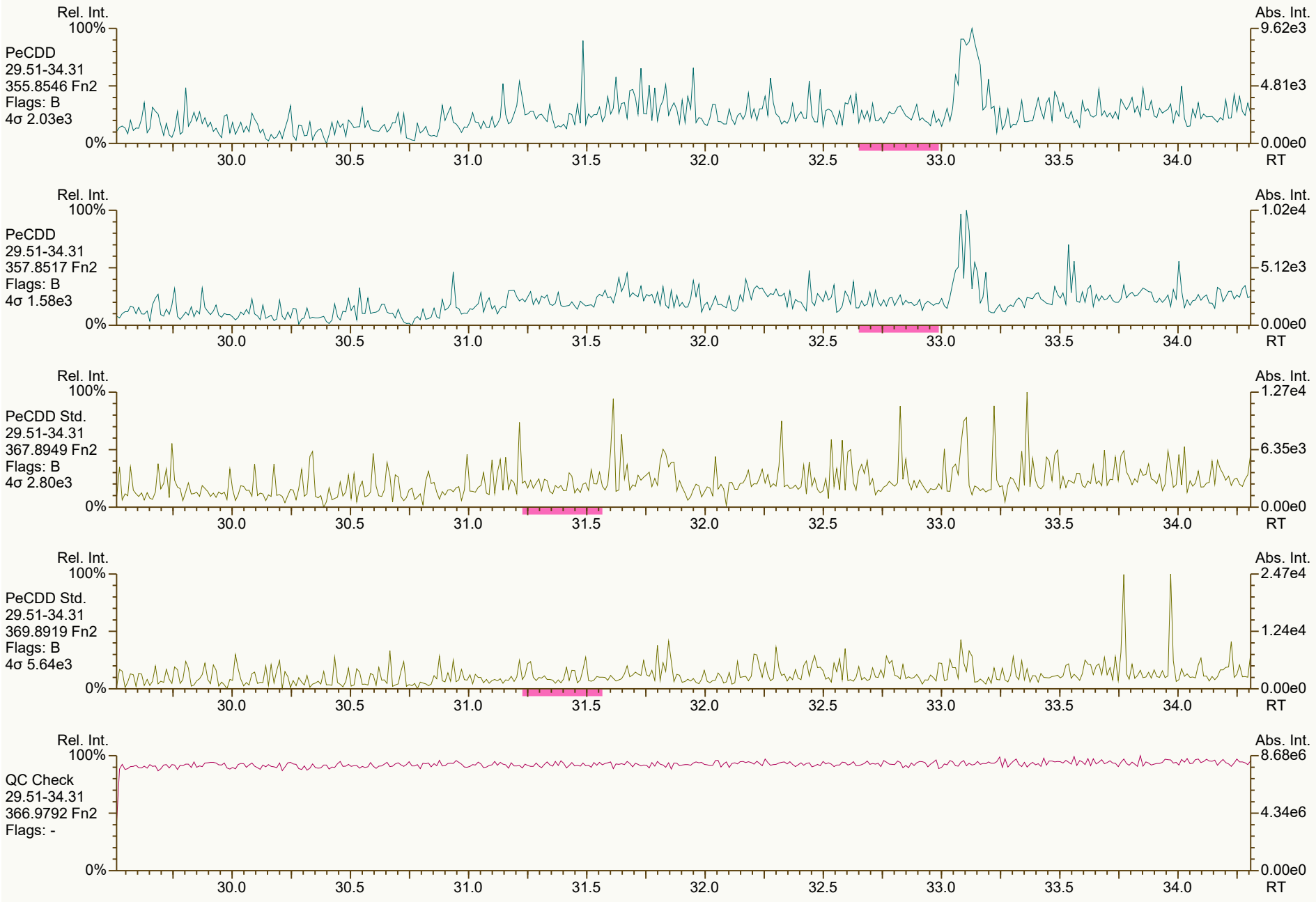
Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2 | User: DTF Datafile: 211110C03



Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\Resources\SBS_211110_DF_CA.utp_res, saved 10-Nov-2021 11:40 (DTF) *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4939, 4247, 1318 scc: 876-647 *PKD: 10-Nov-2021 11:40 Printed: 11-Nov-2021 10:29 Page 1 of 1*


Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: B
4σ 2.56e3
0%
Abs. Int.
7.66e3
3.83e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: B
4σ 1.58e3
0%
Abs. Int.
9.94e3
4.97e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 1.75e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: B
4σ 7.98e3
0%
Abs. Int.
2.72e4
1.36e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: B
4σ 6.62e3
0%
Abs. Int.
2.68e4
1.34e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: B
4σ 2.03e3
0%
Abs. Int.
9.62e3
4.81e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: B
4σ 1.58e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: B
4σ 2.80e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: B
4σ 5.64e3
0%
Abs. Int.
2.47e4
1.24e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
8.68e6
4.34e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT

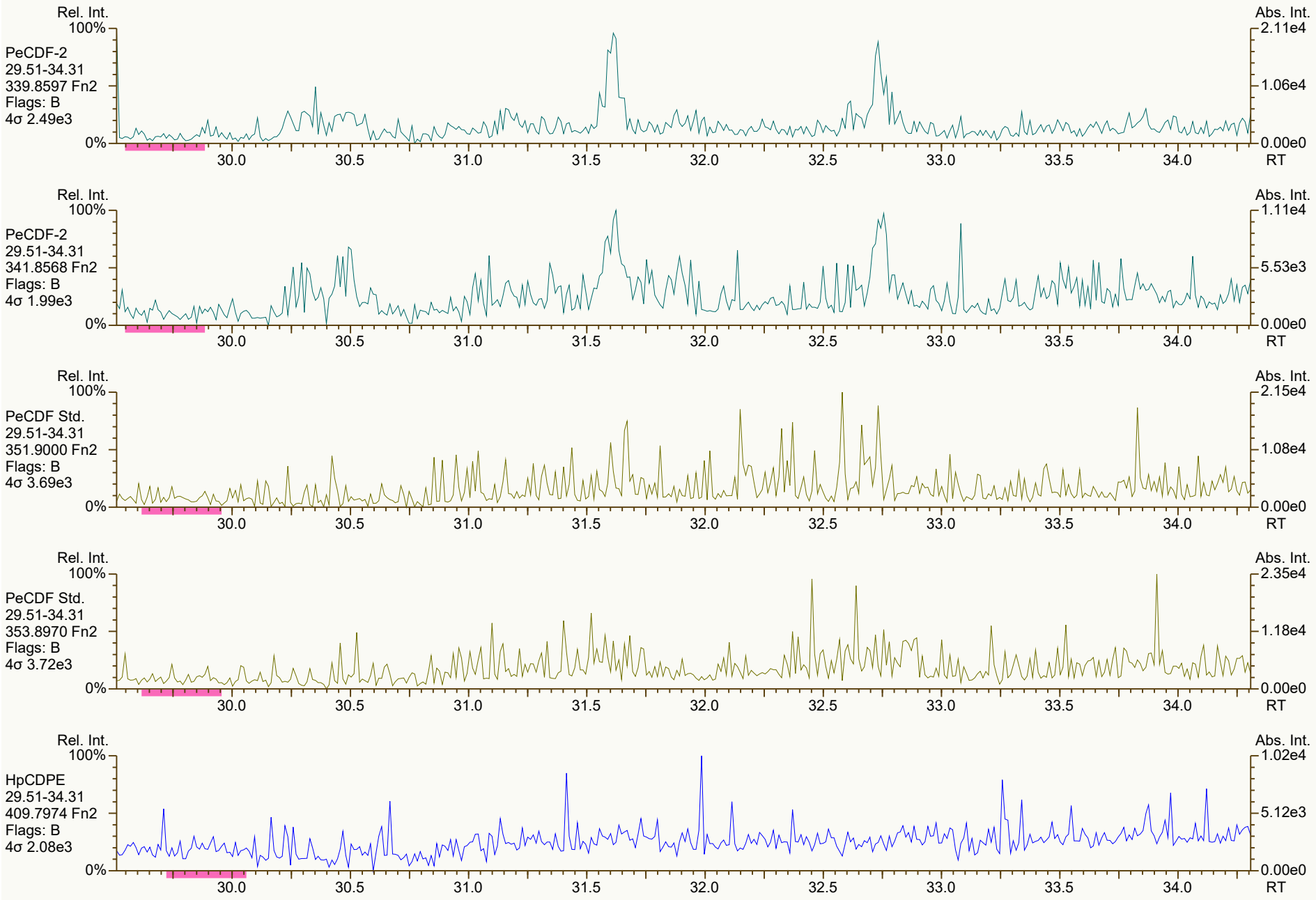

Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 2.06e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.18e4
5.89e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.99e3
0%
Abs. Int.
1.61e4
8.05e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 2.98e3
0%
Abs. Int.
1.33e4
6.66e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
2.45e7
1.22e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

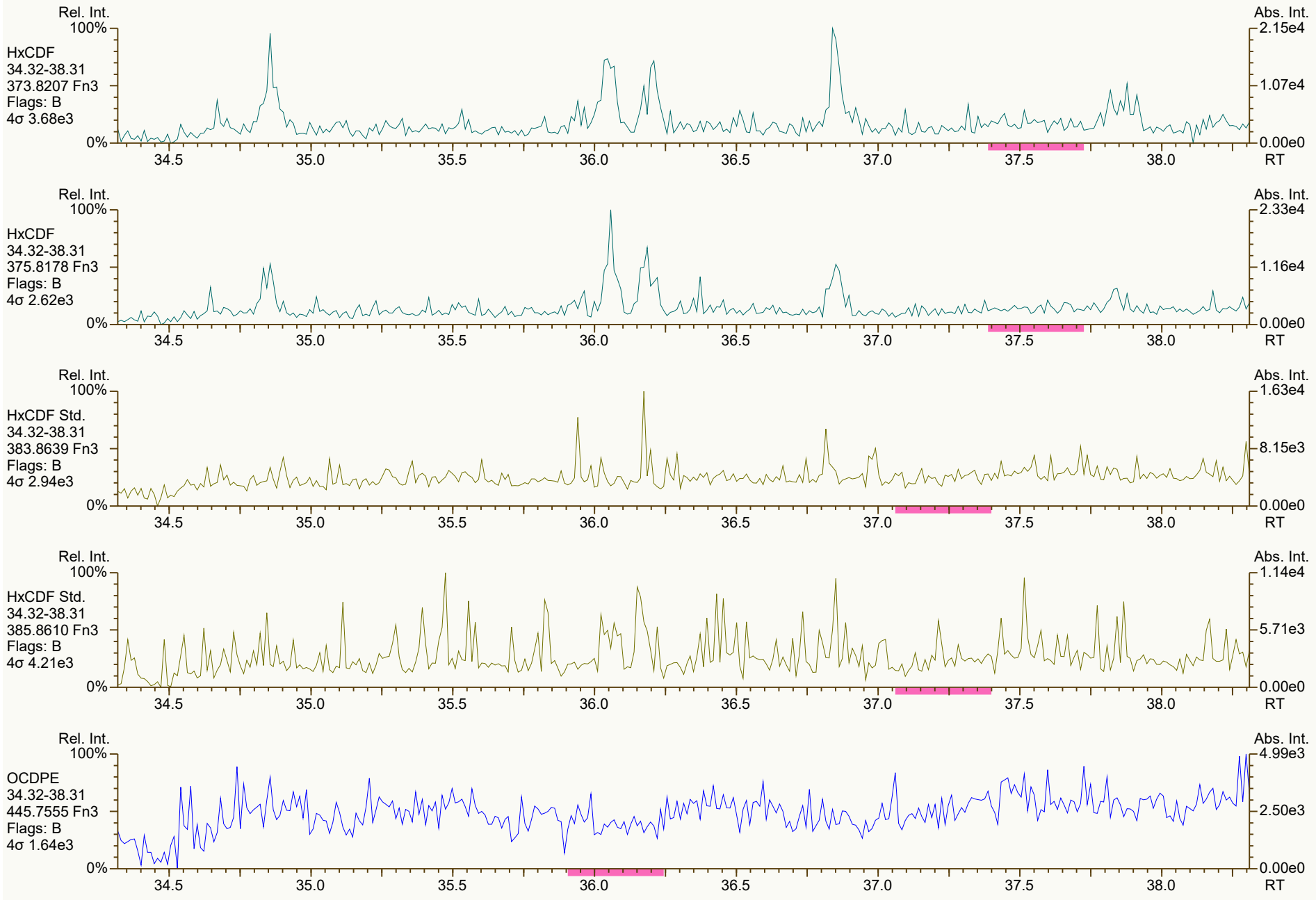

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 2.29e3
0%
Abs. Int.
1.38e4
6.89e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 1.56e3
0%
Abs. Int.
1.62e4
8.12e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 2.39e3
0%
Abs. Int.
2.45e4
1.23e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.97e3
0%
Abs. Int.
1.32e4
6.60e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
1.49e7
7.47e6
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 1.67e3
0%
Abs. Int.
1.07e4
5.36e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 2.33e3
0%
Abs. Int.
1.42e4
7.11e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.79e3
0%
Abs. Int.
9.33e3
4.67e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.19e3
0%
Abs. Int.
8.42e3
4.21e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
1.65e7
8.23e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PBM
4σ 1.90e3
2468F
3.48e5*
22.78
Abs. Int.
7.07e4
3.53e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PBM
4σ 2.56e3
2468F
5.04e5*
22.78
Abs. Int.
1.06e5
5.32e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: B
4σ 1.87e4
Abs. Int.
5.11e4
2.56e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: B
4σ 1.07e4
Abs. Int.
2.83e4
1.42e4
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.76e3
Abs. Int.
9.47e3
4.73e3
0.00e0
0%
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
8.70e3
4.35e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.84e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
9.49e3
4.75e3
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 3.09e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.03e7
5.16e6
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: B
4σ 2.49e3
0%
Abs. Int.
2.11e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: B
4σ 1.99e3
0%
Abs. Int.
1.11e4
5.53e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: B
4σ 3.69e3
0%
Abs. Int.
2.15e4
1.08e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: B
4σ 3.72e3
0%
Abs. Int.
2.35e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.08e3
0%
Abs. Int.
1.02e4
5.12e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 3.68e3
0%
Abs. Int.
2.15e4
1.07e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 2.62e3
0%
Abs. Int.
2.33e4
1.16e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.63e4
8.15e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 4.21e3
0%
Abs. Int.
1.14e4
5.71e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.64e3
0%
Abs. Int.
4.99e3
2.50e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

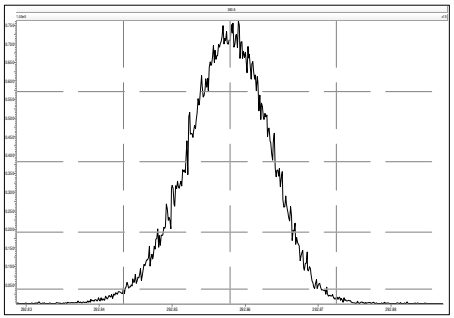

Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 2.42e3
0%
Abs. Int.
2.22e4
1.11e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 2.83e3
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 6.00e3
0%
Abs. Int.
1.81e4
9.07e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 5.26e3
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.49e3
0%
Abs. Int.
6.72e3
3.36e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 1.79e3
0%
Abs. Int.
1.02e4
5.08e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 1.75e3
0%
Abs. Int.
6.88e3
3.44e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.08e3
0%
Abs. Int.
7.45e3
3.72e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.09e3
0%
Abs. Int.
1.26e4
6.29e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: B
4σ 1.40e3
0%
Abs. Int.
4.10e3
2.05e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

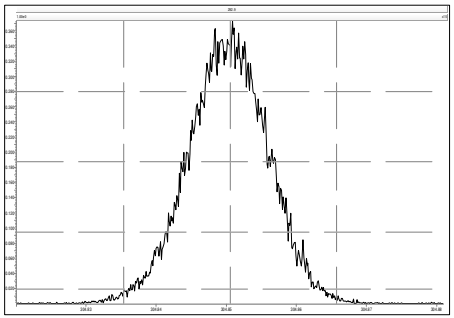
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:23 Eastern Standard Time

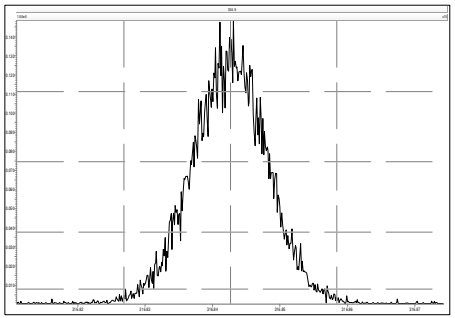
M 292.9824 R 10731



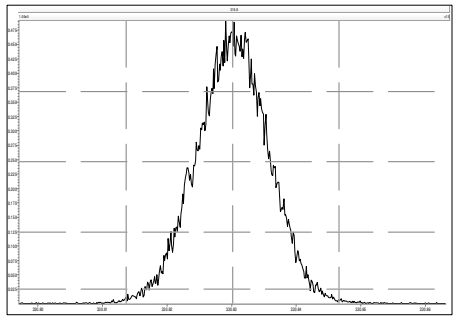
M 304.9824 R 11311



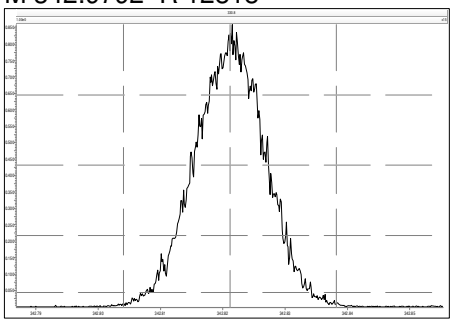
M 316.9824 R 12373



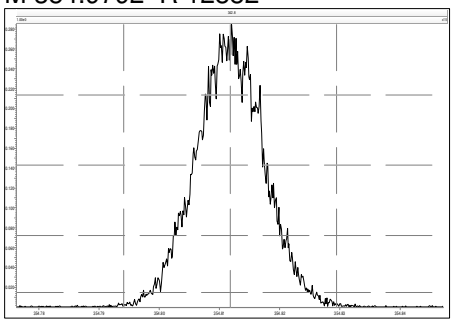
M 330.9792 R 12887



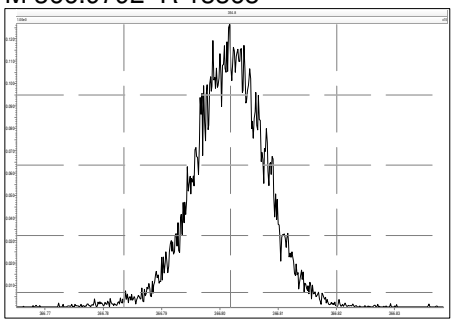
M 342.9792 R 12818



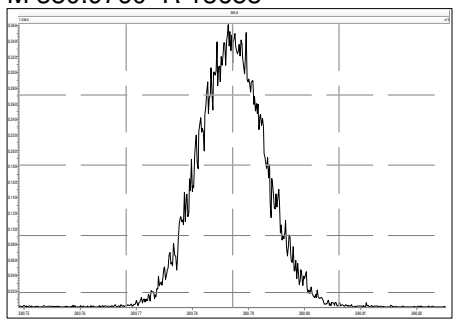
M 354.9792 R 12882



M 366.9792 R 13368



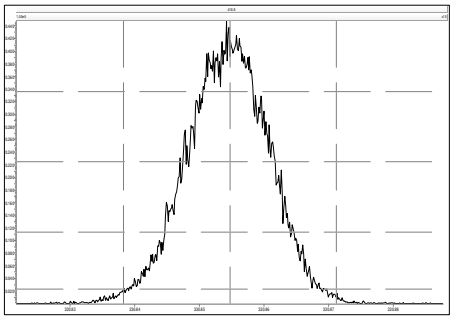
M 380.9760 R 13658



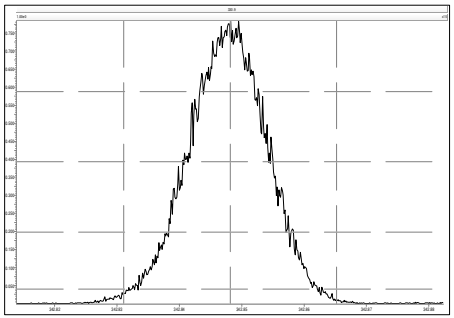
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:02:48 Eastern Standard Time

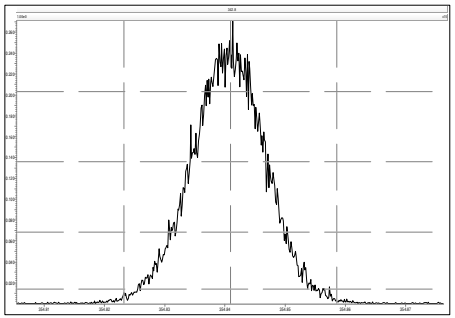
M 330.9792 R 11112



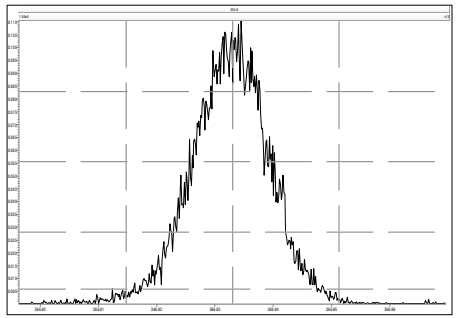
M 342.9792 R 11909



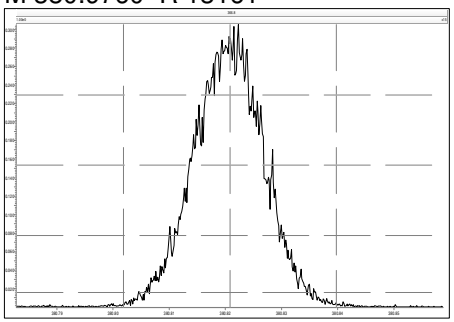
M 354.9792 R 11684



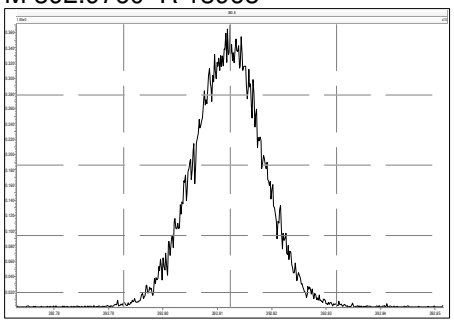
M 366.9792 R 11962



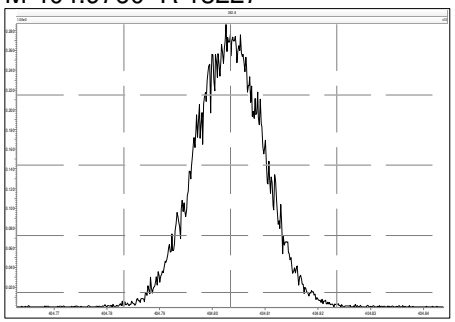
M 380.9760 R 13161



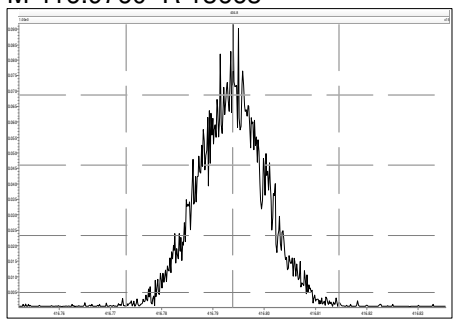
M 392.9760 R 13968



M 404.9760 R 13227



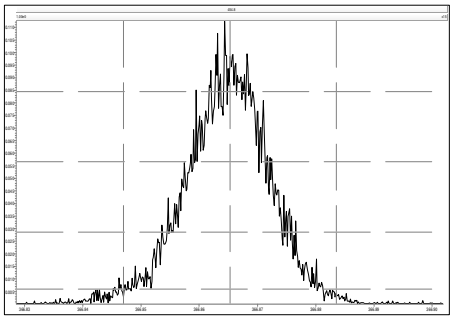
M 416.9760 R 13663



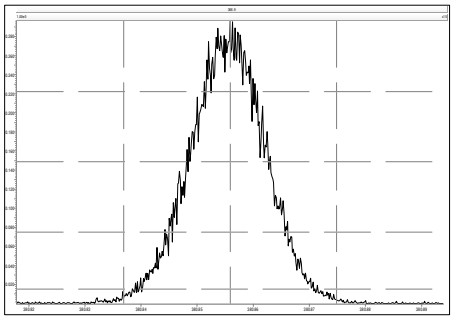
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:13 Eastern Standard Time

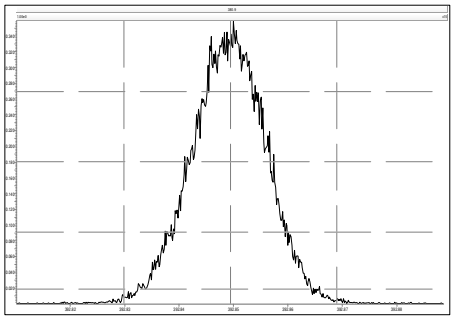
M 366.9792 R 10680



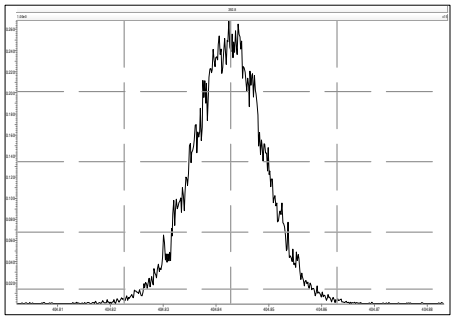
M 380.9760 R 12315



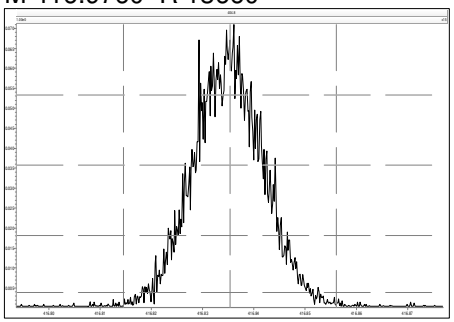
M 392.9760 R 12197



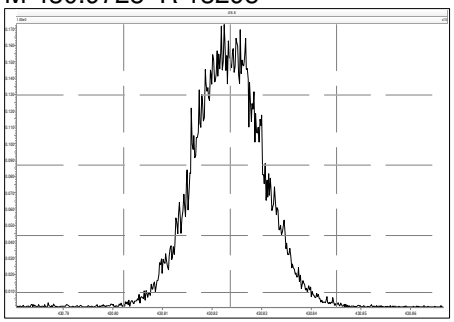
M 404.9760 R 12433



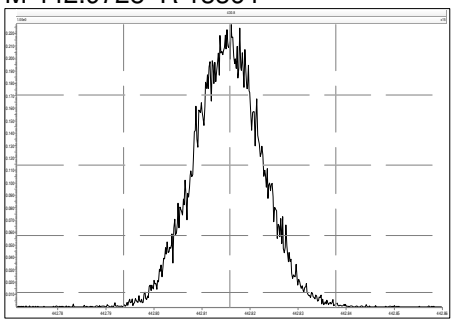
M 416.9760 R 13660



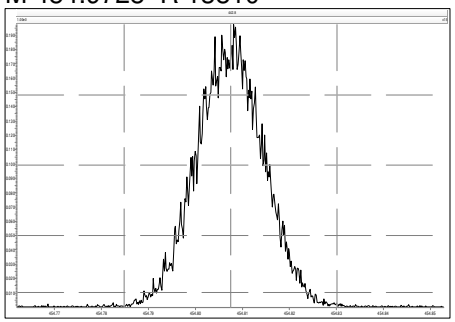
M 430.9728 R 13295



M 442.9728 R 13364



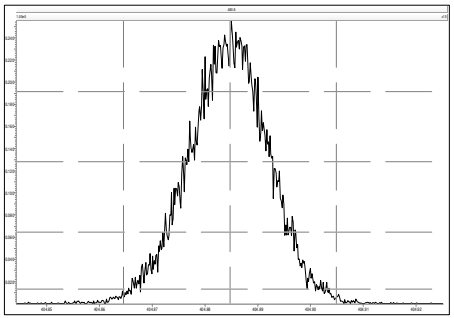
M 454.9728 R 13810



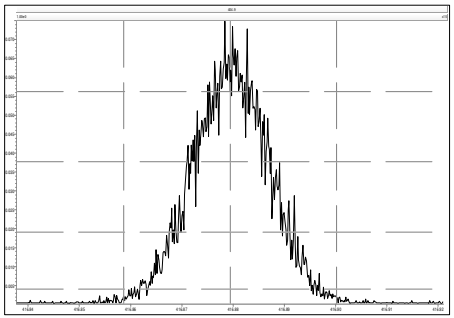
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:03:36 Eastern Standard Time

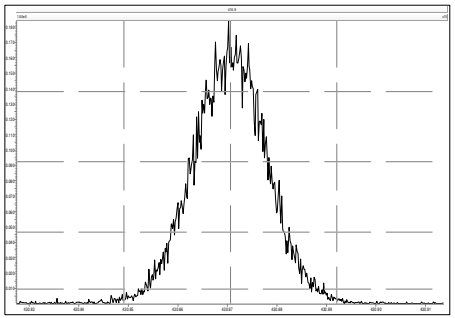
M 404.9760 R 11679



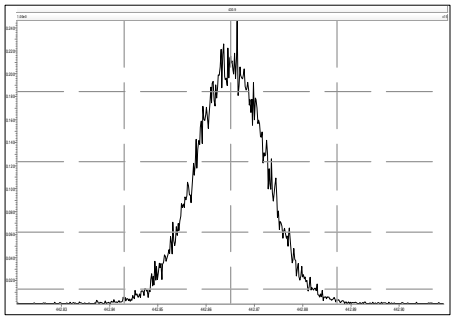
M 416.9760 R 12886



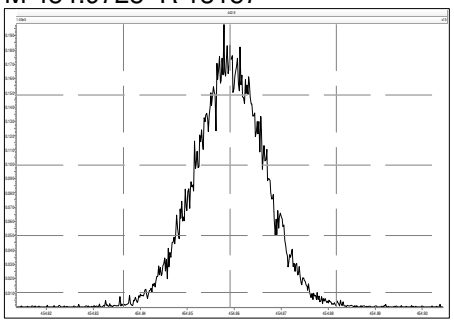
M 430.9728 R 12253



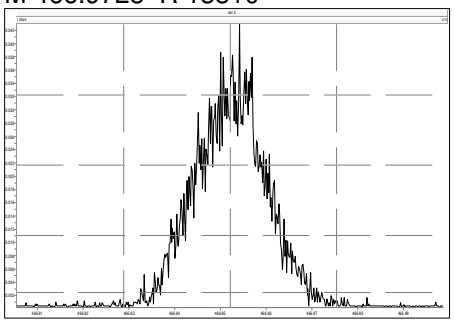
M 442.9728 R 12756



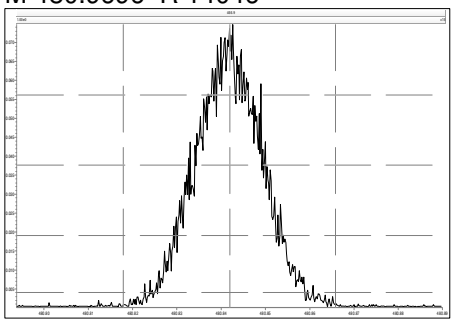
M 454.9728 R 13157



M 466.9728 R 13810



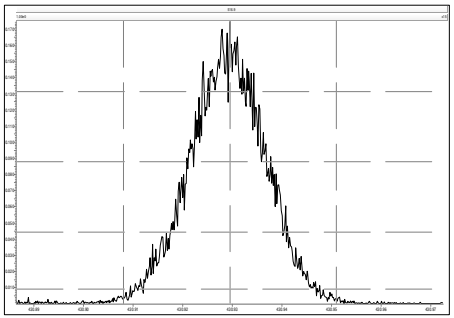
M 480.9696 R 14046



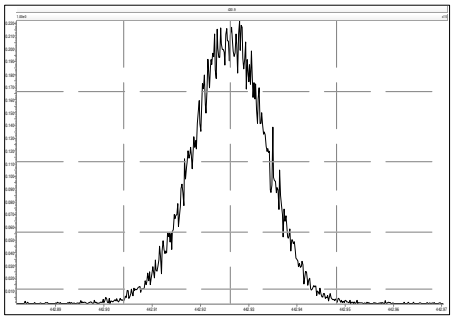
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 08:04:01 Eastern Standard Time

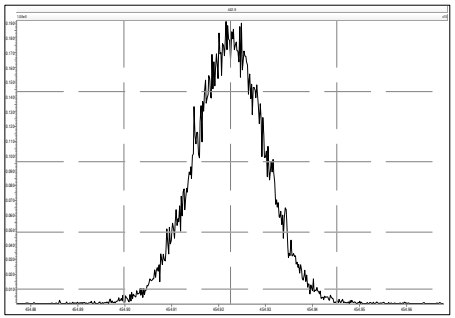
M 430.9728 R 11574



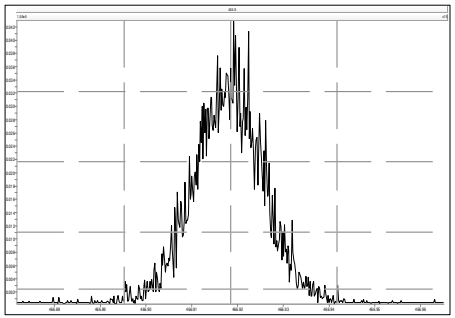
M 442.9728 R 12198



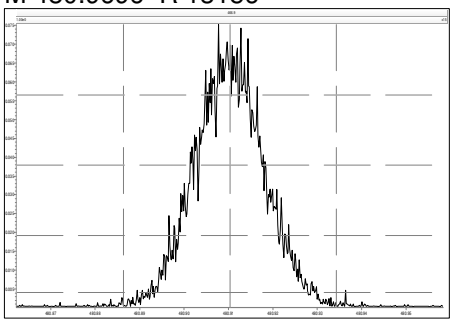
M 454.9728 R 12950



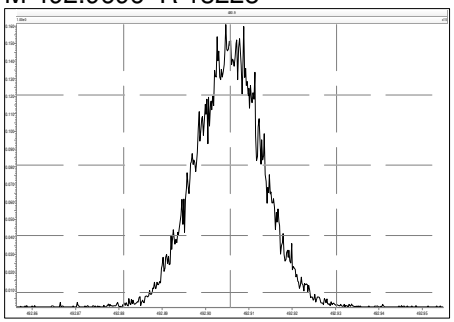
M 466.9728 R 13088



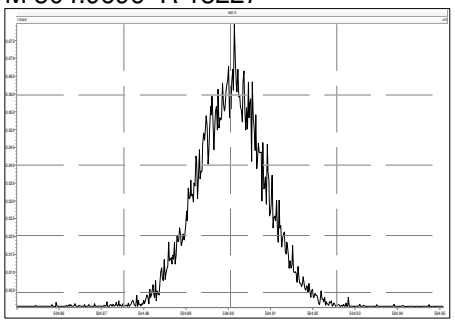
M 480.9696 R 13156



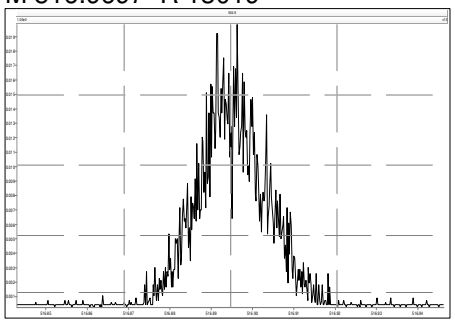
M 492.9696 R 13228



M 504.9696 R 13227



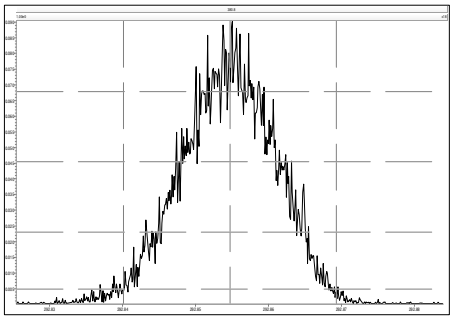
M 516.9697 R 13019



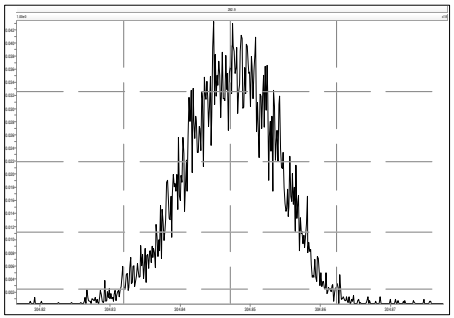
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:41:38 Eastern Standard Time

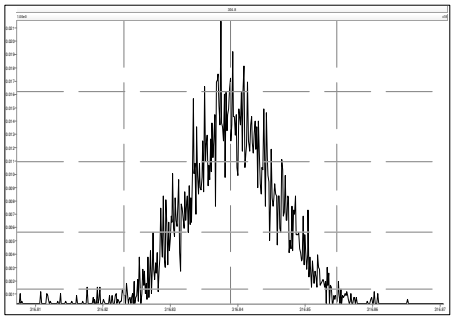
M 292.9824 R 10122



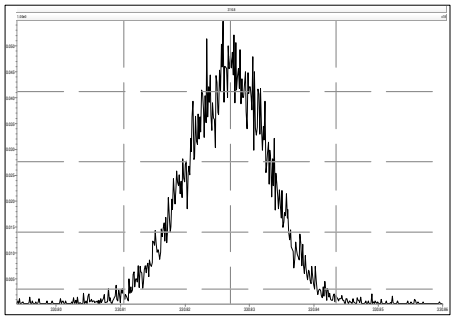
M 304.9824 R 10329



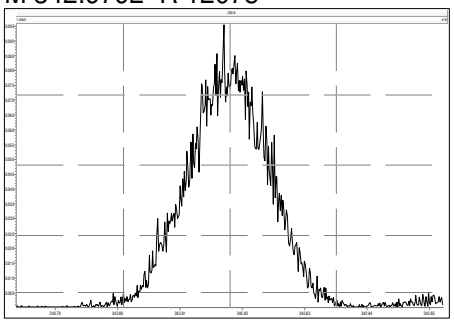
M 316.9824 R 11964



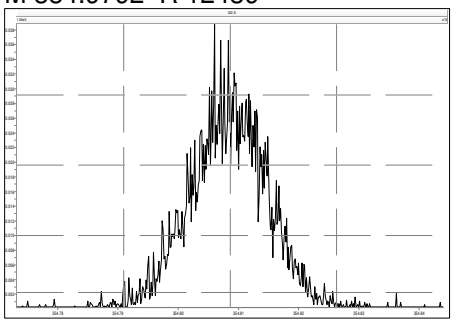
M 330.9792 R 11062



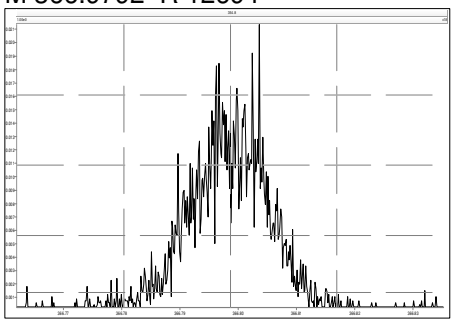
M 342.9792 R 12075



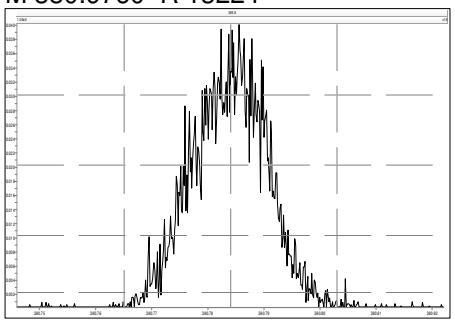
M 354.9792 R 12439



M 366.9792 R 12694



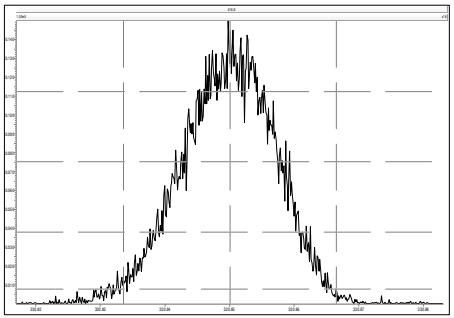
M 380.9760 R 13224



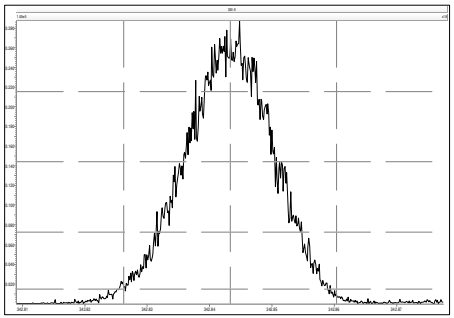
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:03 Eastern Standard Time

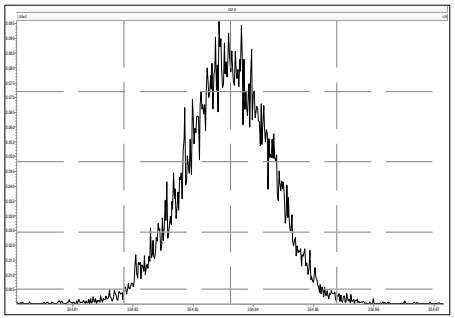
M 330.9792 R 10730



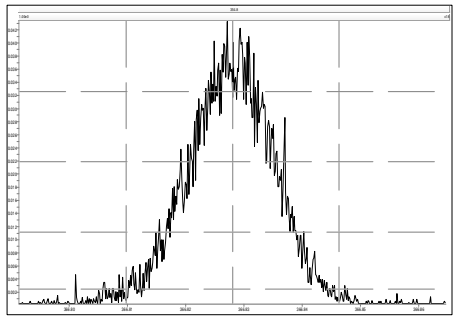
M 342.9792 R 10039



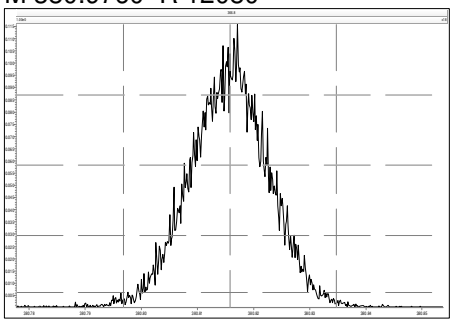
M 354.9792 R 11108



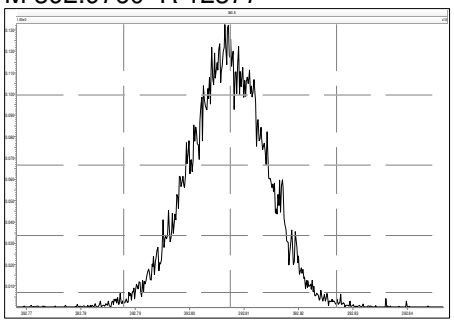
M 366.9792 R 11520



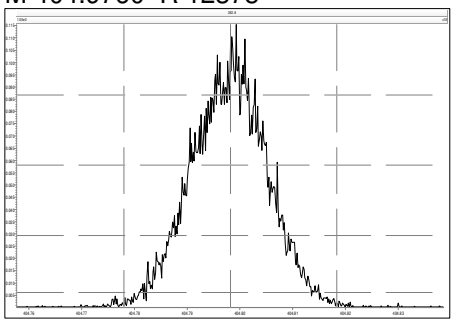
M 380.9760 R 12080



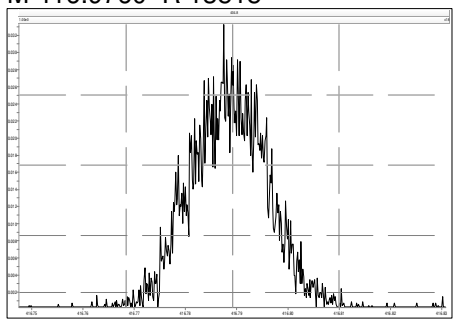
M 392.9760 R 12377



M 404.9760 R 12375



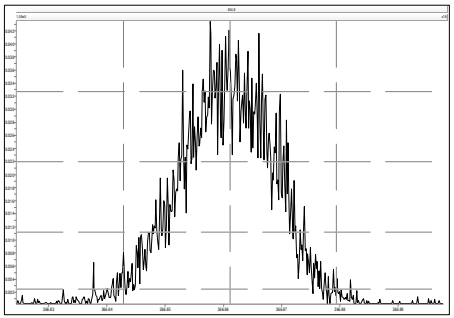
M 416.9760 R 13515



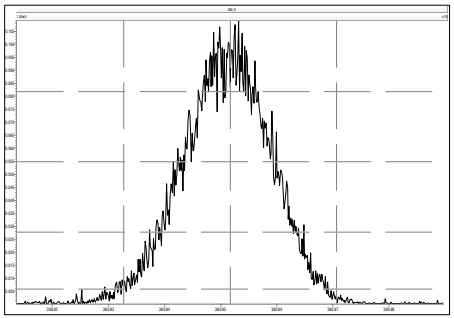
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:37 Eastern Standard Time

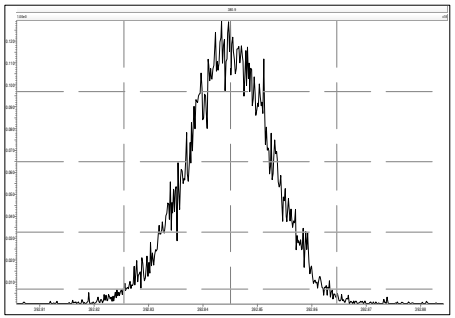
M 366.9792 R 10866



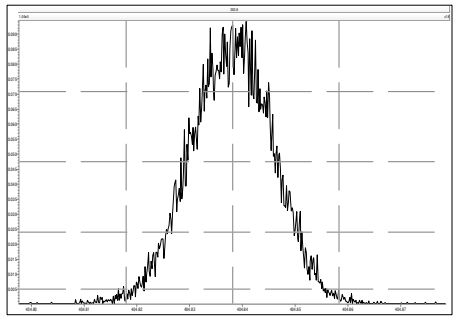
M 380.9760 R 10416



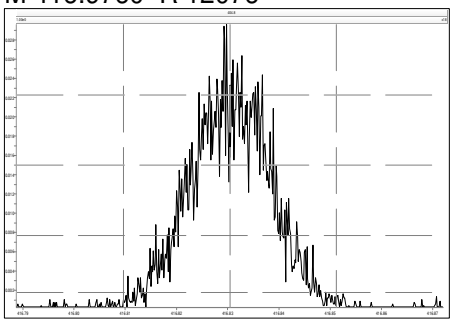
M 392.9760 R 10640



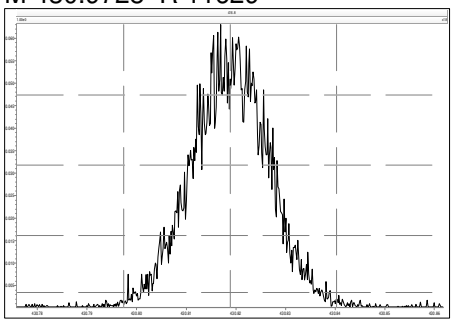
M 404.9760 R 11957



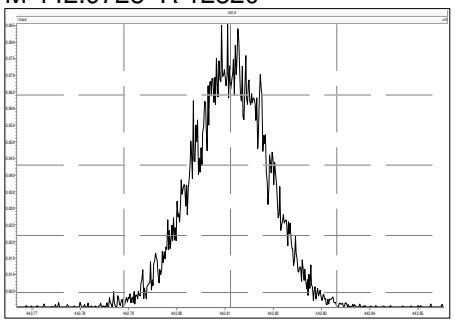
M 416.9760 R 12076



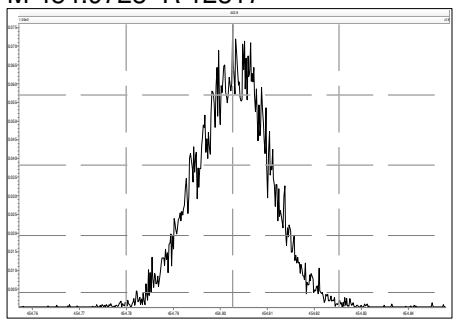
M 430.9728 R 11629



M 442.9728 R 12820



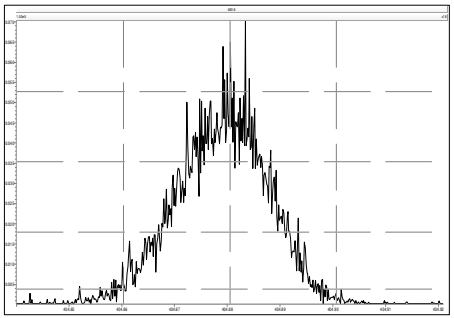
M 454.9728 R 12317



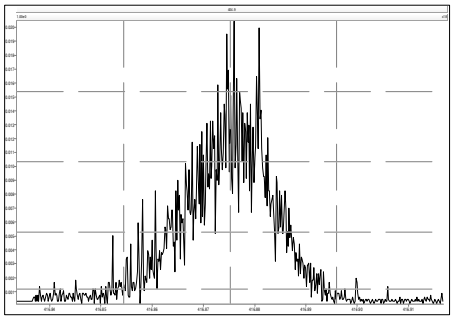
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:43:56 Eastern Standard Time

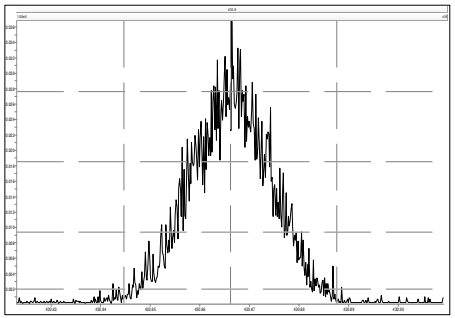
M 404.9760 R 10505



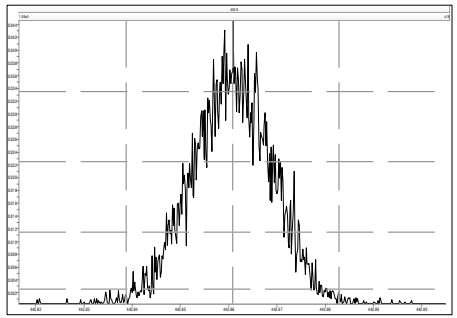
M 416.9760 R 12500



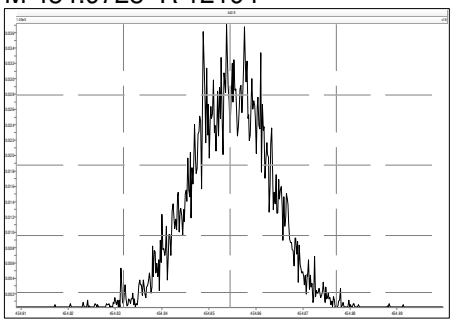
M 430.9728 R 11362



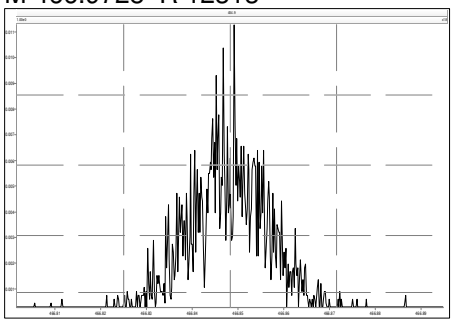
M 442.9728 R 12756



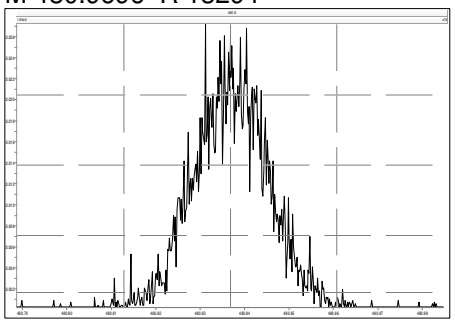
M 454.9728 R 12194



M 466.9728 R 12313



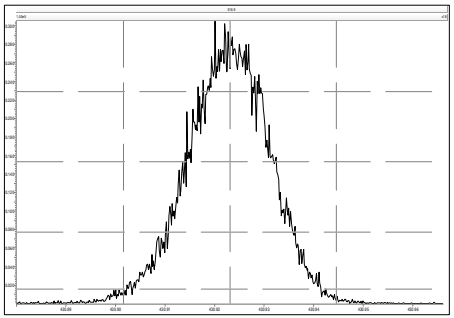
M 480.9696 R 13294



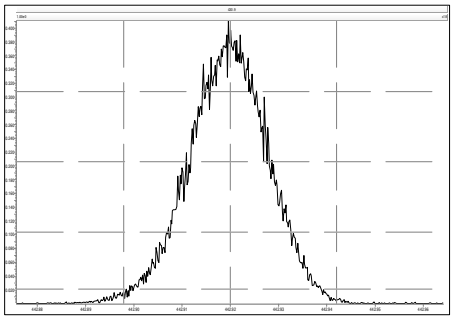
File: Experiment: df_cl4-8_db5MS.exp Reference: DF.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, November 10, 2021 16:44:20 Eastern Standard Time

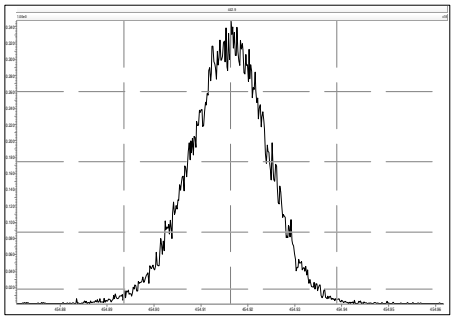
M 430.9728 R 11312



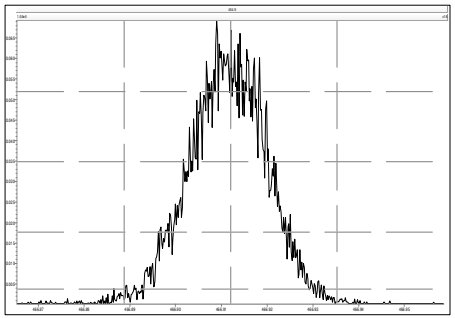
M 442.9728 R 11110



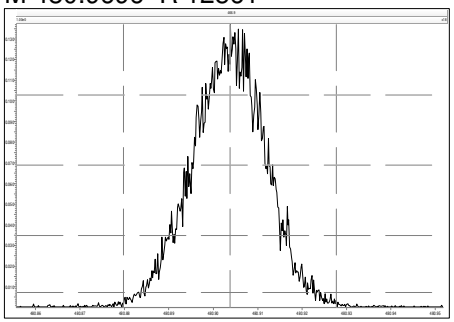
M 454.9728 R 11906



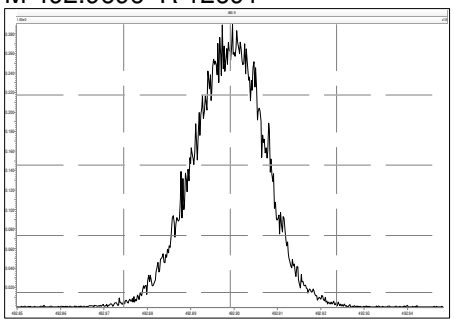
M 466.9728 R 12562



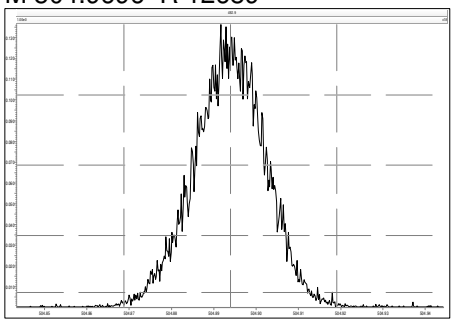
M 480.9696 R 12561



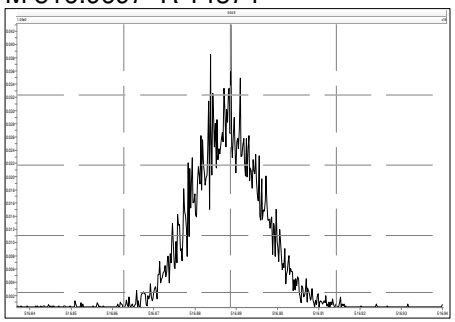
M 492.9696 R 12691



M 504.9696 R 12689



M 516.9697 R 14374



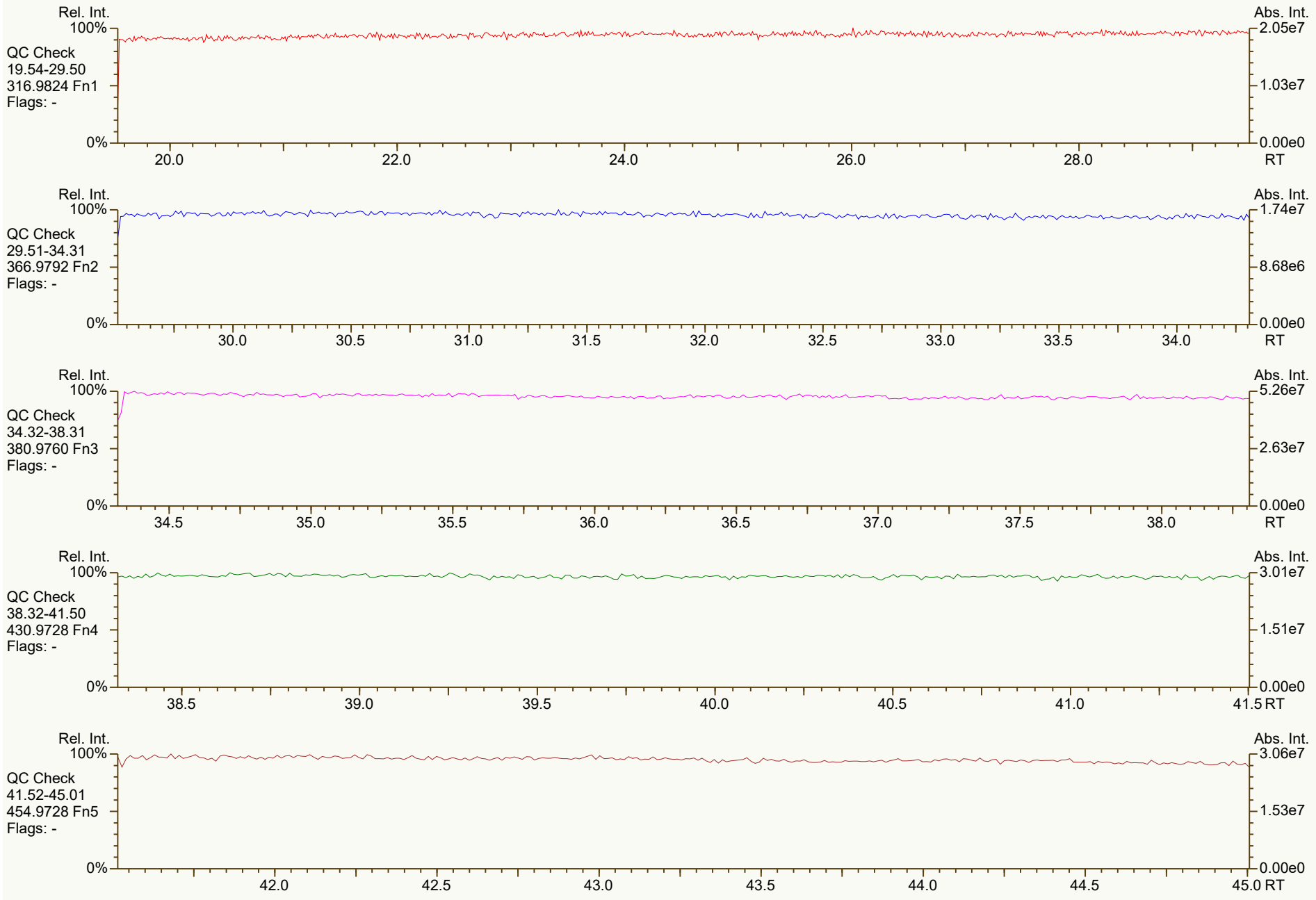
ICV

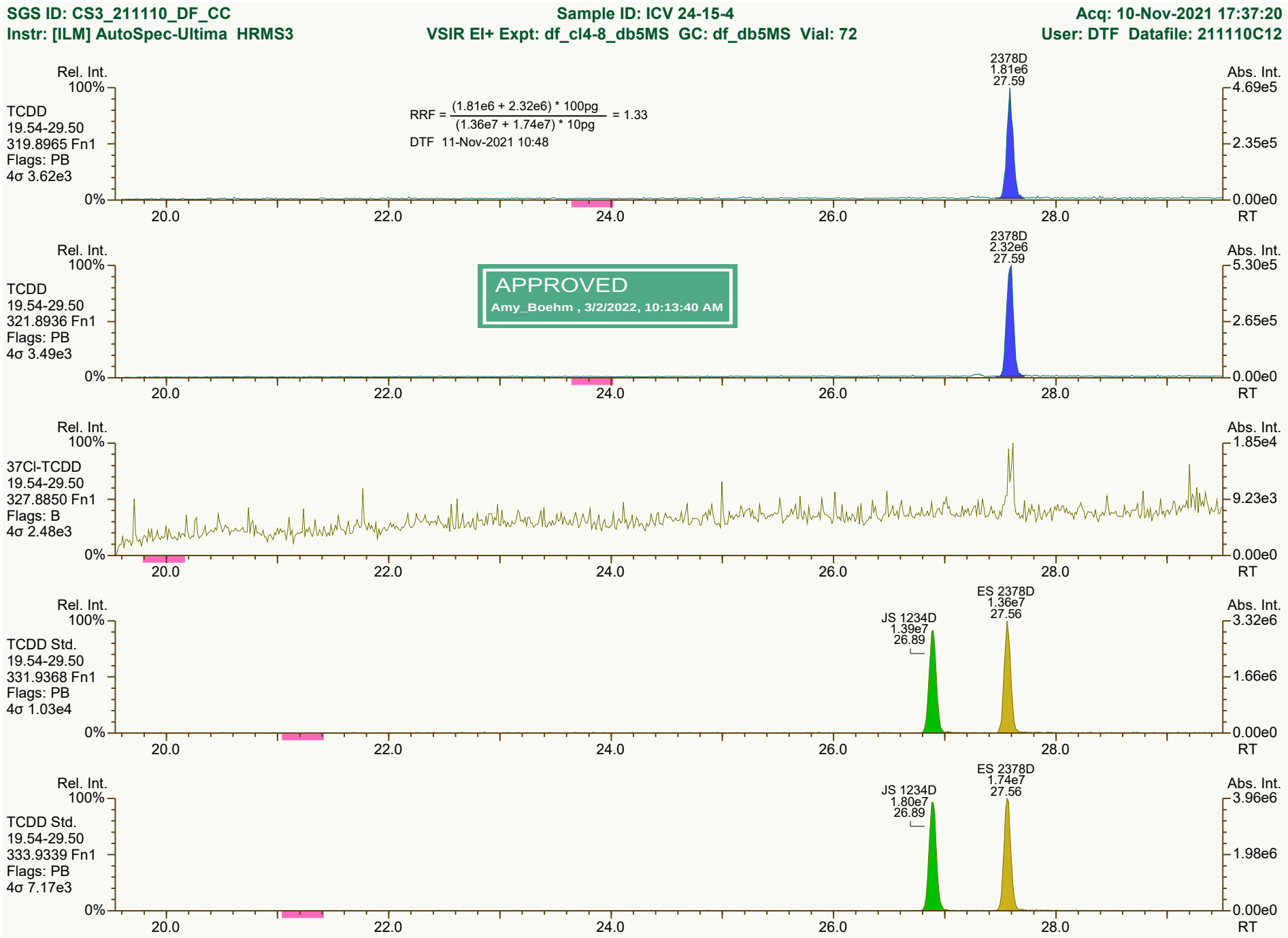
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 17:37 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CC	UTP: 10-Nov-2021 18:48:15 DTF	Checkcode: 374-213-QVL
Sample ID: ICV 24-15-4	Report: 11 Nov 2021 16:42 TF	Datafile: 211110C12

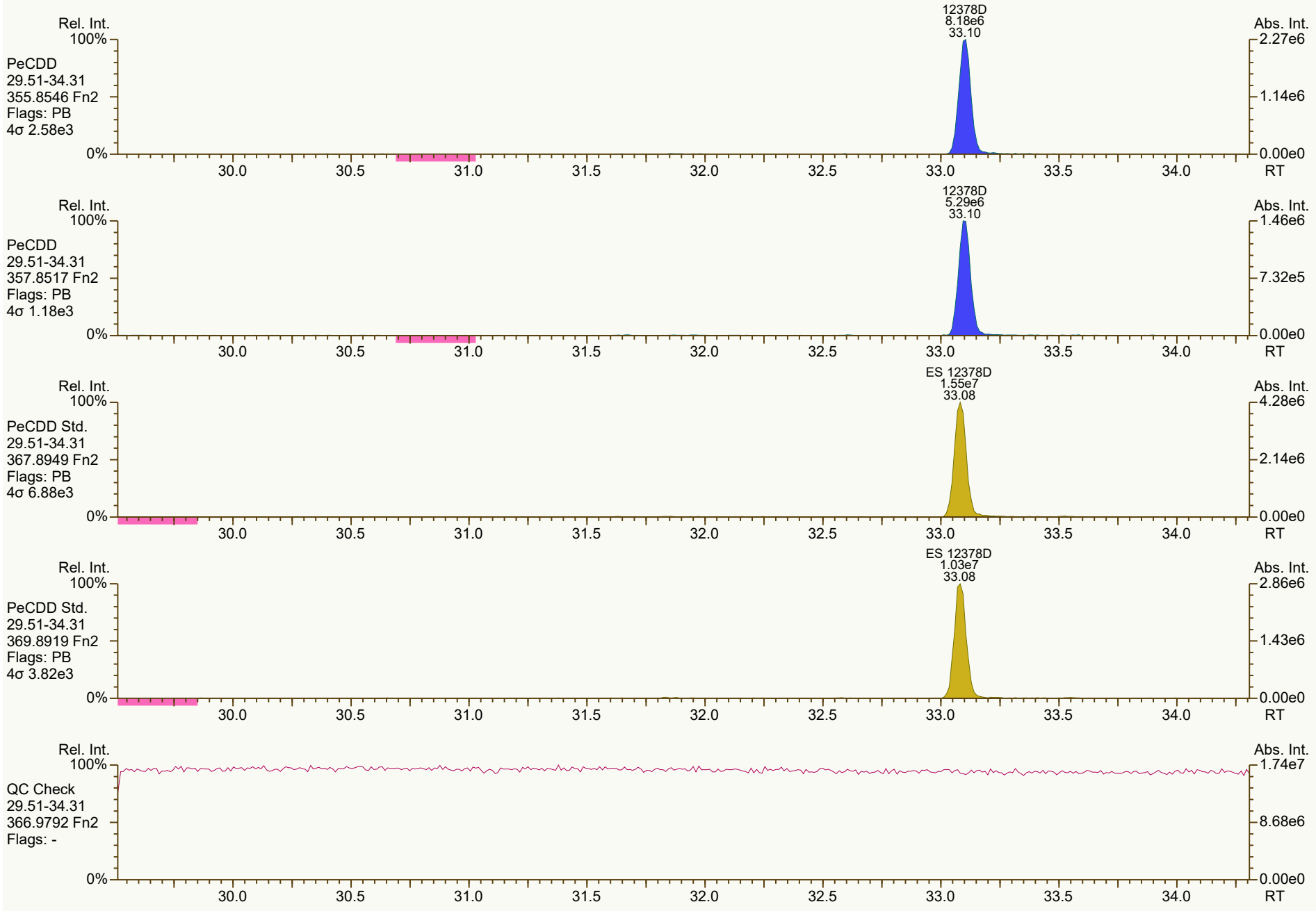
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
2378-TCDD	27.59	4.13E+06	0.78	Y	1.18	1.33	12%
12378-PeCDD	33.10	1.35E+07	1.55	Y	1.04	1.05	1%
123478-HxCDD	37.04	1.36E+07	1.26	Y	1.09	1.18	8%
123678-HxCDD	37.16	1.42E+07	1.24	Y	1.15	1.26	10%
123789-HxCDD	37.46	1.41E+07	1.23	Y	1.05	1.04	0%
1234678-HpCDD	40.28	1.20E+07	1.04	Y	1.06	1.13	6%
OCDD	42.84	1.80E+07	0.90	Y	1.13	1.20	7%
2378-TCDF	26.67	5.08E+06	0.80	Y	1.08	1.14	6%
12378-PeCDF	31.62	1.94E+07	1.53	Y	1.02	1.05	3%
23478-PeCDF	32.75	2.02E+07	1.52	Y	1.02	1.10	8%
123478-HxCDF	36.06	1.89E+07	1.25	Y	1.27	1.38	8%
123678-HxCDF	36.20	1.96E+07	1.24	Y	1.15	1.22	6%
234678-HxCDF	36.85	1.91E+07	1.24	Y	1.19	1.30	10%
123789-HxCDF	37.84	1.62E+07	1.21	Y	1.16	1.18	1%
1234678-HpCDF	39.35	1.68E+07	1.02	Y	1.37	1.45	6%
1234789-HpCDF	40.71	1.42E+07	1.01	Y	1.31	1.42	9%
OCDF	43.01	2.16E+07	0.90	Y	1.07	1.14	6%
ES 2378-TCDD	27.57	3.10E+07	0.78	Y	1.05	0.97	-7%
ES 12378-PeCDD	33.085	2.58E+07	1.50	Y	0.88	0.81	-8%
ES 123478-HxCDD	37.023	2.31E+07	1.24	Y	0.97	0.96	-2%
ES 123678-HxCDD	37.14	2.25E+07	1.21	Y	0.94	0.93	-1%
ES 123789-HxCDD	37.447	2.69E+07	1.21	Y	1.09	1.12	2%
ES 1234678-HpCDD	40.268	2.12E+07	1.07	Y	0.91	0.88	-4%
ES OCDD	42.827	2.99E+07	0.92	Y	0.62	0.62	-1%
ES 2378-TCDF	26.652	4.46E+07	0.81	Y	1.06	0.97	-8%
ES 12378-PeCDF	31.599	3.69E+07	1.57	Y	0.91	0.80	-12%
ES 23478-PeCDF	32.731	3.67E+07	1.58	Y	0.88	0.80	-10%
ES 123478-HxCDF	36.041	2.74E+07	0.54	Y	1.20	1.14	-5%
ES 123678-HxCDF	36.182	3.20E+07	0.55	Y	1.35	1.33	-2%
ES 234678-HxCDF	36.836	2.93E+07	0.52	Y	1.24	1.21	-2%
ES 123789-HxCDF	37.827	2.76E+07	0.54	Y	1.16	1.14	-1%
ES 1234678-HpCDF	39.337	2.32E+07	0.45	Y	0.97	0.96	-1%
ES 1234789-HpCDF	40.704	1.99E+07	0.46	Y	0.85	0.83	-3%
ES OCDF	42.996	3.78E+07	0.90	Y	0.81	0.78	-3%

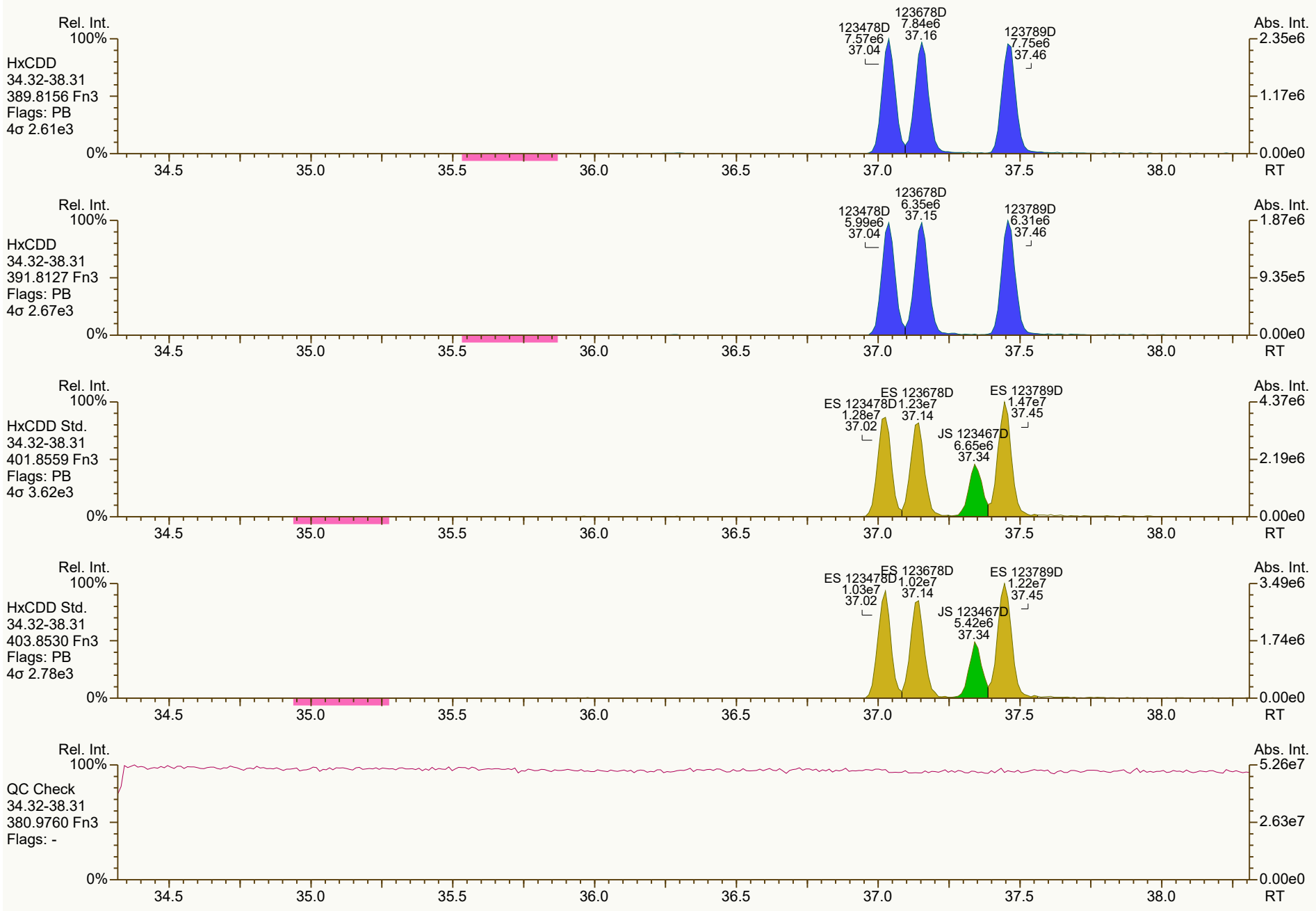
Dioxin/Furan QC Summary	Acq'd: 10 Nov 2021 17:37 DTF	ICAL: HRMS3_DF_10272021 10NOV2021
Lab ID: CS3_211110_DF_CC	UTP: 10-Nov-2021 18:48:15 DTF	Checkcode: 374-213-QVL
Sample ID: ICV 24-15-4	Report: 11 Nov 2021 16:42 TF	Datafile: 211110C12

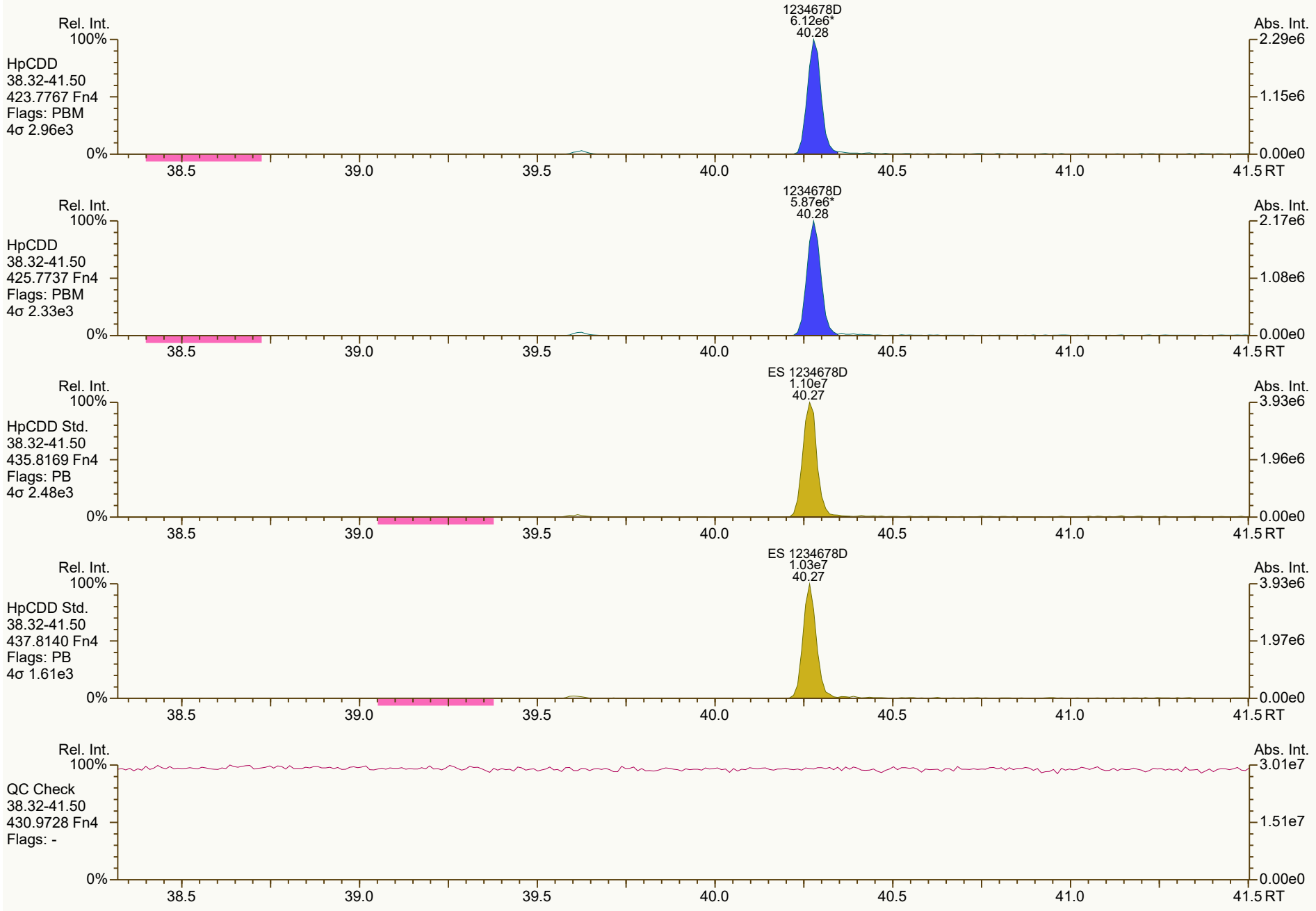
Name	RT	Response	RA	OK	Ref. RRFs	Calc. RRFs	Dev'n
JS 1234-TCDD	26.89	3.19E+07	0.77	Y	-	-	-
JS 1234-TCDF	25.24	4.59E+07	0.82	Y	-	-	-
JS 123467-HxCDD	37.34	1.21E+07	1.23	Y	-	-	-
CS 37Cl 2378 TCDD	0.00	0.00E+00	n/a	-	1.20	0.00	-100%
CS 12347 PeCDD	0.00	0.00E+00	0.00	0	0.75	0.00	-100%
CS 12346 PeCDF	0.00	0.00E+00	0.00	0	0.85	0.00	-100%
CS 123469 HxCDF	0.00	0.00E+00	0.00	0	1.12	0.00	-100%
CS 1234689 HpCDF	0.00	0.00E+00	0.00	0	0.89	0.00	-100%
SS 37Cl 2378 TCDD	0.00	0.00E+00	n/a	-	1.15	0.00	-100%
SS 12347 PeCDD	0.00	0.00E+00	0.00	0	0.86	0.00	-100%
SS 12346 PeCDF	0.00	0.00E+00	0.00	0	0.94	0.00	-100%
SS 123469 HxCDF	0.00	0.00E+00	0.00	0	0.83	0.00	-100%
SS 1234689 HpCDF	0.00	0.00E+00	0.00	0	0.92	0.00	-100%
OCDD a	42.83	8.82E+05	3.54	N	0.07	0.06	-10%
OCDF a	43.01	1.42E+06	2.57	Y	0.07	0.07	13%

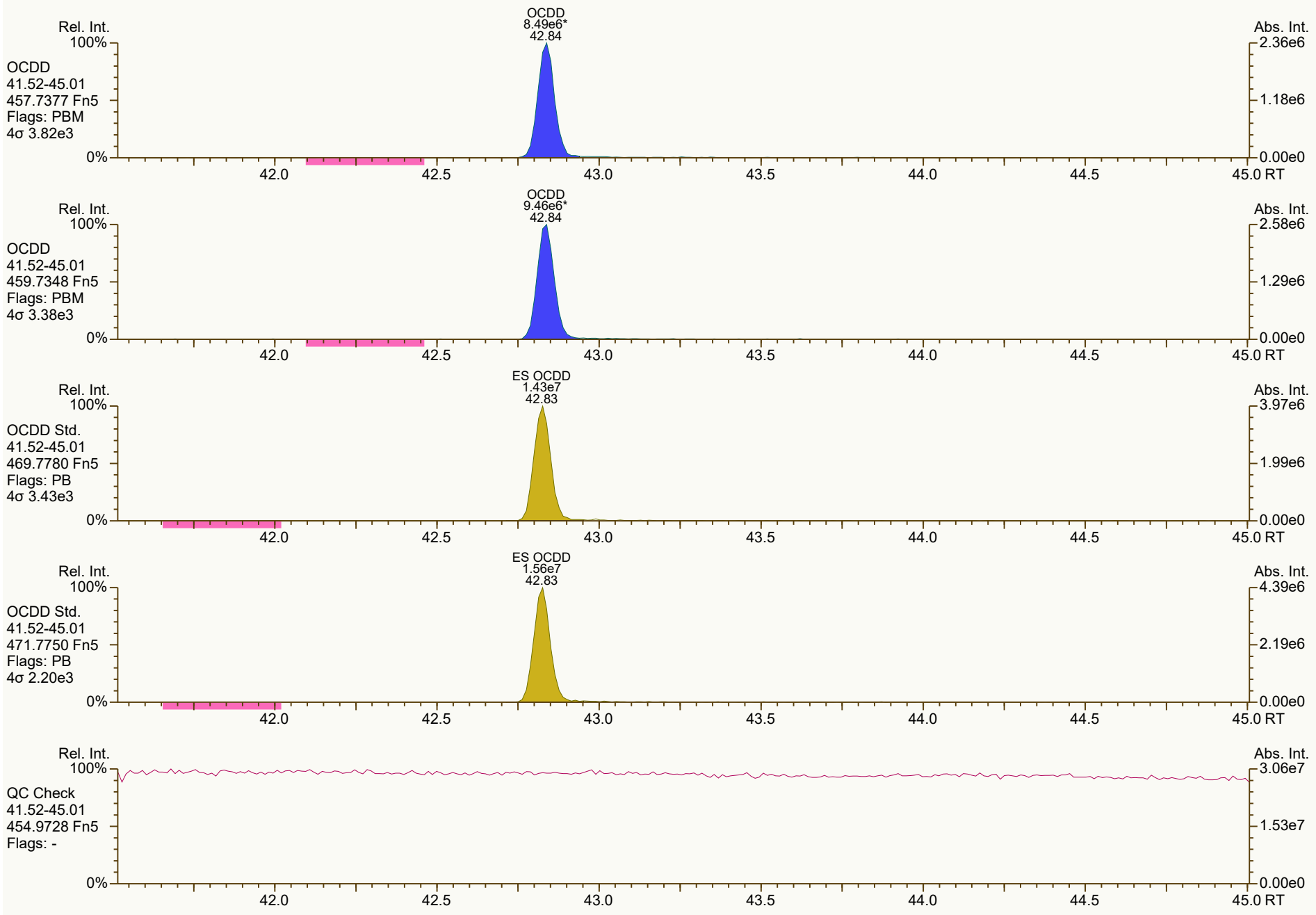

Rel. Int.
100%
0%
Abs. Int.
2.05e7
1.03e7
0.00e0
RT
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
1.74e7
8.68e6
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
5.26e7
2.63e7
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
3.01e7
1.51e7
38.5
39.0
39.5
40.0
40.5
41.0
41.5
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
3.06e7
1.53e7
42.0
42.5
43.0
43.5
44.0
44.5
45.0


SGS ID: CS3_211110_DF_CC
Sample ID: ICV 24-15-4
Acq: 10-Nov-2021 17:37:20
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72
User: DTF Datafile: 211110C12
Rel. Int.
100%
TCDD
19.54-29.50
319.8965 Fn1
Flags: PB
4σ 3.62e3
0%
RRF = (1.81e6 + 2.32e6) * 100pg / (1.36e7 + 1.74e7) * 10pg = 1.33
DTF 11-Nov-2021 10:48
2378D
1.81e6
27.59
Abs. Int.
4.69e5
2.35e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDD
19.54-29.50
321.8936 Fn1
Flags: PB
4σ 3.49e3
0%
APPROVED
Amy_Boehm , 3/2/2022, 10:13:40 AM
2378D
2.32e6
27.59
Abs. Int.
5.30e5
2.65e5
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
37Cl-TCDD
19.54-29.50
327.8850 Fn1
Flags: B
4σ 2.48e3
0%
Abs. Int.
1.85e4
9.23e3
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDD Std.
19.54-29.50
331.9368 Fn1
Flags: PB
4σ 1.03e4
0%
JS 1234D
1.39e7
26.89
ES 2378D
1.36e7
27.56
Abs. Int.
3.32e6
1.66e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0
Rel. Int.
100%
TCDD Std.
19.54-29.50
333.9339 Fn1
Flags: PB
4σ 7.17e3
0%
JS 1234D
1.80e7
26.89
ES 2378D
1.74e7
27.56
Abs. Int.
3.96e6
1.98e6
0.00e0
RT
20.0
22.0
24.0
26.0
28.0


Rel. Int.
100%
PeCDD
29.51-34.31
355.8546 Fn2
Flags: PB
4σ 2.58e3
0%
12378D
8.18e6
33.10
Abs. Int.
2.27e6
1.14e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.51-34.31
357.8517 Fn2
Flags: PB
4σ 1.18e3
0%
12378D
5.29e6
33.10
Abs. Int.
1.46e6
7.32e5
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
367.8949 Fn2
Flags: PB
4σ 6.88e3
0%
ES 12378D
1.55e7
33.08
Abs. Int.
4.28e6
2.14e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.51-34.31
369.8919 Fn2
Flags: PB
4σ 3.82e3
0%
ES 12378D
1.03e7
33.08
Abs. Int.
2.86e6
1.43e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.51-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.74e7
8.68e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: PB
4σ 2.61e3
123478D
7.57e6
37.04
123678D
7.84e6
37.16
123789D
7.75e6
37.46
Abs. Int.
2.35e6
1.17e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: PB
4σ 2.67e3
123478D
5.99e6
37.04
123678D
6.35e6
37.15
123789D
6.31e6
37.46
Abs. Int.
1.87e6
9.35e5
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: PB
4σ 3.62e3
ES 123478D
1.28e7
37.02
ES 123678D
1.23e7
37.14
JS 123467D
6.65e6
37.34
ES 123789D
1.47e7
37.45
Abs. Int.
4.37e6
2.19e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: PB
4σ 2.78e3
ES 123478D
1.03e7
37.02
ES 123678D
1.02e7
37.14
JS 123467D
5.42e6
37.34
ES 123789D
1.22e7
37.45
Abs. Int.
3.49e6
1.74e6
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
Abs. Int.
5.26e7
2.63e7
0.00e0
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT

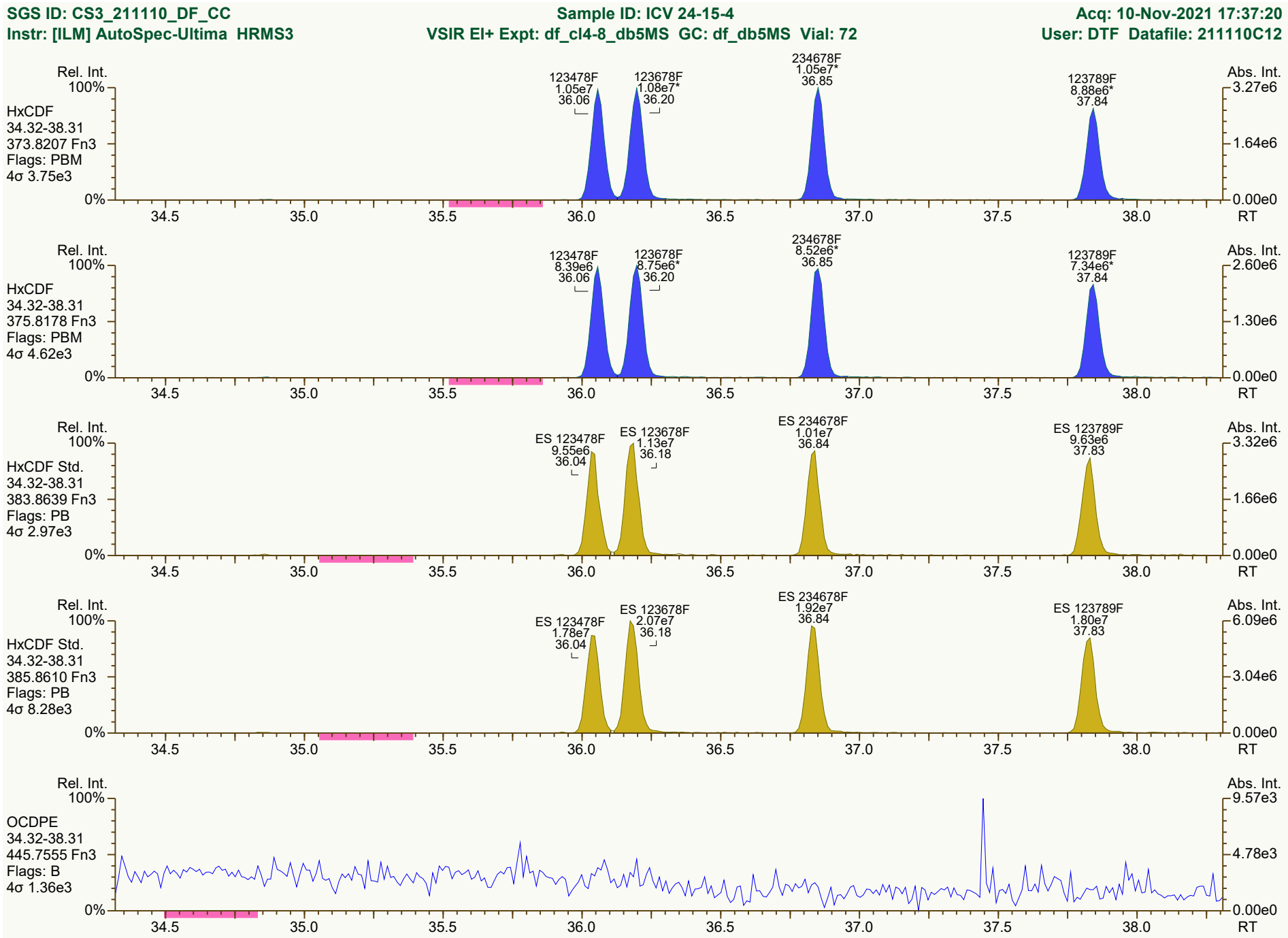

Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: PBM
4σ 2.96e3
1234678D
6.12e6*
40.28
Abs. Int.
2.29e6
1.15e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: PBM
4σ 2.33e3
1234678D
5.87e6*
40.28
Abs. Int.
2.17e6
1.08e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: PB
4σ 2.48e3
ES 1234678D
1.10e7
40.27
Abs. Int.
3.93e6
1.96e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: PB
4σ 1.61e3
ES 1234678D
1.03e7
40.27
Abs. Int.
3.93e6
1.97e6
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
Abs. Int.
3.01e7
1.51e7
0.00e0
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: PBM
4σ 3.82e3
0%
OCDD
8.49e6*
42.84
Abs. Int.
2.36e6
1.18e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: PBM
4σ 3.38e3
0%
OCDD
9.46e6*
42.84
Abs. Int.
2.58e6
1.29e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: PB
4σ 3.43e3
0%
ES OCDD
1.43e7
42.83
Abs. Int.
3.97e6
1.99e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: PB
4σ 2.20e3
0%
ES OCDD
1.56e7
42.83
Abs. Int.
4.39e6
2.19e6
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
3.06e7
1.53e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-29.50
303.9016 Fn1
Flags: PB
4σ 1.43e3
0%
2378F
2.25e6
26.67
Abs. Int.
4.78e5
2.39e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF
19.54-29.50
305.8987 Fn1
Flags: PB
4σ 3.58e3
0%
2378F
2.83e6
26.67
Abs. Int.
6.36e5
3.18e5
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
315.9419 Fn1
Flags: PBM
4σ 2.16e4
0%
JS 1234F
2.07e7*
25.24
ES 2378F
2.00e7
26.65
Abs. Int.
4.63e6
2.31e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDF Std.
19.54-29.50
317.9389 Fn1
Flags: PBM
4σ 1.38e4
0%
JS 1234F
2.52e7*
25.24
ES 2378F
2.46e7
26.65
Abs. Int.
5.61e6
2.80e6
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
HxCDPE
19.54-29.50
375.8364 Fn1
Flags: B
4σ 1.88e3
0%
Abs. Int.
1.27e4
6.35e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
0%
Abs. Int.
1.52e4
7.58e3
0.00e0
PeCDF-1
19.54-29.50
339.8597 Fn1
Flags: B
4σ 2.63e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.18e4
1.09e4
0.00e0
PeCDF-1
19.54-29.50
341.8568 Fn1
Flags: B
4σ 2.96e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.05e7
1.03e7
0.00e0
QC Check
19.54-29.50
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT

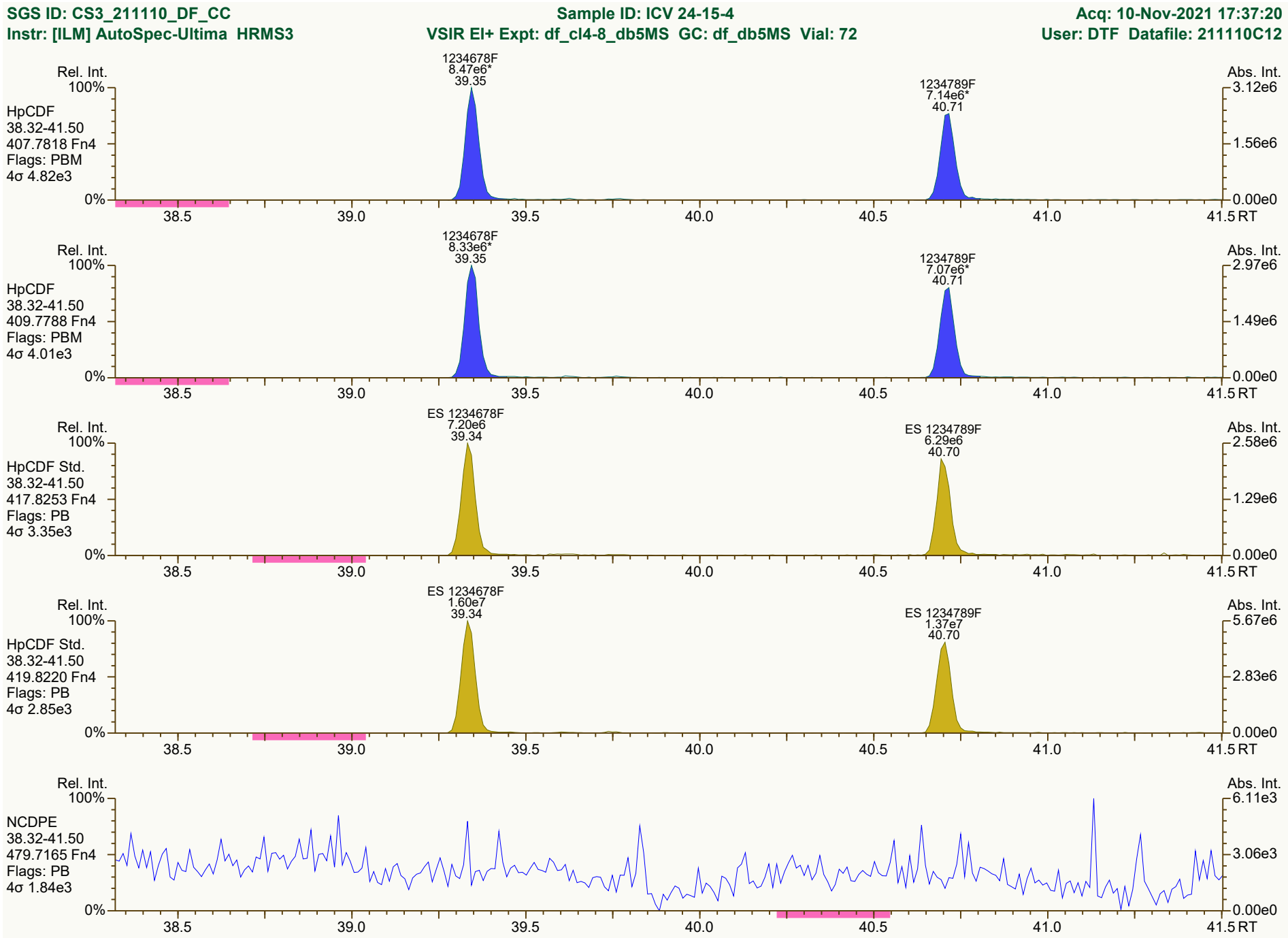

Rel. Int.
100%
PeCDF-2
29.51-34.31
339.8597 Fn2
Flags: PB
4σ 3.80e3
0%
12378F
1.17e7
31.62
23478F
1.22e7
32.75
Abs. Int.
3.48e6
1.74e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.51-34.31
341.8568 Fn2
Flags: PB
4σ 2.76e3
0%
12378F
7.66e6
31.62
23478F
8.01e6
32.75
Abs. Int.
2.35e6
1.17e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
351.9000 Fn2
Flags: PB
4σ 3.75e3
0%
ES 12378F
2.25e7
31.60
ES 23478F
2.24e7
32.73
Abs. Int.
6.56e6
3.28e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.51-34.31
353.8970 Fn2
Flags: PB
4σ 3.28e3
0%
ES 12378F
1.43e7
31.60
ES 23478F
1.42e7
32.73
Abs. Int.
4.17e6
2.08e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.51-34.31
409.7974 Fn2
Flags: B
4σ 2.07e3
0%
Abs. Int.
1.20e4
6.02e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


SGS ID: CS3_211110_DF_CC
Instr: [ILM] AutoSpec-Ultima HRMS3
Sample ID: ICV 24-15-4
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72
Acq: 10-Nov-2021 17:37:20
User: DTF Datafile: 211110C12
Rel. Int.
100%
0%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: PBM
4σ 3.75e3
123478F
1.05e7
36.06
123678F
1.08e7*
36.20
234678F
1.05e7*
36.85
123789F
8.88e6*
37.84
Abs. Int.
3.27e6
1.64e6
0.00e0
RT
HxCDF
34.32-38.31
375.8178 Fn3
Flags: PBM
4σ 4.62e3
123478F
8.39e6
36.06
123678F
8.75e6*
36.20
234678F
8.52e6*
36.85
123789F
7.34e6*
37.84
2.60e6
1.30e6
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: PB
4σ 2.97e3
ES 123478F
9.55e6
36.04
ES 123678F
1.13e7
36.18
ES 234678F
1.01e7
36.84
ES 123789F
9.63e6
37.83
3.32e6
1.66e6
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: PB
4σ 8.28e3
ES 123478F
1.78e7
36.04
ES 123678F
2.07e7
36.18
ES 234678F
1.92e7
36.84
ES 123789F
1.80e7
37.83
6.09e6
3.04e6
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.36e3
9.57e3
4.78e3
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\ICV\CS3_211110_DF_CC.utp_res, saved 11-Nov-2021 10:52 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 3313, 6389, 4011 scc: 374-213
PKD: 10-Nov-2021 18:48 Printed: 11-Nov-2021 10:55 Page 10 of 12

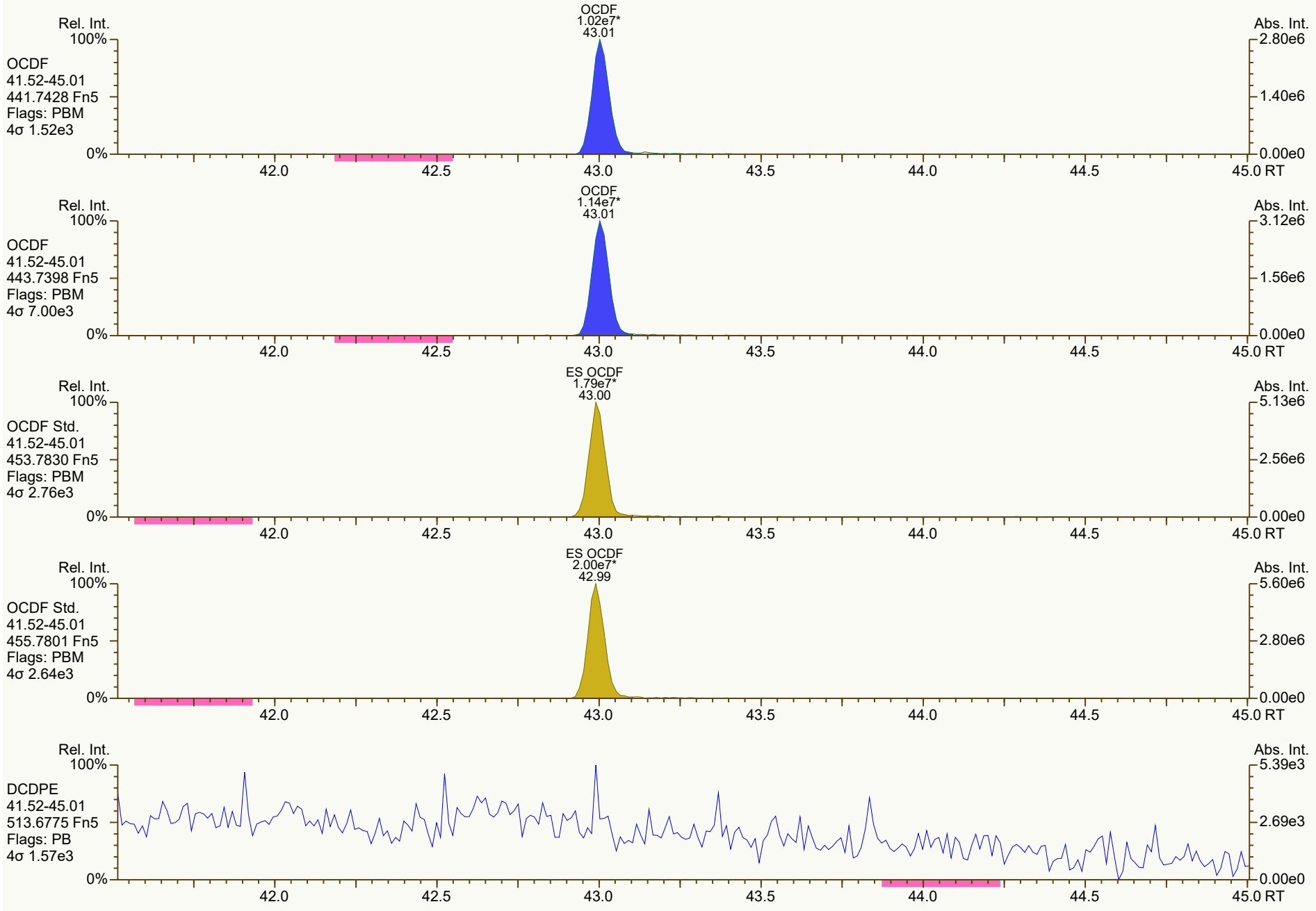
SGS ID: CS3_211110_DF_CC
Instr: [ILM] AutoSpec-Ultima HRMS3

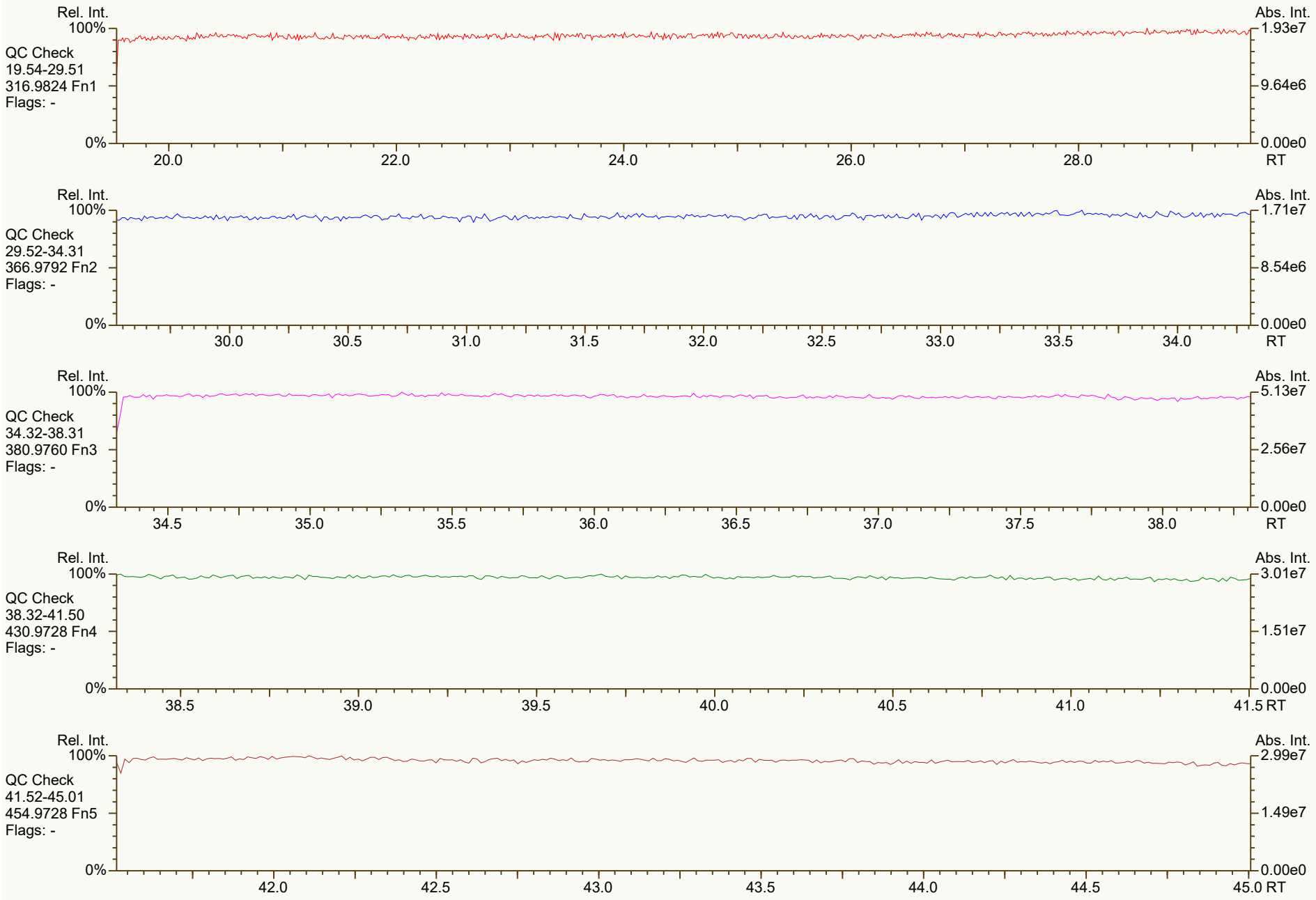
Sample ID: ICV 24-15-4
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 72

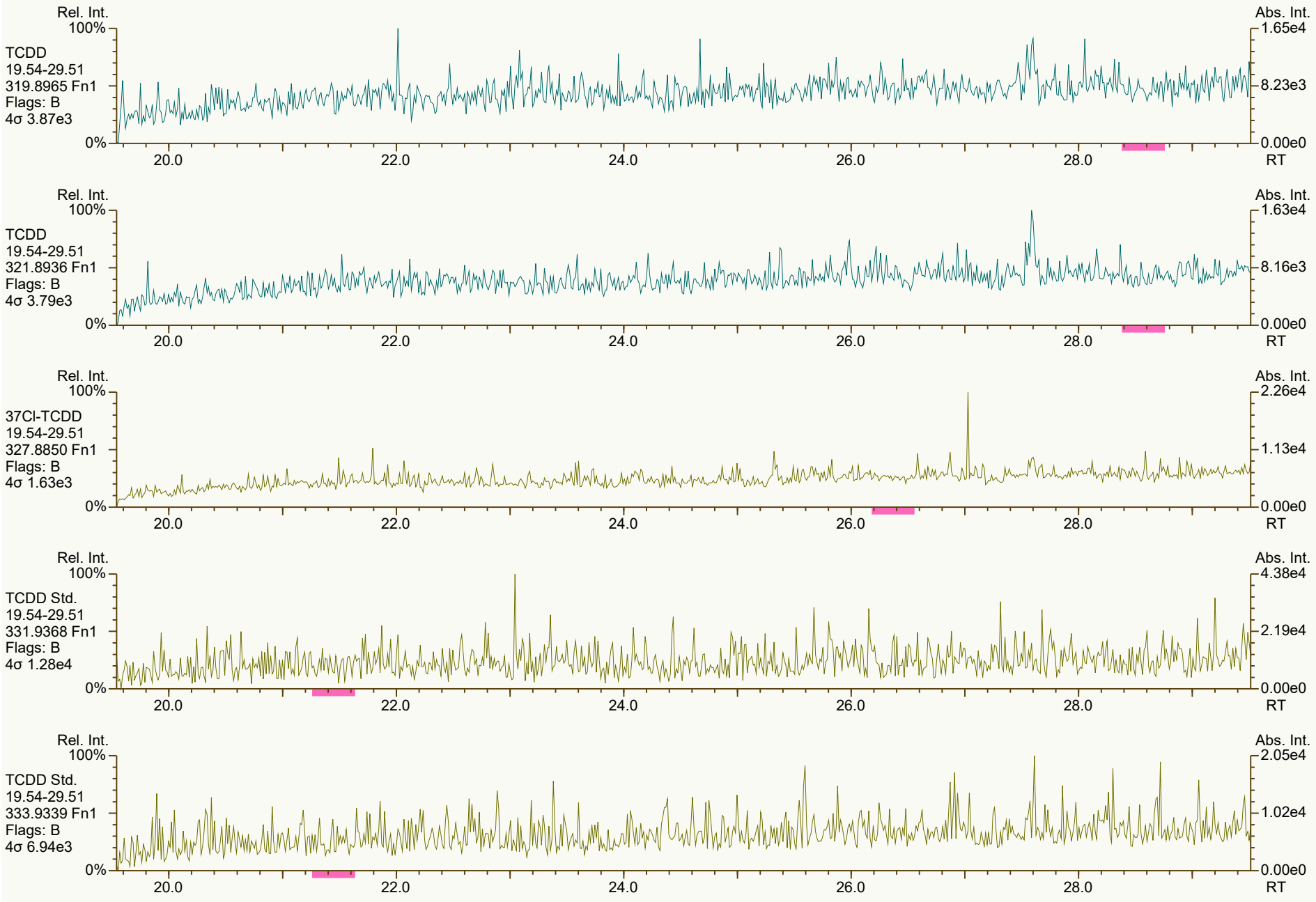
Acq: 10-Nov-2021 17:37:20
User: DTF Datafile: 211110C12



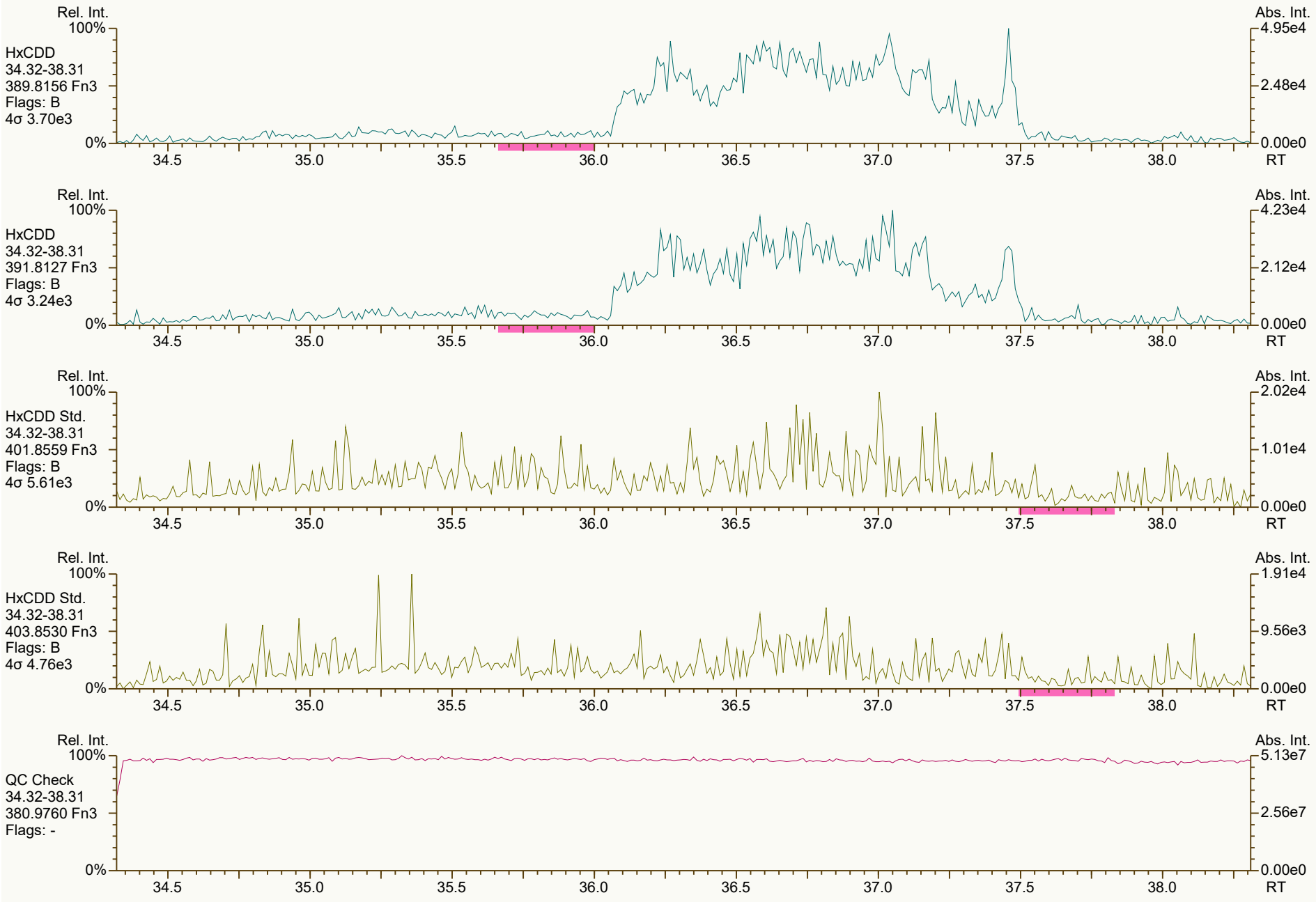
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\ICV\CS3_211110_DF_CC.utp_res, saved 11-Nov-2021 10:52 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4498, 1784, 9227 scc: 374-213
PKD: 10-Nov-2021 18:48 Printed: 11-Nov-2021 10:55 Page 11 of 12


OCDF
1.02e7*
43.01
Rel. Int.
Abs. Int.
OCDF
41.52-45.01
441.7428 Fn5
Flags: PBM
4σ 1.52e3
OCDF
1.14e7*
43.01
OCDF
41.52-45.01
443.7398 Fn5
Flags: PBM
4σ 7.00e3
ES OCDF
1.79e7*
43.00
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: PBM
4σ 2.76e3
ES OCDF
2.00e7*
42.99
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: PBM
4σ 2.64e3
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.57e3
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

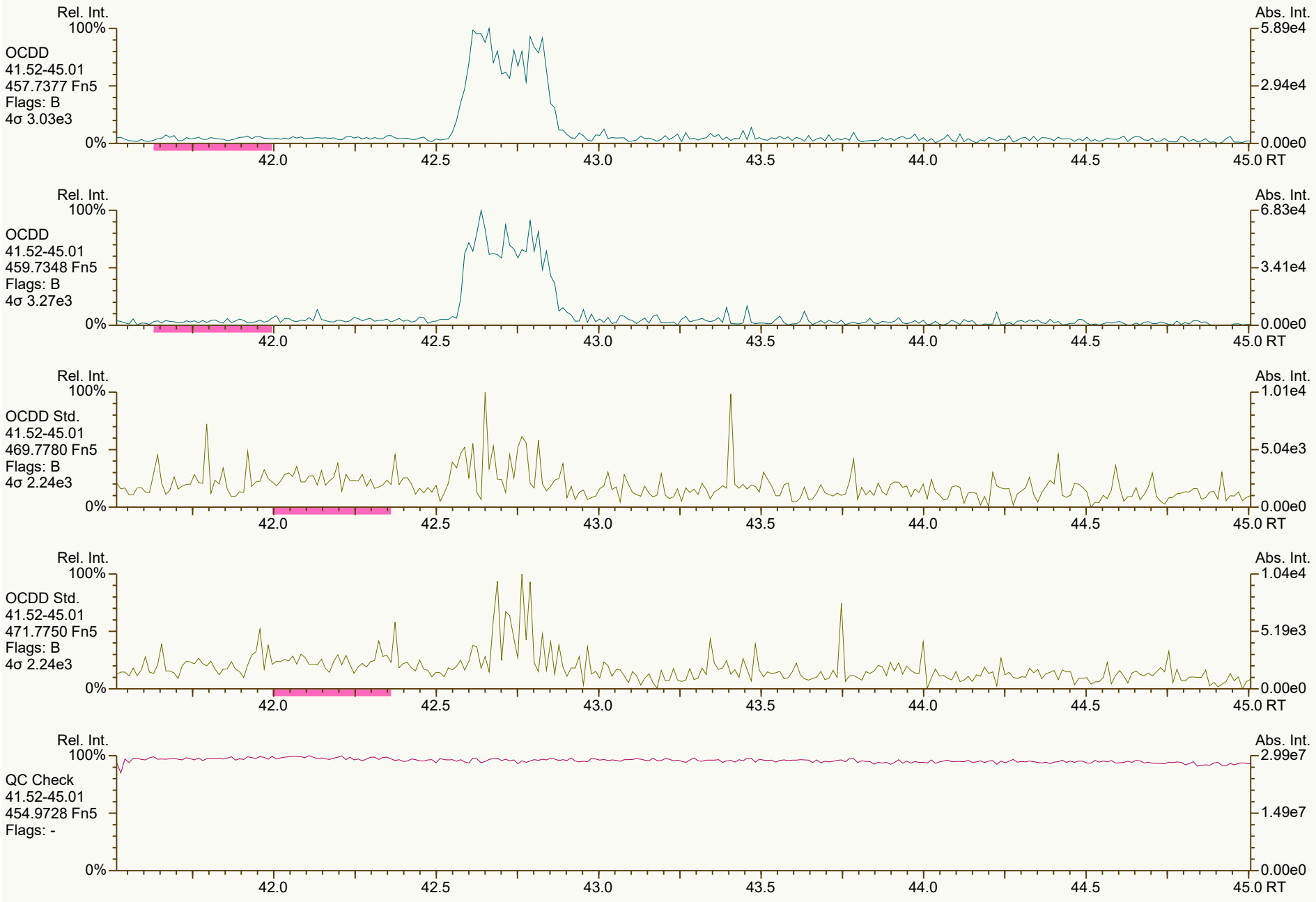

Rel. Int.
100%
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
Abs. Int.
1.93e7
9.64e6
0.00e0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
Abs. Int.
1.71e7
8.54e6
0.00e0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
Abs. Int.
5.13e7
2.56e7
0.00e0
RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
38.5
39.0
39.5
40.0
40.5
41.0
41.5
Abs. Int.
3.01e7
1.51e7
0.00e0
RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
42.0
42.5
43.0
43.5
44.0
44.5
45.0
Abs. Int.
2.99e7
1.49e7
0.00e0
RT

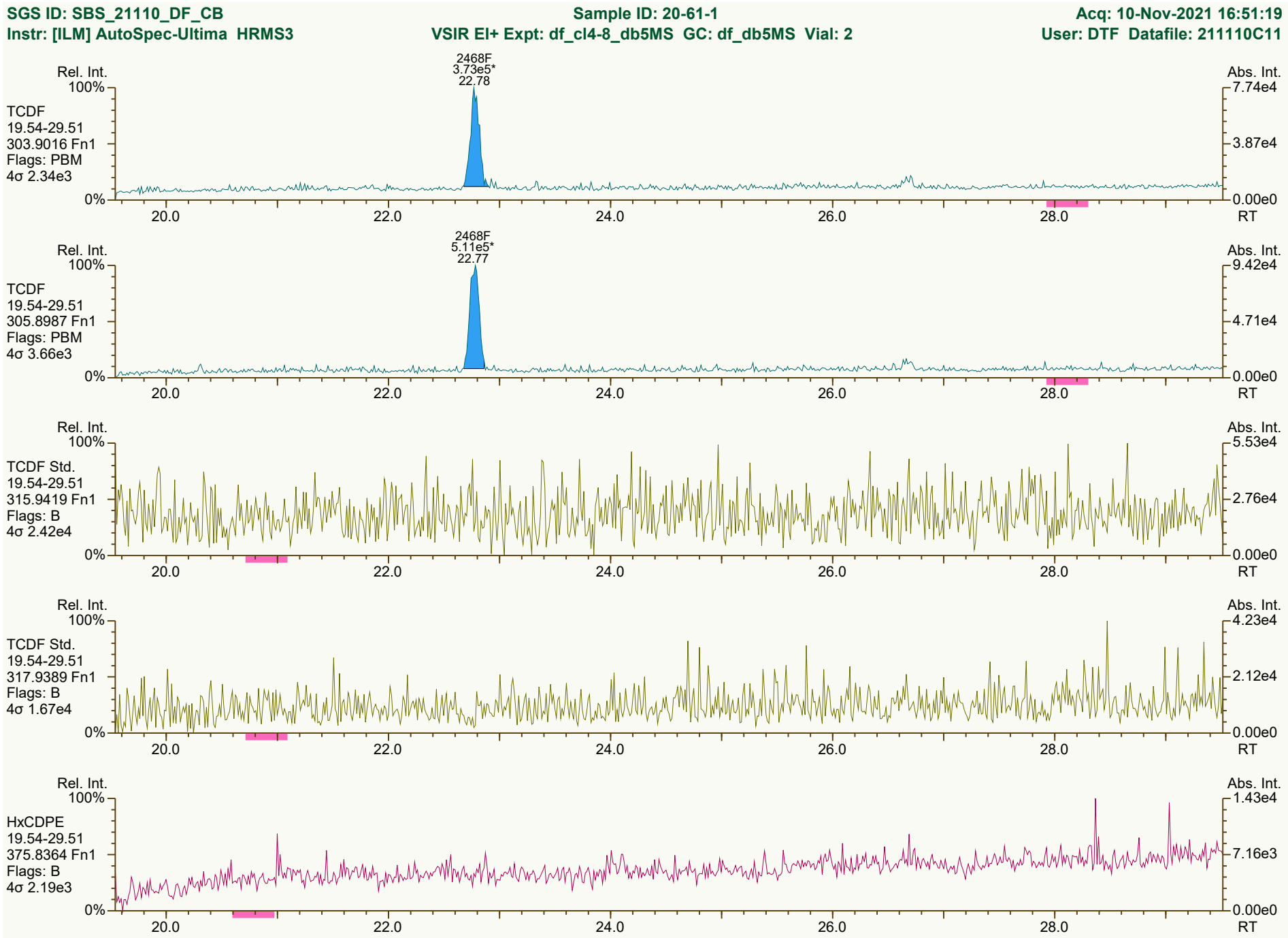

Rel. Int.
100%
TCDD
19.54-29.51
319.8965 Fn1
Flags: B
4σ 3.87e3
0%
Abs. Int.
1.65e4
8.23e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD
19.54-29.51
321.8936 Fn1
Flags: B
4σ 3.79e3
0%
Abs. Int.
1.63e4
8.16e3
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-29.51
327.8850 Fn1
Flags: B
4σ 1.63e3
0%
Abs. Int.
2.26e4
1.13e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
331.9368 Fn1
Flags: B
4σ 1.28e4
0%
Abs. Int.
4.38e4
2.19e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
TCDD Std.
19.54-29.51
333.9339 Fn1
Flags: B
4σ 6.94e3
0%
Abs. Int.
2.05e4
1.02e4
0.00e0
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDD
29.52-34.31
355.8546 Fn2
Flags: B
4σ 3.73e3
0%
Abs. Int.
4.22e4
2.11e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD
29.52-34.31
357.8517 Fn2
Flags: B
4σ 1.53e3
0%
Abs. Int.
2.36e4
1.18e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
367.8949 Fn2
Flags: B
4σ 7.30e3
0%
Abs. Int.
1.51e4
7.54e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDD Std.
29.52-34.31
369.8919 Fn2
Flags: B
4σ 3.64e3
0%
Abs. Int.
1.21e4
6.04e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
QC Check
29.52-34.31
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.71e7
8.54e6
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDD
34.32-38.31
389.8156 Fn3
Flags: B
4σ 3.70e3
0%
Abs. Int.
4.95e4
2.48e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD
34.32-38.31
391.8127 Fn3
Flags: B
4σ 3.24e3
0%
Abs. Int.
4.23e4
2.12e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
401.8559 Fn3
Flags: B
4σ 5.61e3
0%
Abs. Int.
2.02e4
1.01e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDD Std.
34.32-38.31
403.8530 Fn3
Flags: B
4σ 4.76e3
0%
Abs. Int.
1.91e4
9.56e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
QC Check
34.32-38.31
380.9760 Fn3
Flags: -
0%
Abs. Int.
5.13e7
2.56e7
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDD
38.32-41.50
423.7767 Fn4
Flags: B
4σ 3.29e3
0%
Abs. Int.
4.84e4
2.42e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD
38.32-41.50
425.7737 Fn4
Flags: B
4σ 2.66e3
0%
Abs. Int.
4.09e4
2.04e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
435.8169 Fn4
Flags: B
4σ 3.81e3
0%
Abs. Int.
1.46e4
7.29e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDD Std.
38.32-41.50
437.8140 Fn4
Flags: B
4σ 2.31e3
0%
Abs. Int.
1.40e4
7.00e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
QC Check
38.32-41.50
430.9728 Fn4
Flags: -
0%
Abs. Int.
3.01e7
1.51e7
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDD
41.52-45.01
457.7377 Fn5
Flags: B
4σ 3.03e3
0%
Abs. Int.
5.89e4
2.94e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
41.52-45.01
459.7348 Fn5
Flags: B
4σ 3.27e3
0%
Abs. Int.
6.83e4
3.41e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
469.7780 Fn5
Flags: B
4σ 2.24e3
0%
Abs. Int.
1.01e4
5.04e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
41.52-45.01
471.7750 Fn5
Flags: B
4σ 2.24e3
0%
Abs. Int.
1.04e4
5.19e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
41.52-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.99e7
1.49e7
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

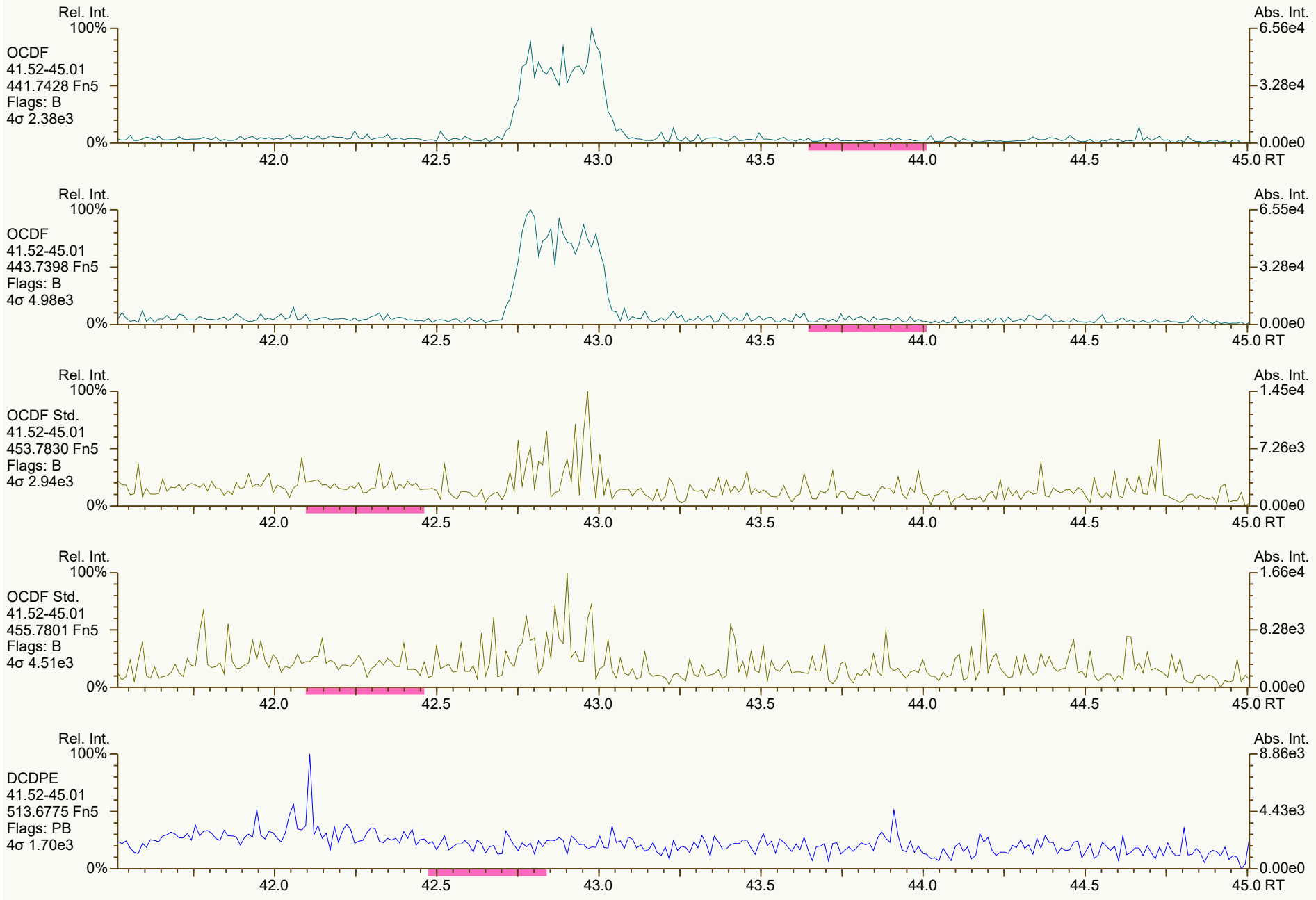

SGS ID: SBS_21110_DF_CB
Sample ID: 20-61-1
Acq: 10-Nov-2021 16:51:19
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 2
User: DTF Datafile: 211110C11
Rel. Int.
Abs. Int.
TCDF
19.54-29.51
303.9016 Fn1
Flags: PBM
4σ 2.34e3
2468F
3.73e5*
22.78
7.74e4
3.87e4
0.00e0
RT
TCDF
19.54-29.51
305.8987 Fn1
Flags: PBM
4σ 3.66e3
2468F
5.11e5*
22.77
9.42e4
4.71e4
TCDF Std.
19.54-29.51
315.9419 Fn1
Flags: B
4σ 2.42e4
5.53e4
2.76e4
TCDF Std.
19.54-29.51
317.9389 Fn1
Flags: B
4σ 1.67e4
4.23e4
2.12e4
HxCDPE
19.54-29.51
375.8364 Fn1
Flags: B
4σ 2.19e3
1.43e4
7.16e3
100%
0%
20.0
22.0
24.0
26.0
28.0
Results: T:\UltraTracePro\ICAL results\HRMS3\HRMS3_DF_10272021_10NOV2021\ICV\SBS_21110_DF_CB.utp_res, saved 11-Nov-2021 10:52 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 RC User/System: DTF/USPF22K616 cc: 4049, 6762, 0399 scc: 509-084
Revised: 10-Nov-2021 18:46 (DTF) Printed: 11-Nov-2021 10:54 Page 7 of 12


Rel. Int.
100%
0%
Abs. Int.
2.80e4
1.40e4
0.00e0
PeCDF-1
19.54-29.51
339.8597 Fn1
Flags: B
4σ 3.55e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
2.10e4
1.05e4
0.00e0
PeCDF-1
19.54-29.51
341.8568 Fn1
Flags: B
4σ 3.39e3
20.0
22.0
24.0
26.0
28.0
RT
Rel. Int.
100%
0%
Abs. Int.
1.93e7
9.64e6
0.00e0
QC Check
19.54-29.51
316.9824 Fn1
Flags: -
20.0
22.0
24.0
26.0
28.0
RT


Rel. Int.
100%
PeCDF-2
29.52-34.31
339.8597 Fn2
Flags: B
4σ 3.79e3
0%
Abs. Int.
5.15e4
2.57e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF-2
29.52-34.31
341.8568 Fn2
Flags: B
4σ 3.49e3
0%
Abs. Int.
3.88e4
1.94e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
351.9000 Fn2
Flags: B
4σ 6.36e3
0%
Abs. Int.
2.12e4
1.06e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
PeCDF Std.
29.52-34.31
353.8970 Fn2
Flags: B
4σ 3.59e3
0%
Abs. Int.
2.19e4
1.09e4
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT
Rel. Int.
100%
HpCDPE
29.52-34.31
409.7974 Fn2
Flags: B
4σ 2.24e3
0%
Abs. Int.
1.09e4
5.47e3
0.00e0
30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
RT


Rel. Int.
100%
HxCDF
34.32-38.31
373.8207 Fn3
Flags: B
4σ 6.67e3
0%
Abs. Int.
7.20e4
3.60e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF
34.32-38.31
375.8178 Fn3
Flags: B
4σ 4.09e3
0%
Abs. Int.
5.30e4
2.65e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
383.8639 Fn3
Flags: B
4σ 3.53e3
0%
Abs. Int.
2.56e4
1.28e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
HxCDF Std.
34.32-38.31
385.8610 Fn3
Flags: B
4σ 7.45e3
0%
Abs. Int.
4.02e4
2.01e4
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT
Rel. Int.
100%
OCDPE
34.32-38.31
445.7555 Fn3
Flags: B
4σ 1.52e3
0%
Abs. Int.
6.43e3
3.21e3
0.00e0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
RT


Rel. Int.
100%
HpCDF
38.32-41.50
407.7818 Fn4
Flags: B
4σ 6.33e3
0%
Abs. Int.
5.63e4
2.82e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF
38.32-41.50
409.7788 Fn4
Flags: B
4σ 4.99e3
0%
Abs. Int.
5.26e4
2.63e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
417.8253 Fn4
Flags: B
4σ 7.32e3
0%
Abs. Int.
2.31e4
1.15e4
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
HpCDF Std.
38.32-41.50
419.8220 Fn4
Flags: B
4σ 2.68e3
0%
Abs. Int.
1.94e4
9.71e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT
Rel. Int.
100%
NCDPE
38.32-41.50
479.7165 Fn4
Flags: PB
4σ 1.91e3
0%
Abs. Int.
8.16e3
4.08e3
0.00e0
38.5
39.0
39.5
40.0
40.5
41.0
41.5 RT


Rel. Int.
100%
OCDF
41.52-45.01
441.7428 Fn5
Flags: B
4σ 2.38e3
0%
Abs. Int.
6.56e4
3.28e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF
41.52-45.01
443.7398 Fn5
Flags: B
4σ 4.98e3
0%
Abs. Int.
6.55e4
3.28e4
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
453.7830 Fn5
Flags: B
4σ 2.94e3
0%
Abs. Int.
1.45e4
7.26e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDF Std.
41.52-45.01
455.7801 Fn5
Flags: B
4σ 4.51e3
0%
Abs. Int.
1.66e4
8.28e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
41.52-45.01
513.6775 Fn5
Flags: PB
4σ 1.70e3
0%
Abs. Int.
8.86e3
4.43e3
0.00e0
42.0
42.5
43.0
43.5
44.0
44.5
45.0 RT

Lab ID: OPR1_18977_DF

REVIEWED
Amber_Kornegay , 3/9/2022, 10:18:14 AM

Acq'd: 08 Mar 2022 13:41 DTF

Wt/Vol: 1 uL

ICAL: HRMS3_DF_10272021 10NOV2021

Client ID: 0_18977_OPR001

UTP: 09-Mar-2022 09:24:15 DTF

J-level: 0.25 pg/uL **Split:** 1

Checkcode: 823-705-GRD

Datafile: 220308C03

Report: 09 Mar 2022 09:24 TF

Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.17		1.0008	1.0007	-0.2	2.60E+06	0.79	Y	1.18	10.6	3039.919	0.138
12378-PeCDD	33.58		1.0007	1.0005	-0.4	8.78E+06	1.58	Y	1.04	46.5	4186.522	0.193
123478-HxCDD	37.52		1.0004	1.0004	0	8.67E+06	1.25	Y	1.09	52	4423.985	0.238
123678-HxCDD	37.64		1.0036	1.0036	0	8.95E+06	1.25	Y	1.15	51.8	4423.985	0.221
123789-HxCDD	37.95		1.0118	1.0118	0	8.72E+06	1.25	Y	1.05	51.4	4423.985	0.228
1234678-HpCDD	40.70		1.0002	1.0003	+0.2	7.36E+06	1.04	Y	1.06	52.2	3676.619	0.214
OCDD	43.39		1.0003	1.0003	0	1.02E+07	0.89	Y	1.13	108	2970.318	0.413
2378-TCDF	27.29		1.0008	1.0006	-0.3	3.79E+06	0.84	Y	1.08	11.4	2648.326	0.0826
12378-PeCDF	32.12		1.0005	1.0005	0	1.36E+07	1.53	Y	1.02	48.2	6636.249	0.225
23478-PeCDF	33.24		1.0005	1.0005	0	1.46E+07	1.56	Y	1.02	53	6636.249	0.212
123478-HxCDF	36.52		1.0004	1.0005	+0.2	1.28E+07	1.23	Y	1.27	52	9599.173	0.313
123678-HxCDF	36.66		1.0004	1.0005	+0.2	1.35E+07	1.25	Y	1.15	52	9599.173	0.289
234678-HxCDF	37.33		1.0005	1.0005	0	1.36E+07	1.26	Y	1.19	52.4	9599.173	0.326
123789-HxCDF	38.31		1.0004	1.0004	0	1.07E+07	1.24	Y	1.16	48.9	9599.173	0.383
1234678-HpCDF	39.75		1.0003	1.0003	0	1.07E+07	0.99	Y	1.37	49.7	4275.547	0.147
1234789-HpCDF	41.15		1.0003	1.0003	0	8.64E+06	1.04	Y	1.31	49.7	4275.547	0.225
OCDF	43.57		1.0002	1.0003	+0.3	1.27E+07	0.92	Y	1.07	103	3290.2859	0.351

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.15	1.0243	1.0244	+0.2	2.07E+07	0.81	Y	1.05	99.2
ES 12378-PeCDD	33.56	1.2198	1.2213	+3.0	1.82E+07	1.59	Y	0.88	104
ES 123478-HxCDD	37.50	0.9916	0.9914	-0.5	1.53E+07	1.27	Y	0.97	98.1
ES 123678-HxCDD	37.62	0.9947	0.9946	-0.2	1.51E+07	1.24	Y	0.94	99.4
ES 123789-HxCDD	37.93	1.0029	1.0028	-0.2	1.62E+07	1.26	Y	1.09	92.3
ES 1234678-HpCDD	40.68	1.0749	1.0755	+1.5	1.33E+07	1.08	Y	0.91	90.7
ES OCDD	43.38	1.1460	1.1468	+2.1	1.68E+07	0.90	Y	0.62	83.7
ES 2378-TCDF	27.28	1.0531	1.0535	+0.7	3.08E+07	0.81	Y	1.06	92.4
ES 12378-PeCDF	32.10	1.2378	1.2397	+3.7	2.76E+07	1.59	Y	0.91	96.3
ES 23478-PeCDF	33.22	1.2810	1.2831	+4.2	2.70E+07	1.56	Y	0.88	97.1
ES 123478-HxCDF	36.50	0.9650	0.9649	-0.2	1.94E+07	0.52	Y	1.20	101
ES 123678-HxCDF	36.64	0.9688	0.9686	-0.4	2.25E+07	0.54	Y	1.35	104
ES 234678-HxCDF	37.32	0.9866	0.9865	-0.2	2.18E+07	0.55	Y	1.24	109
ES 123789-HxCDF	38.30	1.0125	1.0125	0	1.87E+07	0.54	Y	1.16	101
ES 1234678-HpCDF	39.74	1.0501	1.0505	+1.0	1.57E+07	0.46	Y	0.97	101
ES 1234789-HpCDF	41.14	1.0870	1.0876	+1.5	1.33E+07	0.44	Y	0.85	97.3
ES OCDF	43.56	1.1505	1.1515	+2.6	2.31E+07	0.88	Y	0.81	89

Lab ID: OPR1_18977_DF | **Acq'd:** 08 Mar 2022 13:41 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18977_OPR001 | **UTP:** 09-Mar-2022 09:24:15 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 823-705-GRD

Datafile: 220308C03 | **Report:** 09 Mar 2022 09:24 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.48		-	-	-	1.99E+07	0.82	Y	-	-
JS 1234-TCDF	25.89		-	-	-	3.15E+07	0.81	Y	-	-
JS 123467-HxCDD	37.83		-	-	-	8.02E+06	1.40	Y	-	-
CS 37Cl-2378-TCDD	28.17		1.0251	1.0252	+0.2	9.45E+06	n/a	-	1.20	98.7
CS 12347-PeCDD	33.06		1.2016	1.2029	+2.6	1.54E+07	1.70	Y	0.75	102
CS 12346-PeCDF	31.56		1.2172	1.2190	+3.4	2.60E+07	1.53	Y	0.85	97
CS 123469-HxCDF	36.95		0.9771	0.9769	-0.4	1.95E+07	0.53	Y	1.12	109
CS 1234689-HpCDF	40.14		1.0608	1.0612	+1.0	1.51E+07	0.43	Y	0.89	106
~~SS 37Cl-2378-TCDD~~	~~28.17~~		~~1.0251~~	~~1.0252~~	~~+0.2~~	~~9.45E+06~~	~~n/a~~		~~1.15~~	~~99.7~~
~~SS 12347-PeCDD~~	~~33.06~~		~~1.2016~~	~~1.2029~~	~~+2.6~~	~~1.54E+07~~	~~1.70~~	~~Y~~	~~0.86~~	~~98.2~~
~~SS 12346-PeCDF~~	~~31.56~~		~~1.2172~~	~~1.2190~~	~~+3.4~~	~~2.60E+07~~	~~1.53~~	~~Y~~	~~0.94~~	~~101~~
~~SS 123469-HxCDF~~	~~36.95~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~1.95E+07~~	~~0.53~~	~~Y~~	~~0.83~~	~~105~~
~~SS 1234689-HpCDF~~	~~40.14~~		~~1.0608~~	~~1.0612~~	~~+1.0~~	~~1.51E+07~~	~~0.43~~	~~Y~~	~~0.92~~	~~105~~

Totals	Conc	EMPC
Total TCDD	50.2	50.2
Total PeCDD	70.1	70.1
Total HxCDD	170	170
Total HpCDD	64.9	64.9
Total Tetra-Octa Dioxins	463	463
Total TCDF	61.4	61.4
Total PeCDF	198	198
Total HxCDF	329	329
Total HpCDF	99.4	99.4
Total Tetra-Octa Furans	791	791
Total Tetra-Octa Dioxins & Furans	1250	1250

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.789	0.79
Response	2.61E+06	2.60E+06

Lab ID: OPR1_18977_DF | **Acq'd: 08 Mar 2022 13:41 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18977_OPR001 | **UTP: 09-Mar-2022 09:24:15 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 823-705-GRD**

Datafile: 220308C03 | **Report: 09 Mar 2022 09:24 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.47		0.8701	0.8691	-1.5	3.45E+06	0.75	Y	1.18	14.1	3039.919	0.138
1379-TCDD	NotFnd		0.8829						1.18		3039.919	0.138
1369-TCDD	NotFnd		0.8982						1.18		3039.919	0.138
1469-TCDD	NotFnd		0.9261						1.18		3039.919	0.138
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		3039.919	0.138
1378-TCDD	NotFnd		0.9417						1.18		3039.919	0.138
1268-TCDD	NotFnd		0.9487						1.18		3039.919	0.138
1478-TCDD	NotFnd		0.9576						1.18		3039.919	0.138
1279-TCDD	NotFnd		0.9636						1.18		3039.919	0.138
1234/1269-TCDD	NotFnd		0.9761						1.18		3039.919	0.138
1236-TCDD	NotFnd		0.9812						1.18		3039.919	0.138
1237/1238-TCDD	NotFnd		0.9905						1.18		3039.919	0.138
1239-TCDD	28.01		0.9951	0.9952	+0.2	2.64E+06	0.77	Y	1.18	10.8	3039.919	0.138
2378-TCDD	**28.17**		**1.0008**	1.0007	**-0.2**	2.60E+06	0.79	Y	**1.18**	**10.6**	**3039.919**	**0.138**
1278-TCDD	NotFnd		1.0124						1.18		3039.919	0.138
1267-TCDD	NotFnd		1.0172						1.18		3039.919	0.138
1289-TCDD	29.16		1.0354	1.0357	+0.5	3.61E+06	0.79	Y	1.18	14.7	3039.919	0.138
12479/12468-PeCDD	31.06		0.9255	0.9253	-0.4	2.12E+06	1.58	Y	1.04	11.2	4186.522	0.193
12469-PeCDD	NotFnd		0.9416						1.04		4186.522	0.193
12368-PeCDD	NotFnd		0.9582						1.04		4186.522	0.193
12478-PeCDD	NotFnd		0.9637						1.04		4186.522	0.193
12379-PeCDD	NotFnd		0.9668						1.04		4186.522	0.193
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		4186.522	0.193
12346/12347-PeCDD	NotFnd		0.9858						1.04		4186.522	0.193
12378-PeCDD	33.58		**1.0007**	**1.0005**	**-0.4**	**8.78E+06**	**1.58**	**Y**	**1.04**	**46.5**	**4186.522**	**0.193**
12367-PeCDD	NotFnd		1.0036						1.04		4186.522	0.193
12389-PeCDD	34.03		1.0137	1.0138	+0.2	2.33E+06	1.49	Y	1.04	12.3	4186.522	0.193
124679/124689-HxCDD	35.77		0.9540	0.9539	-0.2	2.54E+06	1.23	Y	1.10	14.9	4423.985	0.229
123468-HxCDD	NotFnd		0.9715						1.10		4423.985	0.229
123679/123689-HxCDD	NotFnd		0.9793						1.10		4423.985	0.229
123469-HxCDD	NotFnd		0.9829						1.10		4423.985	0.229
123478-HxCDD	37.52		**1.0004**	**1.0004**	**0**	**8.67E+06**	**1.25**	**Y**	1.09	**52**	**4423.985**	**0.238**
123678-HxCDD	37.64		**1.0036**	**1.0036**	**0**	**8.95E+06**	**1.25**	**Y**	1.15	**51.8**	**4423.985**	**0.221**
123467-HxCDD	NotFnd		1.0089						1.10		4423.985	0.229
123789-HxCDD	37.95		**1.0118**	**1.0118**	**0**	**8.72E+06**	**1.25**	**Y**	1.05	**51.4**	**4423.985**	**0.228**

Lab ID: OPR1_18977_DF **Acq'd: 08 Mar 2022 13:41 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18977_OPR001 **UTP: 09-Mar-2022 09:24:15 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 823-705-GRD**

Datafile: 220308C03 **Report: 09 Mar 2022 09:24 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.02		0.9836	0.9836	0	1.78E+06	1.05	Y	1.06	12.6	3676.619	0.214
1234678-HpCDD	**40.70**		**1.0002**	**1.0003**	**+0.2**	**7.36E+06**	**1.04**	**Y**	**1.06**	**52.2**	**3676.619**	**0.214**
OCDD	**43.39**		**1.0003**	**1.0003**	**0**	**1.02E+07**	**0.89**	**Y**	**1.13**	**108**	**2970.318**	**0.413**
OCDD-a	43.39		1.0002	1.0002	0	6.41E+05	2.16	Y	0.07	106	2845.339	6.19
1368-TCDF	22.30		0.8191	0.8177	-1.9	4.89E+06	0.79	Y	1.08	14.7	2648.326	0.0826
1468-TCDF	NotFnd		0.8408						1.08		2648.326	0.0826
2468-TCDF	23.56		0.8645	0.8636	-1.3	1.20E+06	0.78	Y	1.08	3.61	2648.326	0.0826
1346/1246-TCDF	NotFnd		0.8772						1.08		2648.326	0.0826
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		2648.326	0.0826
1348-TCDF	NotFnd		0.8932						1.08		2648.326	0.0826
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		2648.326	0.0826
1268-TCDF	NotFnd		0.9119						1.08		2648.326	0.0826
1467-TCDF	NotFnd		0.9170						1.08		2648.326	0.0826
1478-TCDF	NotFnd		0.9234						1.08		2648.326	0.0826
1369/1237-TCDF	NotFnd		0.9369						1.08		2648.326	0.0826
2467-TCDF	NotFnd		0.9415						1.08		2648.326	0.0826
2368-TCDF	NotFnd		0.9475						1.08		2648.326	0.0826
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		2648.326	0.0826
1278-TCDF	NotFnd		0.9676						1.08		2648.326	0.0826
1349-TCDF	NotFnd		0.9722						1.08		2648.326	0.0826
1267-TCDF	NotFnd		0.9777						1.08		2648.326	0.0826
2346/1249-TCDF	NotFnd		0.9843						1.08		2648.326	0.0826
2347/1279-TCDF	NotFnd		0.9926						1.08		2648.326	0.0826
2348-TCDF	27.19		0.9968	0.9967	-0.2	4.84E+06	0.71	Y	1.08	14.6	2648.326	0.0826
2378-TCDF	**27.29**		**1.0008**	**1.0006**	**-0.3**	**3.79E+06**	**0.84**	**Y**	**1.08**	**11.4**	**2648.326**	**0.0826**
2367/3467-TCDF	NotFnd		1.0142						1.08		2648.326	0.0826
1269-TCDF	NotFnd		1.0235						1.08		2648.326	0.0826
1239-TCDF	NotFnd		1.0329						1.08		2648.326	0.0826
1289-TCDF	29.33		1.0742	1.0751	+1.6	5.71E+06	0.81	Y	1.08	17.2	2648.326	0.0826
13468/12468-PeCDF	29.25		0.9122	0.9114	-1.4	2.40E+07	1.54	Y	1.02	85.8	2564.761	0.0845
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		6636.249	0.219
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		6636.249	0.219
14678-PeCDF	NotFnd		0.9685						1.02		6636.249	0.219
13479-PeCDF	NotFnd		0.9716						1.02		6636.249	0.219
13469/12479-PeCDF	NotFnd		0.9794						1.02		6636.249	0.219
12346-PeCDF	NotFnd		0.9836						1.02		6636.249	0.219

Lab ID: OPR1_18977_DF | **Acq'd: 08 Mar 2022 13:41 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18977_OPR001 | **UTP: 09-Mar-2022 09:24:15 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 823-705-GRD**

Datafile: 220308C03 | **Report: 09 Mar 2022 09:24 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		6636.249	0.219
12347-PeCDF	NotFnd		0.9891						1.02		6636.249	0.219
12348-PeCDF	NotFnd		0.9938						1.02		6636.249	0.219
12378-PeCDF	**32.12**		**1.0005**	**1.0005**	**0**	**1.36E+07**	**1.53**	**Y**	**1.02**	**48.2**	**6636.249**	**0.225**
12678/12367-PeCDF	NotFnd		1.0091						1.02		6636.249	0.219
12379-PeCDF	NotFnd		1.0144						1.02		6636.249	0.219
12679-PeCDF	NotFnd		0.9927						1.02		6636.249	0.219
23467/12369-PeCDF	NotFnd		0.9965						1.02		6636.249	0.219
23478-PeCDF	**33.24**		**1.0005**	**1.0005**	**0**	**1.46E+07**	**1.56**	**Y**	**1.02**	**53**	**6636.249**	**0.212**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		6636.249	0.219
12349-PeCDF	NotFnd		1.0101						1.02		6636.249	0.219
12389-PeCDF	34.32		1.0330	1.0331	+0.2	3.08E+06	1.62	Y	1.02	11	6636.249	0.219
123468-HxCDF	35.12		0.9622	0.9622	0	3.05E+07	1.25	Y	1.19	124	9599.173	0.325
124678/134678-HxCDF	NotFnd		0.9678						1.19		9599.173	0.325
134679-HxCDF	NotFnd		0.9741						1.19		9599.173	0.325
124679-HxCDF	NotFnd		0.9795						1.19		9599.173	0.325
124689-HxCDF	NotFnd		0.9856						1.19		9599.173	0.325
123467-HxCDF	NotFnd		0.9972						1.19		9599.173	0.325
123478-HxCDF	**36.52**		**1.0004**	**1.0005**	**+0.2**	**1.28E+07**	**1.23**	**Y**	**1.27**	**52**	**9599.173**	**0.313**
123678-HxCDF	**36.66**		**1.0004**	**1.0005**	**+0.2**	**1.35E+07**	**1.25**	**Y**	**1.15**	**52**	**9599.173**	**0.289**
123479-HxCDF	NotFnd		1.0048						1.19		9599.173	0.325
123469-HxCDF	NotFnd		1.0089						1.19		9599.173	0.325
123679-HxCDF	NotFnd		0.9942						1.19		9599.173	0.325
234678-HxCDF	**37.33**		**1.0005**	**1.0005**	**0**	**1.36E+07**	**1.26**	**Y**	**1.19**	**52.4**	**9599.173**	**0.326**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		9599.173	0.325
123789-HxCDF	**38.31**		**1.0004**	**1.0004**	**0**	**1.07E+07**	**1.24**	**Y**	**1.16**	**48.9**	**9599.173**	**0.383**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		9599.173	0.325
1234678-HpCDF	**39.75**		**1.0003**	**1.0003**	**0**	**1.07E+07**	**0.99**	**Y**	**1.37**	**49.7**	**4275.547**	**0.147**
1234679-HpCDF	NotFnd		1.0068						1.34		4275.547	0.182
1234689-HpCDF	NotFnd		1.0104						1.34		4275.547	0.182
1234789-HpCDF	**41.15**		**1.0003**	**1.0003**	**0**	**8.64E+06**	**1.04**	**Y**	**1.31**	**49.7**	**4275.547**	**0.225**
OCDF	**43.57**		**1.0002**	**1.0003**	**+0.3**	**1.27E+07**	**0.92**	**Y**	**1.07**	**103**	**3290.2859**	**0.351**
OCDF-a	43.57		1.0001	1.0001	0	7.07E+05	2.57	Y	0.07	92.3	3086.234	5.32

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220308C03	Analysis Date:	08-MAR-2022 13:41:41
Lab ID:	OPR1_18977_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	10.6	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	46.5	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	52	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	51.8	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	51.4	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	52.2	35	-	70	Y
OCDD	100	108	78	-	144	Y
2,3,7,8-TCDF	10	11.4	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	48.2	40	-	67	Y
2,3,4,7,8-PeCDF	50	53	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	52	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	52	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	52.4	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	48.9	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	49.7	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	49.7	39	-	69	Y
OCDF	100	103	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 09 Mar 2022 09:24 Analyst: TF

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220308C03	Analysis Date:	08-MAR-2022 13:41:41
Lab ID:	OPR1_18977_DF		

LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	99.2	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	104	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	98.1	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	99.4	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	92.3	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	90.7	26	-	166	Y
13C-OCDD	200	167	26	-	397	Y
13C-2,3,7,8-TCDF	100	92.4	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	96.3	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	97.1	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	101	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	104	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	109	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	101	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	101	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	97.3	20	-	186	Y
13C-OCDF	200	178	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	39.5	12.4	-	76.4	Y

Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

Processed: 09 Mar 2022 09:24 Analyst: TF

METHOD 1613B **COLUMN PERFORMANCE AND RETENTION TIME WINDOWS** **FORM CPSM**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
CPSM Data Filename:	220308C03	Analysis Date:	08-MAR-2022 13:41:41
Lab ID:	OPR1_18977_DF		

Window Defining Standards Results

First Eluting Isomer	RT	Last Eluting Isomer	RT
1368-TCDD	24.47	1289-TCDD	29.16
12479/12468-PeCDD	31.06	12389-PeCDD	34.03
124679/124689-HxCDD	35.77	123789-HxCDD	37.95
1234679-HpCDD	40.02	1234678-HpCDD	40.70
1368-TCDF	22.30	1289-TCDF	29.33
13468/12468-PeCDF	29.25	12389-PeCDF	34.32
123468-HxCDF	35.12	123789-HxCDF	38.31
1234678-HpCDF	39.75	1234789-HpCDF	41.15

Isomer Specificity Test Standard Results

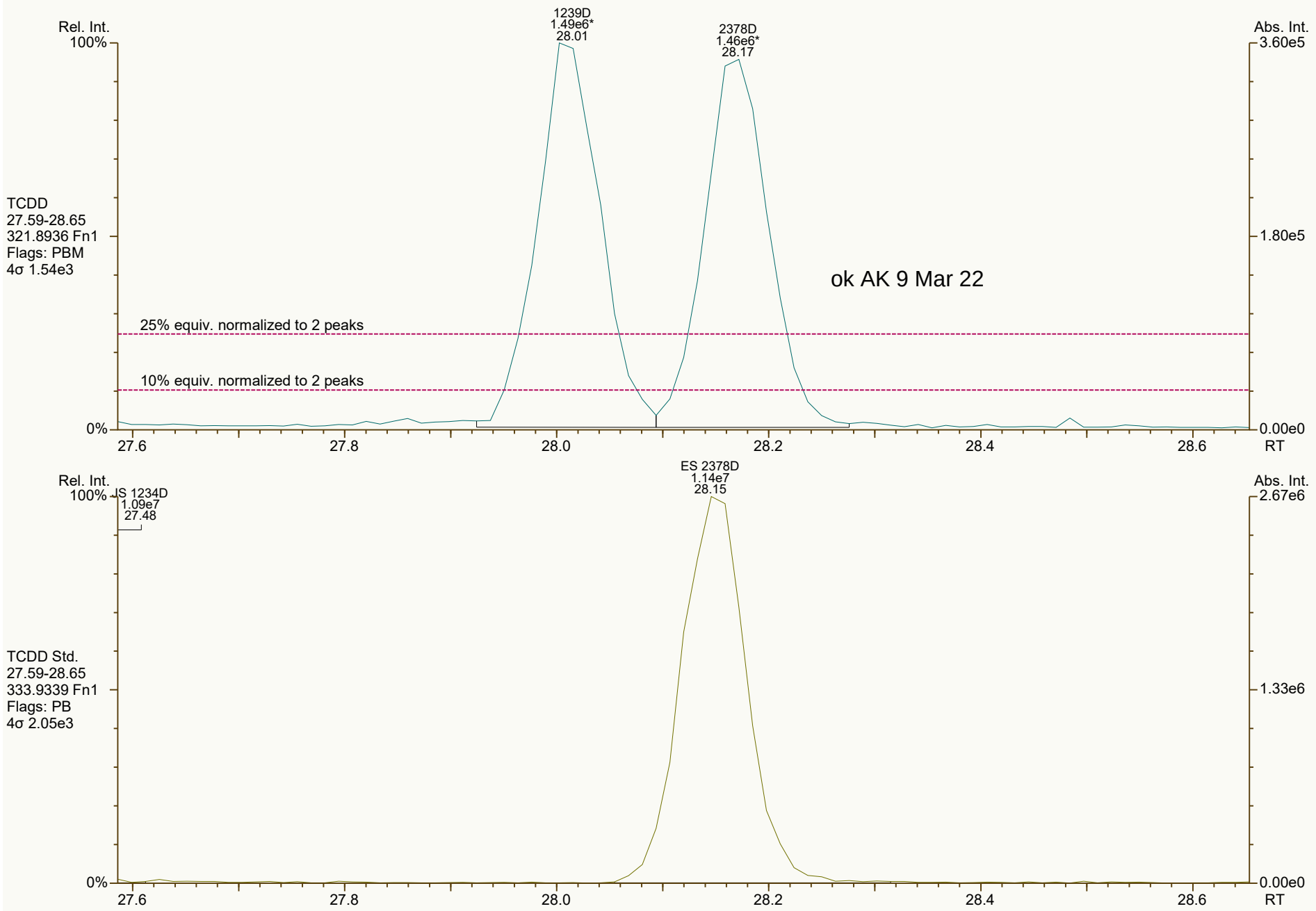
Closest Eluting Isomer	RT	2378 Specific Isomer	RT
1239-TCDD	28.01	2378-TCDD	28.17
2348-TCDF	27.19	2378-TCDF	27.29

Processed: 09 Mar 2022 09:24 Analyst: TF

SGS ID: OPR1_18977_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18977_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28

Acq: 08-Mar-2022 13:41:41
User: DTF Datafile: 220308C03



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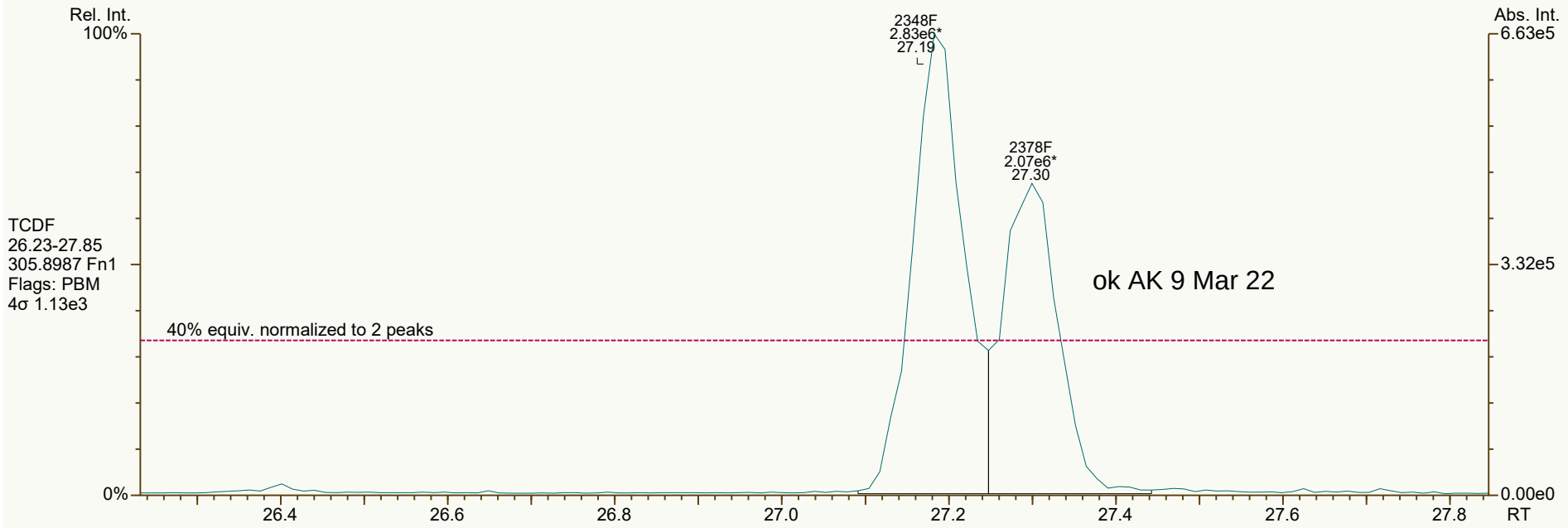
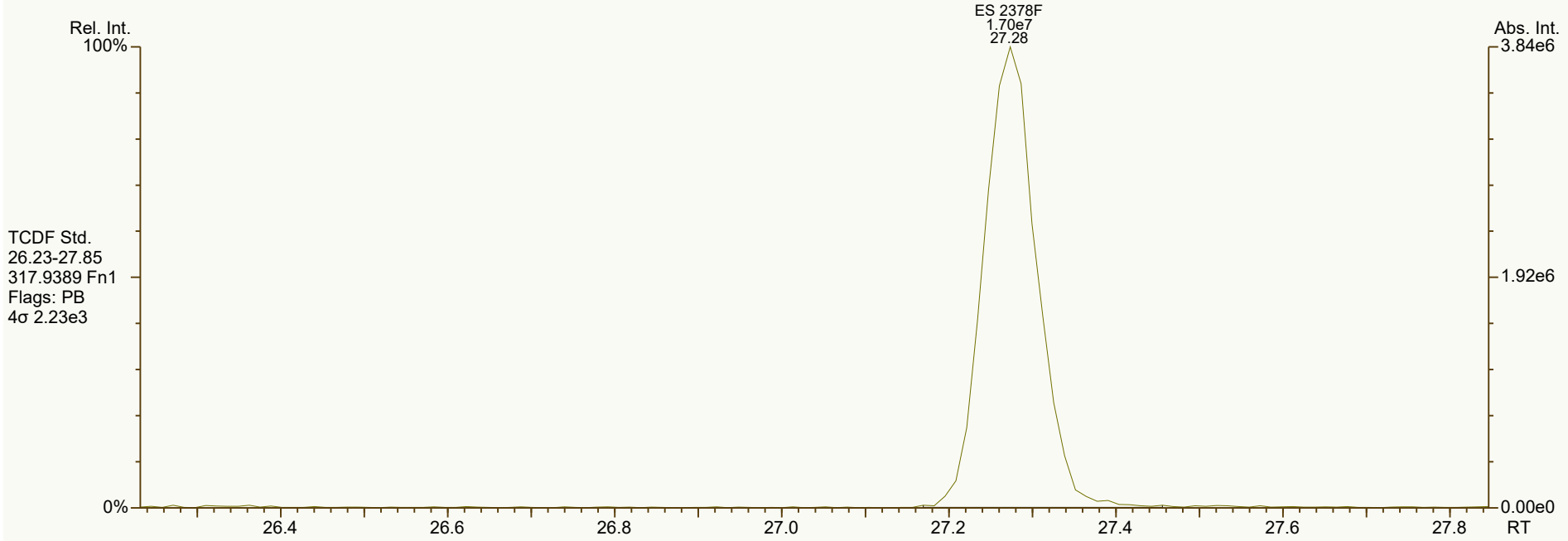
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616

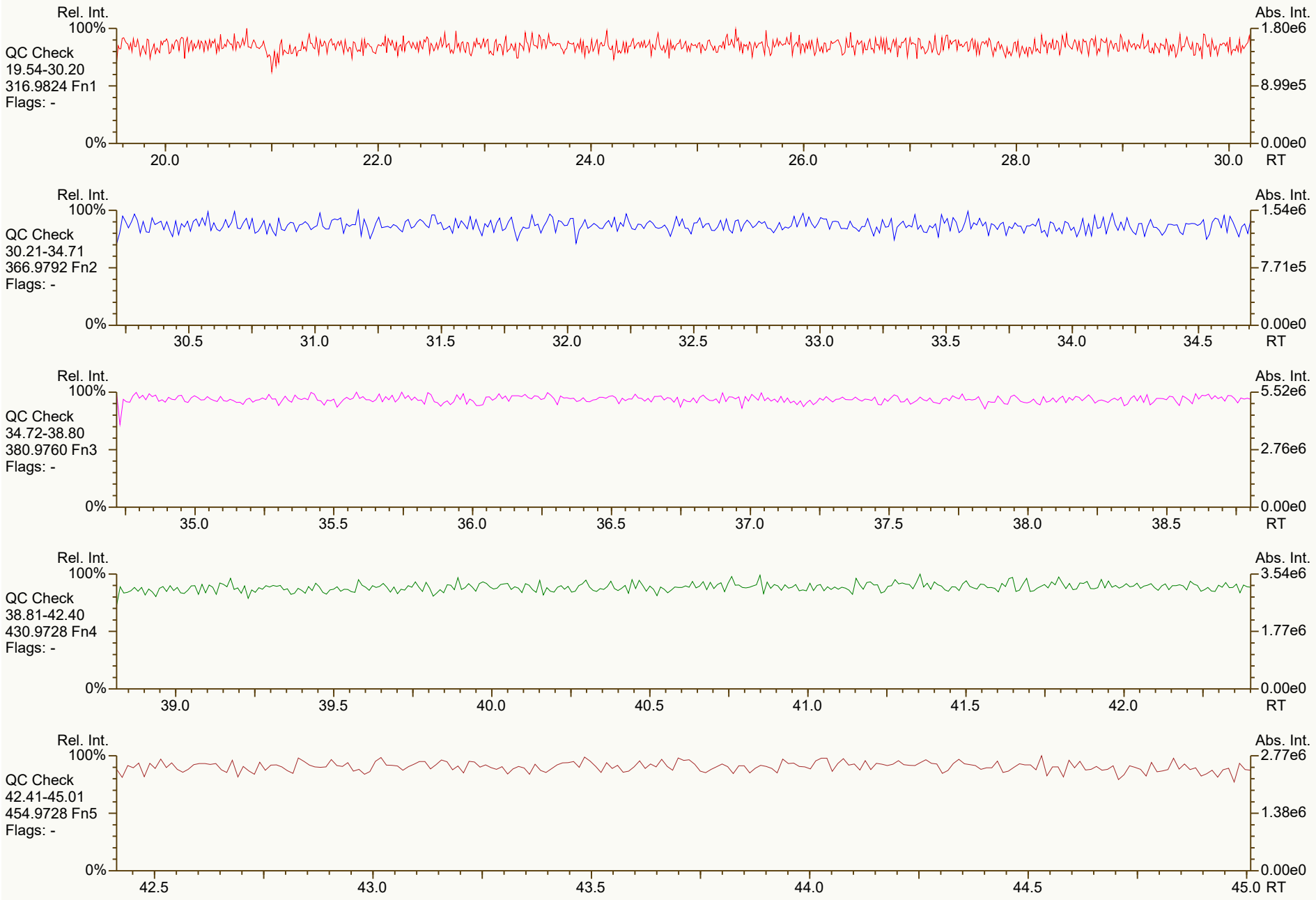
Peak annotation: Areas, Centroids
Revised: 09-Mar-2022 09:05 (DTF) Printed: 09-Mar-2022 09:26

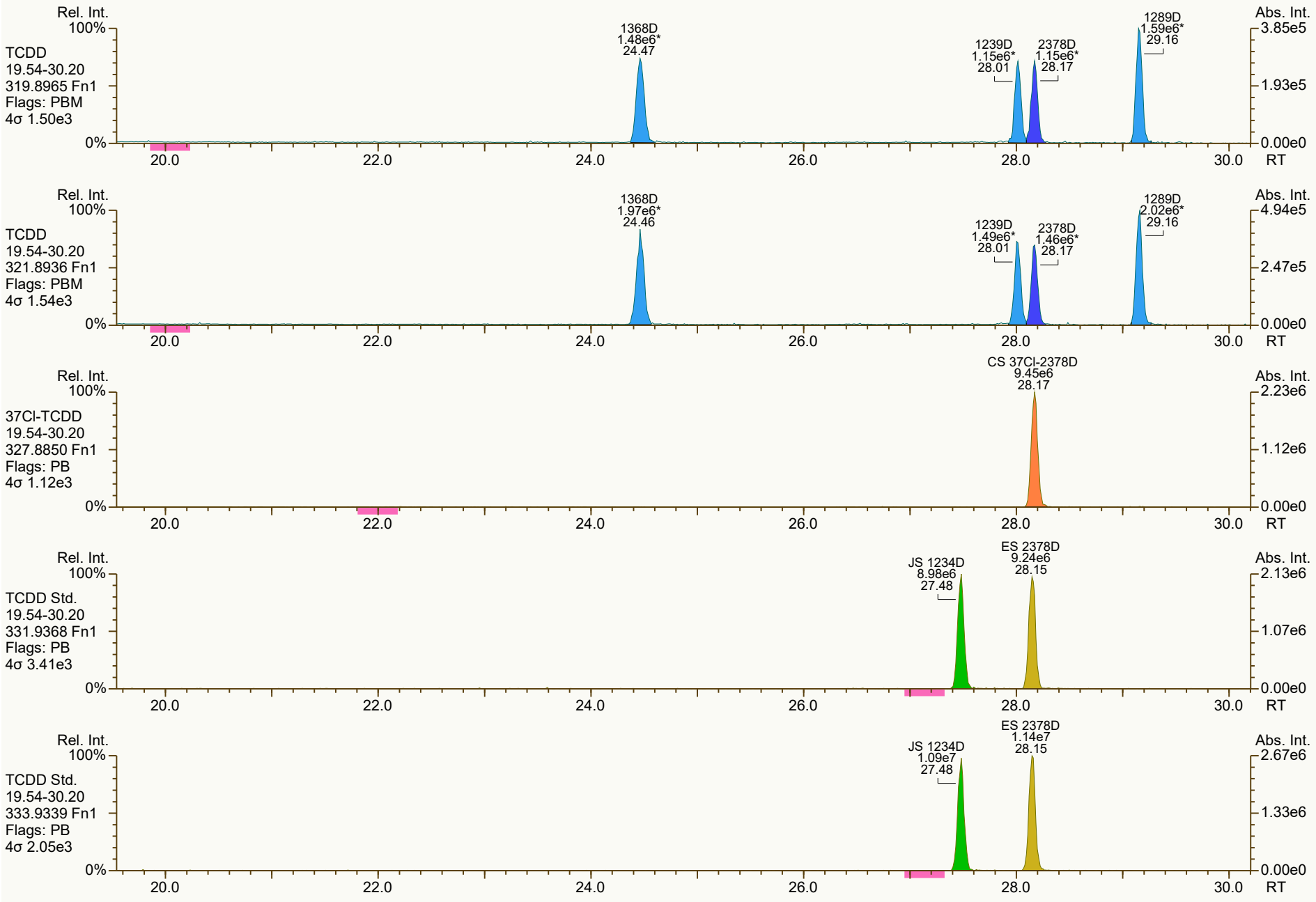
SGS ID: OPR1_18977_DF
Sample ID: 0_18977_OPR001
Acq: 08-Mar-2022 13:41:41
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
User: DTF Datafile: 220308C03

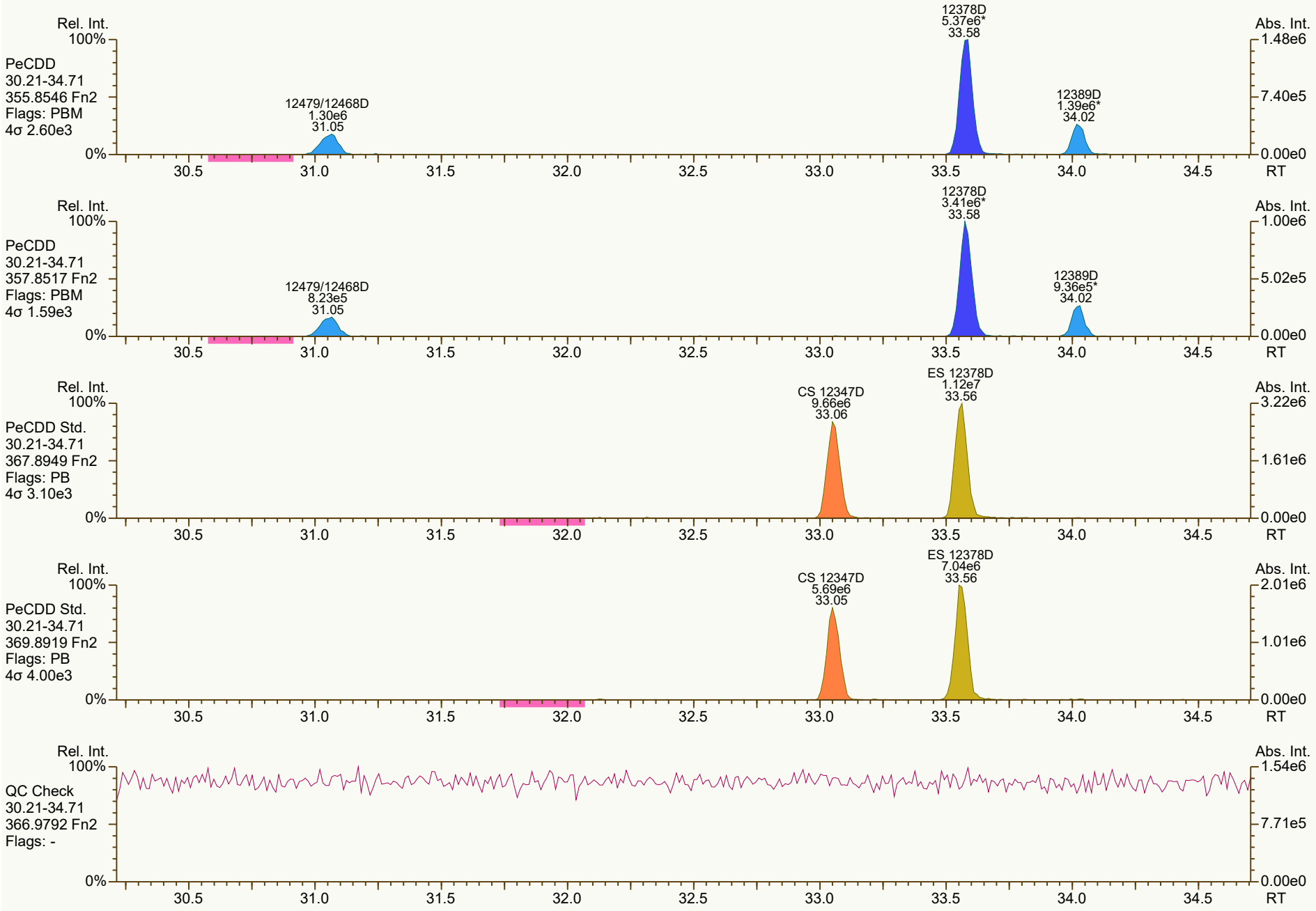




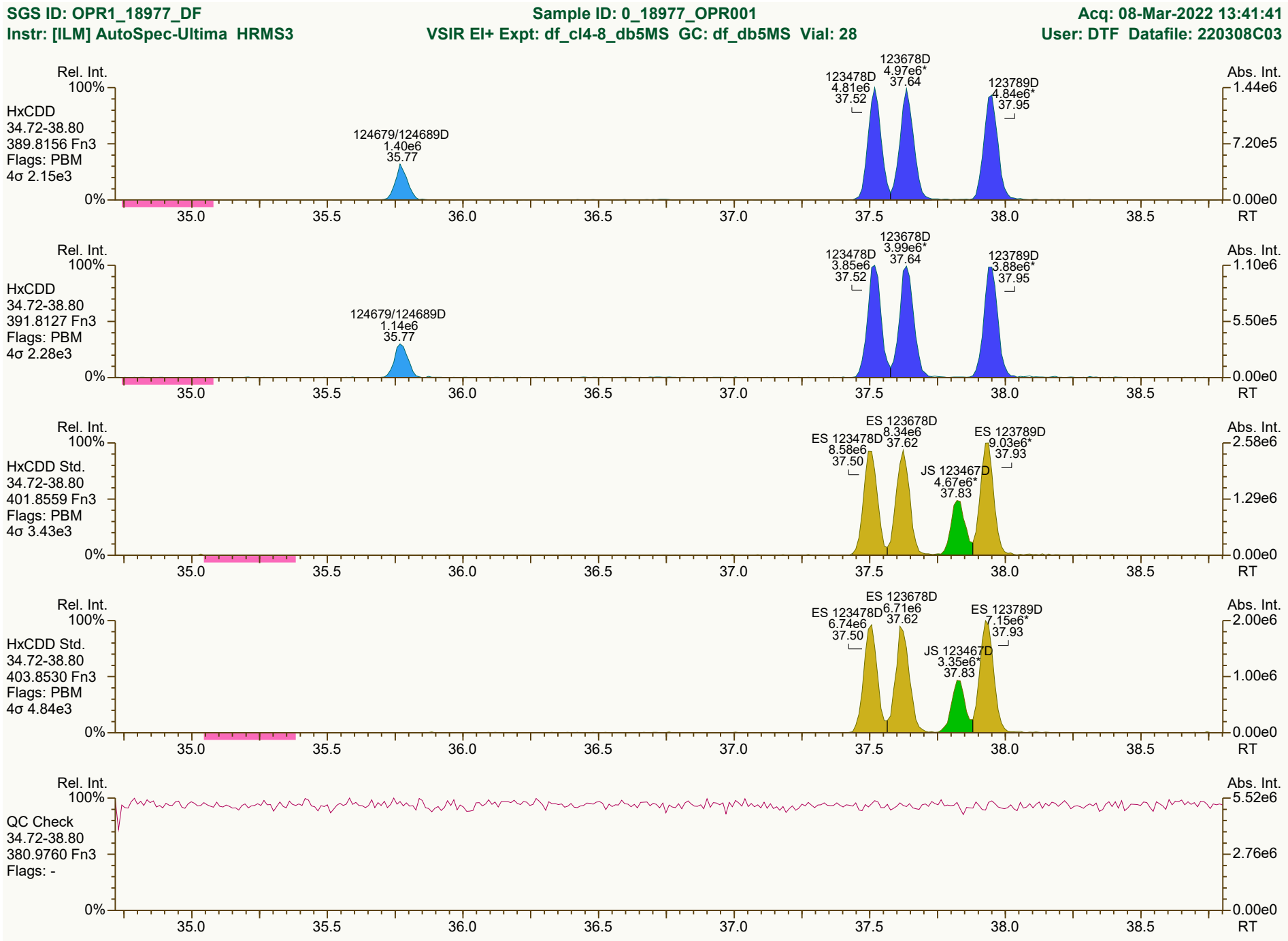
Results: P:\B6300_B6399\B6337\B6337_18977 DF\Resources\OPR1_18977_DF.utp_res, saved 09-Mar-2022 09:24 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616
Revised: 09-Mar-2022 09:06 (DTF) Printed: 09-Mar-2022 09:26

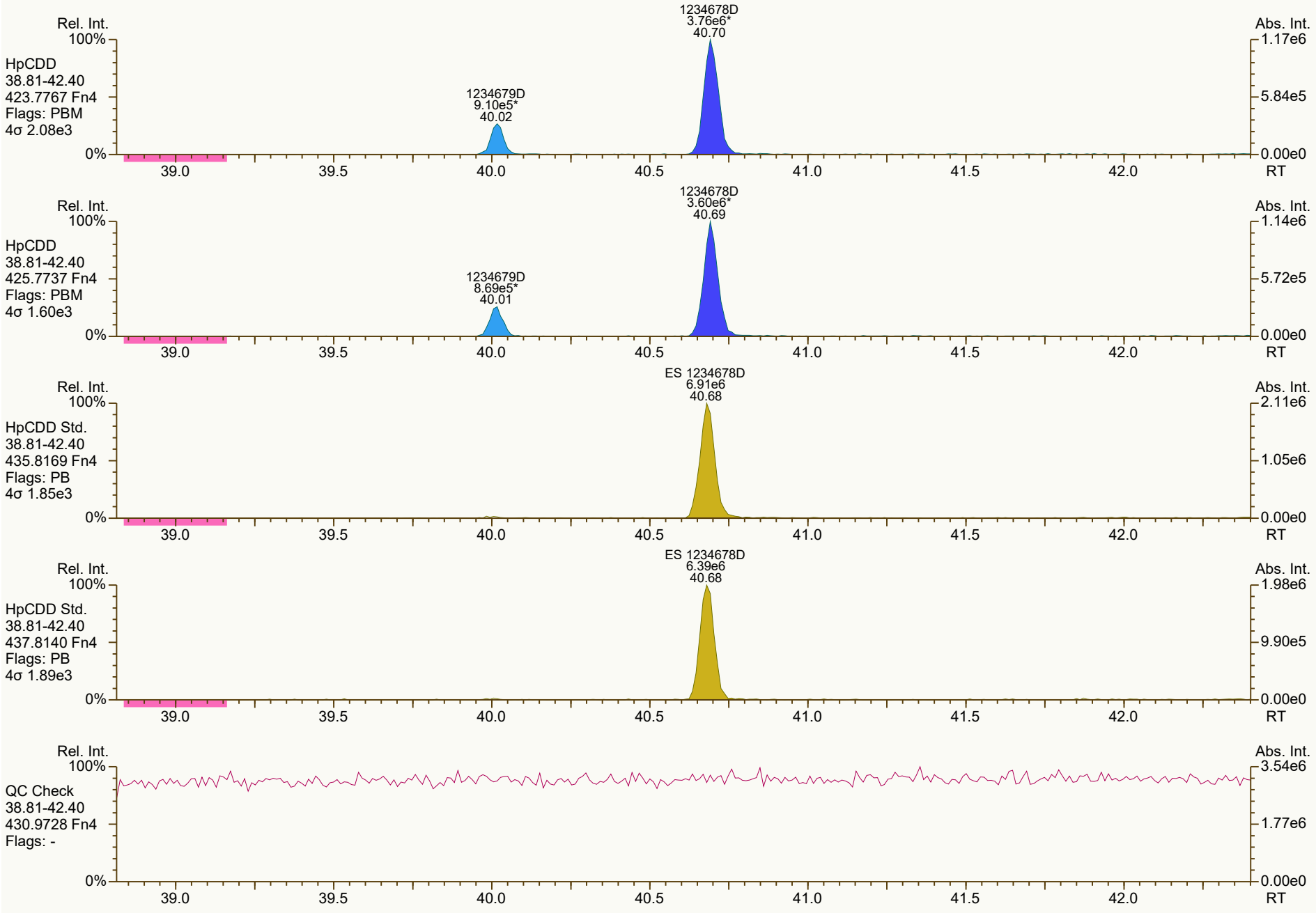

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
Abs. Int.
1.80e6
8.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.54e6
7.71e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
5.52e6
2.76e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
Abs. Int.
3.54e6
1.77e6
0.00e0
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.77e6
1.38e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0
RT

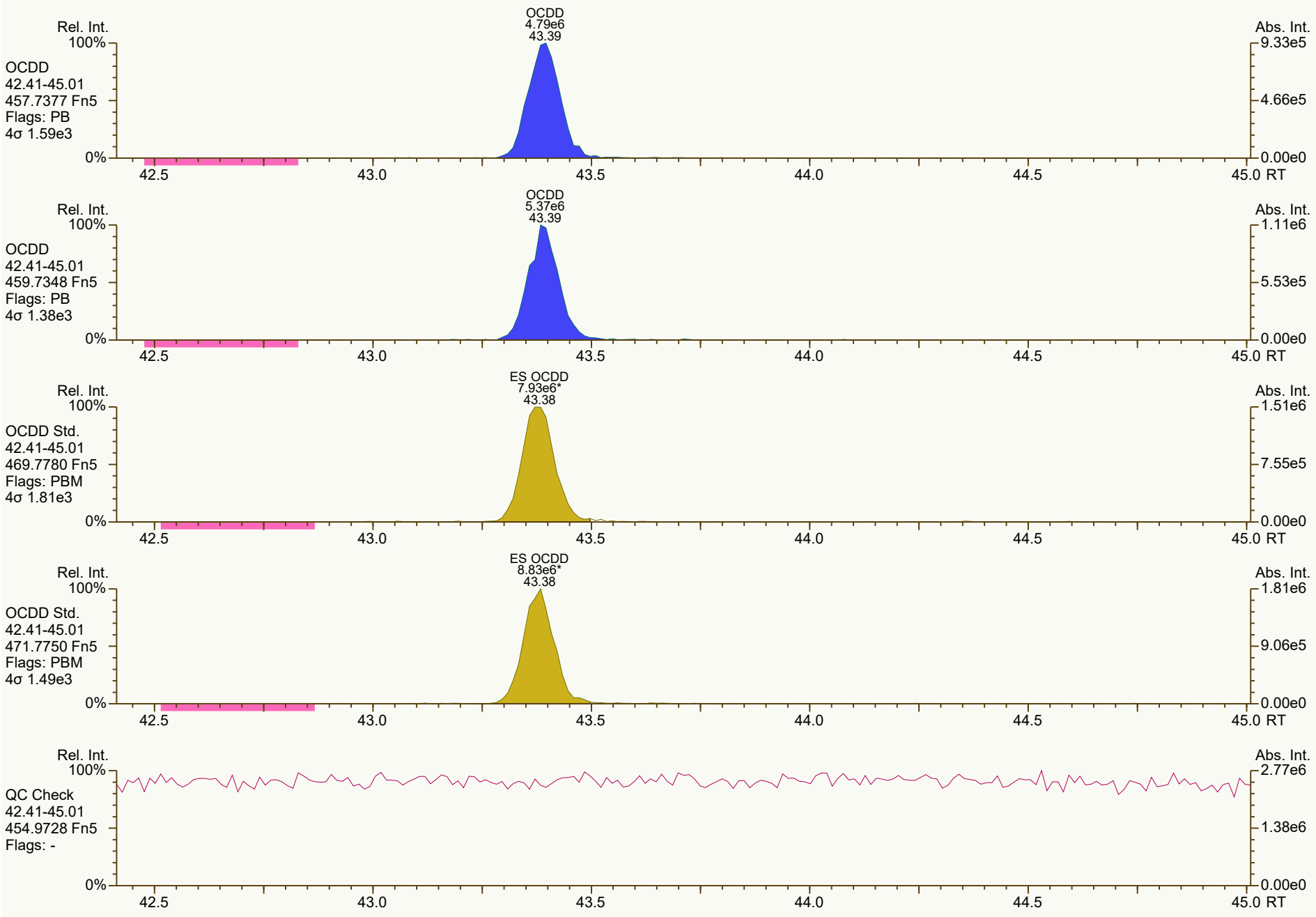

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.50e3
0%
1368D
1.48e6*
24.47
1239D
1.15e6*
28.01
2378D
1.15e6*
28.17
1289D
1.59e6*
29.16
Abs. Int.
3.85e5
1.93e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.54e3
0%
1368D
1.97e6*
24.46
1239D
1.49e6*
28.01
2378D
1.46e6*
28.17
1289D
2.02e6*
29.16
Abs. Int.
4.94e5
2.47e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.12e3
0%
CS 37Cl-2378D
9.45e6
28.17
Abs. Int.
2.23e6
1.12e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 3.41e3
0%
JS 1234D
8.98e6
27.48
ES 2378D
9.24e6
28.15
Abs. Int.
2.13e6
1.07e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.05e3
0%
JS 1234D
1.09e7
27.48
ES 2378D
1.14e7
28.15
Abs. Int.
2.67e6
1.33e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
Abs. Int.
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PBM
4σ 2.60e3
12479/12468D
1.30e6
31.05
12378D
5.37e6*
33.58
12389D
1.39e6*
34.02
1.48e6
7.40e5
0.00e0
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PBM
4σ 1.59e3
12479/12468D
8.23e5
31.05
12378D
3.41e6*
33.58
12389D
9.36e5*
34.02
1.00e6
5.02e5
0.00e0
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 3.10e3
CS 12347D
9.66e6
33.06
ES 12378D
1.12e7
33.56
3.22e6
1.61e6
0.00e0
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 4.00e3
CS 12347D
5.69e6
33.05
ES 12378D
7.04e6
33.56
2.01e6
1.01e6
0.00e0
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
1.54e6
7.71e5
0.00e0
100%
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT

SGS ID: OPR1_18977_DF
Instr: [ILM] AutoSpec-Ultima HRMS3
Sample ID: 0_18977_OPR001
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28
Acq: 08-Mar-2022 13:41:41
User: DTF Datafile: 220308C03

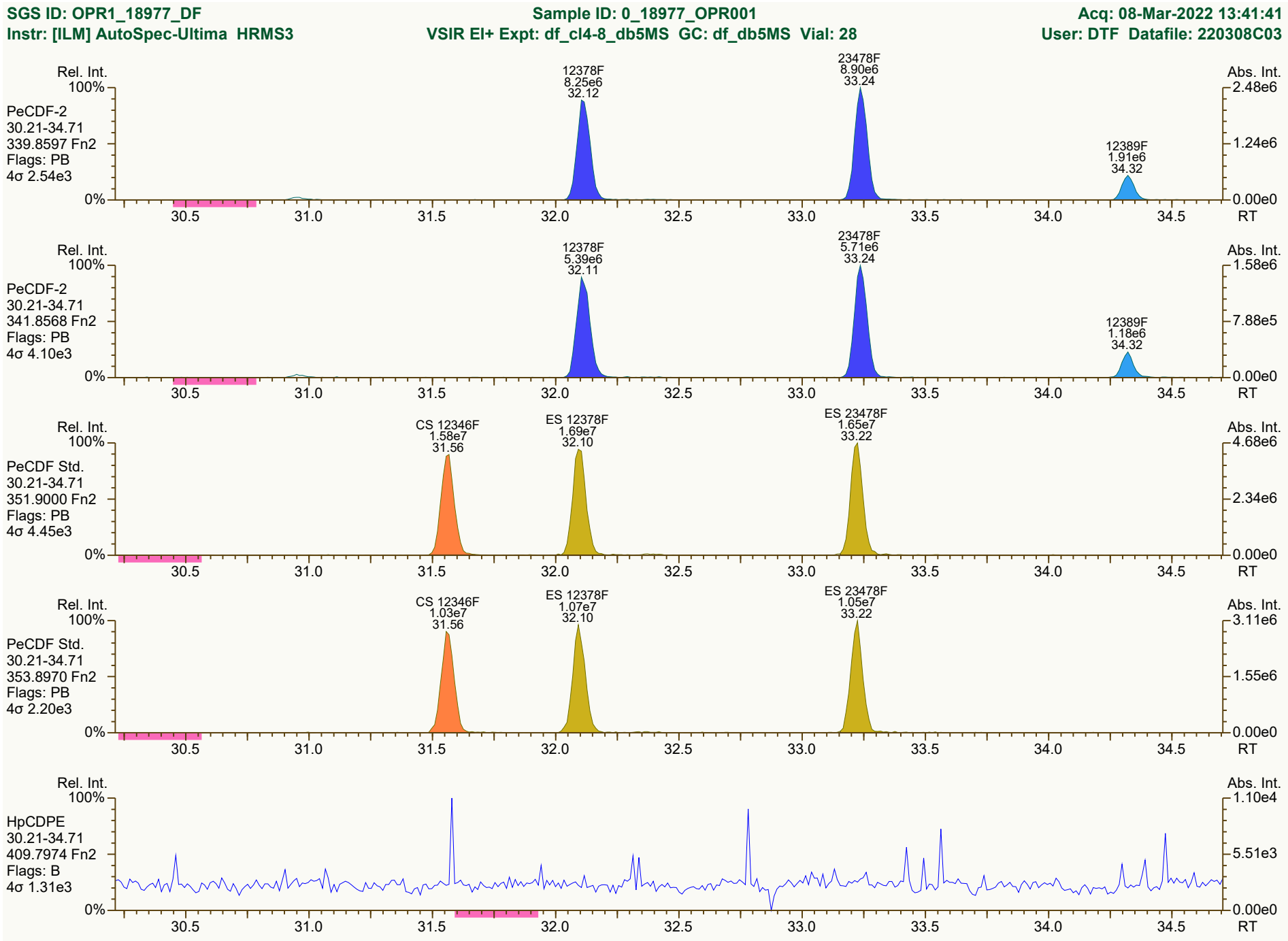



Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 2.08e3
1234678D
3.76e6*
40.70
1234679D
9.10e5*
40.02
Abs. Int.
1.17e6
5.84e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 1.60e3
1234678D
3.60e6*
40.69
1234679D
8.69e5*
40.01
Abs. Int.
1.14e6
5.72e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 1.85e3
ES 1234678D
6.91e6
40.68
Abs. Int.
2.11e6
1.05e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.89e3
ES 1234678D
6.39e6
40.68
Abs. Int.
1.98e6
9.90e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
3.54e6
1.77e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


OCDD
4.79e6
43.39
Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 1.59e3
0%
Abs. Int.
9.33e5
4.66e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDD
5.37e6
43.39
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 1.38e3
0%
Abs. Int.
1.11e6
5.53e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
7.93e6*
43.38
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 1.81e3
0%
Abs. Int.
1.51e6
7.55e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDD
8.83e6*
43.38
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.49e3
0%
Abs. Int.
1.81e6
9.06e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
2.77e6
1.38e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT


Rel. Int.
100%
TCDF
19.54-30.20
303.9016 Fn1
Flags: PBM
4σ 1.52e3
0%
1368F
2.16e6*
22.30
2468F
5.26e5*
23.56
2348F
2.02e6*
27.19
2378F
1.72e6*
27.29
1289F
2.56e6*
29.33
Abs. Int.
5.72e5
2.86e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF
19.54-30.20
305.8987 Fn1
Flags: PBM
4σ 1.13e3
0%
1368F
2.73e6*
22.30
2468F
6.74e5*
23.55
2348F
2.83e6*
27.19
2378F
2.07e6*
27.30
1289F
3.15e6*
29.32
Abs. Int.
7.04e5
3.52e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
315.9419 Fn1
Flags: PBM
4σ 2.49e3
0%
JS 1234F
1.41e7
25.89
ES 2378F
1.38e7*
27.28
Abs. Int.
3.34e6
1.67e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDF Std.
19.54-30.20
317.9389 Fn1
Flags: PB
4σ 2.23e3
0%
JS 1234F
1.74e7
25.89
ES 2378F
1.70e7
27.28
Abs. Int.
3.84e6
1.92e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
HxCDPE
19.54-30.20
375.8364 Fn1
Flags: PB
4σ 1.04e3
0%
Abs. Int.
8.36e3
4.18e3
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT

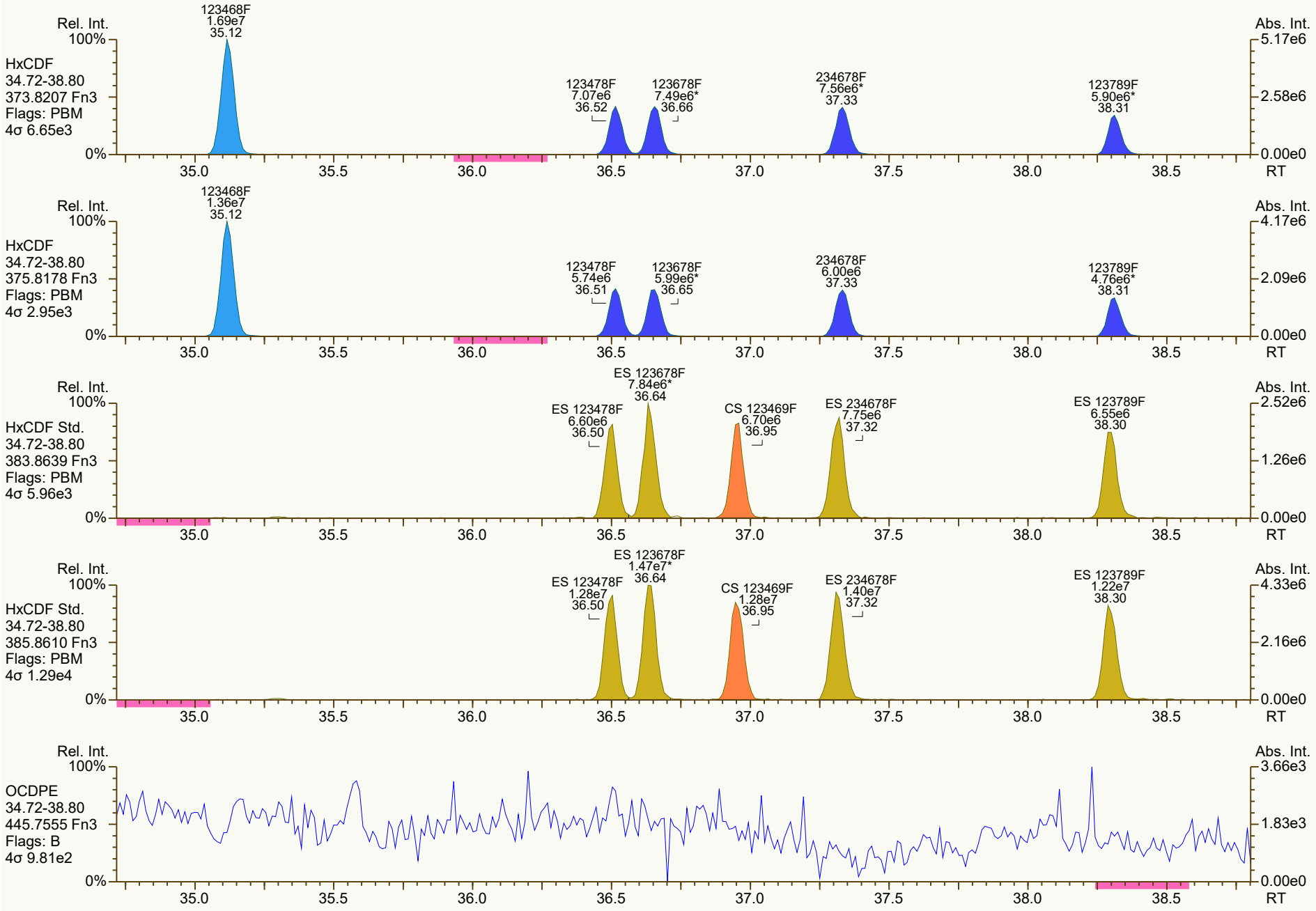

Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
339.8597 Fn1
Flags: PB
4σ 1.22e3
13468/12468F
1.45e7
29.25
Abs. Int.
3.68e6
1.84e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
PeCDF-1
19.54-30.20
341.8568 Fn1
Flags: PB
4σ 1.35e3
13468/12468F
9.44e6
29.25
Abs. Int.
2.37e6
1.19e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
0%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
Abs. Int.
1.80e6
8.99e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT



Results: P:\B6300_B6399\B6337\B6337_18977 DF\Resources\OPR1_18977_DF.utp_res, saved 09-Mar-2022 09:24 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9155, 6353, 4960 scc: 823-705
Revised: 09-Mar-2022 09:06 (DTF) Printed: 09-Mar-2022 09:28 Page 9 of 12

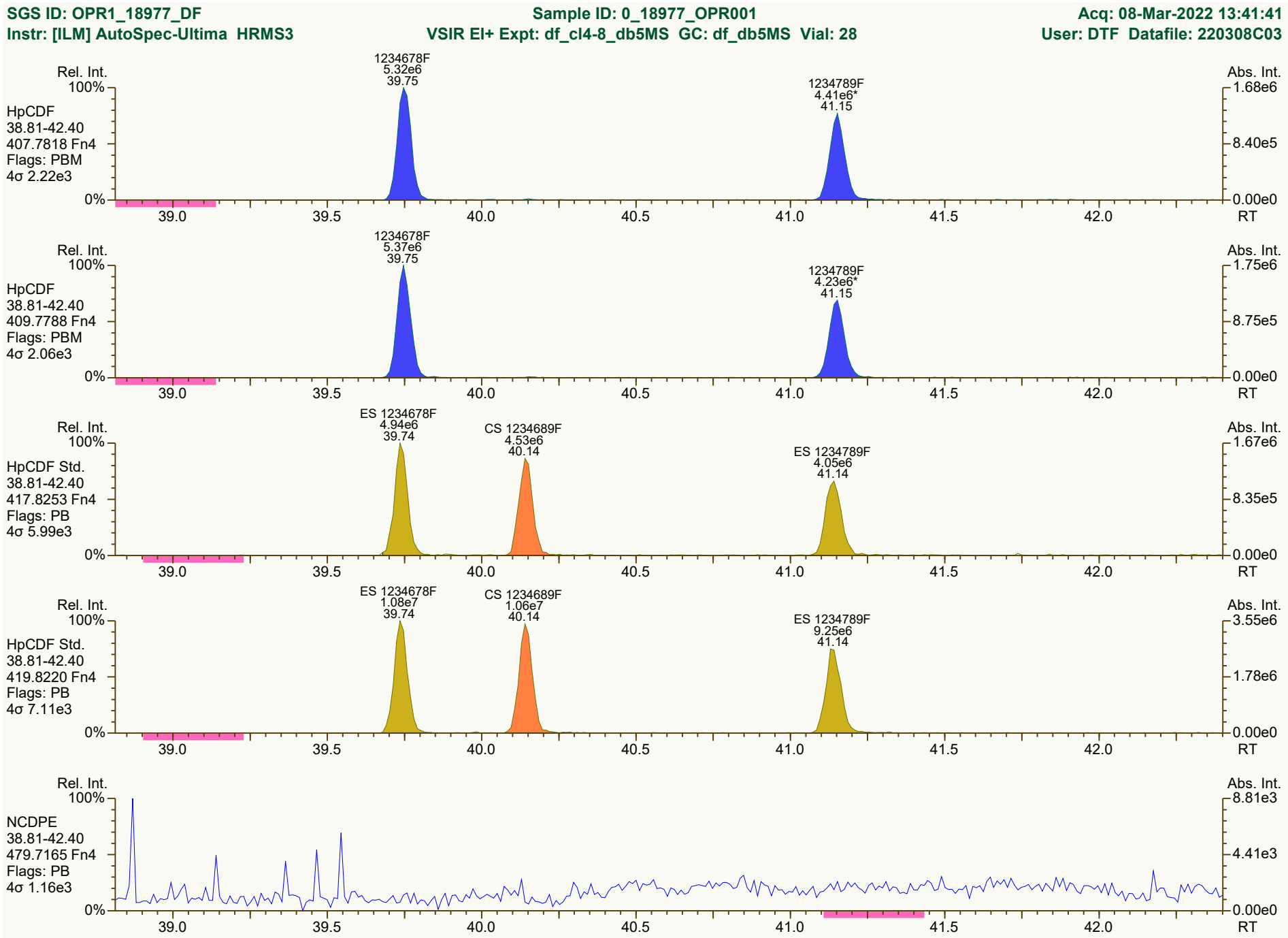
SGS ID: OPR1_18977_DF | Sample ID: 0_18977_OPR001 | Acq: 08-Mar-2022 13:41:41

Instr: [ILM] AutoSpec-Ultima HRMS3 | VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 28 | User: DTF Datafile: 220308C03



Results: P:\B6300_B6399\B6337\B6337_18977 DF\Resources\OPR1_18977_DF.utp_res, saved 09-Mar-2022 09:24 (DTF) | *Peak annotation: Areas, Centroids*

SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 5960, 0784, 2570 scc: 823-705 | *PKD: 09-Mar-2022 09:06 Printed: 09-Mar-2022 09:28 Page 10 of 12*



Results: P:\B6300_B6399\B6337\B6337_18977 DF\Resources\OPR1_18977_DF.utp_res, saved 09-Mar-2022 09:24 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 7391, 7377, 2312 scc: 823-705
Revised: 09-Mar-2022 09:06 (DTF) Printed: 09-Mar-2022 09:28 Page 11 of 12


OCDF
6.08e6
43.57
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 9.67e2
0%
Abs. Int.
1.19e6
5.97e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
6.63e6
43.57
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 2.32e3
1.38e6
6.92e5
ES OCDF
1.08e7*
43.56
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PBM
4σ 1.43e3
2.05e6
1.02e6
ES OCDF
1.23e7*
43.56
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PBM
4σ 1.50e3
2.52e6
1.26e6
DCDPE
42.41-45.01
513.6775 Fn5
Flags: PB
4σ 1.26e3
3.73e3
1.86e3

Lab ID: OPR2_18977_DF **Acq'd: 08 Mar 2022 14:27 DTF** **Wt/Vol: 1 uL** **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18977_OPR002 **UTP: 09-Mar-2022 09:24:16 DTF** **J-level: 0.25 pg/uL** **Split: 1** **Checkcode: 479-004-CKK**

Datafile: 220308C04 **Report: 09 Mar 2022 09:24 TF** **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
2378-TCDD	28.15		1.0008	1.0008	0	3.59E+06	0.76	Y	1.18	11.8	2577.83	0.0889
12378-PeCDD	33.57		1.0007	1.0006	-0.2	1.23E+07	1.52	Y	1.04	49.6	3065.155	0.11
123478-HxCDD	37.50		1.0004	1.0004	0	1.20E+07	1.30	Y	1.09	54.2	2977.439	0.116
123678-HxCDD	37.62		1.0036	1.0036	0	1.24E+07	1.25	Y	1.15	55.2	2977.439	0.125
123789-HxCDD	37.93		1.0118	1.0119	+0.2	1.18E+07	1.29	Y	1.05	51	2977.439	0.109
1234678-HpCDD	40.68		1.0002	1.0003	+0.2	1.02E+07	1.06	Y	1.06	53.4	2274.368	0.0999
OCDD	43.37		1.0003	1.0003	0	1.38E+07	0.92	Y	1.13	112	2712.807	0.27
2378-TCDF	27.28		1.0008	1.0008	0	4.76E+06	0.77	Y	1.08	11.1	2161.9385	0.0571
12378-PeCDF	32.10		1.0005	1.0005	0	1.88E+07	1.57	Y	1.02	51.1	5144.93	0.128
23478-PeCDF	33.22		1.0005	1.0005	0	2.03E+07	1.56	Y	1.02	54.9	5144.93	0.123
123478-HxCDF	36.50		1.0004	1.0005	+0.2	1.70E+07	1.25	Y	1.27	52.3	6189.336	0.159
123678-HxCDF	36.64		1.0004	1.0004	0	1.80E+07	1.23	Y	1.15	51.3	6189.336	0.151
234678-HxCDF	37.32		1.0005	1.0005	0	1.94E+07	1.23	Y	1.19	54.3	6189.336	0.145
123789-HxCDF	38.30		1.0004	1.0004	0	1.43E+07	1.24	Y	1.16	48.7	6189.336	0.179
1234678-HpCDF	39.74		1.0003	1.0003	0	1.45E+07	1.01	Y	1.37	50.6	2838.953	0.0695
1234789-HpCDF	41.13		1.0003	1.0002	-0.2	1.18E+07	1.06	Y	1.31	52.4	2838.953	0.116
OCDF	43.54		1.0002	1.0002	0	1.68E+07	0.90	Y	1.07	103	3125.69	0.238

Name	Act RT	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
ES 2378-TCDD	28.13	1.0243	1.0244	+0.2	2.56E+07	0.84	Y	1.05	96.3
ES 12378-PeCDD	33.55	1.2198	1.2219	+4.2	2.40E+07	1.69	Y	0.88	107
ES 123478-HxCDD	37.49	0.9916	0.9914	-0.4	2.03E+07	1.26	Y	0.97	101
ES 123678-HxCDD	37.61	0.9947	0.9946	-0.2	1.95E+07	1.25	Y	0.94	99.9
ES 123789-HxCDD	37.92	1.0029	1.0028	-0.2	2.21E+07	1.29	Y	1.09	97.8
ES 1234678-HpCDD	40.66	1.0749	1.0755	+1.5	1.80E+07	1.11	Y	0.91	94.9
ES OCDD	43.36	1.1460	1.1467	+1.8	2.19E+07	0.90	Y	0.62	84.7
ES 2378-TCDF	27.25	1.0531	1.0537	+1.0	3.97E+07	0.80	Y	1.06	94.1
ES 12378-PeCDF	32.08	1.2378	1.2403	+4.8	3.59E+07	1.56	Y	0.91	99.1
ES 23478-PeCDF	33.21	1.2810	1.2839	+5.8	3.63E+07	1.57	Y	0.88	103
ES 123478-HxCDF	36.48	0.9650	0.9649	-0.2	2.56E+07	0.56	Y	1.20	103
ES 123678-HxCDF	36.63	0.9688	0.9686	-0.4	3.04E+07	0.52	Y	1.35	108
ES 234678-HxCDF	37.30	0.9866	0.9865	-0.2	3.01E+07	0.54	Y	1.24	117
ES 123789-HxCDF	38.28	1.0125	1.0125	0	2.52E+07	0.55	Y	1.16	105
ES 1234678-HpCDF	39.72	1.0501	1.0506	+1.2	2.10E+07	0.47	Y	0.97	104
ES 1234789-HpCDF	41.12	1.0870	1.0875	+1.2	1.72E+07	0.45	Y	0.85	97.6
ES OCDF	43.53	1.1505	1.1512	+1.8	3.03E+07	0.91	Y	0.81	90.5

Lab ID: OPR2_18977_DF | **Acq'd:** 08 Mar 2022 14:27 DTF | **Wt/Vol:** 1 uL | **ICAL:** HRMS3_DF_10272021 10NOV2021

Client ID: 0_18977_OPR002 | **UTP:** 09-Mar-2022 09:24:16 DTF | **J-level:** 0.25 pg/uL | **Split:** 1 | **Checkcode:** 479-004-CKK

Datafile: 220308C04 | **Report:** 09 Mar 2022 09:24 TF | **Stds (pg):** JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Rec. %
JS 1234-TCDD	27.46		-	-	-	2.54E+07	0.83	Y	-	-
JS 1234-TCDF	25.86		-	-	-	3.98E+07	0.82	Y	-	-
JS 123467-HxCDD	37.81		-	-	-	1.04E+07	1.29	Y	-	-
CS 37Cl-2378-TCDD	28.15		1.0251	1.0253	+0.3	1.23E+07	n/a	-	1.20	101
CS 12347-PeCDD	33.04		1.2016	1.2034	+3.6	2.13E+07	1.58	Y	0.75	111
CS 12346-PeCDF	31.55		1.2172	1.2196	+4.5	3.62E+07	1.57	Y	0.85	107
CS 123469-HxCDF	36.94		0.9771	0.9769	-0.4	2.66E+07	0.52	Y	1.12	115
CS 1234689-HpCDF	40.13		1.0608	1.0613	+1.2	2.02E+07	0.47	Y	0.89	110
~~SS 37Cl-2378-TCDD~~	~~28.15~~		~~1.0251~~	~~1.0253~~	~~+0.3~~	~~1.23E+07~~	~~n/a~~		~~1.15~~	~~105~~
~~SS 12347-PeCDD~~	~~33.04~~		~~1.2016~~	~~1.2034~~	~~+3.6~~	~~2.13E+07~~	~~1.58~~	~~Y~~	~~0.86~~	~~103~~
~~SS 12346-PeCDF~~	~~31.55~~		~~1.2172~~	~~1.2196~~	~~+4.5~~	~~3.62E+07~~	~~1.57~~	~~Y~~	~~0.94~~	~~108~~
~~SS 123469-HxCDF~~	~~36.94~~		~~0.9771~~	~~0.9769~~	~~-0.4~~	~~2.66E+07~~	~~0.52~~	~~Y~~	~~0.83~~	~~106~~
~~SS 1234689-HpCDF~~	~~40.13~~		~~1.0608~~	~~1.0613~~	~~+1.2~~	~~2.02E+07~~	~~0.47~~	~~Y~~	~~0.92~~	~~105~~

Totals	Conc	EMPC
Total TCDD	54.2	54.2
Total PeCDD	74.5	74.5
Total HxCDD	176	176
Total HpCDD	65.9	65.9
Total Tetra-Octa Dioxins	483	483
Total TCDF	63.5	63.5
Total PeCDF	207	207
Total HxCDF	334	334
Total HpCDF	103	103
Total Tetra-Octa Furans	810	810
Total Tetra-Octa Dioxins & Furans	1290	1290

* 37Cl correction has been applied to 2378-TCDD

	Original Values	Corrected Values
Ratio	0.761	0.76
Response	3.60E+06	3.59E+06

Lab ID: OPR2_18977_DF | **Acq'd: 08 Mar 2022 14:27 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18977_OPR002 | **UTP: 09-Mar-2022 09:24:16 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 479-004-CKK**

Datafile: 220308C04 | **Report: 09 Mar 2022 09:24 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1368-TCDD	24.43		0.8701	0.8687	-2.1	4.55E+06	0.82	Y	1.18	15	2577.83	0.0889
1379-TCDD	NotFnd		0.8829						1.18		2577.83	0.0889
1369-TCDD	NotFnd		0.8982						1.18		2577.83	0.0889
1469-TCDD	NotFnd		0.9261						1.18		2577.83	0.0889
1247/1246/1248/1249-TCDD	NotFnd		0.9348						1.18		2577.83	0.0889
1378-TCDD	NotFnd		0.9417						1.18		2577.83	0.0889
1268-TCDD	NotFnd		0.9487						1.18		2577.83	0.0889
1478-TCDD	NotFnd		0.9576						1.18		2577.83	0.0889
1279-TCDD	NotFnd		0.9636						1.18		2577.83	0.0889
1234/1269-TCDD	NotFnd		0.9761						1.18		2577.83	0.0889
1236-TCDD	NotFnd		0.9812						1.18		2577.83	0.0889
1237/1238-TCDD	NotFnd		0.9905						1.18		2577.83	0.0889
1239-TCDD	27.99		0.9951	0.9952	+0.2	3.39E+06	0.78	Y	1.18	11.2	2577.83	0.0889
2378-TCDD	**28.15**		**1.0008**	1.0008	**0**	3.59E+06	0.76	Y	**1.18**	**11.8**	**2577.83**	**0.0889**
1278-TCDD	NotFnd		1.0124						1.18		2577.83	0.0889
1267-TCDD	NotFnd		1.0172						1.18		2577.83	0.0889
1289-TCDD	29.14		1.0354	1.0360	+1.0	4.91E+06	0.81	Y	1.18	16.2	2577.83	0.0889
12479/12468-PeCDD	31.04		0.9255	0.9252	-0.6	2.91E+06	1.54	Y	1.04	11.7	3065.155	0.11
12469-PeCDD	NotFnd		0.9416						1.04		3065.155	0.11
12368-PeCDD	NotFnd		0.9582						1.04		3065.155	0.11
12478-PeCDD	NotFnd		0.9637						1.04		3065.155	0.11
12379-PeCDD	NotFnd		0.9668						1.04		3065.155	0.11
12369/12467/12489-PeCDD	NotFnd		0.9746						1.04		3065.155	0.11
12346/12347-PeCDD	NotFnd		0.9858						1.04		3065.155	0.11
12378-PeCDD	33.57		**1.0007**	**1.0006**	**-0.2**	**1.23E+07**	**1.52**	**Y**	**1.04**	**49.6**	**3065.155**	**0.11**
12367-PeCDD	NotFnd		1.0036						1.04		3065.155	0.11
12389-PeCDD	34.01		1.0137	1.0138	+0.2	3.30E+06	1.65	Y	1.04	13.3	3065.155	0.11
124679/124689-HxCDD	35.76		0.9540	0.9539	-0.2	3.57E+06	1.19	Y	1.10	15.8	2977.439	0.116
123468-HxCDD	NotFnd		0.9715						1.10		2977.439	0.116
123679/123689-HxCDD	NotFnd		0.9793						1.10		2977.439	0.116
123469-HxCDD	NotFnd		0.9829						1.10		2977.439	0.116
123478-HxCDD	37.50		**1.0004**	**1.0004**	**0**	**1.20E+07**	**1.30**	**Y**	1.09	**54.2**	**2977.439**	**0.116**
123678-HxCDD	37.62		**1.0036**	**1.0036**	**0**	**1.24E+07**	**1.25**	**Y**	1.15	**55.2**	**2977.439**	**0.125**
123467-HxCDD	NotFnd		1.0089						1.10		2977.439	0.116
123789-HxCDD	37.93		**1.0118**	**1.0119**	**+0.2**	**1.18E+07**	**1.29**	**Y**	1.05	**51**	**2977.439**	**0.109**

Lab ID: OPR2_18977_DF | **Acq'd: 08 Mar 2022 14:27 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18977_OPR002 | **UTP: 09-Mar-2022 09:24:16 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 479-004-CKK**

Datafile: 220308C04 | **Report: 09 Mar 2022 09:24 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
1234679-HpCDD	40.00		0.9836	0.9836	0	2.38E+06	0.99	Y	1.06	12.5	2274.368	0.0999
1234678-HpCDD	**40.68**		**1.0002**	**1.0003**	**+0.2**	**1.02E+07**	**1.06**	**Y**	**1.06**	**53.4**	**2274.368**	**0.0999**
OCDD	**43.37**		**1.0003**	**1.0003**	**0**	**1.38E+07**	**0.92**	**Y**	**1.13**	**112**	**2712.807**	**0.27**
OCDD-a	43.37	**EMPC**	1.0002	1.0002	0	7.34E+05	2.03	N	0.07	92.9	3134.192	4.87
1368-TCDF	22.26		0.8191	0.8169	-2.9	6.29E+06	0.79	Y	1.08	14.7	2161.9385	0.0571
1468-TCDF	NotFnd		0.8408						1.08		2161.9385	0.0571
2468-TCDF	23.52		0.8645	0.8628	-2.4	1.63E+06	0.77	Y	1.08	3.81	2161.9385	0.0571
1346/1246-TCDF	NotFnd		0.8772						1.08		2161.9385	0.0571
1347/1378/1247-TCDF	NotFnd		0.8833						1.08		2161.9385	0.0571
1348-TCDF	NotFnd		0.8932						1.08		2161.9385	0.0571
1248/1367/1379-TCDF	NotFnd		0.8980						1.08		2161.9385	0.0571
1268-TCDF	NotFnd		0.9119						1.08		2161.9385	0.0571
1467-TCDF	NotFnd		0.9170						1.08		2161.9385	0.0571
1478-TCDF	NotFnd		0.9234						1.08		2161.9385	0.0571
1369/1237-TCDF	NotFnd		0.9369						1.08		2161.9385	0.0571
2467-TCDF	NotFnd		0.9415						1.08		2161.9385	0.0571
2368-TCDF	NotFnd		0.9475						1.08		2161.9385	0.0571
1238/1234/1678/1469/1236-TCDF	NotFnd		0.9507						1.08		2161.9385	0.0571
1278-TCDF	NotFnd		0.9676						1.08		2161.9385	0.0571
1349-TCDF	NotFnd		0.9722						1.08		2161.9385	0.0571
1267-TCDF	NotFnd		0.9777						1.08		2161.9385	0.0571
2346/1249-TCDF	NotFnd		0.9843						1.08		2161.9385	0.0571
2347/1279-TCDF	NotFnd		0.9926						1.08		2161.9385	0.0571
2348-TCDF	27.16		0.9968	0.9967	-0.2	6.75E+06	0.80	Y	1.08	15.8	2161.9385	0.0571
2378-TCDF	**27.28**		**1.0008**	**1.0008**	**0**	**4.76E+06**	**0.77**	**Y**	**1.08**	**11.1**	**2161.9385**	**0.0571**
2367/3467-TCDF	NotFnd		1.0142						1.08		2161.9385	0.0571
1269-TCDF	NotFnd		1.0235						1.08		2161.9385	0.0571
1239-TCDF	NotFnd		1.0329						1.08		2161.9385	0.0571
1289-TCDF	29.30		1.0742	1.0752	+1.8	7.77E+06	0.78	Y	1.08	18.2	2161.9385	0.0571
13468/12468-PeCDF	29.23		0.9122	0.9112	-1.8	3.28E+07	1.57	Y	1.02	88.8	2657.8	0.065
13678/13467/12467-PeCDF	NotFnd		0.9606						1.02		5144.93	0.126
12368/13478/12478-PeCDF	NotFnd		0.9655						1.02		5144.93	0.126
14678-PeCDF	NotFnd		0.9685						1.02		5144.93	0.126
13479-PeCDF	NotFnd		0.9716						1.02		5144.93	0.126
13469/12479-PeCDF	NotFnd		0.9794						1.02		5144.93	0.126
12346-PeCDF	NotFnd		0.9836						1.02		5144.93	0.126

Lab ID: OPR2_18977_DF | **Acq'd: 08 Mar 2022 14:27 DTF** | **Wt/Vol: 1 uL** | **ICAL: HRMS3_DF_10272021 10NOV2021**

Client ID: 0_18977_OPR002 | **UTP: 09-Mar-2022 09:24:16 DTF** | **J-level: 0.25 pg/uL** | **Split: 1** | **Checkcode: 479-004-CKK**

Datafile: 220308C04 | **Report: 09 Mar 2022 09:24 TF** | **Stds (pg): JS: 100 ES: 100 CS/SS: 100, 40 (37Cl)**

Name	Act RT	QC	Pred. RRT	Act. RRT	ΔSecs	Response	Ra	OK	RRF	Conc.	Noise	DL
23468/12469-PeCDF	NotFnd		0.9866						1.02		5144.93	0.126
12347-PeCDF	NotFnd		0.9891						1.02		5144.93	0.126
12348-PeCDF	NotFnd		0.9938						1.02		5144.93	0.126
12378-PeCDF	**32.10**		**1.0005**	**1.0005**	**0**	**1.88E+07**	**1.57**	**Y**	**1.02**	**51.1**	**5144.93**	**0.128**
12678/12367-PeCDF	NotFnd		1.0091						1.02		5144.93	0.126
12379-PeCDF	NotFnd		1.0144						1.02		5144.93	0.126
12679-PeCDF	NotFnd		0.9927						1.02		5144.93	0.126
23467/12369-PeCDF	NotFnd		0.9965						1.02		5144.93	0.126
23478-PeCDF	**33.22**		**1.0005**	**1.0005**	**0**	**2.03E+07**	**1.56**	**Y**	**1.02**	**54.9**	**5144.93**	**0.123**
23478/12489-PeCDF	NotFnd		0.0000						1.02			
12489-PeCDF	NotFnd		1.0029						1.02		5144.93	0.126
12349-PeCDF	NotFnd		1.0101						1.02		5144.93	0.126
12389-PeCDF	34.31		1.0330	1.0332	+0.4	4.39E+06	1.56	Y	1.02	11.9	5144.93	0.126
123468-HxCDF	35.10		0.9622	0.9621	-0.2	4.21E+07	1.23	Y	1.19	127	6189.336	0.157
124678/134678-HxCDF	NotFnd		0.9678						1.19		6189.336	0.157
134679-HxCDF	NotFnd		0.9741						1.19		6189.336	0.157
124679-HxCDF	NotFnd		0.9795						1.19		6189.336	0.157
124689-HxCDF	NotFnd		0.9856						1.19		6189.336	0.157
123467-HxCDF	NotFnd		0.9972						1.19		6189.336	0.157
123478-HxCDF	**36.50**		**1.0004**	**1.0005**	**+0.2**	**1.70E+07**	**1.25**	**Y**	**1.27**	**52.3**	**6189.336**	**0.159**
123678-HxCDF	**36.64**		**1.0004**	**1.0004**	**0**	**1.80E+07**	**1.23**	**Y**	**1.15**	**51.3**	**6189.336**	**0.151**
123479-HxCDF	NotFnd		1.0048						1.19		6189.336	0.157
123469-HxCDF	NotFnd		1.0089						1.19		6189.336	0.157
123679-HxCDF	NotFnd		0.9942						1.19		6189.336	0.157
234678-HxCDF	**37.32**		**1.0005**	**1.0005**	**0**	**1.94E+07**	**1.23**	**Y**	**1.19**	**54.3**	**6189.336**	**0.145**
234678/123689-HxCDF	NotFnd		0.0000						1.19			
123689-HxCDF	NotFnd		1.0054						1.19		6189.336	0.157
123789-HxCDF	**38.30**		**1.0004**	**1.0004**	**0**	**1.43E+07**	**1.24**	**Y**	**1.16**	**48.7**	**6189.336**	**0.179**
123789/123489-HxCDF	NotFnd		0.0000						1.16			
123489-HxCDF	NotFnd		1.0006						1.19		6189.336	0.157
1234678-HpCDF	**39.74**		**1.0003**	**1.0003**	**0**	**1.45E+07**	**1.01**	**Y**	**1.37**	**50.6**	**2838.953**	**0.0695**
1234679-HpCDF	NotFnd		1.0068						1.34		2838.953	0.09
1234689-HpCDF	NotFnd		1.0104						1.34		2838.953	0.09
1234789-HpCDF	**41.13**		**1.0003**	**1.0002**	**-0.2**	**1.18E+07**	**1.06**	**Y**	**1.31**	**52.4**	**2838.953**	**0.116**
OCDF	**43.54**		**1.0002**	**1.0002**	**0**	**1.68E+07**	**0.90**	**Y**	**1.07**	**103**	**3125.69**	**0.238**
OCDF-a	43.54	**EMPC**	1.0001	1.0002	+0.3	8.24E+05	3.20	N	0.07	81.8	3423.992	4.21

METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8A**

Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220308C04	Analysis Date:	08-MAR-2022 14:27:53
Lab ID:	OPR2_18977_DF		

NATIVE ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
2,3,7,8-TCDD	10	11.8	6.7	-	15.8	Y
1,2,3,7,8-PeCDD	50	49.6	35	-	71	Y
1,2,3,4,7,8-HxCDD	50	54.2	35	-	82	Y
1,2,3,6,7,8-HxCDD	50	55.2	38	-	67	Y
1,2,3,7,8,9-HxCDD	50	51	32	-	81	Y
1,2,3,4,6,7,8-HpCDD	50	53.4	35	-	70	Y
OCDD	100	112	78	-	144	Y
2,3,7,8-TCDF	10	11.1	7.5	-	15.8	Y
1,2,3,7,8-PeCDF	50	51.1	40	-	67	Y
2,3,4,7,8-PeCDF	50	54.9	34	-	80	Y
1,2,3,4,7,8-HxCDF	50	52.3	36	-	67	Y
1,2,3,6,7,8-HxCDF	50	51.3	42	-	65	Y
2,3,4,6,7,8-HxCDF	50	54.3	35	-	78	Y
1,2,3,7,8,9-HxCDF	50	48.7	39	-	65	Y
1,2,3,4,6,7,8-HpCDF	50	50.6	41	-	61	Y
1,2,3,4,7,8,9-HpCDF	50	52.4	39	-	69	Y
OCDF	100	103	63	-	170	Y

Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

Processed: 09 Mar 2022 09:24 Analyst: TF

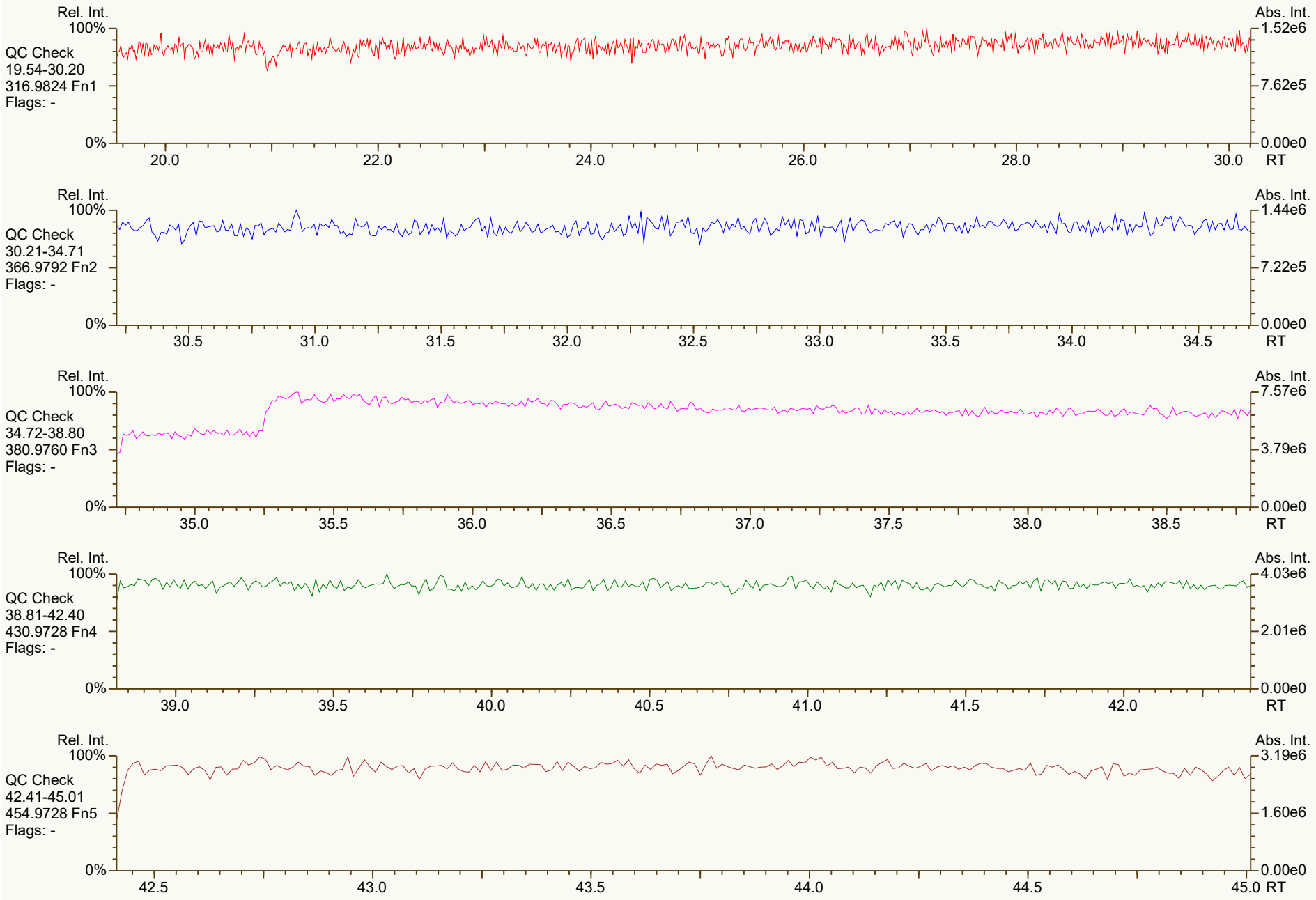
METHOD 1613B **PCDD/F ONGOING PRECISION AND RECOVERY (OPR)** **FORM 8B**

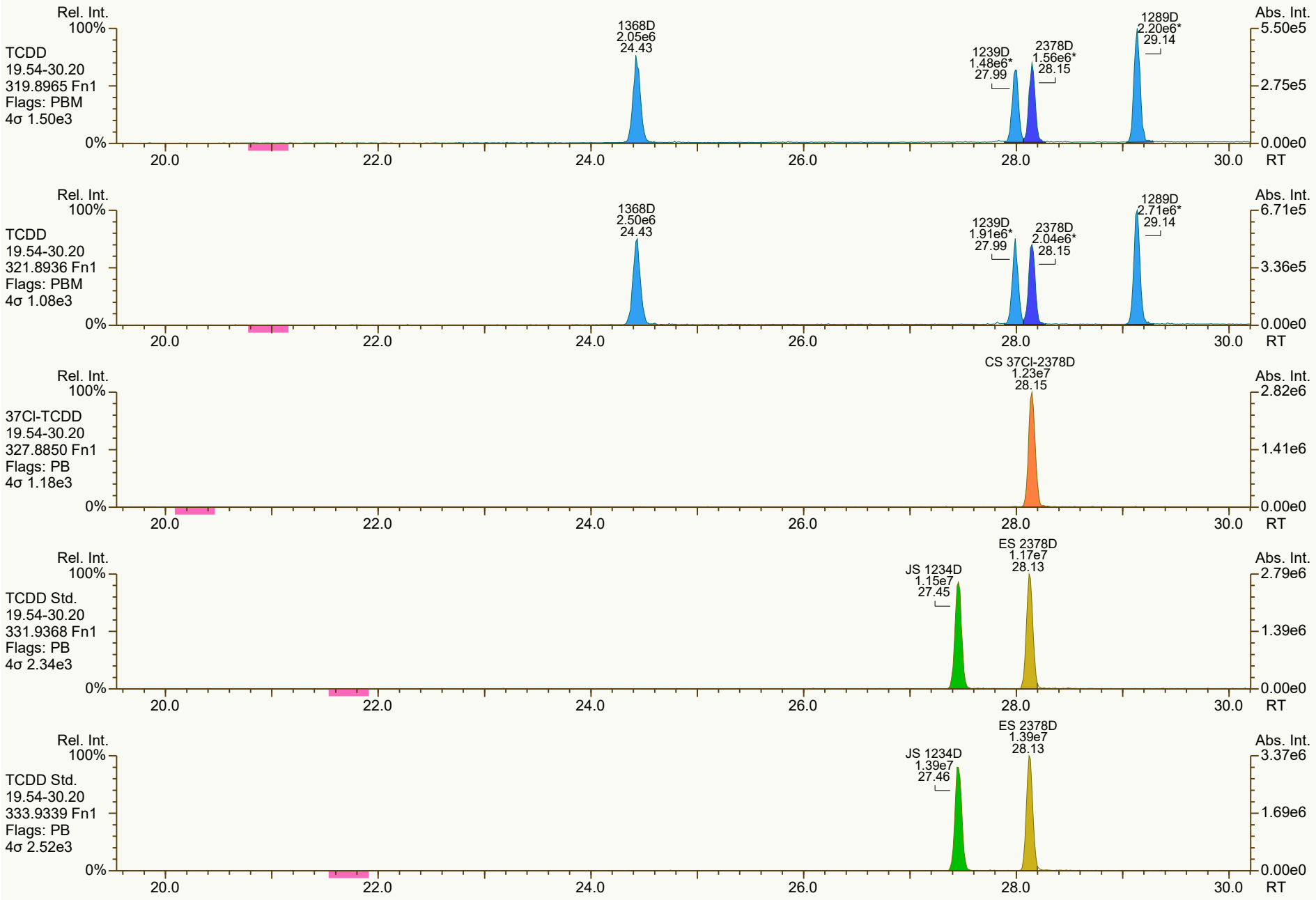
Lab Name:	SGS North America		
Initial Calibration:	ICAL: HRMS3_DF_10272021 10NOV2021		
Instrument ID:	HRMS3	GC Column ID:	ZB-5ms
VER Data Filename:	220308C04	Analysis Date:	08-MAR-2022 14:27:53
Lab ID:	OPR2_18977_DF		

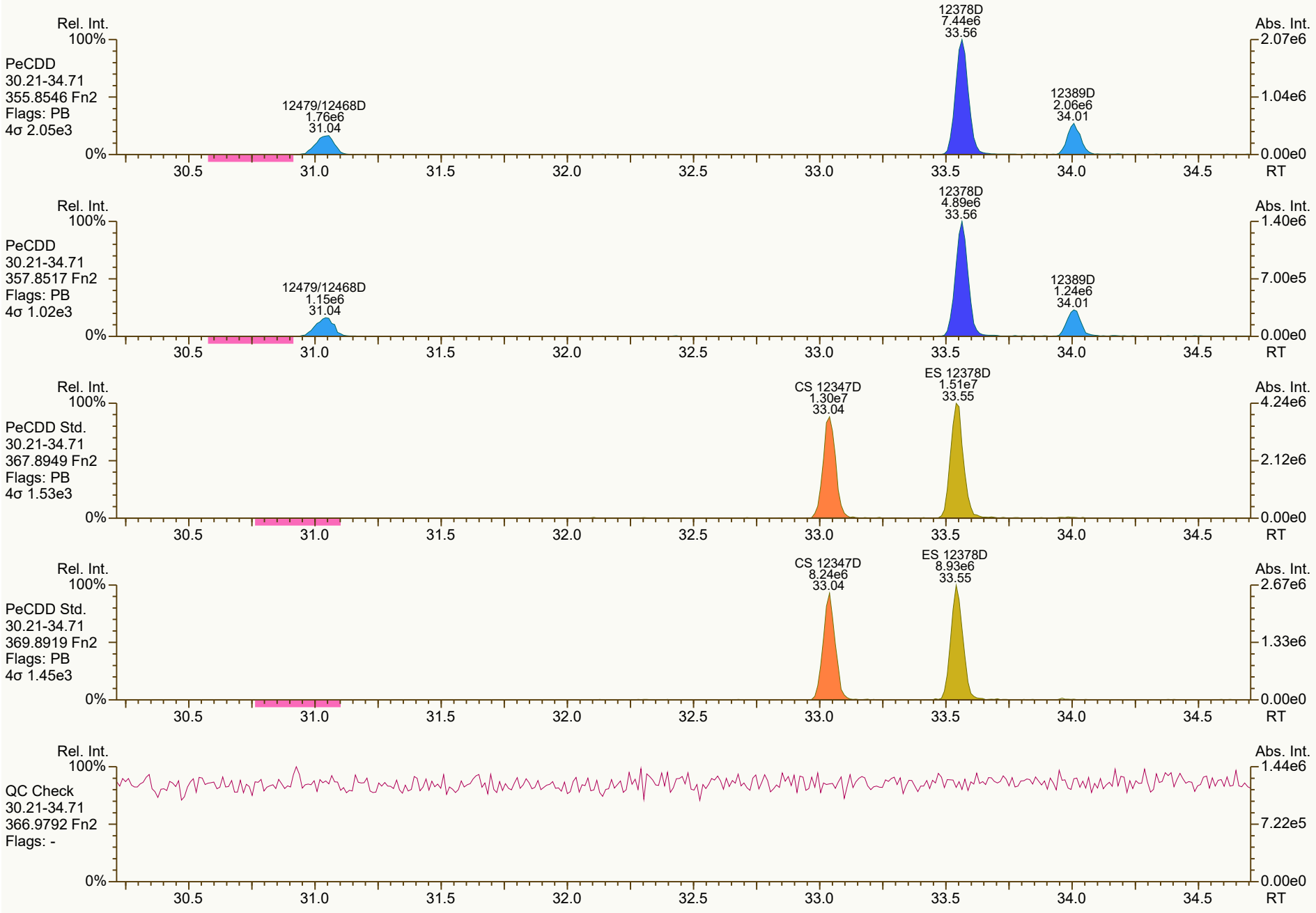
LABELED ANALYTES	SPIKE CONC.	CONC. FOUND	RANGE (ng/mL)			OK
13C-2,3,7,8-TCDD	100	96.3	20	-	175	Y
13C-1,2,3,7,8-PeCDD	100	107	21	-	227	Y
13C-1,2,3,4,7,8-HxCDD	100	101	21	-	193	Y
13C-1,2,3,6,7,8-HxCDD	100	99.9	25	-	163	Y
13C-1,2,3,7,8,9-HxCDD	100	97.8	26	-	166	Y
13C-1,2,3,4,6,7,8-HpCDD	100	94.9	26	-	166	Y
13C-OCDD	200	169	26	-	397	Y
13C-2,3,7,8-TCDF	100	94.1	22	-	152	Y
13C-1,2,3,7,8-PeCDF	100	99.1	21	-	192	Y
13C-2,3,4,7,8-PeCDF	100	103	13	-	328	Y
13C-1,2,3,4,7,8-HxCDF	100	103	19	-	202	Y
13C-1,2,3,6,7,8-HxCDF	100	108	21	-	159	Y
13C-2,3,4,6,7,8-HxCDF	100	117	22	-	176	Y
13C-1,2,3,7,8,9-HxCDF	100	105	17	-	205	Y
13C-1,2,3,4,6,7,8-HpCDF	100	104	21	-	158	Y
13C-1,2,3,4,7,8,9-HpCDF	100	97.6	20	-	186	Y
13C-OCDF	200	181	26	-	397	Y
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	40	40.4	12.4	-	76.4	Y

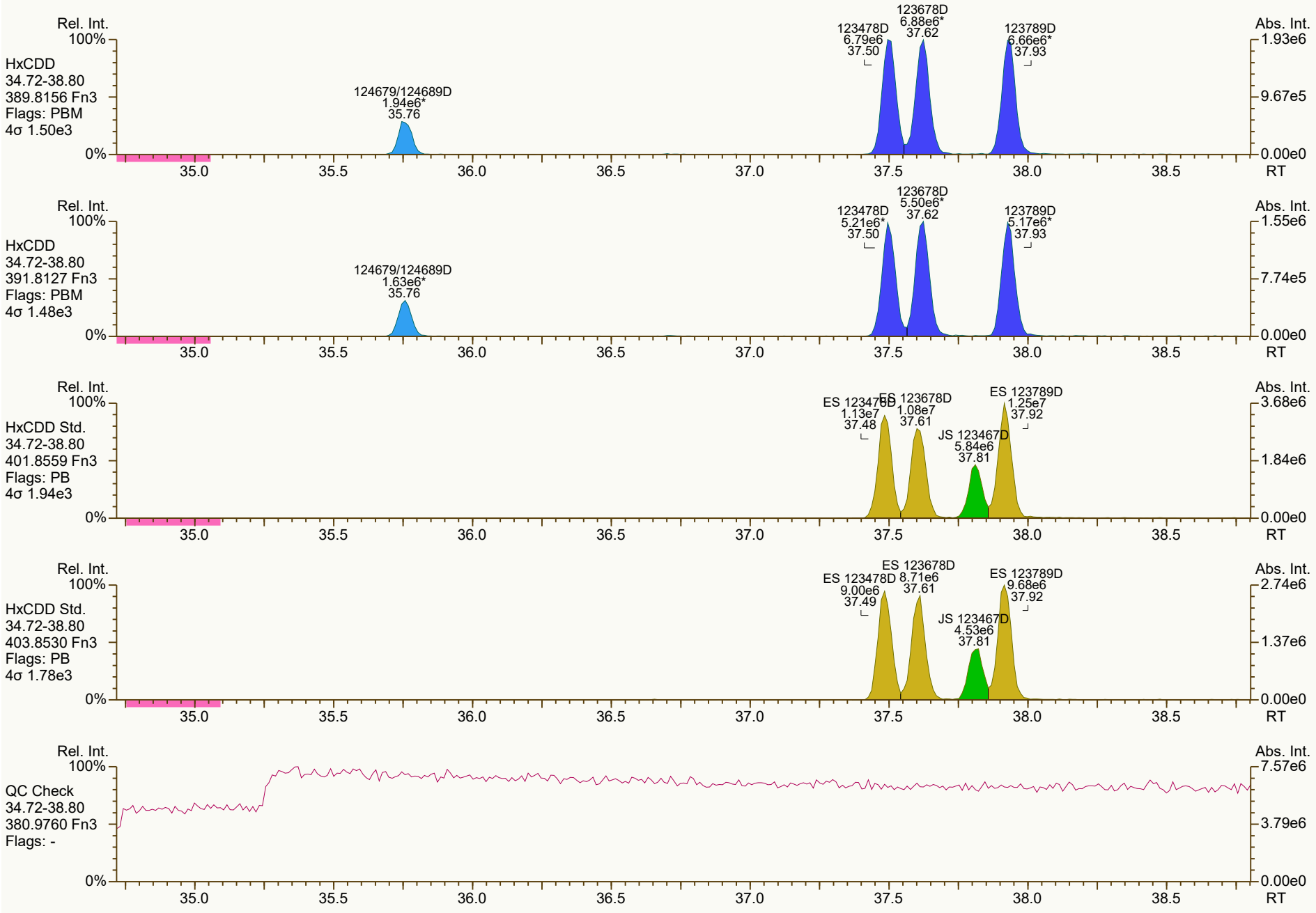
Contract-required concentration limits for OPR as specified in Table 6,
Method 1613. 10/94

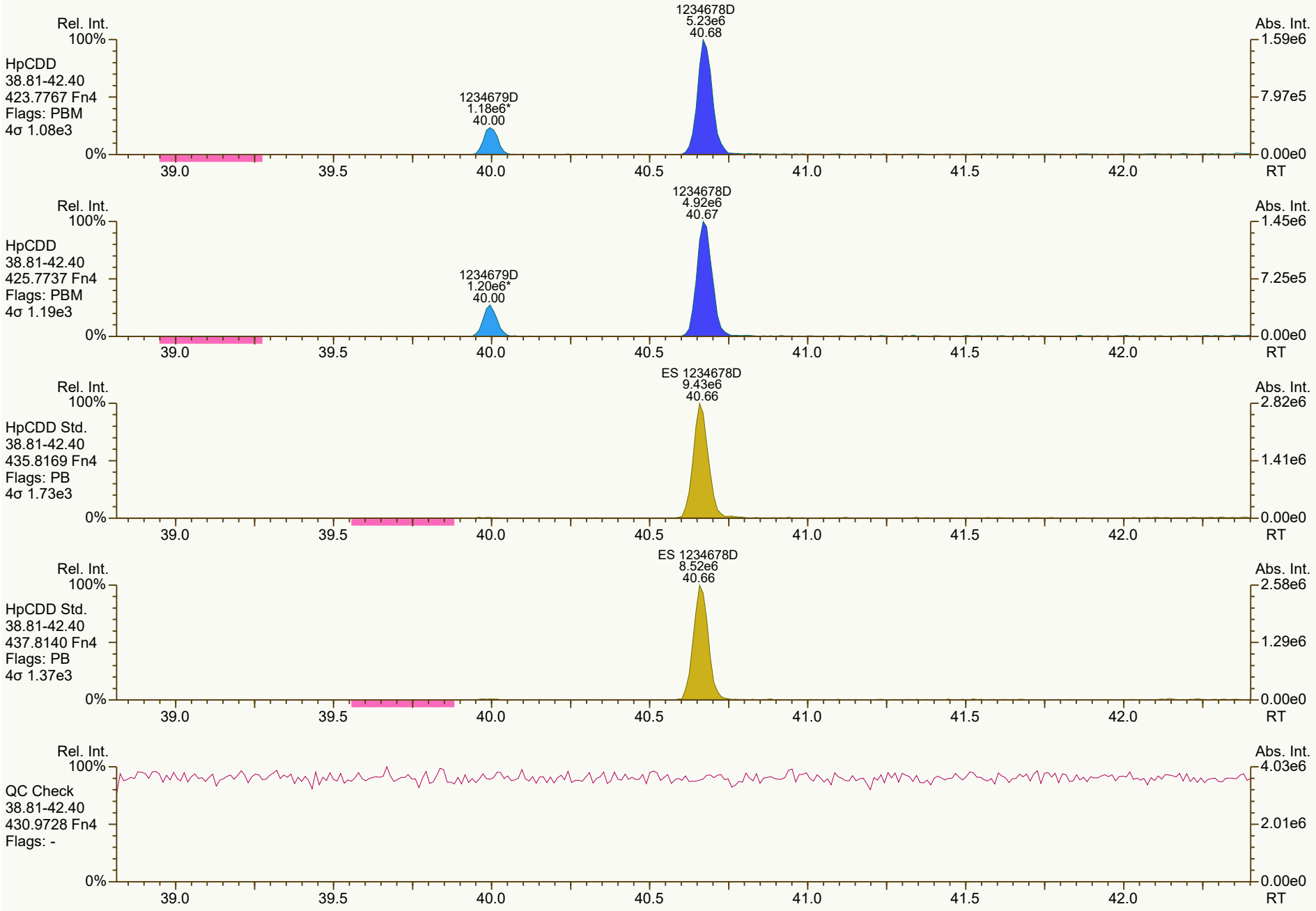
Processed: 09 Mar 2022 09:24 Analyst: TF

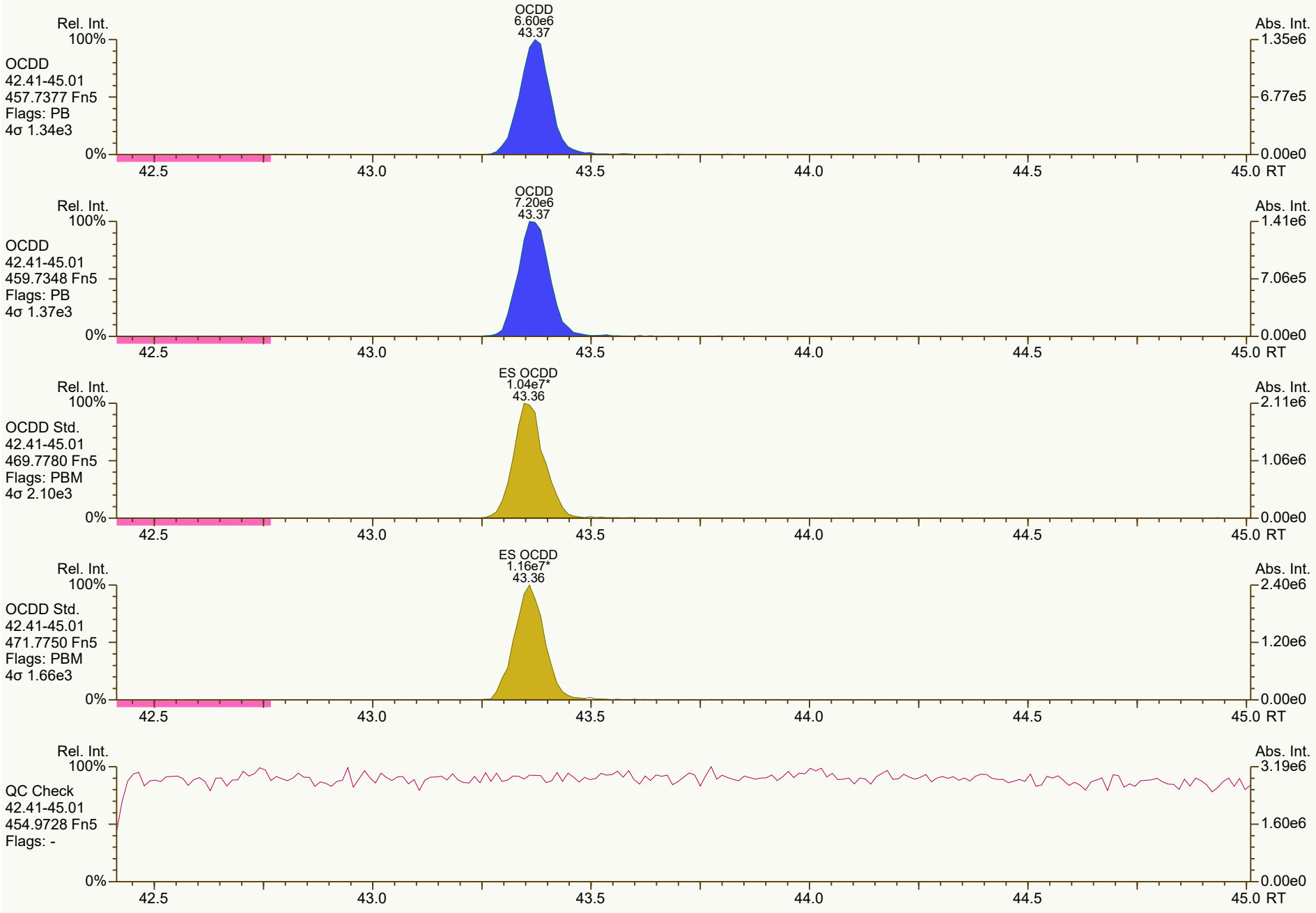

Rel. Int.
100%
QC Check
19.54-30.20
316.9824 Fn1
Flags: -
0%
20.0
22.0
24.0
26.0
28.0
30.0
RT
Abs. Int.
1.52e6
7.62e5
0.00e0
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Abs. Int.
1.44e6
7.22e5
0.00e0
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Abs. Int.
7.57e6
3.79e6
0.00e0
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Abs. Int.
4.03e6
2.01e6
0.00e0
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
42.5
43.0
43.5
44.0
44.5
45.0
RT
Abs. Int.
3.19e6
1.60e6
0.00e0

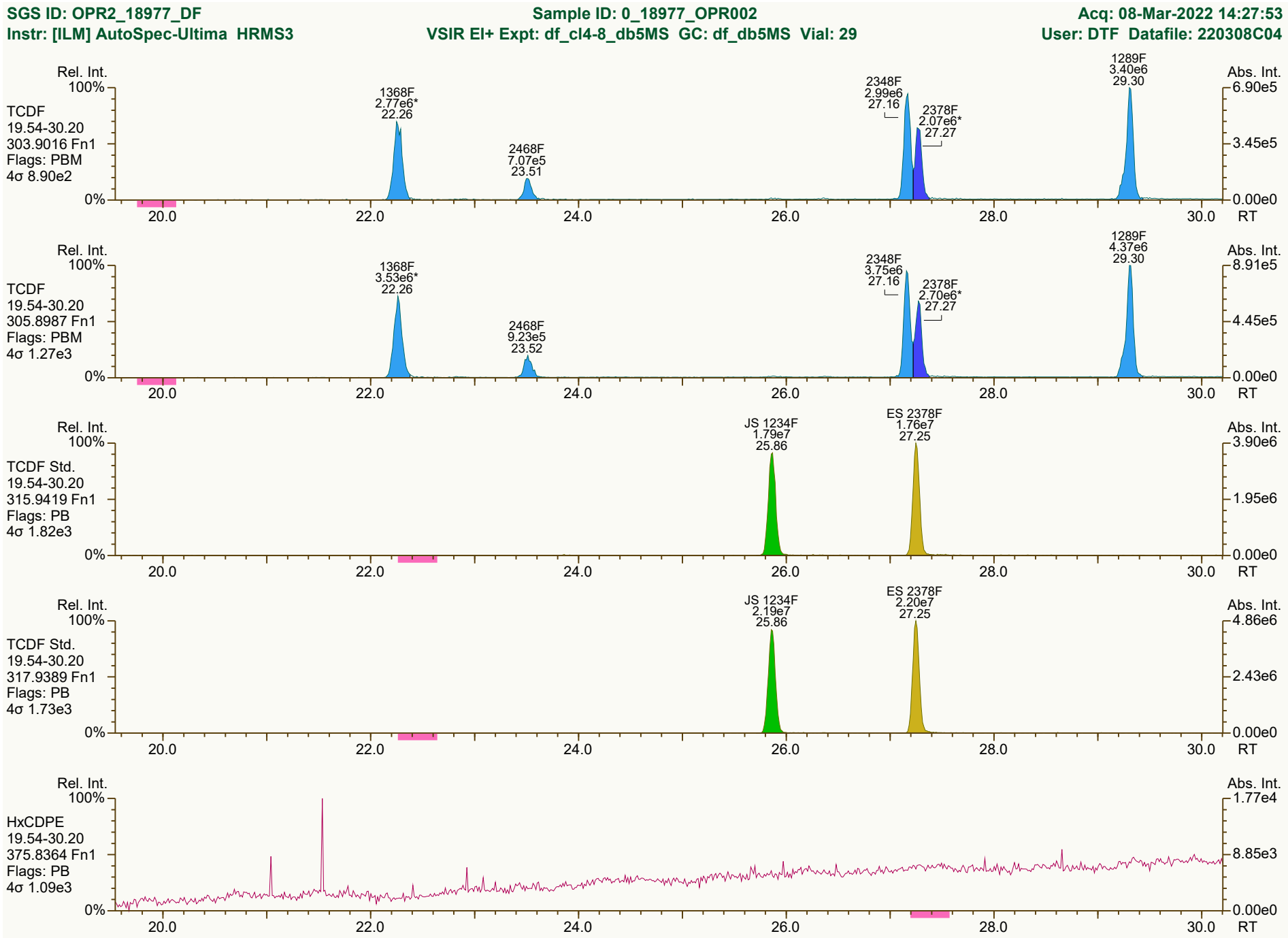

Rel. Int.
100%
TCDD
19.54-30.20
319.8965 Fn1
Flags: PBM
4σ 1.50e3
0%
1368D
2.05e6
24.43
1239D
1.48e6*
27.99
2378D
1.56e6*
28.15
1289D
2.20e6*
29.14
Abs. Int.
5.50e5
2.75e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD
19.54-30.20
321.8936 Fn1
Flags: PBM
4σ 1.08e3
0%
1368D
2.50e6
24.43
1239D
1.91e6*
27.99
2378D
2.04e6*
28.15
1289D
2.71e6*
29.14
Abs. Int.
6.71e5
3.36e5
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
37Cl-TCDD
19.54-30.20
327.8850 Fn1
Flags: PB
4σ 1.18e3
0%
CS 37Cl-2378D
1.23e7
28.15
Abs. Int.
2.82e6
1.41e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
331.9368 Fn1
Flags: PB
4σ 2.34e3
0%
JS 1234D
1.15e7
27.45
ES 2378D
1.17e7
28.13
Abs. Int.
2.79e6
1.39e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT
Rel. Int.
100%
TCDD Std.
19.54-30.20
333.9339 Fn1
Flags: PB
4σ 2.52e3
0%
JS 1234D
1.39e7
27.46
ES 2378D
1.39e7
28.13
Abs. Int.
3.37e6
1.69e6
0.00e0
20.0
22.0
24.0
26.0
28.0
30.0
RT


Rel. Int.
100%
PeCDD
30.21-34.71
355.8546 Fn2
Flags: PB
4σ 2.05e3
12479/12468D
1.76e6
31.04
12378D
7.44e6
33.56
12389D
2.06e6
34.01
0%
Abs. Int.
2.07e6
1.04e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD
30.21-34.71
357.8517 Fn2
Flags: PB
4σ 1.02e3
12479/12468D
1.15e6
31.04
12378D
4.89e6
33.56
12389D
1.24e6
34.01
0%
Abs. Int.
1.40e6
7.00e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
367.8949 Fn2
Flags: PB
4σ 1.53e3
CS 12347D
1.30e7
33.04
ES 12378D
1.51e7
33.55
0%
Abs. Int.
4.24e6
2.12e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
PeCDD Std.
30.21-34.71
369.8919 Fn2
Flags: PB
4σ 1.45e3
CS 12347D
8.24e6
33.04
ES 12378D
8.93e6
33.55
0%
Abs. Int.
2.67e6
1.33e6
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT
Rel. Int.
100%
QC Check
30.21-34.71
366.9792 Fn2
Flags: -
0%
Abs. Int.
1.44e6
7.22e5
0.00e0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
RT


Rel. Int.
100%
HxCDD
34.72-38.80
389.8156 Fn3
Flags: PBM
4σ 1.50e3
0%
124679/124689D
1.94e6*
35.76
123478D
6.79e6
37.50
123678D
6.88e6*
37.62
123789D
6.66e6*
37.93
Abs. Int.
1.93e6
9.67e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD
34.72-38.80
391.8127 Fn3
Flags: PBM
4σ 1.48e3
0%
124679/124689D
1.63e6*
35.76
123478D
5.21e6*
37.50
123678D
5.50e6*
37.62
123789D
5.17e6*
37.93
Abs. Int.
1.55e6
7.74e5
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
401.8559 Fn3
Flags: PB
4σ 1.94e3
0%
ES 123478D
1.13e7
37.48
ES 123678D
1.08e7
37.61
JS 123467D
5.84e6
37.81
ES 123789D
1.25e7
37.92
Abs. Int.
3.68e6
1.84e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
HxCDD Std.
34.72-38.80
403.8530 Fn3
Flags: PB
4σ 1.78e3
0%
ES 123678D
ES 123478D
9.00e6
37.49
8.71e6
37.61
JS 123467D
4.53e6
37.81
ES 123789D
9.68e6
37.92
Abs. Int.
2.74e6
1.37e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT
Rel. Int.
100%
QC Check
34.72-38.80
380.9760 Fn3
Flags: -
0%
Abs. Int.
7.57e6
3.79e6
0.00e0
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
RT

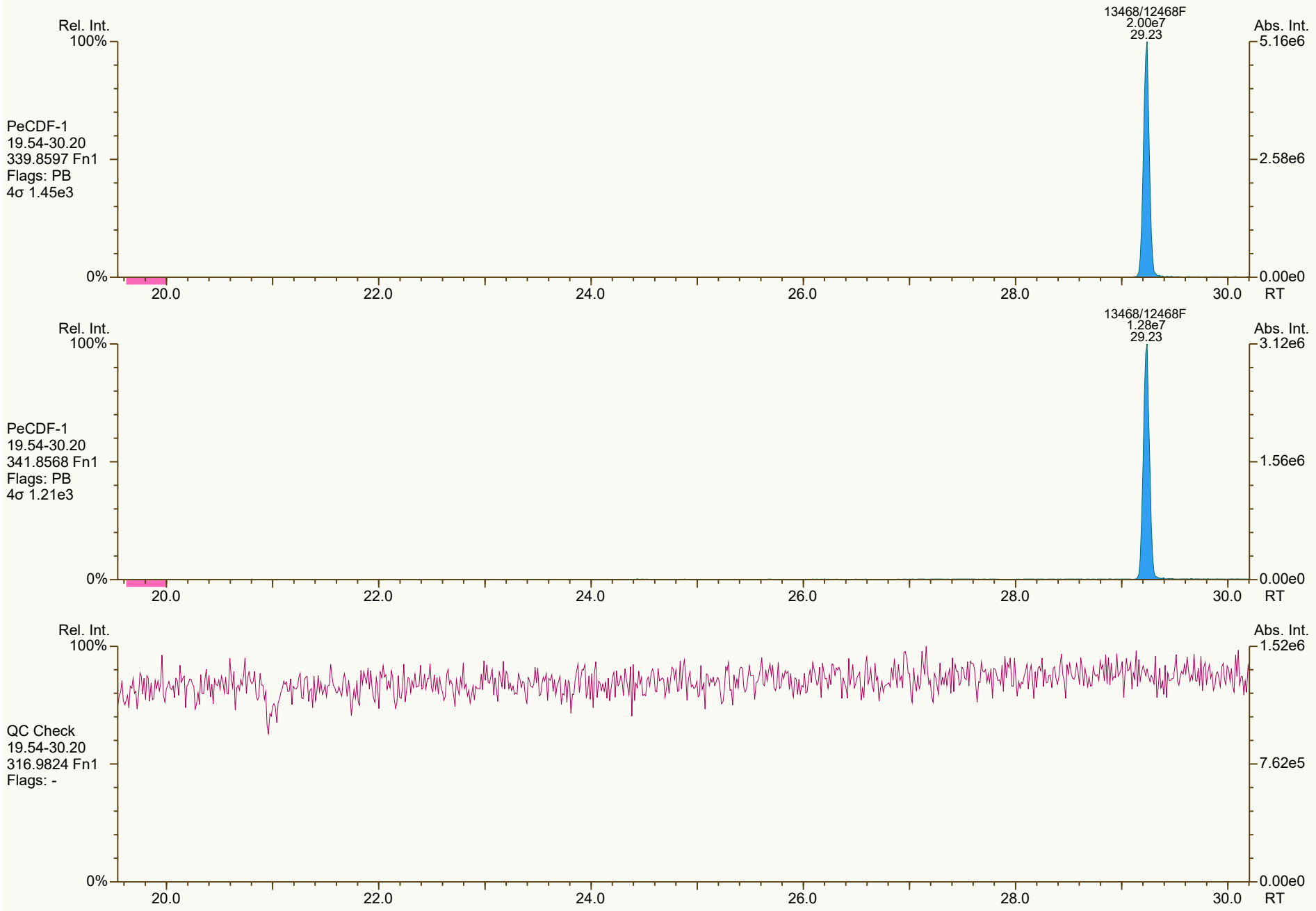

Rel. Int.
100%
HpCDD
38.81-42.40
423.7767 Fn4
Flags: PBM
4σ 1.08e3
1234678D
5.23e6
40.68
1234679D
1.18e6*
40.00
Abs. Int.
1.59e6
7.97e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD
38.81-42.40
425.7737 Fn4
Flags: PBM
4σ 1.19e3
1234678D
4.92e6
40.67
1234679D
1.20e6*
40.00
Abs. Int.
1.45e6
7.25e5
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
435.8169 Fn4
Flags: PB
4σ 1.73e3
ES 1234678D
9.43e6
40.66
Abs. Int.
2.82e6
1.41e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
HpCDD Std.
38.81-42.40
437.8140 Fn4
Flags: PB
4σ 1.37e3
ES 1234678D
8.52e6
40.66
Abs. Int.
2.58e6
1.29e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT
Rel. Int.
100%
QC Check
38.81-42.40
430.9728 Fn4
Flags: -
Abs. Int.
4.03e6
2.01e6
0.00e0
0%
39.0
39.5
40.0
40.5
41.0
41.5
42.0
RT


Rel. Int.
100%
OCDD
42.41-45.01
457.7377 Fn5
Flags: PB
4σ 1.34e3
0%
OCDD
6.60e6
43.37
Abs. Int.
1.35e6
6.77e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD
42.41-45.01
459.7348 Fn5
Flags: PB
4σ 1.37e3
0%
OCDD
7.20e6
43.37
Abs. Int.
1.41e6
7.06e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
469.7780 Fn5
Flags: PBM
4σ 2.10e3
0%
ES OCDD
1.04e7*
43.36
Abs. Int.
2.11e6
1.06e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
OCDD Std.
42.41-45.01
471.7750 Fn5
Flags: PBM
4σ 1.66e3
0%
ES OCDD
1.16e7*
43.36
Abs. Int.
2.40e6
1.20e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
QC Check
42.41-45.01
454.9728 Fn5
Flags: -
0%
Abs. Int.
3.19e6
1.60e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT



Results: P:\B6300_B6399\B6337\B6337_18977 DF\Resources\OPR2_18977_DF.utp_res, saved 09-Mar-2022 09:24 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9942, 7117, 7065 scc: 479-004
PKD: 09-Mar-2022 09:08 Printed: 09-Mar-2022 09:28 Page 7 of 12

SGS ID: OPR2_18977_DF
Sample ID: 0_18977_OPR002
Acq: 08-Mar-2022 14:27:53
Instr: [ILM] AutoSpec-Ultima HRMS3
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29
User: DTF Datafile: 220308C04

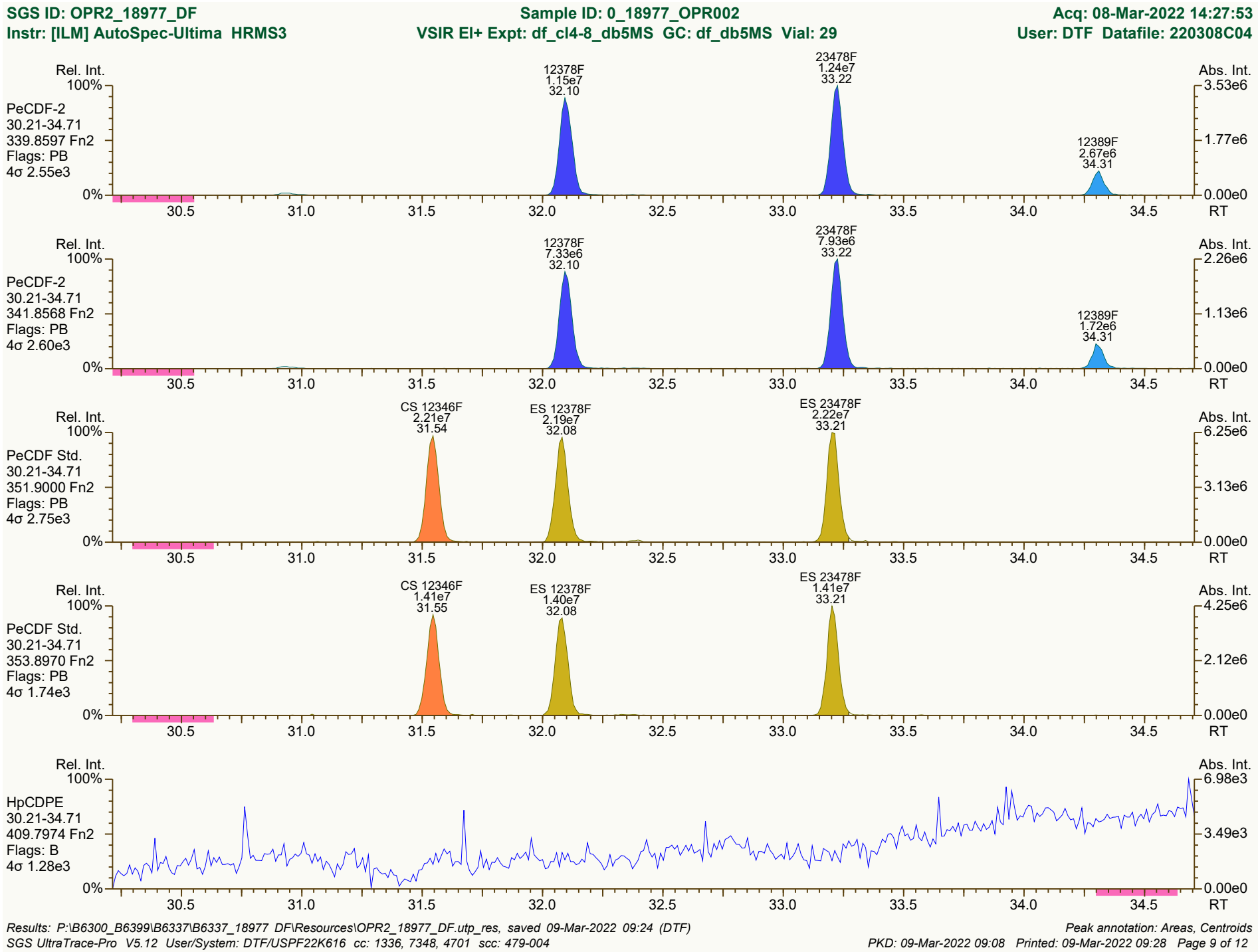


Results: P:\B6300_B6399\B6337\B6337_18977 DF\Resources\OPR2_18977_DF.utp_res, saved 09-Mar-2022 09:24 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 9585 scc: 479-004
PKD: 09-Mar-2022 09:07 Printed: 09-Mar-2022 09:28 Page 8 of 12

SGS ID: OPR2_18977_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

Sample ID: 0_18977_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29

Acq: 08-Mar-2022 14:27:53
User: DTF Datafile: 220308C04



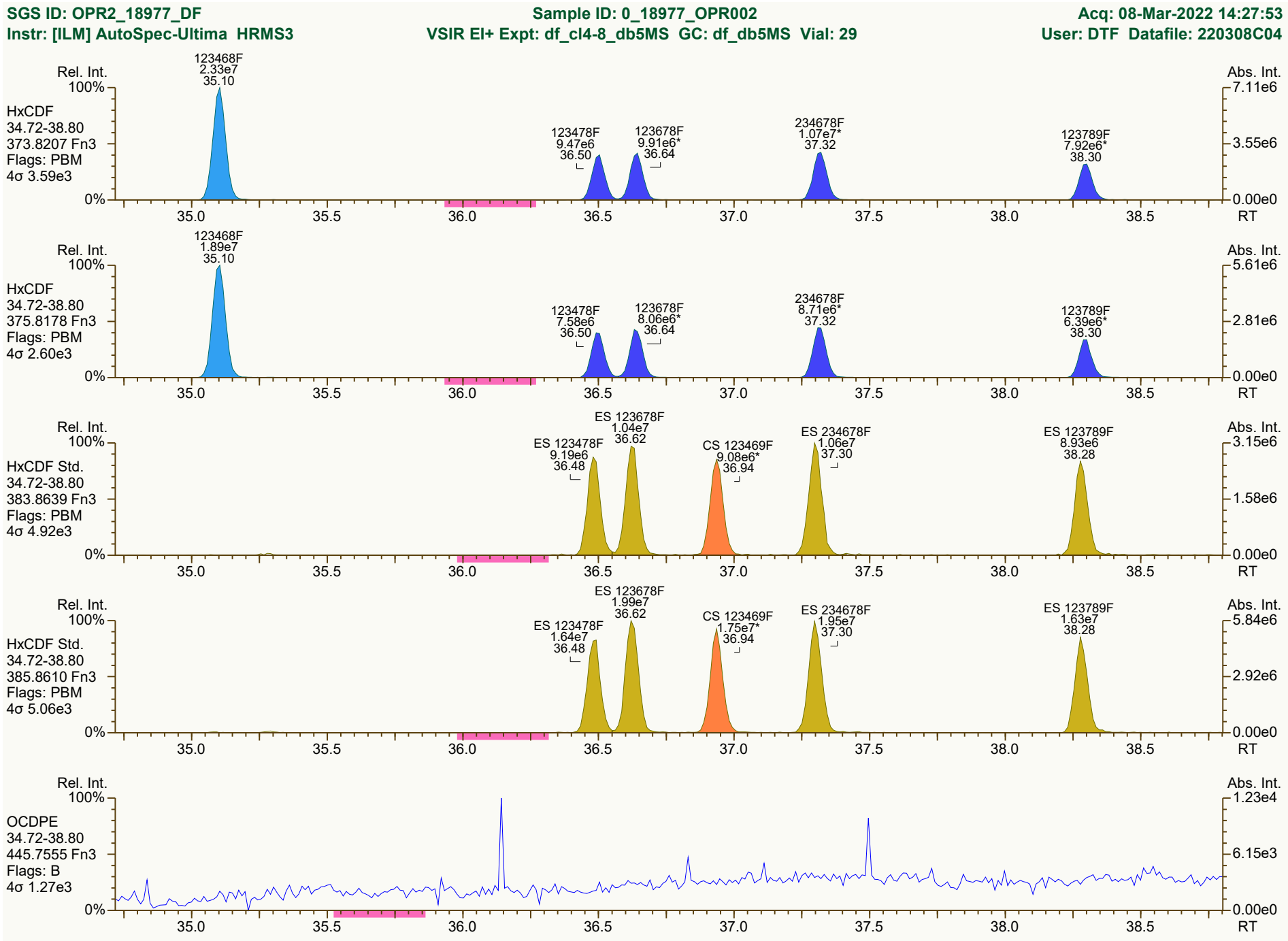
Results: P:\B6300_B6399\B6337\B6337_18977 DF\Resources\OPR2_18977_DF.utp_res, saved 09-Mar-2022 09:24 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 1336, 7348, 4701 scc: 479-004

Peak annotation: Areas, Centroids
PKD: 09-Mar-2022 09:08 Printed: 09-Mar-2022 09:28 Page 9 of 12

SGS ID: OPR2_18977_DF
Instr: [ILM] AutoSpec-Ultima HRMS3

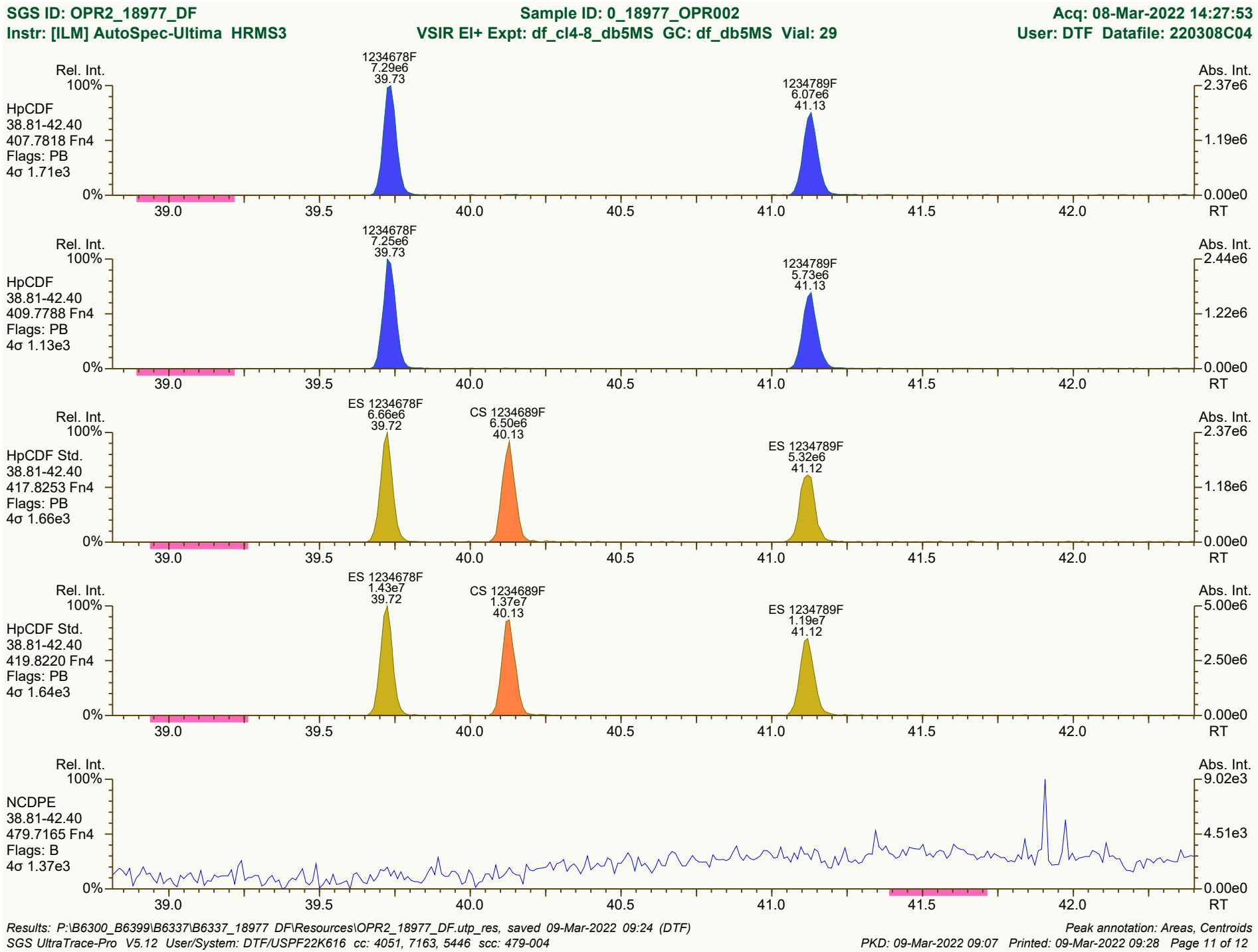
Sample ID: 0_18977_OPR002
VSIR EI+ Expt: df_cl4-8_db5MS GC: df_db5MS Vial: 29

Acq: 08-Mar-2022 14:27:53
User: DTF Datafile: 220308C04



Results: P:\B6300_B6399\B6337\B6337_18977 DF\Resources\OPR2_18977_DF.utp_res, saved 09-Mar-2022 09:24 (DTF)
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 3568, 0968, 6234 scc: 479-004

Peak annotation: Areas, Centroids
PKD: 09-Mar-2022 09:08 Printed: 09-Mar-2022 09:28 Page 10 of 12



Results: P:\B6300_B6399\B6337\B6337_18977 DF\Resources\OPR2_18977_DF.utp_res, saved 09-Mar-2022 09:24 (DTF)
Peak annotation: Areas, Centroids
SGS UltraTrace-Pro V5.12 User/System: DTF/USPF22K616 cc: 4051, 7163, 5446 scc: 479-004
PKD: 09-Mar-2022 09:07 Printed: 09-Mar-2022 09:28 Page 11 of 12


OCDF
7.96e6
43.54
Rel. Int.
100%
OCDF
42.41-45.01
441.7428 Fn5
Flags: PB
4σ 1.53e3
0%
Abs. Int.
1.61e6
8.05e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
OCDF
8.82e6
43.54
Rel. Int.
100%
OCDF
42.41-45.01
443.7398 Fn5
Flags: PB
4σ 1.60e3
0%
Abs. Int.
1.79e6
8.97e5
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.45e7
43.53
Rel. Int.
100%
OCDF Std.
42.41-45.01
453.7830 Fn5
Flags: PB
4σ 2.44e3
0%
Abs. Int.
2.93e6
1.46e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
ES OCDF
1.58e7
43.53
Rel. Int.
100%
OCDF Std.
42.41-45.01
455.7801 Fn5
Flags: PB
4σ 1.94e3
0%
Abs. Int.
3.54e6
1.77e6
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT
Rel. Int.
100%
DCDPE
42.41-45.01
513.6775 Fn5
Flags: B
4σ 1.31e3
0%
Abs. Int.
4.07e3
2.03e3
0.00e0
42.5
43.0
43.5
44.0
44.5
45.0 RT